Regression test

Test run started 2025-08-27T00:24:59Z

Ashes version: 3.32.0

OC3_Phase_I_python_regression			
Load case set 1			
Load case	Time series	Error score	
2.1a	Power (aero)	0.000000	PASS
	Torque (aero)	0.000000	PASS
	Thrust (aero)	0.000000	PASS
	RPM	0.000000	PASS
	TSR	0.000000	PASS
	Representative demanded pitch angle	0.000000	PASS
	Power coef. (CP)	0.000000	PASS
	Thrust coef. (CT)	0.000000	PASS
	Torque coef. (CQ)	0.000000	PASS
	Tip speed	0.000000	PASS
	1P (one revolution)	0.000000	PASS
	nP (blade passing)	0.000000	PASS
	Azimuth angle	0.000000	PASS
	Rotation per timestep	0.000000	PASS
	Wind speed at hub, magnitude	0.000000	PASS
	Wind angle at hub	0.000000	PASS
	Yaw angle relative to forward	0.000000	PASS
	Yaw angle to reference direction	0.000000	PASS
	Yaw error	0.000000	PASS
	Torque about yaw axis	0.000000	PASS
	Power (electrical)	0.000000	PASS
	Torque	0.000000	PASS
	Torque on main shaft	0.000000	PASS
	Torque diff. on main shaft	0.000000	PASS
	RPM	0.000000	PASS
	Filtered RPM	0.000000	PASS
	Electricity production	0.000000	PASS
	Region	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS

	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS

	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS

	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS

	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS

	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS

	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Position (x)	0.000000	PASS
	Position (y)	0.000000	PASS
	Position (z)	0.000000	PASS
	Displacement (u)	0.000000	PASS
	Displacement (v)	0.000000	PASS
	Displacement (w)	0.000000	PASS
	Displacement magnitude	0.000000	PASS
	Speed	0.000000	PASS
	Acceleration, magnitude	0.000000	PASS
	Rotational displacement (ru)	0.000000	PASS
	Rotational displacement (rv)	0.000000	PASS
	Rotational displacement (rw)	0.000000	PASS
	Rotational displacement magnitude	0.000000	PASS
	Rotational speed	0.000000	PASS
	Rotational acceleration mag	0.000000	PASS
	Displacement period	0.000000	PASS
	Displacement logarithmic decrement	0.000000	PASS
	Displacement damping ratio	0.000000	PASS
	Position (x)	0.000000	PASS
	Position (y)	0.000000	PASS
	Position (z)	0.000000	PASS
	Displacement (u)	0.000000	PASS
	Displacement (v)	0.000000	PASS
	Displacement (w)	0.000000	PASS
	Displacement magnitude	0.000000	PASS
	Speed	0.000000	PASS
	Acceleration, magnitude	0.000000	PASS
	Rotational displacement (ru)	0.000000	PASS

	Rotational displacement (rv)	0.000000	PASS
	Rotational displacement (rw)	0.000000	PASS
	Rotational displacement magnitude	0.000000	PASS
	Rotational speed	0.000000	PASS
	Rotational acceleration mag	0.000000	PASS
	Displacement period	0.000000	PASS
	Displacement logarithmic decrement	0.000000	PASS
	Displacement damping ratio	0.000000	PASS
	Root force (magnitude)	0.000000	PASS
	Root moment (magnitude)	0.000000	PASS
	Root moment (out-of-plane)	0.000000	PASS
	Root moment (in-plane)	0.000000	PASS
	Root moment about shaft	0.000000	PASS
	Pitch angle	0.000000	PASS
	Tip deflection (out-of-plane)	0.000000	PASS
	Tip deflection (in-plane)	0.000000	PASS
	Root torque	0.000000	PASS
	Surface elevation (origin)	0.000000	PASS
	Dynamic pressure (origin)	0.000000	PASS
2.1b	Power (aero)	0.000000	PASS
	Torque (aero)	0.000000	PASS
	Thrust (aero)	0.000000	PASS
	RPM	0.000000	PASS
	TSR	0.000000	PASS
	Representative demanded pitch angle	0.000000	PASS
	Power coef. (CP)	0.000000	PASS
	Thrust coef. (CT)	0.000000	PASS
	Torque coef. (CQ)	0.000000	PASS
	Tip speed	0.000000	PASS
	1P (one revolution)	0.000000	PASS
	nP (blade passing)	0.000000	PASS
	Azimuth angle	0.000000	PASS
	Rotation per timestep	0.000000	PASS
	Wind speed at hub, magnitude	0.000000	PASS
	Wind angle at hub	0.000000	PASS
	Yaw angle relative to forward	0.000000	PASS
	Yaw angle to reference direction	0.000000	PASS
	Yaw error	0.000000	PASS
	Torque about yaw axis	0.000000	PASS
	Power (electrical)	0.000000	PASS
	Torque	0.000000	PASS
	Torque on main shaft	0.000000	PASS

	Torque diff. on main shaft	0.000000	PASS
	RPM	0.000000	PASS
	Filtered RPM	0.000000	PASS
	Electricity production	0.000000	PASS
	Region	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS

	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS

	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS

	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS

	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS

	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Position (x)	0.000000	PASS
	Position (y)	0.000000	PASS
	Position (z)	0.000000	PASS
	Displacement (u)	0.000000	PASS
	Displacement (v)	0.000000	PASS
	Displacement (w)	0.000000	PASS
	Displacement magnitude	0.000000	PASS
	Speed	0.000000	PASS
	Acceleration, magnitude	0.000000	PASS
	Rotational displacement (ru)	0.000000	PASS
	Rotational displacement (rv)	0.000000	PASS
	Rotational displacement (rw)	0.000000	PASS
	Rotational displacement magnitude	0.000000	PASS
	Rotational speed	0.000000	PASS
	Rotational acceleration mag	0.000000	PASS
	Displacement period	0.000000	PASS
	Displacement logarithmic decrement	0.000000	PASS
	Displacement damping ratio	0.000000	PASS

	Position (x)	0.000000	PASS
	Position (y)	0.000000	PASS
	Position (z)	0.000000	PASS
	Displacement (u)	0.000000	PASS
	Displacement (v)	0.000000	PASS
	Displacement (w)	0.000000	PASS
	Displacement magnitude	0.000000	PASS
	Speed	0.000000	PASS
	Acceleration, magnitude	0.000000	PASS
	Rotational displacement (ru)	0.000000	PASS
	Rotational displacement (rv)	0.000000	PASS
	Rotational displacement (rw)	0.000000	PASS
	Rotational displacement magnitude	0.000000	PASS
	Rotational speed	0.000000	PASS
	Rotational acceleration mag	0.000000	PASS
	Displacement period	0.000000	PASS
	Displacement logarithmic decrement	0.000000	PASS
	Displacement damping ratio	0.000000	PASS
	Root force (magnitude)	0.000000	PASS
	Root moment (magnitude)	0.000000	PASS
	Root moment (out-of-plane)	0.000000	PASS
	Root moment (in-plane)	0.000000	PASS
	Root moment about shaft	0.000000	PASS
	Pitch angle	0.000000	PASS
	Tip deflection (out-of-plane)	0.000000	PASS
	Tip deflection (in-plane)	0.000000	PASS
	Root torque	0.000000	PASS
	Surface elevation (origin)	0.000000	PASS
	Dynamic pressure (origin)	0.000000	PASS
2.4	Power (aero)	0.000000	PASS
	Torque (aero)	0.000000	PASS
	Thrust (aero)	0.000000	PASS
	RPM	0.000000	PASS
	TSR	0.000000	PASS
	Representative demanded pitch angle	0.000000	PASS
	Power coef. (CP)	0.000000	PASS
	Thrust coef. (CT)	0.000000	PASS
	Torque coef. (CQ)	0.000000	PASS
	Tip speed	0.000000	PASS
	1P (one revolution)	0.000000	PASS
	nP (blade passing)	0.000000	PASS
	Azimuth angle	0.000000	PASS

	Rotation per timestep	0.000000	PASS
	Wind speed at hub, magnitude	0.000000	PASS
	Wind angle at hub	0.000000	PASS
	Yaw angle relative to forward	0.000000	PASS
	Yaw angle to reference direction	0.000000	PASS
	Yaw error	0.000000	PASS
	Torque about yaw axis	0.000000	PASS
	Power (electrical)	0.000000	PASS
	Torque	0.000000	PASS
	Torque on main shaft	0.000000	PASS
	Torque diff. on main shaft	0.000000	PASS
	RPM	0.000000	PASS
	Filtered RPM	0.000000	PASS
	Electricity production	0.000000	PASS
	Region	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS

	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS

	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS

	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS

	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS

	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Position (x)	0.000000	PASS
	Position (y)	0.000000	PASS
	Position (z)	0.000000	PASS
	Displacement (u)	0.000000	PASS
	Displacement (v)	0.000000	PASS
	Displacement (w)	0.000000	PASS
	Displacement magnitude	0.000000	PASS
	Speed	0.000000	PASS

	Acceleration, magnitude	0.000000	PASS
	Rotational displacement (ru)	0.000000	PASS
	Rotational displacement (rv)	0.000000	PASS
	Rotational displacement (rw)	0.000000	PASS
	Rotational displacement magnitude	0.000000	PASS
	Rotational speed	0.000000	PASS
	Rotational acceleration mag	0.000000	PASS
	Displacement period	0.000000	PASS
	Displacement logarithmic decrement	0.000000	PASS
	Displacement damping ratio	0.000000	PASS
	Position (x)	0.000000	PASS
	Position (y)	0.000000	PASS
	Position (z)	0.000000	PASS
	Displacement (u)	0.000000	PASS
	Displacement (v)	0.000000	PASS
	Displacement (w)	0.000000	PASS
	Displacement magnitude	0.000000	PASS
	Speed	0.000000	PASS
	Acceleration, magnitude	0.000000	PASS
	Rotational displacement (ru)	0.000000	PASS
	Rotational displacement (rv)	0.000000	PASS
	Rotational displacement (rw)	0.000000	PASS
	Rotational displacement magnitude	0.000000	PASS
	Rotational speed	0.000000	PASS
	Rotational acceleration mag	0.000000	PASS
	Displacement period	0.000000	PASS
	Displacement logarithmic decrement	0.000000	PASS
	Displacement damping ratio	0.000000	PASS
	Root force (magnitude)	0.000000	PASS
	Root moment (magnitude)	0.000000	PASS
	Root moment (out-of-plane)	0.000000	PASS
	Root moment (in-plane)	0.000000	PASS
	Root moment about shaft	0.000000	PASS
	Pitch angle	0.000000	PASS
	Tip deflection (out-of-plane)	0.000000	PASS
	Tip deflection (in-plane)	0.000000	PASS
	Root torque	0.000000	PASS
	Surface elevation (origin)	0.000000	PASS
	Dynamic pressure (origin)	0.000000	PASS
3.1	Power (aero)	0.000000	PASS
	Torque (aero)	0.000000	PASS
	Thrust (aero)	0.000000	PASS

	RPM	0.000000	PASS
	TSR	0.000000	PASS
	Representative demanded pitch angle	0.000000	PASS
	Power coef. (CP)	0.000000	PASS
	Thrust coef. (CT)	0.000000	PASS
	Torque coef. (CQ)	0.000000	PASS
	Tip speed	0.000000	PASS
	1P (one revolution)	0.000000	PASS
	nP (blade passing)	0.000000	PASS
	Azimuth angle	0.000000	PASS
	Rotation per timestep	0.000000	PASS
	Wind speed at hub, magnitude	0.000000	PASS
	Wind angle at hub	0.000000	PASS
	Yaw angle relative to forward	0.000000	PASS
	Yaw angle to reference direction	0.000000	PASS
	Yaw error	0.000000	PASS
	Torque about yaw axis	0.000000	PASS
	Power (electrical)	0.000000	PASS
	Torque	0.000000	PASS
	Torque on main shaft	0.000000	PASS
	Torque diff. on main shaft	0.000000	PASS
	RPM	0.000000	PASS
	Filtered RPM	0.000000	PASS
	Electricity production	0.000000	PASS
	Region	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS

	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS

	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS

	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS

	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS

	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS

	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Position (x)	0.000000	PASS
	Position (y)	0.000000	PASS
	Position (z)	0.000000	PASS
	Displacement (u)	0.000000	PASS
	Displacement (v)	0.000000	PASS
	Displacement (w)	0.000000	PASS
	Displacement magnitude	0.000000	PASS
	Speed	0.000000	PASS
	Acceleration, magnitude	0.000000	PASS
	Rotational displacement (ru)	0.000000	PASS
	Rotational displacement (rv)	0.000000	PASS
	Rotational displacement (rw)	0.000000	PASS
	Rotational displacement magnitude	0.000000	PASS
	Rotational speed	0.000000	PASS
	Rotational acceleration mag	0.000000	PASS
	Displacement period	0.000000	PASS
	Displacement logarithmic decrement	0.000000	PASS
	Displacement damping ratio	0.000000	PASS
	Position (x)	0.000000	PASS
	Position (y)	0.000000	PASS
	Position (z)	0.000000	PASS
	Displacement (u)	0.000000	PASS
	Displacement (v)	0.000000	PASS
	Displacement (w)	0.000000	PASS
	Displacement magnitude	0.000000	PASS
	Speed	0.000000	PASS
	Acceleration, magnitude	0.000000	PASS
	Rotational displacement (ru)	0.000000	PASS
	Rotational displacement (rv)	0.000000	PASS
	Rotational displacement (rw)	0.000000	PASS
	Rotational displacement magnitude	0.000000	PASS
	Rotational speed	0.000000	PASS
	Rotational acceleration mag	0.000000	PASS
	Displacement period	0.000000	PASS
	Displacement logarithmic decrement	0.000000	PASS
	Displacement damping ratio	0.000000	PASS
	Root force (magnitude)	0.000000	PASS
	Root moment (magnitude)	0.000000	PASS
	Root moment (out-of-plane)	0.000000	PASS
	Root moment (in-plane)	0.000000	PASS

	Root moment about shaft	0.000000	PASS
	Pitch angle	0.000000	PASS
	Tip deflection (out-of-plane)	0.000000	PASS
	Tip deflection (in-plane)	0.000000	PASS
	Root torque	0.000000	PASS
	Surface elevation (origin)	0.000000	PASS
	Dynamic pressure (origin)	0.000000	PASS
4.1	Power (aero)	0.000000	PASS
	Torque (aero)	0.000000	PASS
	Thrust (aero)	0.000000	PASS
	RPM	0.000000	PASS
	TSR	0.000000	PASS
	Representative demanded pitch angle	0.000000	PASS
	Power coef. (CP)	0.000000	PASS
	Thrust coef. (CT)	0.000000	PASS
	Torque coef. (CQ)	0.000000	PASS
	Tip speed	0.000000	PASS
	1P (one revolution)	0.000000	PASS
	nP (blade passing)	0.000000	PASS
	Azimuth angle	0.000000	PASS
	Rotation per timestep	0.000000	PASS
	Wind speed at hub, magnitude	0.000000	PASS
	Wind angle at hub	0.000000	PASS
	Yaw angle relative to forward	0.000000	PASS
	Yaw angle to reference direction	0.000000	PASS
	Yaw error	0.000000	PASS
	Torque about yaw axis	0.000000	PASS
	Power (electrical)	0.000000	PASS
	Torque	0.000000	PASS
	Torque on main shaft	0.000000	PASS
	Torque diff. on main shaft	0.000000	PASS
	RPM	0.000000	PASS
	Filtered RPM	0.000000	PASS
	Electricity production	0.000000	PASS
	Region	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS

	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS

	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS

	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS

	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS

	Moment, mag., j	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS

	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Position (x)	0.000000	PASS
	Position (y)	0.000000	PASS
	Position (z)	0.000000	PASS
	Displacement (u)	0.000000	PASS
	Displacement (v)	0.000000	PASS
	Displacement (w)	0.000000	PASS
	Displacement magnitude	0.000000	PASS
	Speed	0.000000	PASS
	Acceleration, magnitude	0.000000	PASS
	Rotational displacement (ru)	0.000000	PASS
	Rotational displacement (rv)	0.000000	PASS
	Rotational displacement (rw)	0.000000	PASS
	Rotational displacement magnitude	0.000000	PASS
	Rotational speed	0.000000	PASS
	Rotational acceleration mag	0.000000	PASS
	Displacement period	0.000000	PASS
	Displacement logarithmic decrement	0.000000	PASS
	Displacement damping ratio	0.000000	PASS
	Position (x)	0.000000	PASS
	Position (y)	0.000000	PASS
	Position (z)	0.000000	PASS
	Displacement (u)	0.000000	PASS
	Displacement (v)	0.000000	PASS
	Displacement (w)	0.000000	PASS
	Displacement magnitude	0.000000	PASS
	Speed	0.000000	PASS
	Acceleration, magnitude	0.000000	PASS
	Rotational displacement (ru)	0.000000	PASS
	Rotational displacement (rv)	0.000000	PASS
	Rotational displacement (rw)	0.000000	PASS

	Rotational displacement magnitude	0.000000	PASS
	Rotational speed	0.000000	PASS
	Rotational acceleration mag	0.000000	PASS
	Displacement period	0.000000	PASS
	Displacement logarithmic decrement	0.000000	PASS
	Displacement damping ratio	0.000000	PASS
	Root force (magnitude)	0.000000	PASS
	Root moment (magnitude)	0.000000	PASS
	Root moment (out-of-plane)	0.000000	PASS
	Root moment (in-plane)	0.000000	PASS
	Root moment about shaft	0.000000	PASS
	Pitch angle	0.000000	PASS
	Tip deflection (out-of-plane)	0.000000	PASS
	Tip deflection (in-plane)	0.000000	PASS
	Root torque	0.000000	PASS
	Surface elevation (origin)	0.000000	PASS
	Dynamic pressure (origin)	0.000000	PASS
5.1	Power (aero)	0.000000	PASS
	Torque (aero)	0.000000	PASS
	Thrust (aero)	0.000000	PASS
	RPM	0.000000	PASS
	TSR	0.000000	PASS
	Representative demanded pitch angle	0.000000	PASS
	Power coef. (CP)	0.000000	PASS
	Thrust coef. (CT)	0.000000	PASS
	Torque coef. (CQ)	0.000000	PASS
	Tip speed	0.000000	PASS
	1P (one revolution)	0.000000	PASS
	nP (blade passing)	0.000000	PASS
	Azimuth angle	0.000000	PASS
	Rotation per timestep	0.000000	PASS
	Wind speed at hub, magnitude	0.000000	PASS
	Wind angle at hub	0.000000	PASS
	Yaw angle relative to forward	0.000000	PASS
	Yaw angle to reference direction	0.000000	PASS
	Yaw error	0.000000	PASS
	Torque about yaw axis	0.000000	PASS
	Power (electrical)	0.000000	PASS
	Torque	0.000000	PASS
	Torque on main shaft	0.000000	PASS
	Torque diff. on main shaft	0.000000	PASS
	RPM	0.000000	PASS

	Filtered RPM	0.000000	PASS
	Electricity production	0.000000	PASS
	Region	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS

	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS

	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS

	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Max normal stress	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS

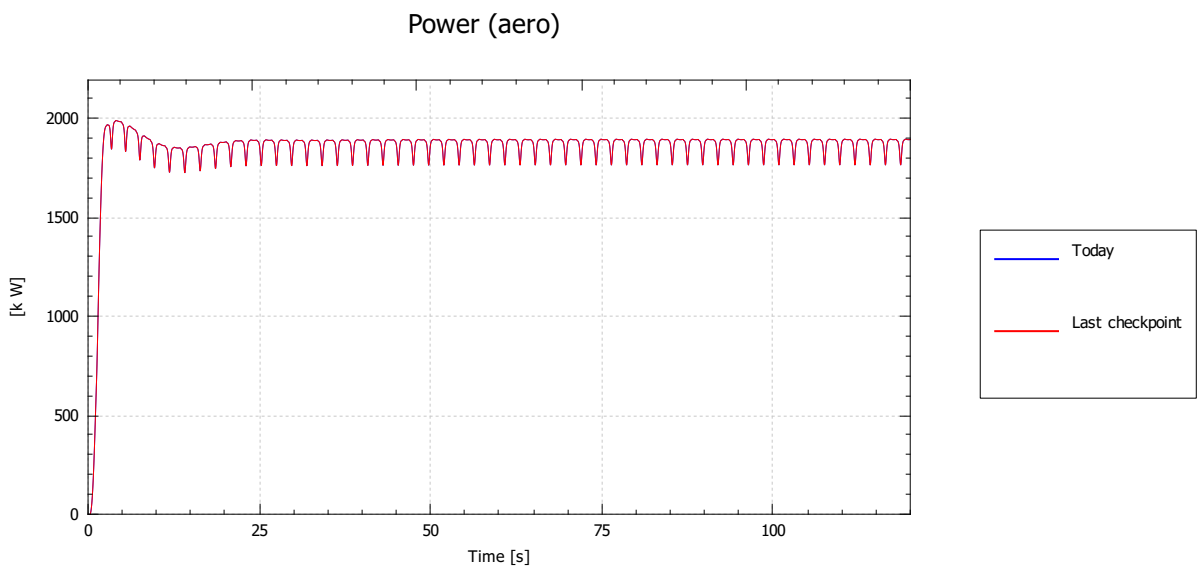
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS
	Moment, mag., j	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Axial force	0.000000	PASS
	Shear force (1st prin. axis)	0.000000	PASS
	Shear force (2nd prin. axis)	0.000000	PASS
	Shear force, mag.	0.000000	PASS
	Torque	0.000000	PASS
	Moment (1st prin. axis), i	0.000000	PASS
	Moment (2nd prin. axis), i	0.000000	PASS
	Moment, mag., i	0.000000	PASS
	Moment (1st prin. axis), j	0.000000	PASS
	Moment (2nd prin. axis), j	0.000000	PASS

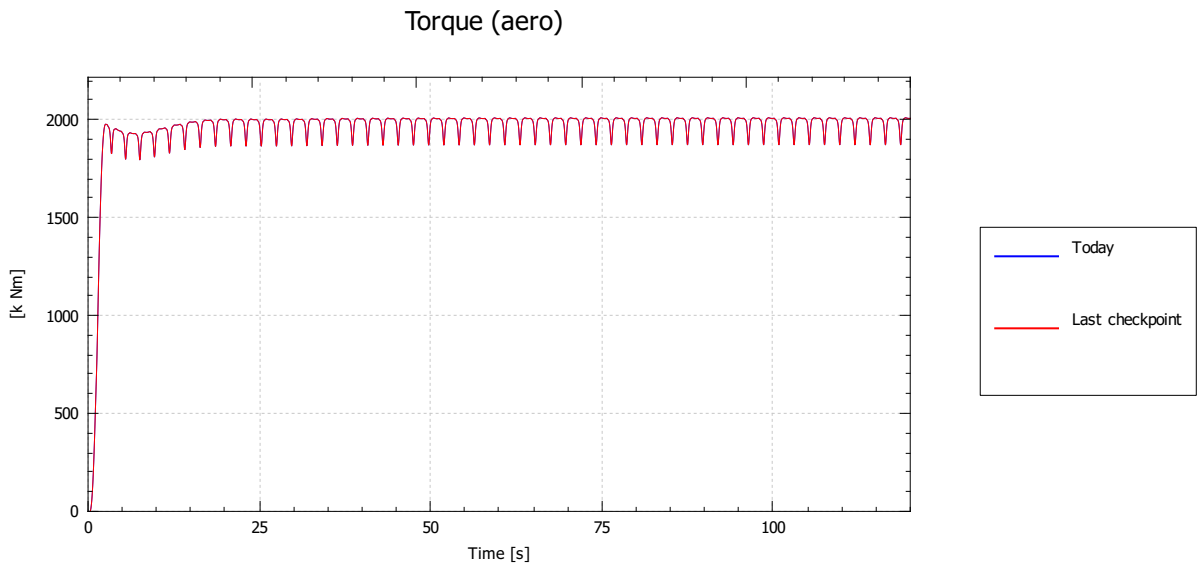
	Moment, mag., j	0.000000	PASS
	Twist (structural)	0.000000	PASS
	Twist (structural) - rad	0.000000	PASS
	Deformed length	0.000000	PASS
	Elongation	0.000000	PASS
	Strain energy	0.000000	PASS
	Kinetic energy	0.000000	PASS
	Mechanical energy	0.000000	PASS
	Deformational rotation (i)	0.000000	PASS
	Deformational rotation (j)	0.000000	PASS
	Deformational rotation (axial)	0.000000	PASS
	Deformational rotation (1st prin.)	0.000000	PASS
	Deformational rotation (2nd prin.)	0.000000	PASS
	Deformational rotation (i) - rad	0.000000	PASS
	Deformational rotation (j) - rad	0.000000	PASS
	Deformational rotation (axial) - rad	0.000000	PASS
	Deformational rotation (1st prin.) - rad	0.000000	PASS
	Deformational rotation (2nd prin.) - rad	0.000000	PASS
	Damping force, i	0.000000	PASS
	Damping moment, i	0.000000	PASS
	Damping force, sum	0.000000	PASS
	Damping moment, sum	0.000000	PASS
	Position (x)	0.000000	PASS
	Position (y)	0.000000	PASS
	Position (z)	0.000000	PASS
	Displacement (u)	0.000000	PASS
	Displacement (v)	0.000000	PASS
	Displacement (w)	0.000000	PASS
	Displacement magnitude	0.000000	PASS
	Speed	0.000000	PASS
	Acceleration, magnitude	0.000000	PASS
	Rotational displacement (ru)	0.000000	PASS
	Rotational displacement (rv)	0.000000	PASS
	Rotational displacement (rw)	0.000000	PASS
	Rotational displacement magnitude	0.000000	PASS
	Rotational speed	0.000000	PASS
	Rotational acceleration mag	0.000000	PASS
	Displacement period	0.000000	PASS
	Displacement logarithmic decrement	0.000000	PASS
	Displacement damping ratio	0.000000	PASS
	Position (x)	0.000000	PASS
	Position (y)	0.000000	PASS

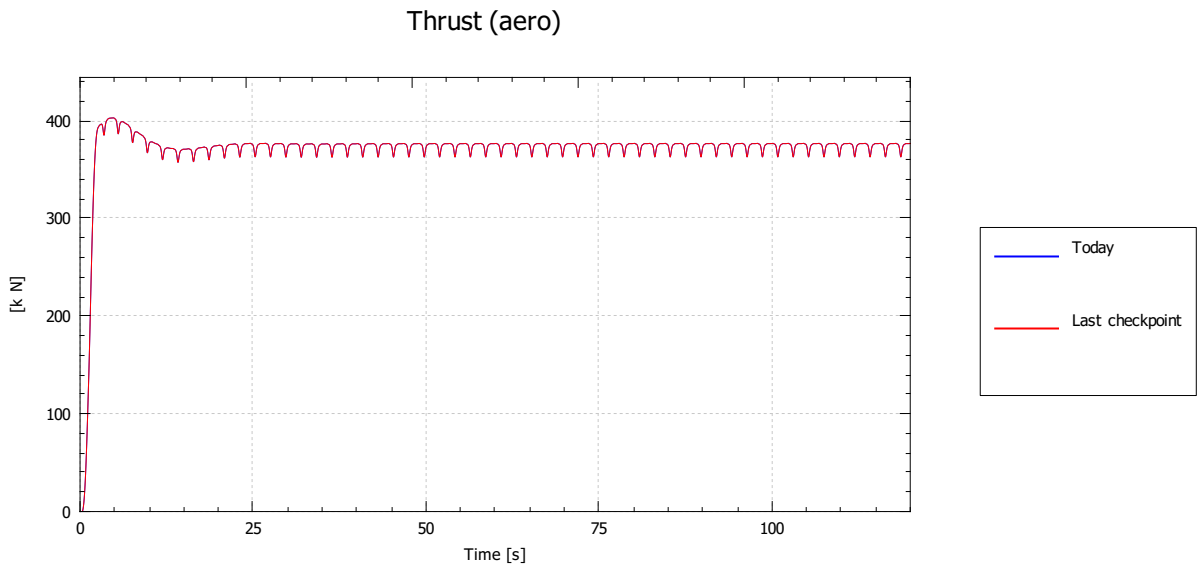
	Position (z)	0.000000	PASS
	Displacement (u)	0.000000	PASS
	Displacement (v)	0.000000	PASS
	Displacement (w)	0.000000	PASS
	Displacement magnitude	0.000000	PASS
	Speed	0.000000	PASS
	Acceleration, magnitude	0.000000	PASS
	Rotational displacement (ru)	0.000000	PASS
	Rotational displacement (rv)	0.000000	PASS
	Rotational displacement (rw)	0.000000	PASS
	Rotational displacement magnitude	0.000000	PASS
	Rotational speed	0.000000	PASS
	Rotational acceleration mag	0.000000	PASS
	Displacement period	0.000000	PASS
	Displacement logarithmic decrement	0.000000	PASS
	Displacement damping ratio	0.000000	PASS
	Root force (magnitude)	0.000000	PASS
	Root moment (magnitude)	0.000000	PASS
	Root moment (out-of-plane)	0.000000	PASS
	Root moment (in-plane)	0.000000	PASS
	Root moment about shaft	0.000000	PASS
	Pitch angle	0.000000	PASS
	Tip deflection (out-of-plane)	0.000000	PASS
	Tip deflection (in-plane)	0.000000	PASS
	Root torque	0.000000	PASS
	Surface elevation (origin)	0.000000	PASS
	Dynamic pressure (origin)	0.000000	PASS

Load case: 2.1a

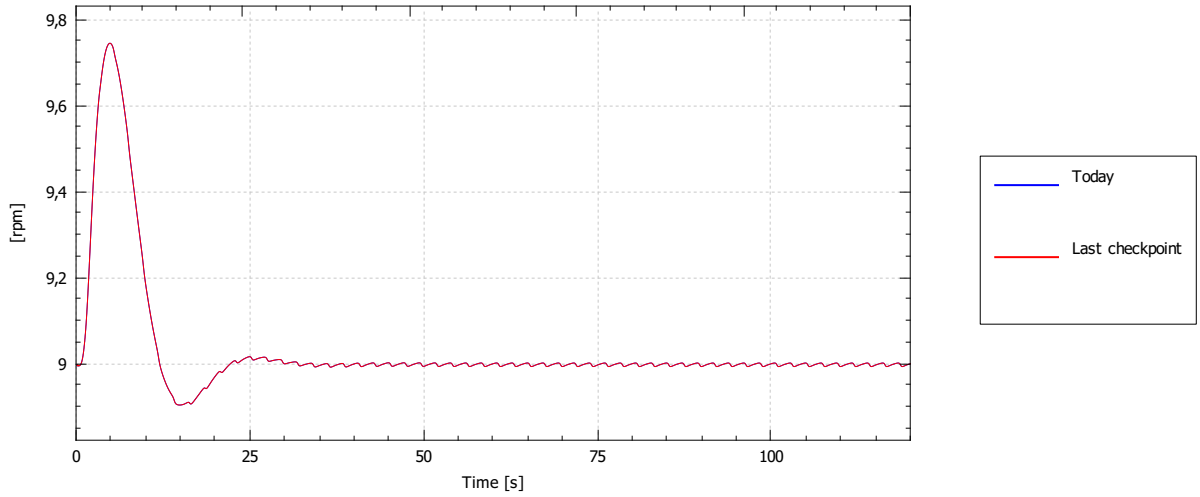
Rotor


Power (aero)
[k W]
2000
1500
1000
500
0
0
25
50
75
100
Time [s]
Today
Last checkpoint

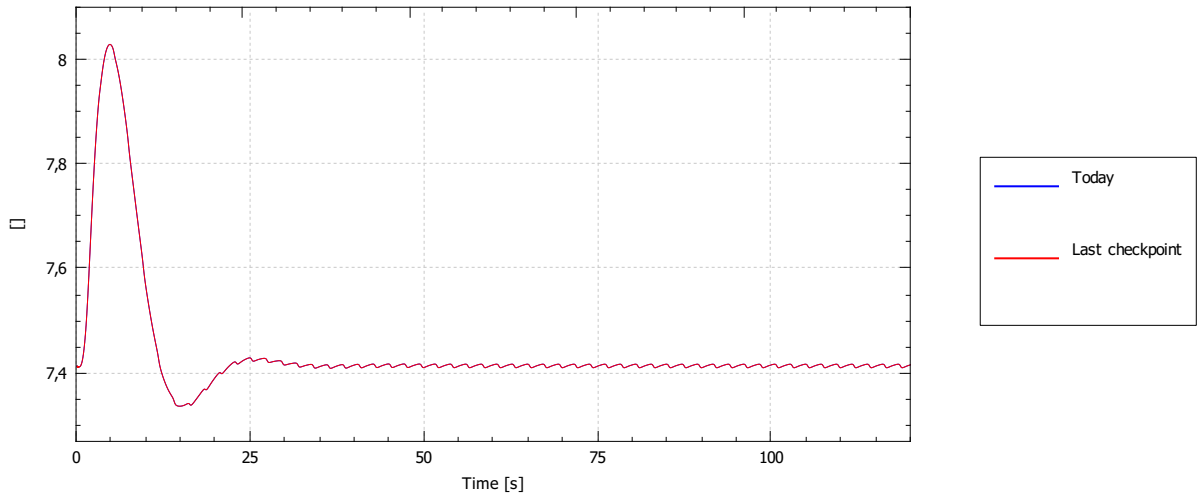

Torque (aero)
[k Nm]
2000
1500
1000
500
0
0
25
50
75
100
Time [s]
Today
Last checkpoint


Thrust (aero)
[k N]
400
300
200
100
0
0
25
50
75
100
Time [s]
Today
Last checkpoint

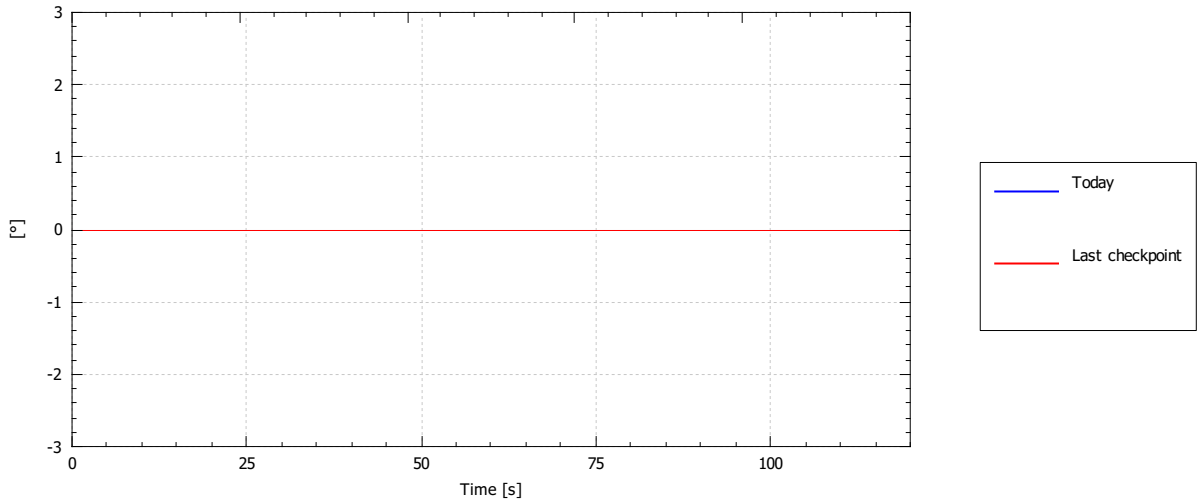
RPM

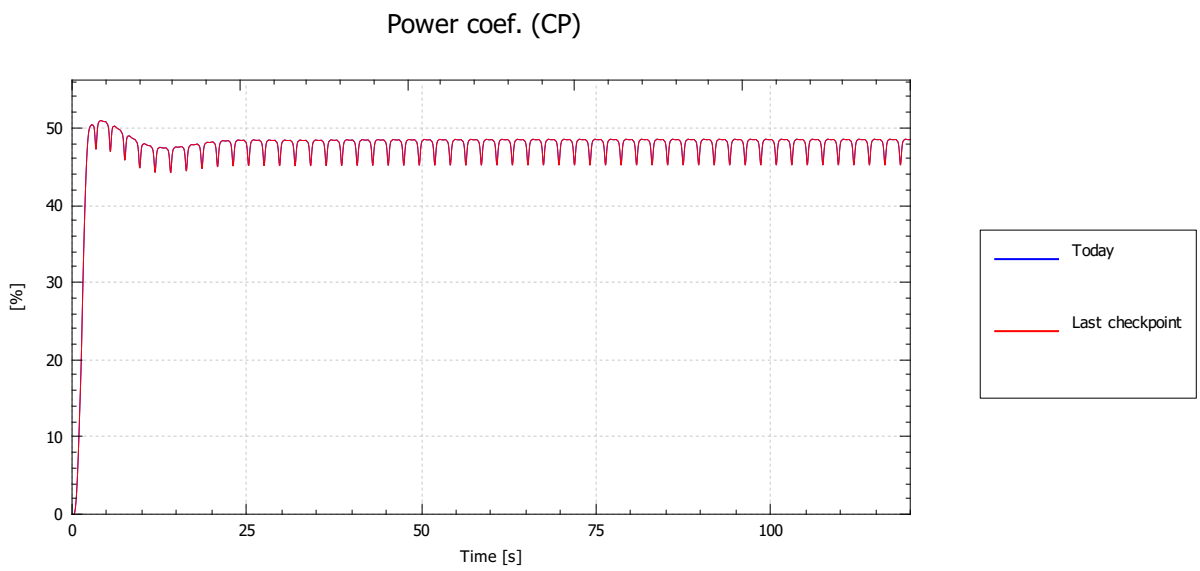


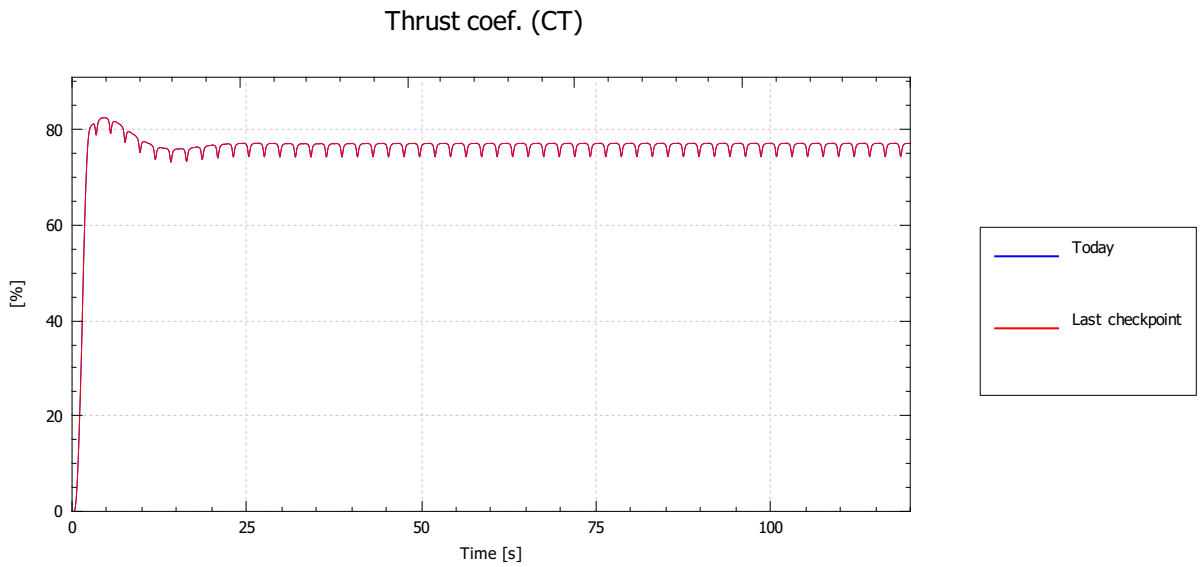
TSR

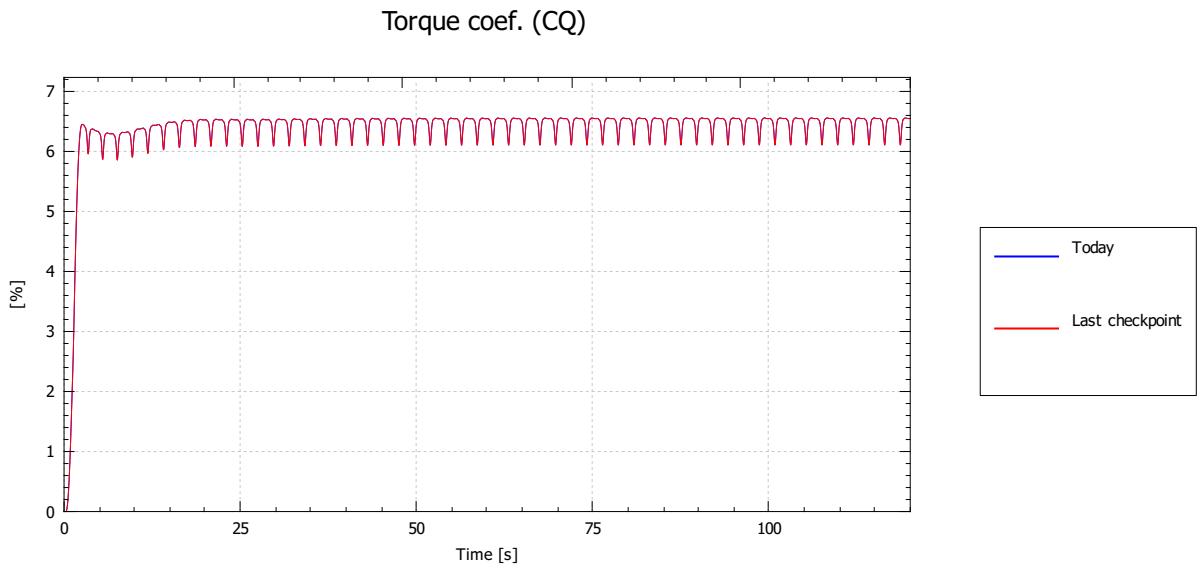


Representative demanded pitch angle

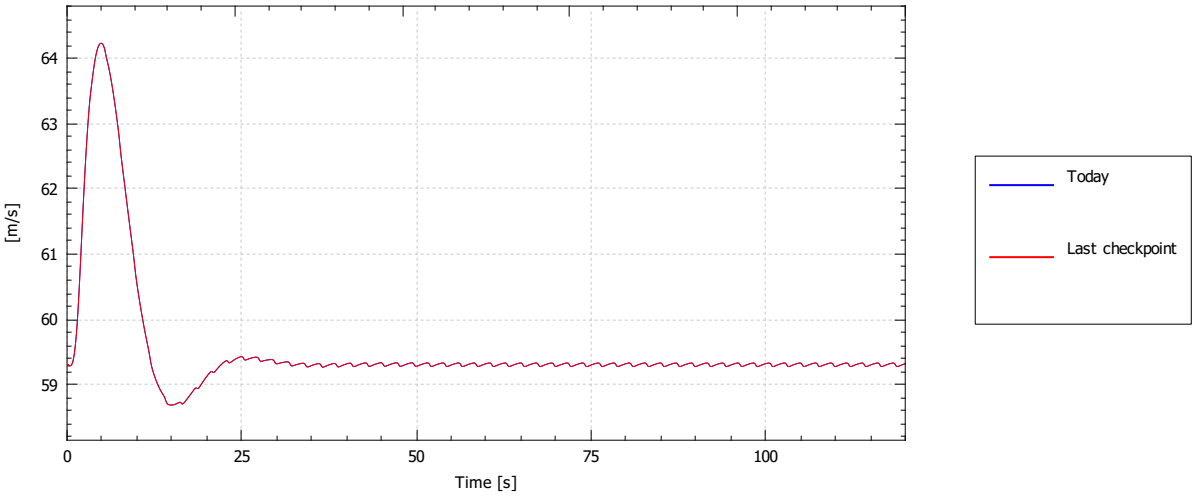



Power coef. (CP)
[%]
0
10
20
30
40
50
0
25
50
75
100
Time [s]
Today
Last checkpoint

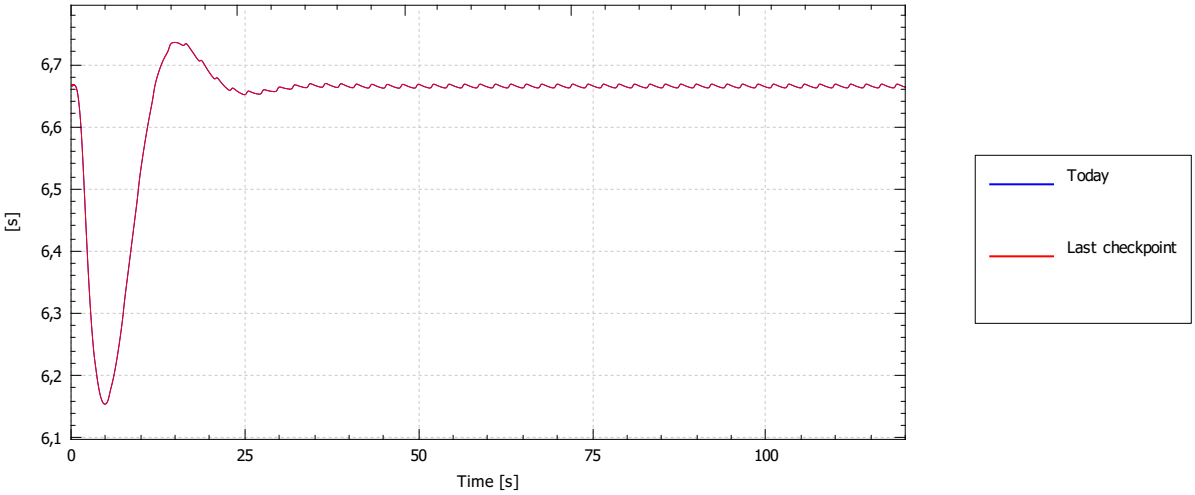

Thrust coef. (CT)
[%]
0
20
40
60
80
0
25
50
75
100
Time [s]
Today
Last checkpoint


Torque coef. (CQ)
[%]
0
1
2
3
4
5
6
7
0
25
50
75
100
Time [s]
Today
Last checkpoint

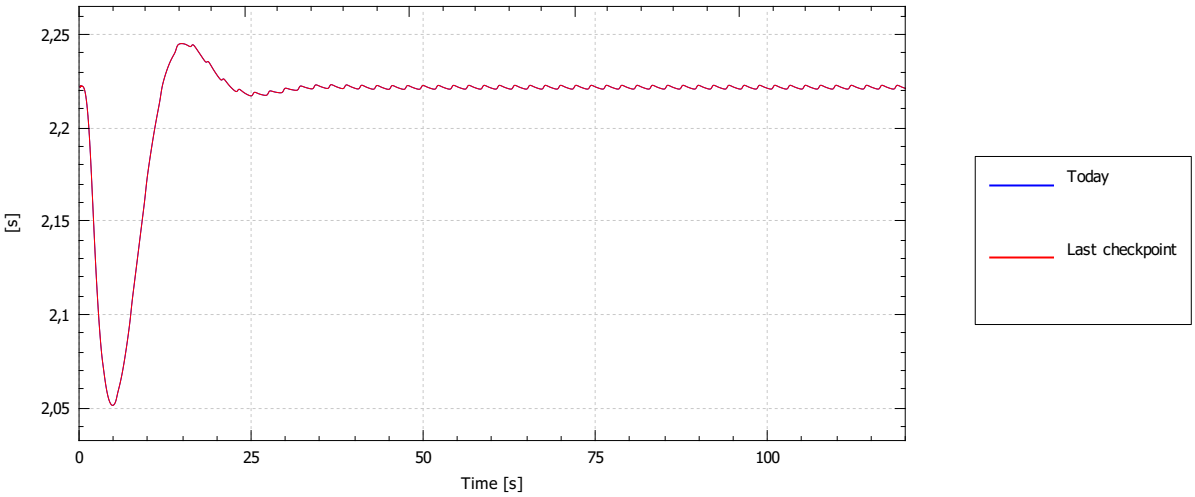
Tip speed



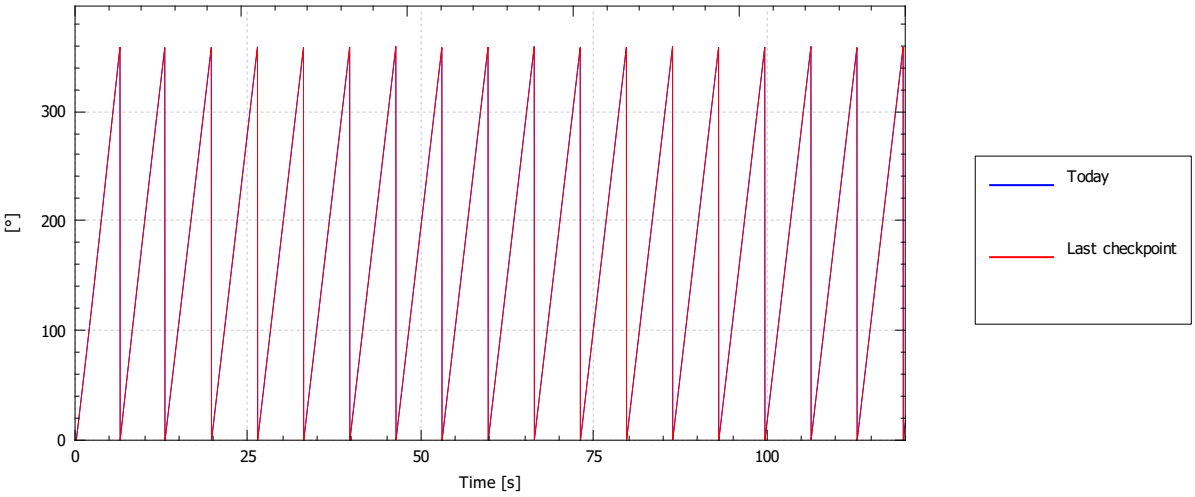
1P (one revolution)



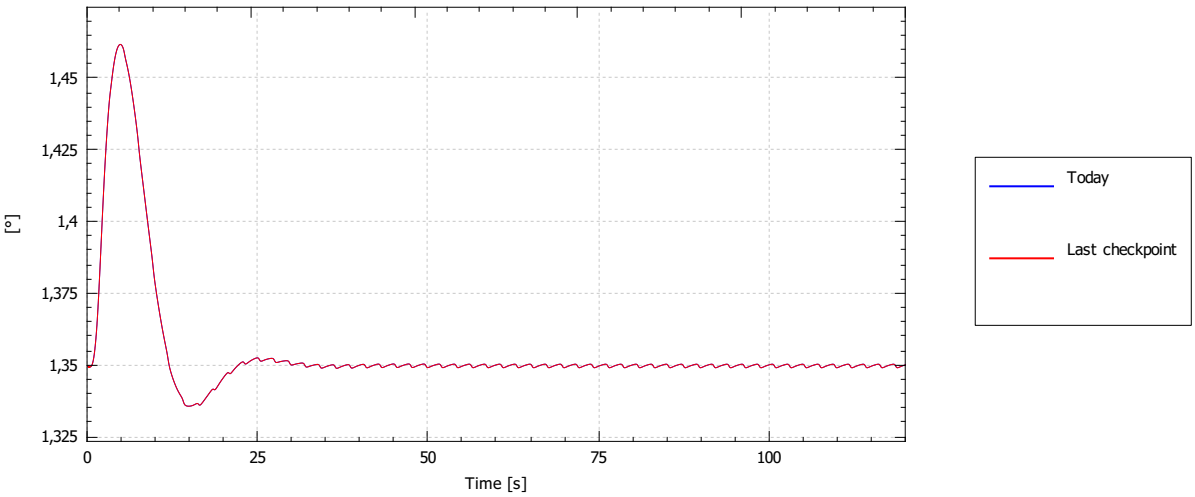
nP (blade passing)



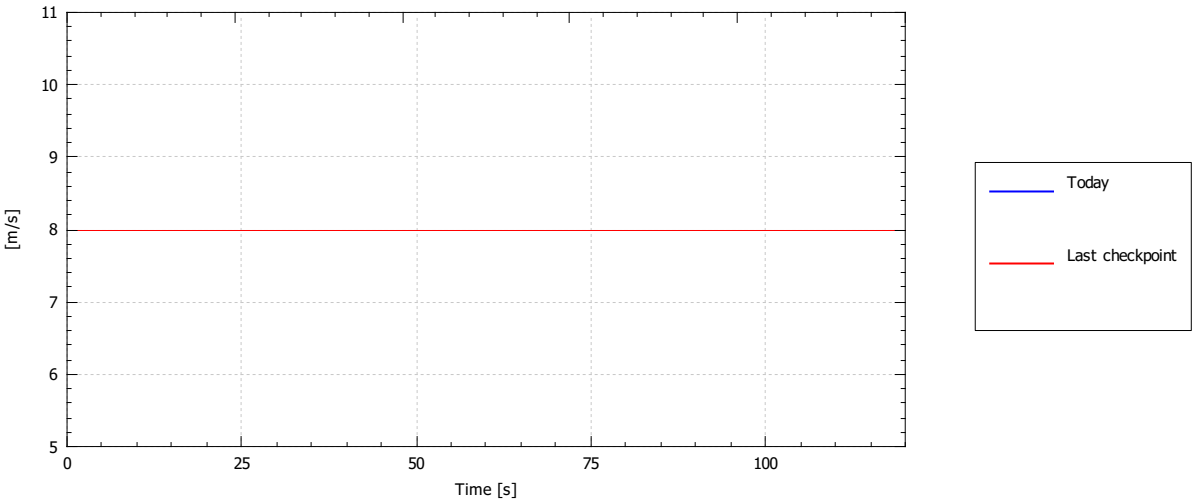
Azimuth angle



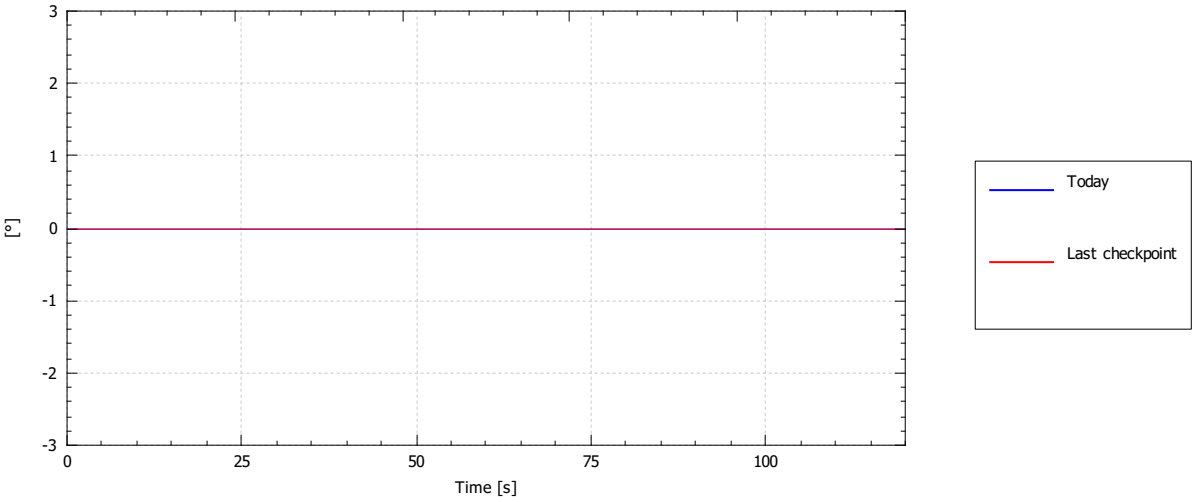
Rotation per timestep



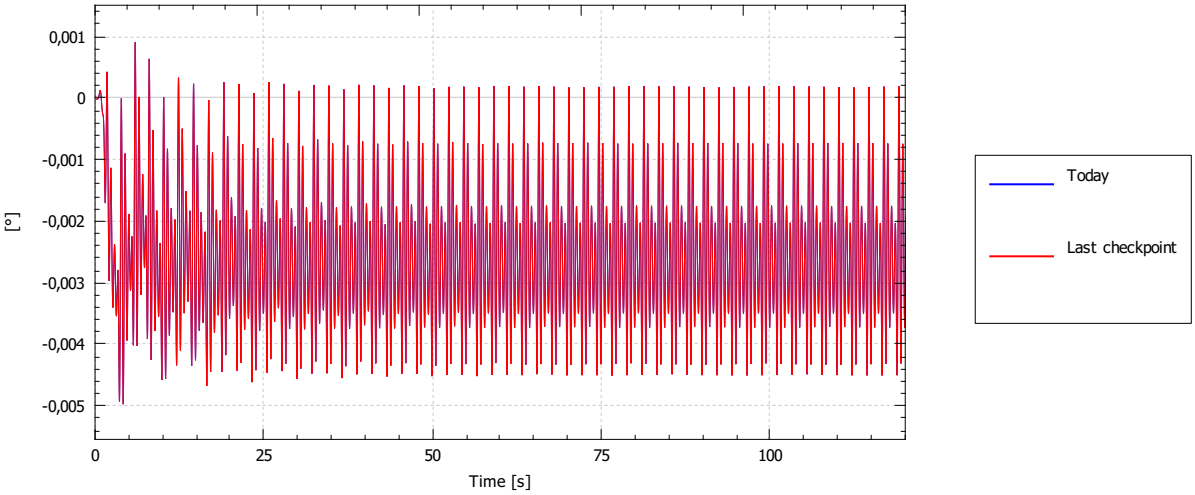
Wind speed at hub, magnitude



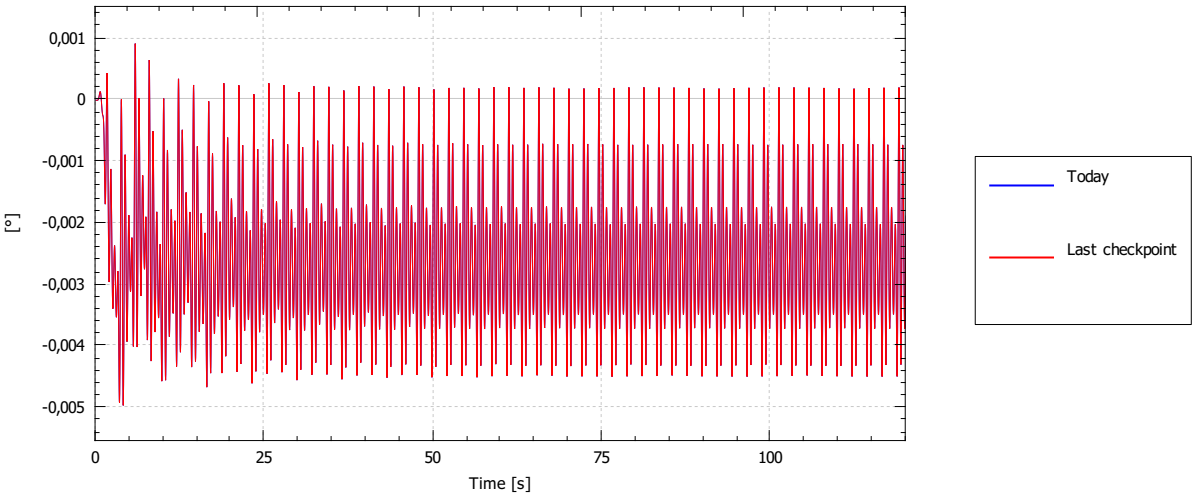
Wind angle at hub

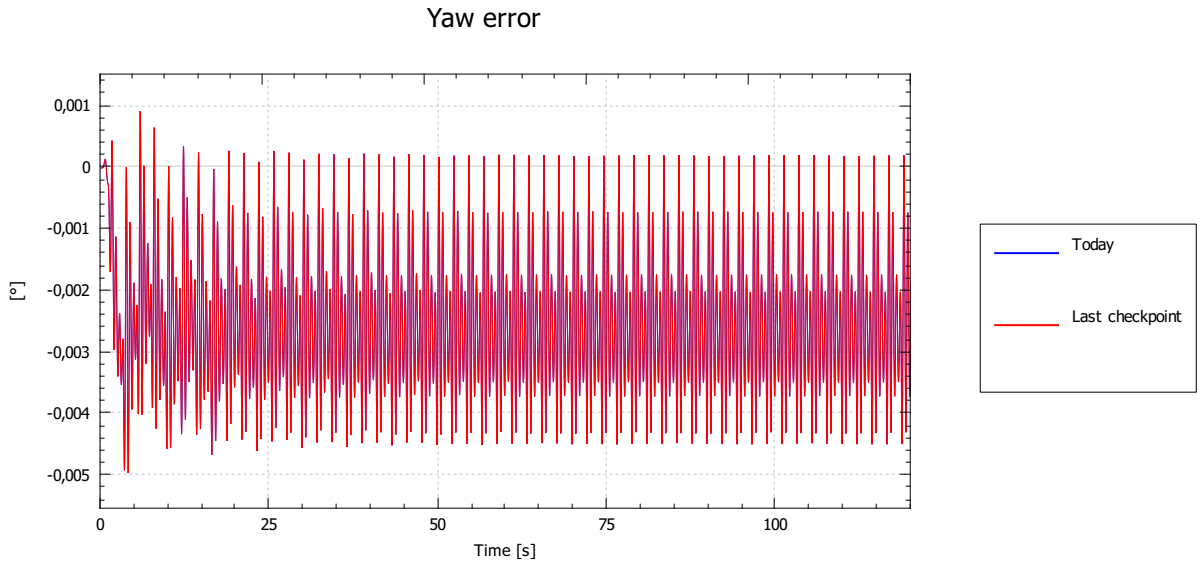


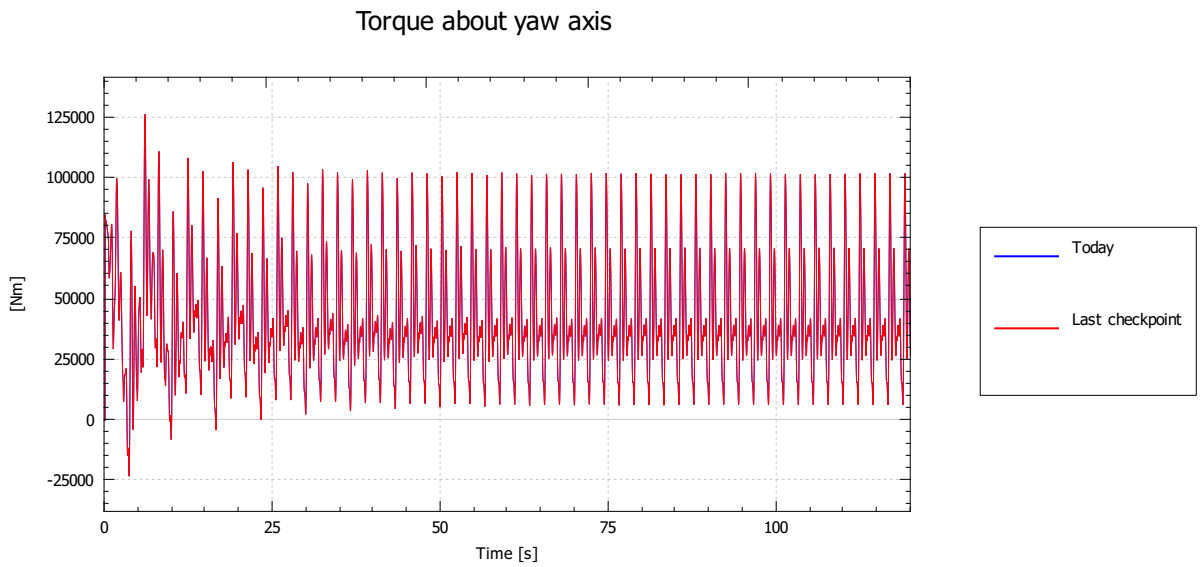
Yaw angle relative to forward



Yaw angle to reference direction

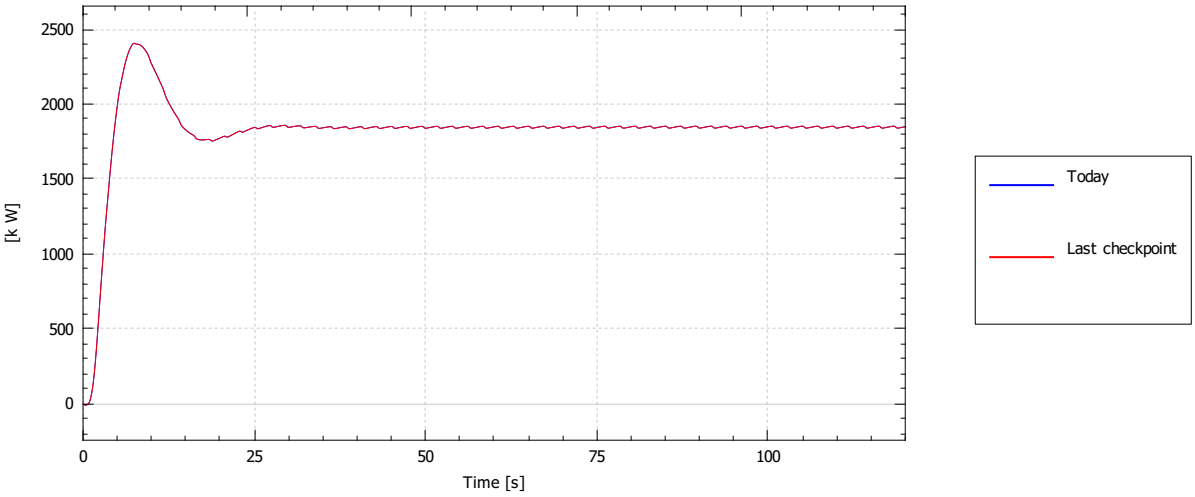



Yaw error
0,001
0
-0,001
-0,002
-0,003
-0,004
-0,005
[°]
0
25
50
75
100
Time [s]
Today
Last checkpoint

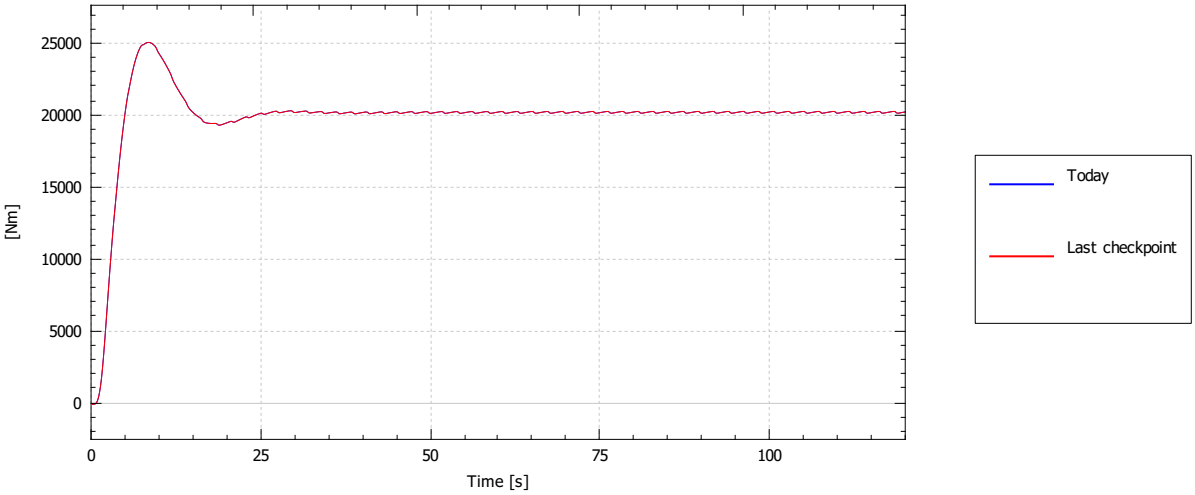

Torque about yaw axis
125000
100000
75000
50000
25000
0
-25000
[Nm]
0
25
50
75
100
Time [s]
Today
Last checkpoint

Generator

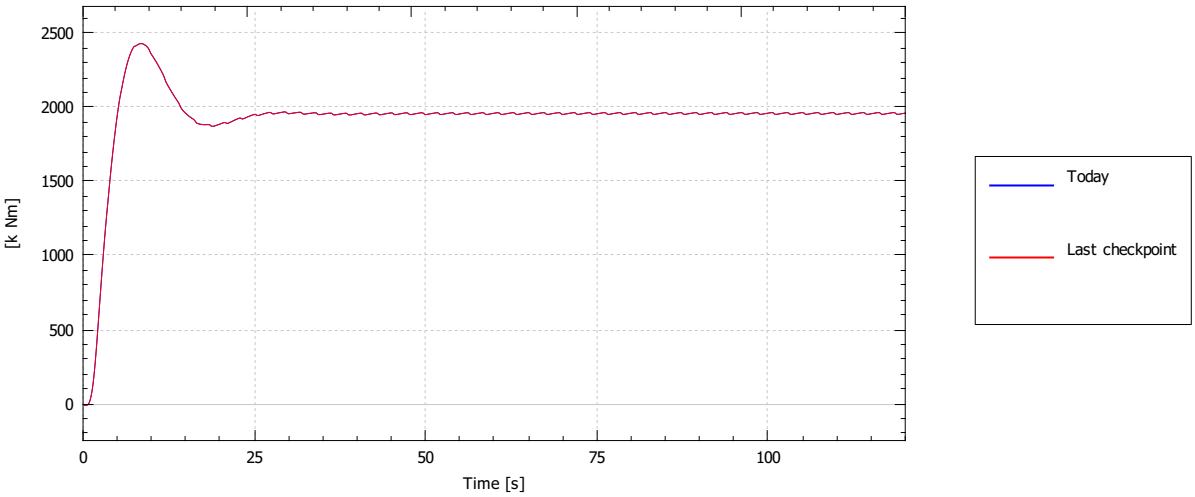
Power (electrical)



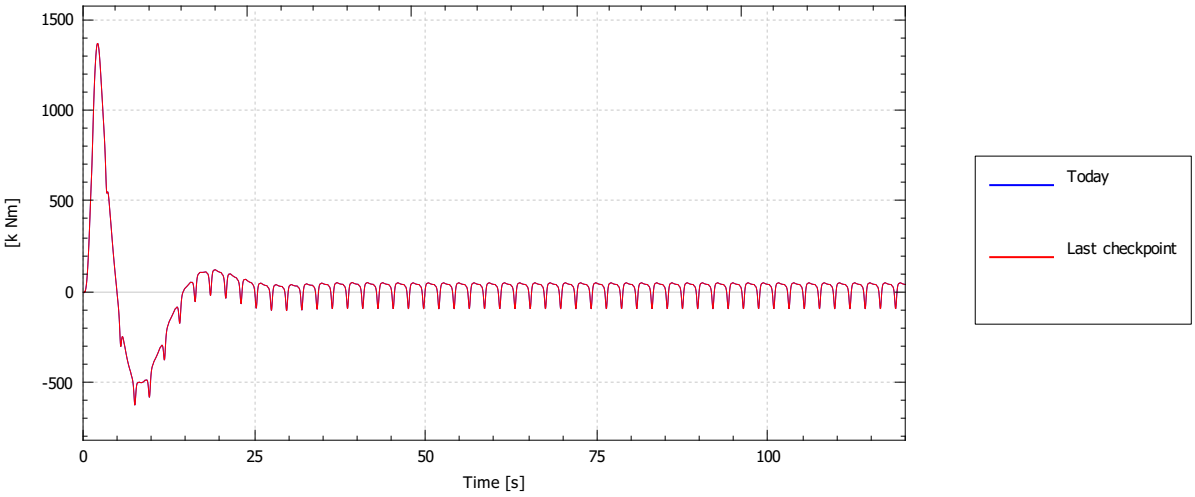
Torque



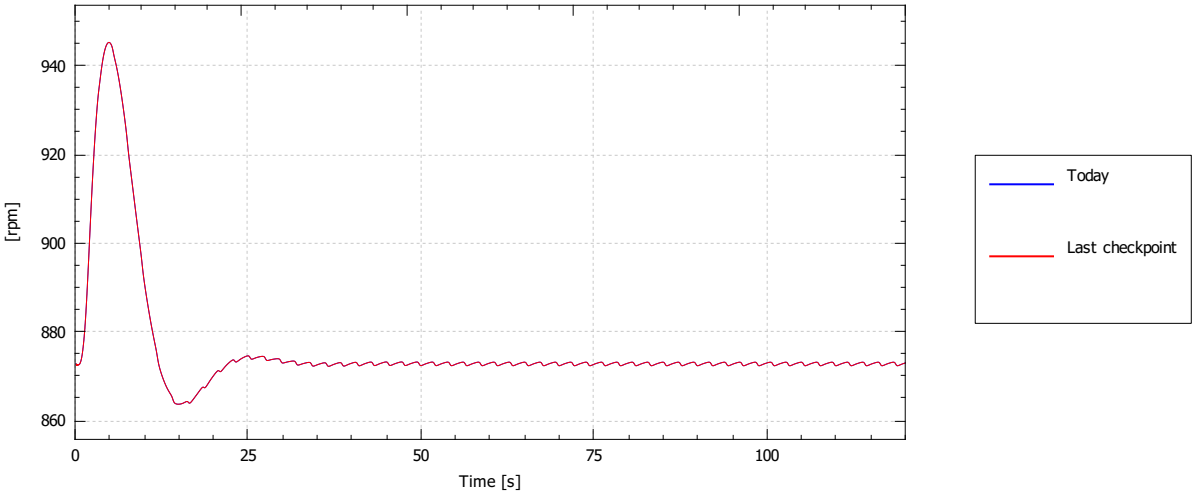
Torque on main shaft



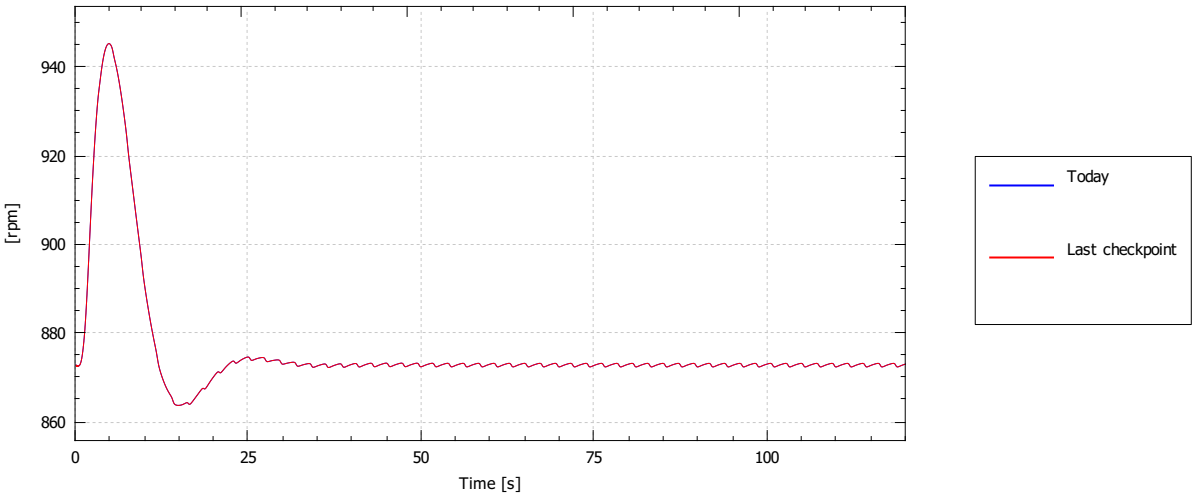
Torque diff. on main shaft

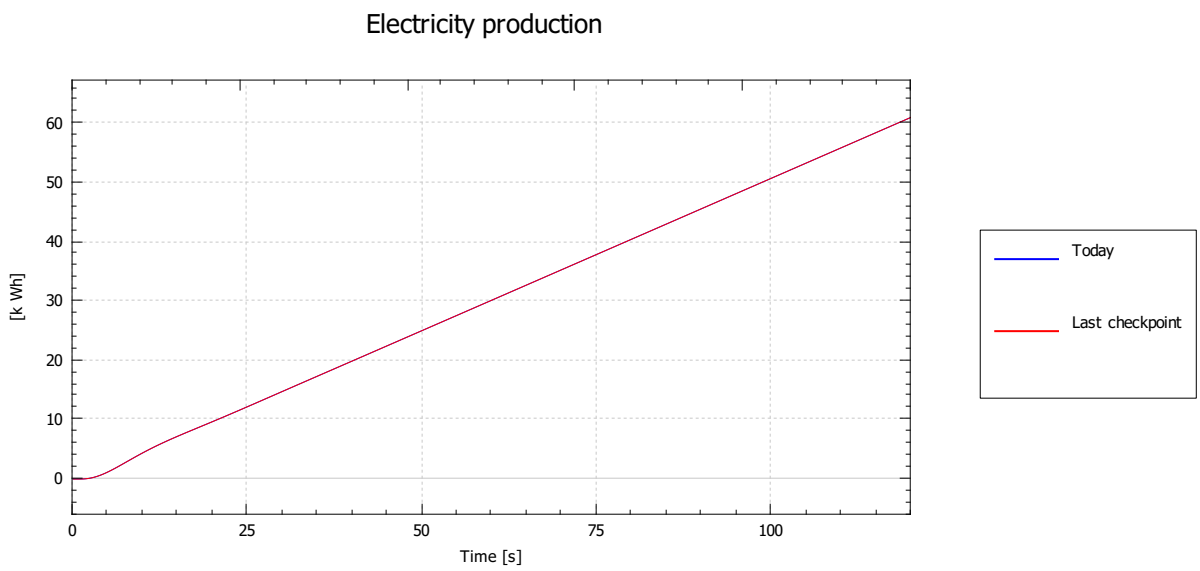


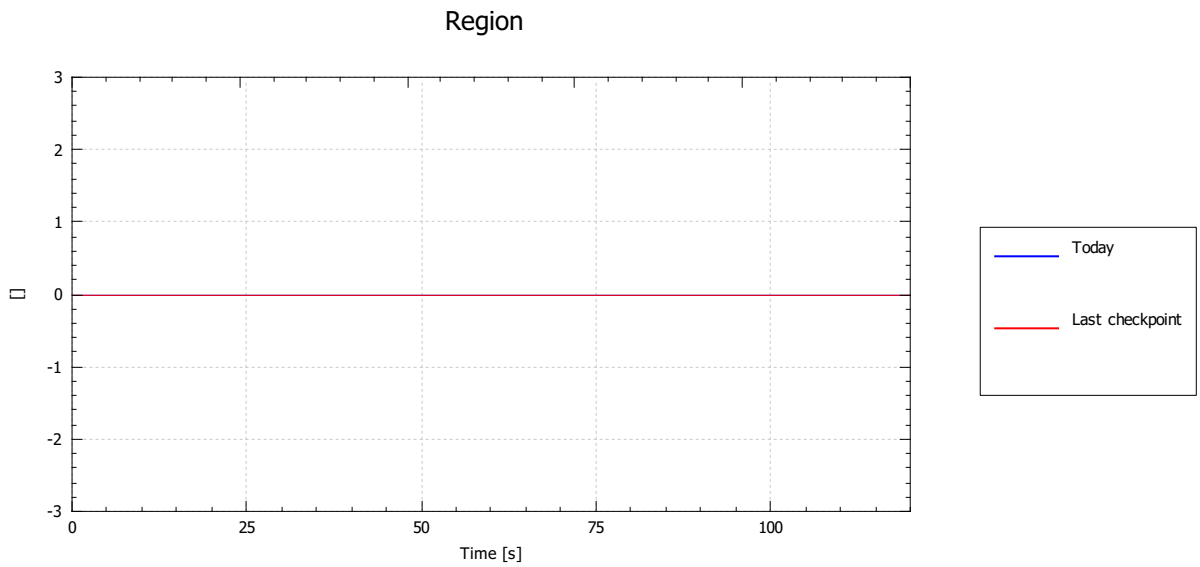
RPM



Filtered RPM

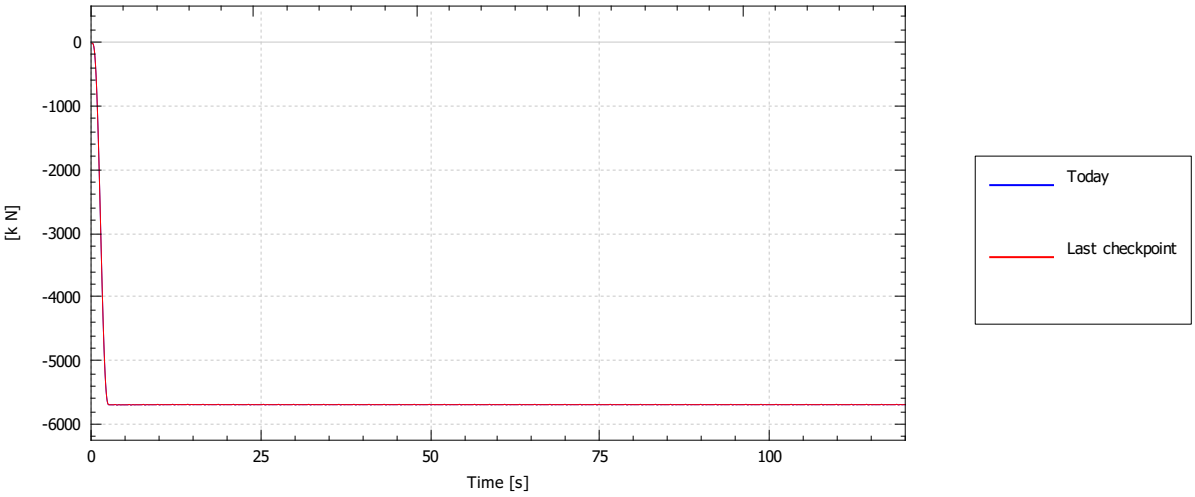




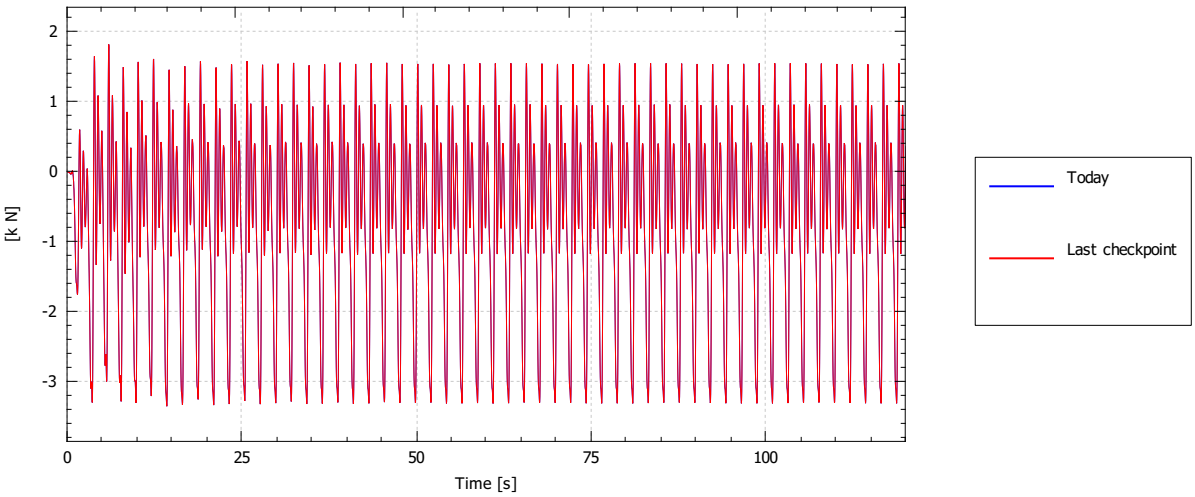


Beam element [Element 1 | Tubular tower]

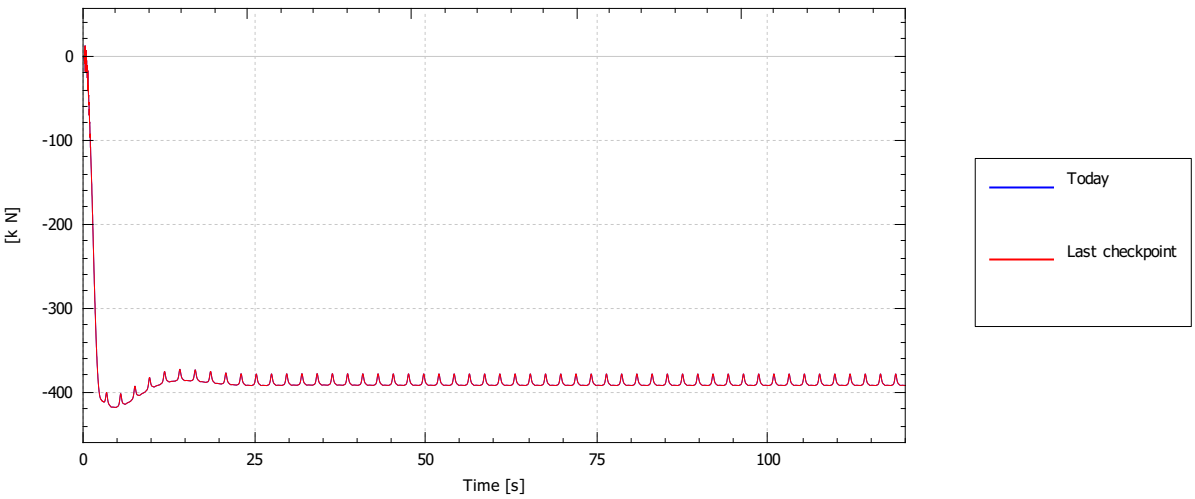
Axial force



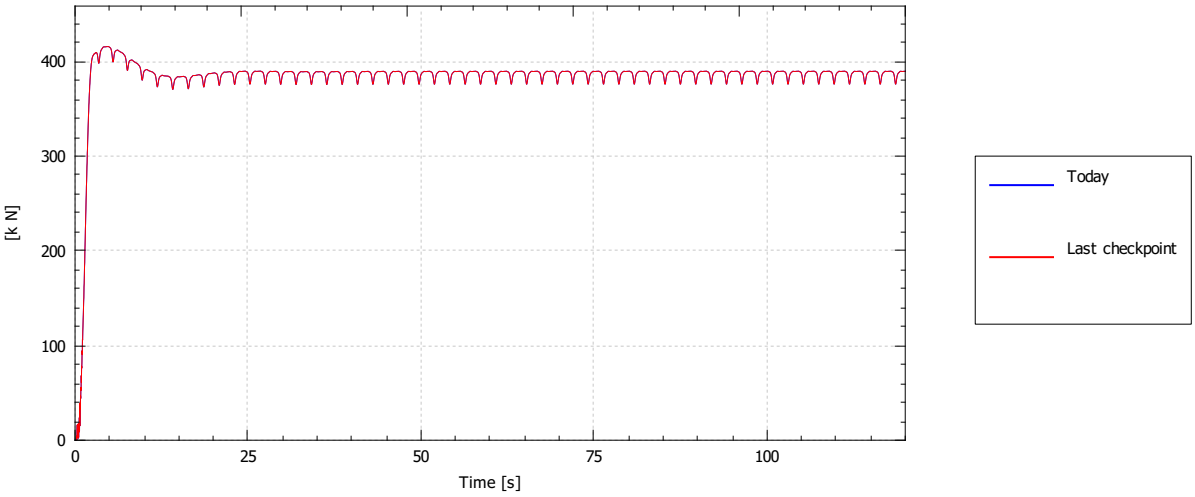
Shear force (1st prin. axis)



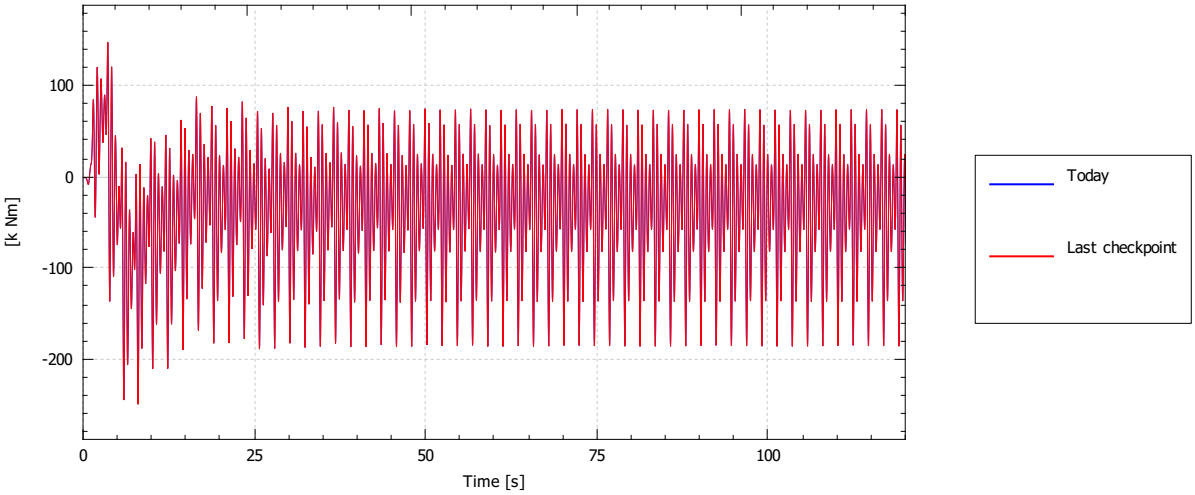
Shear force (2nd prin. axis)



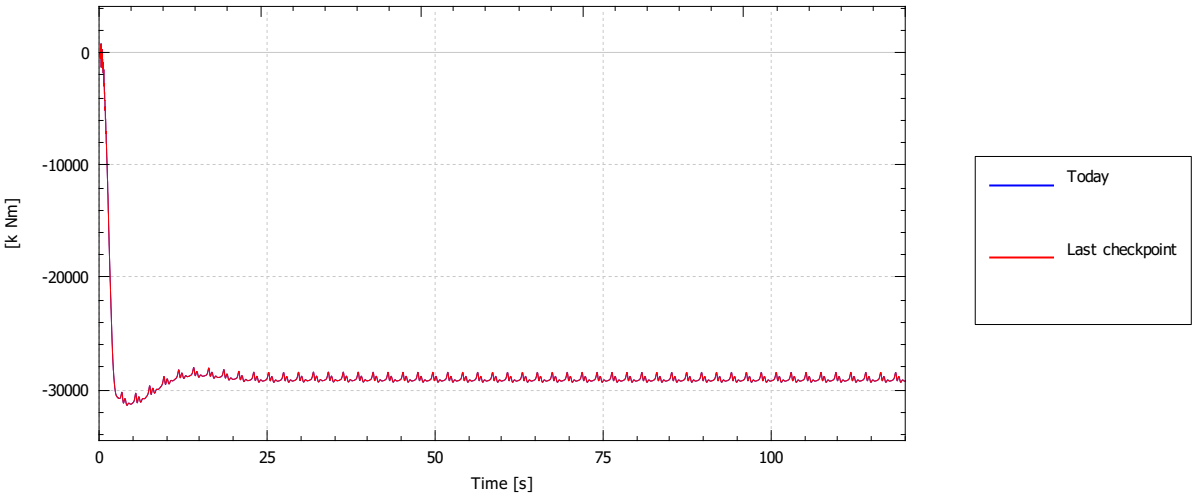
Shear force, mag.



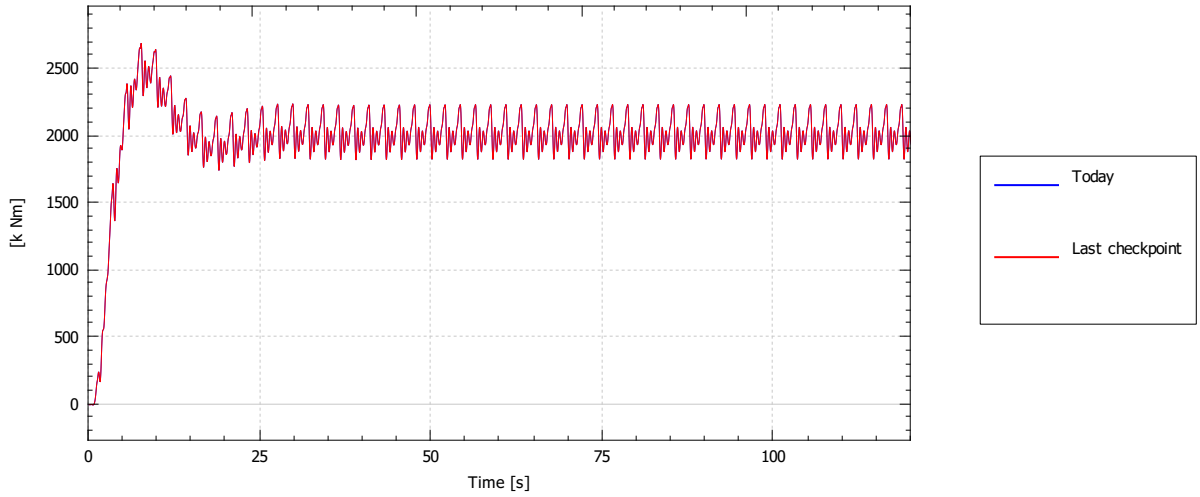
Torque



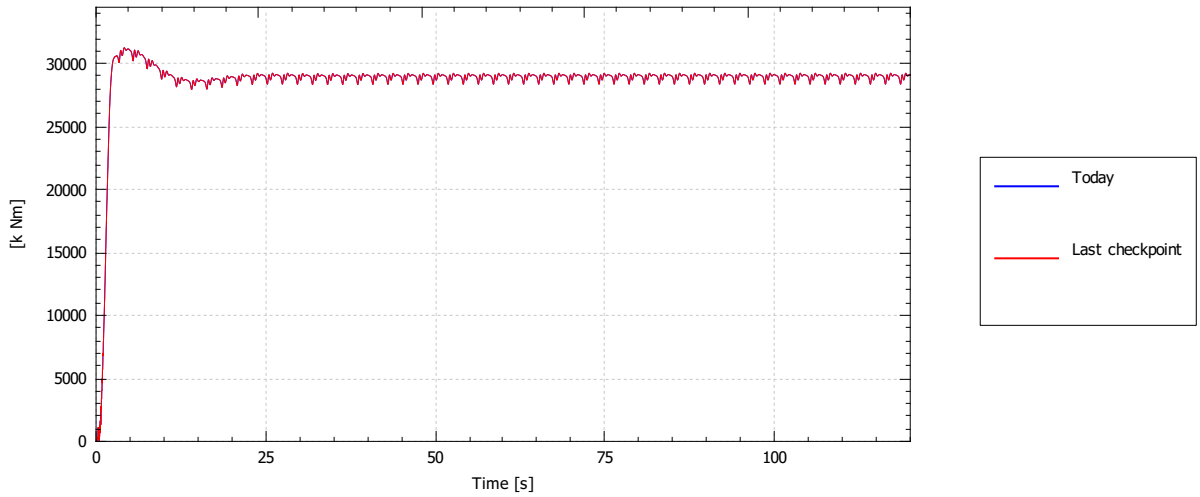
Moment (1st prin. axis), i



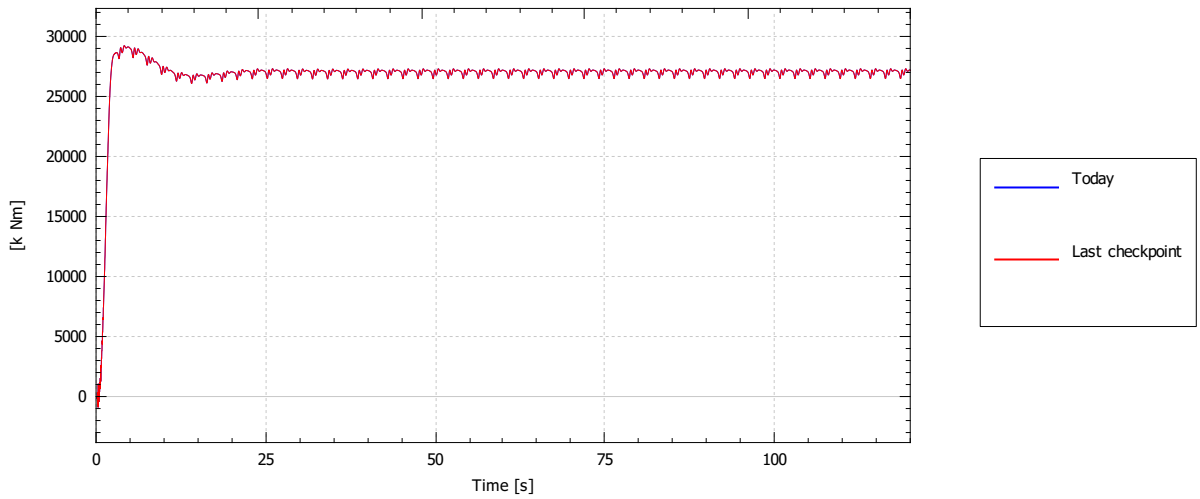
Moment (2nd prin. axis), i



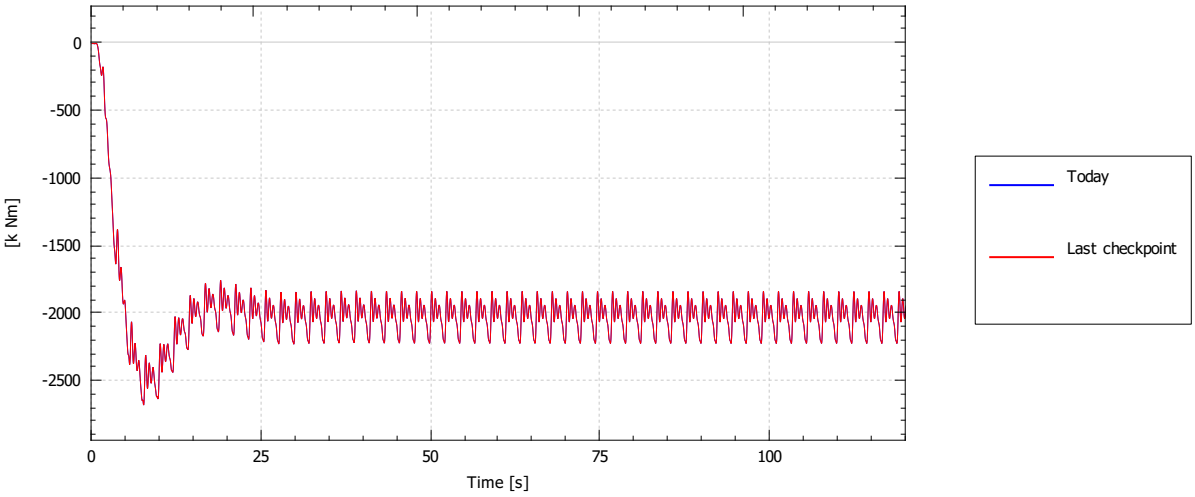
Moment, mag., i



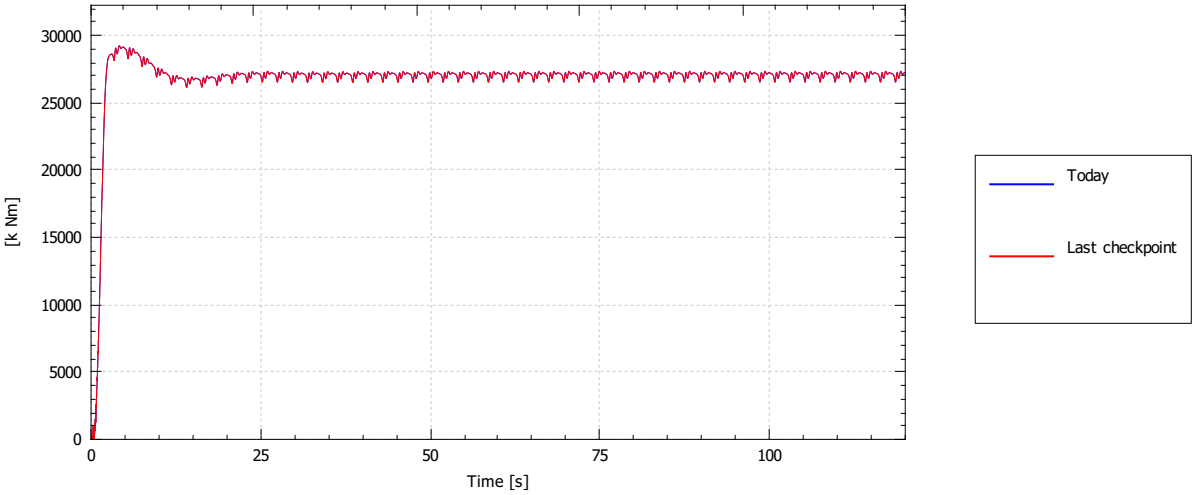
Moment (1st prin. axis), j



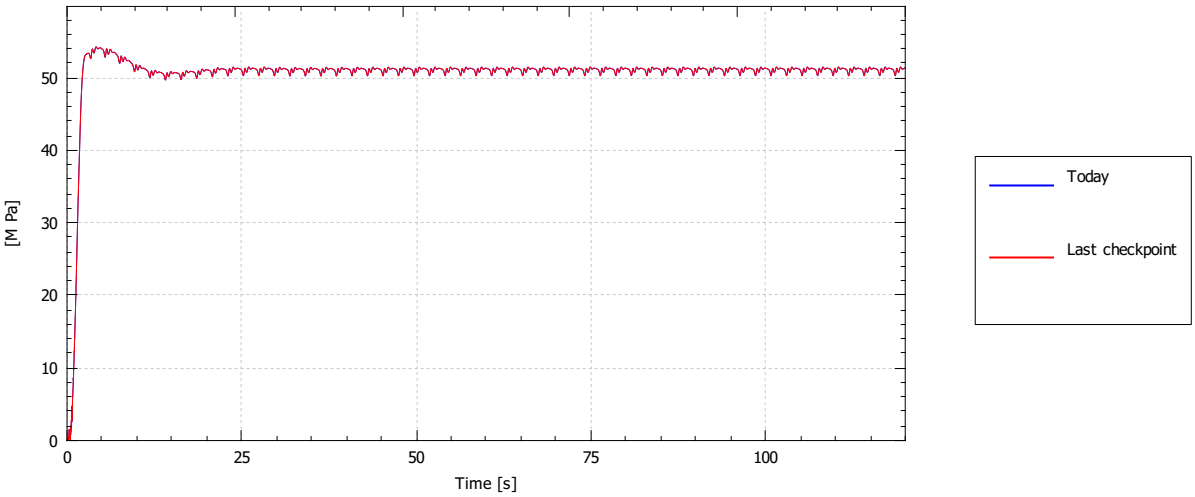
Moment (2nd prin. axis), j

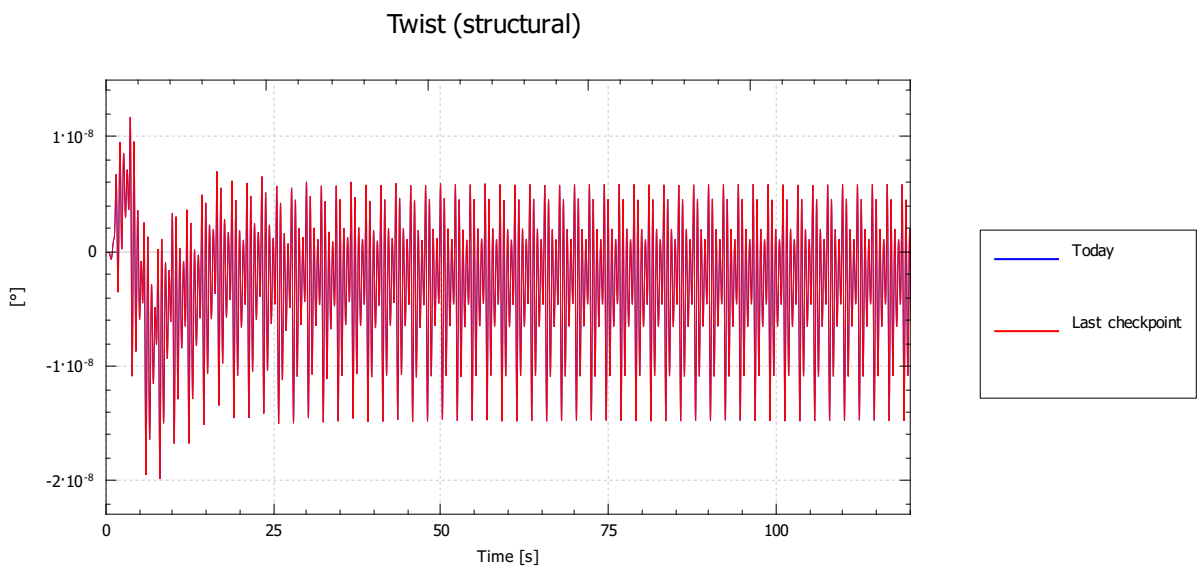


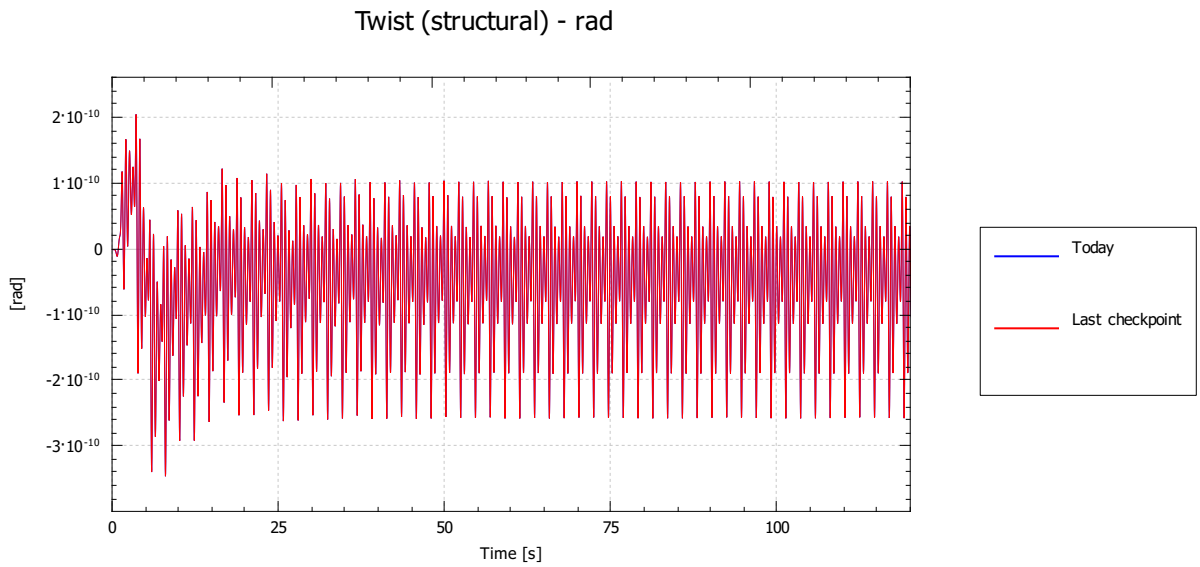
Moment, mag., j

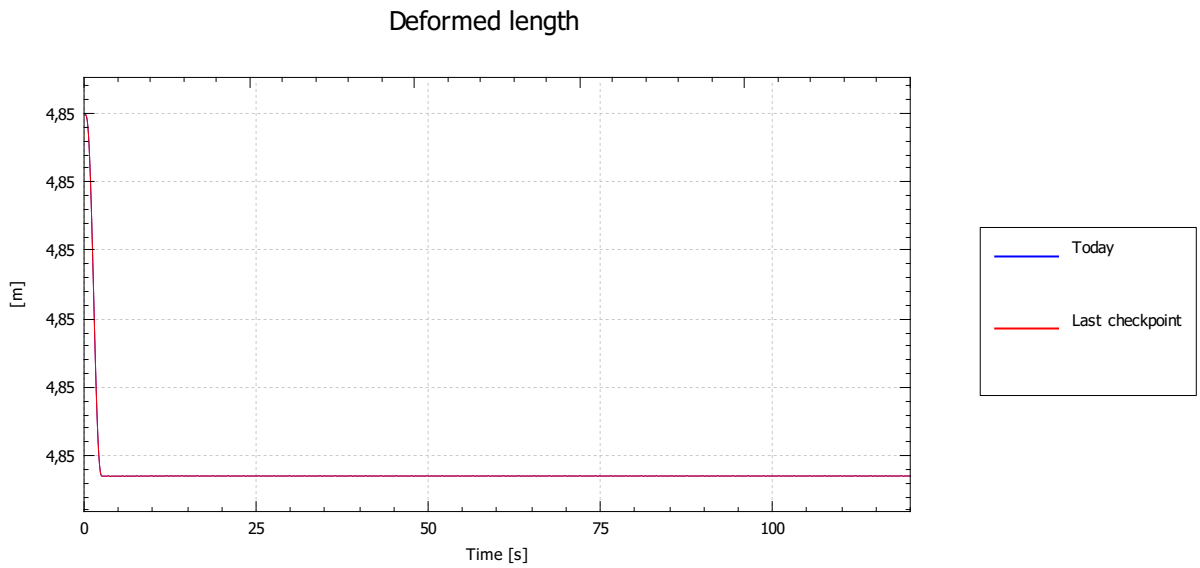


Max normal stress

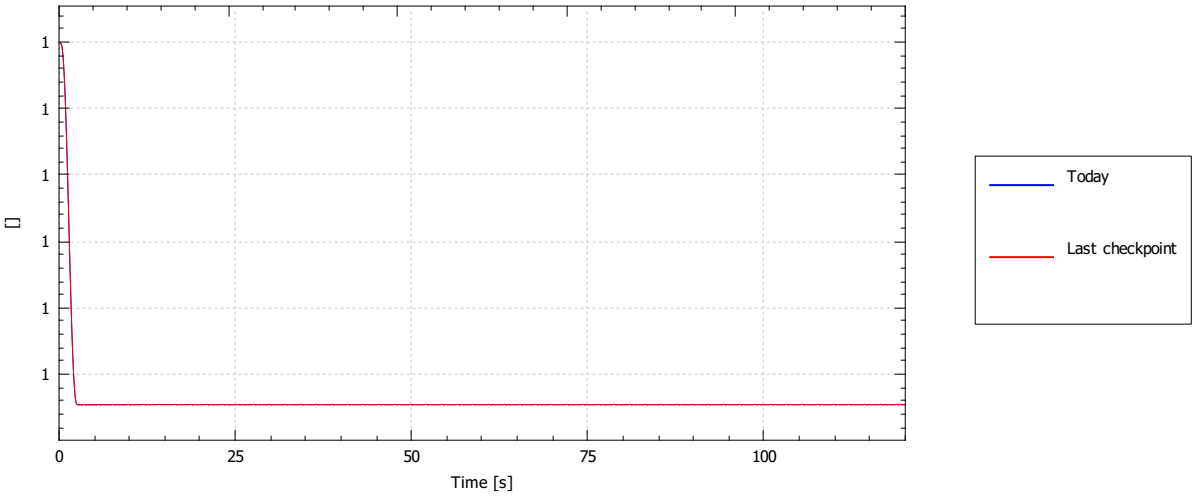



Twist (structural)
1·10-8
0
-1·10-8
-2·10-8
[°]
0
25
50
75
100
Time [s]
Today
Last checkpoint

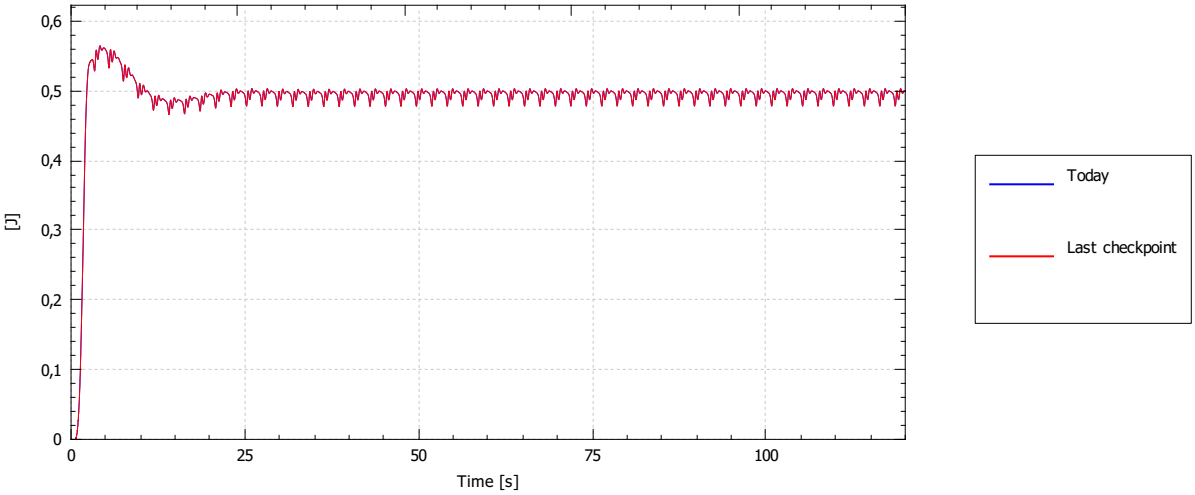

Twist (structural) - rad
2·10-10
1·10-10
0
-1·10-10
-2·10-10
-3·10-10
[rad]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Deformed length
4,85
4,85
4,85
4,85
4,85
4,85
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

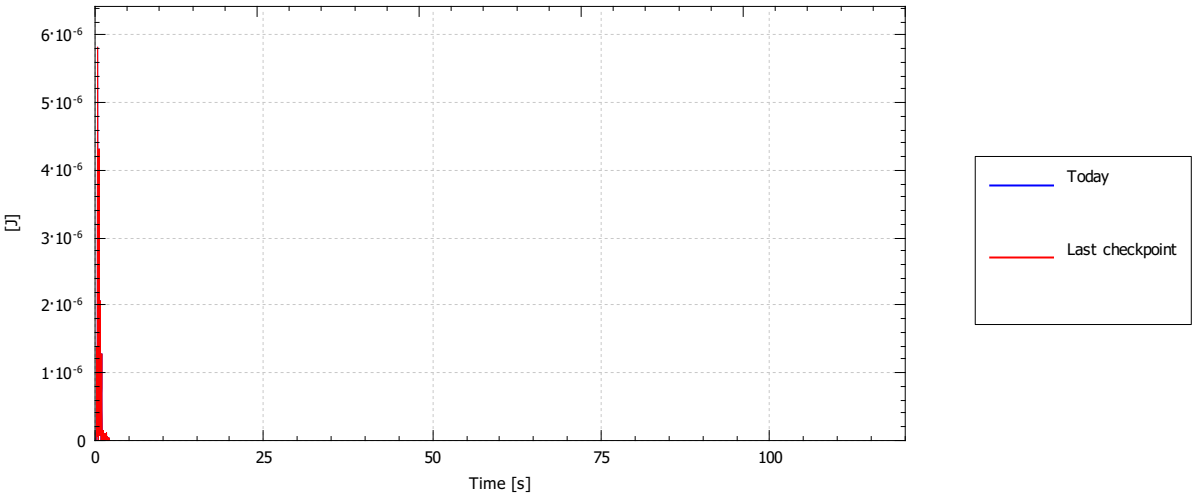
Elongation



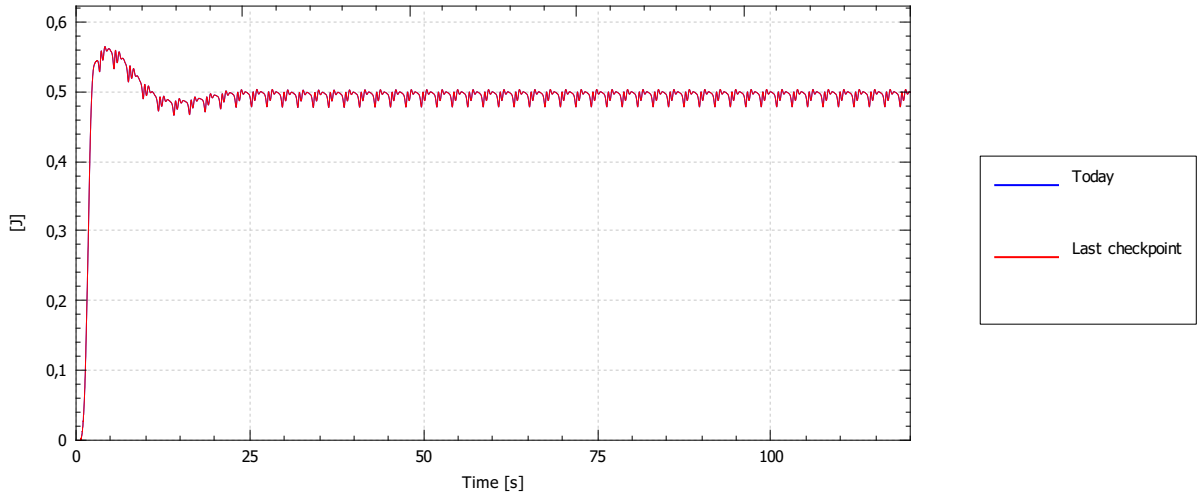
Strain energy



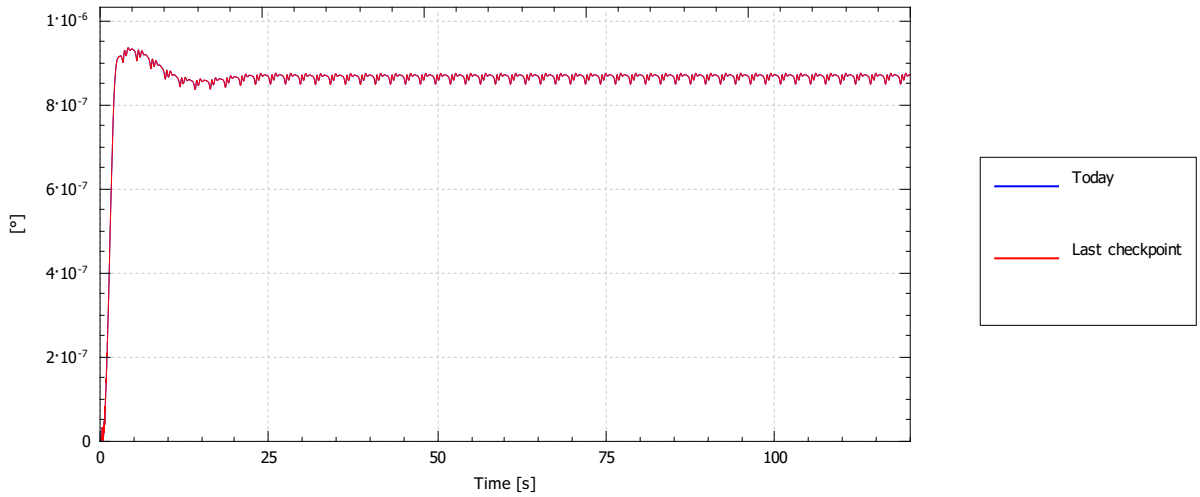
Kinetic energy



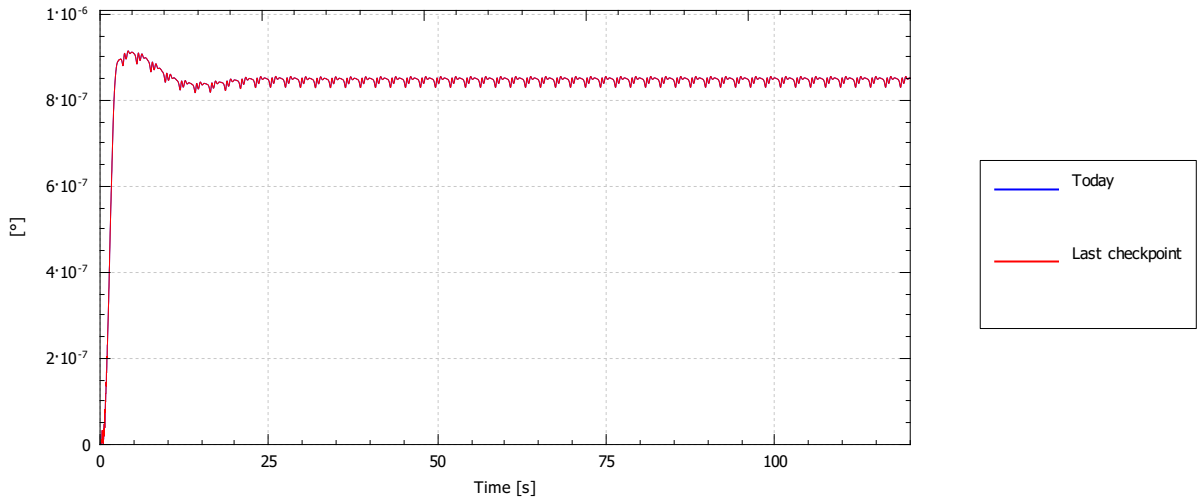
Mechanical energy



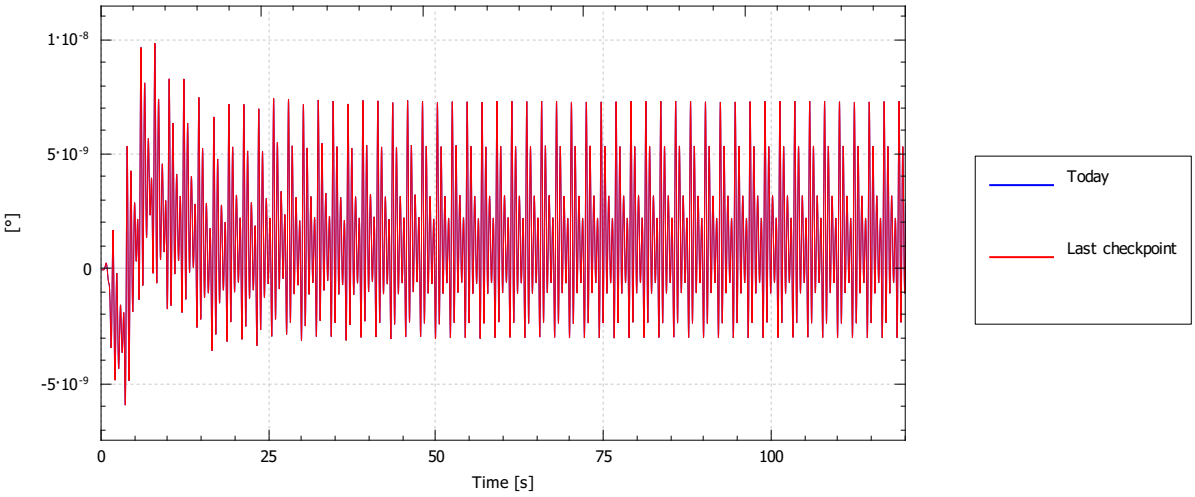
Deformational rotation (i)



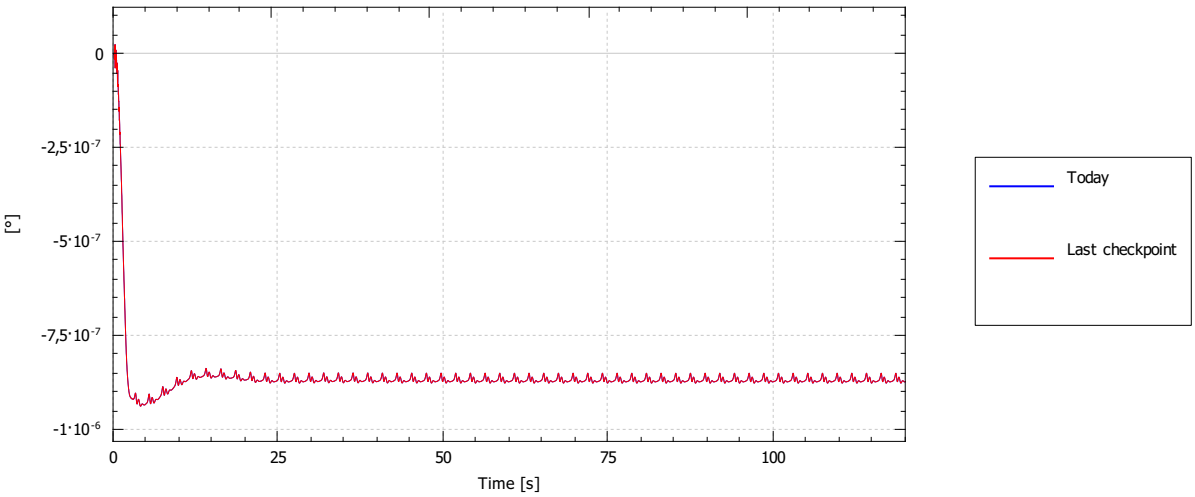
Deformational rotation (j)



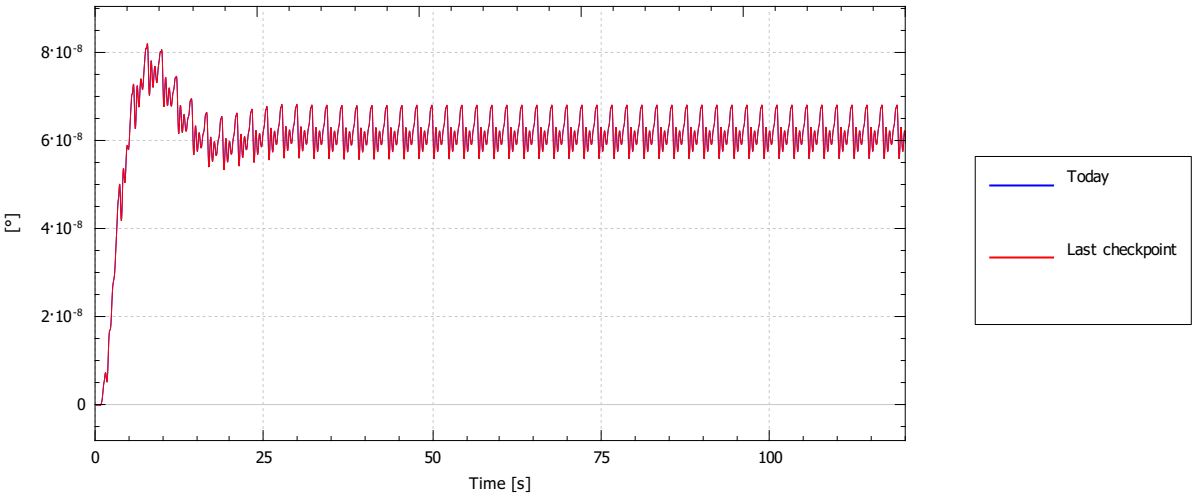
Deformational rotation (axial)

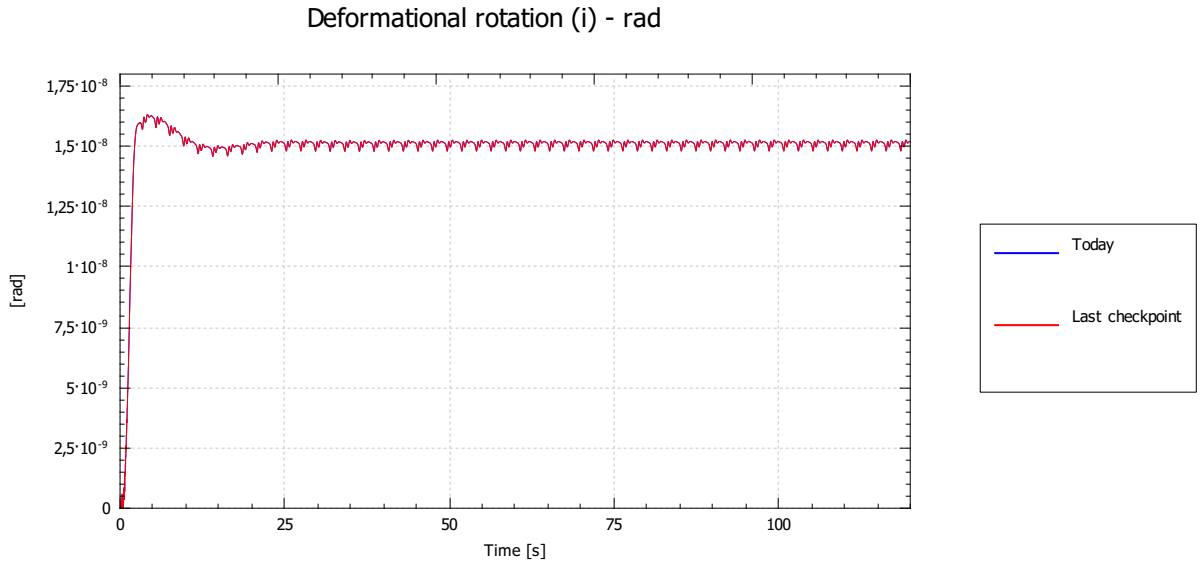


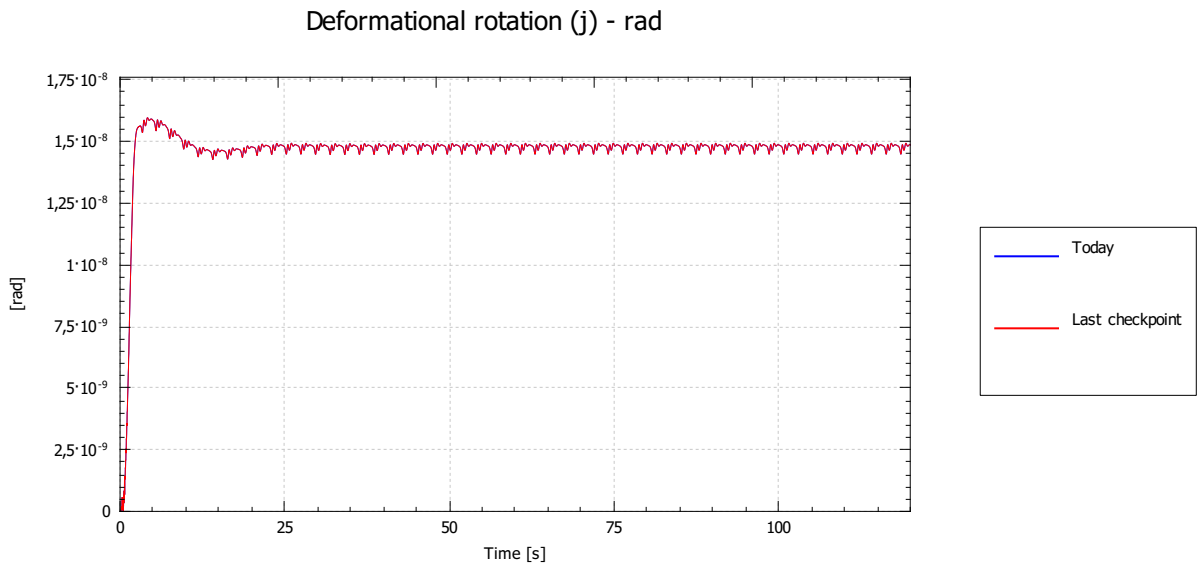
Deformational rotation (1st prin.)

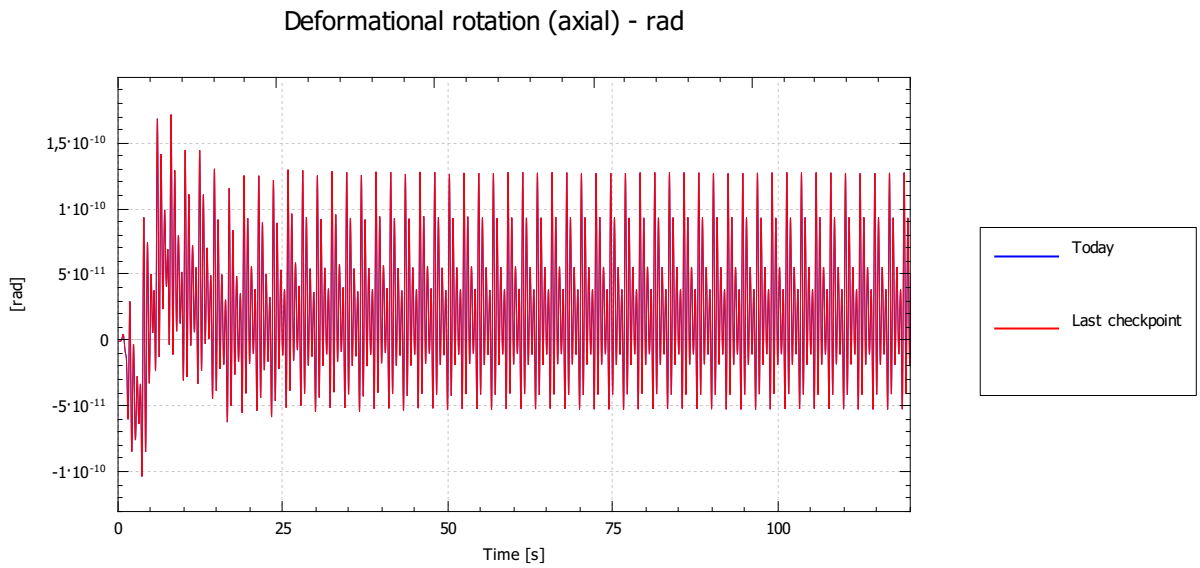


Deformational rotation (2nd prin.)

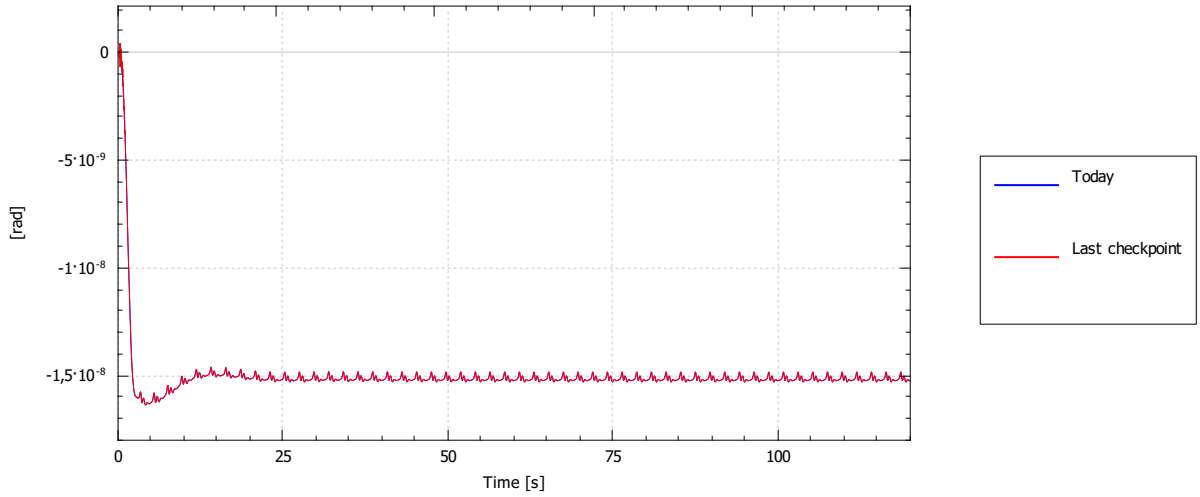



Deformational rotation (i) - rad
1,75·10-8
1,5·10-8
1,25·10-8
1·10-8
7,5·10-9
5·10-9
2,5·10-9
0
[rad]
0
25
50
75
100
Time [s]
Today
Last checkpoint

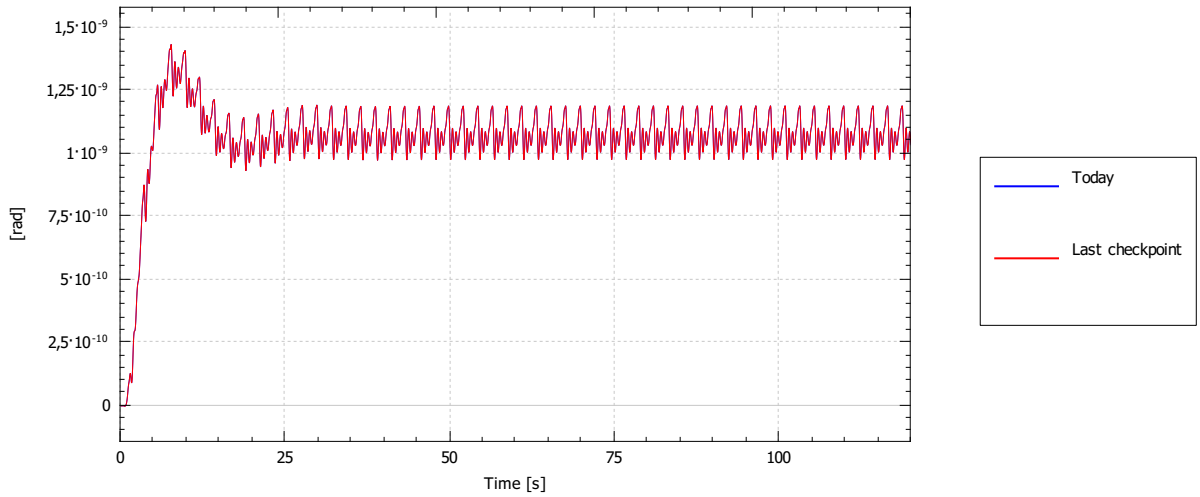

Deformational rotation (j) - rad
1,75·10-8
1,5·10-8
1,25·10-8
1·10-8
7,5·10-9
5·10-9
2,5·10-9
0
[rad]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Deformational rotation (axial) - rad
1,5·10-10
1·10-10
5·10-11
0
-5·10-11
-1·10-10
[rad]
0
25
50
75
100
Time [s]
Today
Last checkpoint

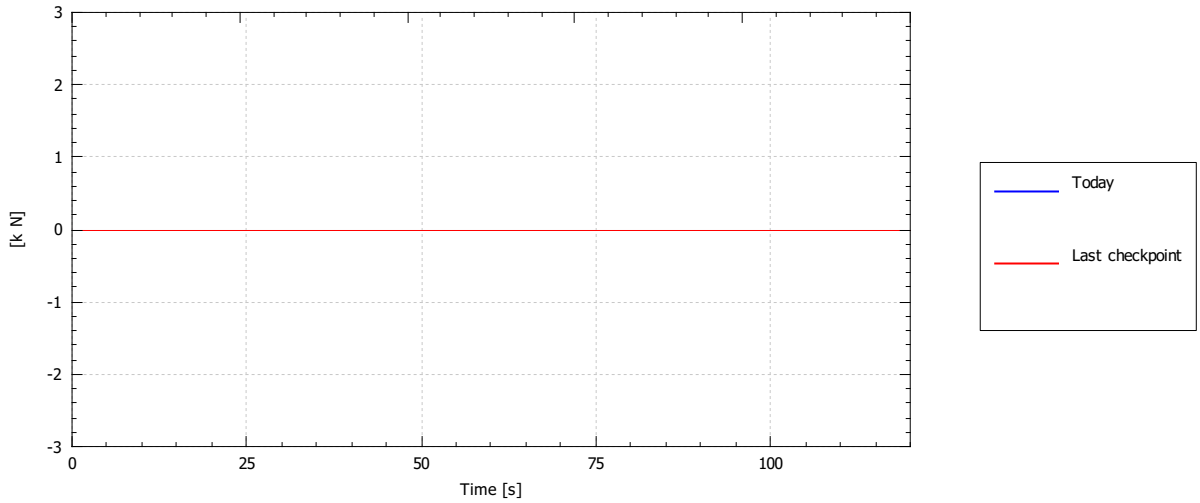
Deformational rotation (1st prin.) - rad



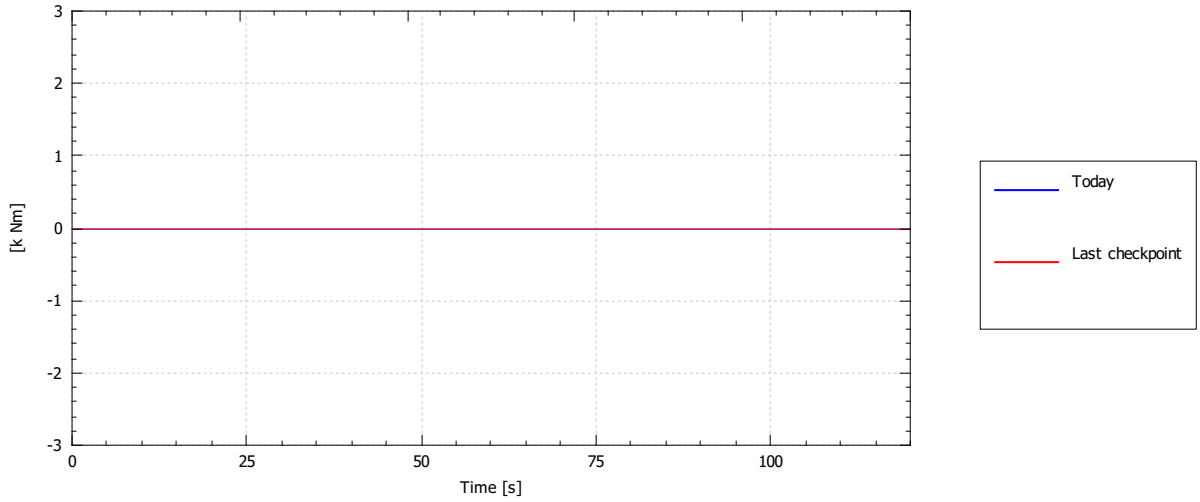
Deformational rotation (2nd prin.) - rad



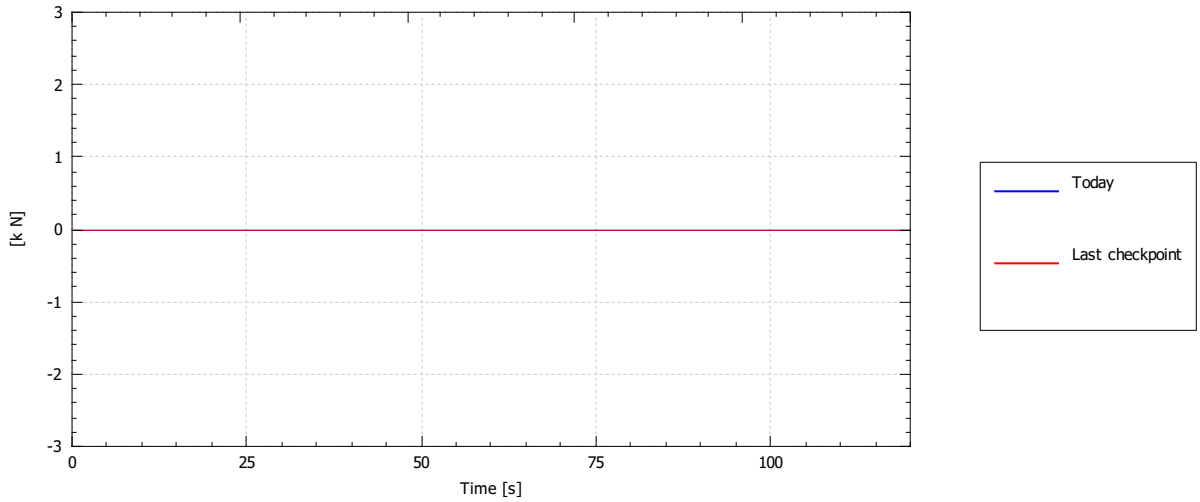
Damping force, i



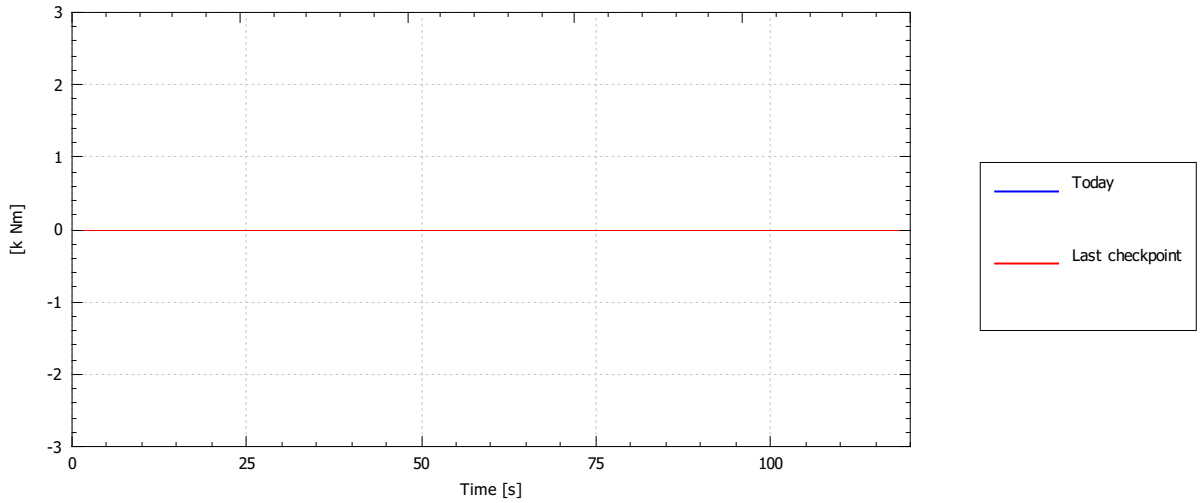
Damping moment, i



Damping force, sum

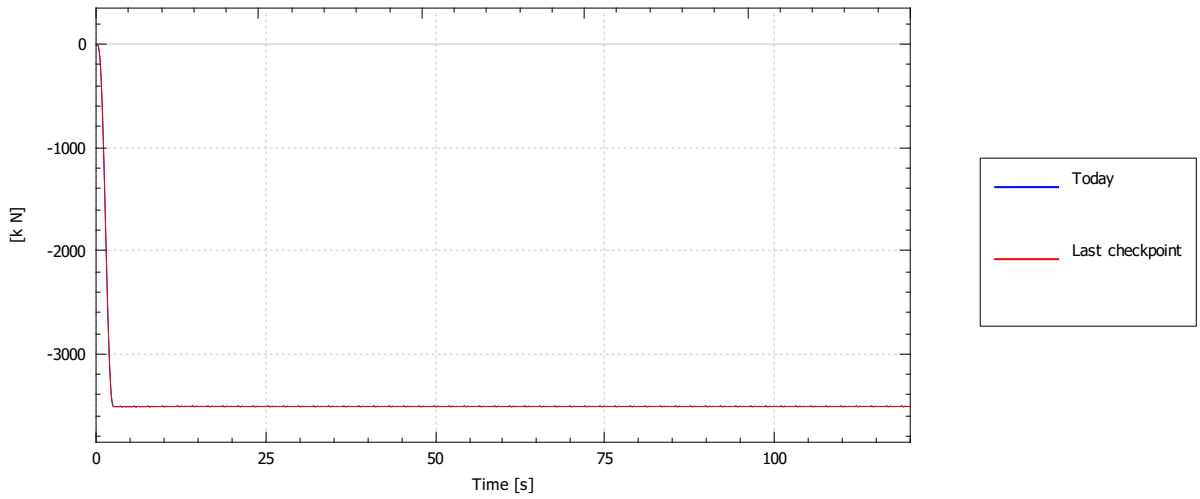


Damping moment, sum

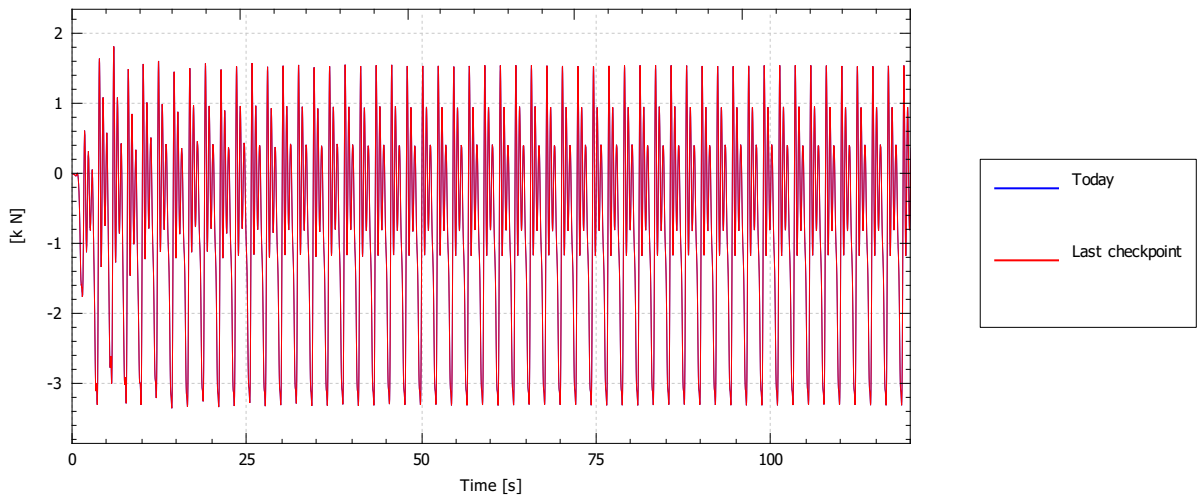


Beam element [Element 16 | Tubular tower]

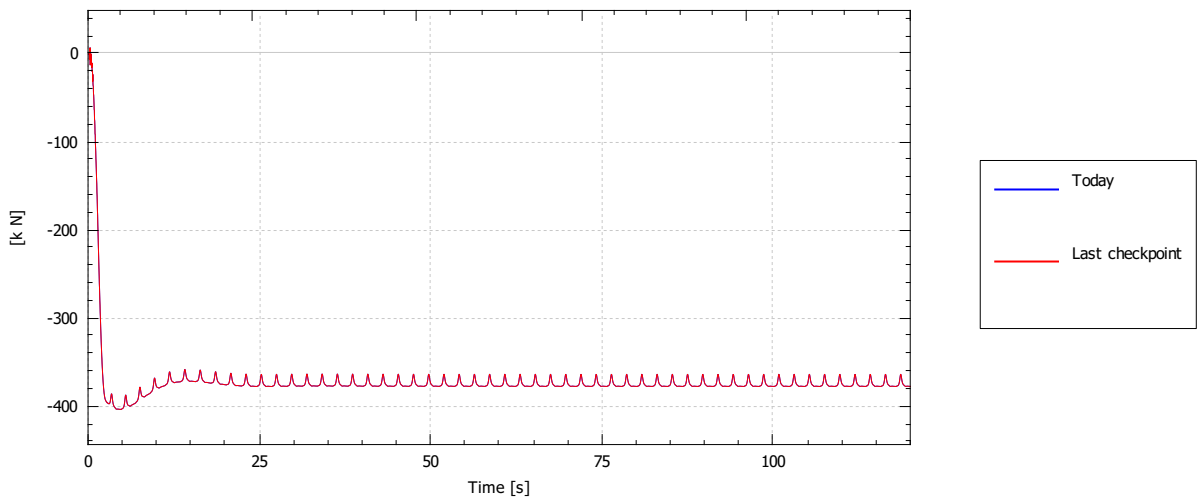
Axial force



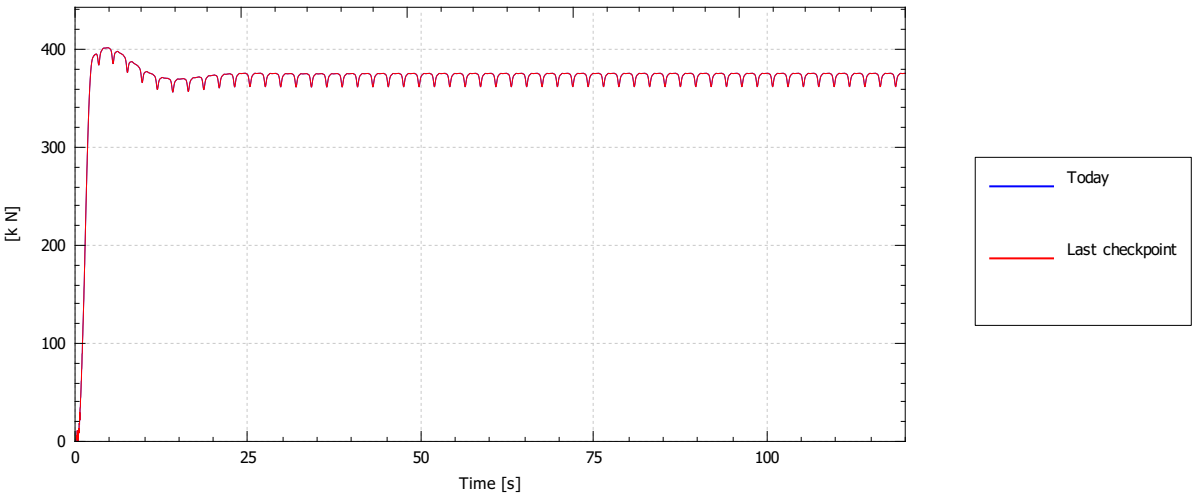
Shear force (1st prin. axis)



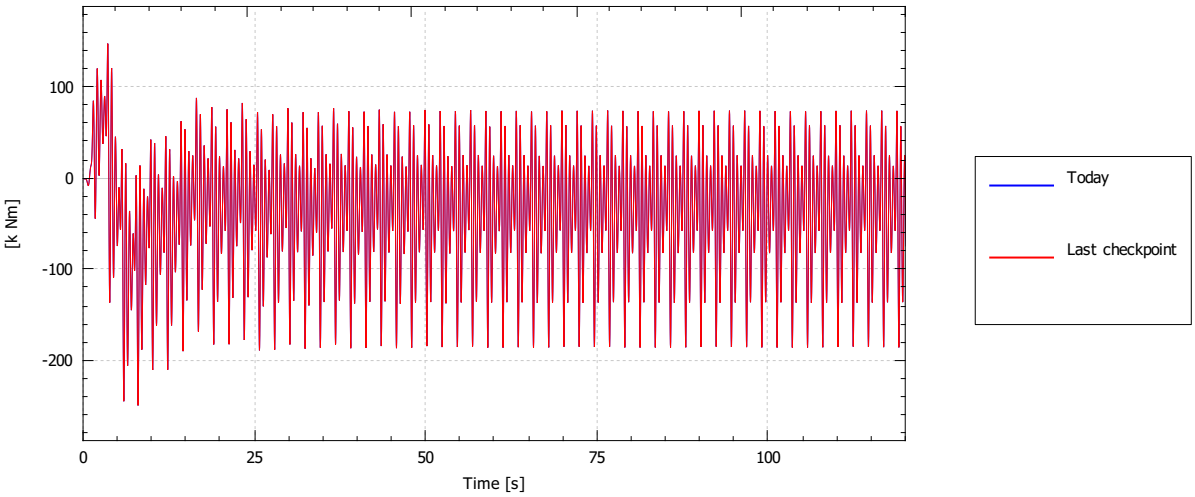
Shear force (2nd prin. axis)



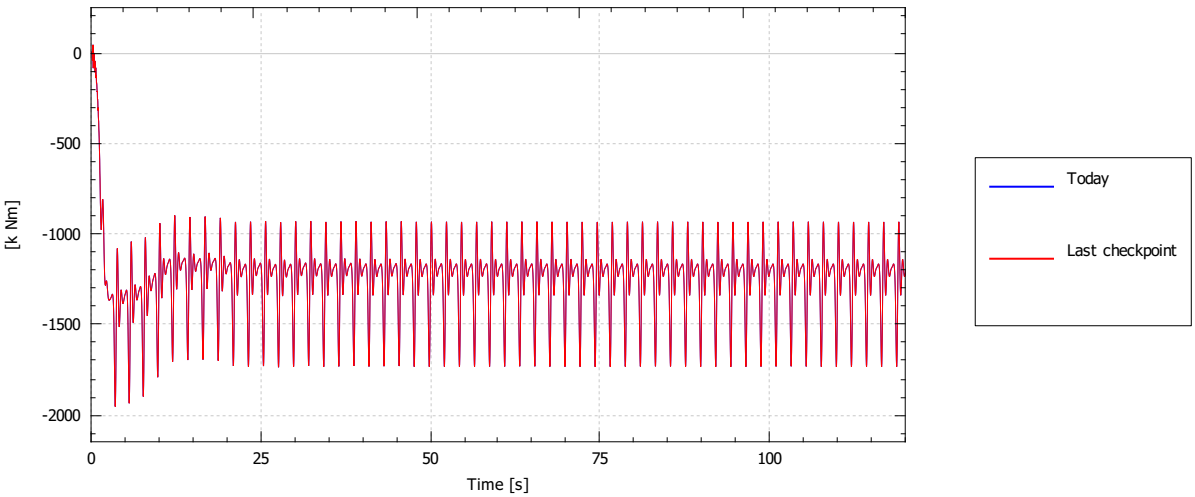
Shear force, mag.



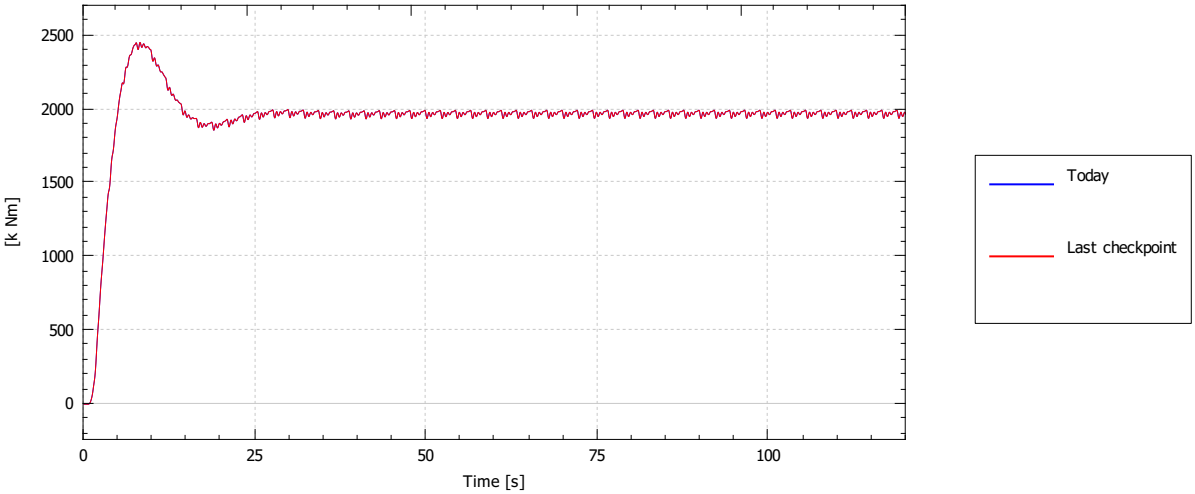
Torque



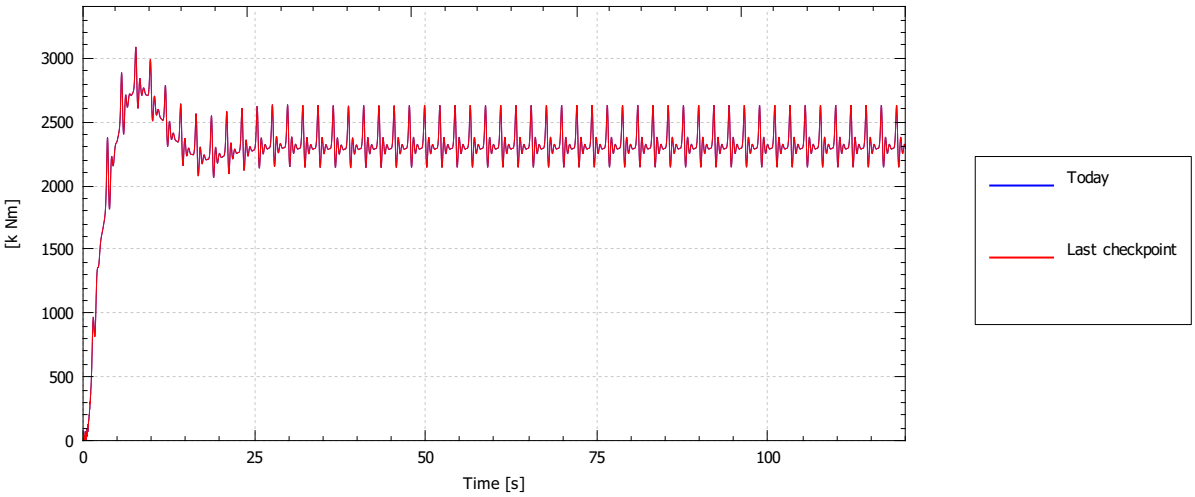
Moment (1st prin. axis), i



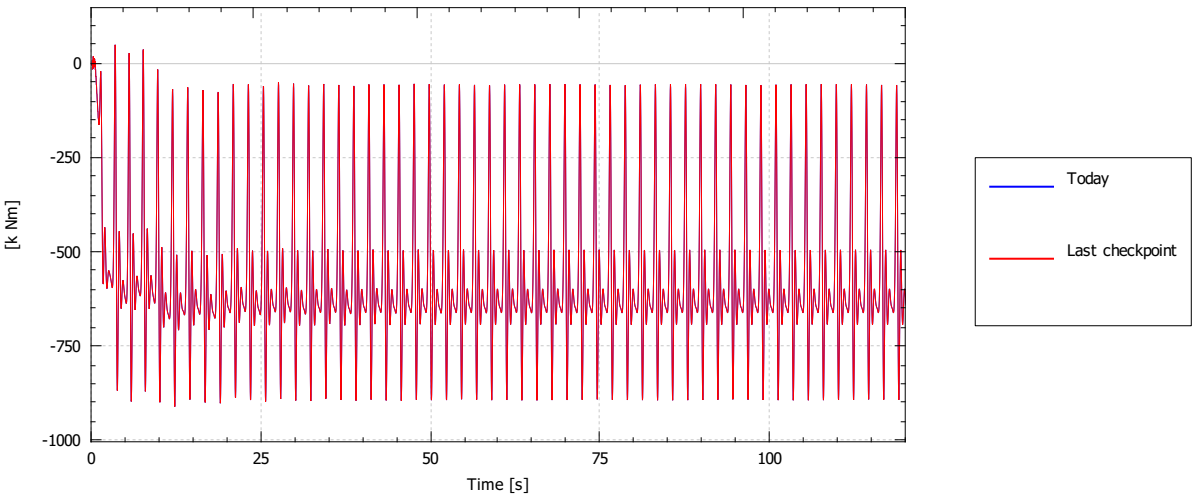
Moment (2nd prin. axis), i



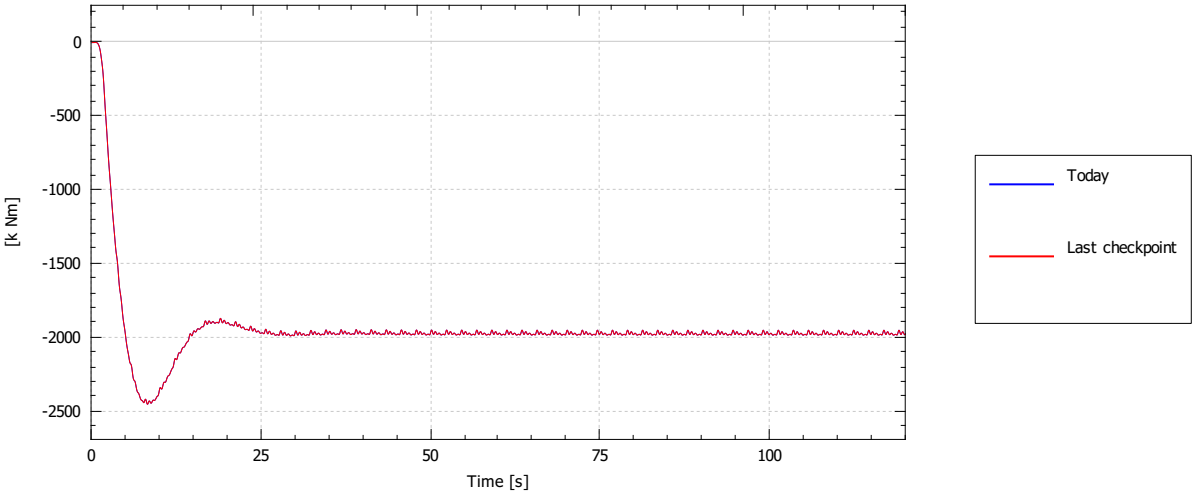
Moment, mag., i



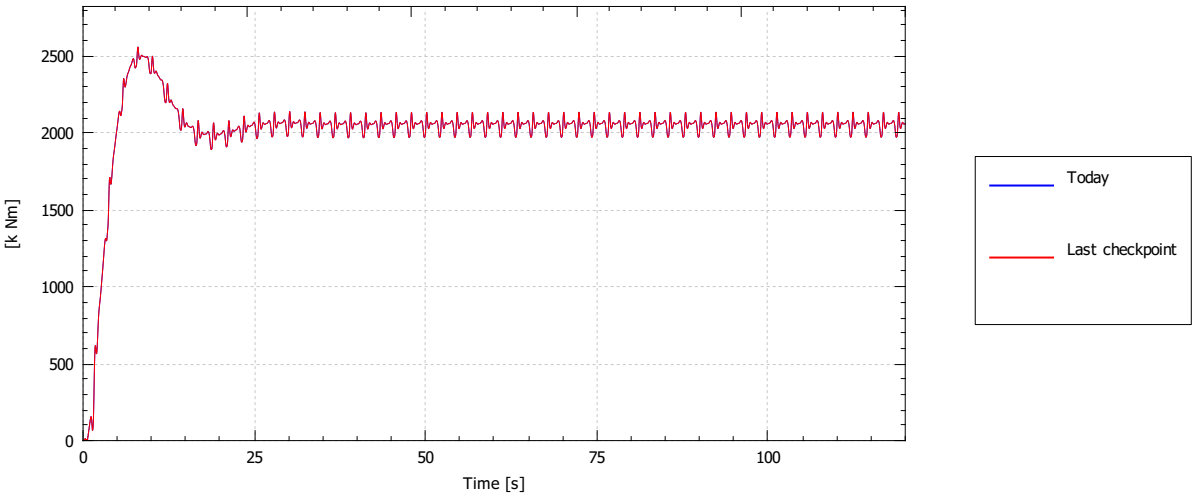
Moment (1st prin. axis), j



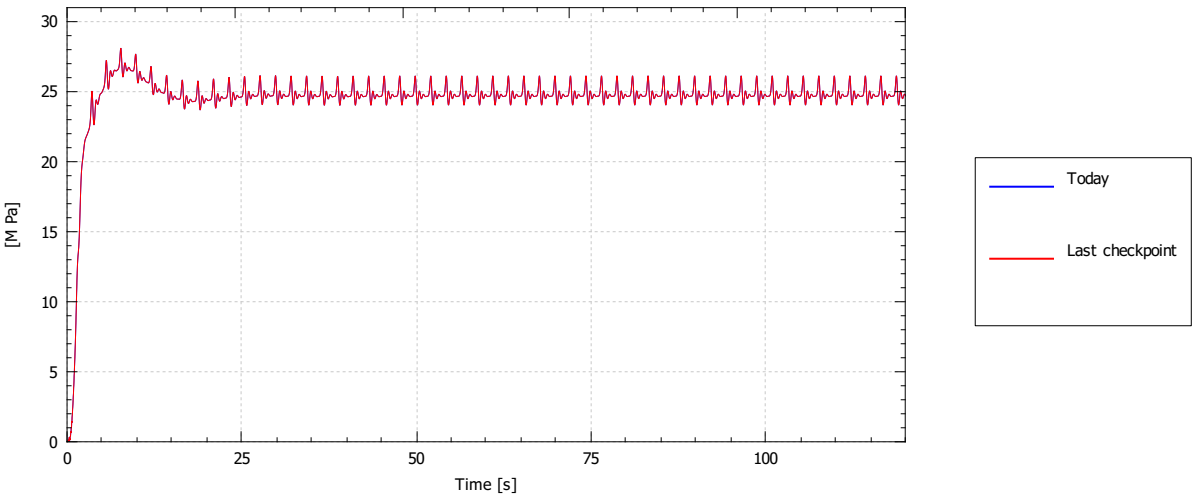
Moment (2nd prin. axis), j



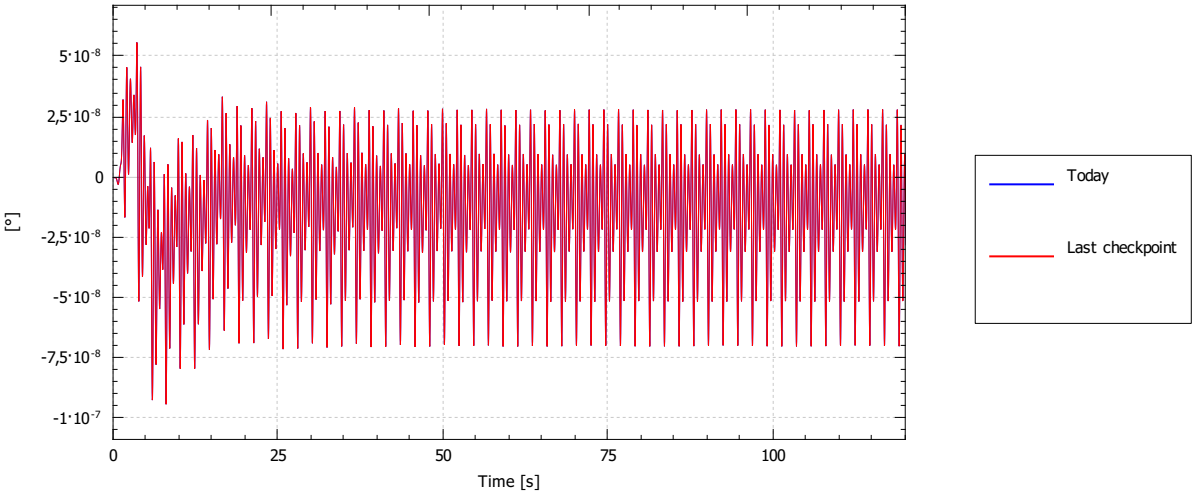
Moment, mag., j



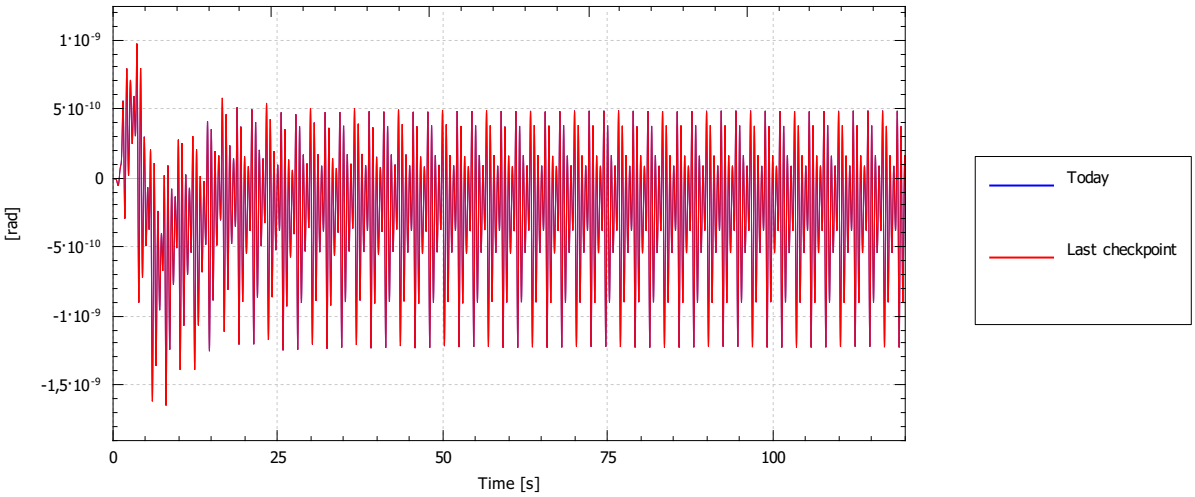
Max normal stress



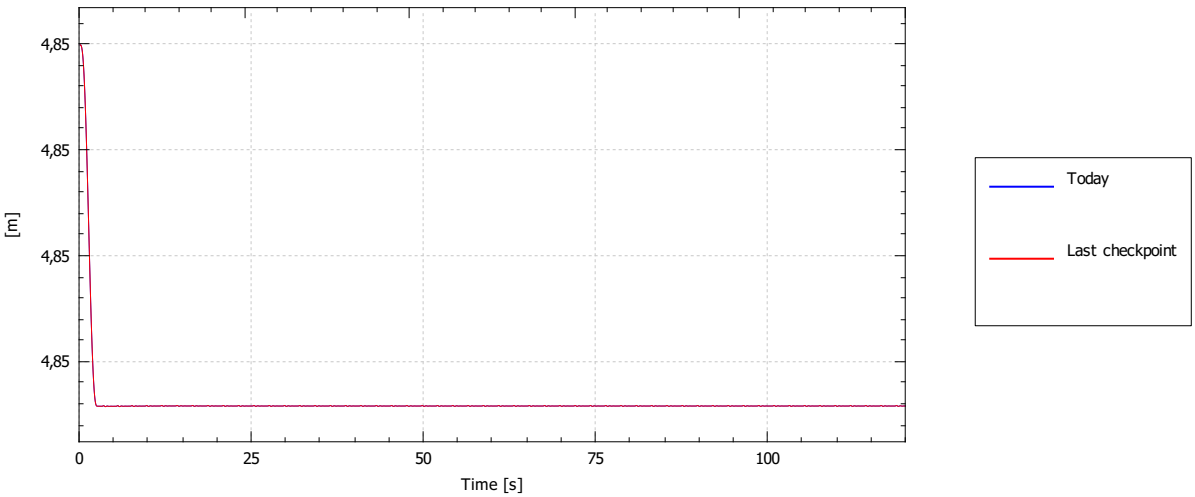
Twist (structural)



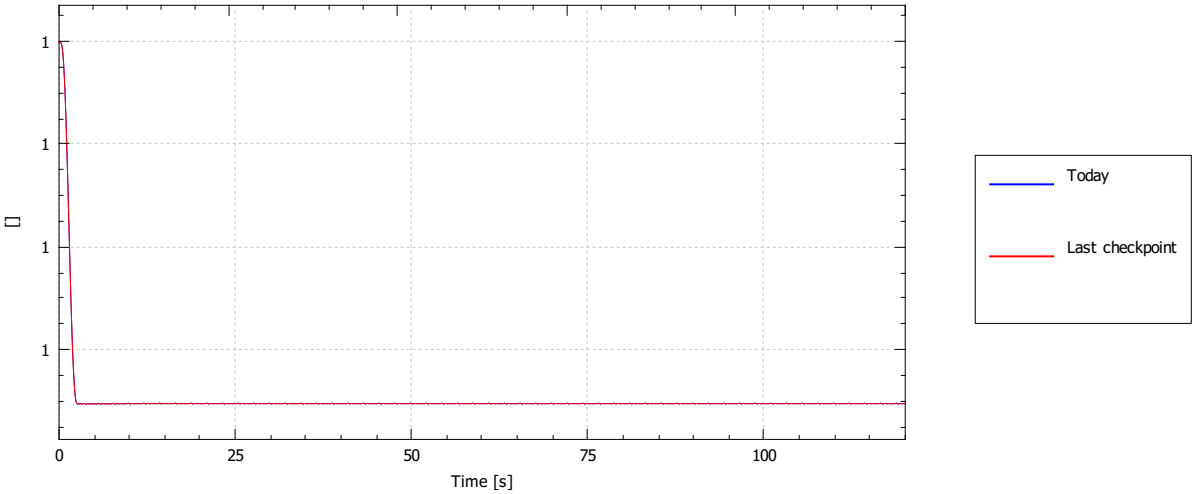
Twist (structural) - rad



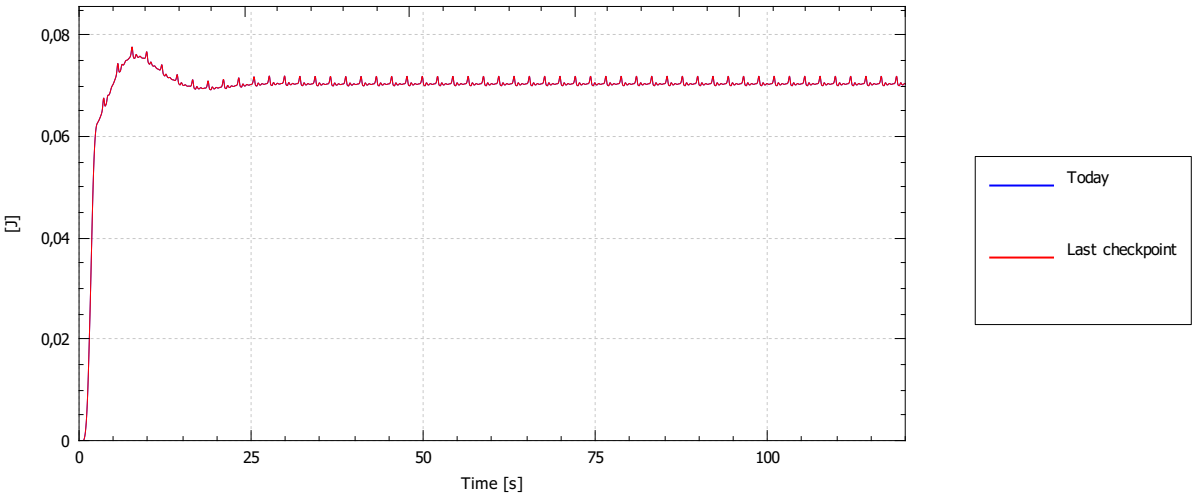
Deformed length



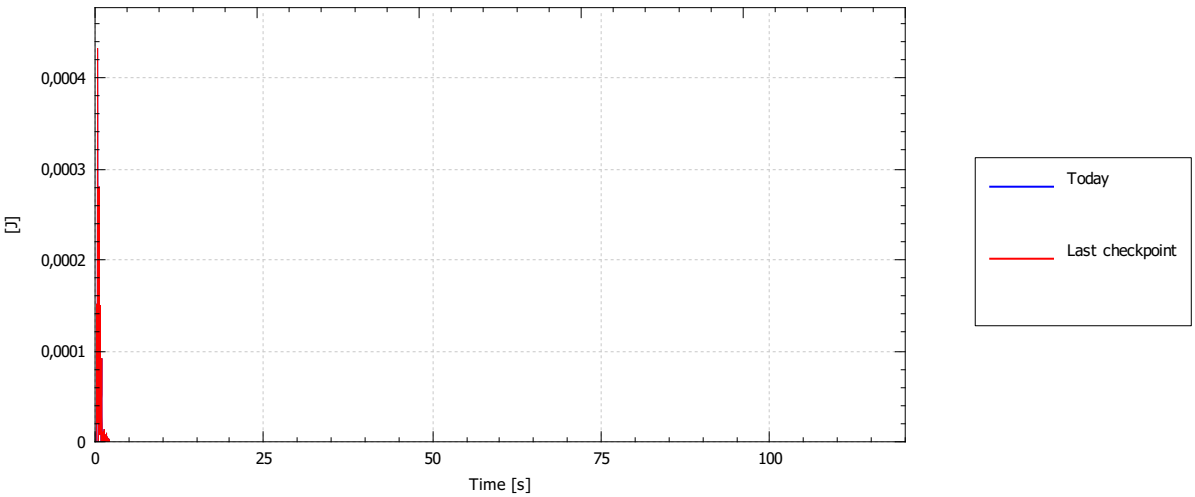
Elongation



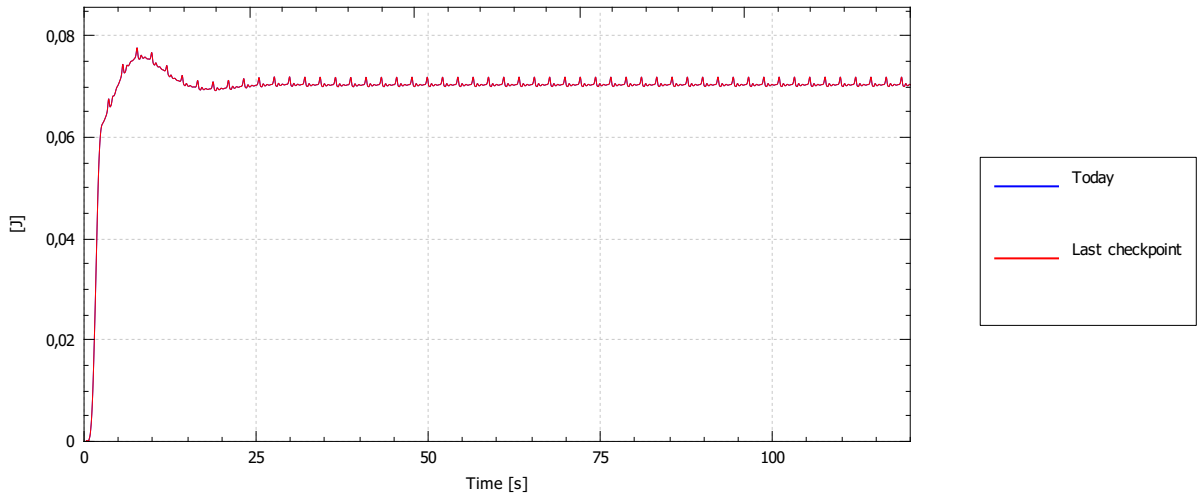
Strain energy



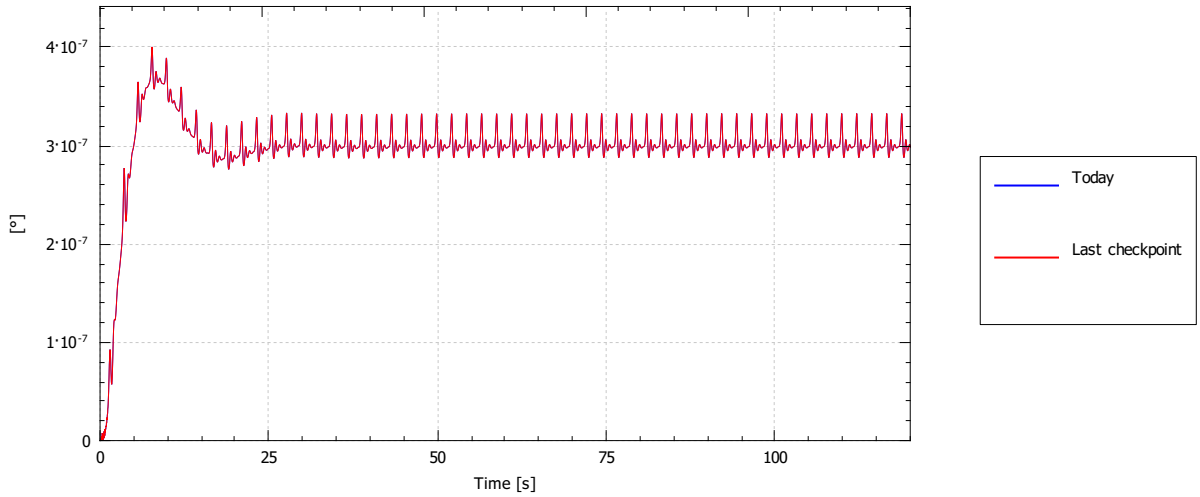
Kinetic energy



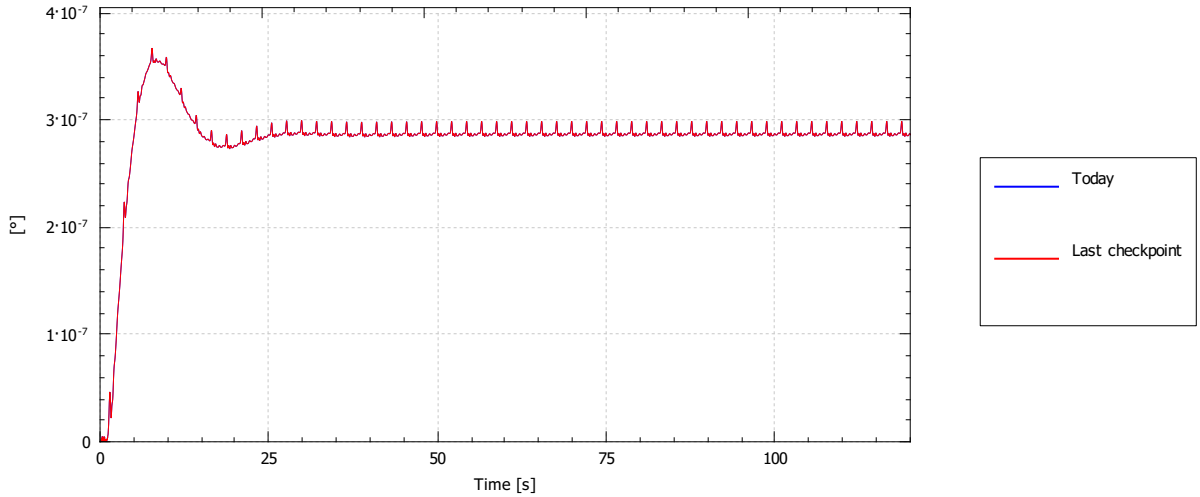
Mechanical energy



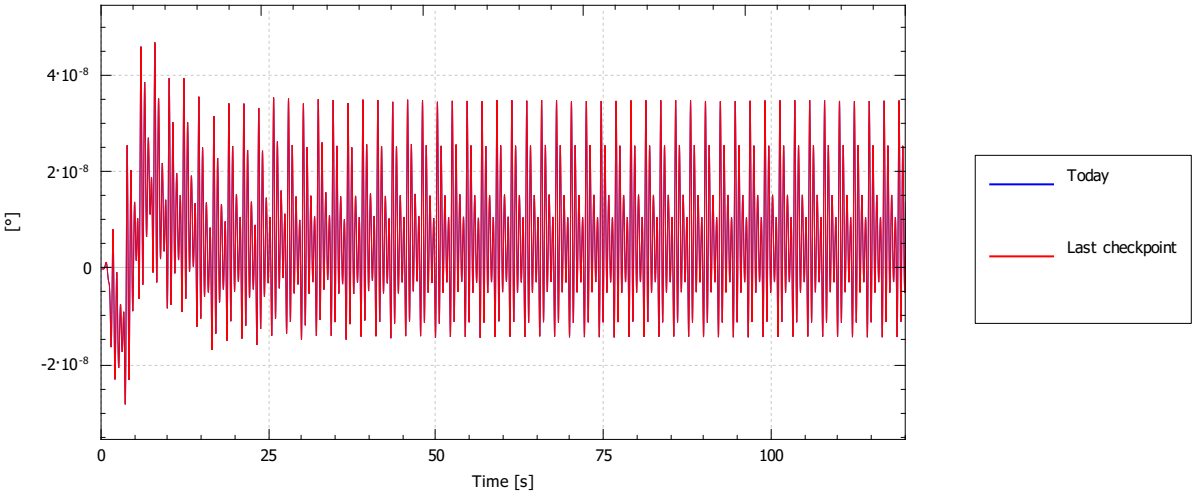
Deformational rotation (i)



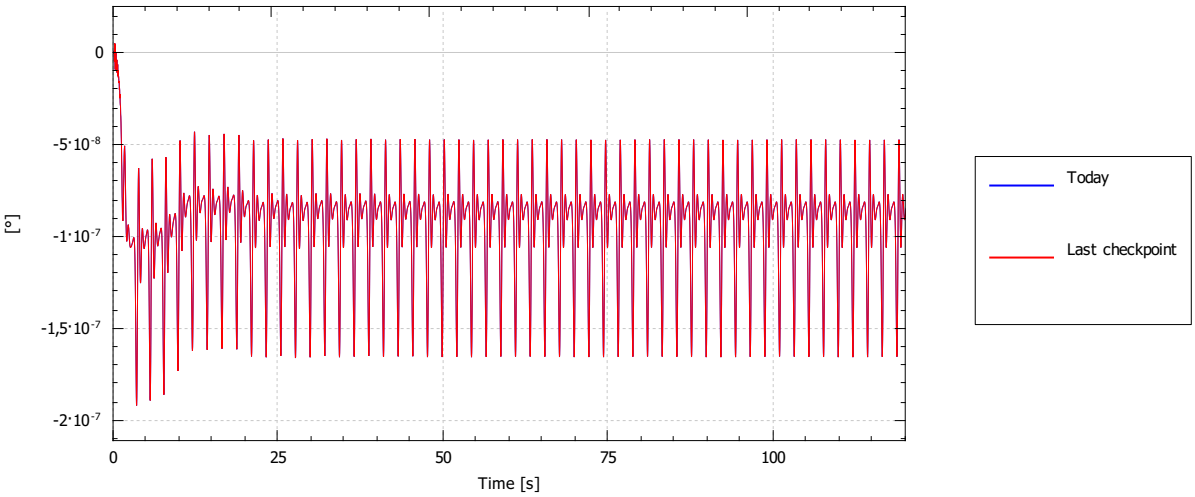
Deformational rotation (j)



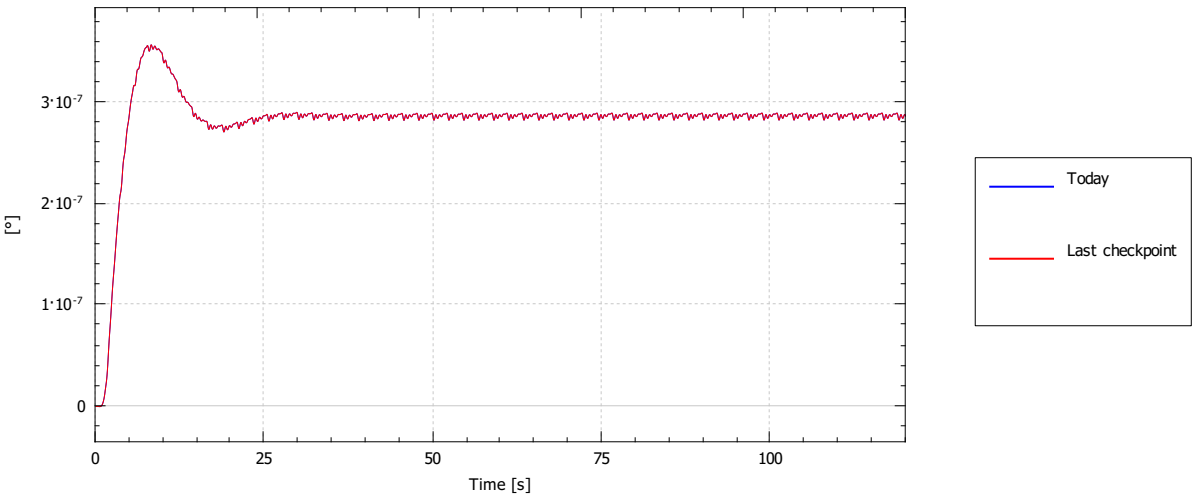
Deformational rotation (axial)



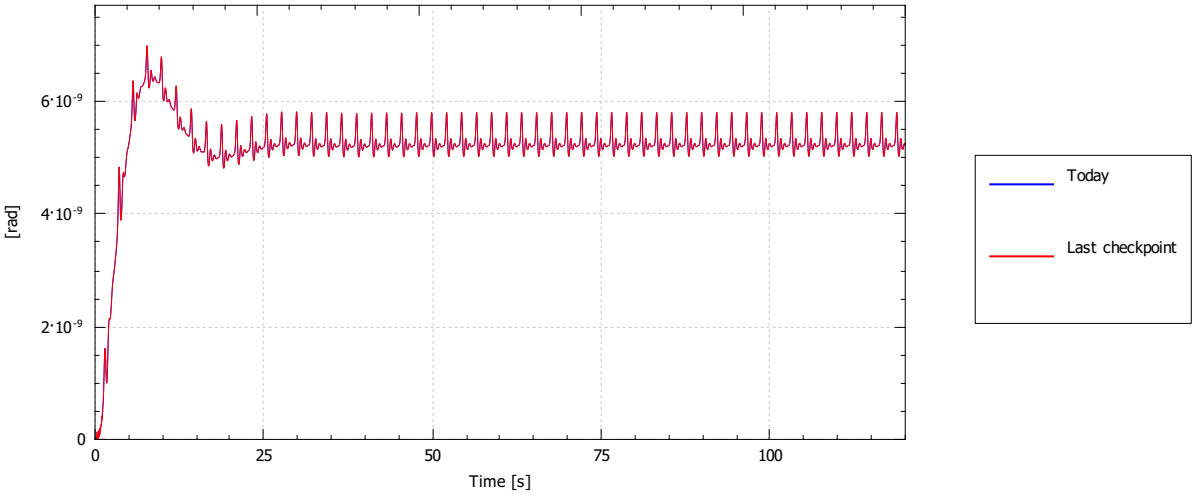
Deformational rotation (1st prin.)



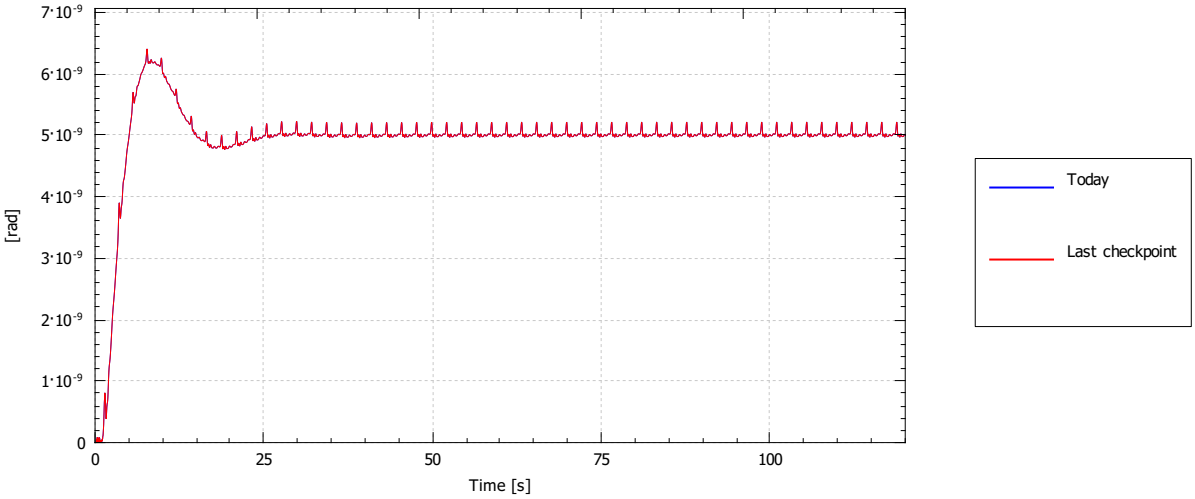
Deformational rotation (2nd prin.)



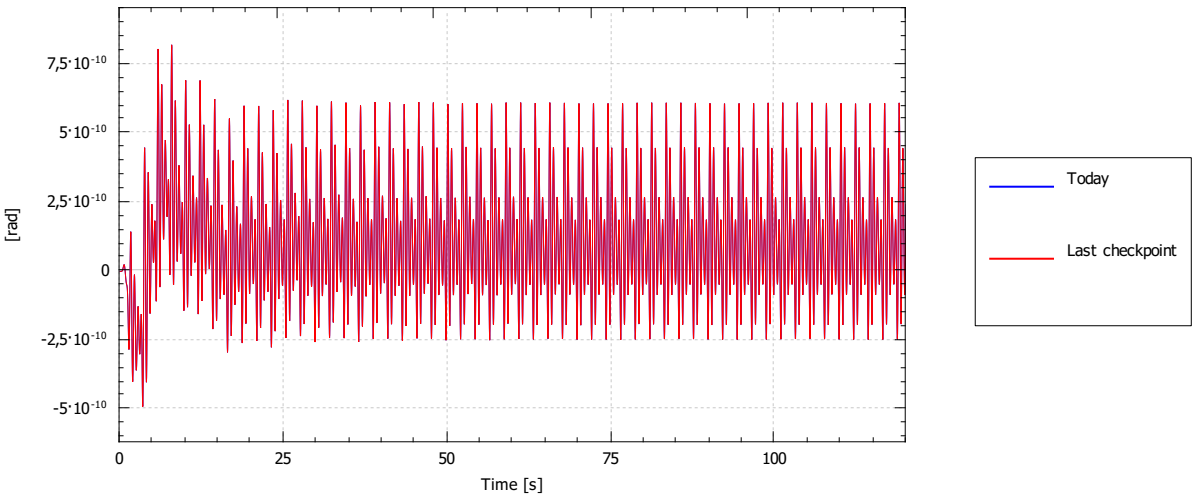
Deformational rotation (i) - rad



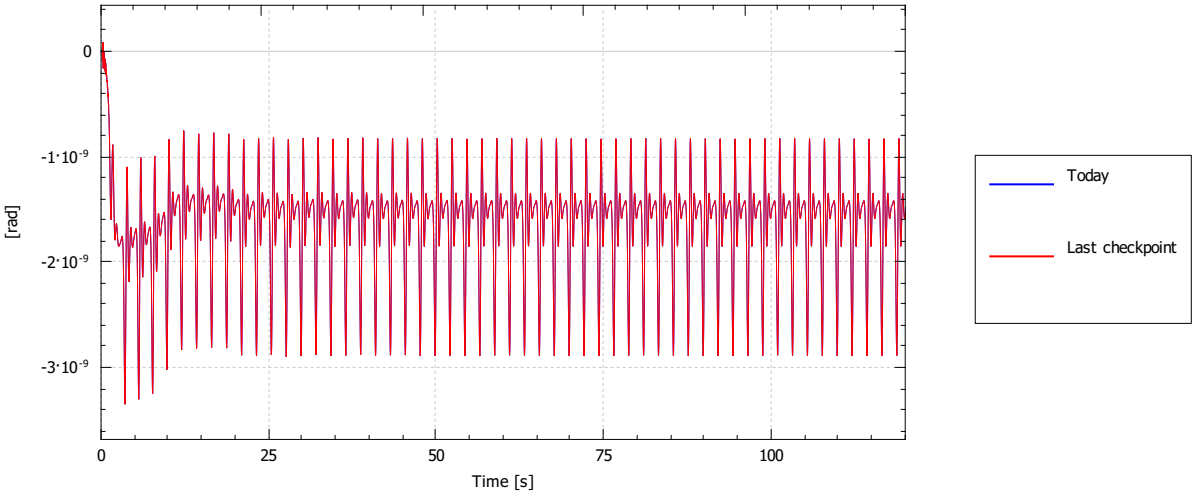
Deformational rotation (j) - rad



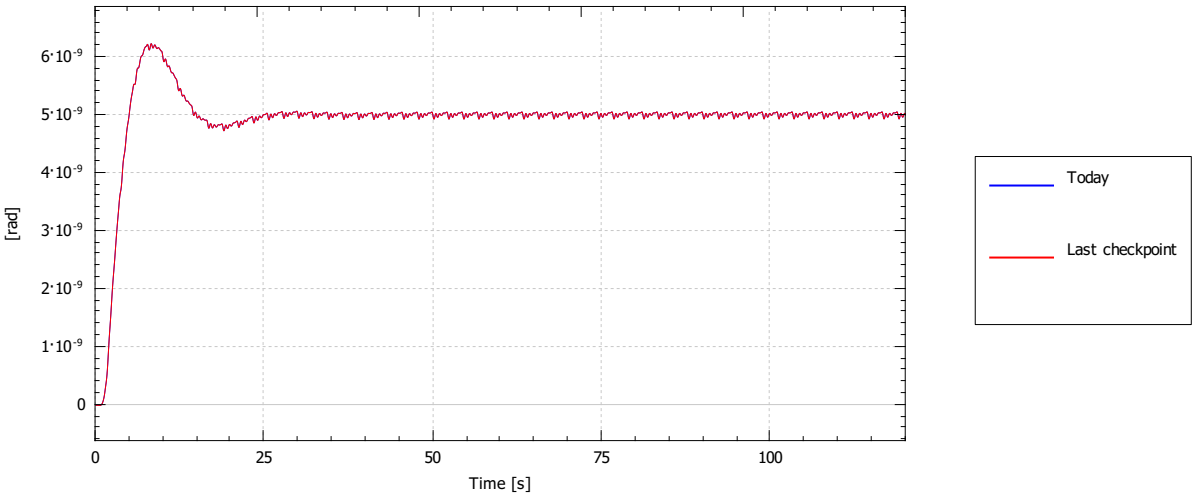
Deformational rotation (axial) - rad



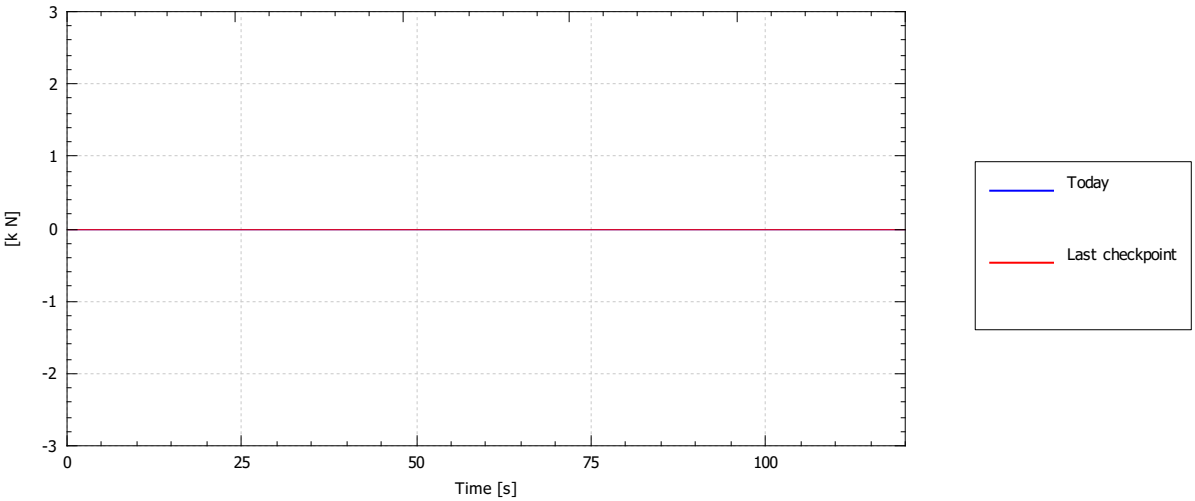
Deformational rotation (1st prin.) - rad



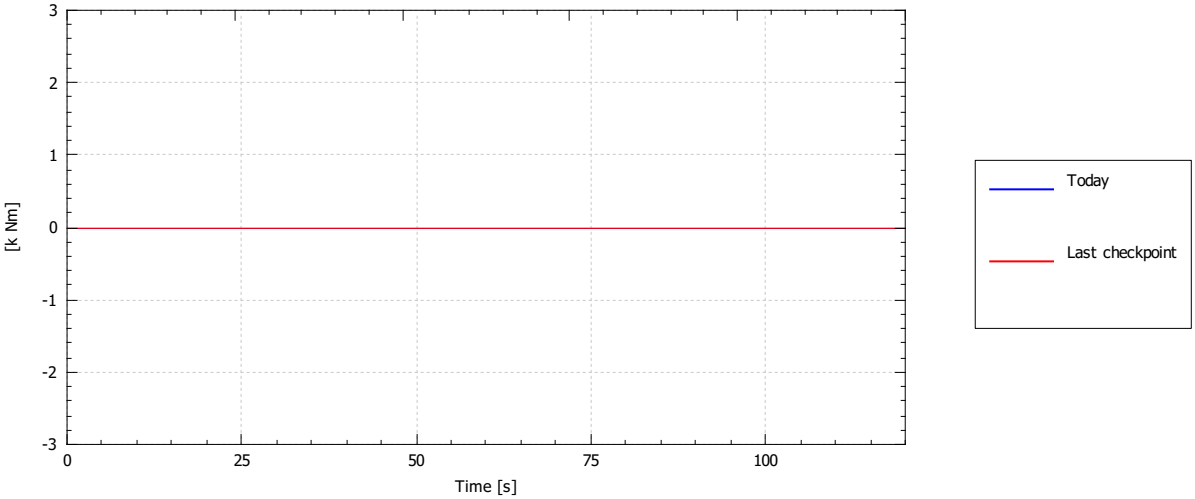
Deformational rotation (2nd prin.) - rad



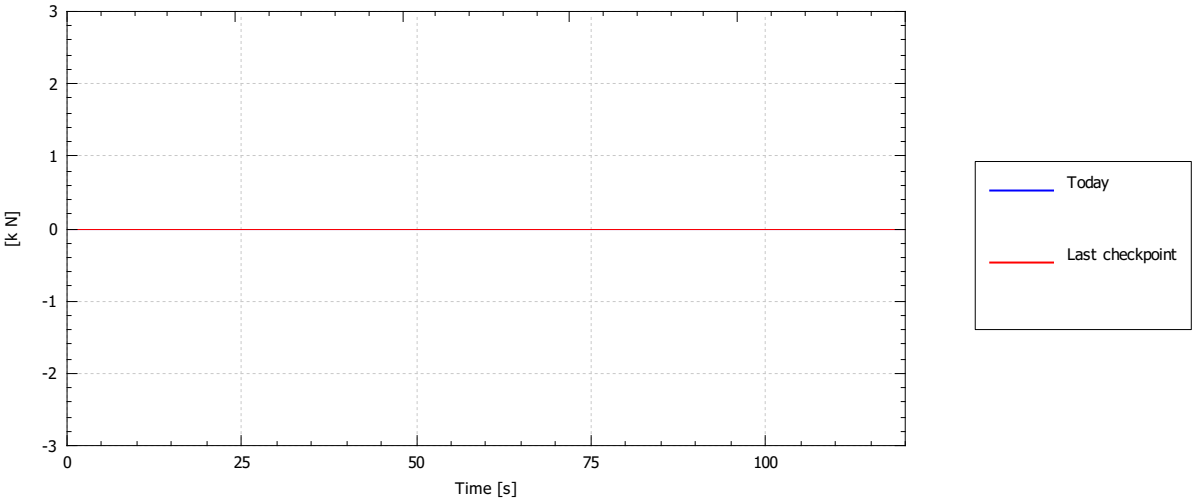
Damping force, i



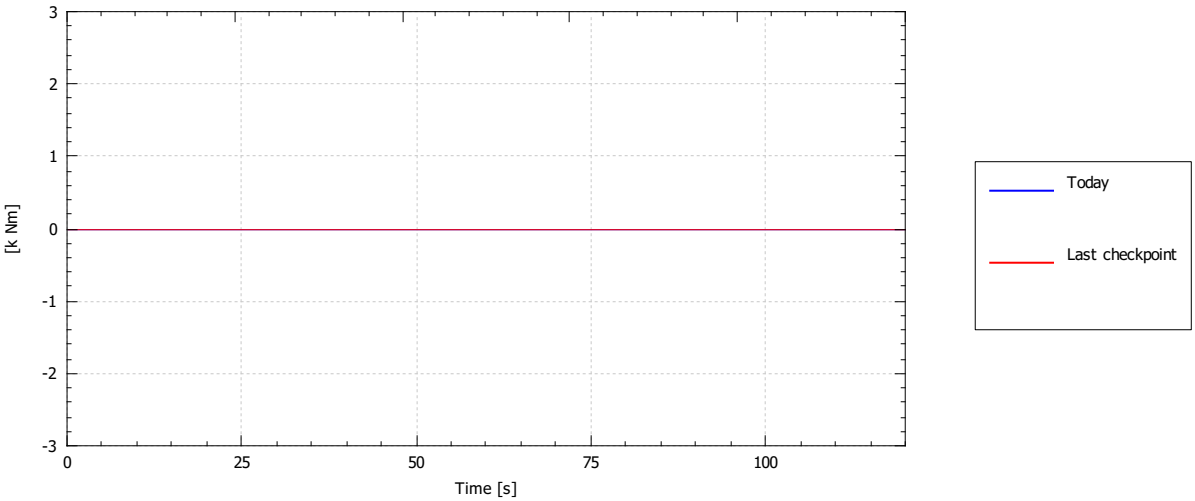
Damping moment, i



Damping force, sum

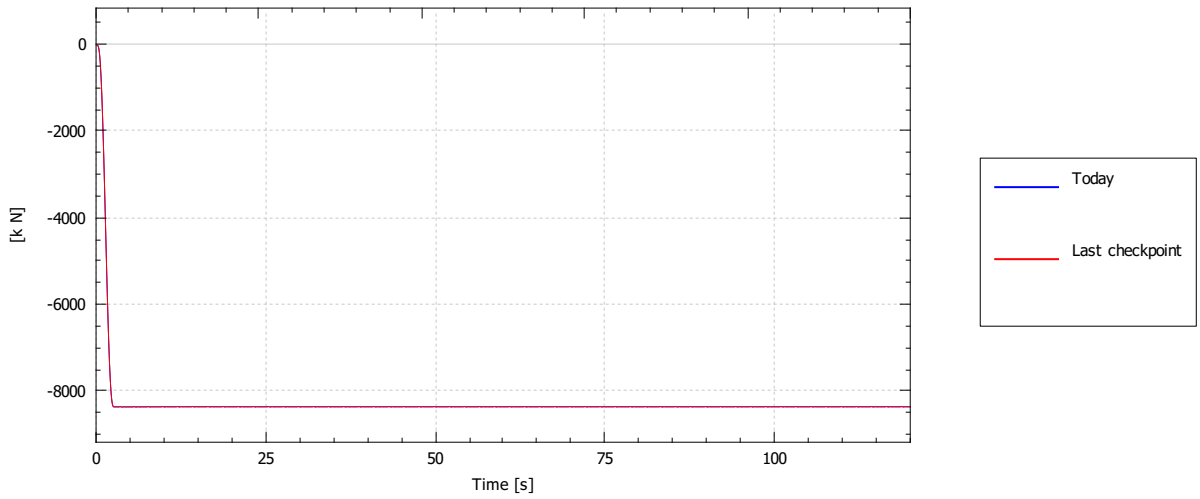


Damping moment, sum

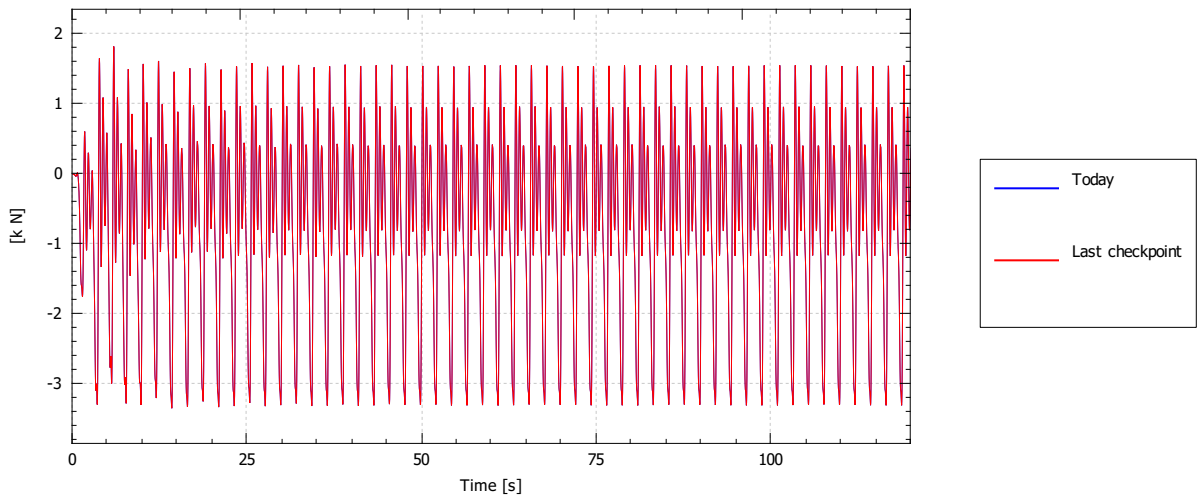


Beam element [Element 3 | Monopile]

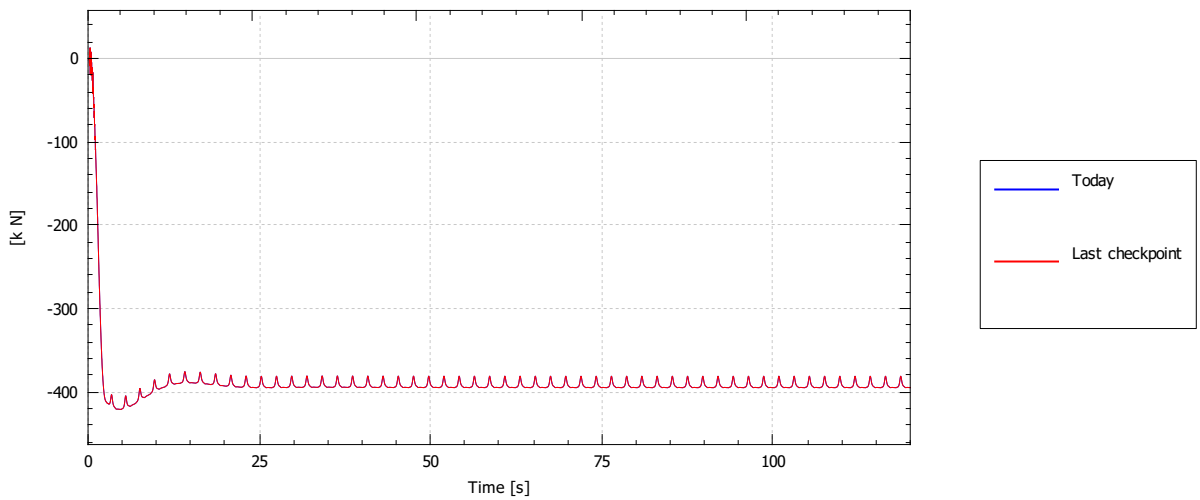
Axial force



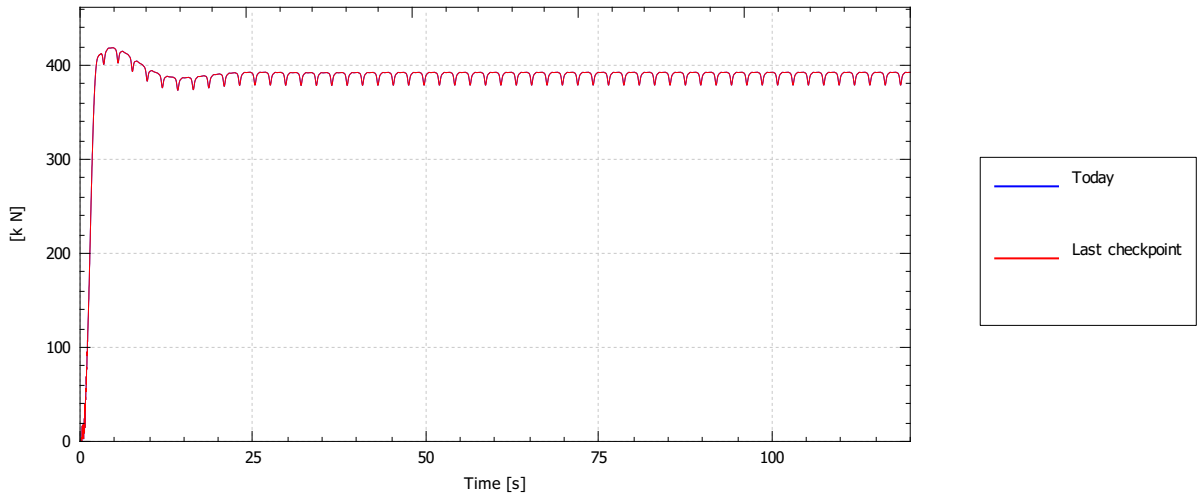
Shear force (1st prin. axis)



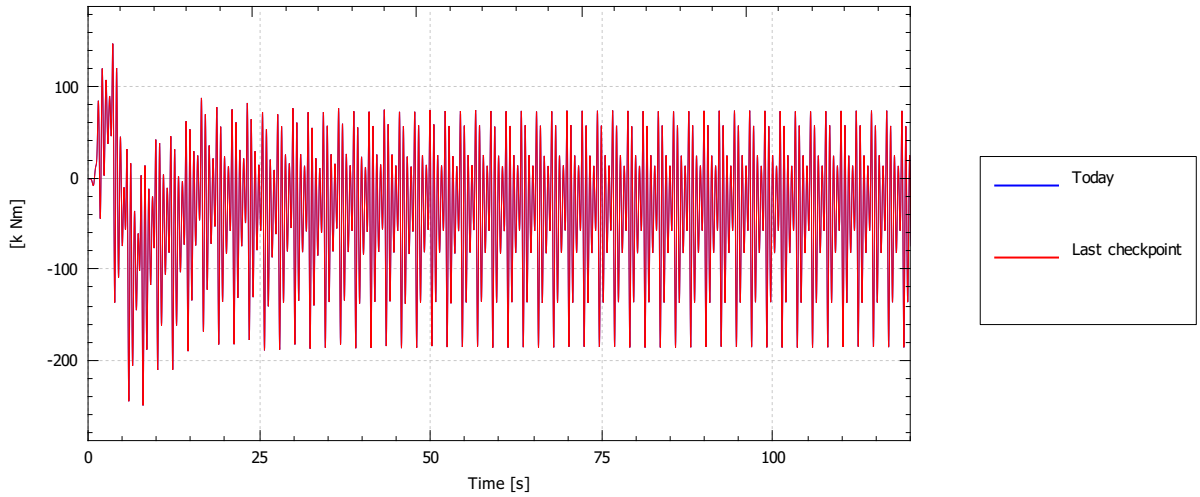
Shear force (2nd prin. axis)



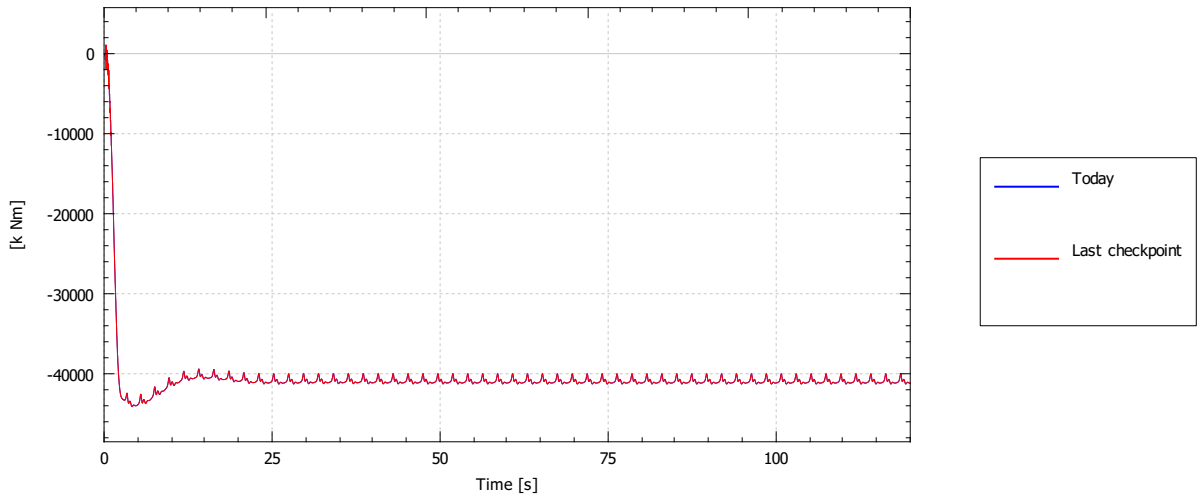
Shear force, mag.



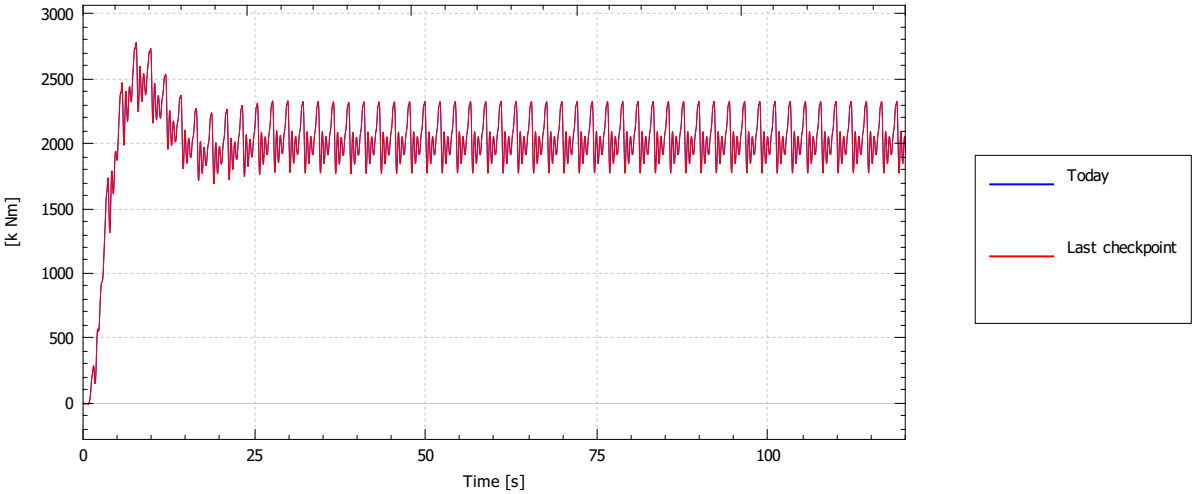
Torque



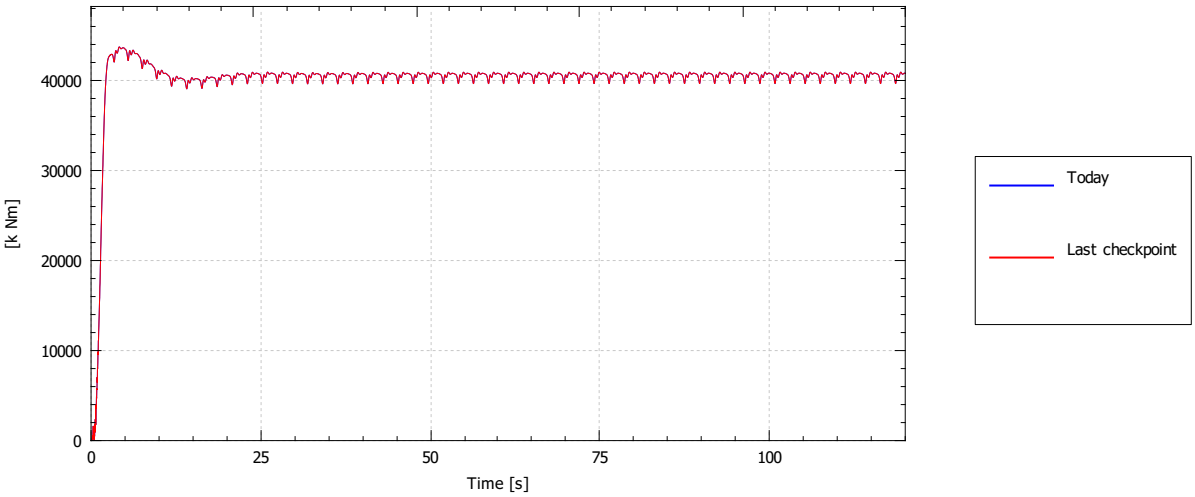
Moment (1st prin. axis), i



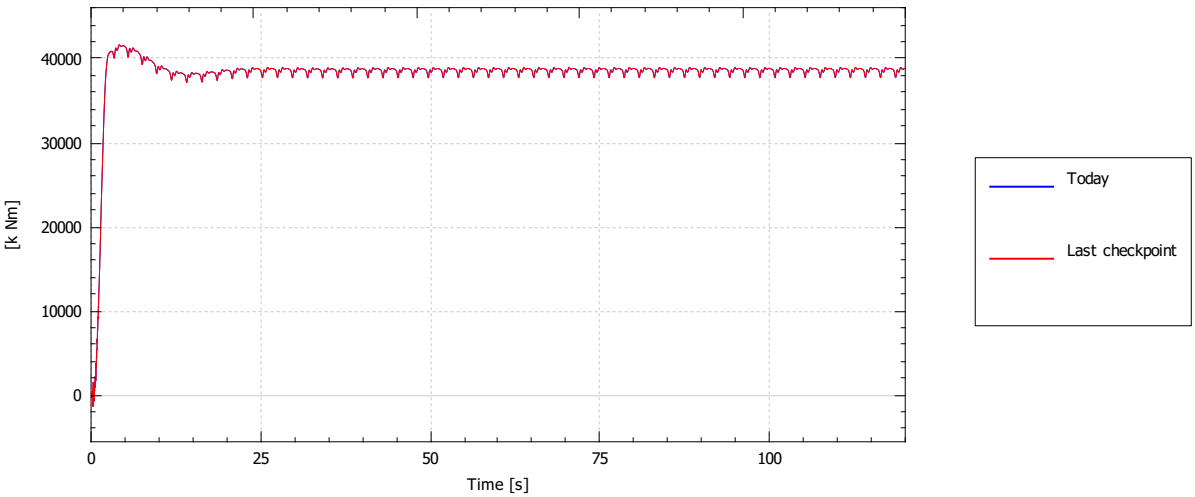
Moment (2nd prin. axis), i



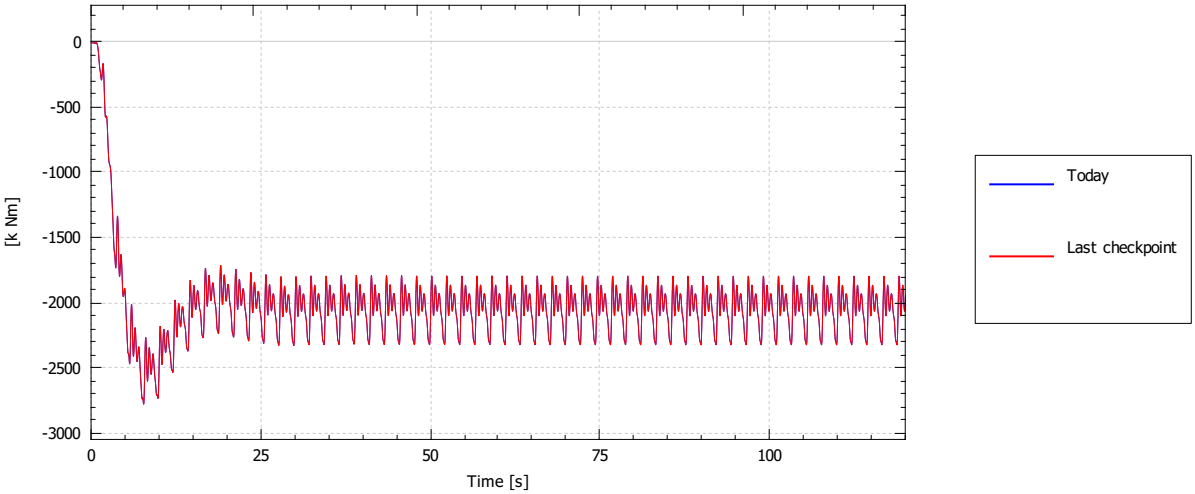
Moment, mag., i



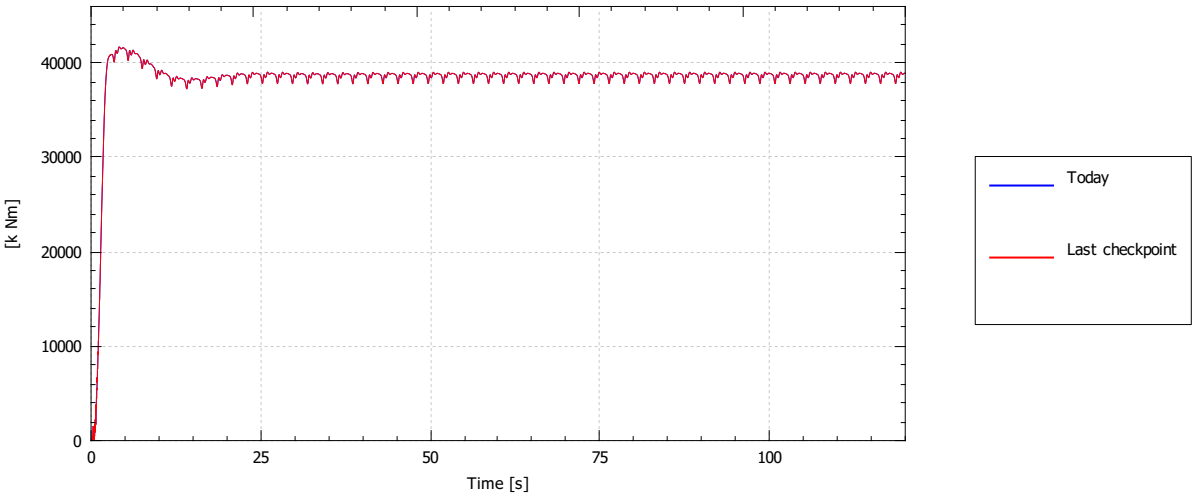
Moment (1st prin. axis), j



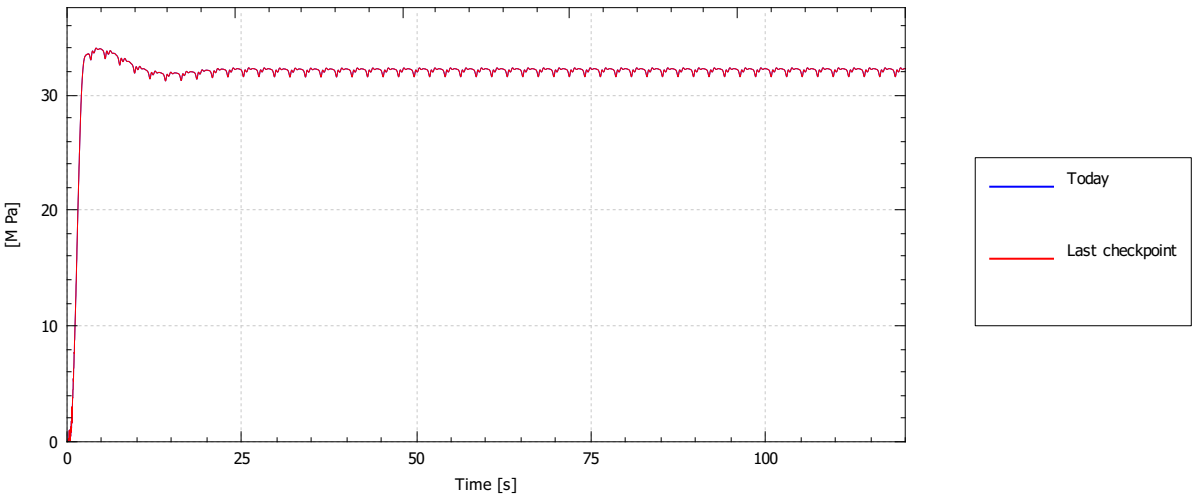
Moment (2nd prin. axis), j



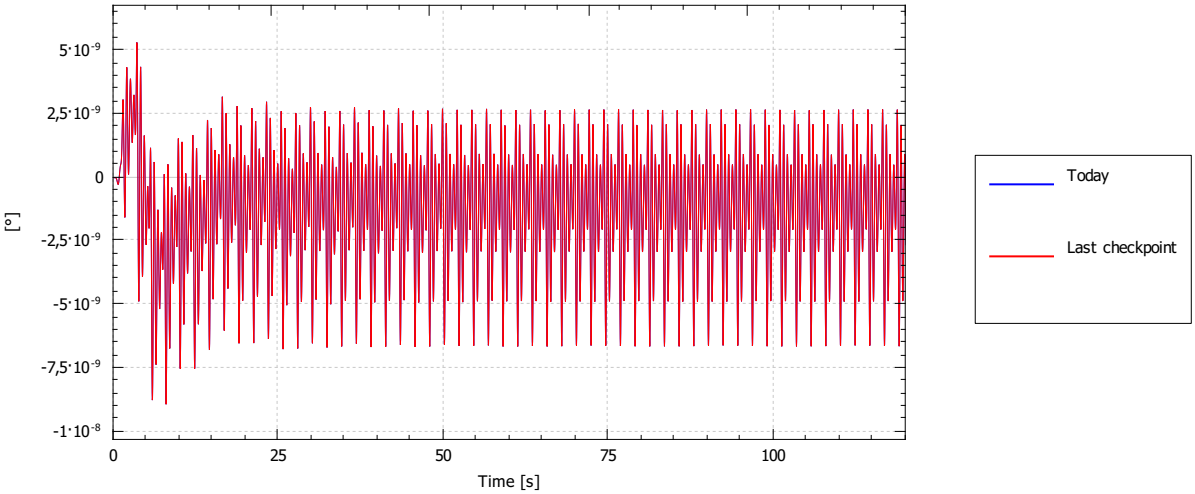
Moment, mag., j



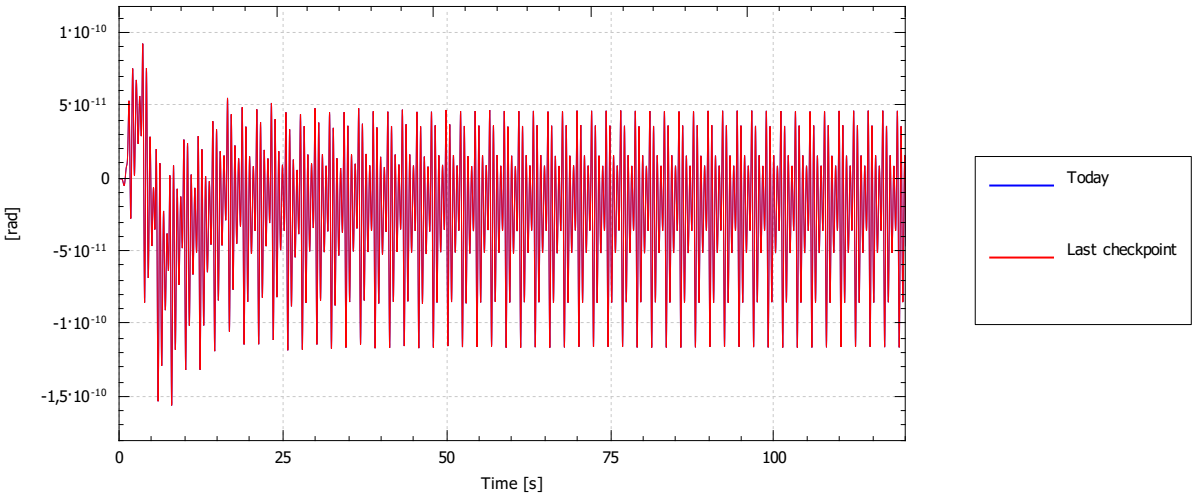
Max normal stress



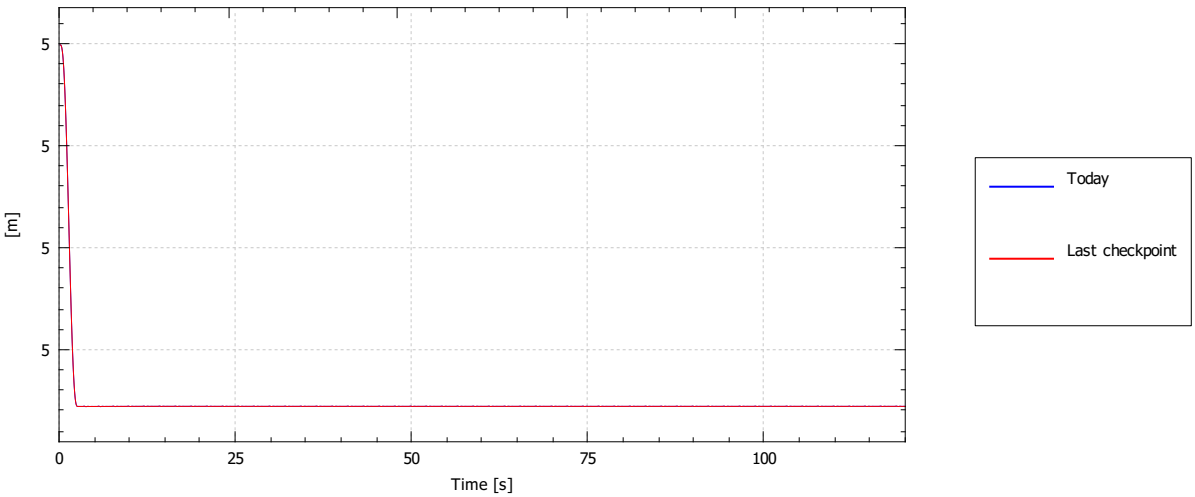
Twist (structural)



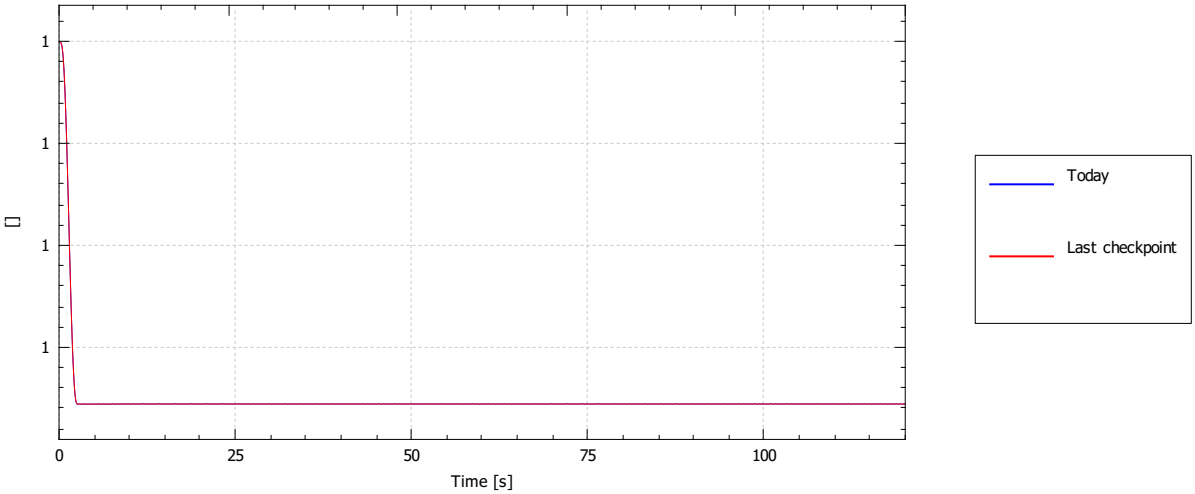
Twist (structural) - rad



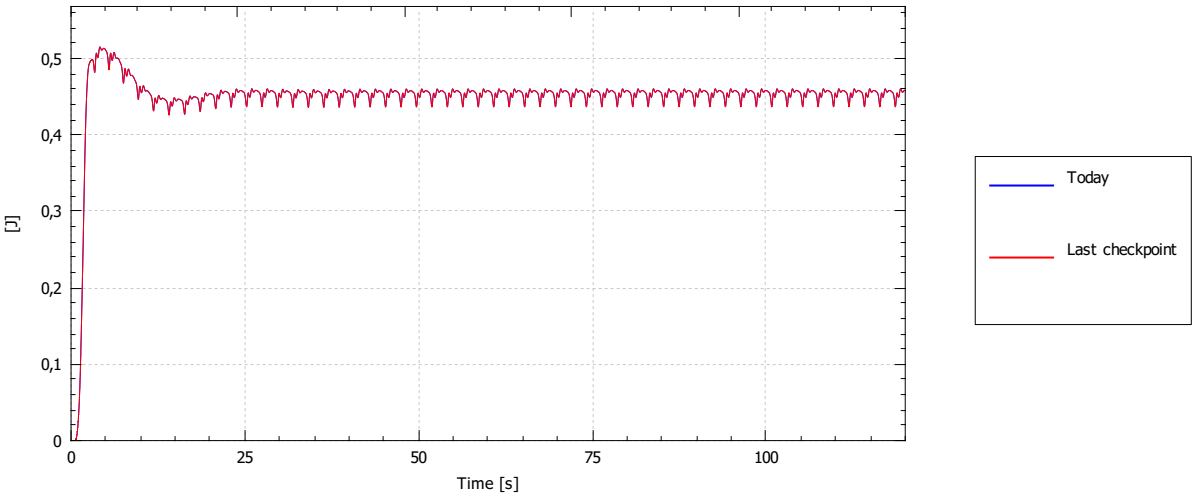
Deformed length



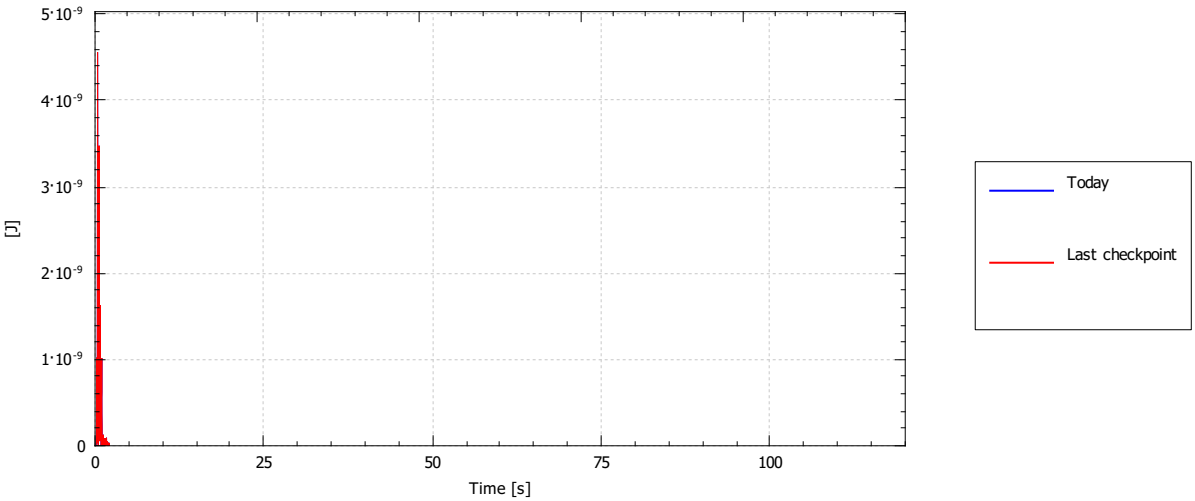
Elongation



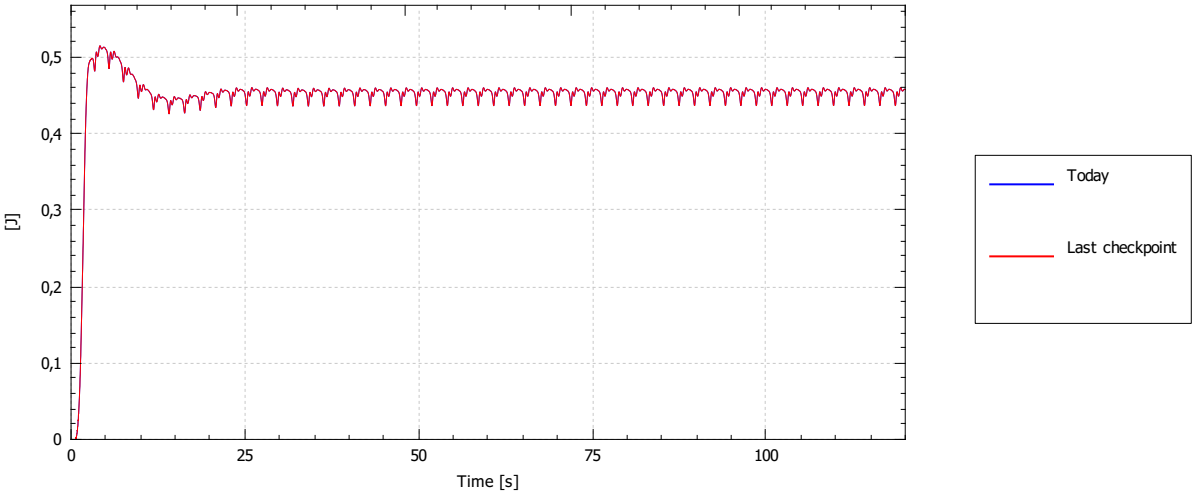
Strain energy



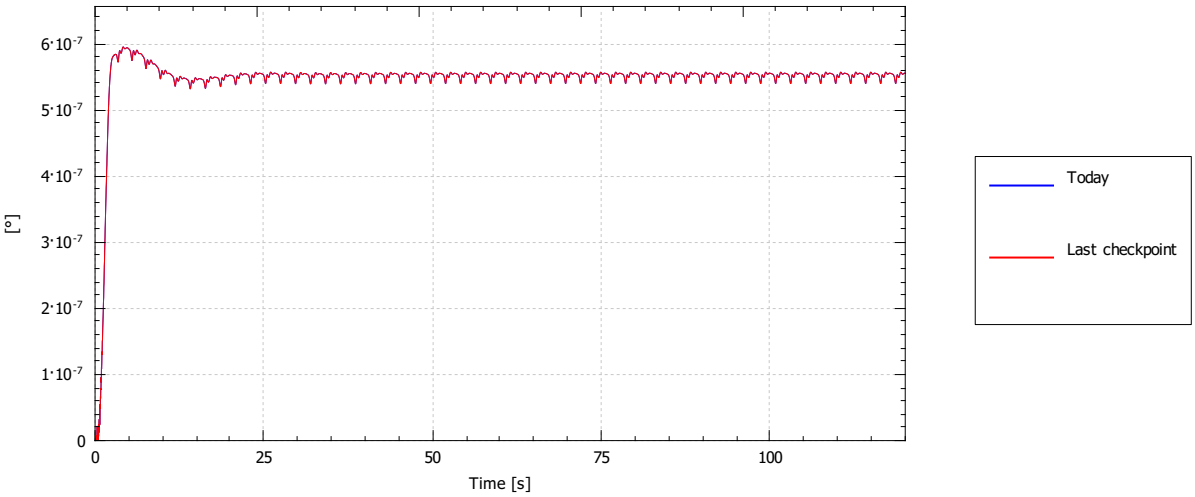
Kinetic energy



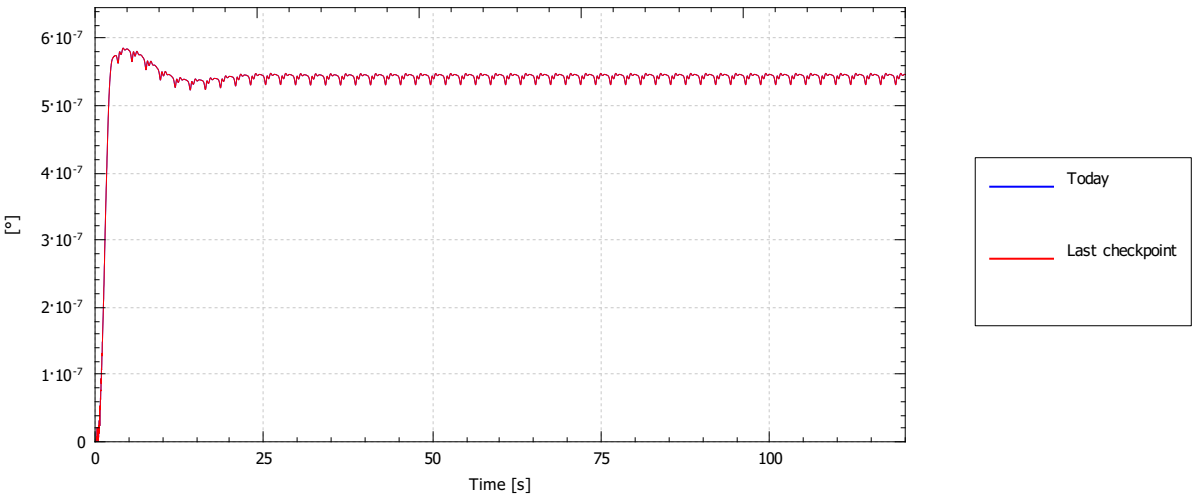
Mechanical energy



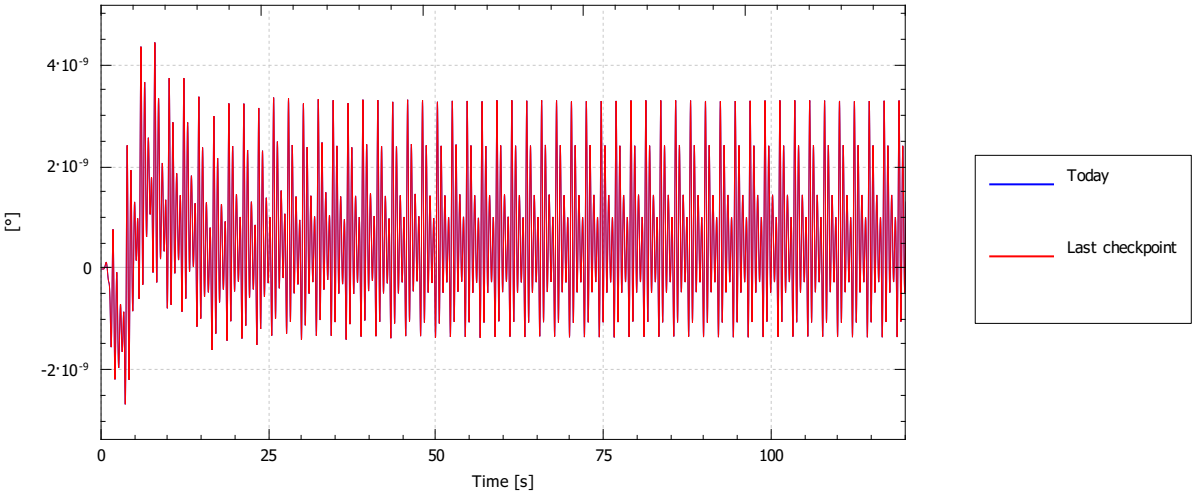
Deformational rotation (i)



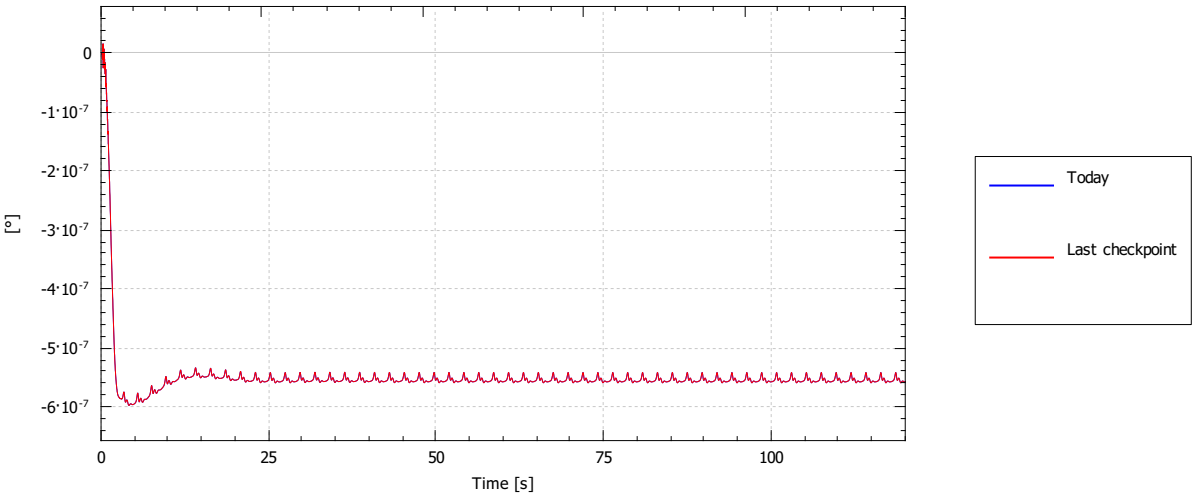
Deformational rotation (j)



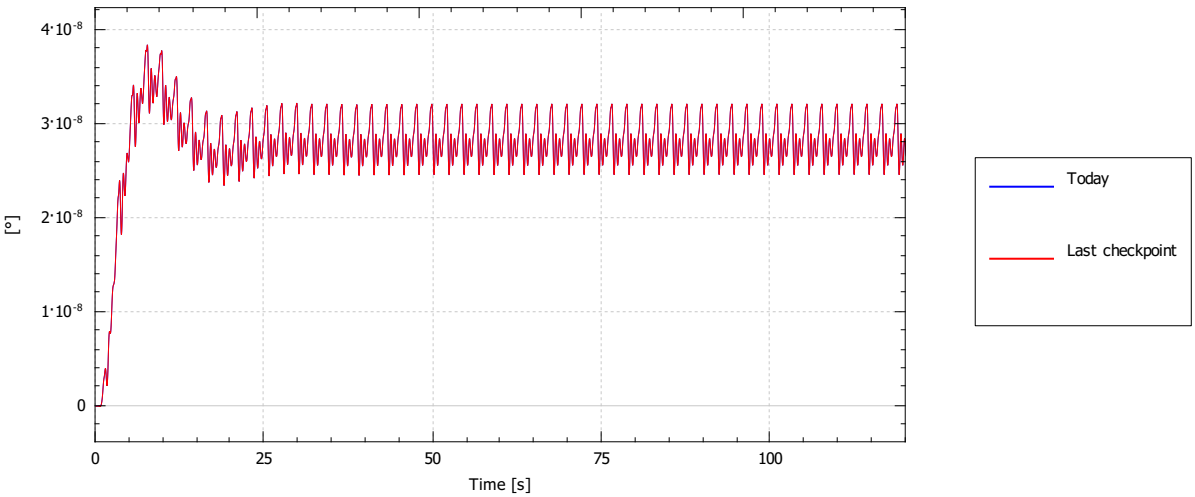
Deformational rotation (axial)



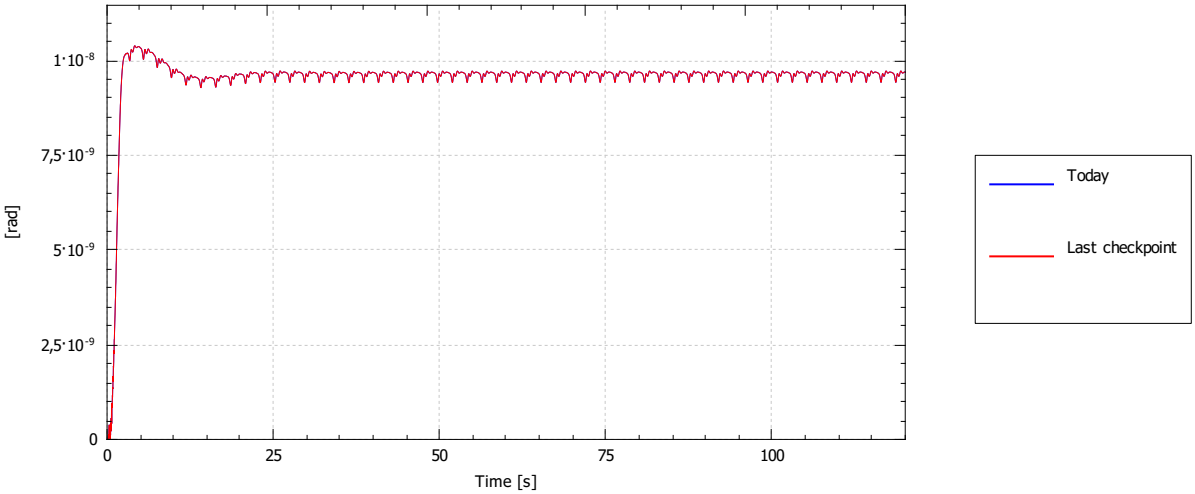
Deformational rotation (1st prin.)



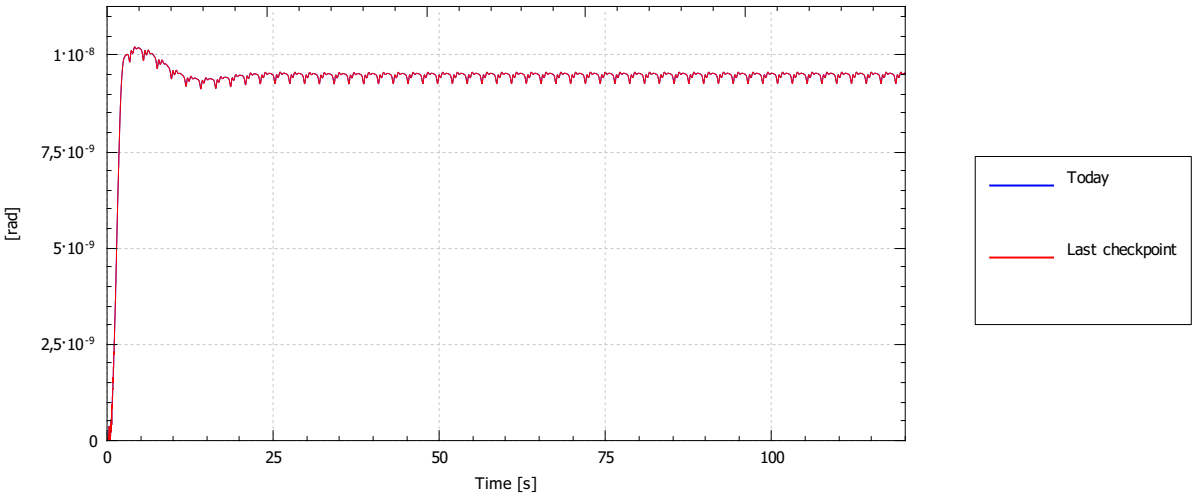
Deformational rotation (2nd prin.)



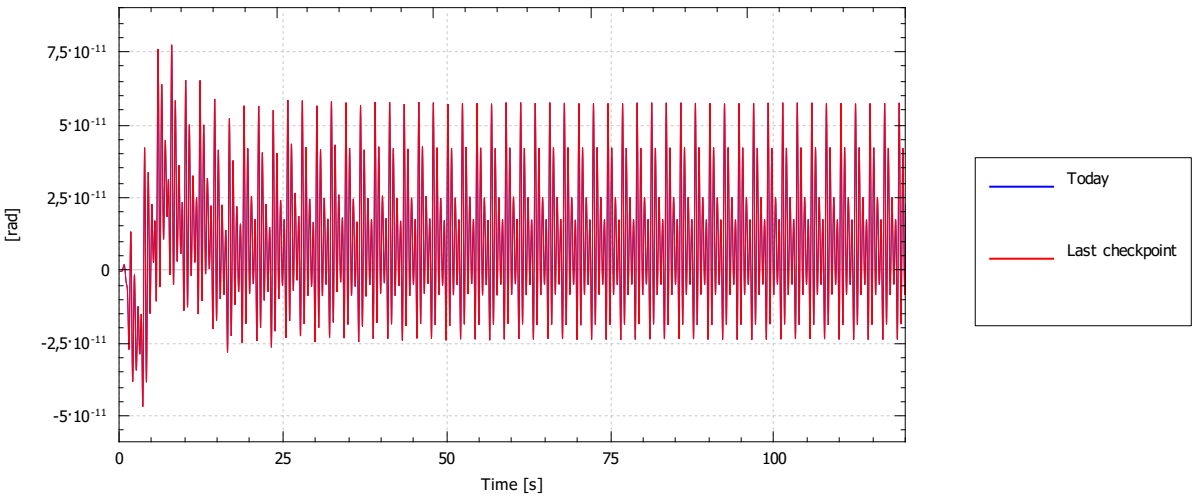
Deformational rotation (i) - rad



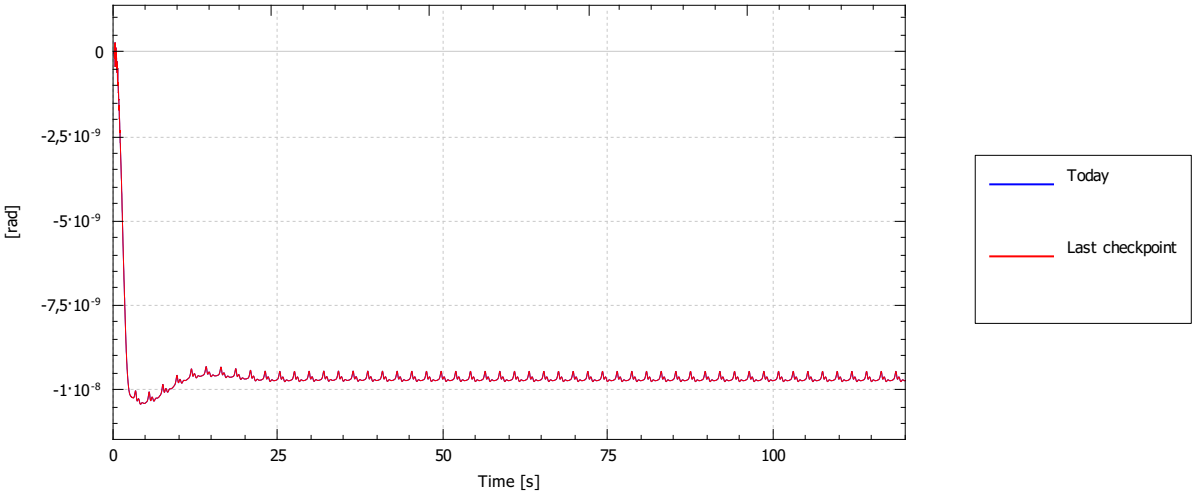
Deformational rotation (j) - rad



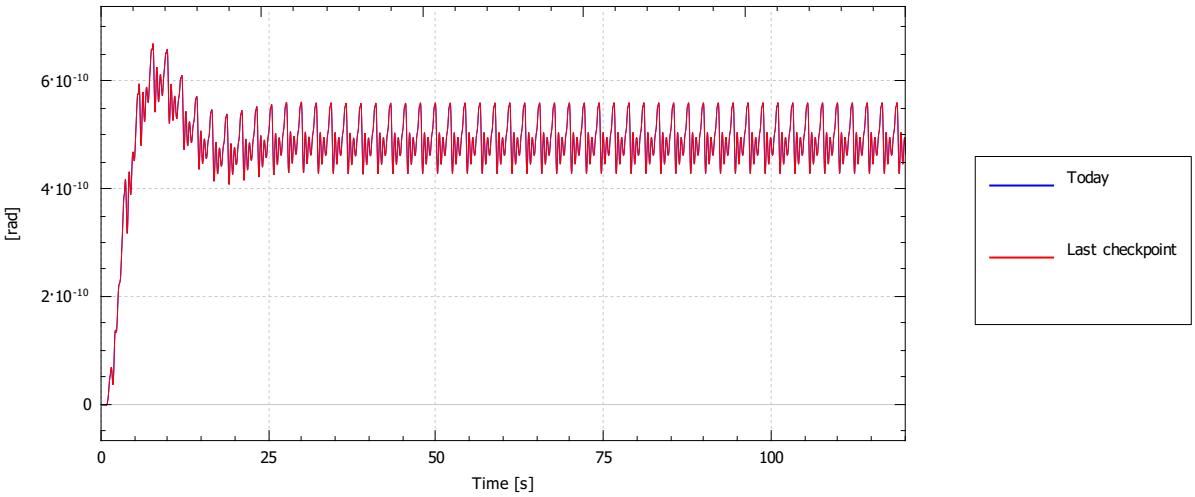
Deformational rotation (axial) - rad



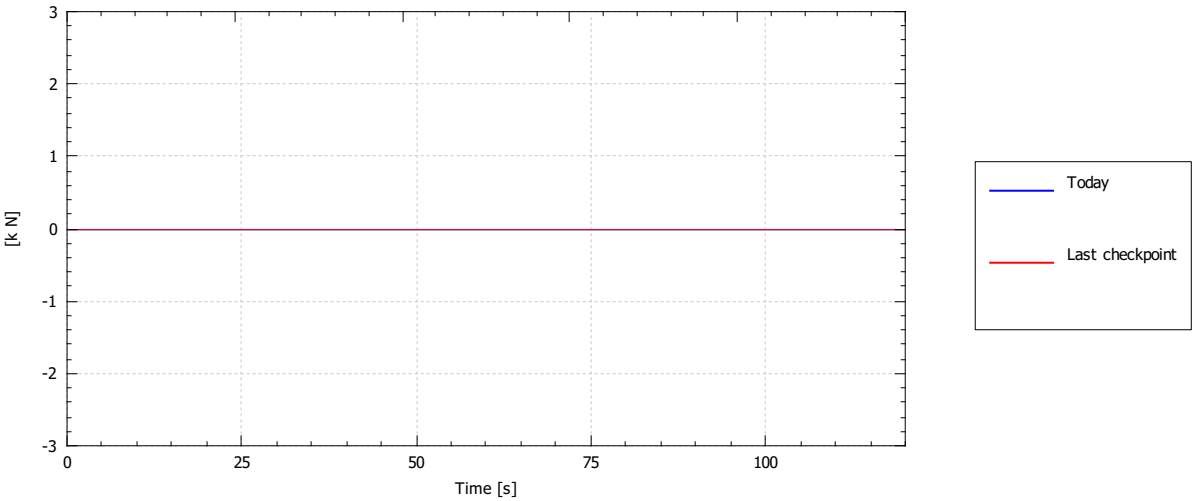
Deformational rotation (1st prin.) - rad



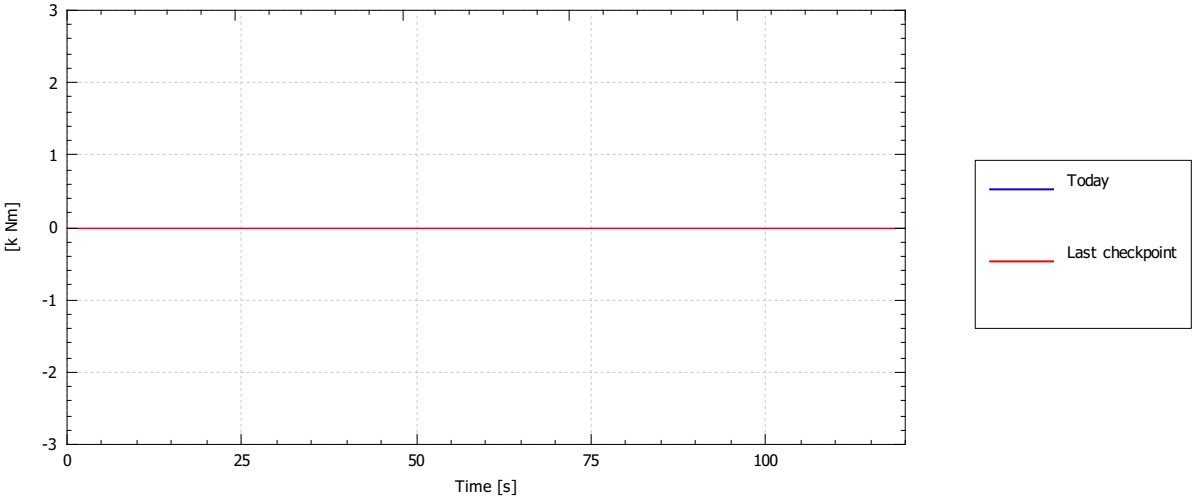
Deformational rotation (2nd prin.) - rad



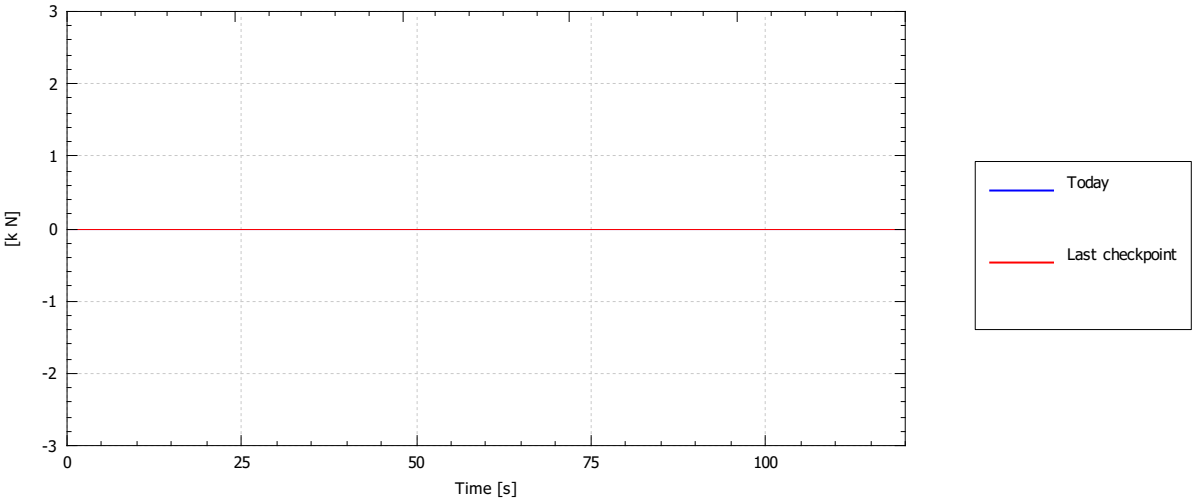
Damping force, i



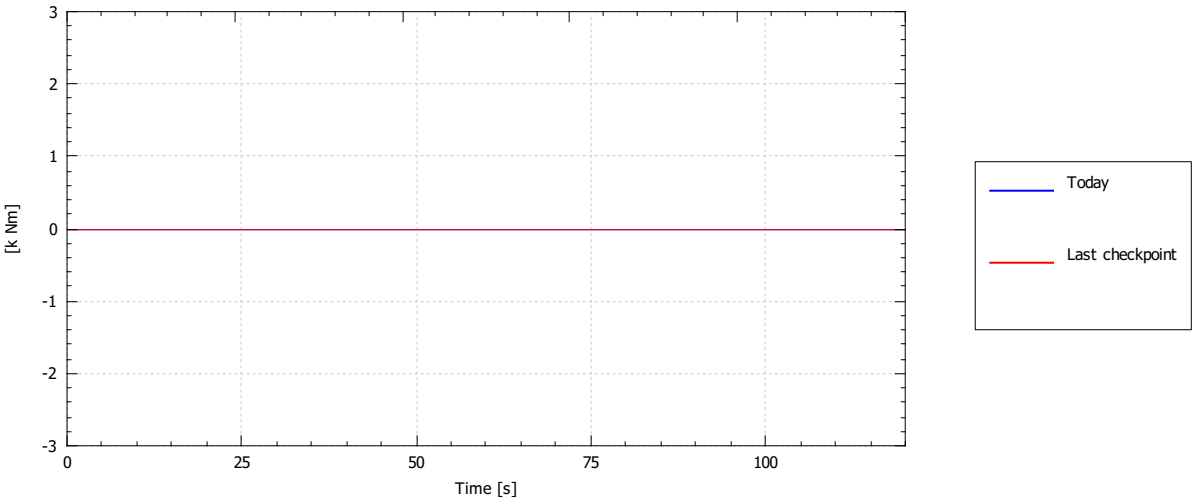
Damping moment, i



Damping force, sum

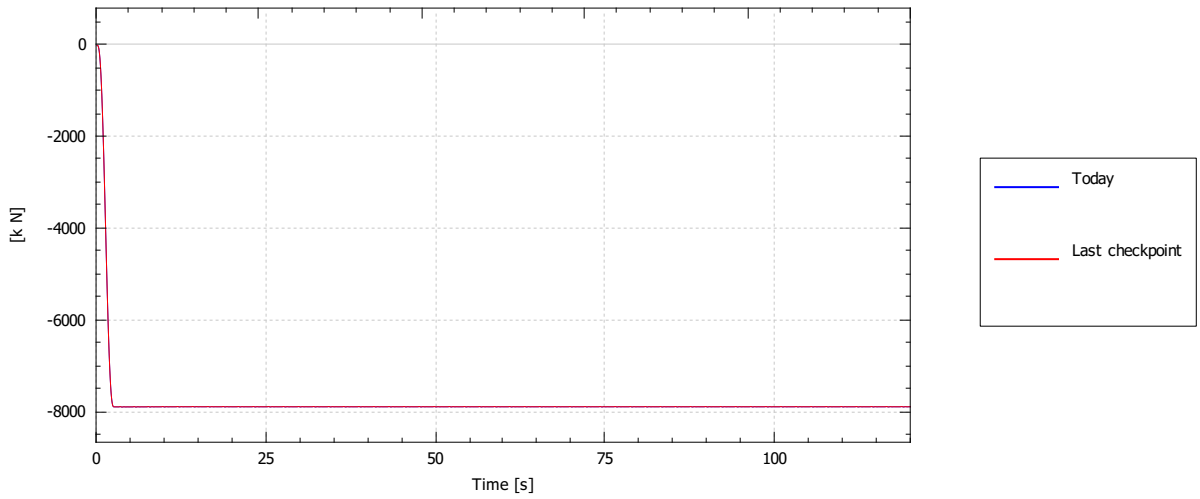


Damping moment, sum

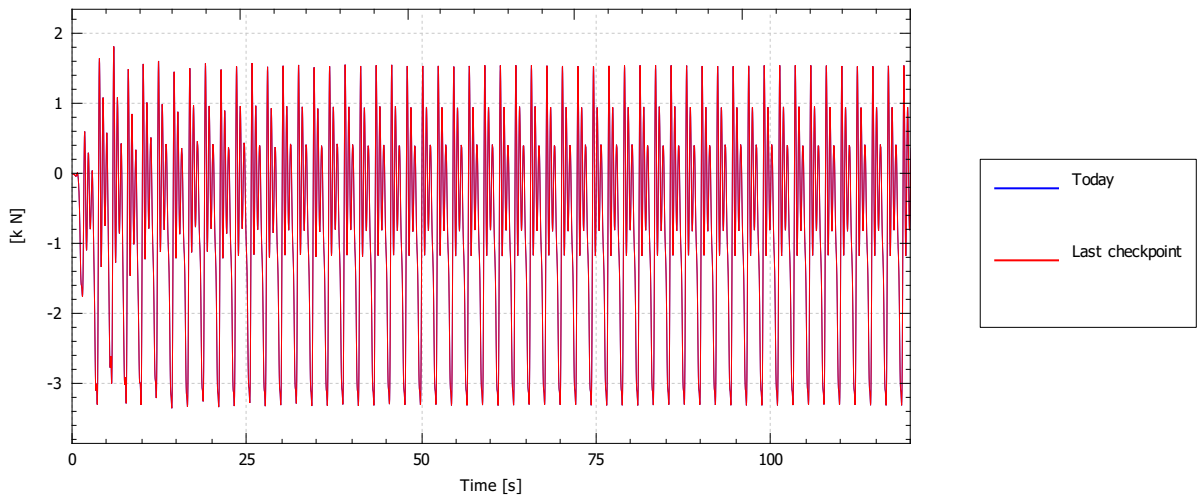


Beam element [Element 4 | Monopile]

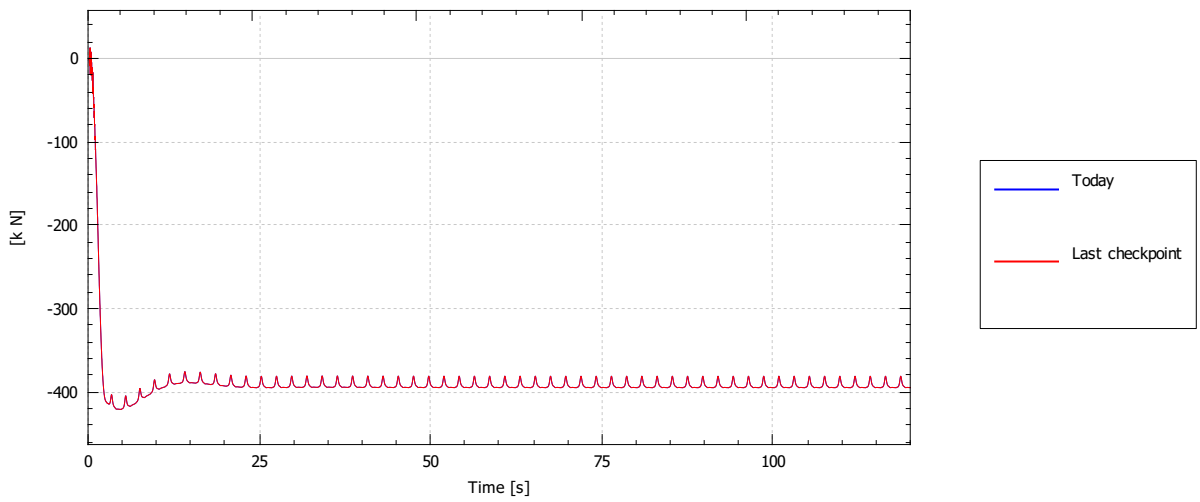
Axial force



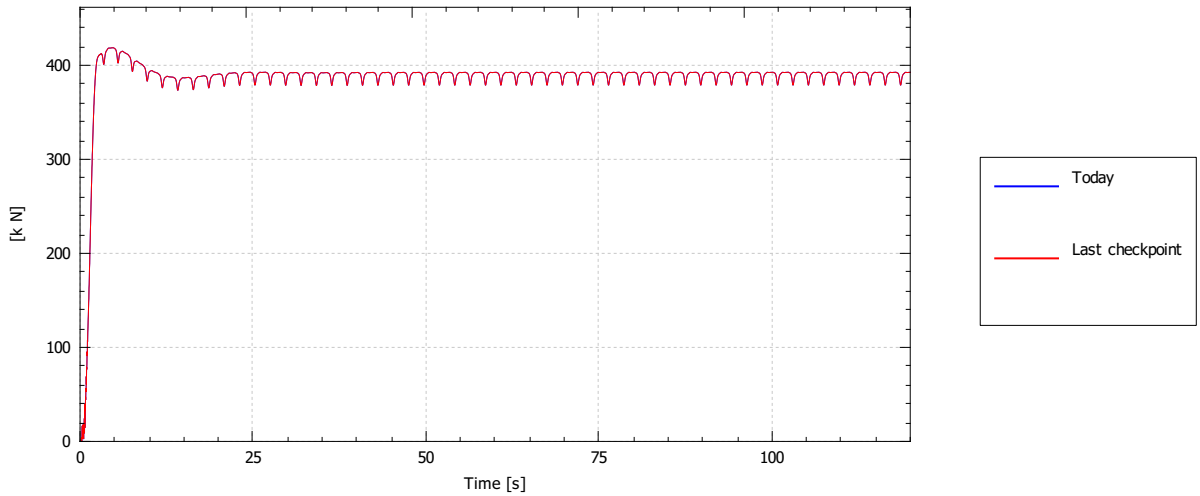
Shear force (1st prin. axis)



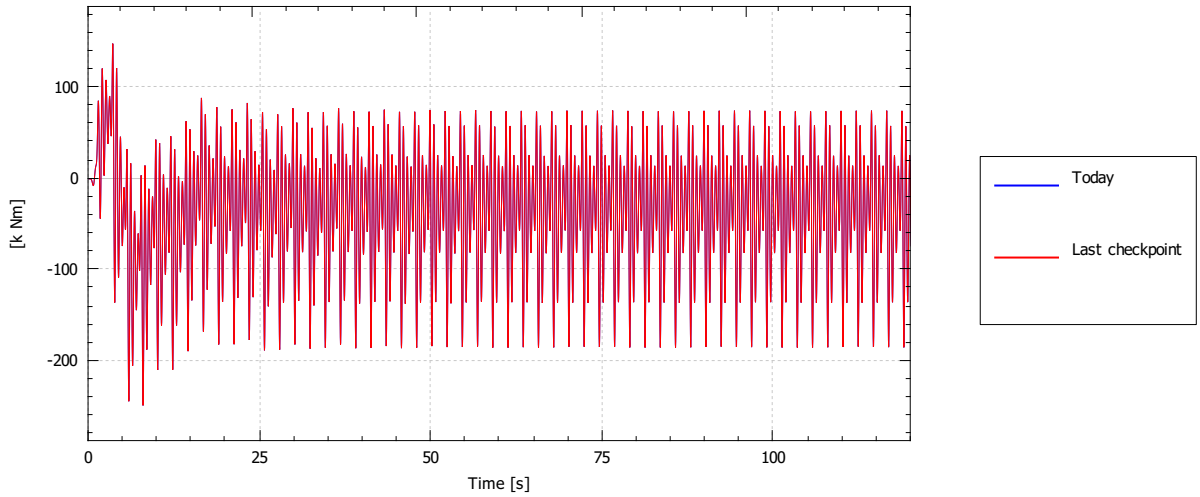
Shear force (2nd prin. axis)



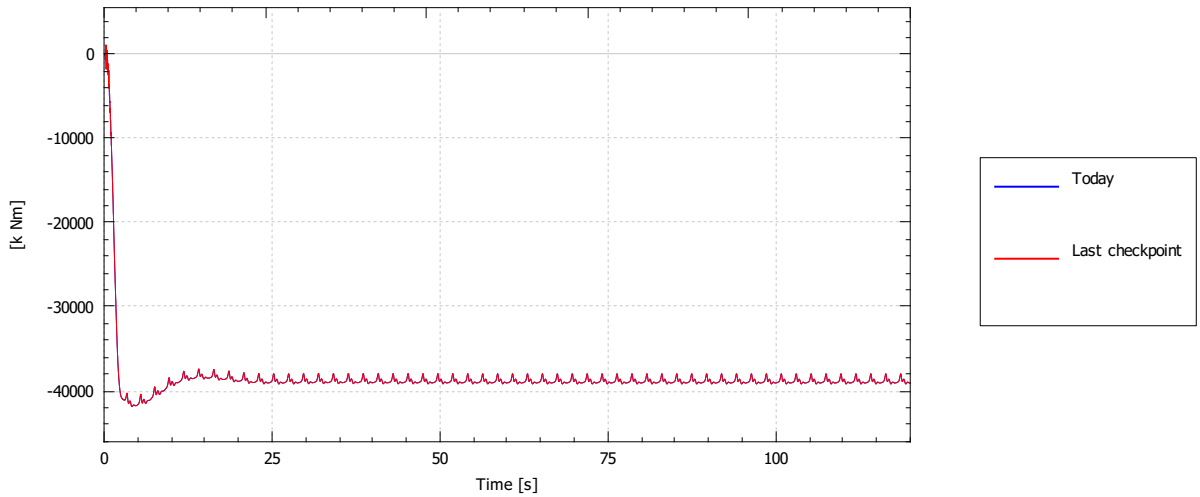
Shear force, mag.



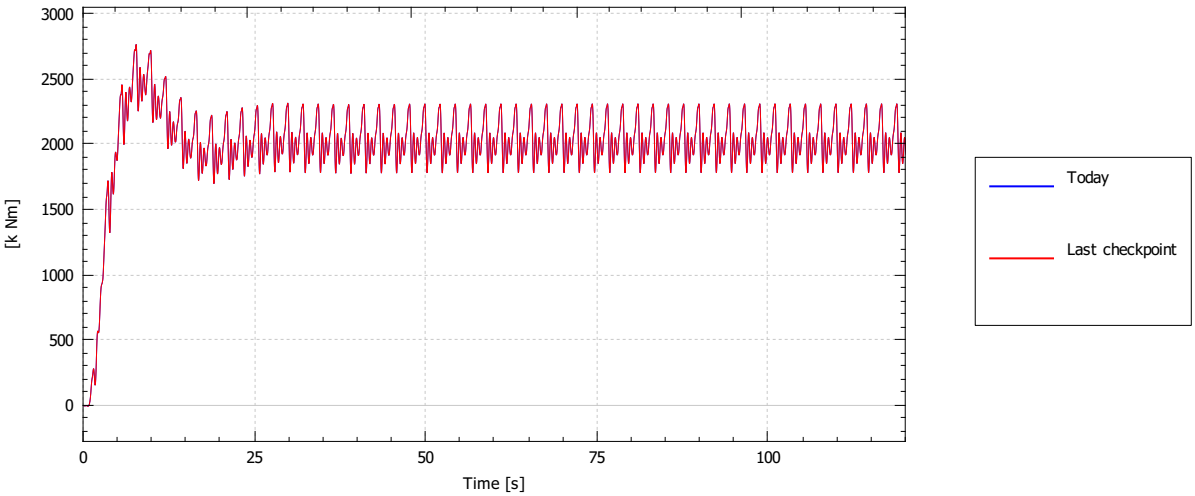
Torque



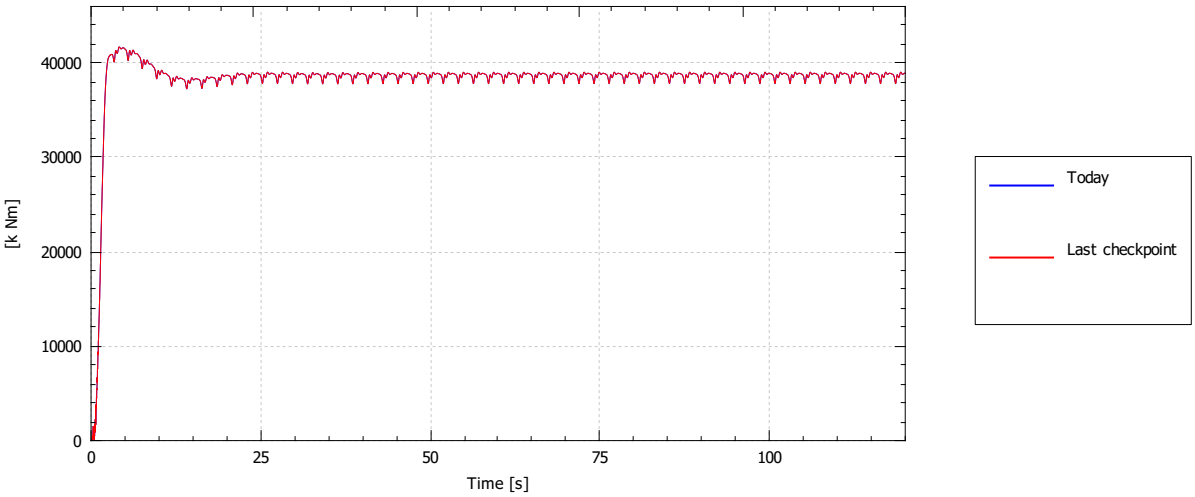
Moment (1st prin. axis), i



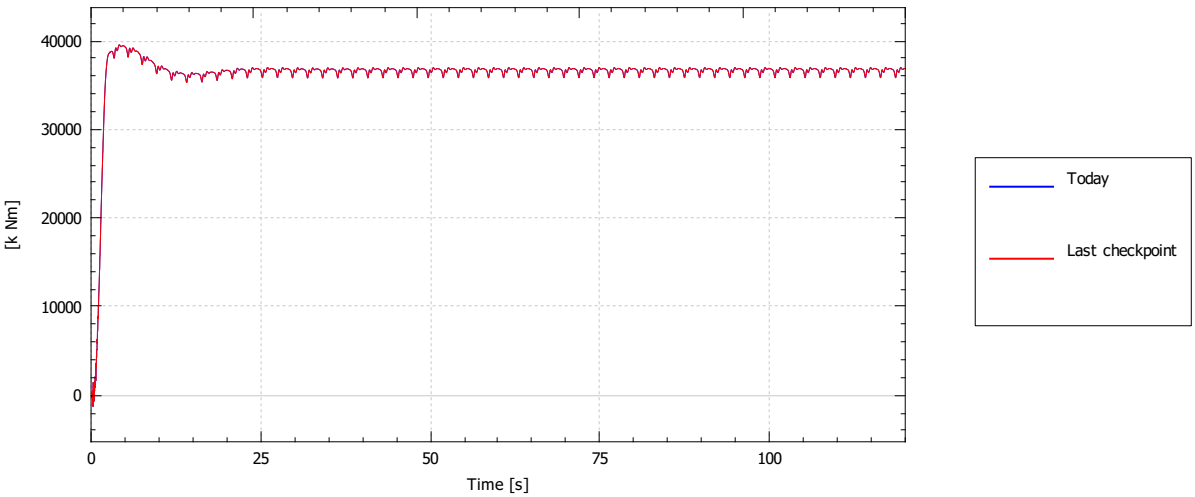
Moment (2nd prin. axis), i



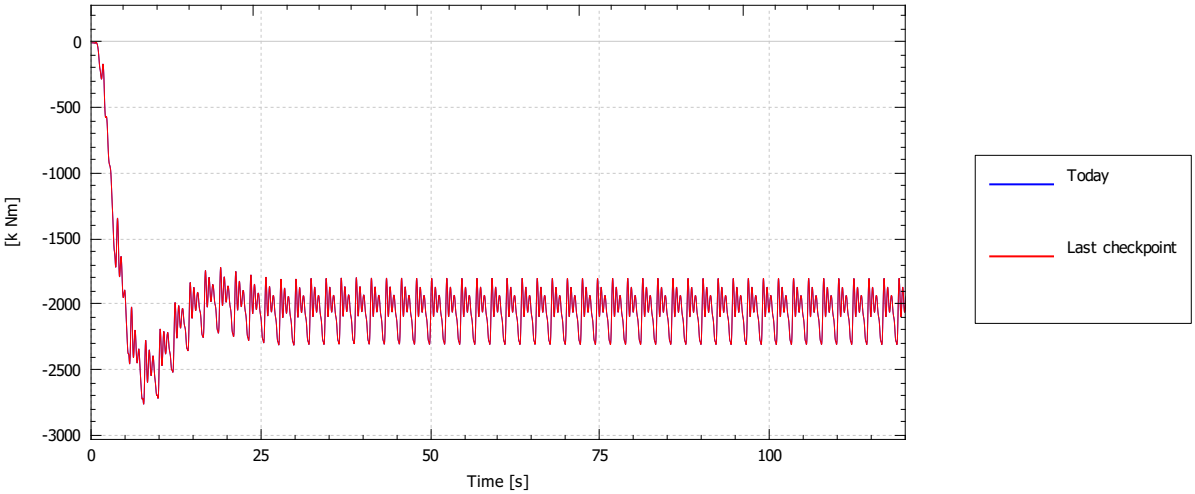
Moment, mag., i



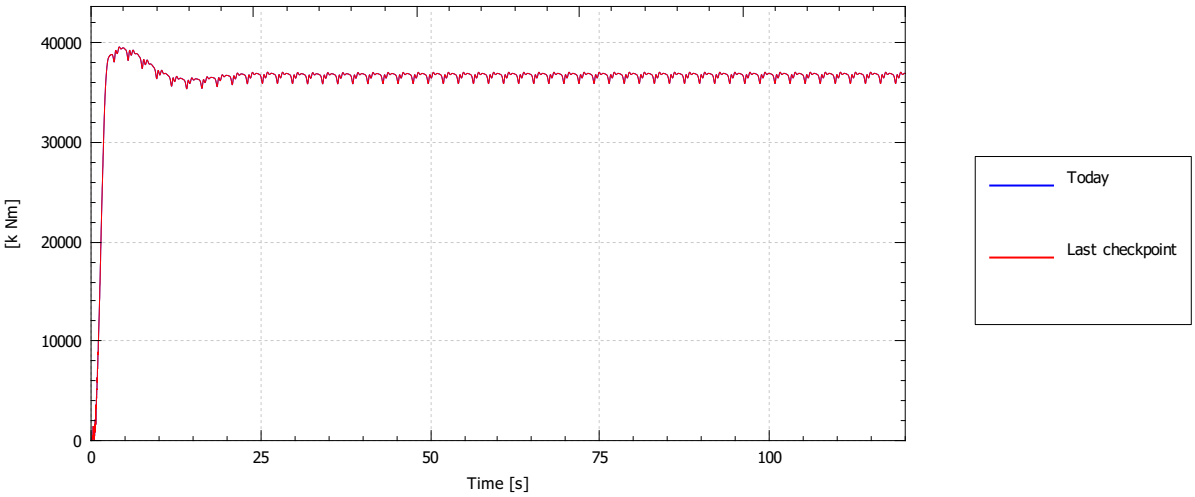
Moment (1st prin. axis), j



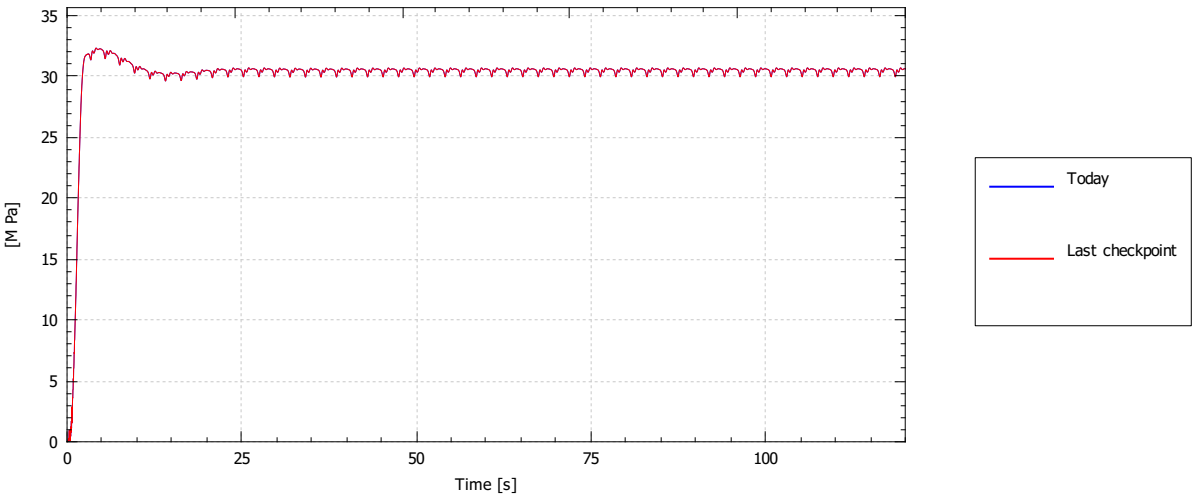
Moment (2nd prin. axis), j



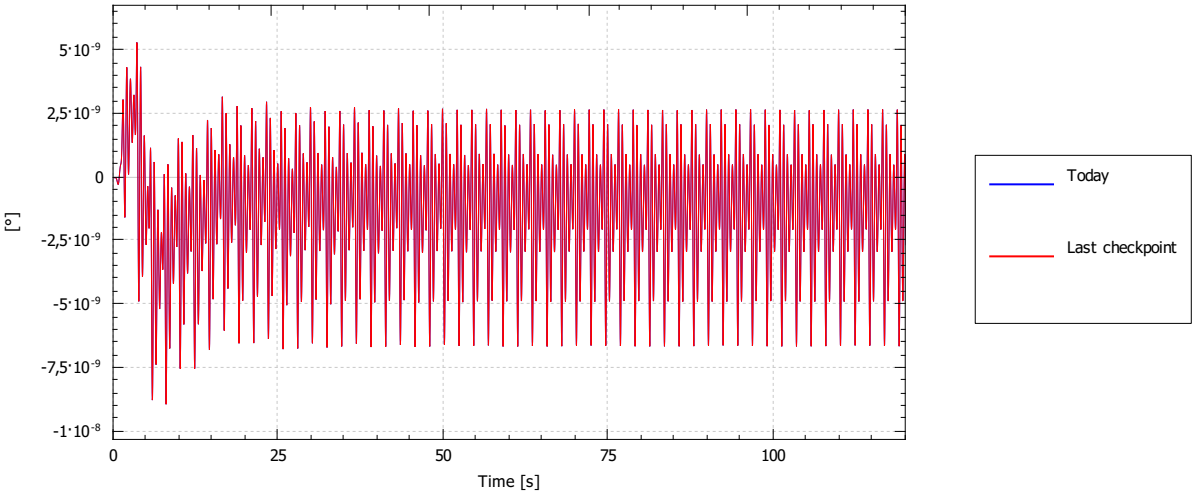
Moment, mag., j



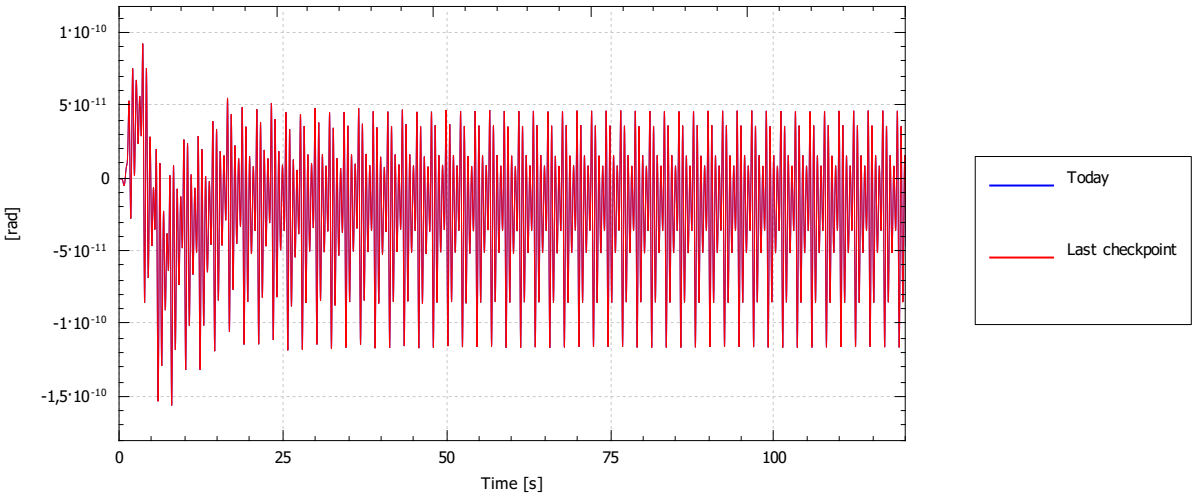
Max normal stress



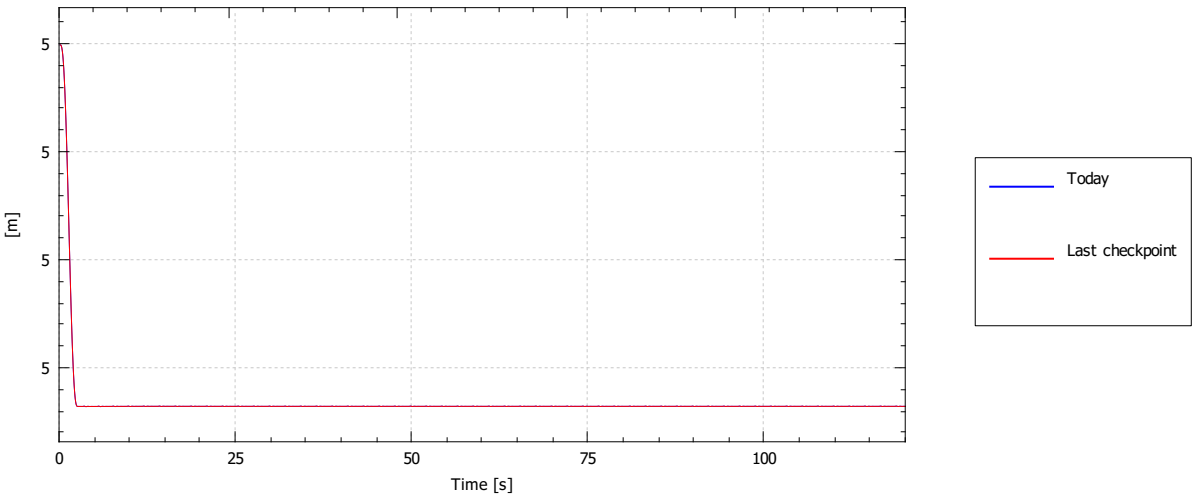
Twist (structural)



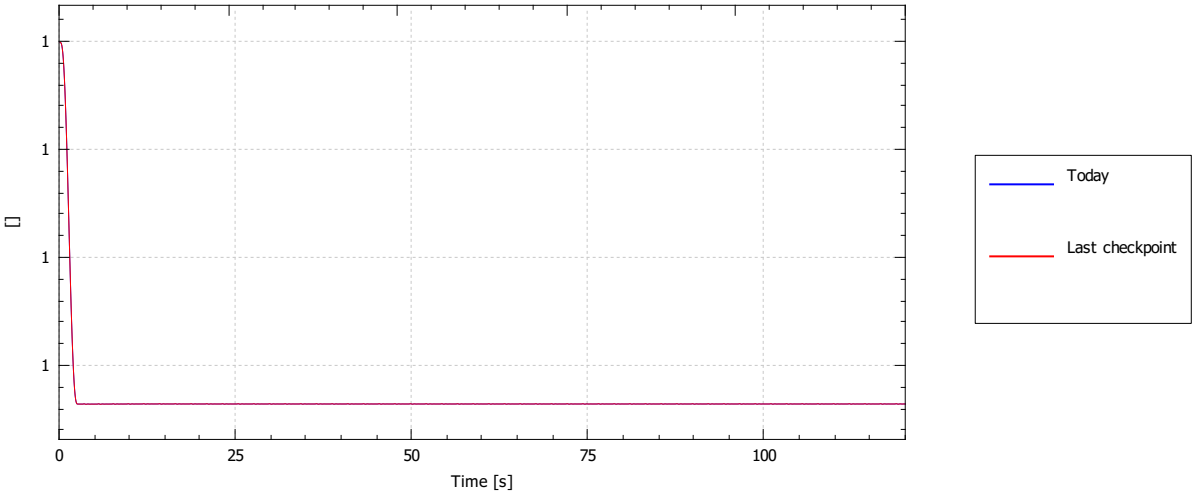
Twist (structural) - rad



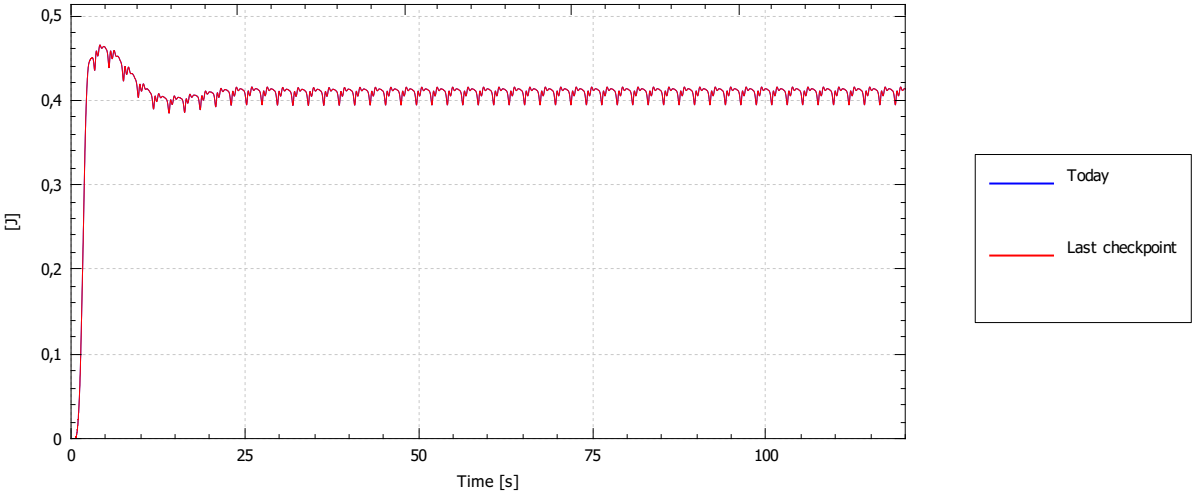
Deformed length



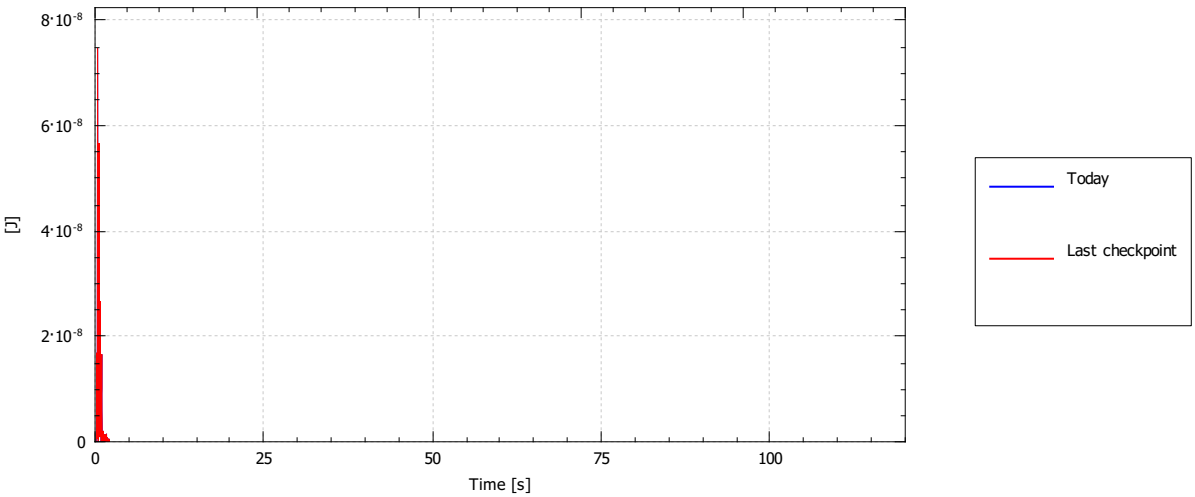
Elongation



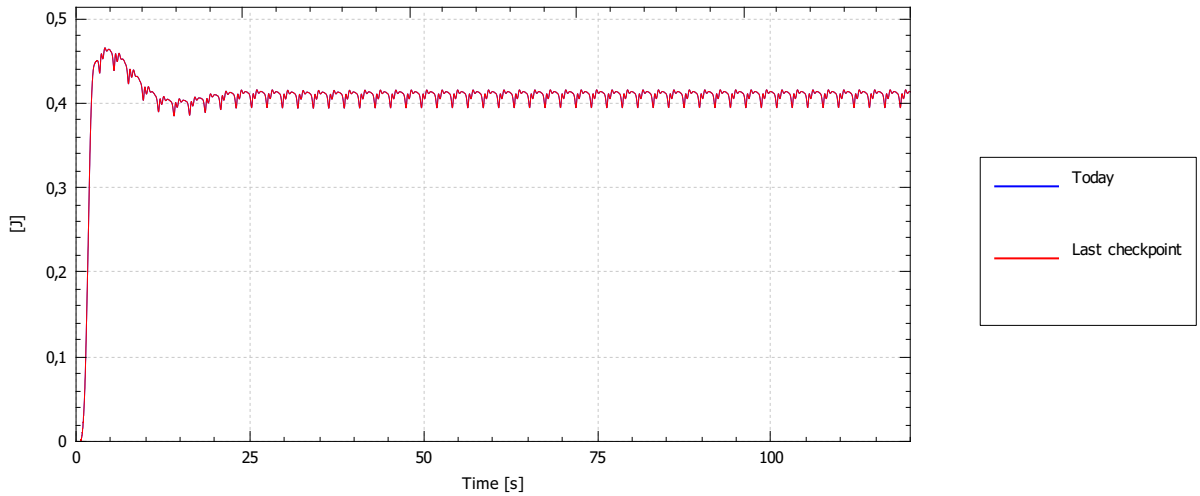
Strain energy



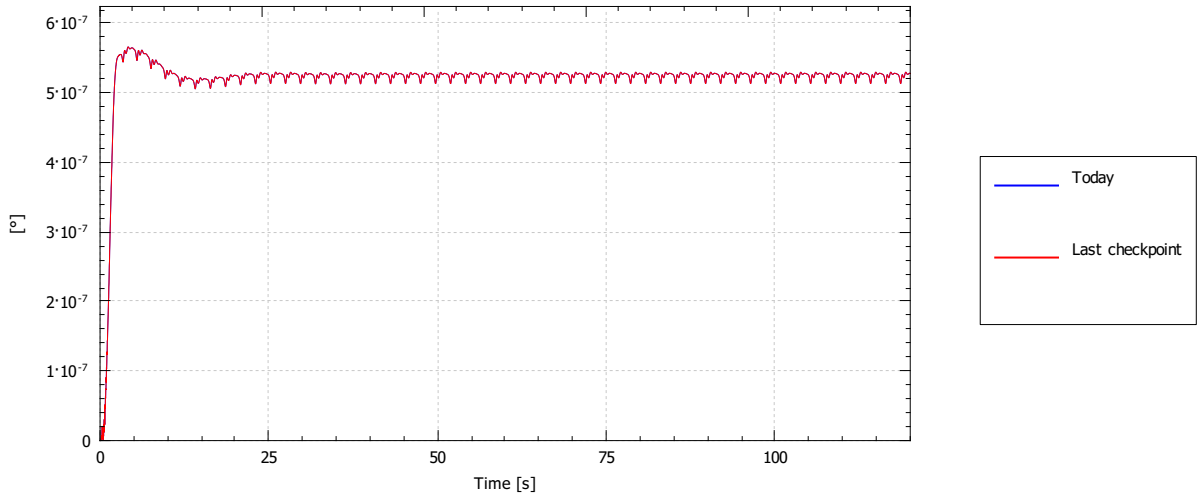
Kinetic energy



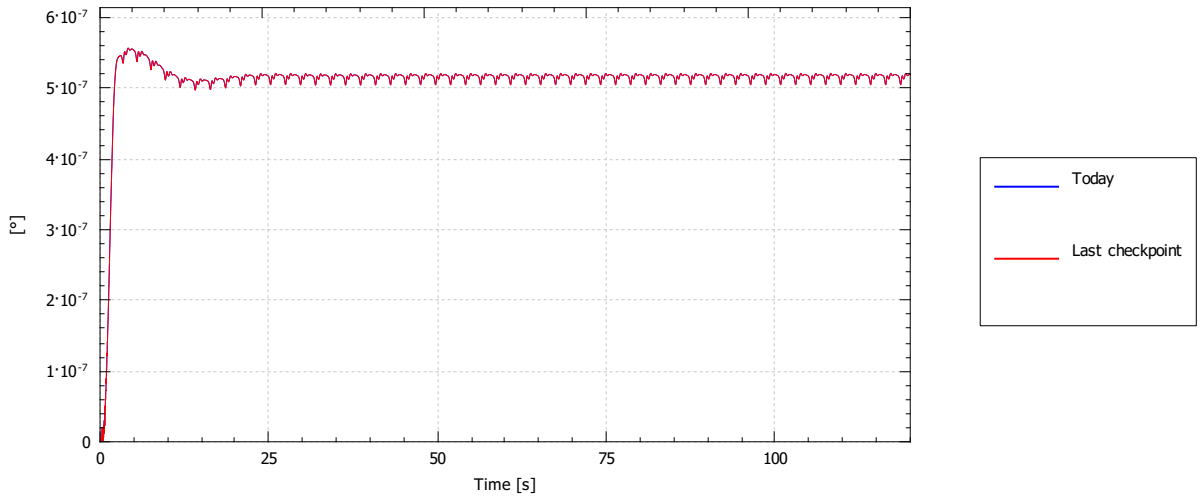
Mechanical energy



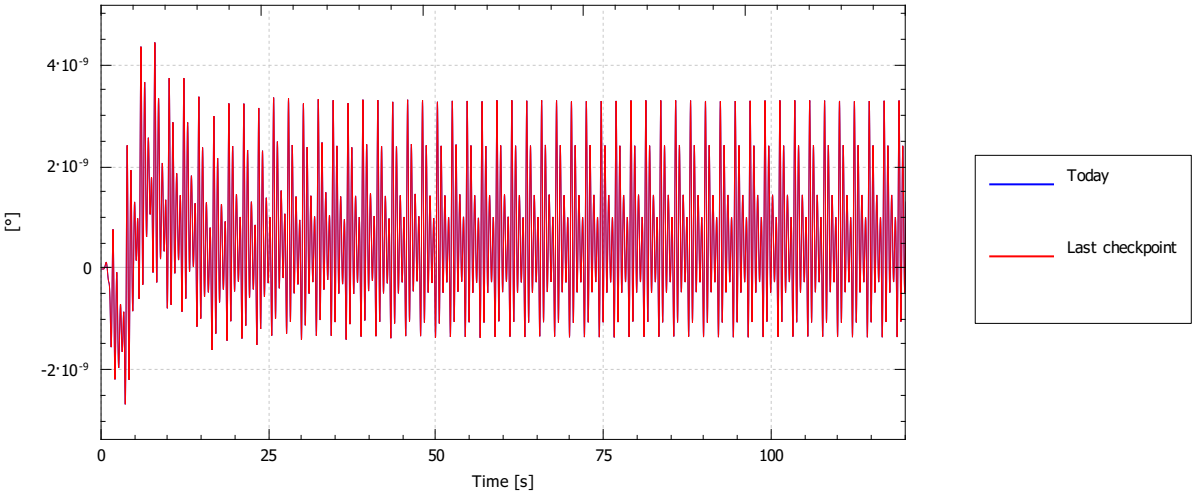
Deformational rotation (i)



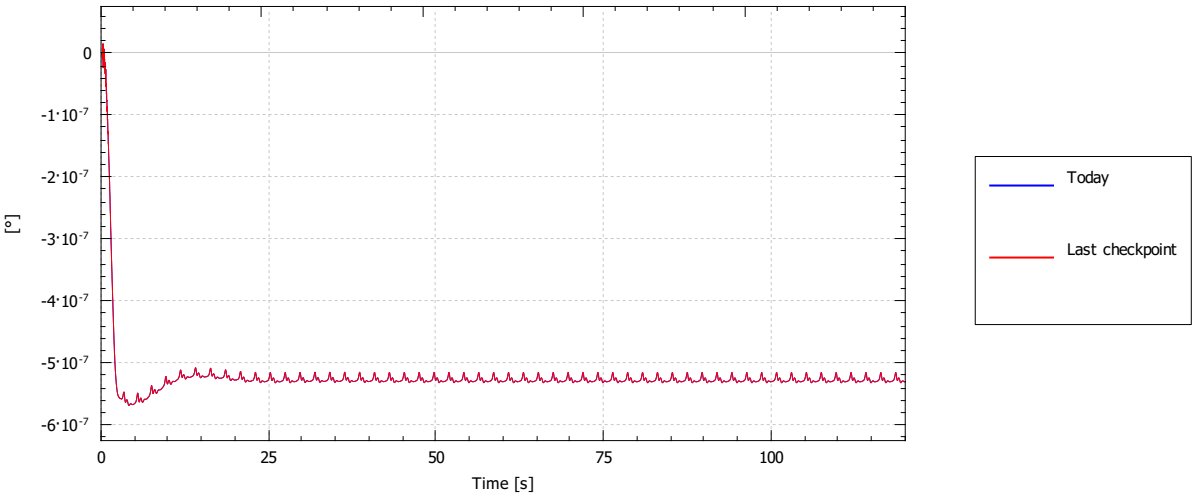
Deformational rotation (j)



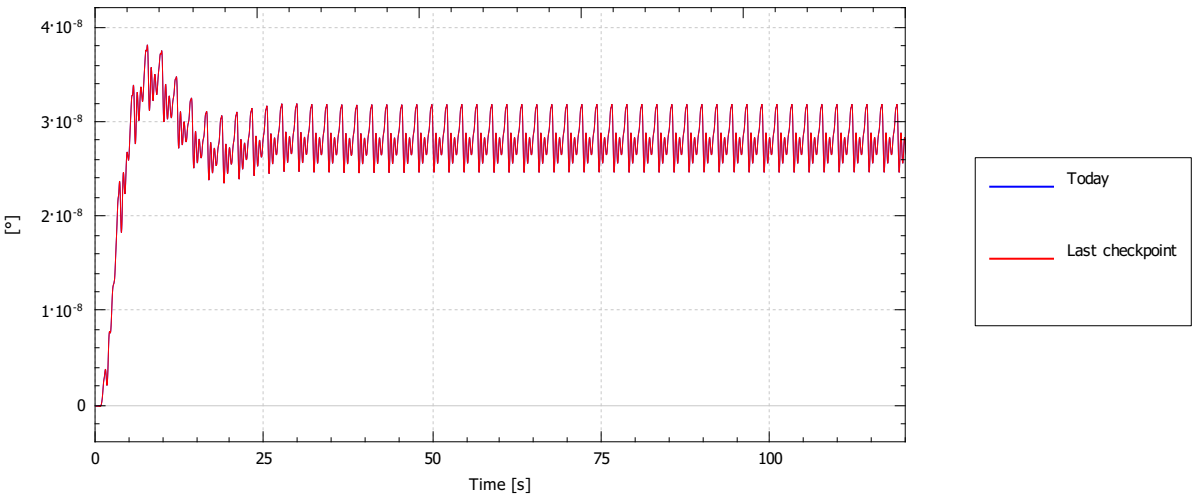
Deformational rotation (axial)



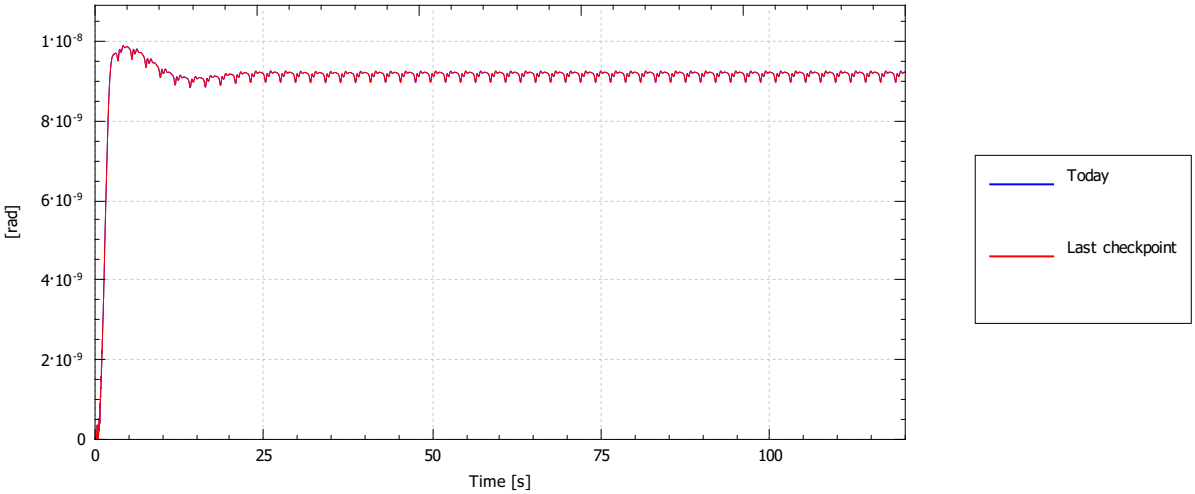
Deformational rotation (1st prin.)



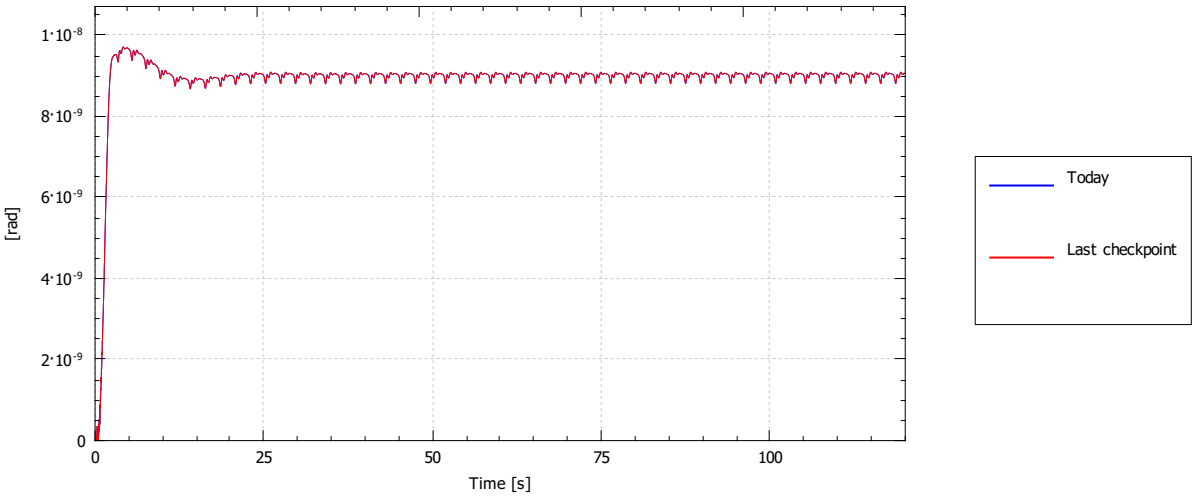
Deformational rotation (2nd prin.)



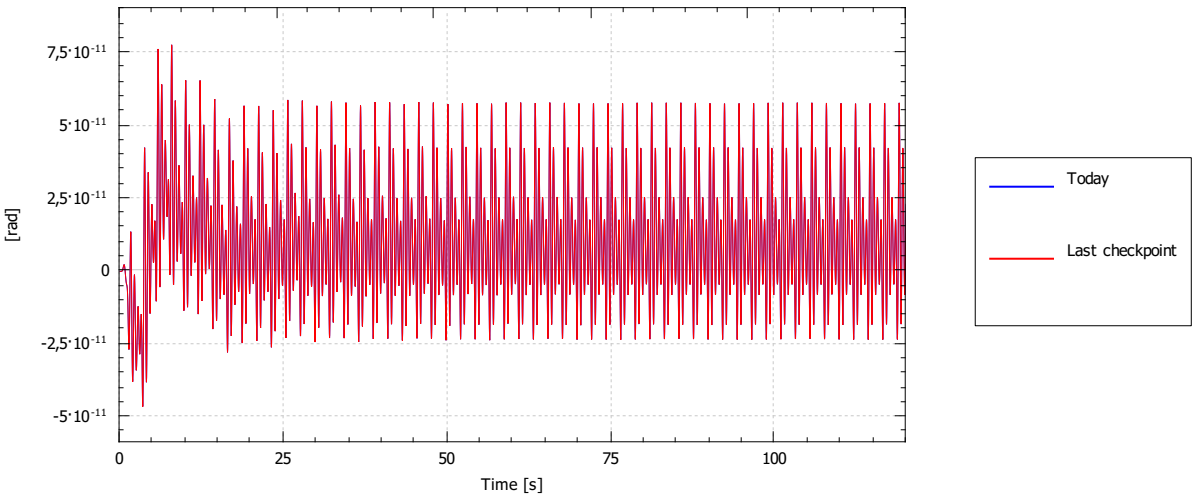
Deformational rotation (i) - rad



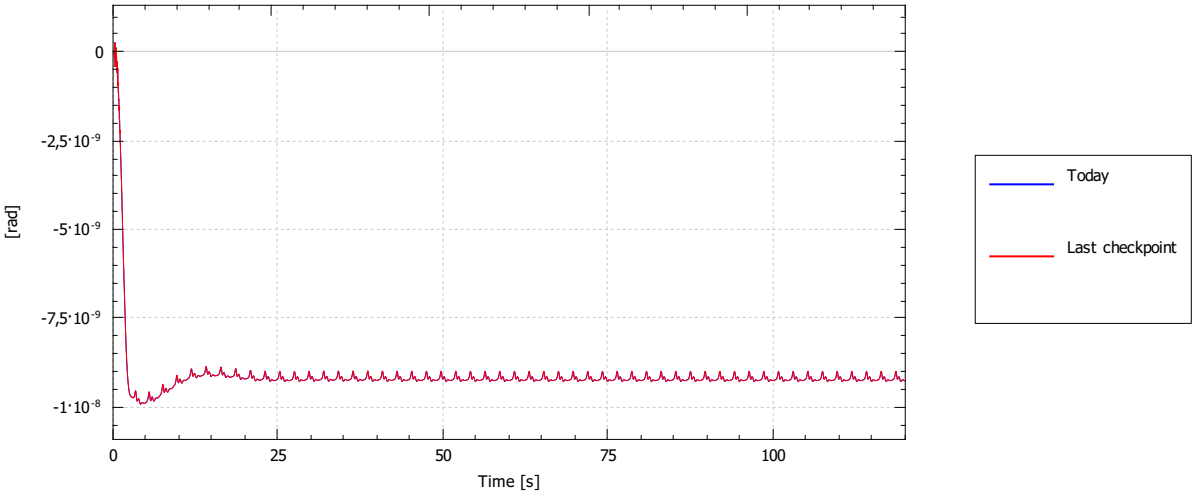
Deformational rotation (j) - rad



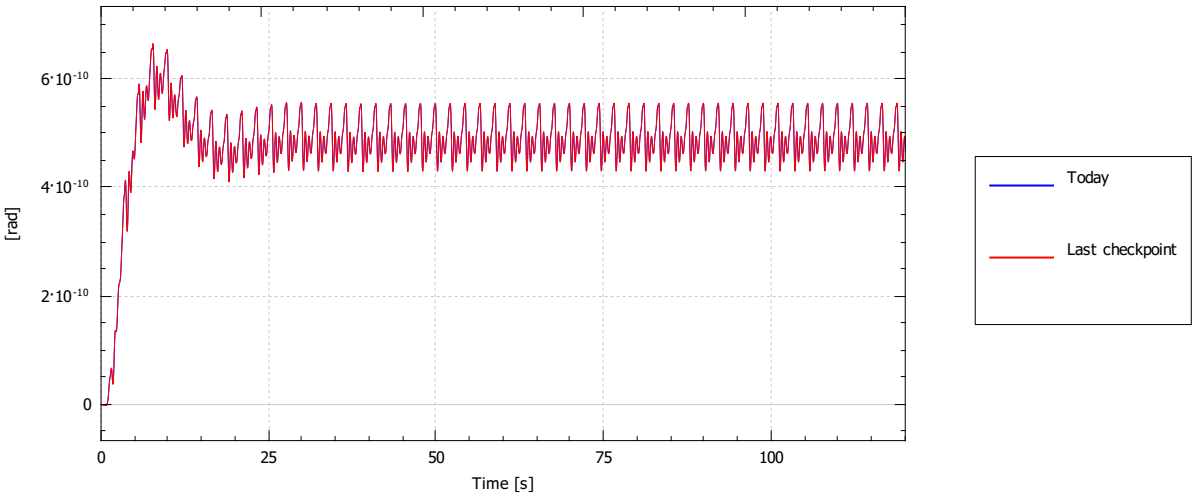
Deformational rotation (axial) - rad



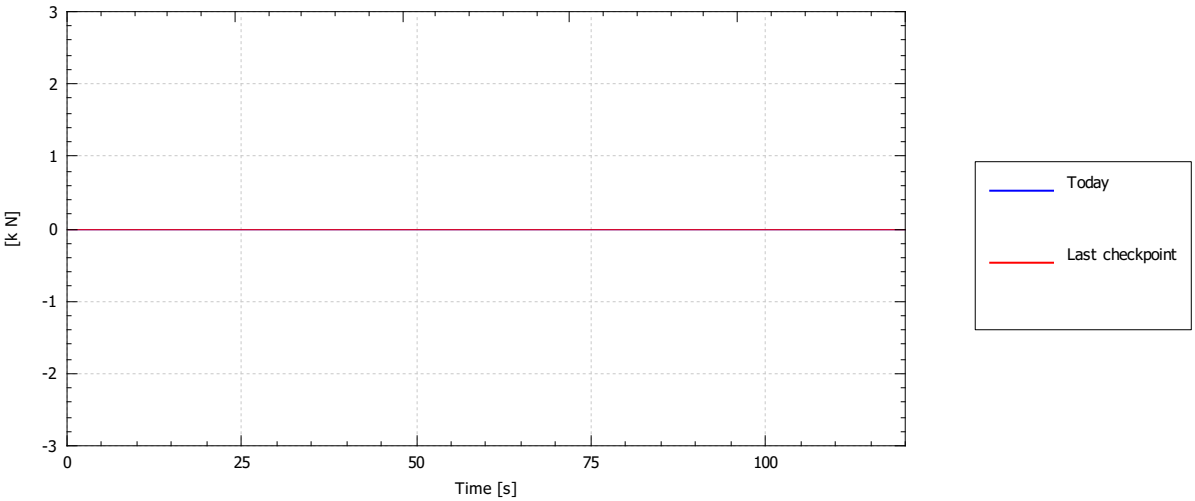
Deformational rotation (1st prin.) - rad



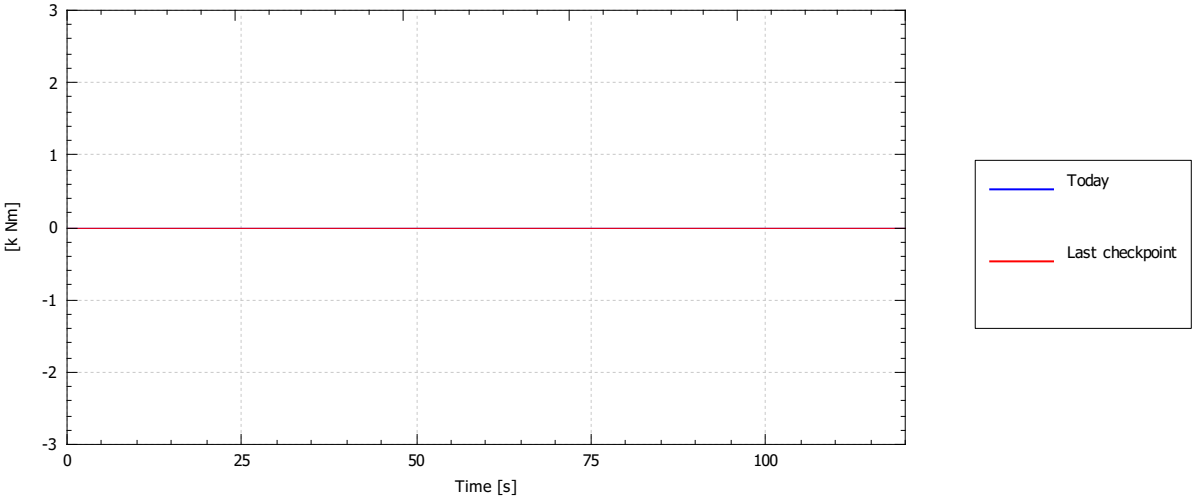
Deformational rotation (2nd prin.) - rad



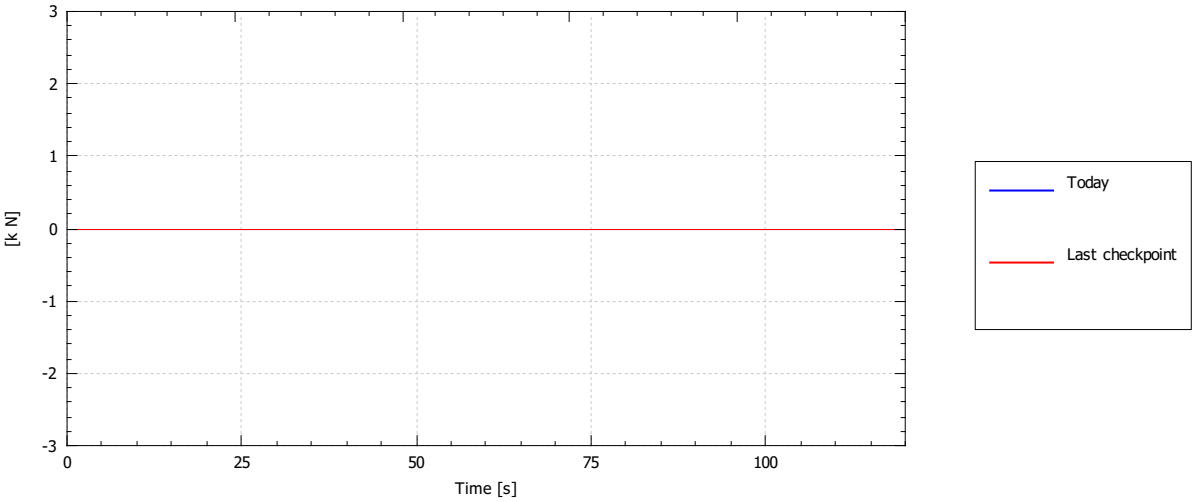
Damping force, i



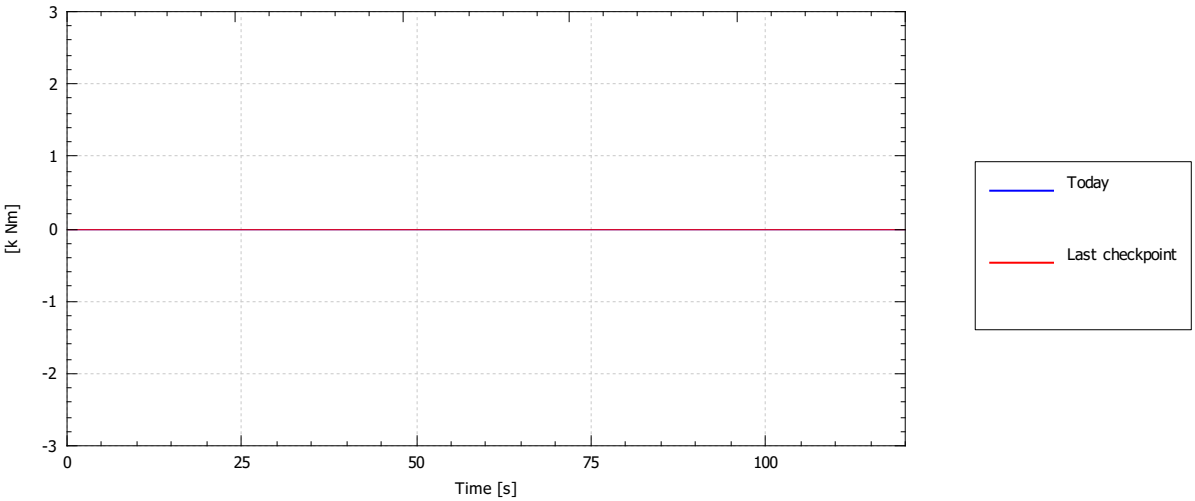
Damping moment, i



Damping force, sum

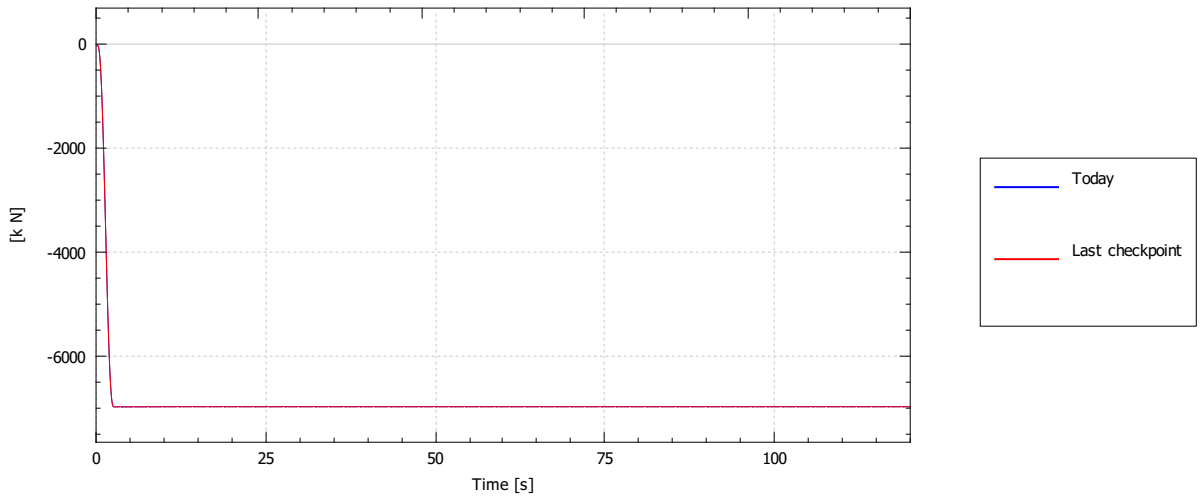


Damping moment, sum

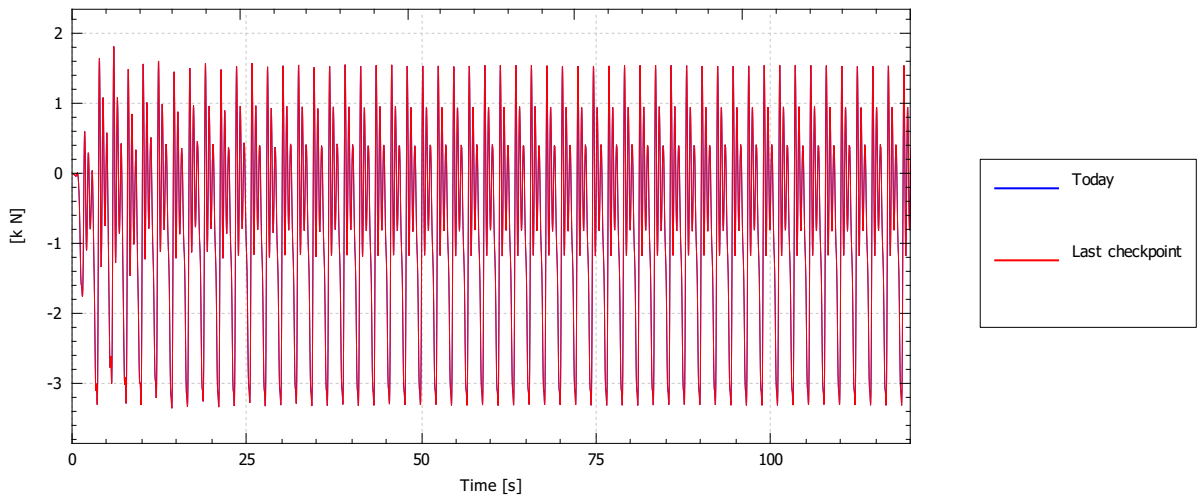


Beam element [Element 6 | Monopile]

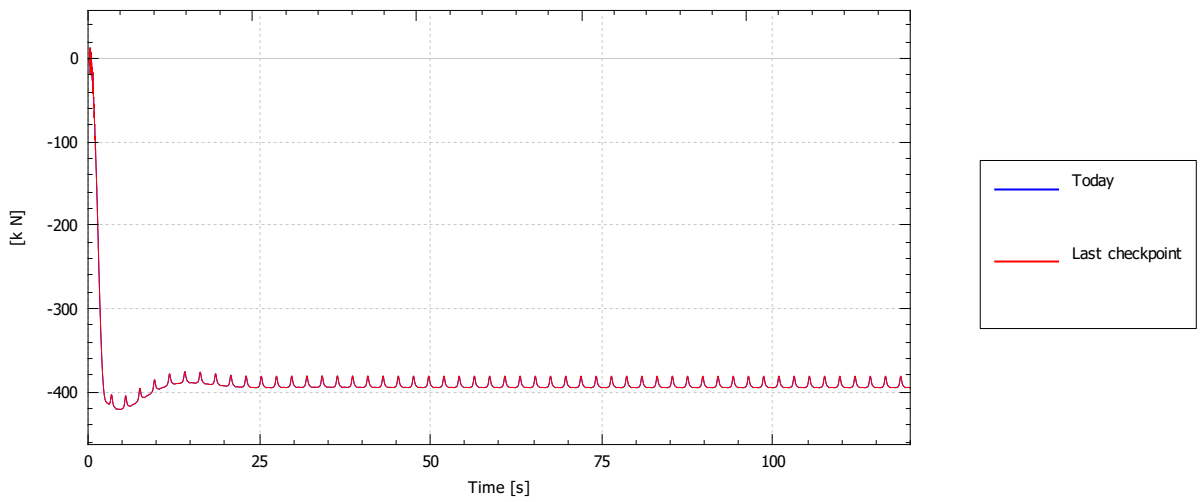
Axial force



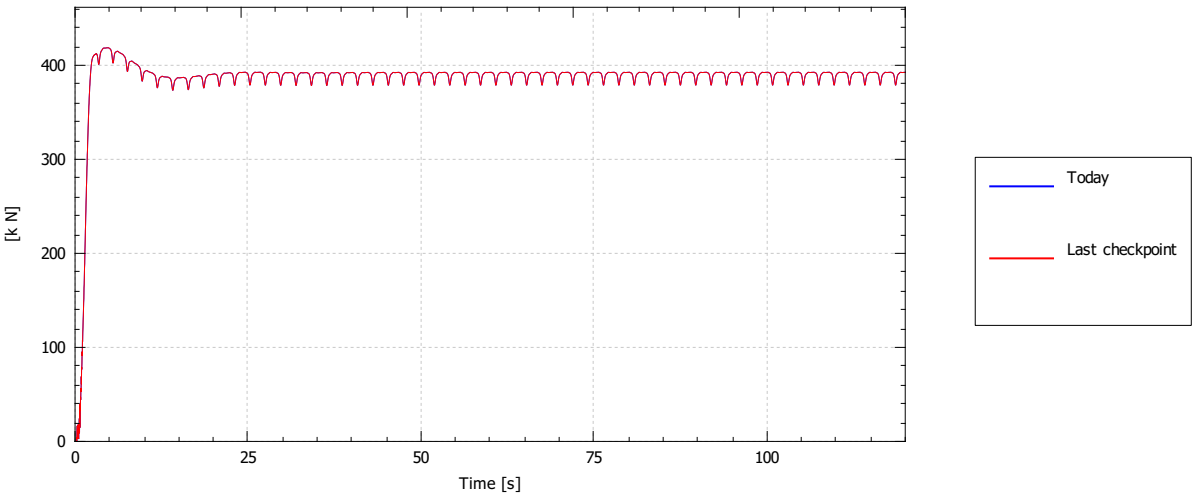
Shear force (1st prin. axis)



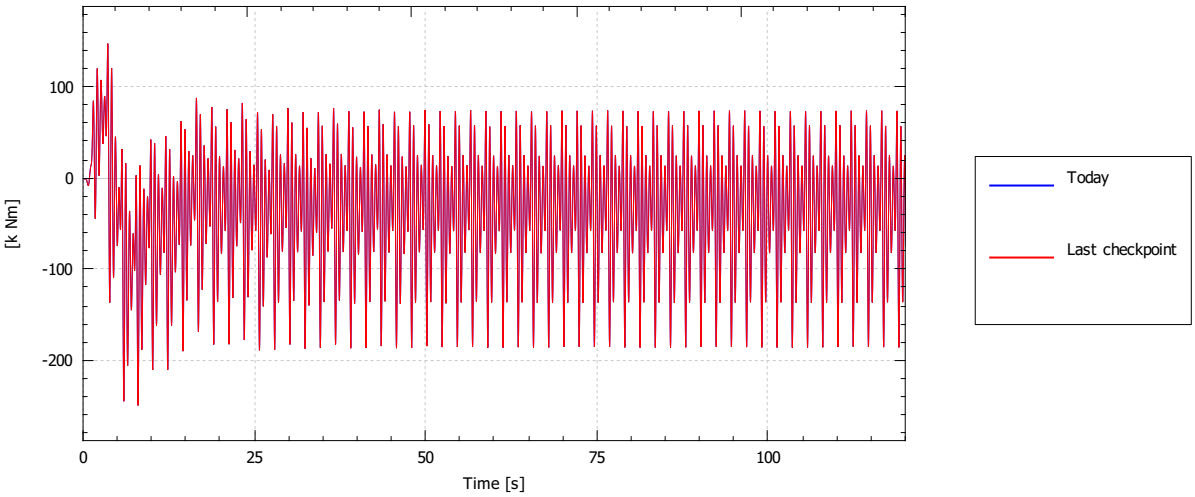
Shear force (2nd prin. axis)



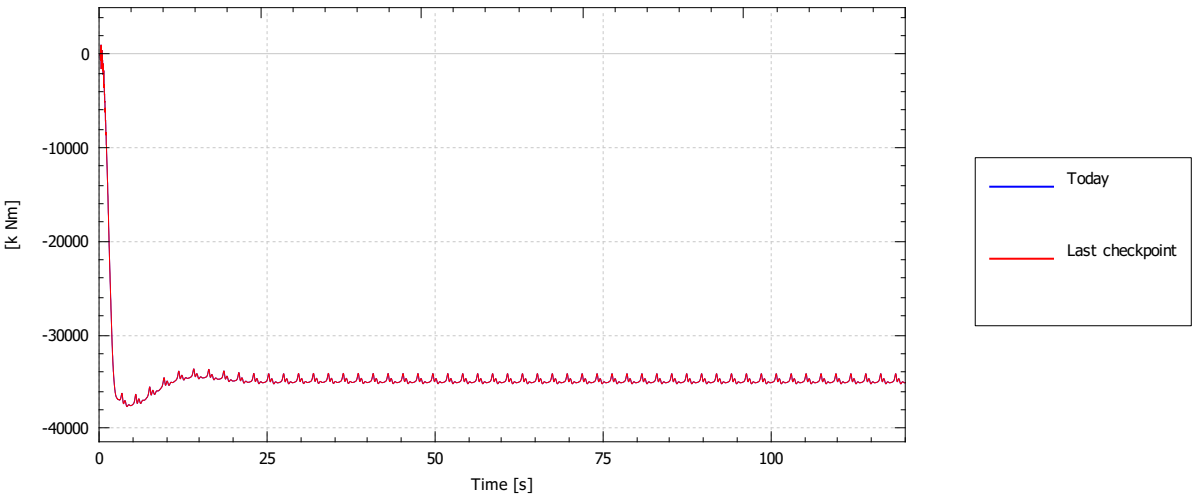
Shear force, mag.



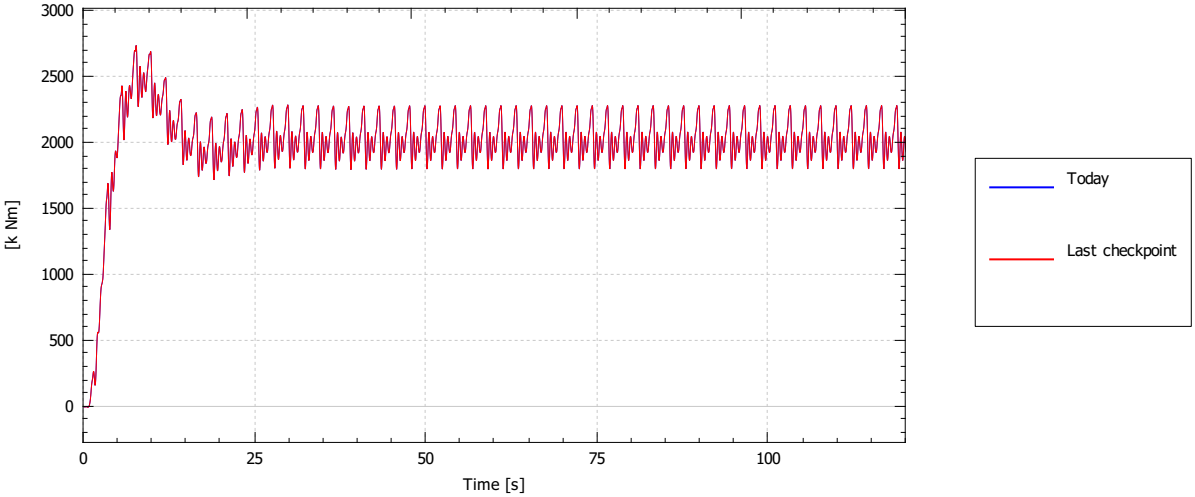
Torque



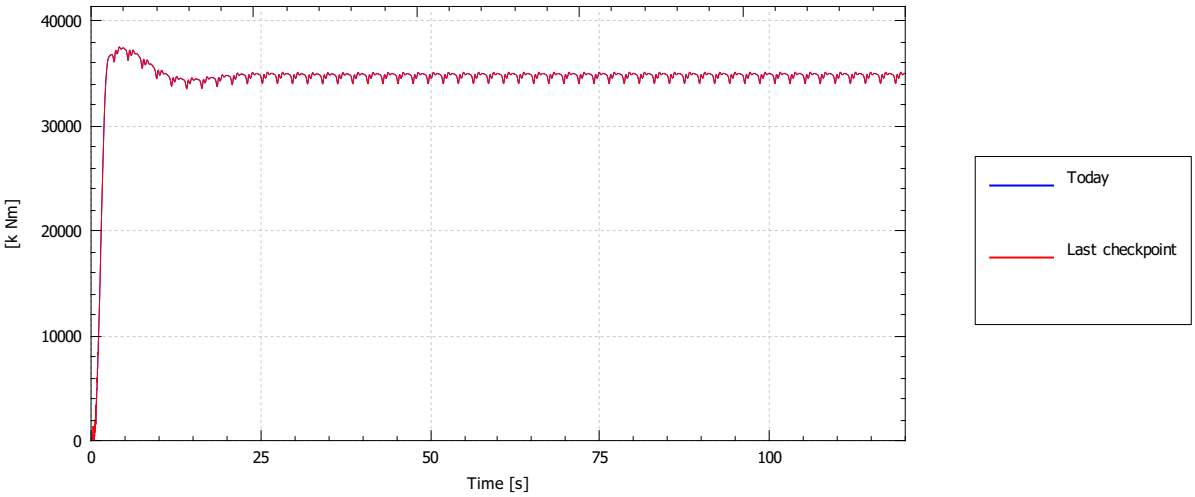
Moment (1st prin. axis), i



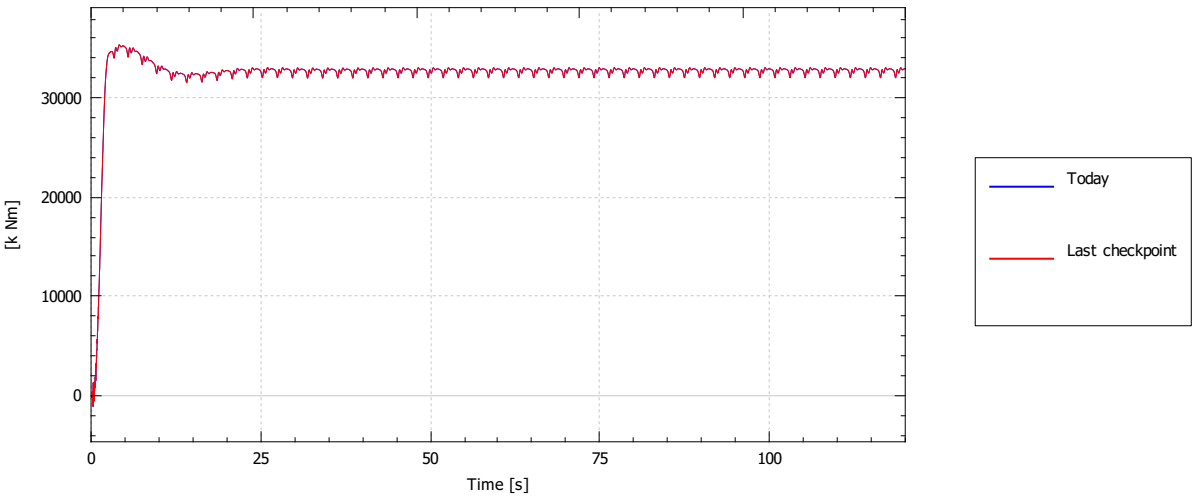
Moment (2nd prin. axis), i



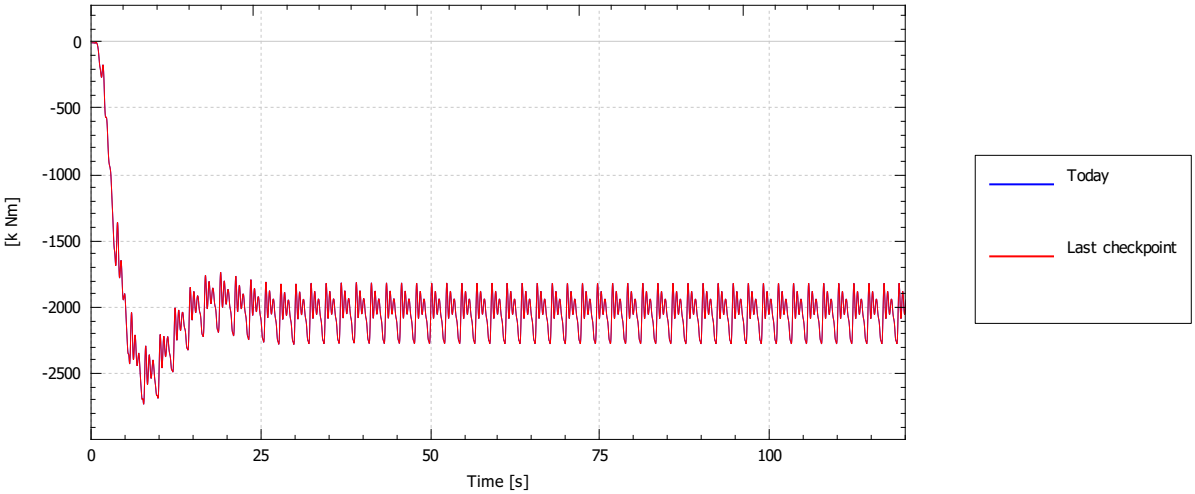
Moment, mag., i



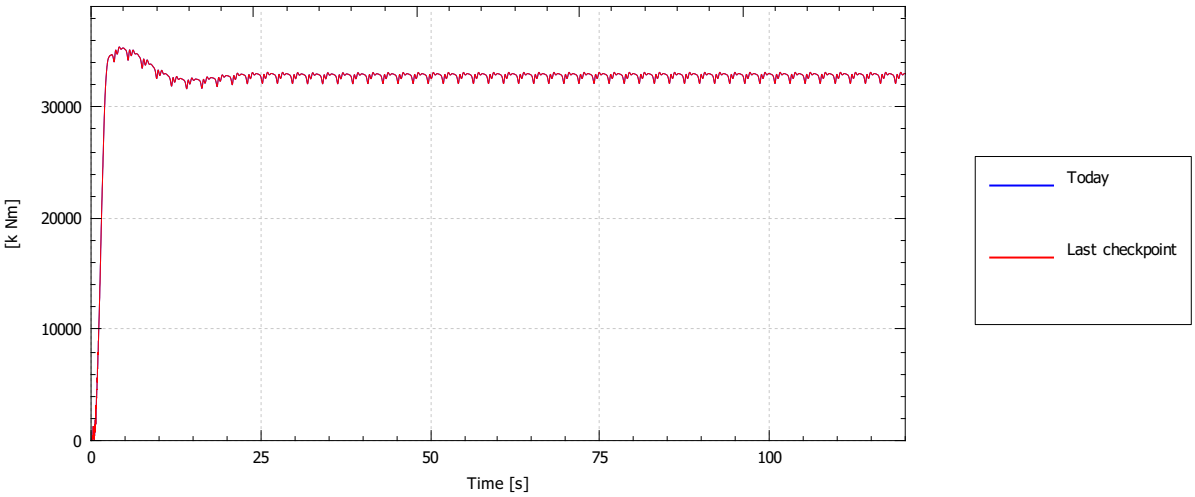
Moment (1st prin. axis), j



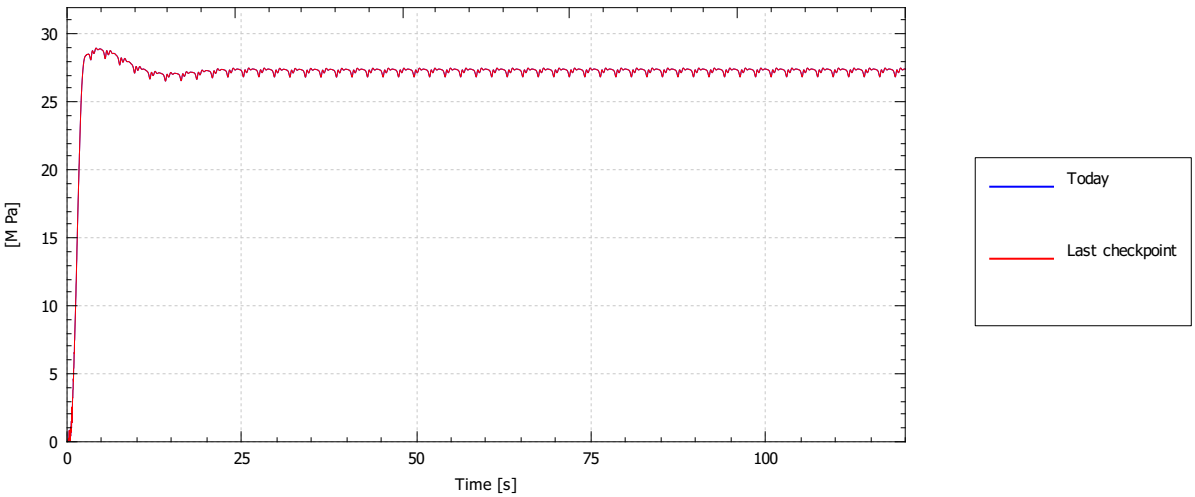
Moment (2nd prin. axis), j



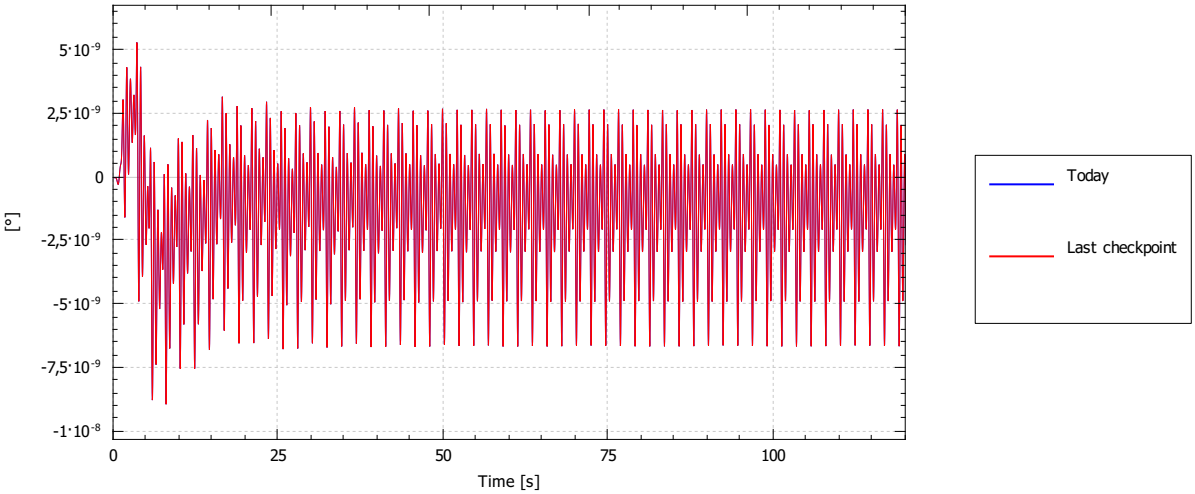
Moment, mag., j



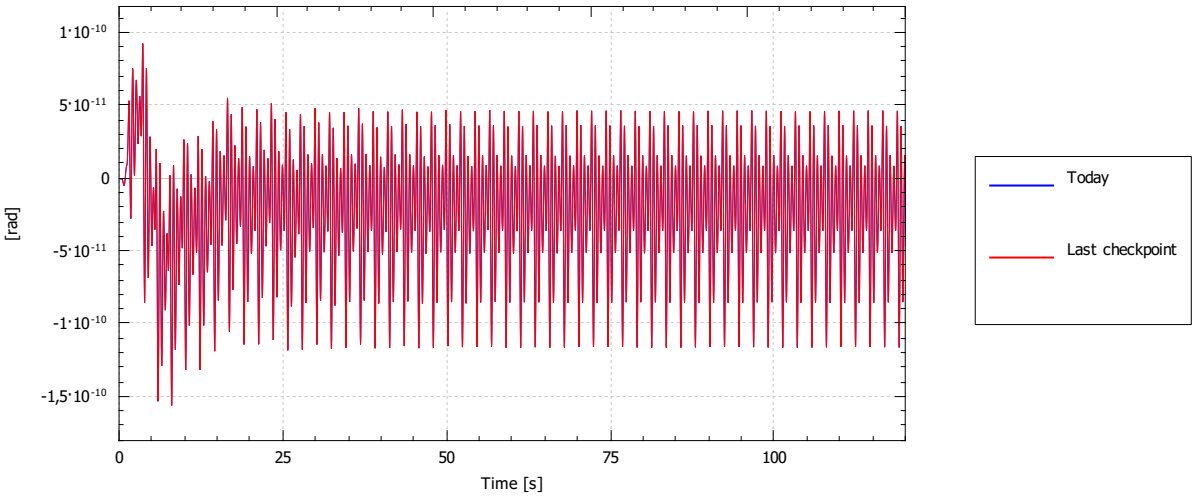
Max normal stress



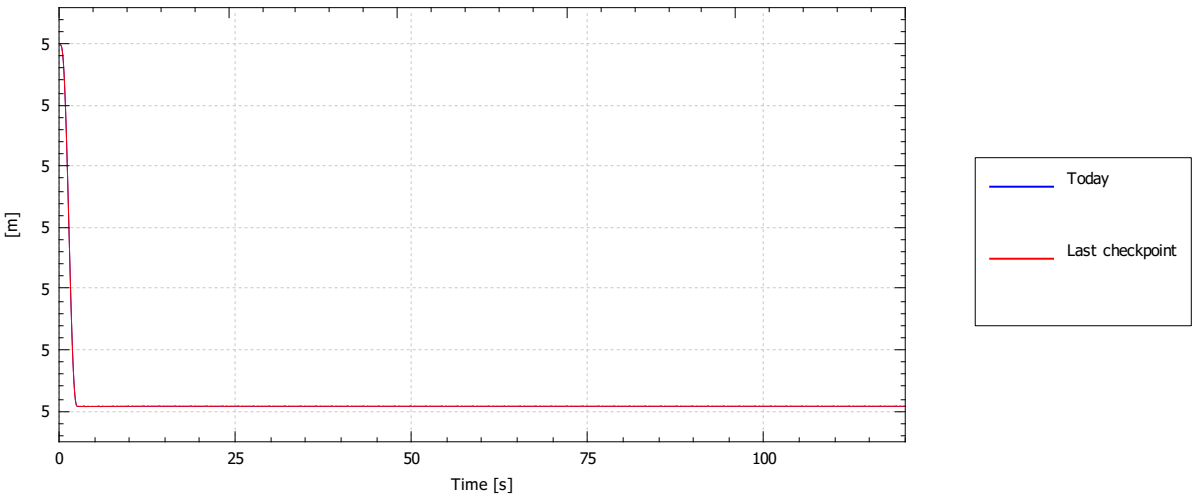
Twist (structural)



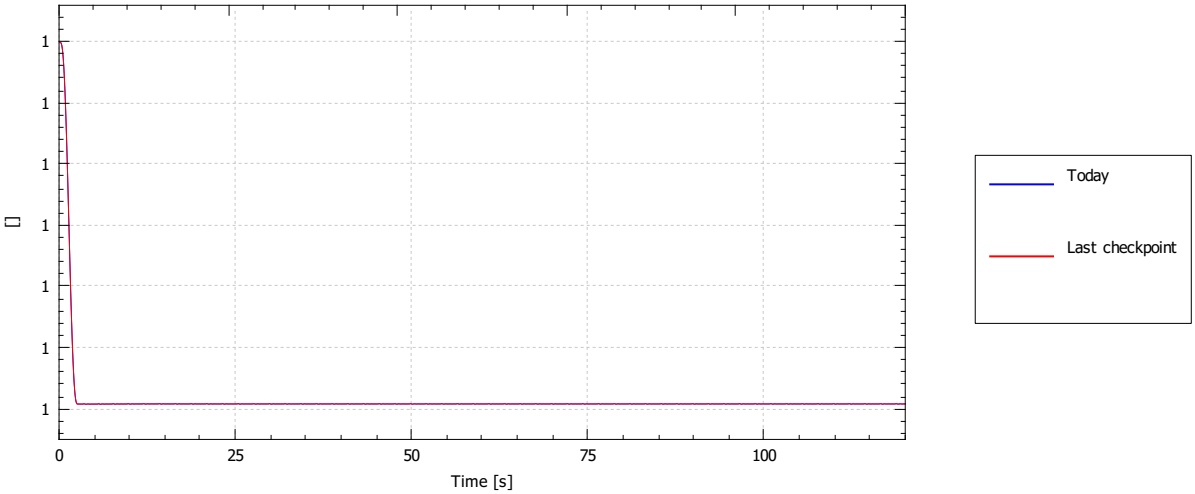
Twist (structural) - rad



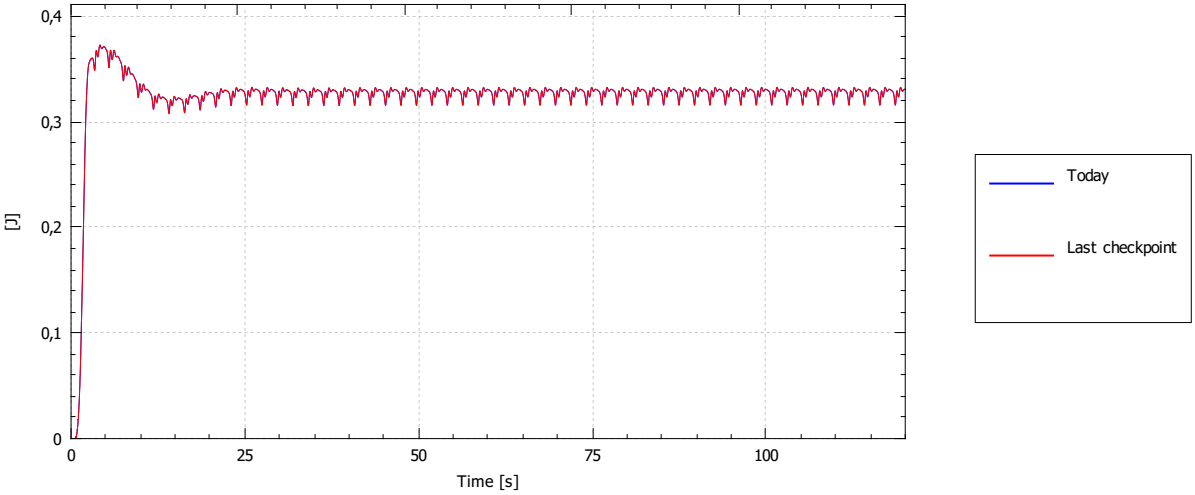
Deformed length



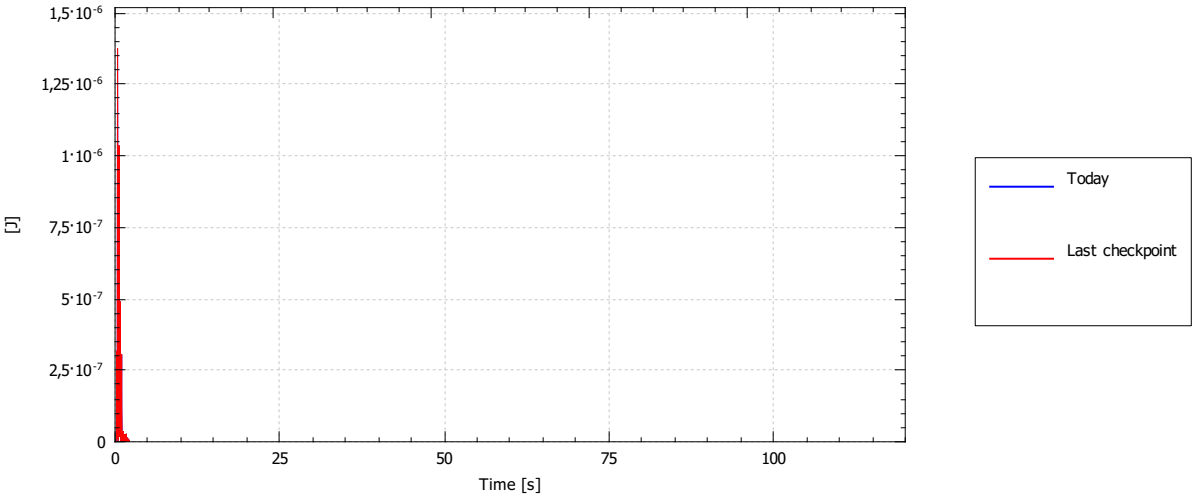
Elongation



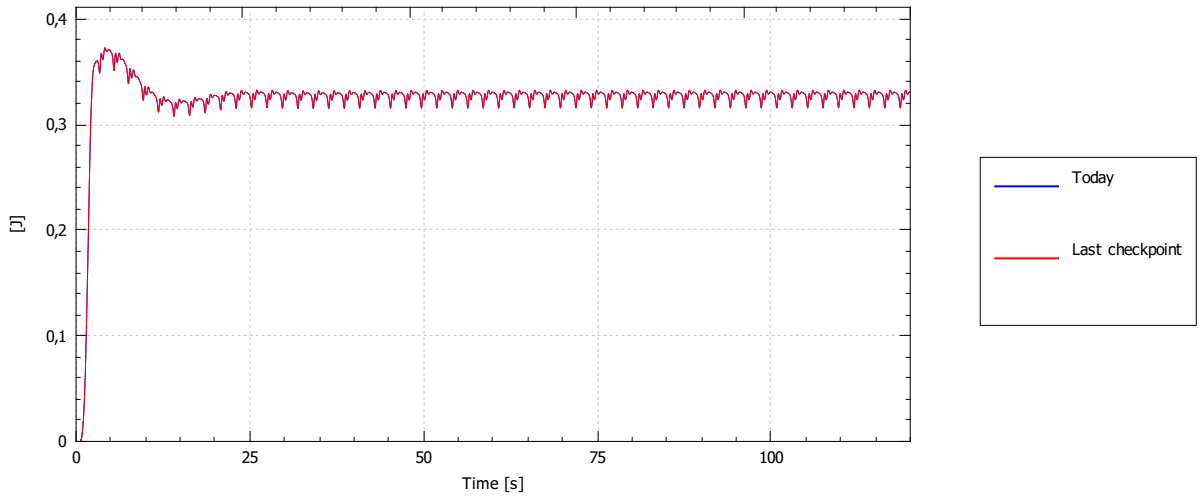
Strain energy



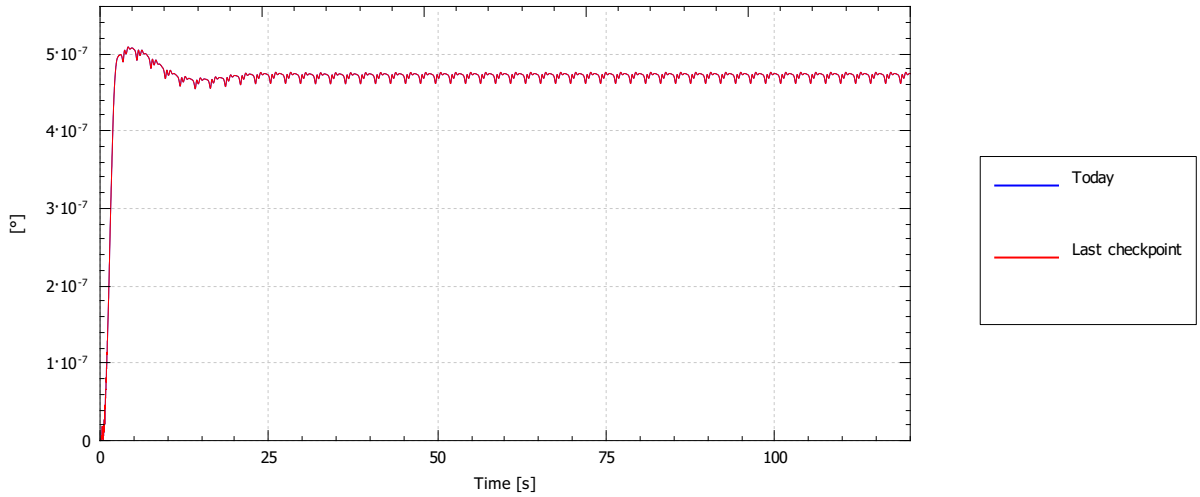
Kinetic energy



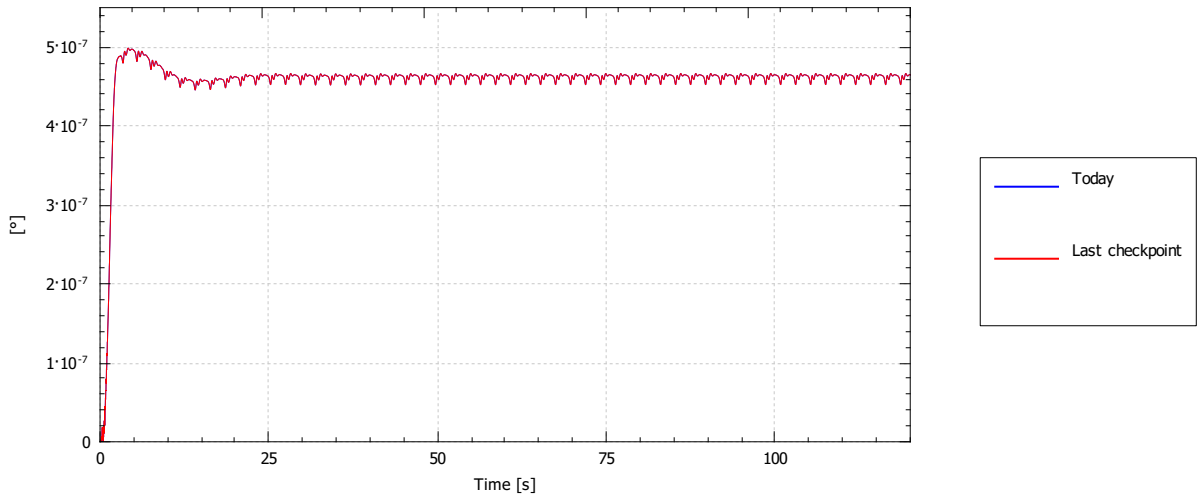
Mechanical energy



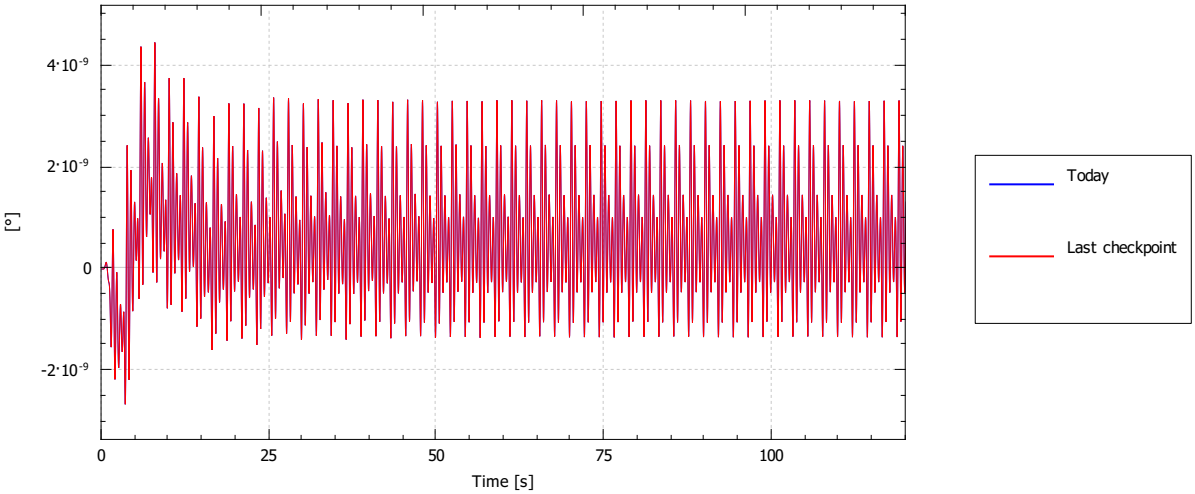
Deformational rotation (i)



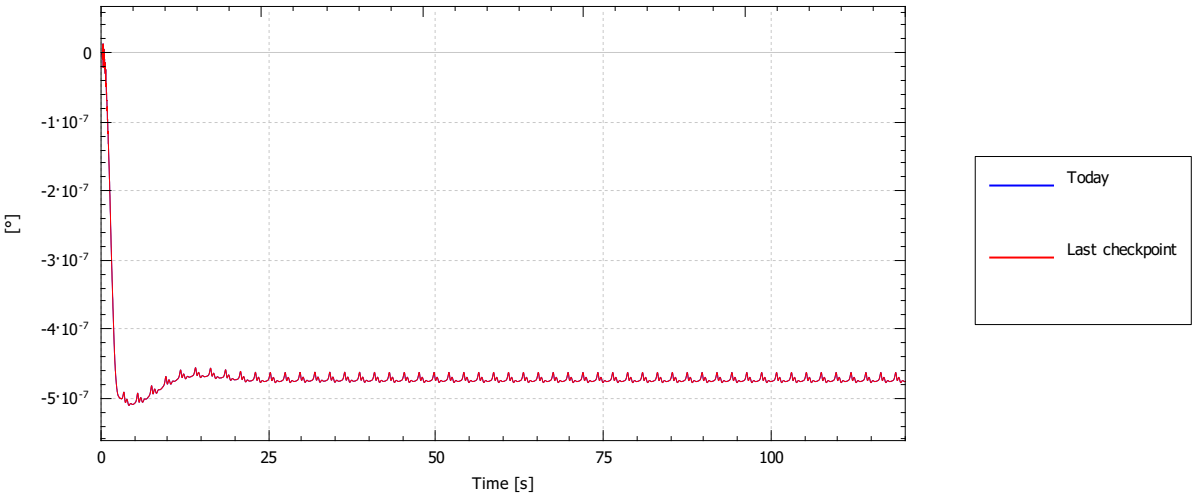
Deformational rotation (j)



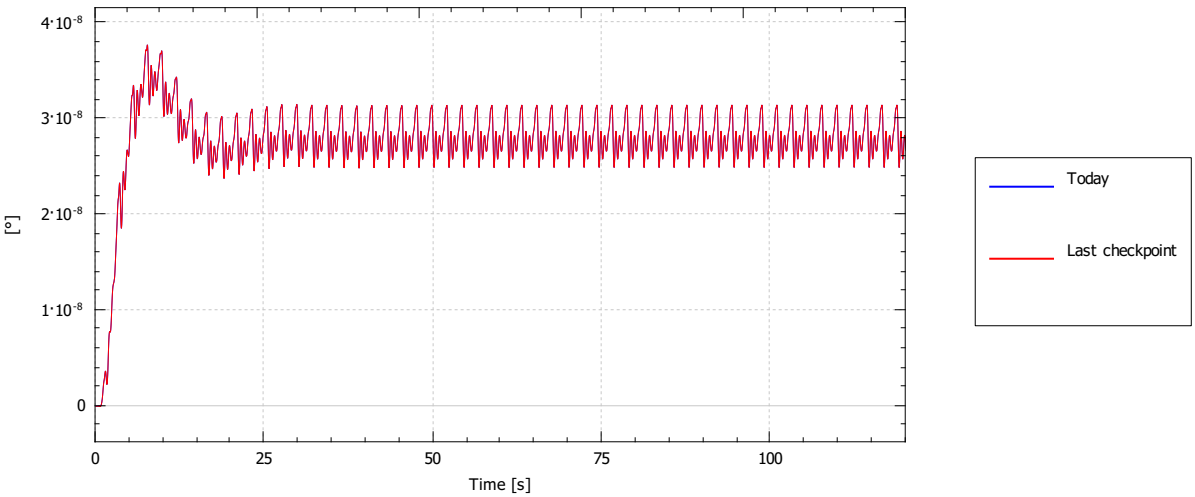
Deformational rotation (axial)



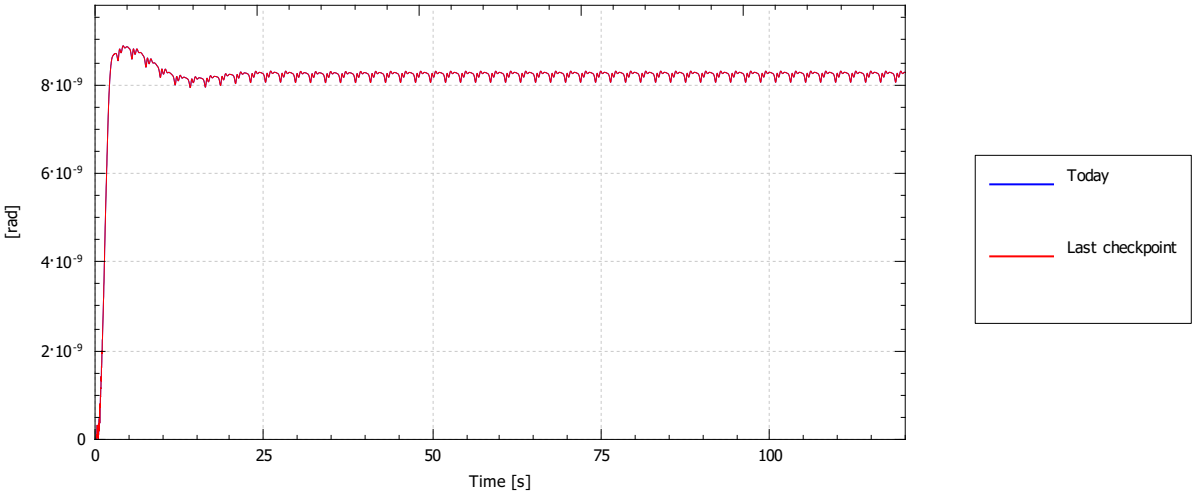
Deformational rotation (1st prin.)



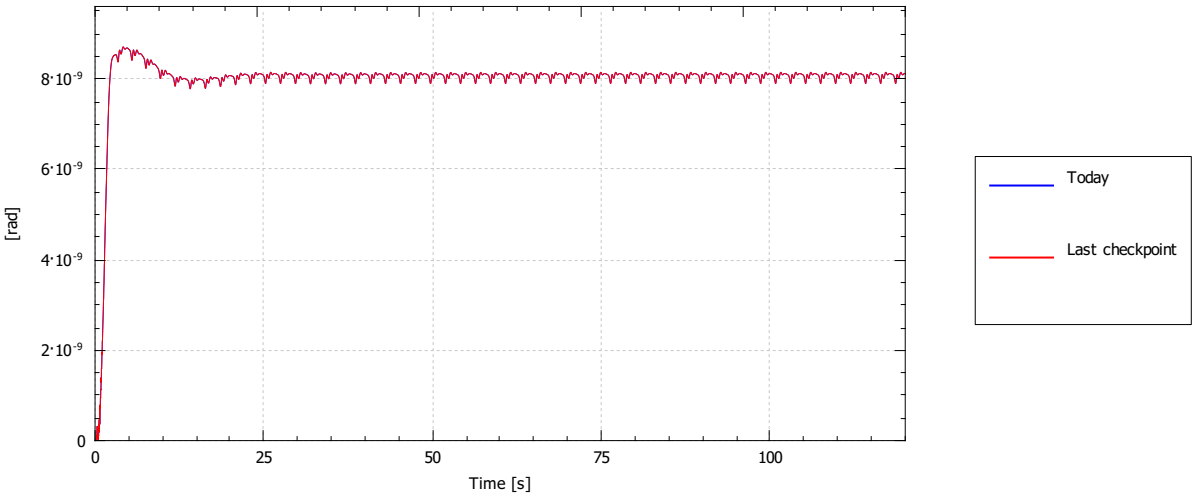
Deformational rotation (2nd prin.)



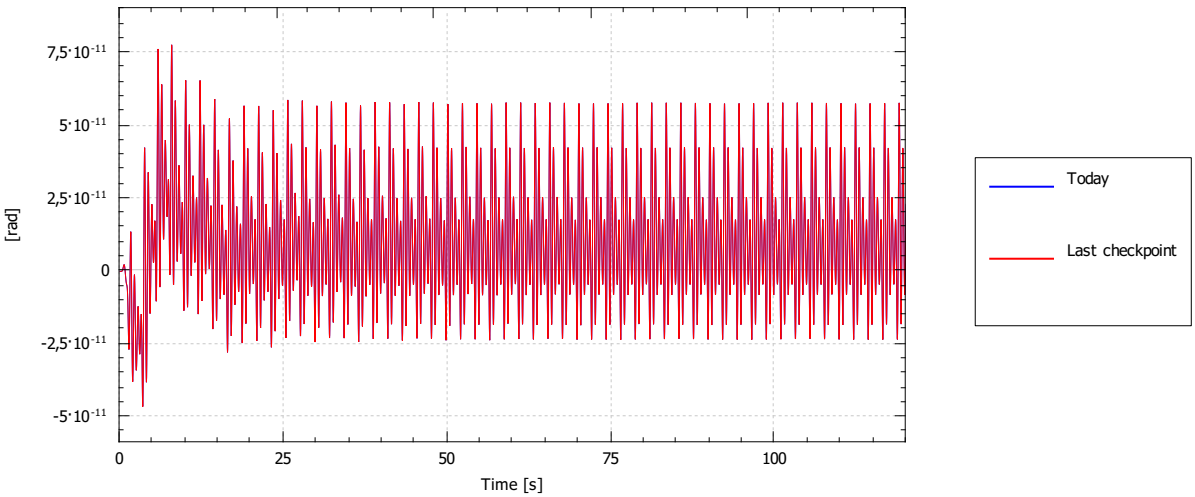
Deformational rotation (i) - rad



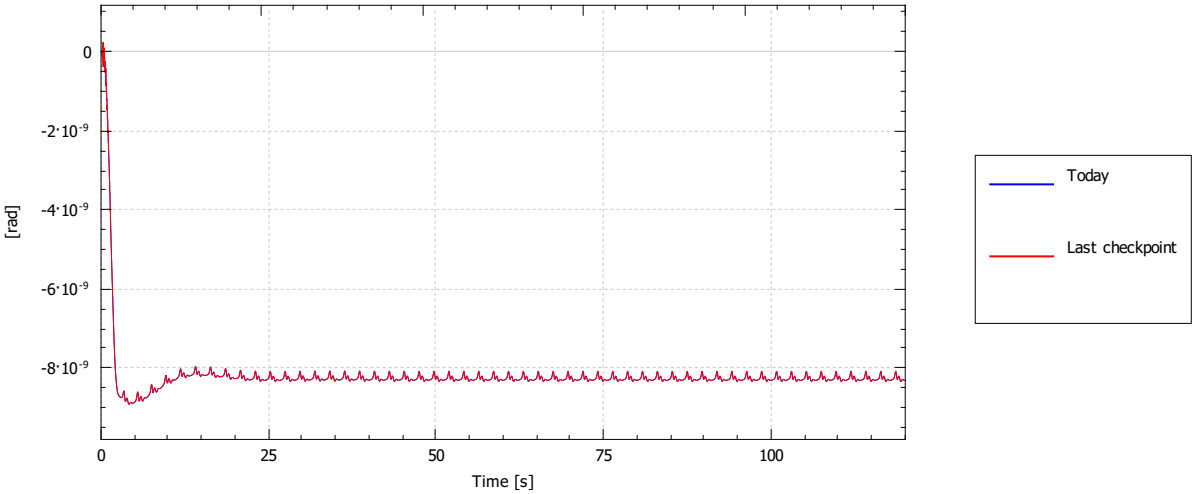
Deformational rotation (j) - rad



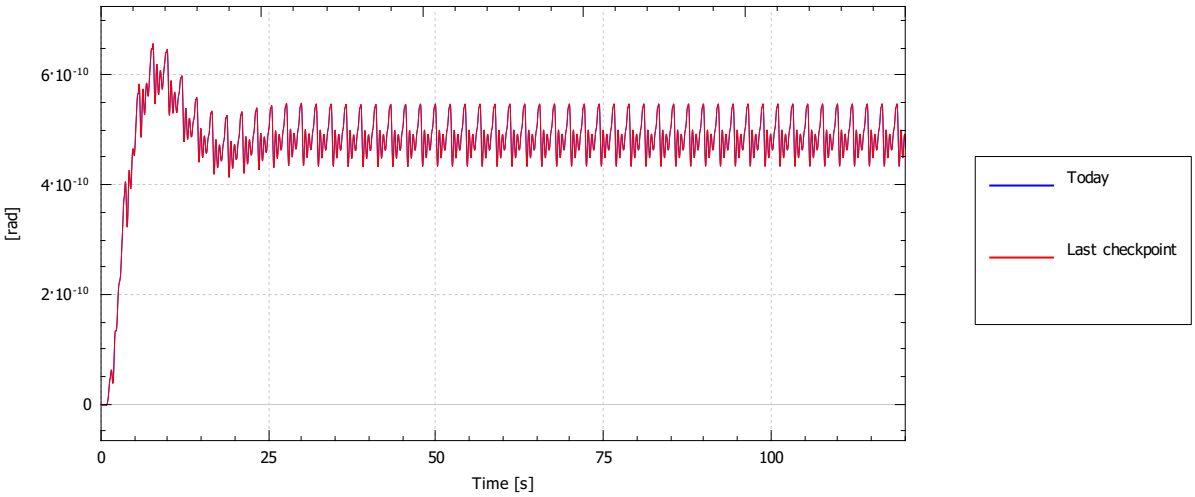
Deformational rotation (axial) - rad



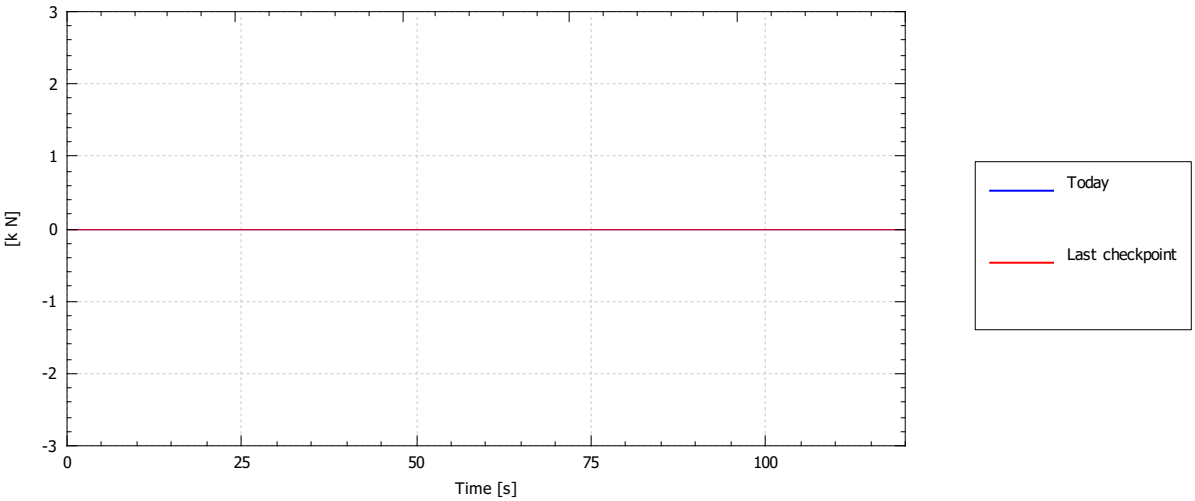
Deformational rotation (1st prin.) - rad



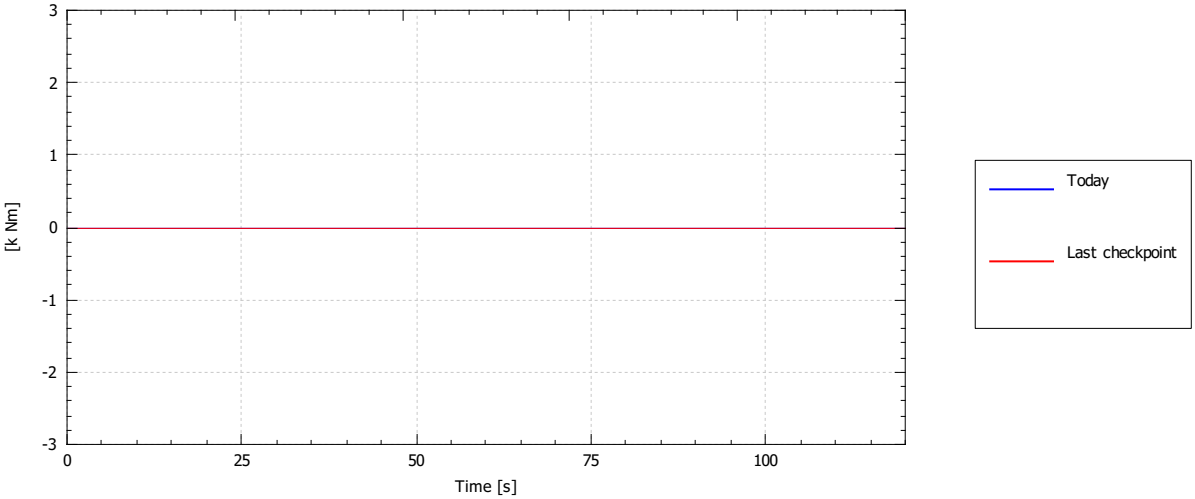
Deformational rotation (2nd prin.) - rad



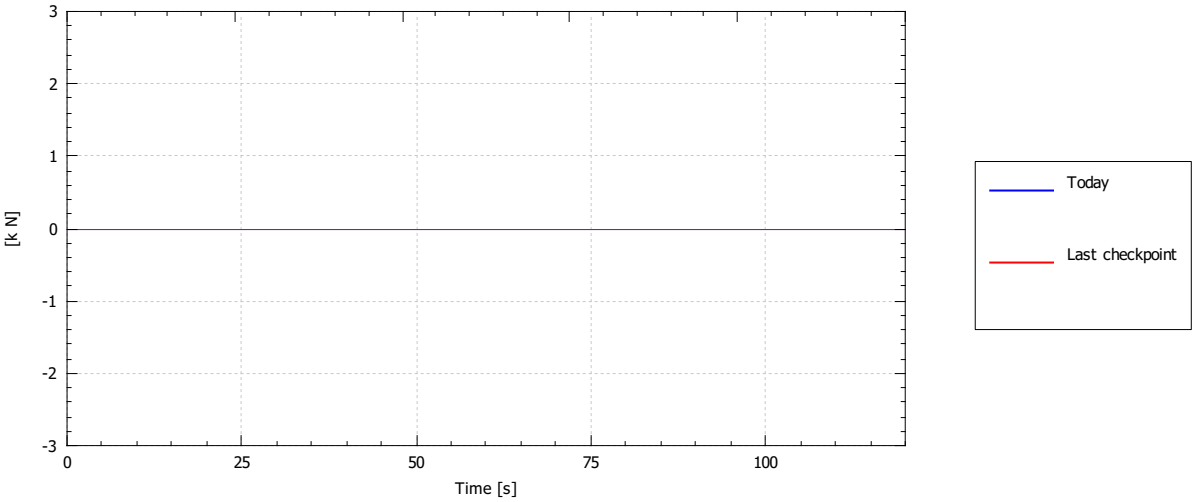
Damping force, i



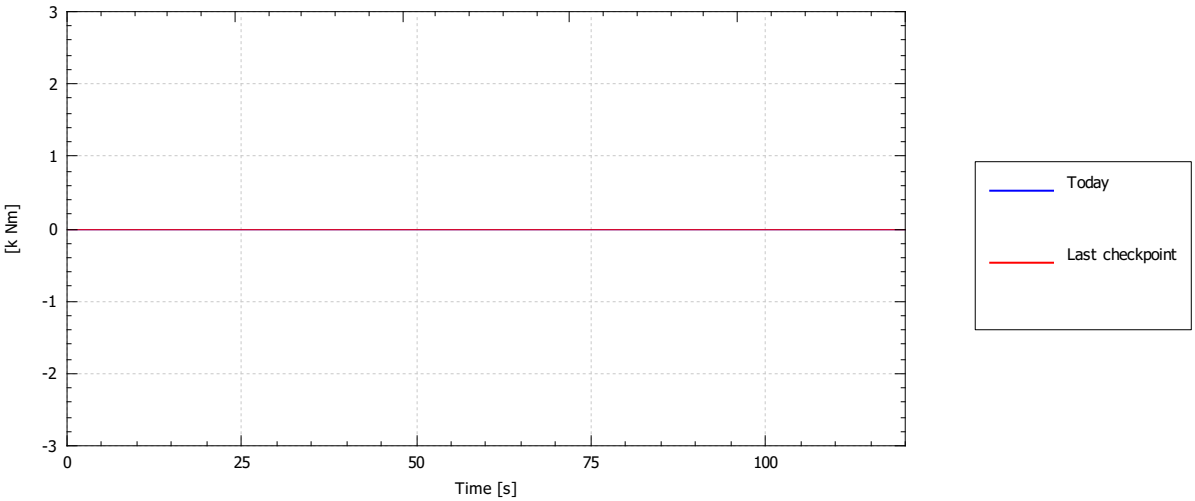
Damping moment, i



Damping force, sum

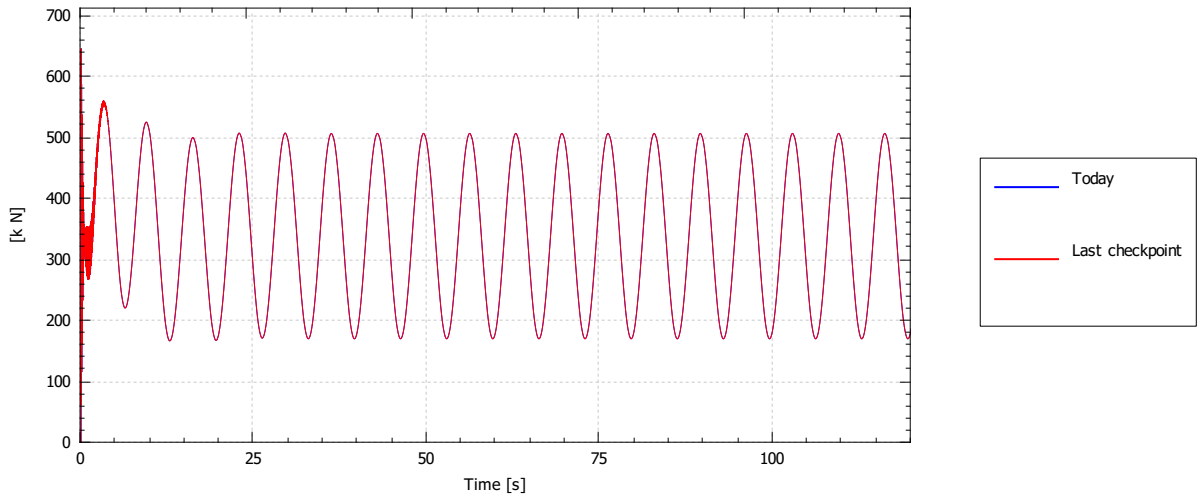


Damping moment, sum

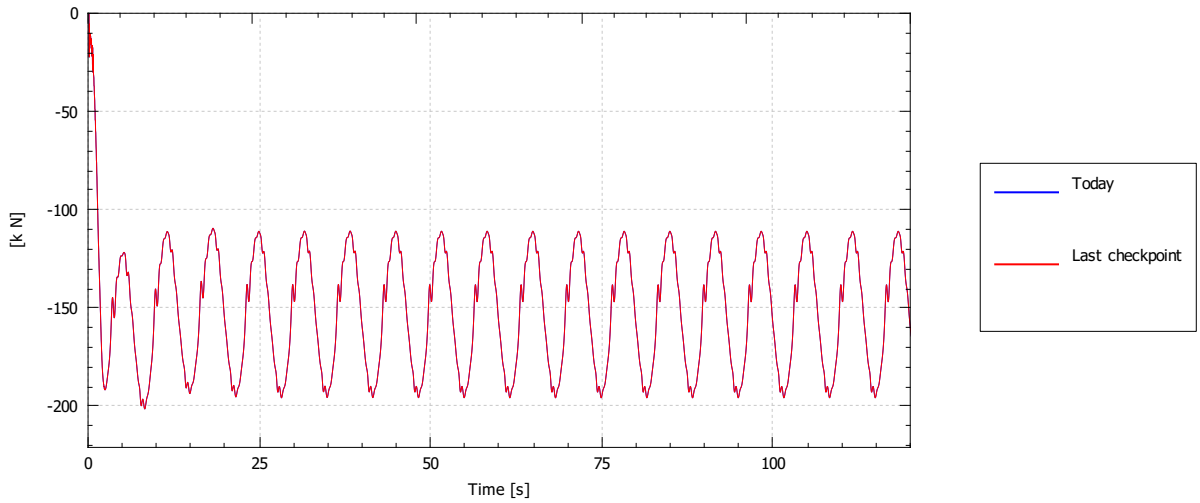


Beam element [Element 1 | Blade 1]

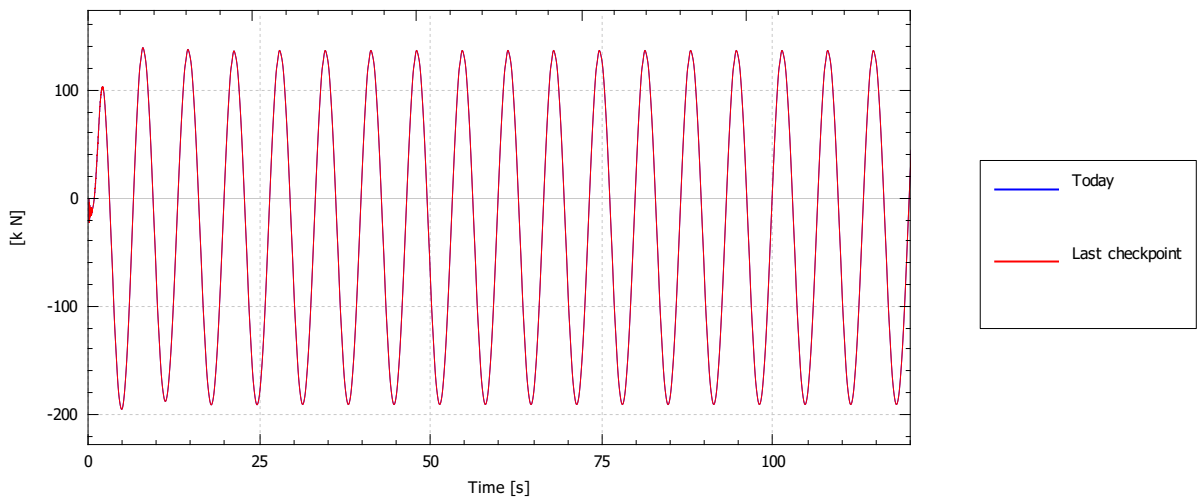
Axial force



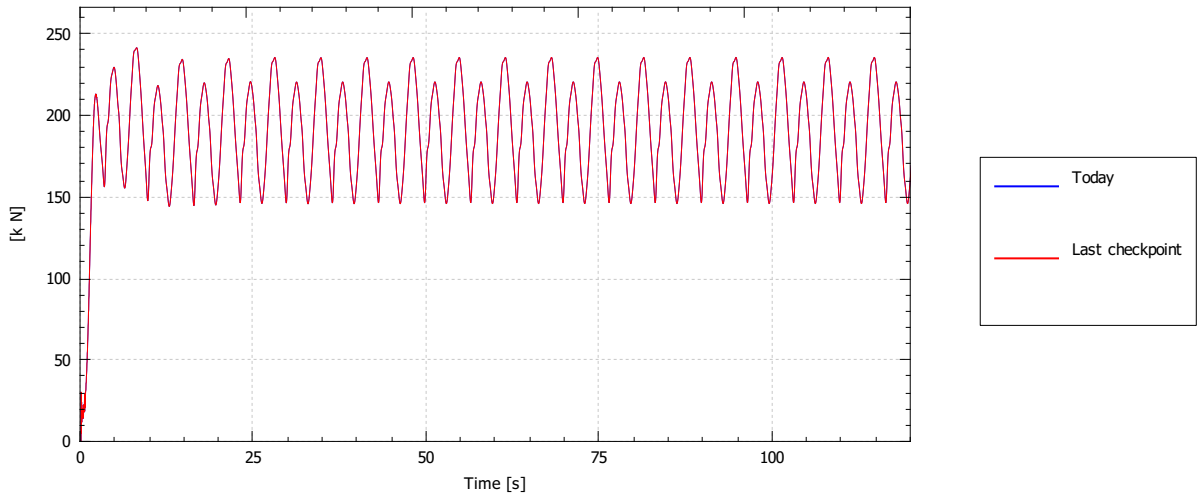
Shear force (1st prin. axis)



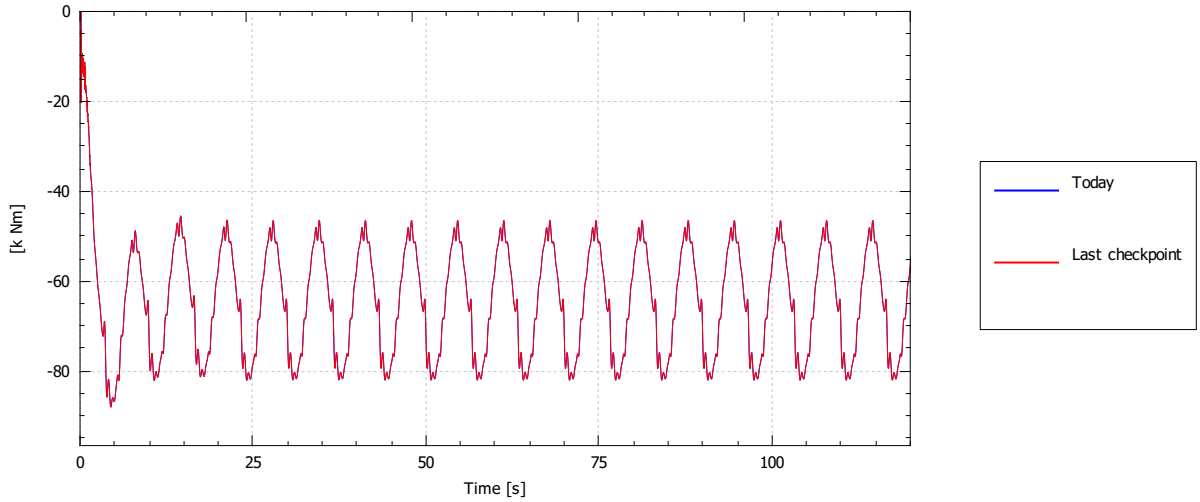
Shear force (2nd prin. axis)



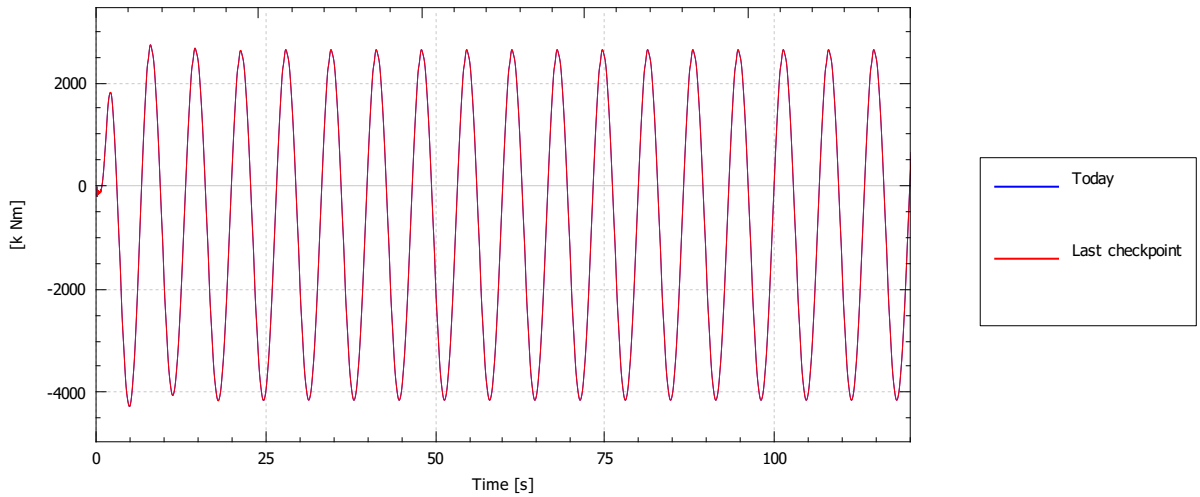
Shear force, mag.



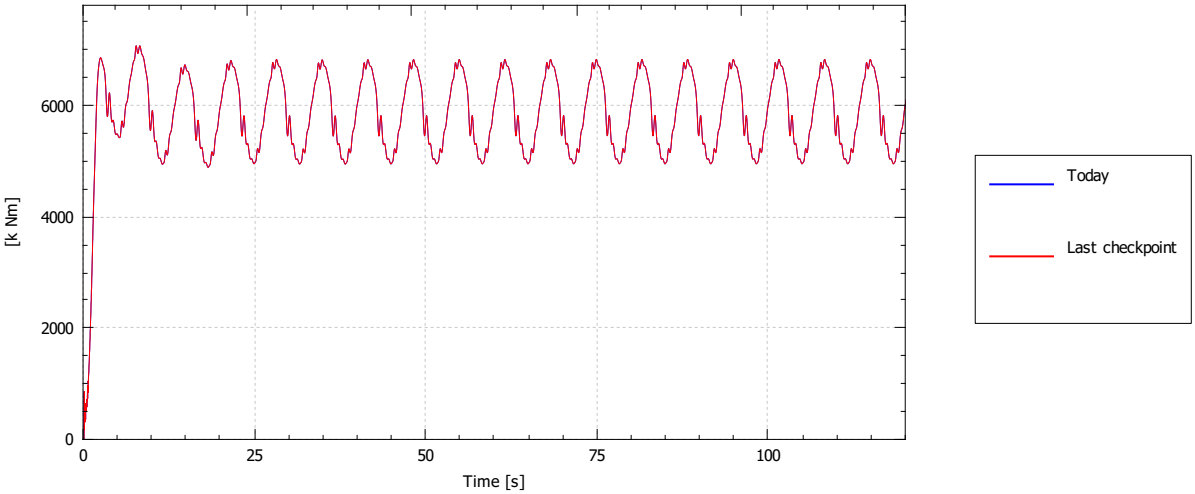
Torque



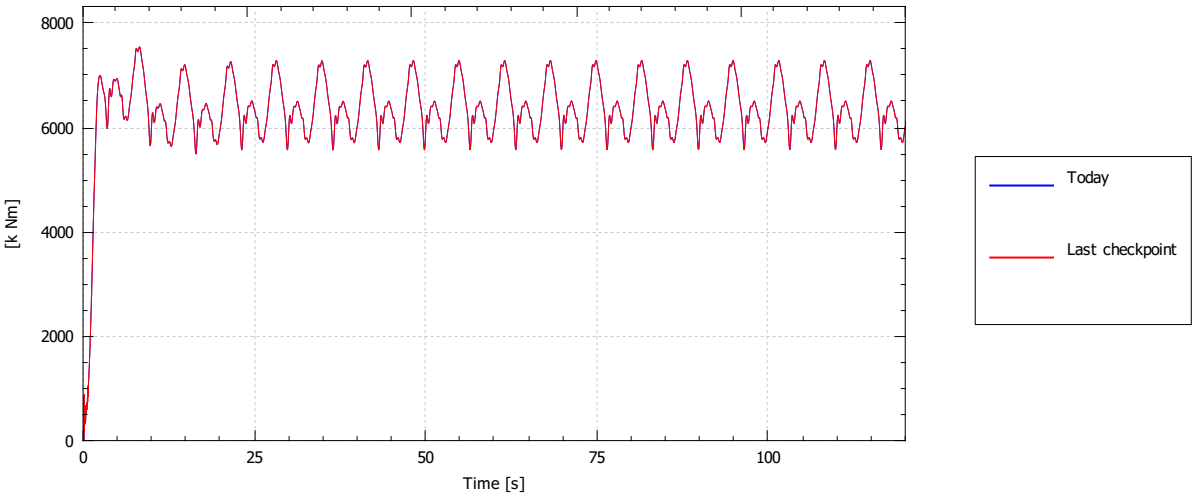
Moment (1st prin. axis), i



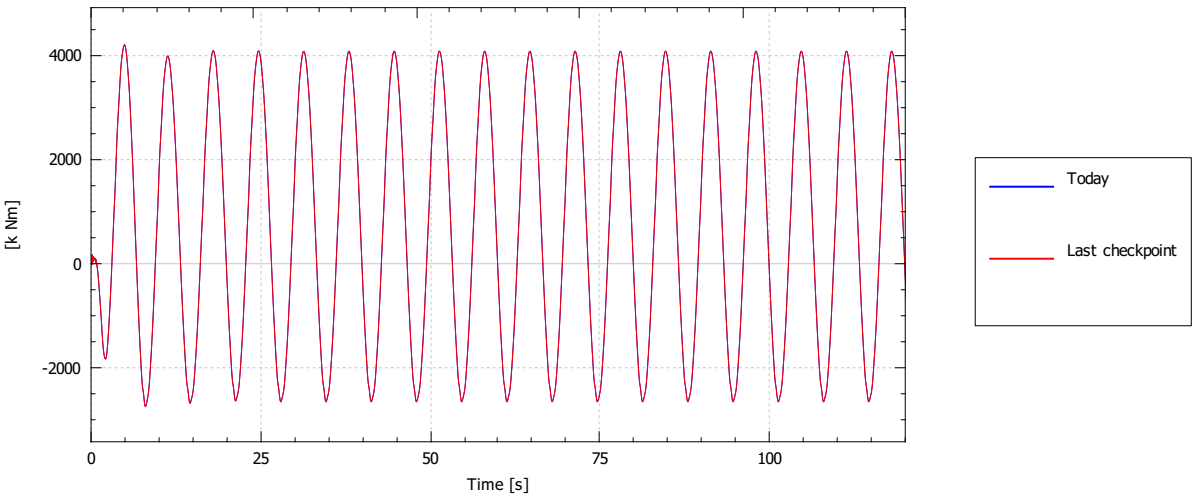
Moment (2nd prin. axis), i

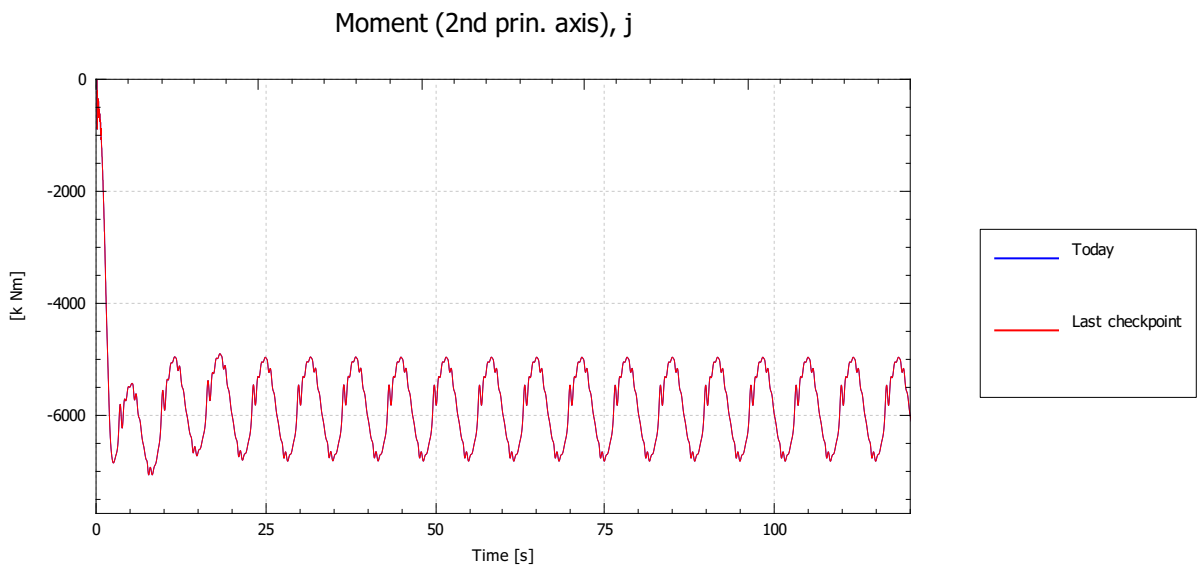


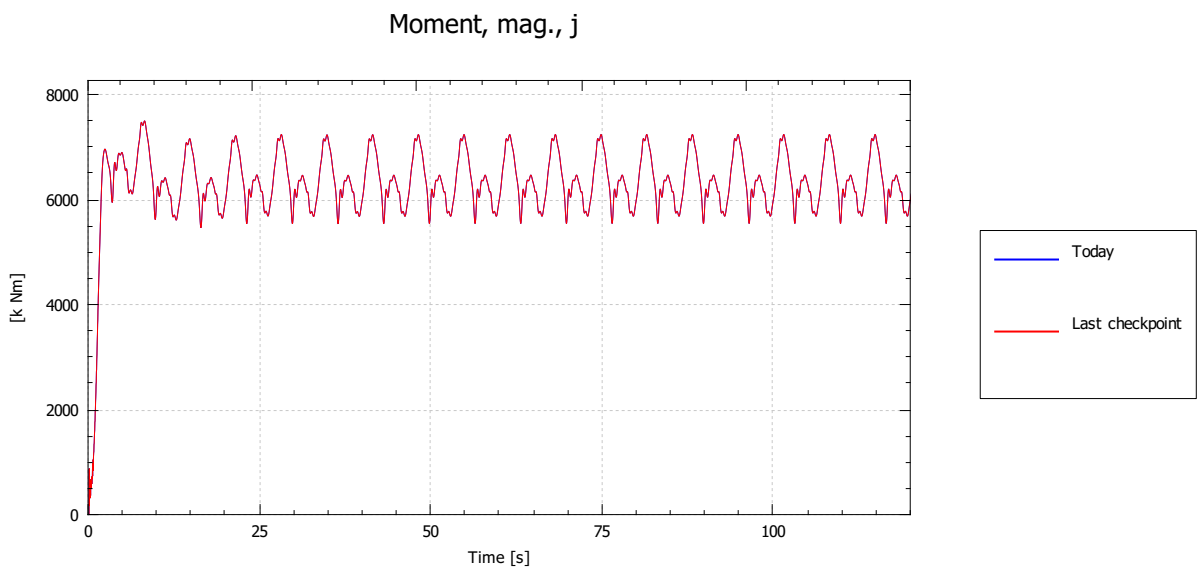
Moment, mag., i

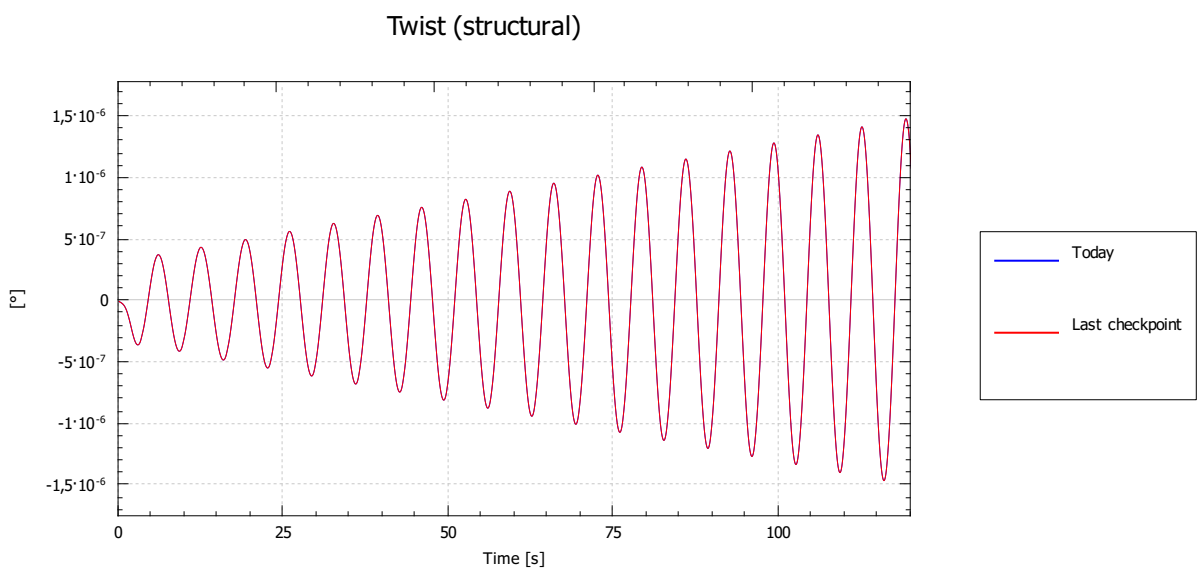


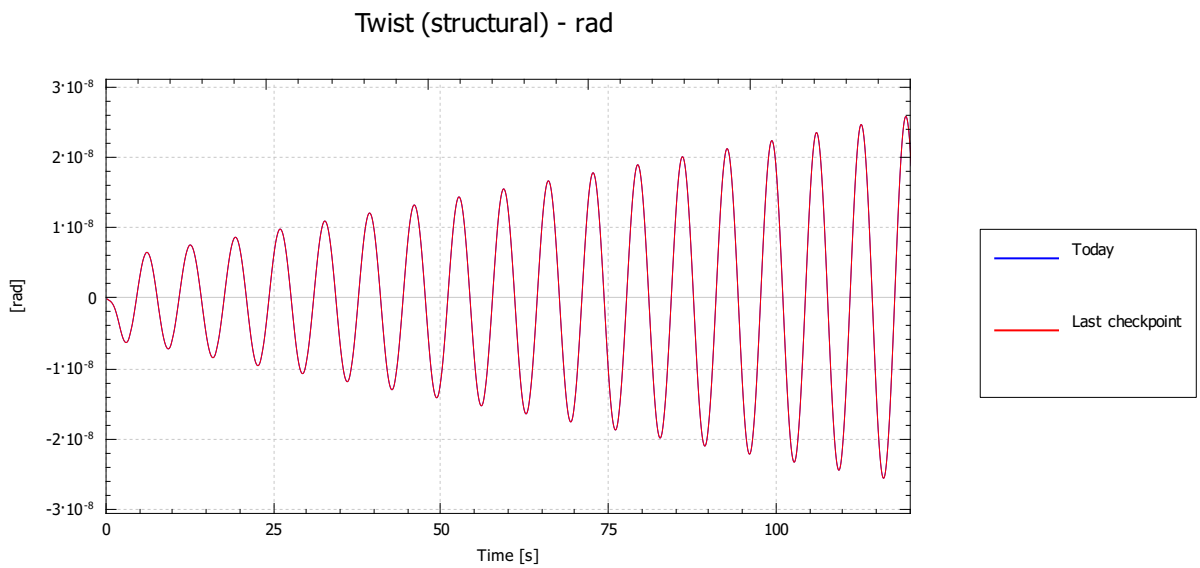
Moment (1st prin. axis), j

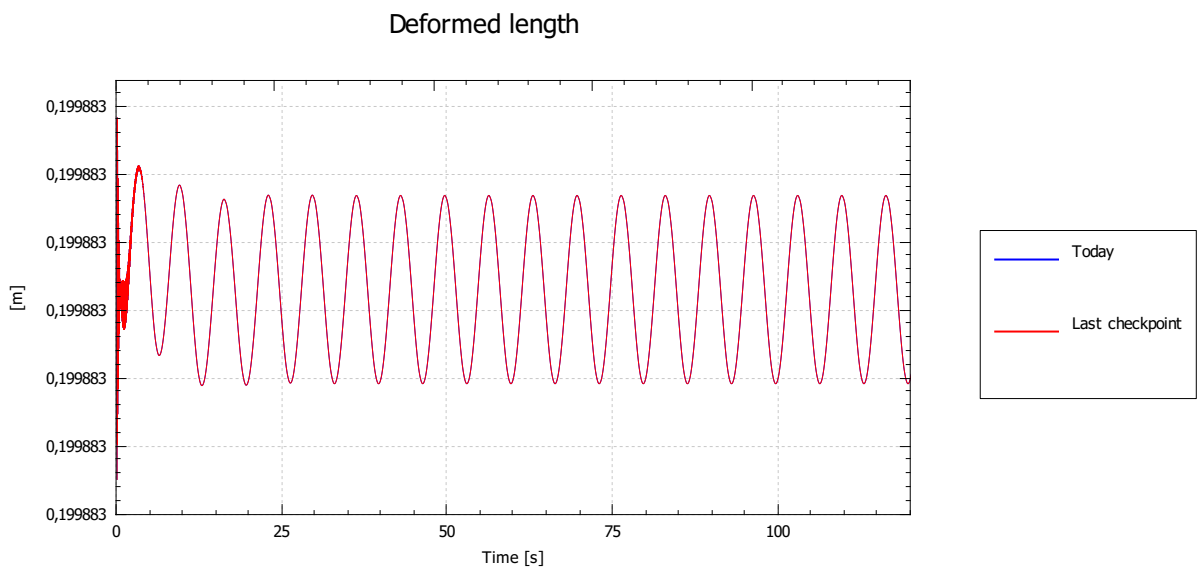


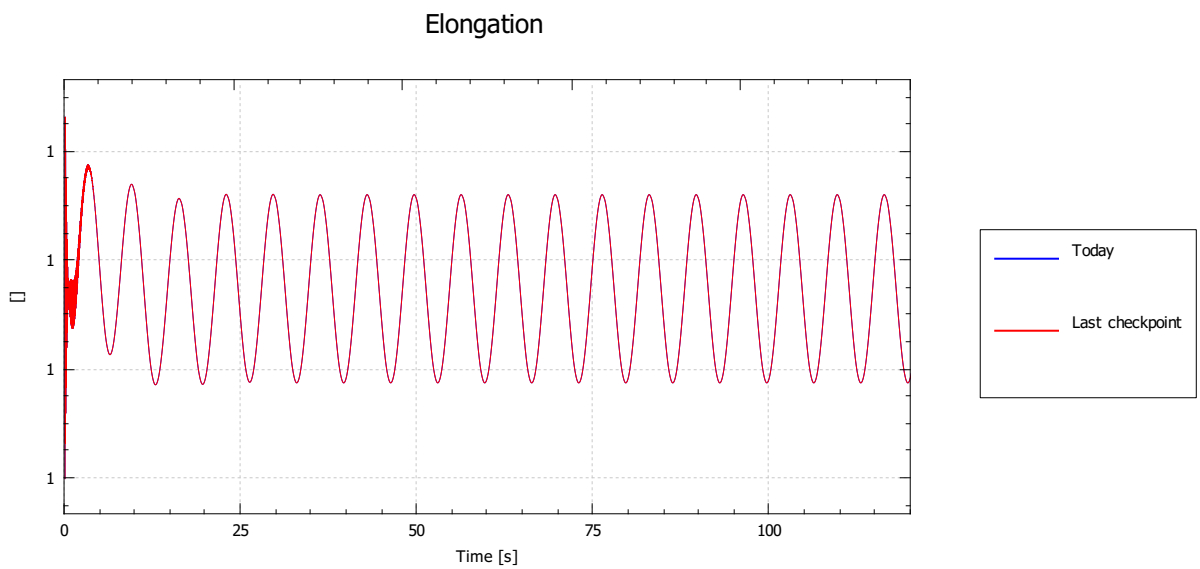

Moment (2nd prin. axis), j
0
-2000
-4000
-6000
[k Nm]
0
25
50
75
100
Time [s]
Today
Last checkpoint

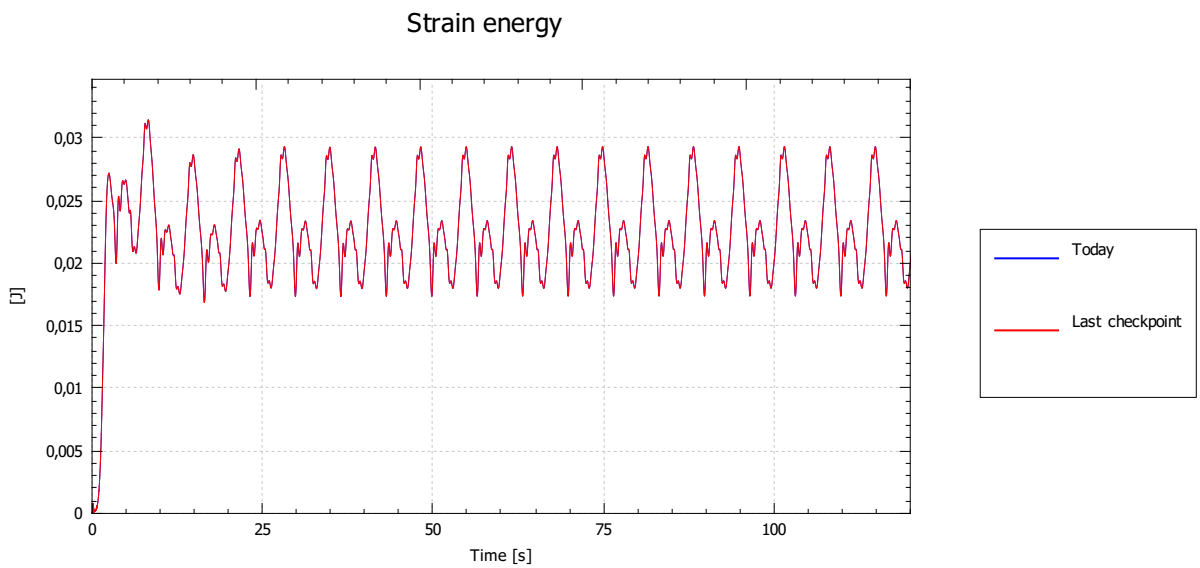

Moment, mag., j
8000
6000
4000
2000
0
[k Nm]
0
25
50
75
100
Time [s]
Today
Last checkpoint

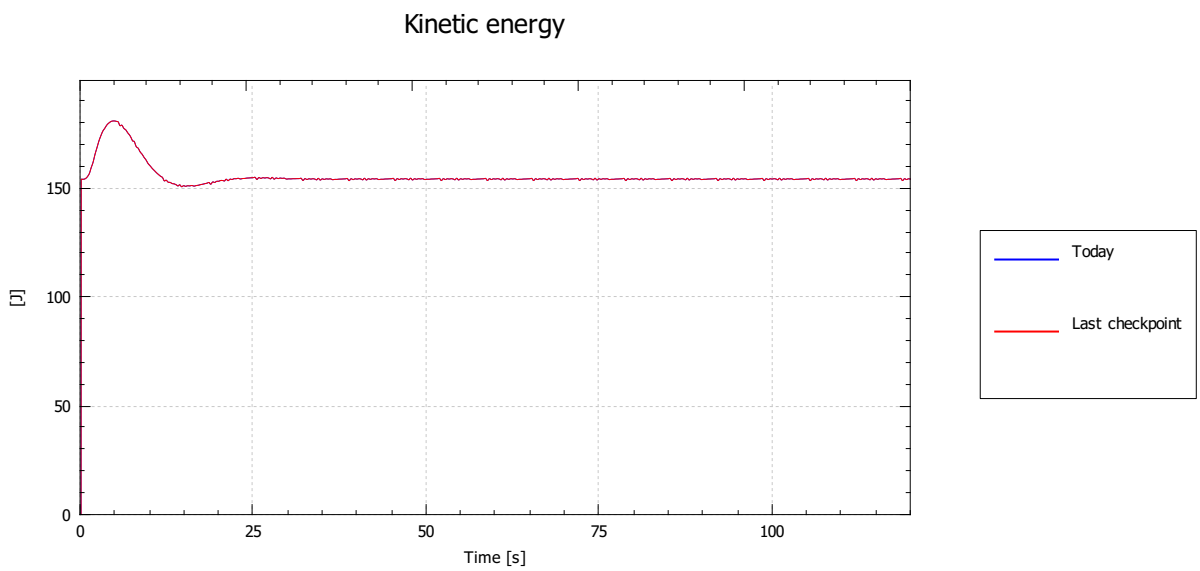

Twist (structural)
1,5·10-6
1·10-6
5·10-7
0
-5·10-7
-1·10-6
-1,5·10-6
[°]
0
25
50
75
100
Time [s]
Today
Last checkpoint

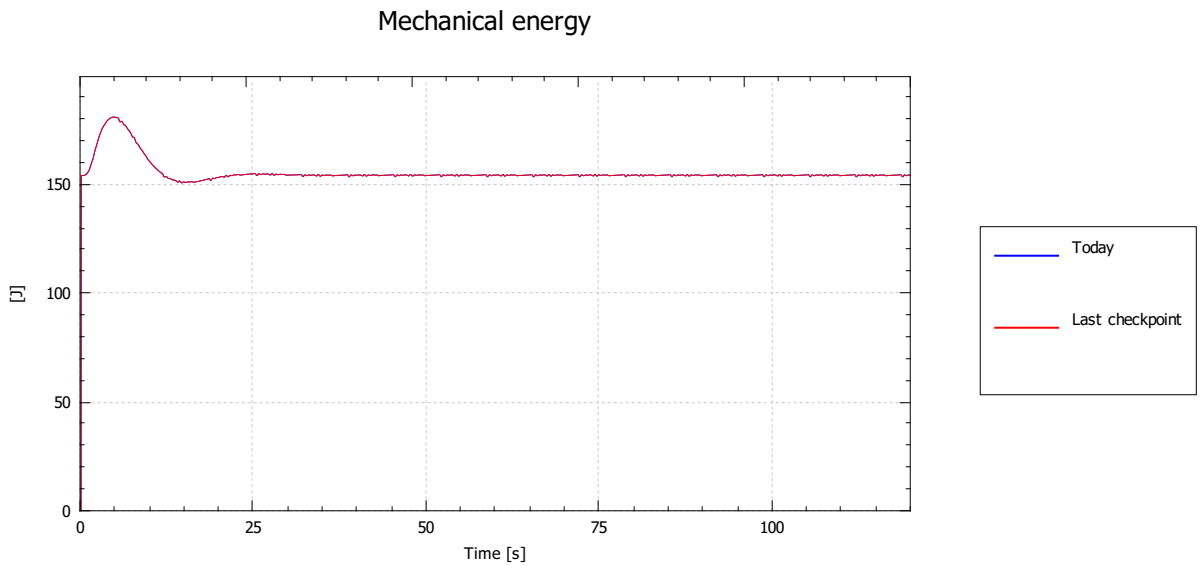

Twist (structural) - rad
3·10-8
2·10-8
1·10-8
0
-1·10-8
-2·10-8
-3·10-8
[rad]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Deformed length
0,199883
0,199883
0,199883
0,199883
0,199883
0,199883
0,199883
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

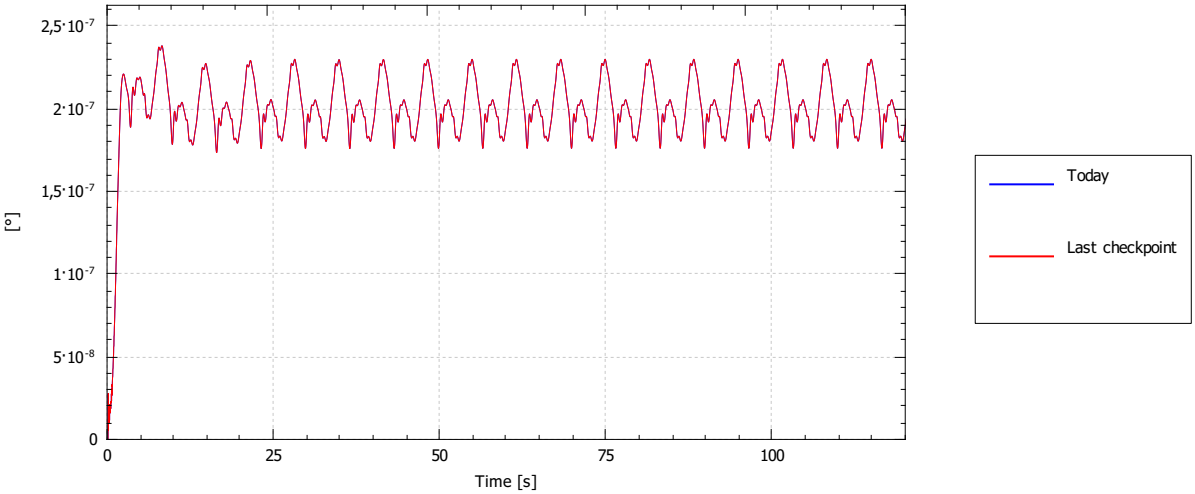

Elongation
1
1
1
1
[]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Strain energy
0,03
0,025
0,02
0,015
0,01
0,005
0
[J]
0
25
50
75
100
Time [s]
Today
Last checkpoint

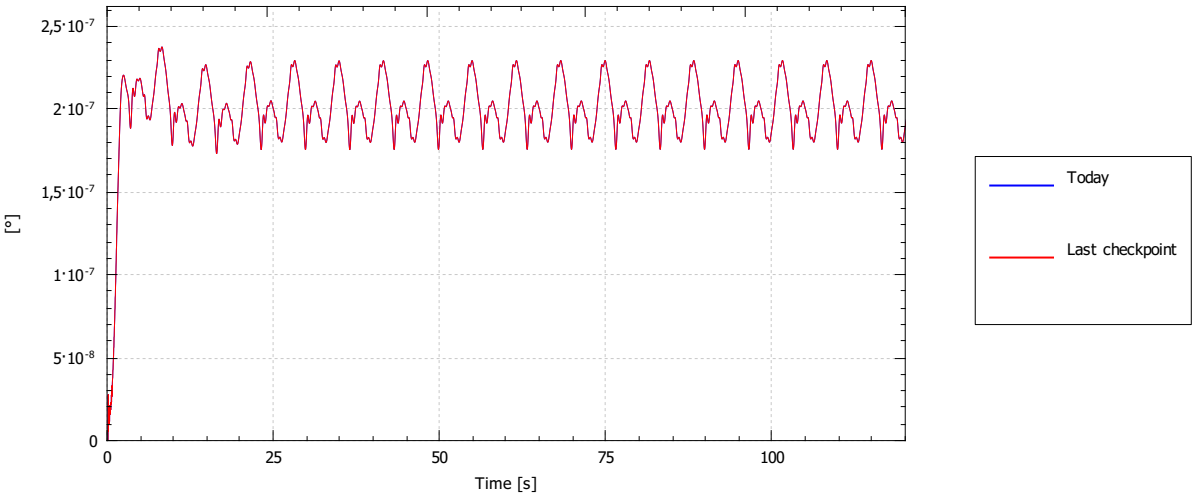

Kinetic energy
150
100
50
0
[J]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Mechanical energy
150
100
50
0
[J]
0
25
50
75
100
Time [s]
Today
Last checkpoint

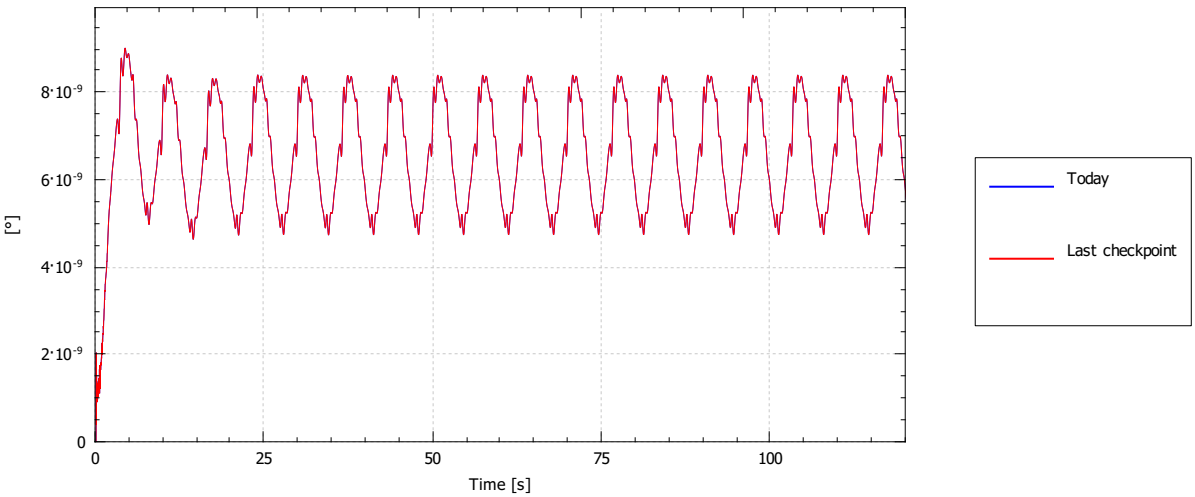
Deformational rotation (i)



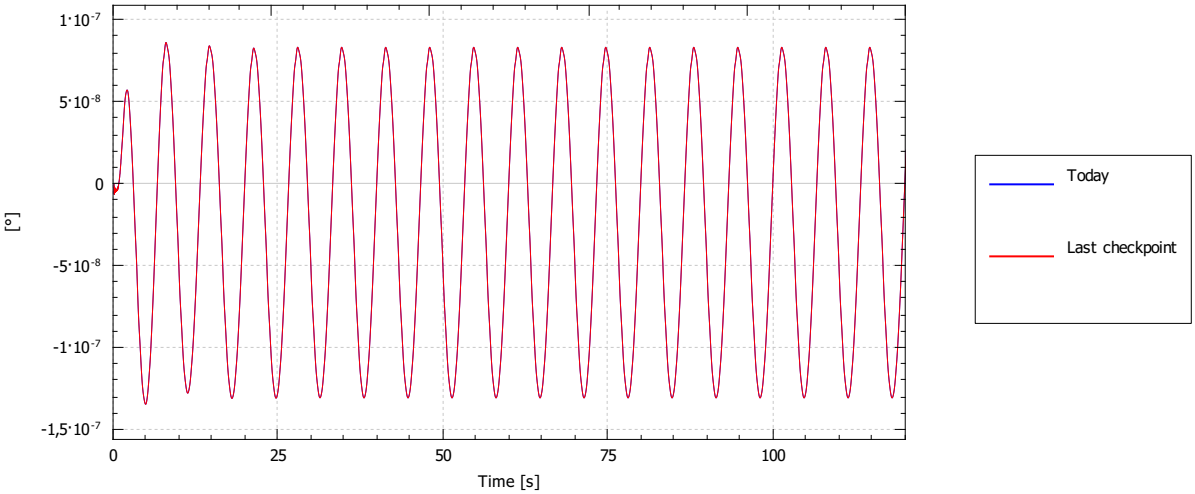
Deformational rotation (j)



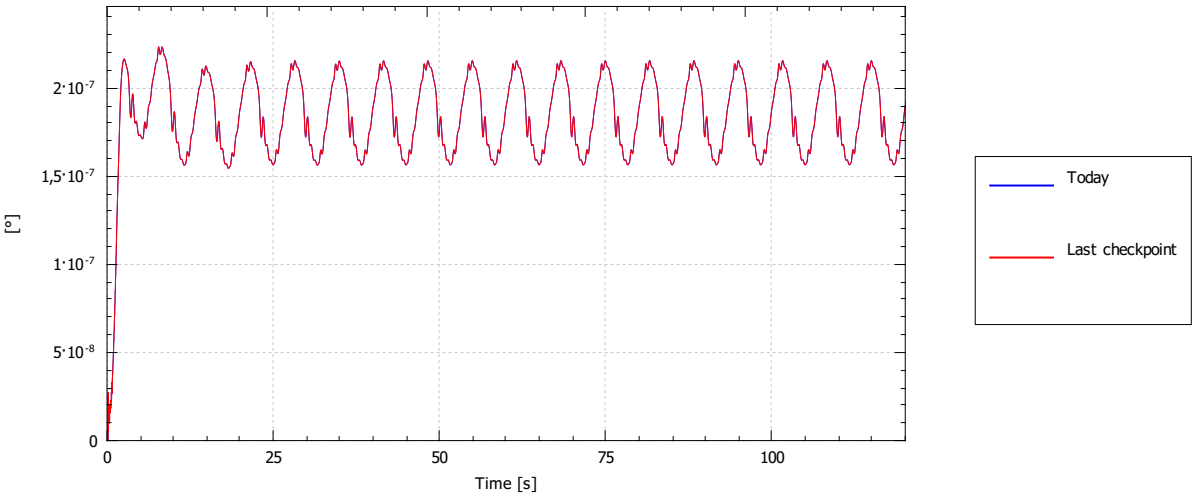
Deformational rotation (axial)



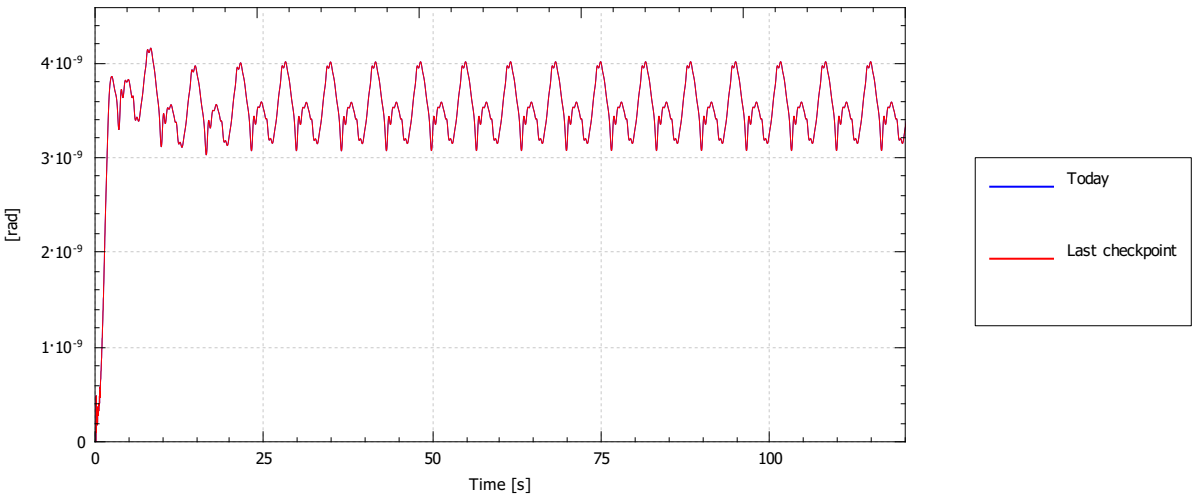
Deformational rotation (1st prin.)



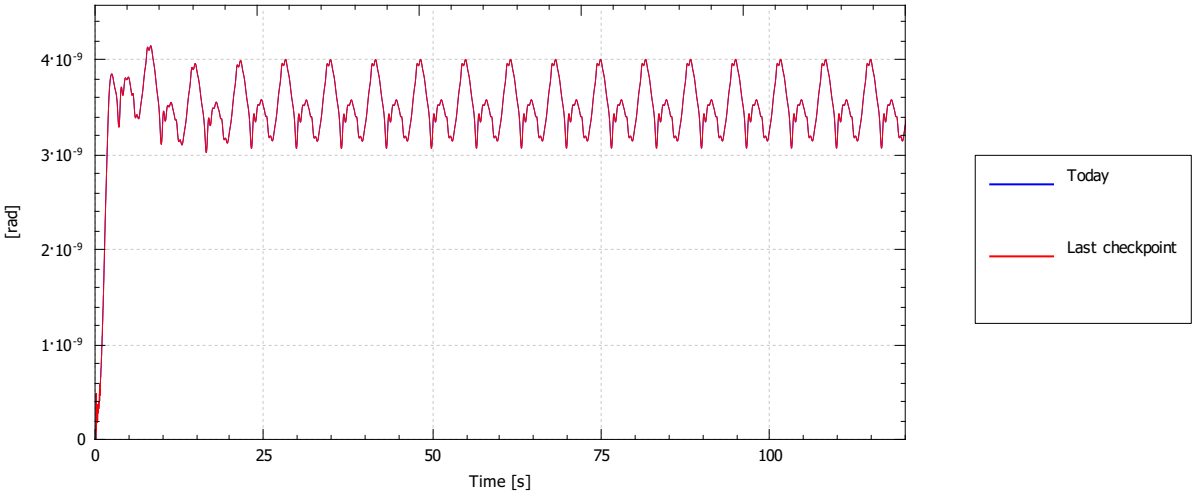
Deformational rotation (2nd prin.)



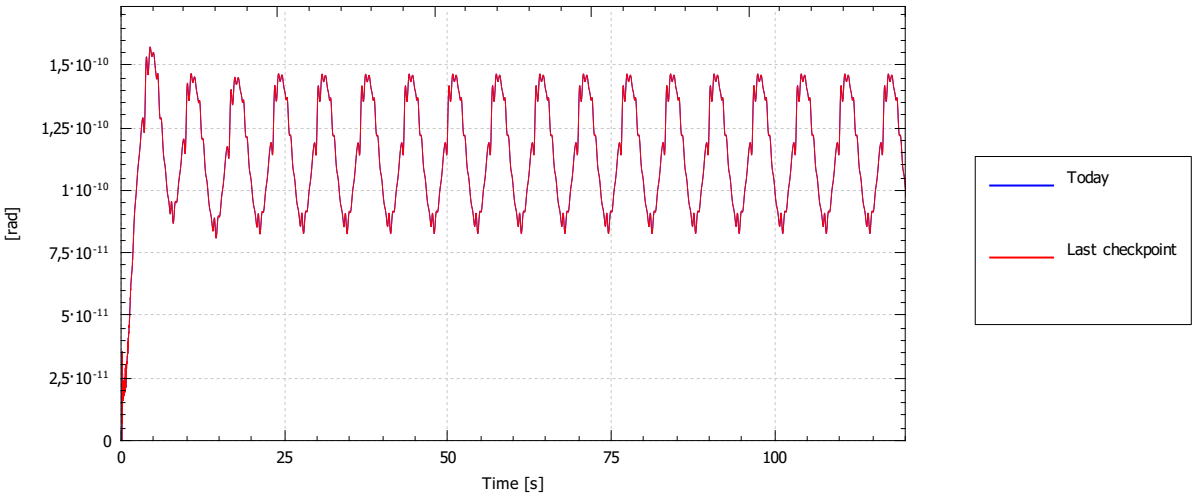
Deformational rotation (i) - rad



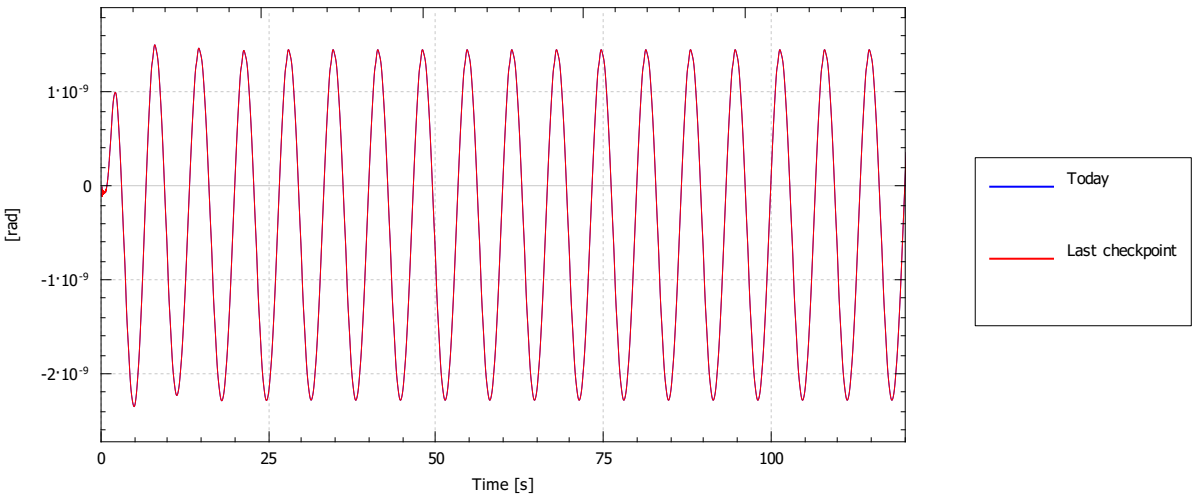
Deformational rotation (j) - rad



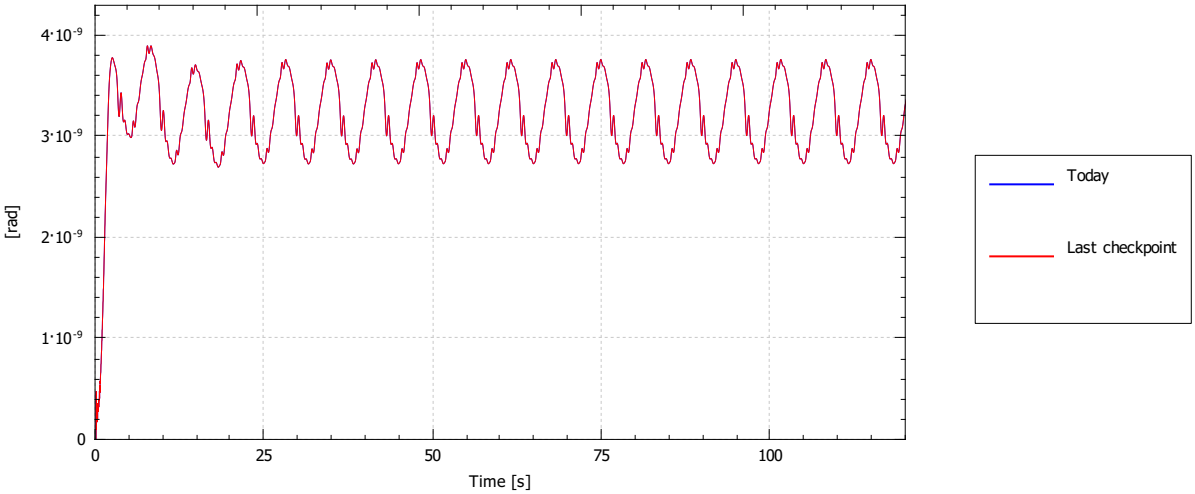
Deformational rotation (axial) - rad



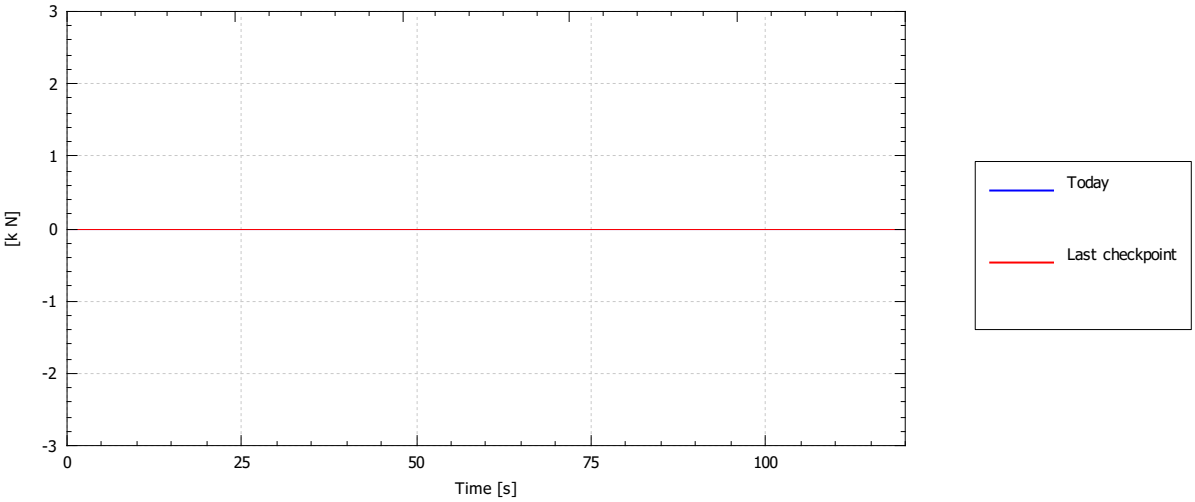
Deformational rotation (1st prin.) - rad



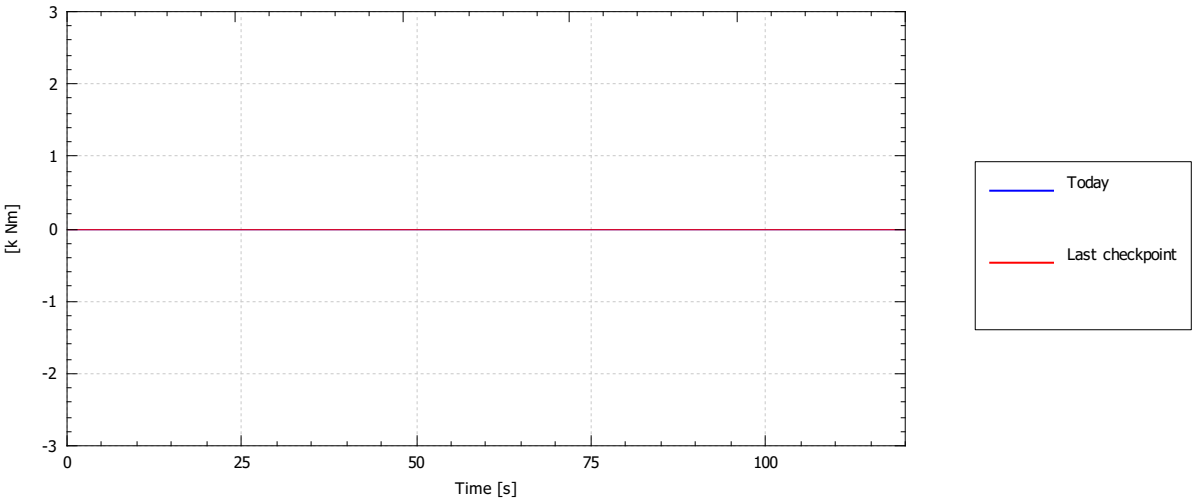
Deformational rotation (2nd prin.) - rad

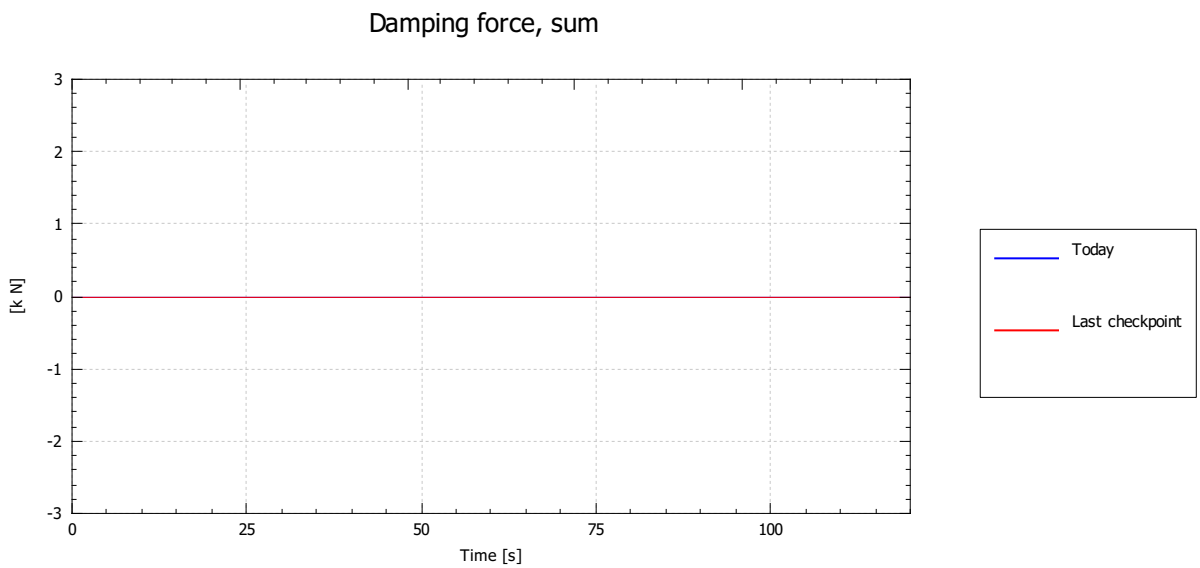


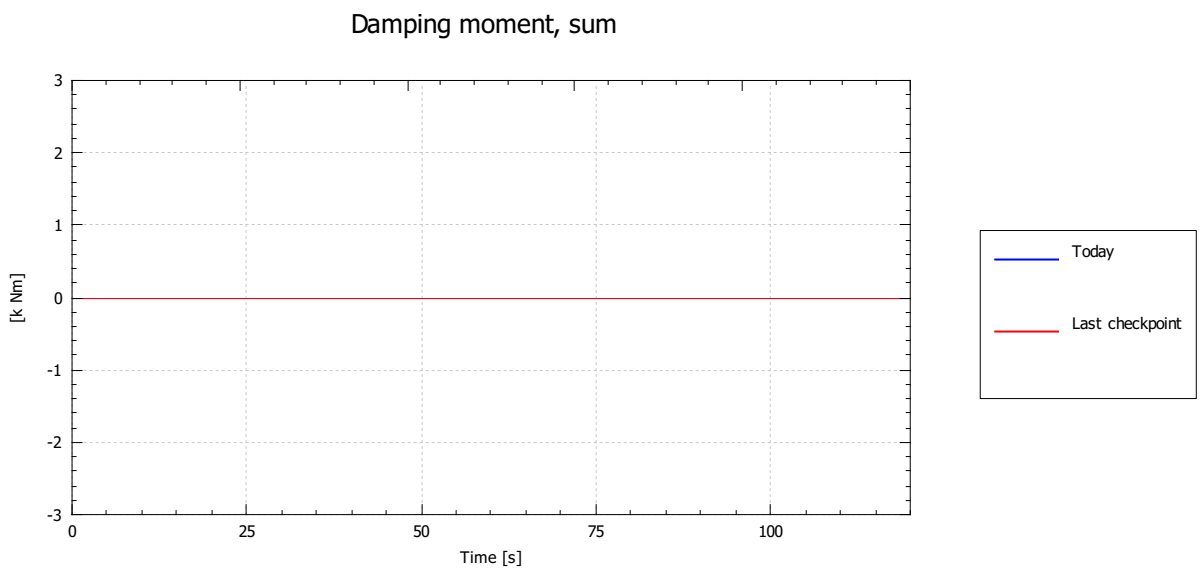
Damping force, i



Damping moment, i

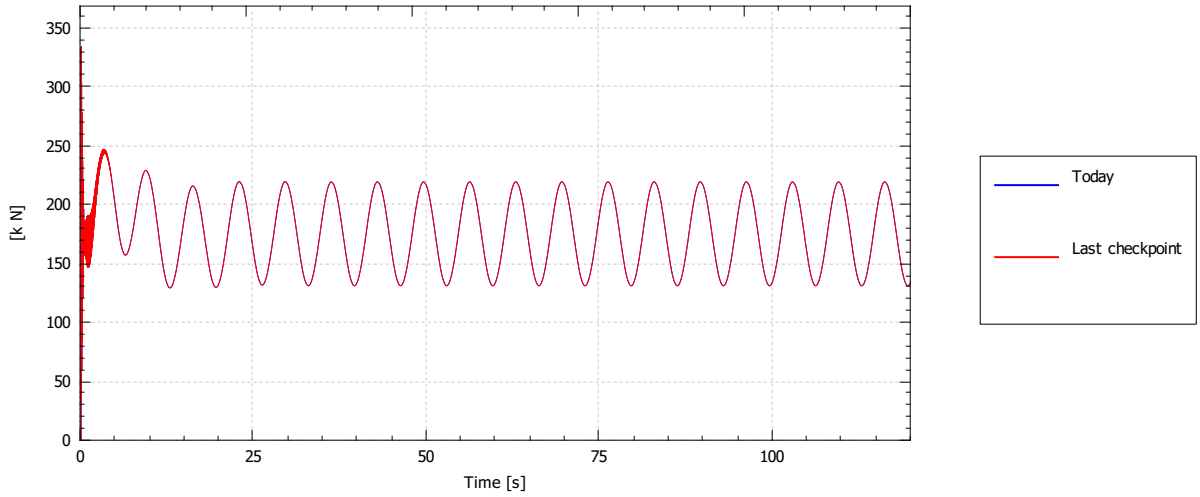




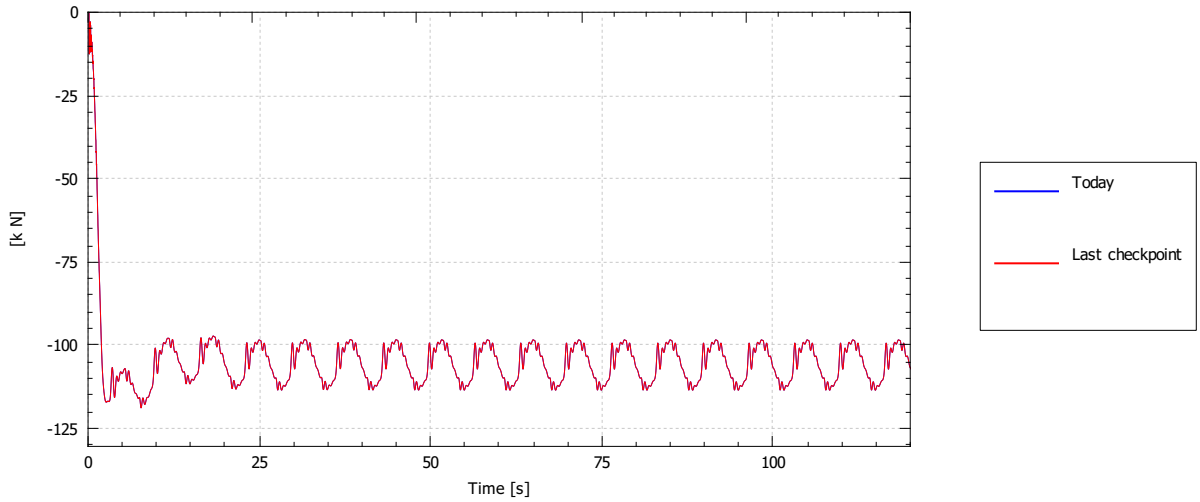


Beam element [Element 25 | Blade 1]

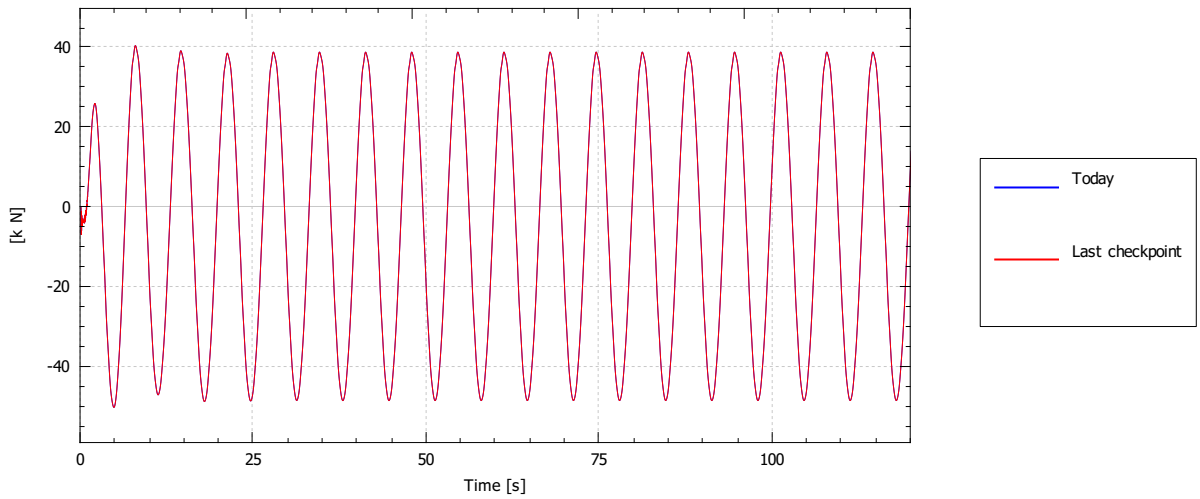
Axial force



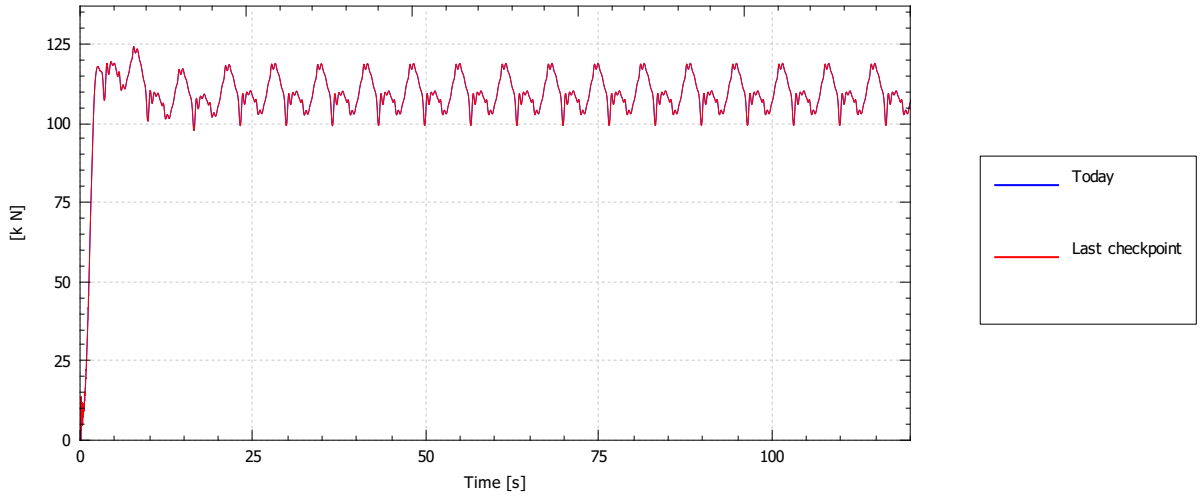
Shear force (1st prin. axis)



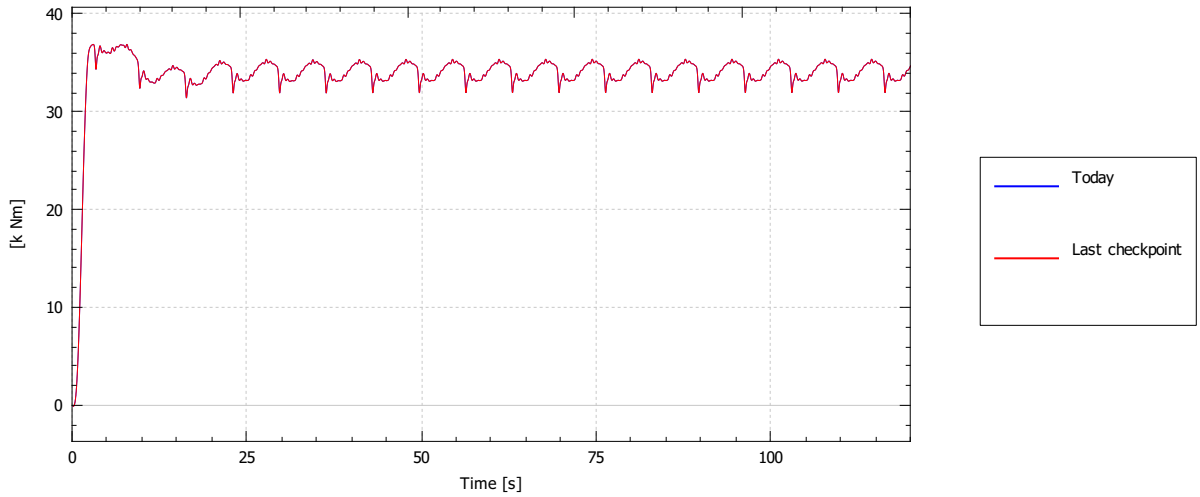
Shear force (2nd prin. axis)



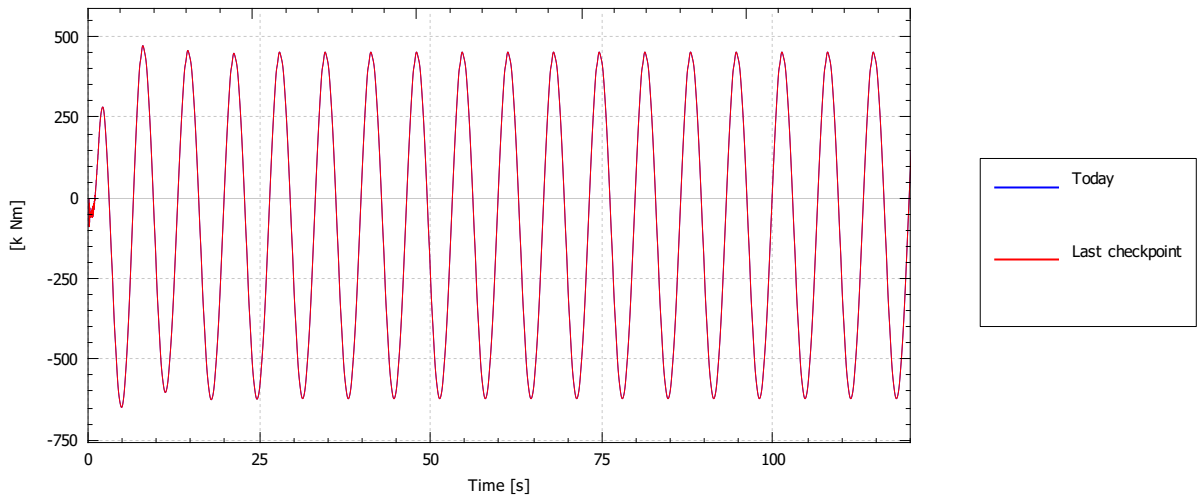
Shear force, mag.



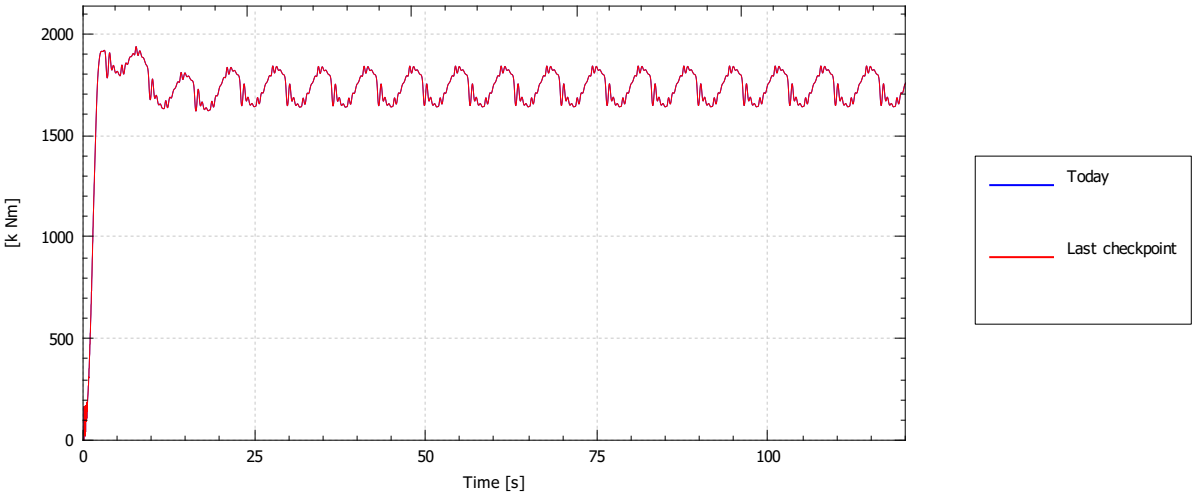
Torque



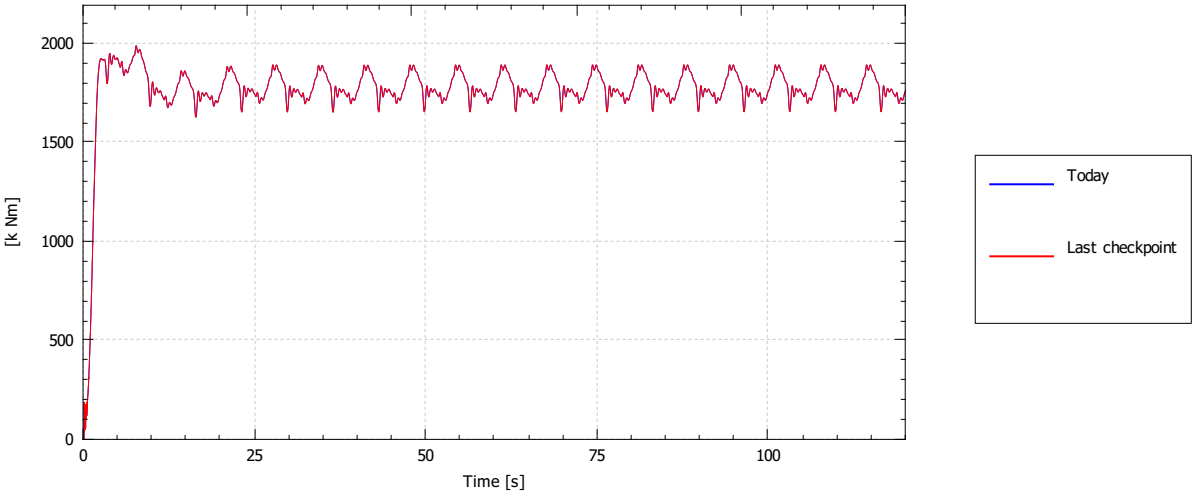
Moment (1st prin. axis), i



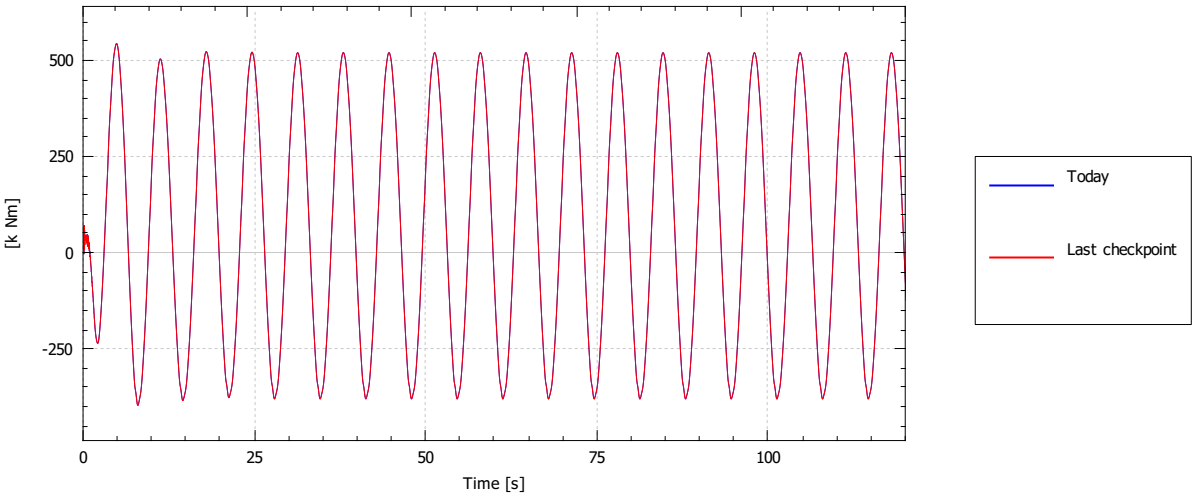
Moment (2nd prin. axis), i

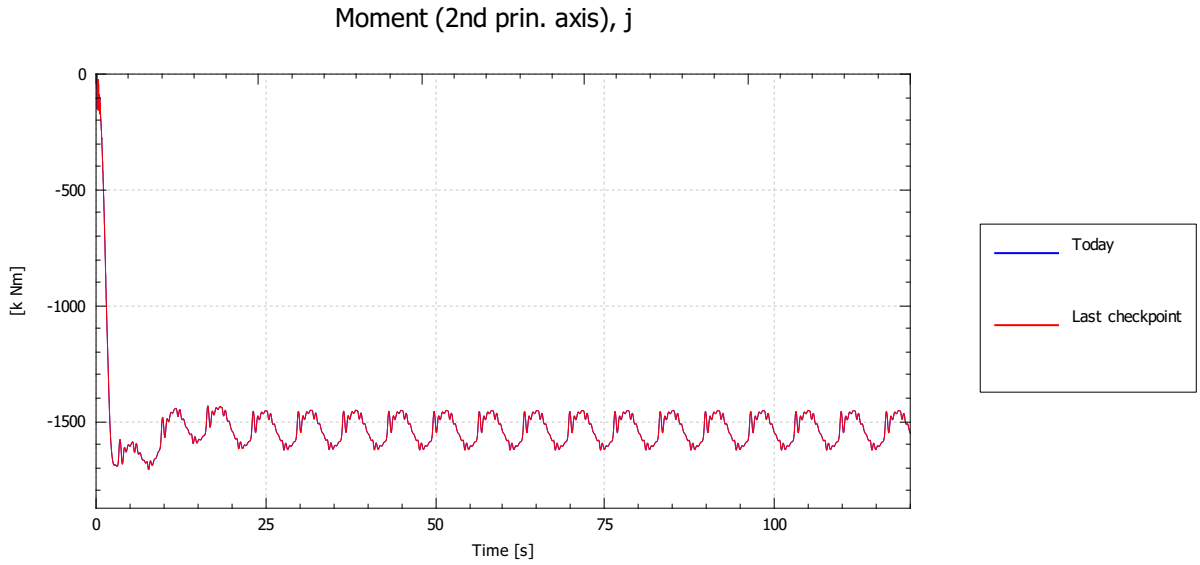


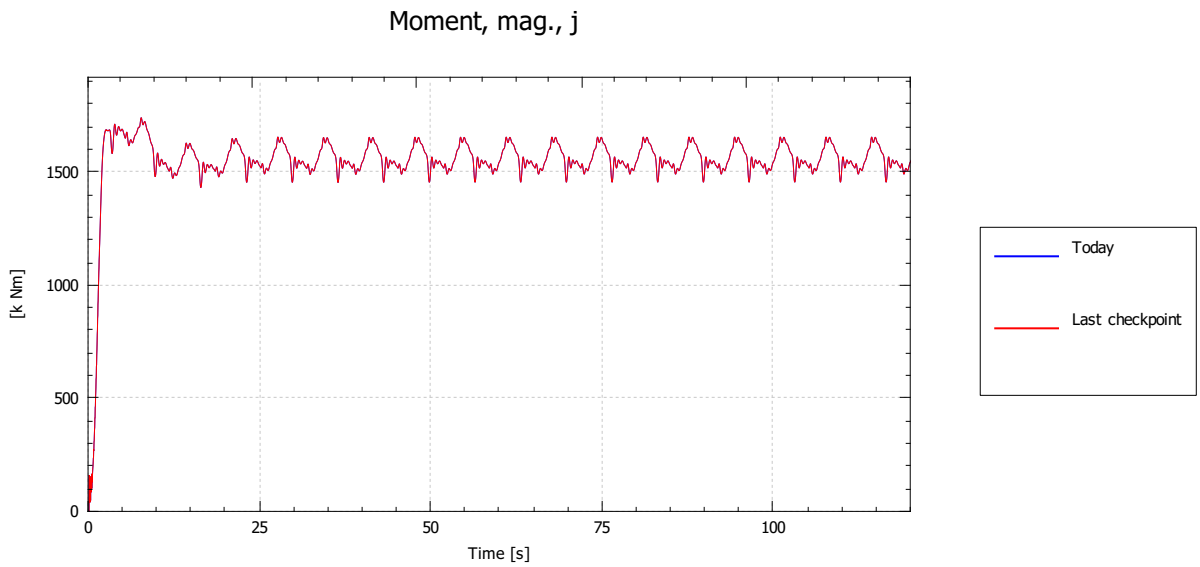
Moment, mag., i

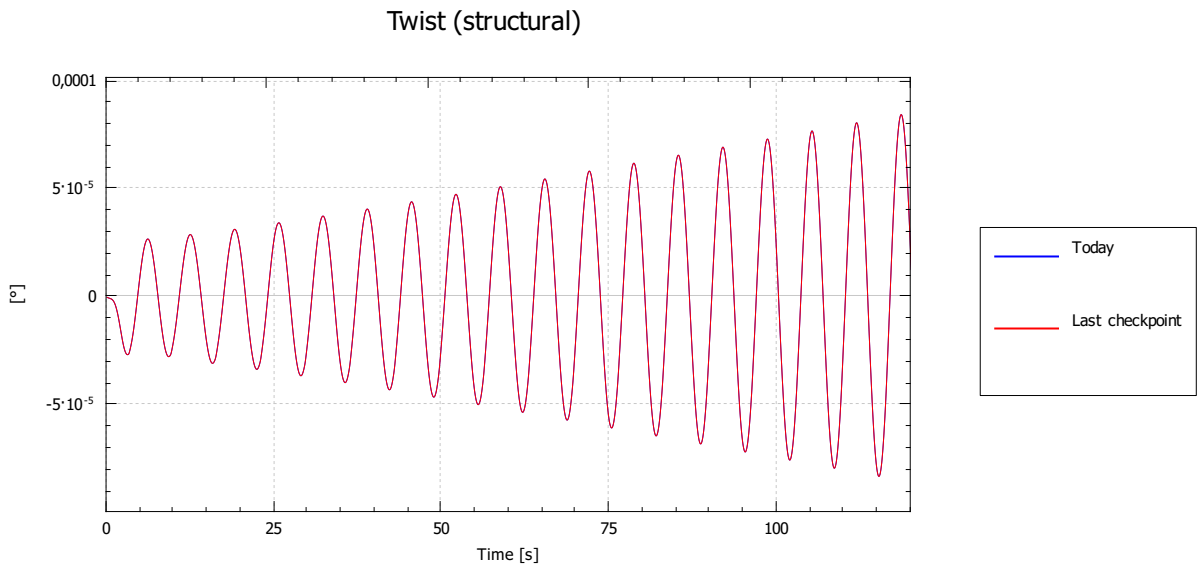


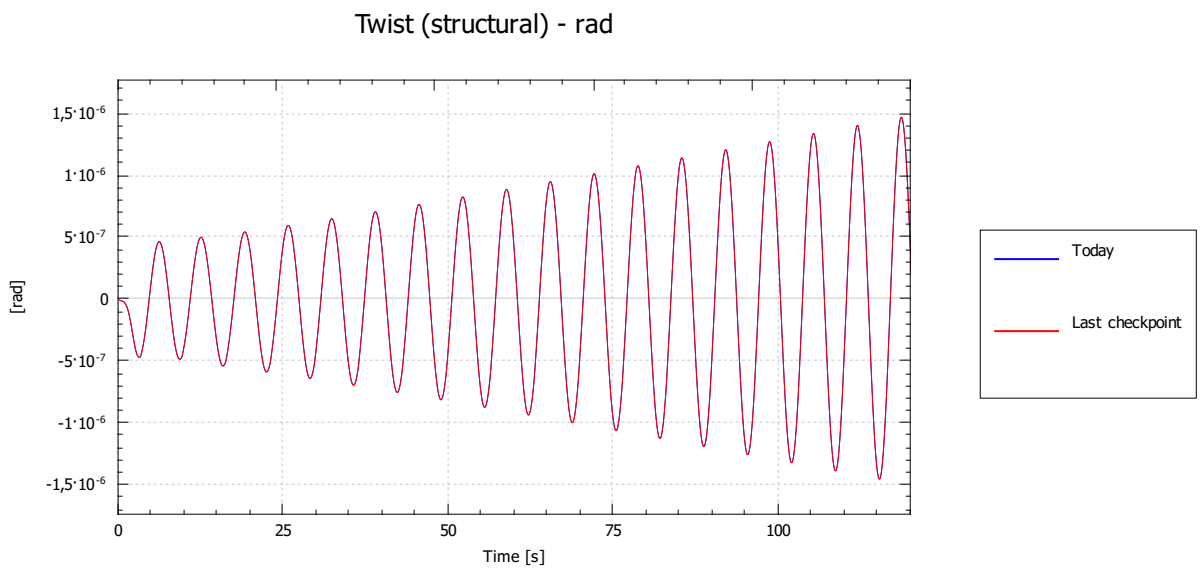
Moment (1st prin. axis), j

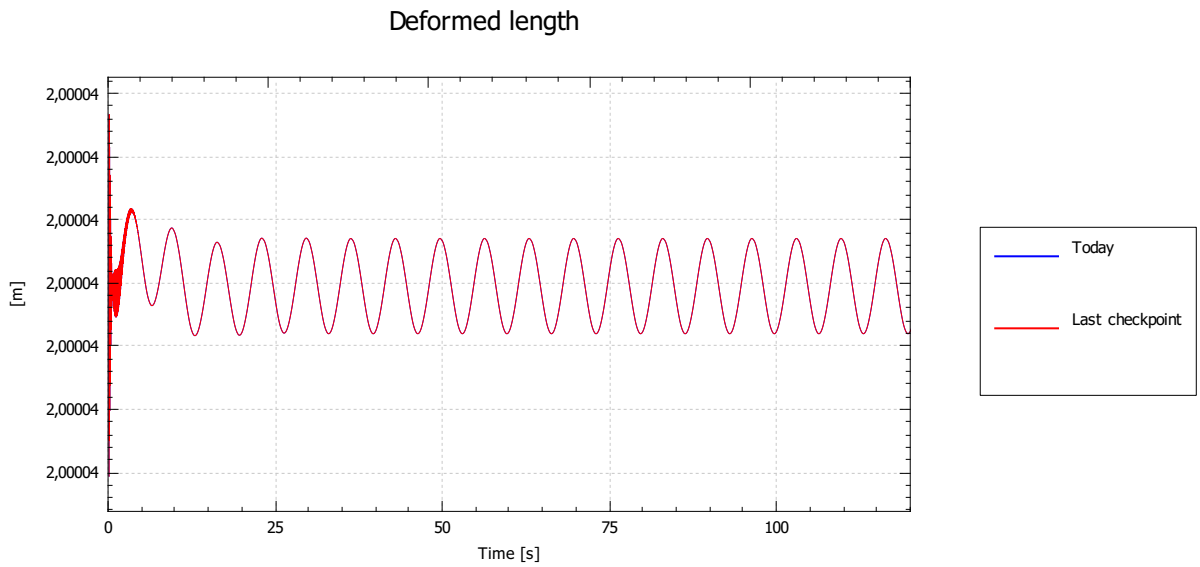


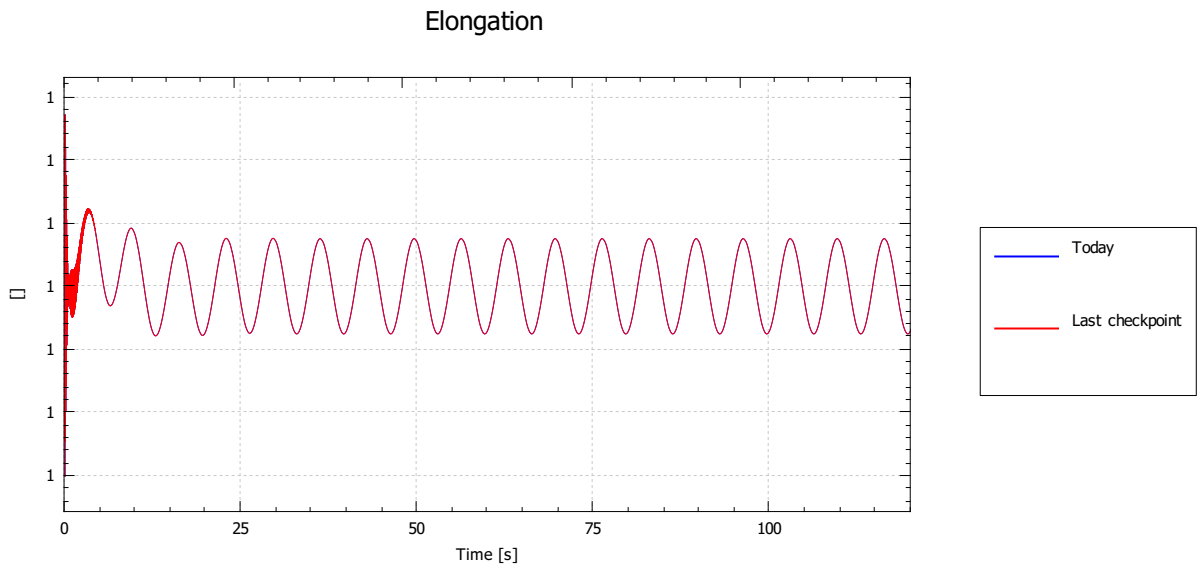

Moment (2nd prin. axis), j
0
-500
-1000
-1500
[k Nm]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Moment, mag., j
1500
1000
500
0
[k Nm]
0
25
50
75
100
Time [s]
Today
Last checkpoint

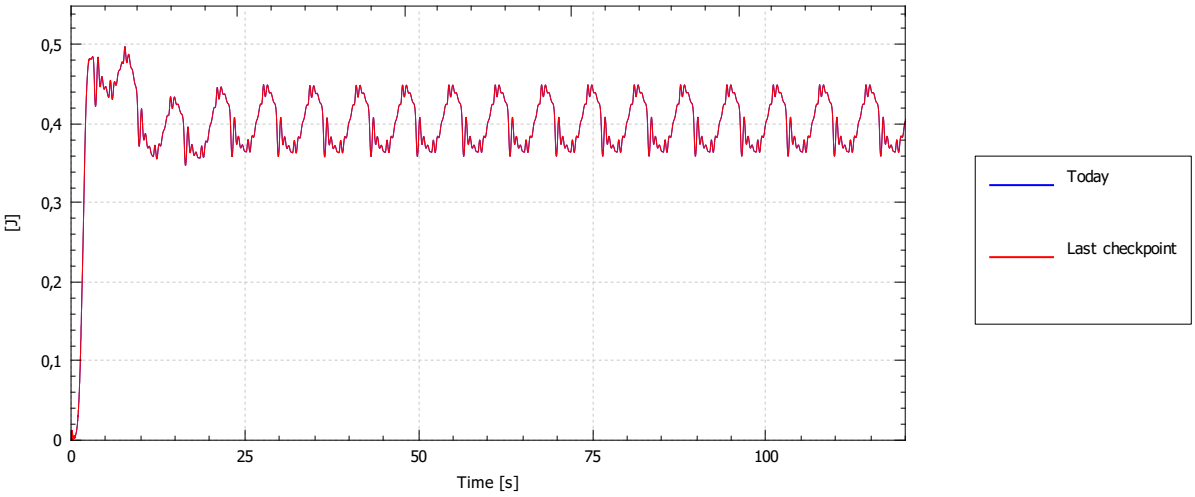

Twist (structural)
0,0001
5·10-5
0
-5·10-5
[°]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Twist (structural) - rad
1,5·10⁻⁶
1·10⁻⁶
5·10⁻⁷
0
-5·10⁻⁷
-1·10⁻⁶
-1,5·10⁻⁶
[rad]
0
25
50
75
100
Time [s]
Today
Last checkpoint

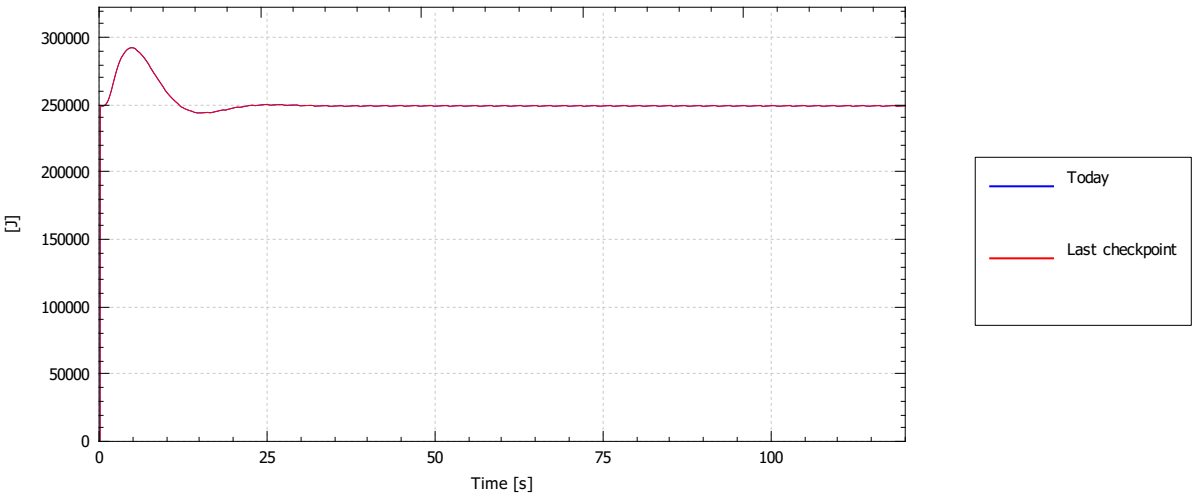

Deformed length
2,00004
2,00004
2,00004
2,00004
2,00004
2,00004
2,00004
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Elongation
1
1
1
1
1
1
1
[]
0
25
50
75
100
Time [s]
Today
Last checkpoint

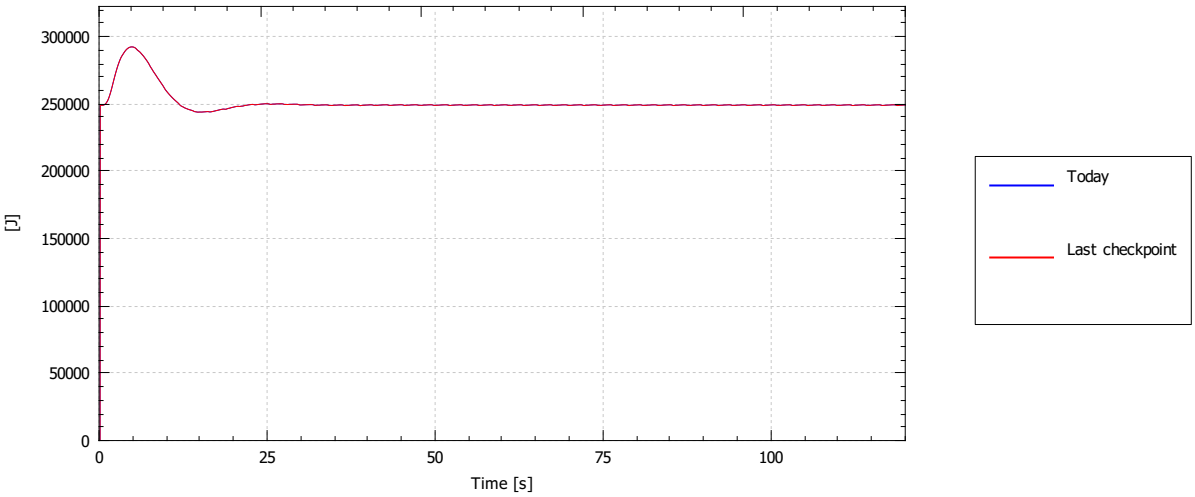
Strain energy



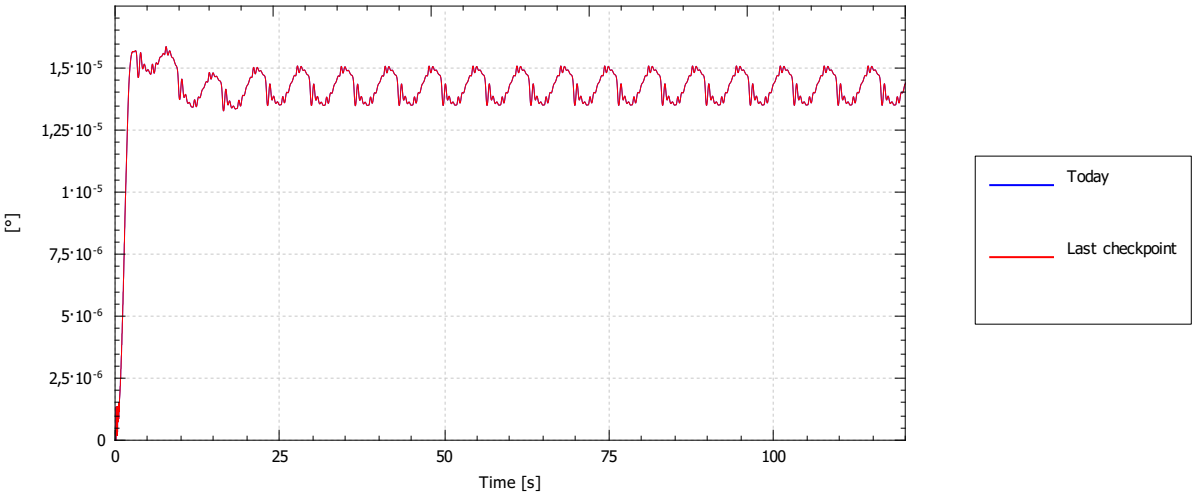
Kinetic energy



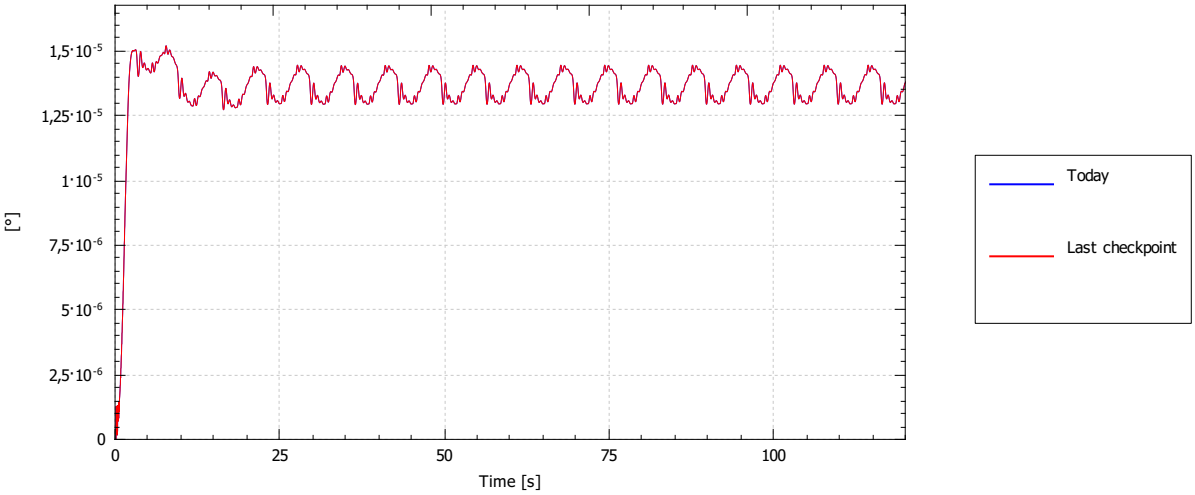
Mechanical energy



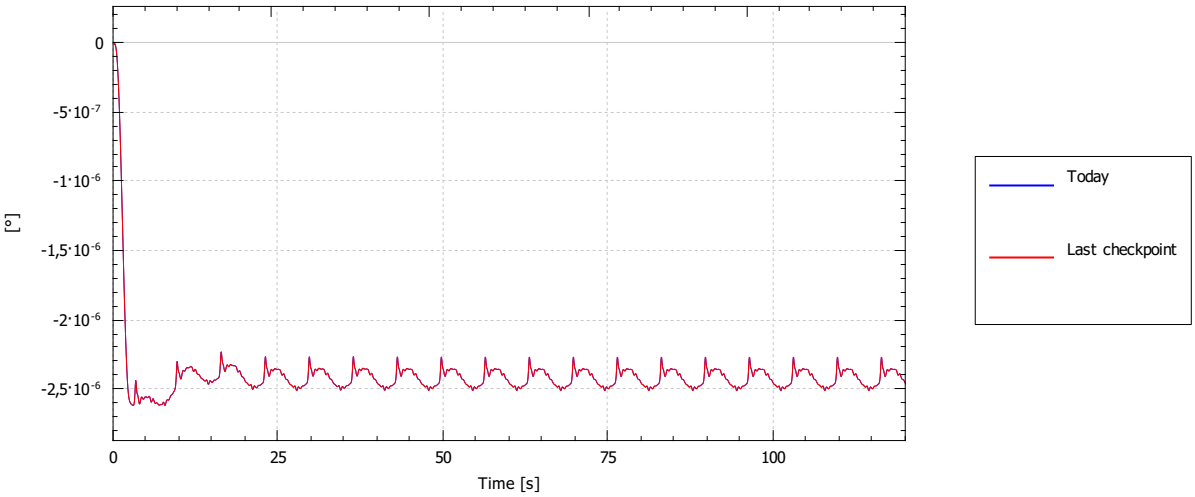
Deformational rotation (i)



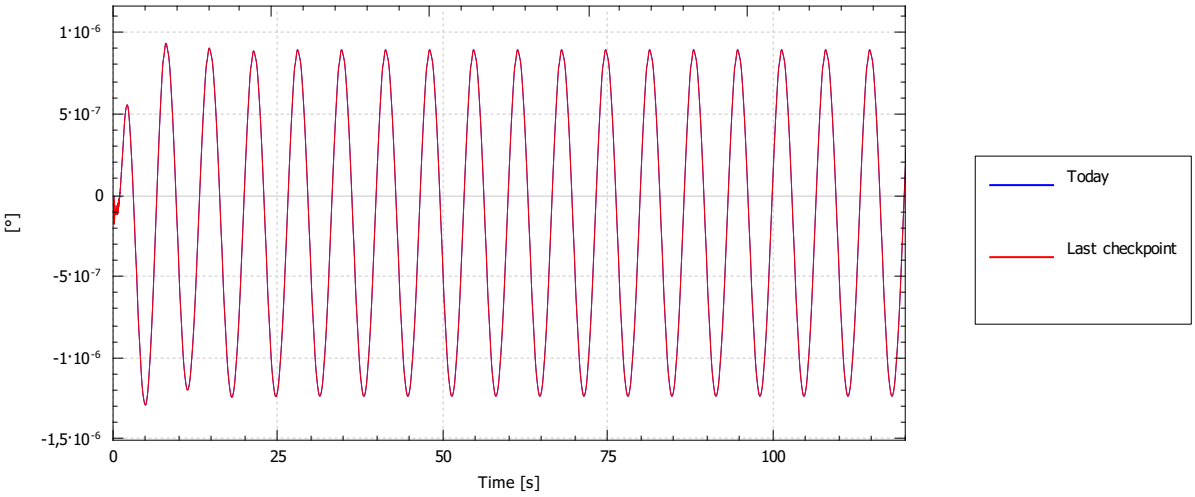
Deformational rotation (j)



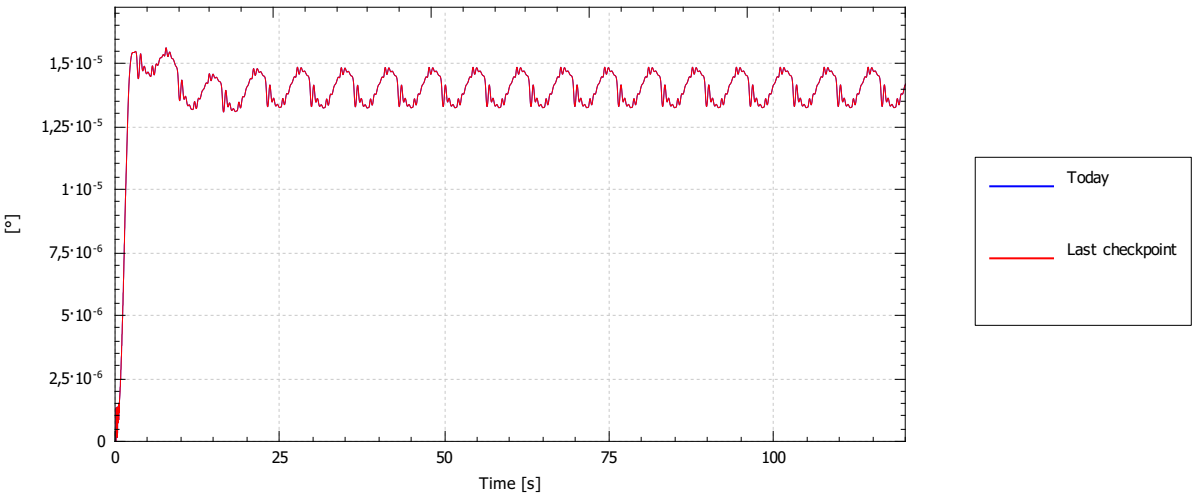
Deformational rotation (axial)



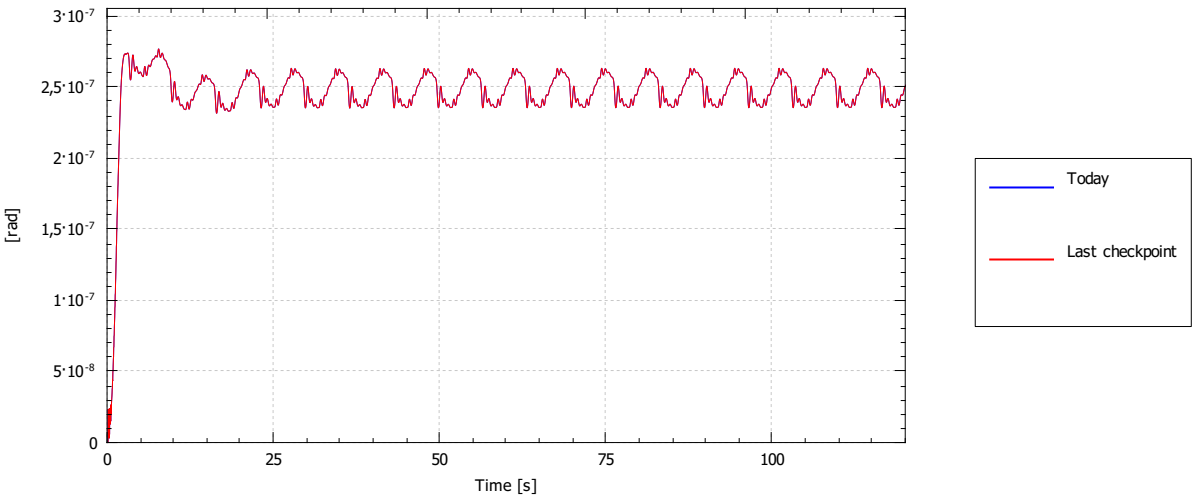
Deformational rotation (1st prin.)



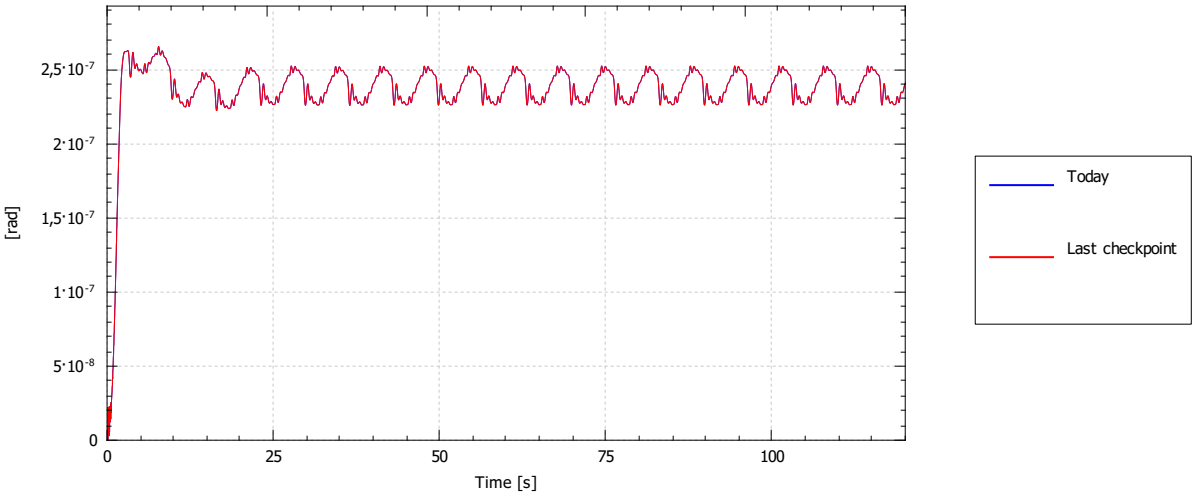
Deformational rotation (2nd prin.)



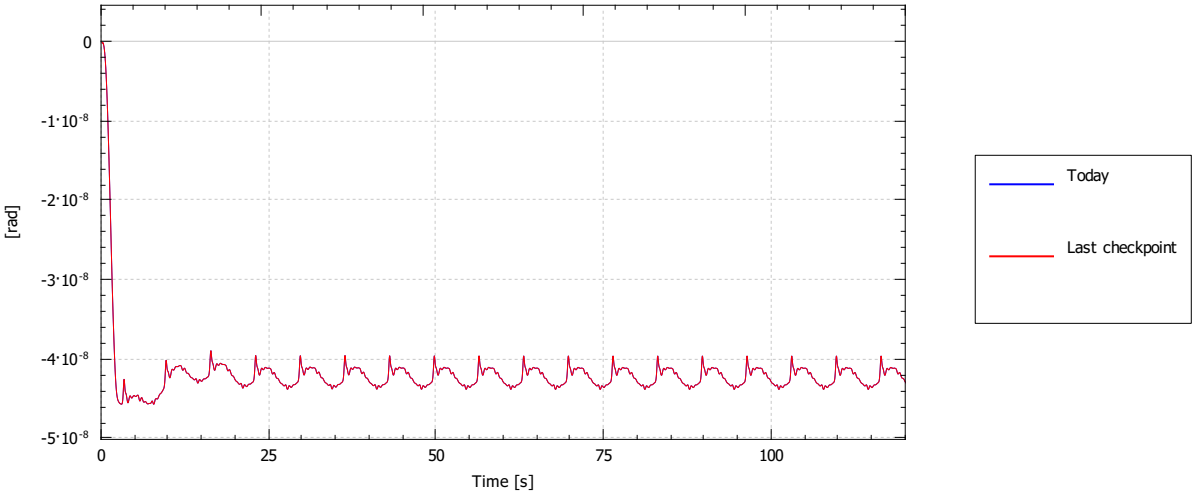
Deformational rotation (i) - rad



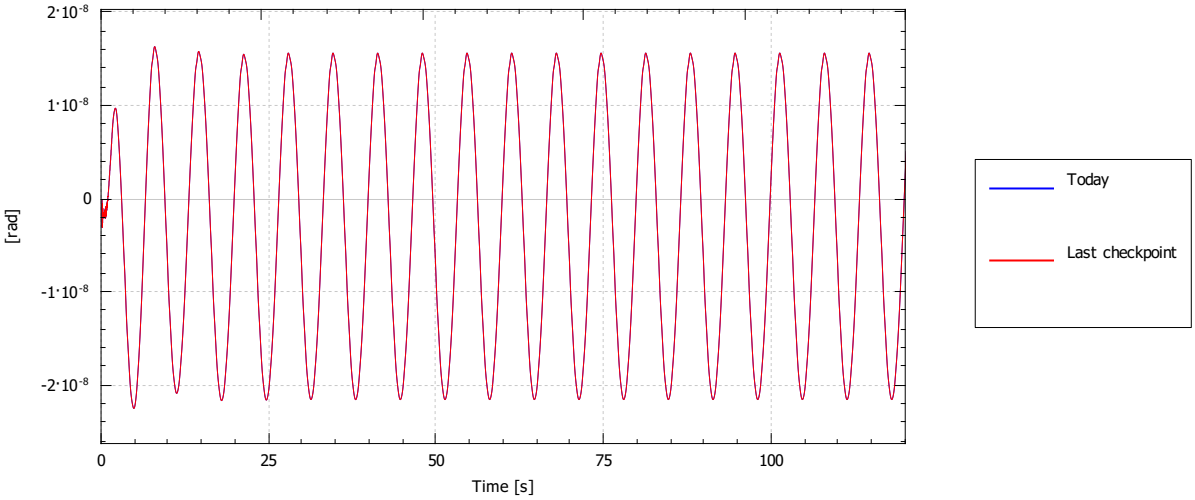
Deformational rotation (j) - rad



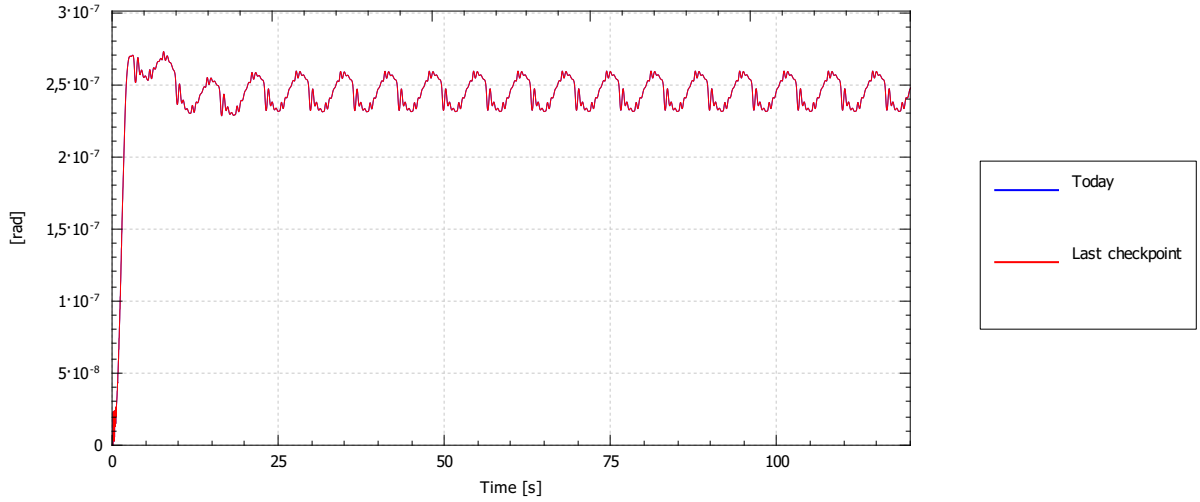
Deformational rotation (axial) - rad



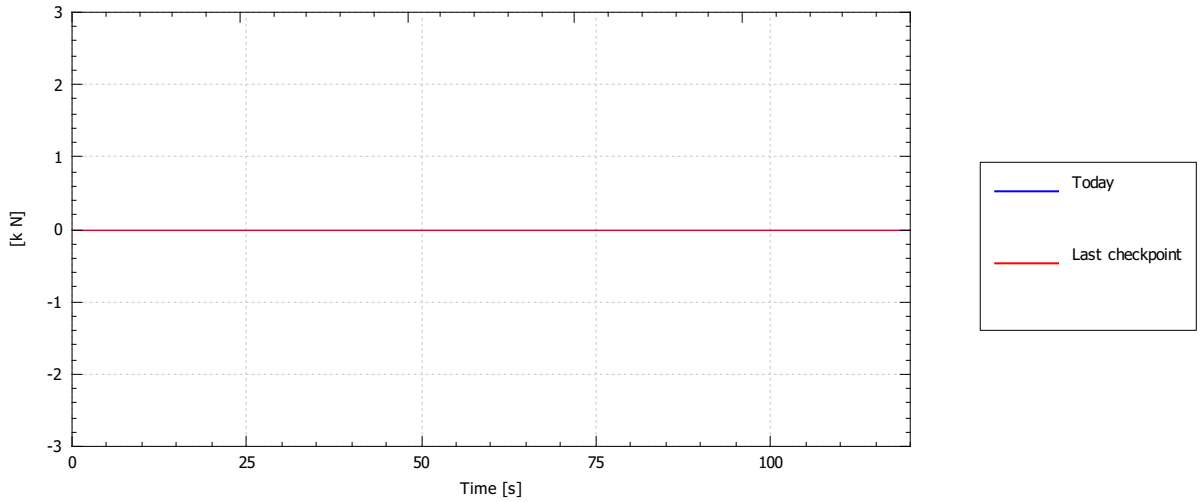
Deformational rotation (1st prin.) - rad



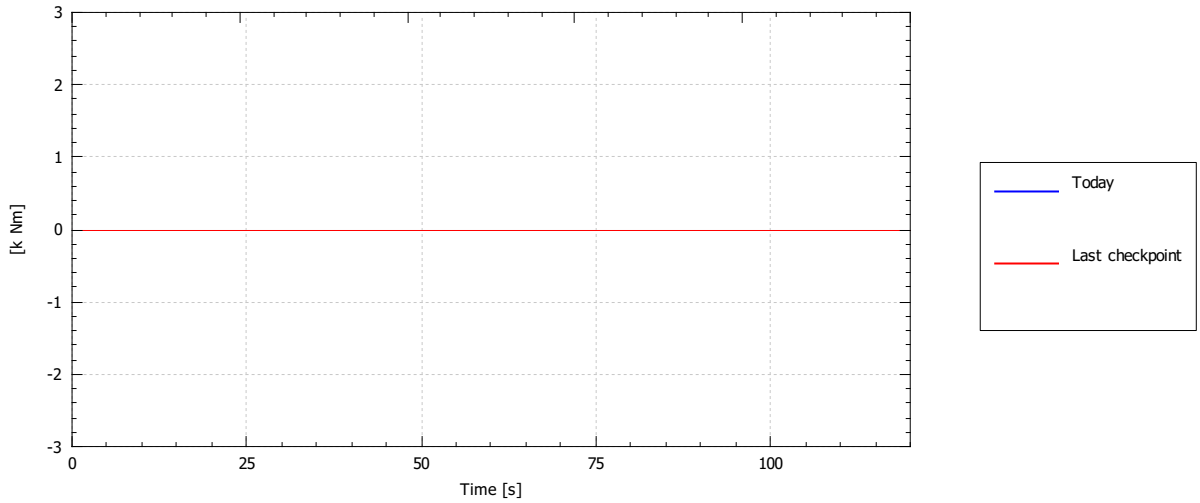
Deformational rotation (2nd prin.) - rad

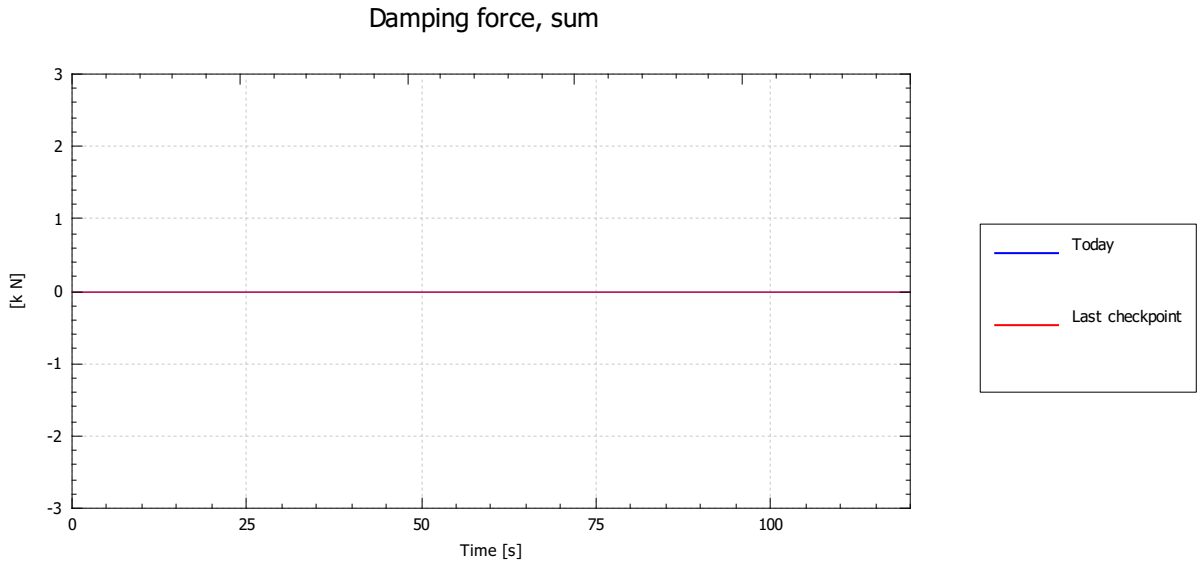


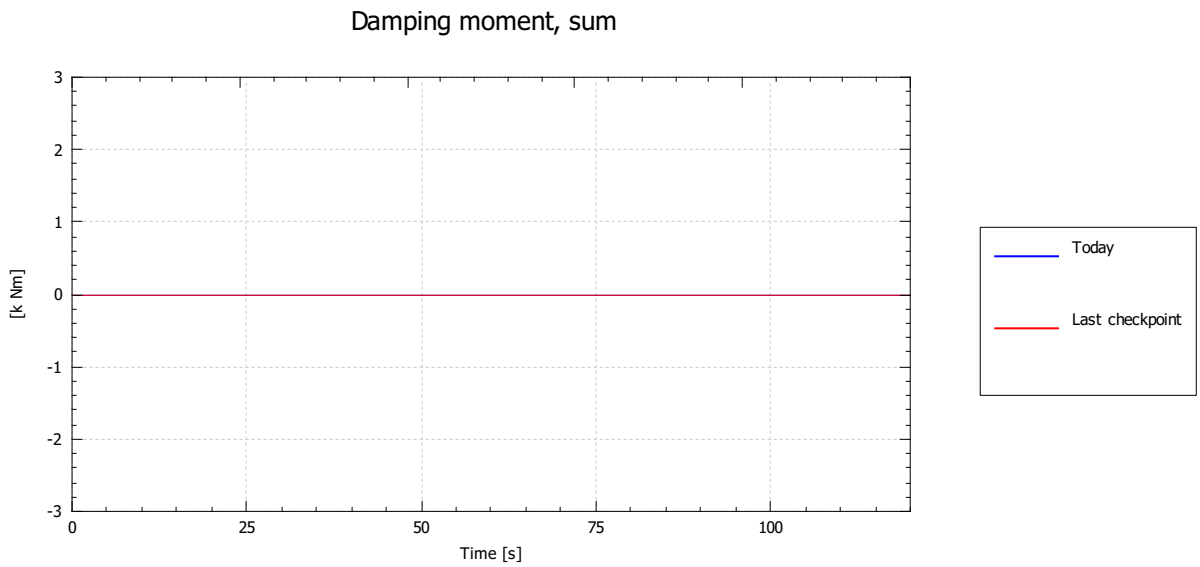
Damping force, i



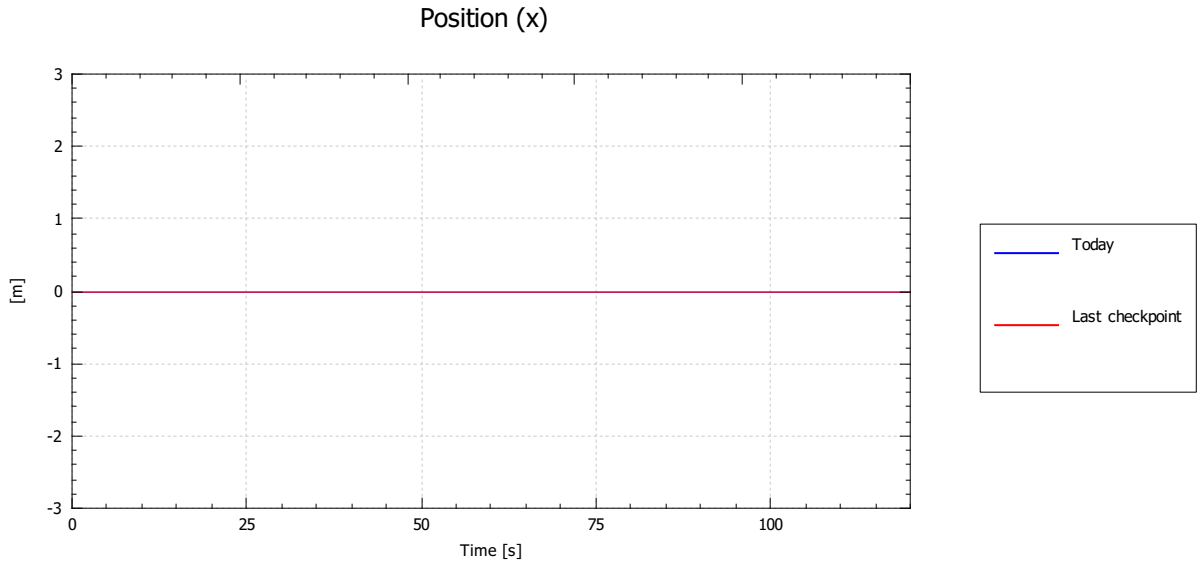
Damping moment, i

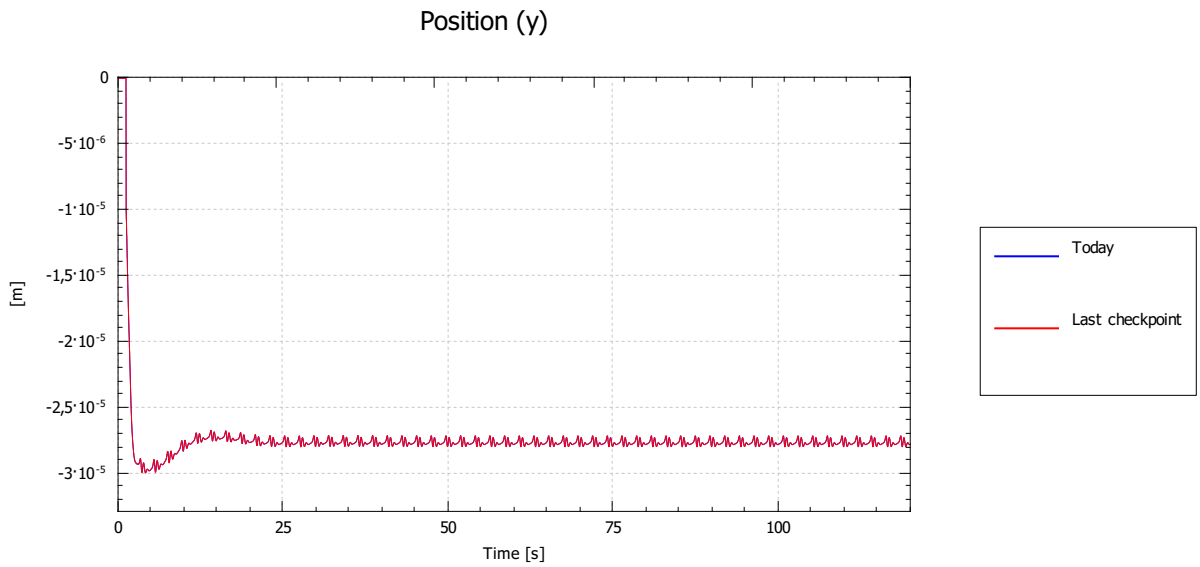


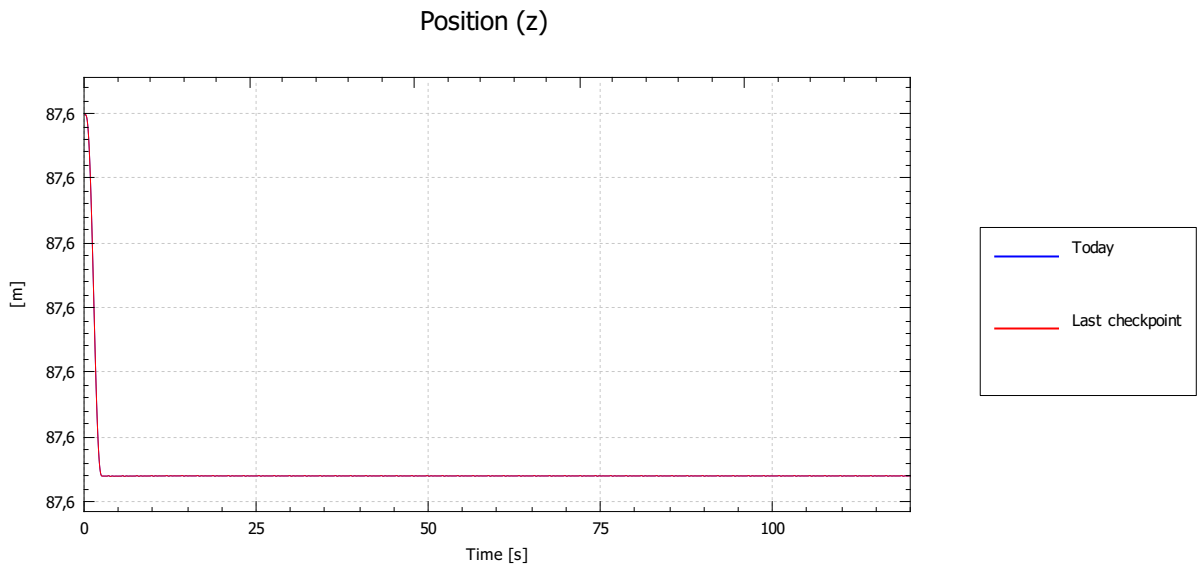


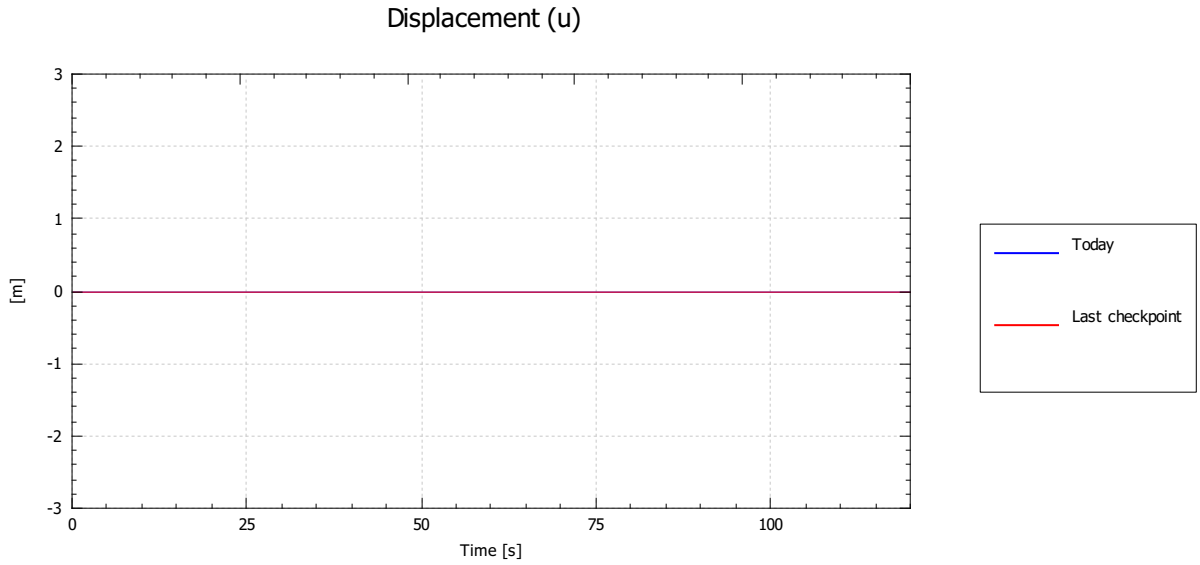


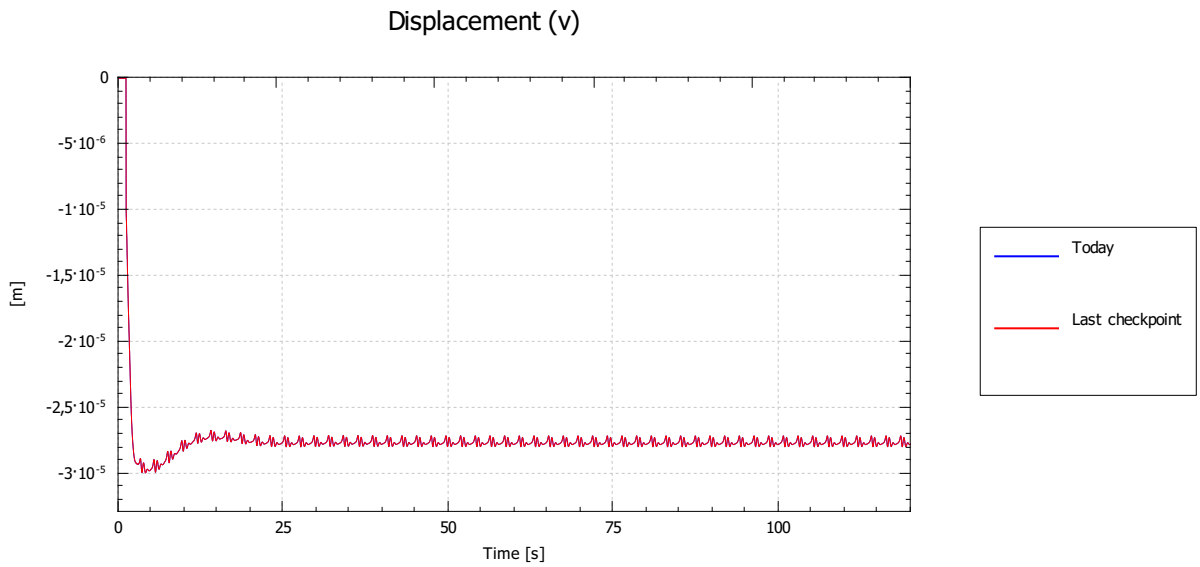
Node [Node RNA_node | Tubular tower]

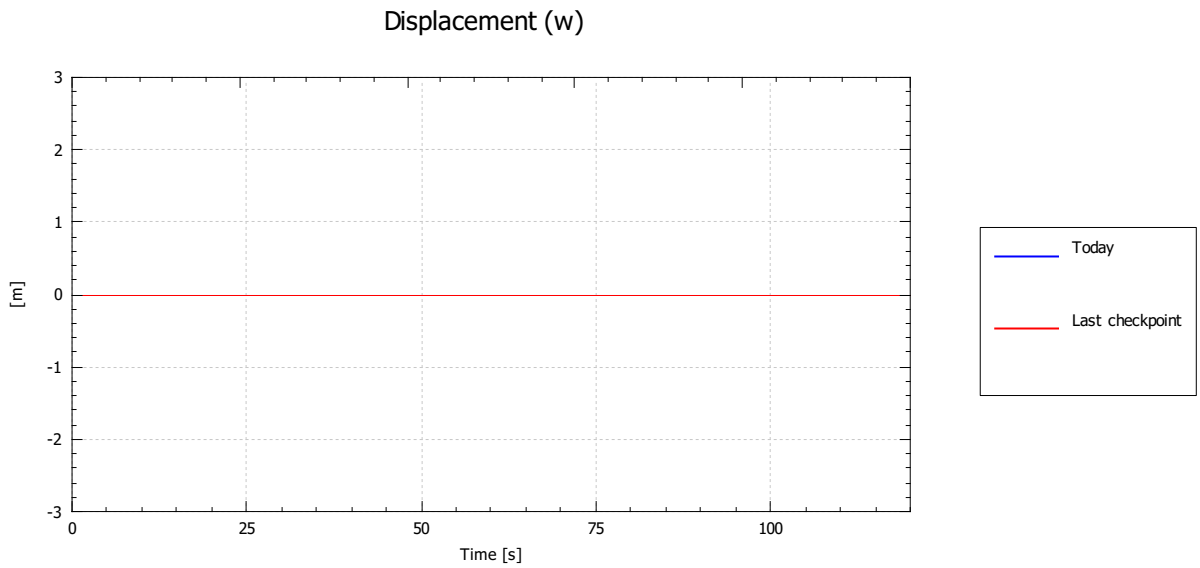

Position (x)
3
2
1
0
-1
-2
-3
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Position (y)
0
-5·10-6
-1·10-5
-1,5·10-5
-2·10-5
-2,5·10-5
-3·10-5
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

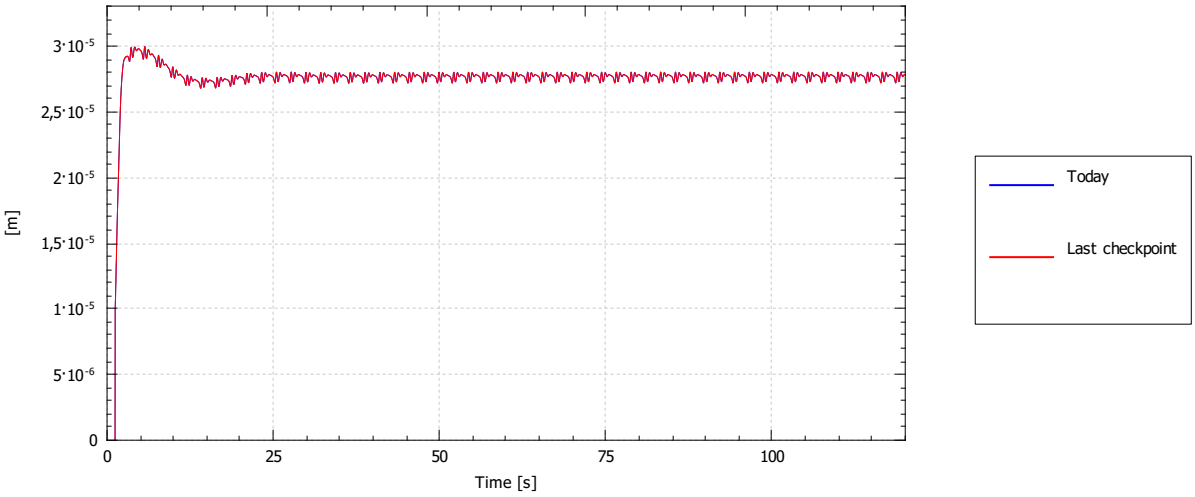

Position (z)
87,6
87,6
87,6
87,6
87,6
87,6
87,6
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Displacement (u)
[m]
Time [s]
Today
Last checkpoint

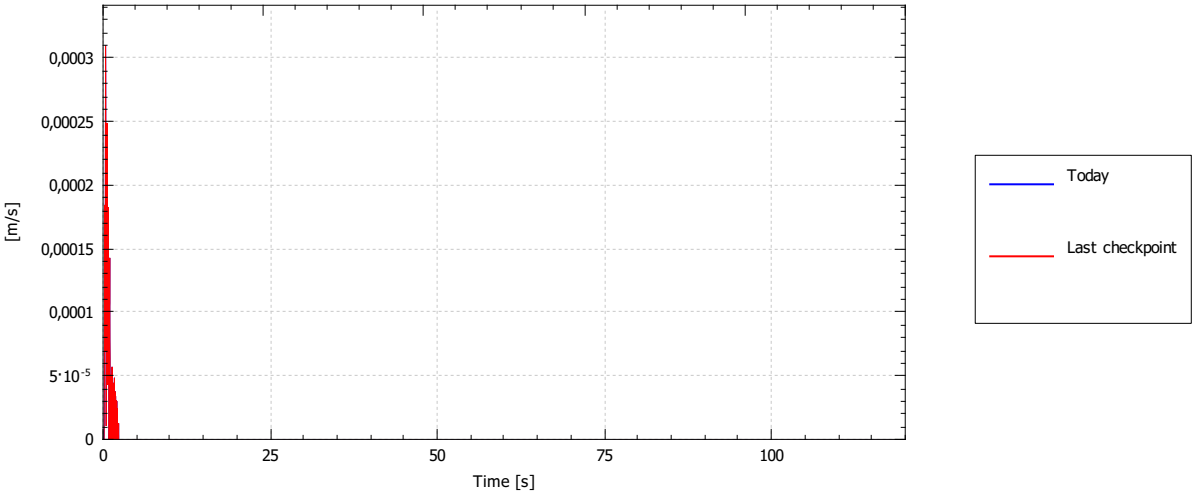

Displacement (v)
[m]
Time [s]
Today
Last checkpoint


Displacement (w)
[m]
Time [s]
Today
Last checkpoint

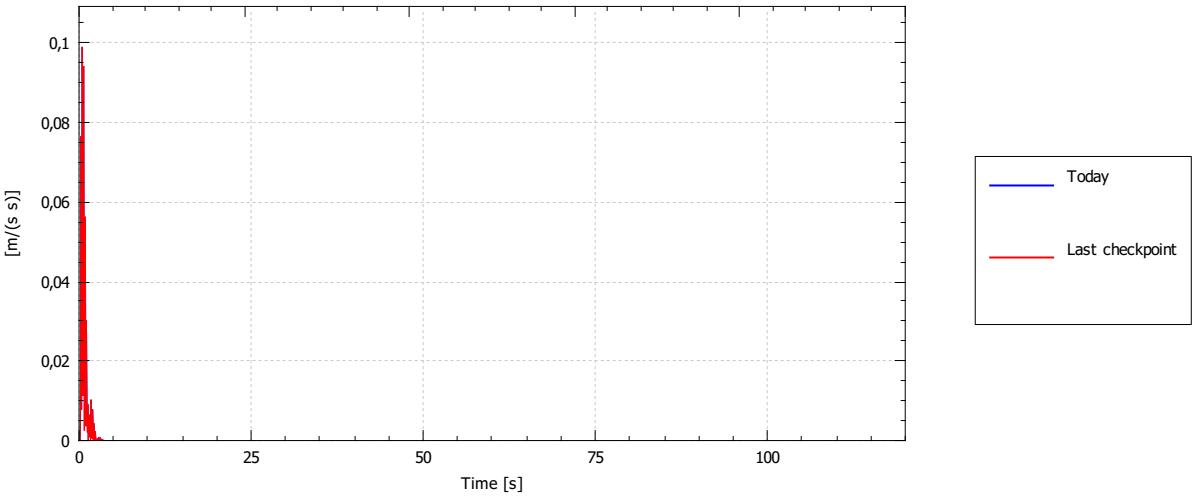
Displacement magnitude



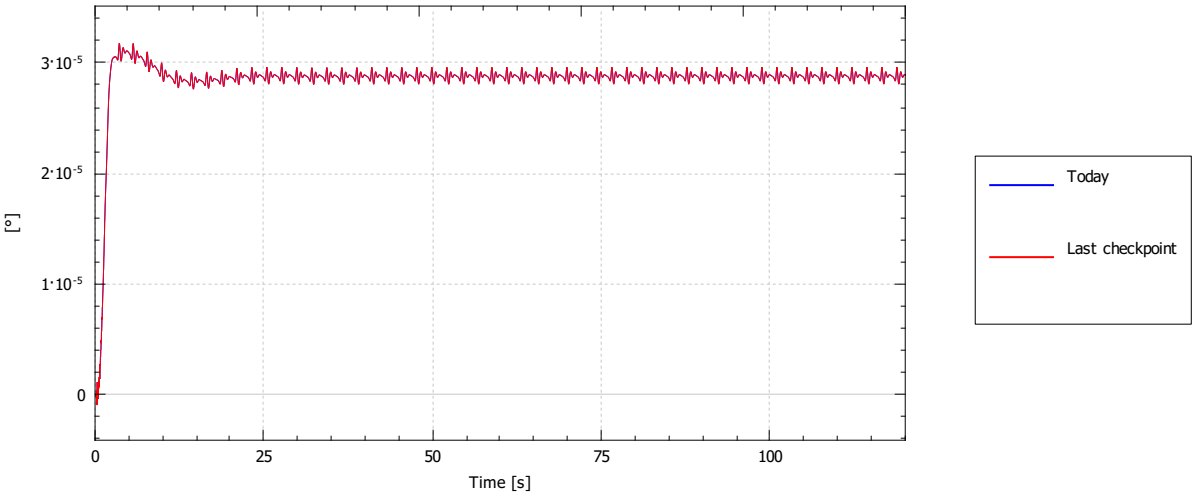
Speed



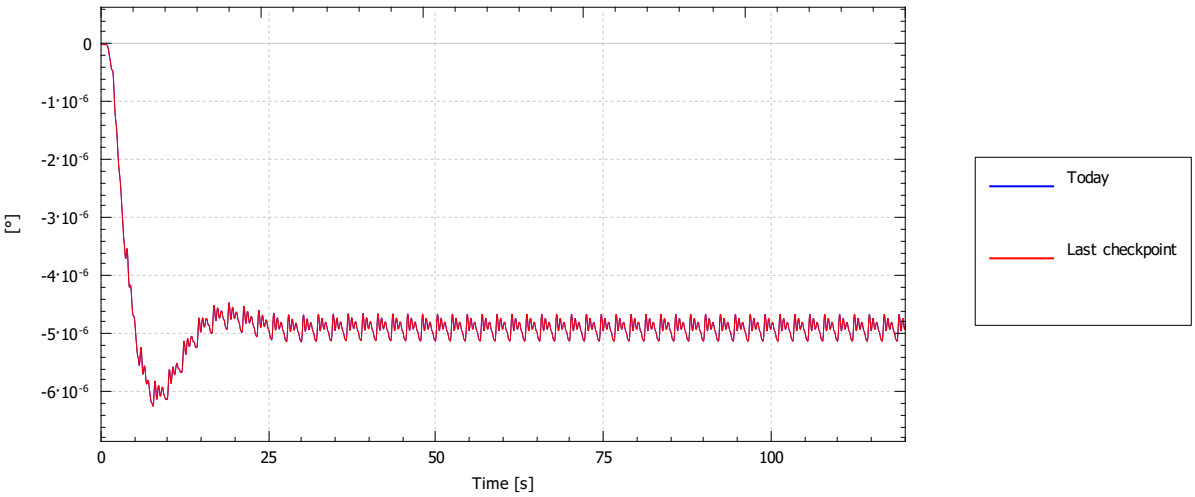
Acceleration, magnitude



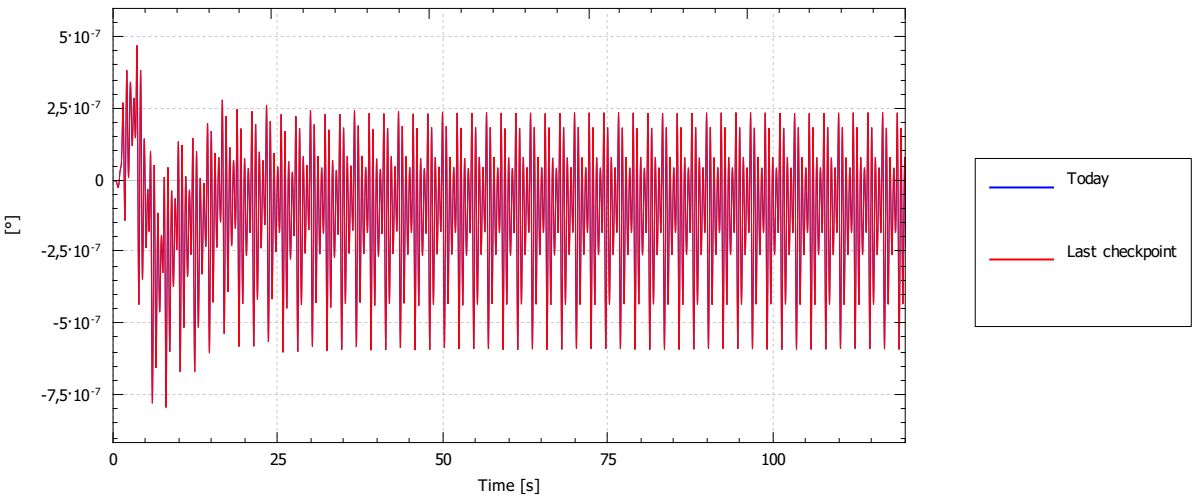
Rotational displacement (ru)



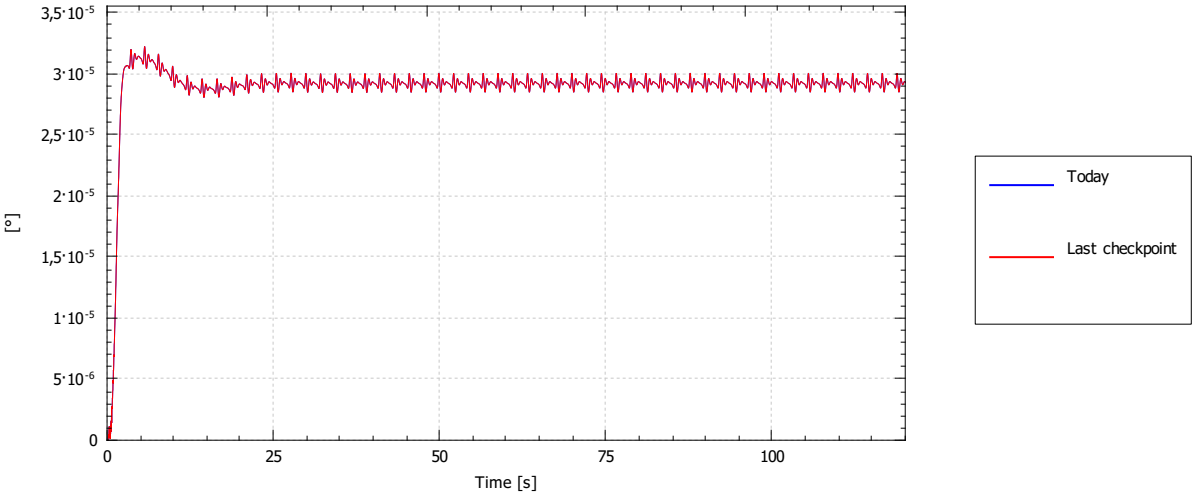
Rotational displacement (rv)



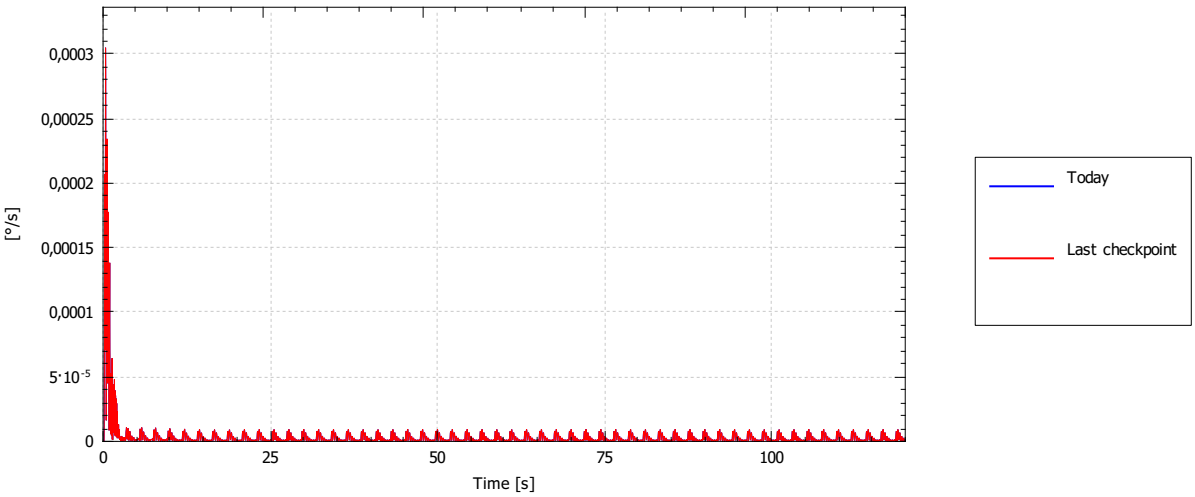
Rotational displacement (rw)



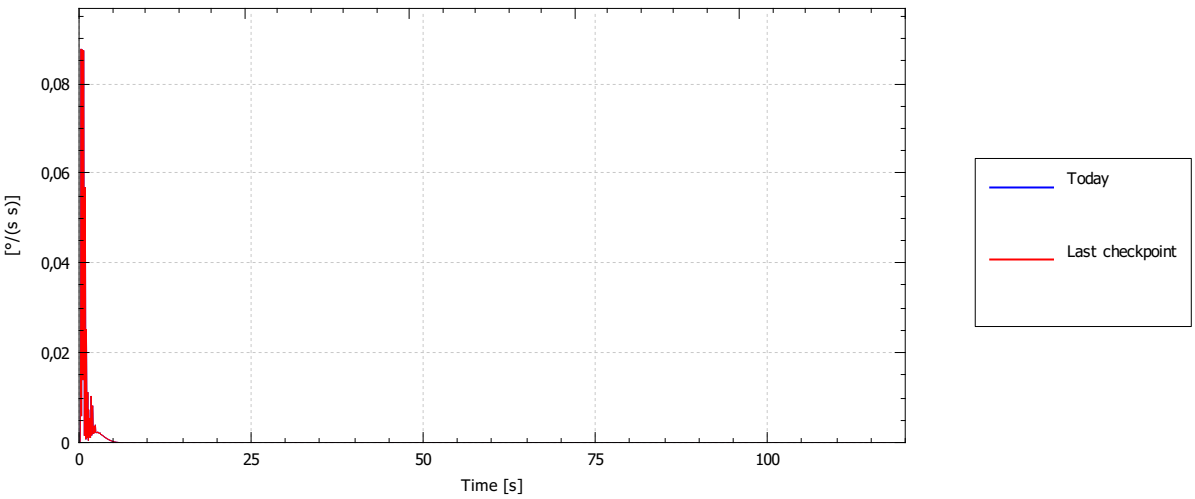
Rotational displacement magnitude



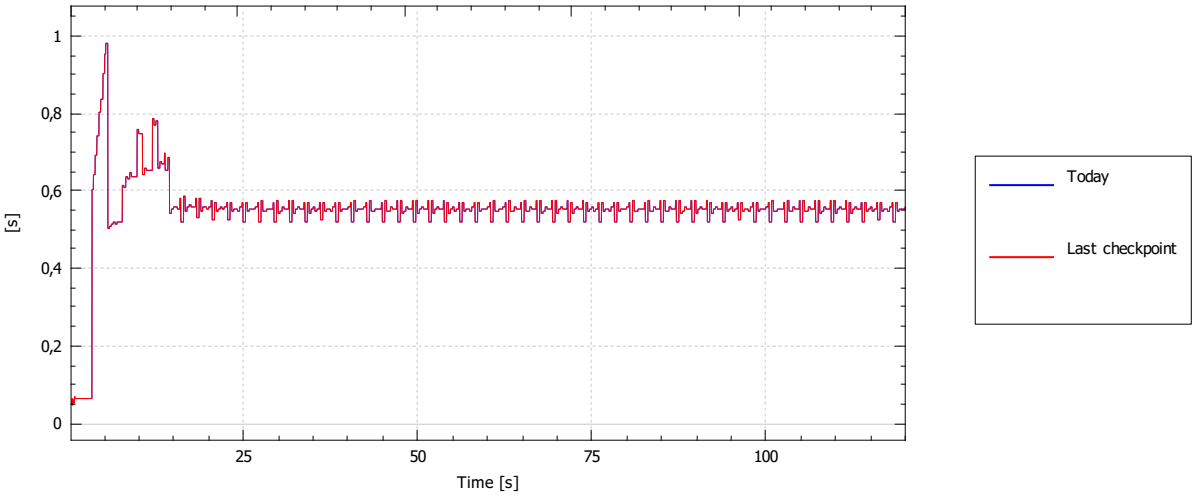
Rotational speed



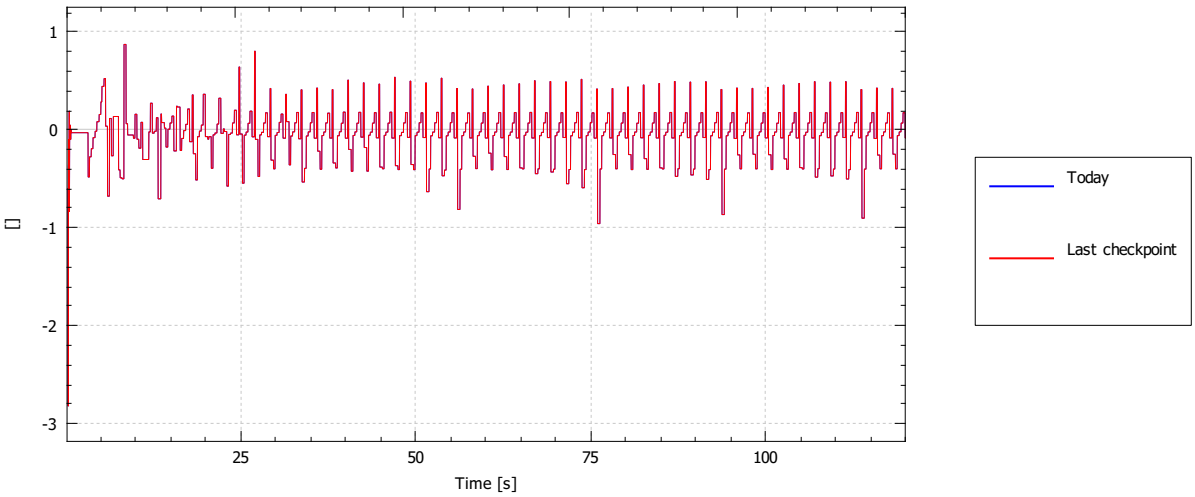
Rotational acceleration mag



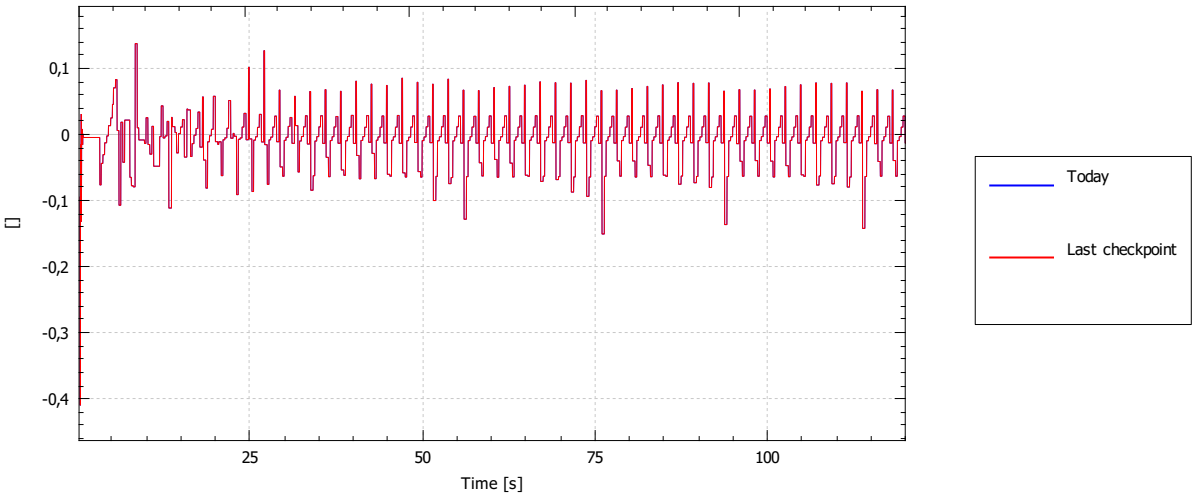
Displacement period



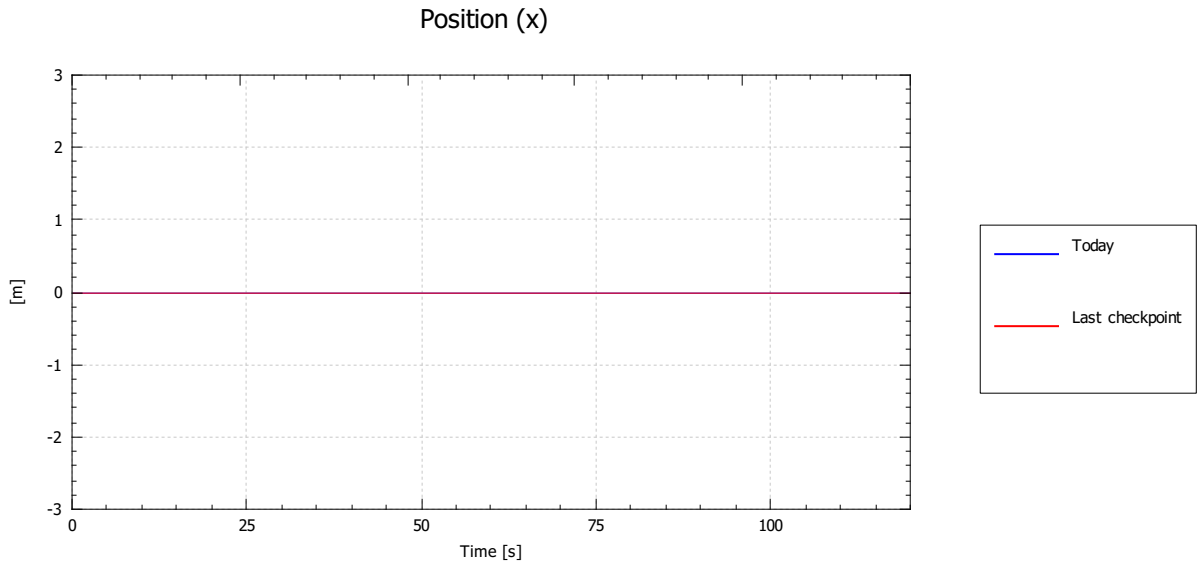
Displacement logarithmic decrement

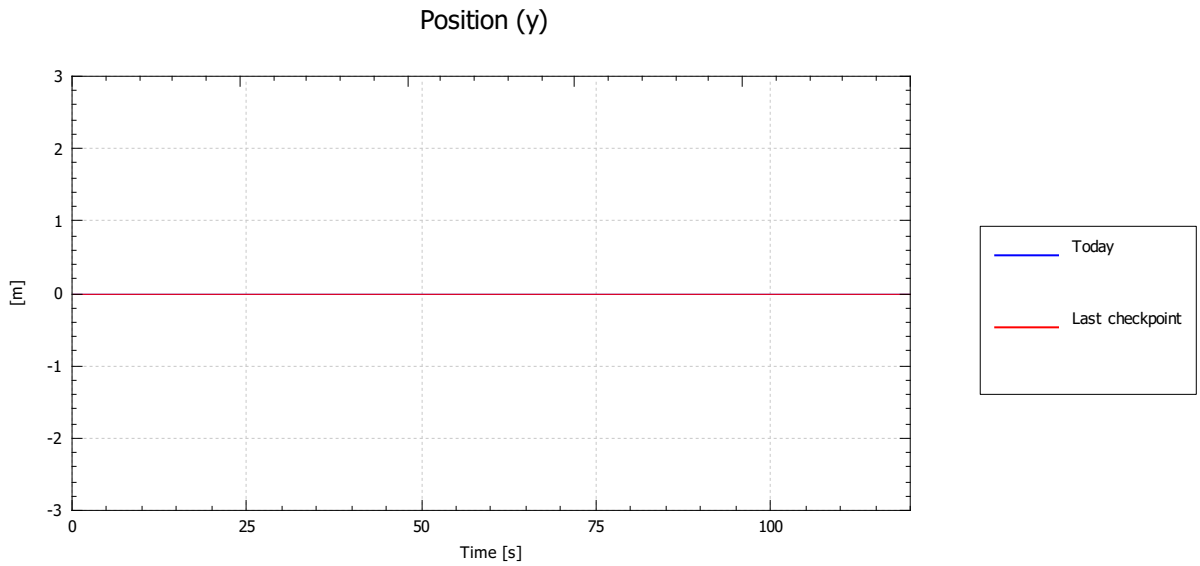


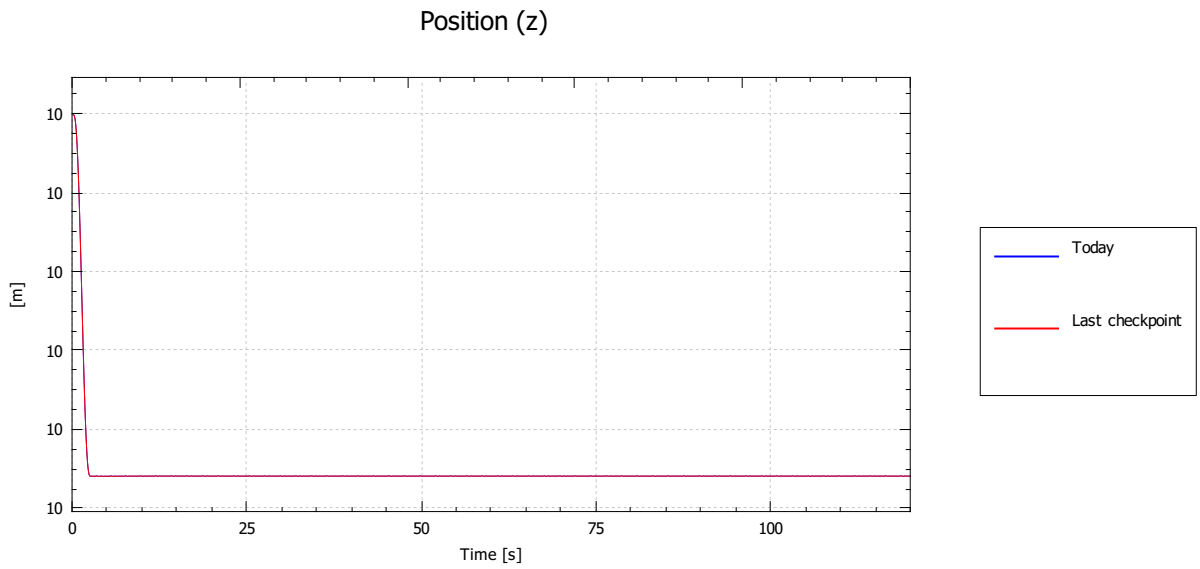
Displacement damping ratio

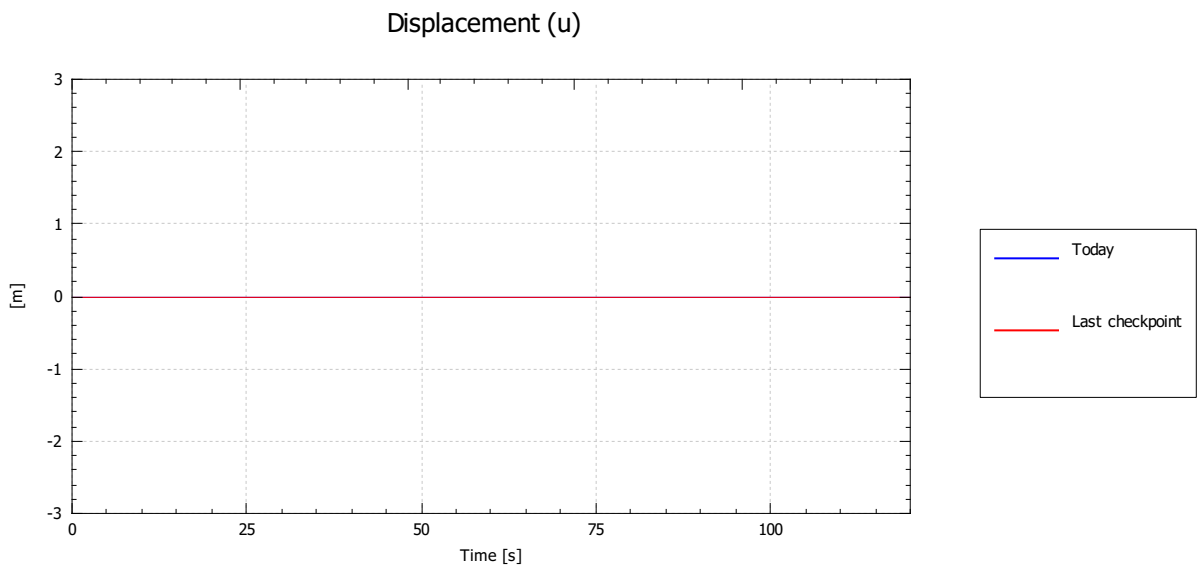


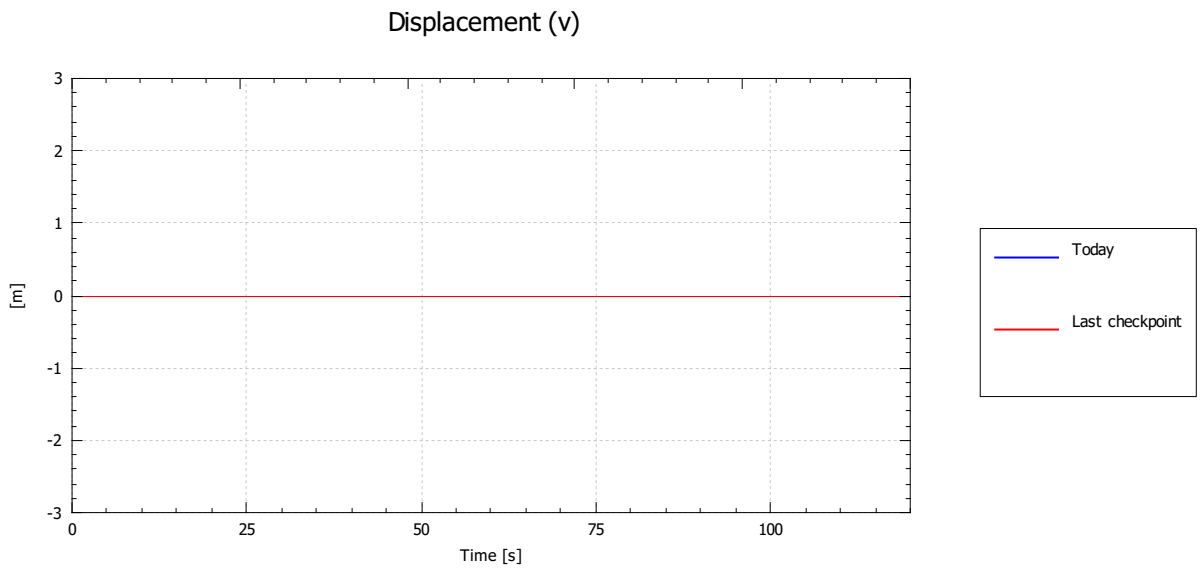
Node [Node 1 | Tubular tower]

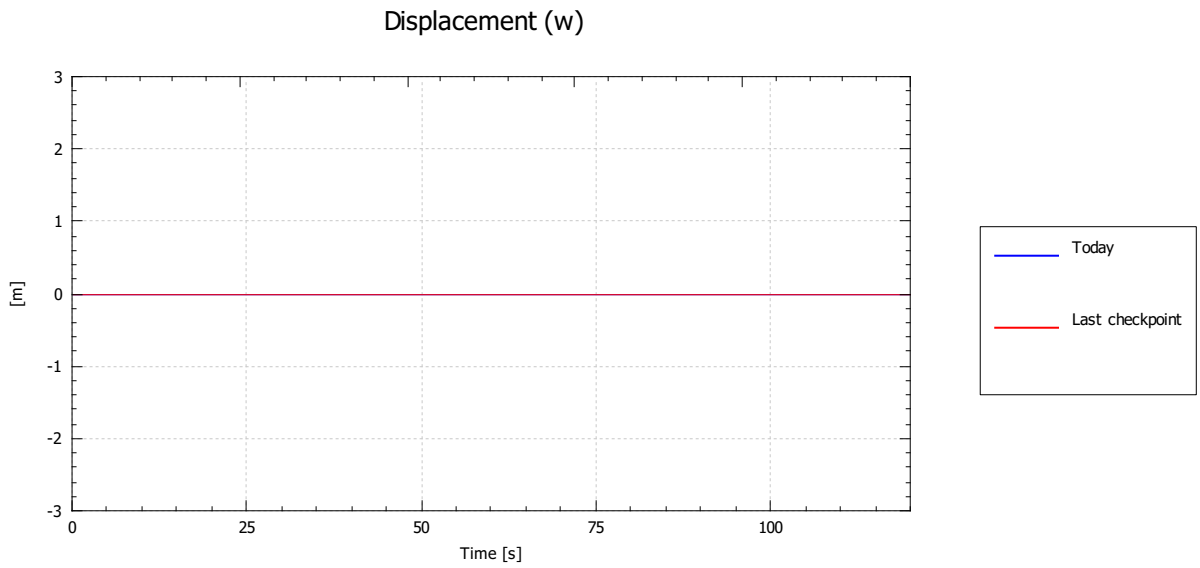




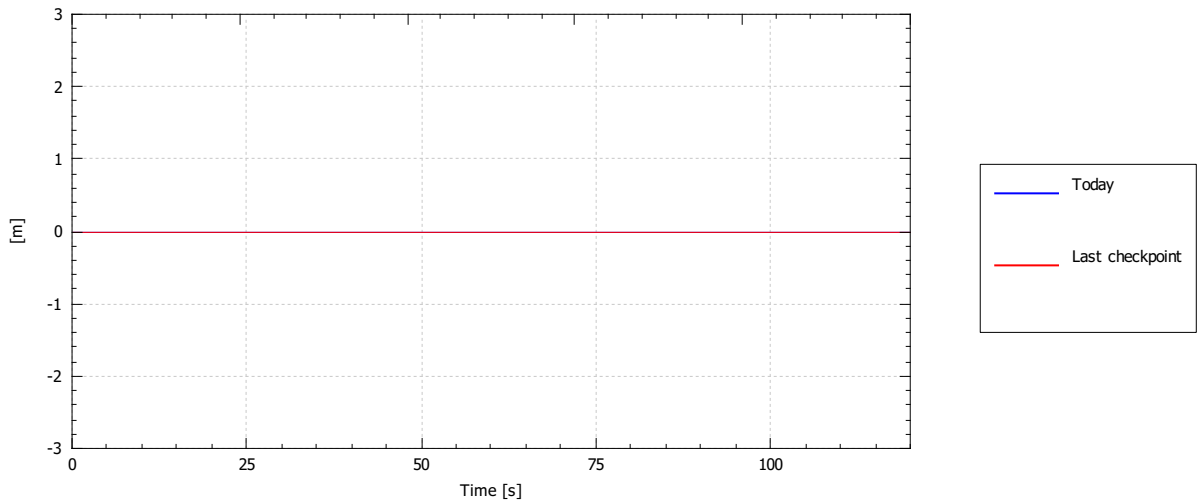



Displacement (u)
[m]
3
2
1
0
-1
-2
-3
0
25
50
75
100
Time [s]
Today
Last checkpoint

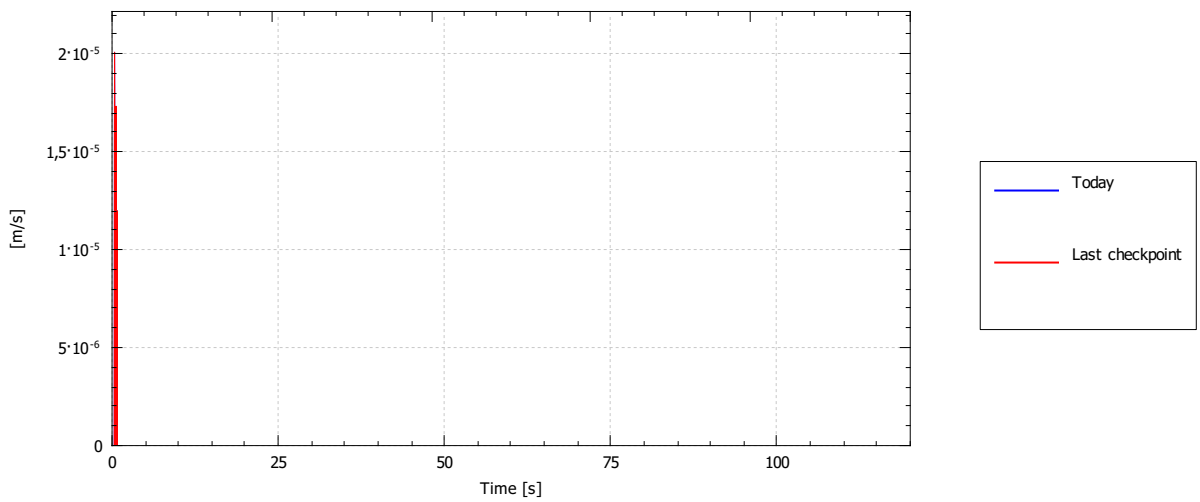

Displacement (v)
[m]
3
2
1
0
-1
-2
-3
0
25
50
75
100
Time [s]
Today
Last checkpoint


Displacement (w)
[m]
3
2
1
0
-1
-2
-3
0
25
50
75
100
Time [s]
Today
Last checkpoint

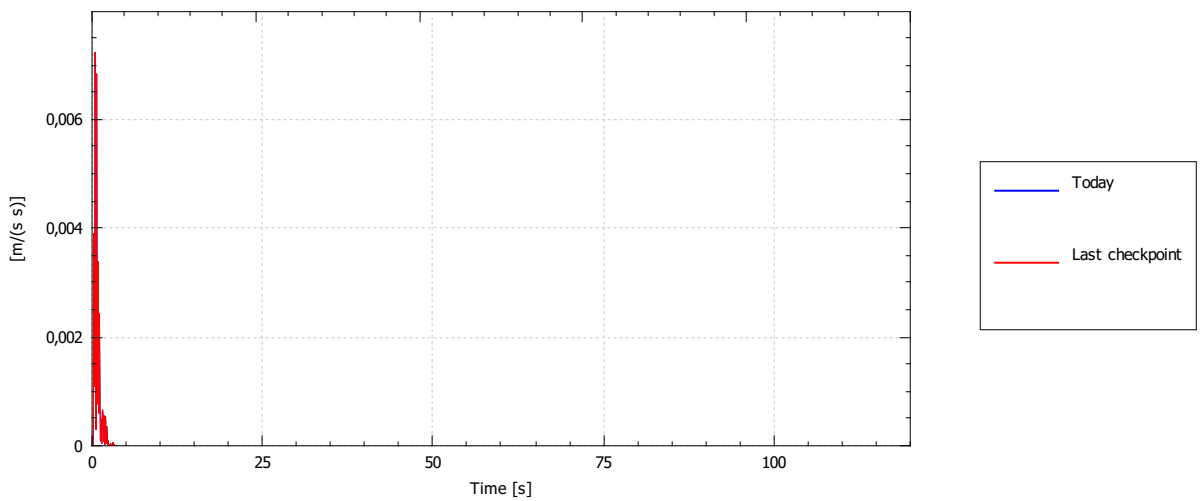
Displacement magnitude



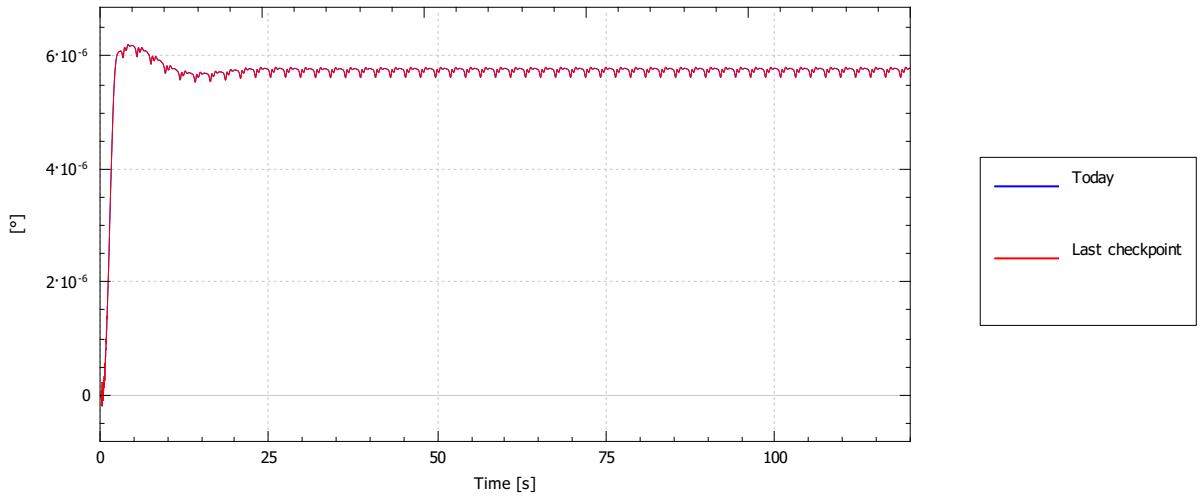
Speed



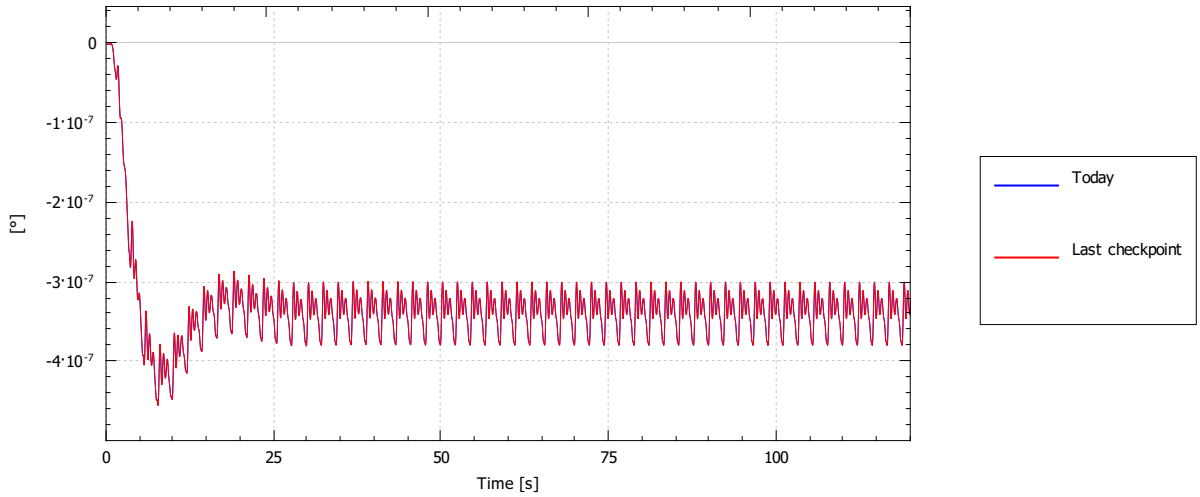
Acceleration, magnitude



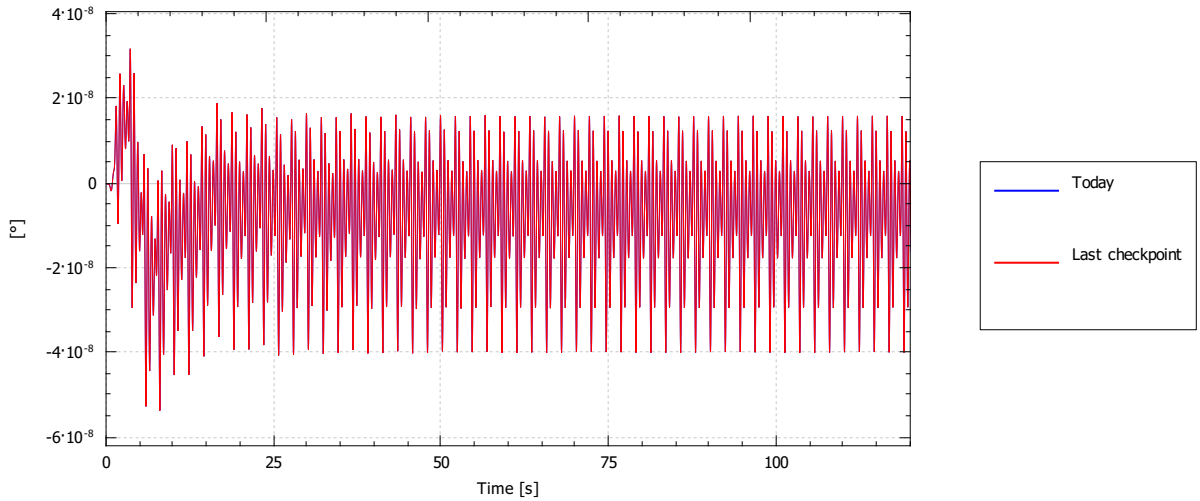
Rotational displacement (ru)



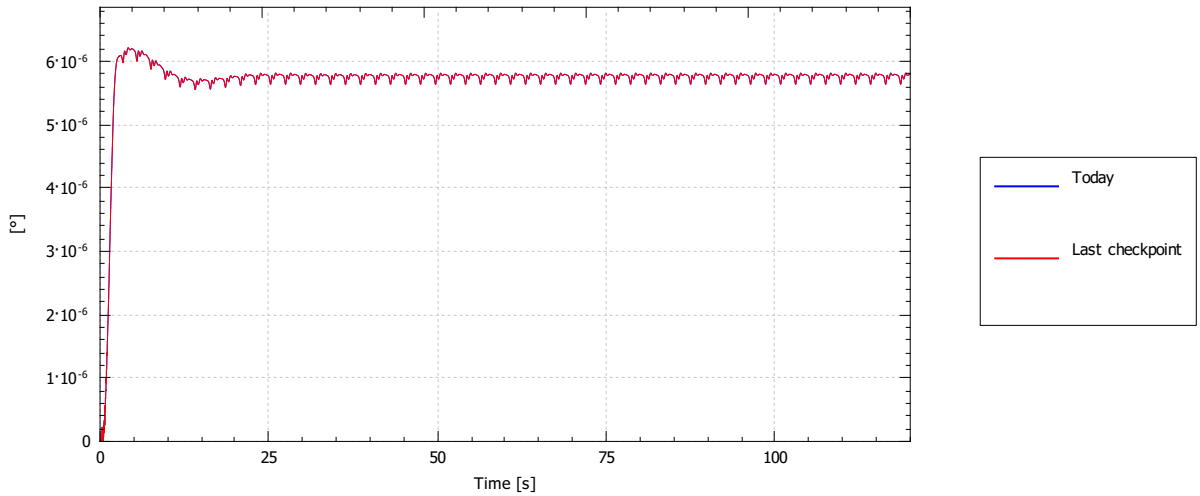
Rotational displacement (rv)



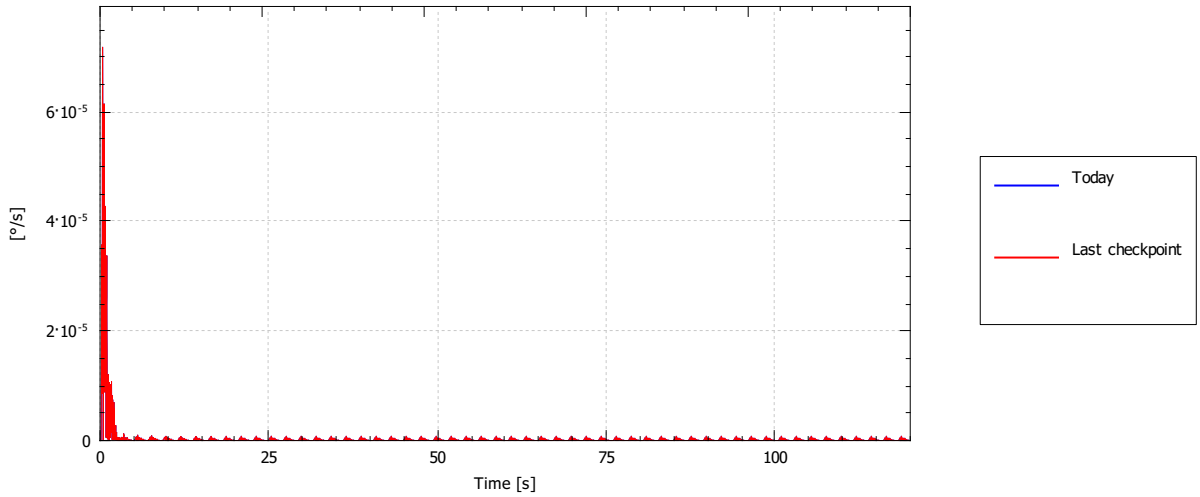
Rotational displacement (rw)



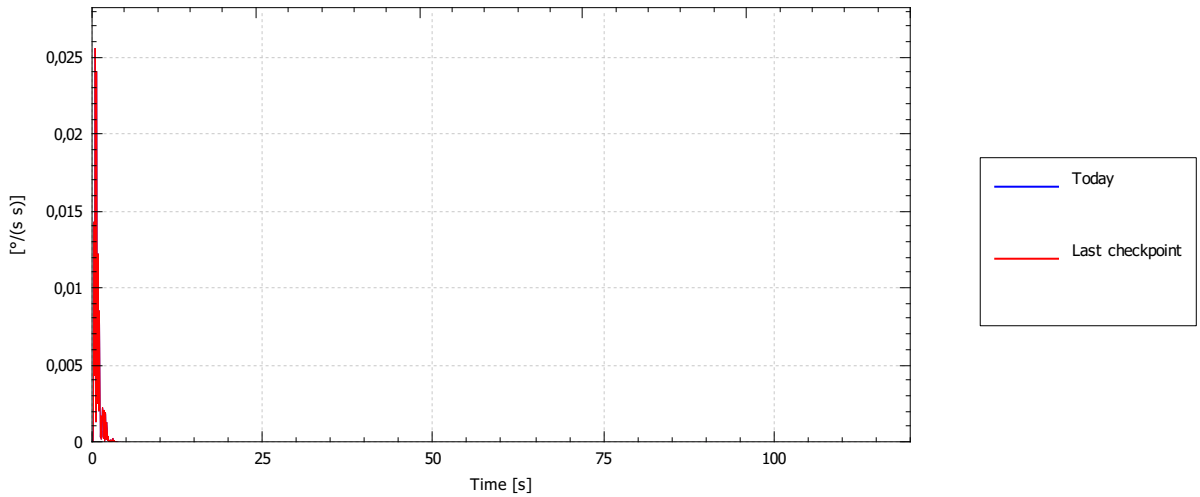
Rotational displacement magnitude



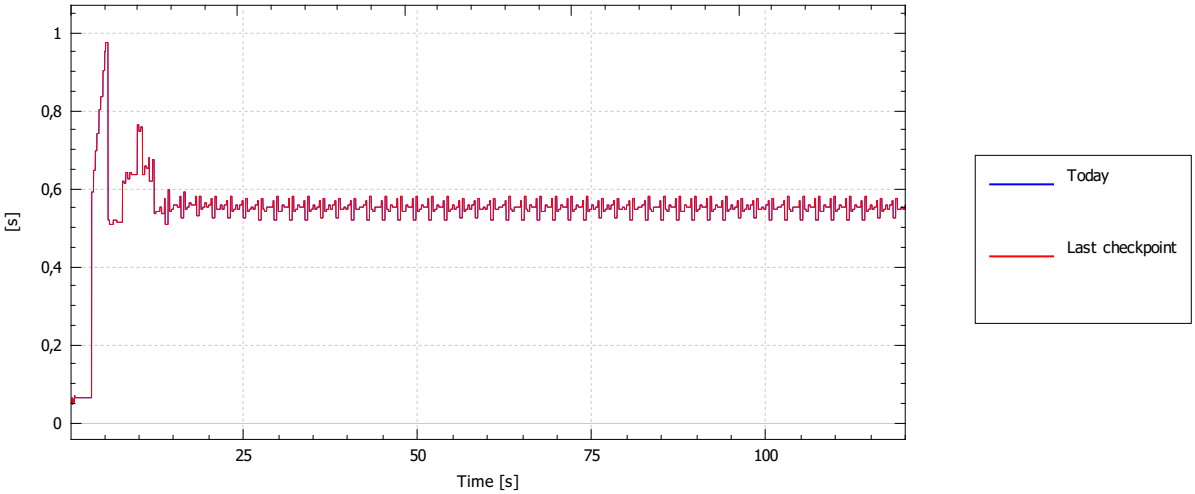
Rotational speed



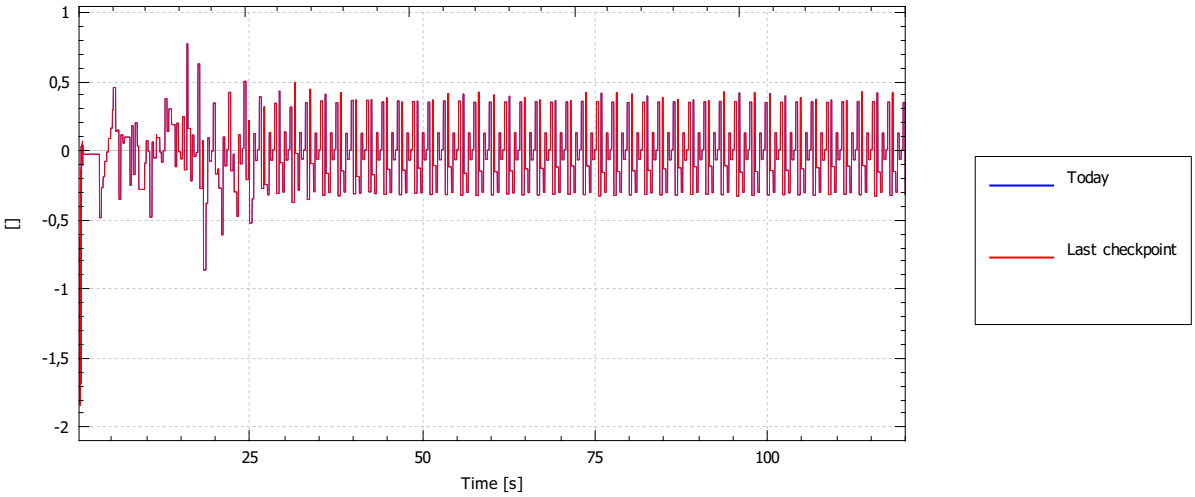
Rotational acceleration mag



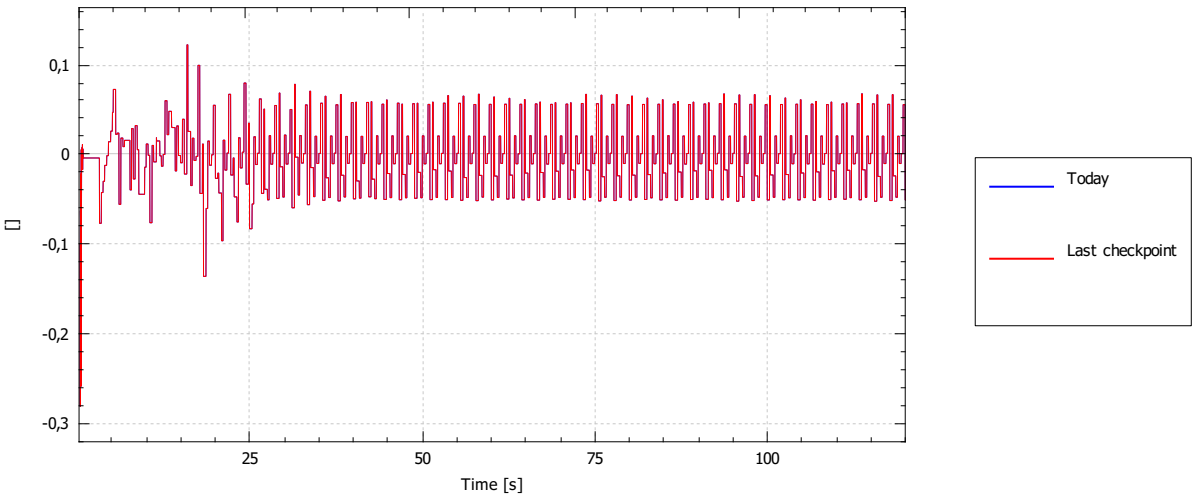
Displacement period



Displacement logarithmic decrement

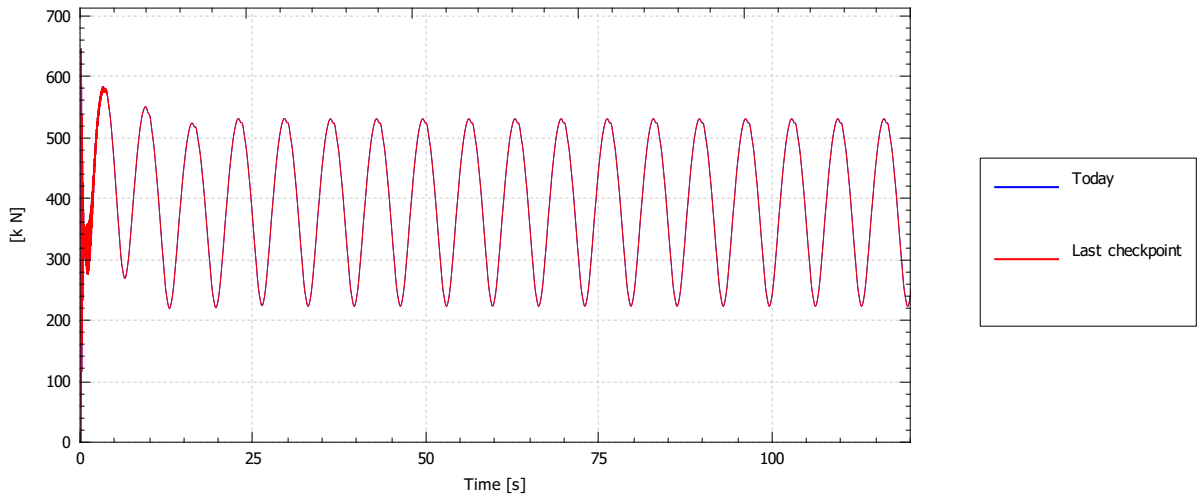


Displacement damping ratio

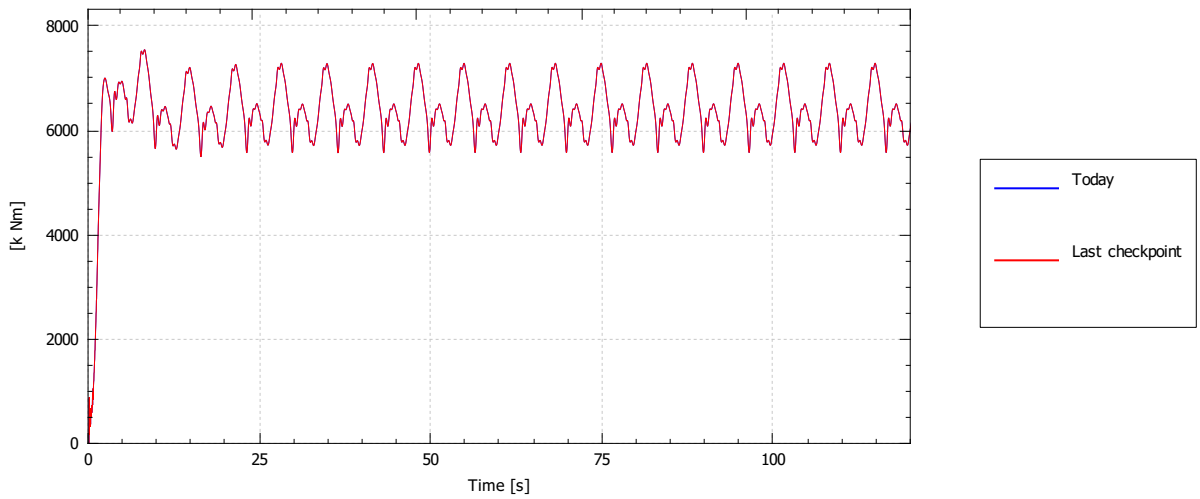


Blade [Time] [Blade 1]

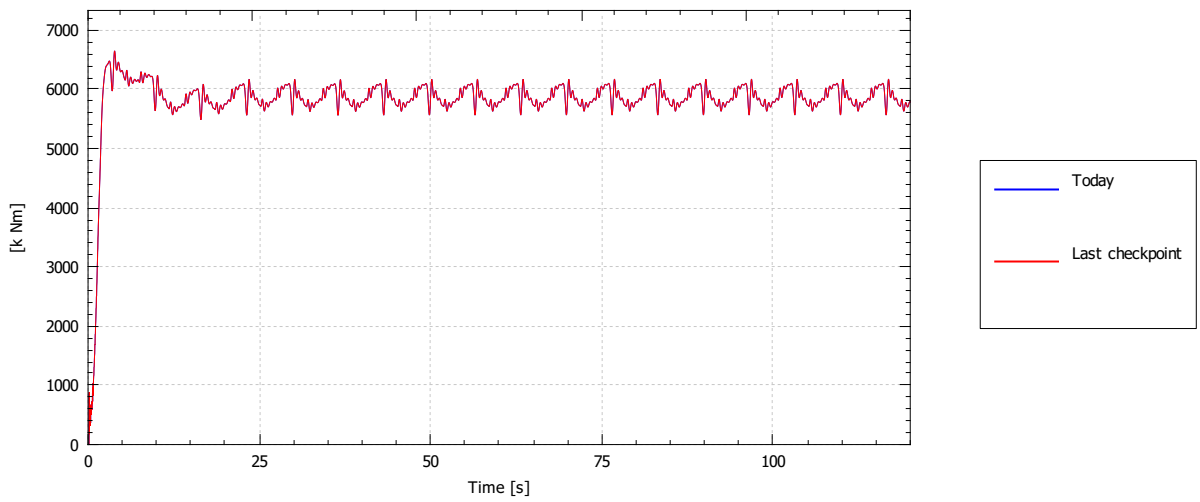
Root force (magnitude)



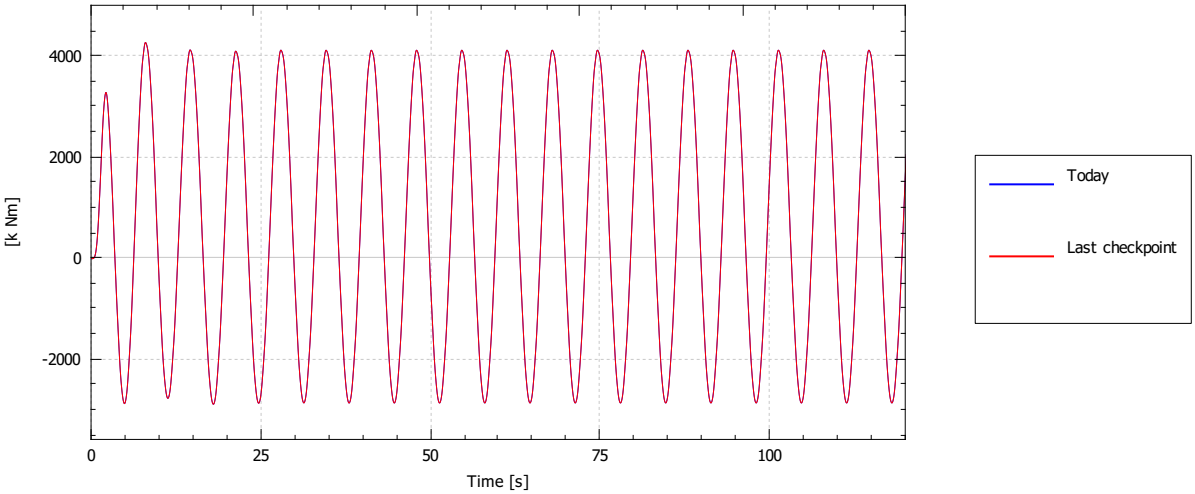
Root moment (magnitude)



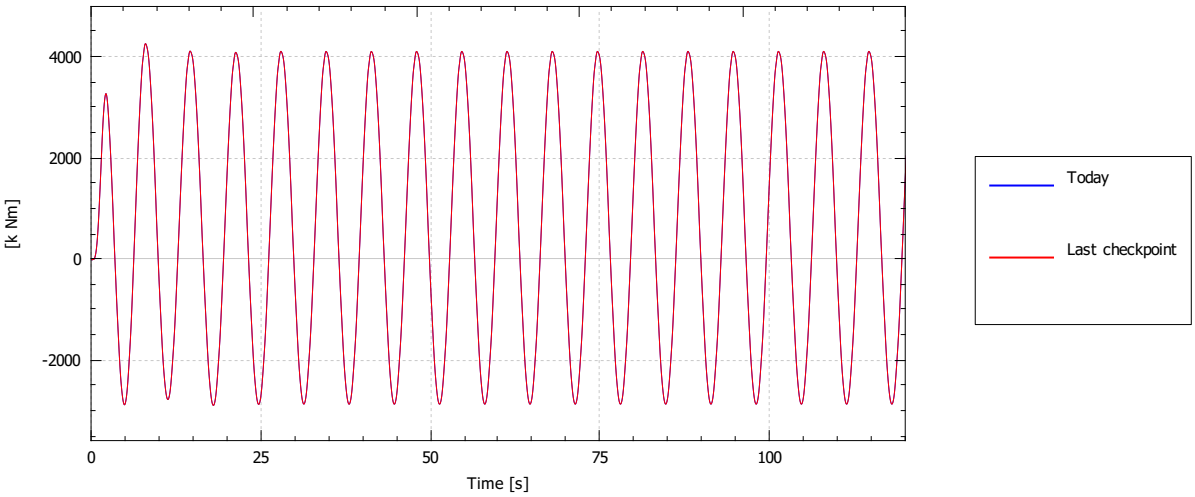
Root moment (out-of-plane)



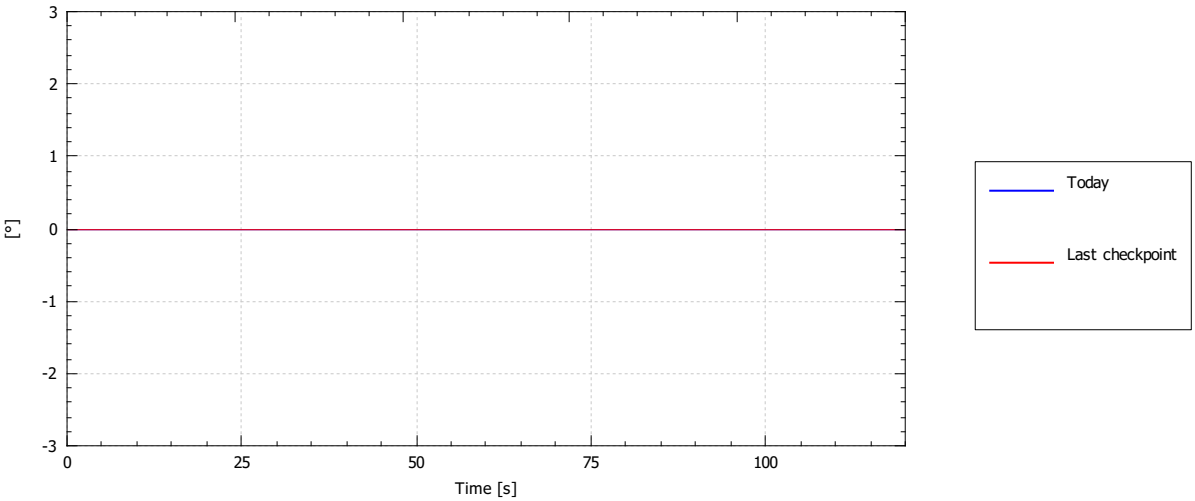
Root moment (in-plane)



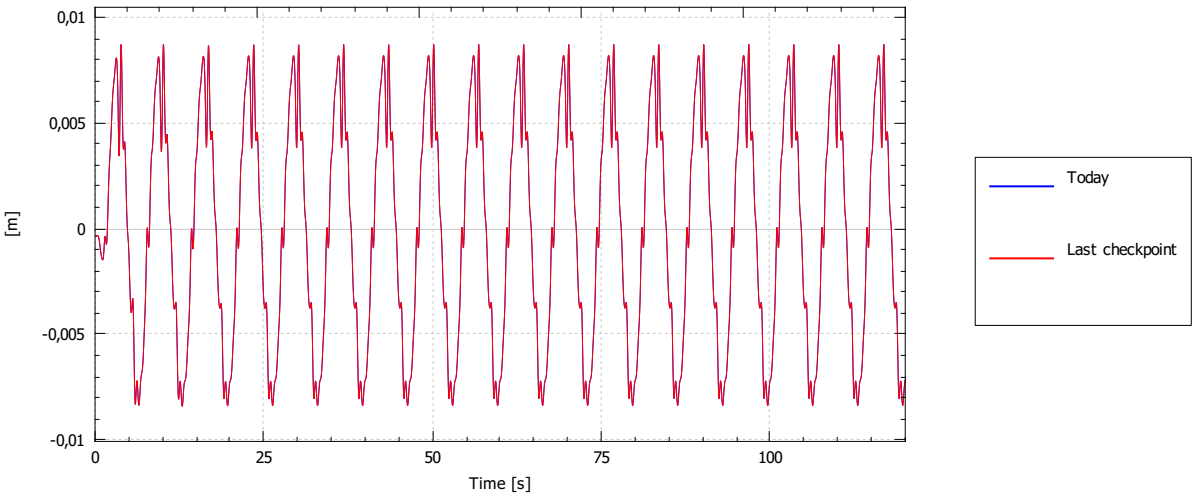
Root moment about shaft



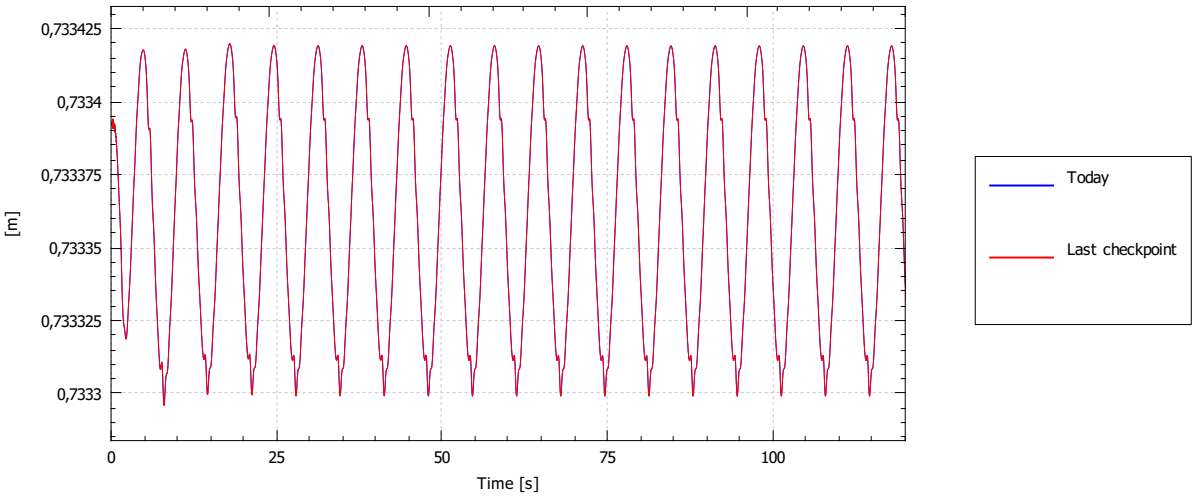
Pitch angle



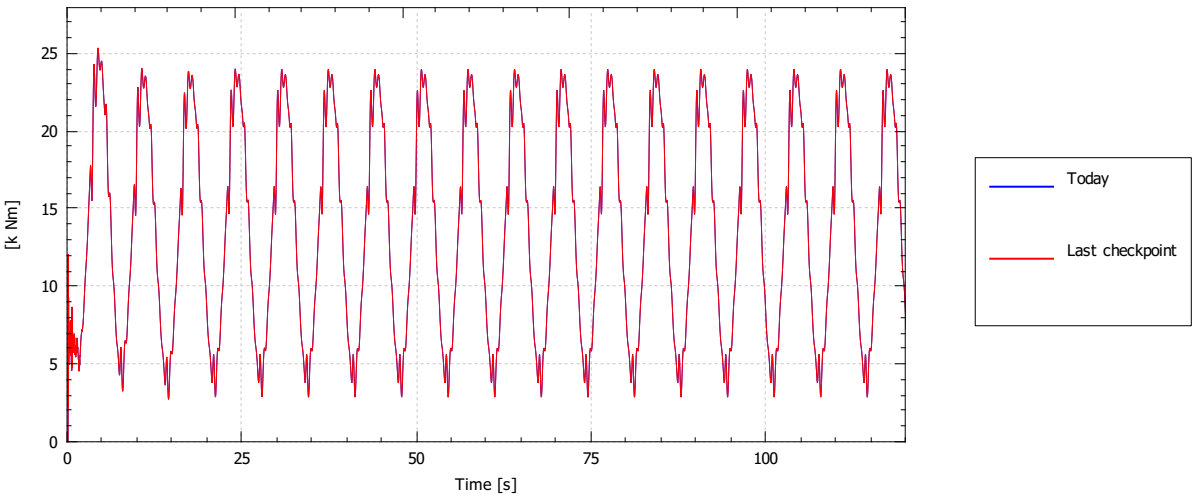
Tip deflection (out-of-plane)



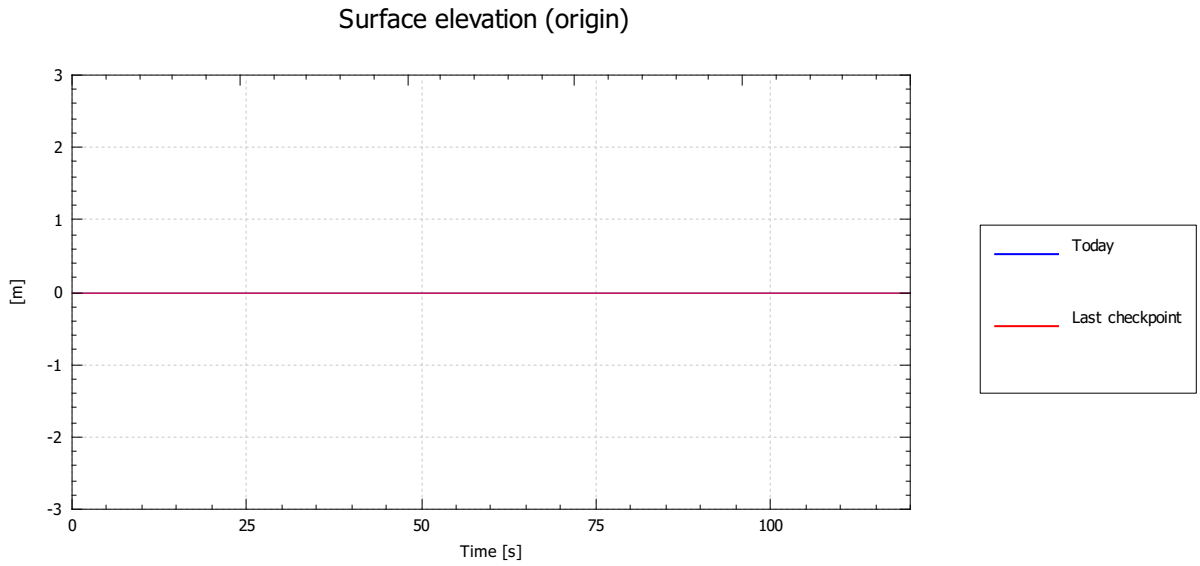
Tip deflection (in-plane)

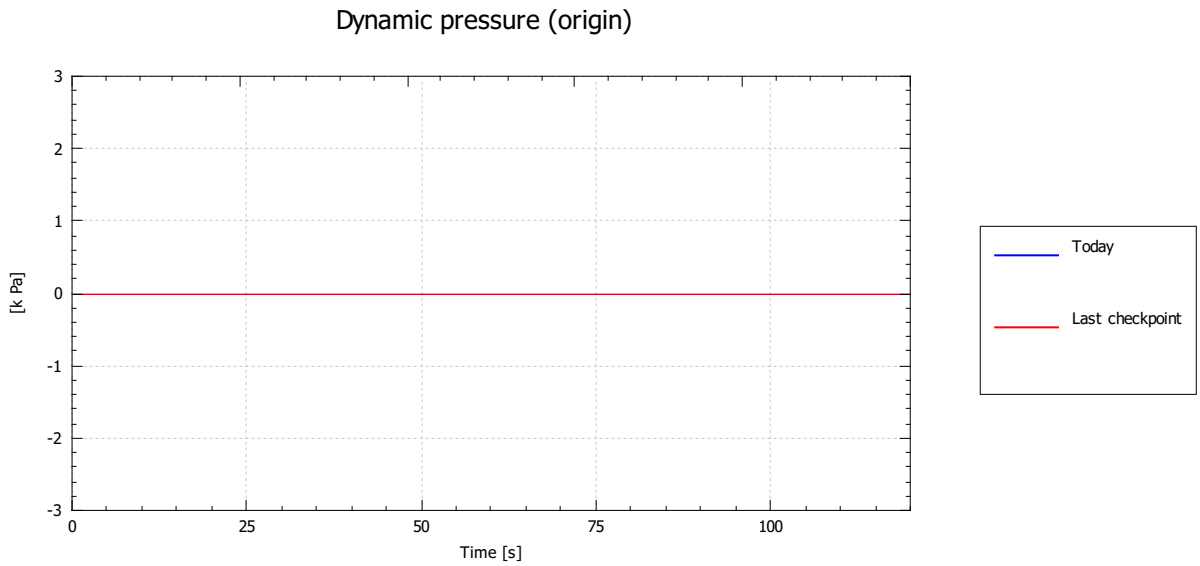


Root torque



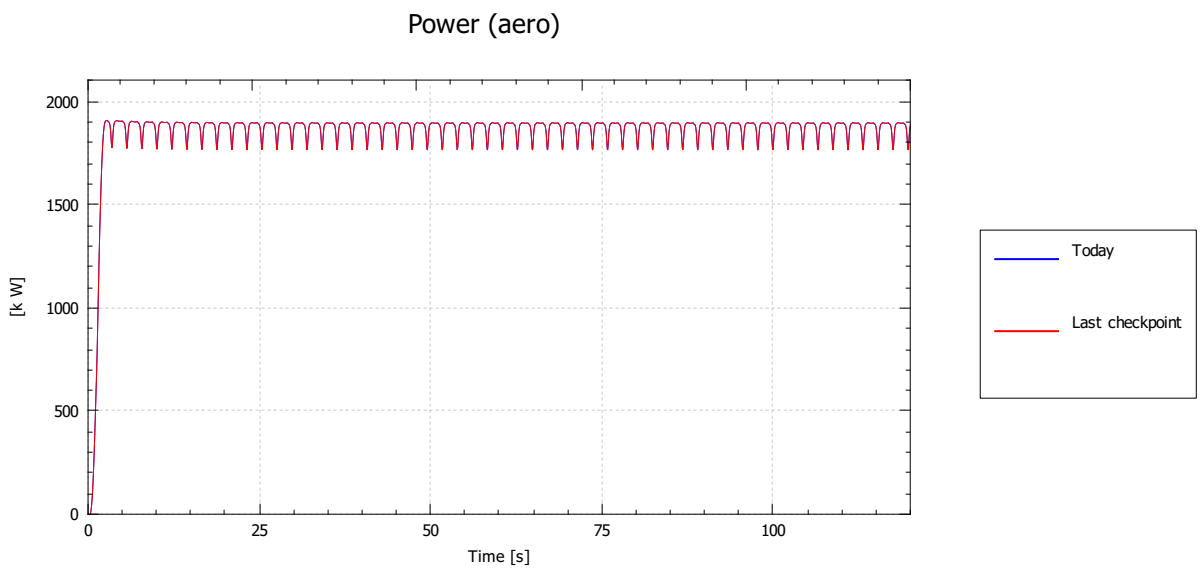
Sea

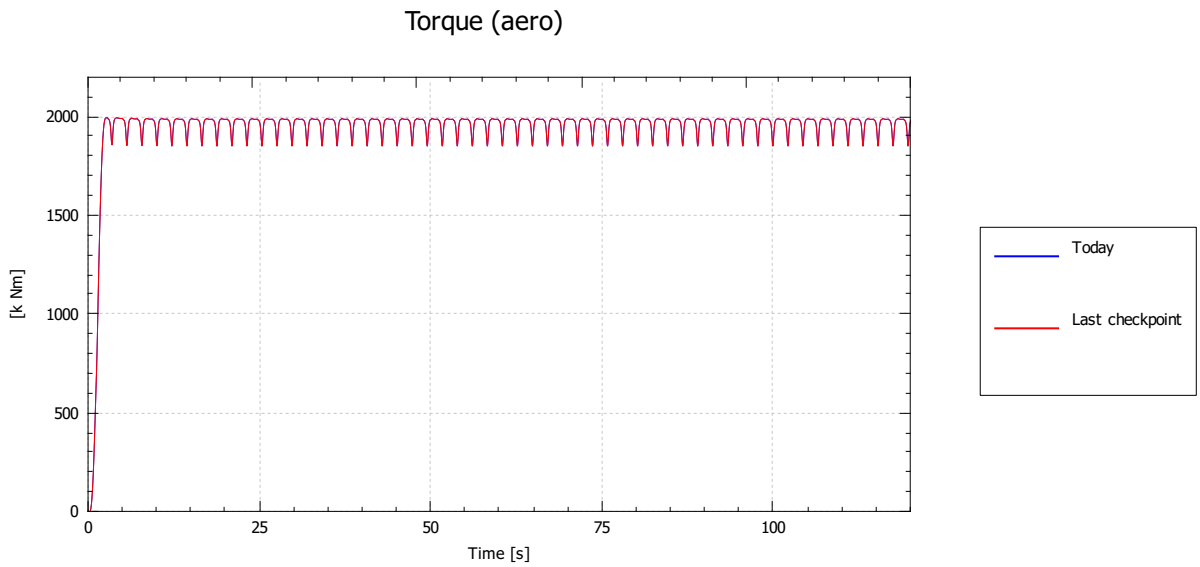


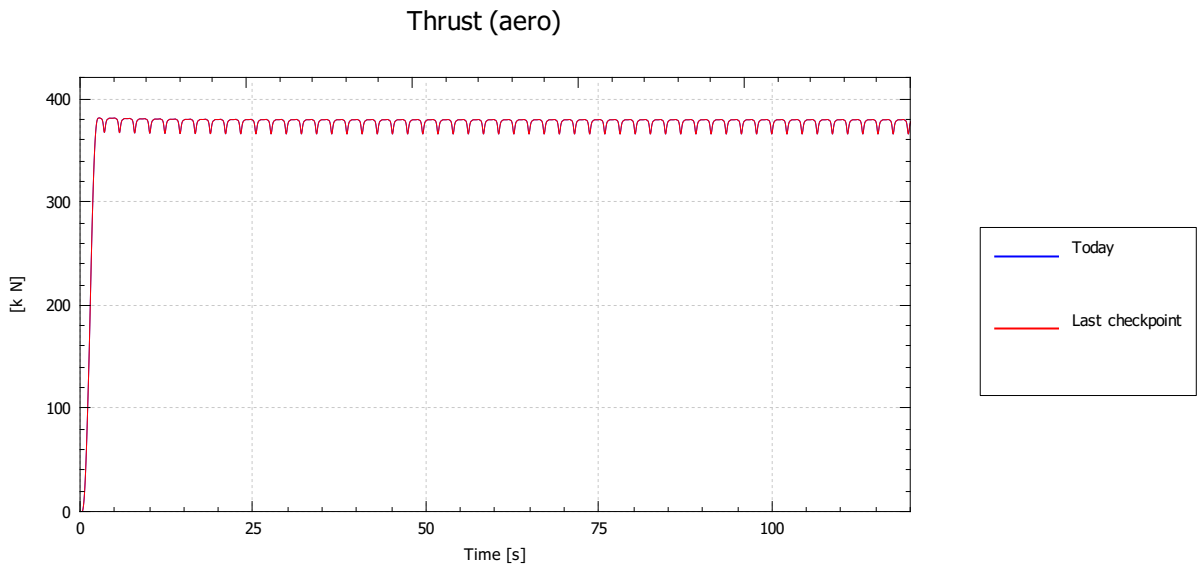


Load case: 2.1b

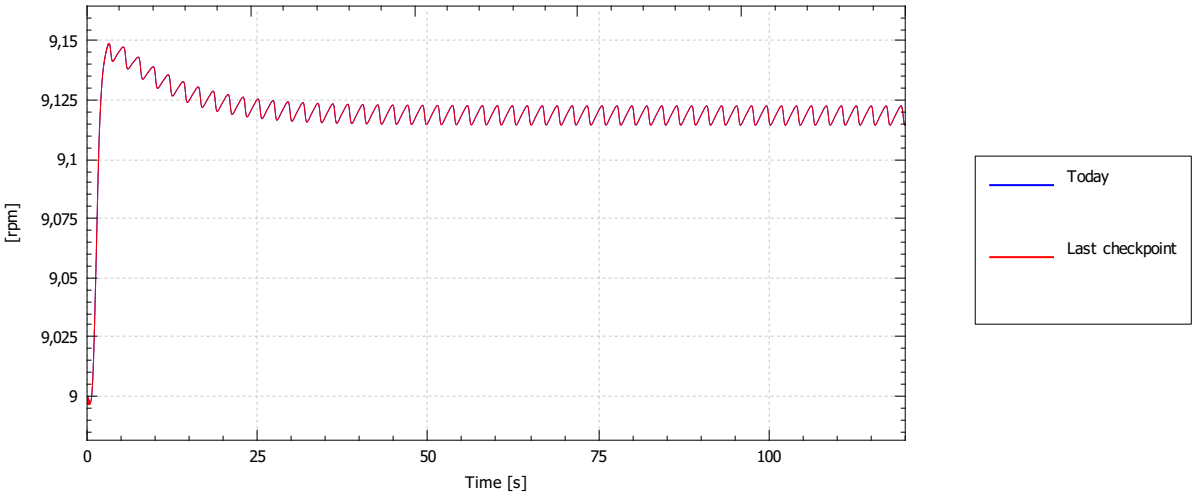
Rotor


Power (aero)
[k W]
2000
1500
1000
500
0
0
25
50
75
100
Time [s]
Today
Last checkpoint

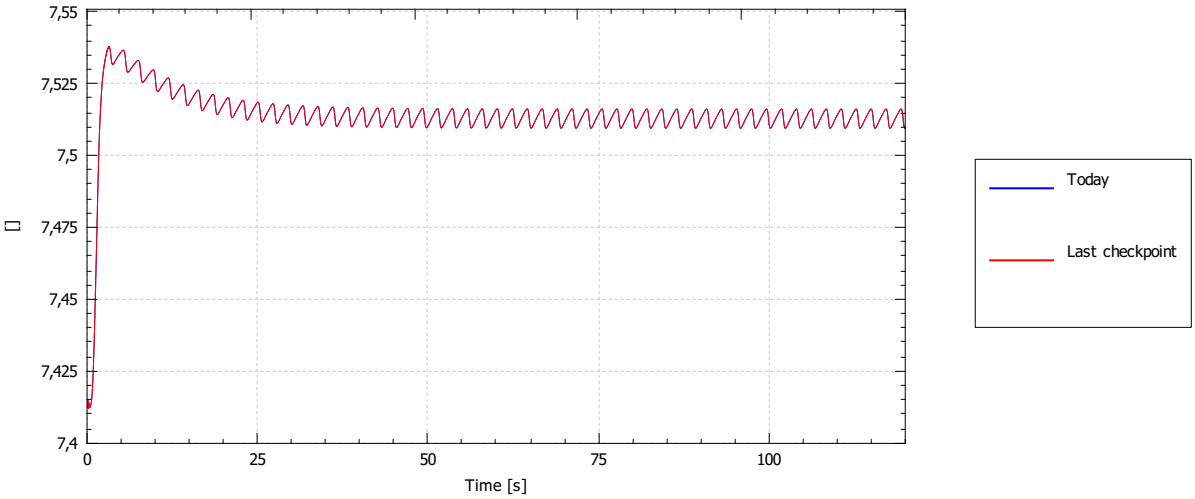

Torque (aero)
[k Nm]
2000
1500
1000
500
0
0
25
50
75
100
Time [s]
Today
Last checkpoint


Thrust (aero)
[k N]
400
300
200
100
0
0
25
50
75
100
Time [s]
Today
Last checkpoint

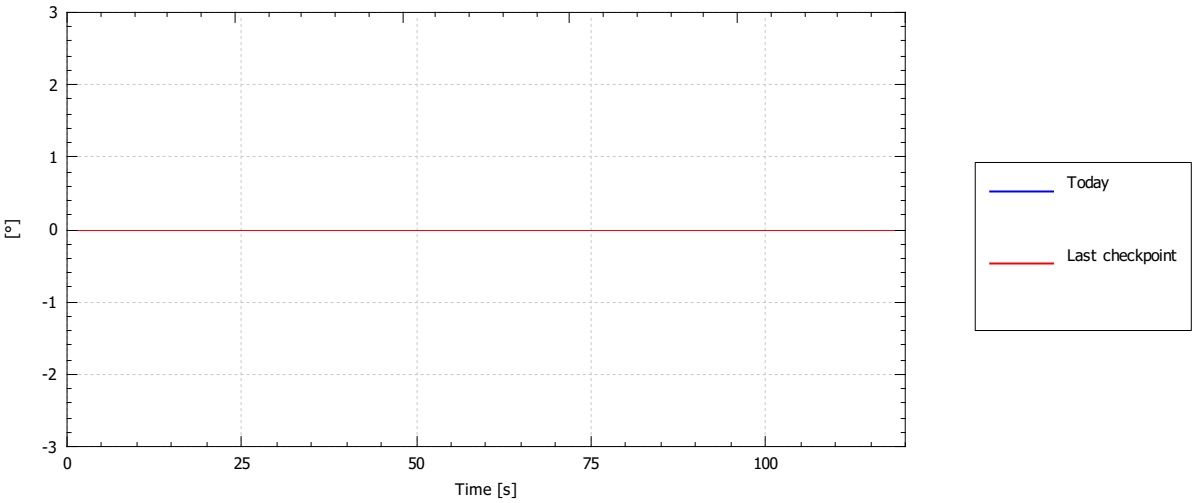
RPM

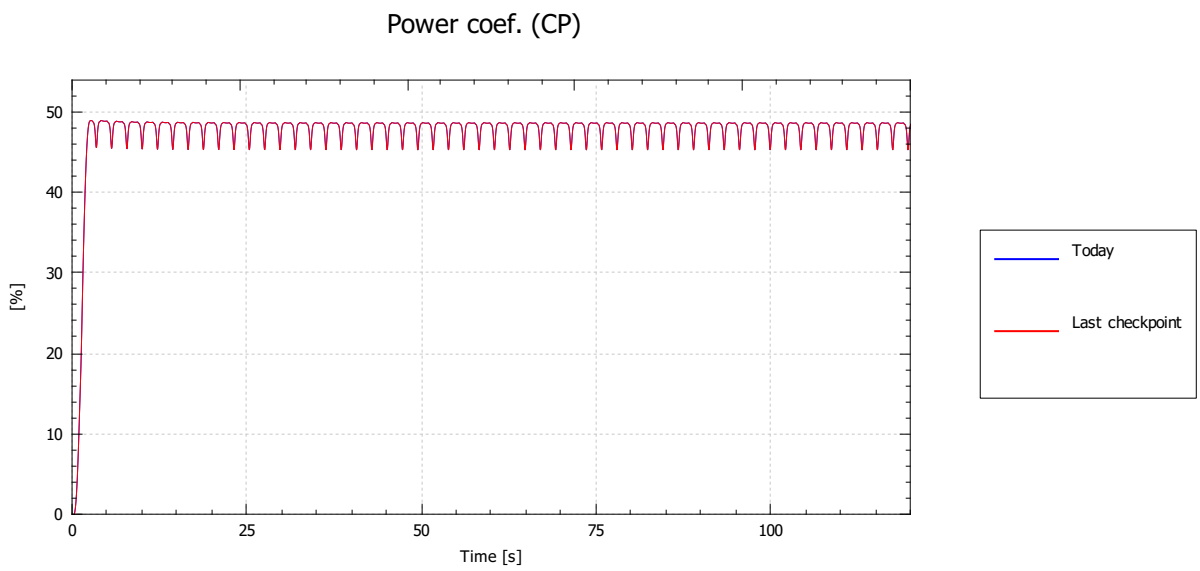


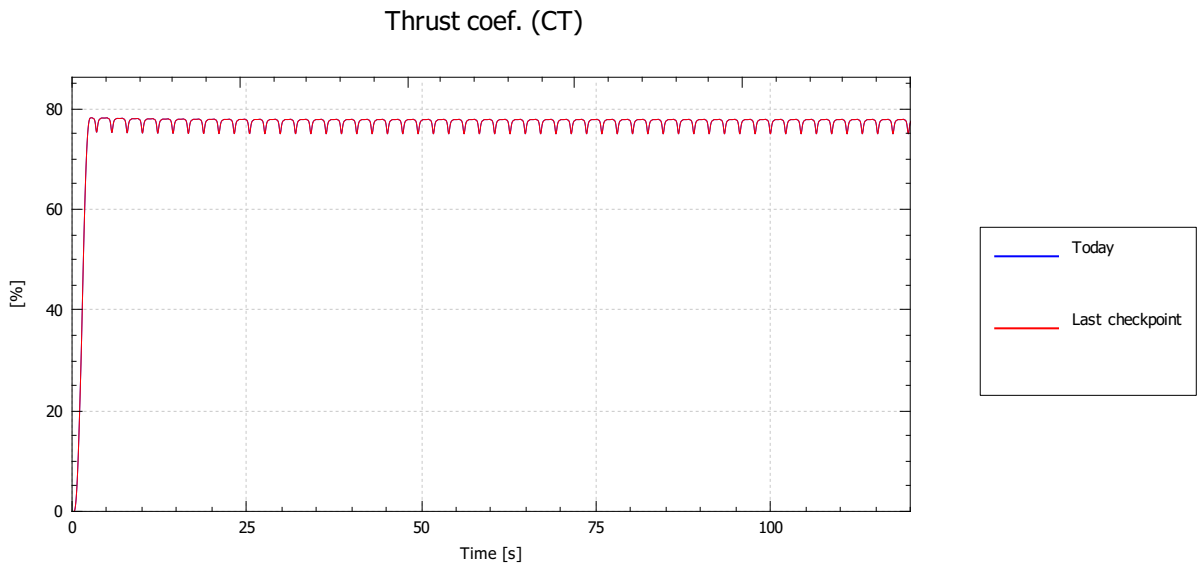
TSR

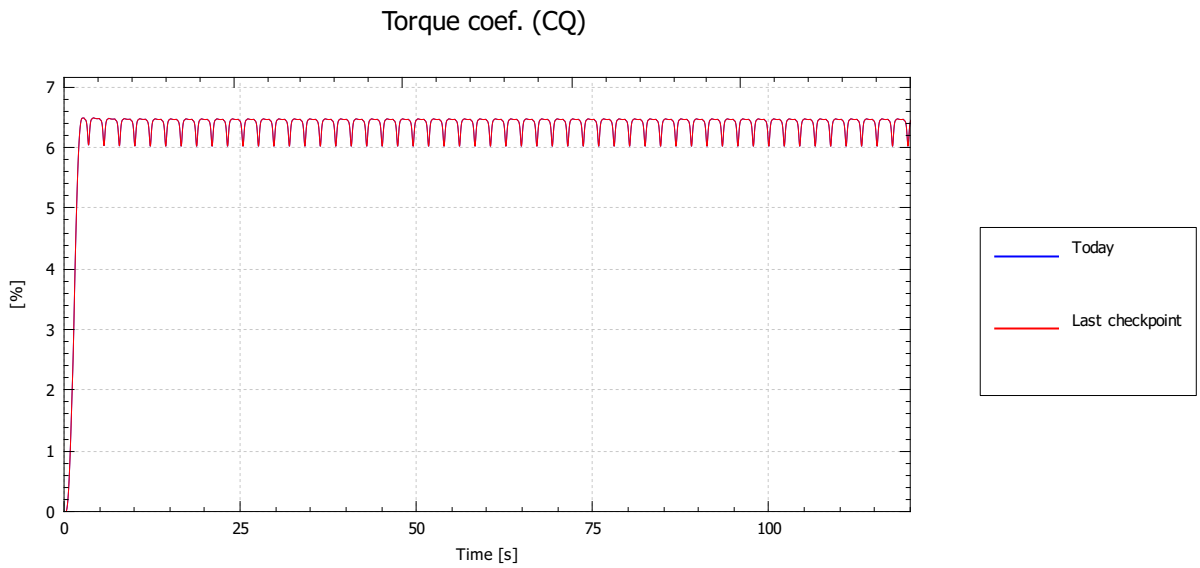


Representative demanded pitch angle

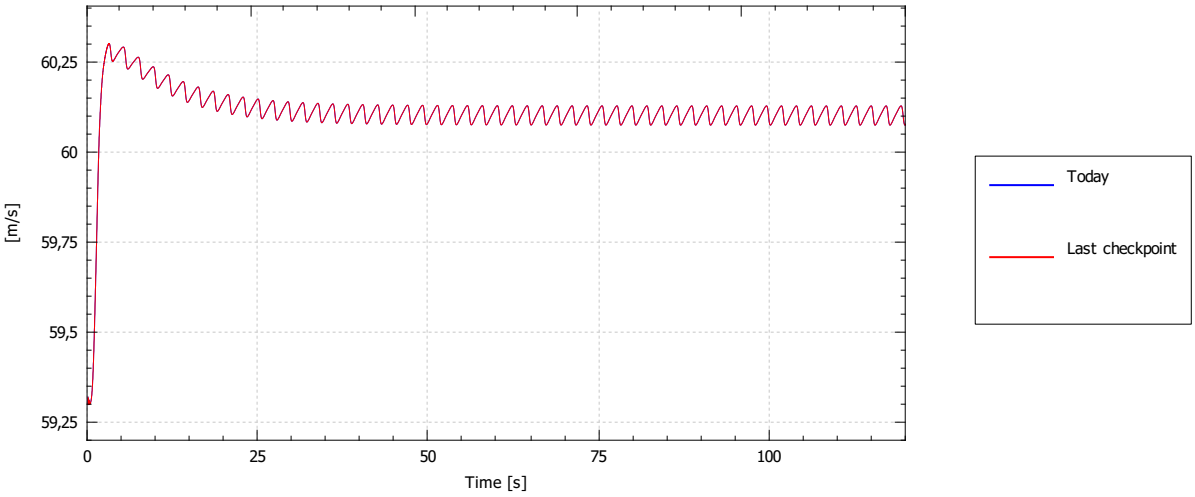



Power coef. (CP)
[%]
0
10
20
30
40
50
0
25
50
75
100
Time [s]
Today
Last checkpoint

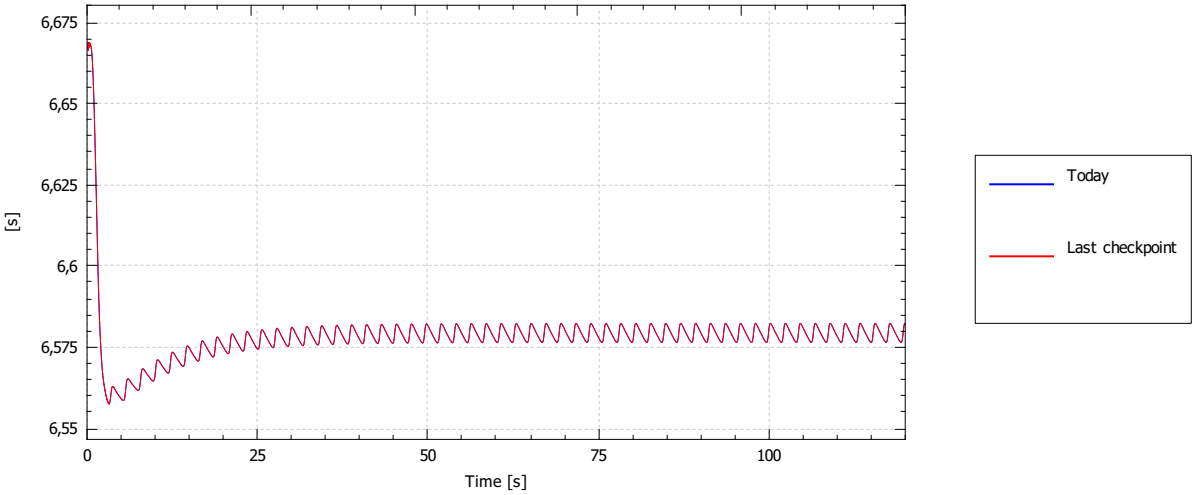

Thrust coef. (CT)
[%]
0
20
40
60
80
0
25
50
75
100
Time [s]
Today
Last checkpoint


Torque coef. (CQ)
[%]
0
1
2
3
4
5
6
7
0
25
50
75
100
Time [s]
Today
Last checkpoint

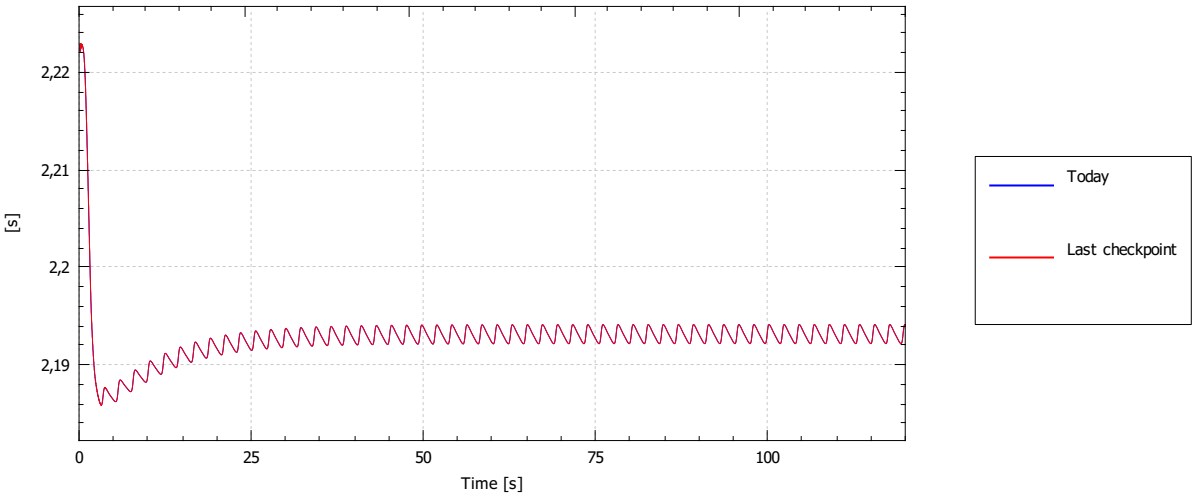
Tip speed

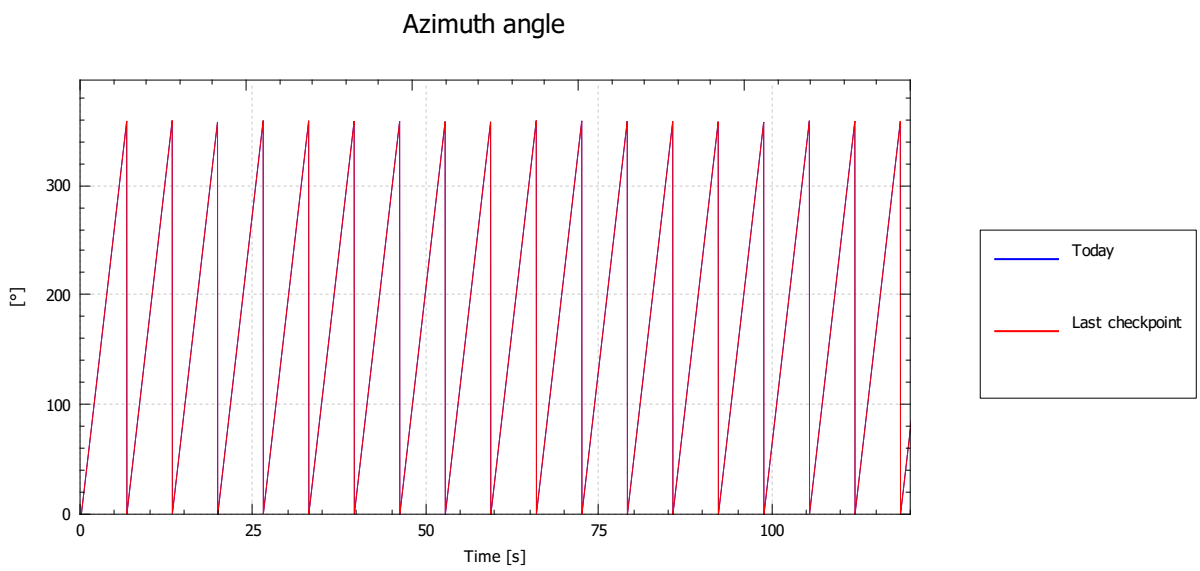


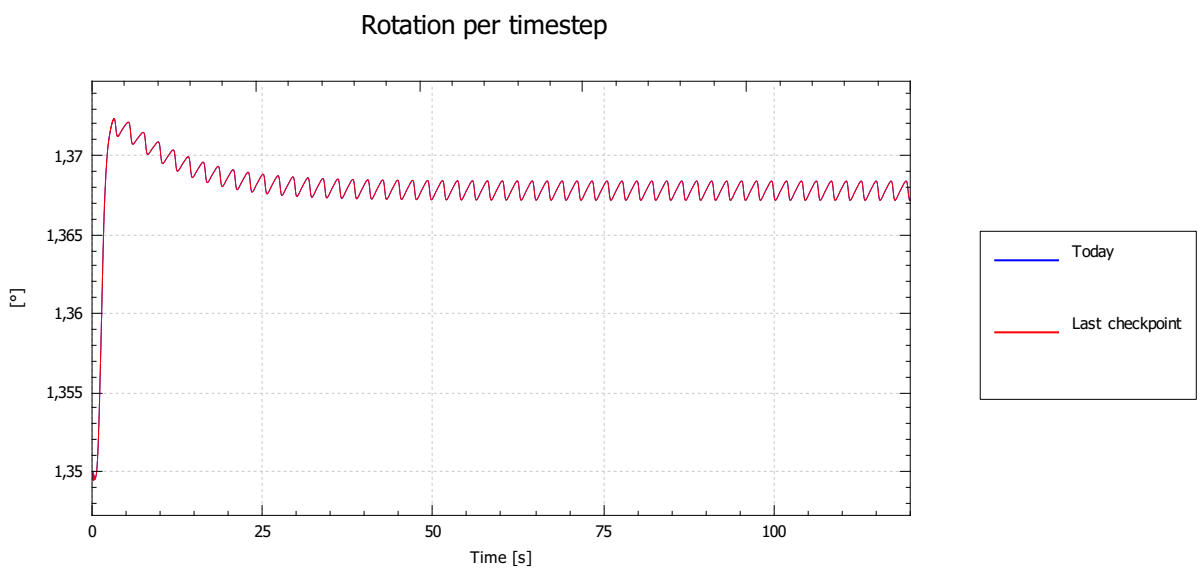
1P (one revolution)

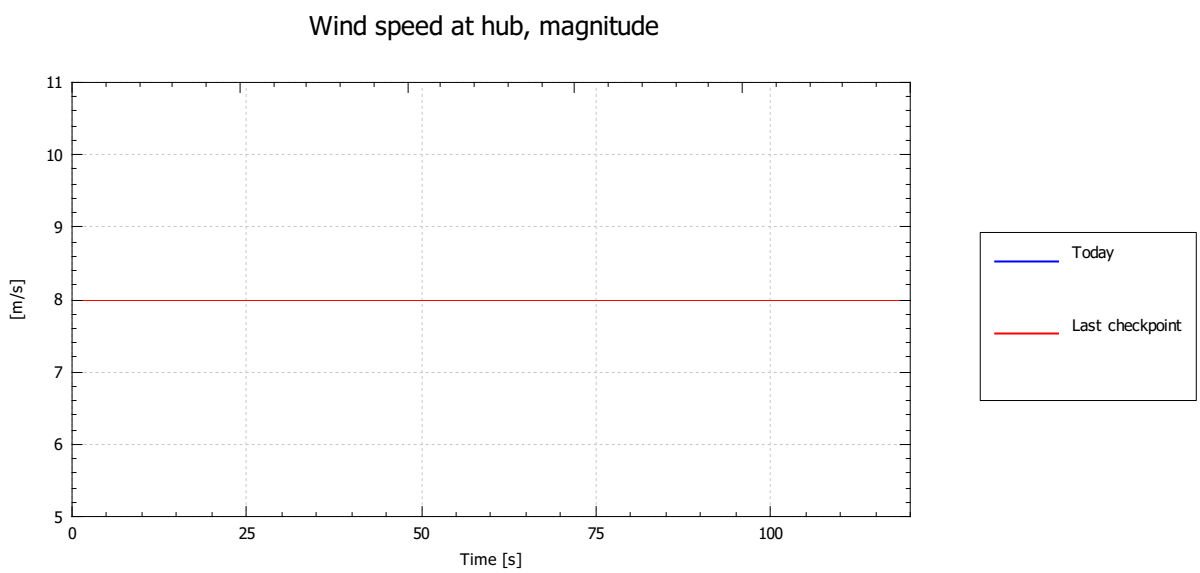


nP (blade passing)

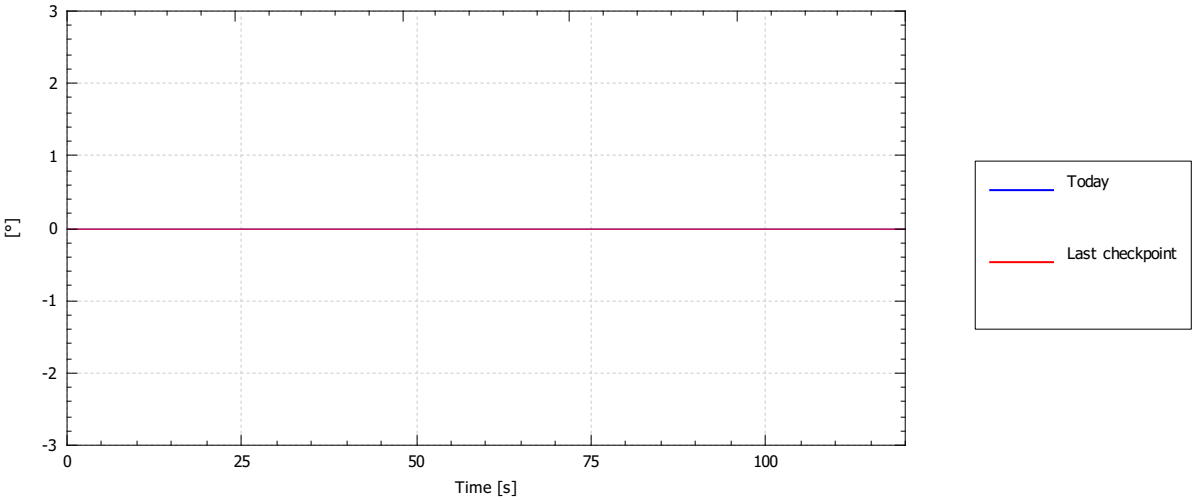



Azimuth angle
[°]
300
200
100
0
0
25
50
75
100
Time [s]
Today
Last checkpoint

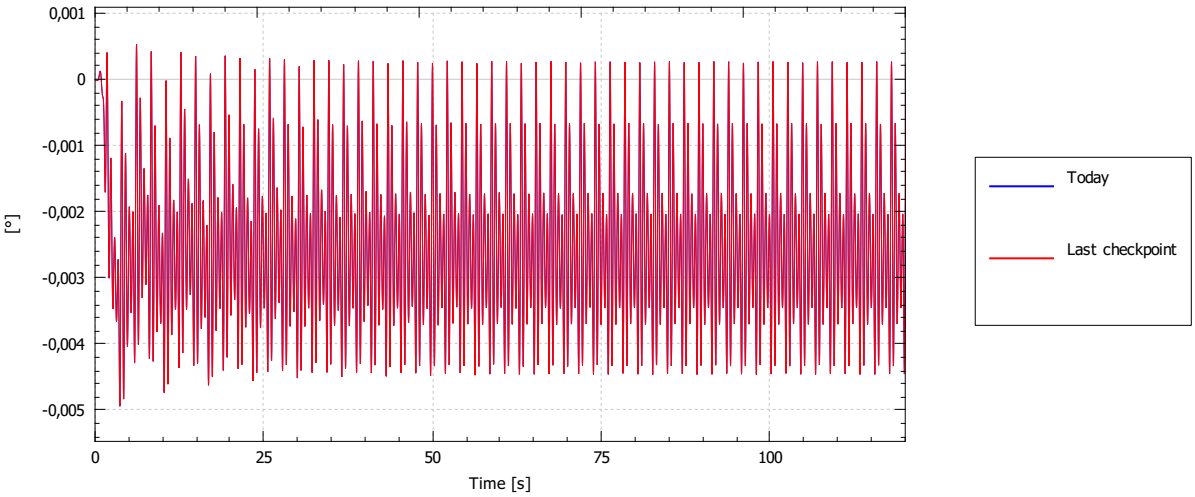

Rotation per timestep
[°]
1,37
1,365
1,36
1,355
1,35
0
25
50
75
100
Time [s]
Today
Last checkpoint


Wind speed at hub, magnitude
[m/s]
11
10
9
8
7
6
5
0
25
50
75
100
Time [s]
Today
Last checkpoint

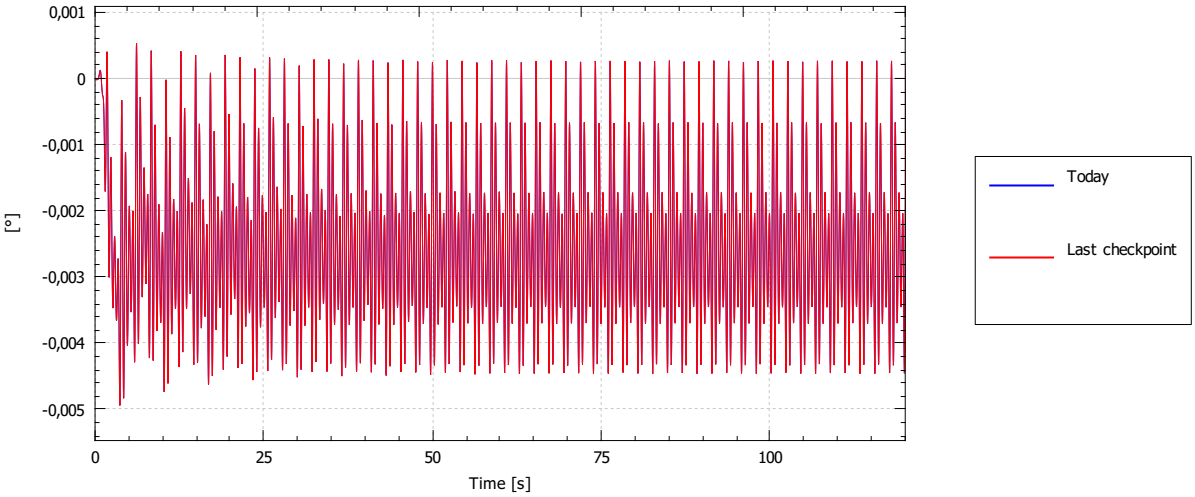
Wind angle at hub

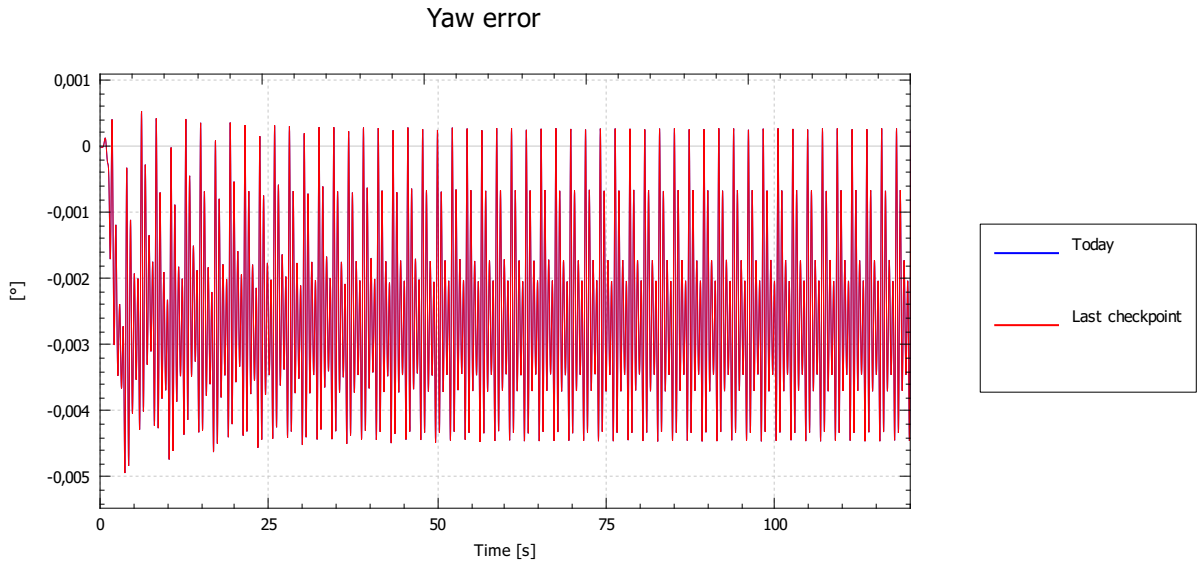


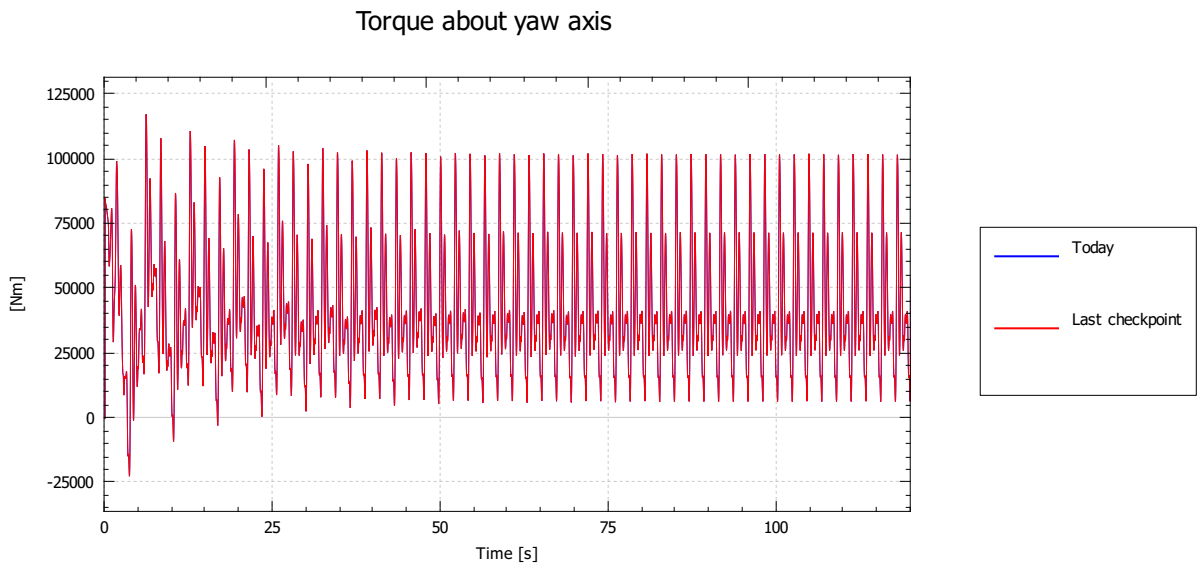
Yaw angle relative to forward



Yaw angle to reference direction

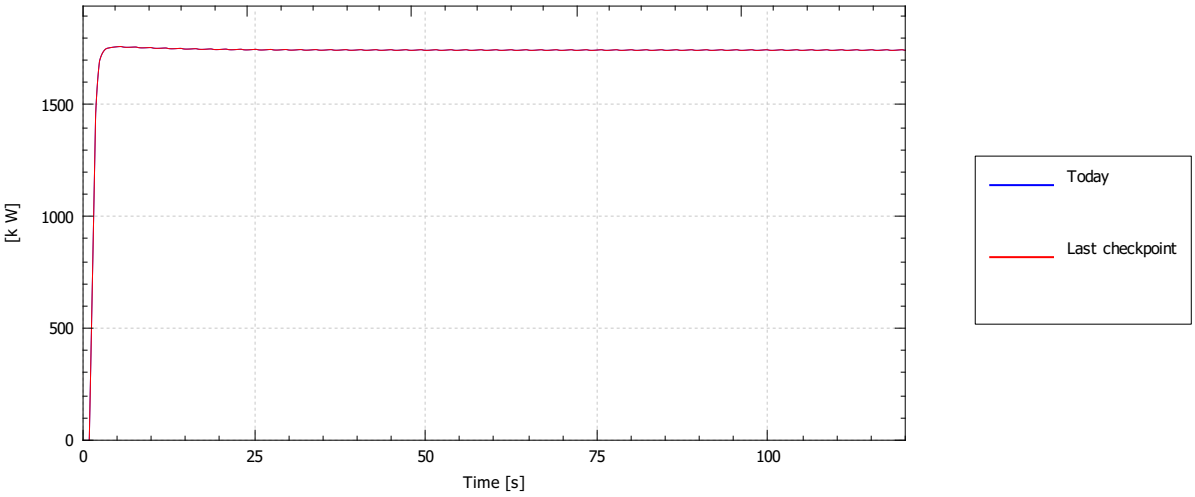



Yaw error
0,001
0
-0,001
-0,002
-0,003
-0,004
-0,005
[°]
0
25
50
75
100
Time [s]
Today
Last checkpoint

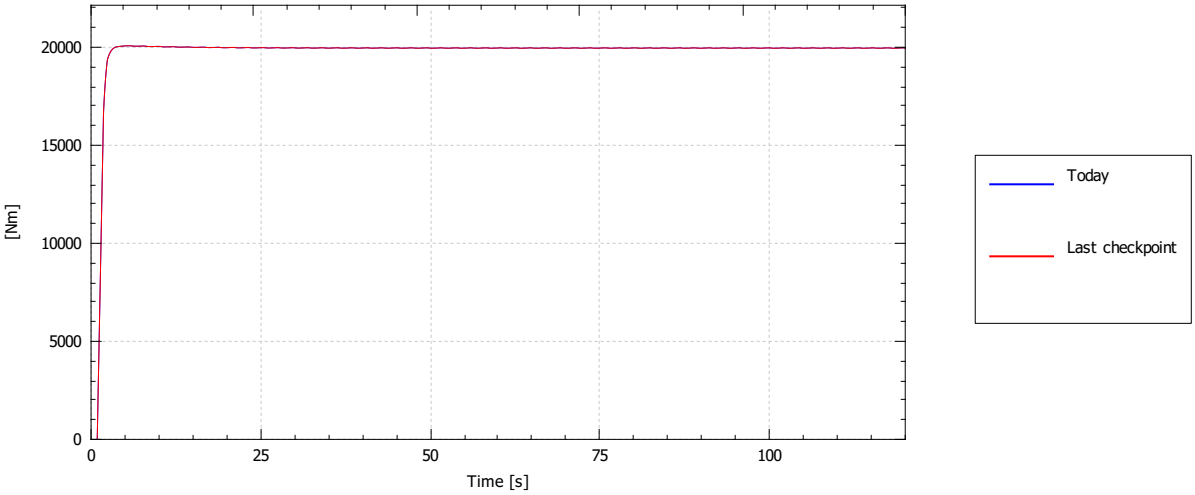

Torque about yaw axis
125000
100000
75000
50000
25000
0
-25000
[Nm]
0
25
50
75
100
Time [s]
Today
Last checkpoint

Generator

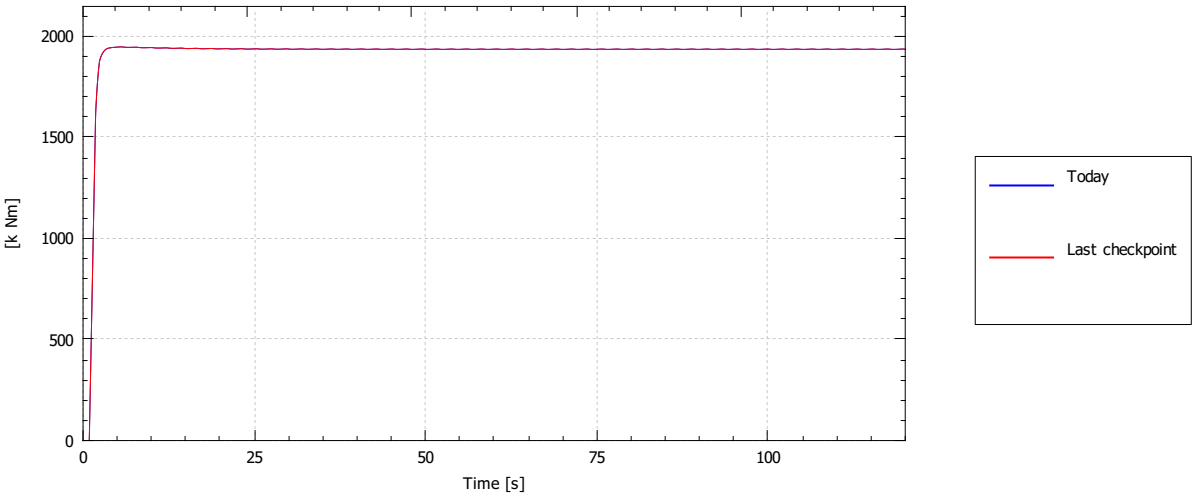
Power (electrical)



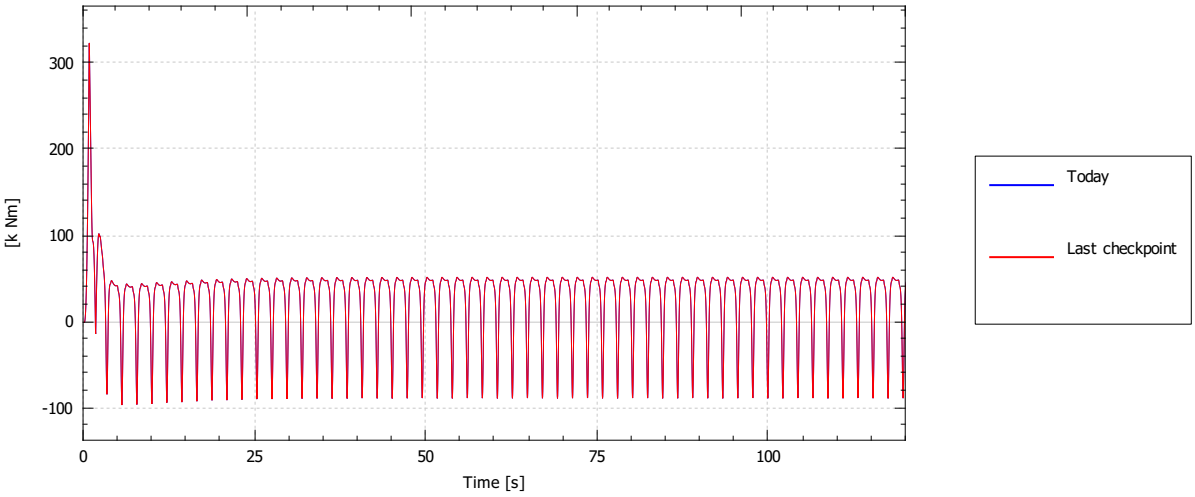
Torque



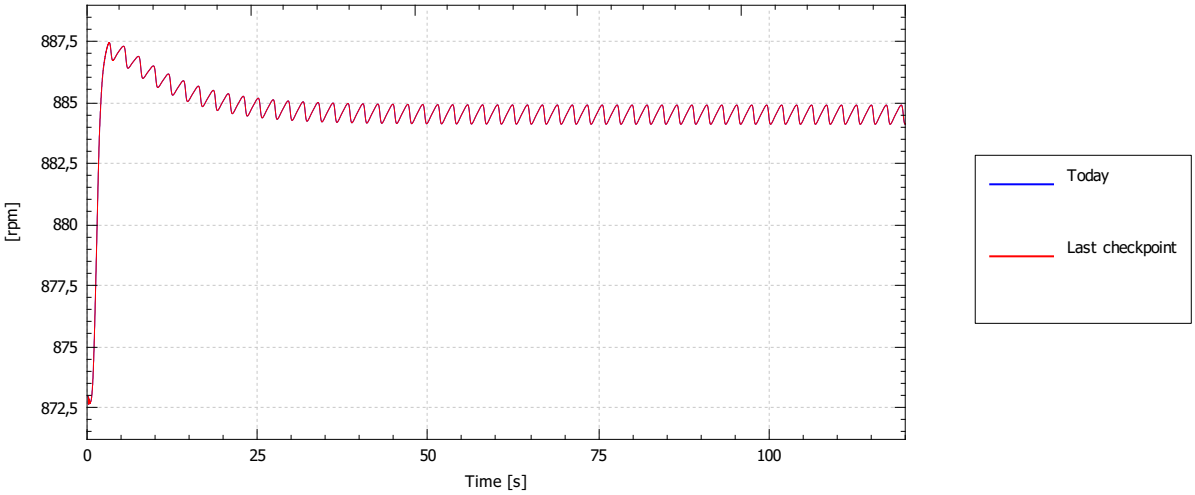
Torque on main shaft



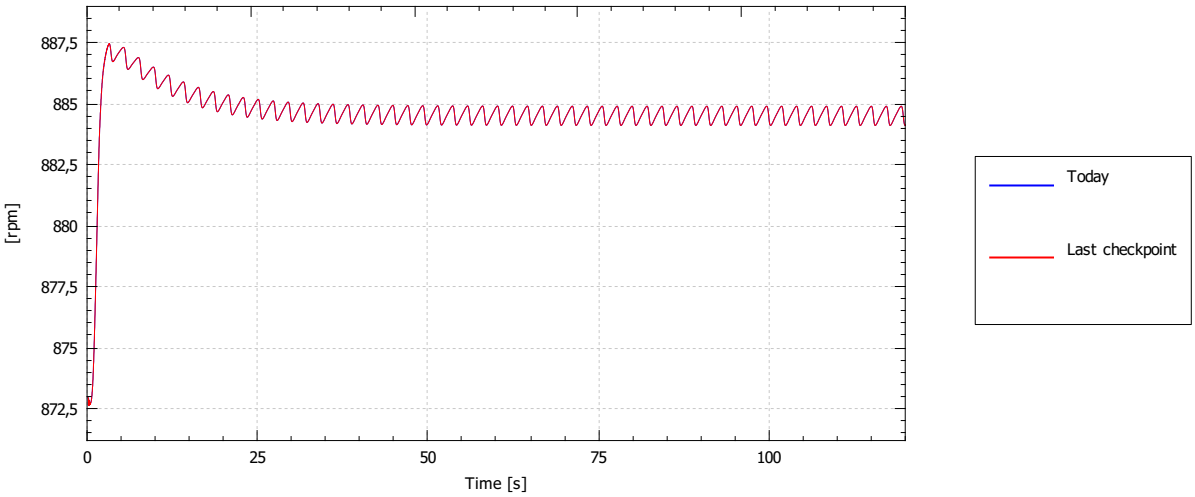
Torque diff. on main shaft

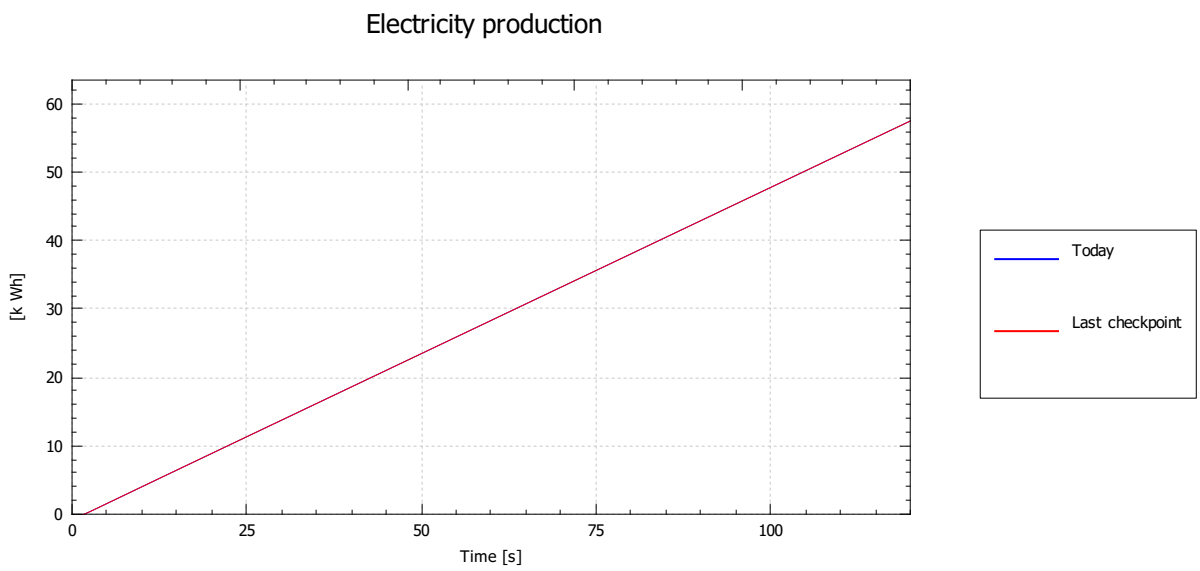


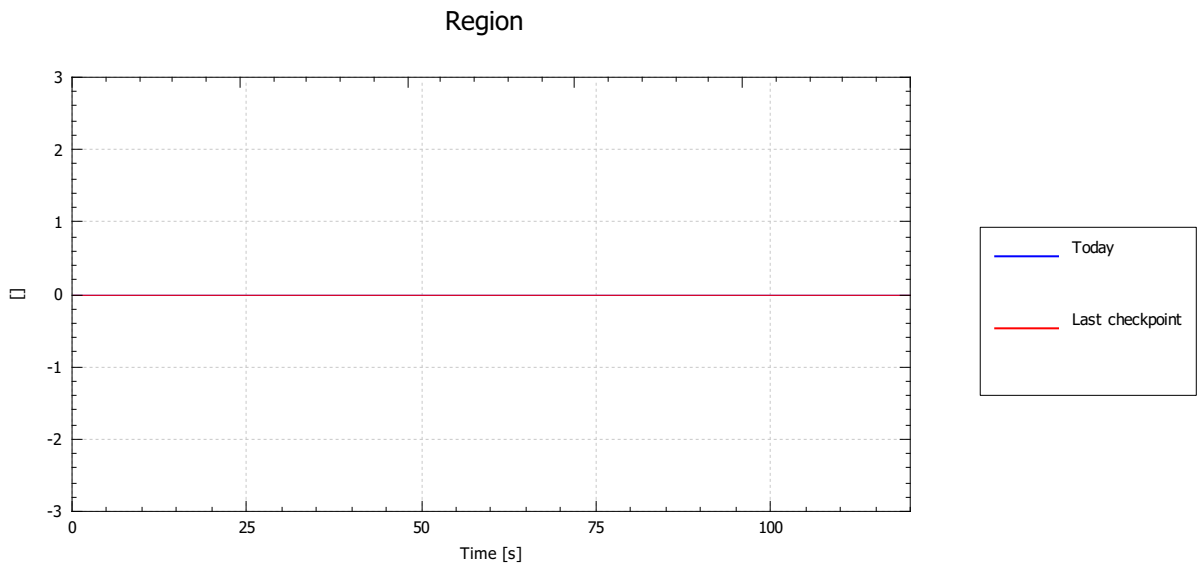
RPM



Filtered RPM

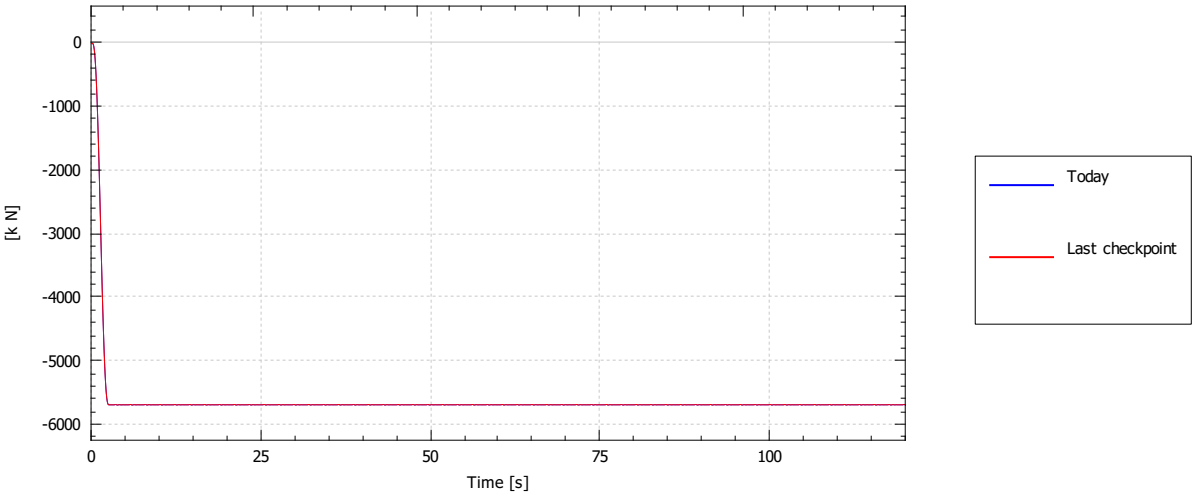




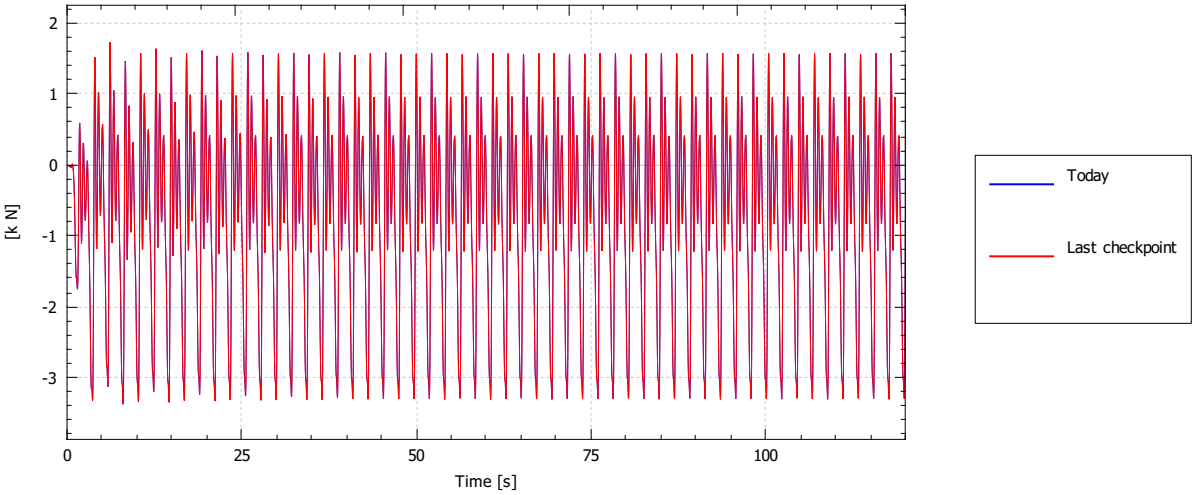


Beam element [Element 1 | Tubular tower]

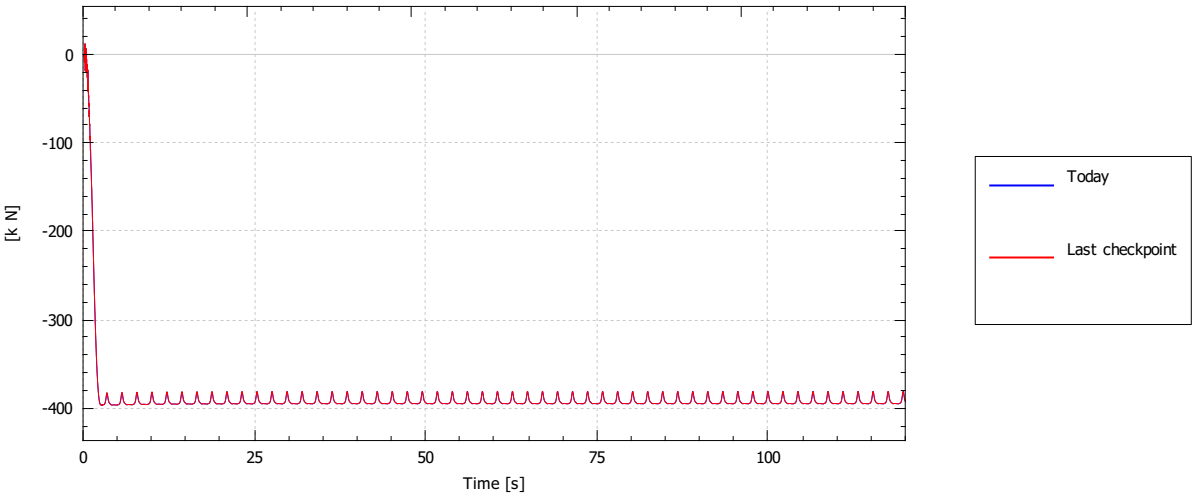
Axial force



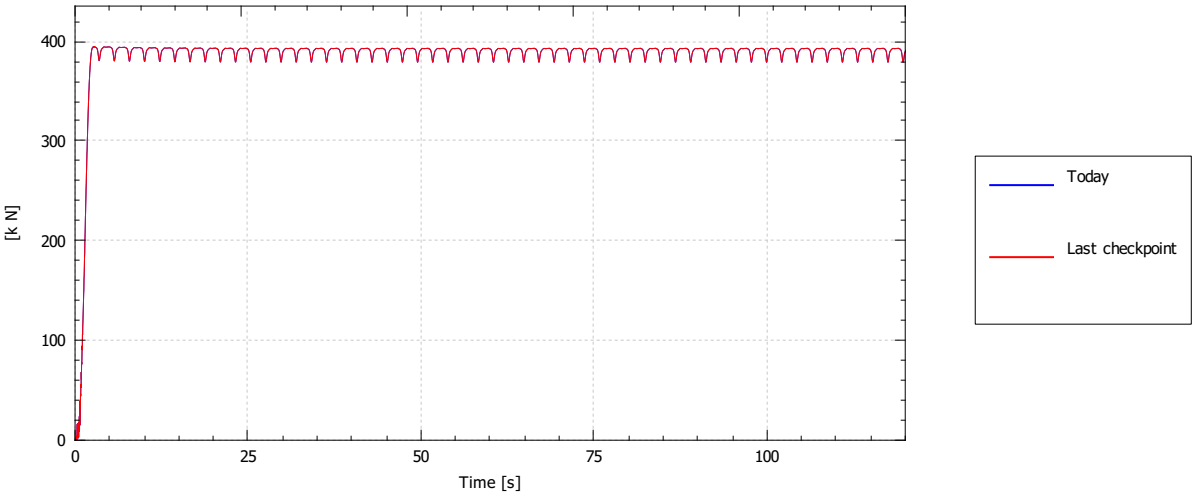
Shear force (1st prin. axis)



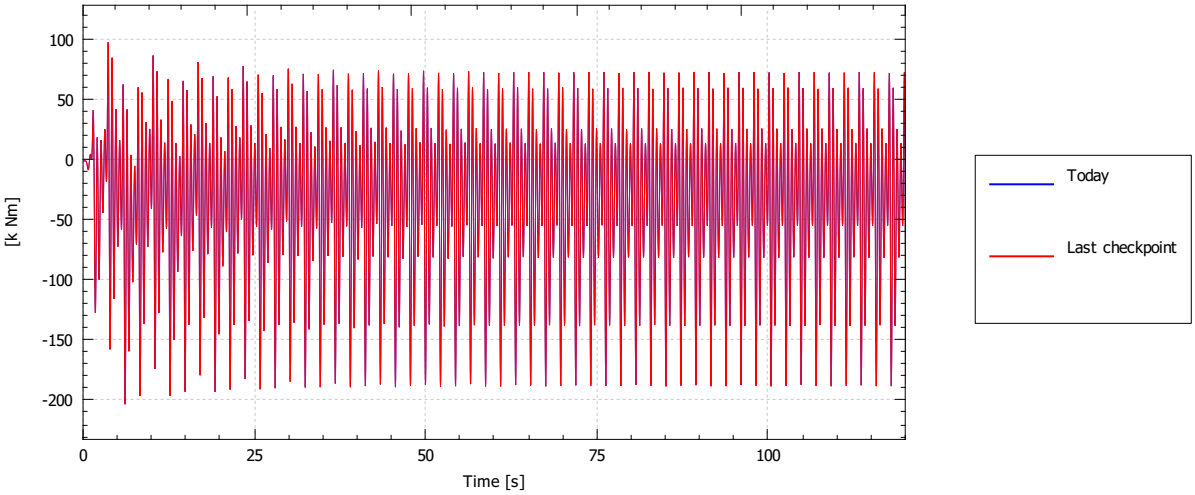
Shear force (2nd prin. axis)



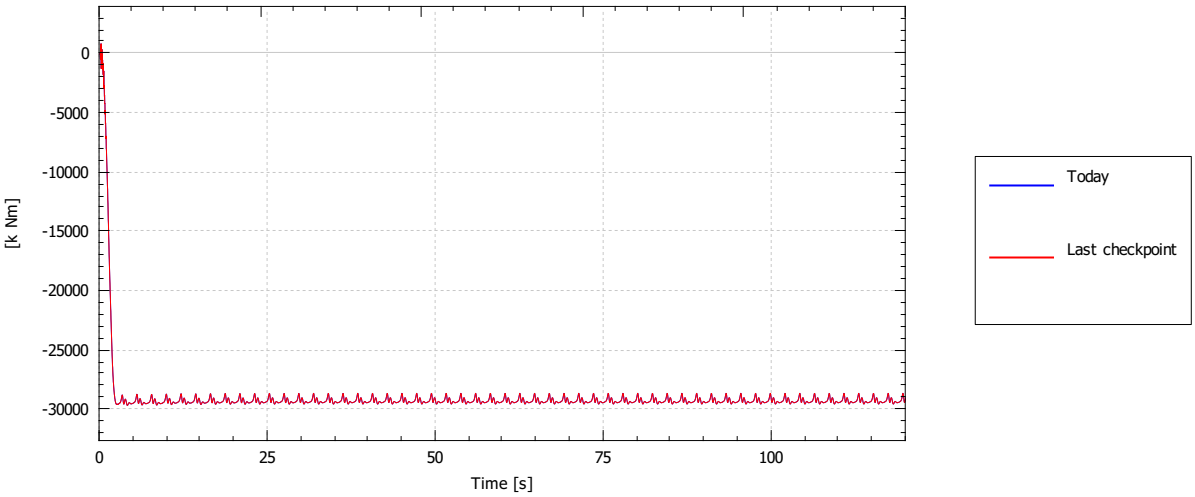
Shear force, mag.



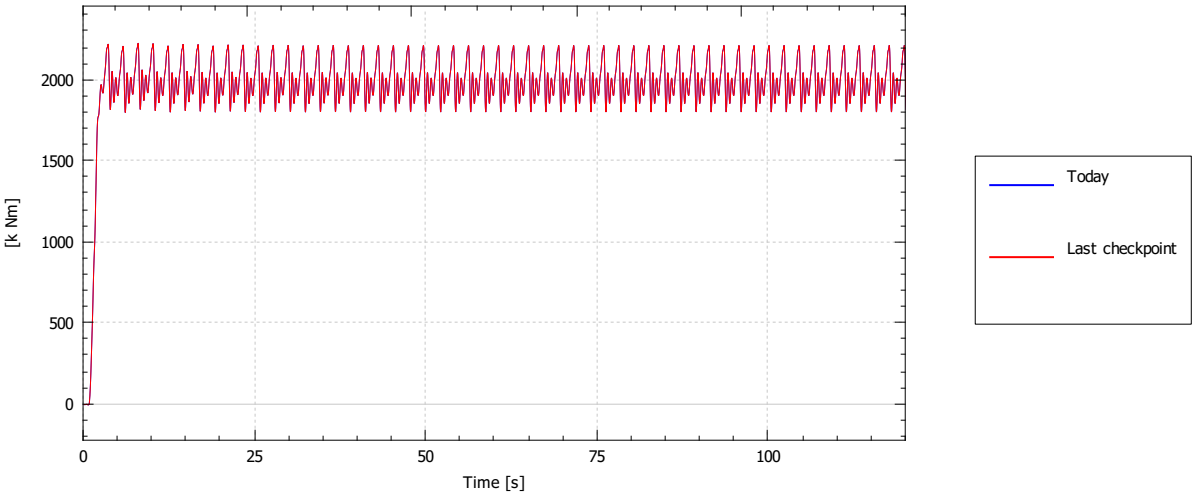
Torque



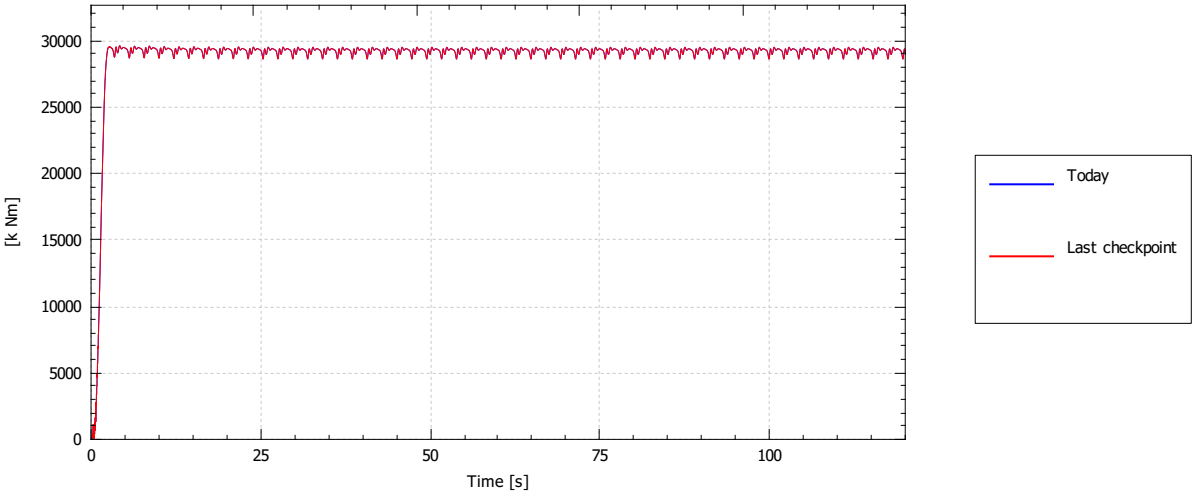
Moment (1st prin. axis), i



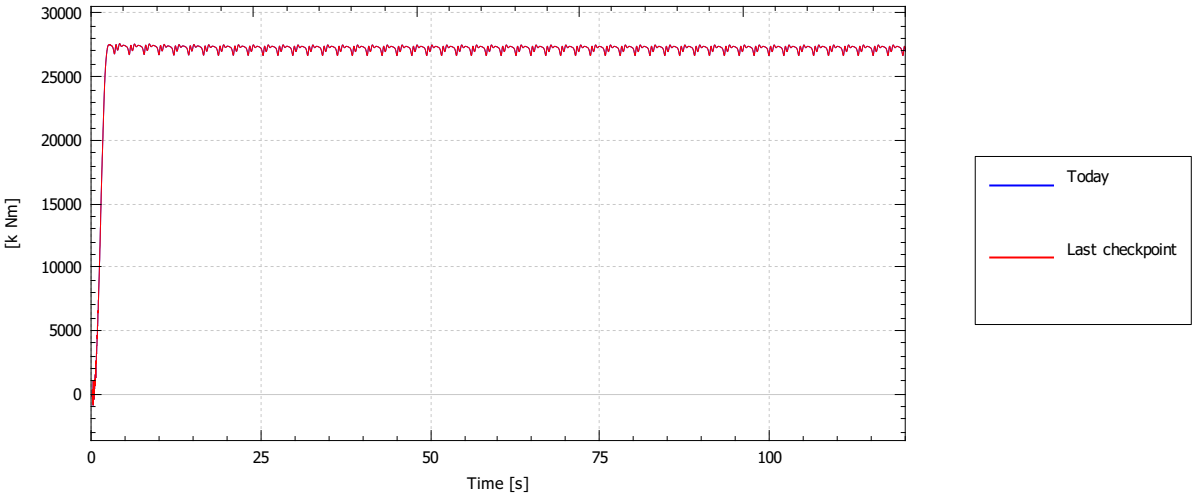
Moment (2nd prin. axis), i



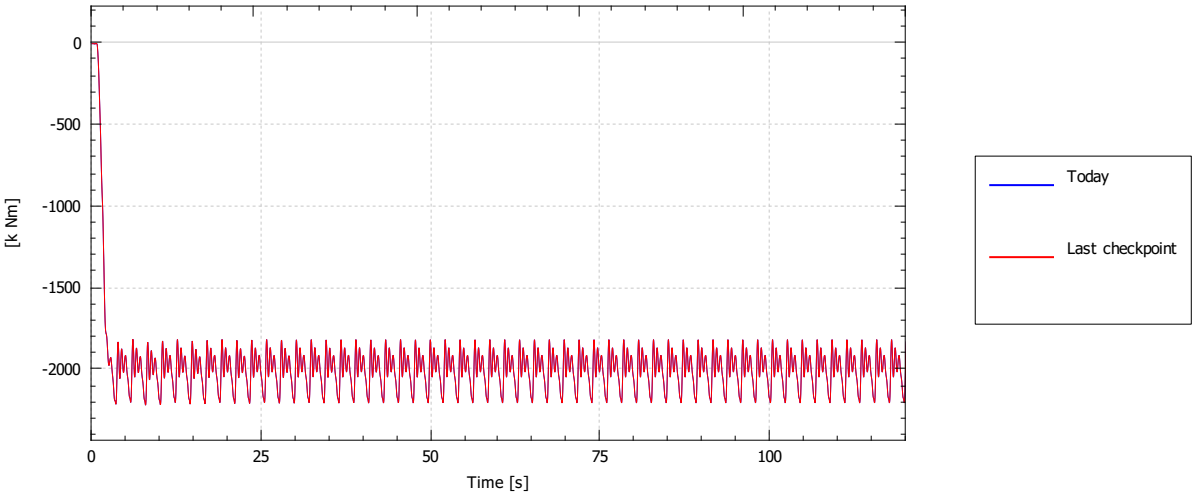
Moment, mag., i



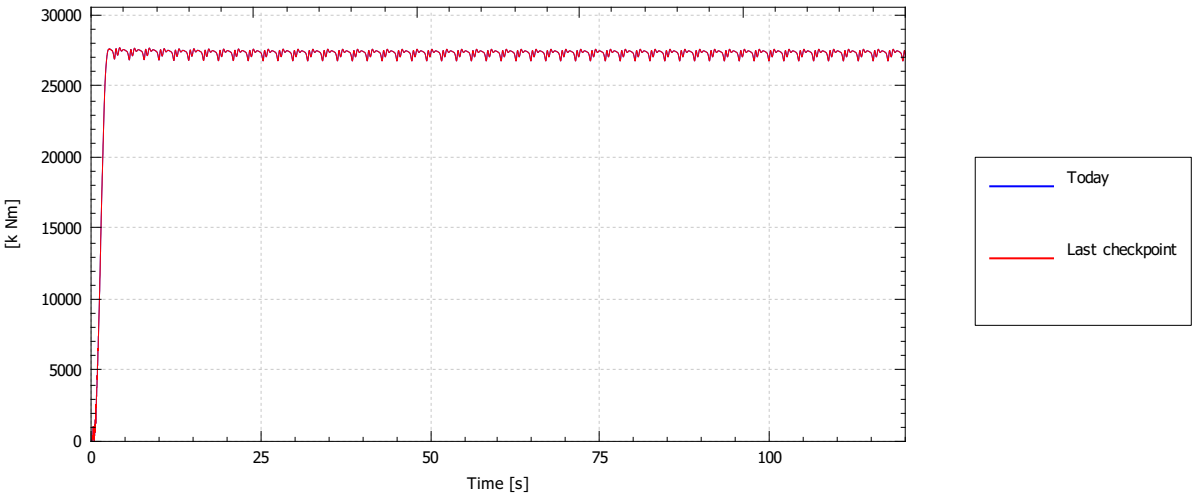
Moment (1st prin. axis), j



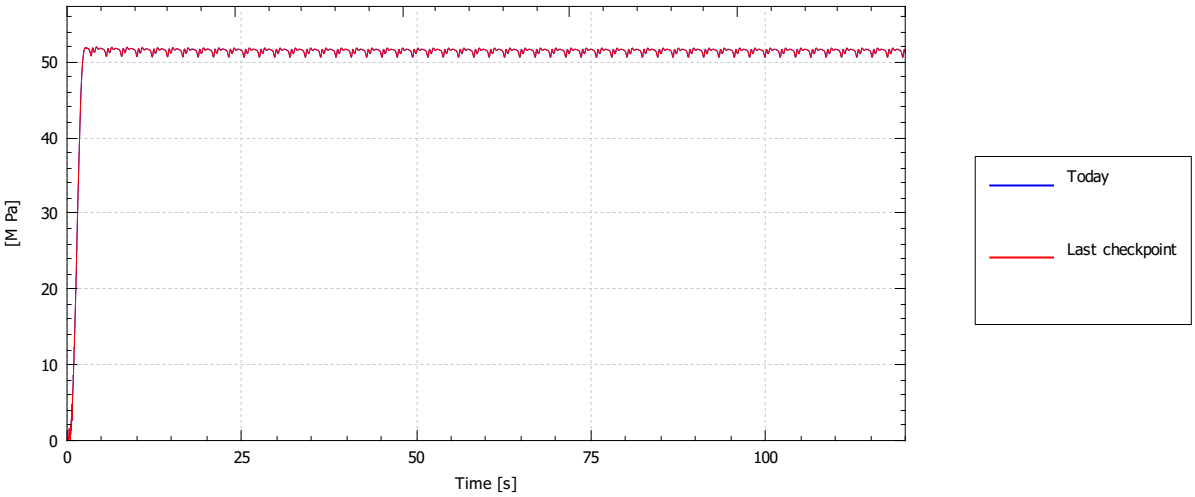
Moment (2nd prin. axis), j



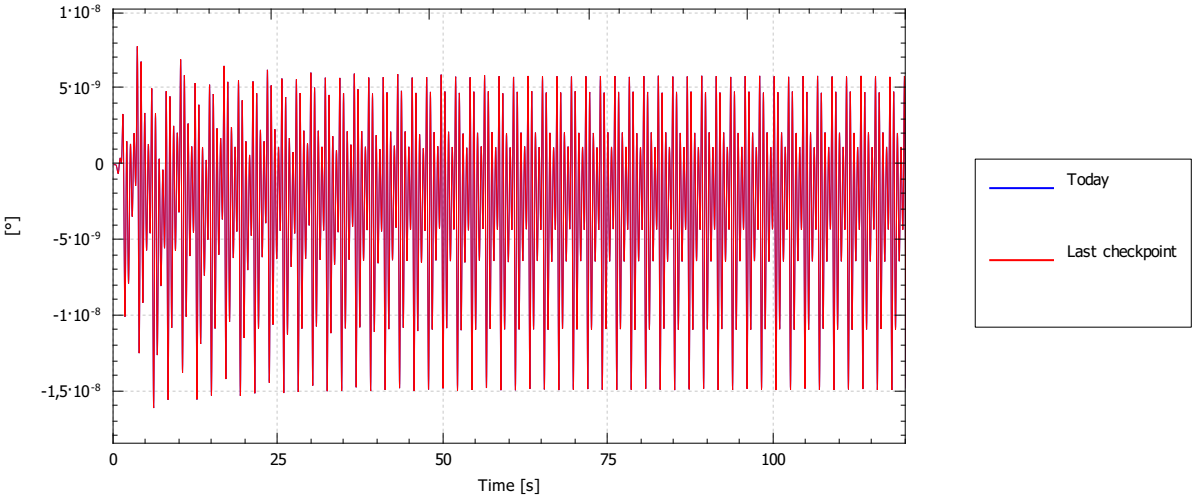
Moment, mag., j



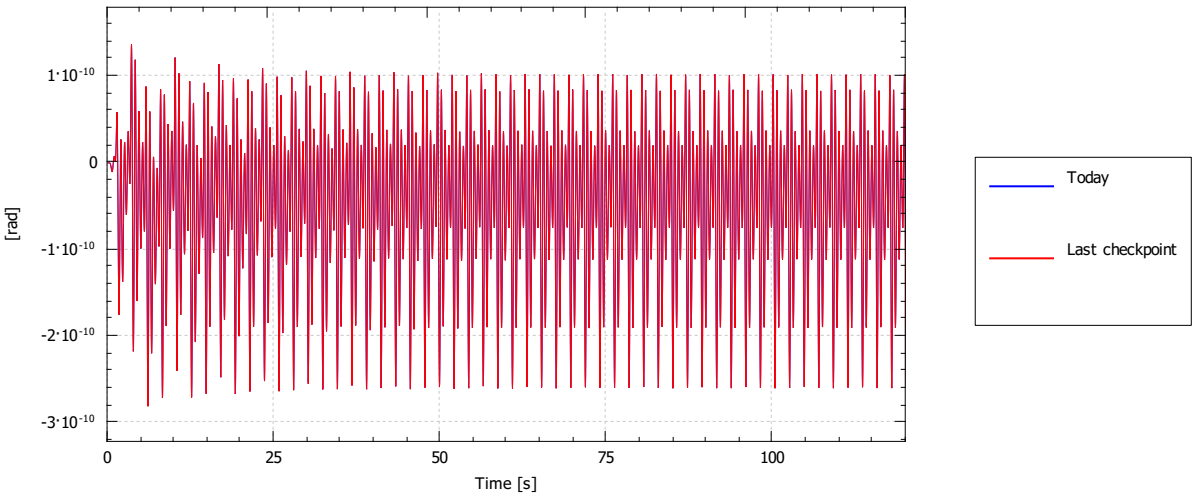
Max normal stress



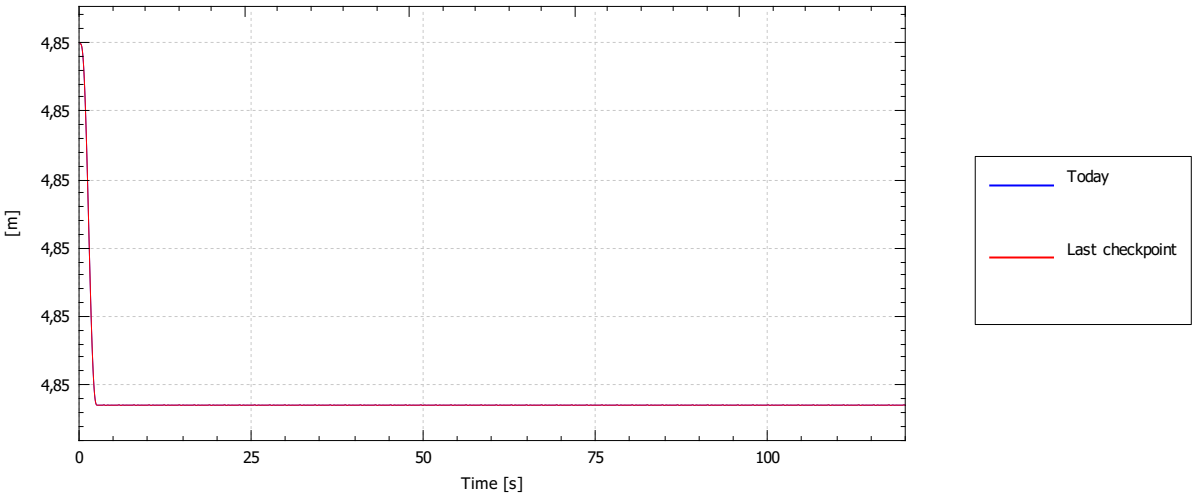
Twist (structural)



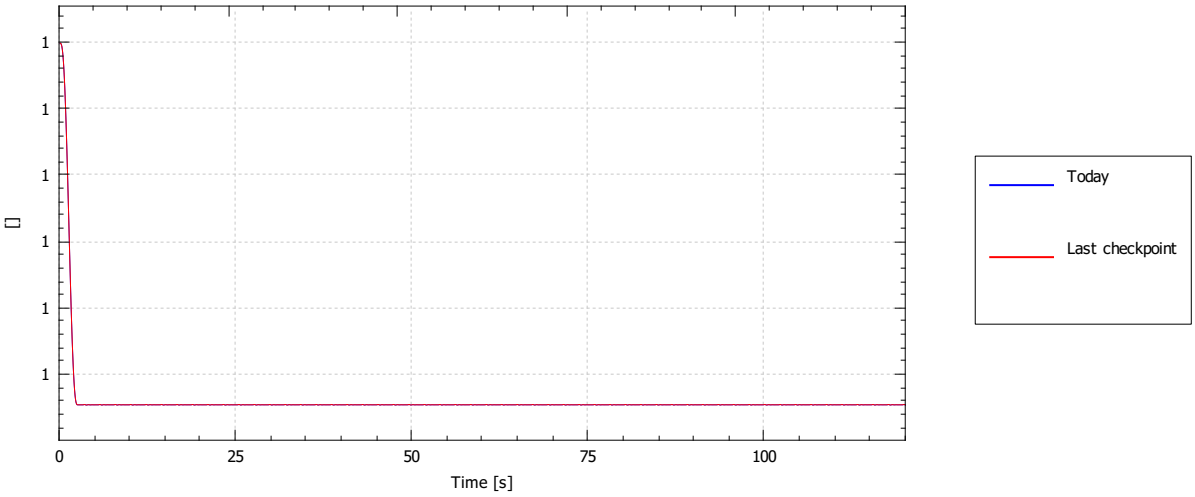
Twist (structural) - rad



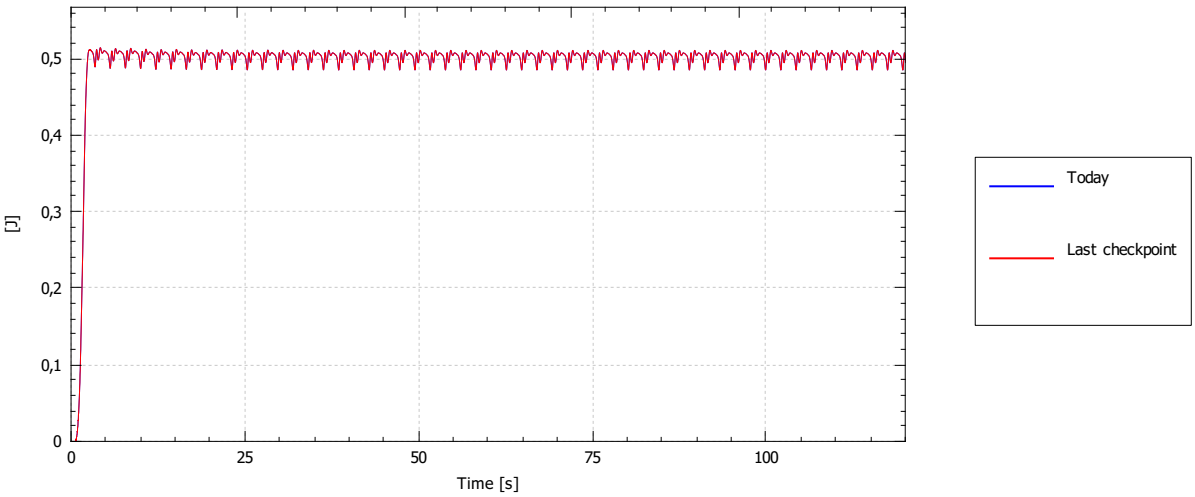
Deformed length



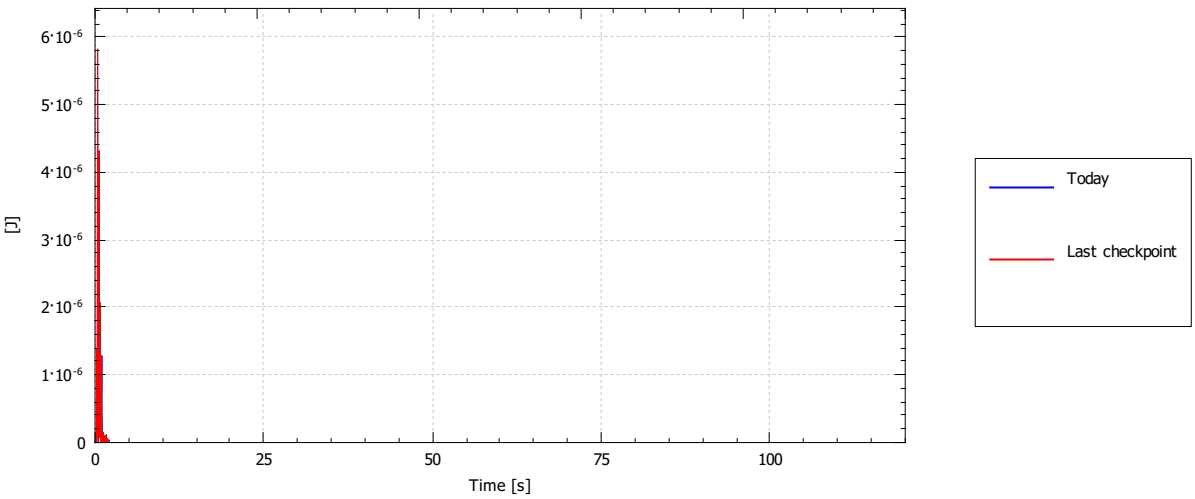
Elongation



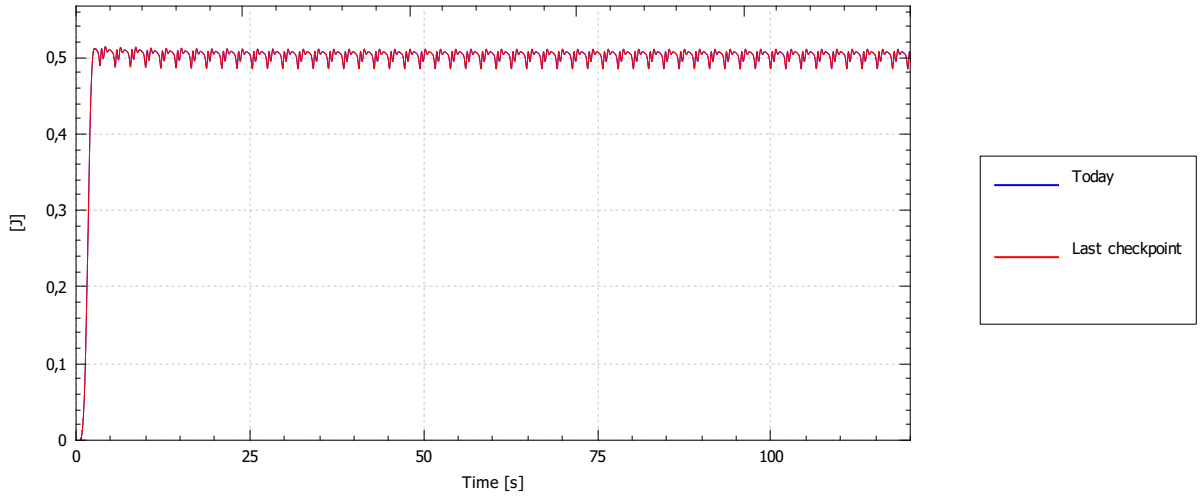
Strain energy



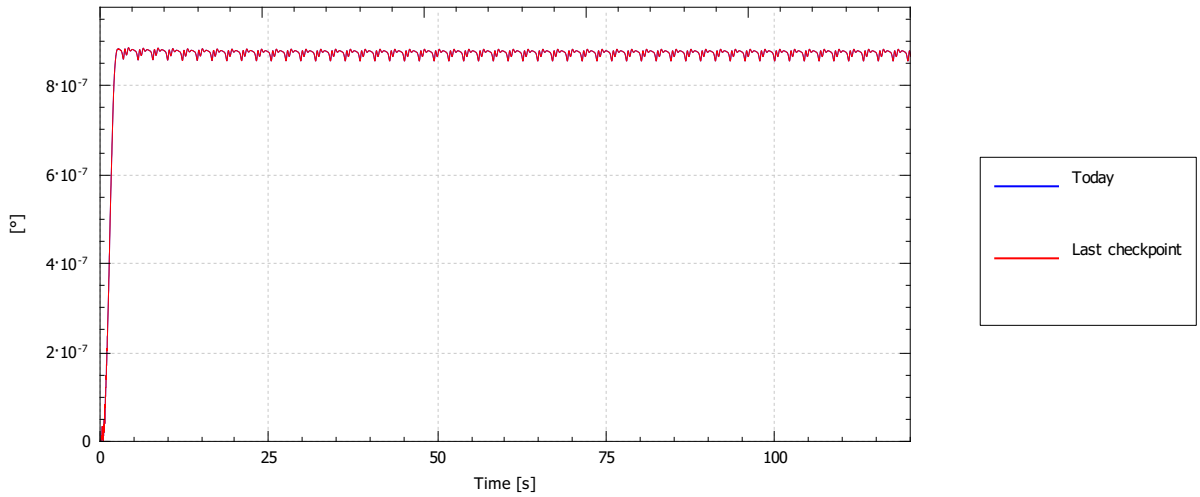
Kinetic energy



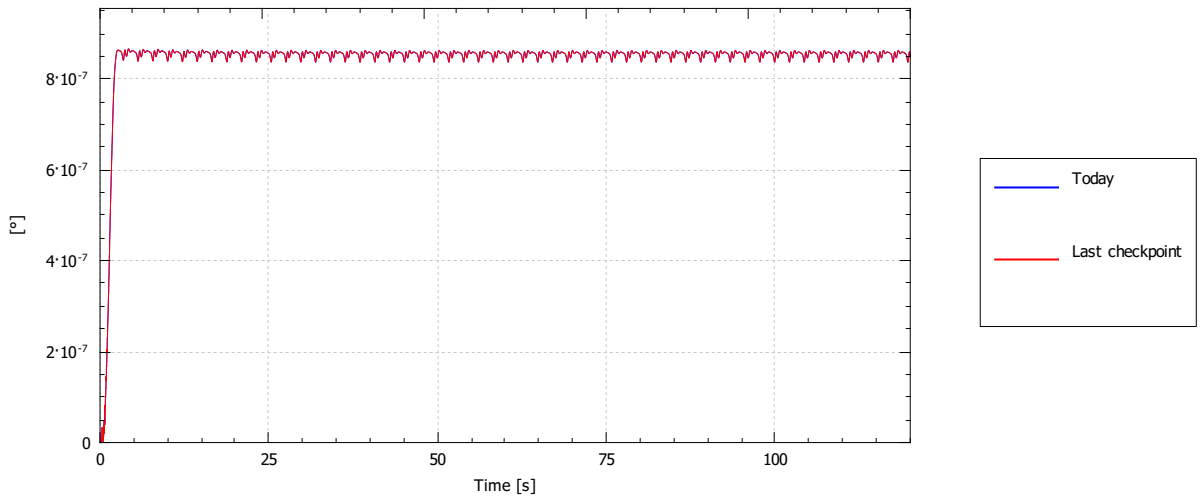
Mechanical energy



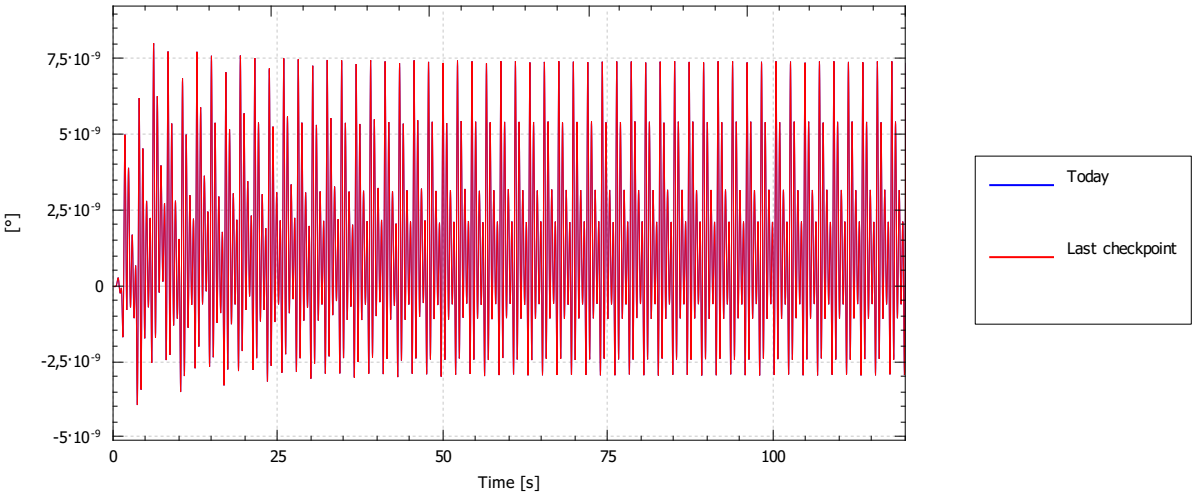
Deformational rotation (i)



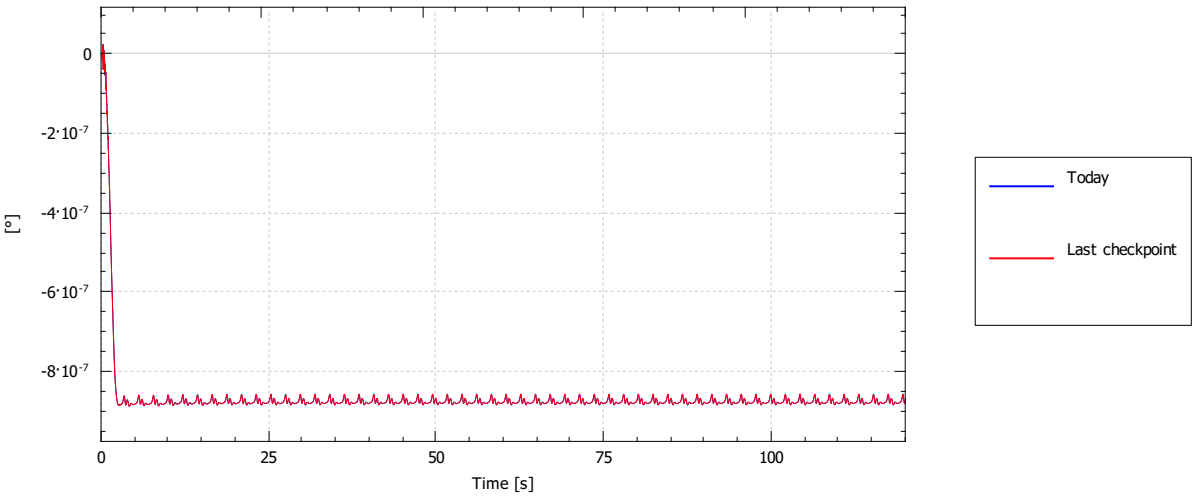
Deformational rotation (j)



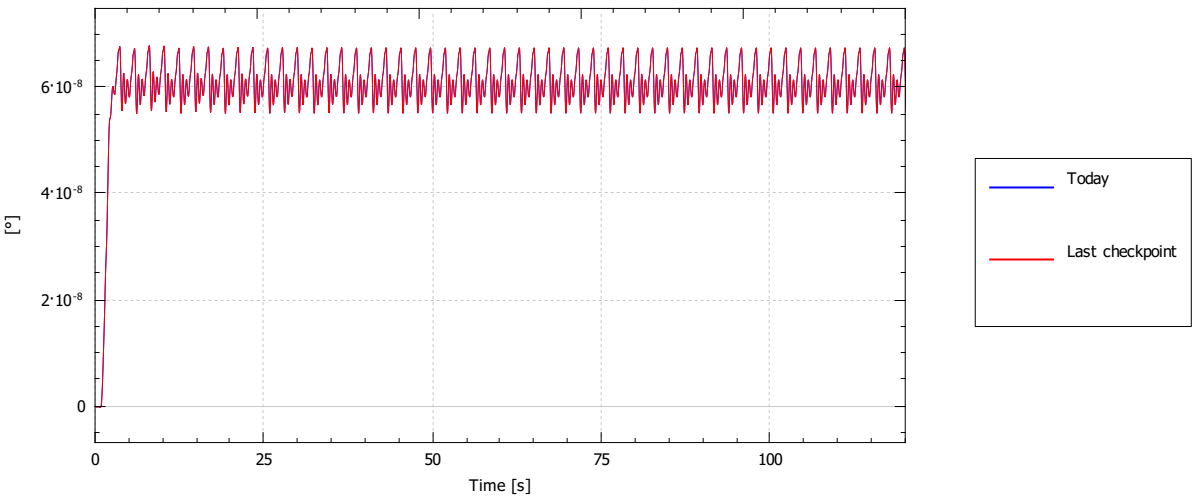
Deformational rotation (axial)



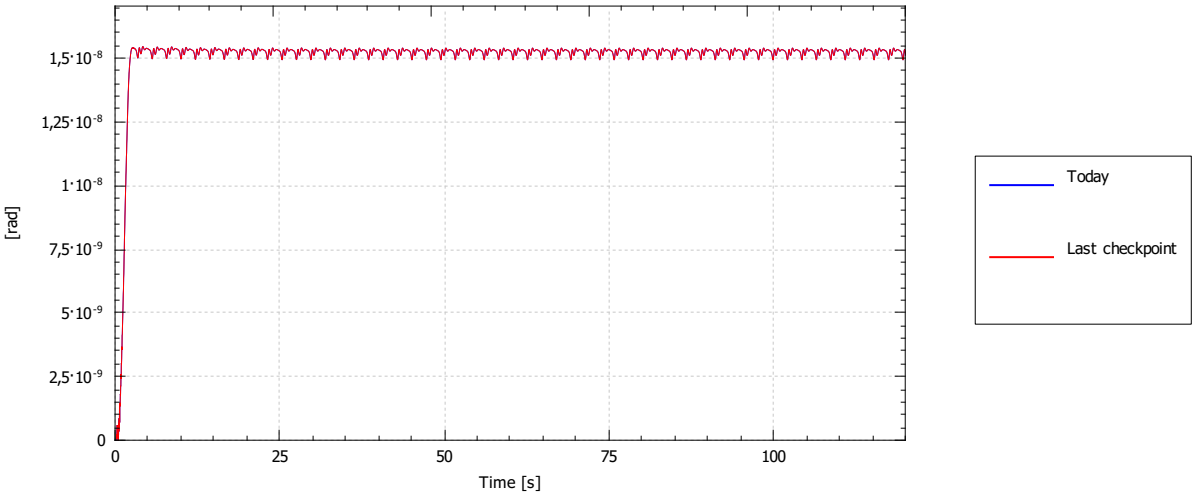
Deformational rotation (1st prin.)



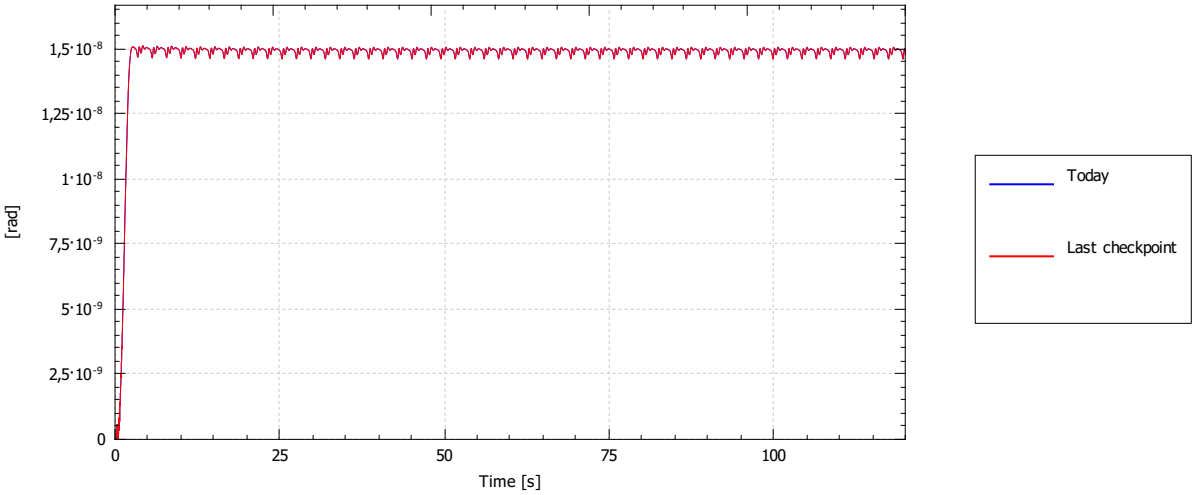
Deformational rotation (2nd prin.)



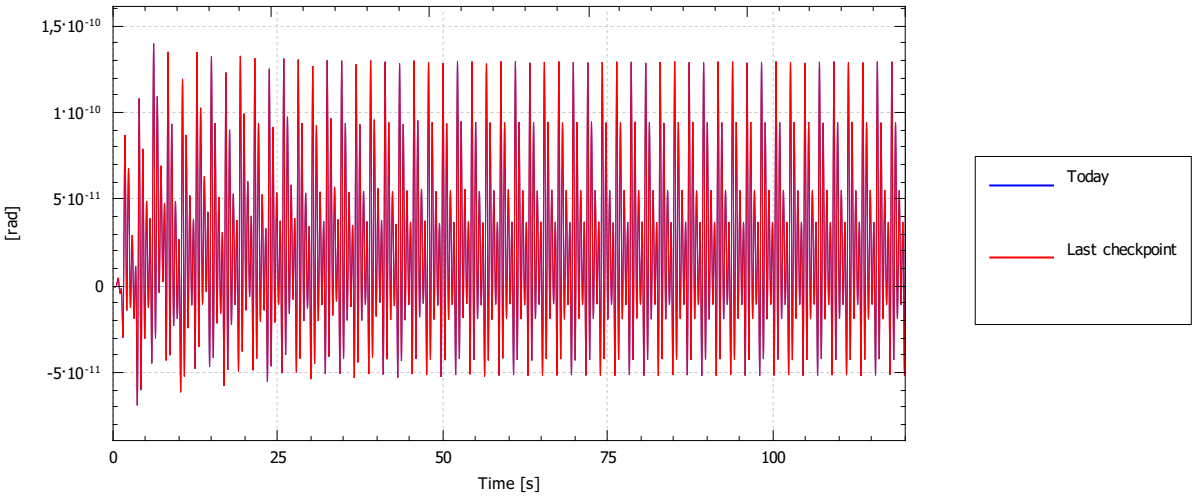
Deformational rotation (i) - rad



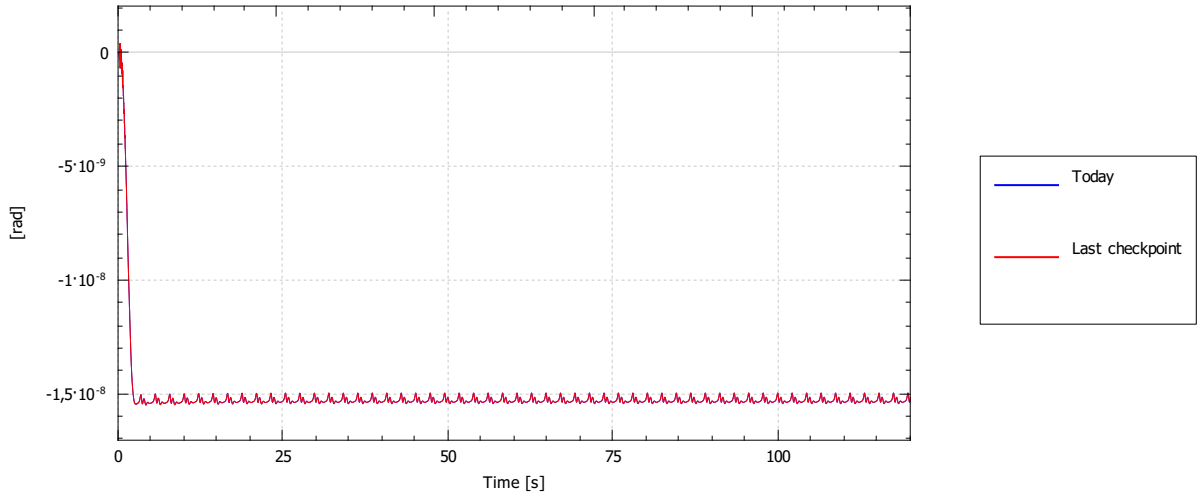
Deformational rotation (j) - rad



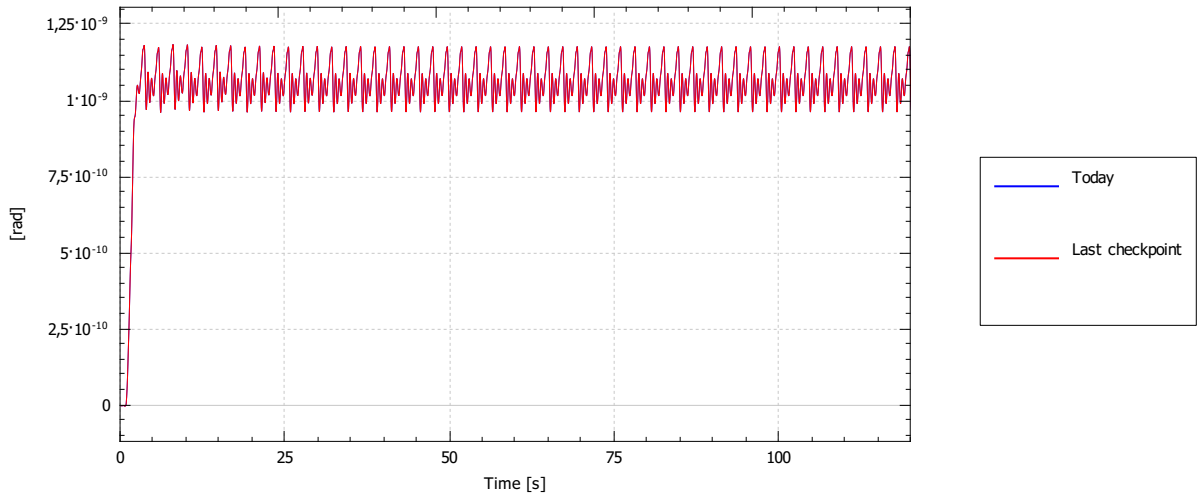
Deformational rotation (axial) - rad



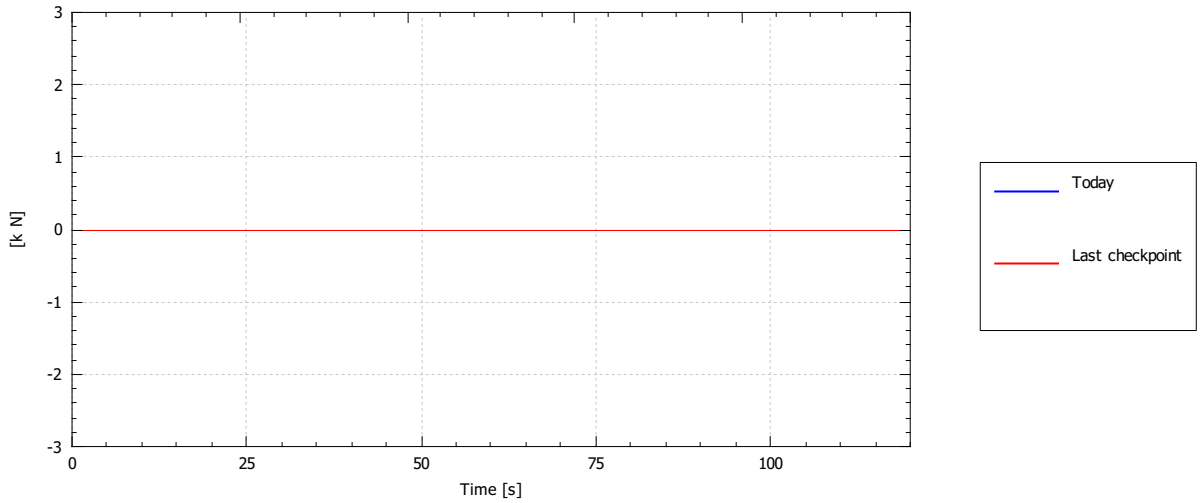
Deformational rotation (1st prin.) - rad



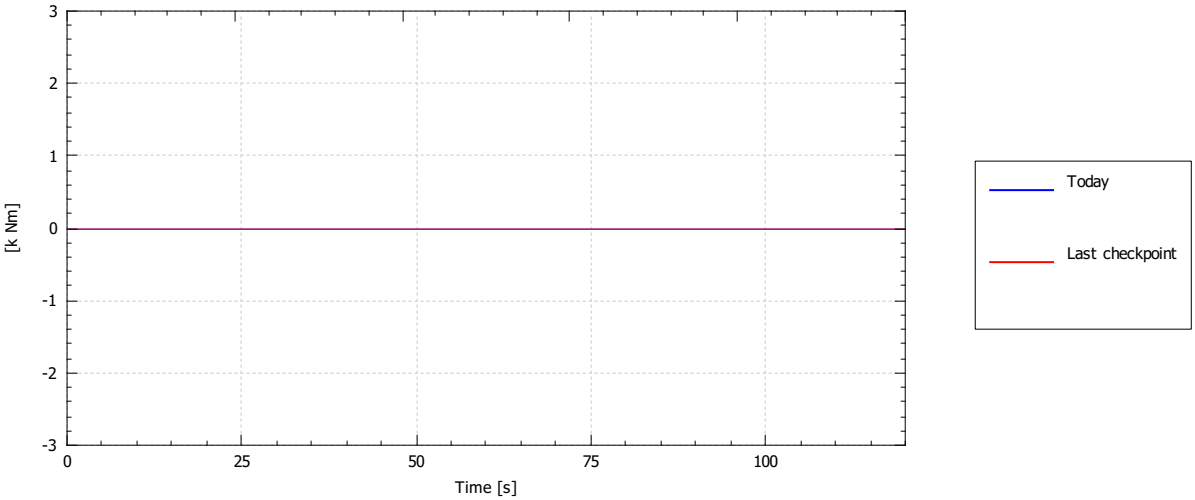
Deformational rotation (2nd prin.) - rad



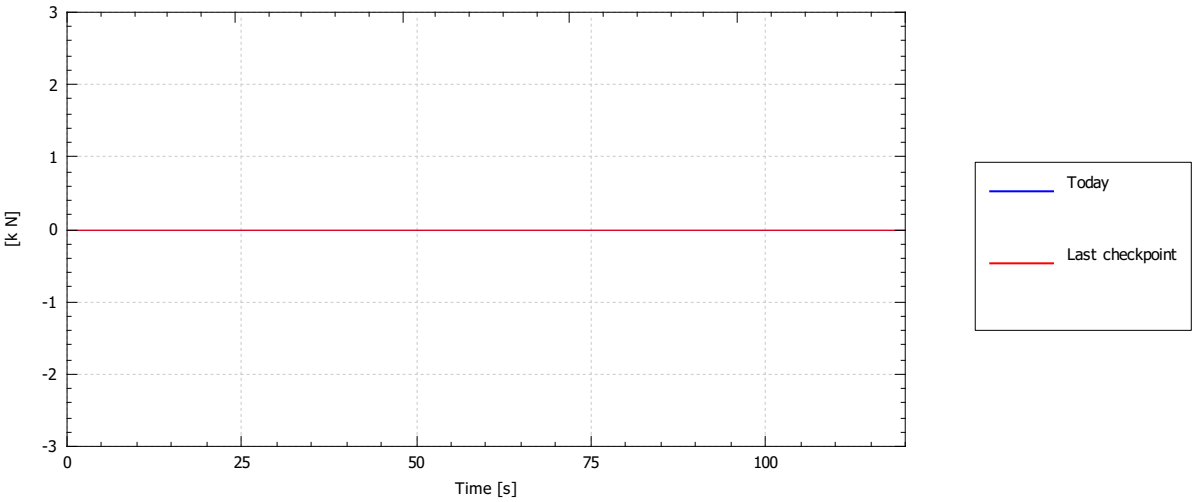
Damping force, i



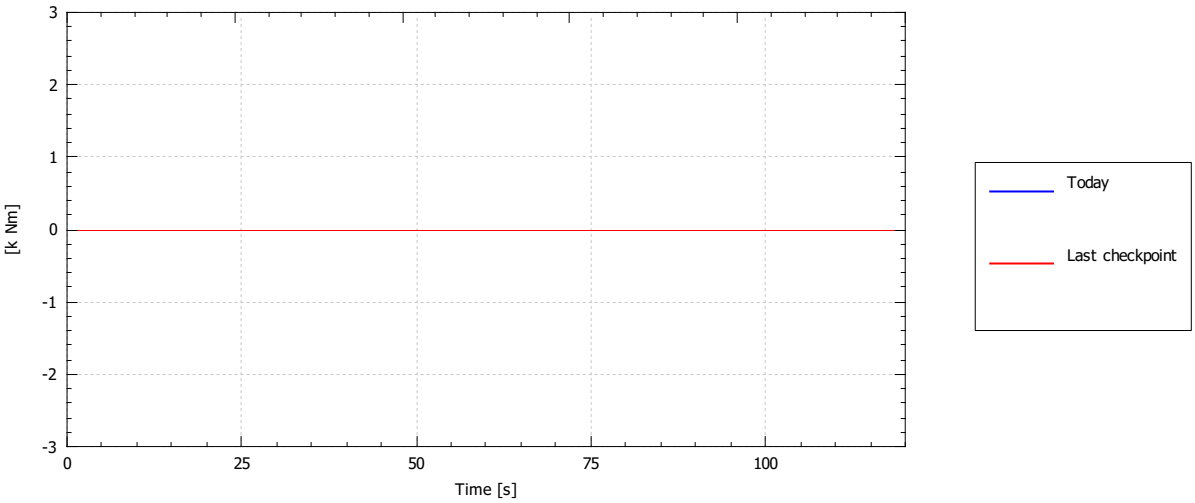
Damping moment, i



Damping force, sum

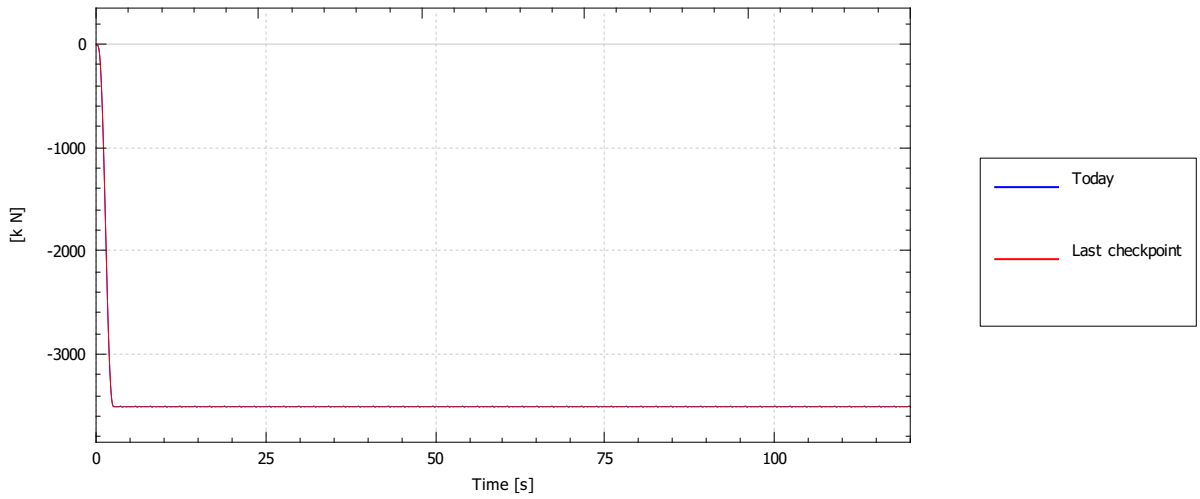


Damping moment, sum

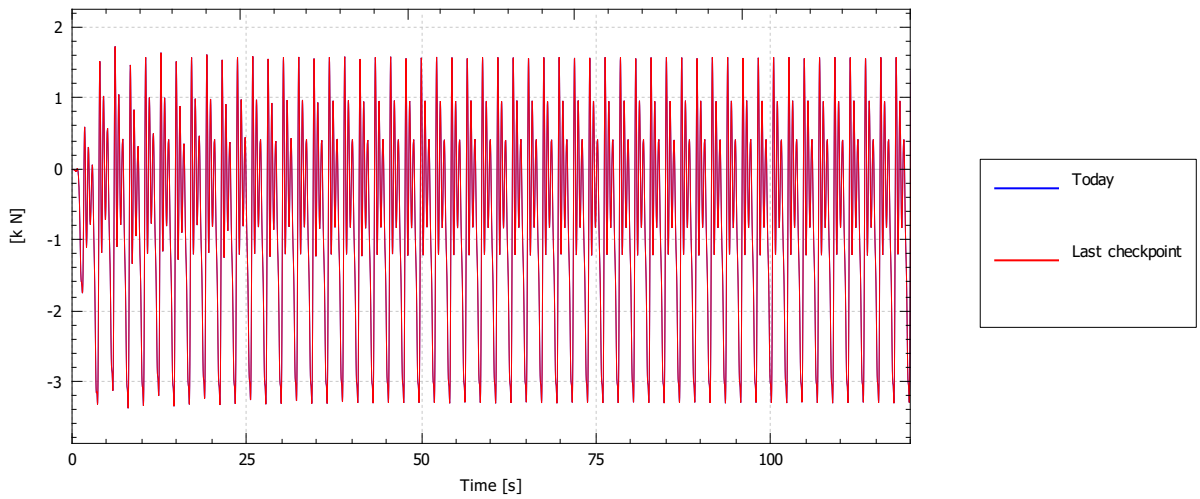


Beam element [Element 16 | Tubular tower]

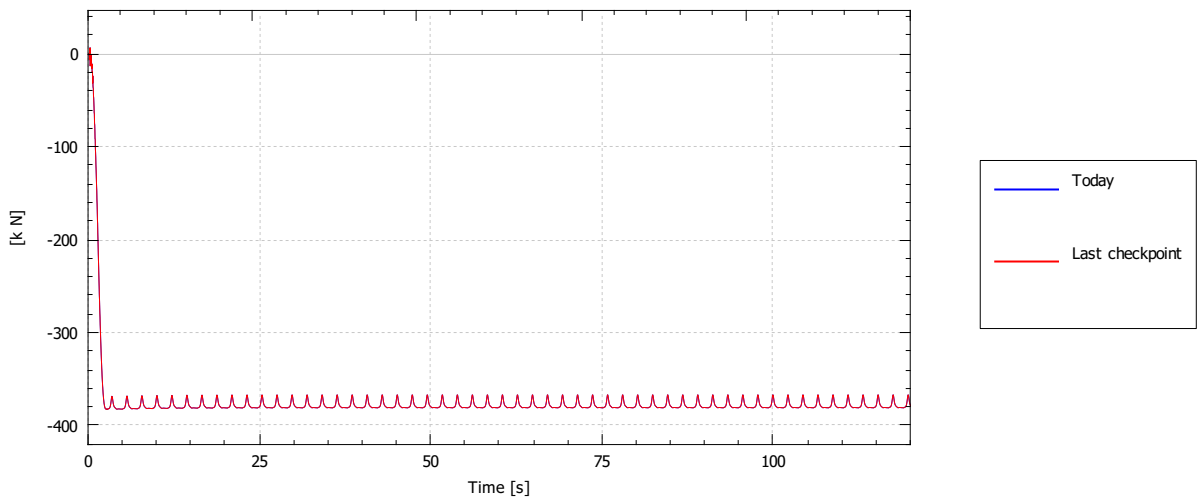
Axial force



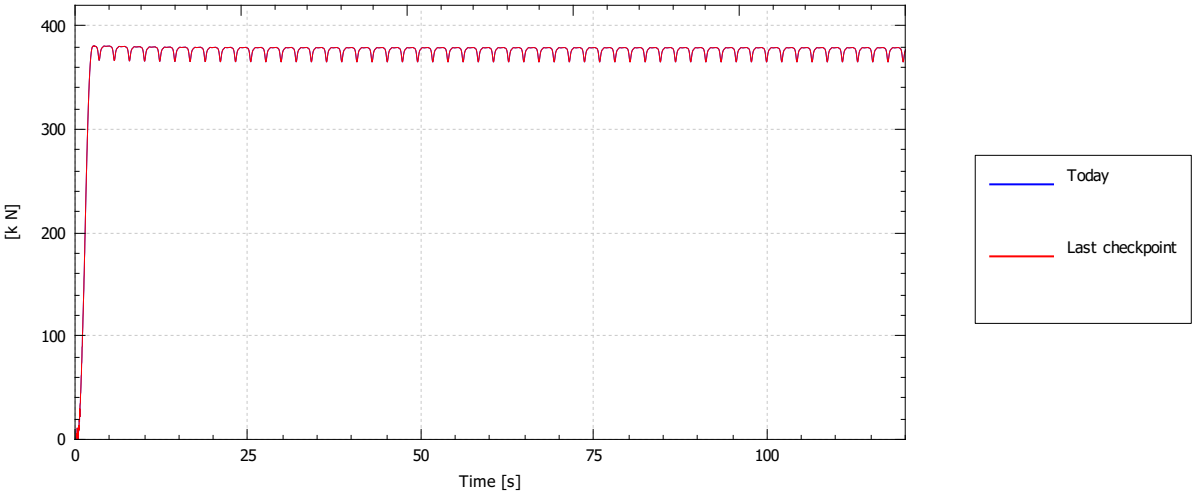
Shear force (1st prin. axis)



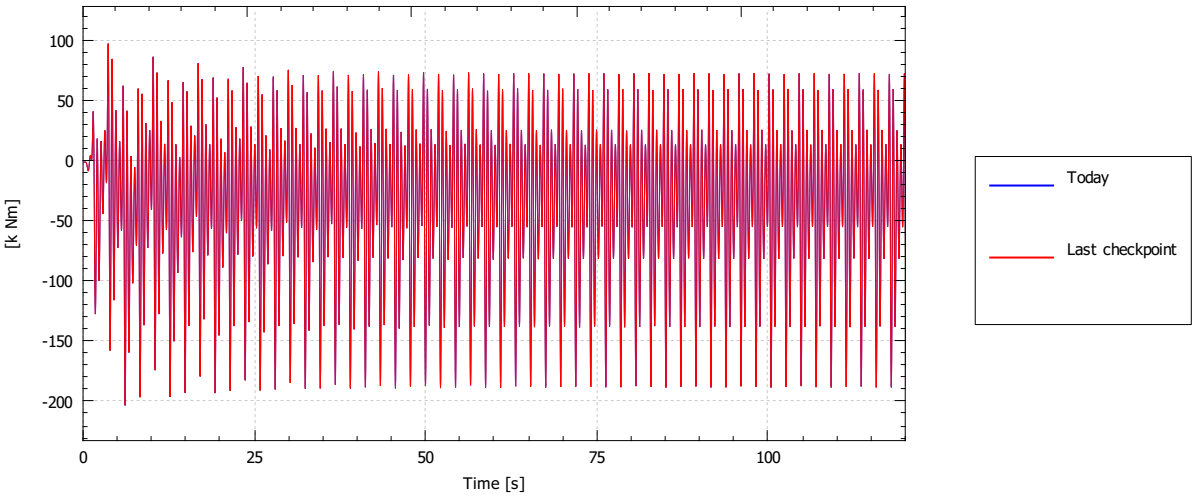
Shear force (2nd prin. axis)



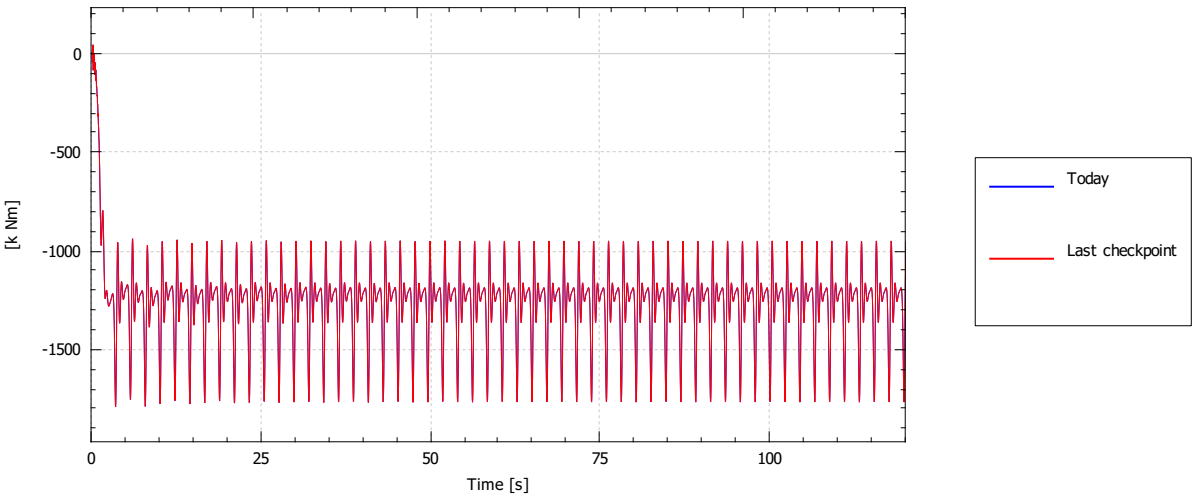
Shear force, mag.



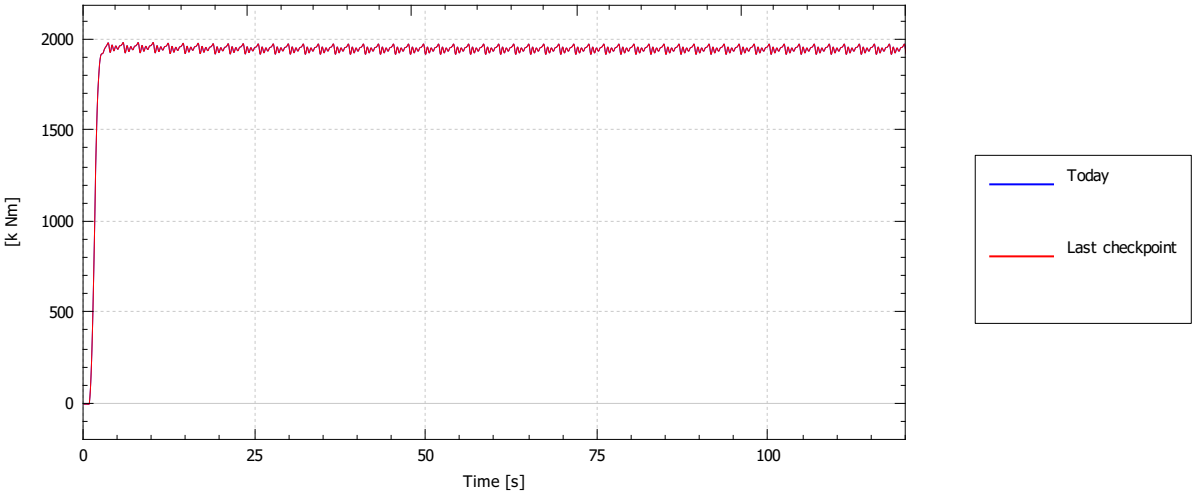
Torque



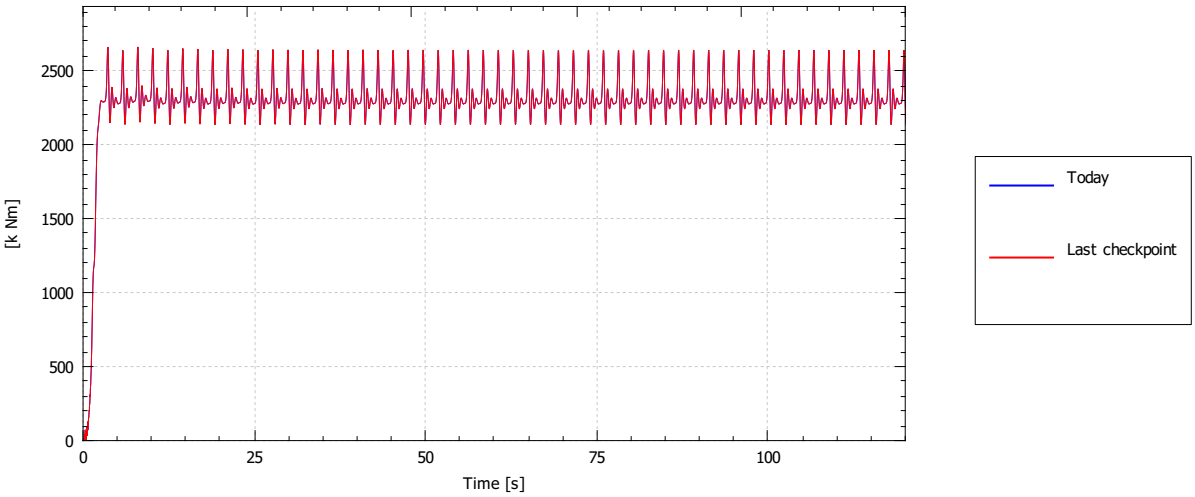
Moment (1st prin. axis), i



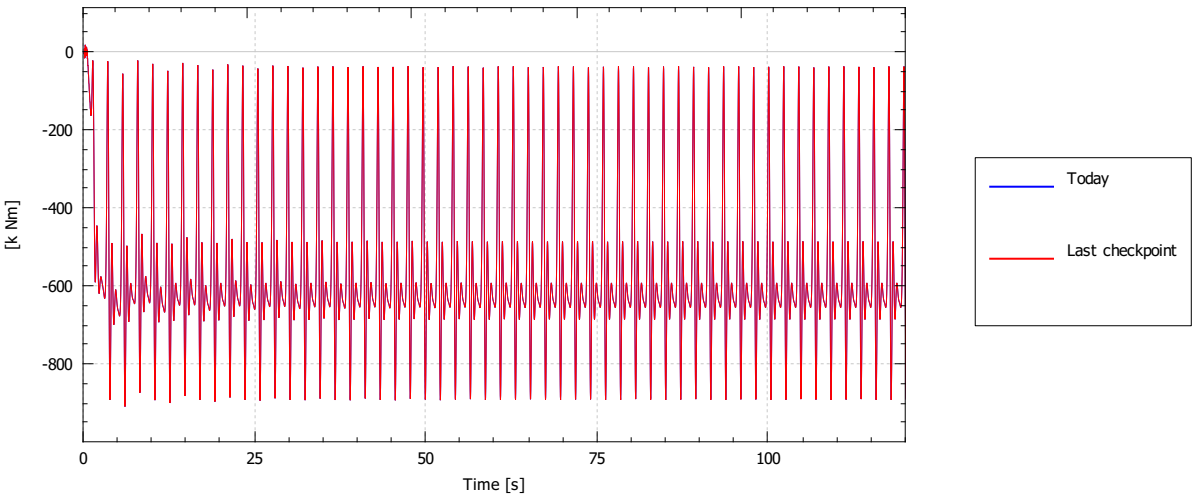
Moment (2nd prin. axis), i



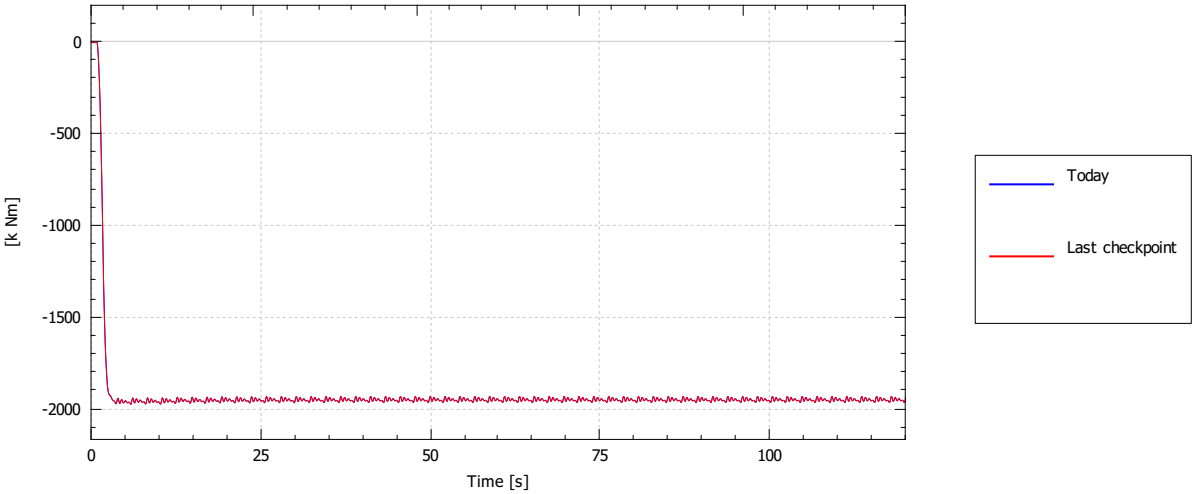
Moment, mag., i



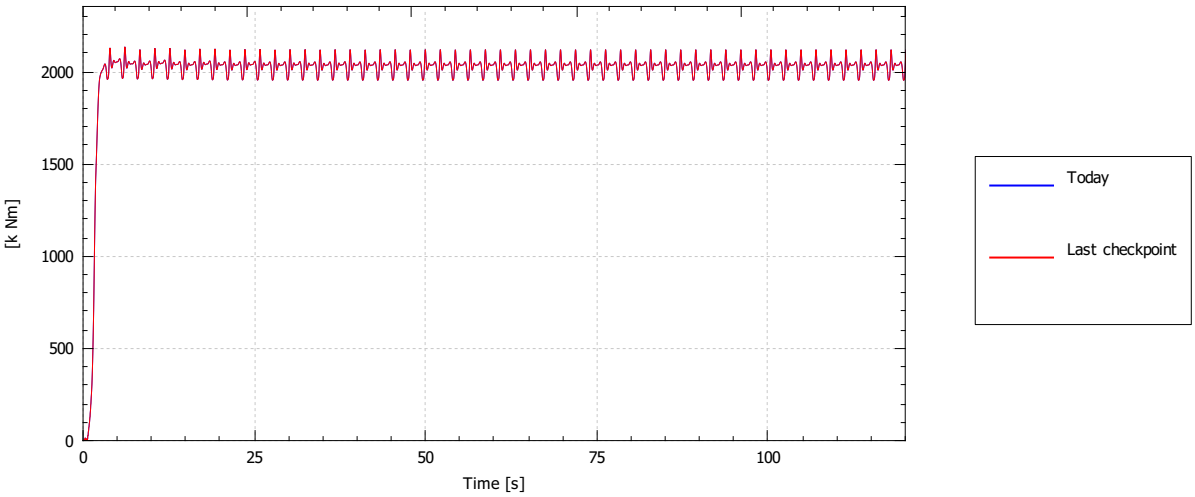
Moment (1st prin. axis), j



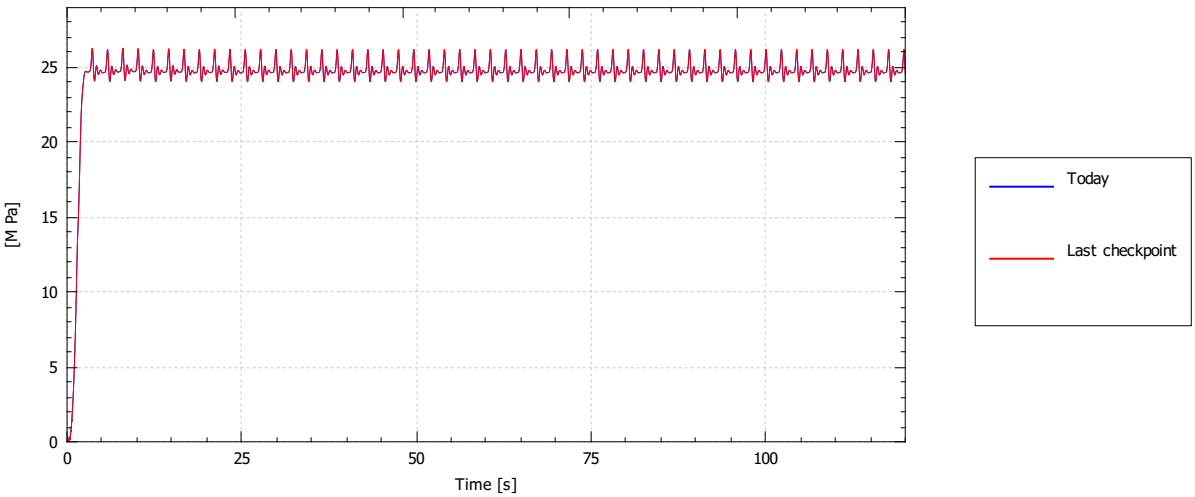
Moment (2nd prin. axis), j



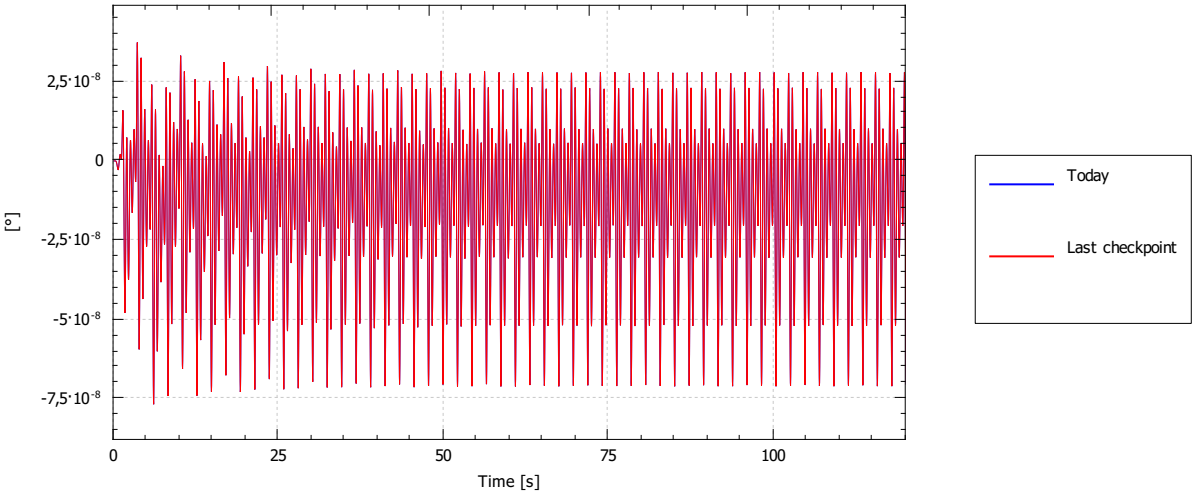
Moment, mag., j



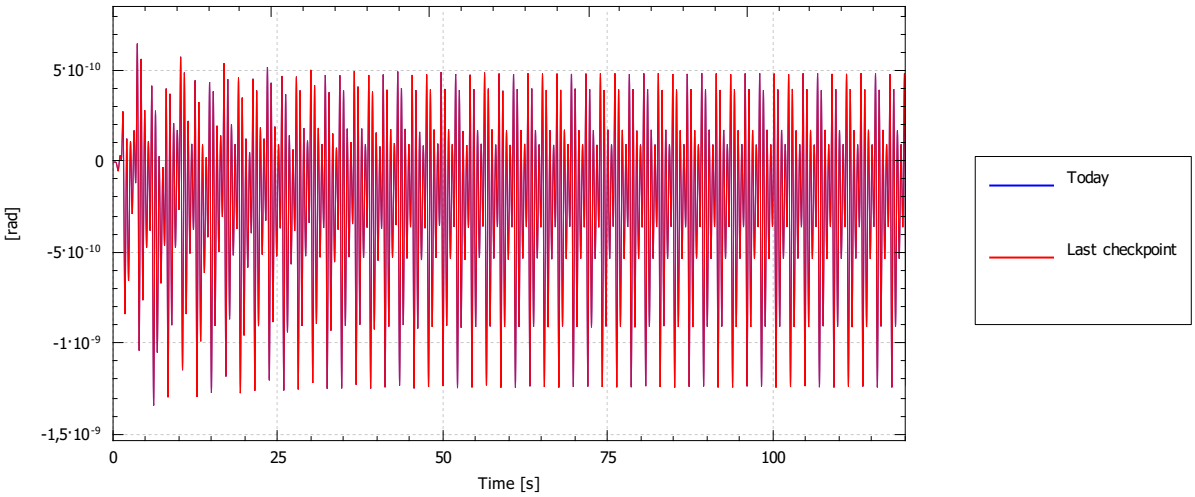
Max normal stress



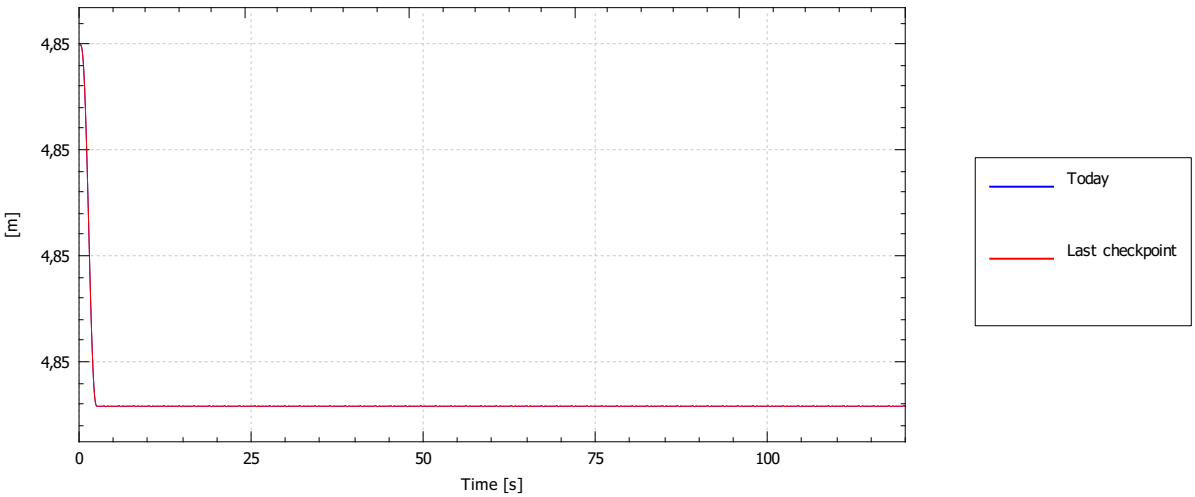
Twist (structural)



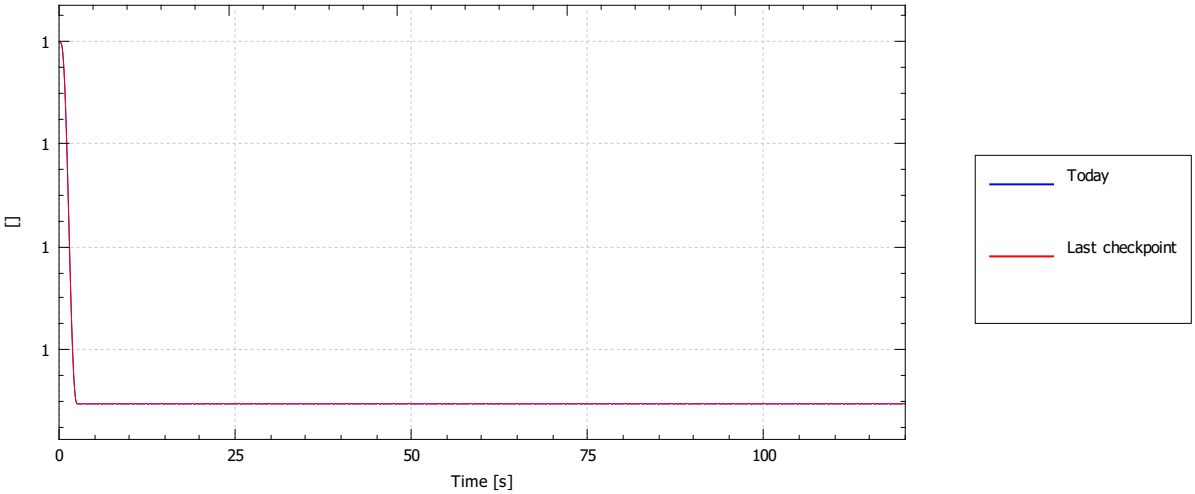
Twist (structural) - rad



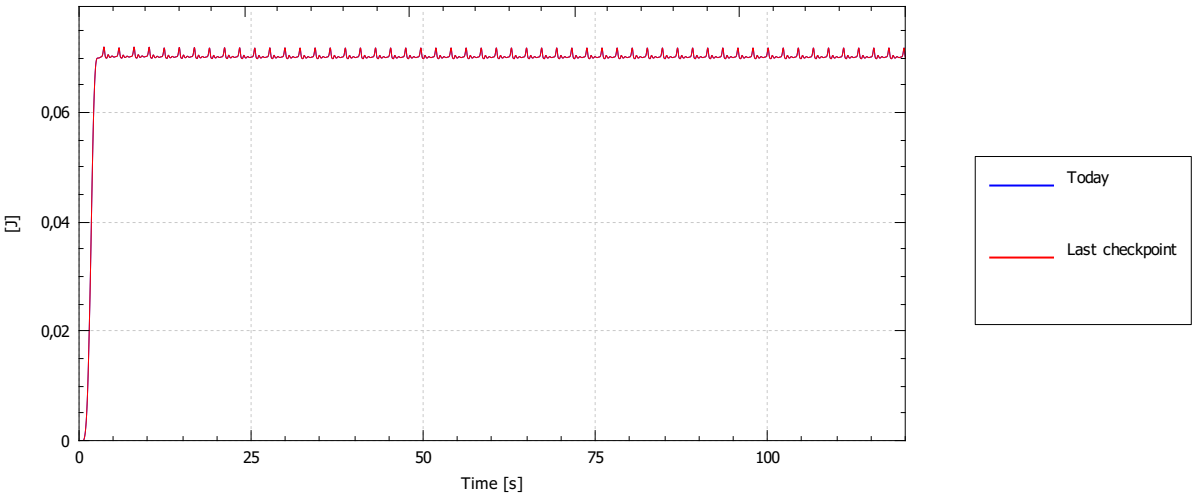
Deformed length



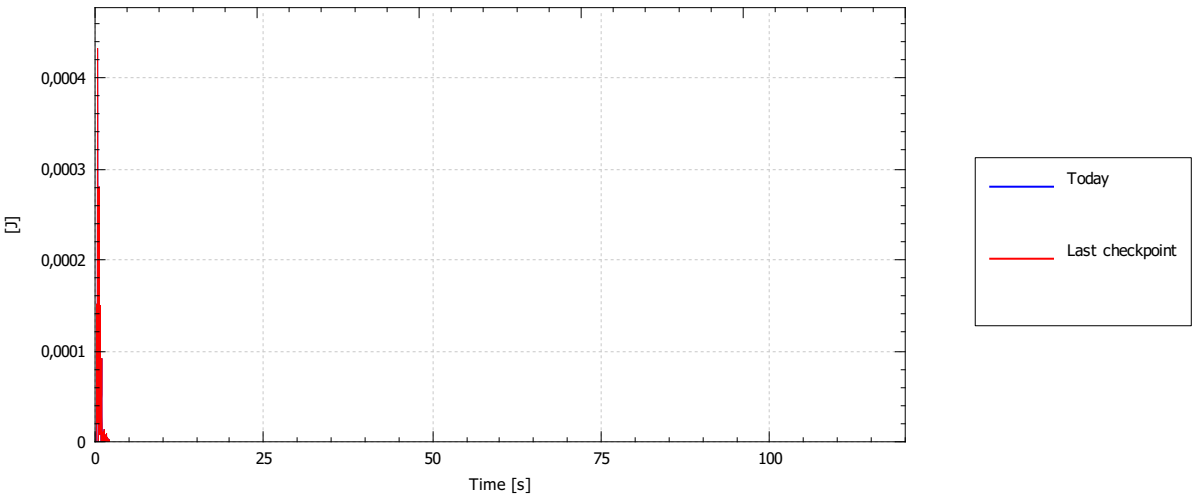
Elongation



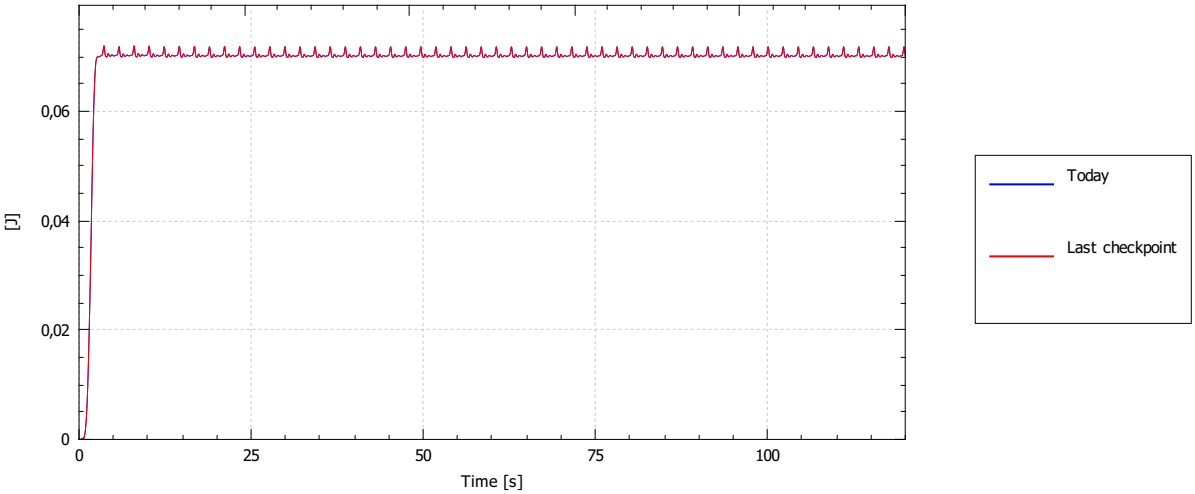
Strain energy



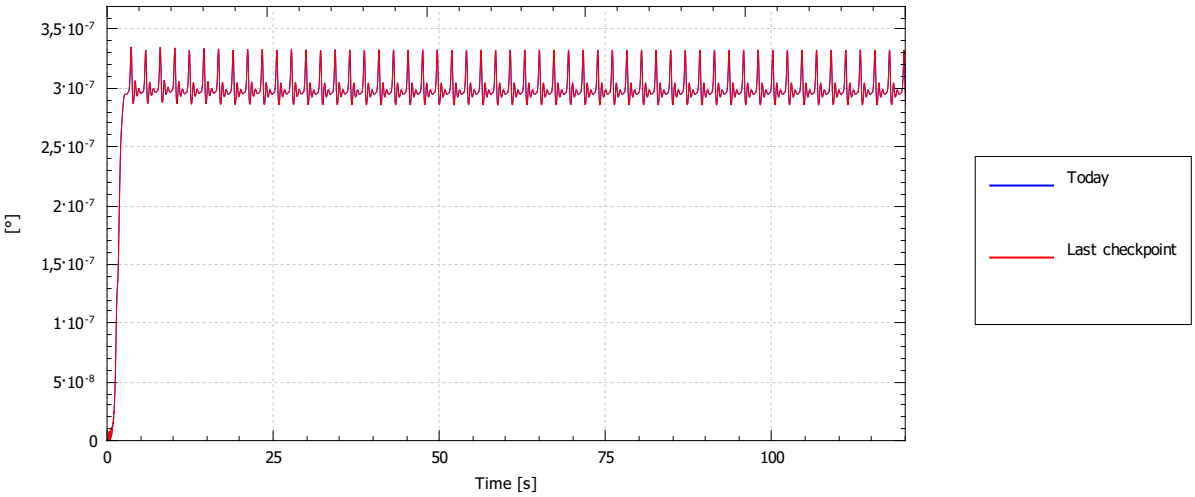
Kinetic energy



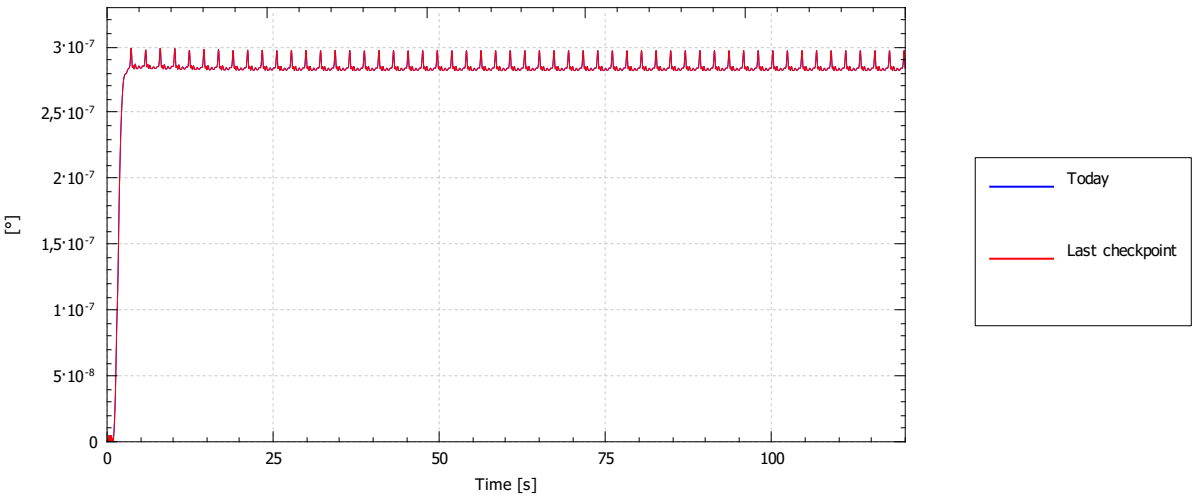
Mechanical energy



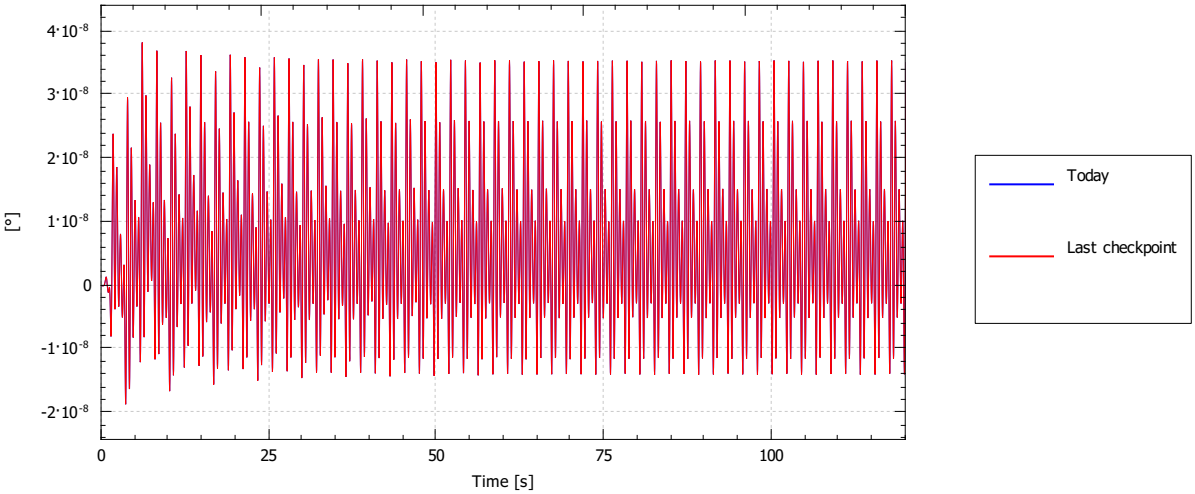
Deformational rotation (i)



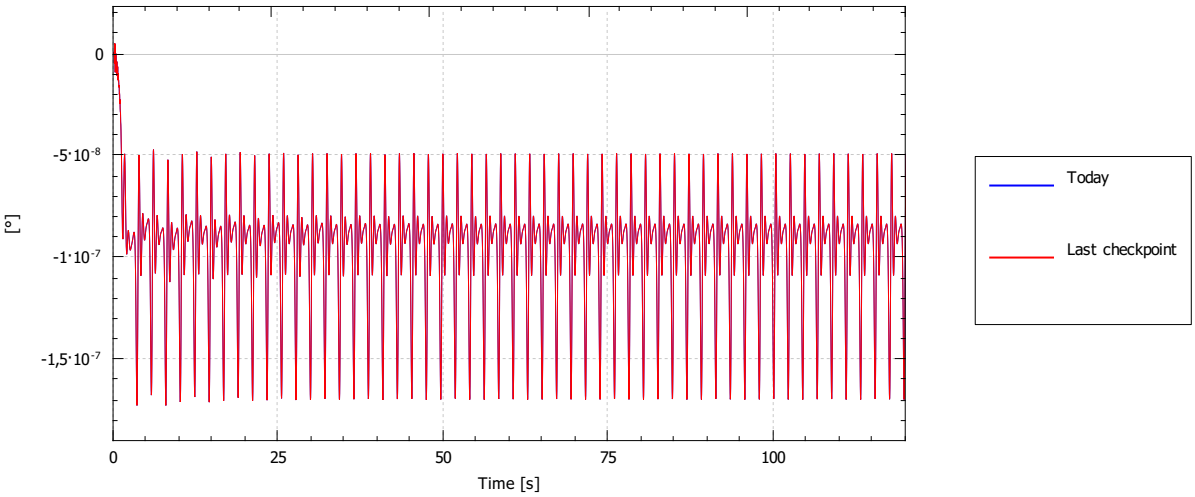
Deformational rotation (j)



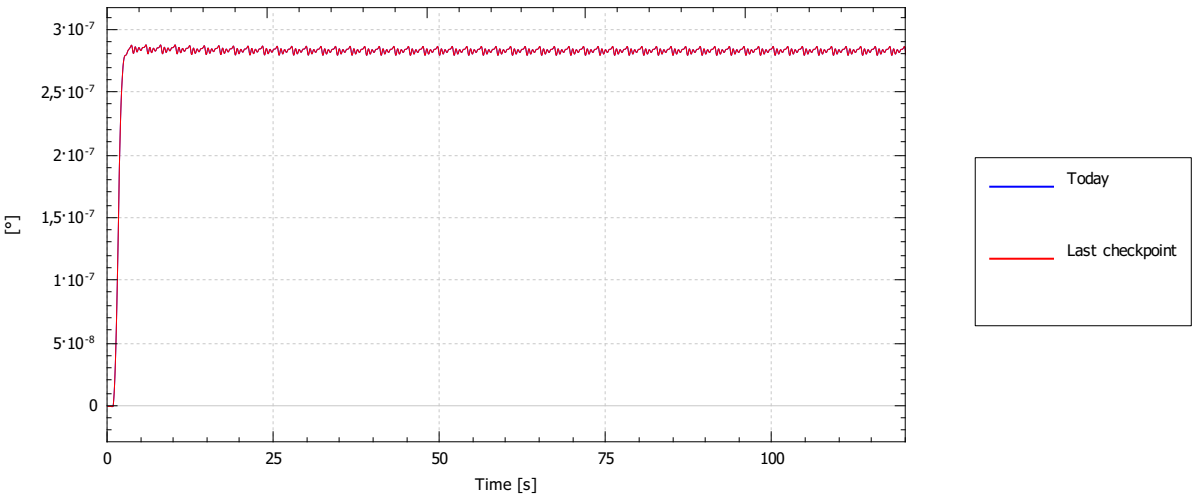
Deformational rotation (axial)



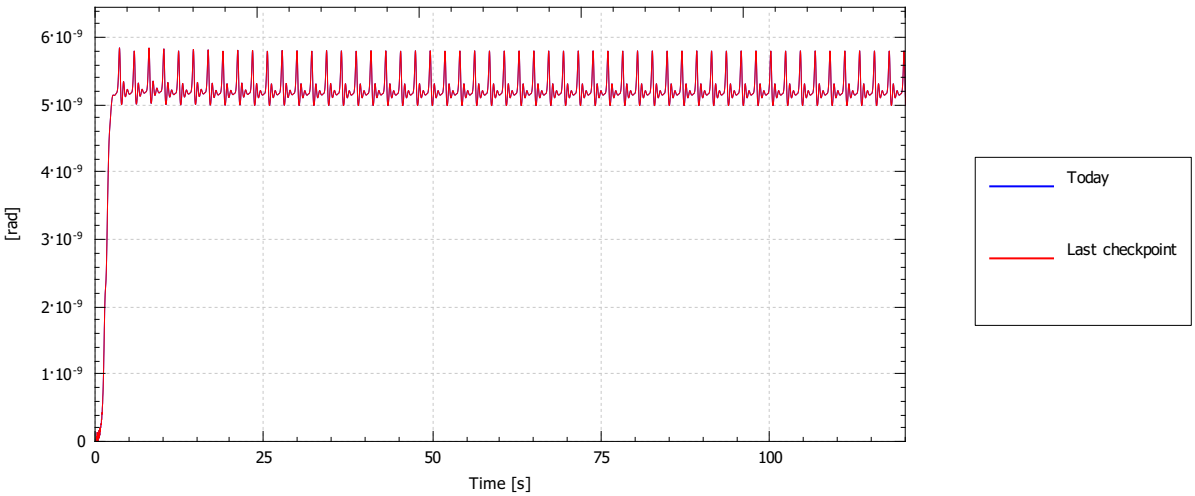
Deformational rotation (1st prin.)



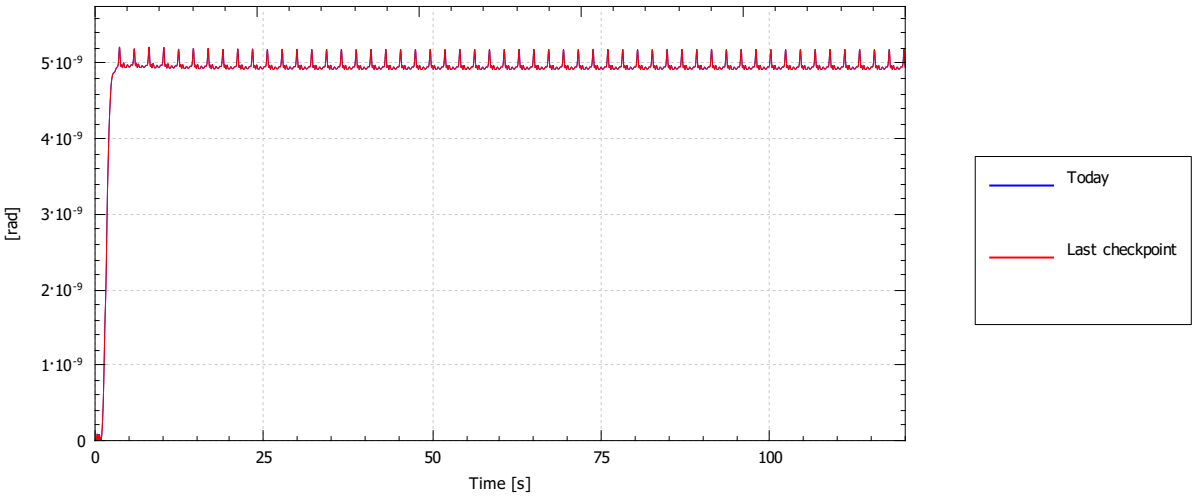
Deformational rotation (2nd prin.)



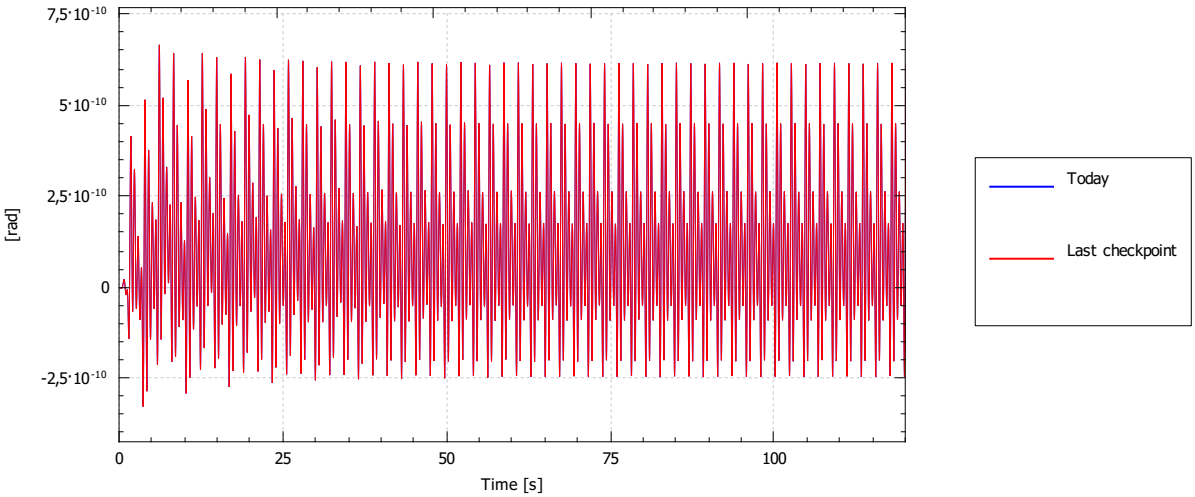
Deformational rotation (i) - rad



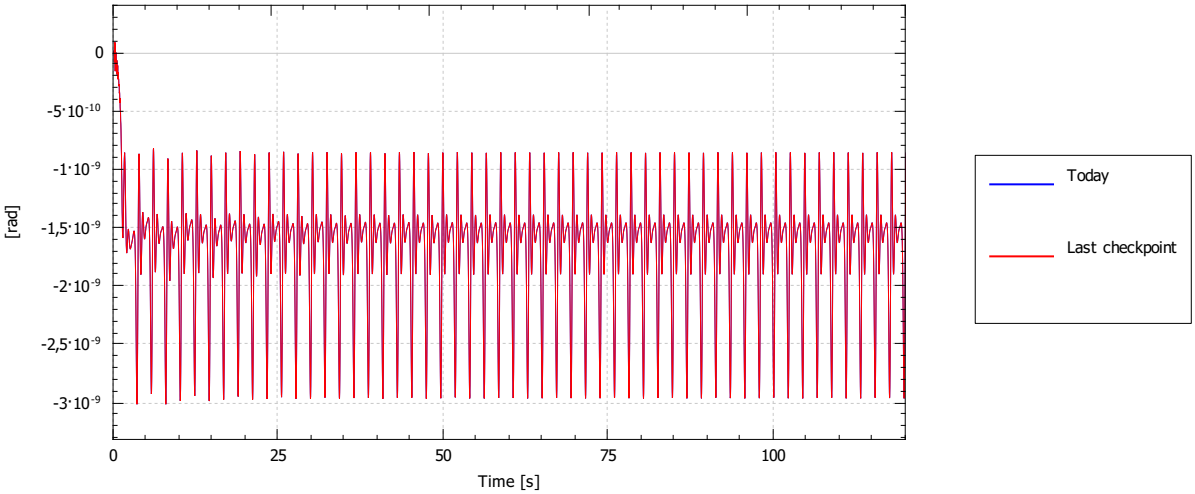
Deformational rotation (j) - rad



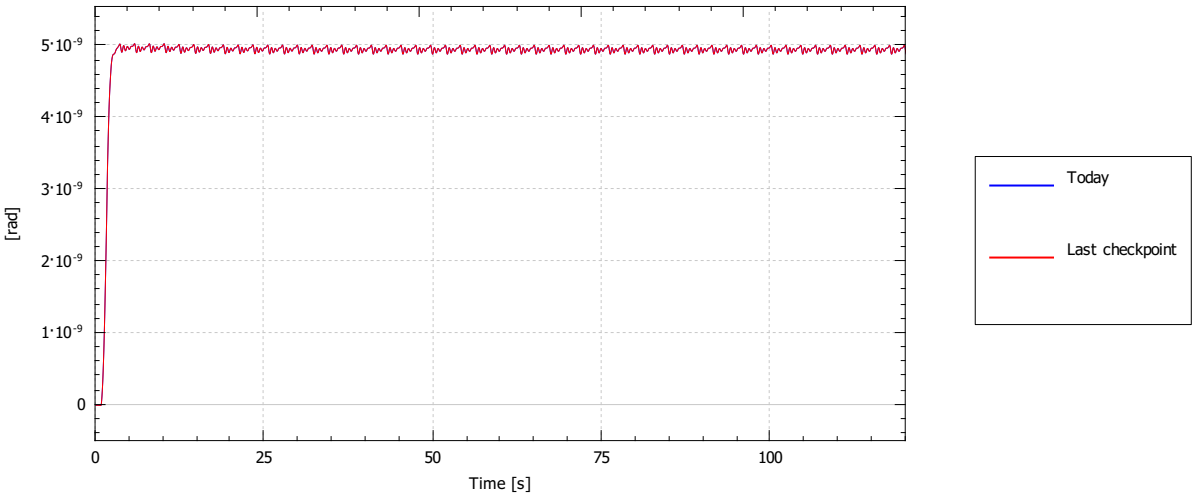
Deformational rotation (axial) - rad



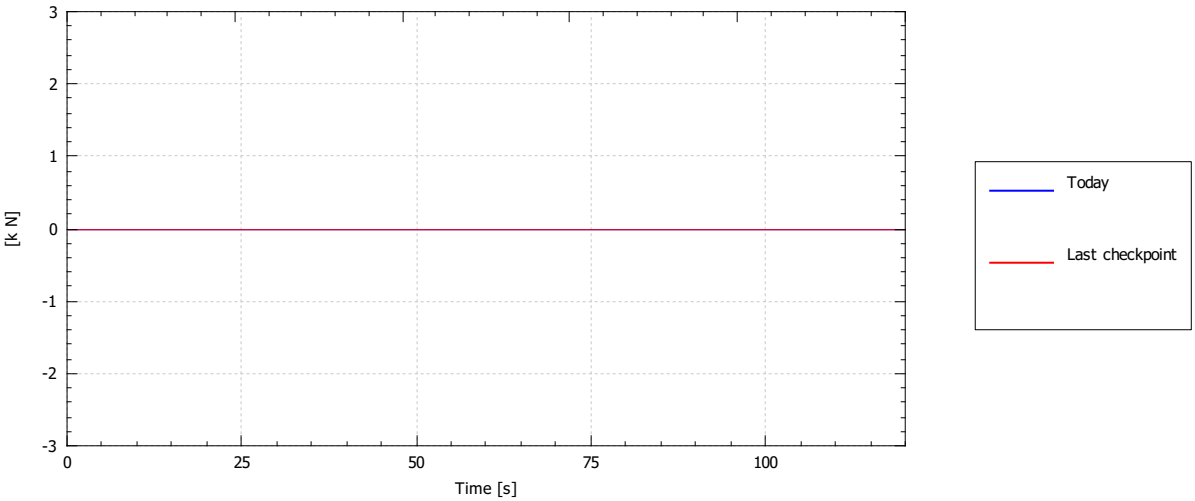
Deformational rotation (1st prin.) - rad



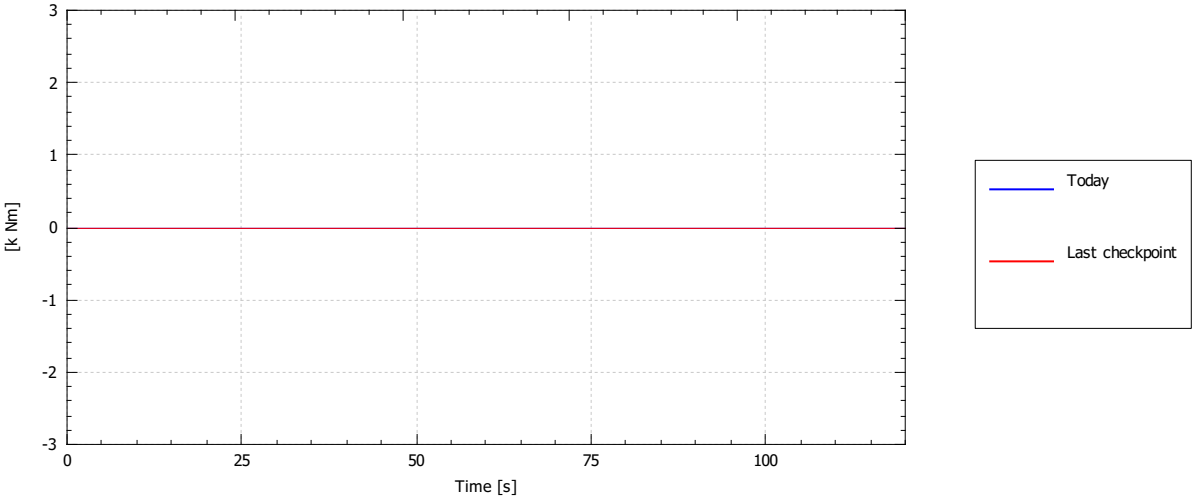
Deformational rotation (2nd prin.) - rad



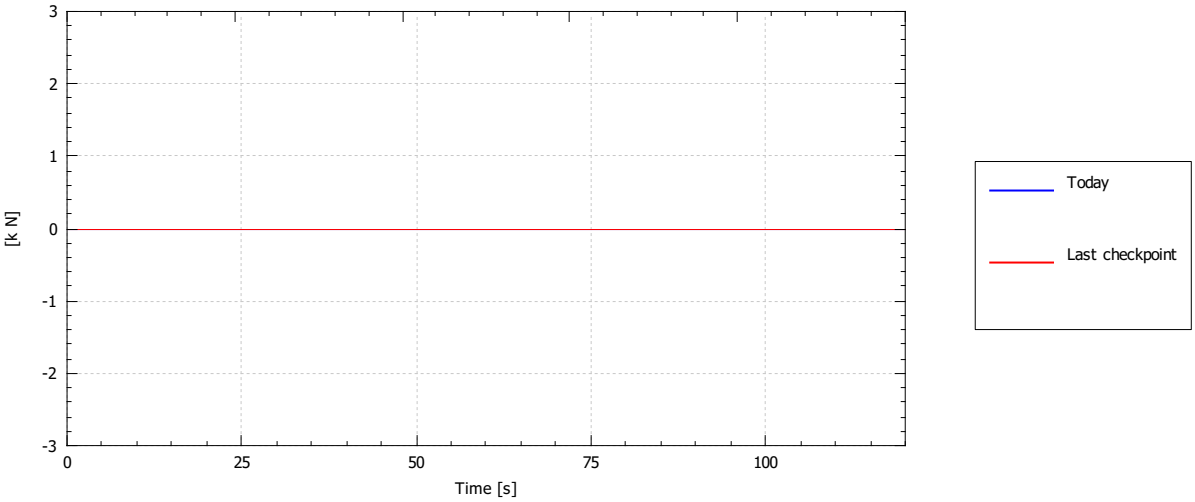
Damping force, i



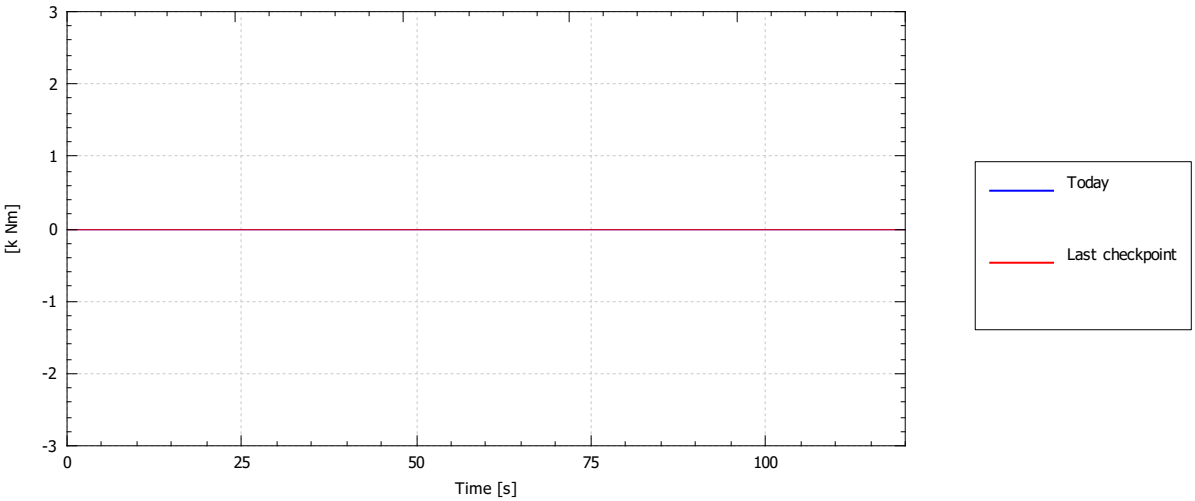
Damping moment, i



Damping force, sum

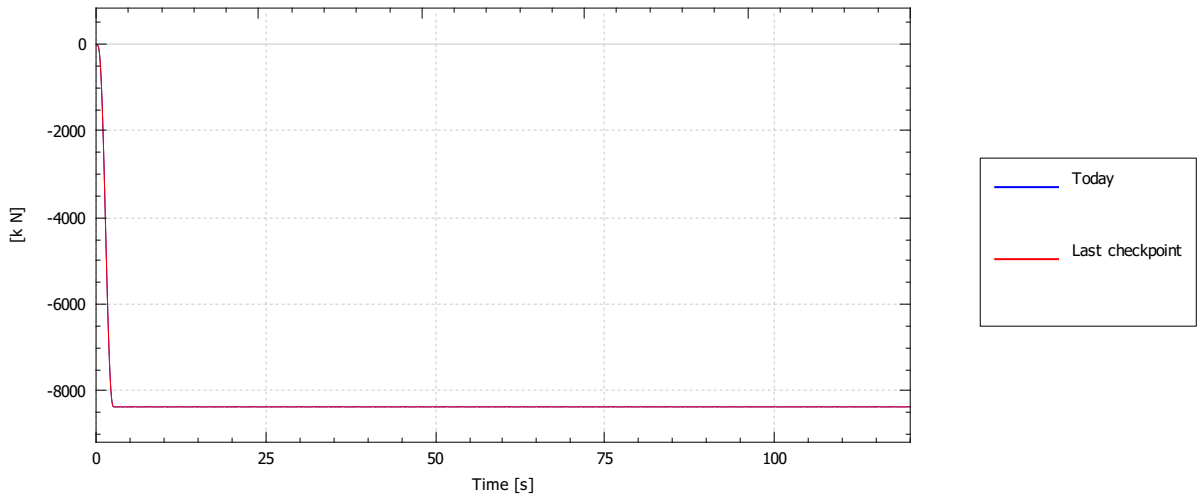


Damping moment, sum

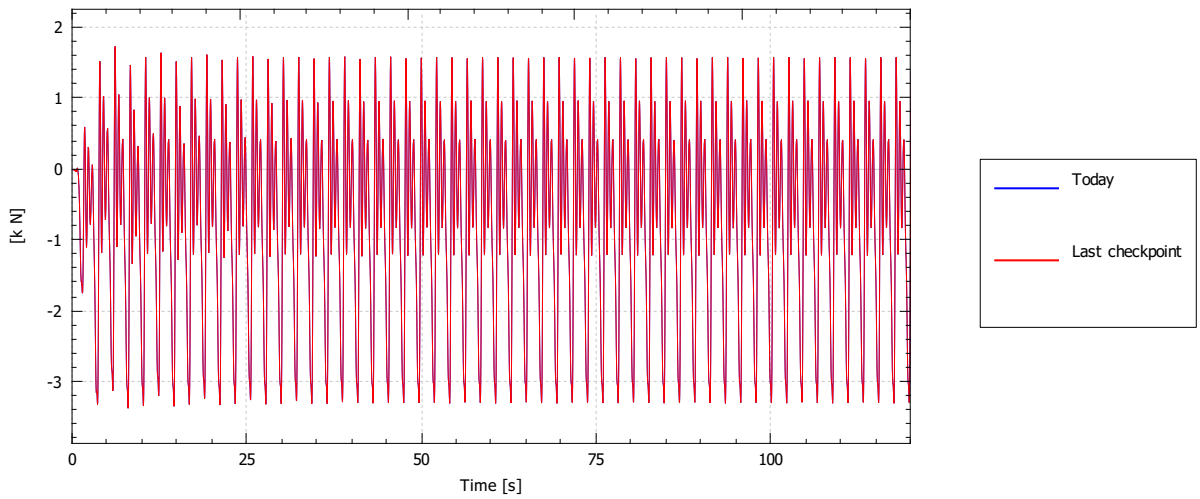


Beam element [Element 3 | Monopile]

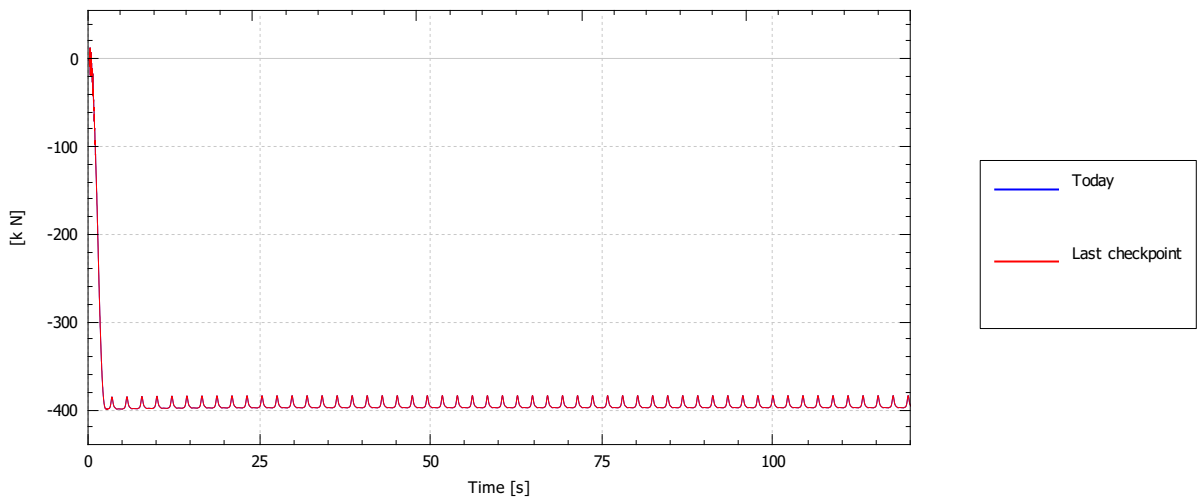
Axial force



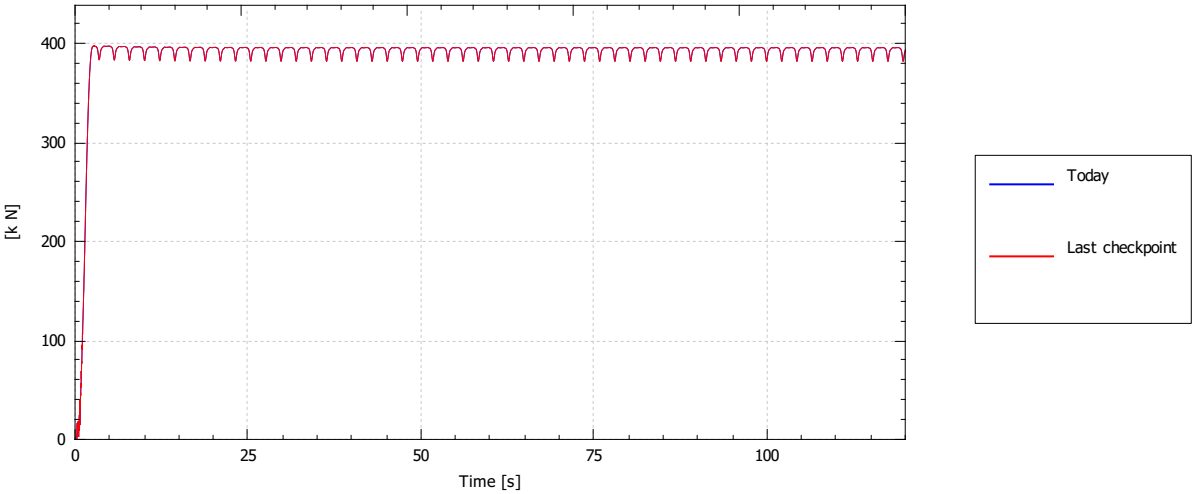
Shear force (1st prin. axis)



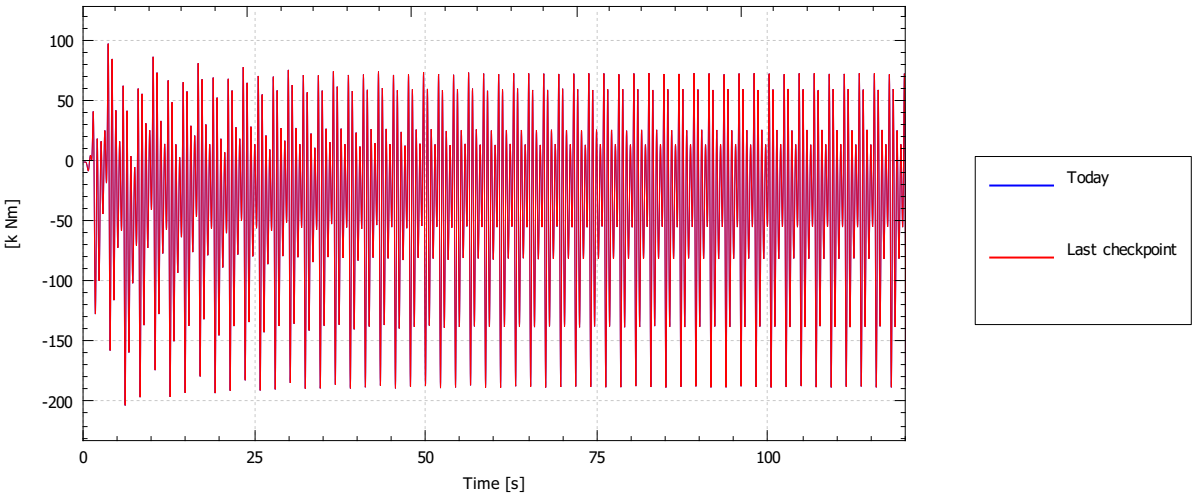
Shear force (2nd prin. axis)



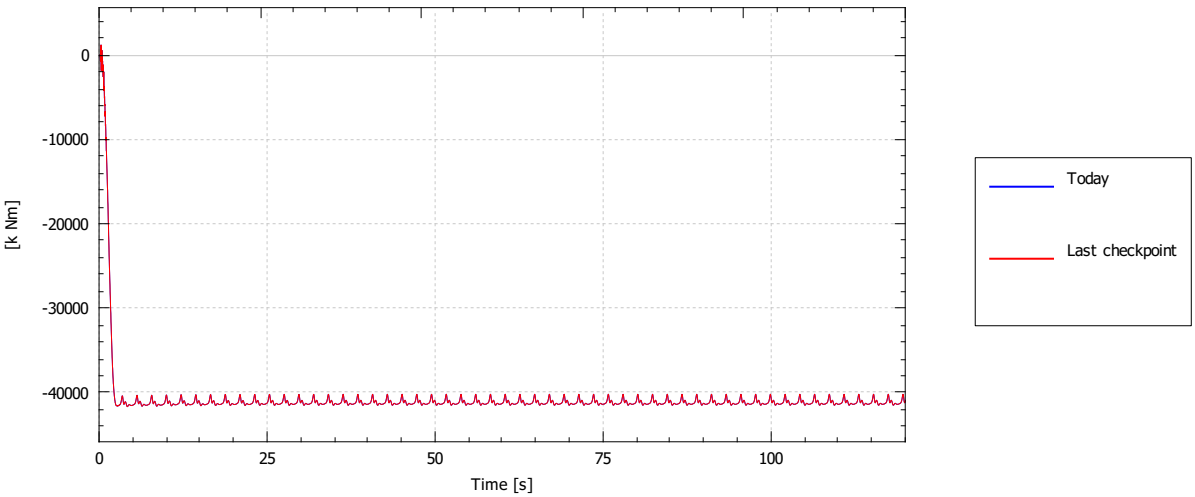
Shear force, mag.



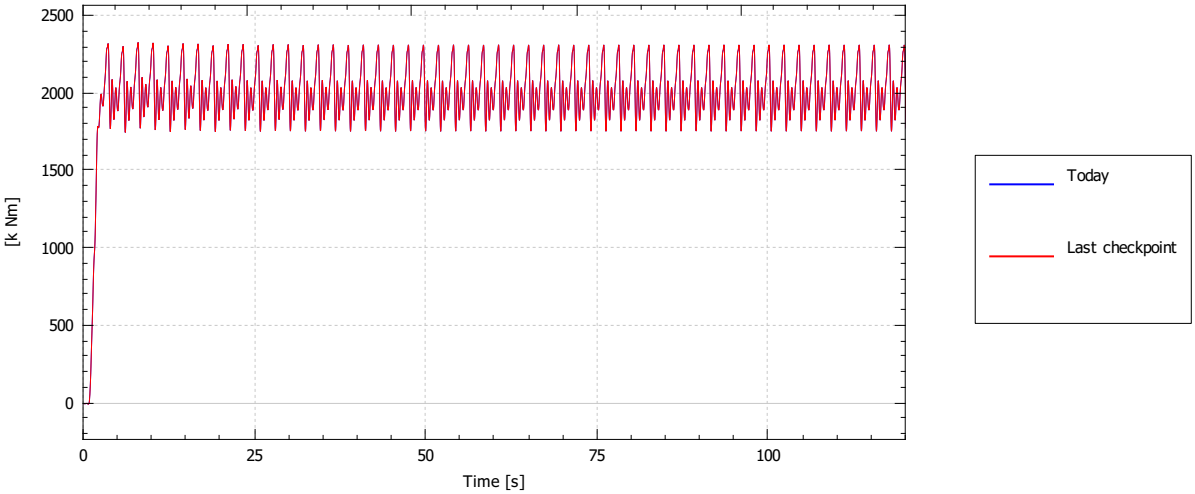
Torque



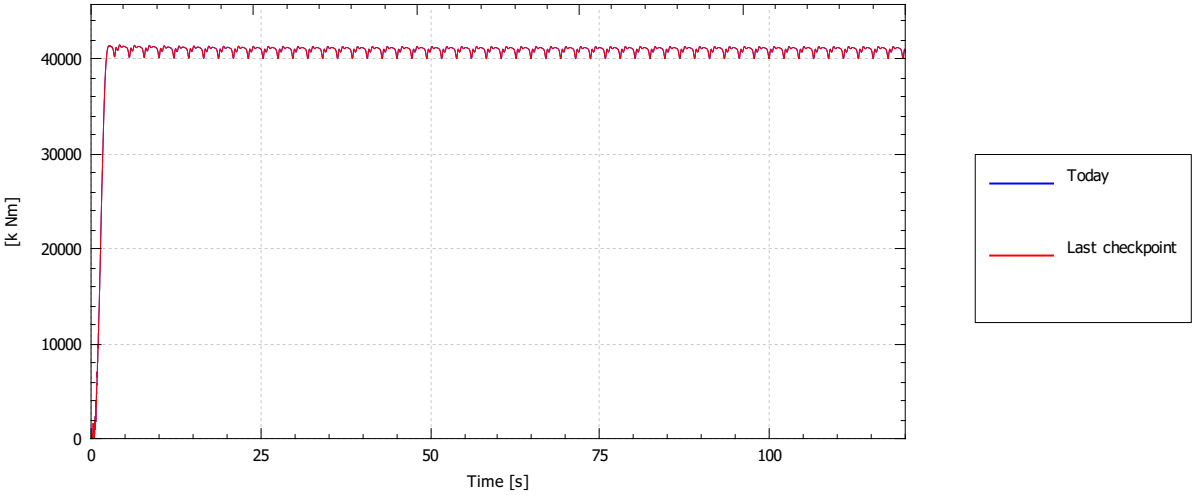
Moment (1st prin. axis), i



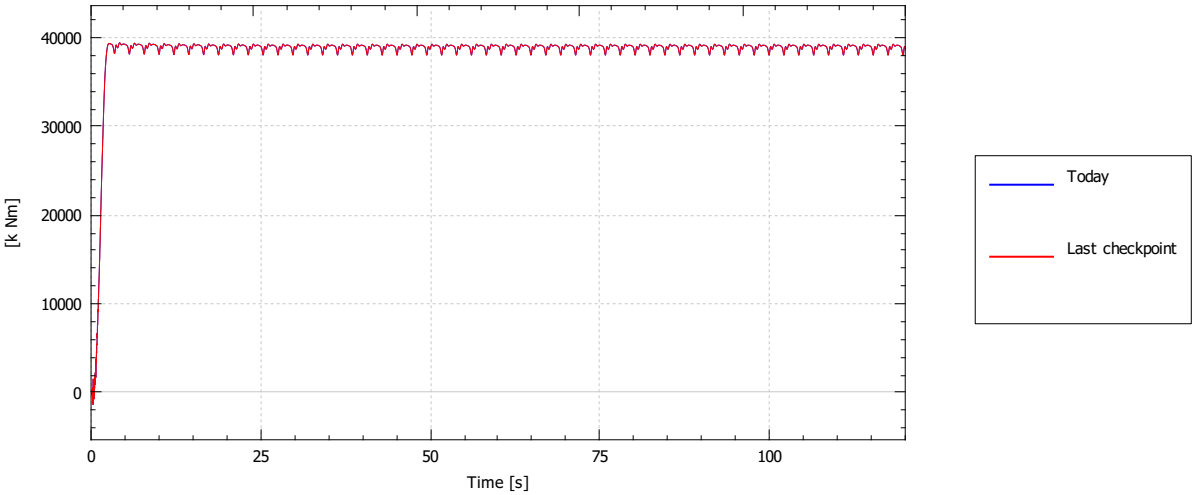
Moment (2nd prin. axis), i



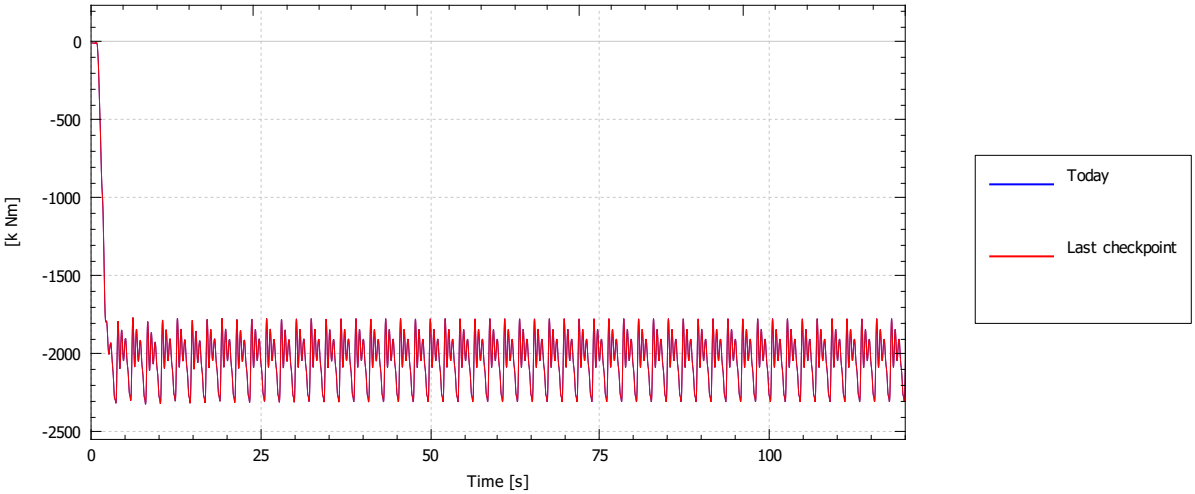
Moment, mag., i



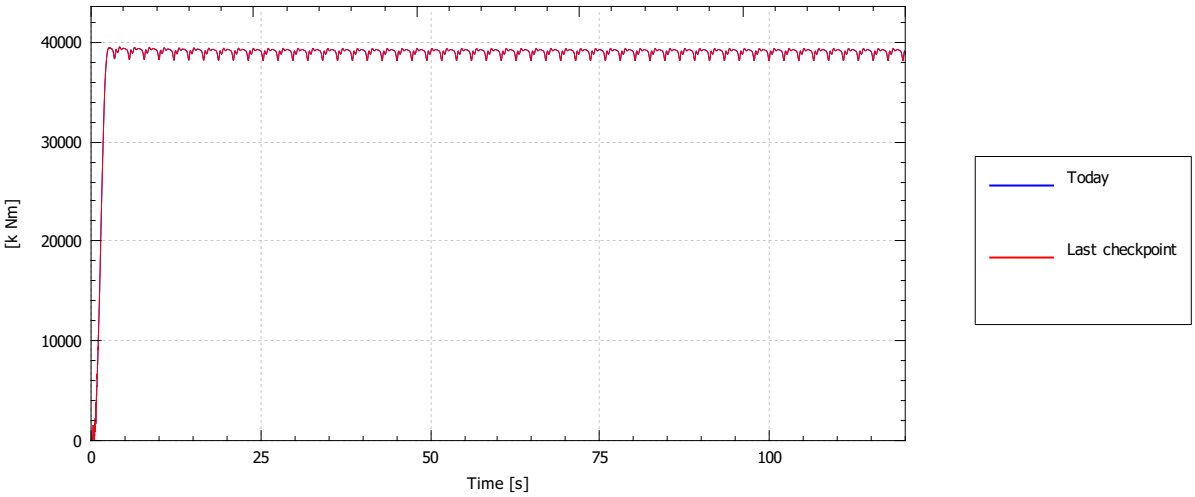
Moment (1st prin. axis), j



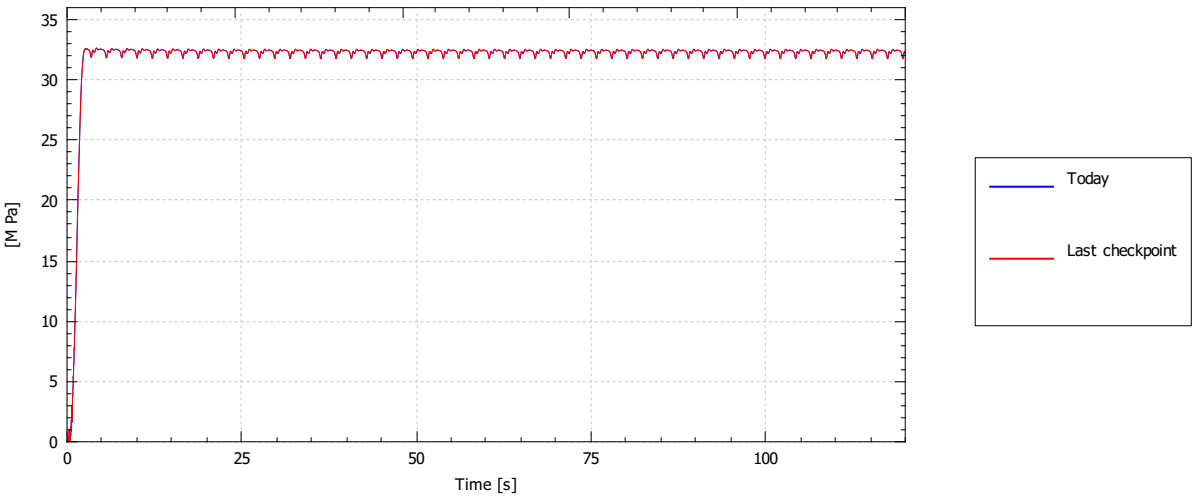
Moment (2nd prin. axis), j



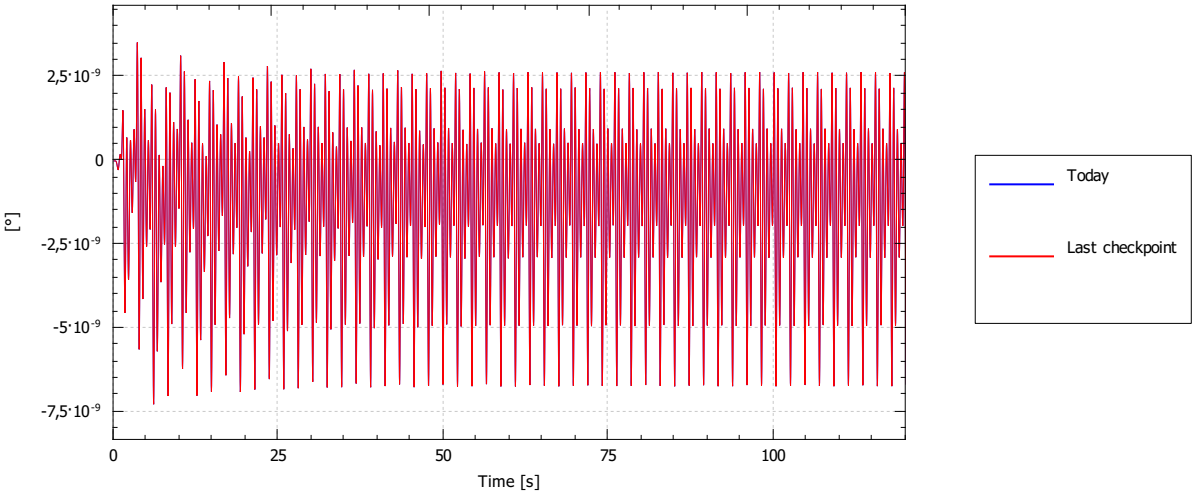
Moment, mag., j



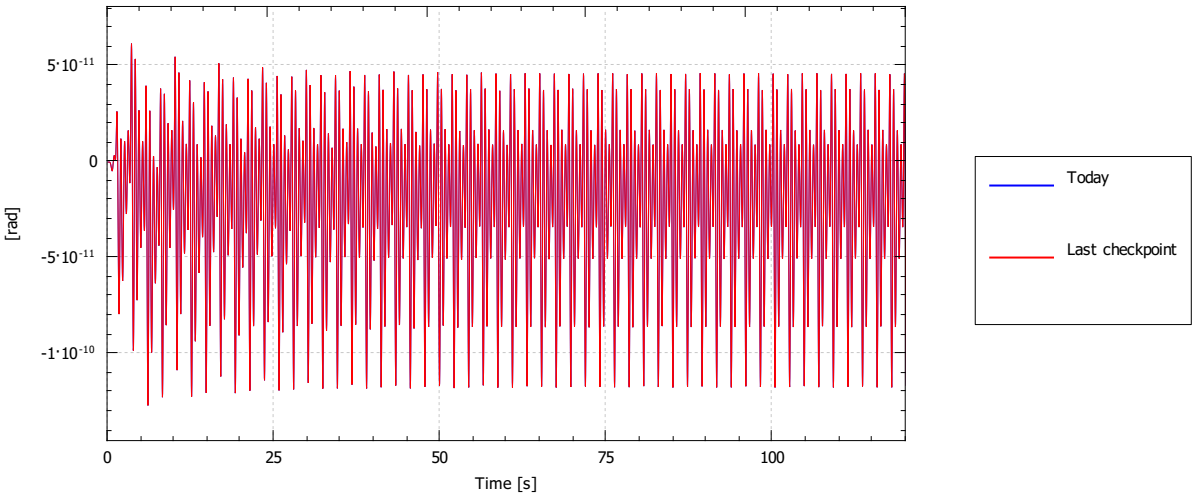
Max normal stress



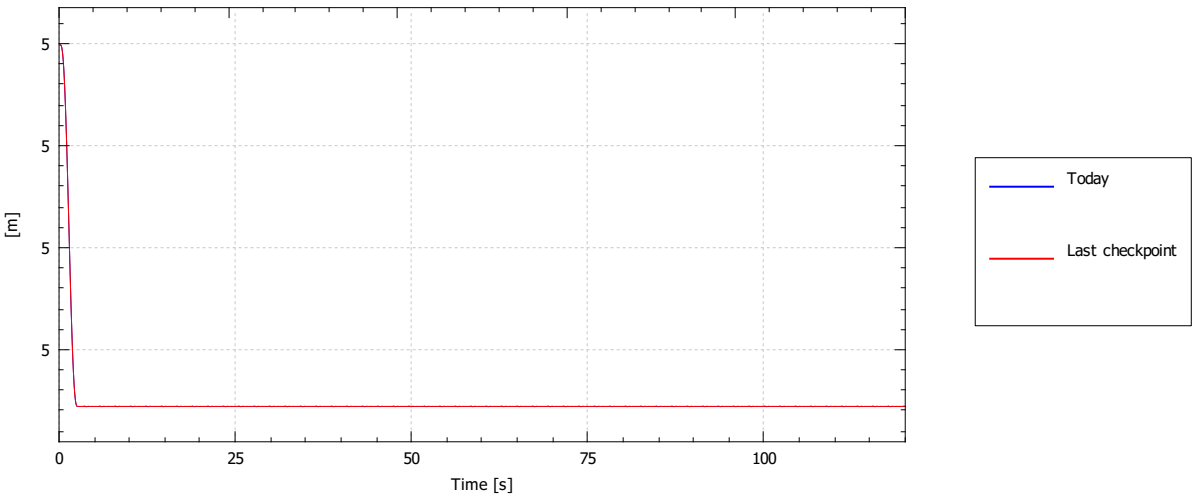
Twist (structural)



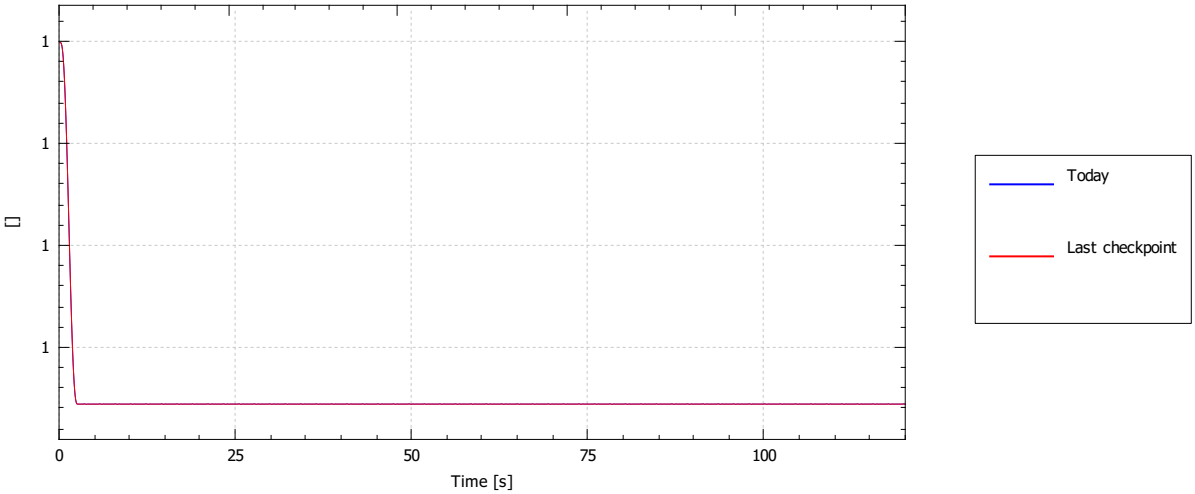
Twist (structural) - rad



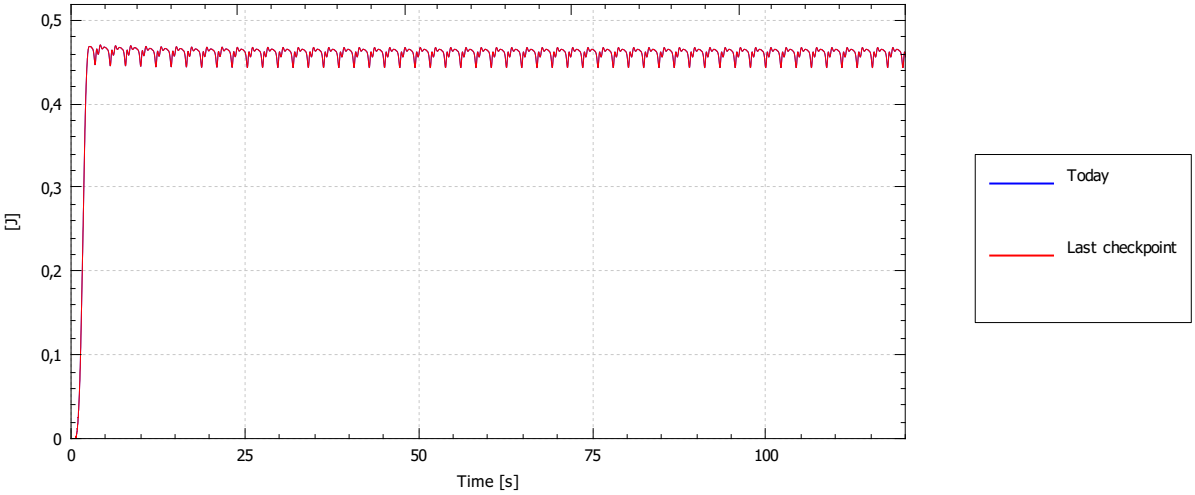
Deformed length



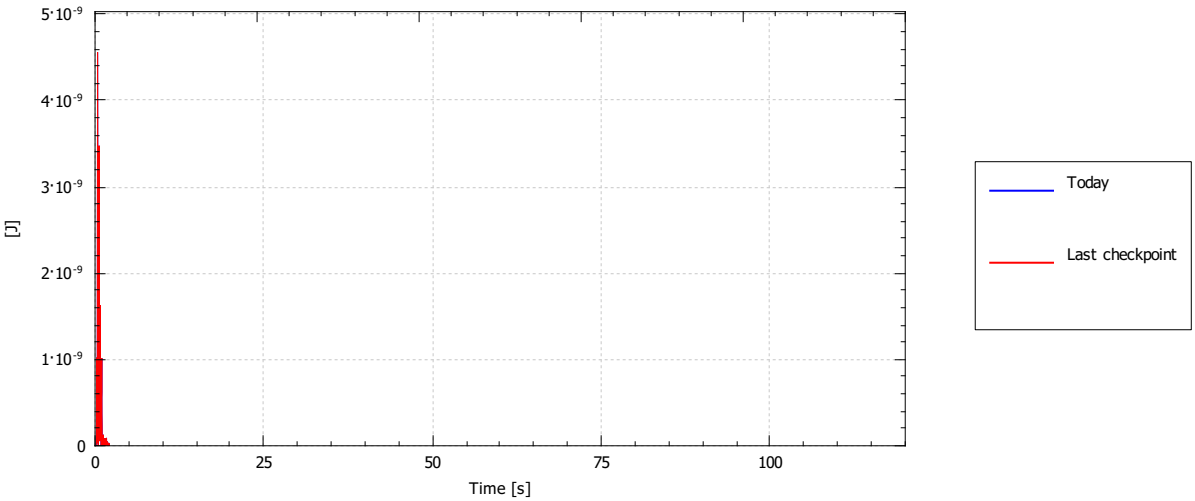
Elongation



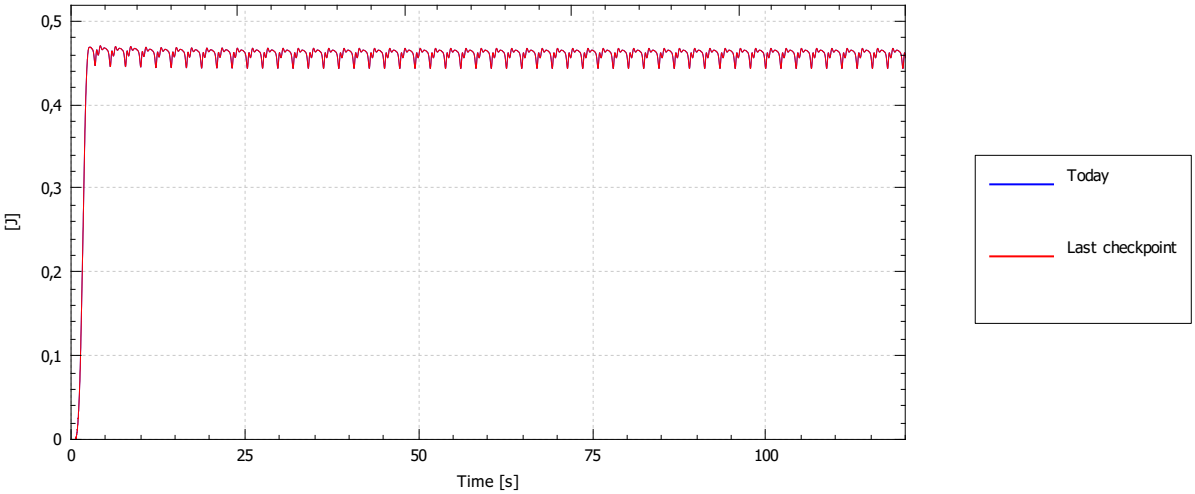
Strain energy



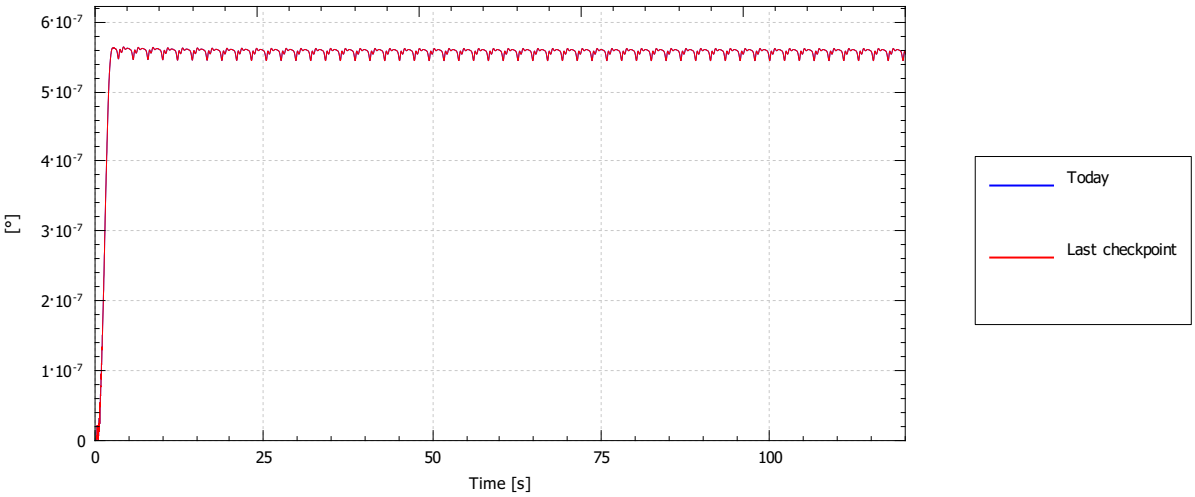
Kinetic energy



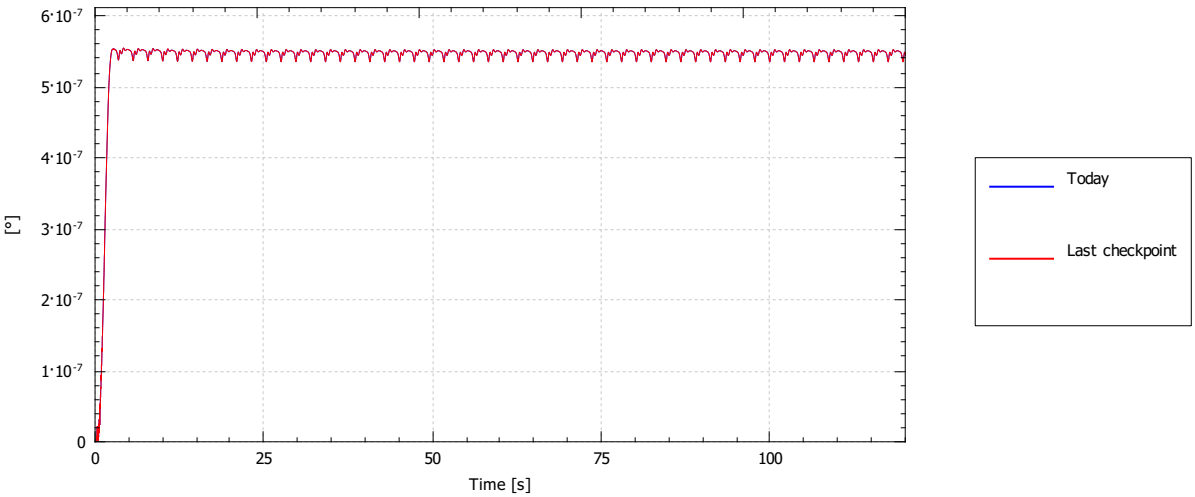
Mechanical energy



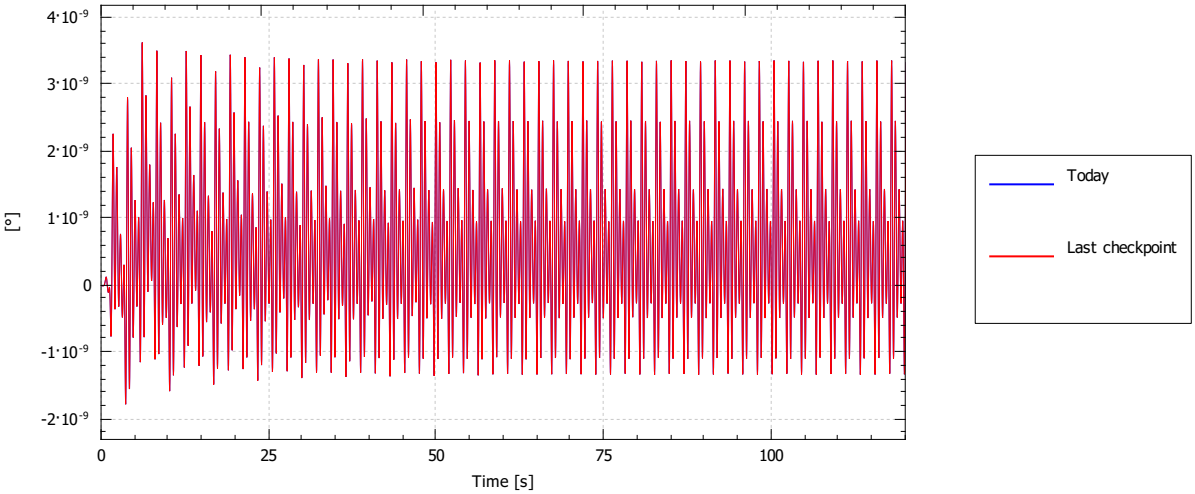
Deformational rotation (i)



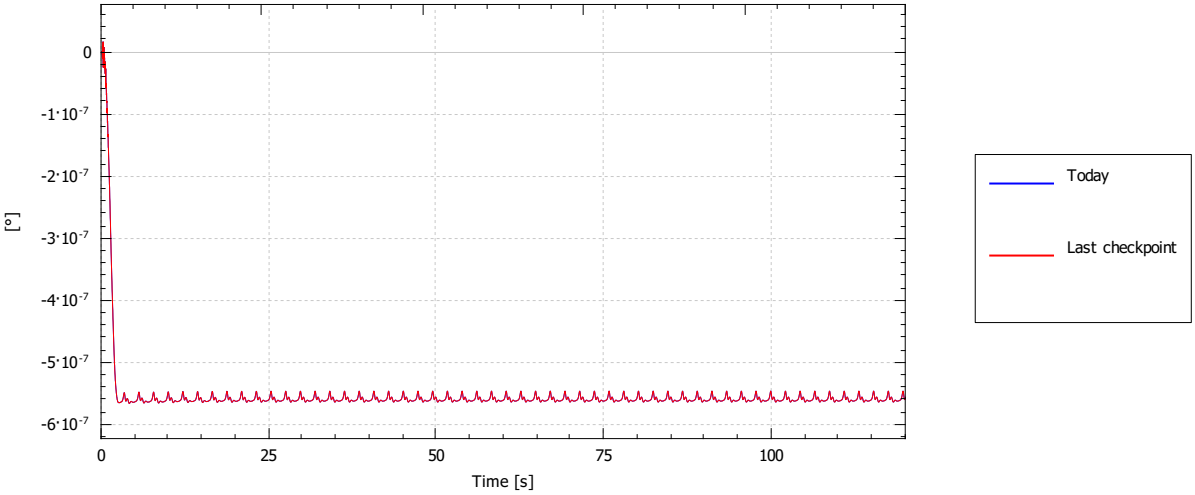
Deformational rotation (j)



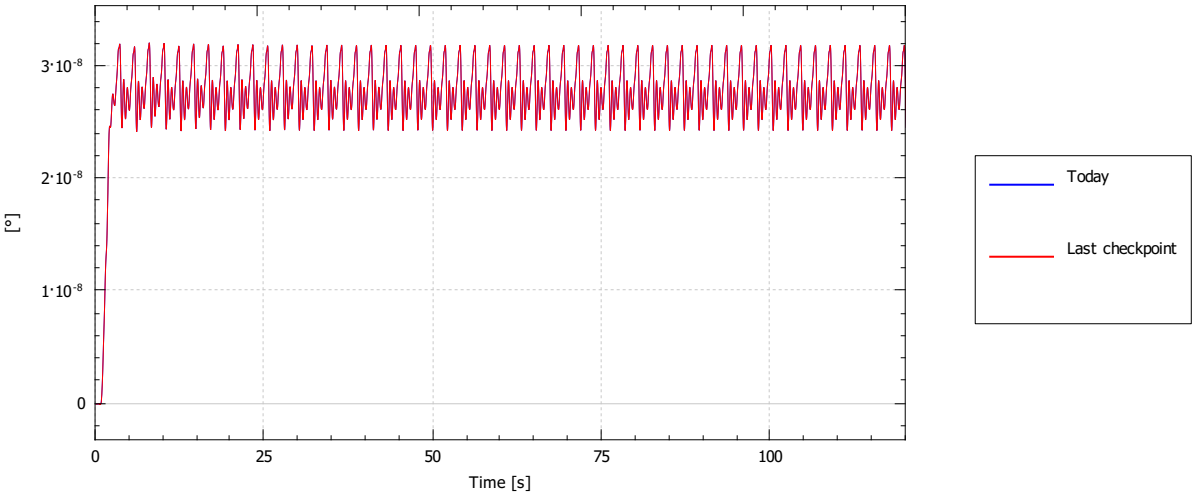
Deformational rotation (axial)



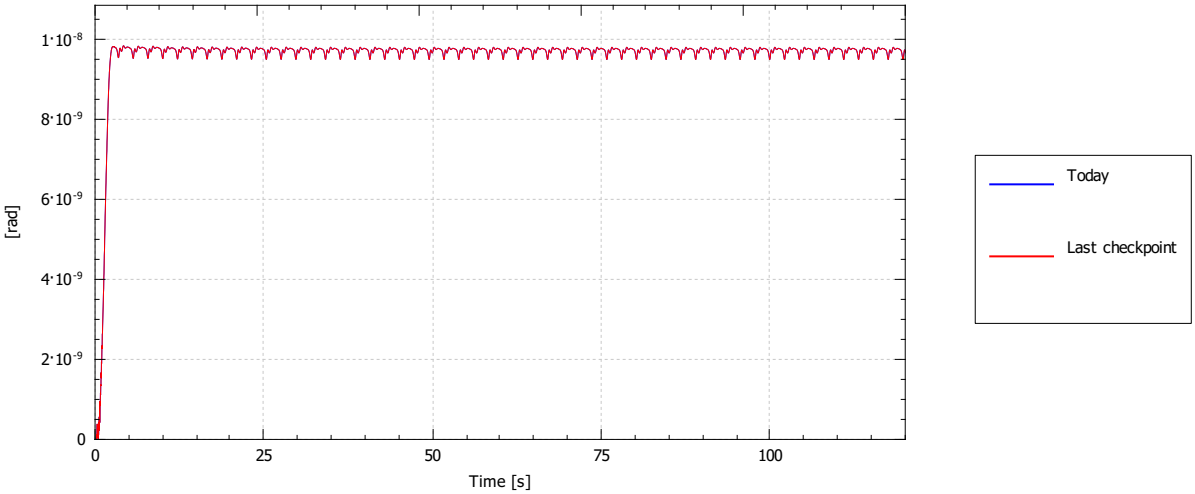
Deformational rotation (1st prin.)



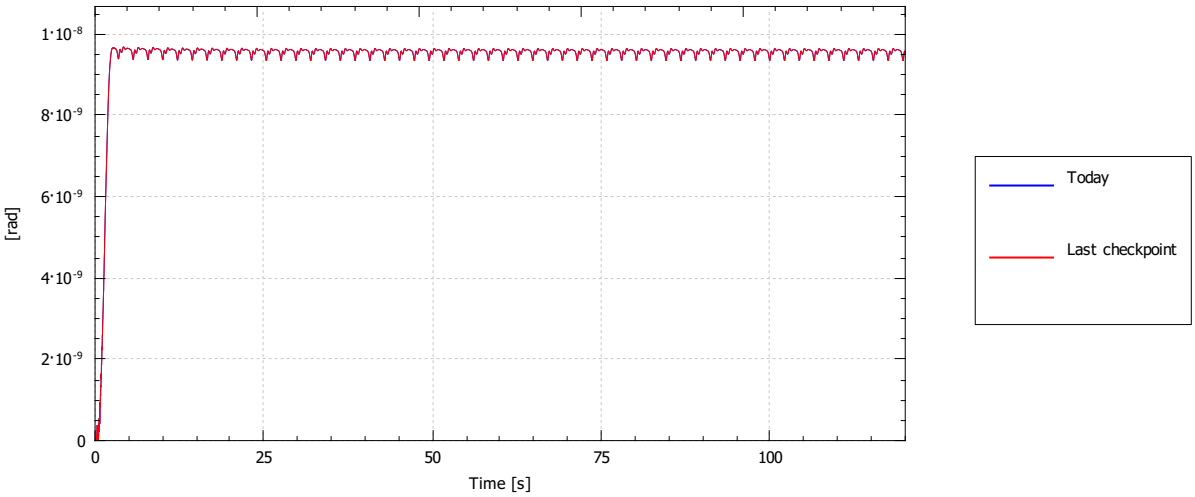
Deformational rotation (2nd prin.)



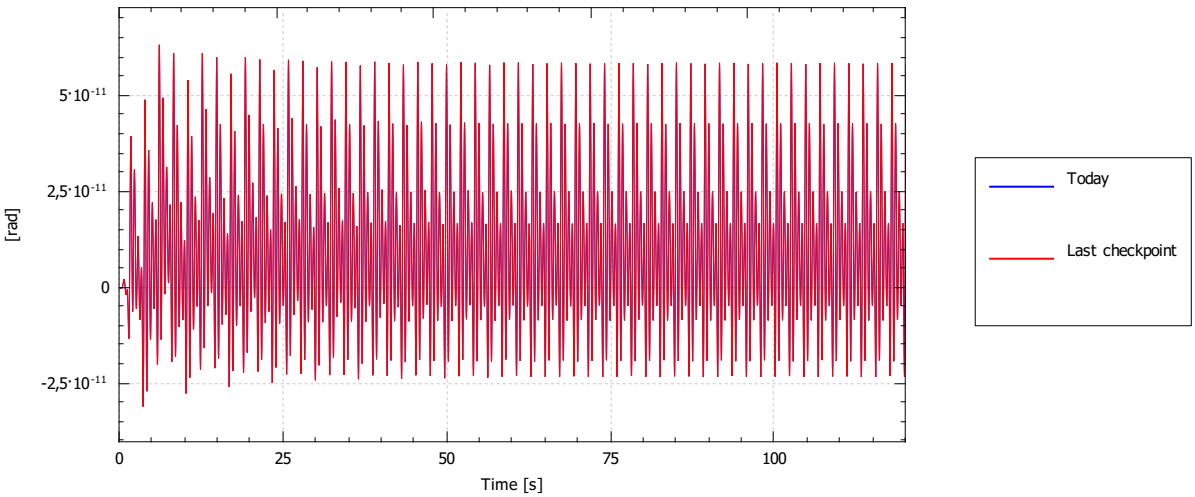
Deformational rotation (i) - rad



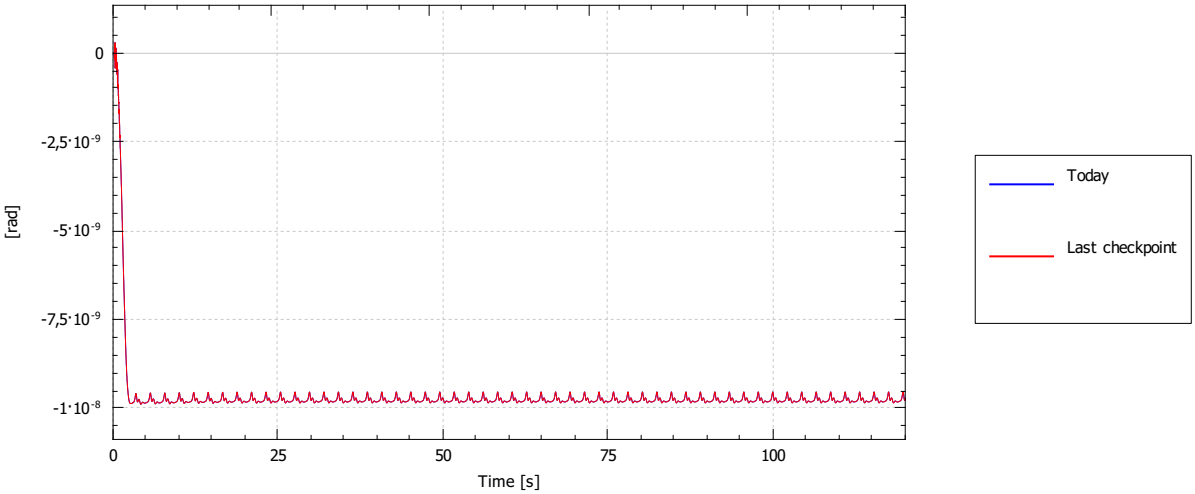
Deformational rotation (j) - rad



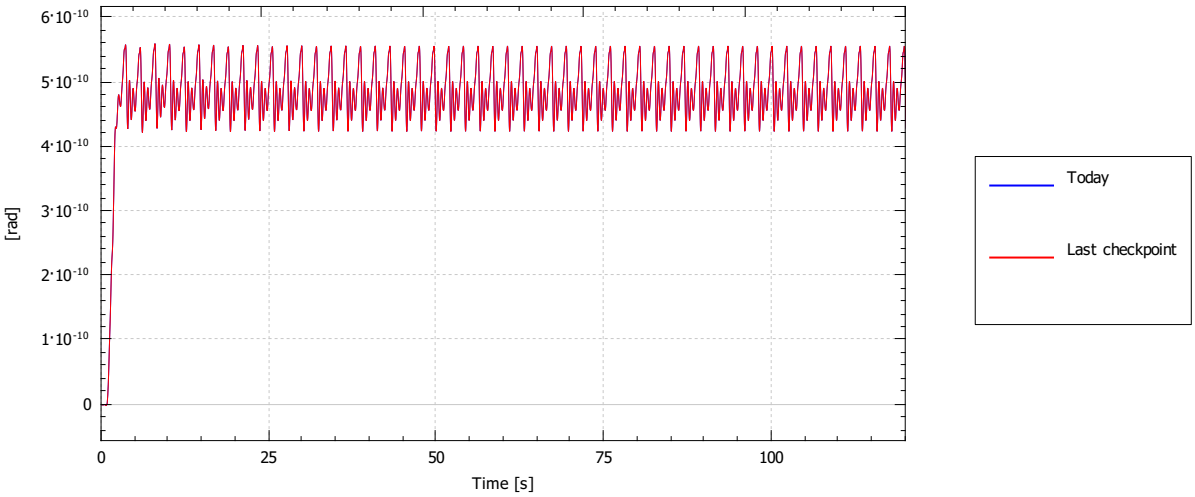
Deformational rotation (axial) - rad



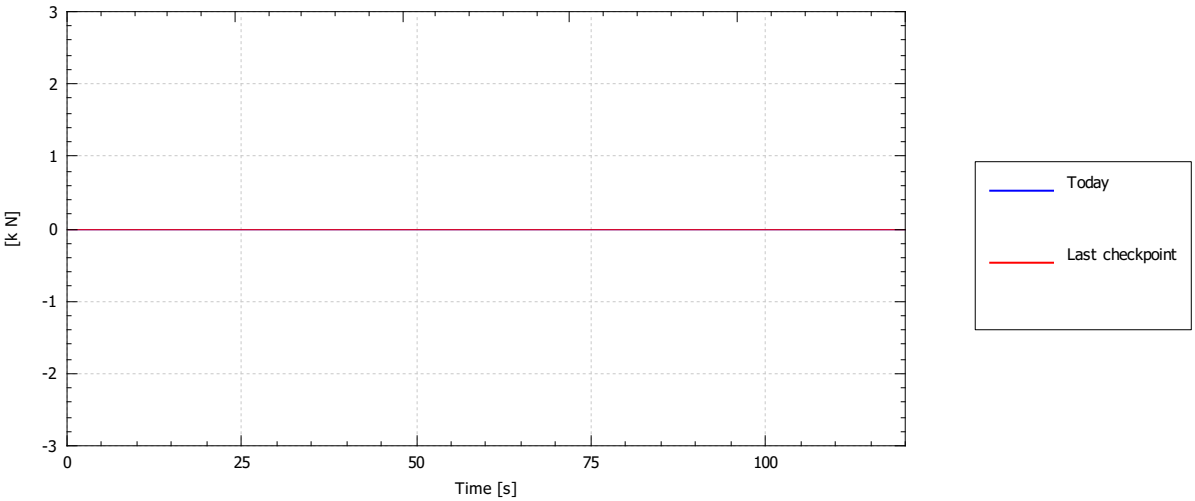
Deformational rotation (1st prin.) - rad



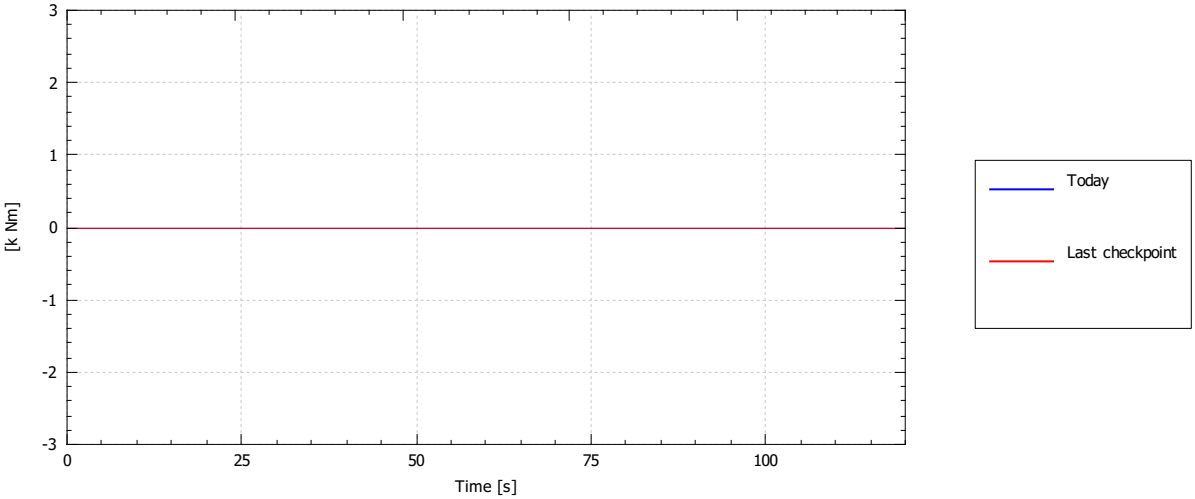
Deformational rotation (2nd prin.) - rad



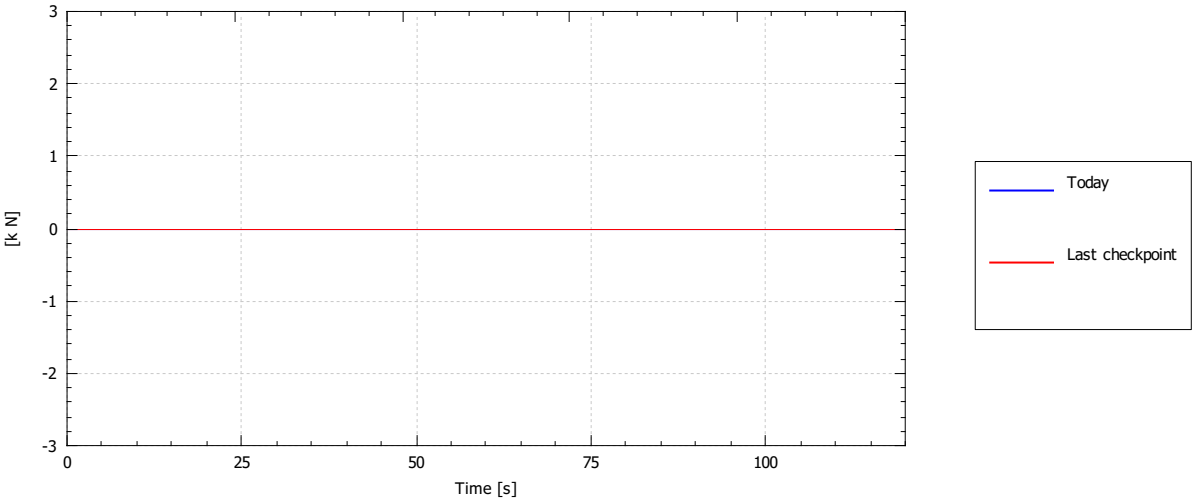
Damping force, i



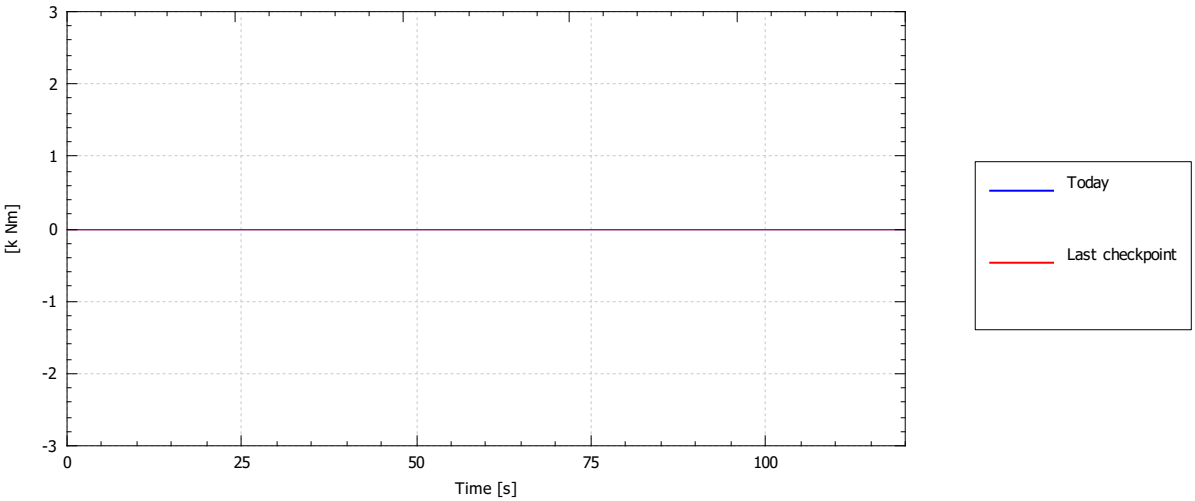
Damping moment, i



Damping force, sum

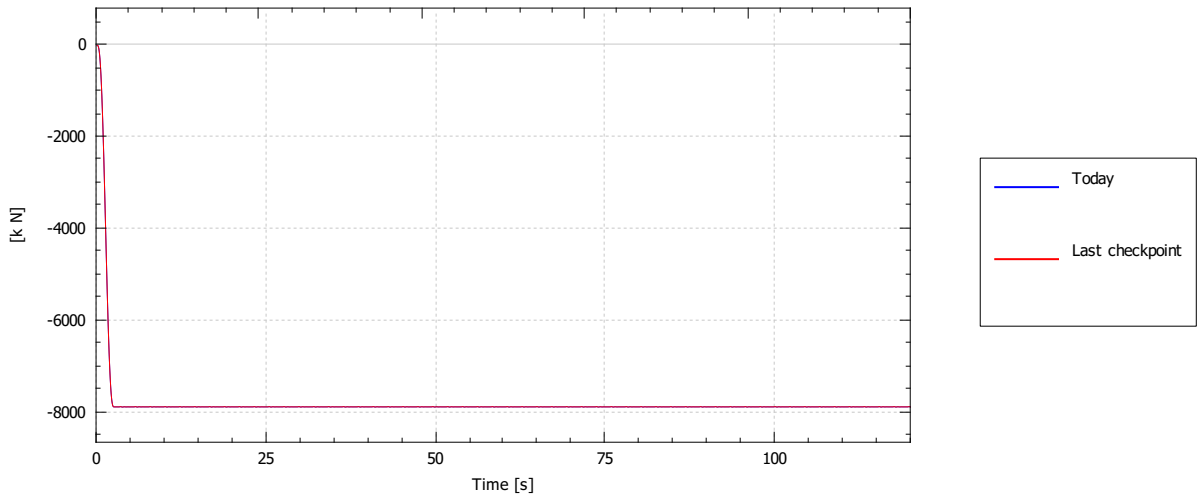


Damping moment, sum

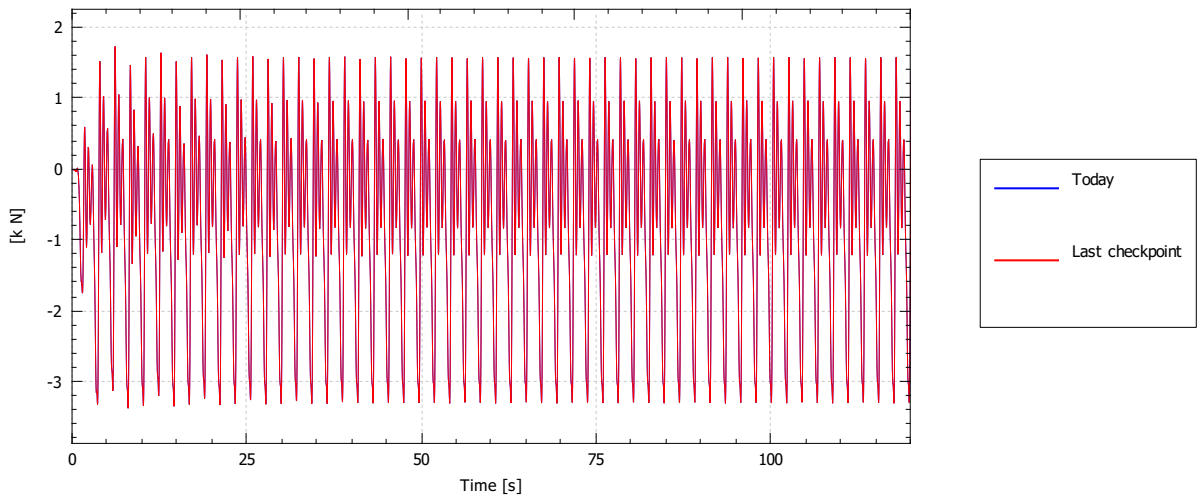


Beam element [Element 4 | Monopile]

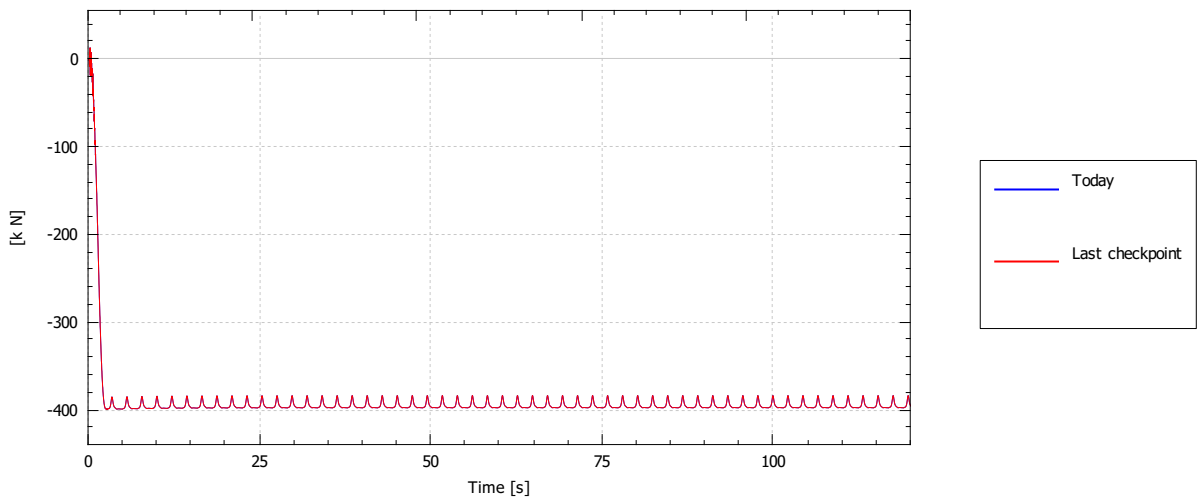
Axial force



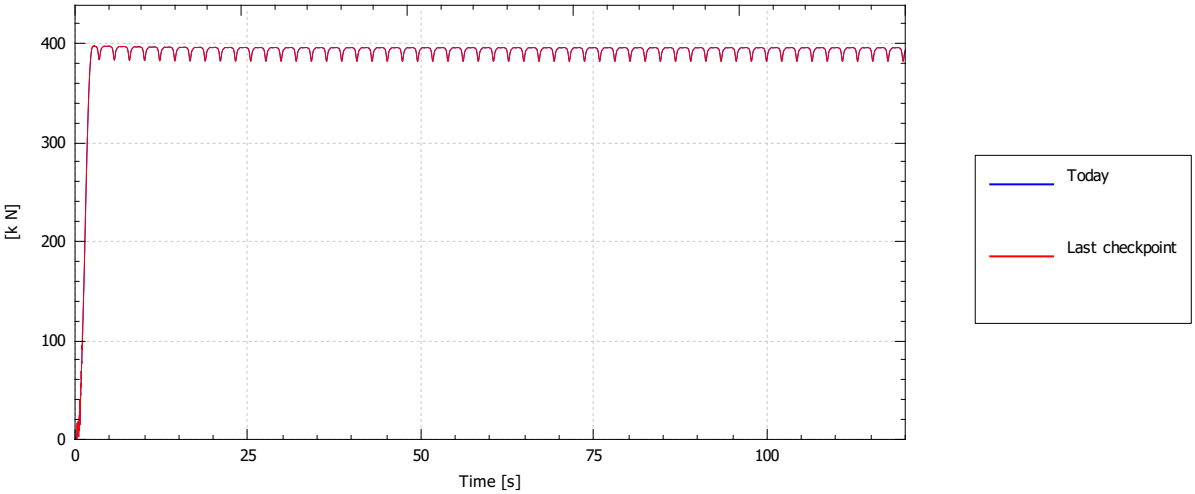
Shear force (1st prin. axis)



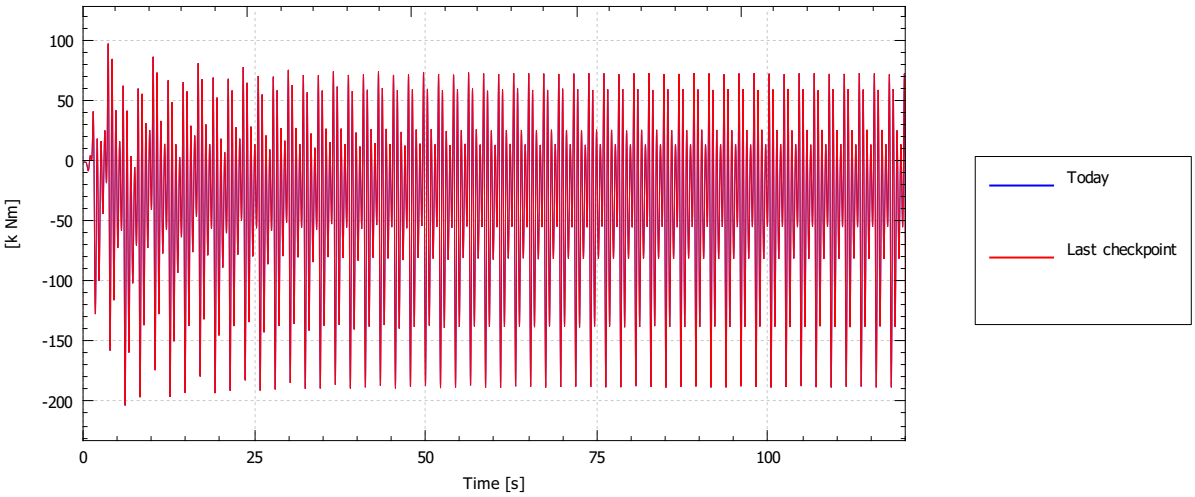
Shear force (2nd prin. axis)



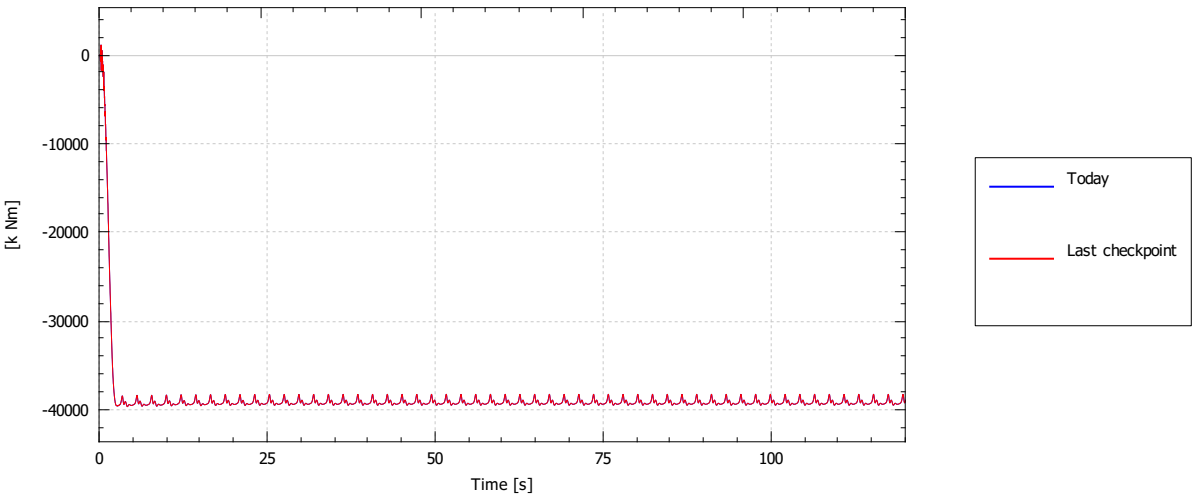
Shear force, mag.



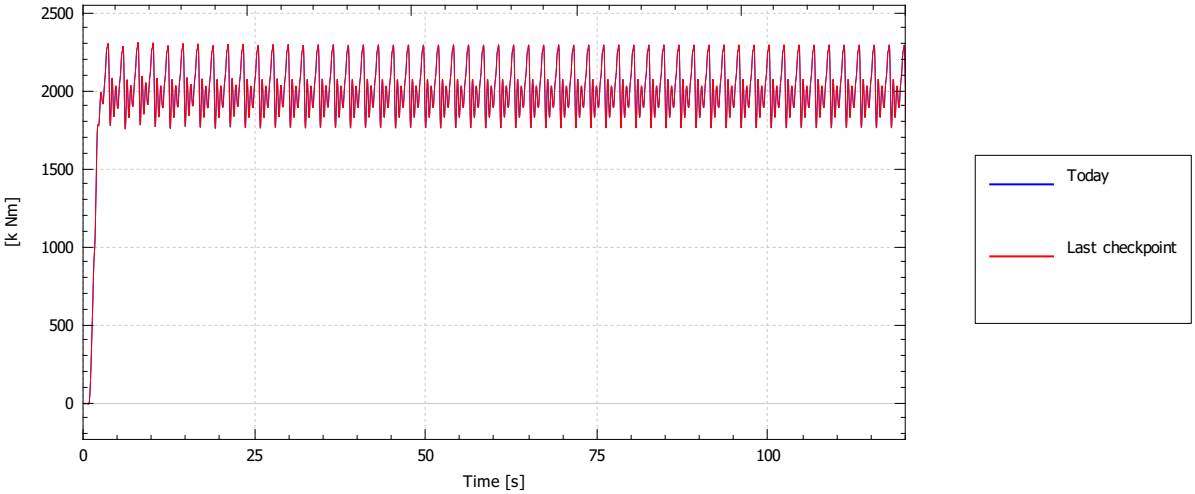
Torque



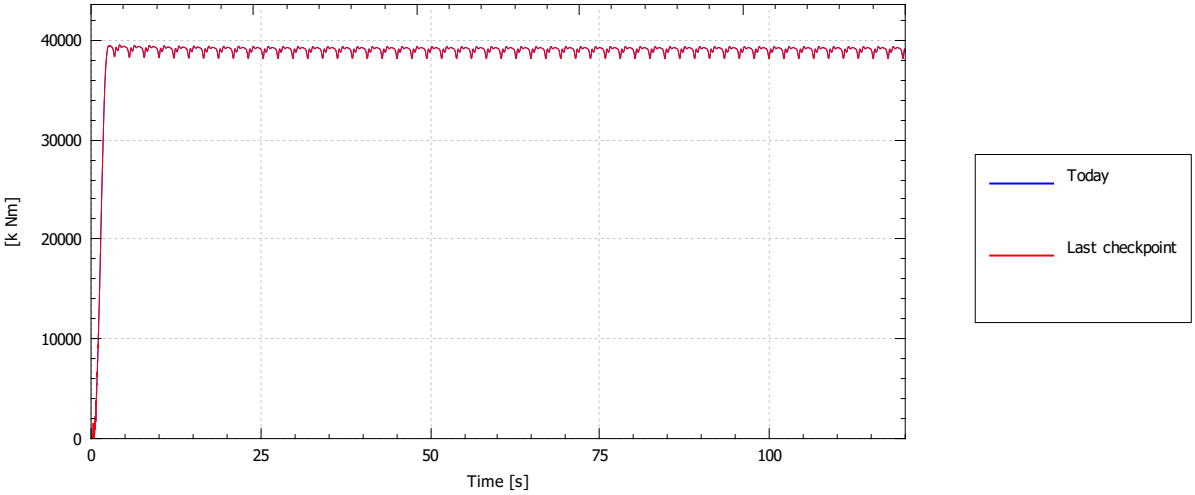
Moment (1st prin. axis), i



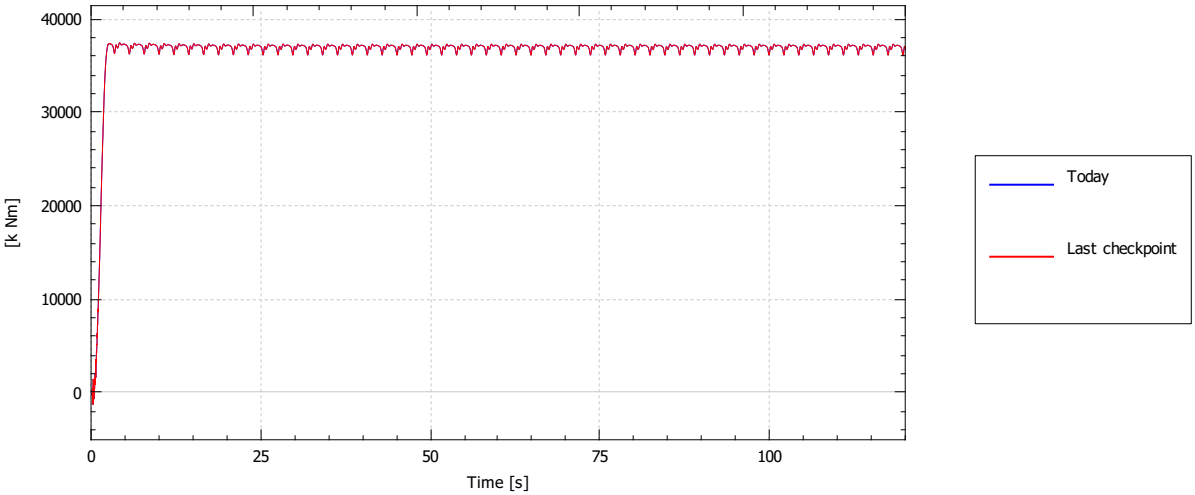
Moment (2nd prin. axis), i



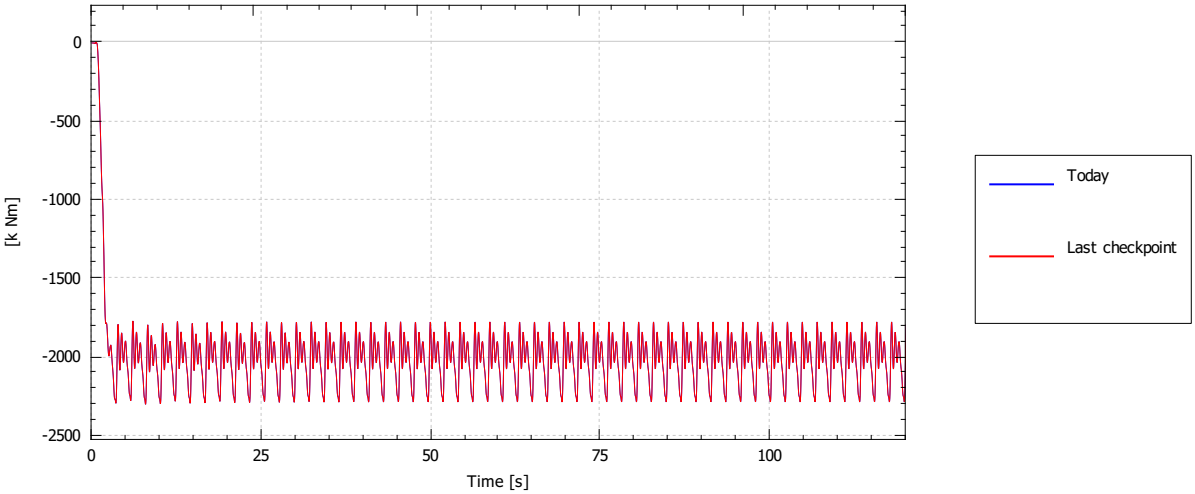
Moment, mag., i



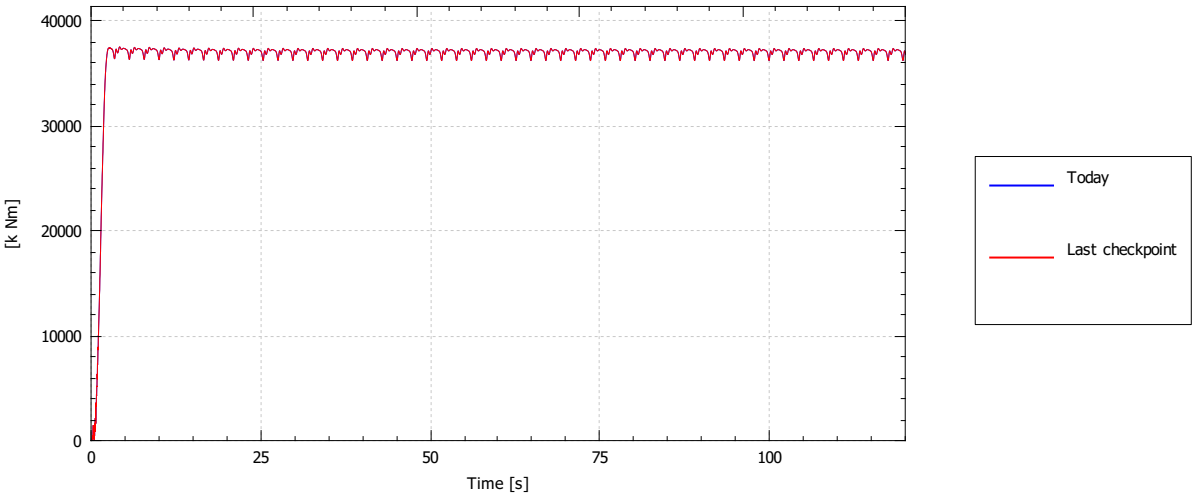
Moment (1st prin. axis), j



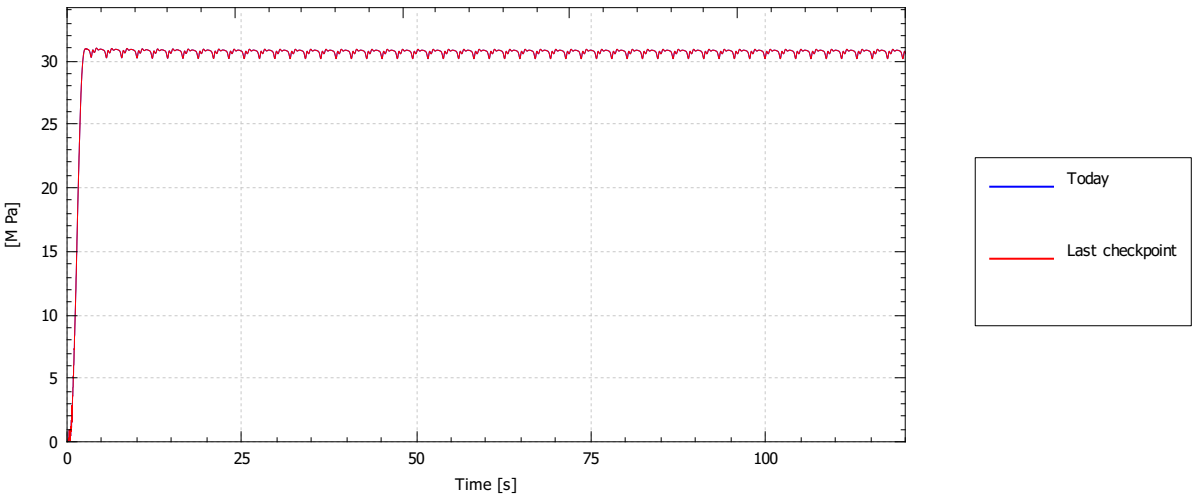
Moment (2nd prin. axis), j



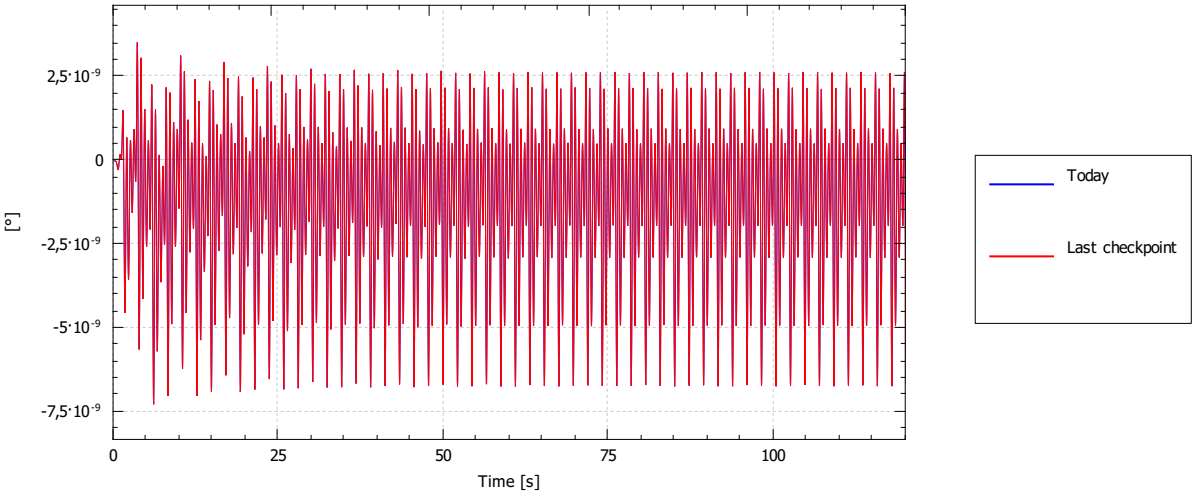
Moment, mag., j



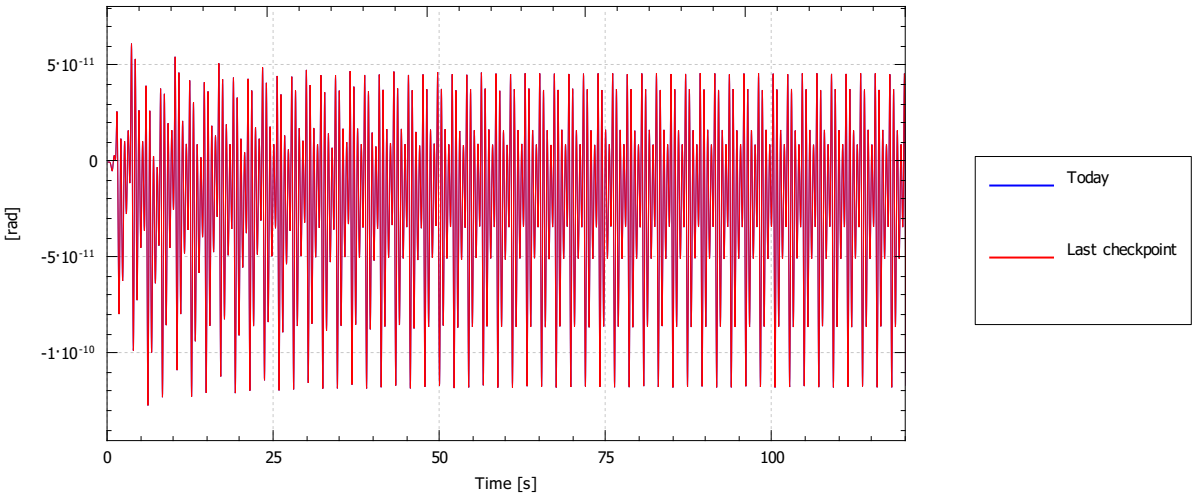
Max normal stress



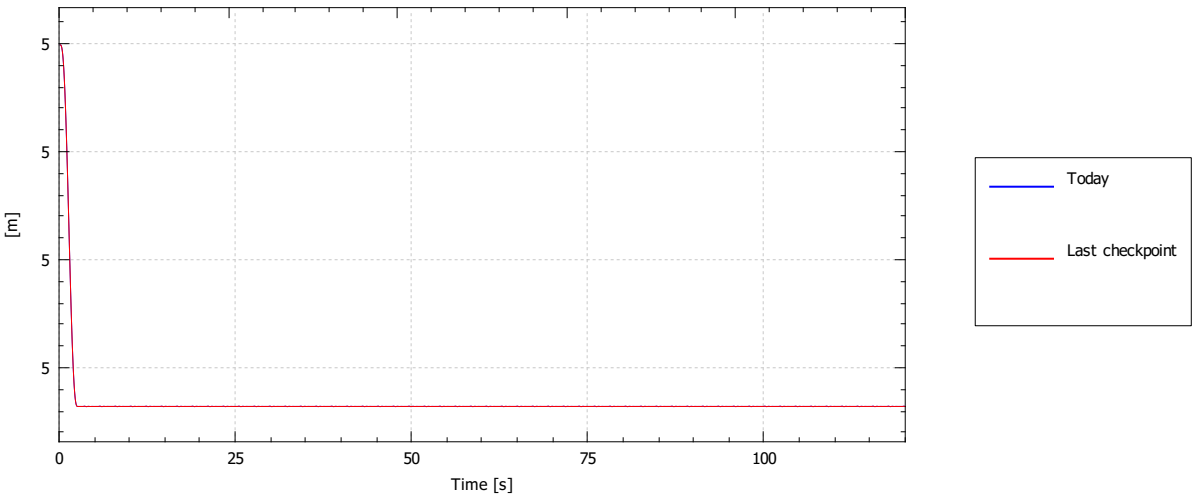
Twist (structural)



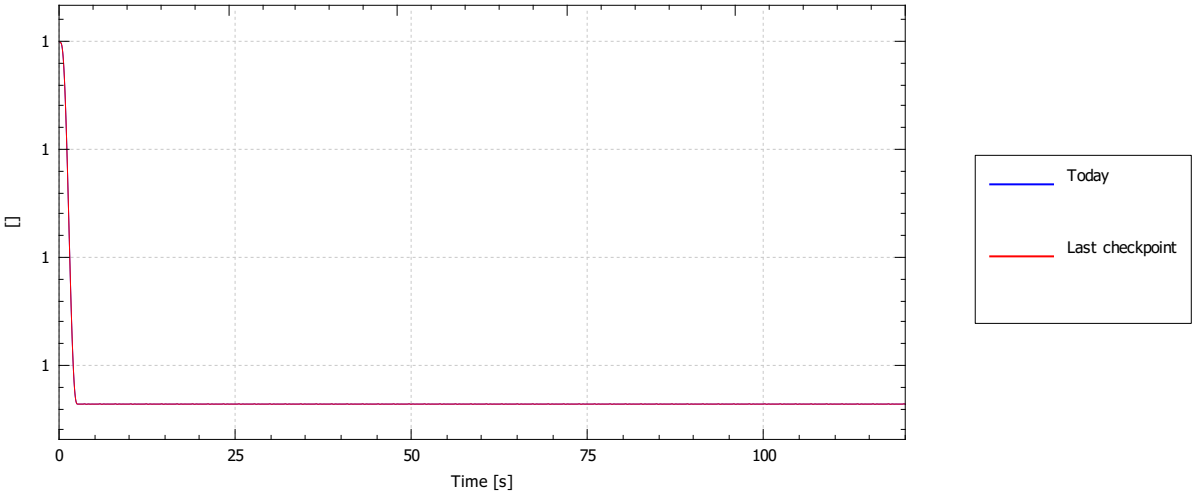
Twist (structural) - rad



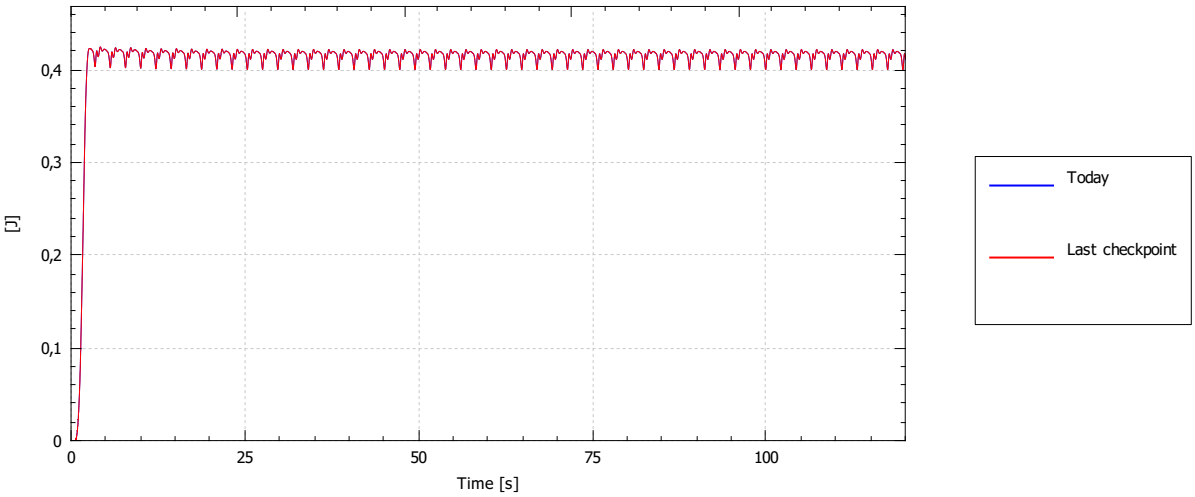
Deformed length



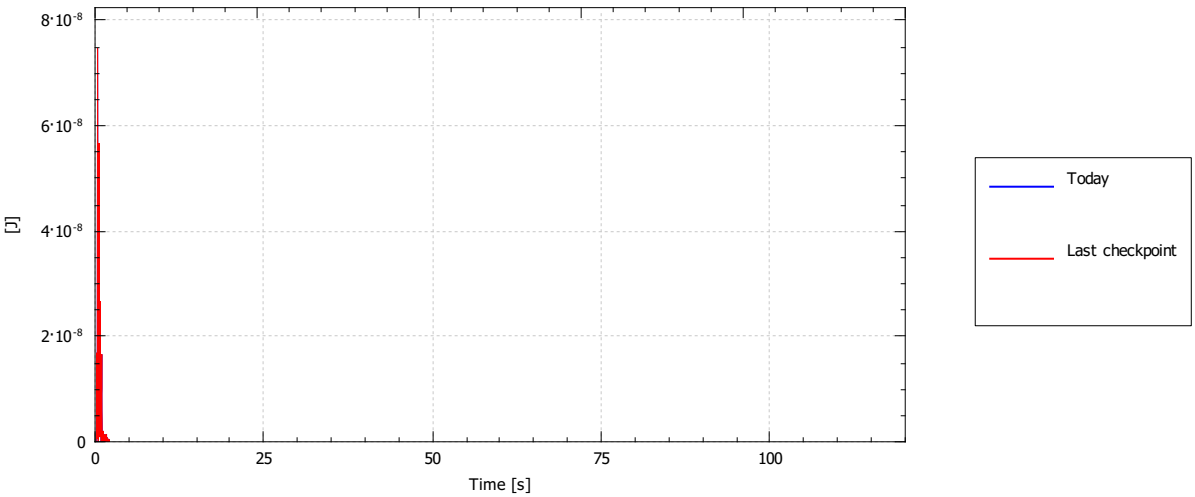
Elongation



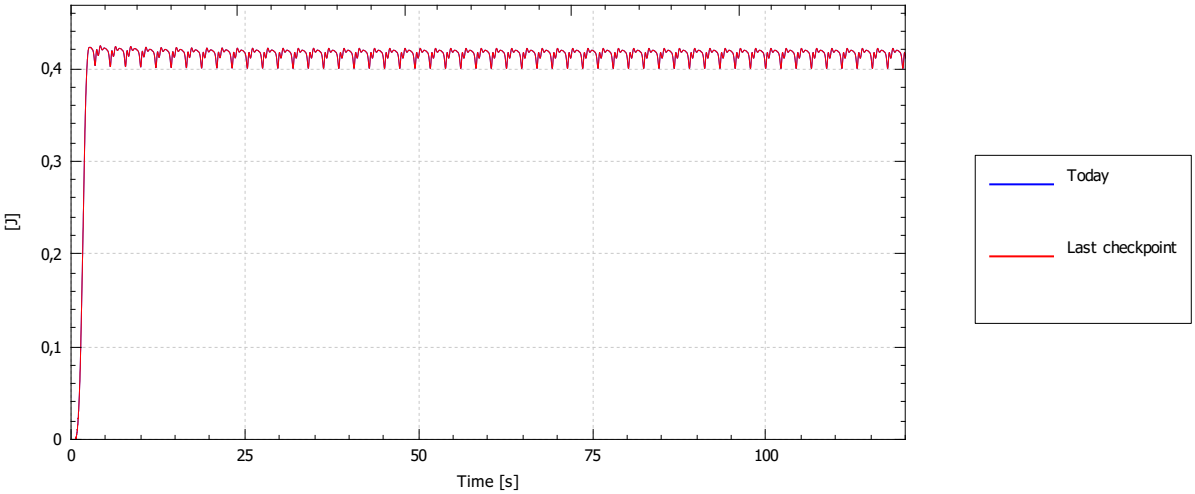
Strain energy



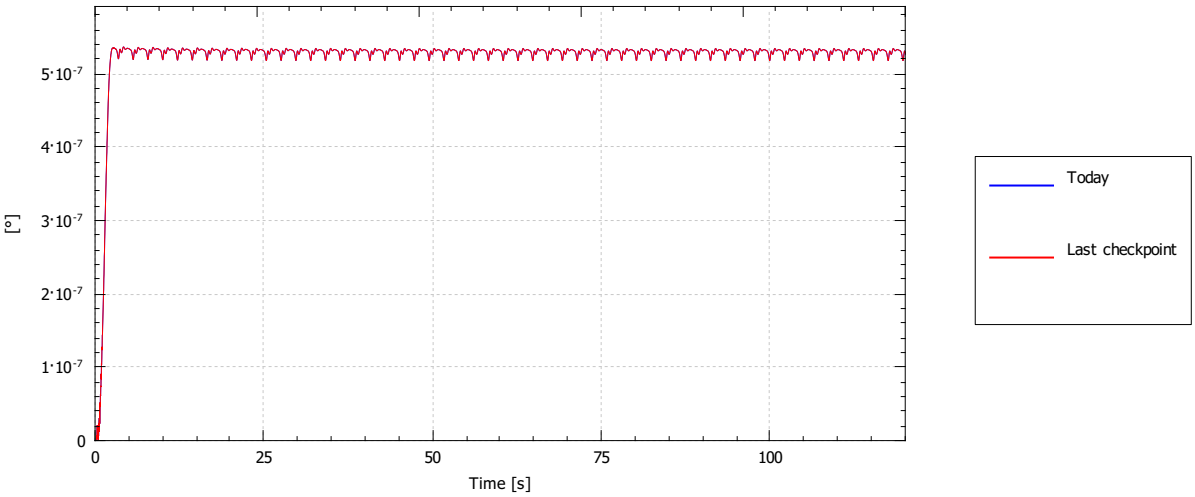
Kinetic energy



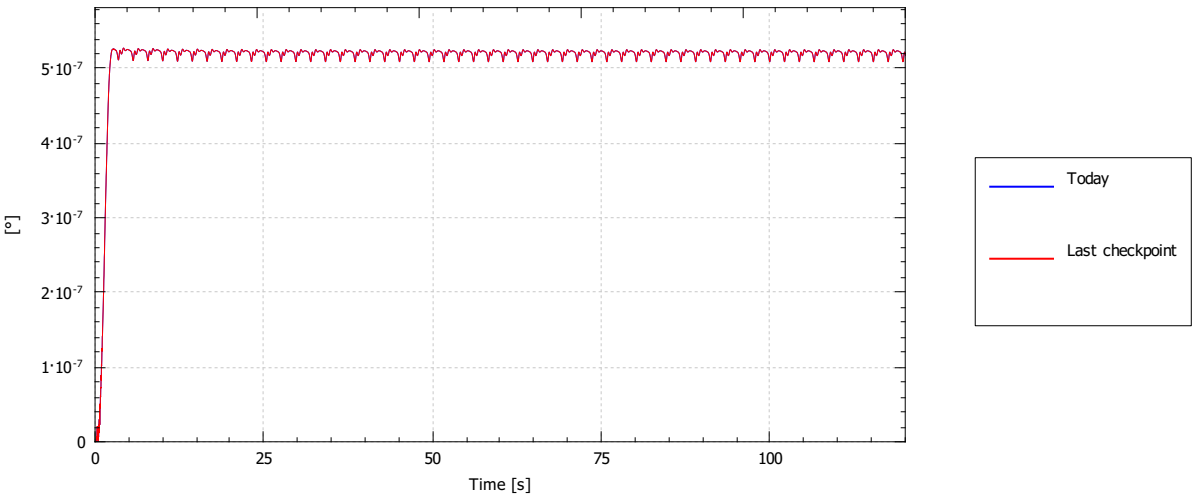
Mechanical energy



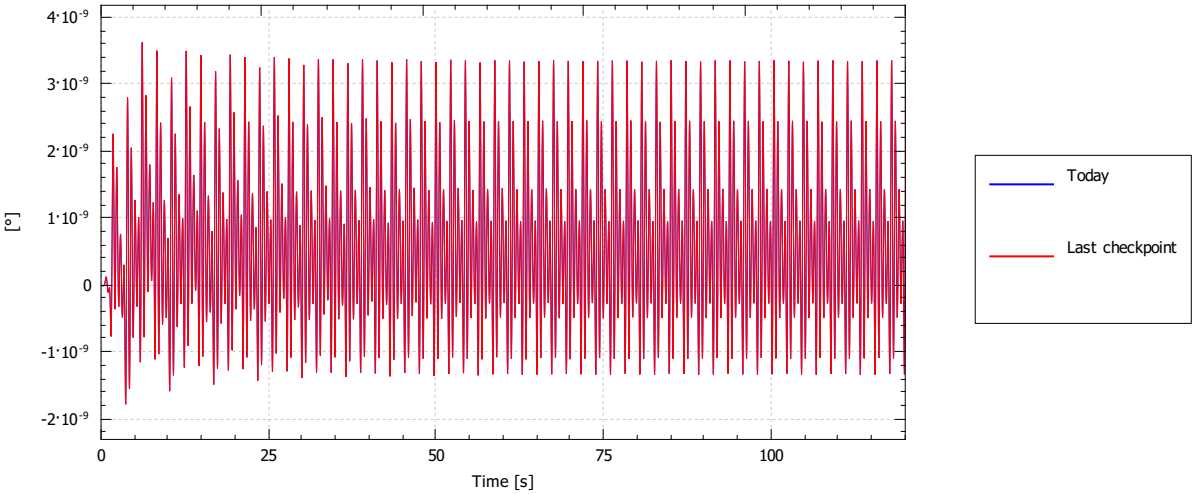
Deformational rotation (i)



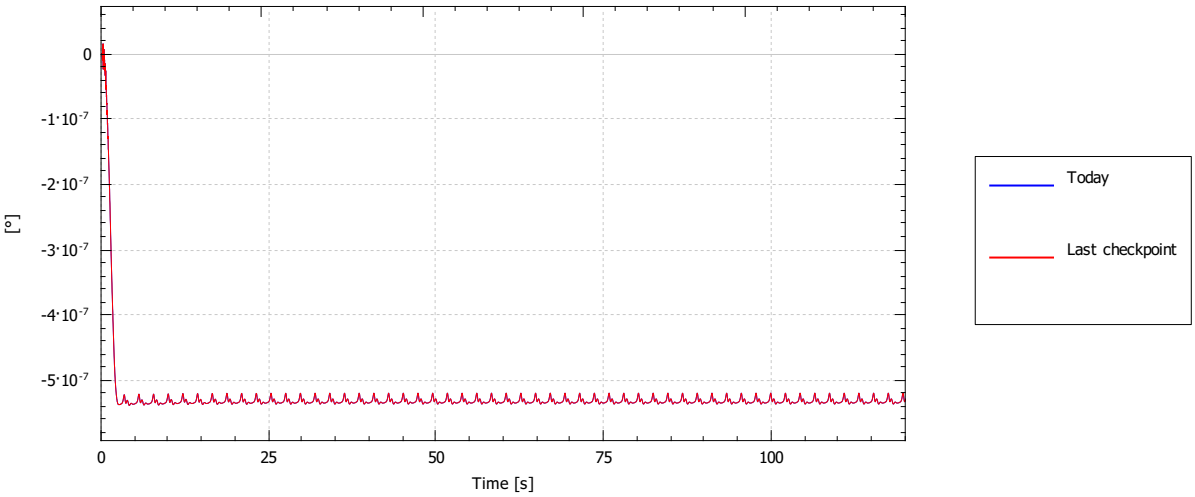
Deformational rotation (j)



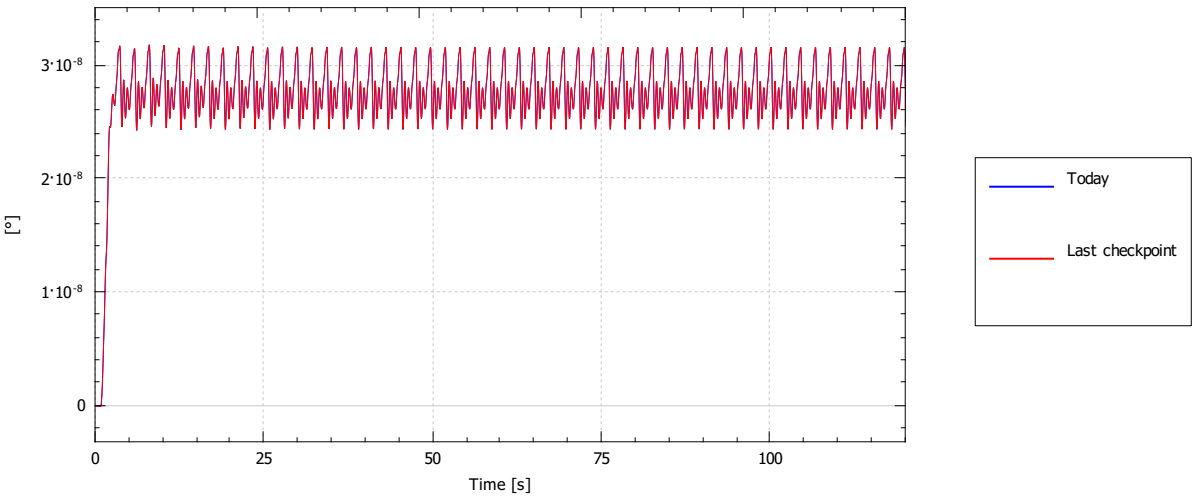
Deformational rotation (axial)



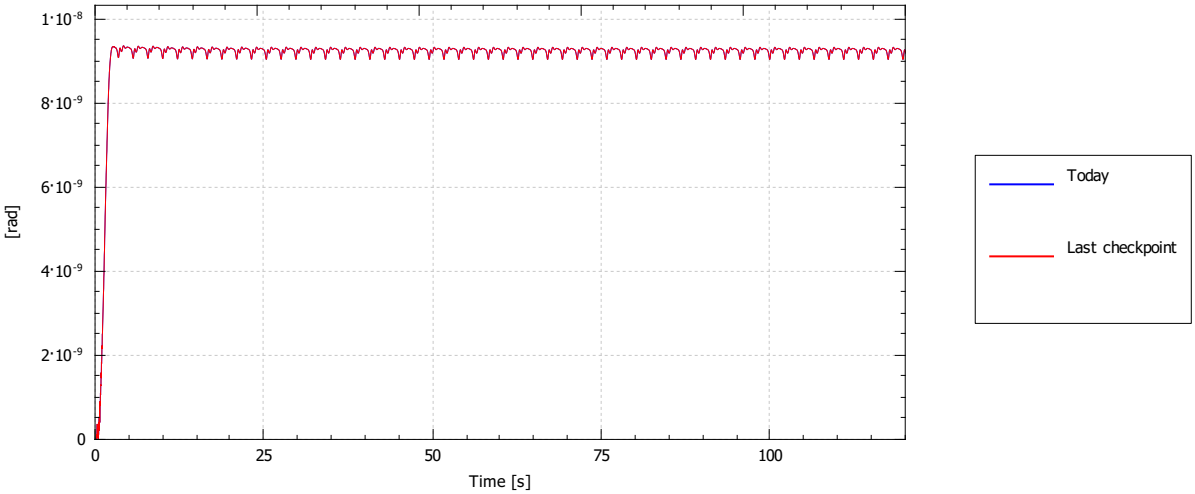
Deformational rotation (1st prin.)



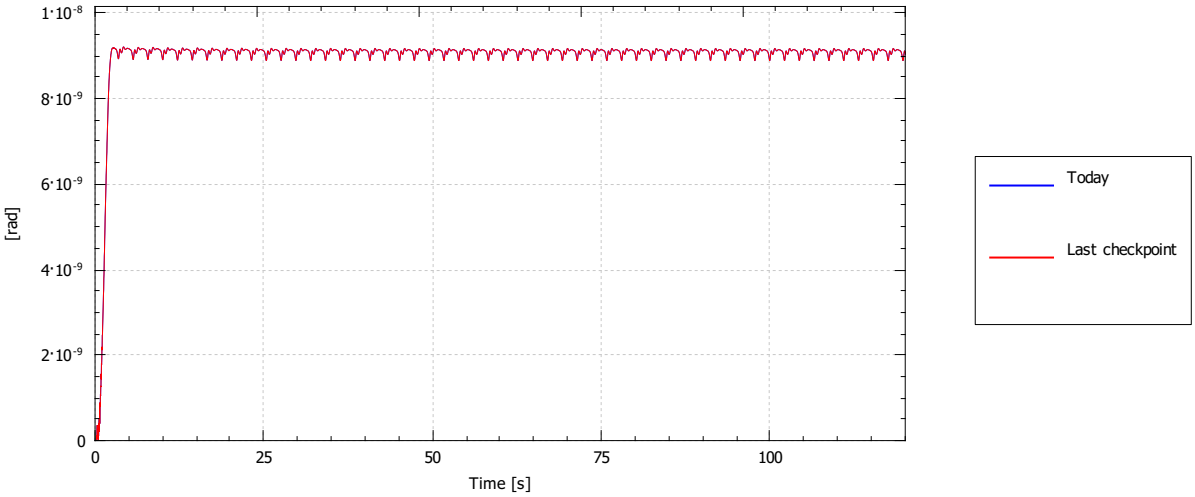
Deformational rotation (2nd prin.)



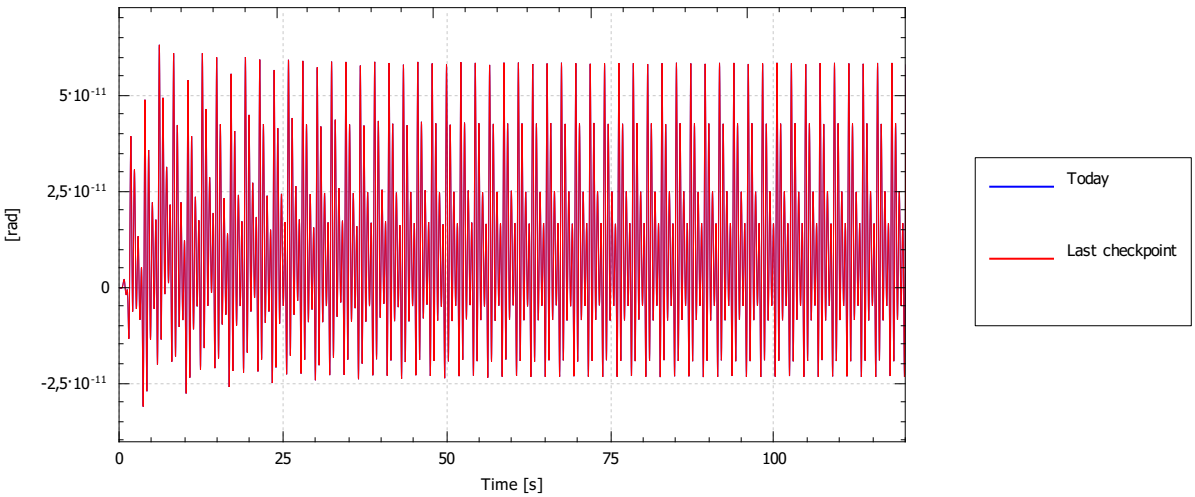
Deformational rotation (i) - rad



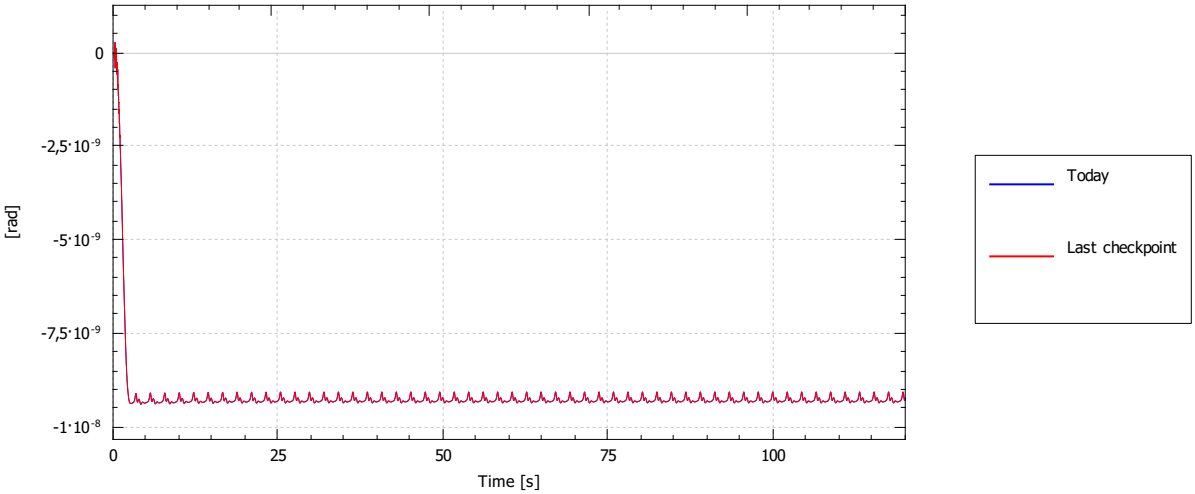
Deformational rotation (j) - rad



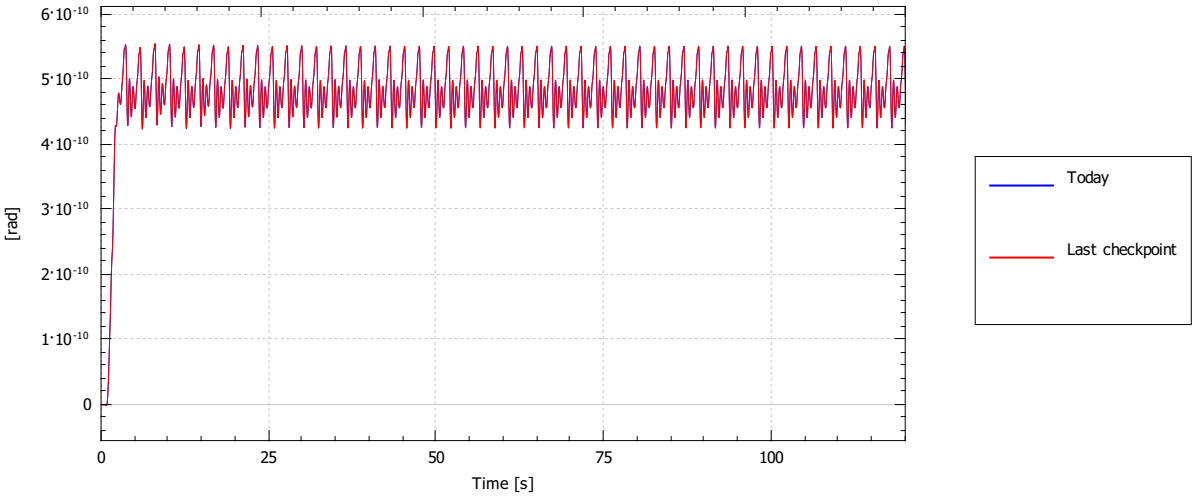
Deformational rotation (axial) - rad



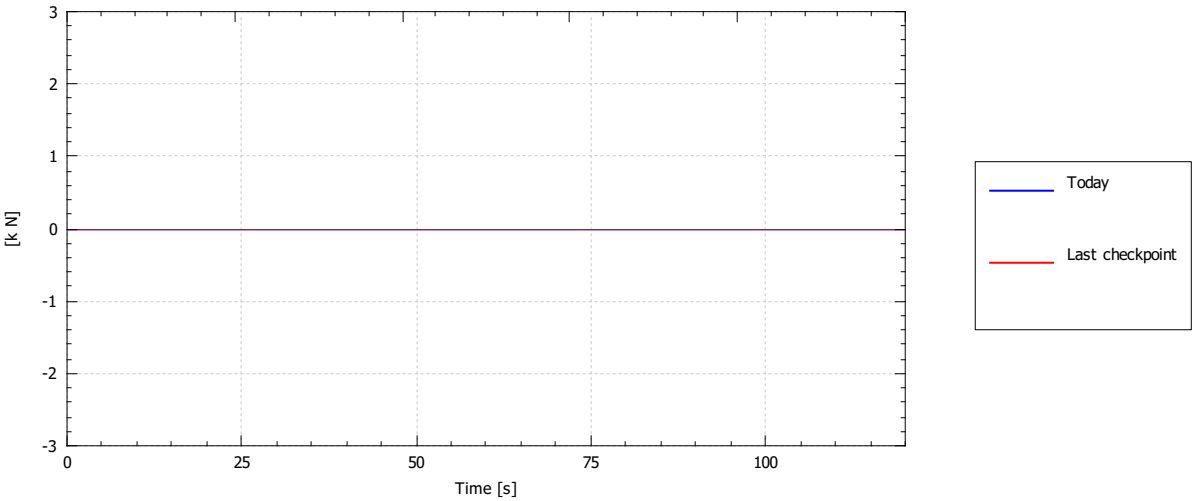
Deformational rotation (1st prin.) - rad



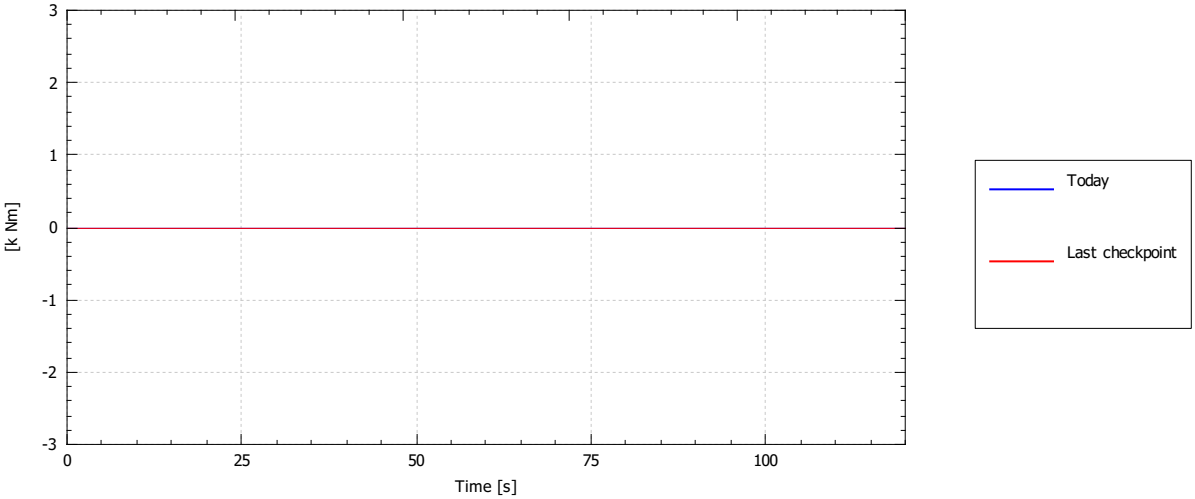
Deformational rotation (2nd prin.) - rad



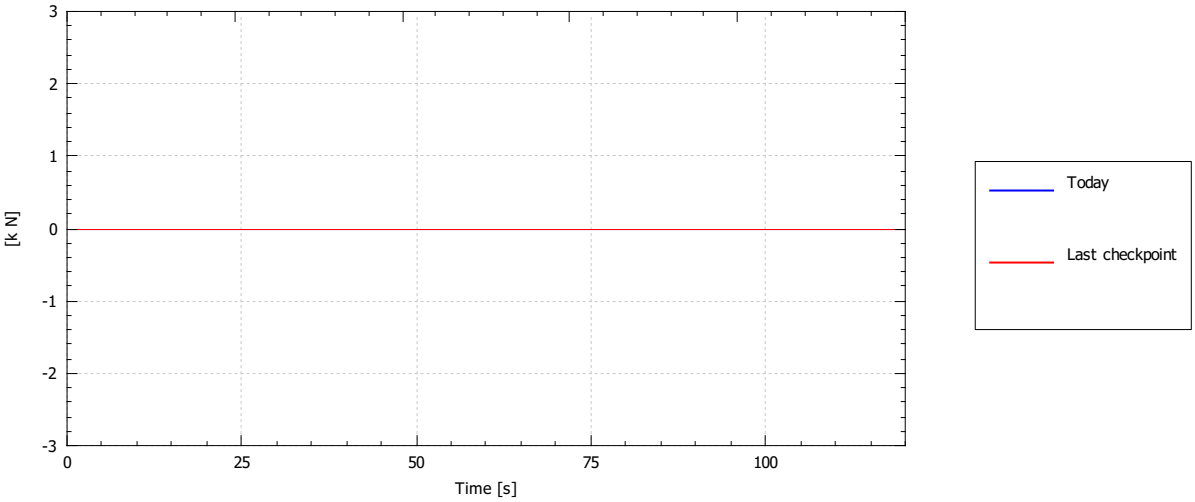
Damping force, i



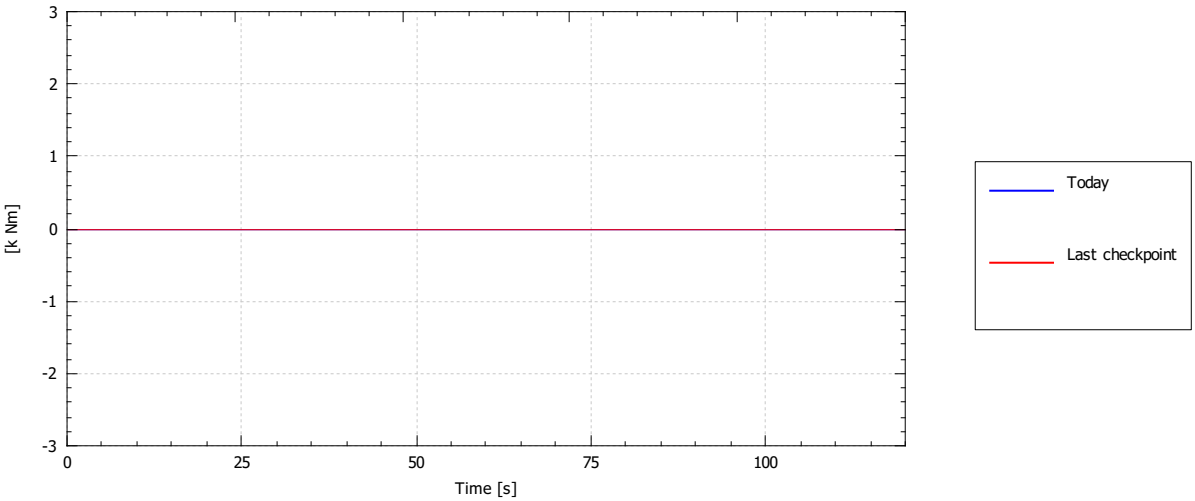
Damping moment, i



Damping force, sum

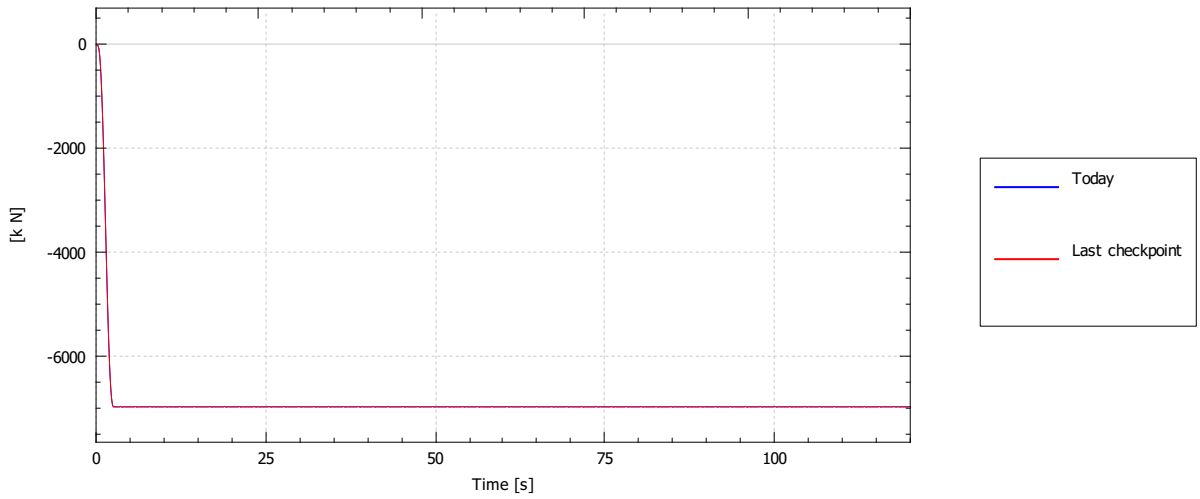


Damping moment, sum

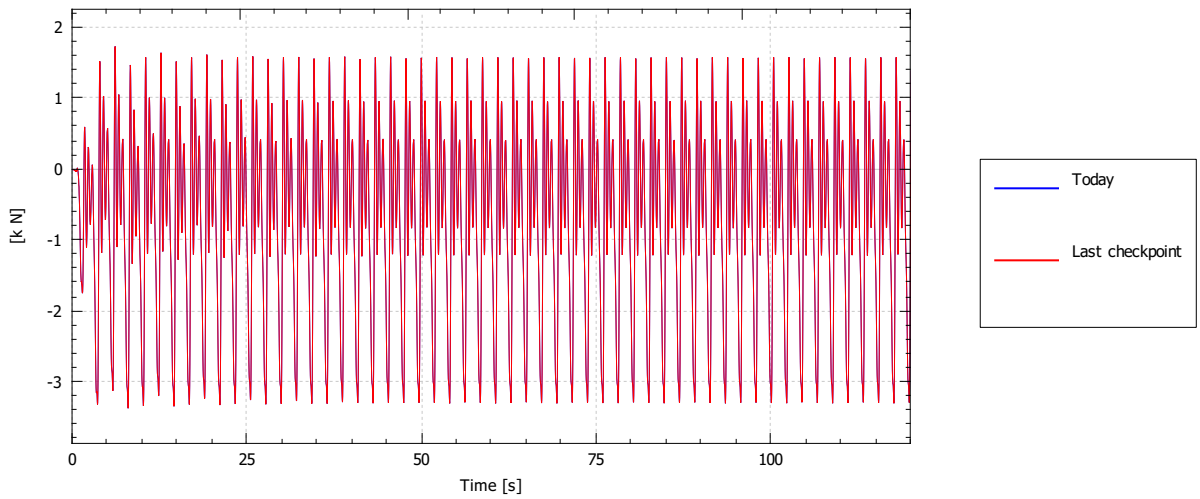


Beam element [Element 6 | Monopile]

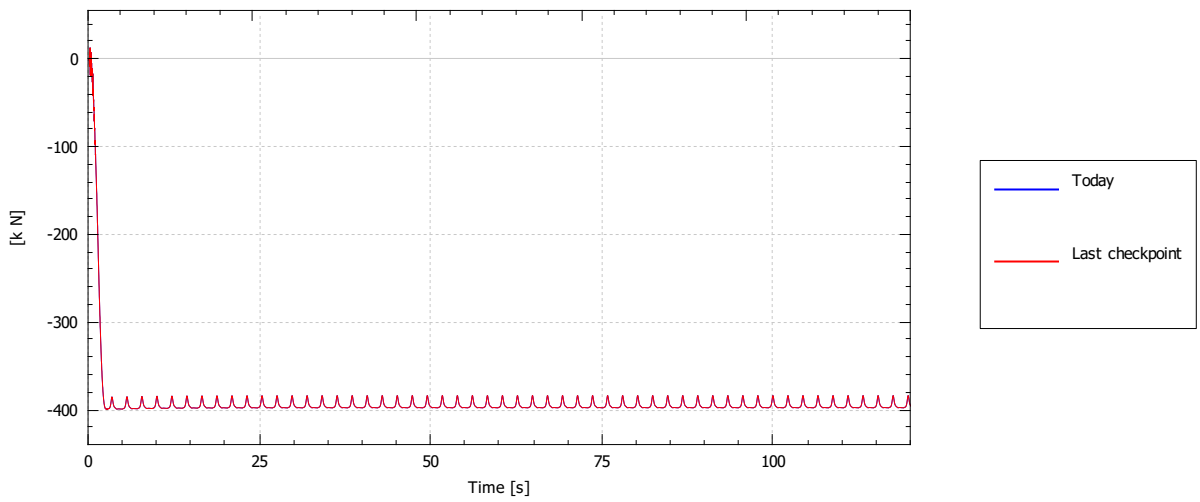
Axial force



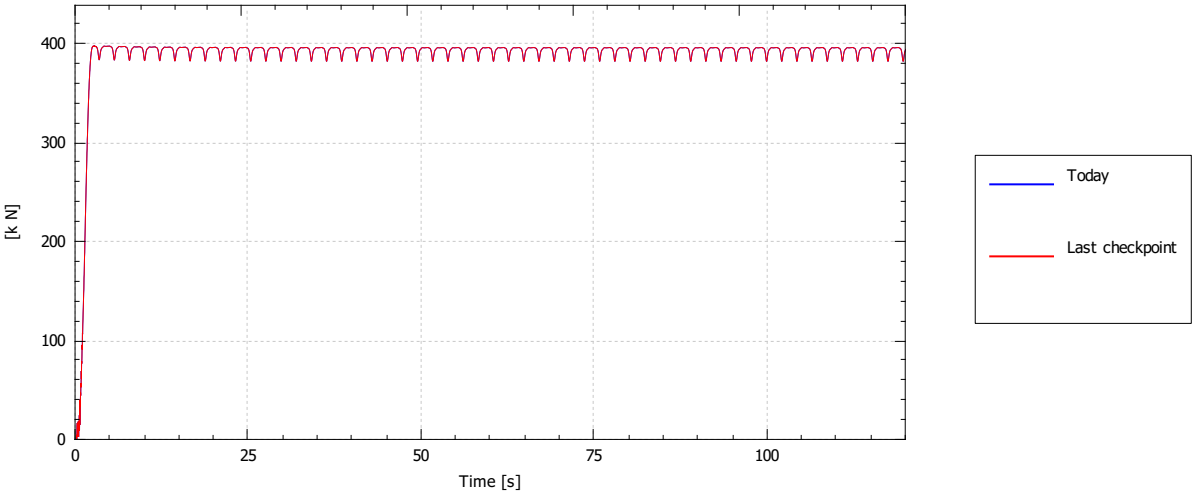
Shear force (1st prin. axis)



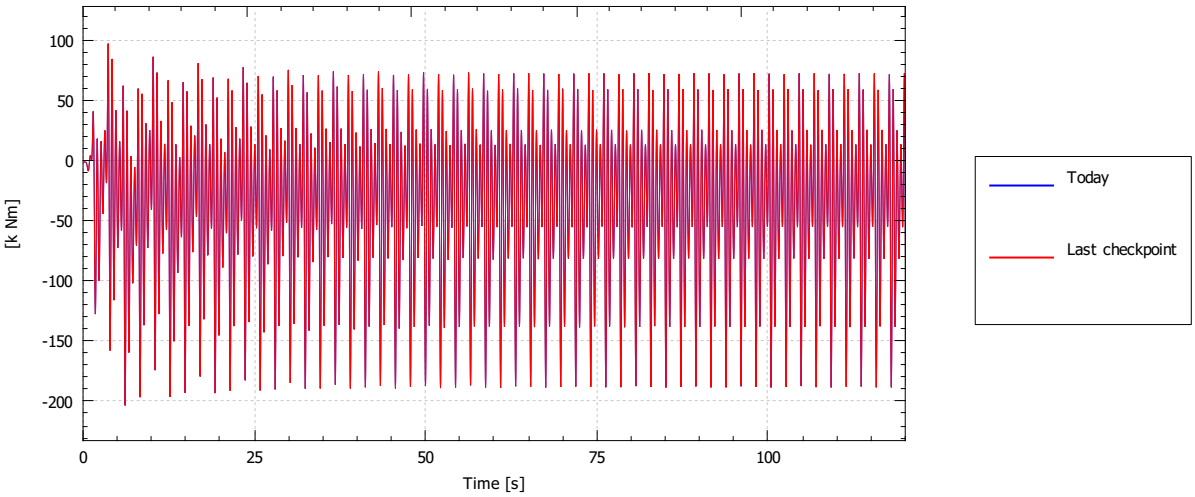
Shear force (2nd prin. axis)



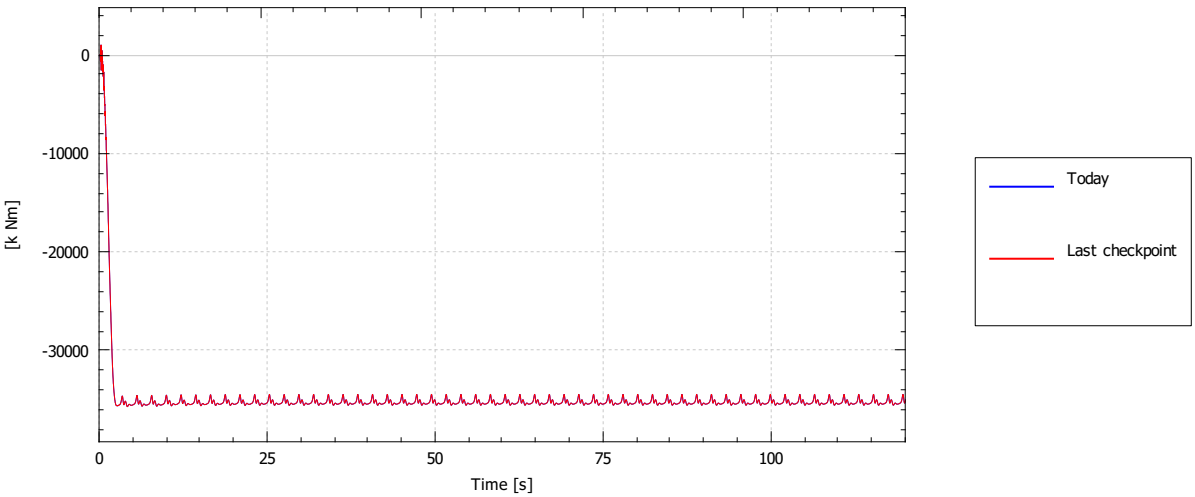
Shear force, mag.



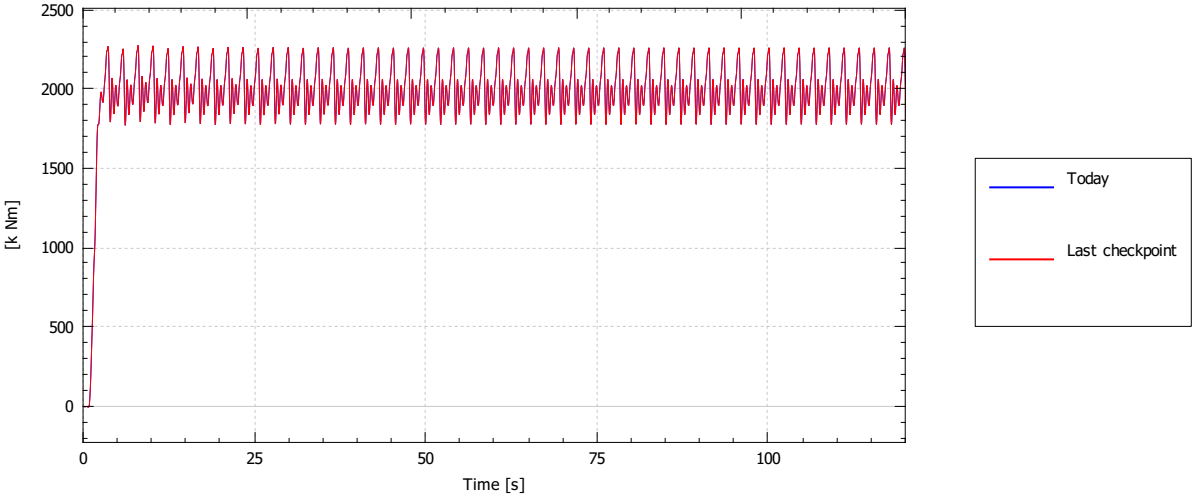
Torque



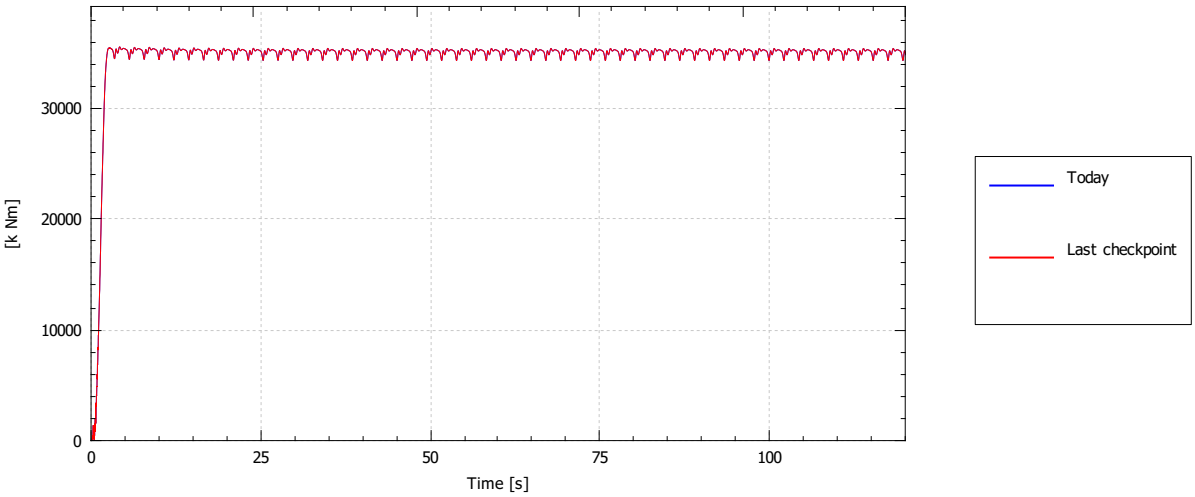
Moment (1st prin. axis), i



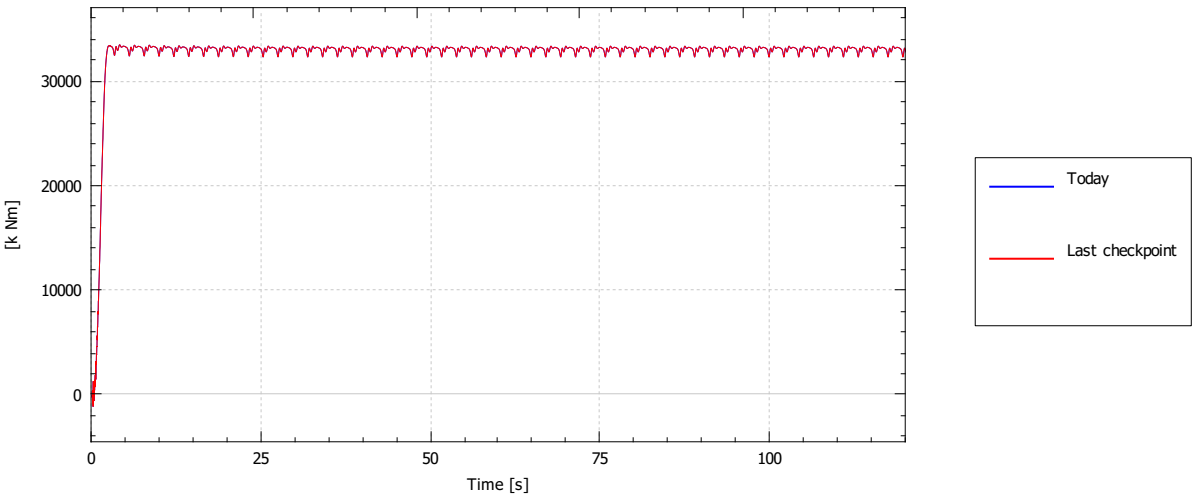
Moment (2nd prin. axis), i



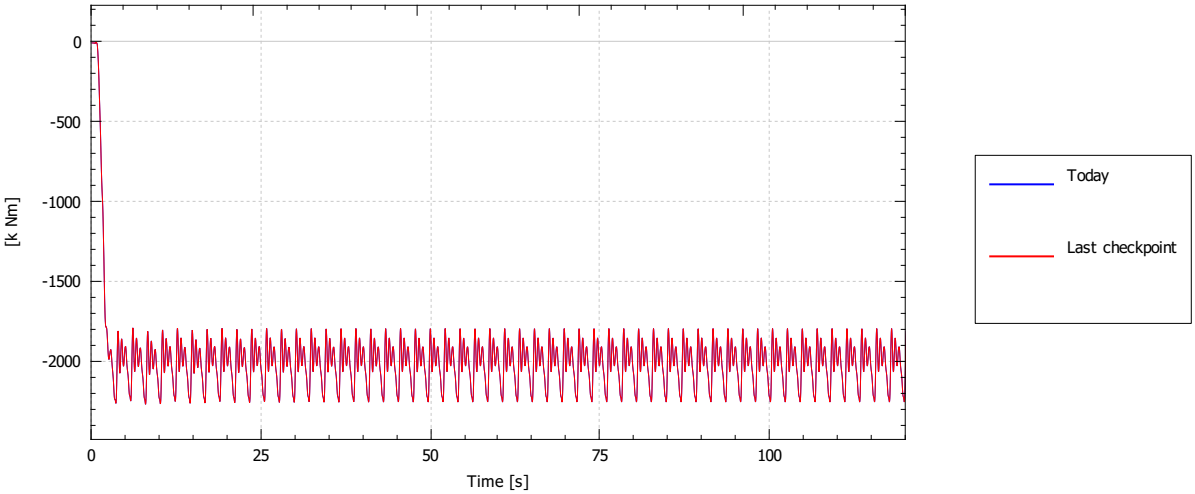
Moment, mag., i



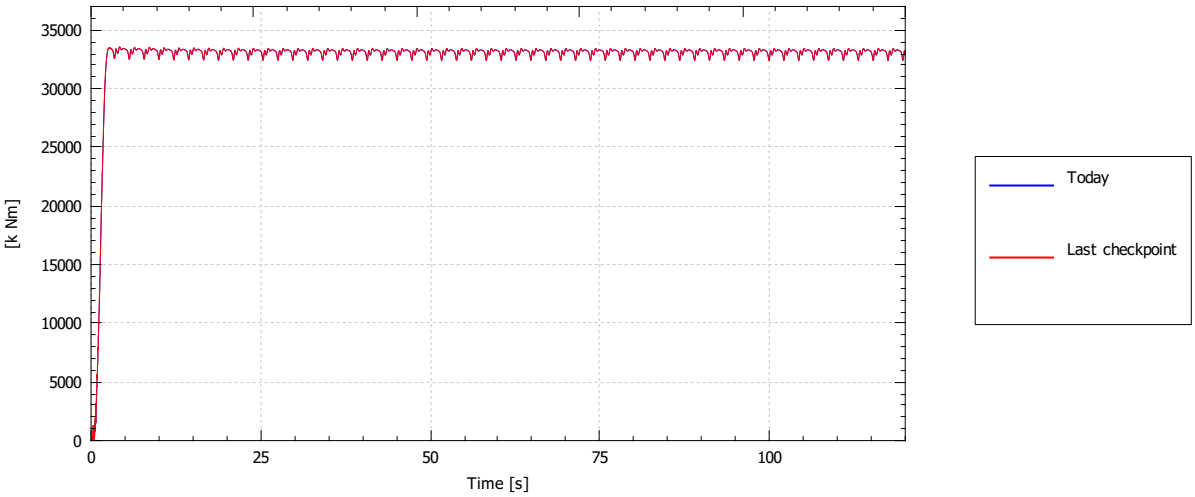
Moment (1st prin. axis), j



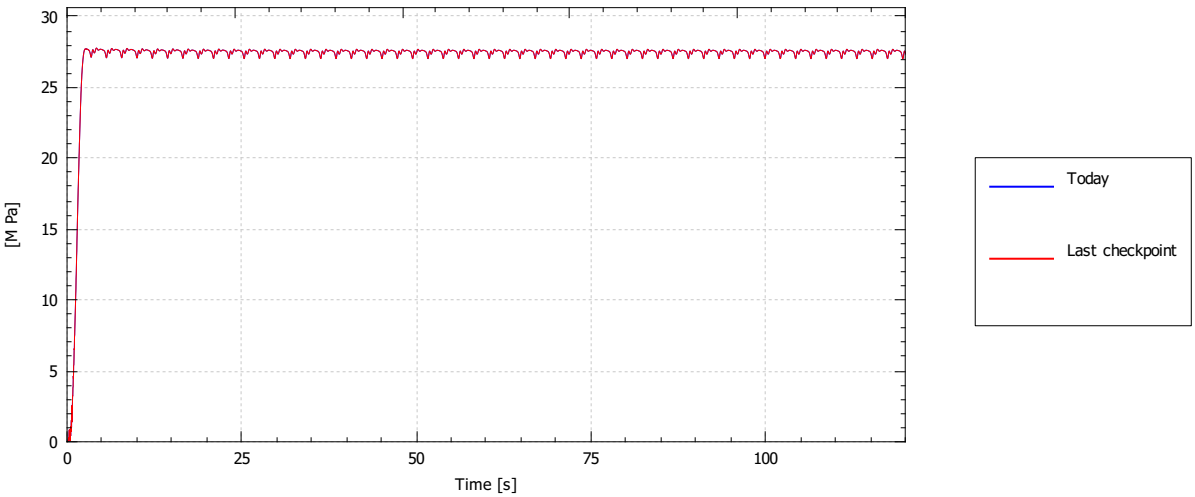
Moment (2nd prin. axis), j



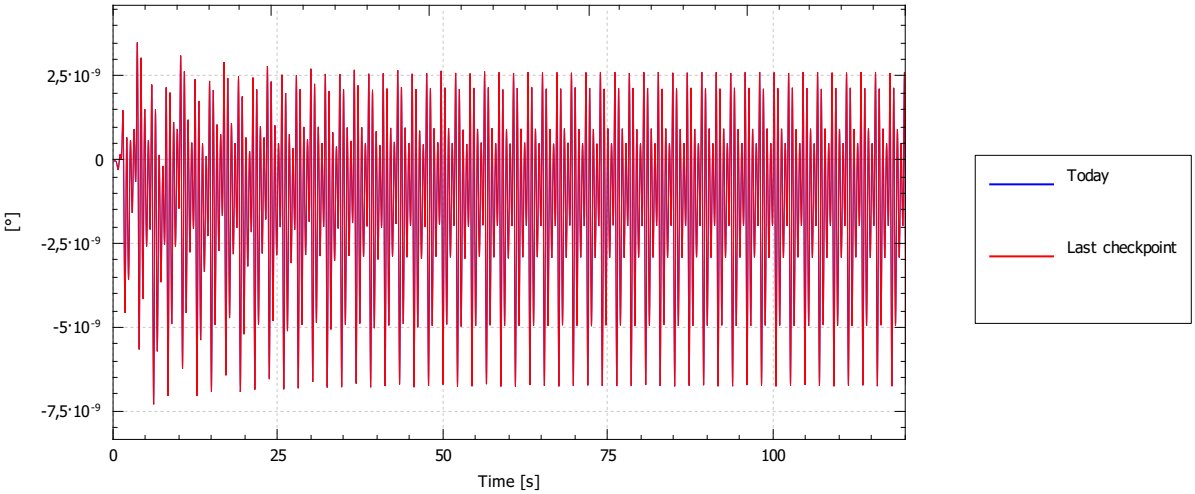
Moment, mag., j



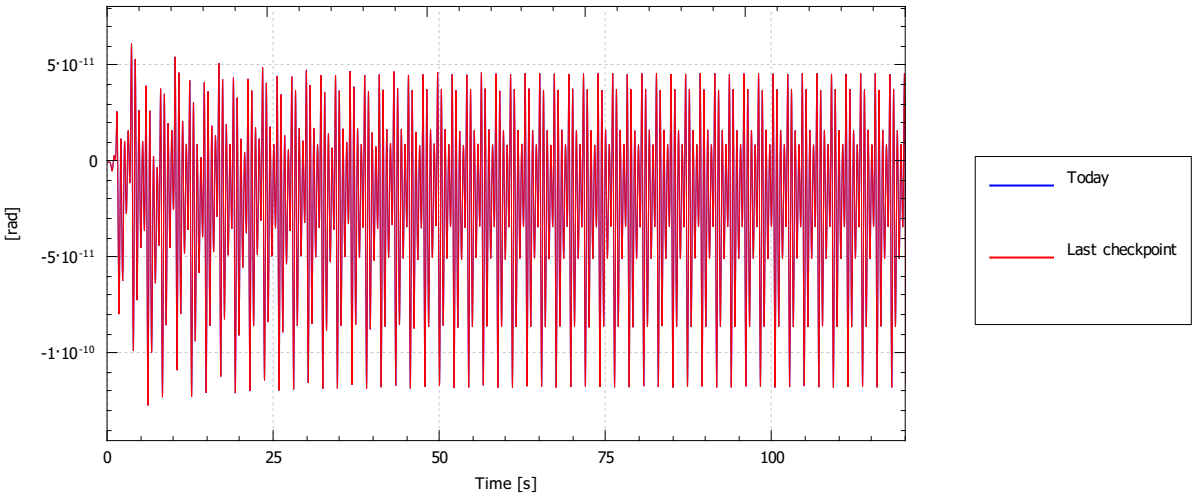
Max normal stress



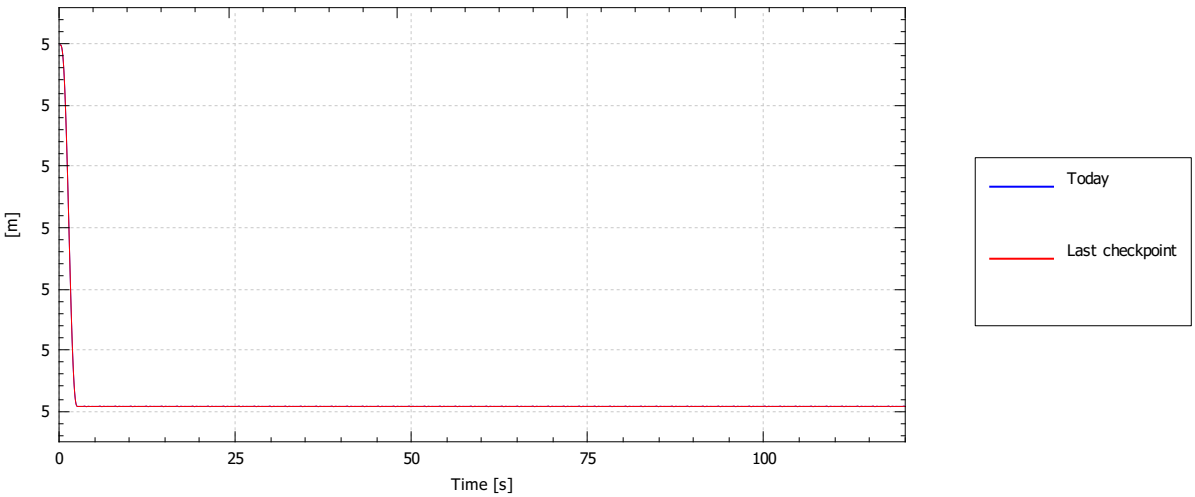
Twist (structural)



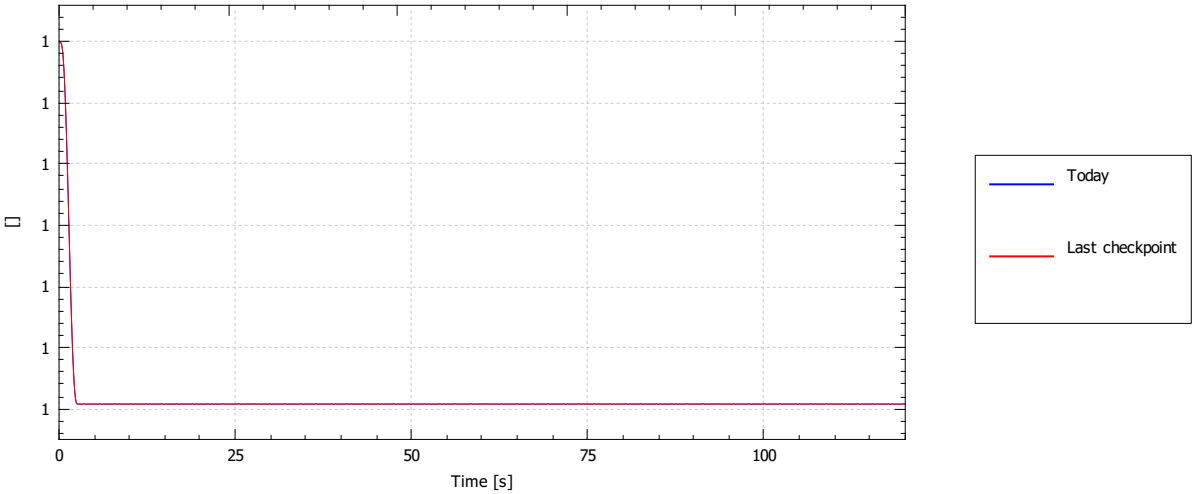
Twist (structural) - rad



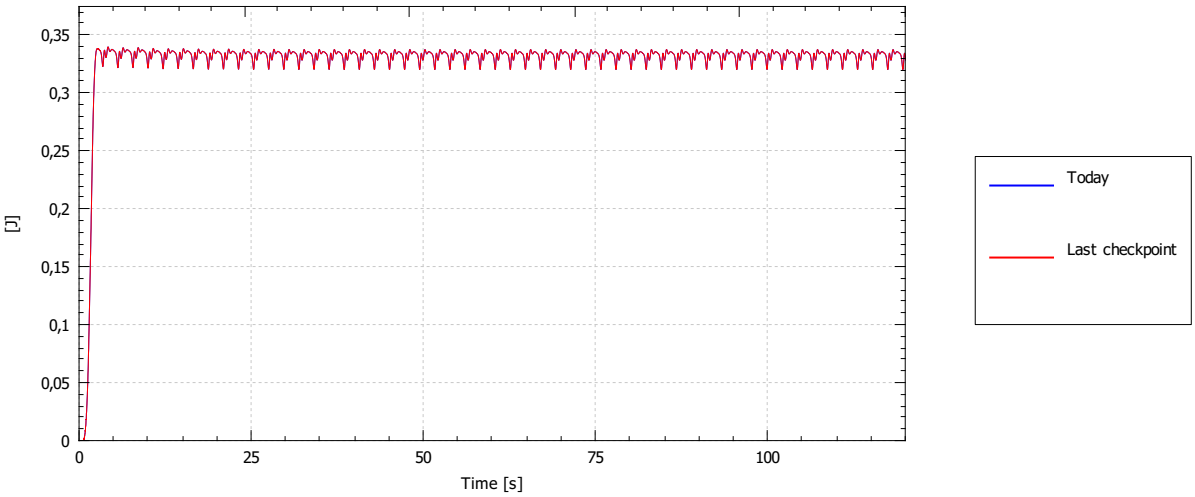
Deformed length



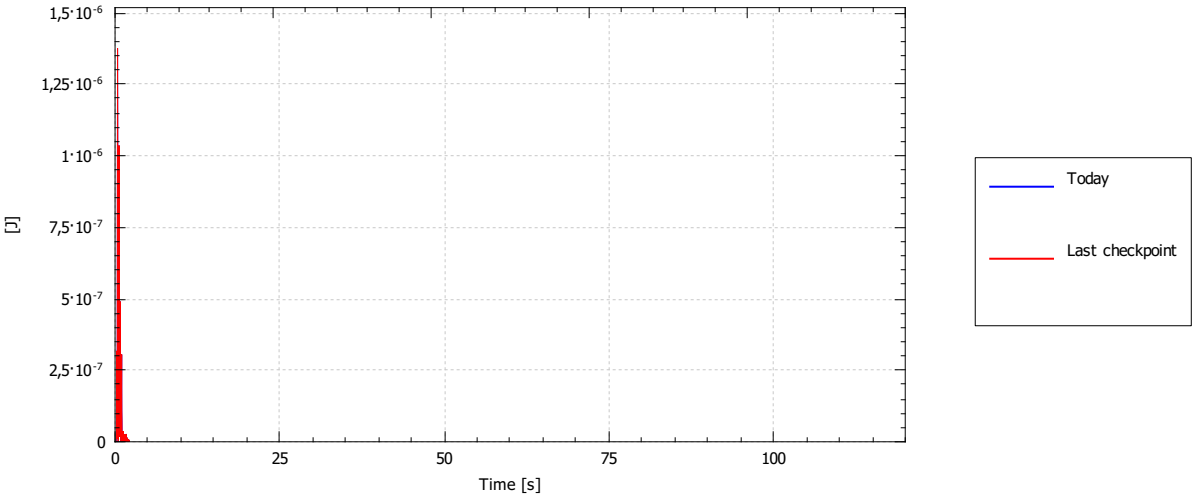
Elongation



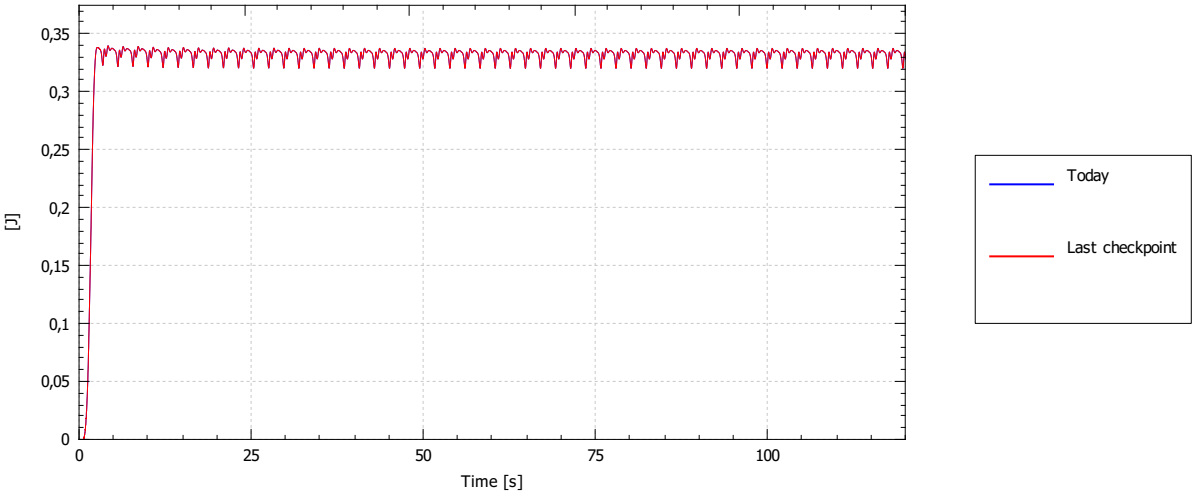
Strain energy



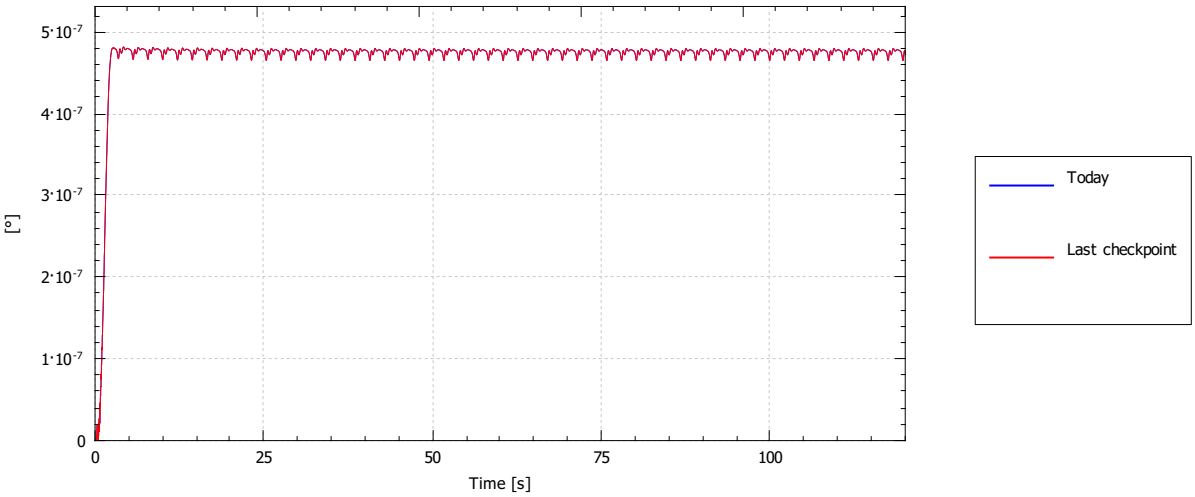
Kinetic energy



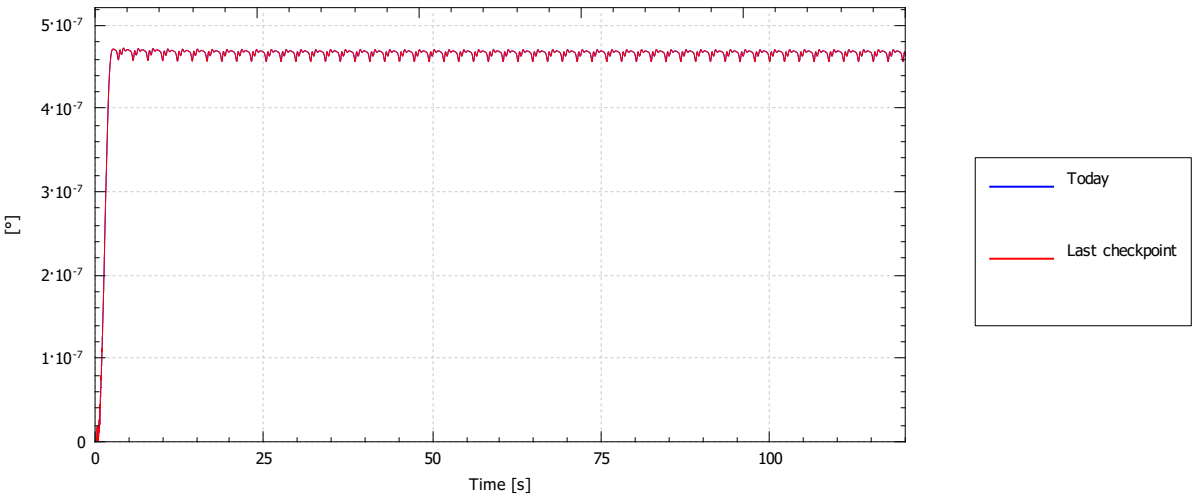
Mechanical energy



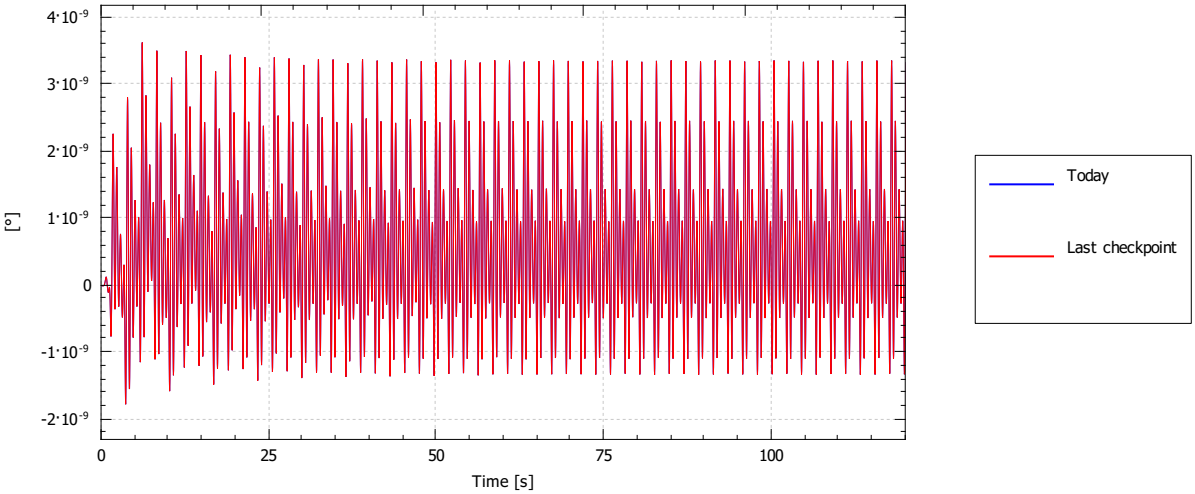
Deformational rotation (i)



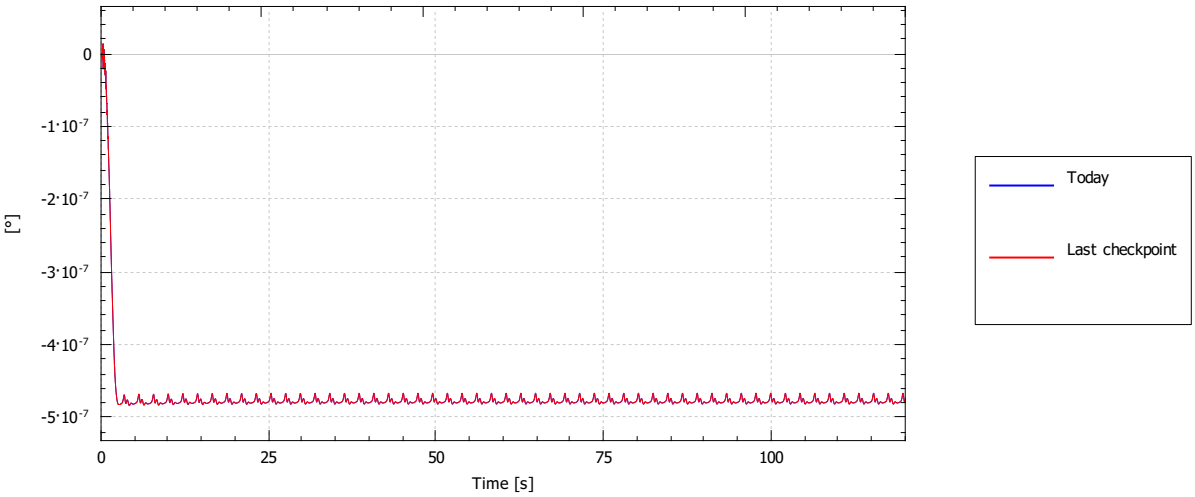
Deformational rotation (j)



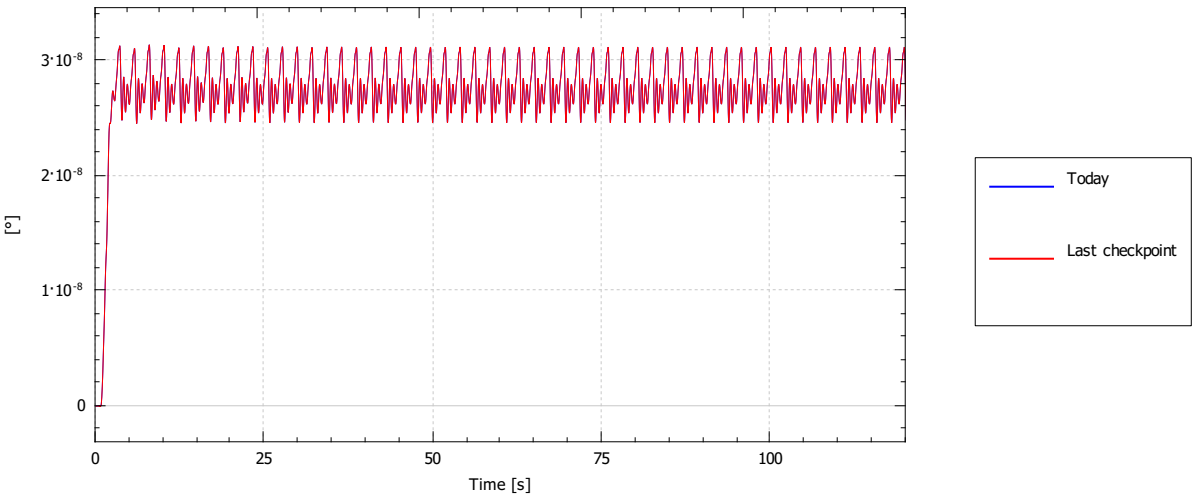
Deformational rotation (axial)



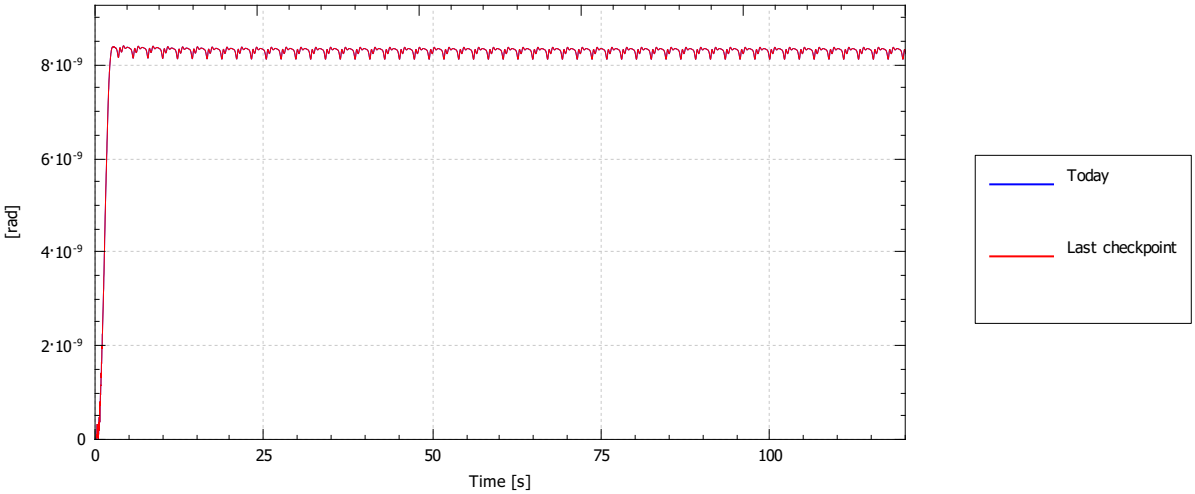
Deformational rotation (1st prin.)



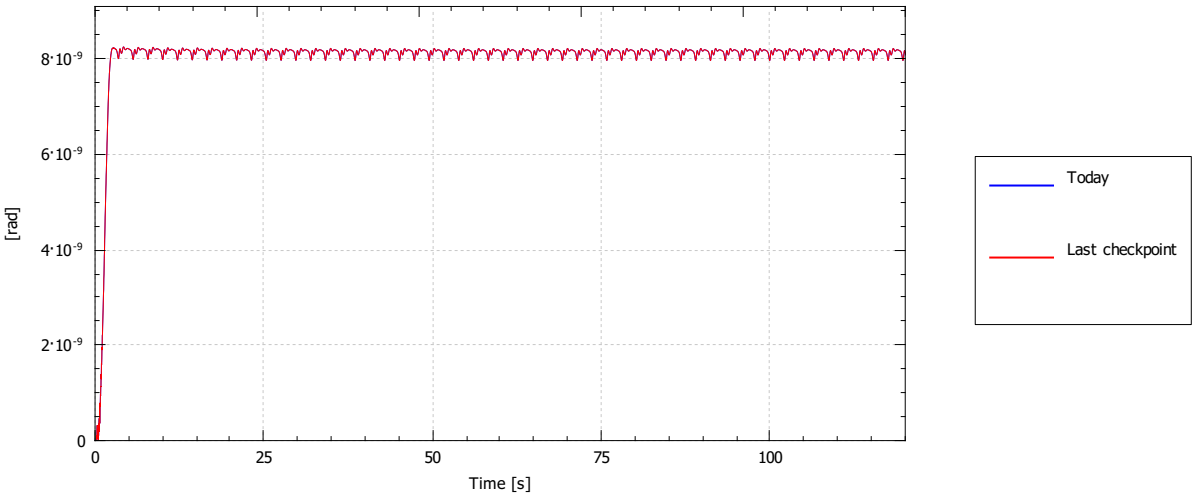
Deformational rotation (2nd prin.)



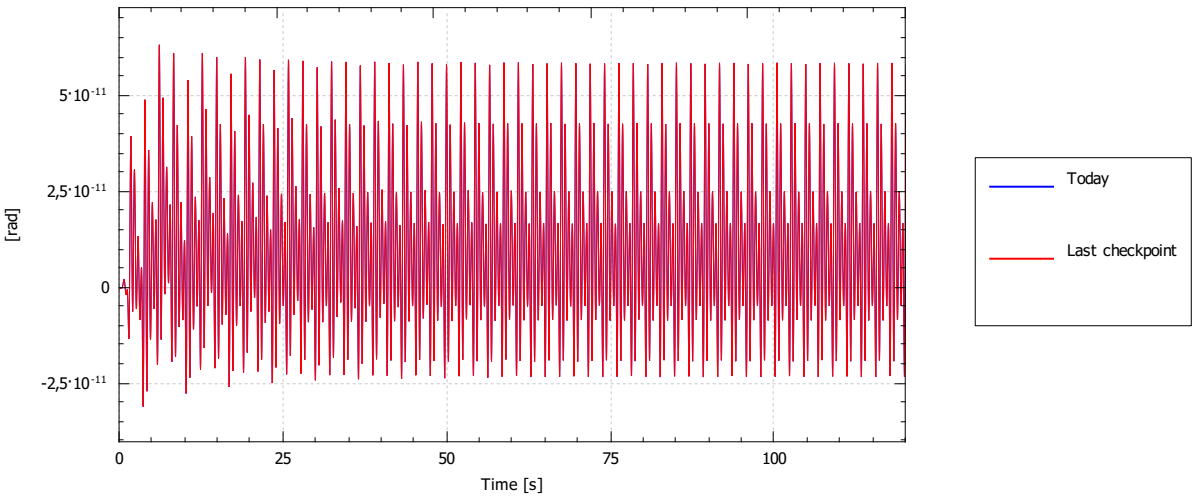
Deformational rotation (i) - rad



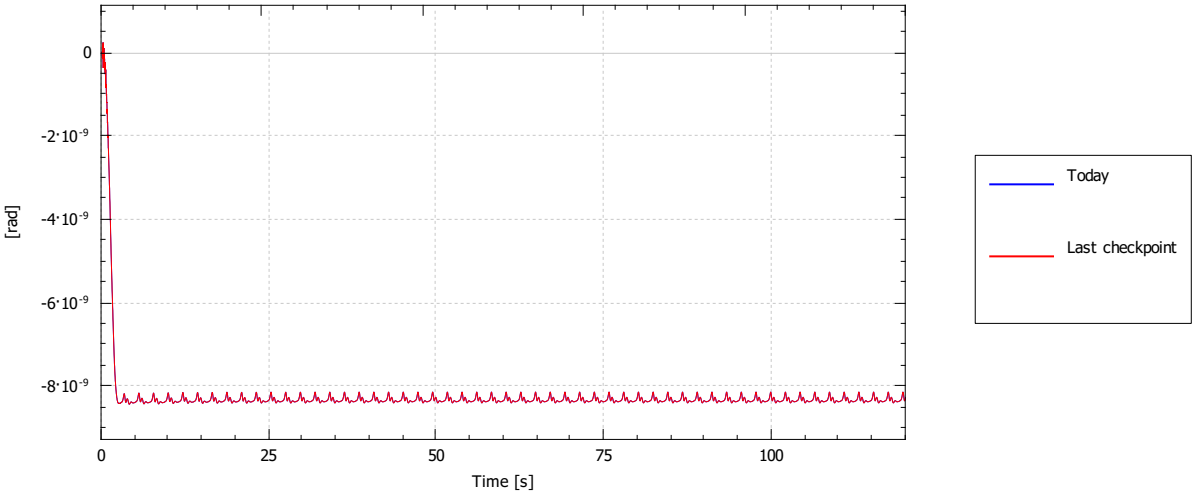
Deformational rotation (j) - rad



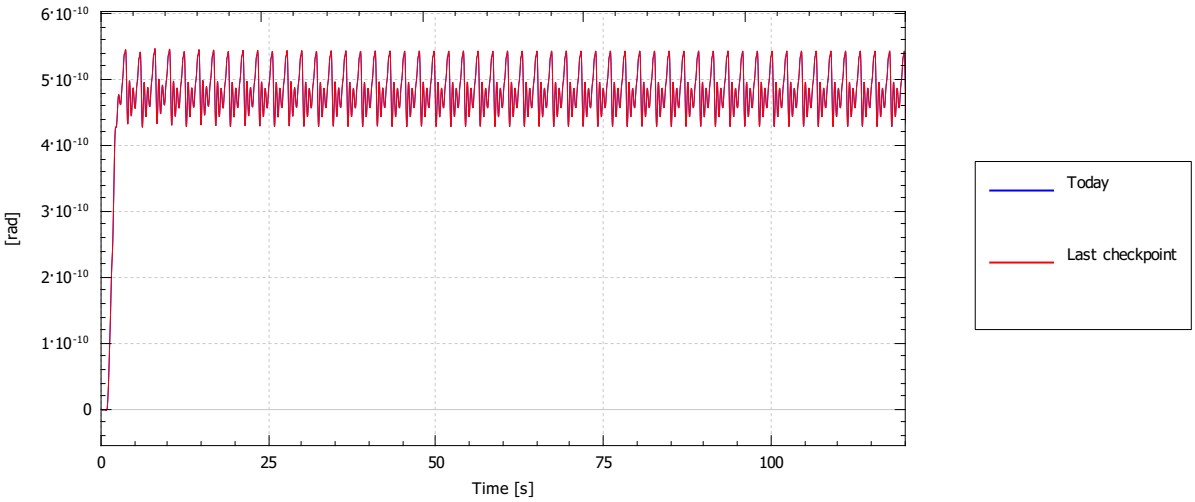
Deformational rotation (axial) - rad



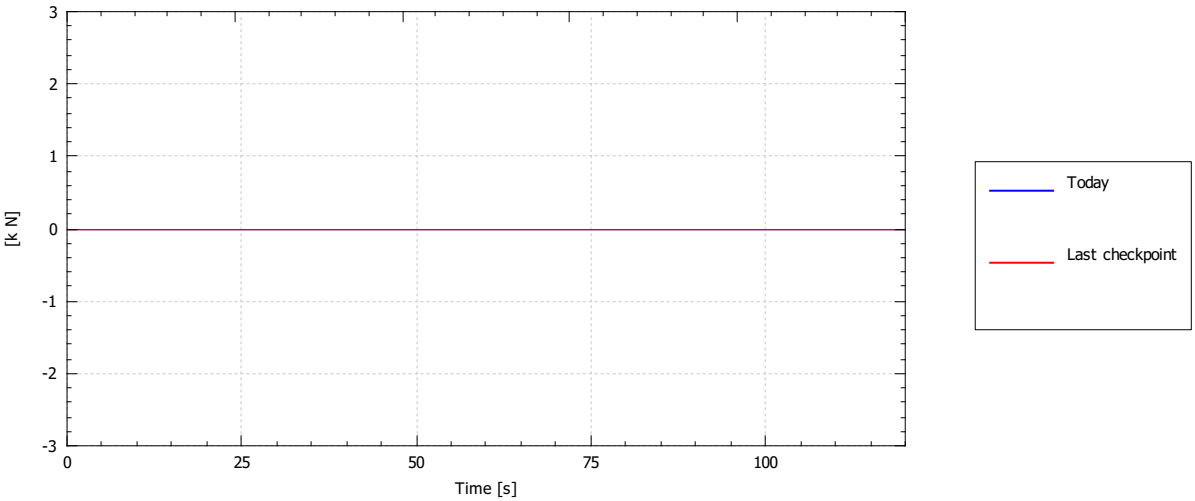
Deformational rotation (1st prin.) - rad



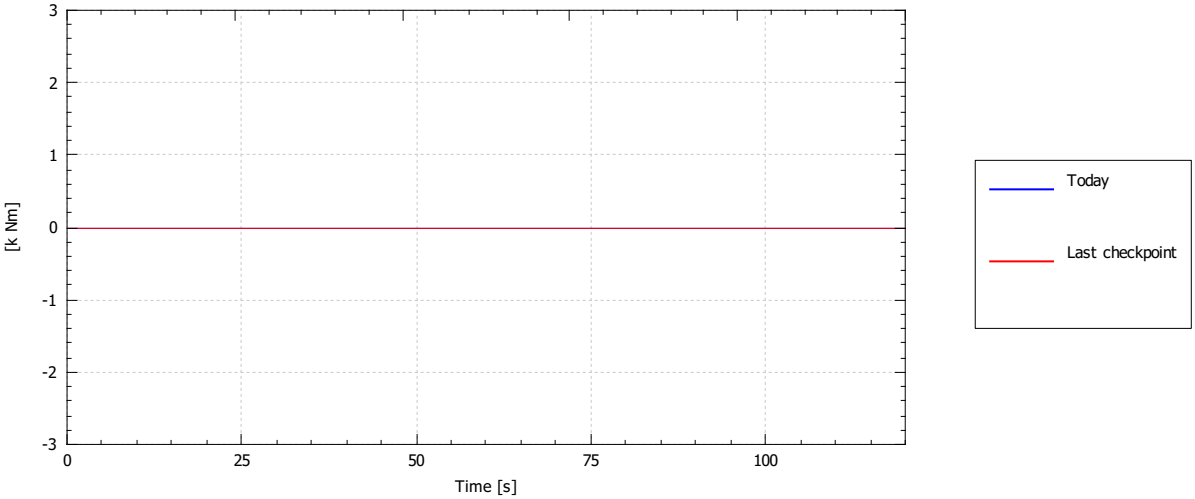
Deformational rotation (2nd prin.) - rad



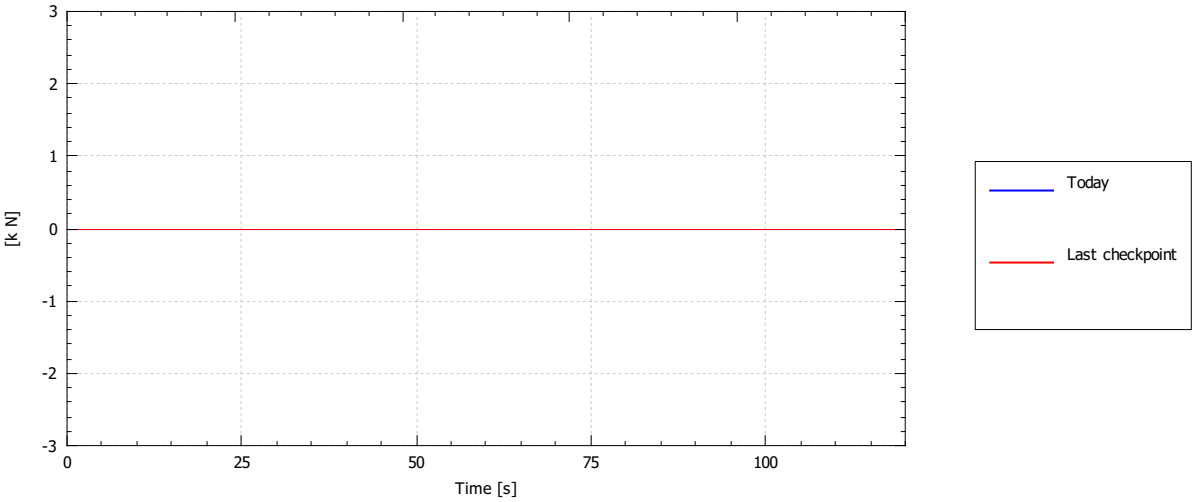
Damping force, i



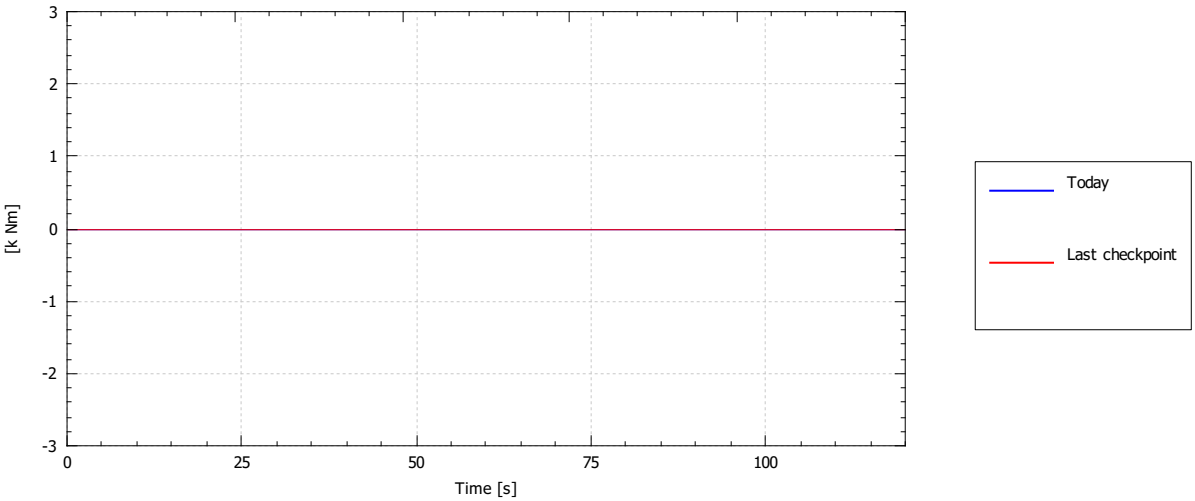
Damping moment, i



Damping force, sum

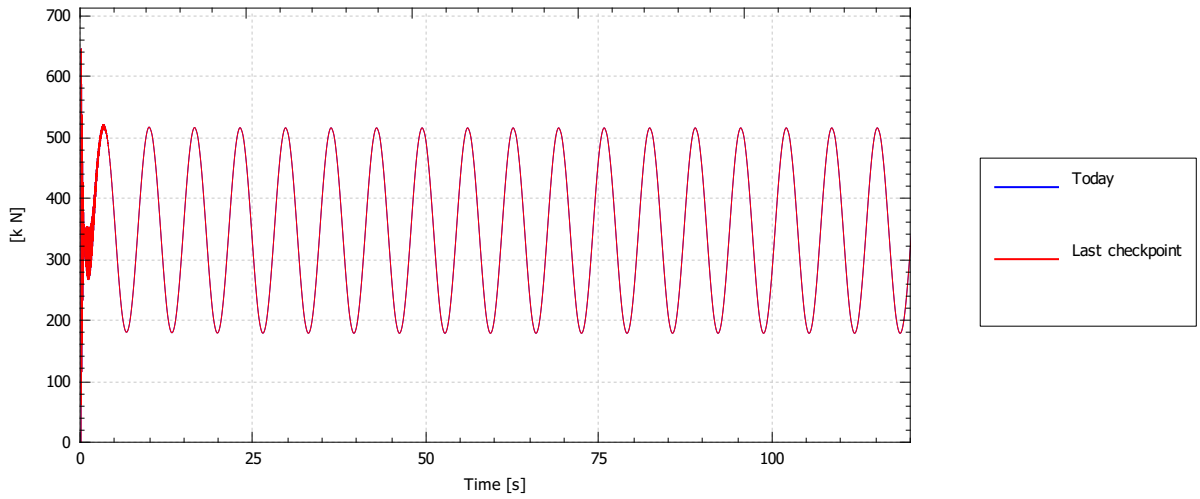


Damping moment, sum

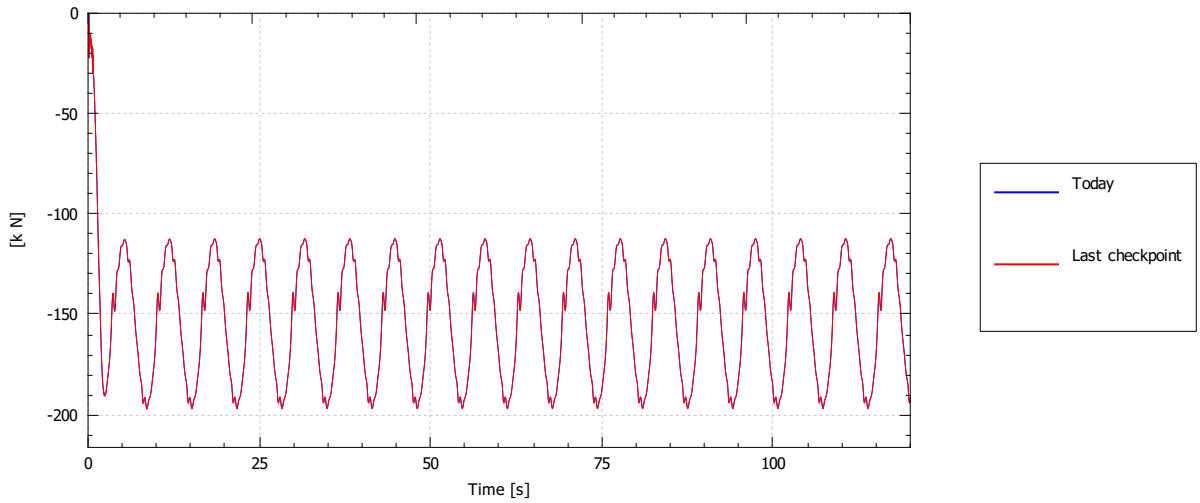


Beam element [Element 1 | Blade 1]

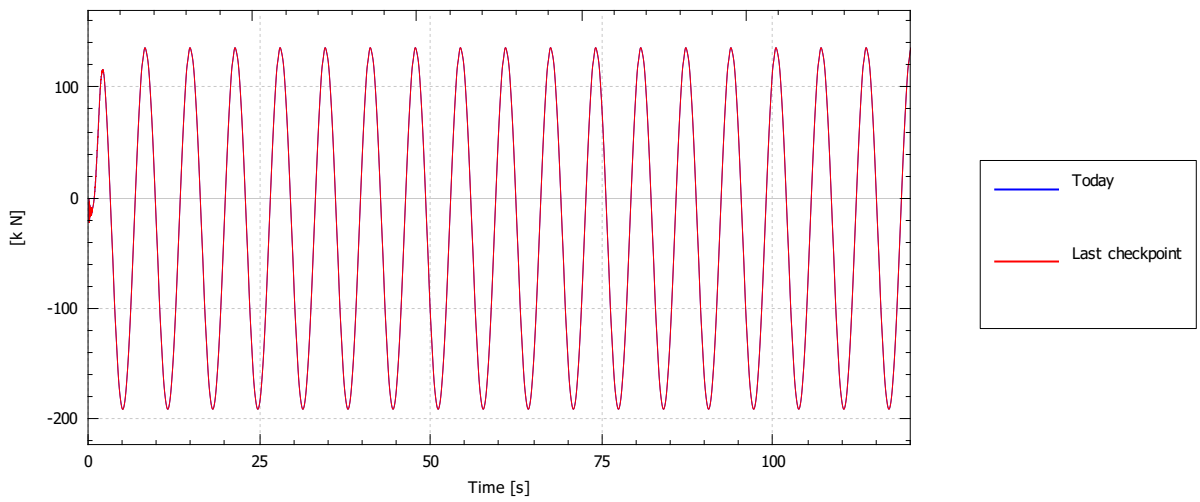
Axial force



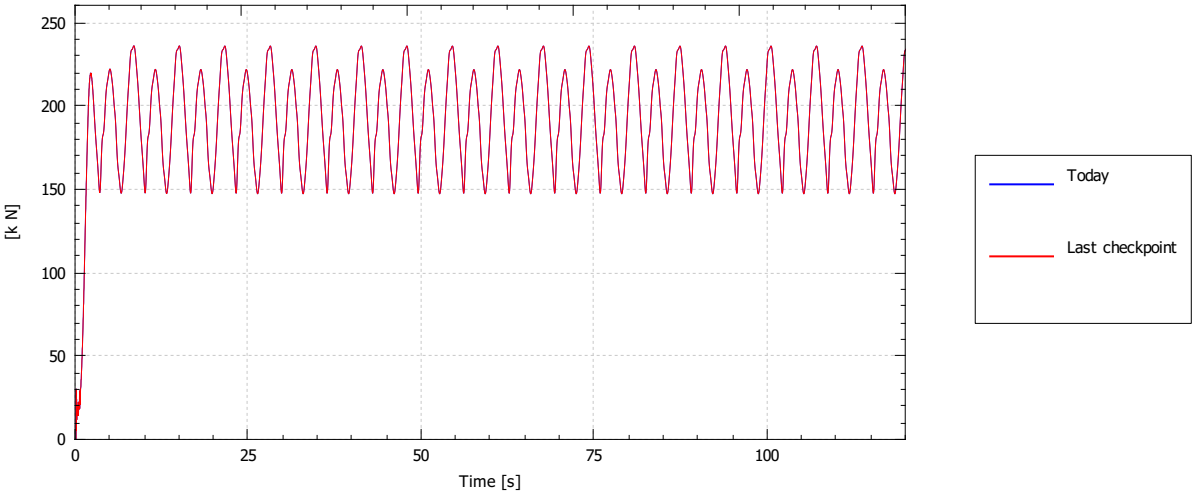
Shear force (1st prin. axis)



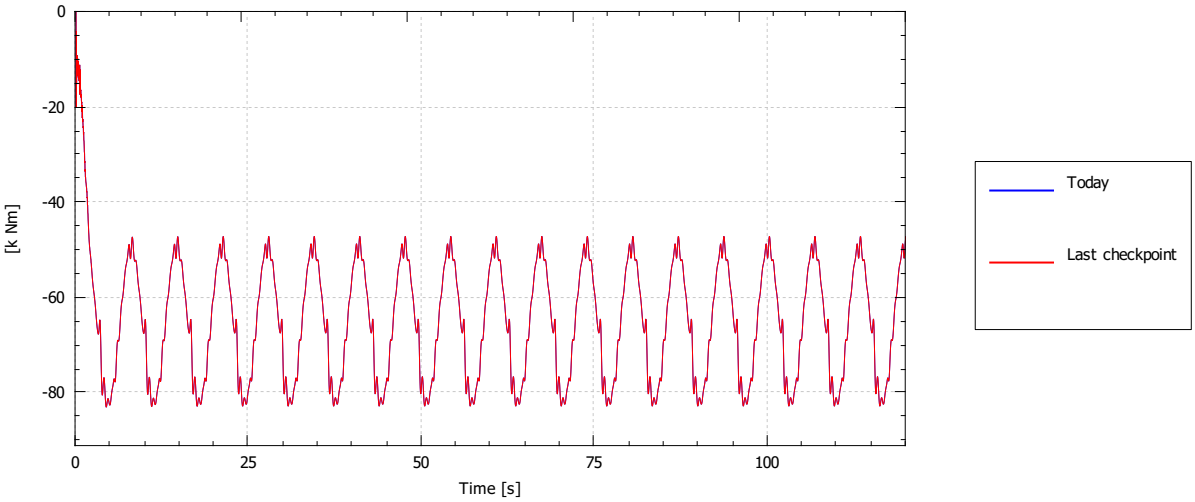
Shear force (2nd prin. axis)



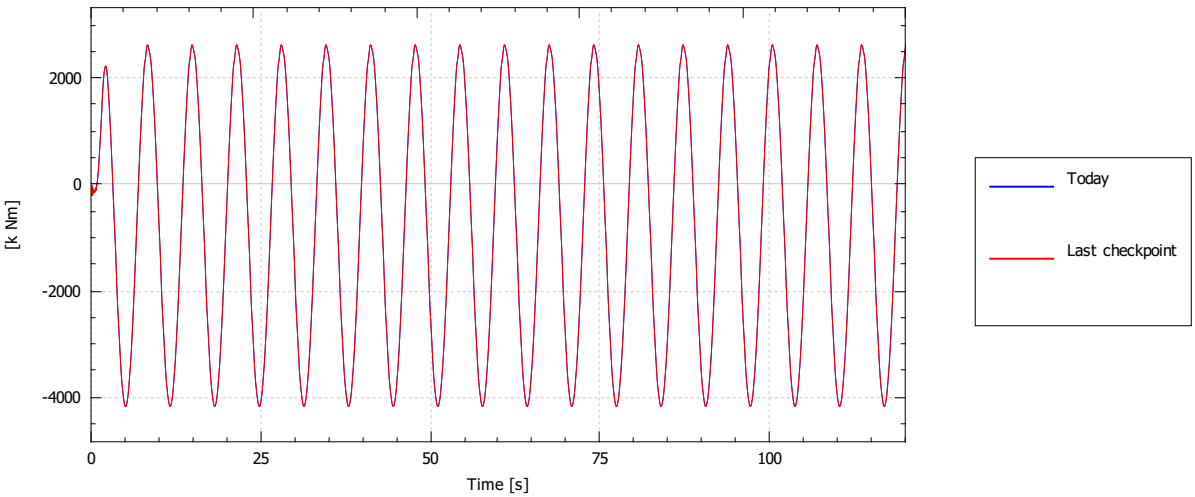
Shear force, mag.



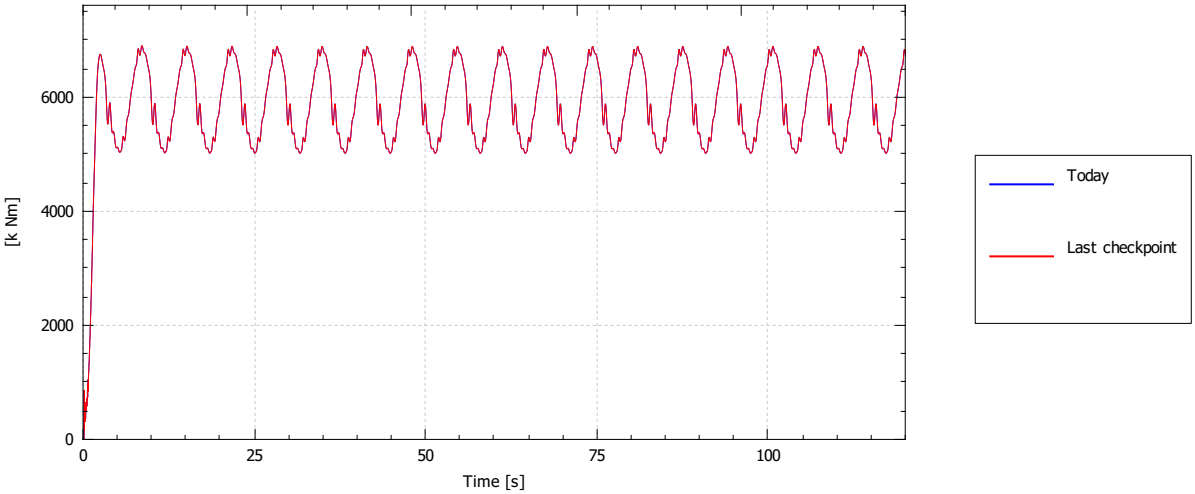
Torque



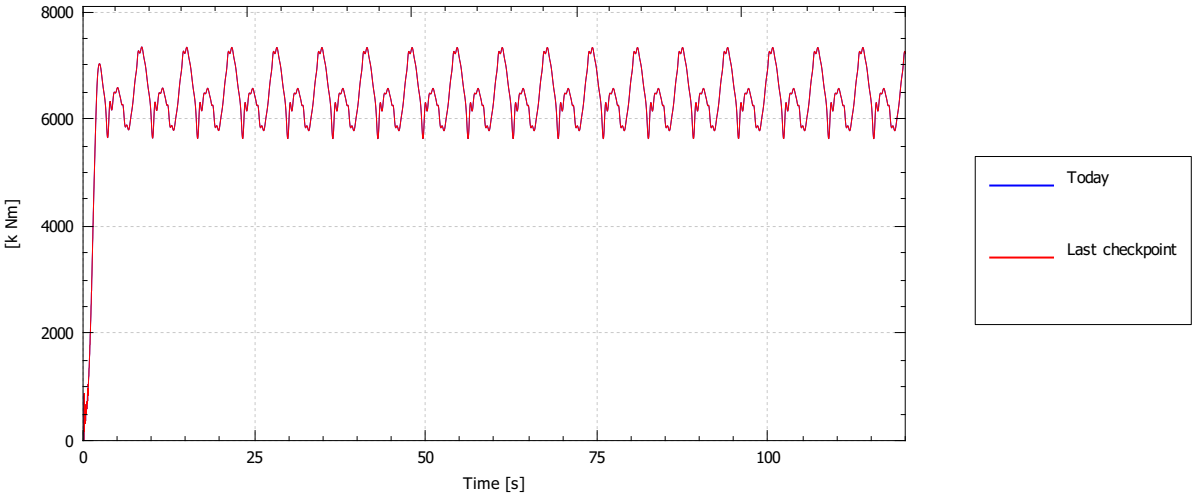
Moment (1st prin. axis), i



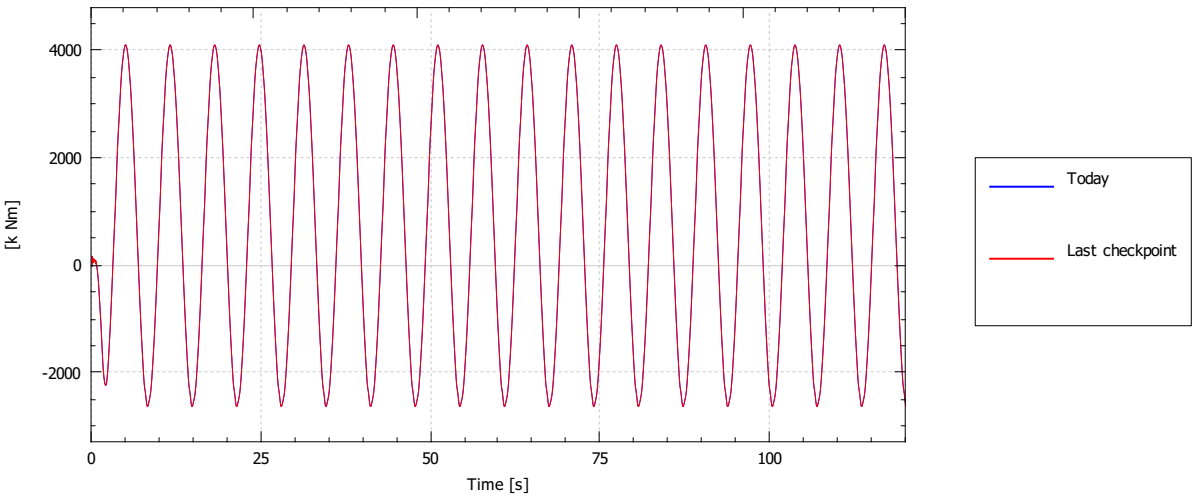
Moment (2nd prin. axis), i

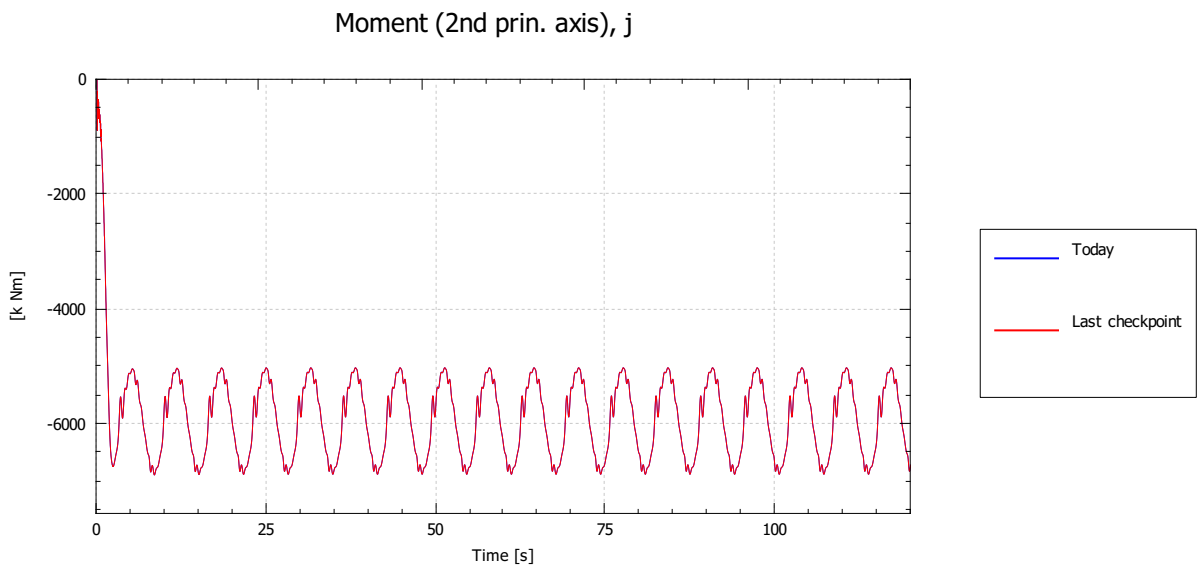


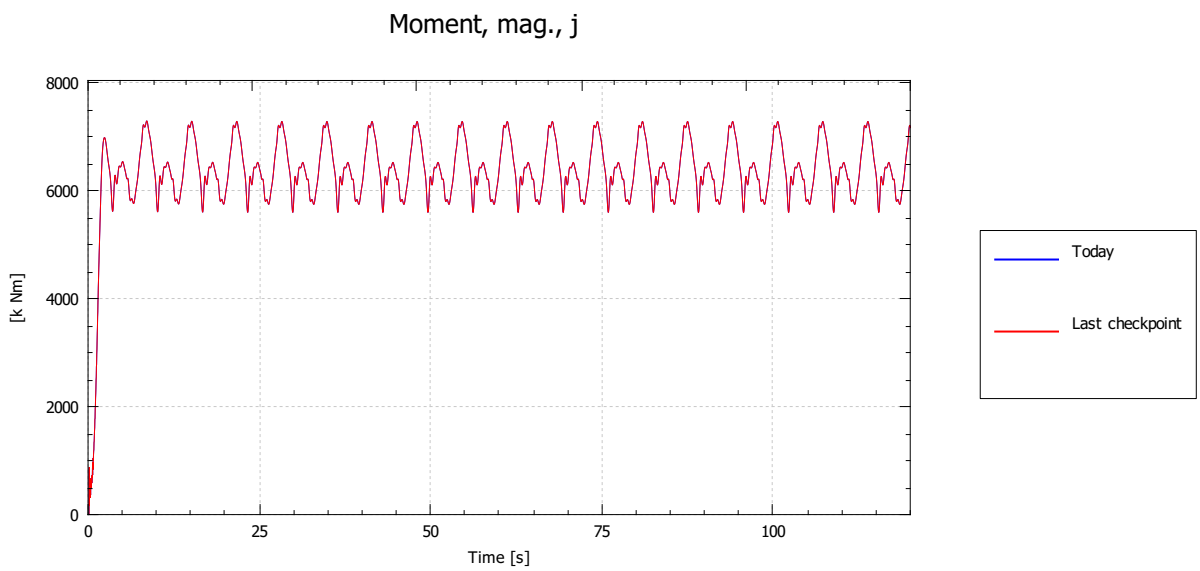
Moment, mag., i

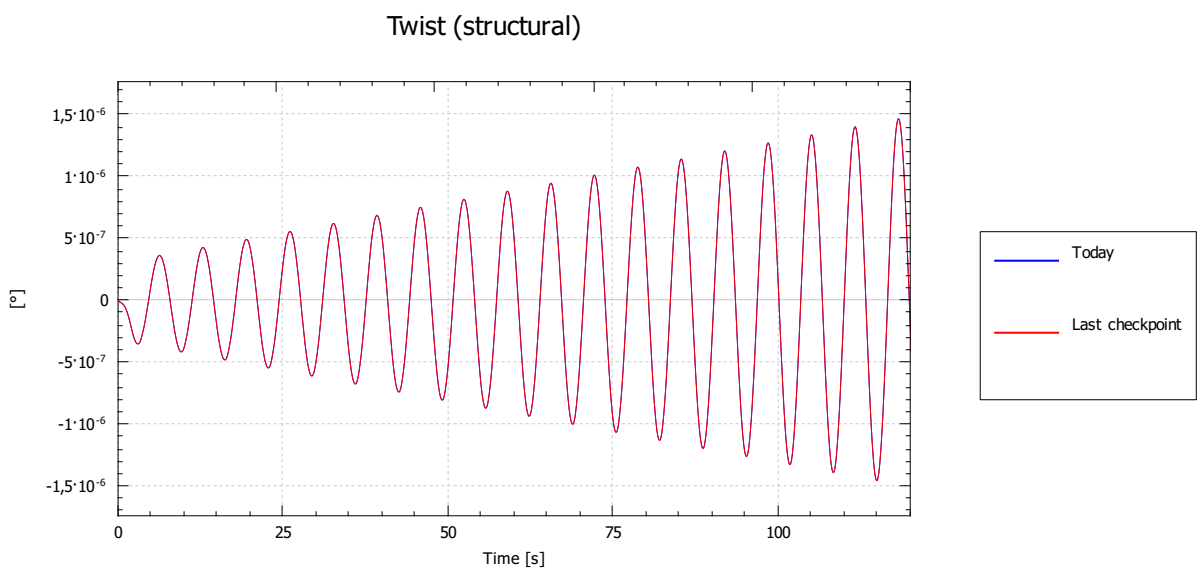


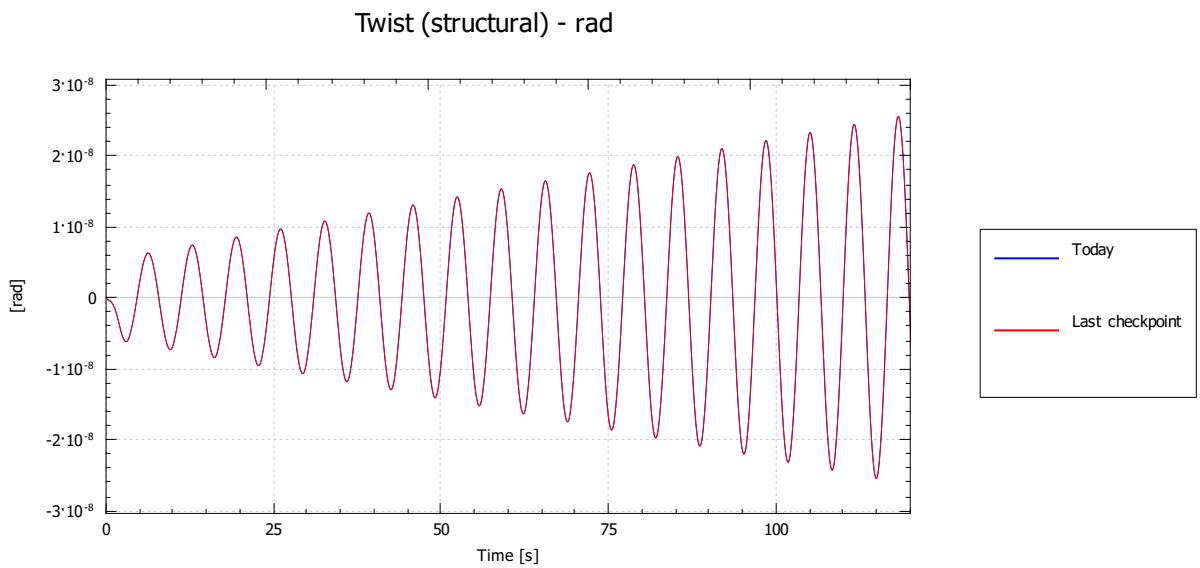
Moment (1st prin. axis), j

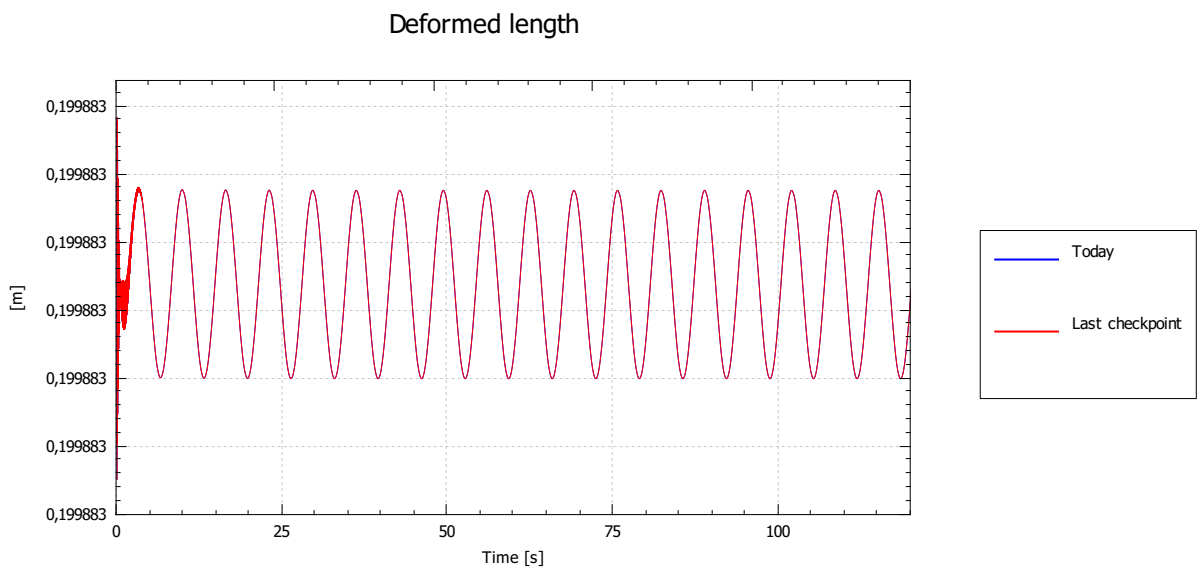


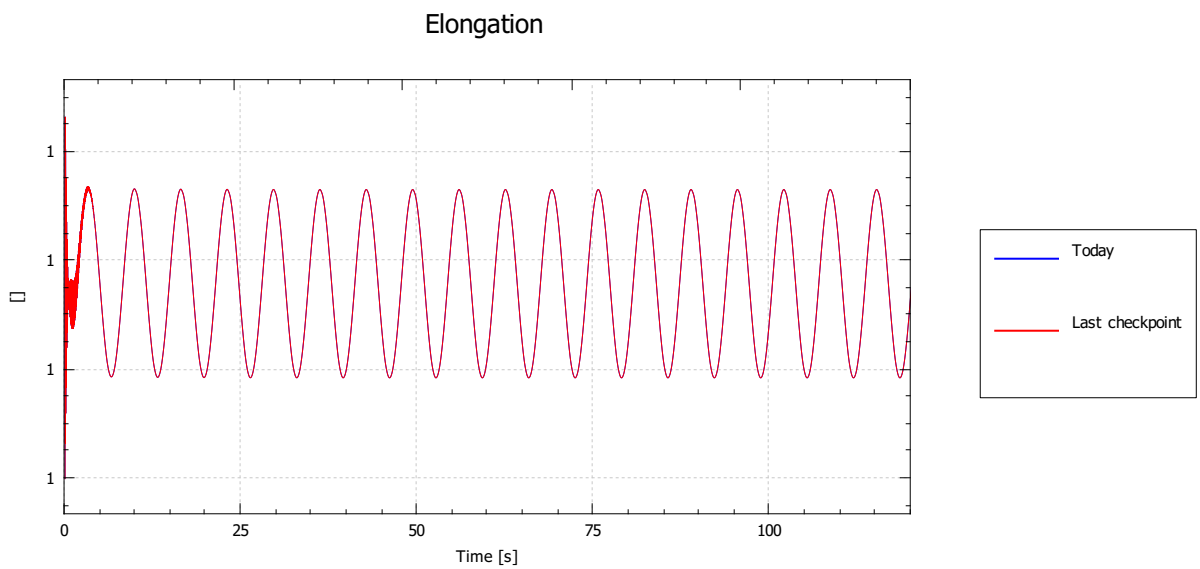

Moment (2nd prin. axis), j
0
-2000
-4000
-6000
[k Nm]
0
25
50
75
100
Time [s]
Today
Last checkpoint

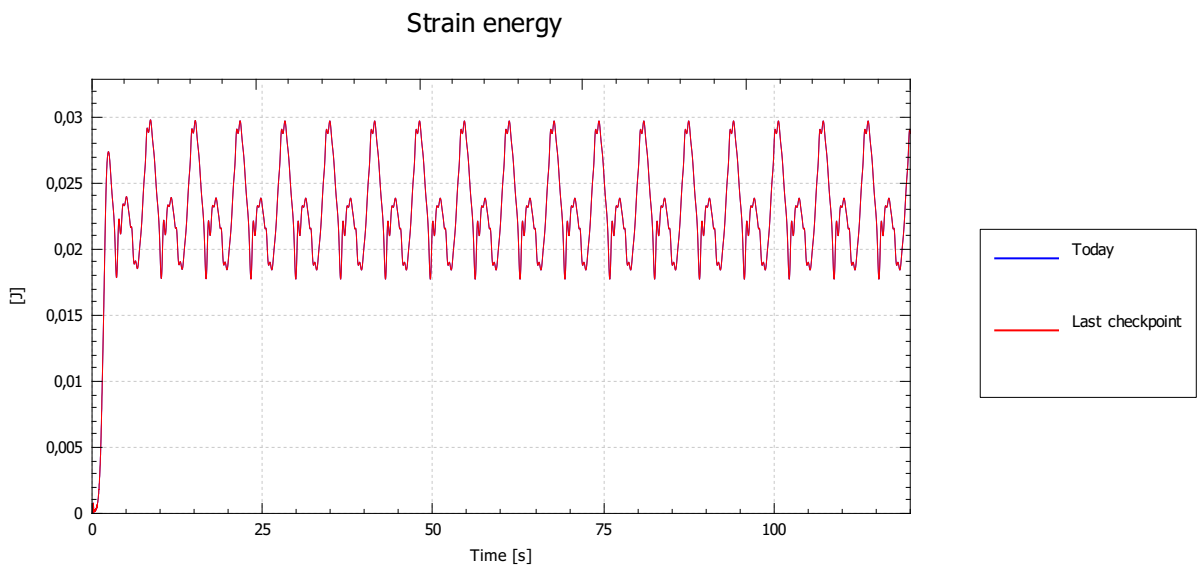

Moment, mag., j
8000
6000
4000
2000
0
[k Nm]
0
25
50
75
100
Time [s]
Today
Last checkpoint

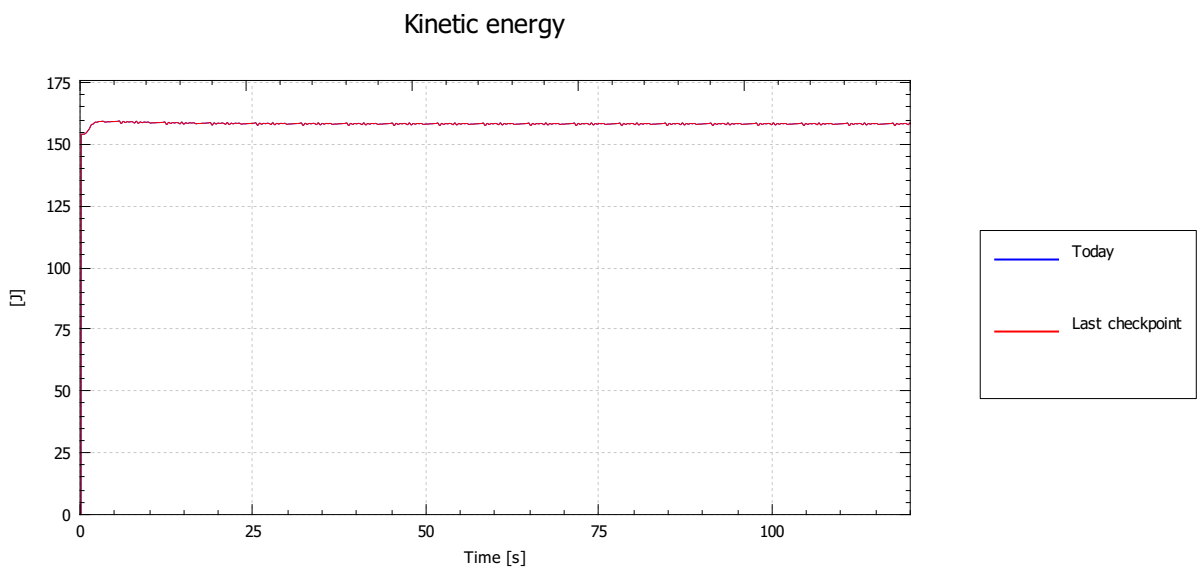

Twist (structural)
1,5·10-6
1·10-6
5·10-7
0
-5·10-7
-1·10-6
-1,5·10-6
[°]
0
25
50
75
100
Time [s]
Today
Last checkpoint

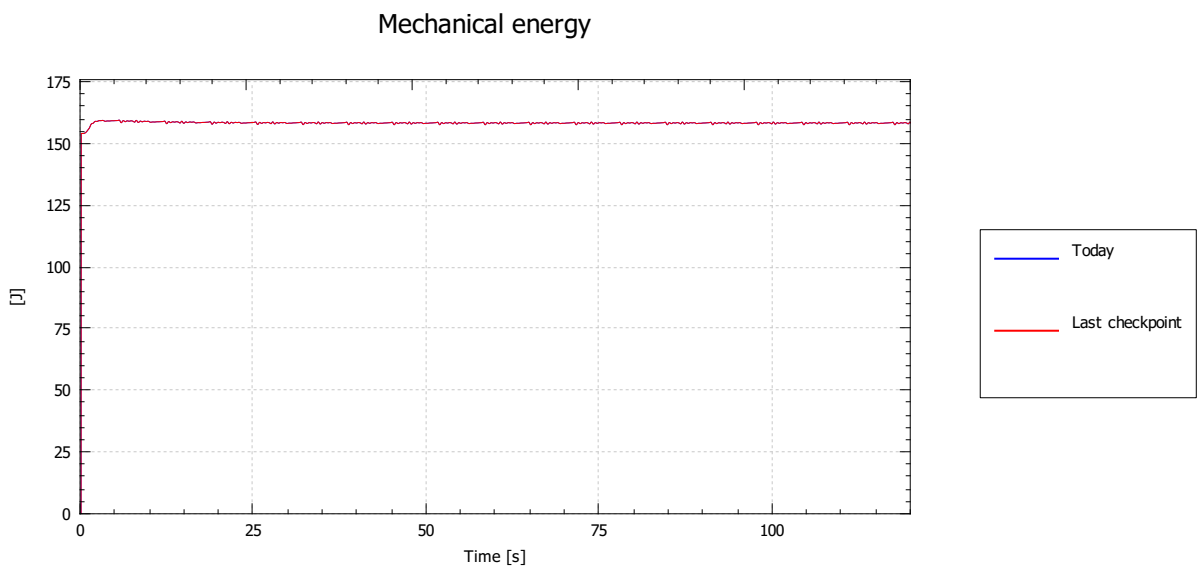

Twist (structural) - rad
3·10-8
2·10-8
1·10-8
0
-1·10-8
-2·10-8
-3·10-8
[rad]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Deformed length
0,199883
0,199883
0,199883
0,199883
0,199883
0,199883
0,199883
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

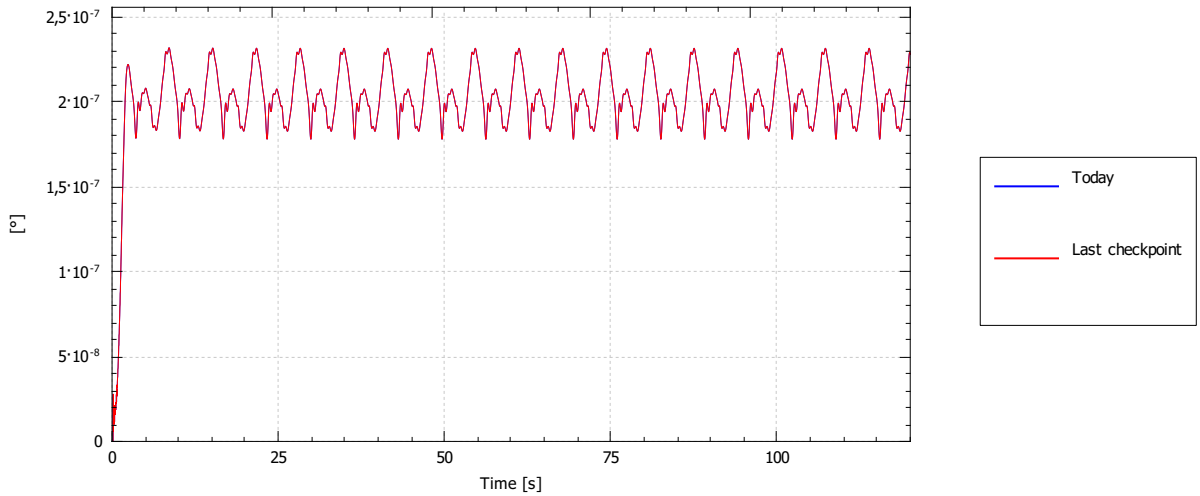

Elongation
1
1
1
1
[]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Strain energy
0,03
0,025
0,02
0,015
0,01
0,005
0
[J]
0
25
50
75
100
Time [s]
Today
Last checkpoint

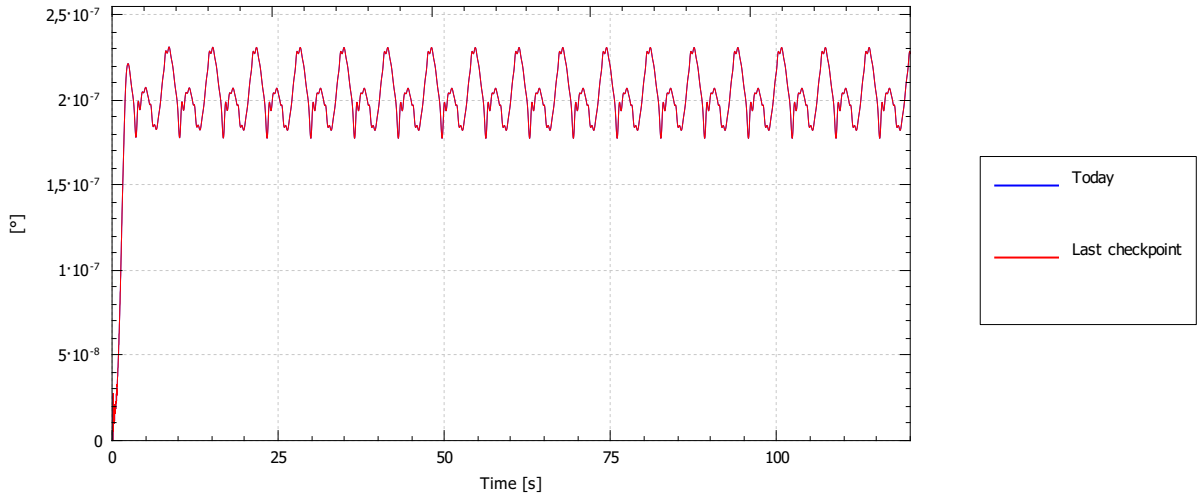

Kinetic energy
175
150
125
100
75
50
25
0
[J]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Mechanical energy
175
150
125
100
75
50
25
0
[J]
0
25
50
75
100
Time [s]
Today
Last checkpoint

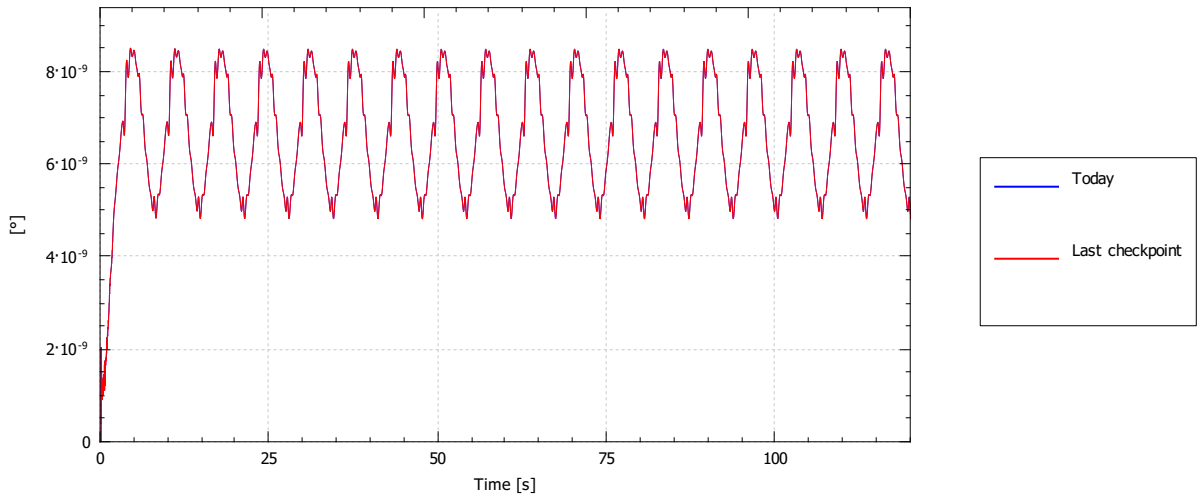
Deformational rotation (i)



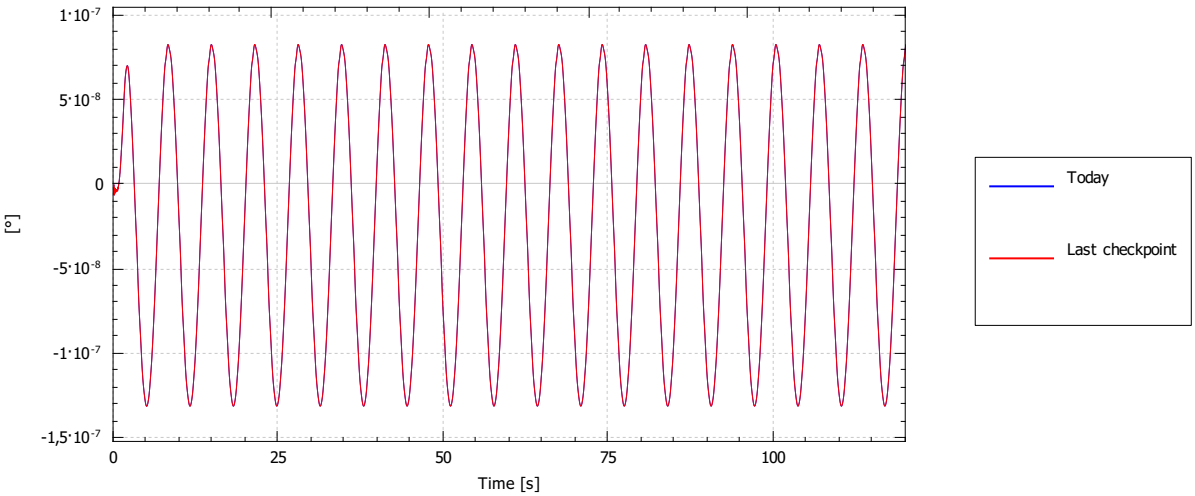
Deformational rotation (j)



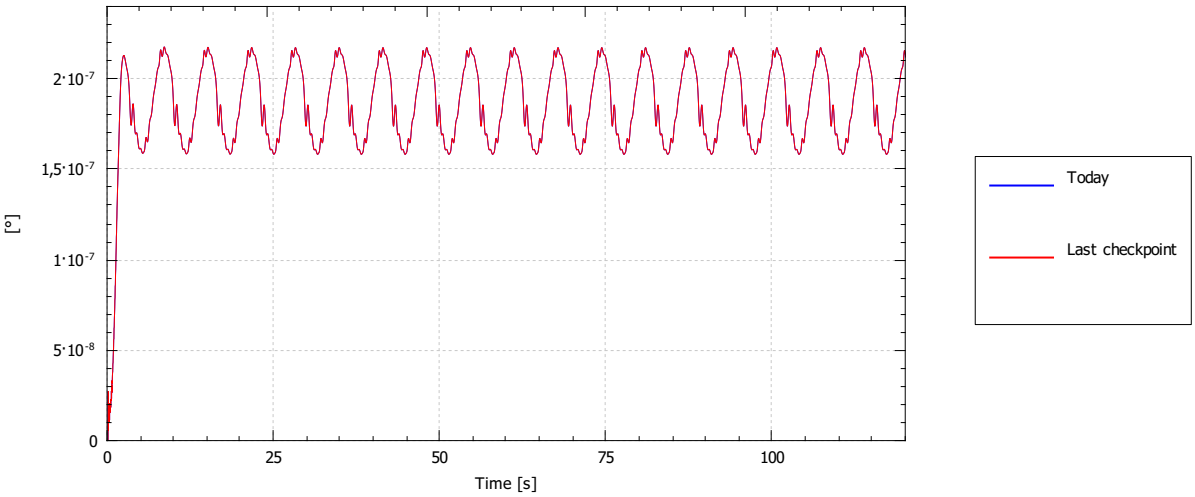
Deformational rotation (axial)



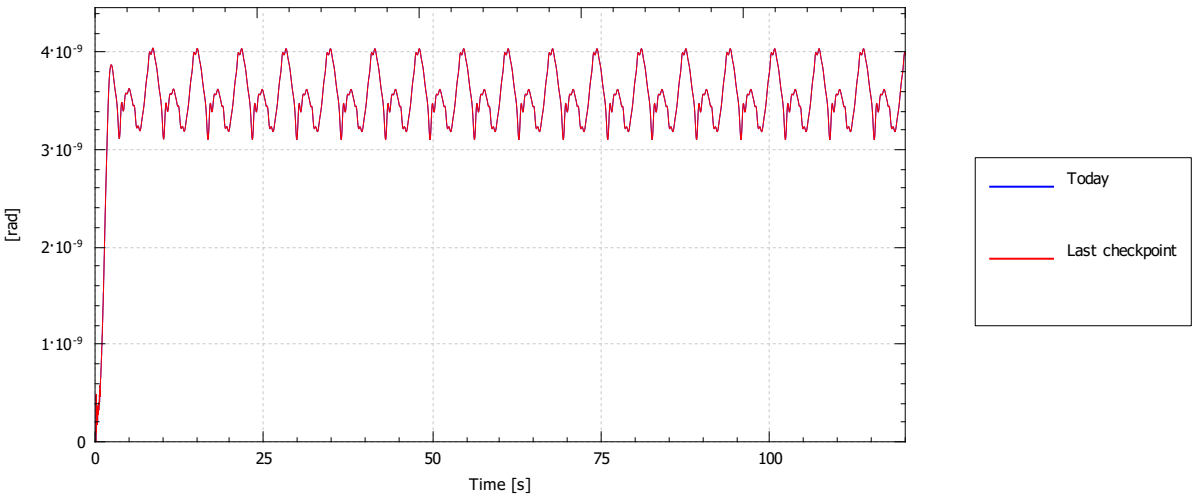
Deformational rotation (1st prin.)



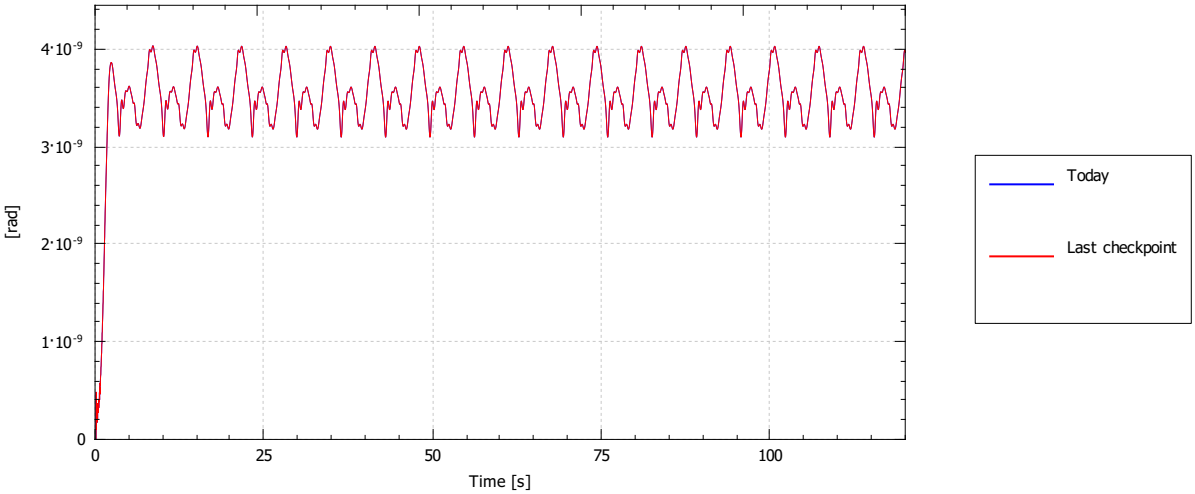
Deformational rotation (2nd prin.)



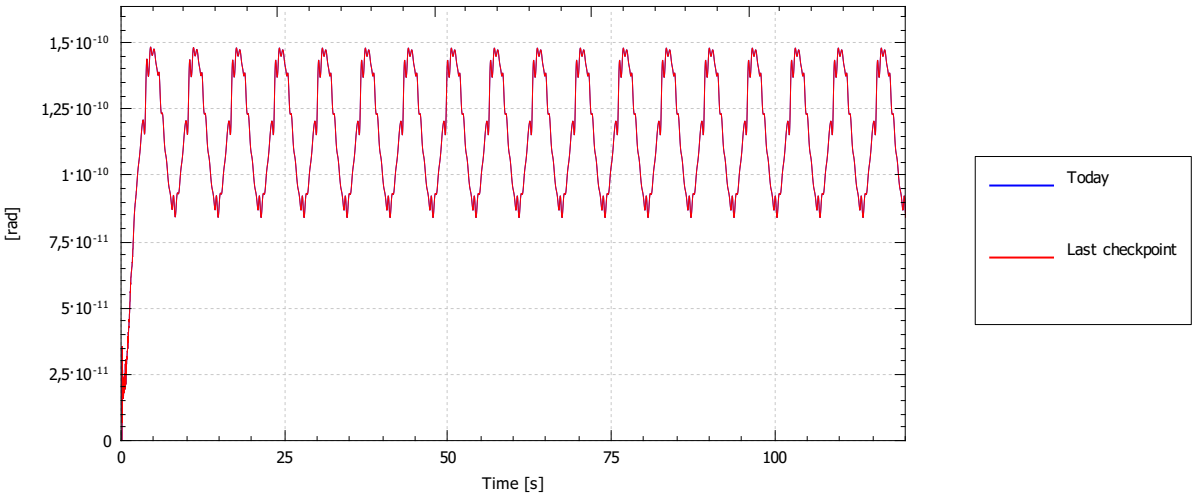
Deformational rotation (i) - rad



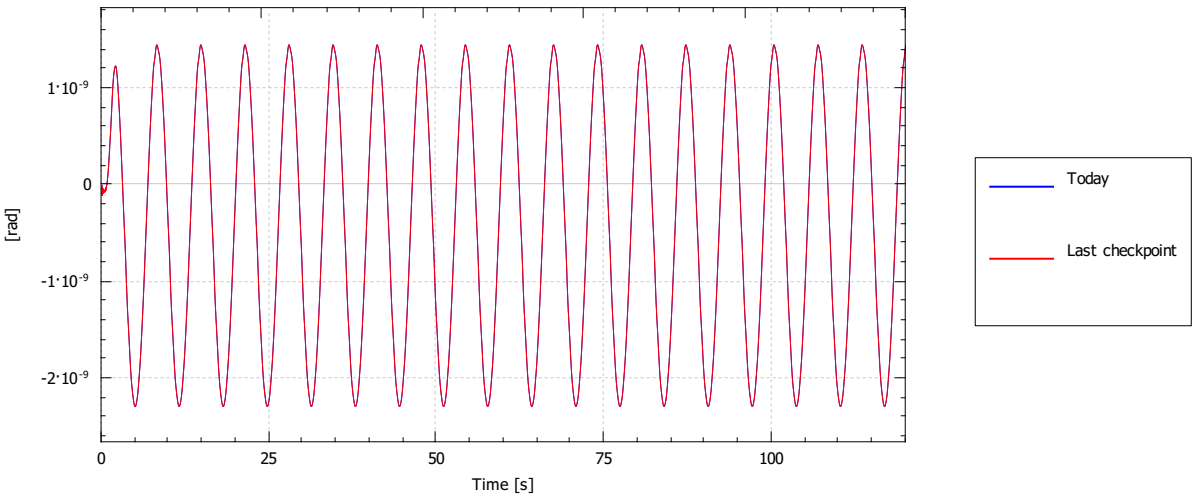
Deformational rotation (j) - rad



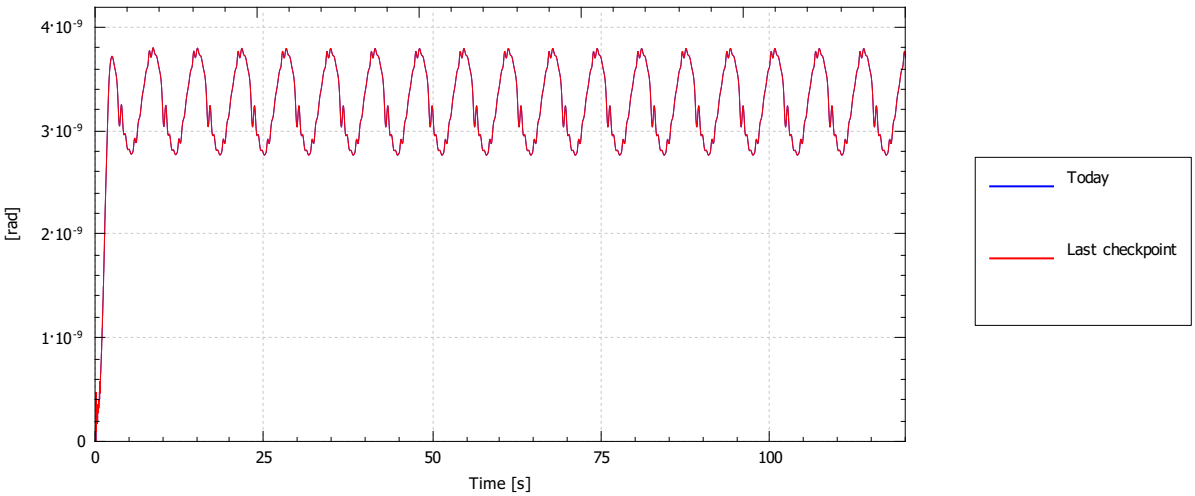
Deformational rotation (axial) - rad



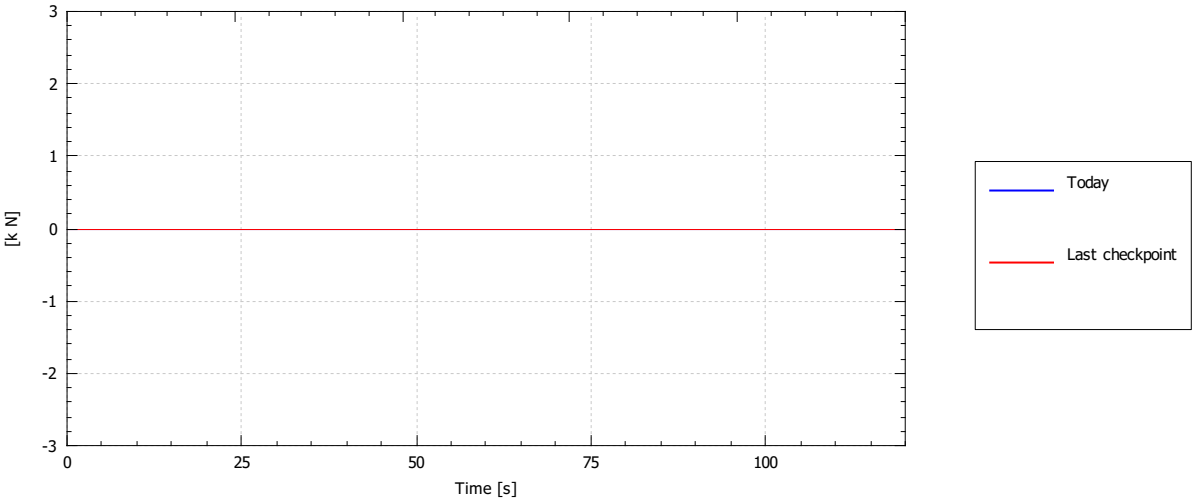
Deformational rotation (1st prin.) - rad



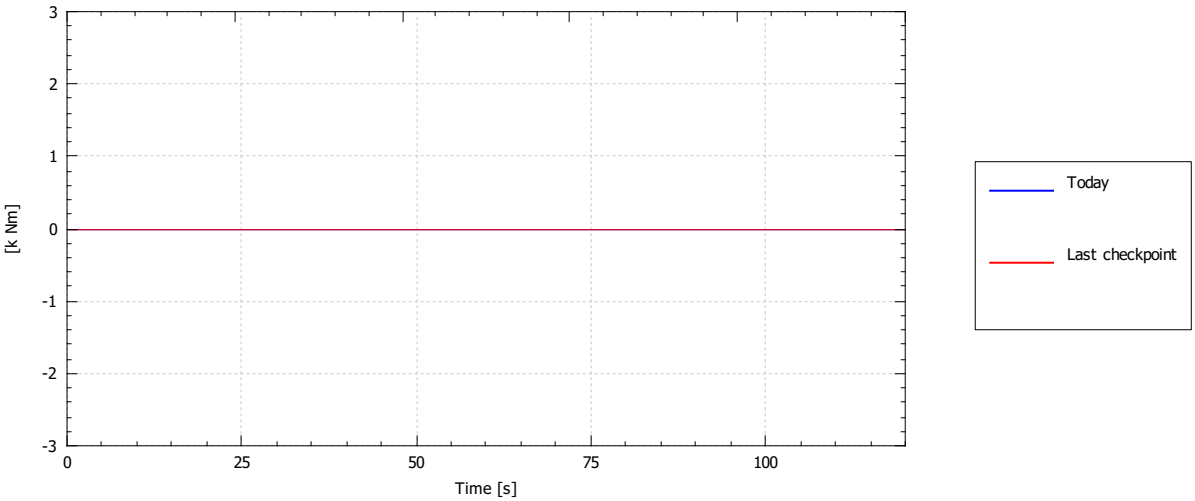
Deformational rotation (2nd prin.) - rad

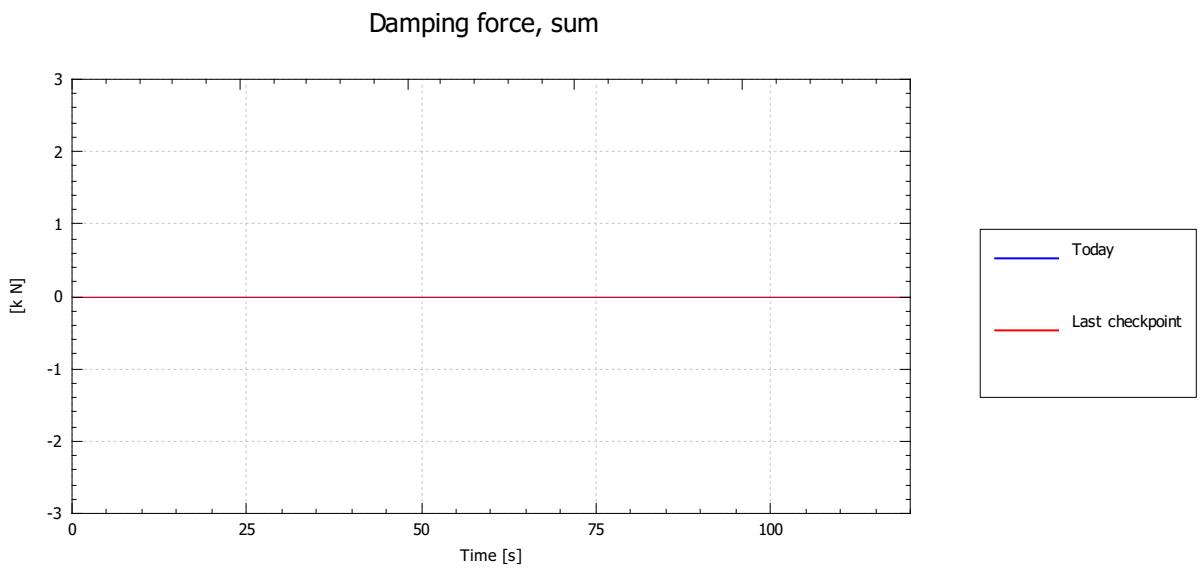


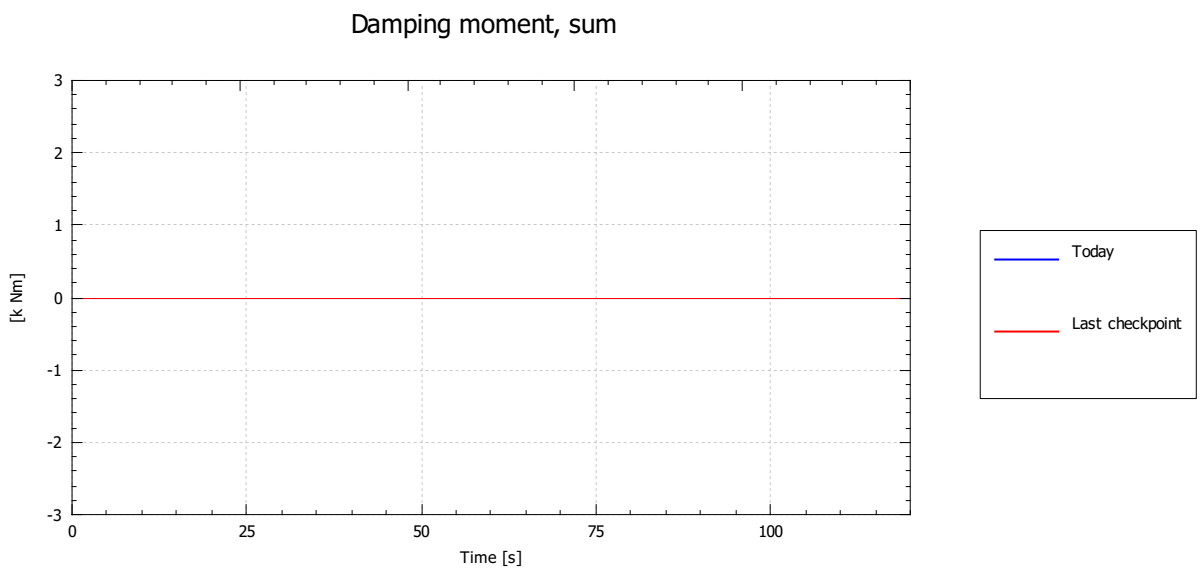
Damping force, i



Damping moment, i

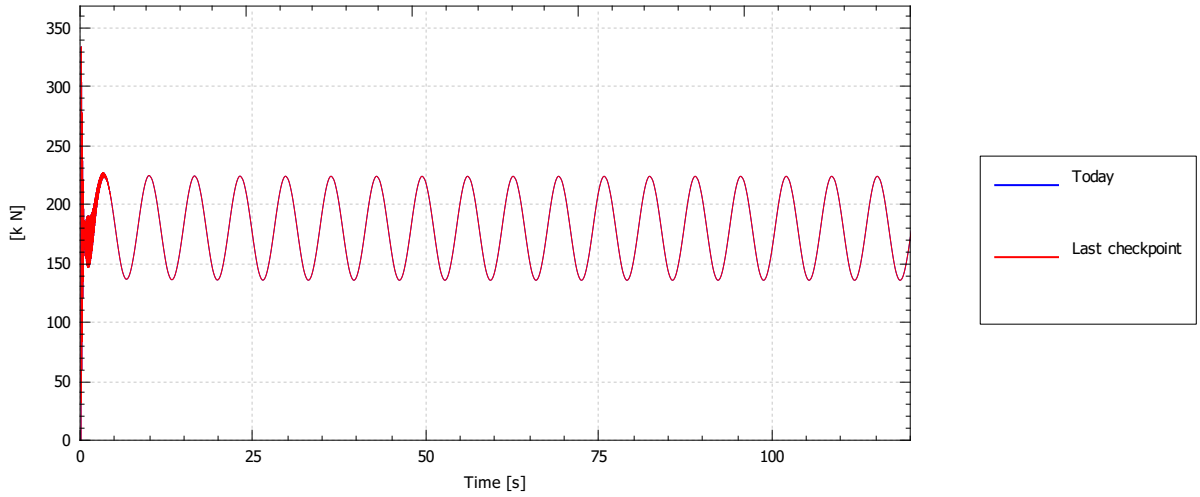




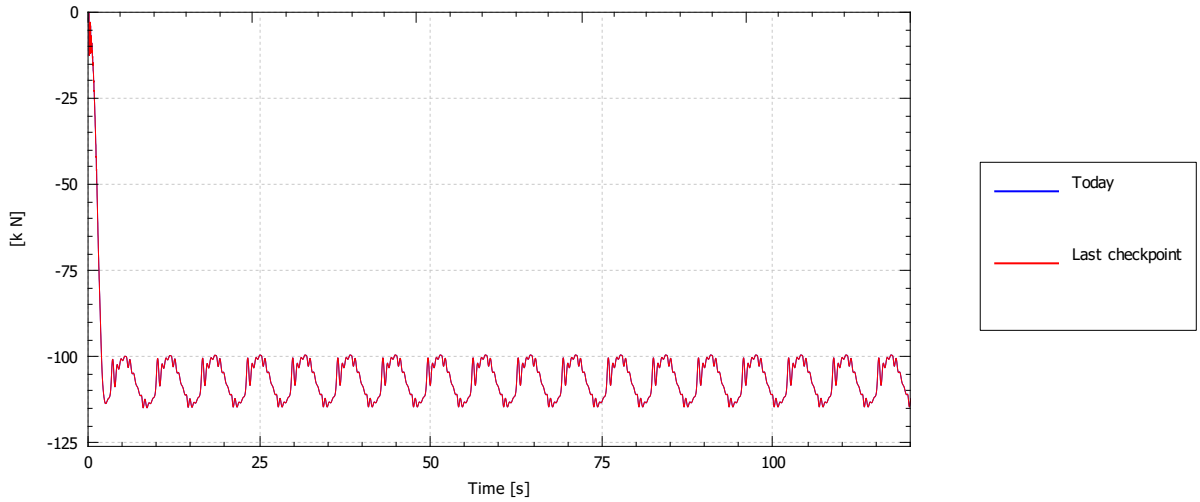


Beam element [Element 25 | Blade 1]

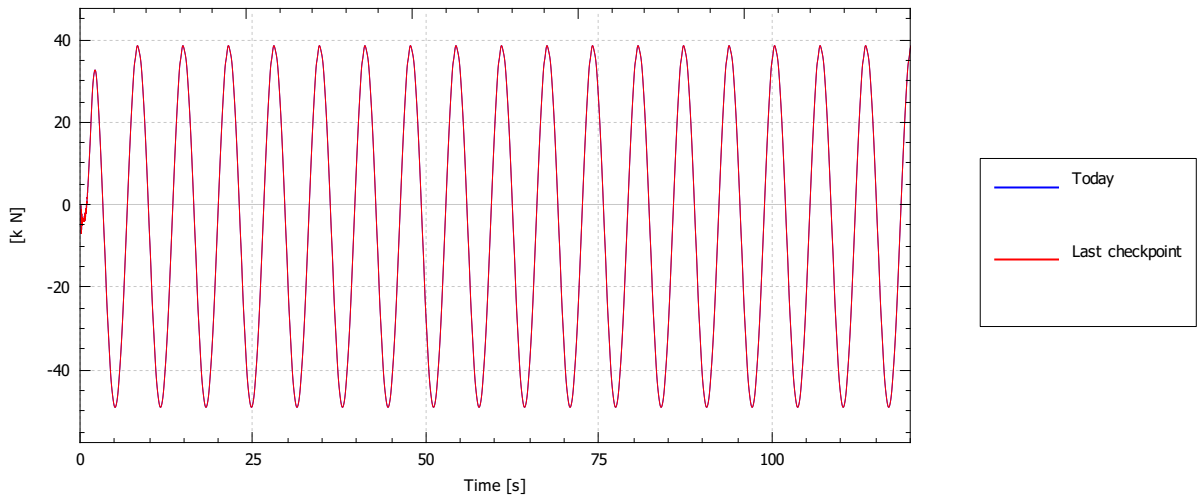
Axial force



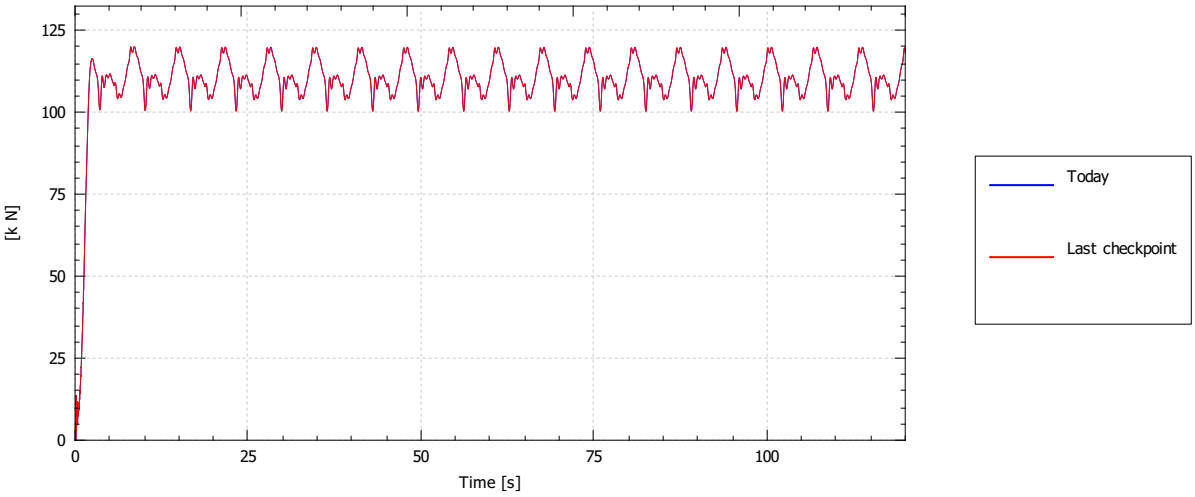
Shear force (1st prin. axis)



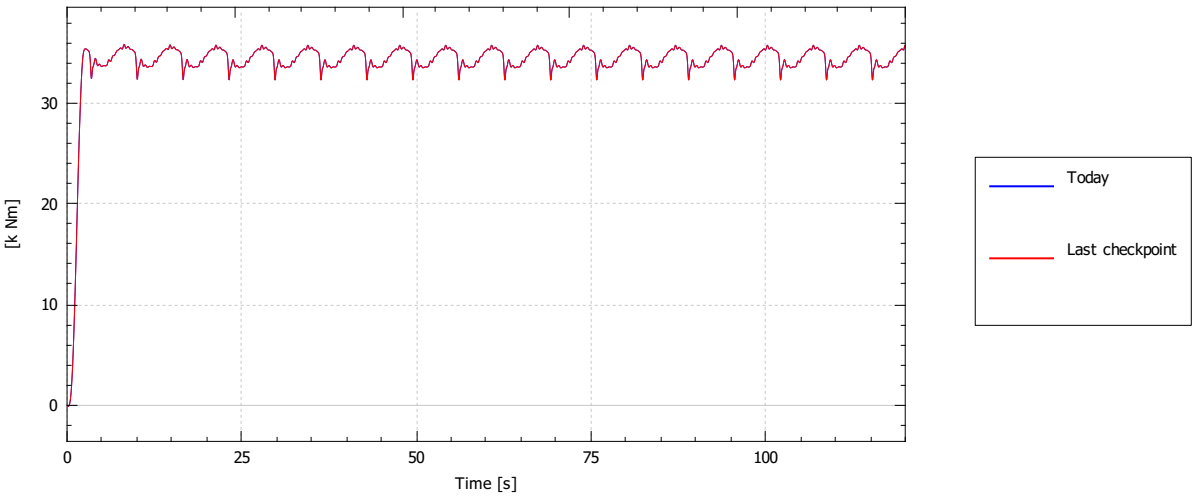
Shear force (2nd prin. axis)



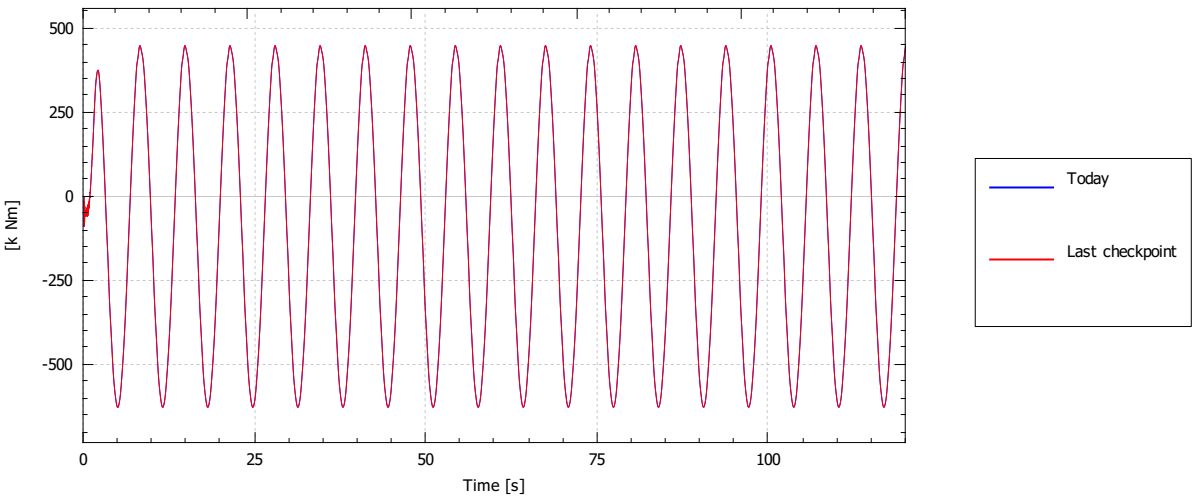
Shear force, mag.



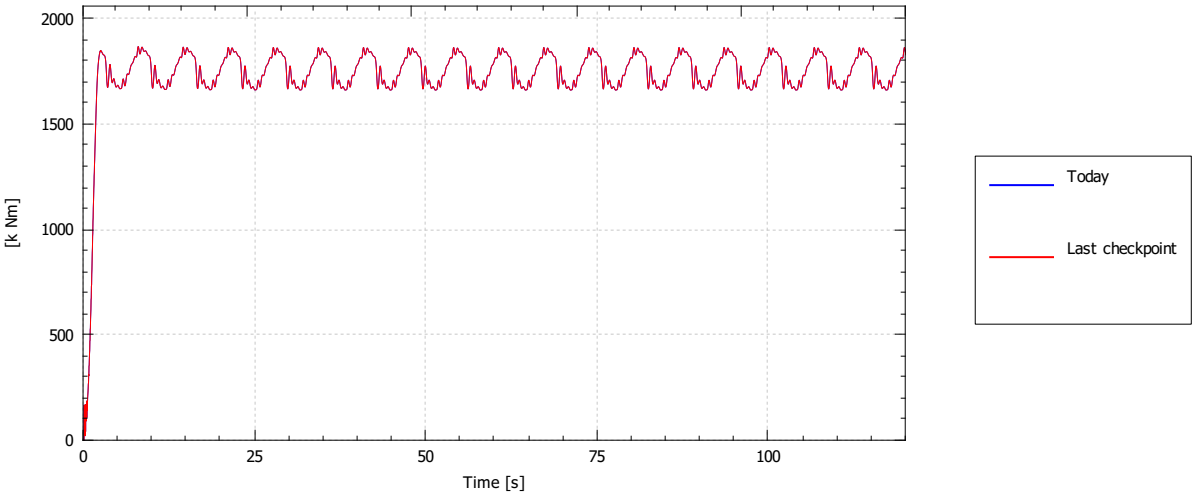
Torque



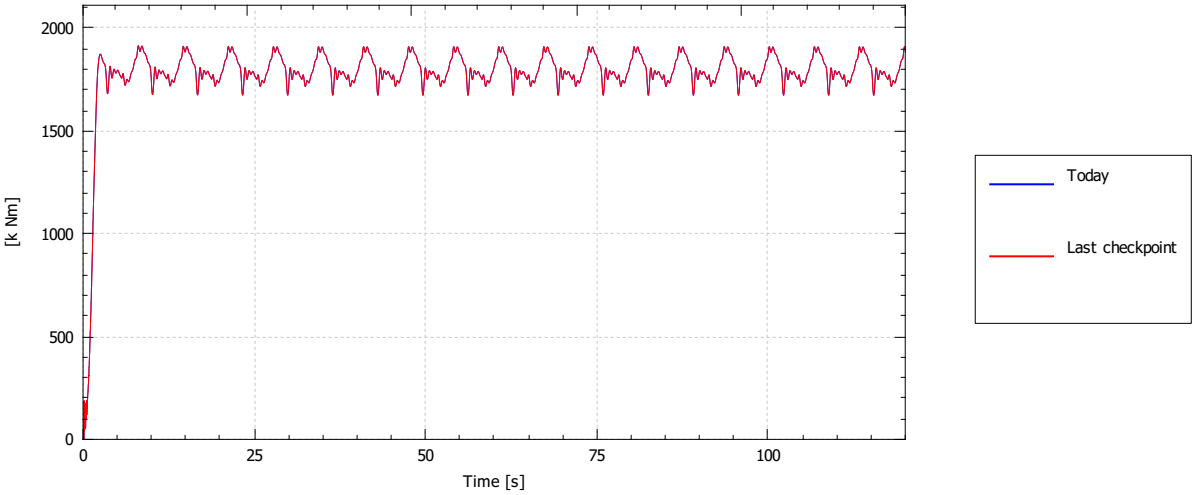
Moment (1st prin. axis), i



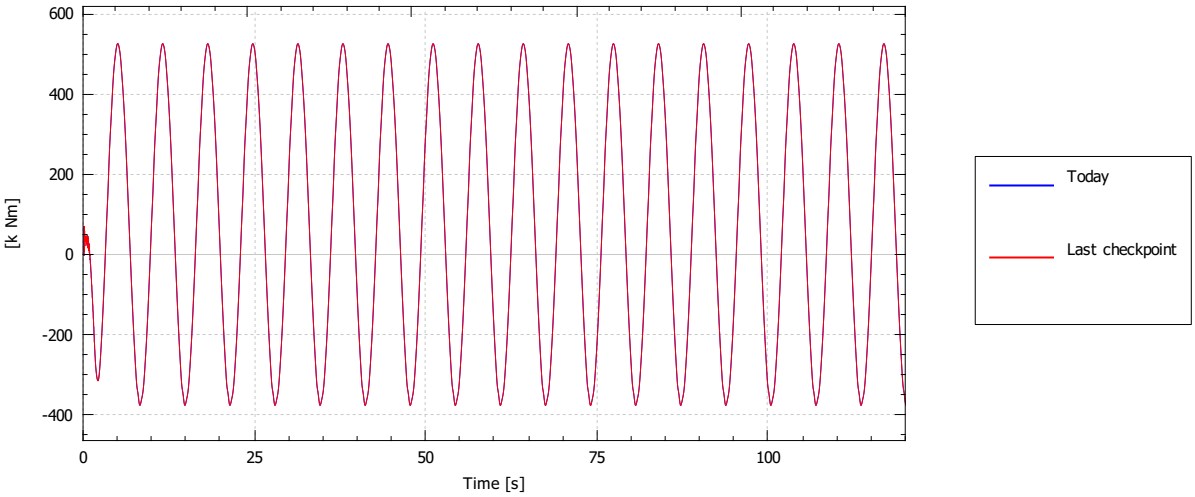
Moment (2nd prin. axis), i

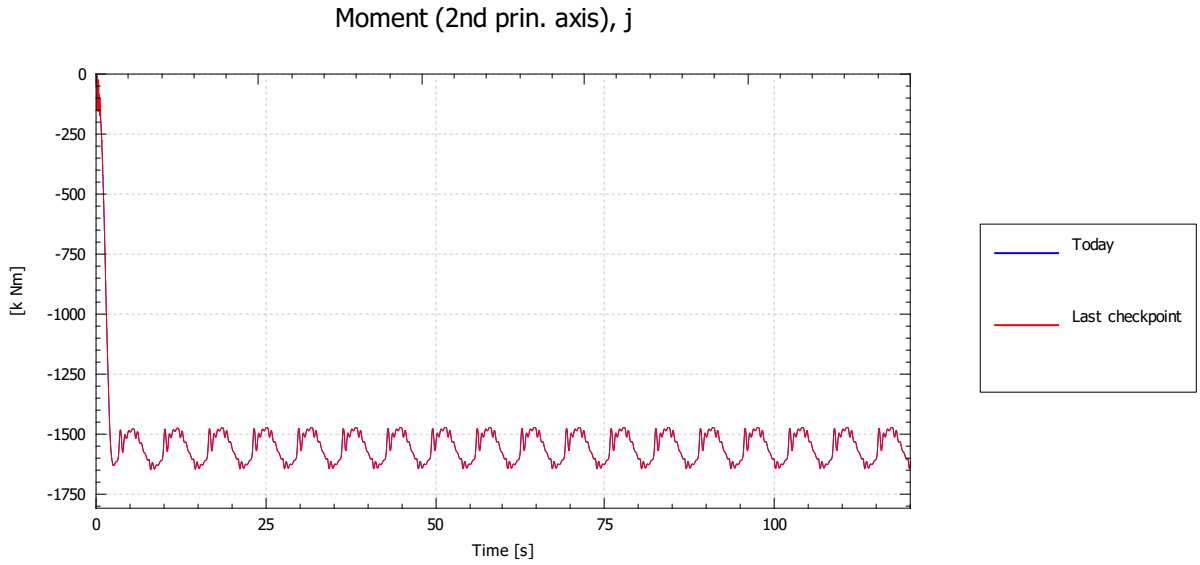


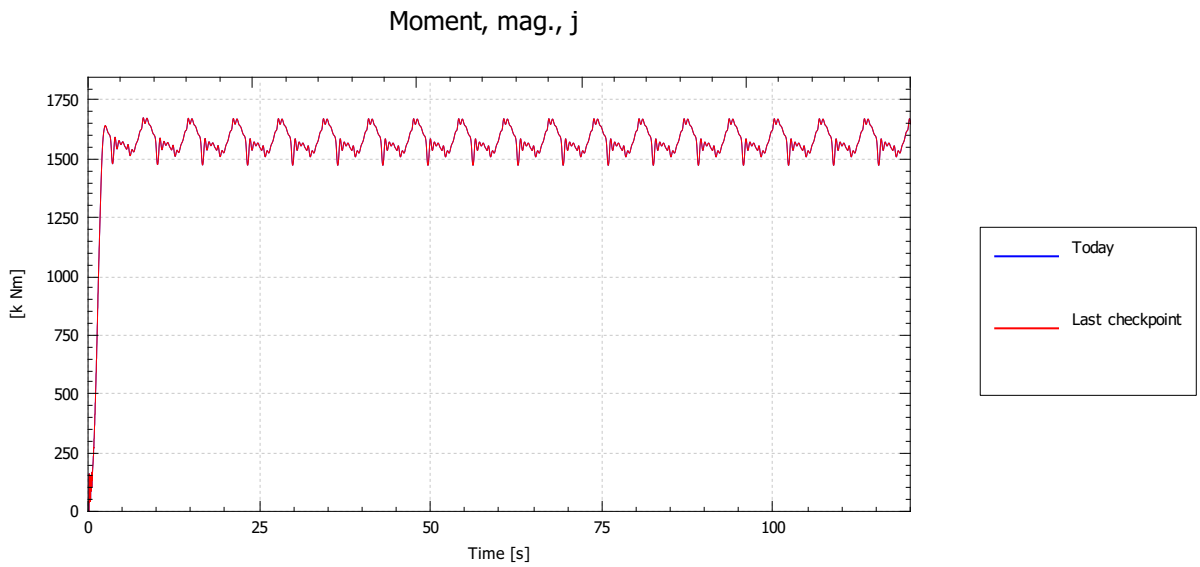
Moment, mag., i

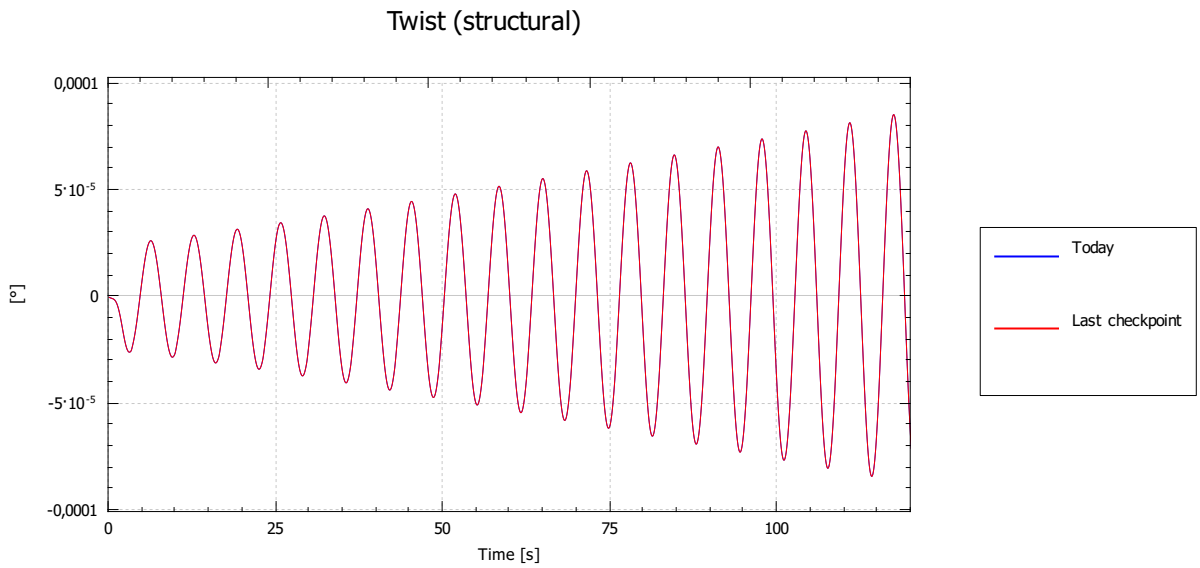


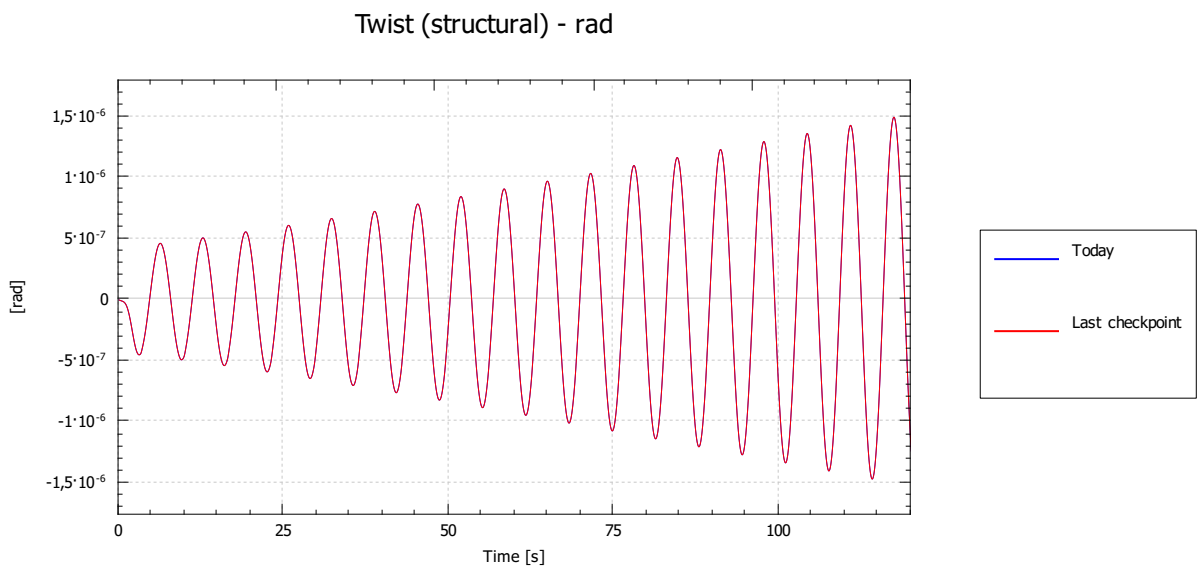
Moment (1st prin. axis), j

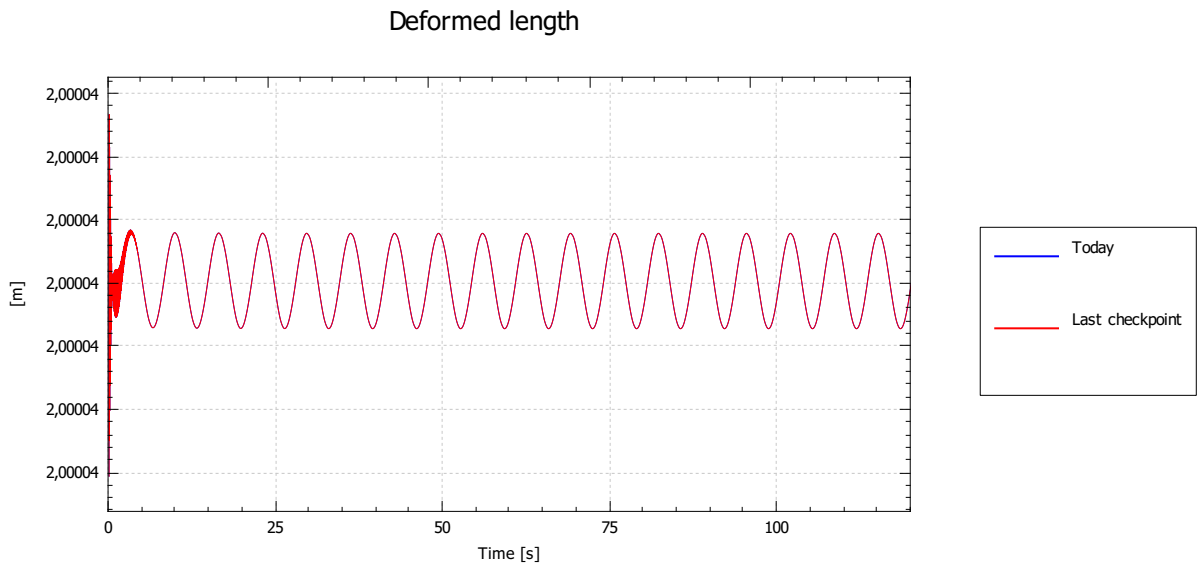


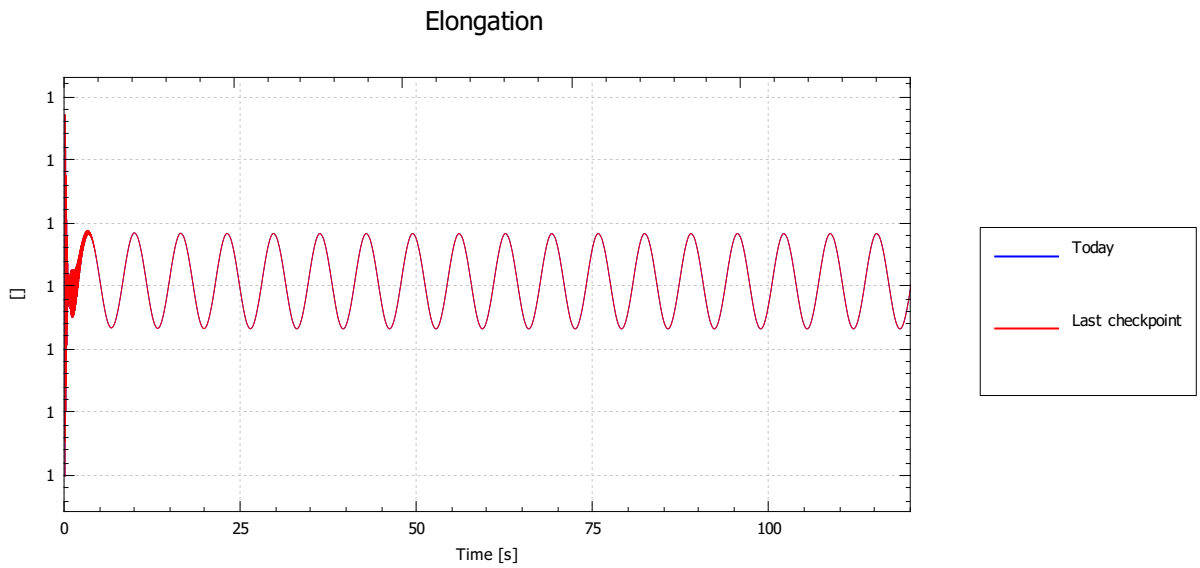

Moment (2nd prin. axis), j
0
-250
-500
-750
-1000
-1250
-1500
-1750
[k Nm]
0
25
50
75
100
Time [s]
Today
Last checkpoint

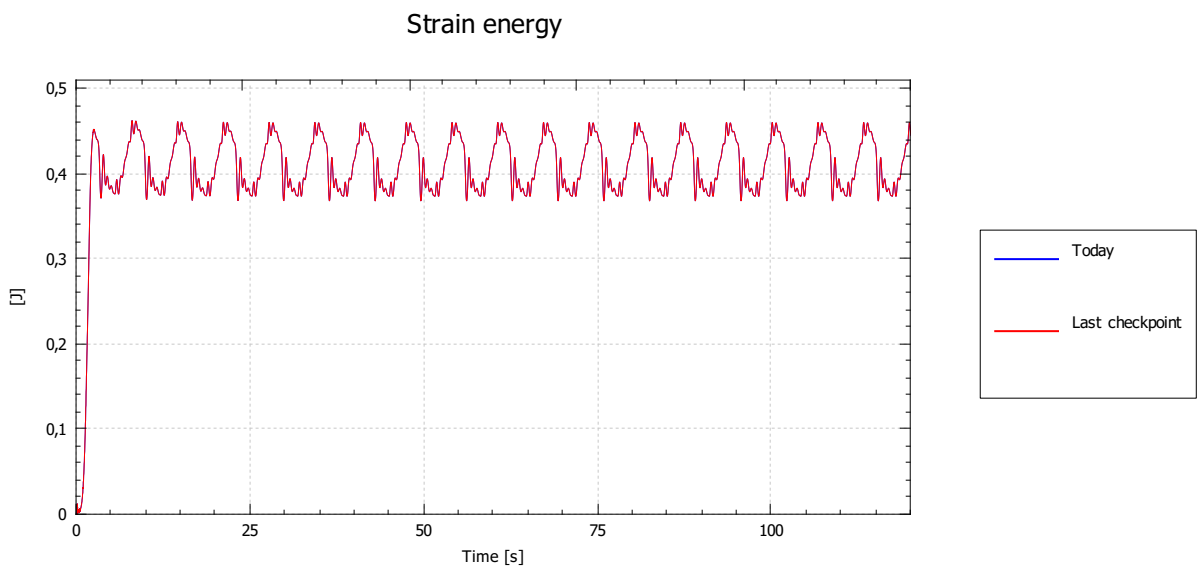

Moment, mag., j
1750
1500
1250
1000
750
500
250
0
[k Nm]
0
25
50
75
100
Time [s]
Today
Last checkpoint

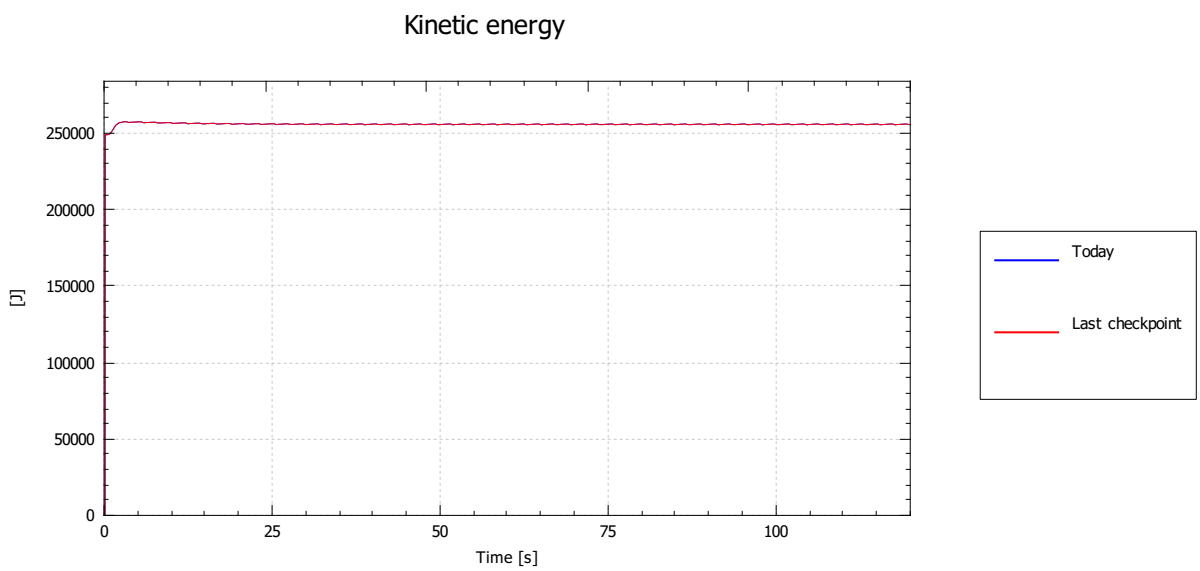

Twist (structural)
0,0001
5·10-5
0
-5·10-5
-0,0001
[°]
0
25
50
75
100
Time [s]
Today
Last checkpoint

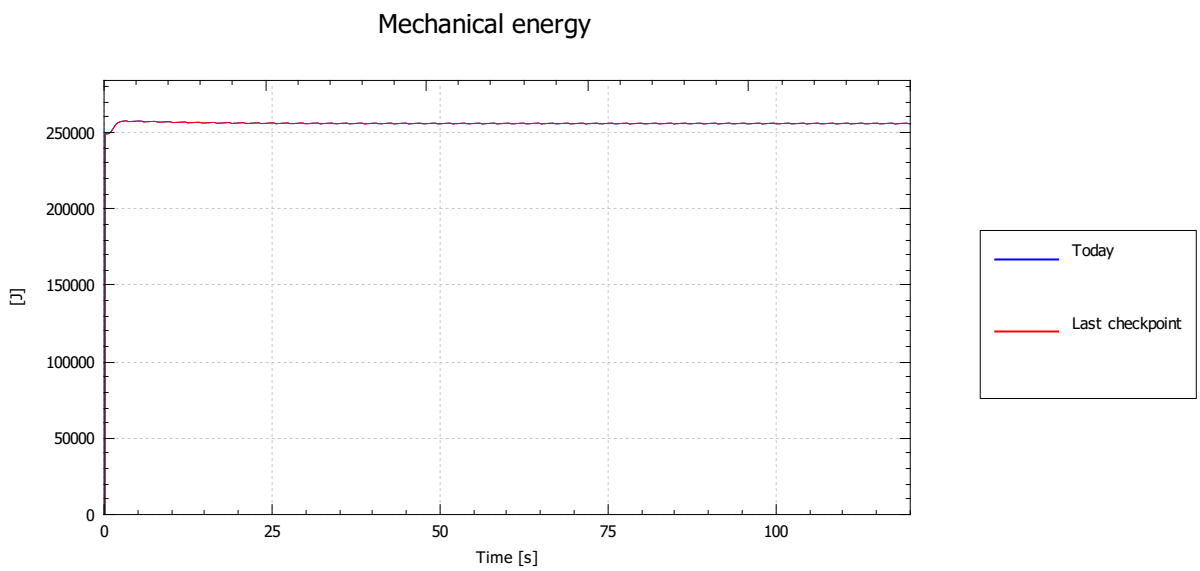

Twist (structural) - rad
1,5·10-6
1·10-6
5·10-7
0
-5·10-7
-1·10-6
-1,5·10-6
[rad]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Deformed length
2,00004
2,00004
2,00004
2,00004
2,00004
2,00004
2,00004
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

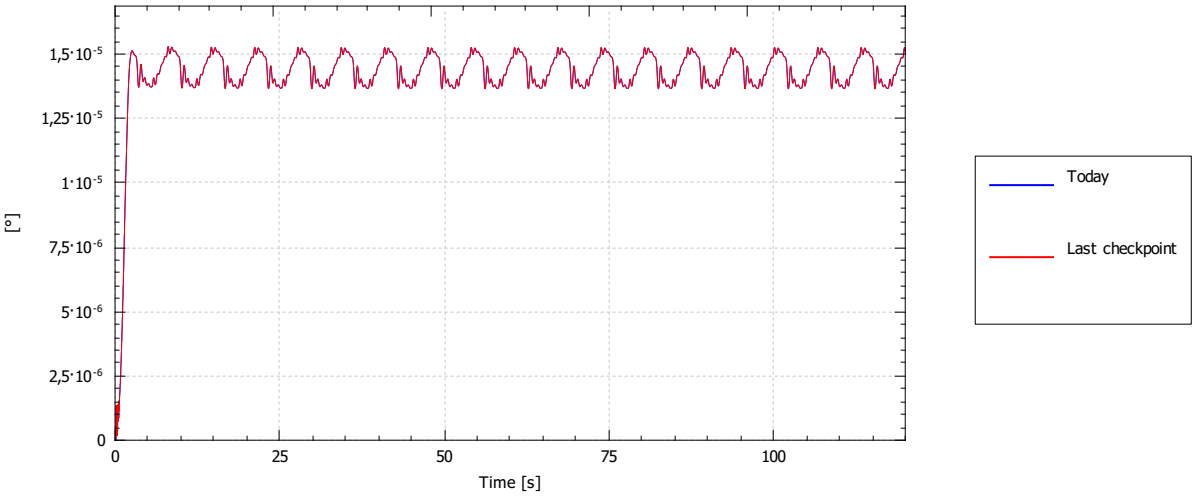

Elongation
1
1
1
1
1
1
1
[]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Strain energy
0,5
0,4
0,3
0,2
0,1
0
[J]
0
25
50
75
100
Time [s]
Today
Last checkpoint

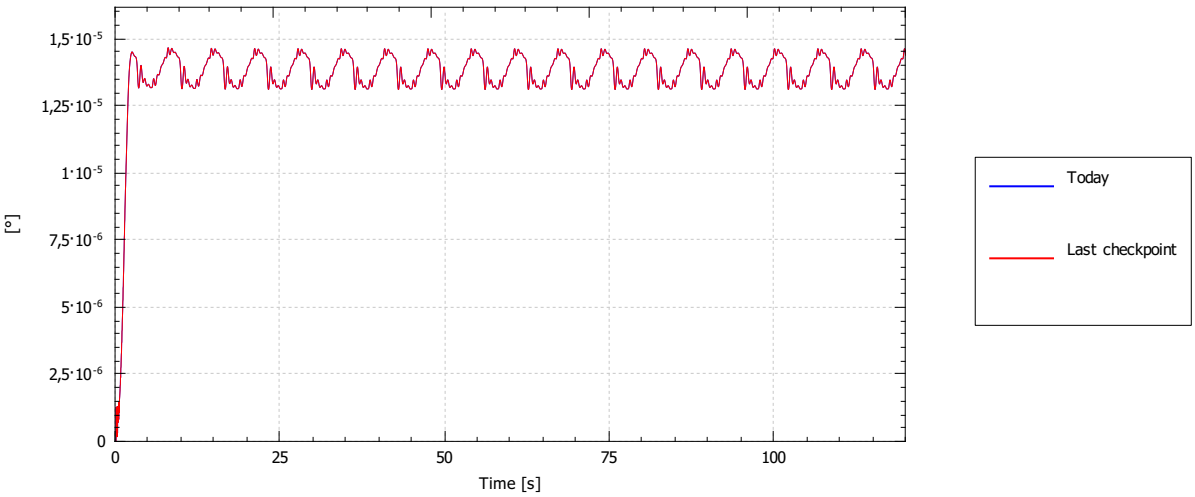

Kinetic energy
250000
200000
150000
100000
50000
0
[J]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Mechanical energy
250000
200000
150000
100000
50000
0
[J]
0
25
50
75
100
Time [s]
Today
Last checkpoint

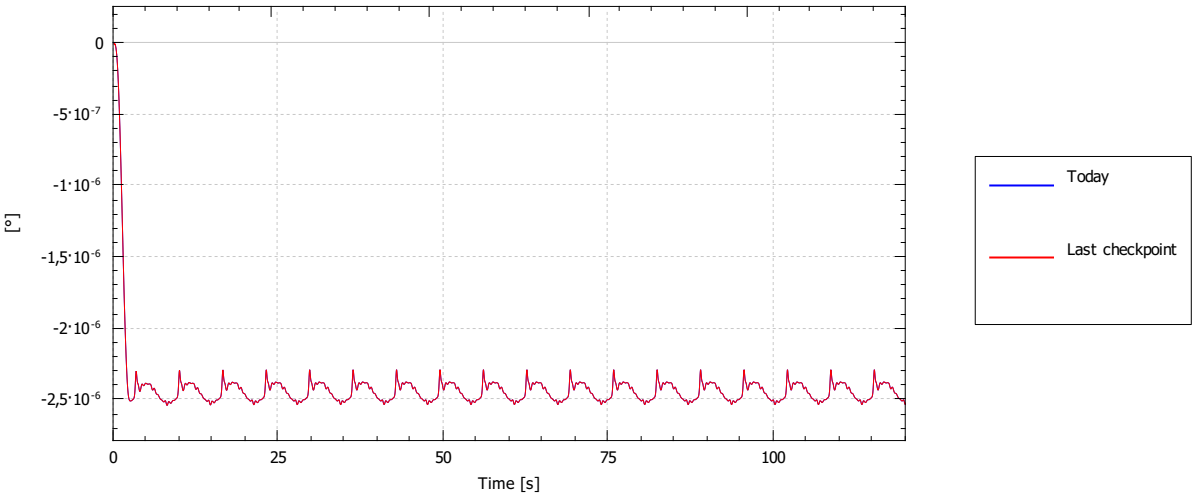
Deformational rotation (i)



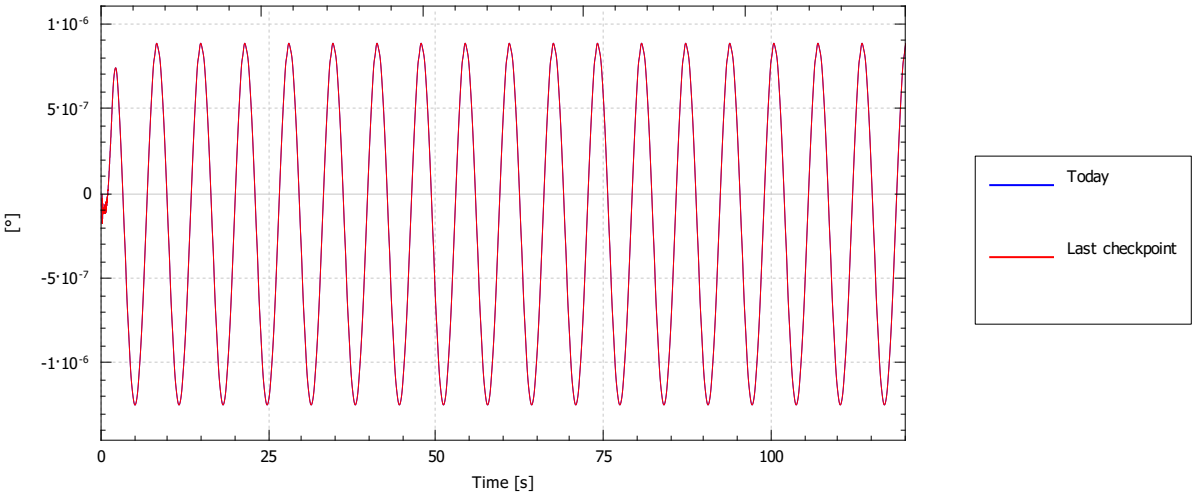
Deformational rotation (j)



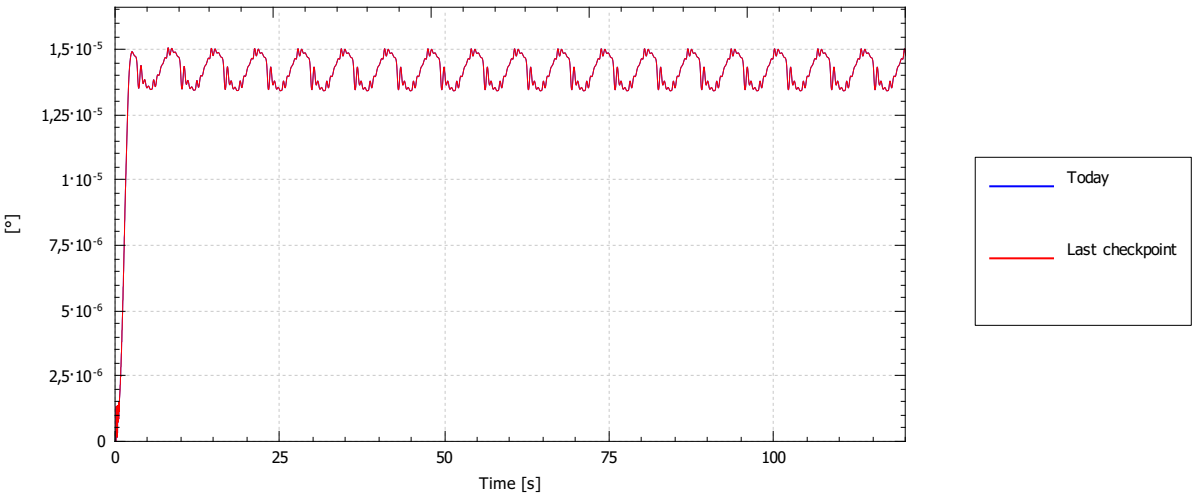
Deformational rotation (axial)



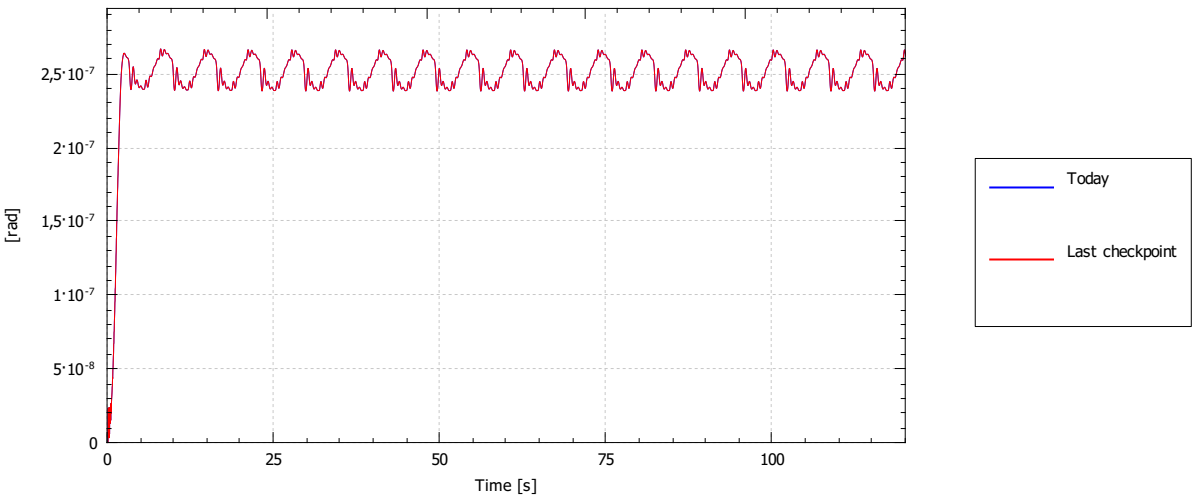
Deformational rotation (1st prin.)



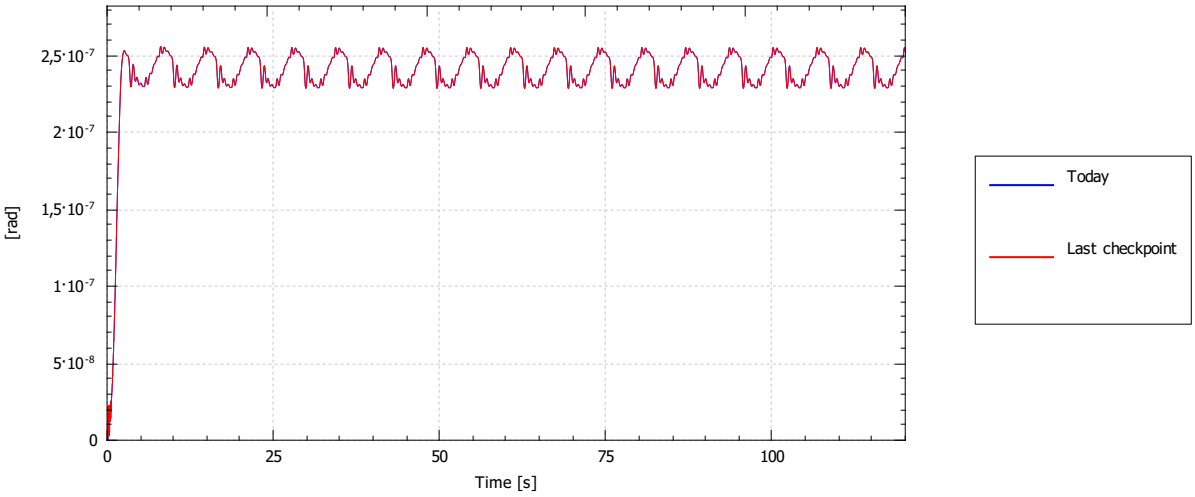
Deformational rotation (2nd prin.)



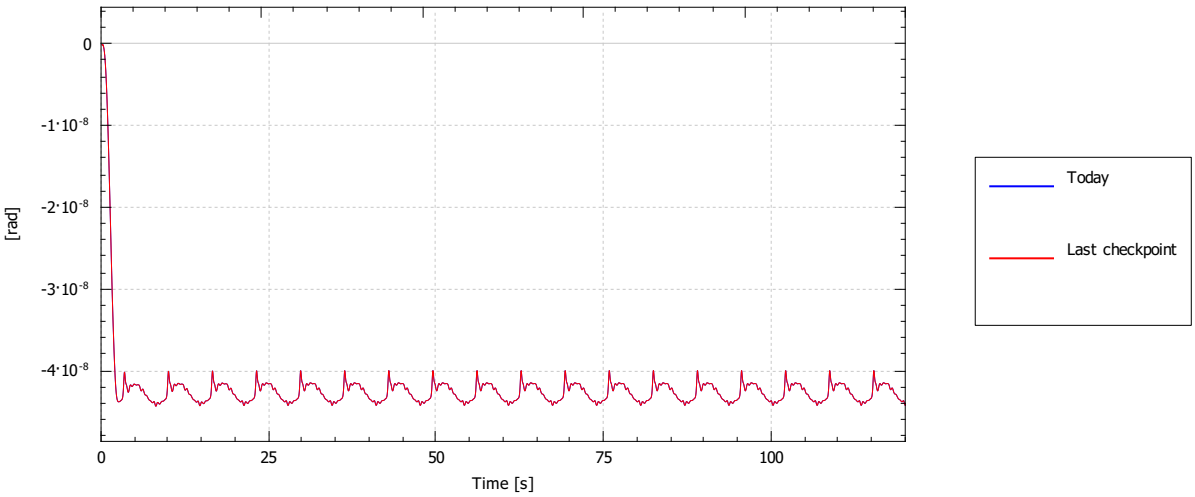
Deformational rotation (i) - rad



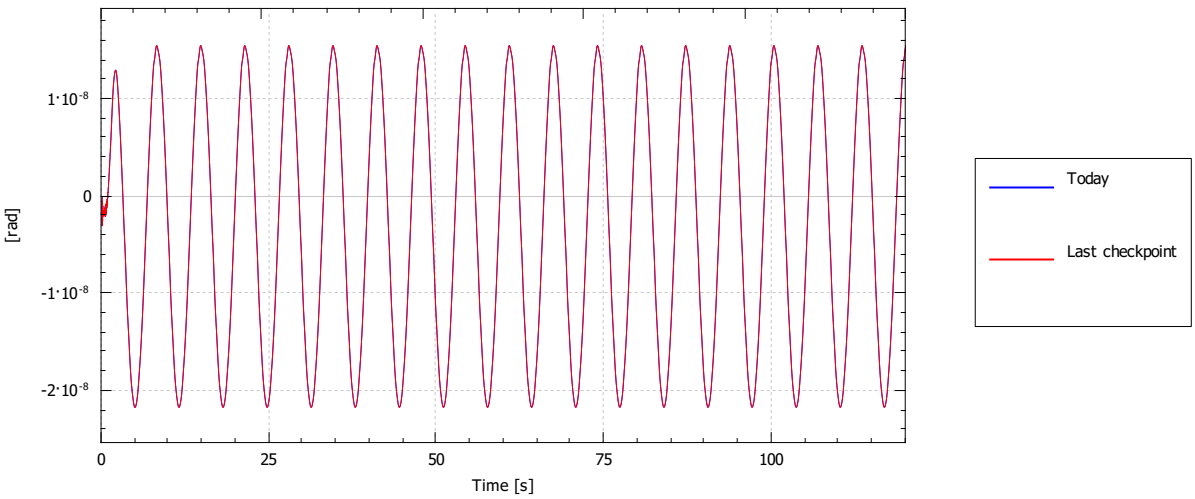
Deformational rotation (j) - rad



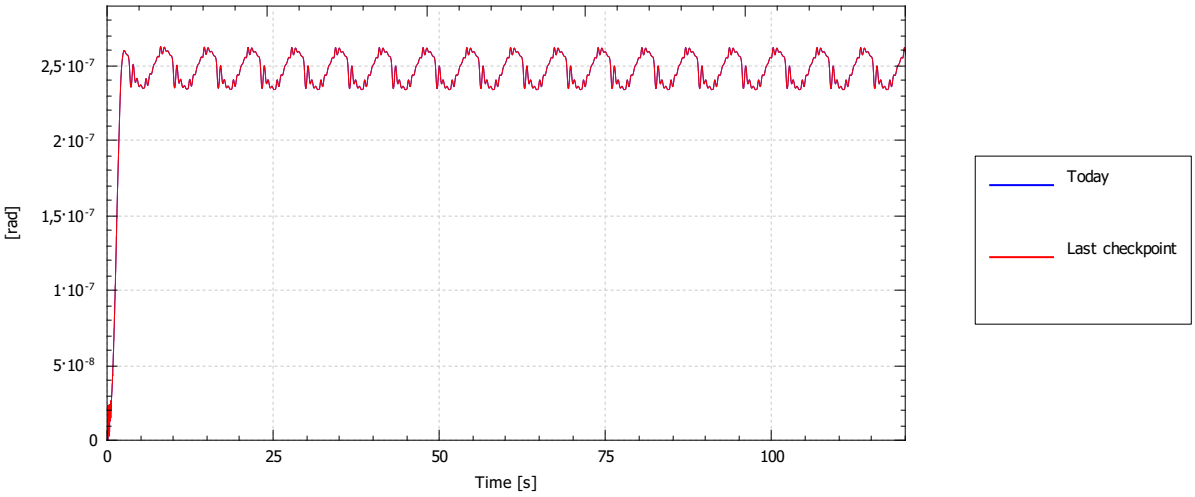
Deformational rotation (axial) - rad



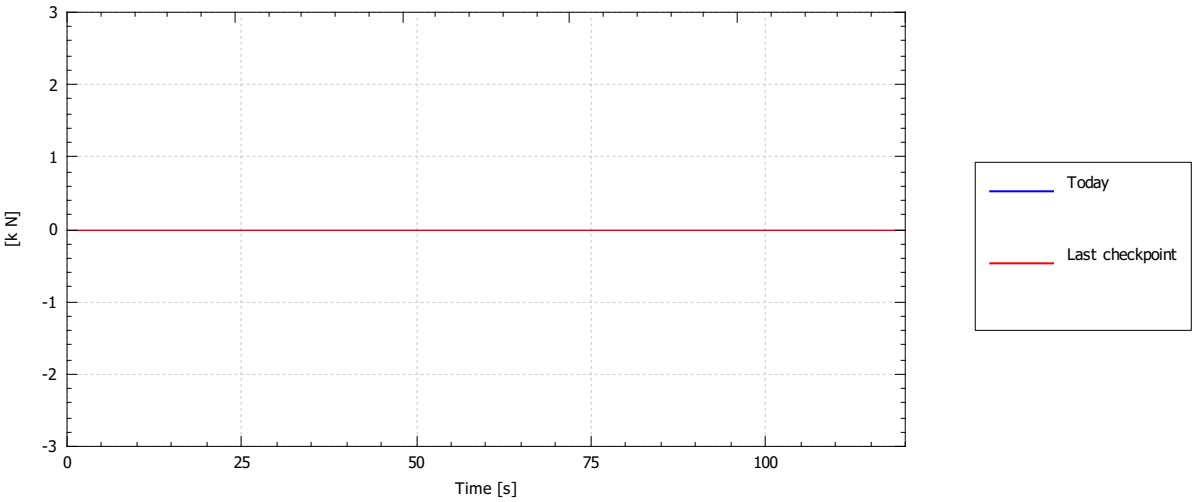
Deformational rotation (1st prin.) - rad



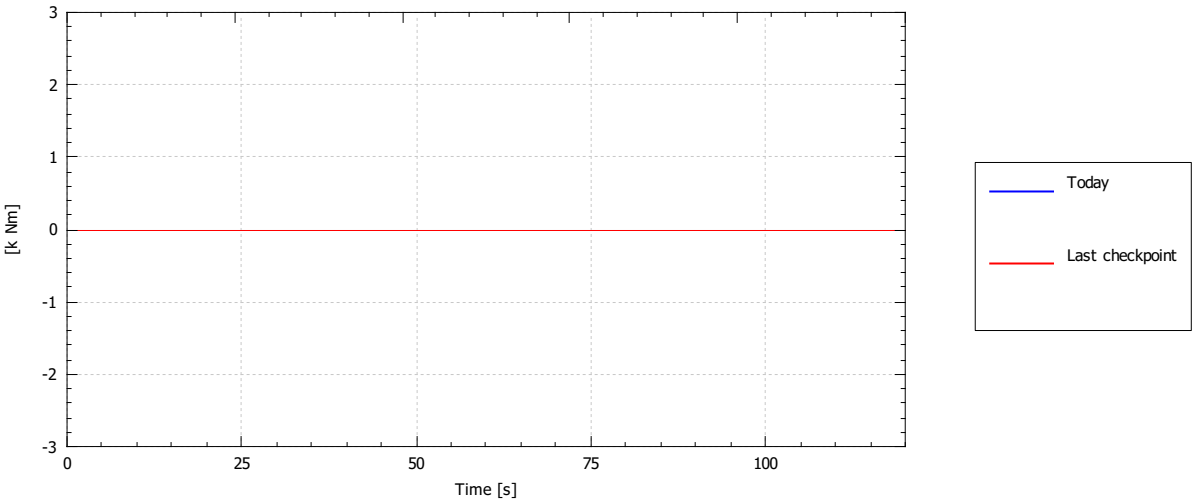
Deformational rotation (2nd prin.) - rad

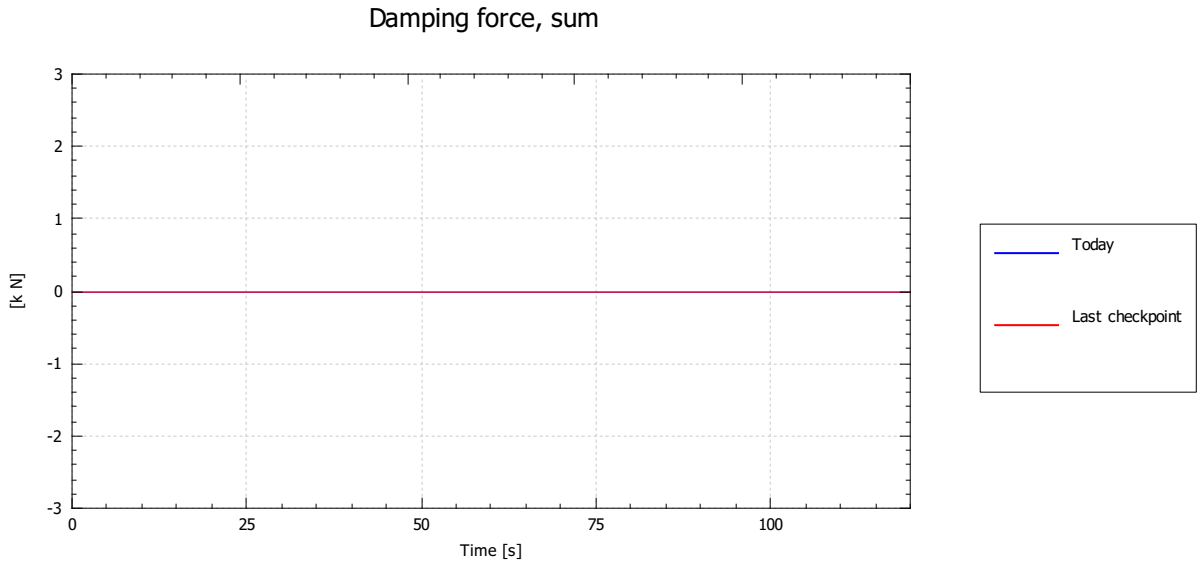


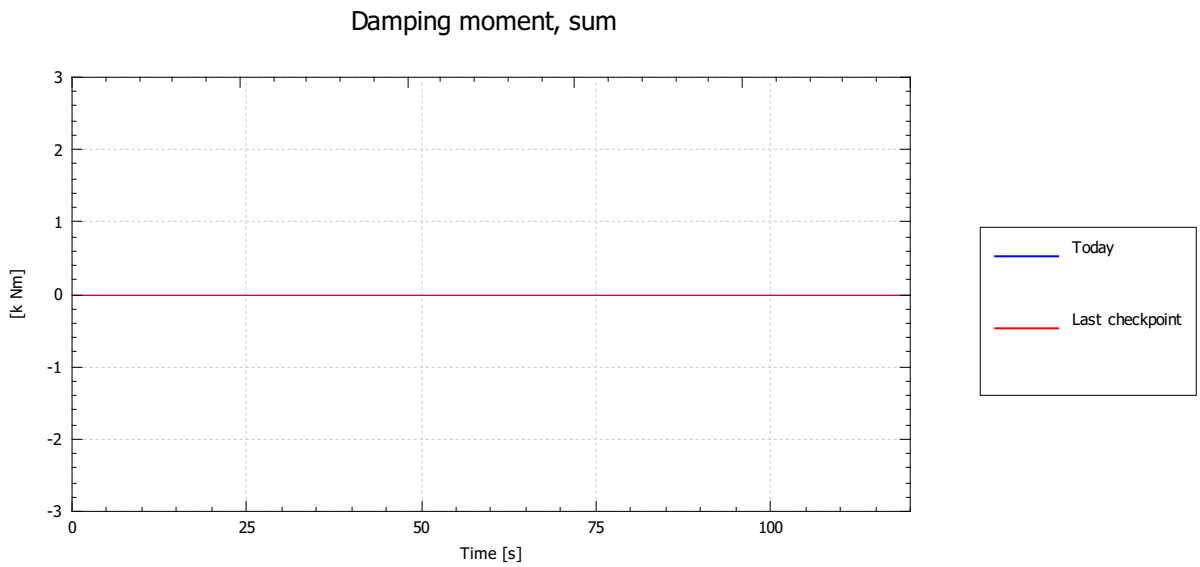
Damping force, i



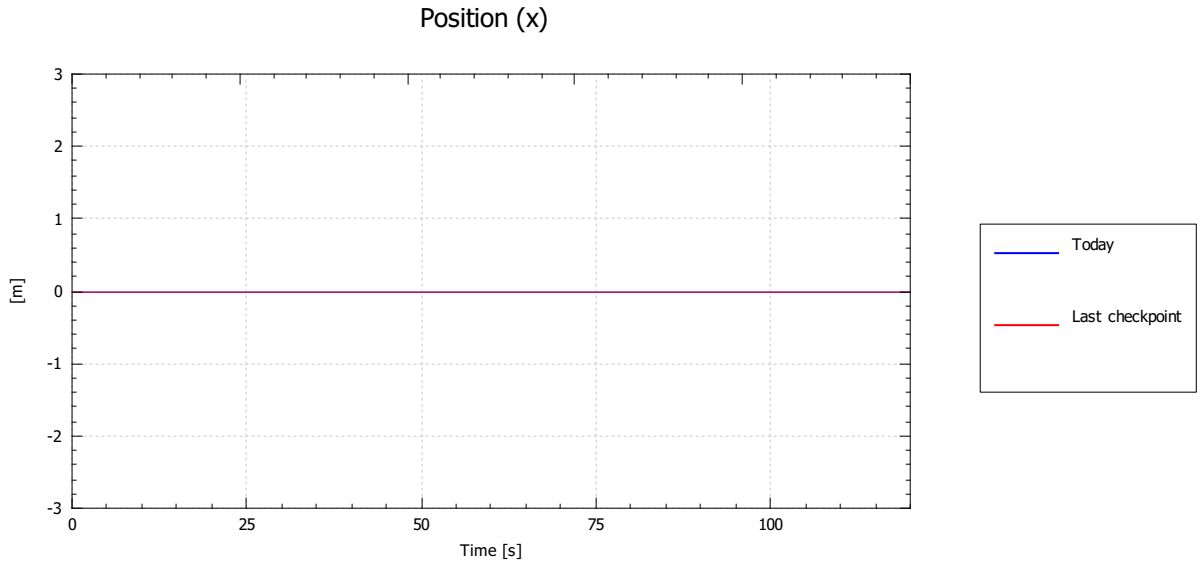
Damping moment, i

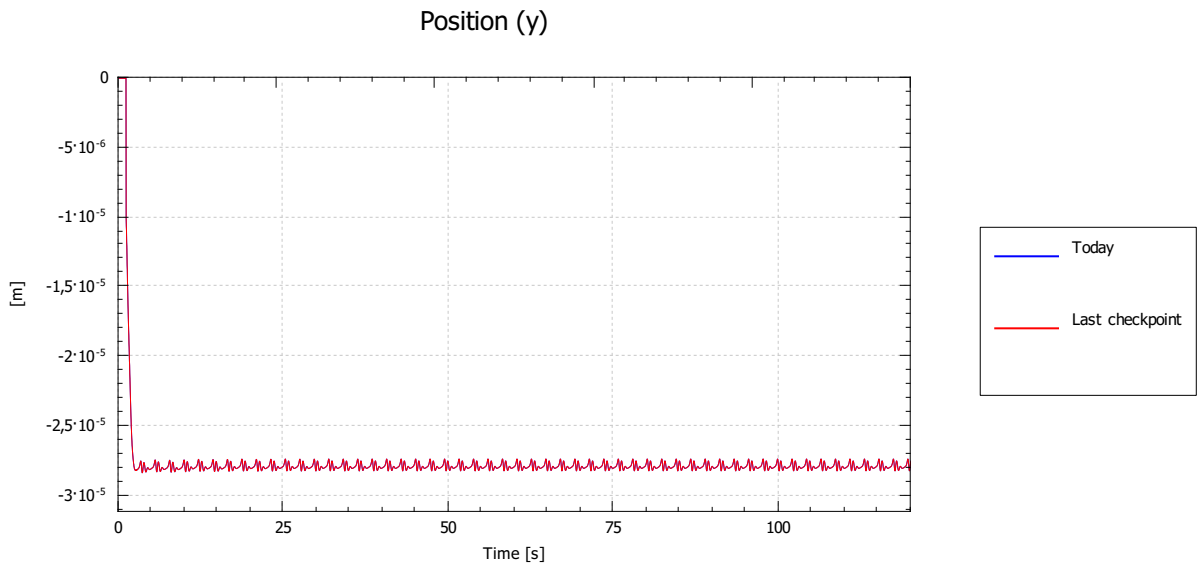


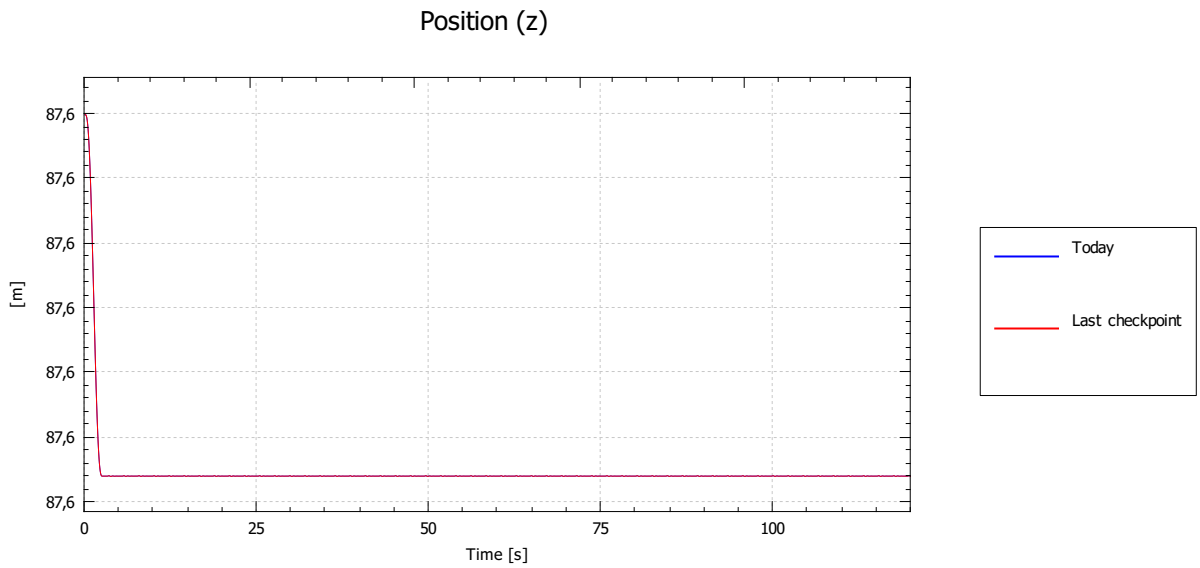


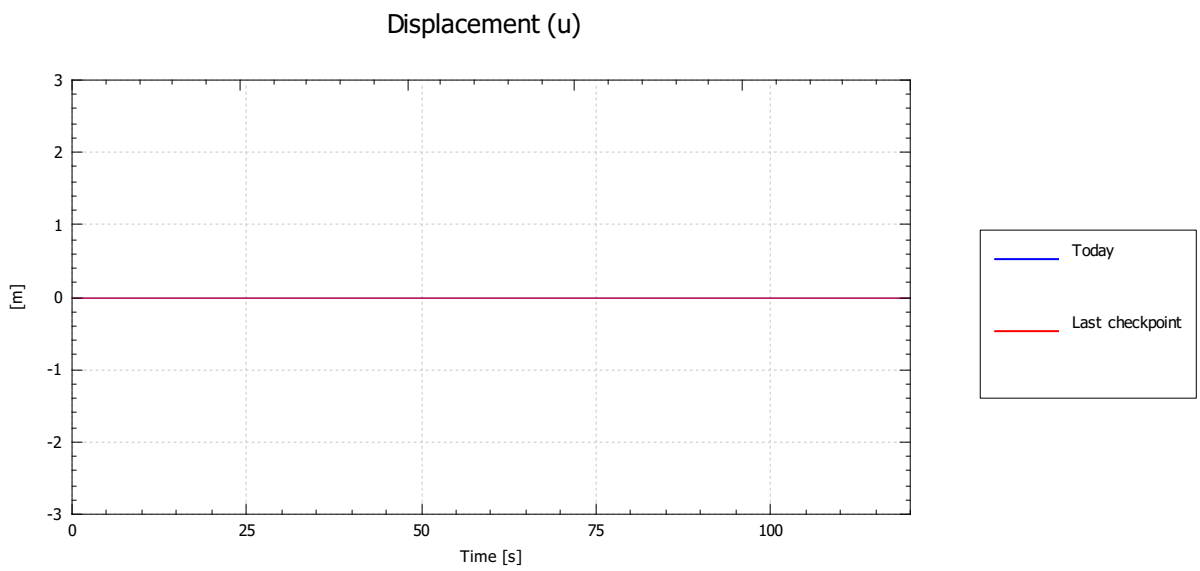


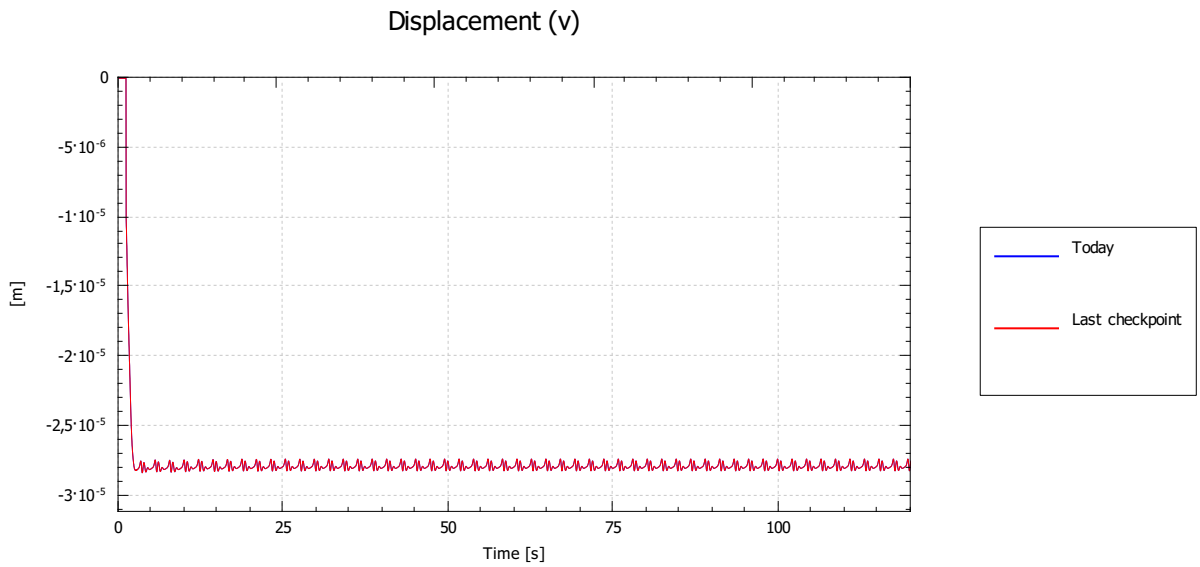
Node [Node RNA_node | Tubular tower]

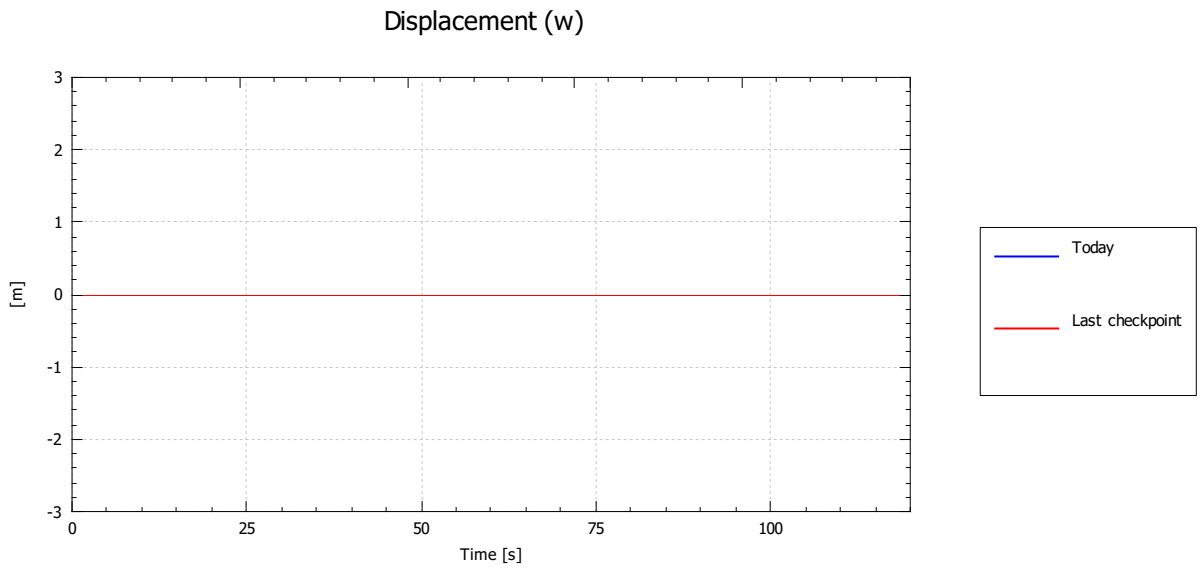

Position (x)
3
2
1
0
-1
-2
-3
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Position (y)
0
-5·10-6
-1·10-5
-1,5·10-5
-2·10-5
-2,5·10-5
-3·10-5
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

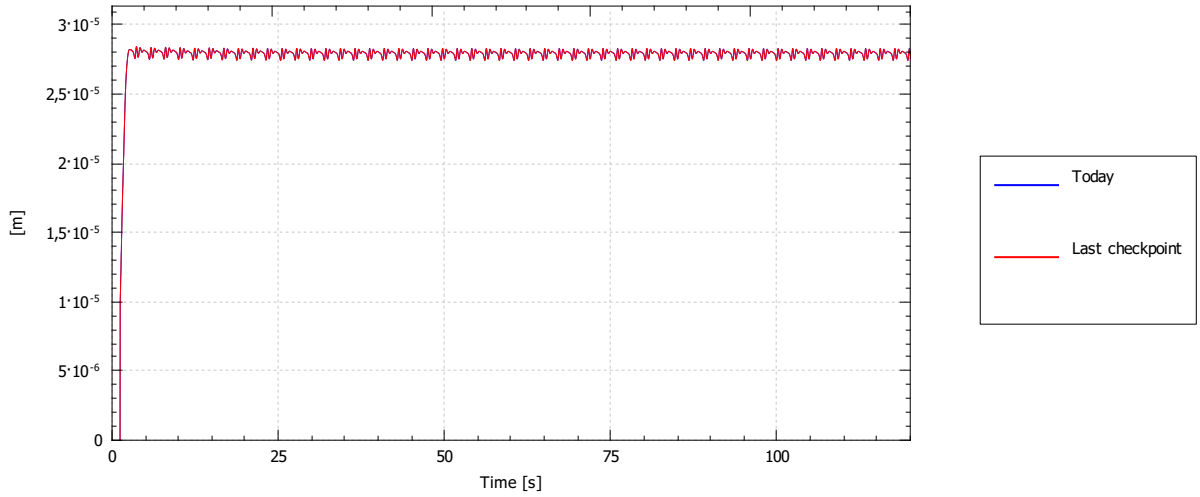

Position (z)
87,6
87,6
87,6
87,6
87,6
87,6
87,6
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Displacement (u)
3
2
1
0
-1
-2
-3
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

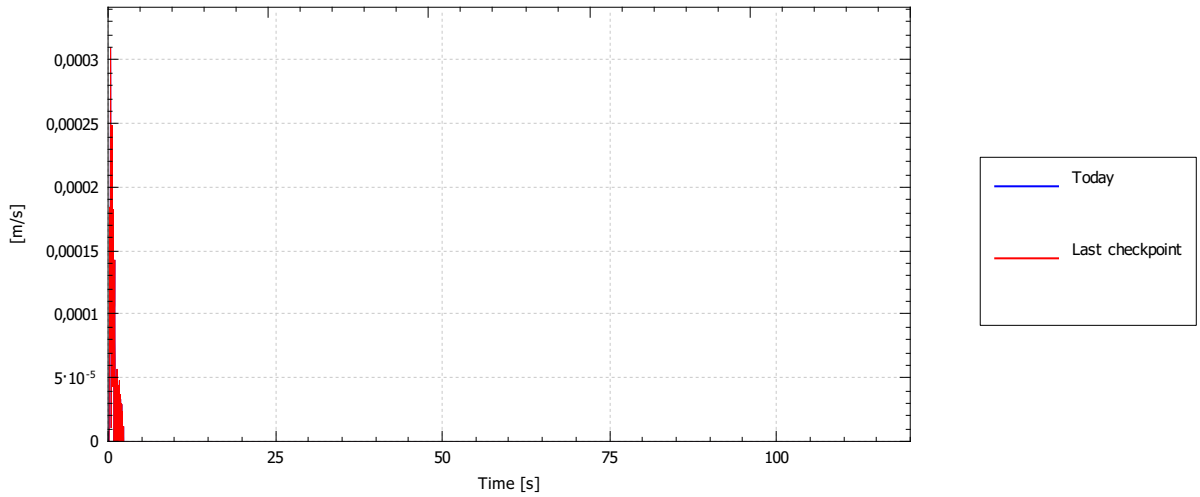

Displacement (v)
0
-5·10-6
-1·10-5
-1,5·10-5
-2·10-5
-2,5·10-5
-3·10-5
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Displacement (w)
3
2
1
0
-1
-2
-3
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

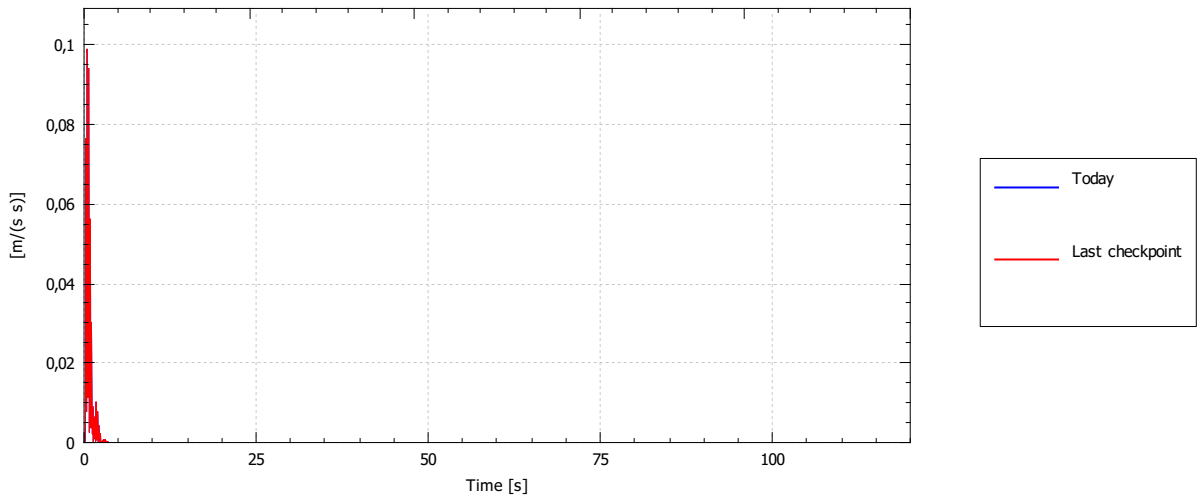
Displacement magnitude



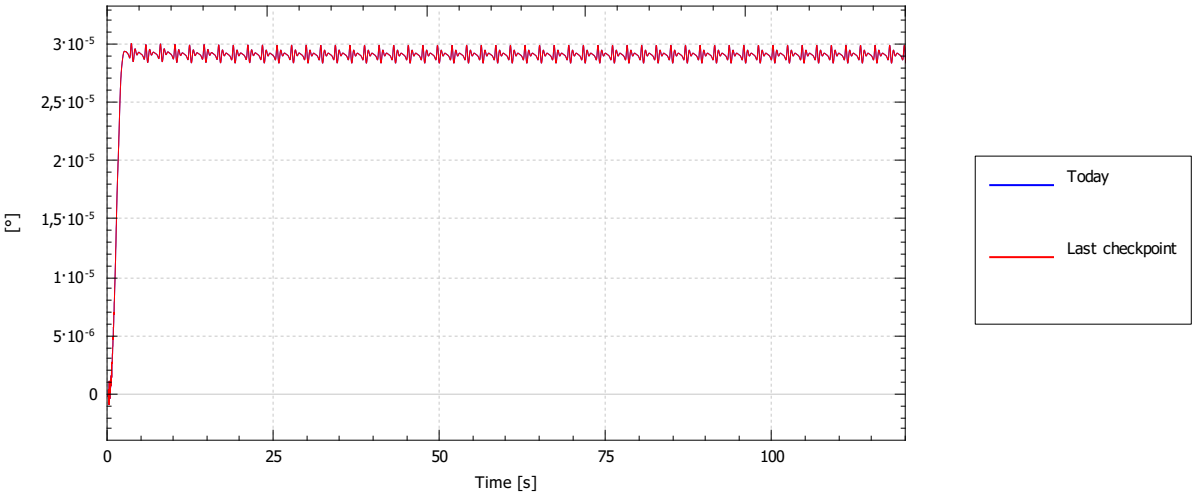
Speed



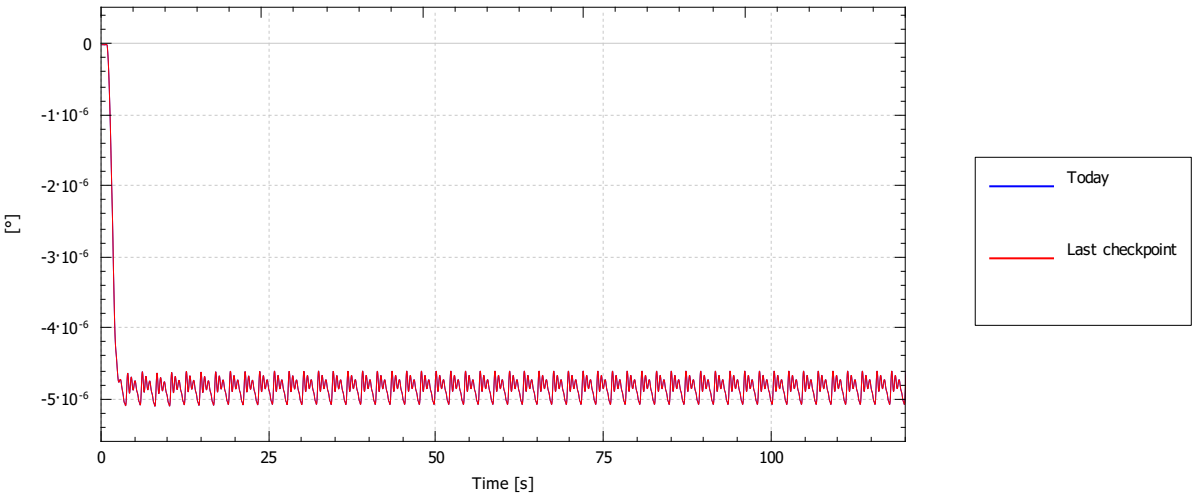
Acceleration, magnitude



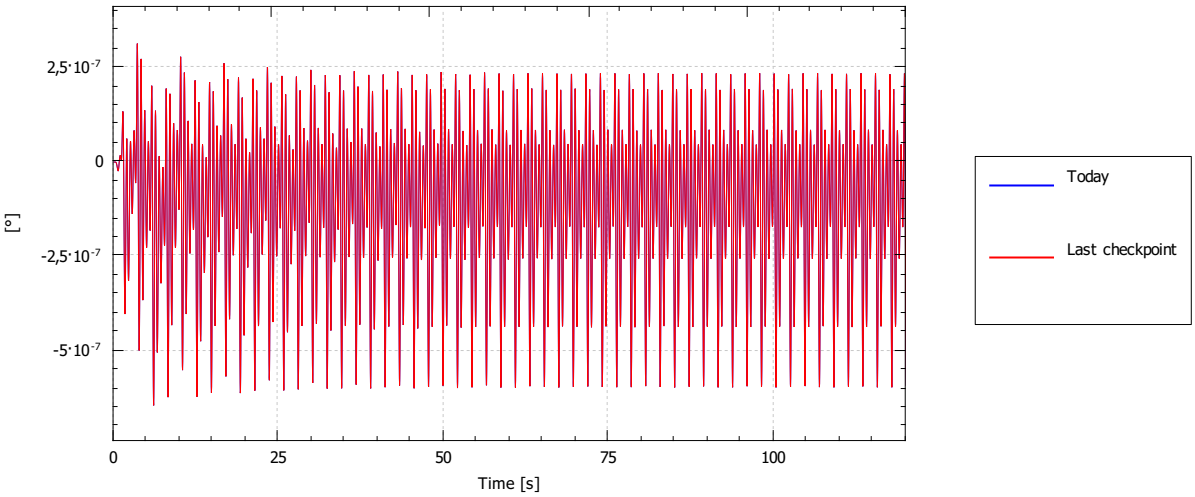
Rotational displacement (ru)



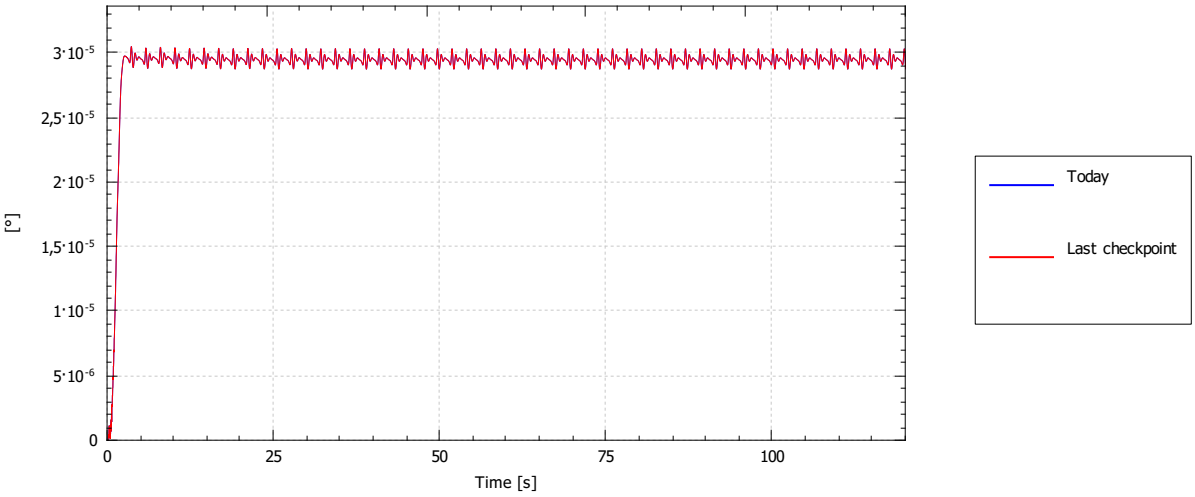
Rotational displacement (rv)



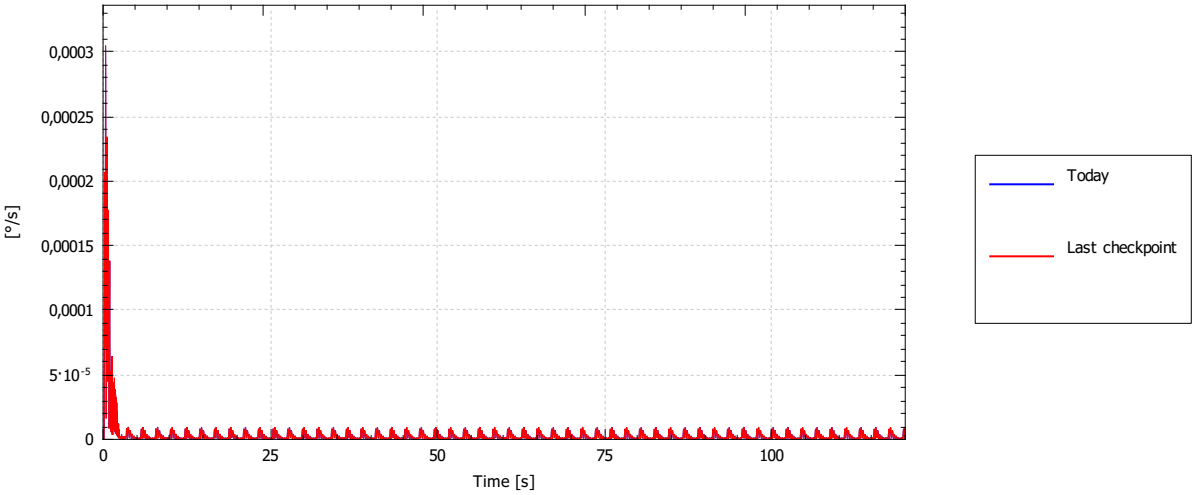
Rotational displacement (rw)



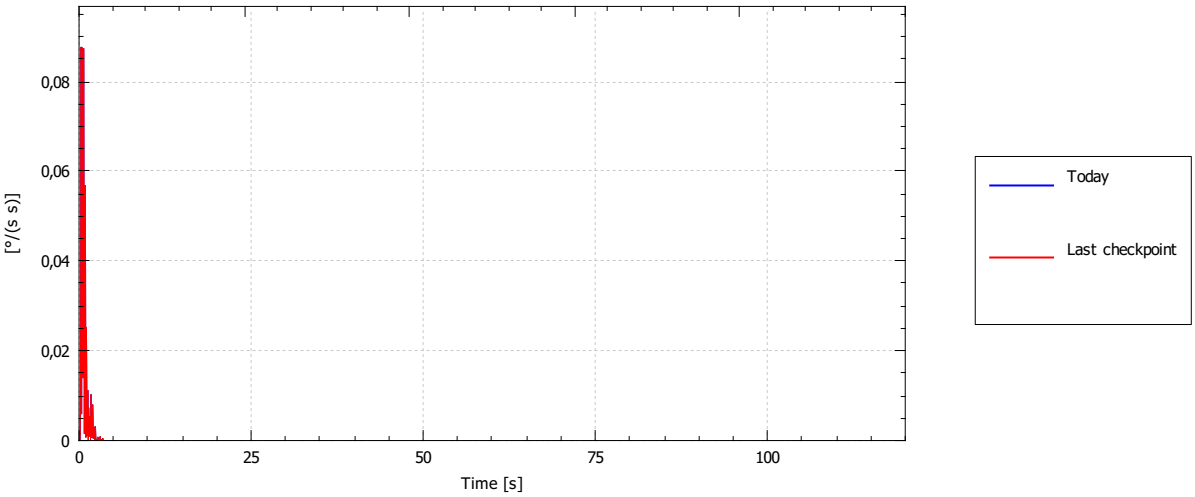
Rotational displacement magnitude



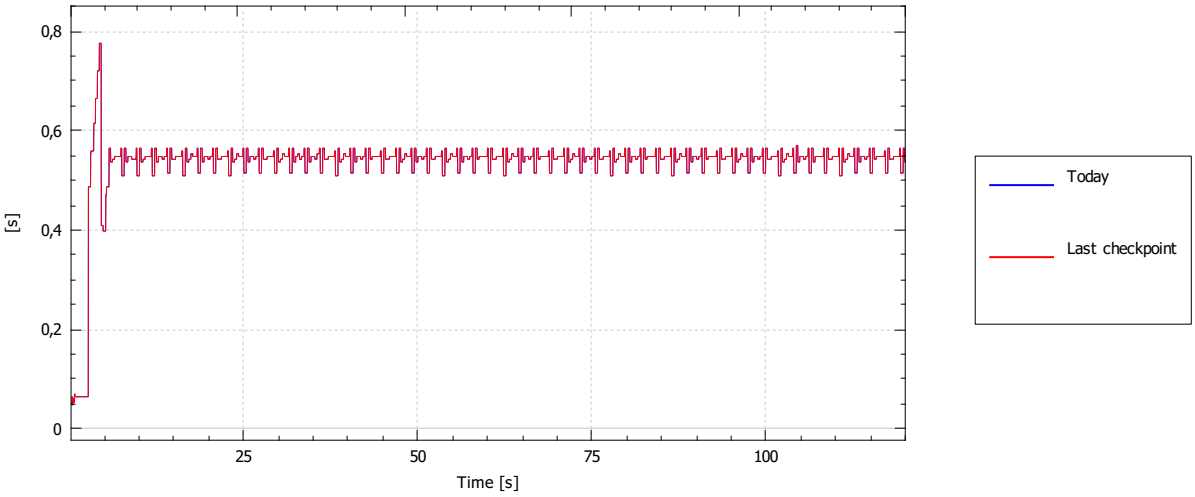
Rotational speed



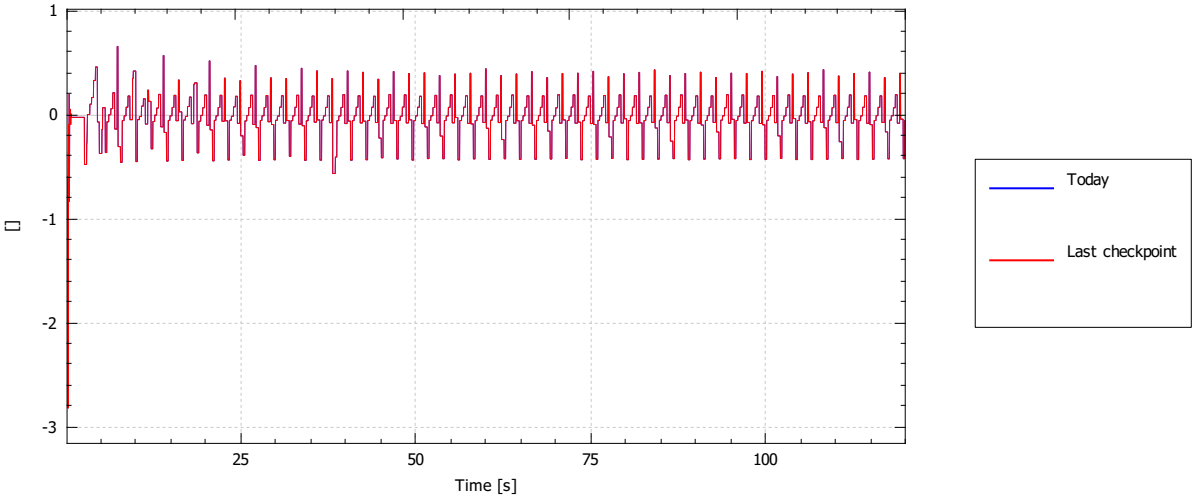
Rotational acceleration mag



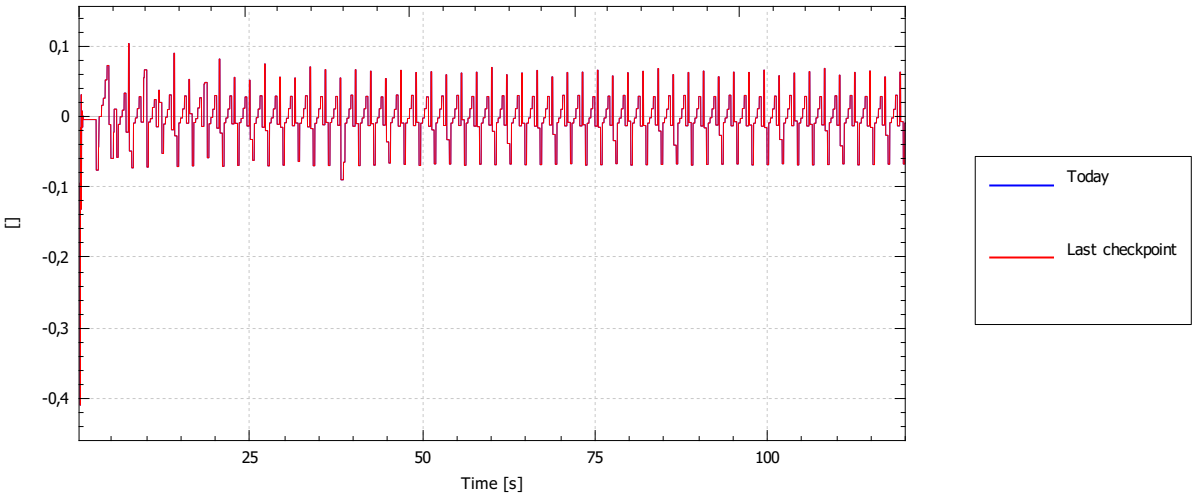
Displacement period



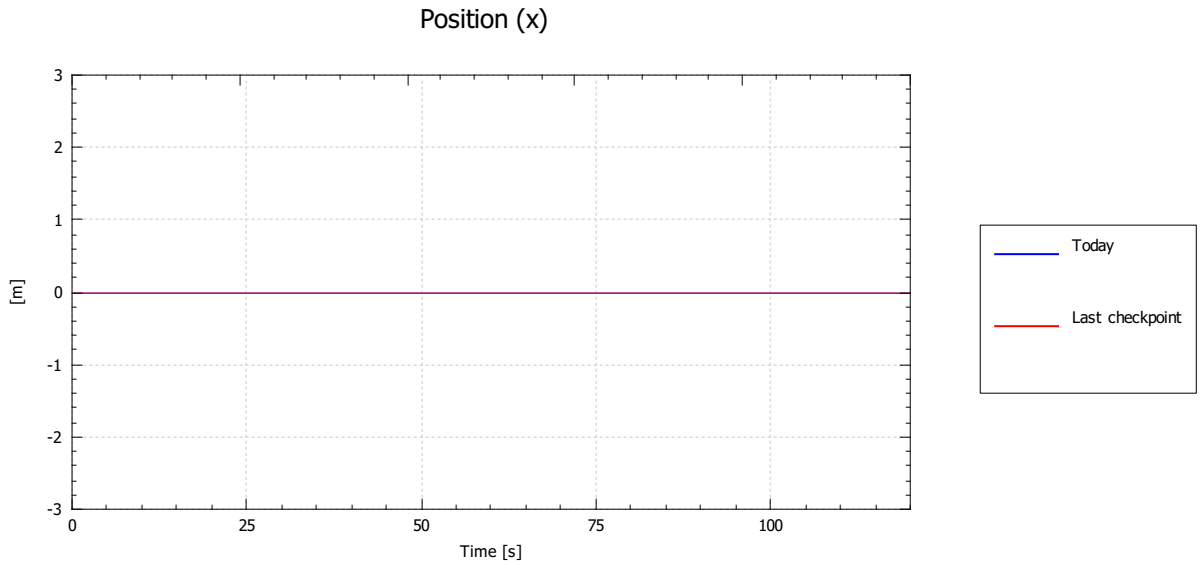
Displacement logarithmic decrement

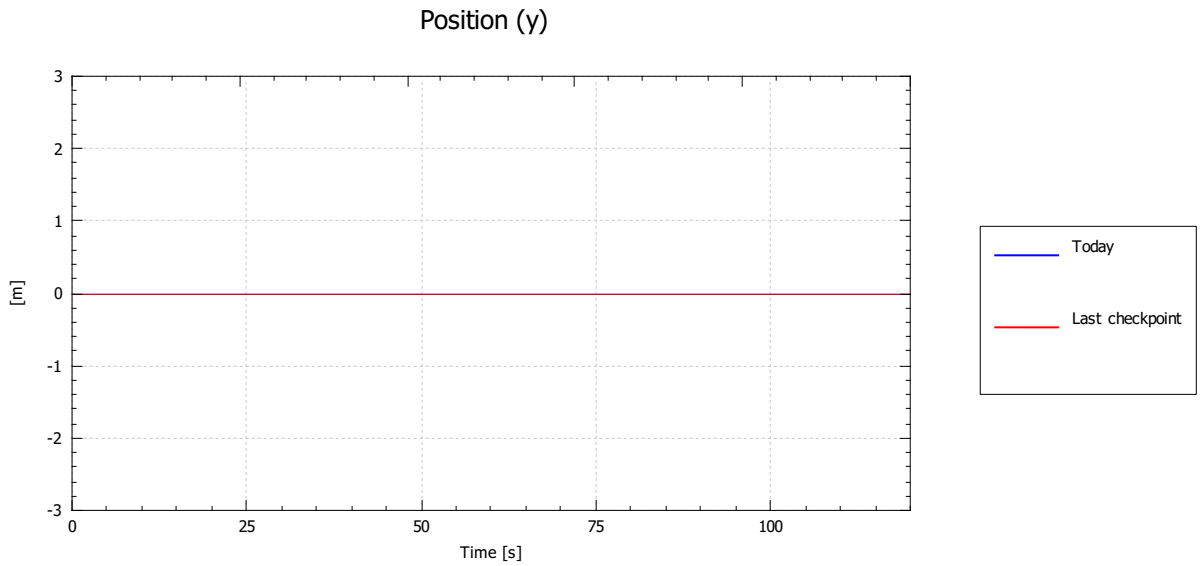


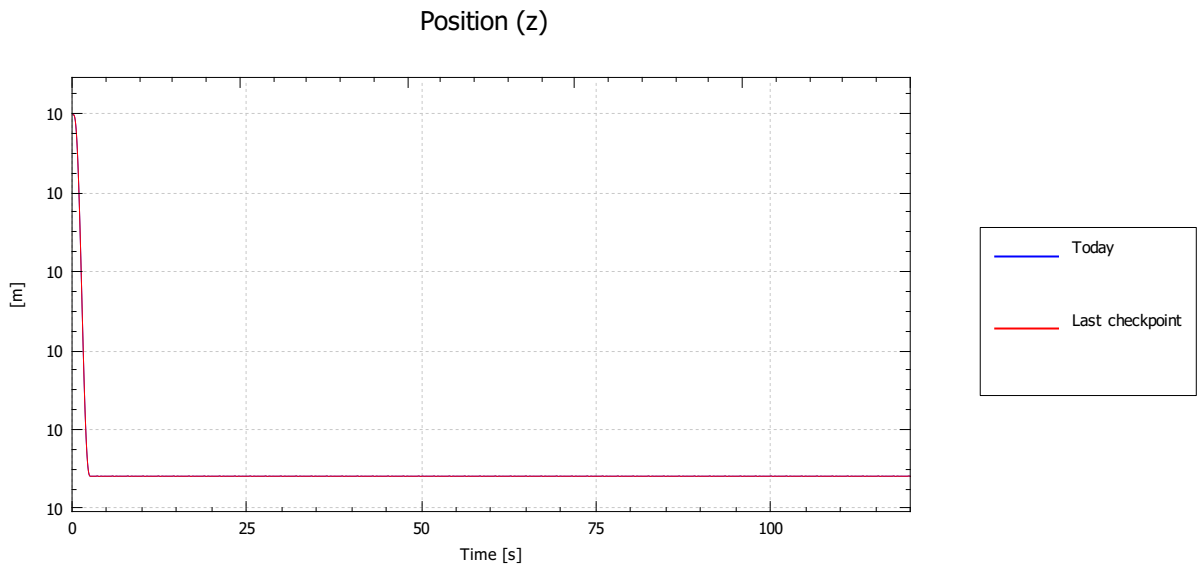
Displacement damping ratio

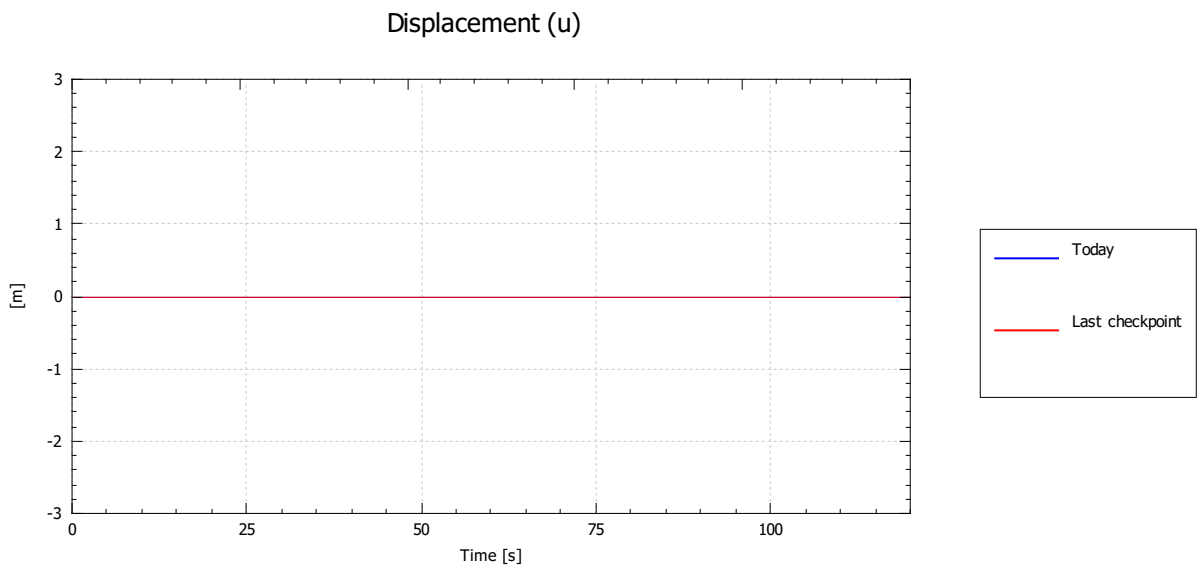


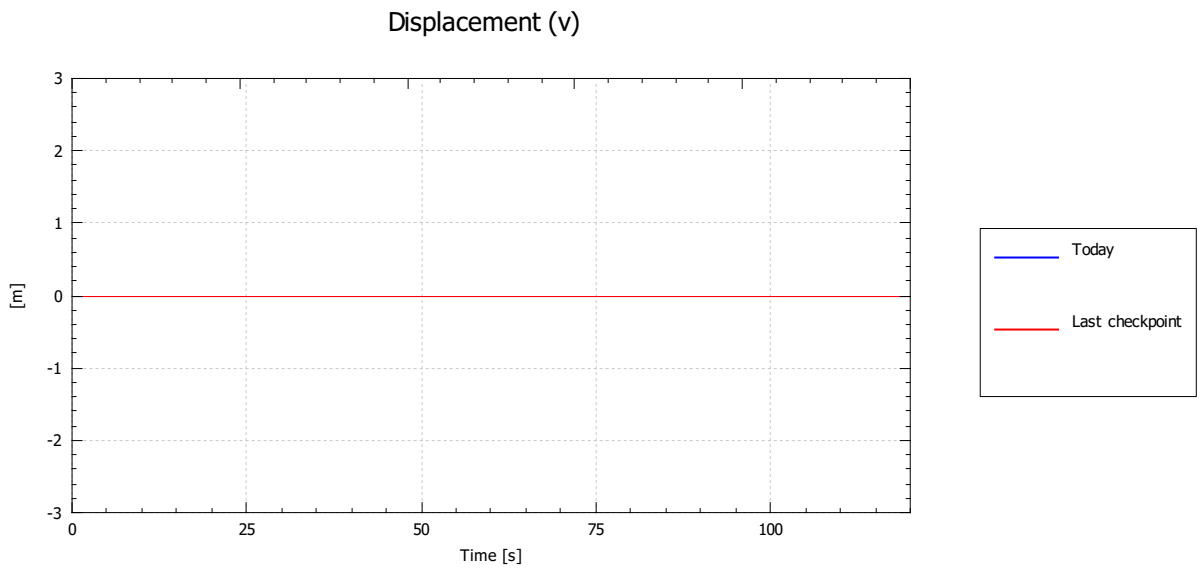
Node [Node 1 | Tubular tower]

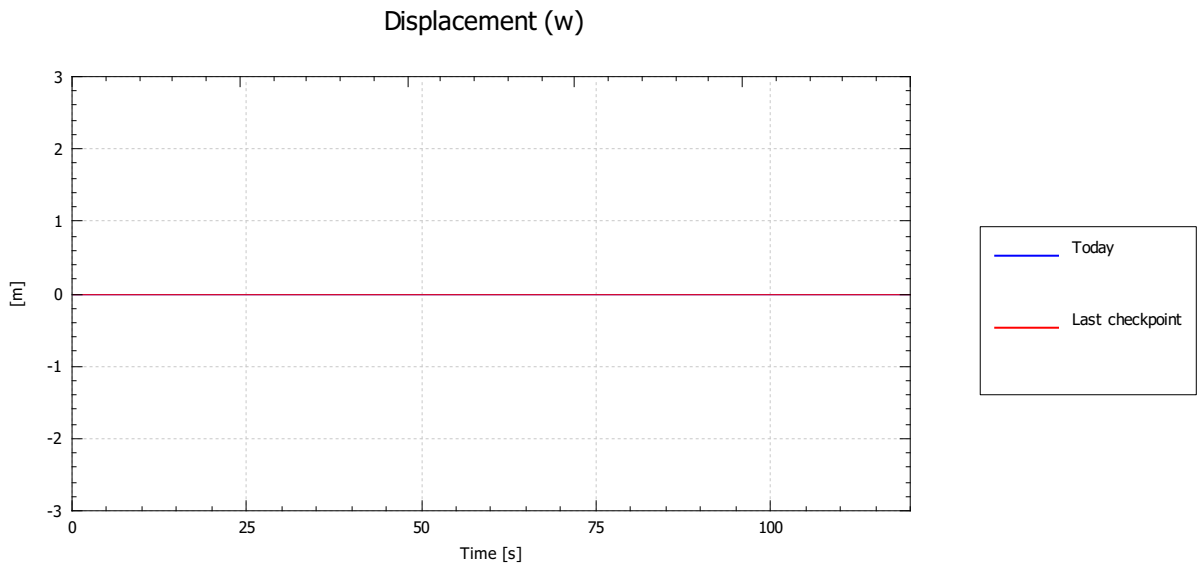




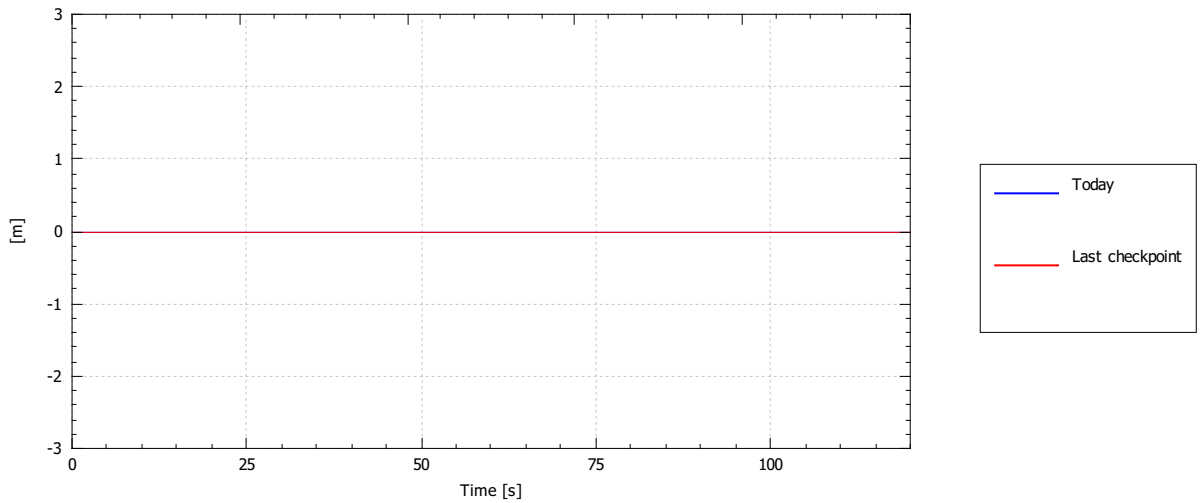



Displacement (u)
[m]
3
2
1
0
-1
-2
-3
0
25
50
75
100
Time [s]
Today
Last checkpoint

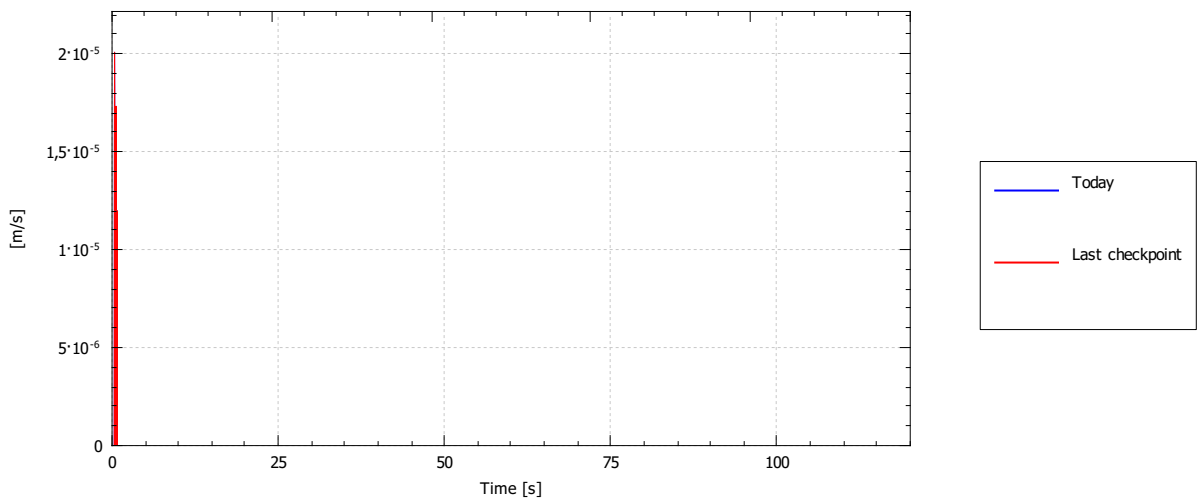

Displacement (v)
[m]
3
2
1
0
-1
-2
-3
0
25
50
75
100
Time [s]
Today
Last checkpoint


Displacement (w)
[m]
3
2
1
0
-1
-2
-3
0
25
50
75
100
Time [s]
Today
Last checkpoint

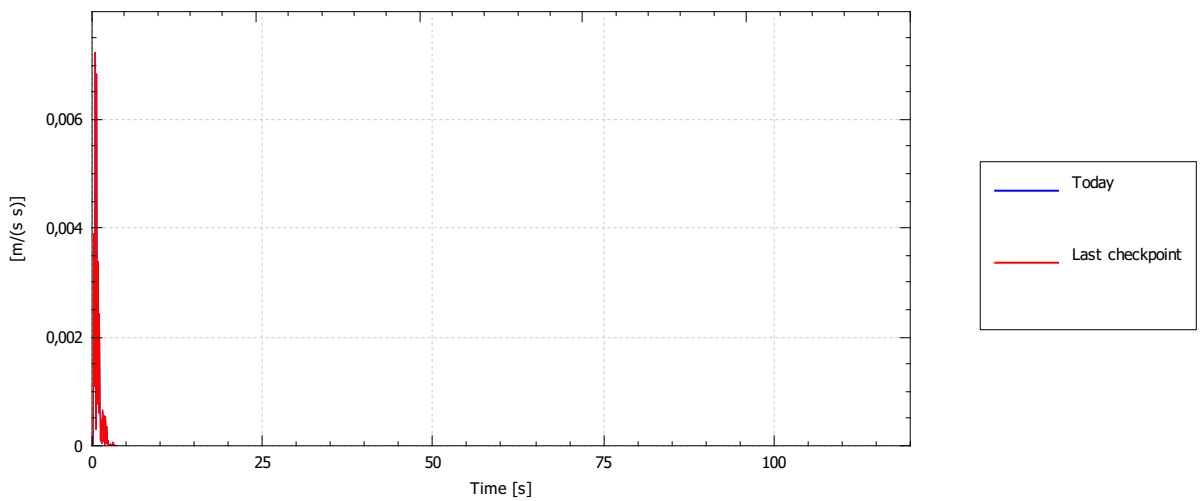
Displacement magnitude



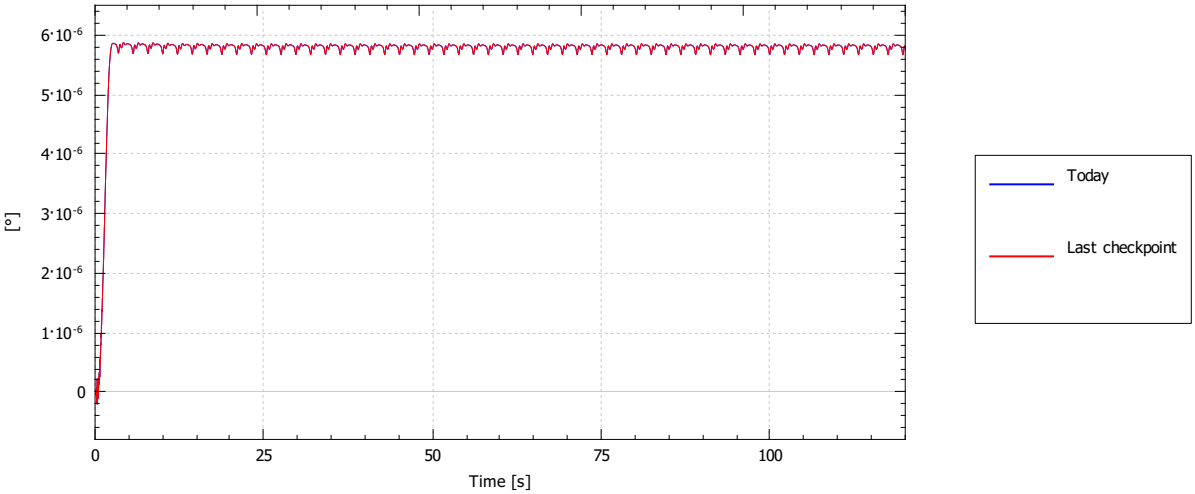
Speed



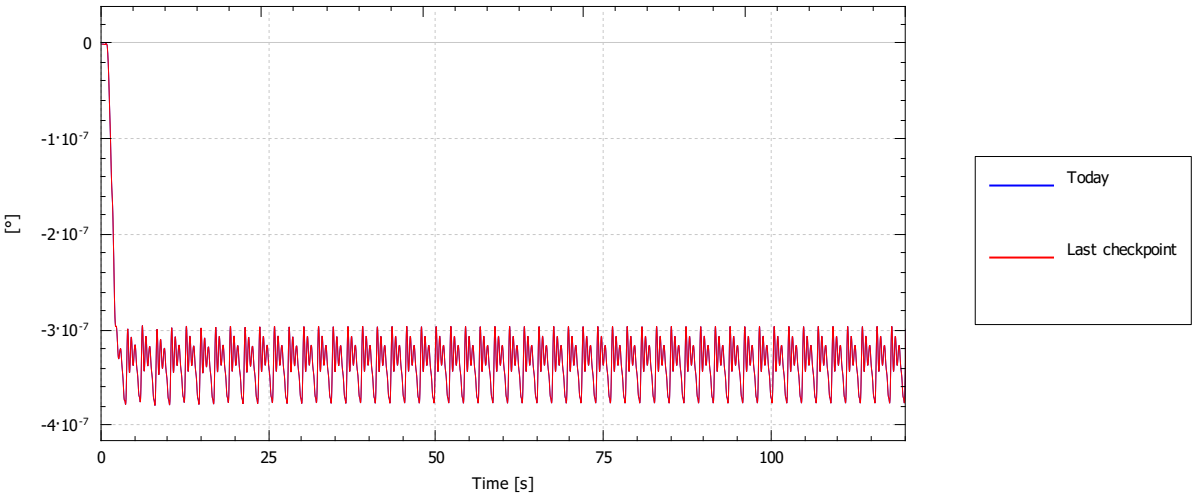
Acceleration, magnitude



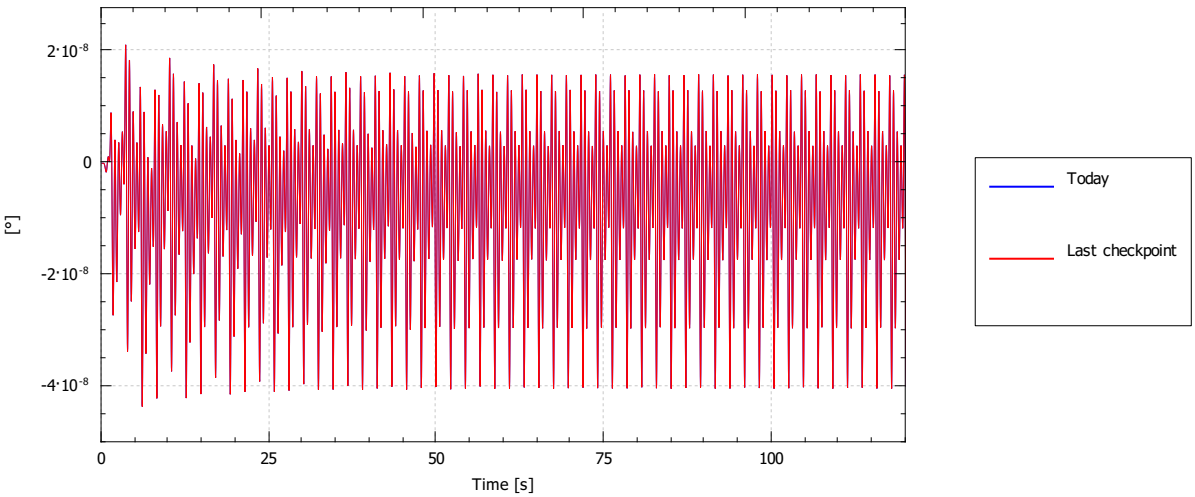
Rotational displacement (ru)



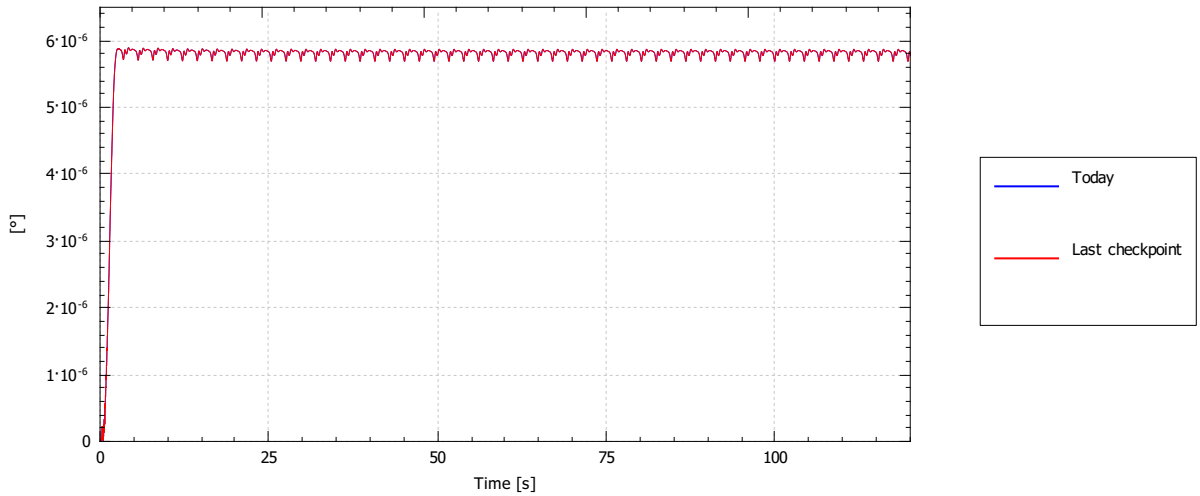
Rotational displacement (rv)



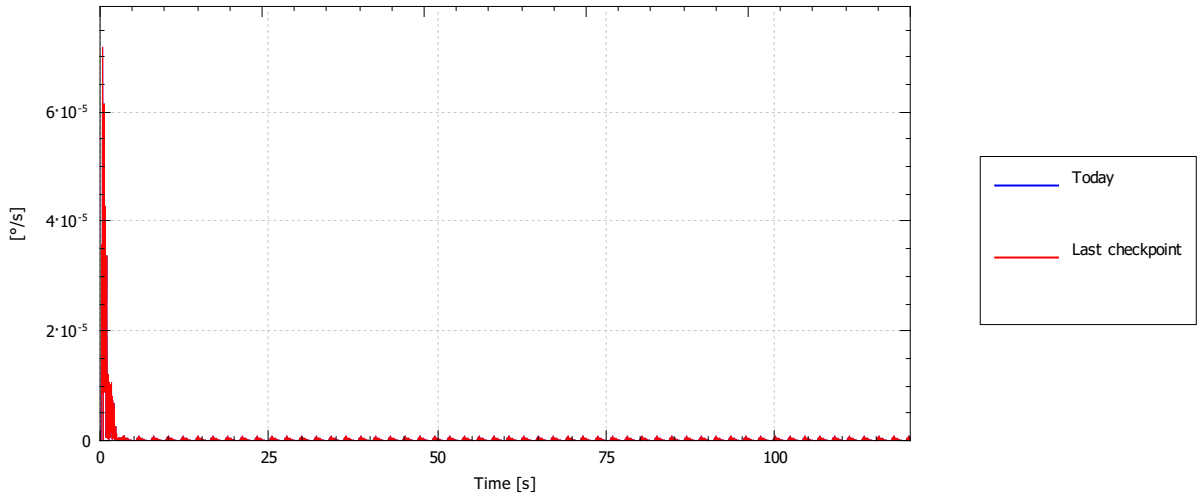
Rotational displacement (rw)



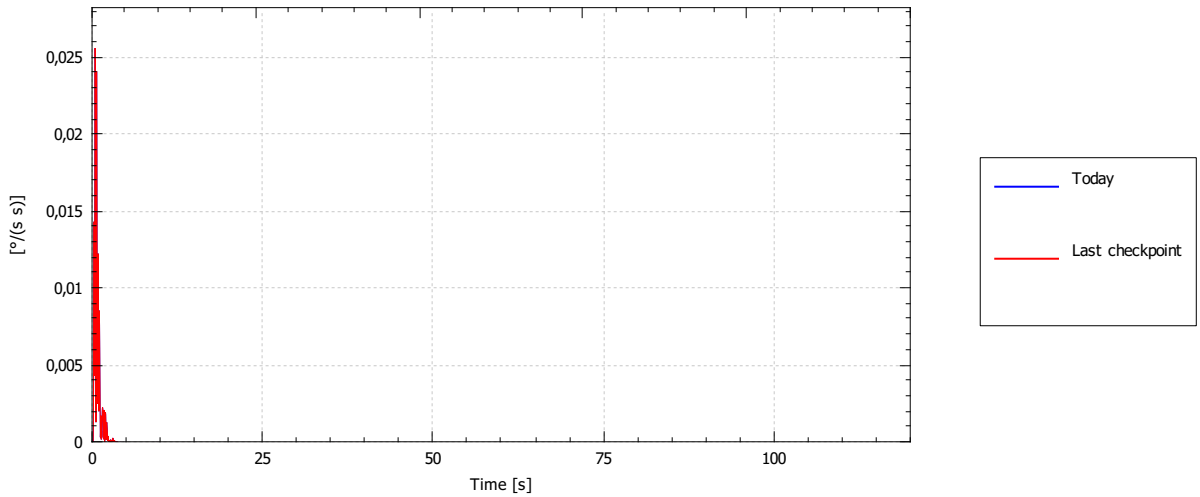
Rotational displacement magnitude



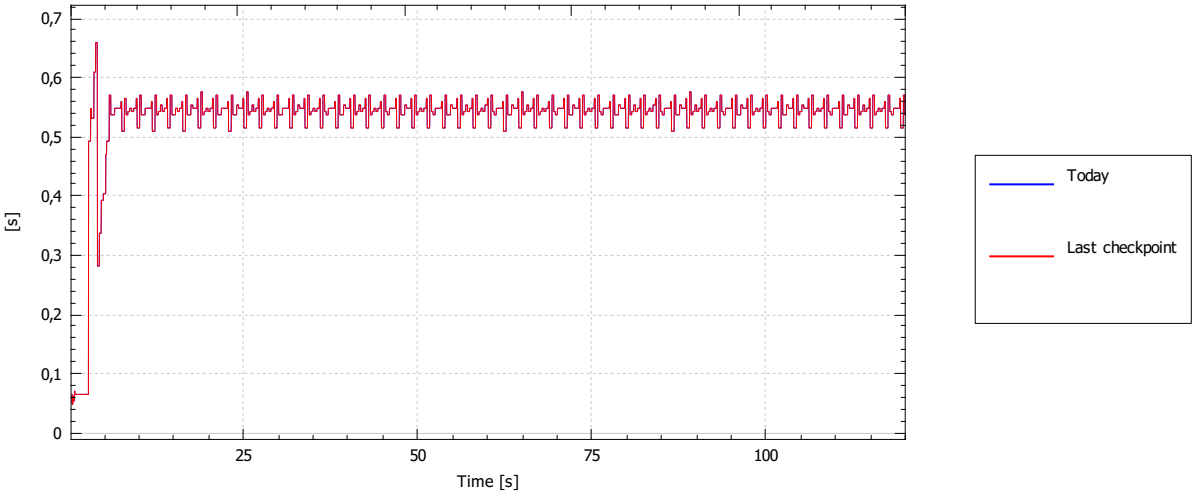
Rotational speed



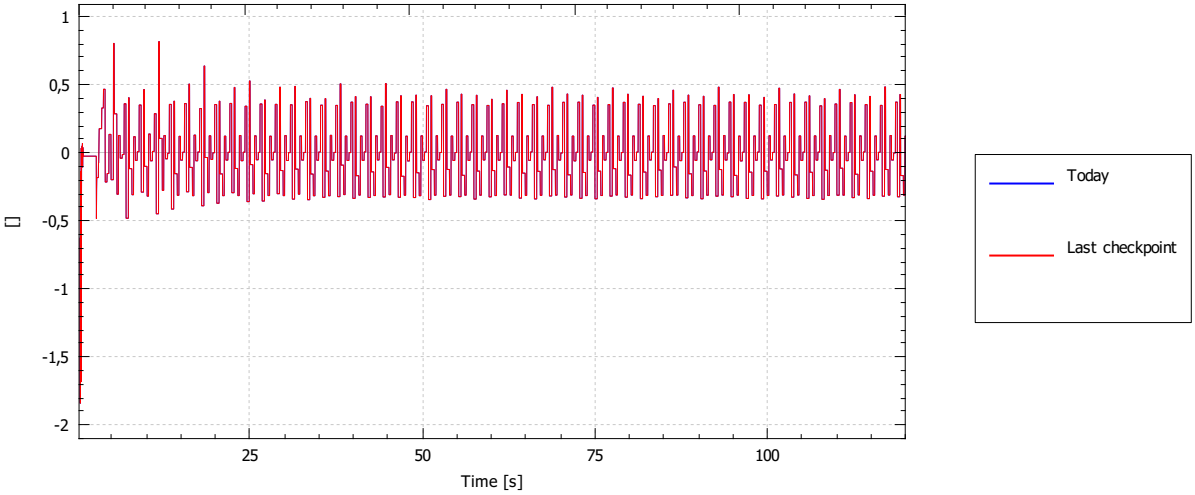
Rotational acceleration mag



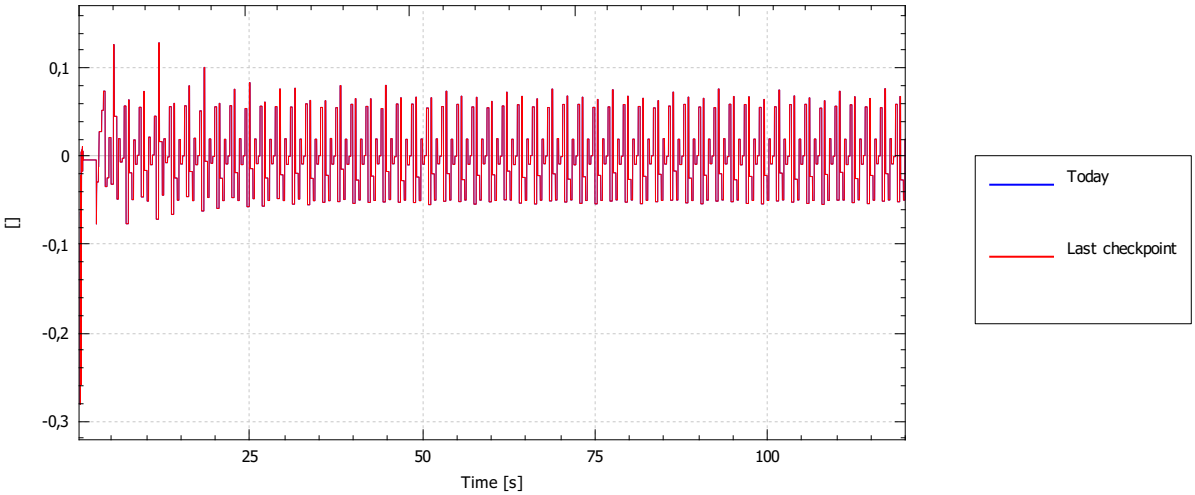
Displacement period



Displacement logarithmic decrement

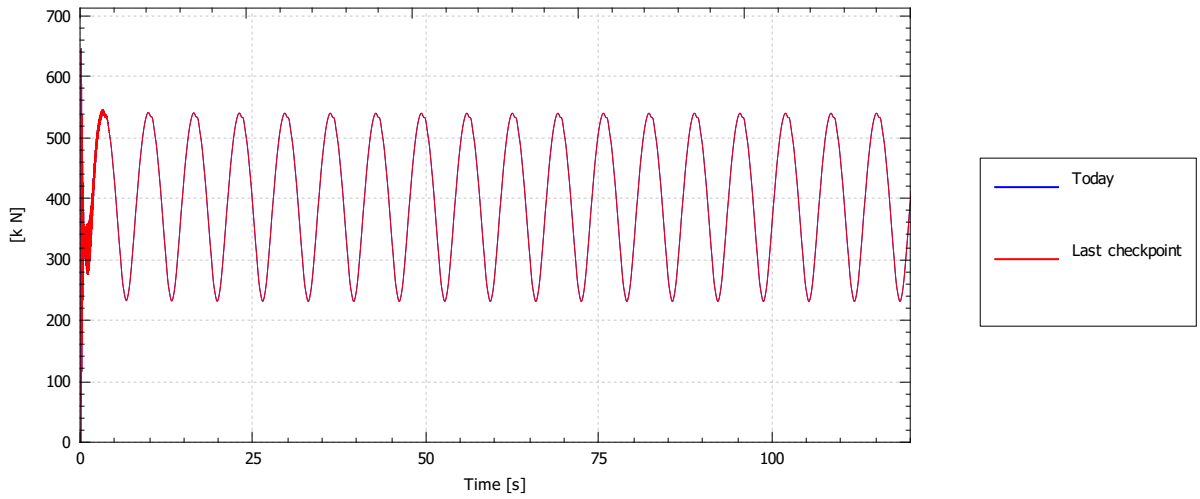


Displacement damping ratio

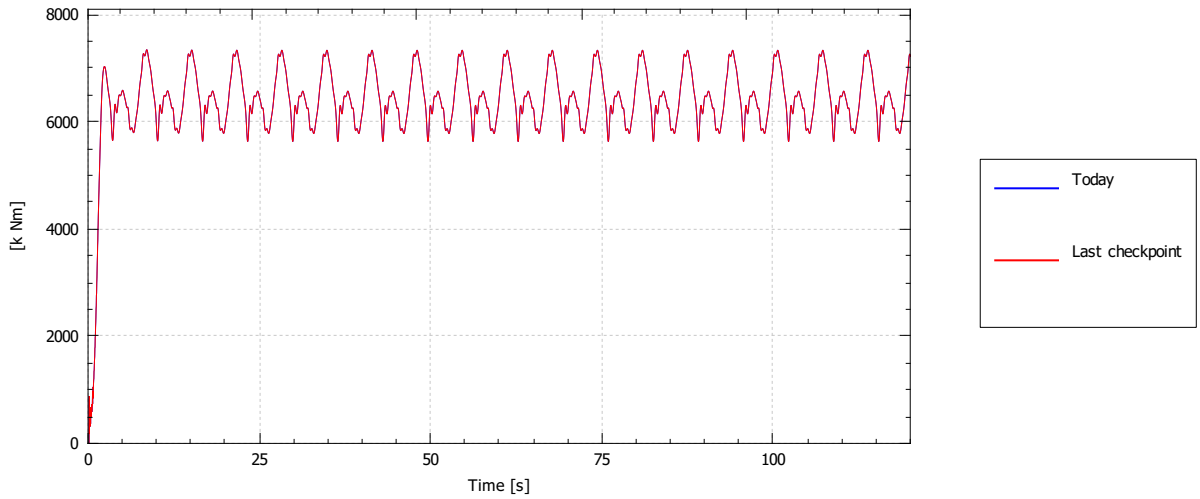


Blade [Time] [Blade 1]

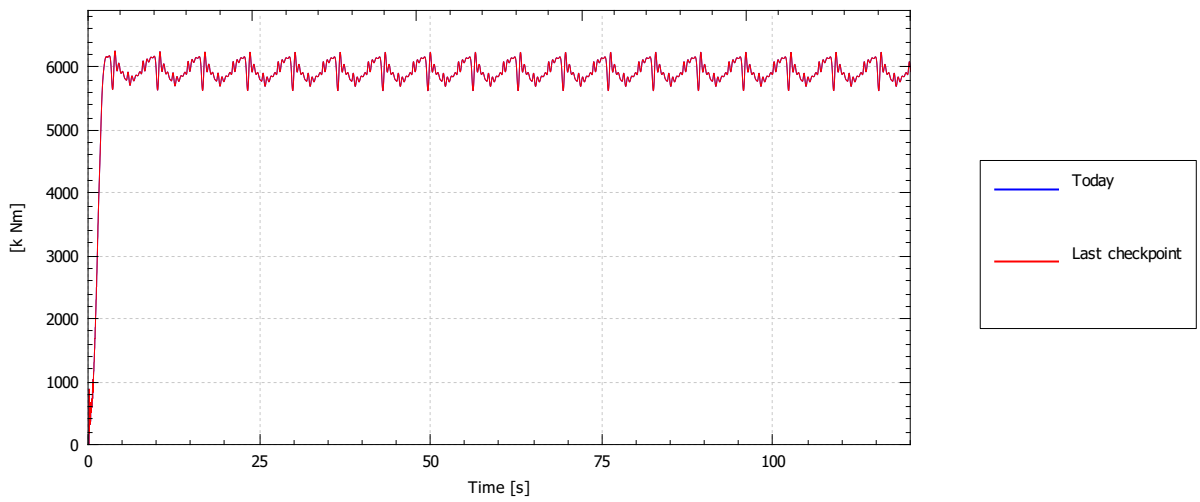
Root force (magnitude)



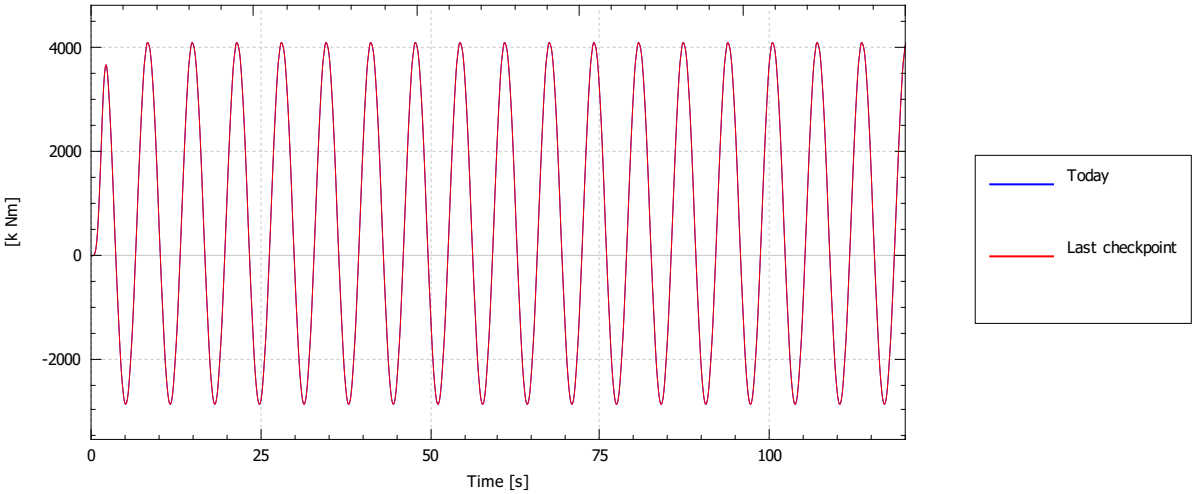
Root moment (magnitude)



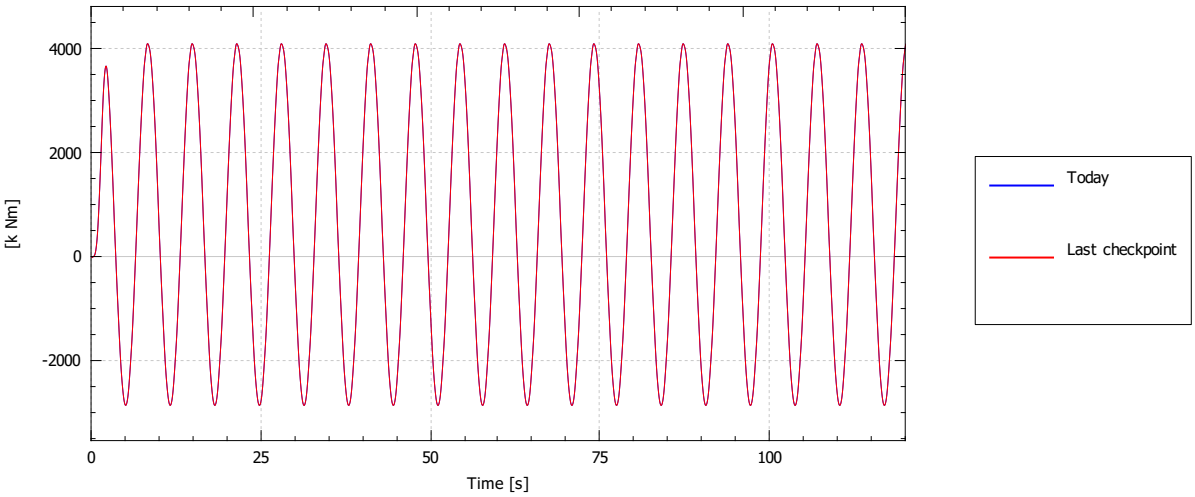
Root moment (out-of-plane)



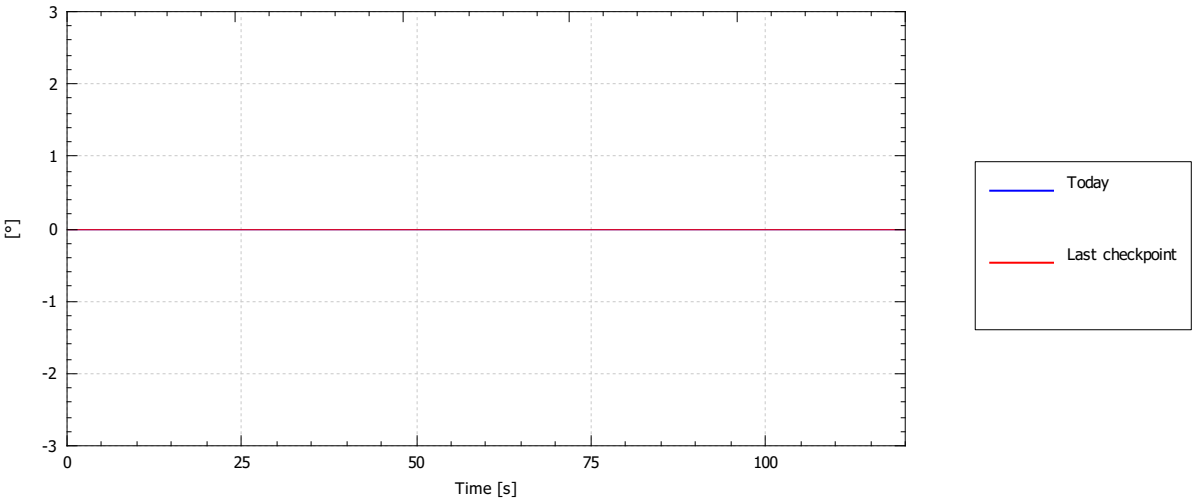
Root moment (in-plane)



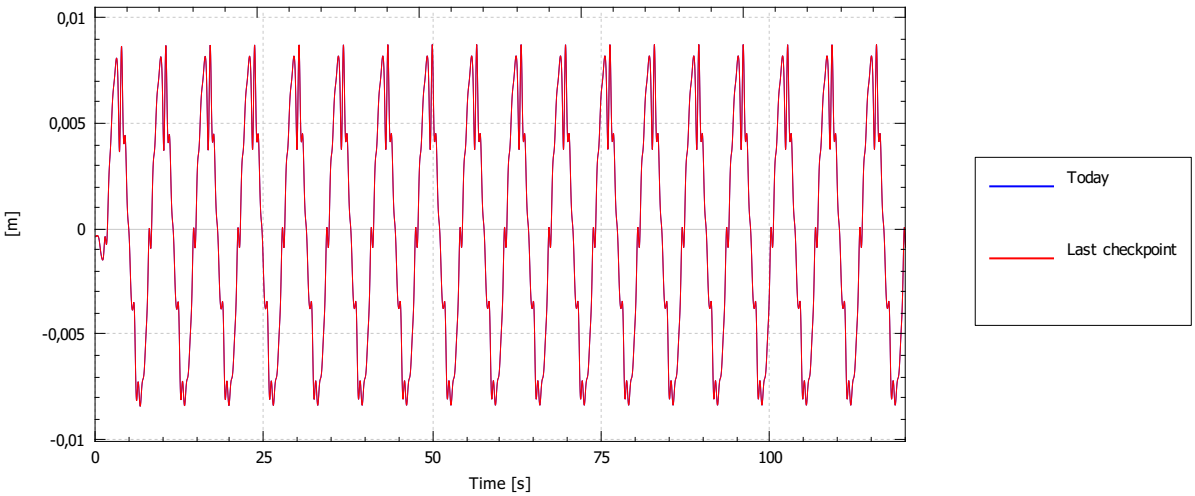
Root moment about shaft



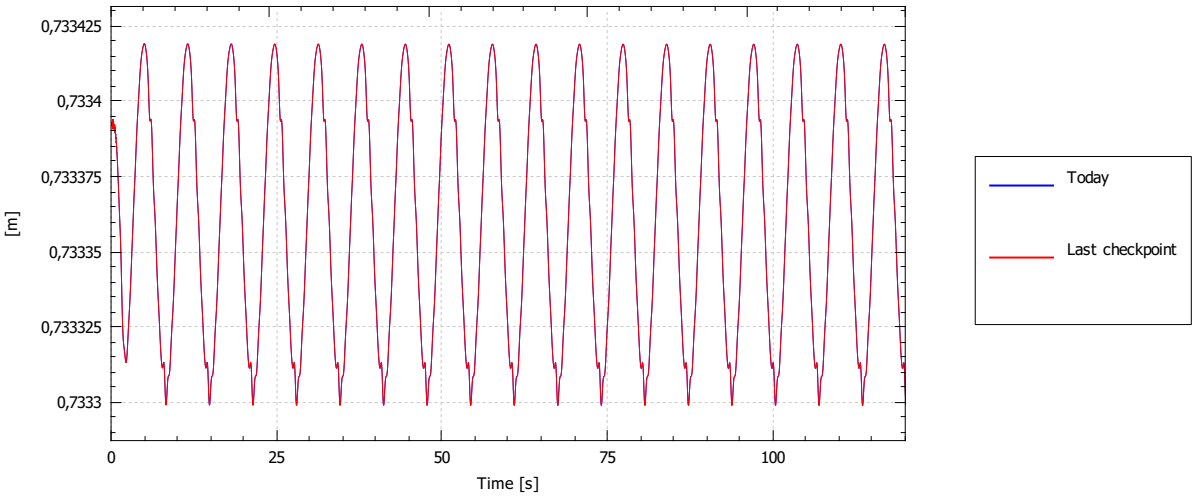
Pitch angle



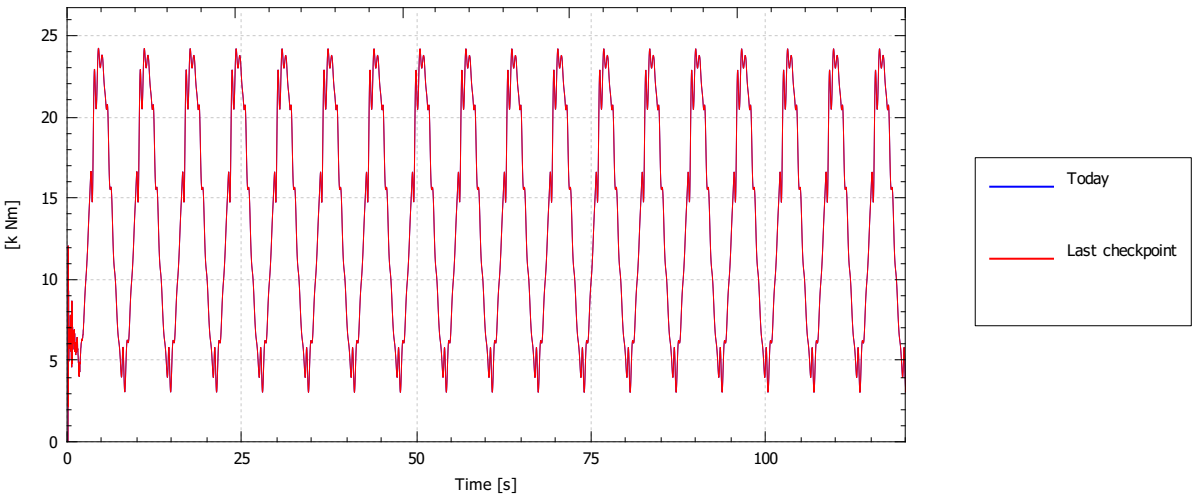
Tip deflection (out-of-plane)



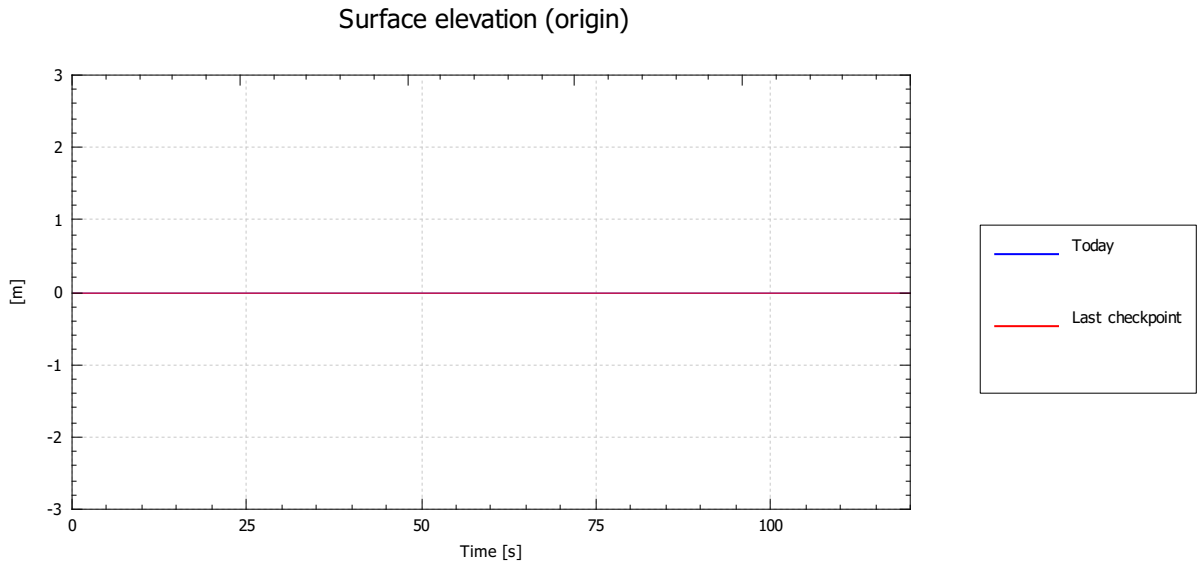
Tip deflection (in-plane)

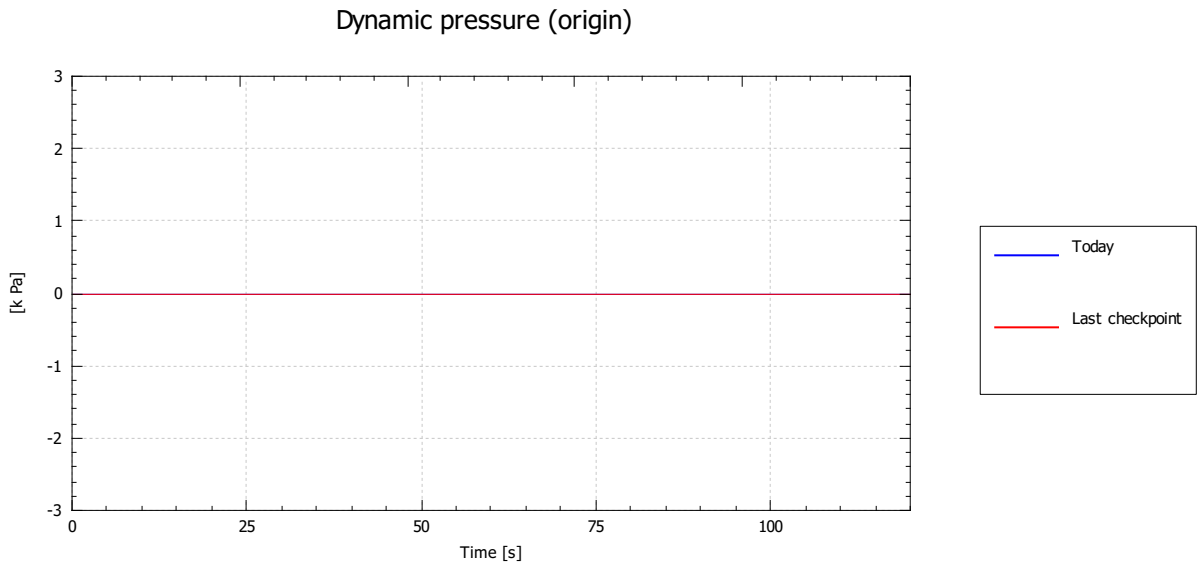


Root torque



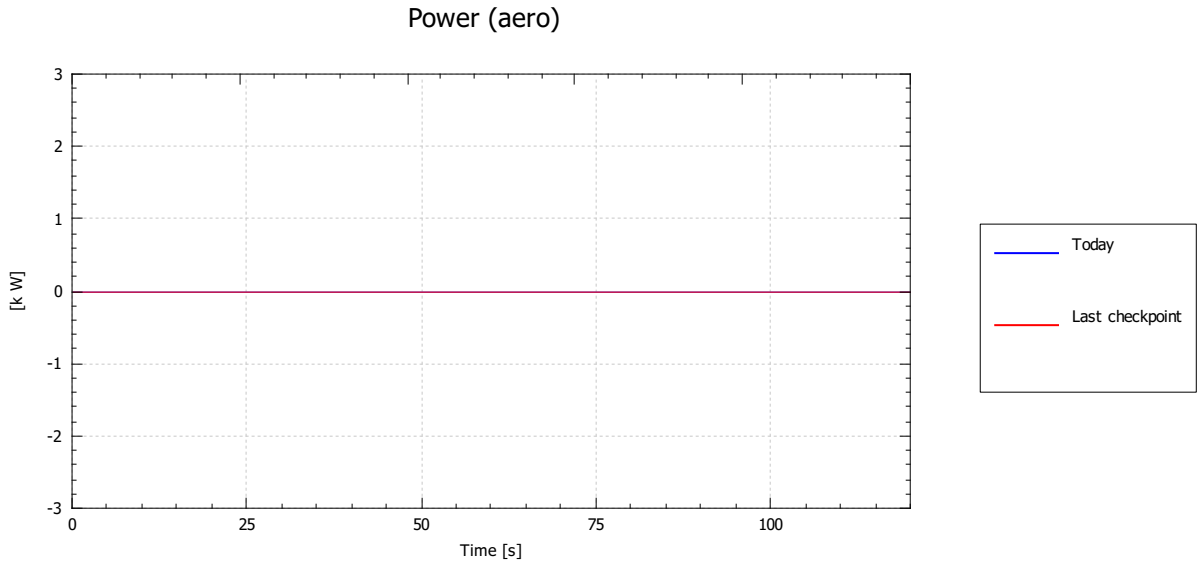
Sea

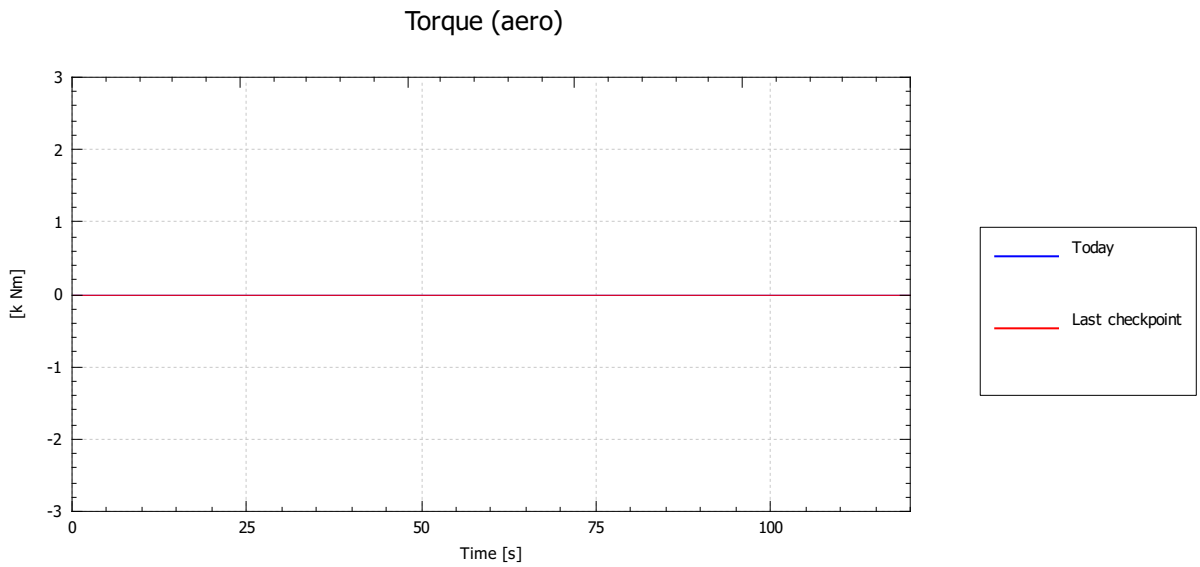


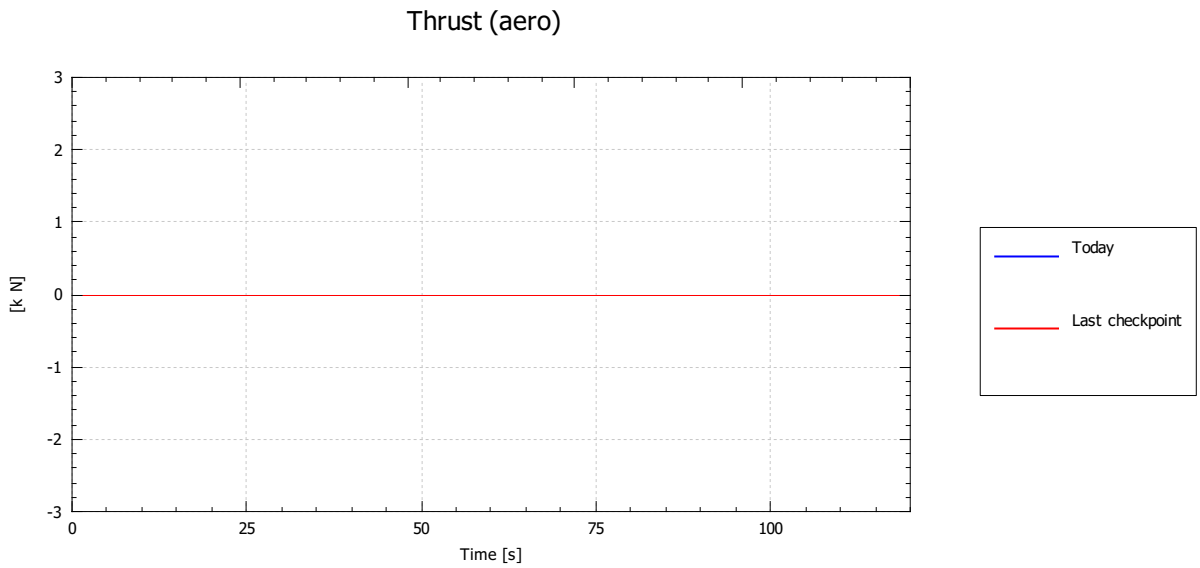


Load case: 2.4

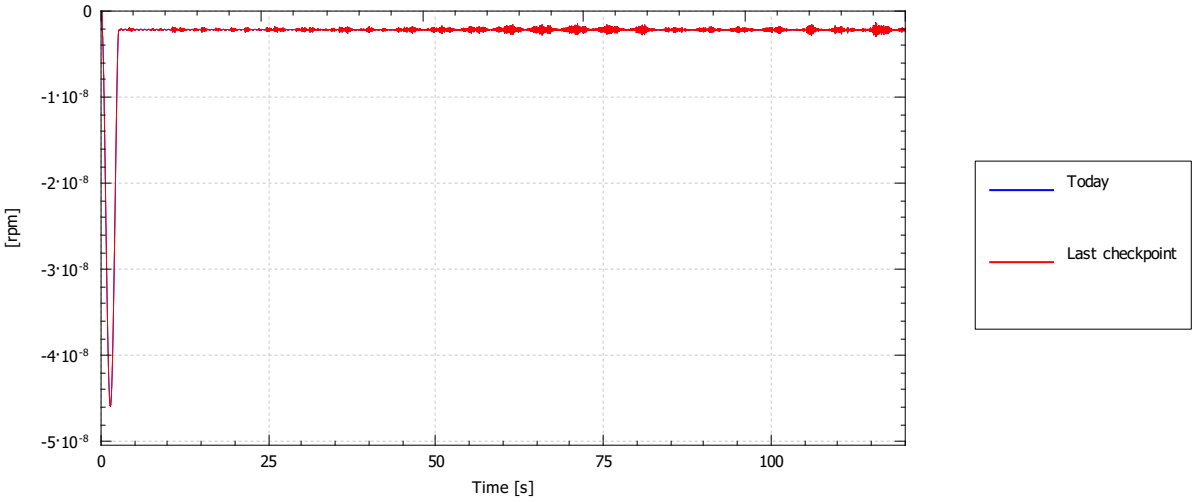
Rotor


Power (aero)
[k W]
3
2
1
0
-1
-2
-3
0
25
50
75
100
Time [s]
Today
Last checkpoint

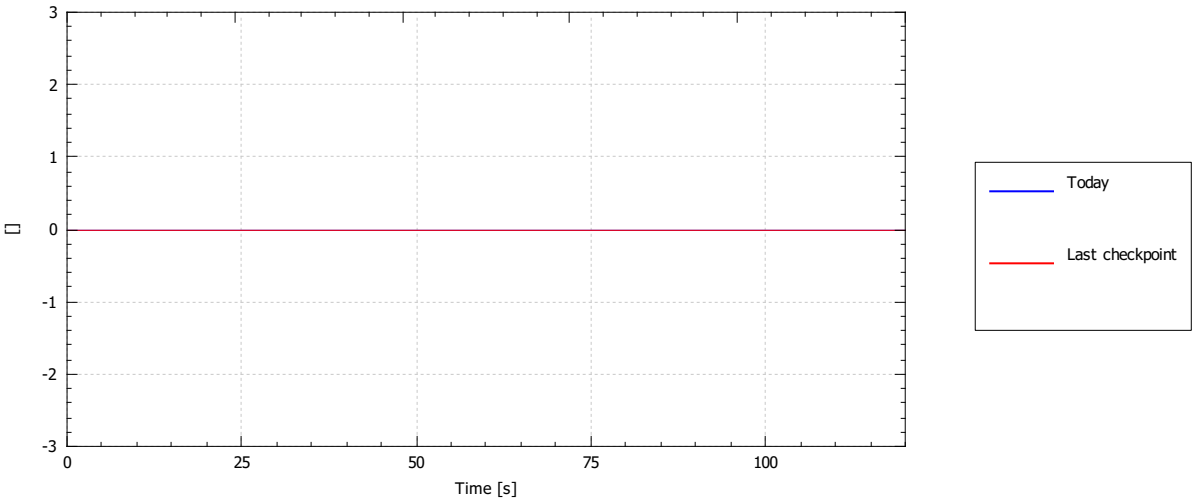

Torque (aero)
[k Nm]
3
2
1
0
-1
-2
-3
0
25
50
75
100
Time [s]
Today
Last checkpoint


Thrust (aero)
[k N]
3
2
1
0
-1
-2
-3
0
25
50
75
100
Time [s]
Today
Last checkpoint

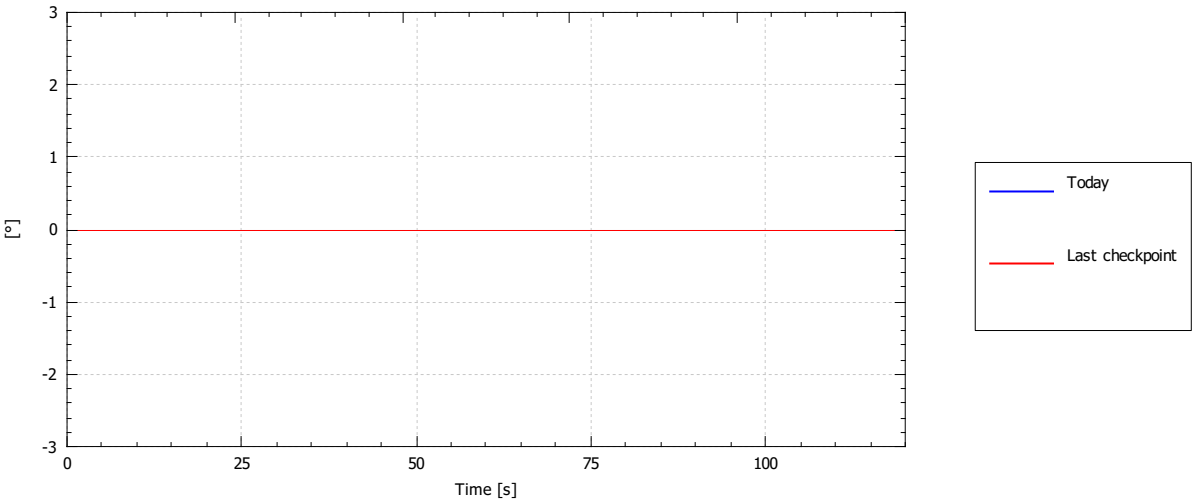
RPM



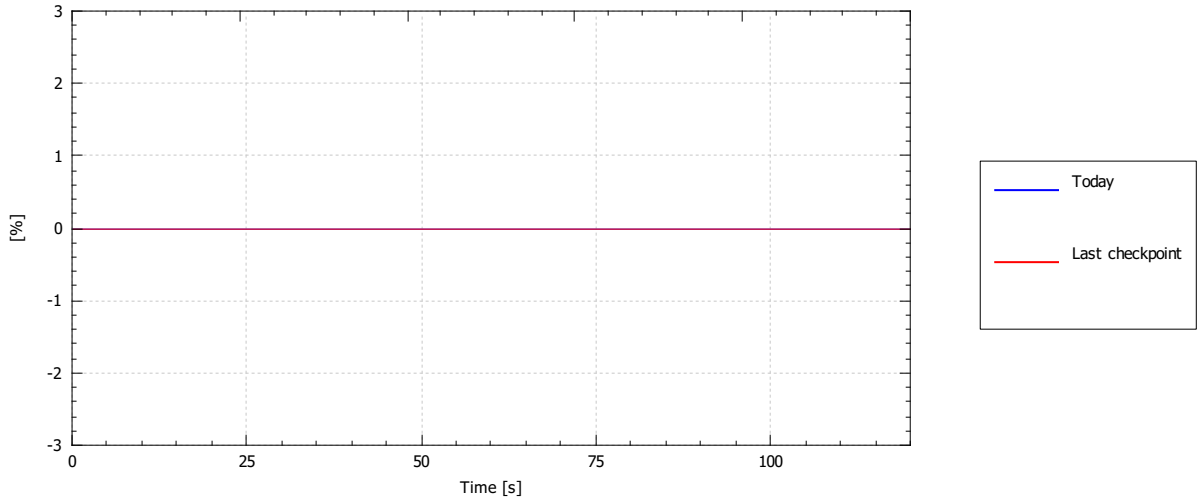
TSR



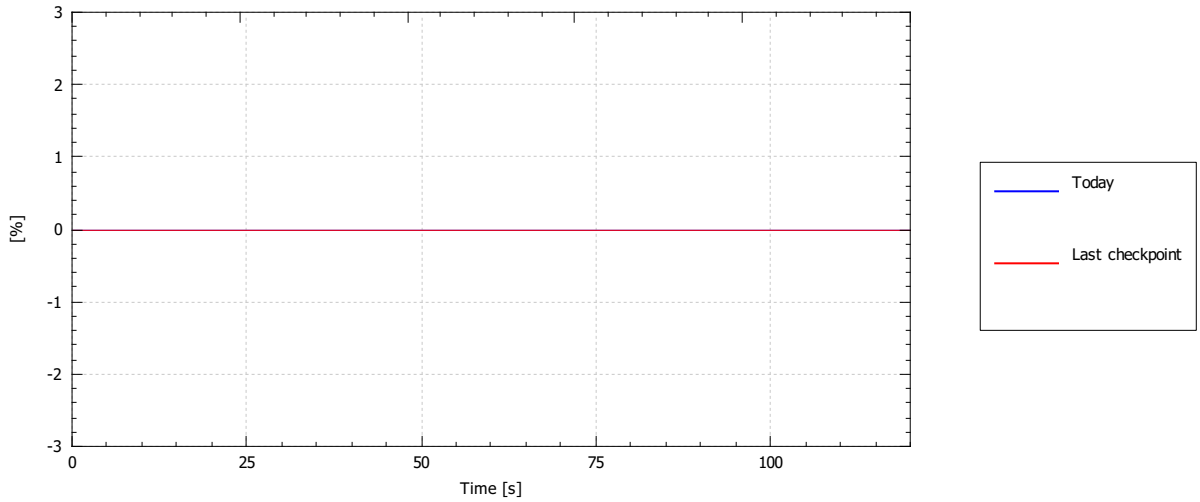
Representative demanded pitch angle



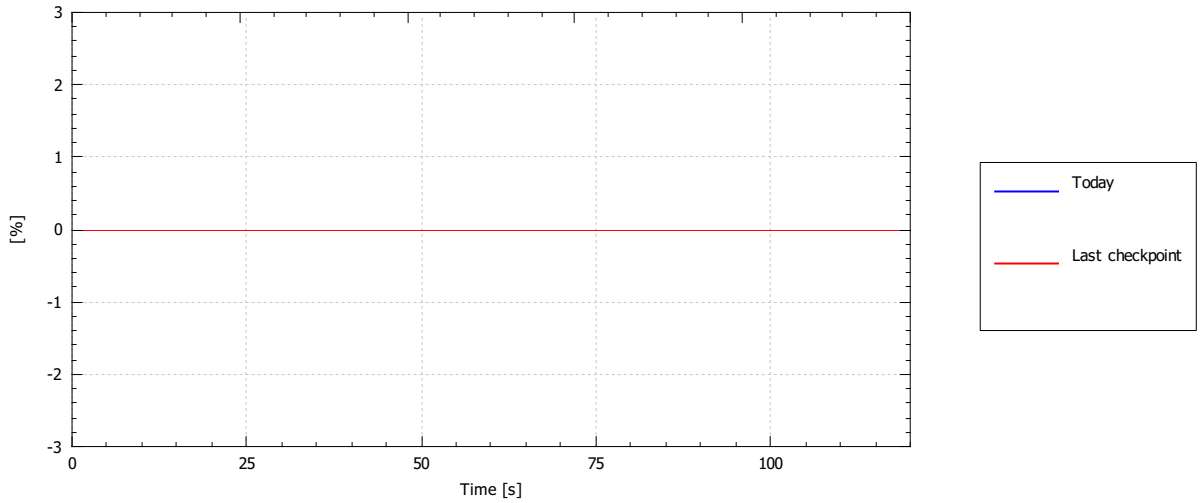
Power coef. (CP)



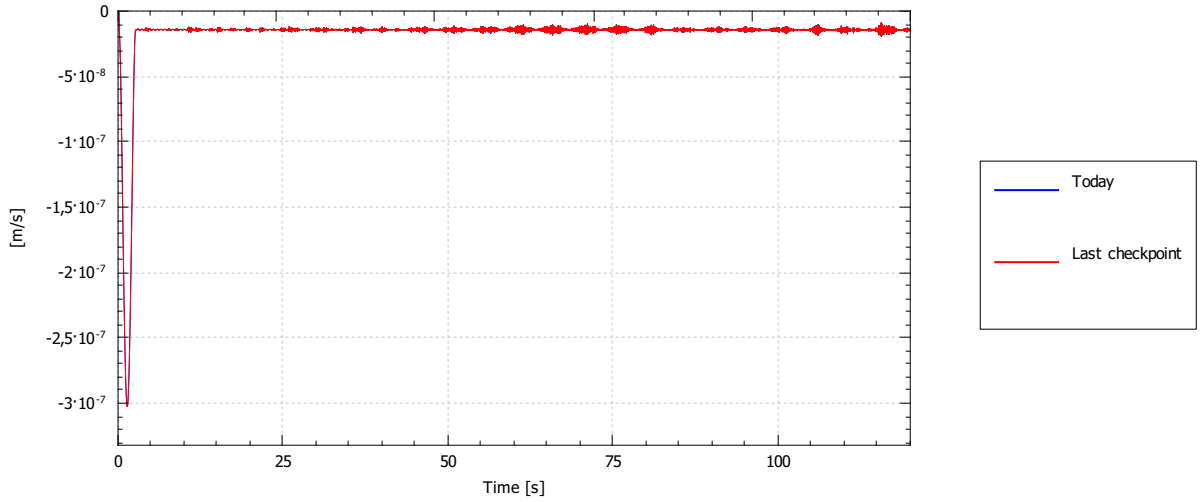
Thrust coef. (CT)



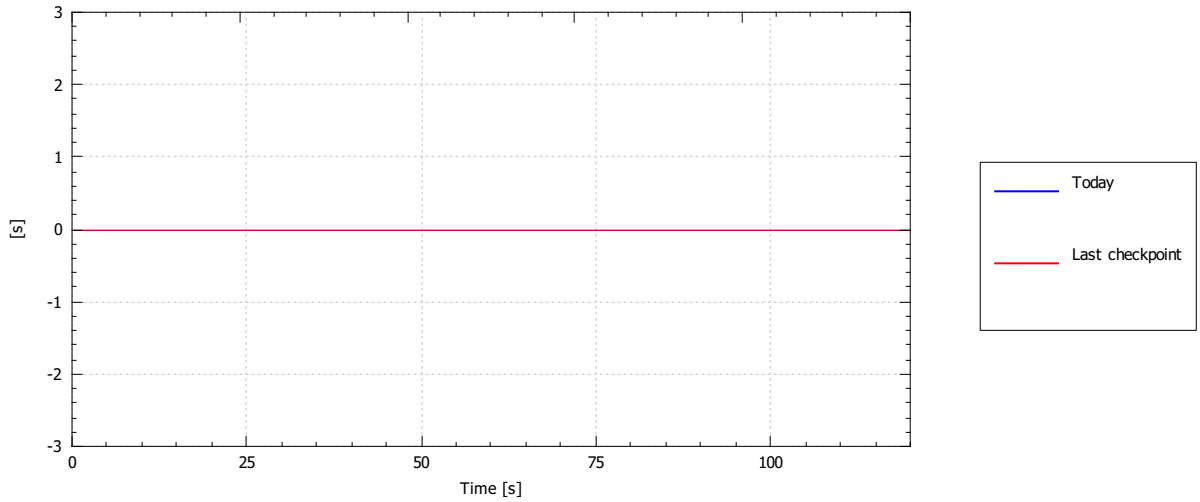
Torque coef. (CQ)



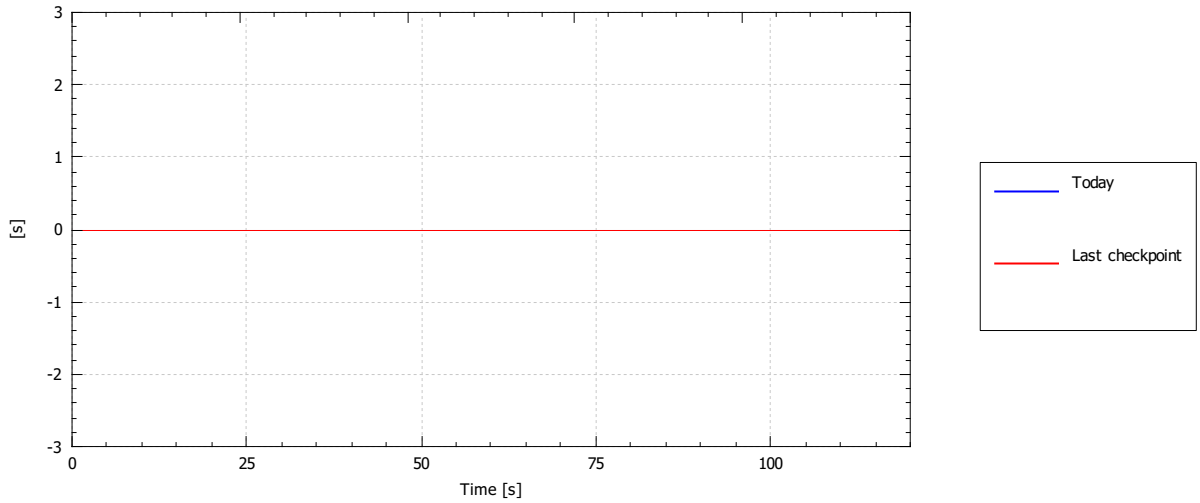
Tip speed



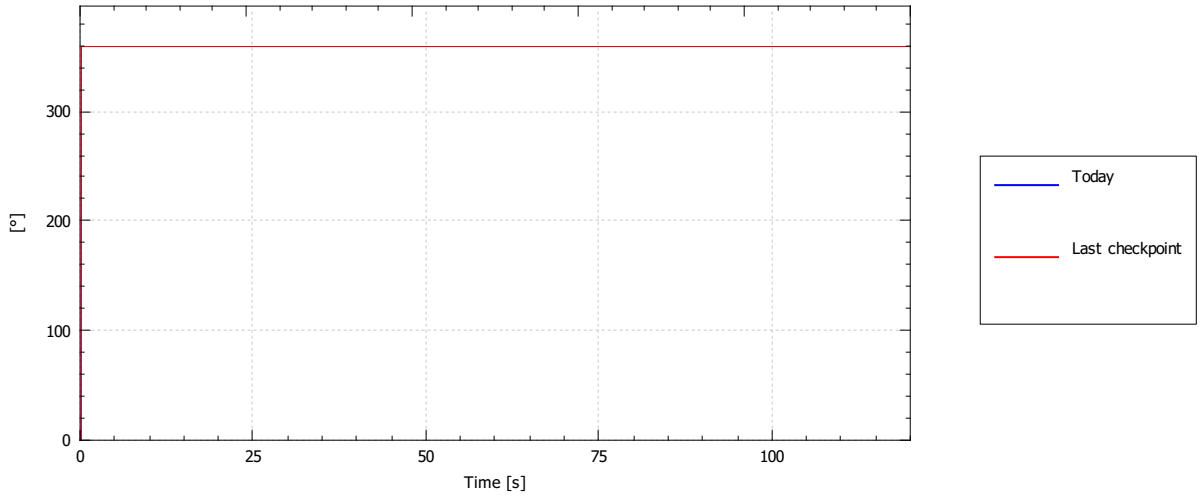
1P (one revolution)



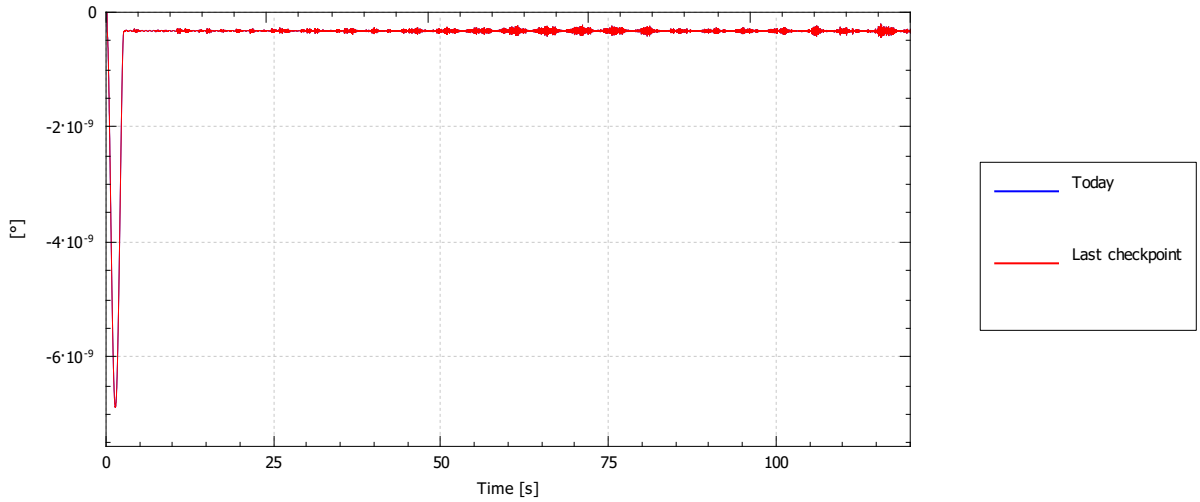
nP (blade passing)



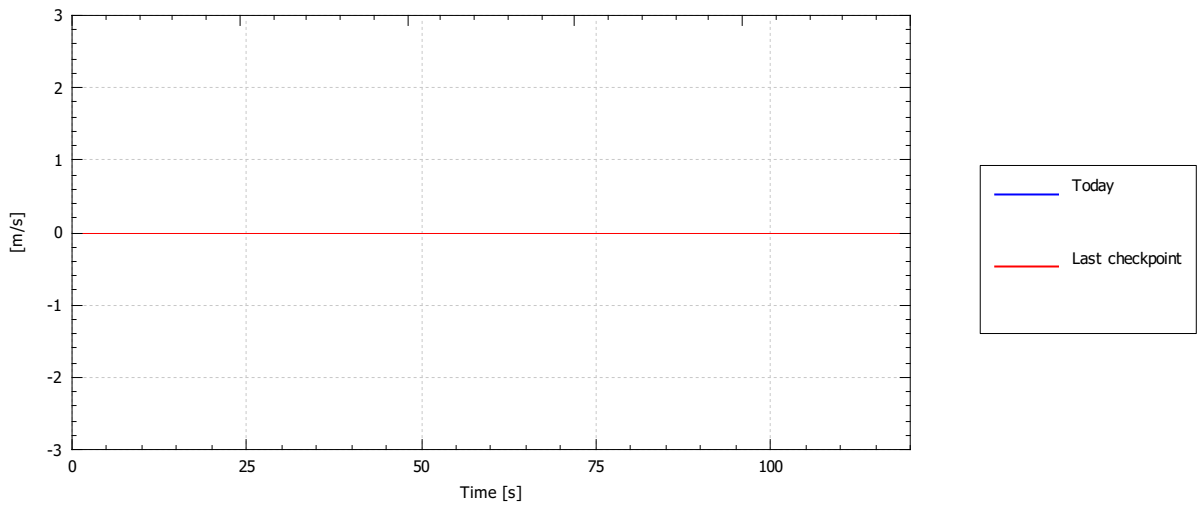
Azimuth angle



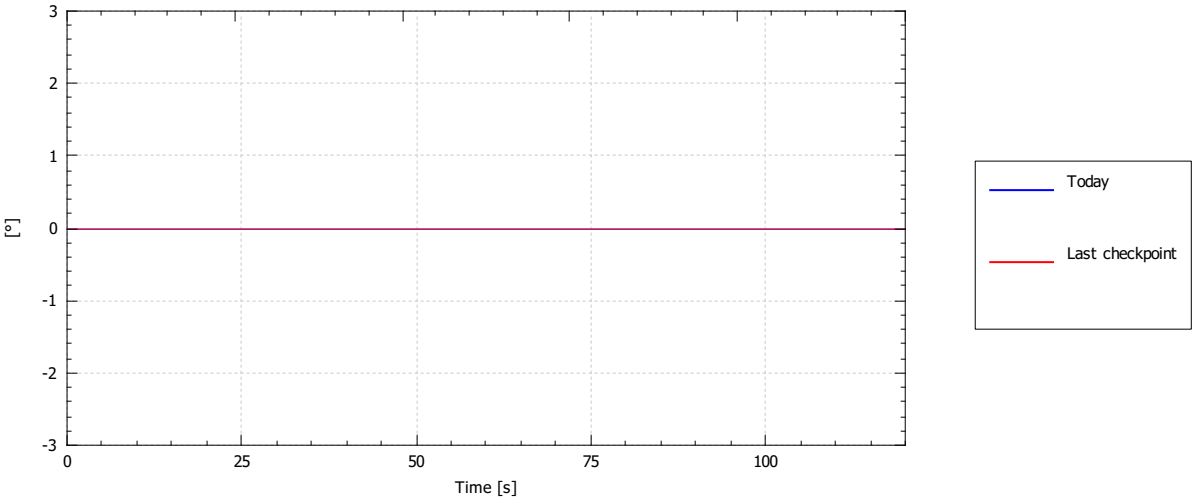
Rotation per timestep



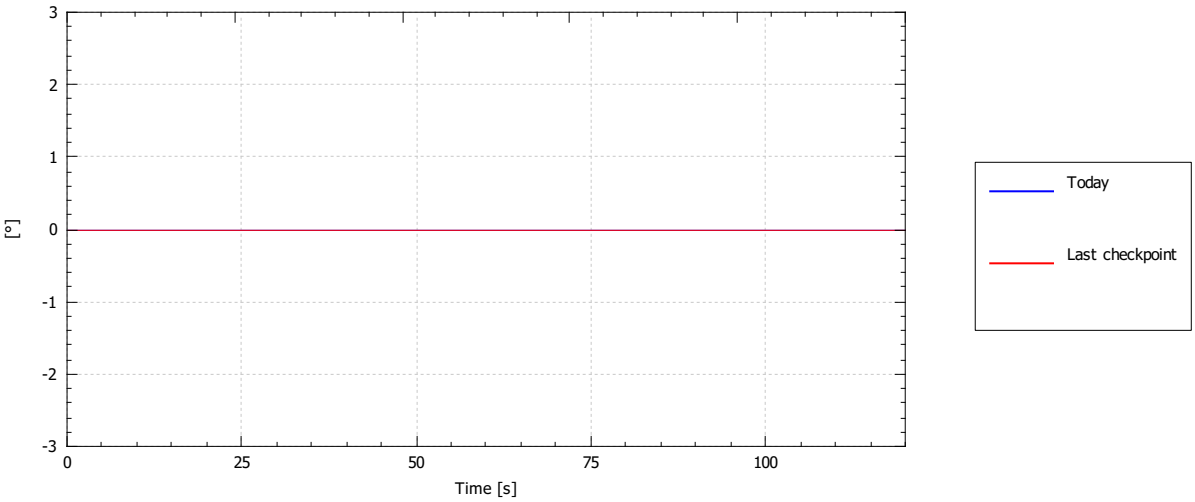
Wind speed at hub, magnitude



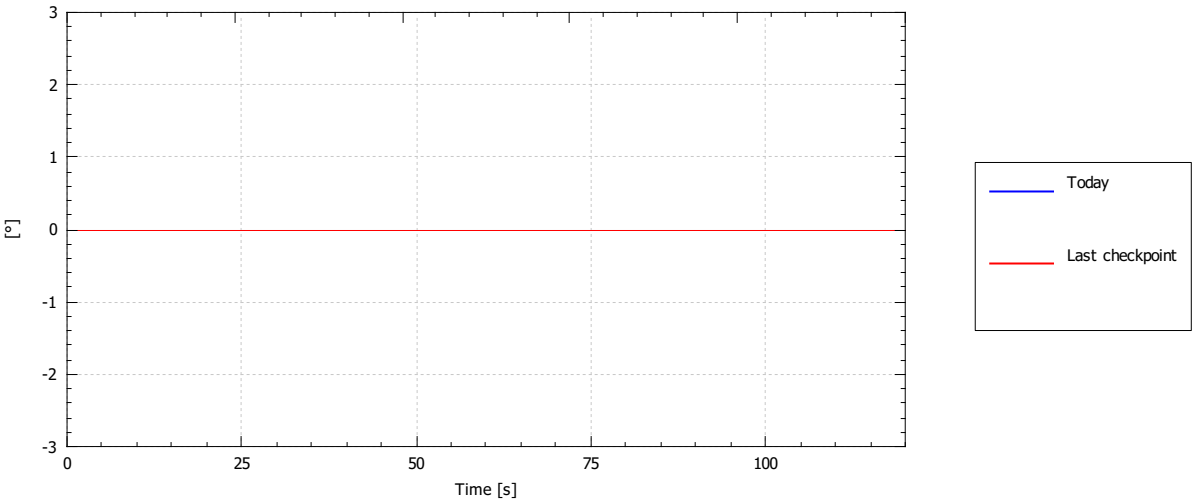
Wind angle at hub

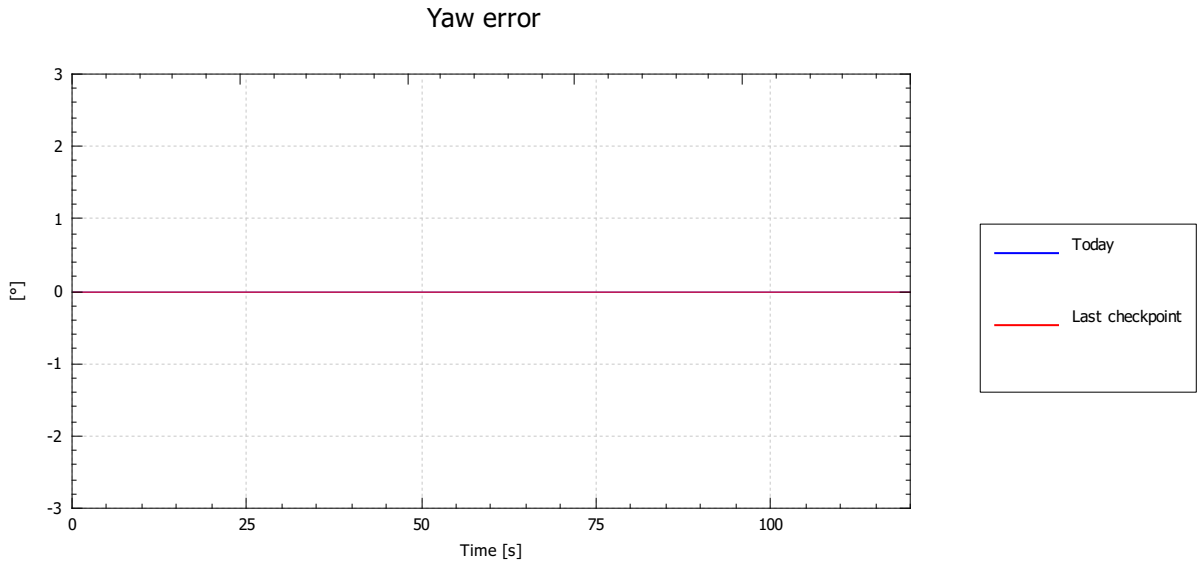


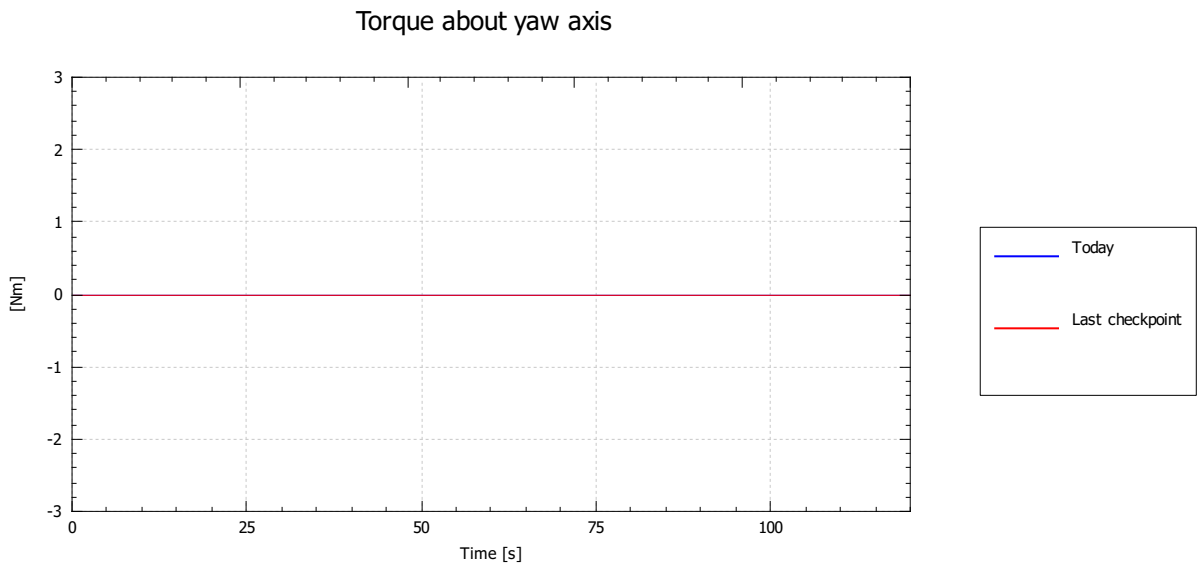
Yaw angle relative to forward



Yaw angle to reference direction

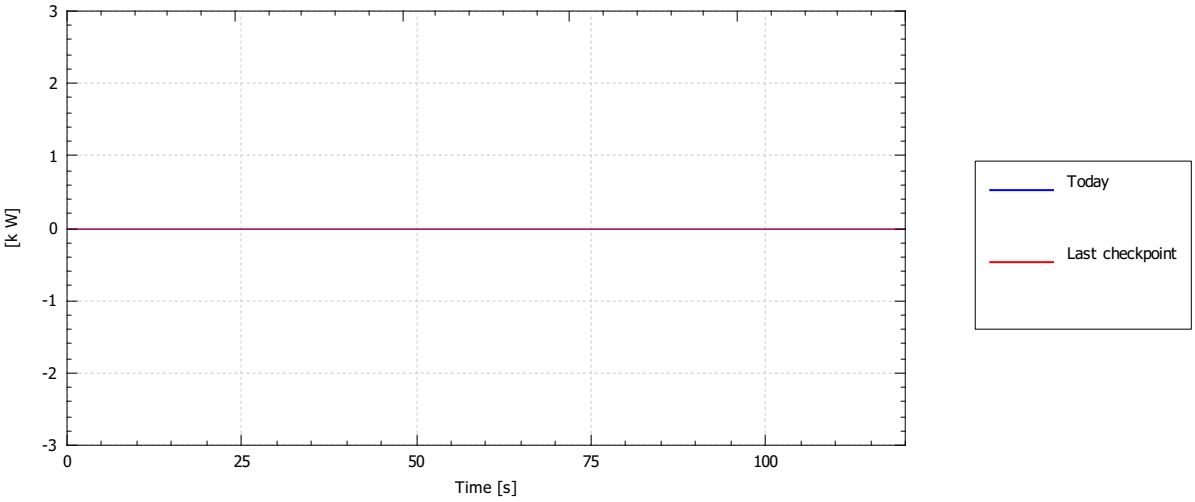



Yaw error
[°]
3
2
1
0
-1
-2
-3
0
25
50
75
100
Time [s]
Today
Last checkpoint

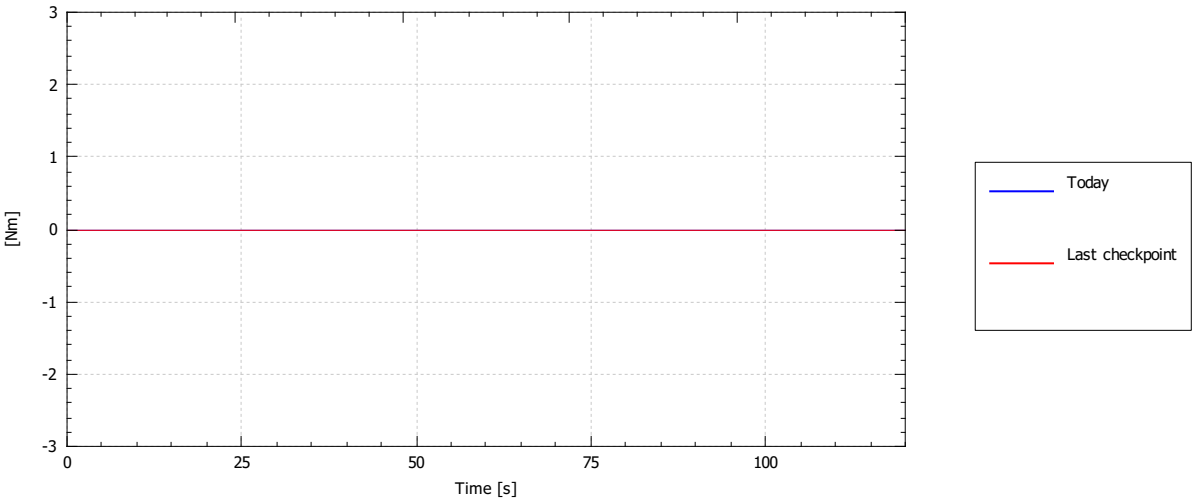

Torque about yaw axis
[Nm]
3
2
1
0
-1
-2
-3
0
25
50
75
100
Time [s]
Today
Last checkpoint

Generator

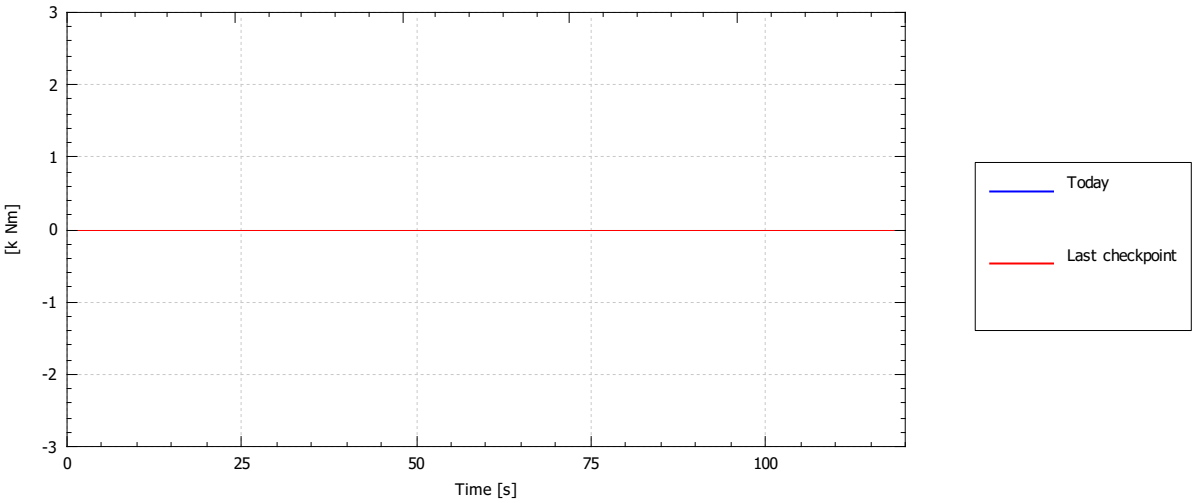
Power (electrical)



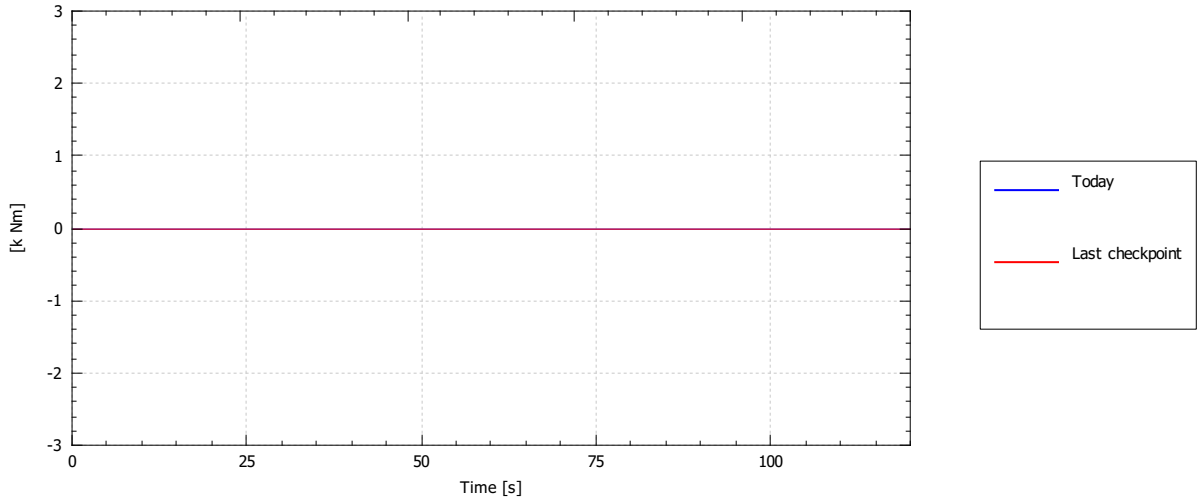
Torque



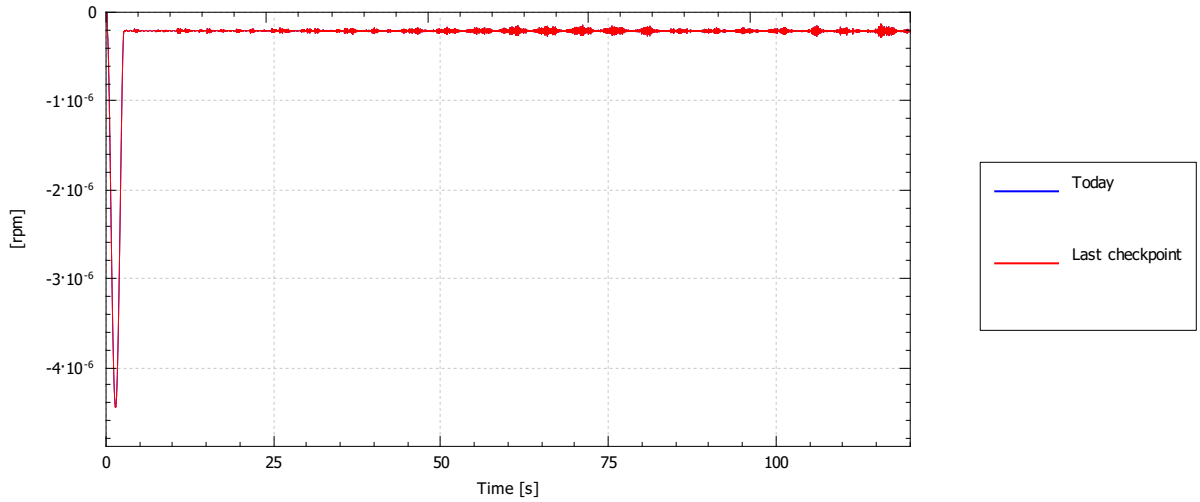
Torque on main shaft



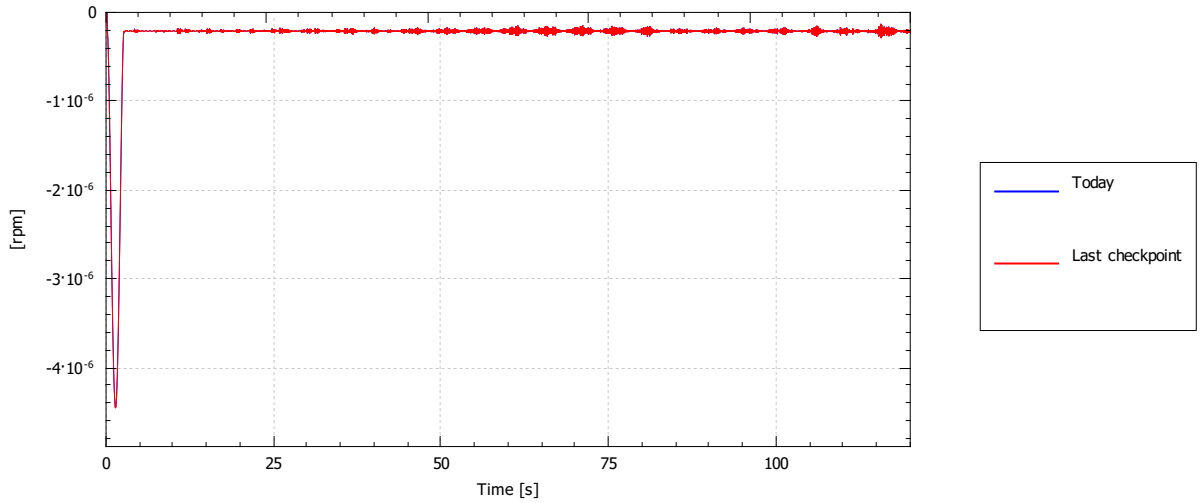
Torque diff. on main shaft

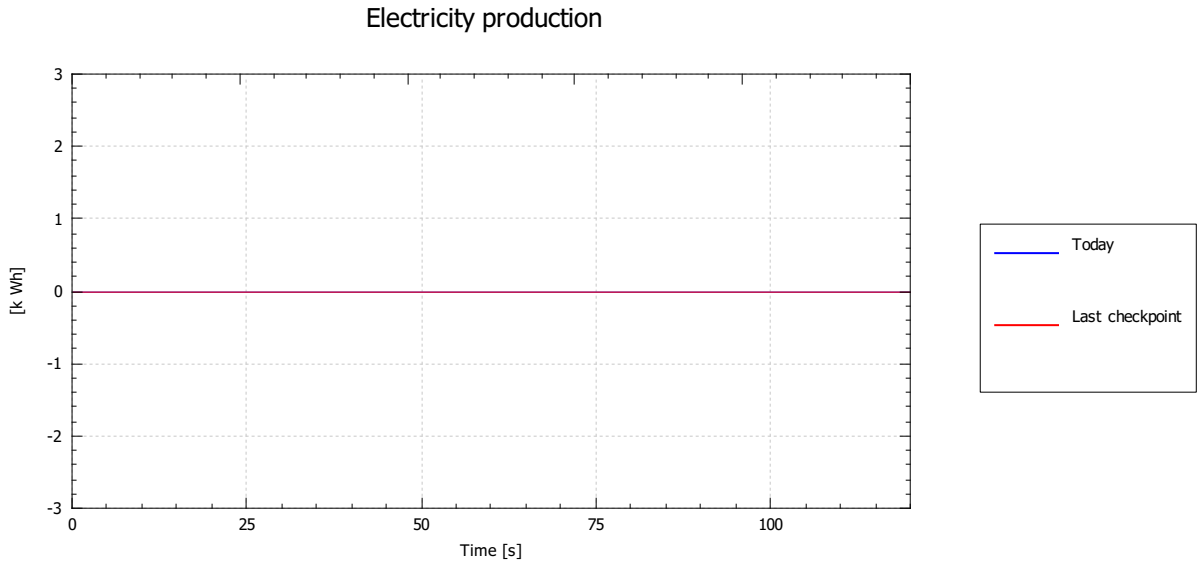


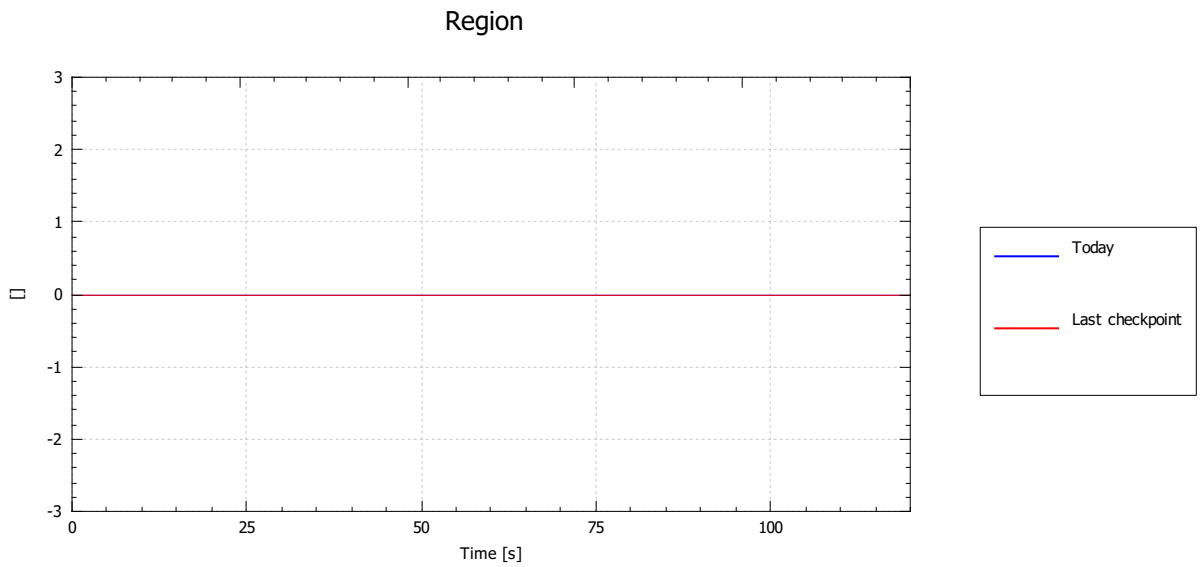
RPM



Filtered RPM

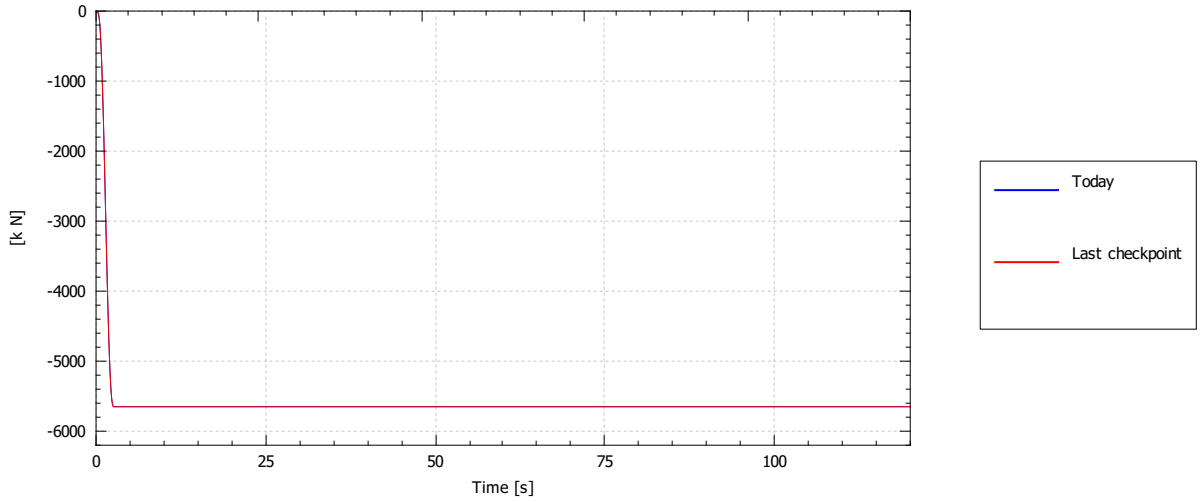




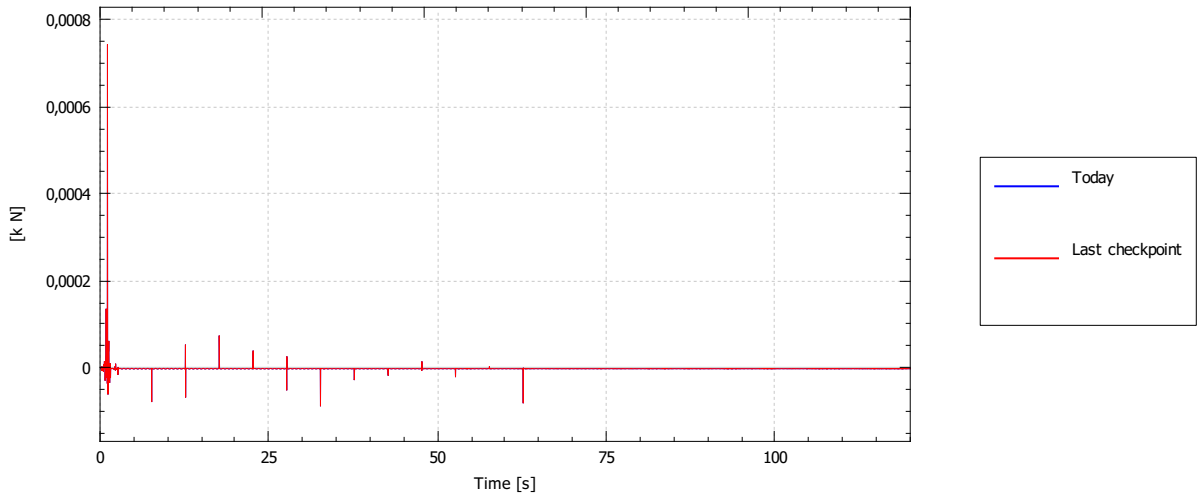


Beam element [Element 1 | Tubular tower]

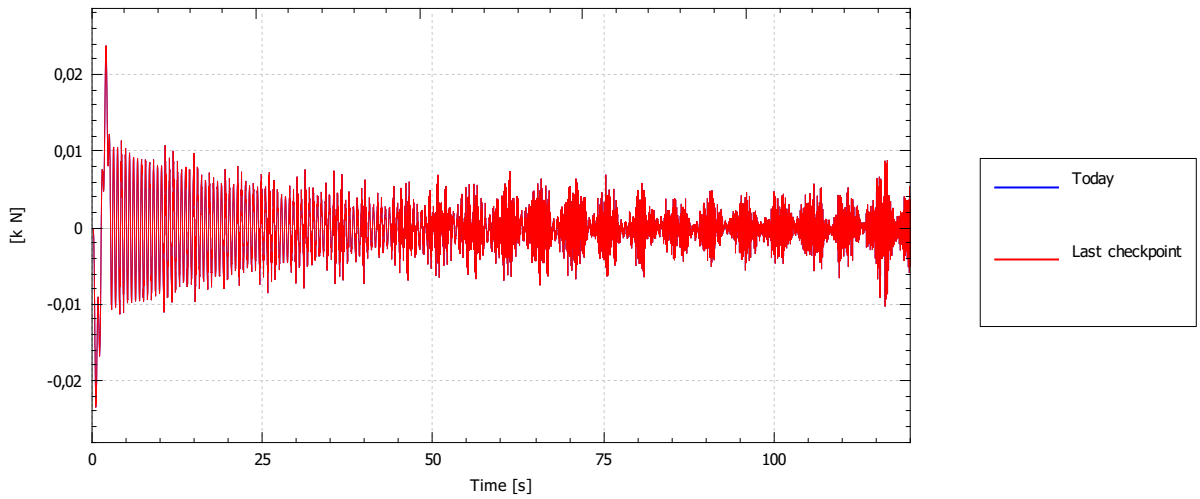
Axial force



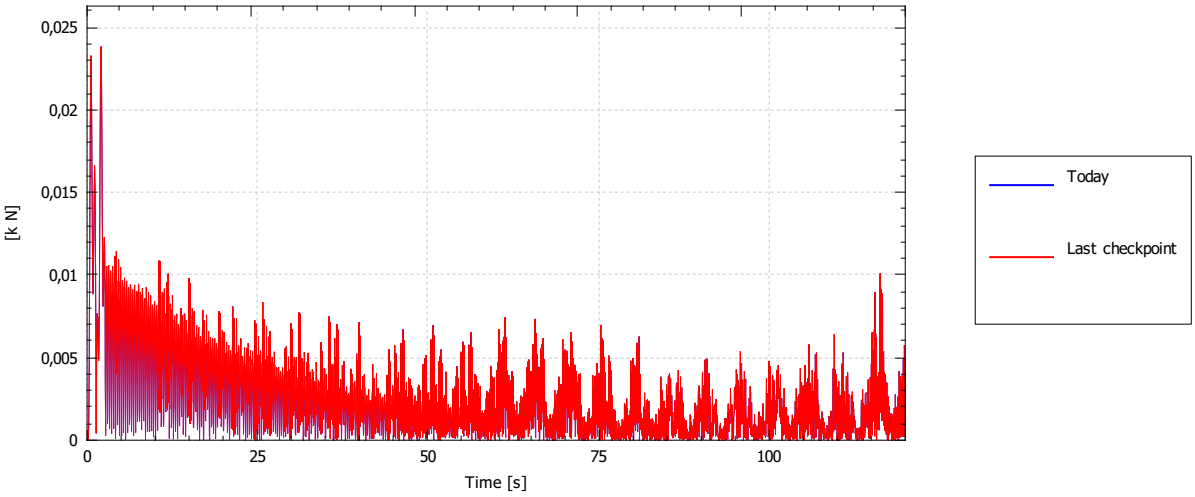
Shear force (1st prin. axis)



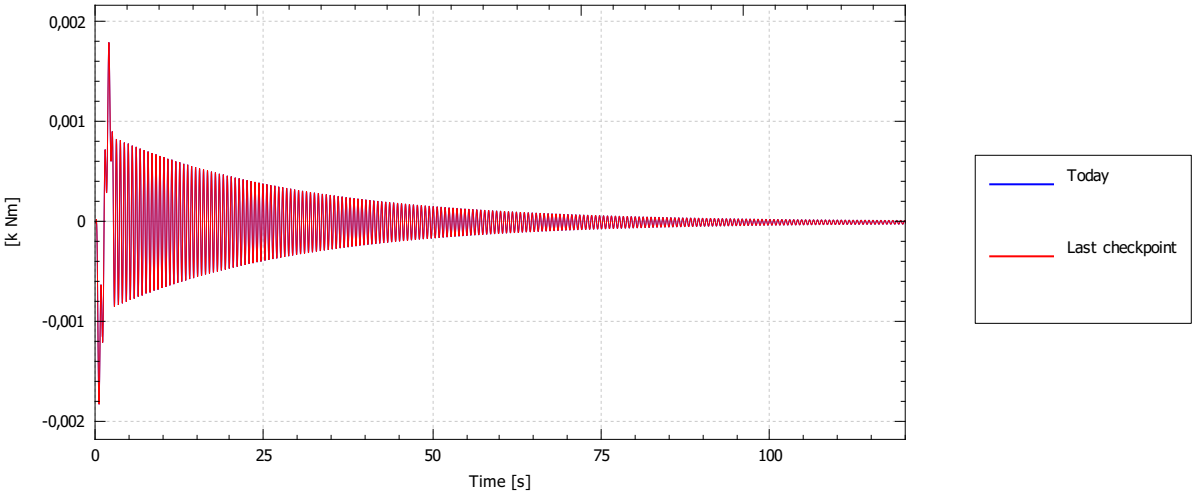
Shear force (2nd prin. axis)



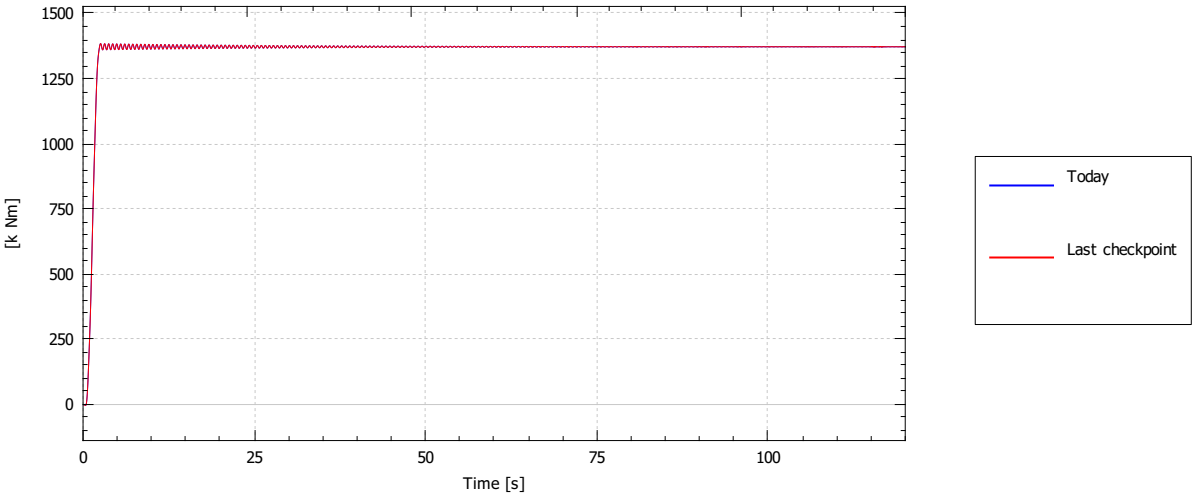
Shear force, mag.



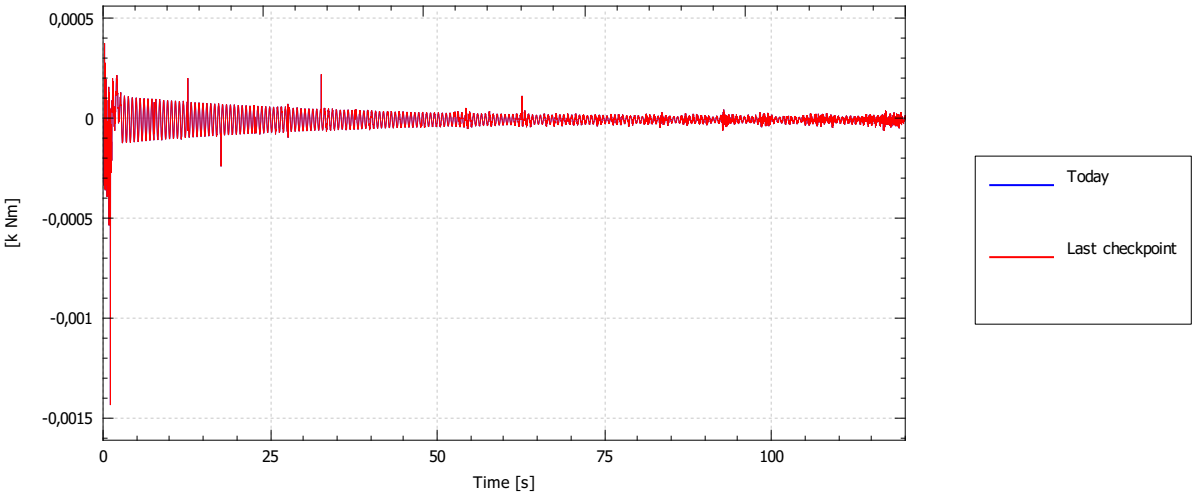
Torque



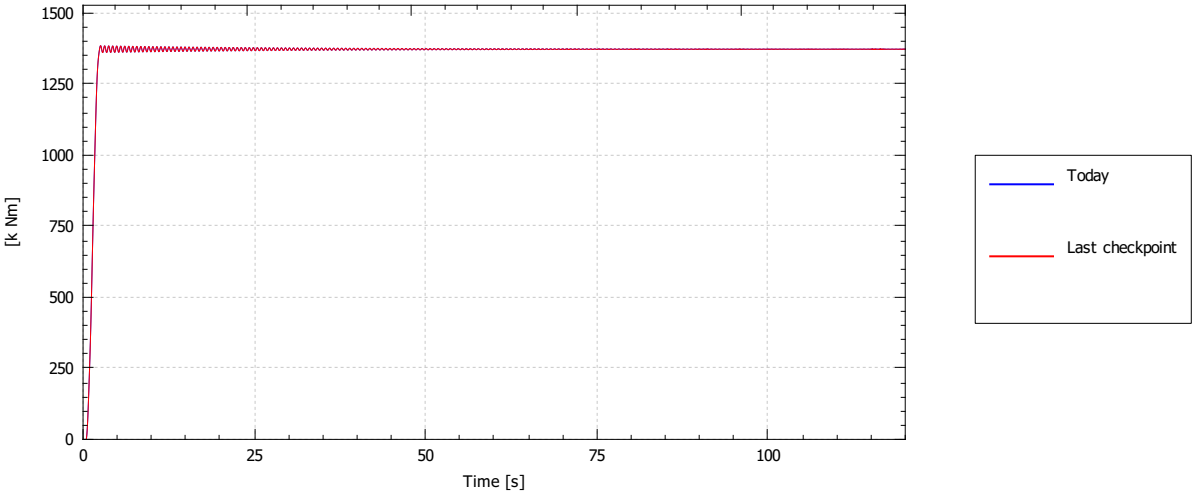
Moment (1st prin. axis), i



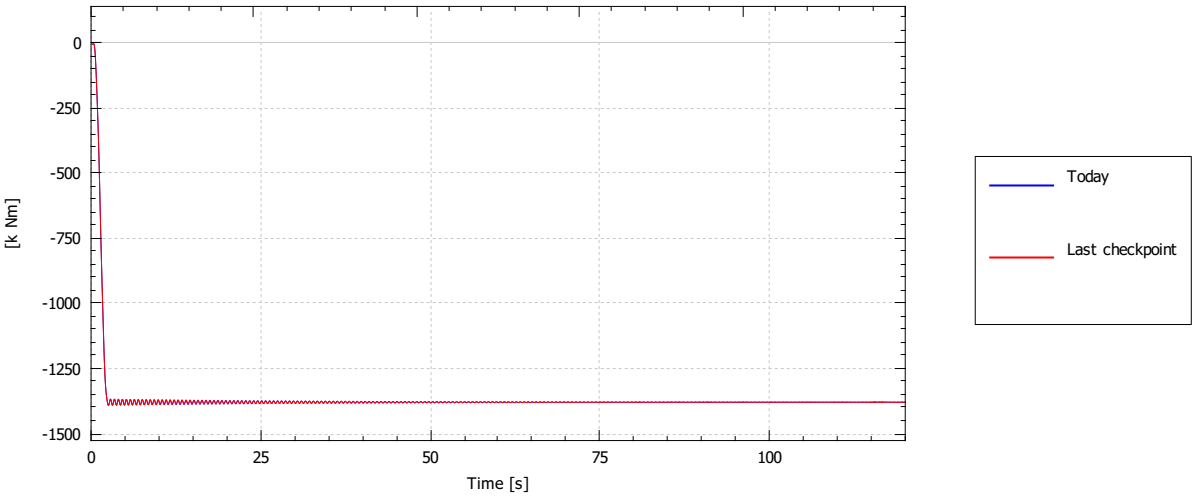
Moment (2nd prin. axis), i



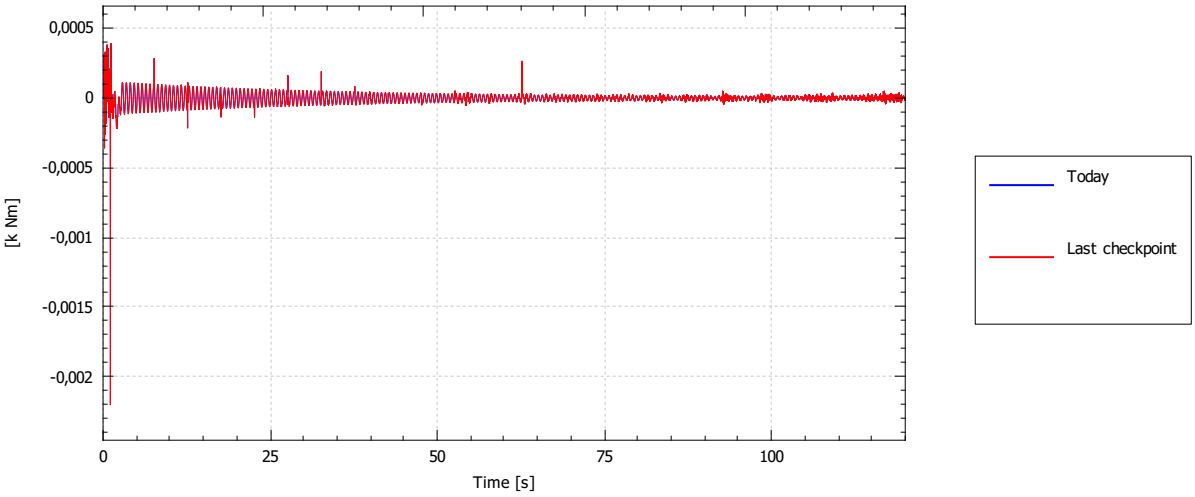
Moment, mag., i



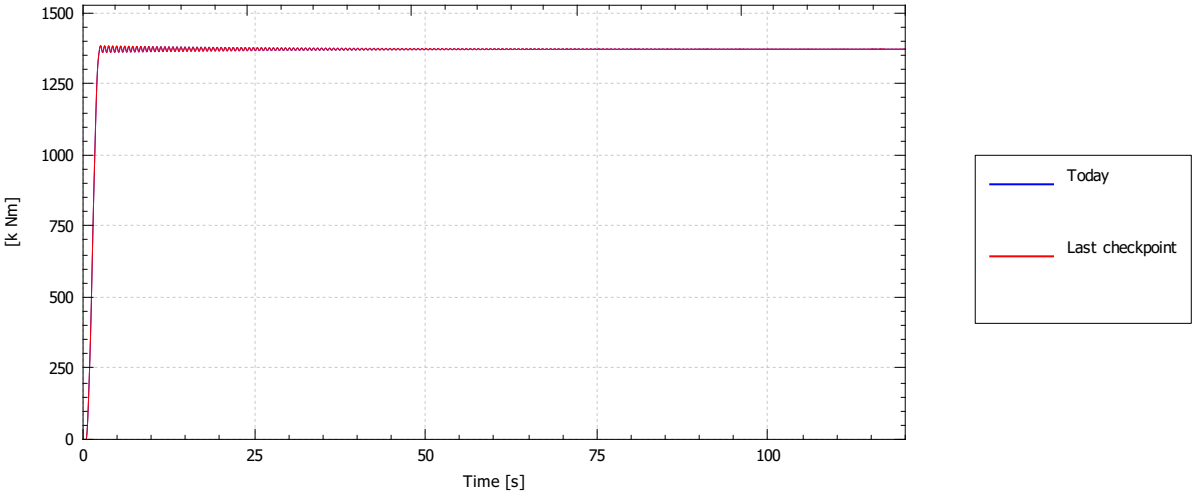
Moment (1st prin. axis), j



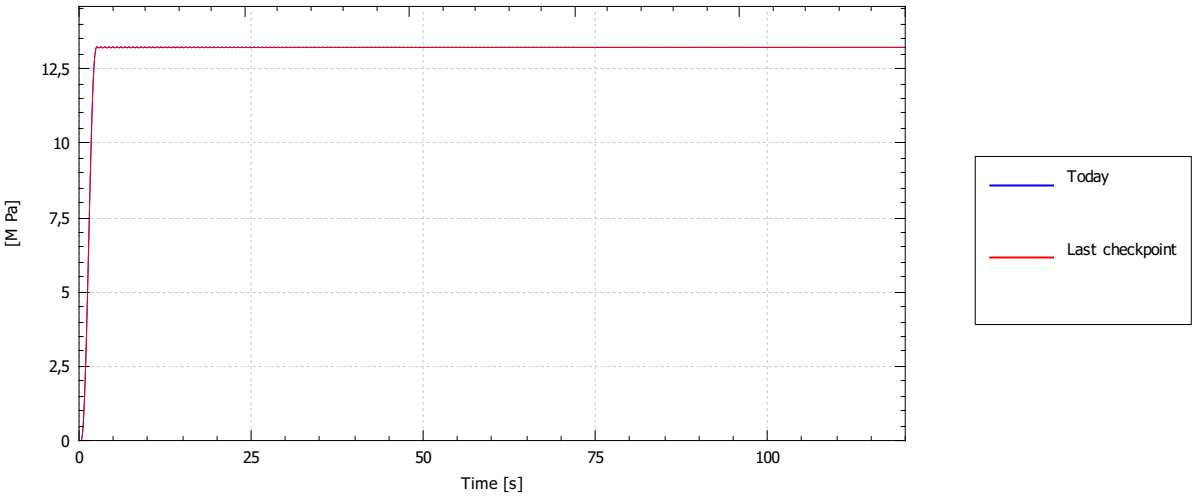
Moment (2nd prin. axis), j



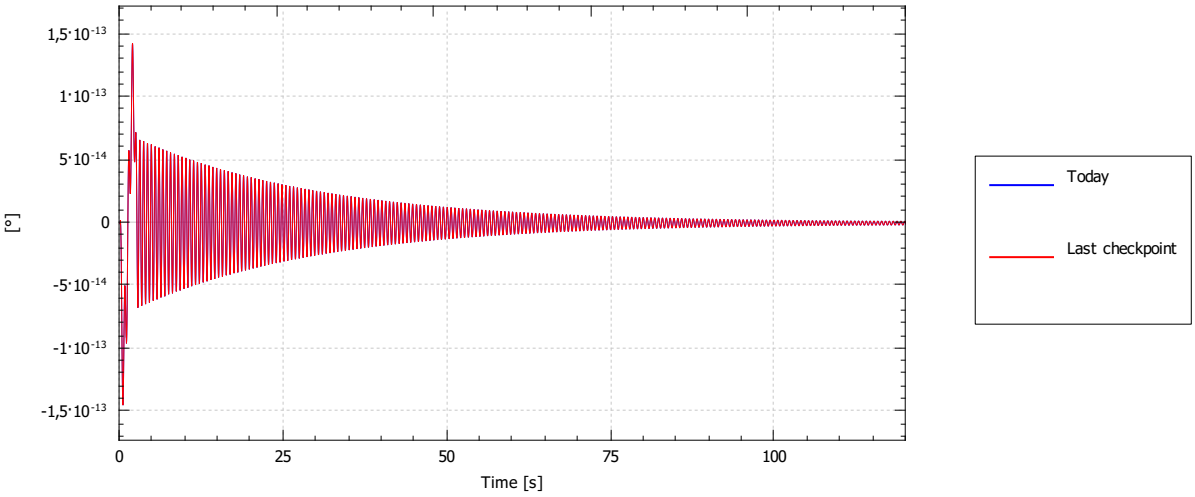
Moment, mag., j



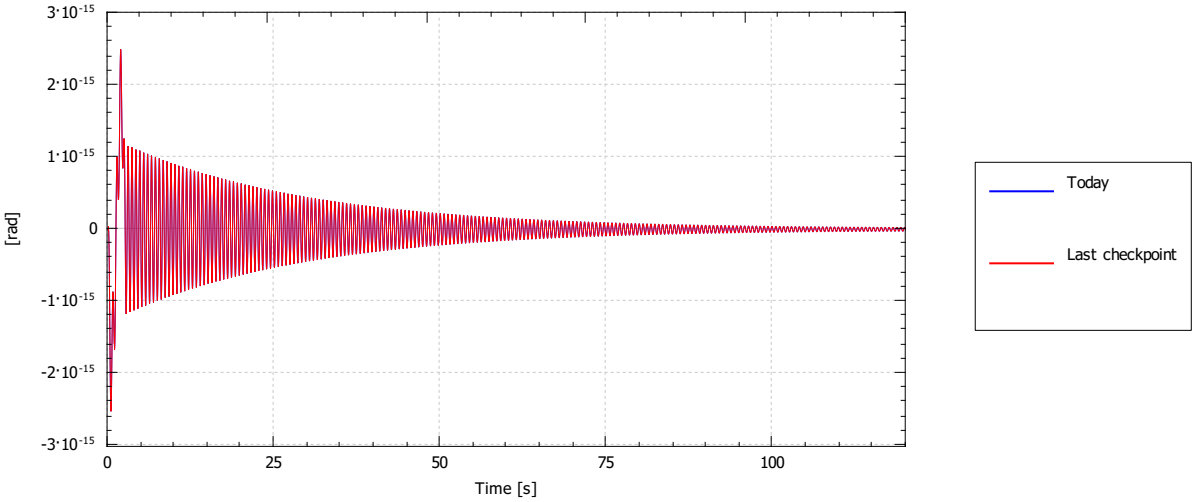
Max normal stress



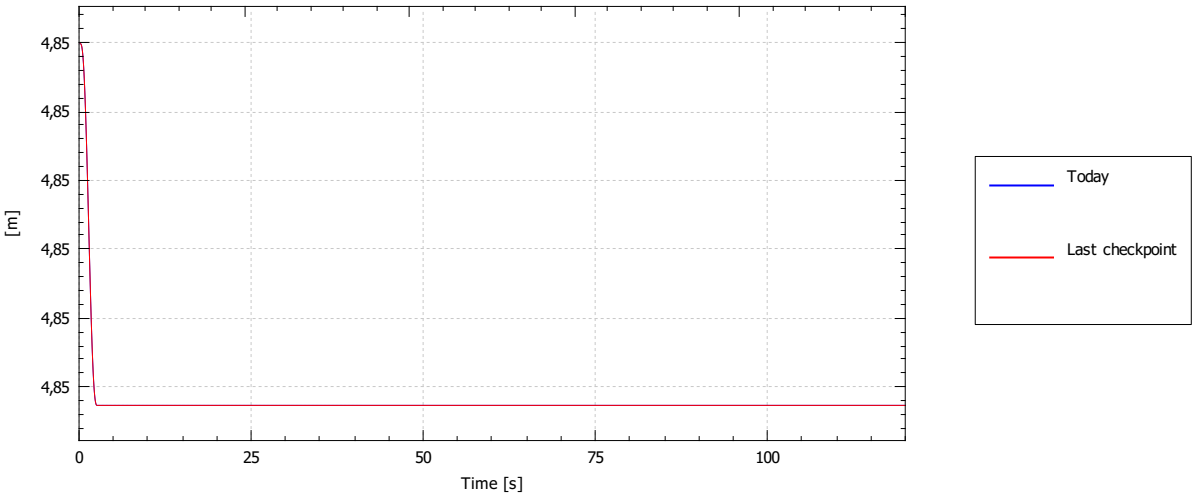
Twist (structural)



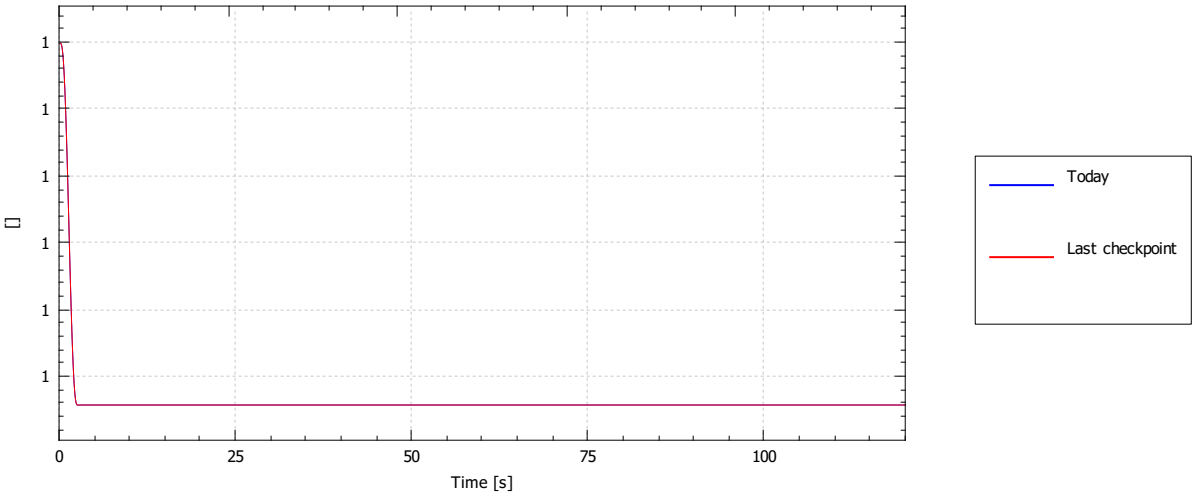
Twist (structural) - rad



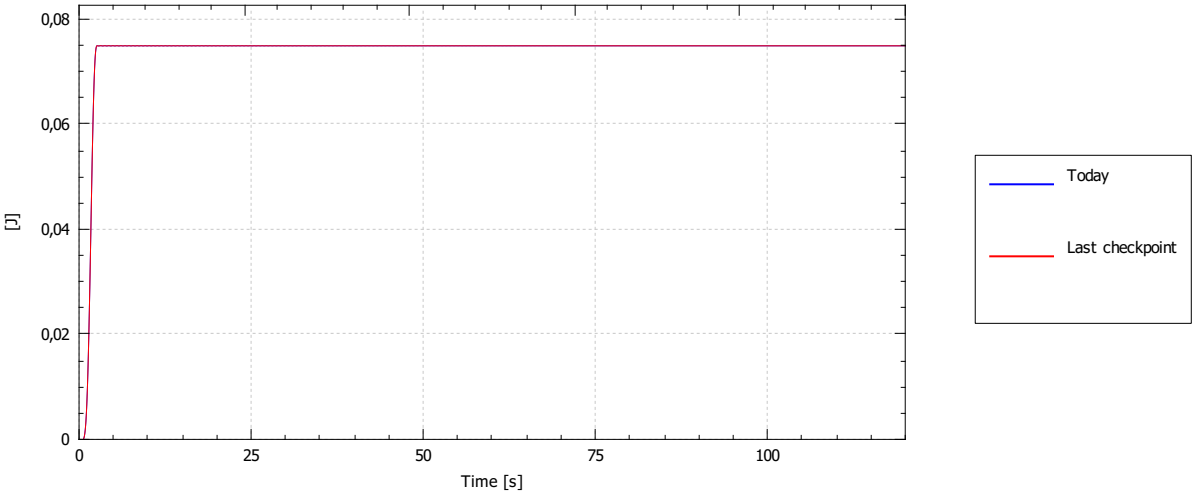
Deformed length



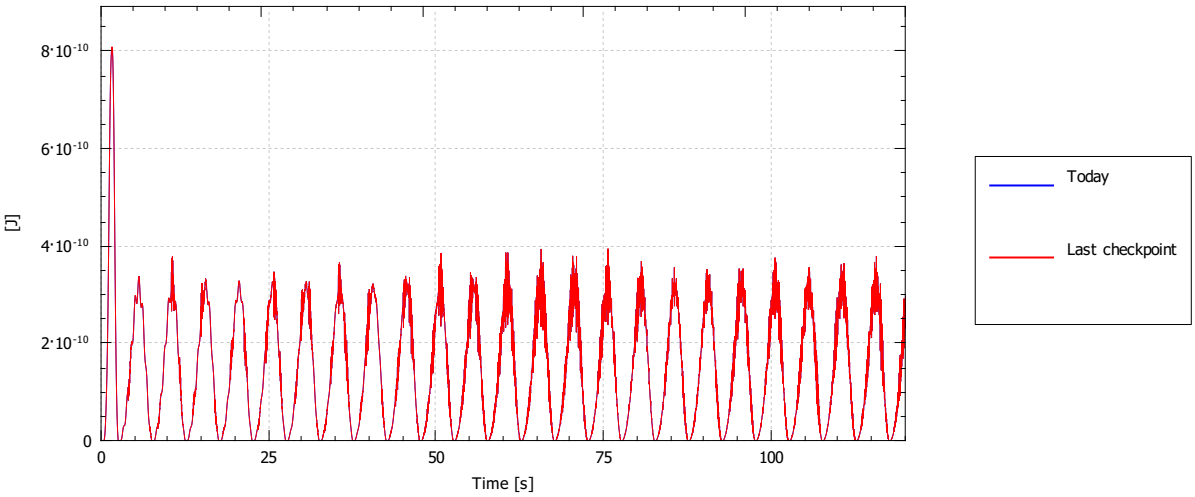
Elongation



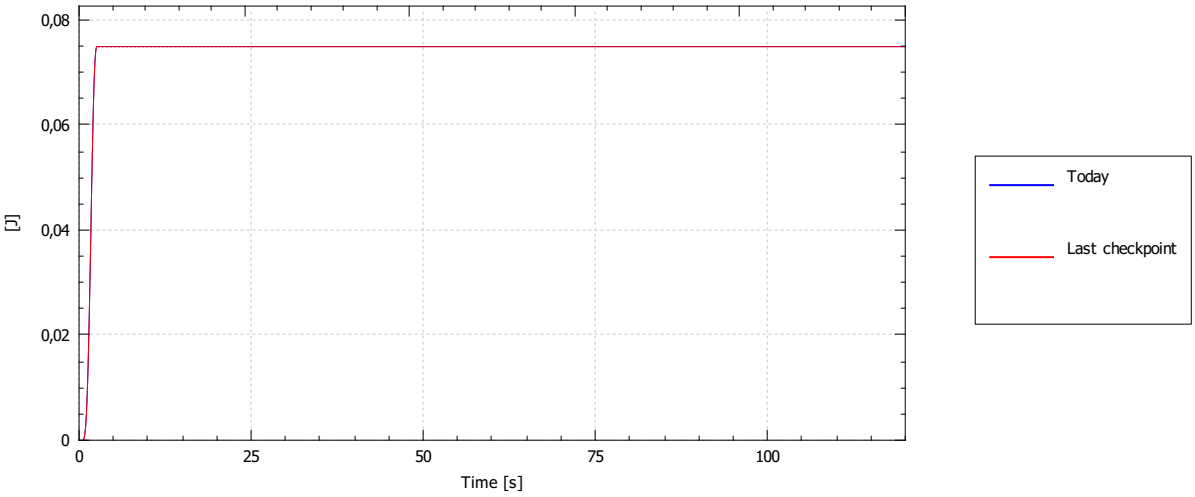
Strain energy



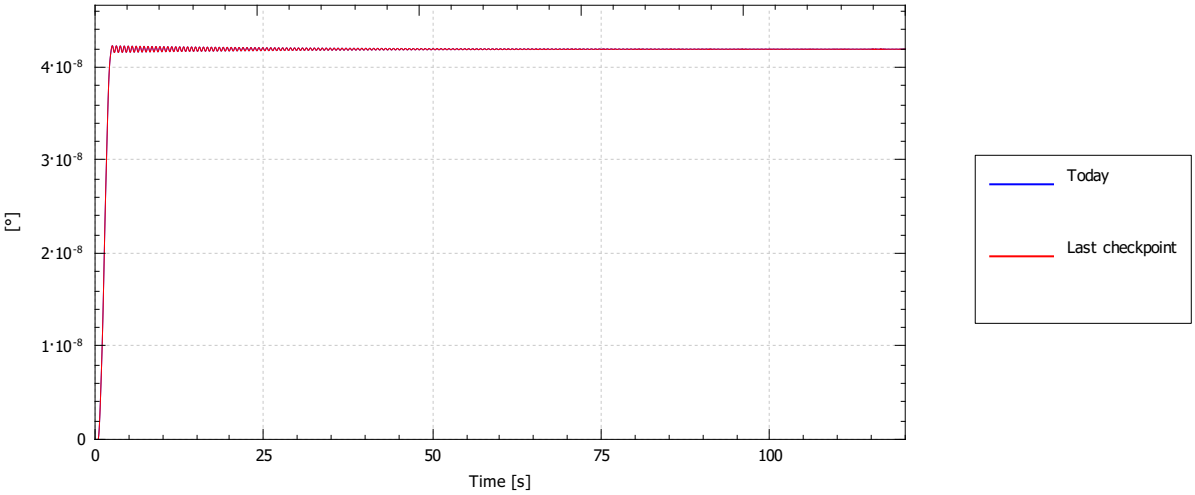
Kinetic energy



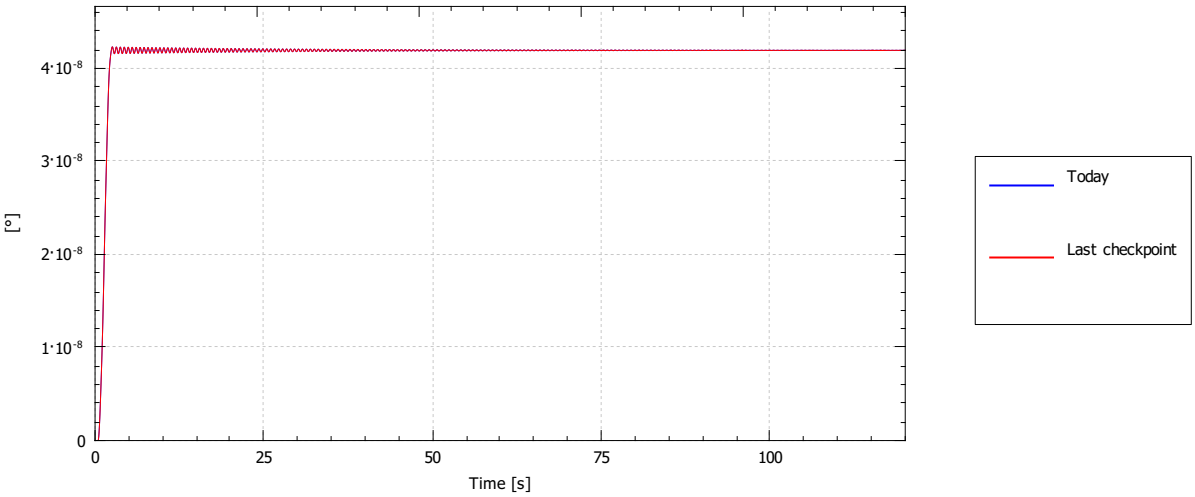
Mechanical energy



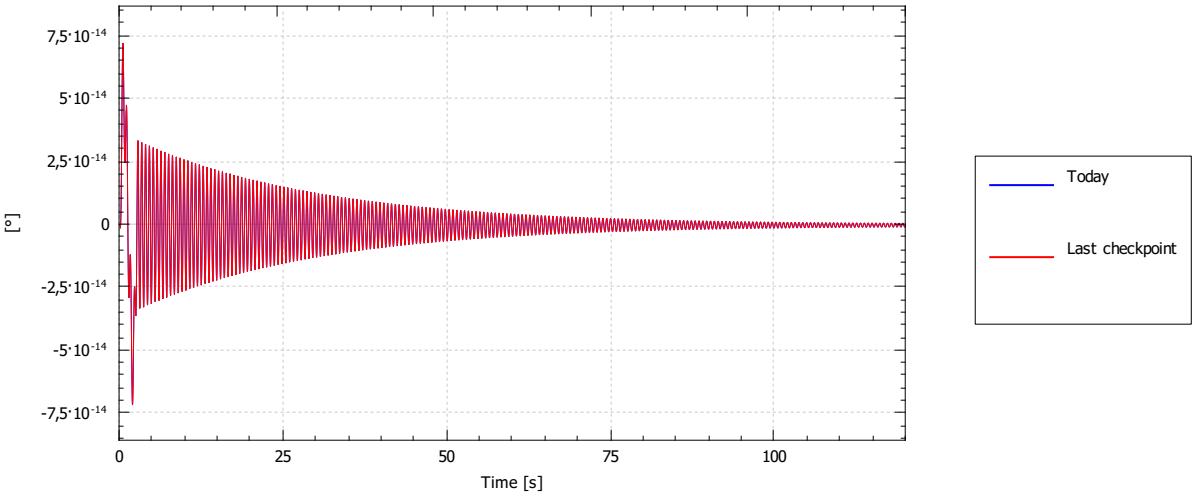
Deformational rotation (i)



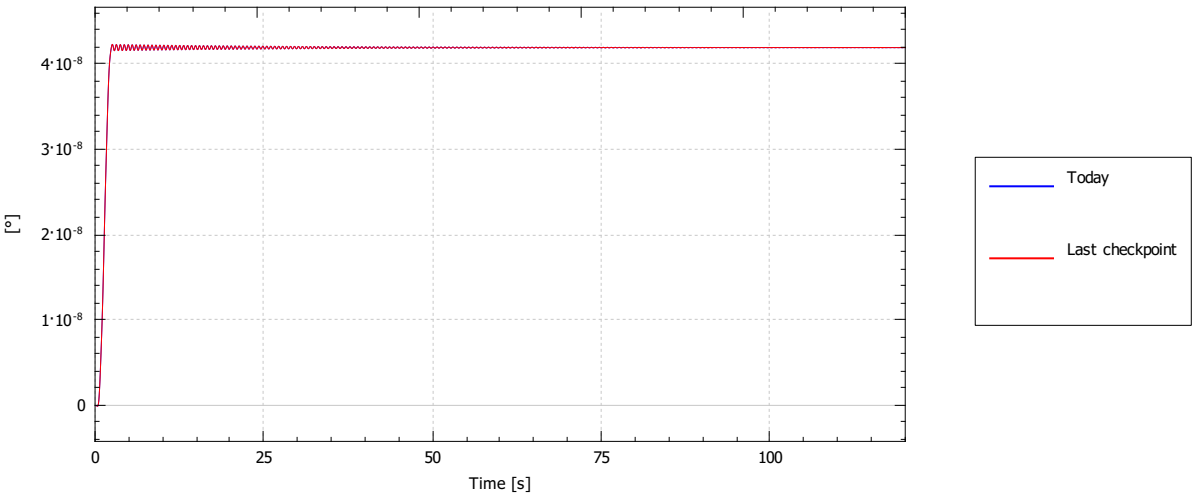
Deformational rotation (j)



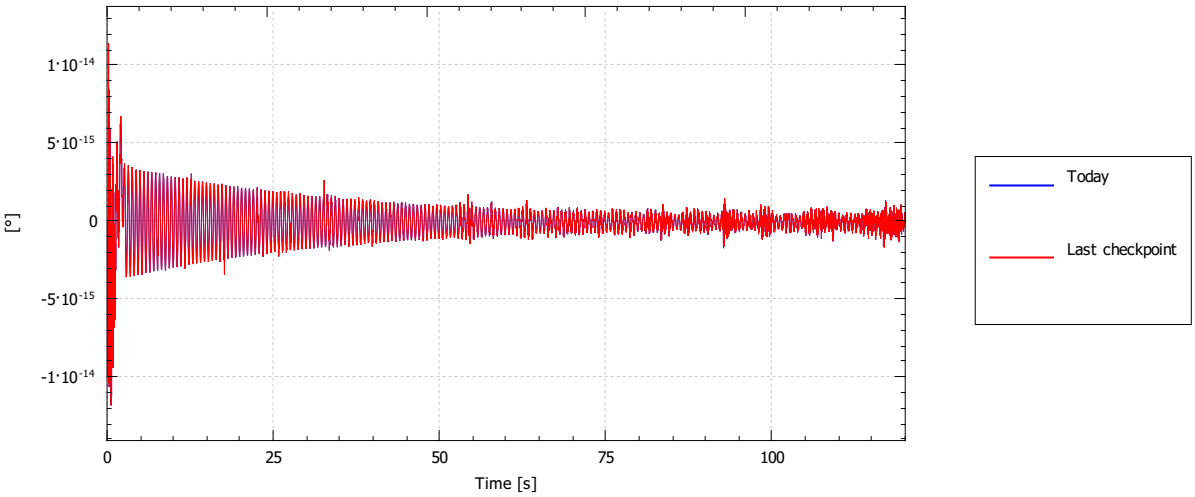
Deformational rotation (axial)



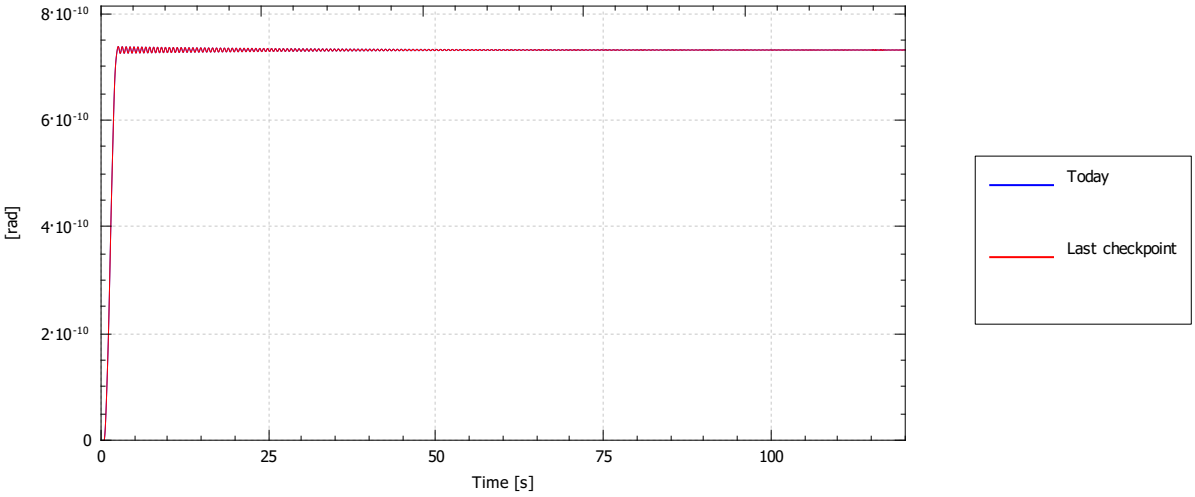
Deformational rotation (1st prin.)



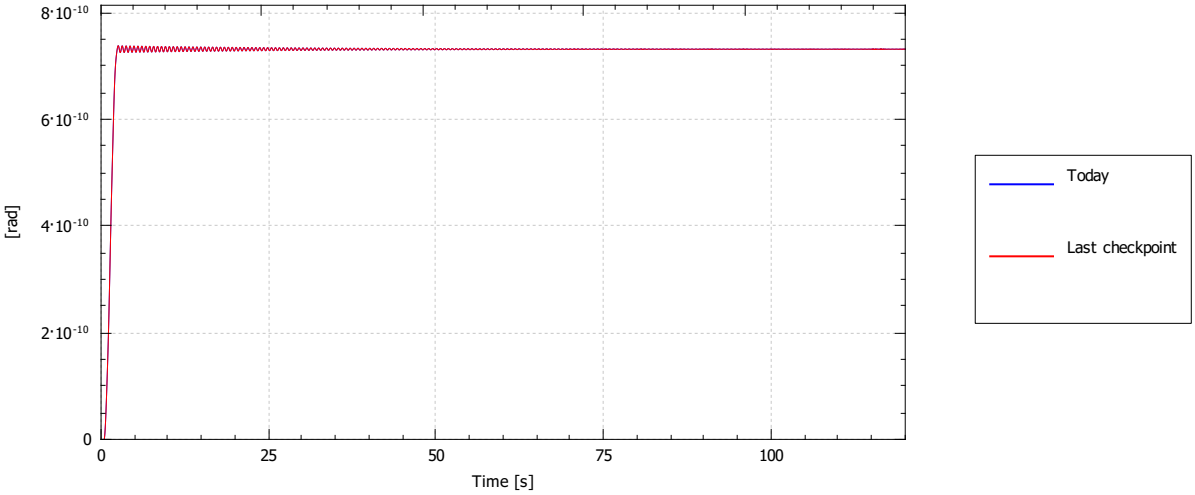
Deformational rotation (2nd prin.)



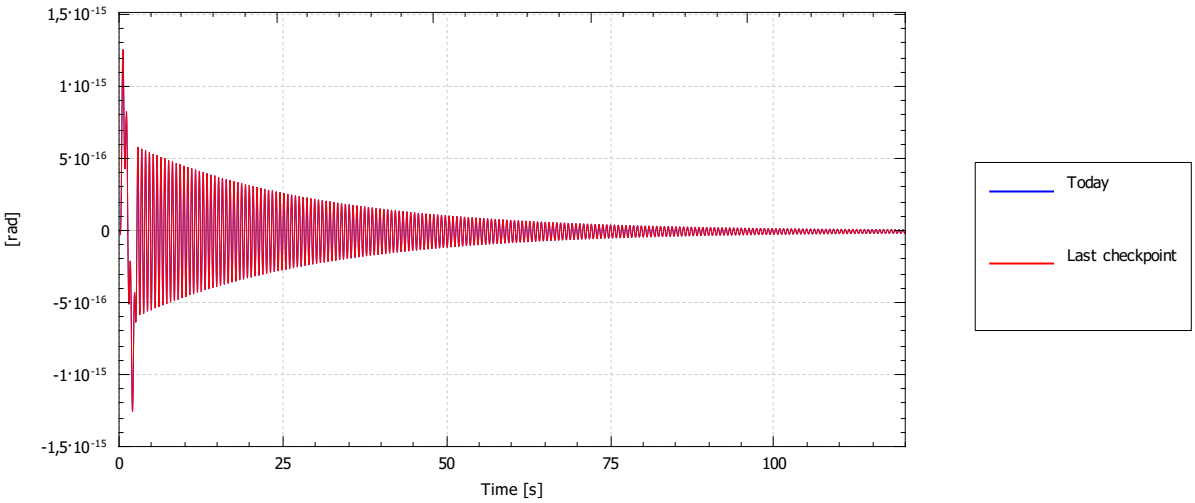
Deformational rotation (i) - rad



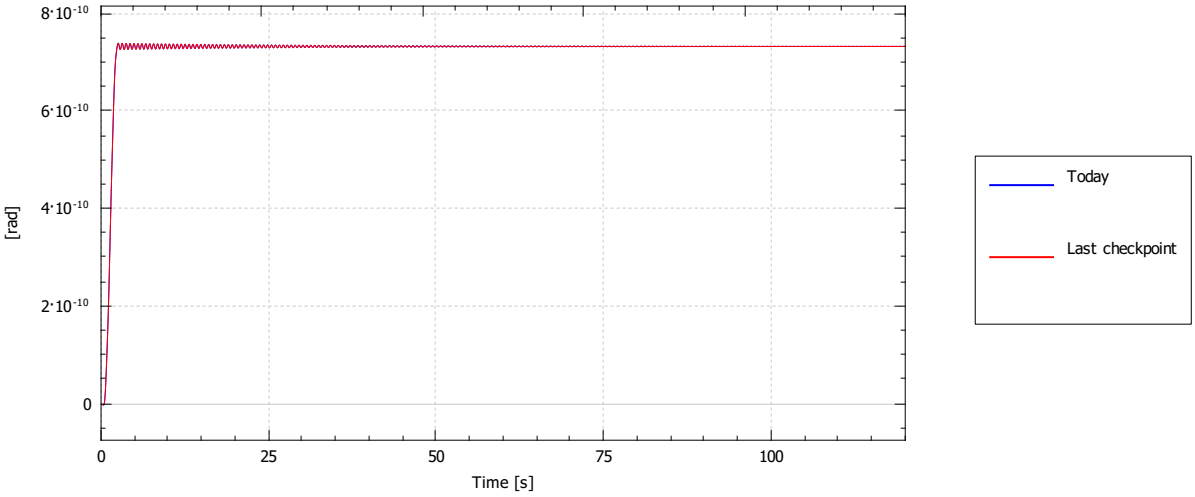
Deformational rotation (j) - rad



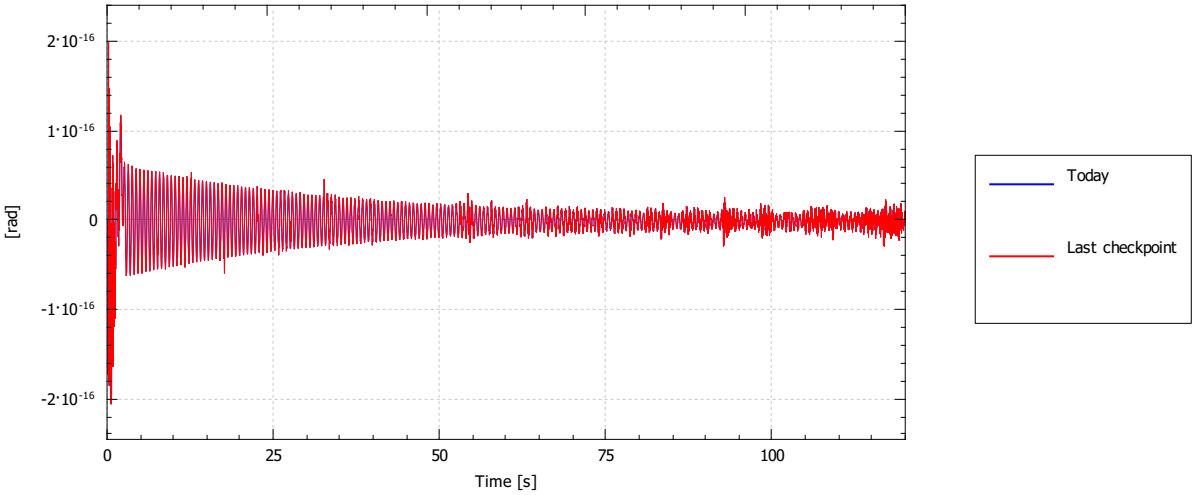
Deformational rotation (axial) - rad



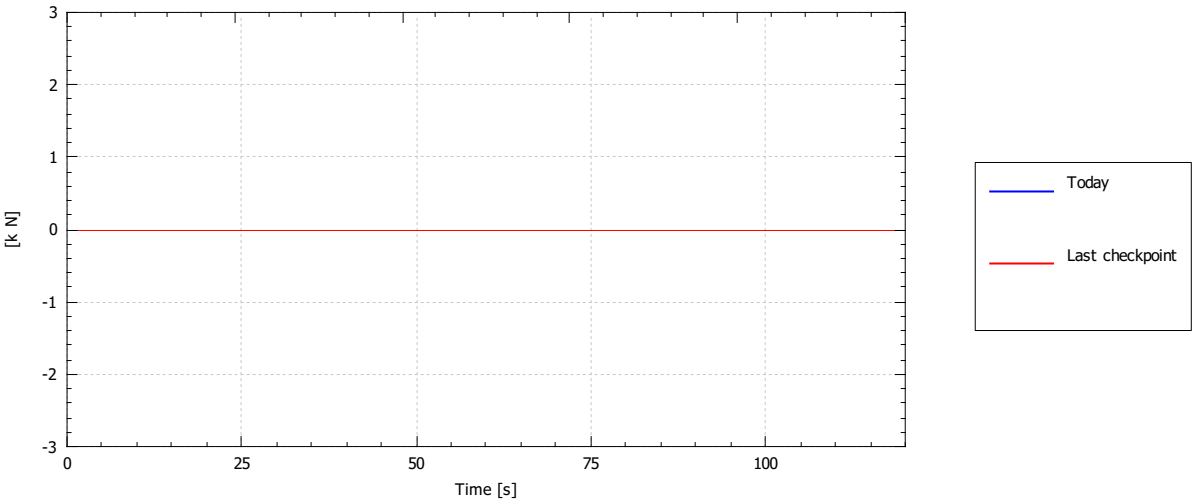
Deformational rotation (1st prin.) - rad



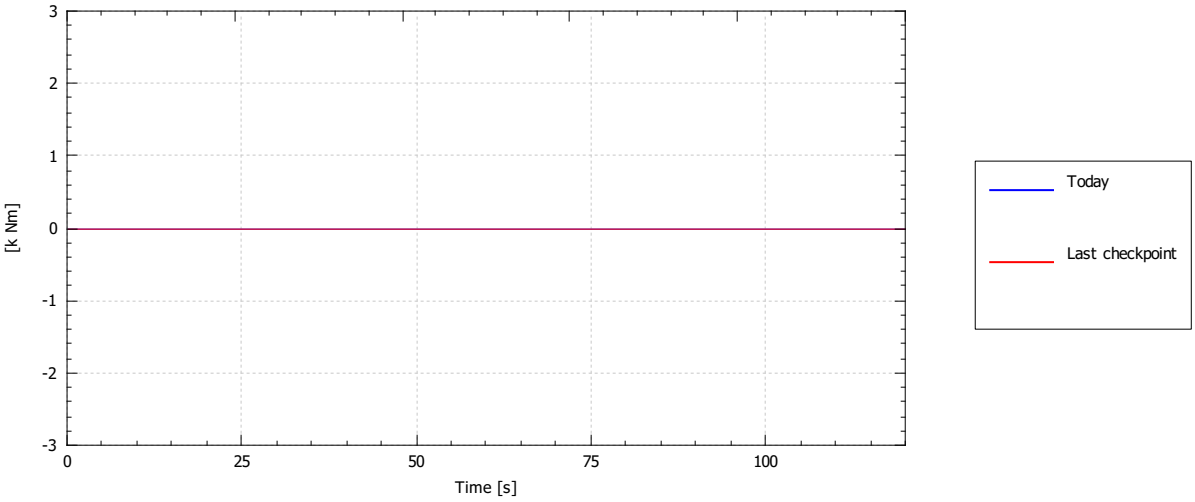
Deformational rotation (2nd prin.) - rad



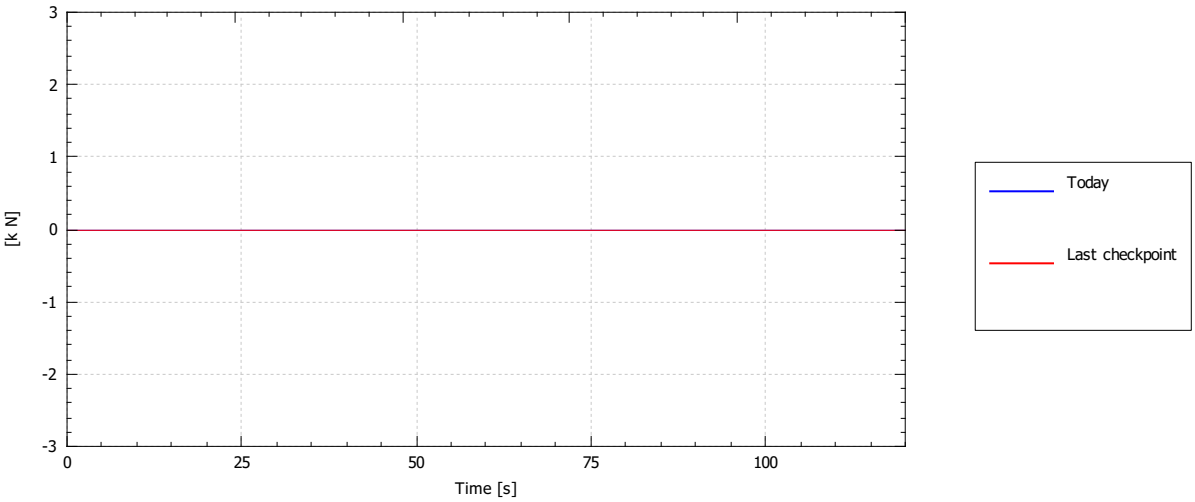
Damping force, i



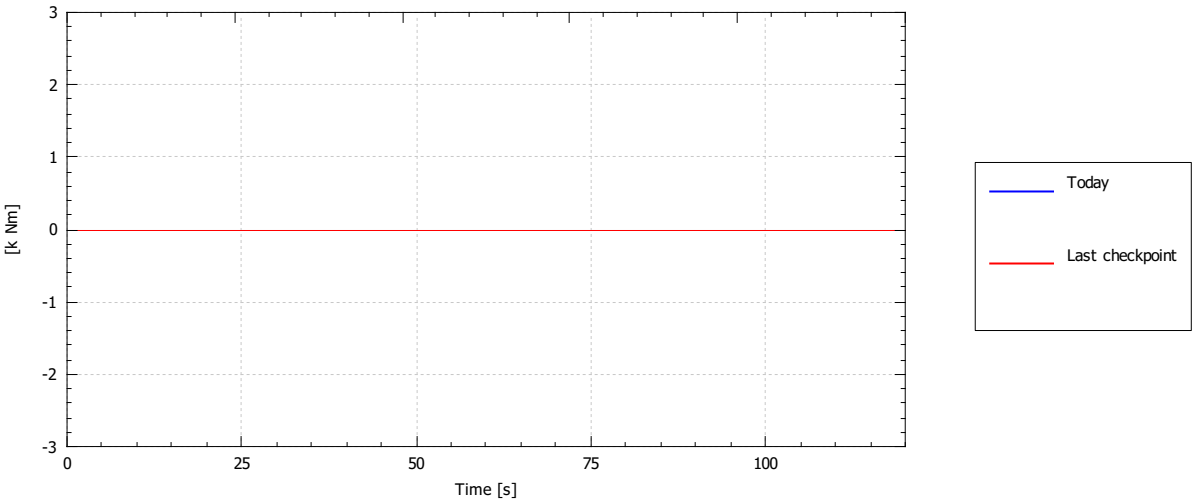
Damping moment, i



Damping force, sum

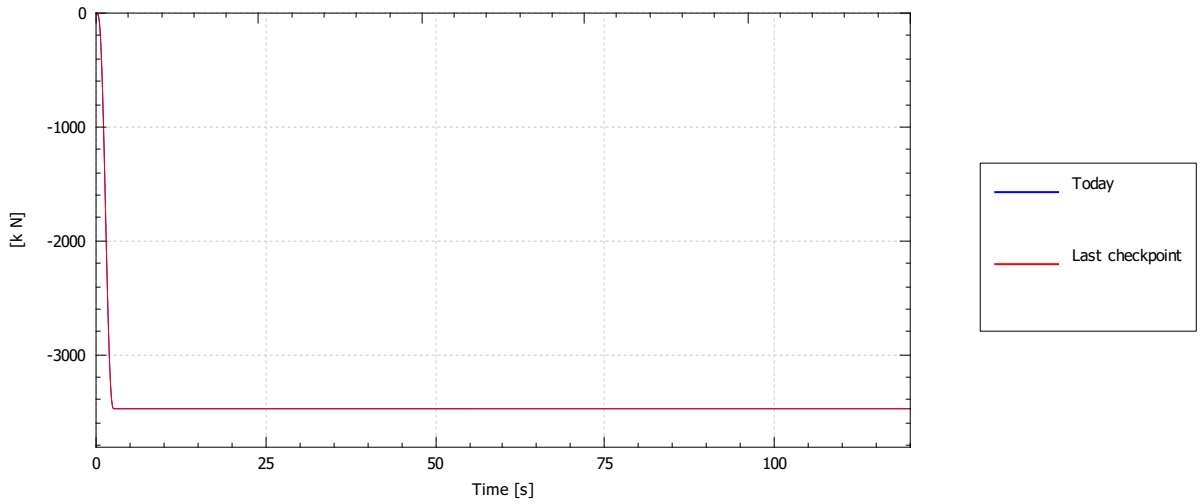


Damping moment, sum

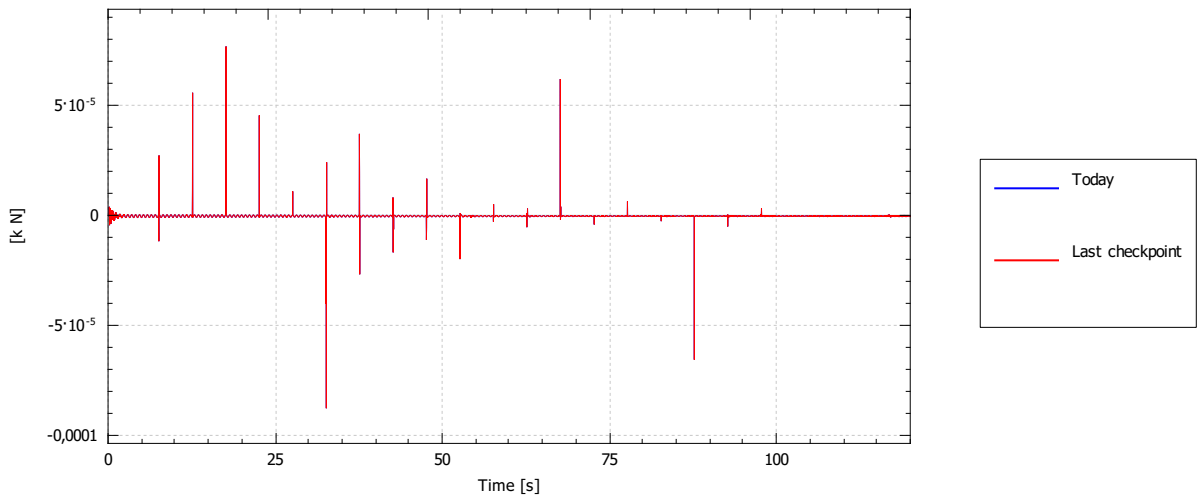


Beam element [Element 16 | Tubular tower]

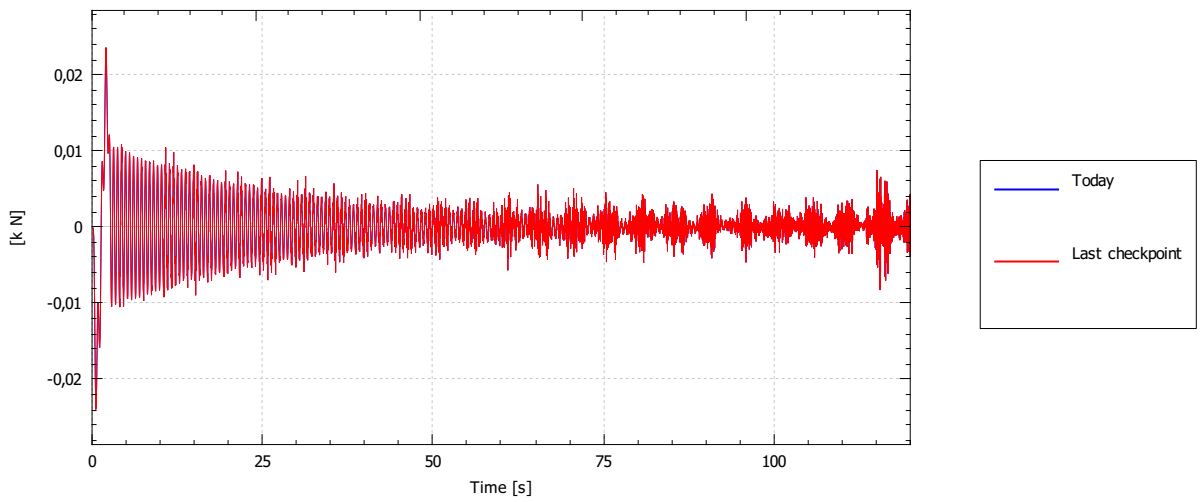
Axial force



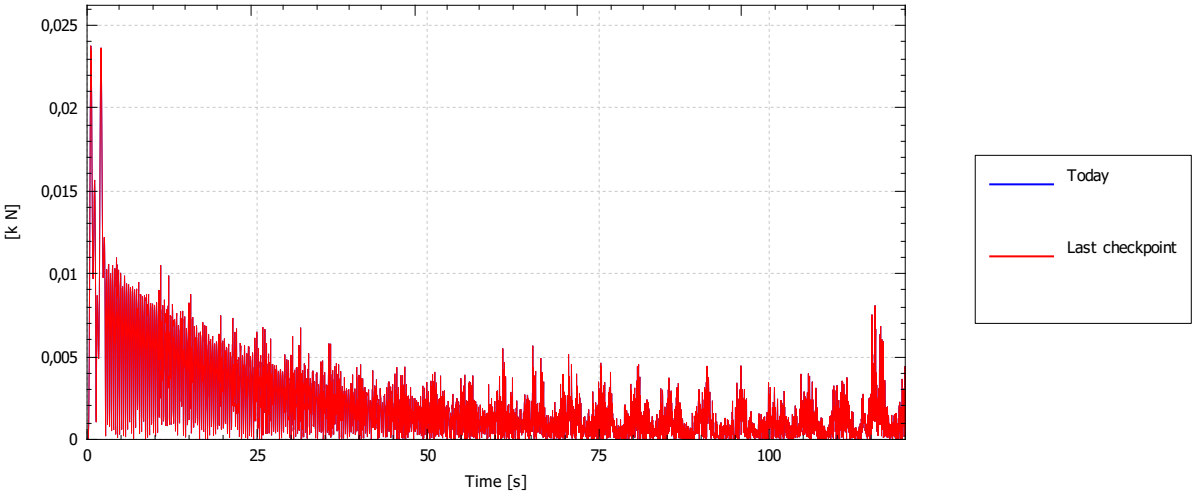
Shear force (1st prin. axis)



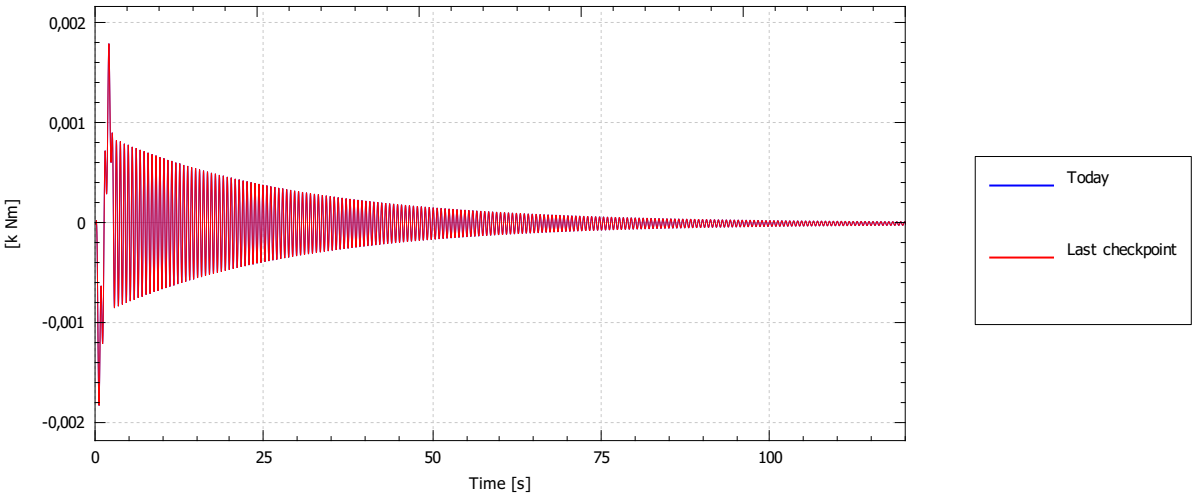
Shear force (2nd prin. axis)



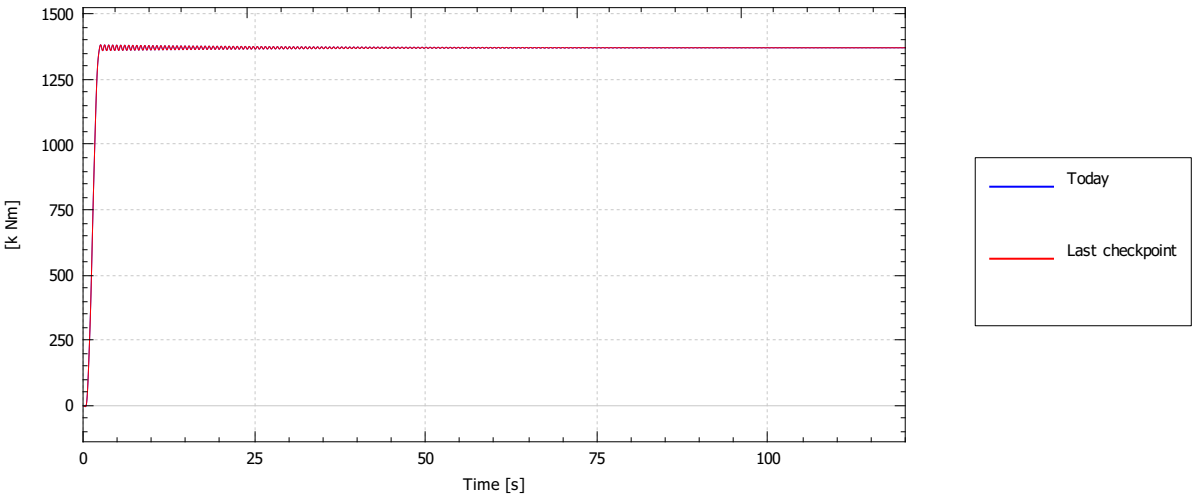
Shear force, mag.



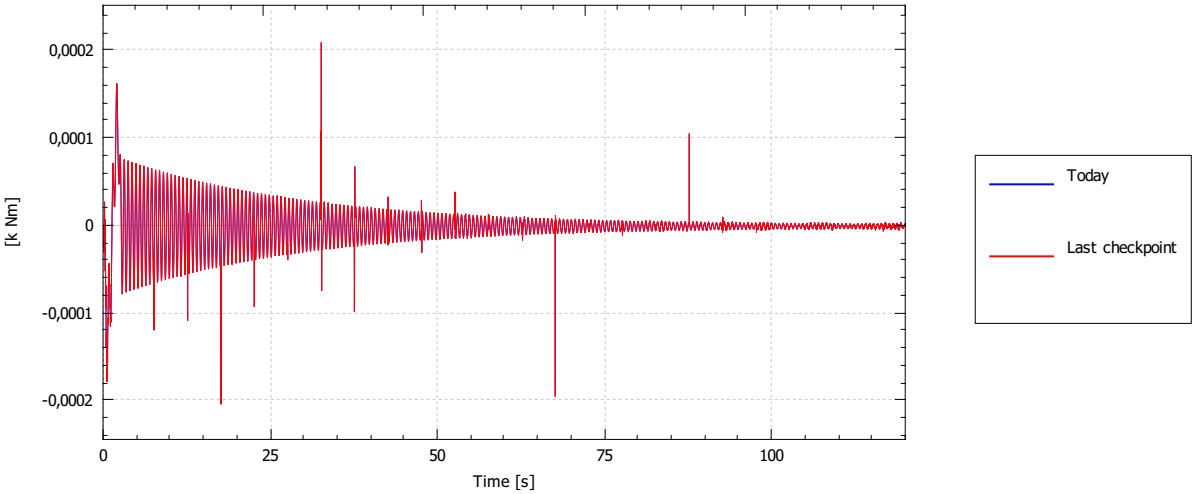
Torque



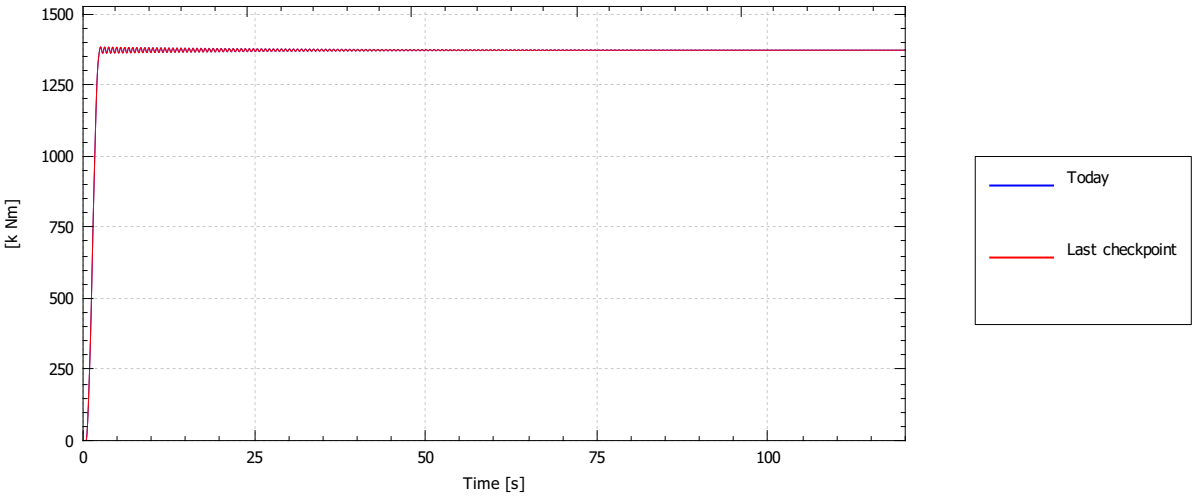
Moment (1st prin. axis), i



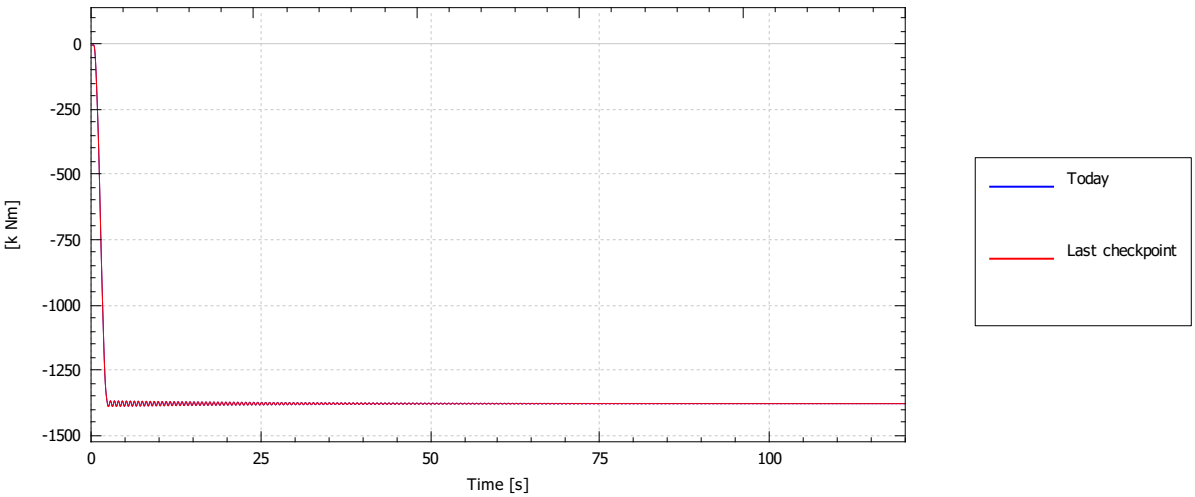
Moment (2nd prin. axis), i



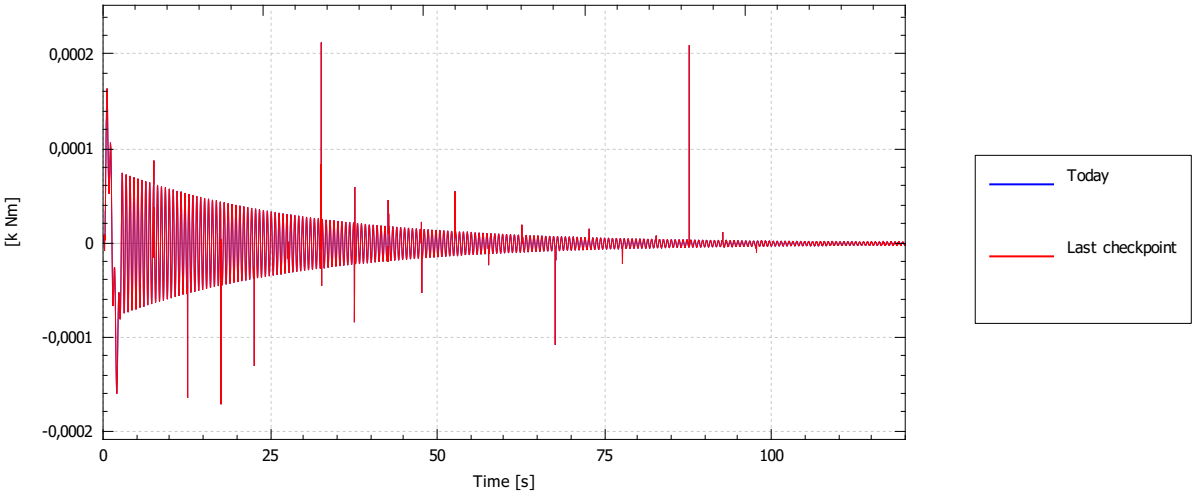
Moment, mag., i



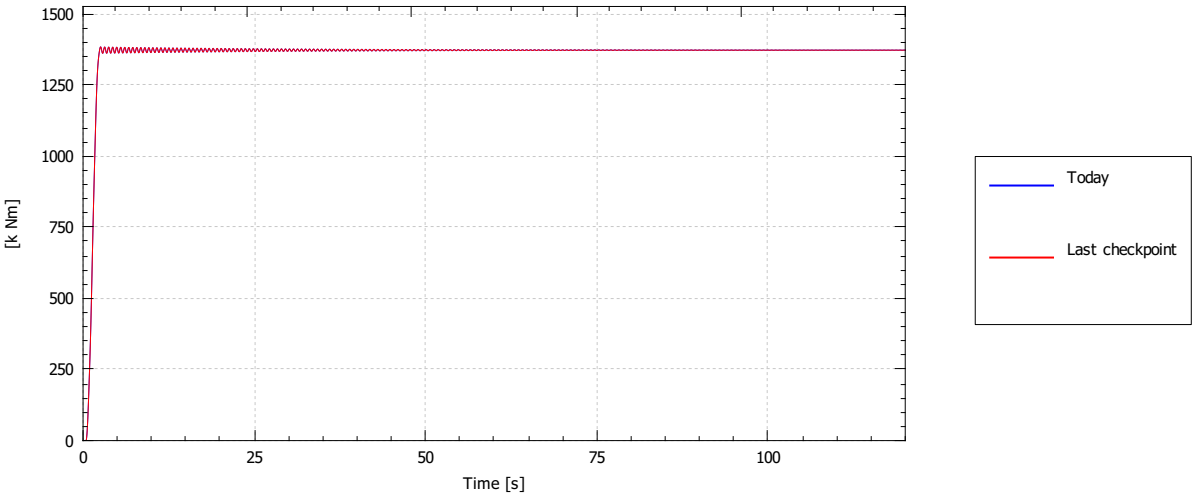
Moment (1st prin. axis), j



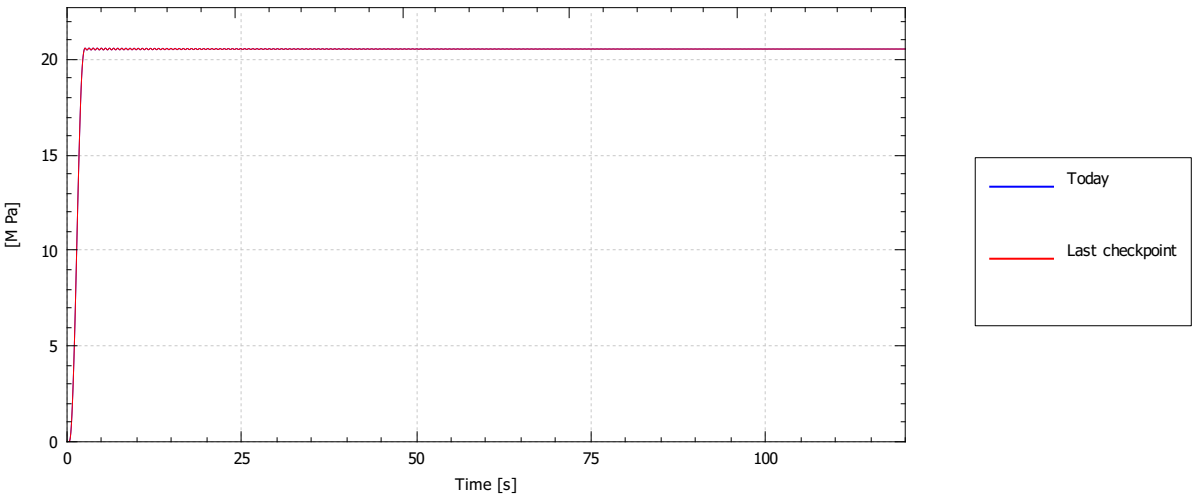
Moment (2nd prin. axis), j



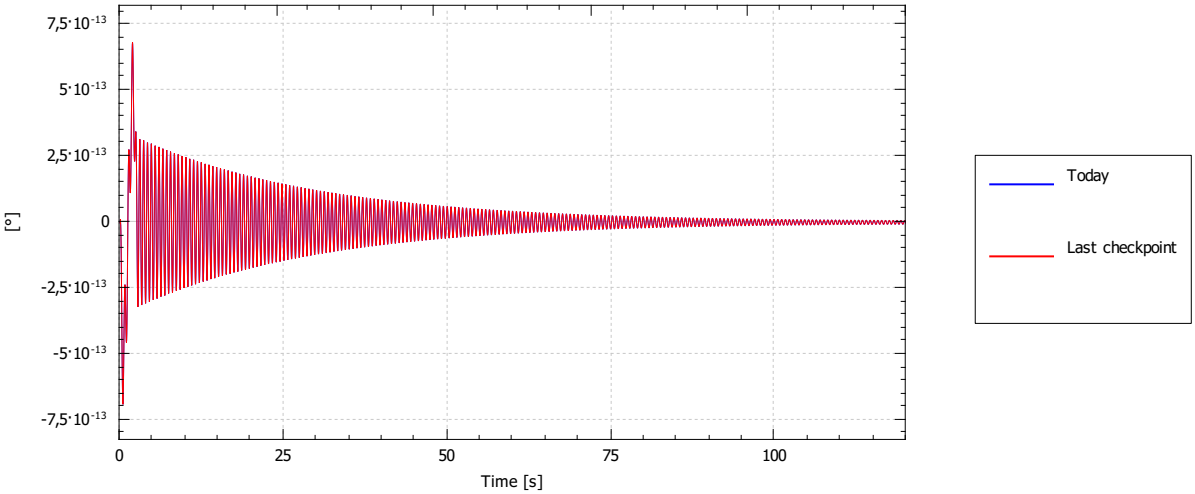
Moment, mag., j



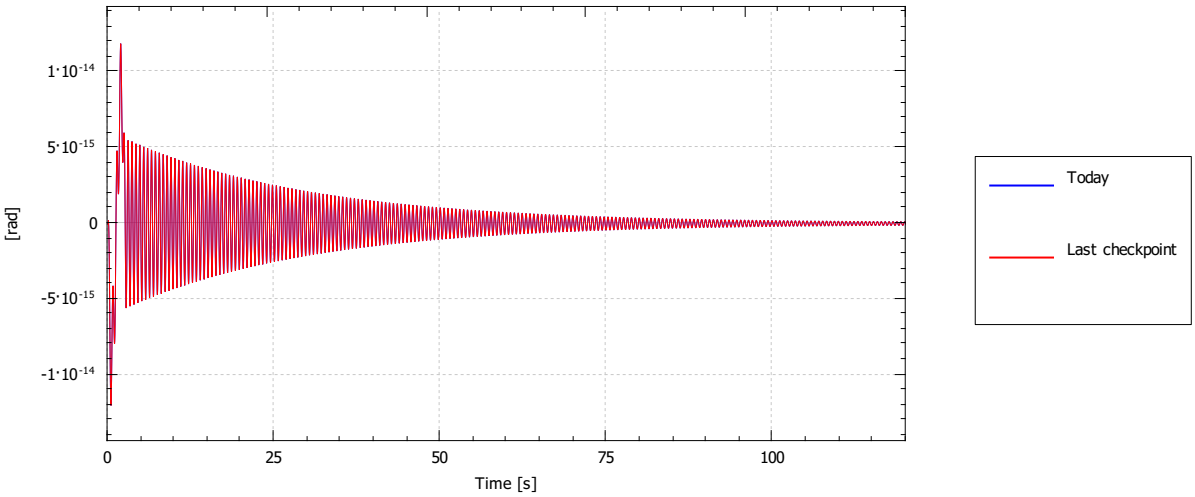
Max normal stress



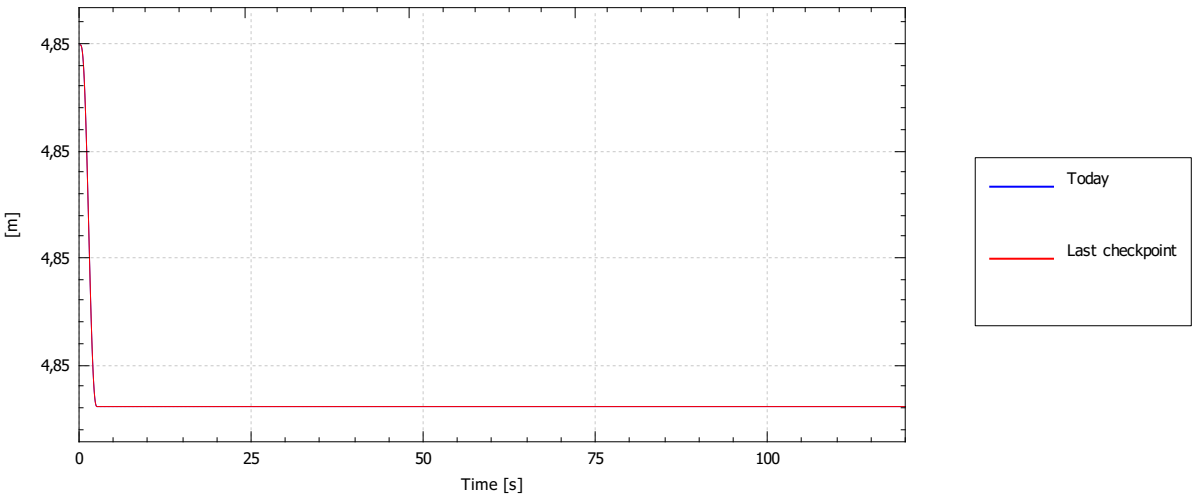
Twist (structural)



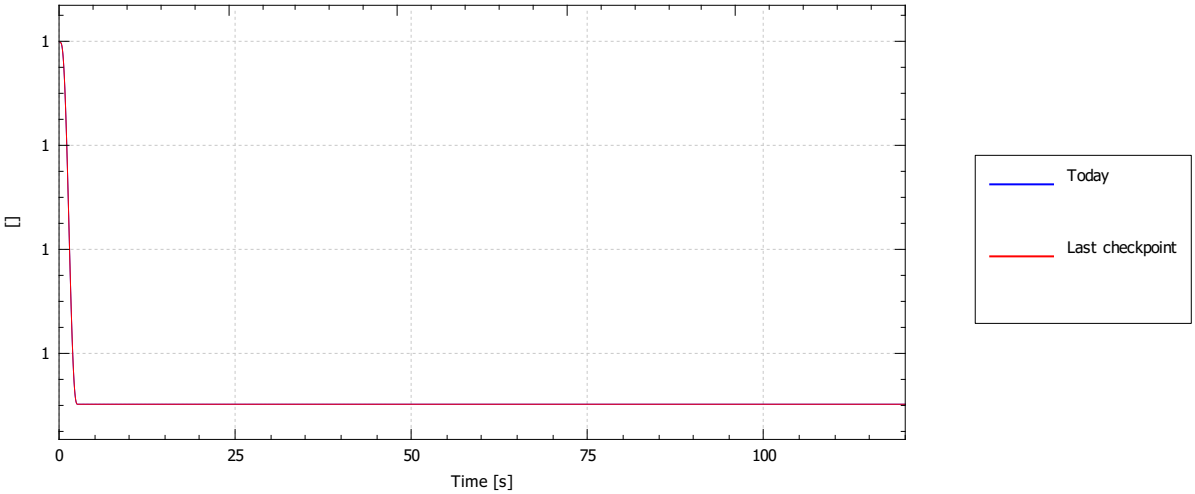
Twist (structural) - rad



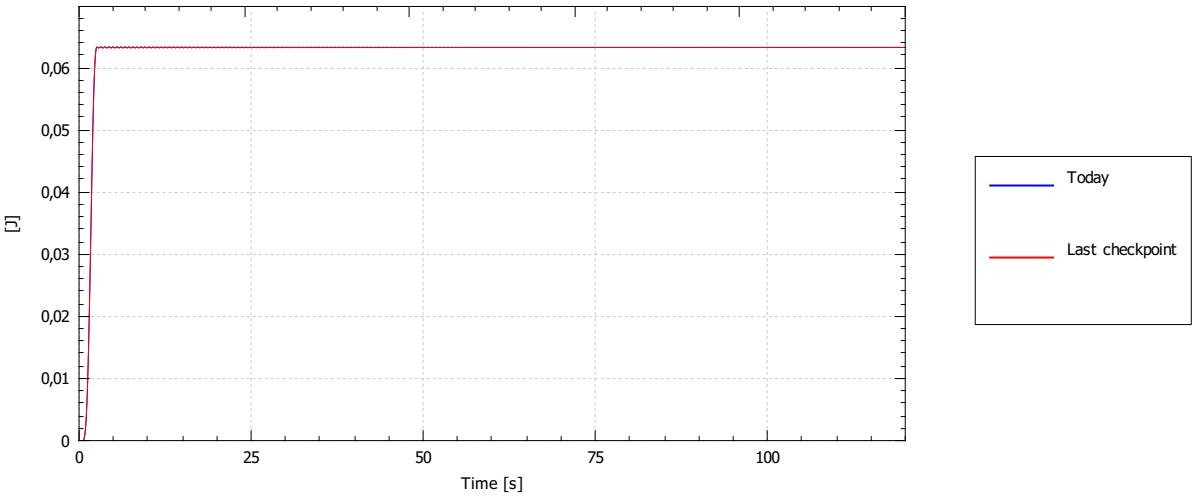
Deformed length



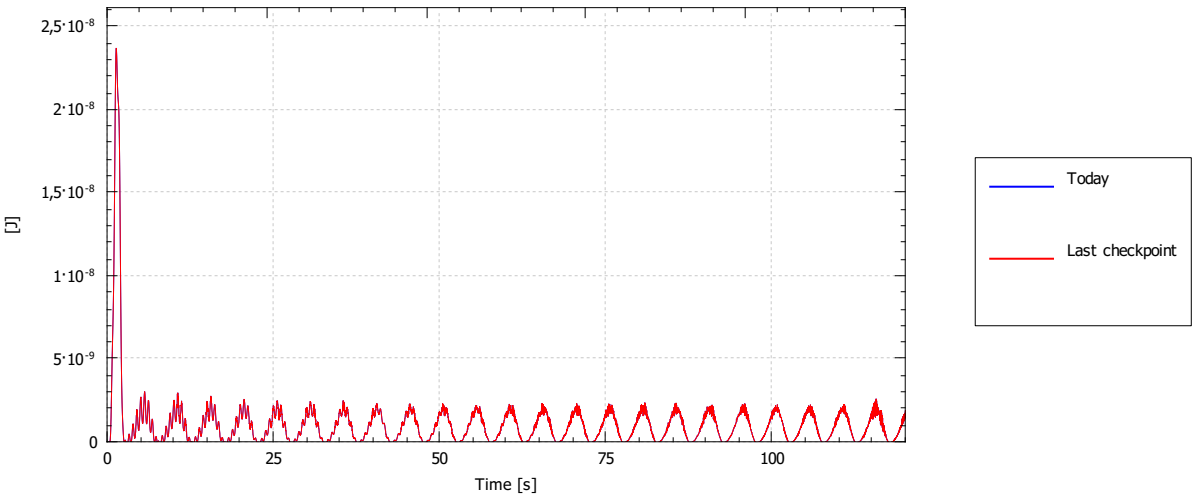
Elongation



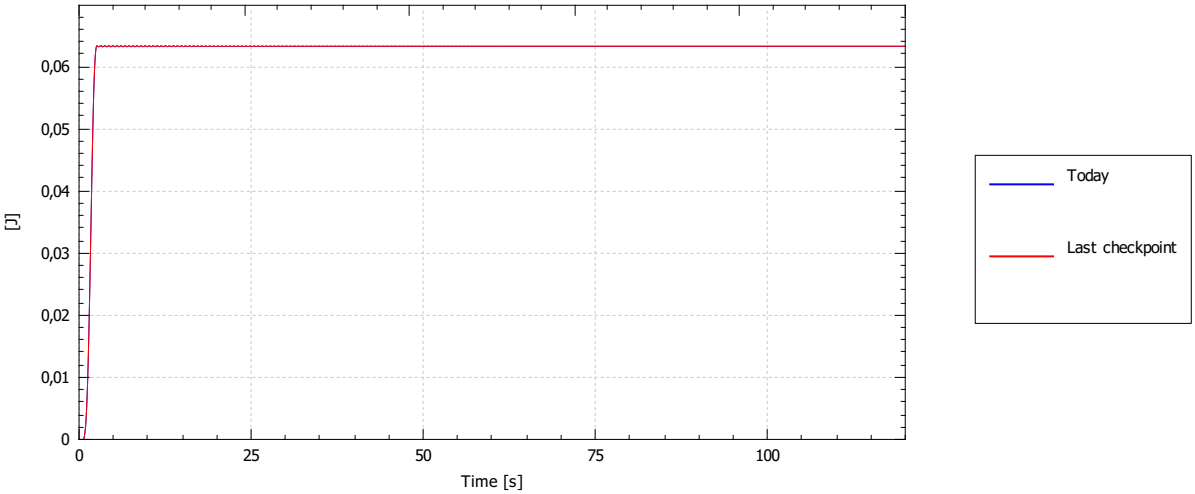
Strain energy



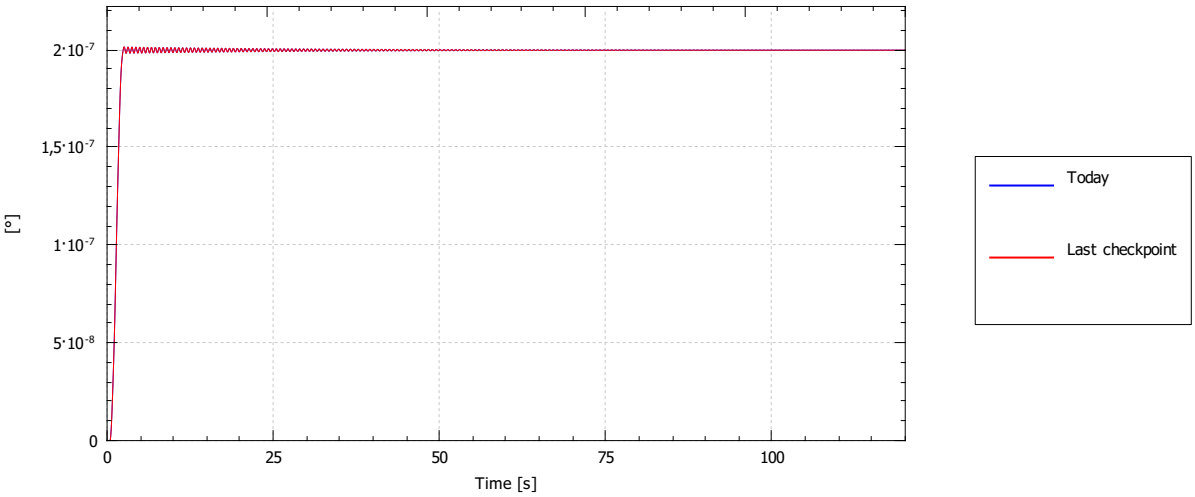
Kinetic energy



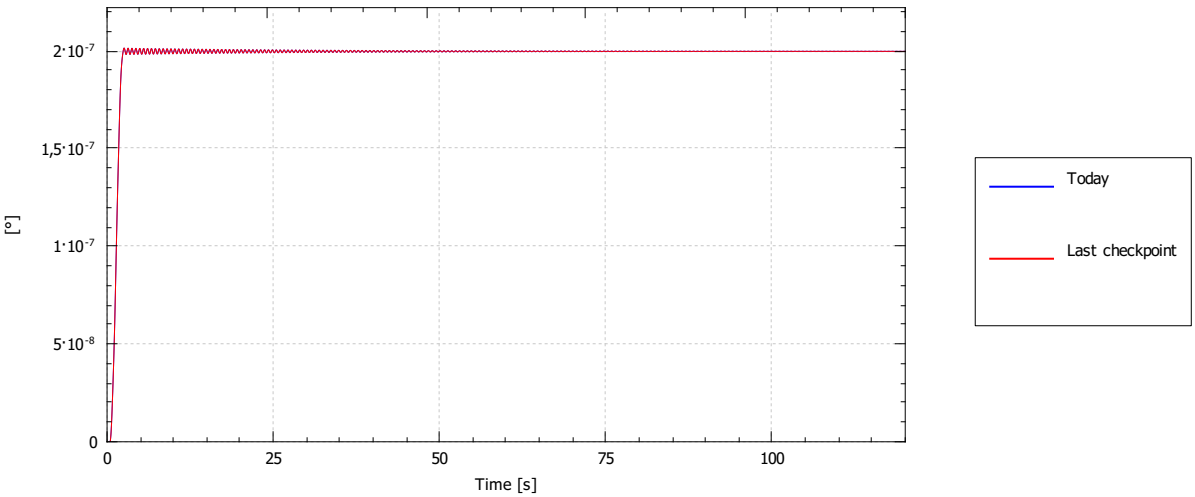
Mechanical energy



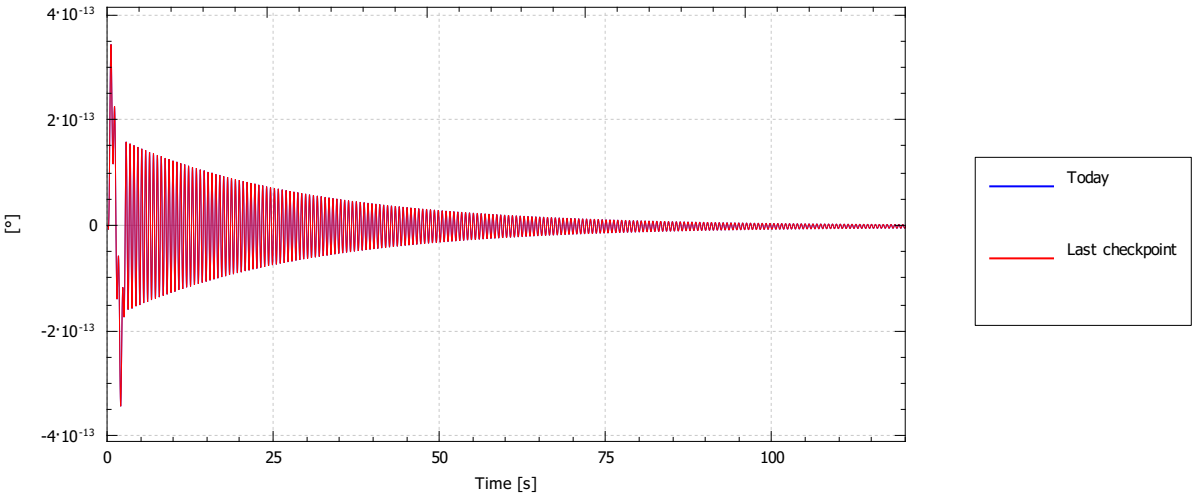
Deformational rotation (i)



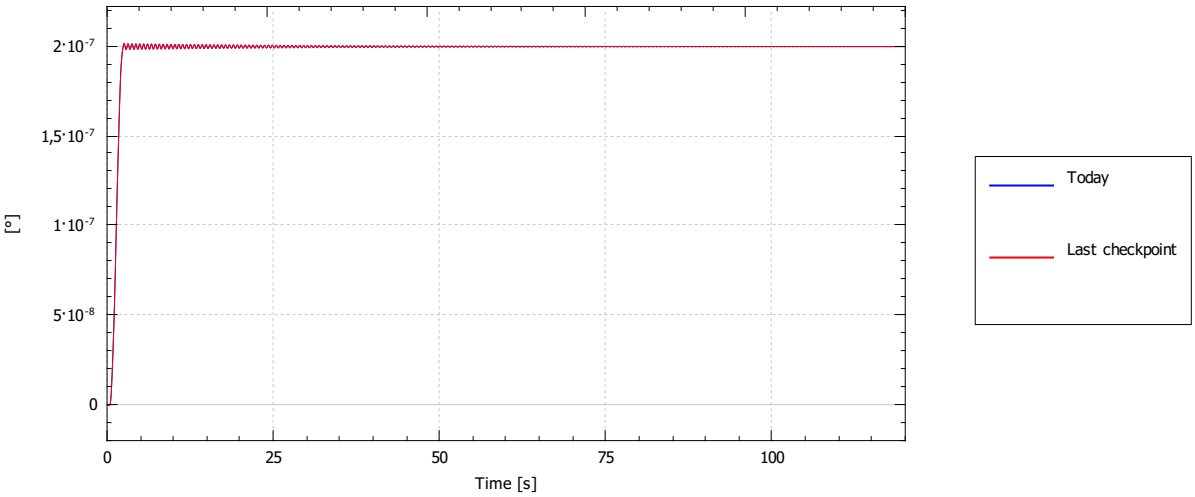
Deformational rotation (j)



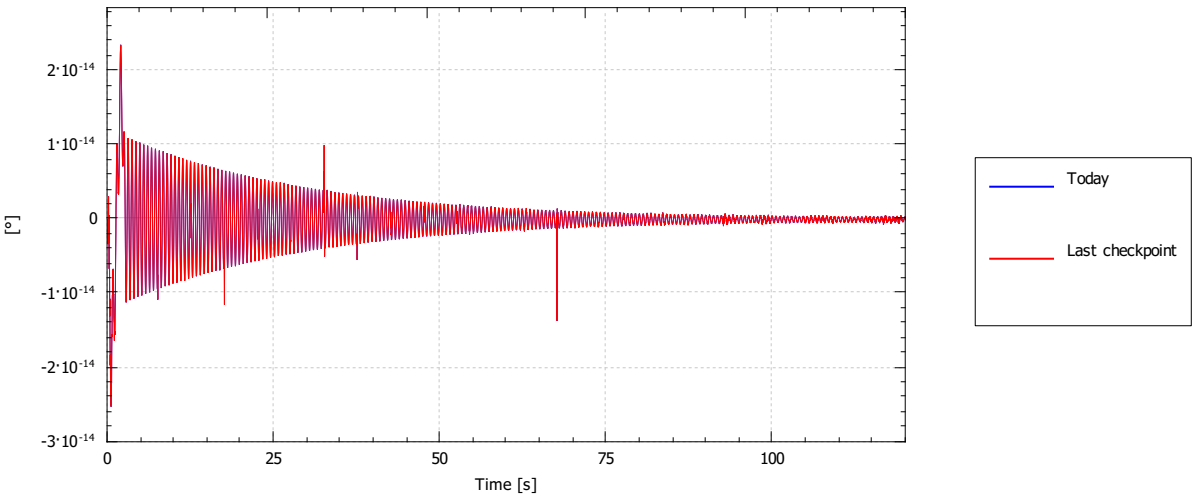
Deformational rotation (axial)



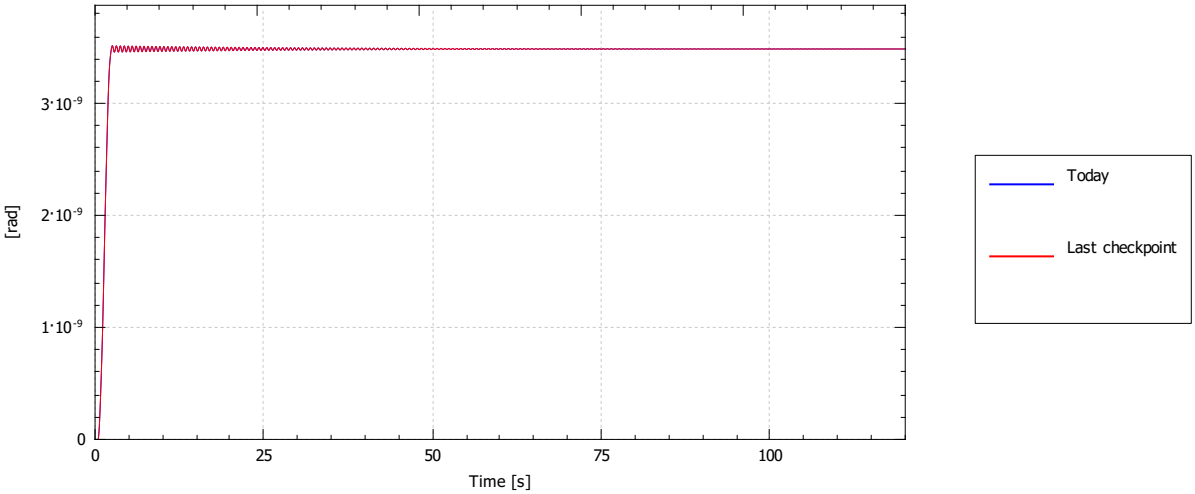
Deformational rotation (1st prin.)



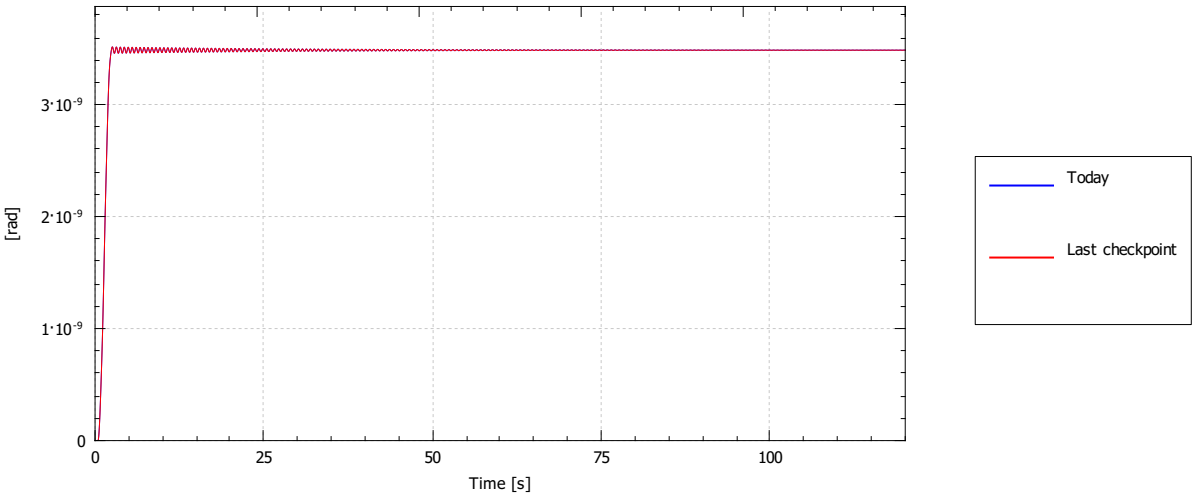
Deformational rotation (2nd prin.)



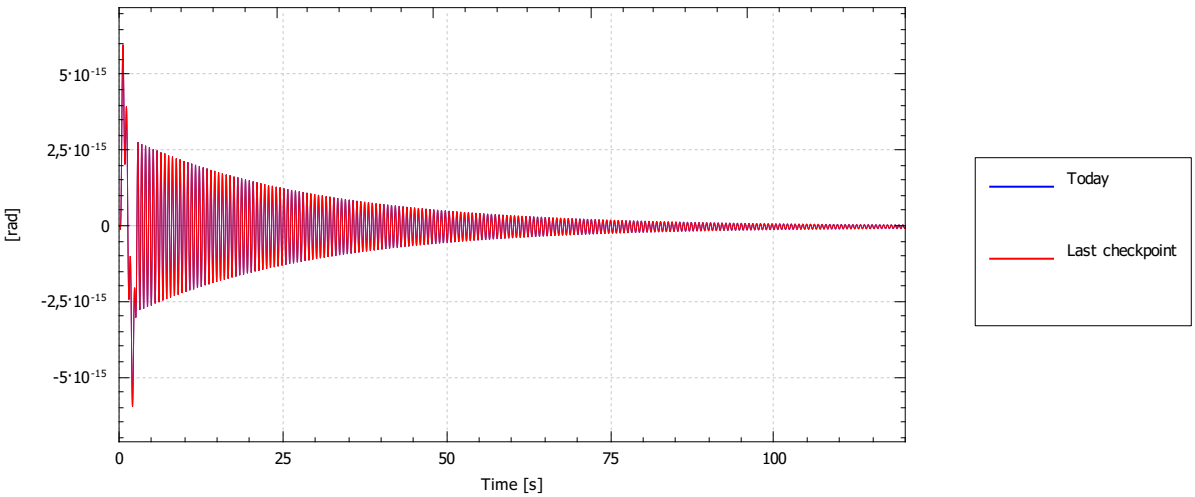
Deformational rotation (i) - rad



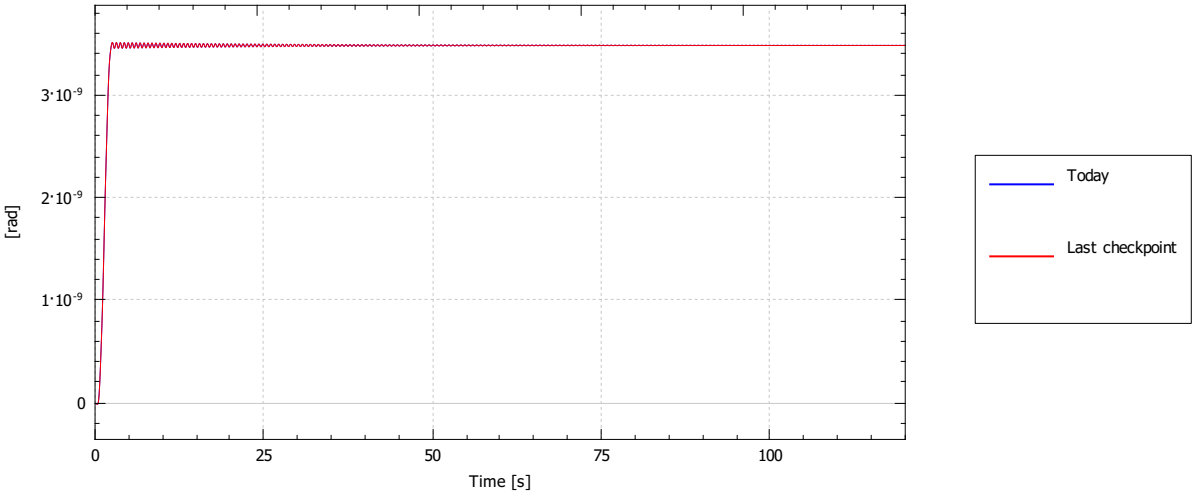
Deformational rotation (j) - rad



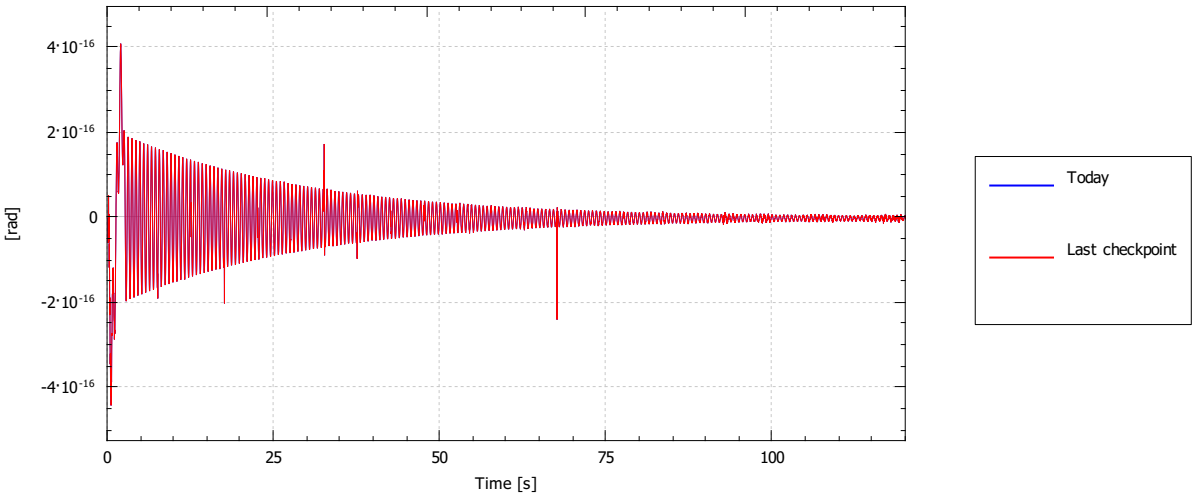
Deformational rotation (axial) - rad



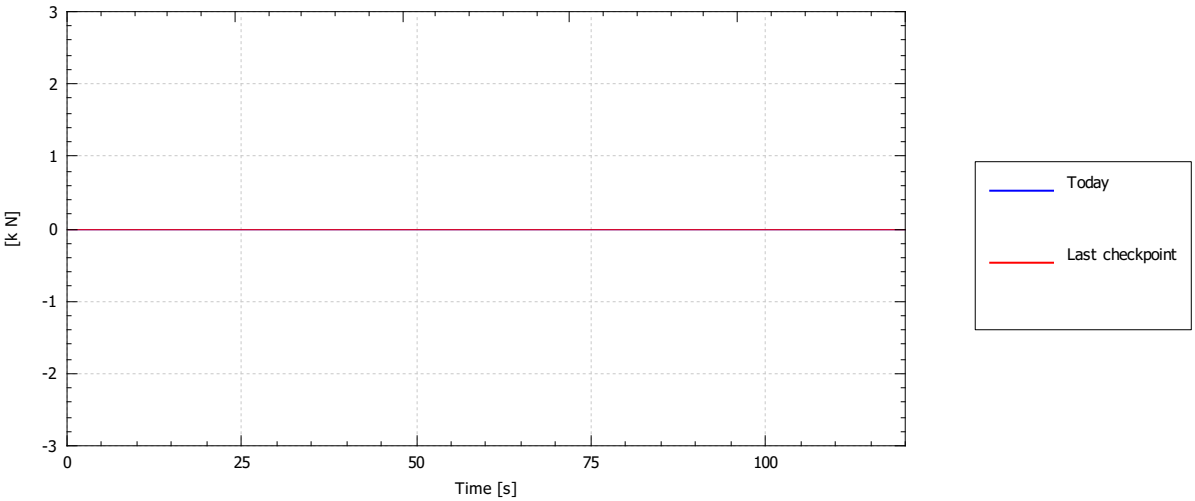
Deformational rotation (1st prin.) - rad



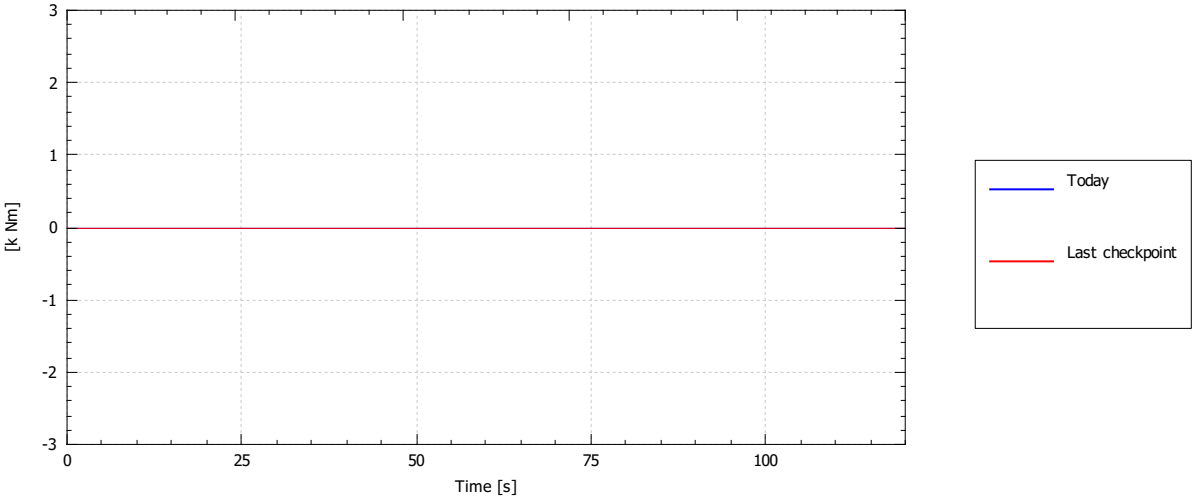
Deformational rotation (2nd prin.) - rad



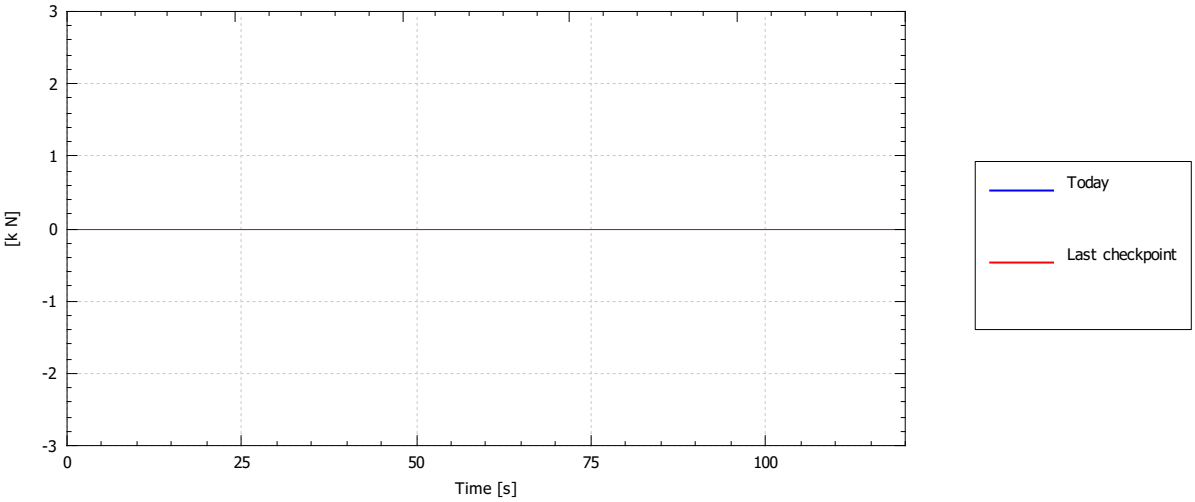
Damping force, i



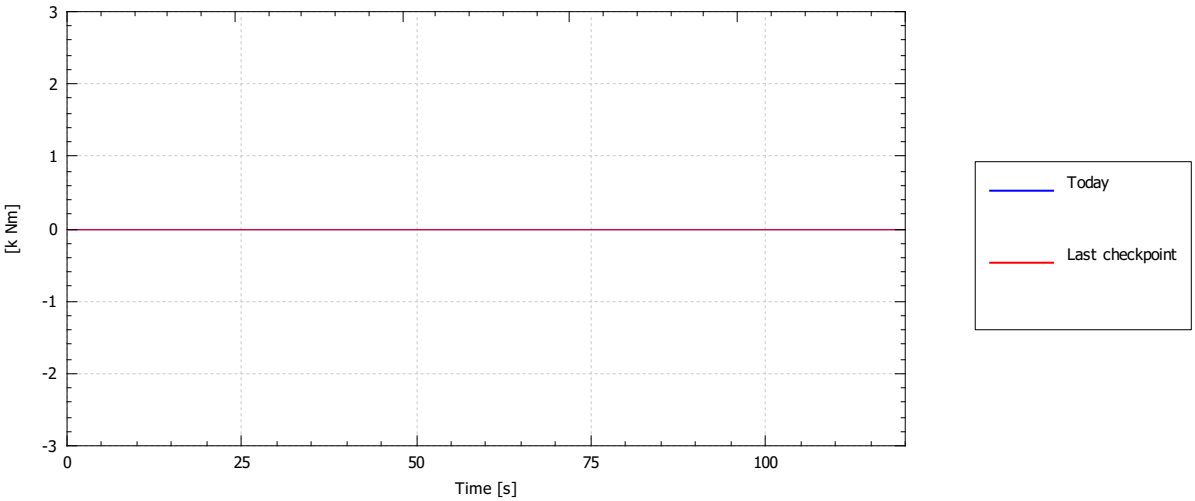
Damping moment, i



Damping force, sum

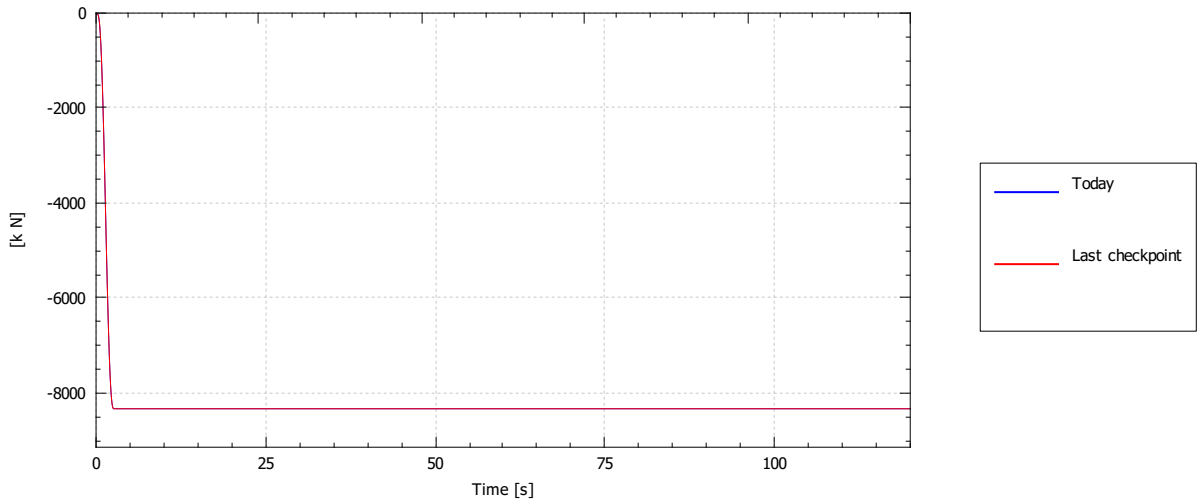


Damping moment, sum

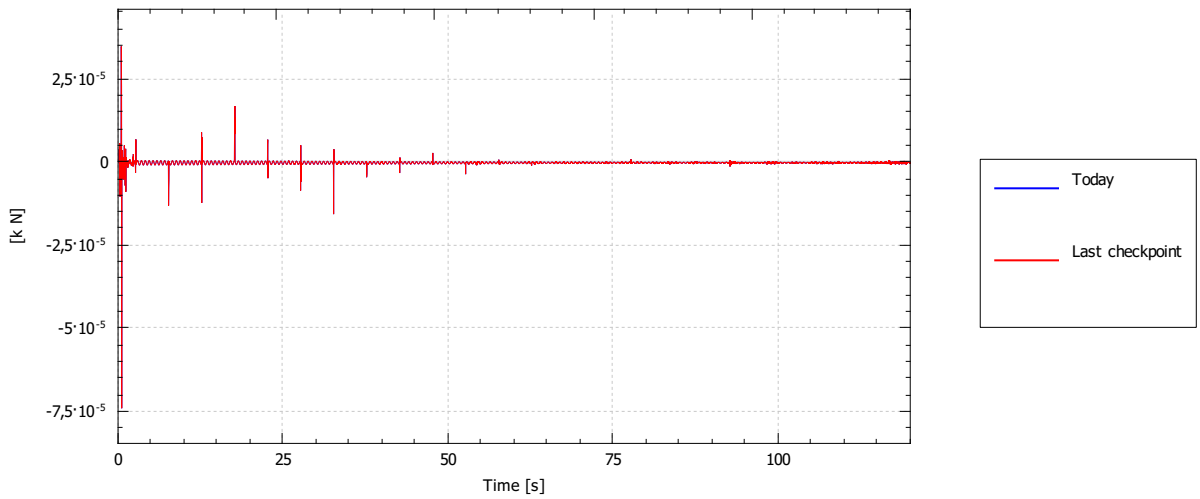


Beam element [Element 3 | Monopile]

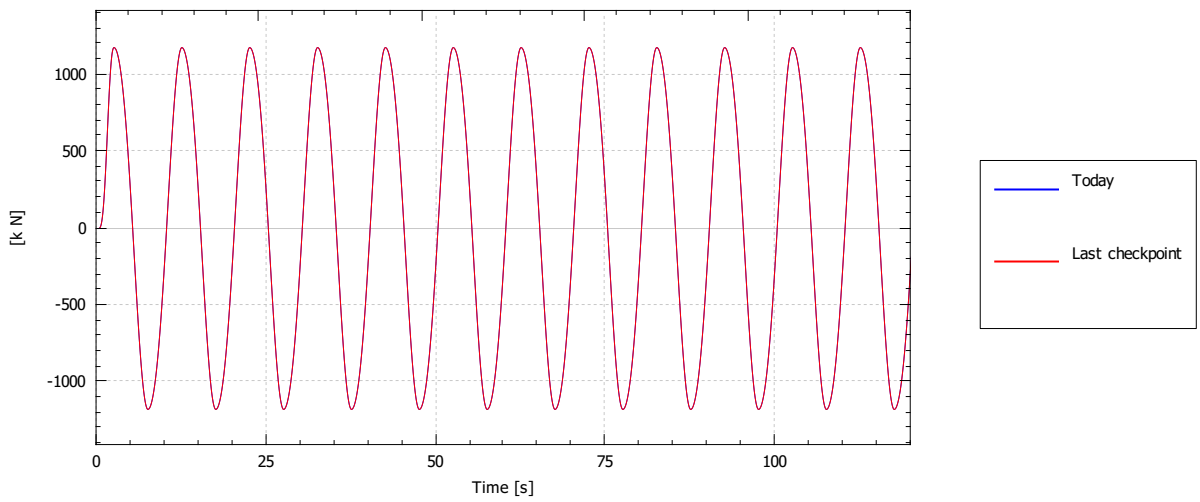
Axial force



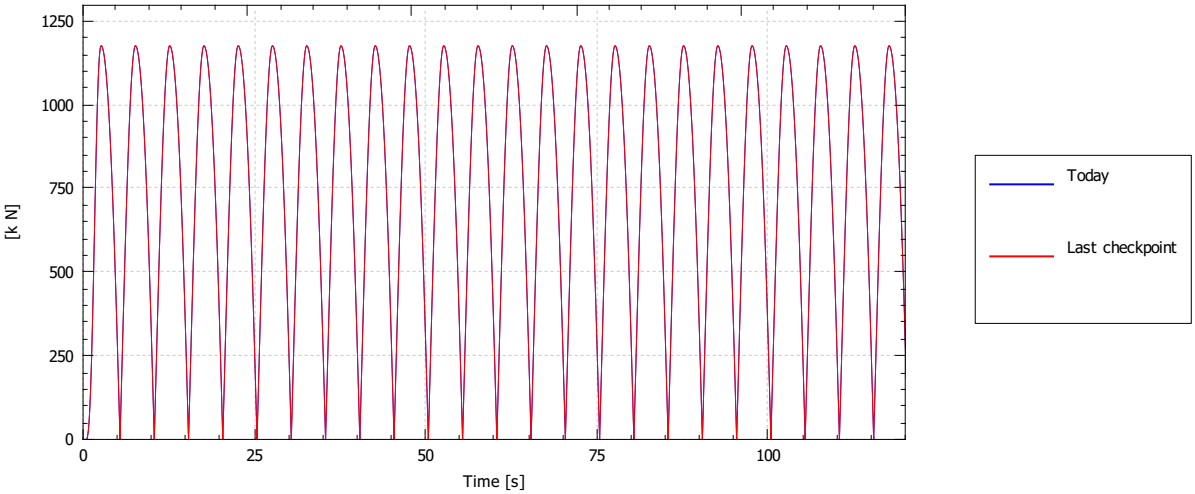
Shear force (1st prin. axis)



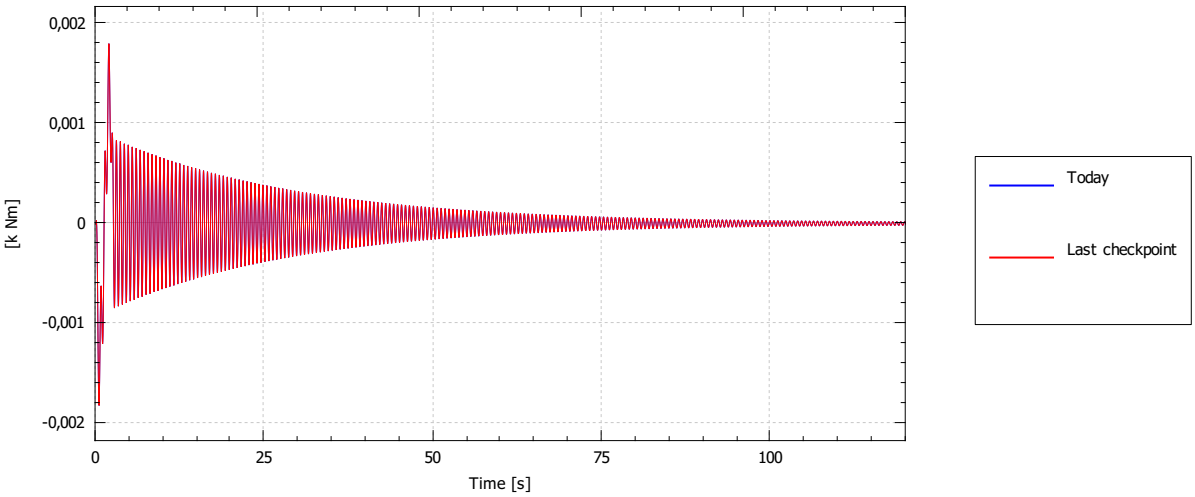
Shear force (2nd prin. axis)



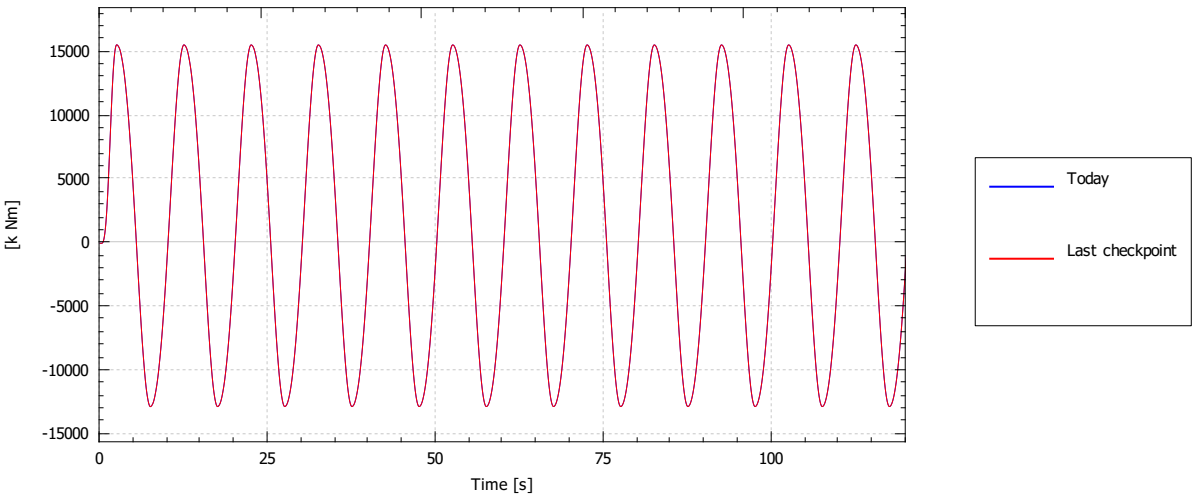
Shear force, mag.



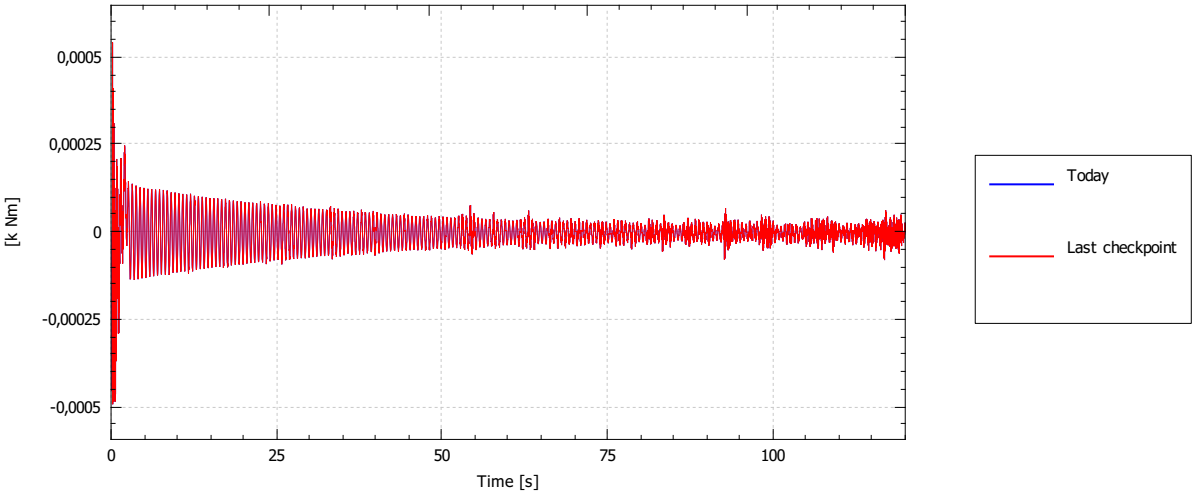
Torque



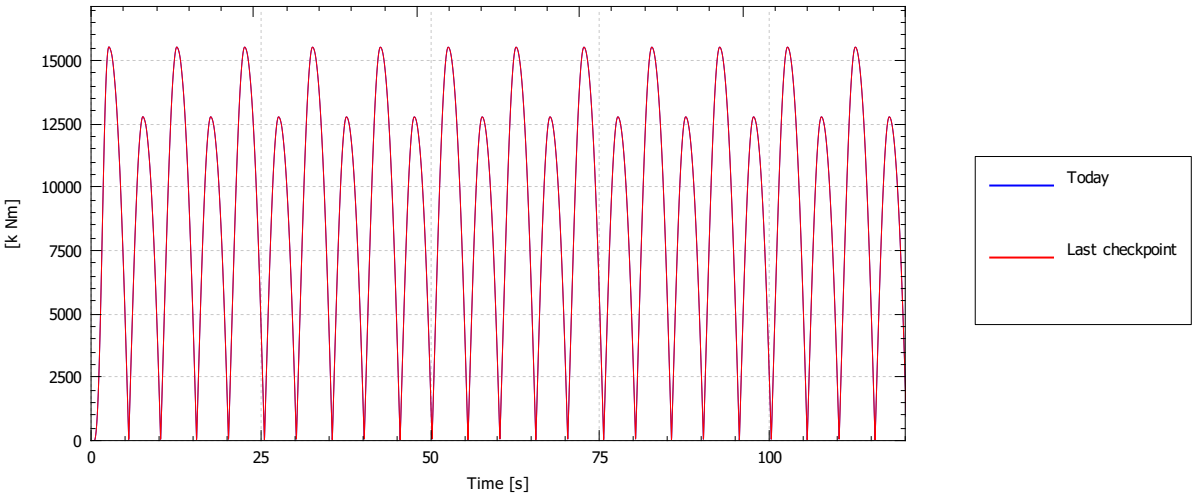
Moment (1st prin. axis), i



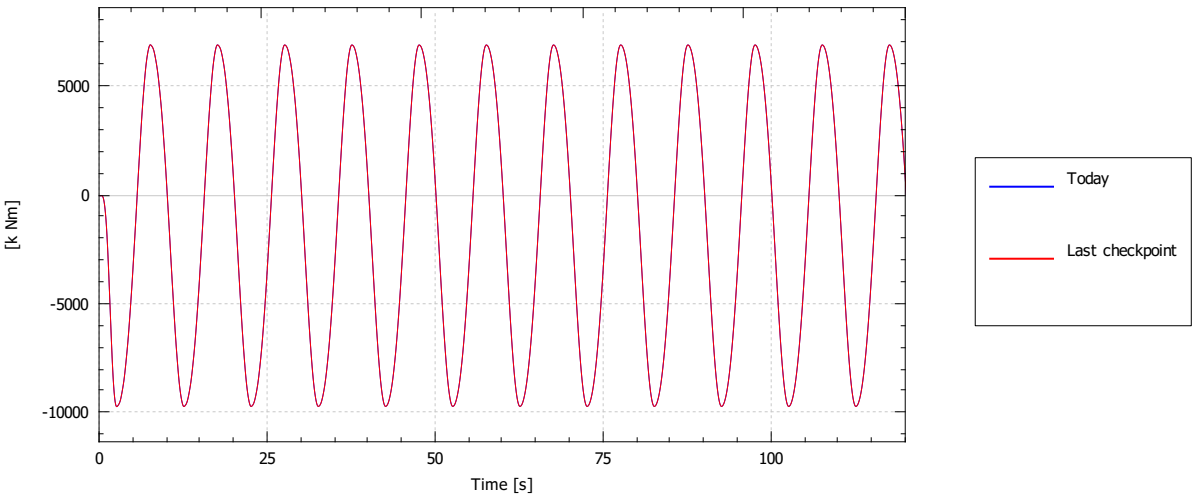
Moment (2nd prin. axis), i



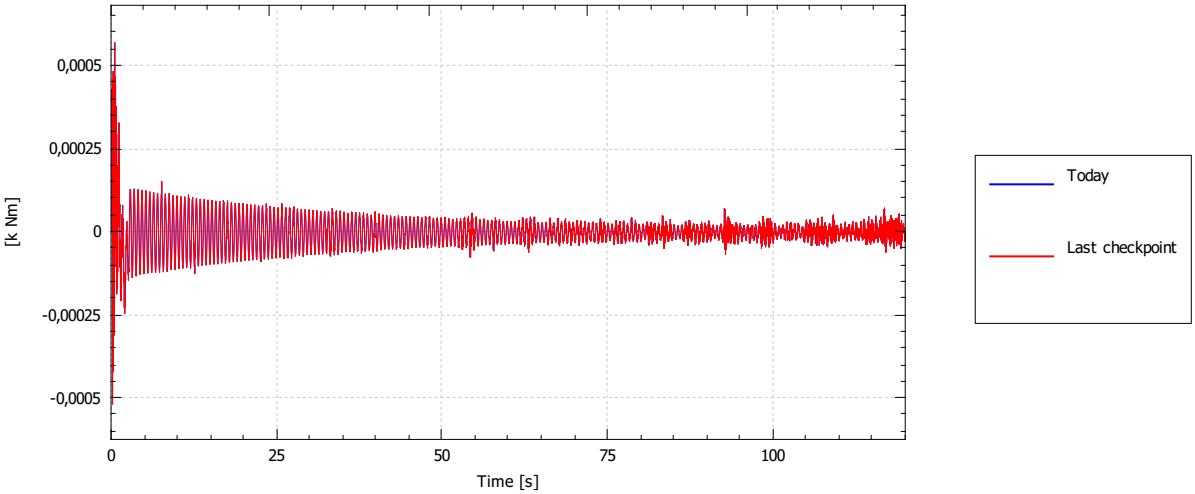
Moment, mag., i



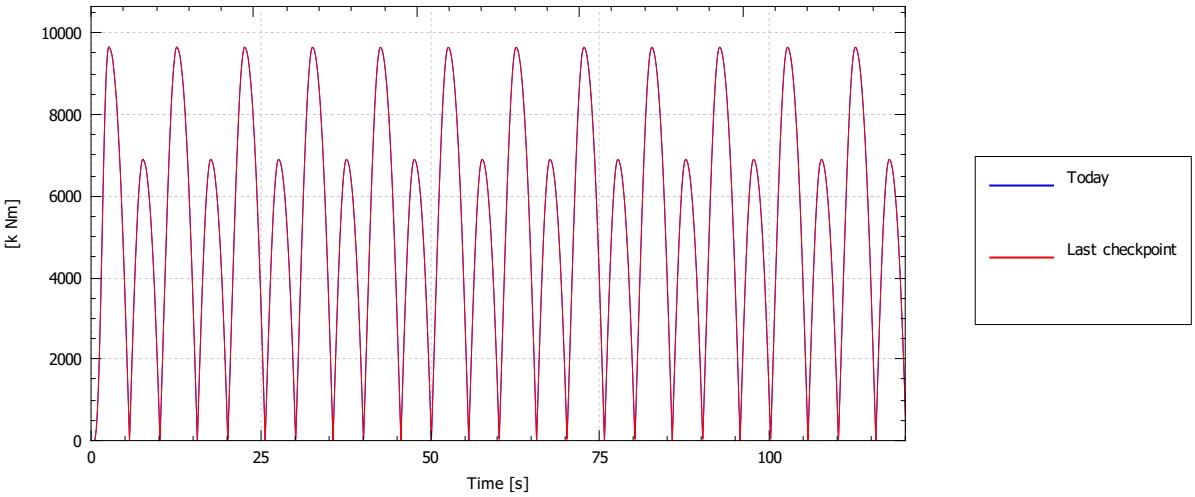
Moment (1st prin. axis), j



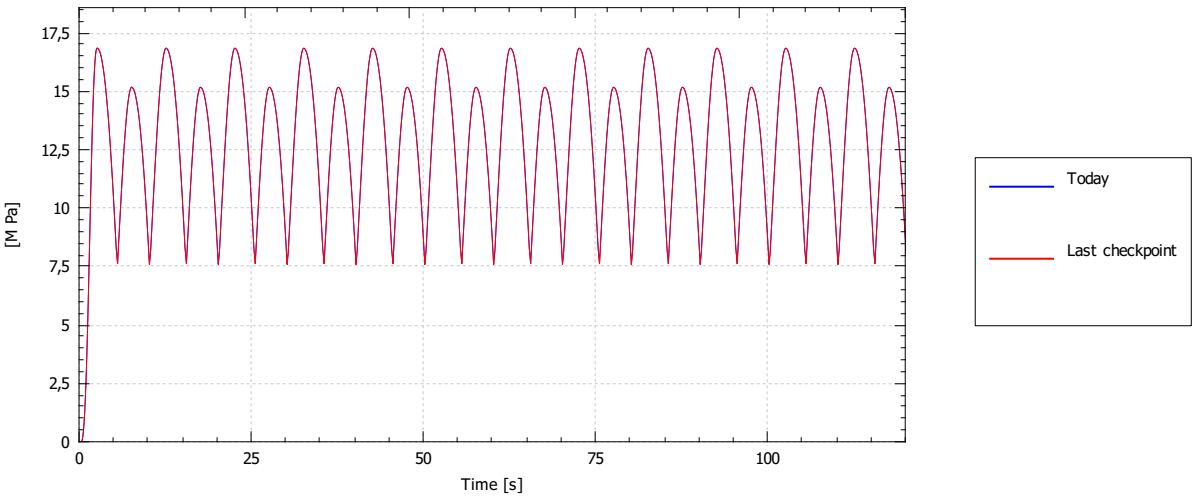
Moment (2nd prin. axis), j



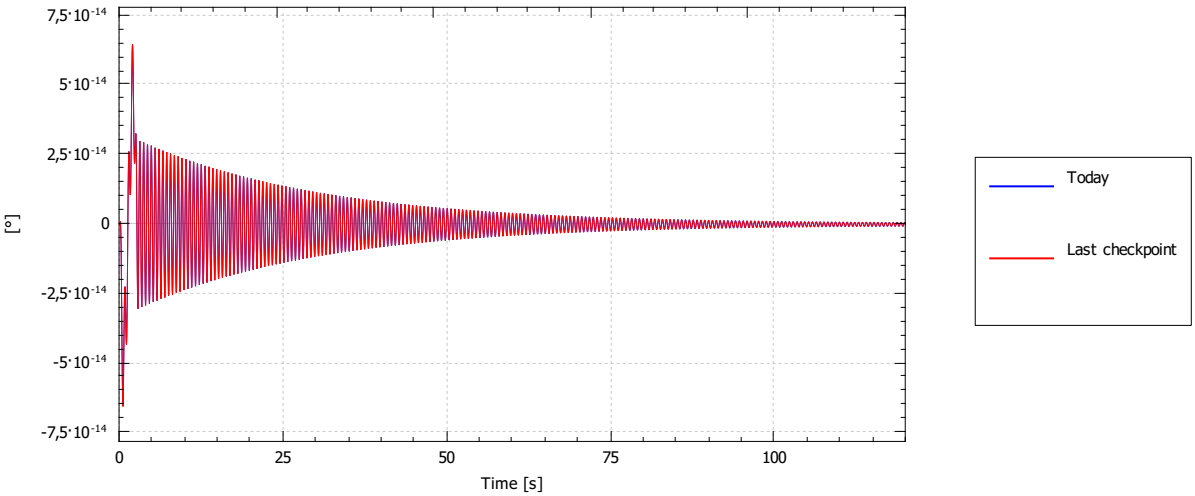
Moment, mag., j



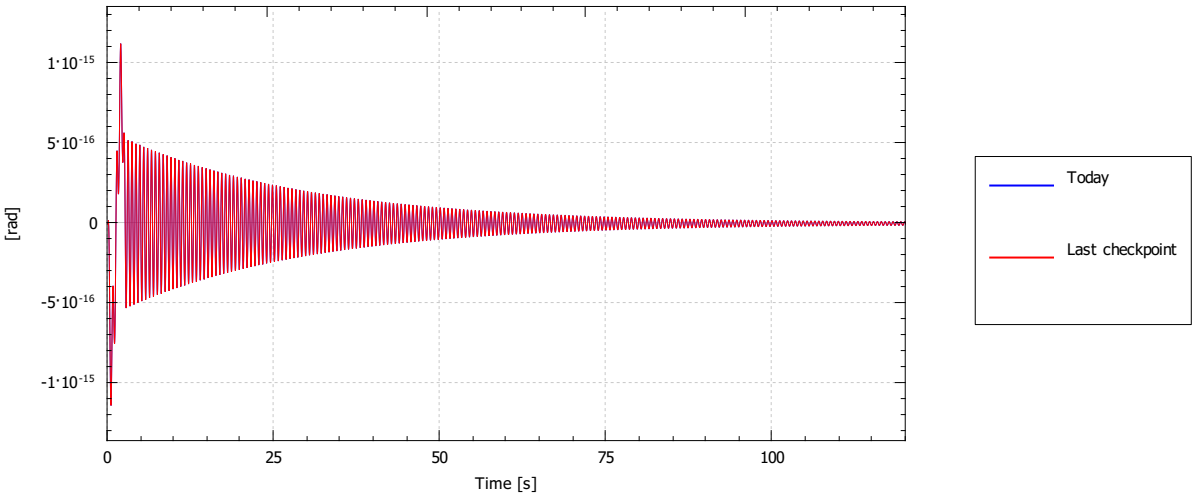
Max normal stress



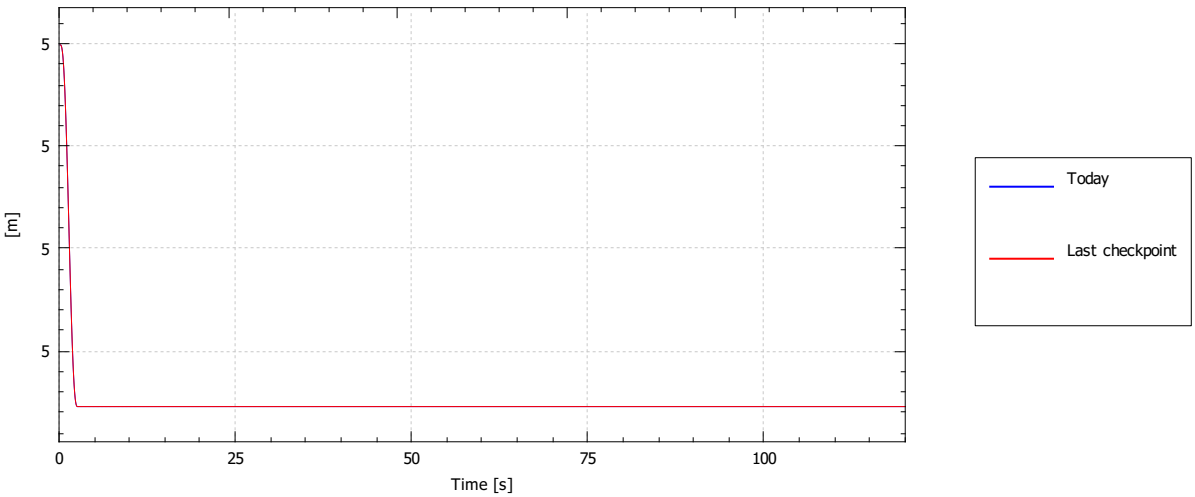
Twist (structural)



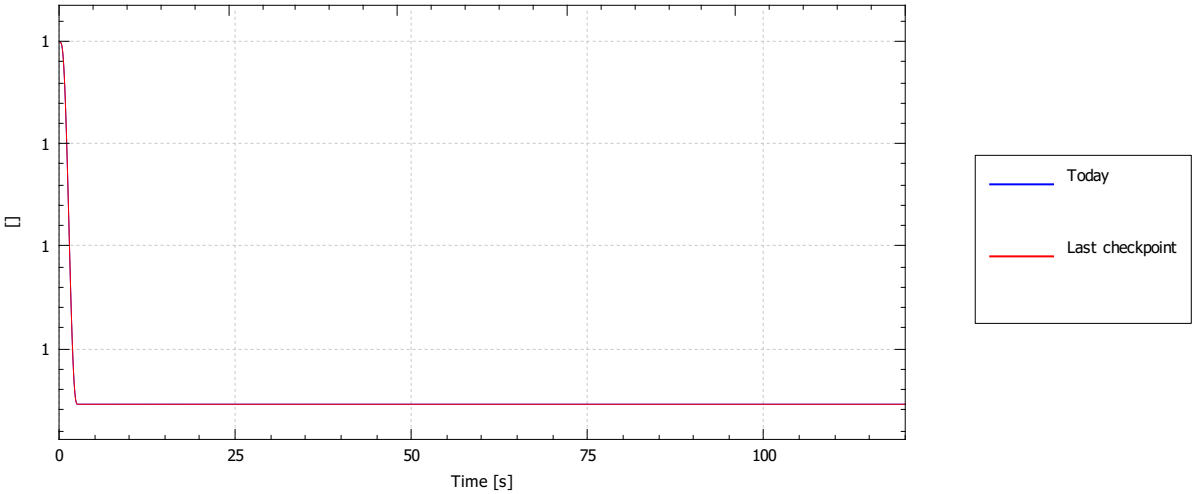
Twist (structural) - rad



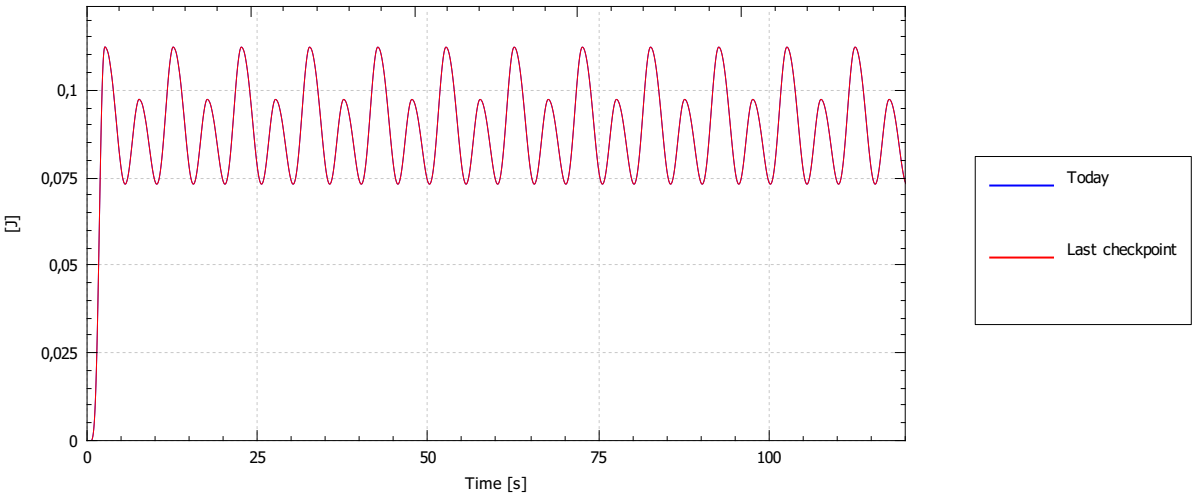
Deformed length



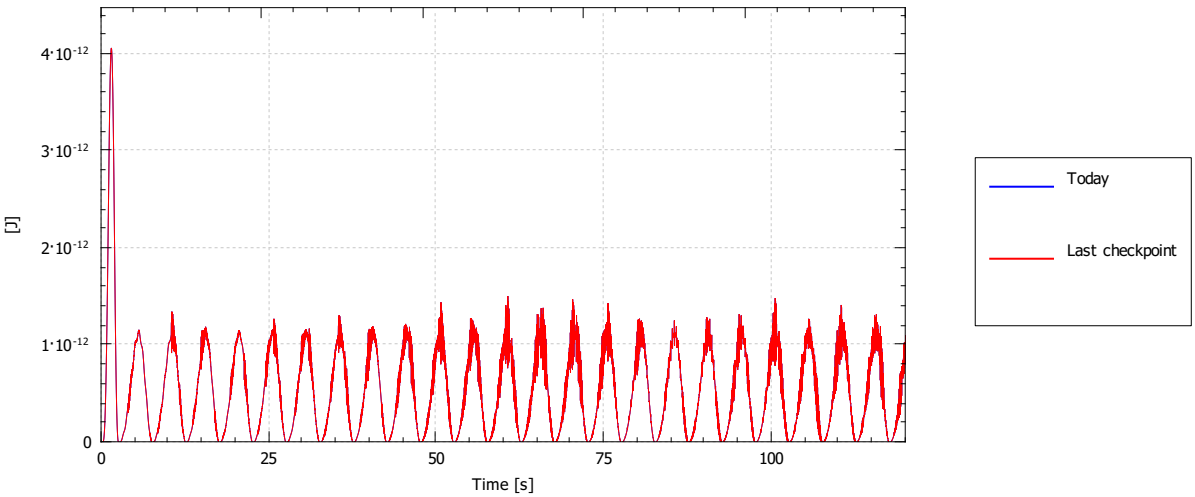
Elongation



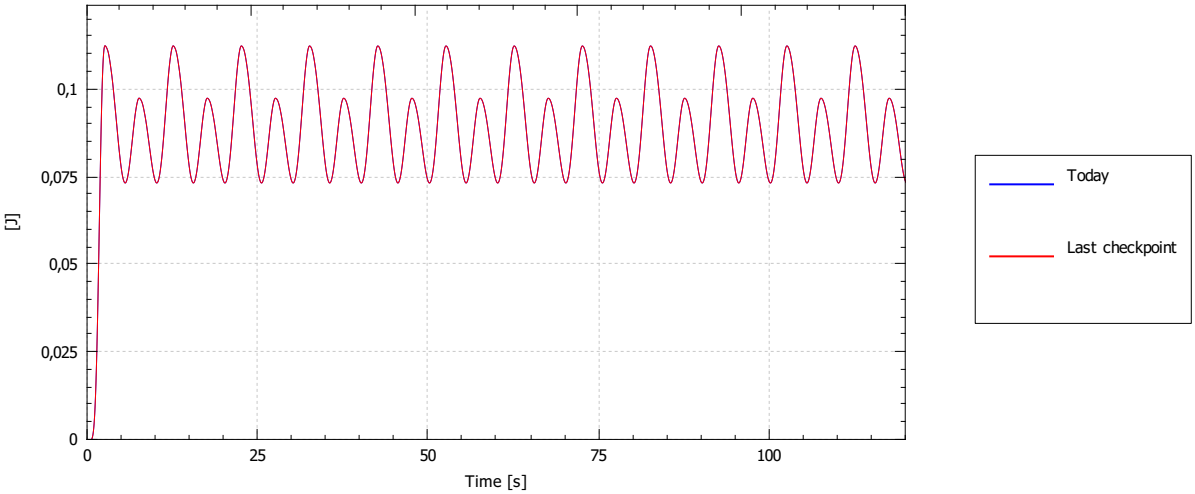
Strain energy



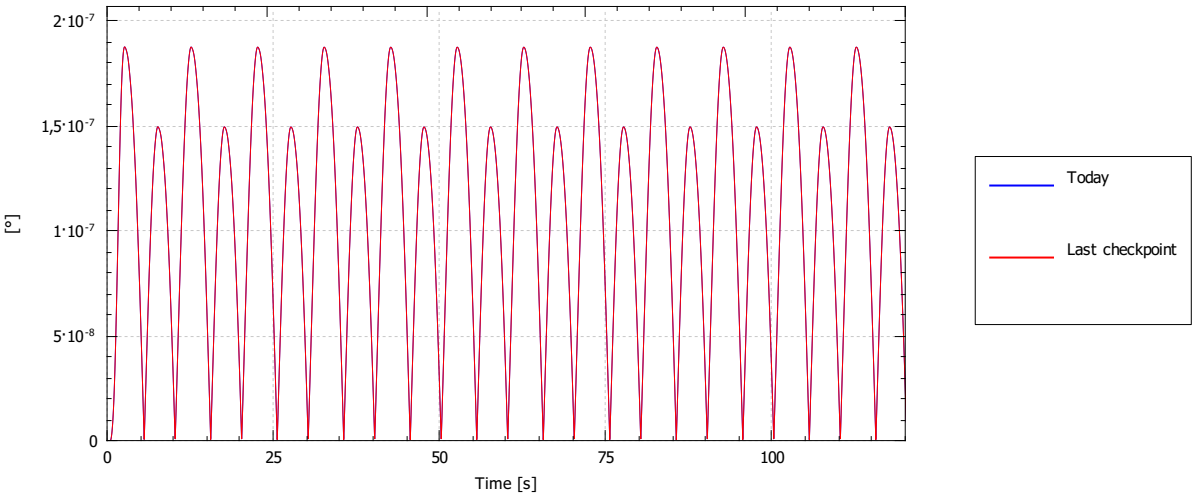
Kinetic energy



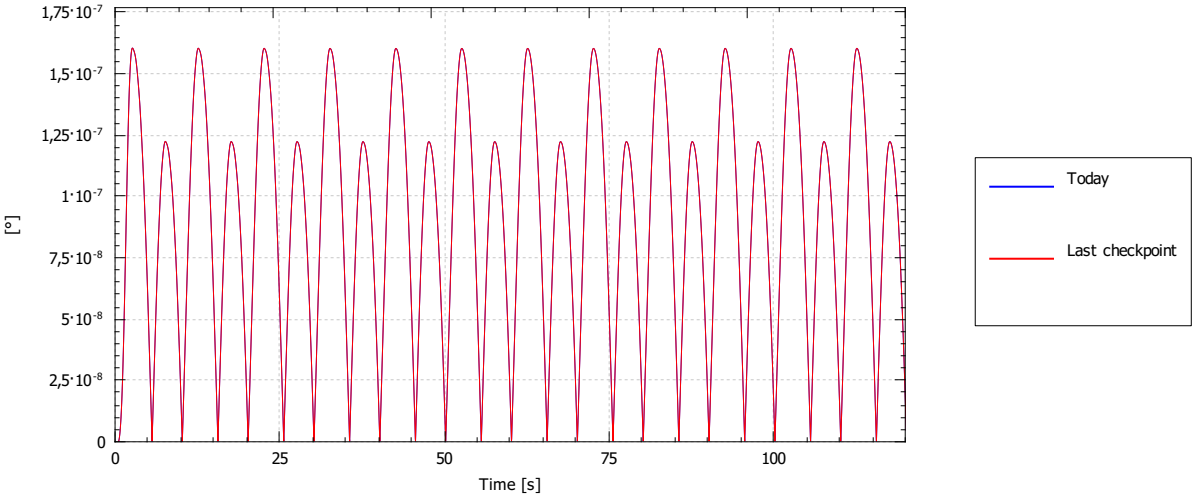
Mechanical energy



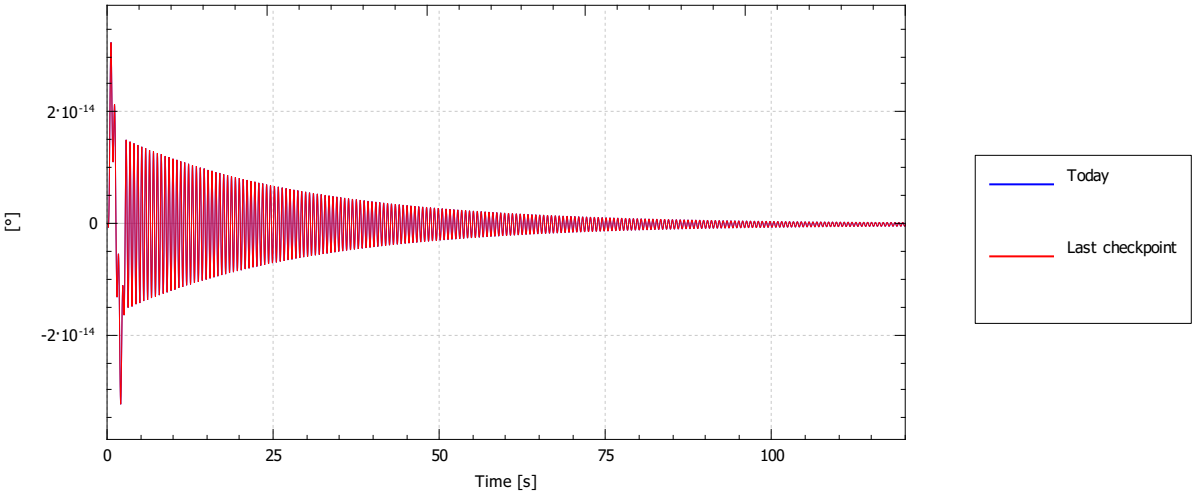
Deformational rotation (i)



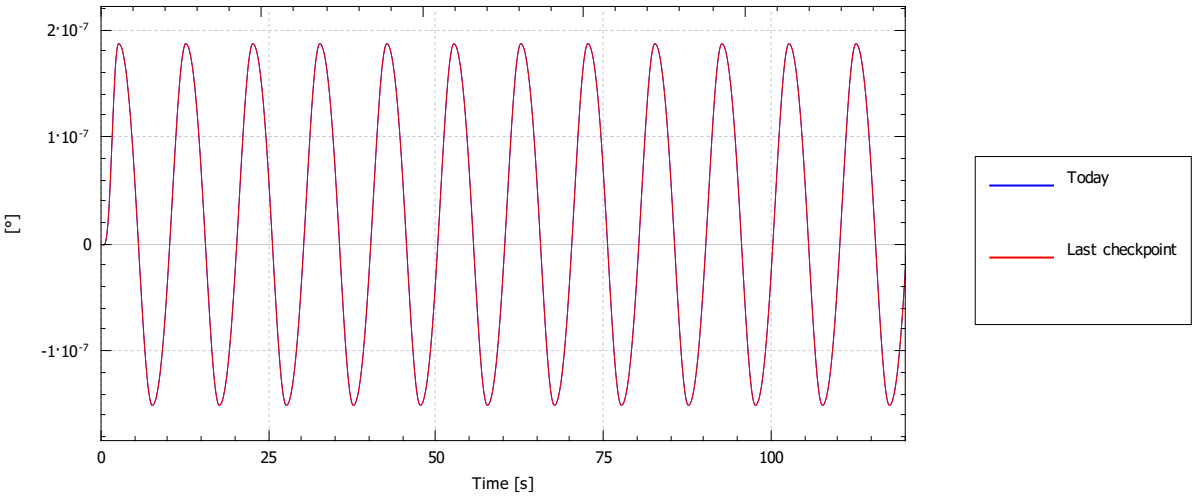
Deformational rotation (j)



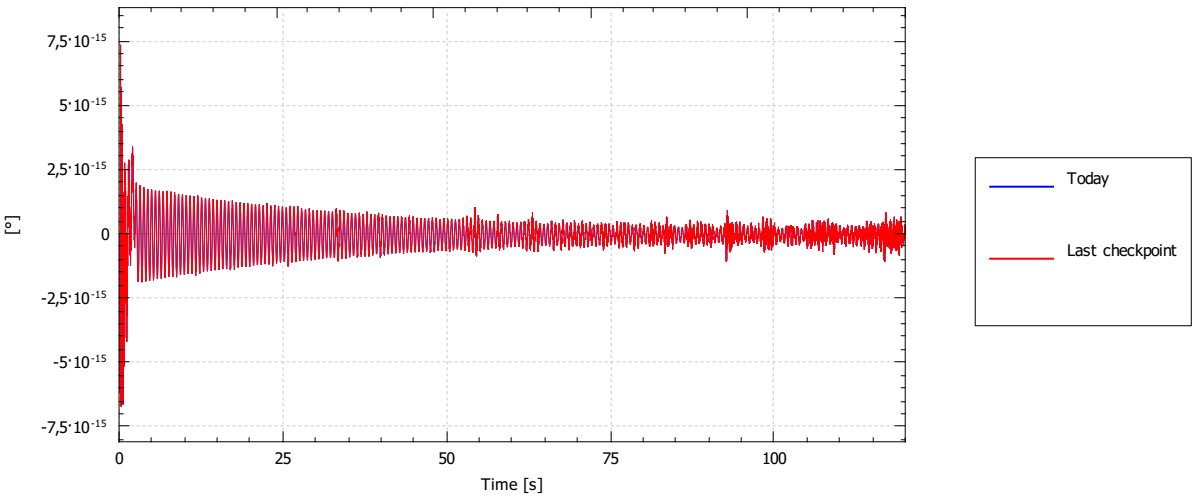
Deformational rotation (axial)



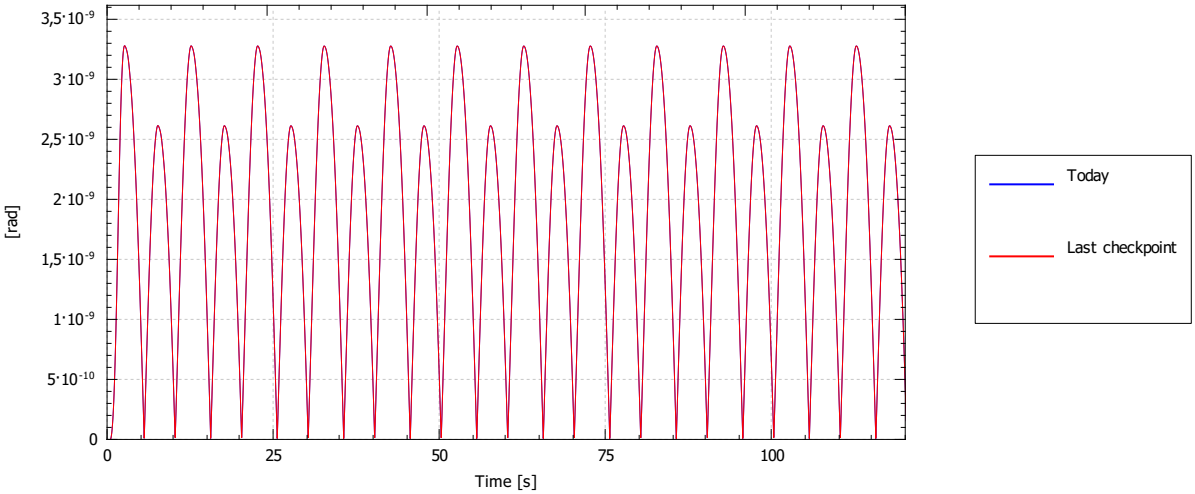
Deformational rotation (1st prin.)



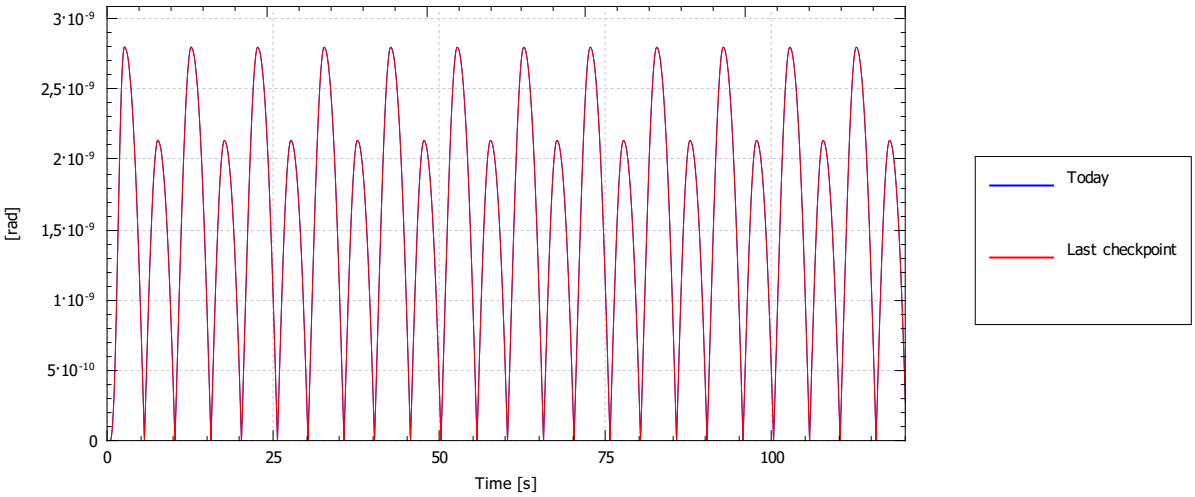
Deformational rotation (2nd prin.)



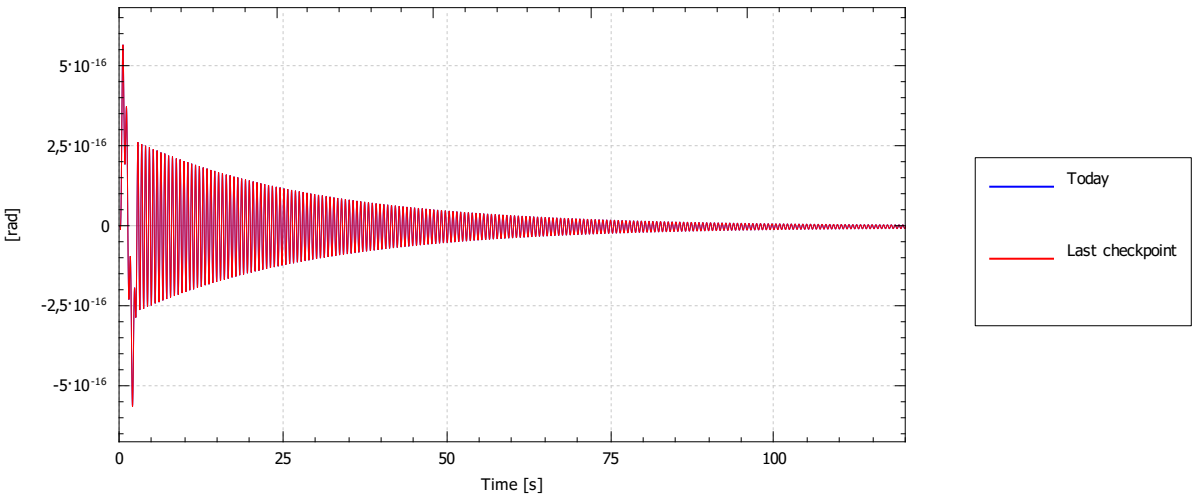
Deformational rotation (i) - rad



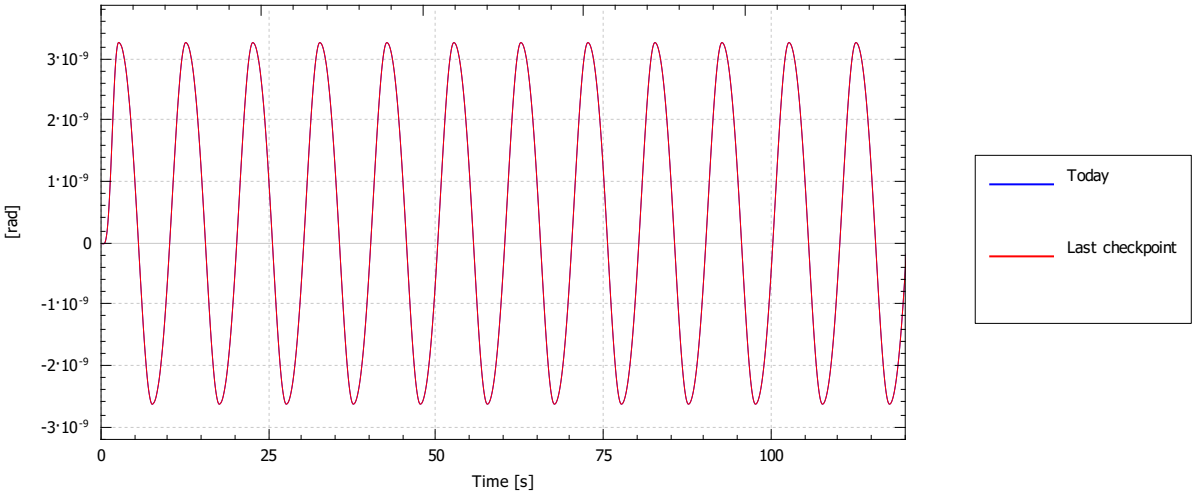
Deformational rotation (j) - rad



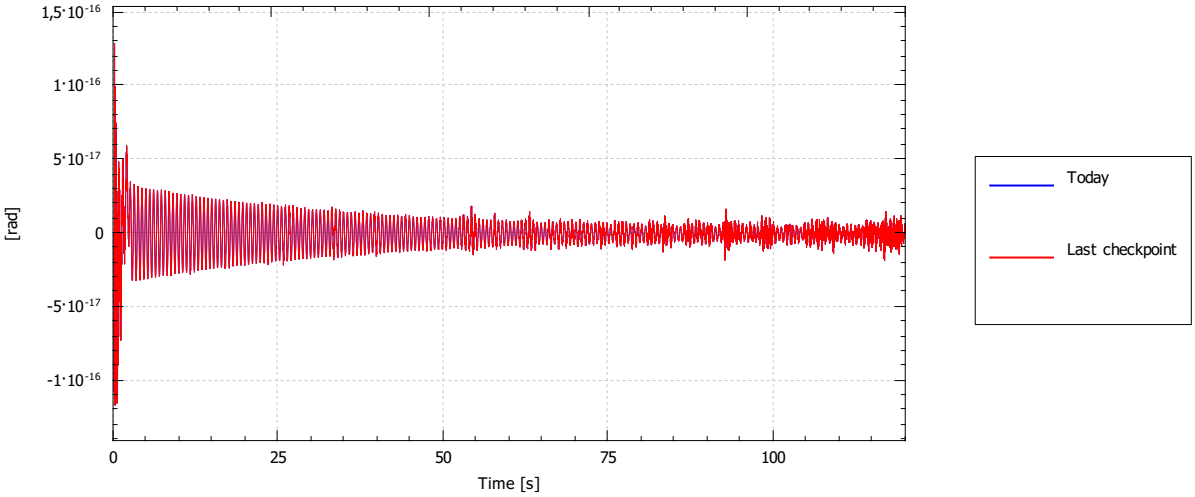
Deformational rotation (axial) - rad



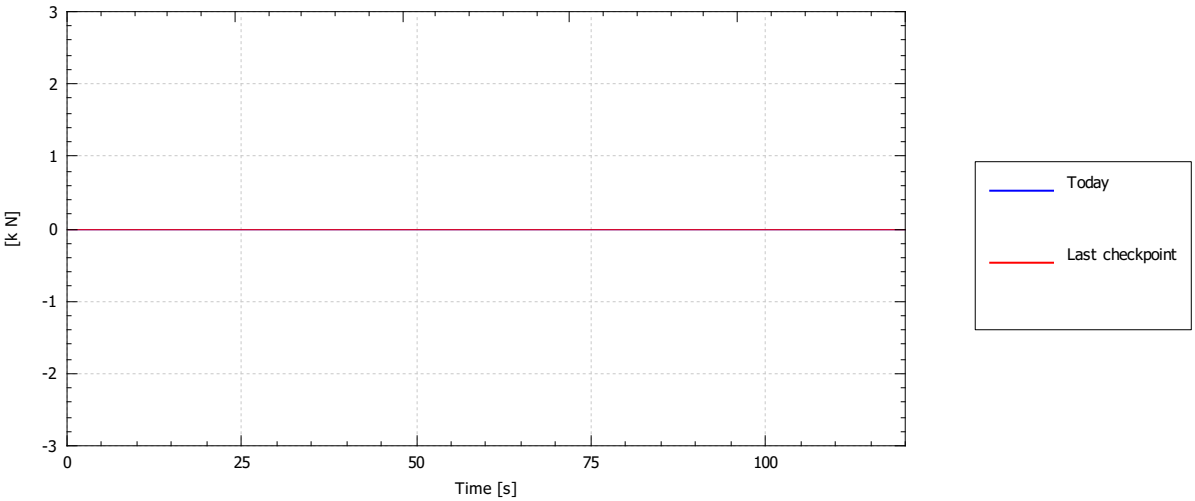
Deformational rotation (1st prin.) - rad



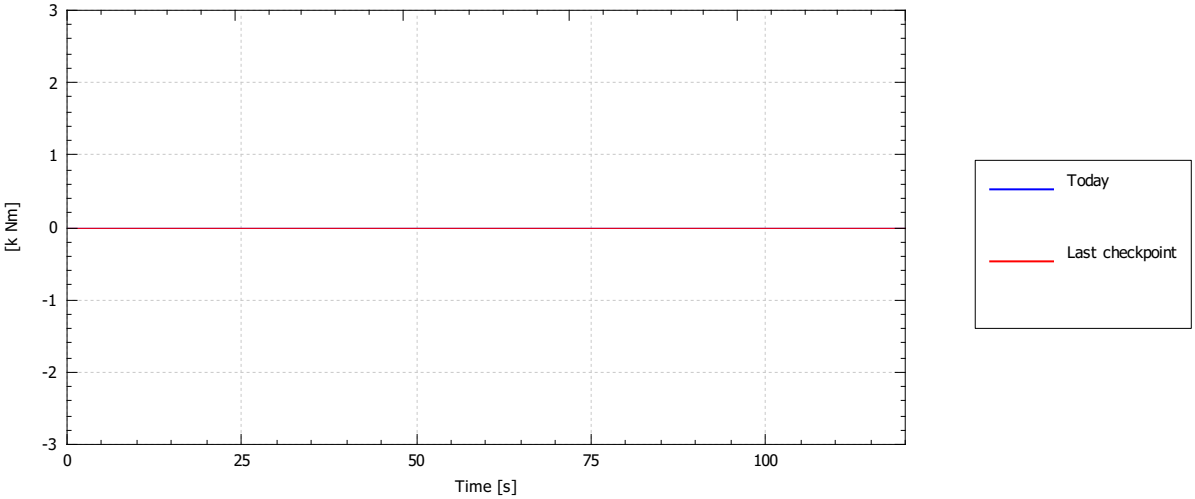
Deformational rotation (2nd prin.) - rad



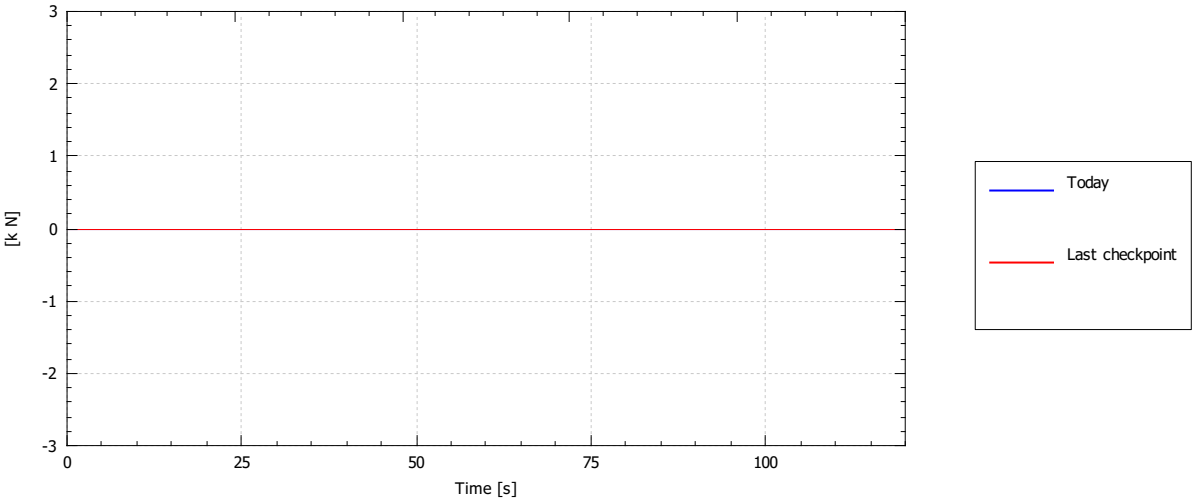
Damping force, i



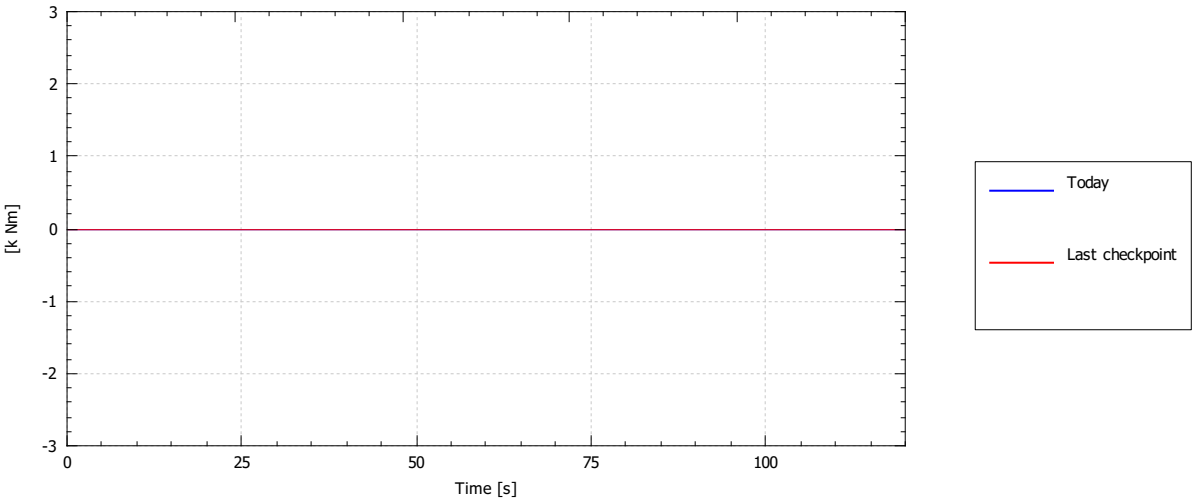
Damping moment, i



Damping force, sum

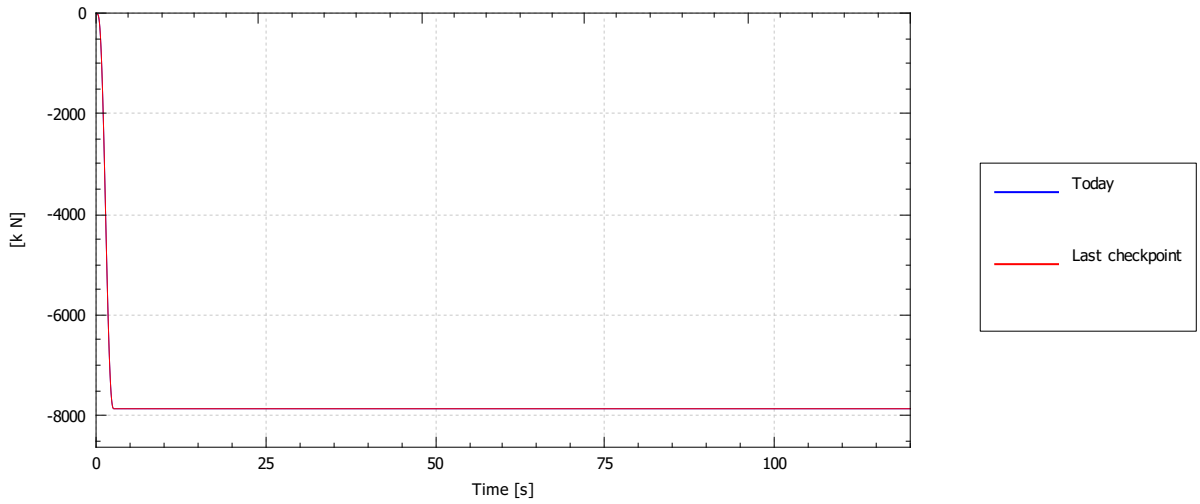


Damping moment, sum

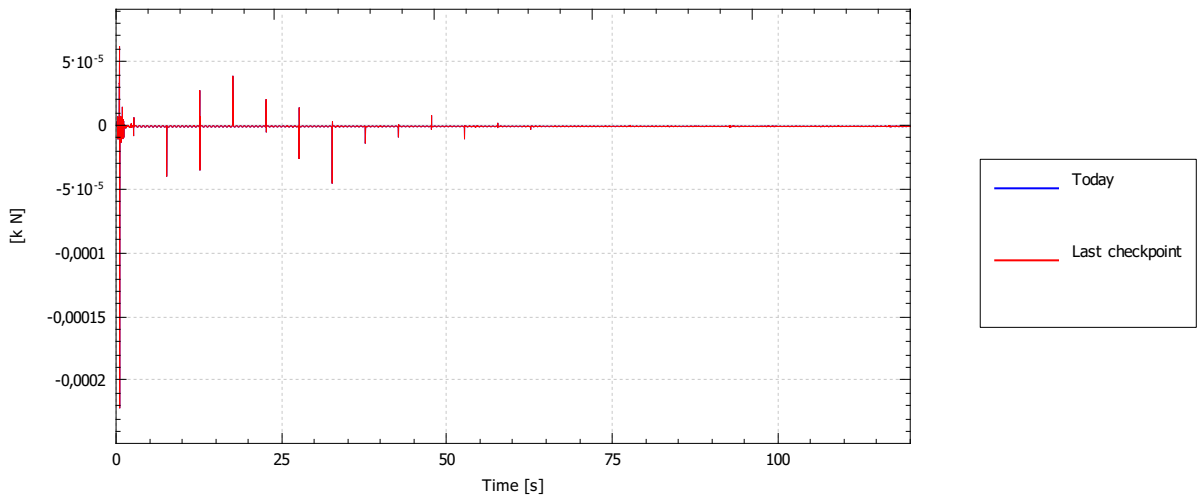


Beam element [Element 4 | Monopile]

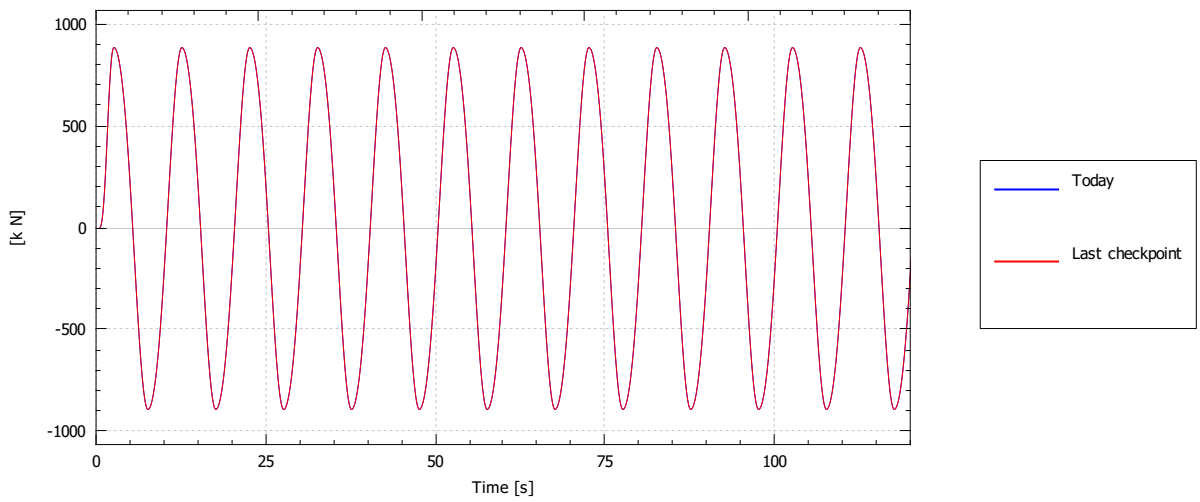
Axial force



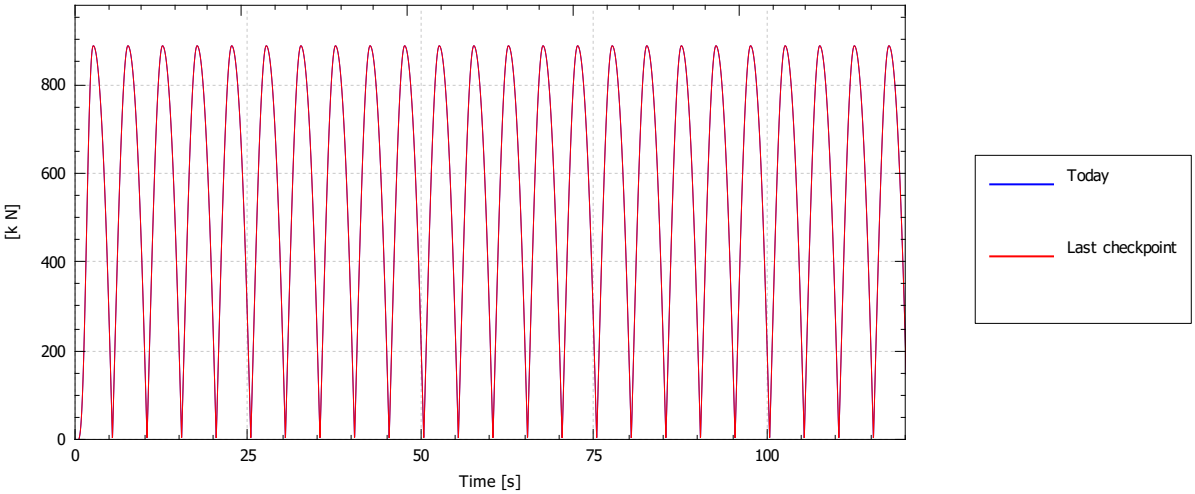
Shear force (1st prin. axis)



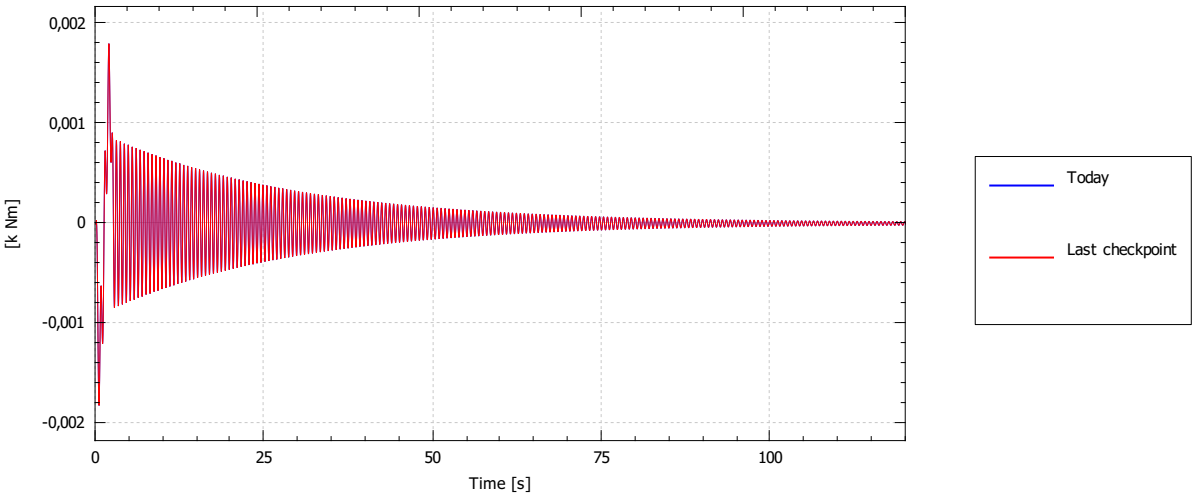
Shear force (2nd prin. axis)



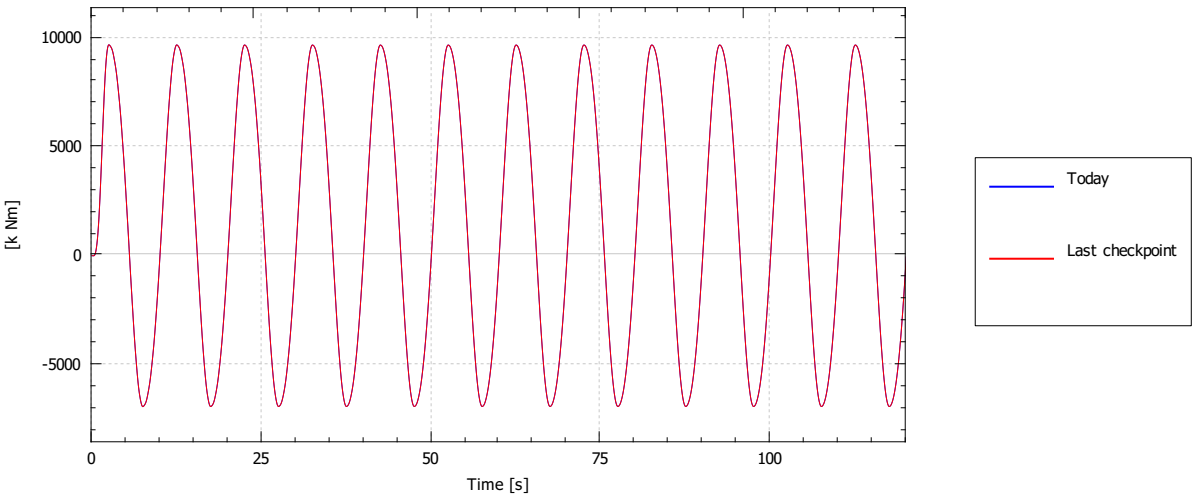
Shear force, mag.



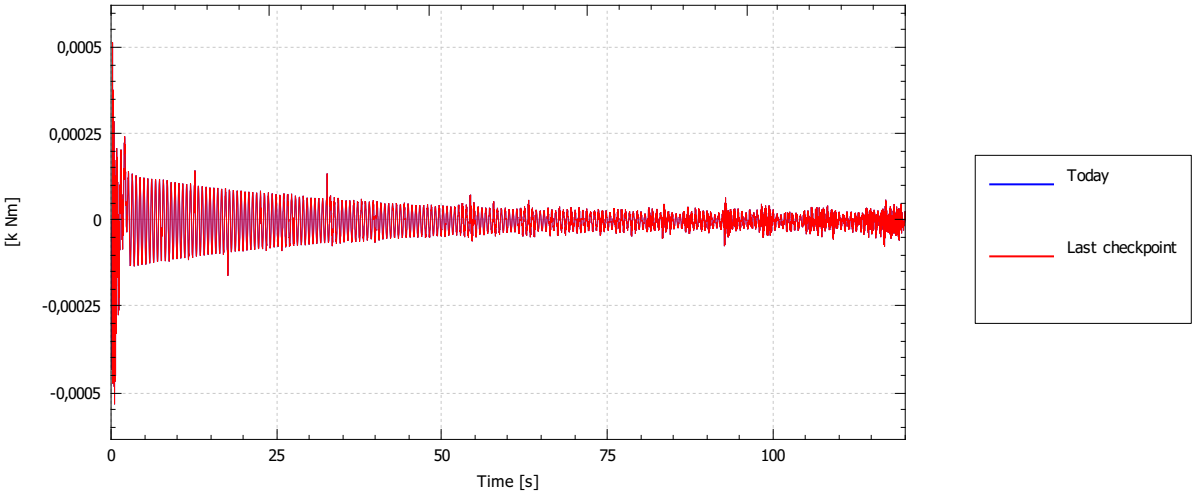
Torque



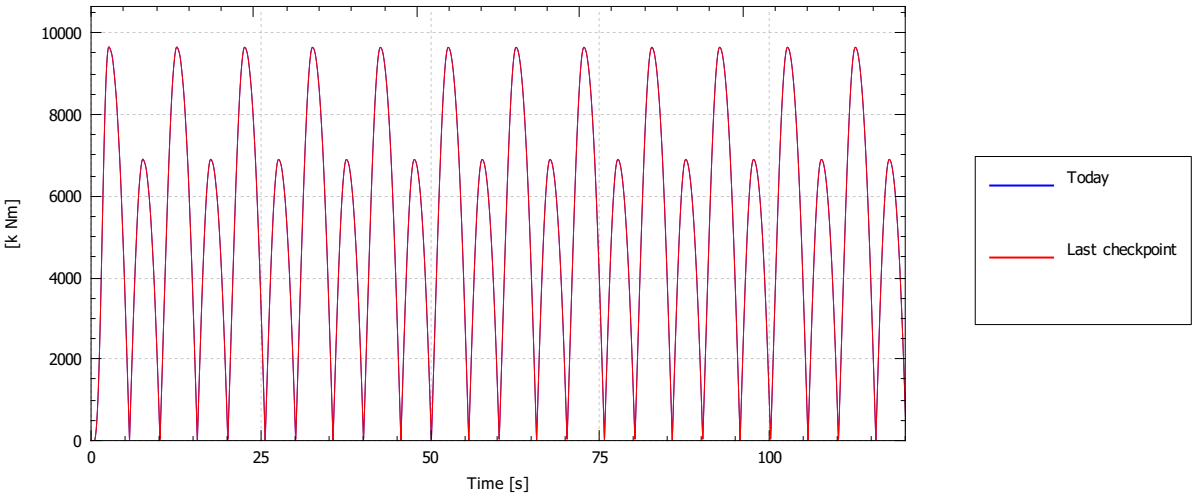
Moment (1st prin. axis), i



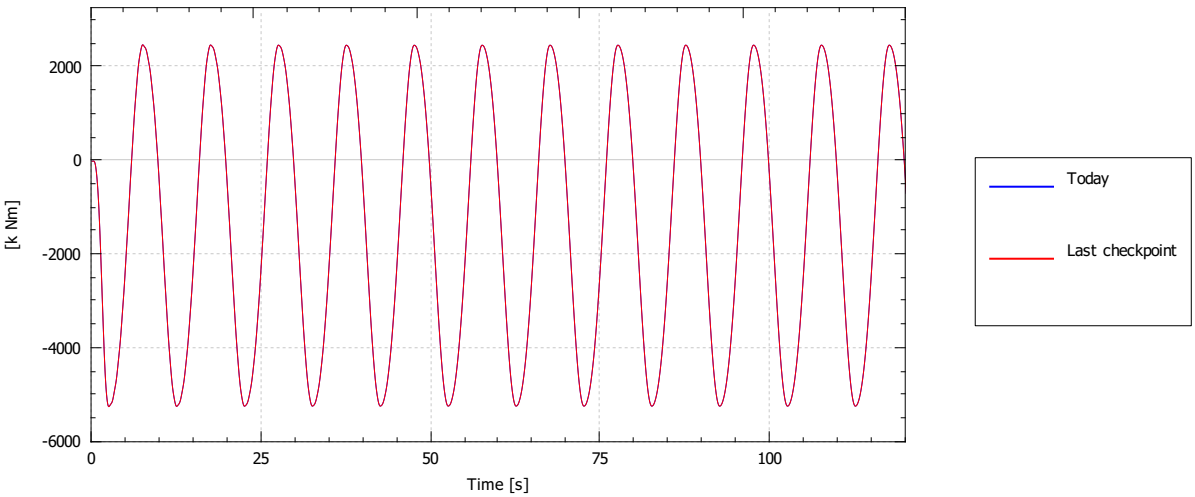
Moment (2nd prin. axis), i



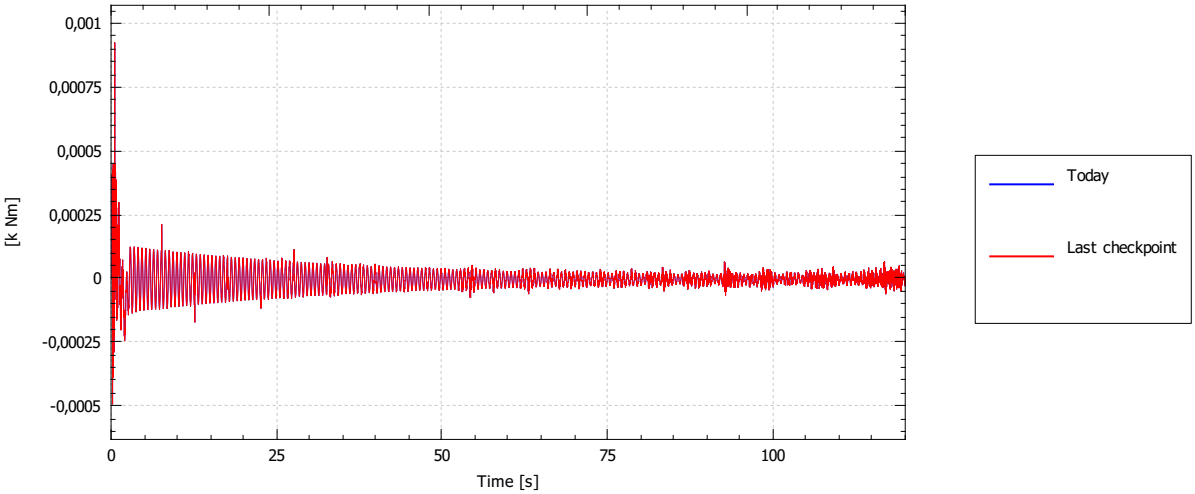
Moment, mag., i



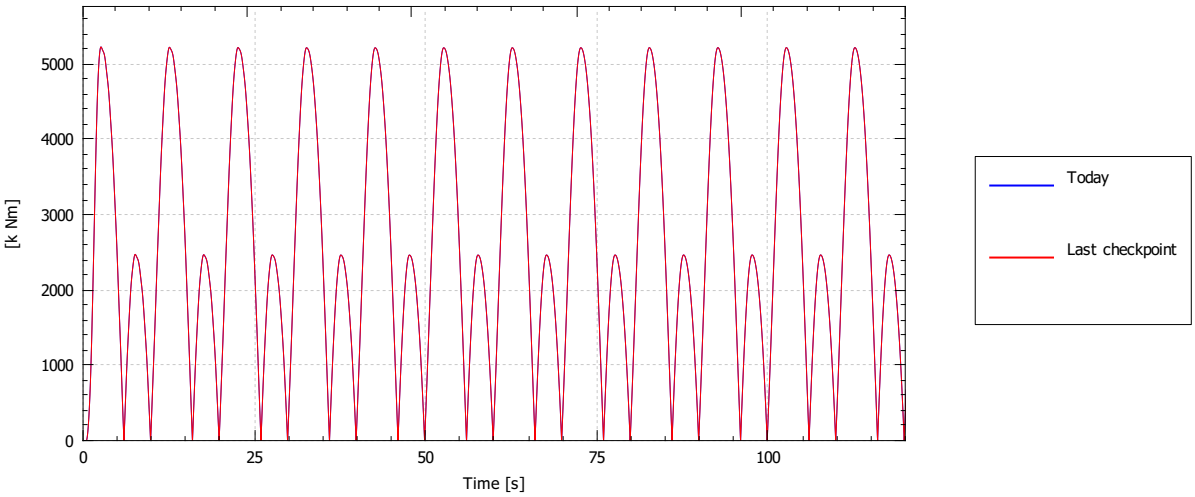
Moment (1st prin. axis), j



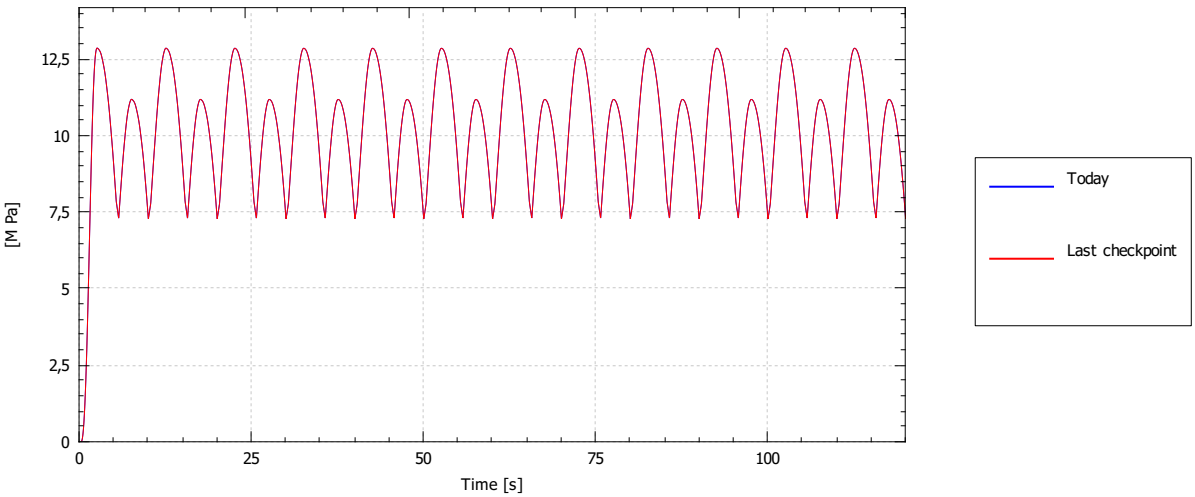
Moment (2nd prin. axis), j



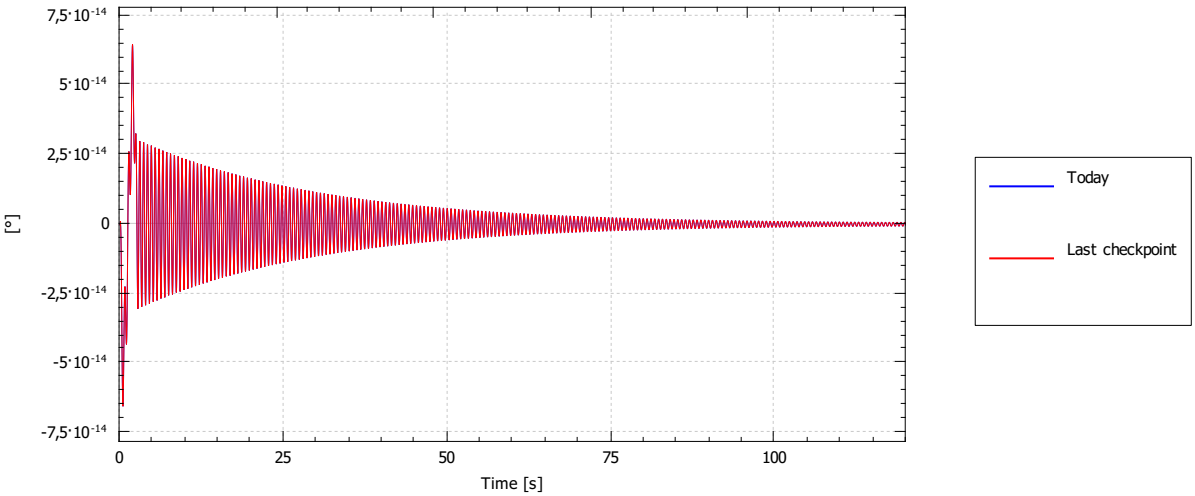
Moment, mag., j



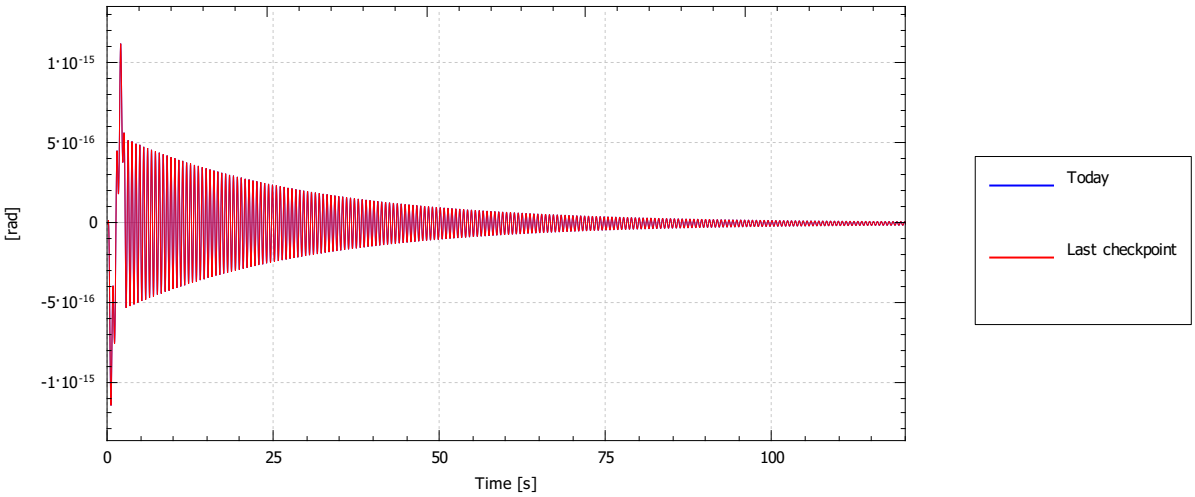
Max normal stress



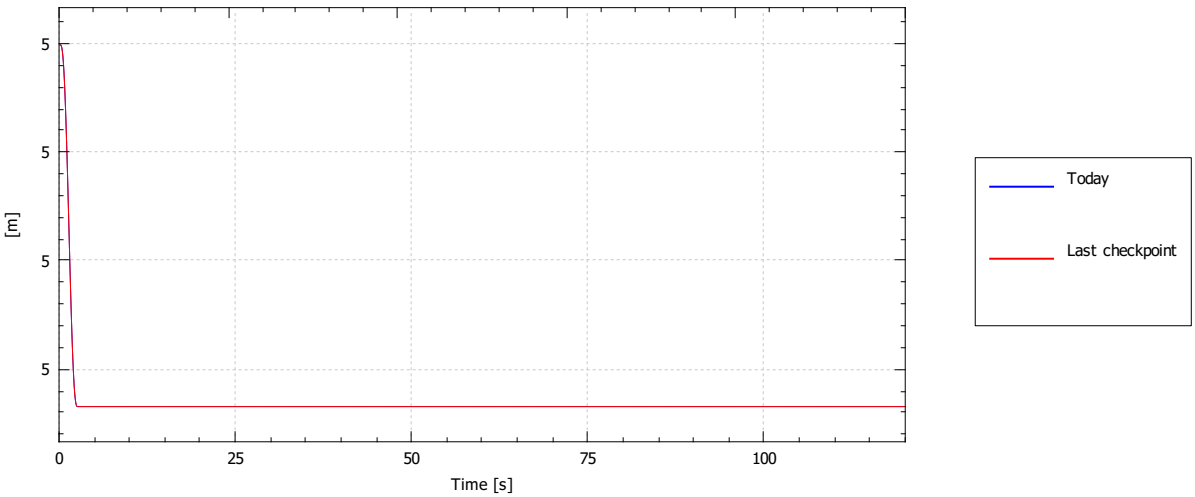
Twist (structural)



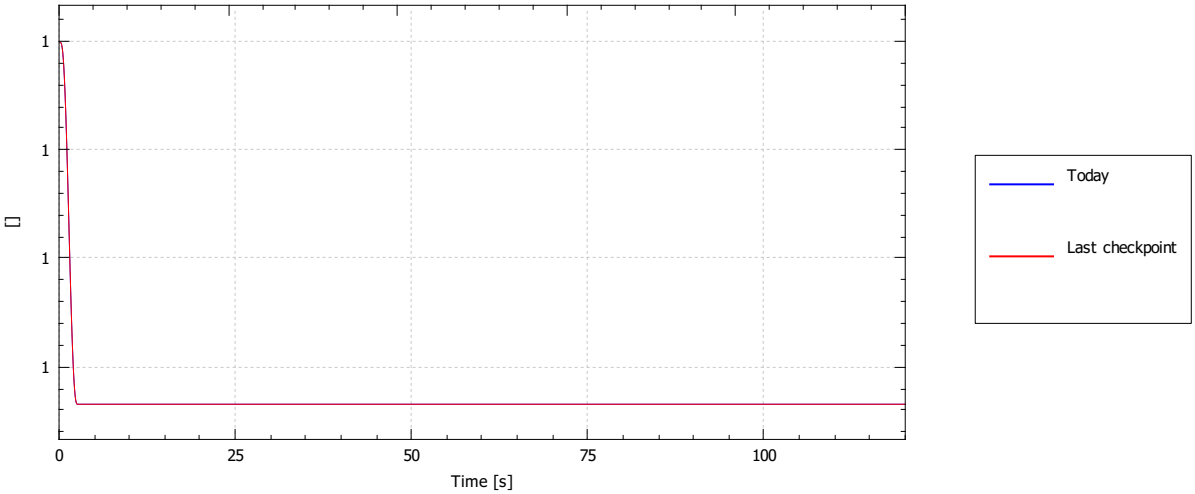
Twist (structural) - rad



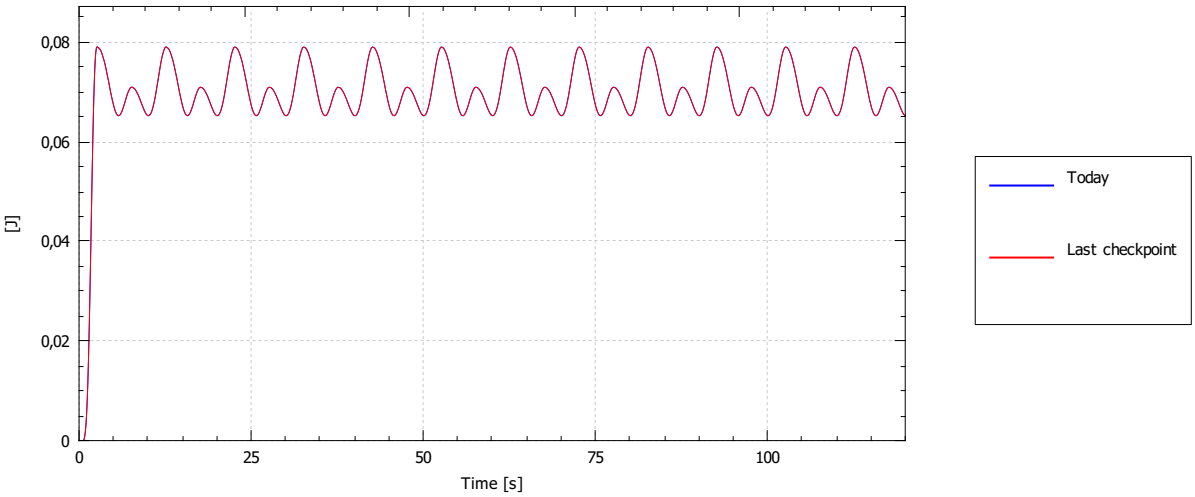
Deformed length



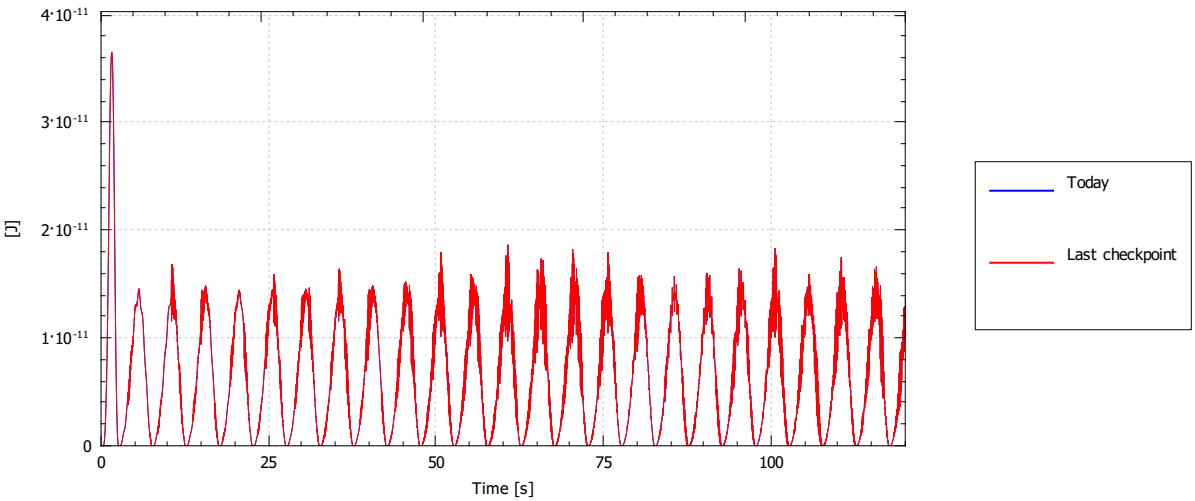
Elongation



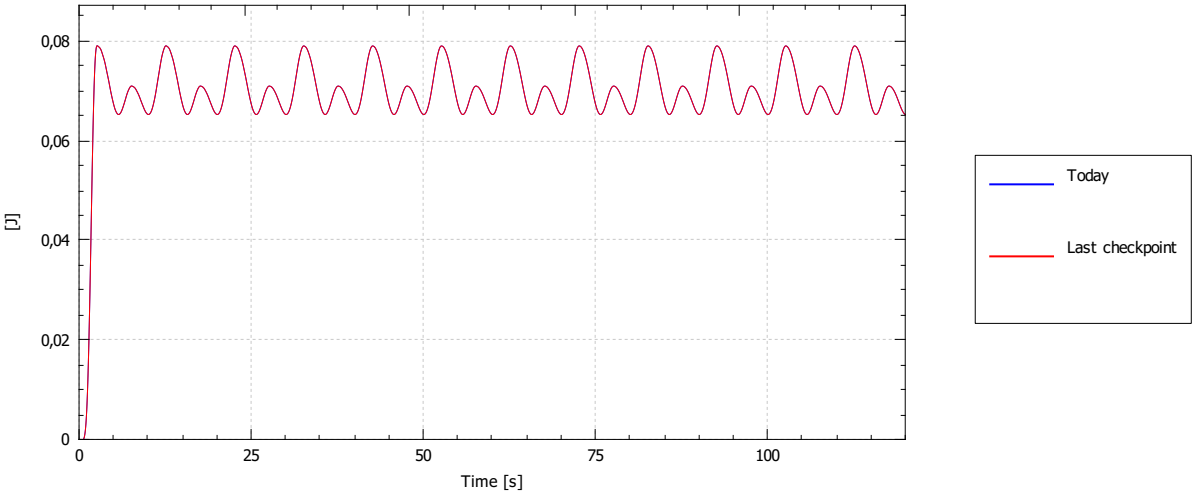
Strain energy



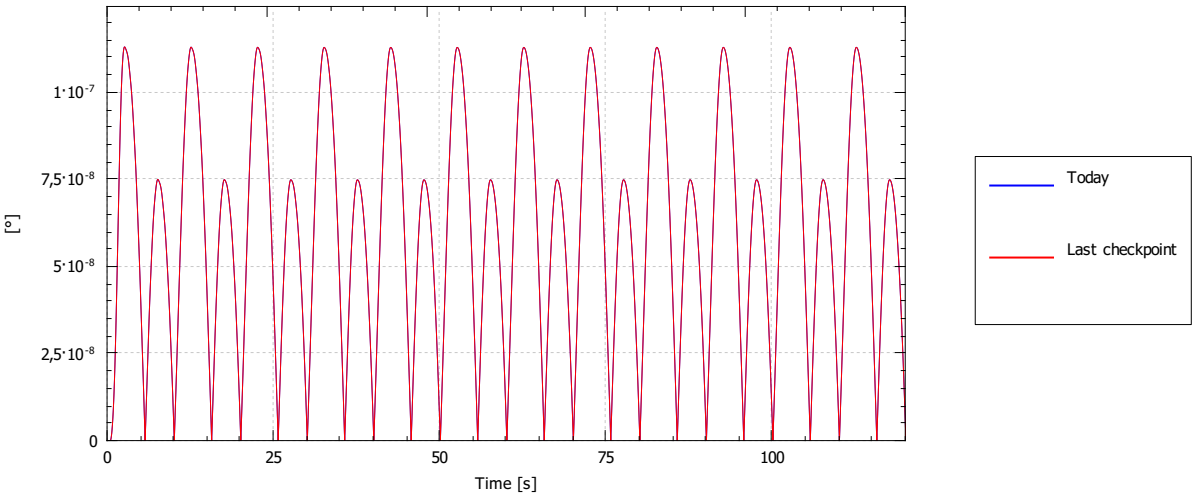
Kinetic energy



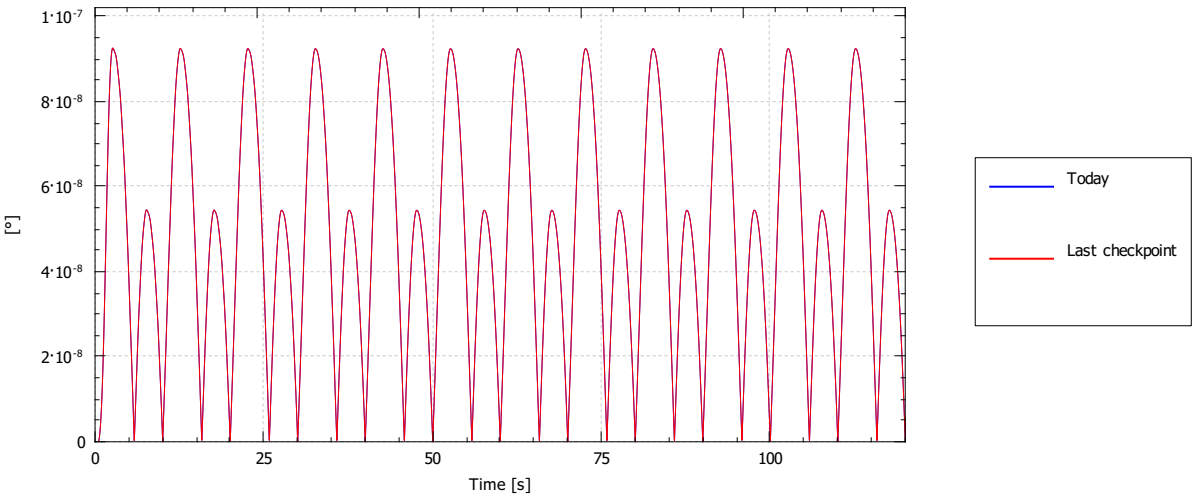
Mechanical energy



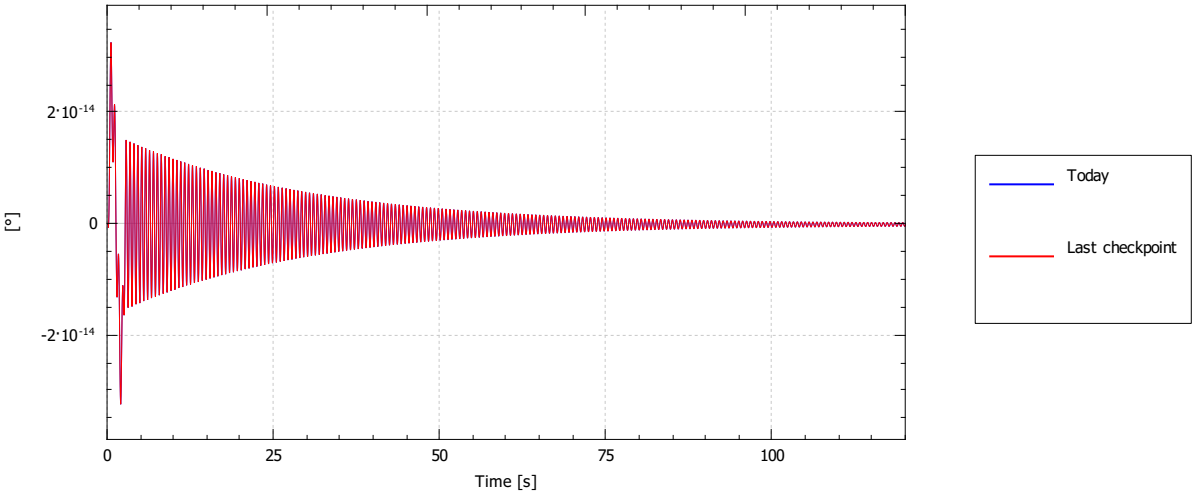
Deformational rotation (i)



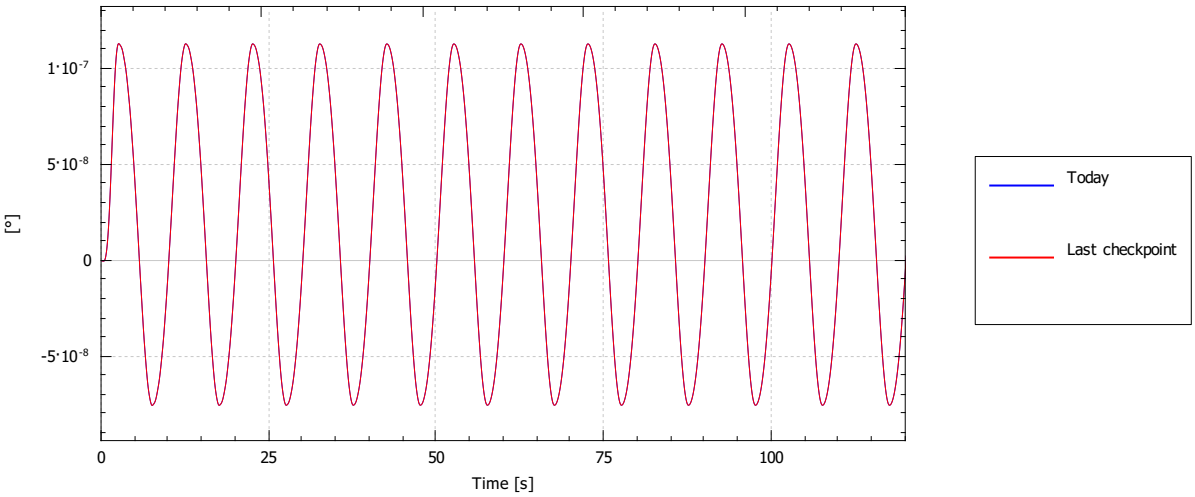
Deformational rotation (j)



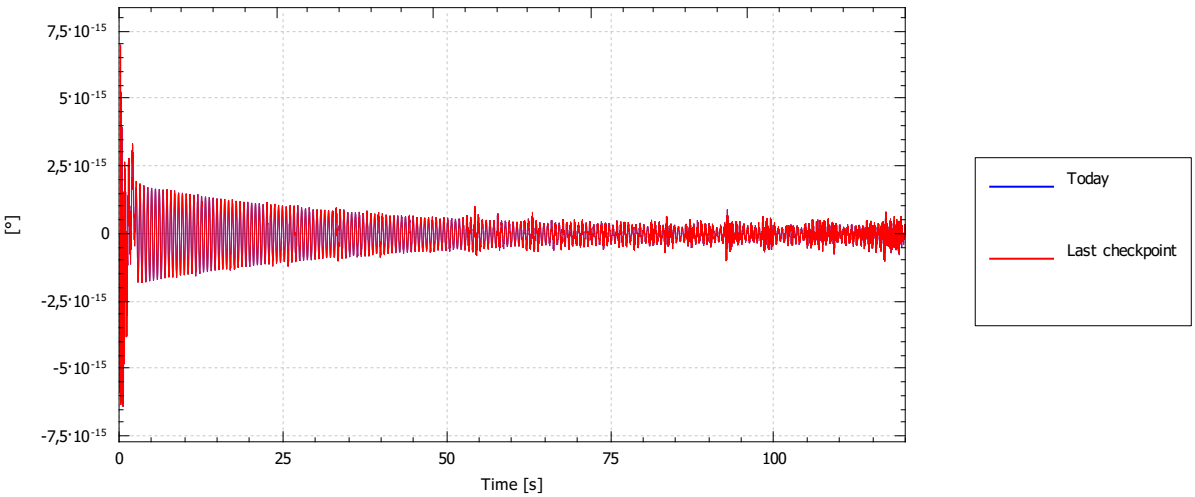
Deformational rotation (axial)



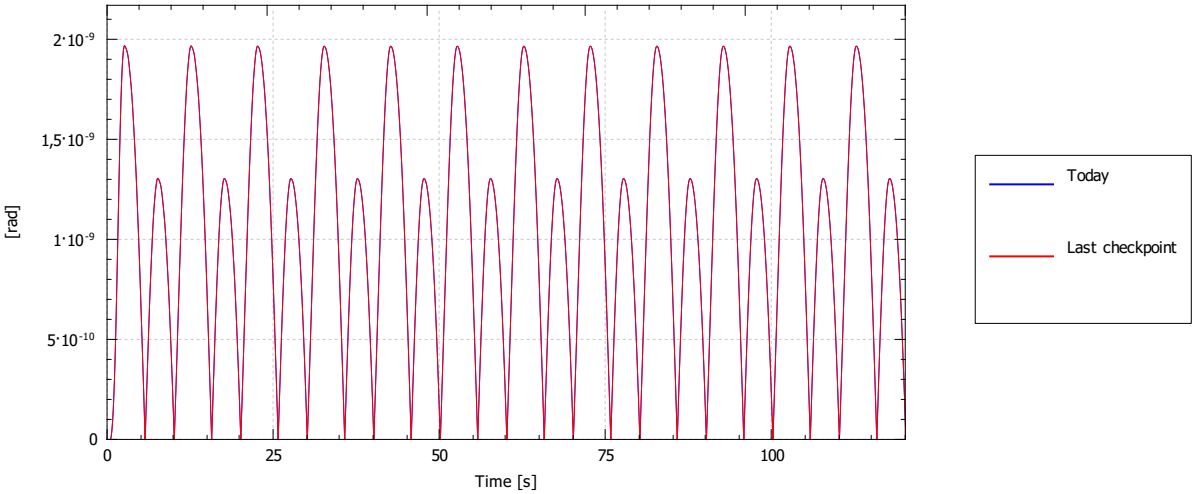
Deformational rotation (1st prin.)



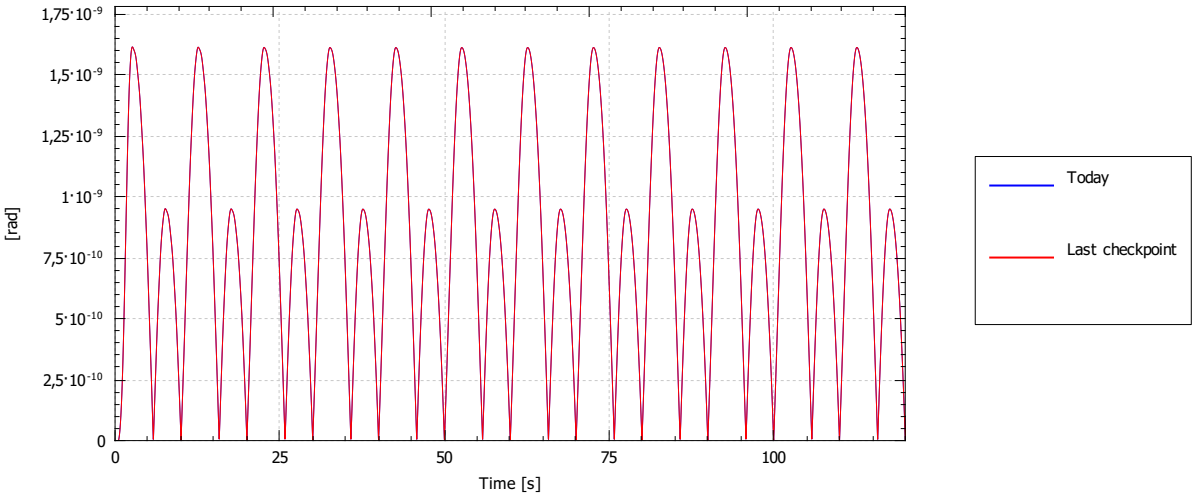
Deformational rotation (2nd prin.)



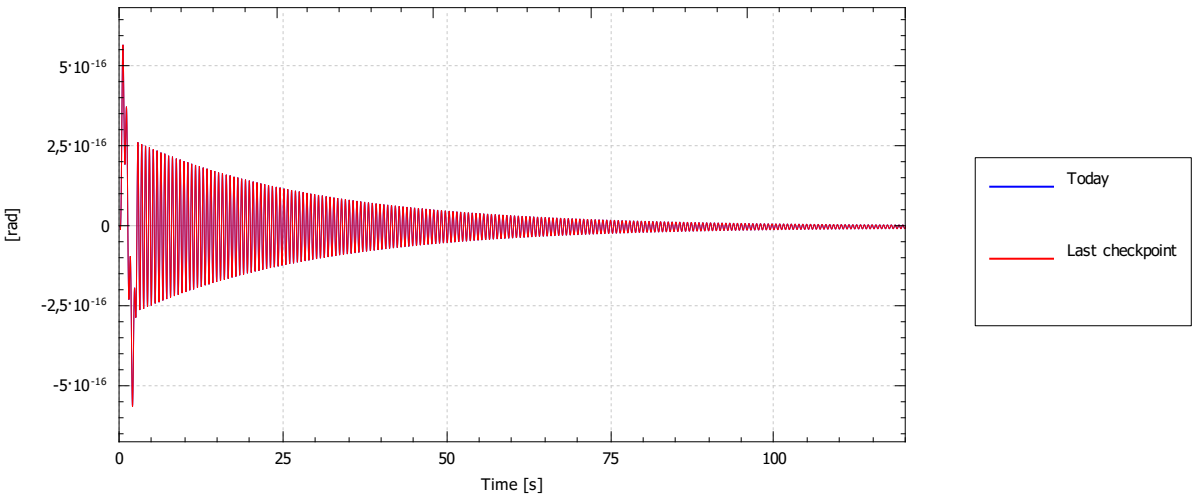
Deformational rotation (i) - rad



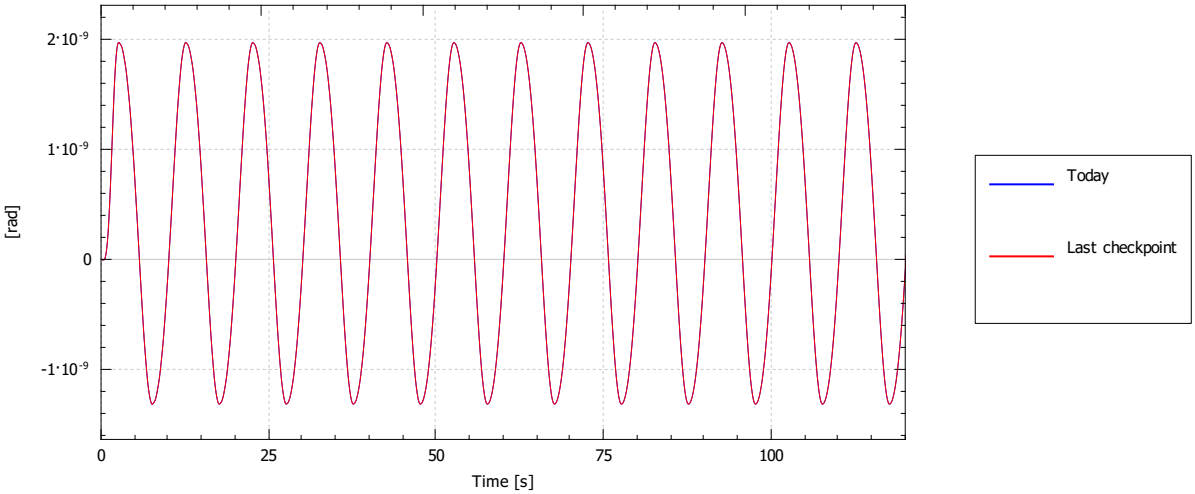
Deformational rotation (j) - rad



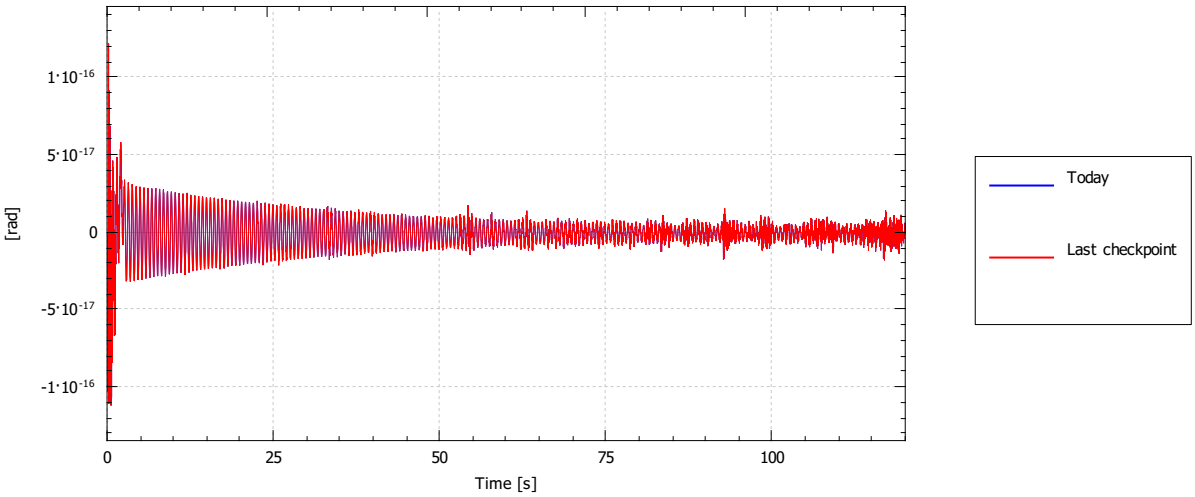
Deformational rotation (axial) - rad



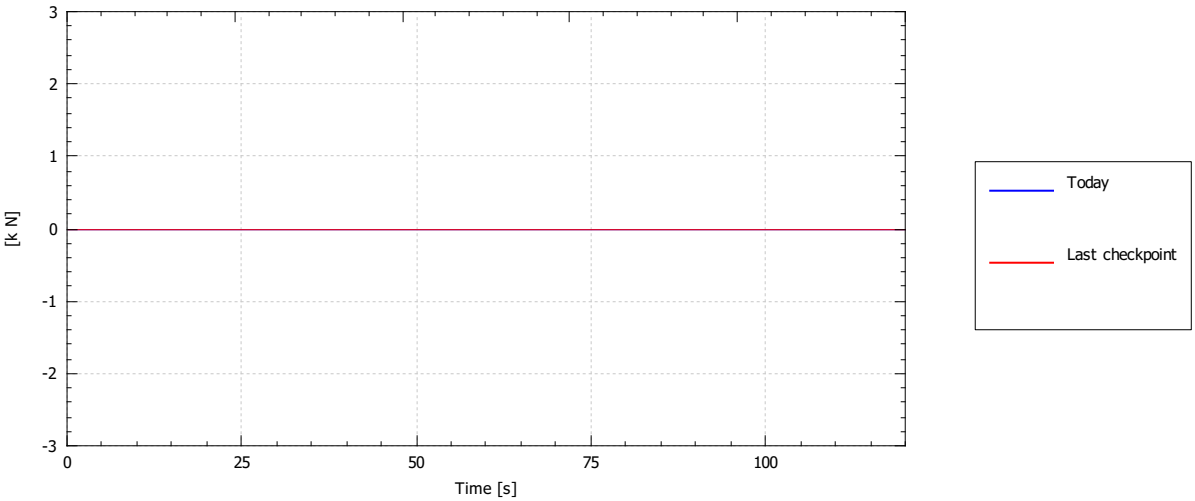
Deformational rotation (1st prin.) - rad



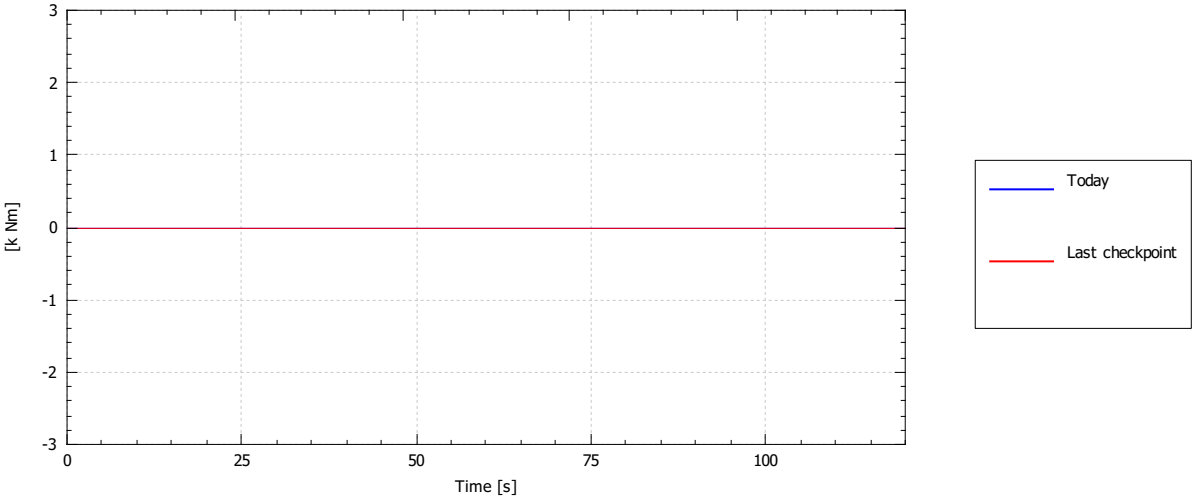
Deformational rotation (2nd prin.) - rad



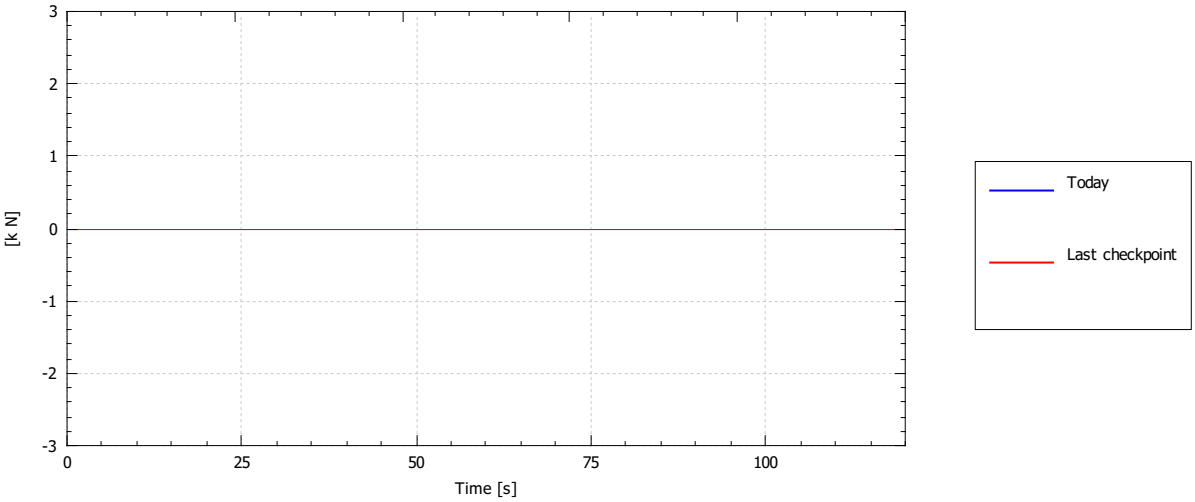
Damping force, i



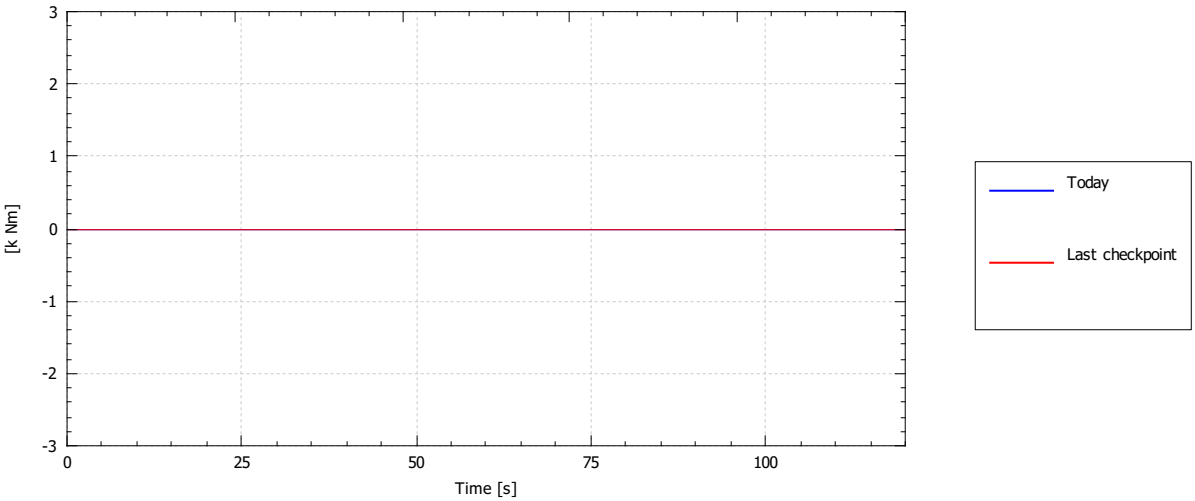
Damping moment, i



Damping force, sum

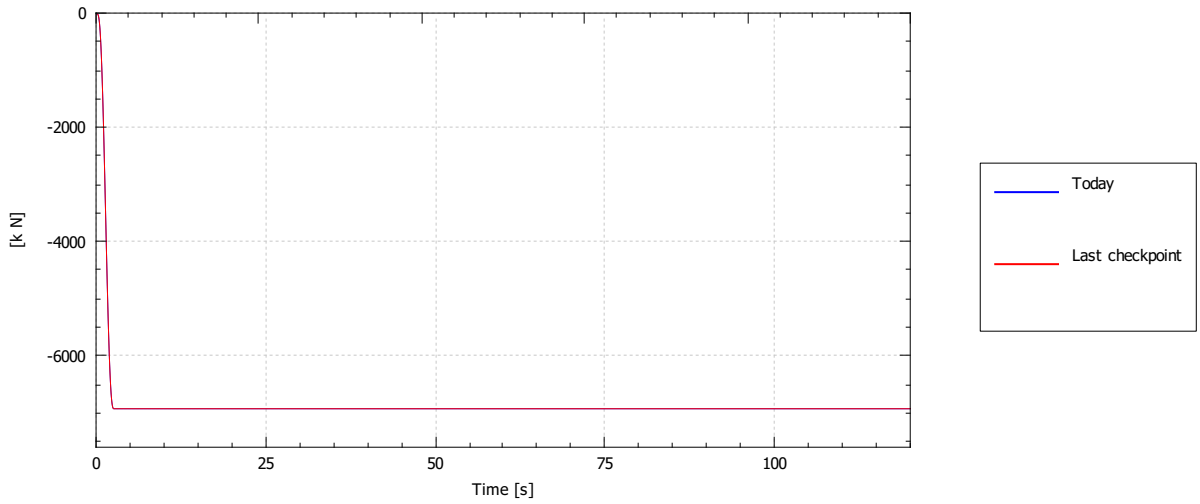


Damping moment, sum

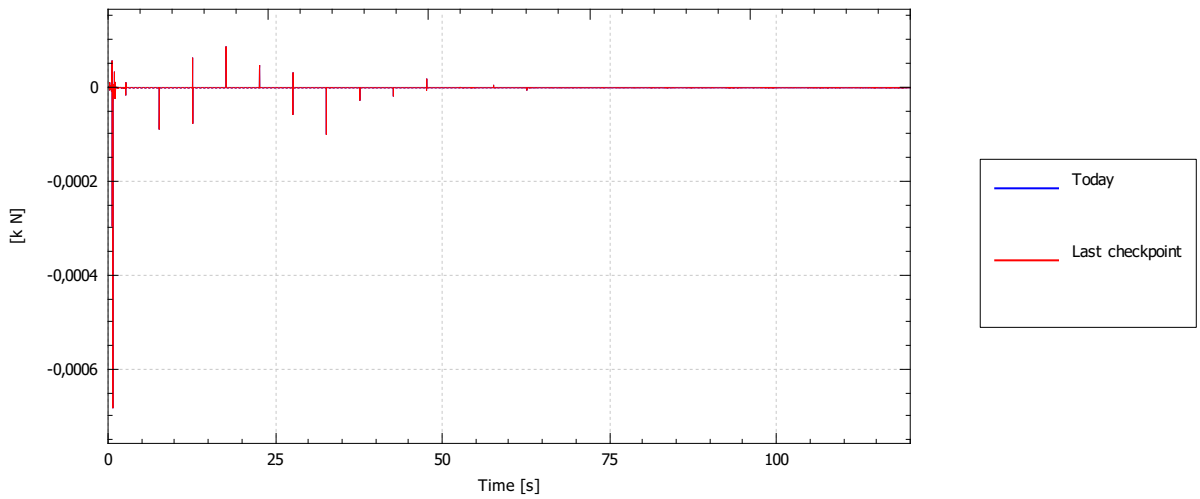


Beam element [Element 6 | Monopile]

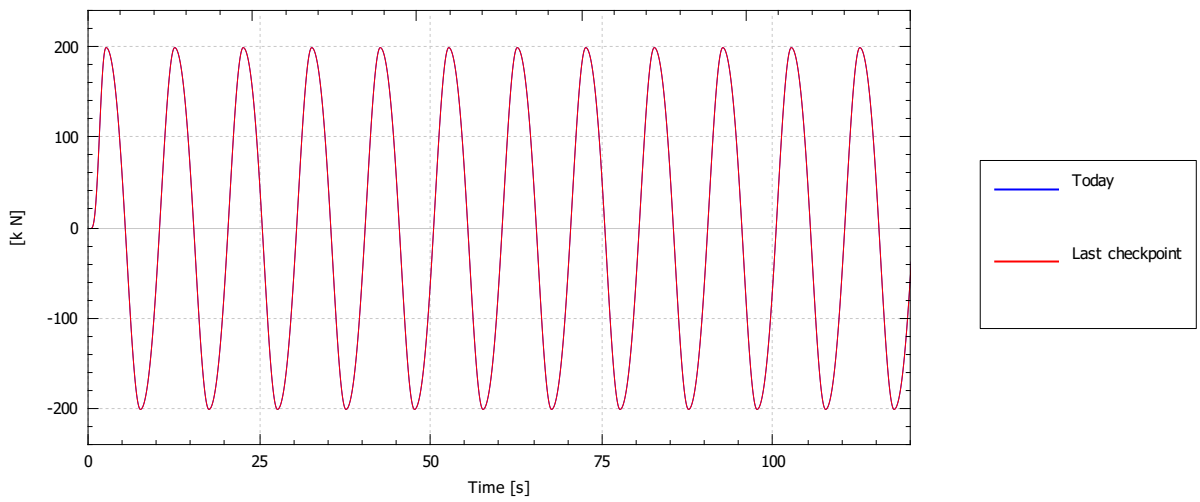
Axial force



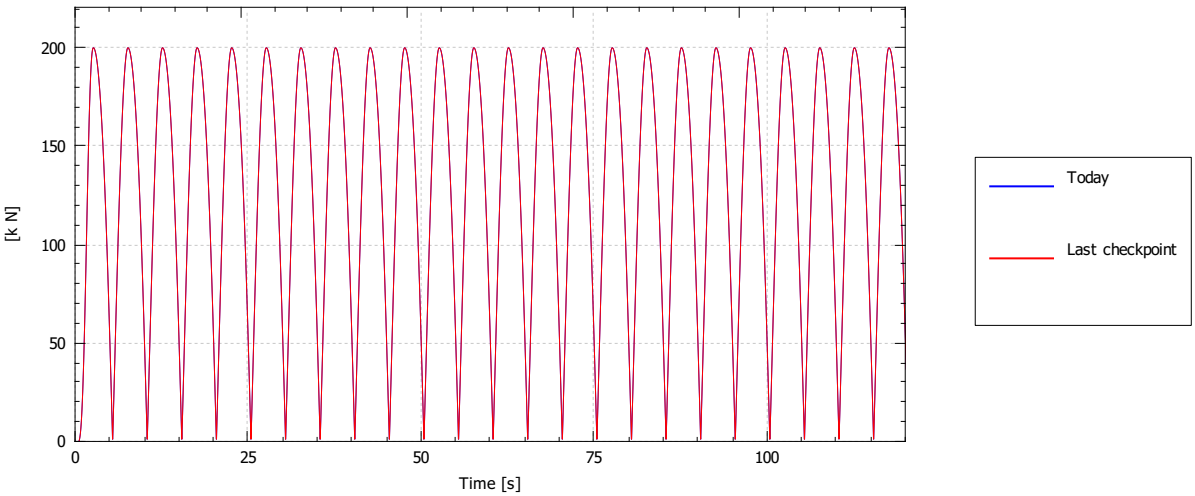
Shear force (1st prin. axis)



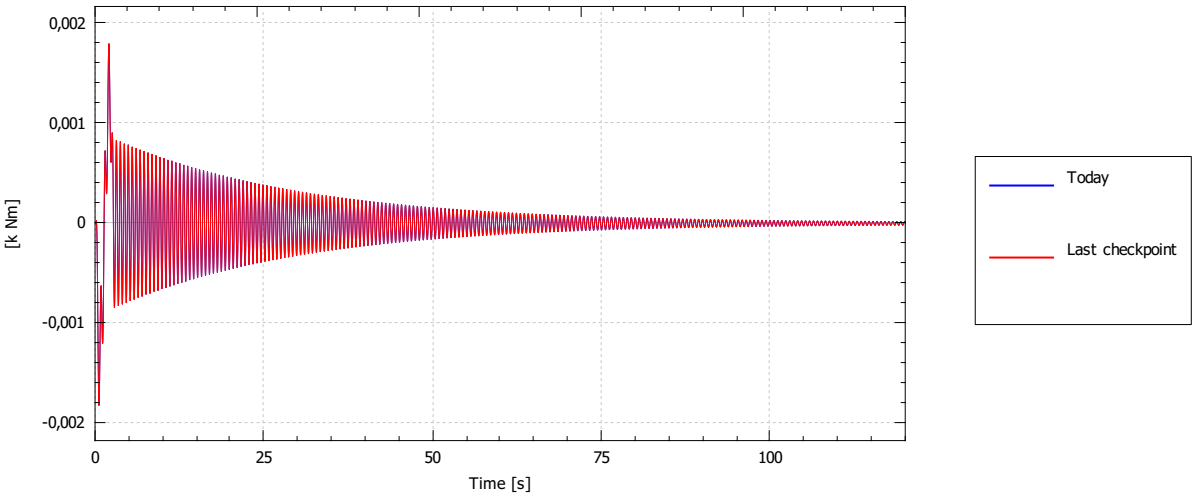
Shear force (2nd prin. axis)



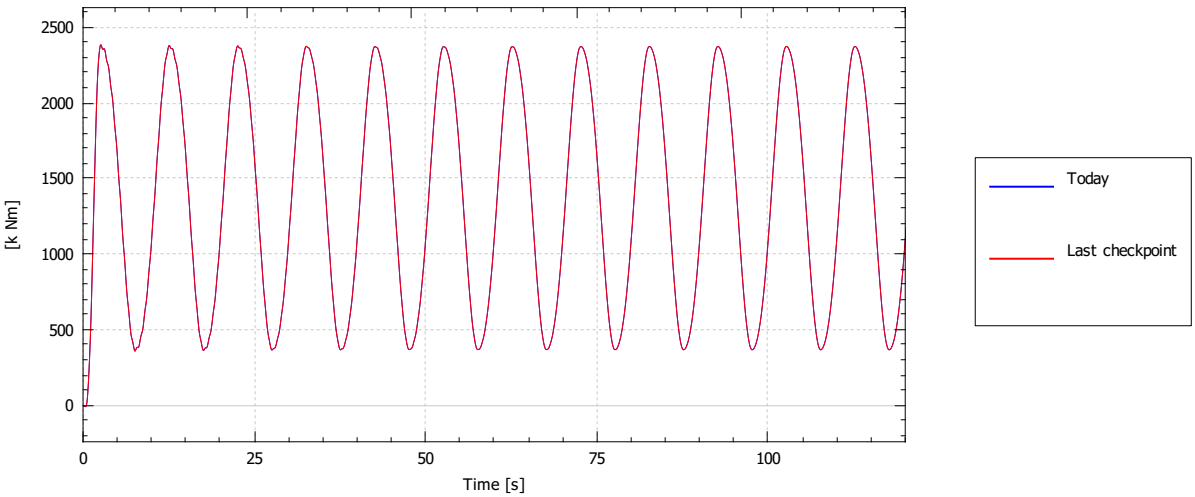
Shear force, mag.



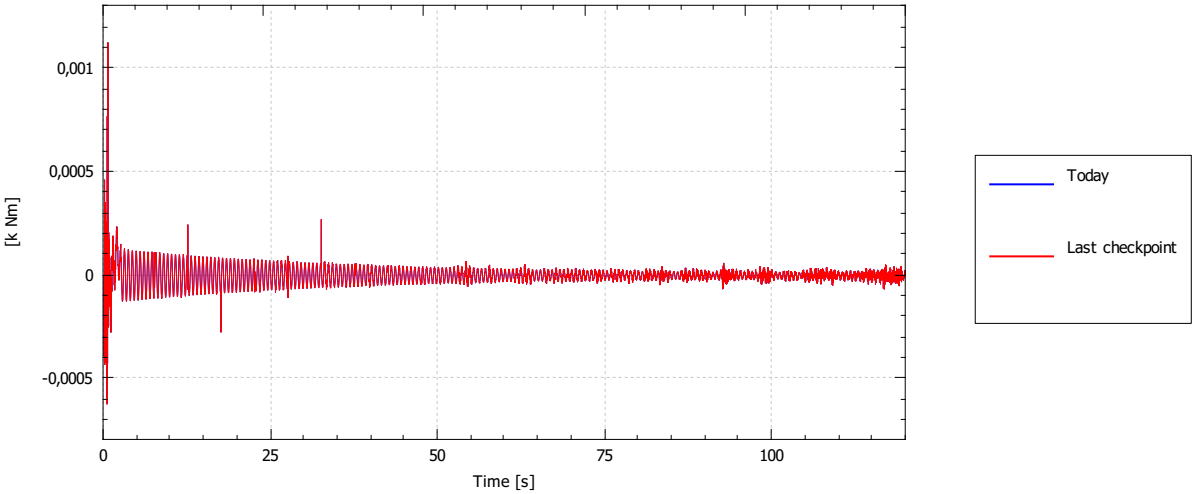
Torque



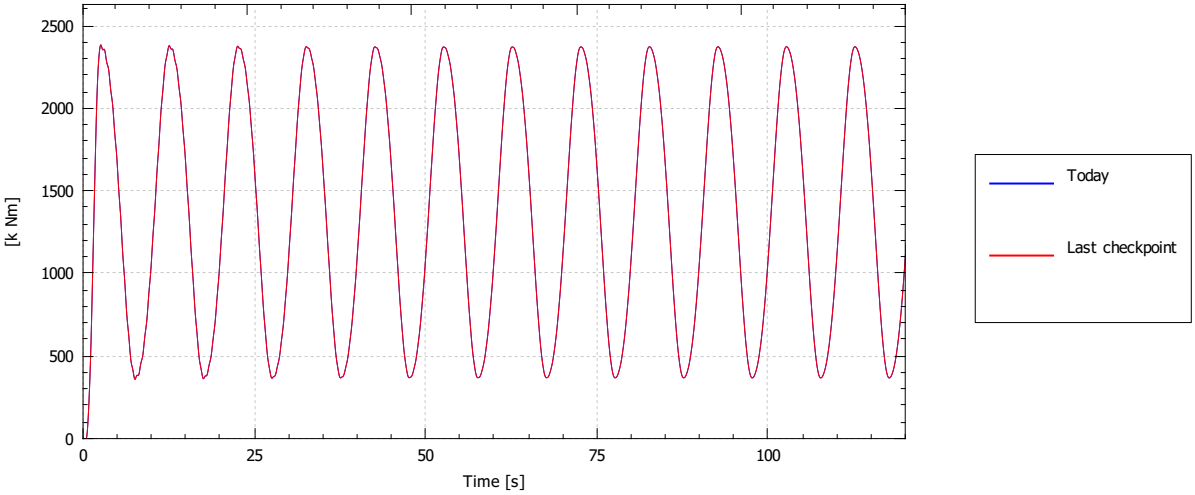
Moment (1st prin. axis), i



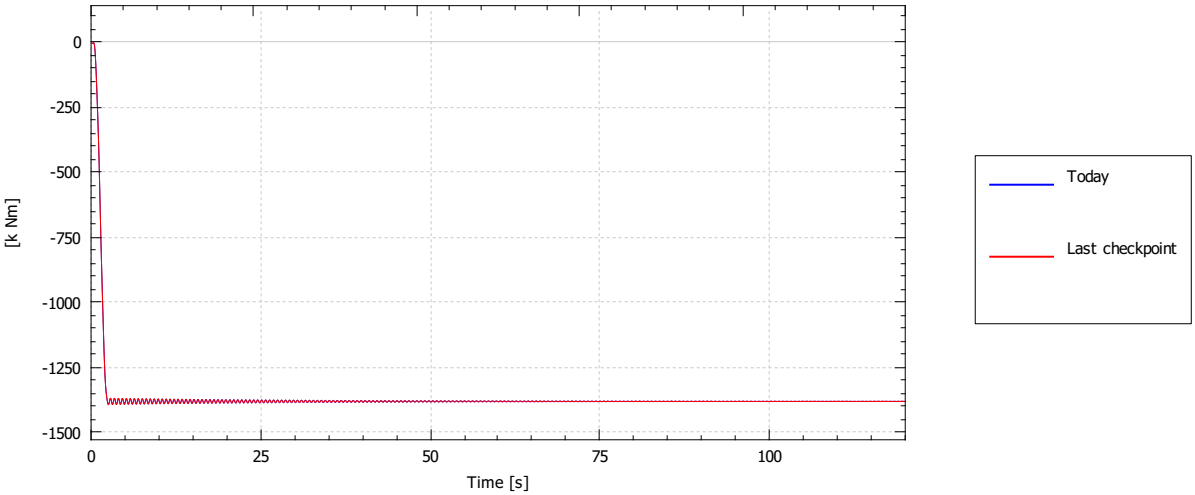
Moment (2nd prin. axis), i



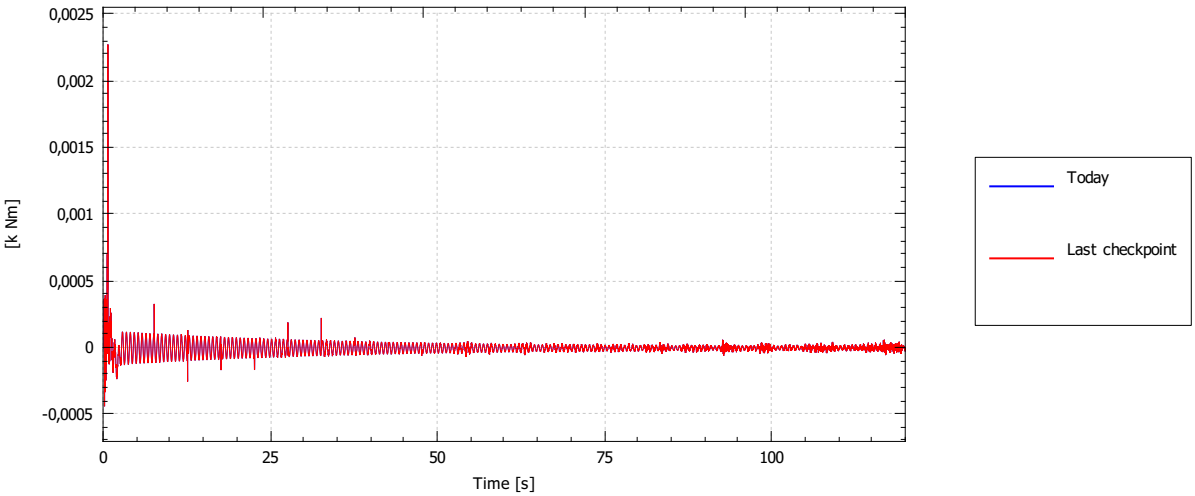
Moment, mag., i



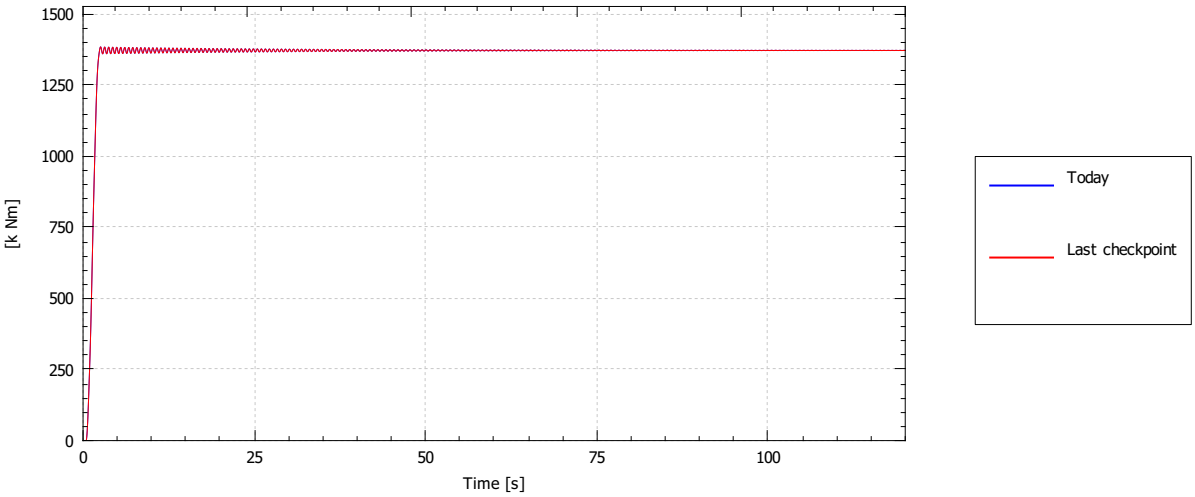
Moment (1st prin. axis), j



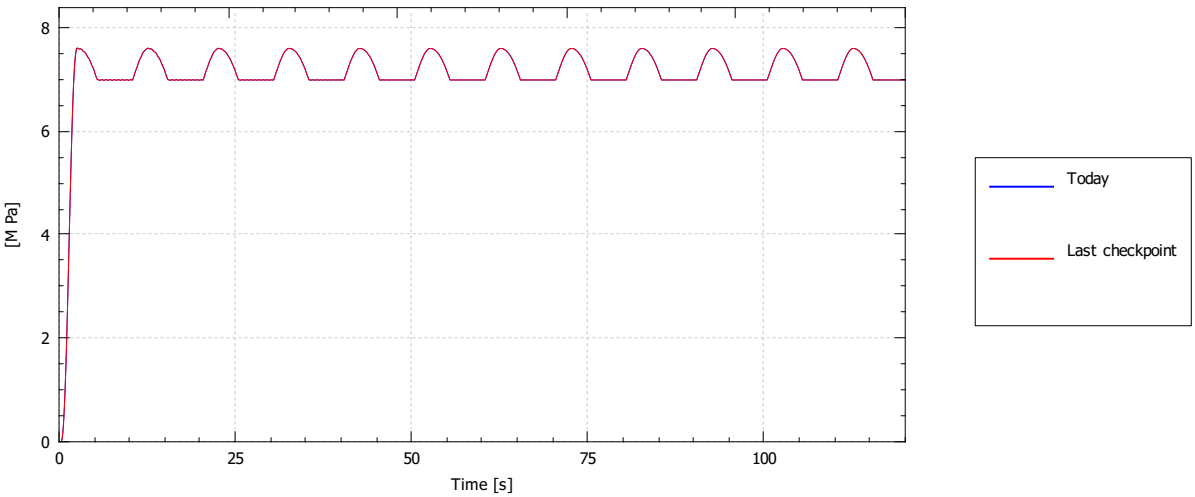
Moment (2nd prin. axis), j



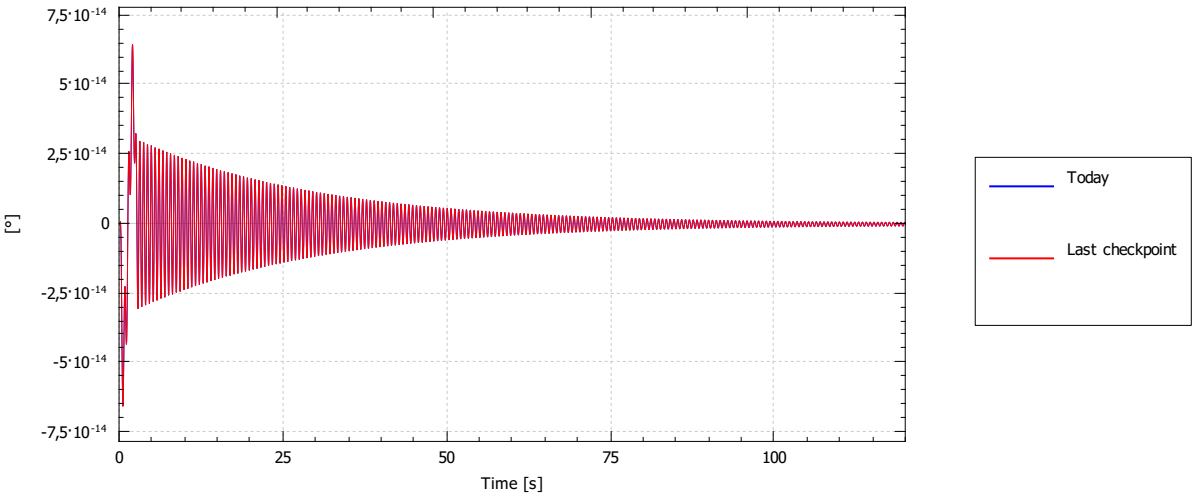
Moment, mag., j



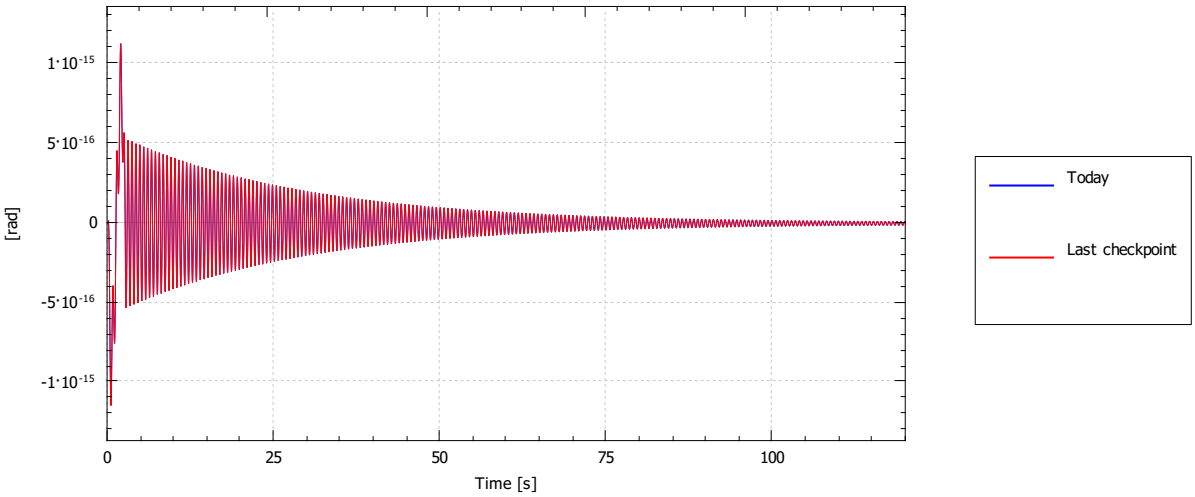
Max normal stress



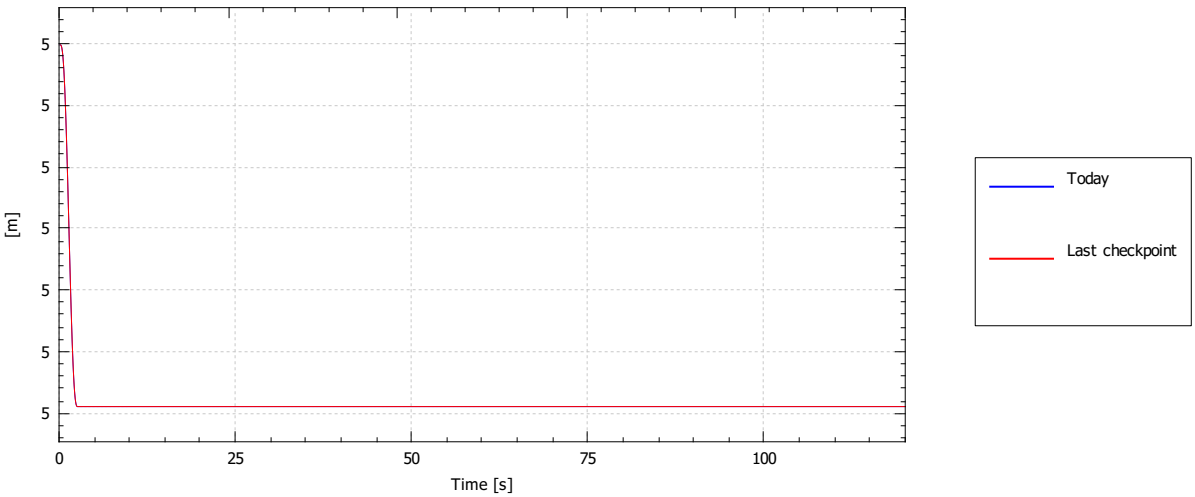
Twist (structural)



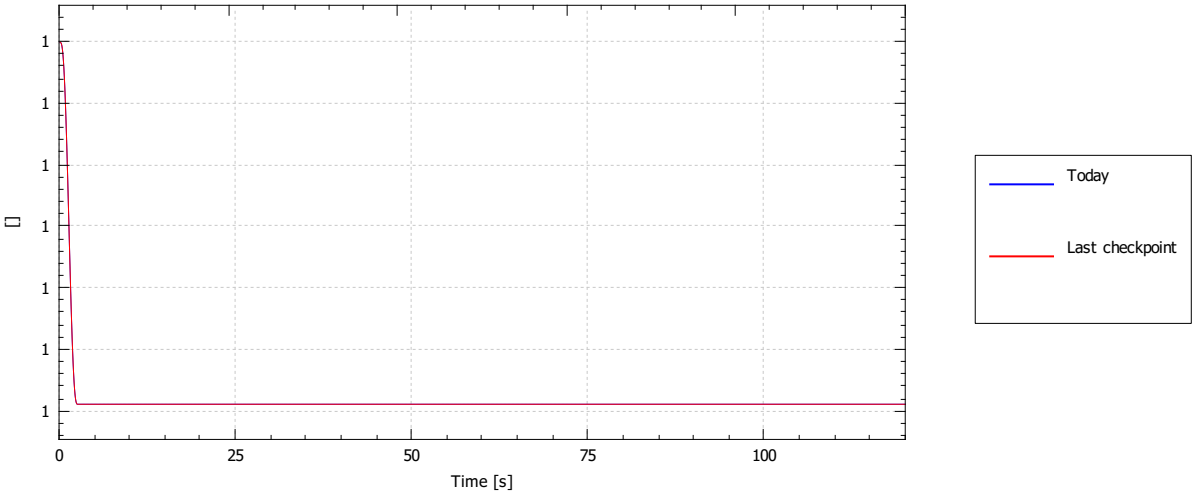
Twist (structural) - rad



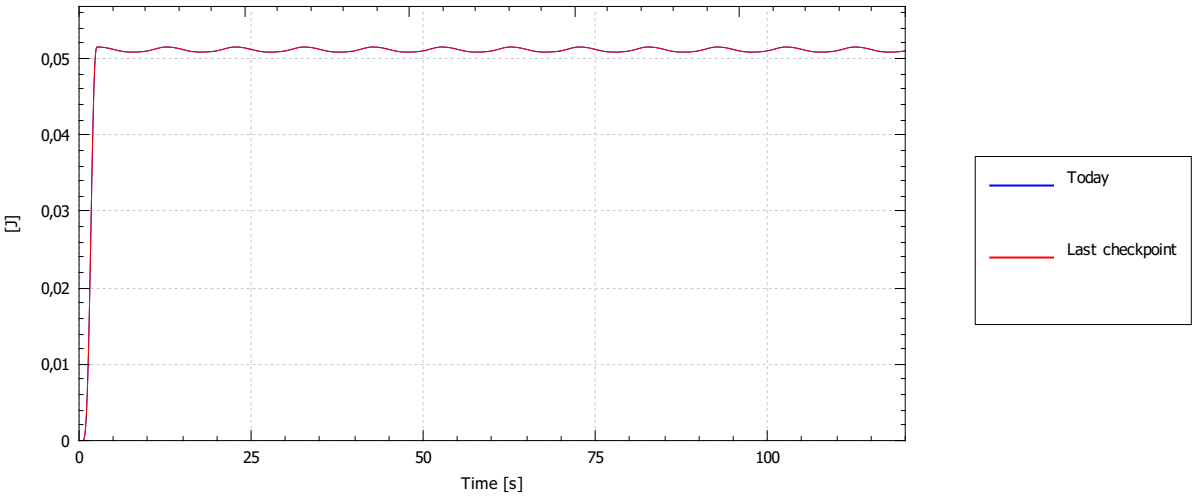
Deformed length



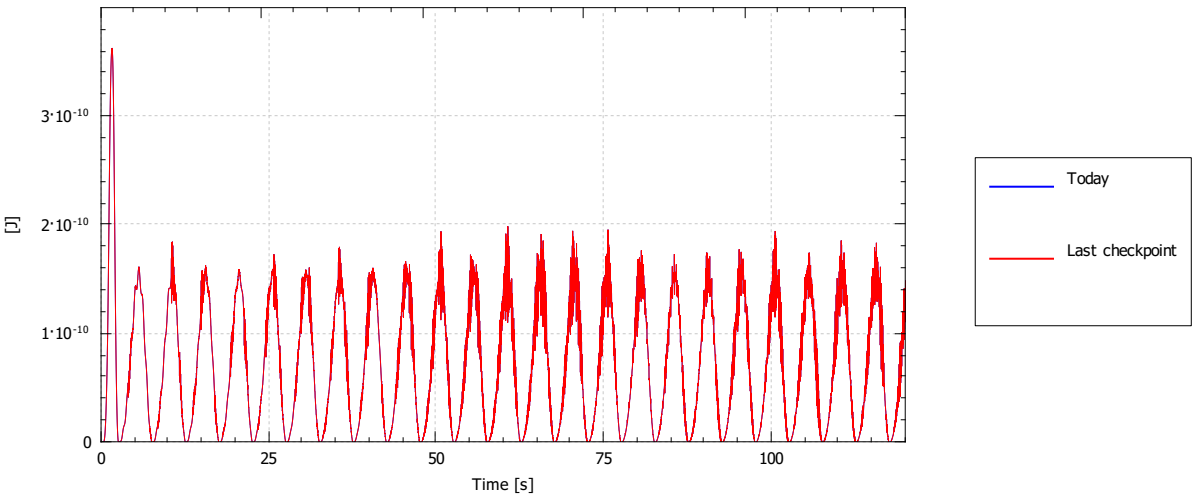
Elongation



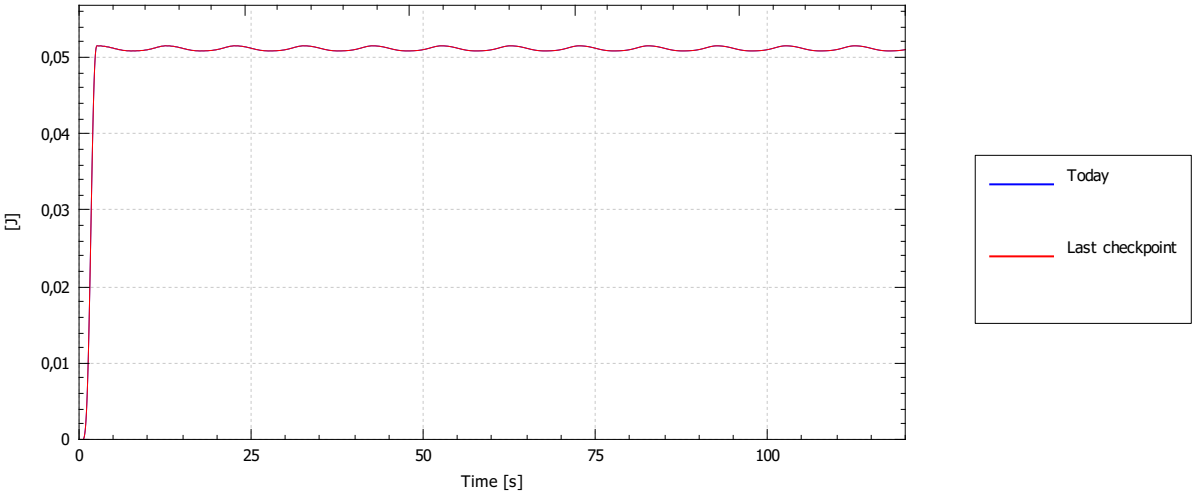
Strain energy



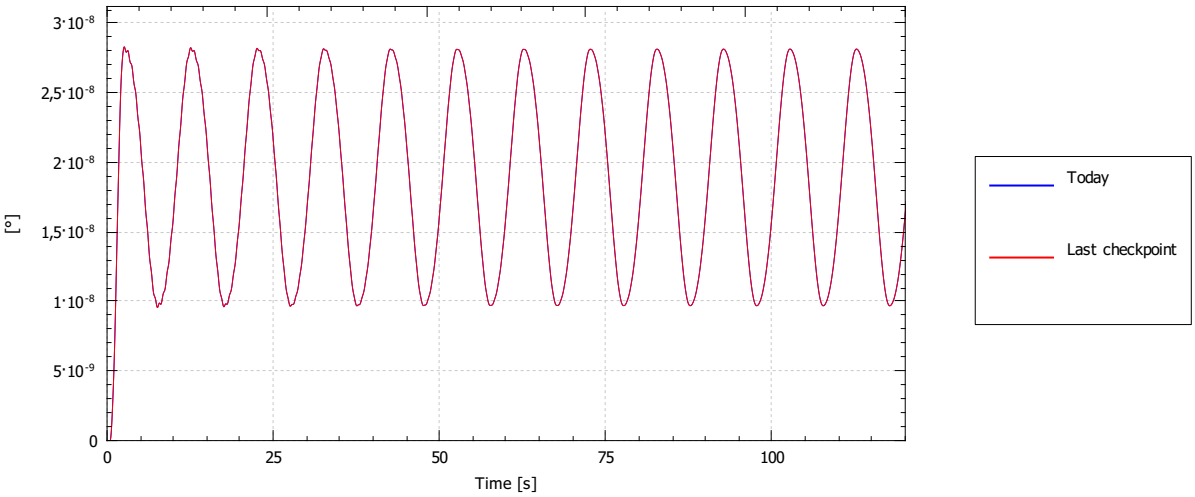
Kinetic energy



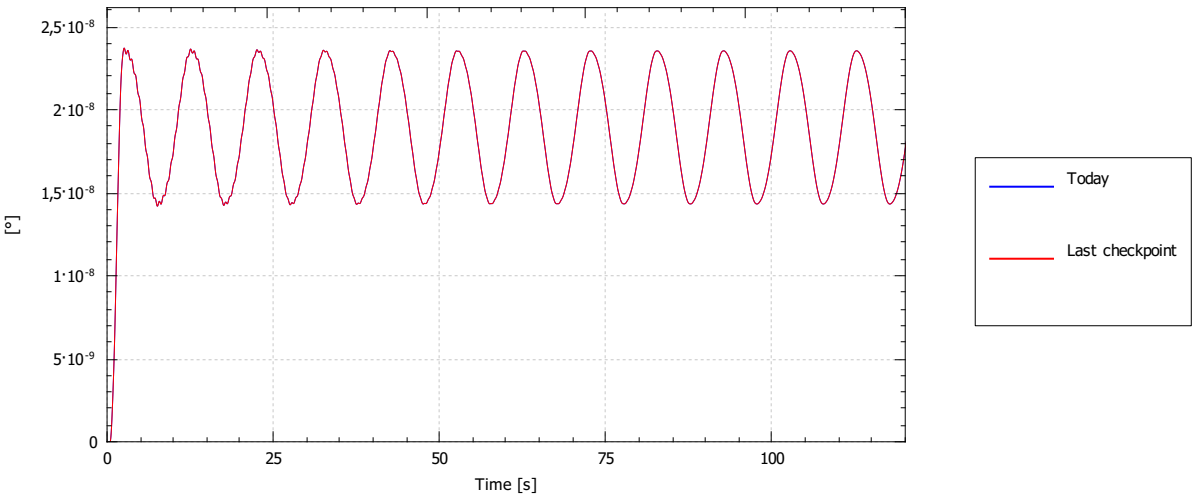
Mechanical energy



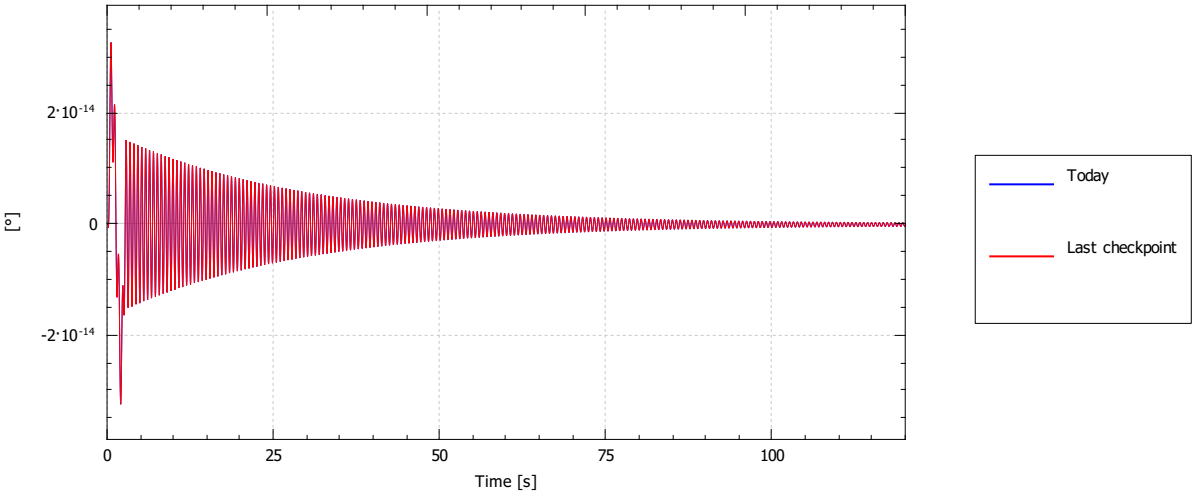
Deformational rotation (i)



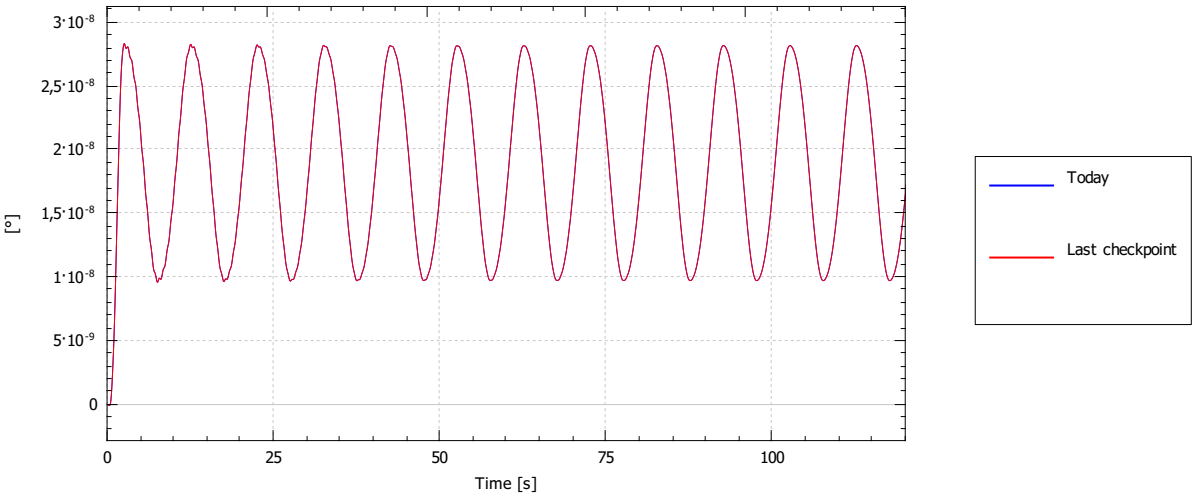
Deformational rotation (j)



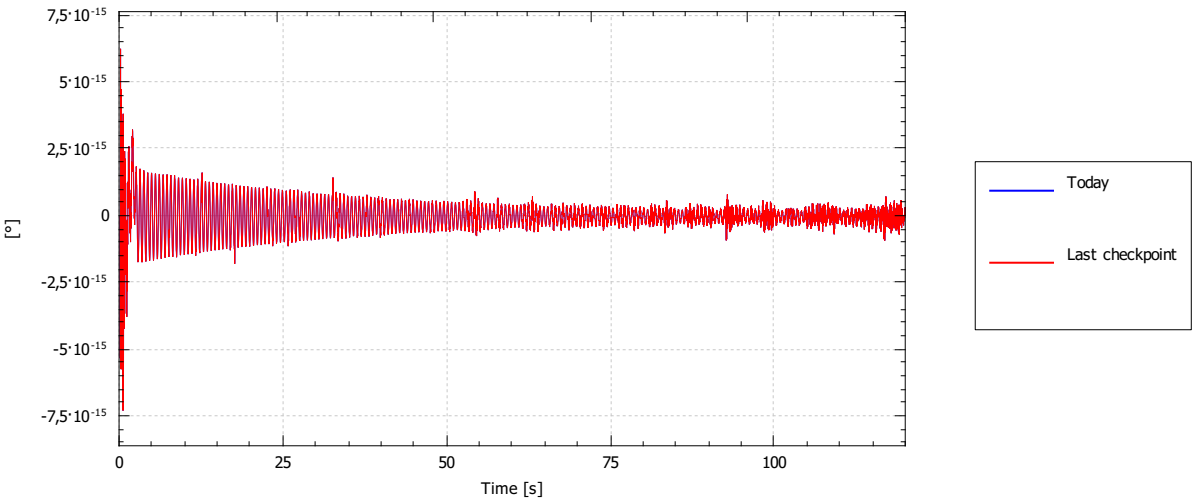
Deformational rotation (axial)



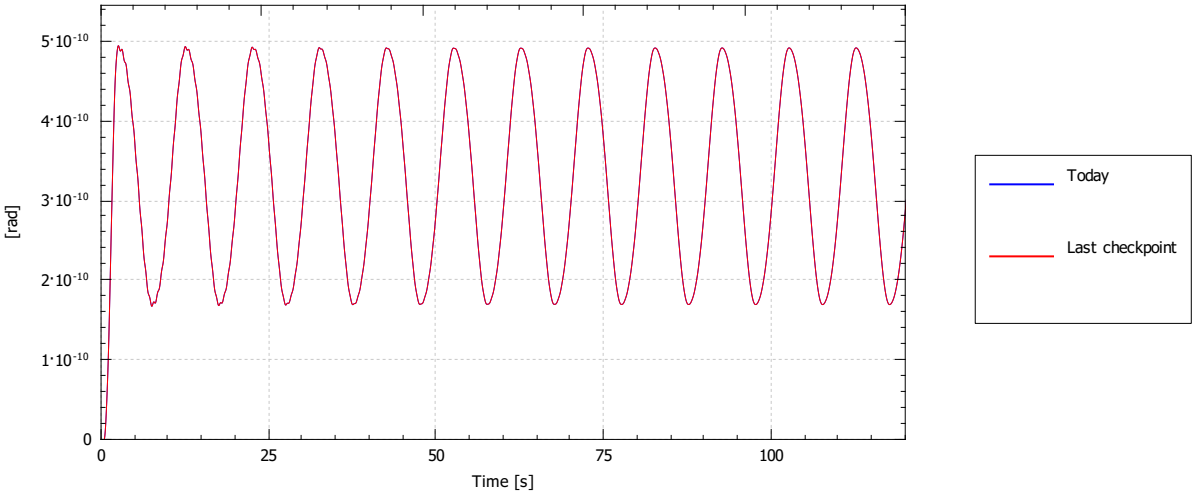
Deformational rotation (1st prin.)



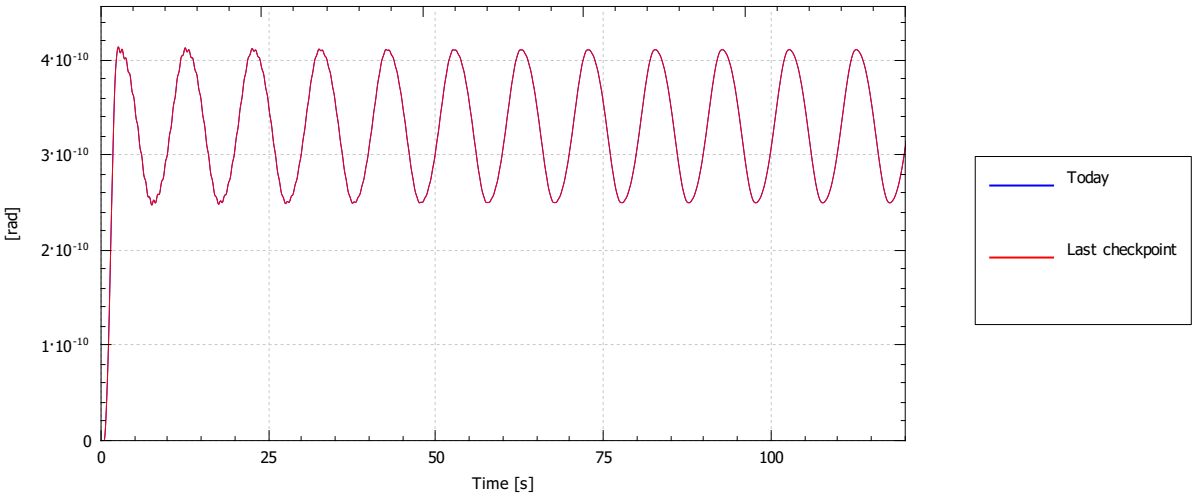
Deformational rotation (2nd prin.)



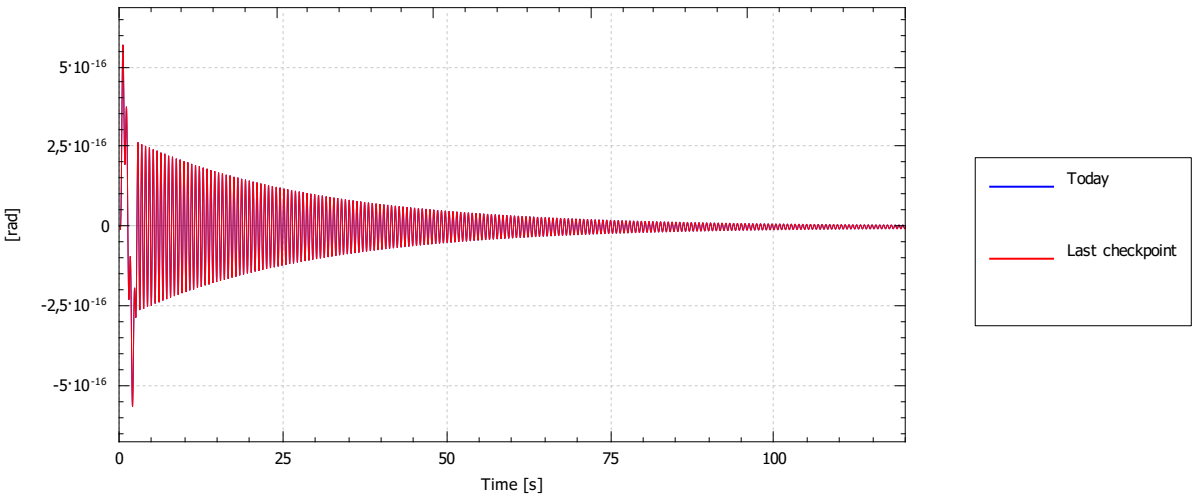
Deformational rotation (i) - rad



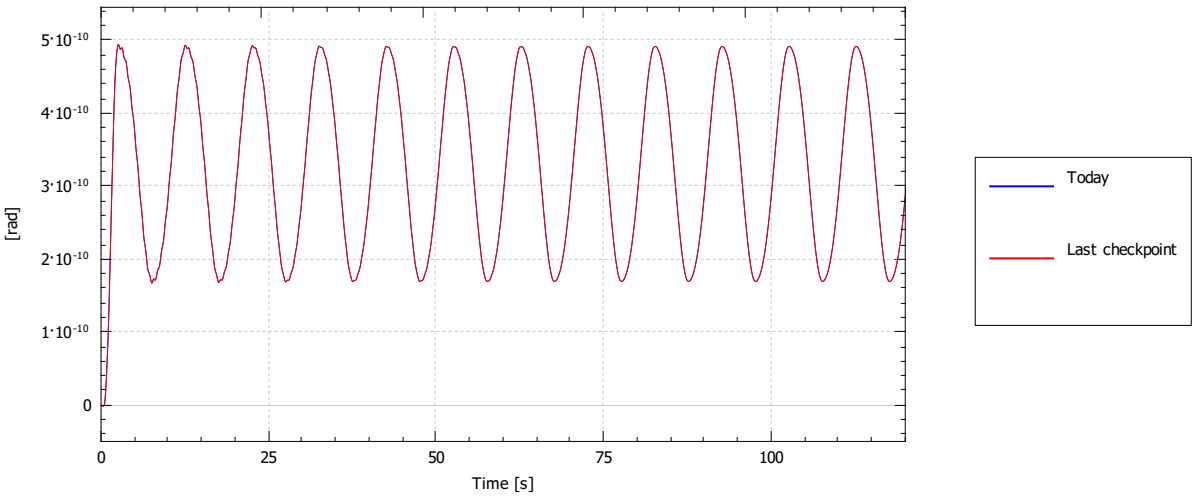
Deformational rotation (j) - rad



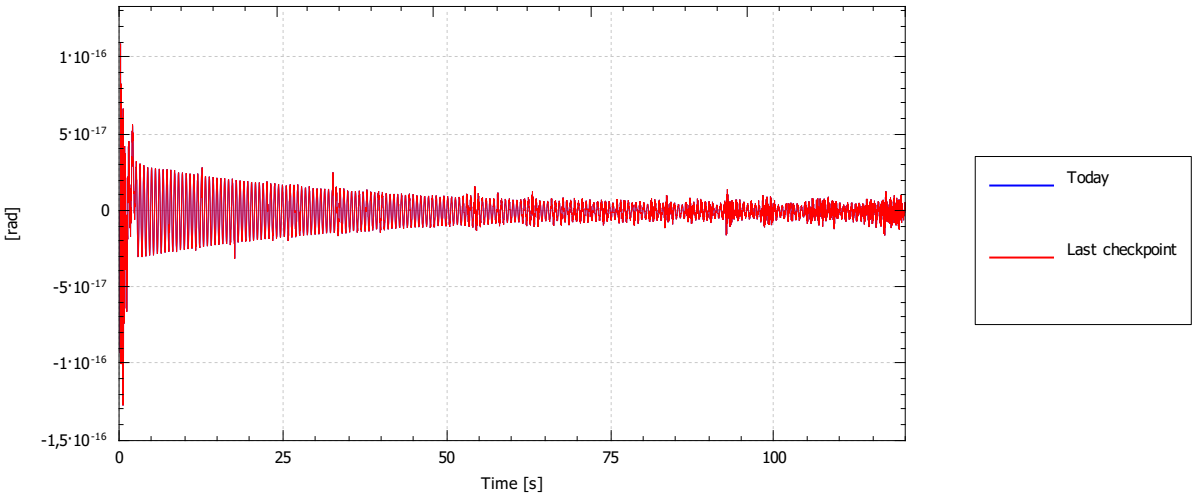
Deformational rotation (axial) - rad



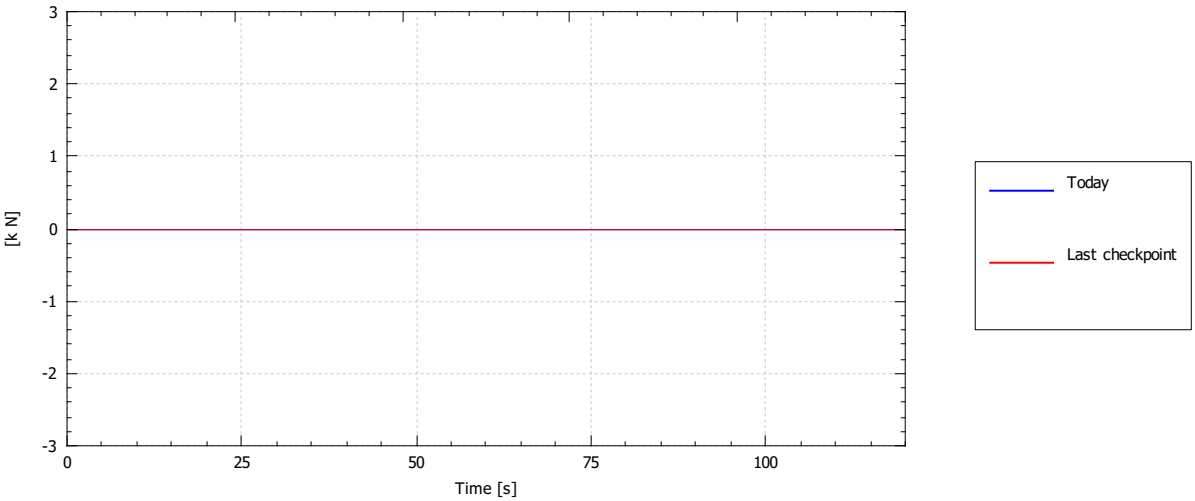
Deformational rotation (1st prin.) - rad



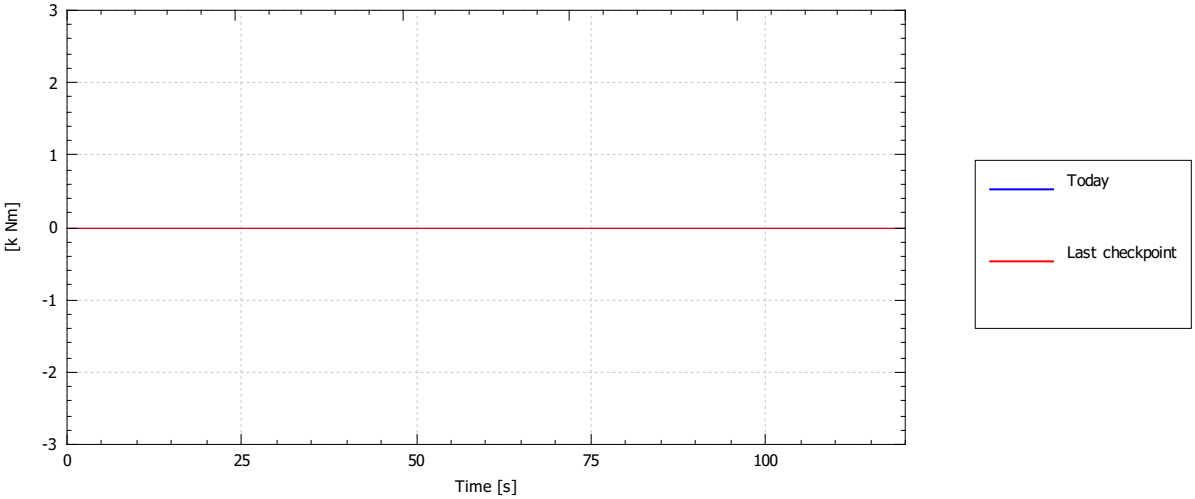
Deformational rotation (2nd prin.) - rad



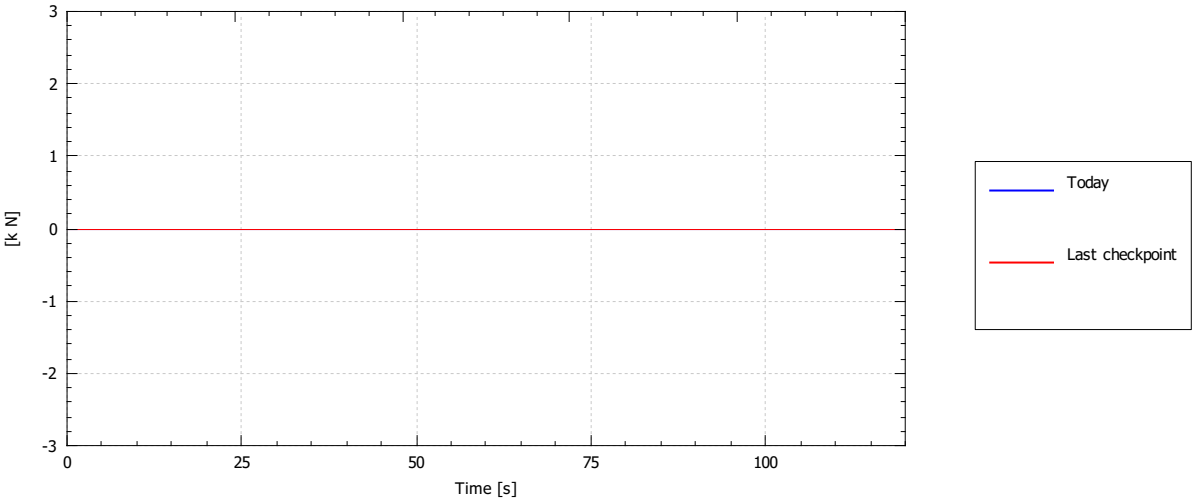
Damping force, i



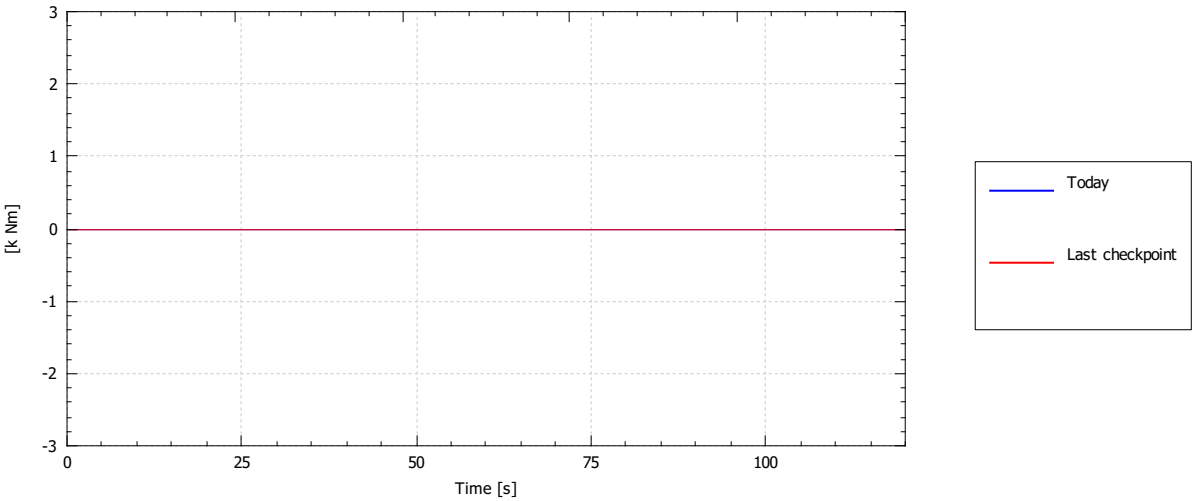
Damping moment, i



Damping force, sum

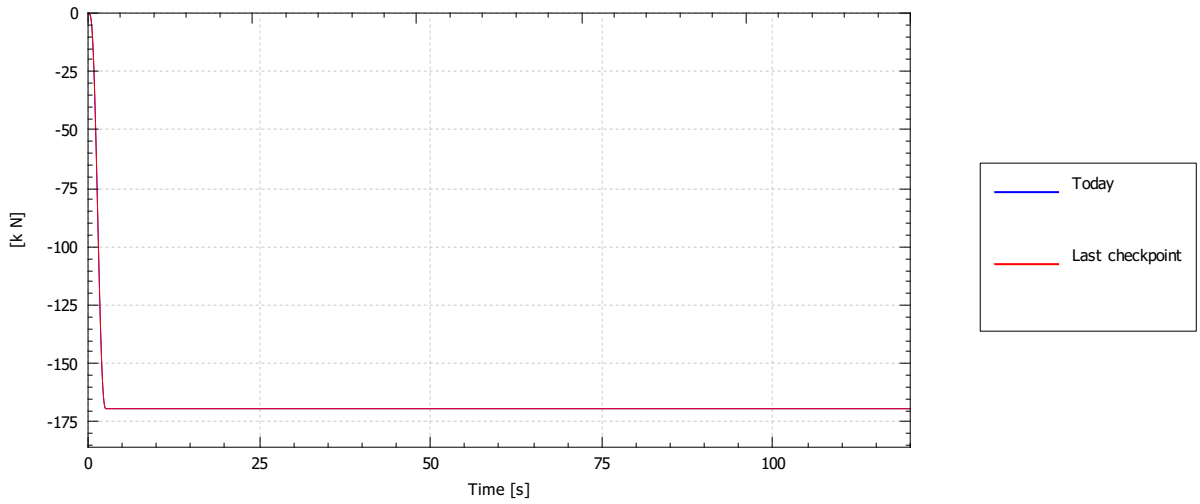


Damping moment, sum

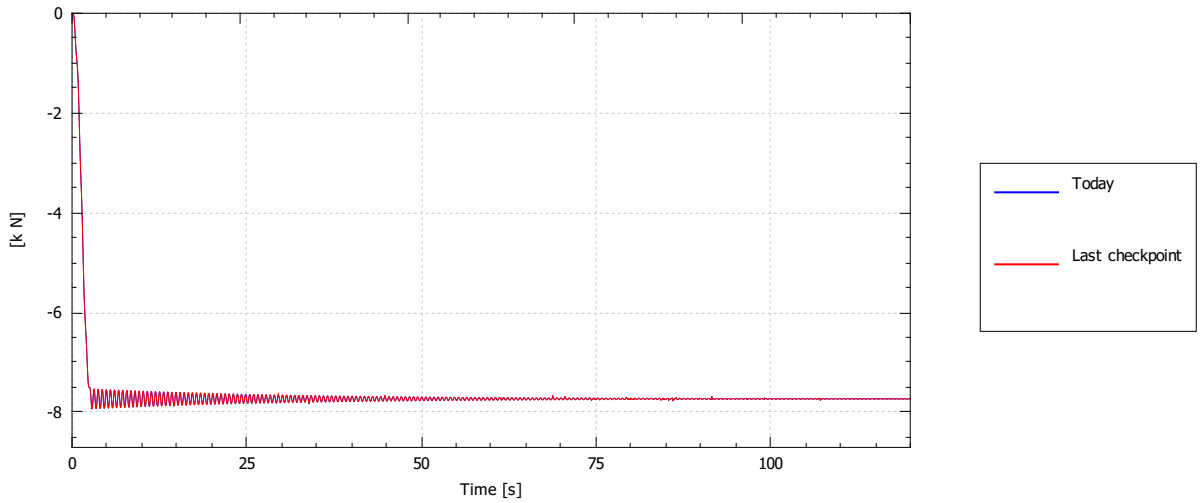


Beam element [Element 1 | Blade 1]

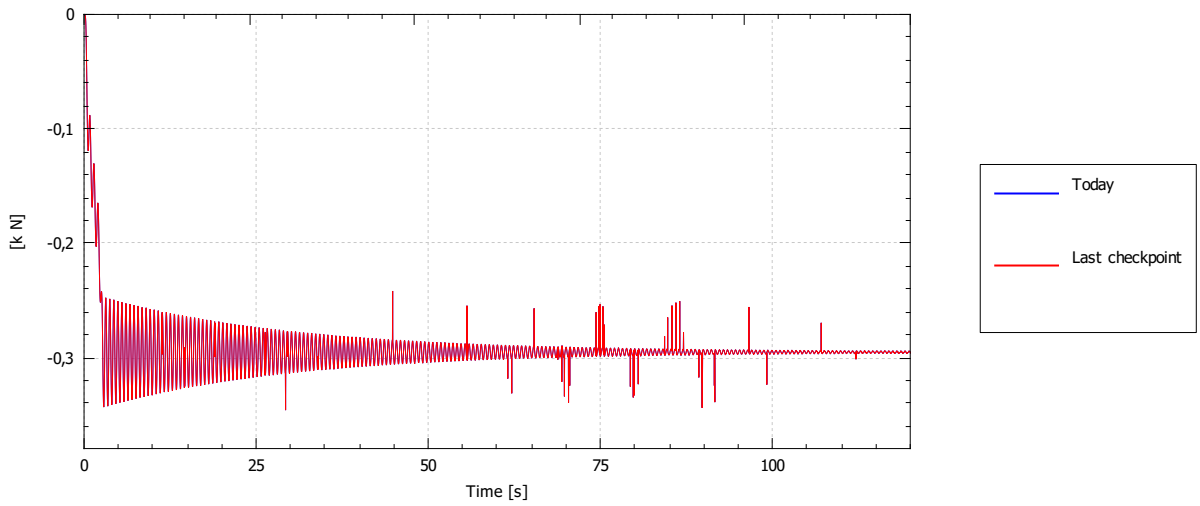
Axial force



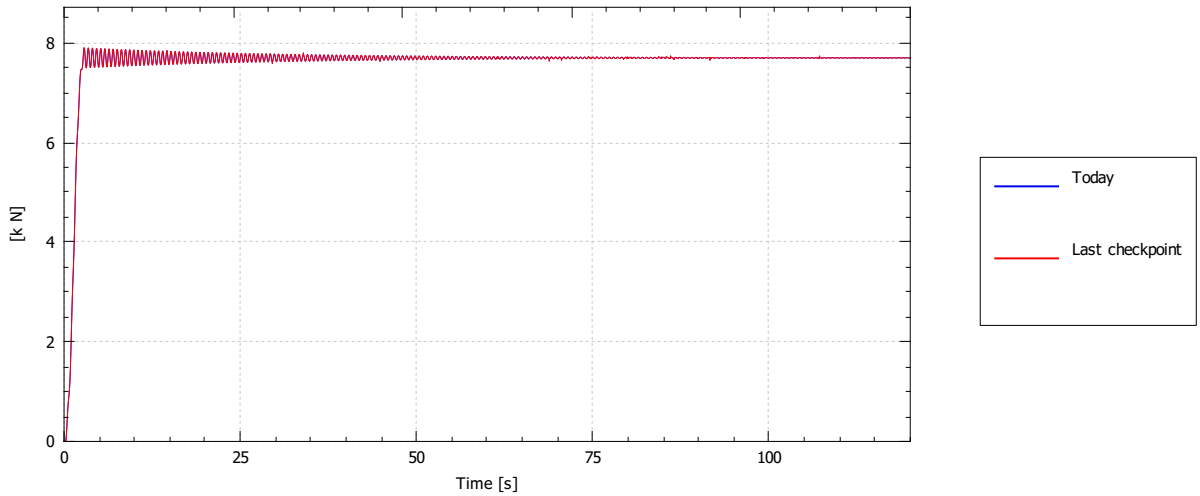
Shear force (1st prin. axis)



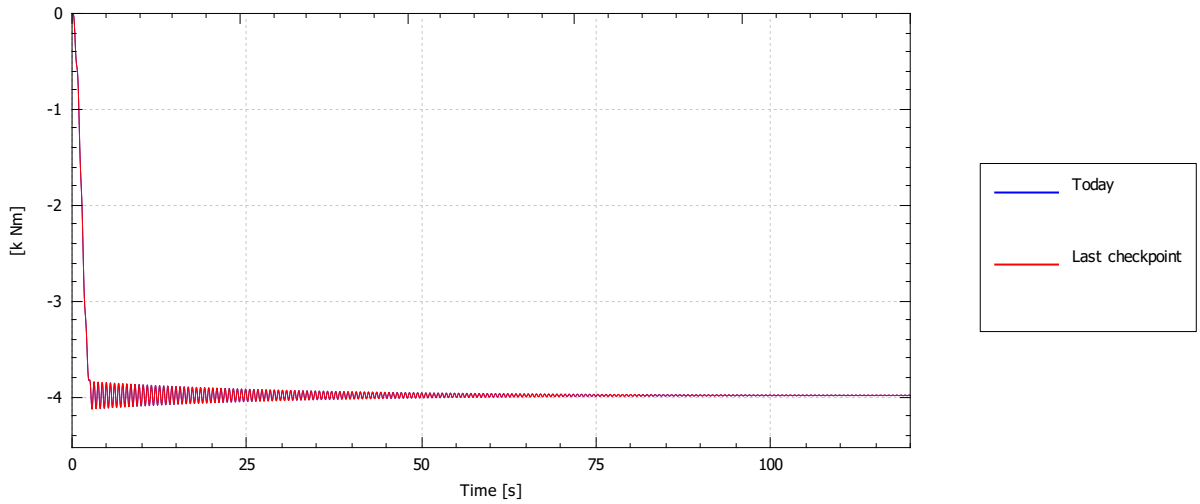
Shear force (2nd prin. axis)



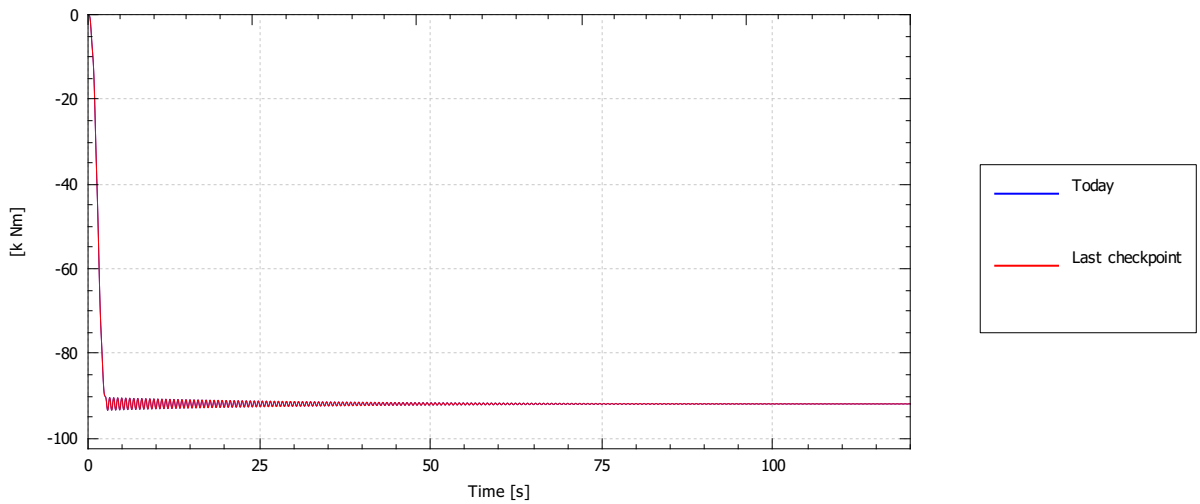
Shear force, mag.



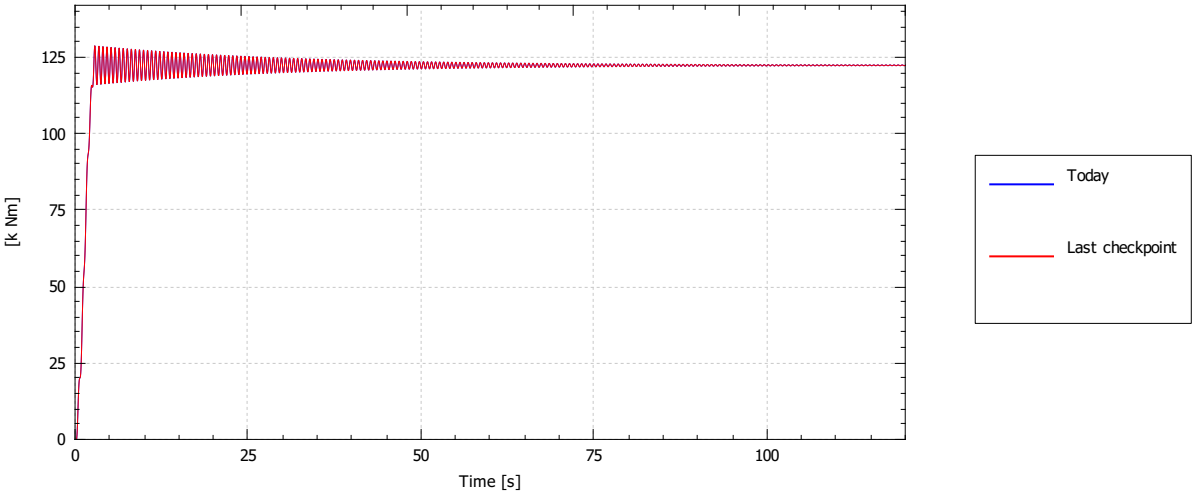
Torque



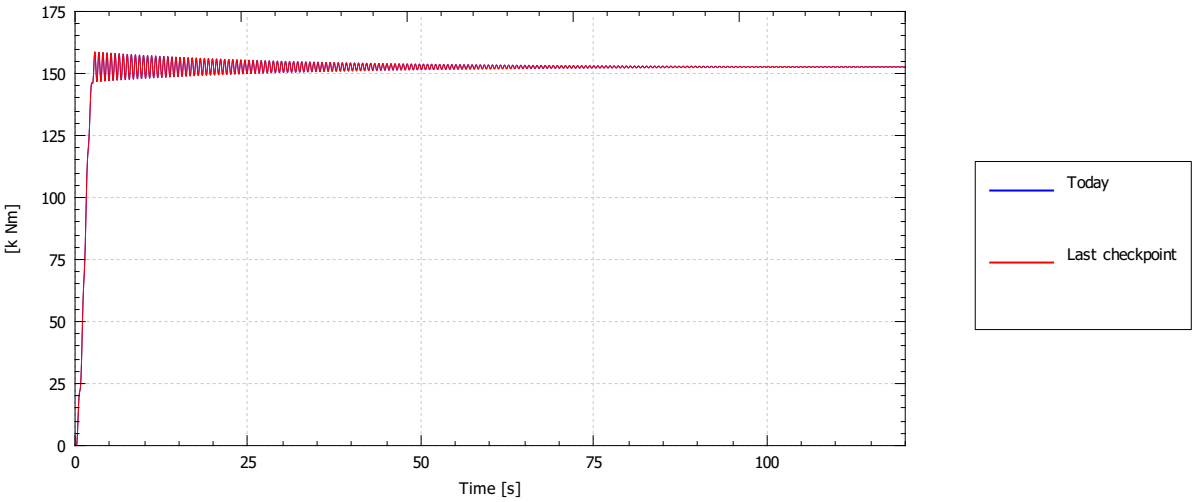
Moment (1st prin. axis), i



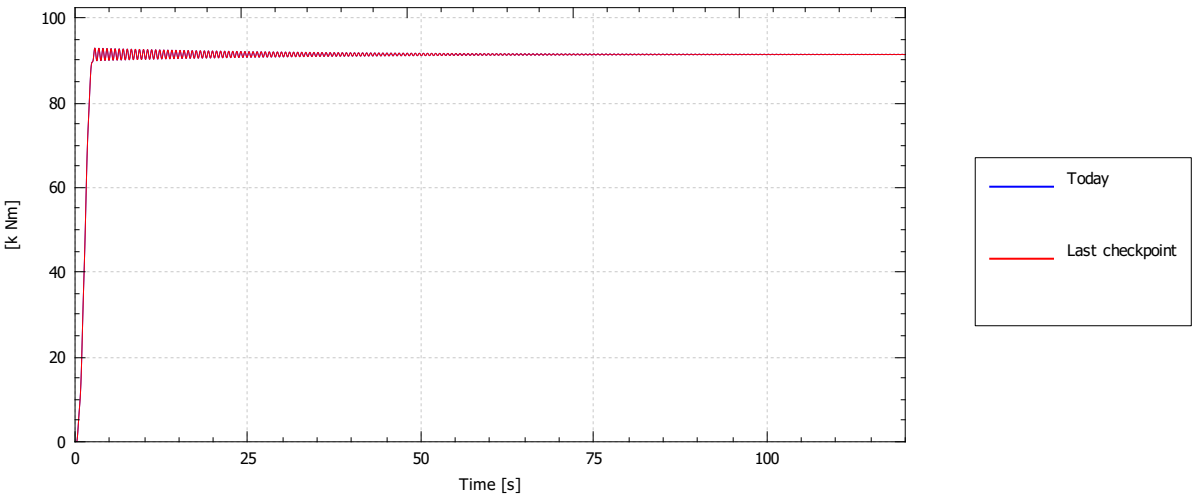
Moment (2nd prin. axis), i



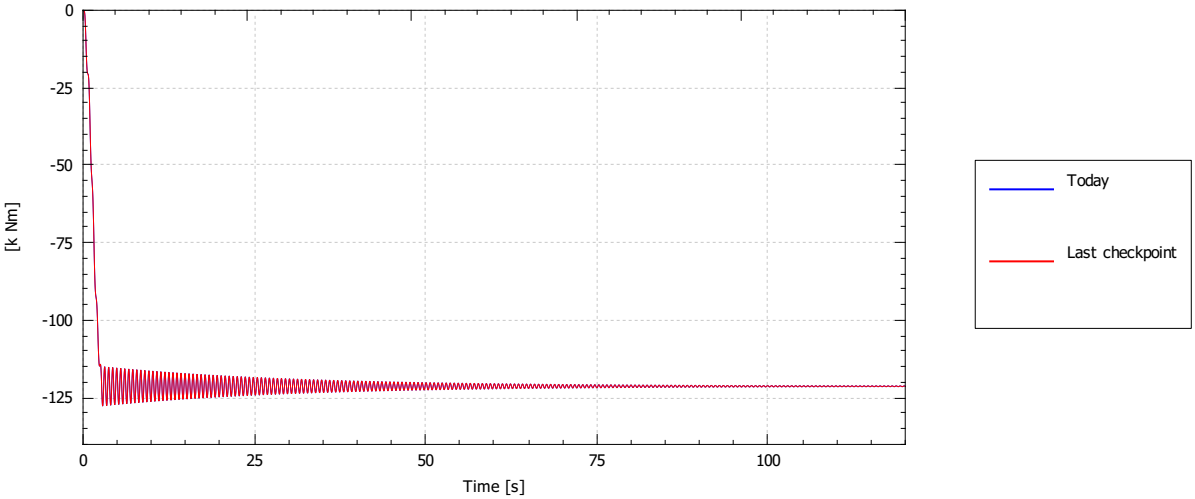
Moment, mag., i



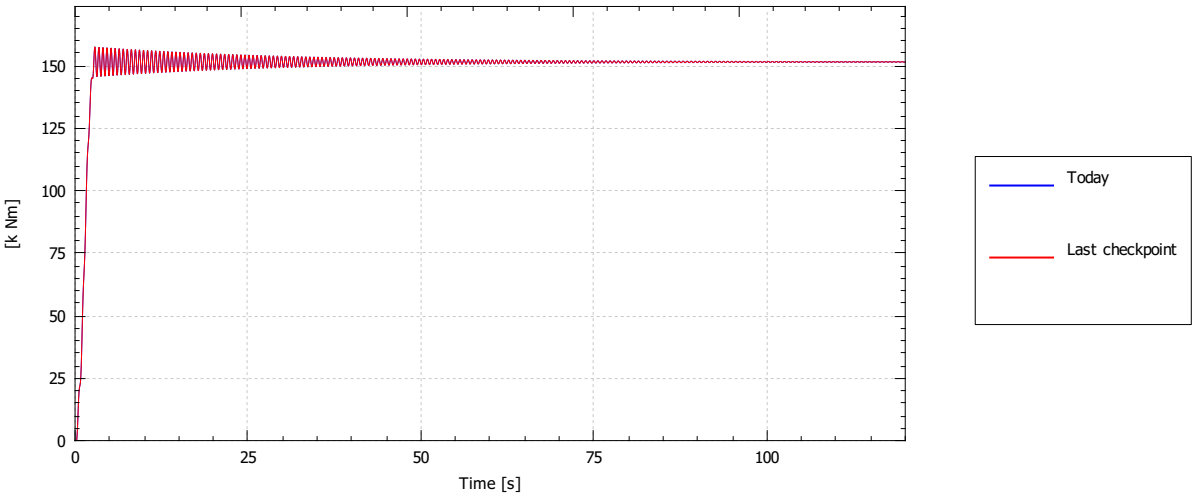
Moment (1st prin. axis), j



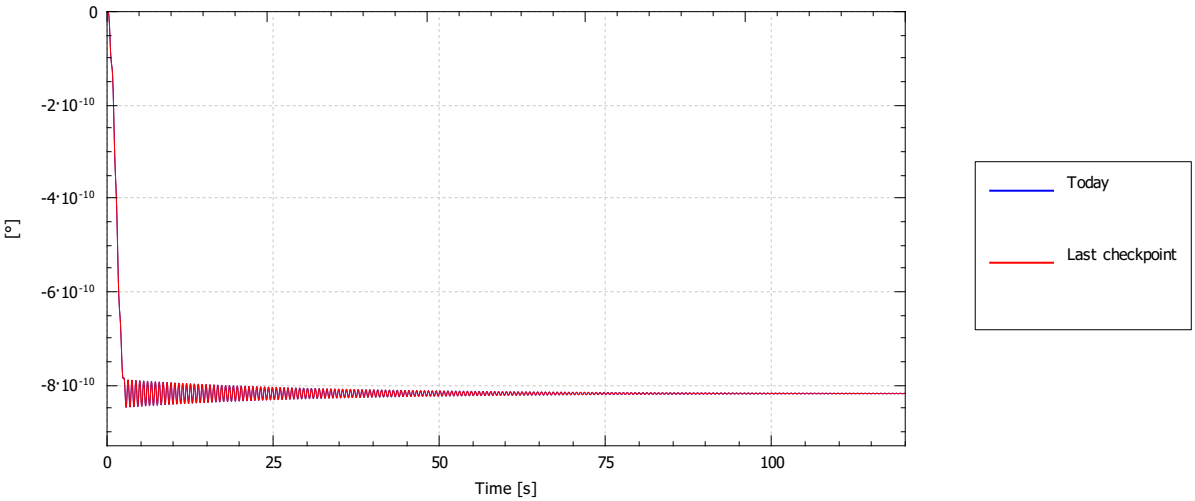
Moment (2nd prin. axis), j

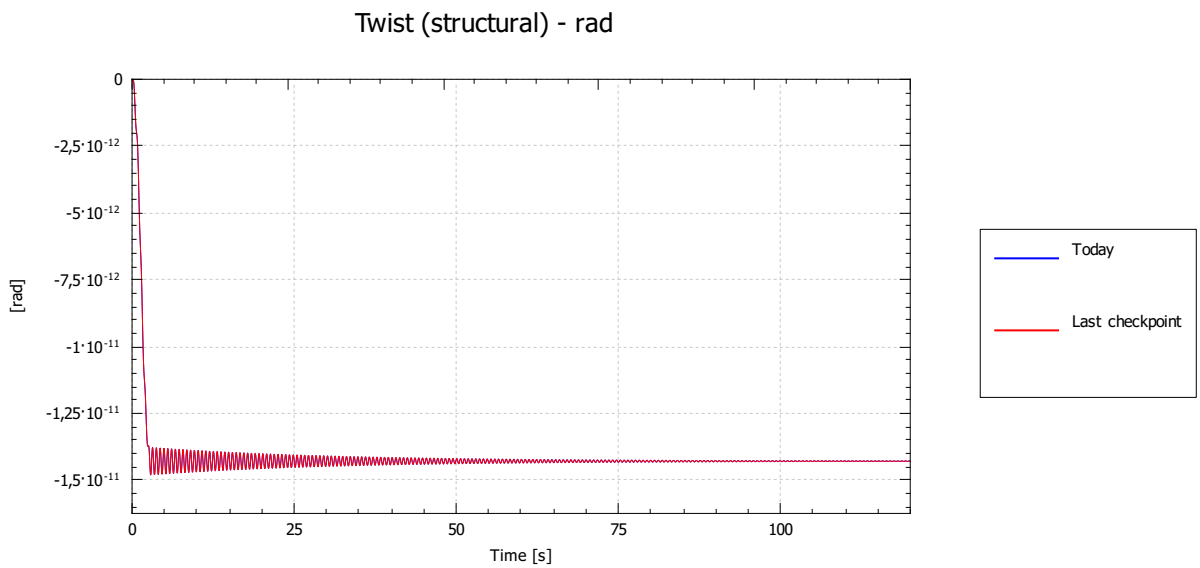


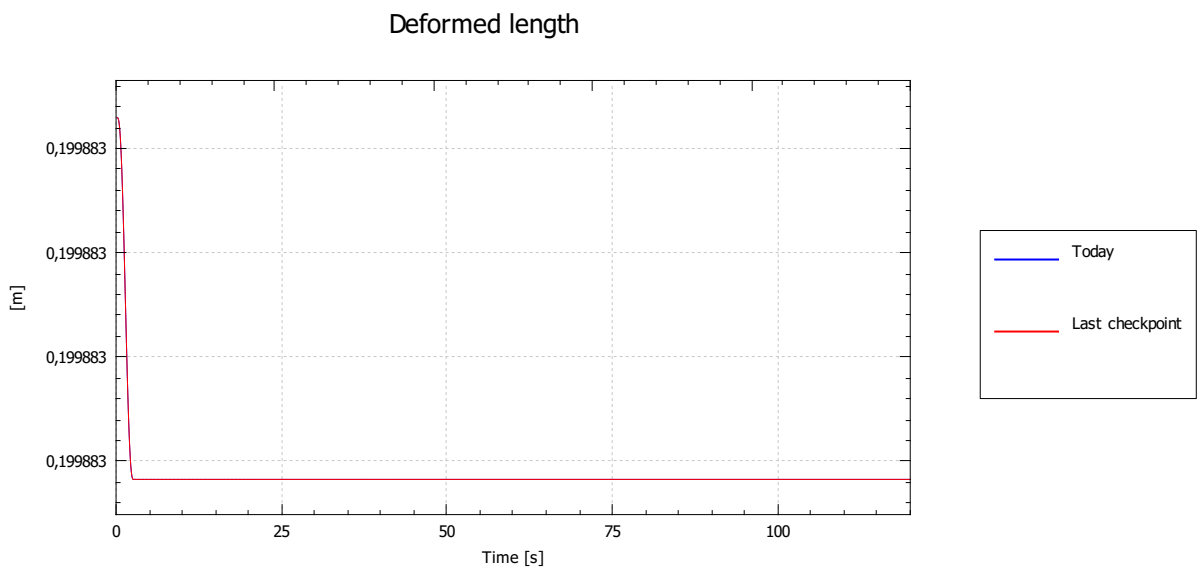
Moment, mag., j

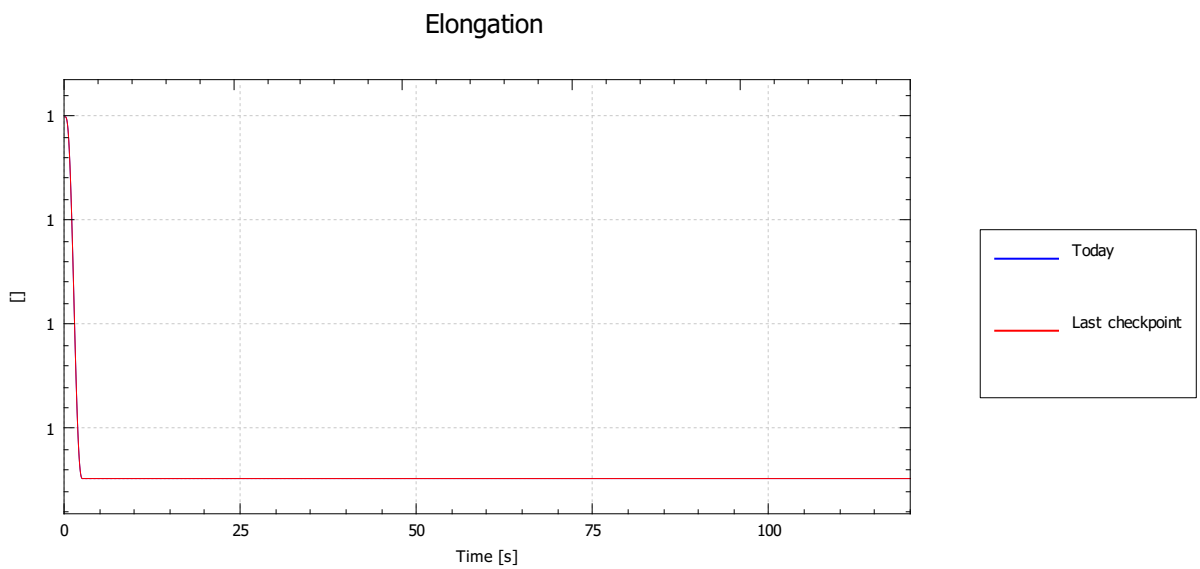


Twist (structural)

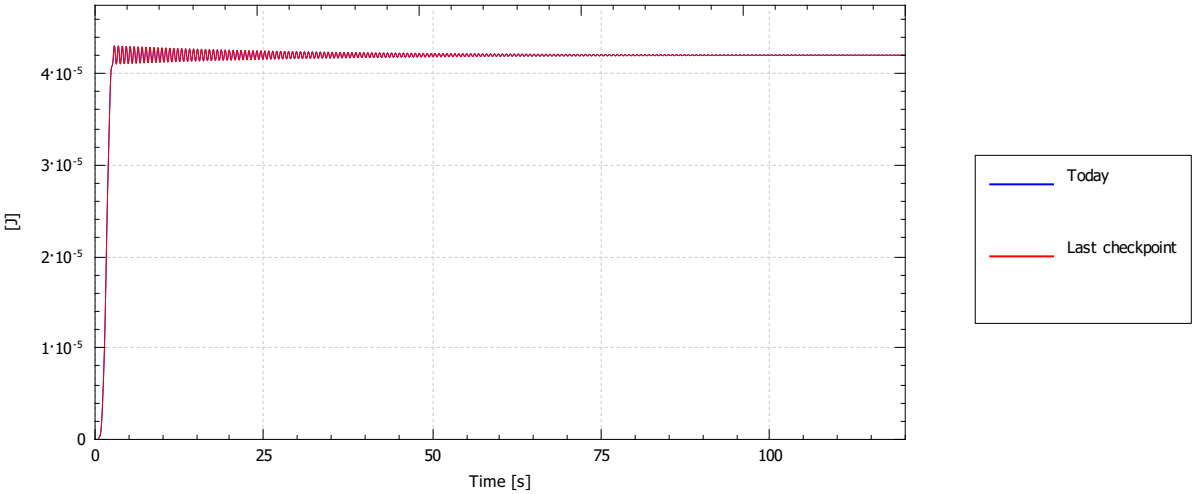



Twist (structural) - rad
0
-2,5·10-12
-5·10-12
-7,5·10-12
-1·10-11
-1,25·10-11
-1,5·10-11
[rad]
0
25
50
75
100
Time [s]
Today
Last checkpoint

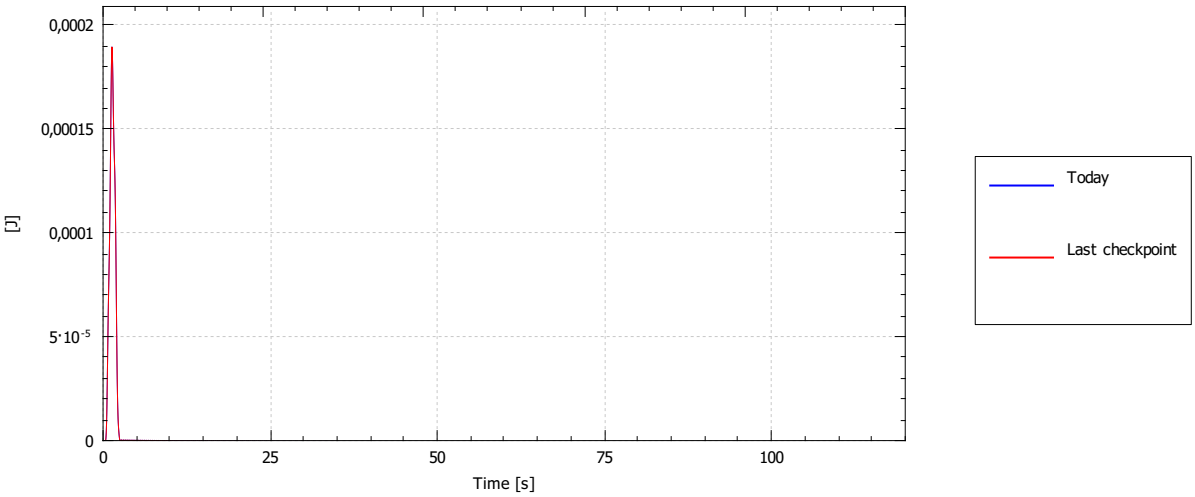

Deformed length
0,199883
0,199883
0,199883
0,199883
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Elongation
1
1
1
1
[]
0
25
50
75
100
Time [s]
Today
Last checkpoint

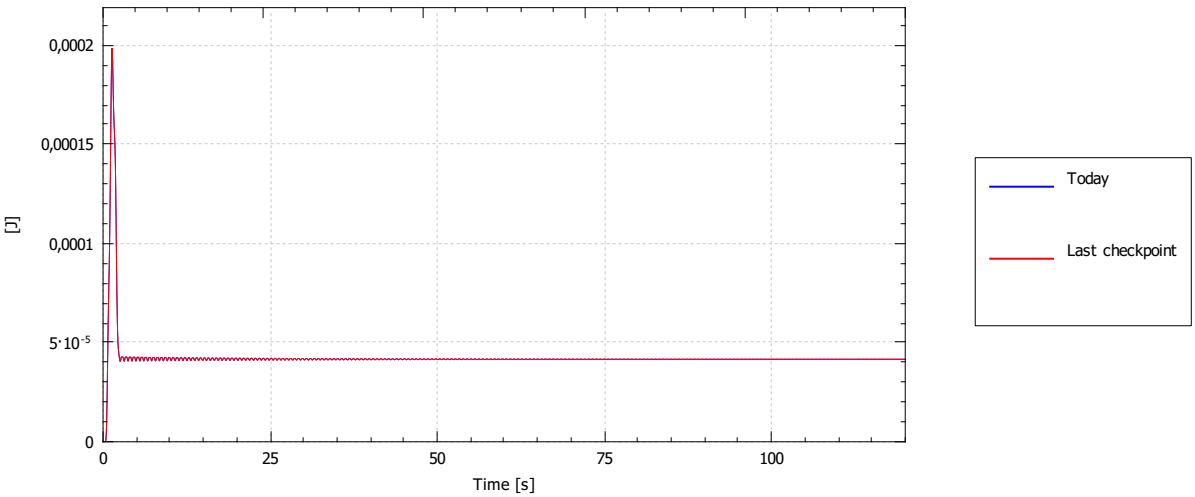
Strain energy



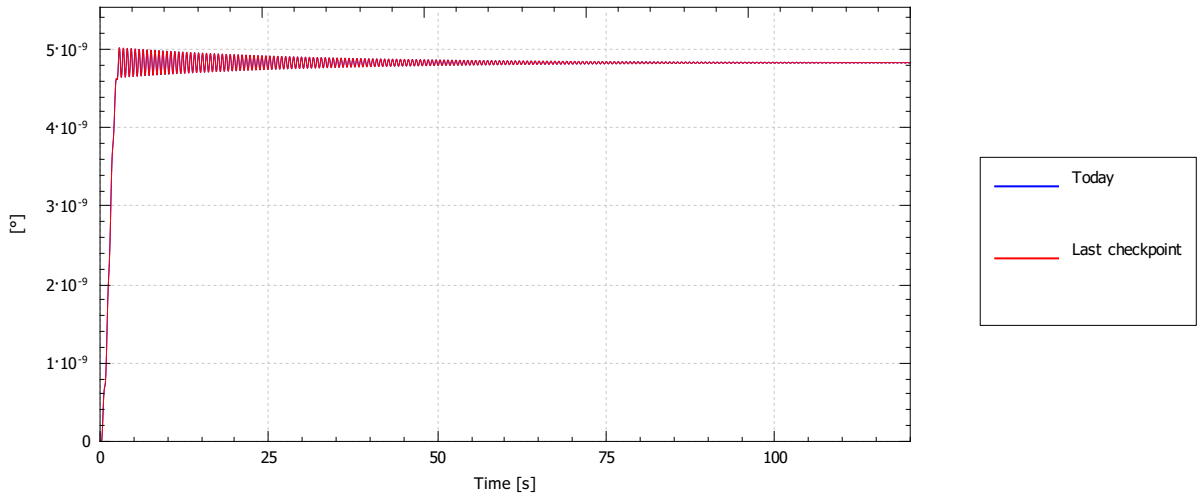
Kinetic energy



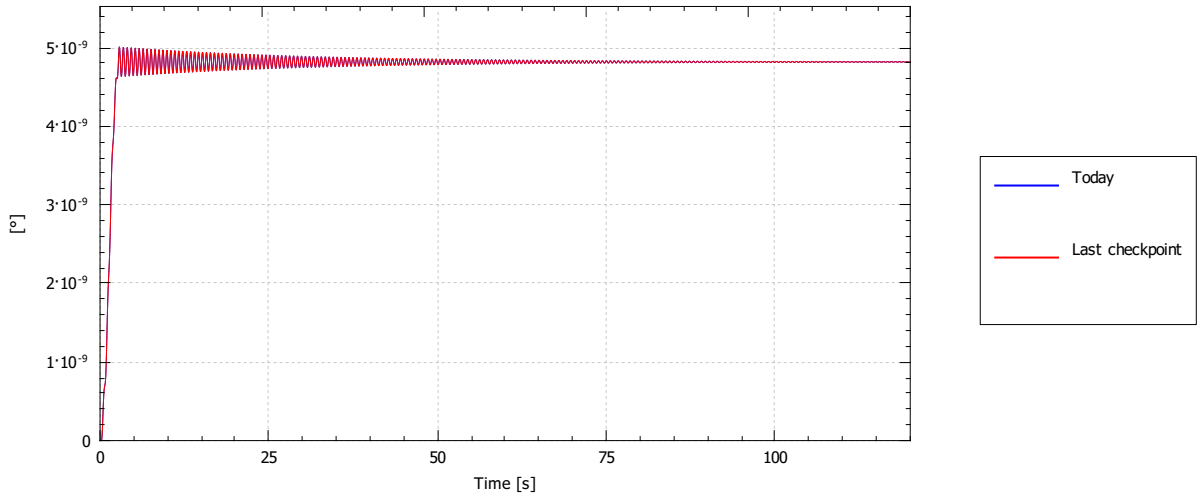
Mechanical energy



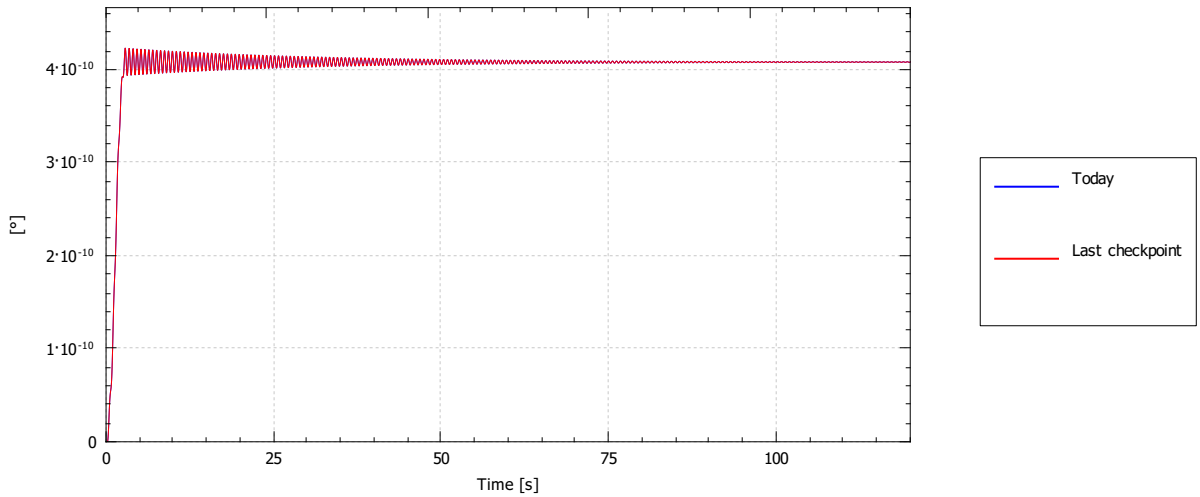
Deformational rotation (i)



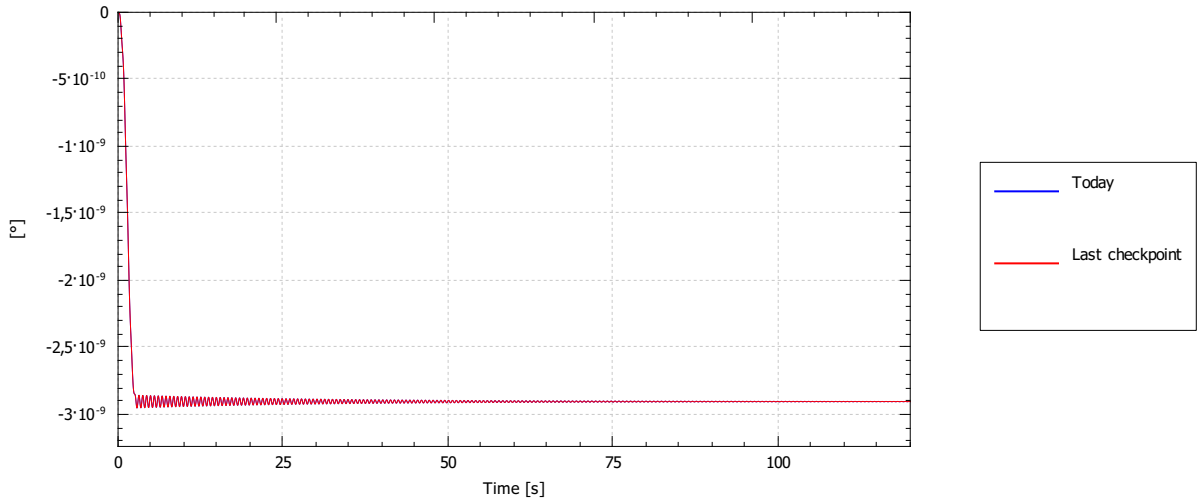
Deformational rotation (j)



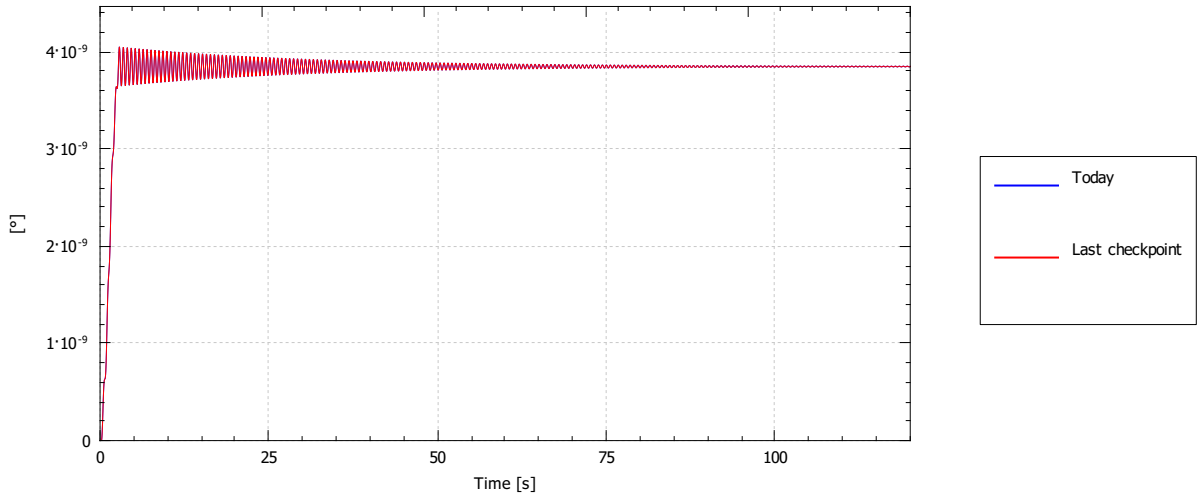
Deformational rotation (axial)



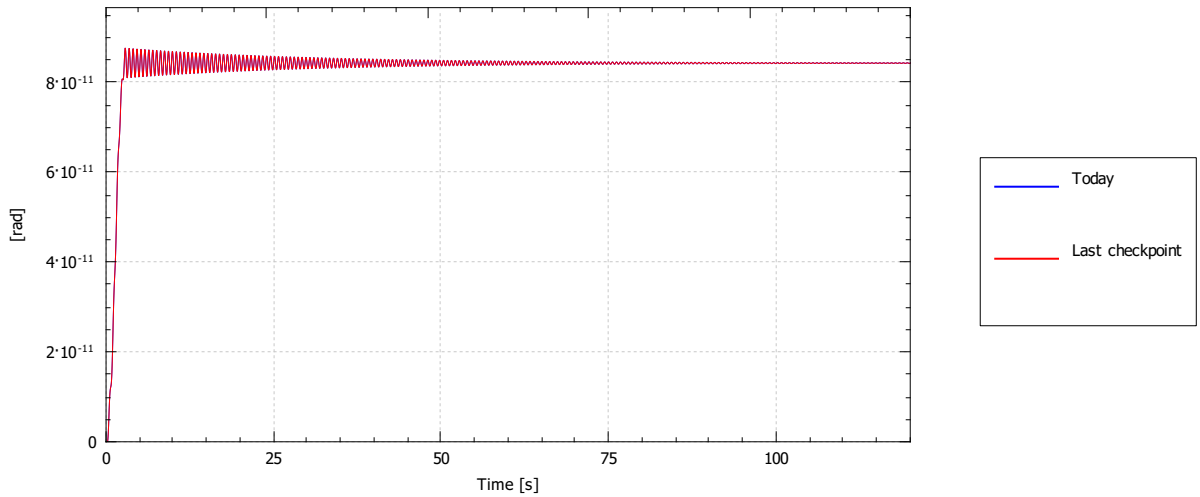
Deformational rotation (1st prin.)



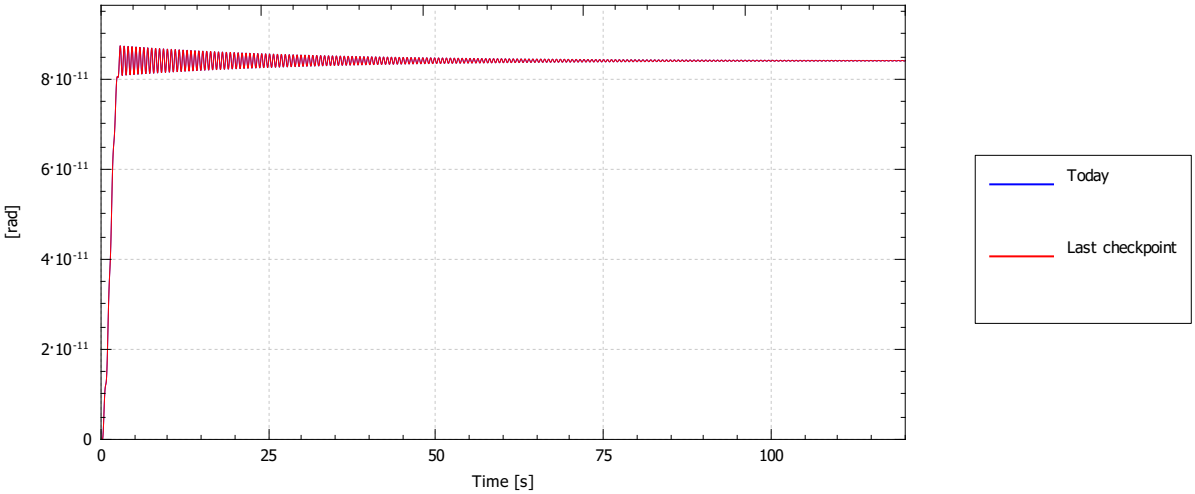
Deformational rotation (2nd prin.)



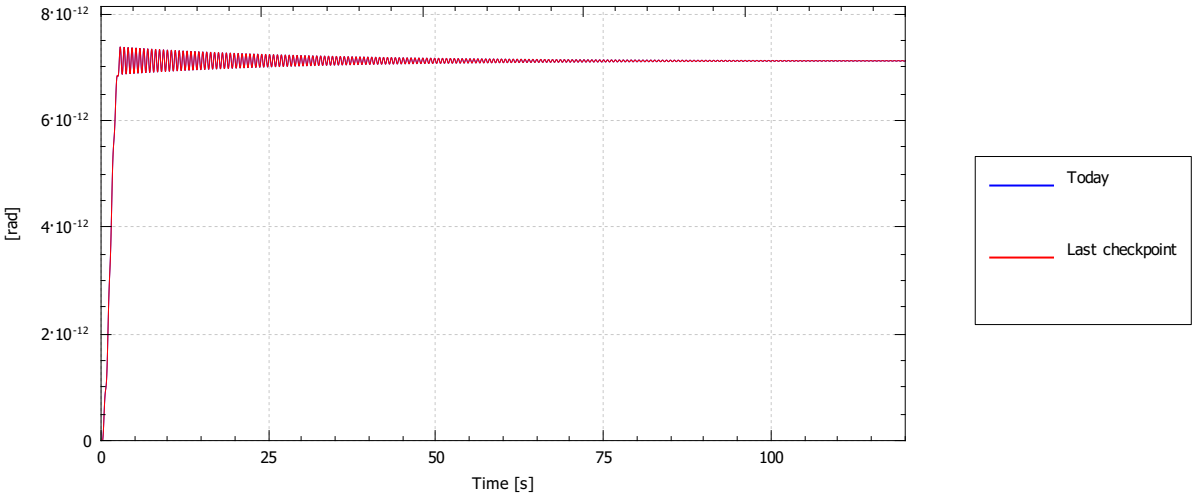
Deformational rotation (i) - rad



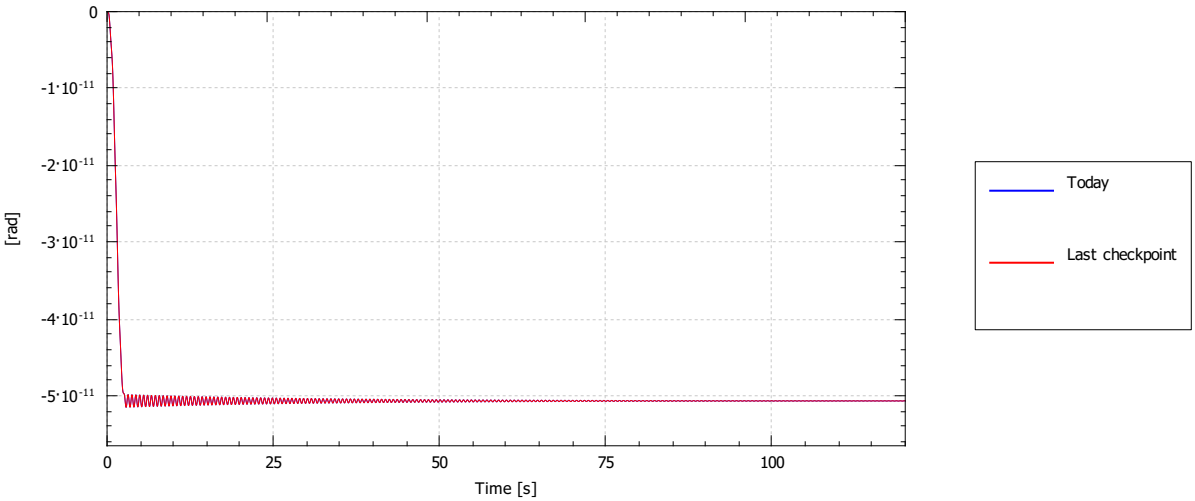
Deformational rotation (j) - rad



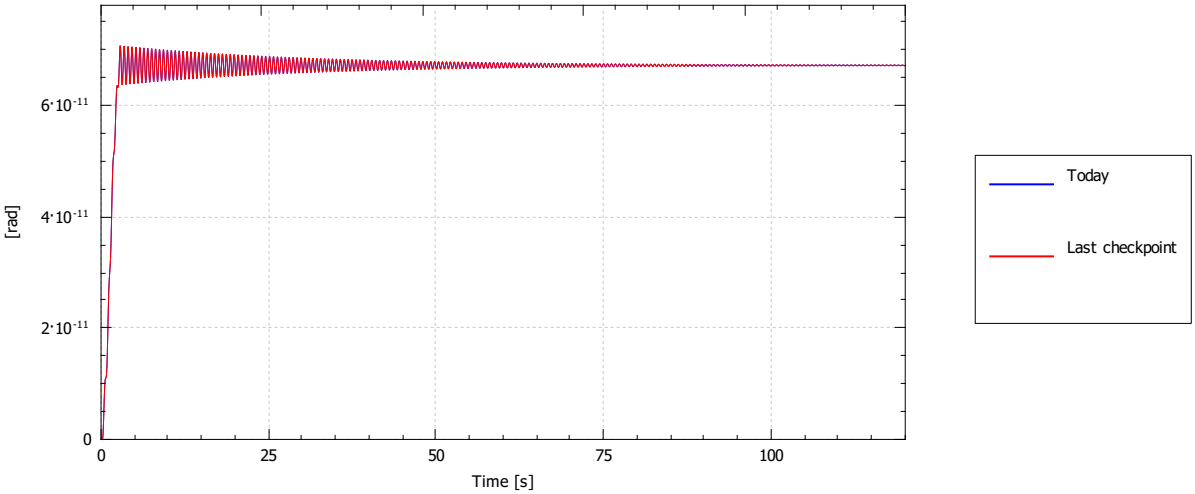
Deformational rotation (axial) - rad



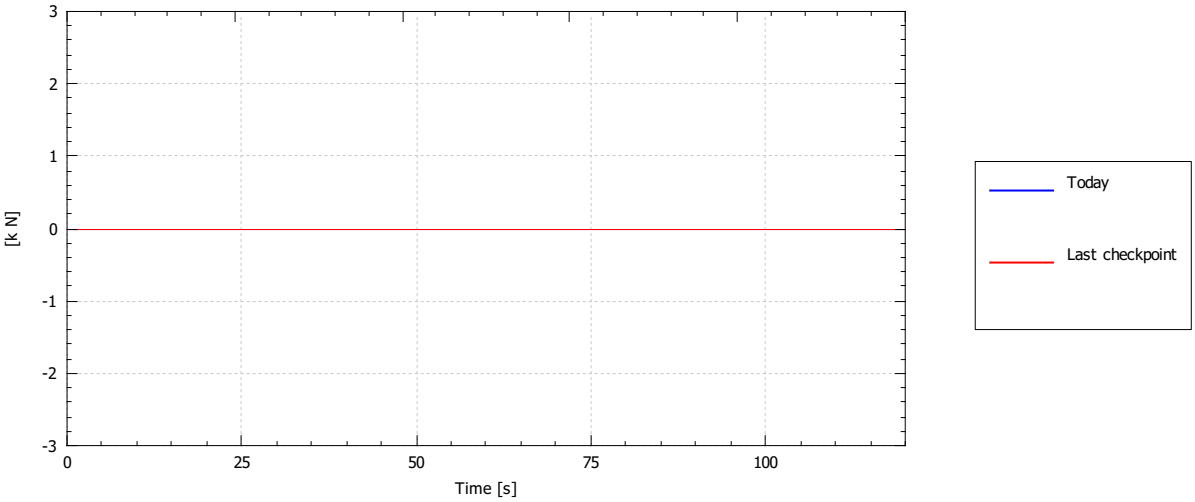
Deformational rotation (1st prin.) - rad



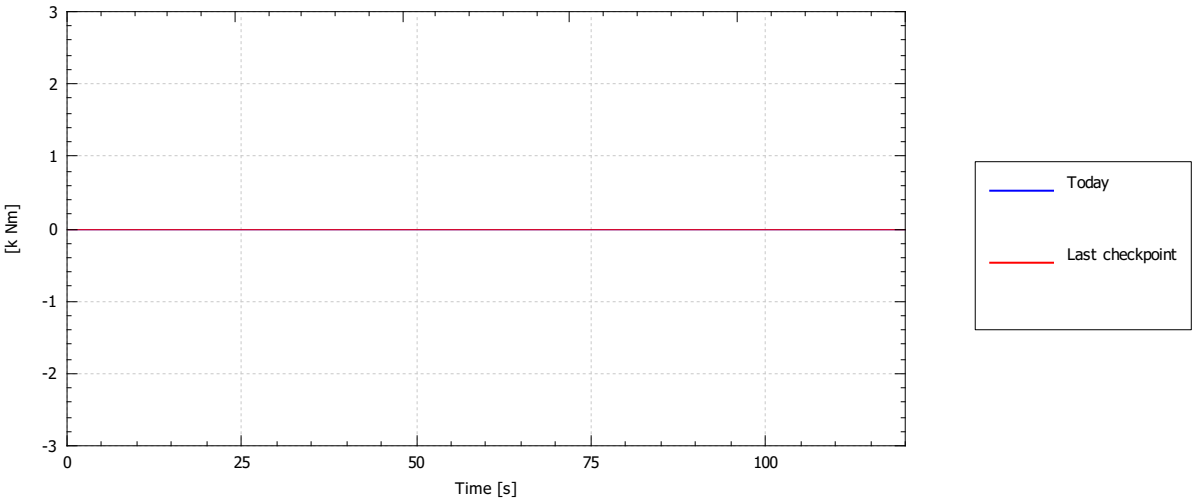
Deformational rotation (2nd prin.) - rad

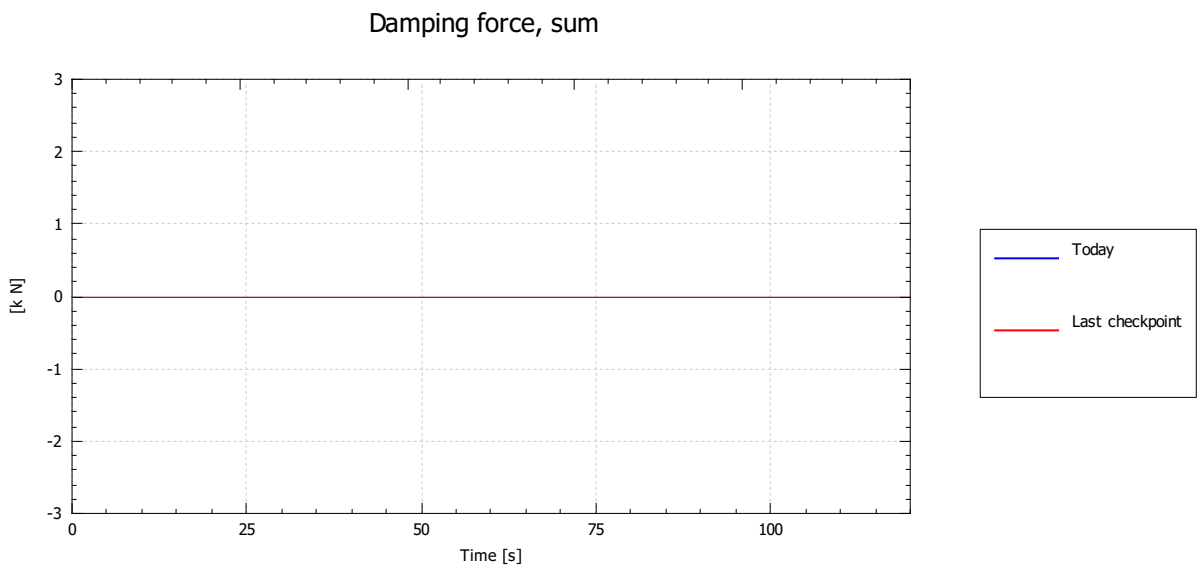


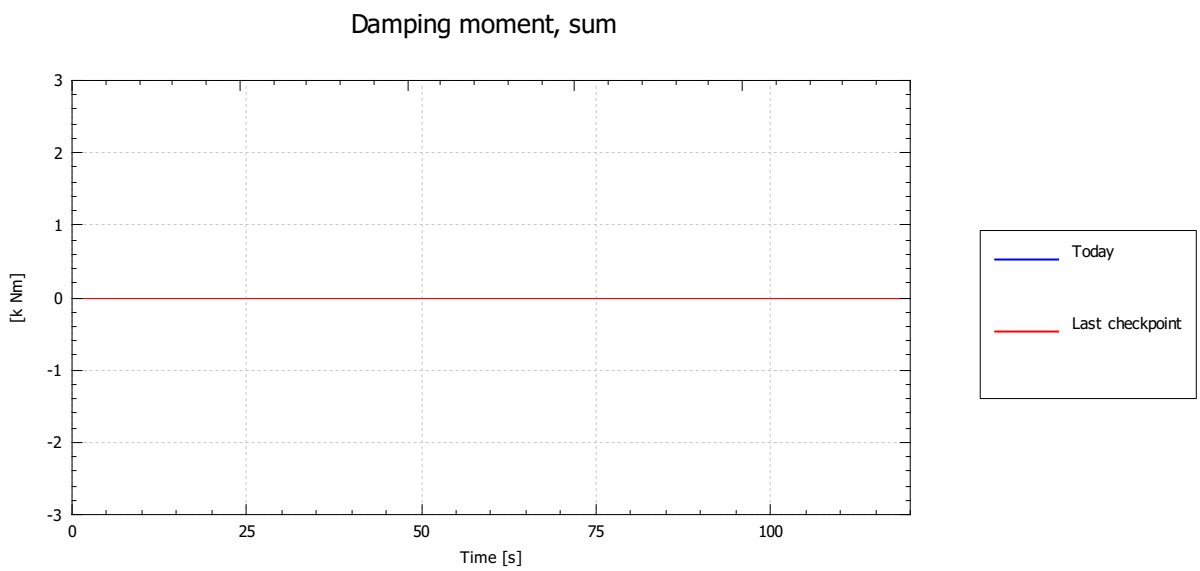
Damping force, i



Damping moment, i

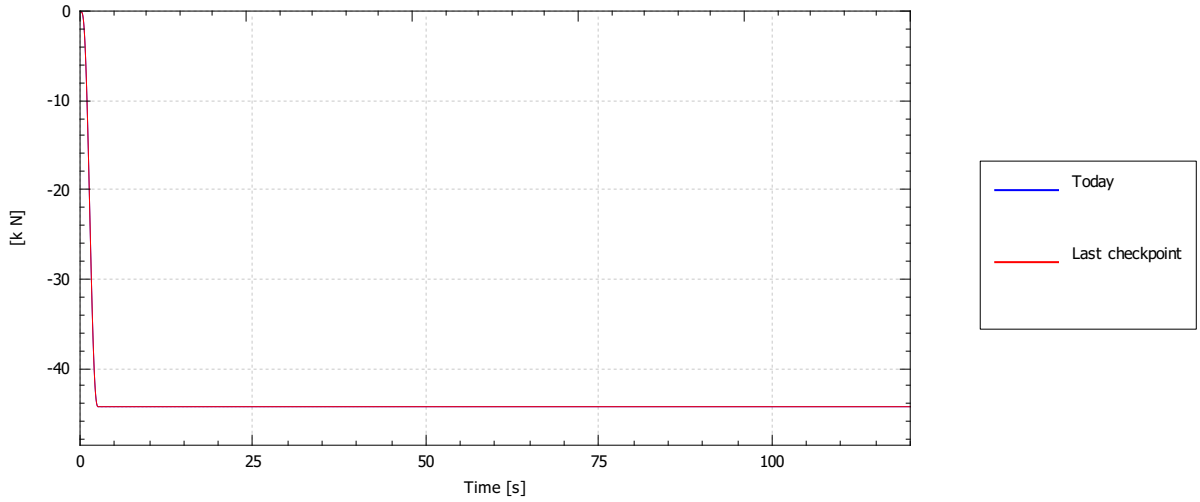




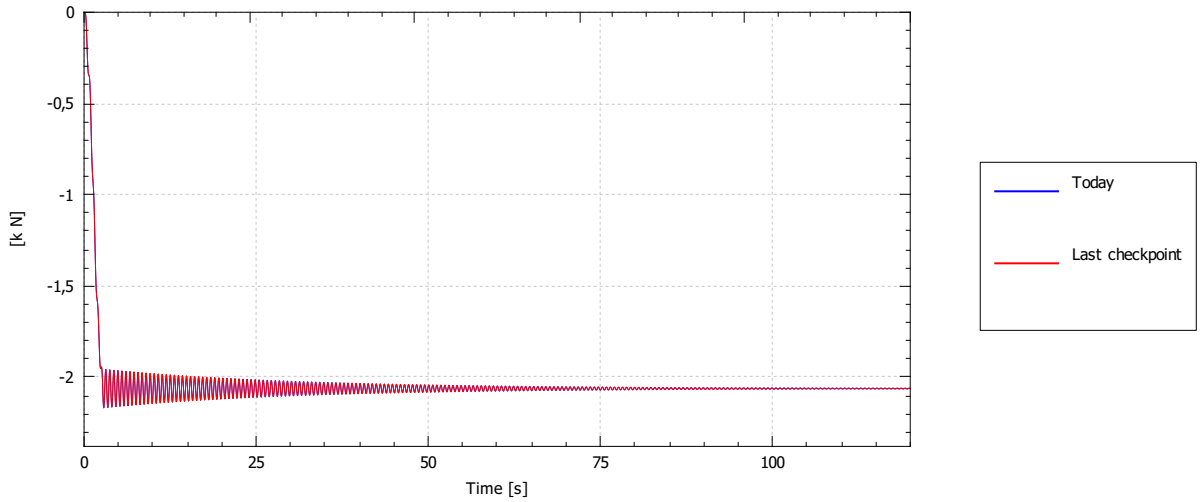


Beam element [Element 25 | Blade 1]

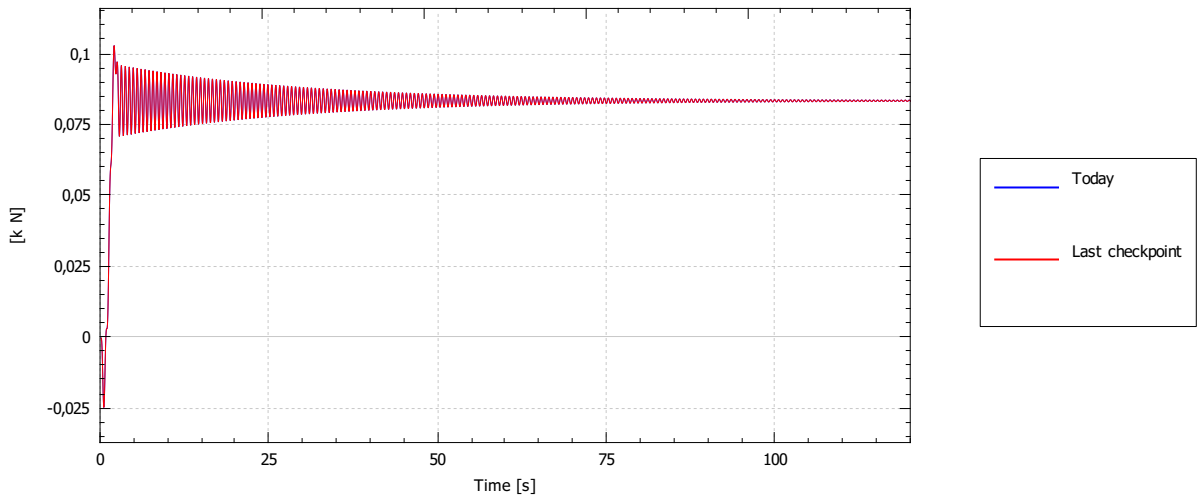
Axial force



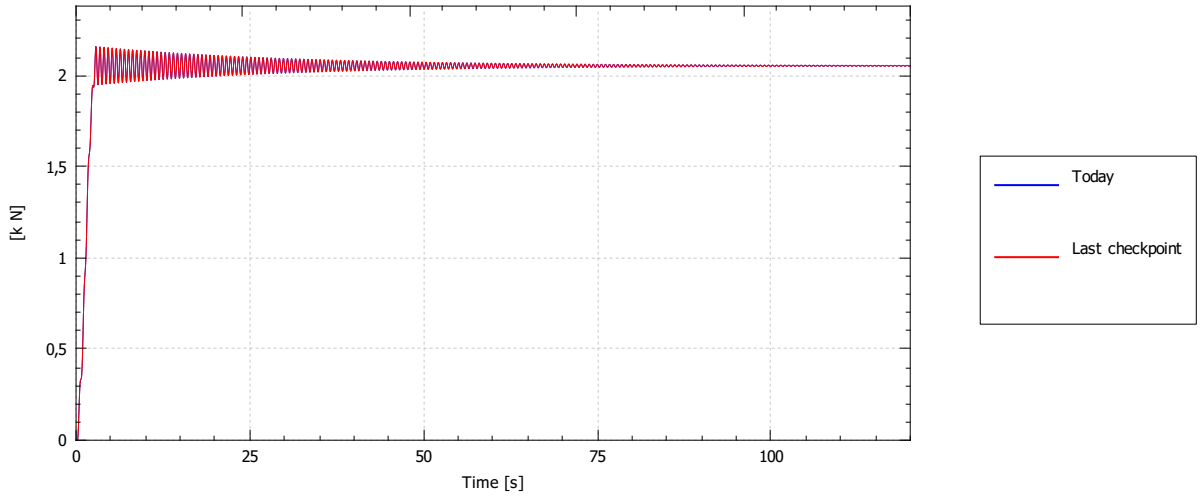
Shear force (1st prin. axis)



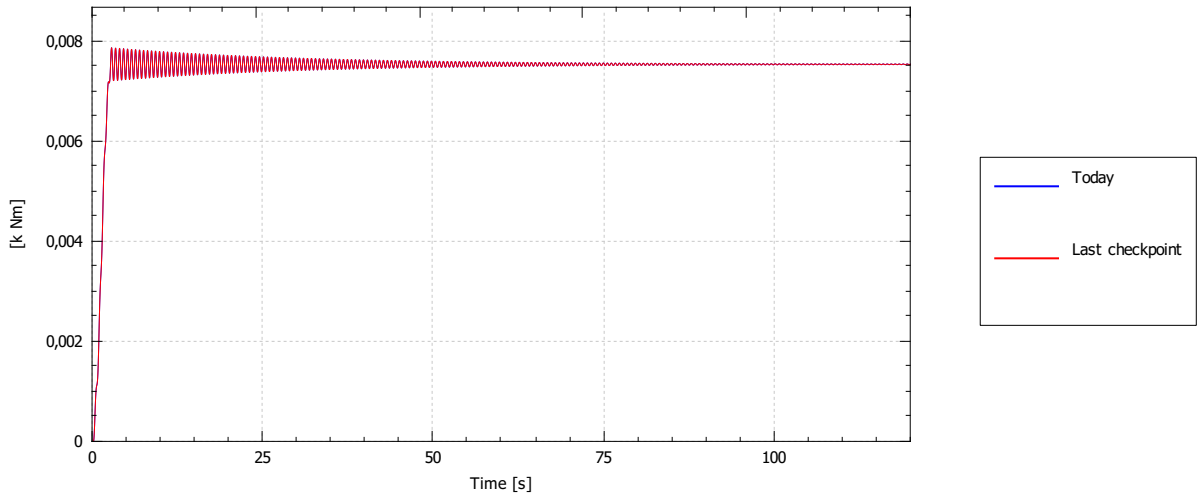
Shear force (2nd prin. axis)



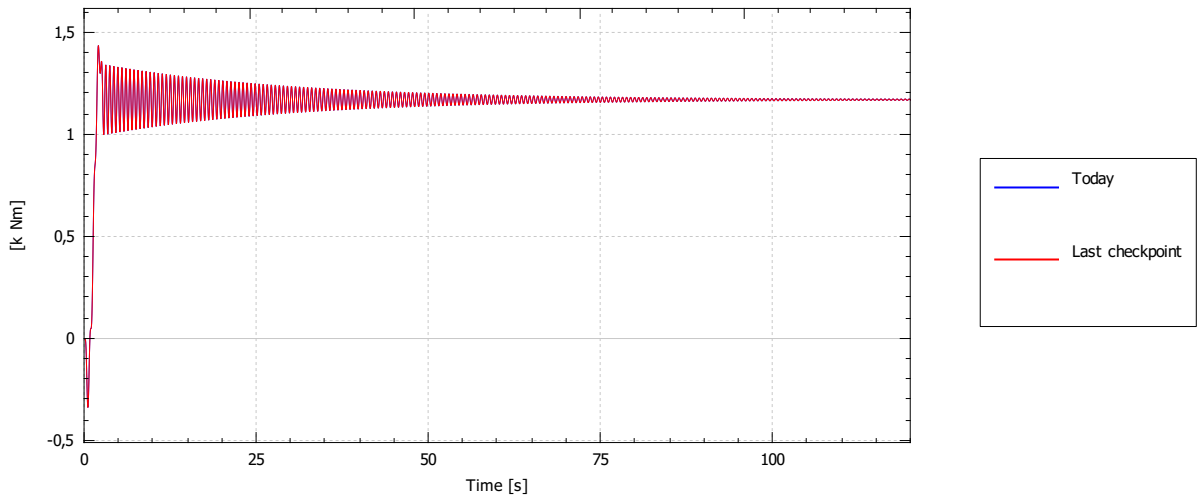
Shear force, mag.



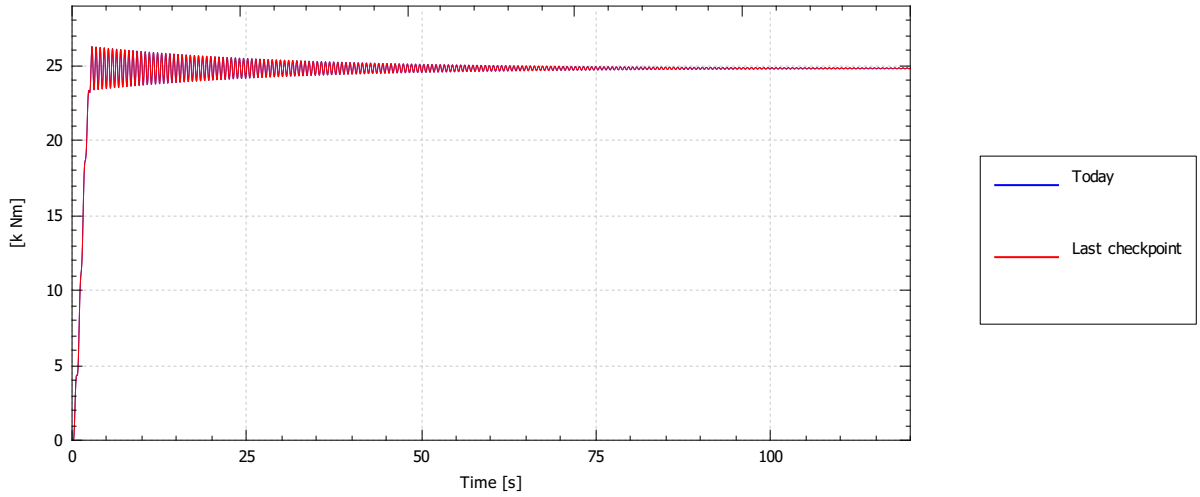
Torque



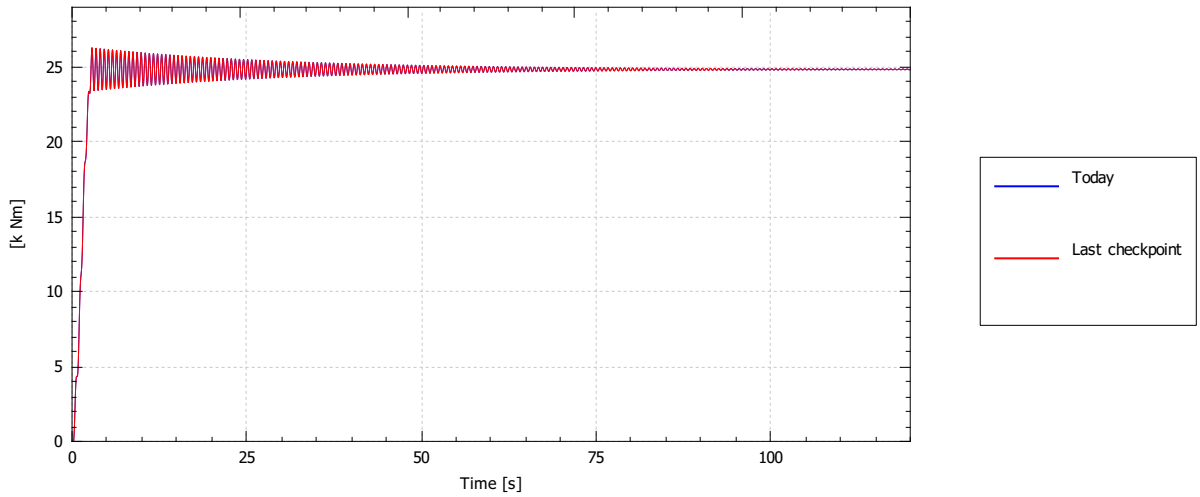
Moment (1st prin. axis), i



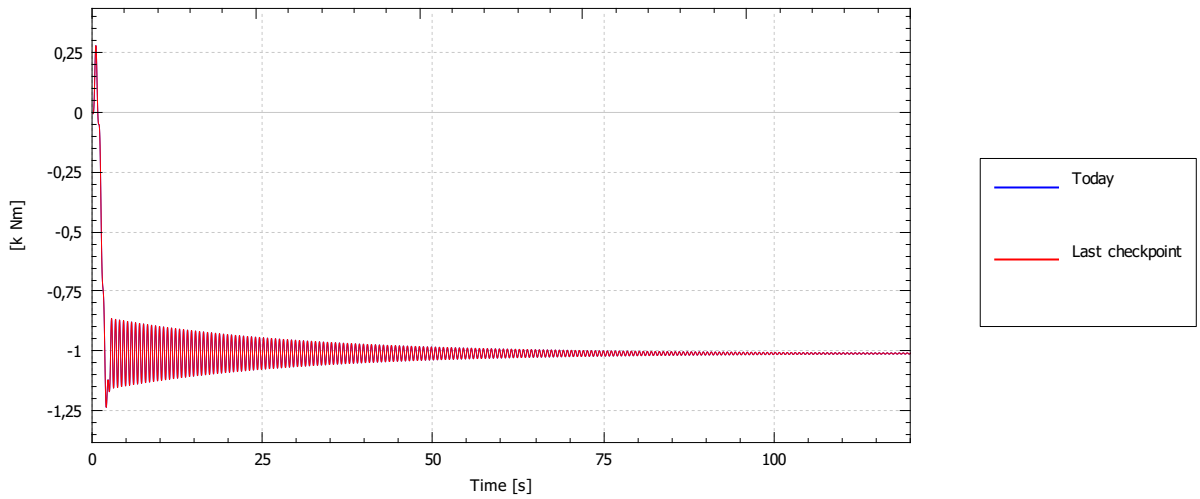
Moment (2nd prin. axis), i



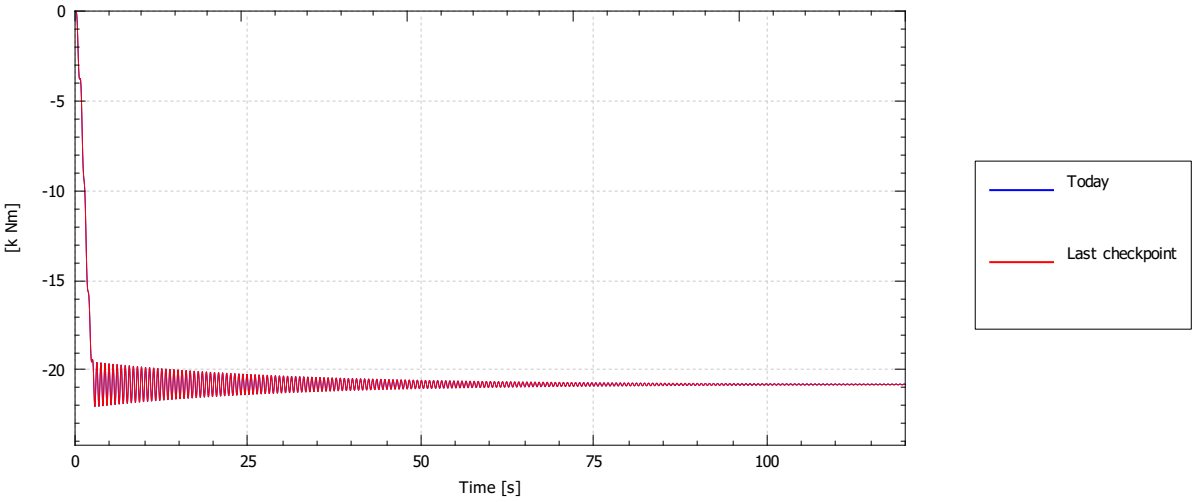
Moment, mag., i



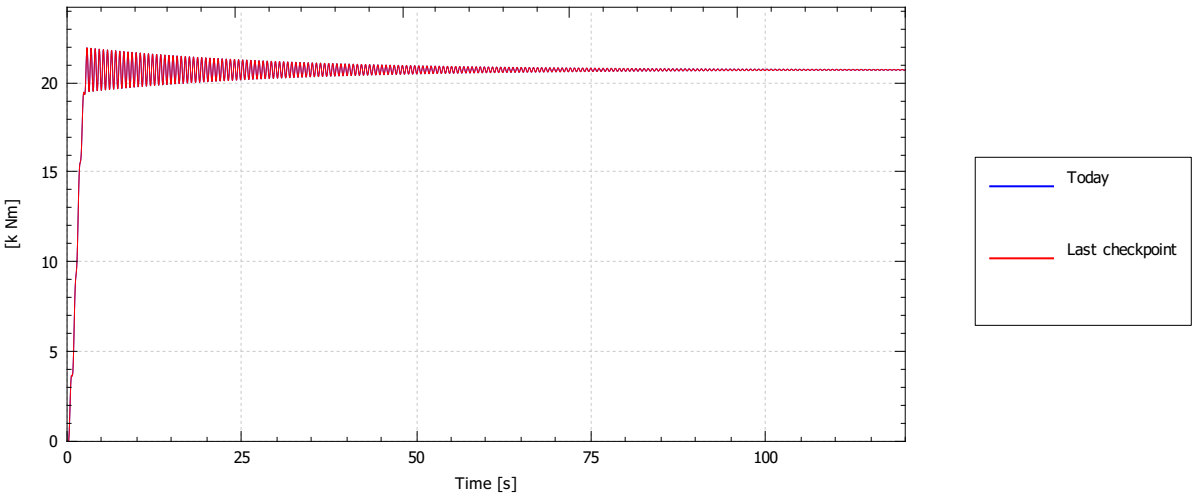
Moment (1st prin. axis), j



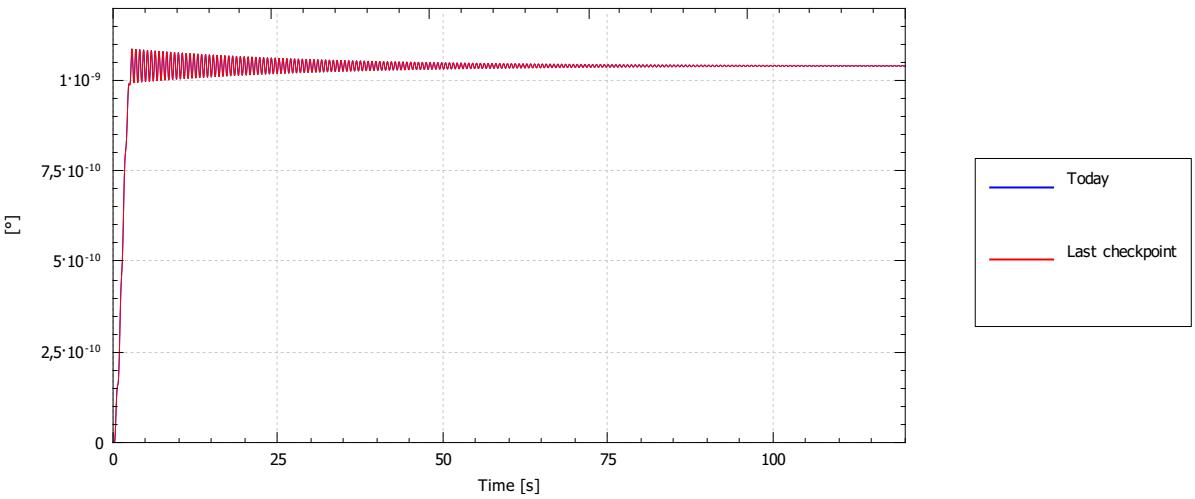
Moment (2nd prin. axis), j

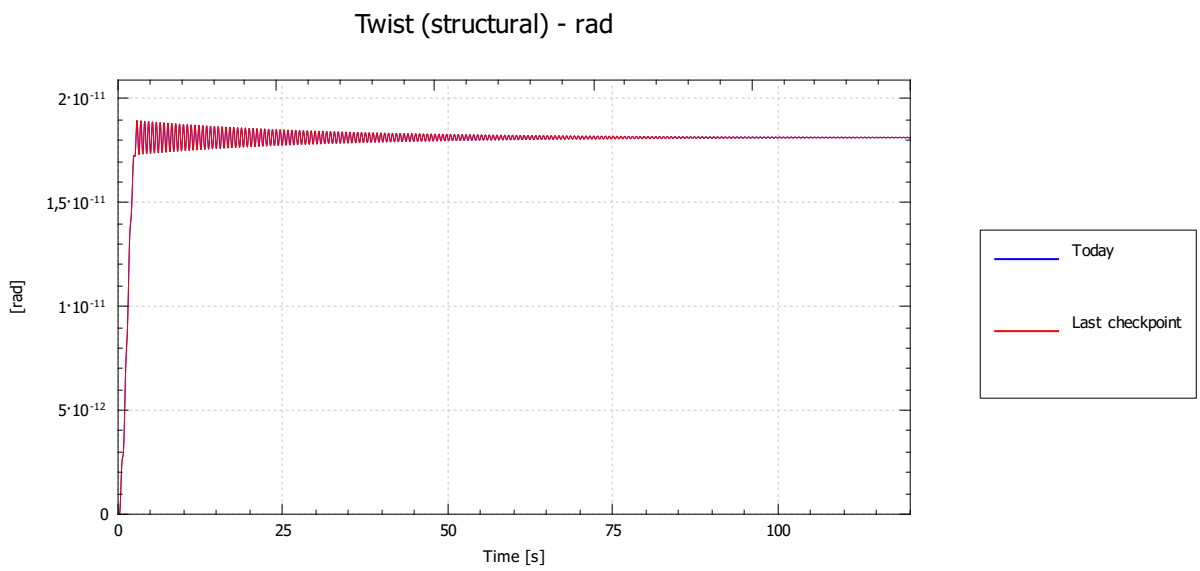


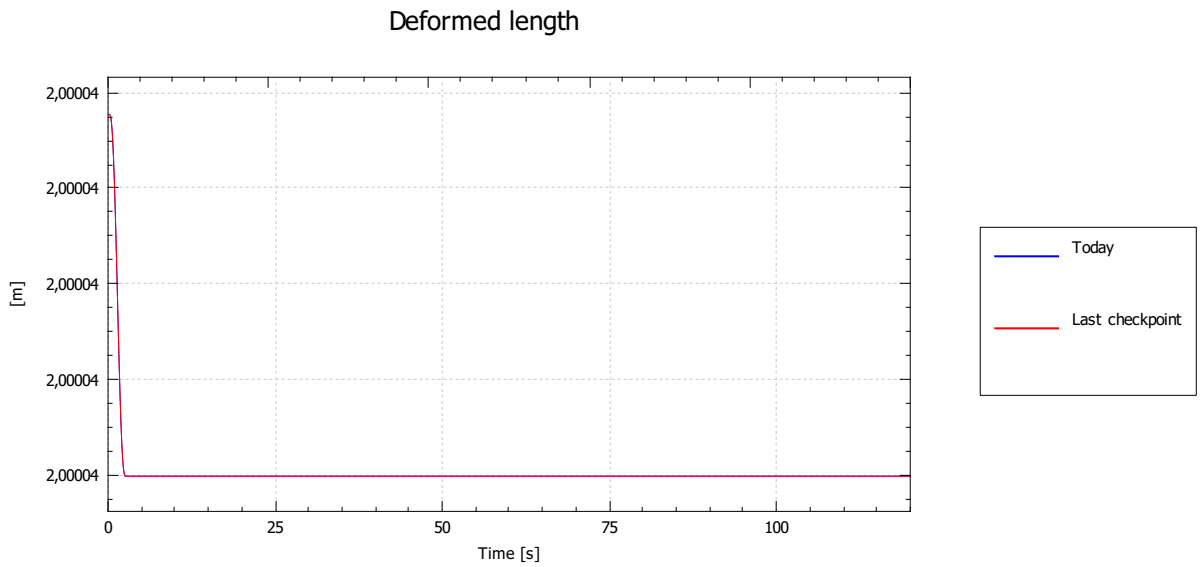
Moment, mag., j

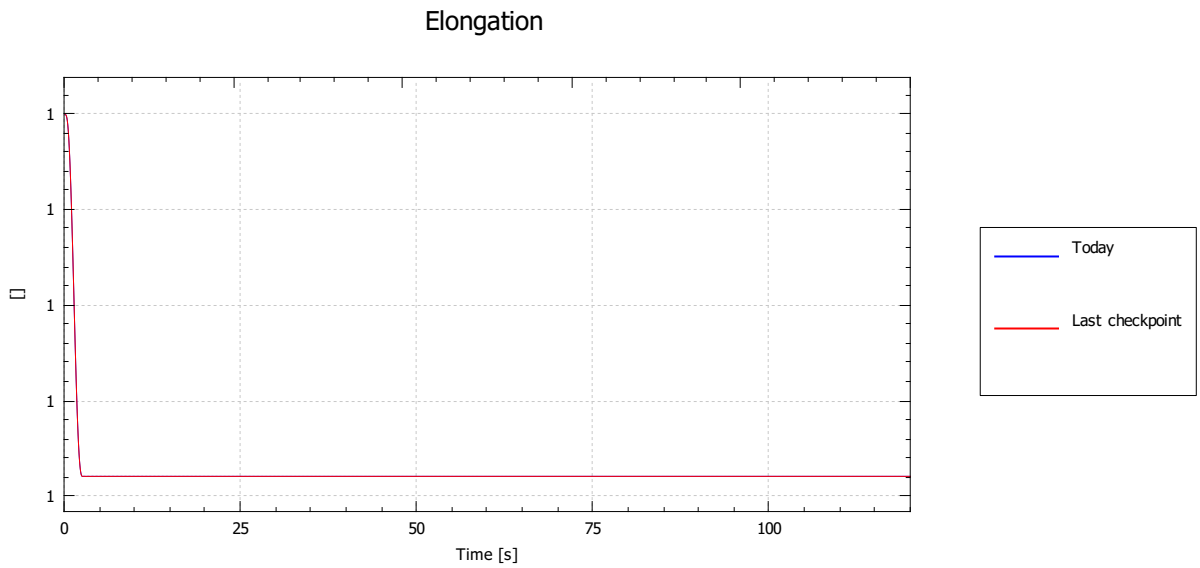


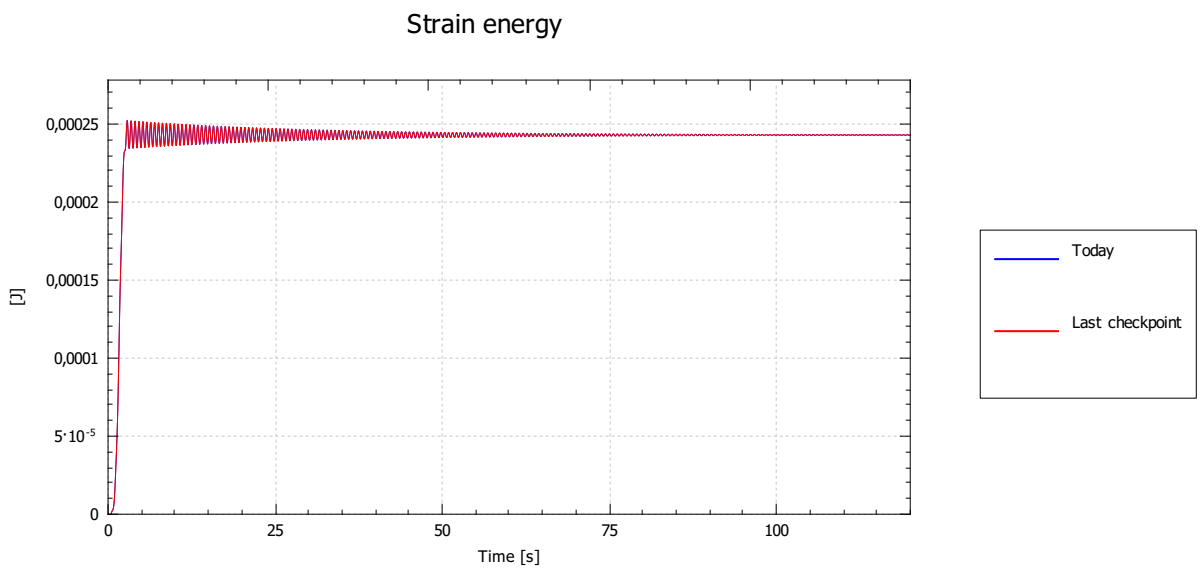
Twist (structural)

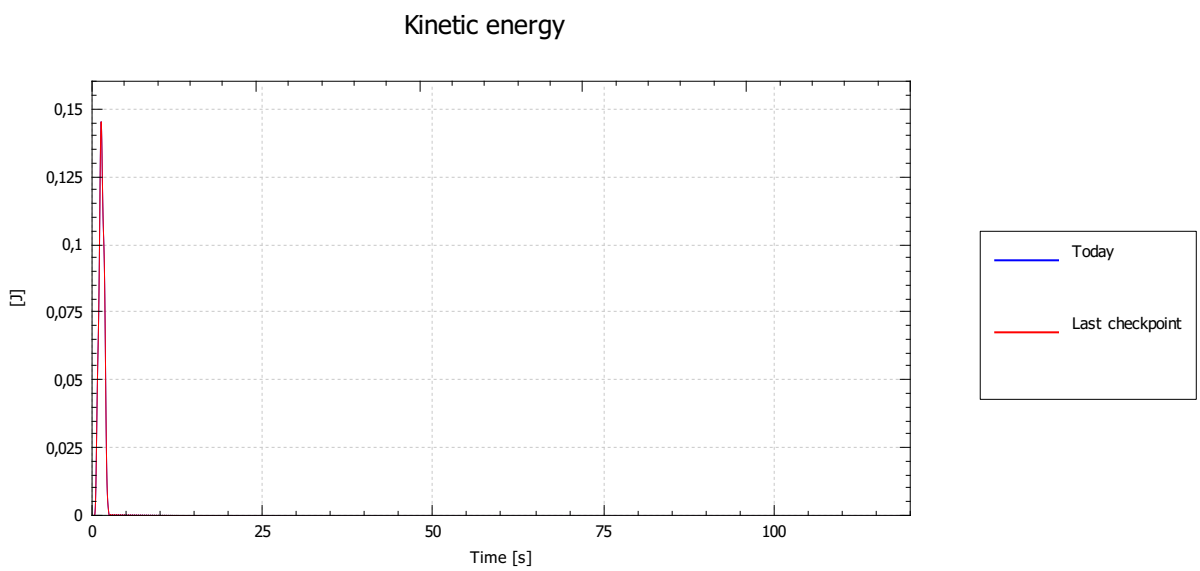


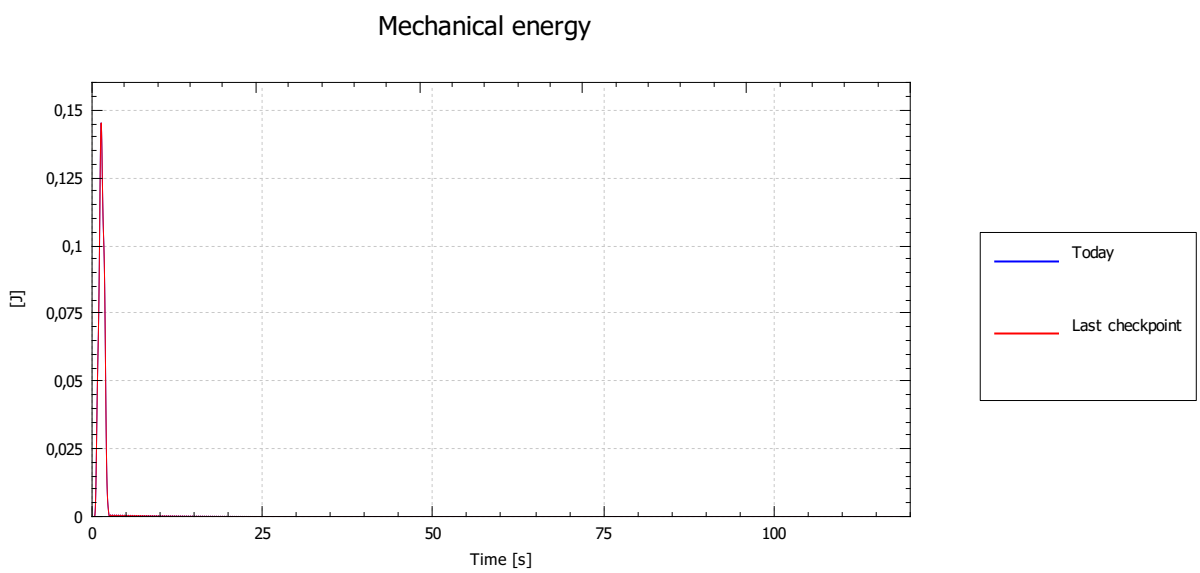

Twist (structural) - rad
2·10-11
1,5·10-11
1·10-11
5·10-12
0
[rad]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Deformed length
2,00004
2,00004
2,00004
2,00004
2,00004
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

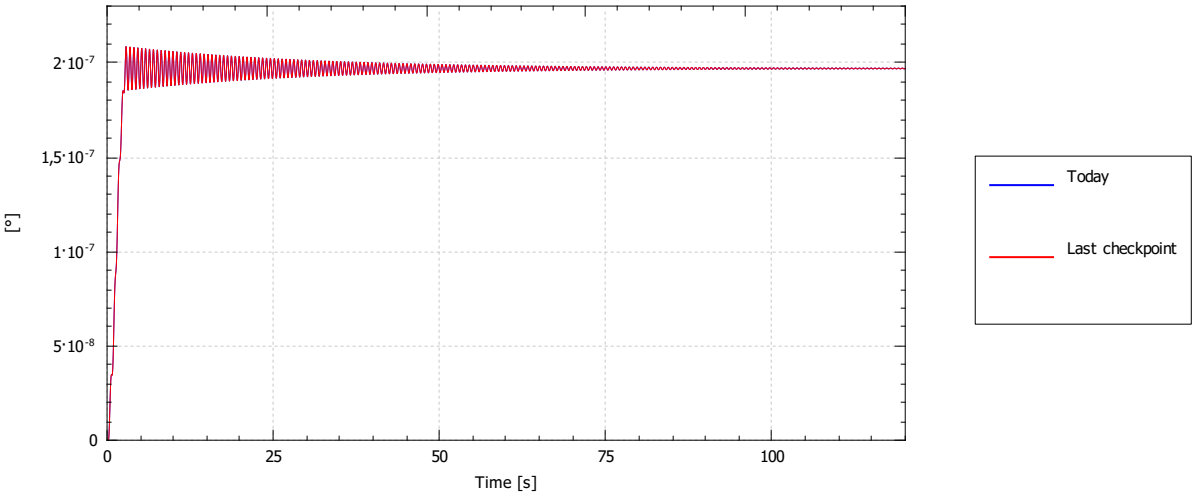

Elongation
1
1
1
1
1
[]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Strain energy
0,00025
0,0002
0,00015
0,0001
5·10⁻⁵
0
[J]
0
25
50
75
100
Time [s]
Today
Last checkpoint

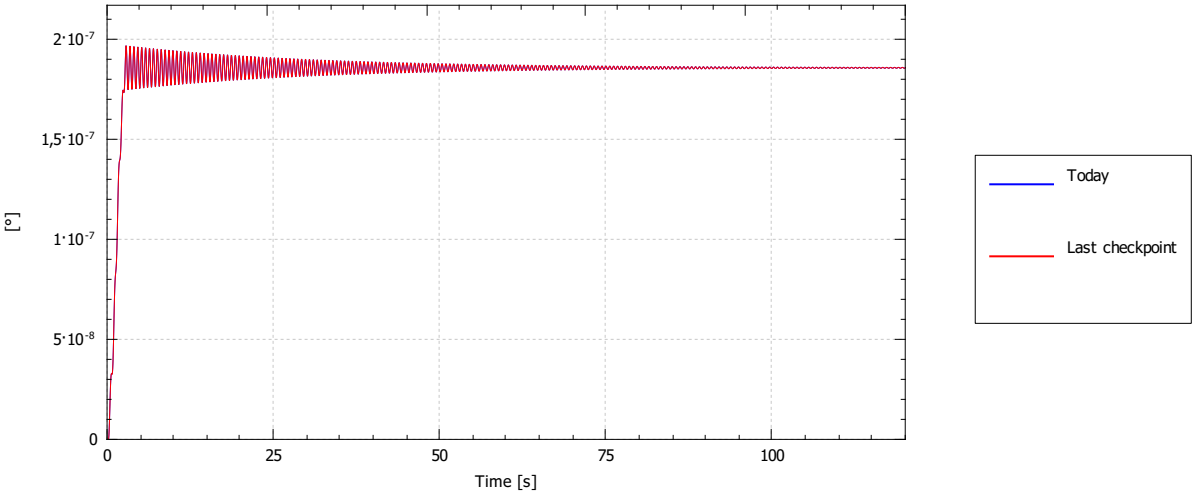

Kinetic energy
0,15
0,125
0,1
0,075
0,05
0,025
0
[J]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Mechanical energy
0,15
0,125
0,1
0,075
0,05
0,025
0
[J]
0
25
50
75
100
Time [s]
Today
Last checkpoint

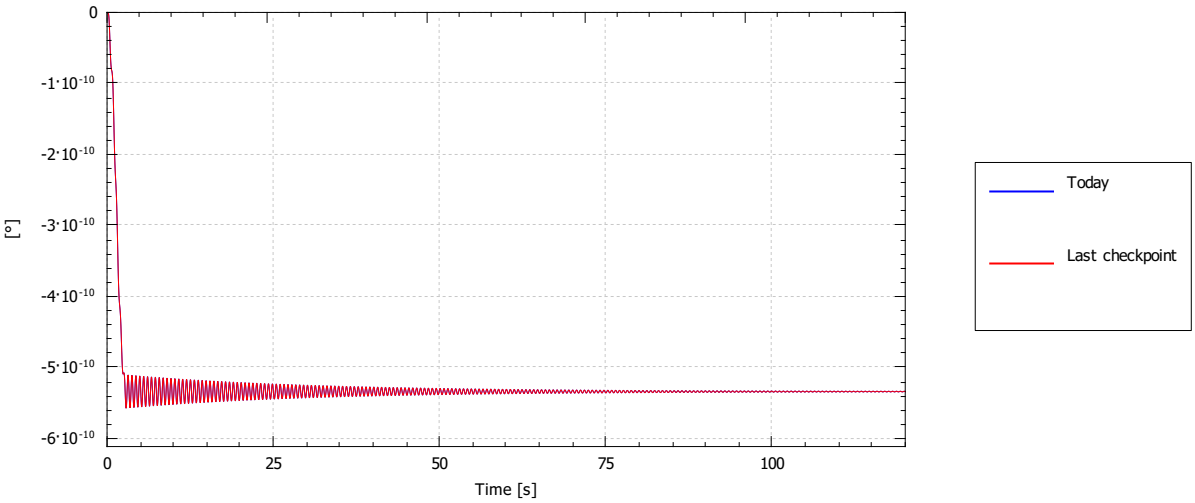
Deformational rotation (i)



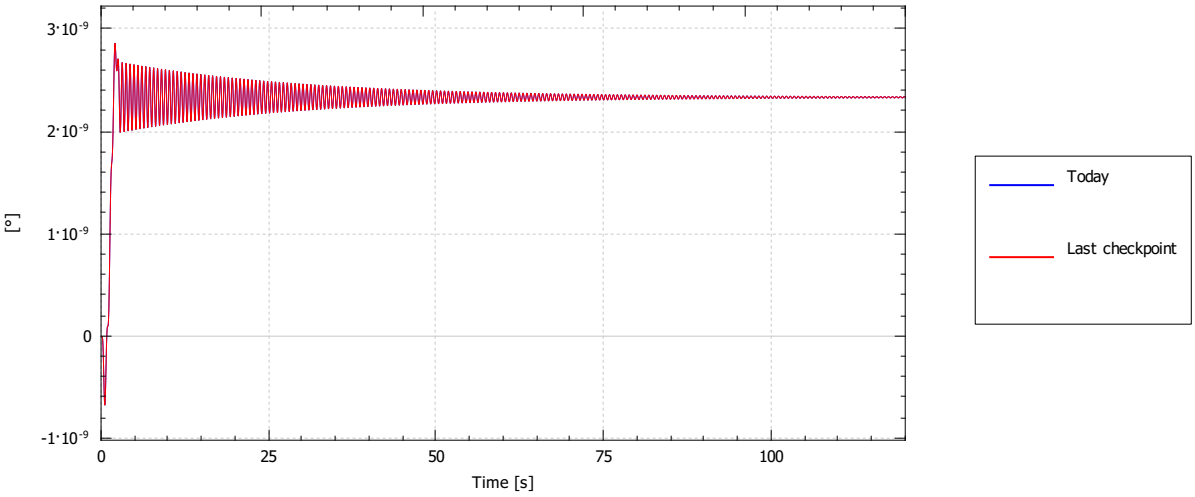
Deformational rotation (j)



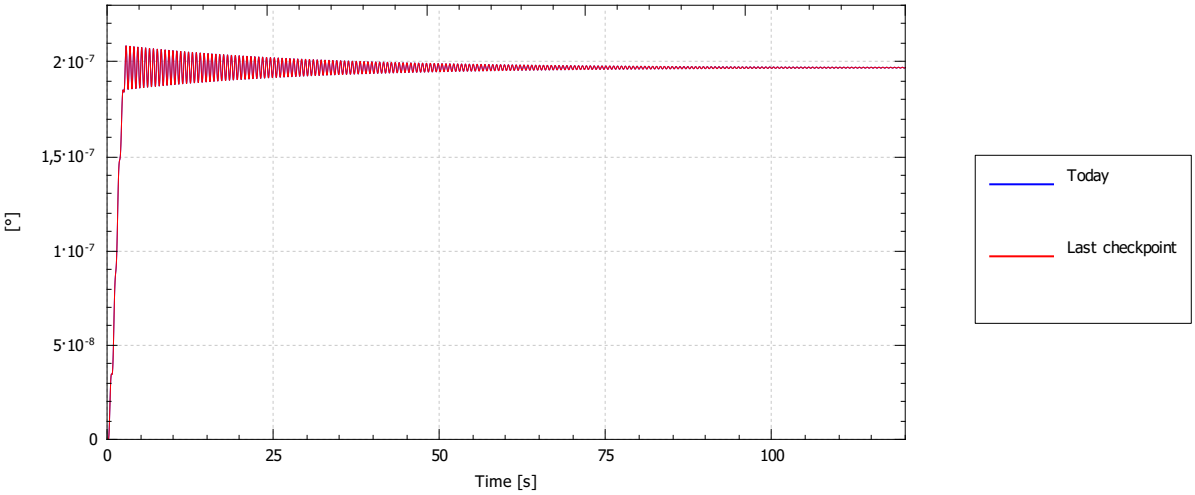
Deformational rotation (axial)



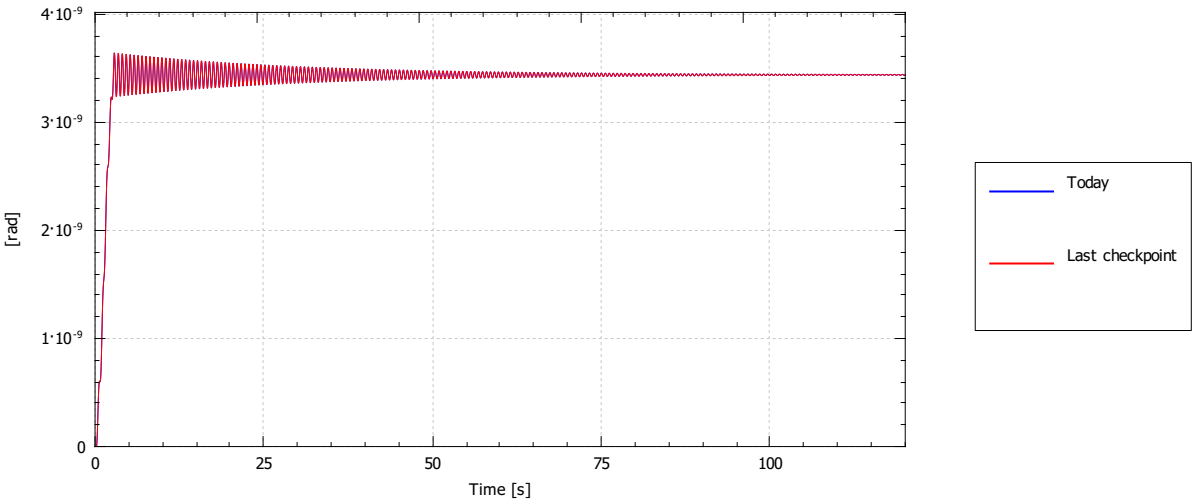
Deformational rotation (1st prin.)



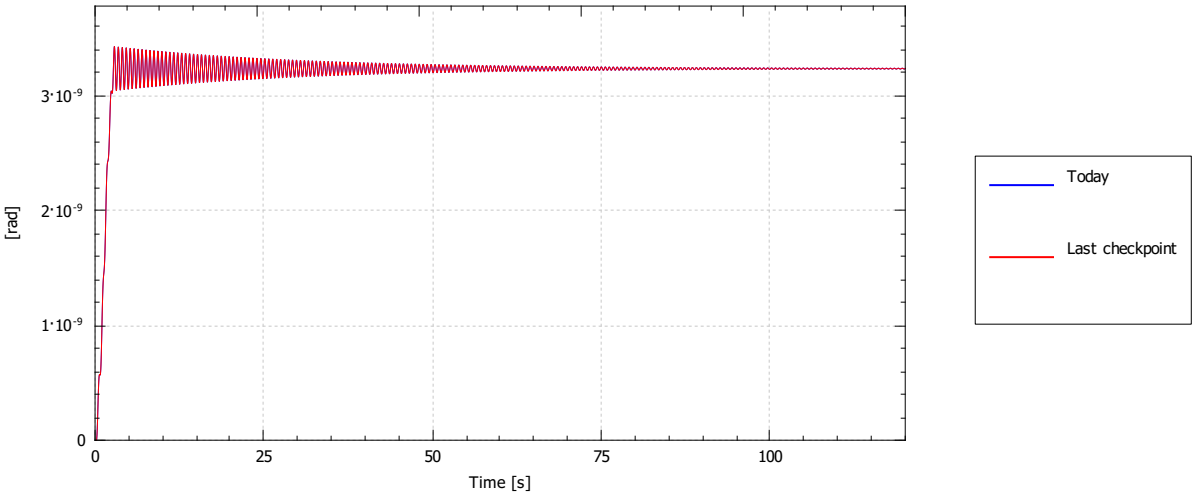
Deformational rotation (2nd prin.)



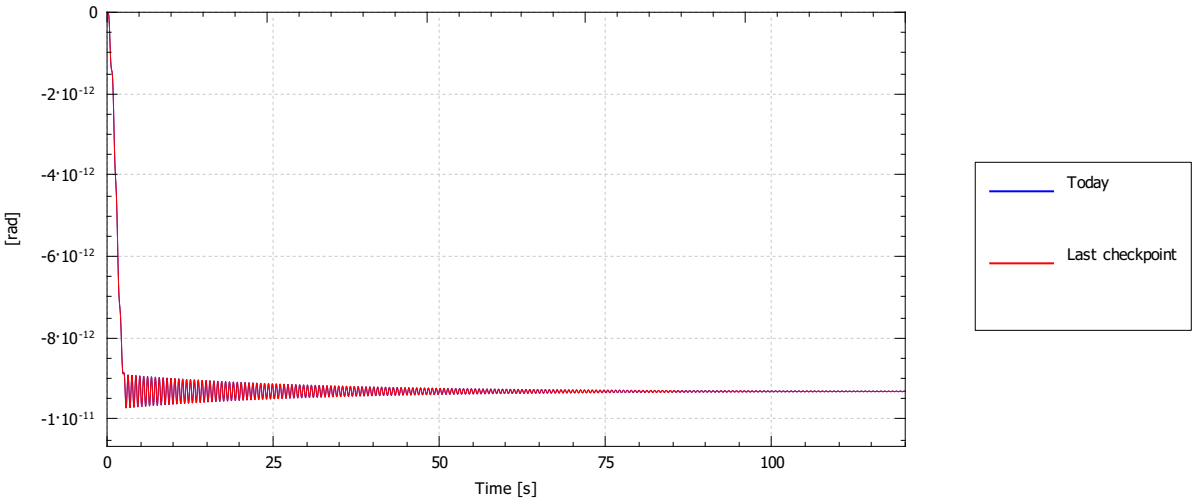
Deformational rotation (i) - rad



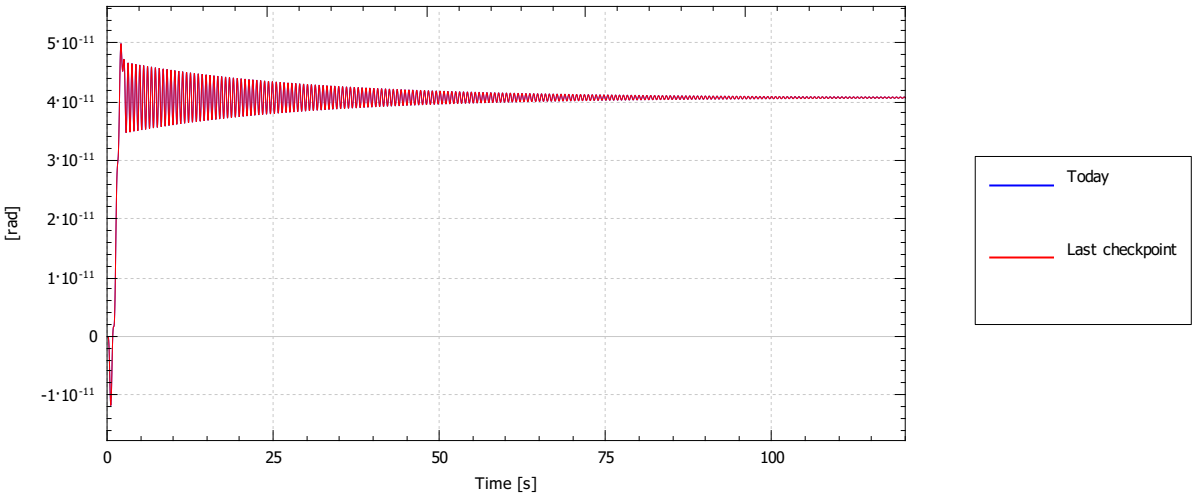
Deformational rotation (j) - rad



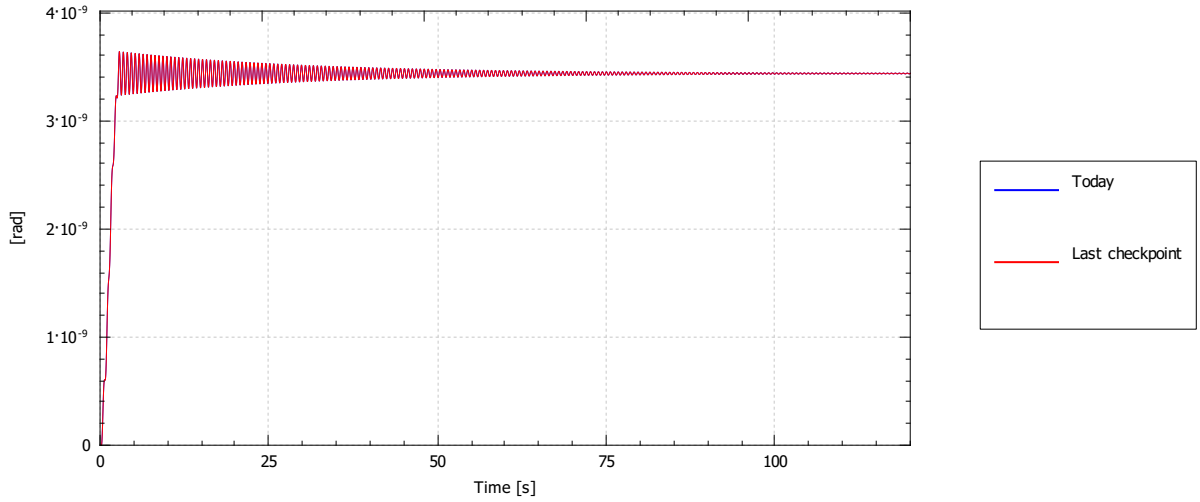
Deformational rotation (axial) - rad



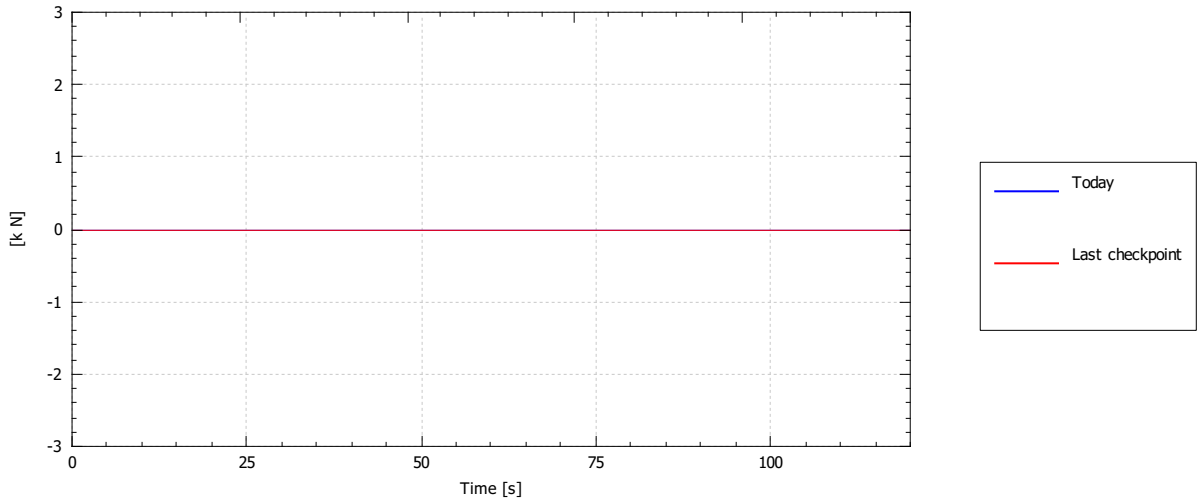
Deformational rotation (1st prin.) - rad



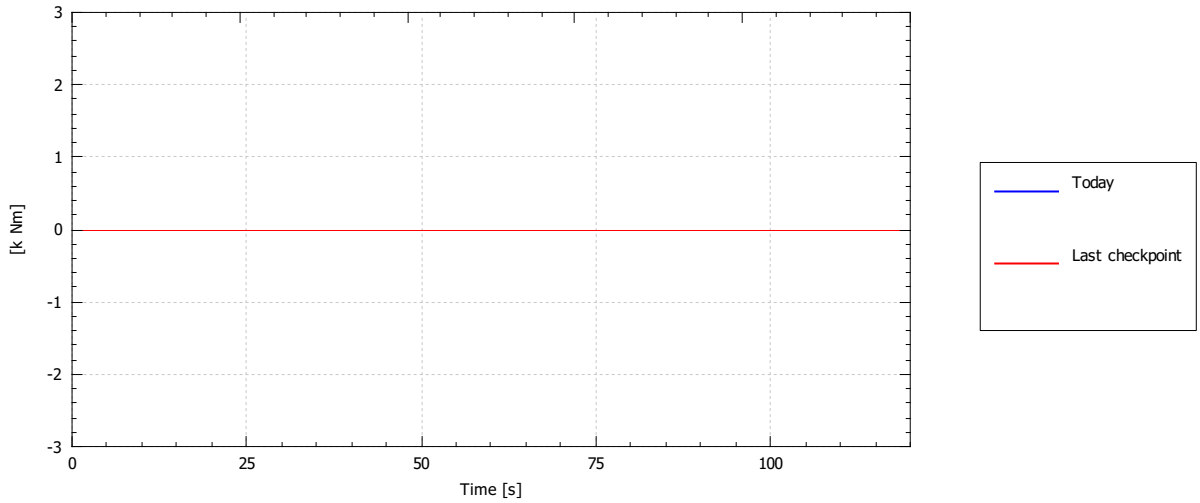
Deformational rotation (2nd prin.) - rad

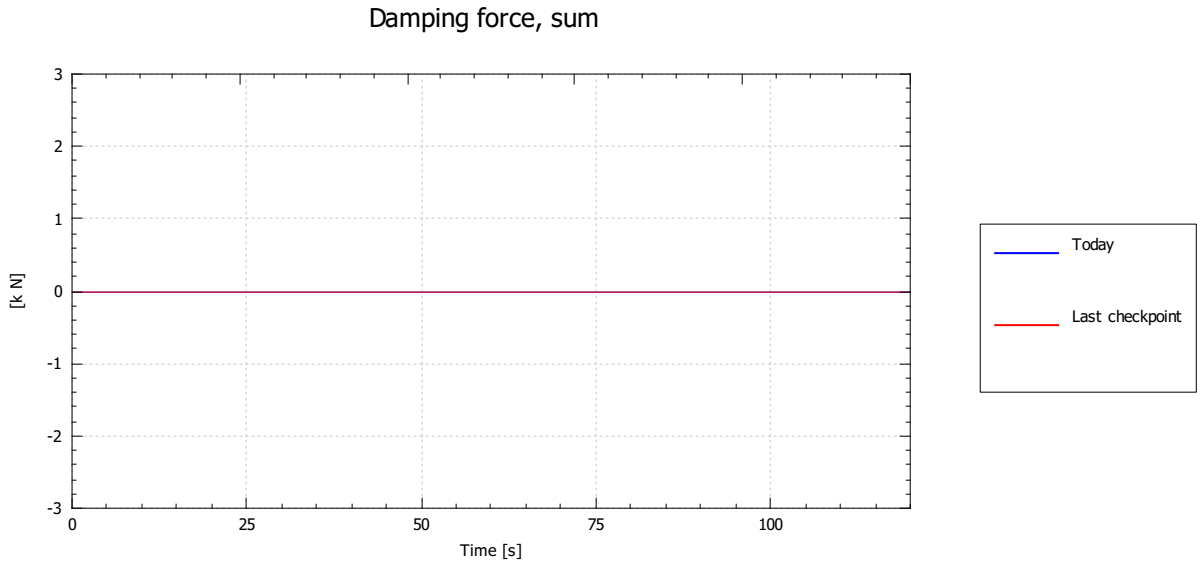


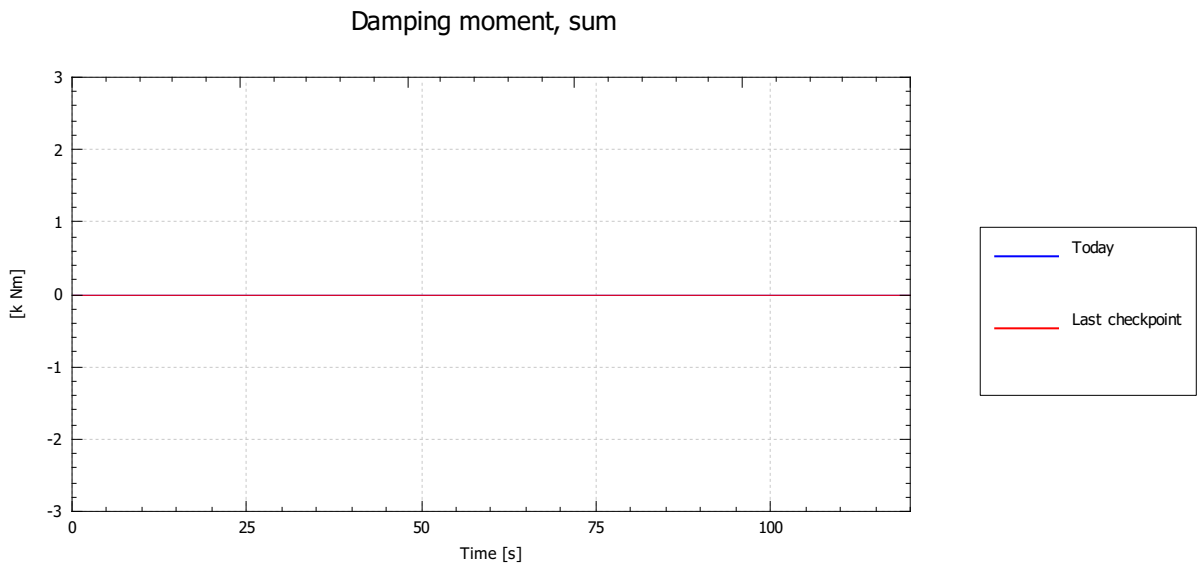
Damping force, i



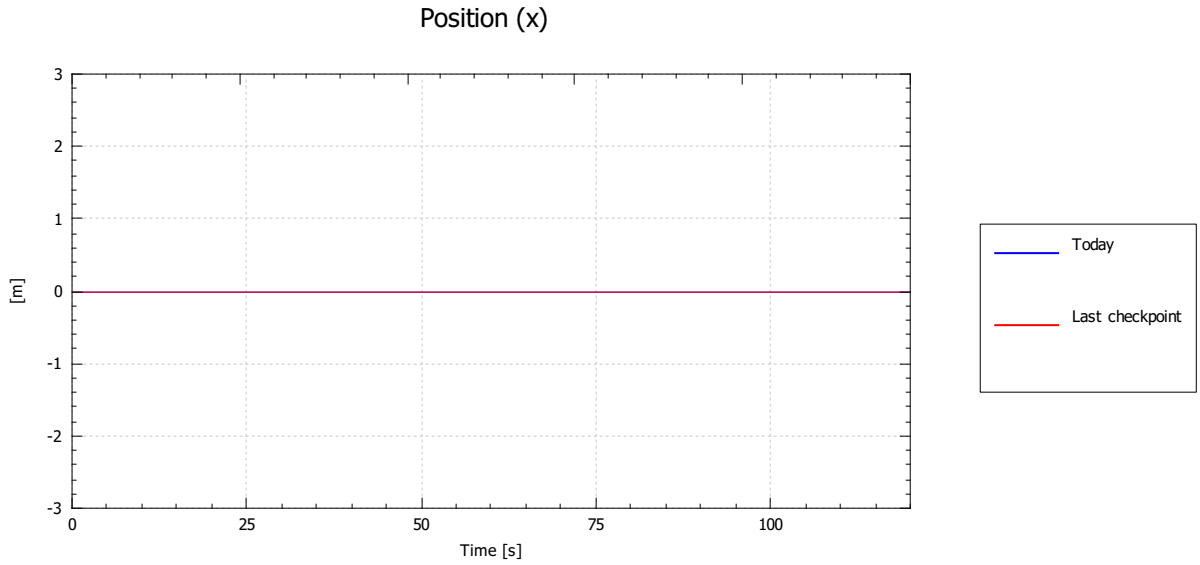
Damping moment, i

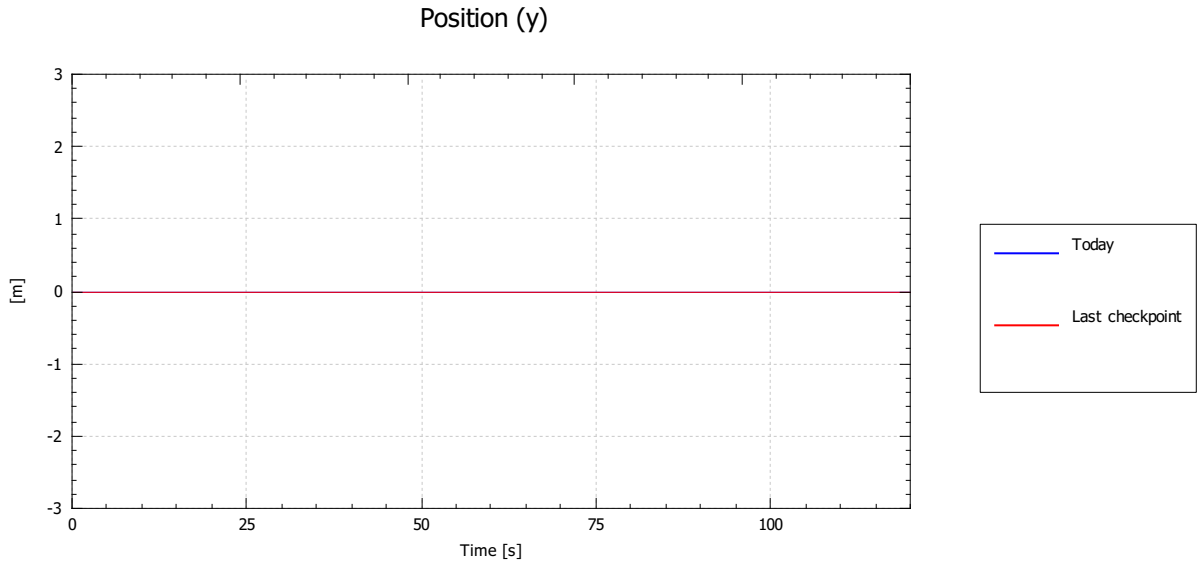


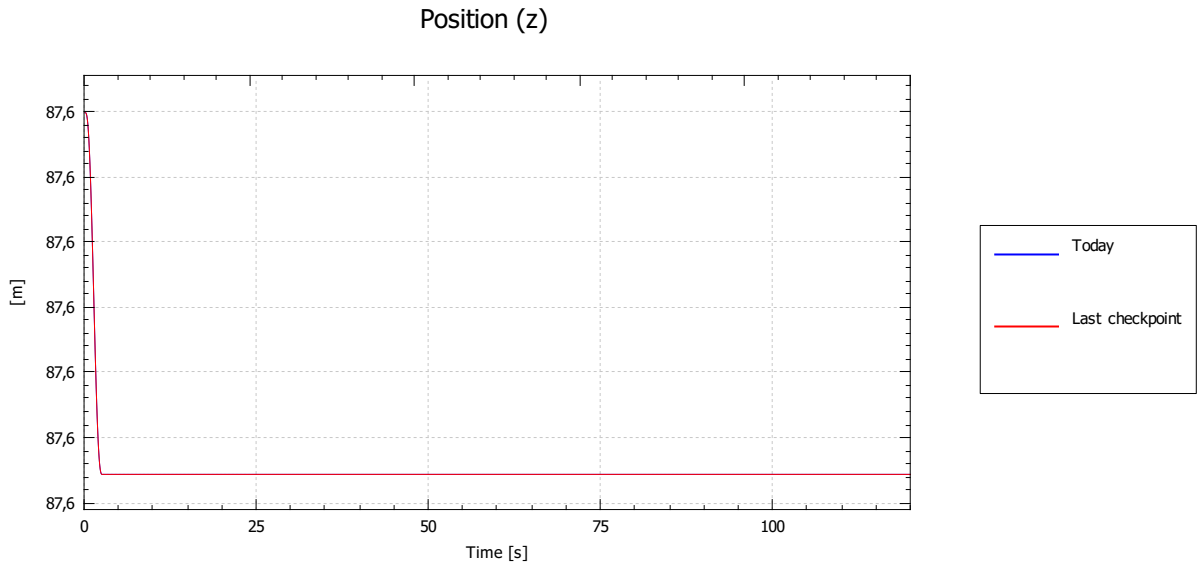


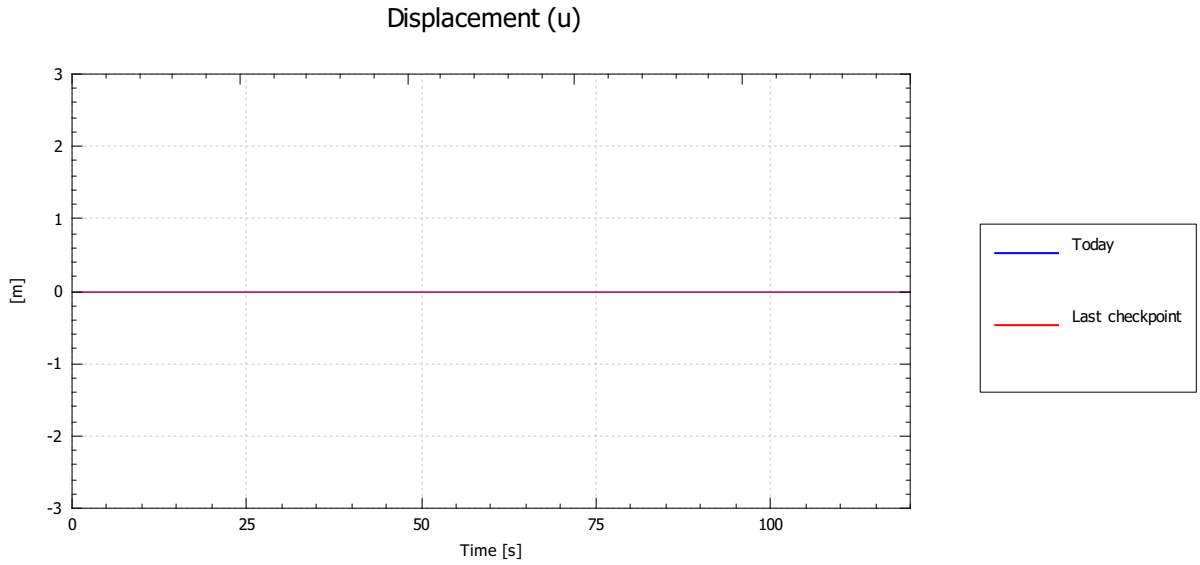


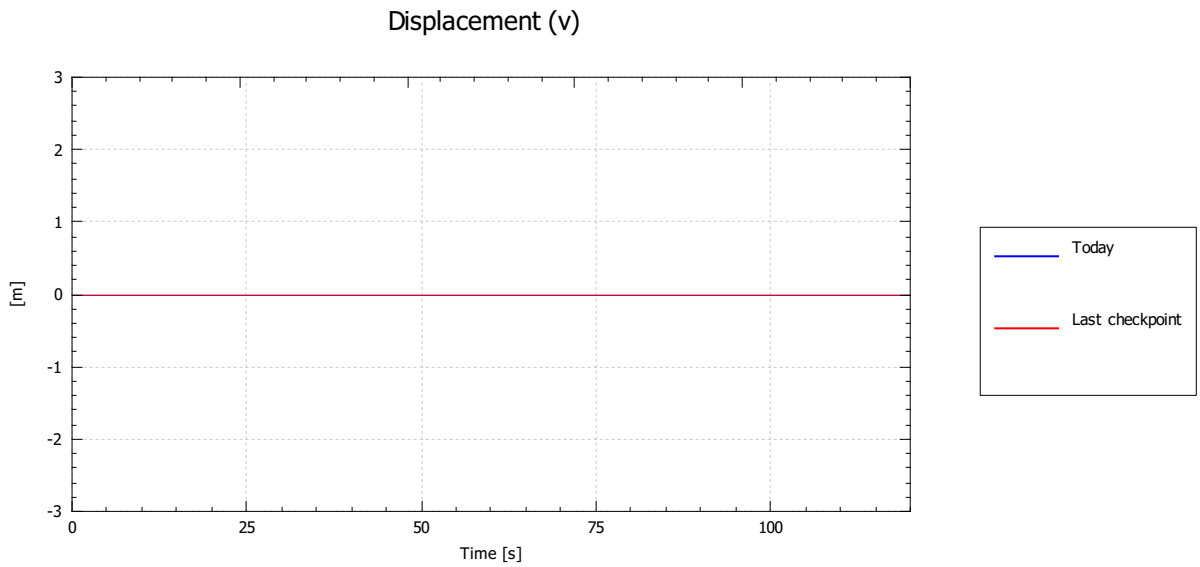
Node [Node RNA_node | Tubular tower]

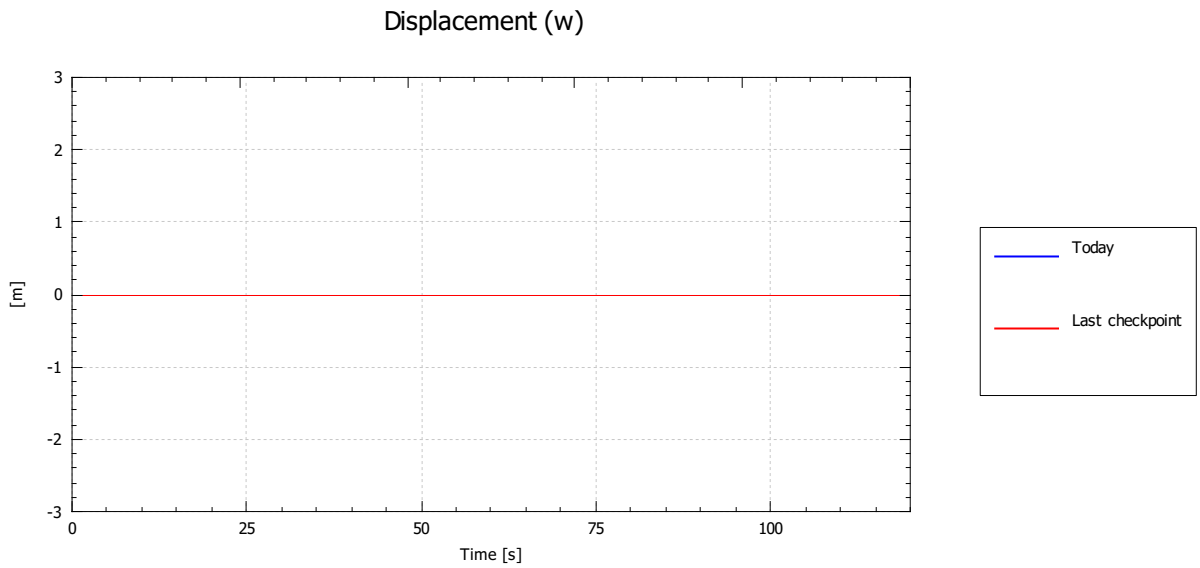

Position (x)
3
2
1
0
-1
-2
-3
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Position (y)
3
2
1
0
-1
-2
-3
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

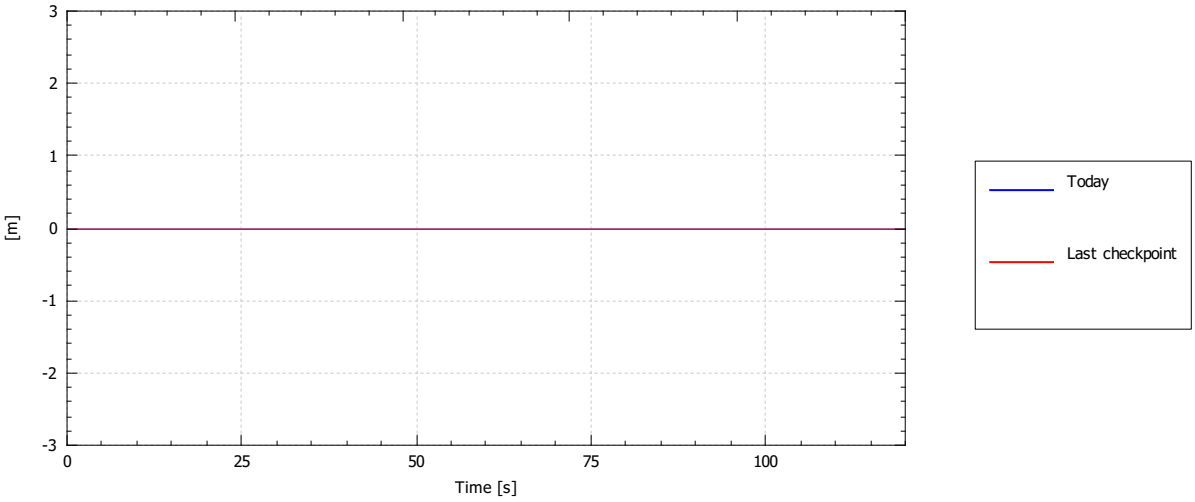

Position (z)
87,6
87,6
87,6
87,6
87,6
87,6
87,6
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Displacement (u)
[m]
3
2
1
0
-1
-2
-3
0
25
50
75
100
Time [s]
Today
Last checkpoint

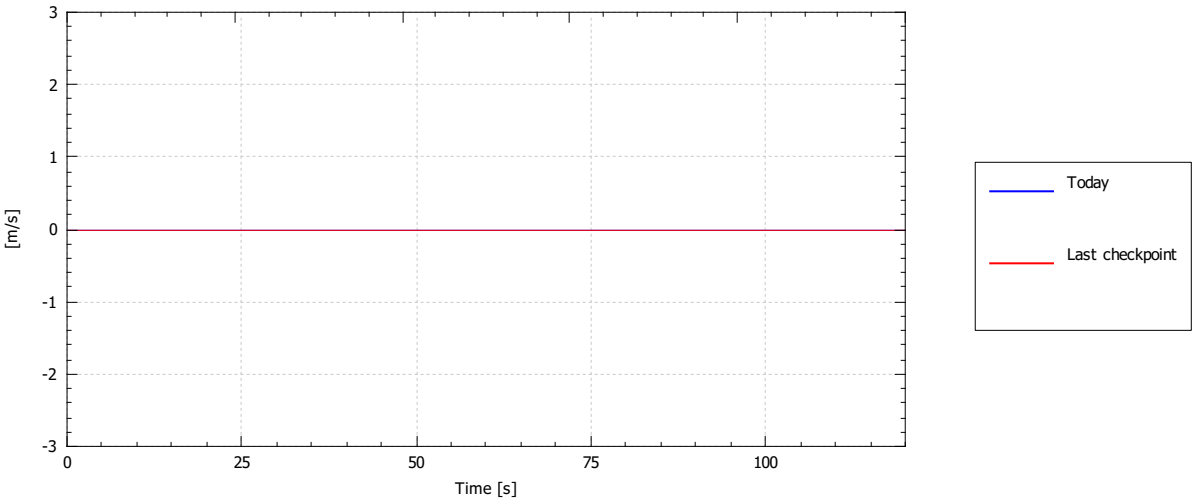

Displacement (v)
[m]
3
2
1
0
-1
-2
-3
0
25
50
75
100
Time [s]
Today
Last checkpoint


Displacement (w)
[m]
3
2
1
0
-1
-2
-3
0
25
50
75
100
Time [s]
Today
Last checkpoint

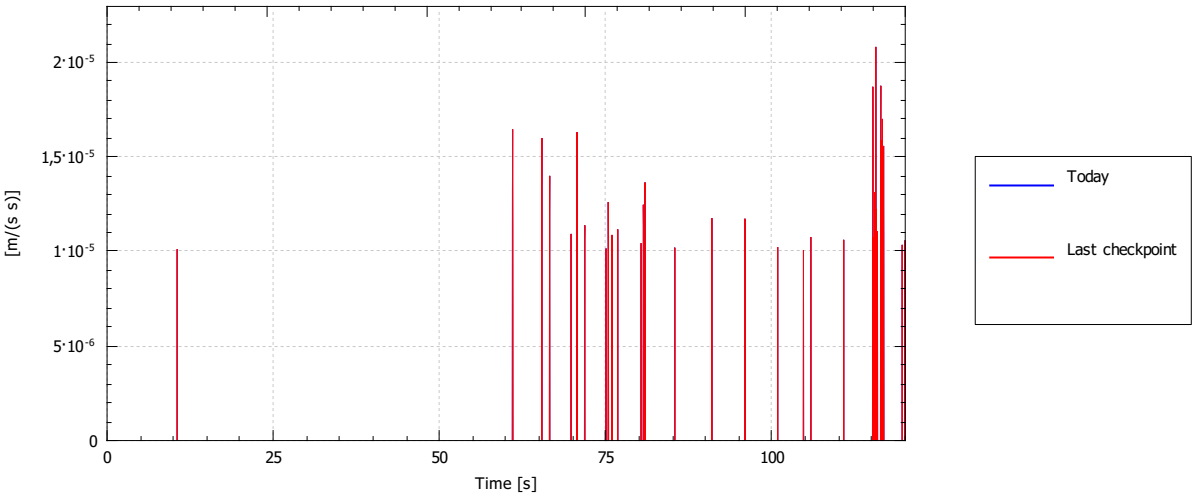
Displacement magnitude



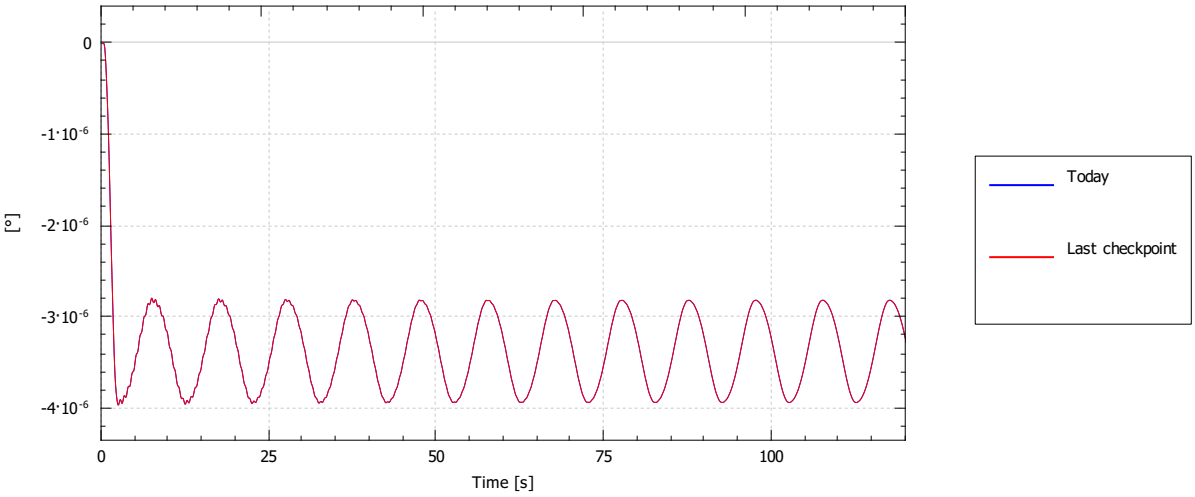
Speed



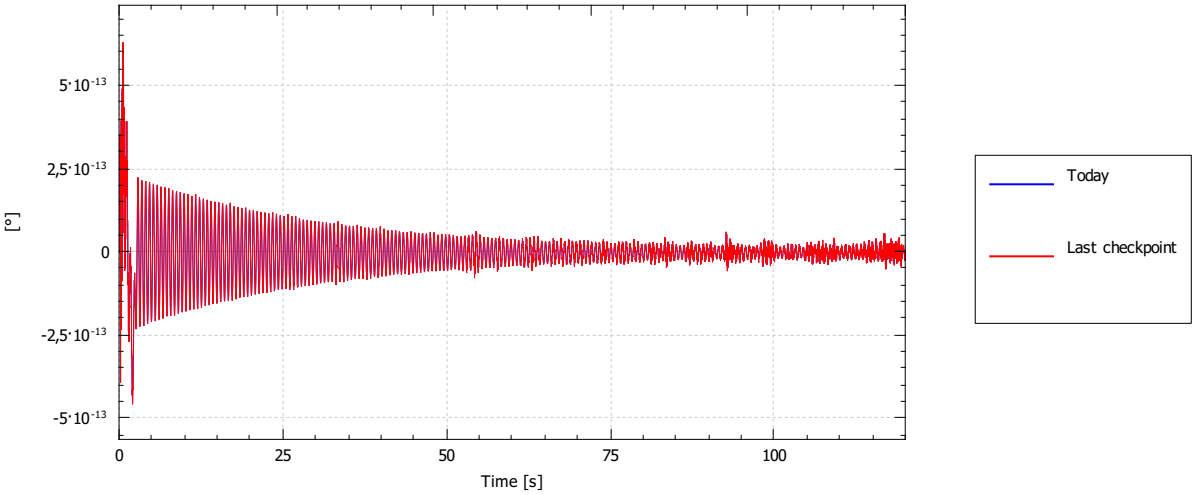
Acceleration, magnitude



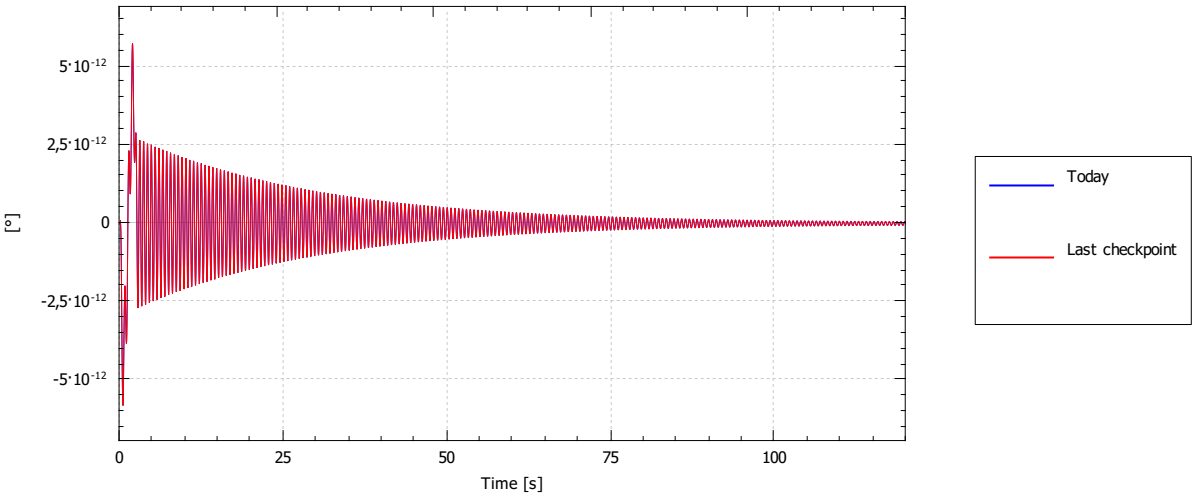
Rotational displacement (ru)



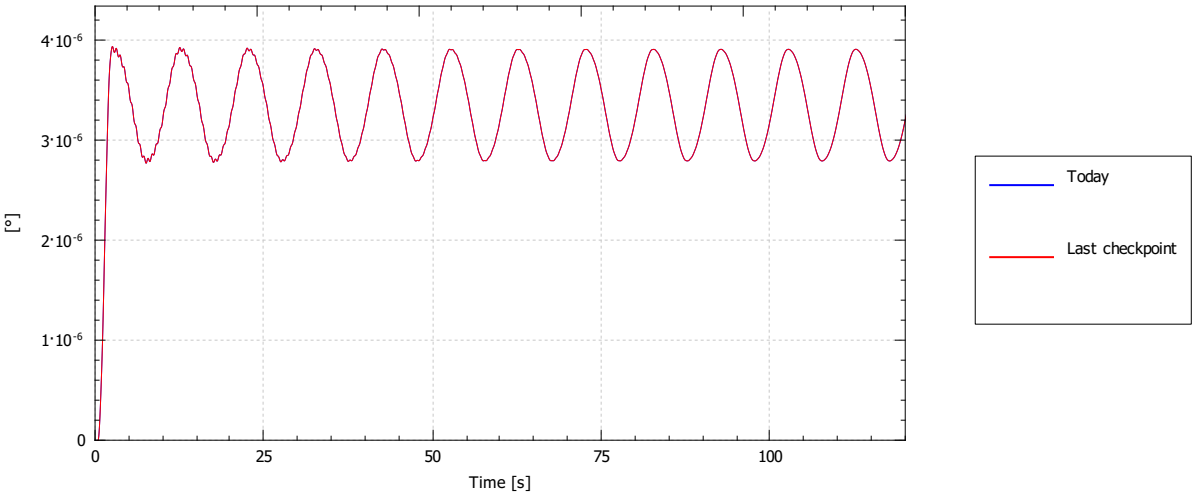
Rotational displacement (rv)



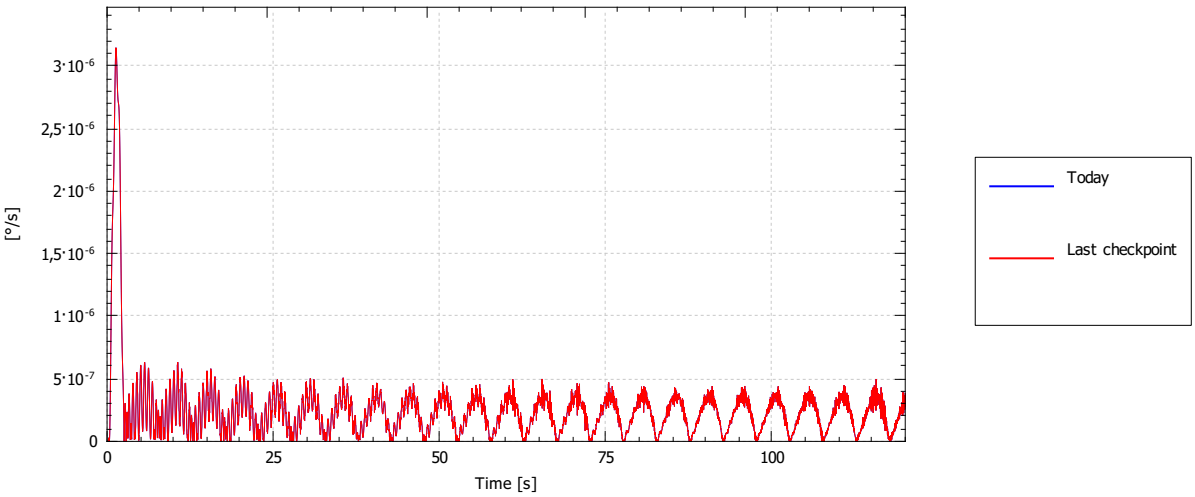
Rotational displacement (rw)



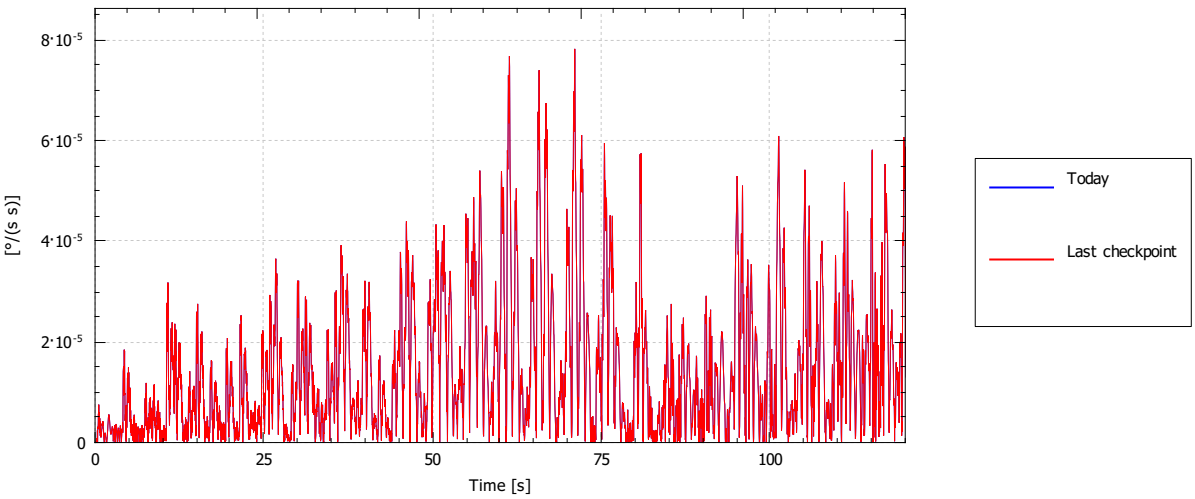
Rotational displacement magnitude



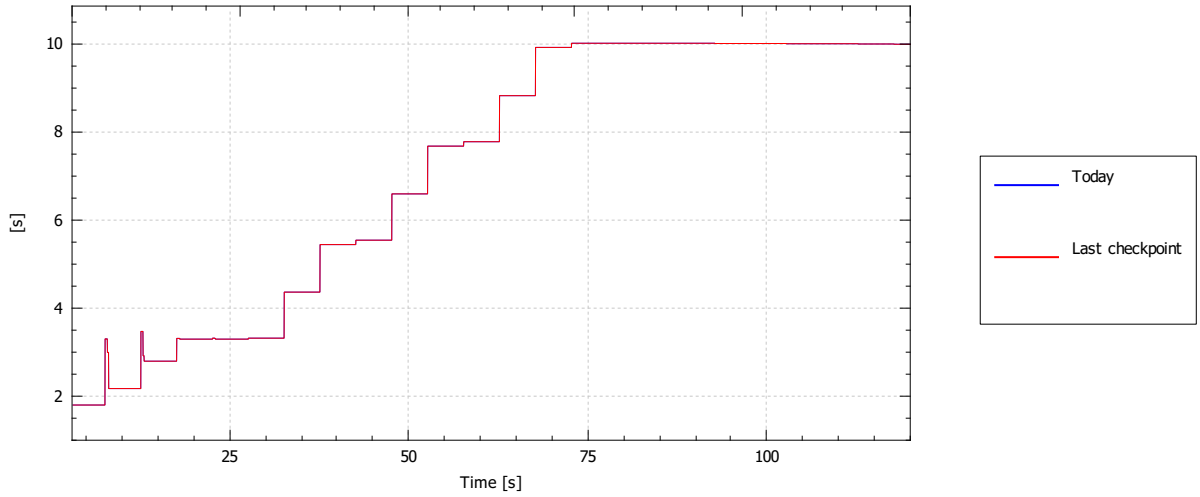
Rotational speed



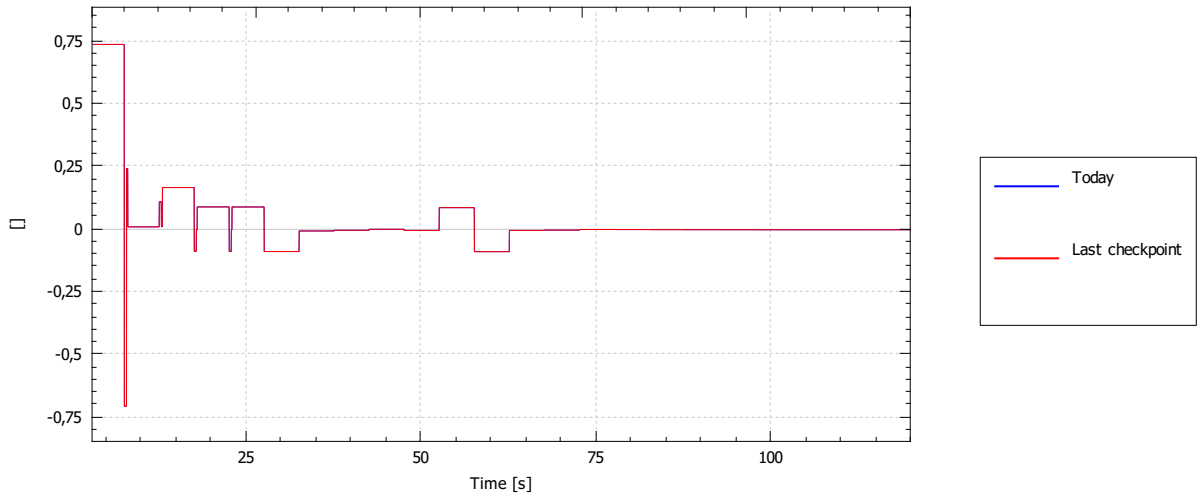
Rotational acceleration mag



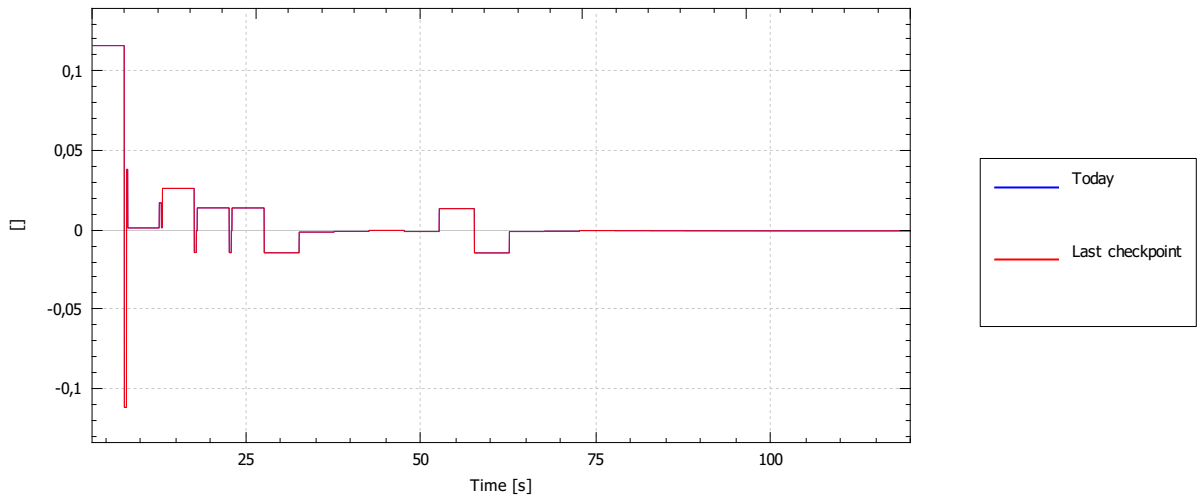
Displacement period



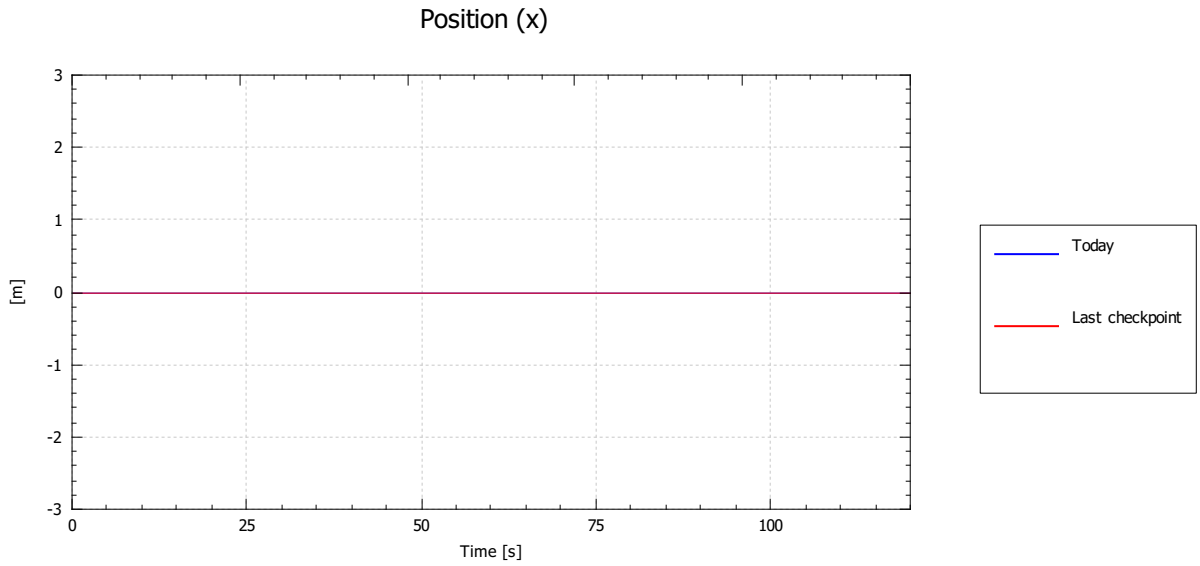
Displacement logarithmic decrement

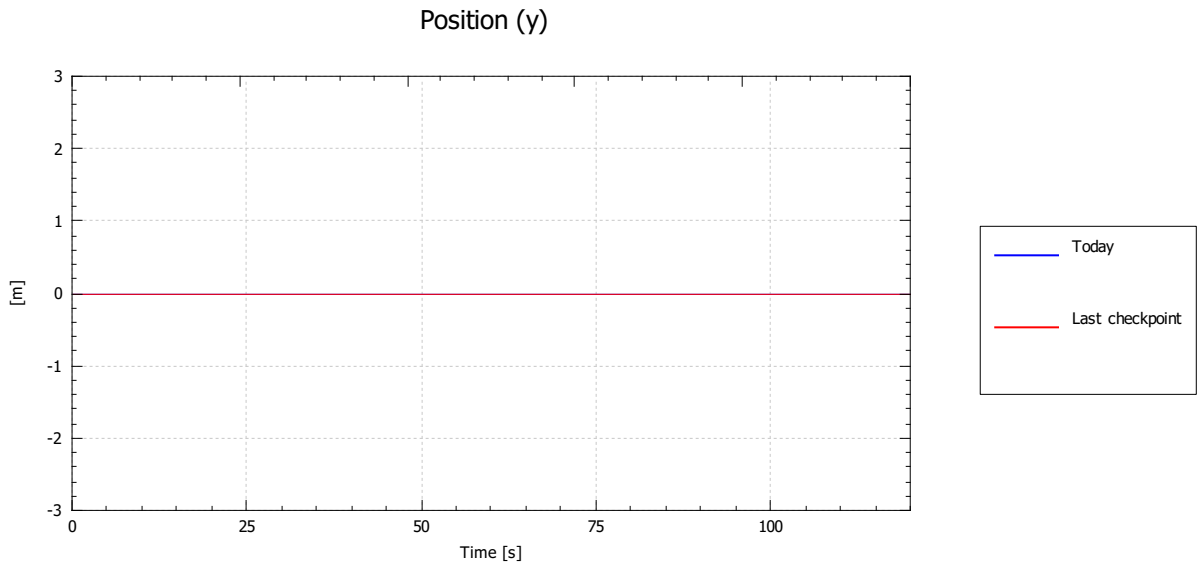


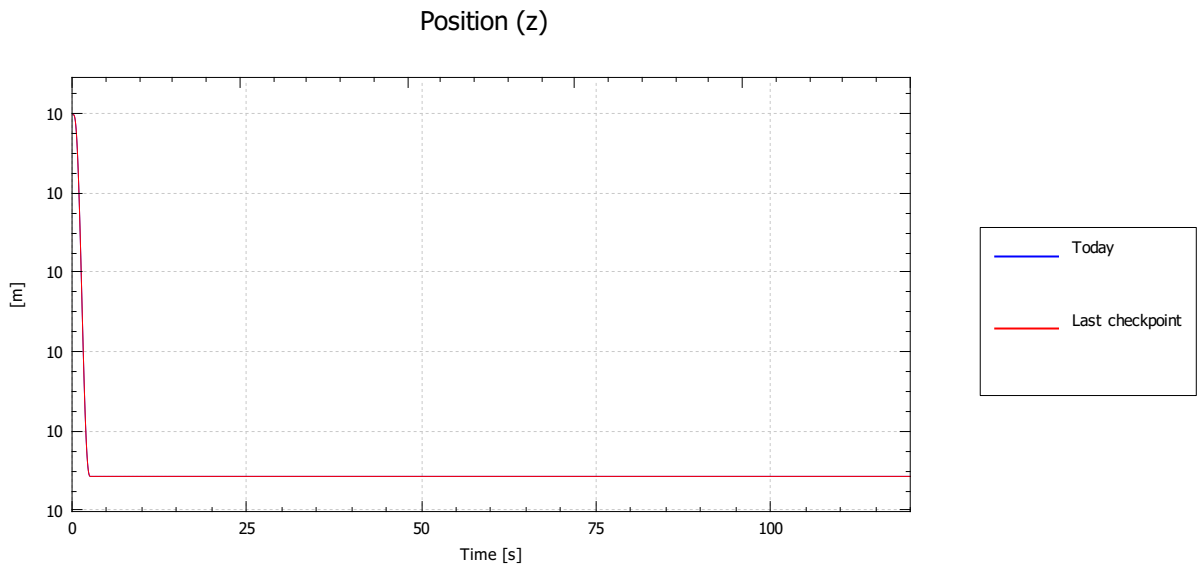
Displacement damping ratio

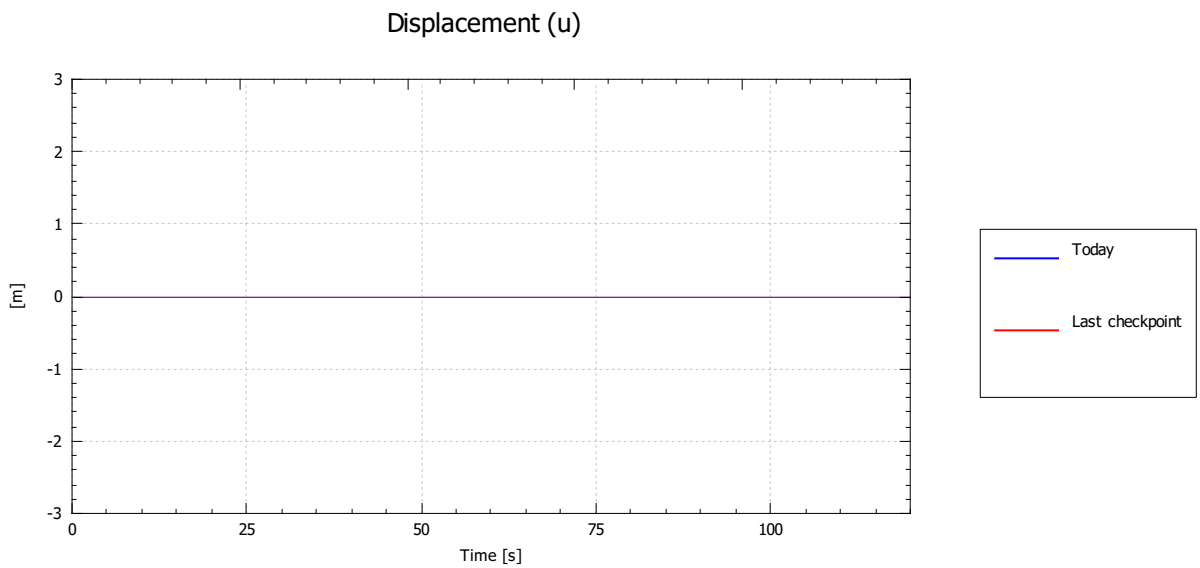


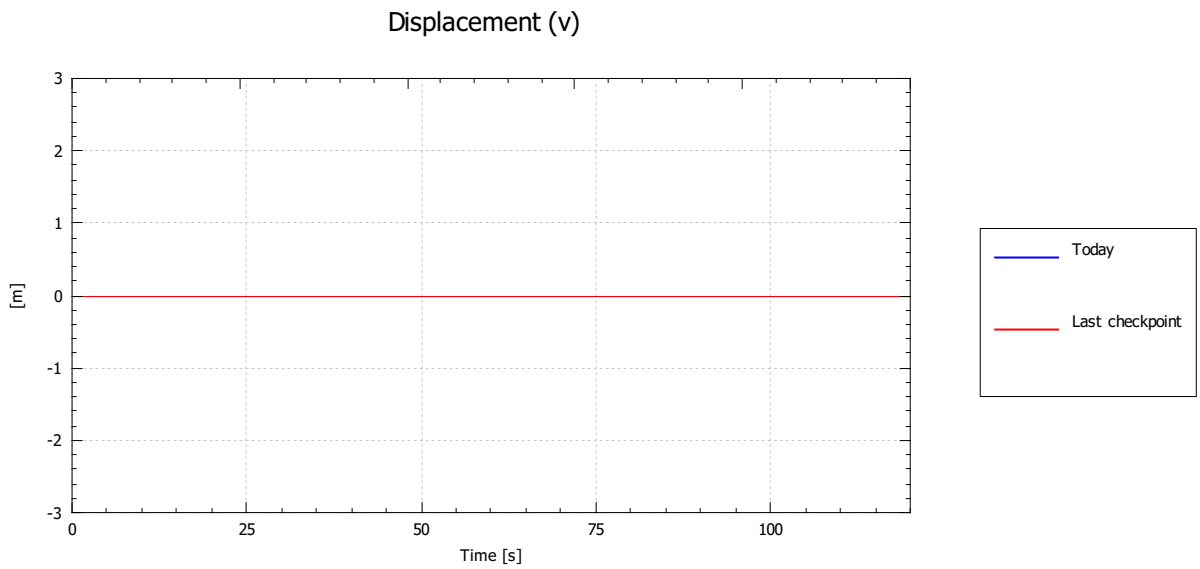
Node [Node 1 | Tubular tower]

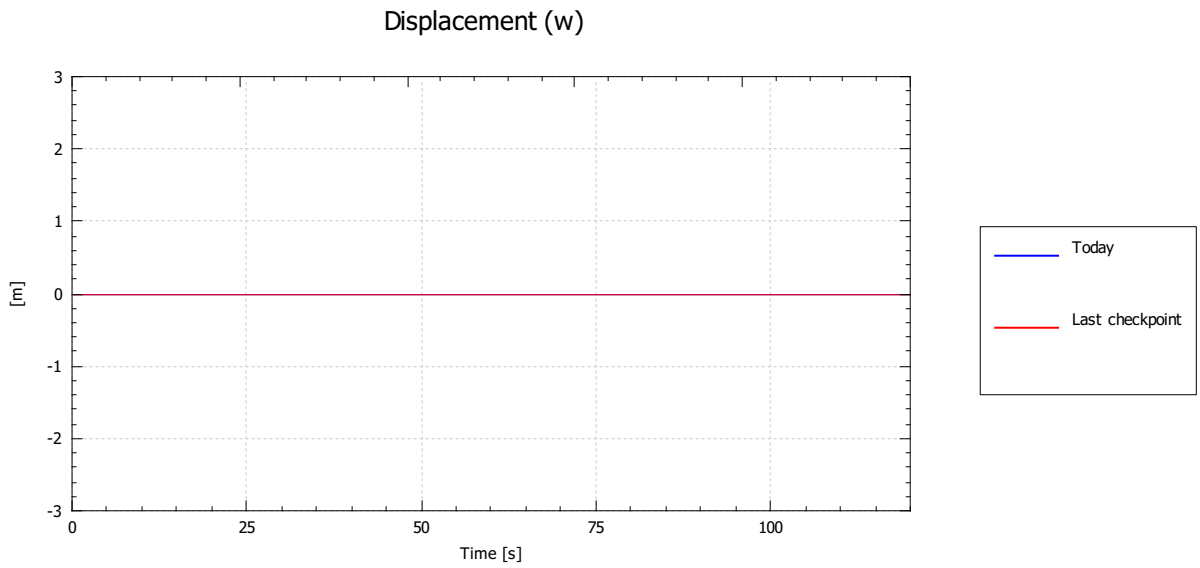




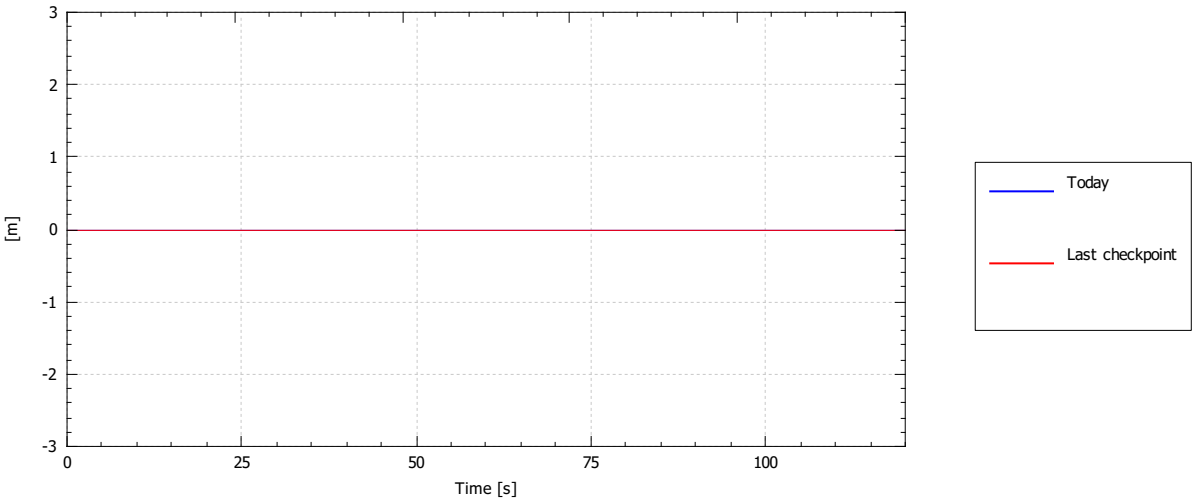



Displacement (u)
[m]
3
2
1
0
-1
-2
-3
0
25
50
75
100
Time [s]
Today
Last checkpoint

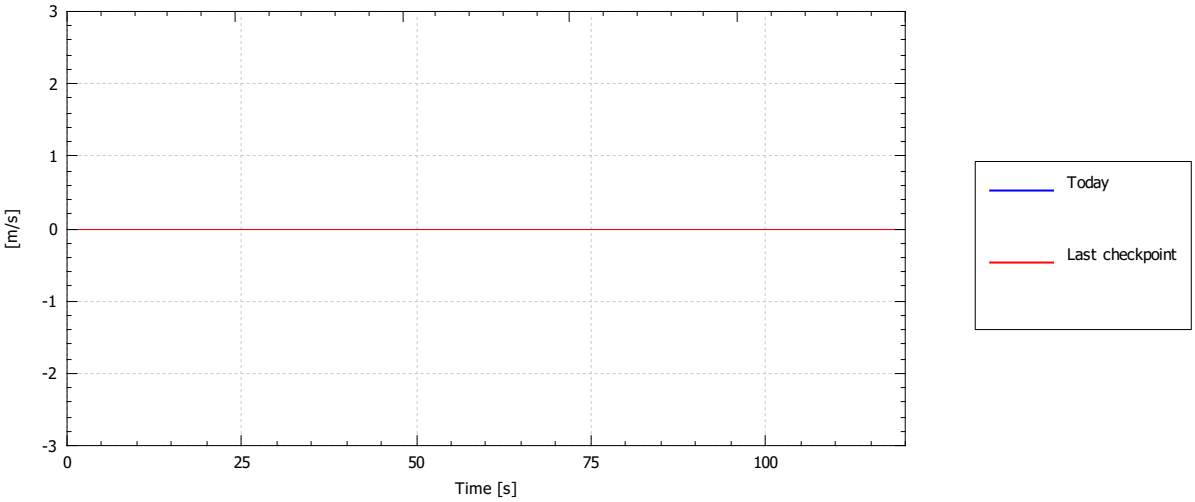

Displacement (v)
[m]
3
2
1
0
-1
-2
-3
0
25
50
75
100
Time [s]
Today
Last checkpoint


Displacement (w)
[m]
3
2
1
0
-1
-2
-3
0
25
50
75
100
Time [s]
Today
Last checkpoint

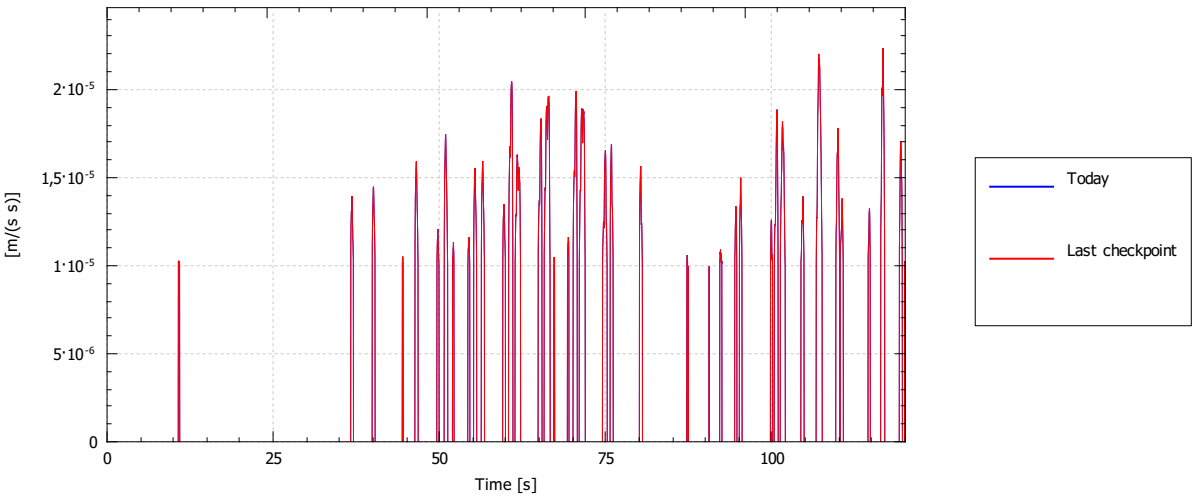
Displacement magnitude



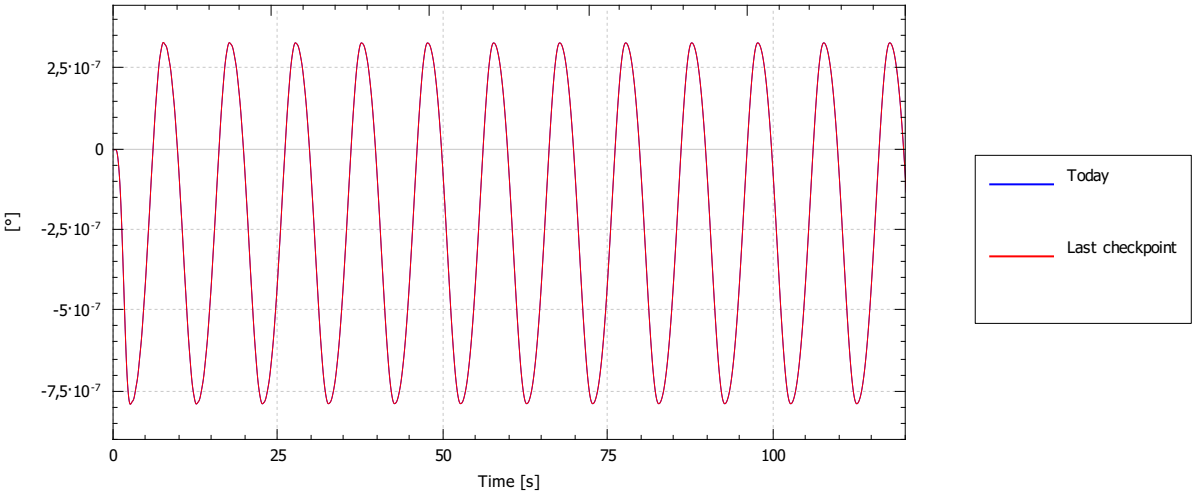
Speed



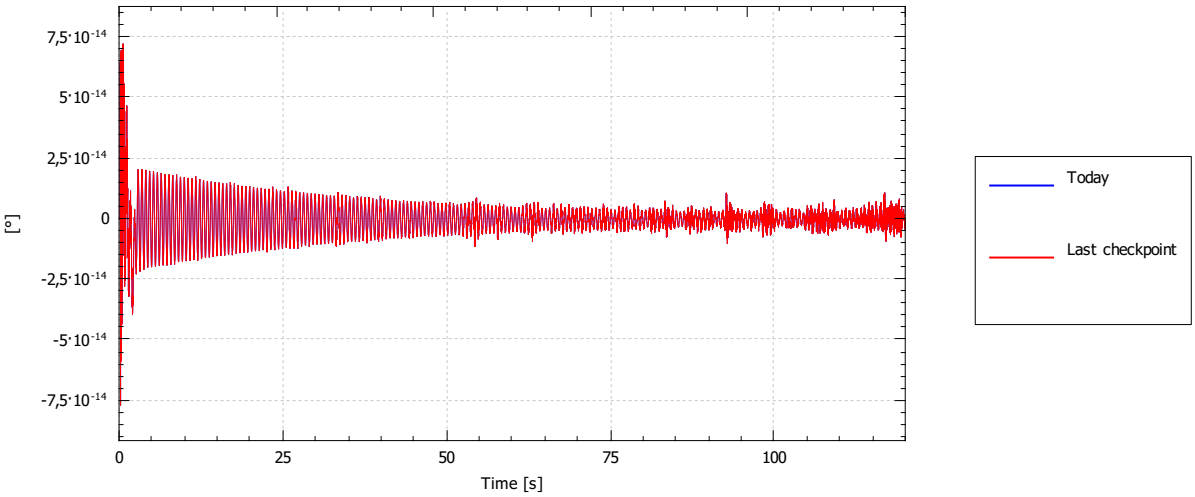
Acceleration, magnitude



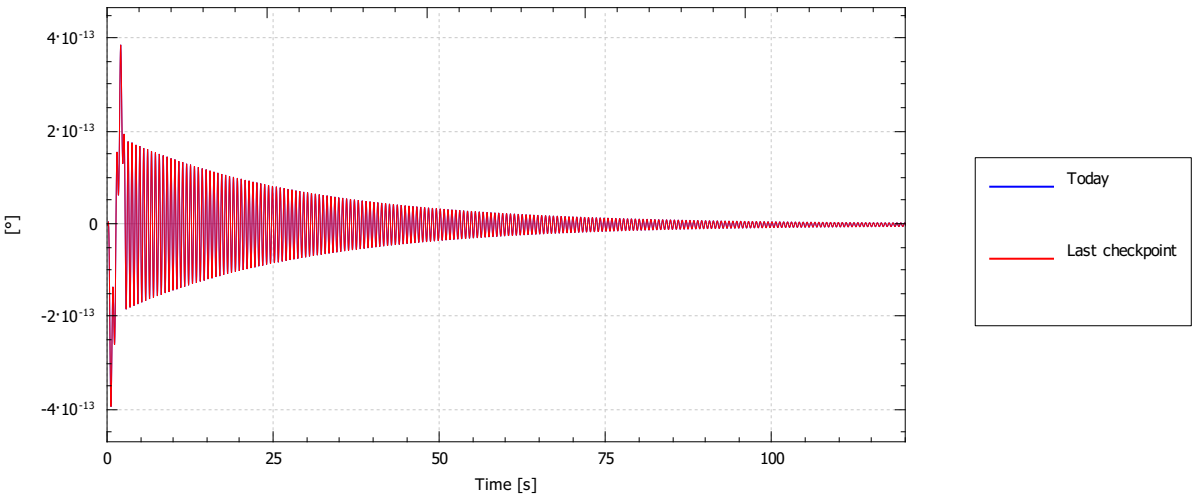
Rotational displacement (ru)



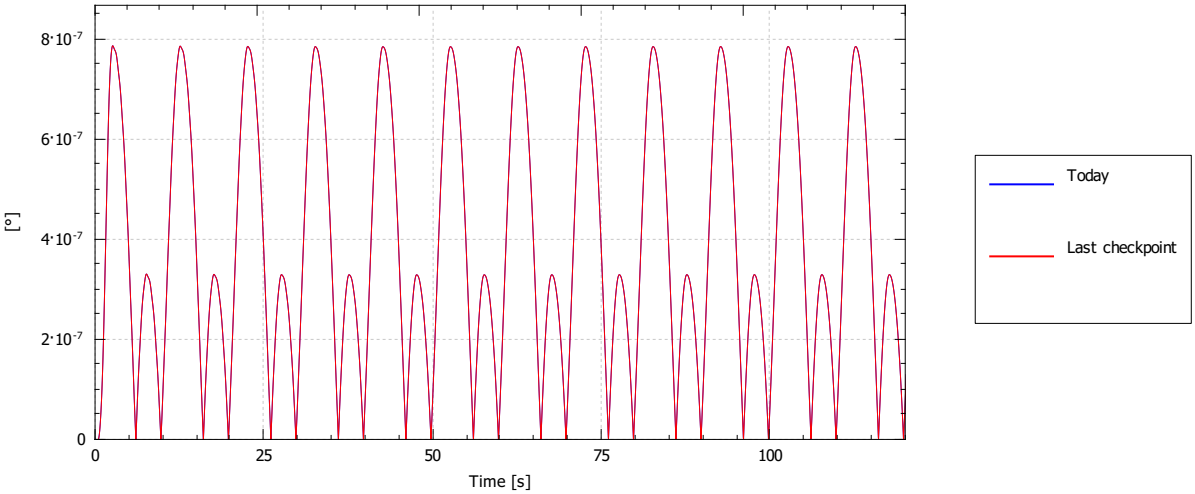
Rotational displacement (rv)



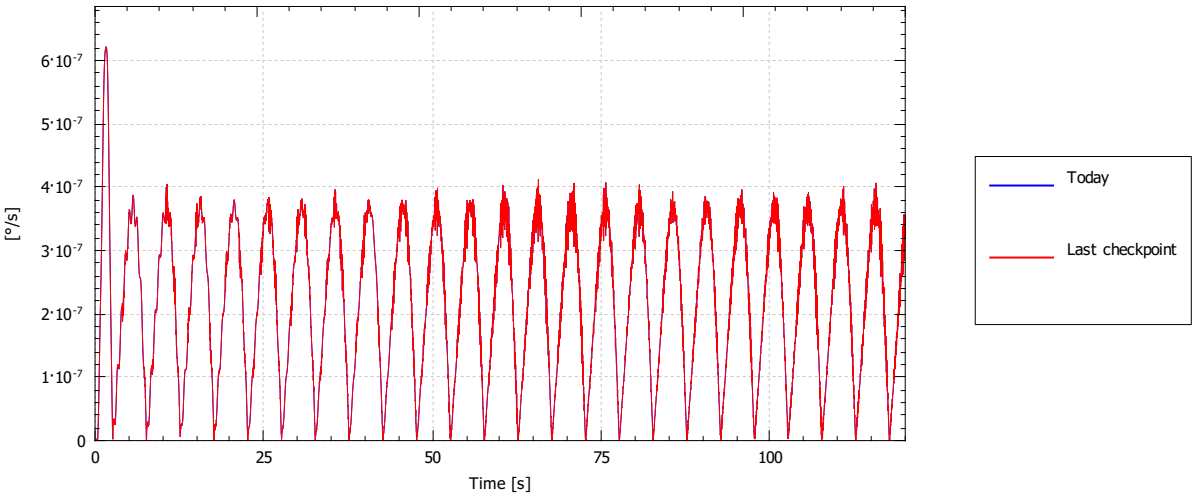
Rotational displacement (rw)



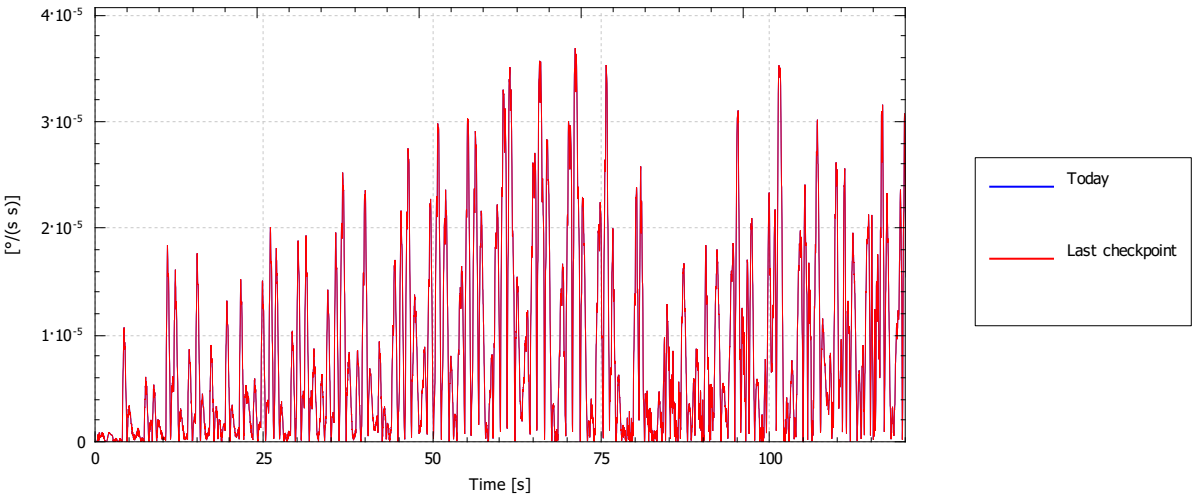
Rotational displacement magnitude



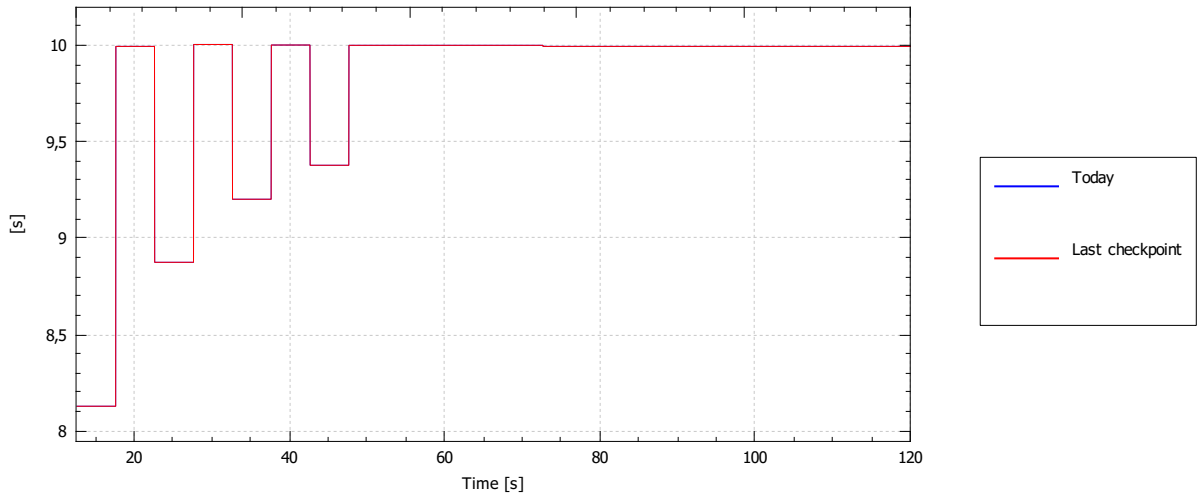
Rotational speed



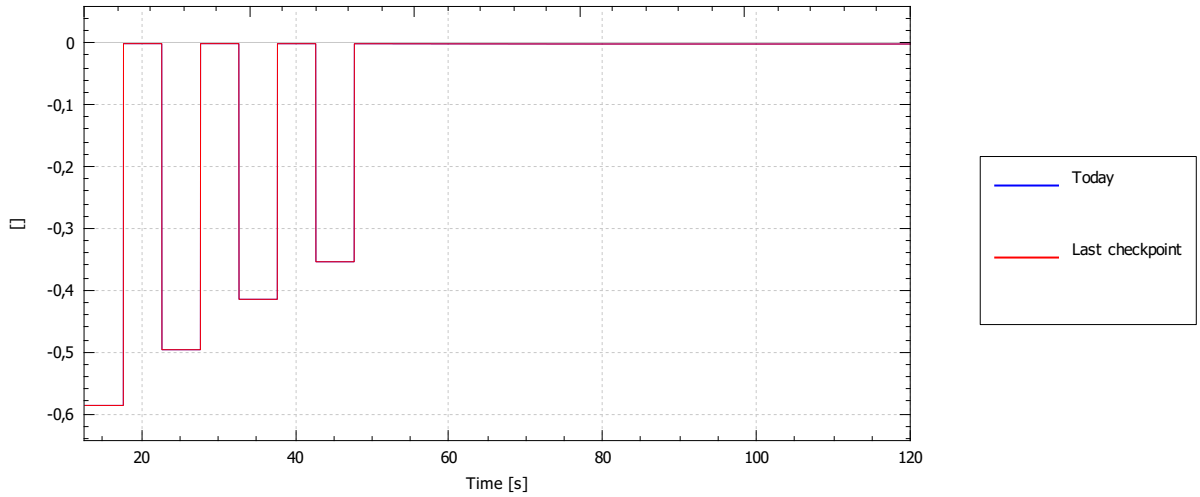
Rotational acceleration mag



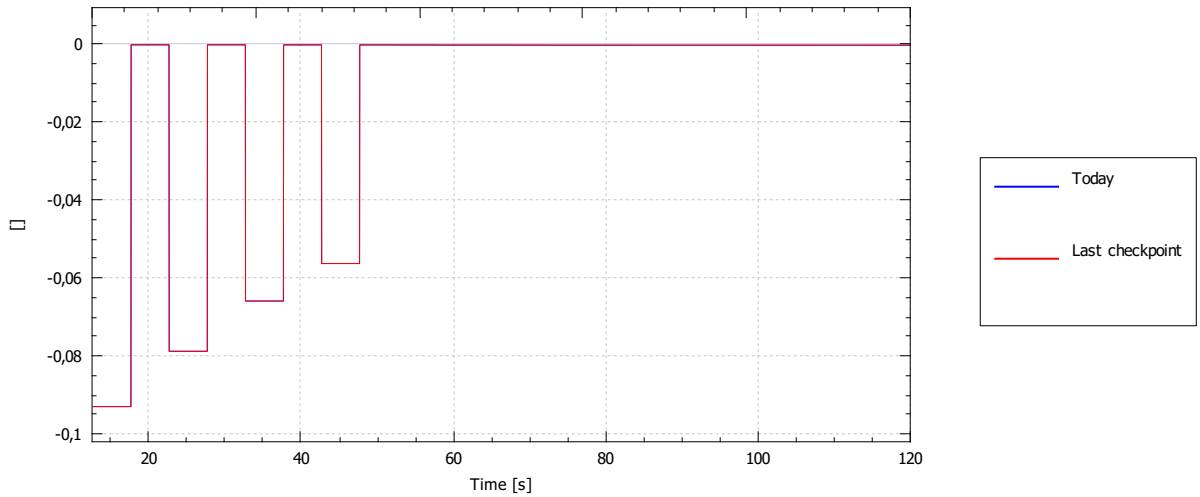
Displacement period



Displacement logarithmic decrement

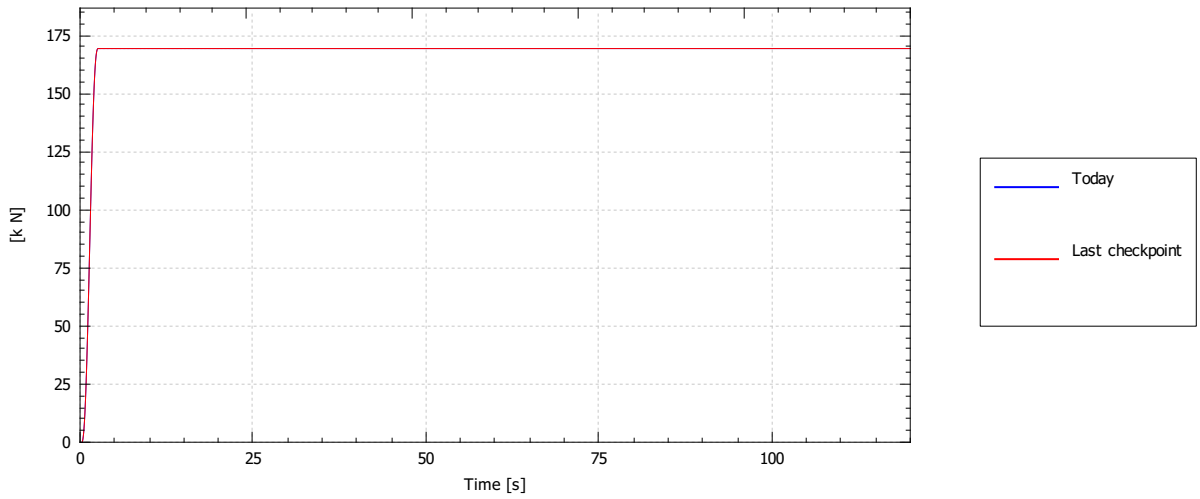


Displacement damping ratio

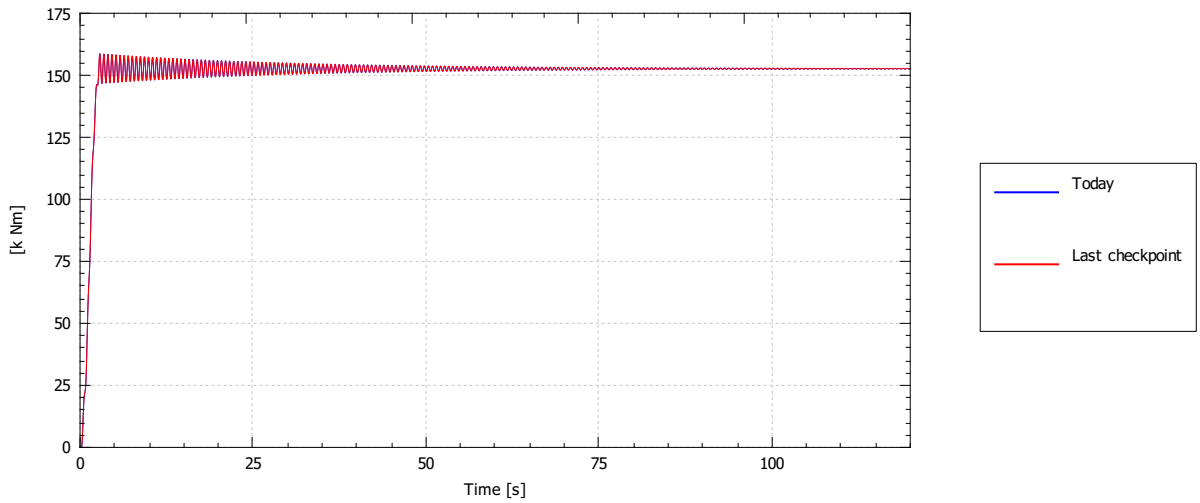


Blade [Time] [Blade 1]

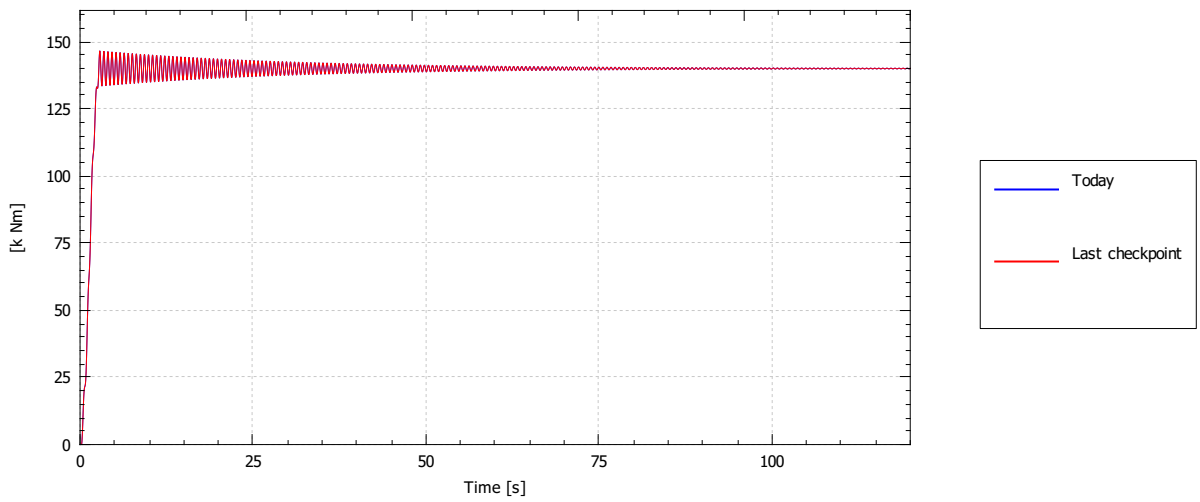
Root force (magnitude)



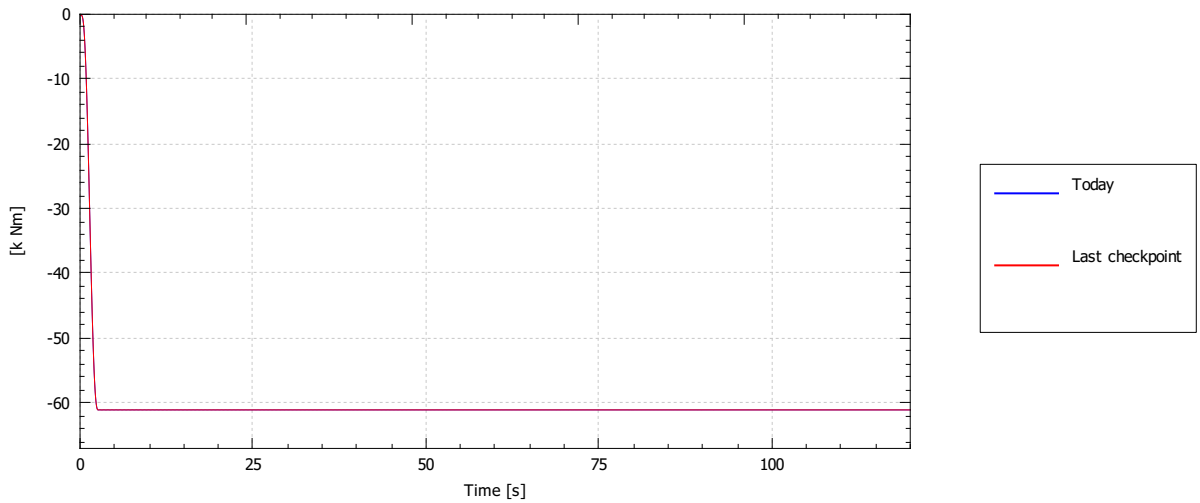
Root moment (magnitude)



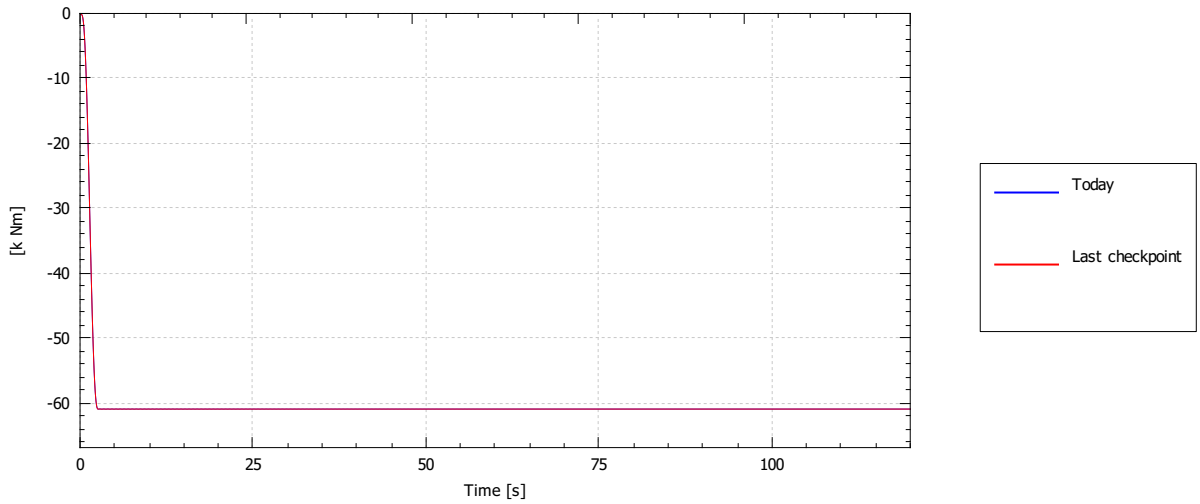
Root moment (out-of-plane)



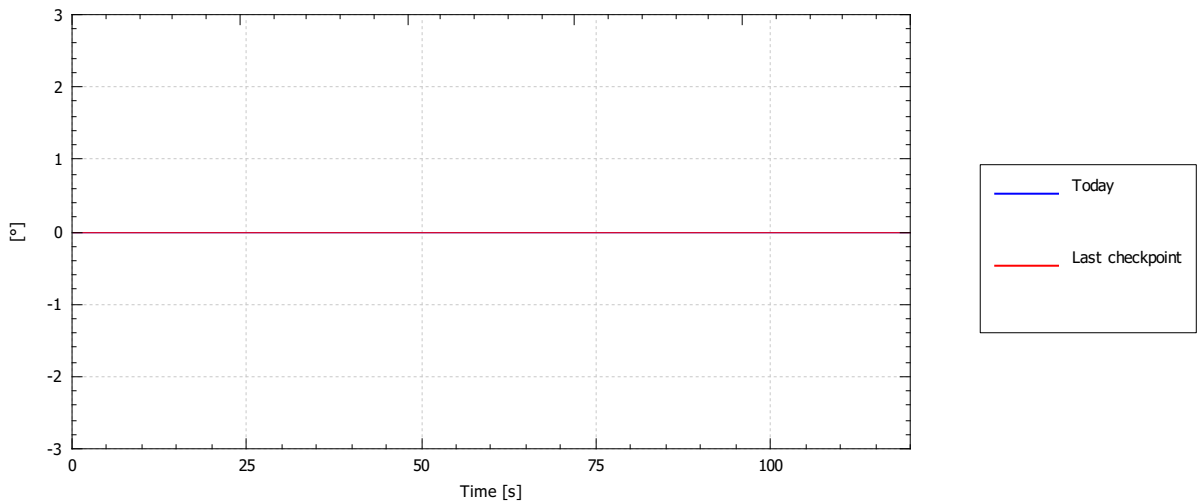
Root moment (in-plane)



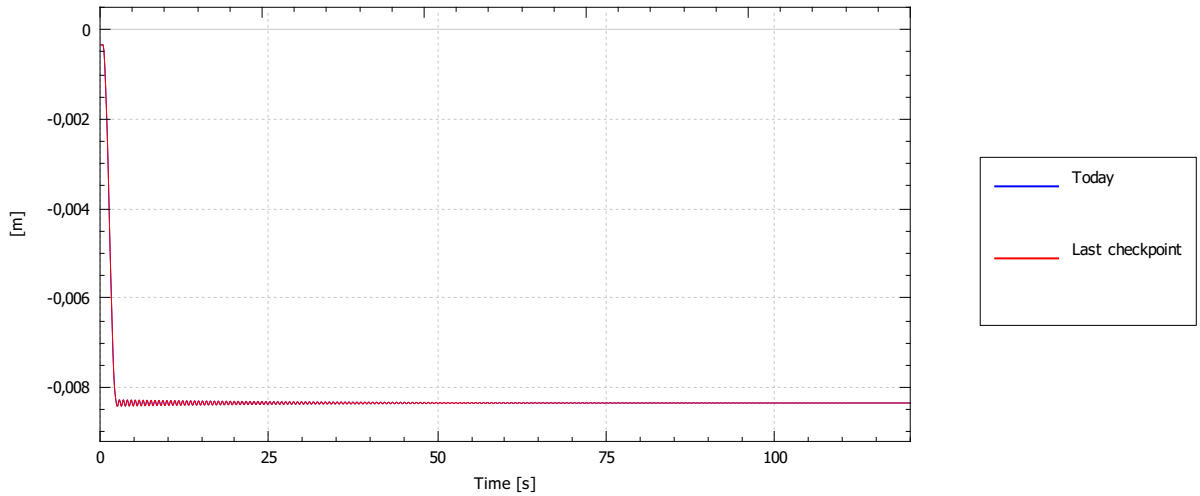
Root moment about shaft



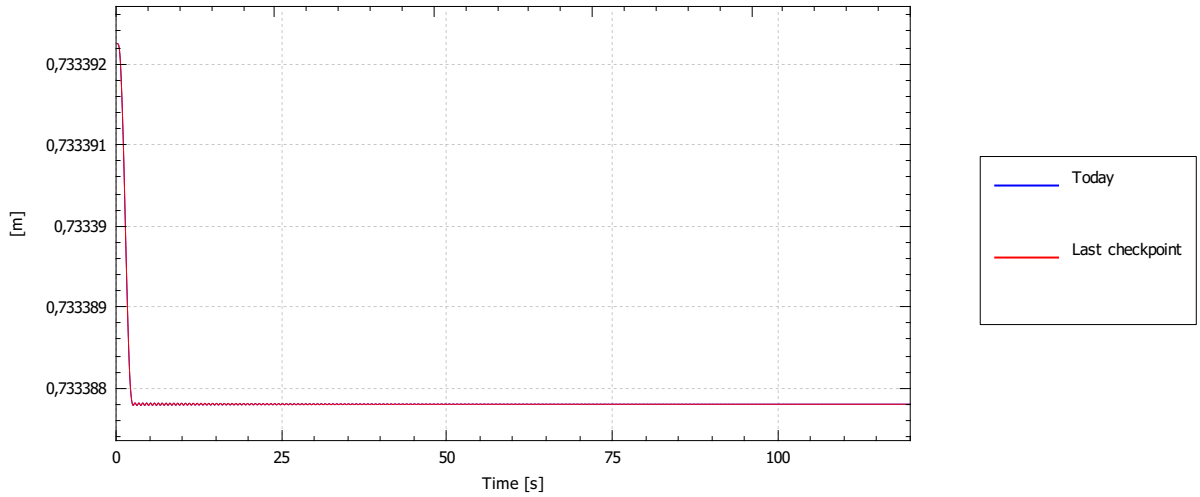
Pitch angle



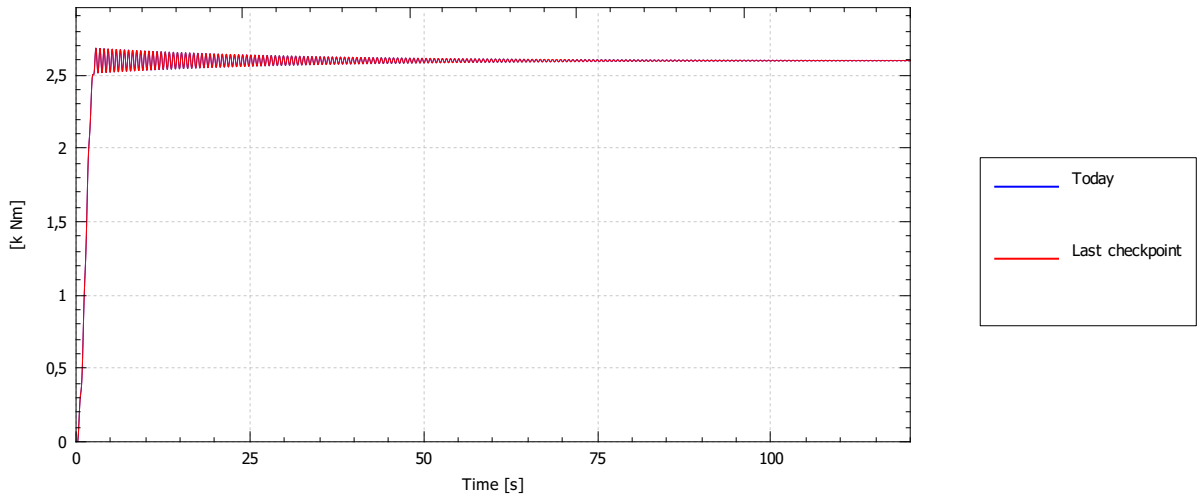
Tip deflection (out-of-plane)



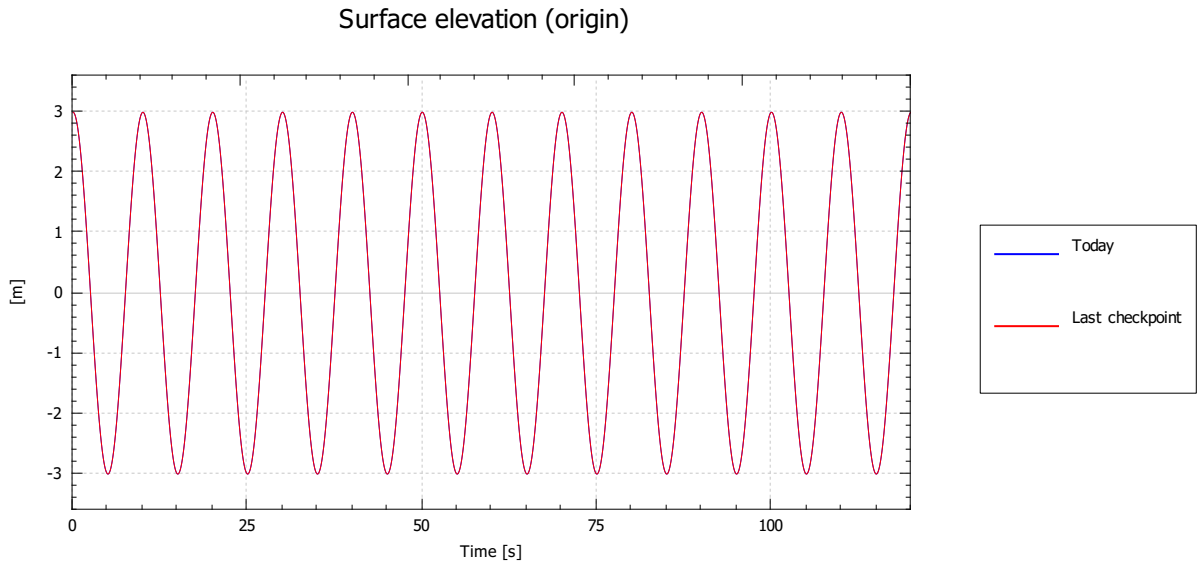
Tip deflection (in-plane)

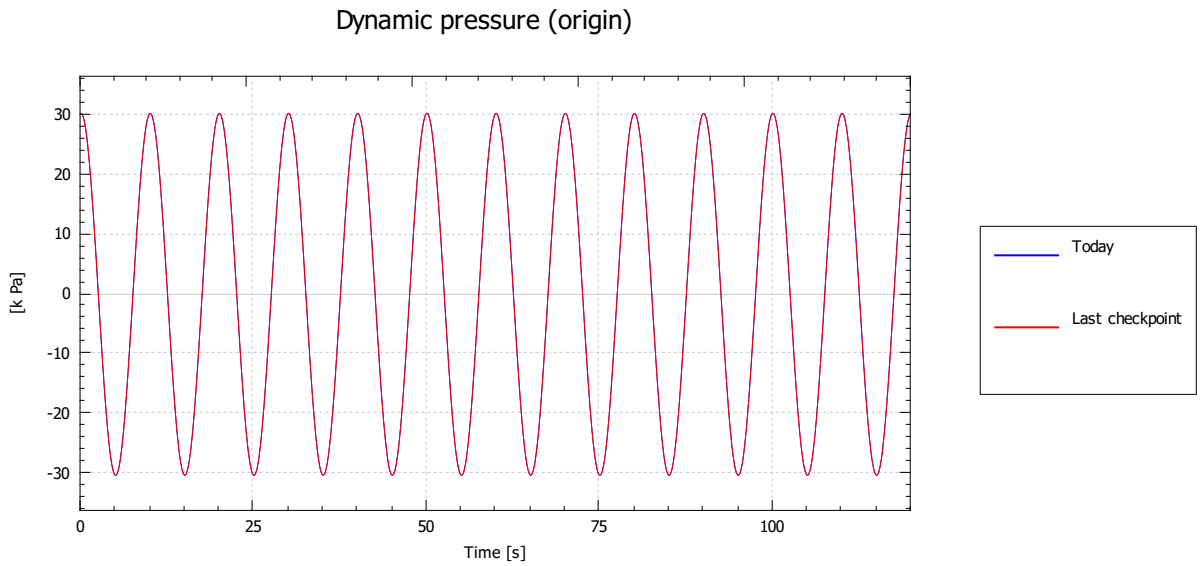


Root torque



Sea

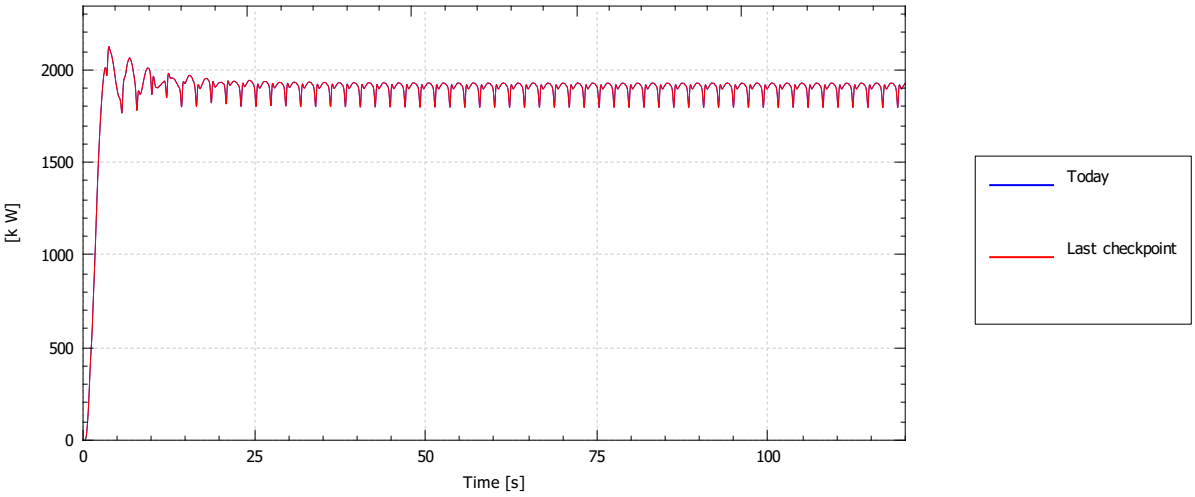




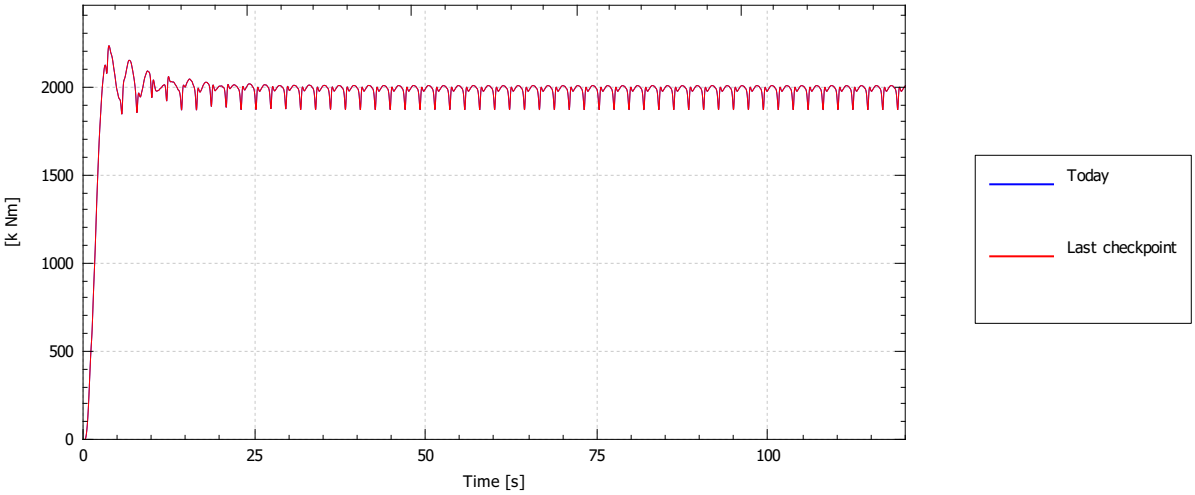
Load case: 3.1

Rotor

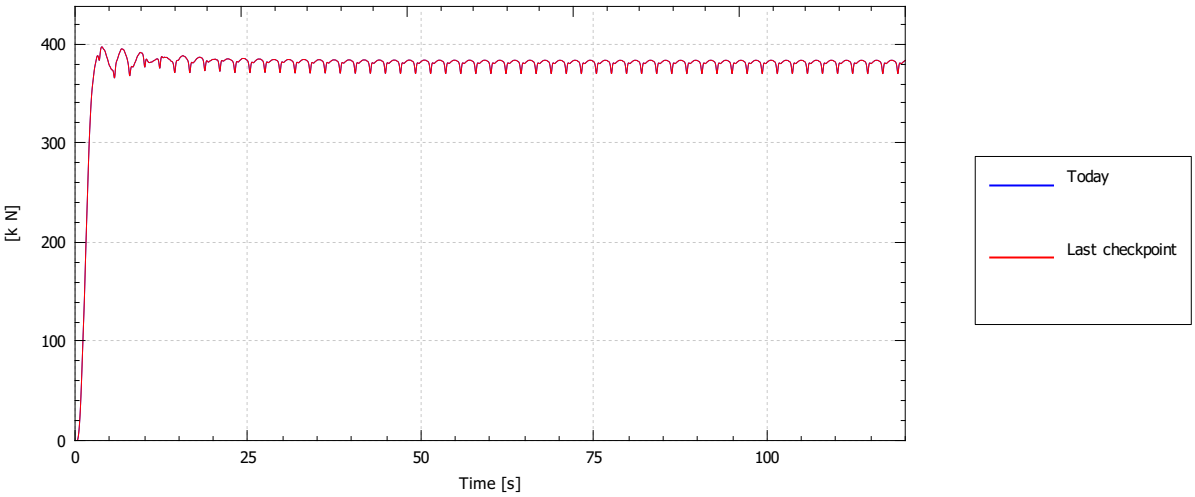
Power (aero)



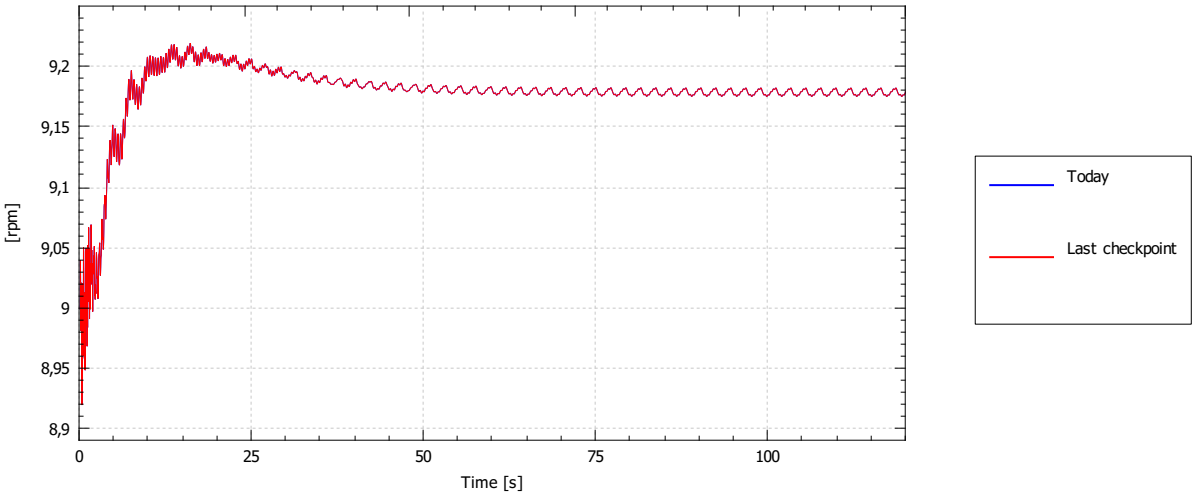
Torque (aero)



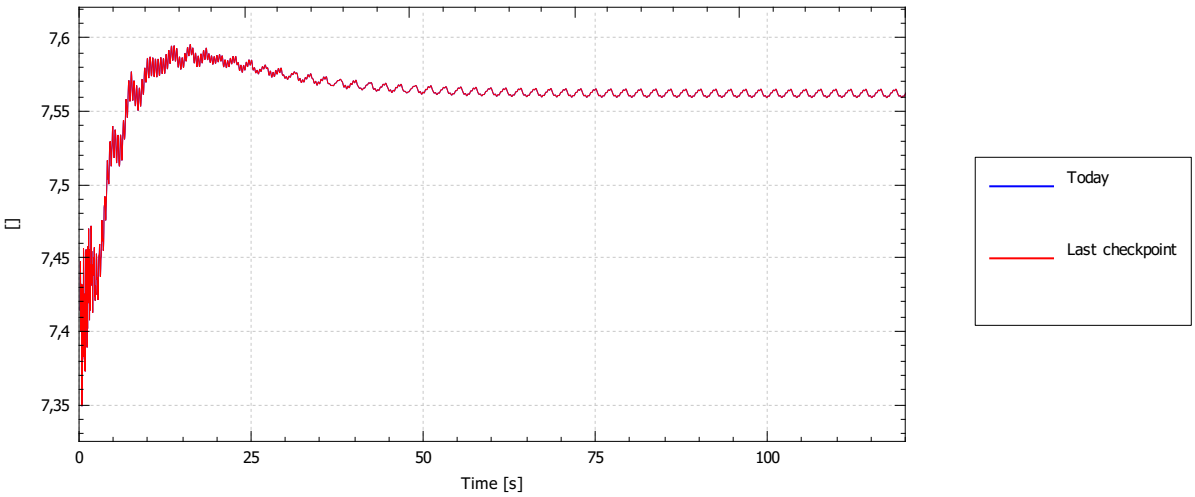
Thrust (aero)



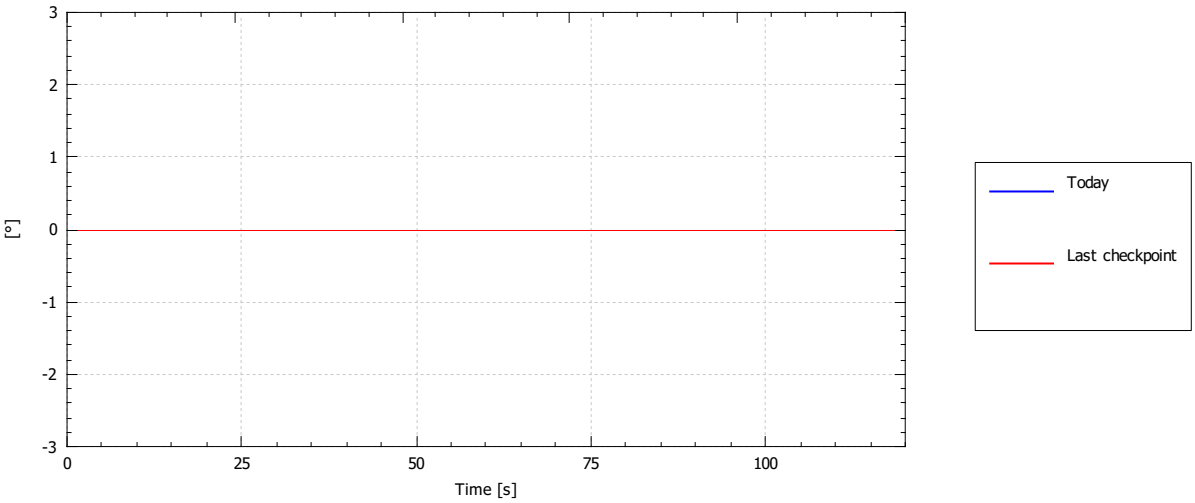
RPM



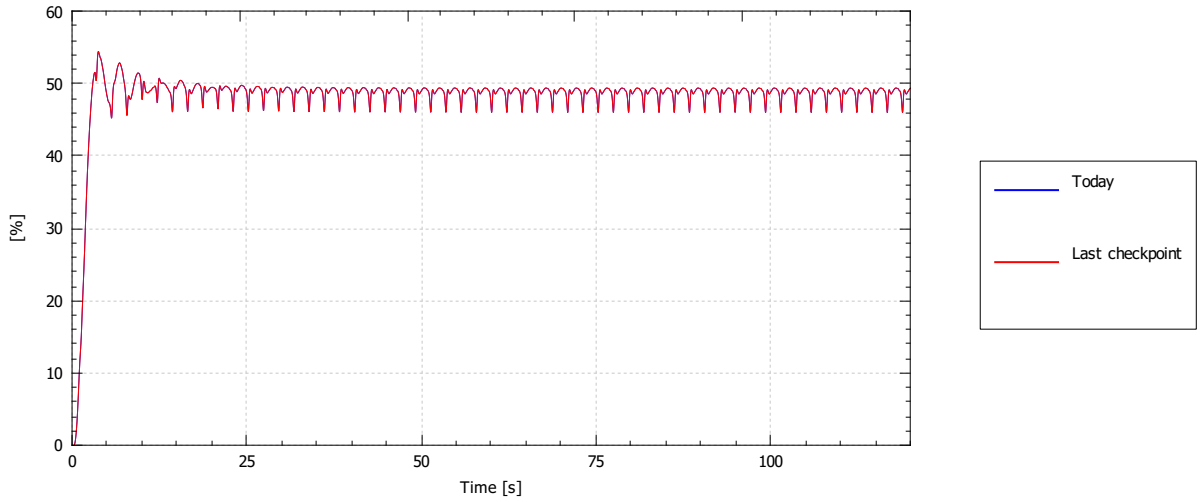
TSR



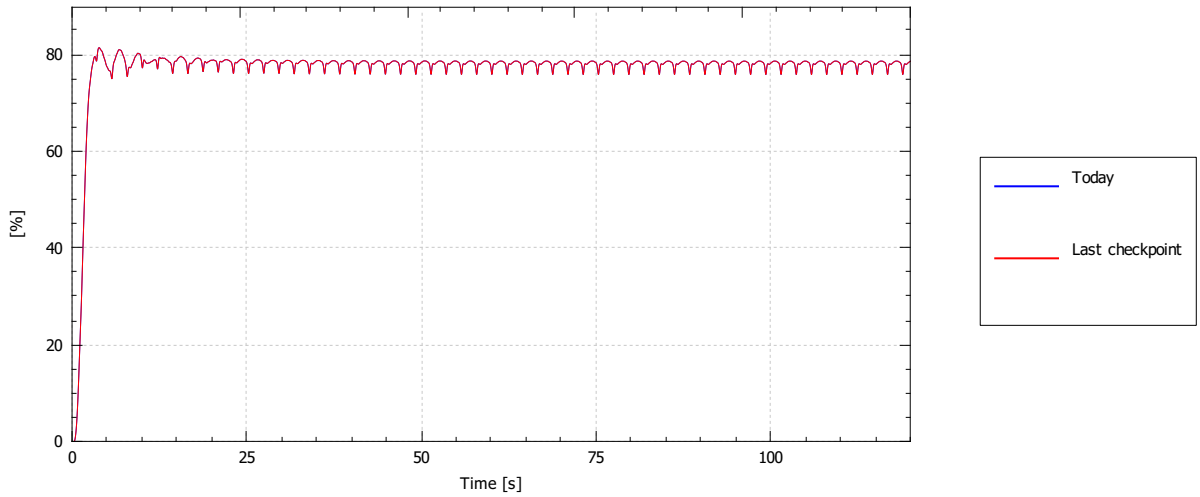
Representative demanded pitch angle



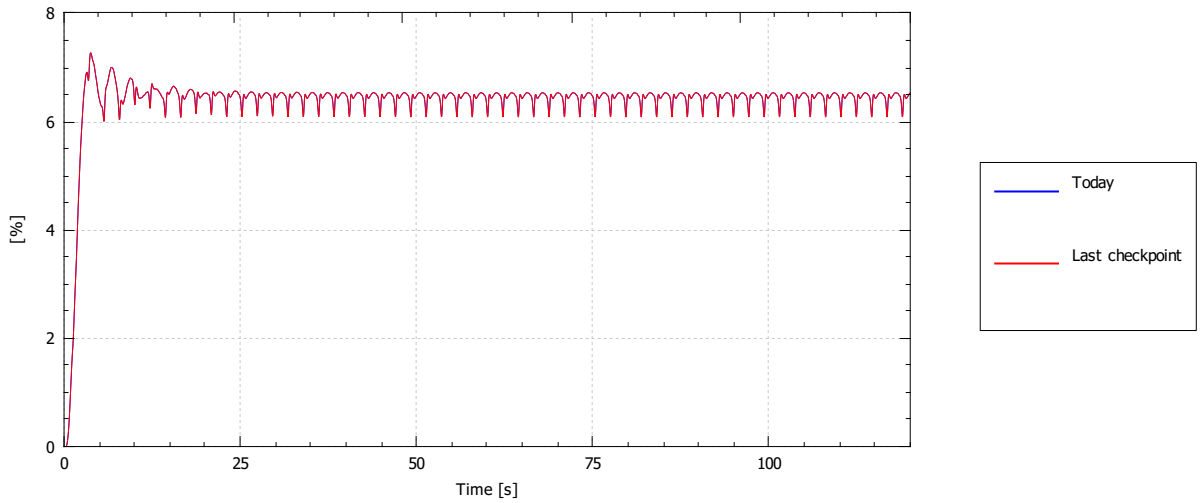
Power coef. (CP)



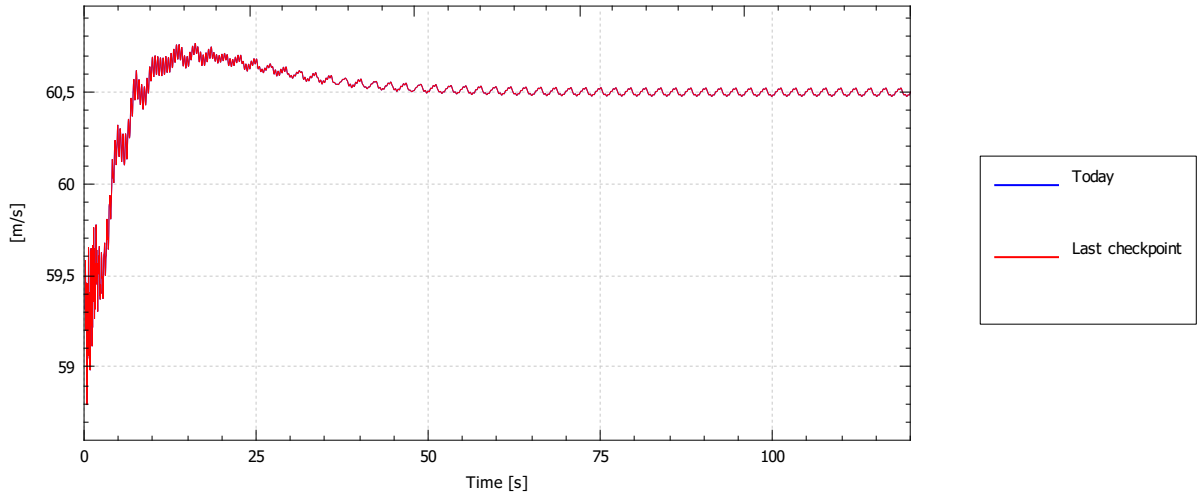
Thrust coef. (CT)



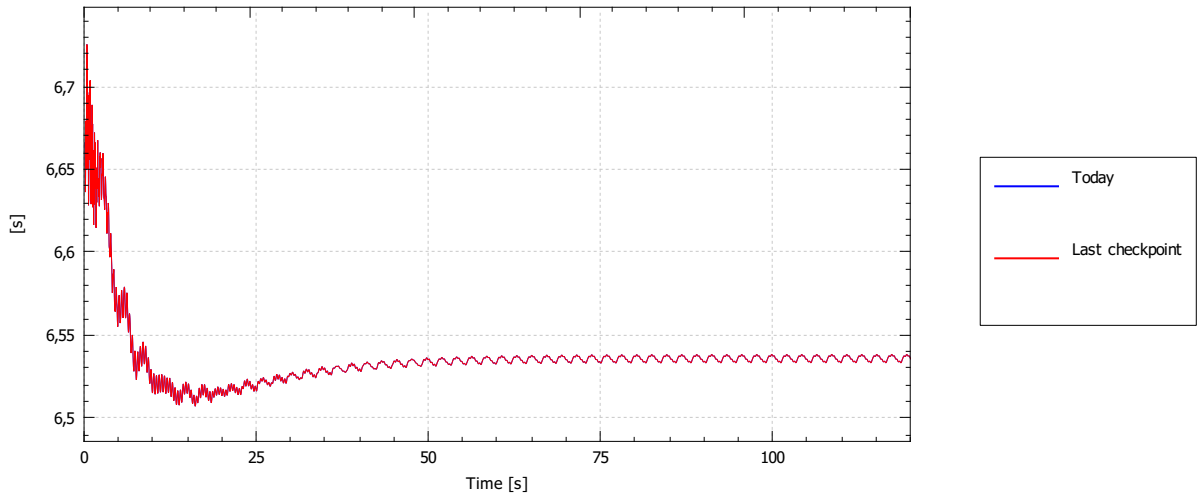
Torque coef. (CQ)



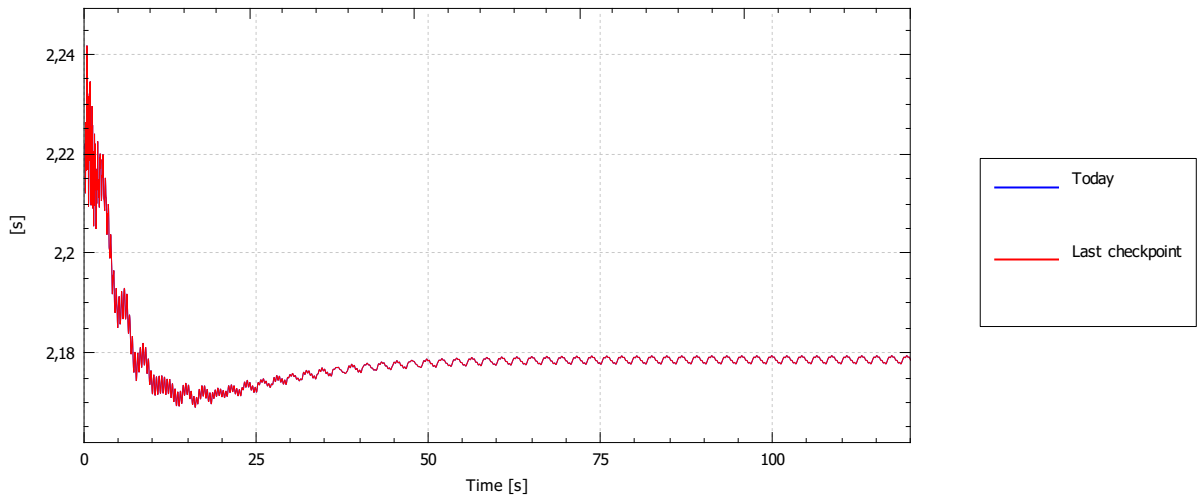
Tip speed



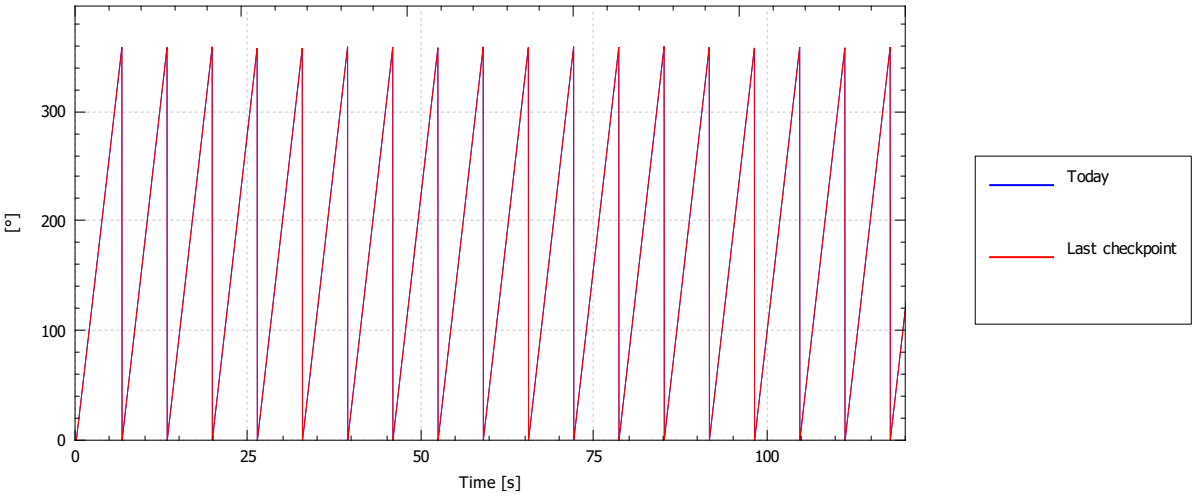
1P (one revolution)



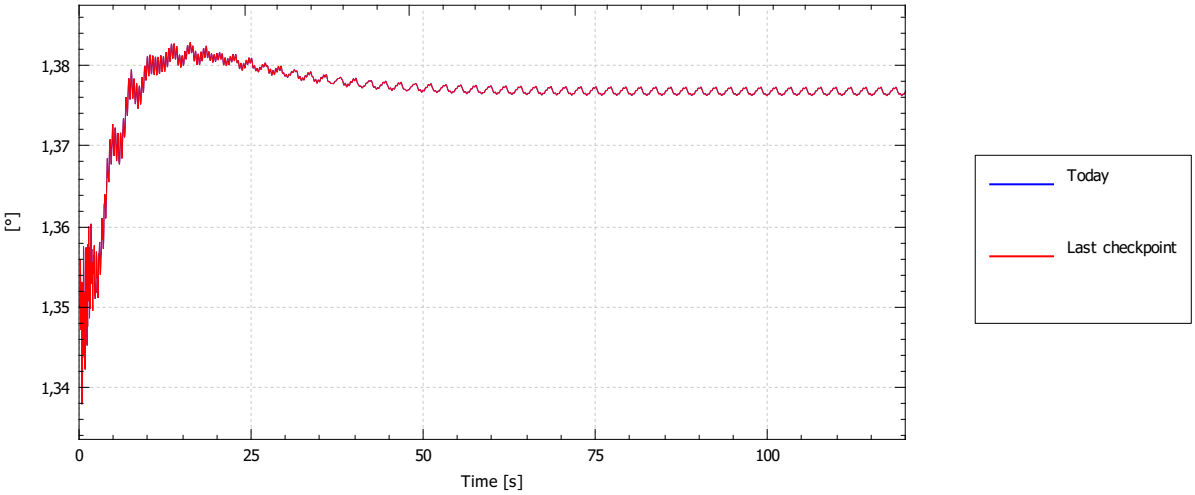
nP (blade passing)



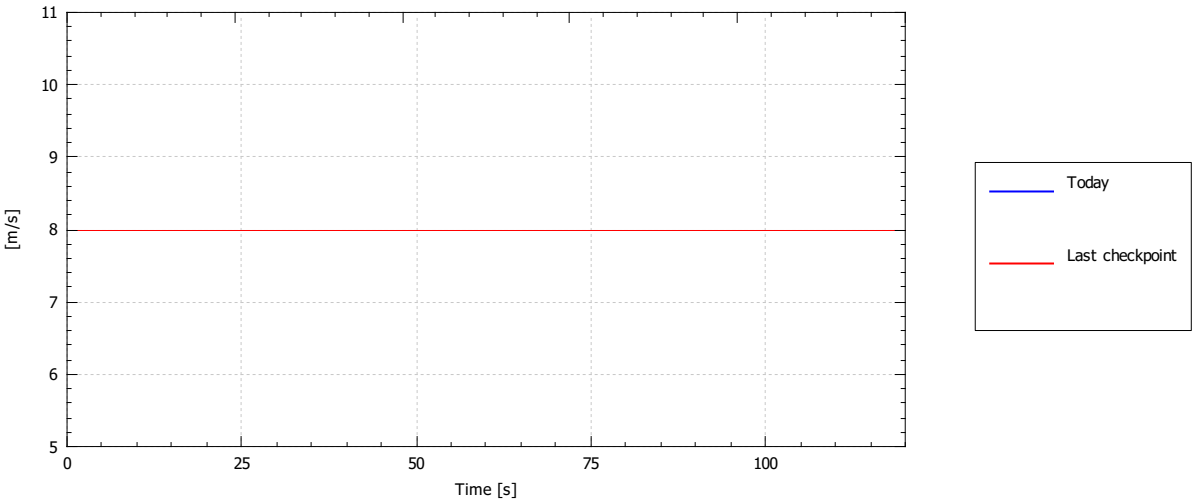
Azimuth angle



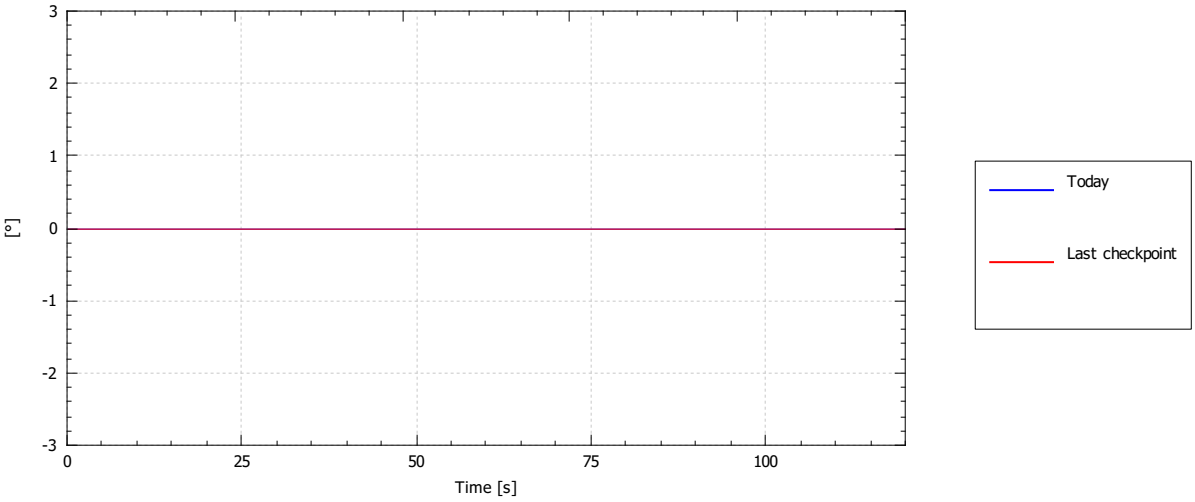
Rotation per timestep



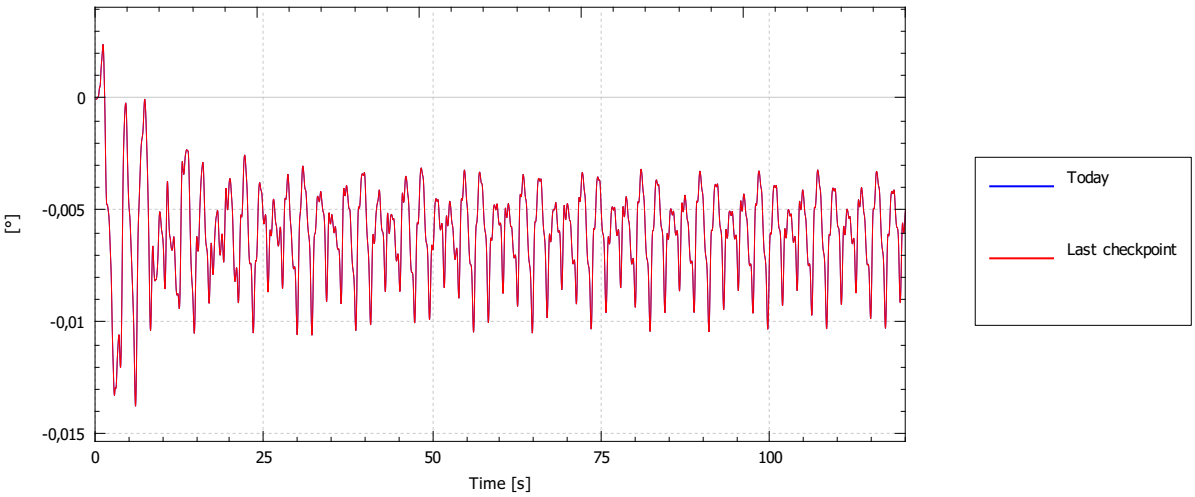
Wind speed at hub, magnitude



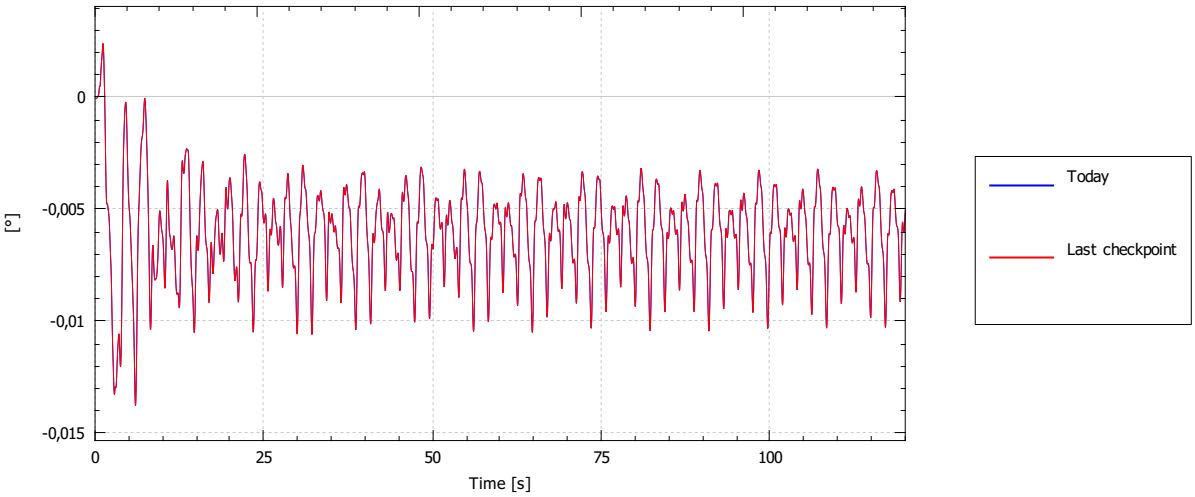
Wind angle at hub

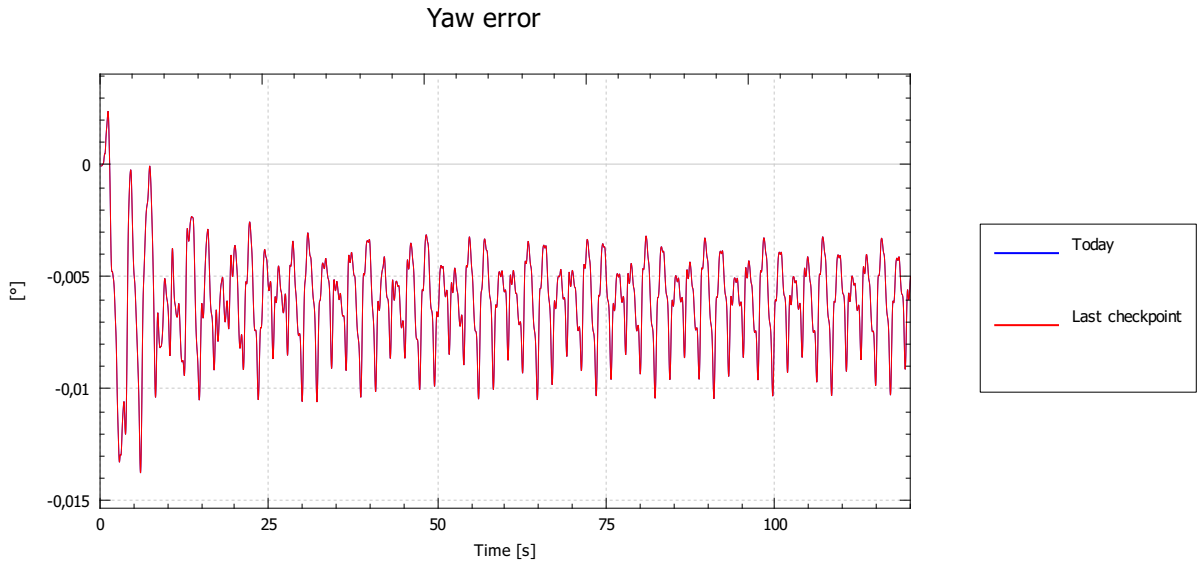


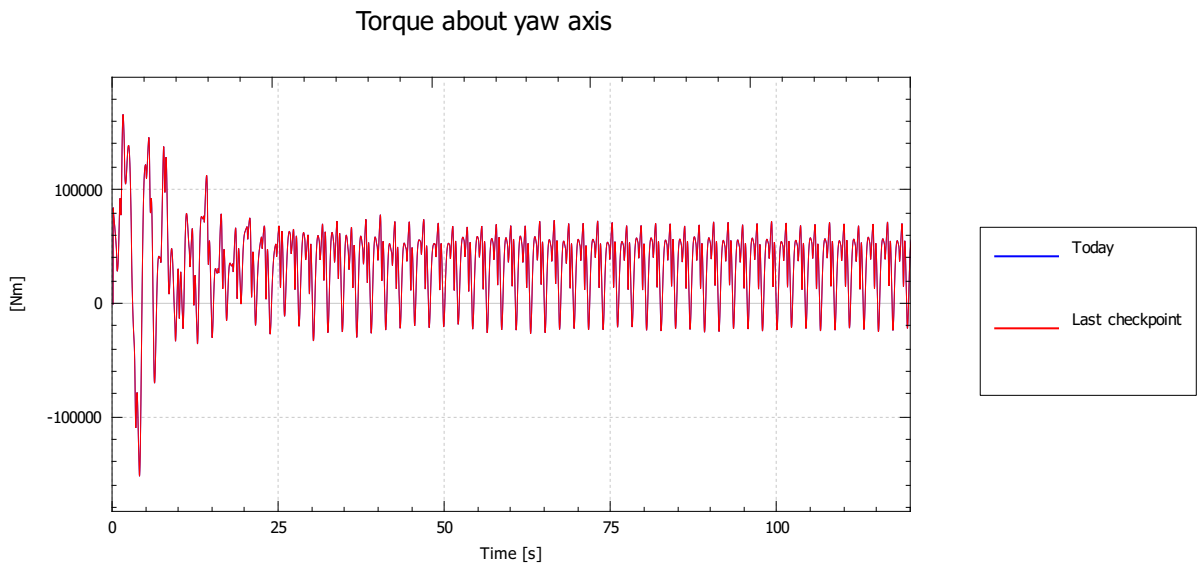
Yaw angle relative to forward



Yaw angle to reference direction

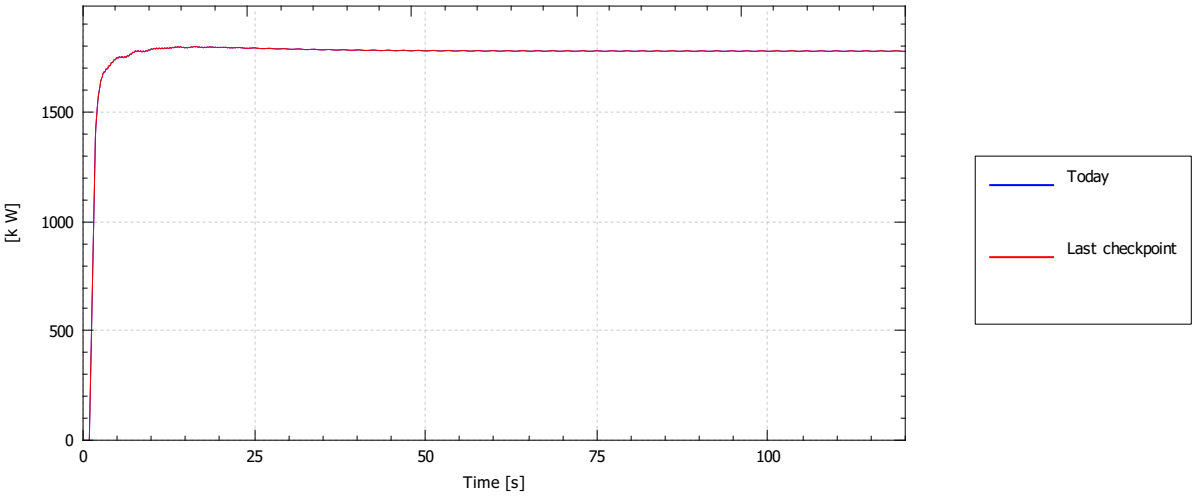



Yaw error
0
-0,005
-0,01
-0,015
[°]
0
25
50
75
100
Time [s]
Today
Last checkpoint

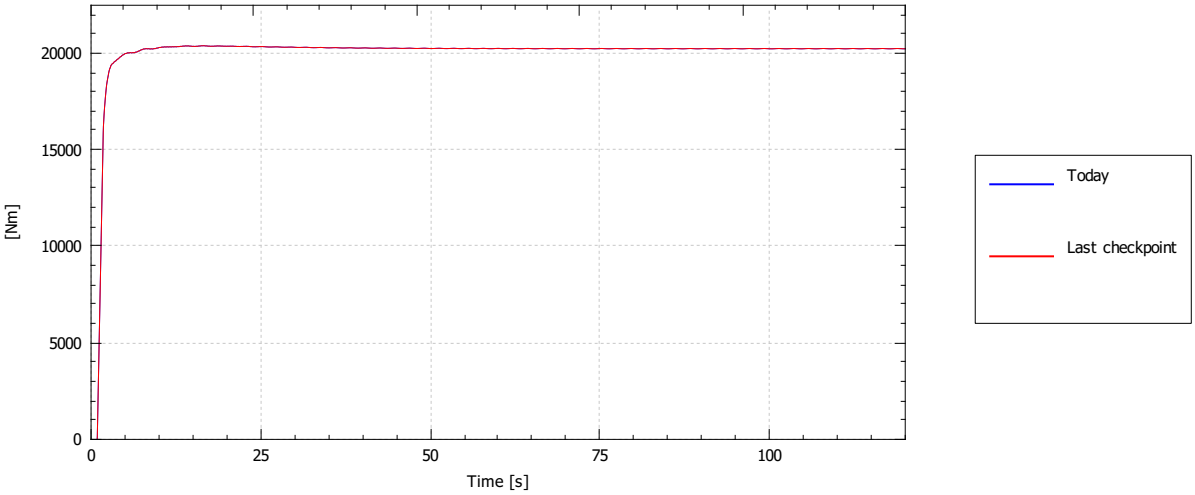

Torque about yaw axis
100000
0
-100000
[Nm]
0
25
50
75
100
Time [s]
Today
Last checkpoint

Generator

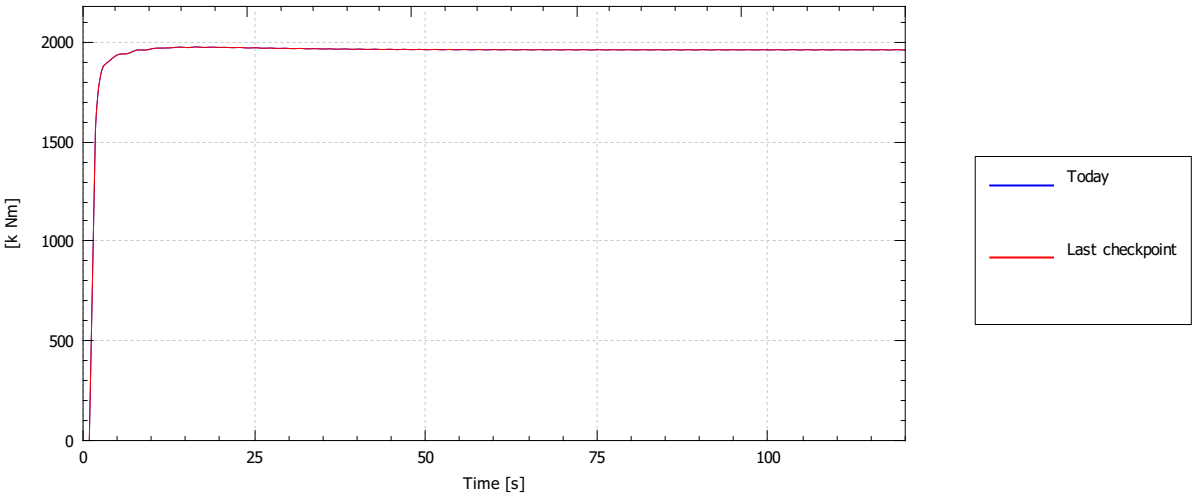
Power (electrical)



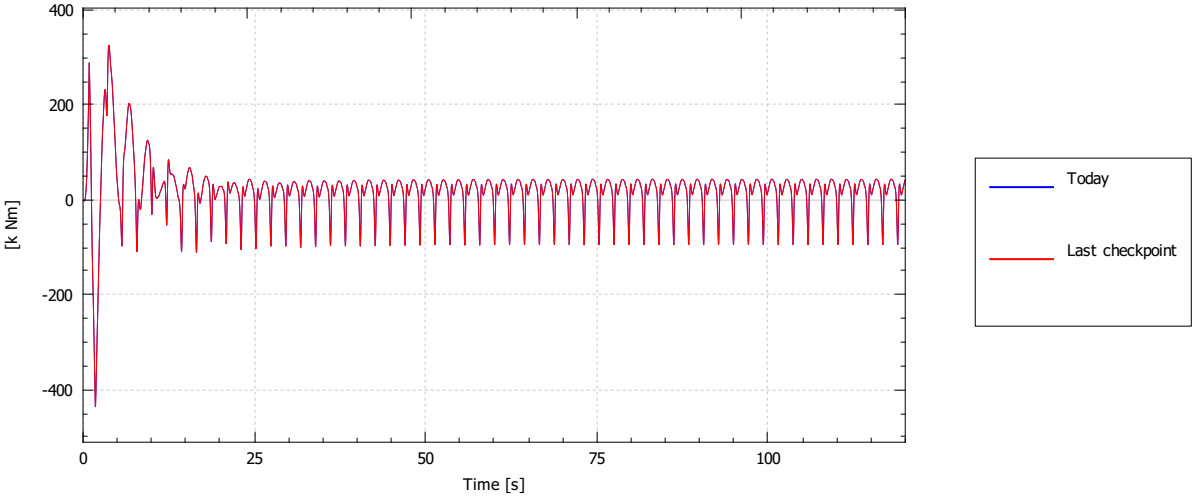
Torque



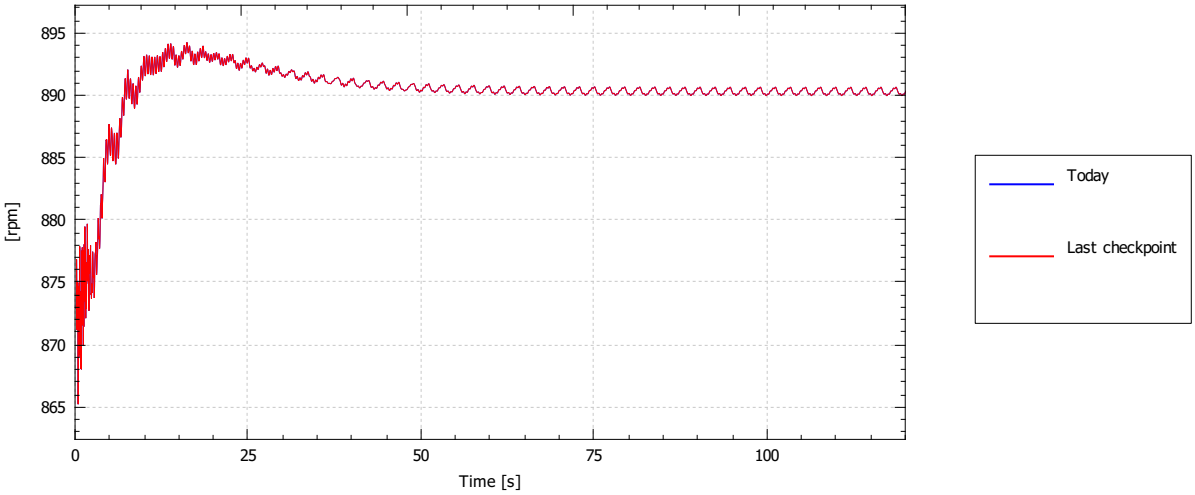
Torque on main shaft



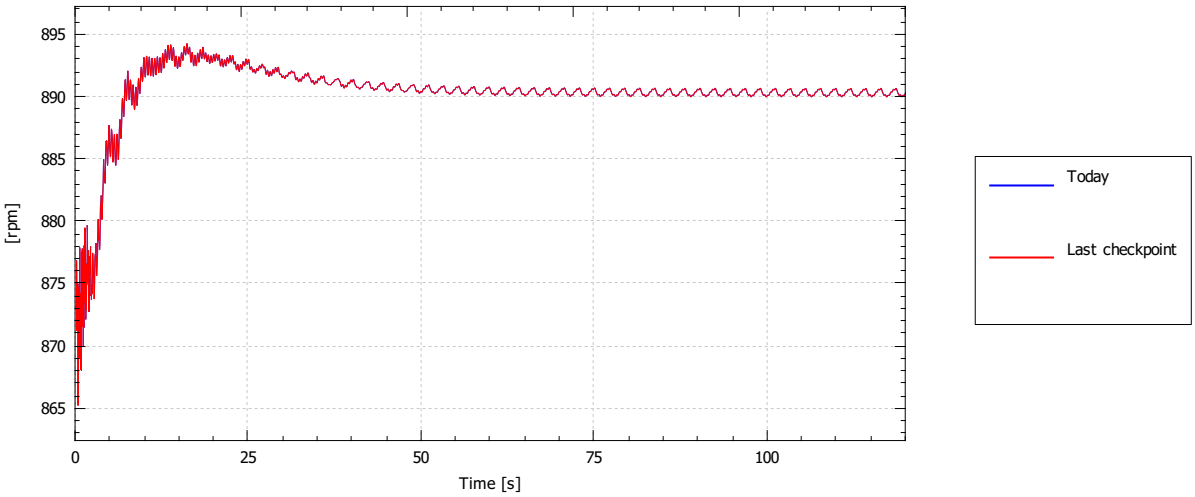
Torque diff. on main shaft

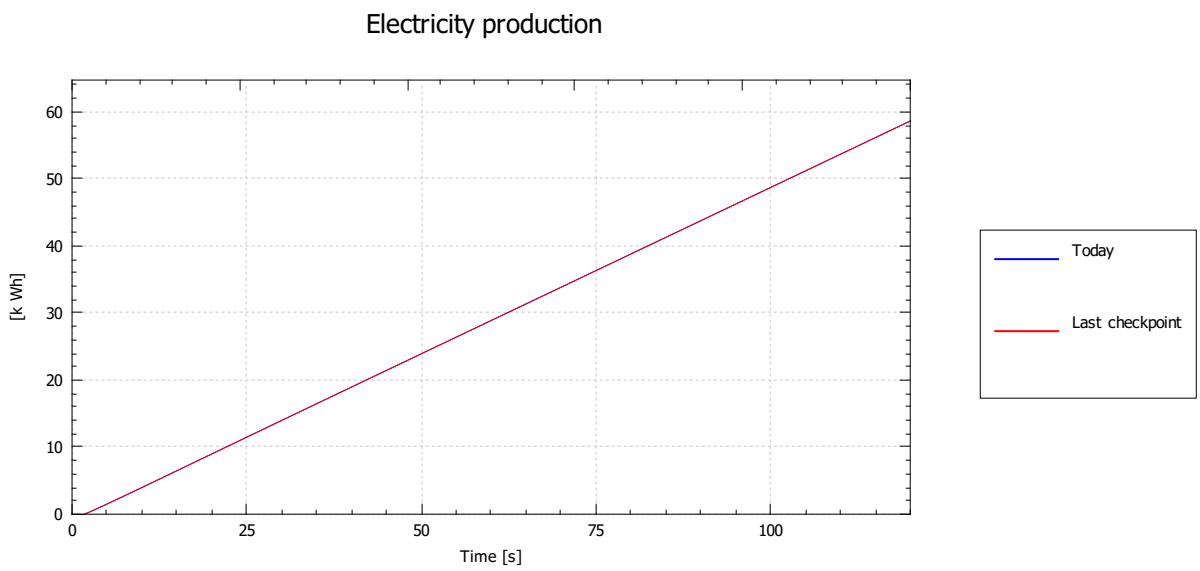


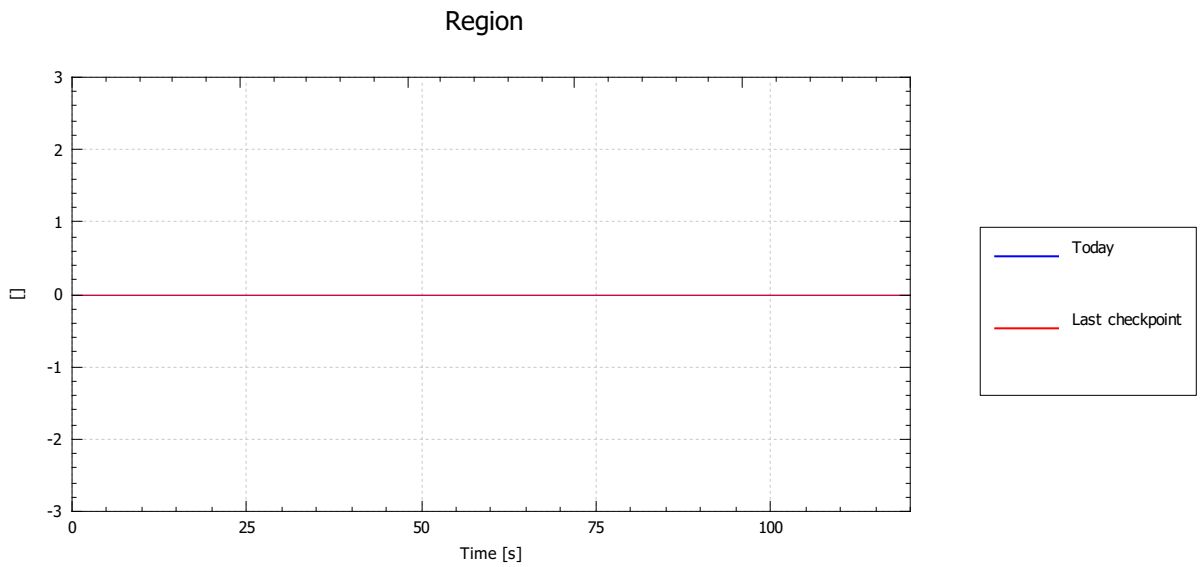
RPM



Filtered RPM

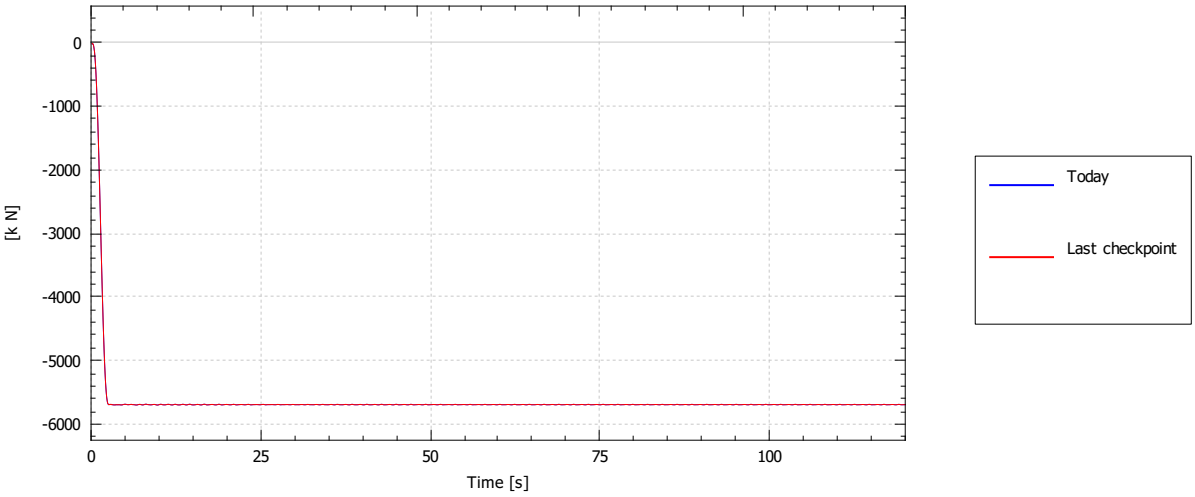




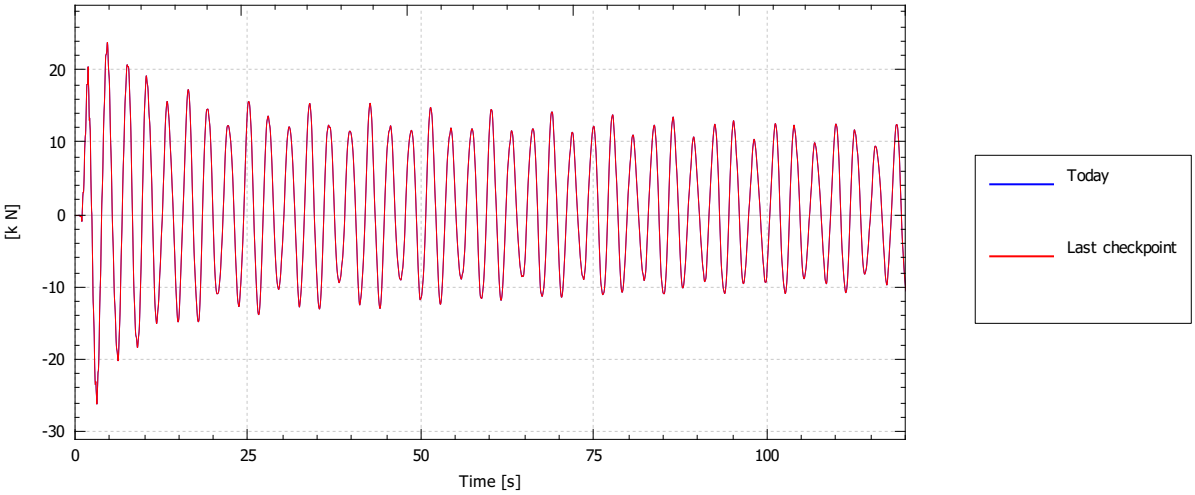


Beam element [Element 1 | Tubular tower]

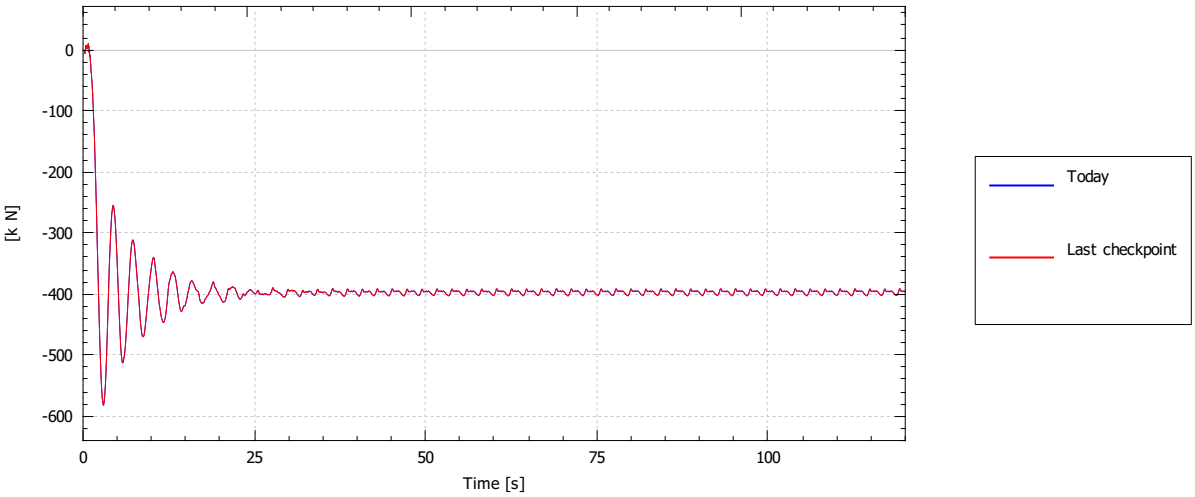
Axial force



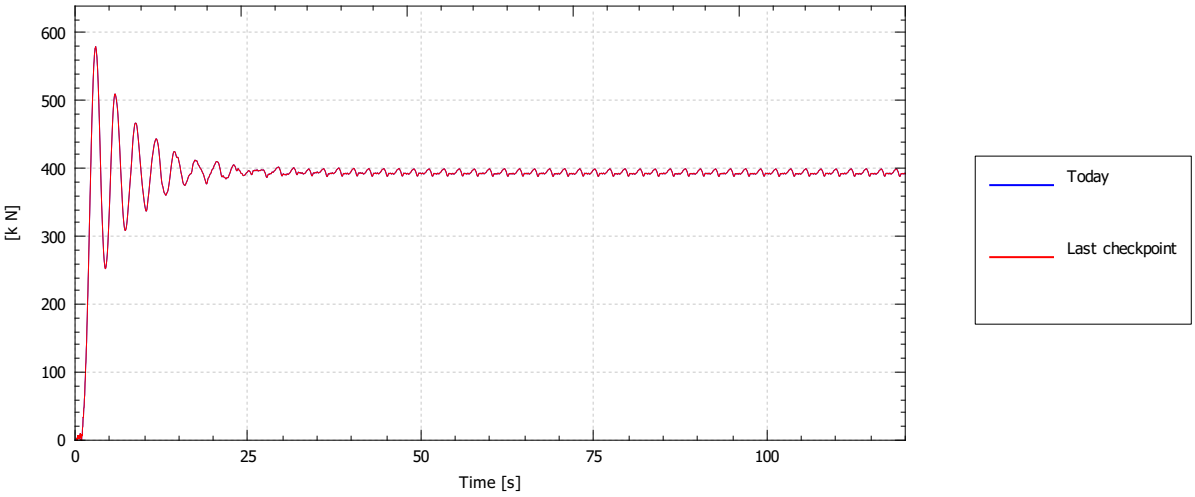
Shear force (1st prin. axis)



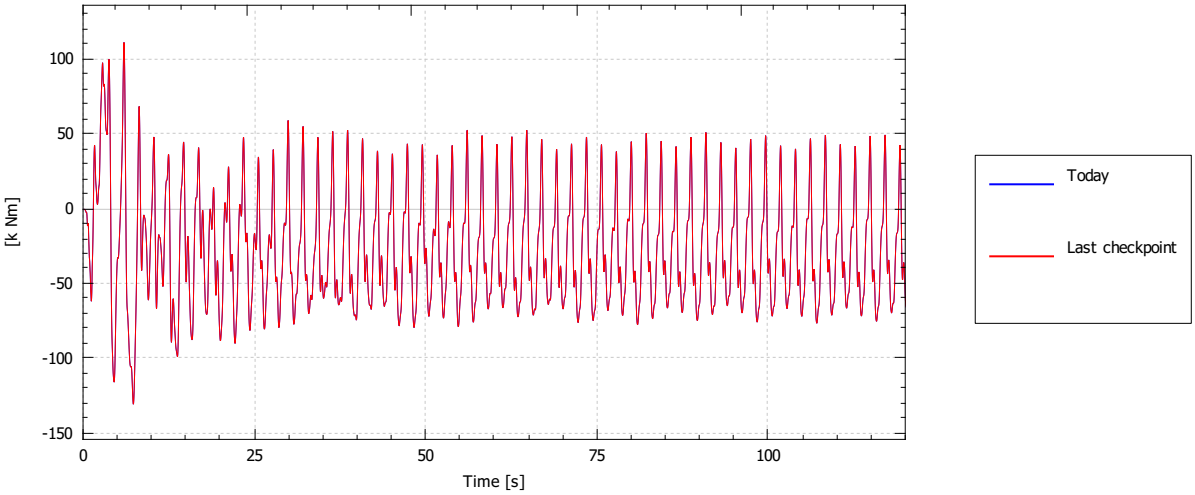
Shear force (2nd prin. axis)



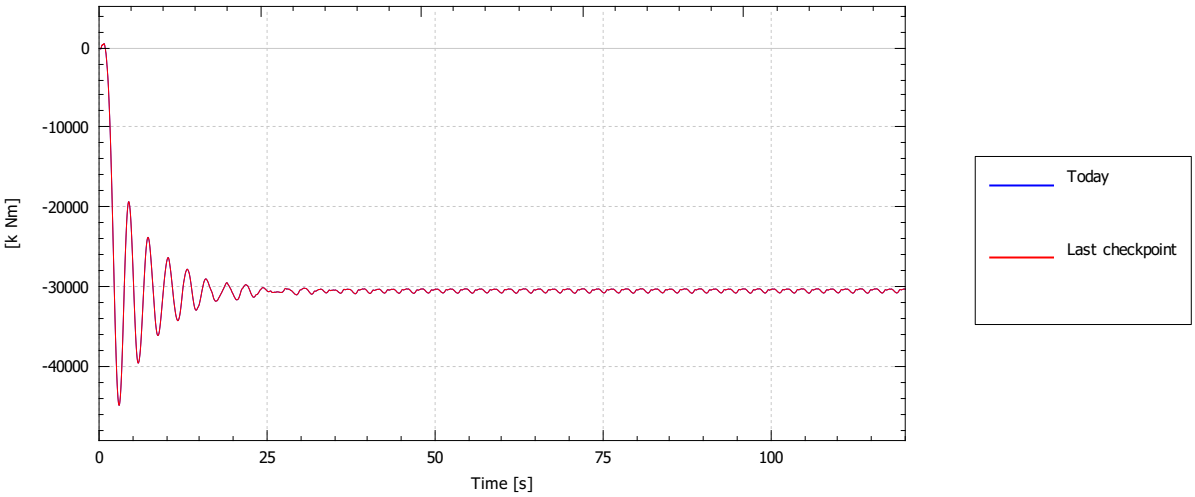
Shear force, mag.



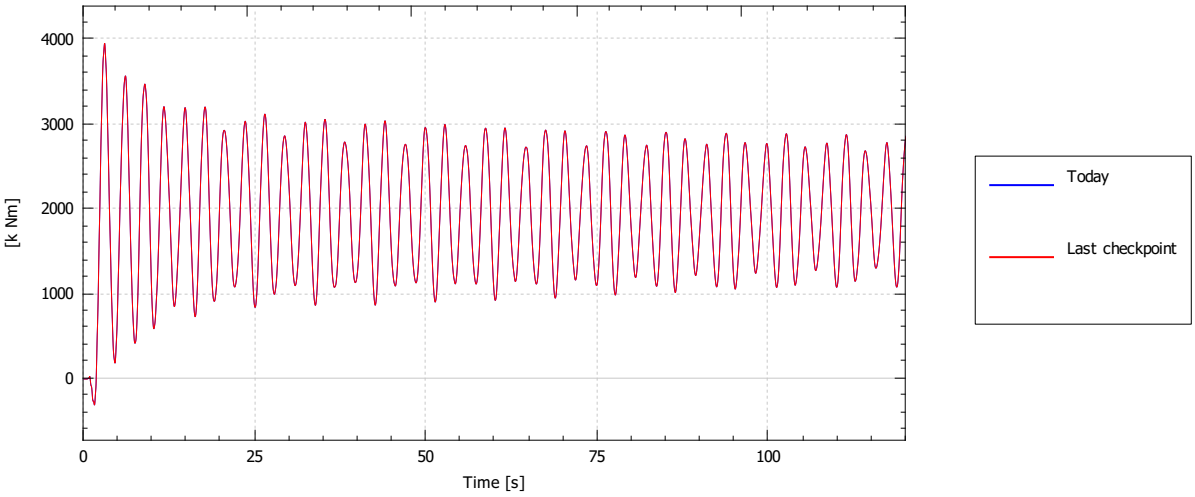
Torque



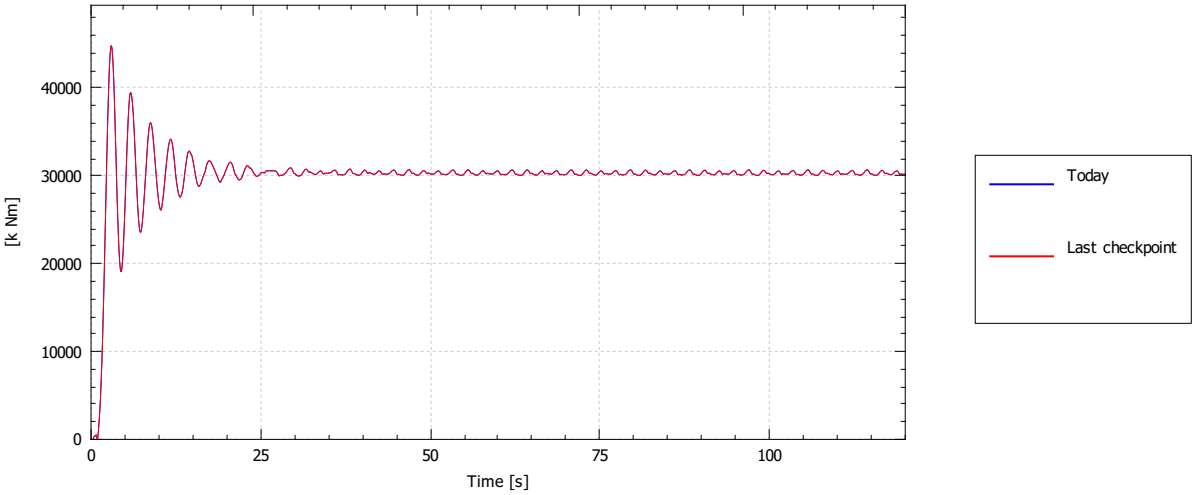
Moment (1st prin. axis), i



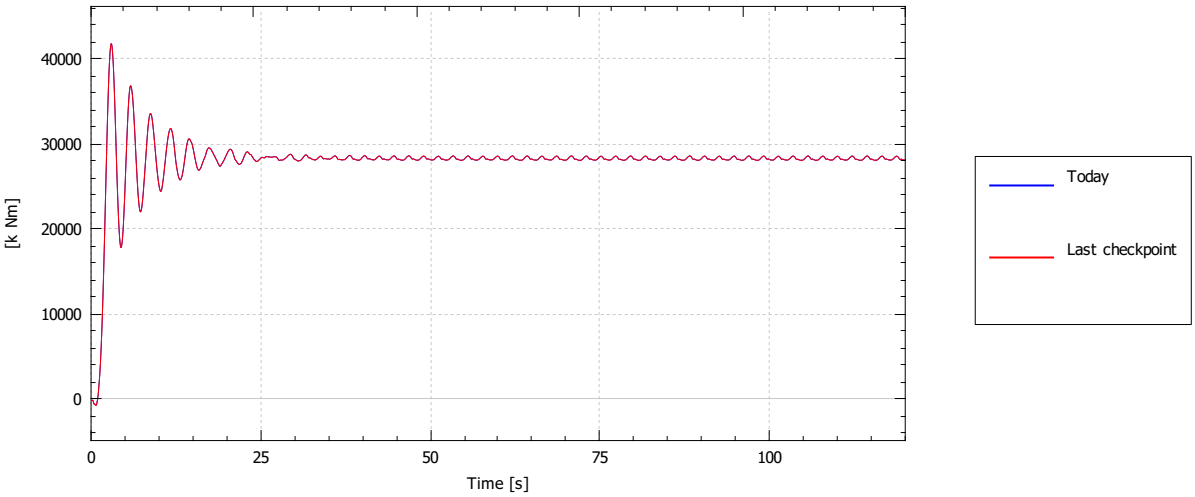
Moment (2nd prin. axis), i



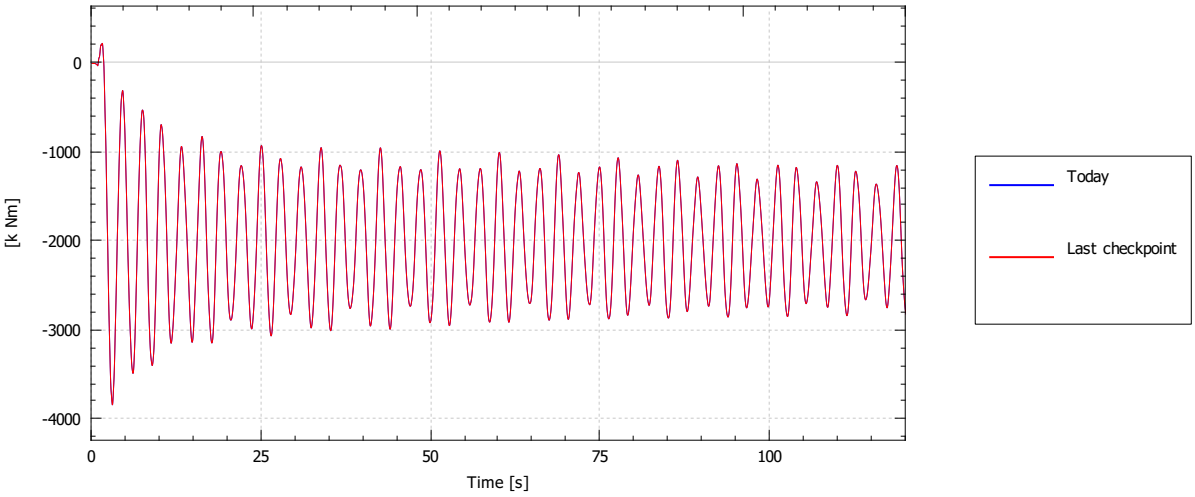
Moment, mag., i



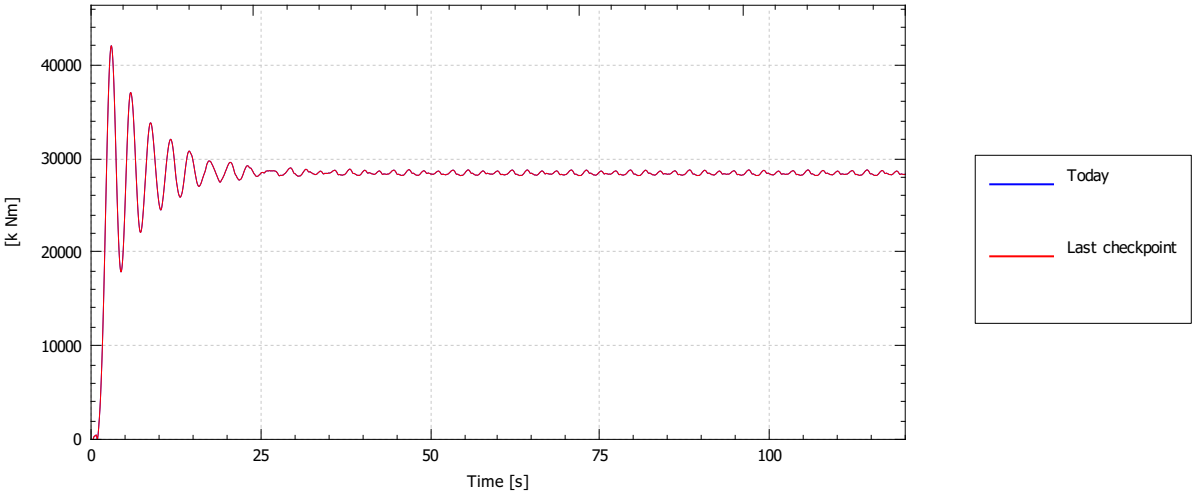
Moment (1st prin. axis), j



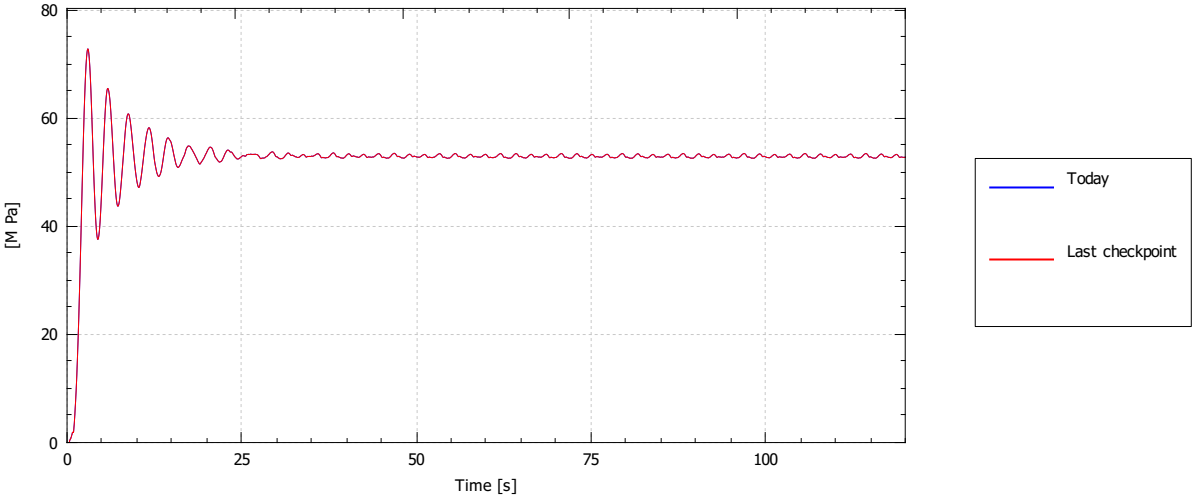
Moment (2nd prin. axis), j

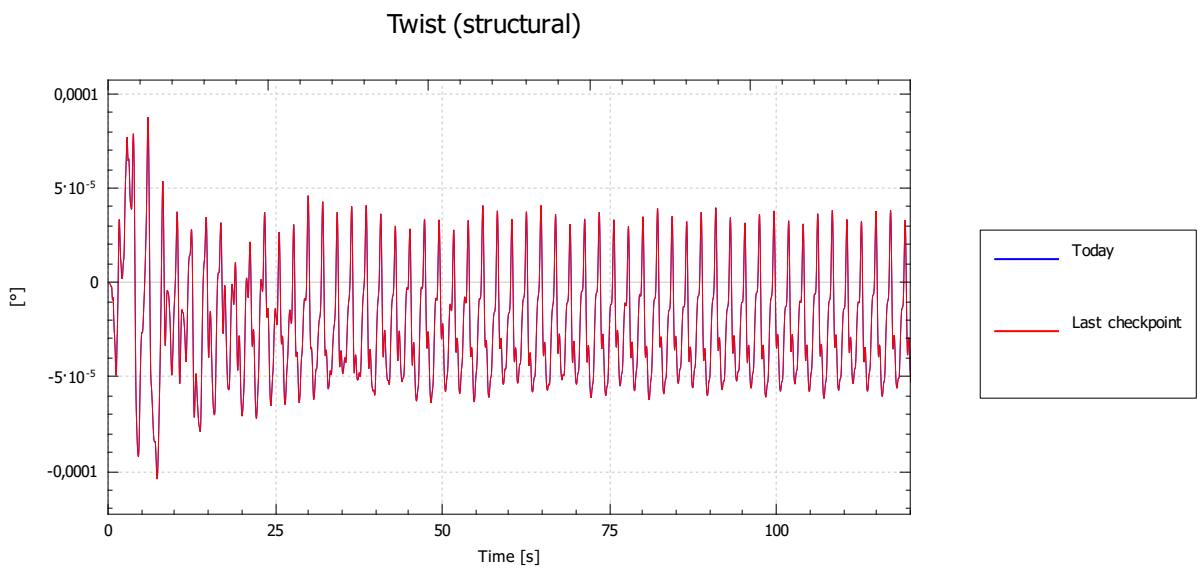


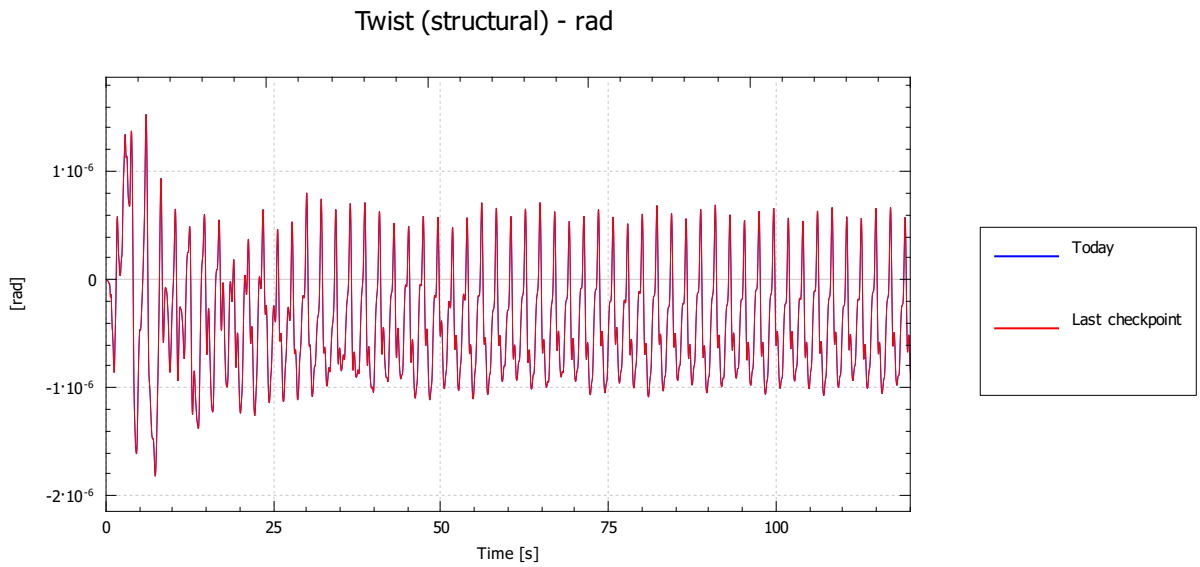
Moment, mag., j

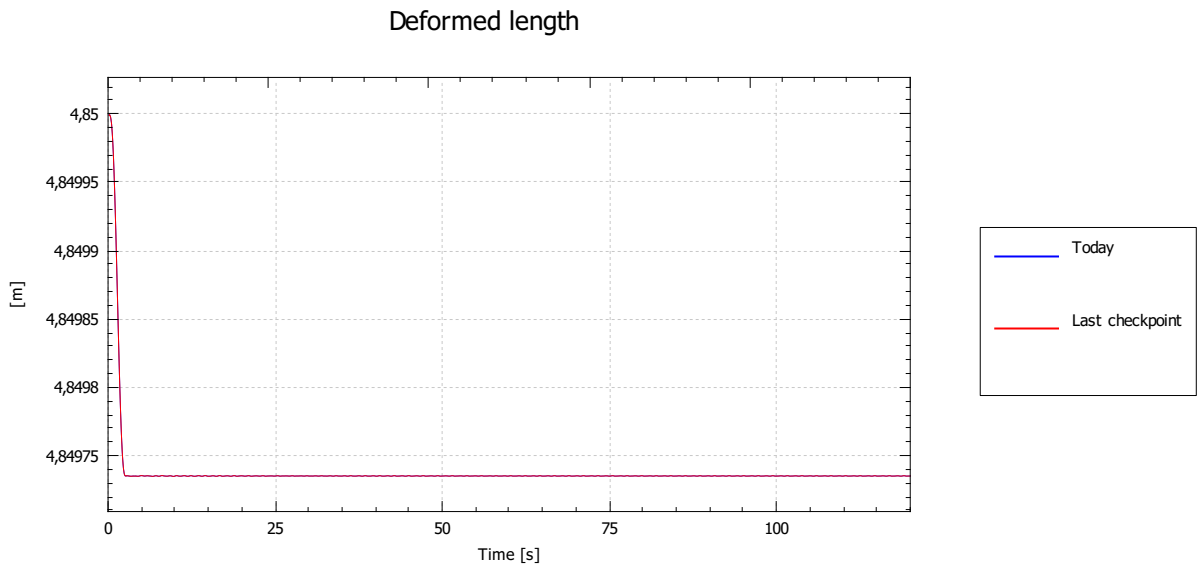


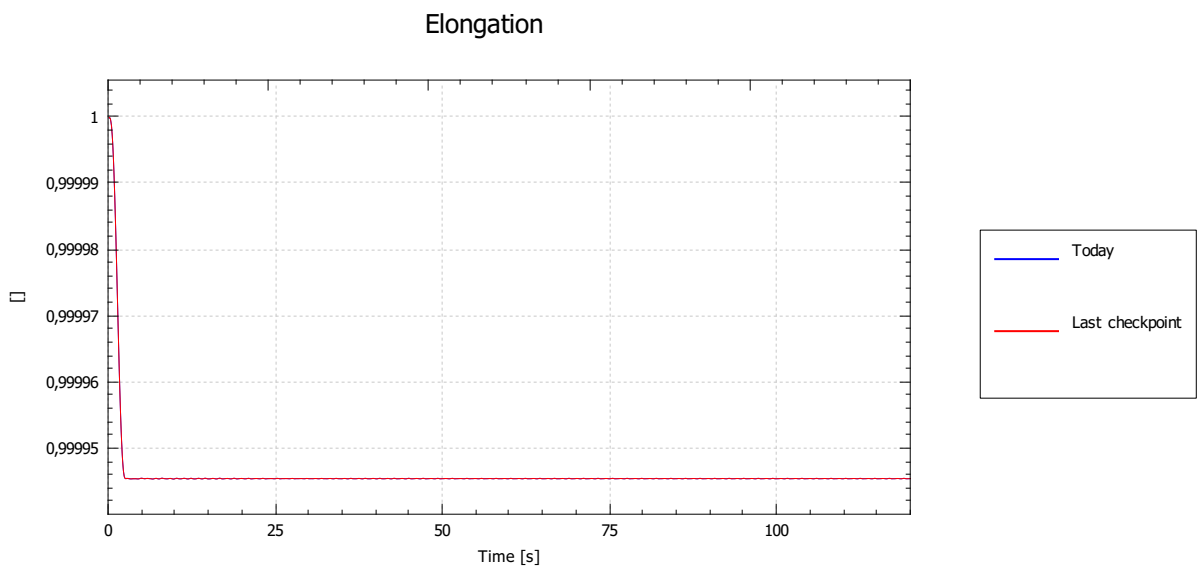
Max normal stress

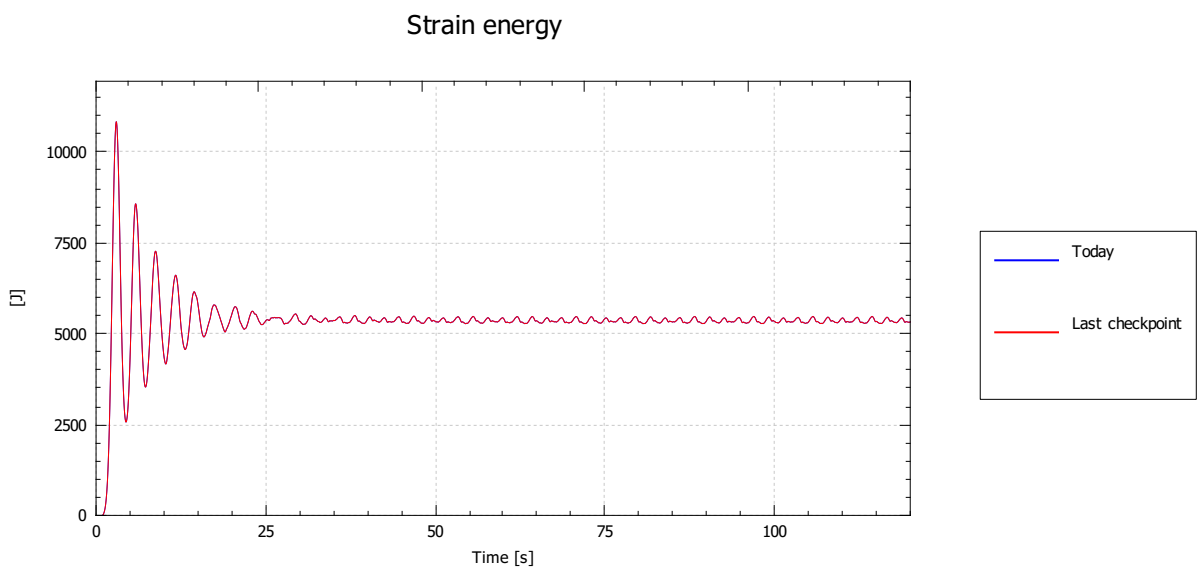


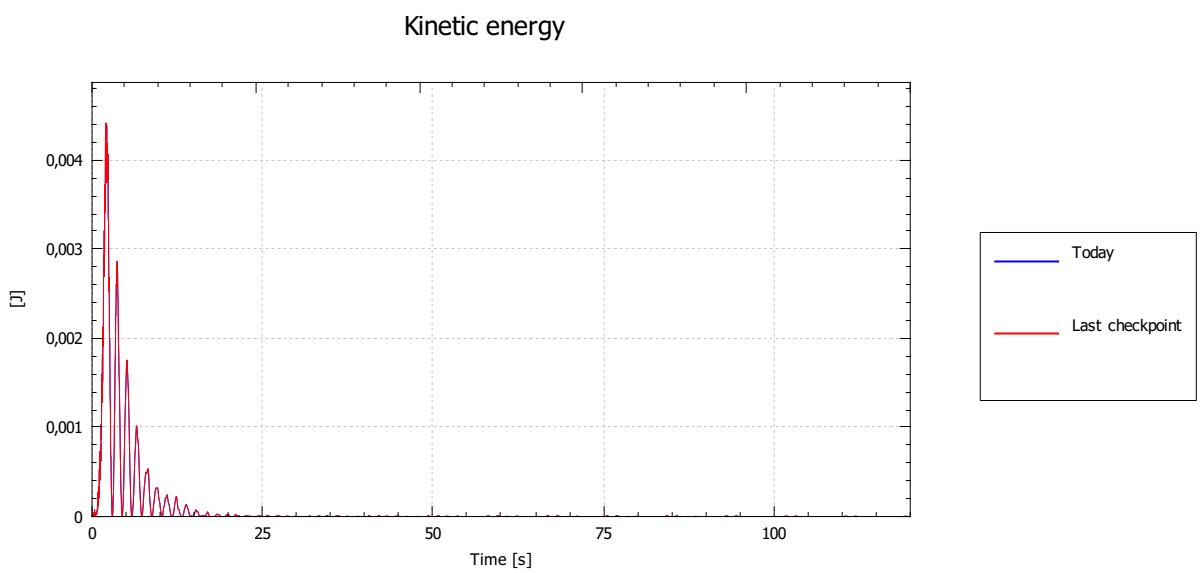

Twist (structural)
0,0001
5·10-5
0
-5·10-5
-0,0001
[°]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Twist (structural) - rad
1·10-6
0
-1·10-6
-2·10-6
[rad]
0
25
50
75
100
Time [s]
Today
Last checkpoint

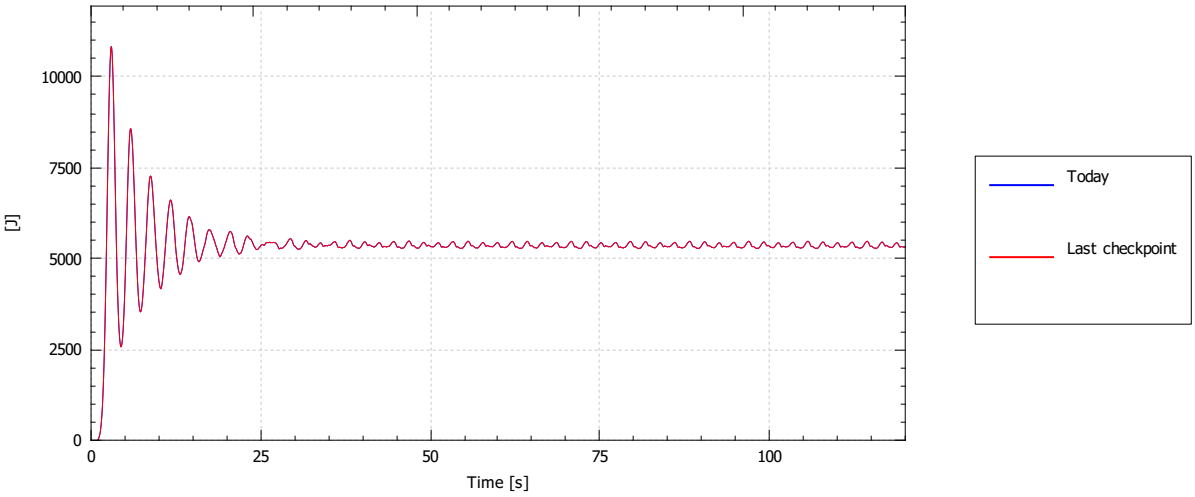

Deformed length
4,85
4,84995
4,8499
4,84985
4,8498
4,84975
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Elongation
1
0,99999
0,99998
0,99997
0,99996
0,99995
[]
0
25
50
75
100
Time [s]
Today
Last checkpoint

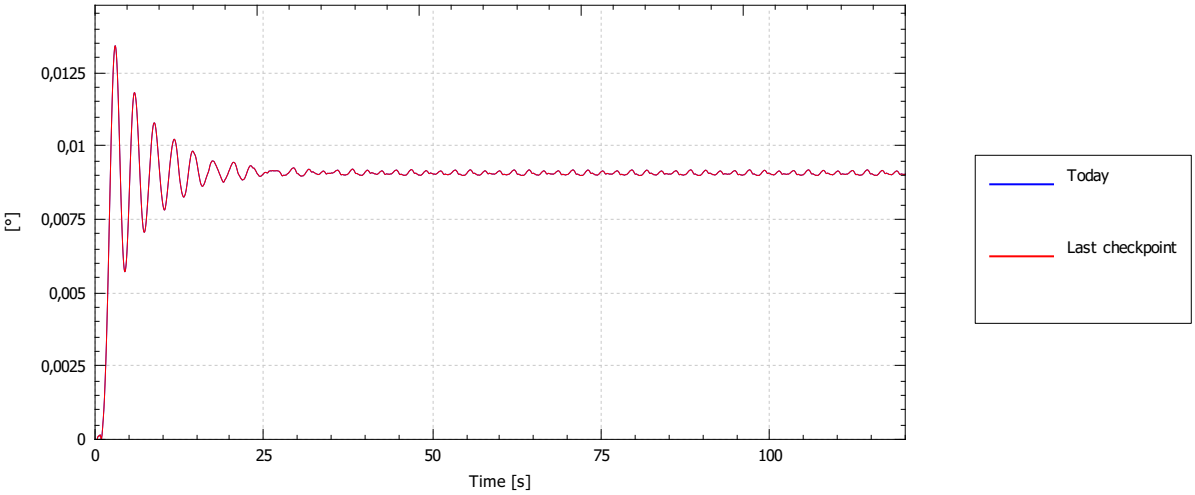

Strain energy
10000
7500
5000
2500
0
[J]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Kinetic energy
0,004
0,003
0,002
0,001
0
[J]
0
25
50
75
100
Time [s]
Today
Last checkpoint

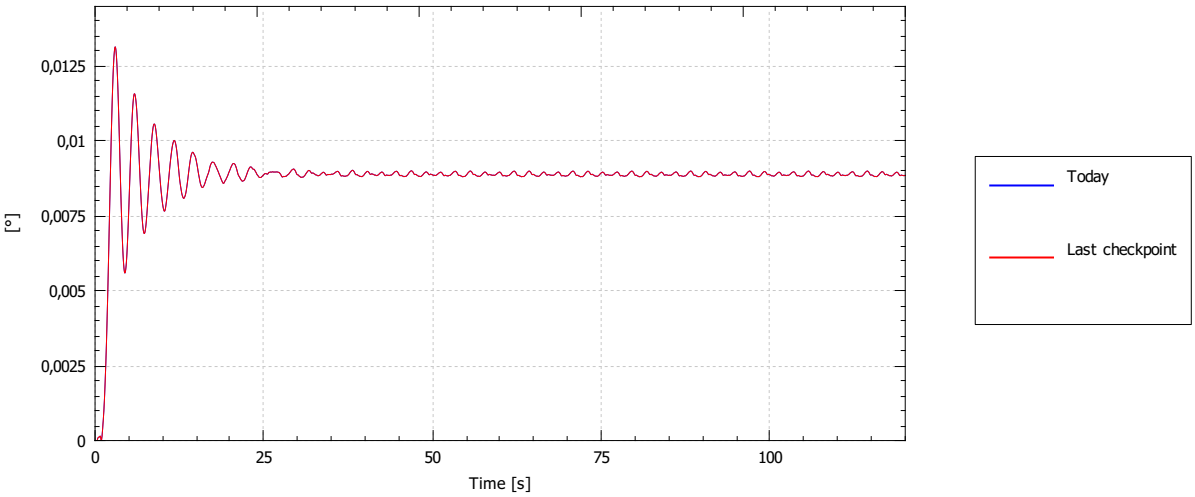
Mechanical energy



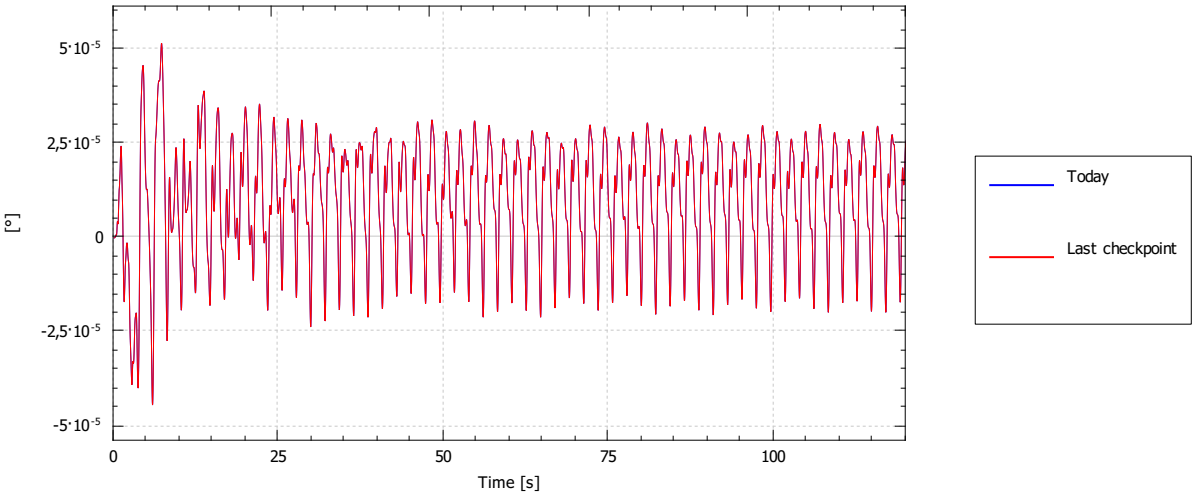
Deformational rotation (i)



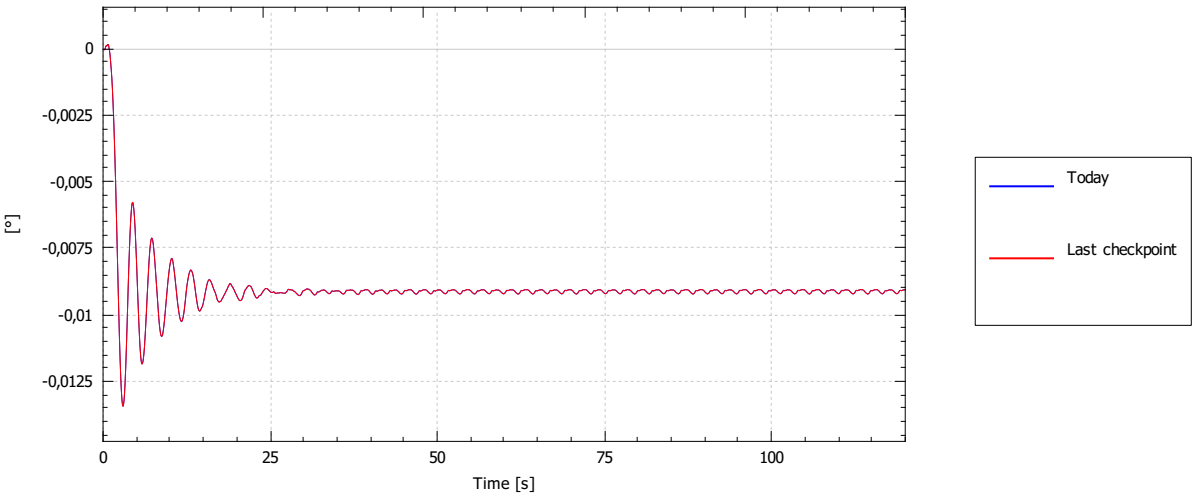
Deformational rotation (j)



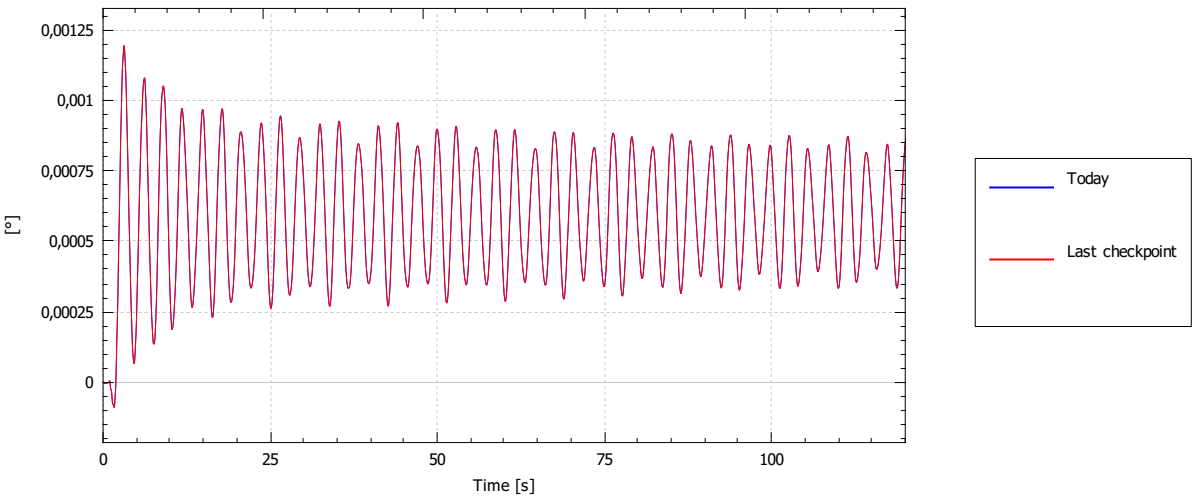
Deformational rotation (axial)

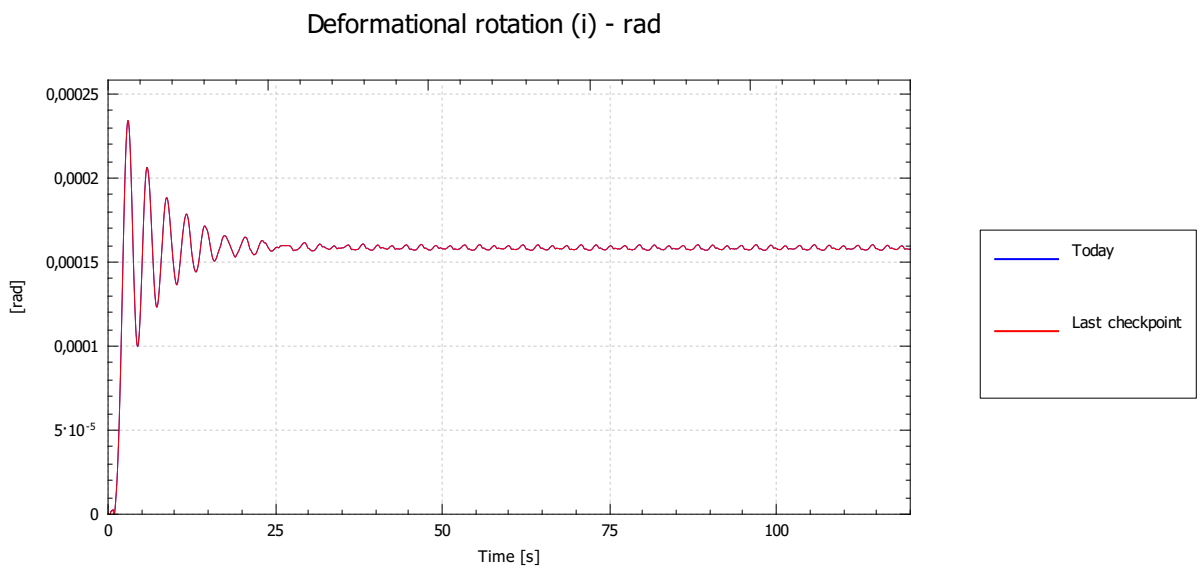


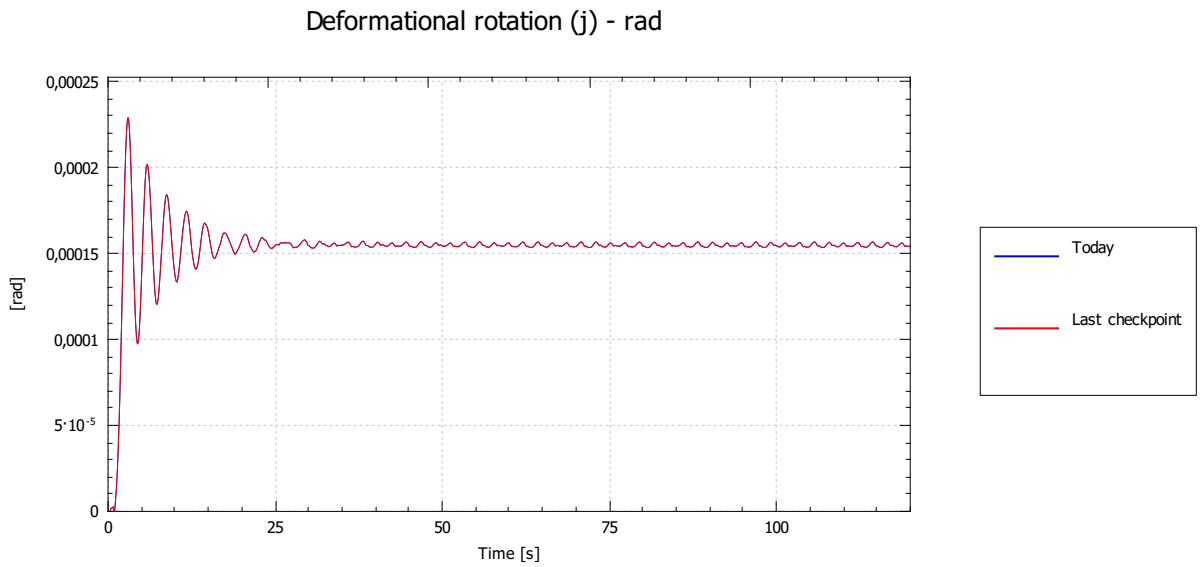
Deformational rotation (1st prin.)

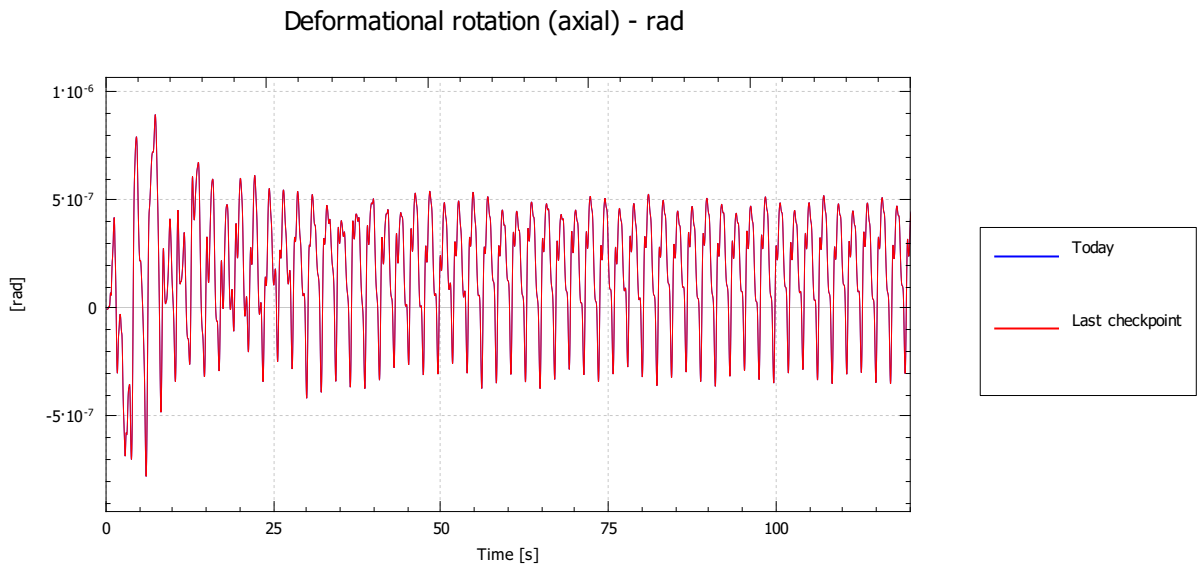


Deformational rotation (2nd prin.)

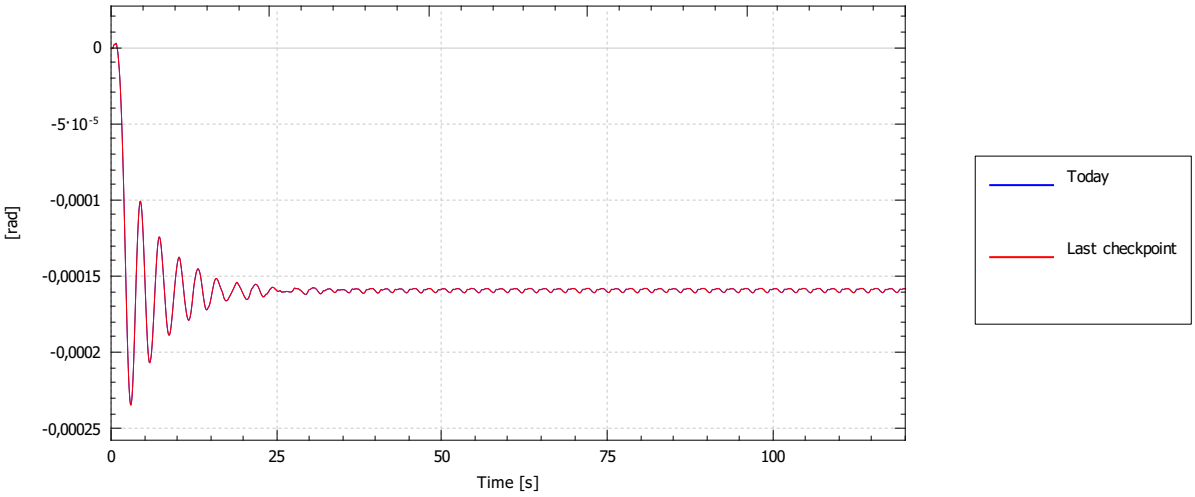



Deformational rotation (i) - rad
0,00025
0,0002
0,00015
0,0001
5·10-5
0
[rad]
0
25
50
75
100
Time [s]
Today
Last checkpoint

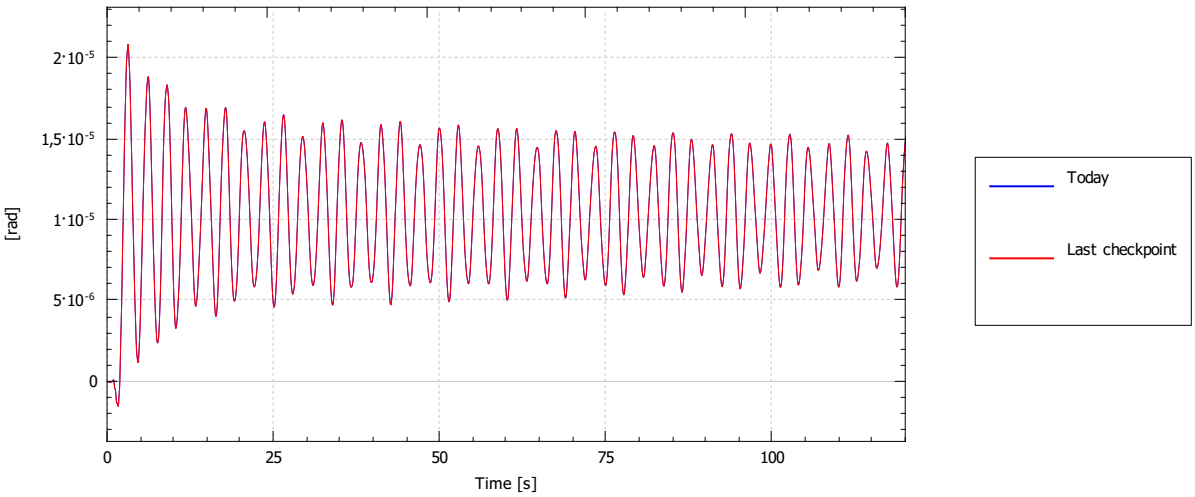

Deformational rotation (j) - rad
0,00025
0,0002
0,00015
0,0001
5·10-5
0
[rad]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Deformational rotation (axial) - rad
1·10-6
5·10-7
0
-5·10-7
[rad]
0
25
50
75
100
Time [s]
Today
Last checkpoint

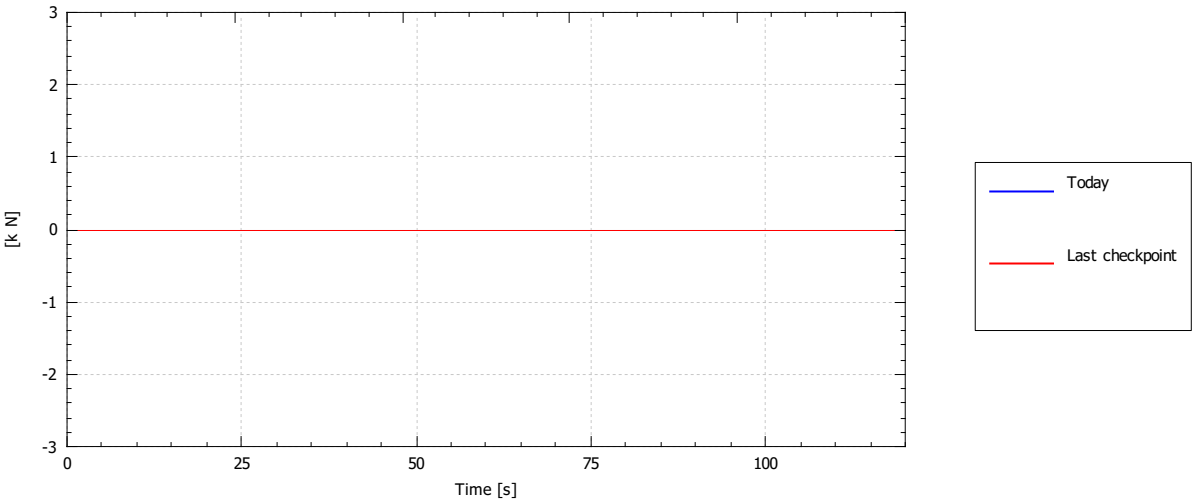
Deformational rotation (1st prin.) - rad



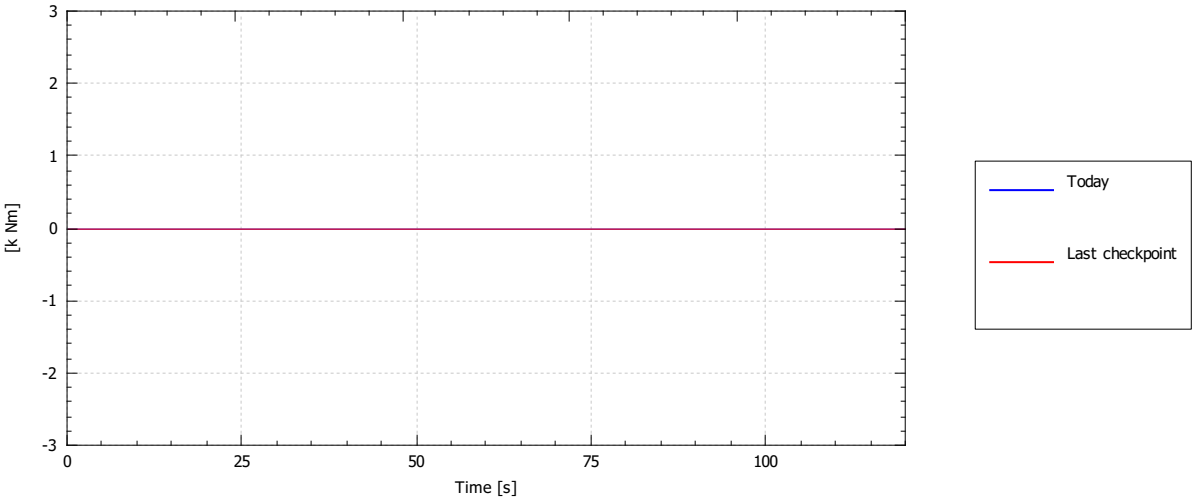
Deformational rotation (2nd prin.) - rad



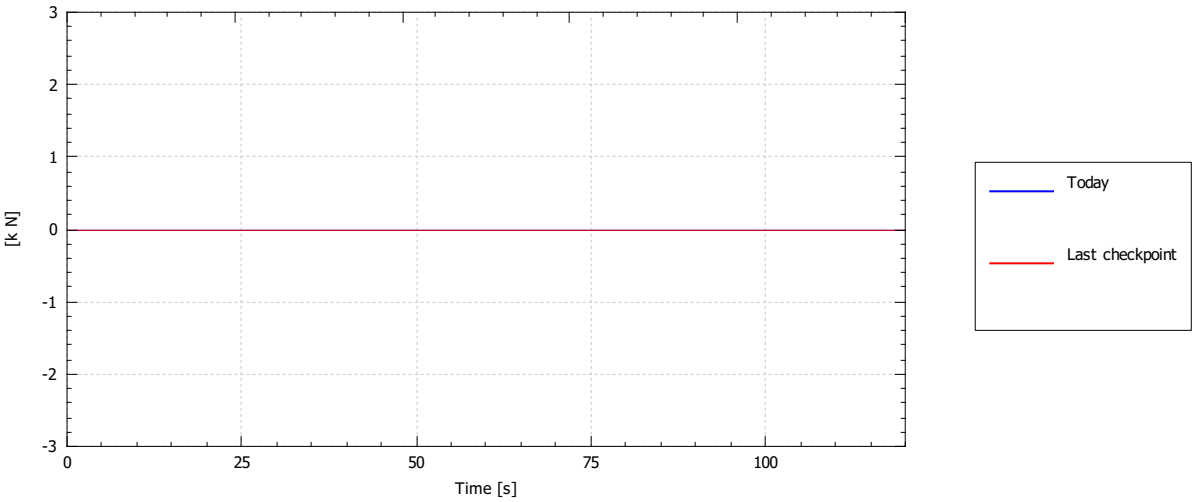
Damping force, i



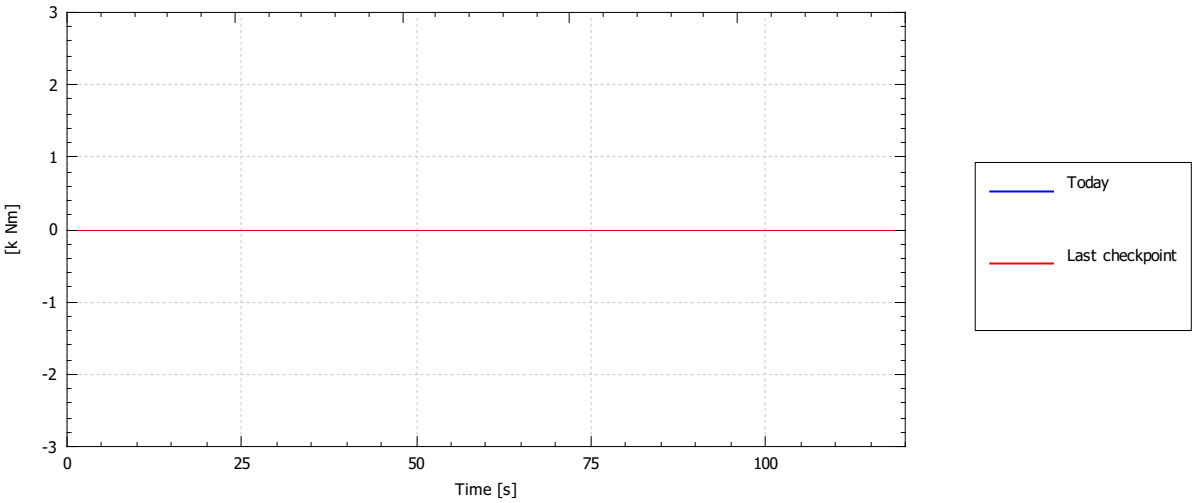
Damping moment, i



Damping force, sum

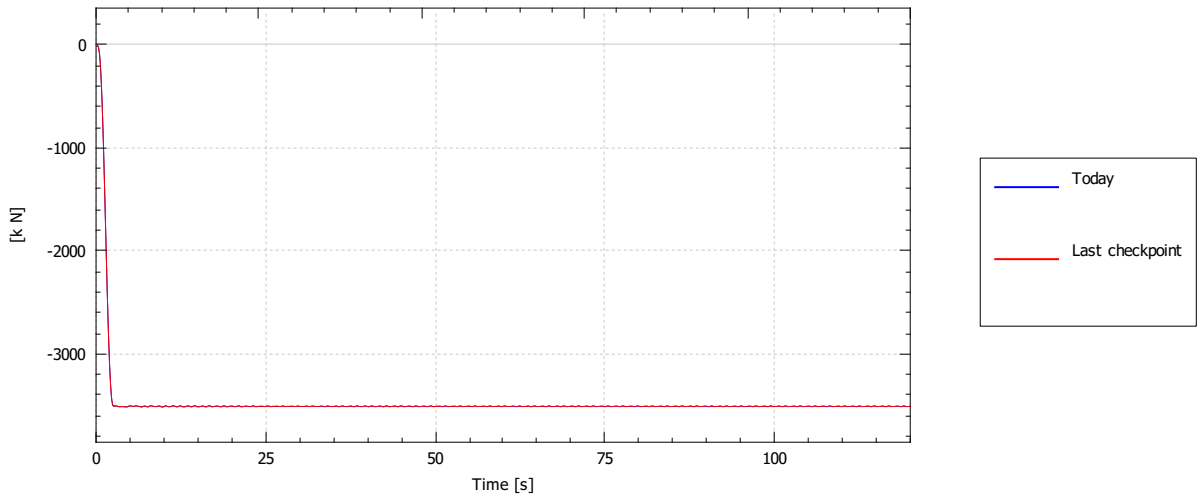


Damping moment, sum

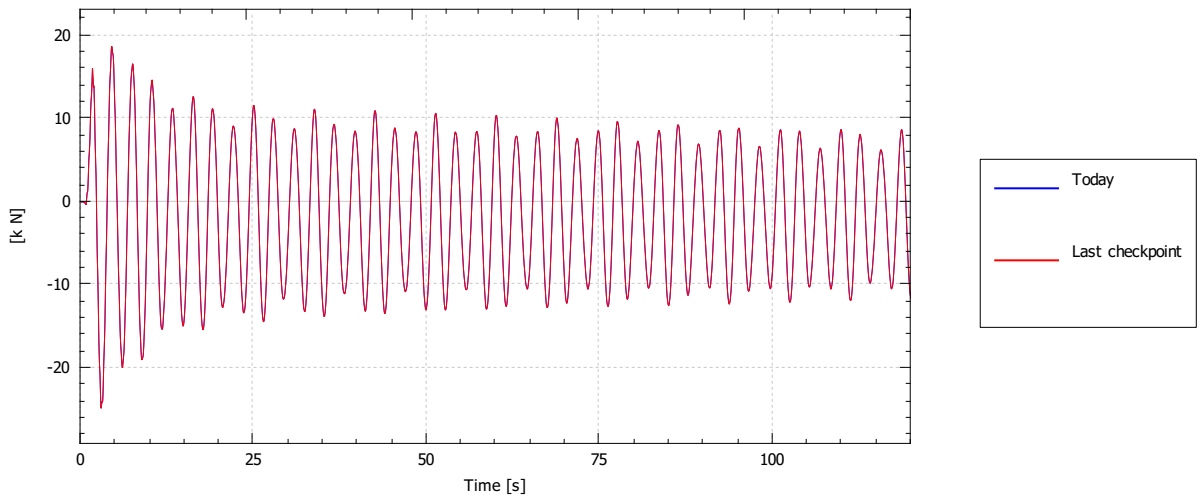


Beam element [Element 16 | Tubular tower]

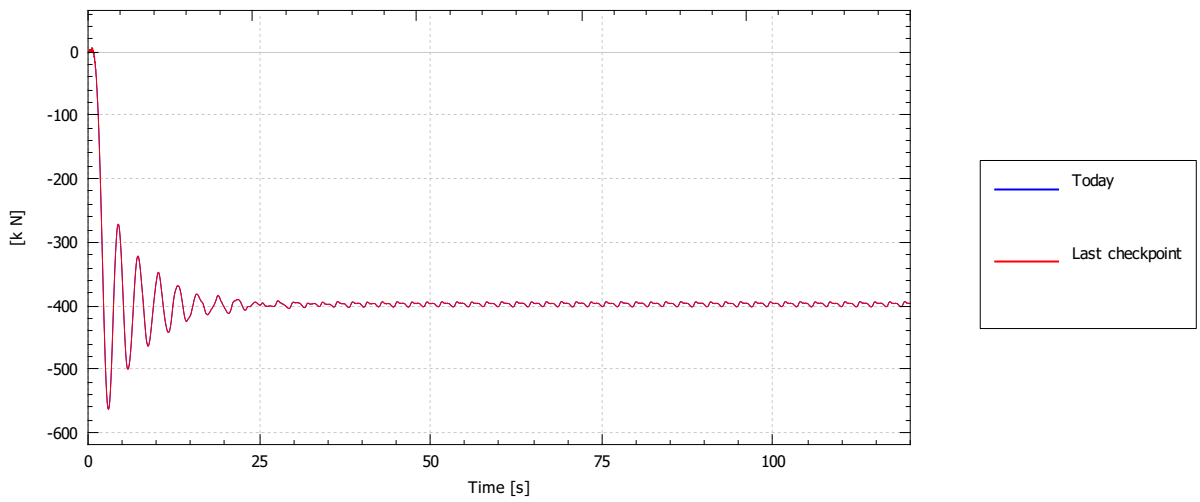
Axial force



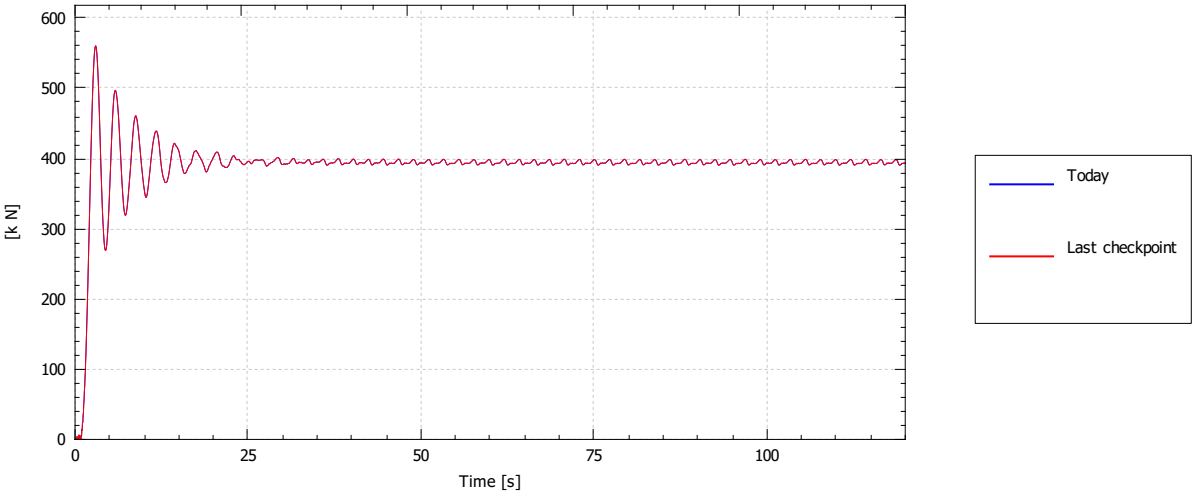
Shear force (1st prin. axis)



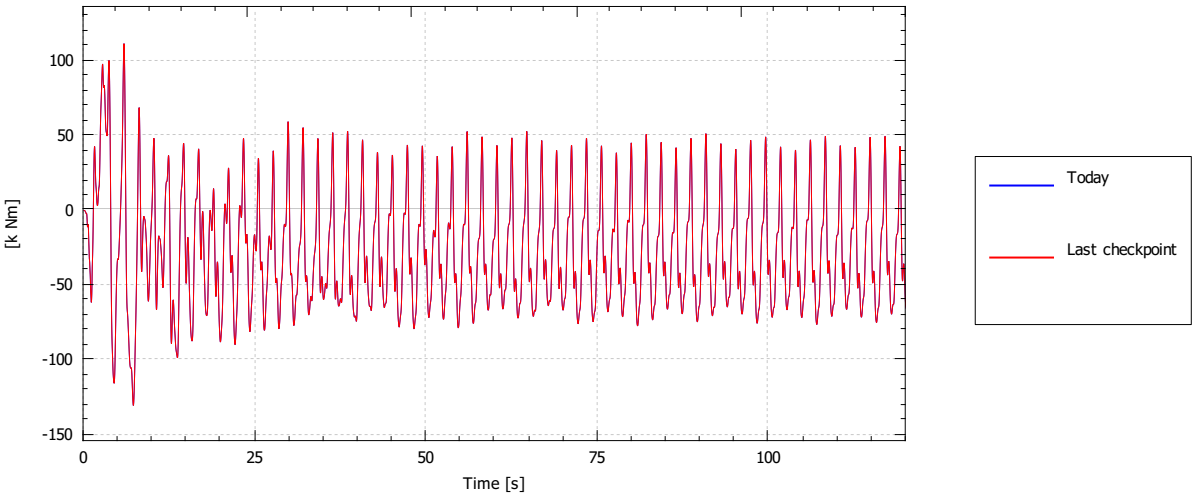
Shear force (2nd prin. axis)



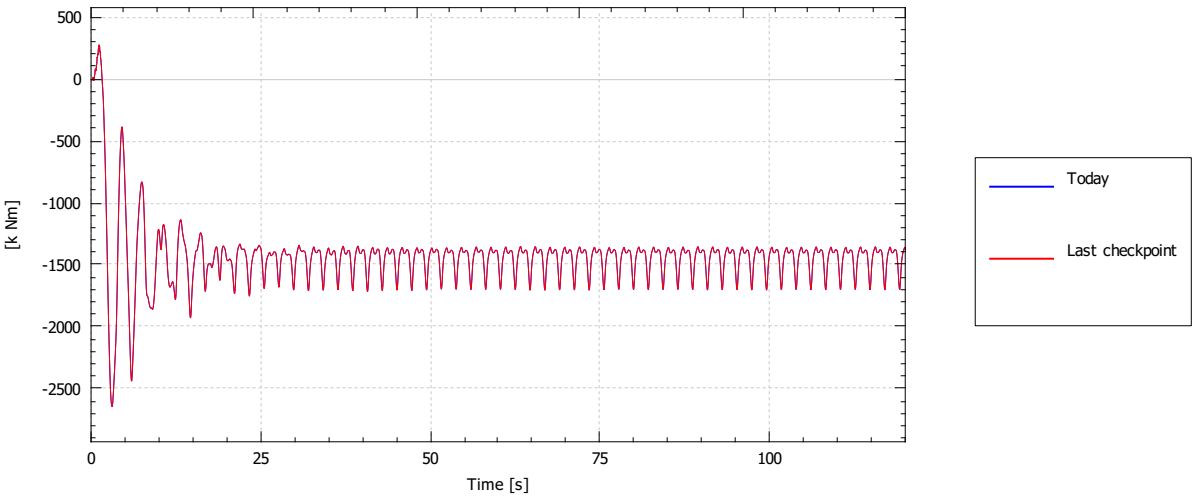
Shear force, mag.



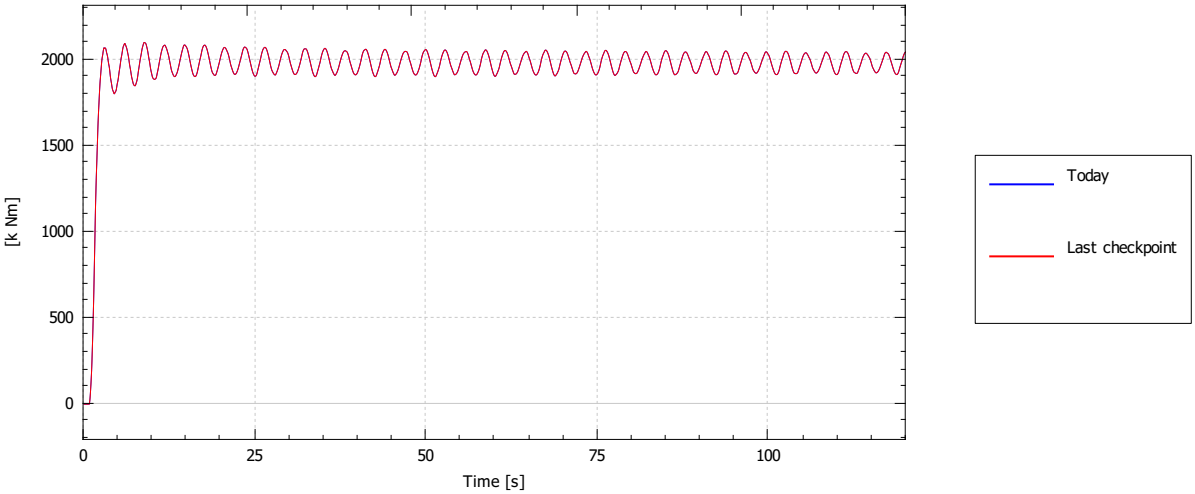
Torque



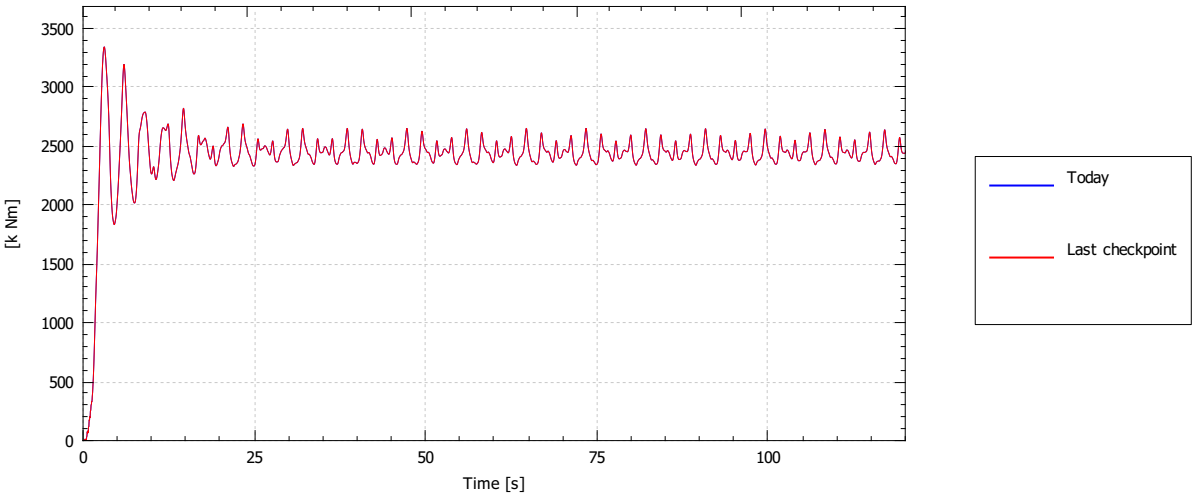
Moment (1st prin. axis), i



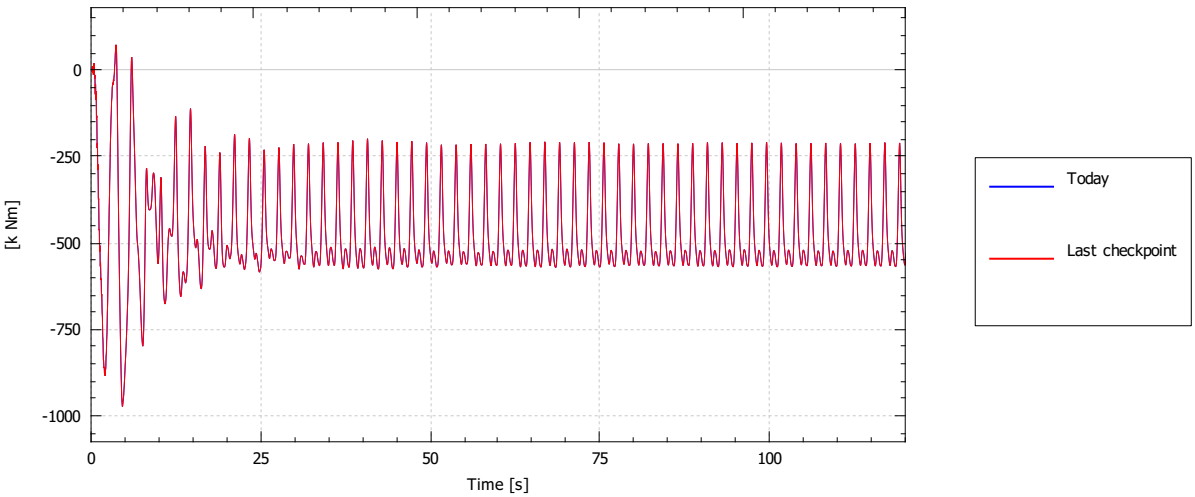
Moment (2nd prin. axis), i



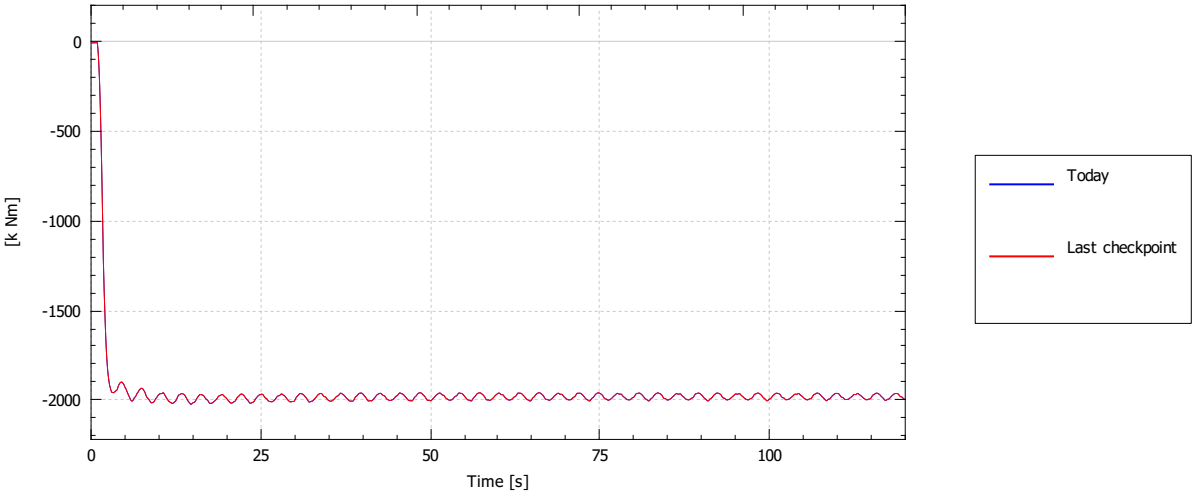
Moment, mag., i



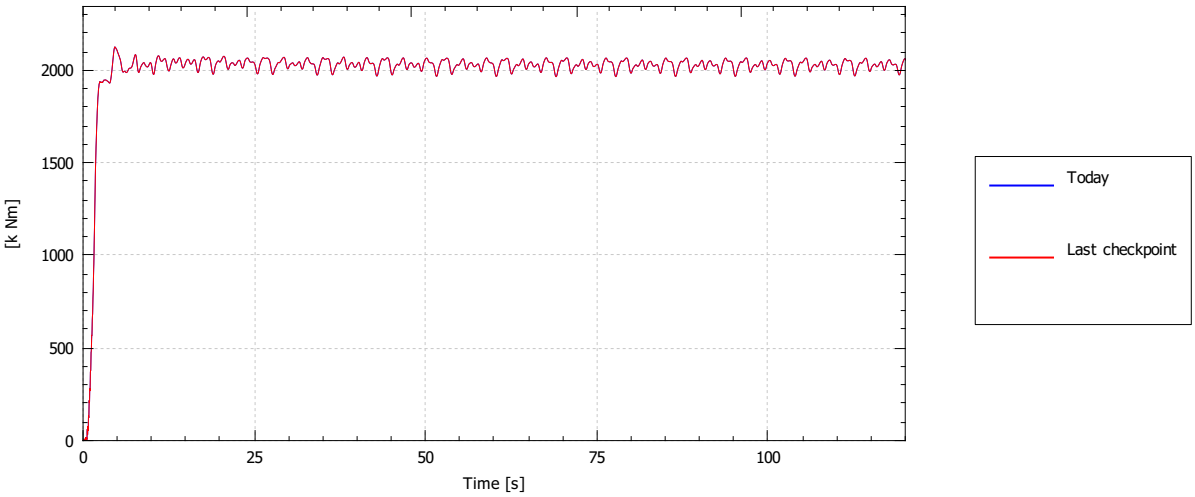
Moment (1st prin. axis), j



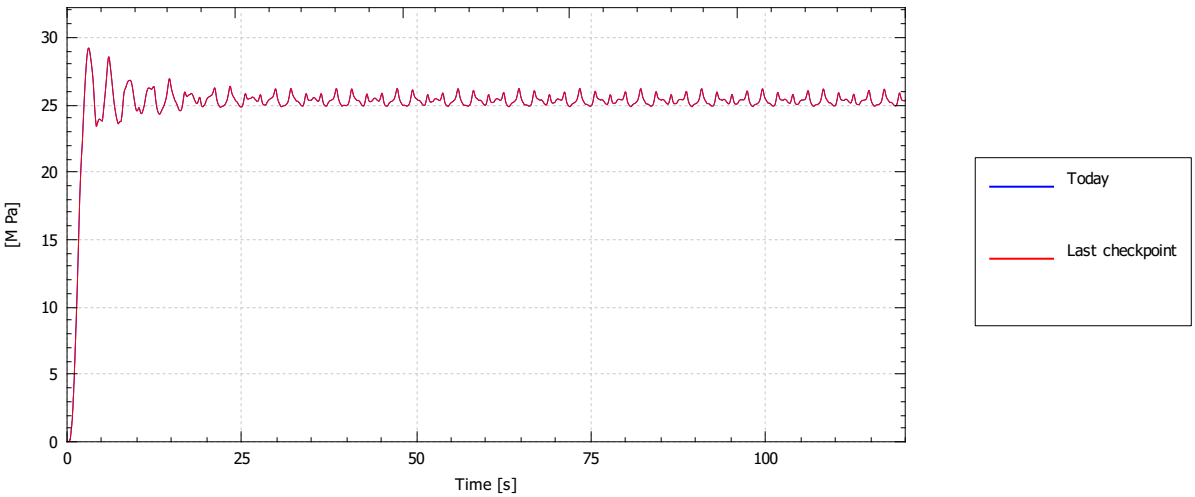
Moment (2nd prin. axis), j



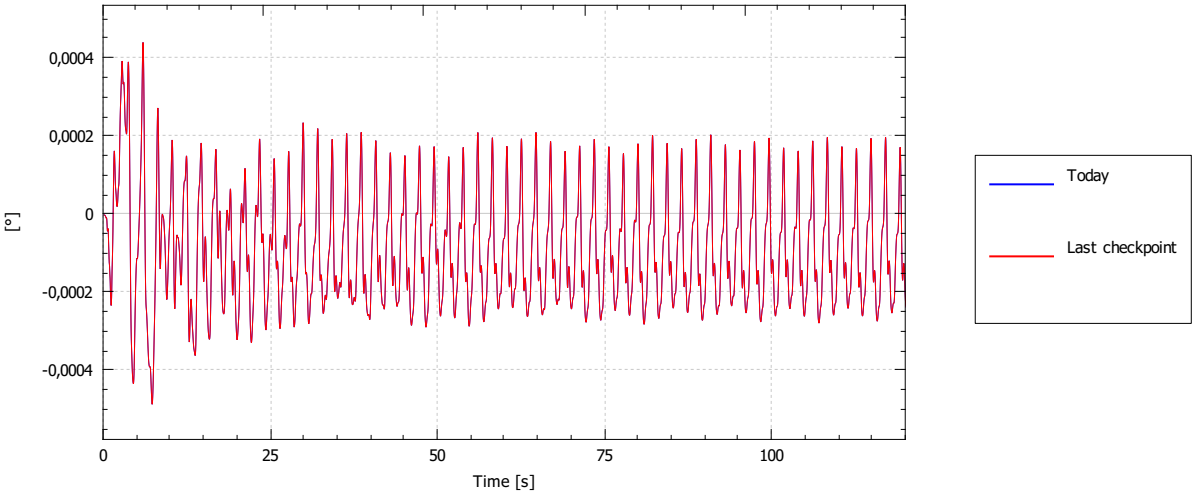
Moment, mag., j



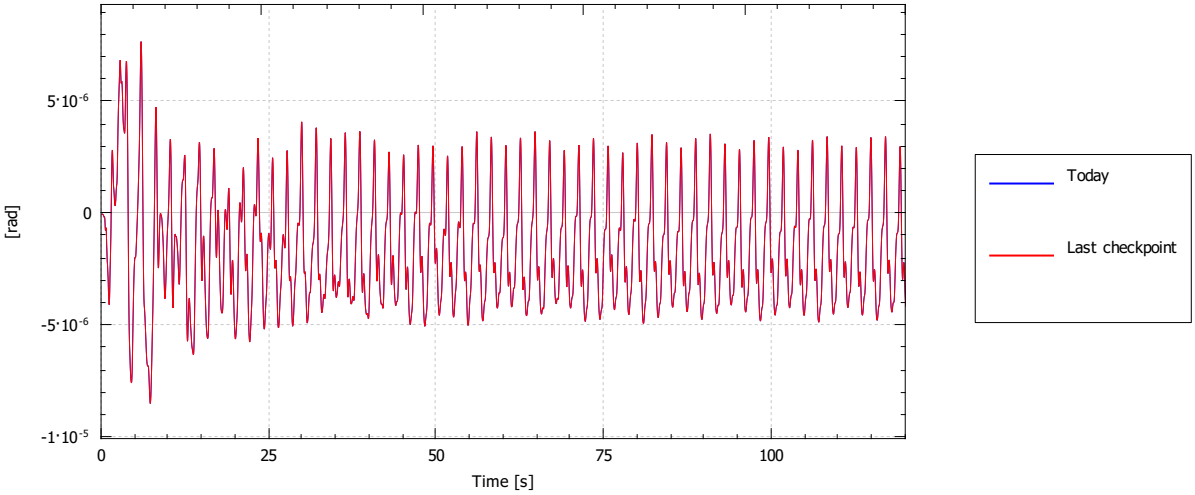
Max normal stress



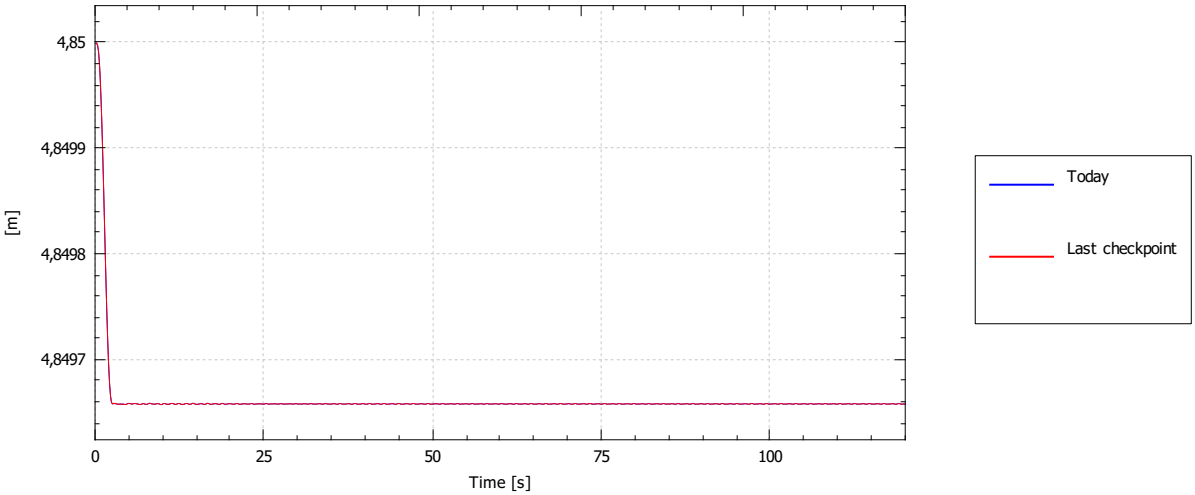
Twist (structural)



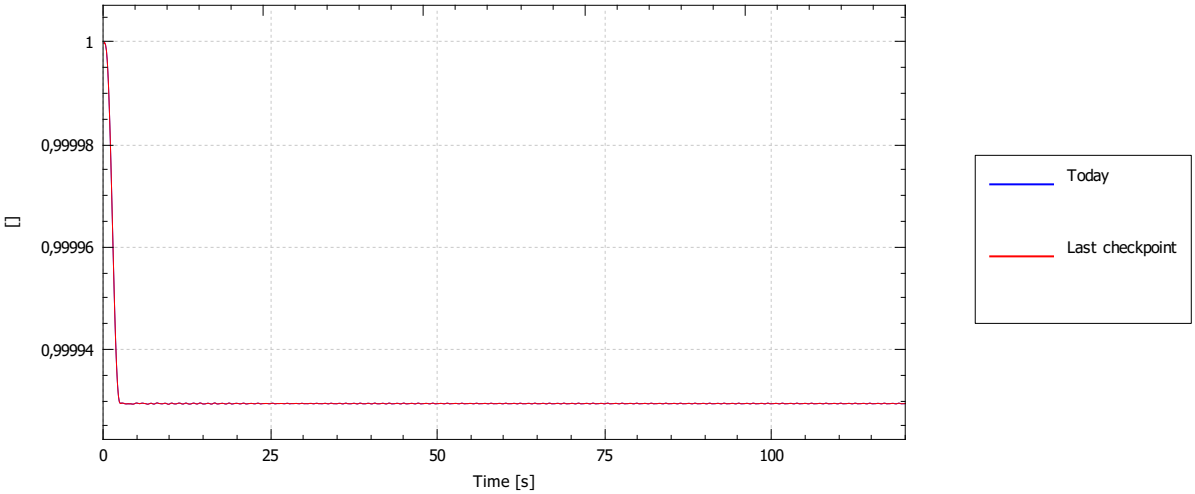
Twist (structural) - rad



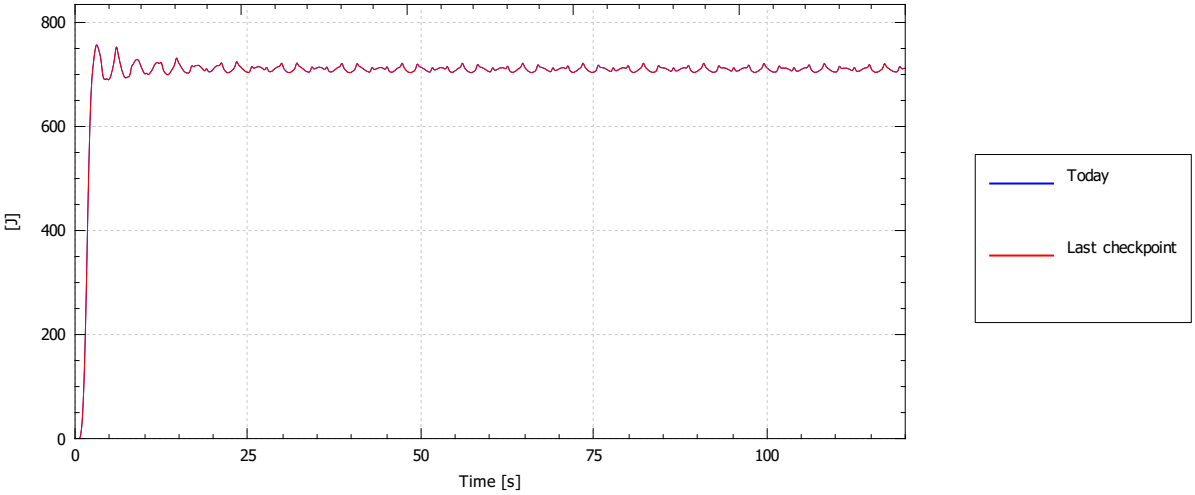
Deformed length



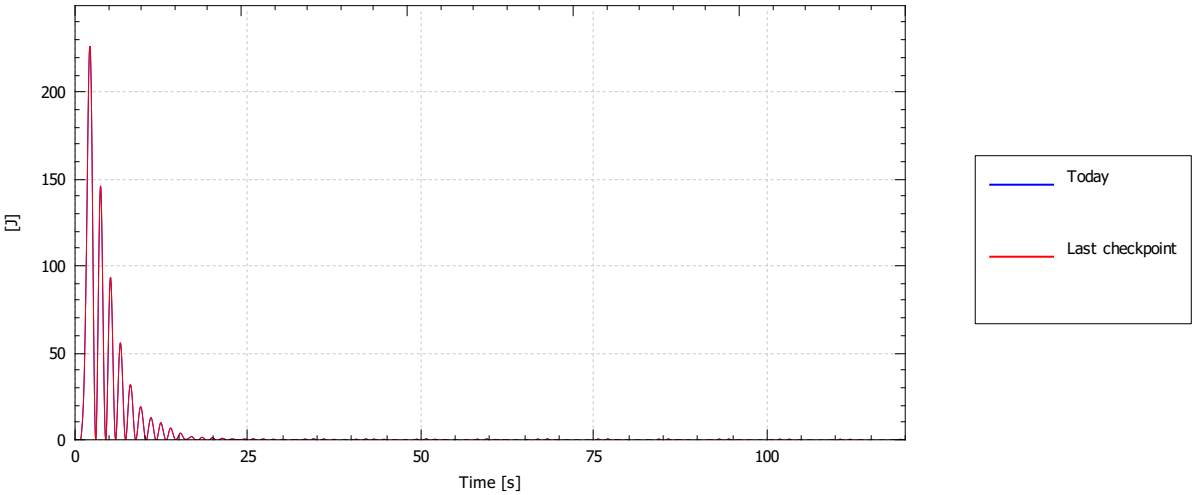
Elongation



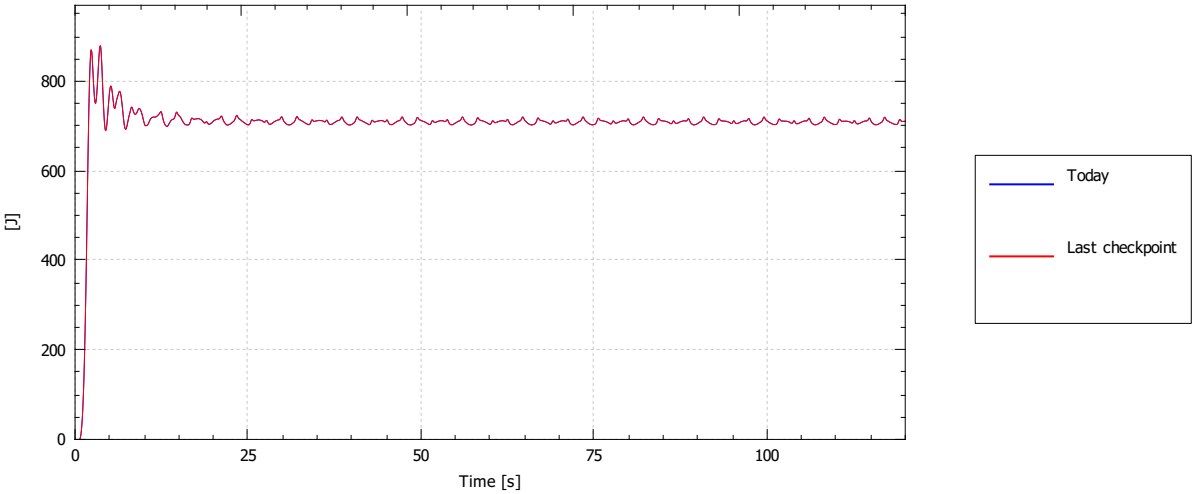
Strain energy



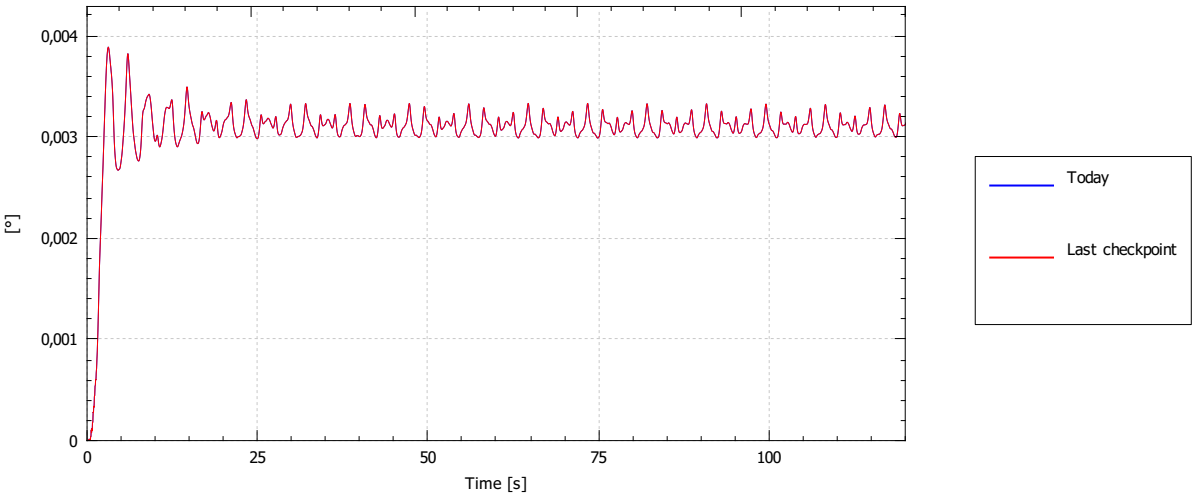
Kinetic energy



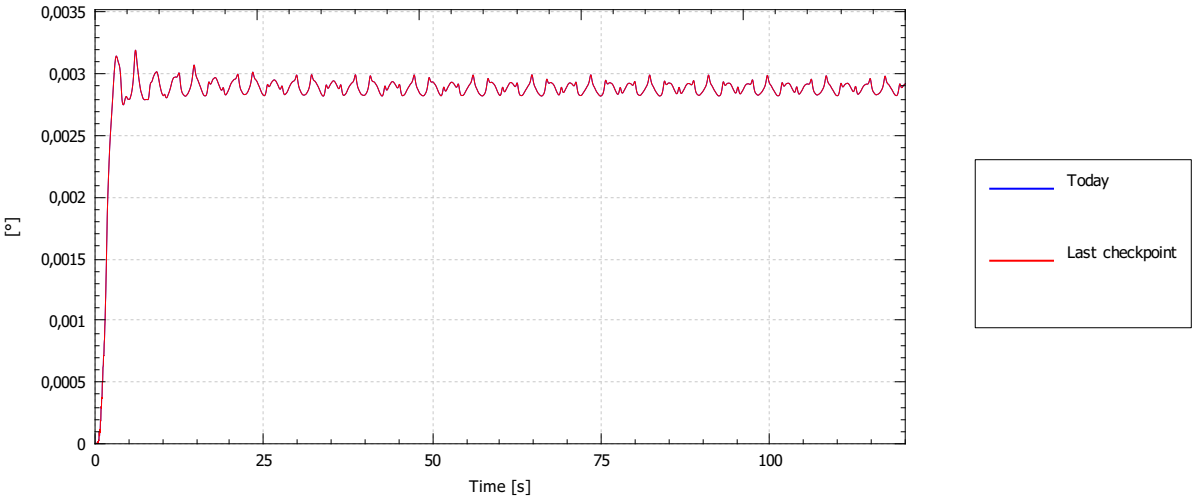
Mechanical energy



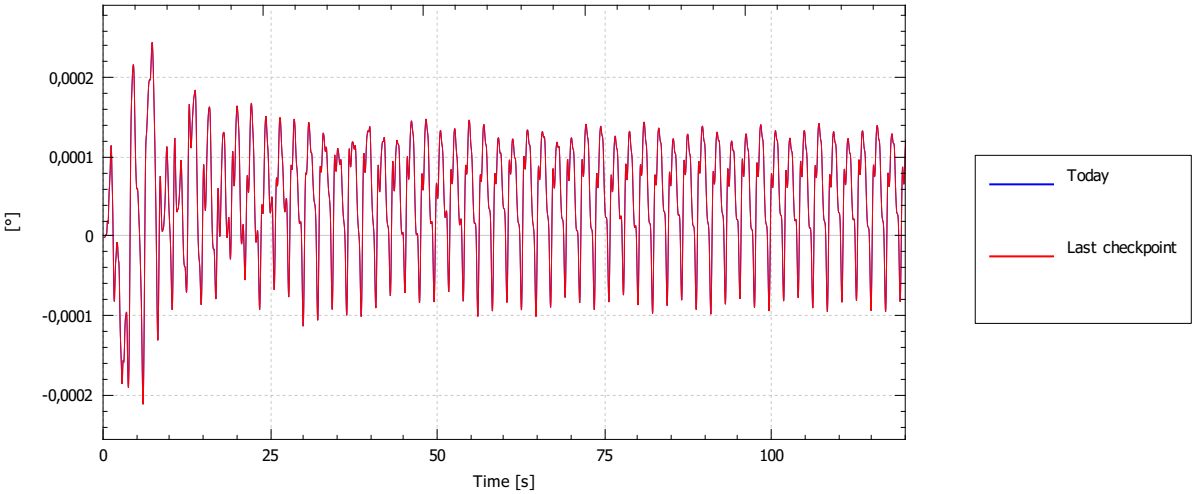
Deformational rotation (i)



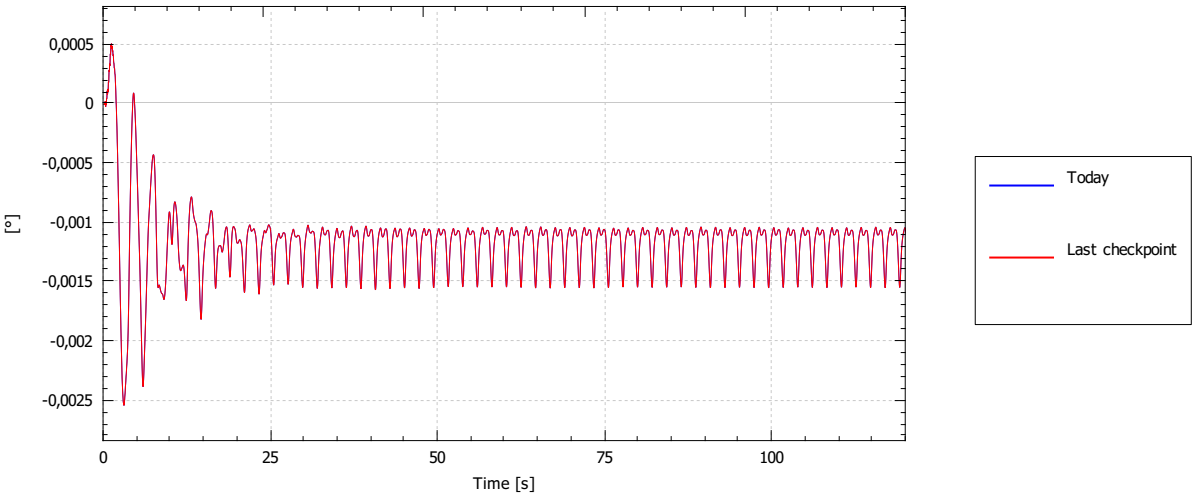
Deformational rotation (j)



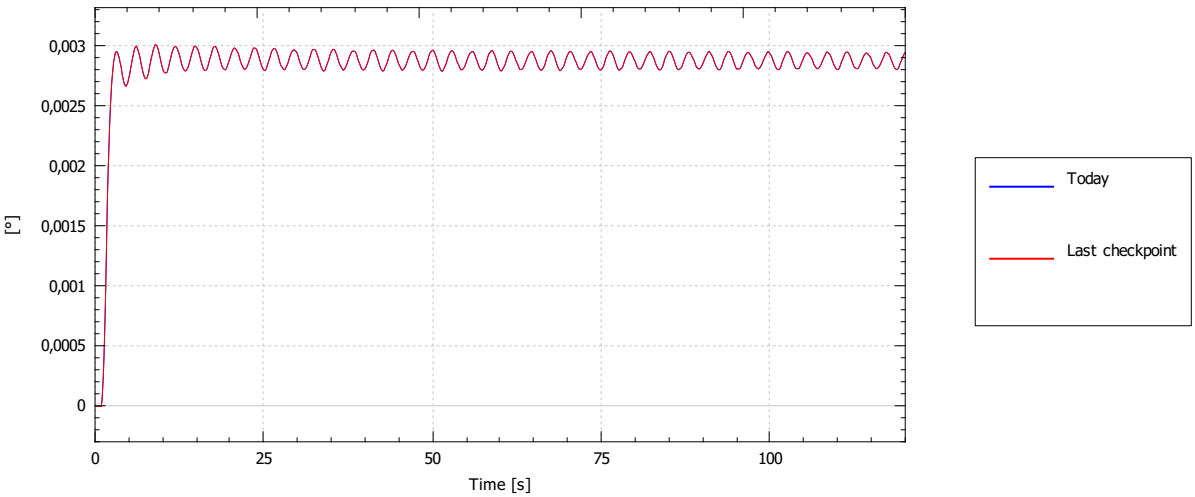
Deformational rotation (axial)



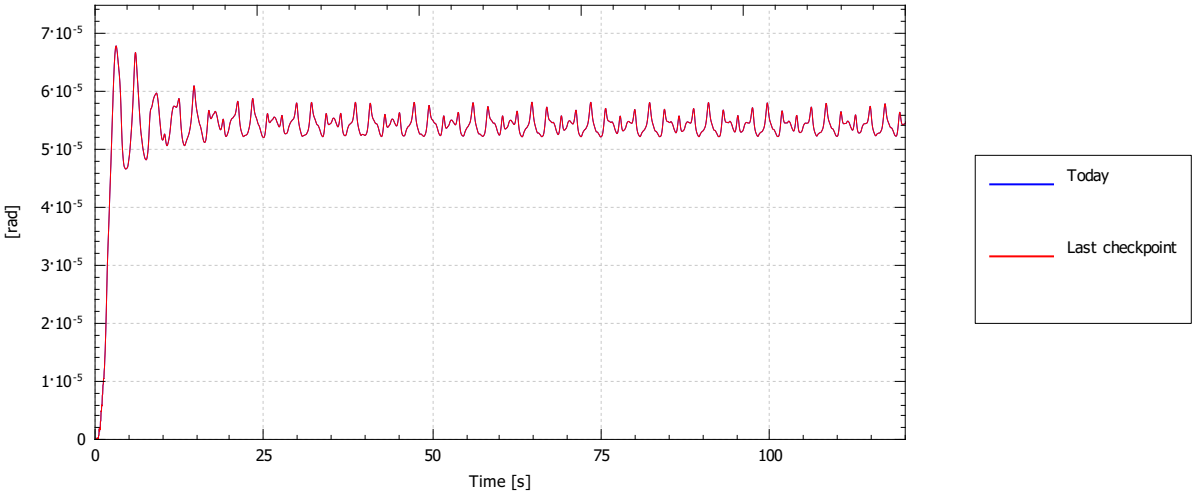
Deformational rotation (1st prin.)



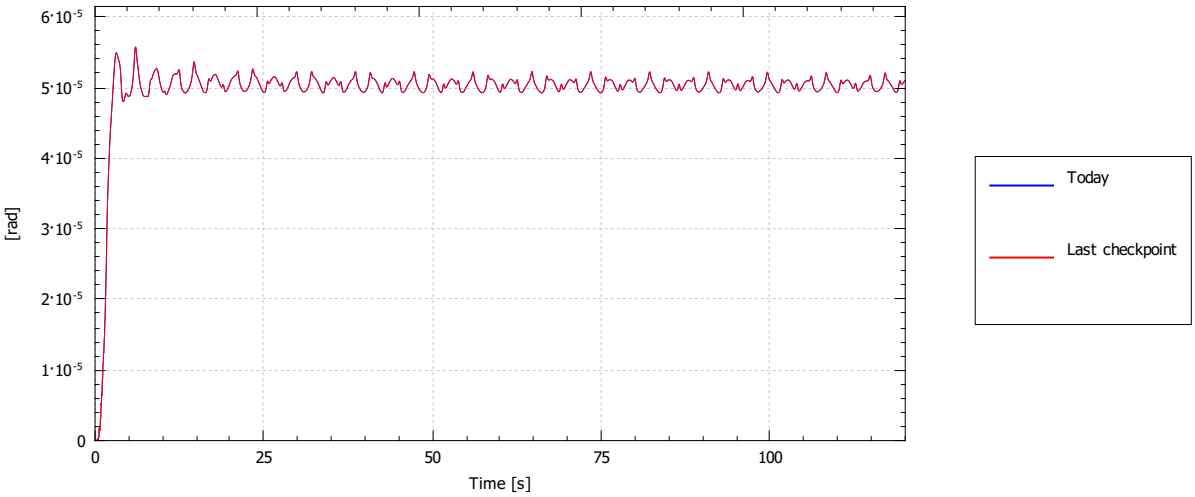
Deformational rotation (2nd prin.)



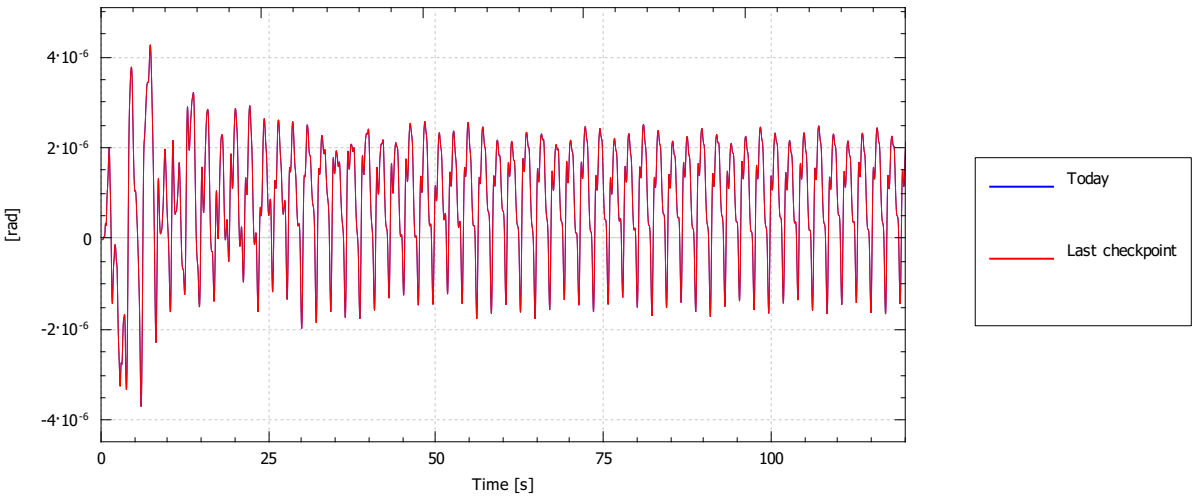
Deformational rotation (i) - rad



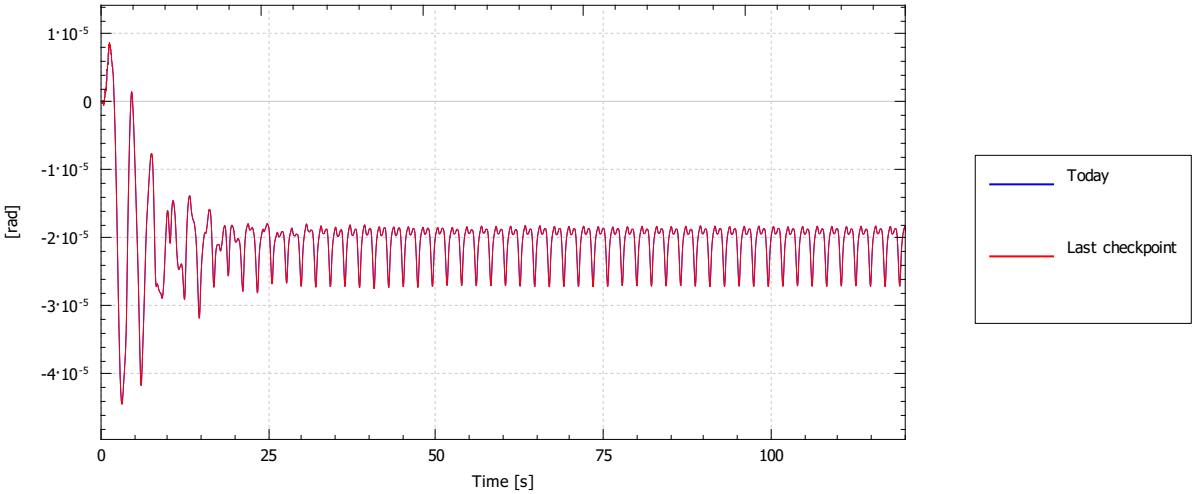
Deformational rotation (j) - rad



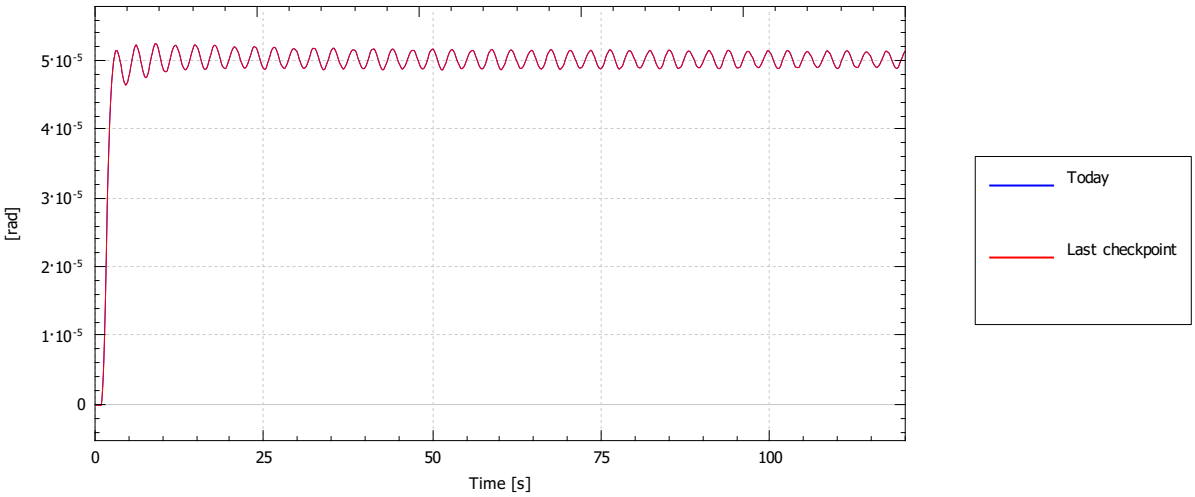
Deformational rotation (axial) - rad



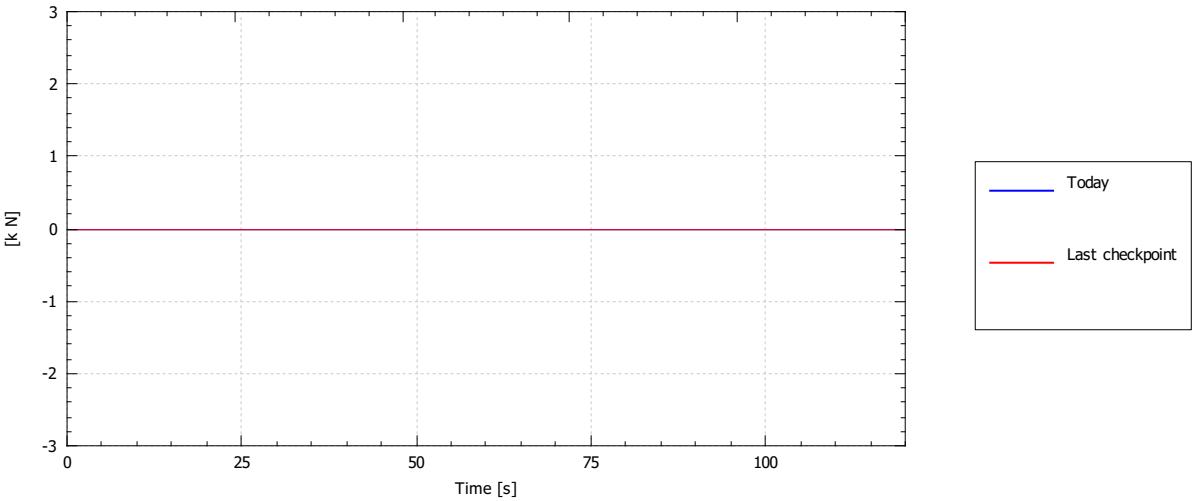
Deformational rotation (1st prin.) - rad



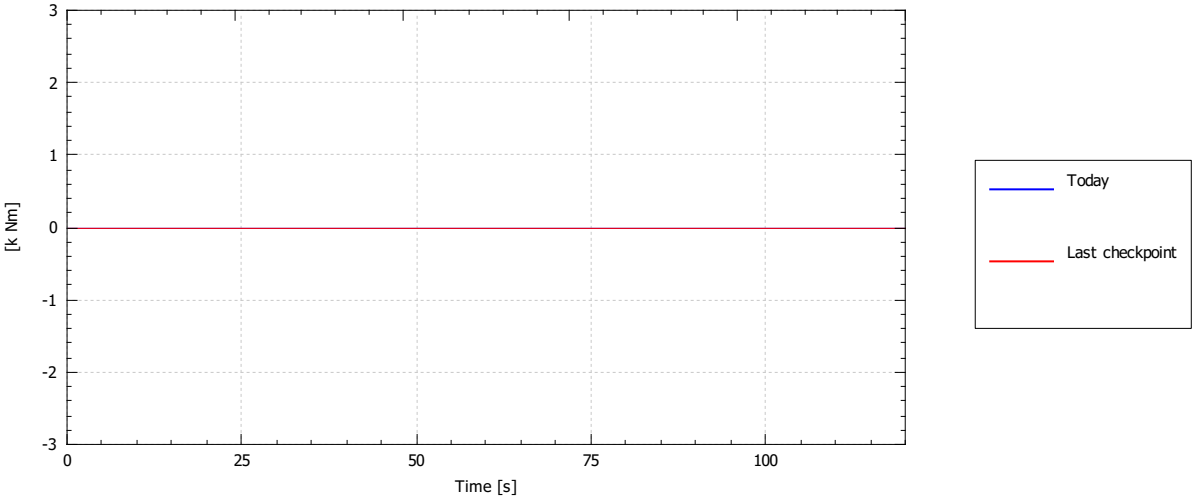
Deformational rotation (2nd prin.) - rad



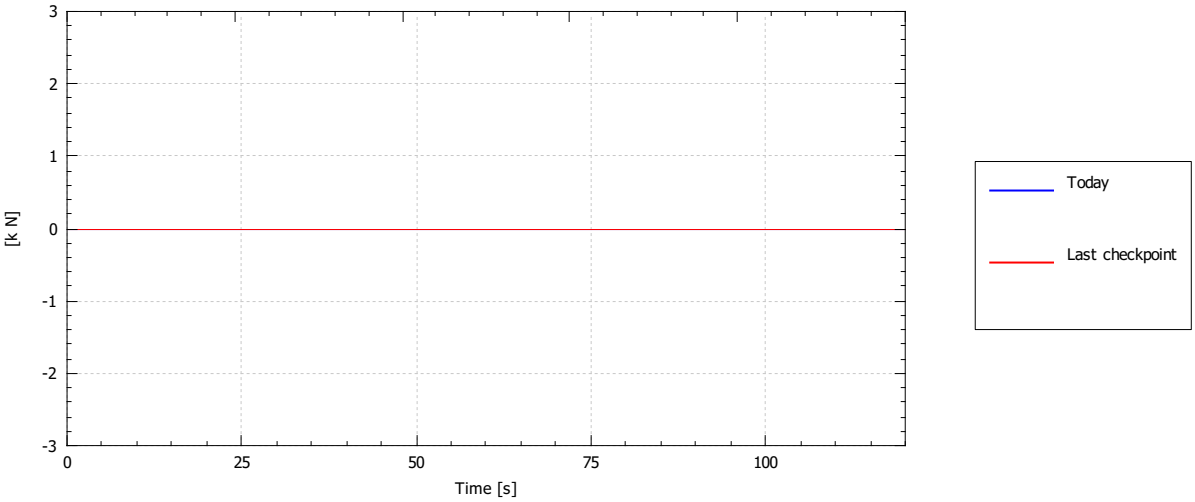
Damping force, i



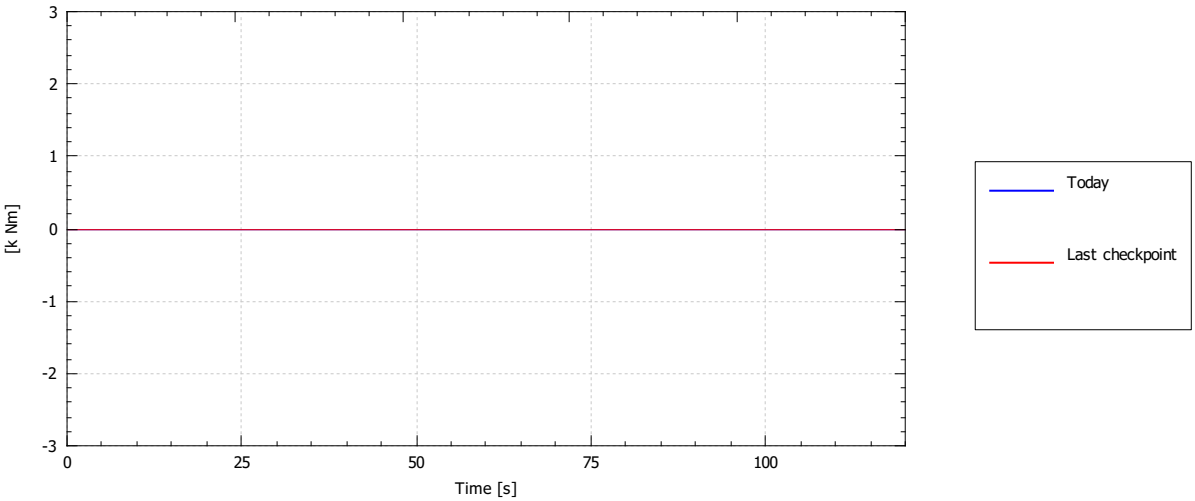
Damping moment, i



Damping force, sum

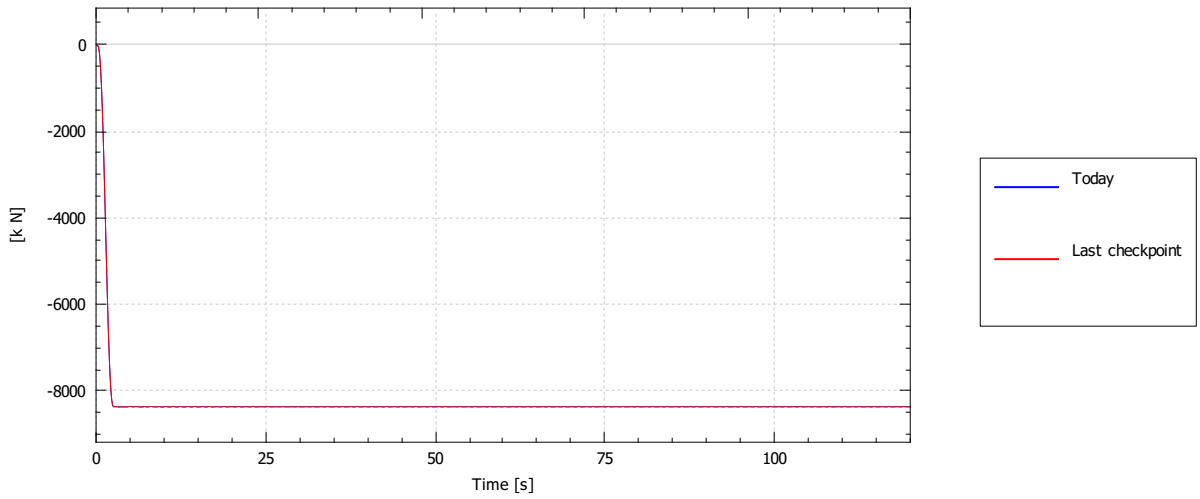


Damping moment, sum

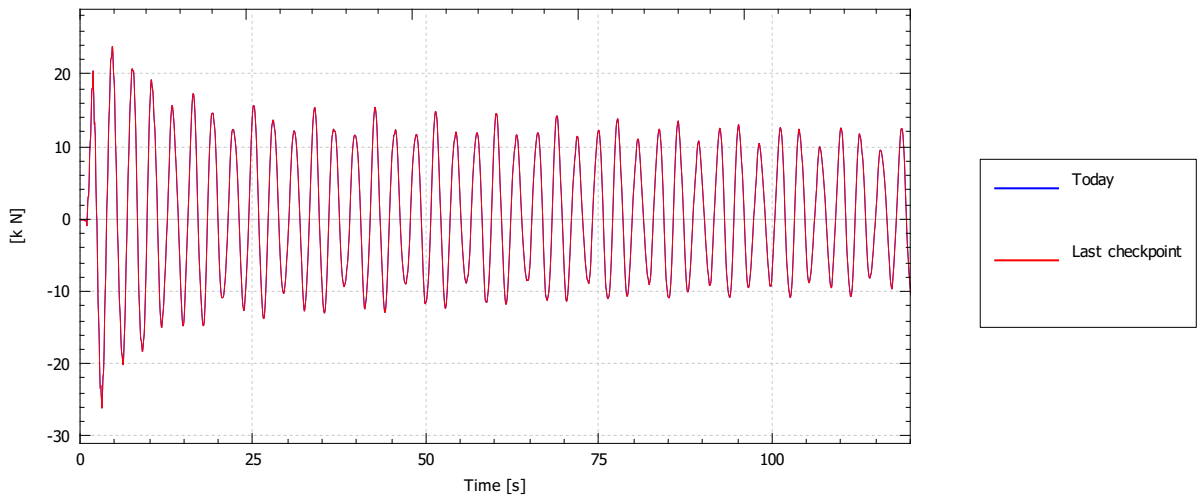


Beam element [Element 3 | Monopile]

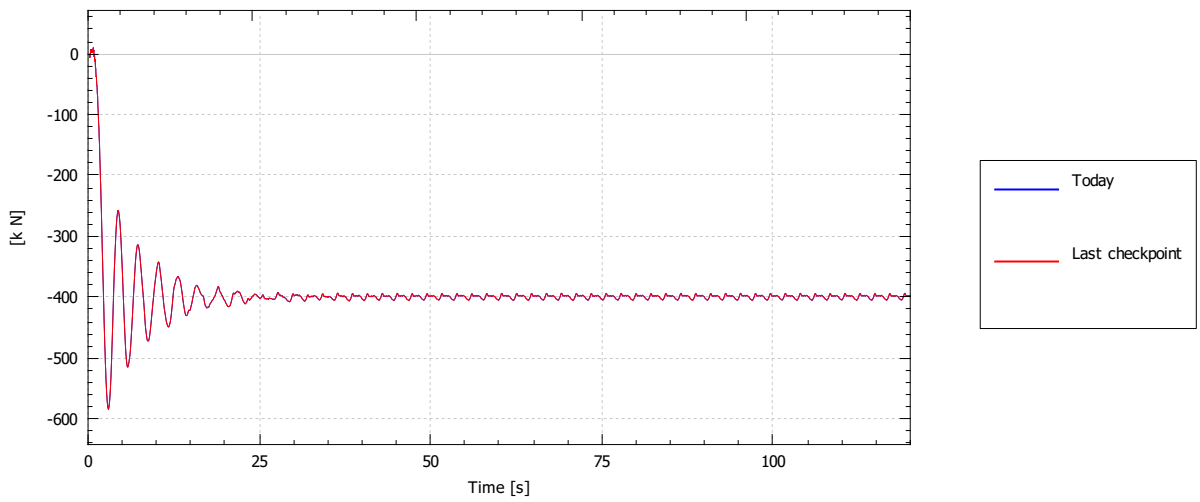
Axial force



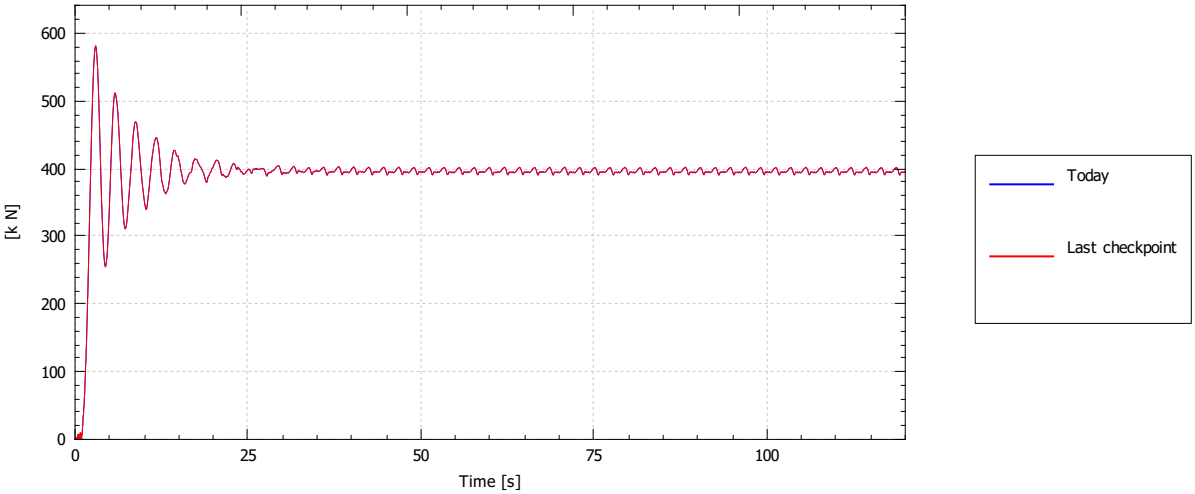
Shear force (1st prin. axis)



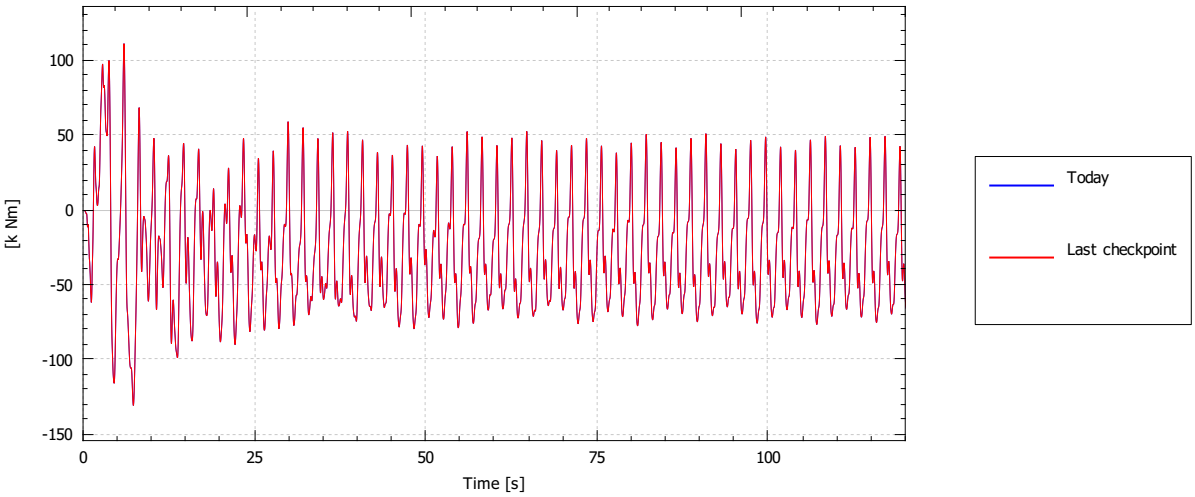
Shear force (2nd prin. axis)



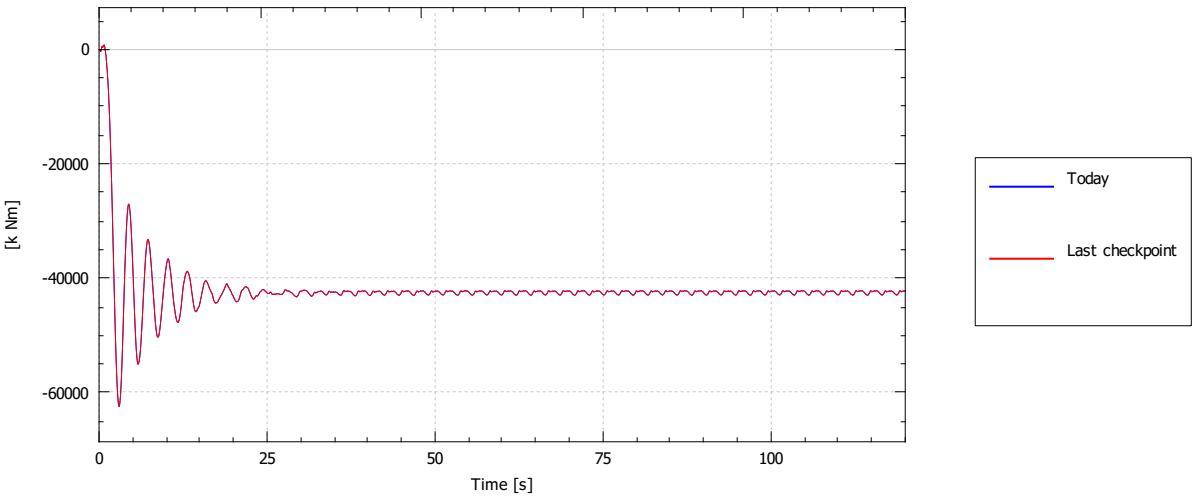
Shear force, mag.



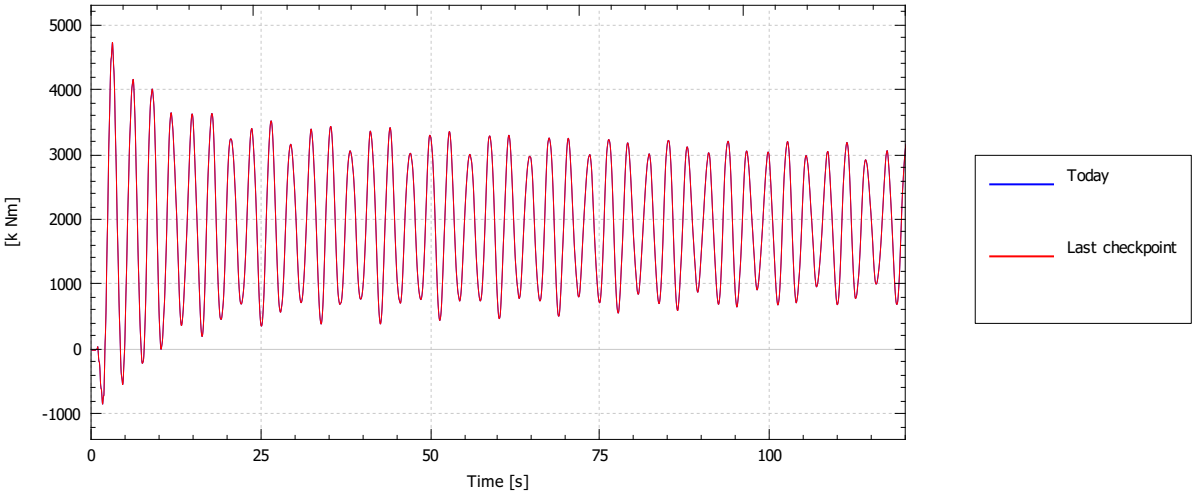
Torque



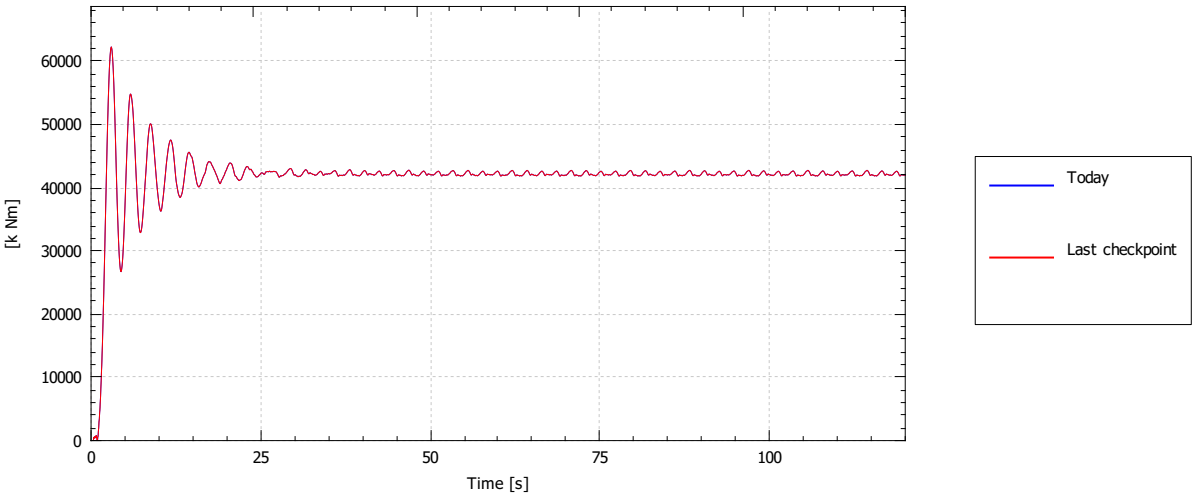
Moment (1st prin. axis), i



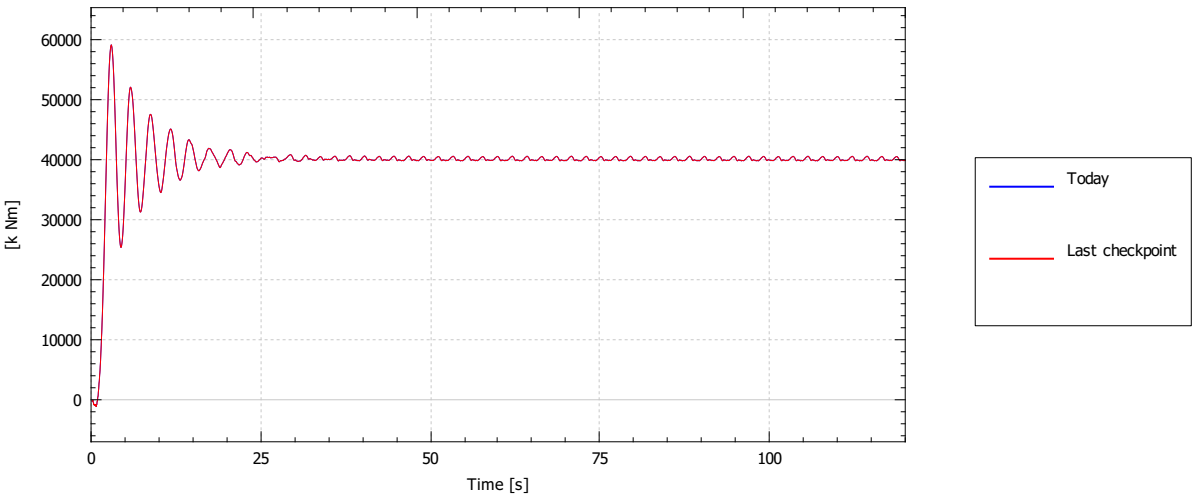
Moment (2nd prin. axis), i



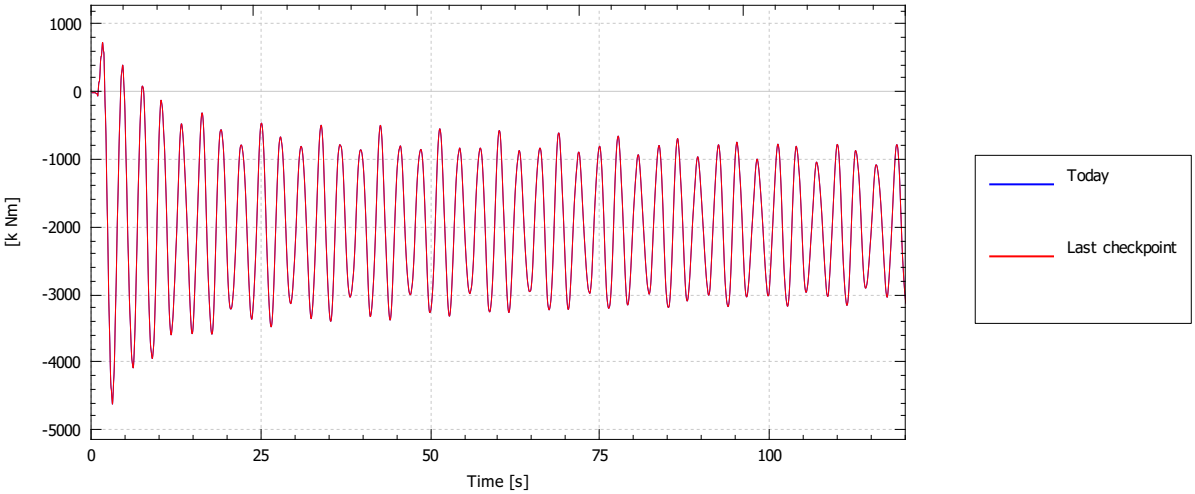
Moment, mag., i



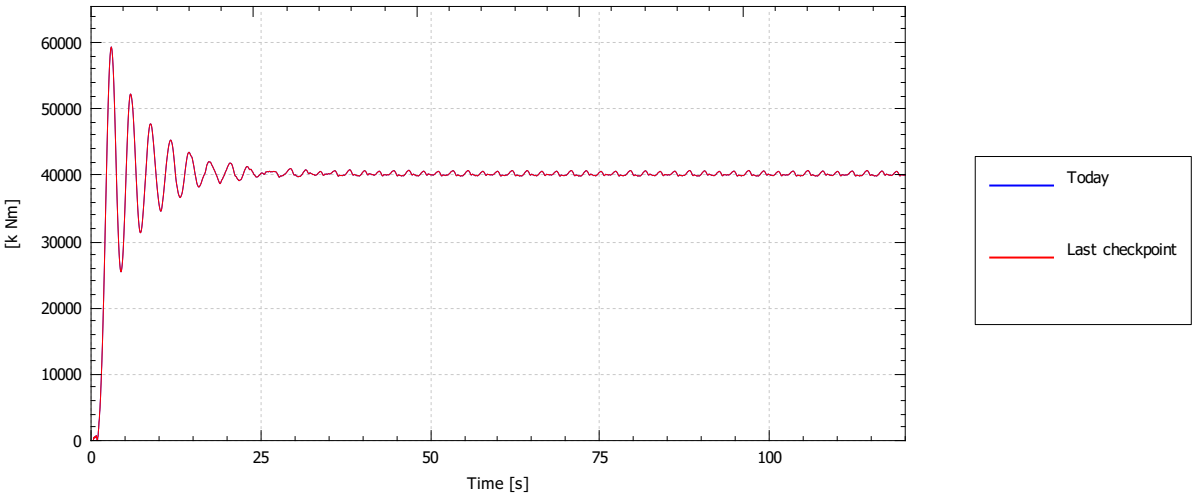
Moment (1st prin. axis), j



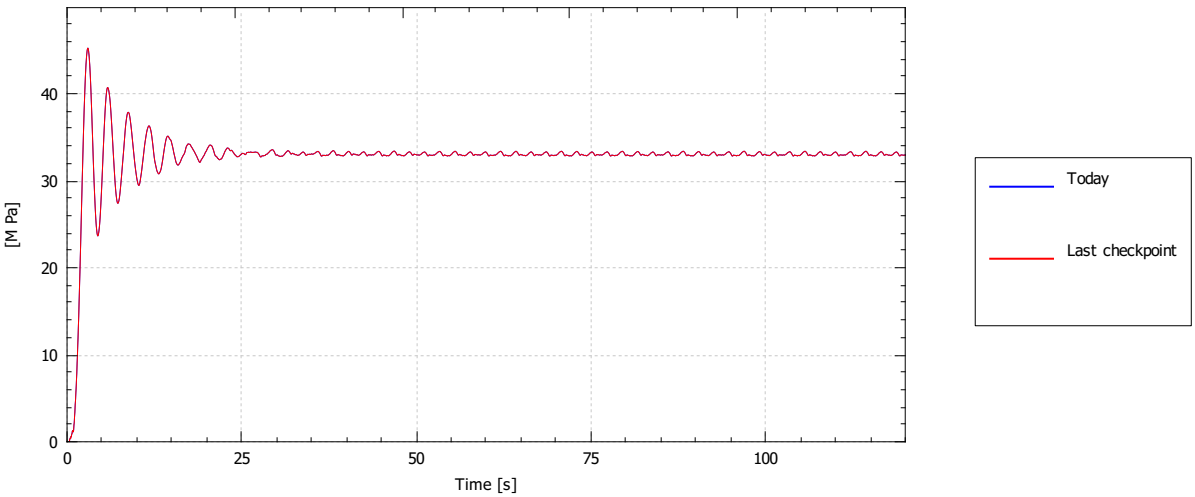
Moment (2nd prin. axis), j



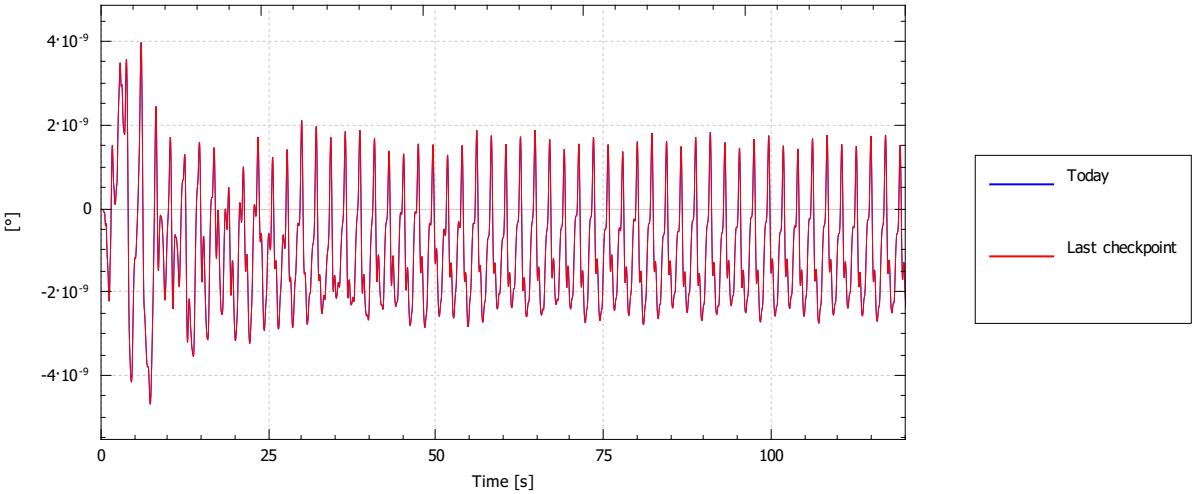
Moment, mag., j



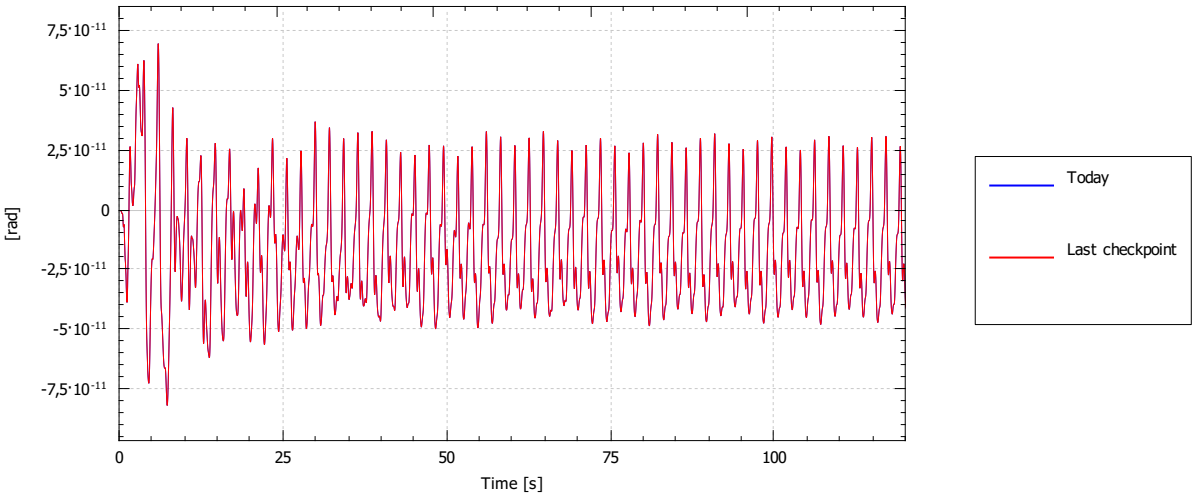
Max normal stress



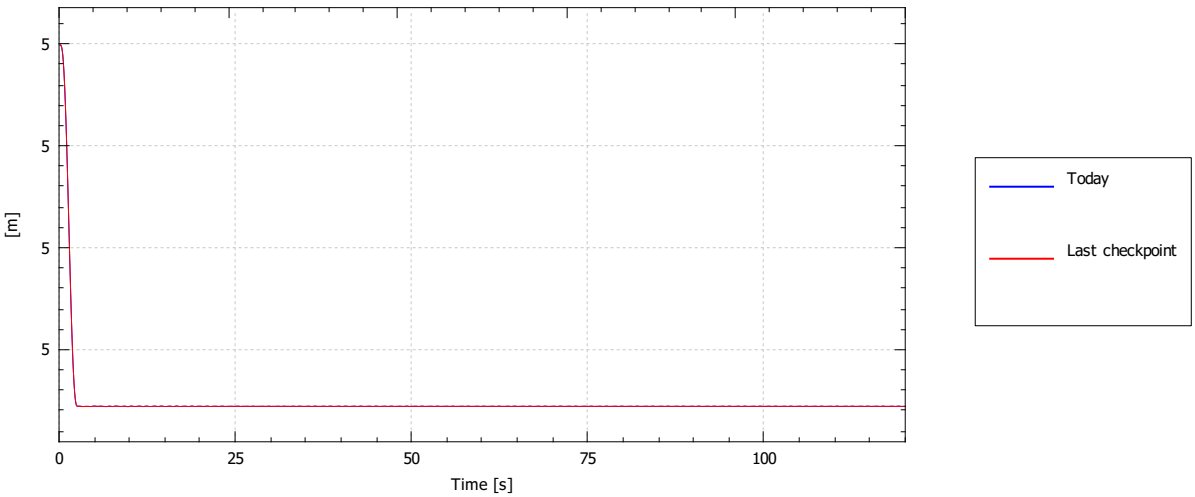
Twist (structural)



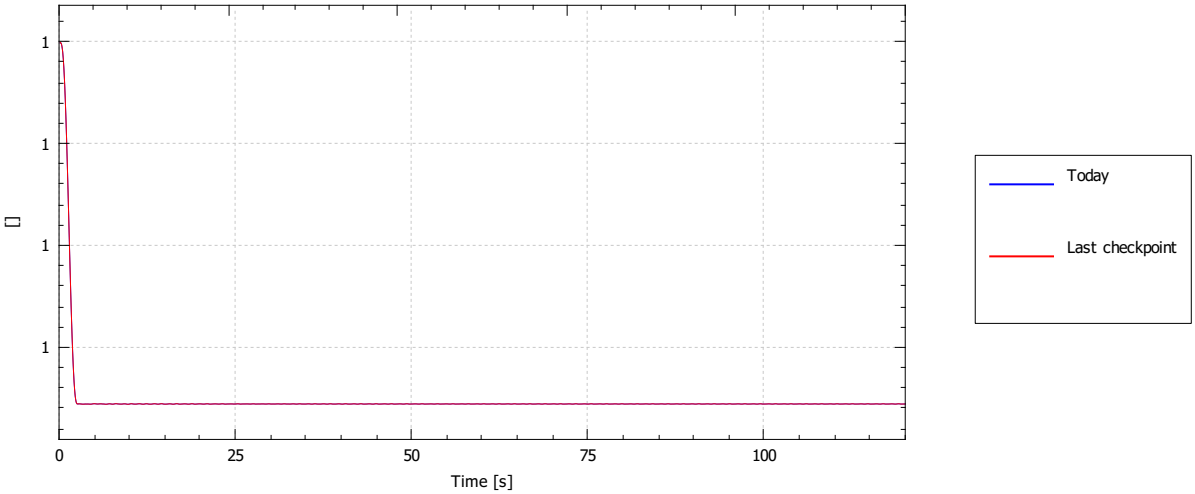
Twist (structural) - rad



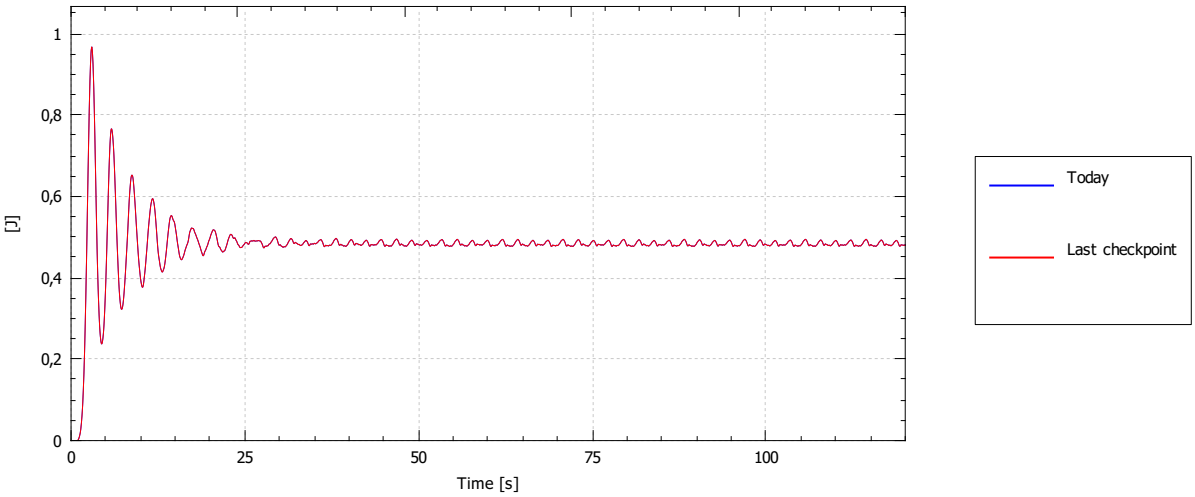
Deformed length



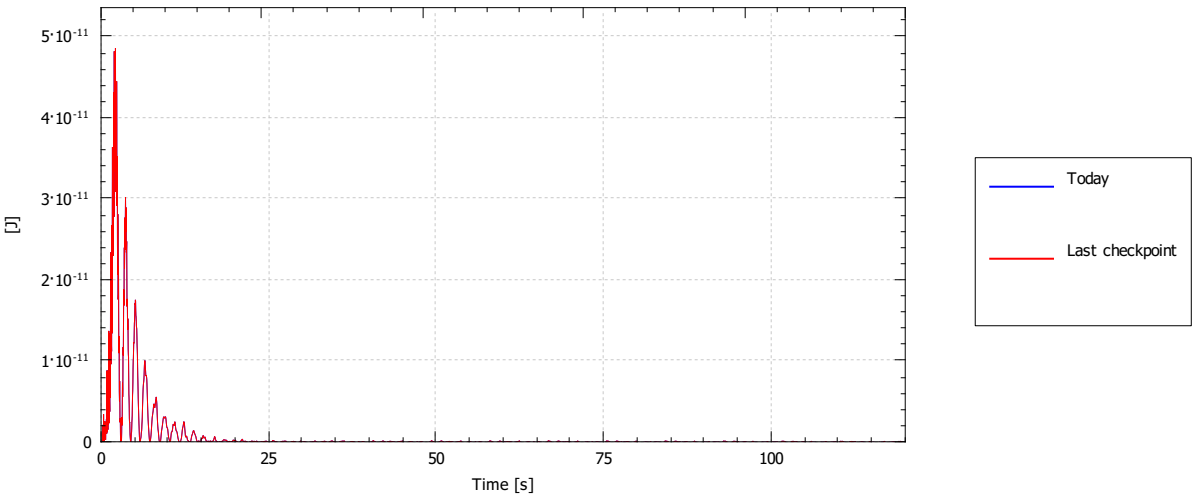
Elongation



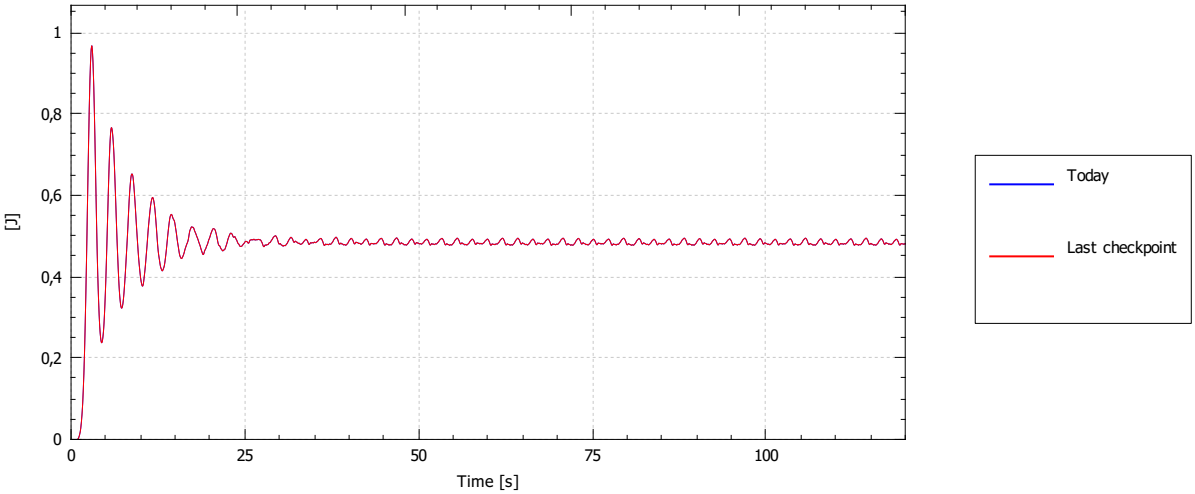
Strain energy



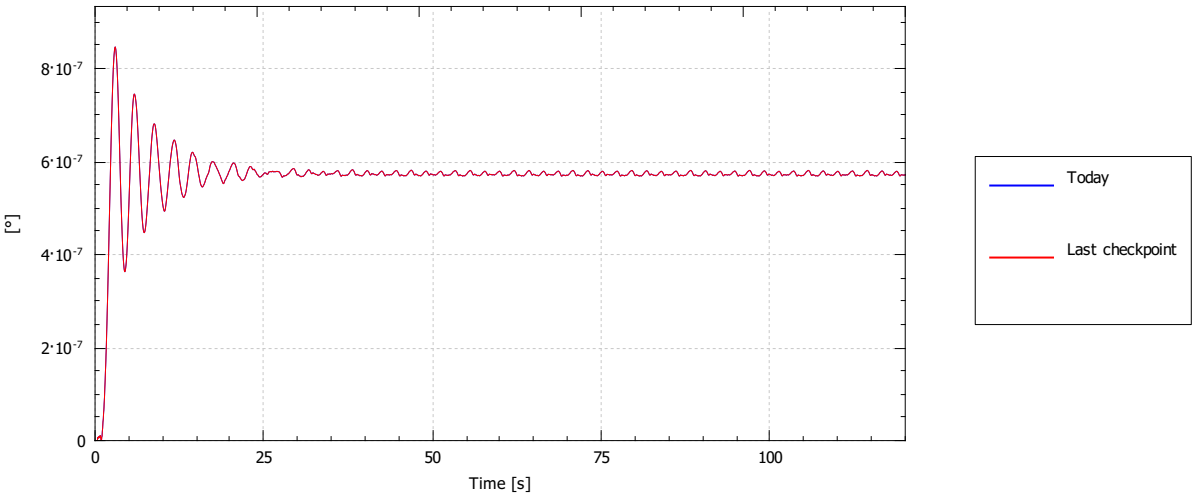
Kinetic energy



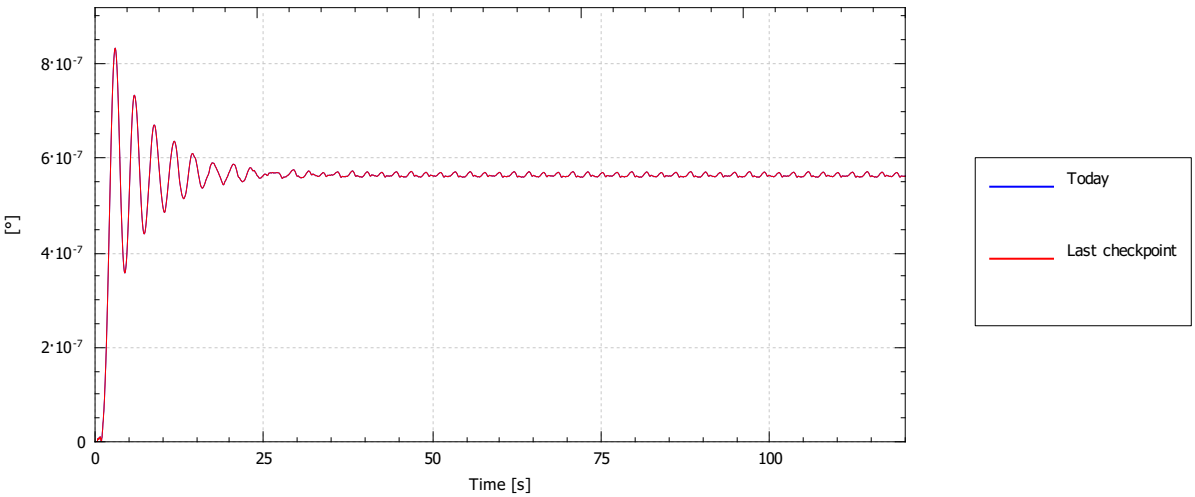
Mechanical energy



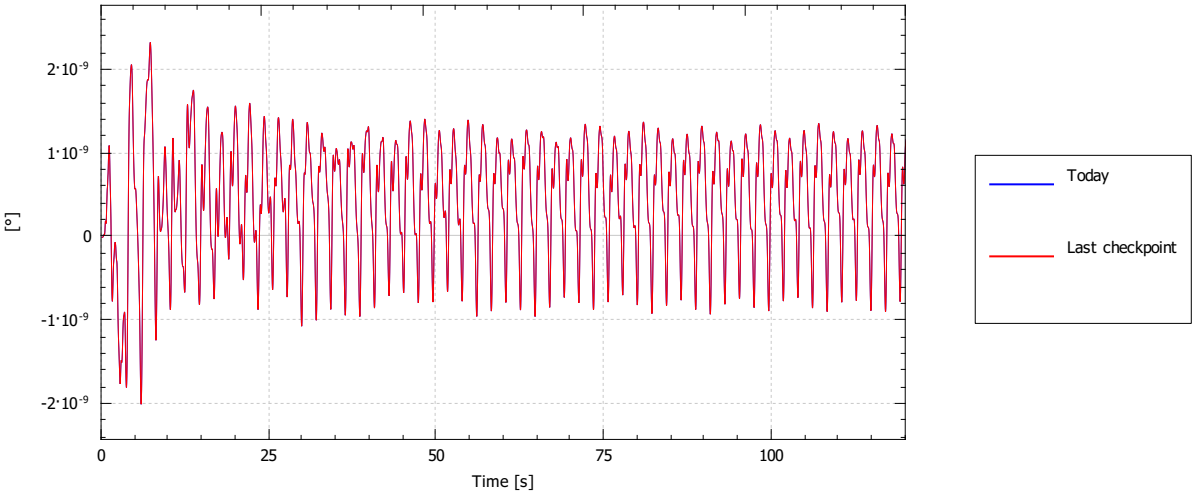
Deformational rotation (i)



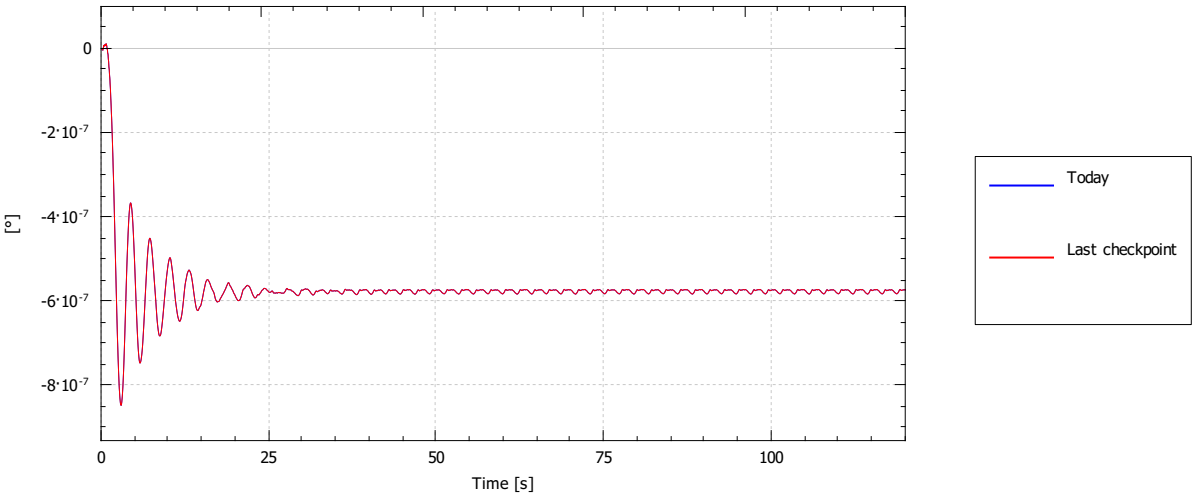
Deformational rotation (j)



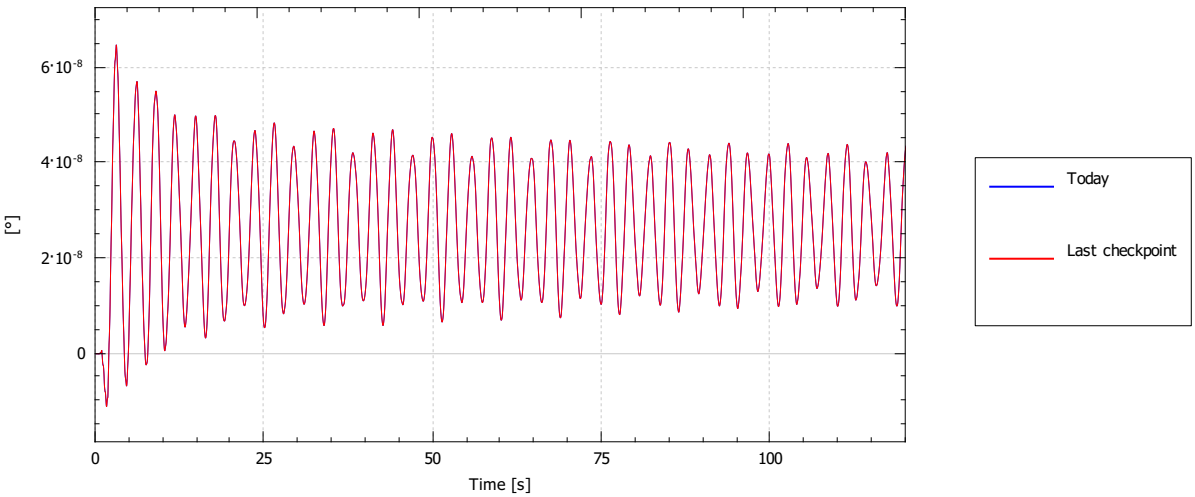
Deformational rotation (axial)



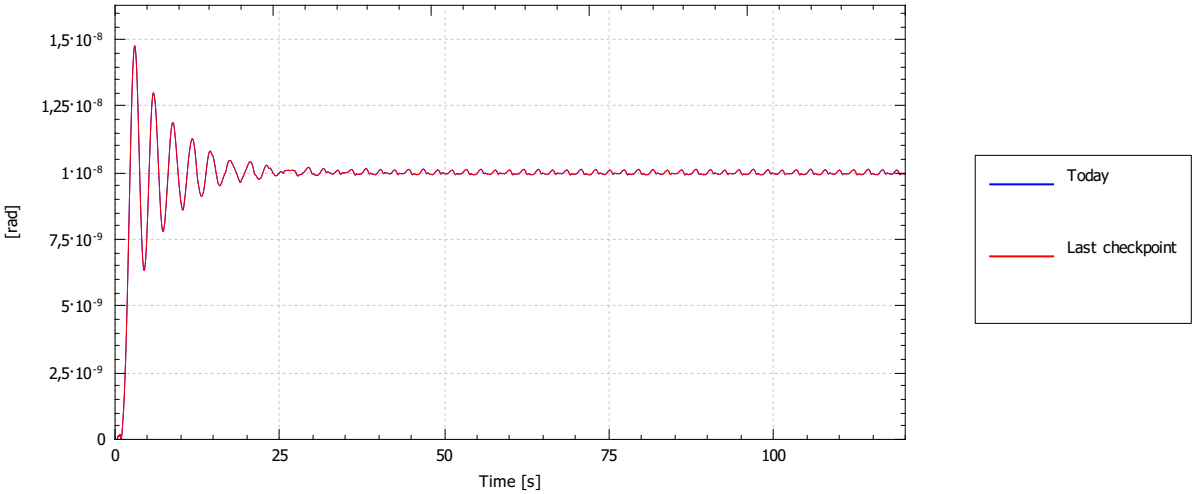
Deformational rotation (1st prin.)



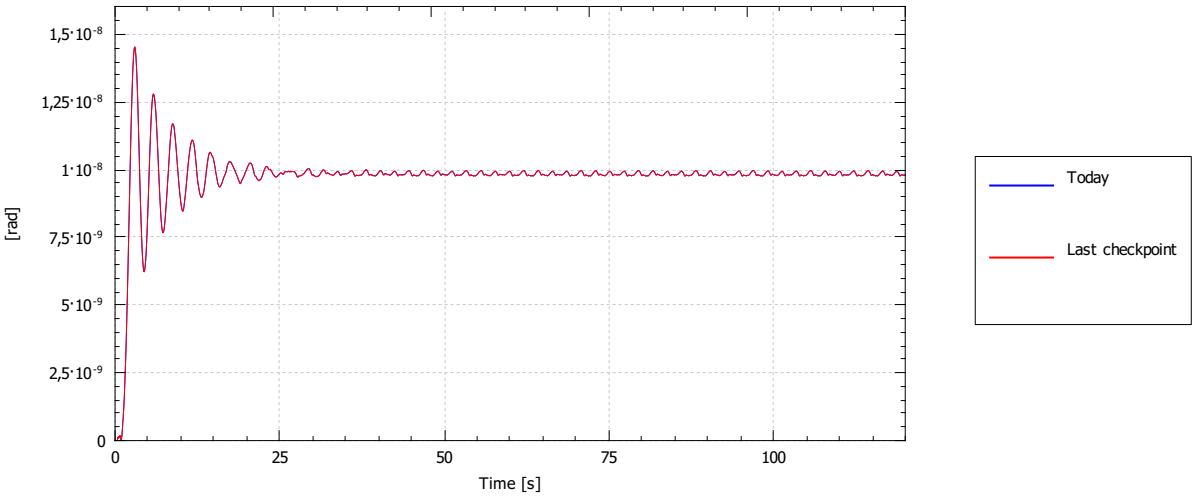
Deformational rotation (2nd prin.)



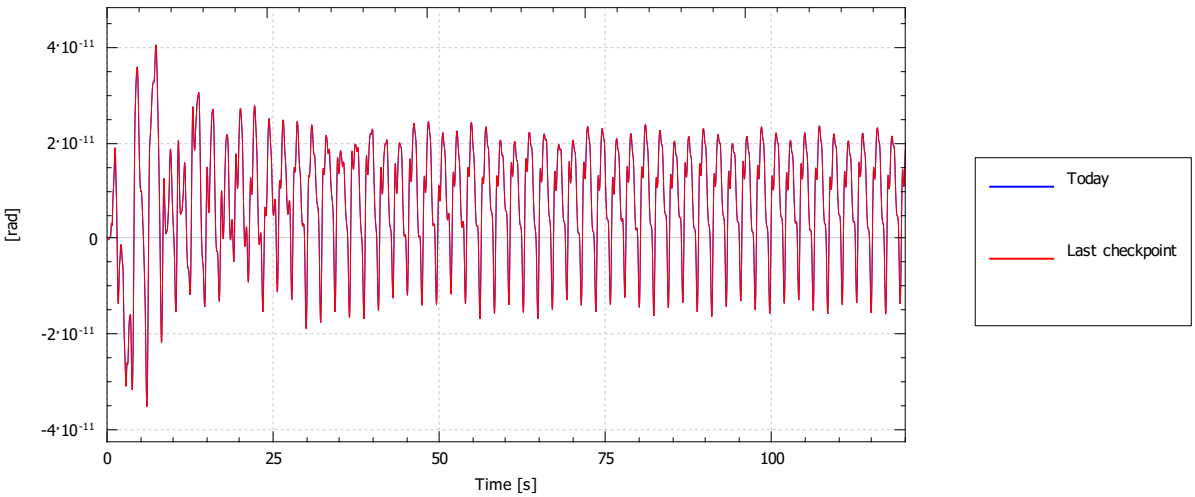
Deformational rotation (i) - rad



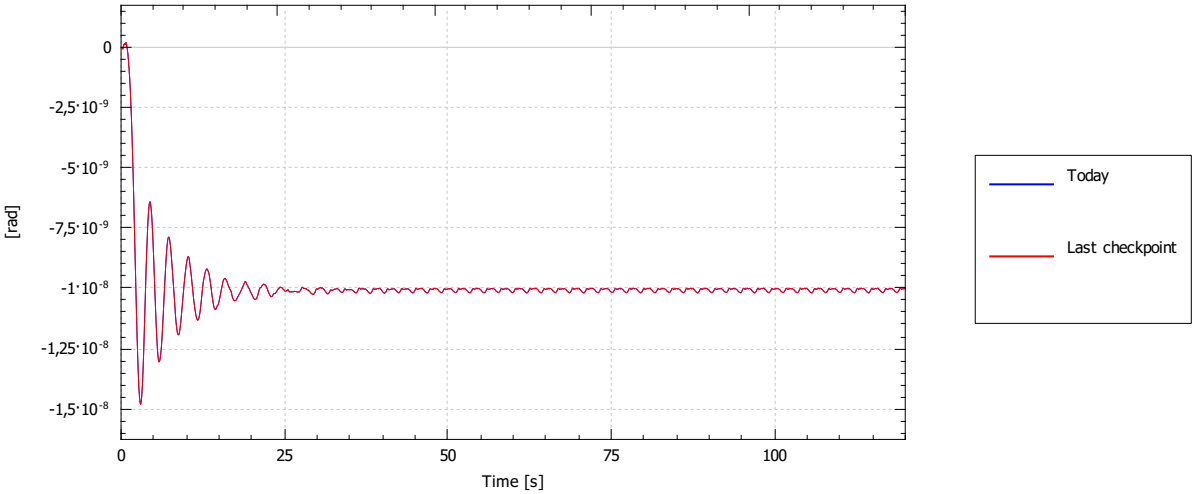
Deformational rotation (j) - rad



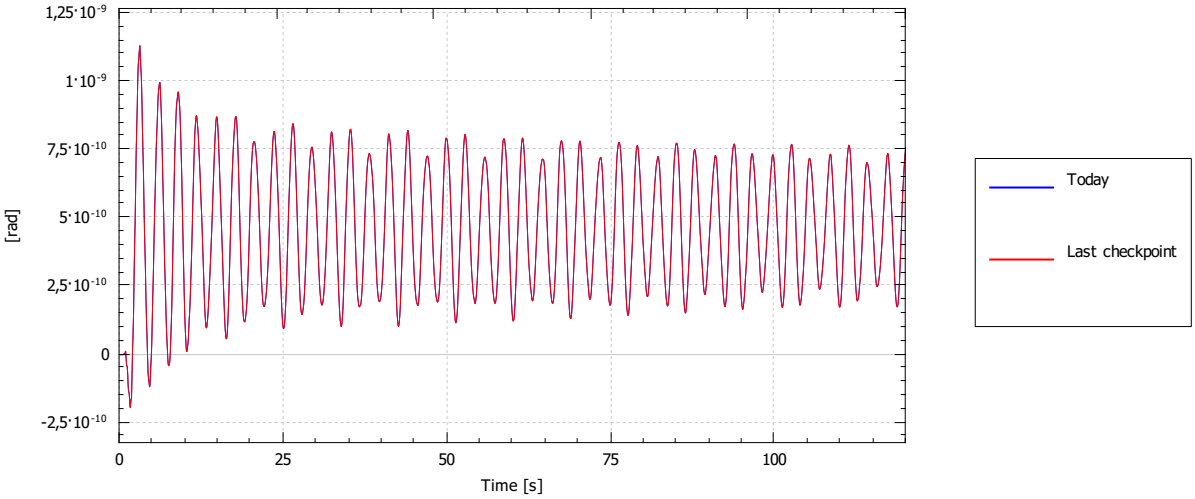
Deformational rotation (axial) - rad



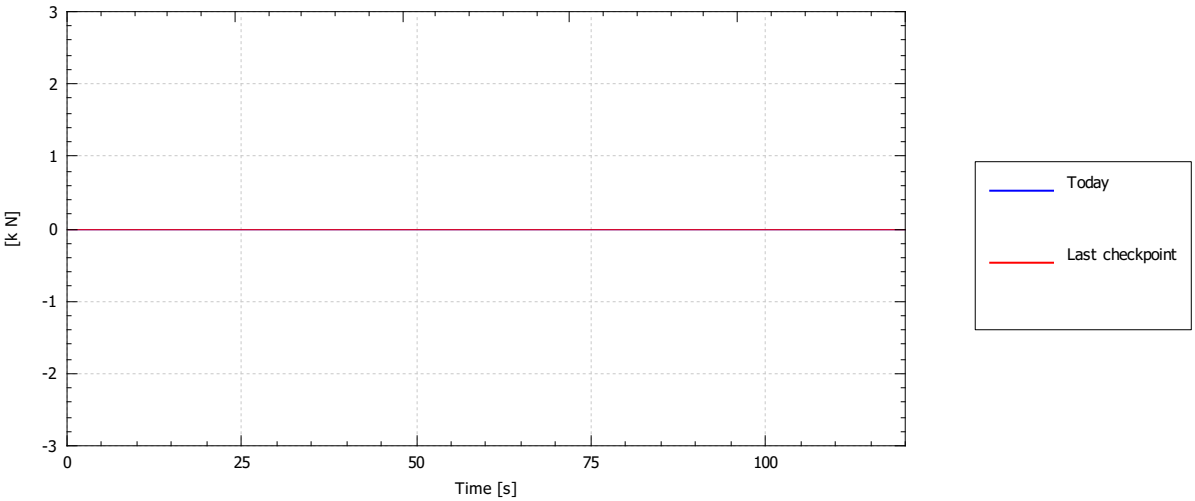
Deformational rotation (1st prin.) - rad



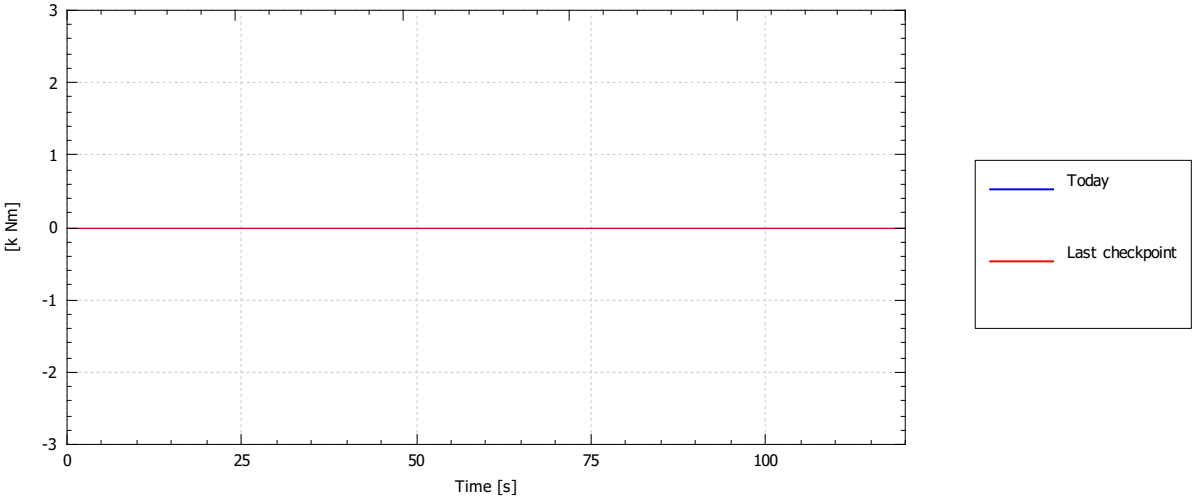
Deformational rotation (2nd prin.) - rad



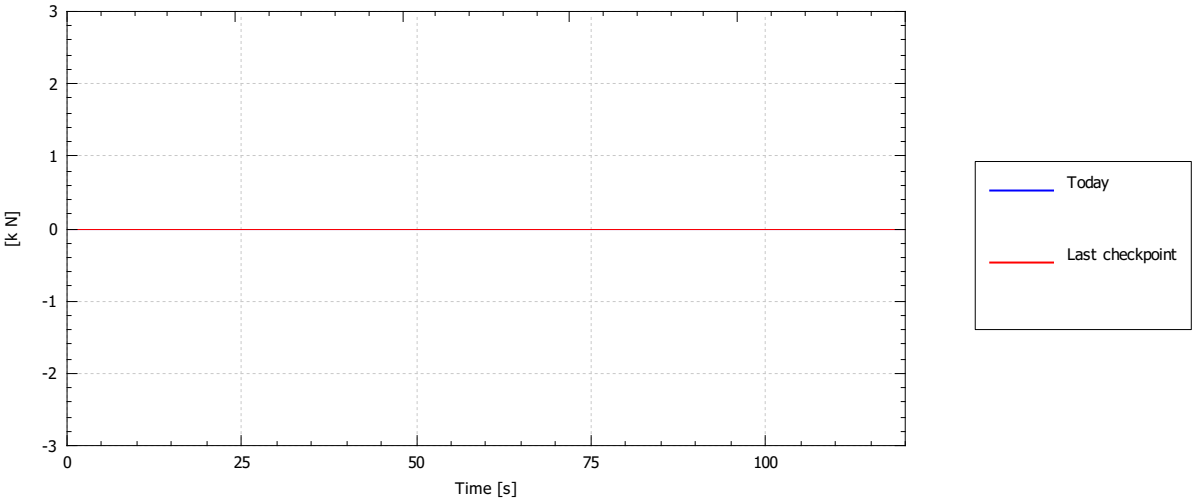
Damping force, i



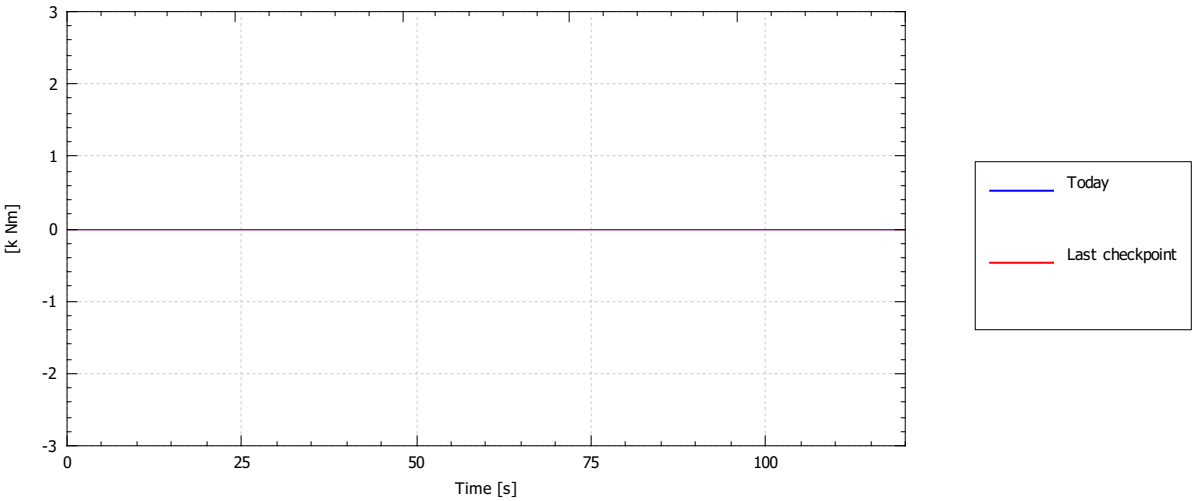
Damping moment, i



Damping force, sum

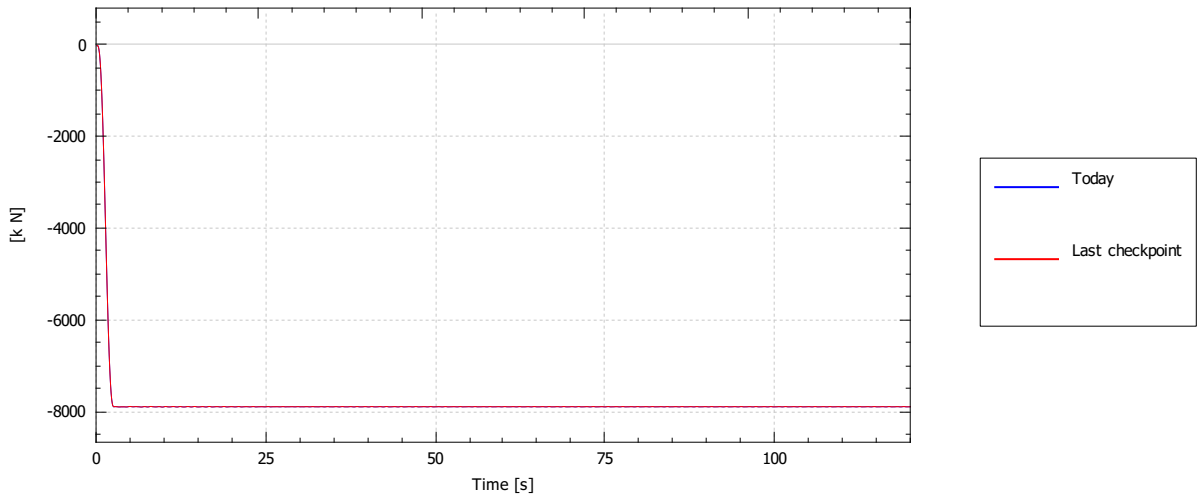


Damping moment, sum

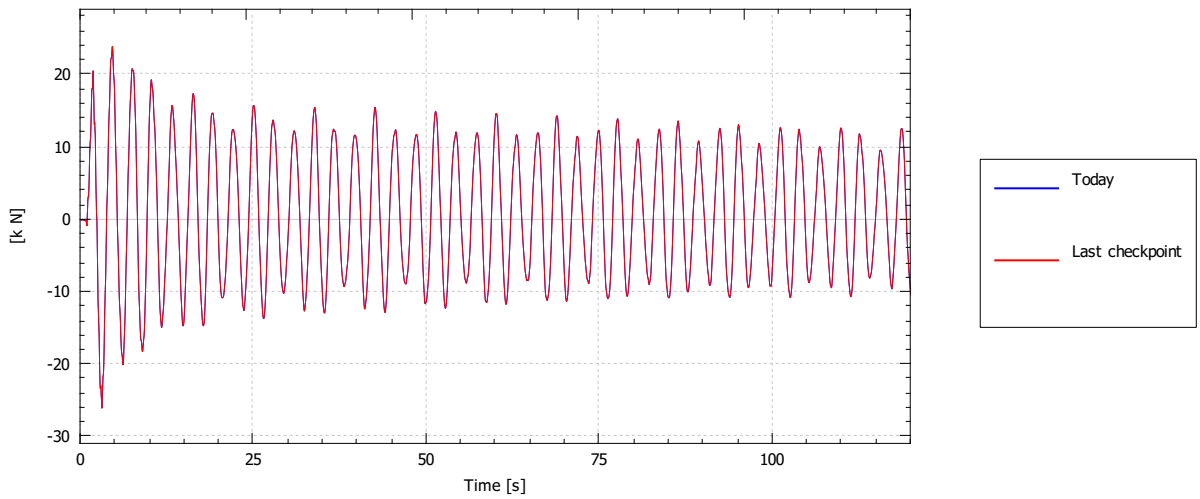


Beam element [Element 4 | Monopile]

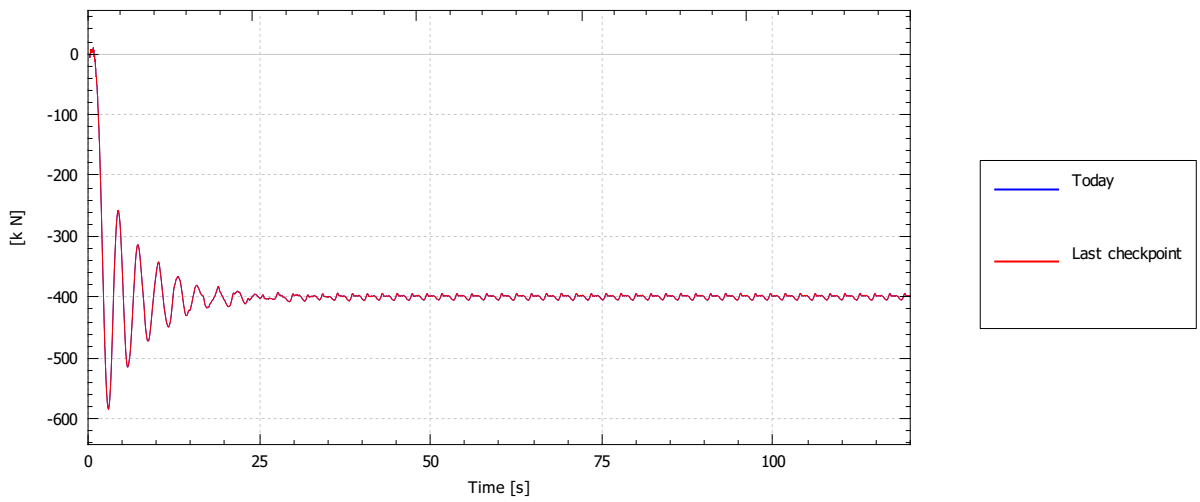
Axial force



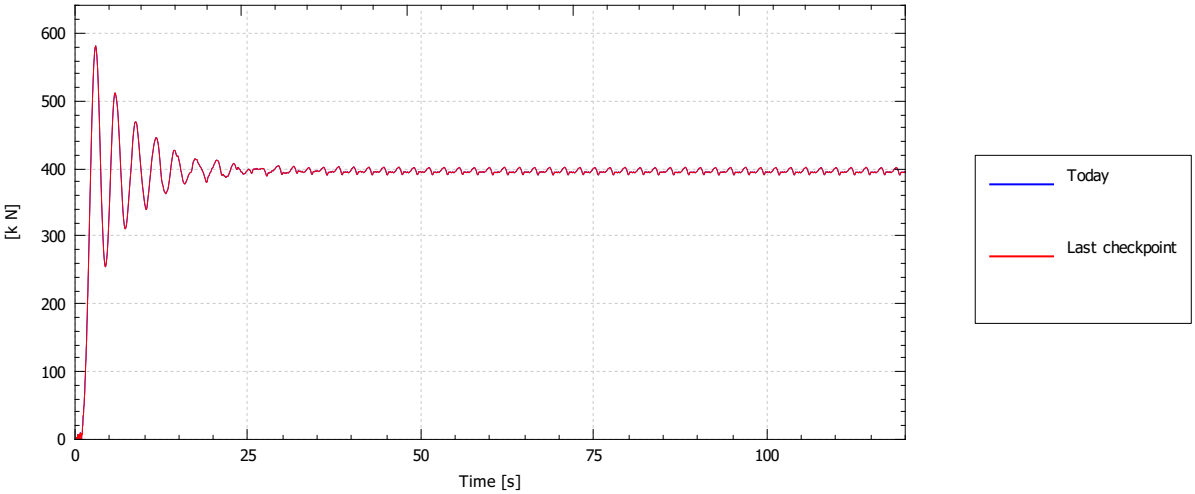
Shear force (1st prin. axis)



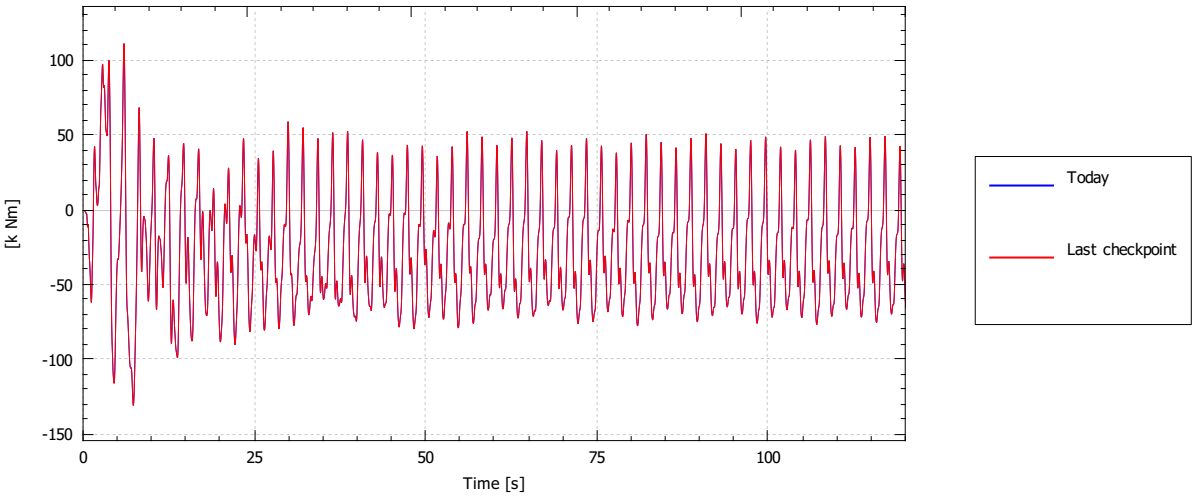
Shear force (2nd prin. axis)



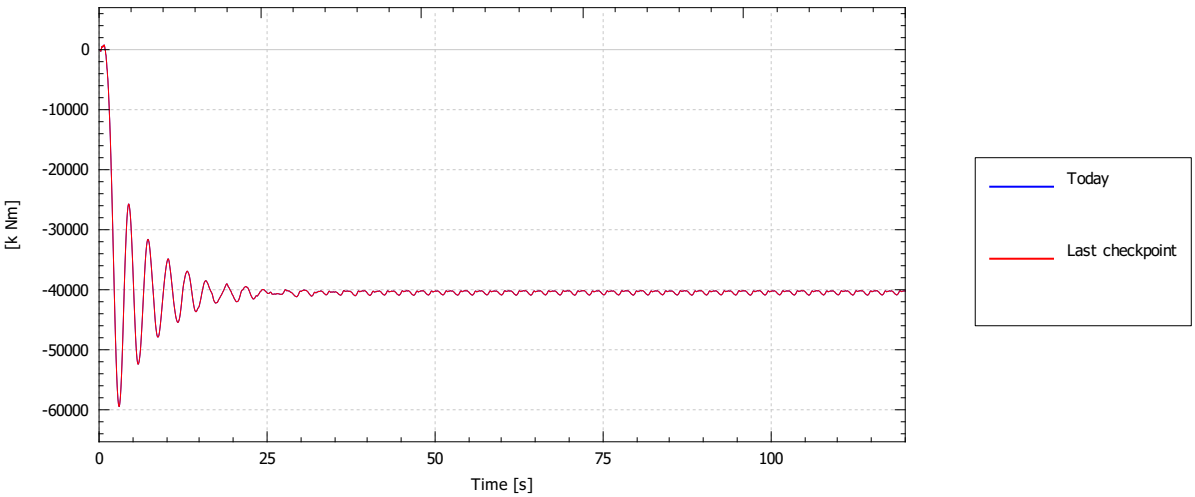
Shear force, mag.



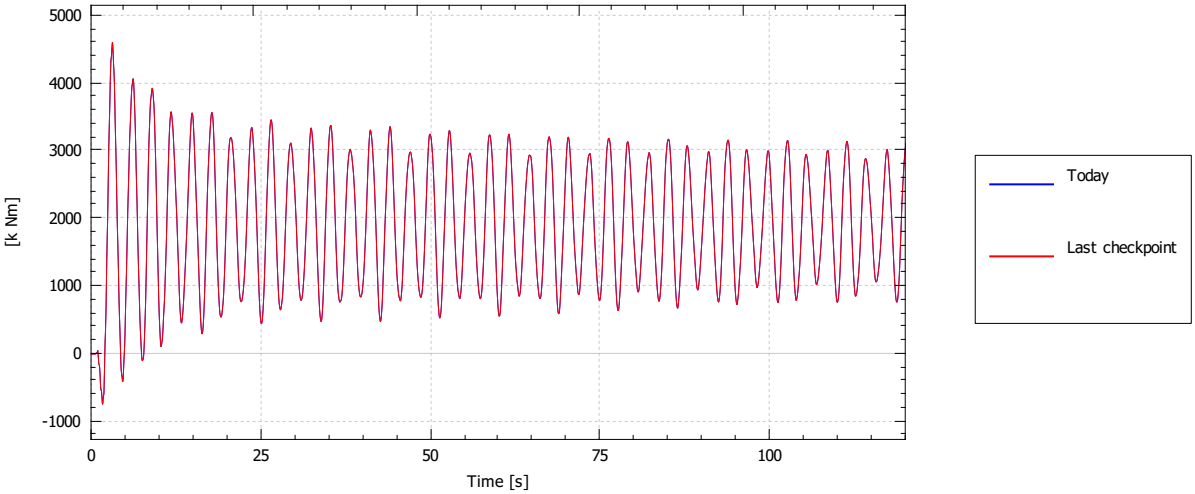
Torque



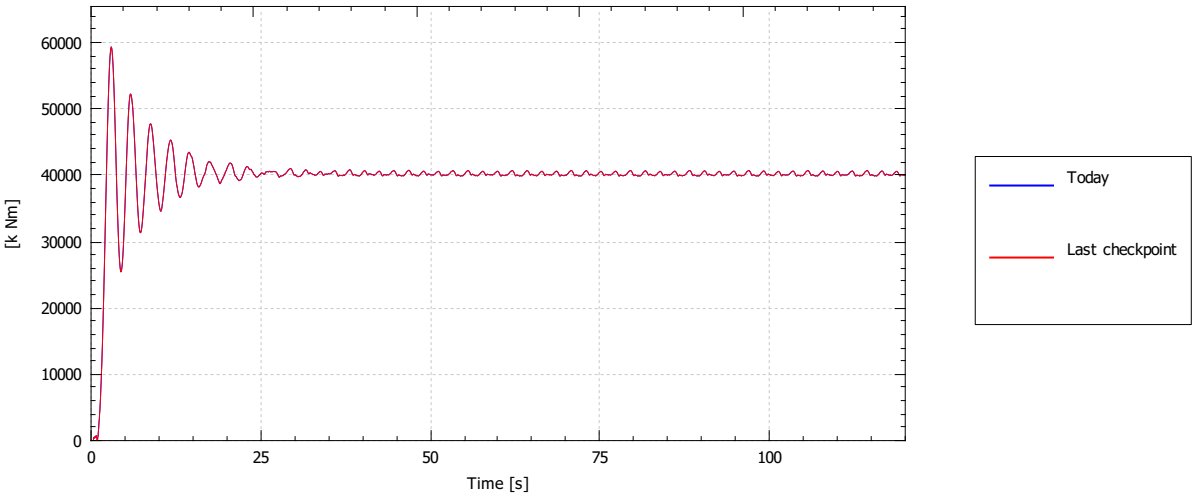
Moment (1st prin. axis), i



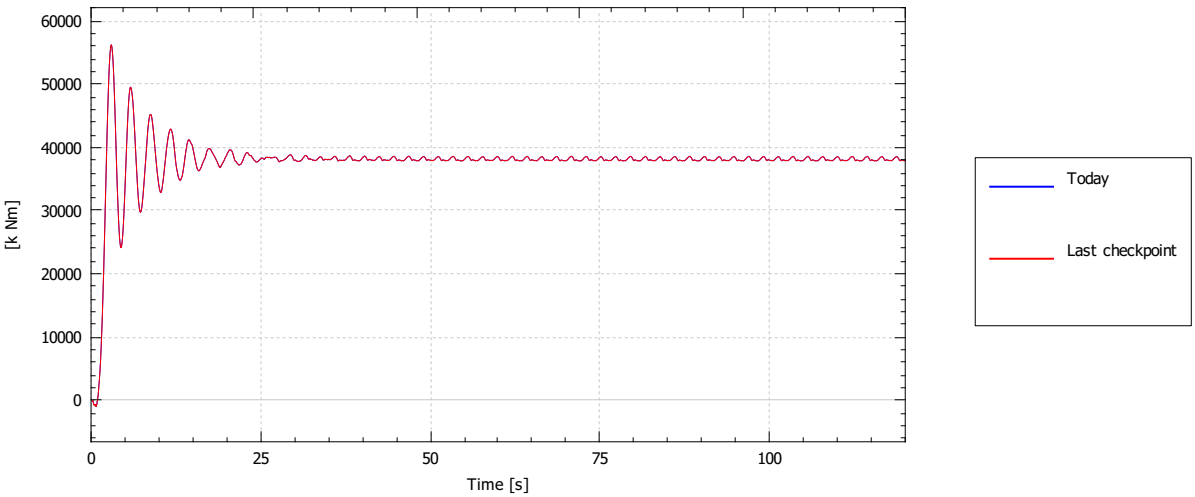
Moment (2nd prin. axis), i



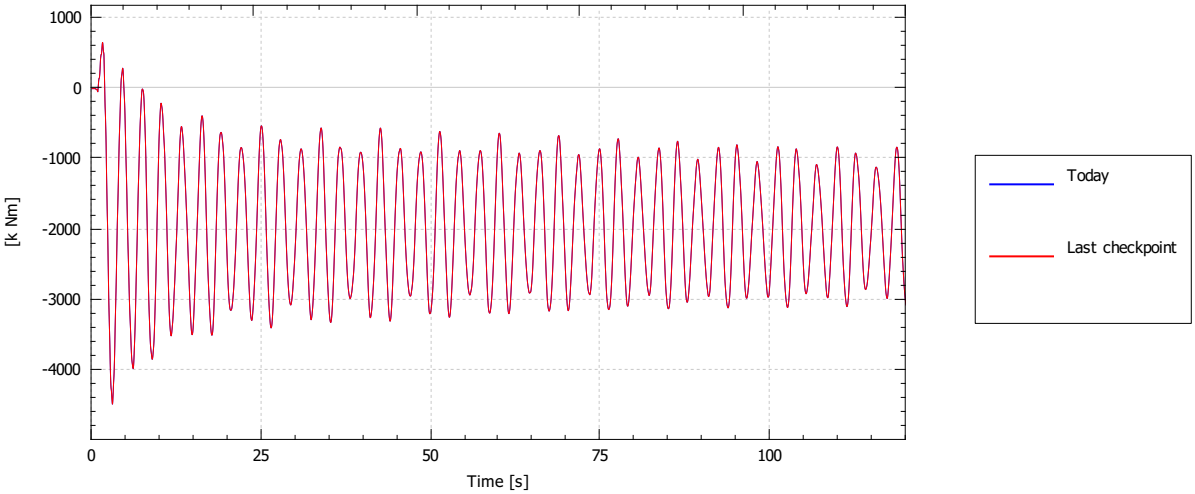
Moment, mag., i



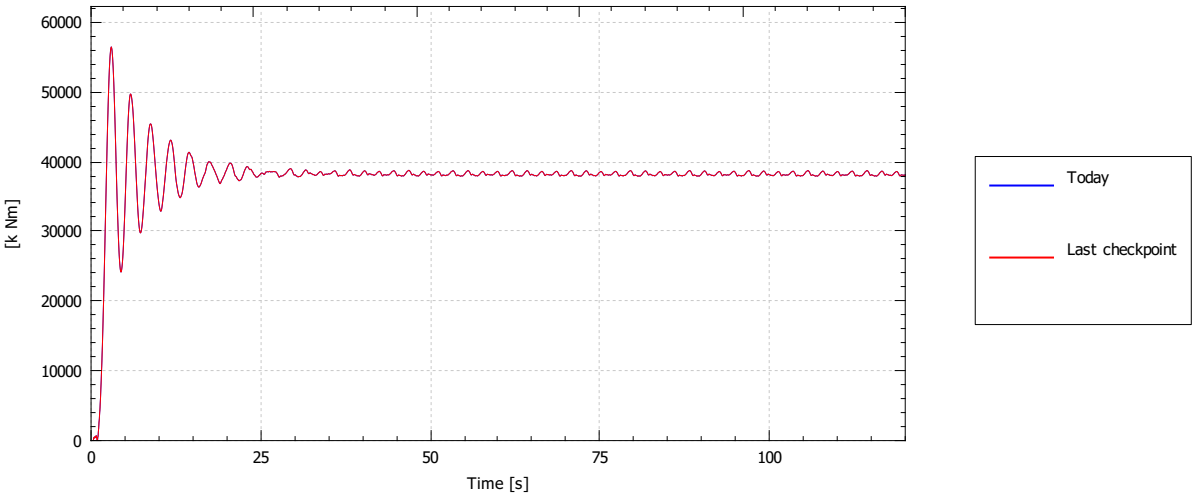
Moment (1st prin. axis), j



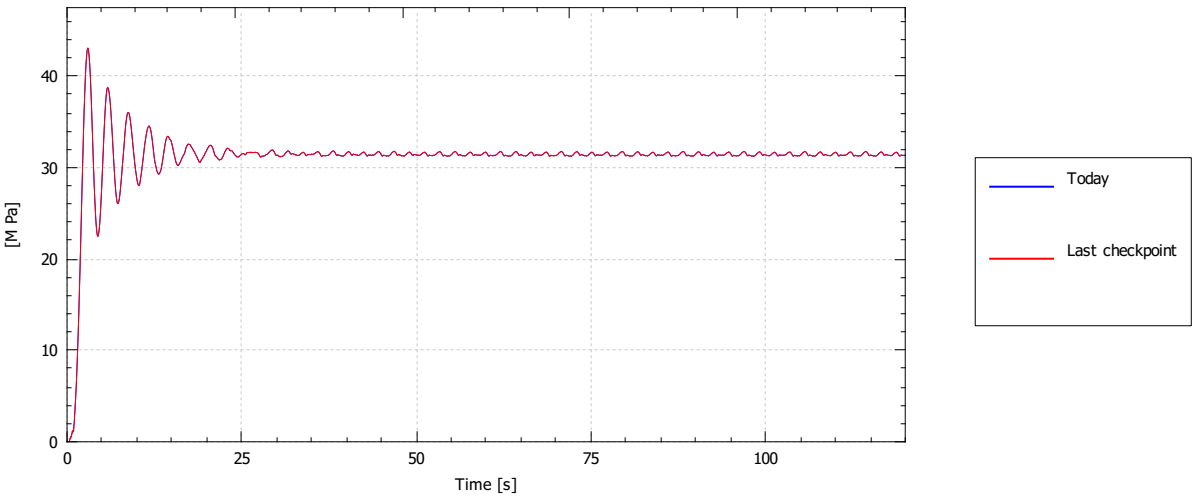
Moment (2nd prin. axis), j



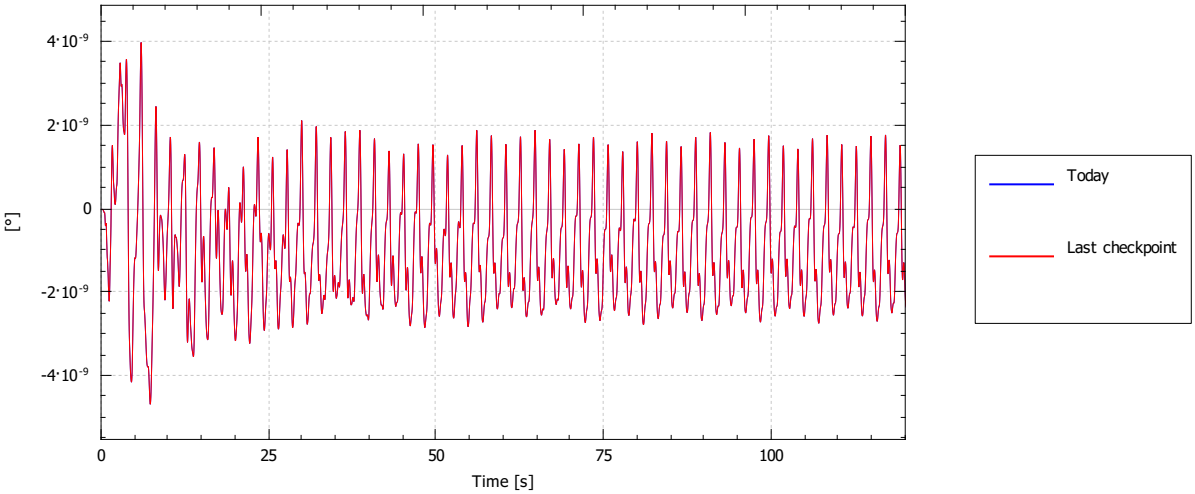
Moment, mag., j



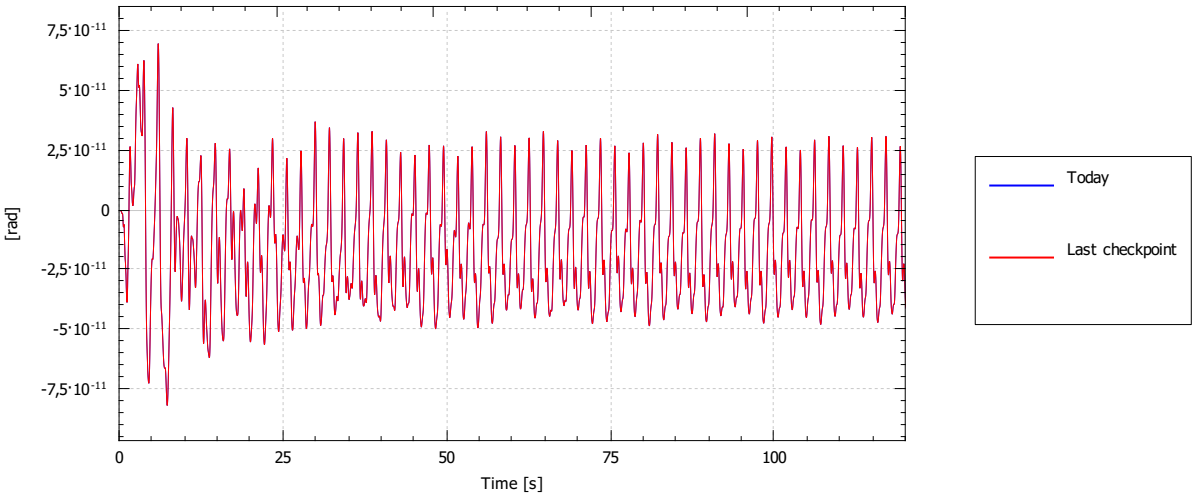
Max normal stress



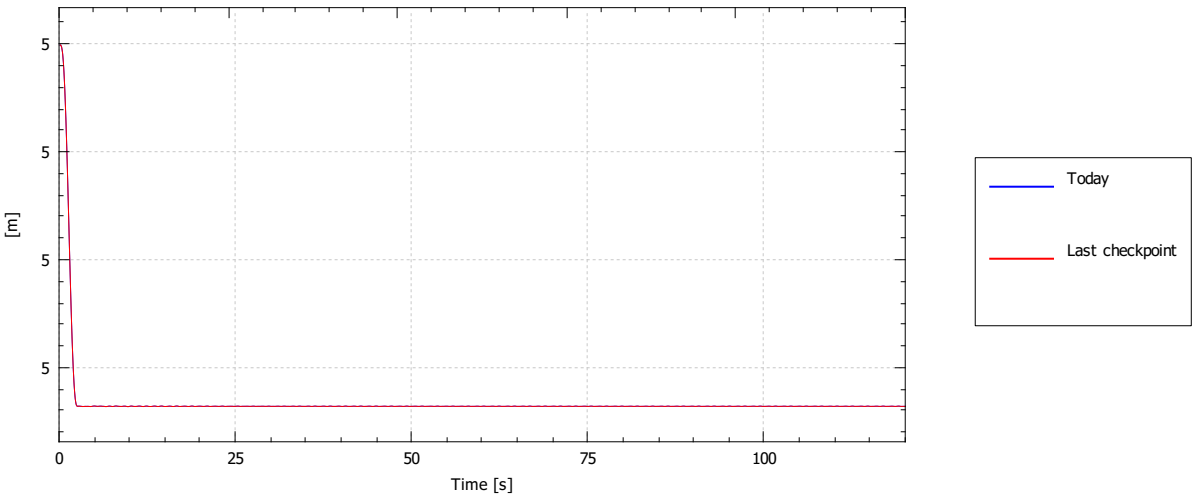
Twist (structural)



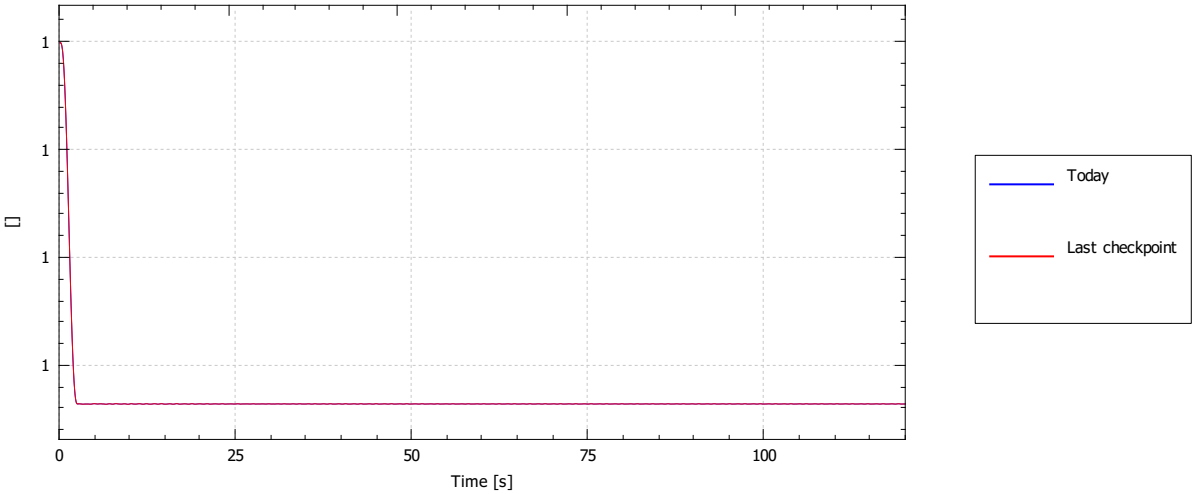
Twist (structural) - rad



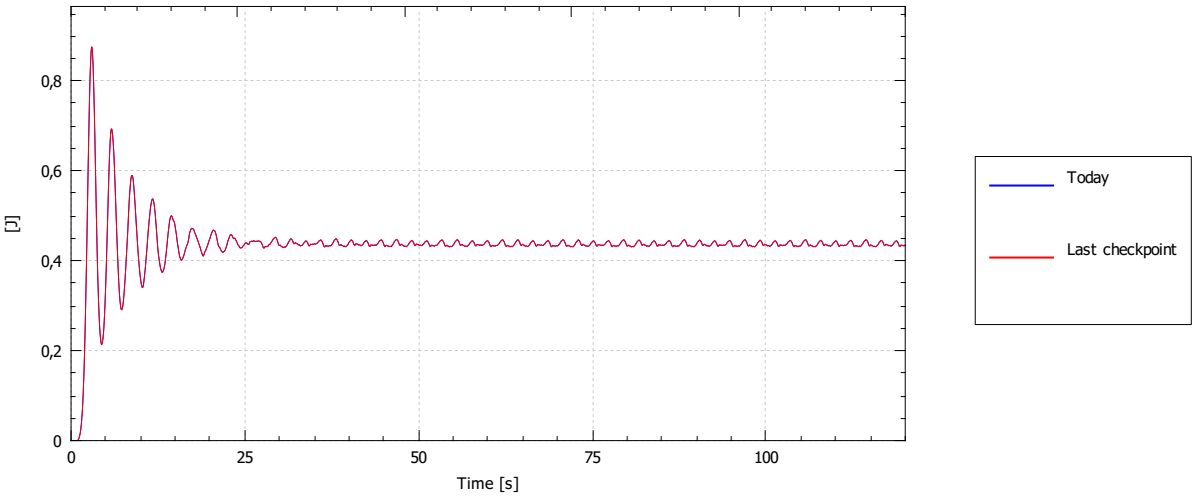
Deformed length



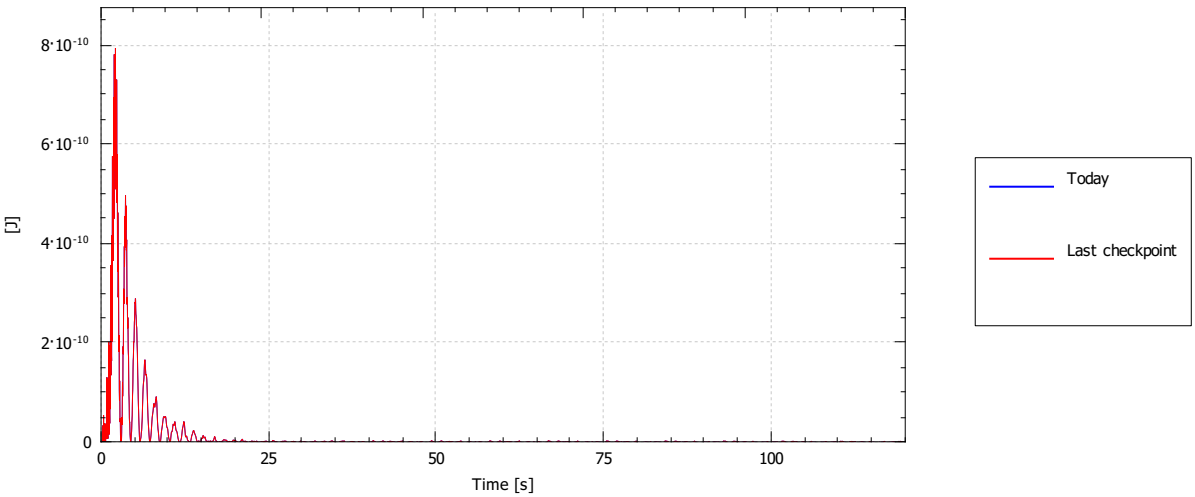
Elongation



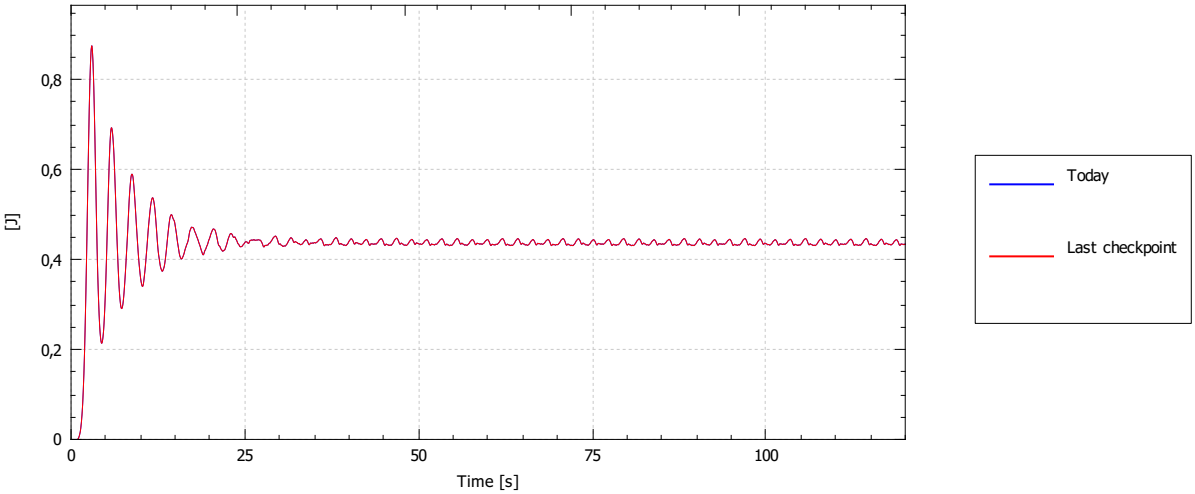
Strain energy



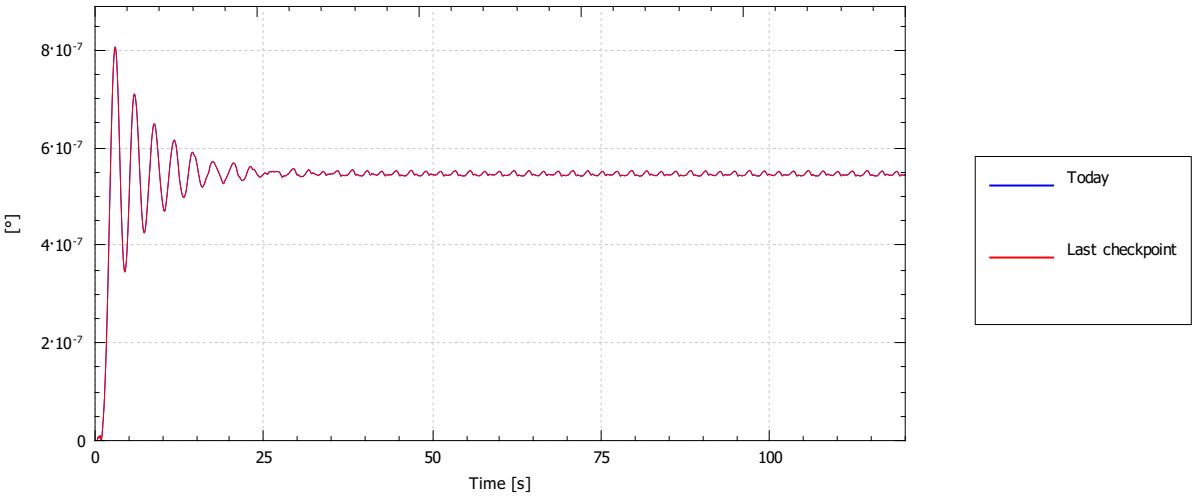
Kinetic energy



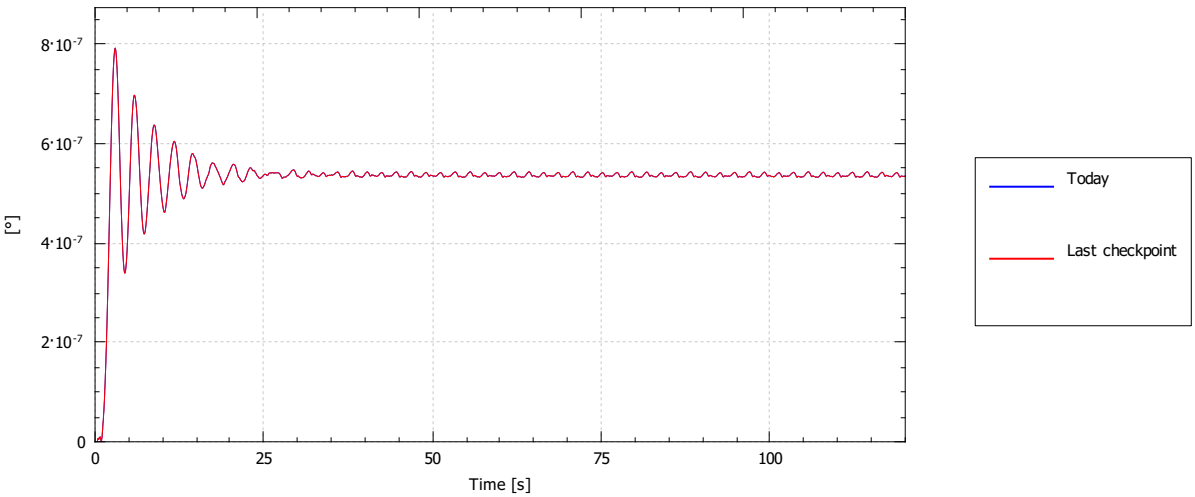
Mechanical energy



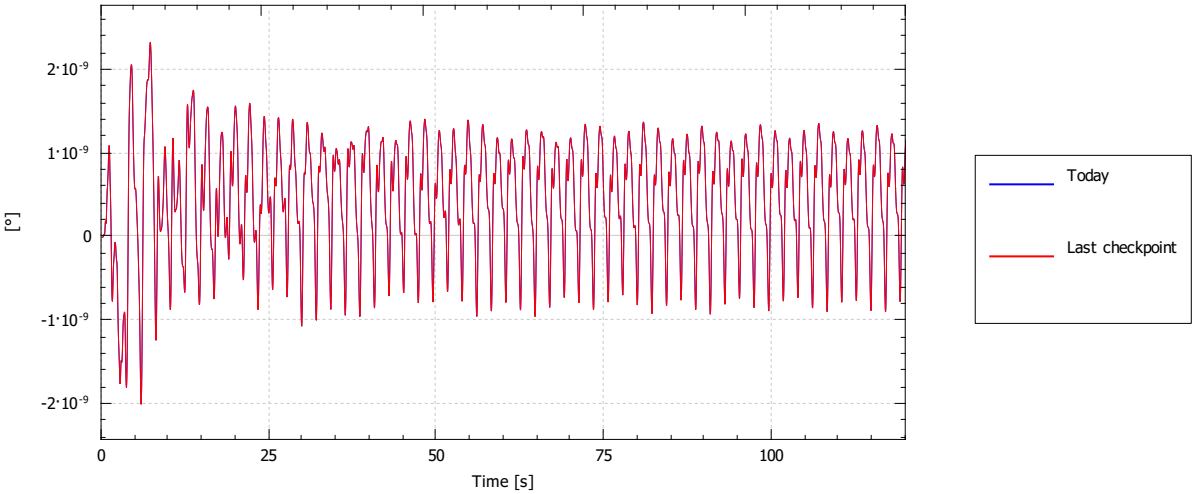
Deformational rotation (i)



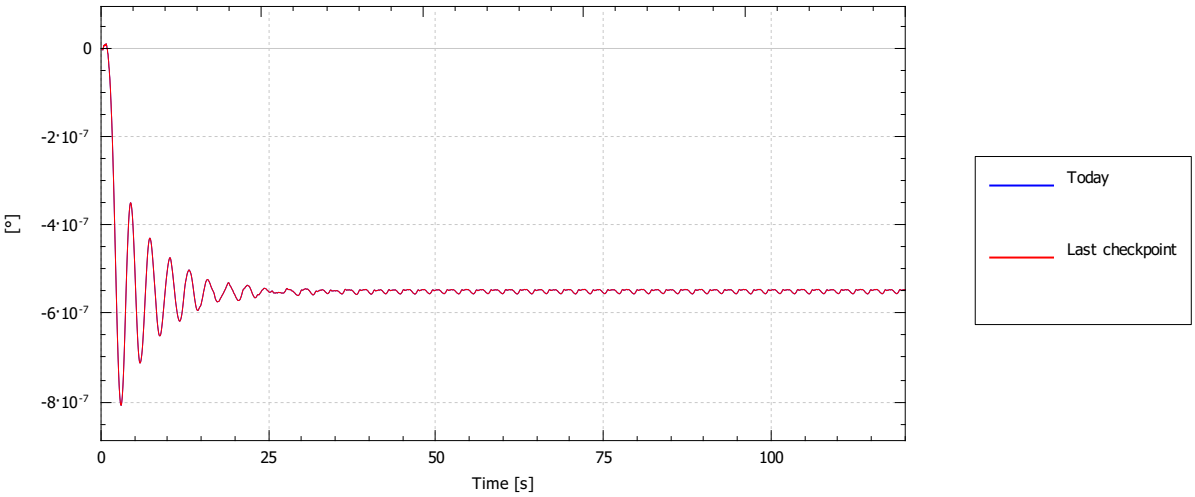
Deformational rotation (j)



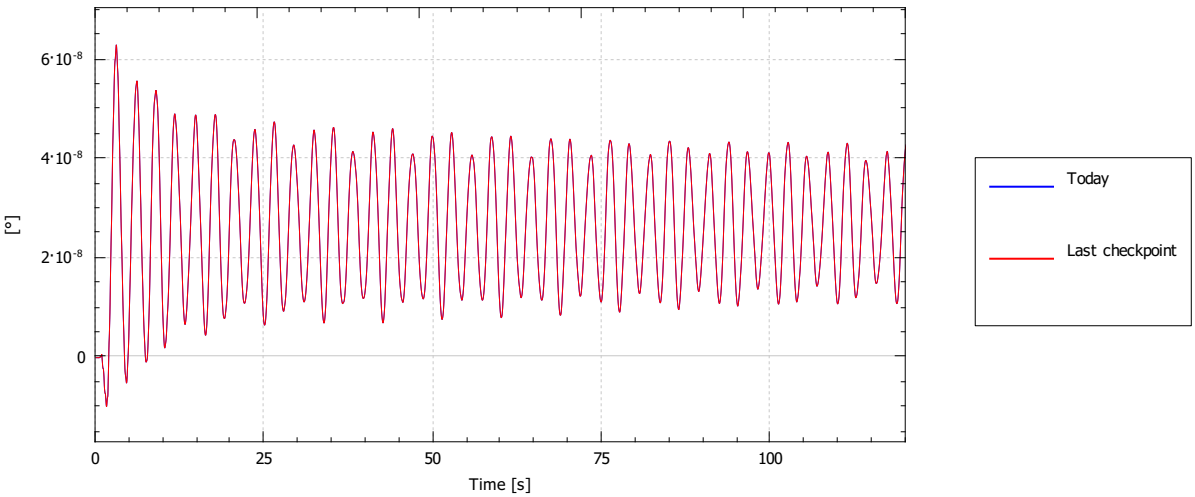
Deformational rotation (axial)



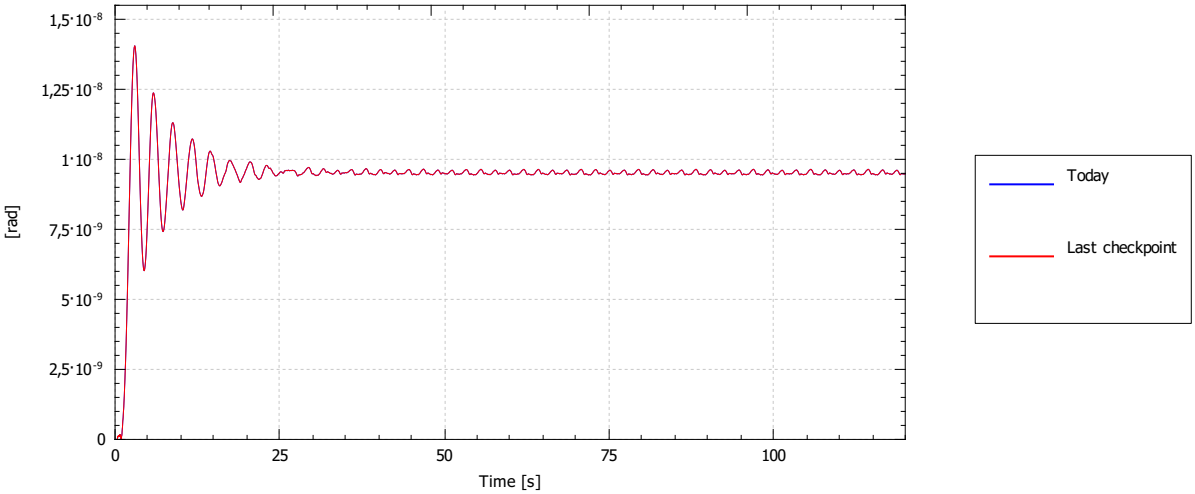
Deformational rotation (1st prin.)



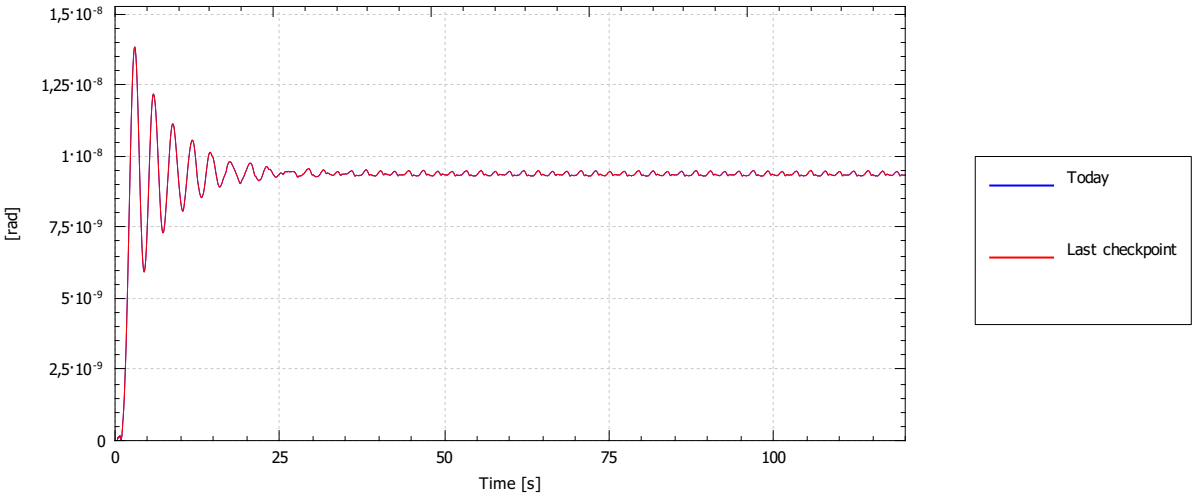
Deformational rotation (2nd prin.)



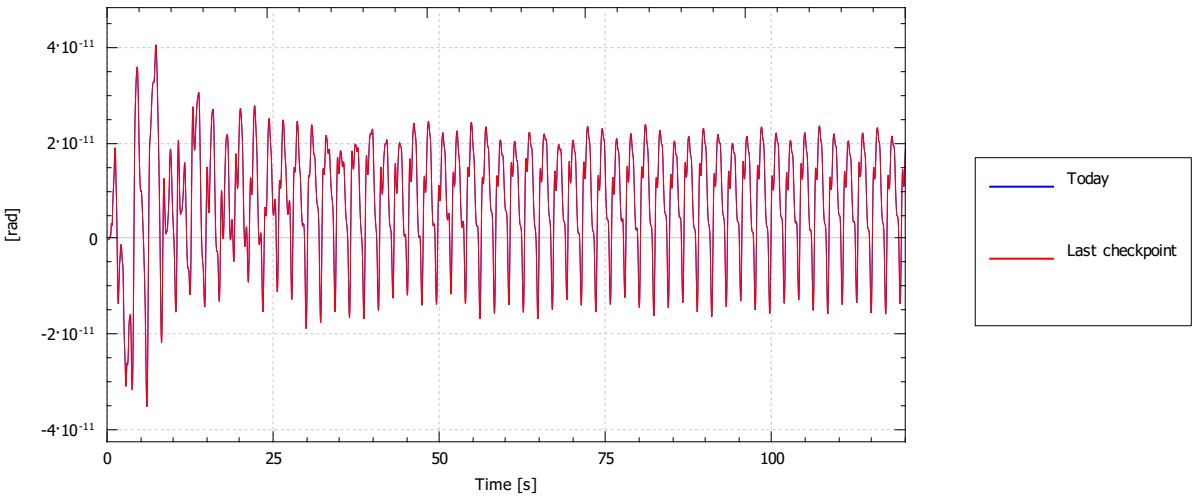
Deformational rotation (i) - rad



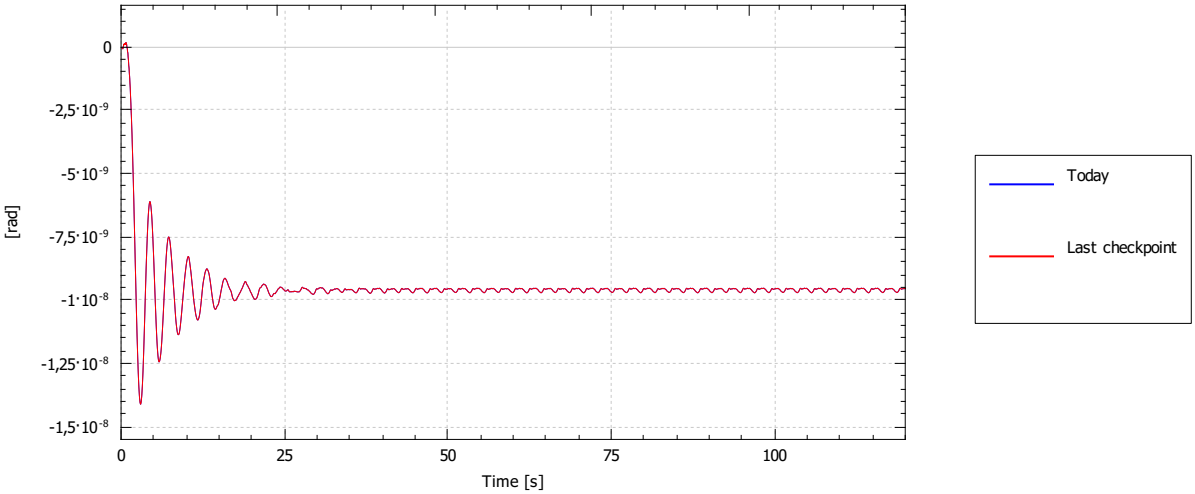
Deformational rotation (j) - rad



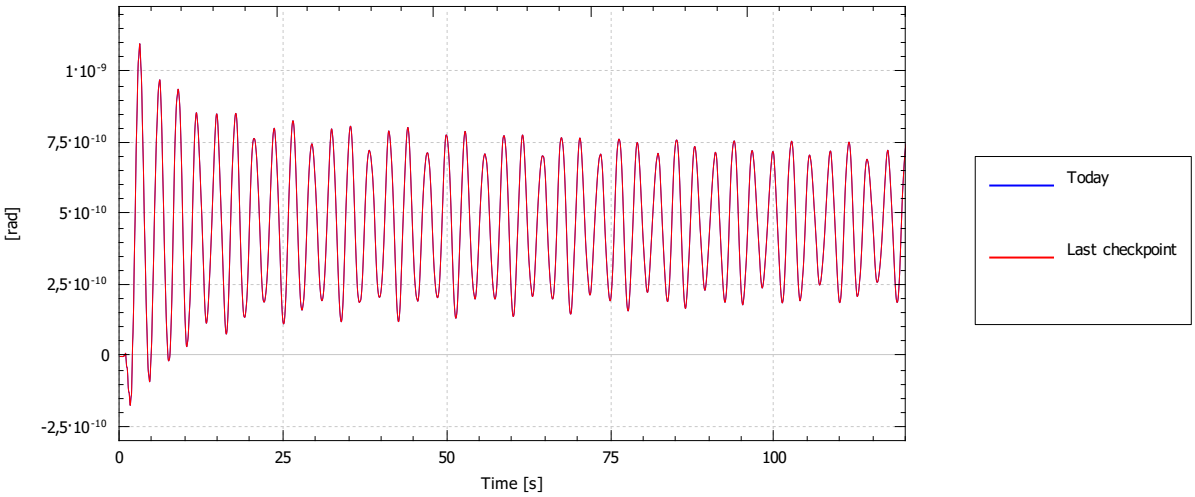
Deformational rotation (axial) - rad



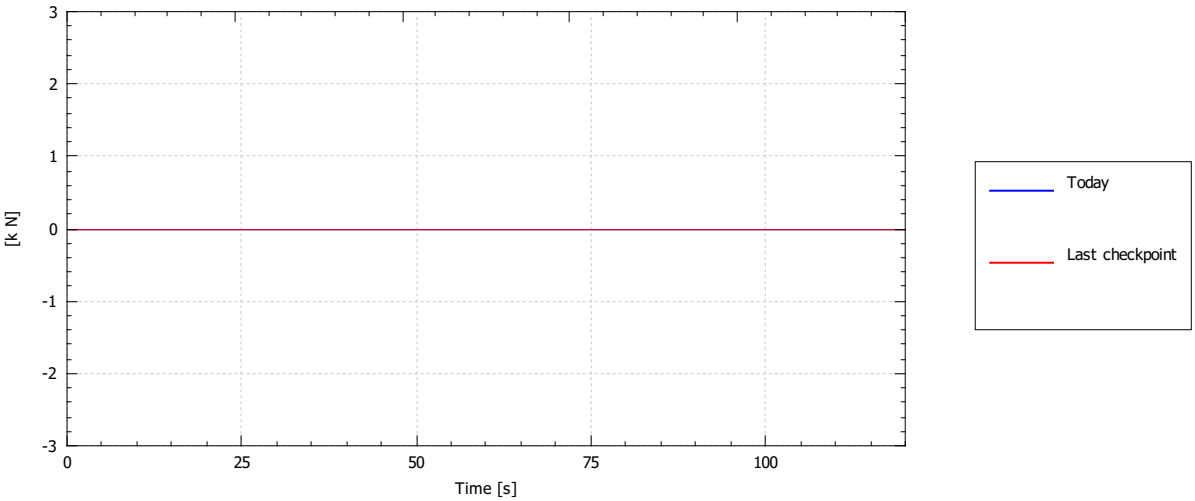
Deformational rotation (1st prin.) - rad



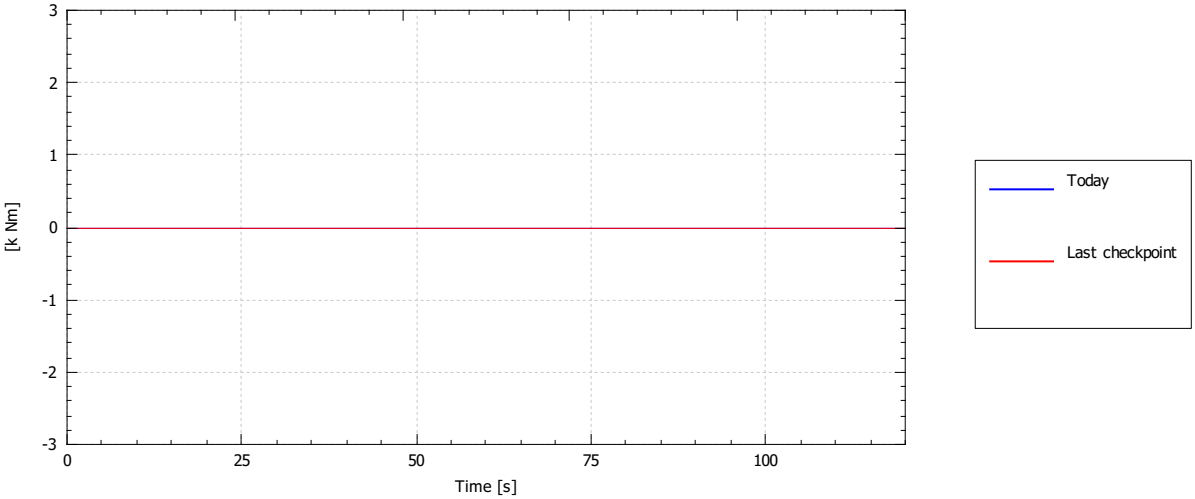
Deformational rotation (2nd prin.) - rad



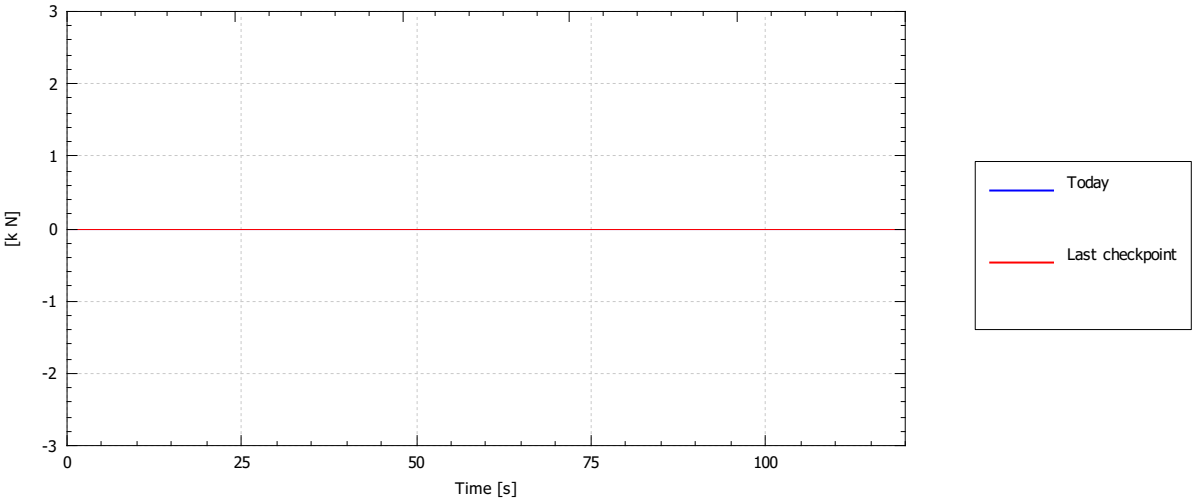
Damping force, i



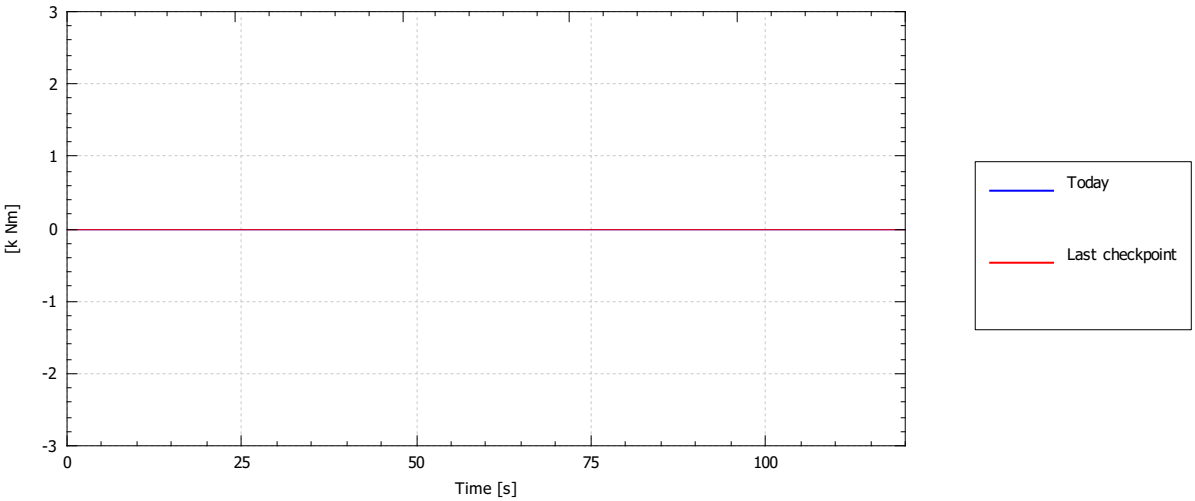
Damping moment, i



Damping force, sum

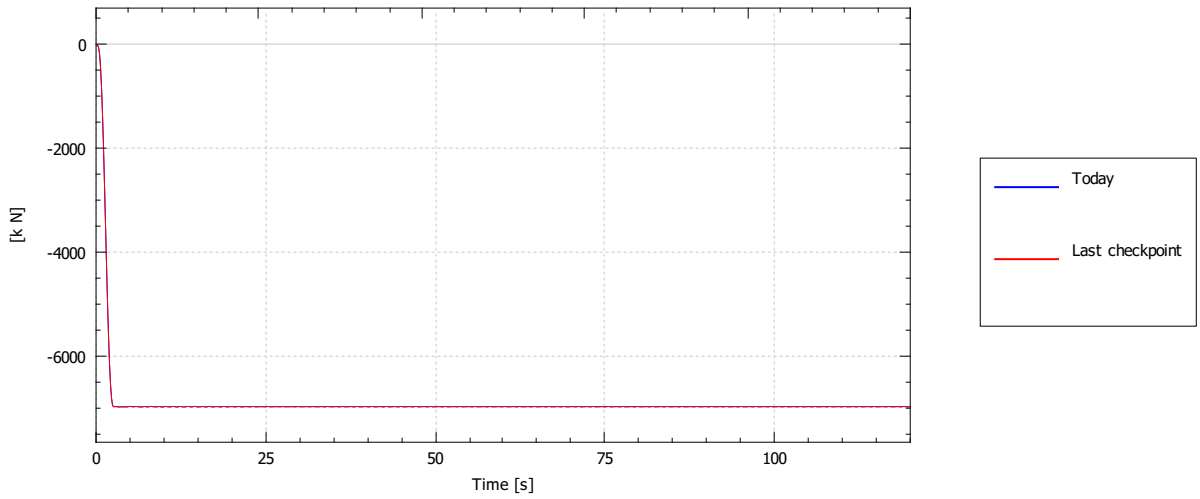


Damping moment, sum

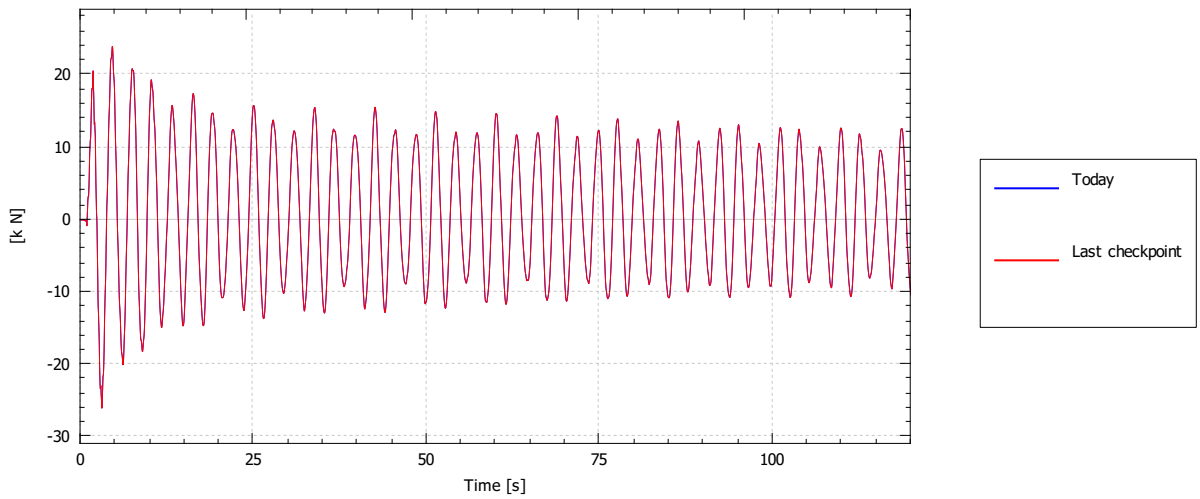


Beam element [Element 6 | Monopile]

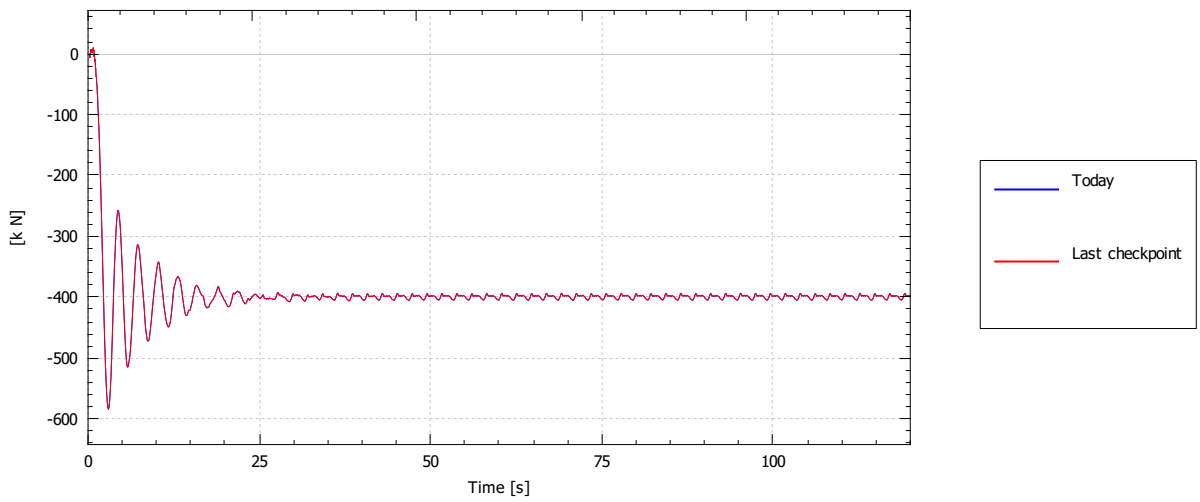
Axial force



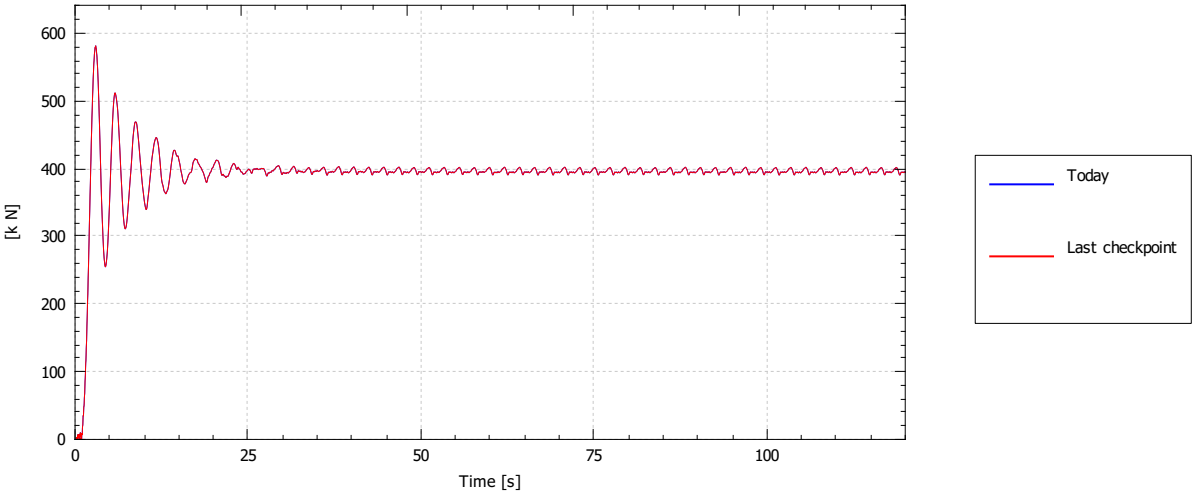
Shear force (1st prin. axis)



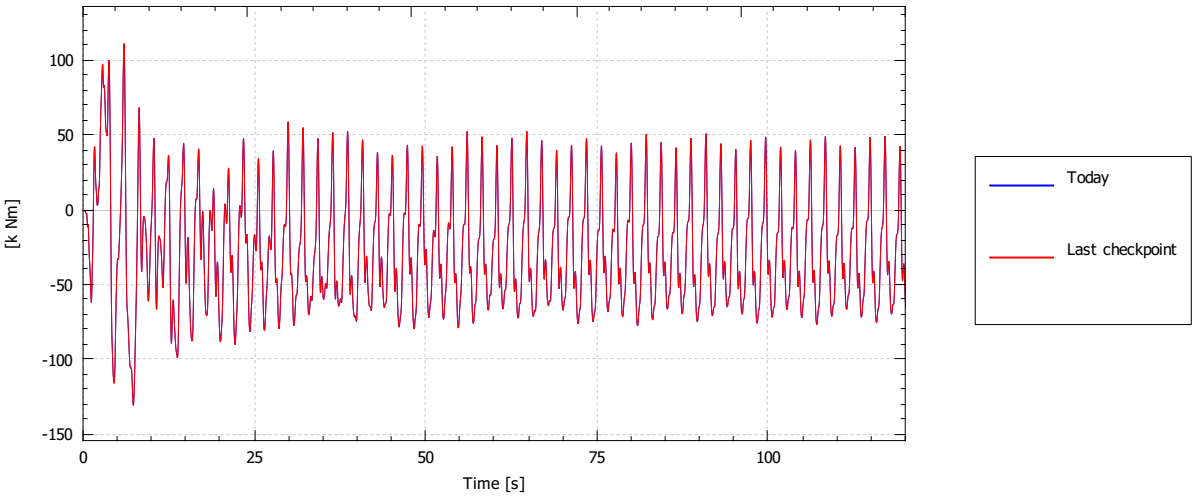
Shear force (2nd prin. axis)



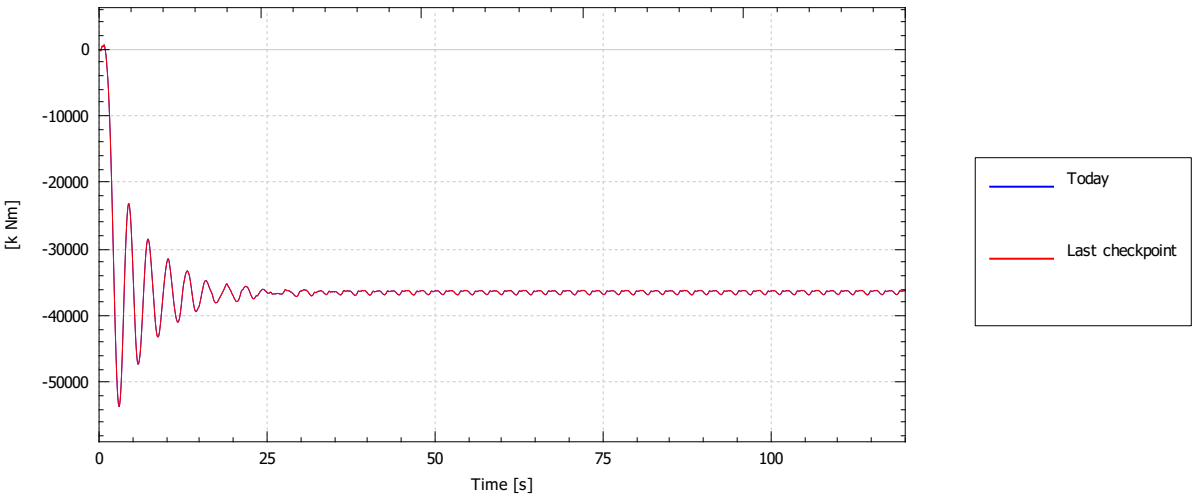
Shear force, mag.



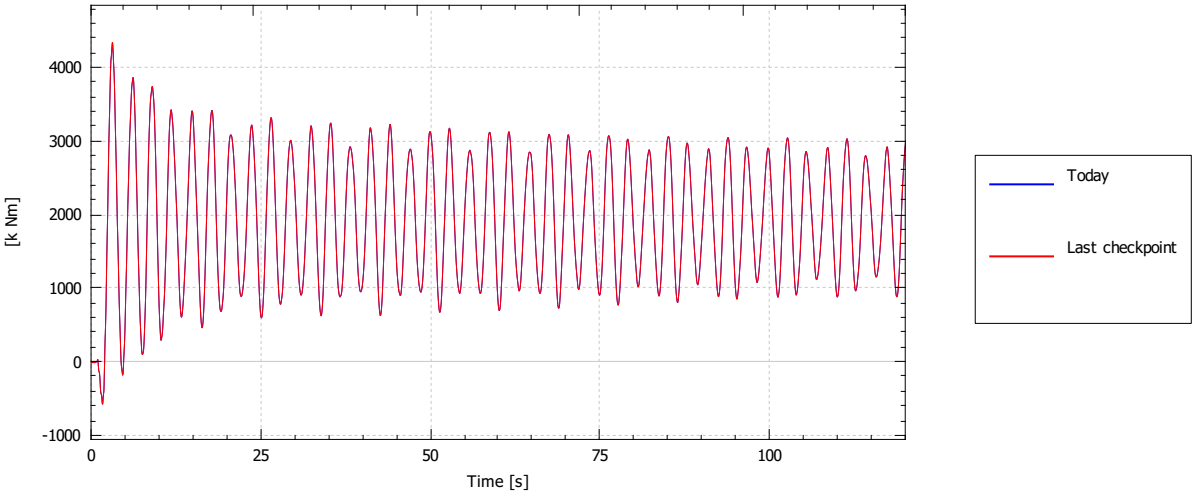
Torque



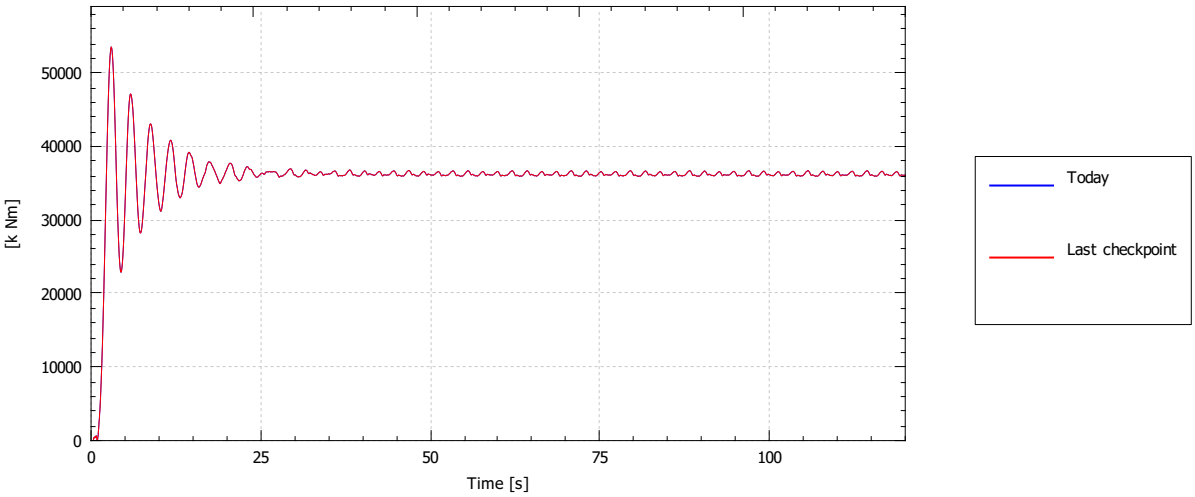
Moment (1st prin. axis), i



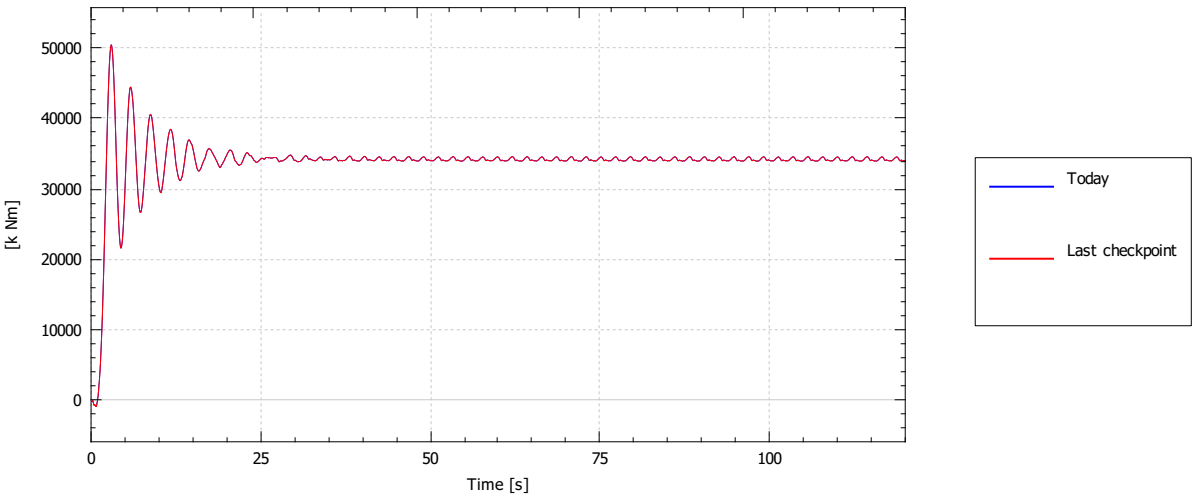
Moment (2nd prin. axis), i



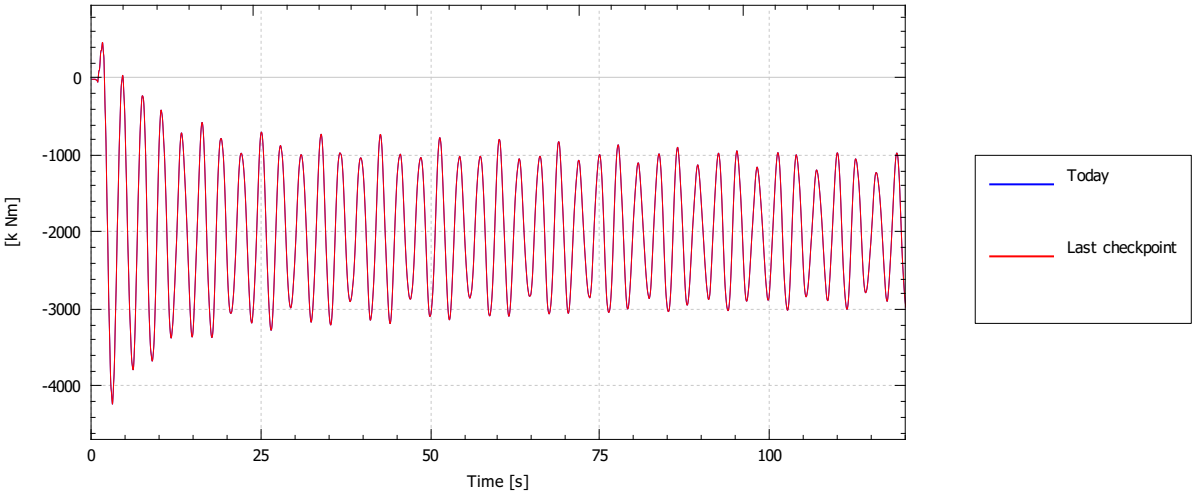
Moment, mag., i



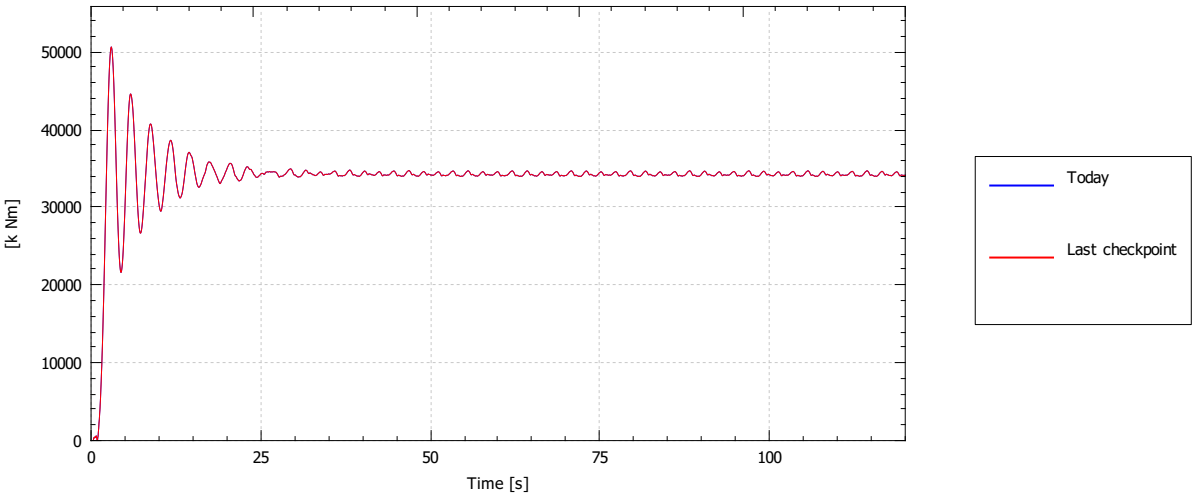
Moment (1st prin. axis), j



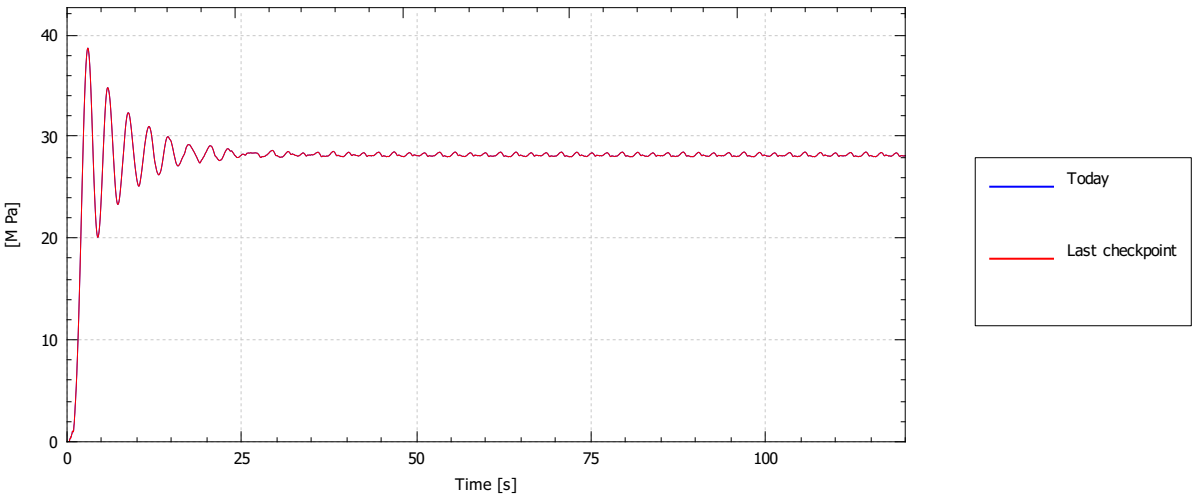
Moment (2nd prin. axis), j



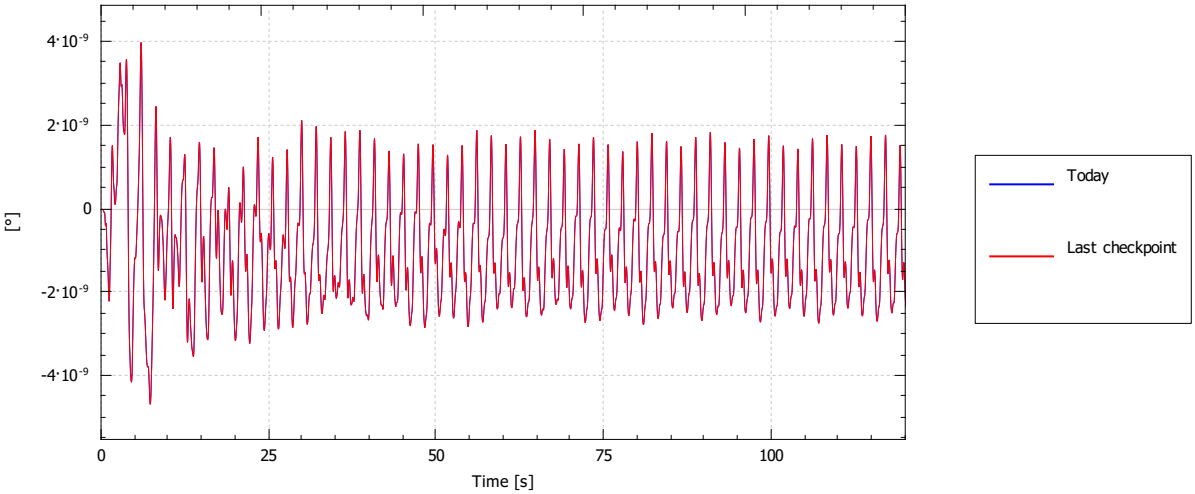
Moment, mag., j



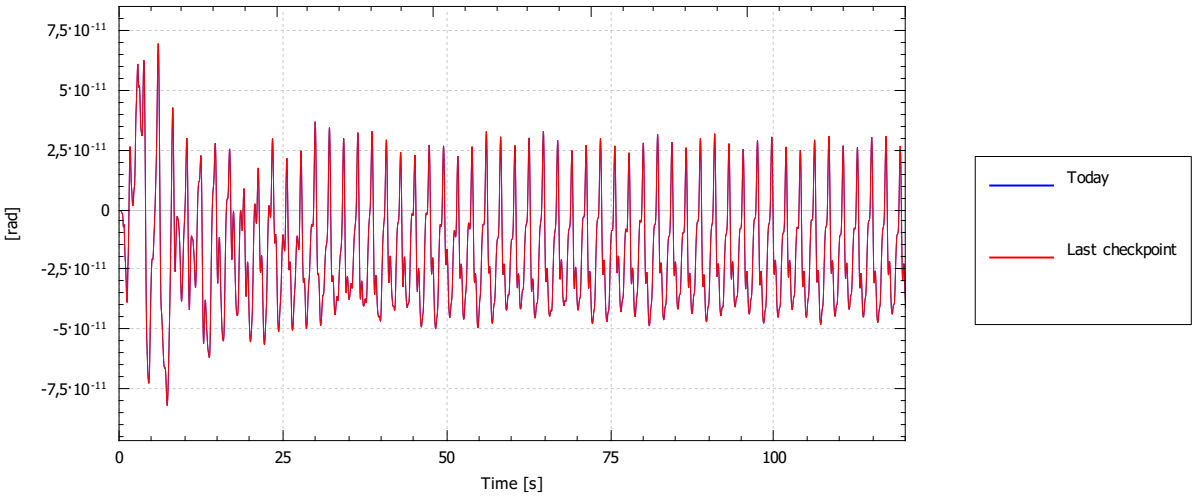
Max normal stress



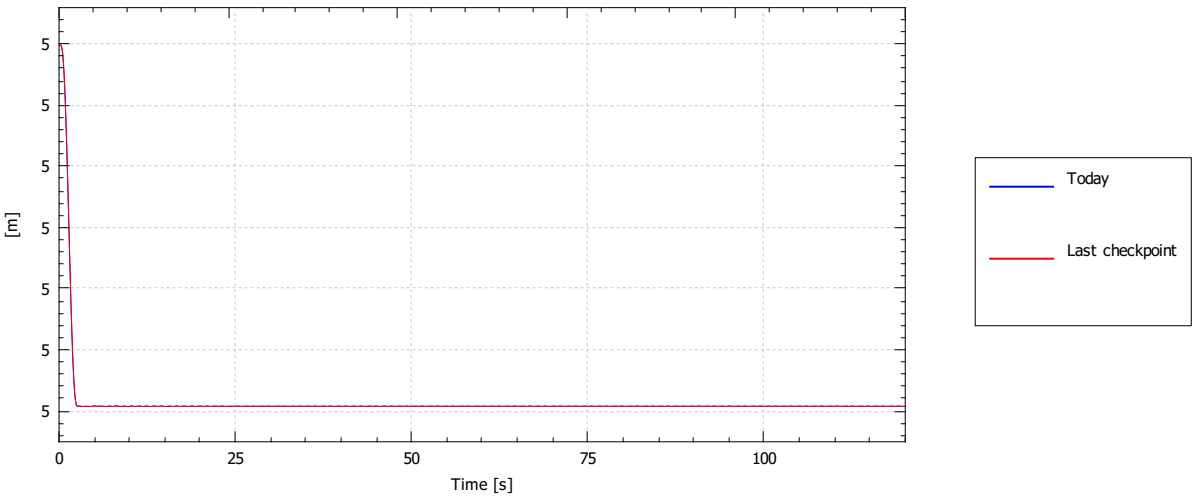
Twist (structural)



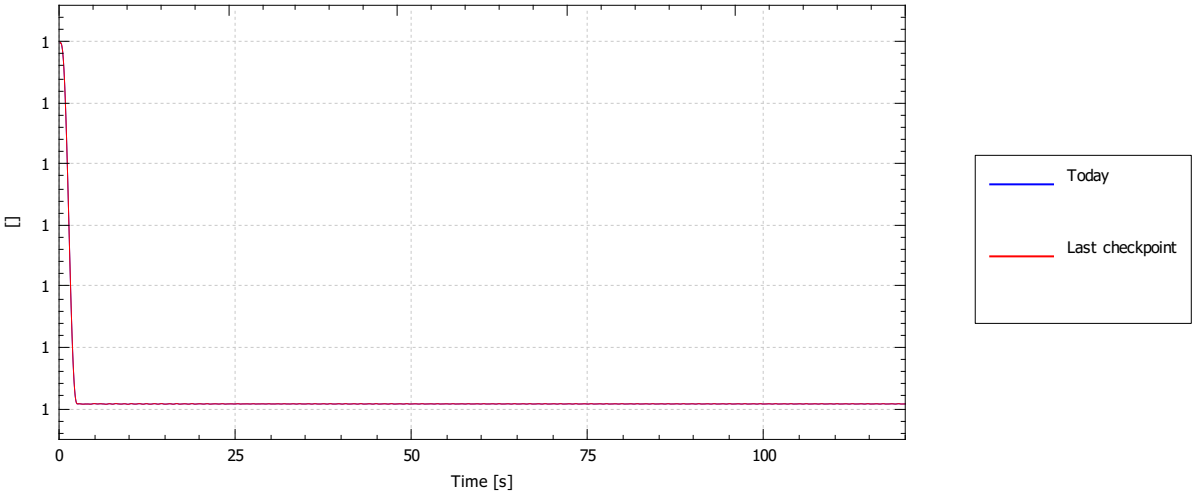
Twist (structural) - rad



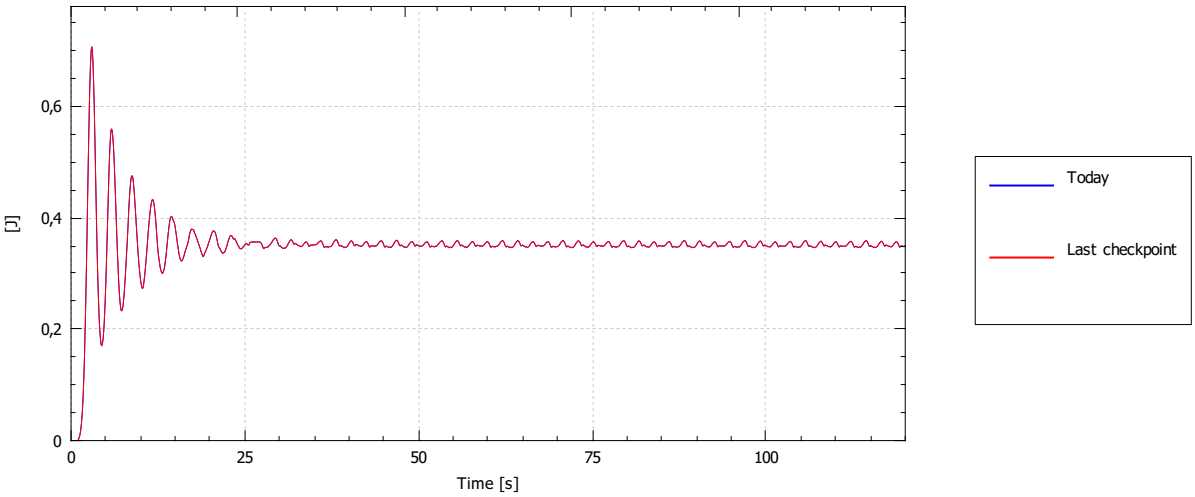
Deformed length



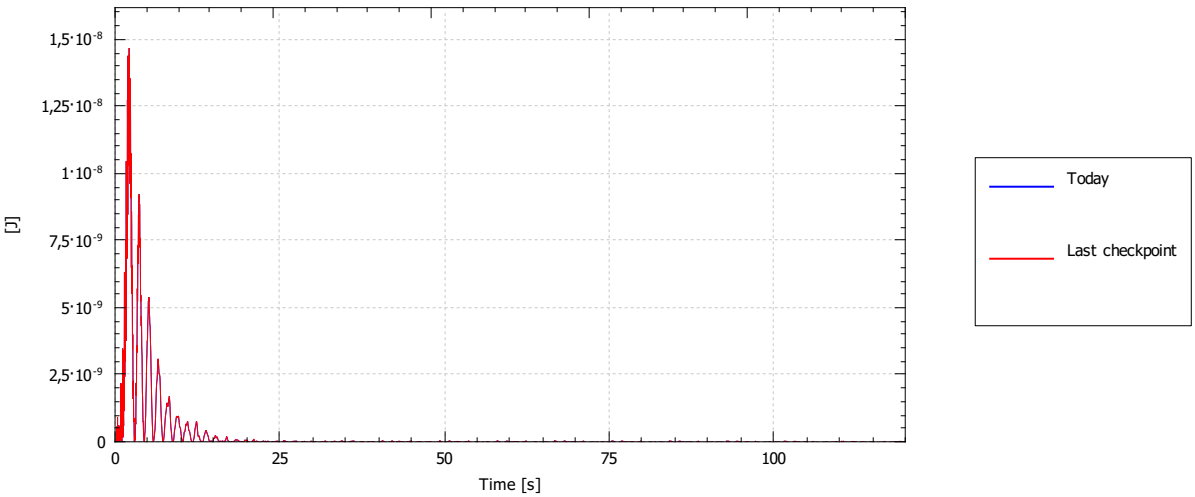
Elongation



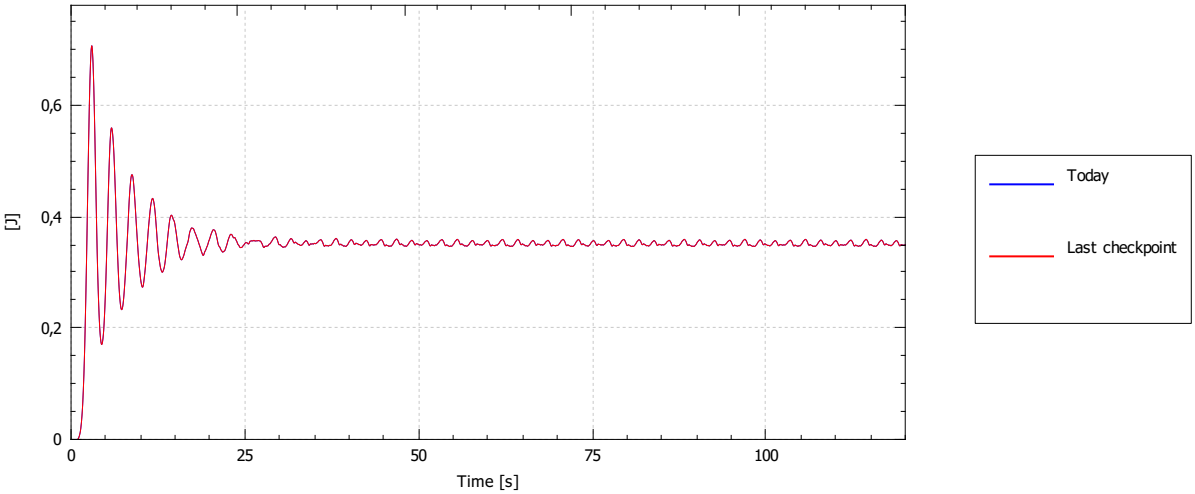
Strain energy



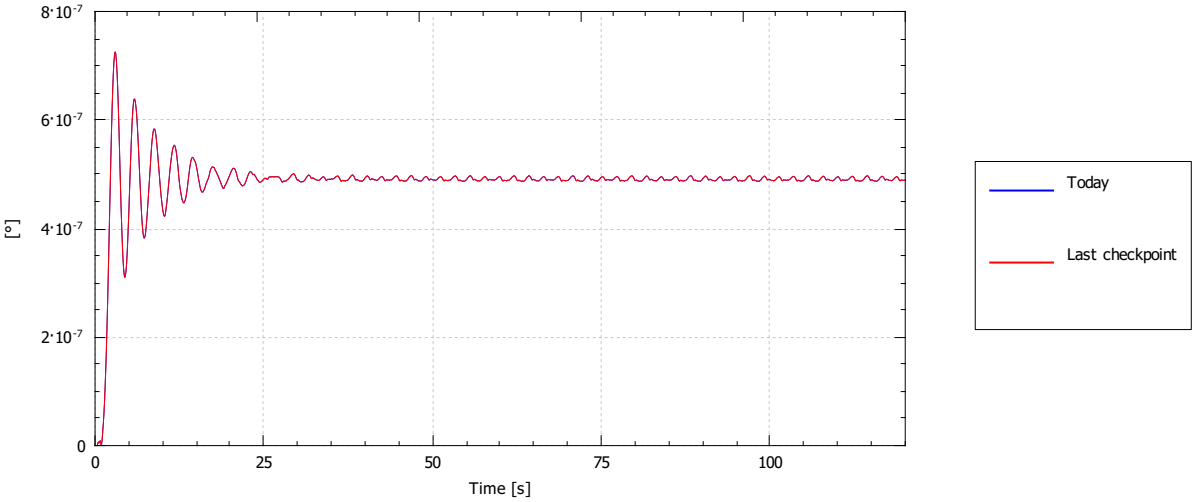
Kinetic energy



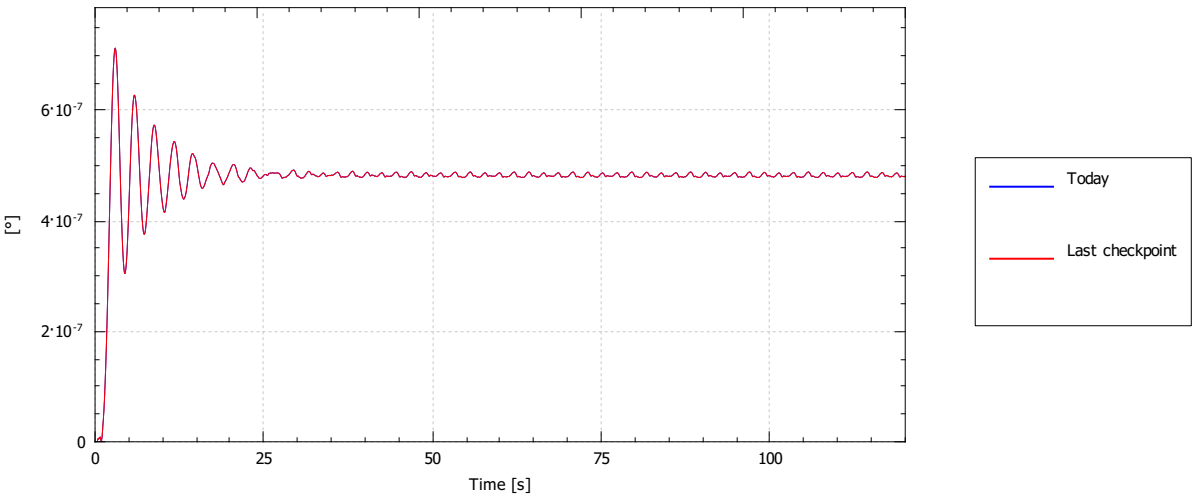
Mechanical energy



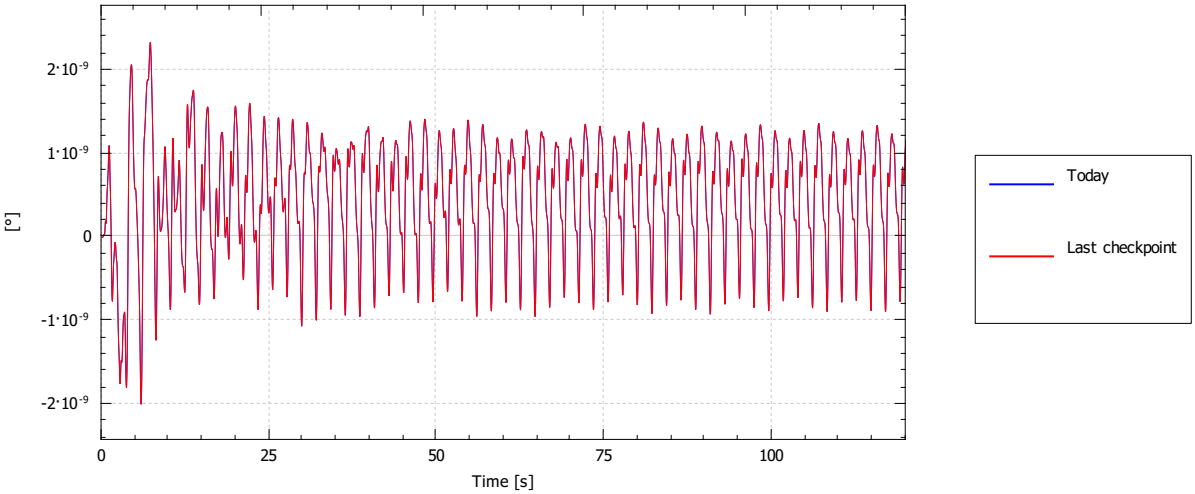
Deformational rotation (i)



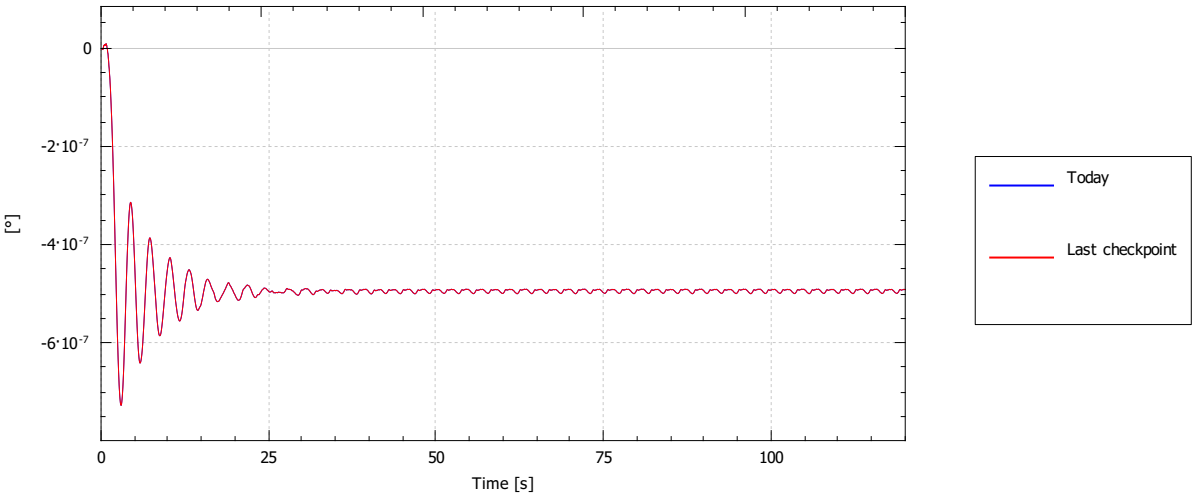
Deformational rotation (j)



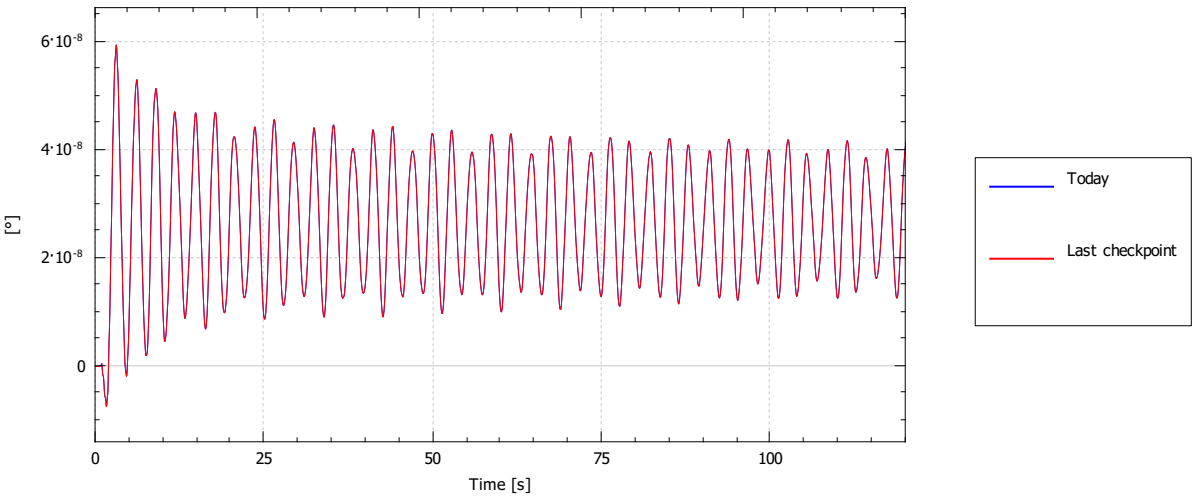
Deformational rotation (axial)



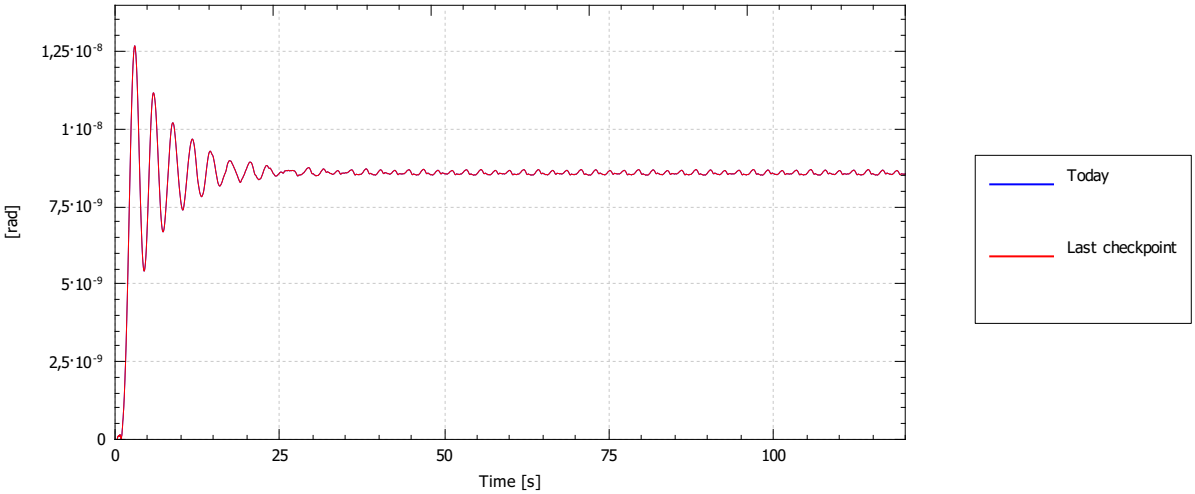
Deformational rotation (1st prin.)



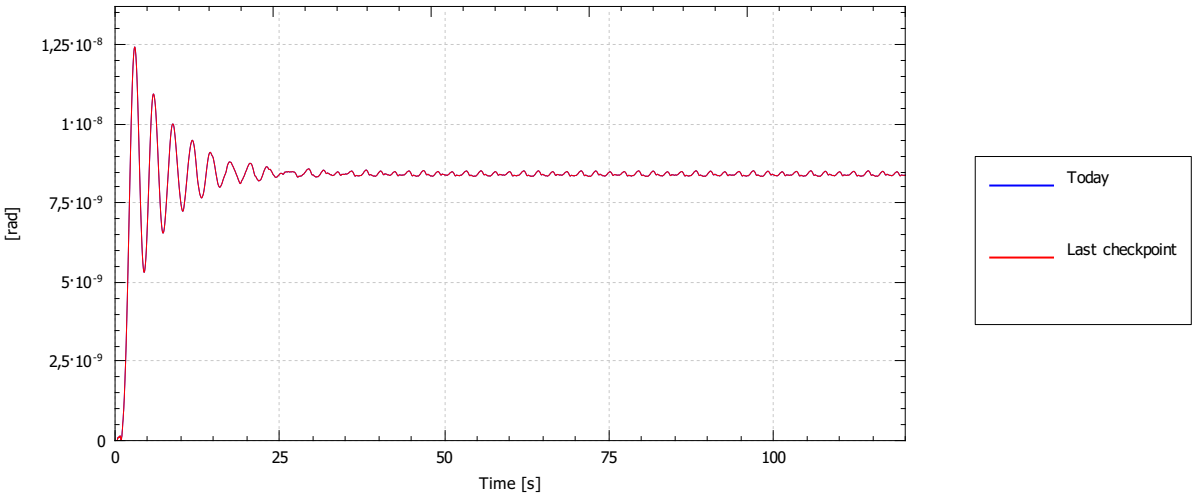
Deformational rotation (2nd prin.)



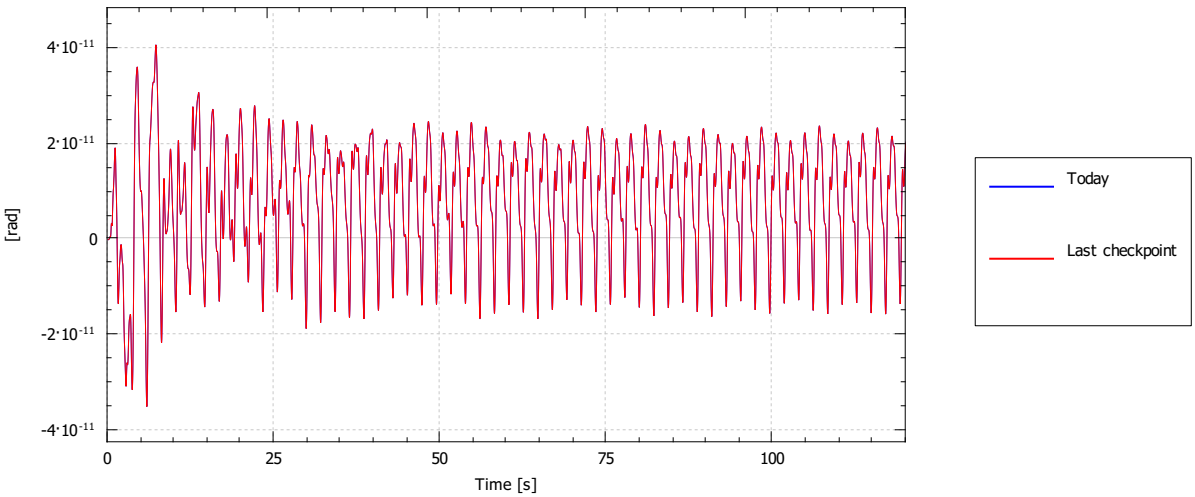
Deformational rotation (i) - rad



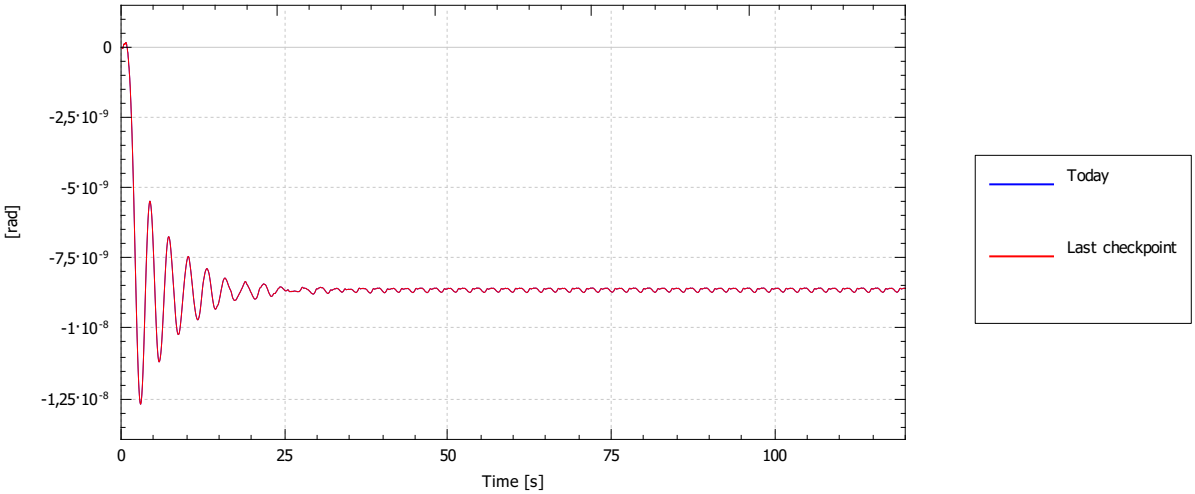
Deformational rotation (j) - rad



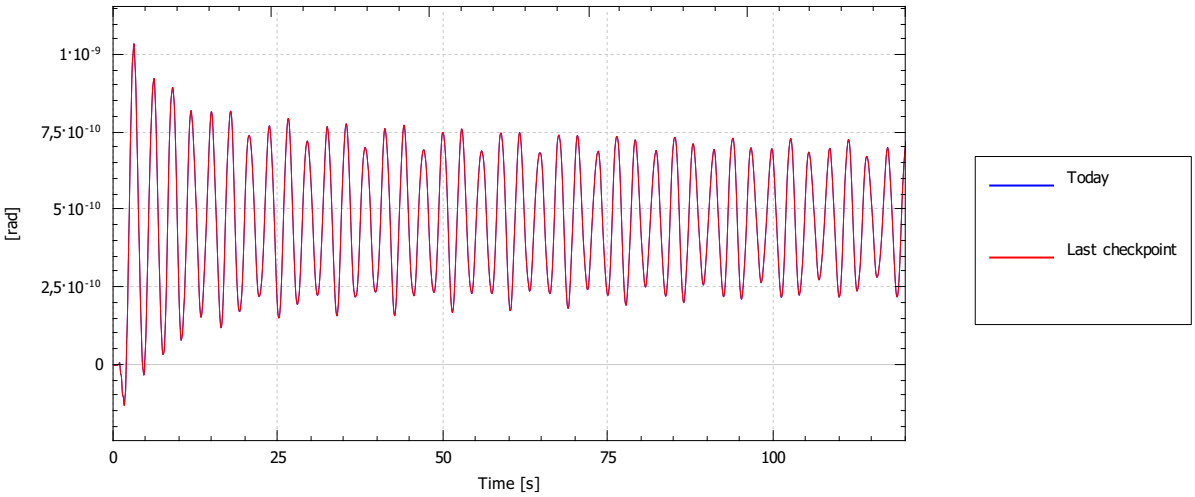
Deformational rotation (axial) - rad



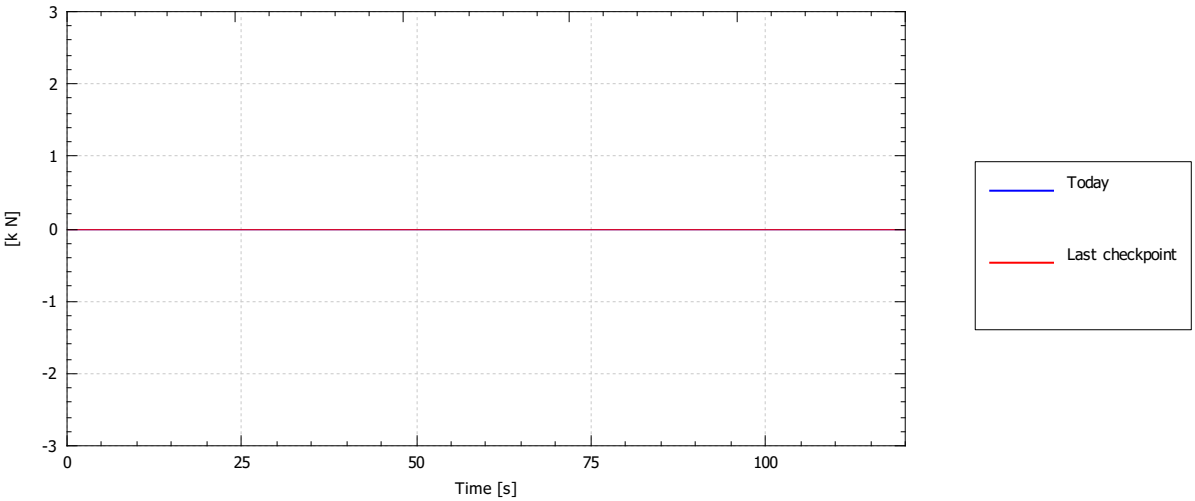
Deformational rotation (1st prin.) - rad



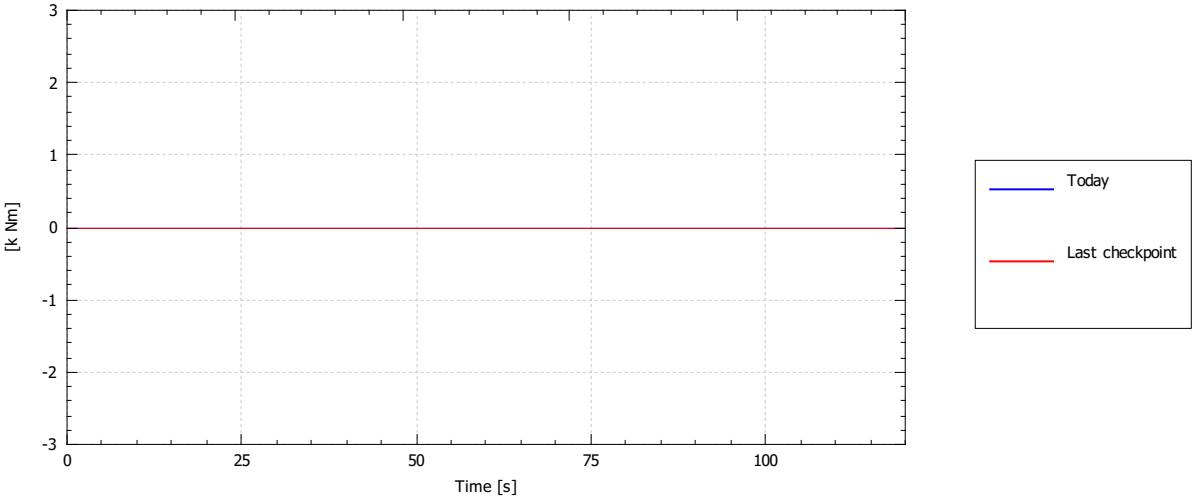
Deformational rotation (2nd prin.) - rad



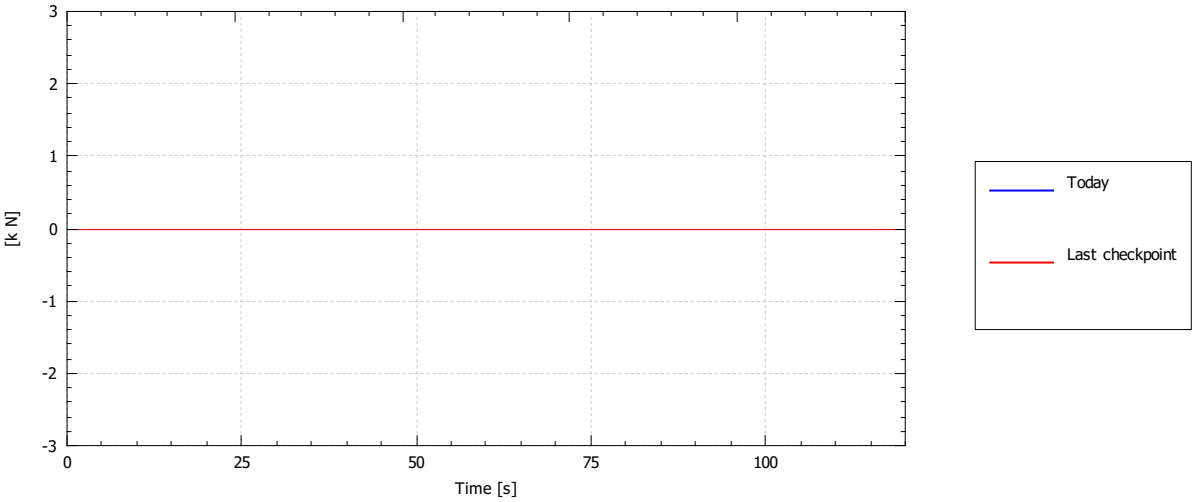
Damping force, i



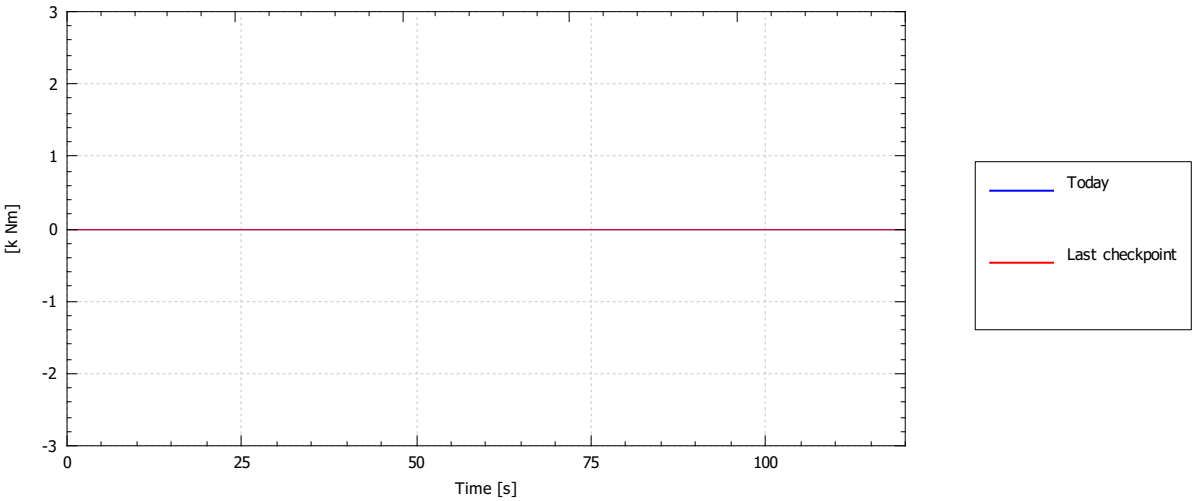
Damping moment, i



Damping force, sum

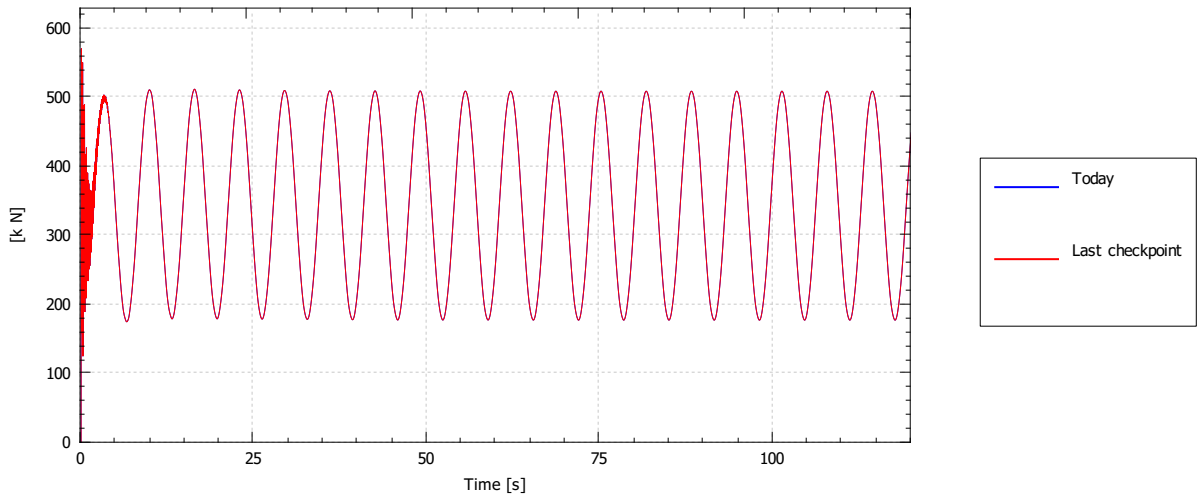


Damping moment, sum

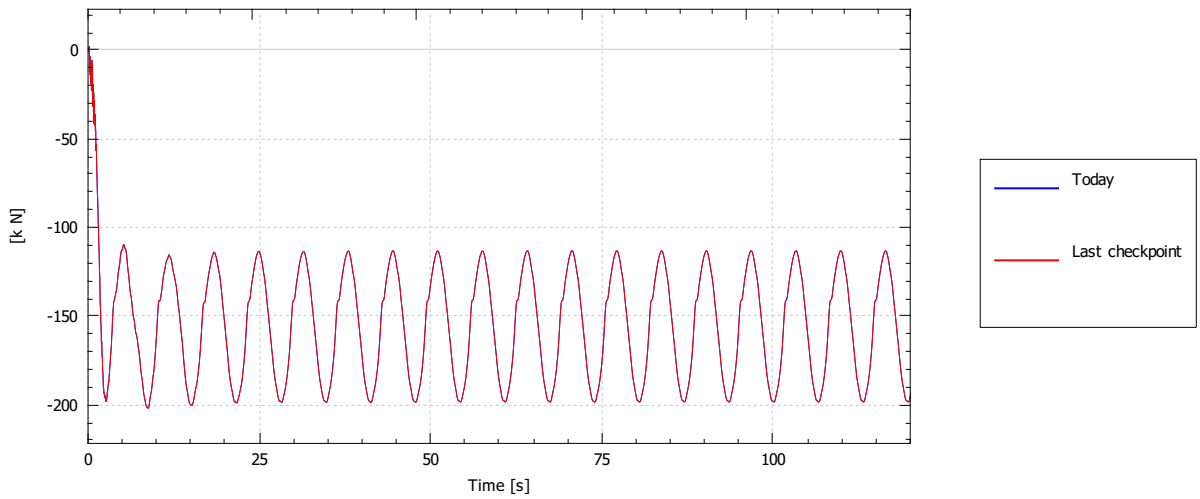


Beam element [Element 1 | Blade 1]

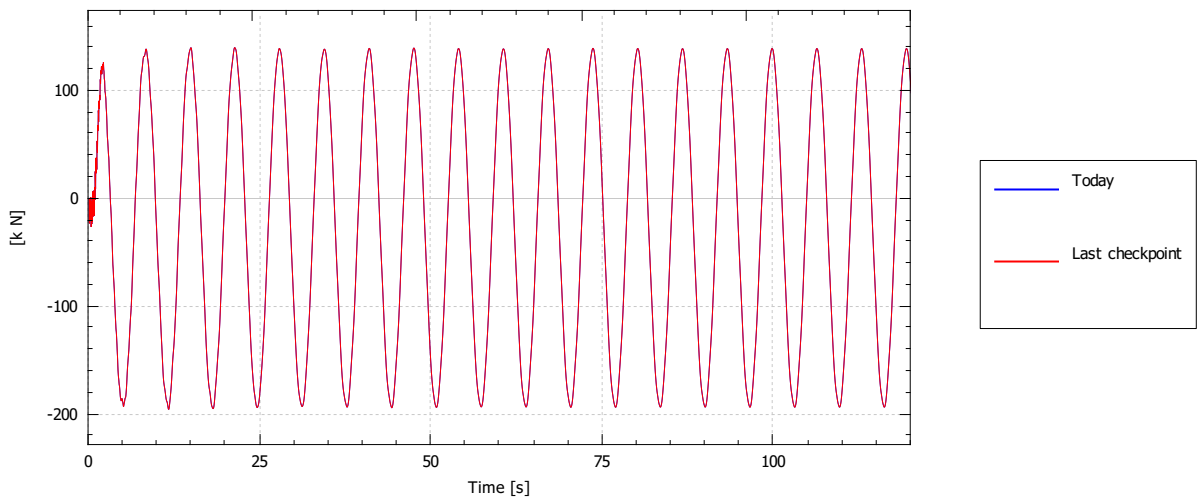
Axial force



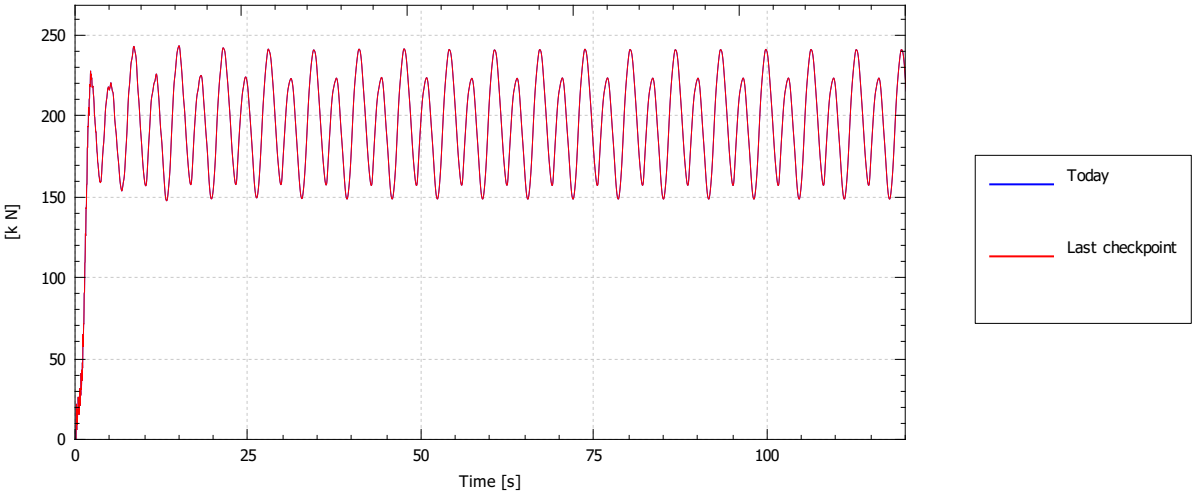
Shear force (1st prin. axis)



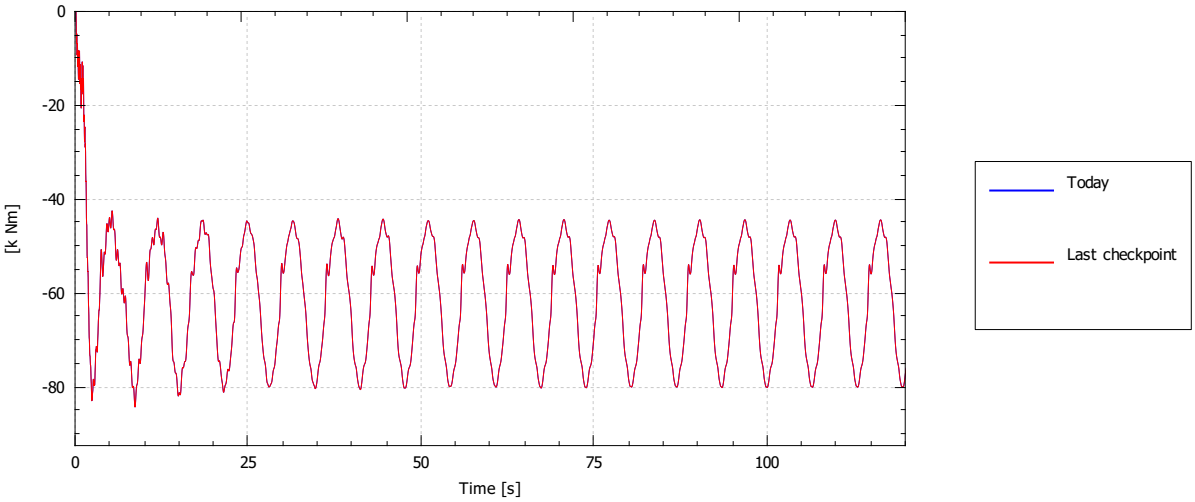
Shear force (2nd prin. axis)



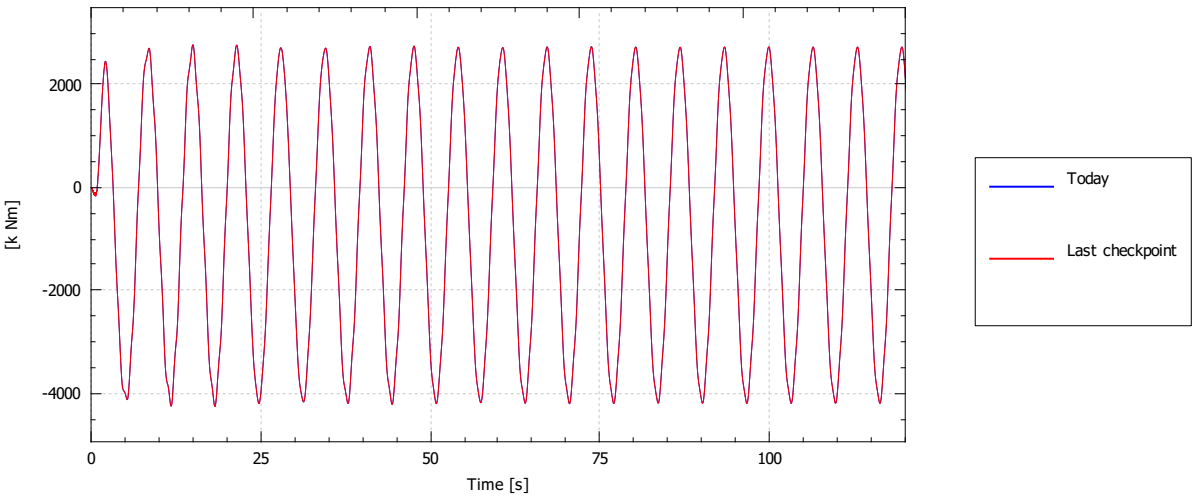
Shear force, mag.



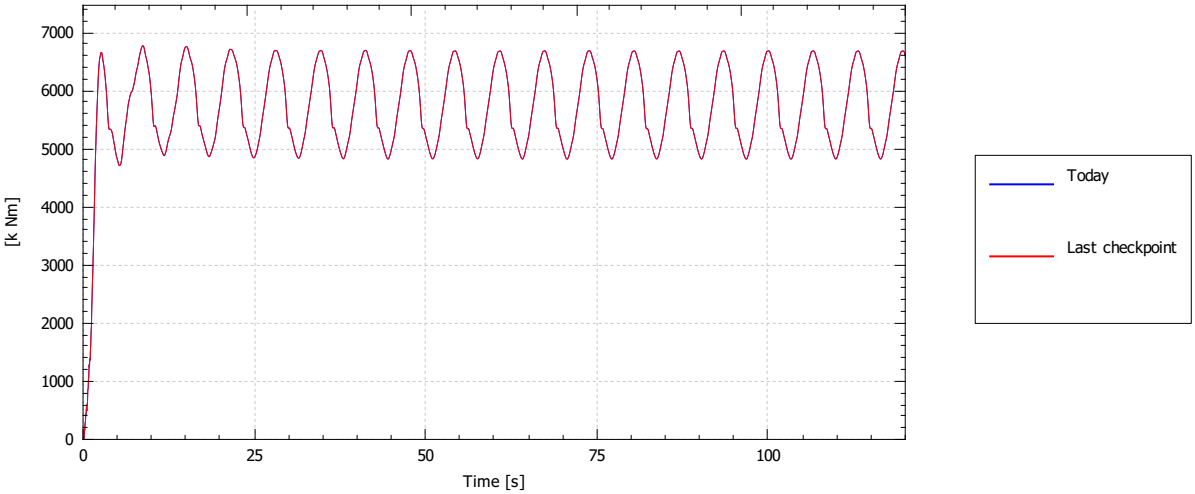
Torque



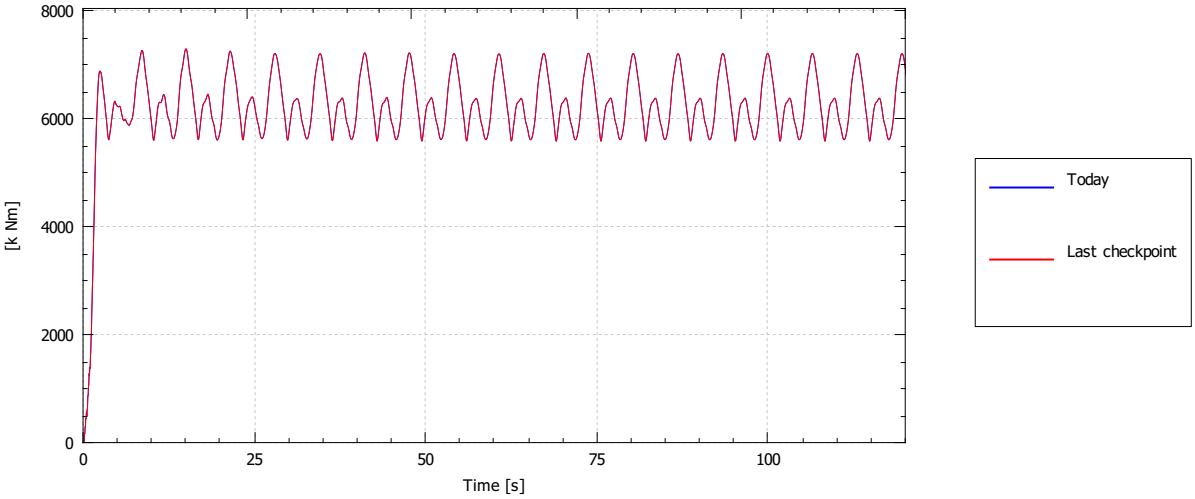
Moment (1st prin. axis), i



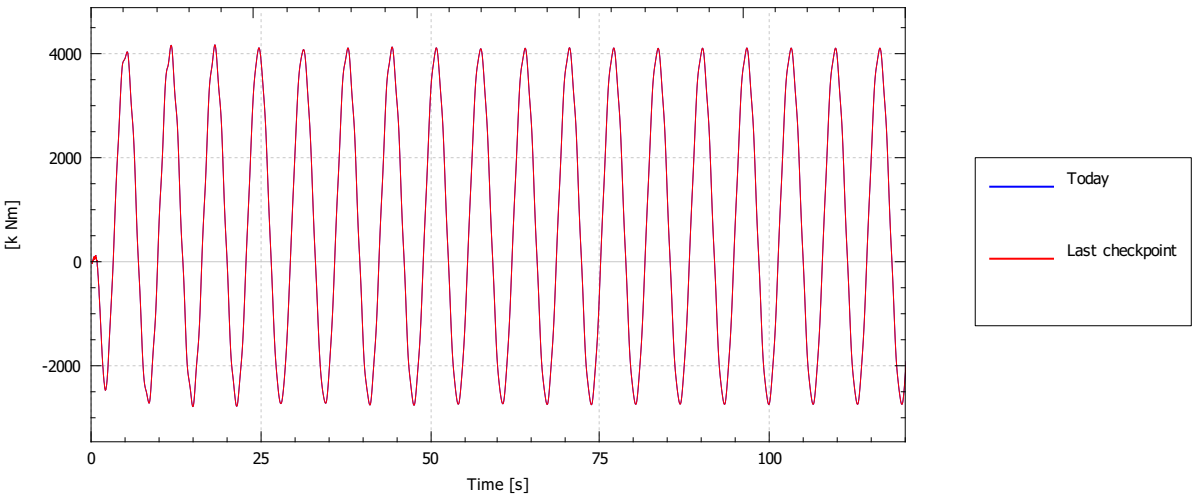
Moment (2nd prin. axis), i

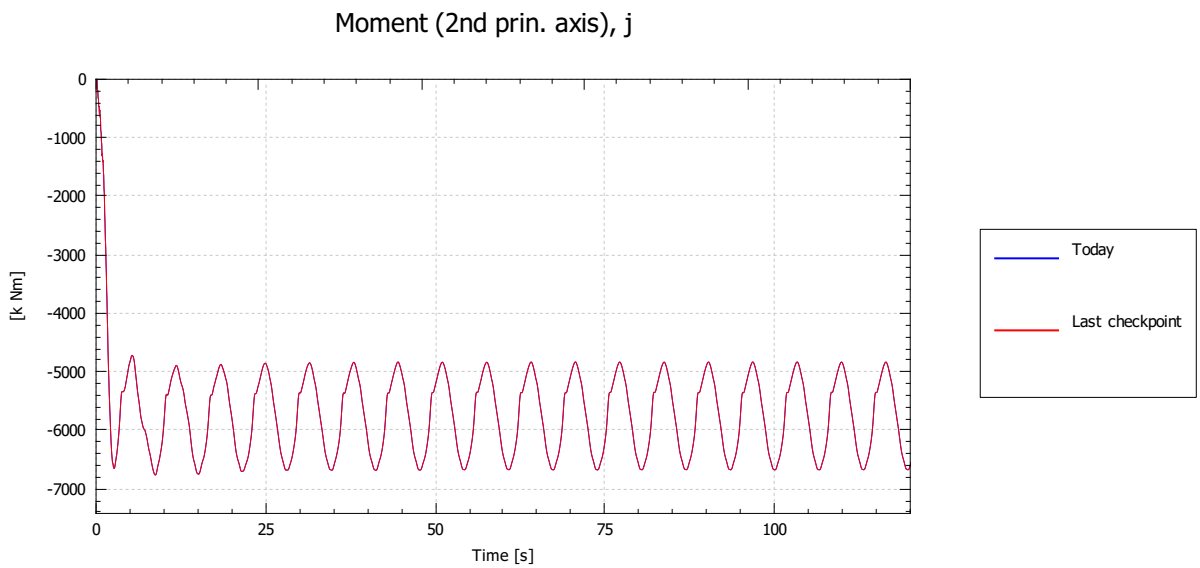


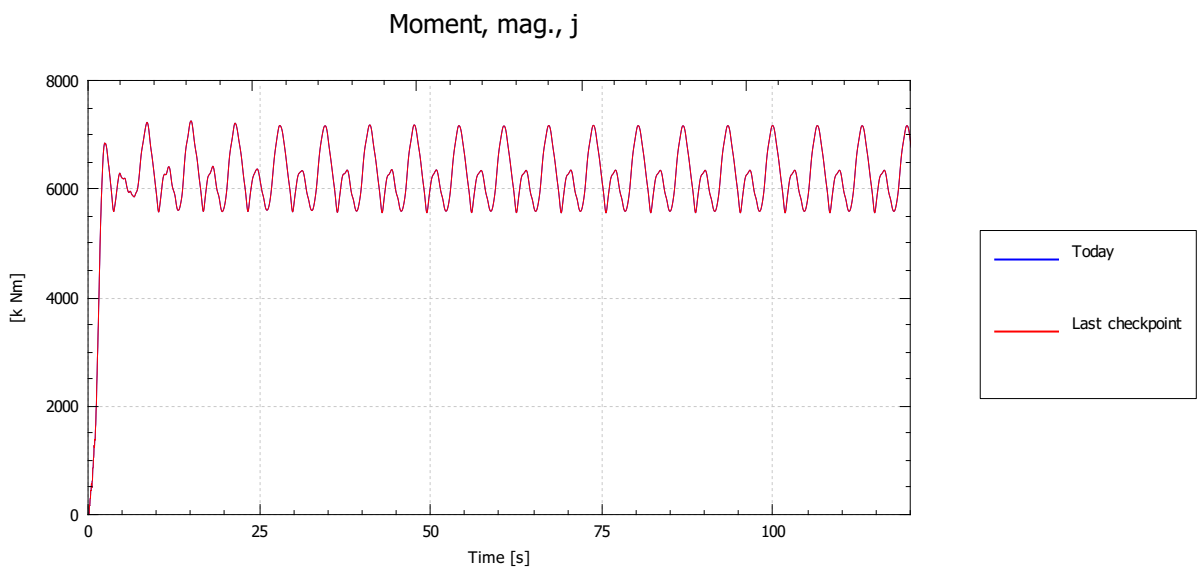
Moment, mag., i

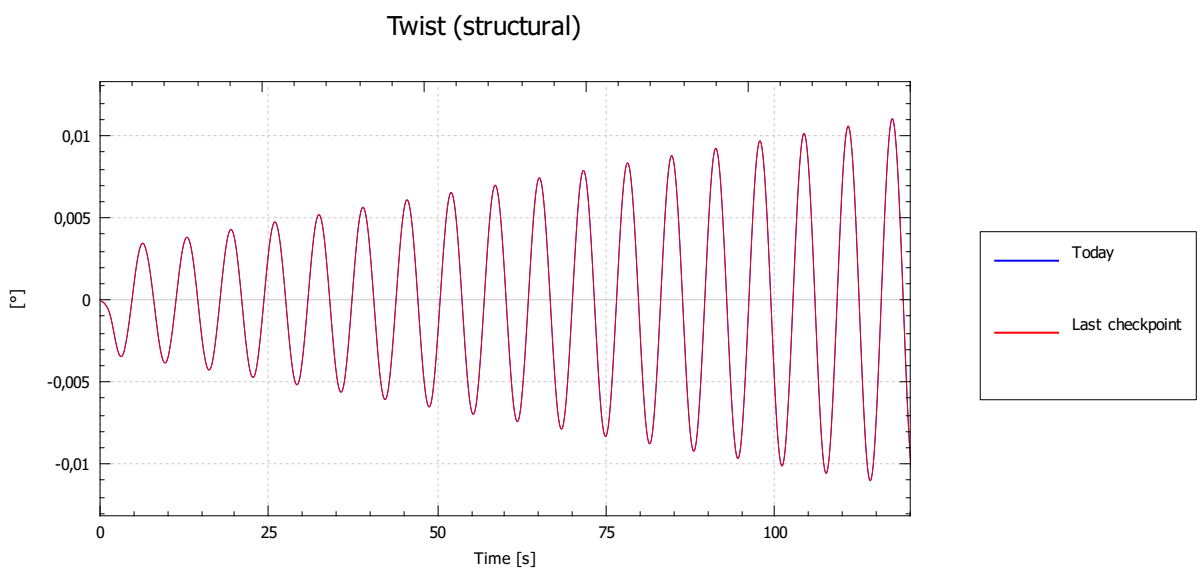


Moment (1st prin. axis), j

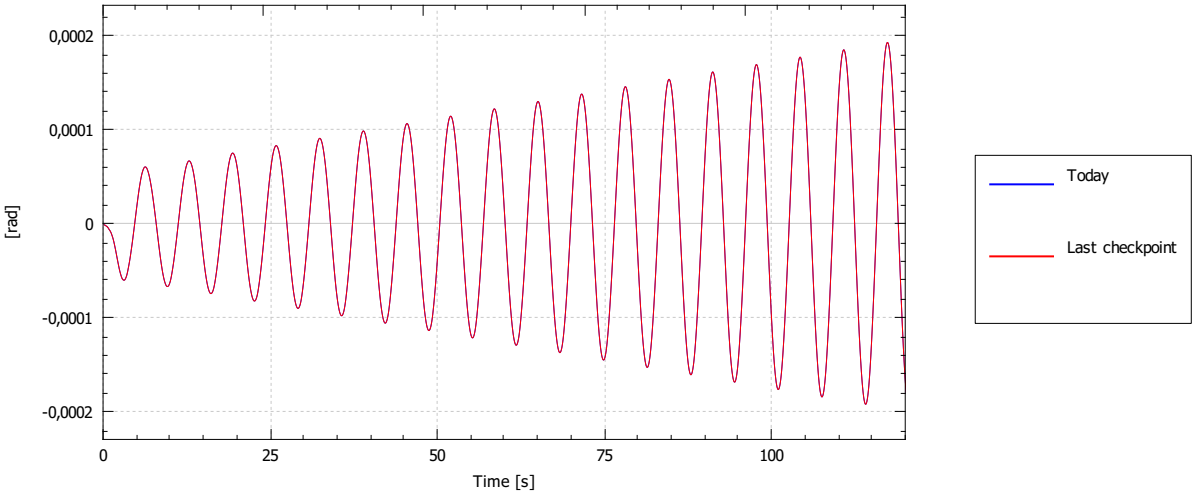



Moment (2nd prin. axis), j
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
[k Nm]
0
25
50
75
100
Time [s]
Today
Last checkpoint

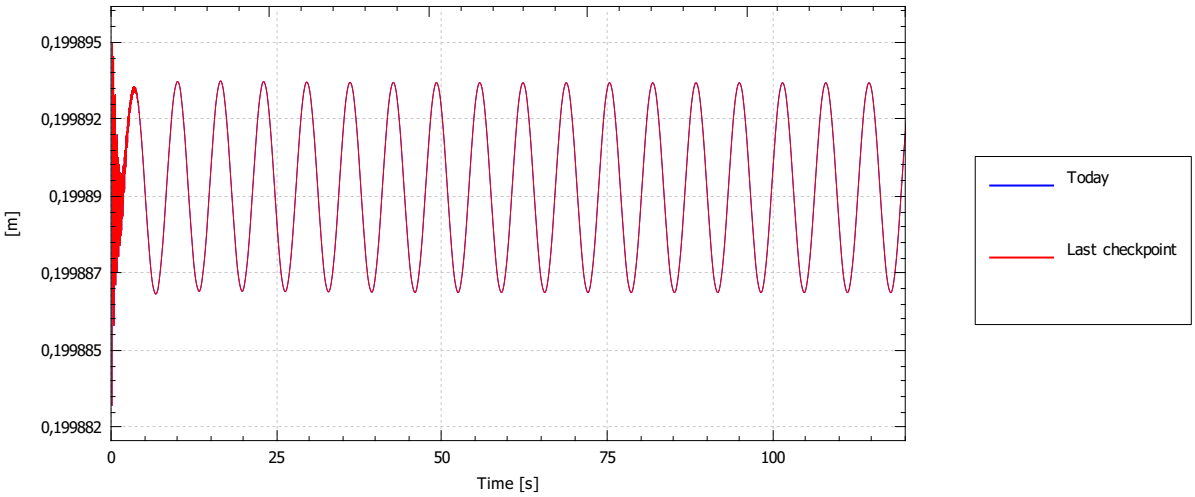

Moment, mag., j
8000
6000
4000
2000
0
[k Nm]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Twist (structural)
0,01
0,005
0
-0,005
-0,01
[°]
0
25
50
75
100
Time [s]
Today
Last checkpoint

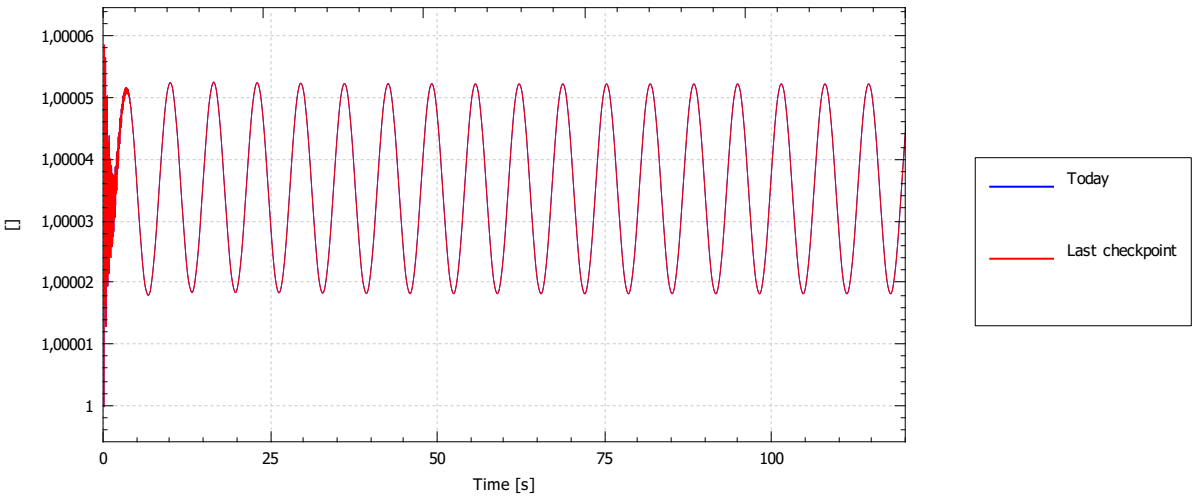
Twist (structural) - rad

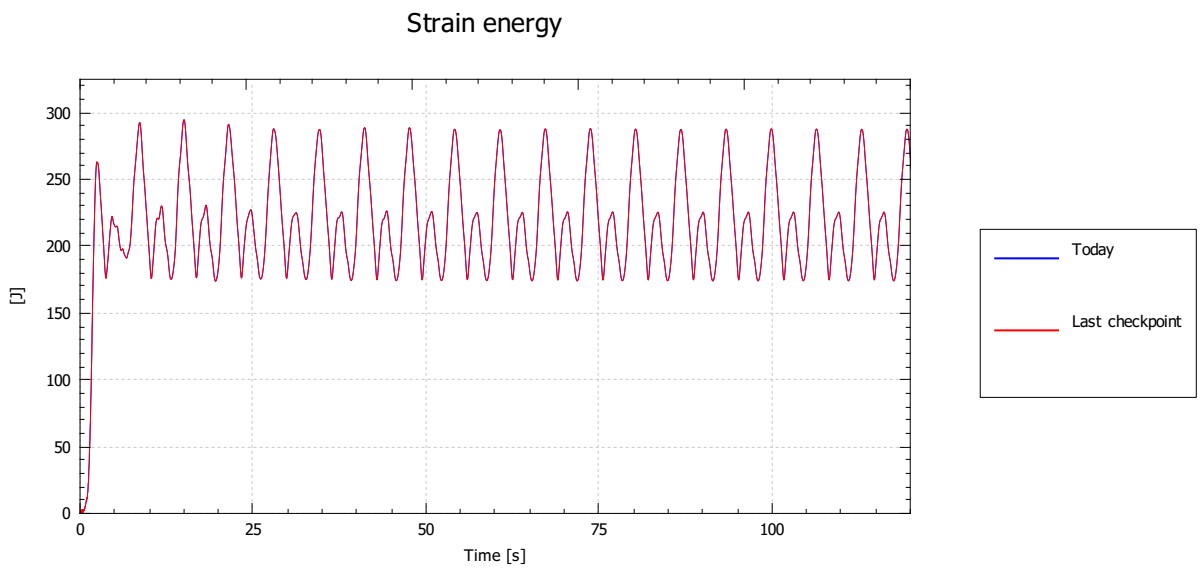


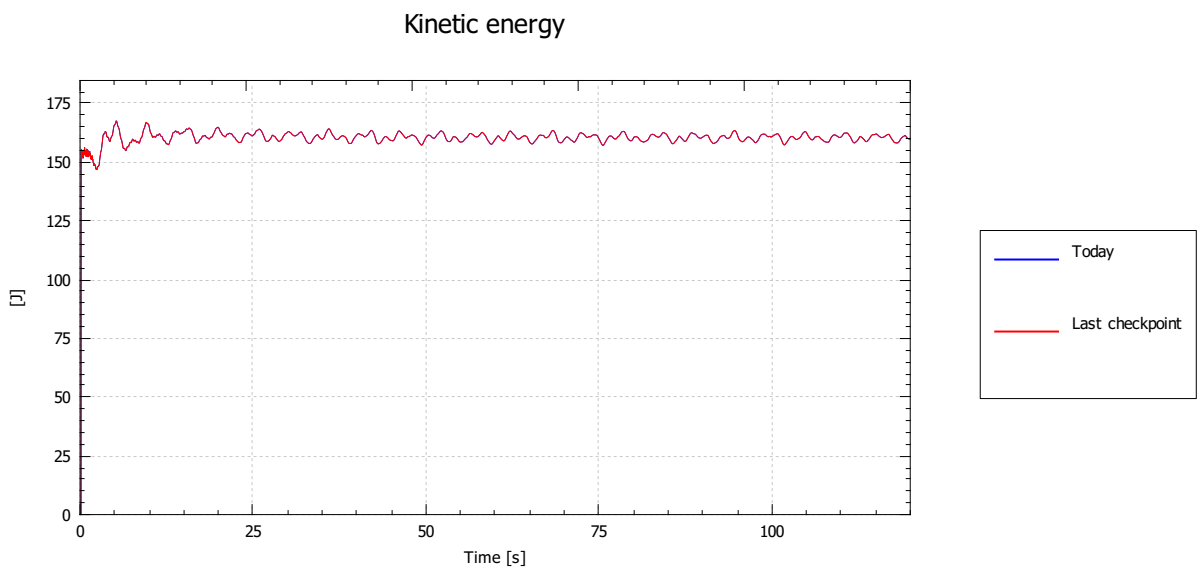
Deformed length

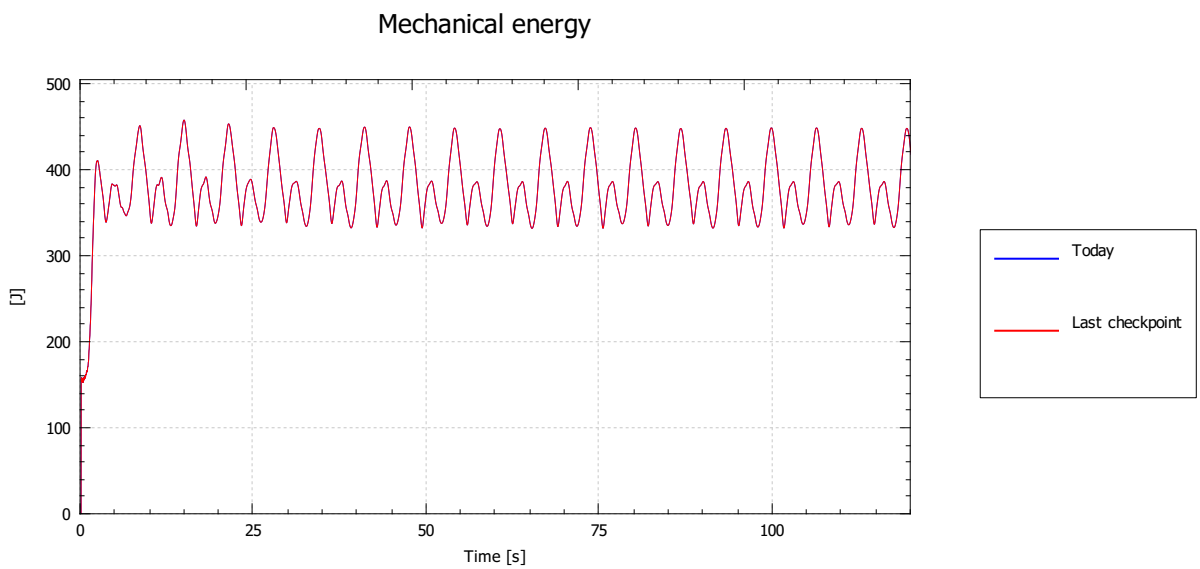


Elongation

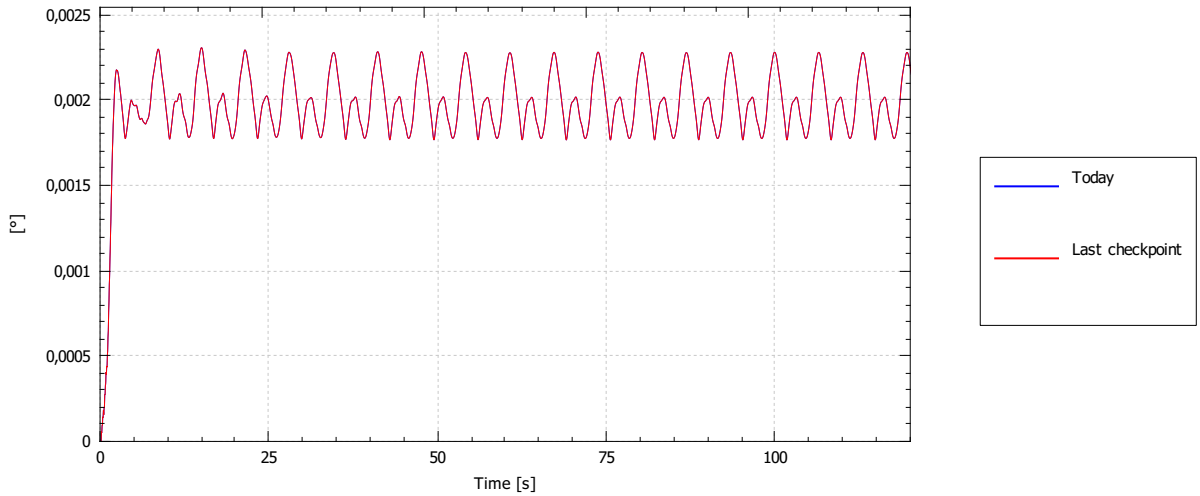



Strain energy
[J]
300
250
200
150
100
50
0
0
25
50
75
100
Time [s]
Today
Last checkpoint

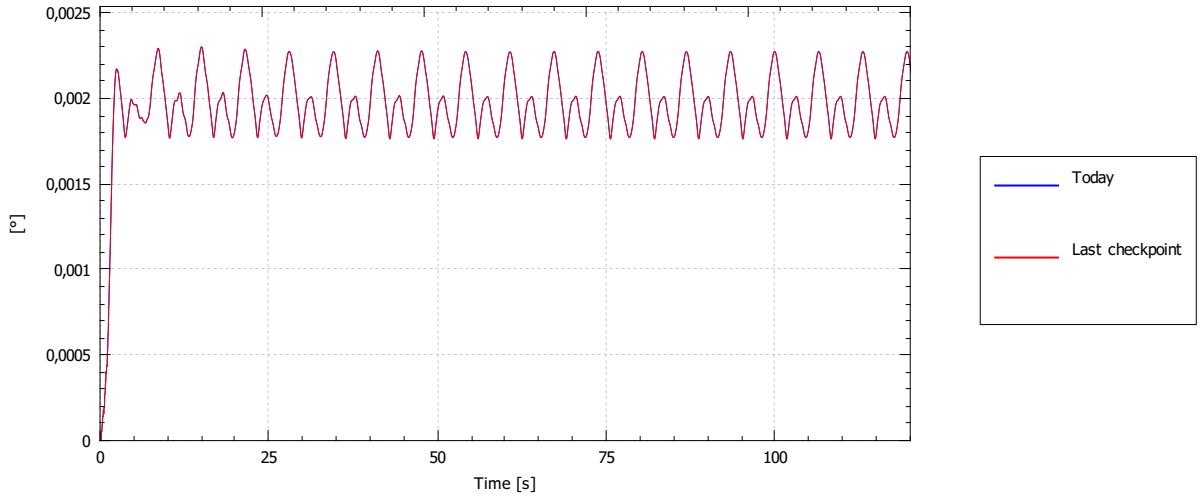

Kinetic energy
[J]
175
150
125
100
75
50
25
0
0
25
50
75
100
Time [s]
Today
Last checkpoint


Mechanical energy
[J]
500
400
300
200
100
0
0
25
50
75
100
Time [s]
Today
Last checkpoint

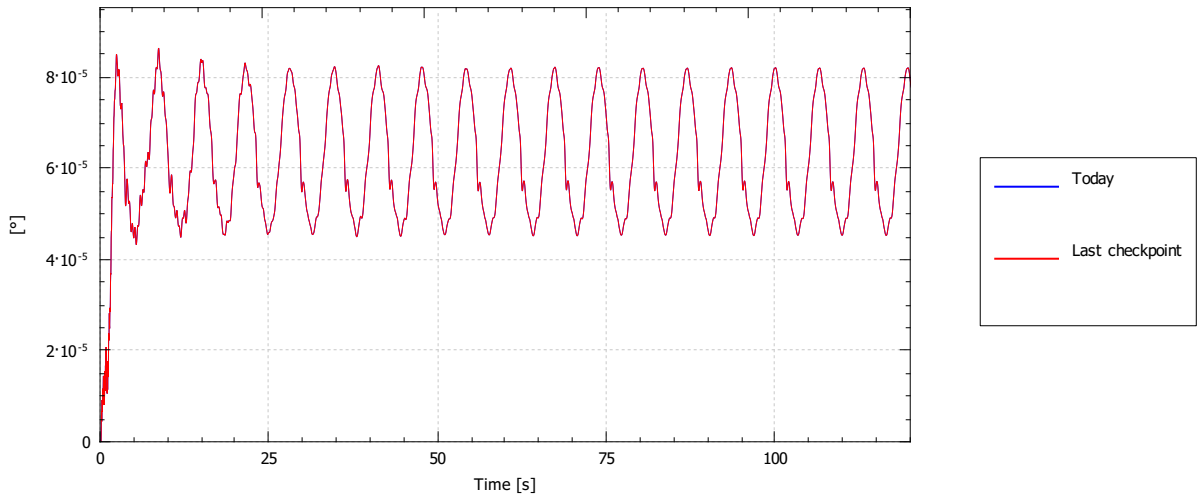
Deformational rotation (i)



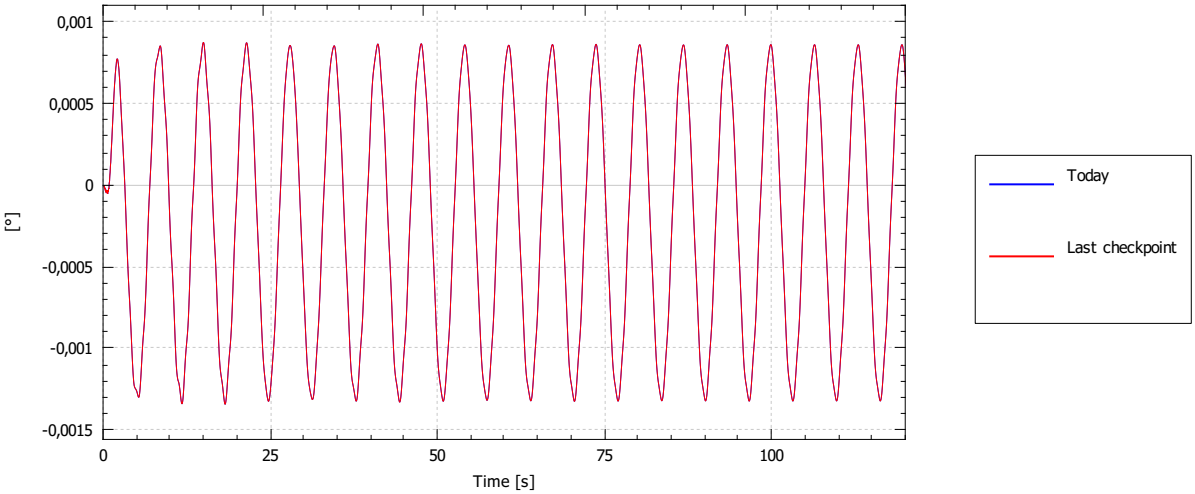
Deformational rotation (j)



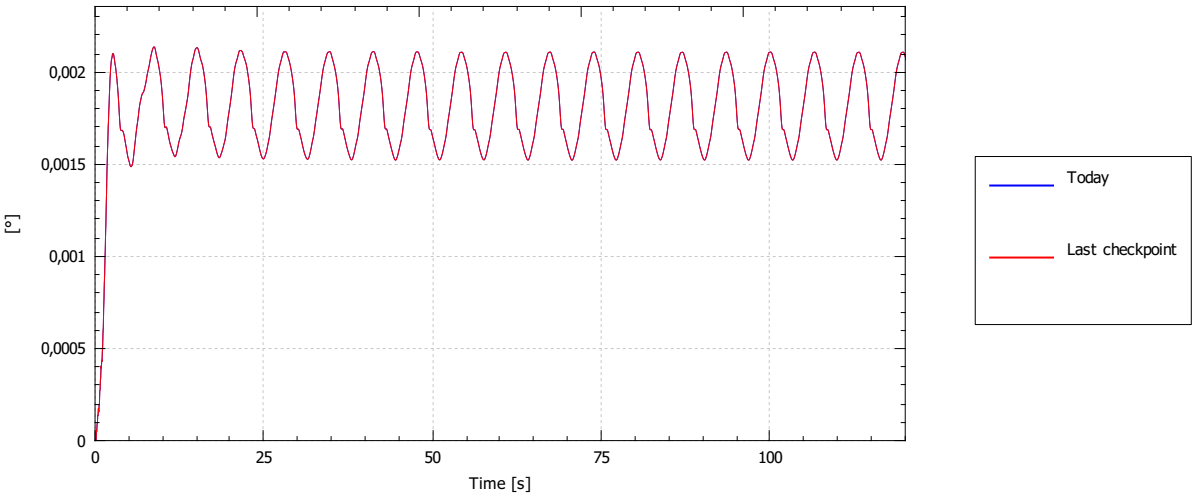
Deformational rotation (axial)



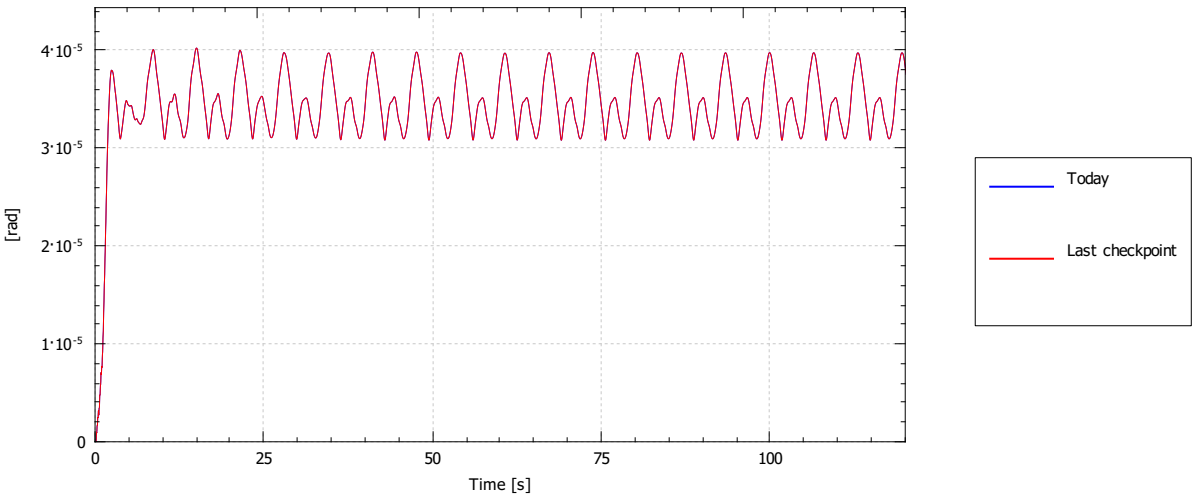
Deformational rotation (1st prin.)



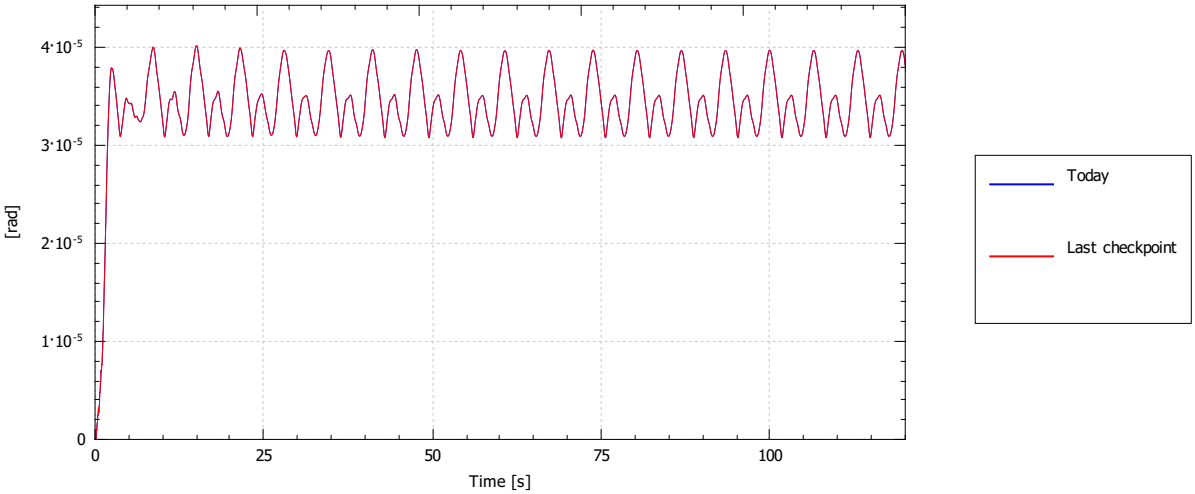
Deformational rotation (2nd prin.)



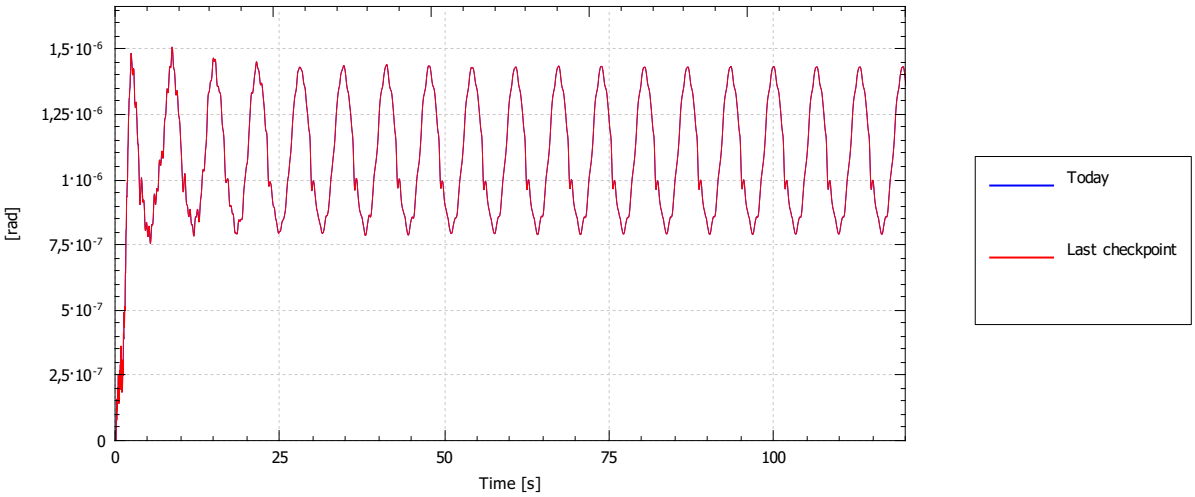
Deformational rotation (i) - rad



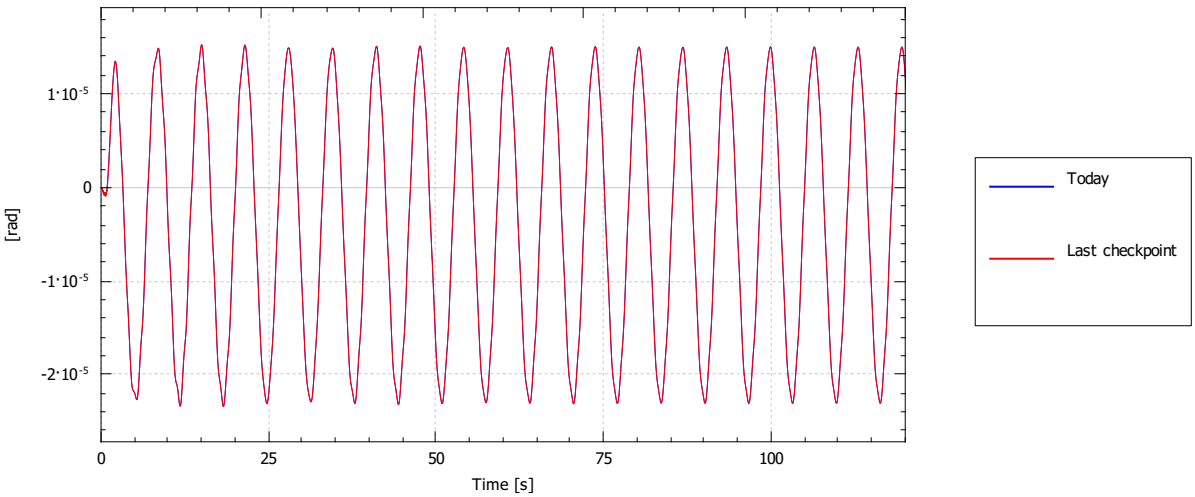
Deformational rotation (j) - rad



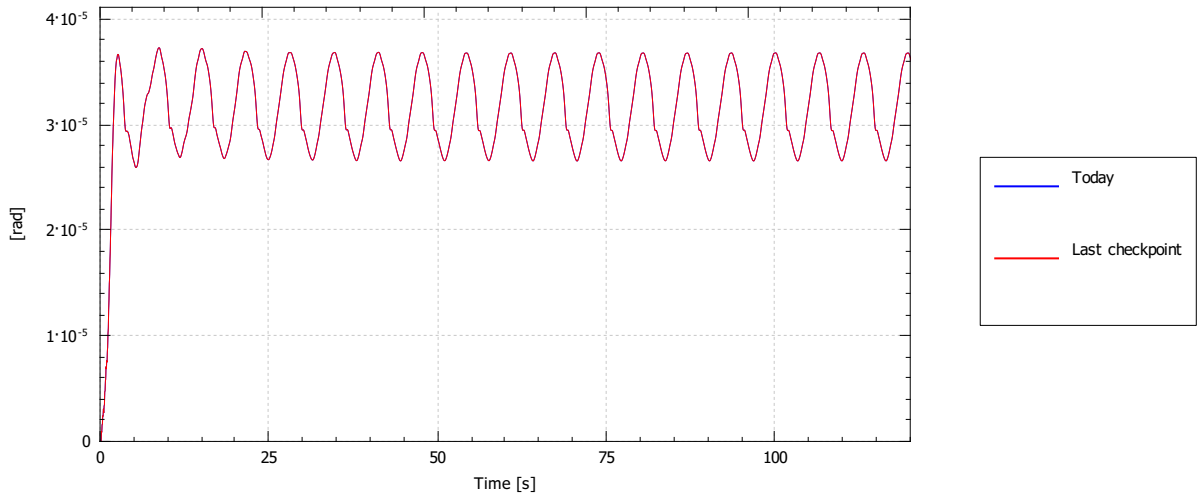
Deformational rotation (axial) - rad



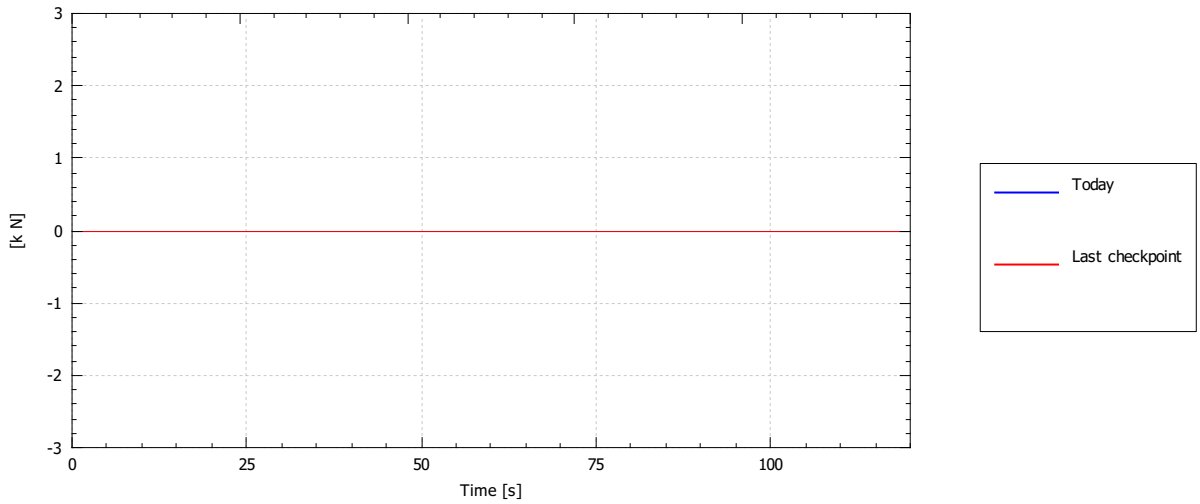
Deformational rotation (1st prin.) - rad



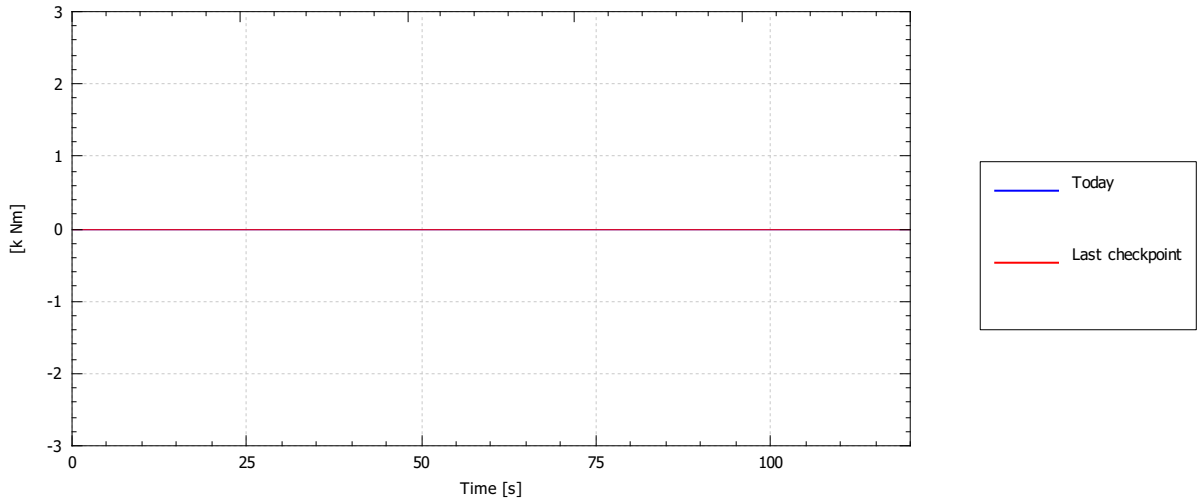
Deformational rotation (2nd prin.) - rad

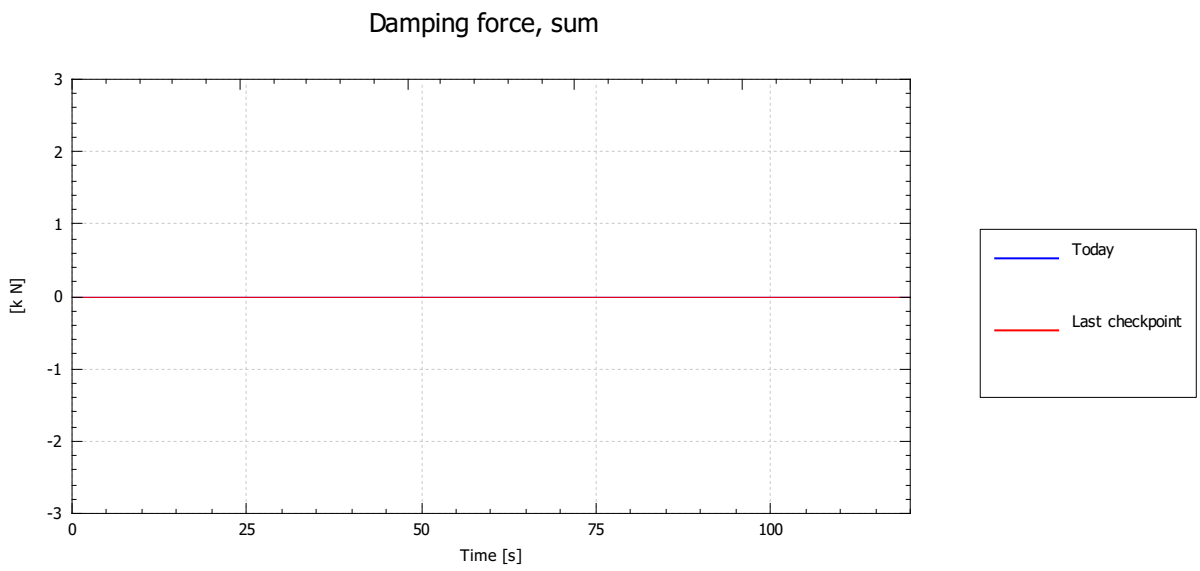


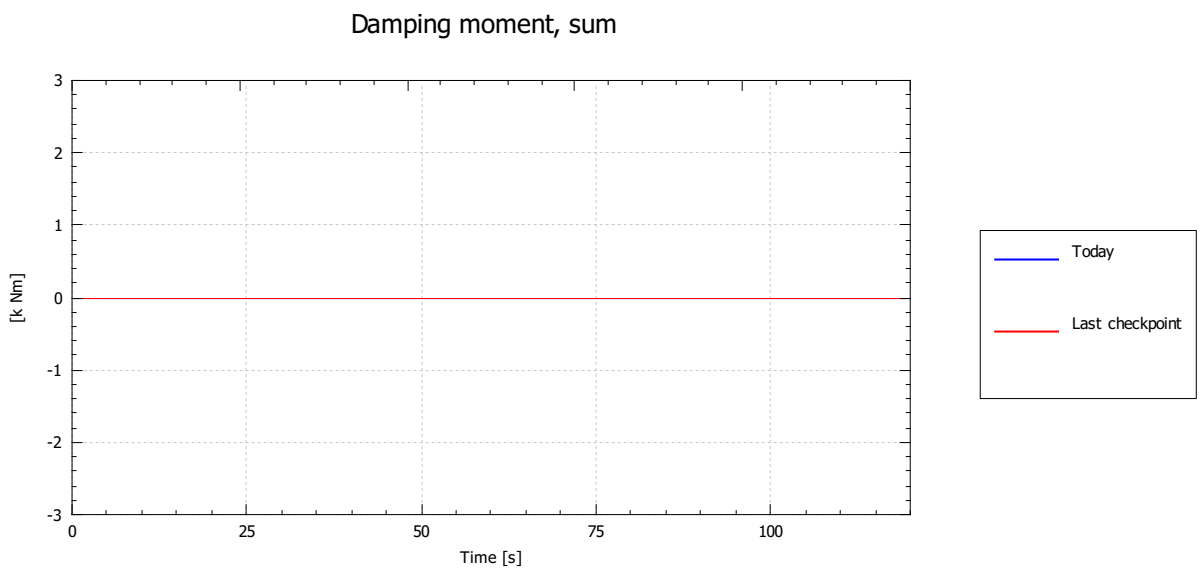
Damping force, i



Damping moment, i

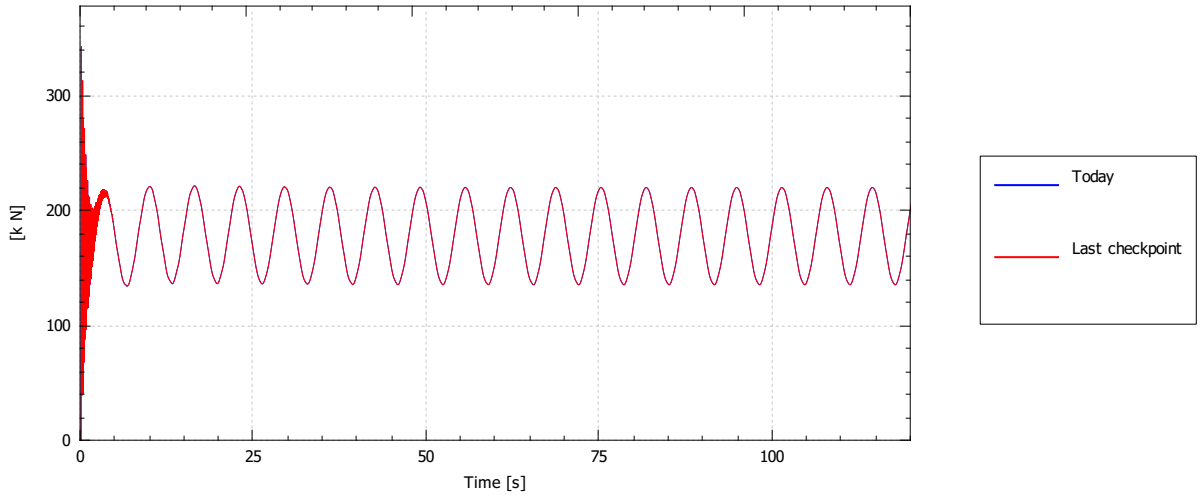




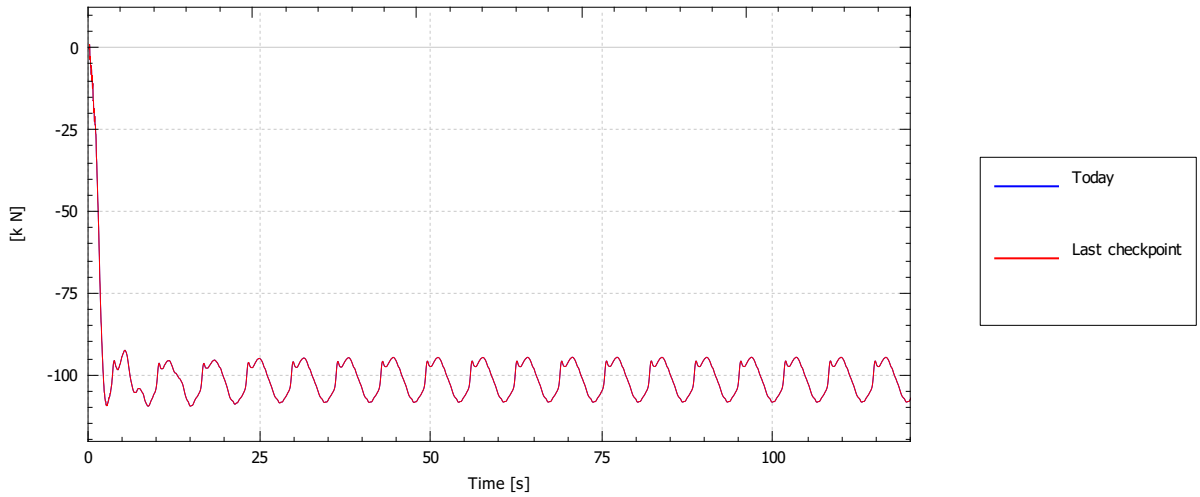


Beam element [Element 25 | Blade 1]

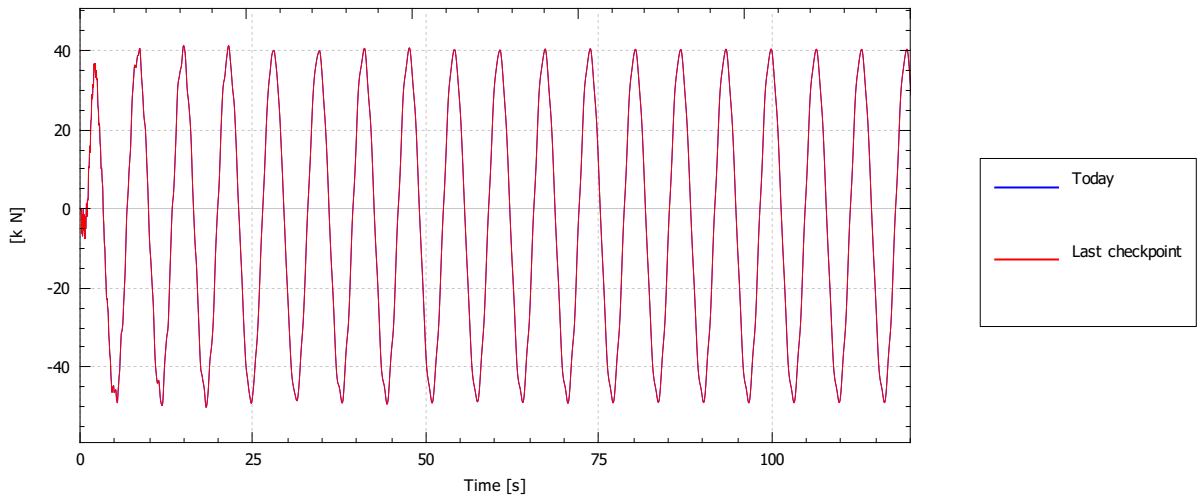
Axial force



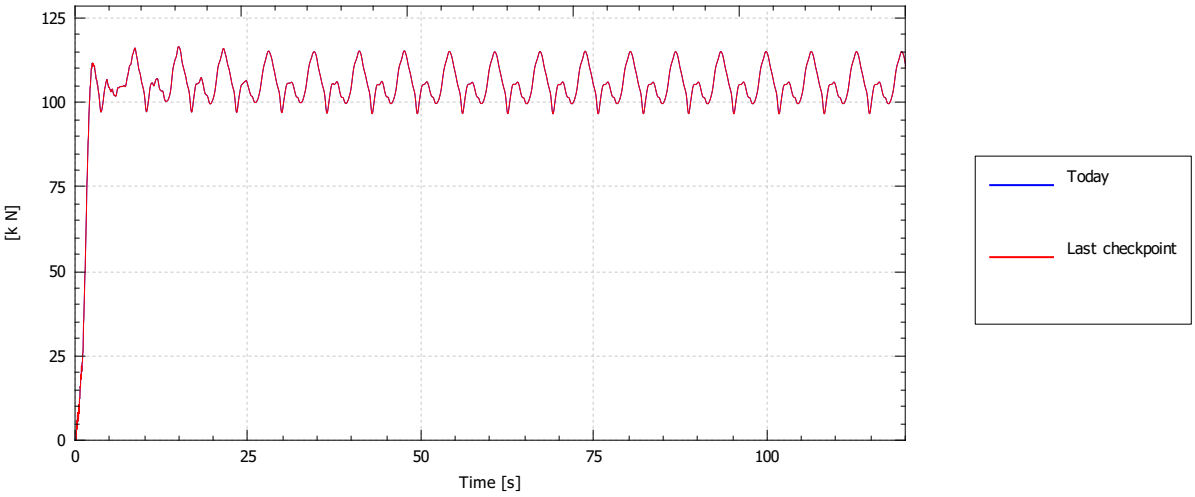
Shear force (1st prin. axis)



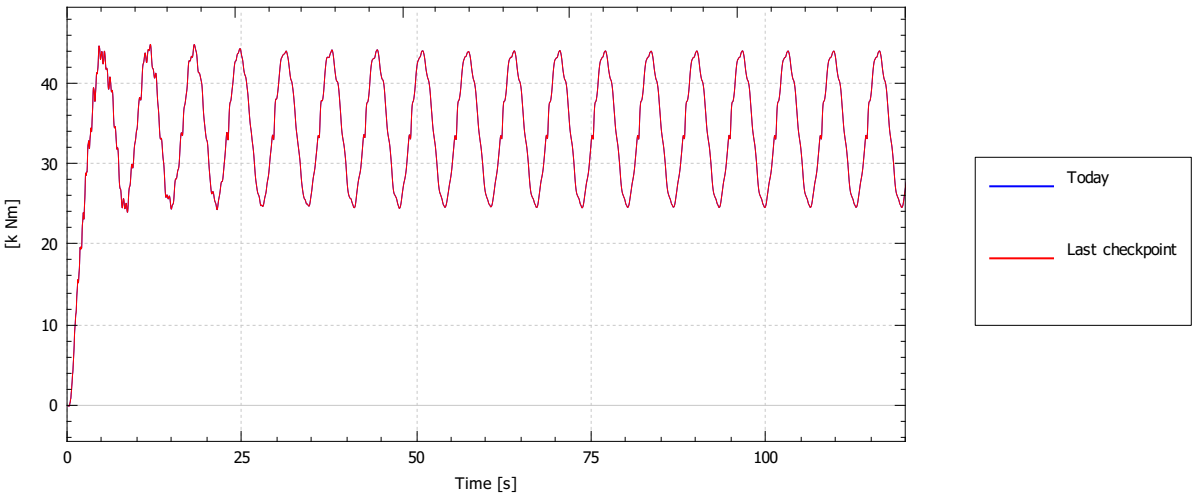
Shear force (2nd prin. axis)



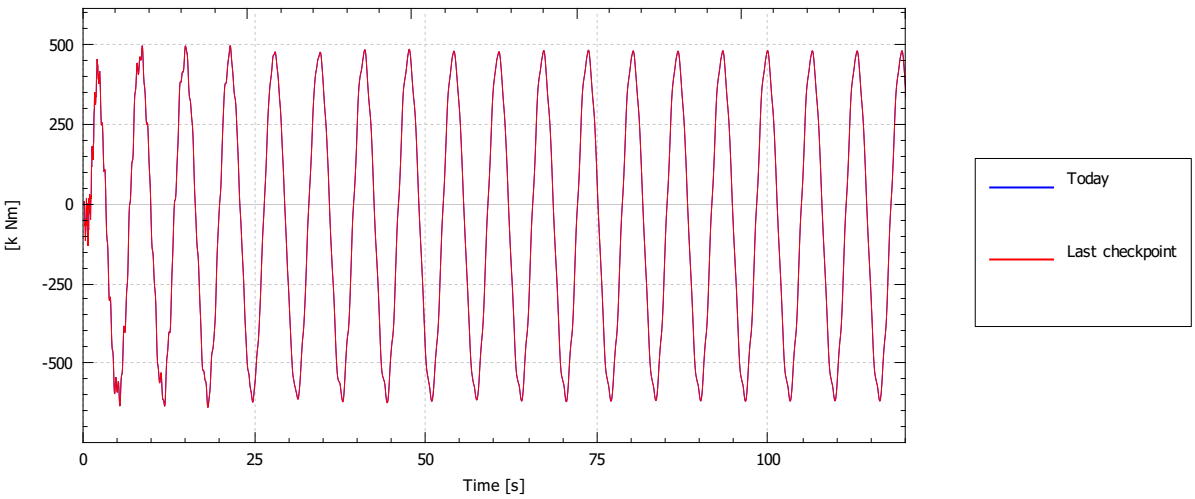
Shear force, mag.



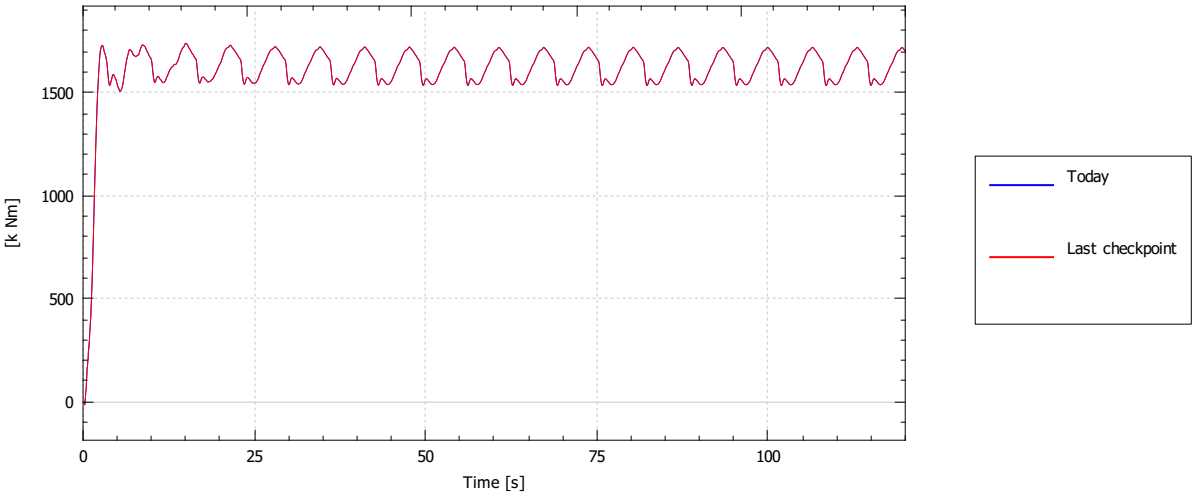
Torque



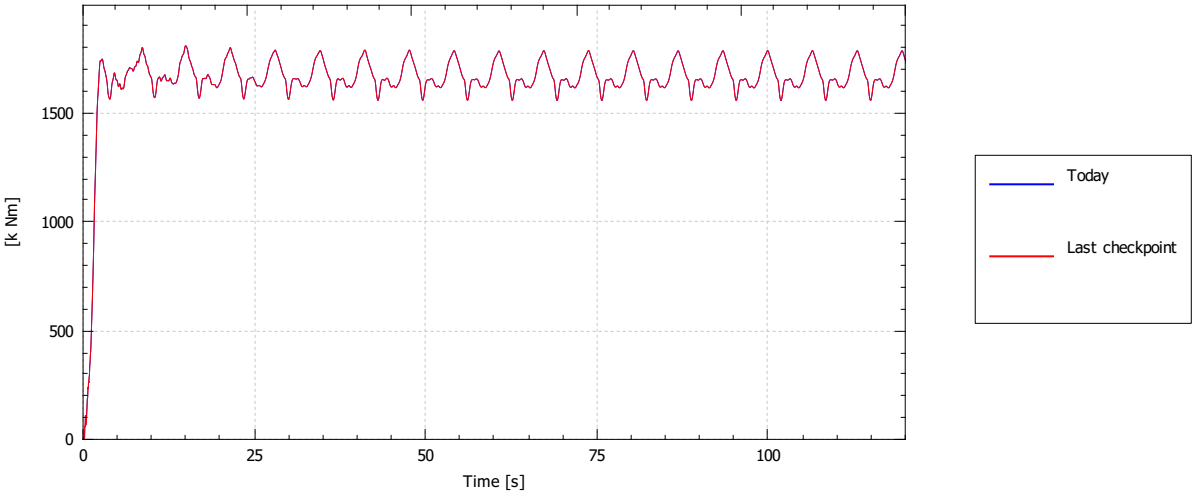
Moment (1st prin. axis), i



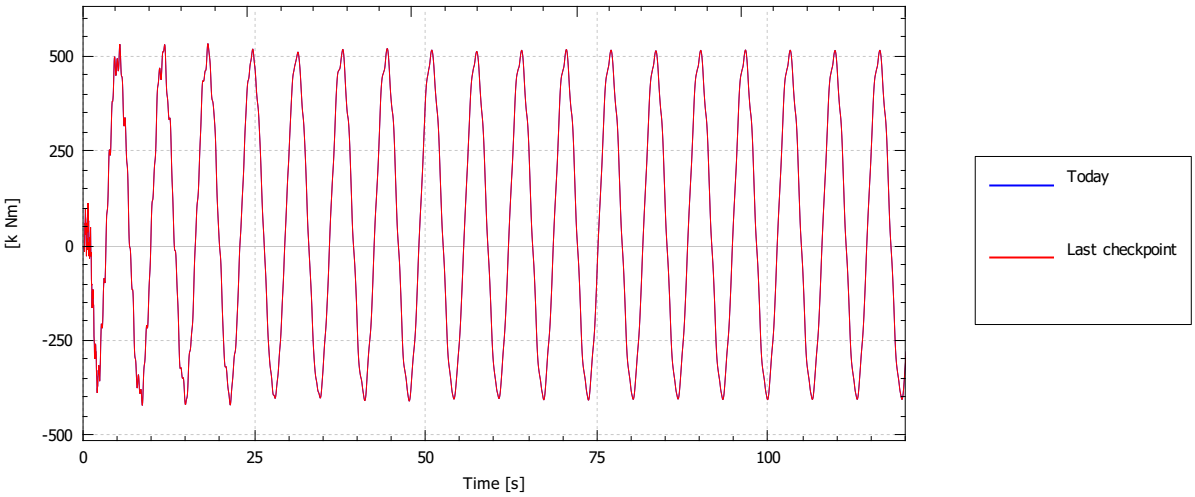
Moment (2nd prin. axis), i



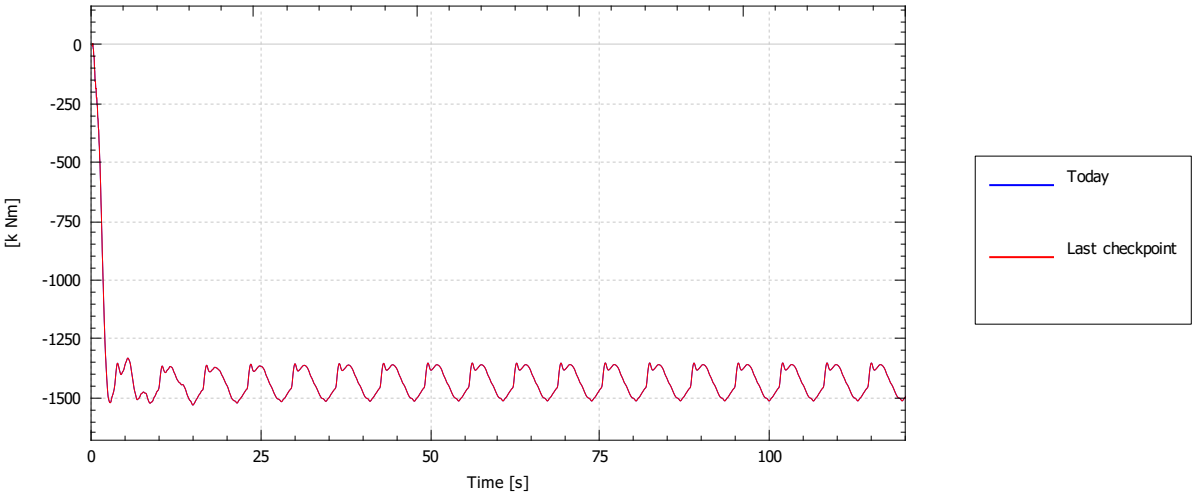
Moment, mag., i



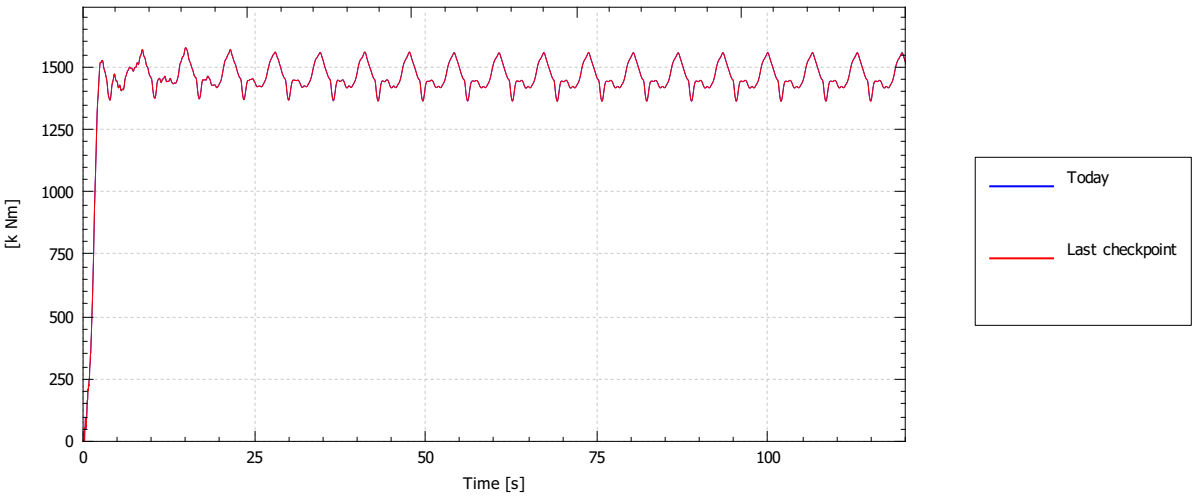
Moment (1st prin. axis), j



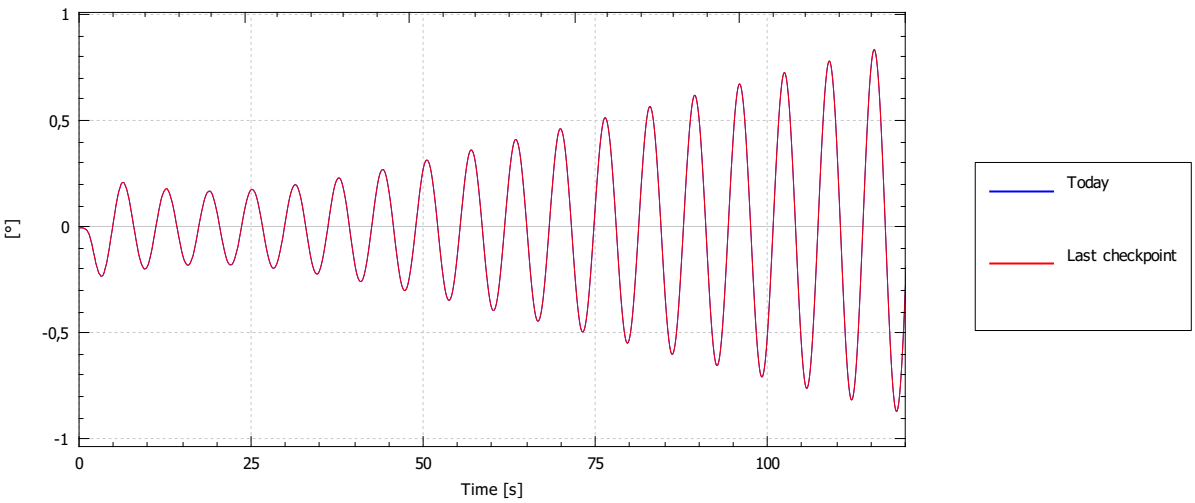
Moment (2nd prin. axis), j



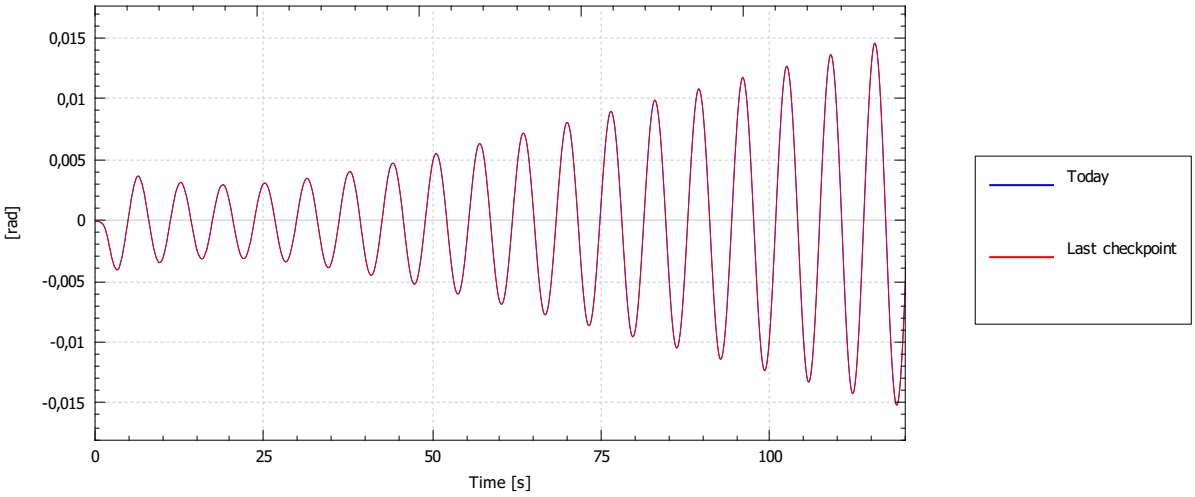
Moment, mag., j



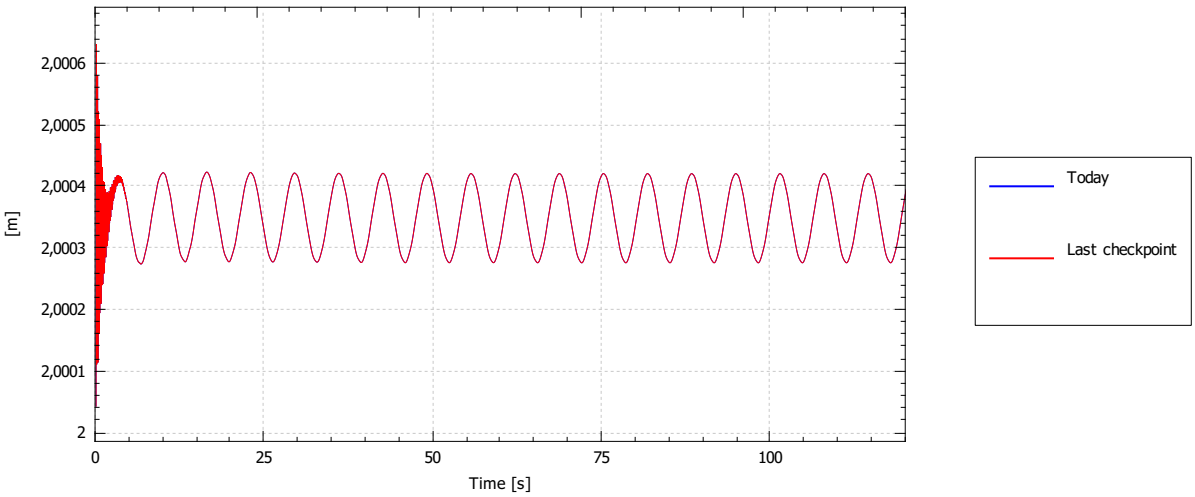
Twist (structural)



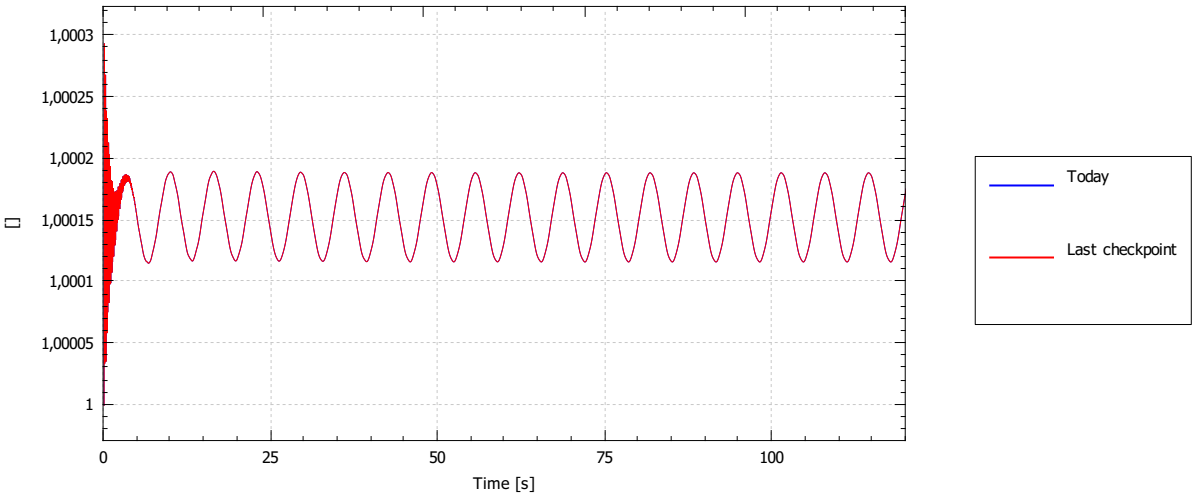
Twist (structural) - rad

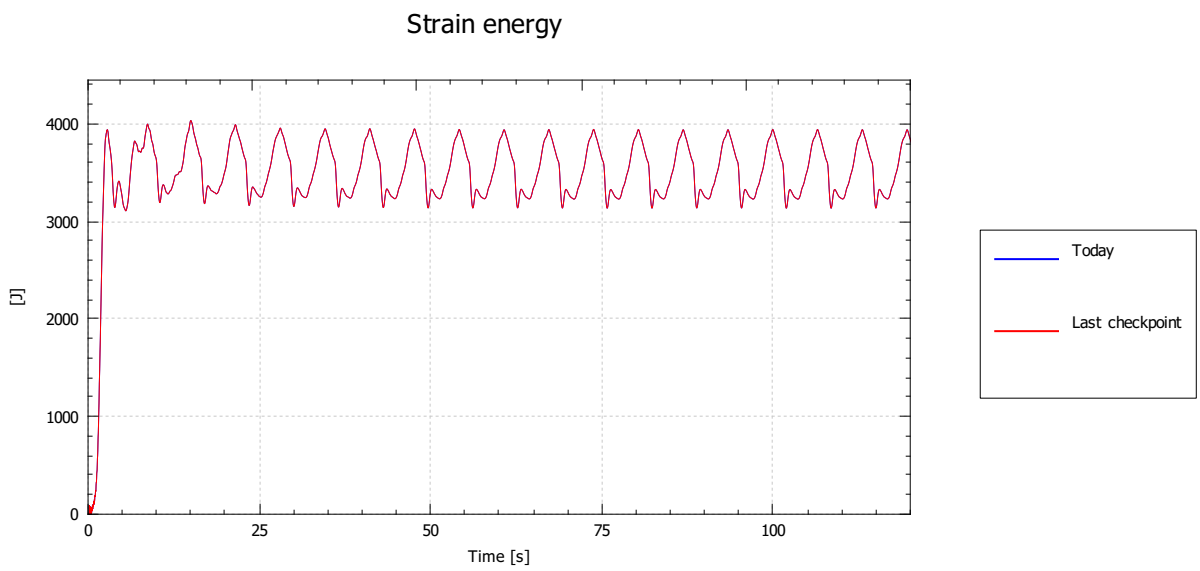


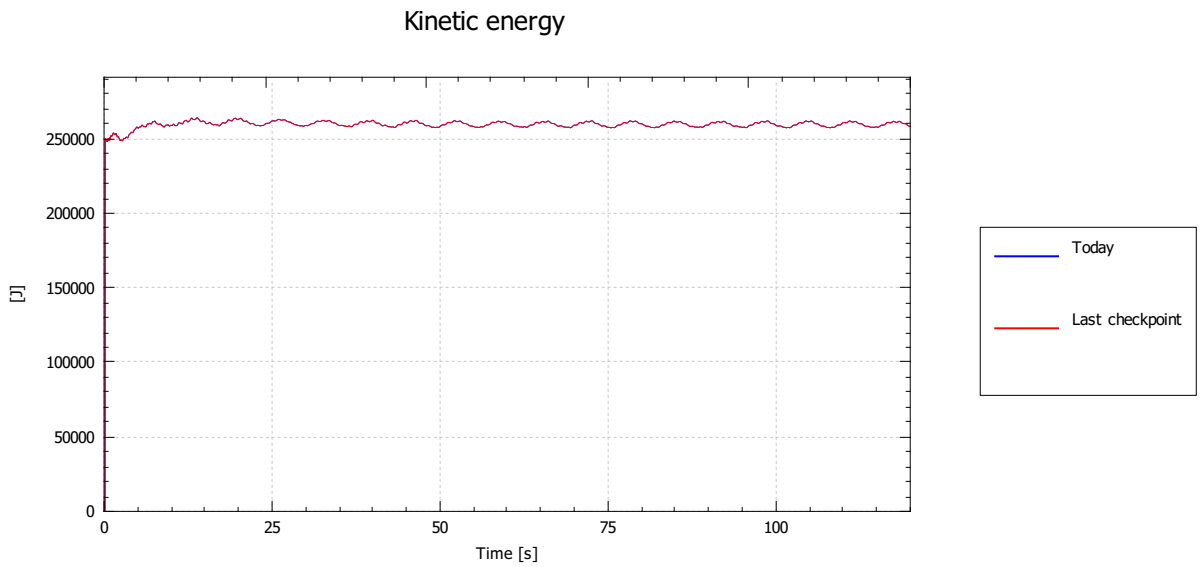
Deformed length

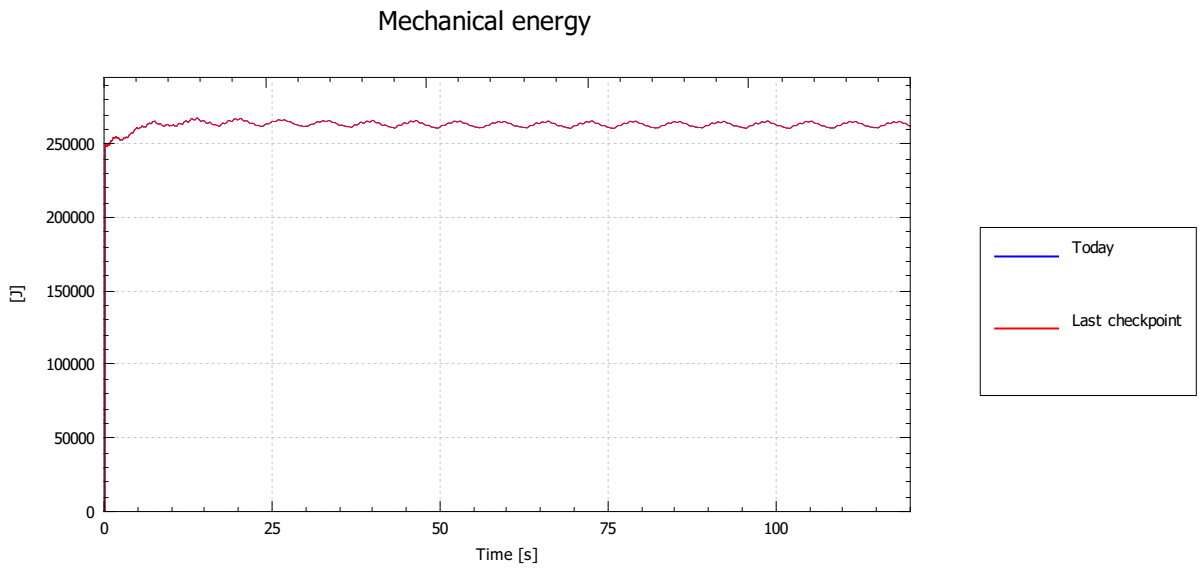


Elongation

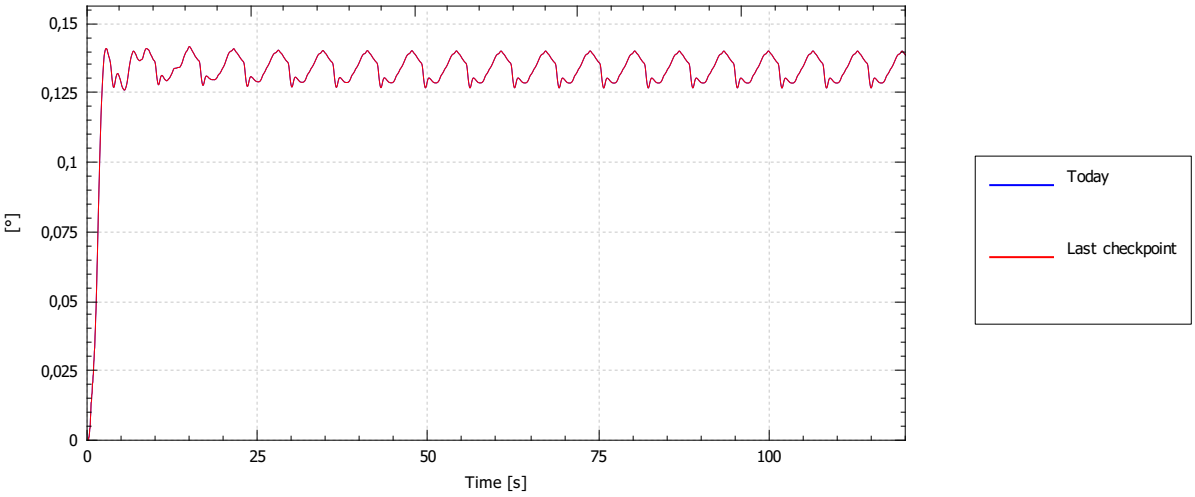



Strain energy
4000
3000
2000
1000
0
[J]
0
25
50
75
100
Time [s]
Today
Last checkpoint

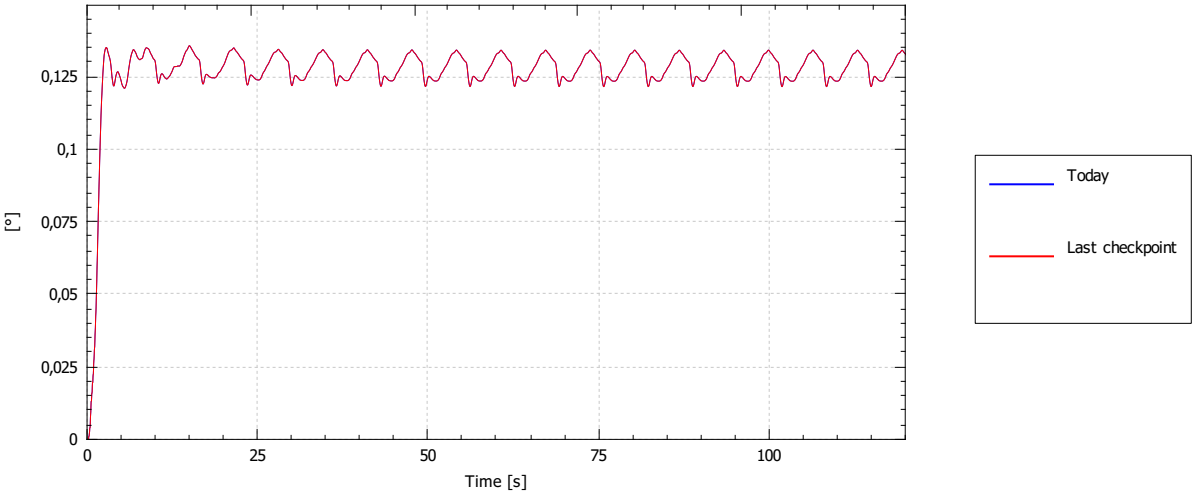

Kinetic energy
250000
200000
150000
100000
50000
0
[J]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Mechanical energy
250000
200000
150000
100000
50000
0
[J]
0
25
50
75
100
Time [s]
Today
Last checkpoint

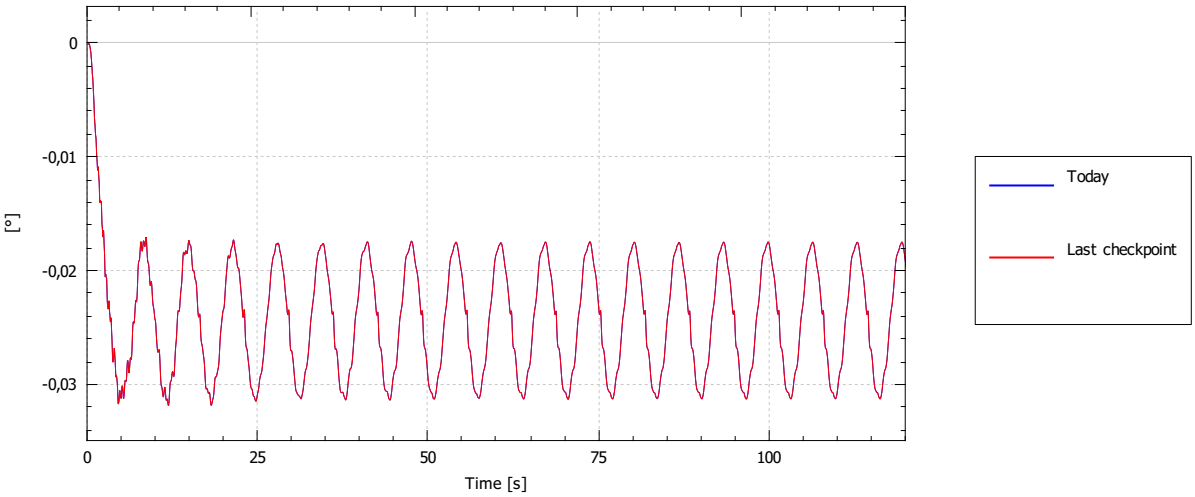
Deformational rotation (i)



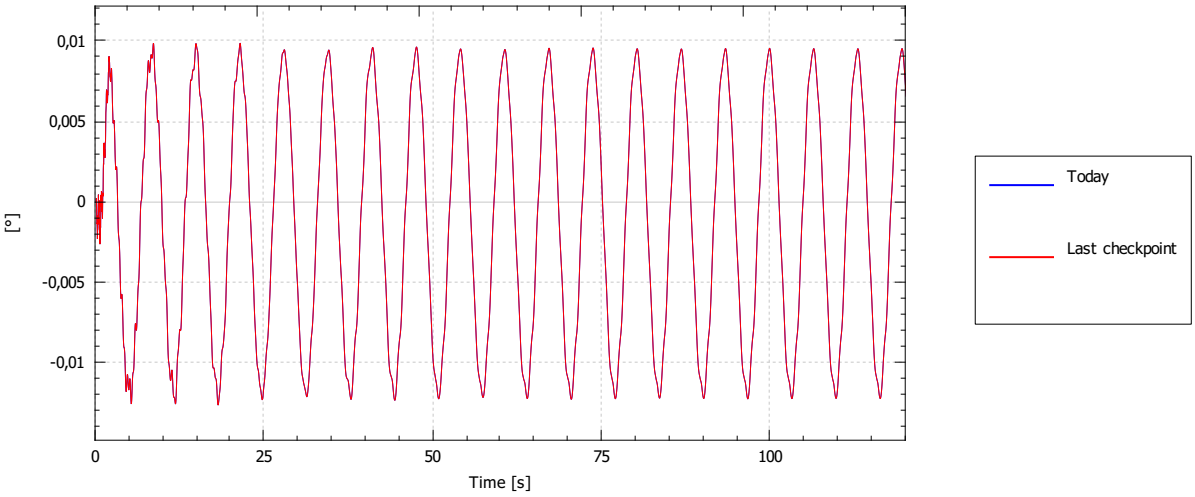
Deformational rotation (j)



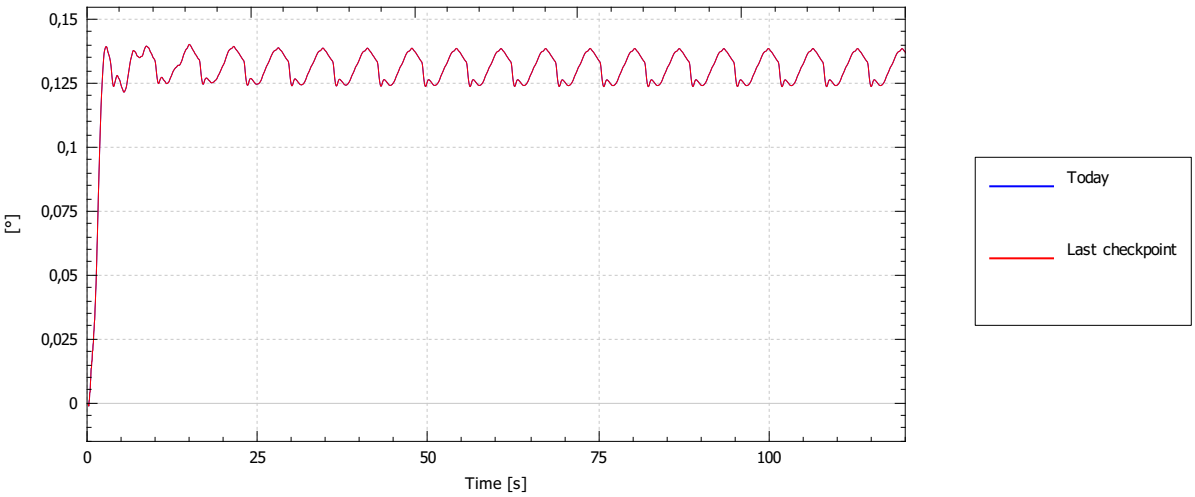
Deformational rotation (axial)



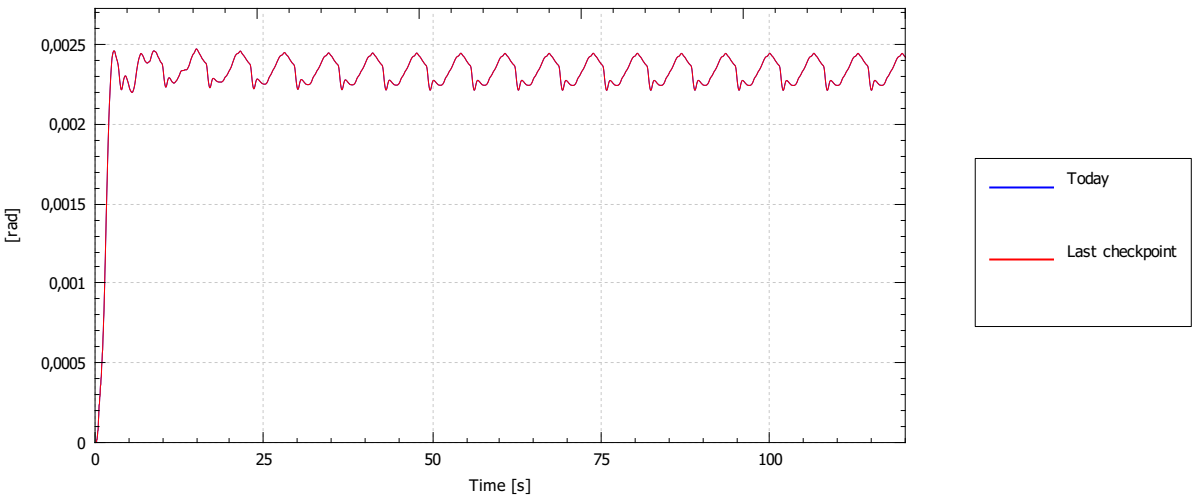
Deformational rotation (1st prin.)



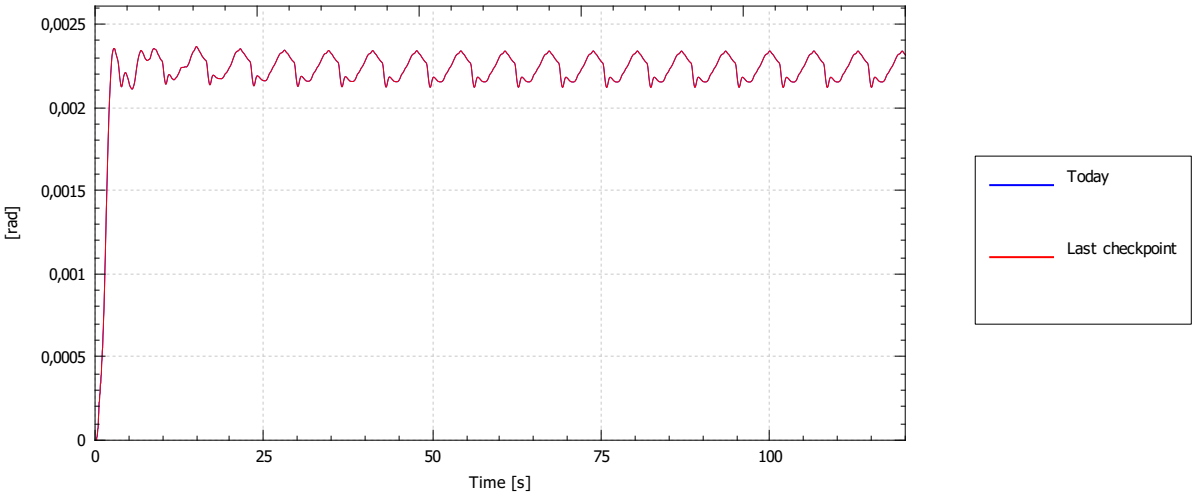
Deformational rotation (2nd prin.)



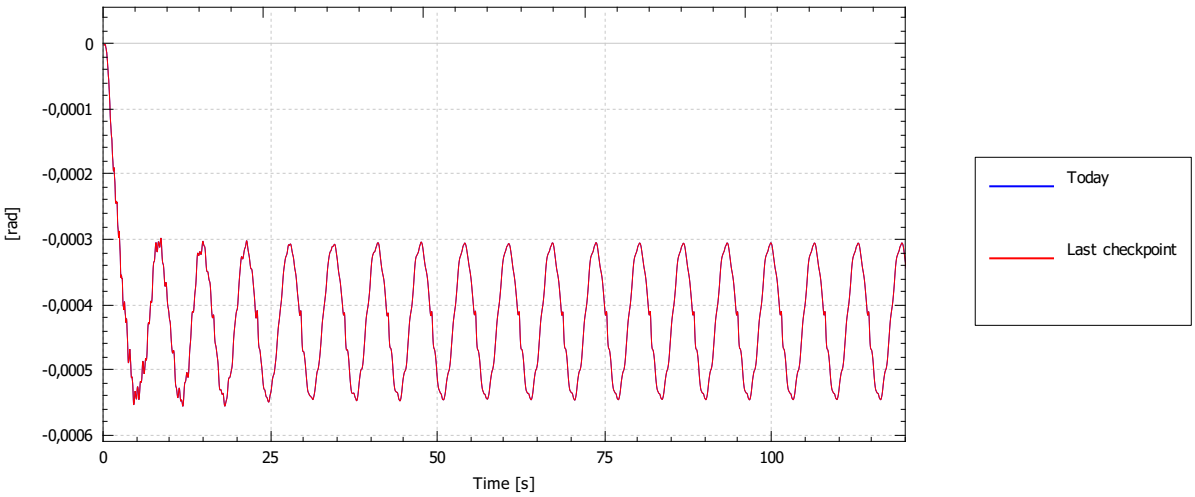
Deformational rotation (i) - rad



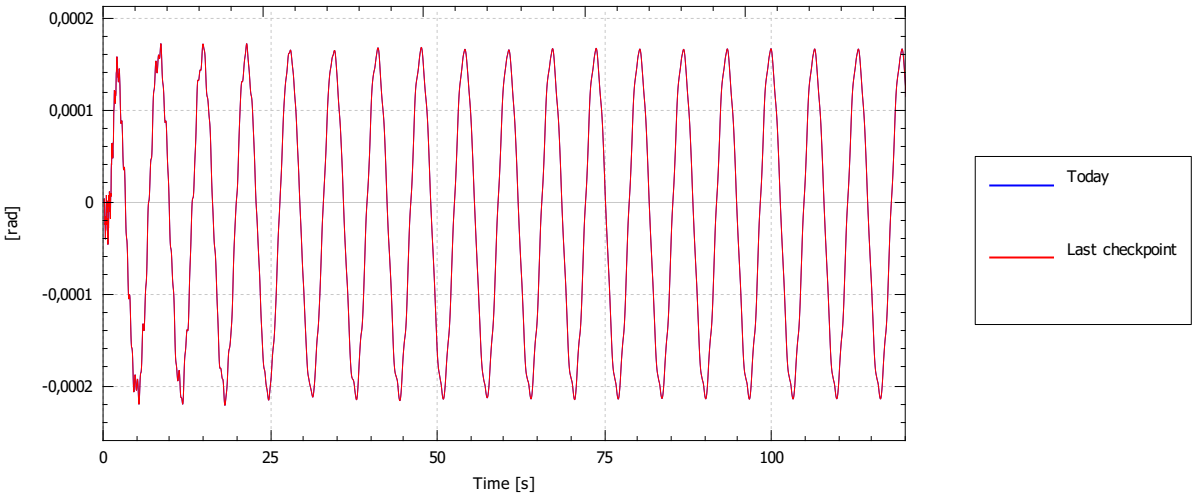
Deformational rotation (j) - rad



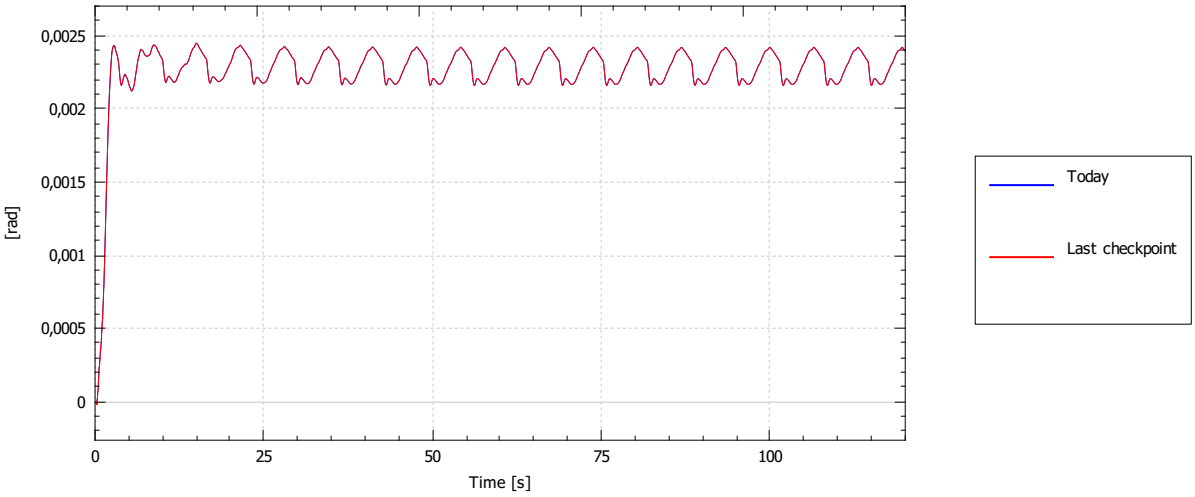
Deformational rotation (axial) - rad



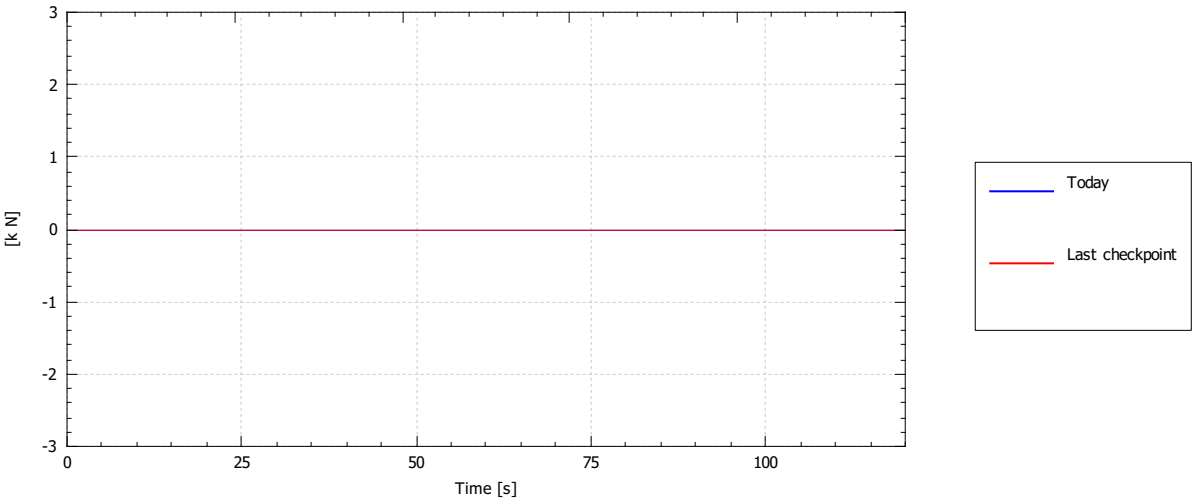
Deformational rotation (1st prin.) - rad



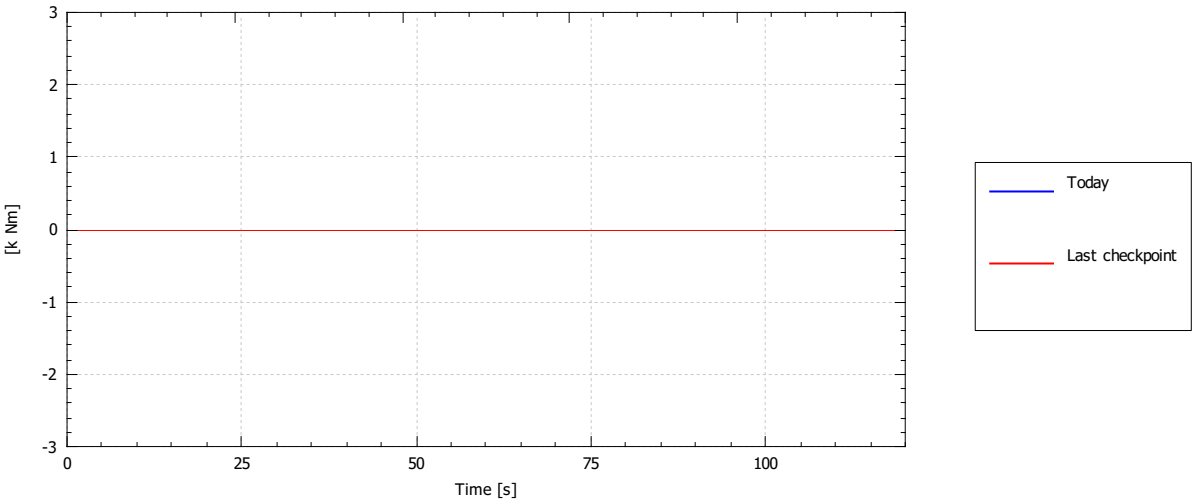
Deformational rotation (2nd prin.) - rad

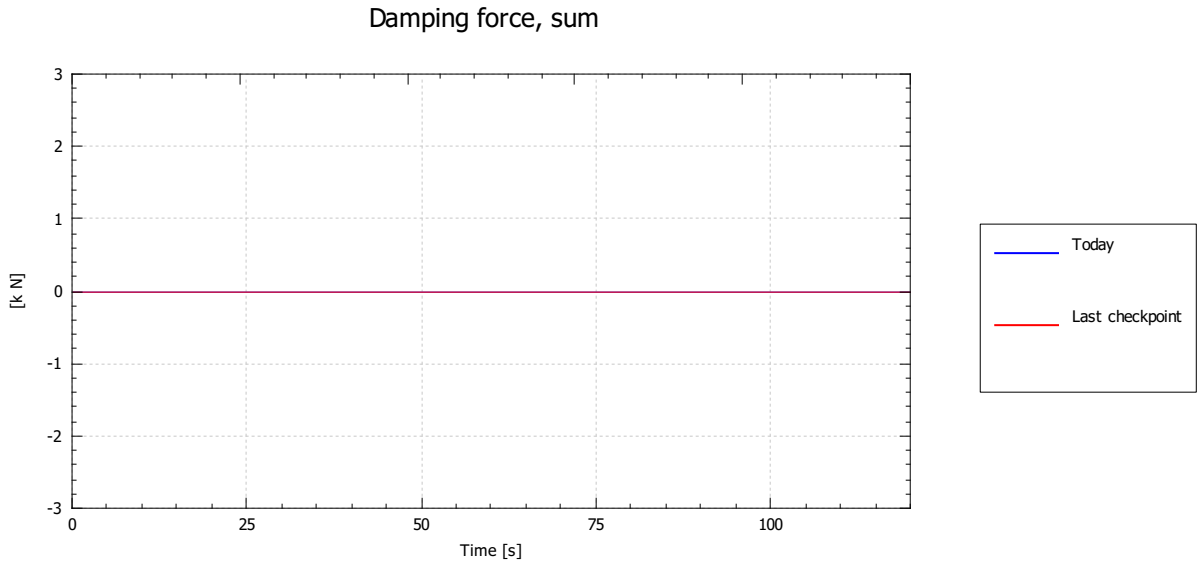


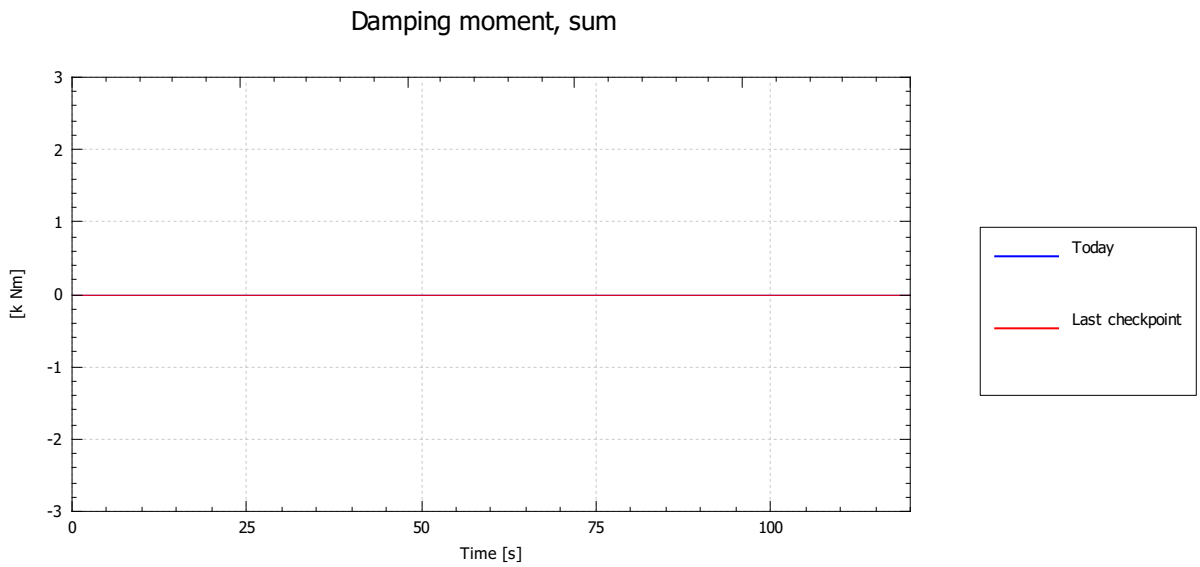
Damping force, i



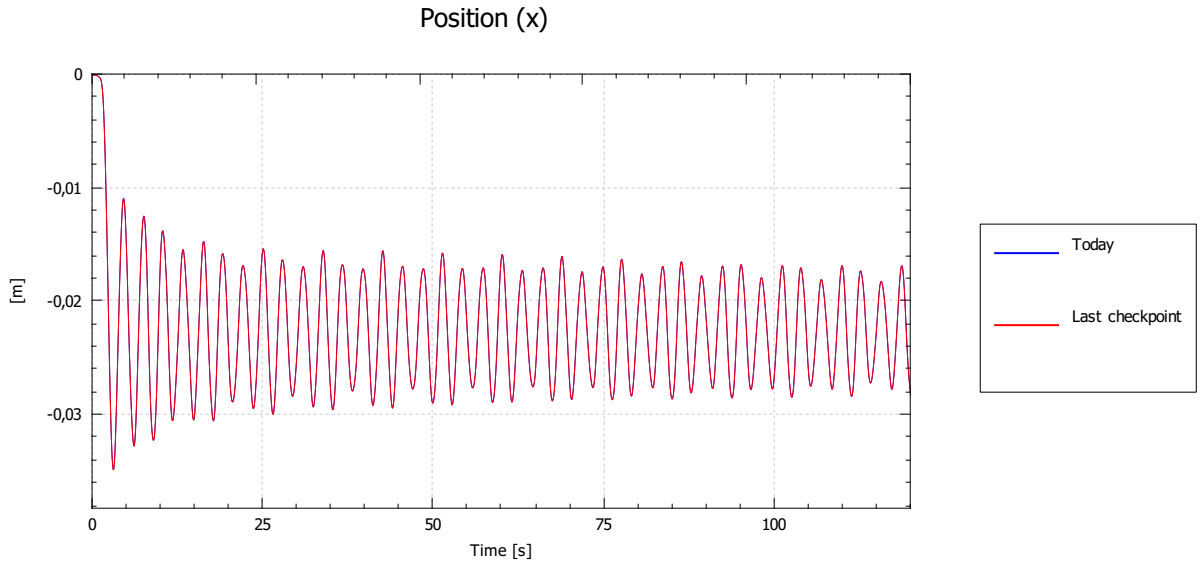
Damping moment, i

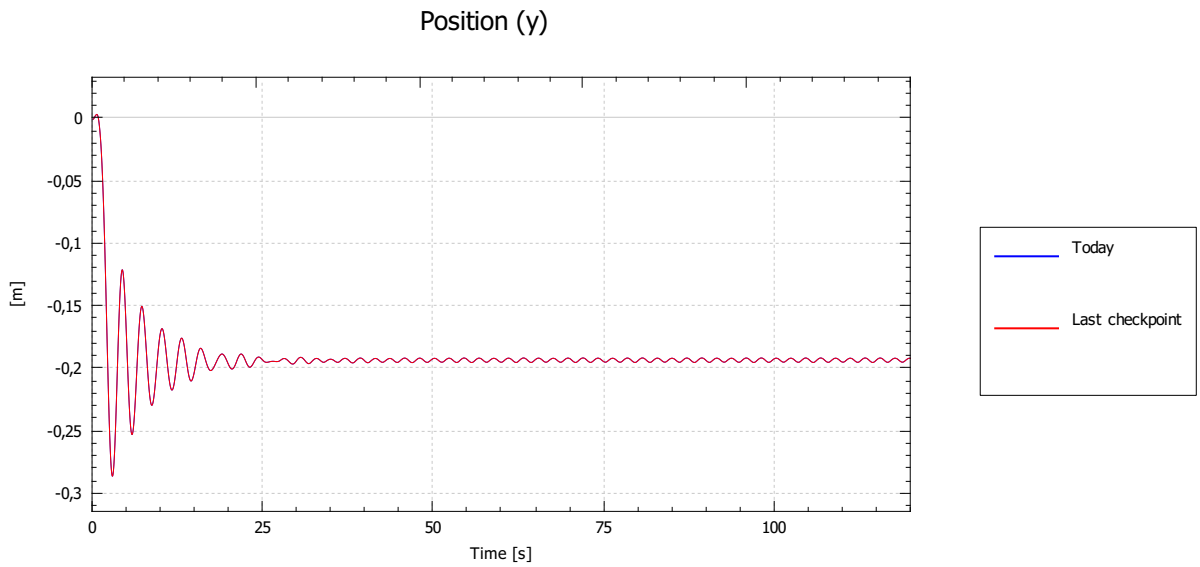


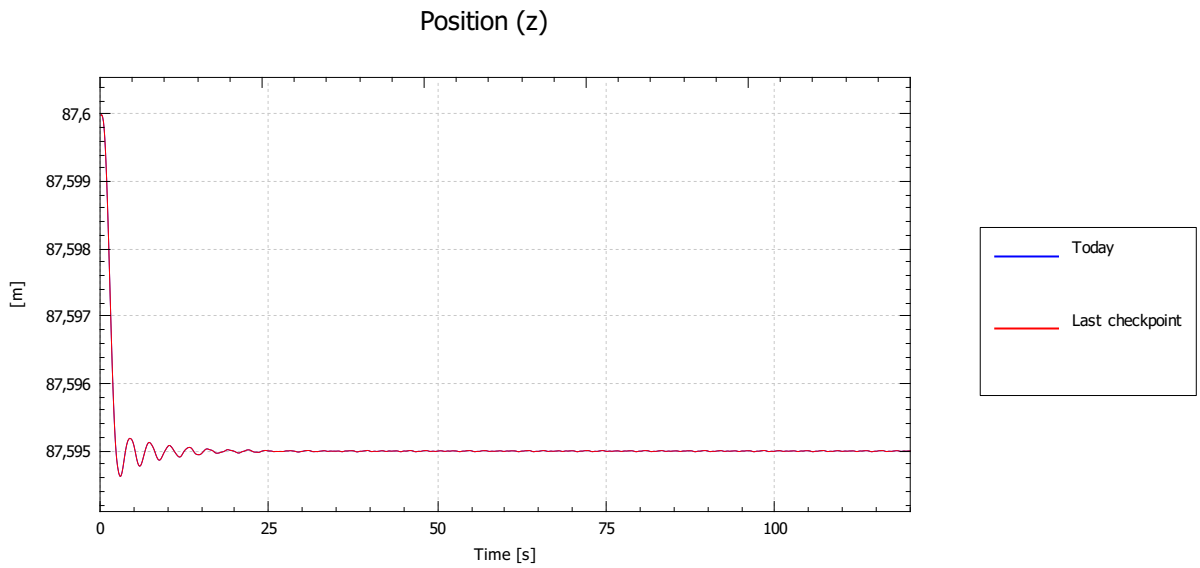


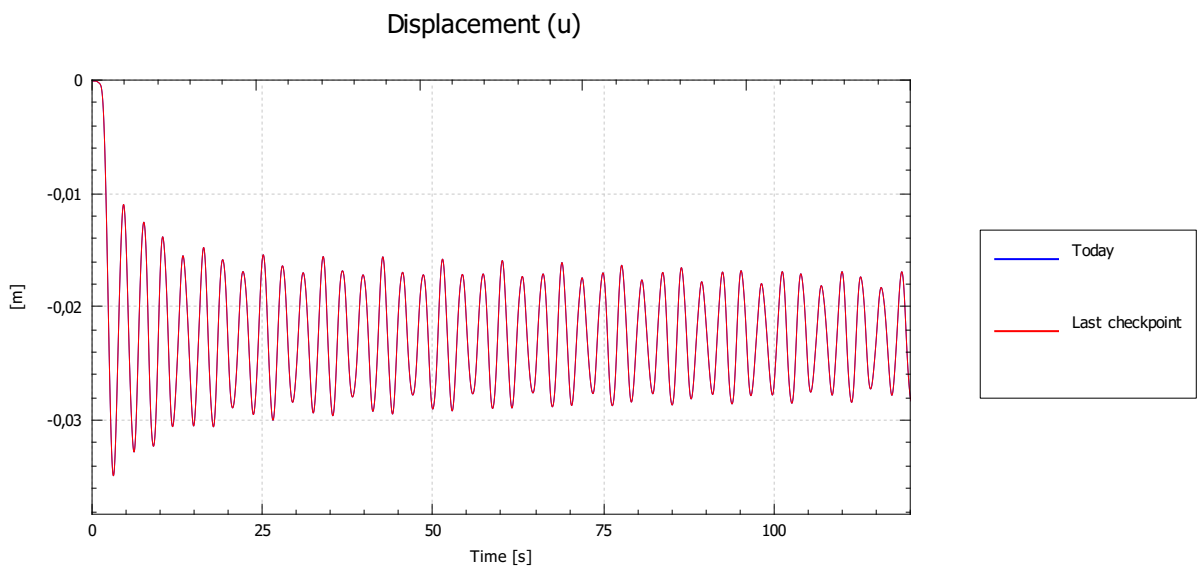


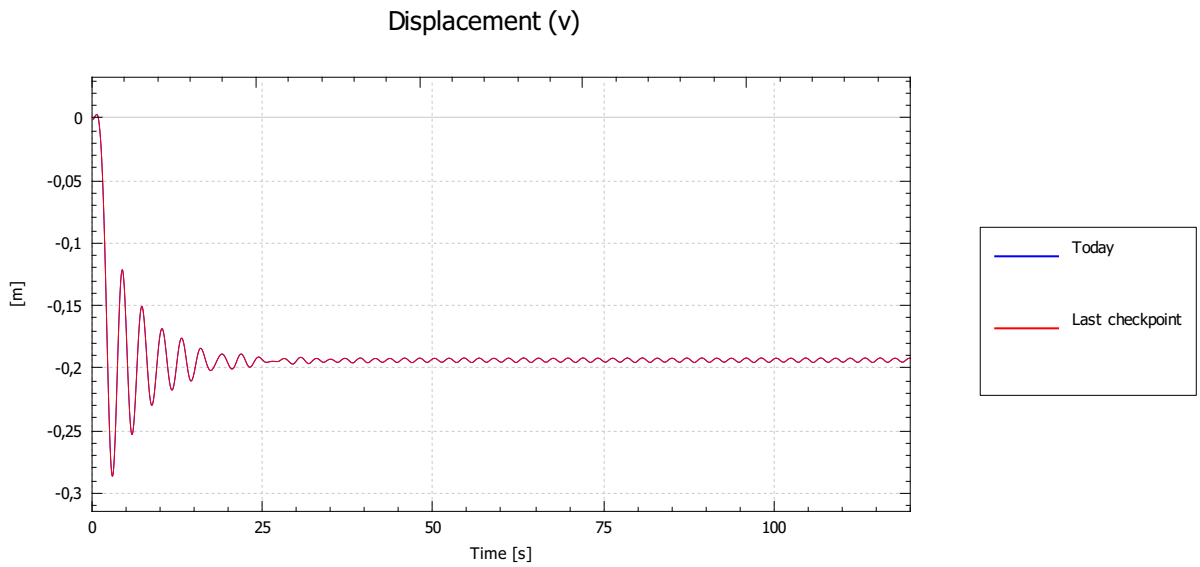
Node [Node RNA_node | Tubular tower]

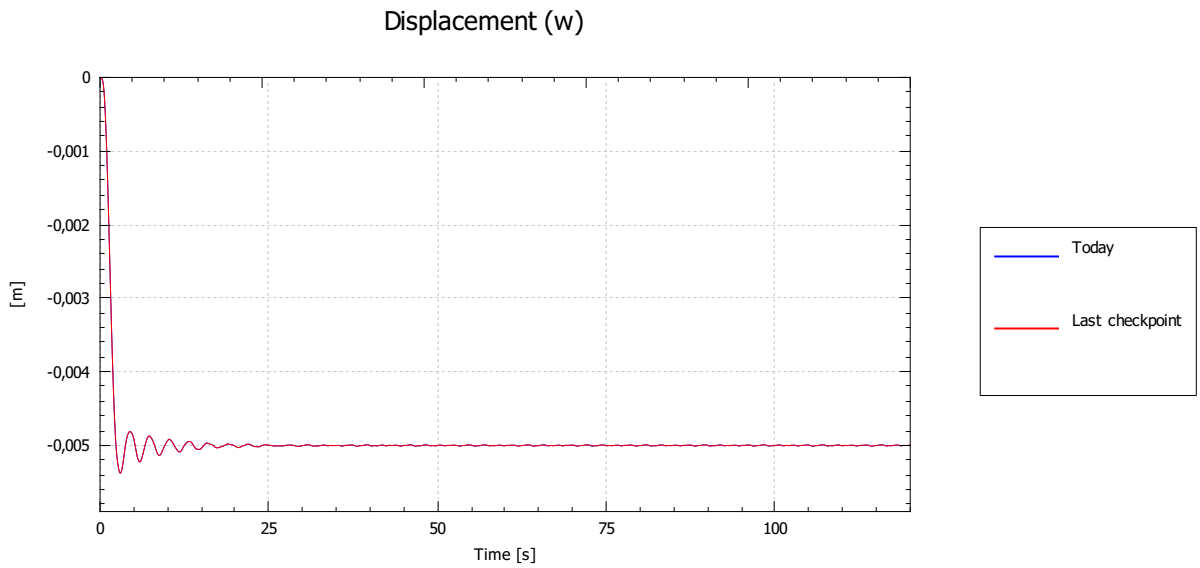

Position (x)
0
-0,01
-0,02
-0,03
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Position (y)
0
-0,05
-0,1
-0,15
-0,2
-0,25
-0,3
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

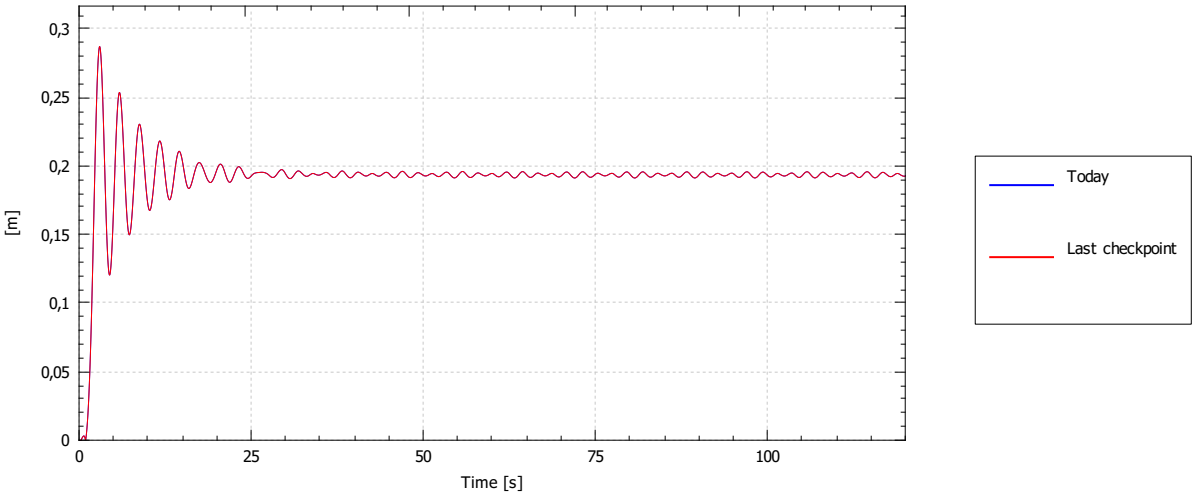

Position (z)
87,6
87,599
87,598
87,597
87,596
87,595
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Displacement (u)
0
-0,01
-0,02
-0,03
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

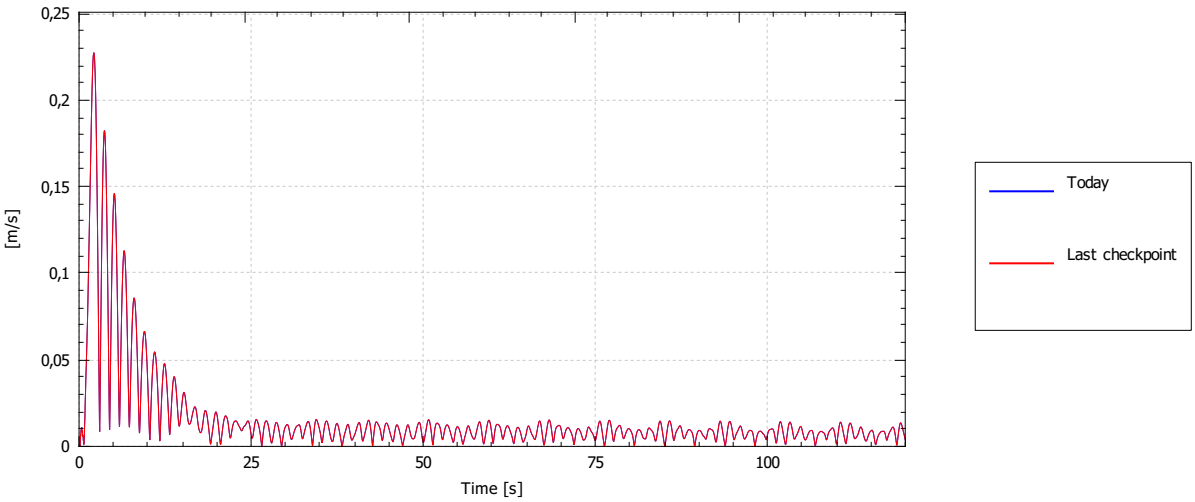

Displacement (v)
0
-0,05
-0,1
-0,15
-0,2
-0,25
-0,3
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Displacement (w)
0
-0,001
-0,002
-0,003
-0,004
-0,005
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

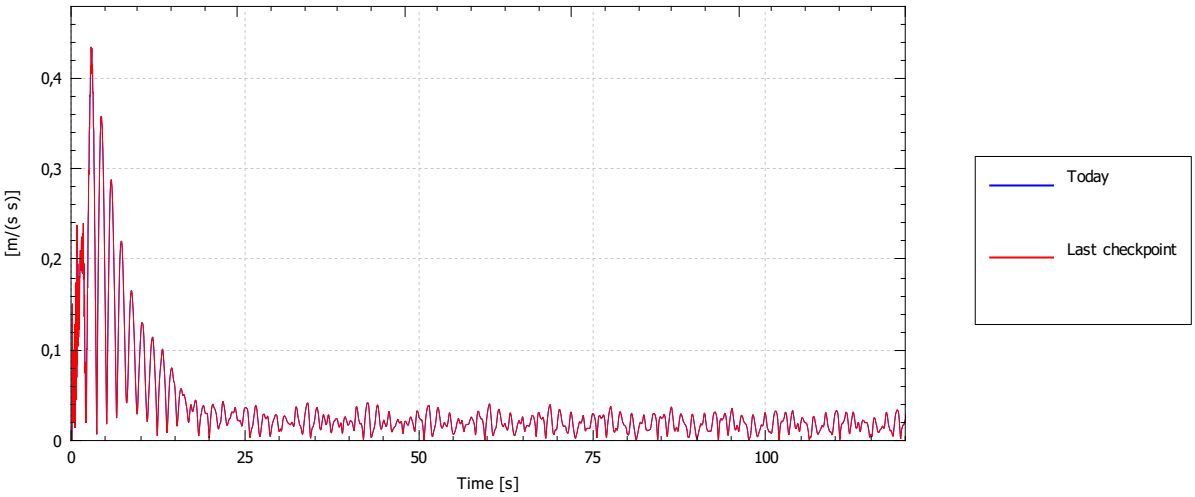
Displacement magnitude



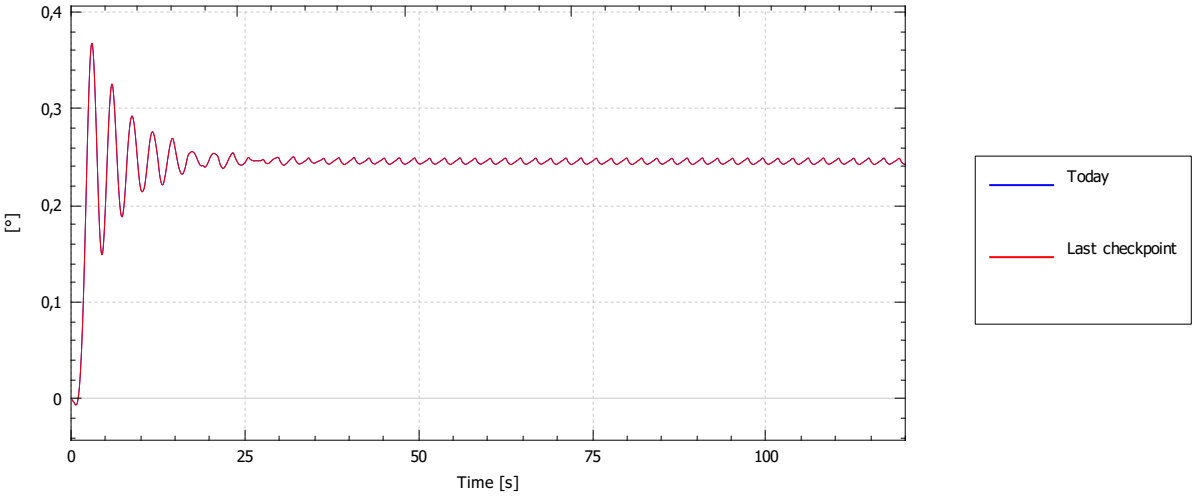
Speed



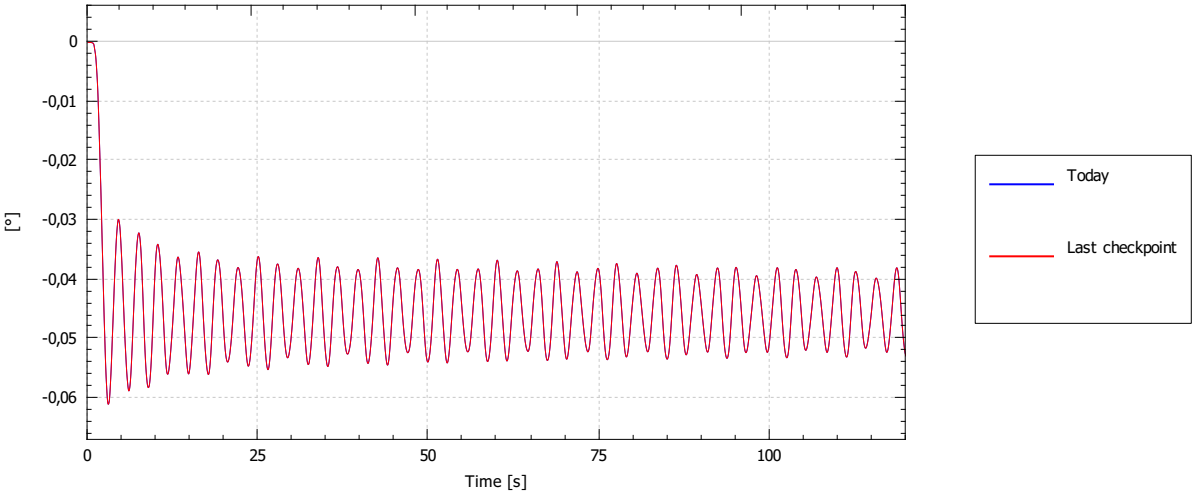
Acceleration, magnitude



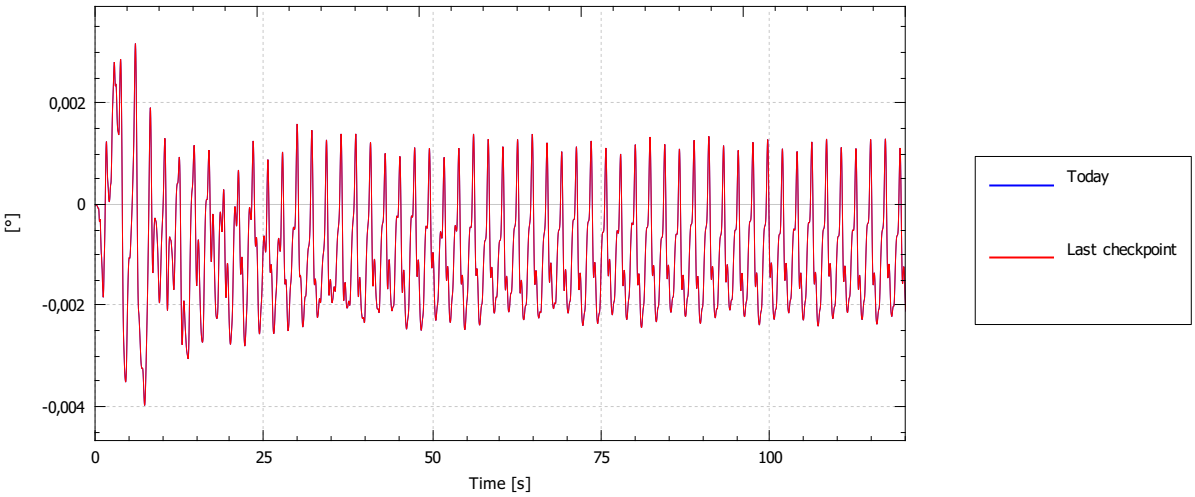
Rotational displacement (ru)



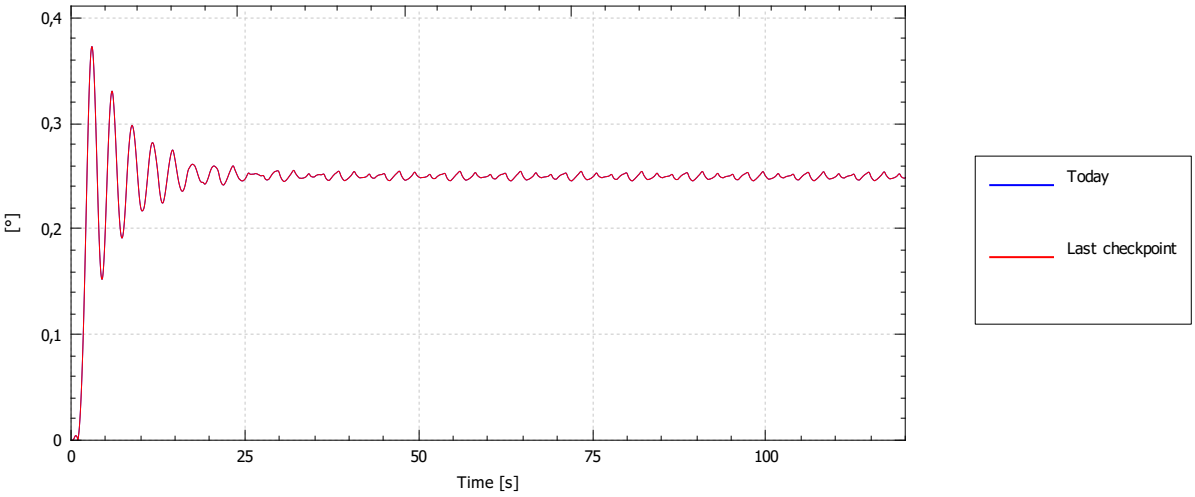
Rotational displacement (rv)



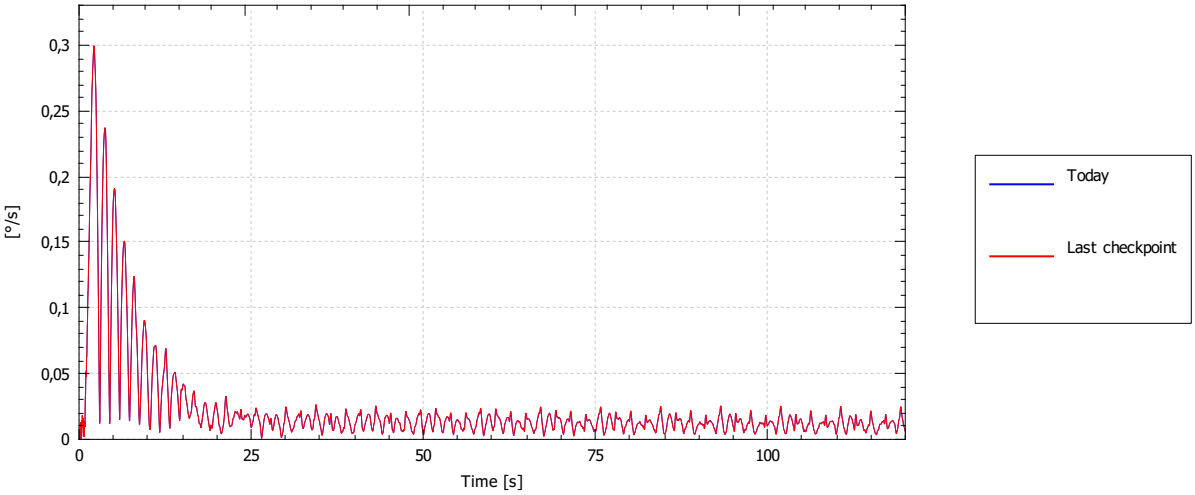
Rotational displacement (rw)



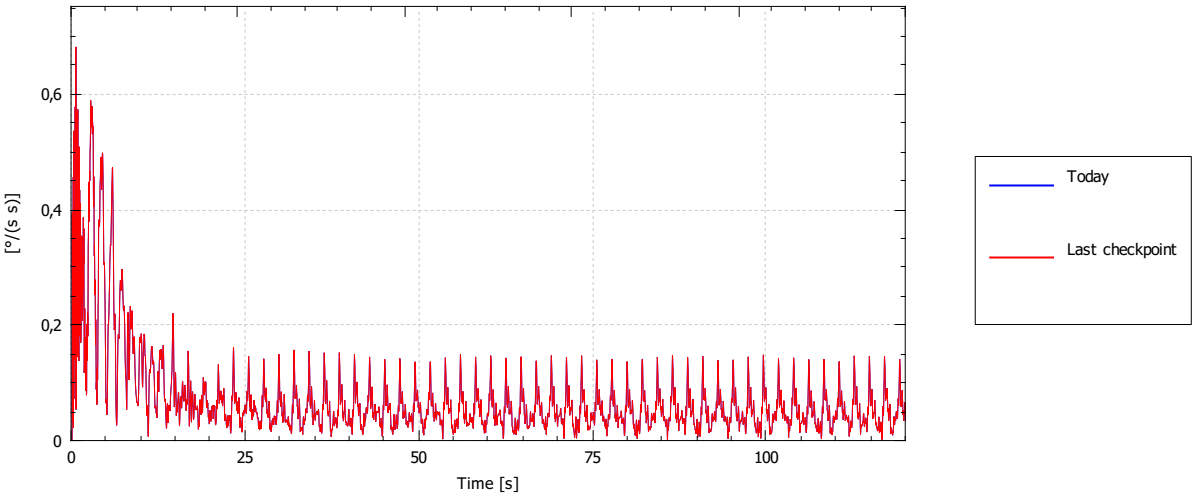
Rotational displacement magnitude



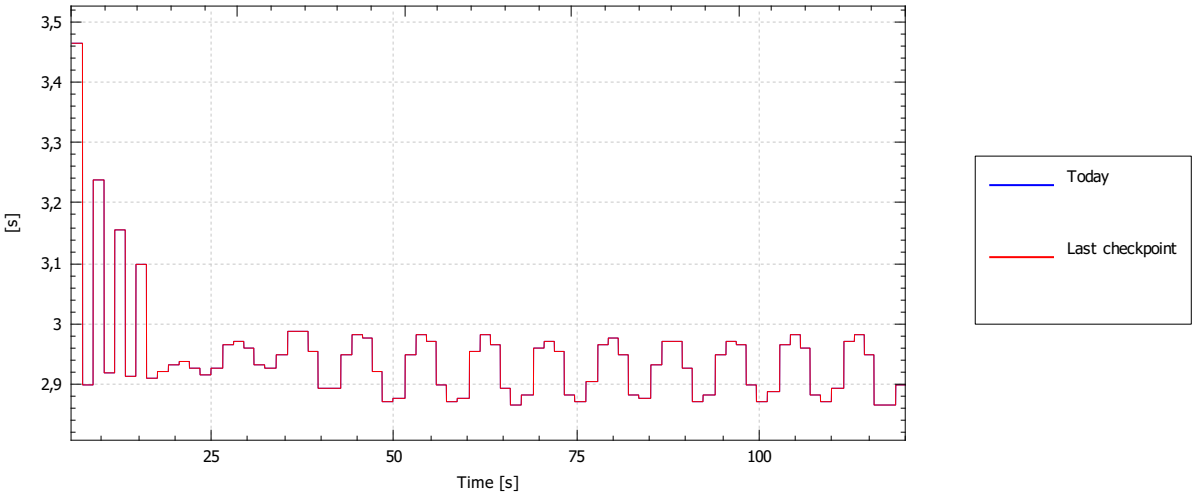
Rotational speed



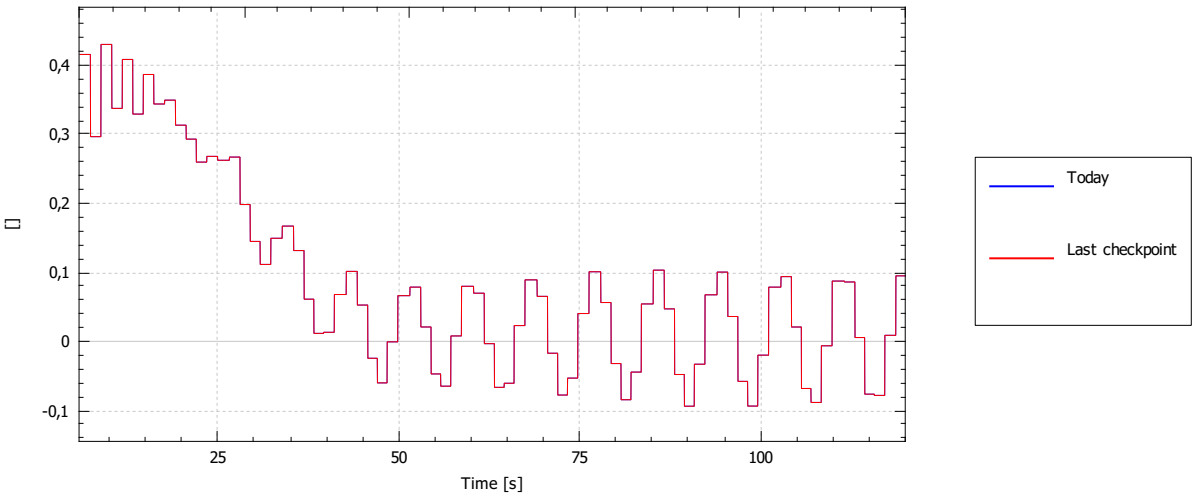
Rotational acceleration mag



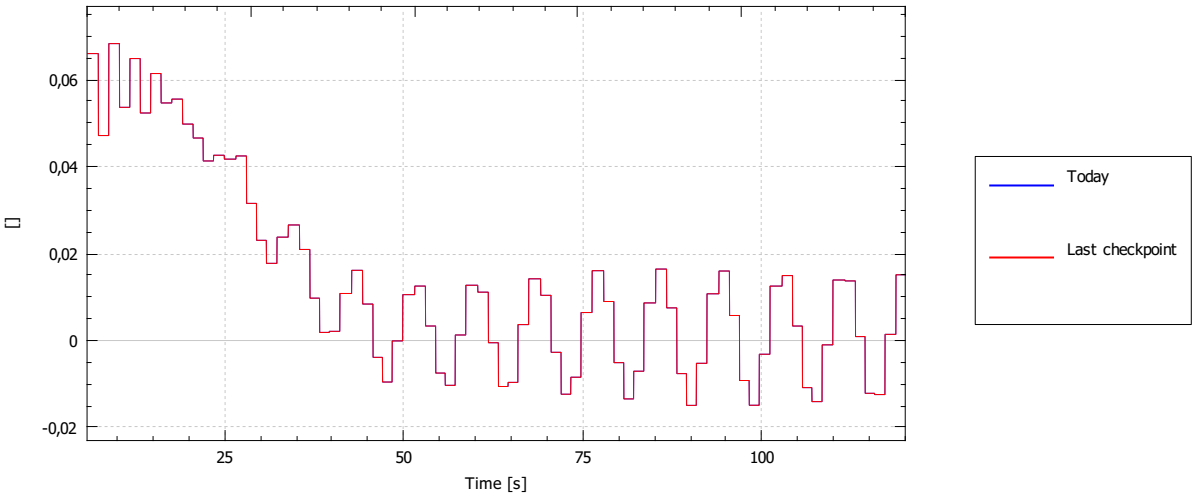
Displacement period



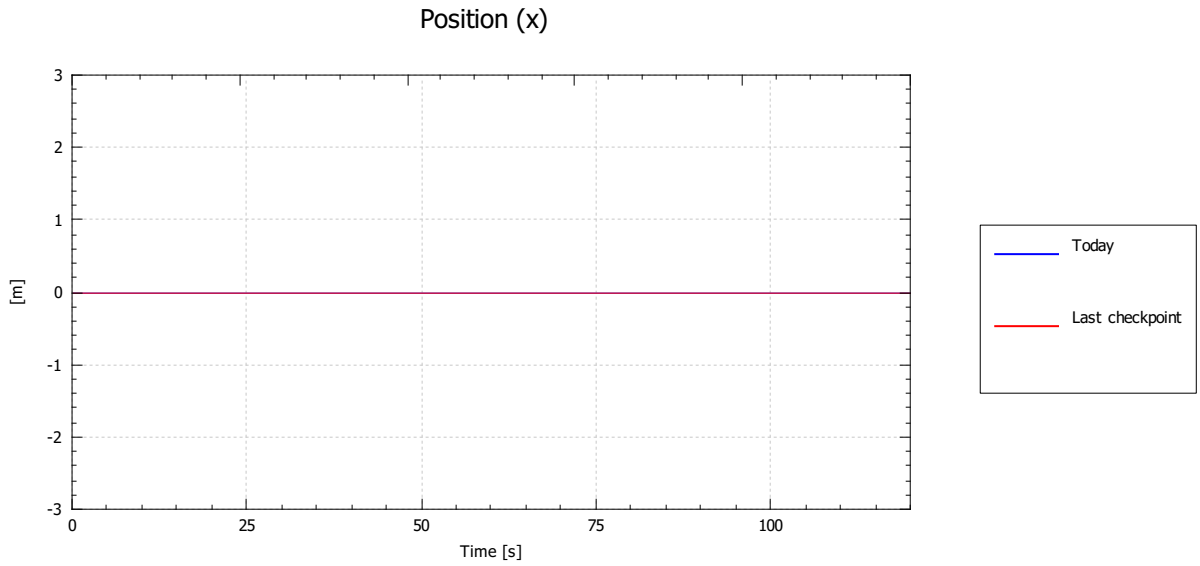
Displacement logarithmic decrement

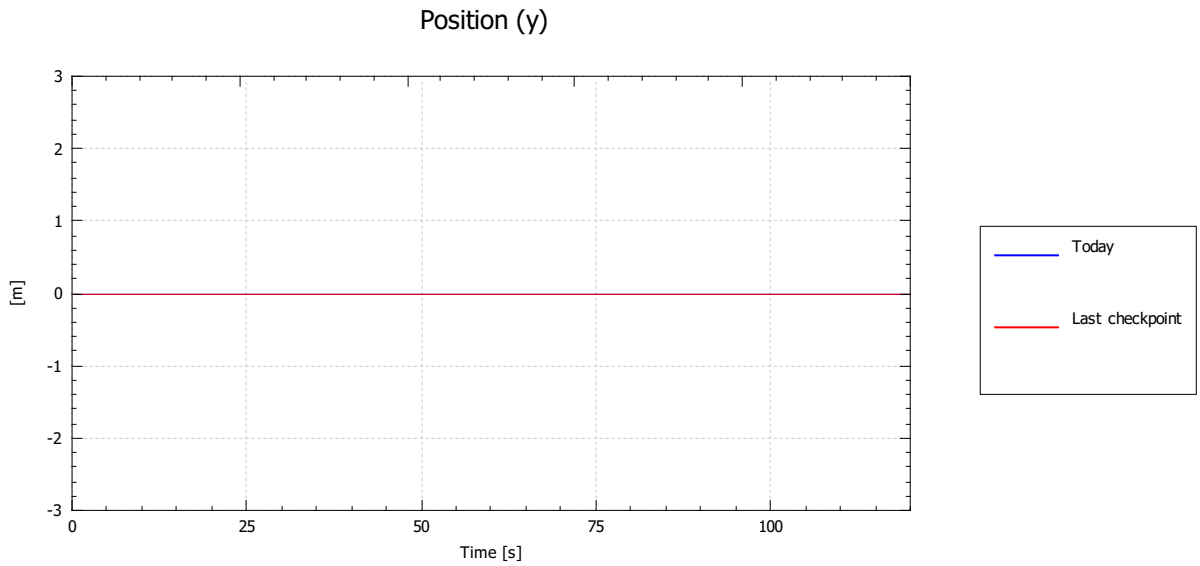


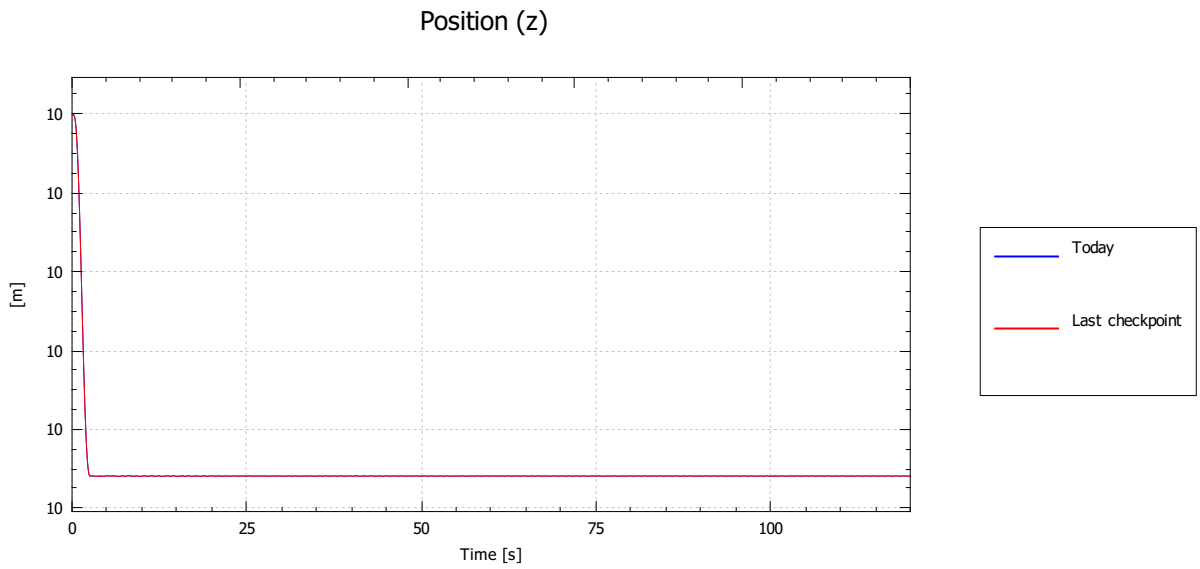
Displacement damping ratio

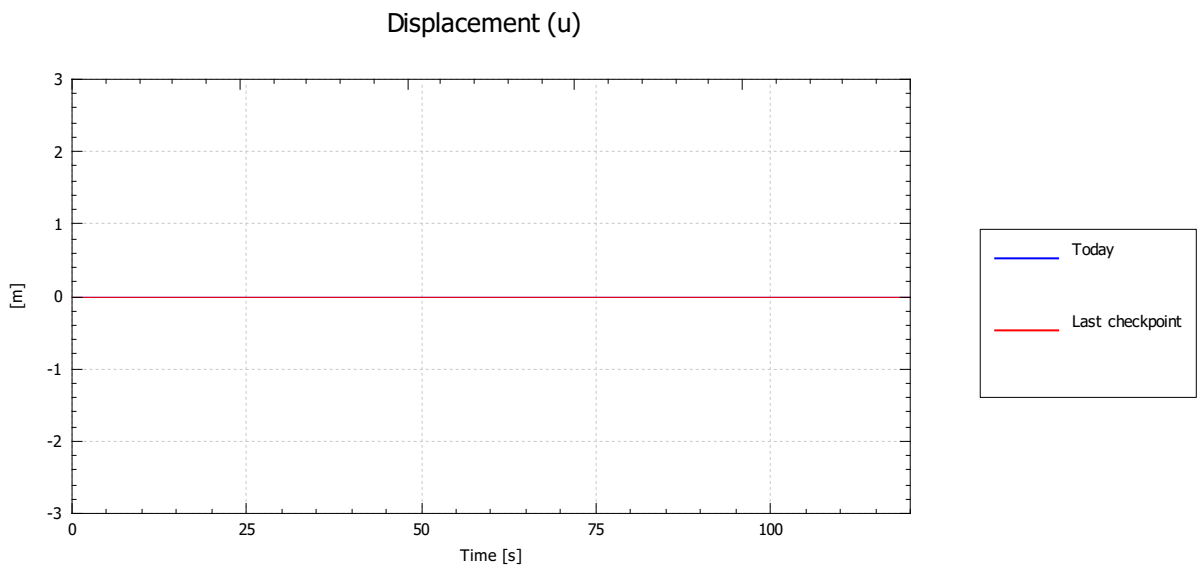


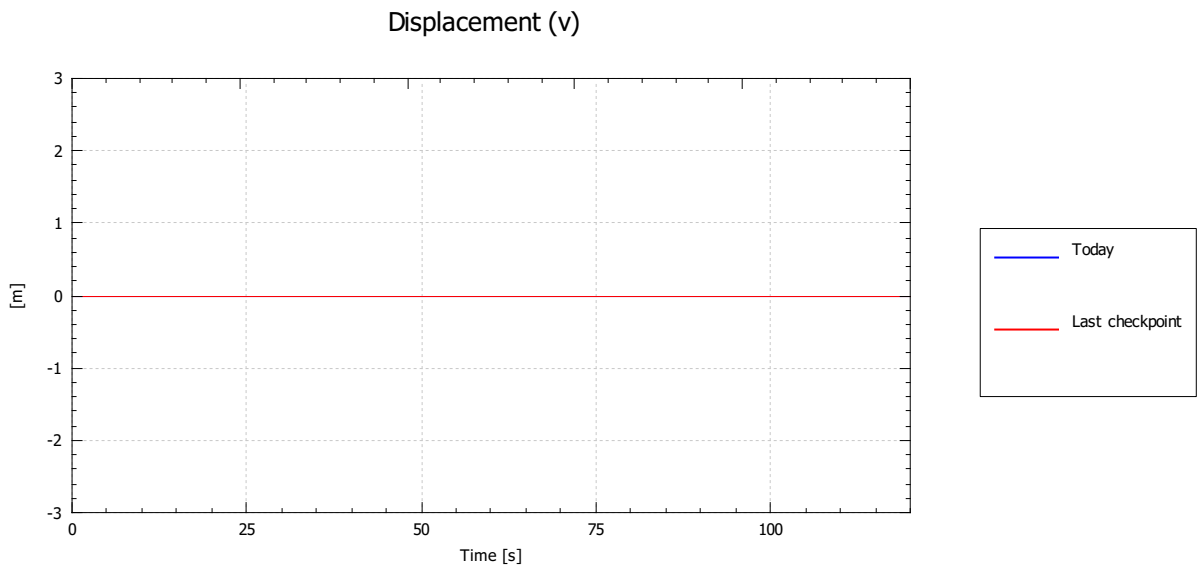
Node [Node 1 | Tubular tower]

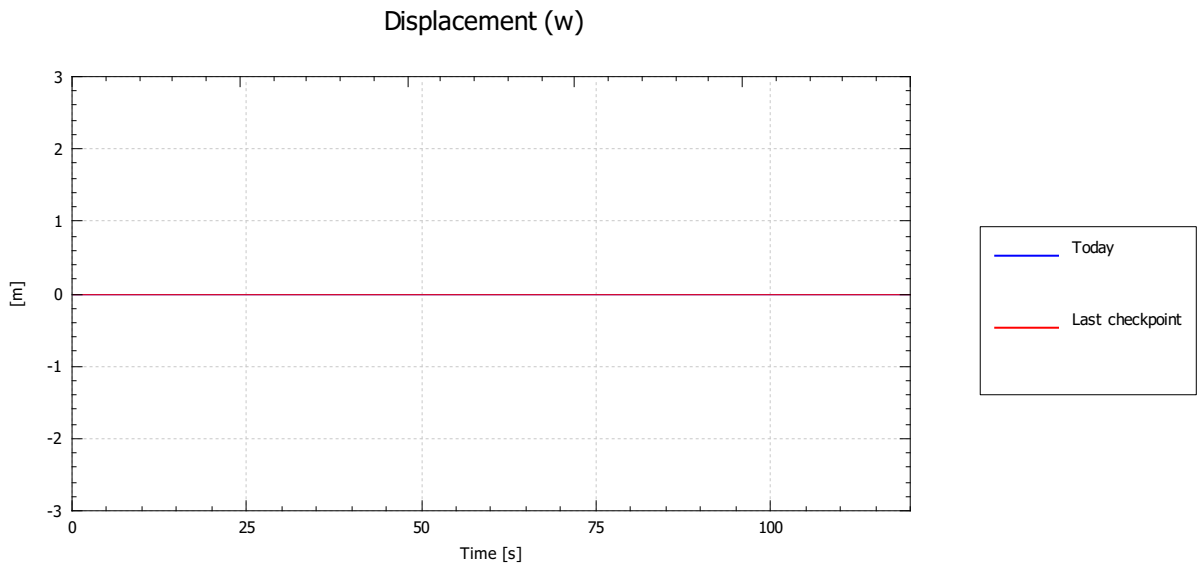




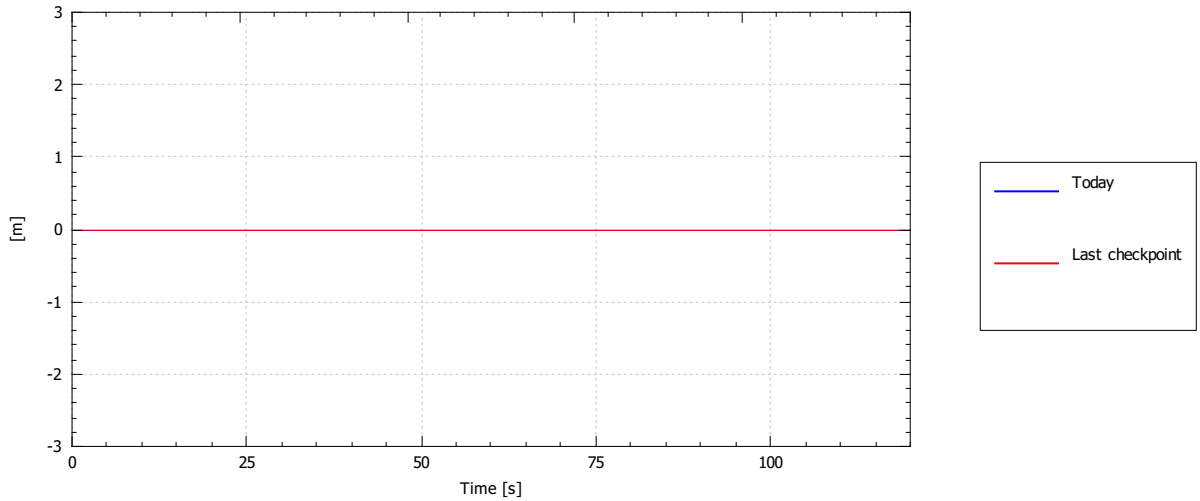



Displacement (u)
3
2
1
0
-1
-2
-3
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

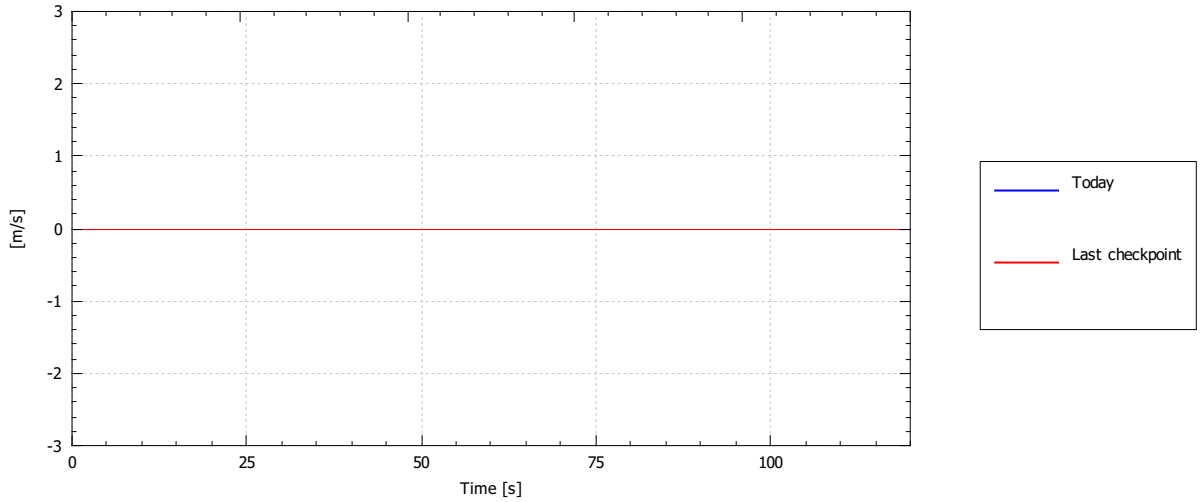

Displacement (v)
3
2
1
0
-1
-2
-3
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Displacement (w)
3
2
1
0
-1
-2
-3
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

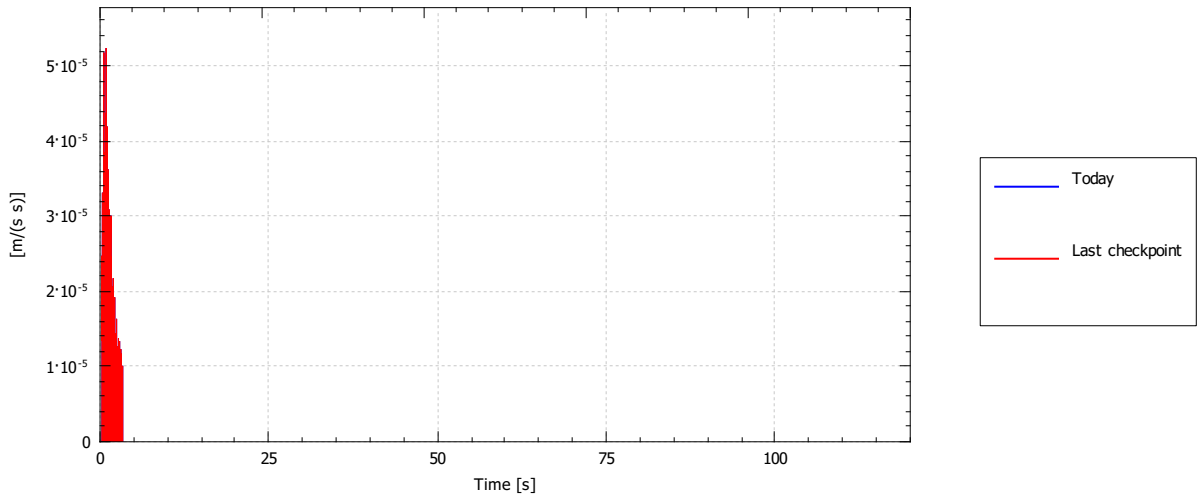
Displacement magnitude



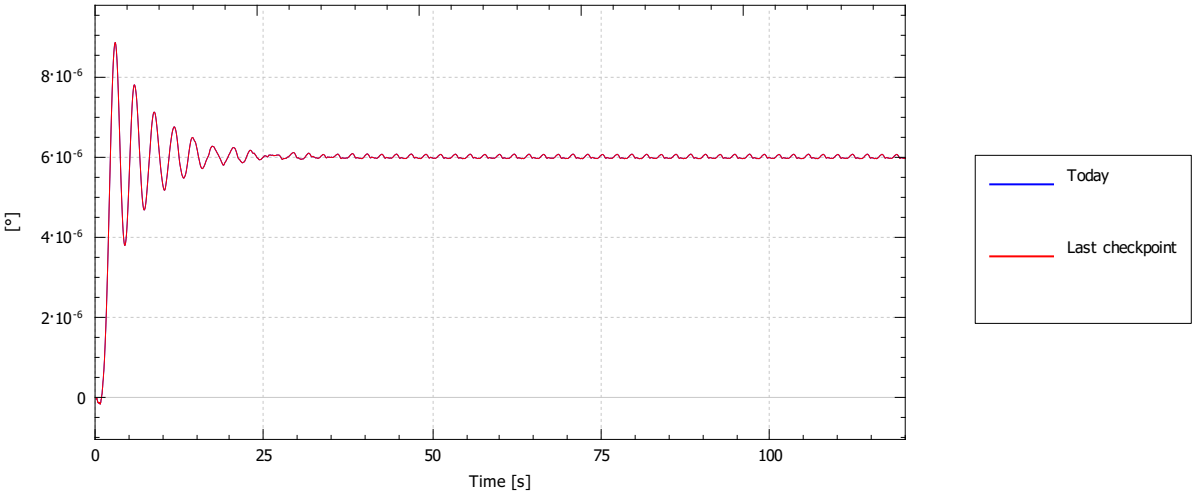
Speed



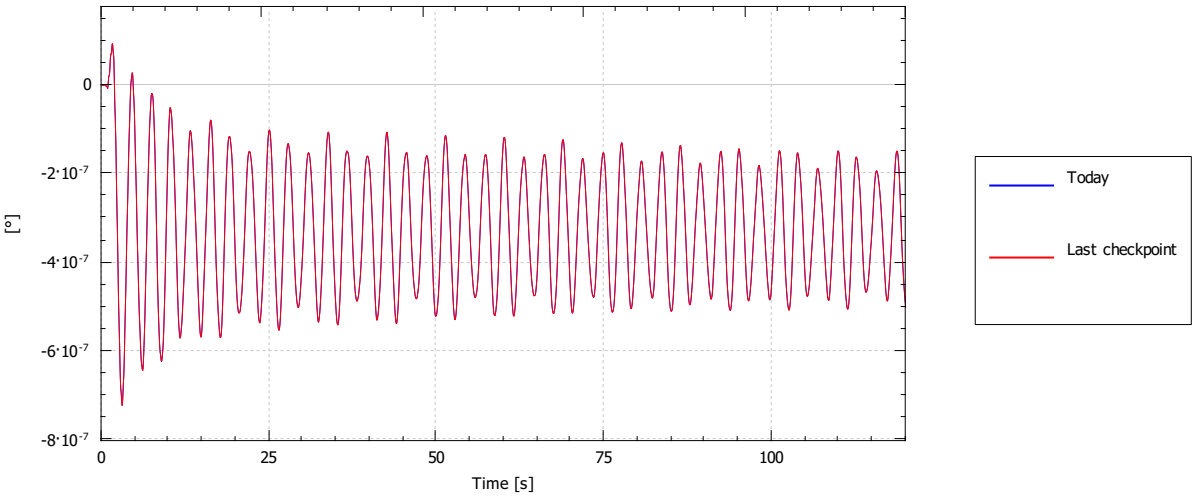
Acceleration, magnitude



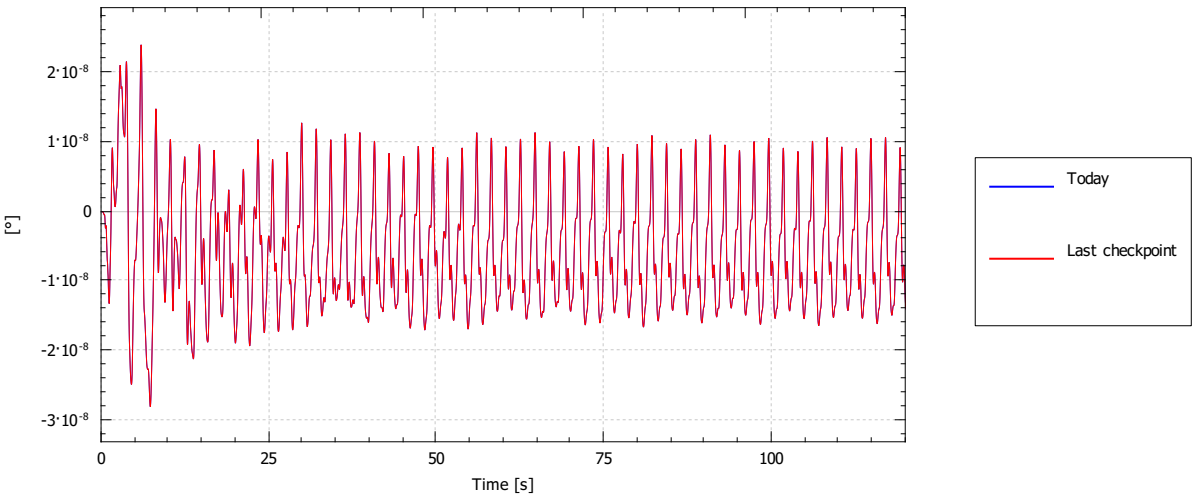
Rotational displacement (ru)



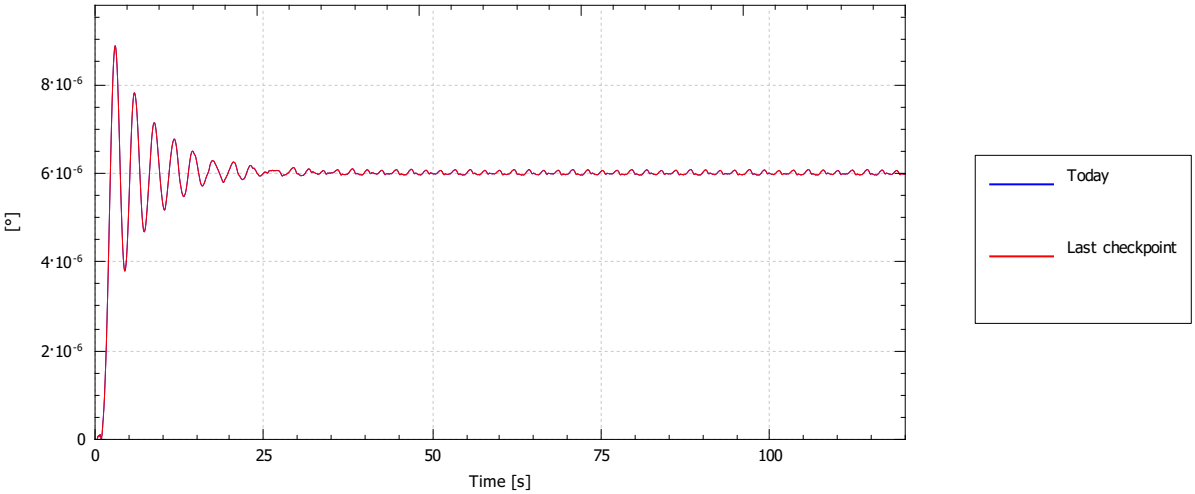
Rotational displacement (rv)



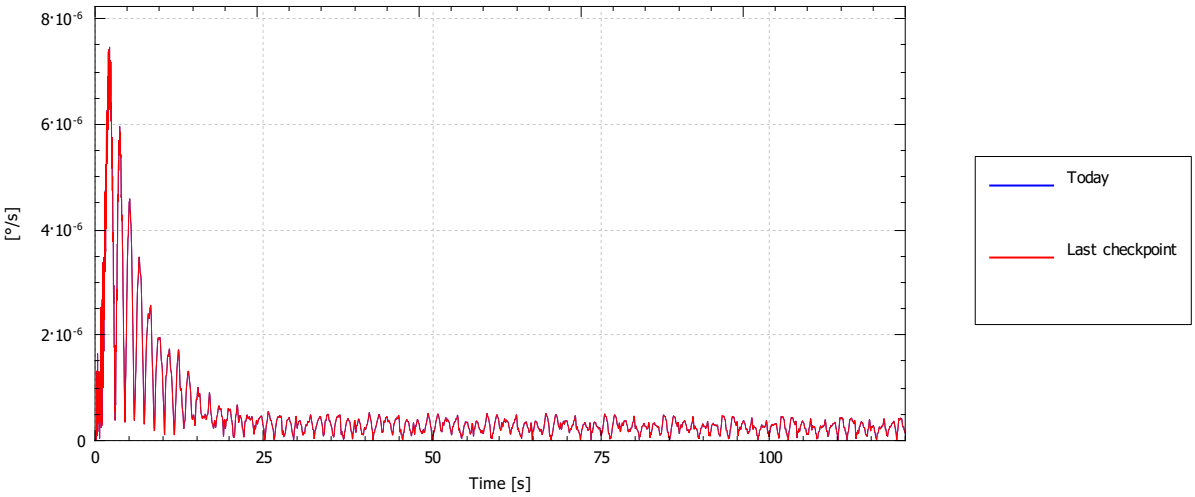
Rotational displacement (rw)



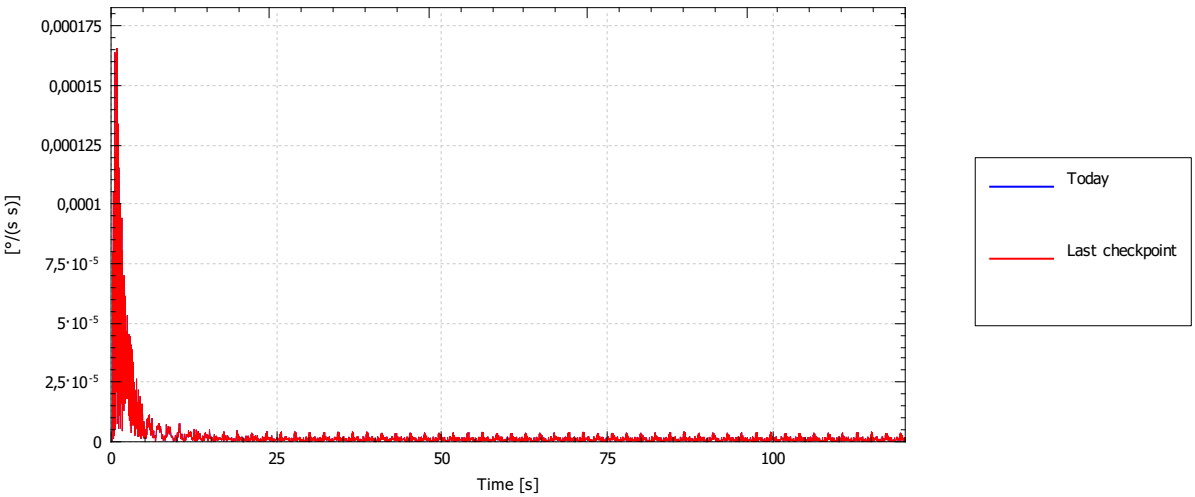
Rotational displacement magnitude



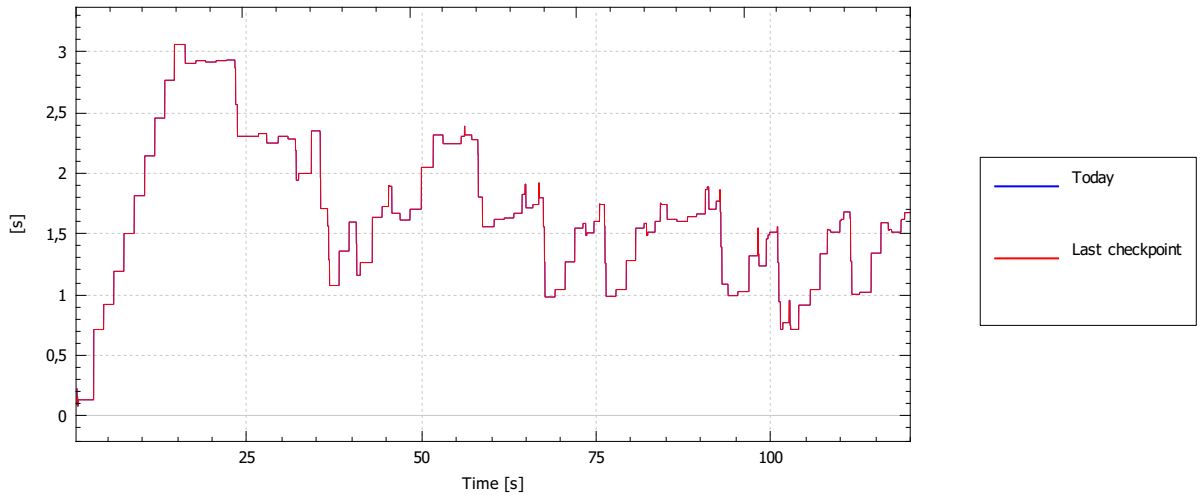
Rotational speed



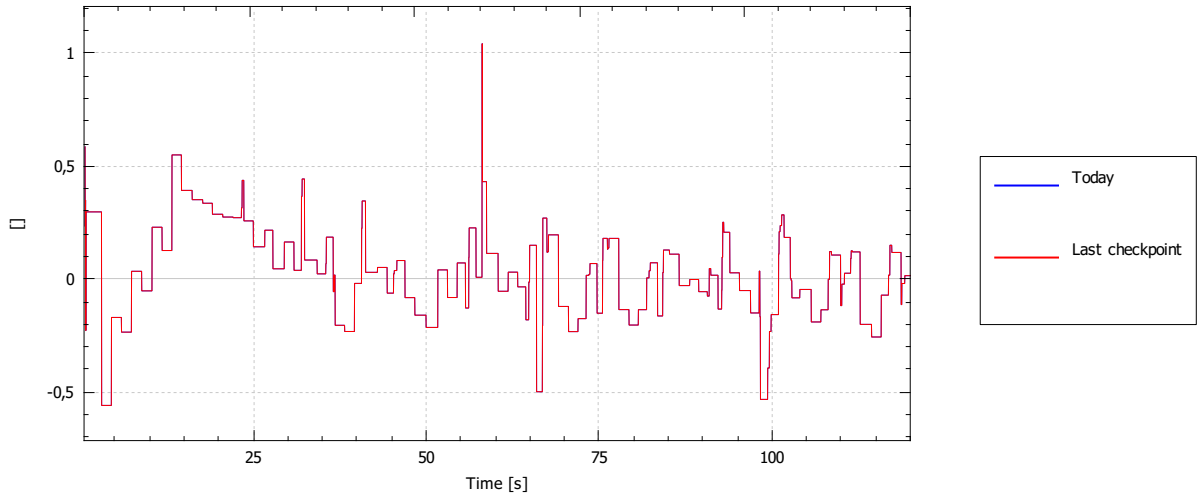
Rotational acceleration mag



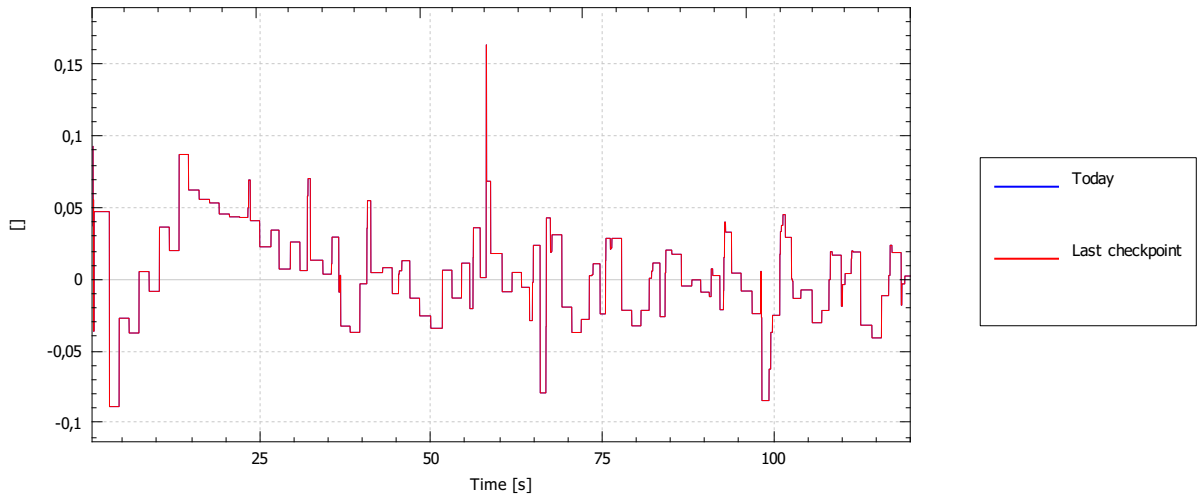
Displacement period



Displacement logarithmic decrement

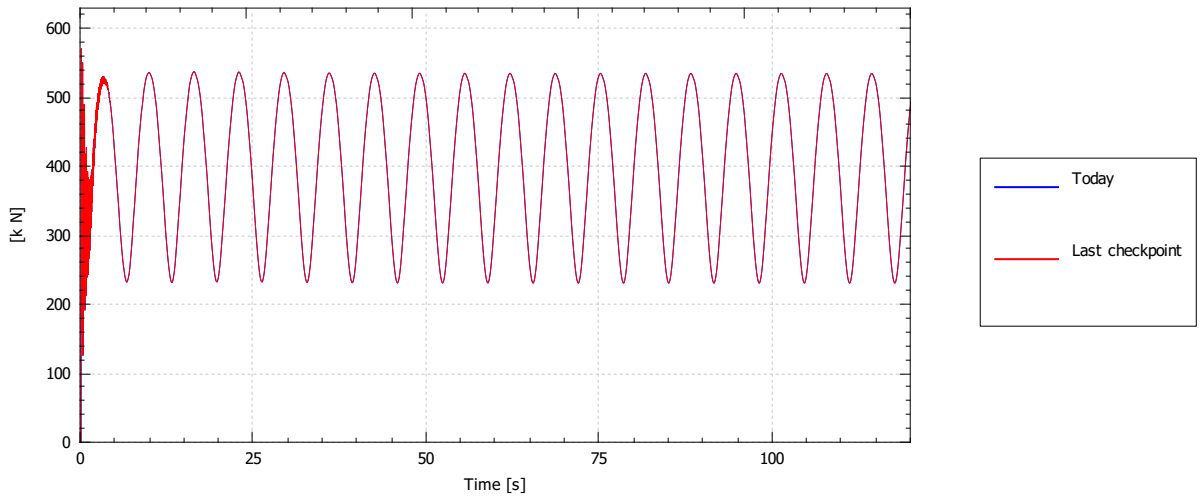


Displacement damping ratio

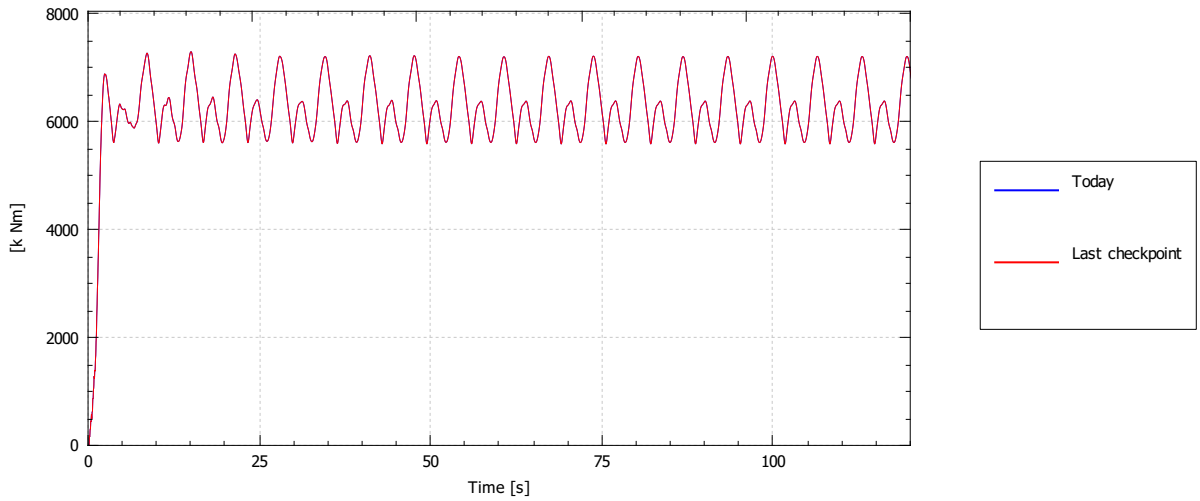


Blade [Time] [Blade 1]

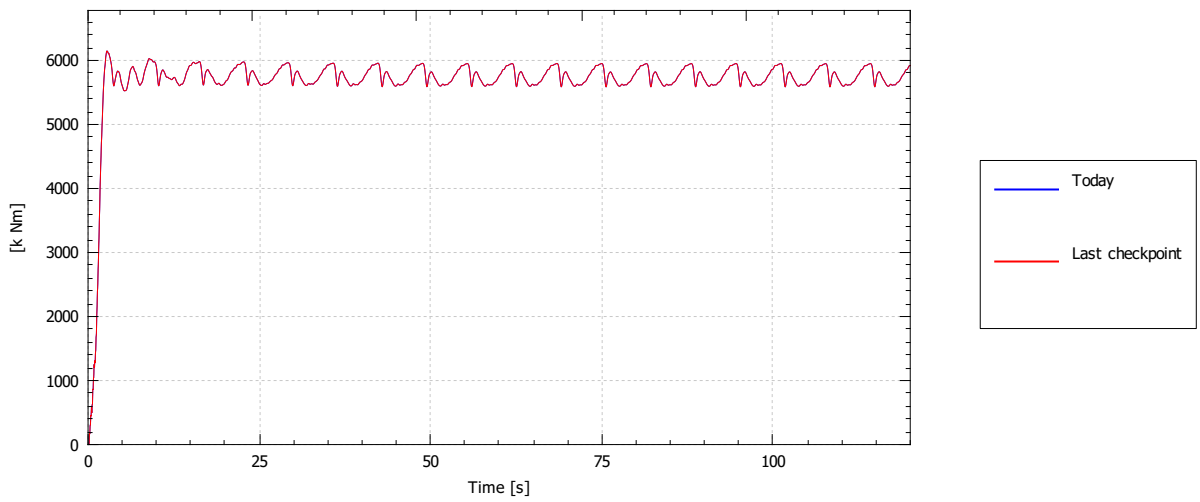
Root force (magnitude)



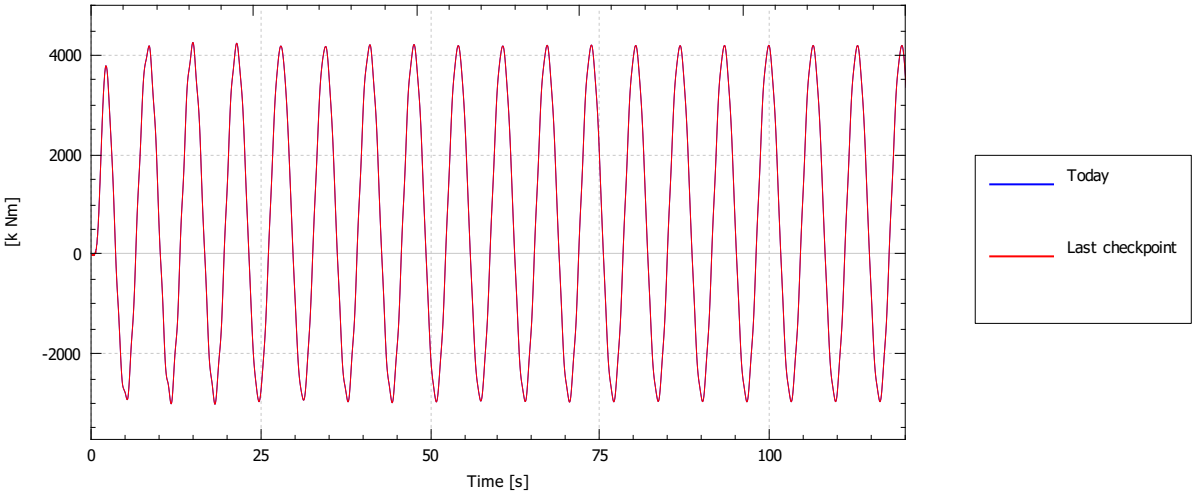
Root moment (magnitude)



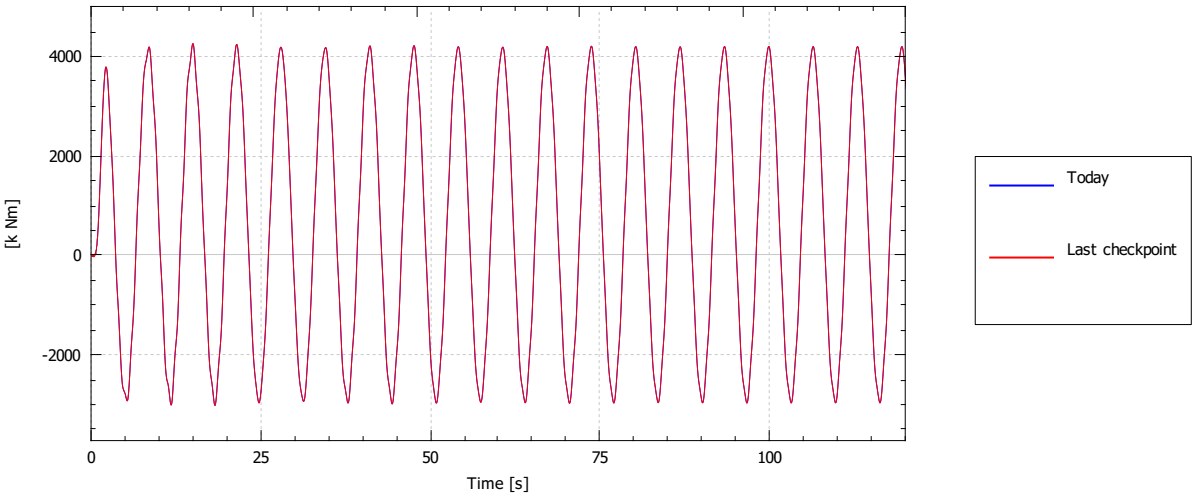
Root moment (out-of-plane)



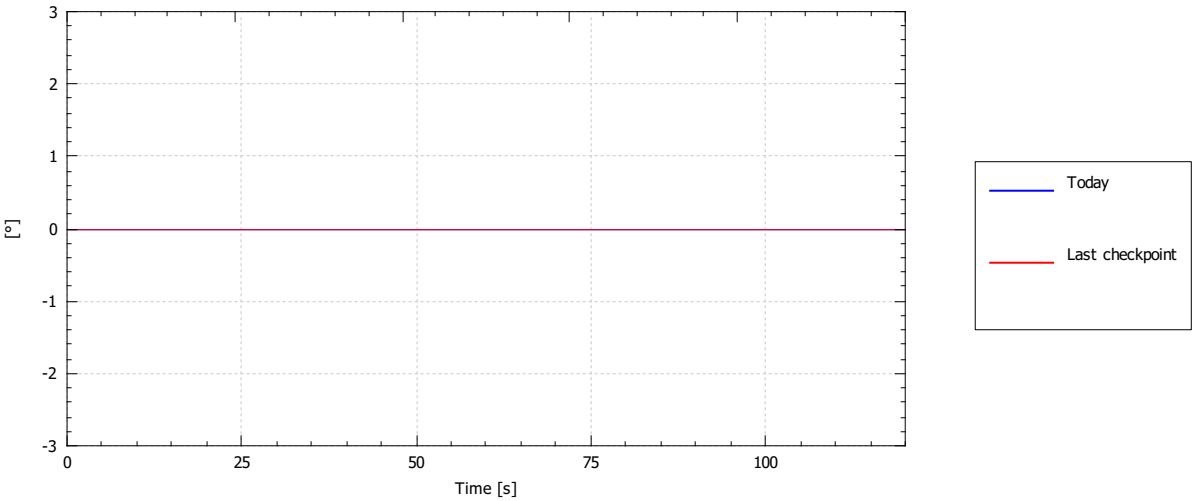
Root moment (in-plane)



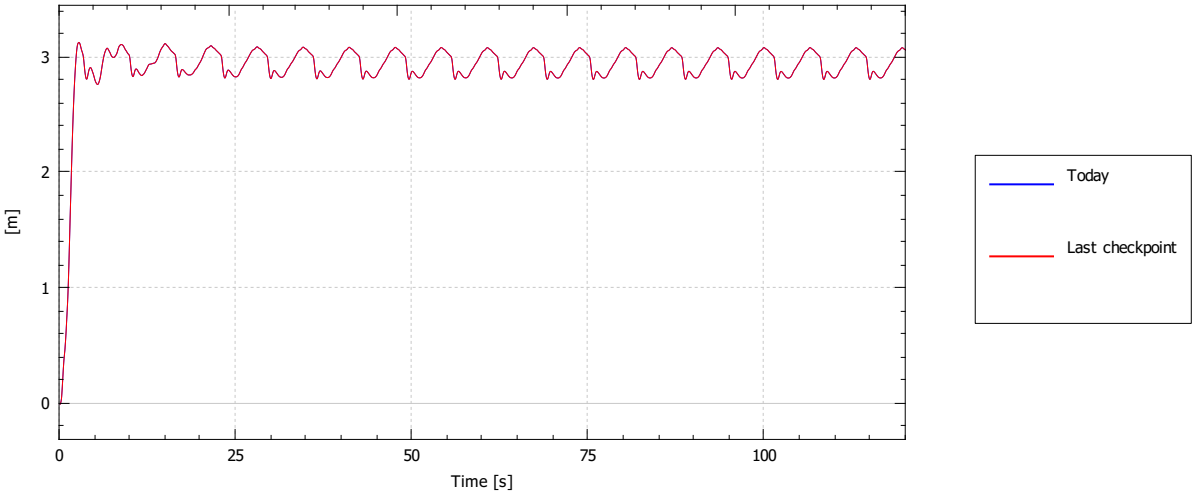
Root moment about shaft



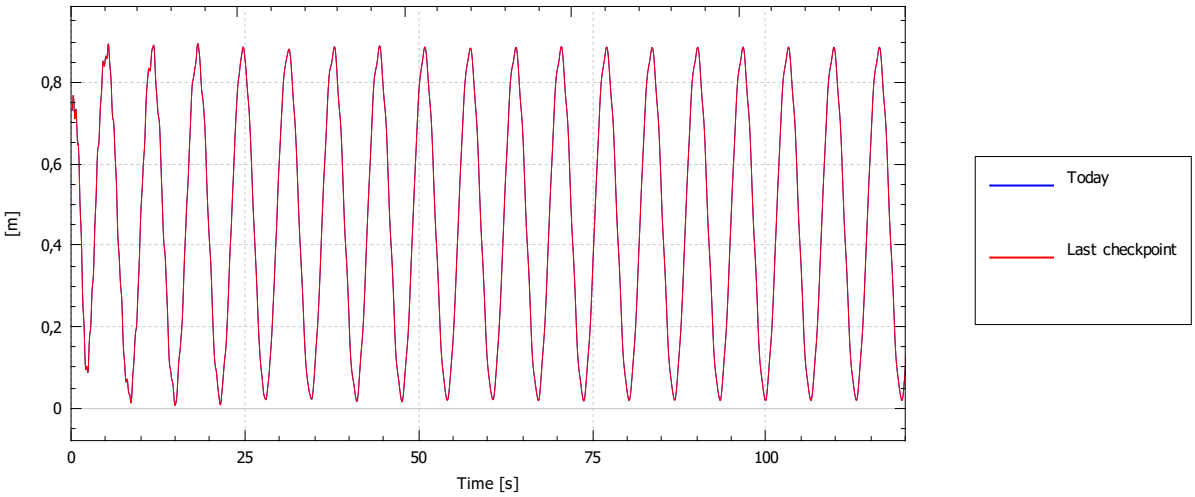
Pitch angle



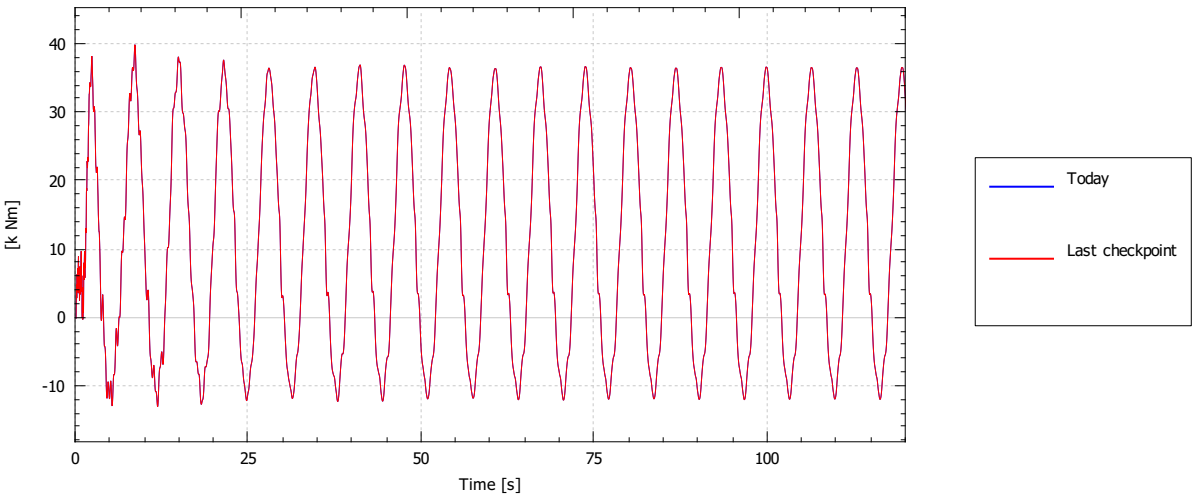
Tip deflection (out-of-plane)



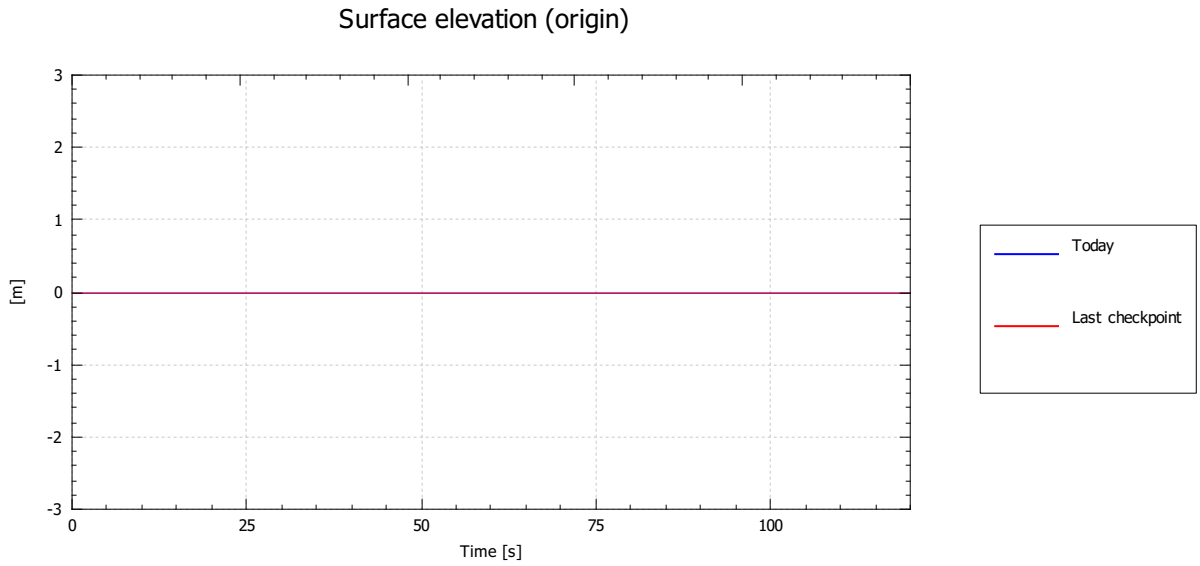
Tip deflection (in-plane)

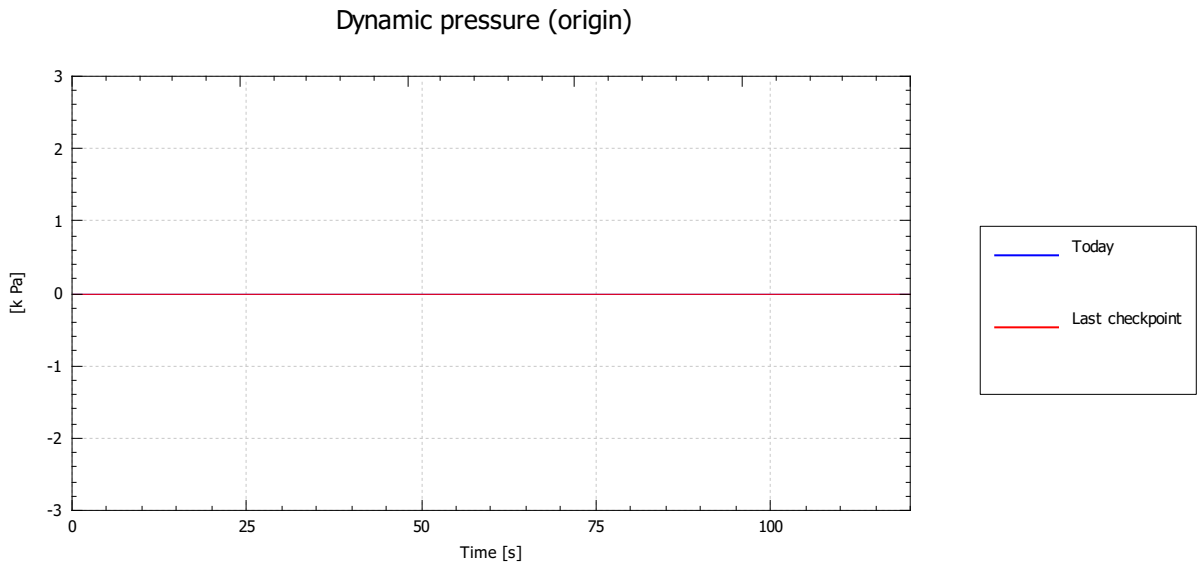


Root torque



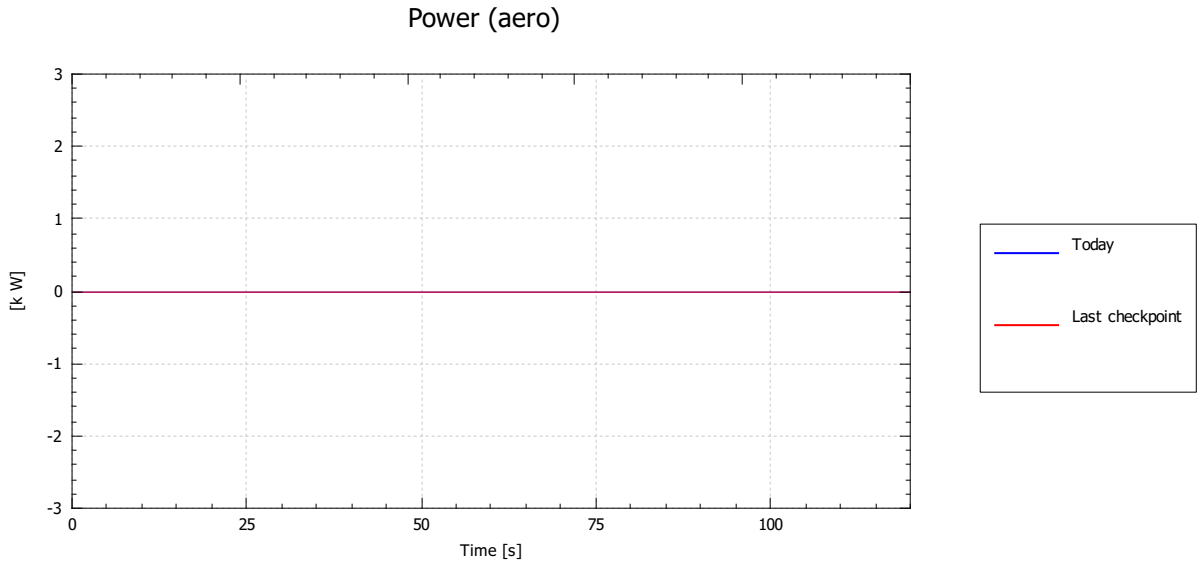
Sea

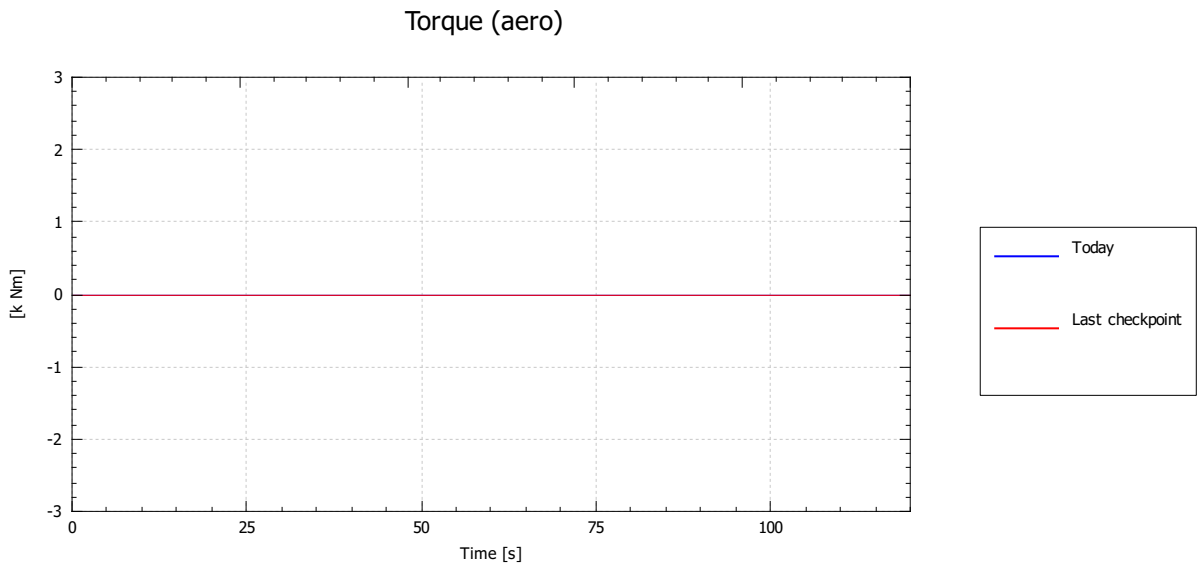


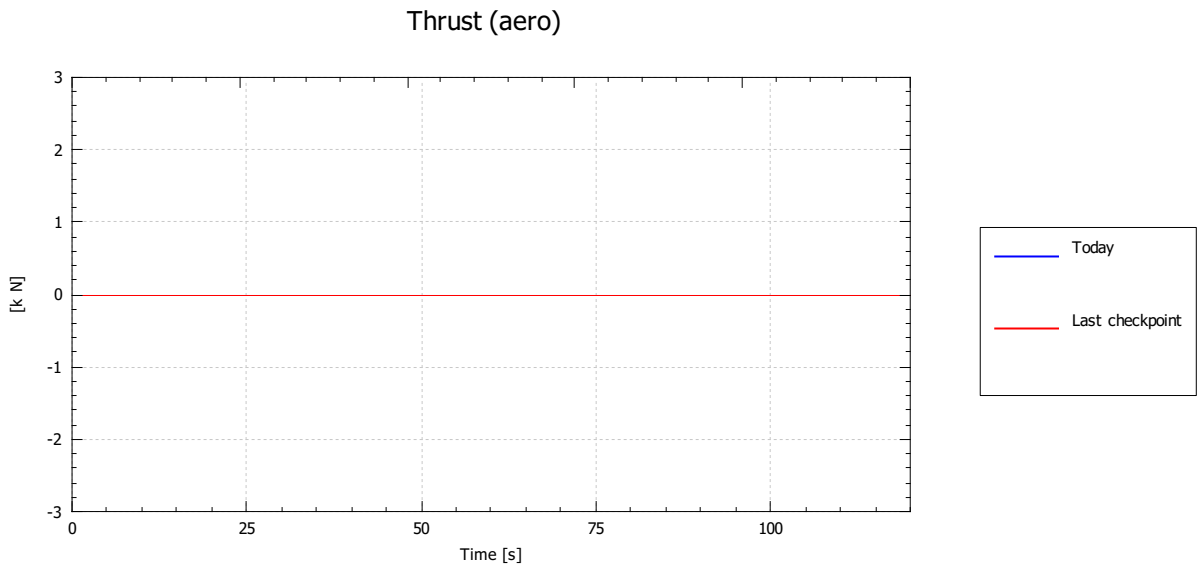


Load case: 4.1

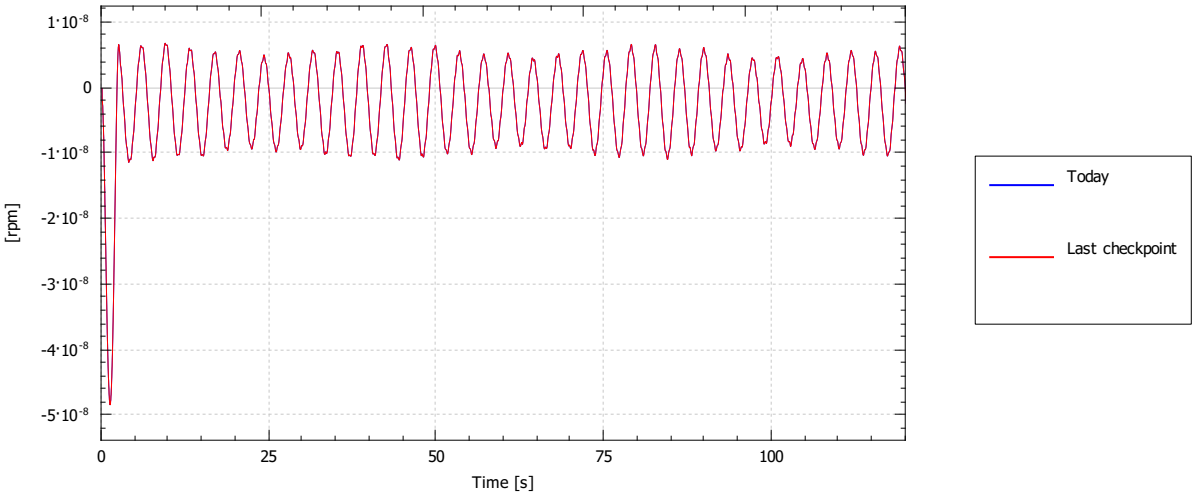
Rotor


Power (aero)
[k W]
3
2
1
0
-1
-2
-3
0
25
50
75
100
Time [s]
Today
Last checkpoint

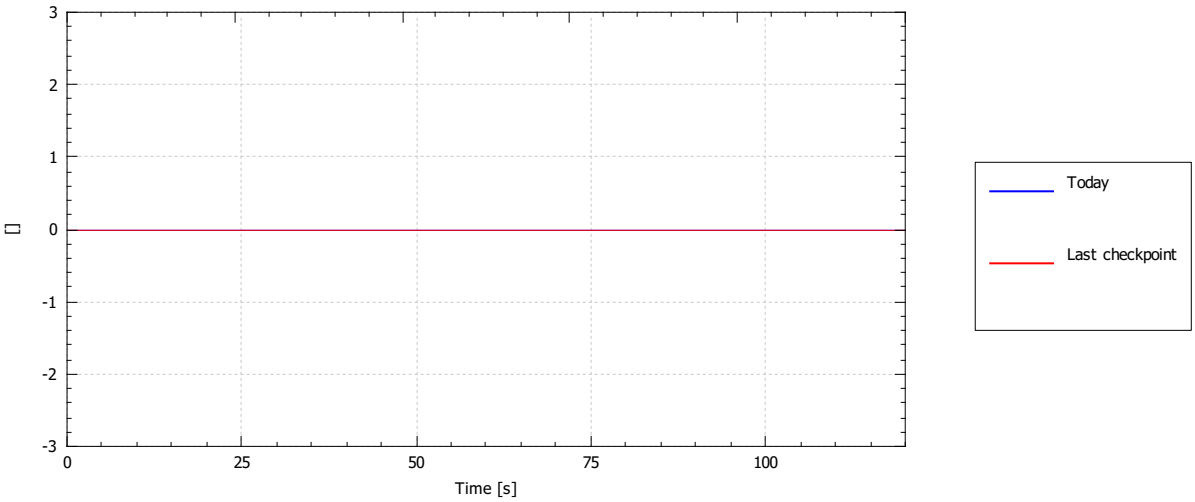

Torque (aero)
[k Nm]
3
2
1
0
-1
-2
-3
0
25
50
75
100
Time [s]
Today
Last checkpoint


Thrust (aero)
[k N]
3
2
1
0
-1
-2
-3
0
25
50
75
100
Time [s]
Today
Last checkpoint

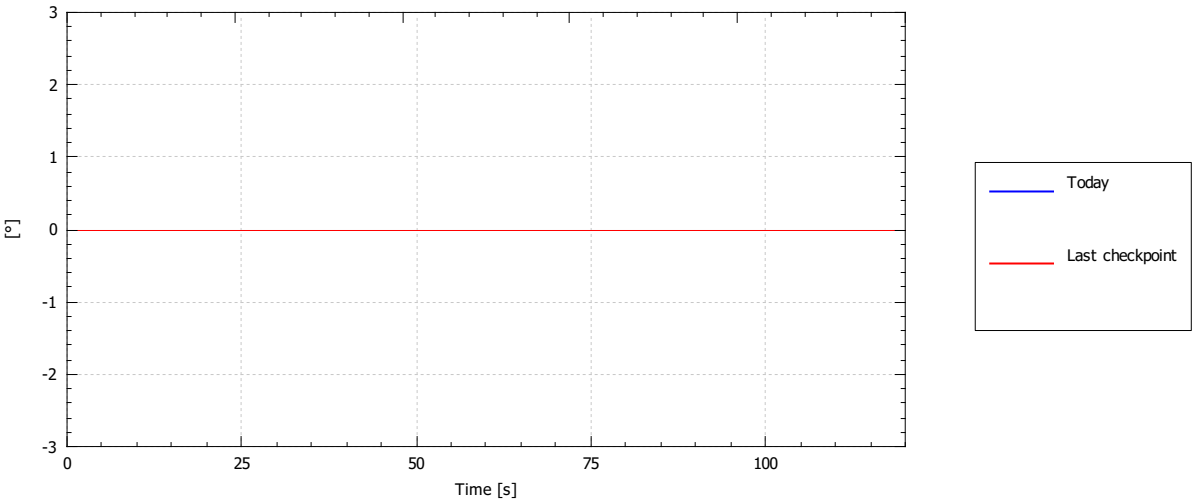
RPM



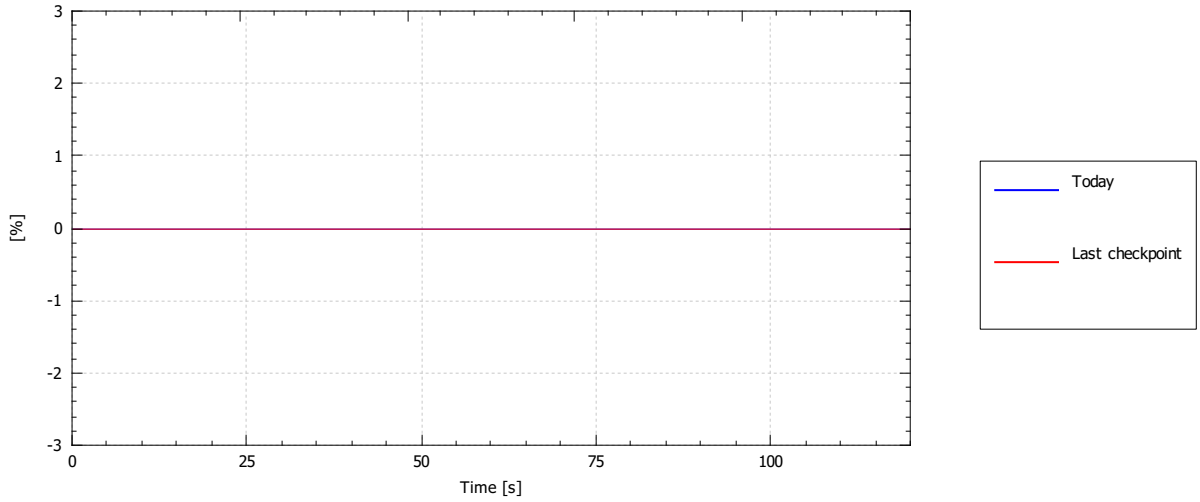
TSR



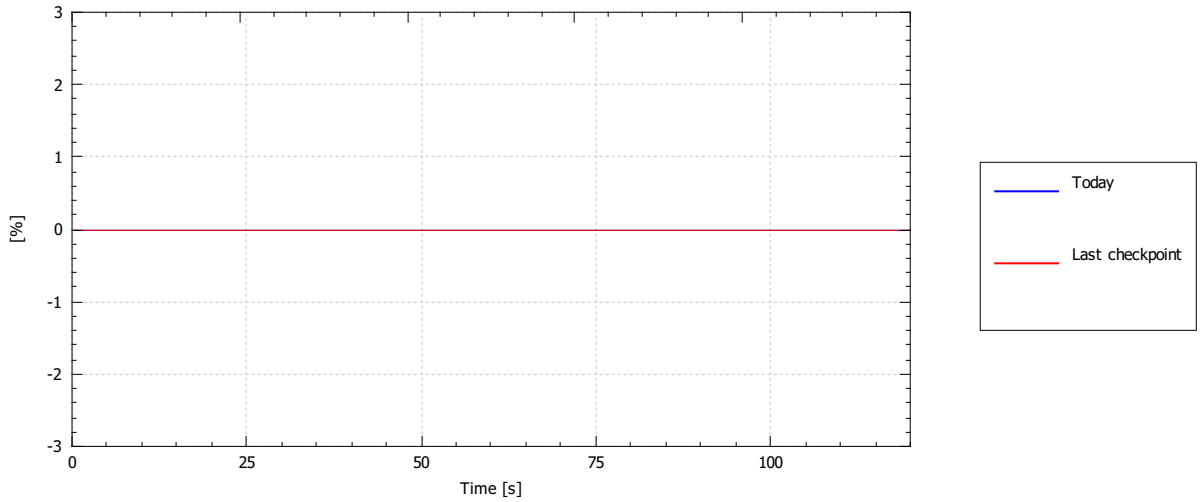
Representative demanded pitch angle



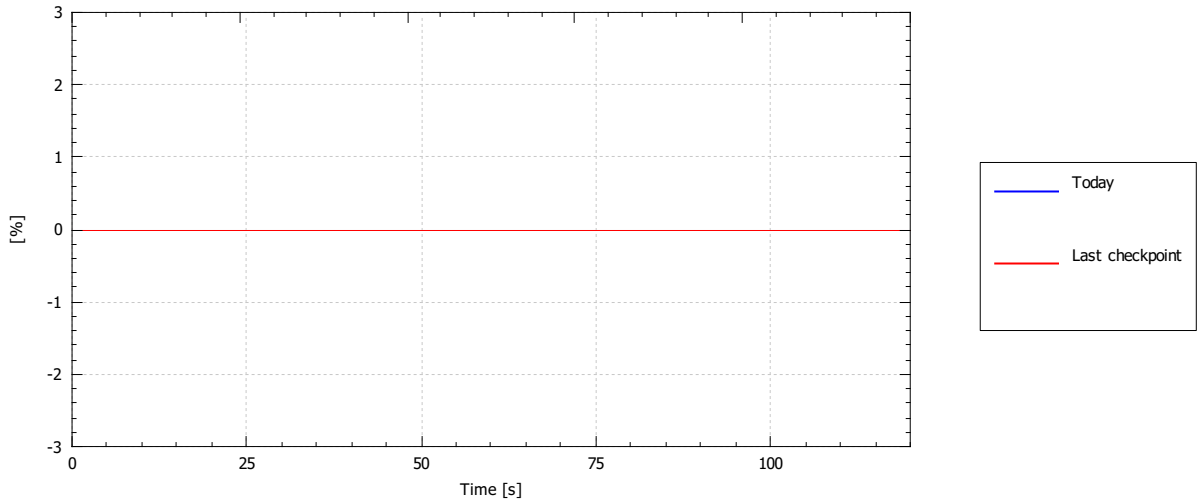
Power coef. (CP)



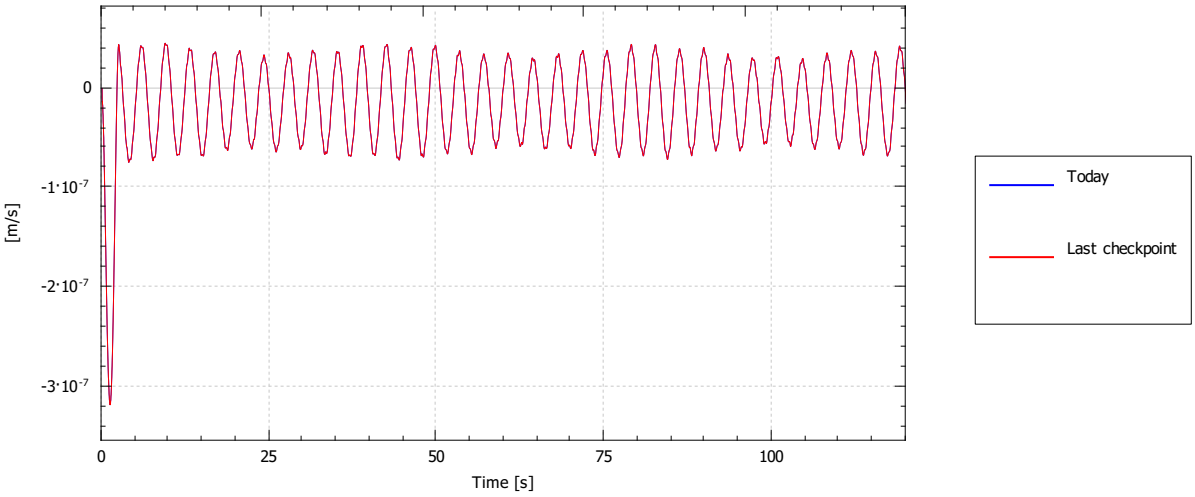
Thrust coef. (CT)



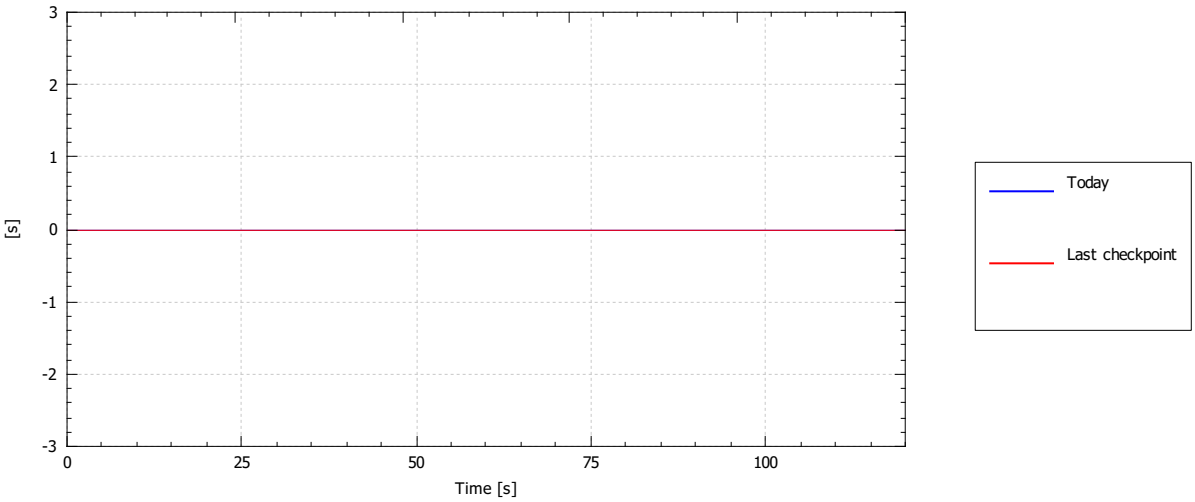
Torque coef. (CQ)



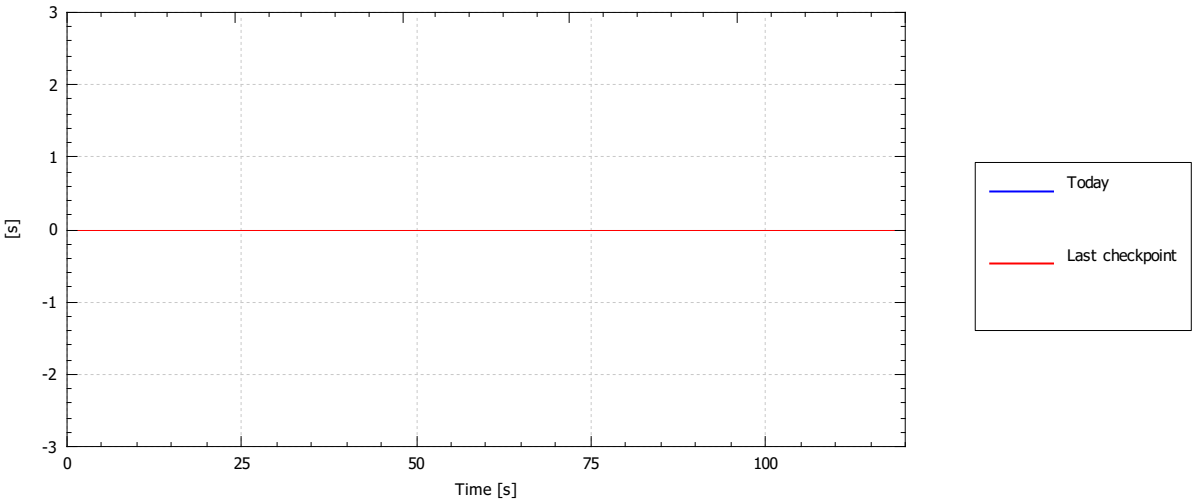
Tip speed



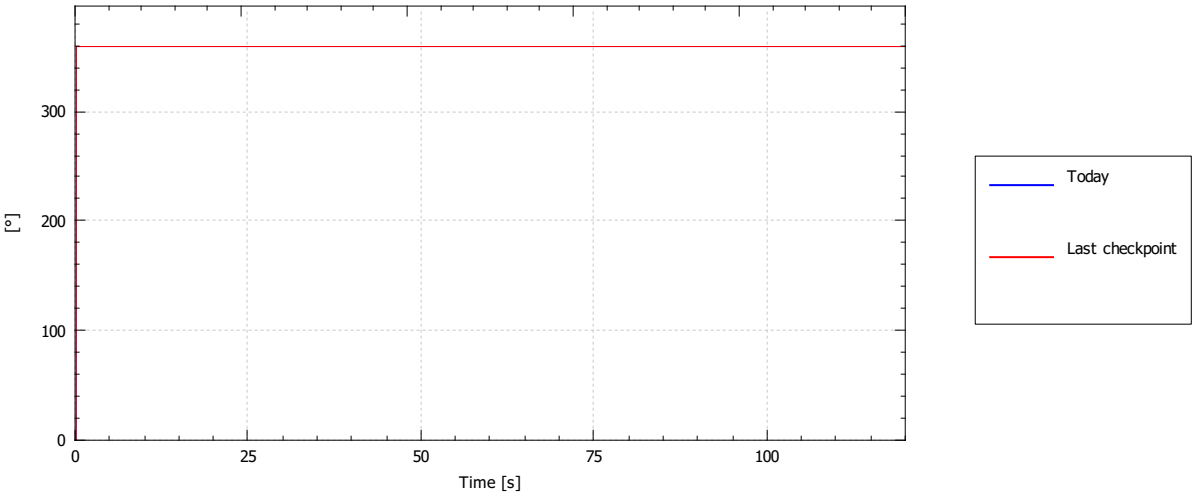
1P (one revolution)



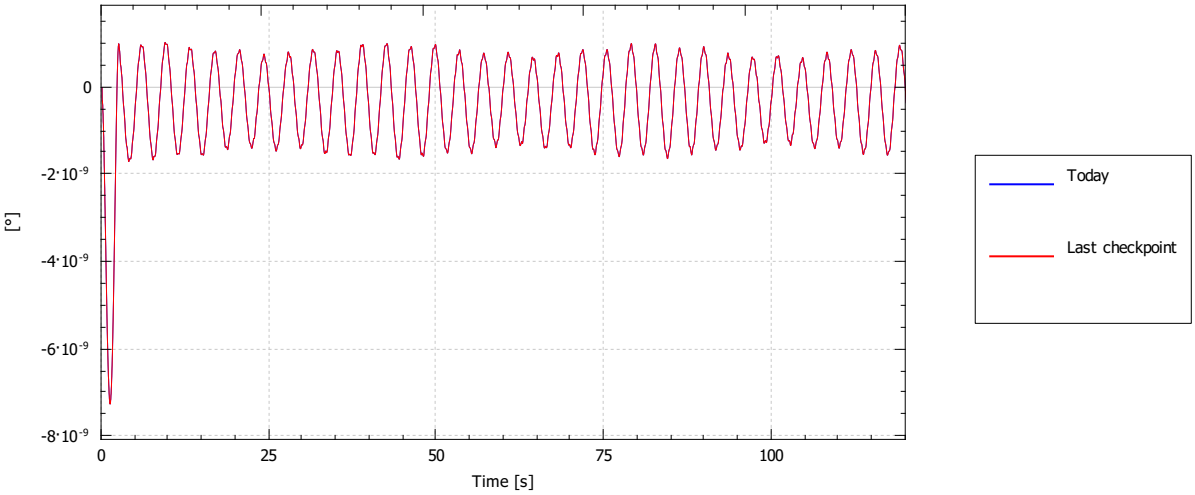
nP (blade passing)



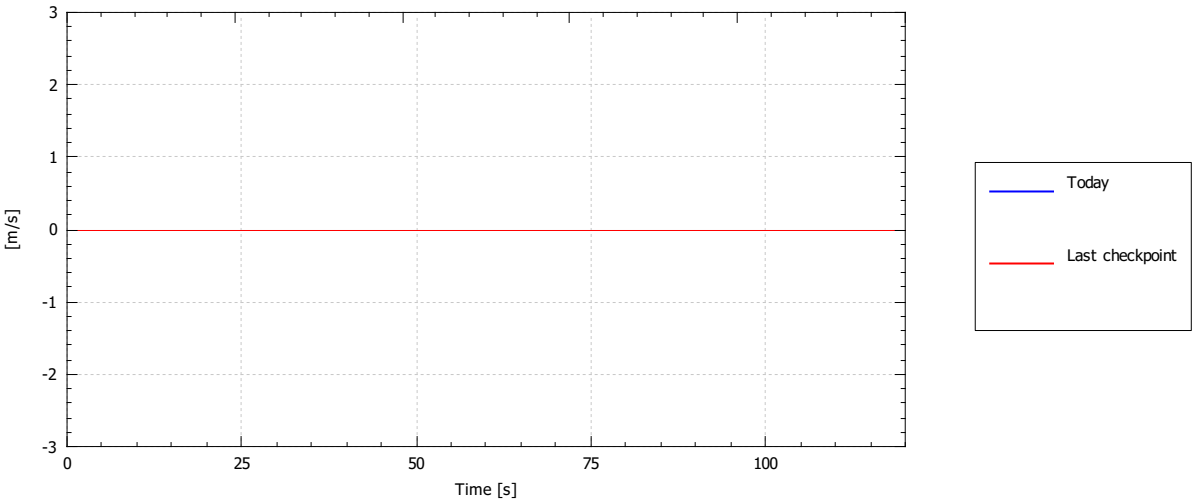
Azimuth angle



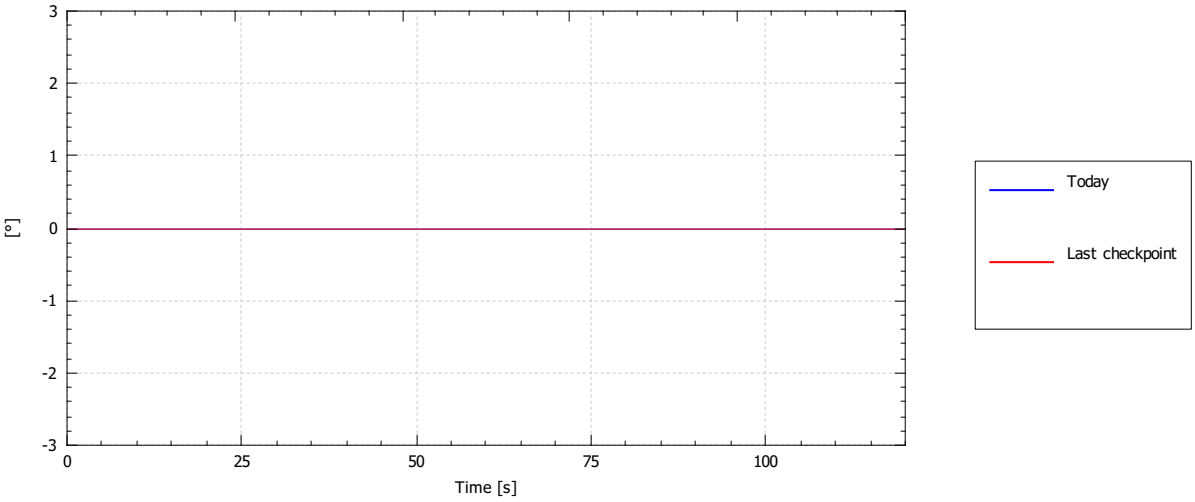
Rotation per timestep



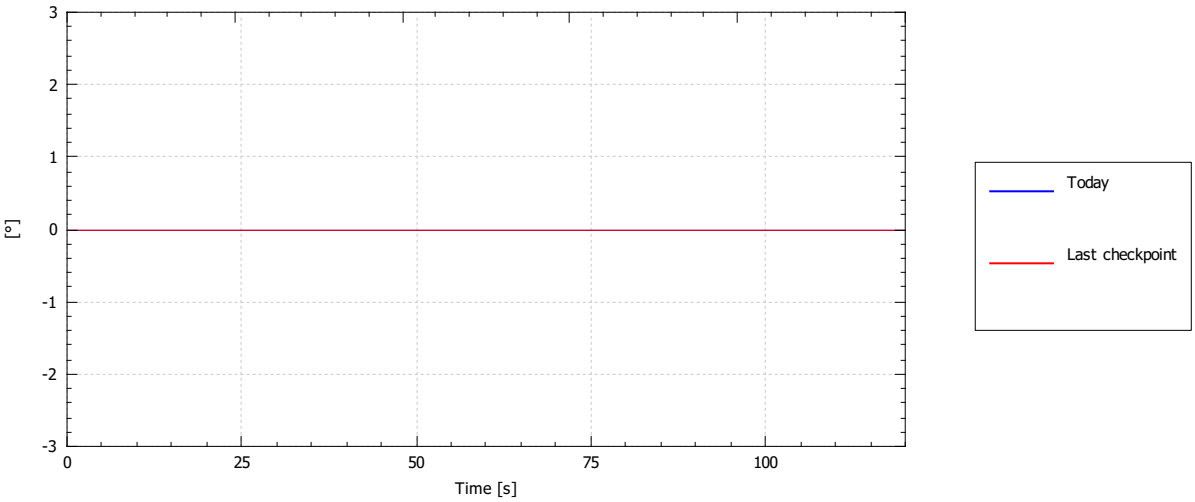
Wind speed at hub, magnitude



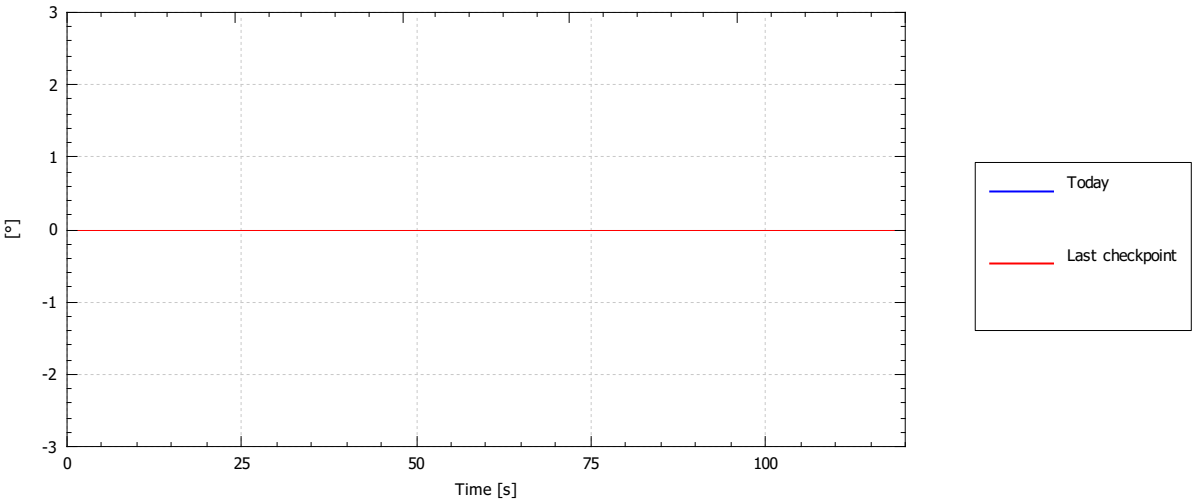
Wind angle at hub

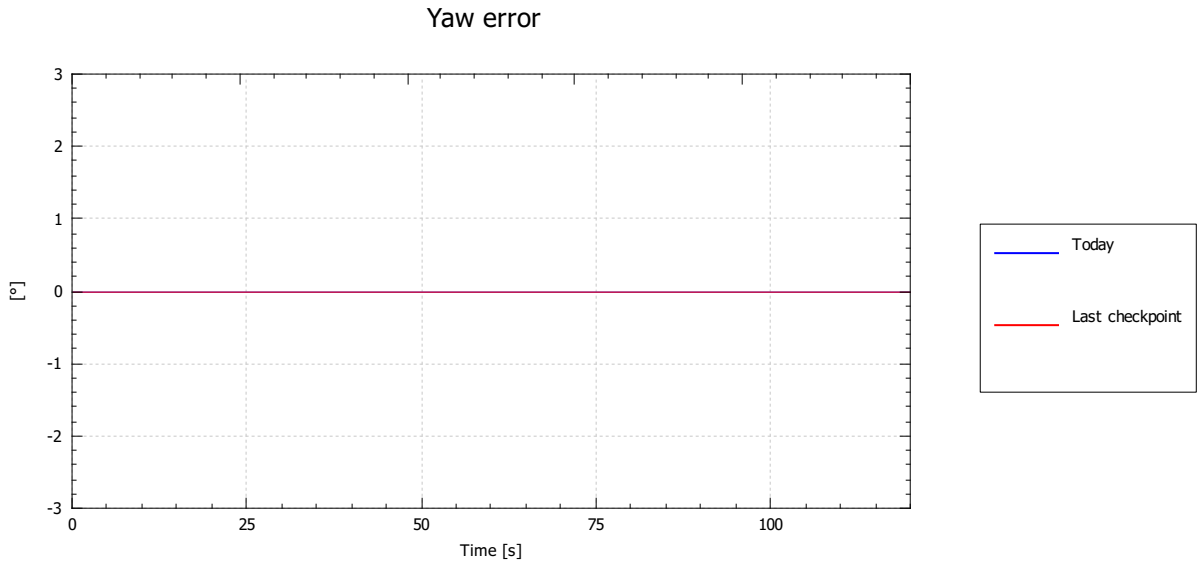


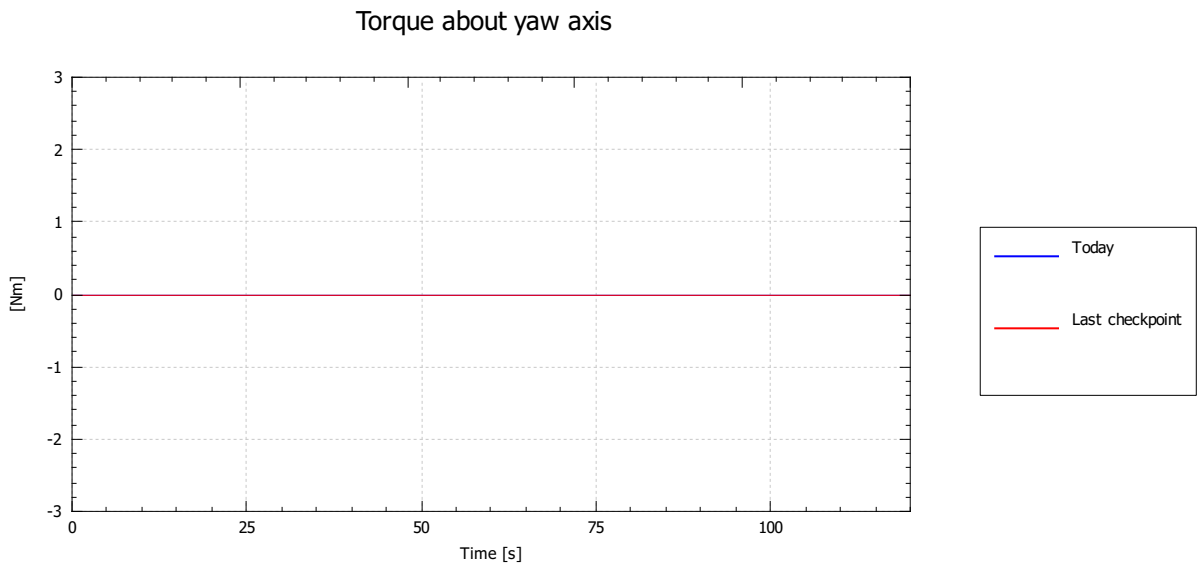
Yaw angle relative to forward



Yaw angle to reference direction

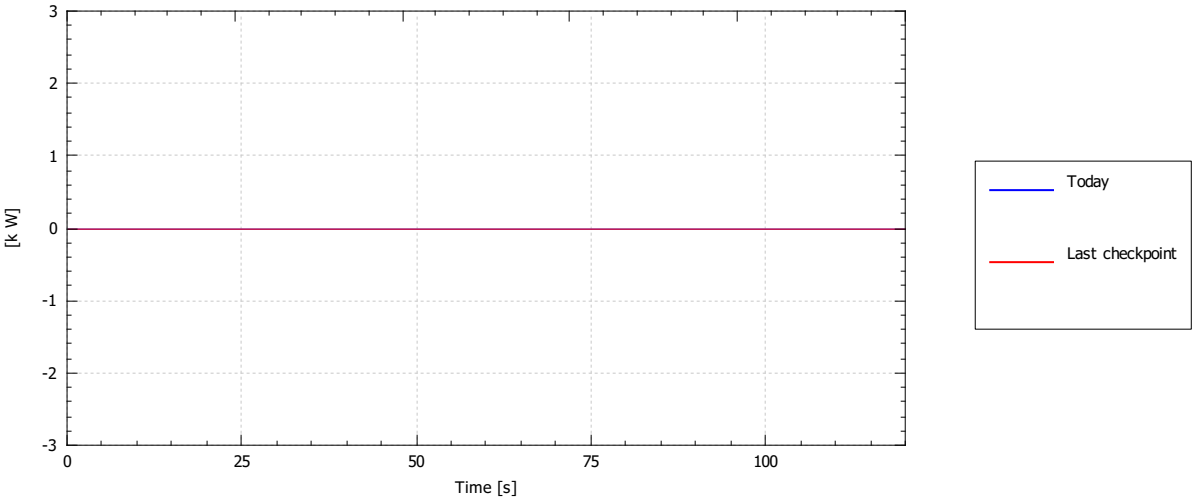



Yaw error
[°]
3
2
1
0
-1
-2
-3
0
25
50
75
100
Time [s]
Today
Last checkpoint

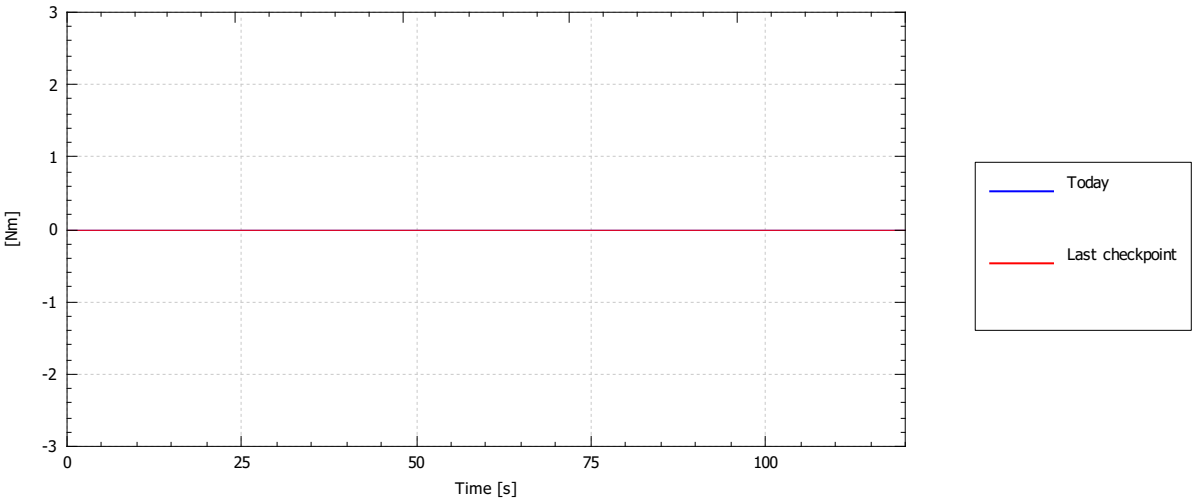

Torque about yaw axis
[Nm]
3
2
1
0
-1
-2
-3
0
25
50
75
100
Time [s]
Today
Last checkpoint

Generator

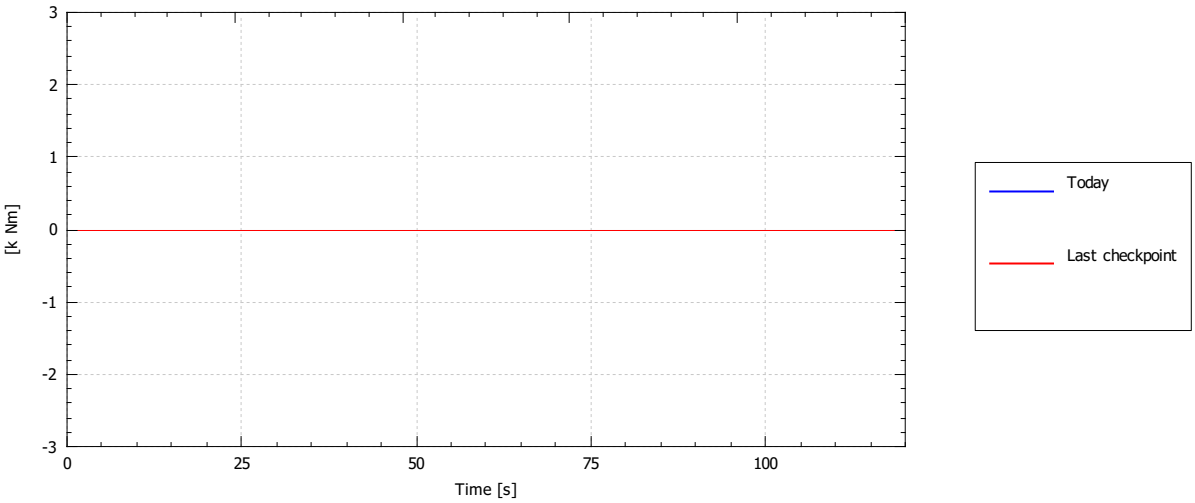
Power (electrical)



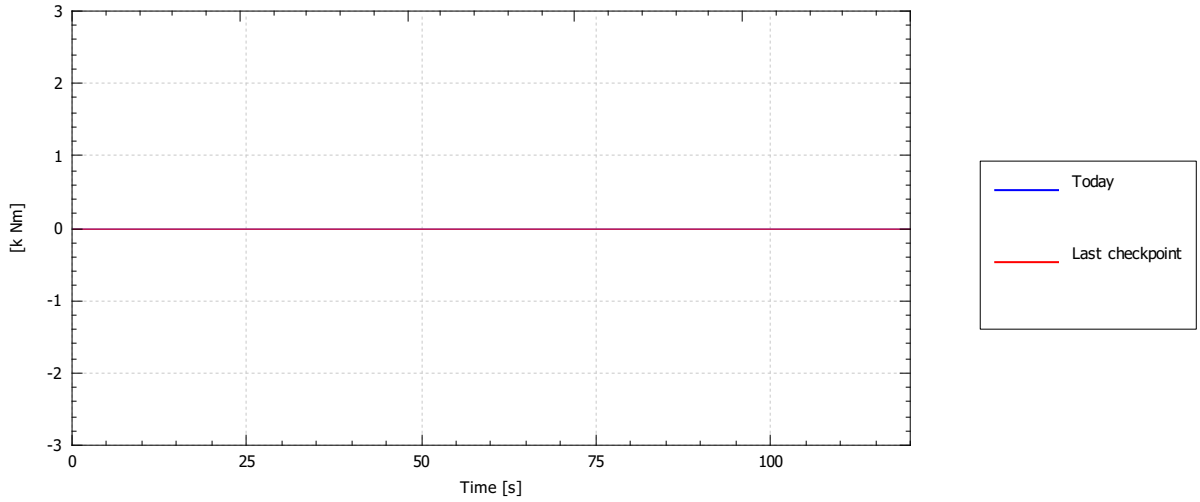
Torque



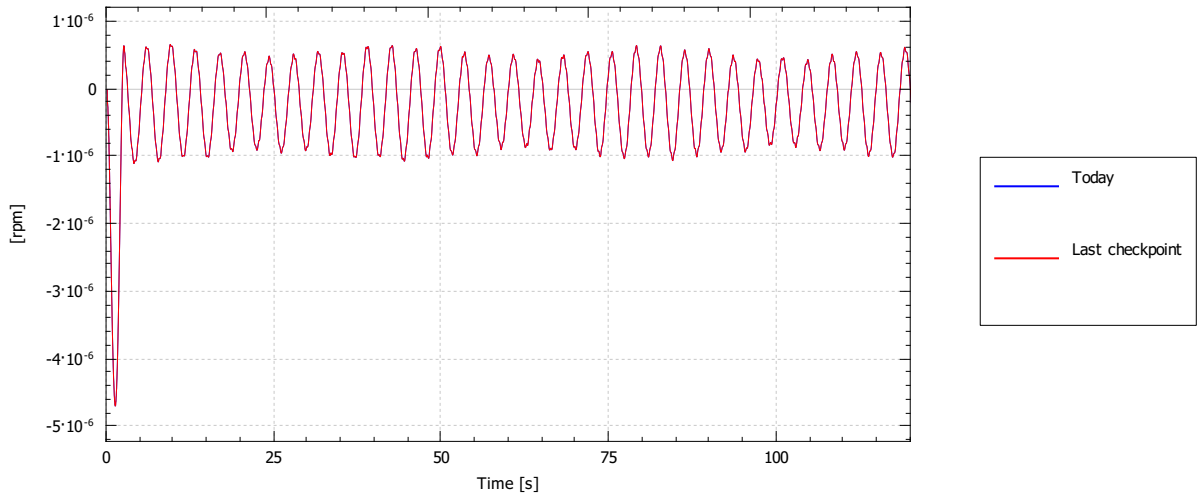
Torque on main shaft



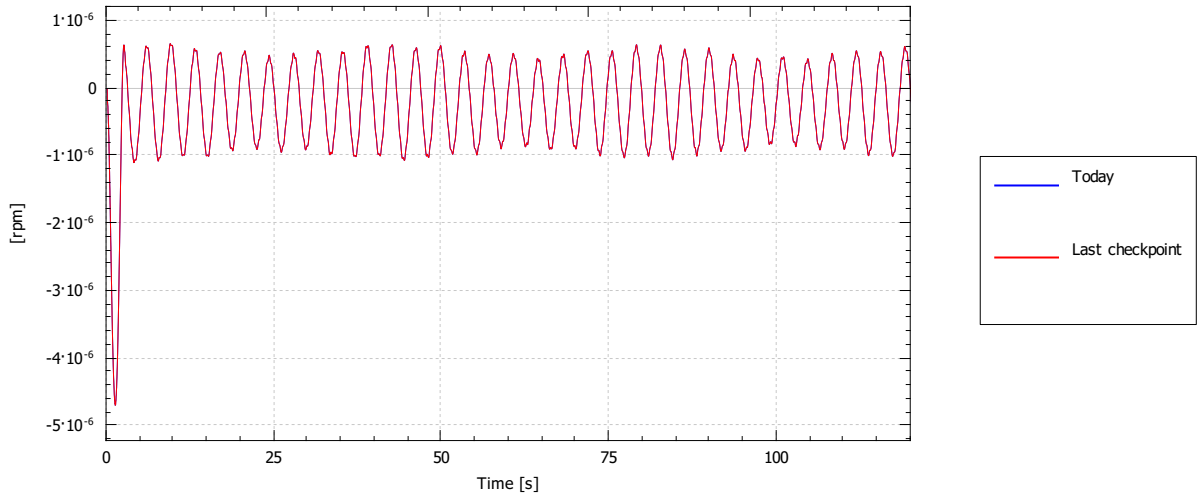
Torque diff. on main shaft

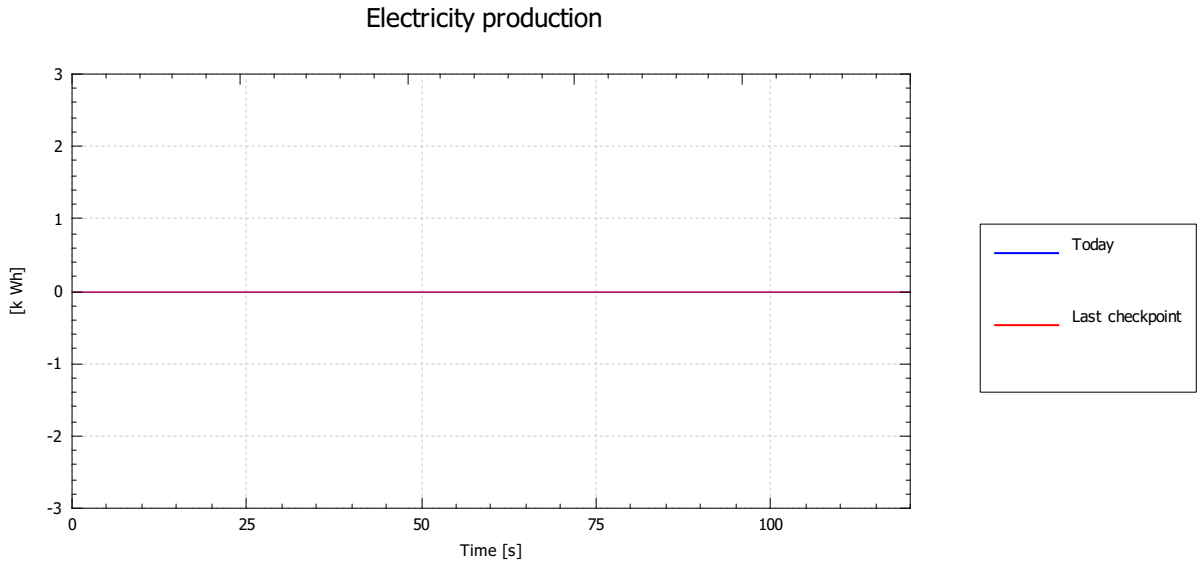


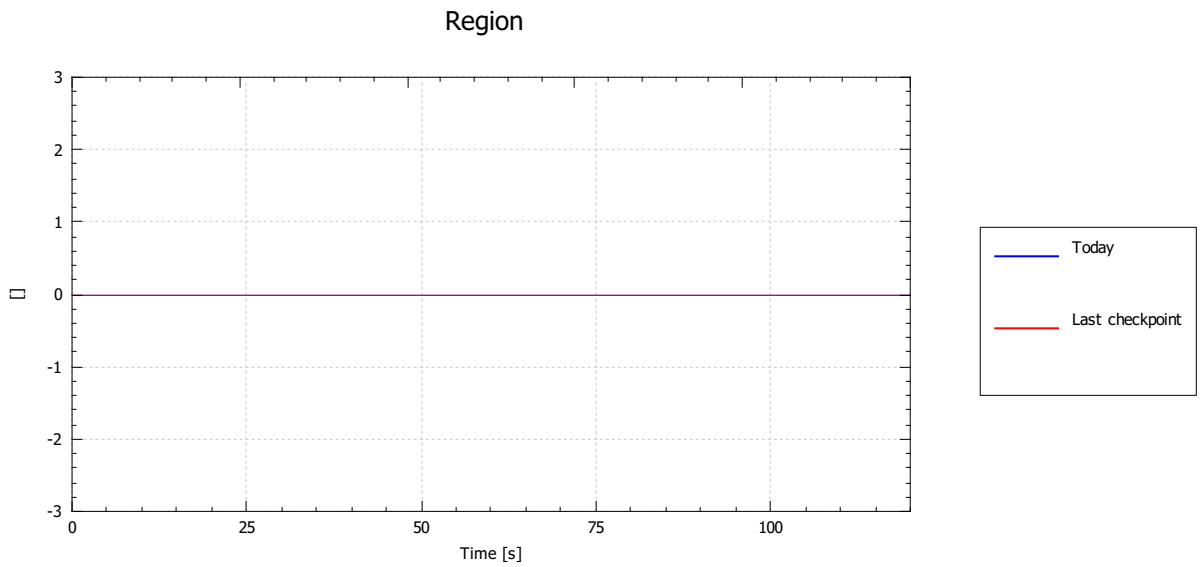
RPM



Filtered RPM

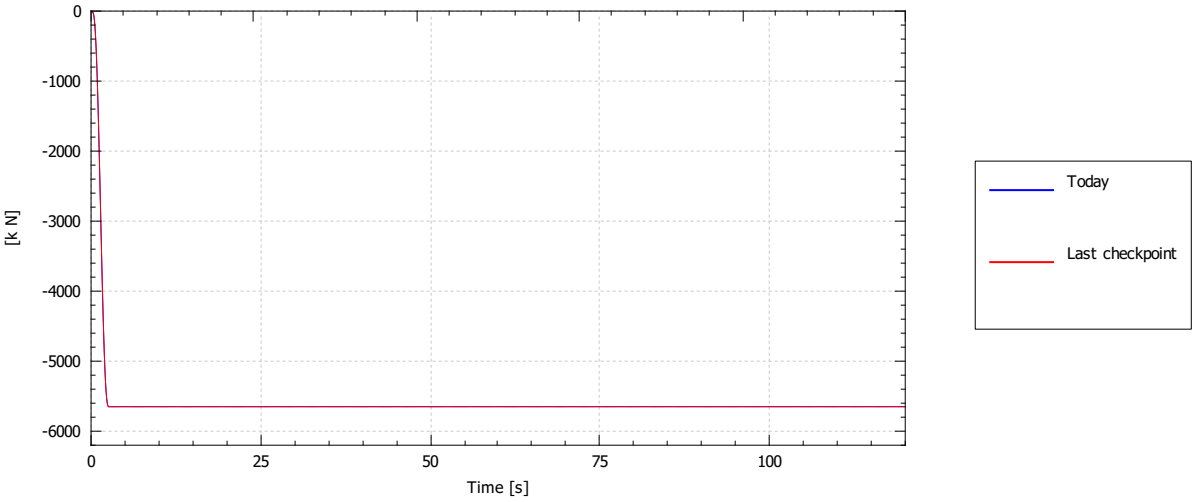




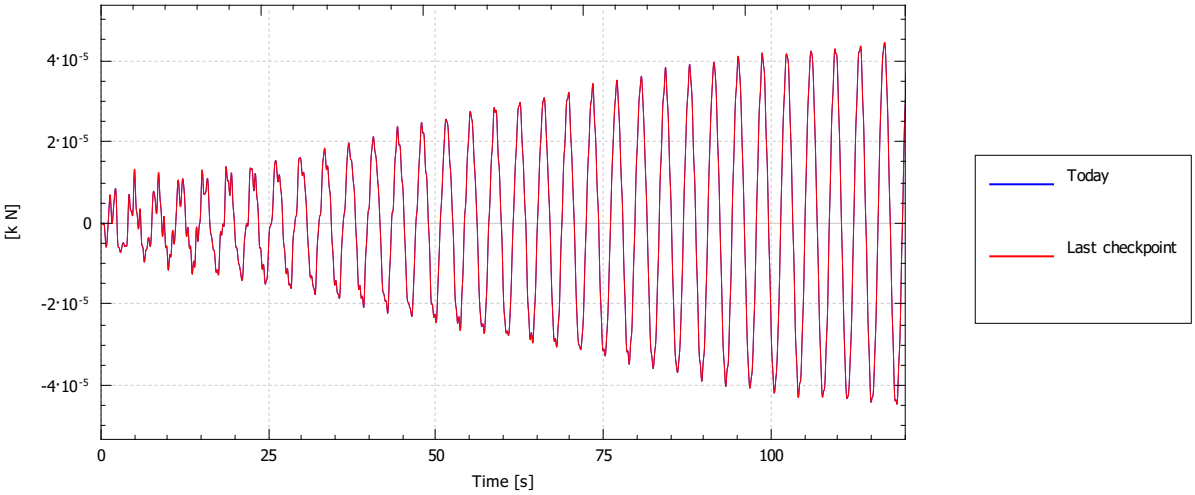


Beam element [Element 1 | Tubular tower]

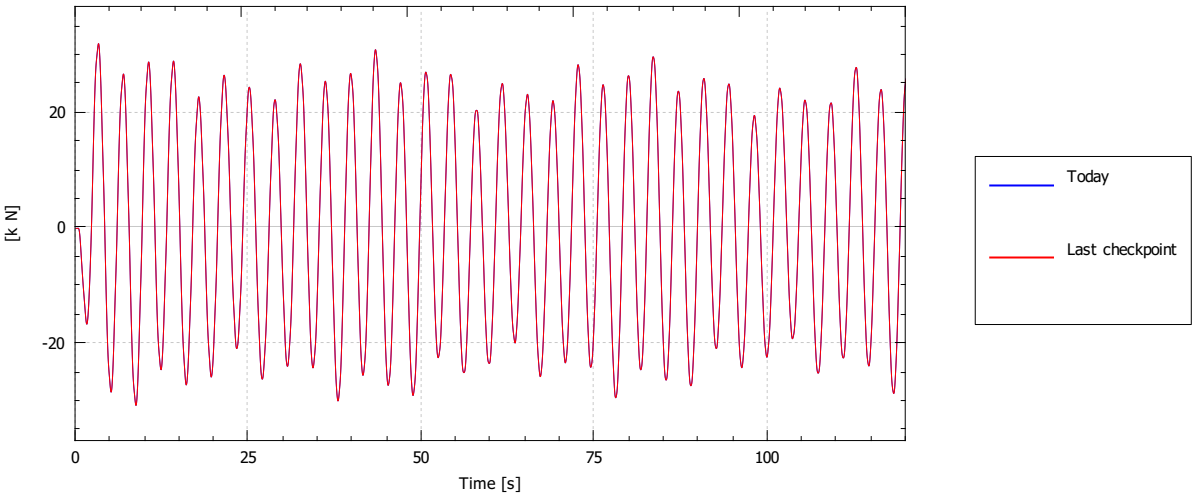
Axial force



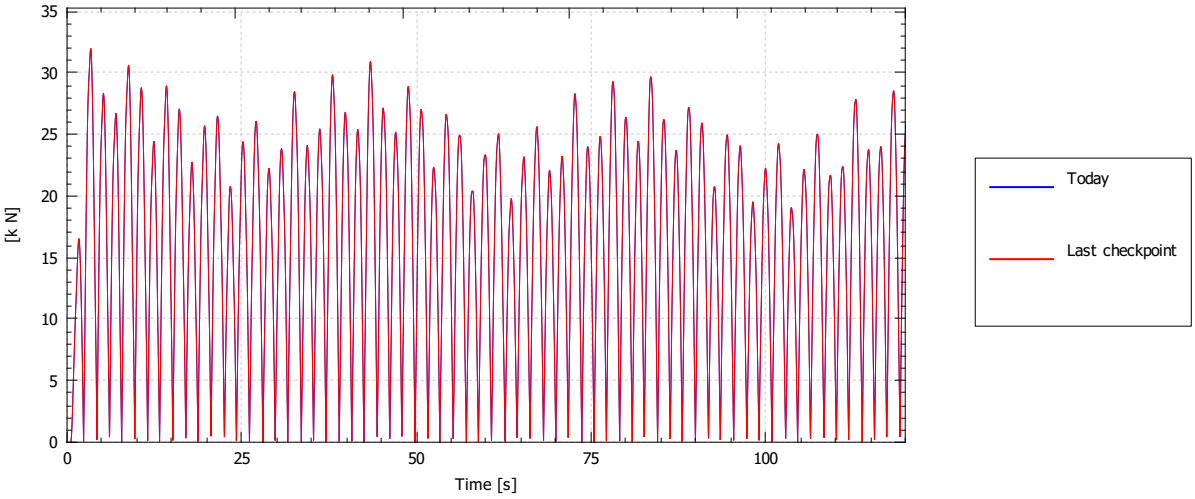
Shear force (1st prin. axis)



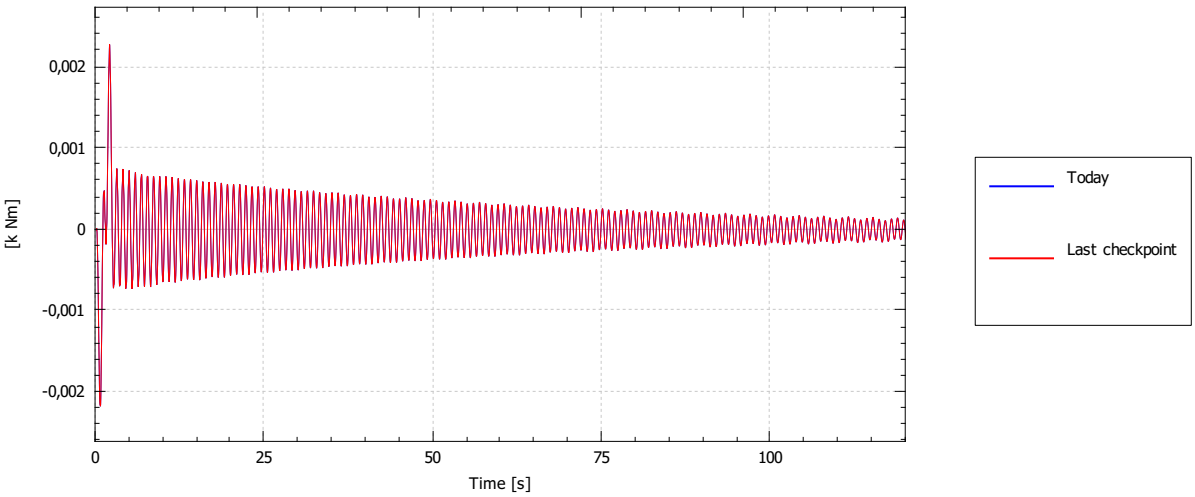
Shear force (2nd prin. axis)



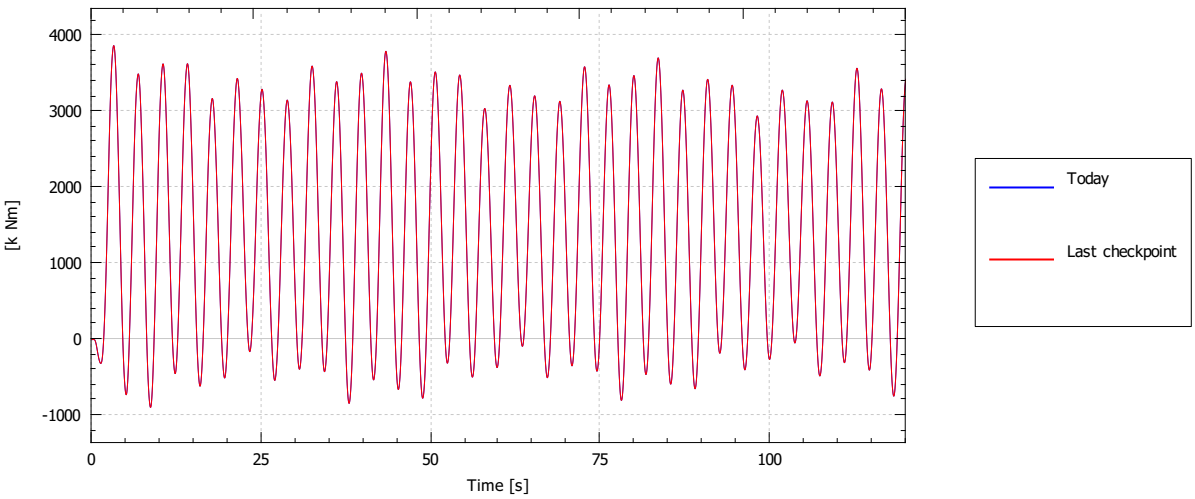
Shear force, mag.



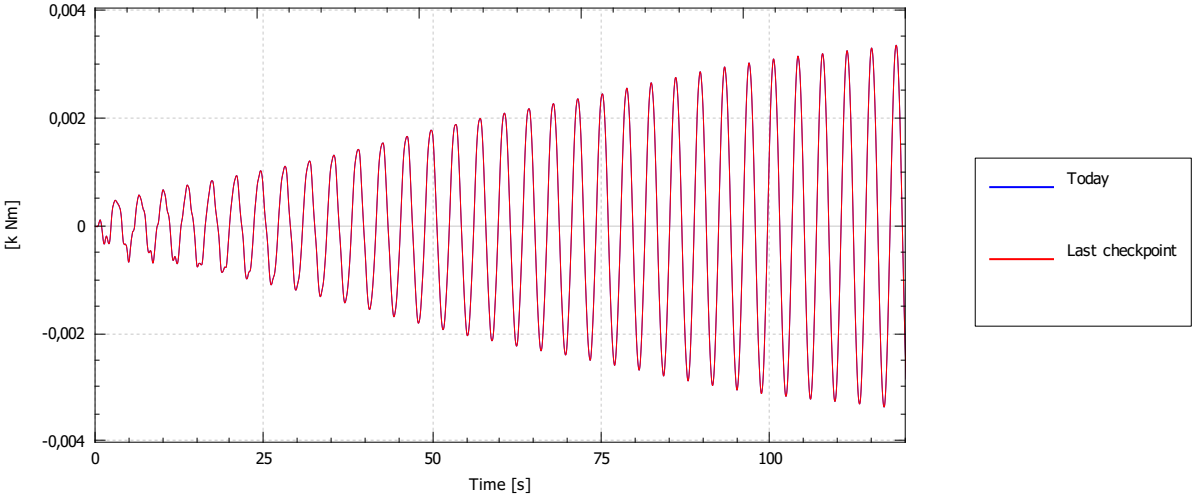
Torque



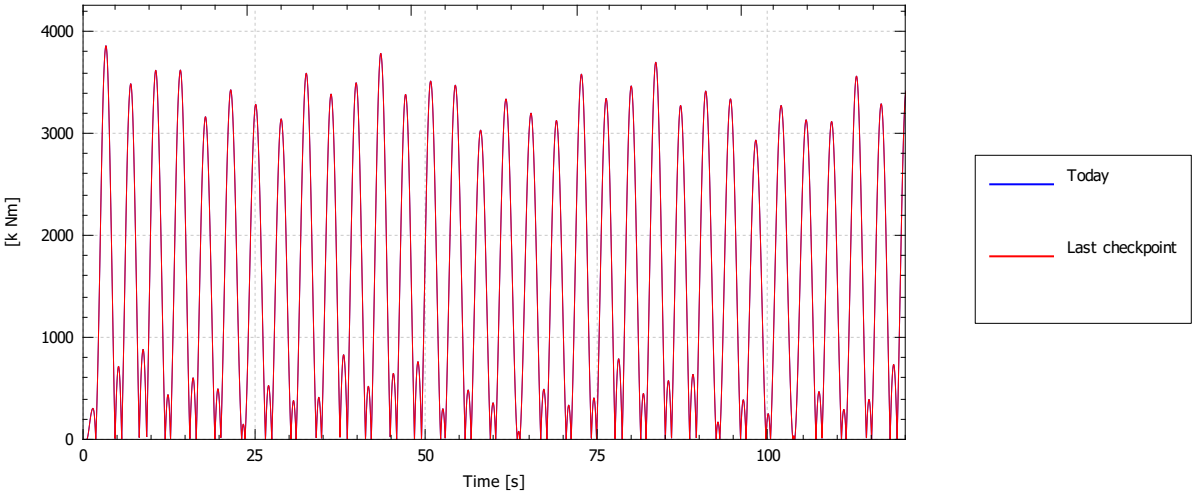
Moment (1st prin. axis), i



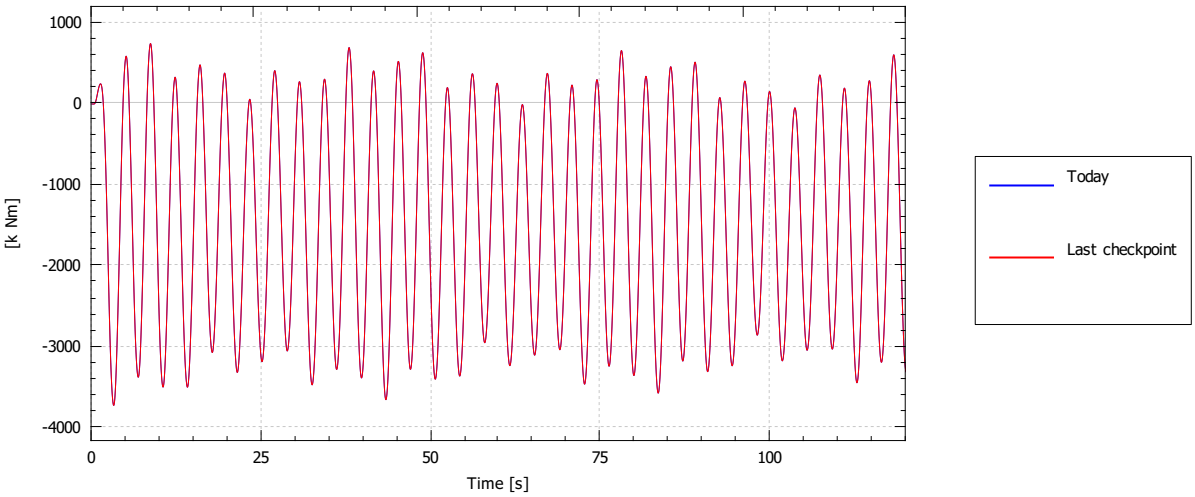
Moment (2nd prin. axis), i



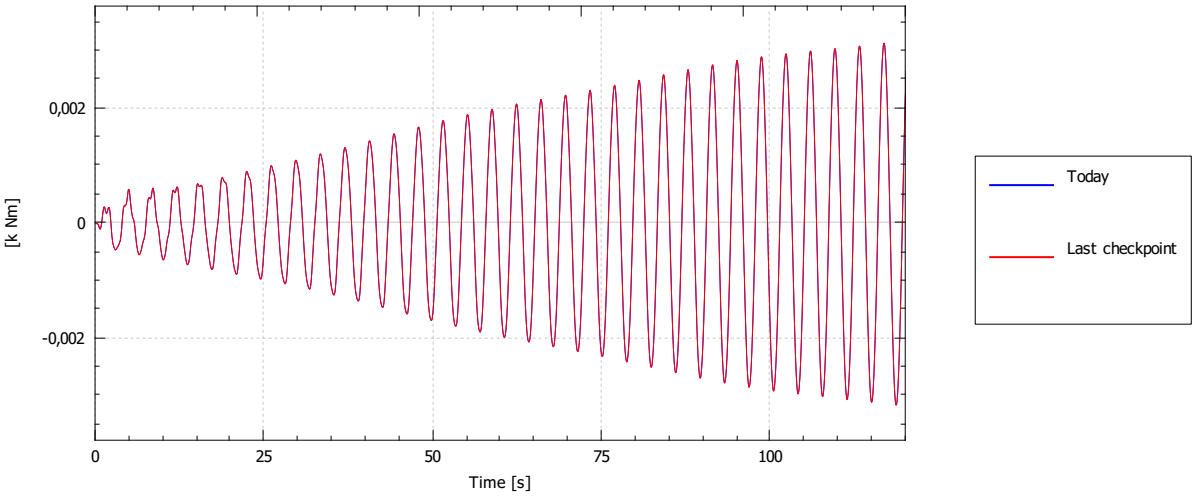
Moment, mag., i



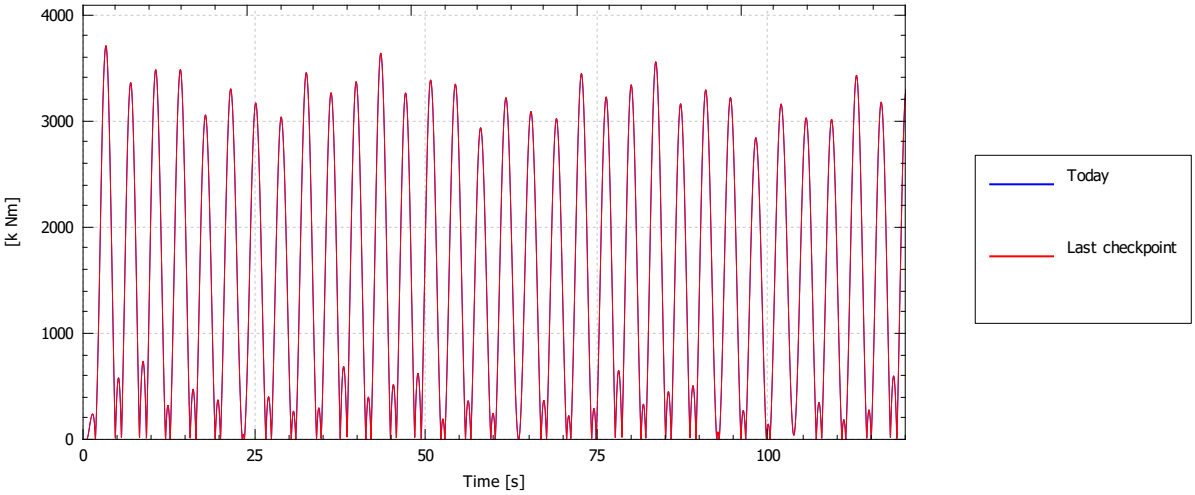
Moment (1st prin. axis), j



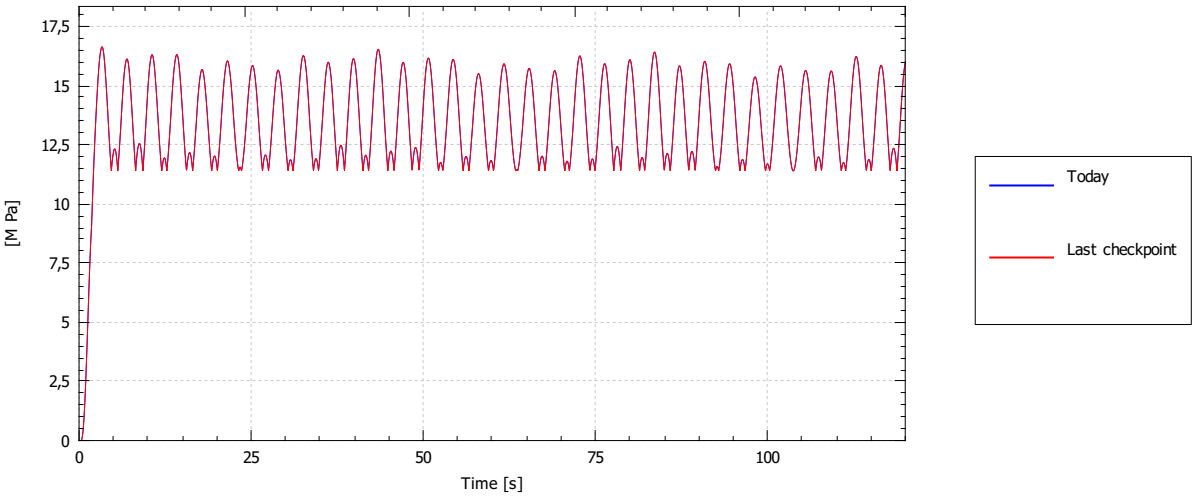
Moment (2nd prin. axis), j



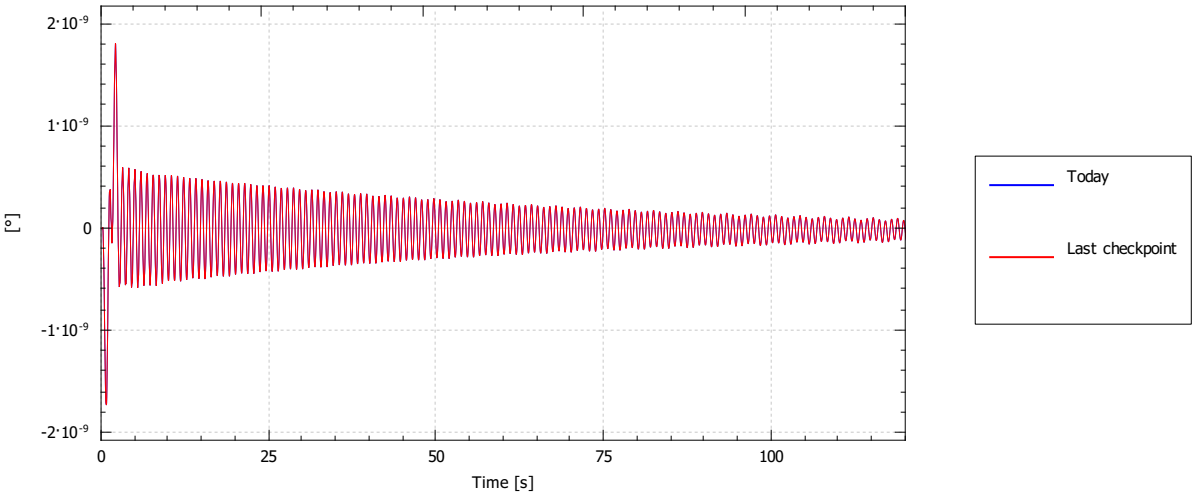
Moment, mag., j



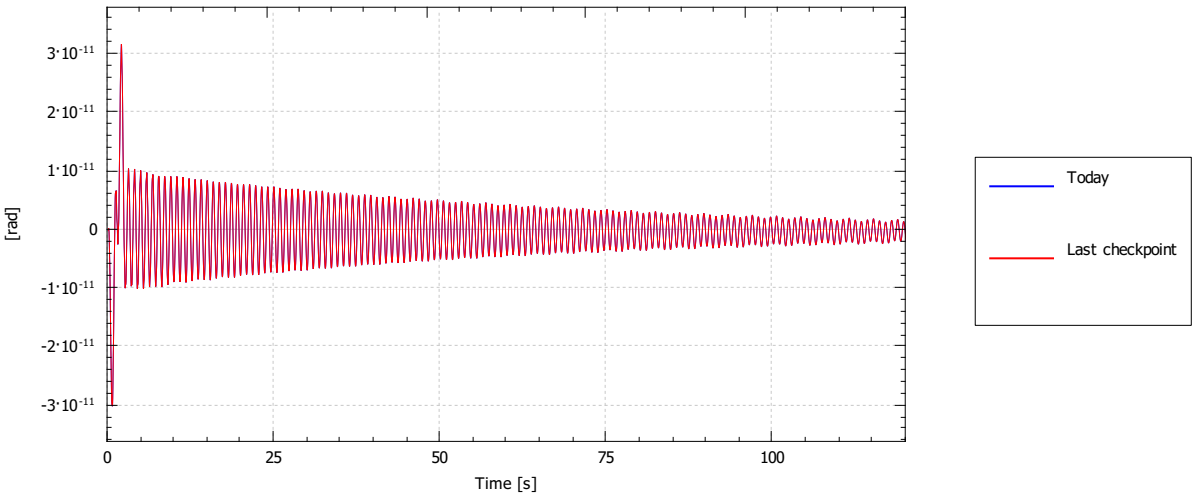
Max normal stress



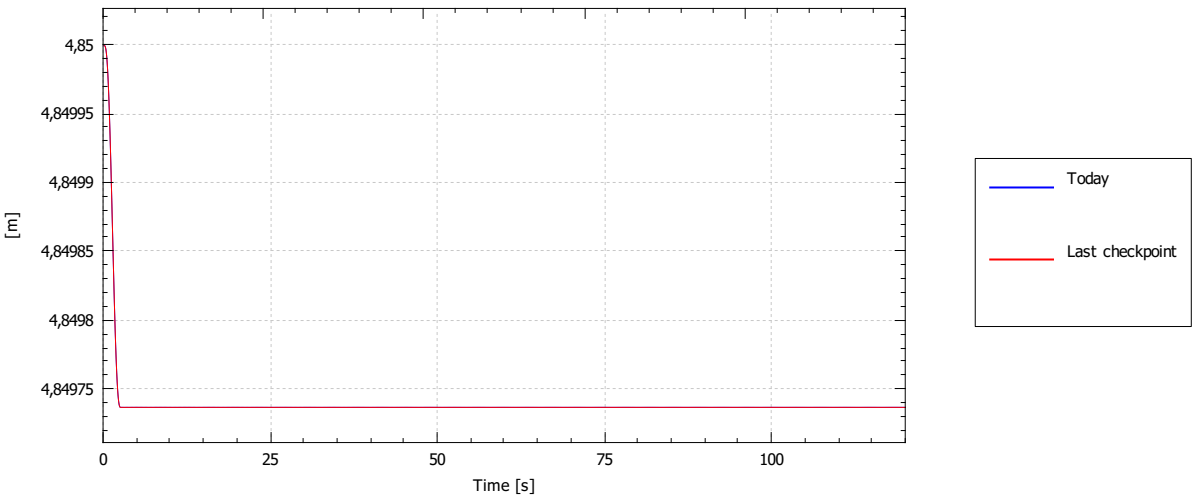
Twist (structural)

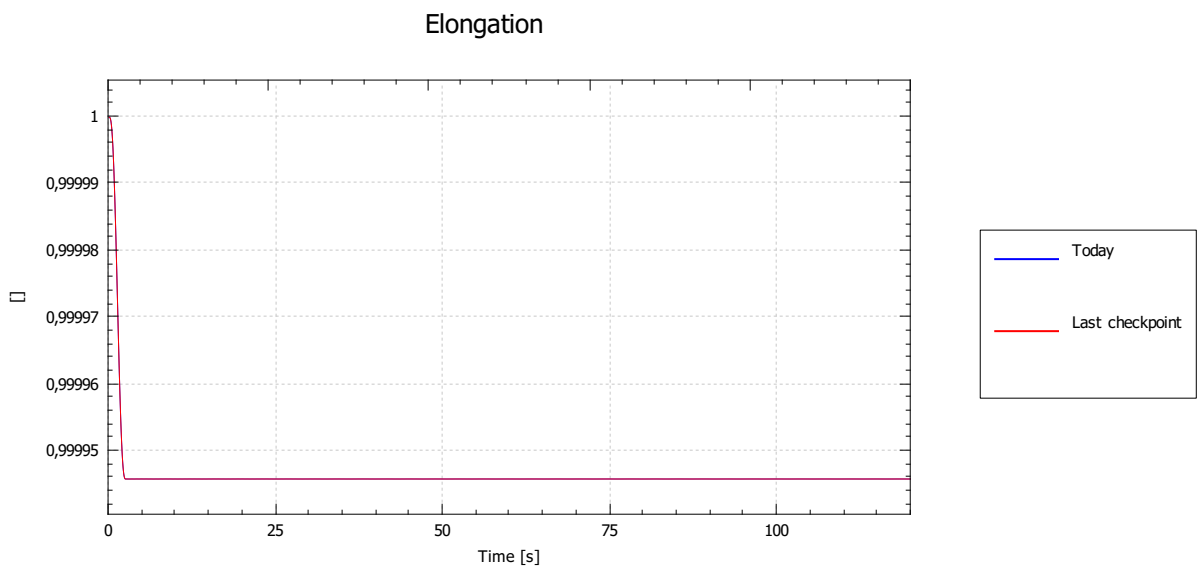


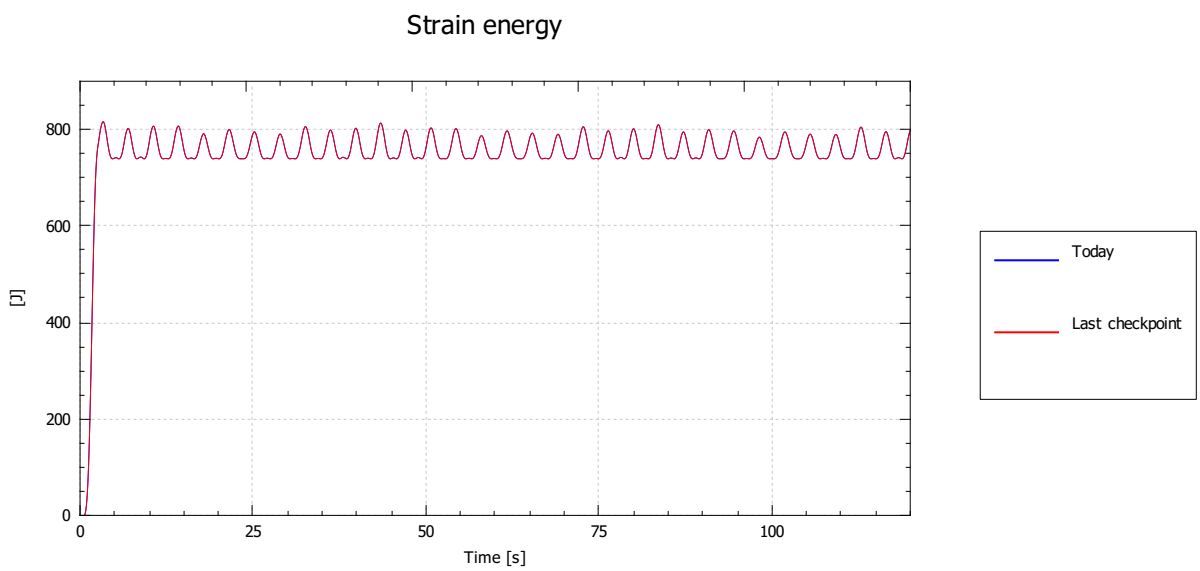
Twist (structural) - rad

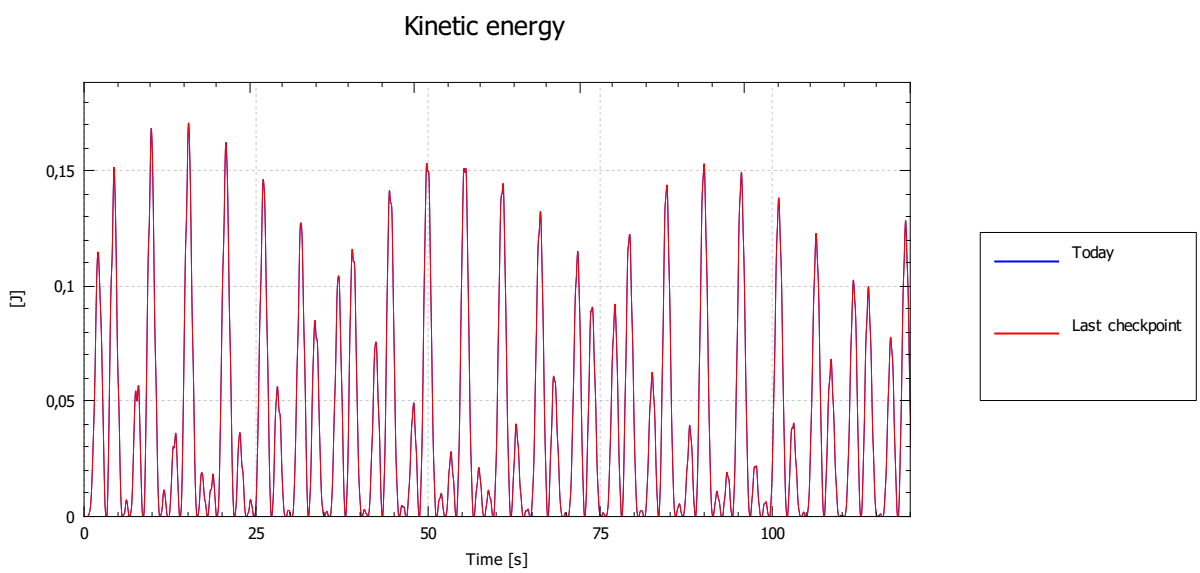


Deformed length

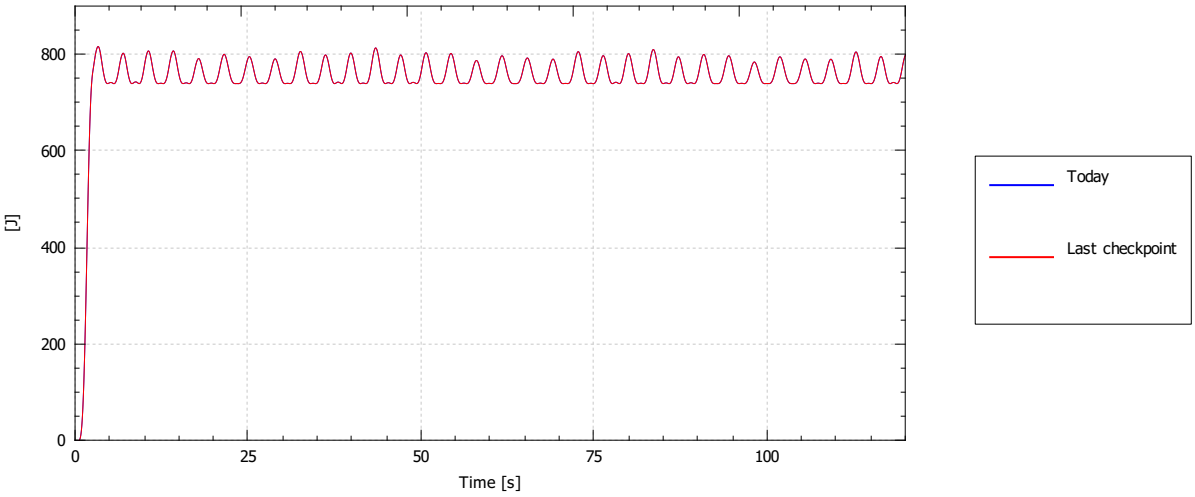



Elongation
1
0,99999
0,99998
0,99997
0,99996
0,99995
[]
0
25
50
75
100
Time [s]
Today
Last checkpoint

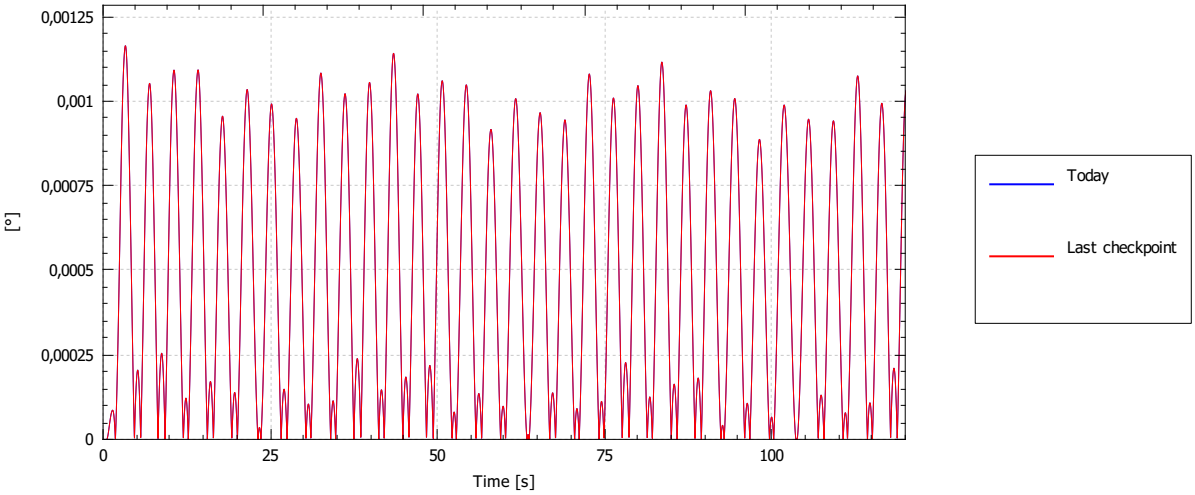

Strain energy
800
600
400
200
0
[J]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Kinetic energy
0,15
0,1
0,05
0
[J]
0
25
50
75
100
Time [s]
Today
Last checkpoint

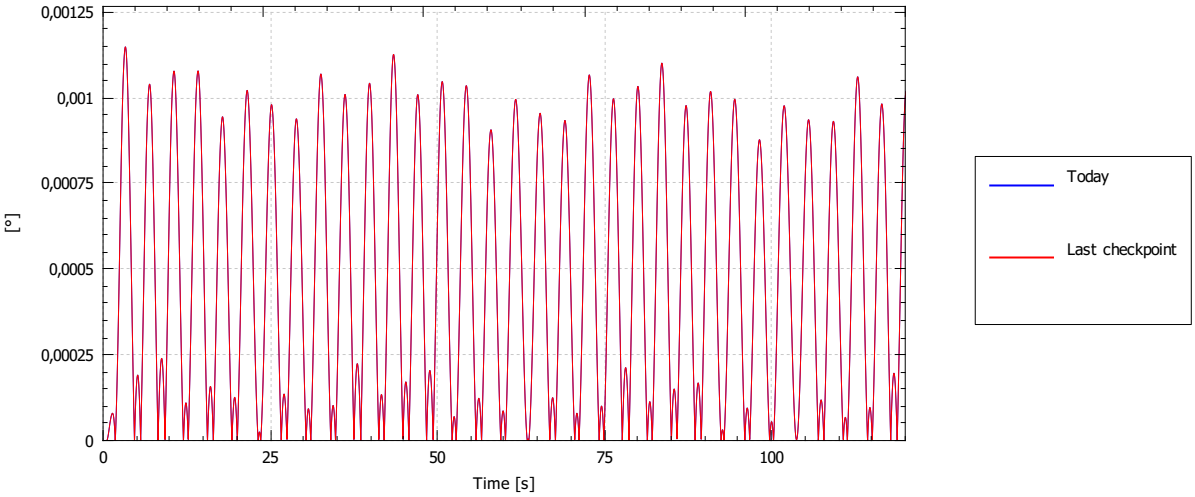
Mechanical energy



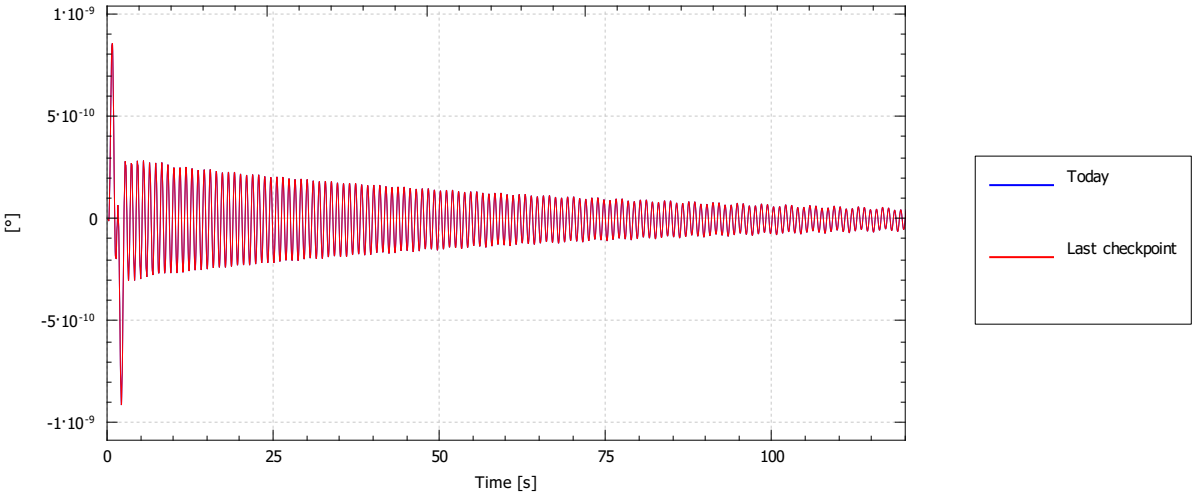
Deformational rotation (i)



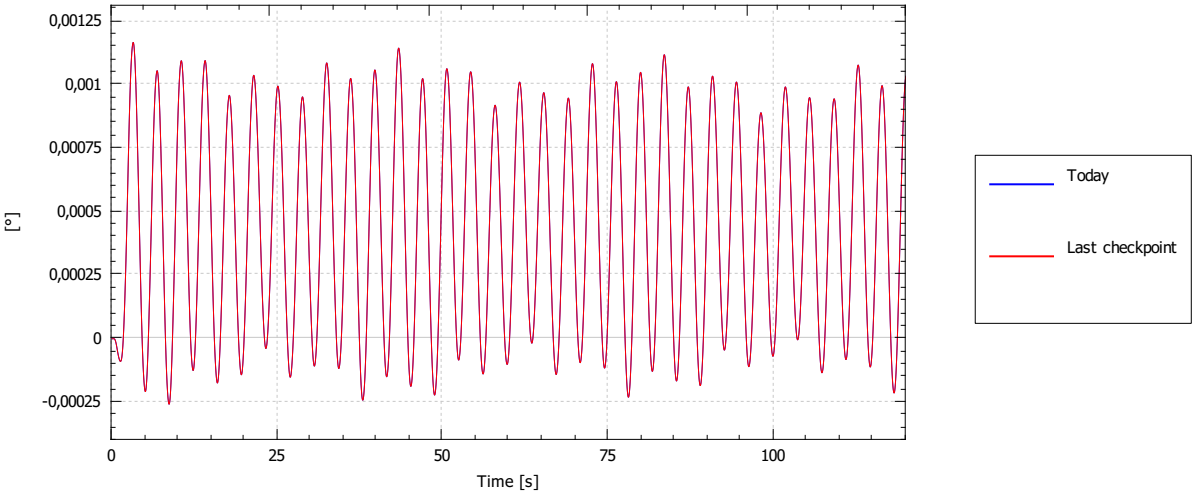
Deformational rotation (j)



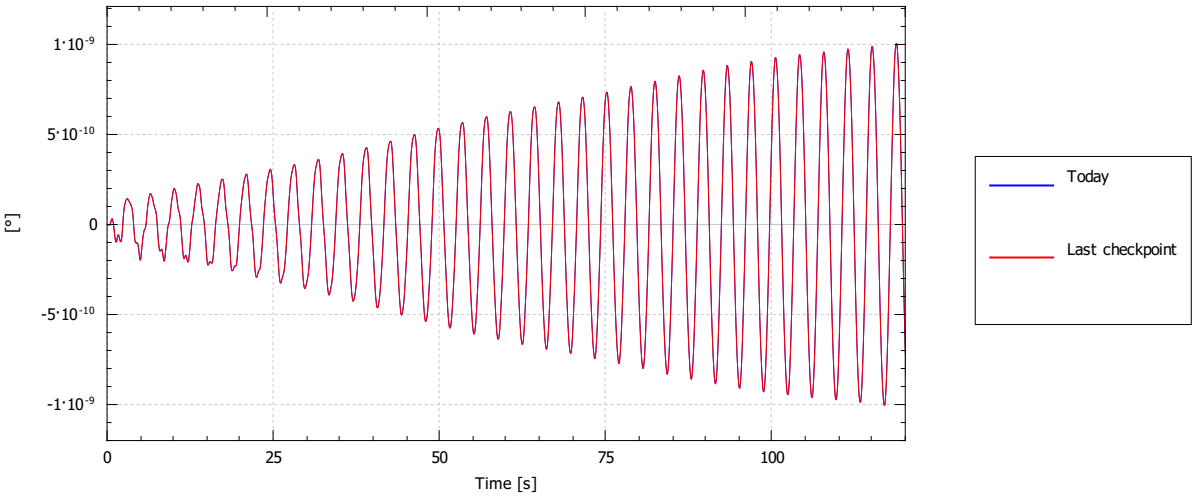
Deformational rotation (axial)



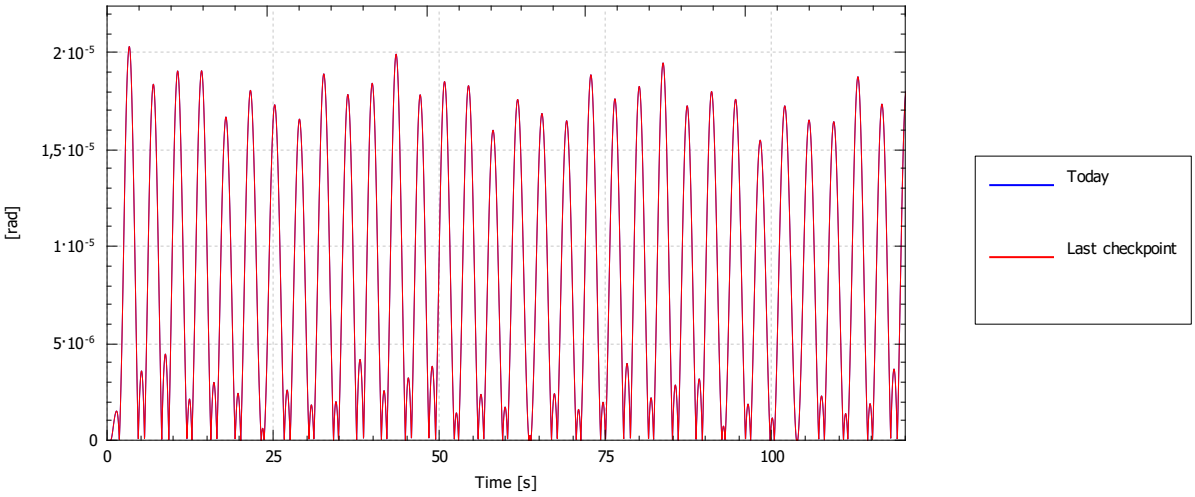
Deformational rotation (1st prin.)



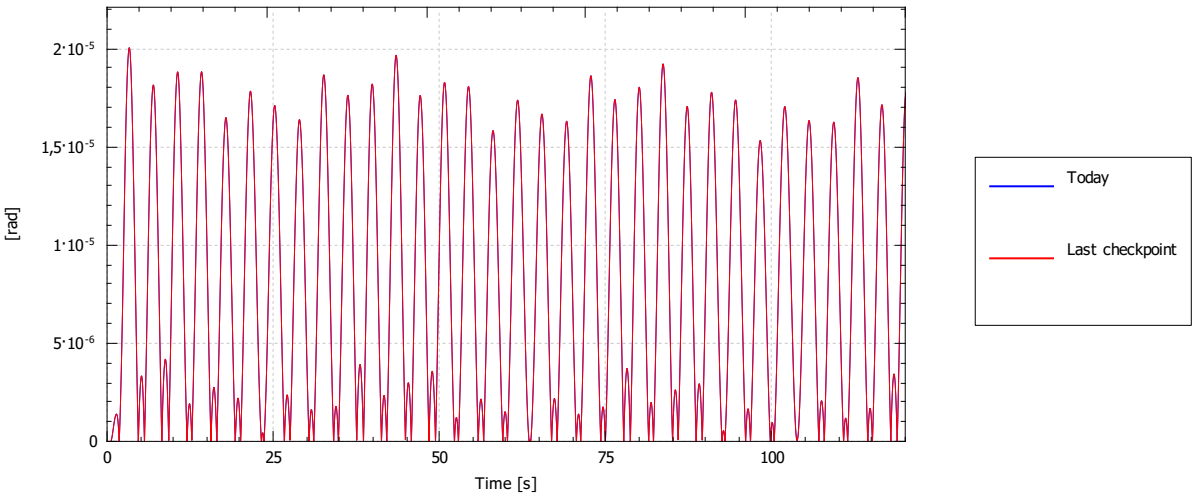
Deformational rotation (2nd prin.)



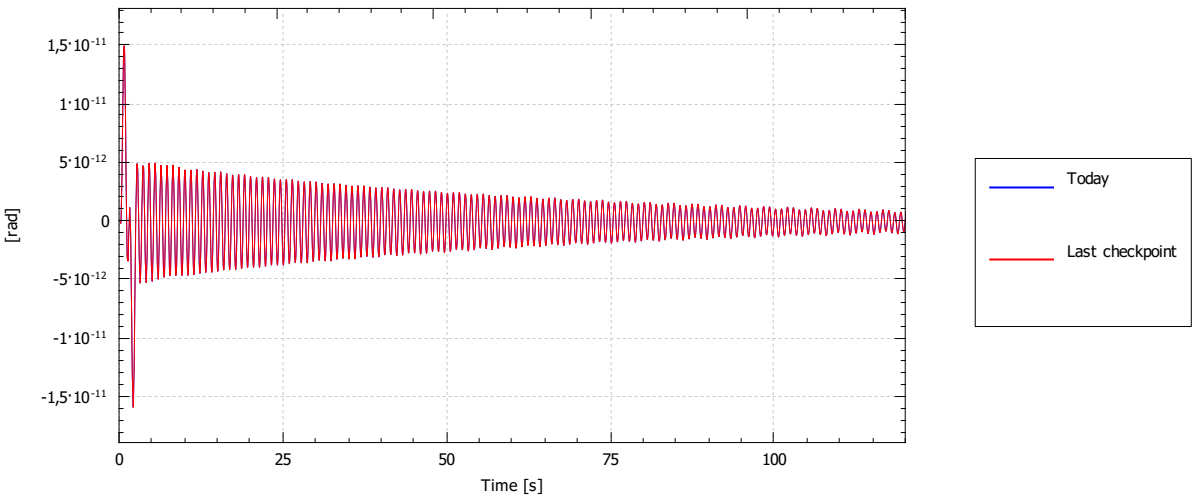
Deformational rotation (i) - rad



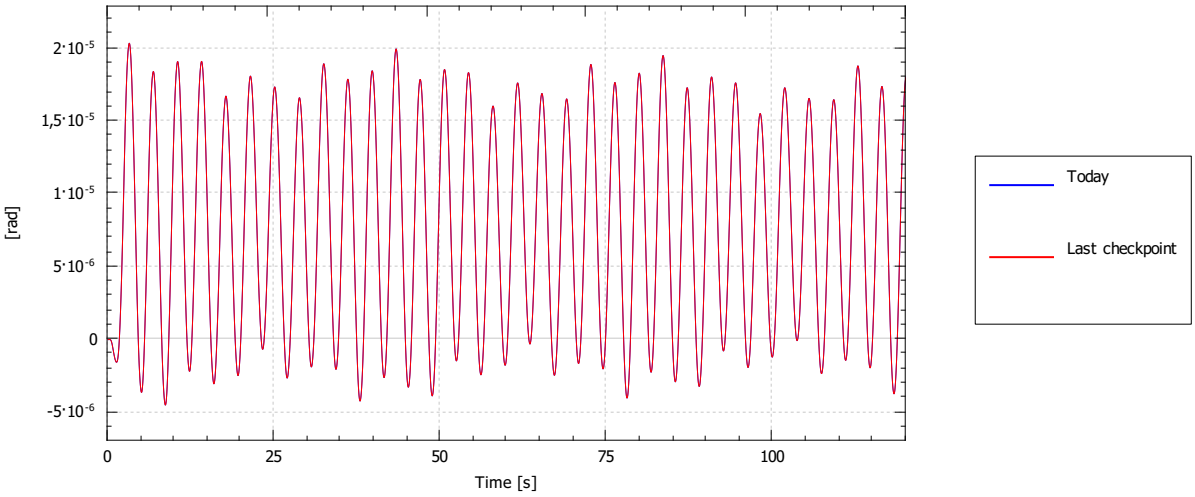
Deformational rotation (j) - rad



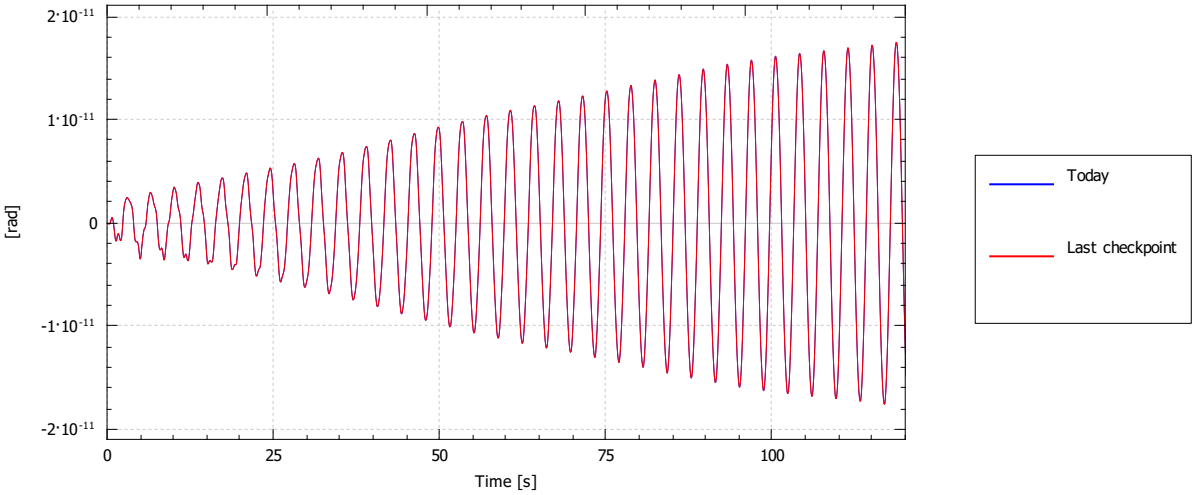
Deformational rotation (axial) - rad



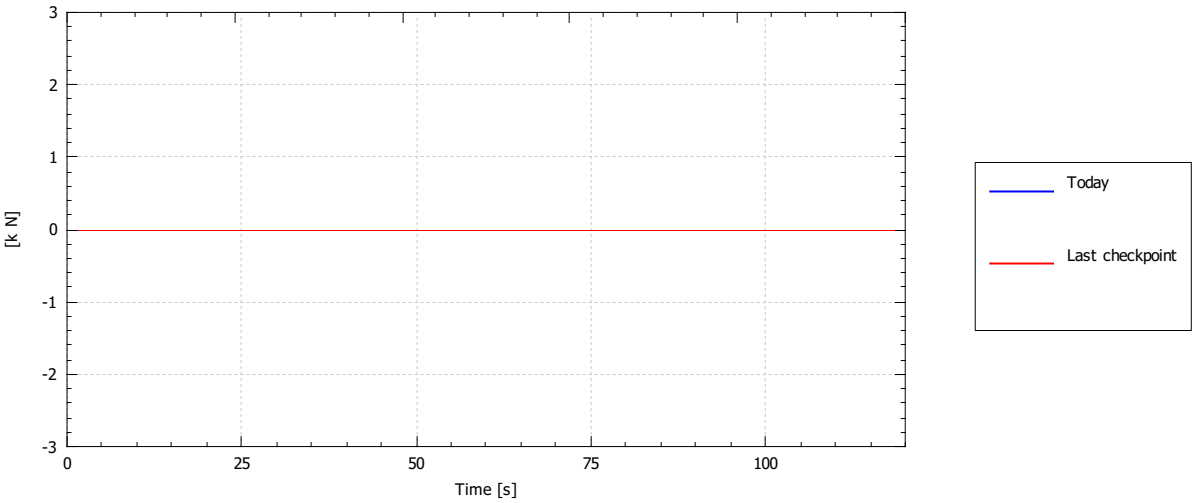
Deformational rotation (1st prin.) - rad



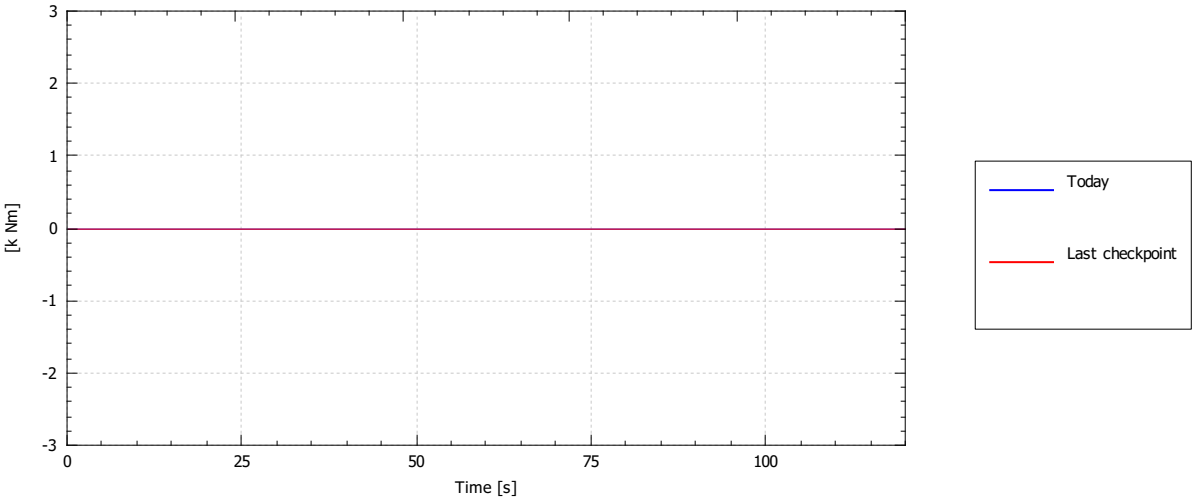
Deformational rotation (2nd prin.) - rad



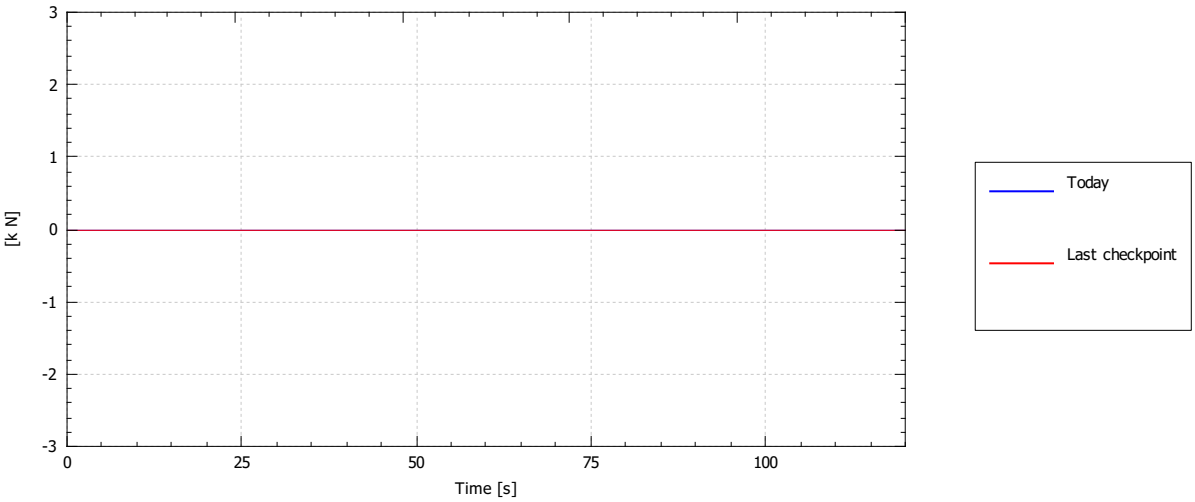
Damping force, i



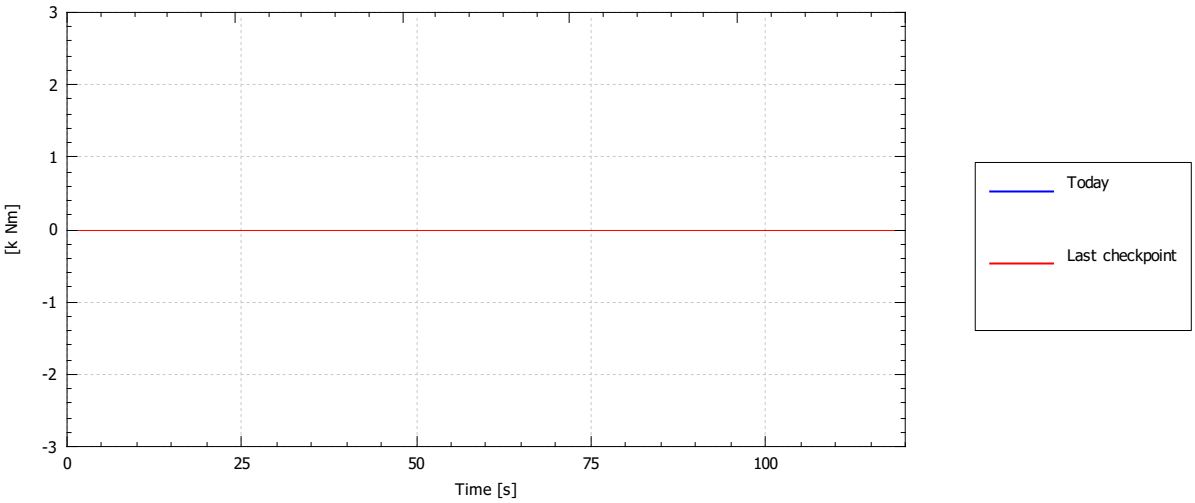
Damping moment, i



Damping force, sum

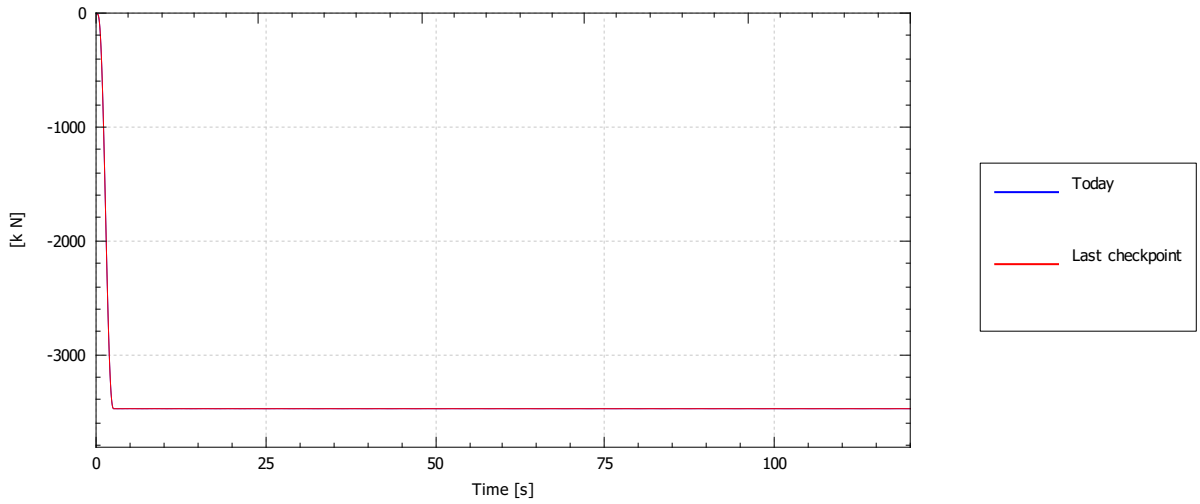


Damping moment, sum

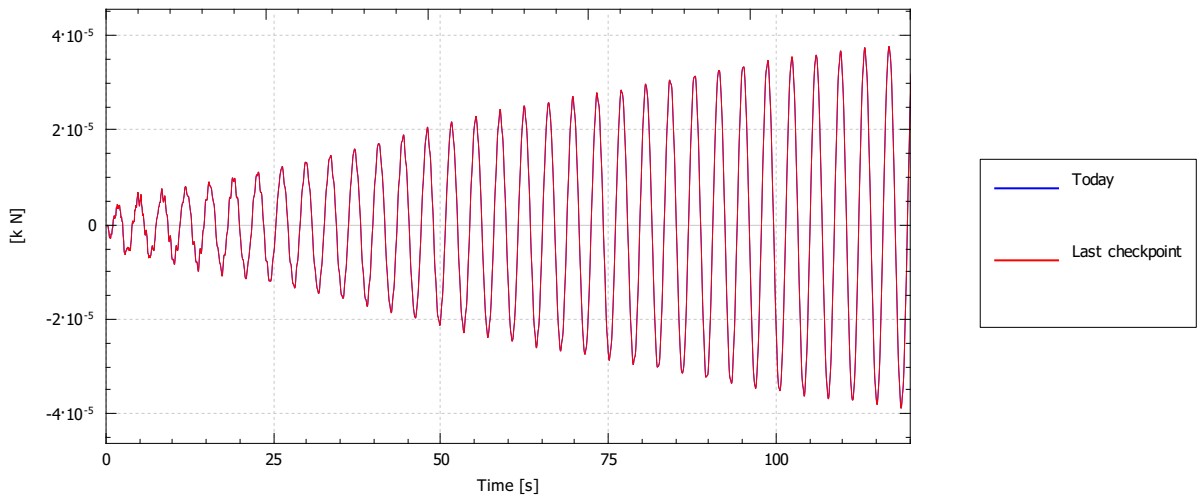


Beam element [Element 16 | Tubular tower]

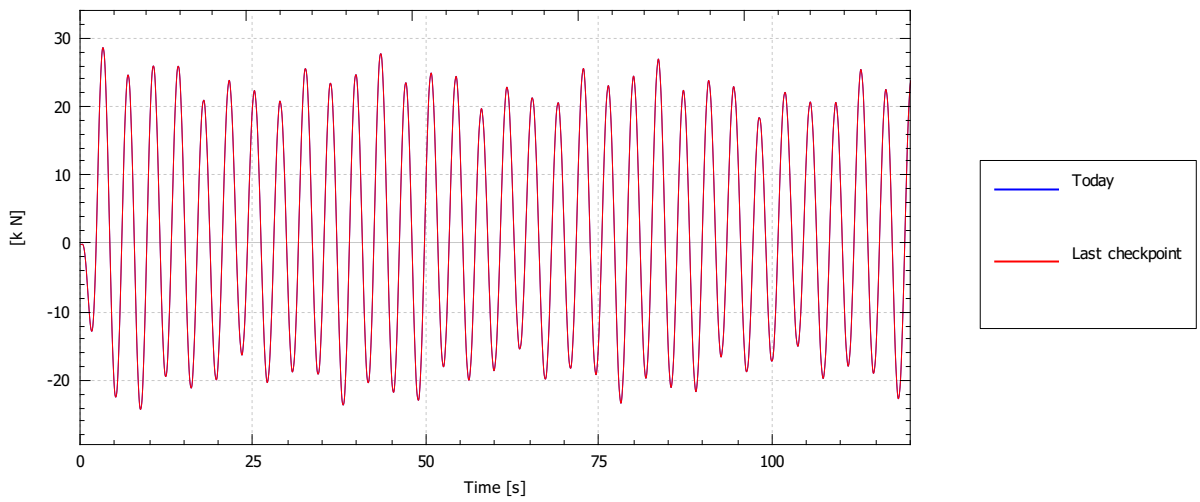
Axial force



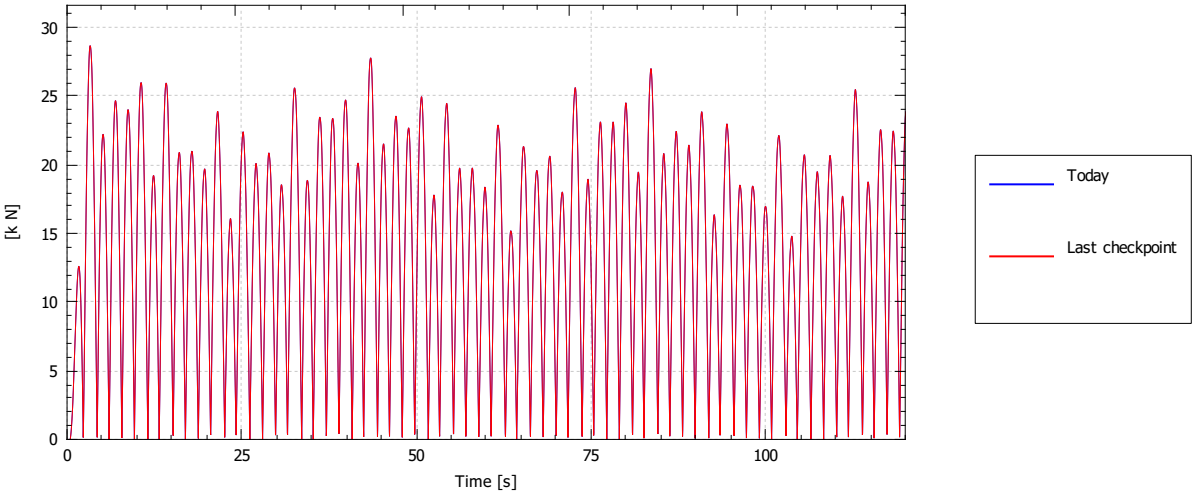
Shear force (1st prin. axis)



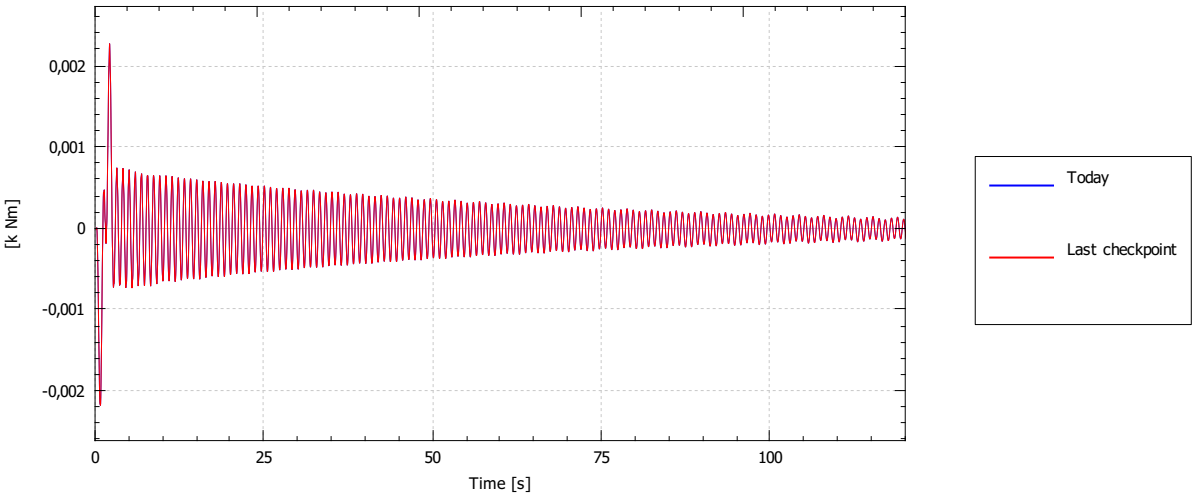
Shear force (2nd prin. axis)



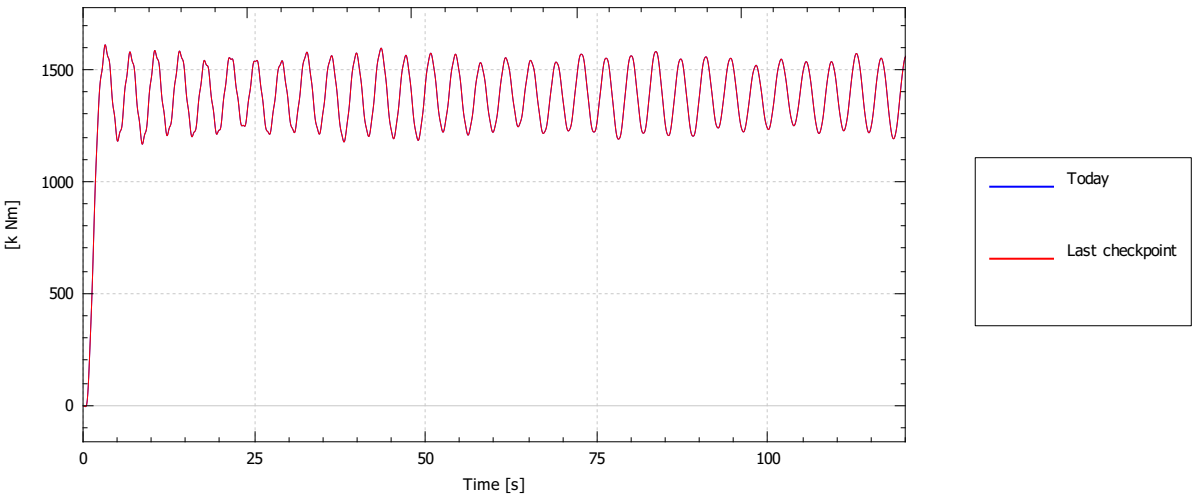
Shear force, mag.



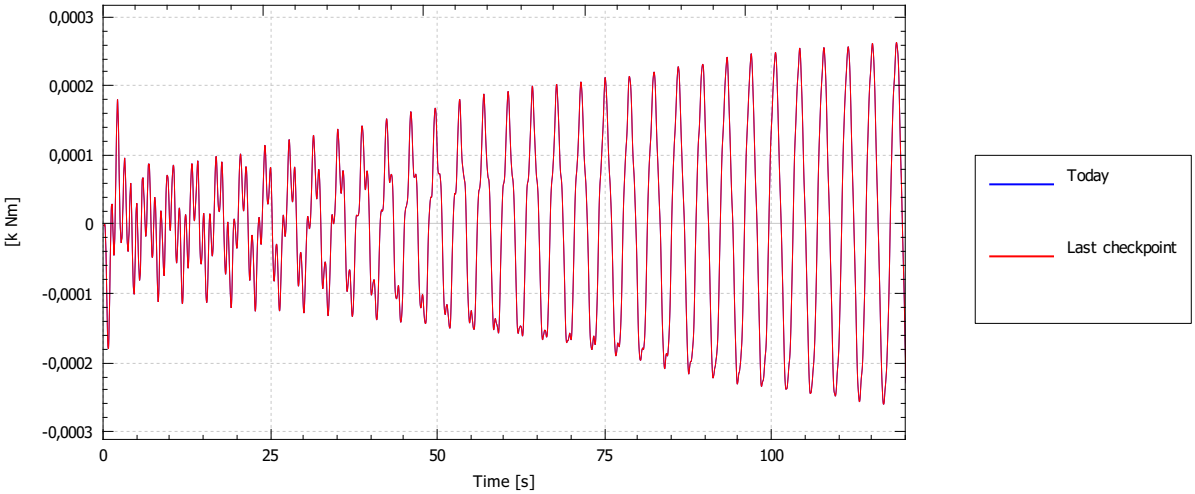
Torque



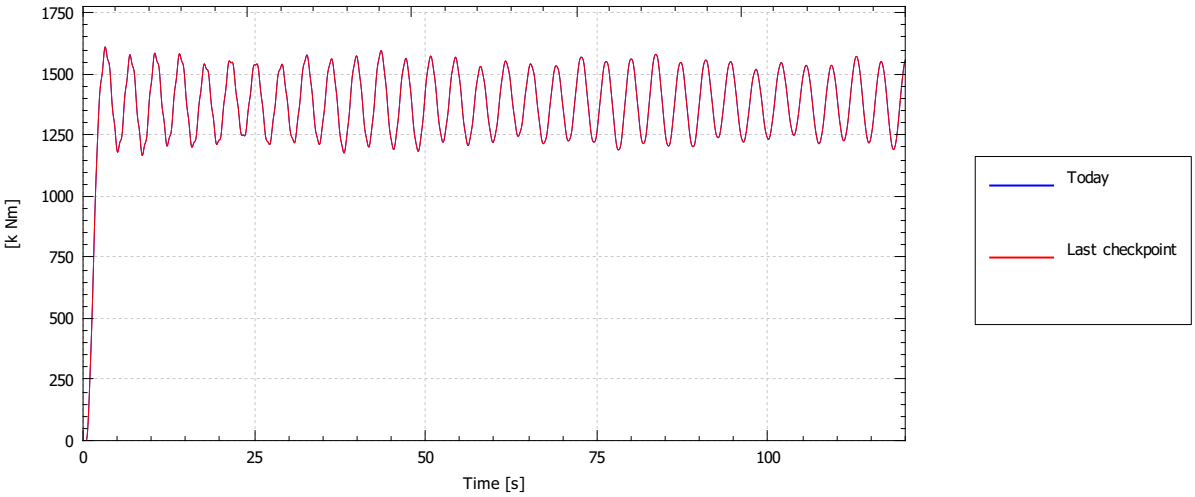
Moment (1st prin. axis), i



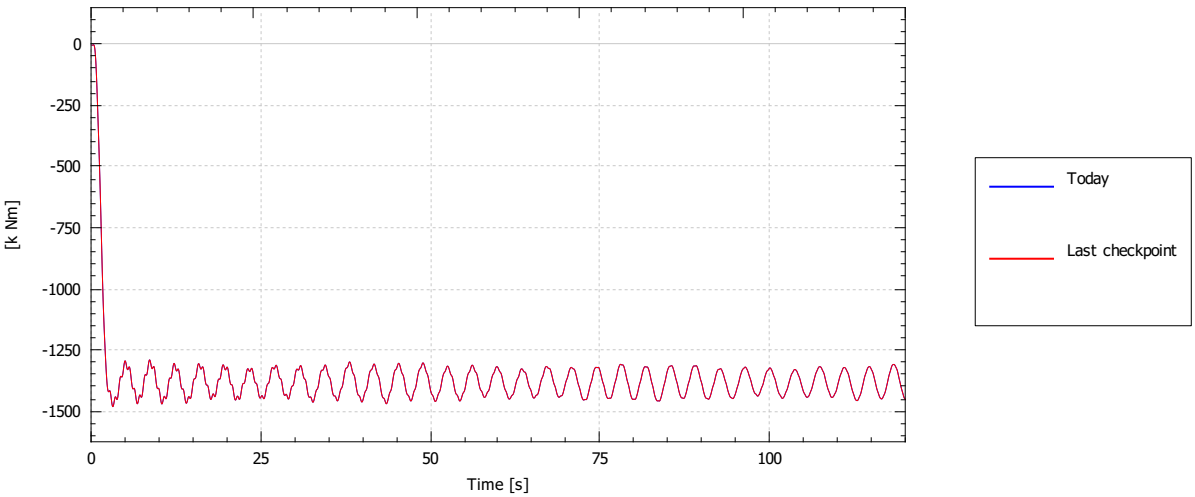
Moment (2nd prin. axis), i



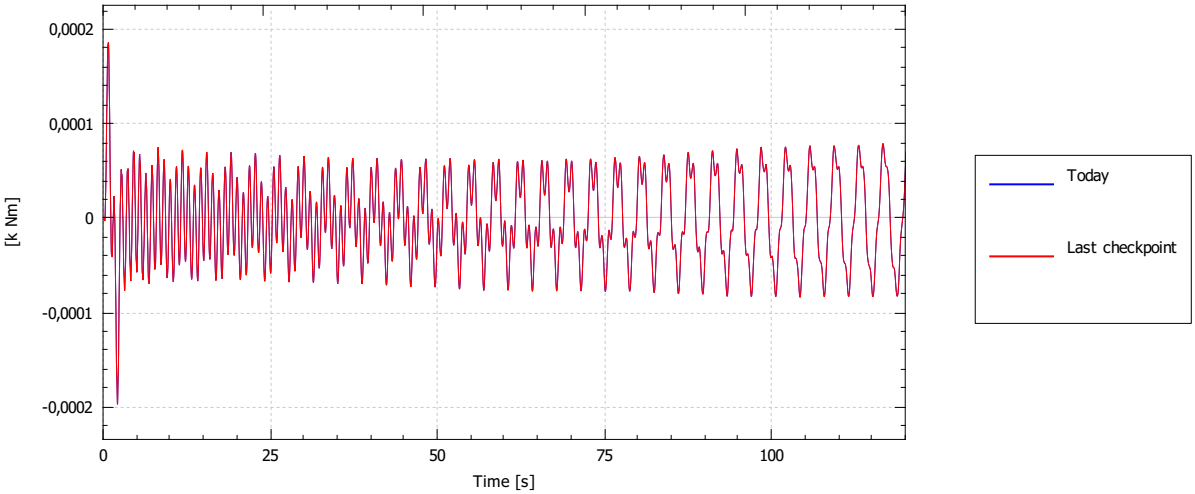
Moment, mag., i



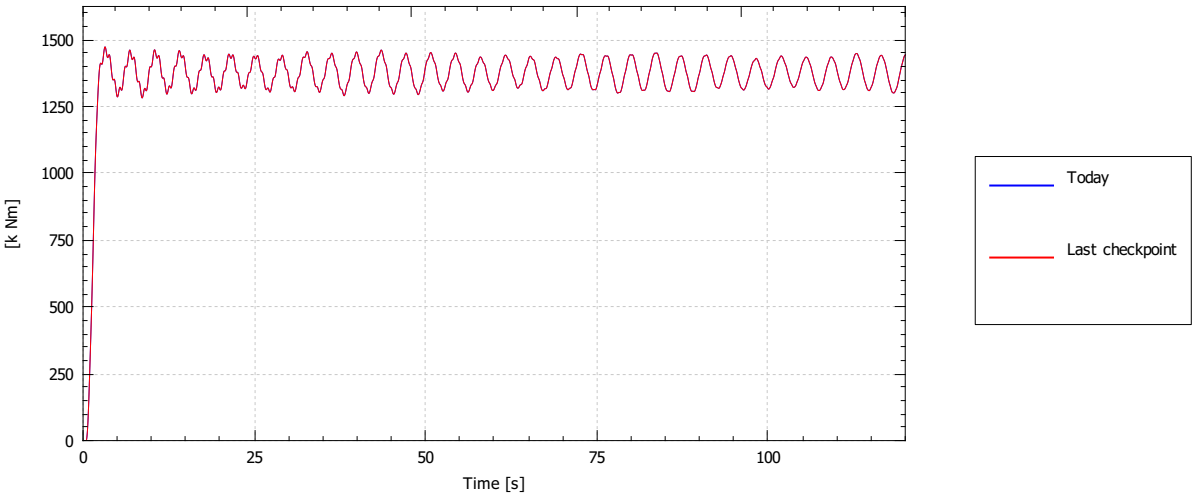
Moment (1st prin. axis), j



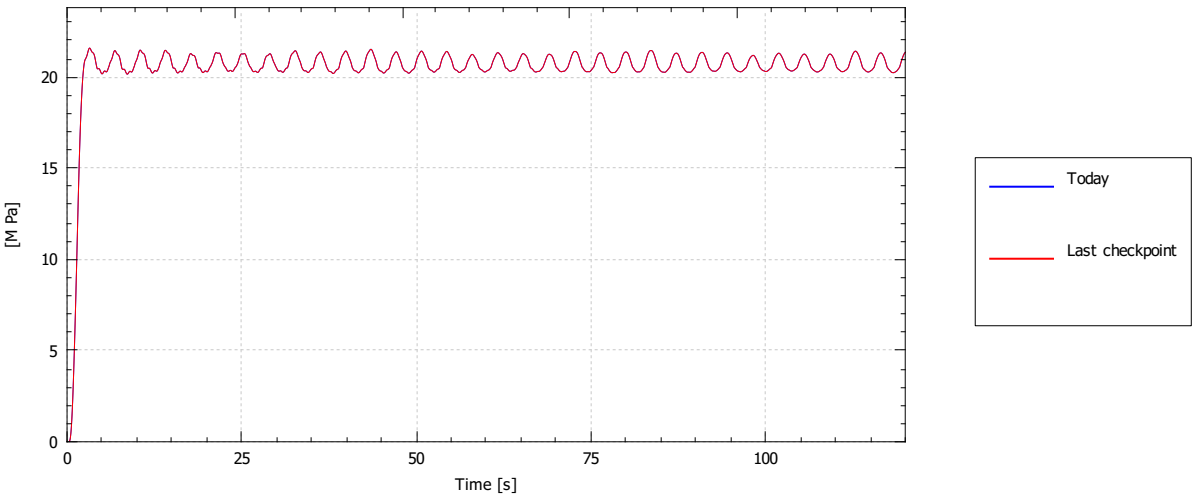
Moment (2nd prin. axis), j



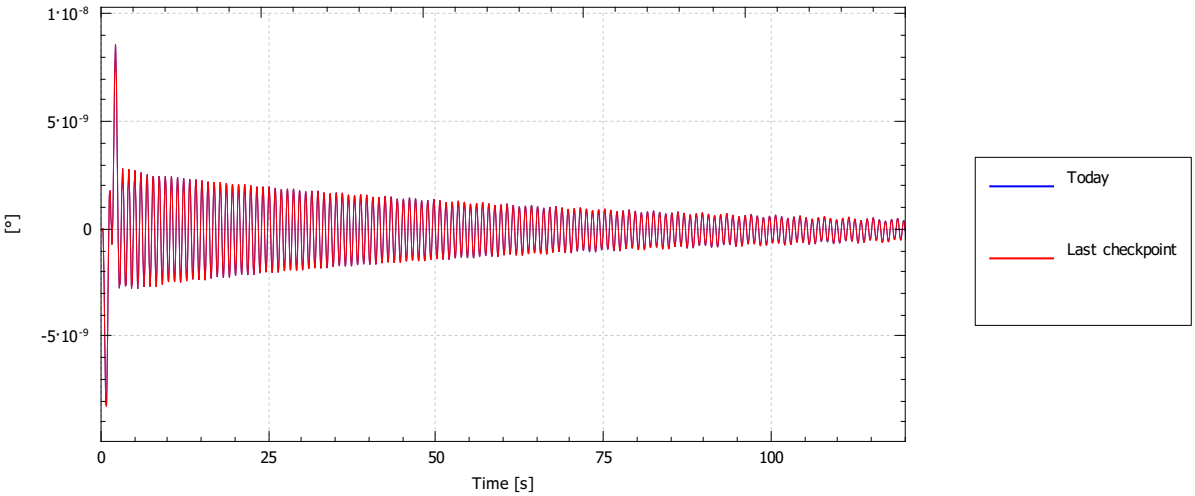
Moment, mag., j



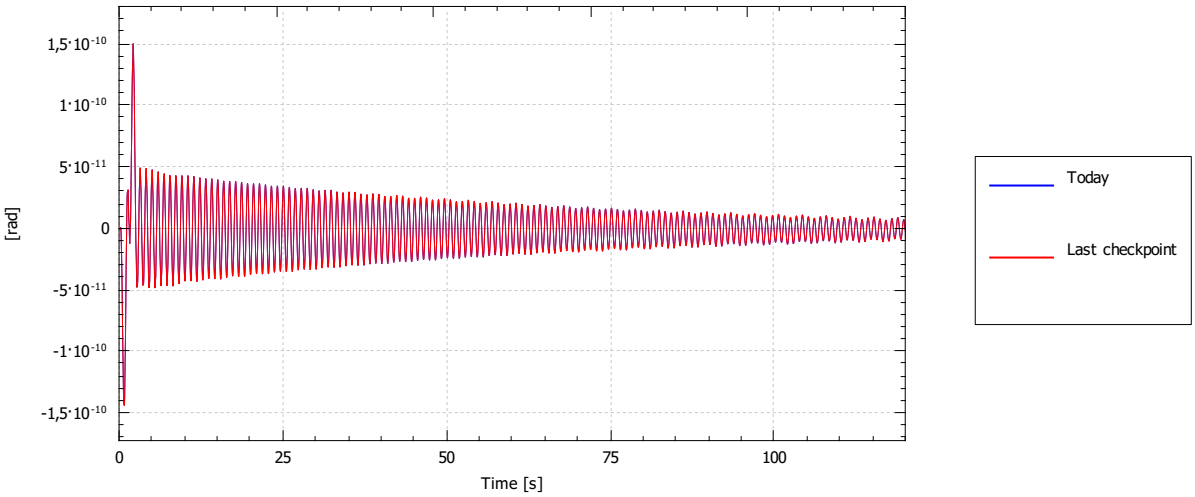
Max normal stress



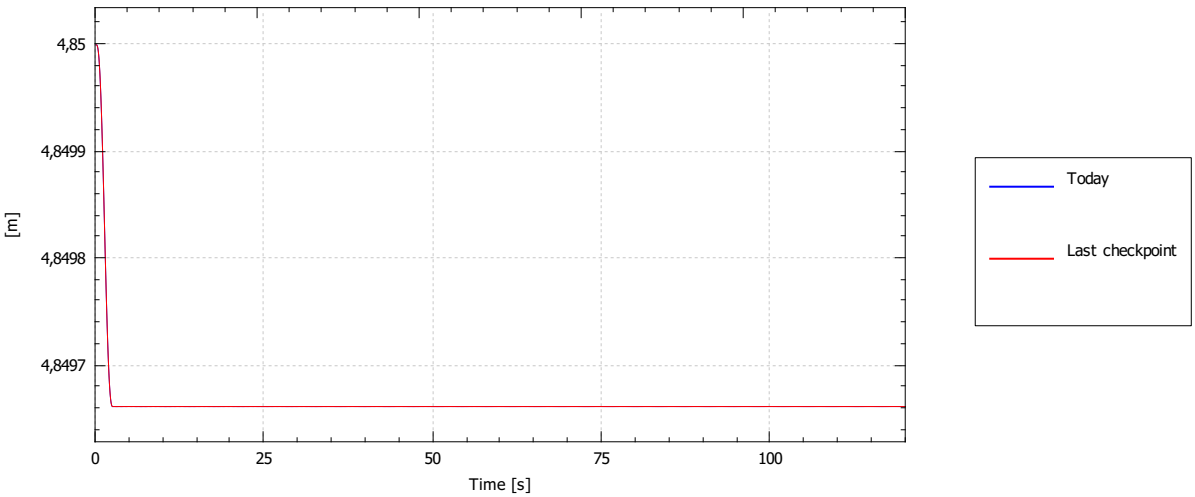
Twist (structural)



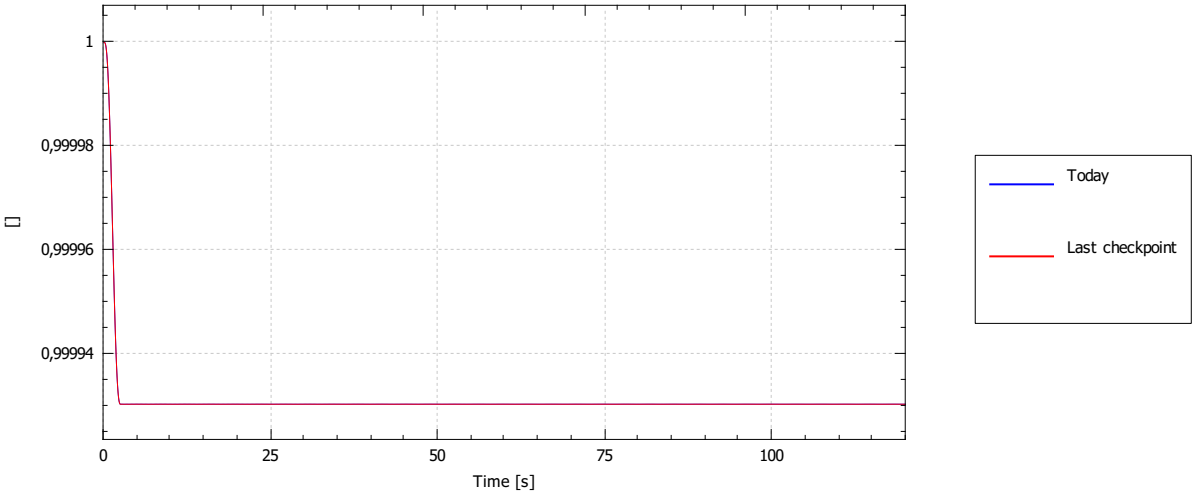
Twist (structural) - rad



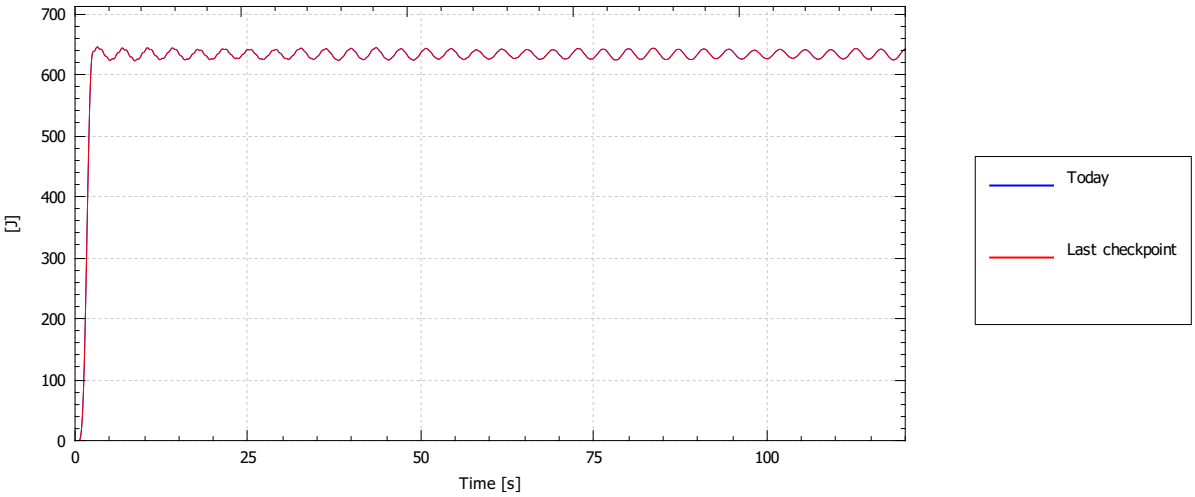
Deformed length



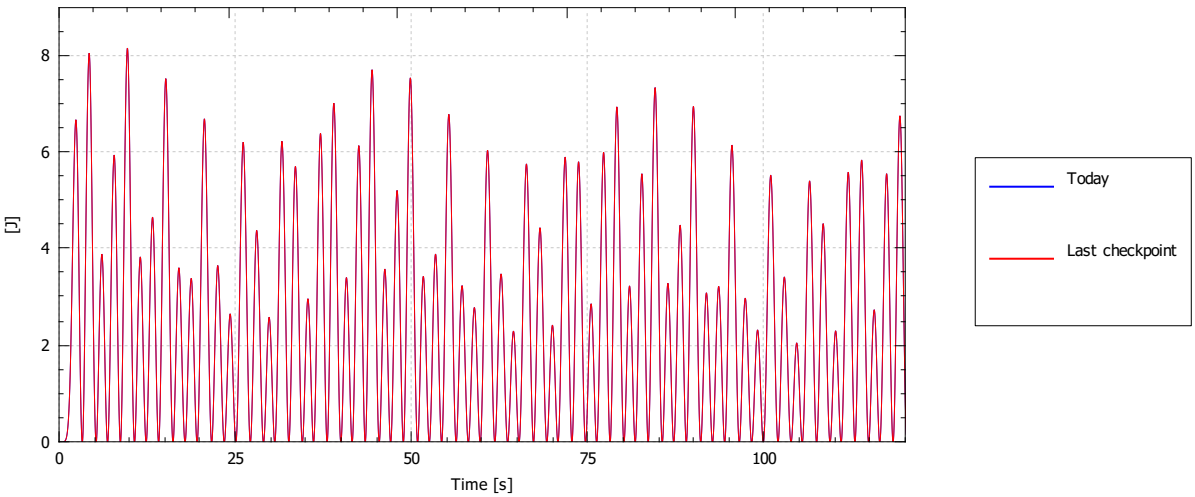
Elongation

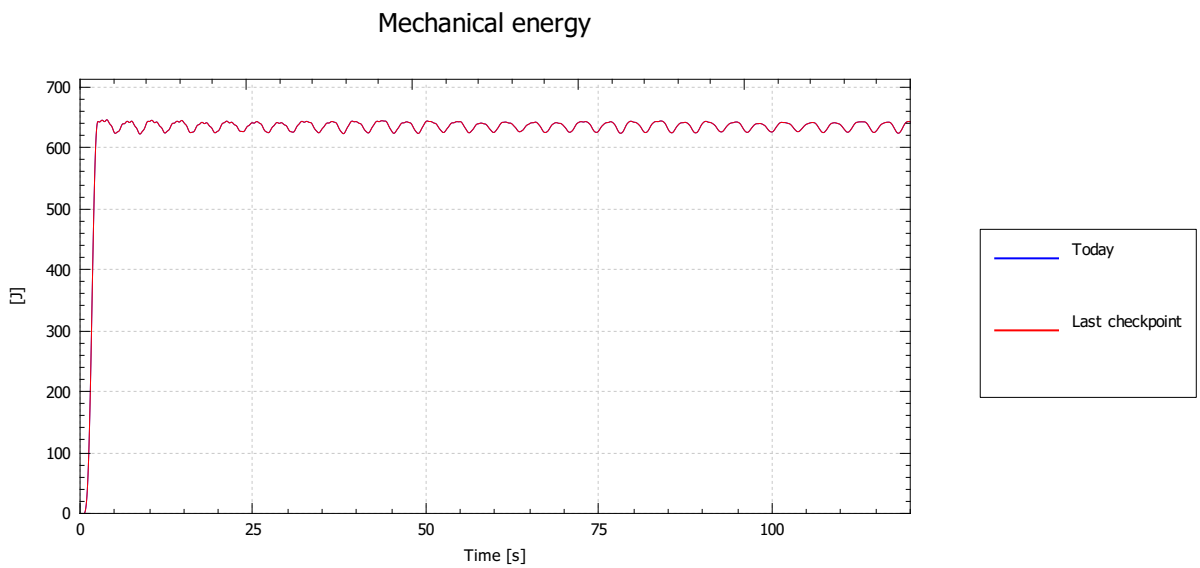


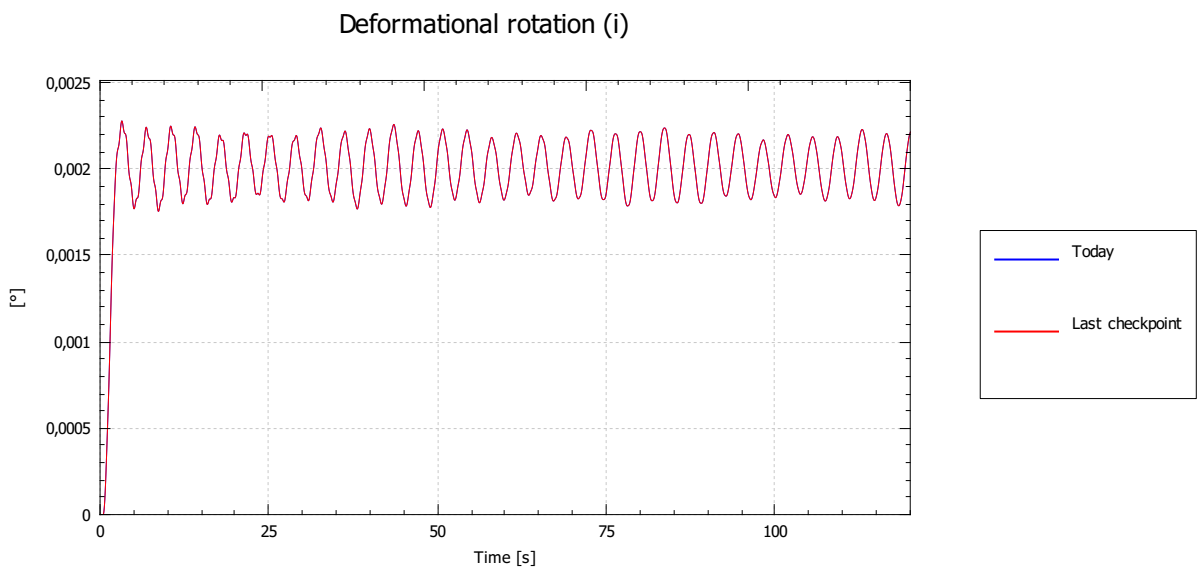
Strain energy

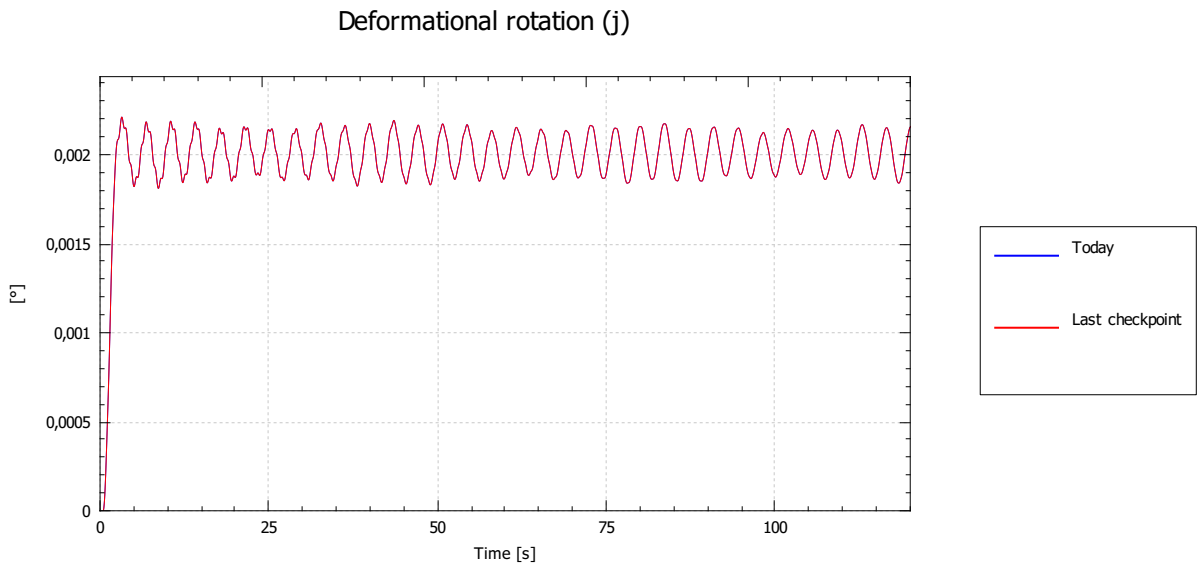


Kinetic energy

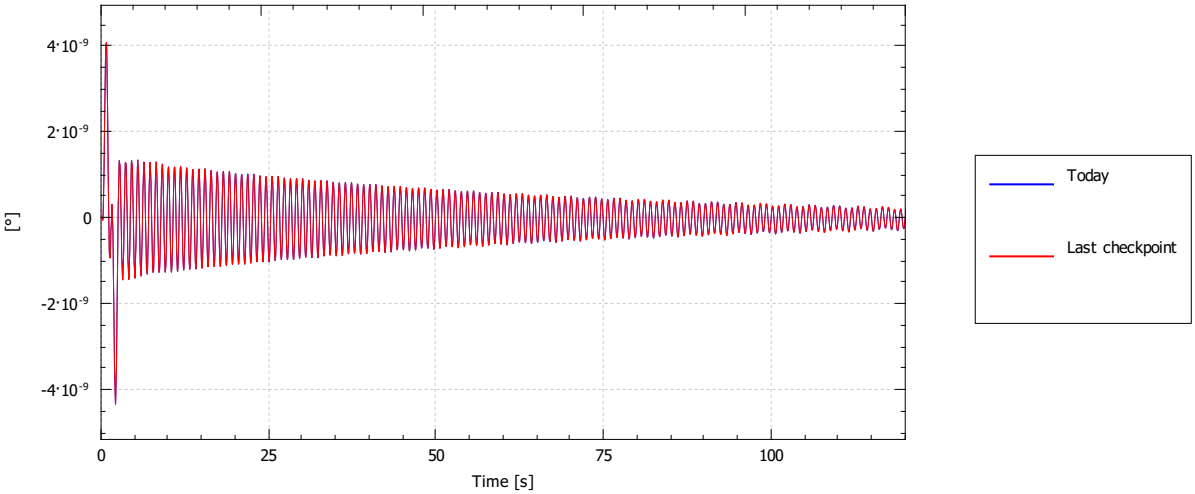



Mechanical energy
700
600
500
400
300
200
100
0
[J]
0
25
50
75
100
Time [s]
Today
Last checkpoint

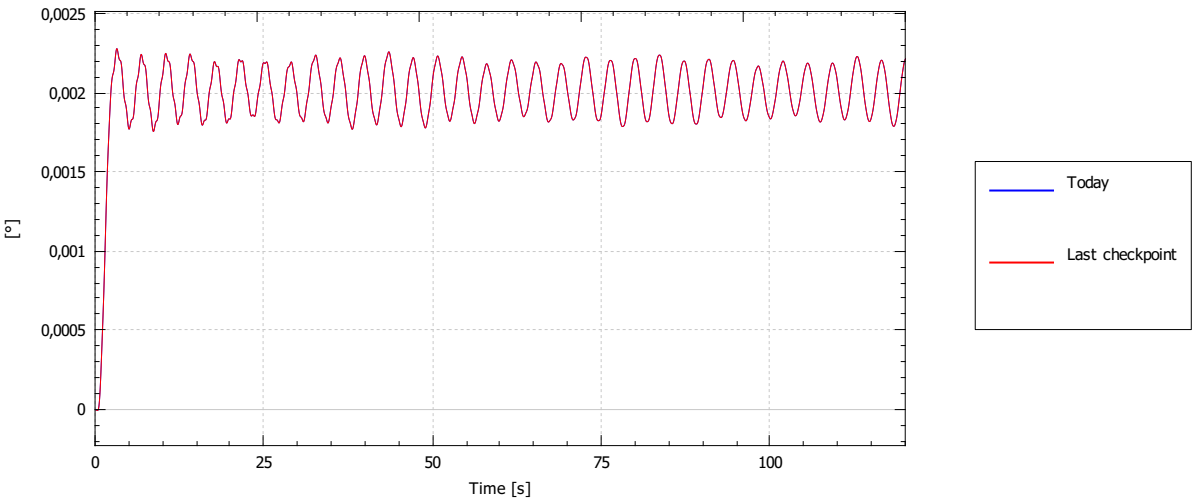

Deformational rotation (i)
0,0025
0,002
0,0015
0,001
0,0005
0
[°]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Deformational rotation (j)
0,002
0,0015
0,001
0,0005
0
[°]
0
25
50
75
100
Time [s]
Today
Last checkpoint

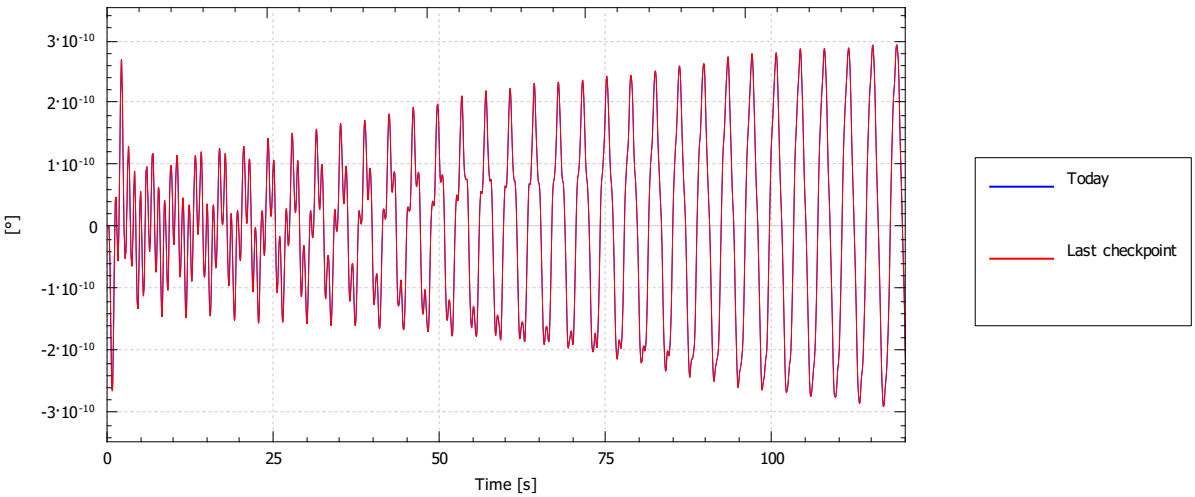
Deformational rotation (axial)



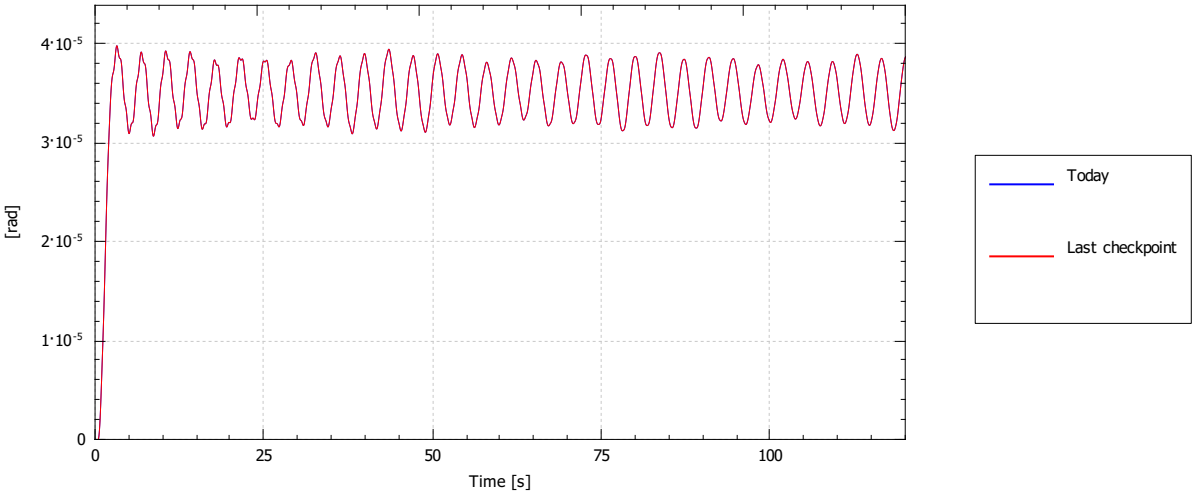
Deformational rotation (1st prin.)



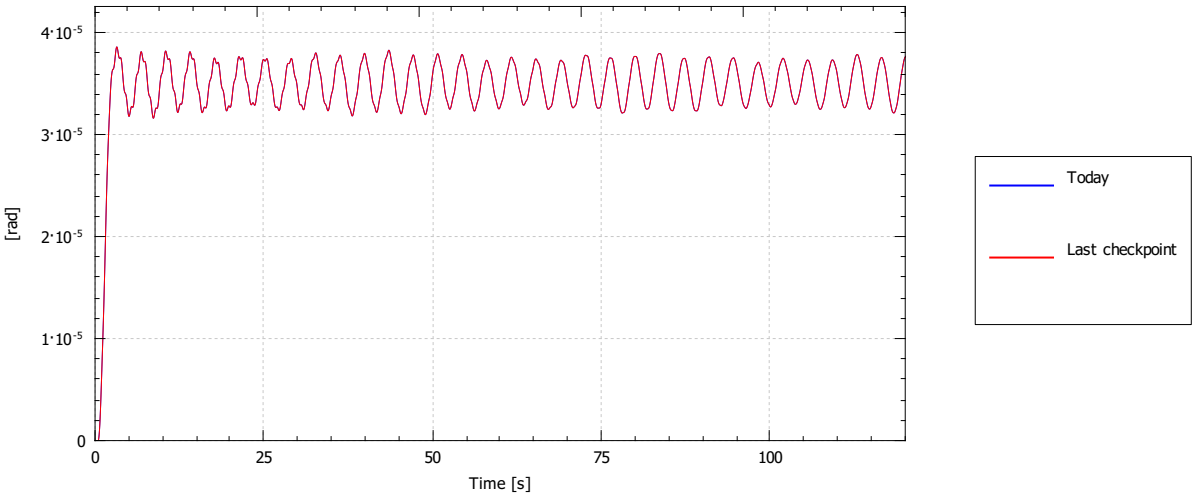
Deformational rotation (2nd prin.)



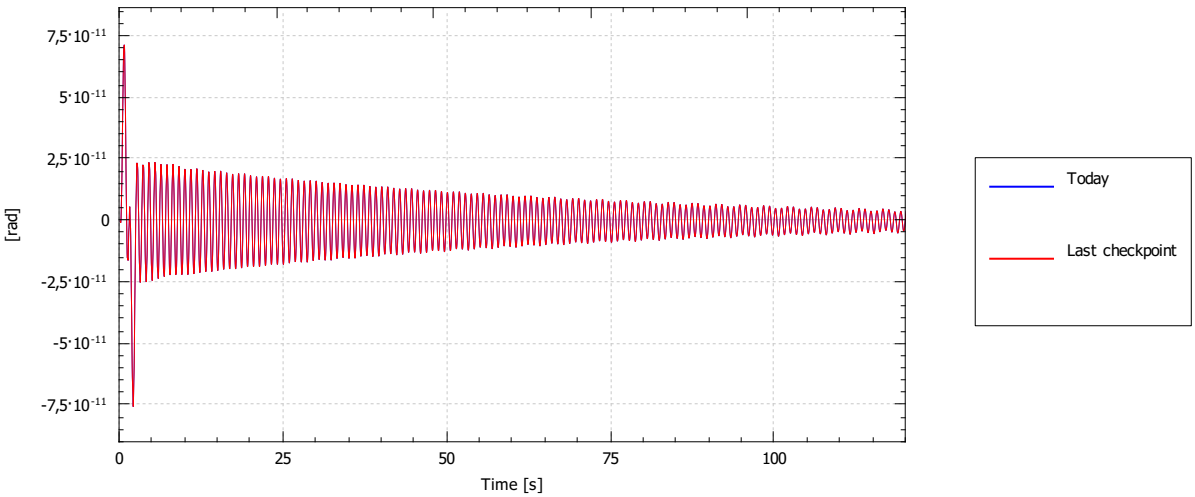
Deformational rotation (i) - rad



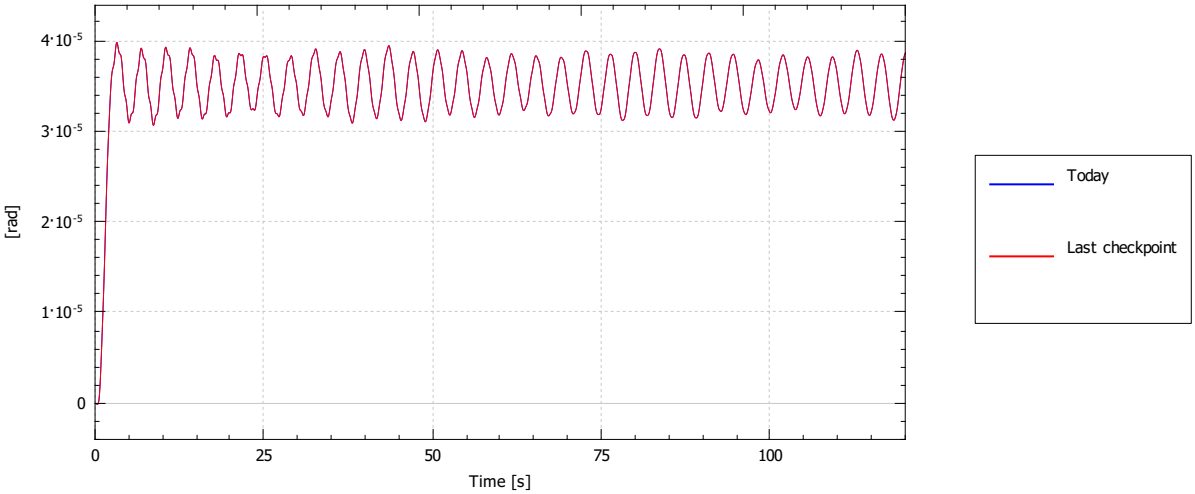
Deformational rotation (j) - rad



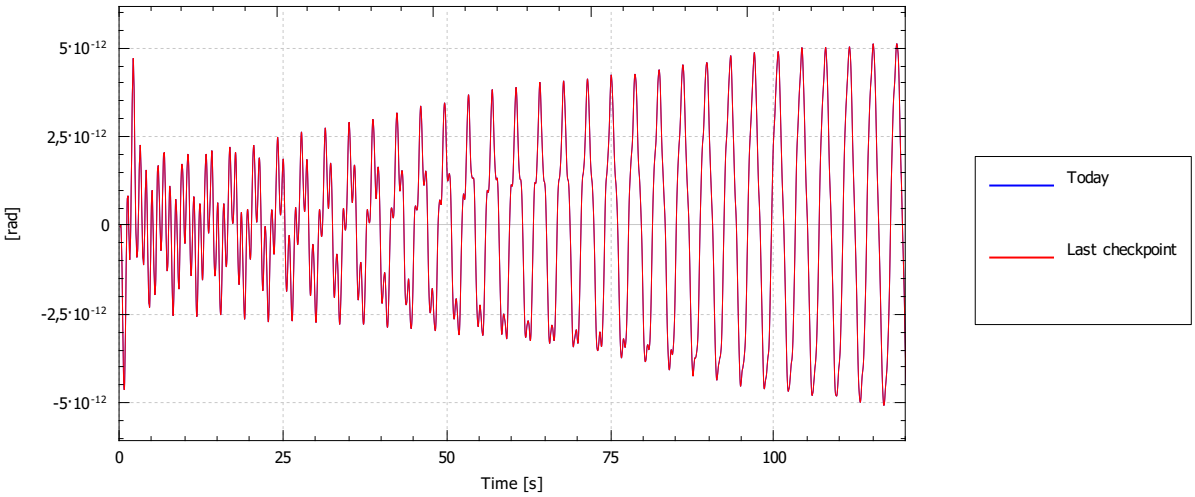
Deformational rotation (axial) - rad



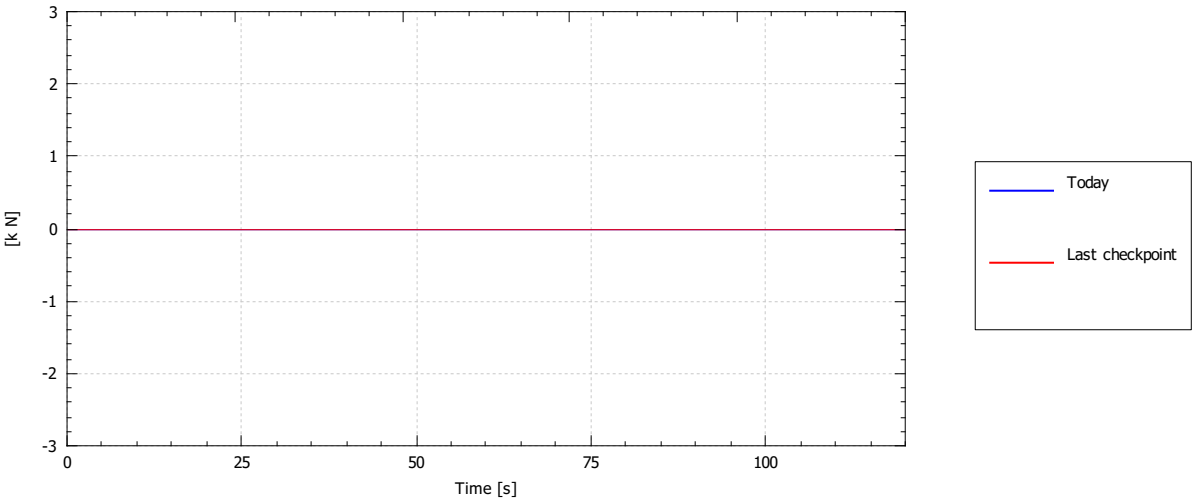
Deformational rotation (1st prin.) - rad



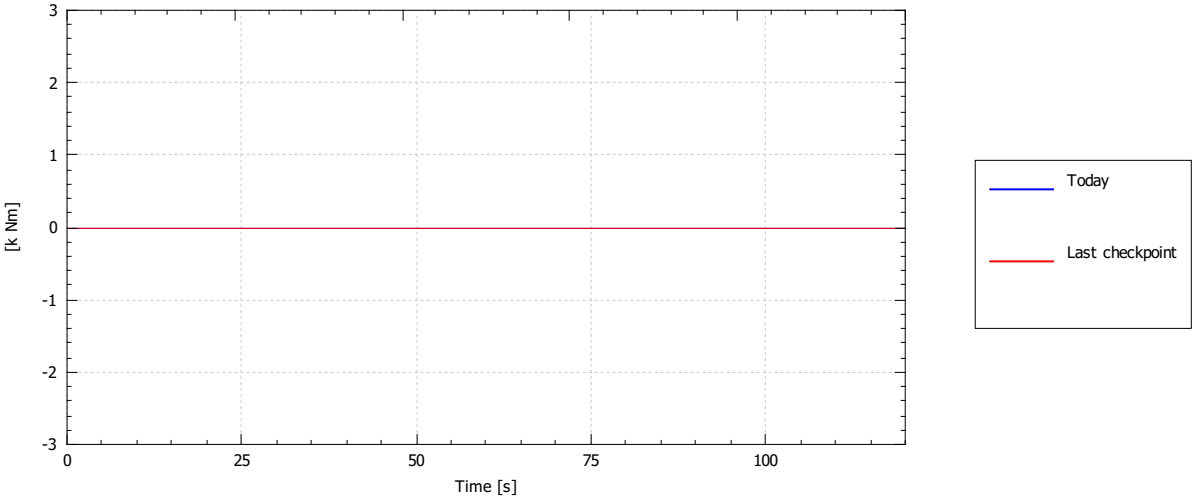
Deformational rotation (2nd prin.) - rad



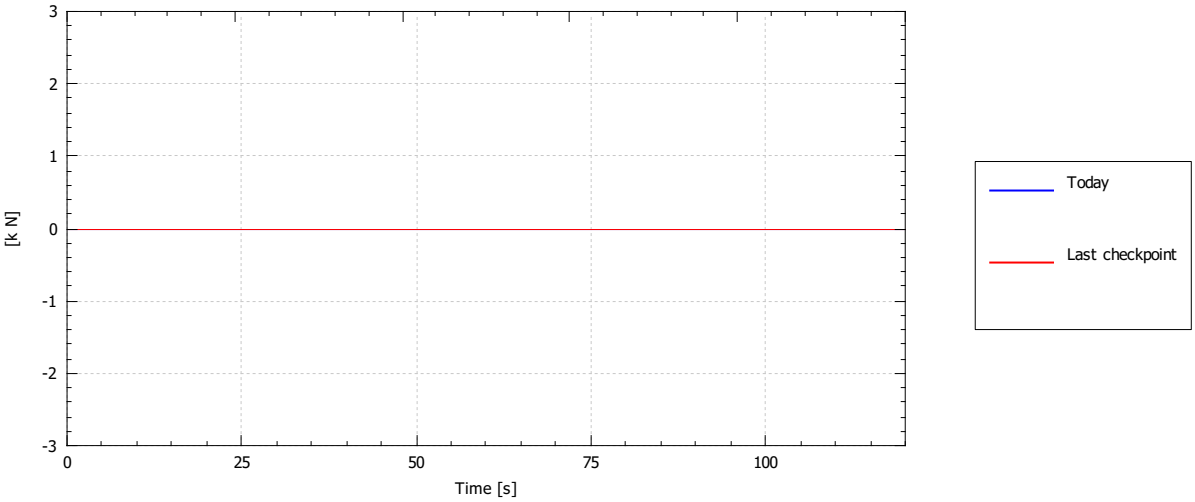
Damping force, i



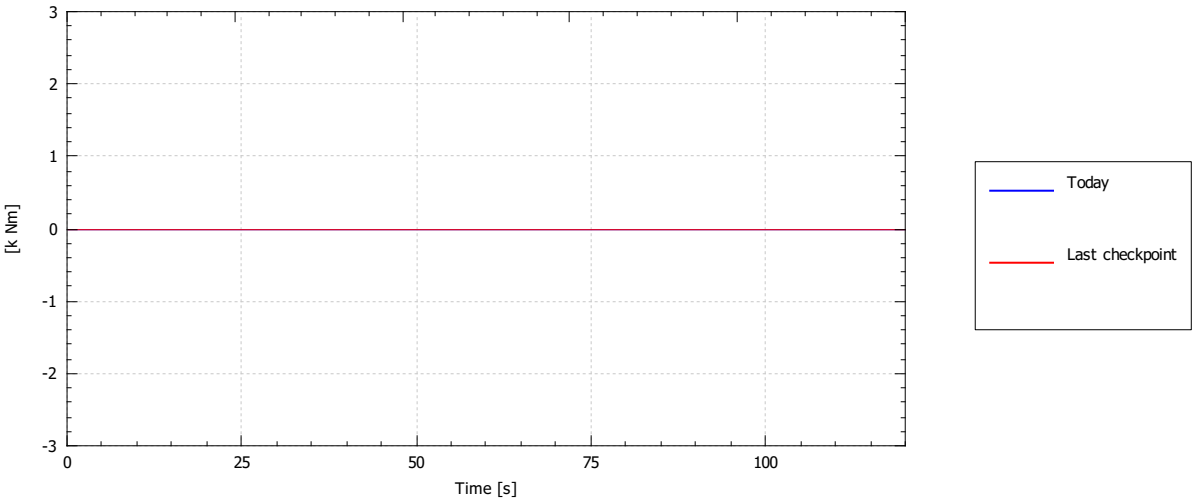
Damping moment, i



Damping force, sum

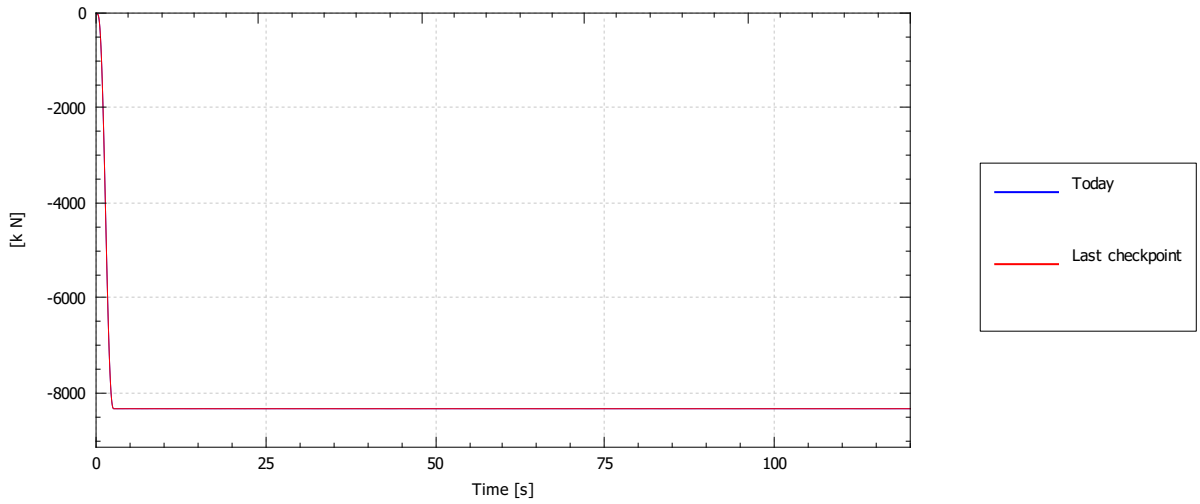


Damping moment, sum

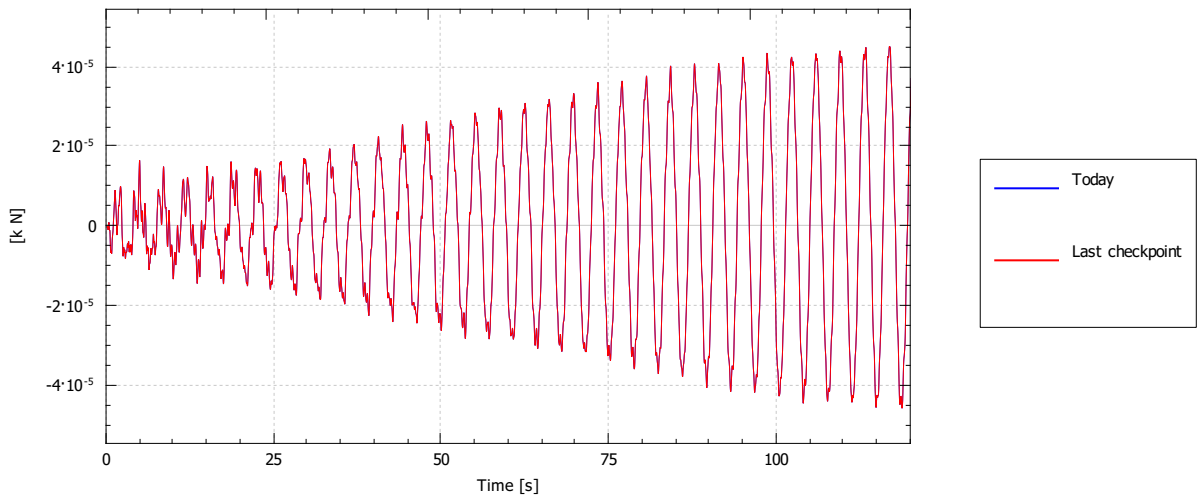


Beam element [Element 3 | Monopile]

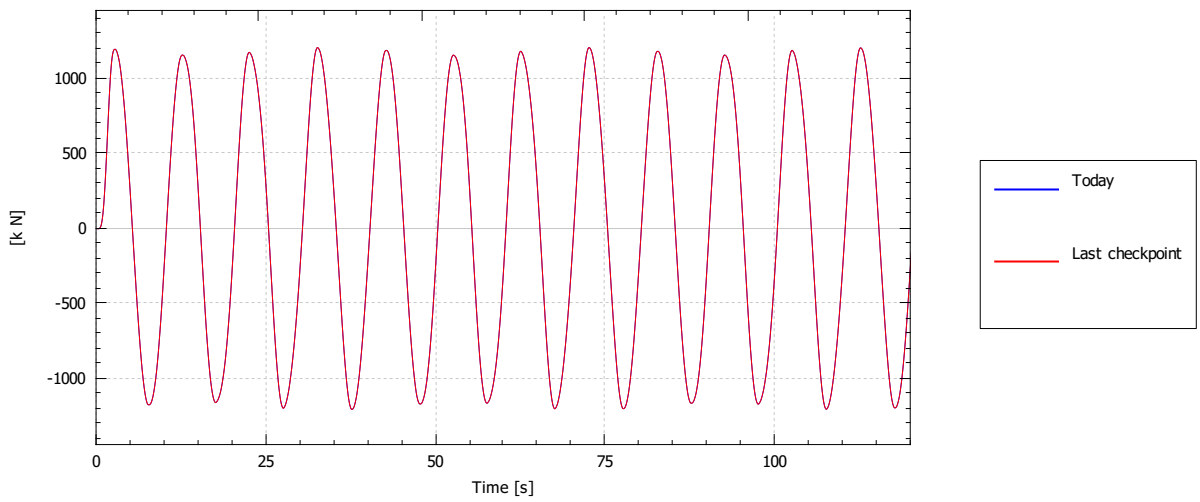
Axial force



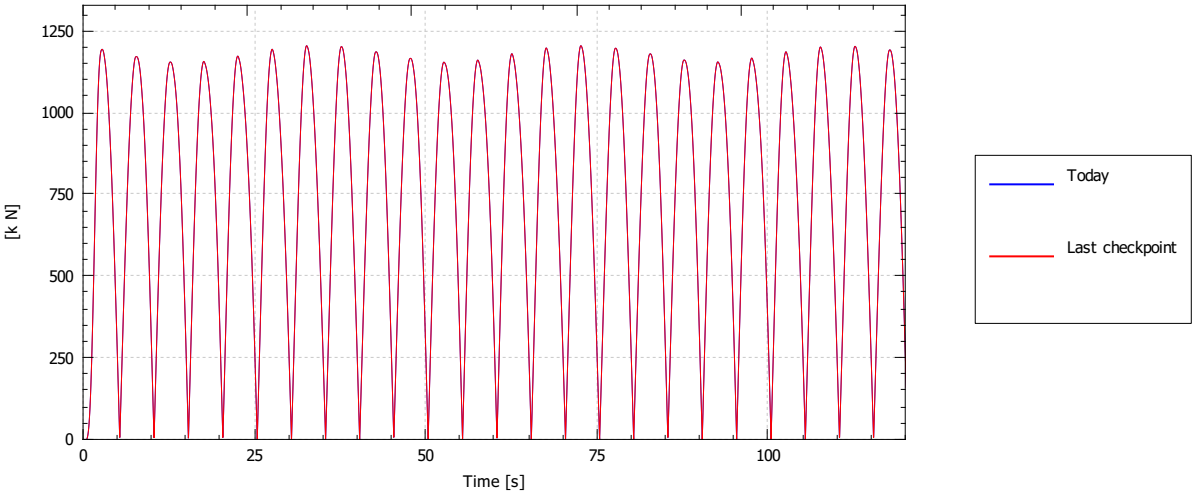
Shear force (1st prin. axis)



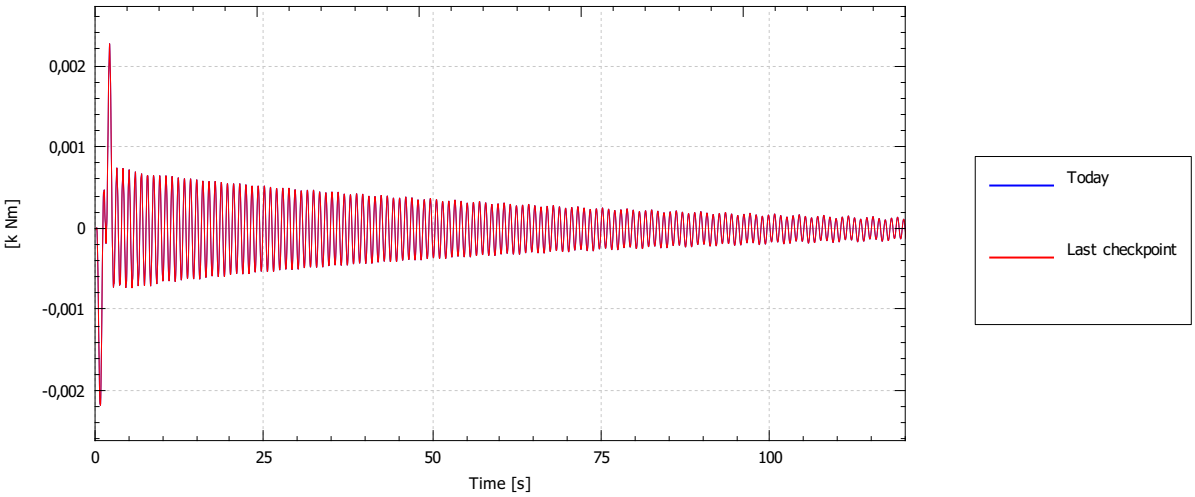
Shear force (2nd prin. axis)



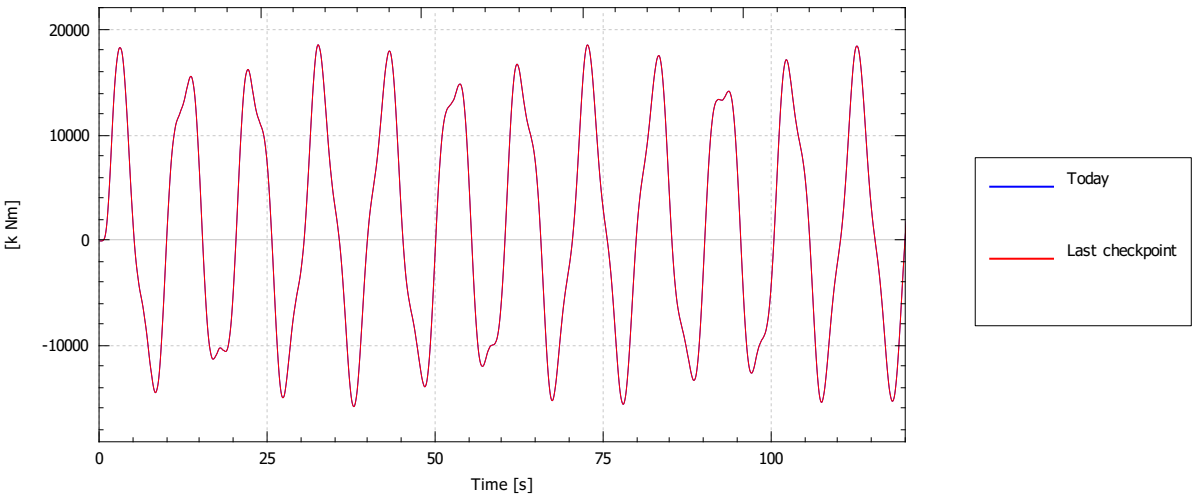
Shear force, mag.



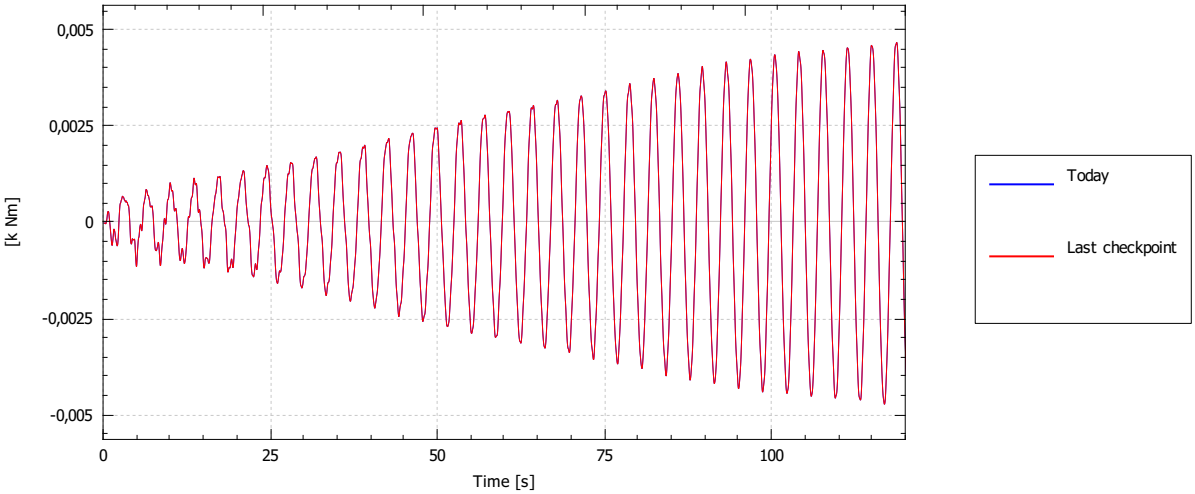
Torque



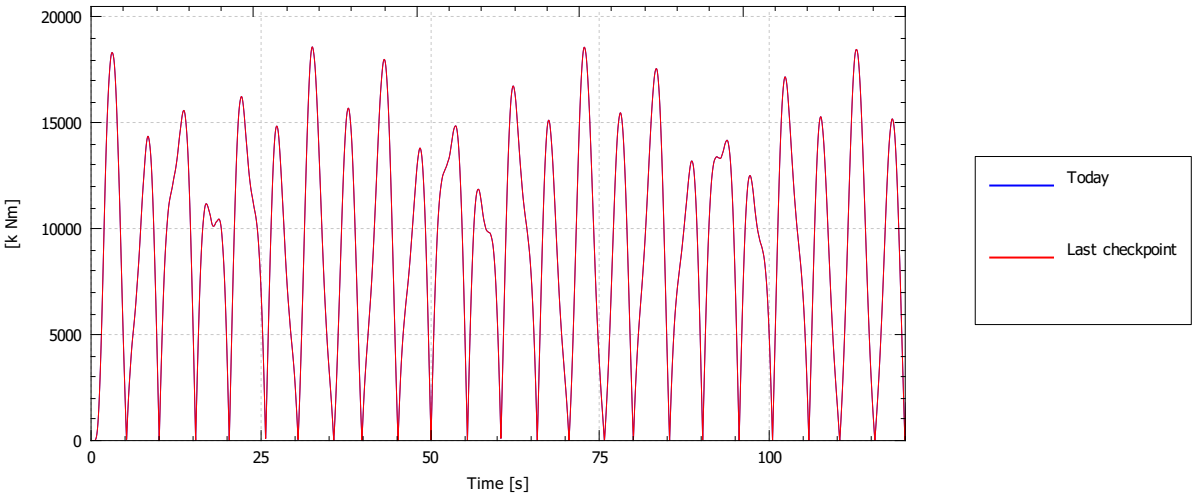
Moment (1st prin. axis), i



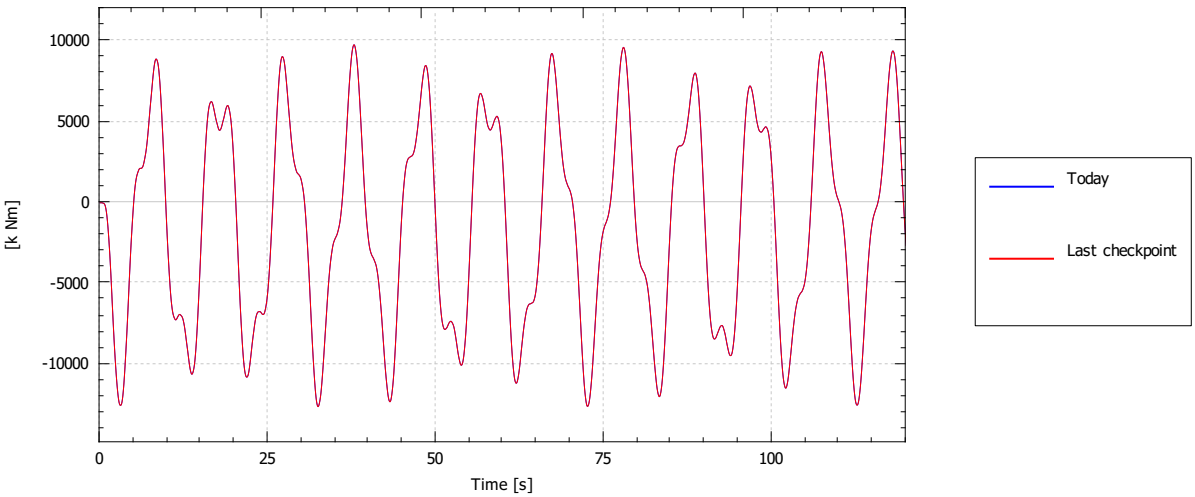
Moment (2nd prin. axis), i



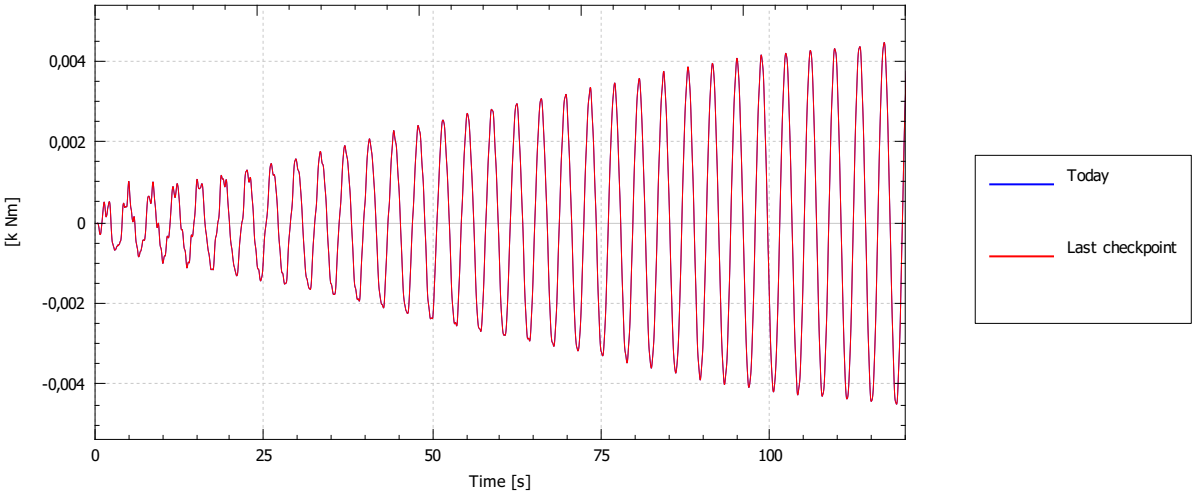
Moment, mag., i



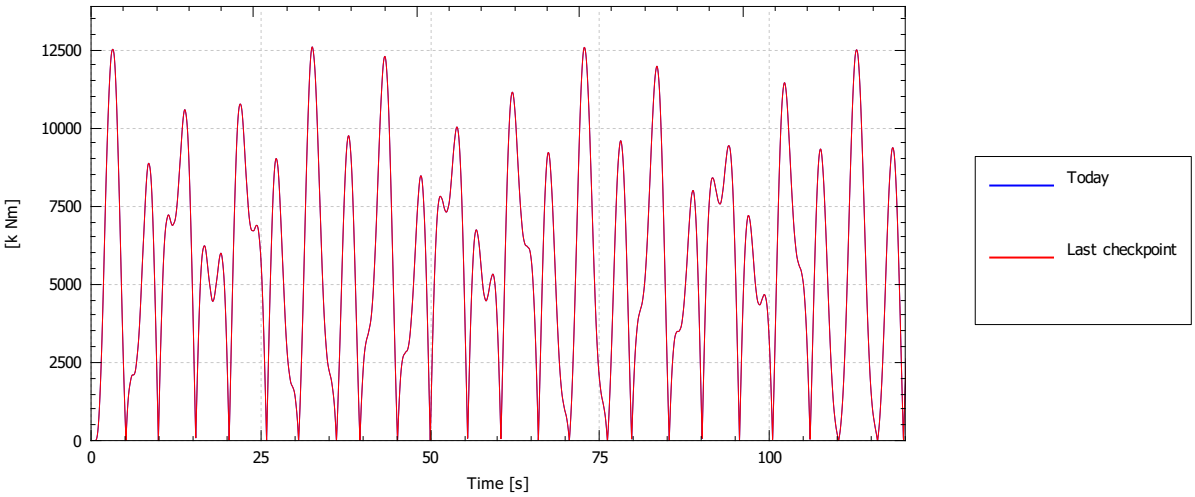
Moment (1st prin. axis), j



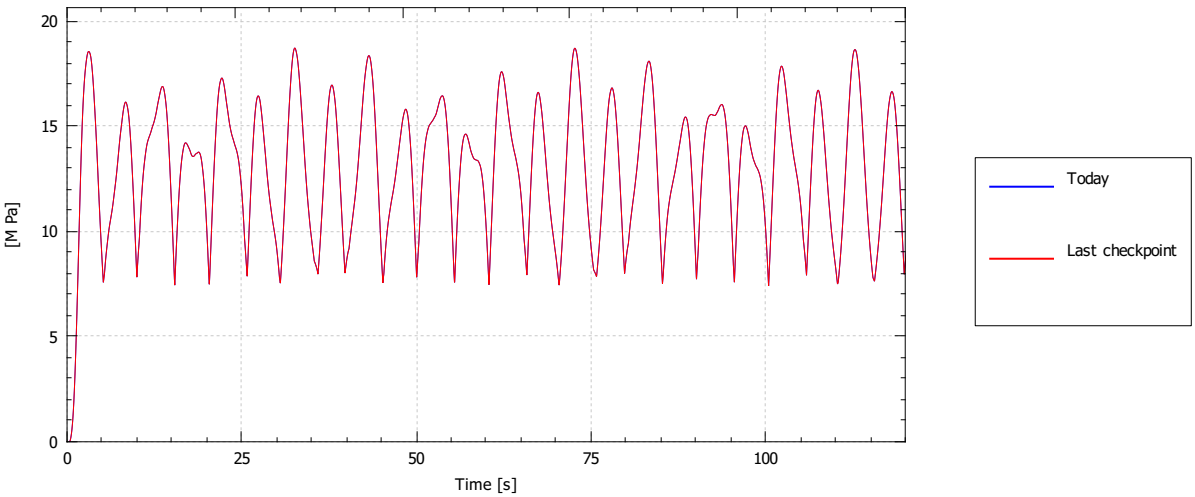
Moment (2nd prin. axis), j

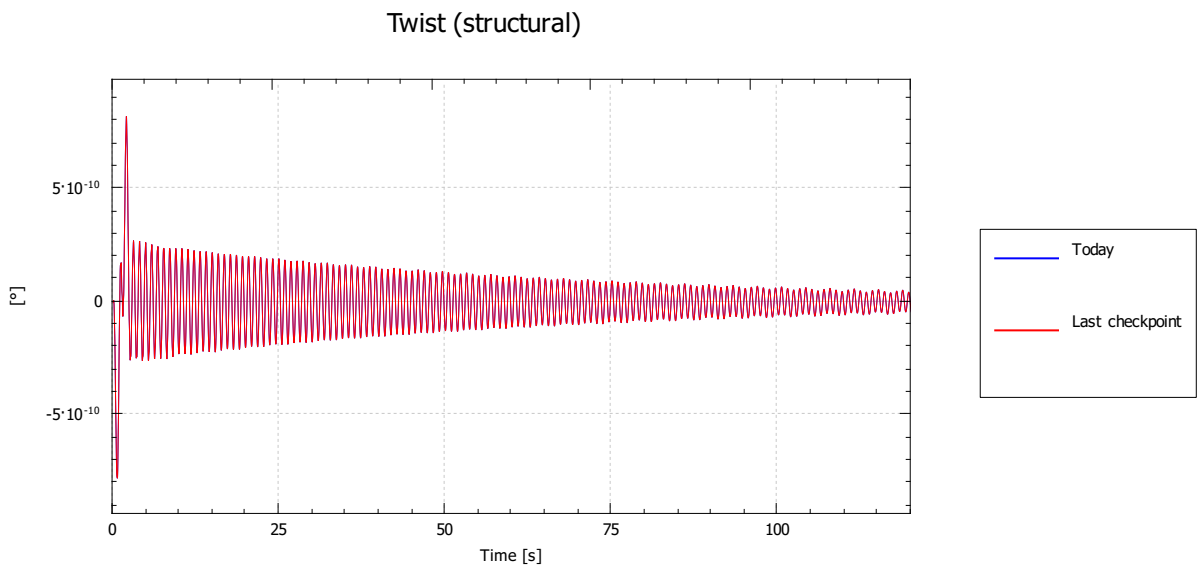


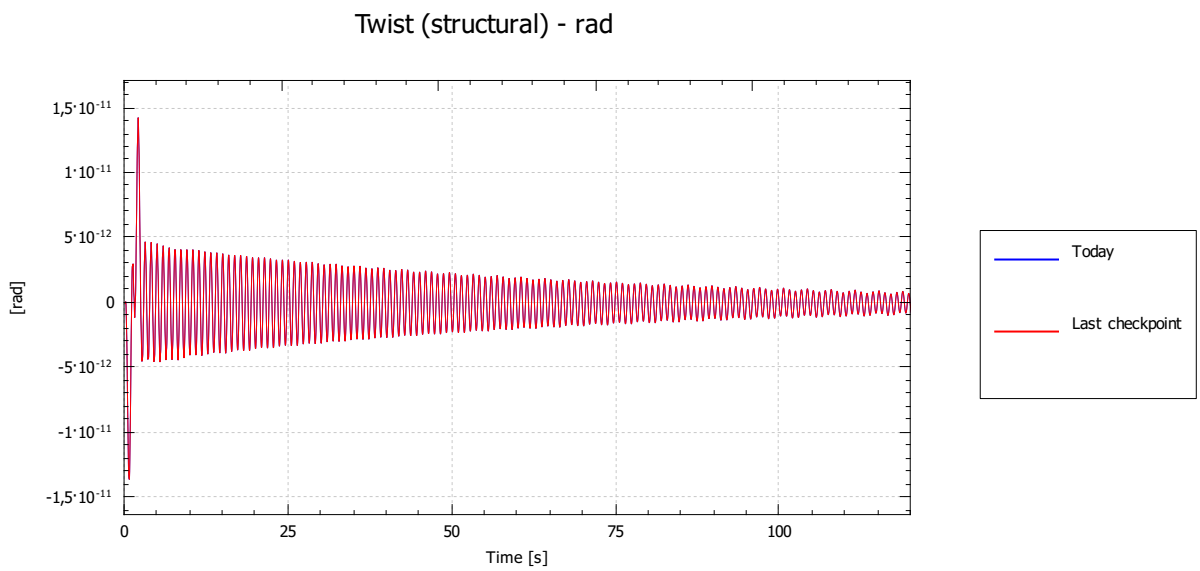
Moment, mag., j

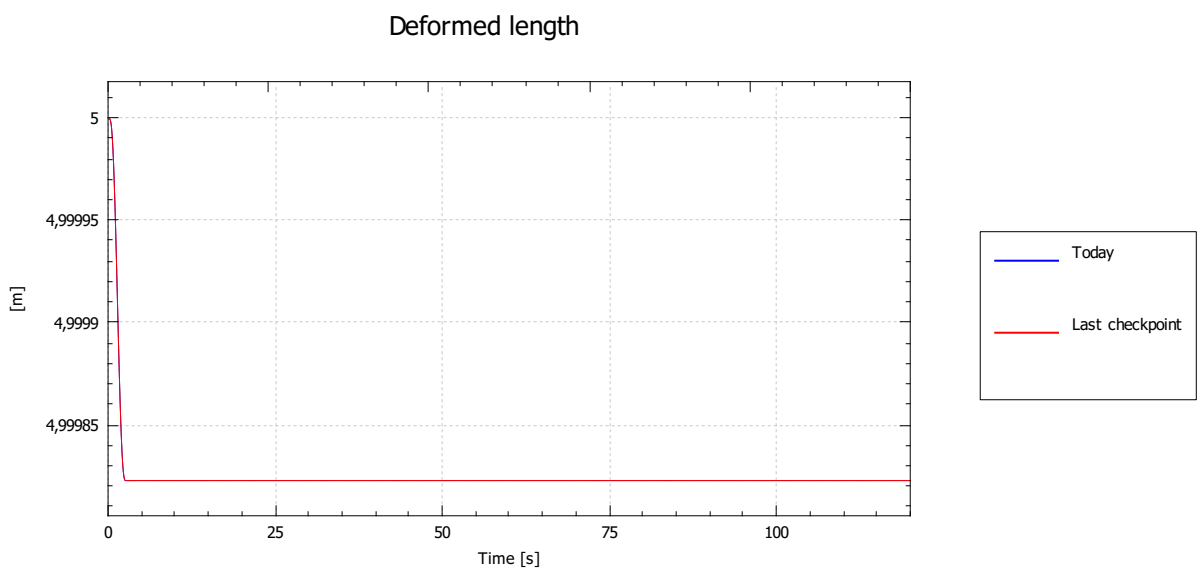


Max normal stress

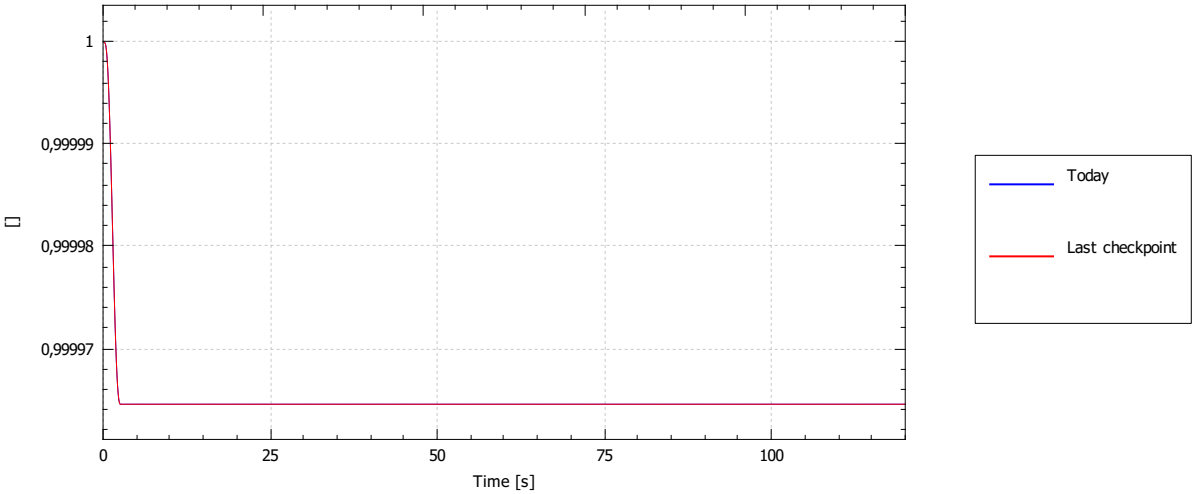



Twist (structural)
5·10-10
0
-5·10-10
[°]
0
25
50
75
100
Time [s]
Today
Last checkpoint

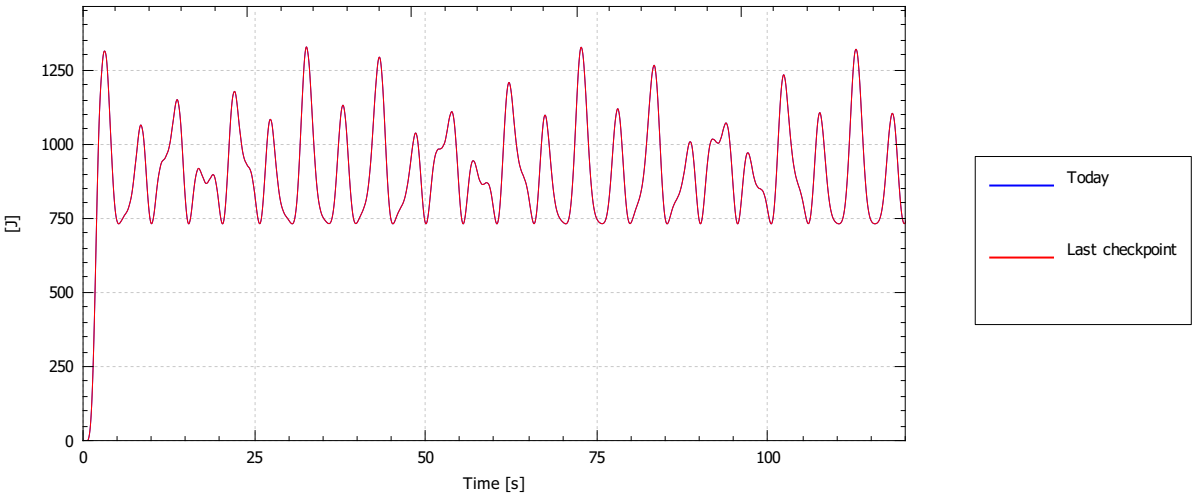

Twist (structural) - rad
1,5·10-11
1·10-11
5·10-12
0
-5·10-12
-1·10-11
-1,5·10-11
[rad]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Deformed length
5
4,99995
4,9999
4,99985
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

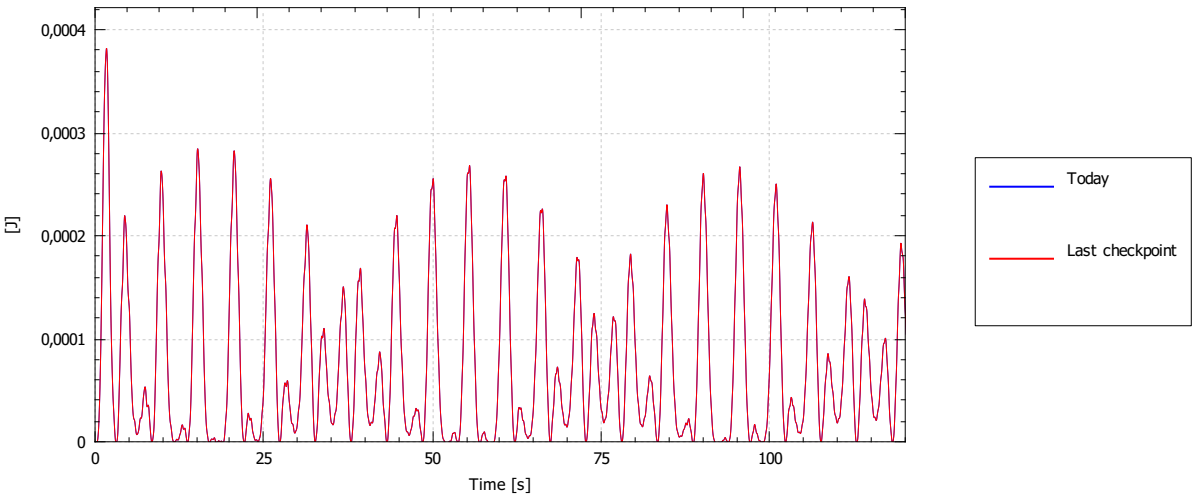
Elongation



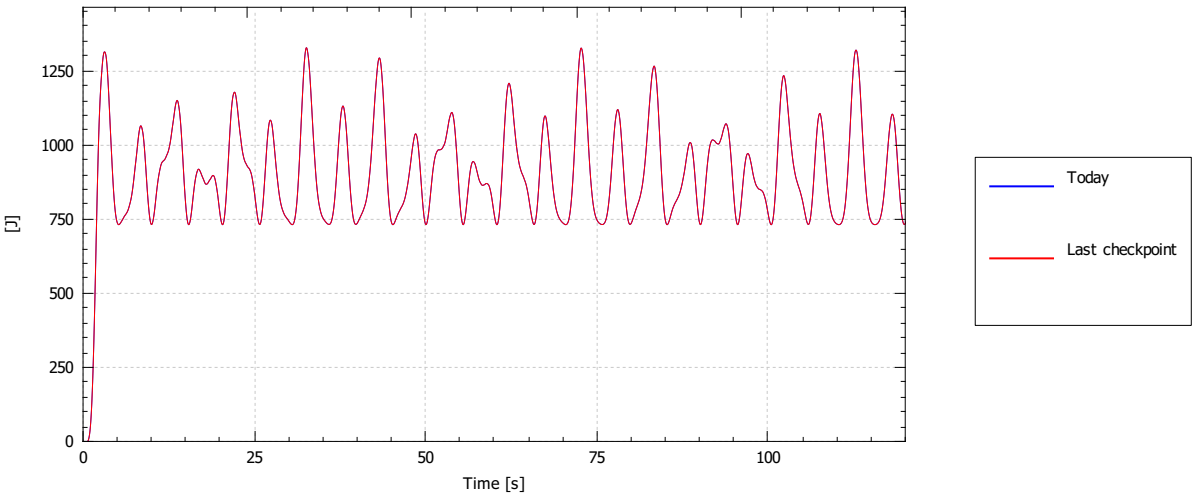
Strain energy



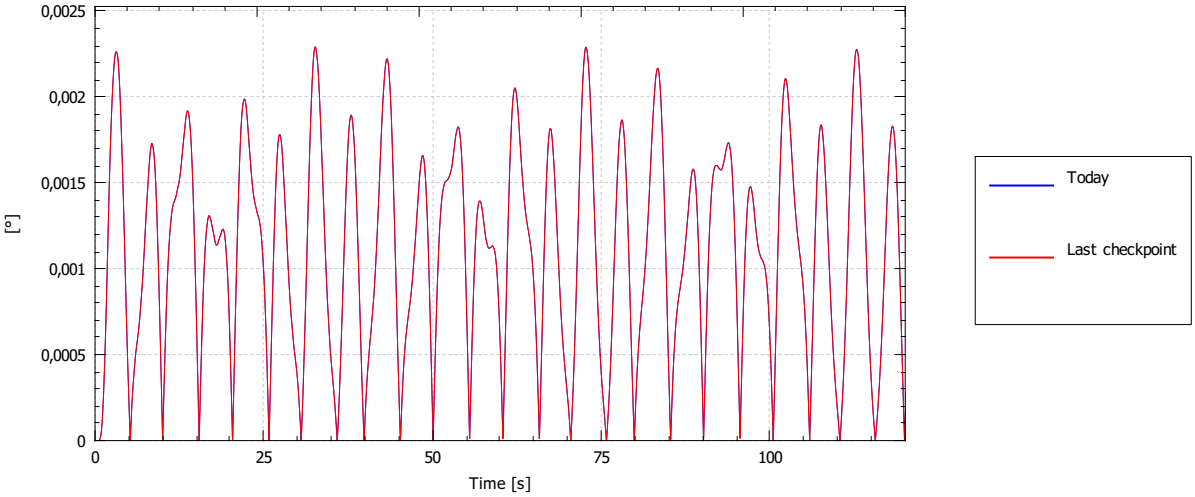
Kinetic energy



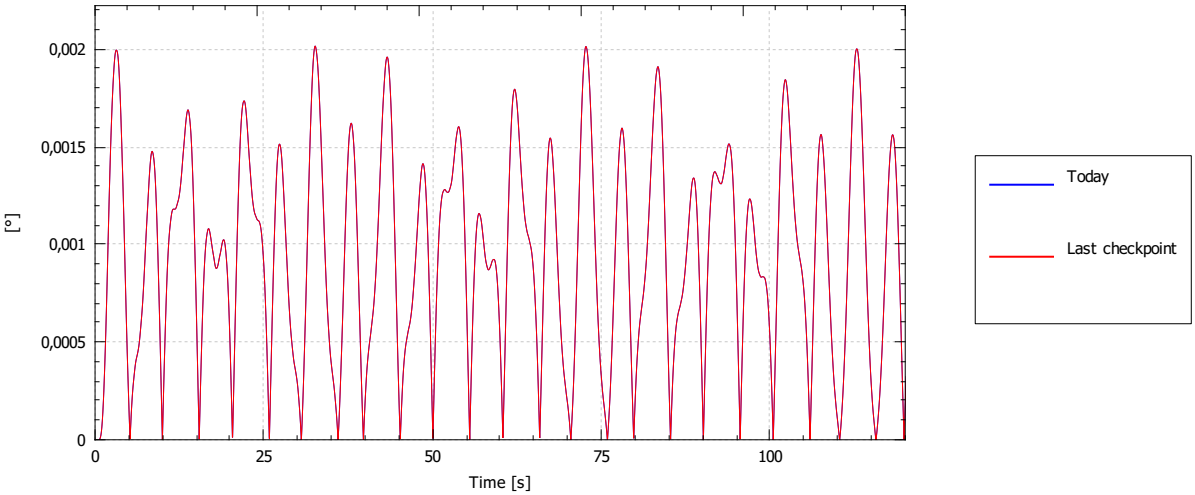
Mechanical energy



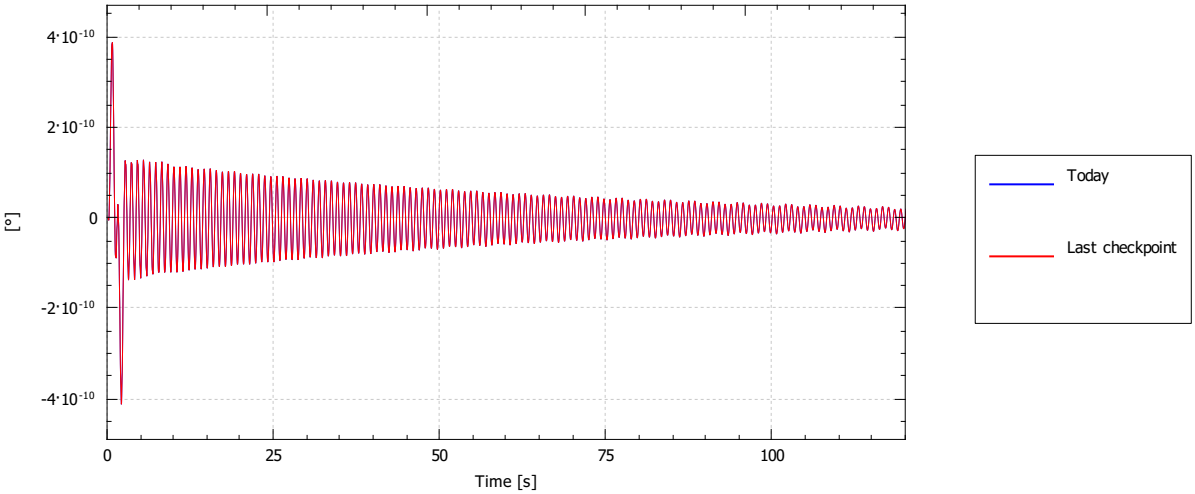
Deformational rotation (i)



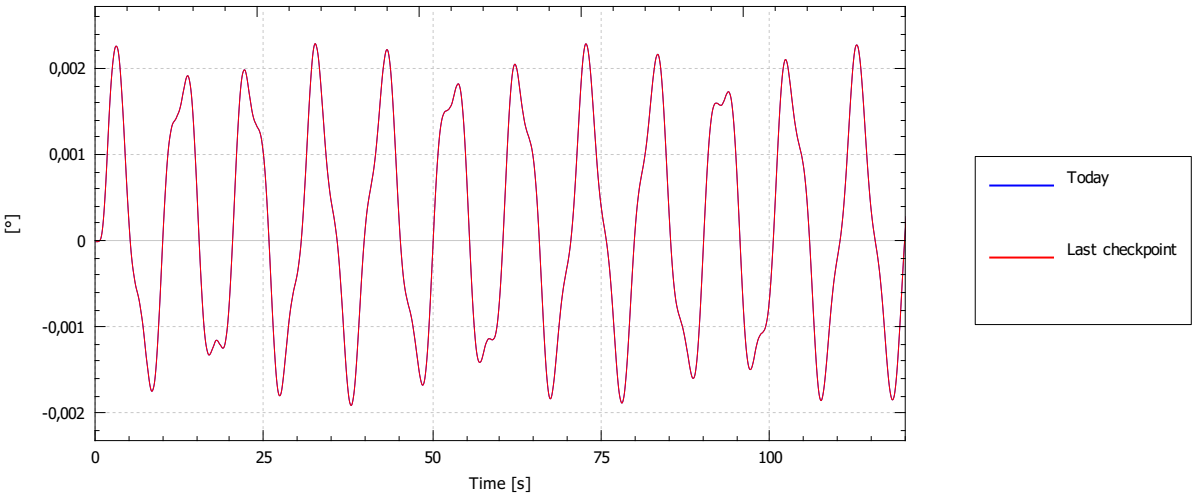
Deformational rotation (j)



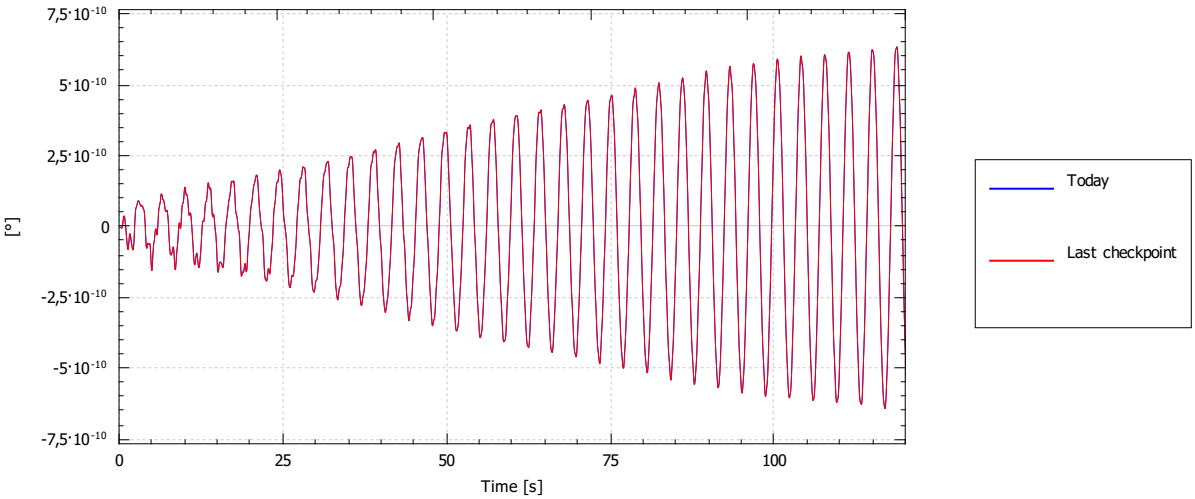
Deformational rotation (axial)



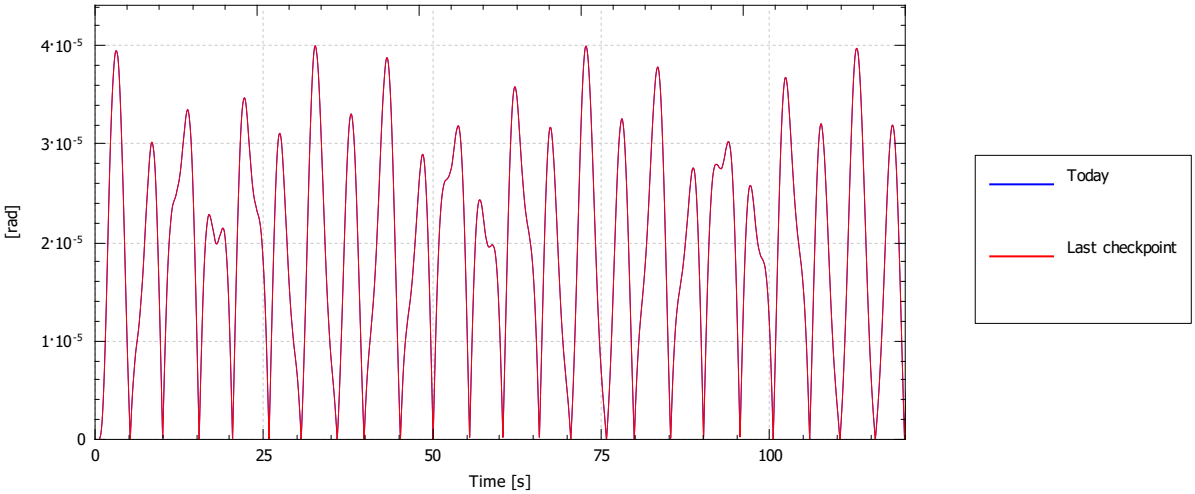
Deformational rotation (1st prin.)



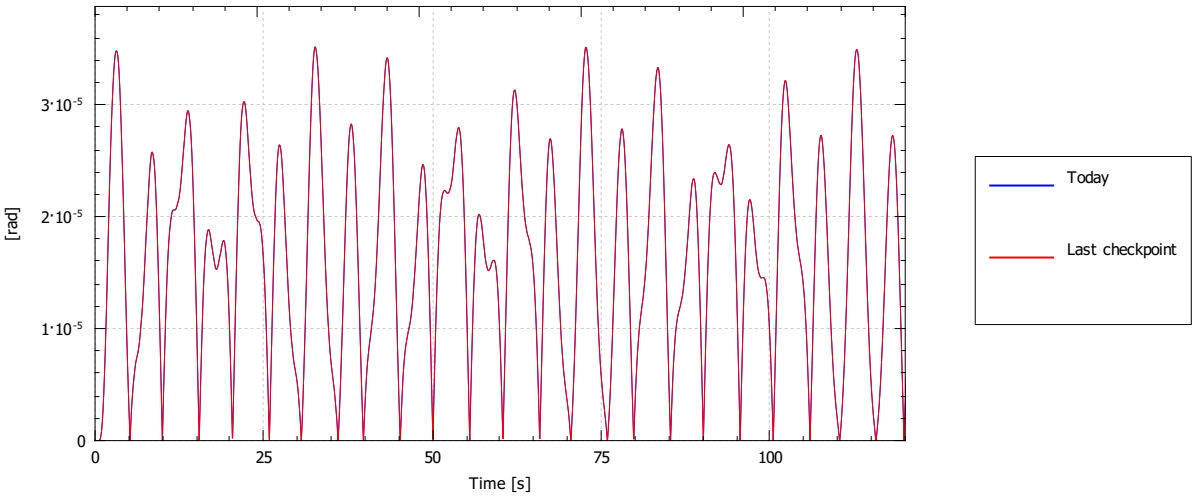
Deformational rotation (2nd prin.)



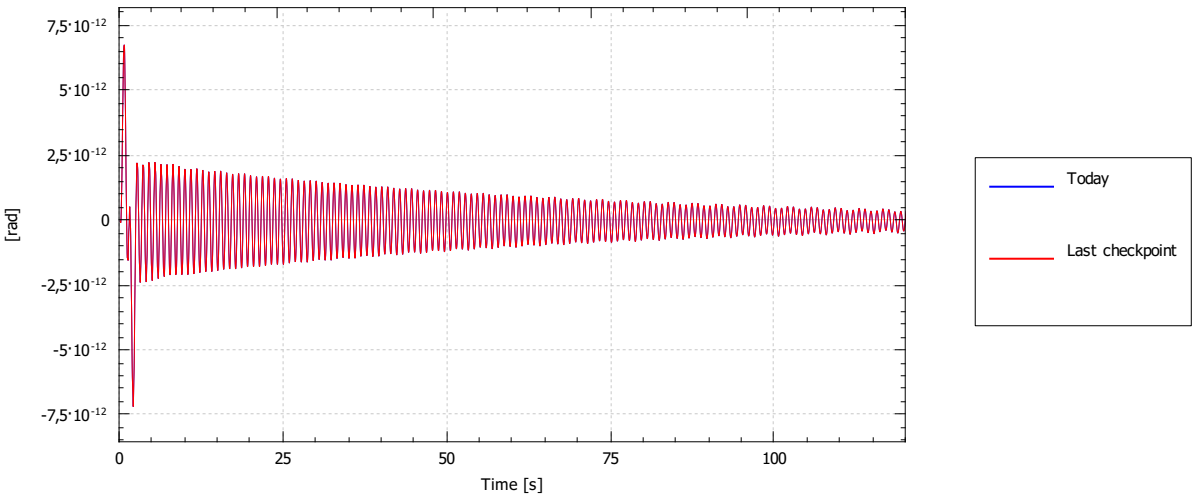
Deformational rotation (i) - rad



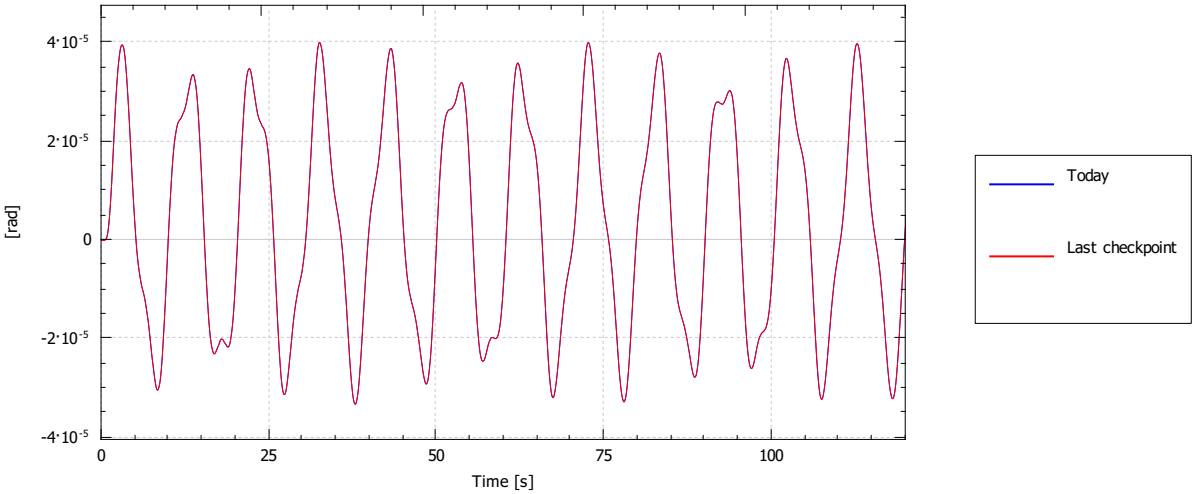
Deformational rotation (j) - rad



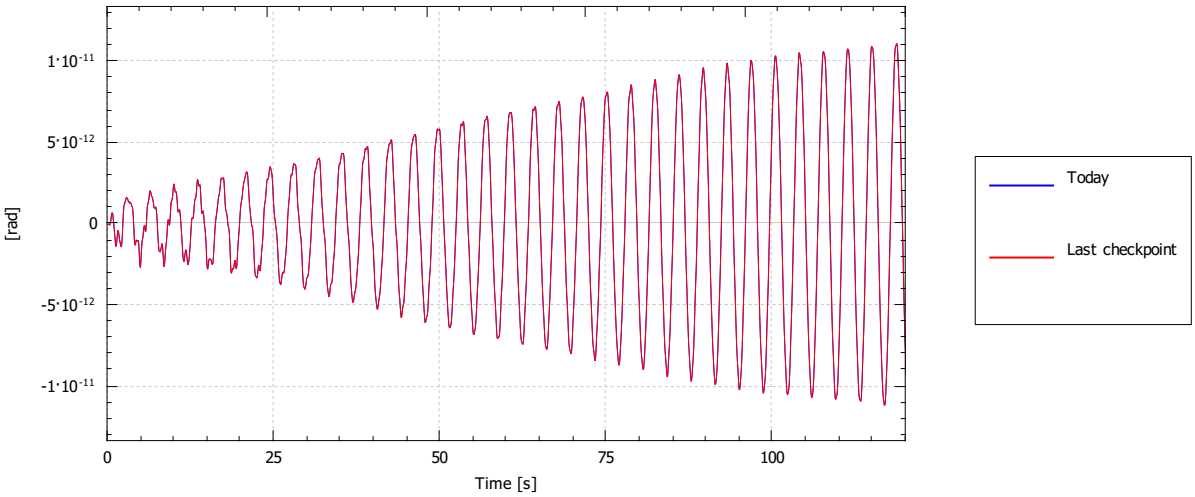
Deformational rotation (axial) - rad



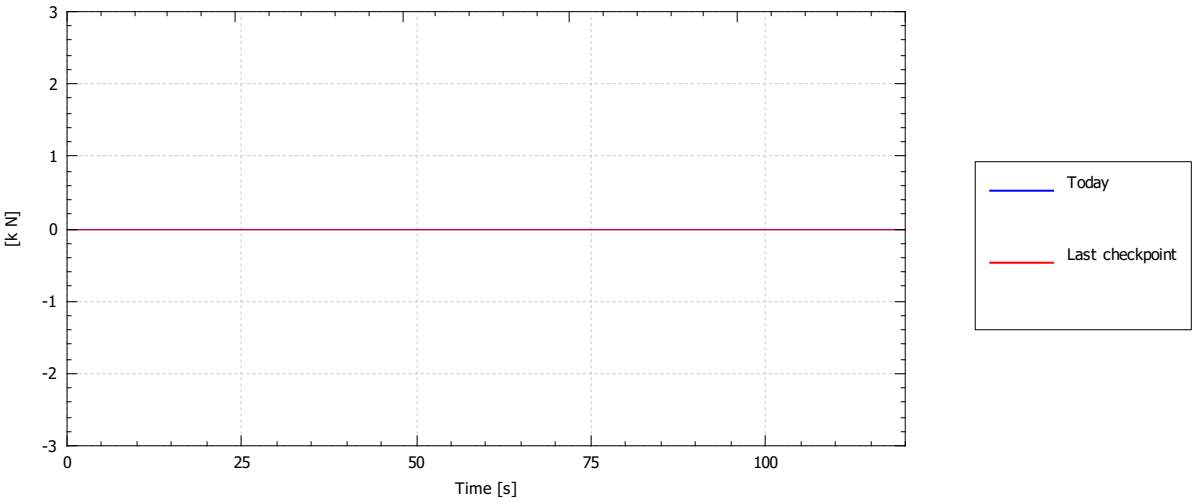
Deformational rotation (1st prin.) - rad



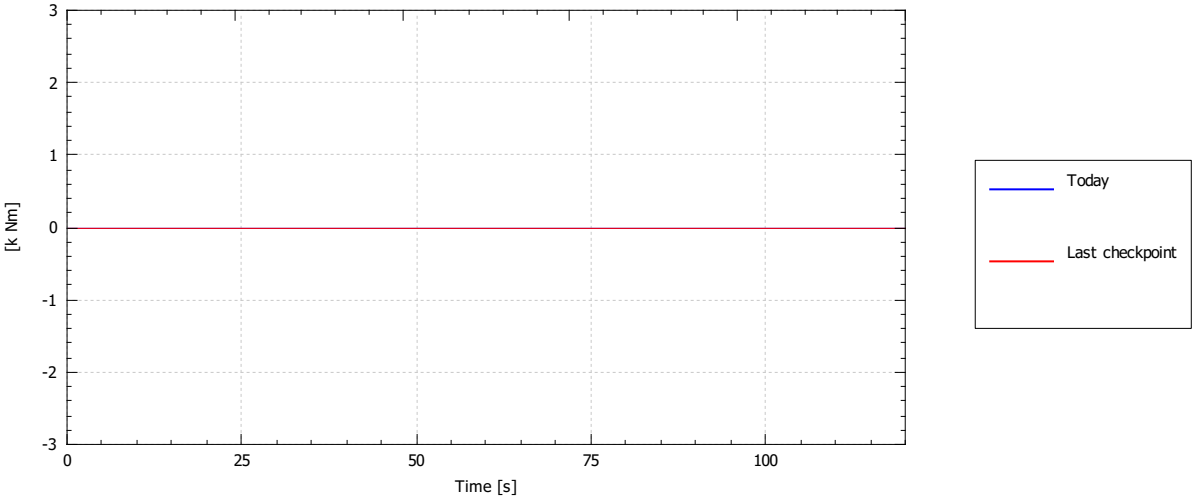
Deformational rotation (2nd prin.) - rad



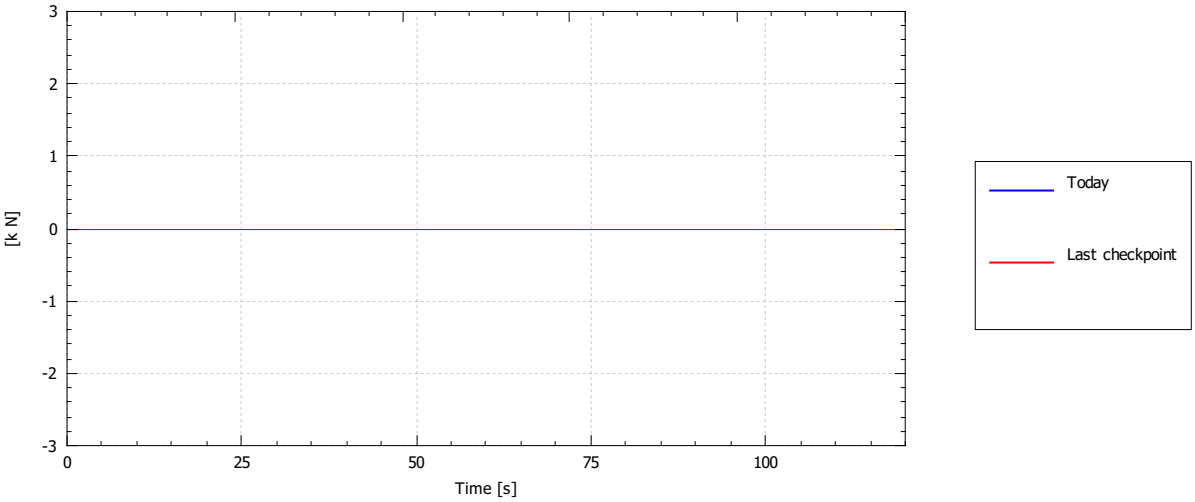
Damping force, i



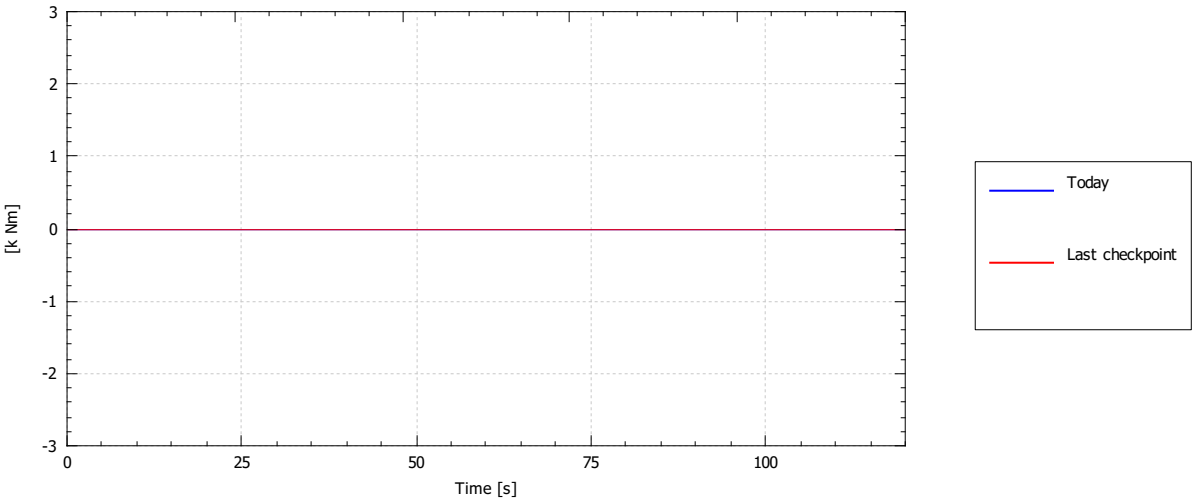
Damping moment, i



Damping force, sum

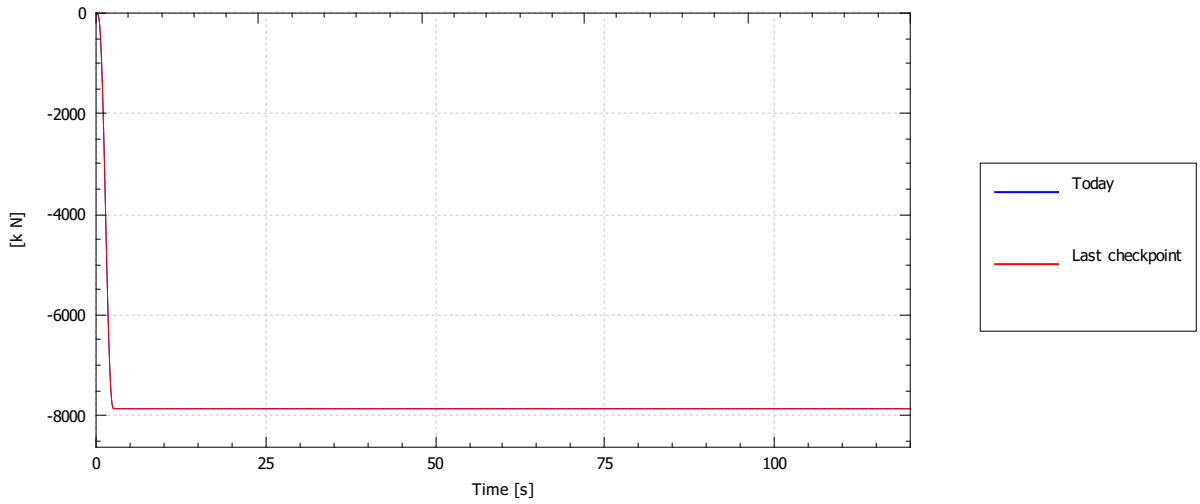


Damping moment, sum

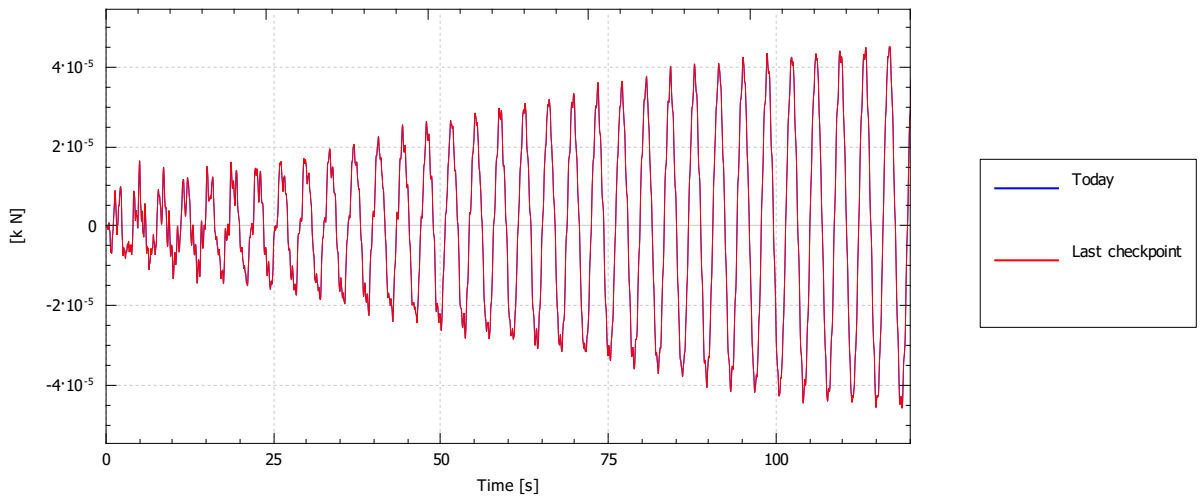


Beam element [Element 4 | Monopile]

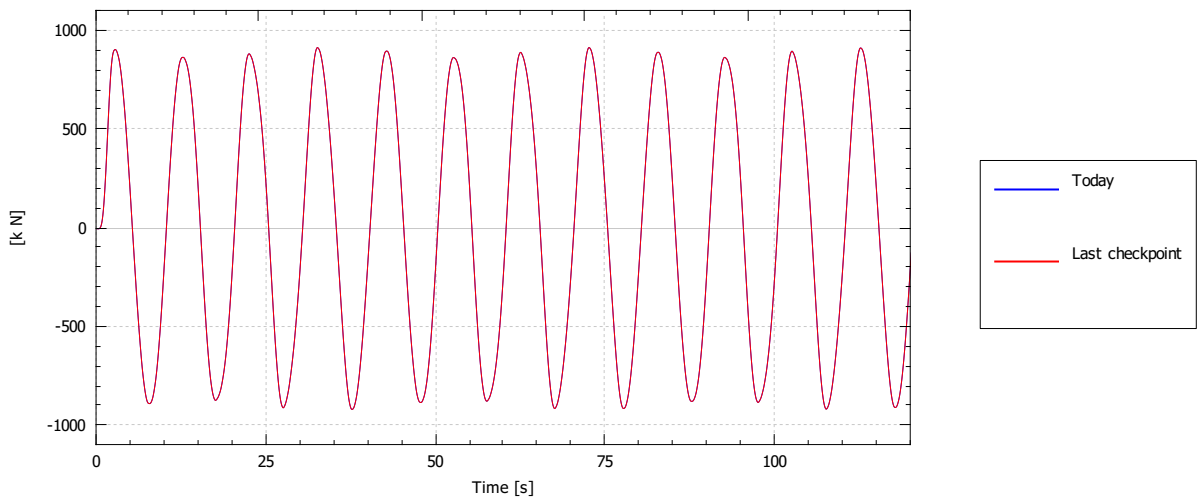
Axial force



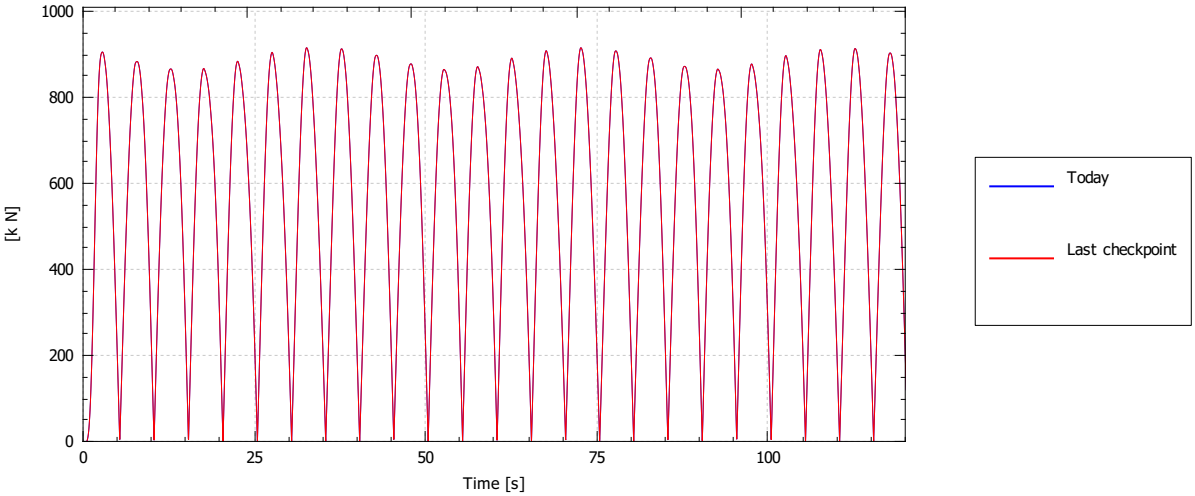
Shear force (1st prin. axis)



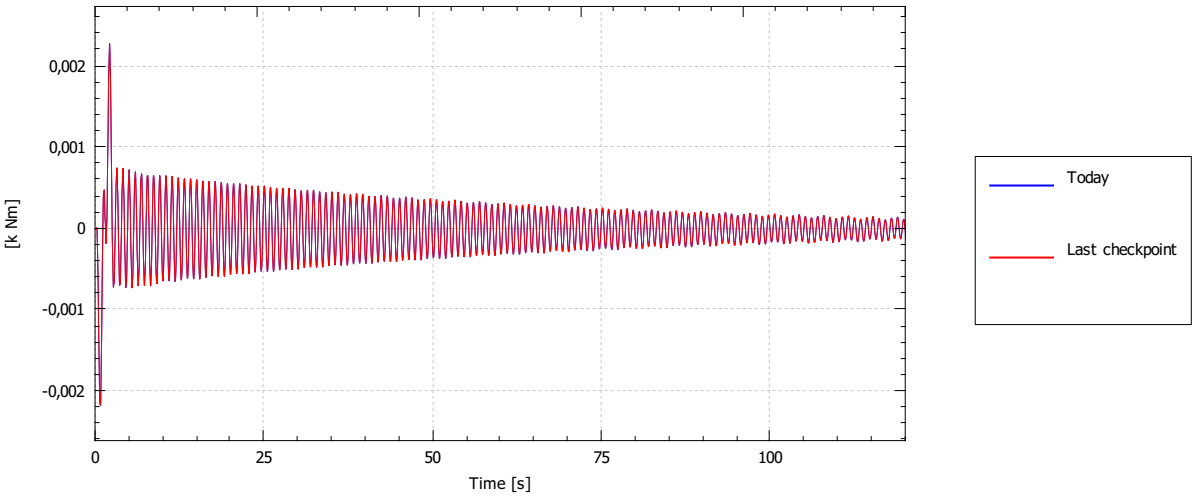
Shear force (2nd prin. axis)



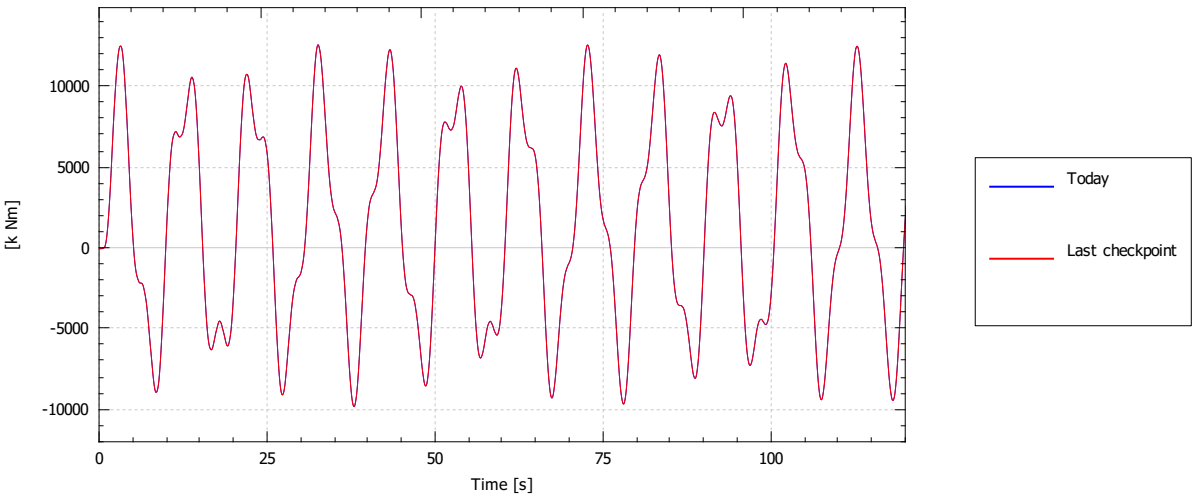
Shear force, mag.



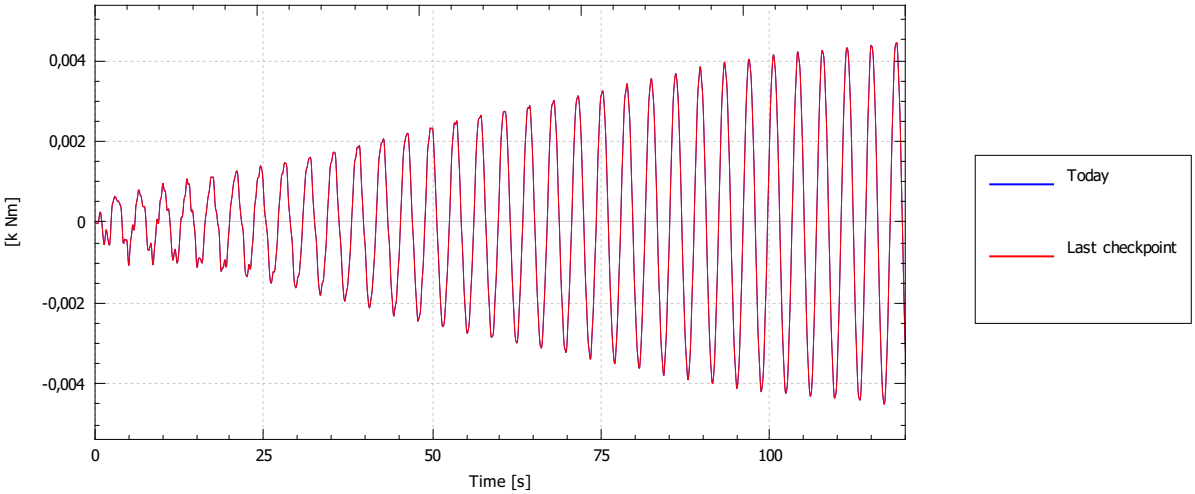
Torque



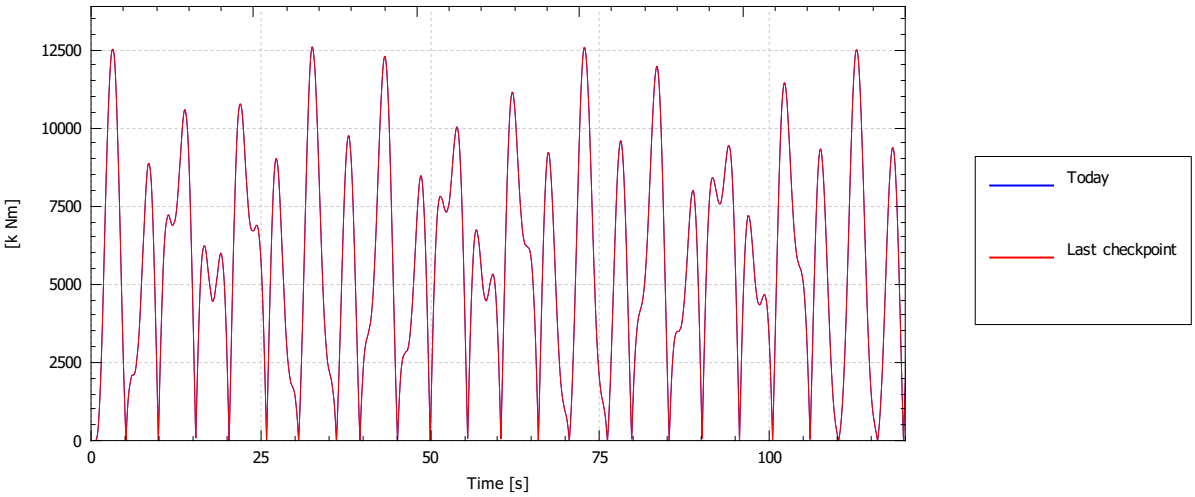
Moment (1st prin. axis), i



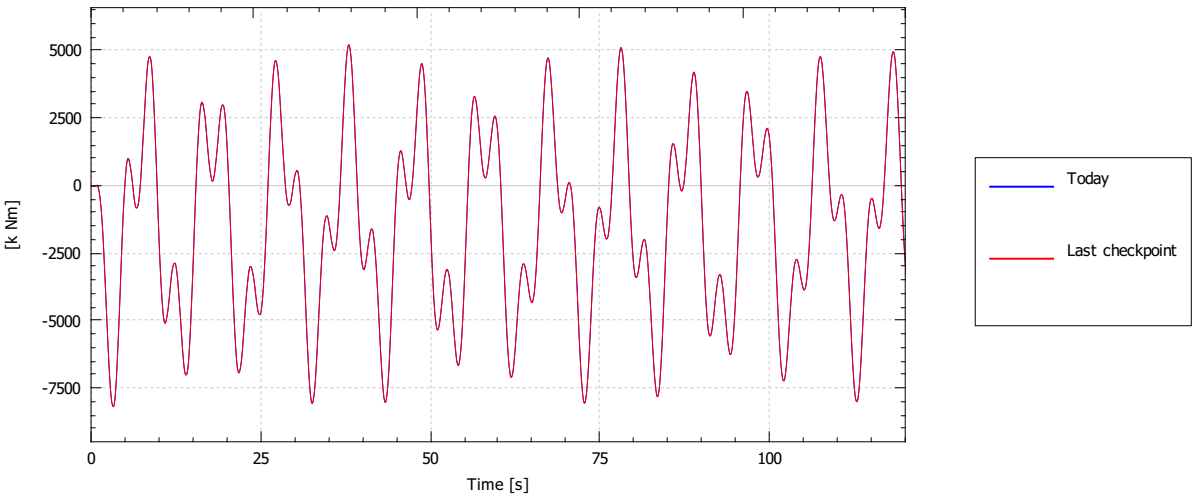
Moment (2nd prin. axis), i



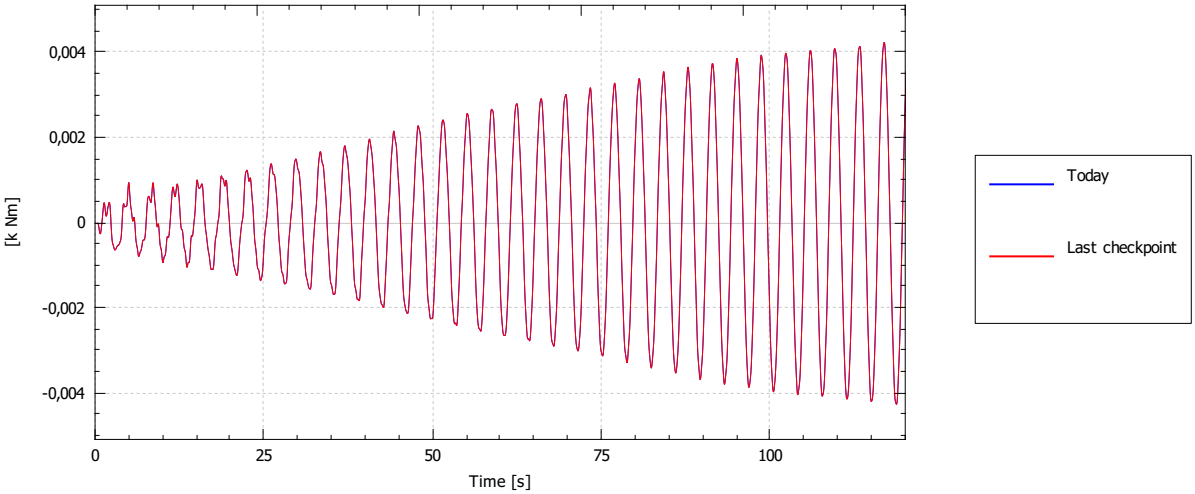
Moment, mag., i



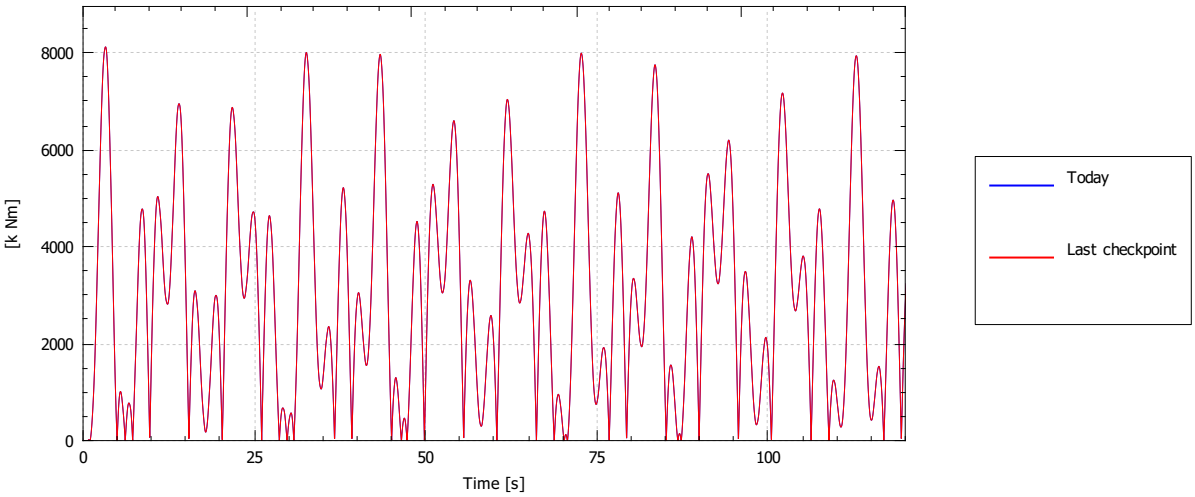
Moment (1st prin. axis), j



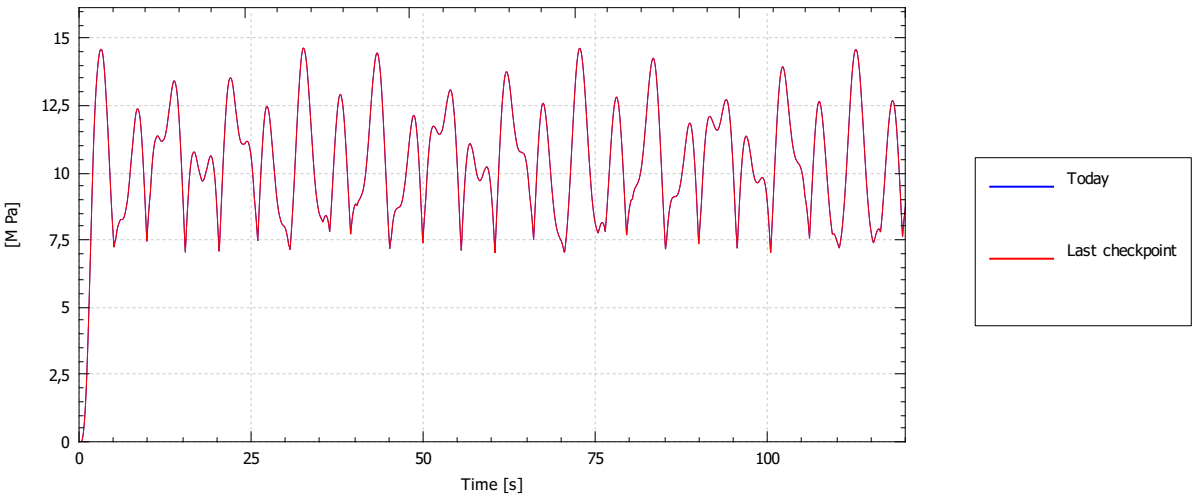
Moment (2nd prin. axis), j

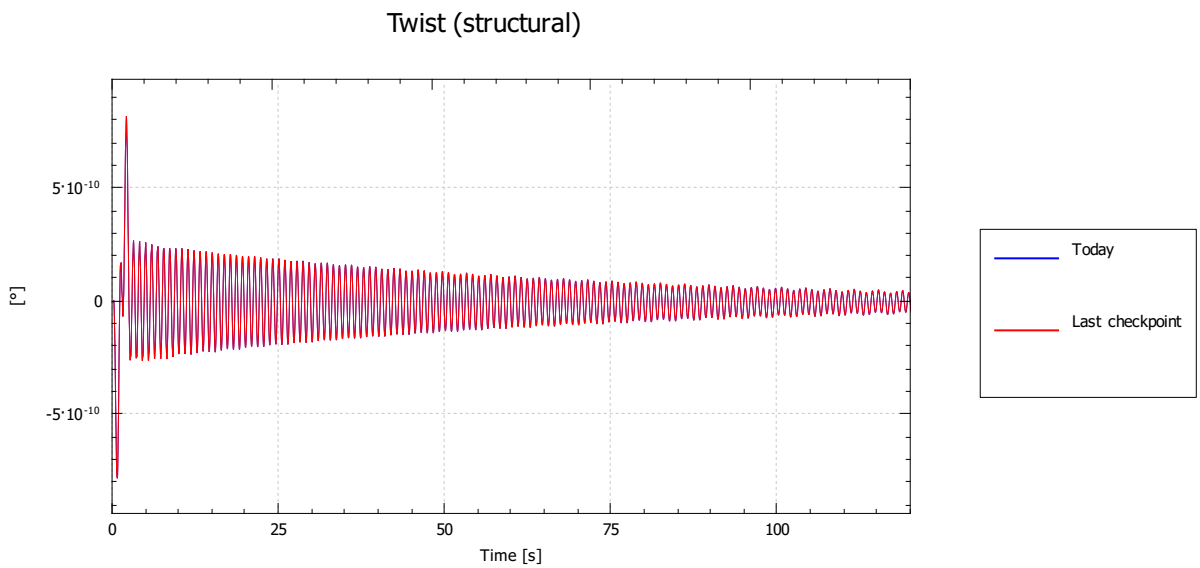


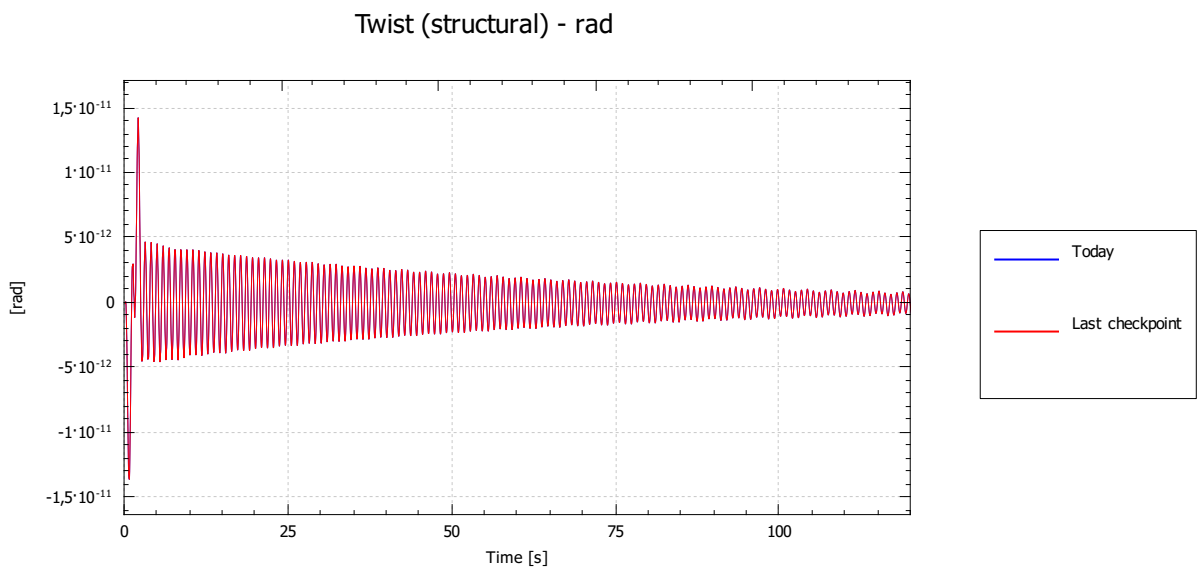
Moment, mag., j

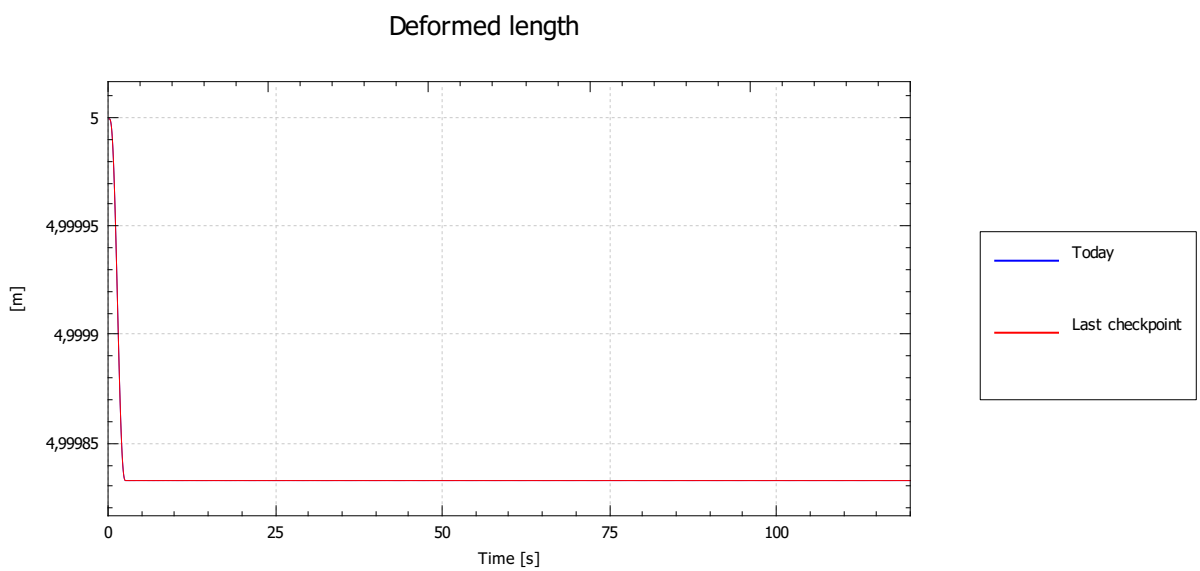


Max normal stress

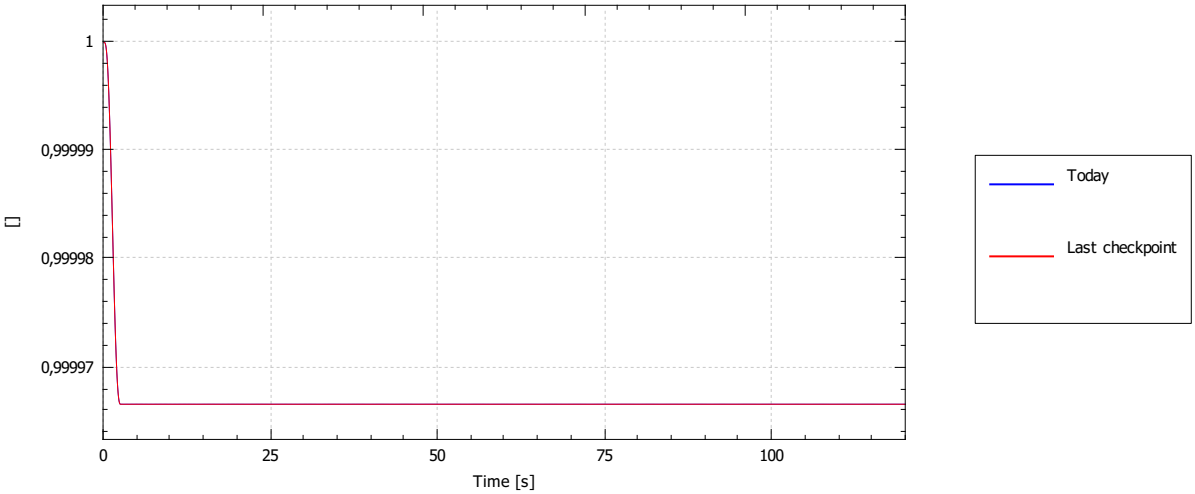



Twist (structural)
5·10-10
0
-5·10-10
[°]
0
25
50
75
100
Time [s]
Today
Last checkpoint

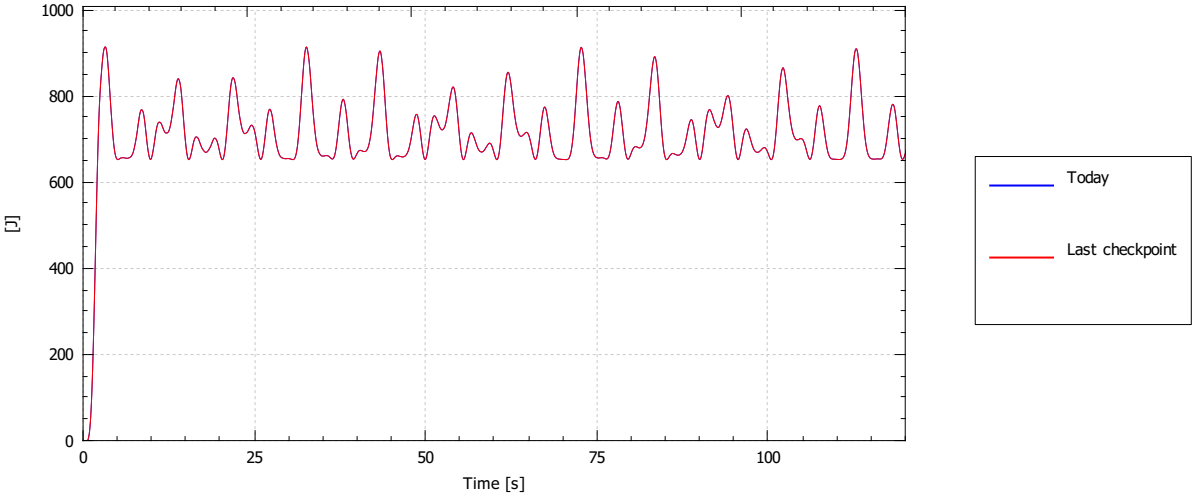

Twist (structural) - rad
1,5·10-11
1·10-11
5·10-12
0
-5·10-12
-1·10-11
-1,5·10-11
[rad]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Deformed length
5
4,99995
4,9999
4,99985
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

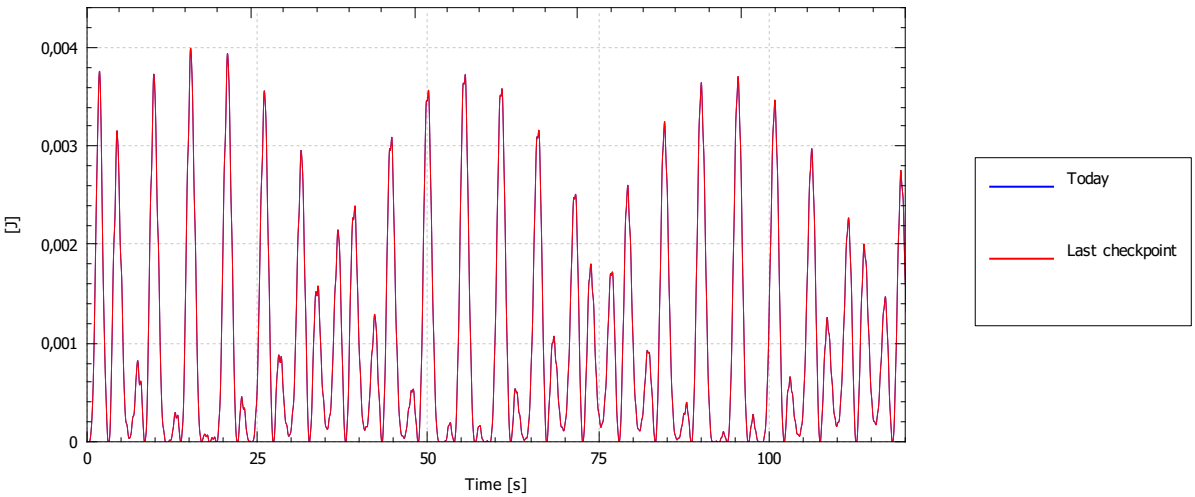
Elongation



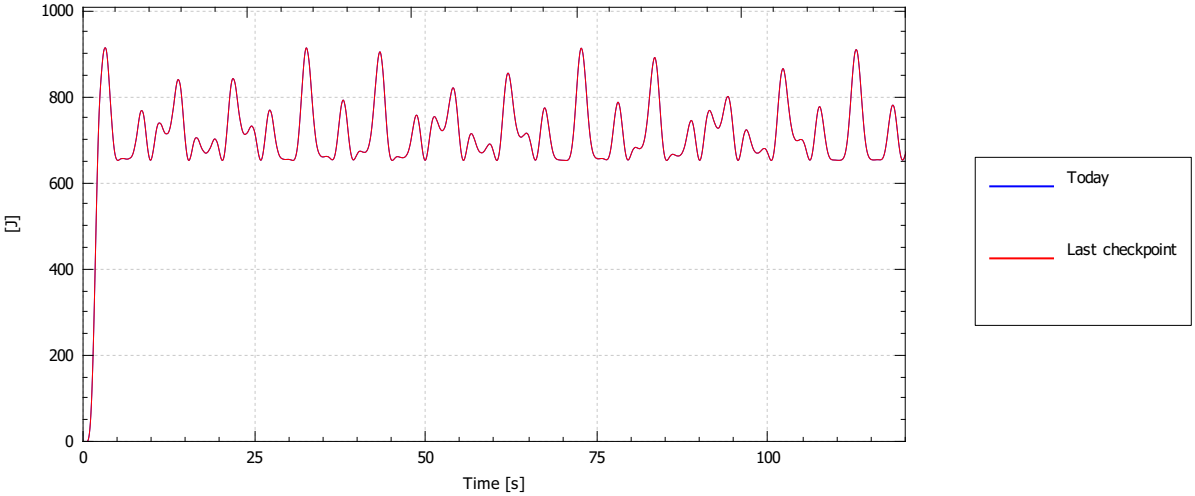
Strain energy



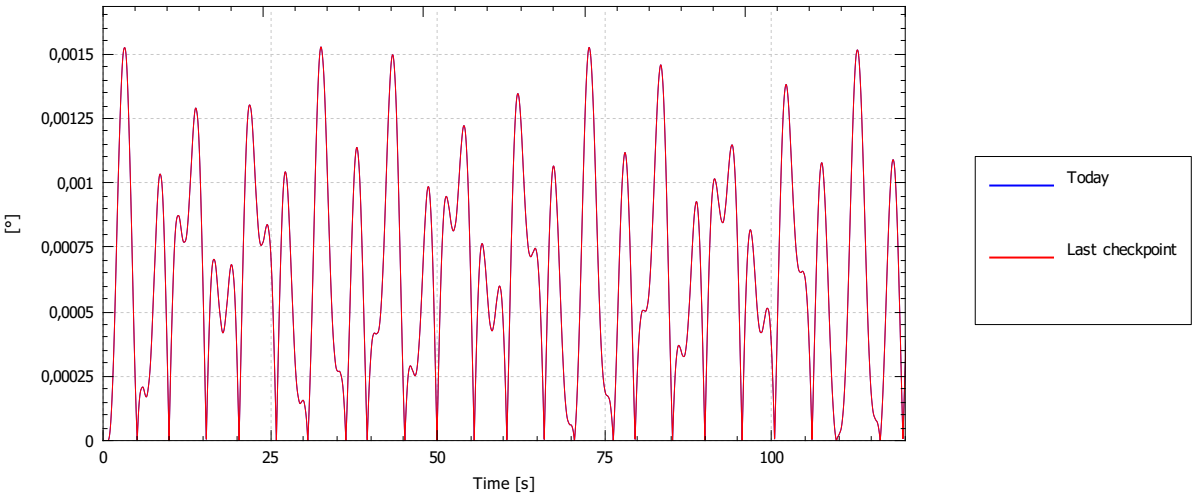
Kinetic energy



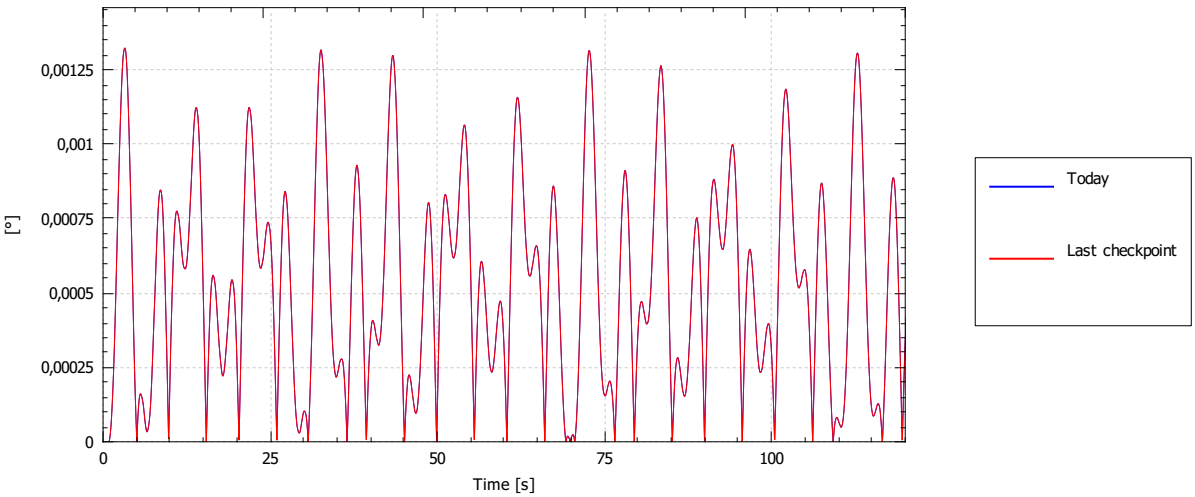
Mechanical energy



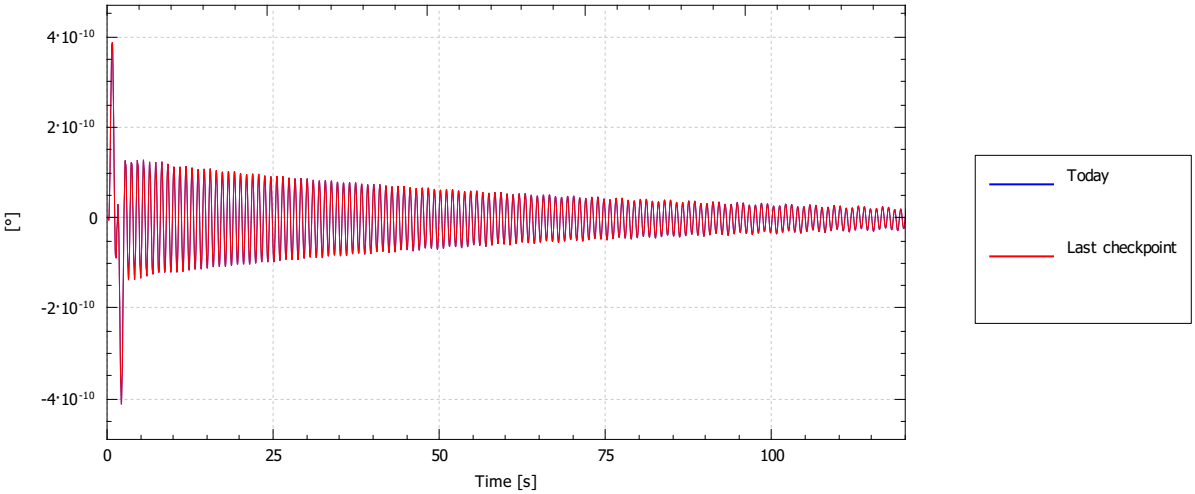
Deformational rotation (i)



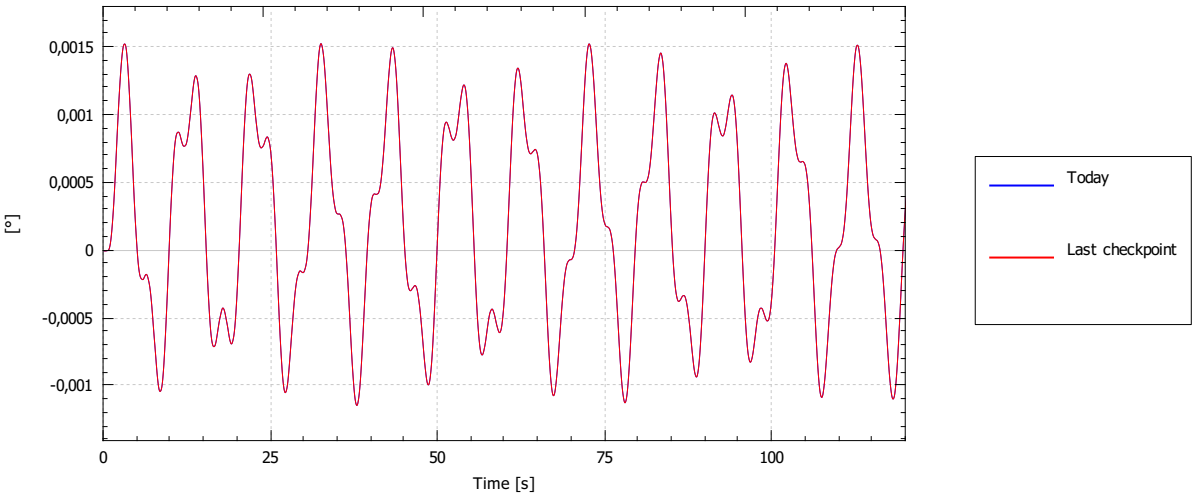
Deformational rotation (j)



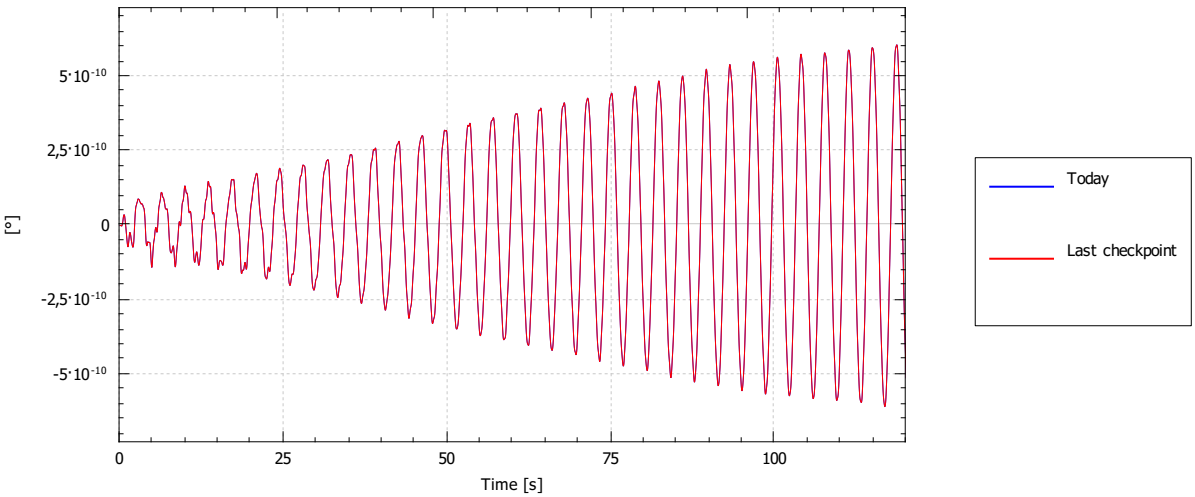
Deformational rotation (axial)



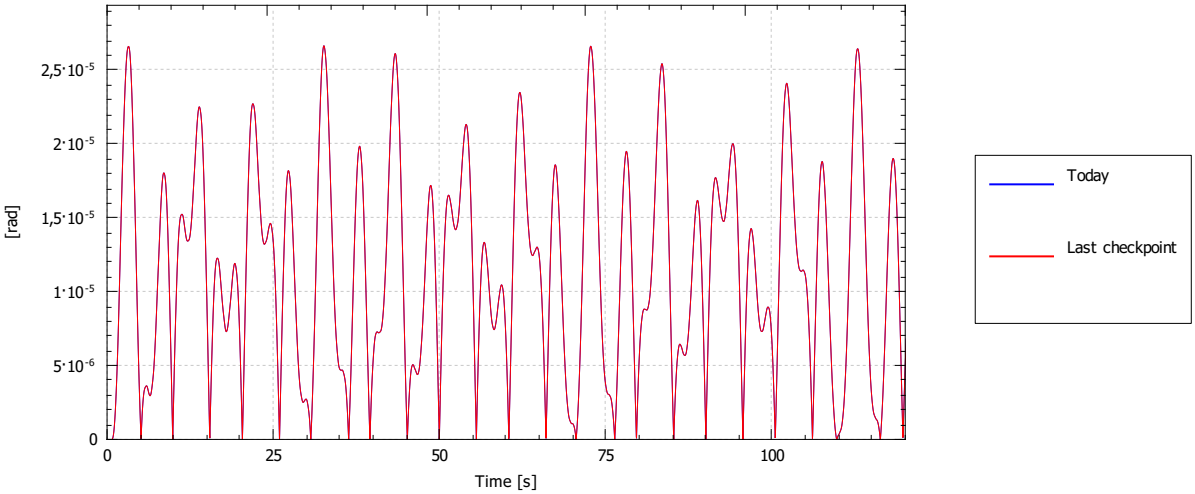
Deformational rotation (1st prin.)



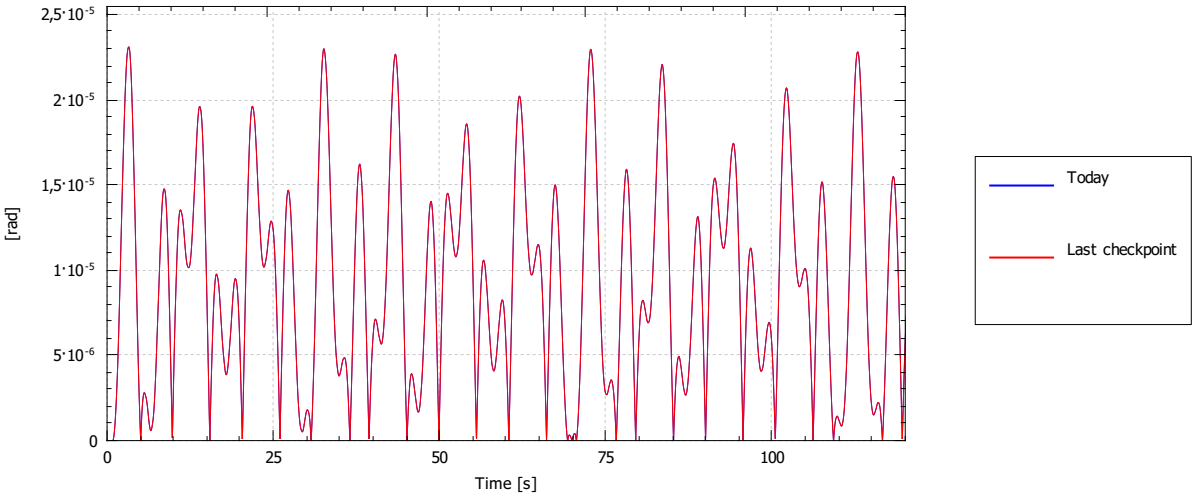
Deformational rotation (2nd prin.)



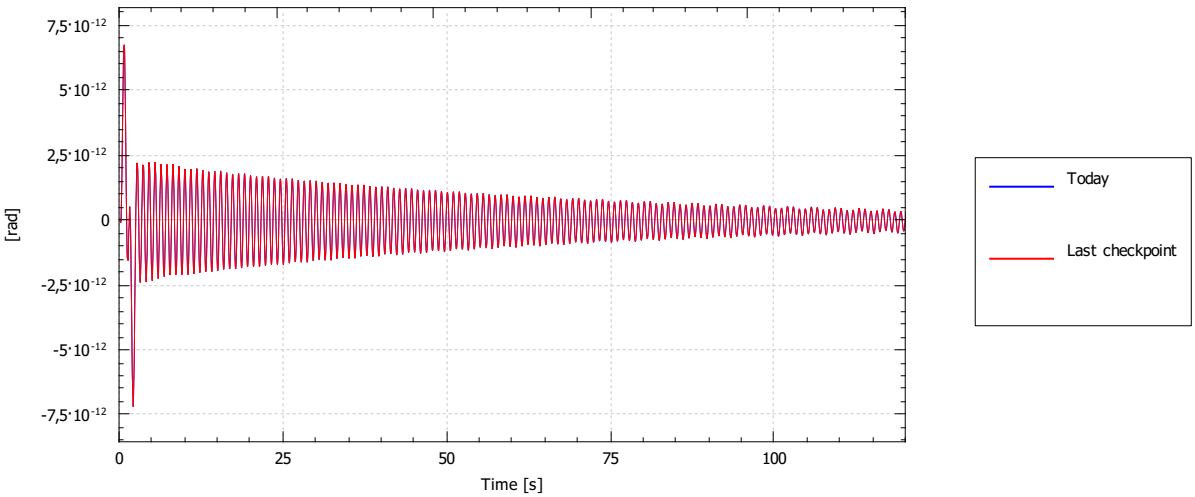
Deformational rotation (i) - rad



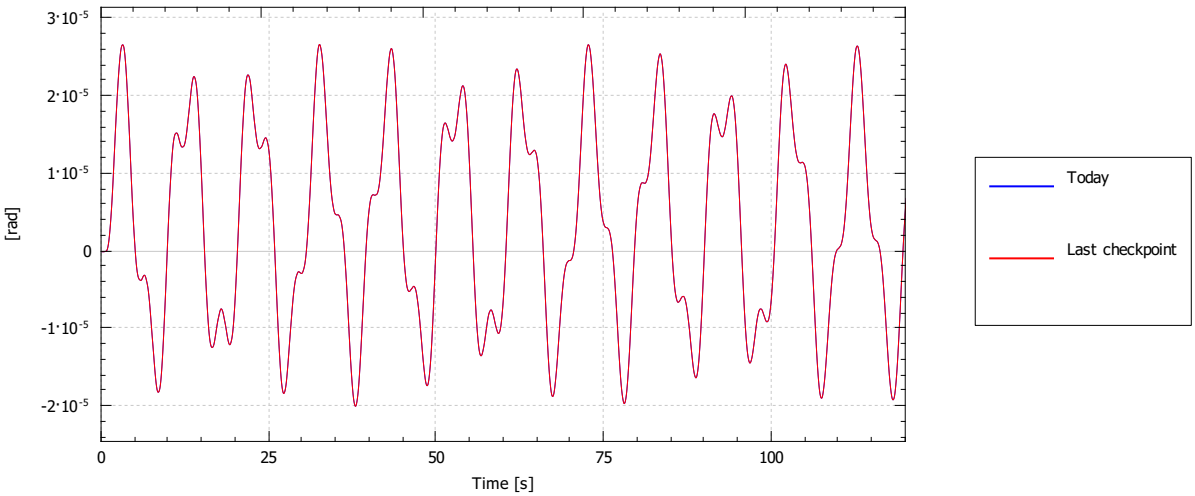
Deformational rotation (j) - rad



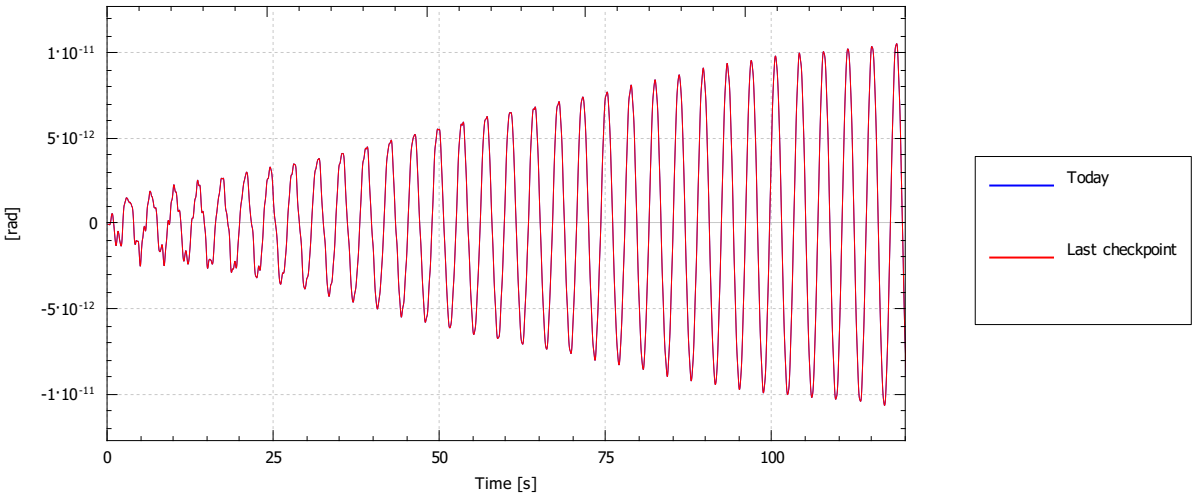
Deformational rotation (axial) - rad



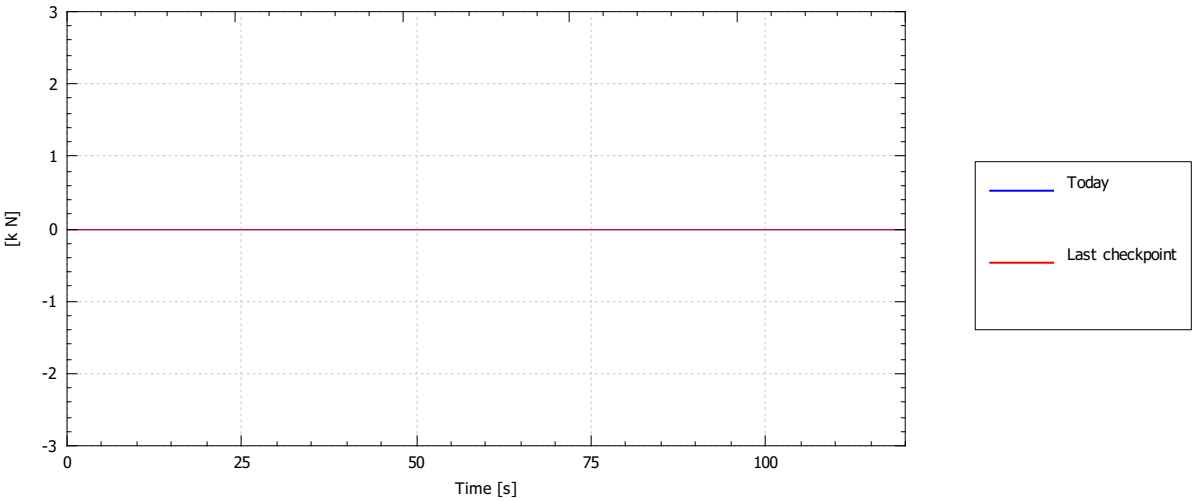
Deformational rotation (1st prin.) - rad



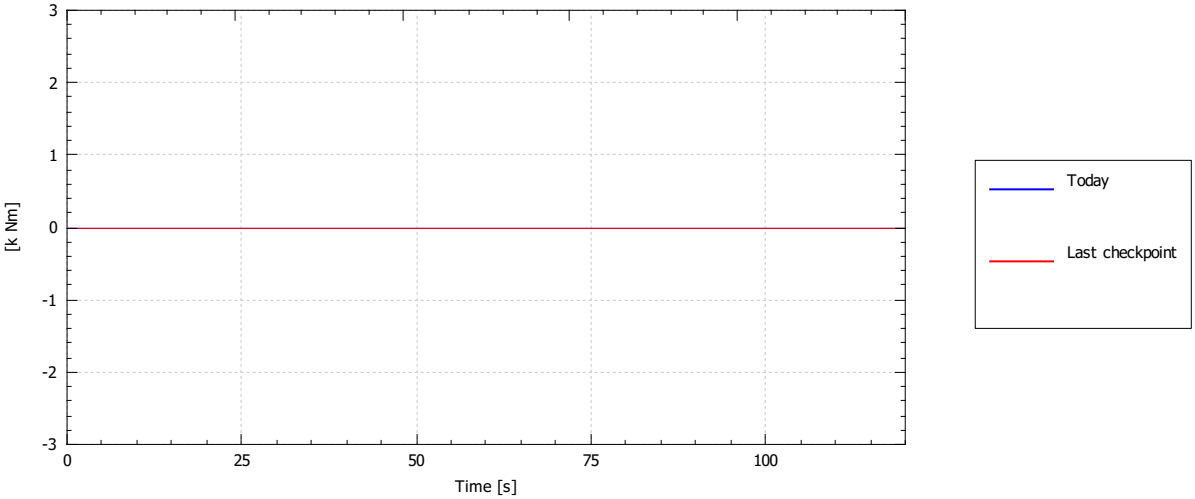
Deformational rotation (2nd prin.) - rad



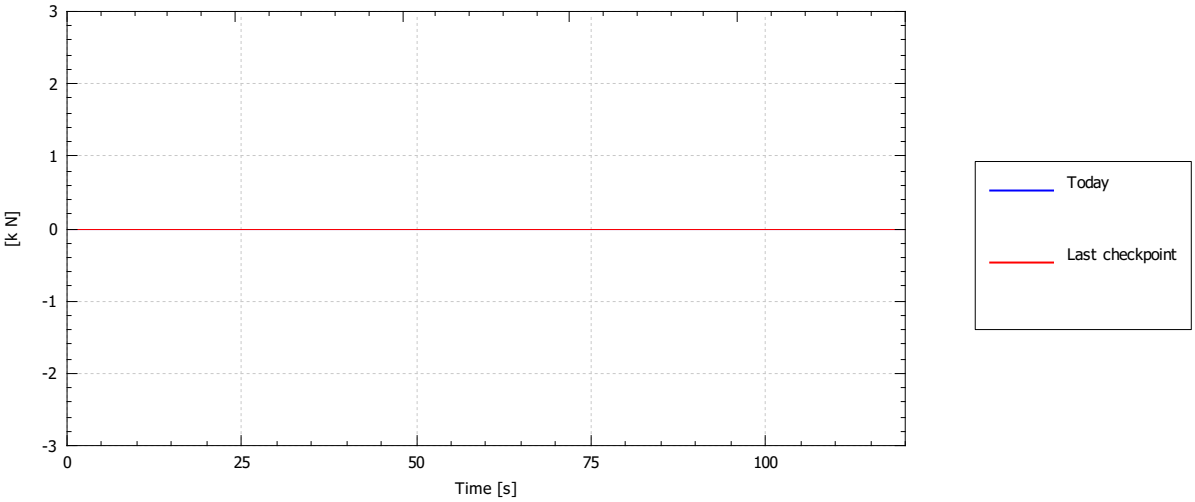
Damping force, i



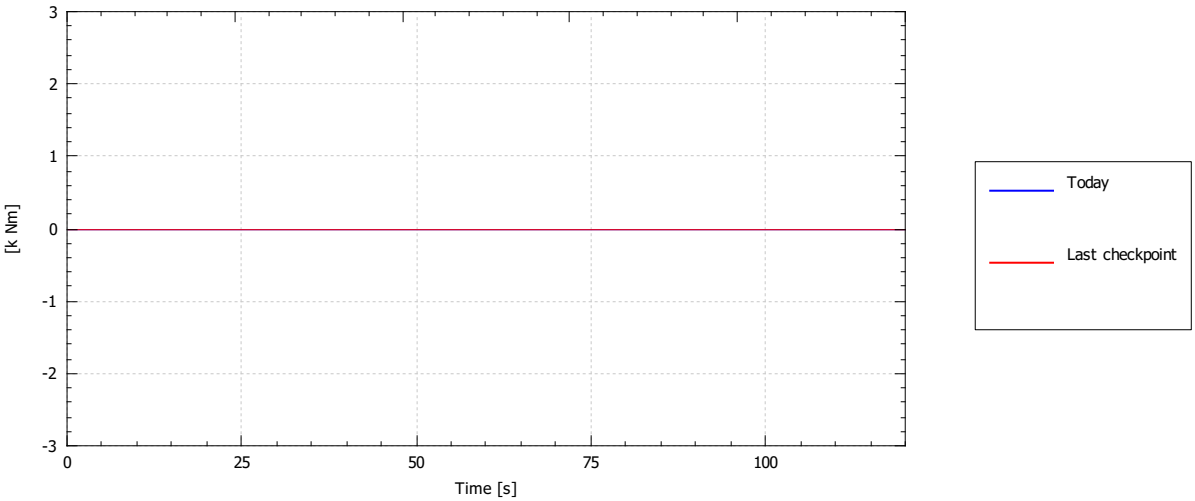
Damping moment, i



Damping force, sum

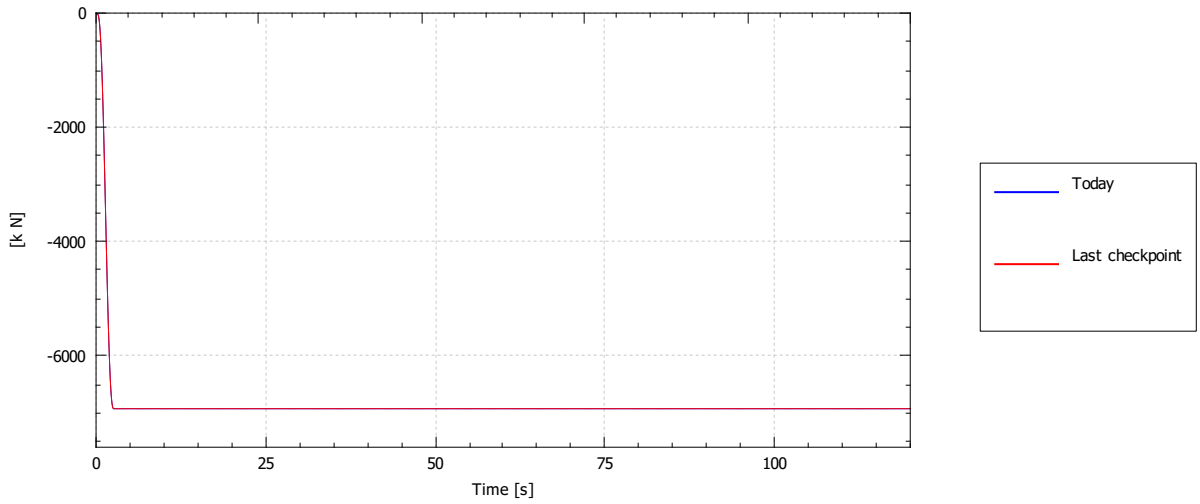


Damping moment, sum

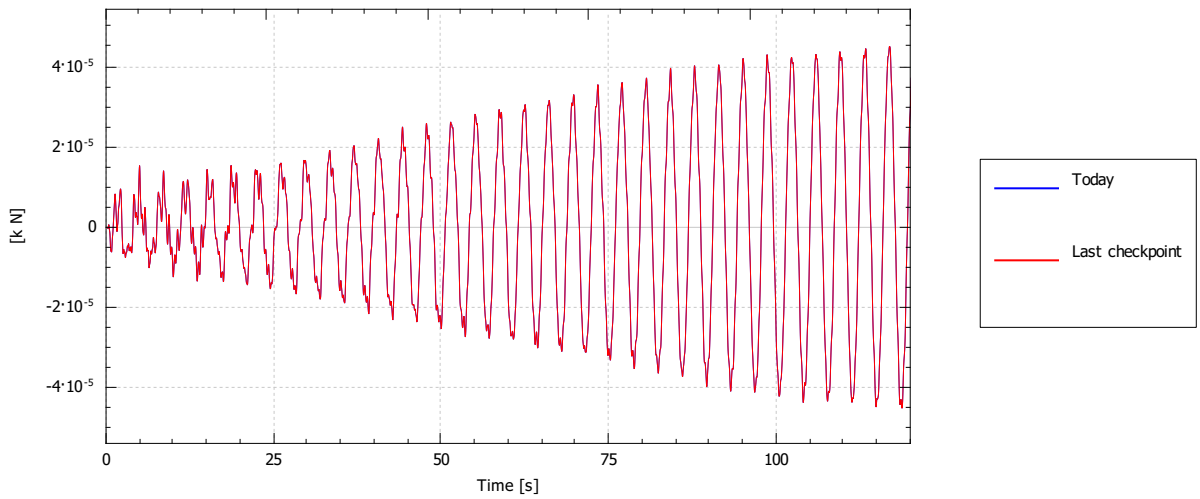


Beam element [Element 6 | Monopile]

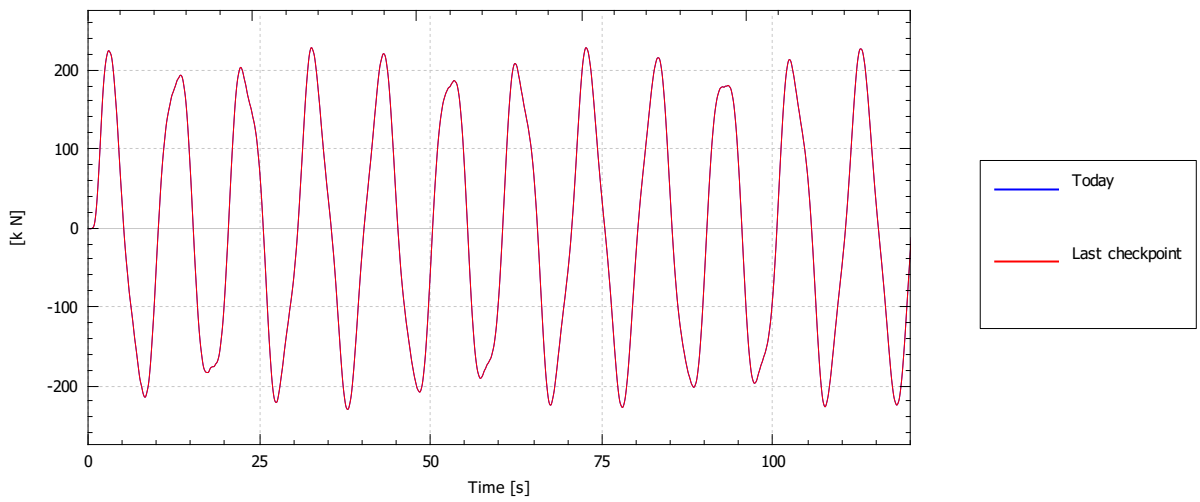
Axial force



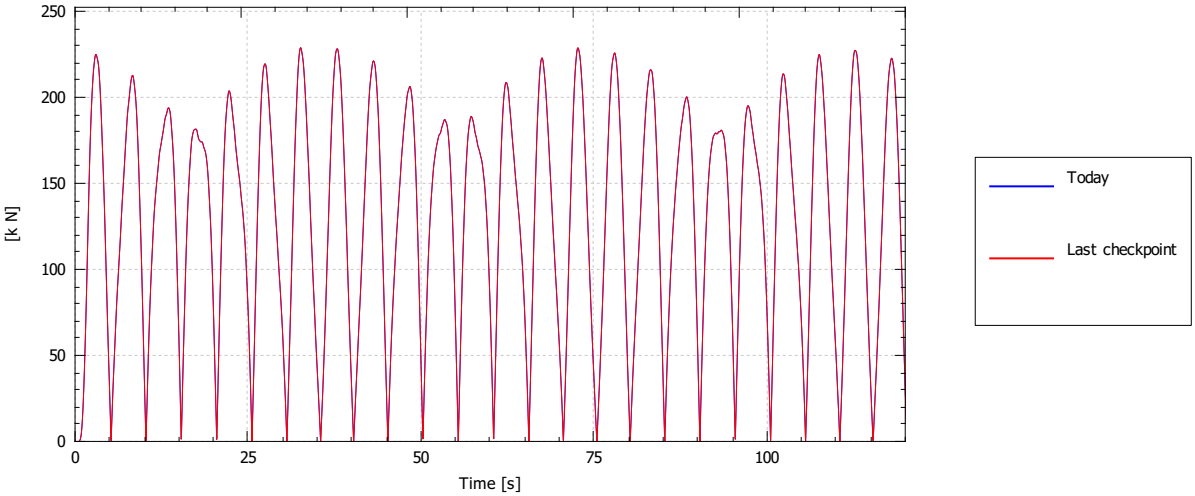
Shear force (1st prin. axis)



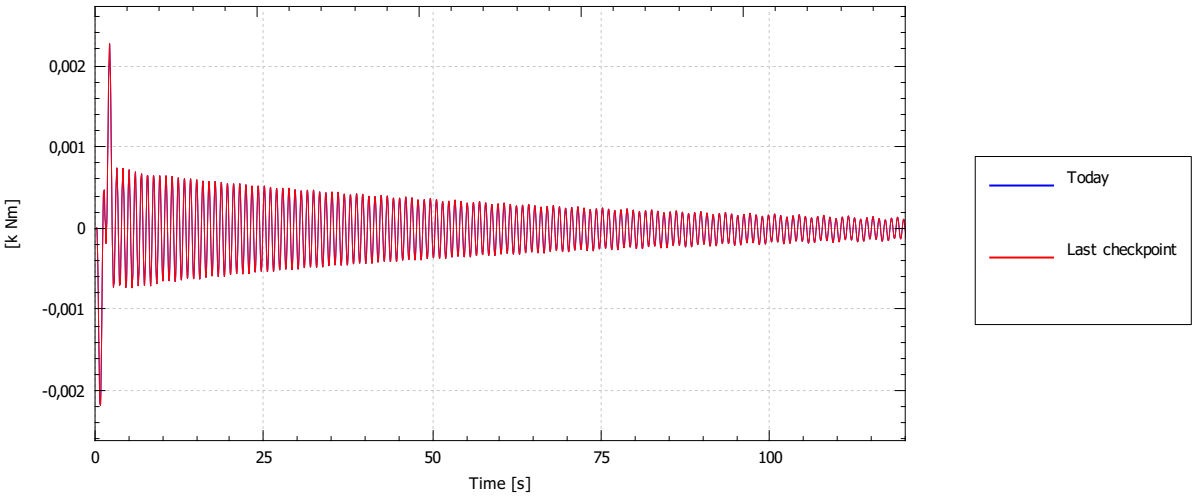
Shear force (2nd prin. axis)



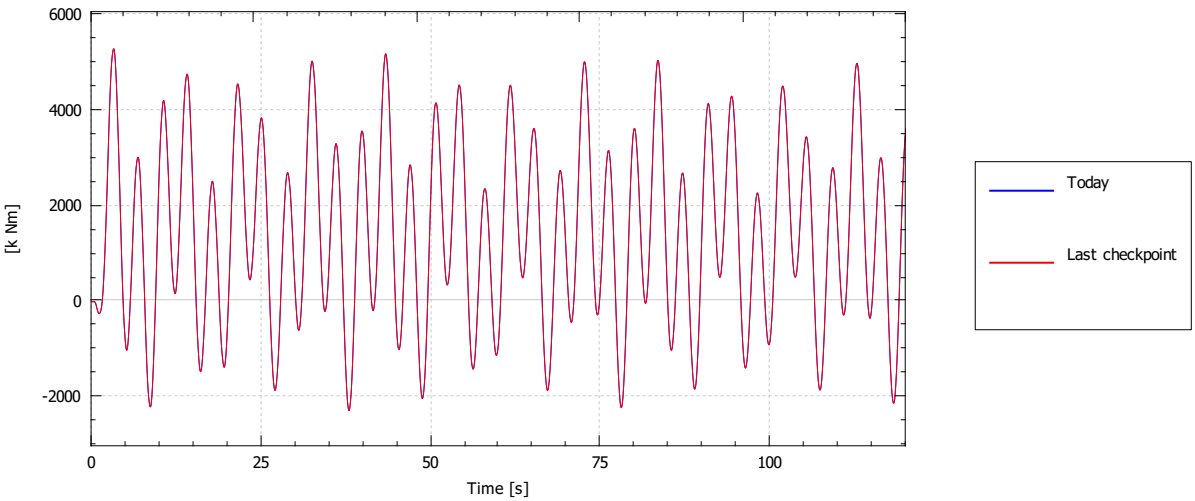
Shear force, mag.



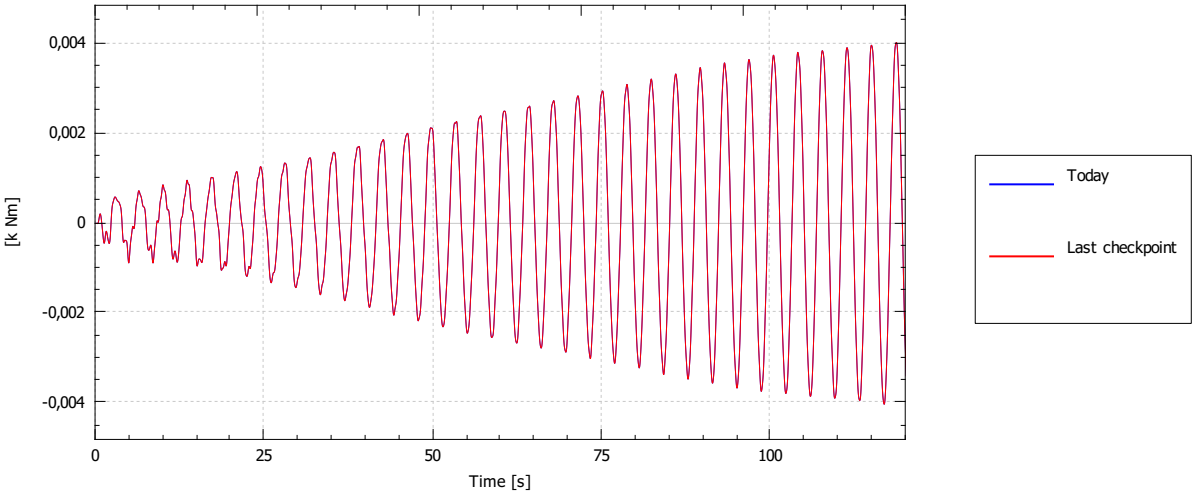
Torque



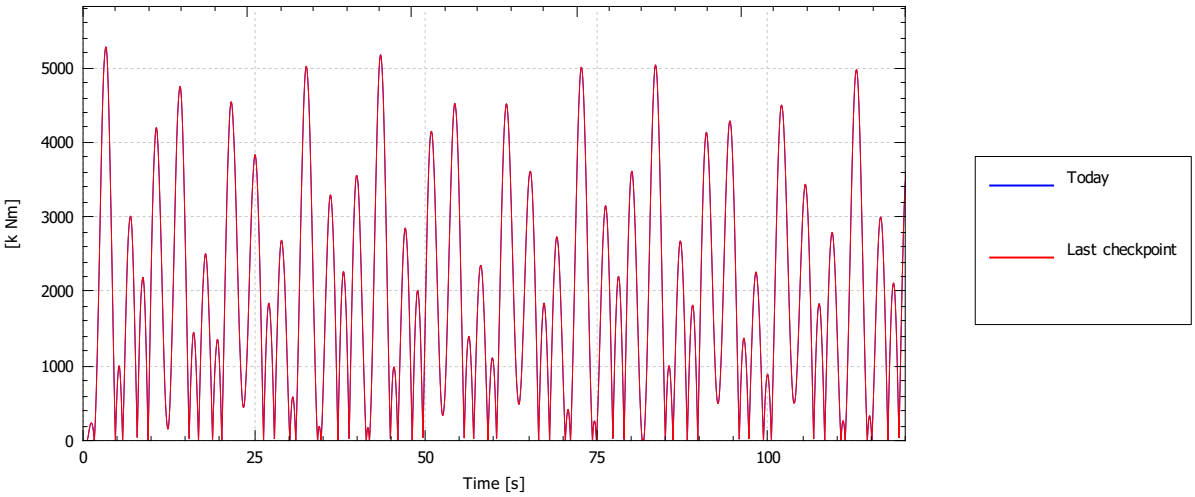
Moment (1st prin. axis), i



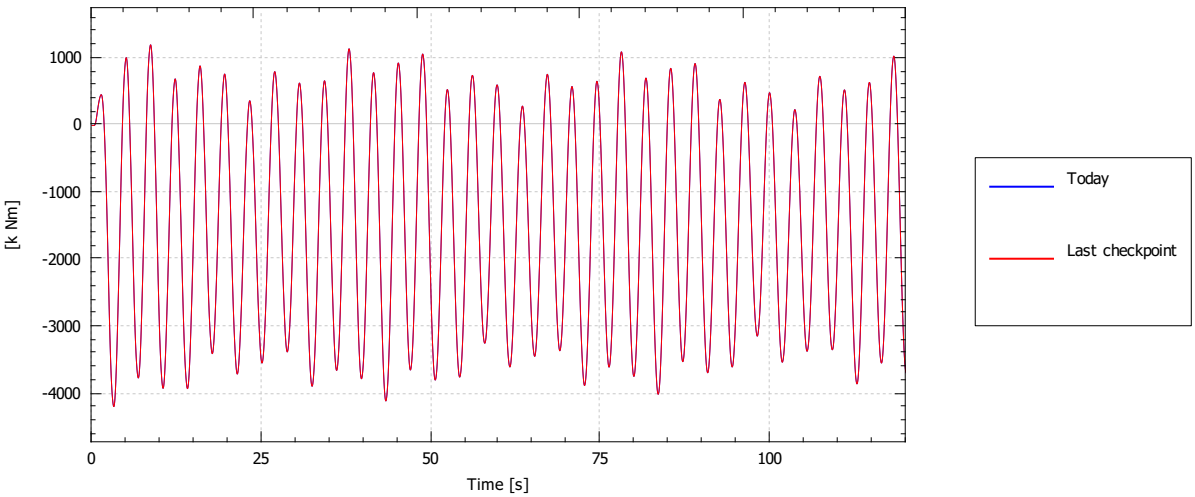
Moment (2nd prin. axis), i



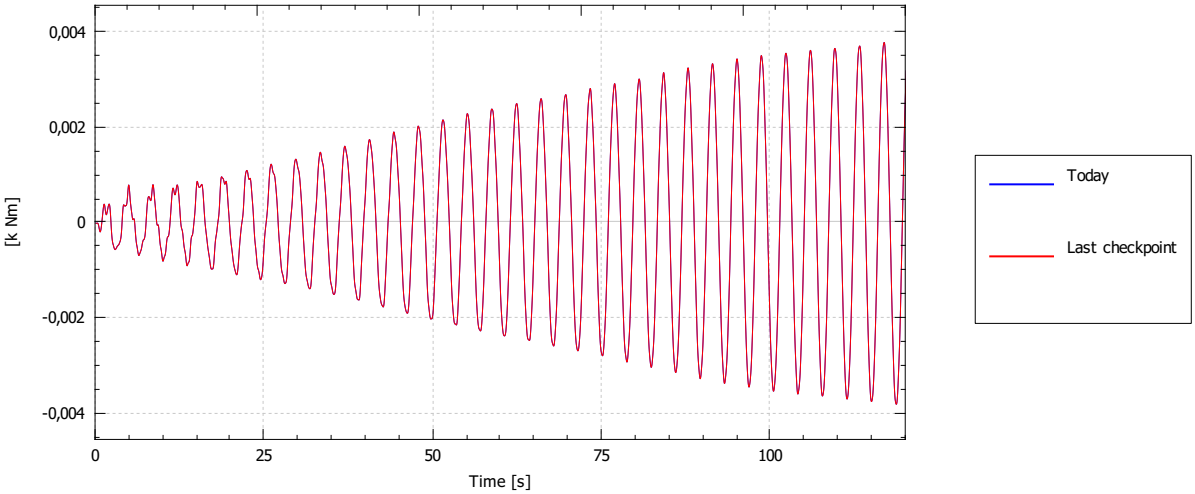
Moment, mag., i



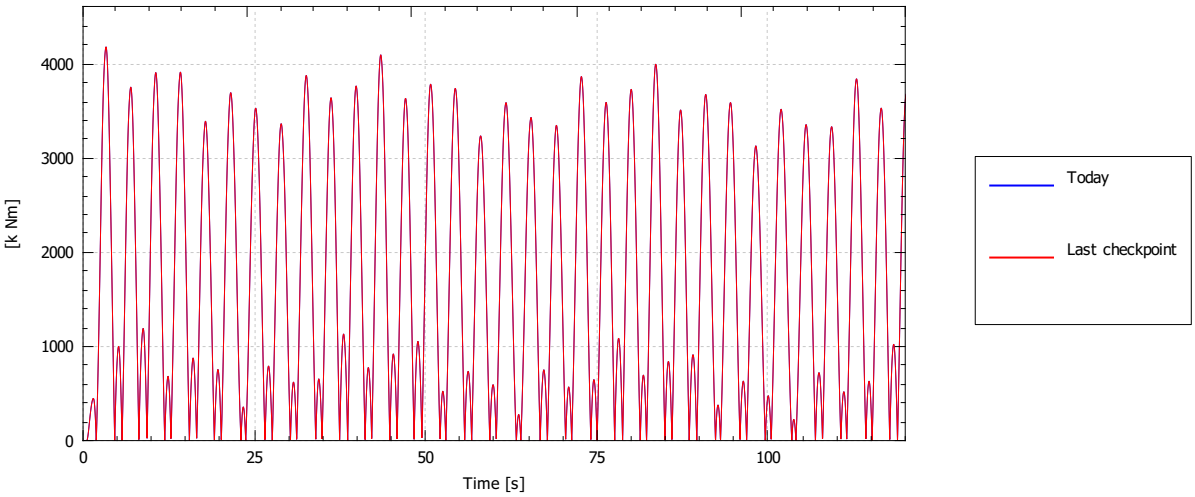
Moment (1st prin. axis), j



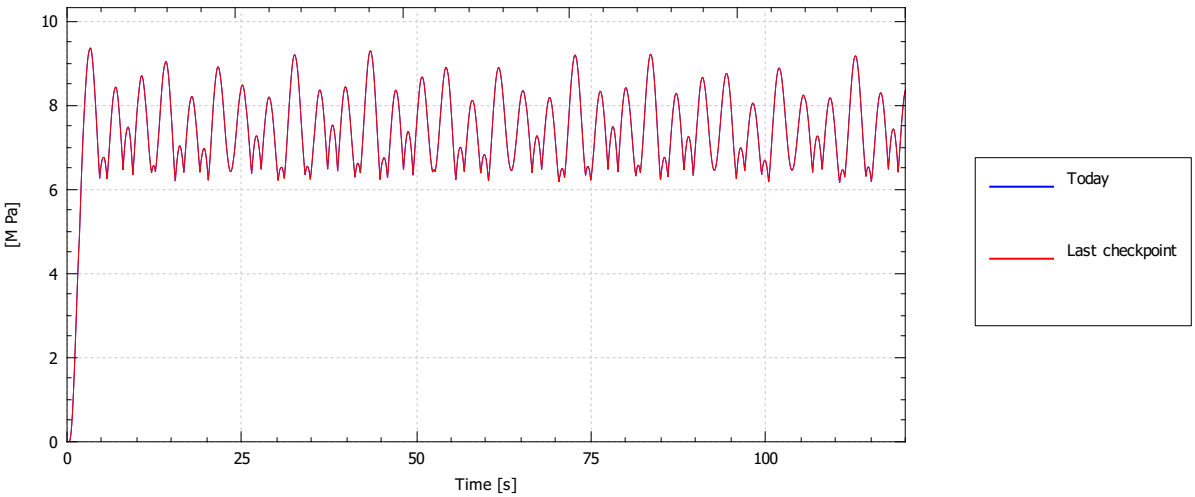
Moment (2nd prin. axis), j



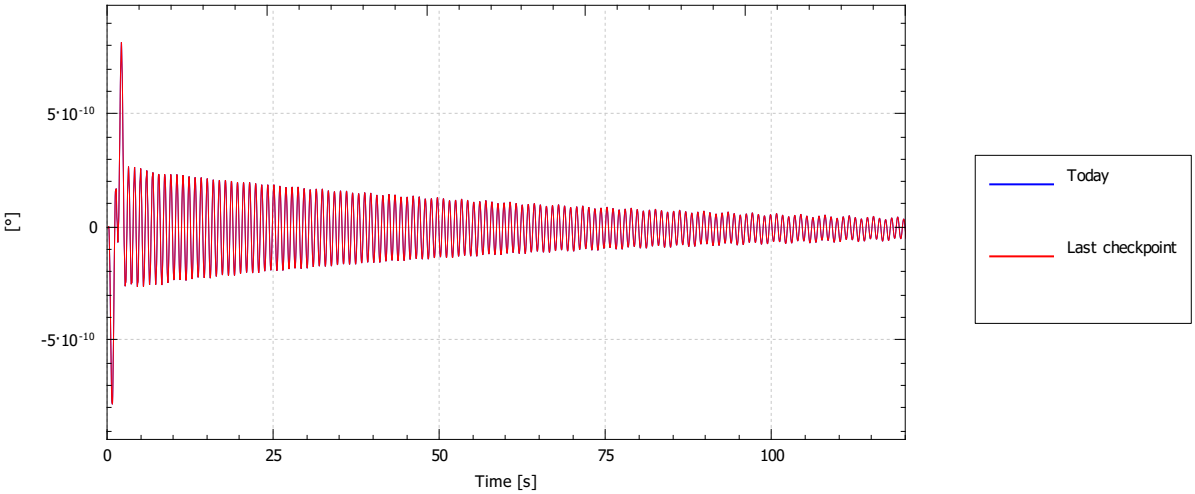
Moment, mag., j



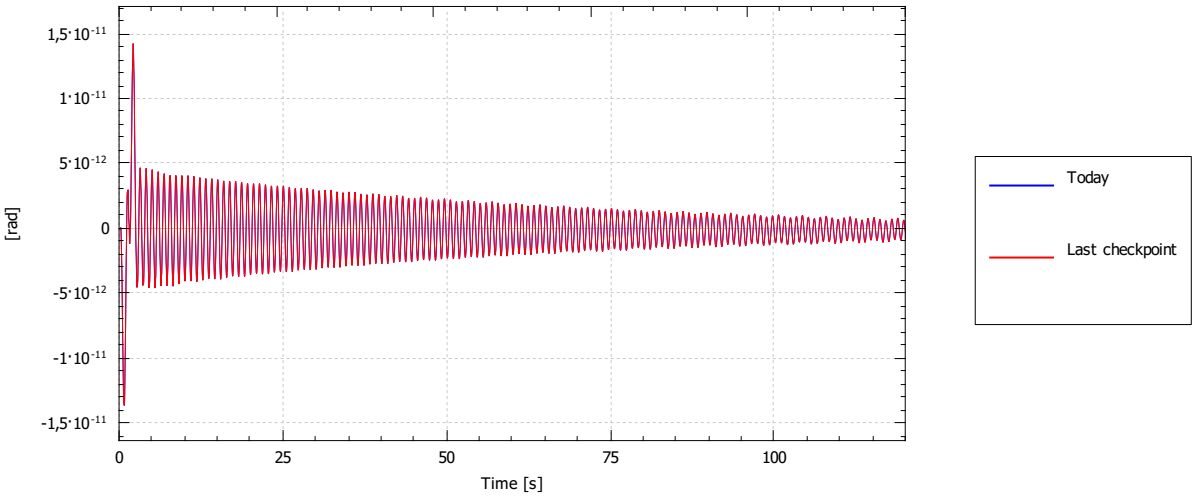
Max normal stress



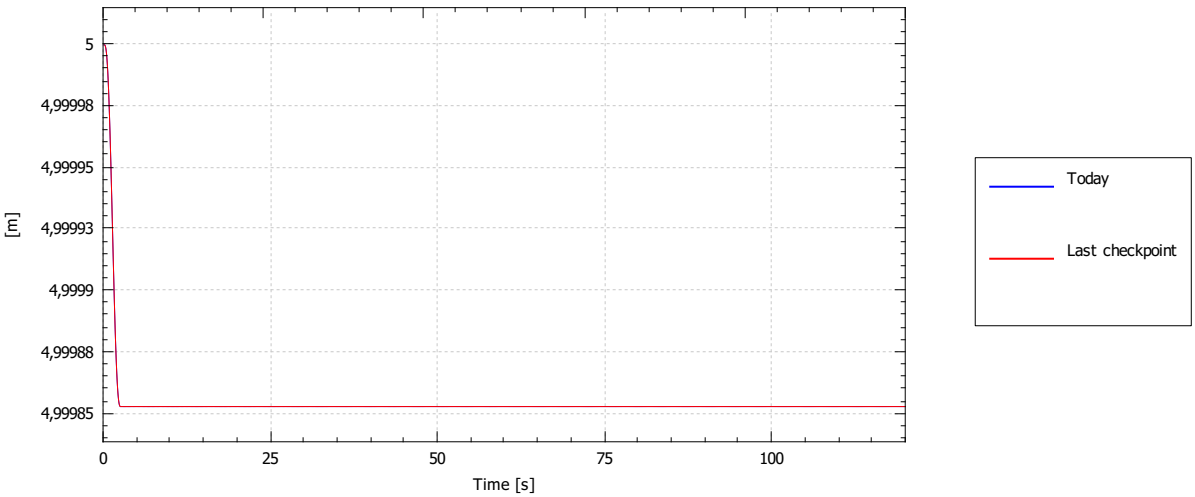
Twist (structural)



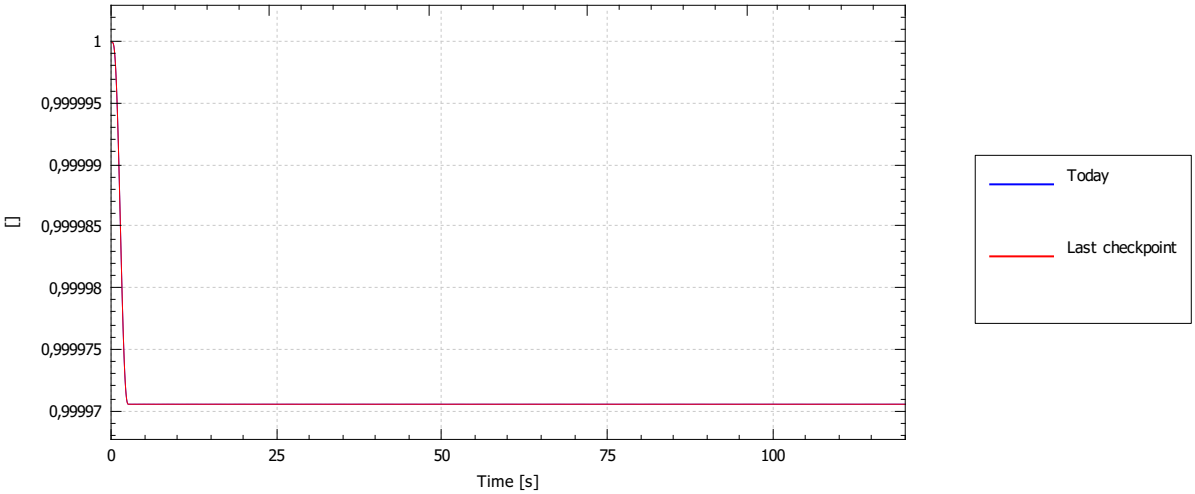
Twist (structural) - rad



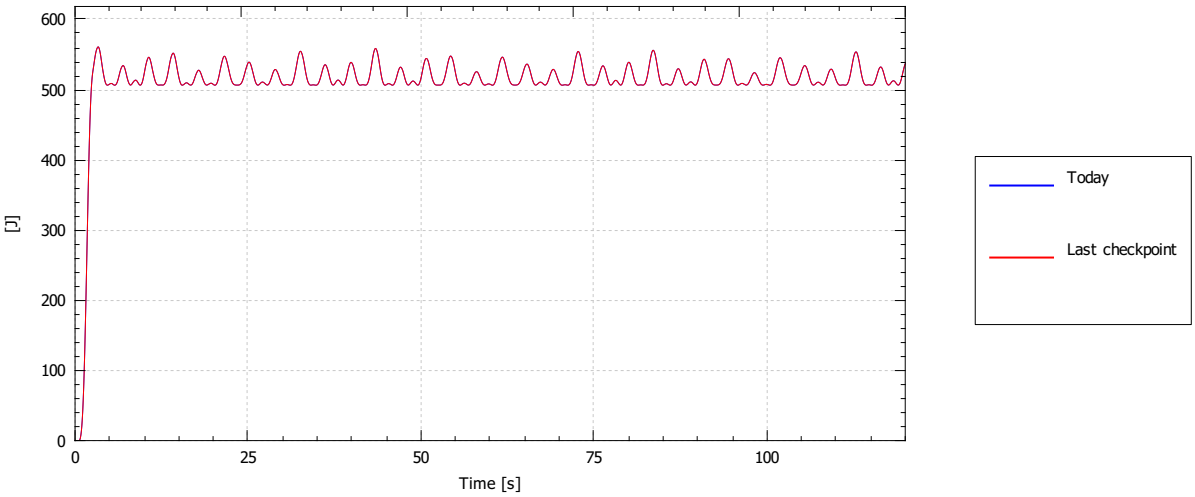
Deformed length



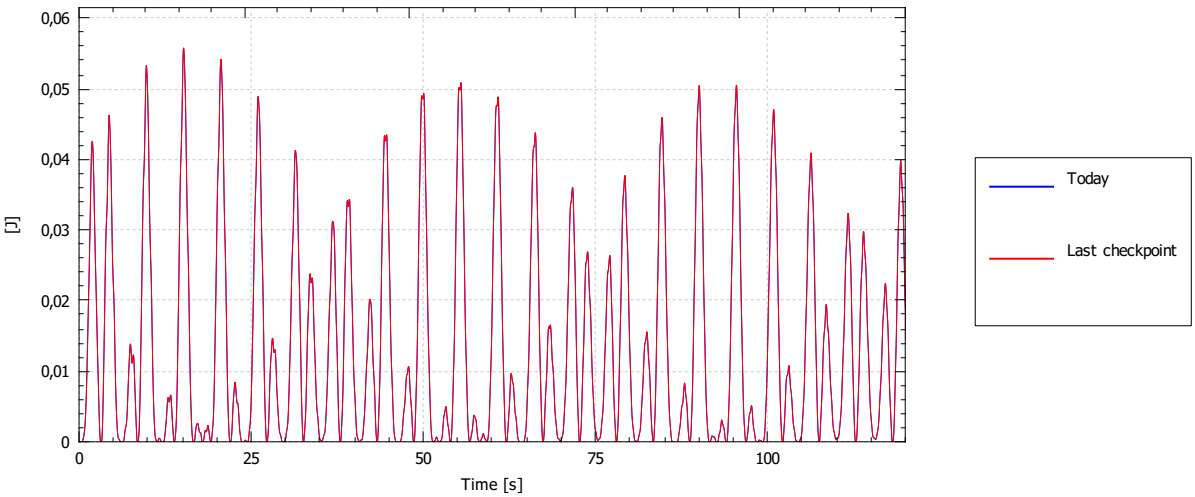
Elongation



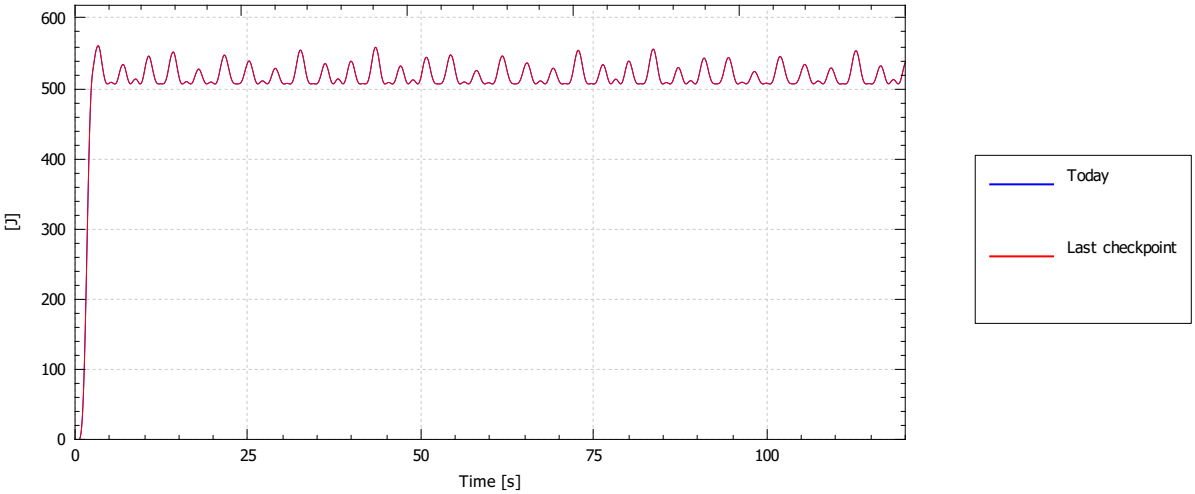
Strain energy



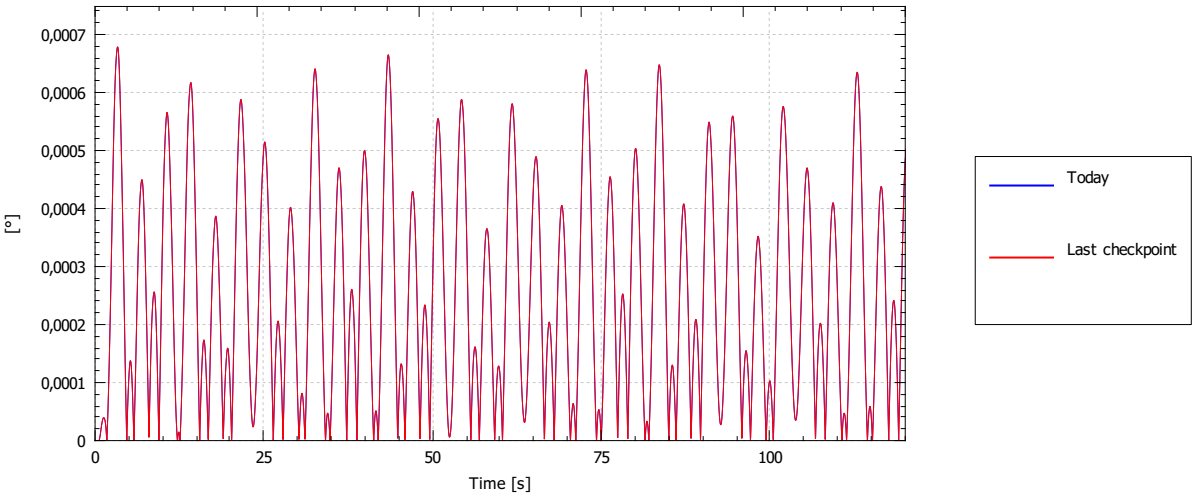
Kinetic energy



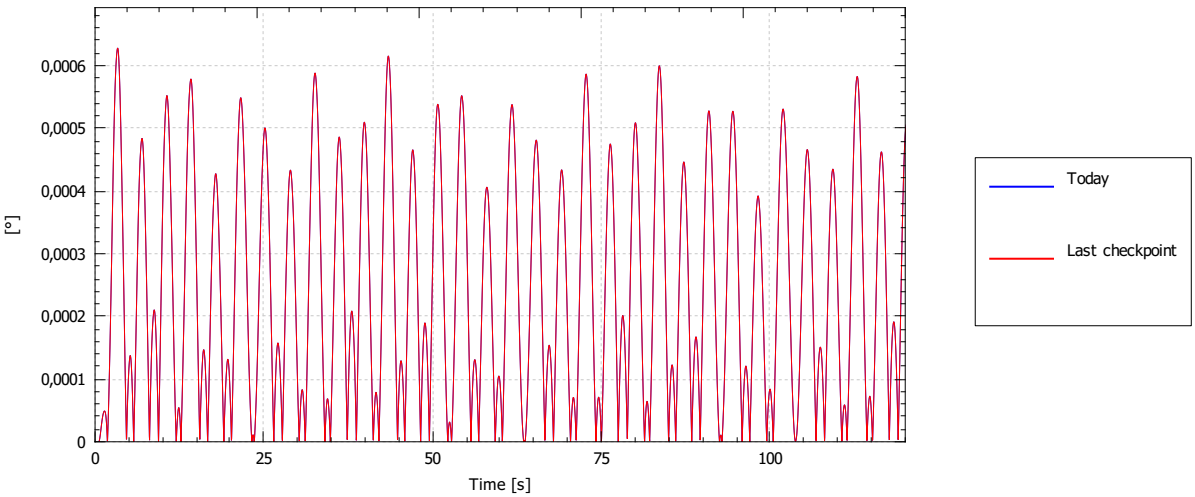
Mechanical energy



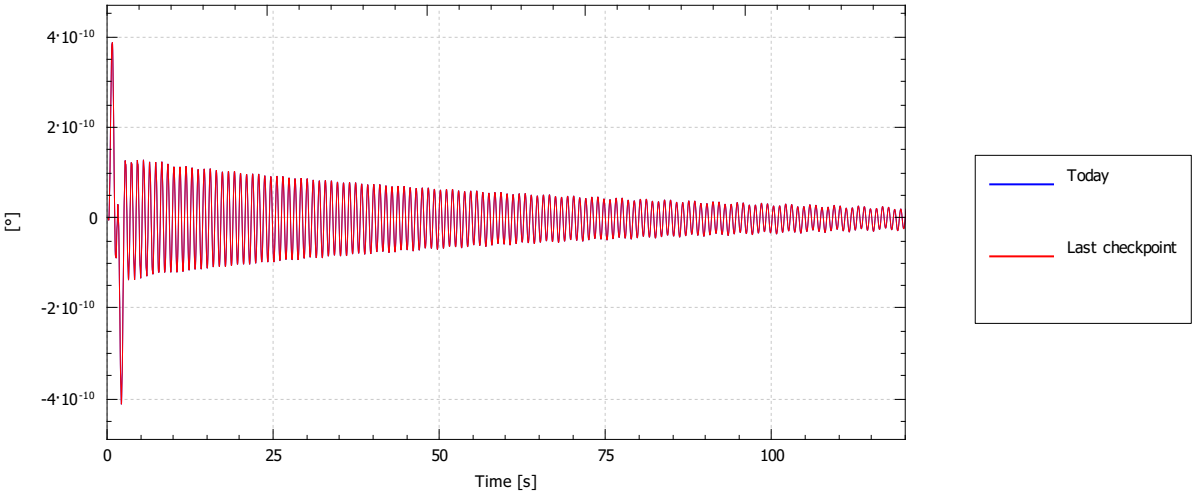
Deformational rotation (i)



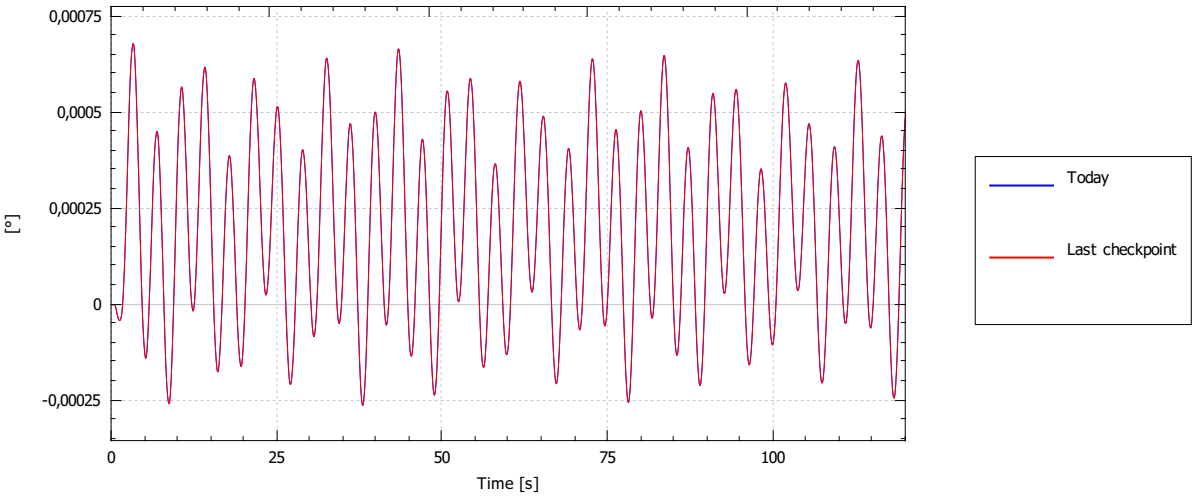
Deformational rotation (j)



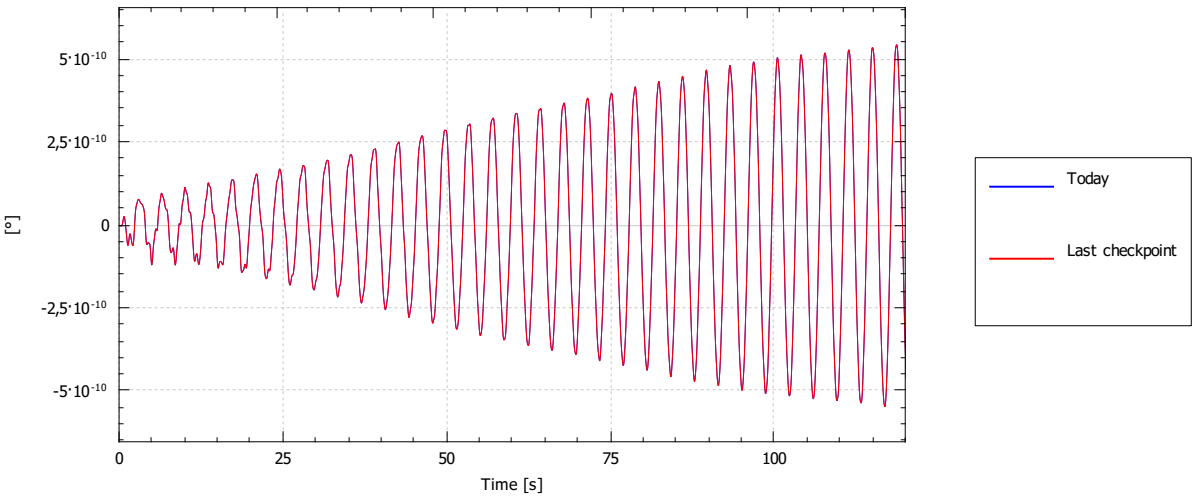
Deformational rotation (axial)



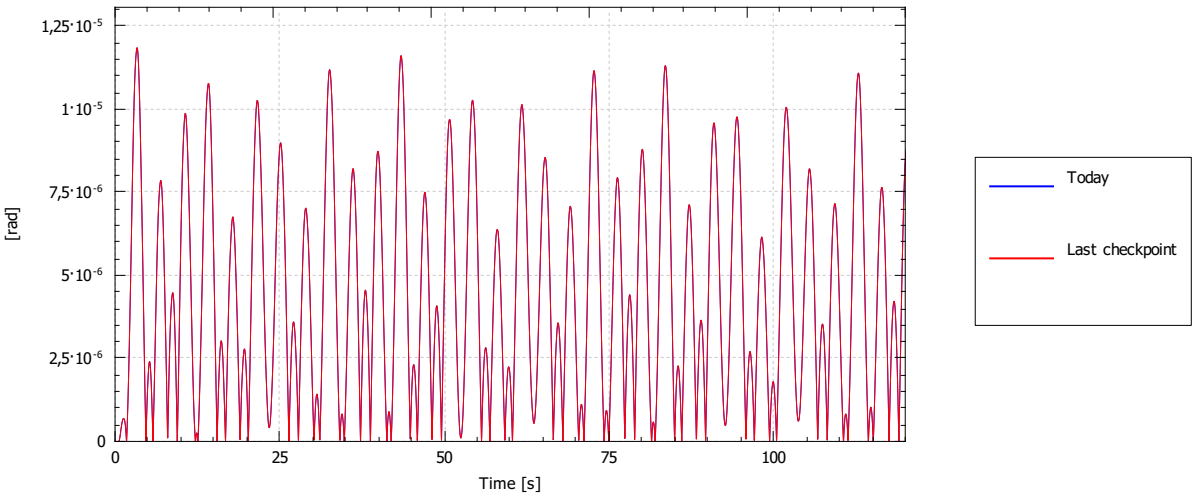
Deformational rotation (1st prin.)



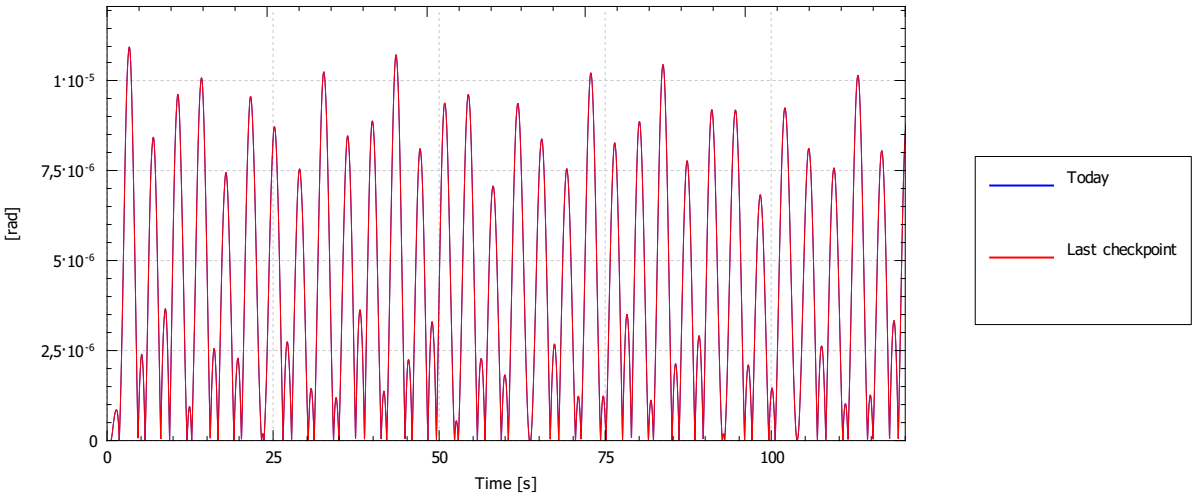
Deformational rotation (2nd prin.)



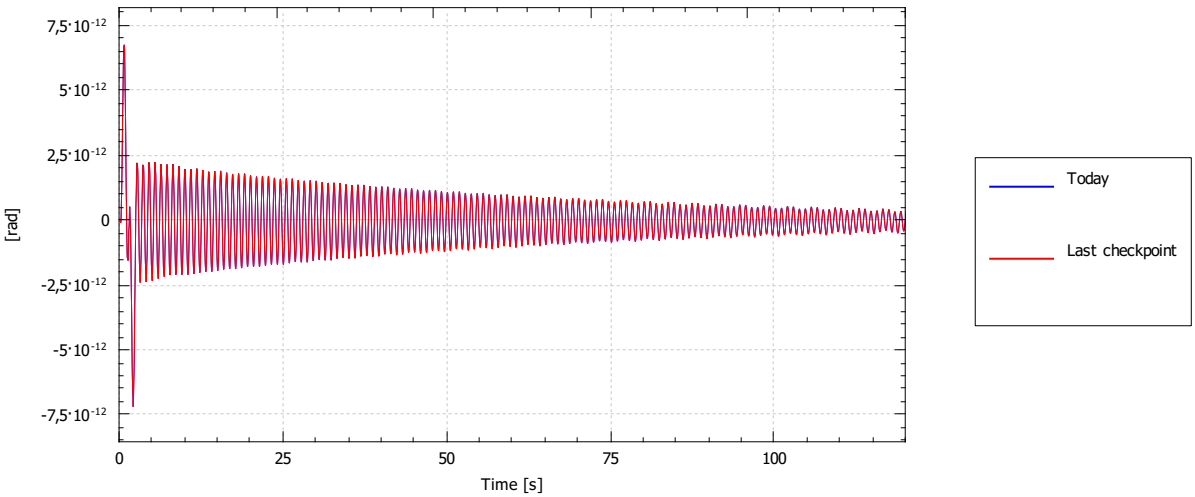
Deformational rotation (i) - rad



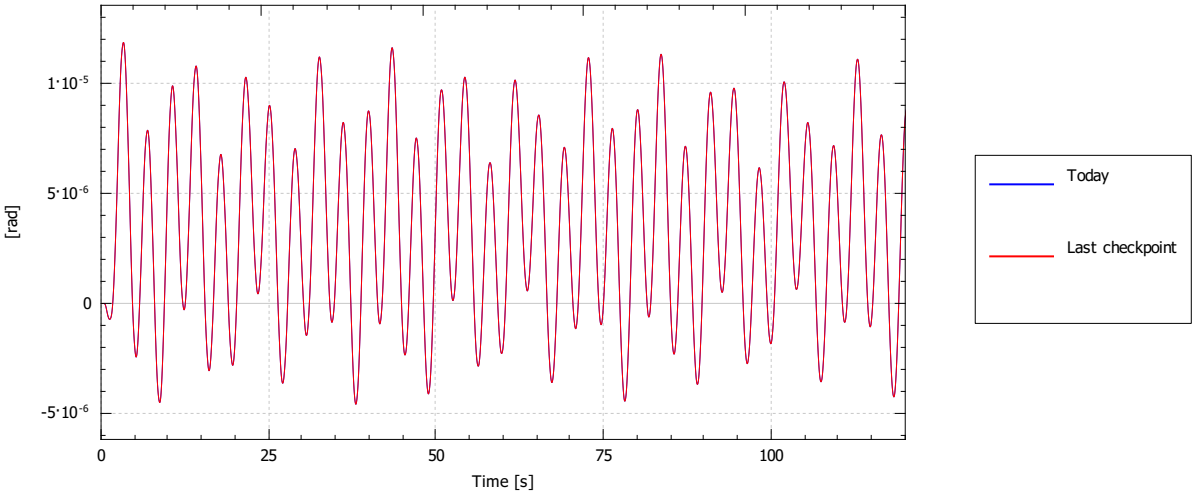
Deformational rotation (j) - rad



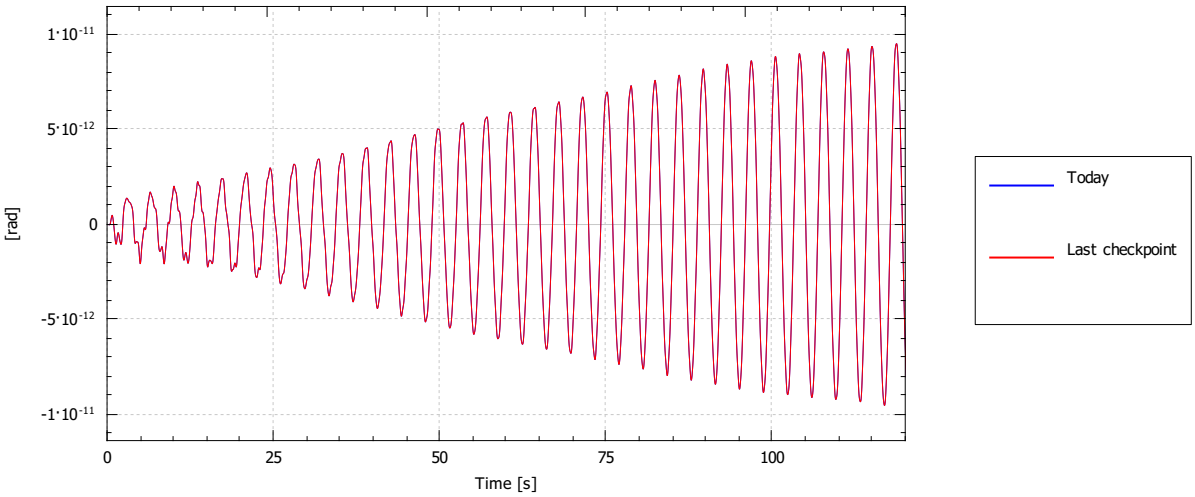
Deformational rotation (axial) - rad



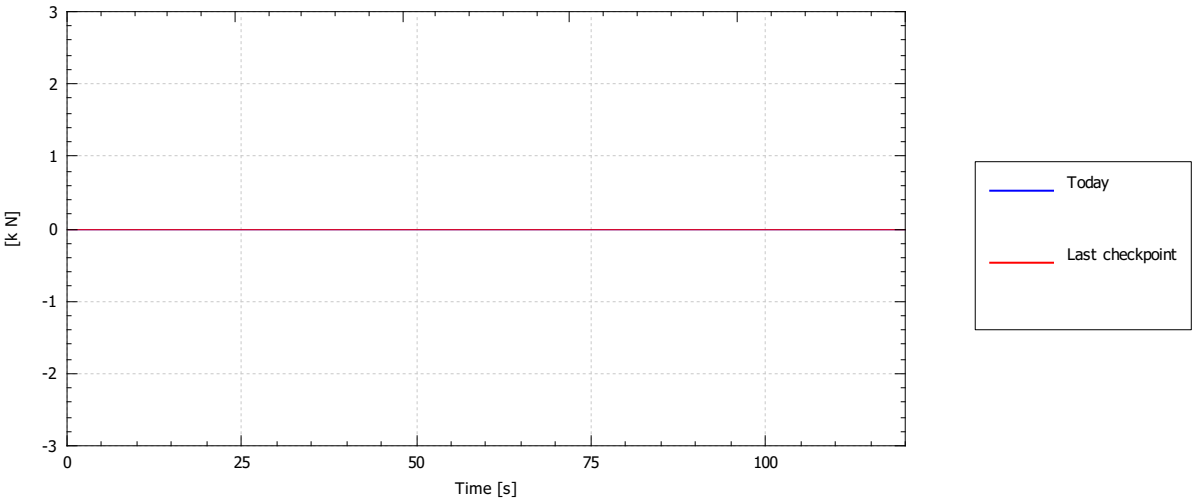
Deformational rotation (1st prin.) - rad



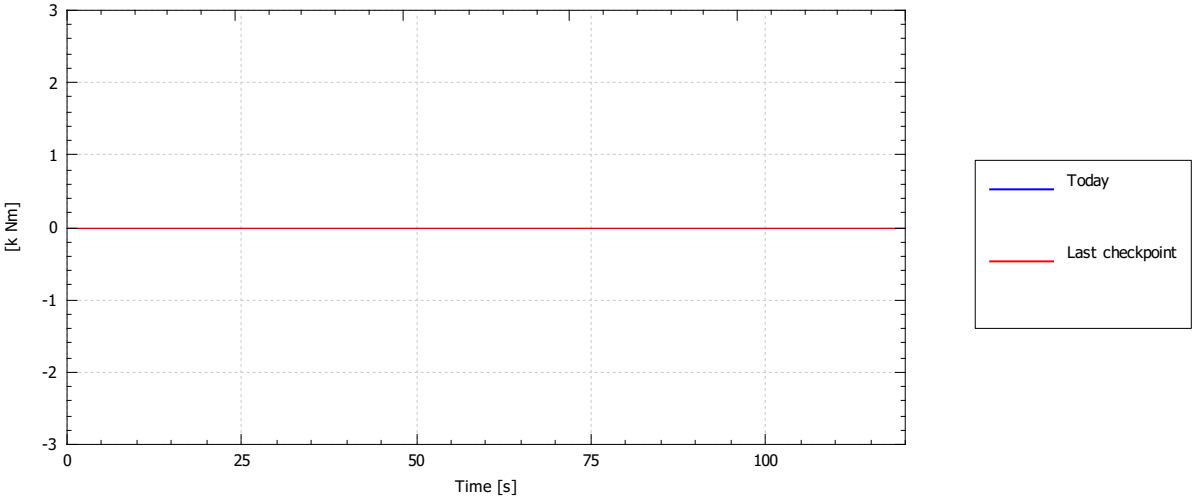
Deformational rotation (2nd prin.) - rad



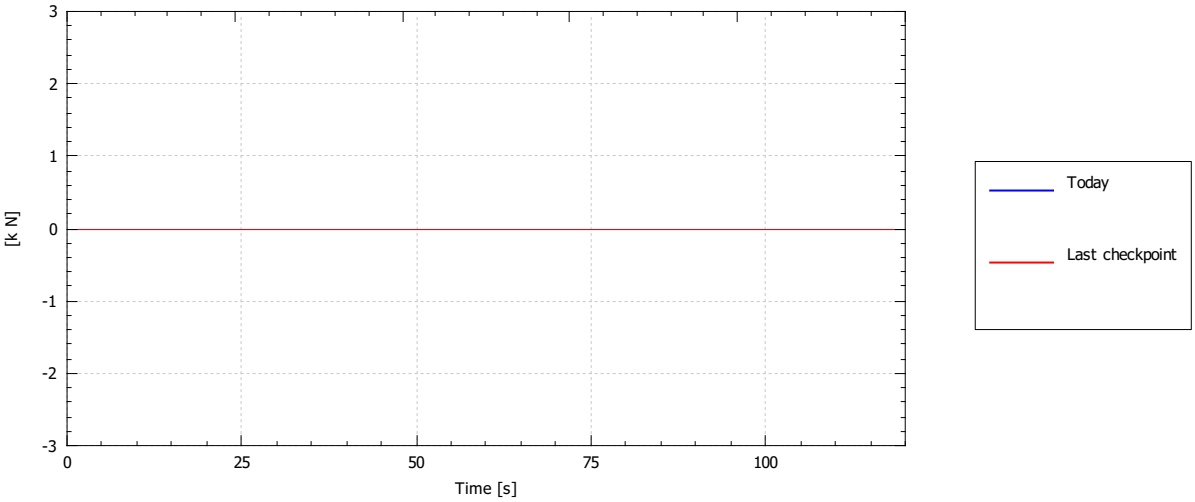
Damping force, i



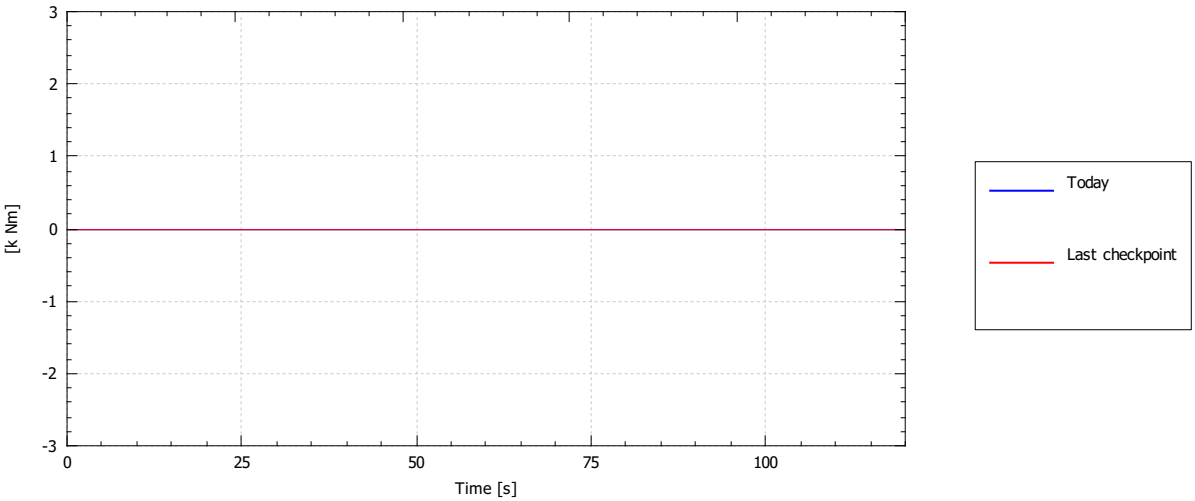
Damping moment, i



Damping force, sum

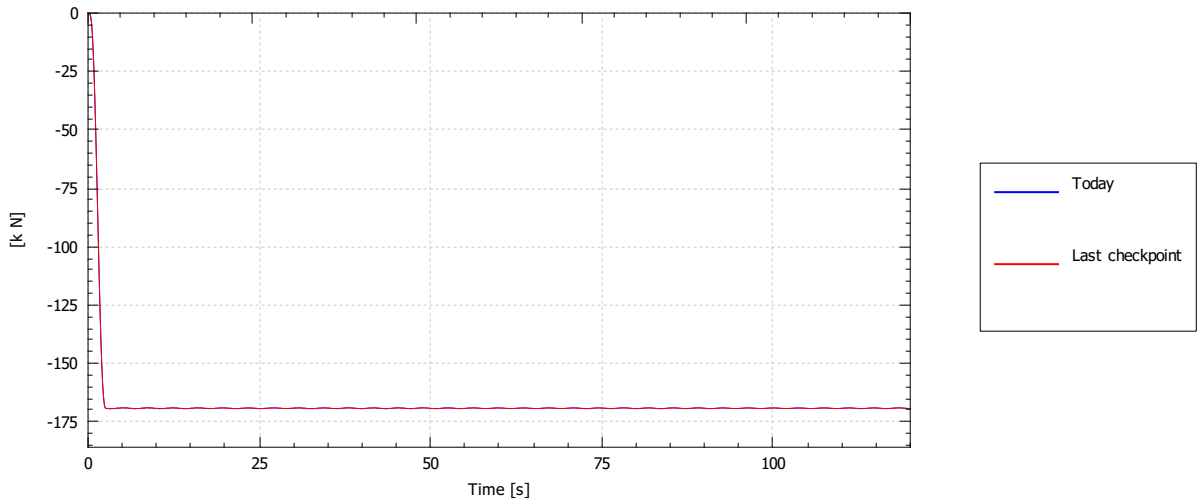


Damping moment, sum

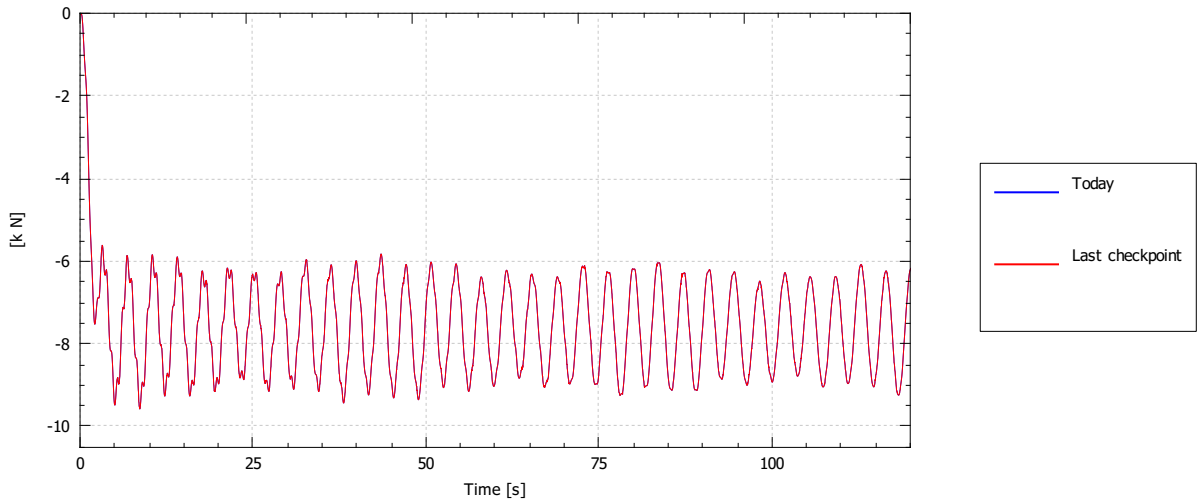


Beam element [Element 1 | Blade 1]

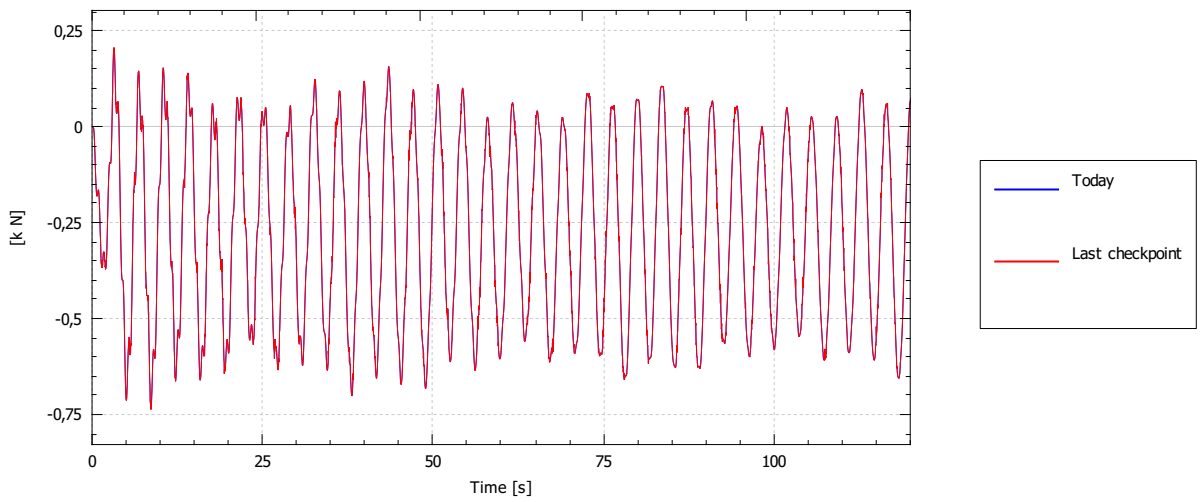
Axial force



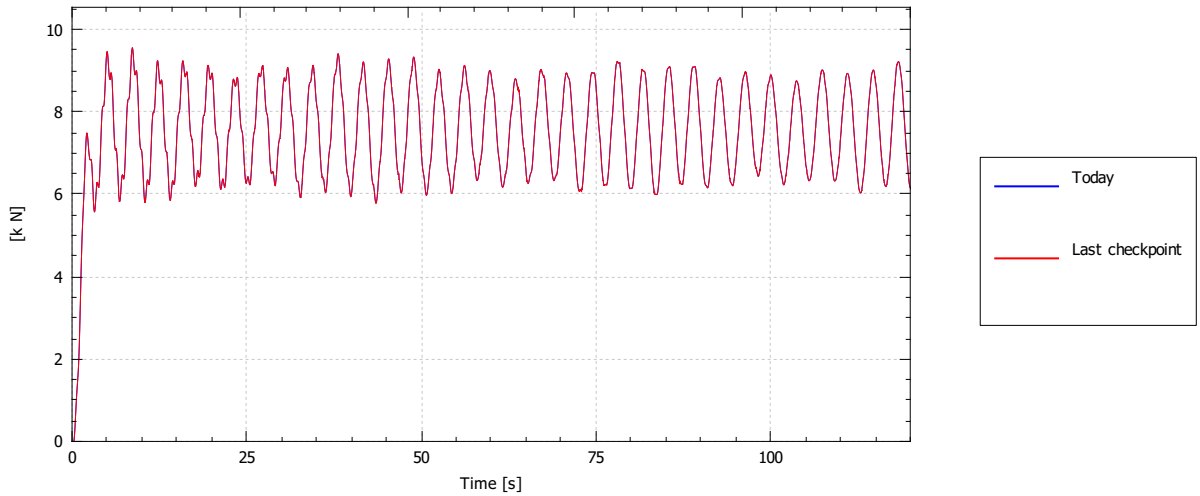
Shear force (1st prin. axis)



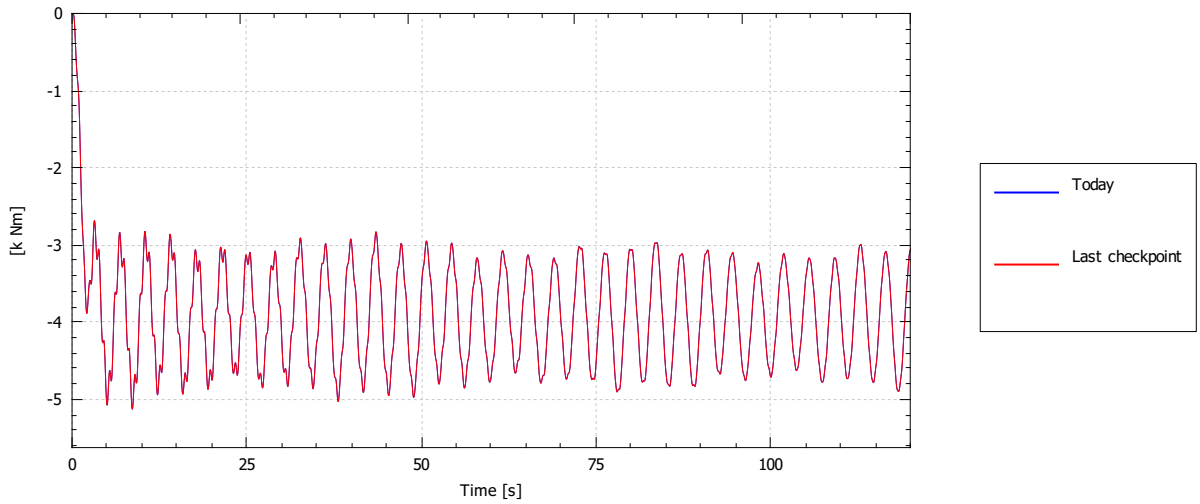
Shear force (2nd prin. axis)



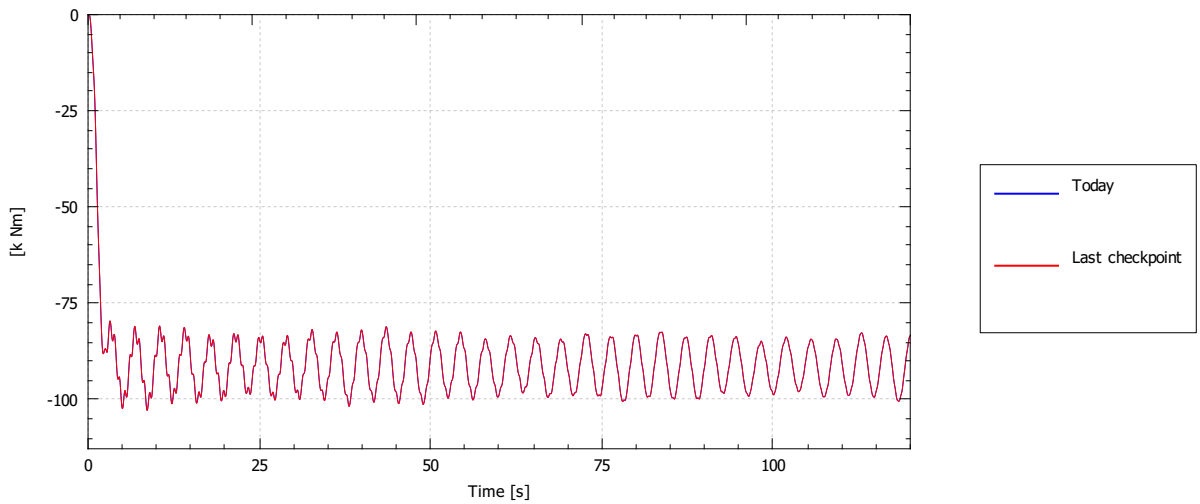
Shear force, mag.



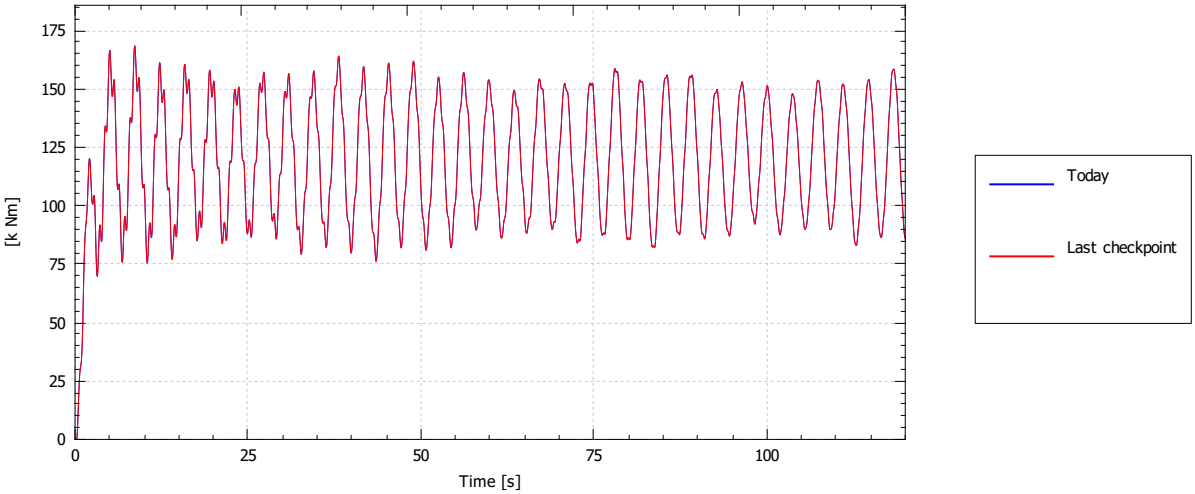
Torque



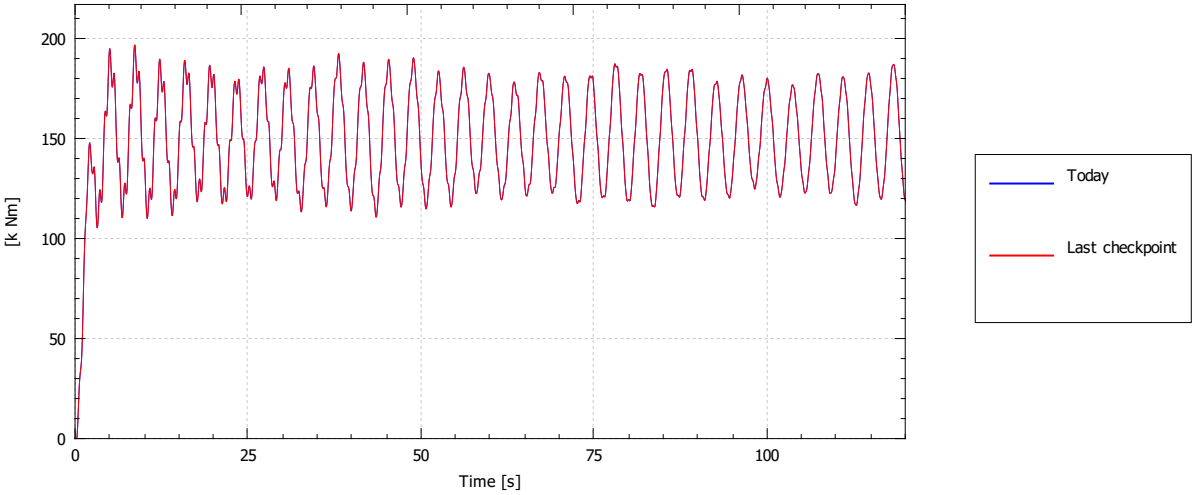
Moment (1st prin. axis), i



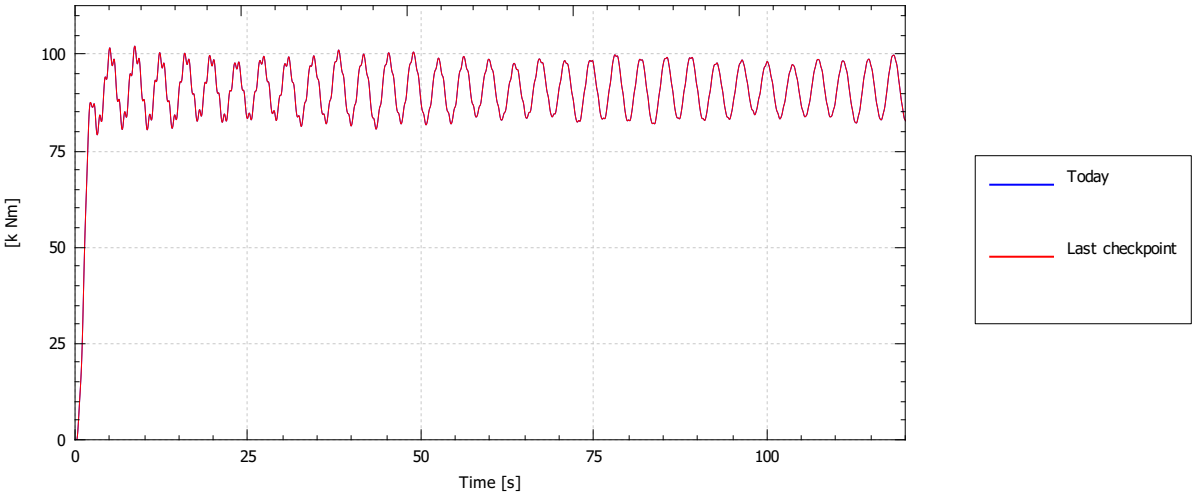
Moment (2nd prin. axis), i



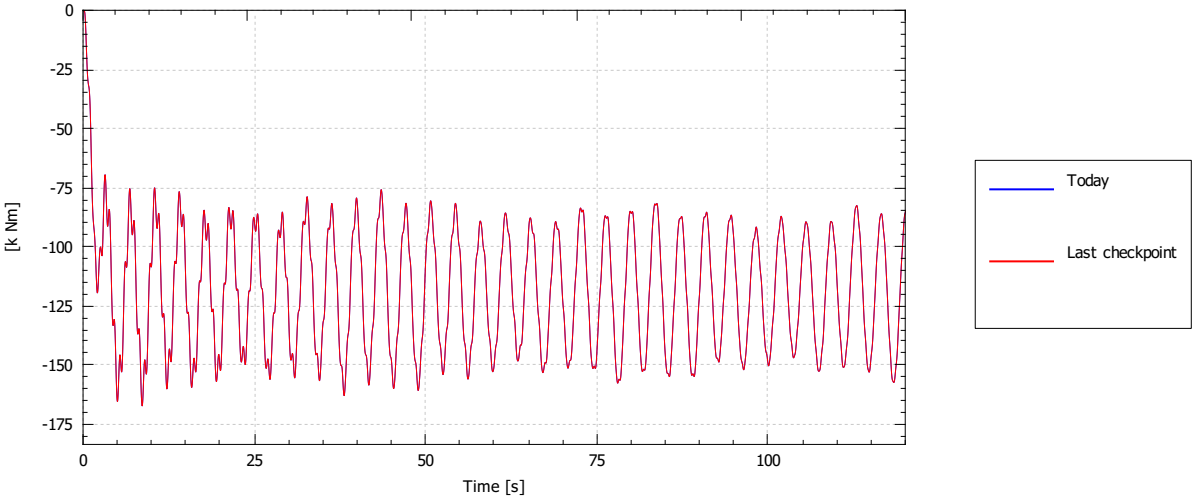
Moment, mag., i



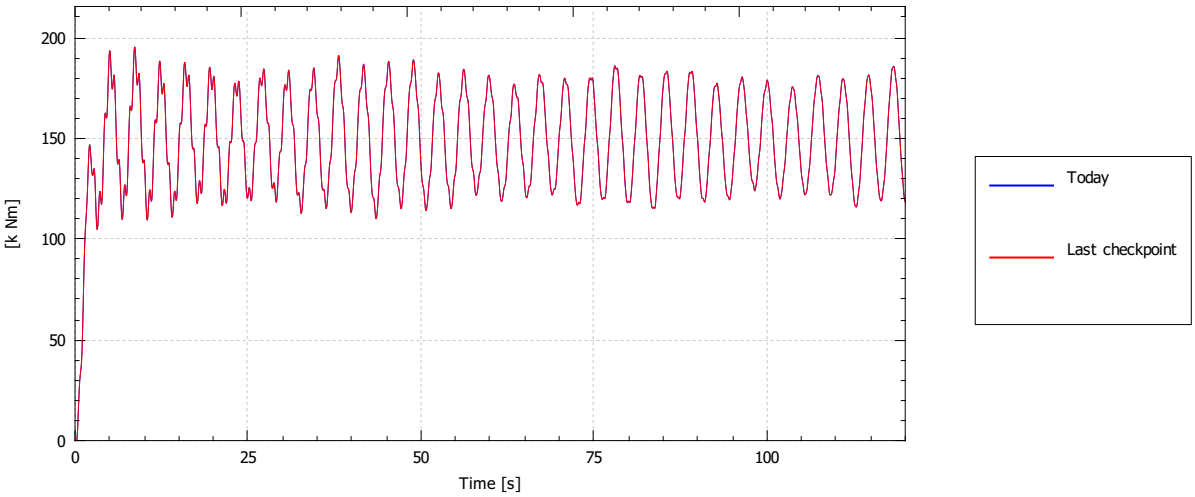
Moment (1st prin. axis), j



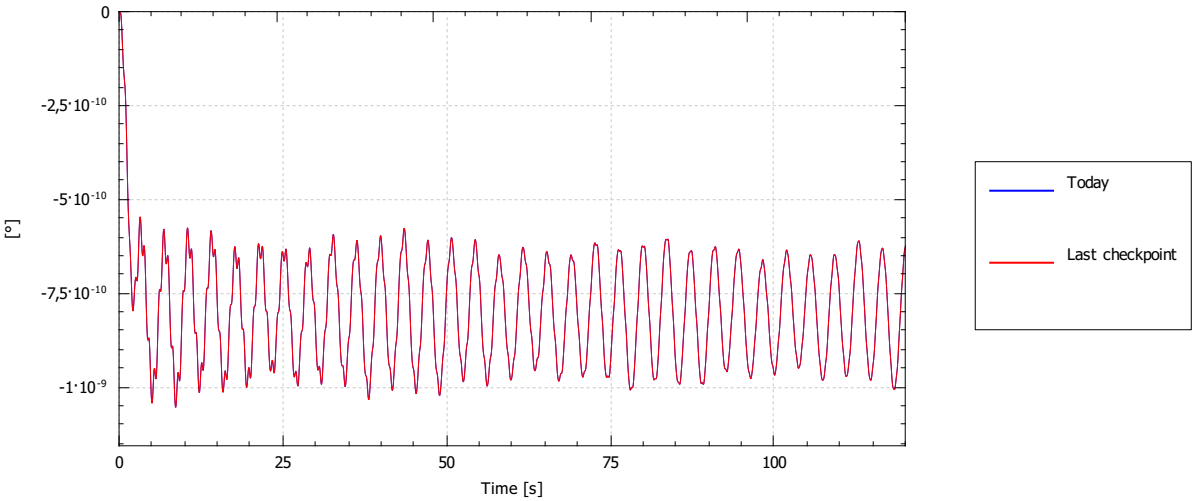
Moment (2nd prin. axis), j

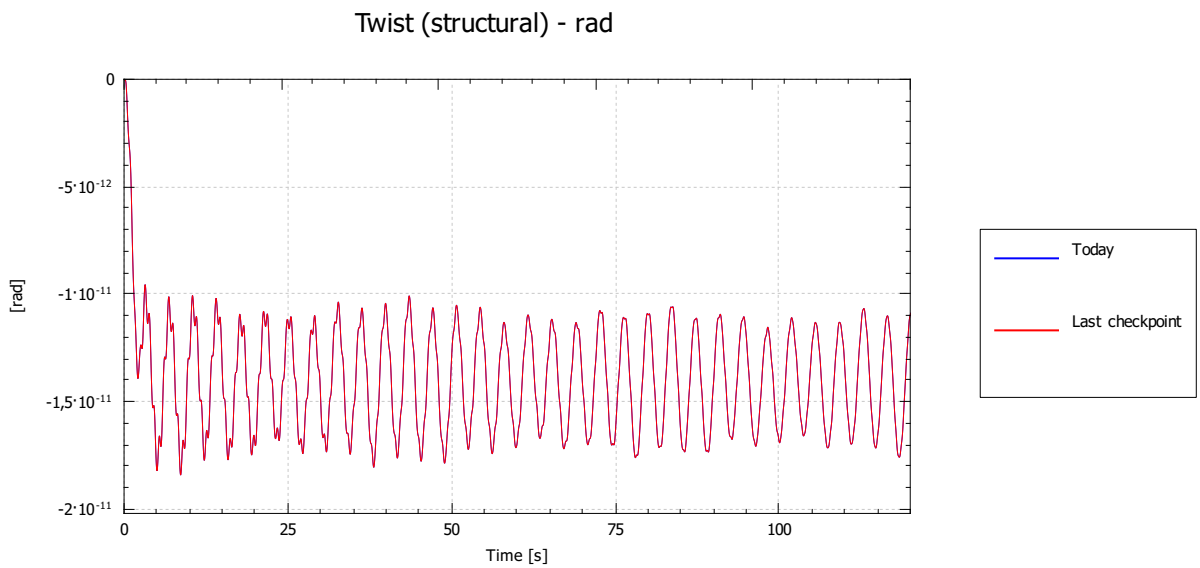


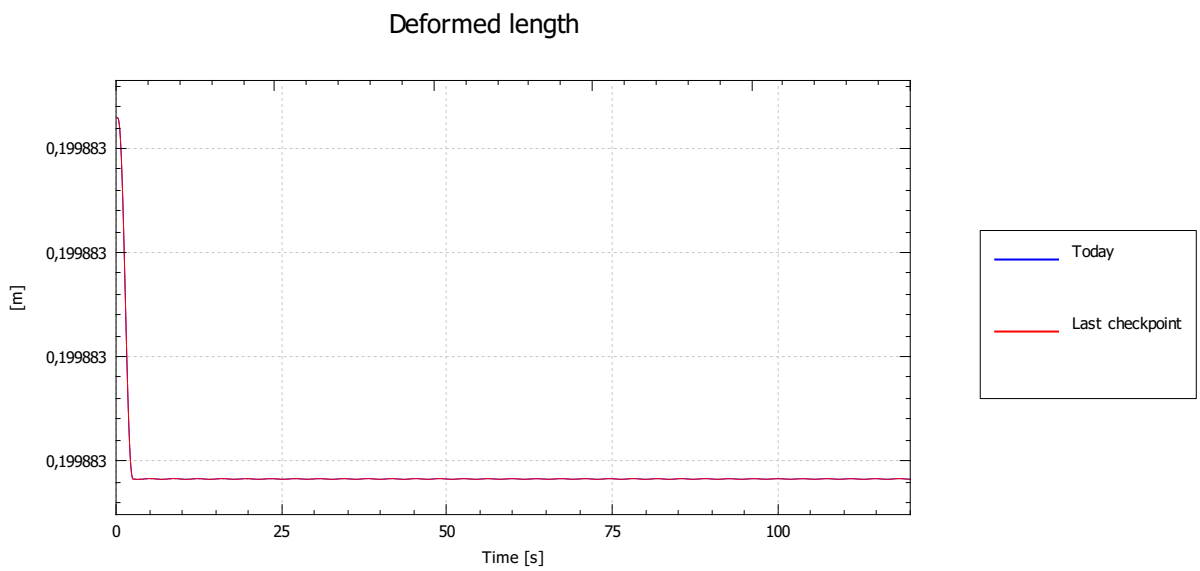
Moment, mag., j

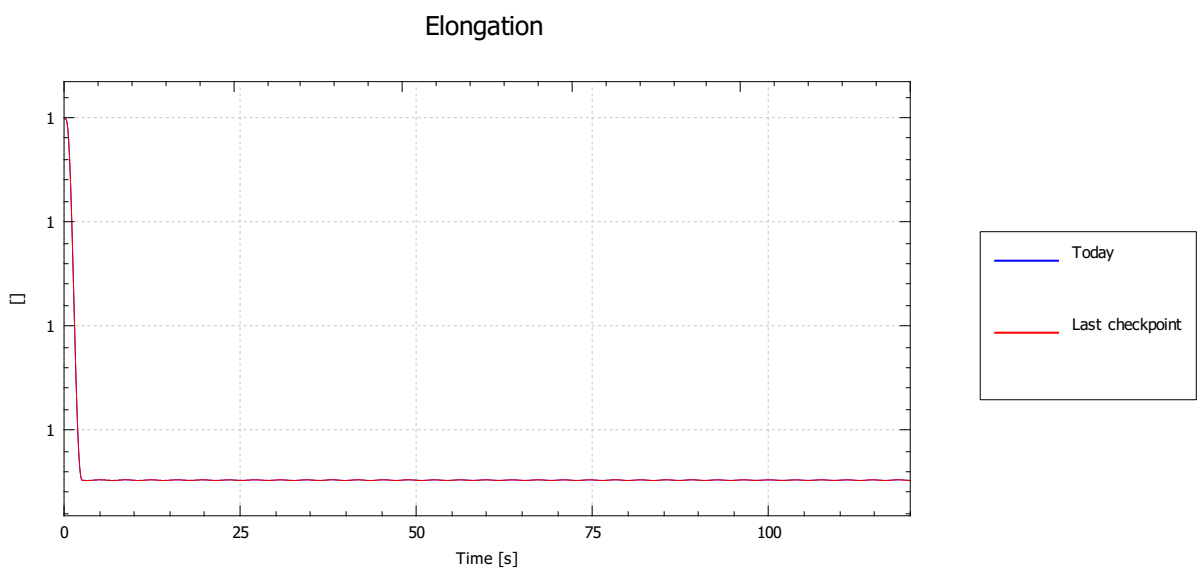


Twist (structural)

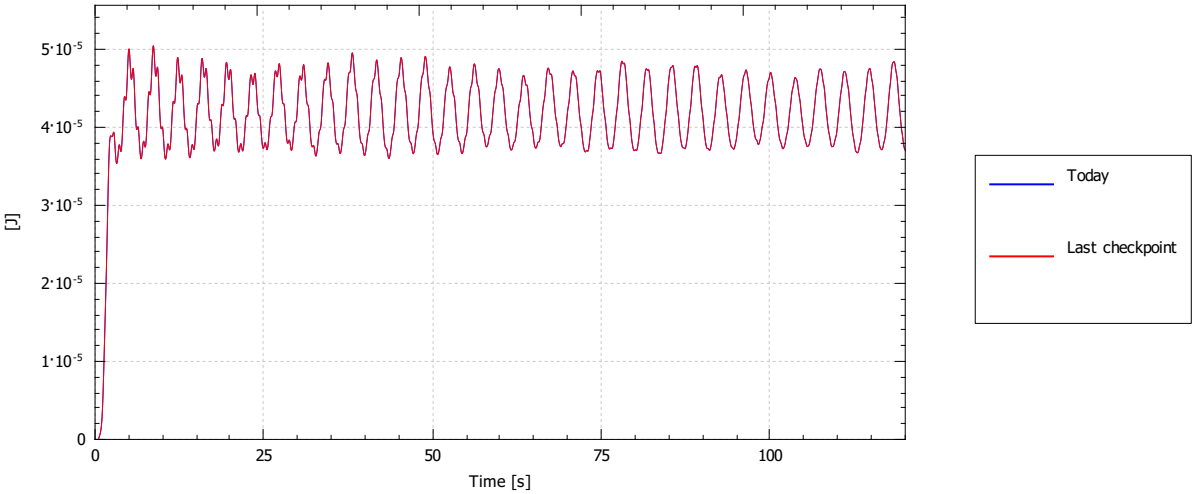



Twist (structural) - rad
0
-5·10^-12
-1·10^-11
-1,5·10^-11
-2·10^-11
[rad]
0
25
50
75
100
Time [s]
Today
Last checkpoint

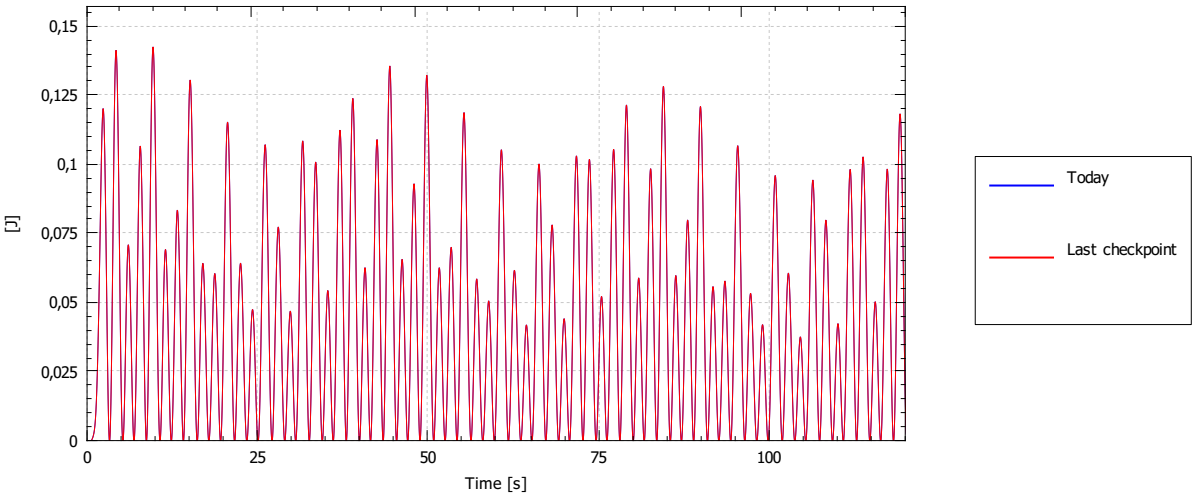

Deformed length
0,199883
0,199883
0,199883
0,199883
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Elongation
1
1
1
1
[]
0
25
50
75
100
Time [s]
Today
Last checkpoint

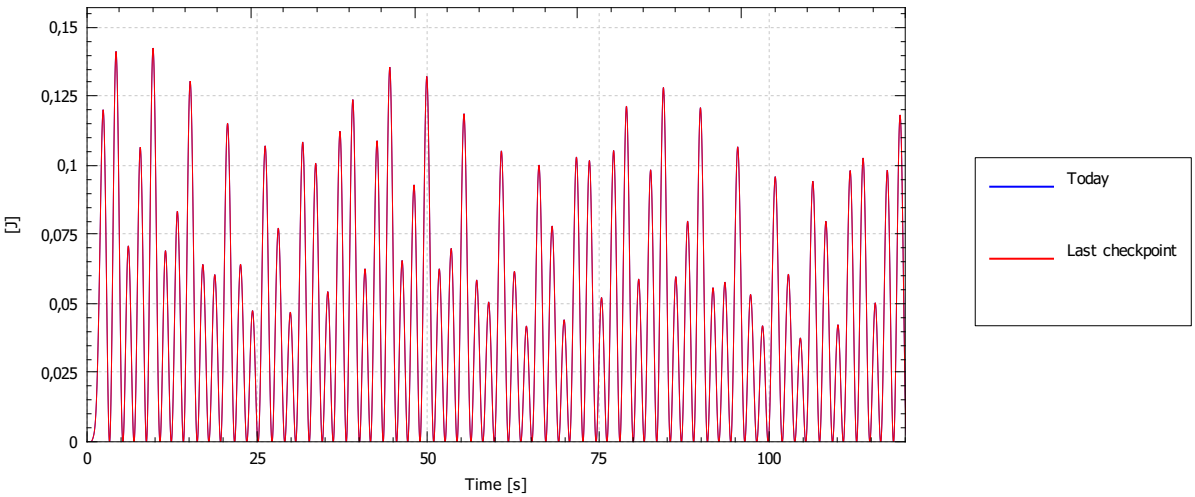
Strain energy



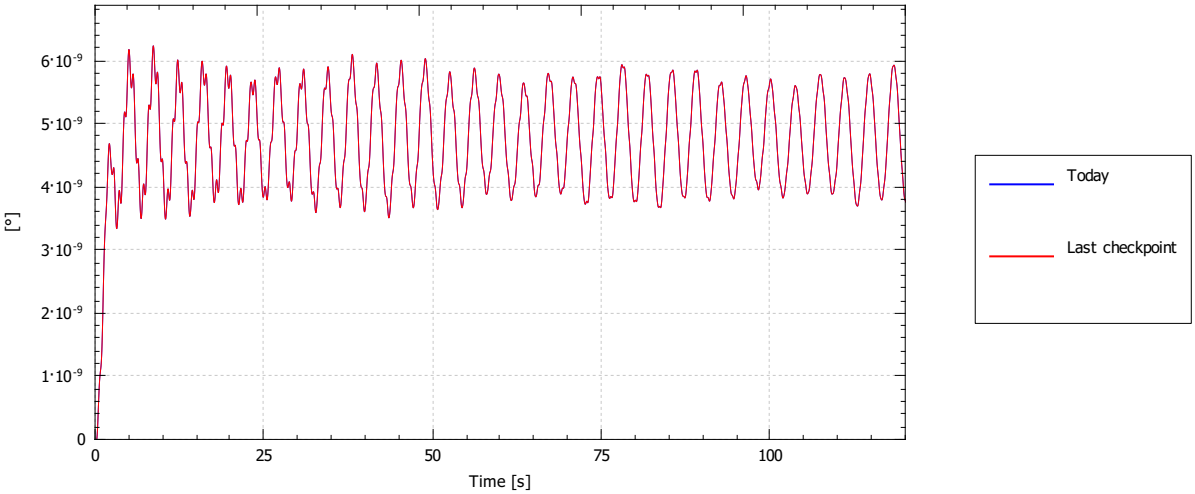
Kinetic energy



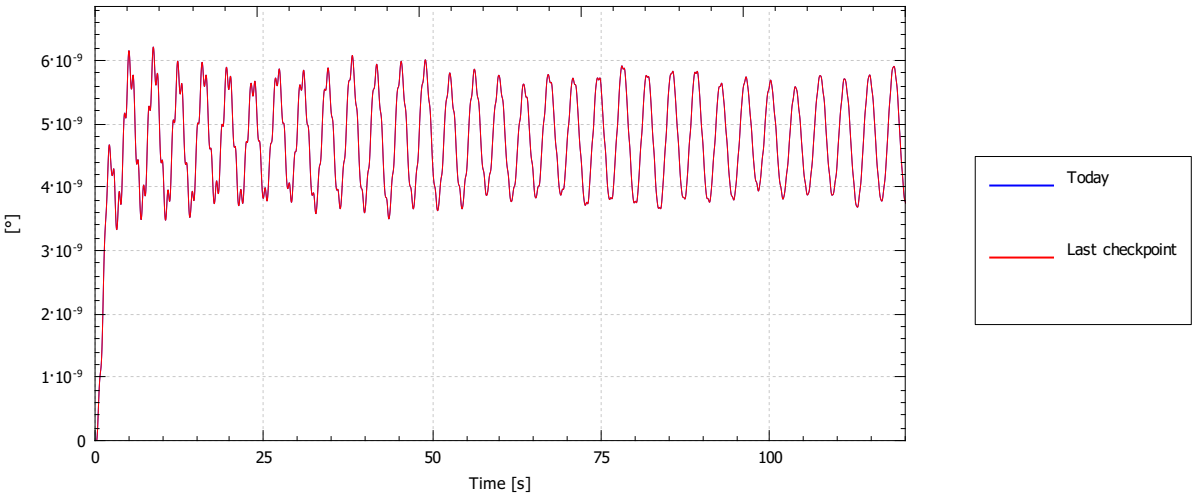
Mechanical energy



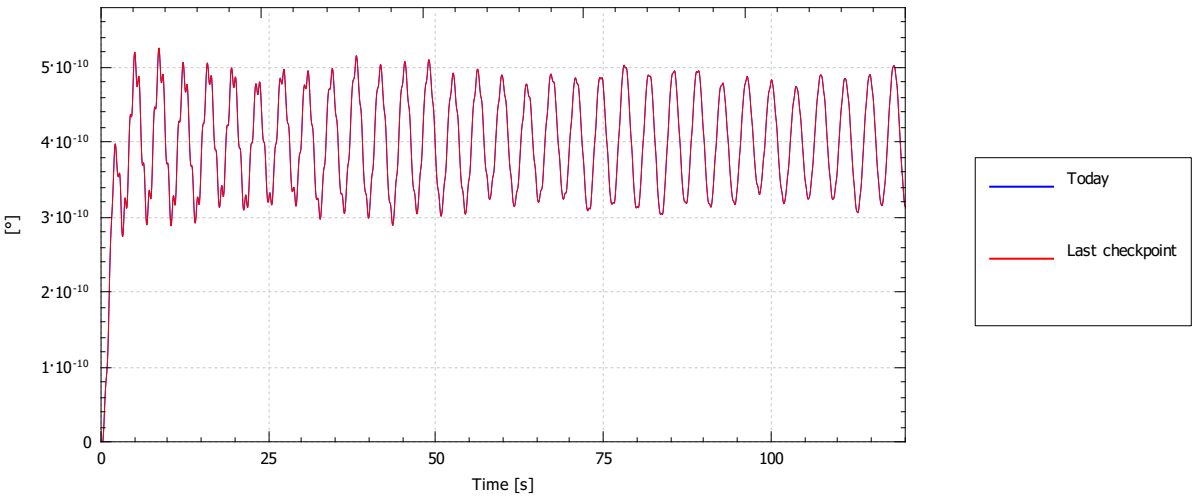
Deformational rotation (i)



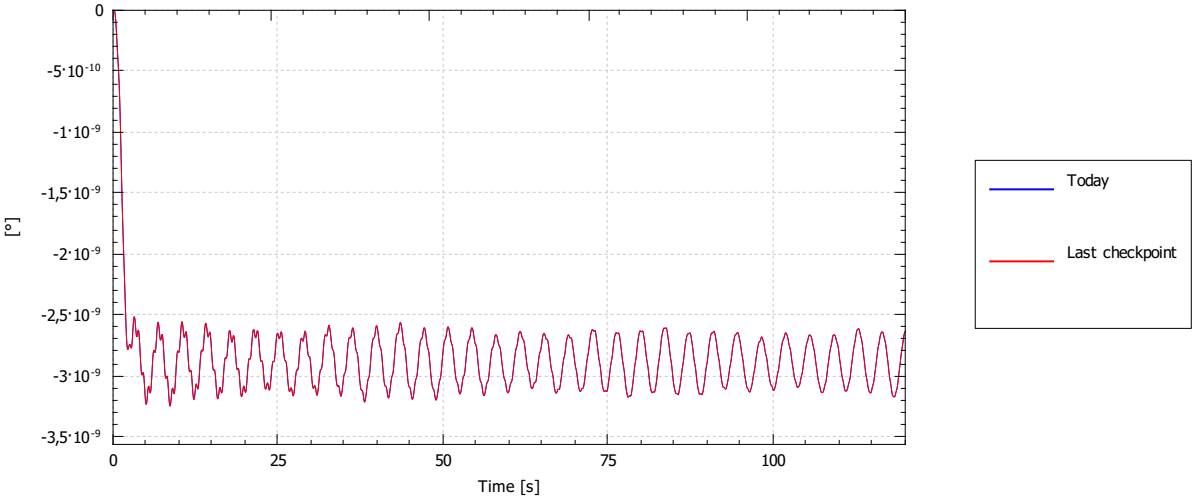
Deformational rotation (j)



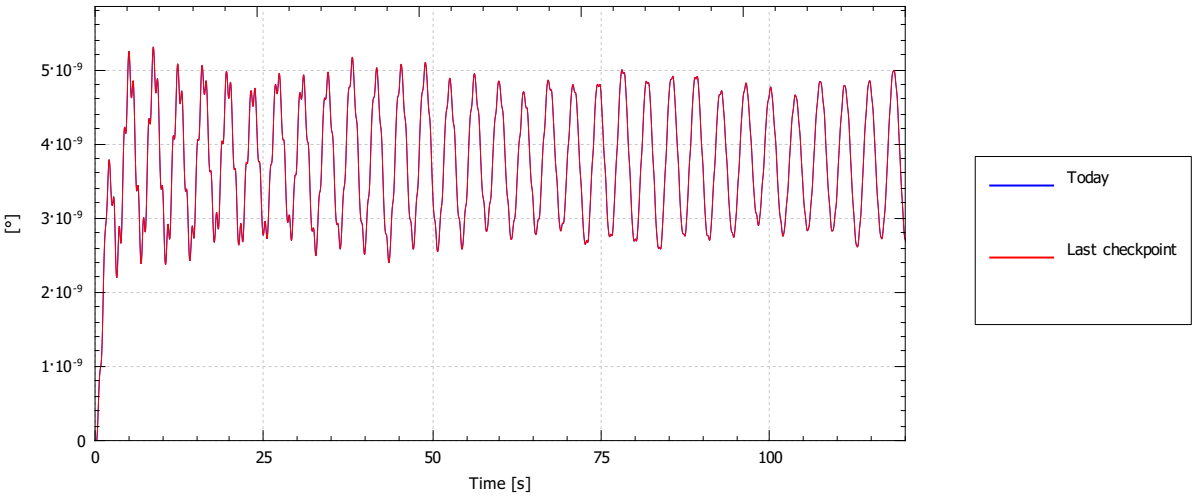
Deformational rotation (axial)



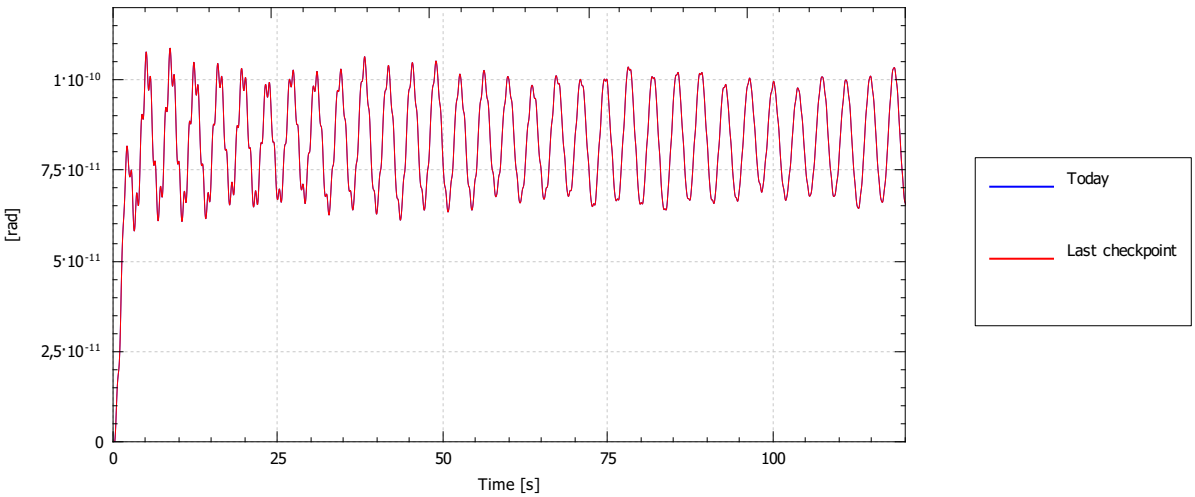
Deformational rotation (1st prin.)



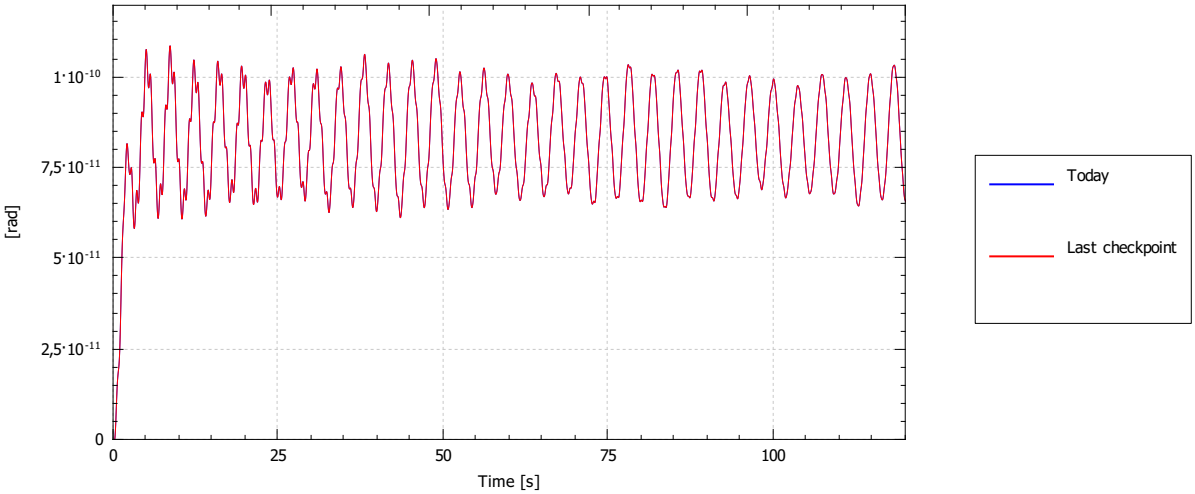
Deformational rotation (2nd prin.)



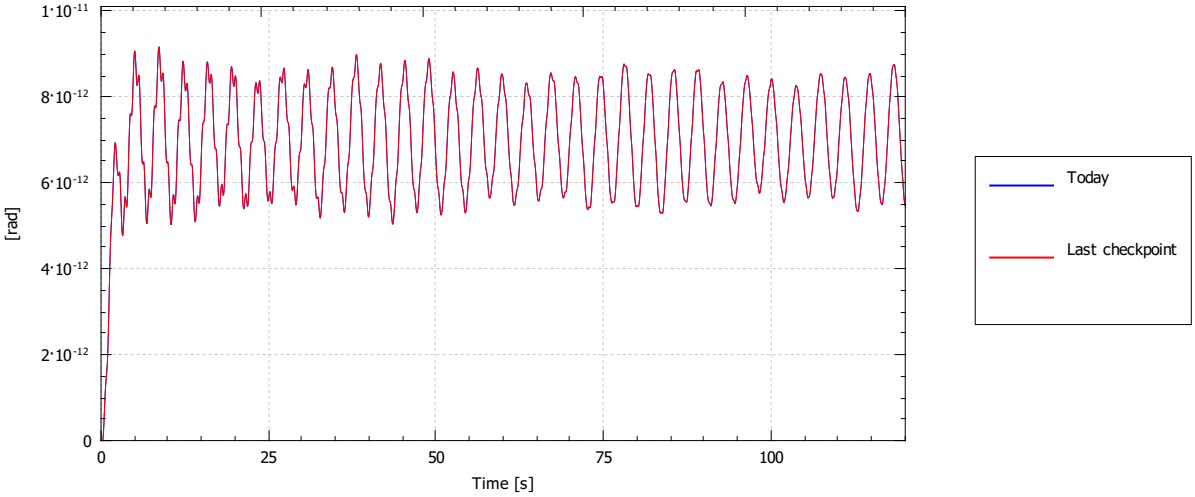
Deformational rotation (i) - rad



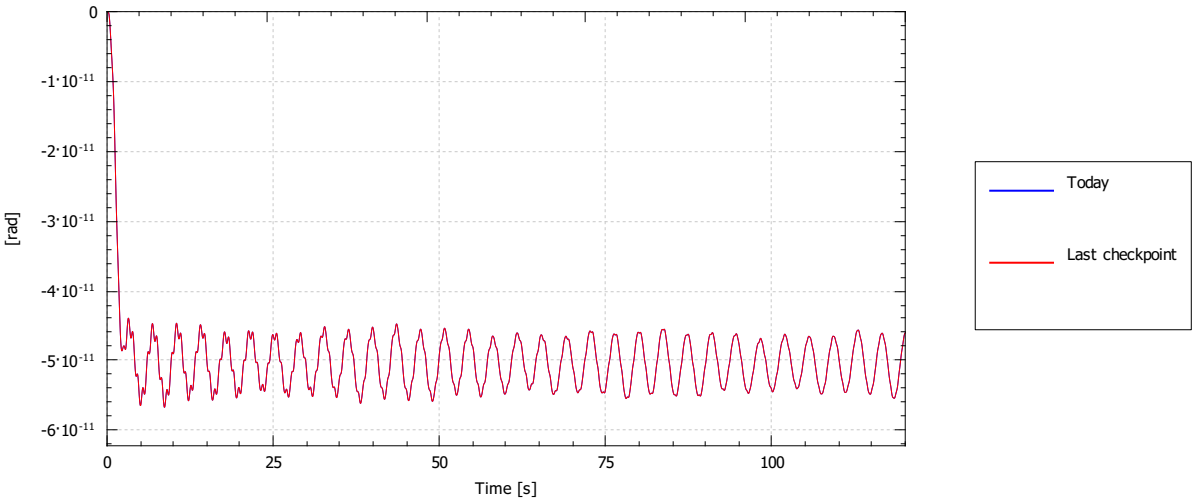
Deformational rotation (j) - rad



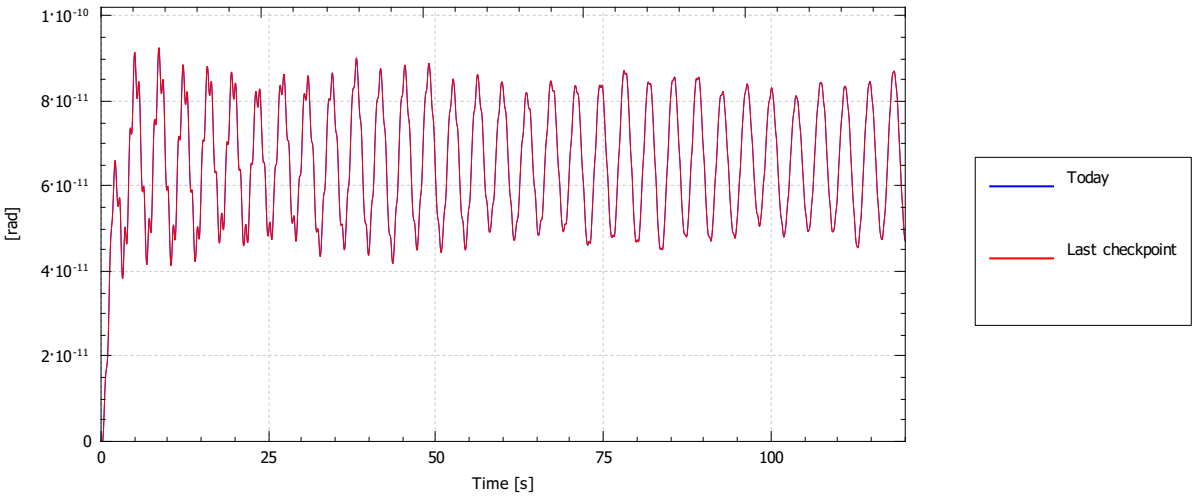
Deformational rotation (axial) - rad



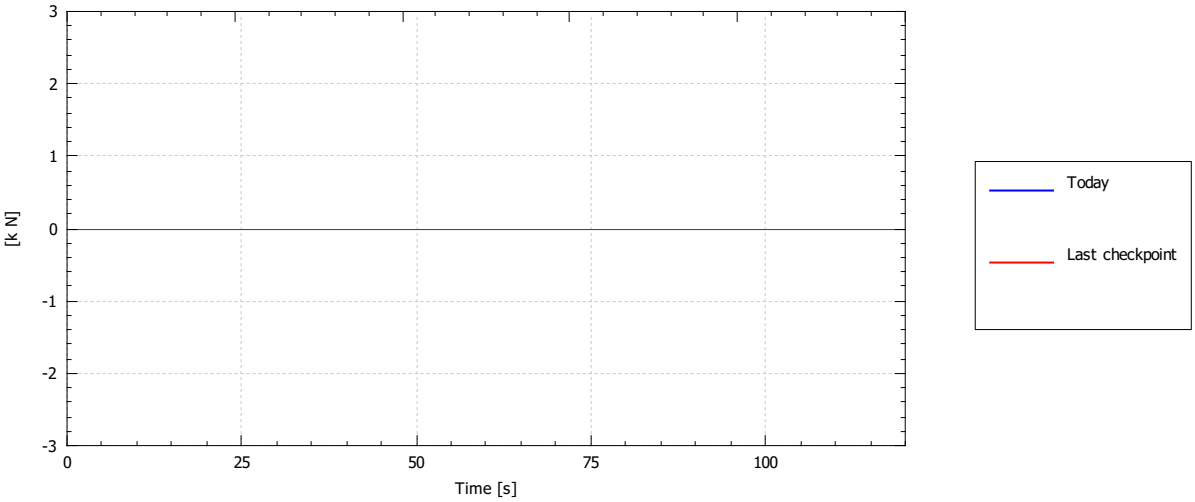
Deformational rotation (1st prin.) - rad



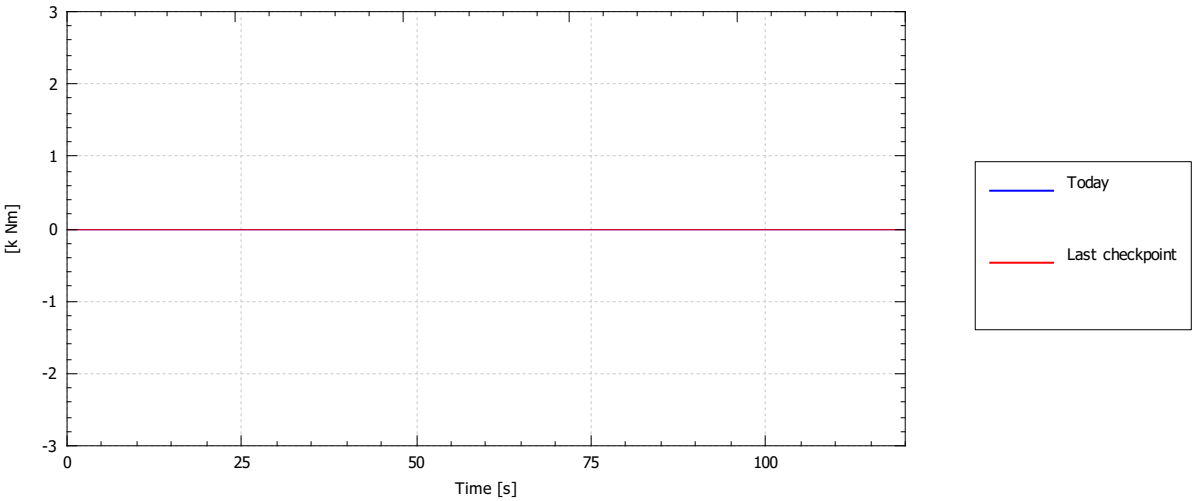
Deformational rotation (2nd prin.) - rad

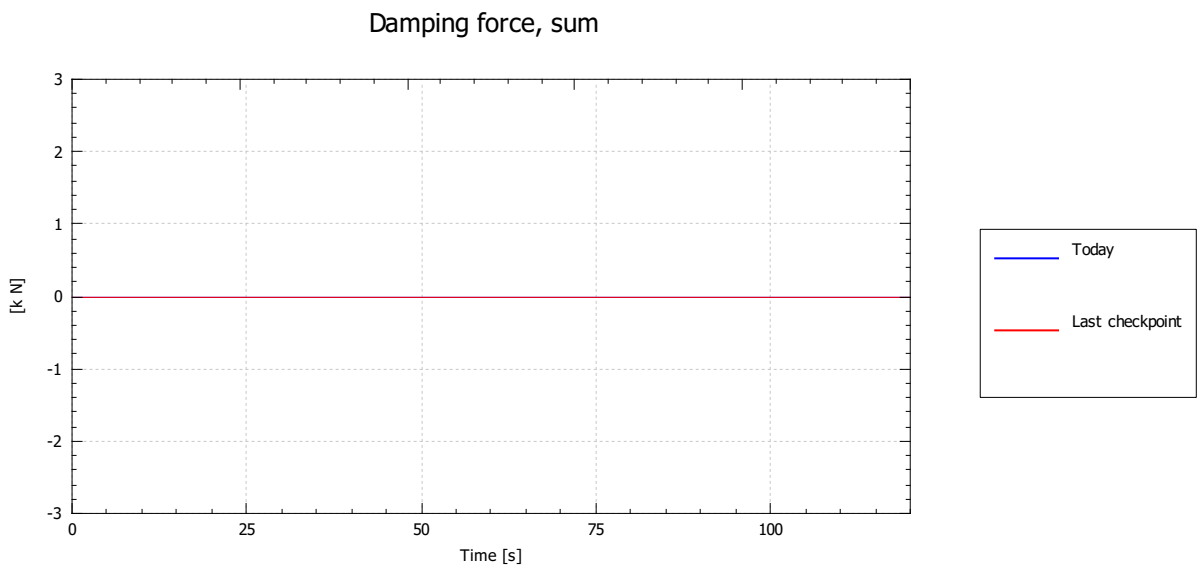


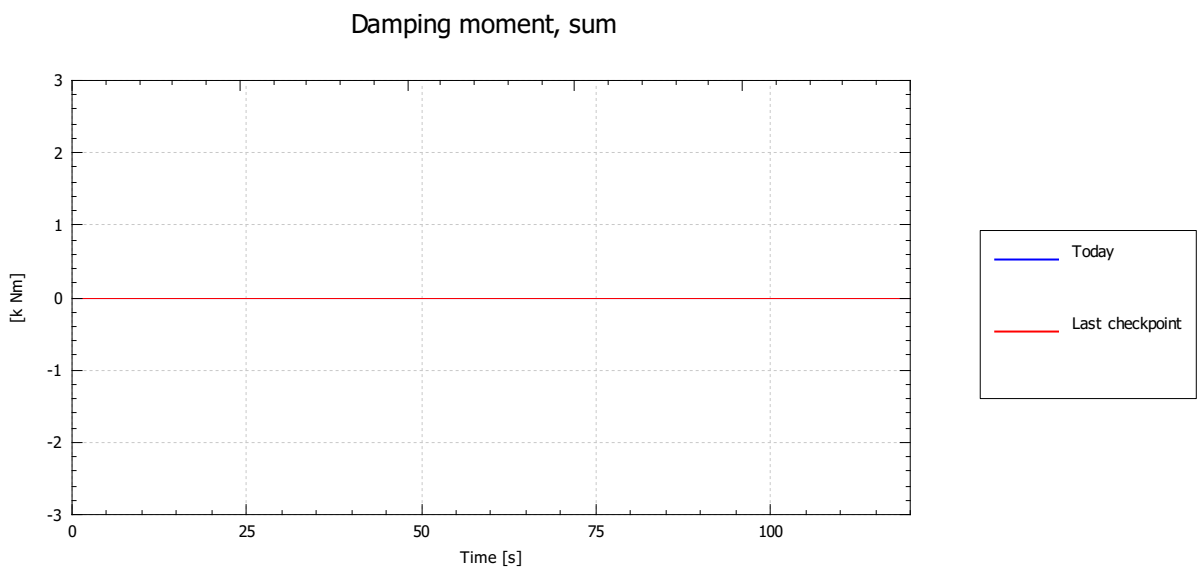
Damping force, i



Damping moment, i

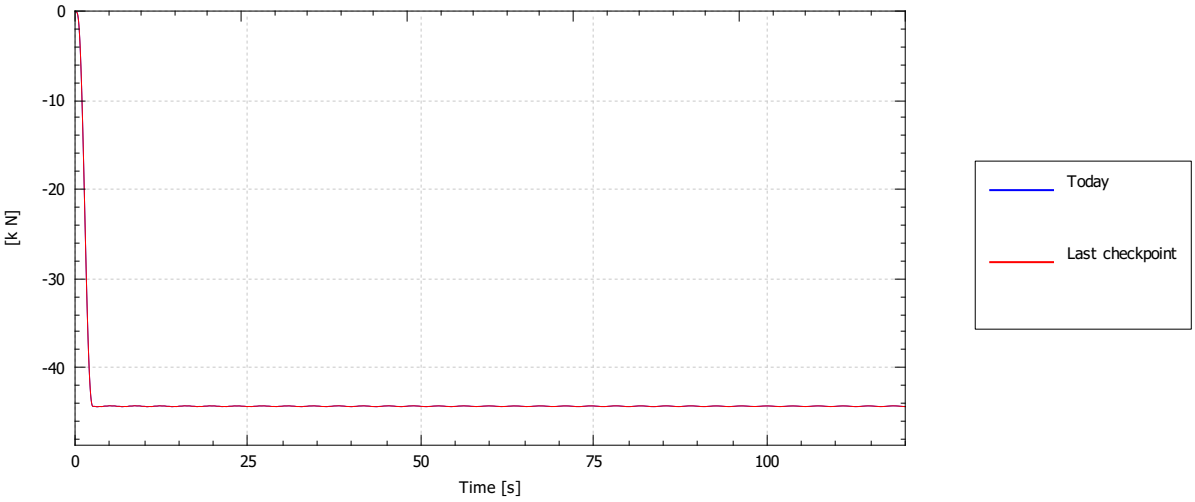




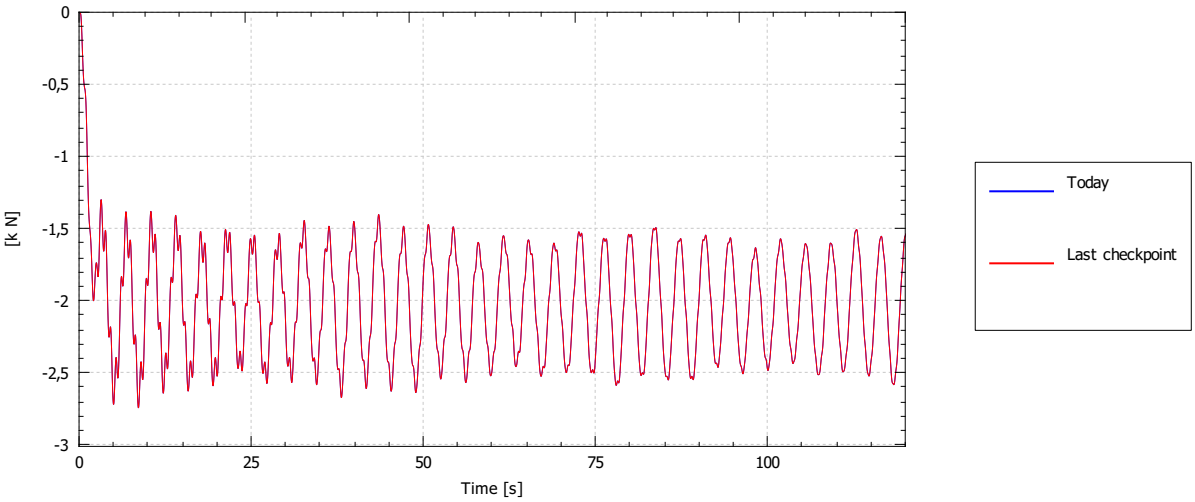


Beam element [Element 25 | Blade 1]

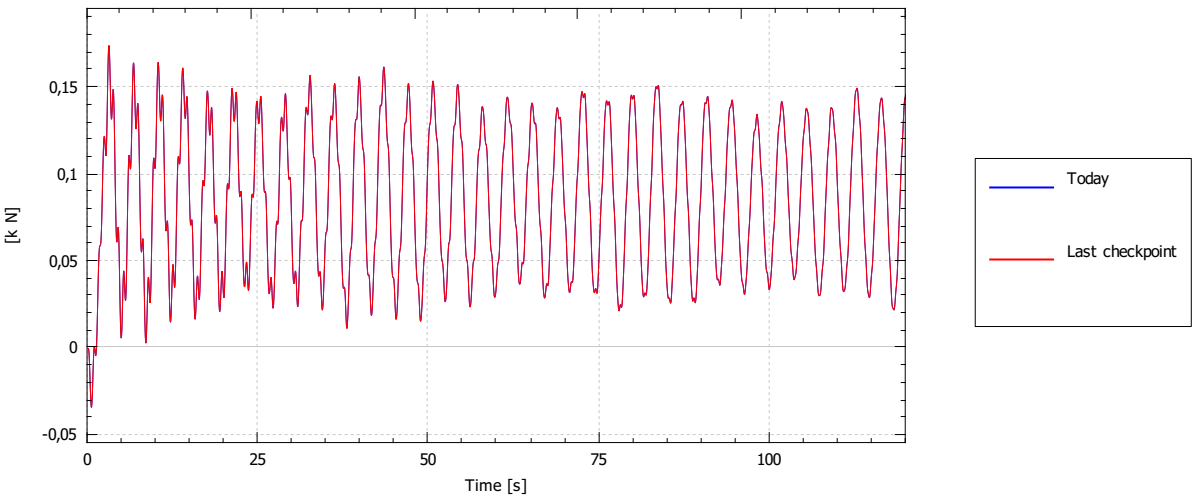
Axial force



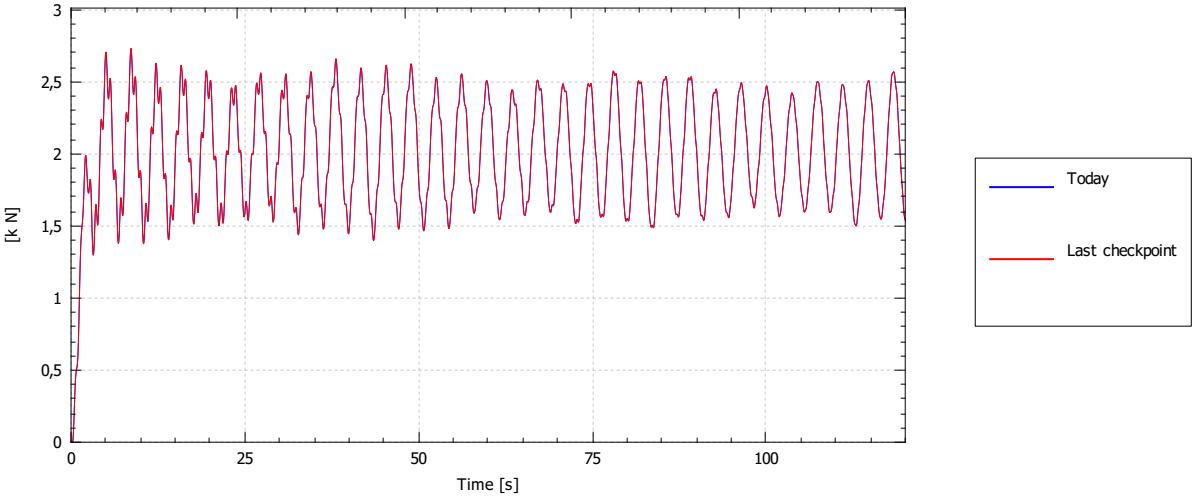
Shear force (1st prin. axis)



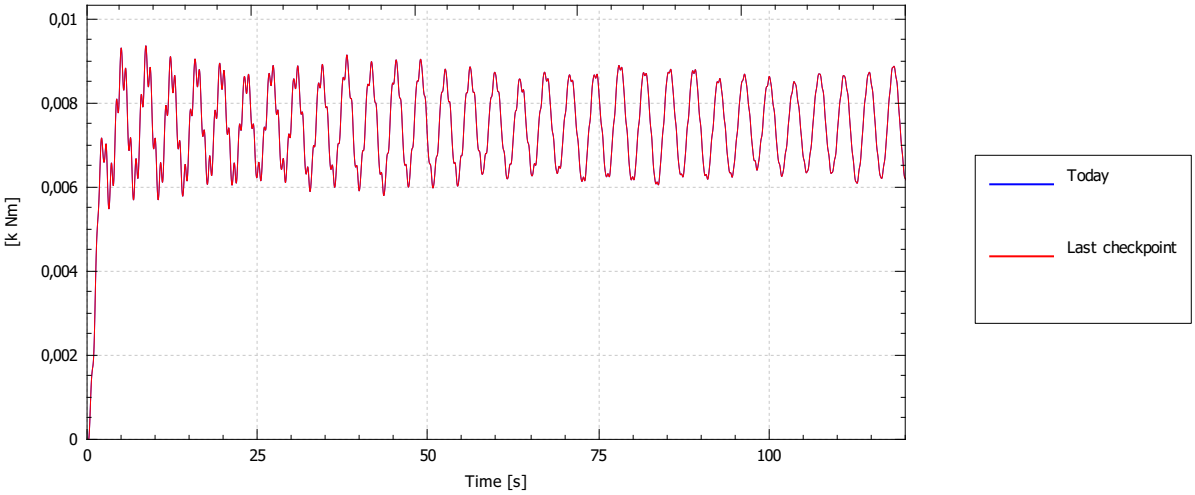
Shear force (2nd prin. axis)



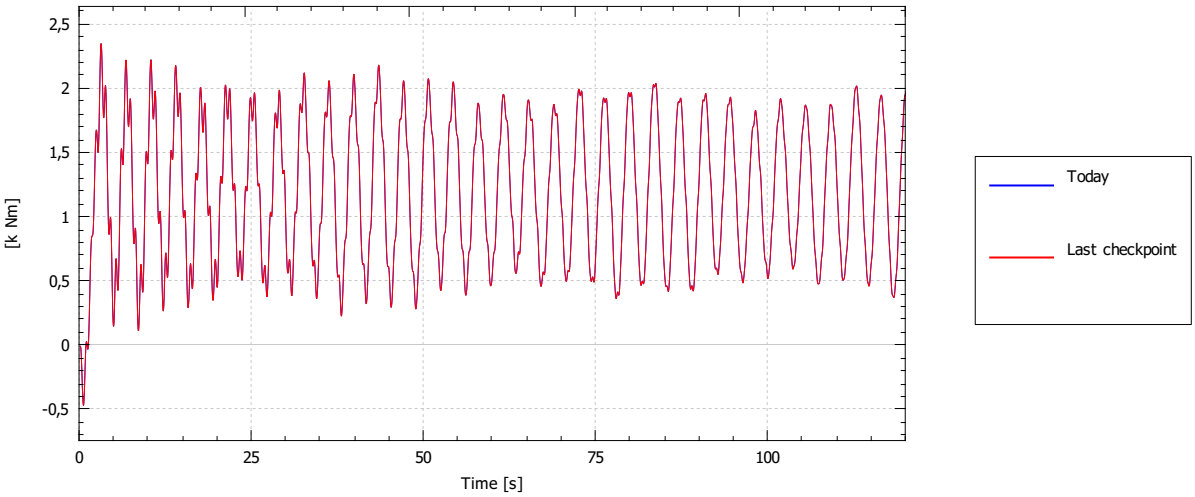
Shear force, mag.



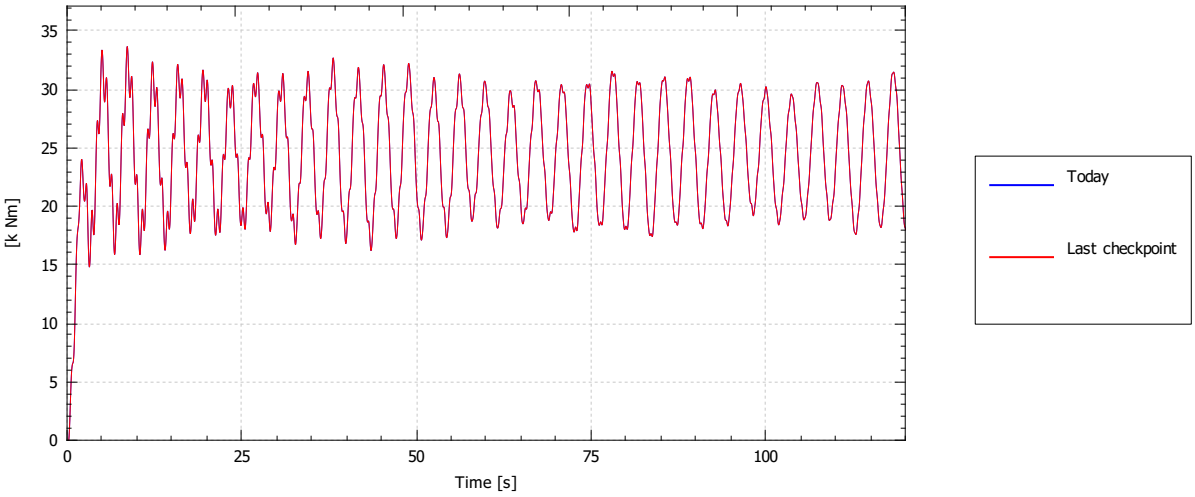
Torque



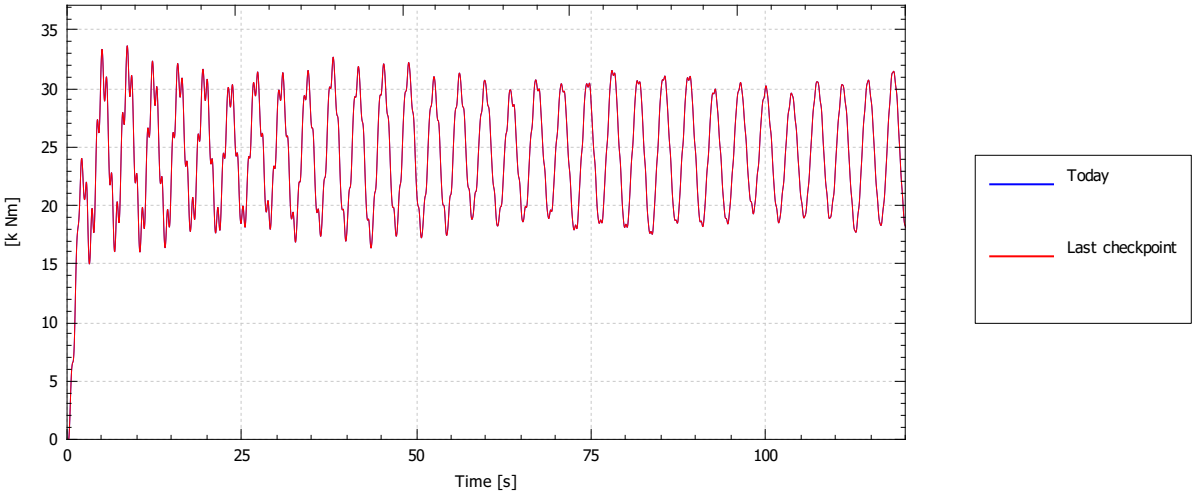
Moment (1st prin. axis), i



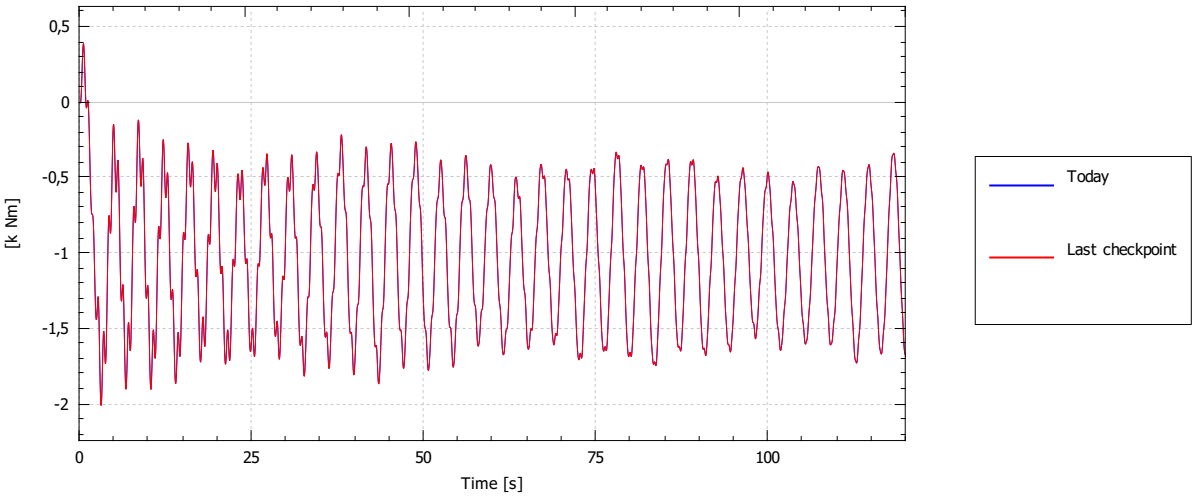
Moment (2nd prin. axis), i



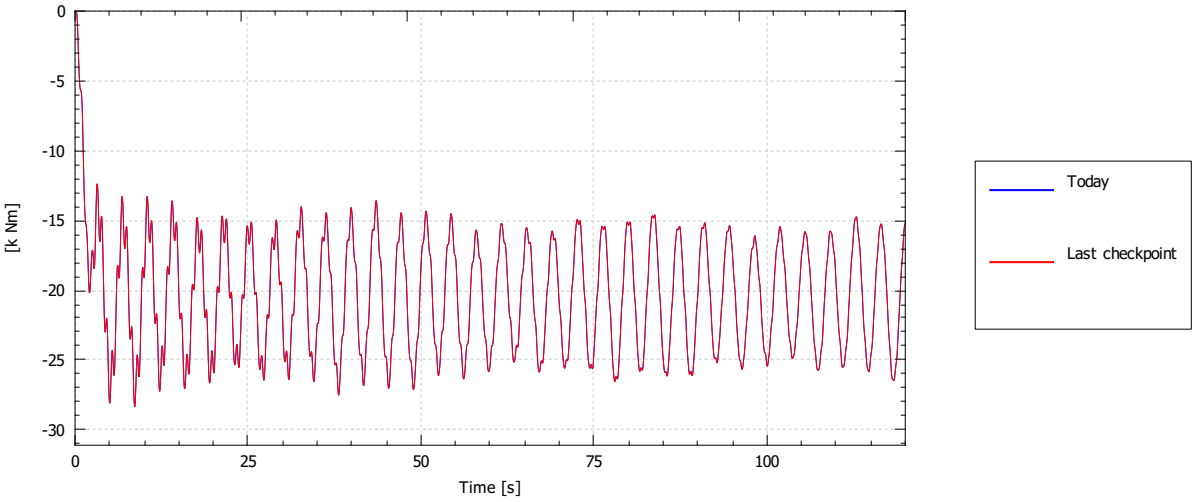
Moment, mag., i



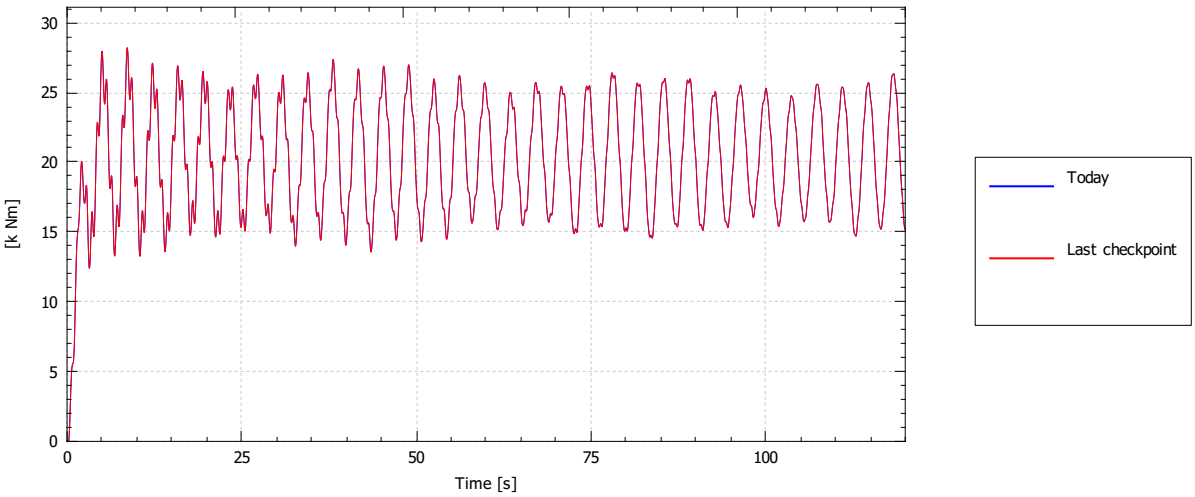
Moment (1st prin. axis), j



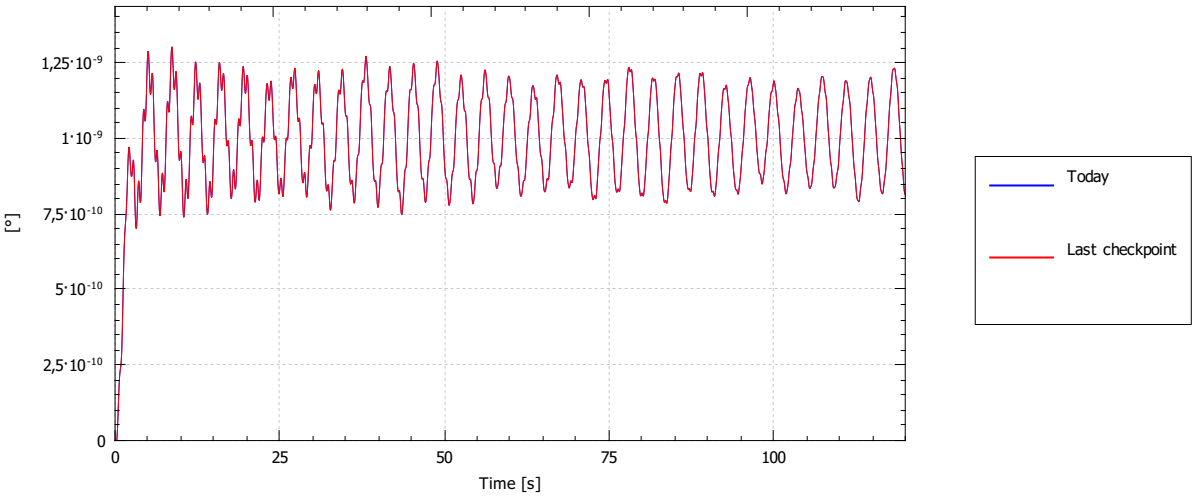
Moment (2nd prin. axis), j

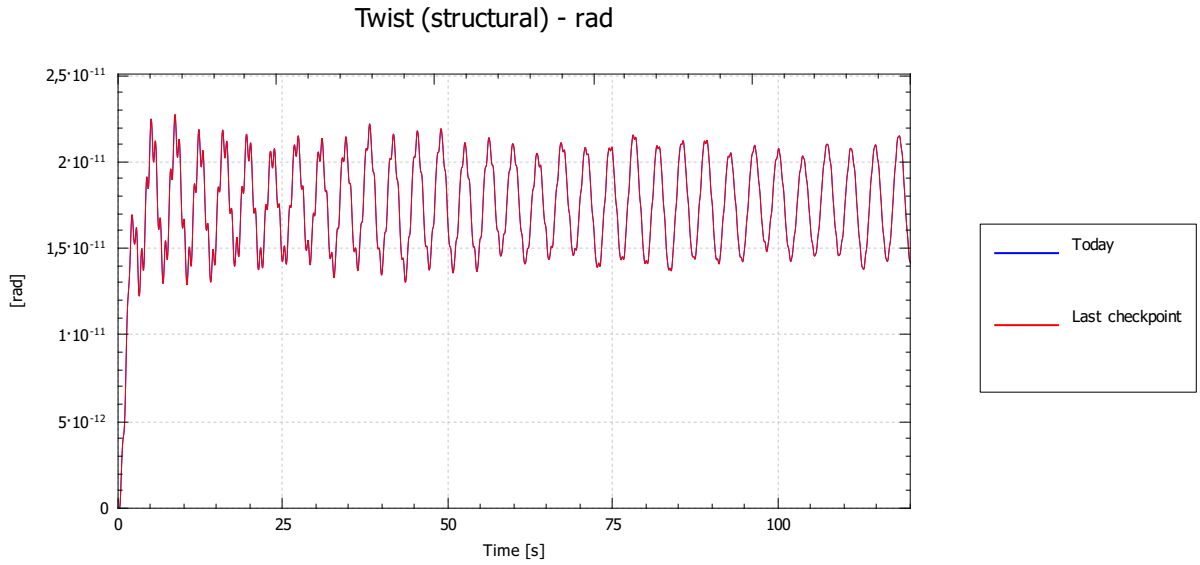


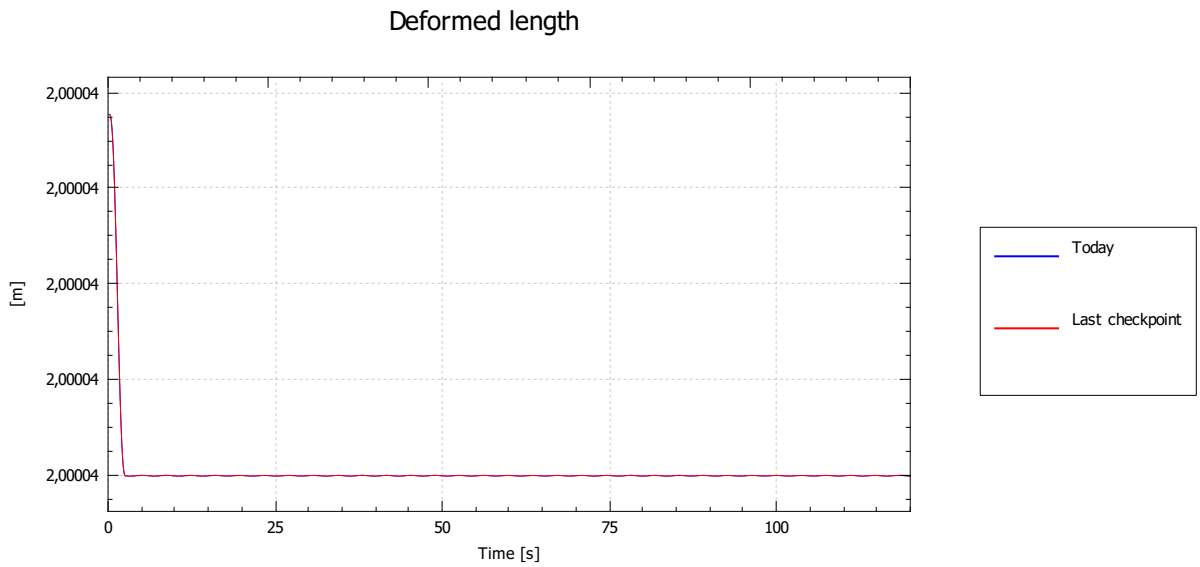
Moment, mag., j

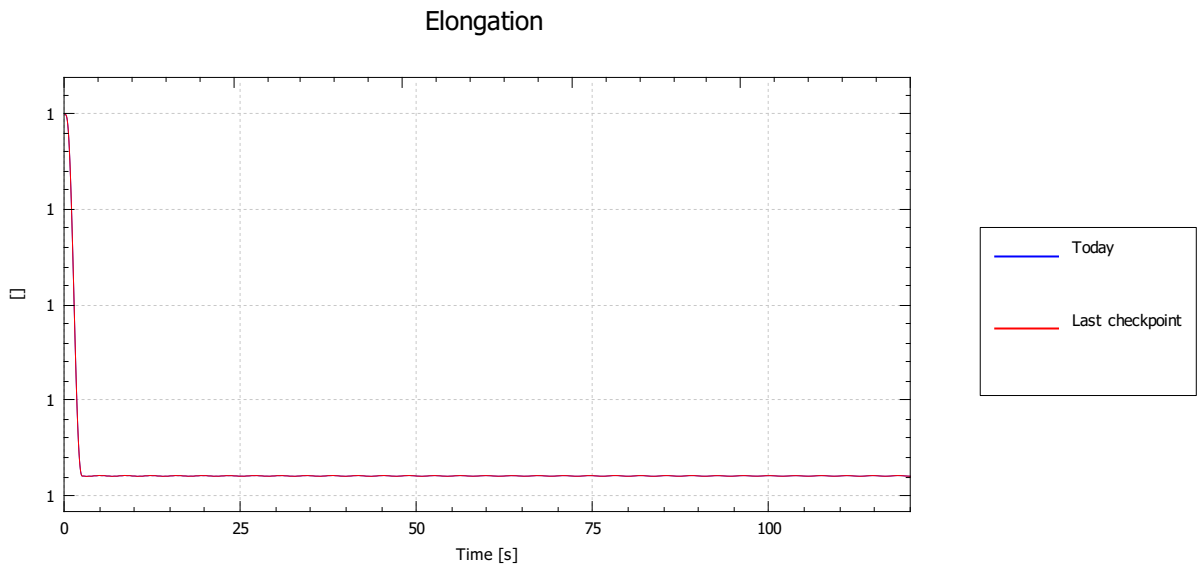


Twist (structural)

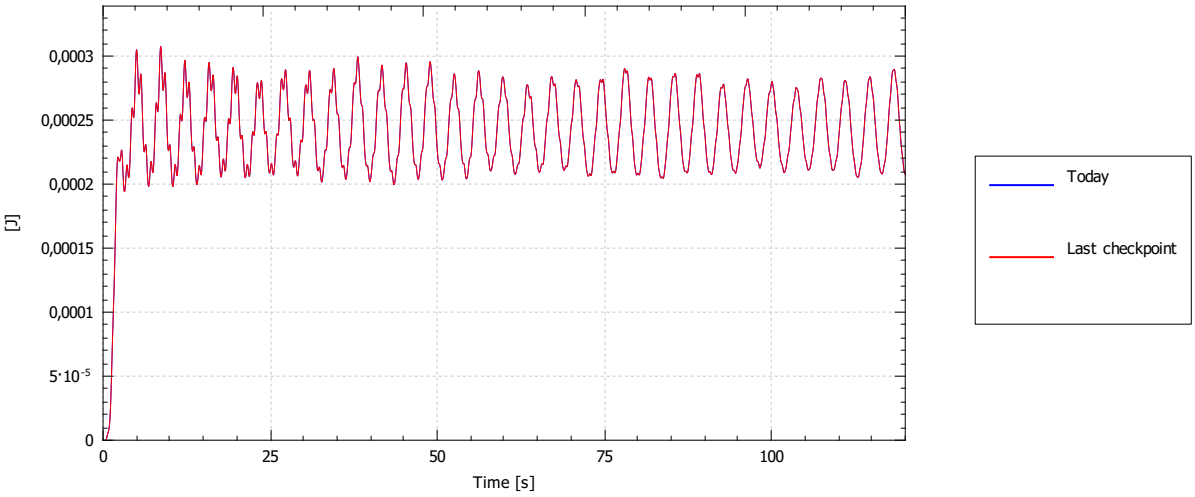



Twist (structural) - rad
2,5·10-11
2·10-11
1,5·10-11
1·10-11
5·10-12
0
[rad]
0
25
50
75
100
Time [s]
Today
Last checkpoint

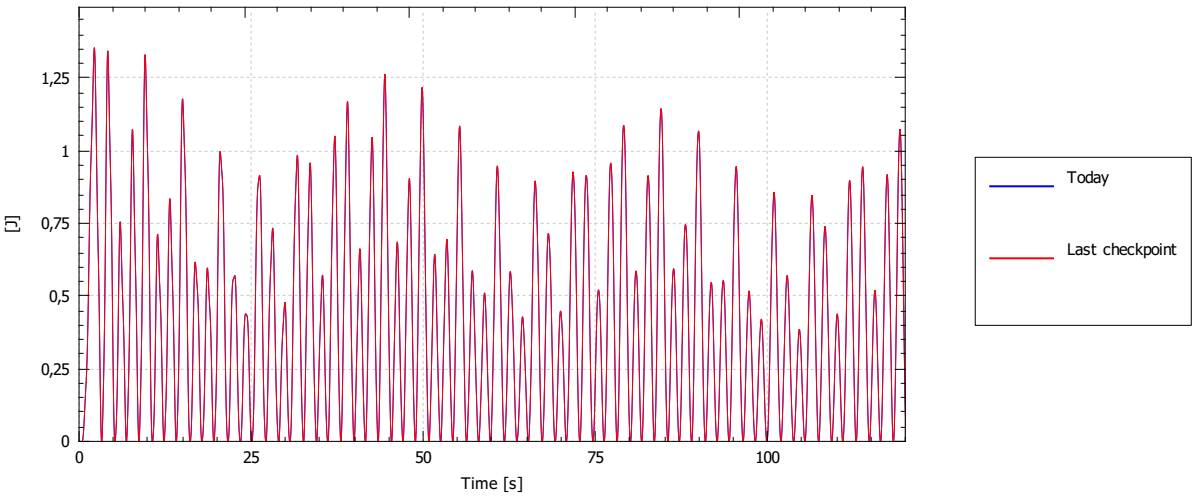

Deformed length
2,00004
2,00004
2,00004
2,00004
2,00004
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Elongation
1
1
1
1
1
[]
0
25
50
75
100
Time [s]
Today
Last checkpoint

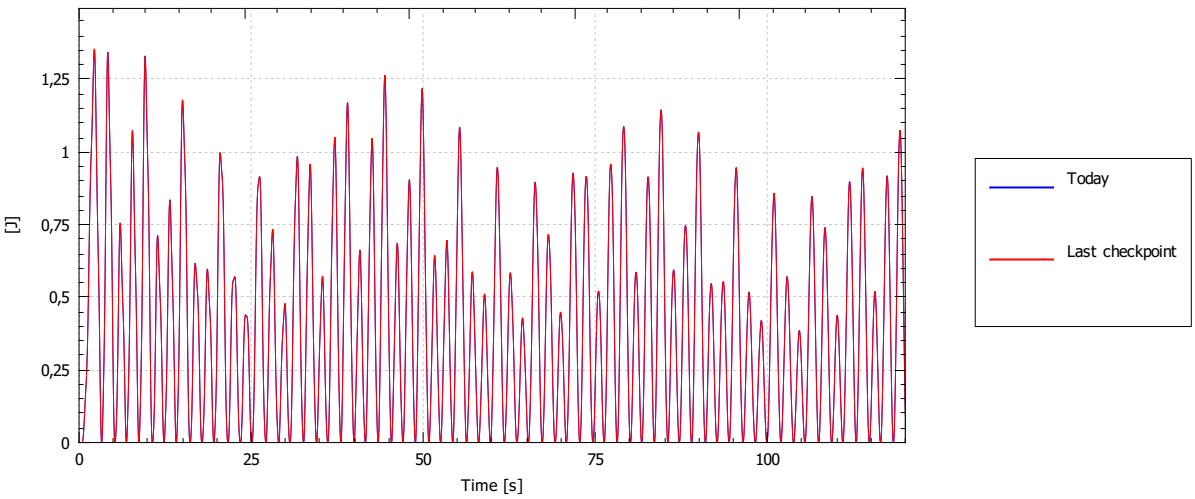
Strain energy



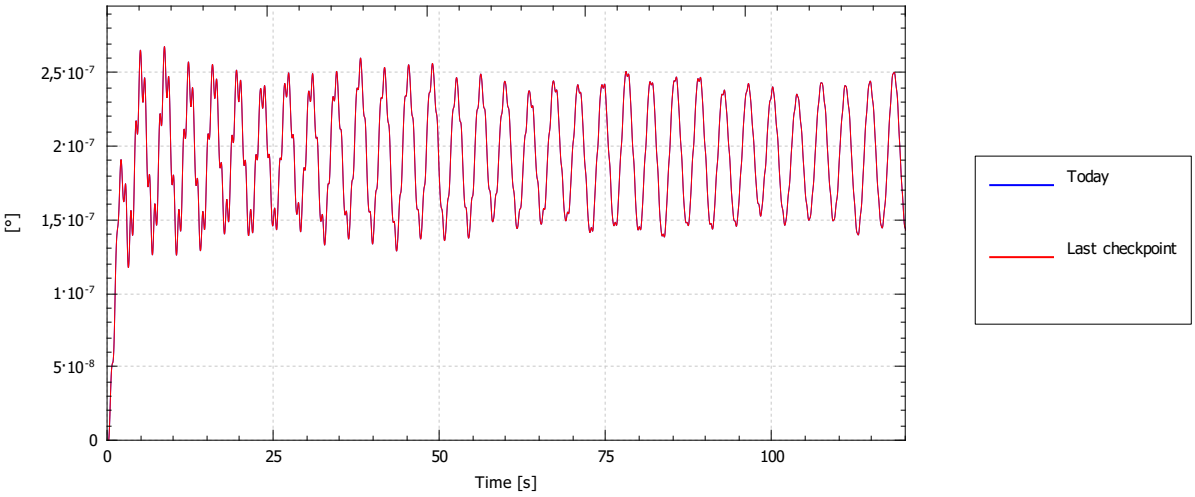
Kinetic energy



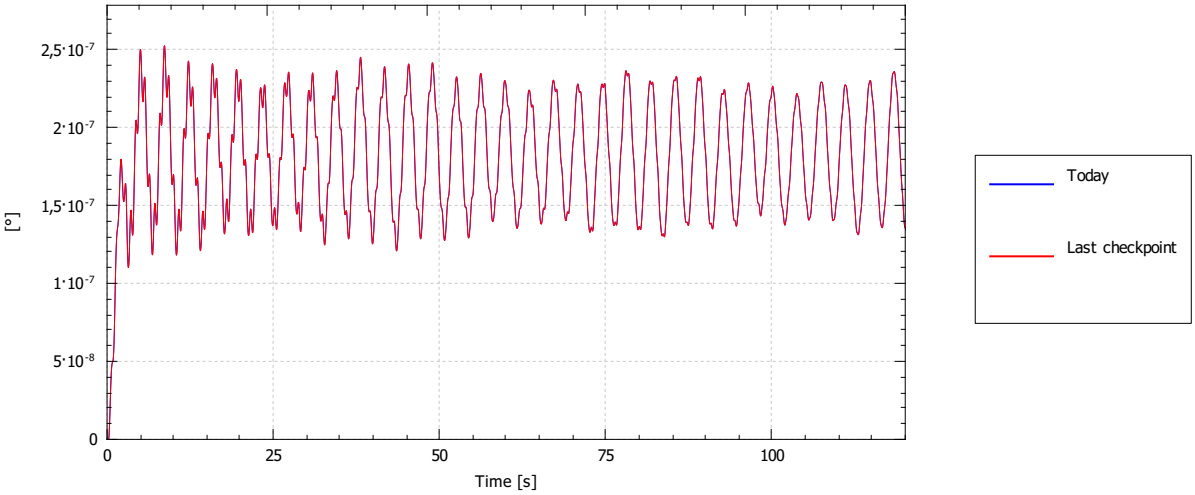
Mechanical energy



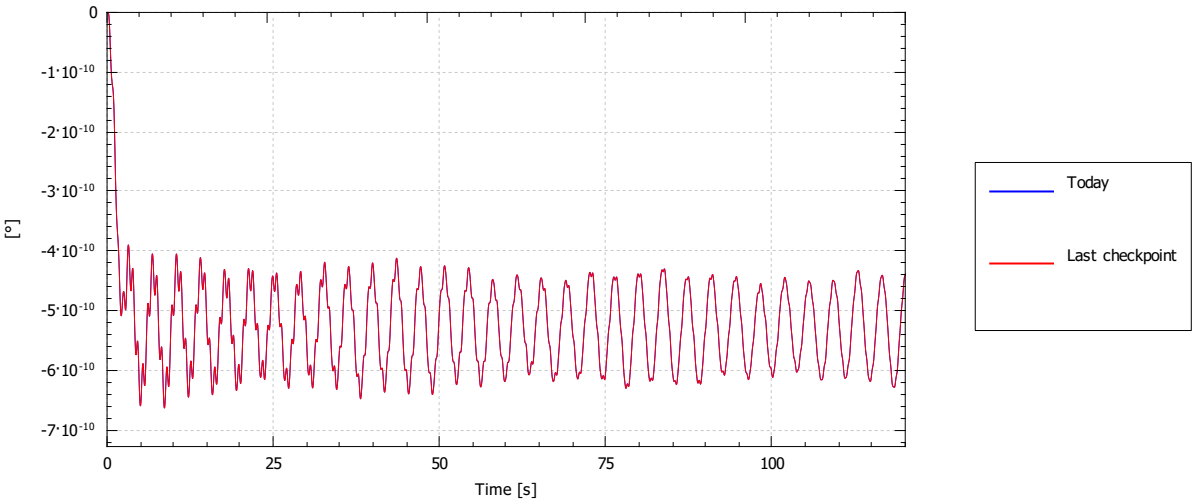
Deformational rotation (i)



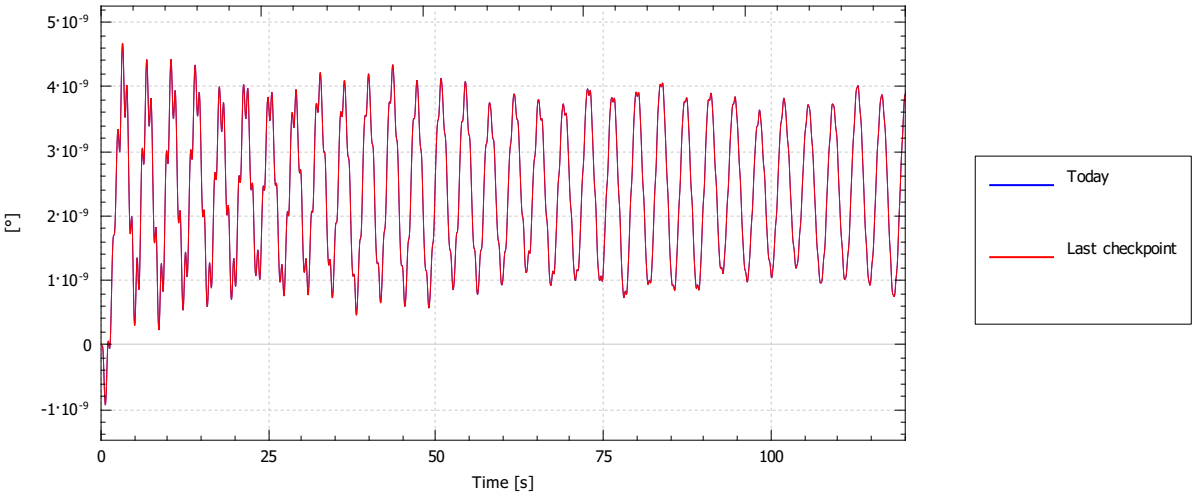
Deformational rotation (j)



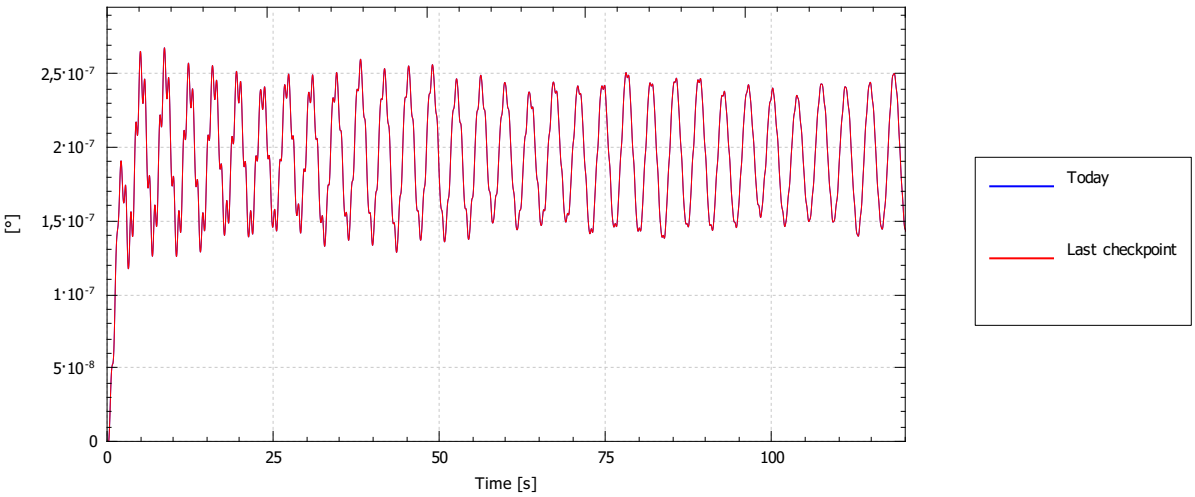
Deformational rotation (axial)



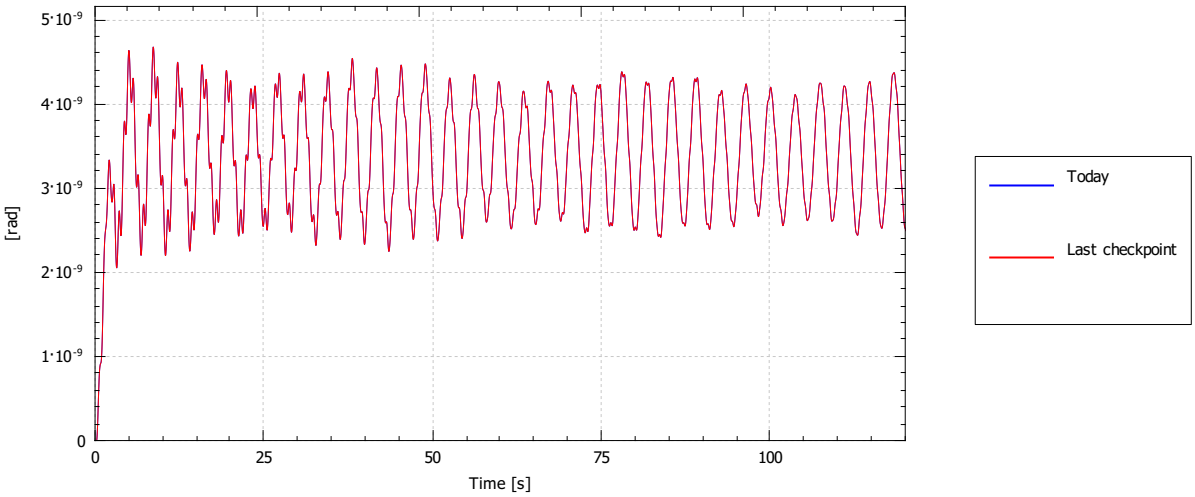
Deformational rotation (1st prin.)



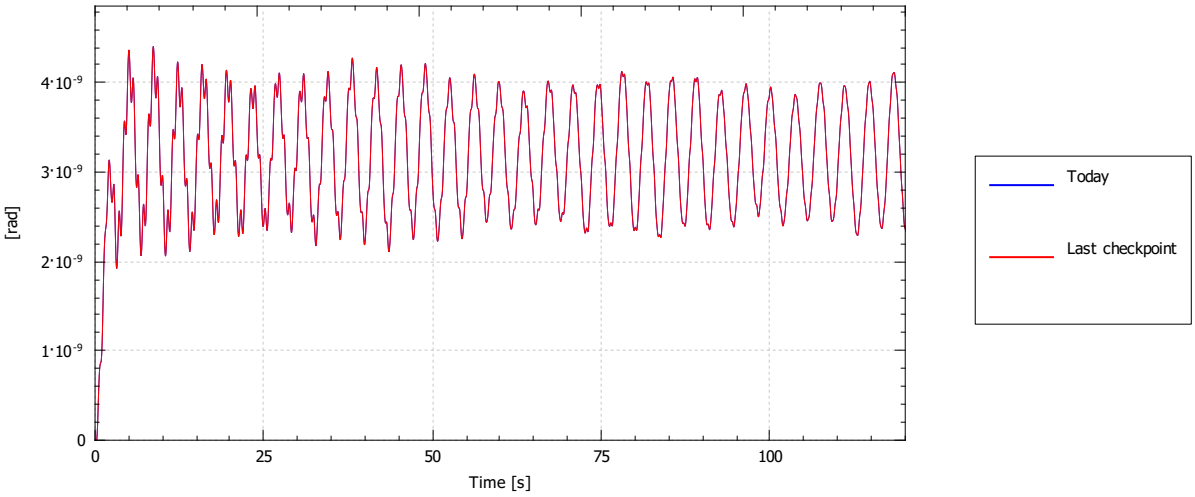
Deformational rotation (2nd prin.)



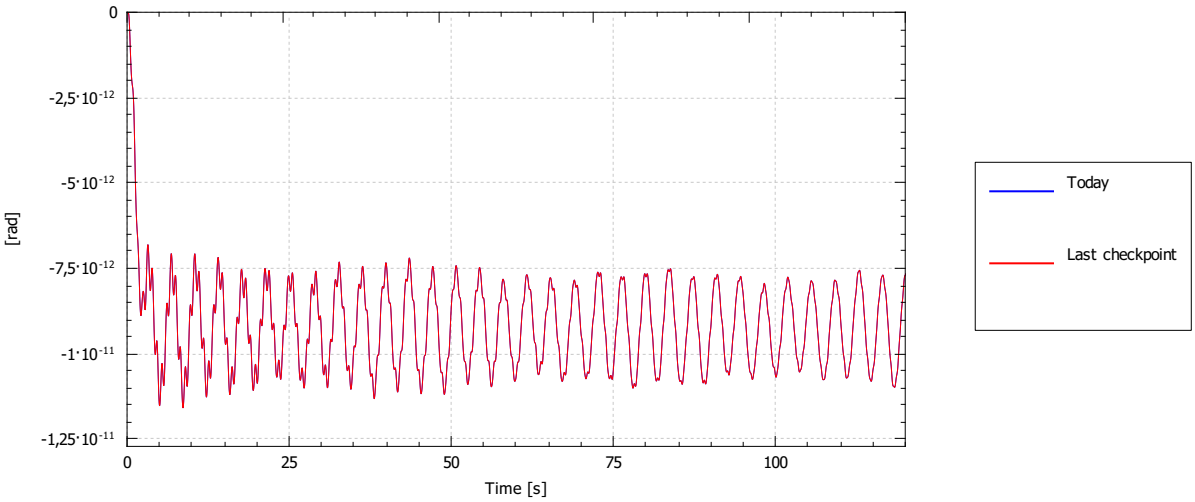
Deformational rotation (i) - rad



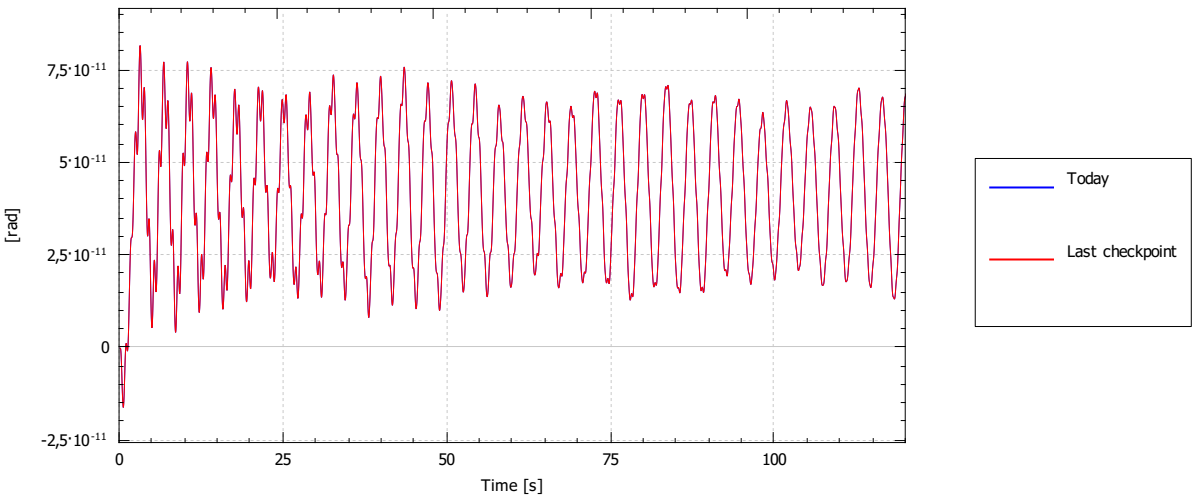
Deformational rotation (j) - rad



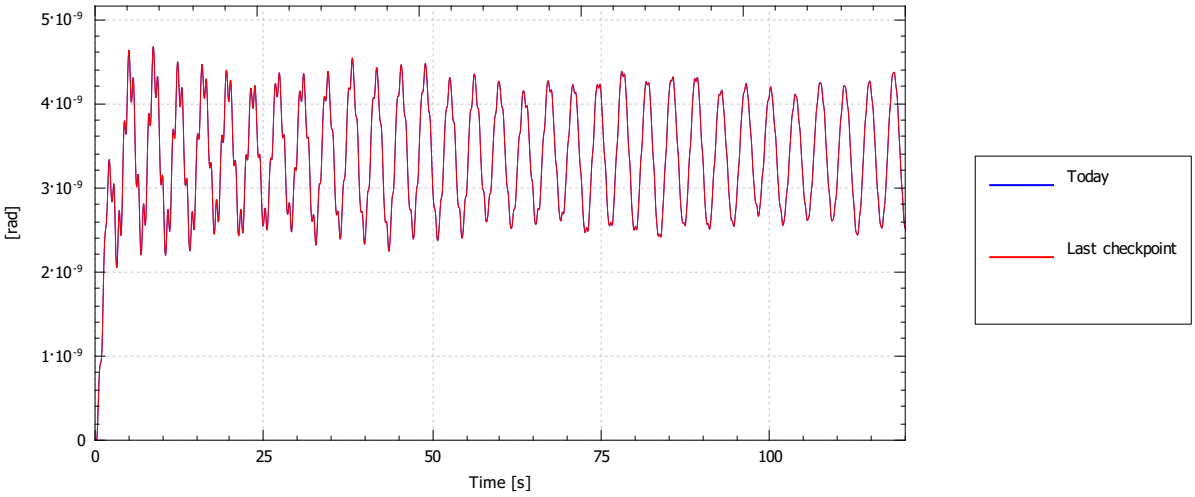
Deformational rotation (axial) - rad



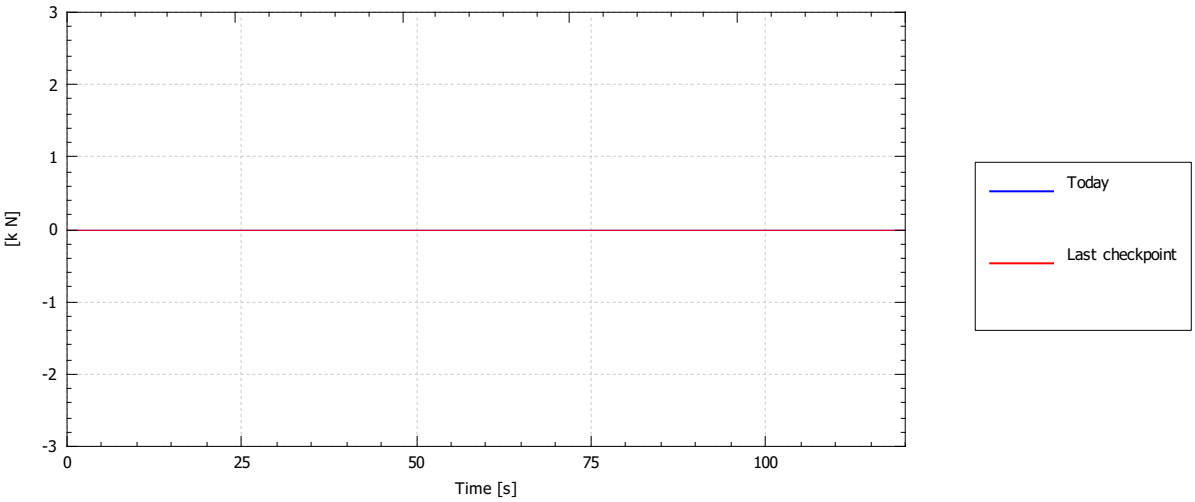
Deformational rotation (1st prin.) - rad



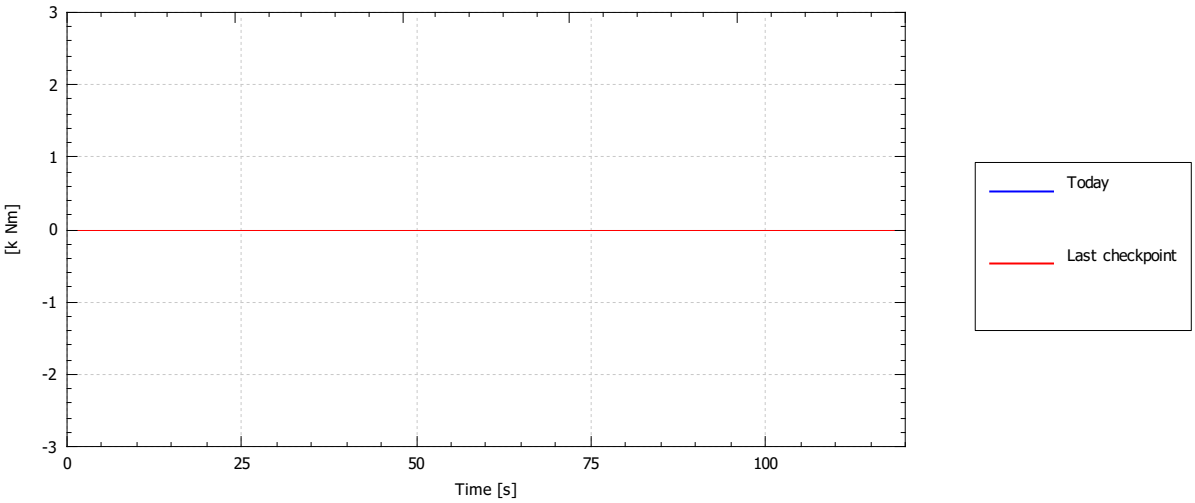
Deformational rotation (2nd prin.) - rad

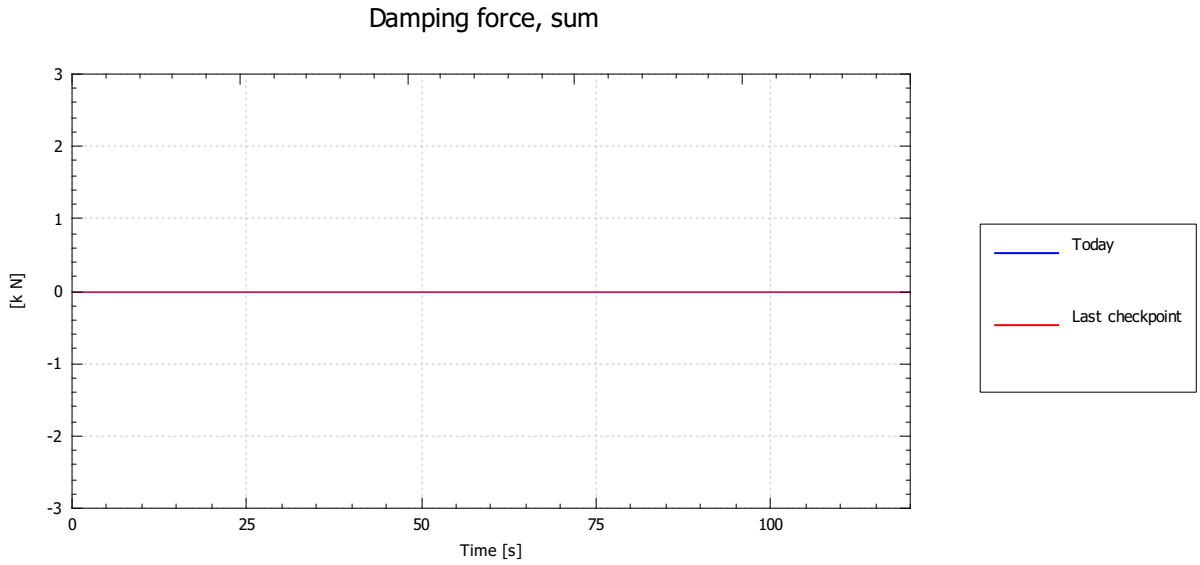


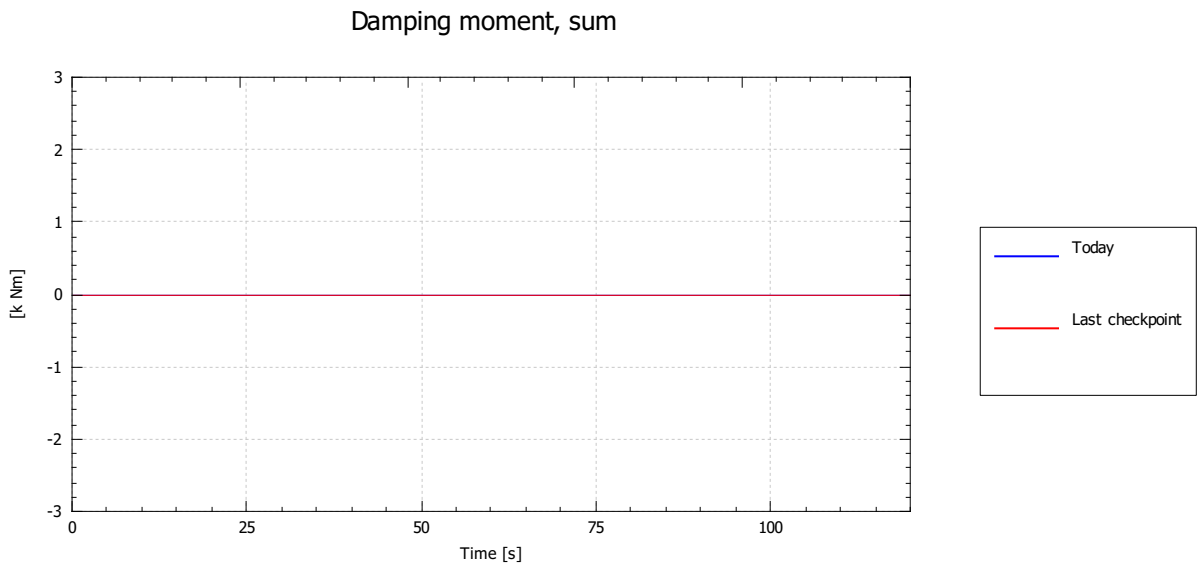
Damping force, i



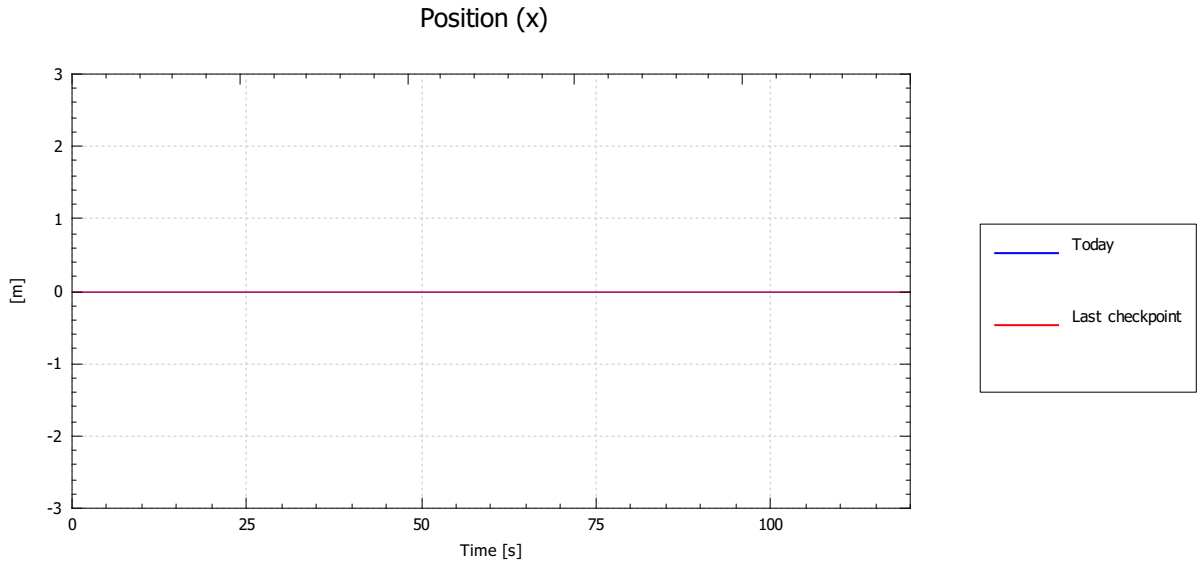
Damping moment, i

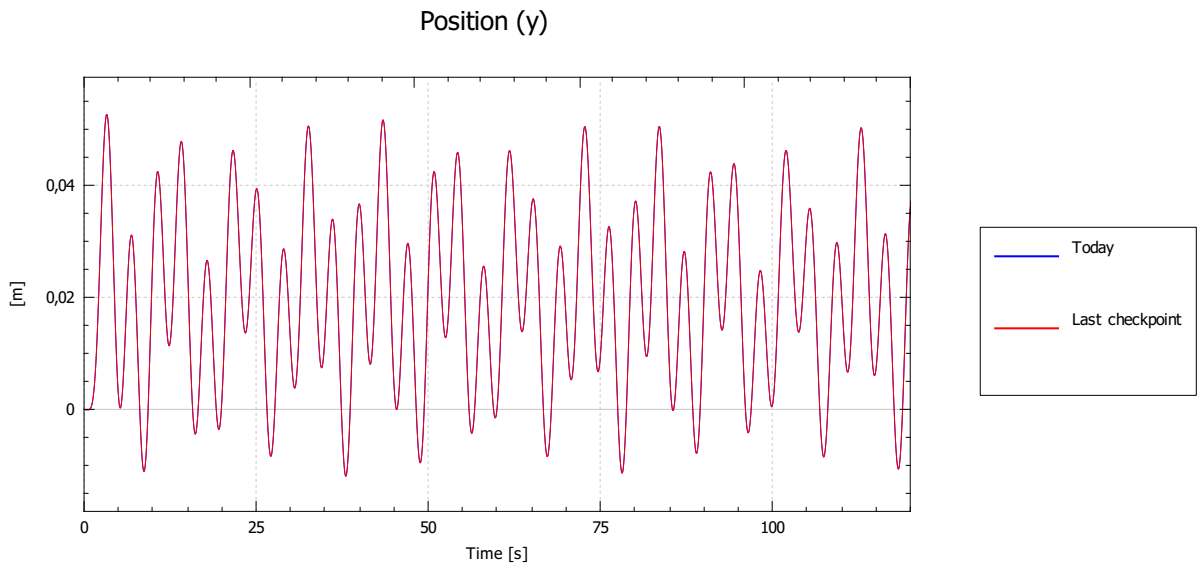


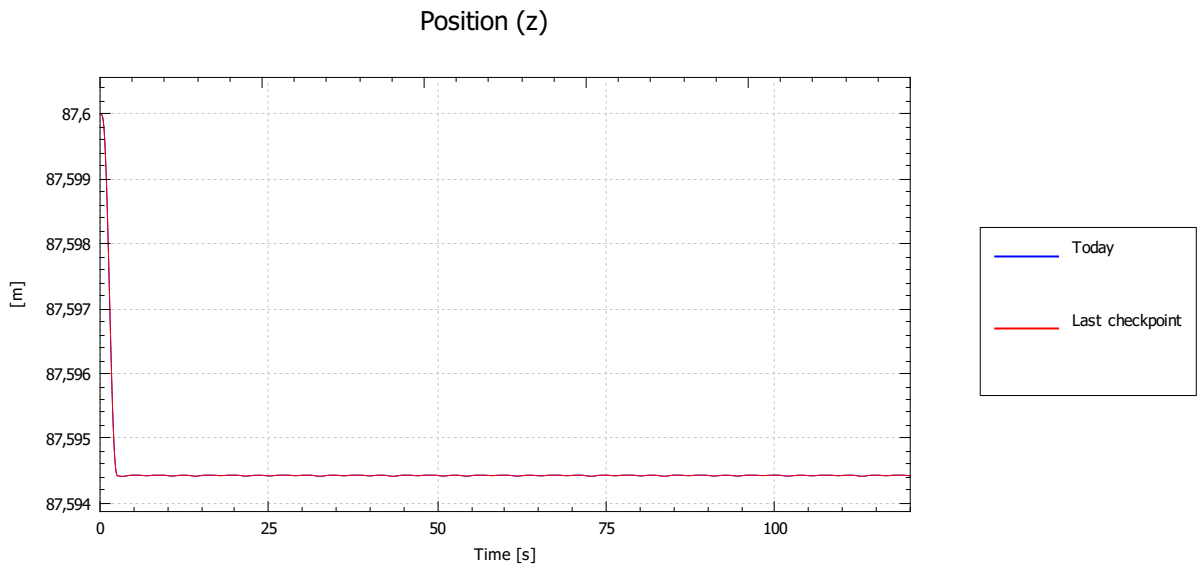


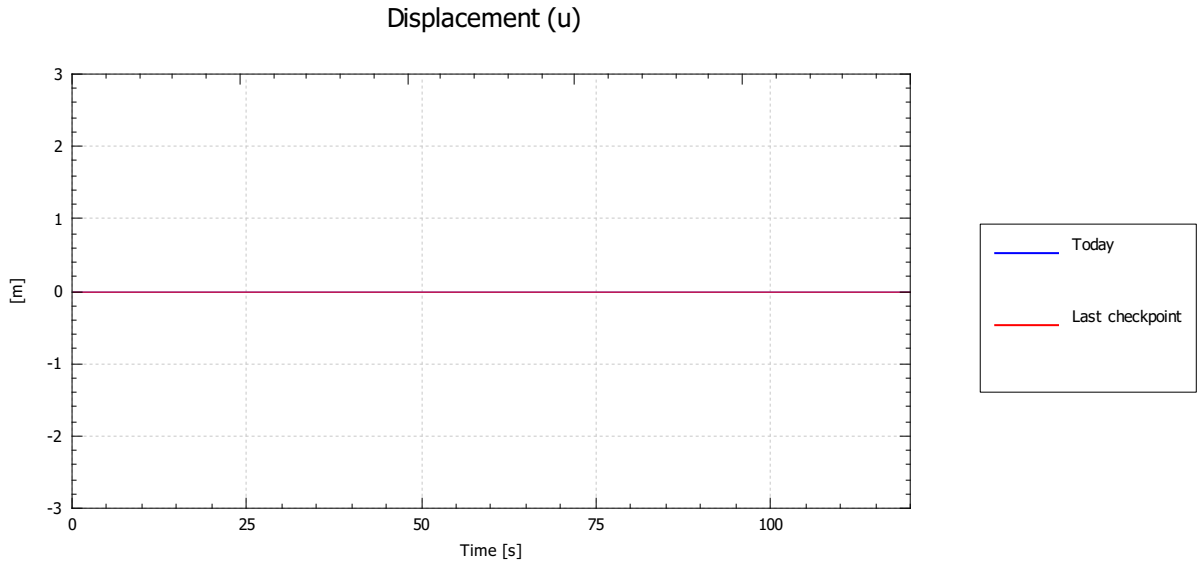


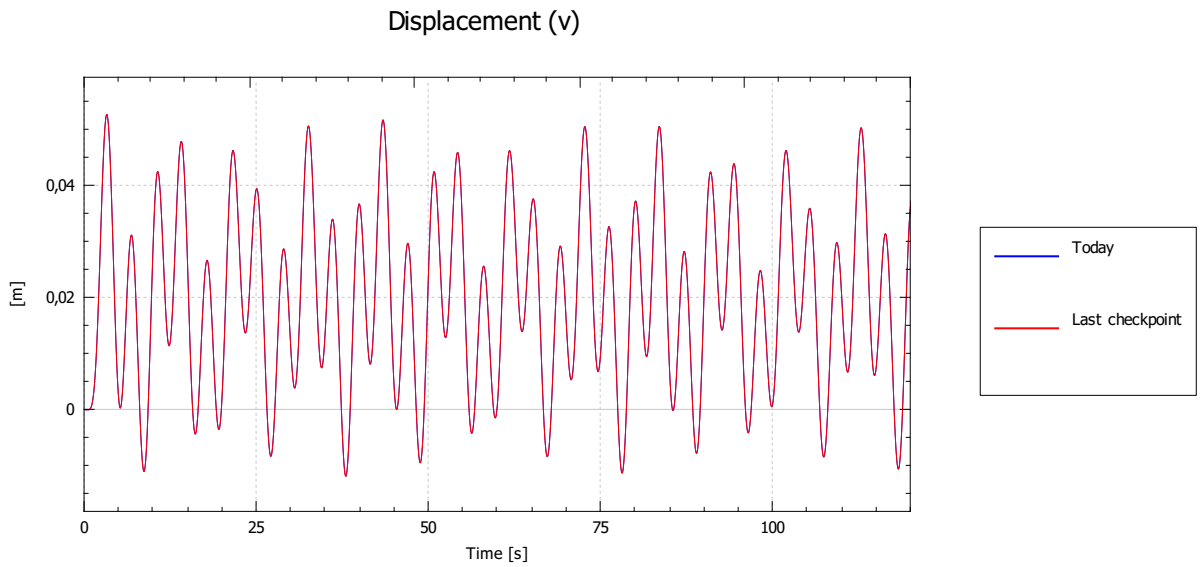
Node [Node RNA_node | Tubular tower]

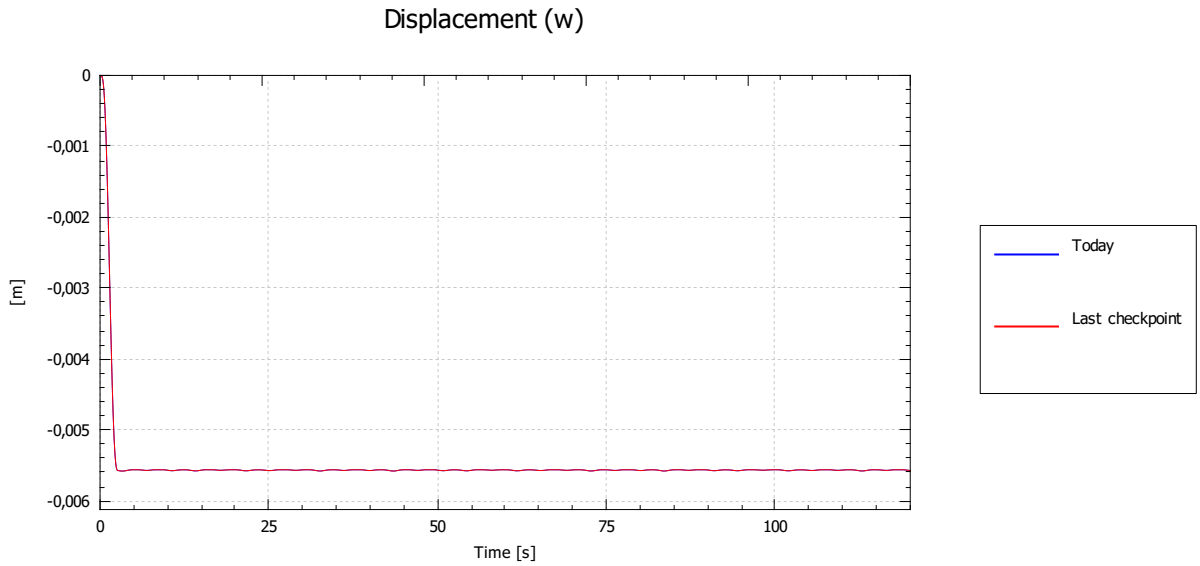

Position (x)
3
2
1
0
-1
-2
-3
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Position (y)
0,04
0,02
0
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

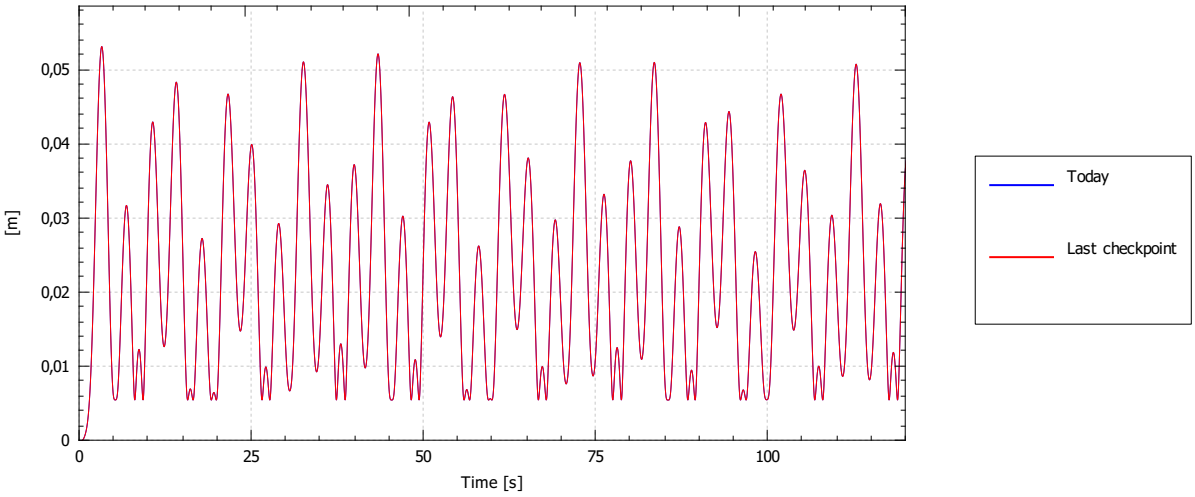

Position (z)
87,6
87,599
87,598
87,597
87,596
87,595
87,594
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Displacement (u)
3
2
1
0
-1
-2
-3
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

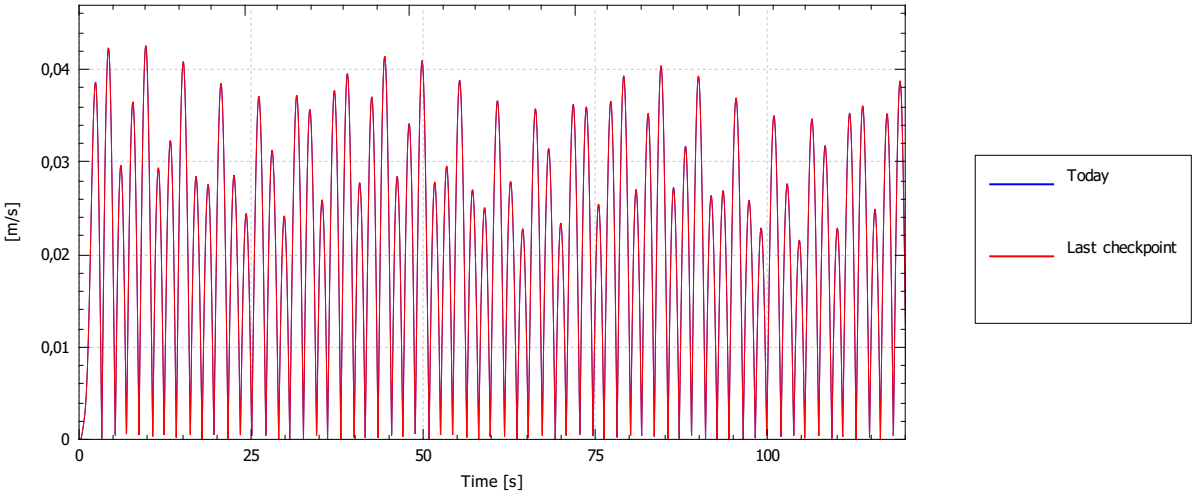

Displacement (v)
0,04
0,02
0
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Displacement (w)
0
-0,001
-0,002
-0,003
-0,004
-0,005
-0,006
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

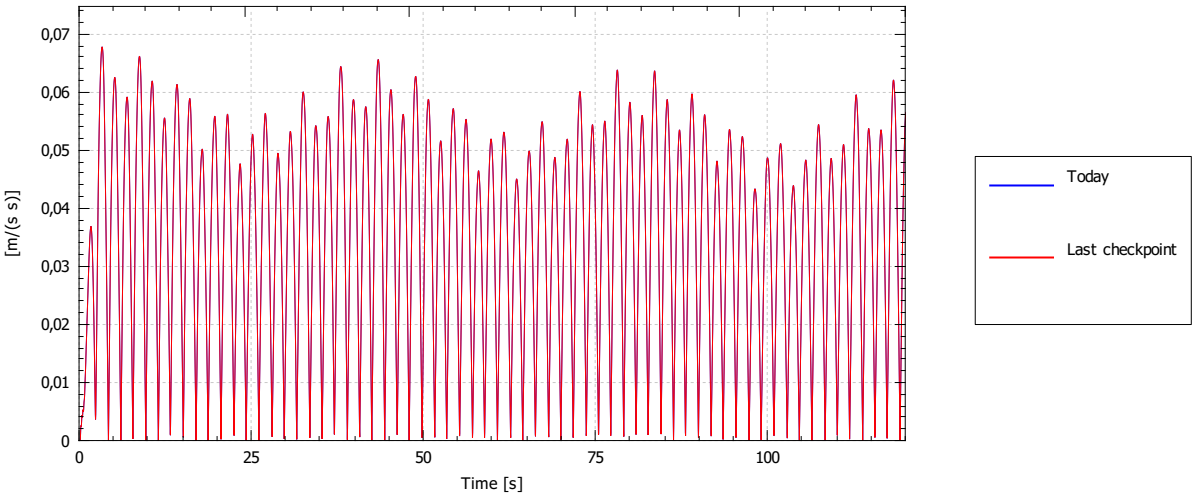
Displacement magnitude



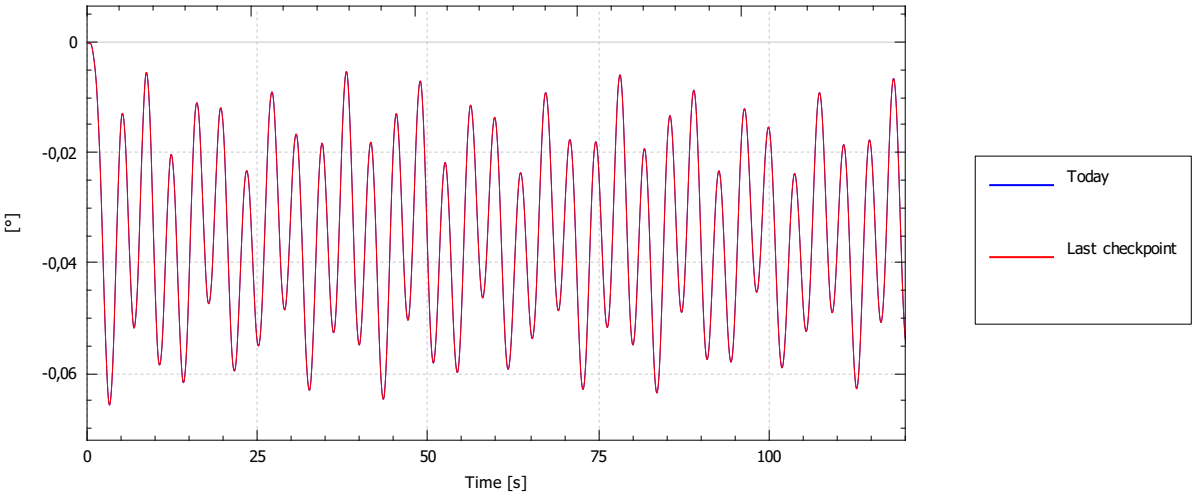
Speed



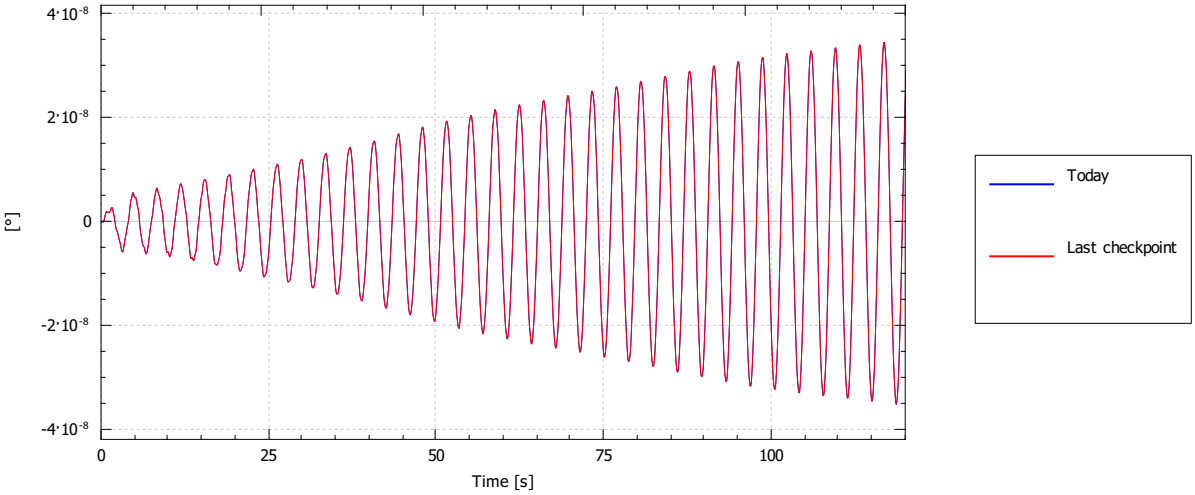
Acceleration, magnitude



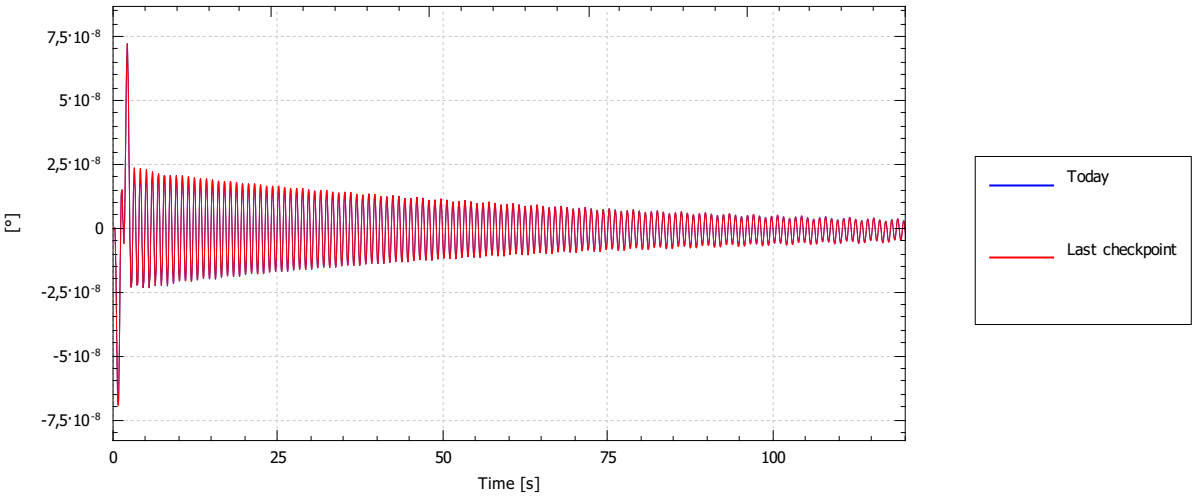
Rotational displacement (ru)



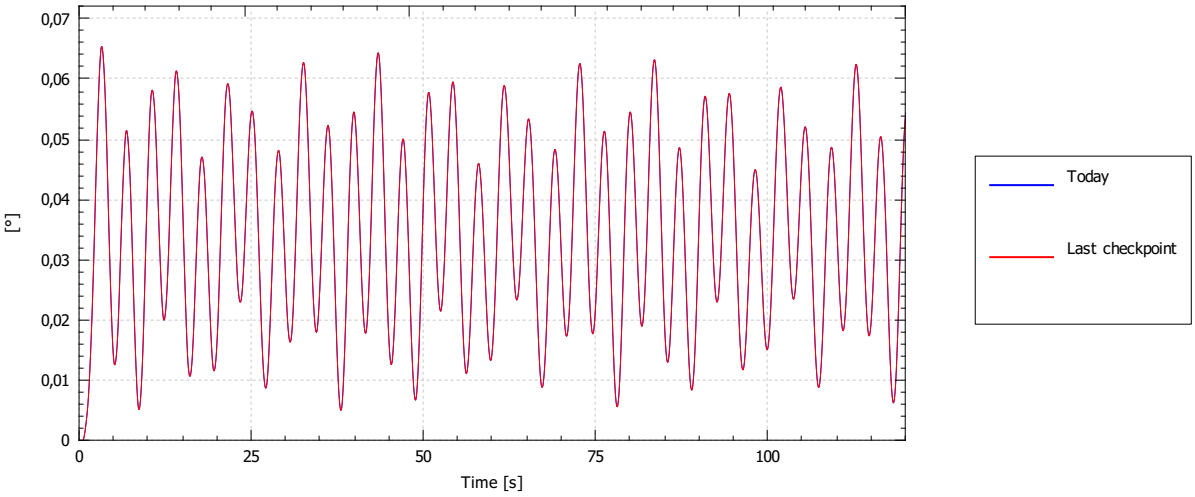
Rotational displacement (rv)



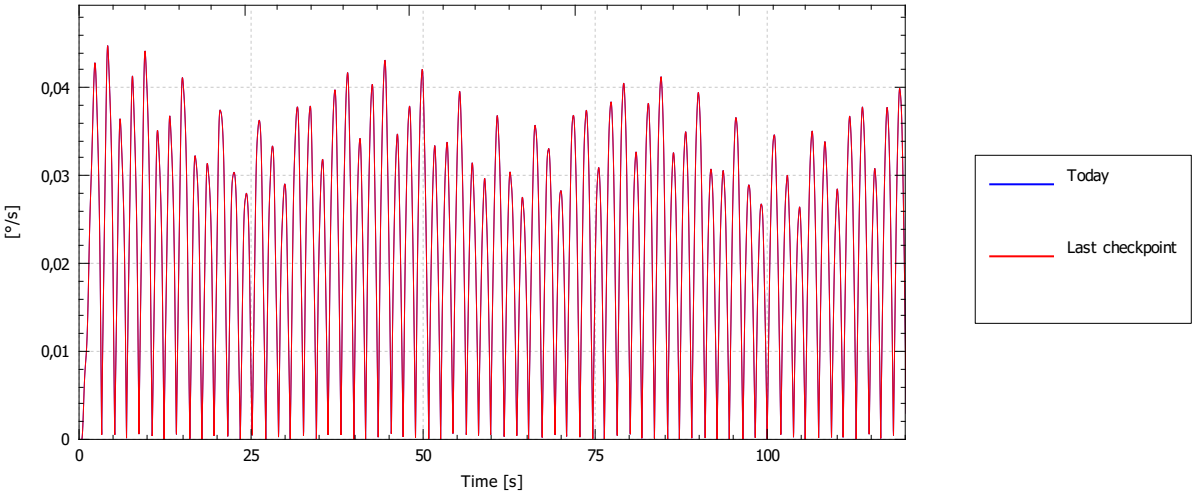
Rotational displacement (rw)



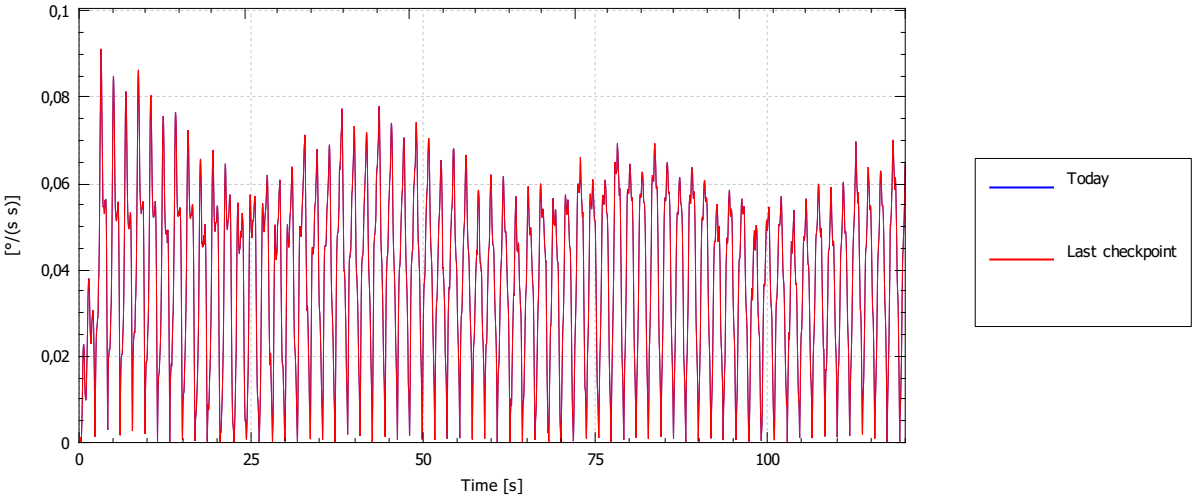
Rotational displacement magnitude



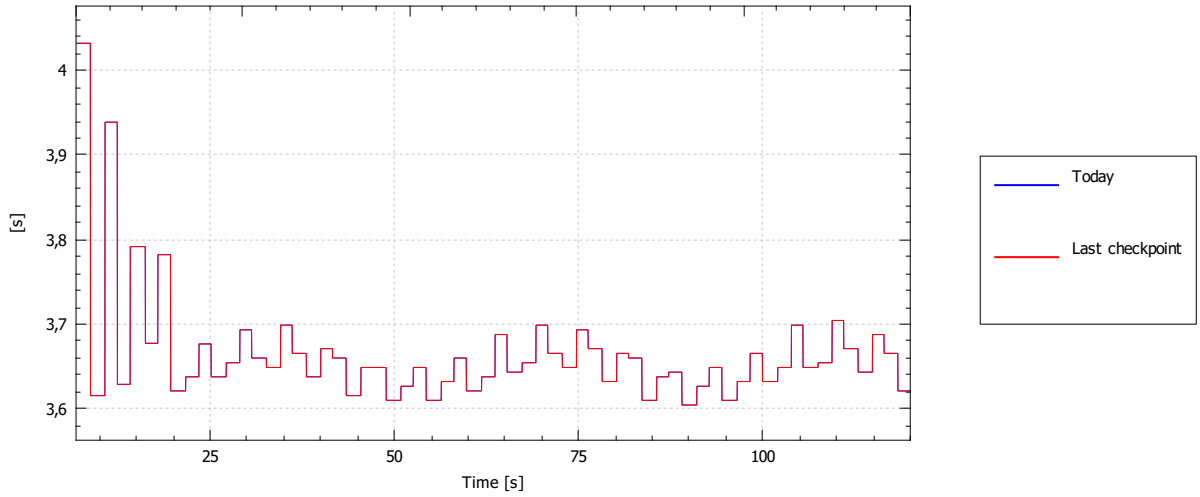
Rotational speed



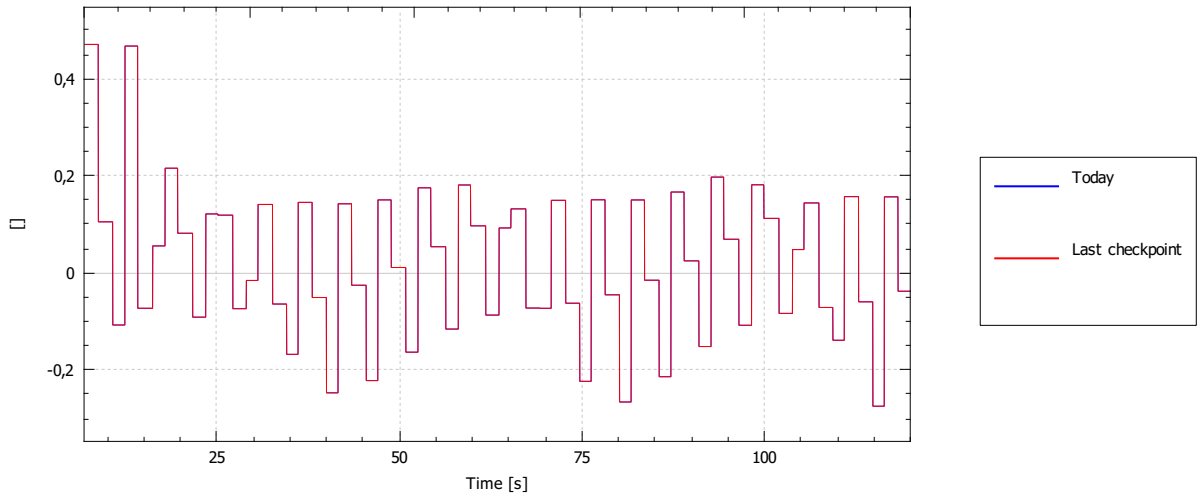
Rotational acceleration mag



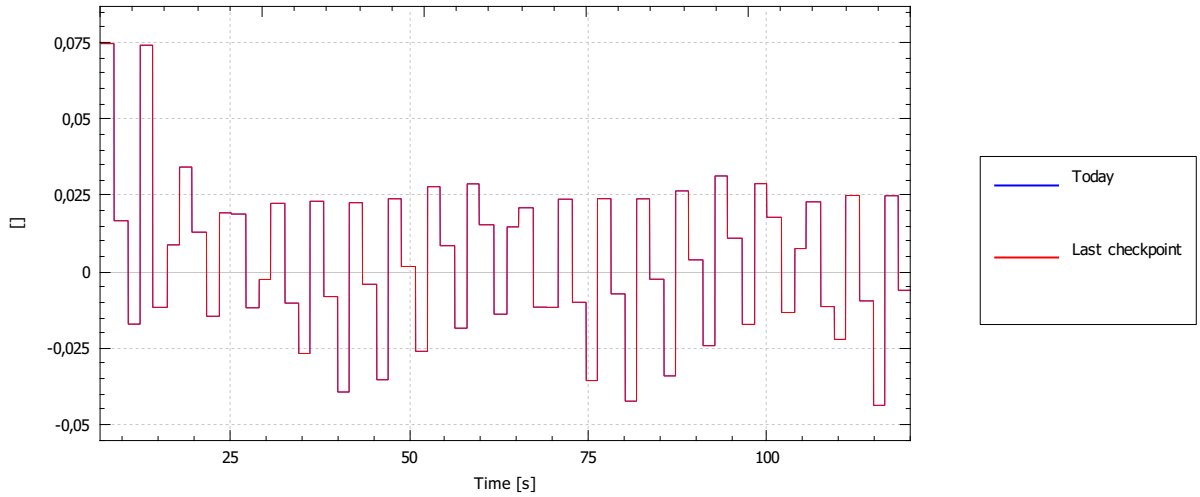
Displacement period



Displacement logarithmic decrement

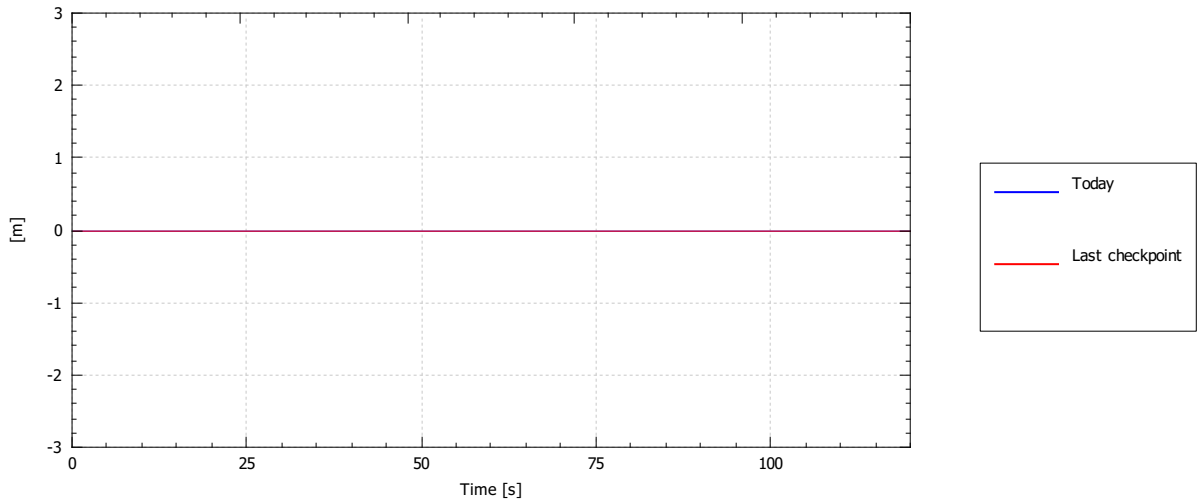


Displacement damping ratio

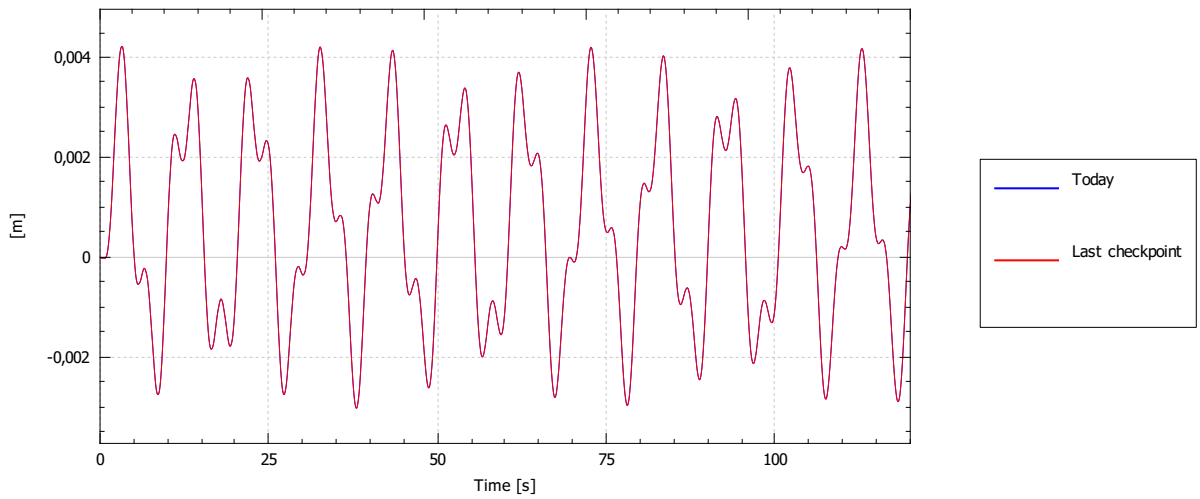


Node [Node 1 | Tubular tower]

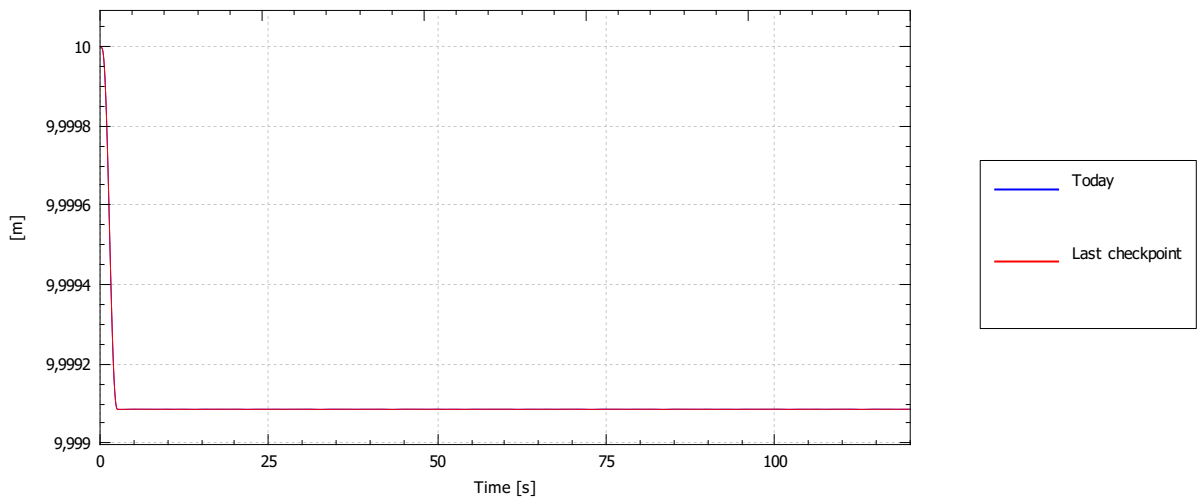
Position (x)

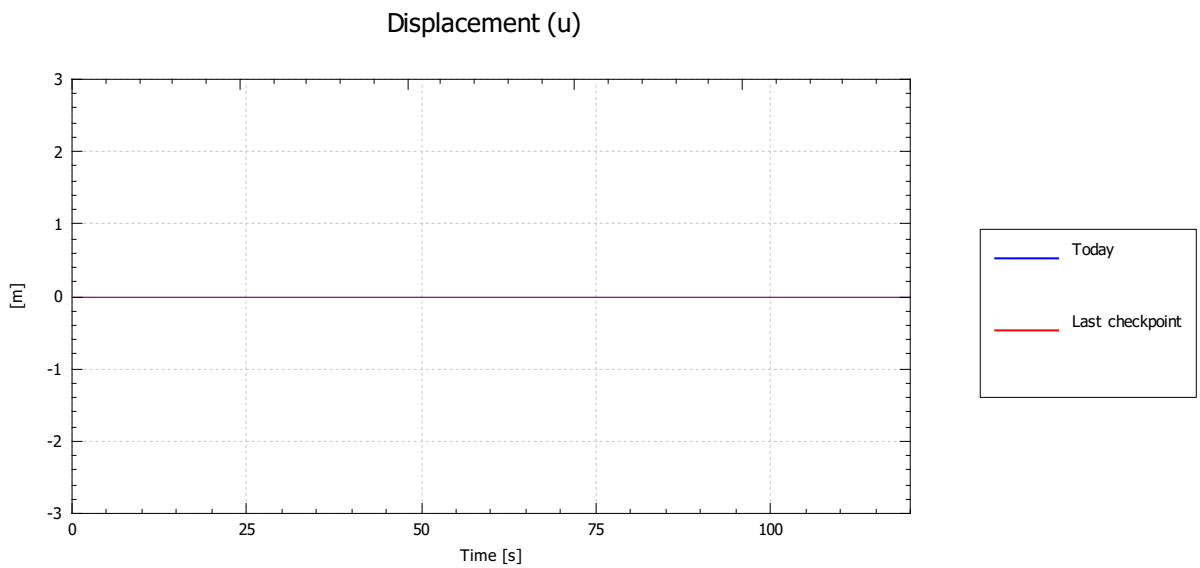


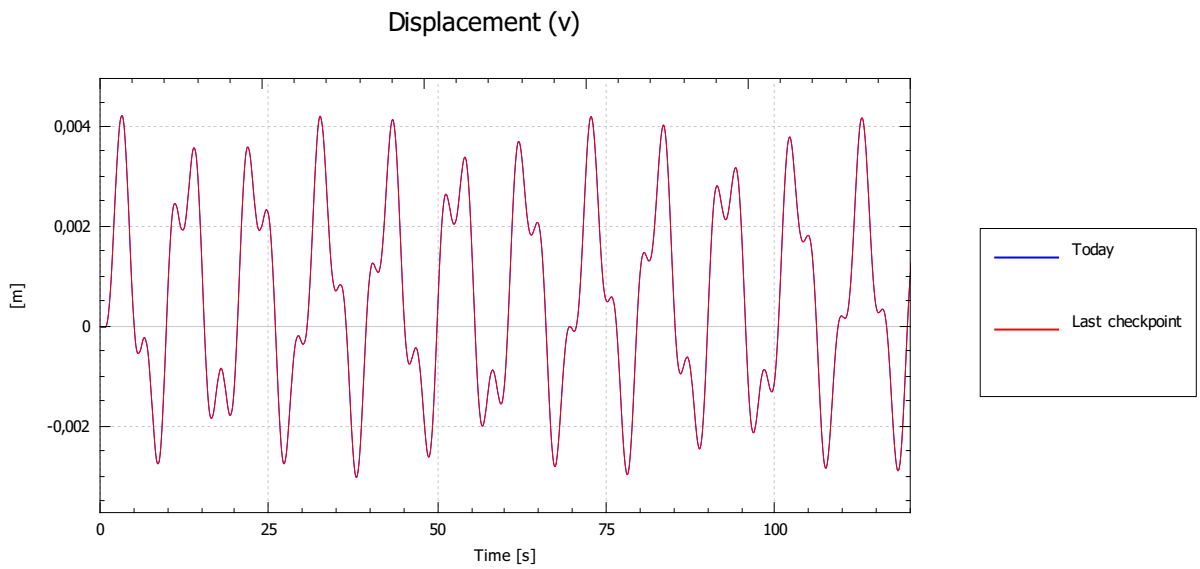
Position (y)

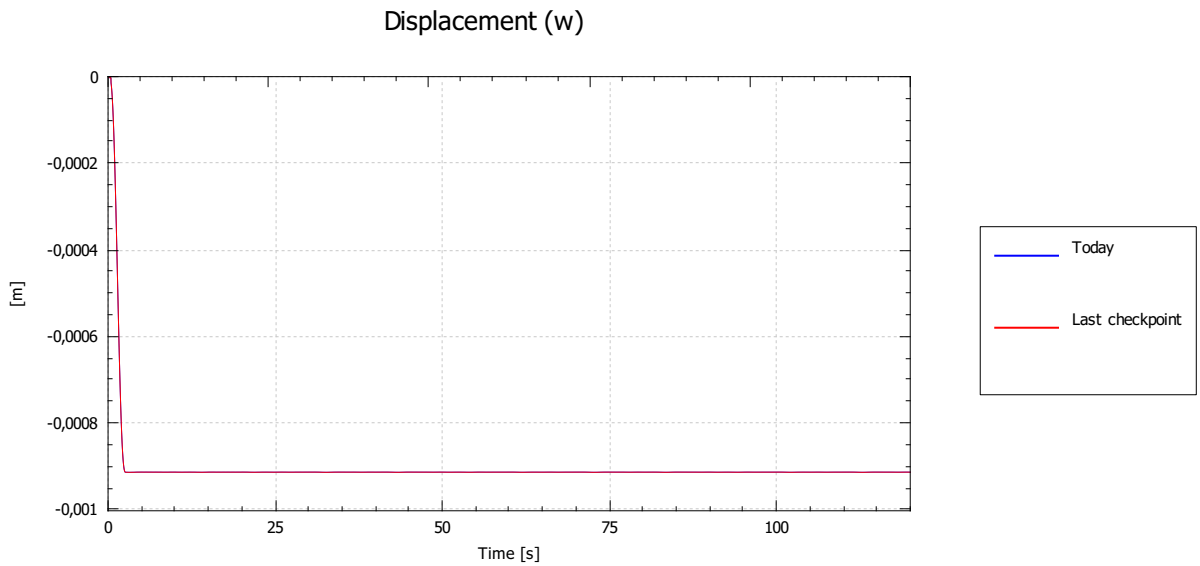


Position (z)

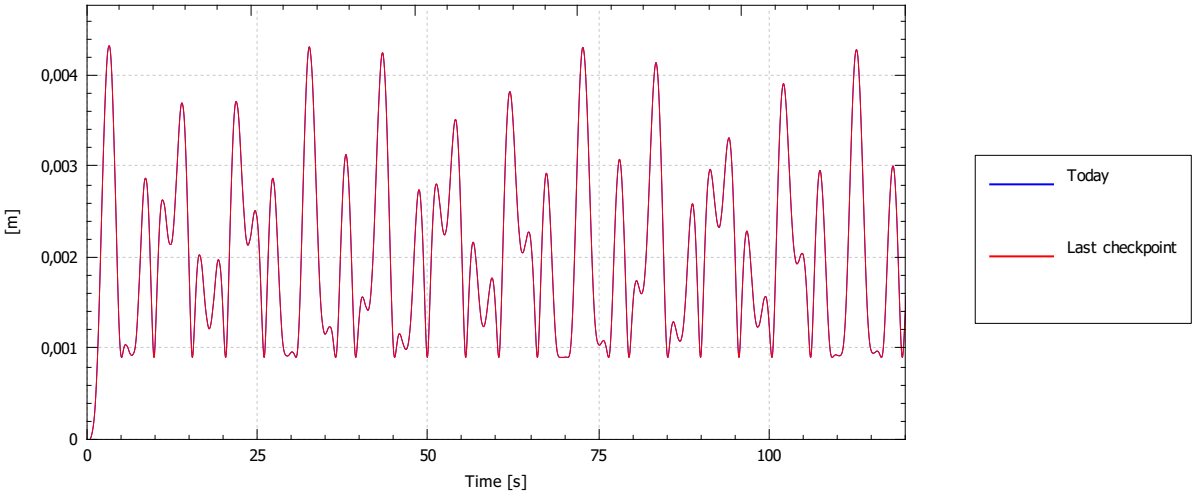



Displacement (u)
3
2
1
0
-1
-2
-3
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

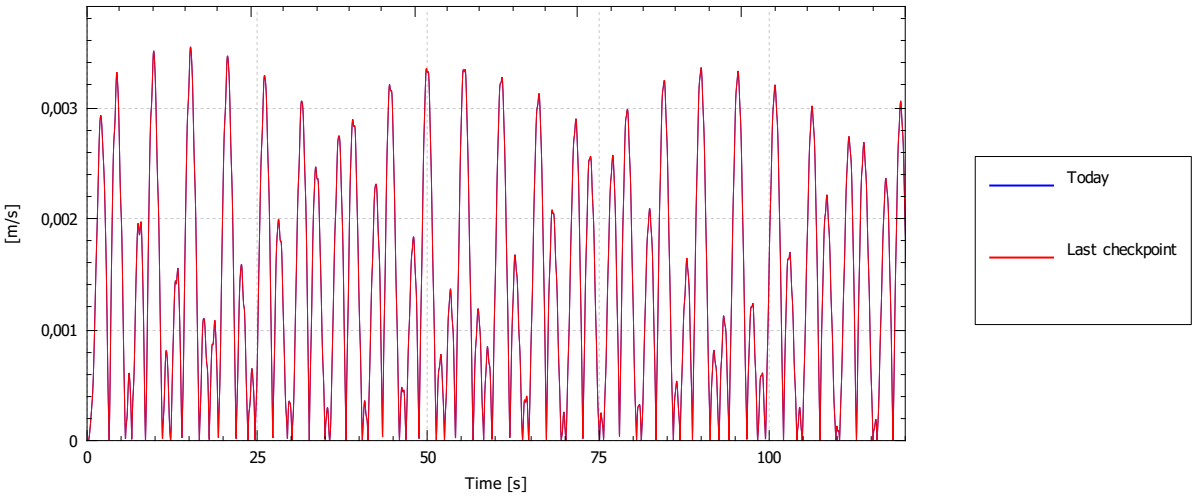

Displacement (v)
0,004
0,002
0
-0,002
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Displacement (w)
0
-0,0002
-0,0004
-0,0006
-0,0008
-0,001
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

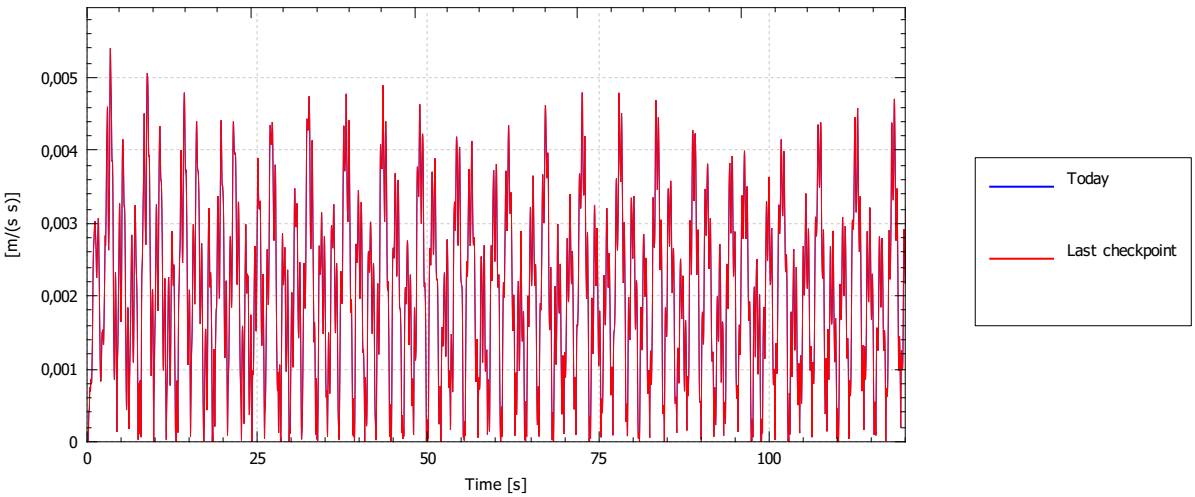
Displacement magnitude



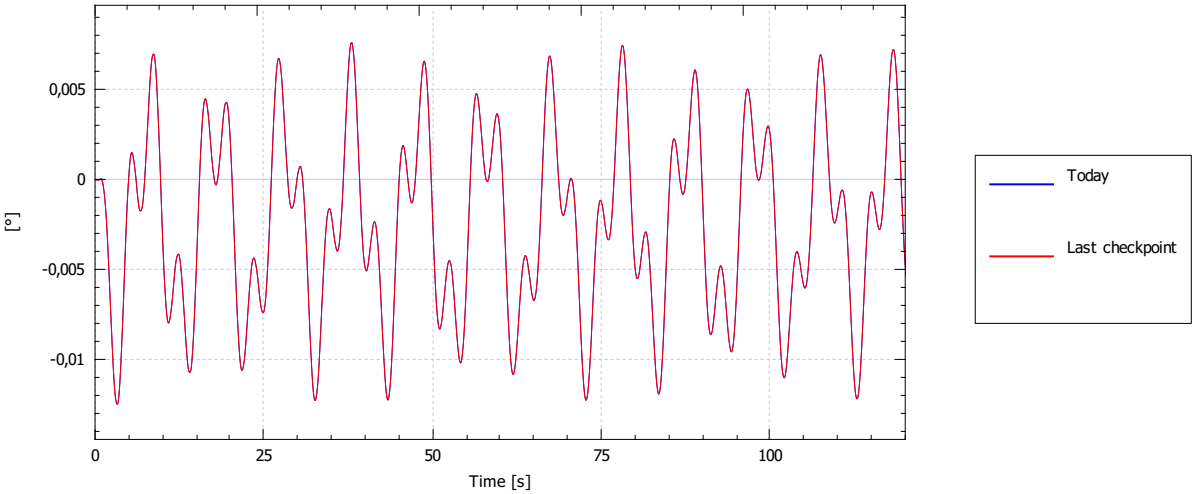
Speed



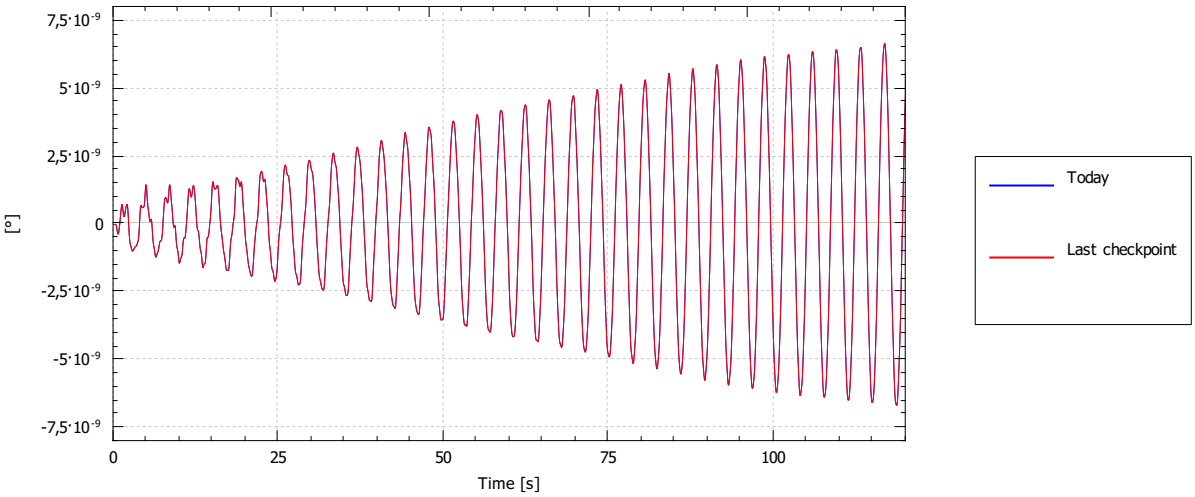
Acceleration, magnitude



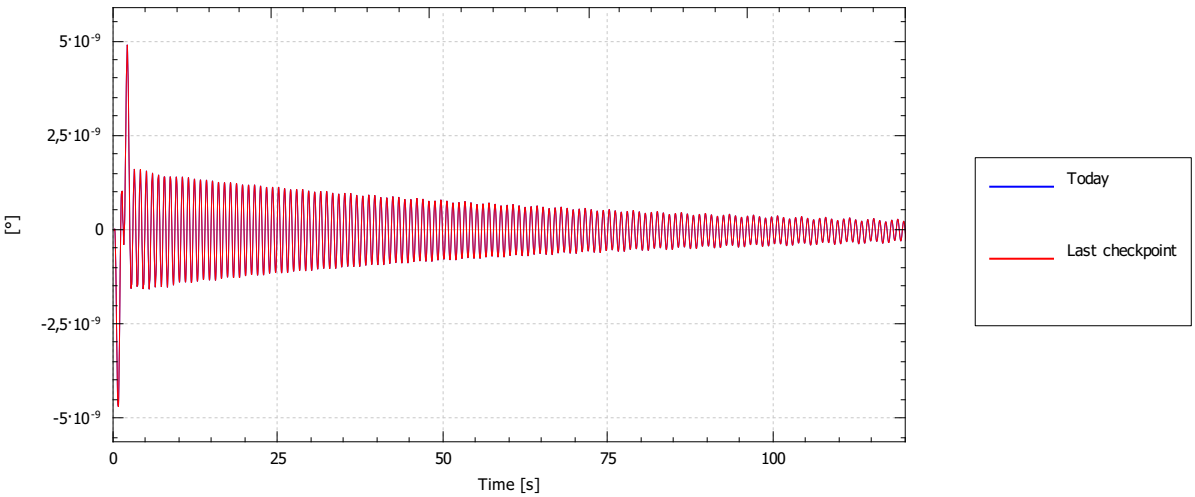
Rotational displacement (ru)



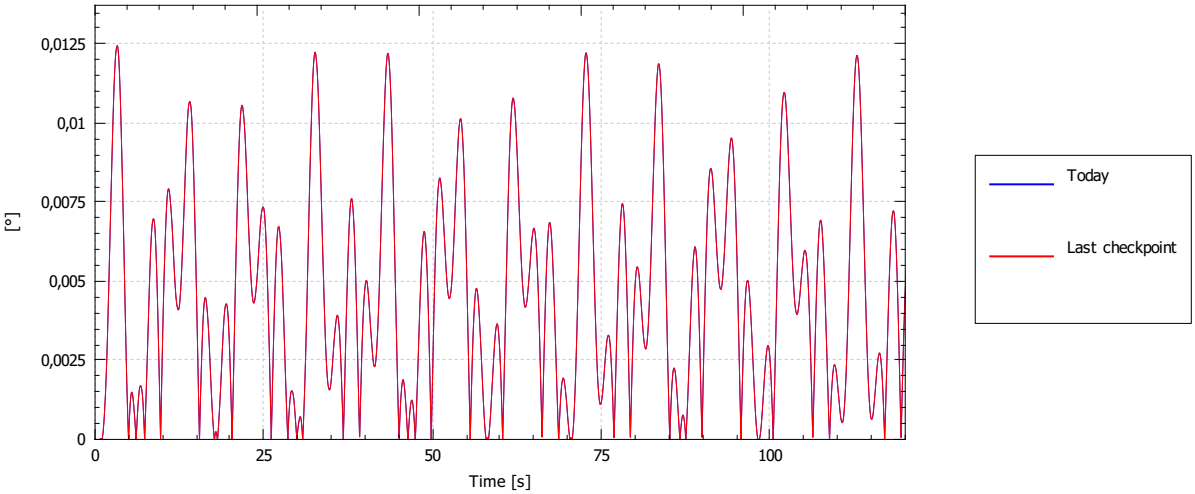
Rotational displacement (rv)



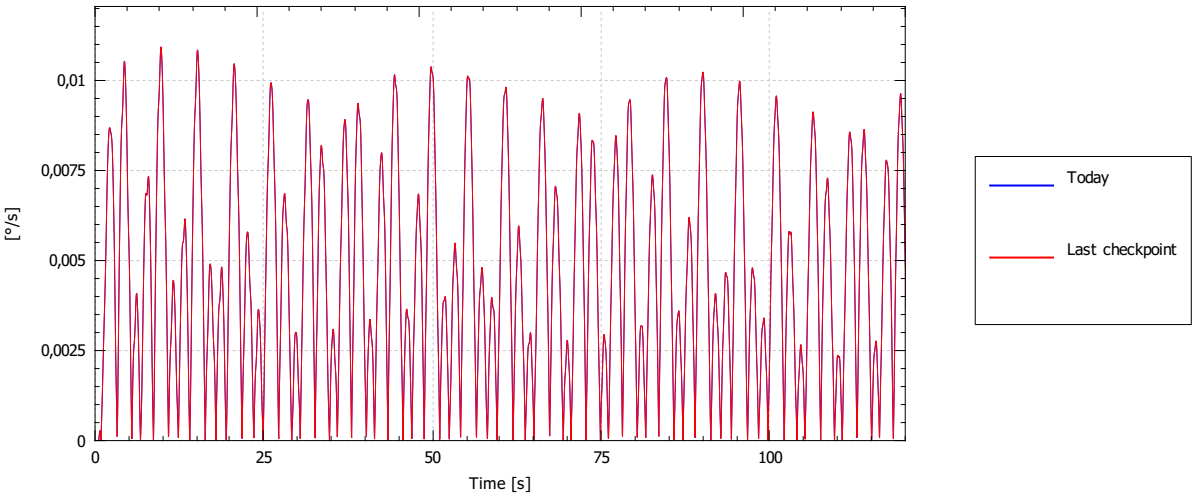
Rotational displacement (rw)



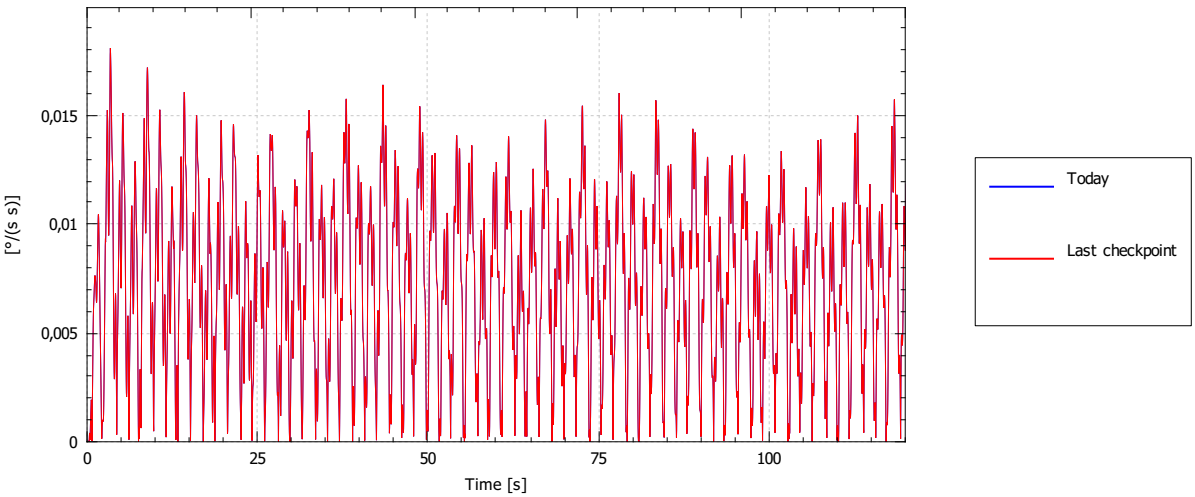
Rotational displacement magnitude



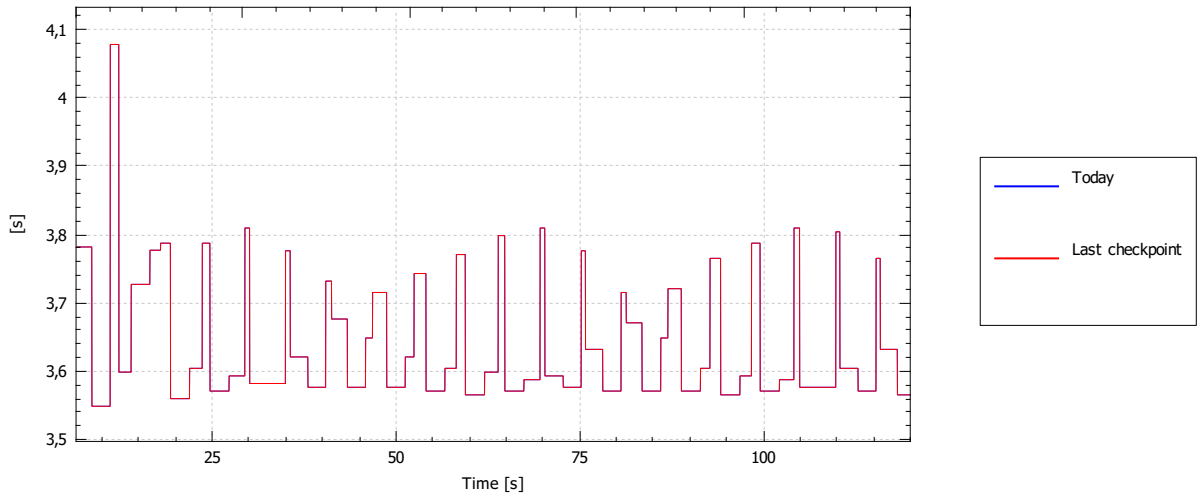
Rotational speed



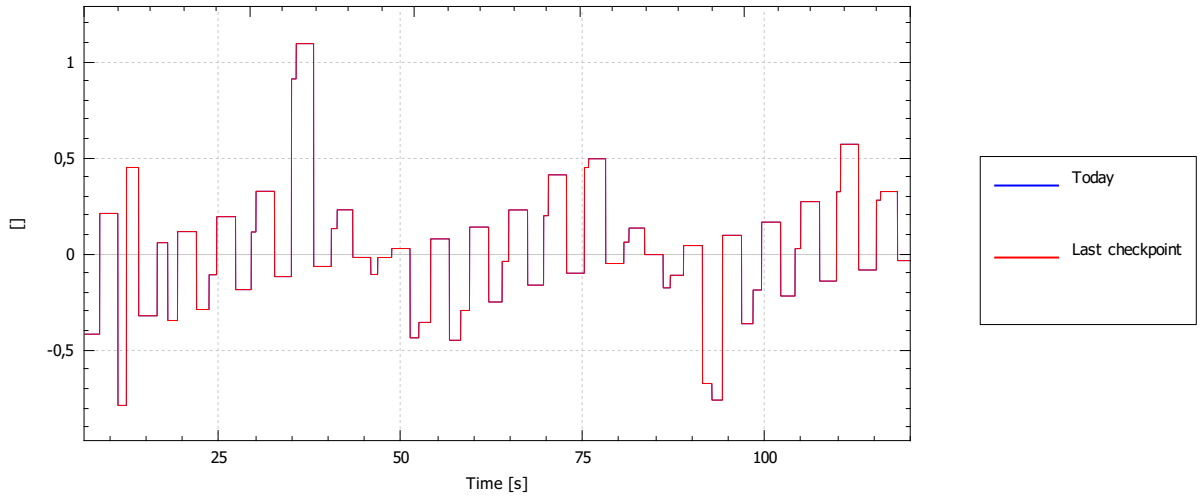
Rotational acceleration mag



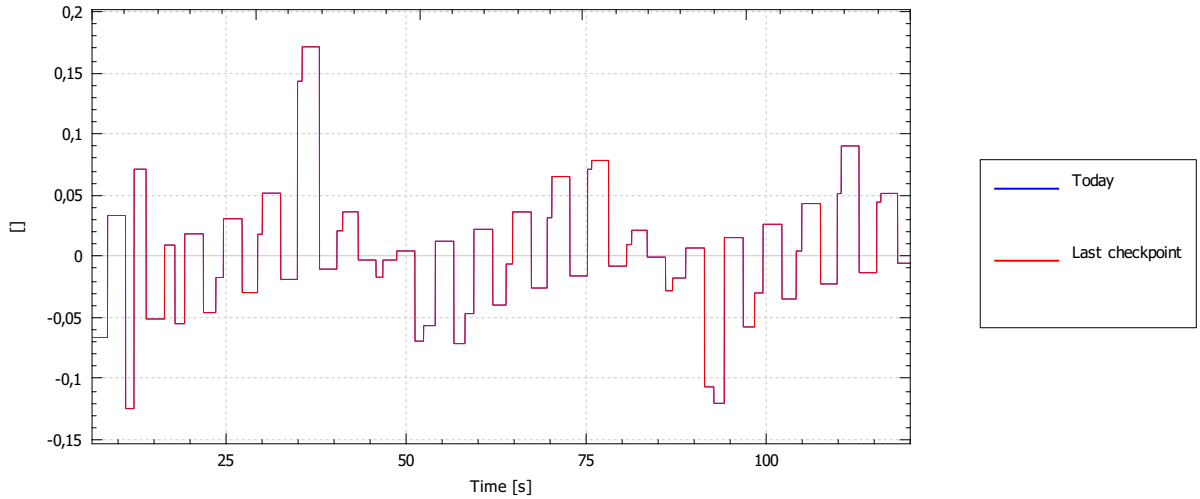
Displacement period



Displacement logarithmic decrement

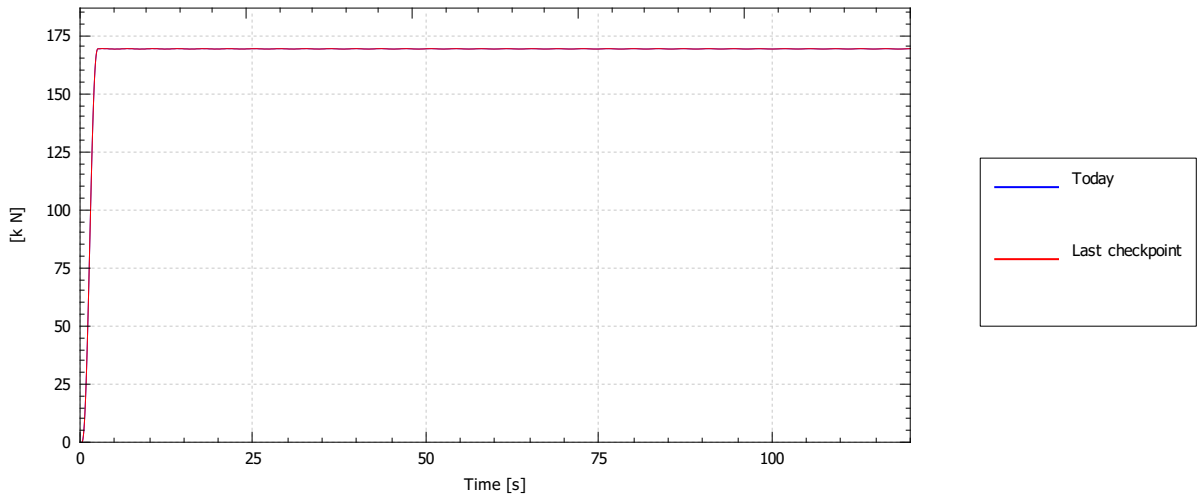


Displacement damping ratio

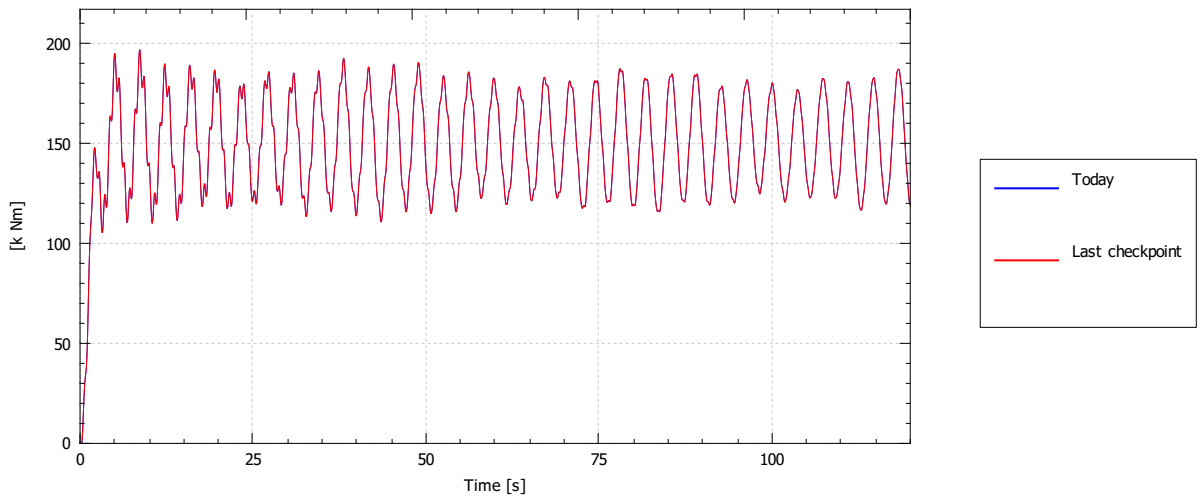


Blade [Time] [Blade 1]

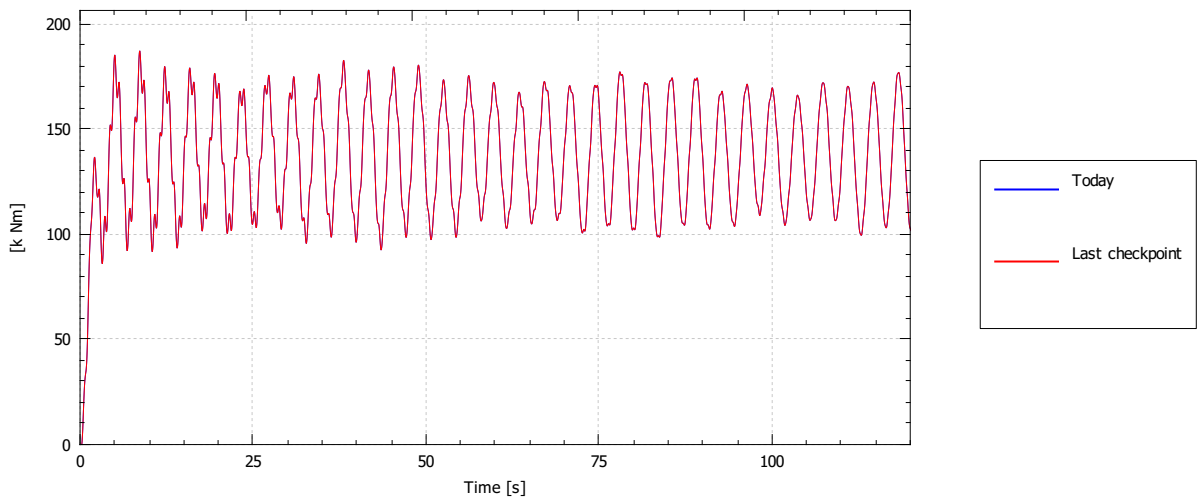
Root force (magnitude)



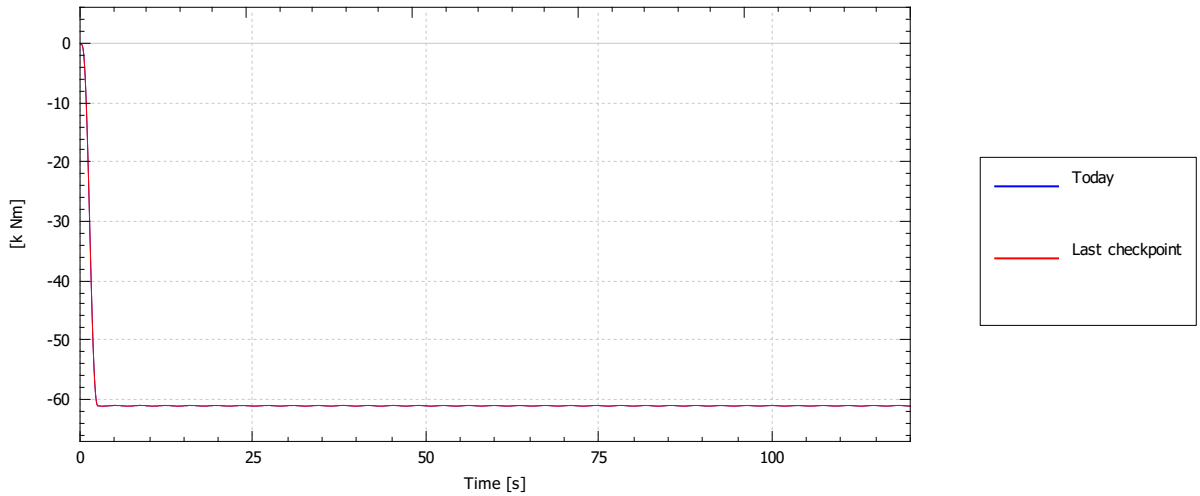
Root moment (magnitude)



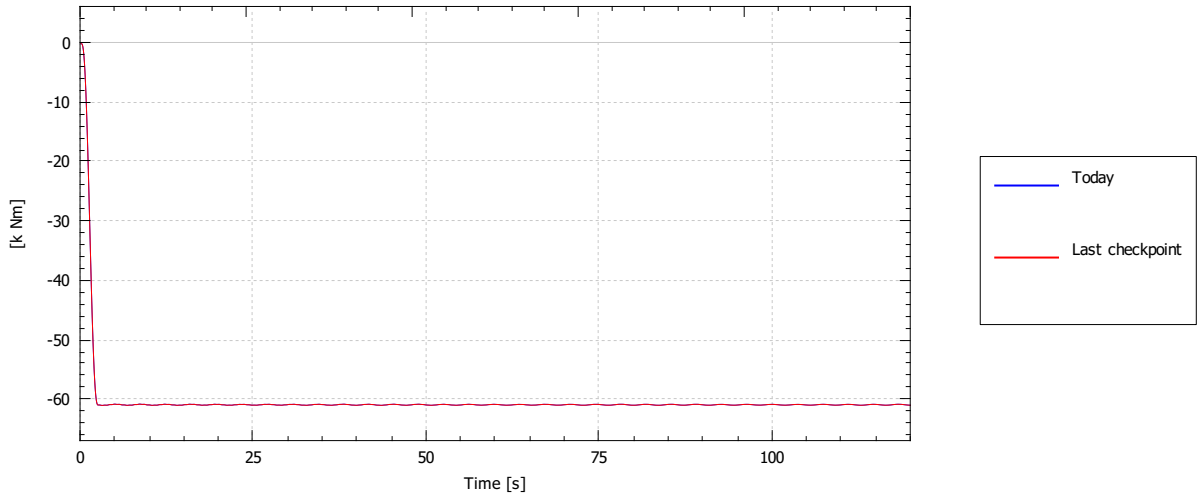
Root moment (out-of-plane)



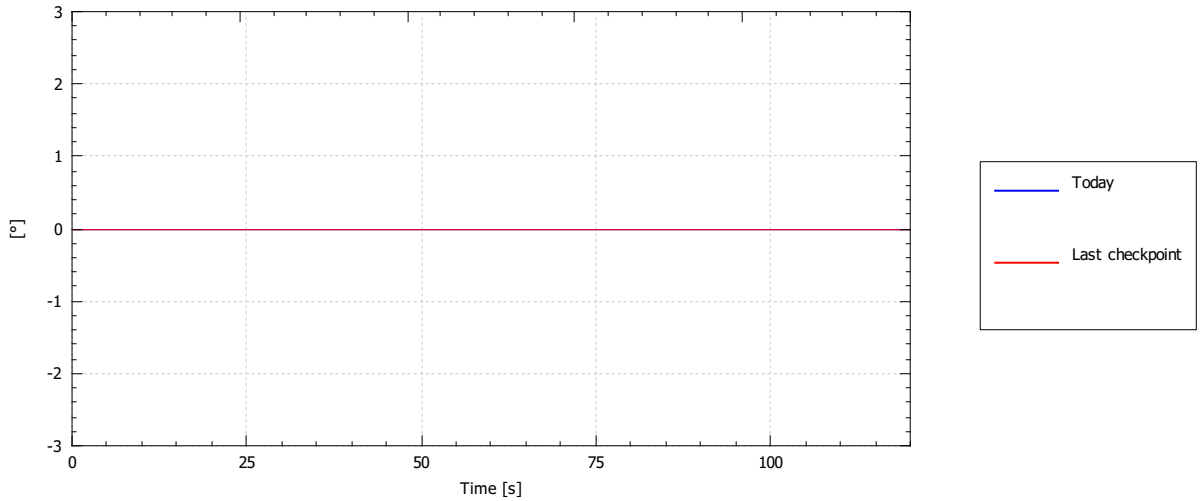
Root moment (in-plane)



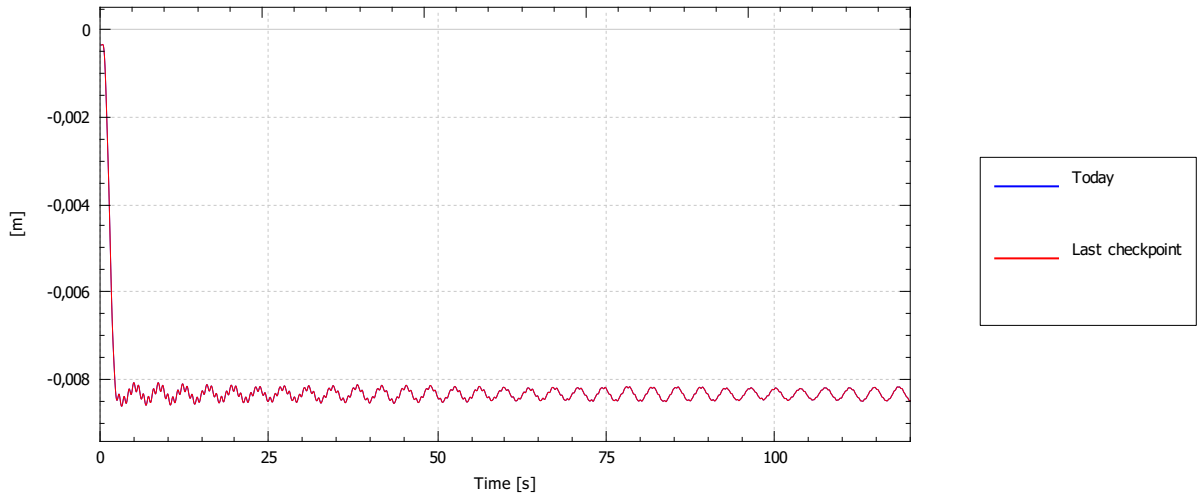
Root moment about shaft



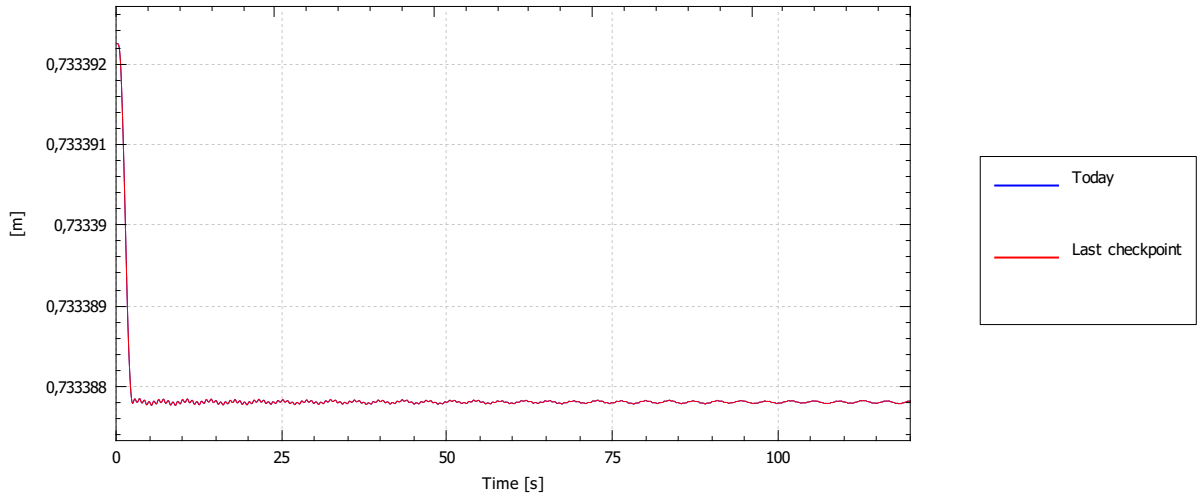
Pitch angle



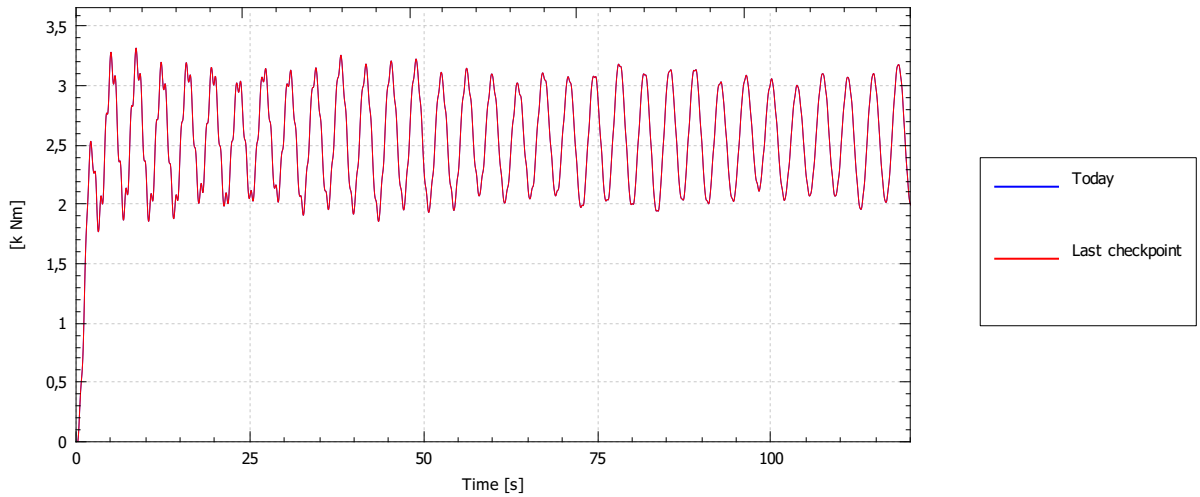
Tip deflection (out-of-plane)



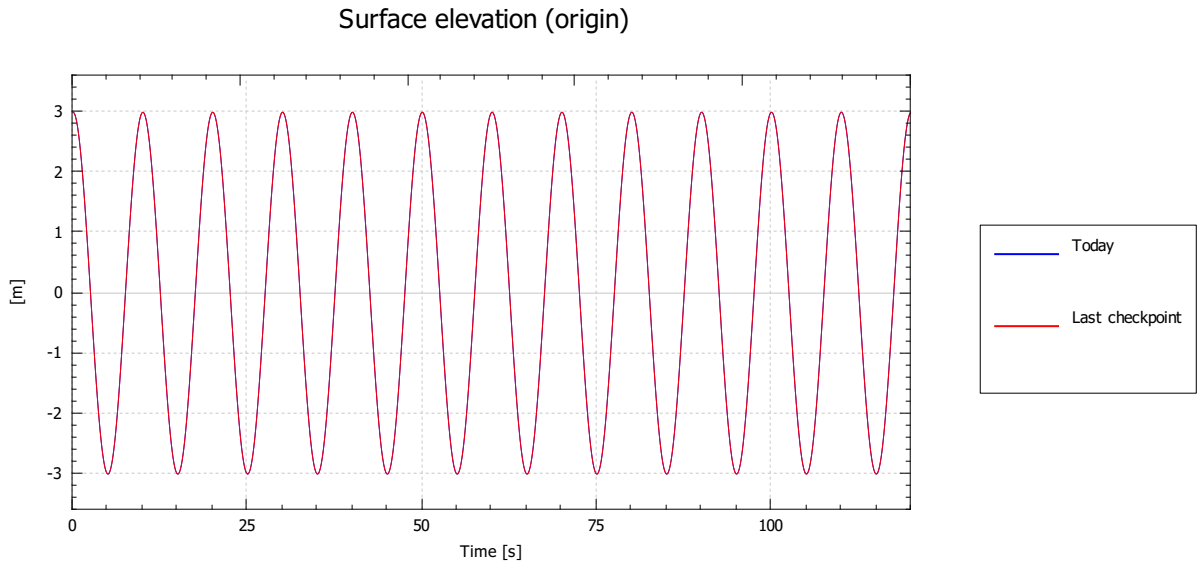
Tip deflection (in-plane)

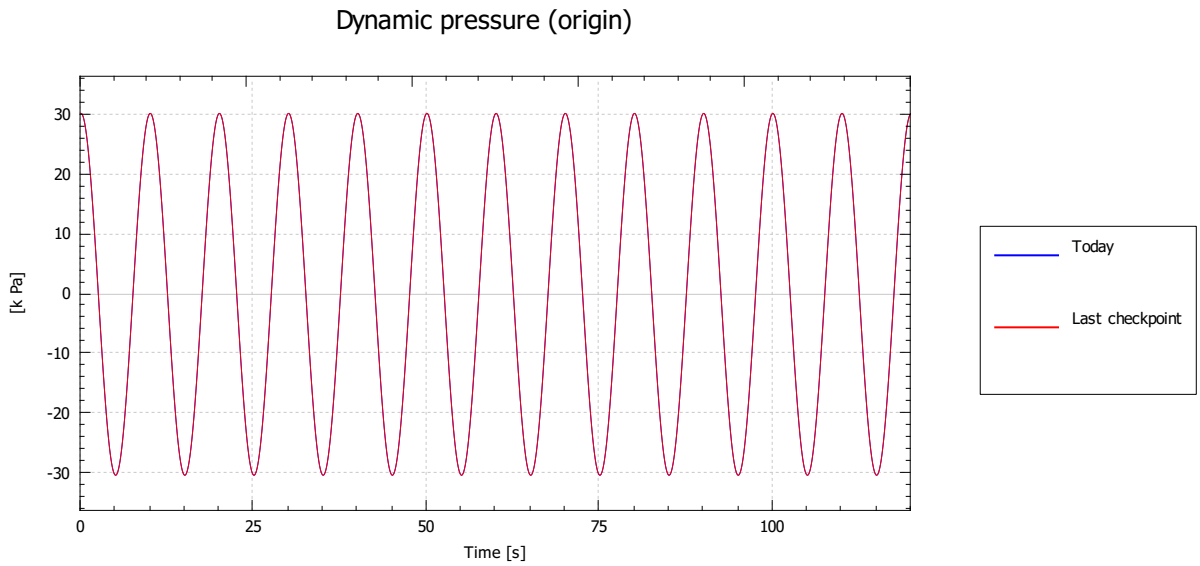


Root torque



Sea

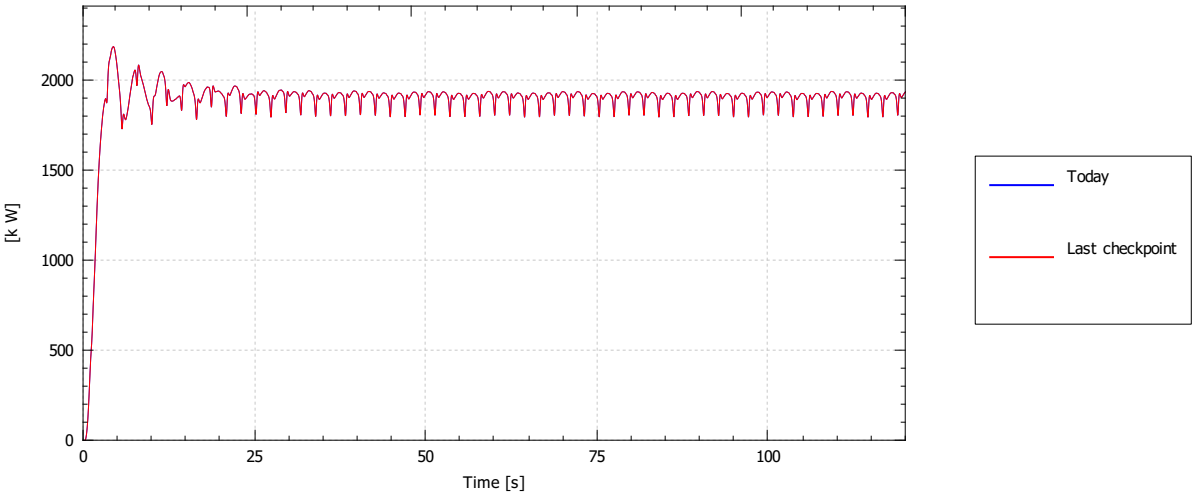




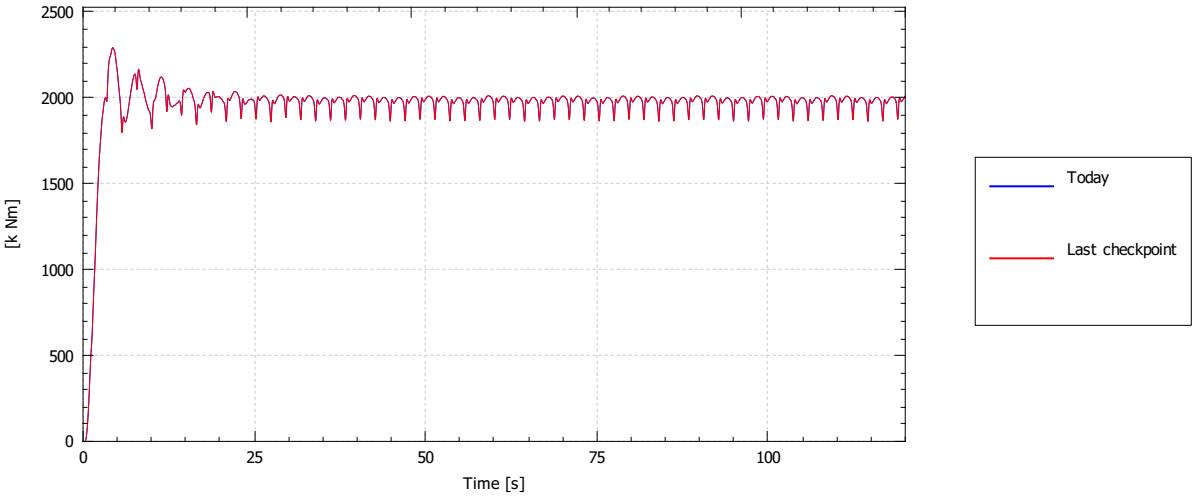
Load case: 5.1

Rotor

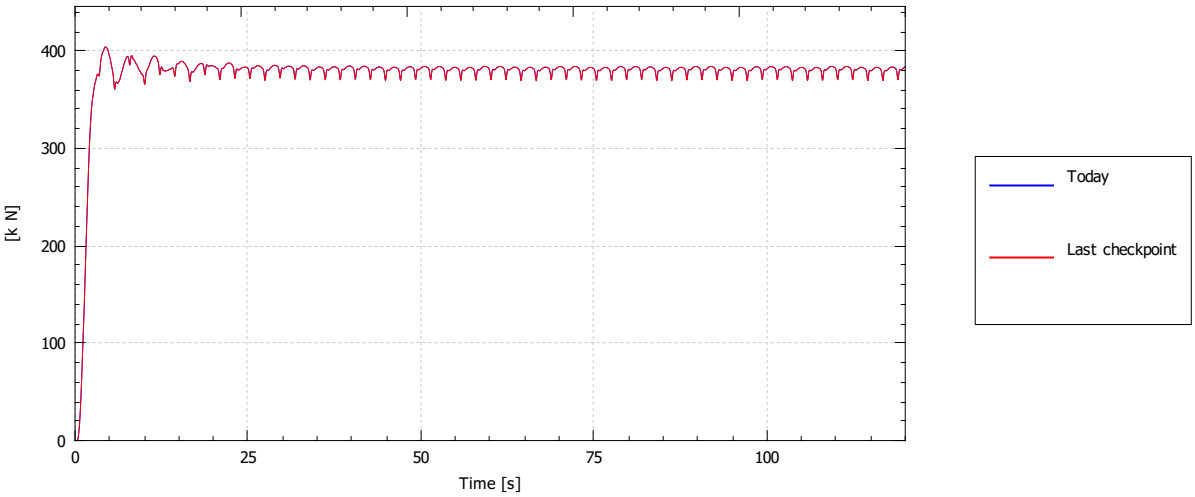
Power (aero)



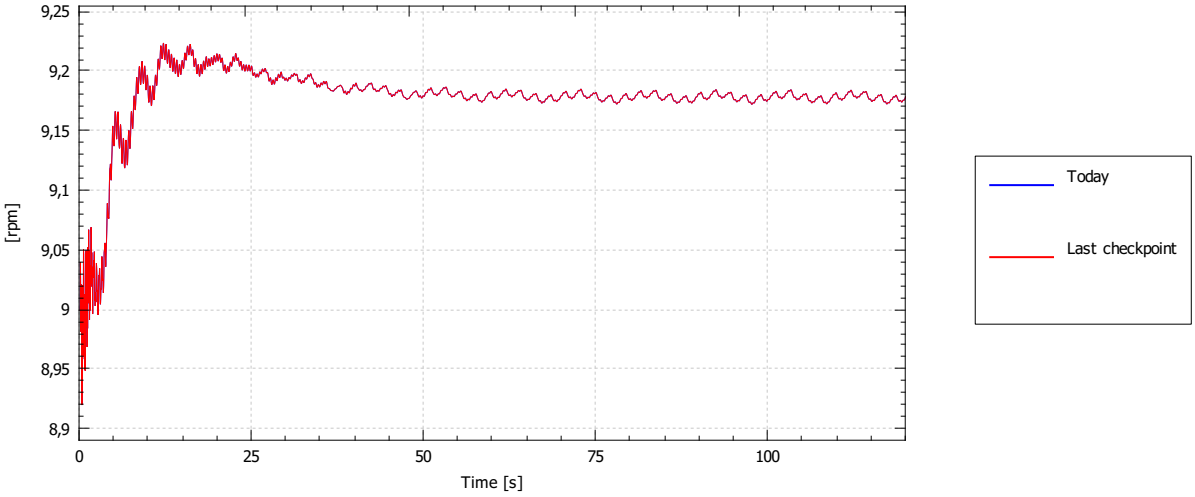
Torque (aero)



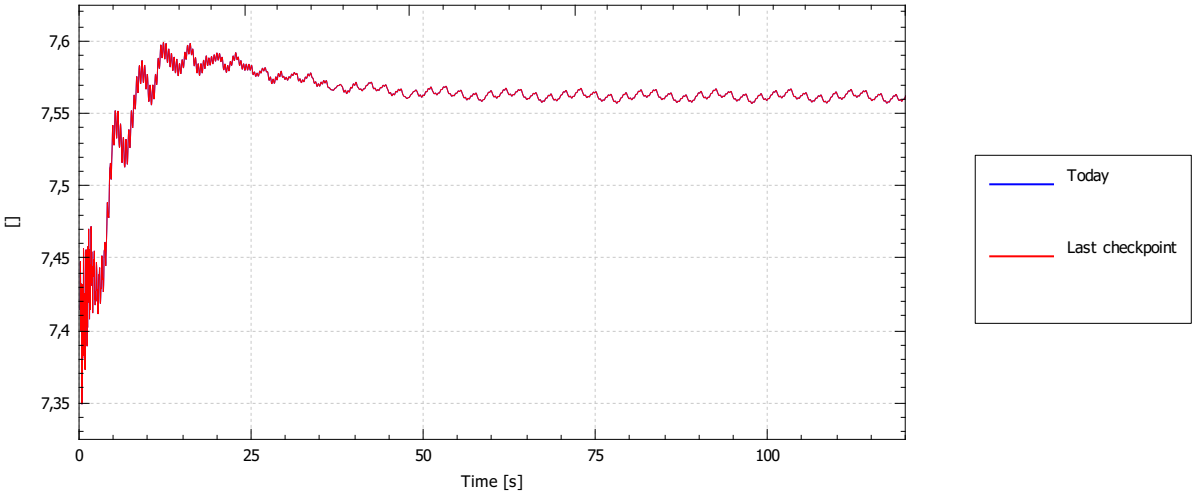
Thrust (aero)



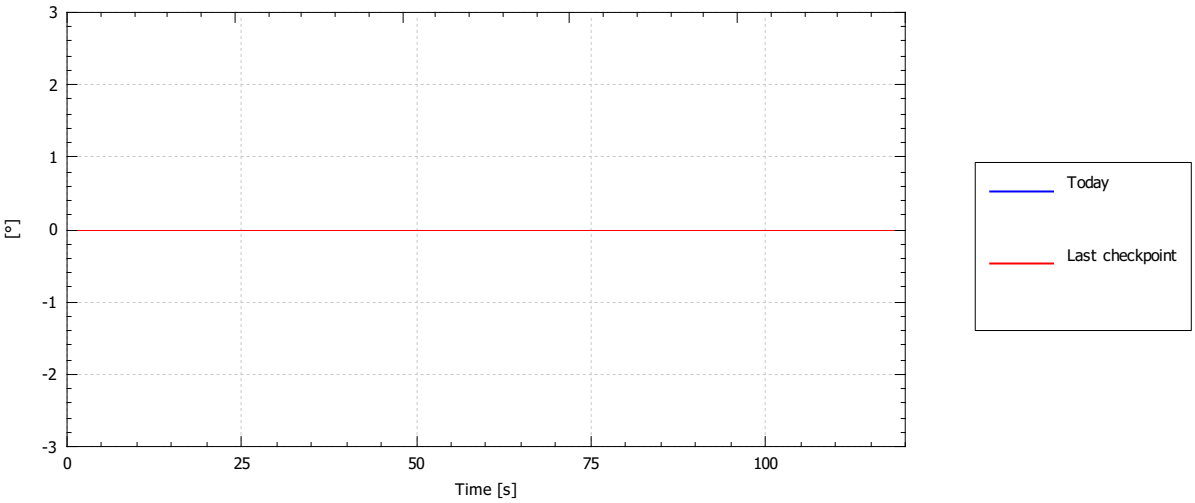
RPM



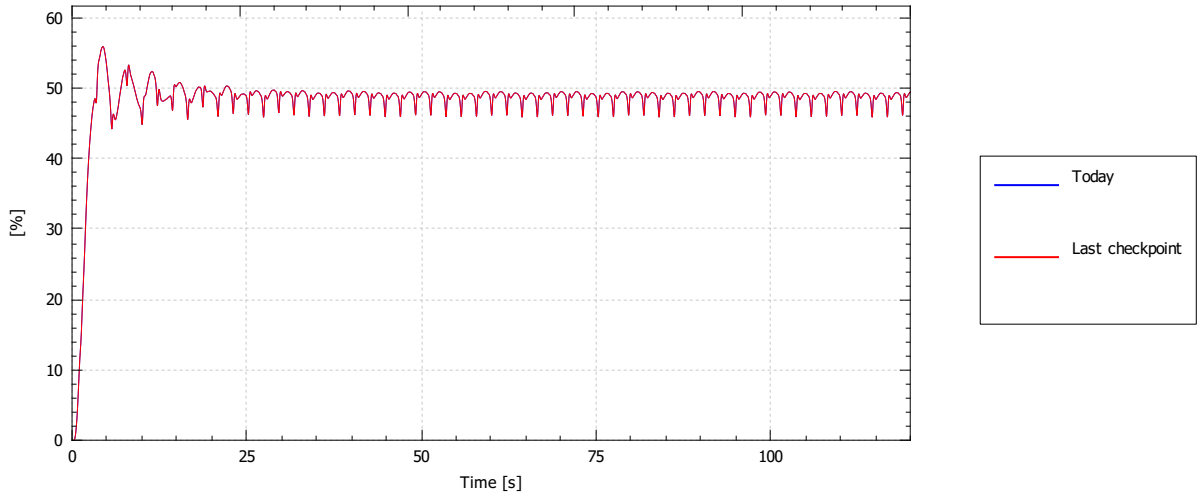
TSR



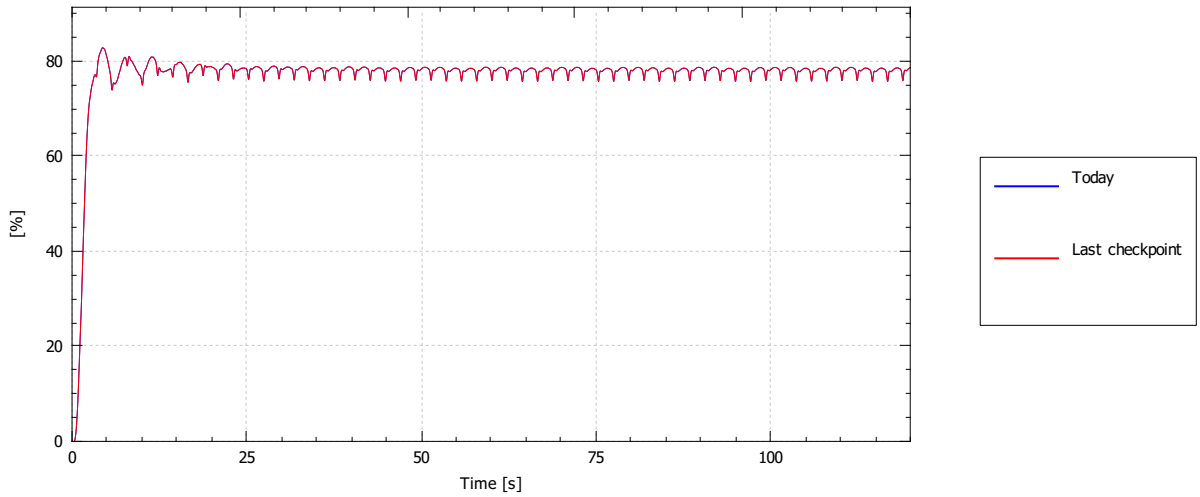
Representative demanded pitch angle



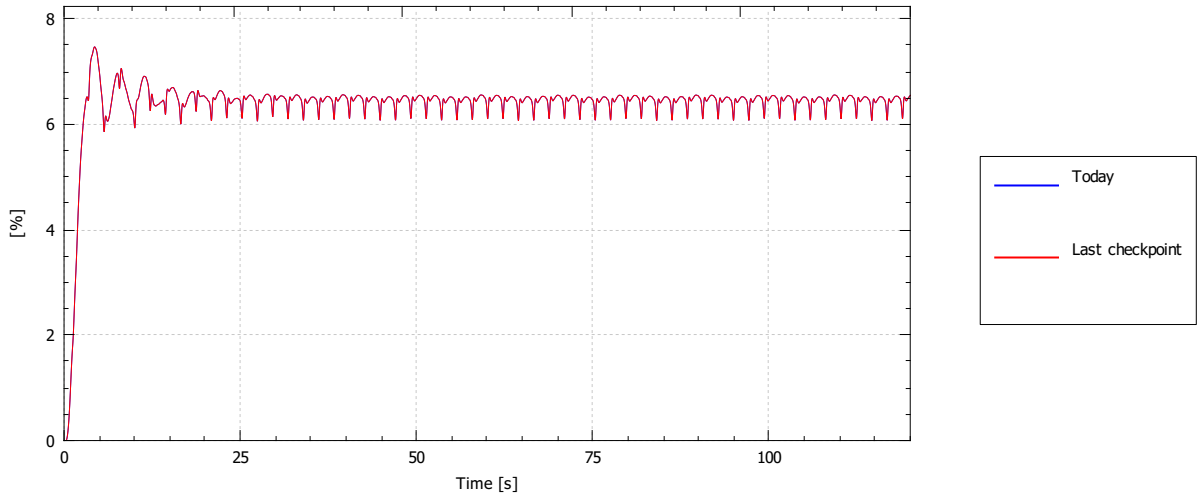
Power coef. (CP)



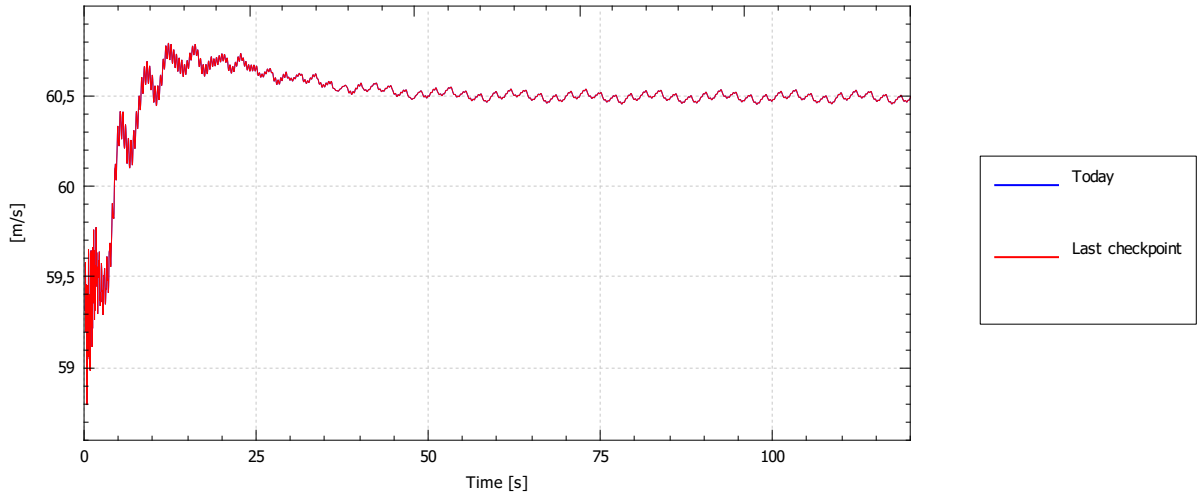
Thrust coef. (CT)



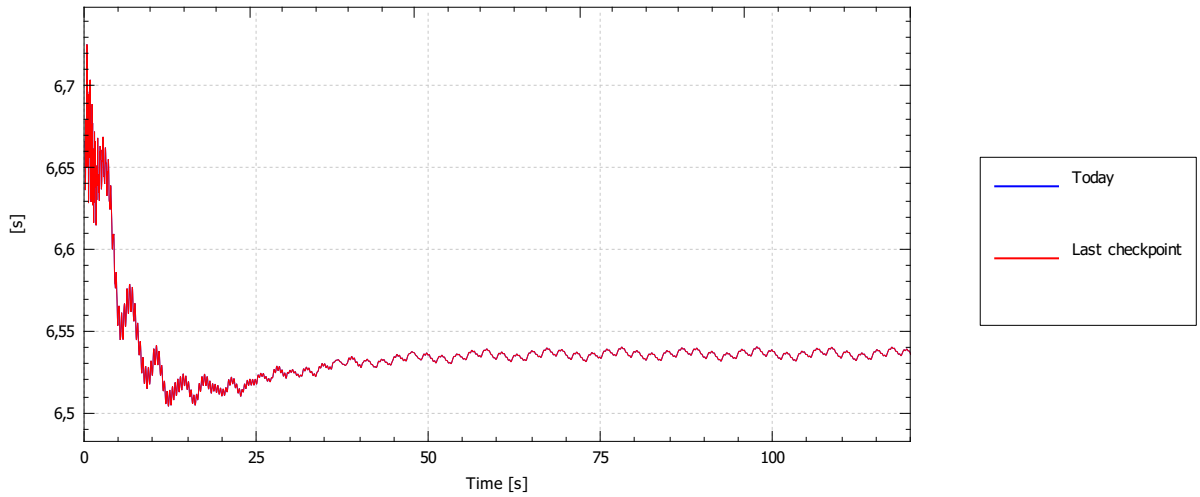
Torque coef. (CQ)



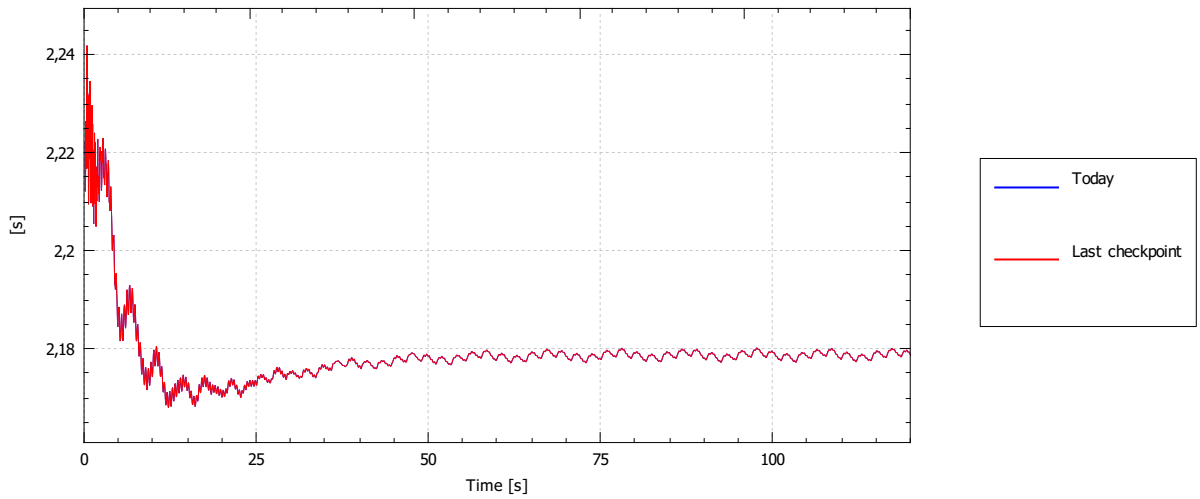
Tip speed



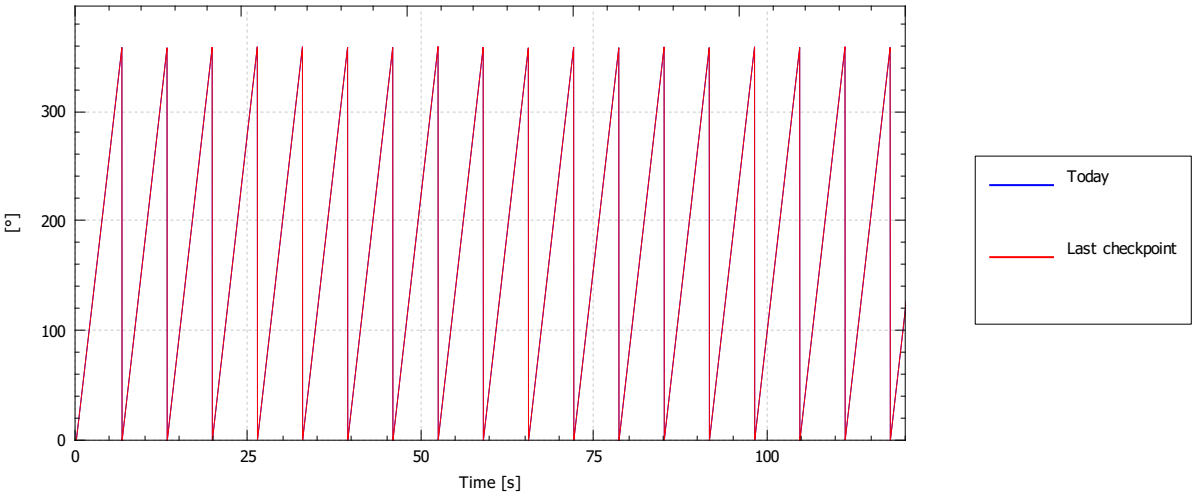
1P (one revolution)



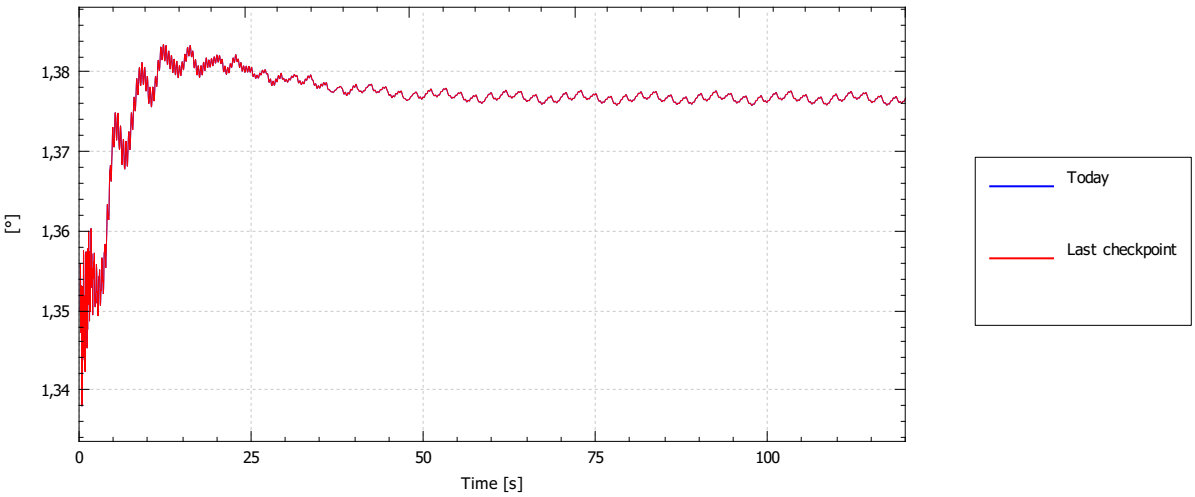
nP (blade passing)



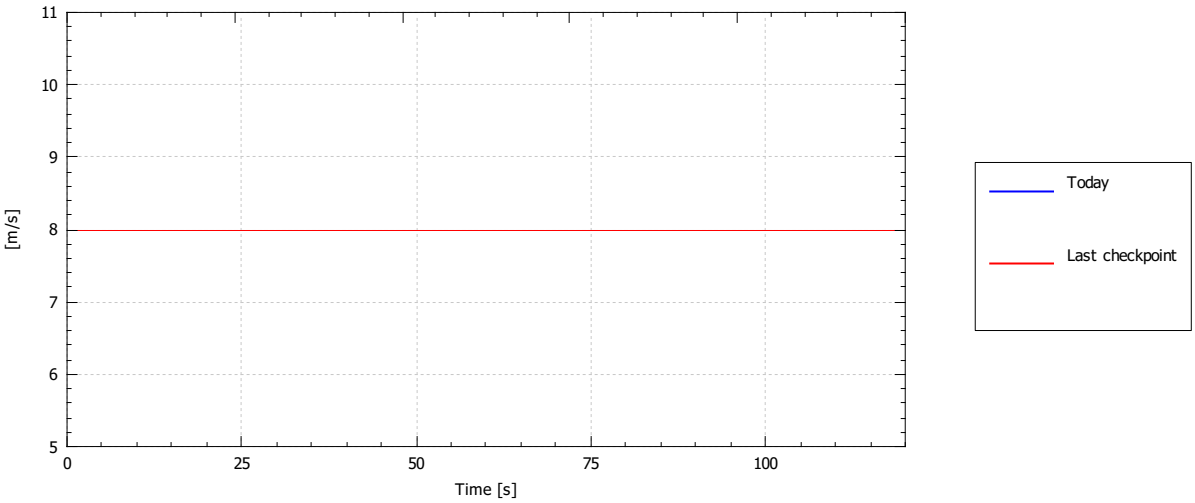
Azimuth angle



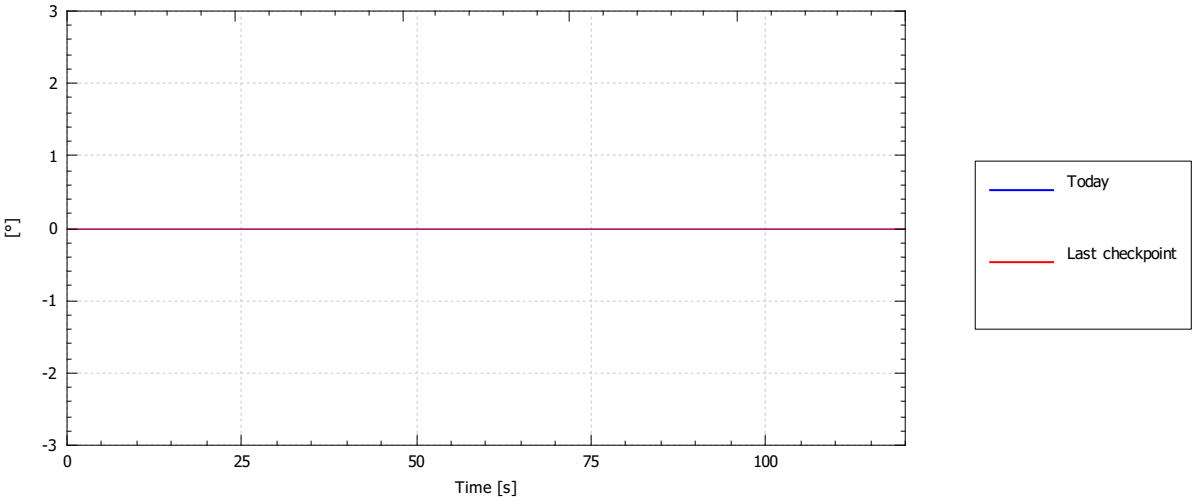
Rotation per timestep



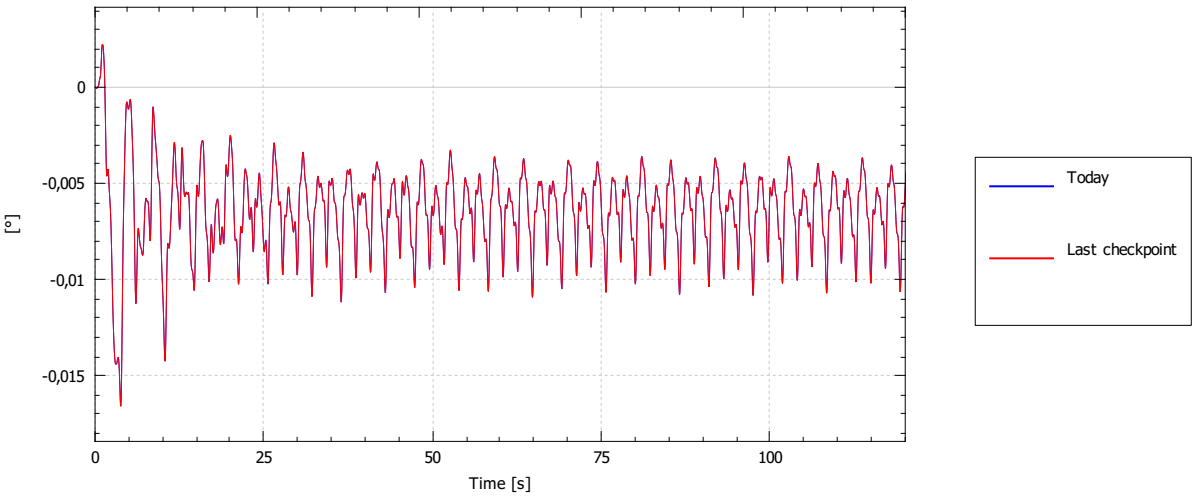
Wind speed at hub, magnitude



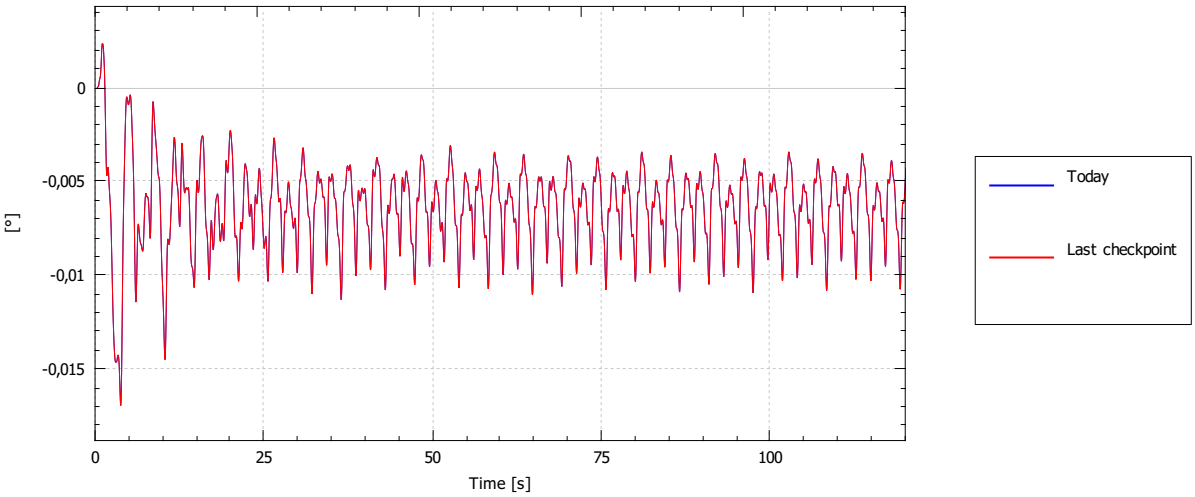
Wind angle at hub

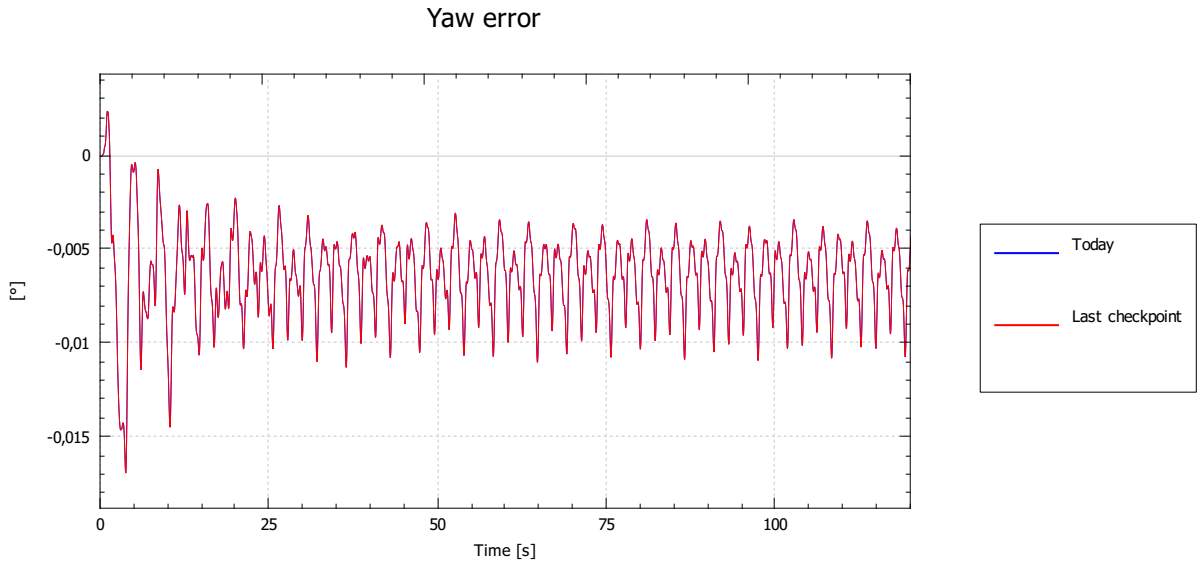


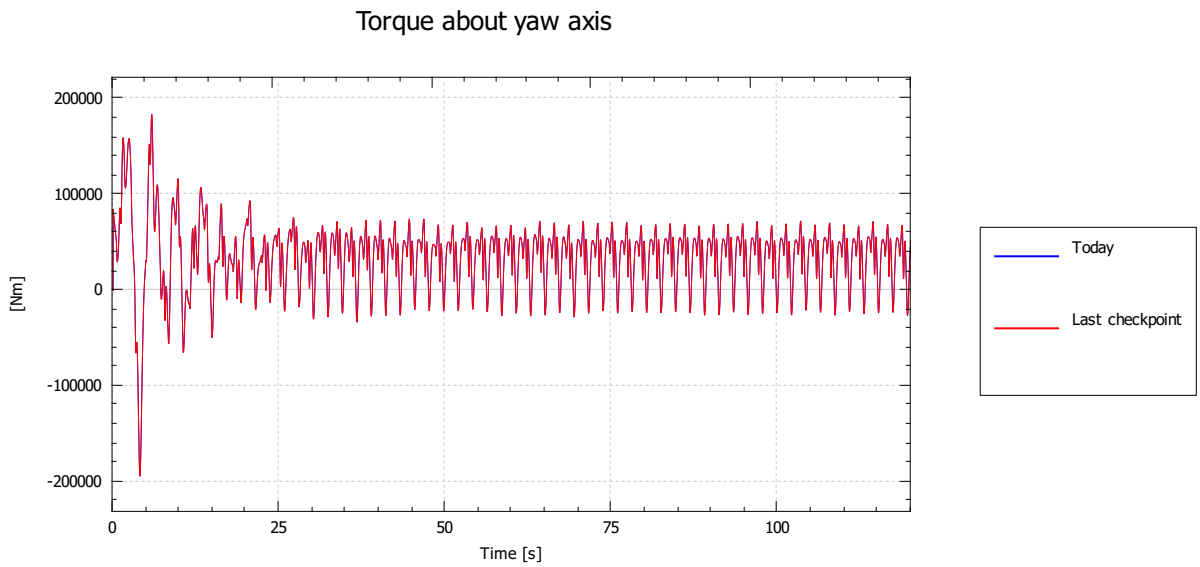
Yaw angle relative to forward



Yaw angle to reference direction

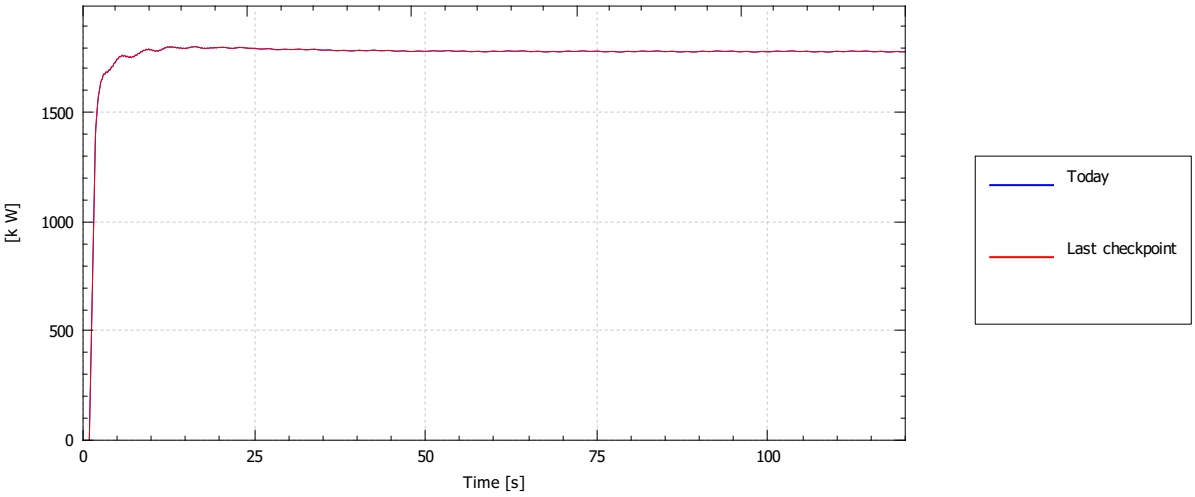



Yaw error
0
-0,005
-0,01
-0,015
[°]
0
25
50
75
100
Time [s]
Today
Last checkpoint

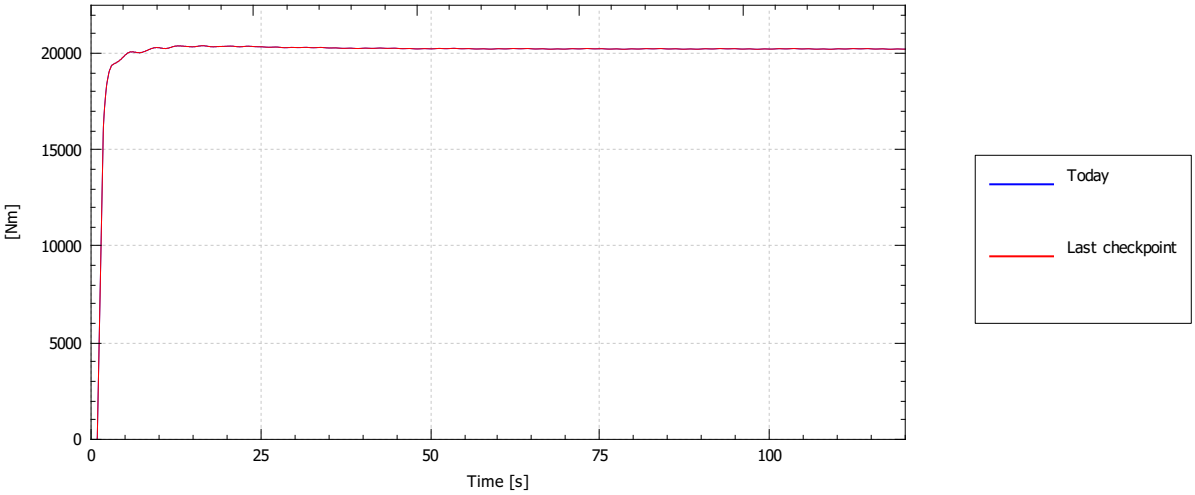

Torque about yaw axis
200000
100000
0
-100000
-200000
[Nm]
0
25
50
75
100
Time [s]
Today
Last checkpoint

Generator

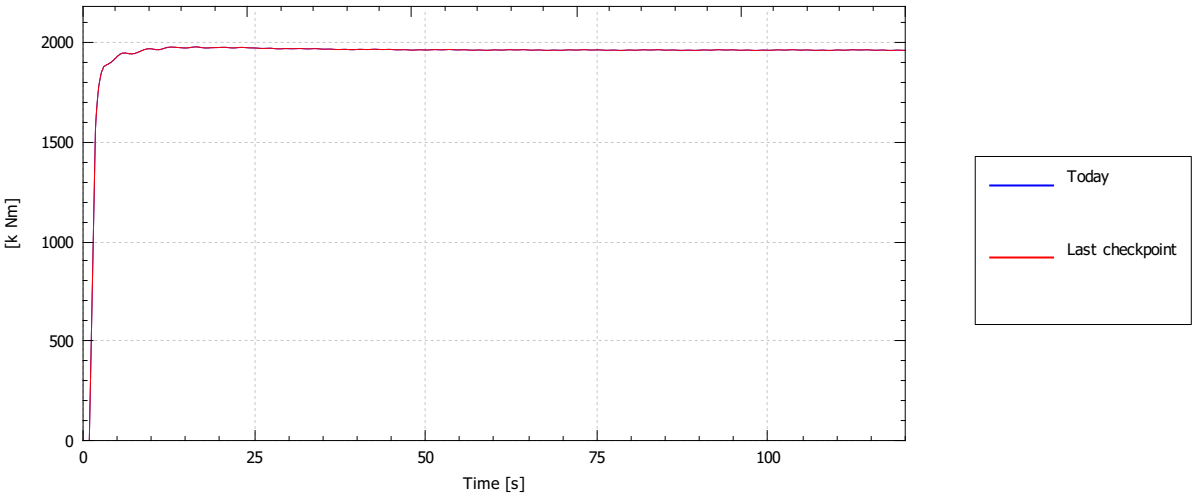
Power (electrical)



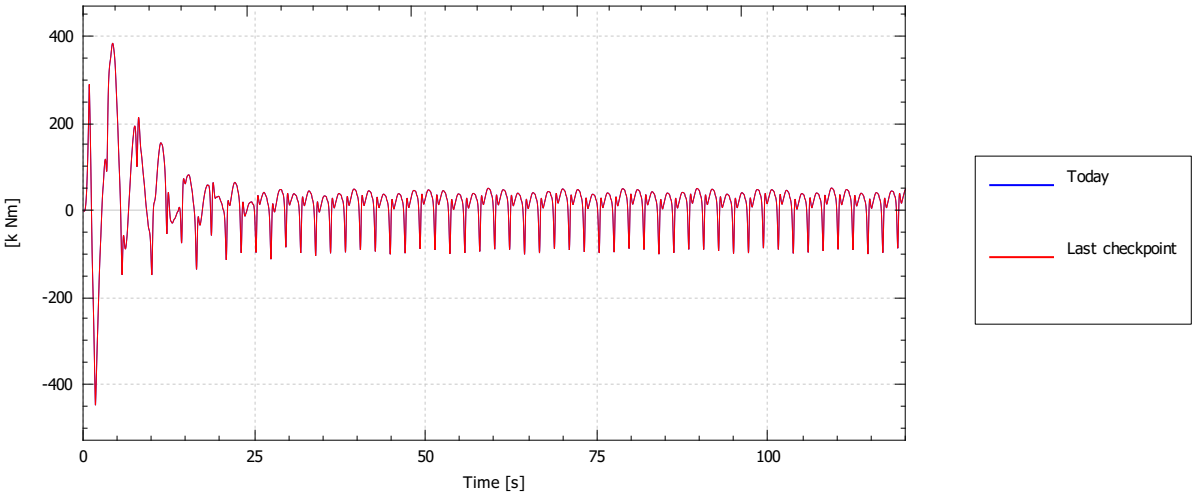
Torque



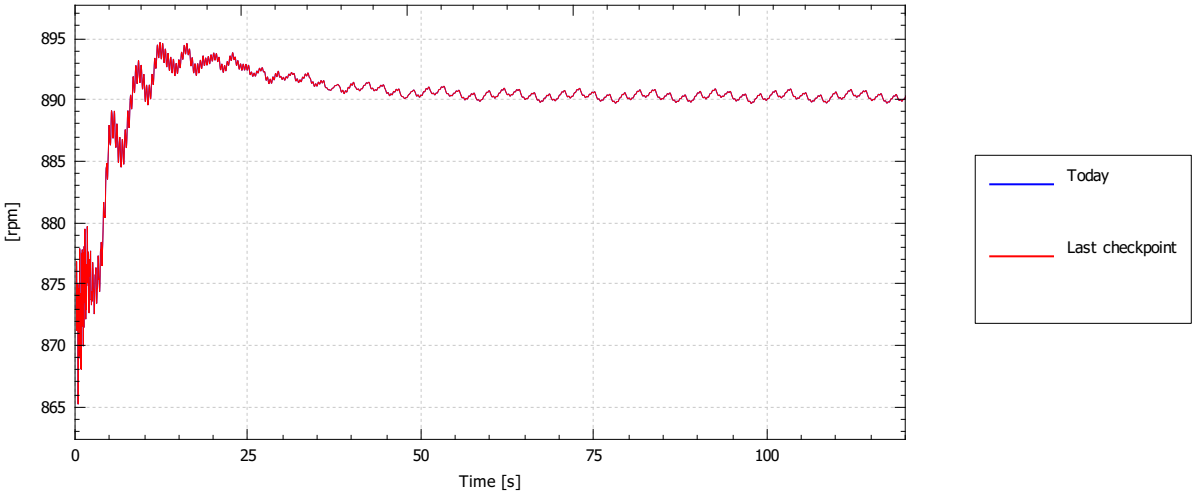
Torque on main shaft



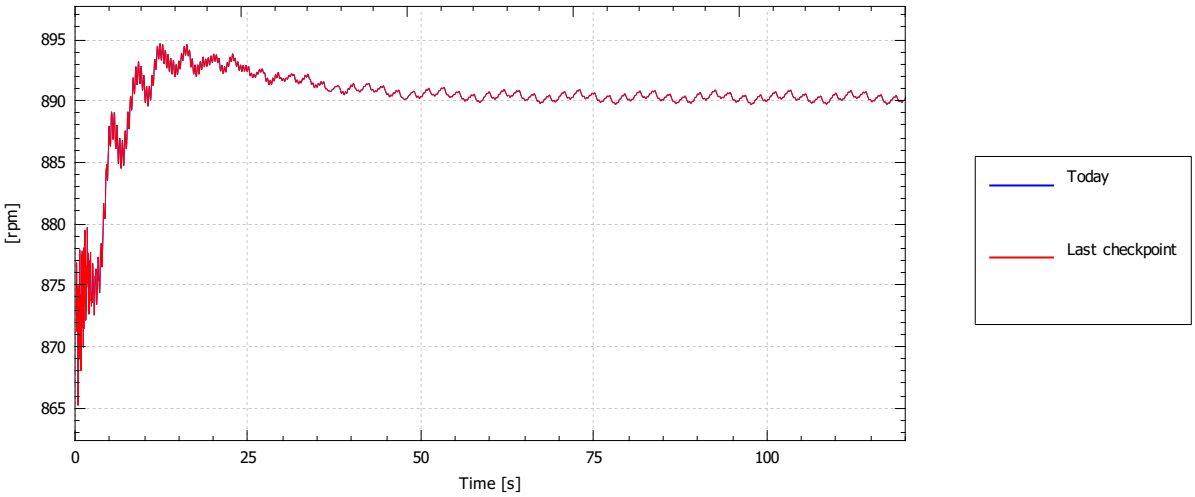
Torque diff. on main shaft

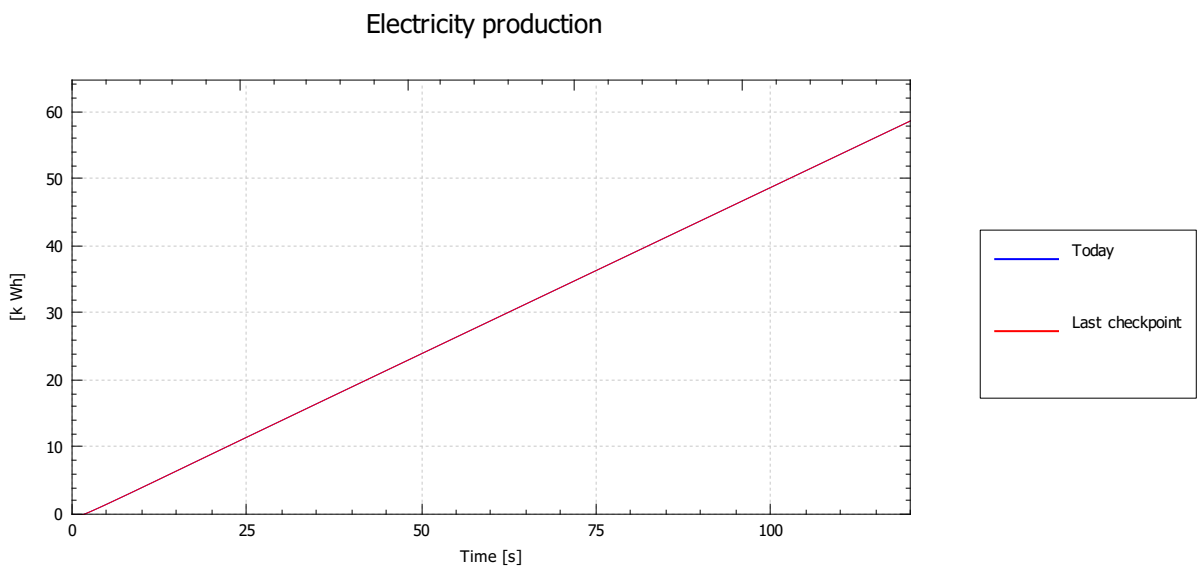


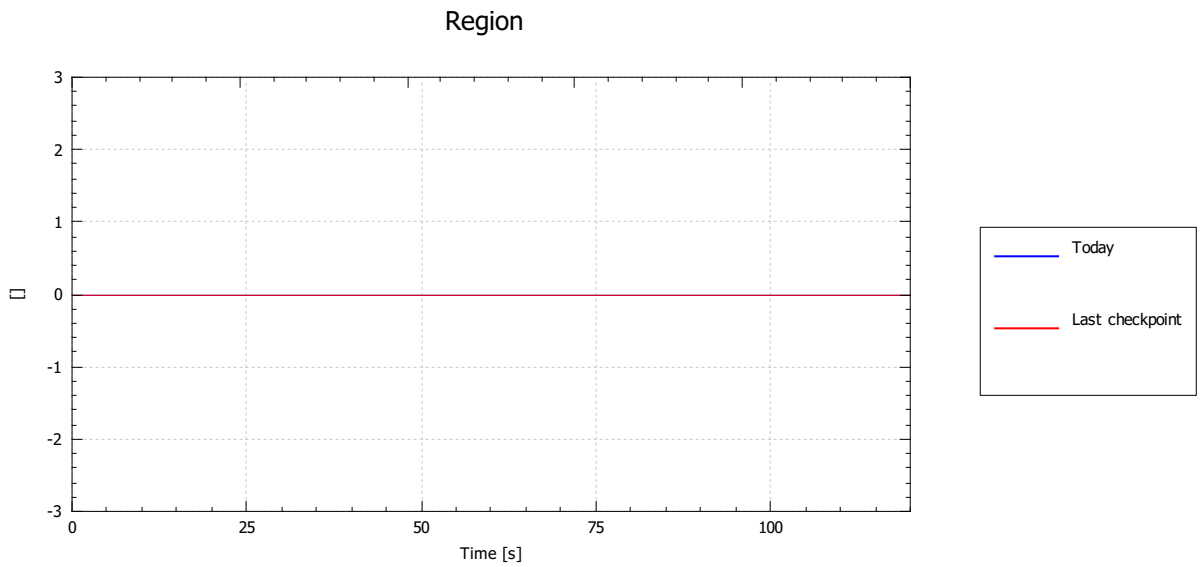
RPM



Filtered RPM

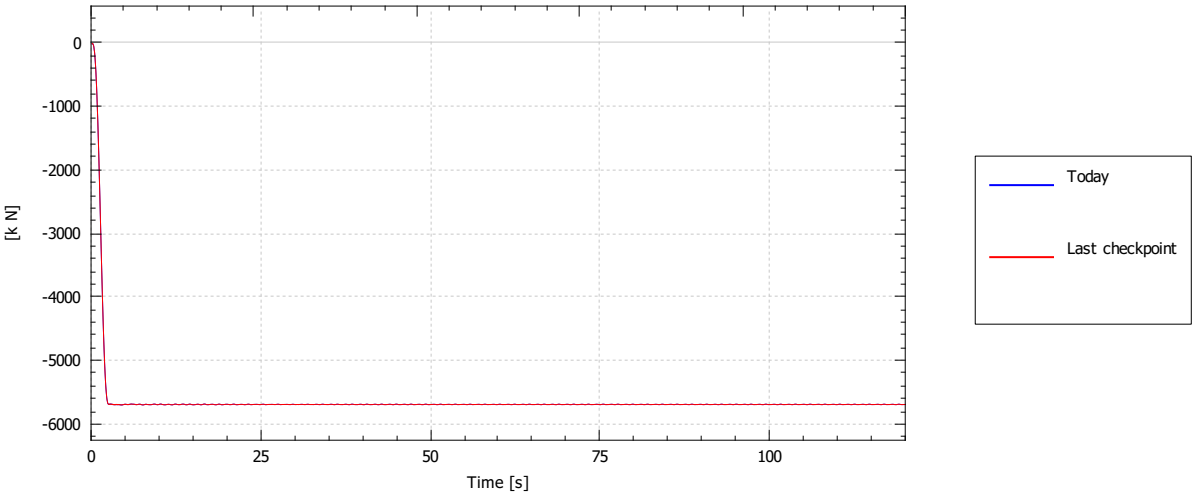




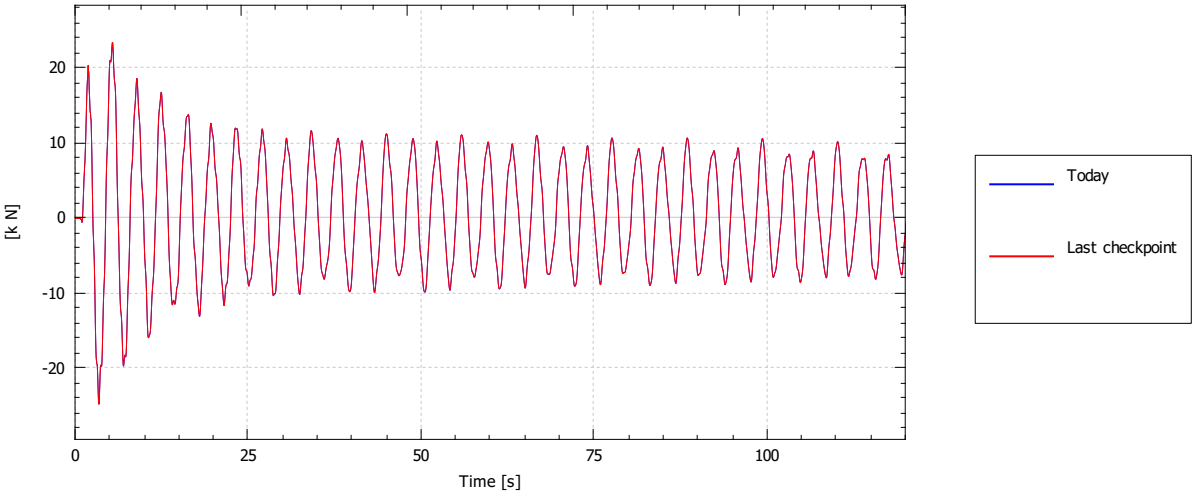


Beam element [Element 1 | Tubular tower]

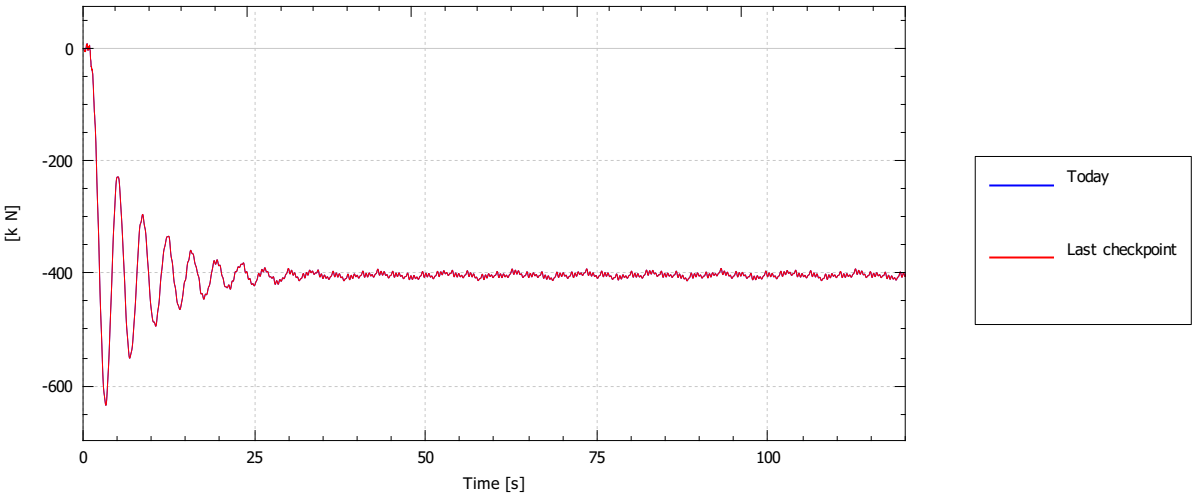
Axial force



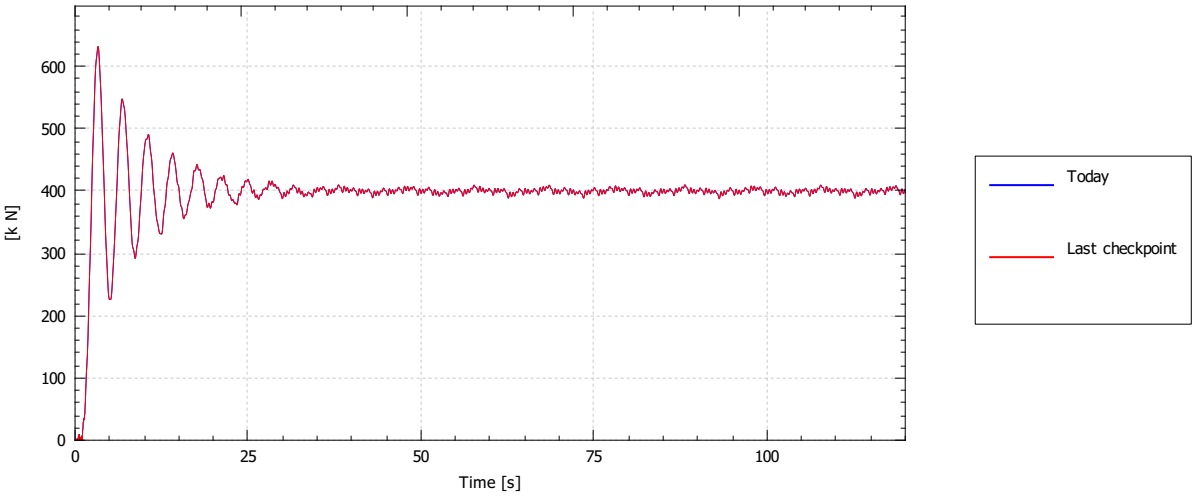
Shear force (1st prin. axis)



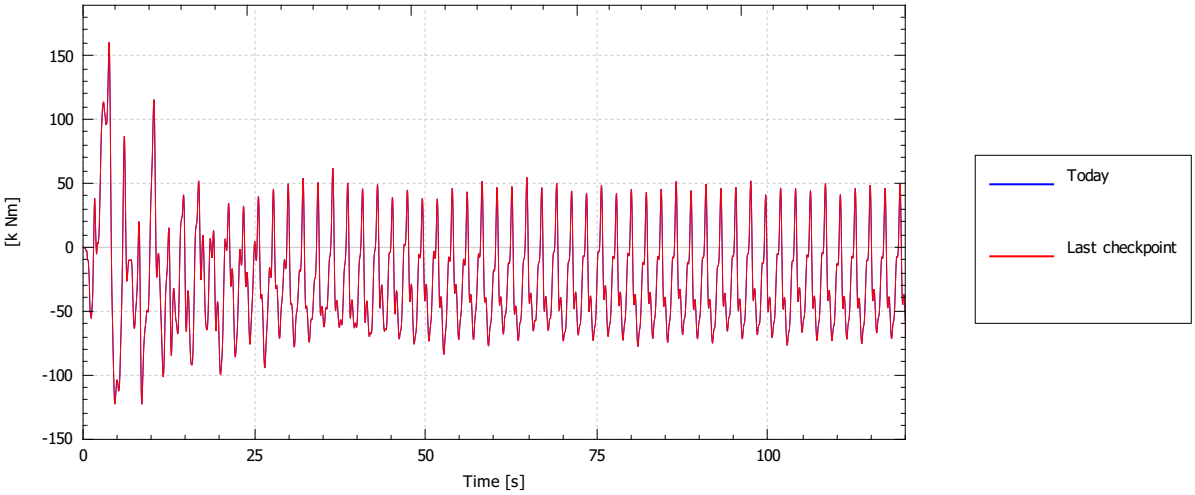
Shear force (2nd prin. axis)



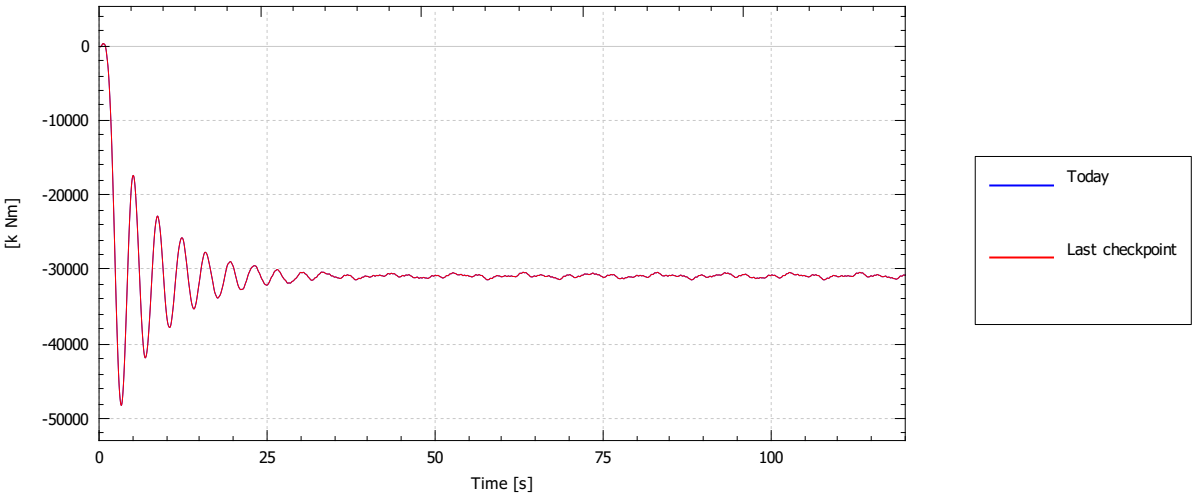
Shear force, mag.



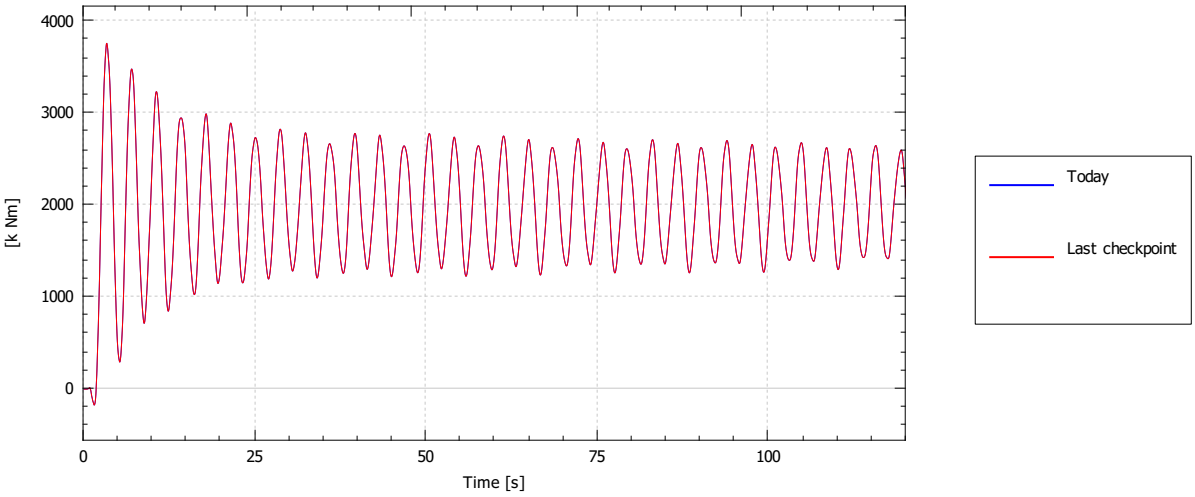
Torque



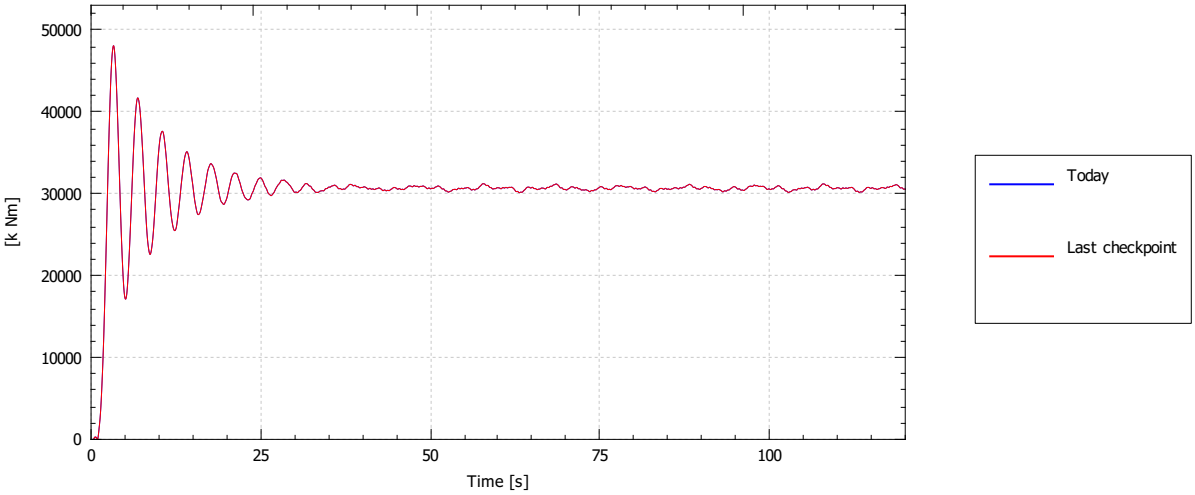
Moment (1st prin. axis), i



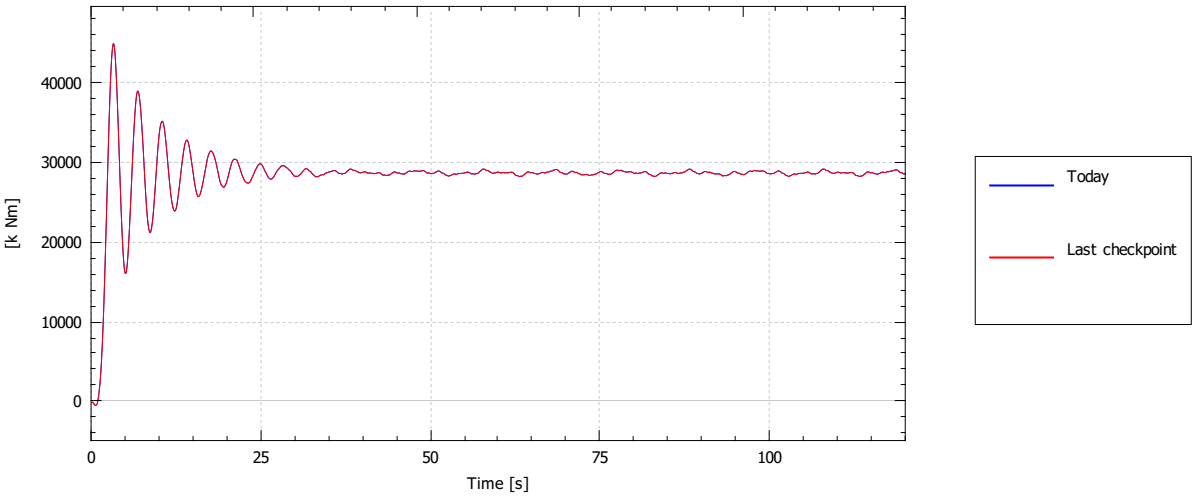
Moment (2nd prin. axis), i



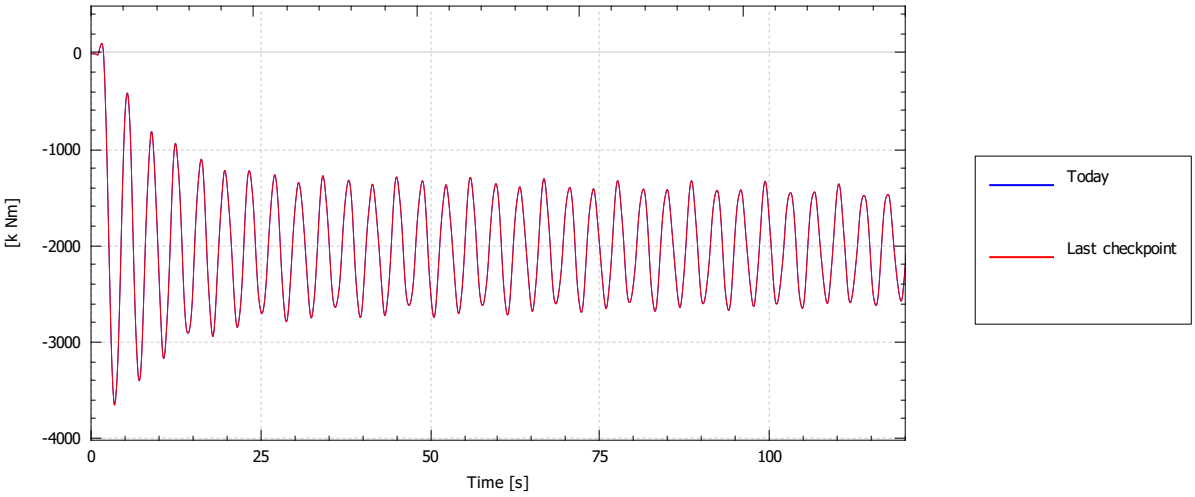
Moment, mag., i



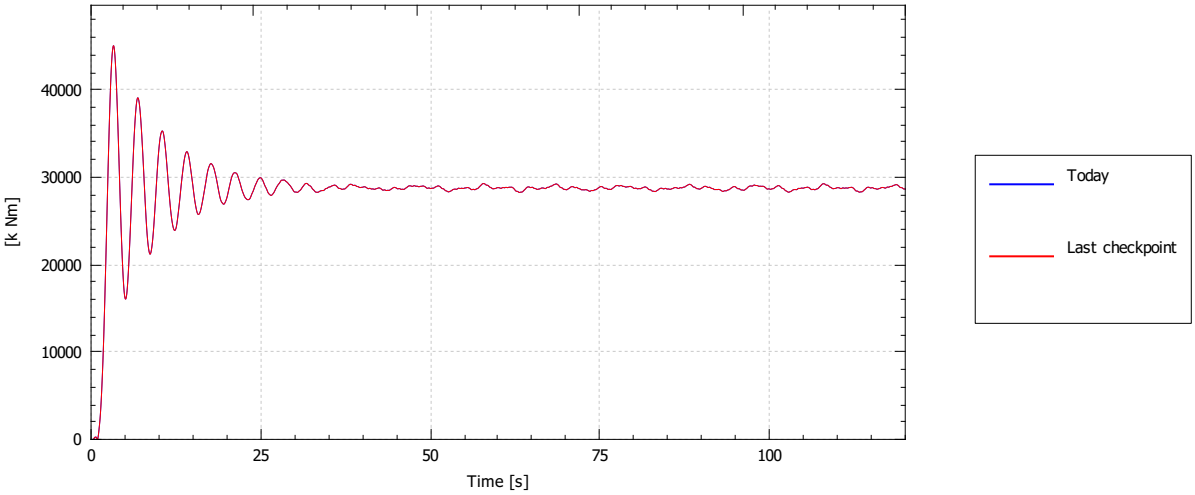
Moment (1st prin. axis), j



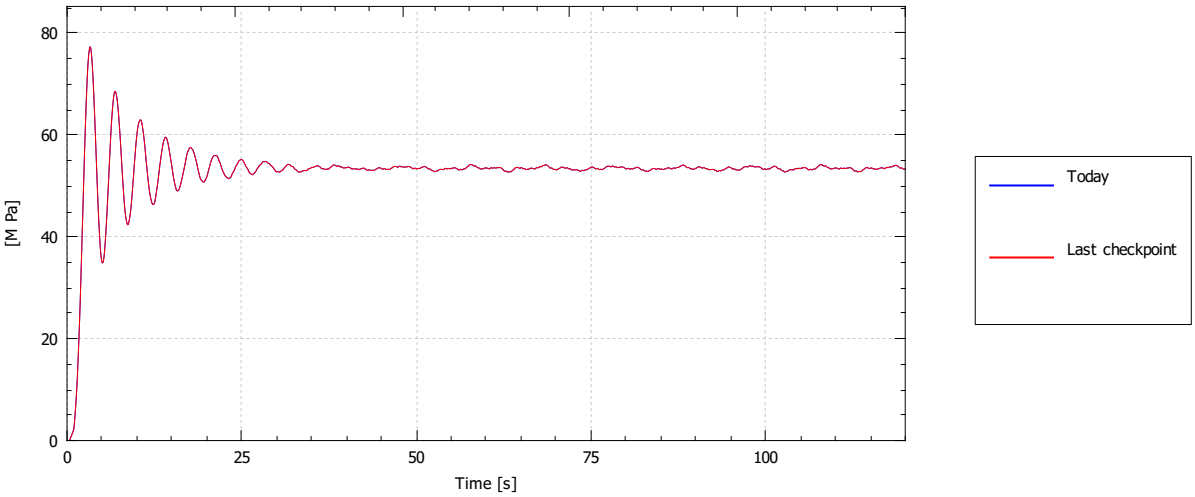
Moment (2nd prin. axis), j

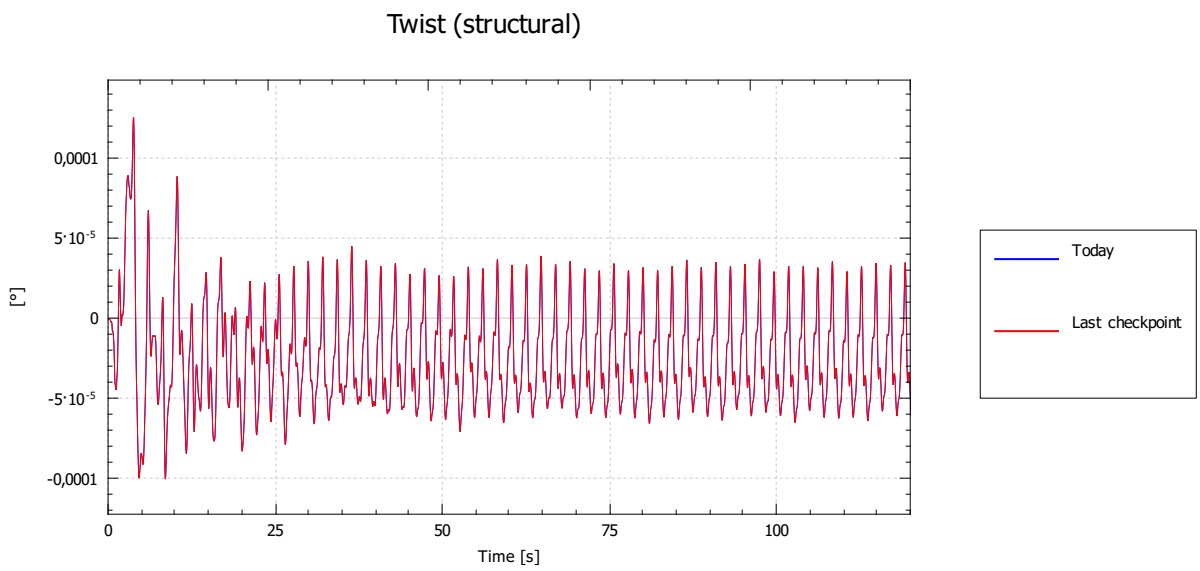


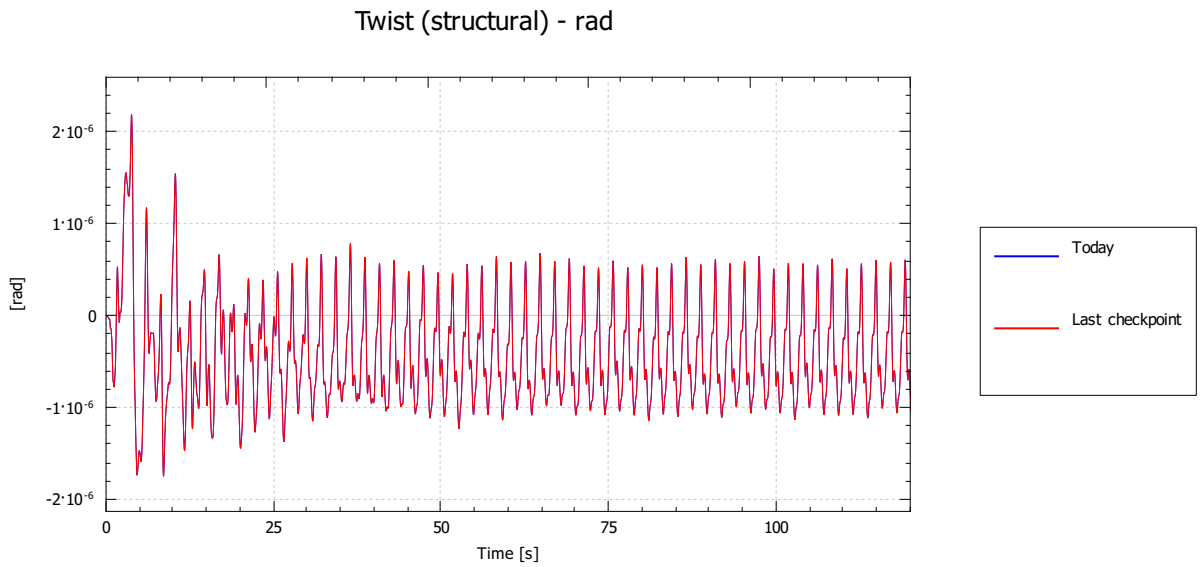
Moment, mag., j

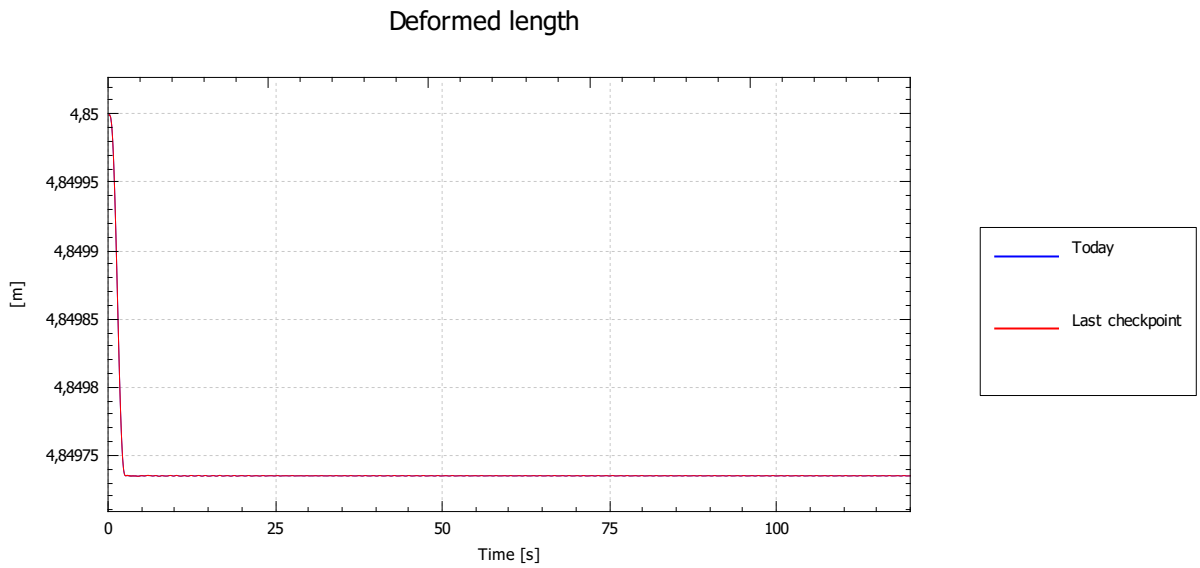


Max normal stress

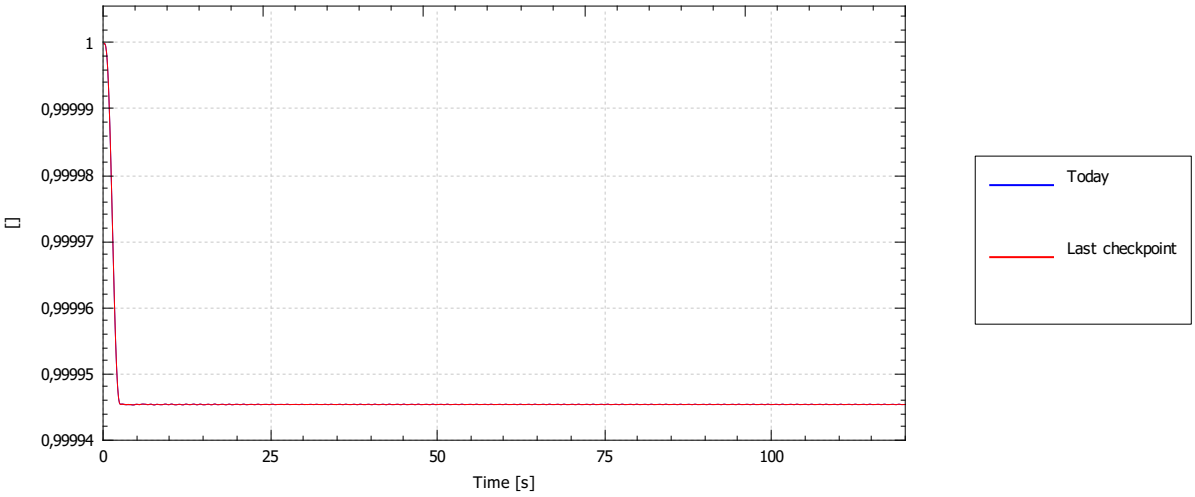



Twist (structural)
0,0001
5·10-5
0
-5·10-5
-0,0001
[°]
0
25
50
75
100
Time [s]
Today
Last checkpoint

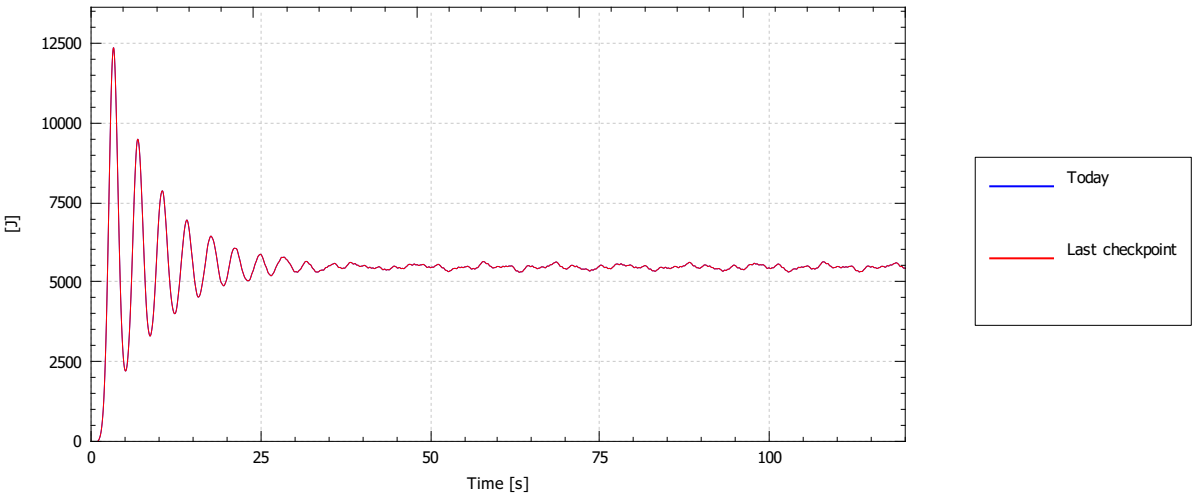

Twist (structural) - rad
2·10-6
1·10-6
0
-1·10-6
-2·10-6
[rad]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Deformed length
4,85
4,84995
4,8499
4,84985
4,8498
4,84975
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

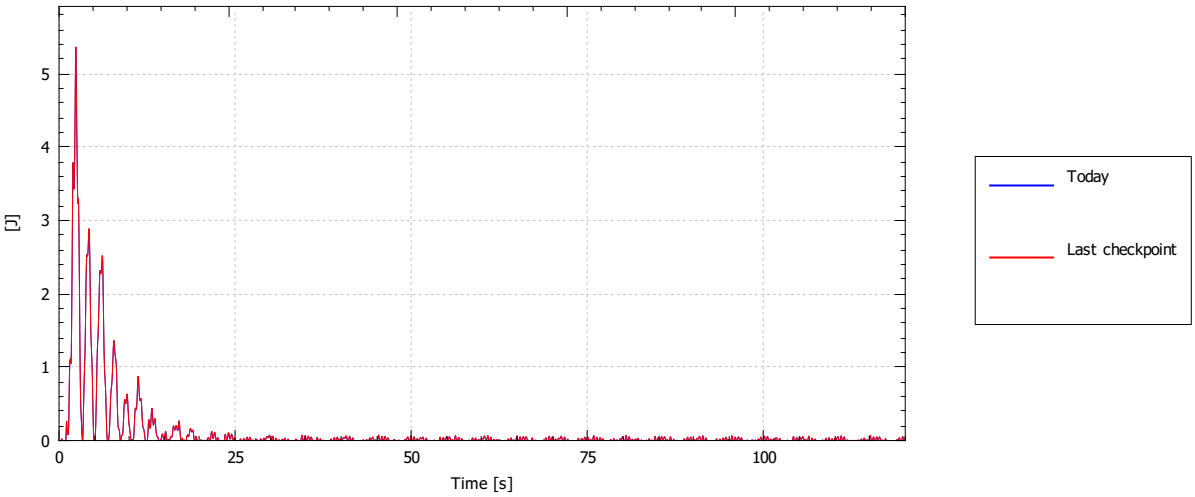
Elongation



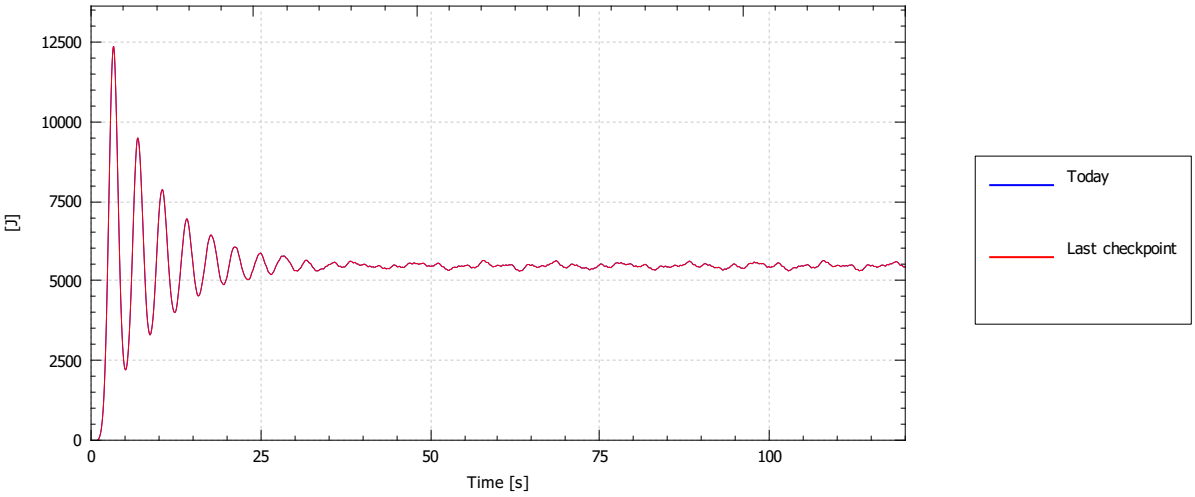
Strain energy



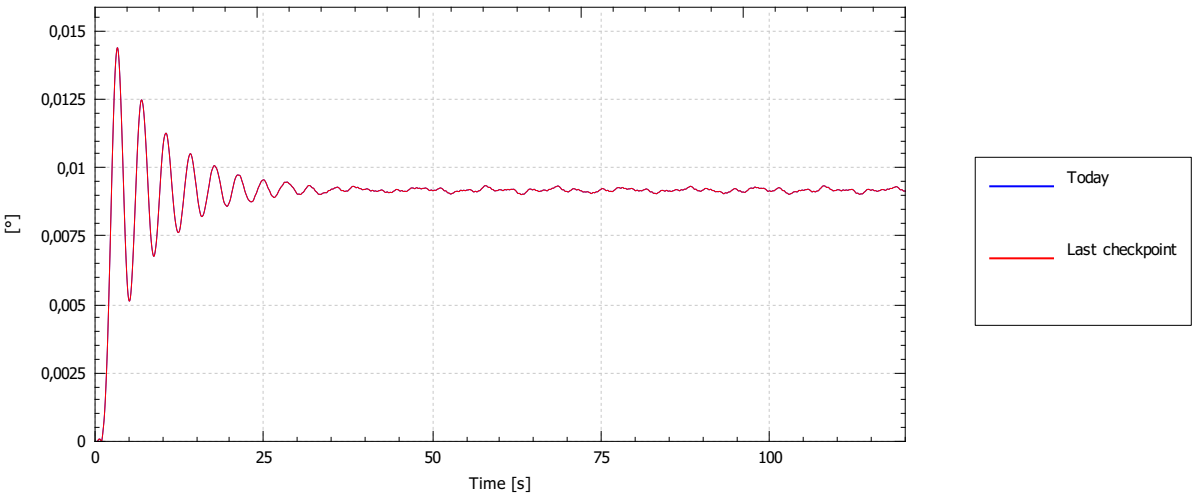
Kinetic energy



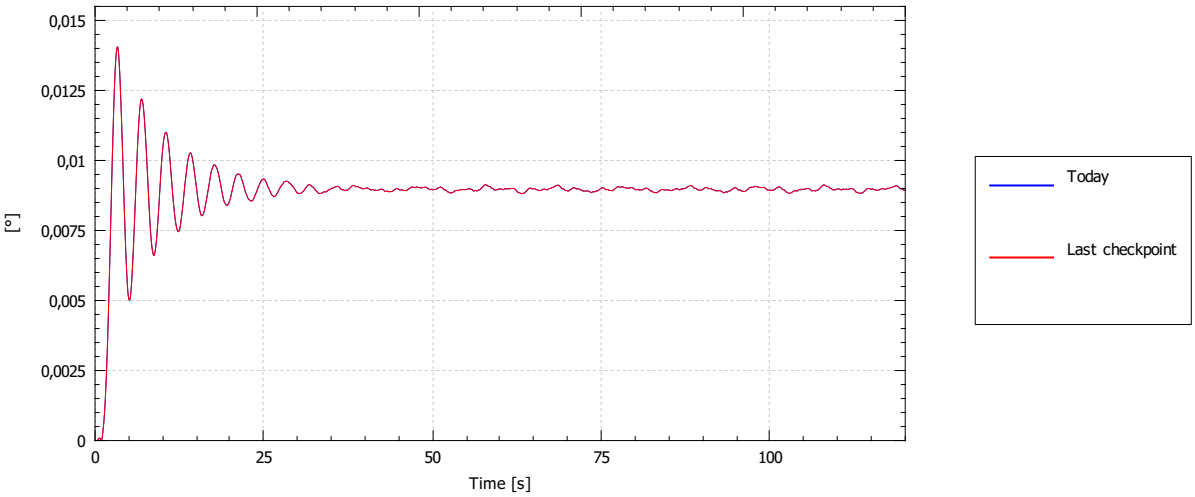
Mechanical energy



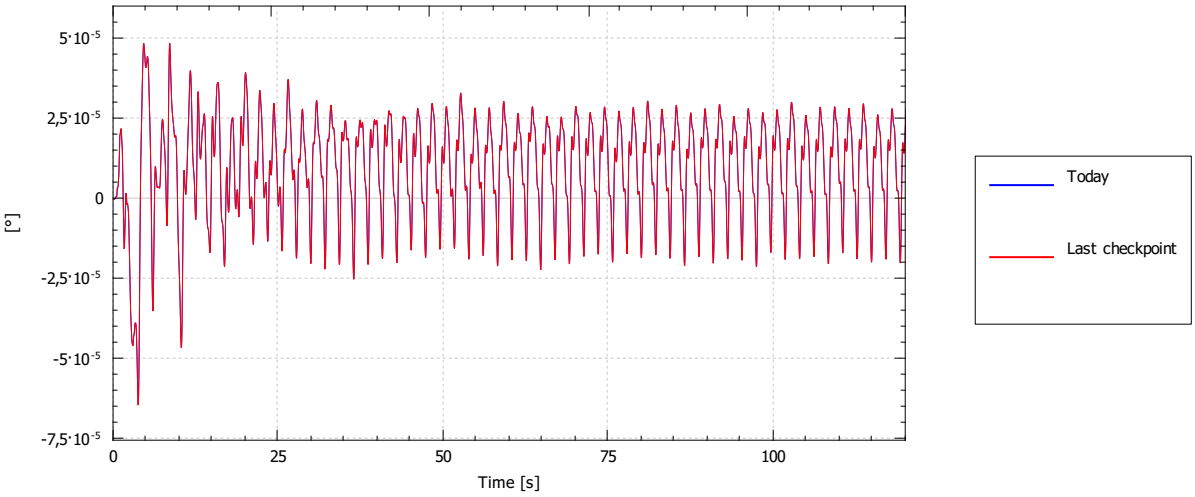
Deformational rotation (i)



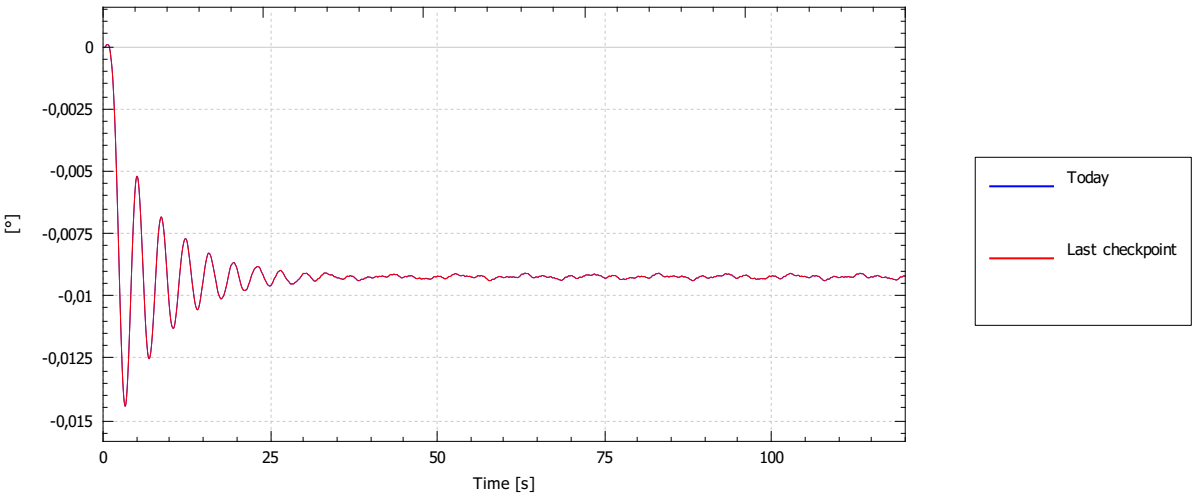
Deformational rotation (j)



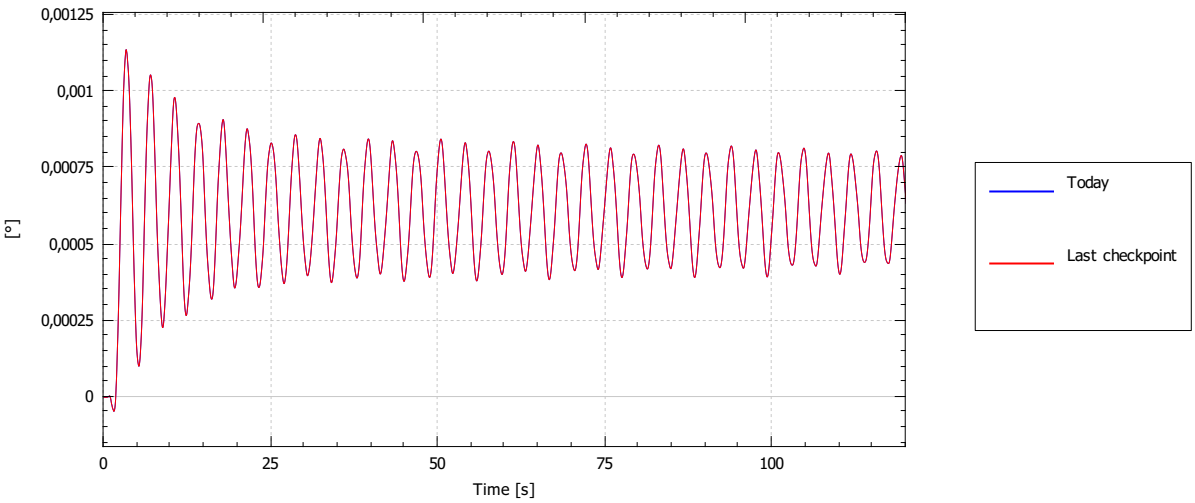
Deformational rotation (axial)



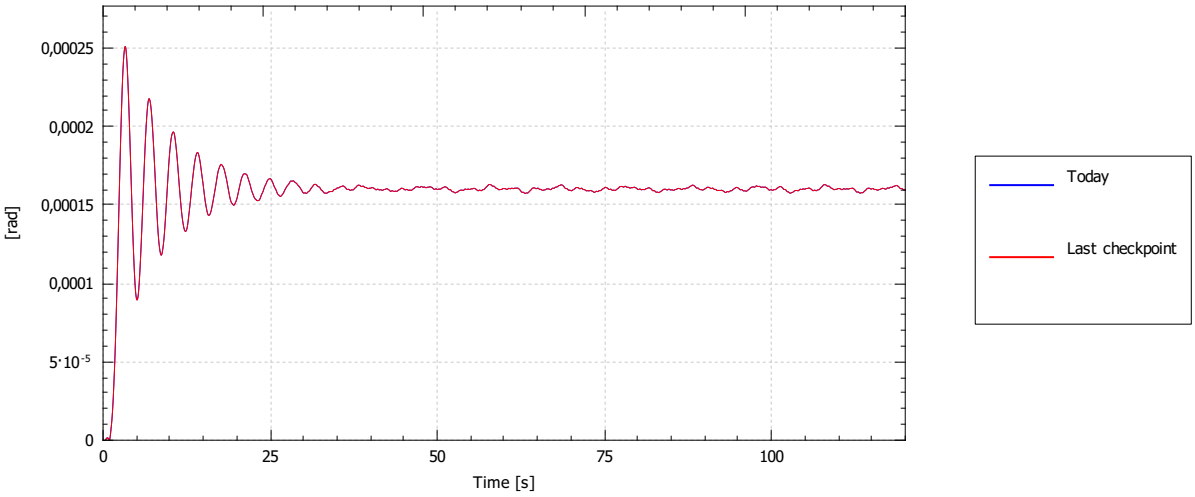
Deformational rotation (1st prin.)



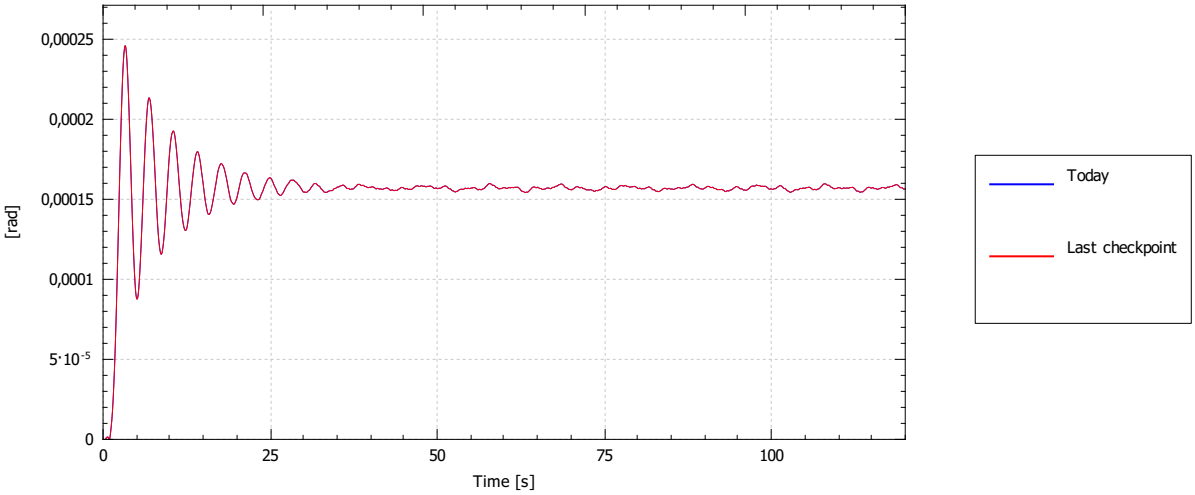
Deformational rotation (2nd prin.)



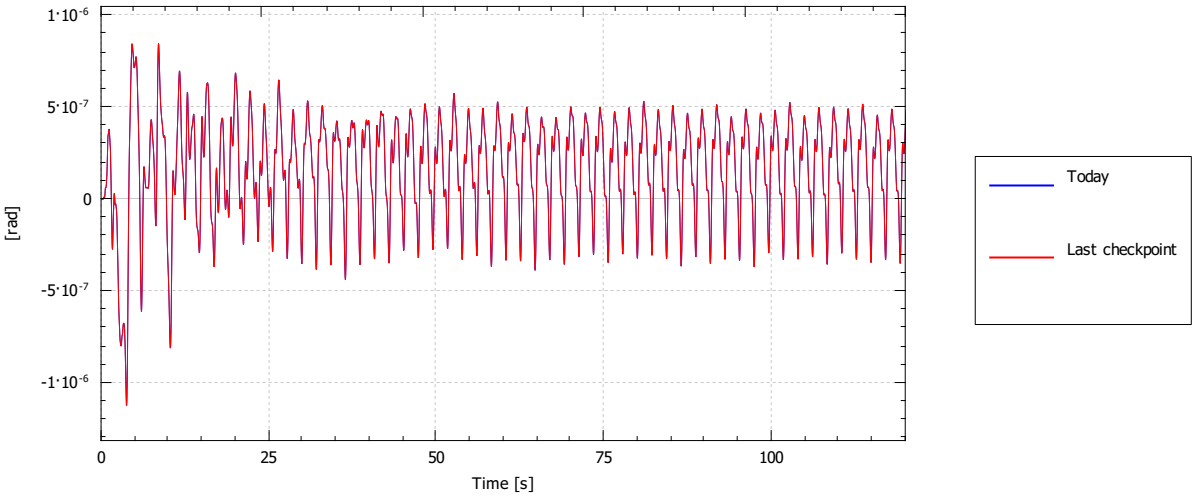
Deformational rotation (i) - rad



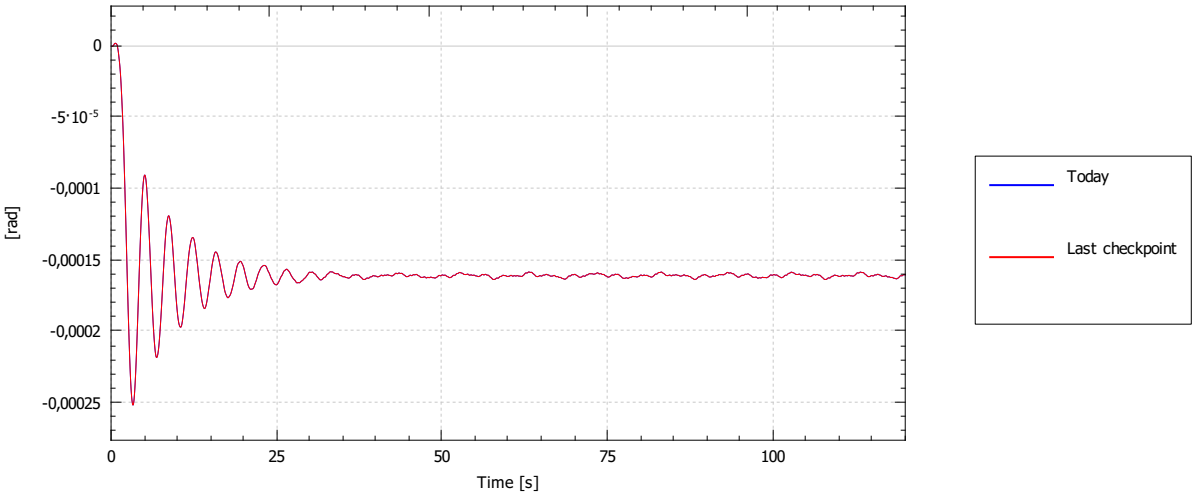
Deformational rotation (j) - rad



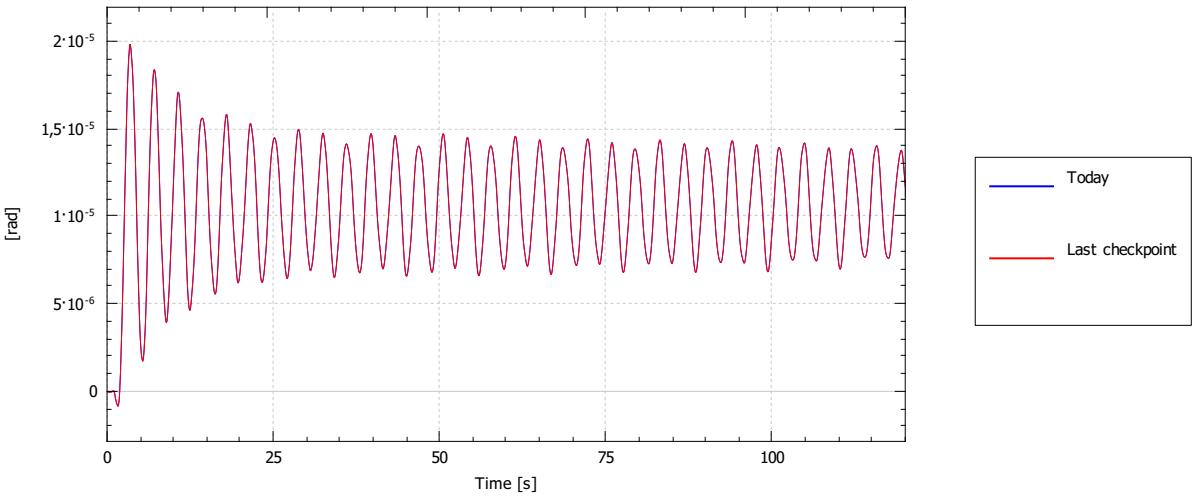
Deformational rotation (axial) - rad



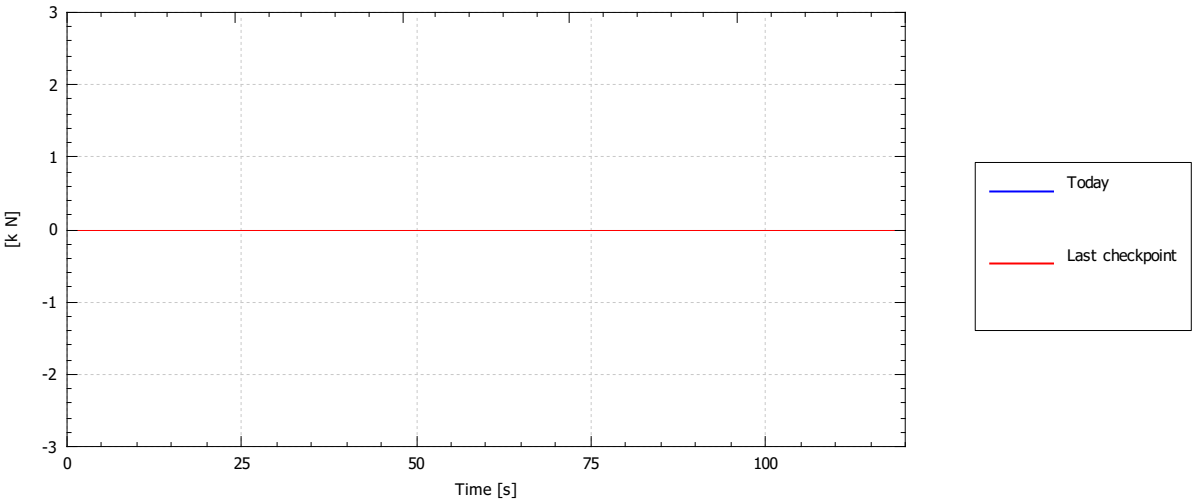
Deformational rotation (1st prin.) - rad



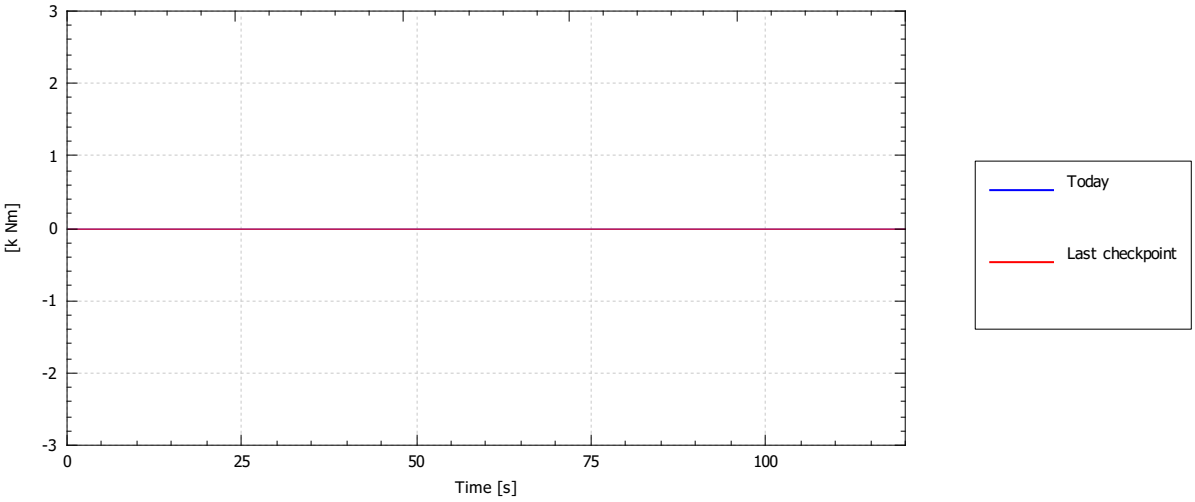
Deformational rotation (2nd prin.) - rad



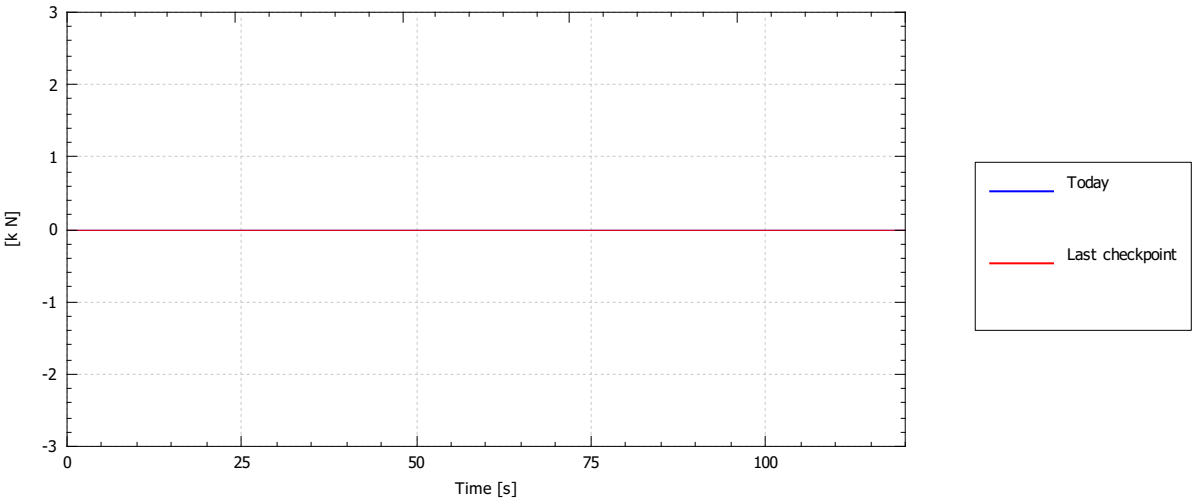
Damping force, i



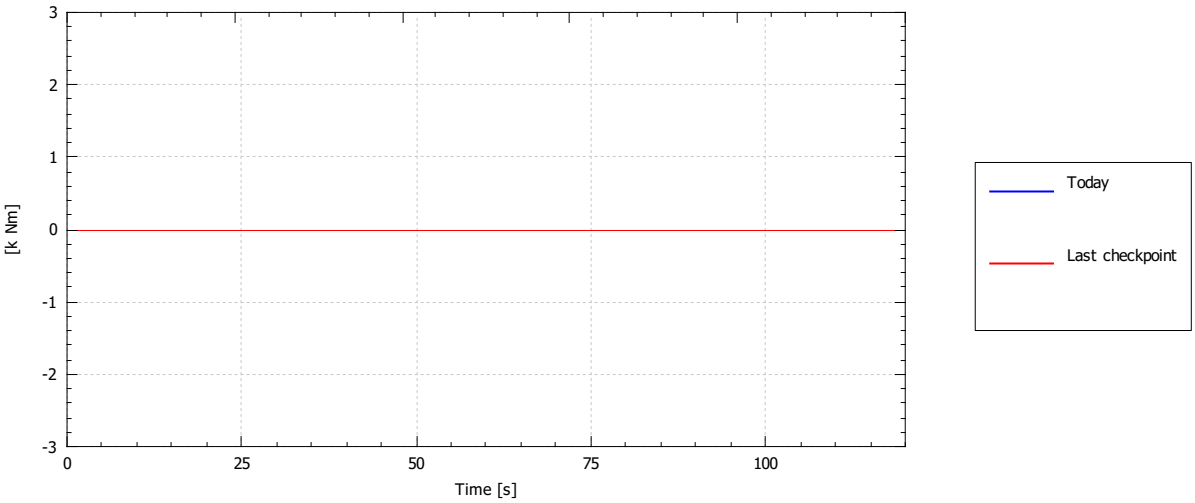
Damping moment, i



Damping force, sum

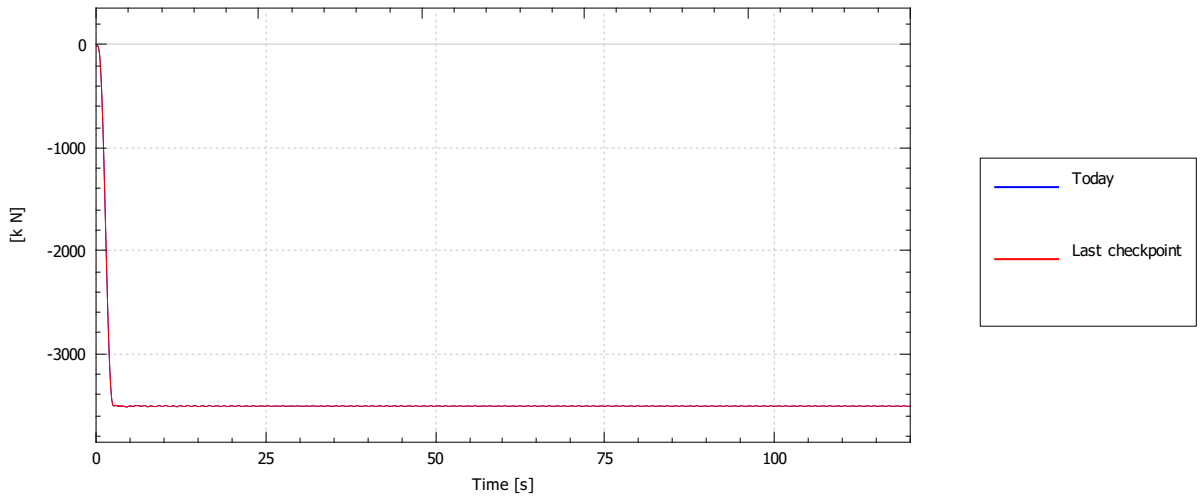


Damping moment, sum

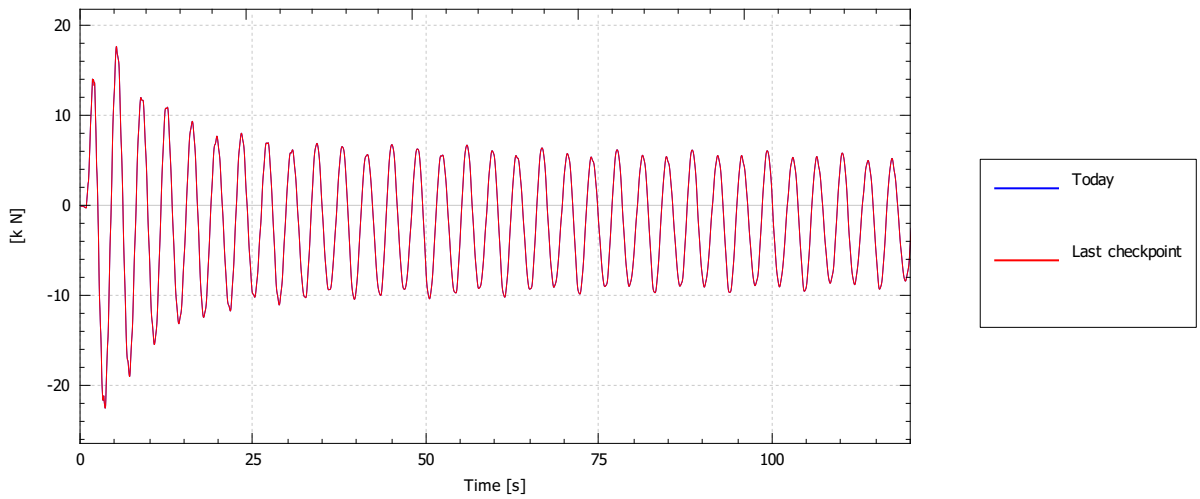


Beam element [Element 16 | Tubular tower]

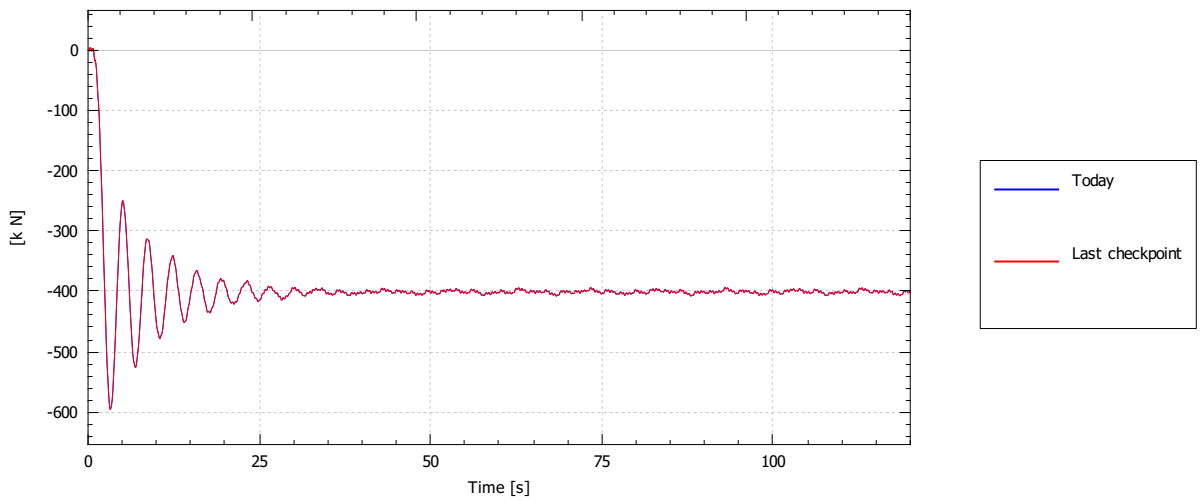
Axial force



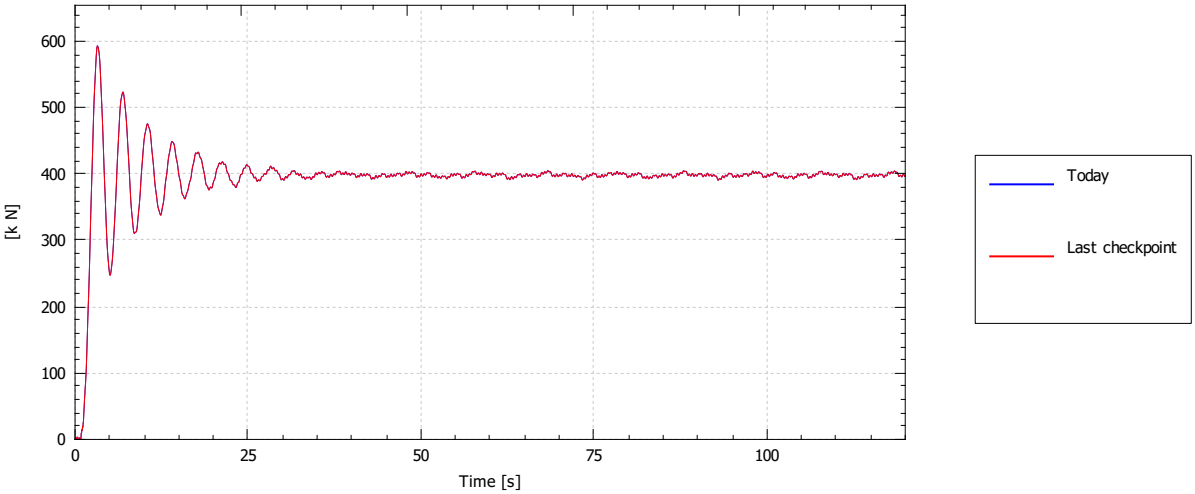
Shear force (1st prin. axis)



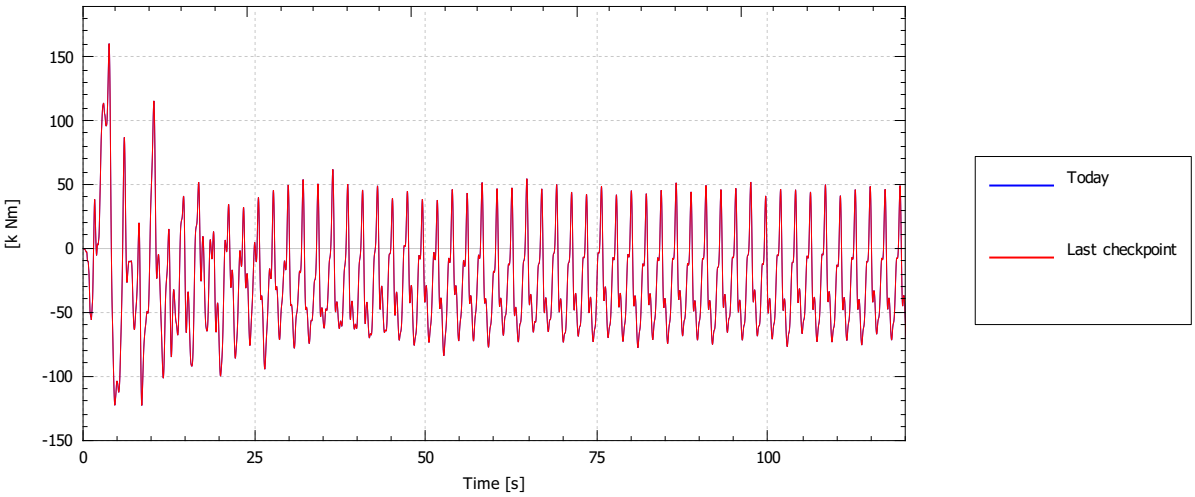
Shear force (2nd prin. axis)



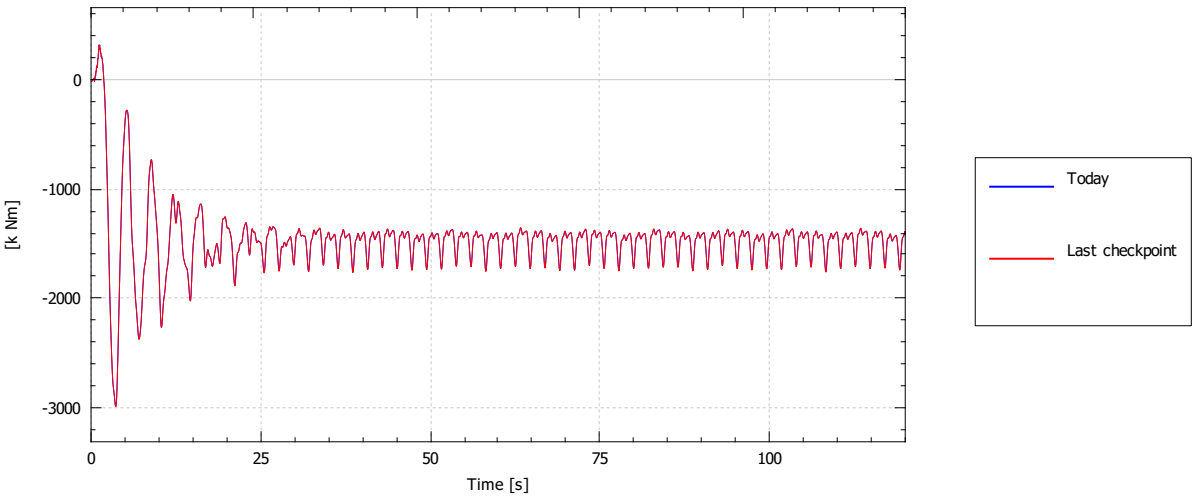
Shear force, mag.



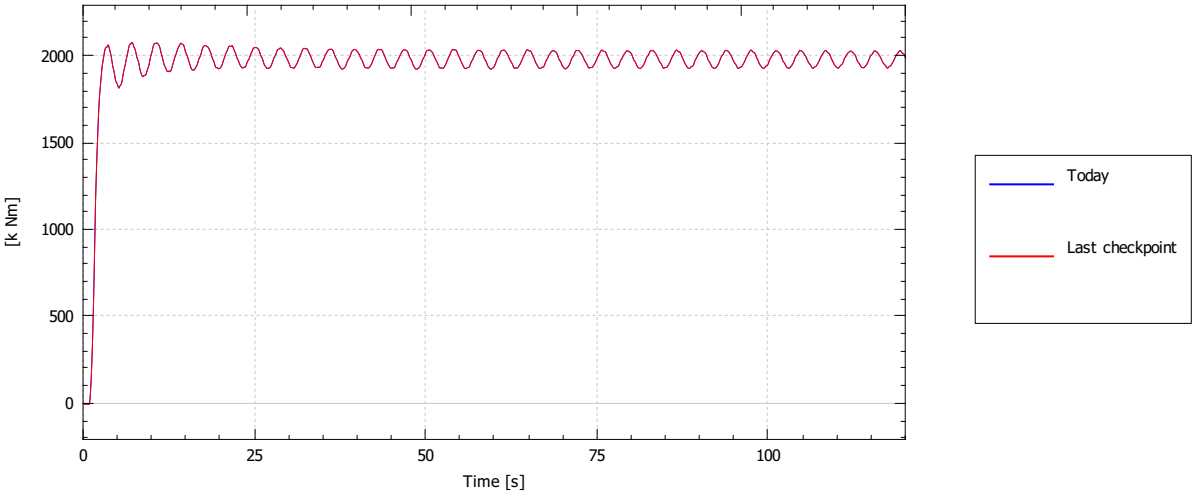
Torque



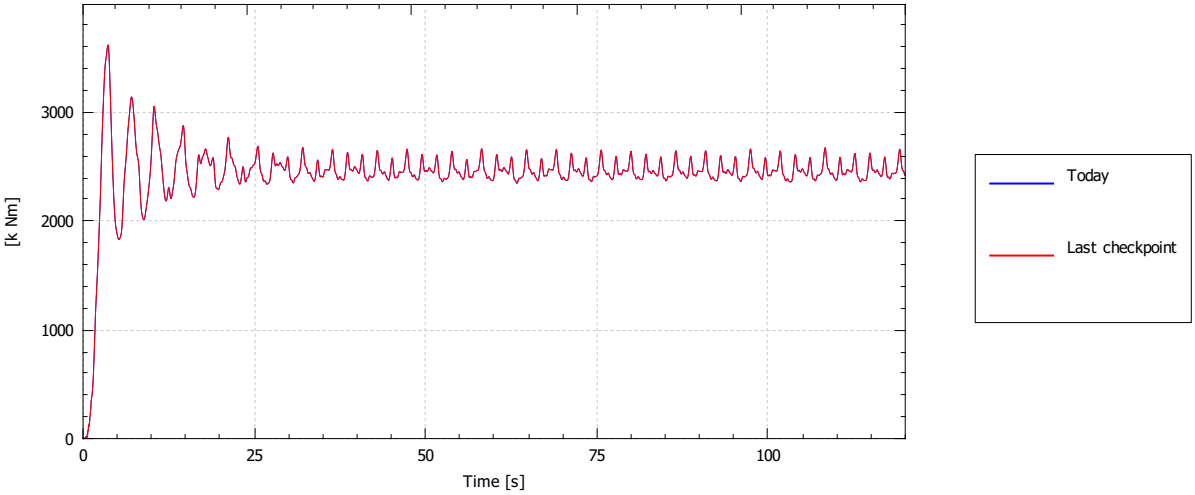
Moment (1st prin. axis), i



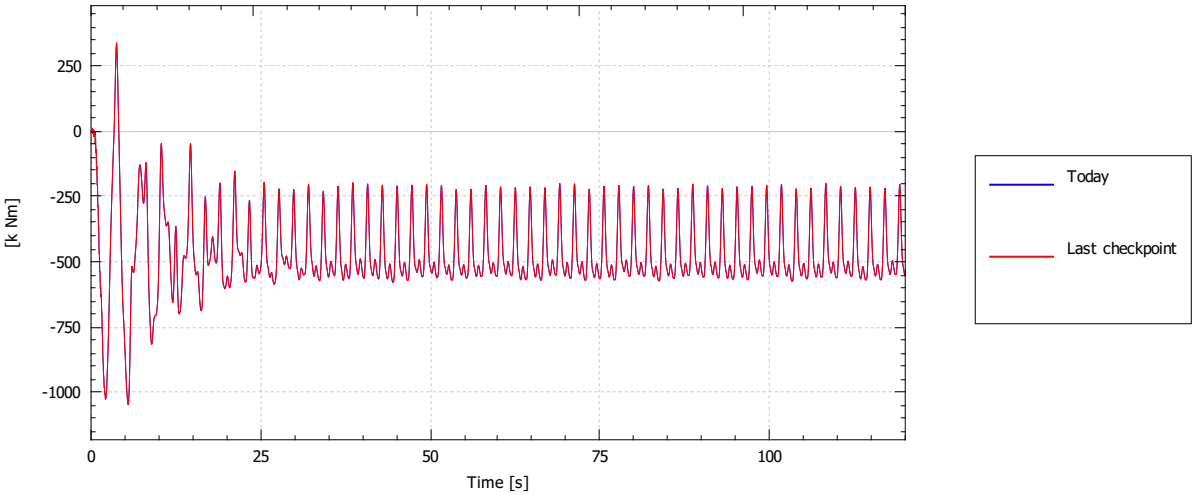
Moment (2nd prin. axis), i



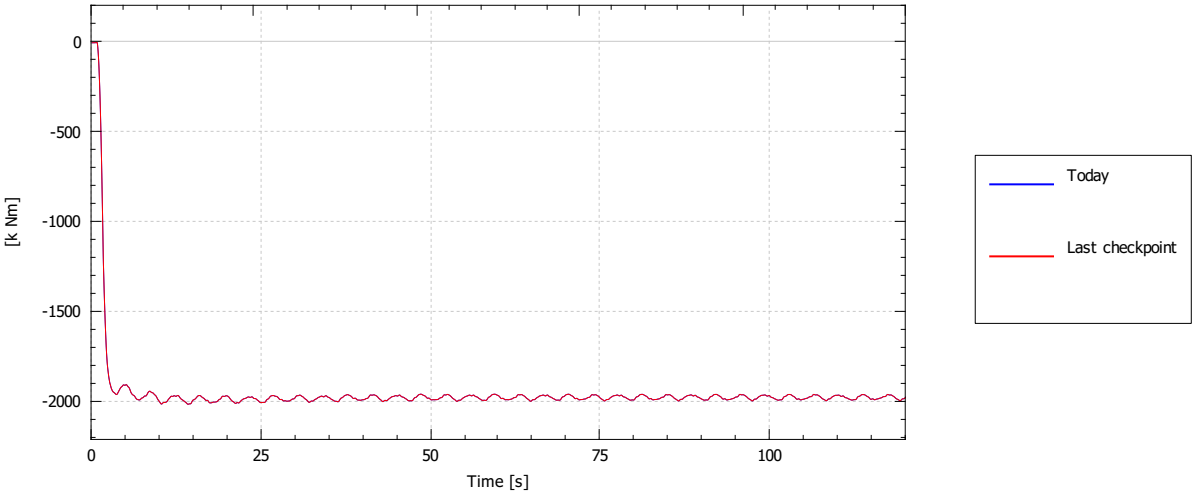
Moment, mag., i



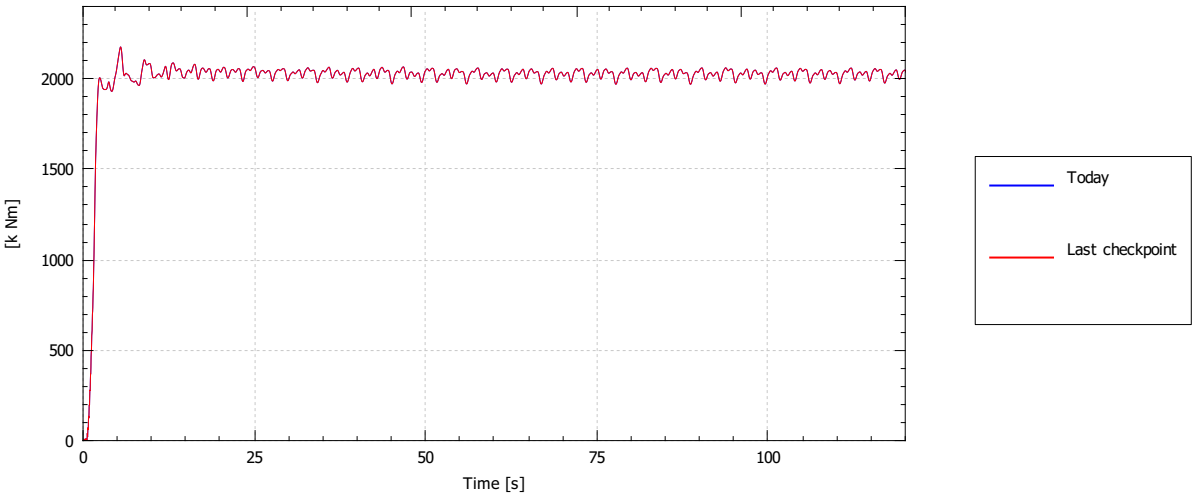
Moment (1st prin. axis), j



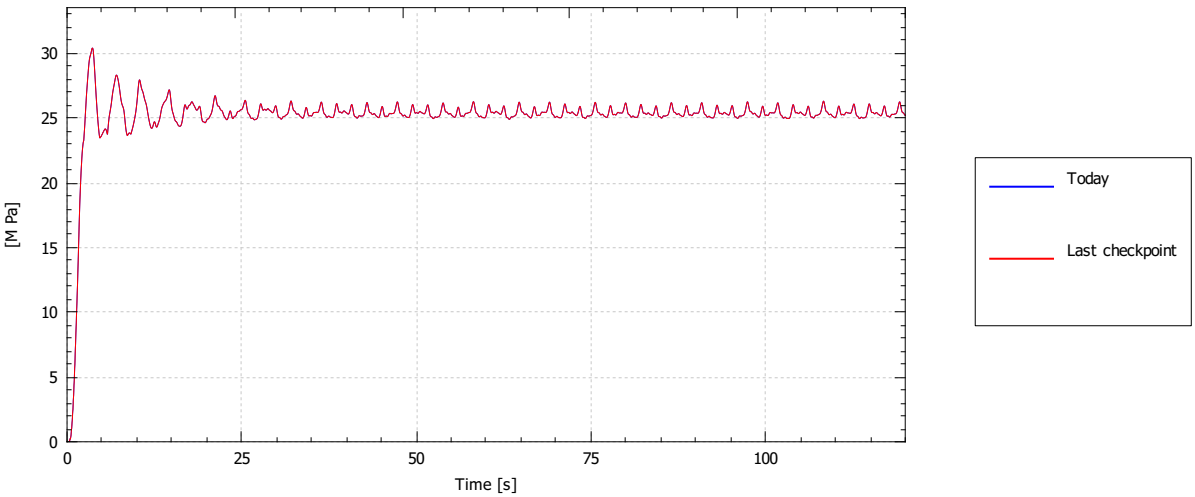
Moment (2nd prin. axis), j

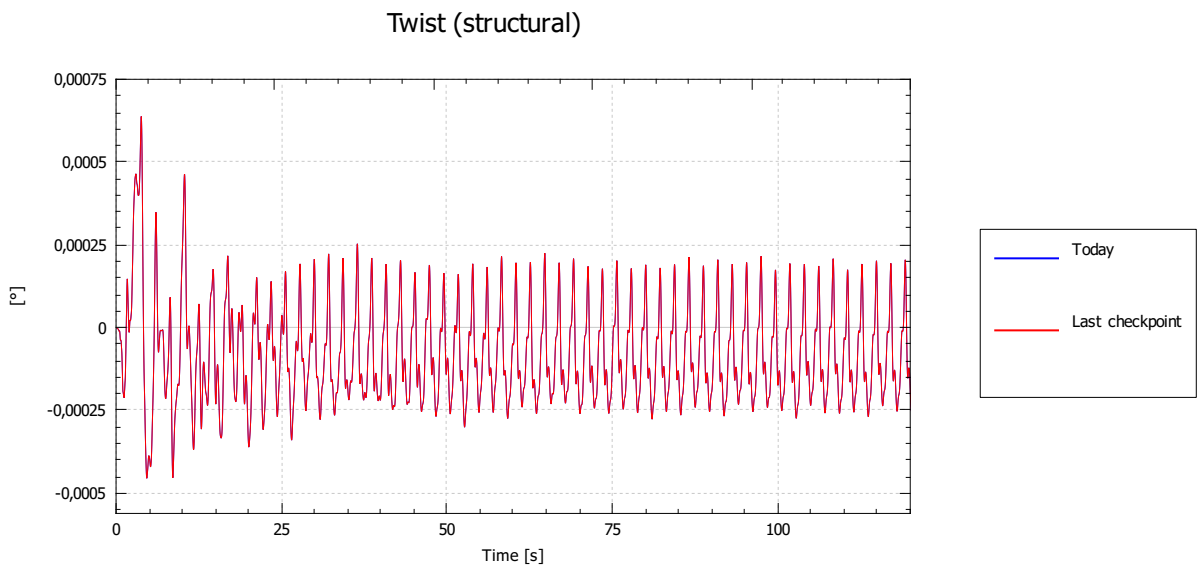


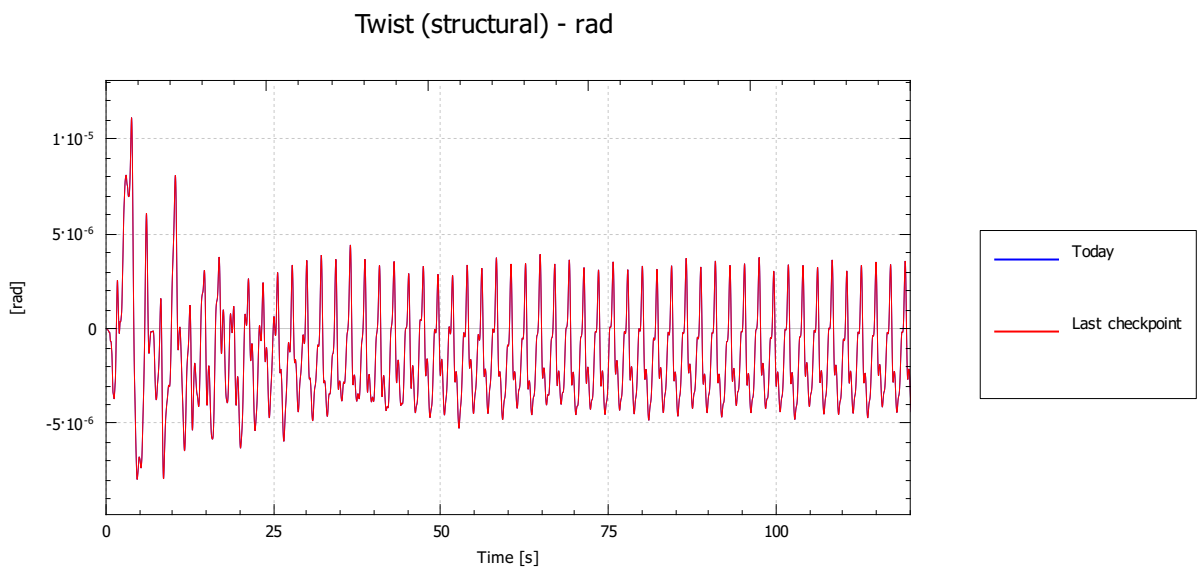
Moment, mag., j

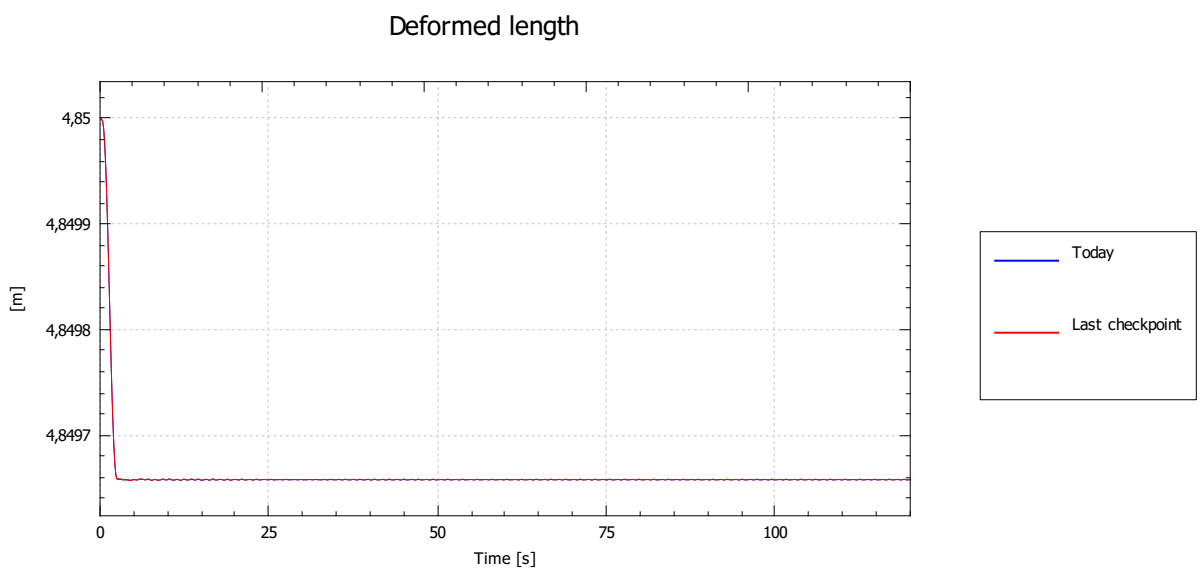


Max normal stress

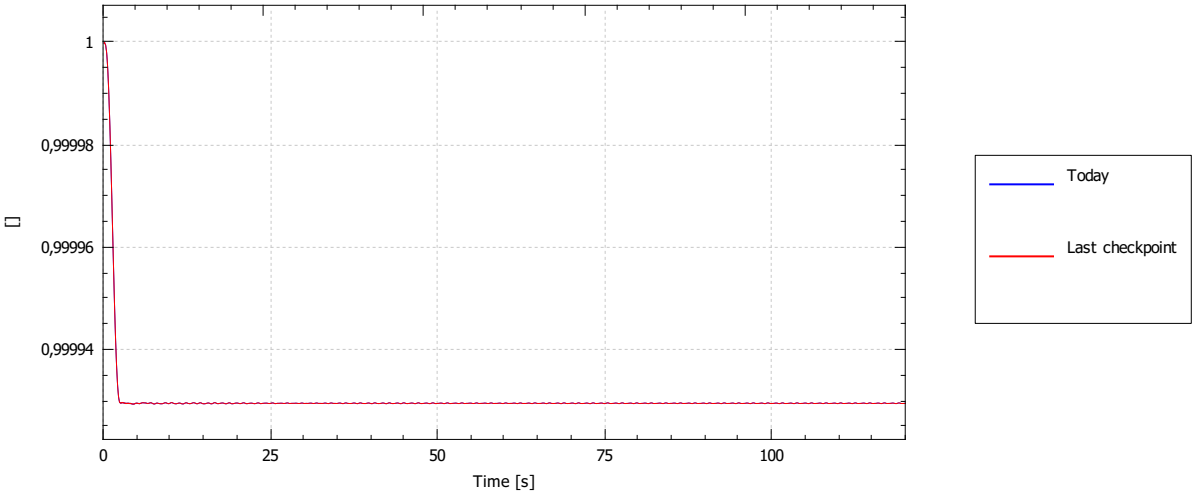



Twist (structural)
0,00075
0,0005
0,00025
0
-0,00025
-0,0005
[°]
0
25
50
75
100
Time [s]
Today
Last checkpoint

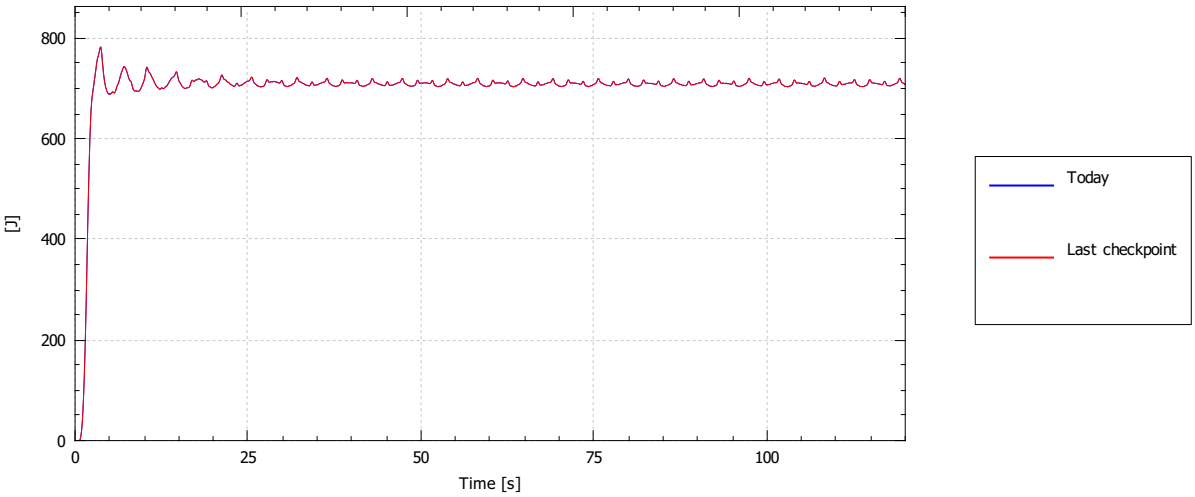

Twist (structural) - rad
1·10⁻⁵
5·10⁻⁶
0
-5·10⁻⁶
[rad]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Deformed length
4,85
4,8499
4,8498
4,8497
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

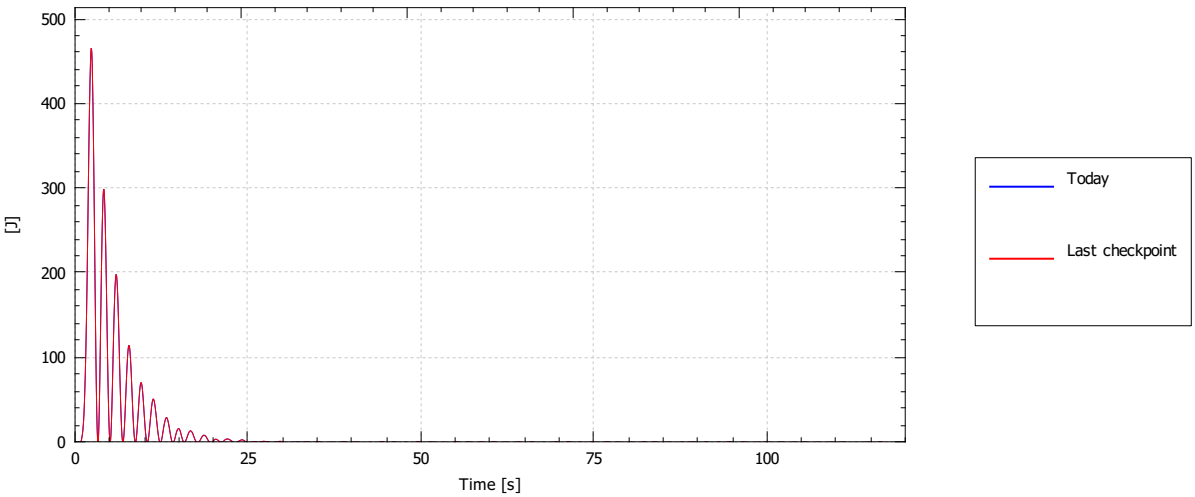
Elongation



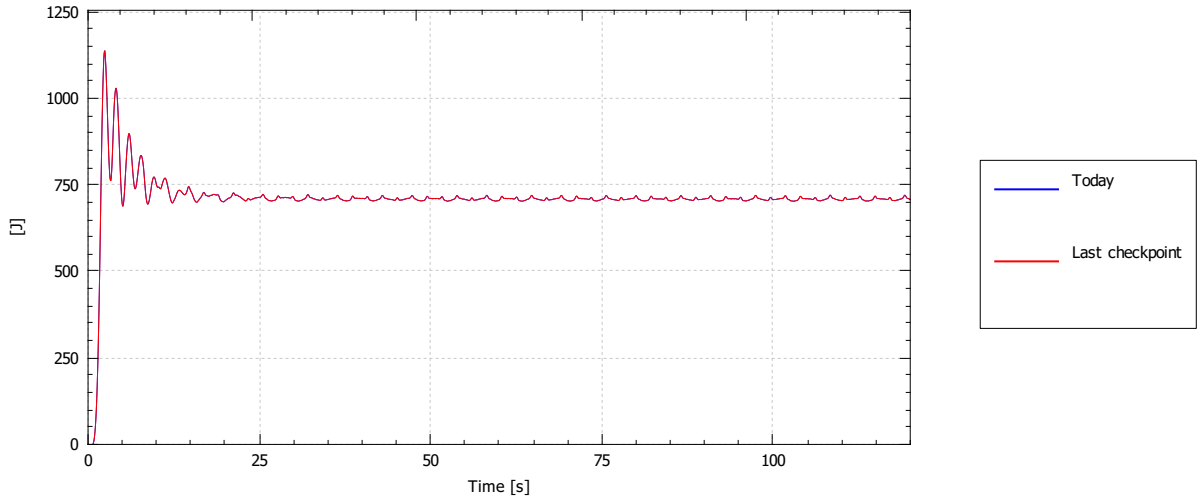
Strain energy



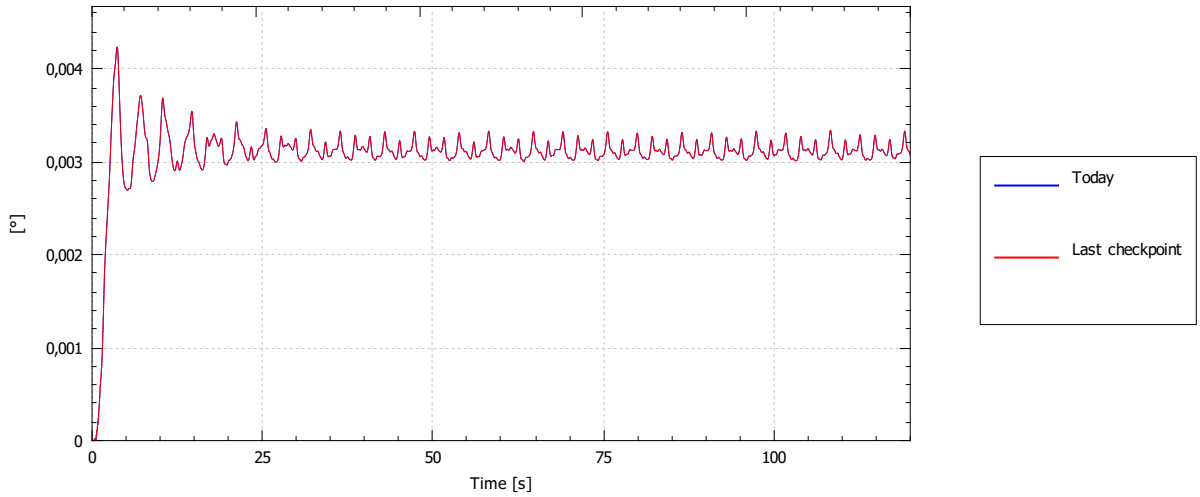
Kinetic energy



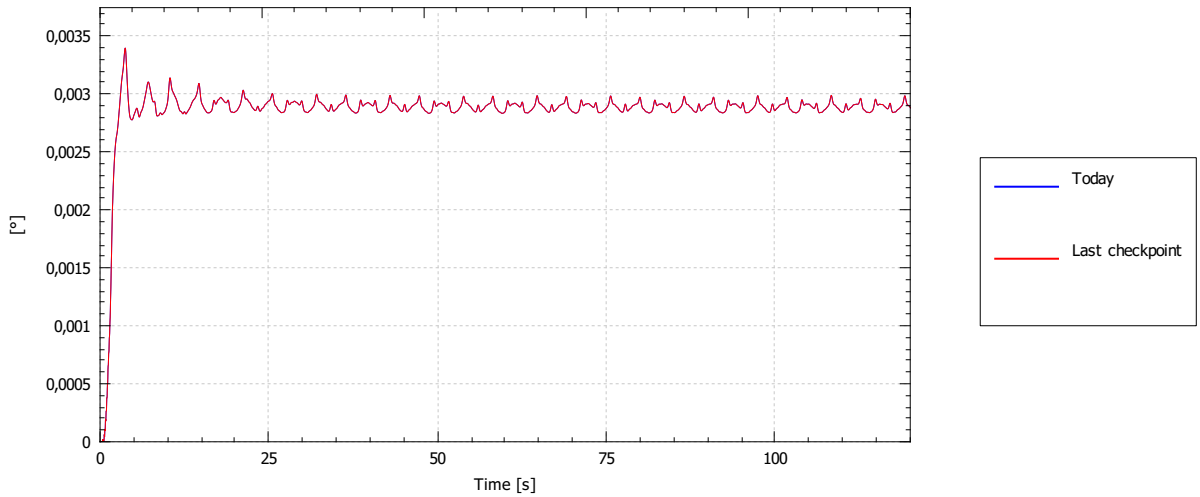
Mechanical energy



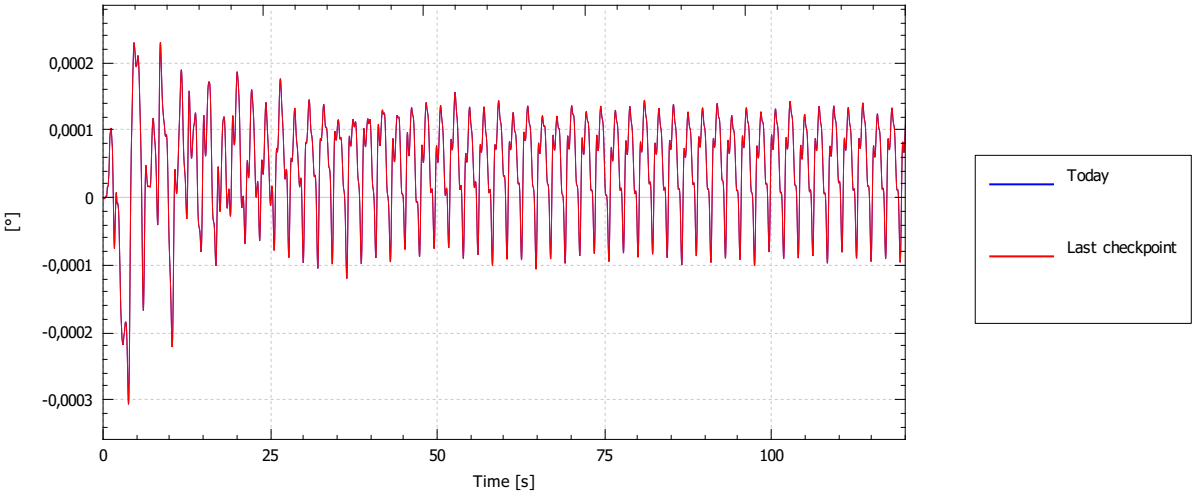
Deformational rotation (i)



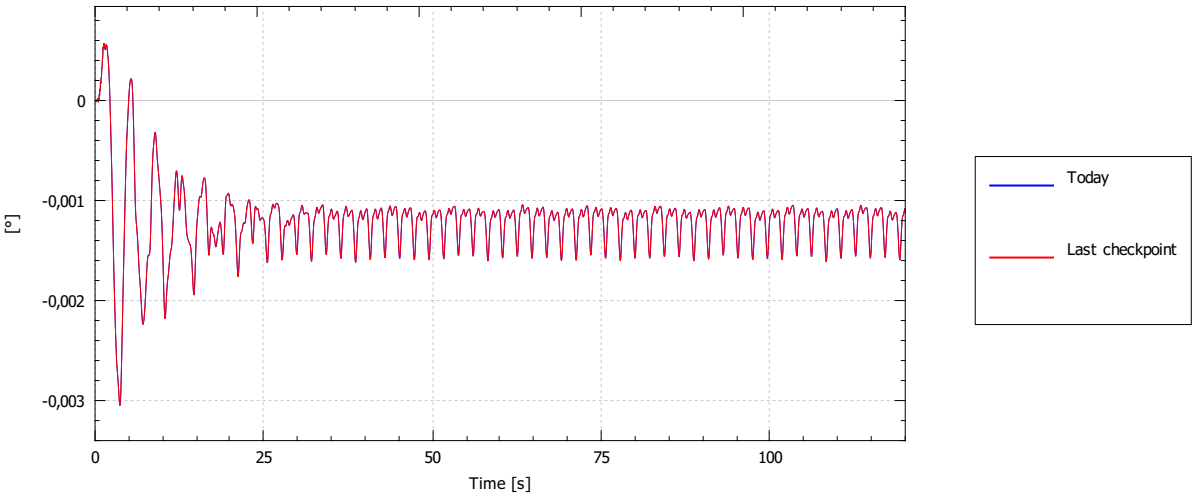
Deformational rotation (j)



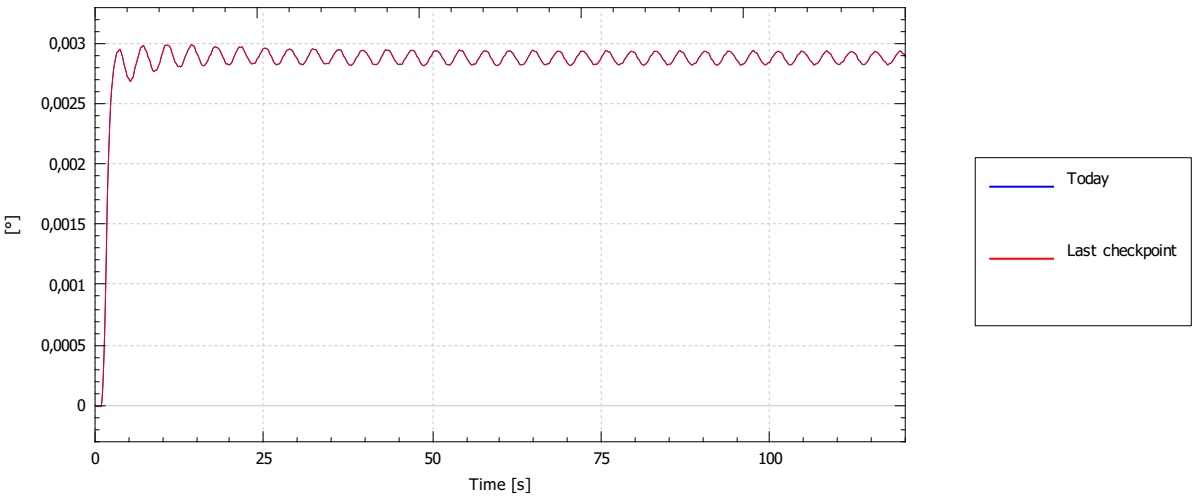
Deformational rotation (axial)



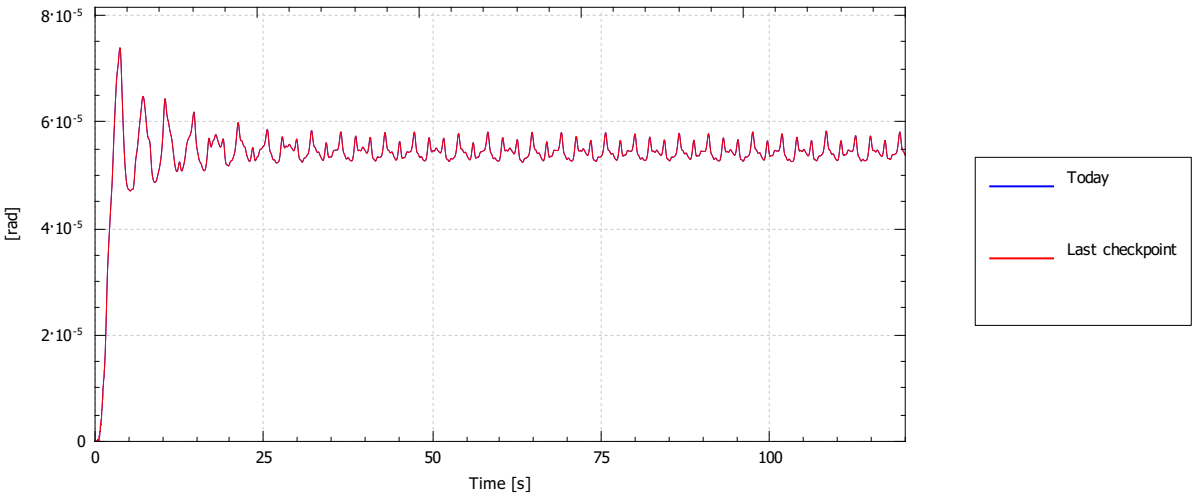
Deformational rotation (1st prin.)



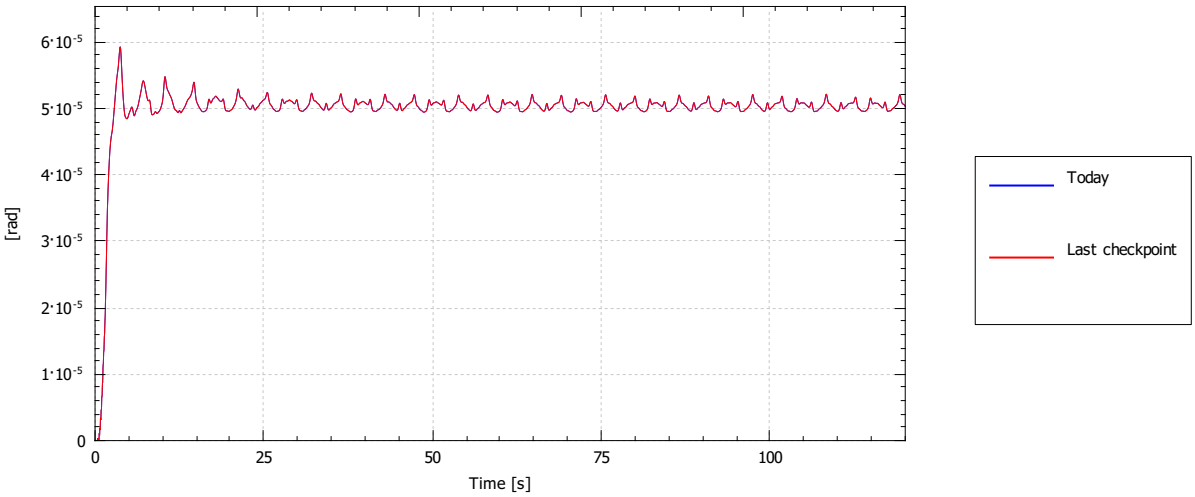
Deformational rotation (2nd prin.)



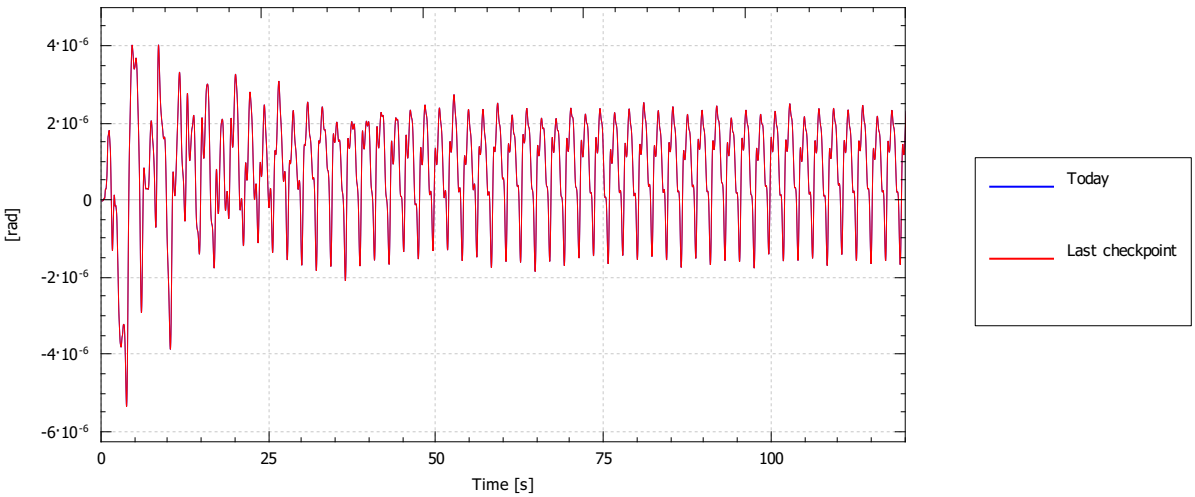
Deformational rotation (i) - rad



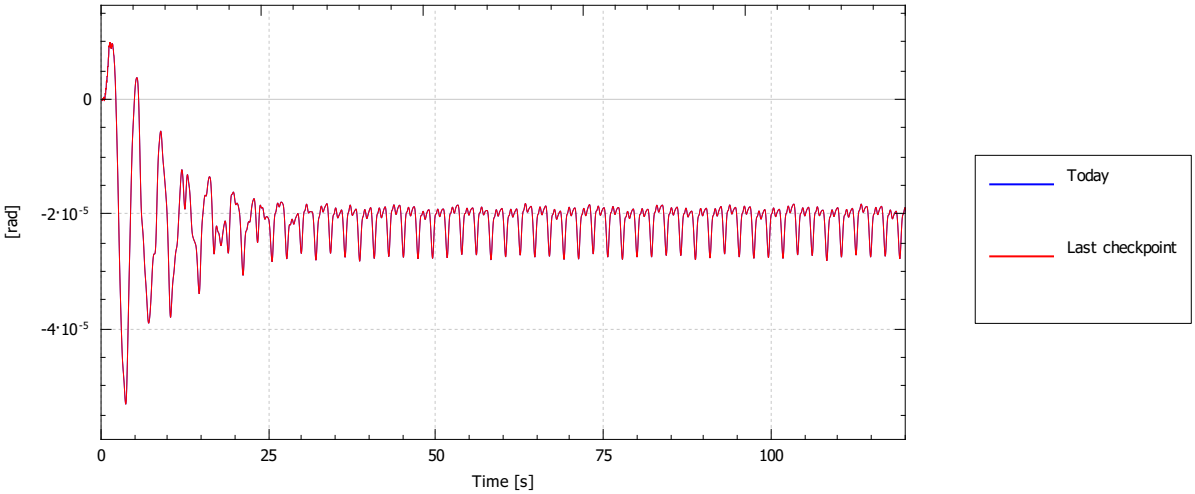
Deformational rotation (j) - rad



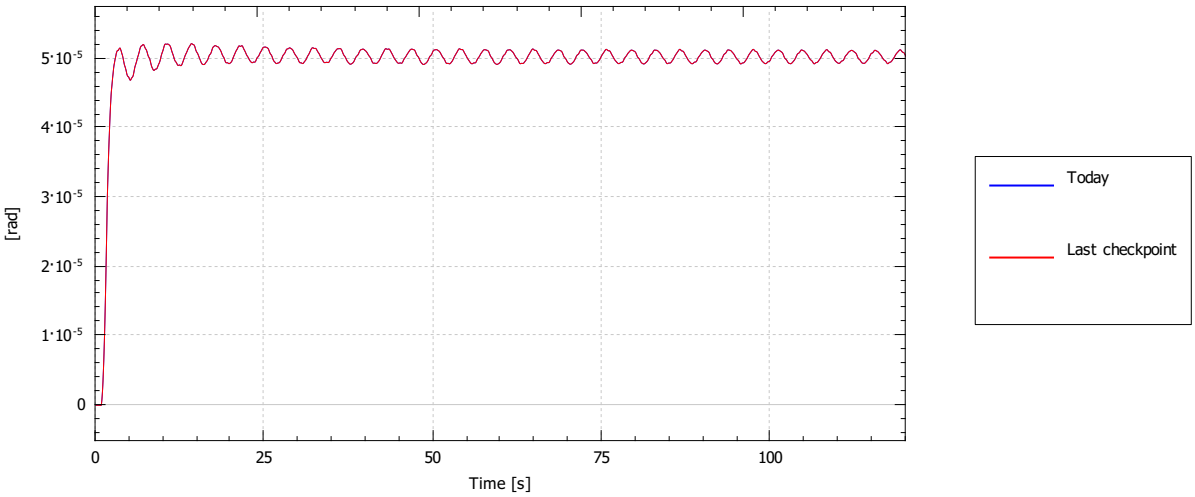
Deformational rotation (axial) - rad



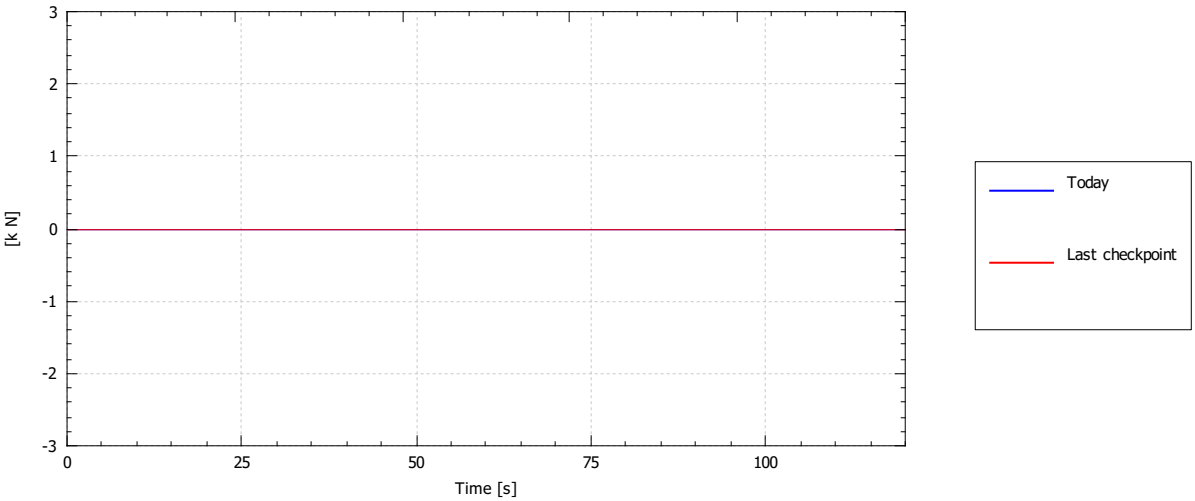
Deformational rotation (1st prin.) - rad



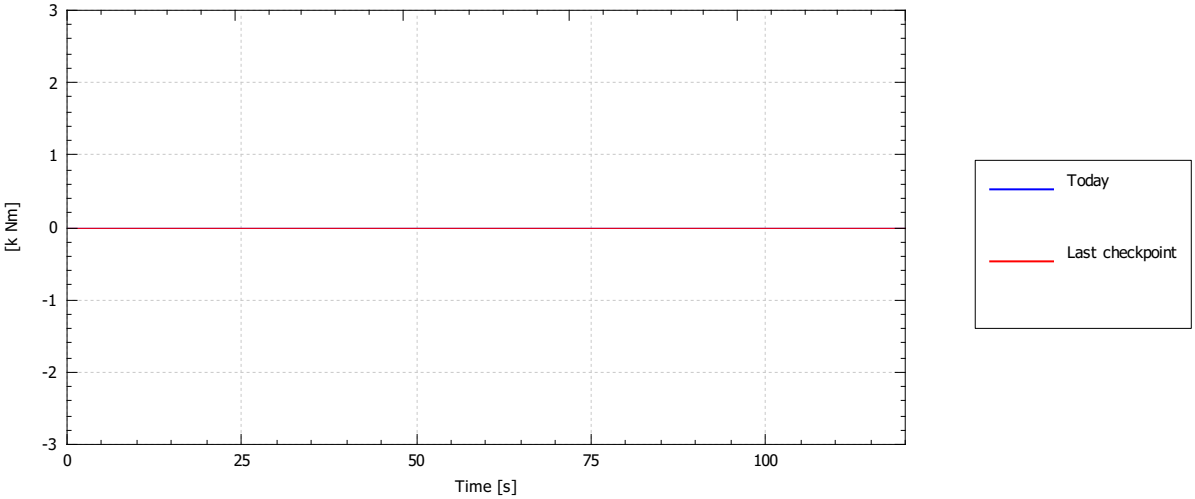
Deformational rotation (2nd prin.) - rad



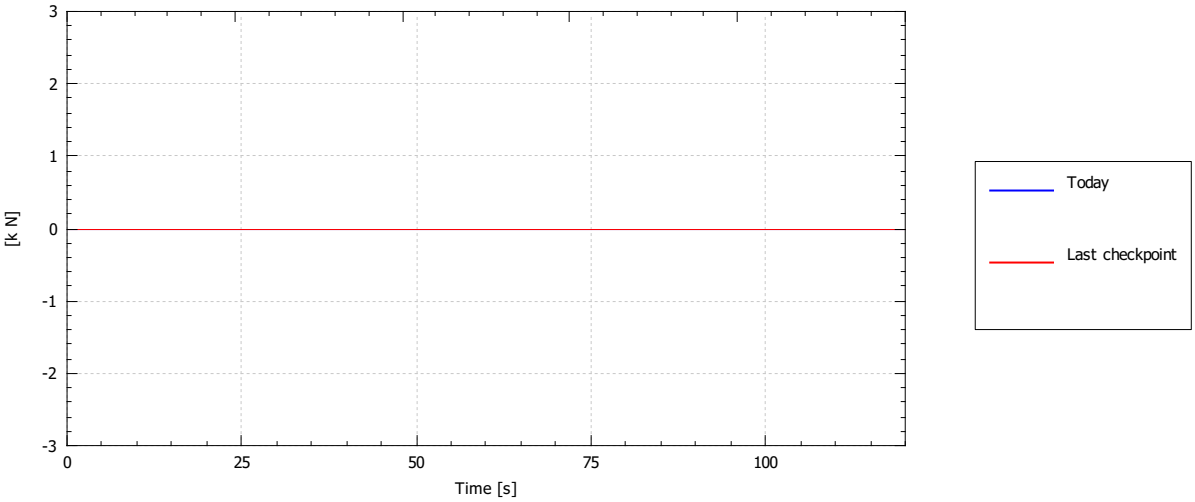
Damping force, i



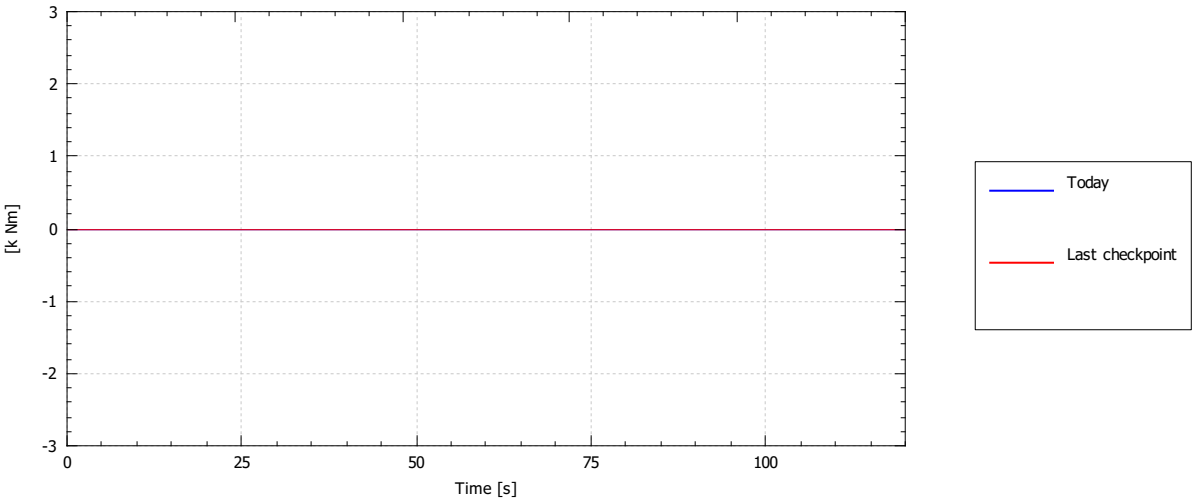
Damping moment, i



Damping force, sum

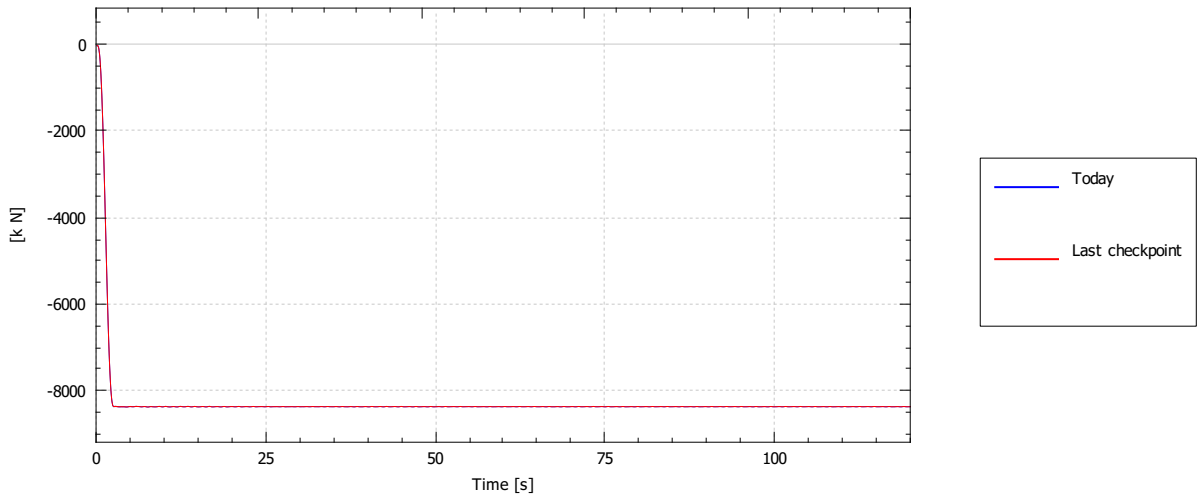


Damping moment, sum

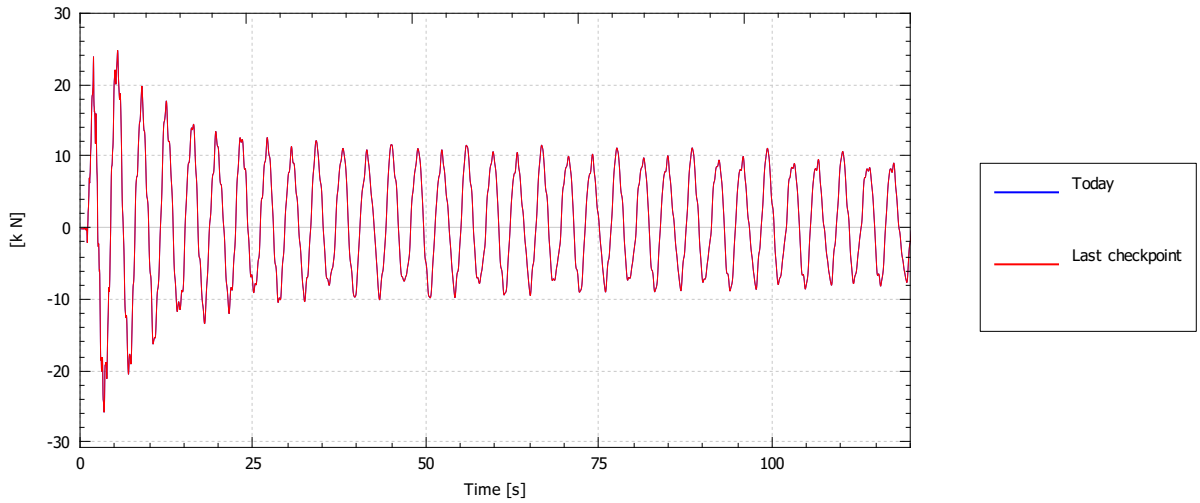


Beam element [Element 3 | Monopile]

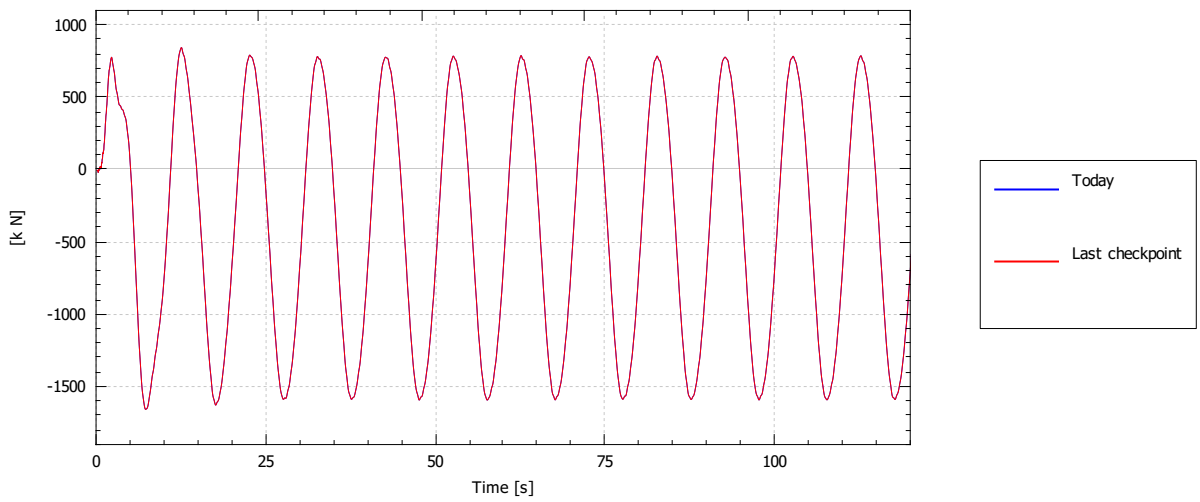
Axial force



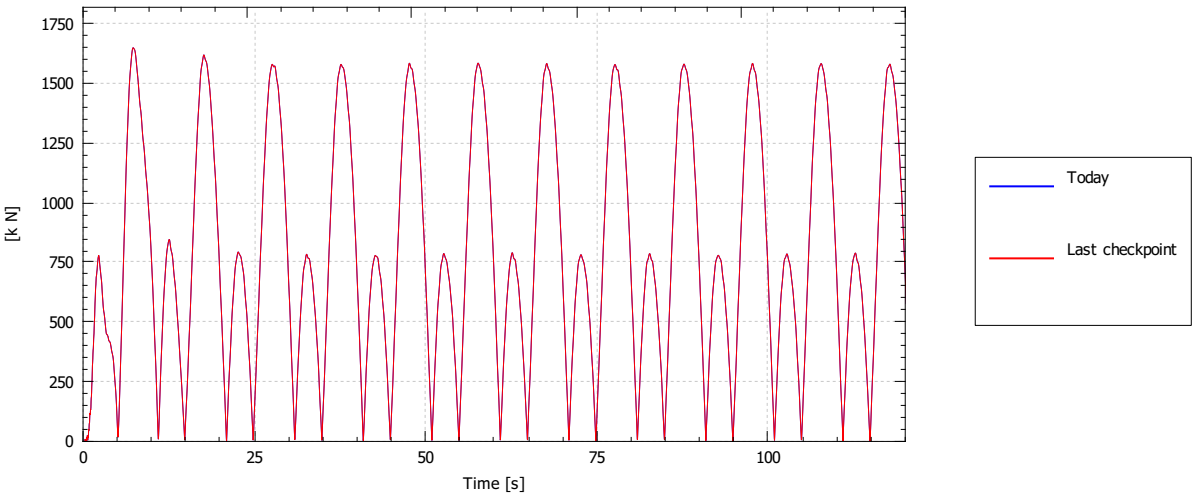
Shear force (1st prin. axis)



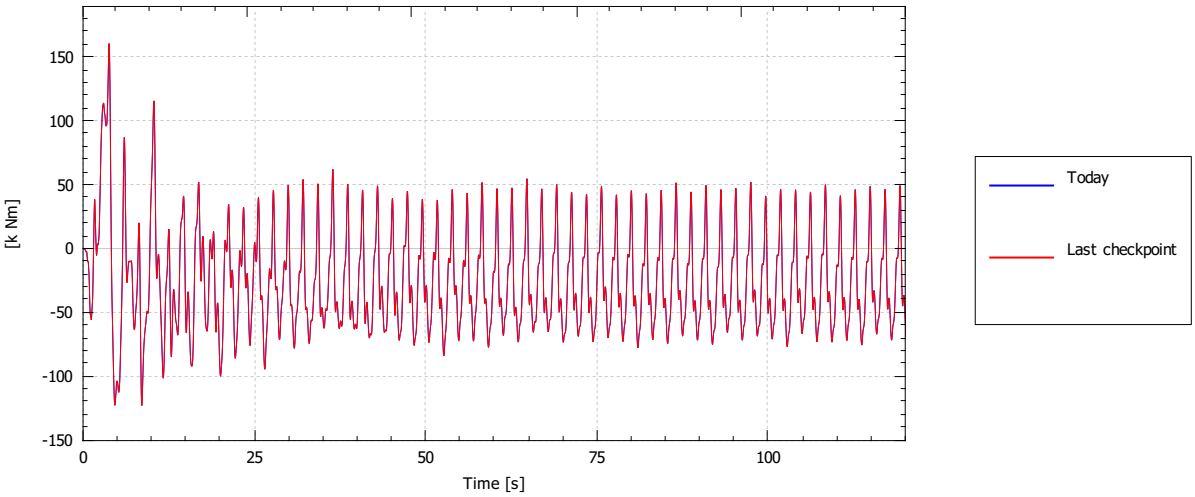
Shear force (2nd prin. axis)



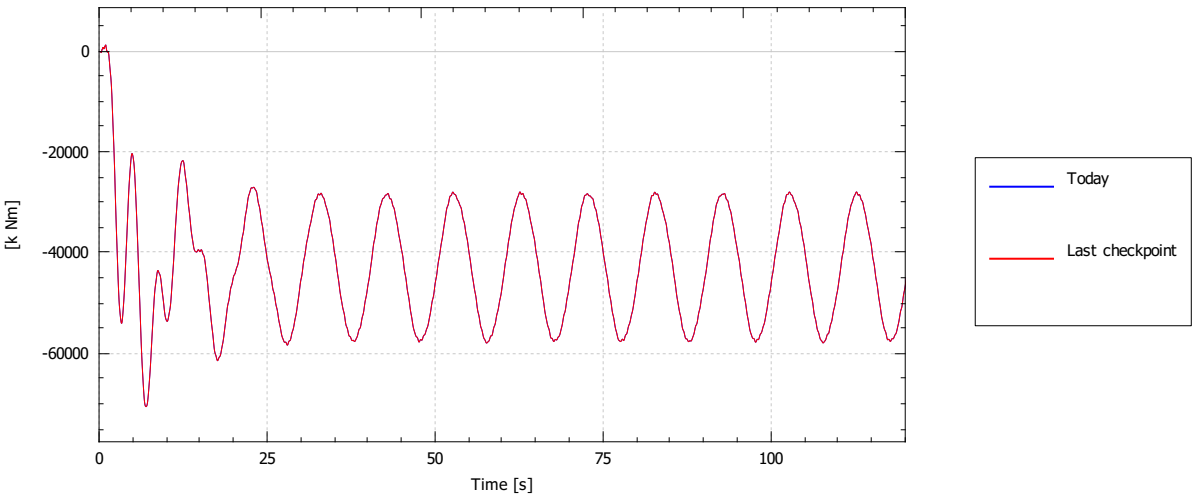
Shear force, mag.



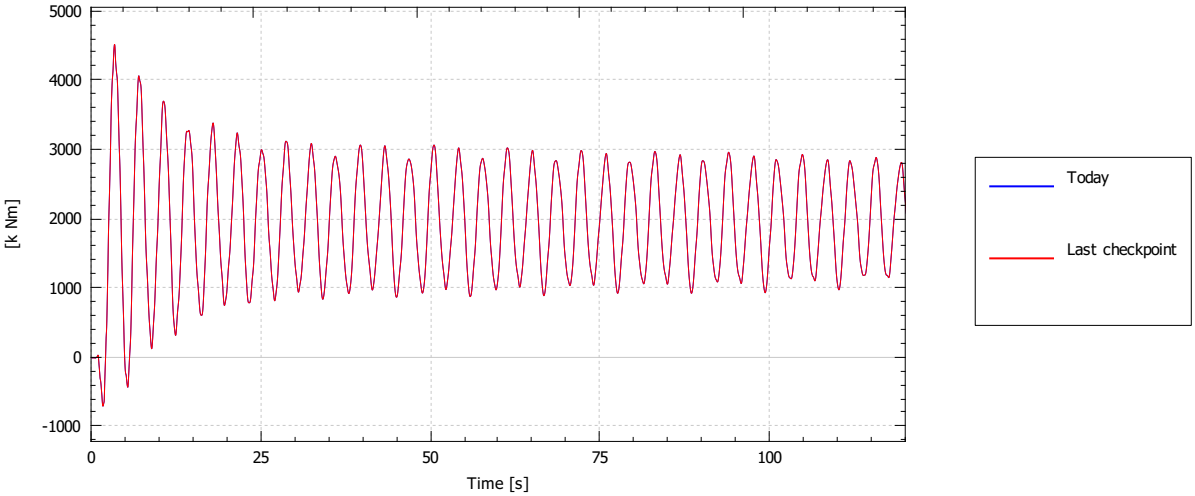
Torque



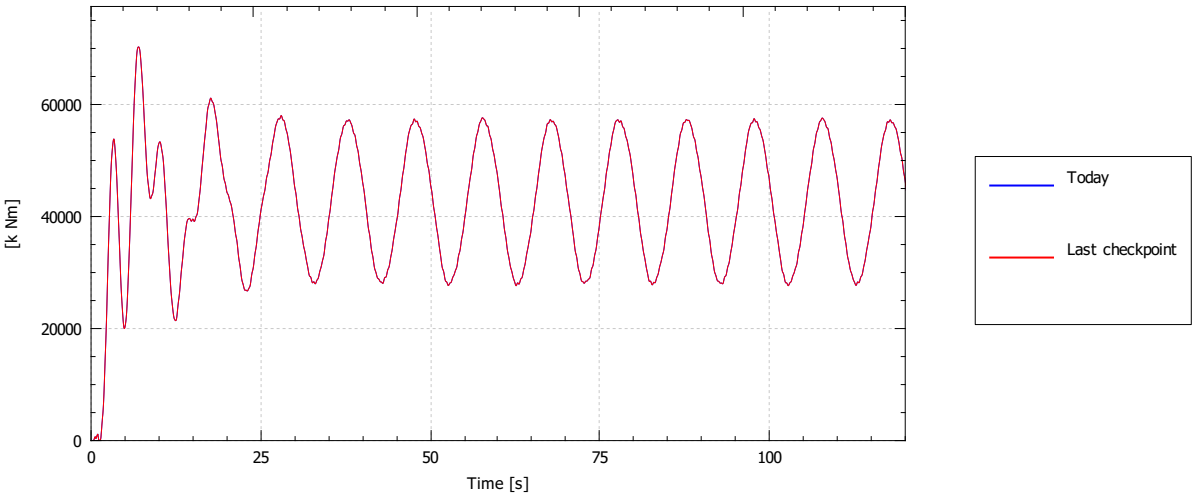
Moment (1st prin. axis), i



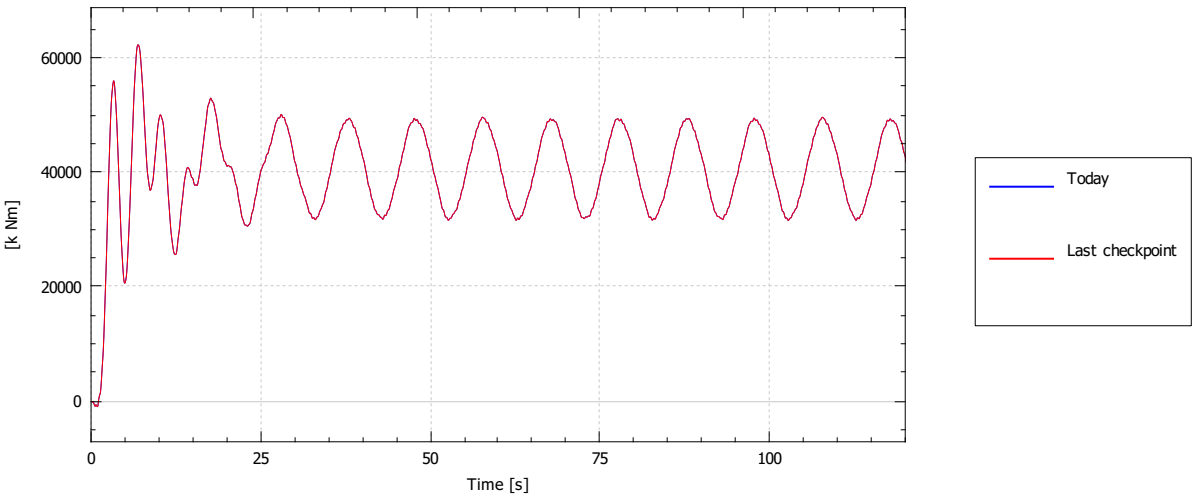
Moment (2nd prin. axis), i



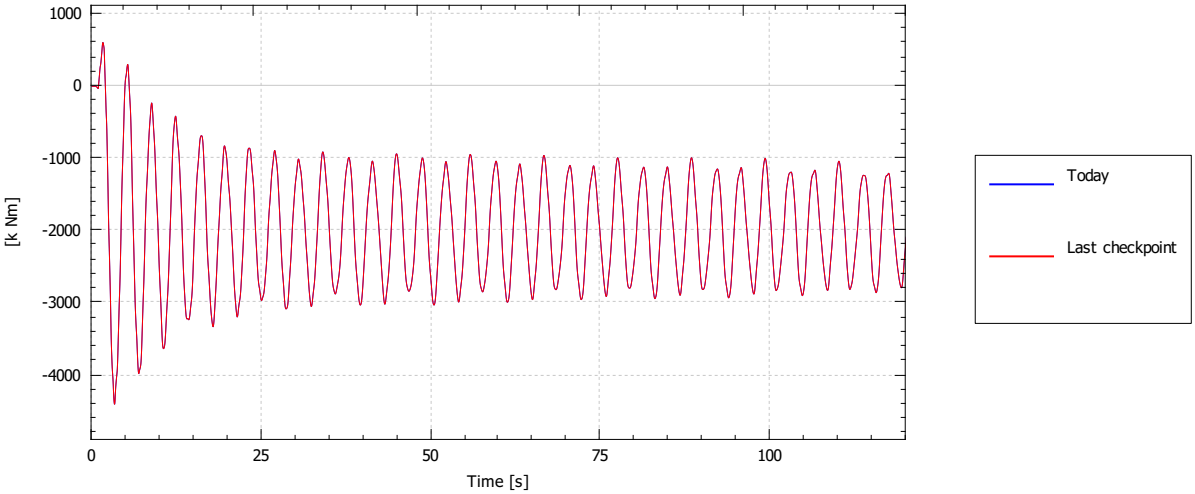
Moment, mag., i



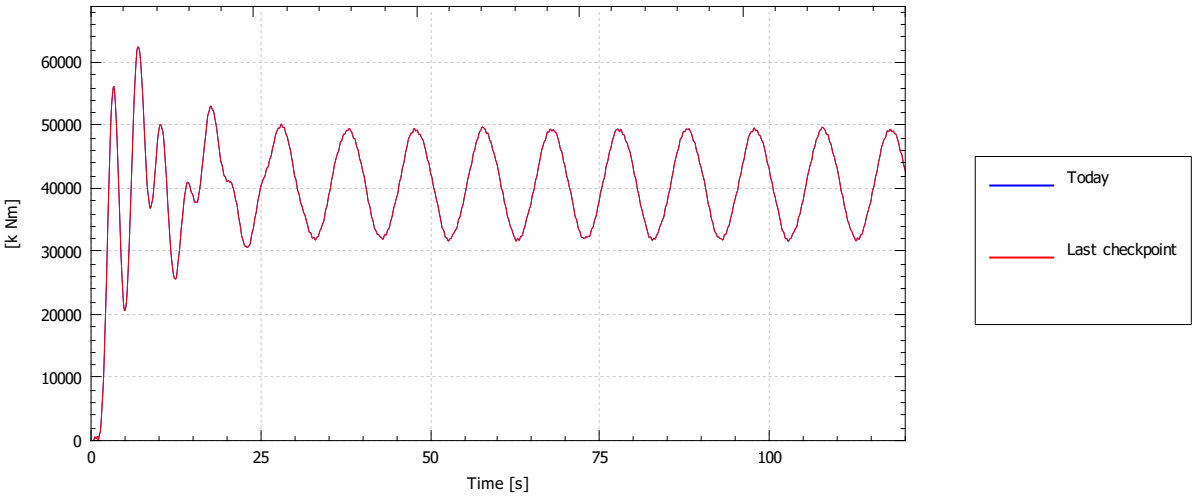
Moment (1st prin. axis), j



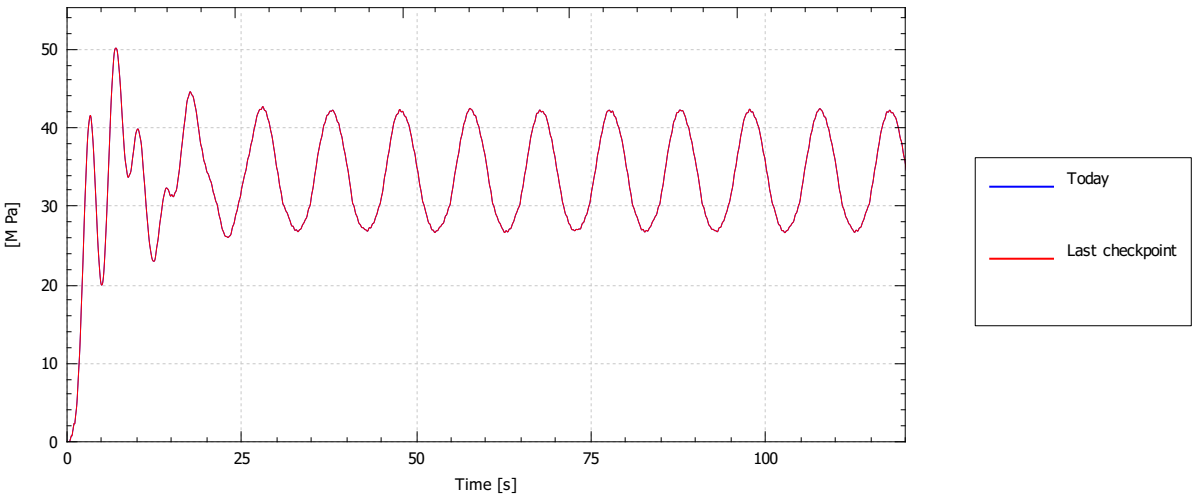
Moment (2nd prin. axis), j



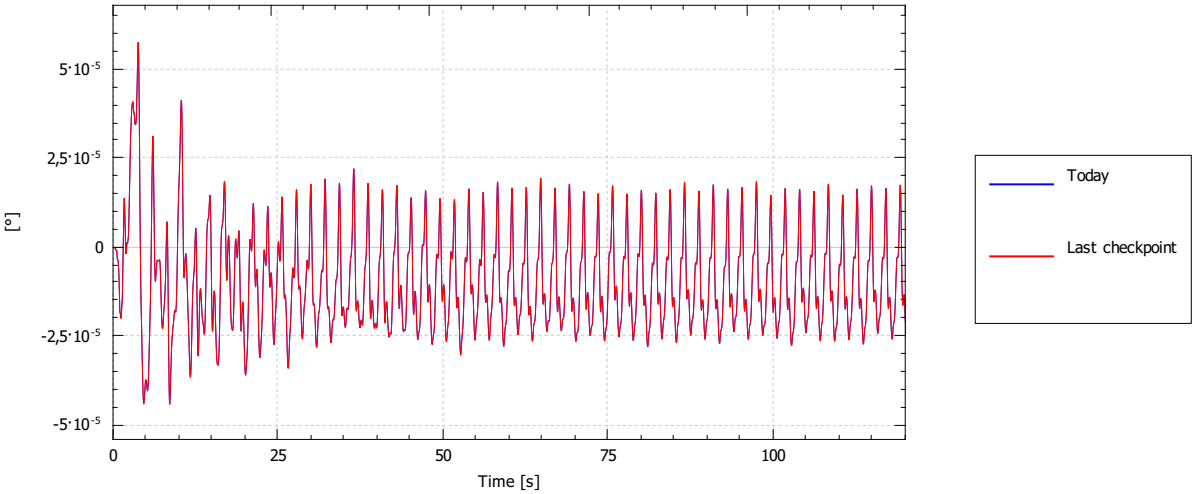
Moment, mag., j



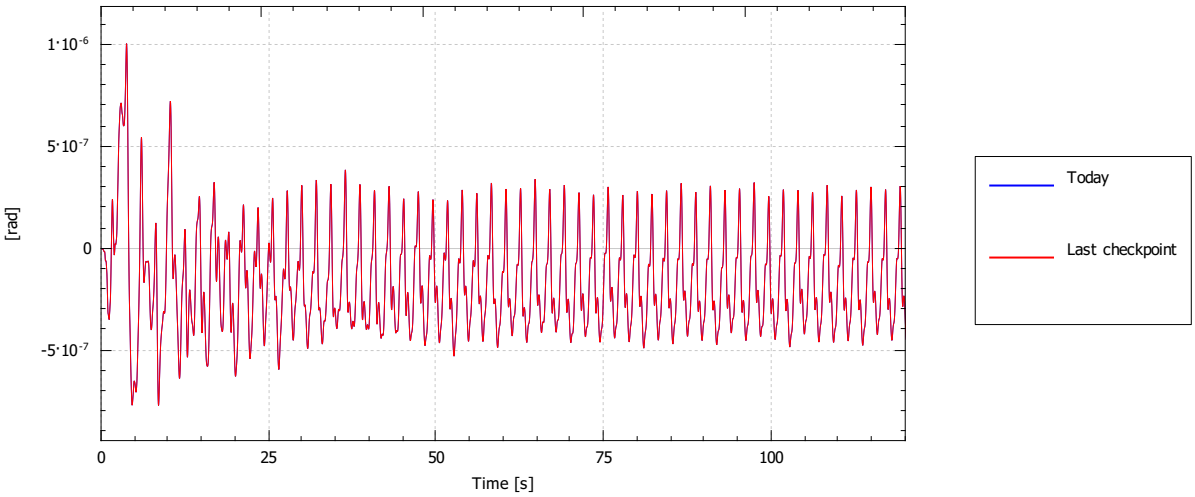
Max normal stress



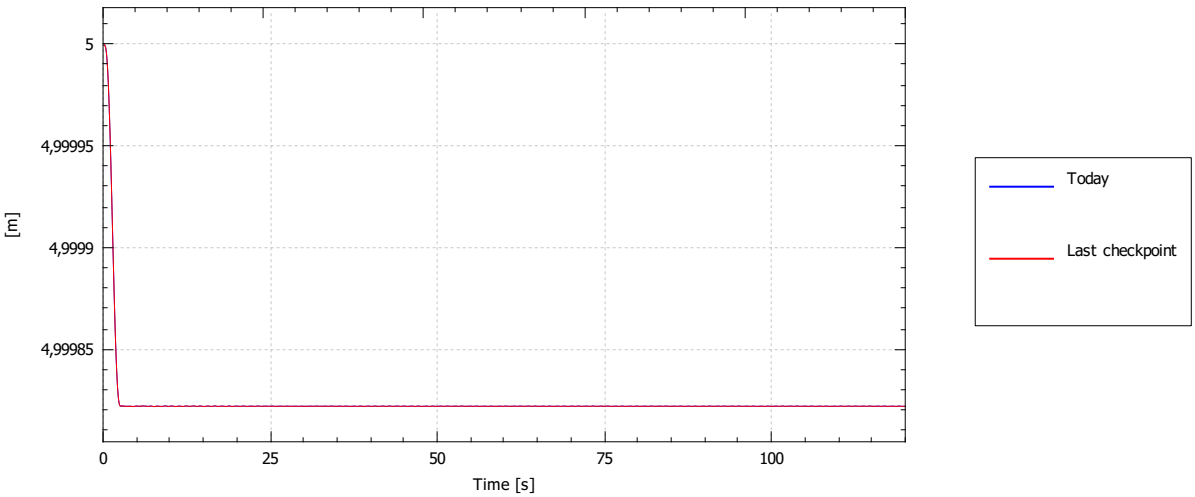
Twist (structural)



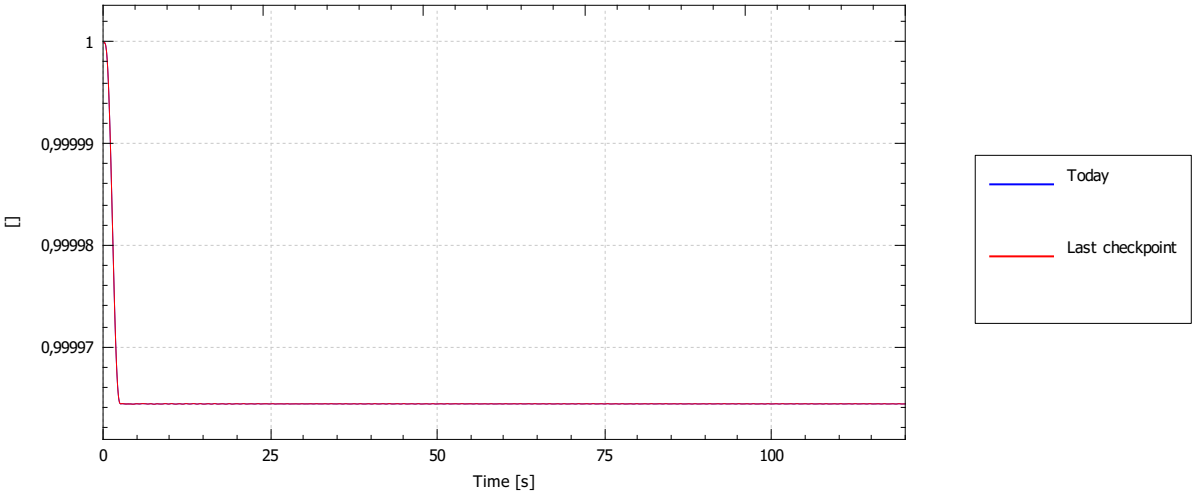
Twist (structural) - rad



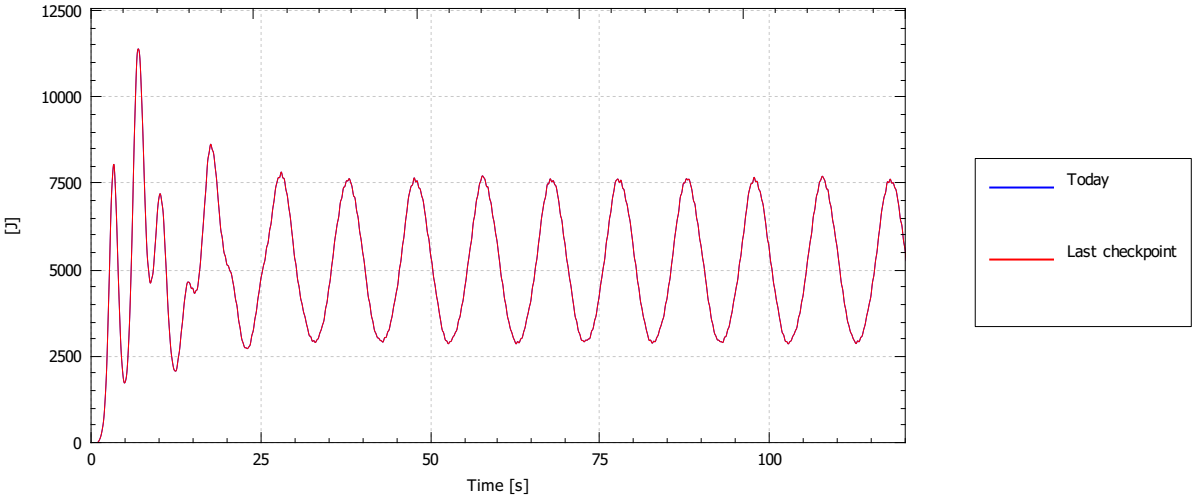
Deformed length



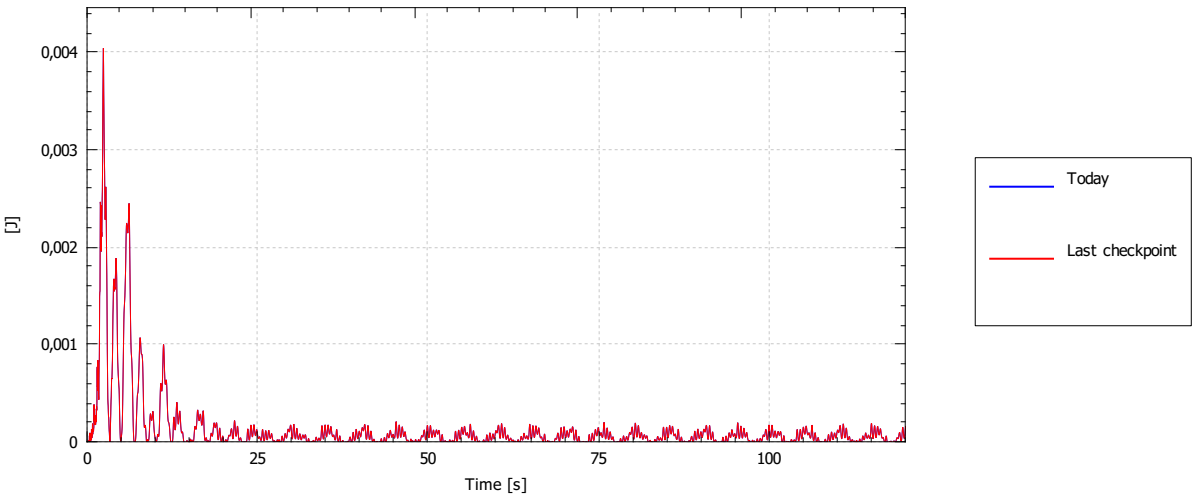
Elongation



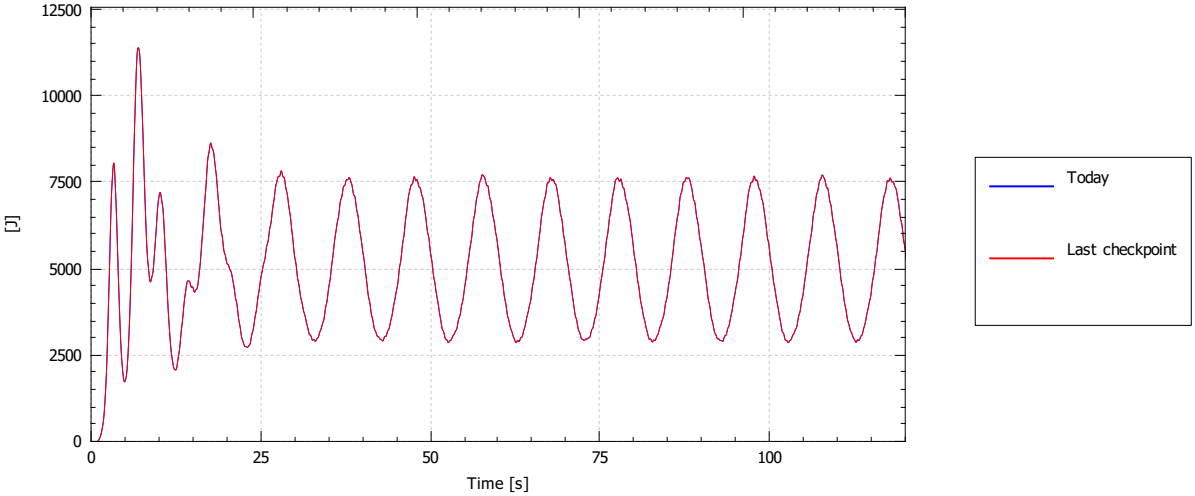
Strain energy



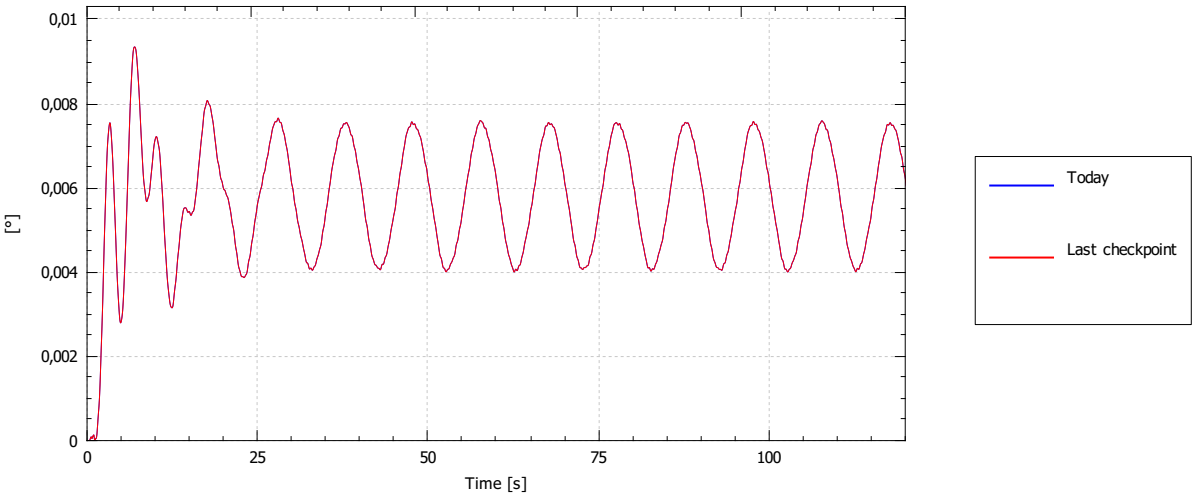
Kinetic energy



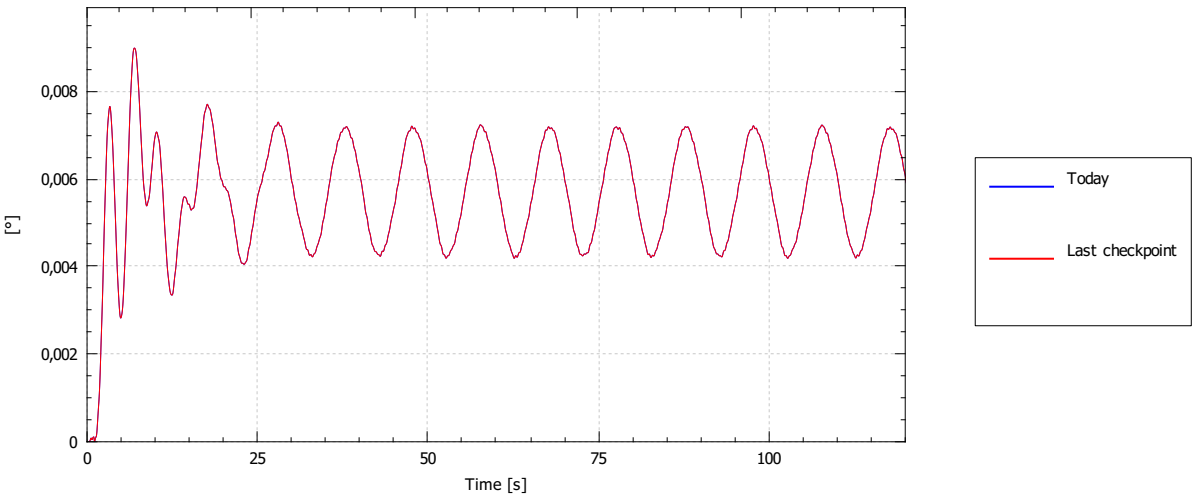
Mechanical energy



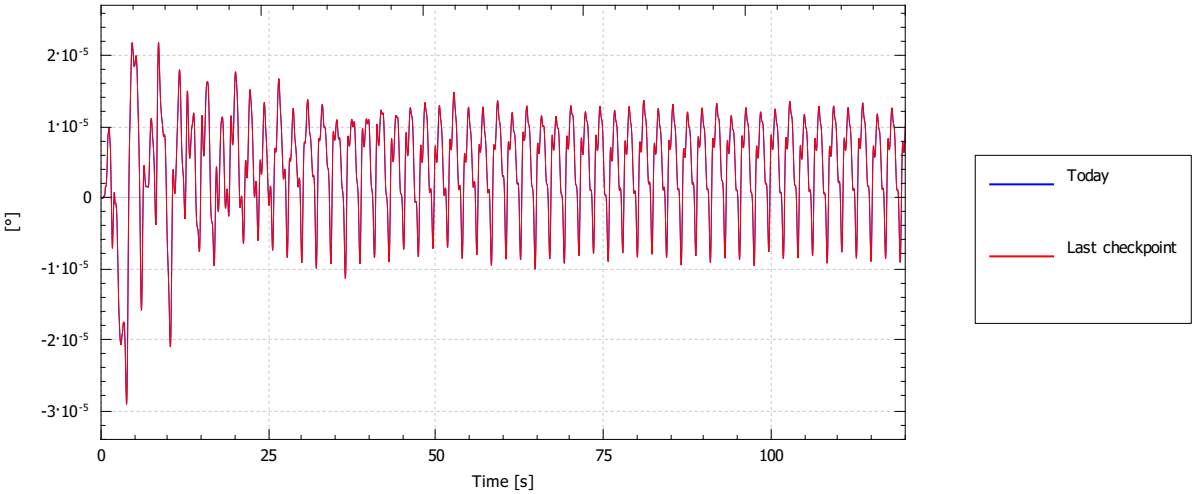
Deformational rotation (i)



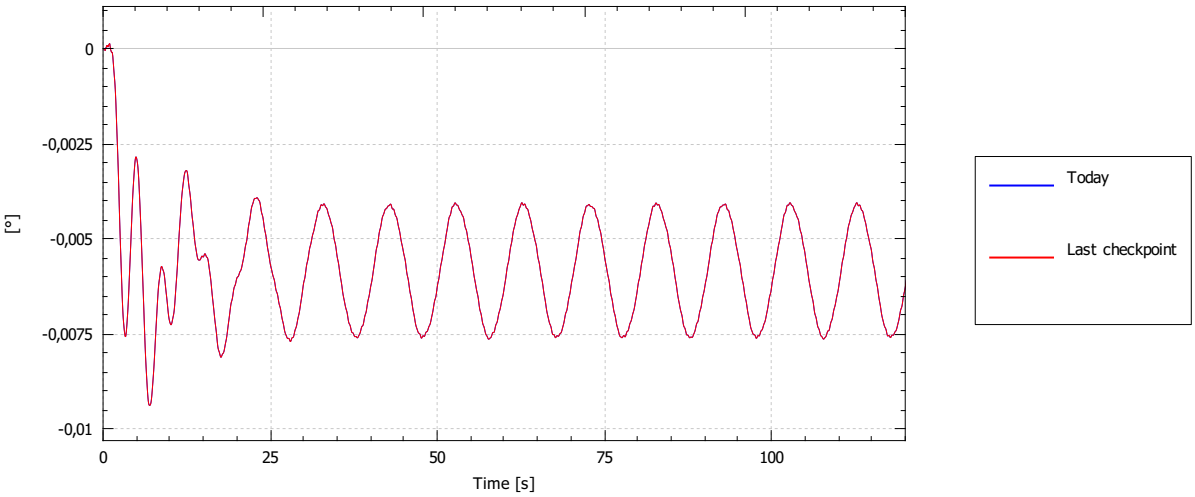
Deformational rotation (j)



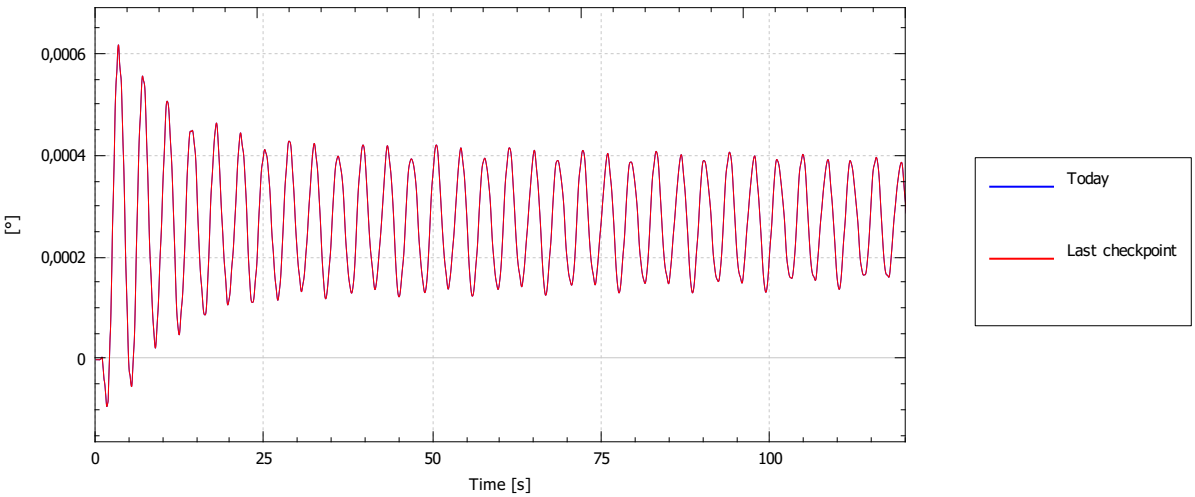
Deformational rotation (axial)



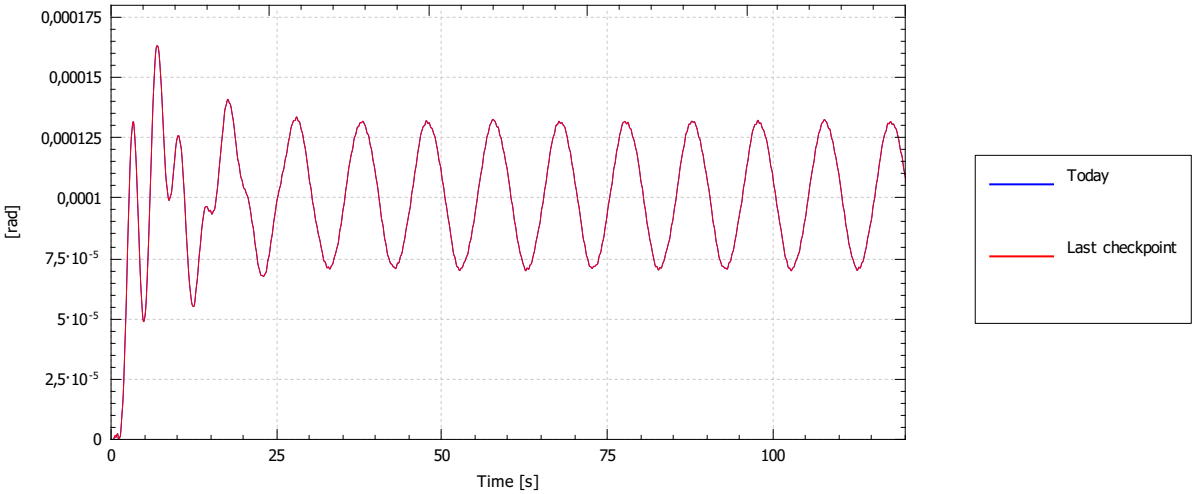
Deformational rotation (1st prin.)



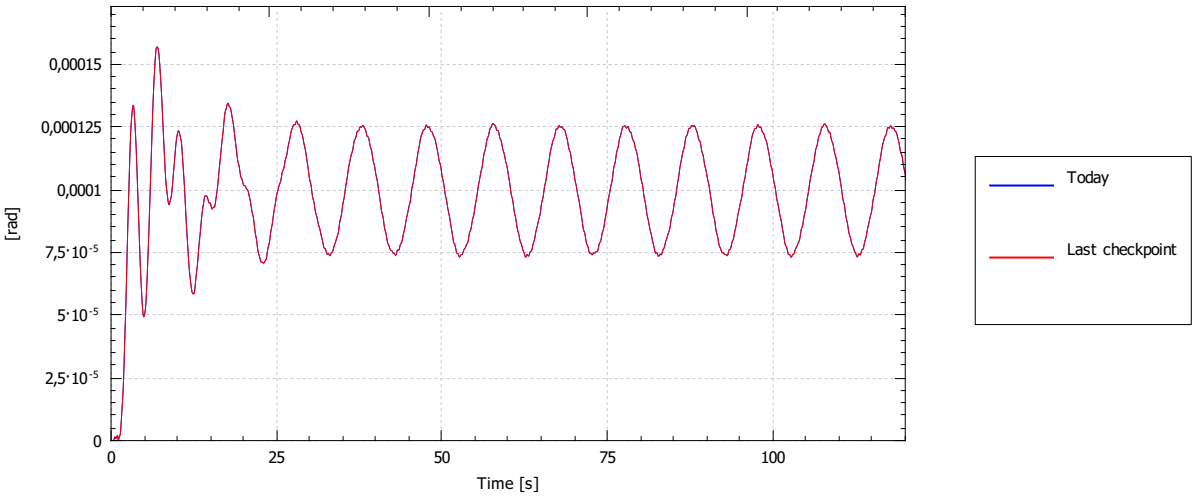
Deformational rotation (2nd prin.)



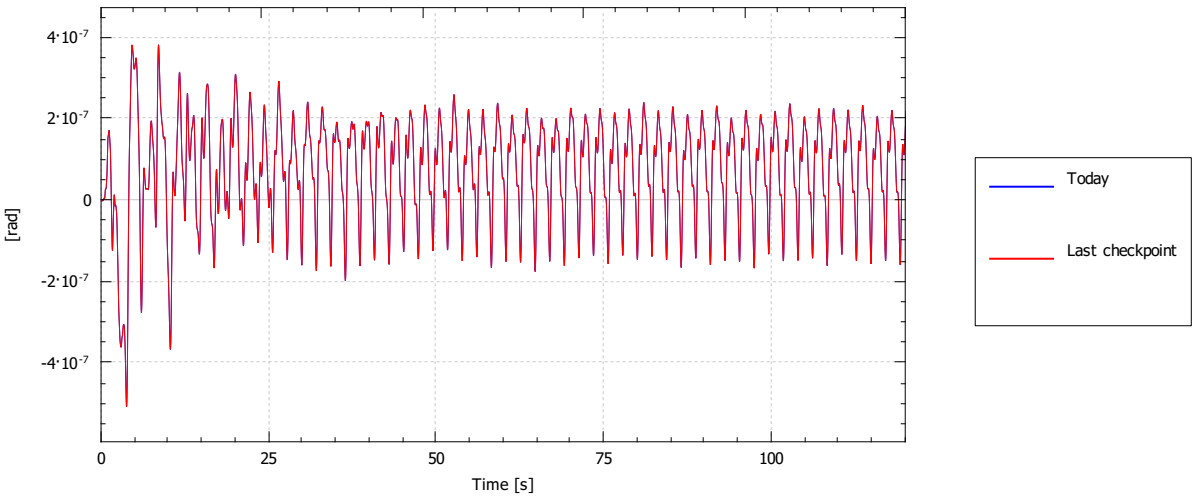
Deformational rotation (i) - rad



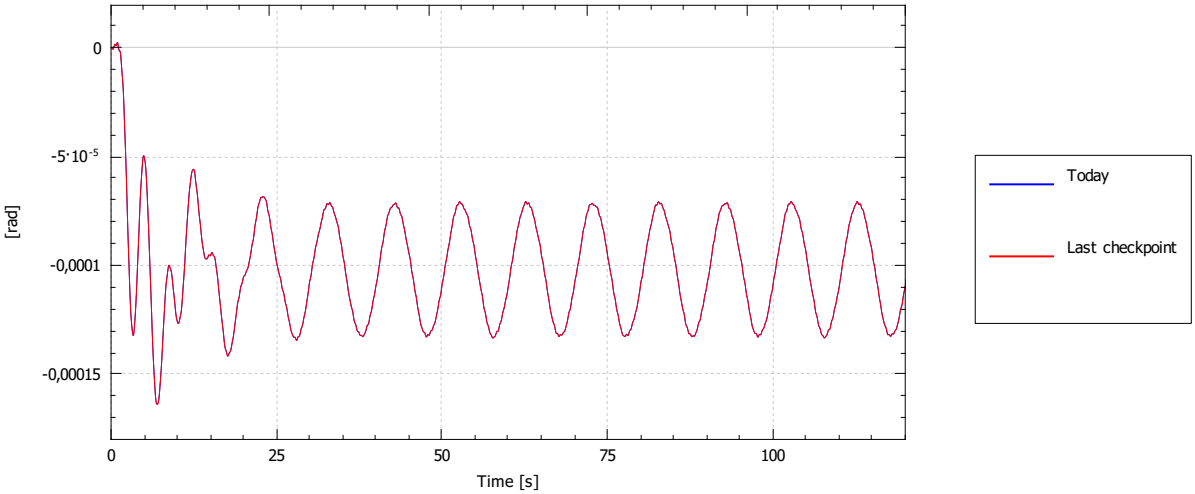
Deformational rotation (j) - rad



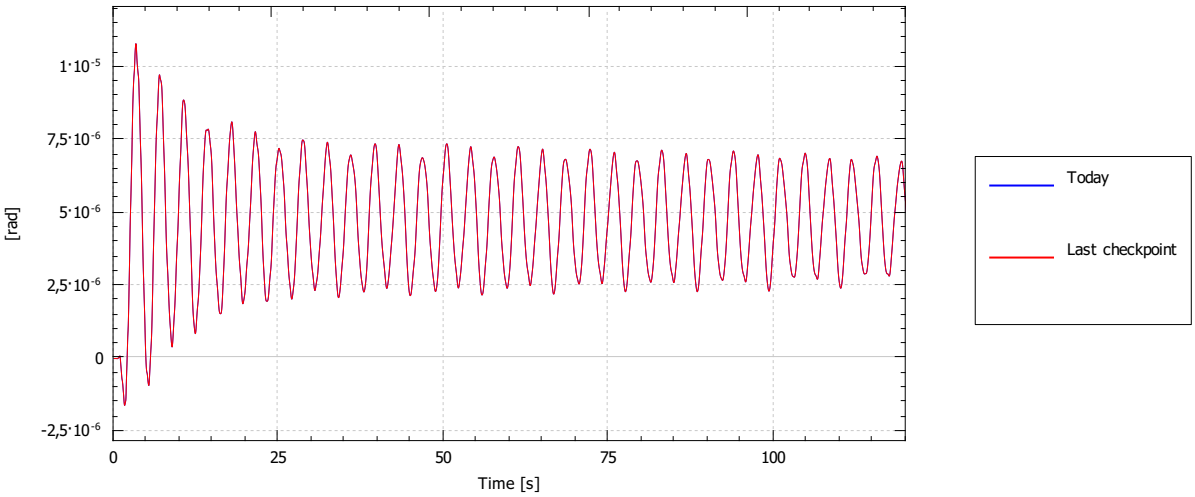
Deformational rotation (axial) - rad



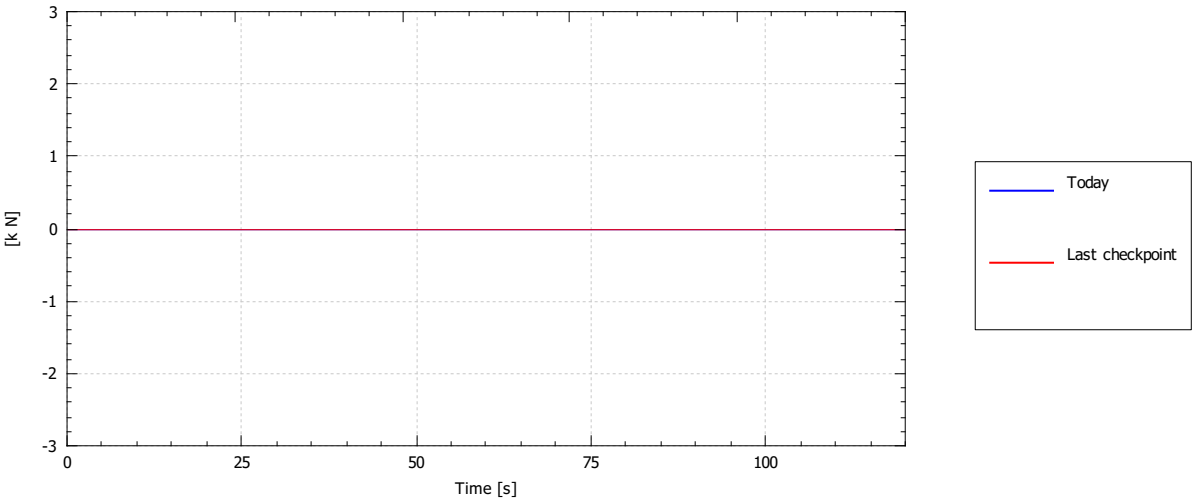
Deformational rotation (1st prin.) - rad



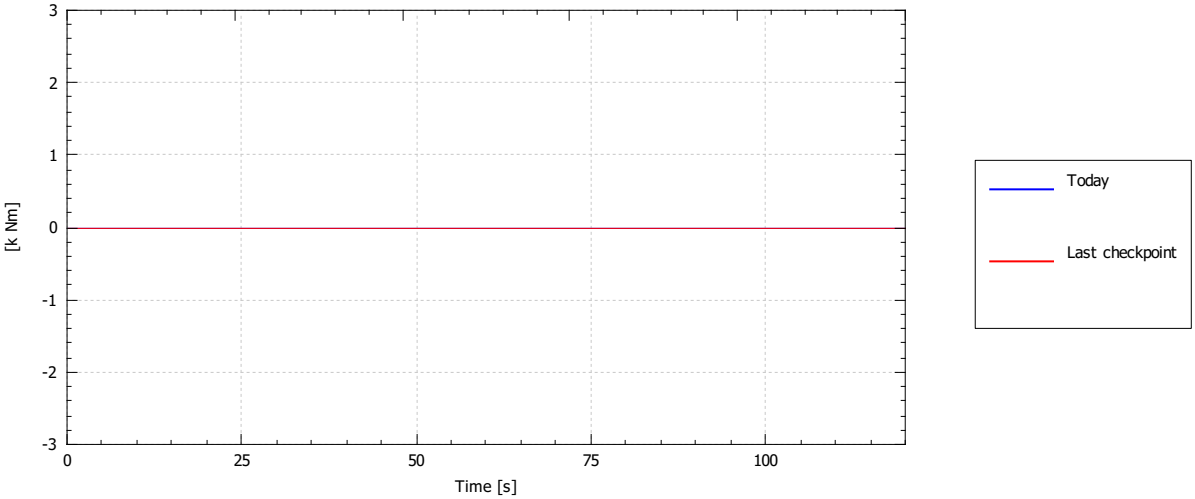
Deformational rotation (2nd prin.) - rad



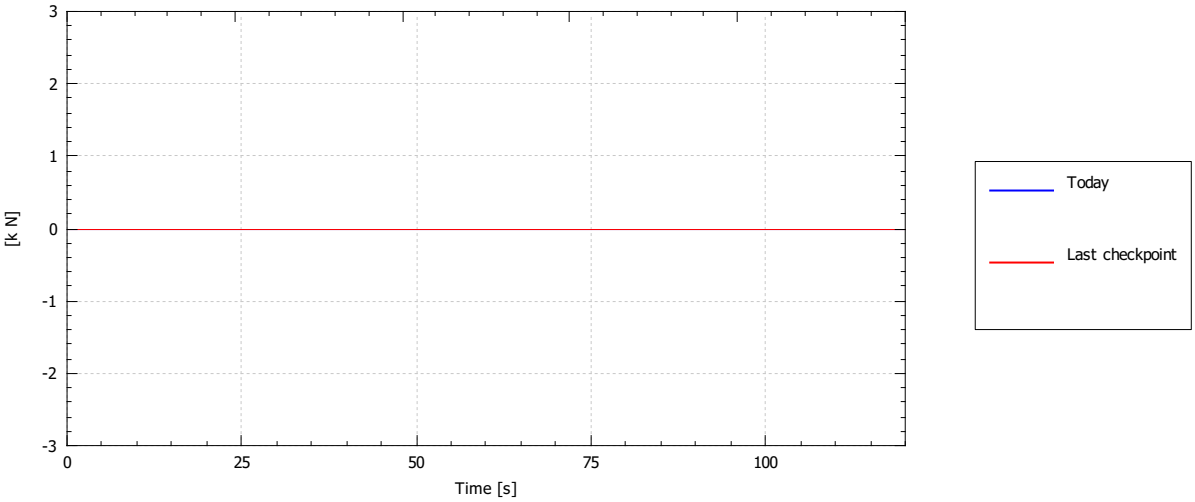
Damping force, i



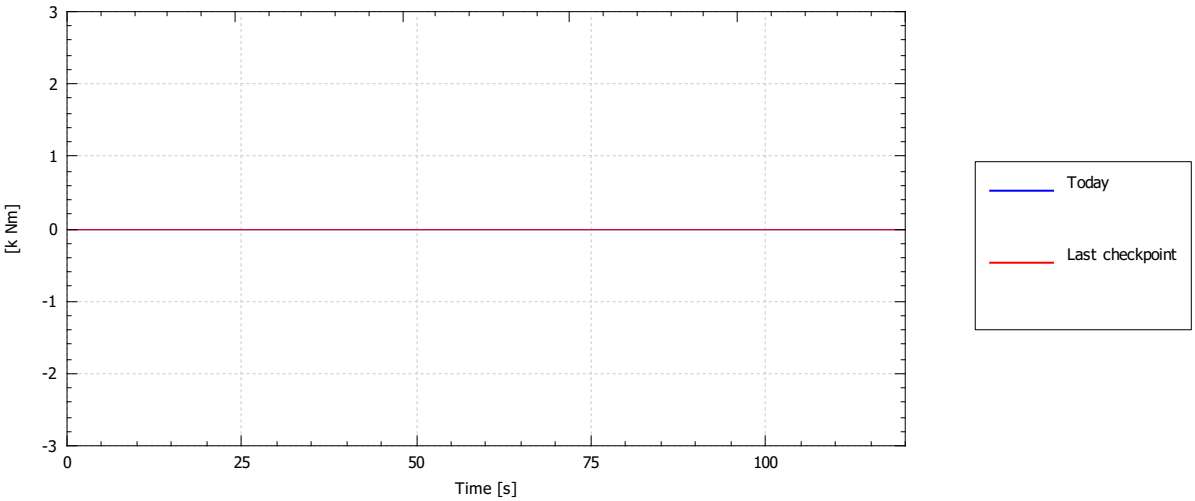
Damping moment, i



Damping force, sum

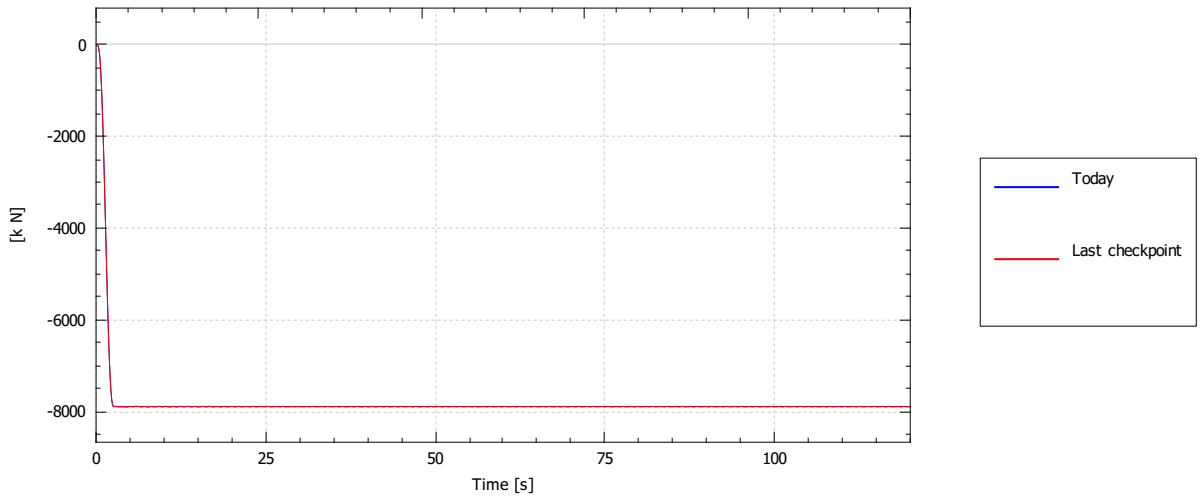


Damping moment, sum

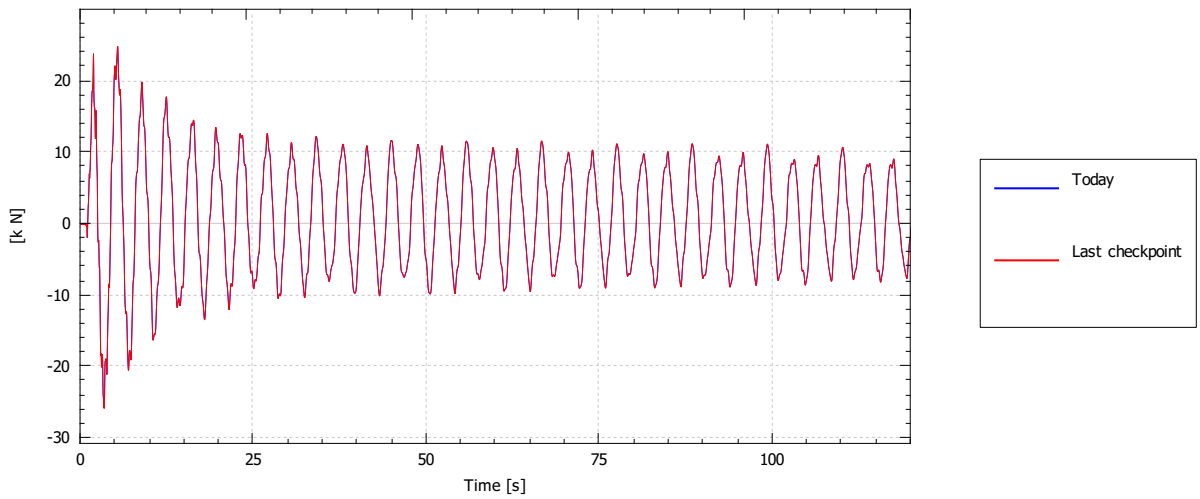


Beam element [Element 4 | Monopile]

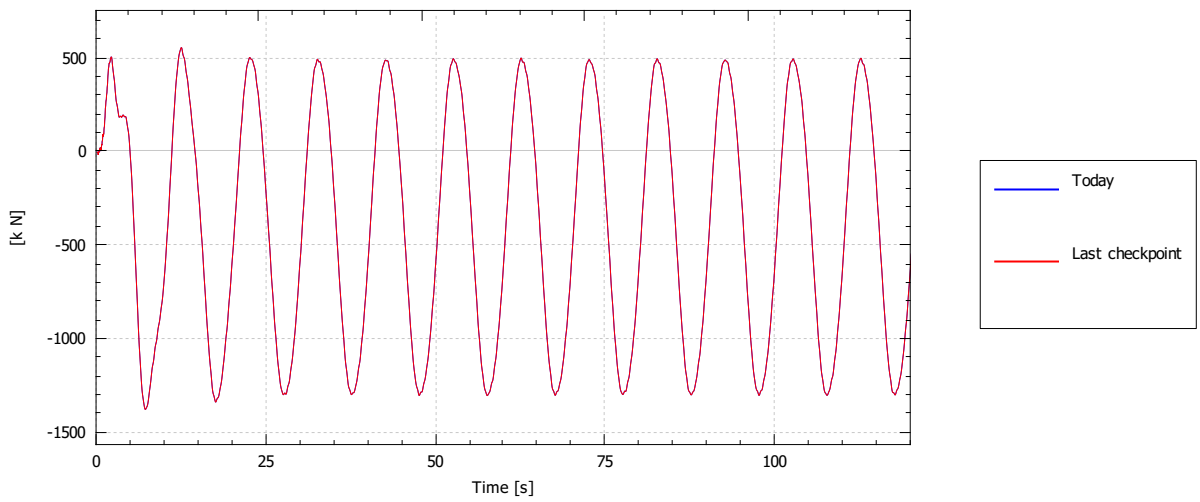
Axial force



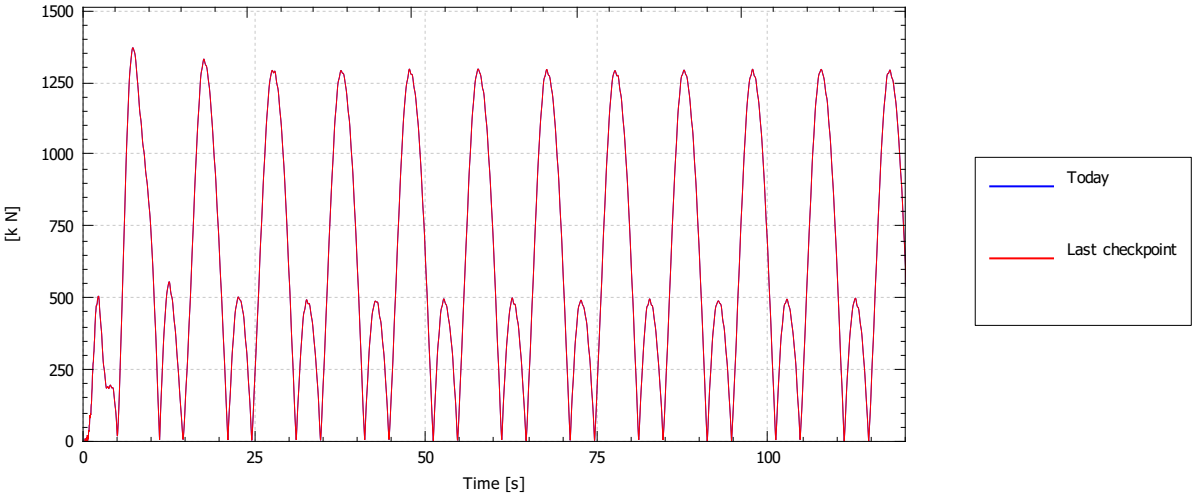
Shear force (1st prin. axis)



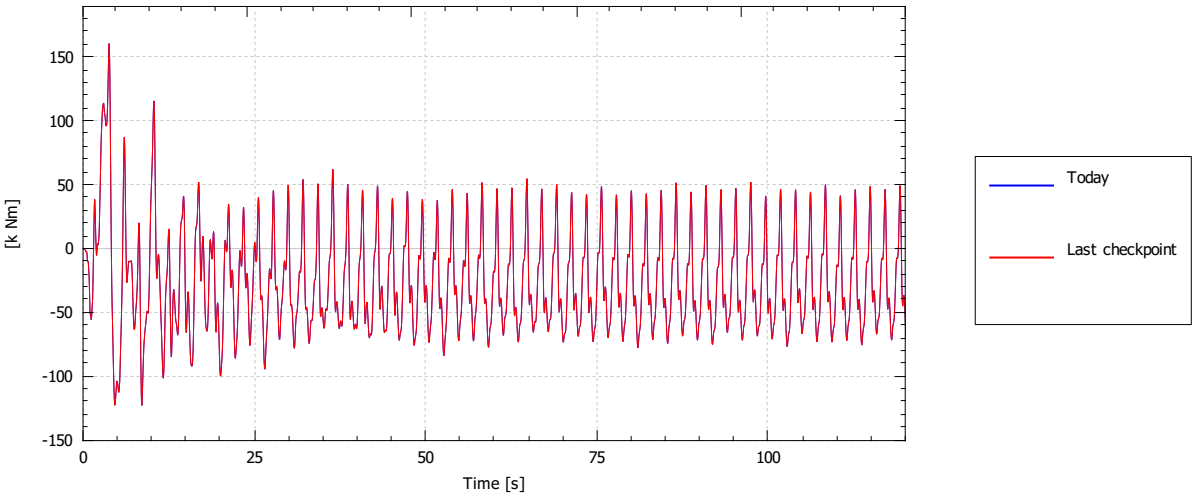
Shear force (2nd prin. axis)



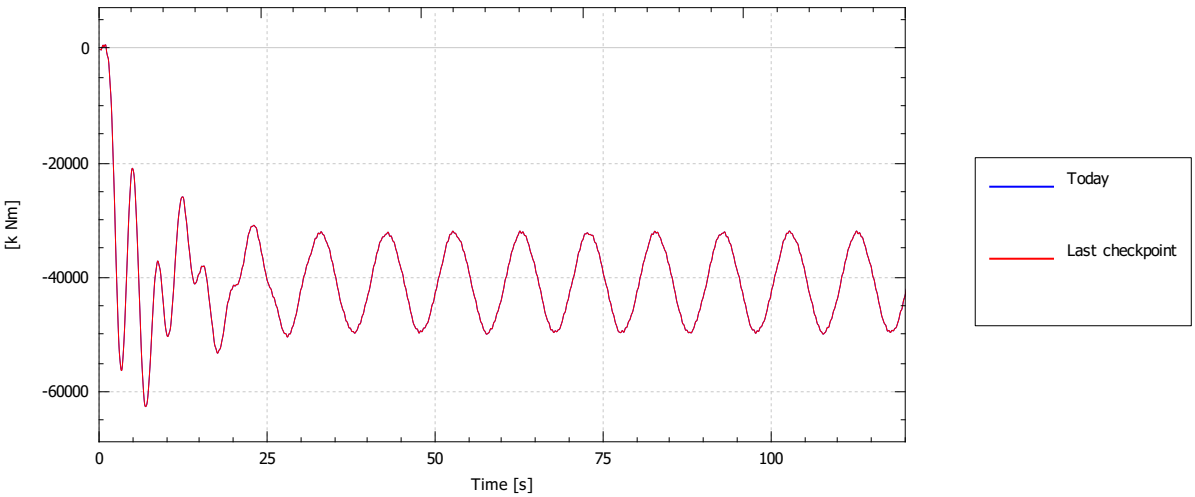
Shear force, mag.



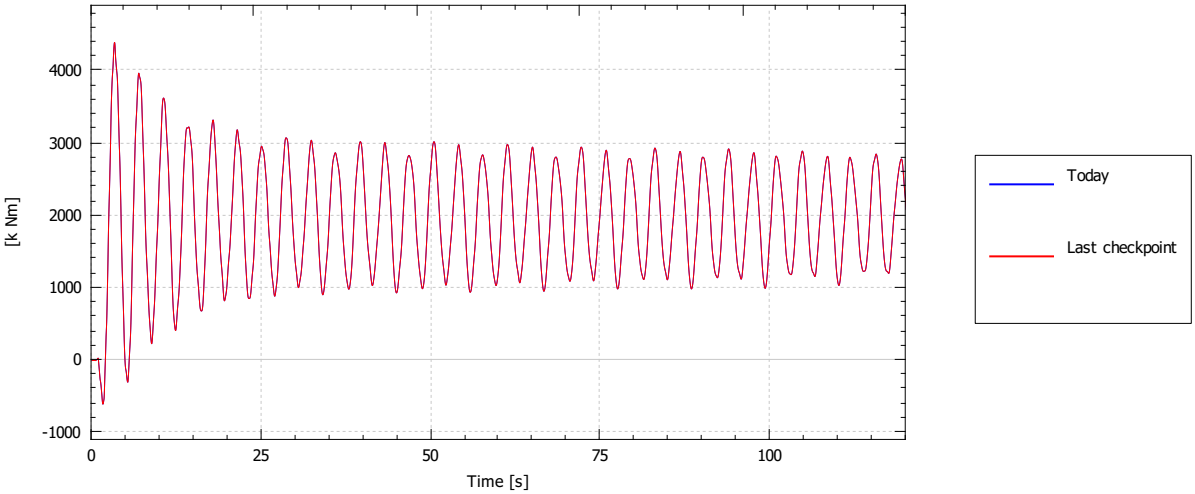
Torque



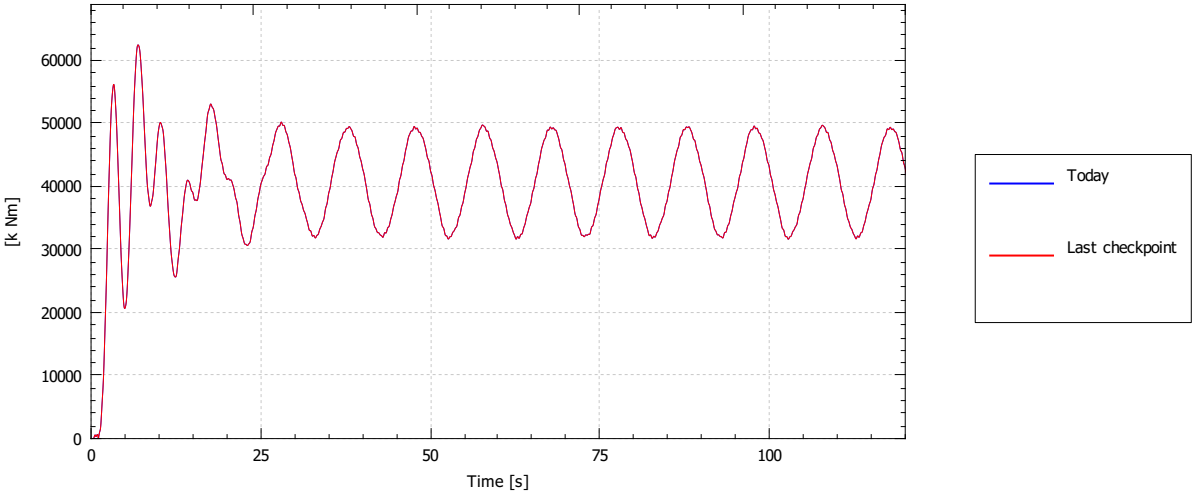
Moment (1st prin. axis), i



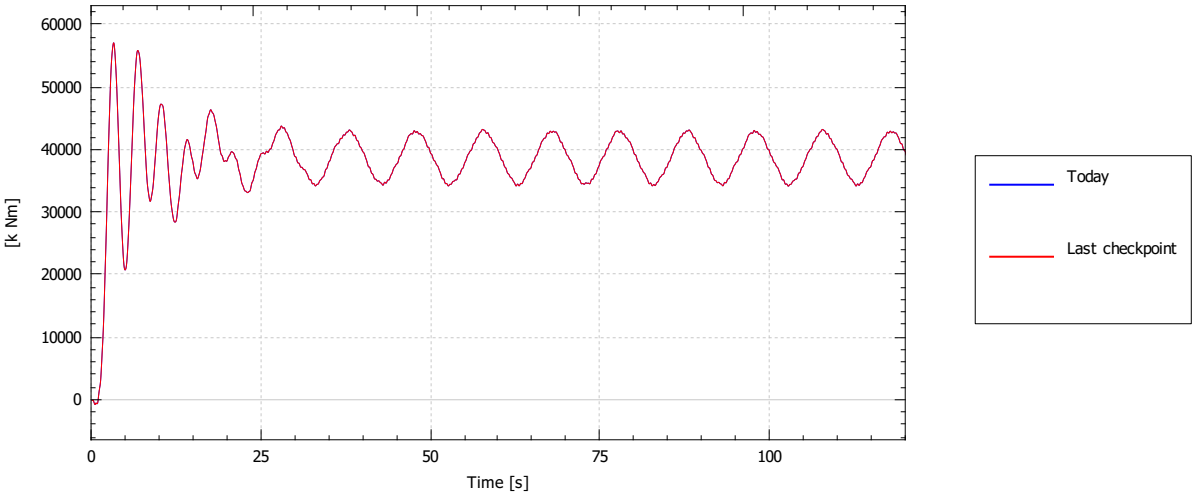
Moment (2nd prin. axis), i



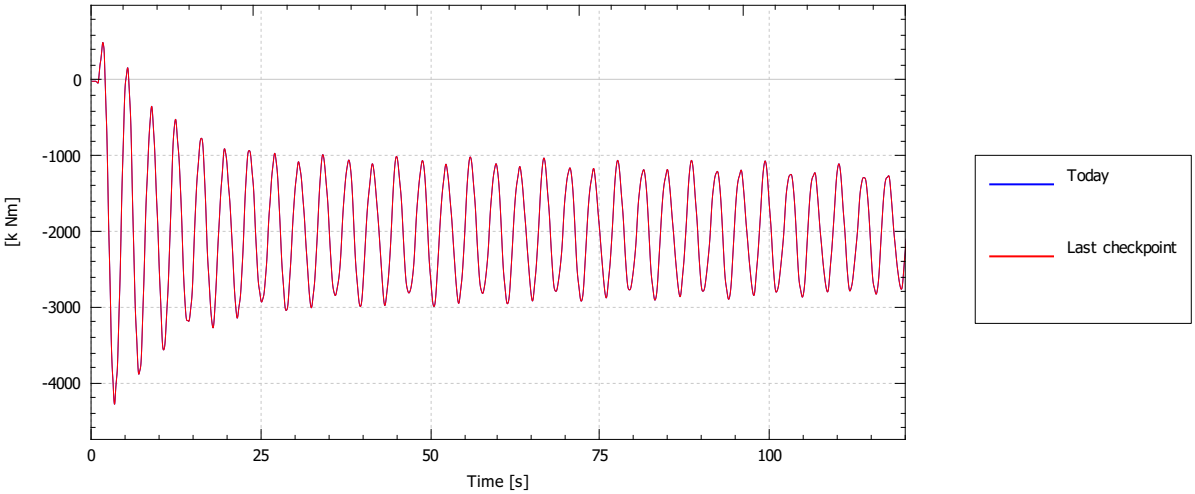
Moment, mag., i



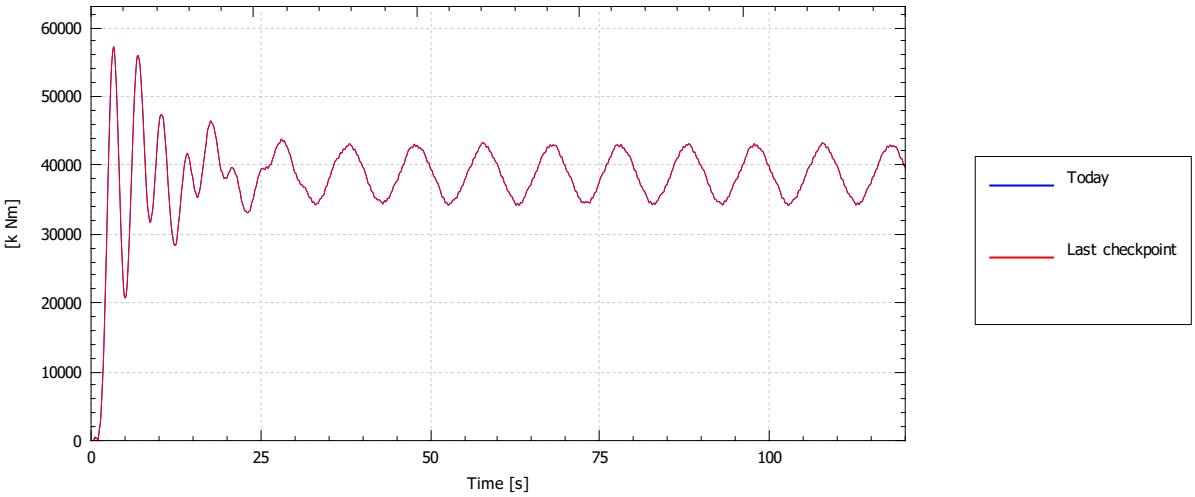
Moment (1st prin. axis), j



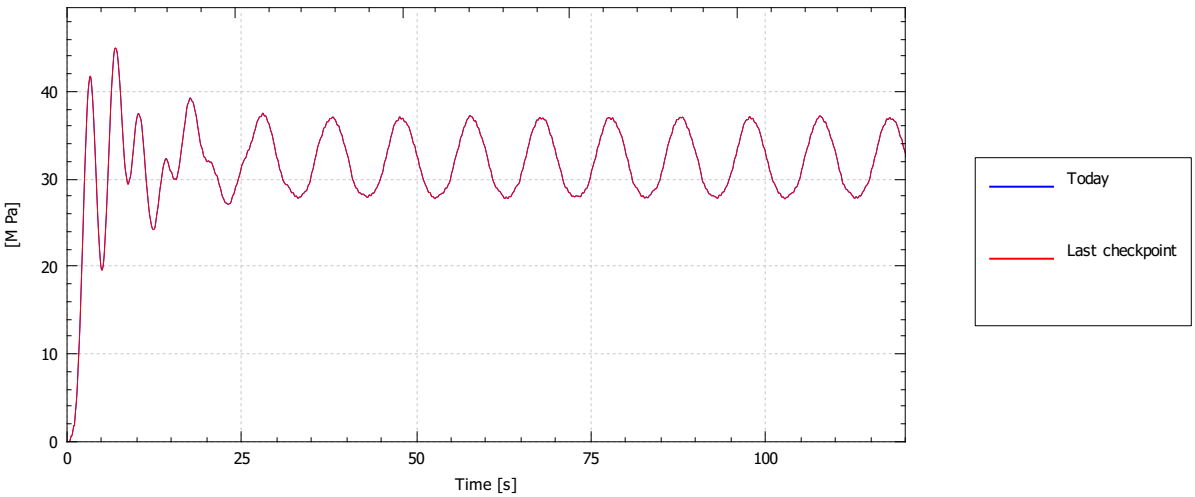
Moment (2nd prin. axis), j



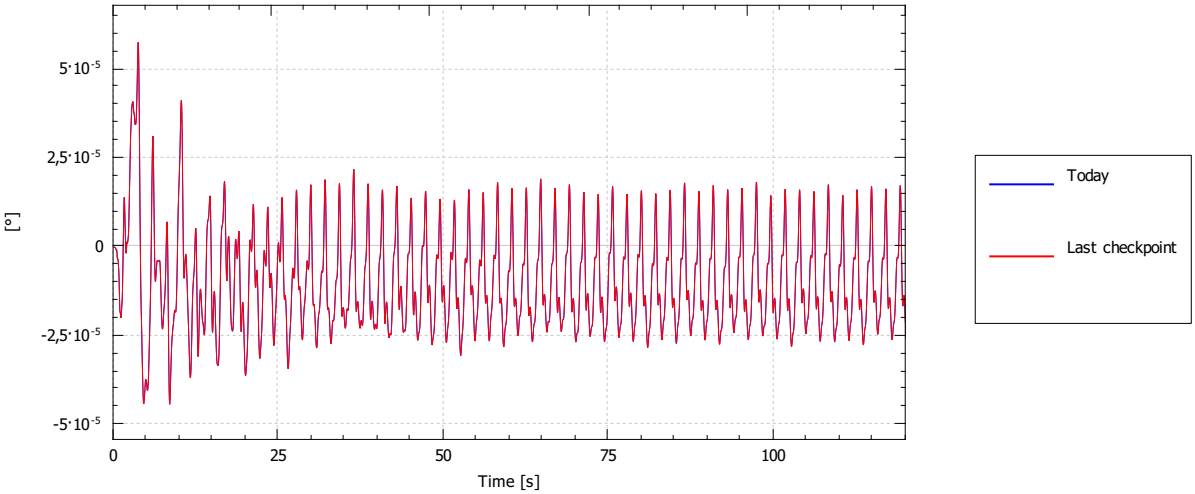
Moment, mag., j



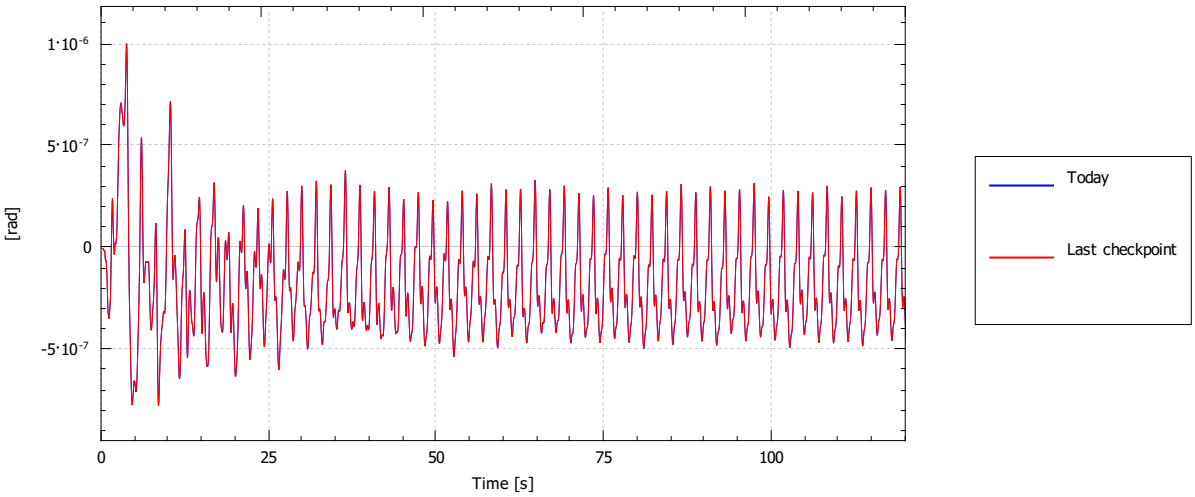
Max normal stress



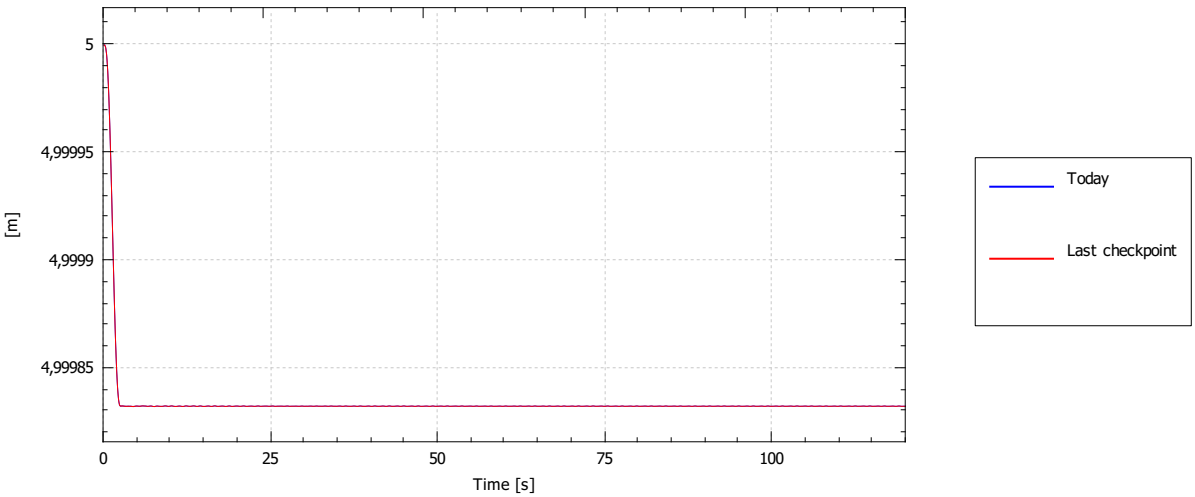
Twist (structural)



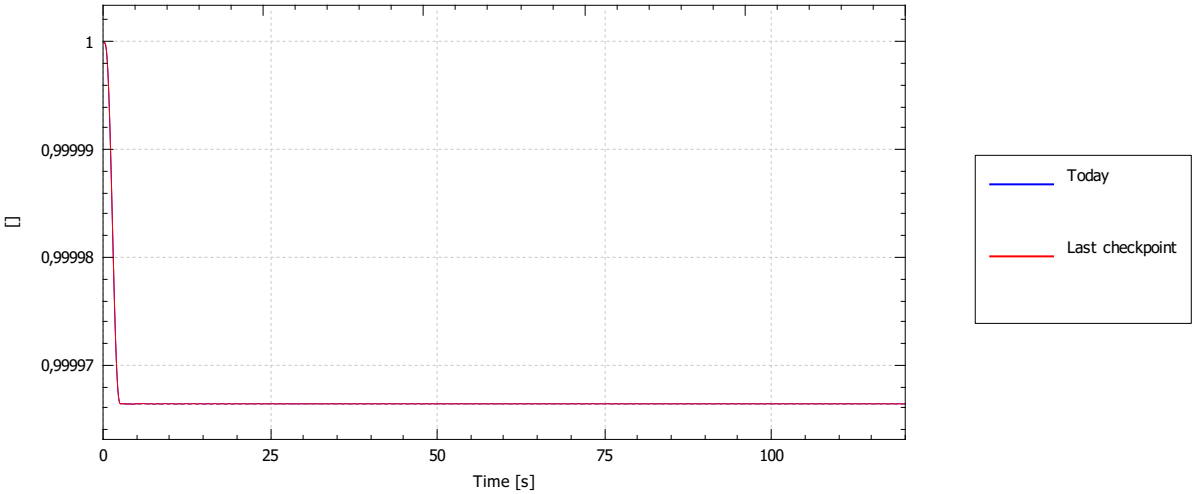
Twist (structural) - rad



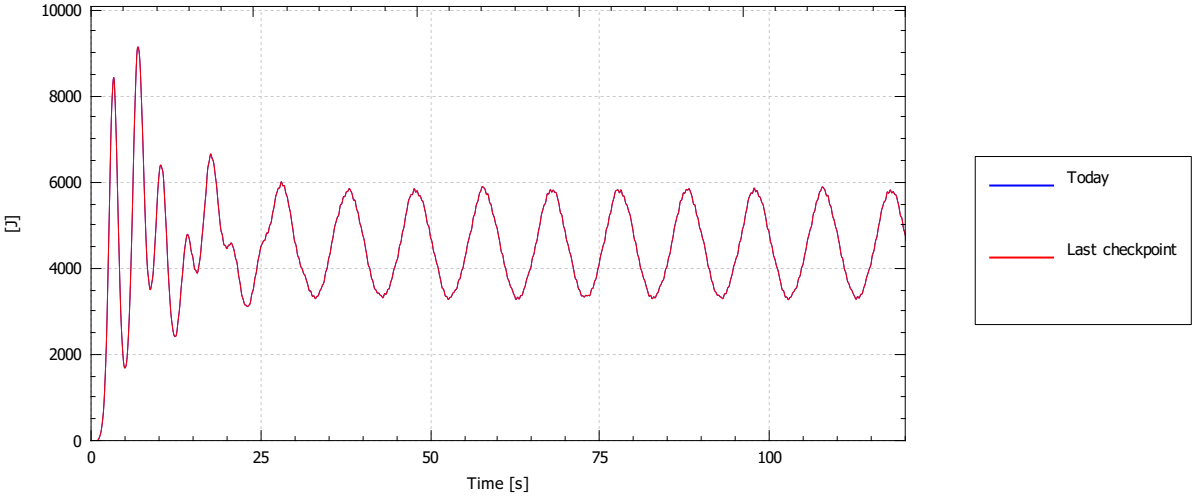
Deformed length



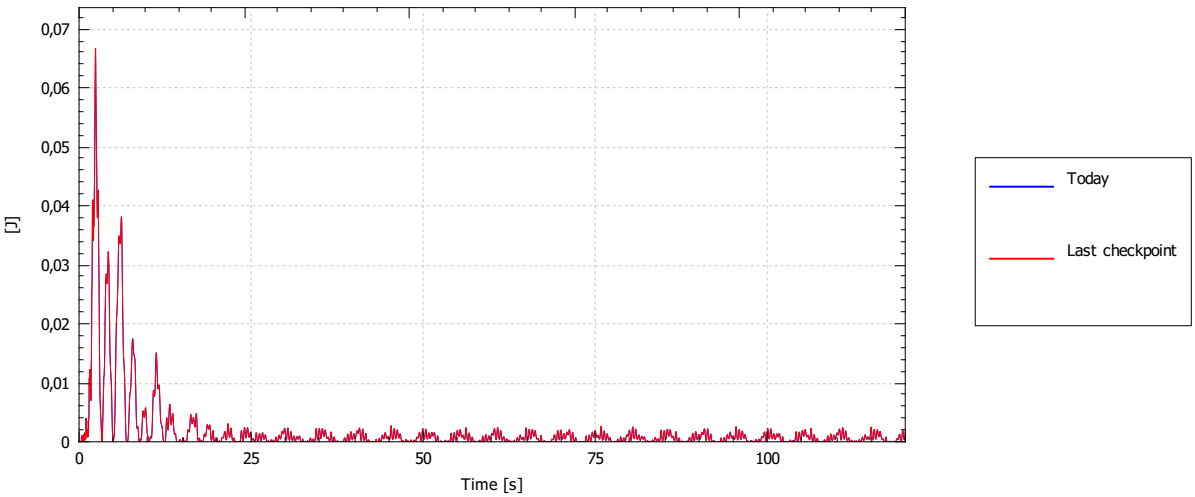
Elongation

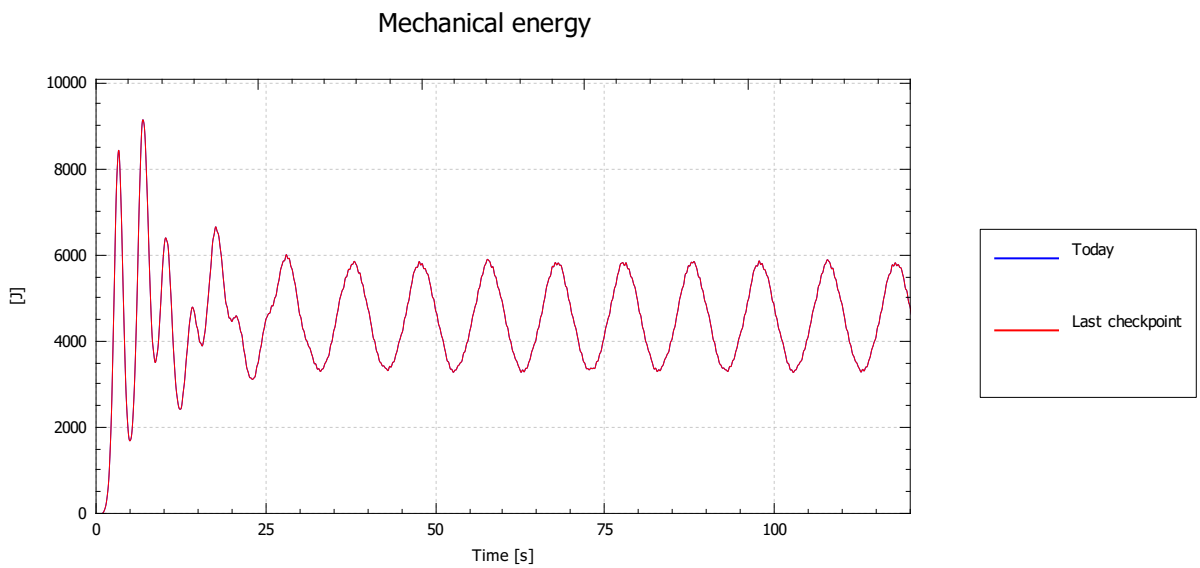


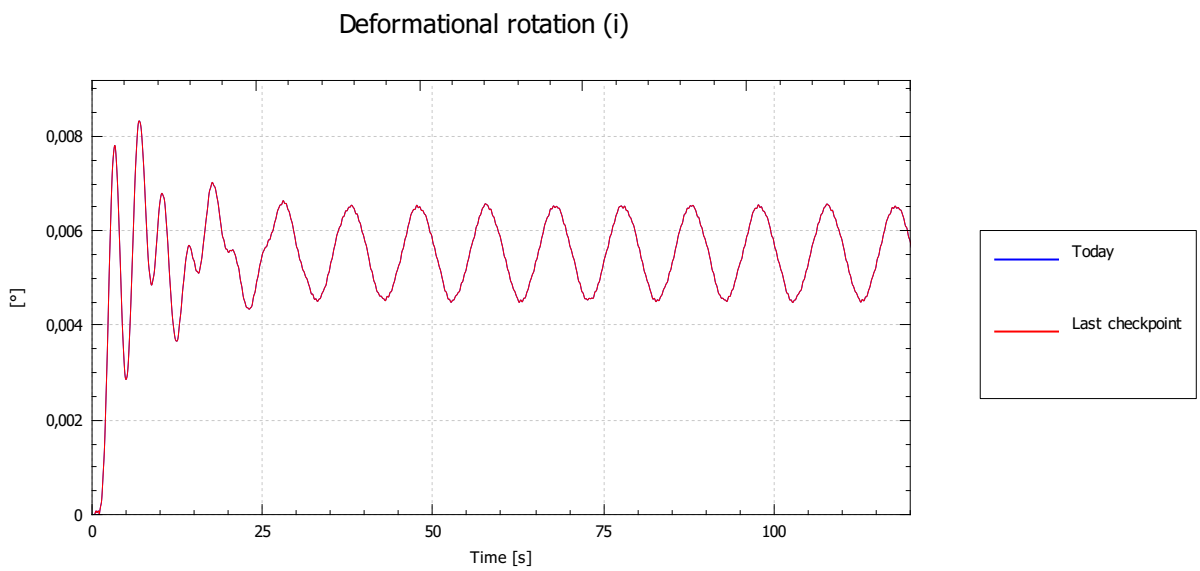
Strain energy

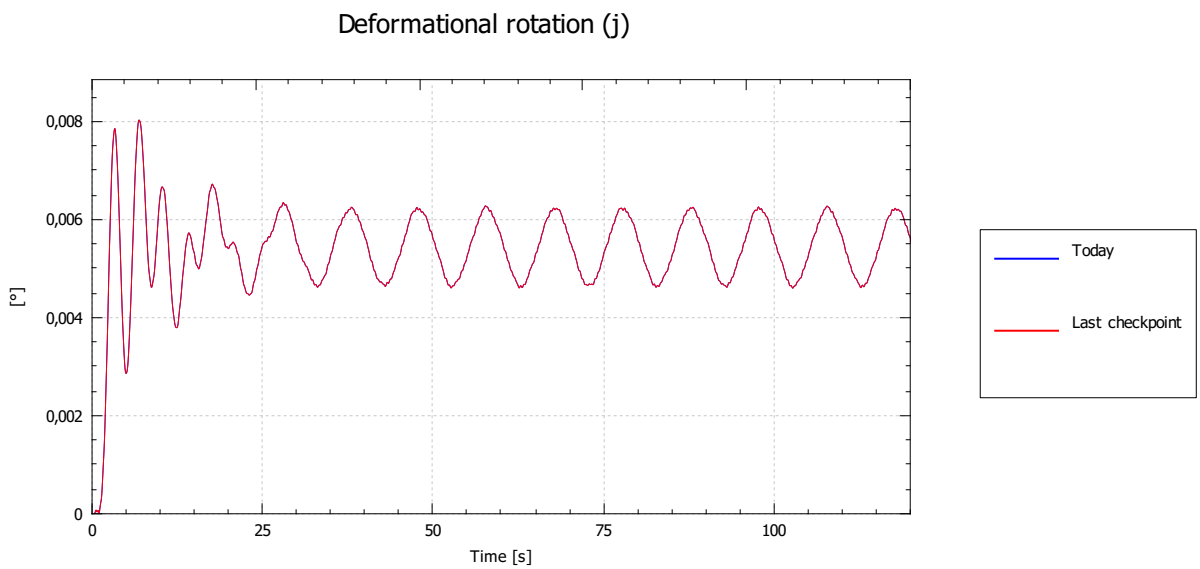


Kinetic energy

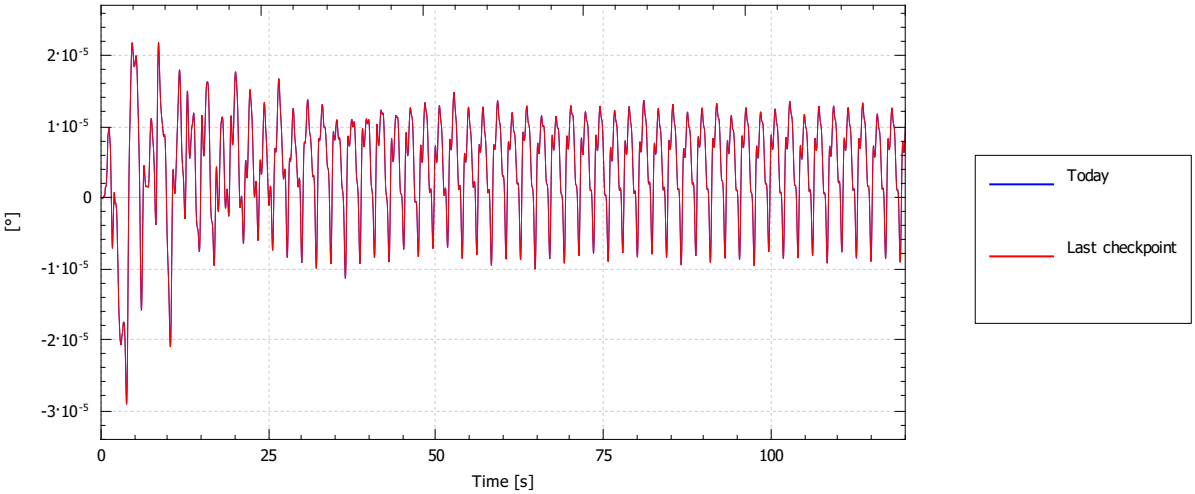



Mechanical energy
10000
8000
6000
4000
2000
0
[J]
0
25
50
75
100
Time [s]
Today
Last checkpoint

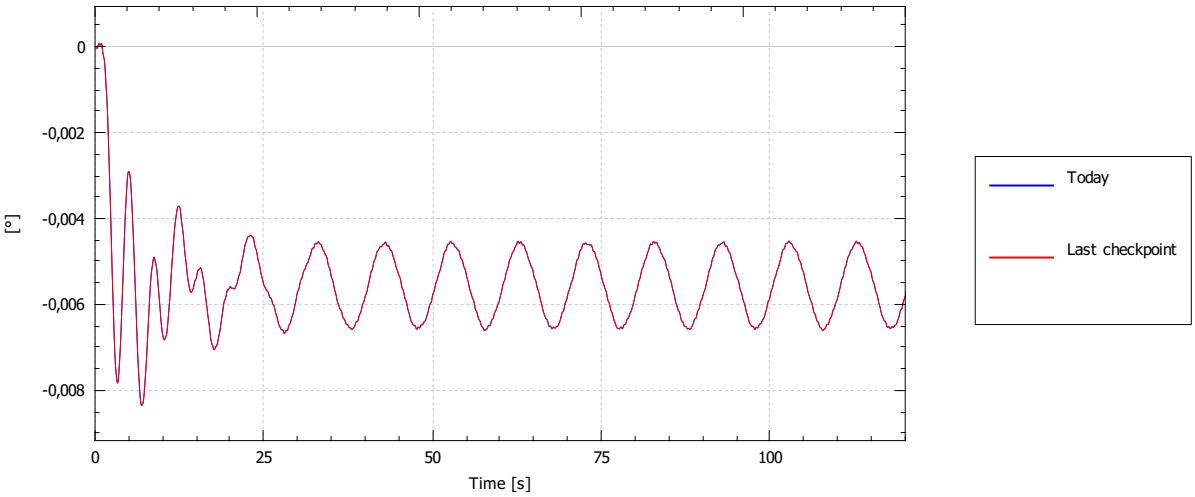

Deformational rotation (i)
0,008
0,006
0,004
0,002
0
[°]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Deformational rotation (j)
0,008
0,006
0,004
0,002
0
[°]
0
25
50
75
100
Time [s]
Today
Last checkpoint

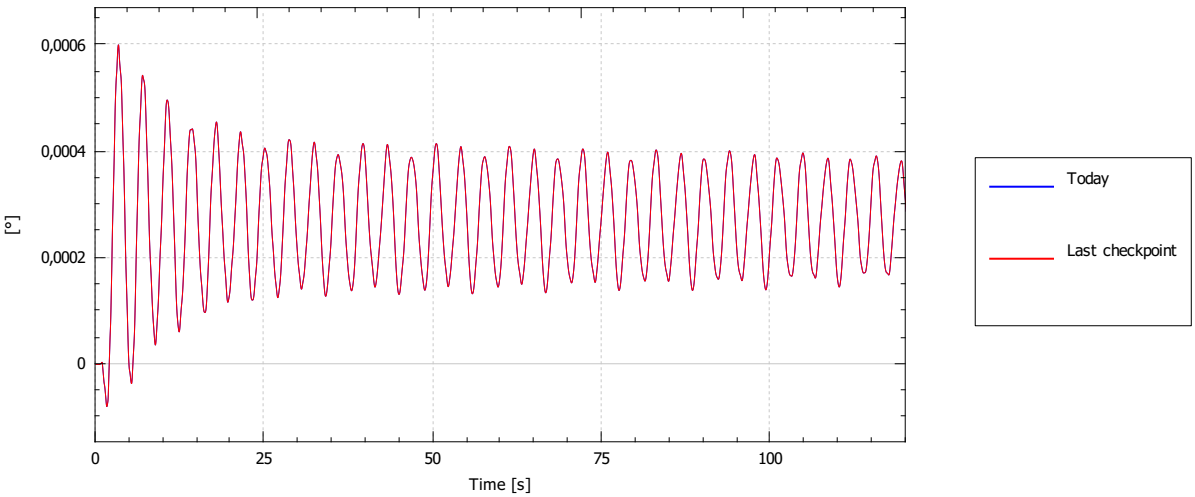
Deformational rotation (axial)



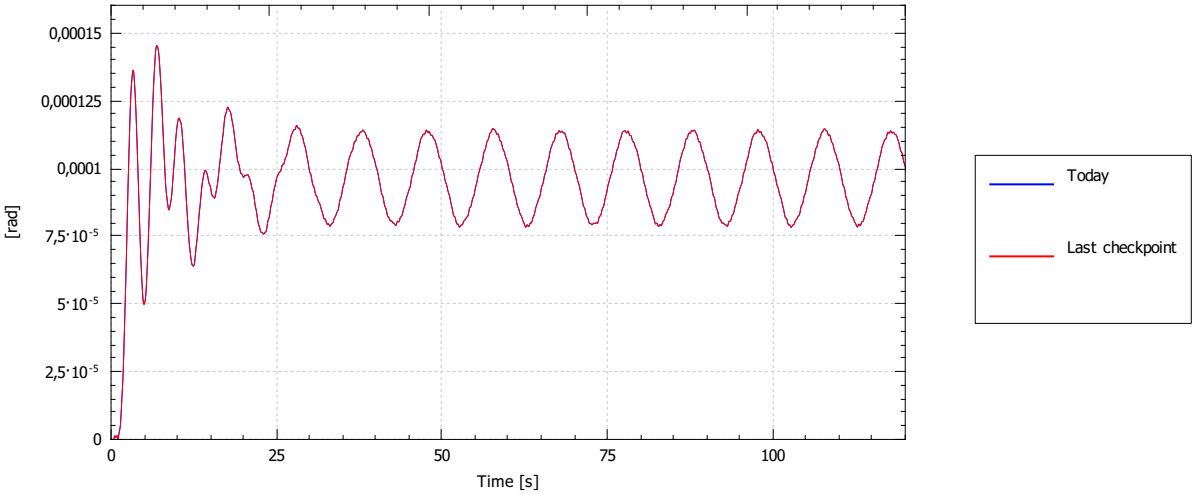
Deformational rotation (1st prin.)



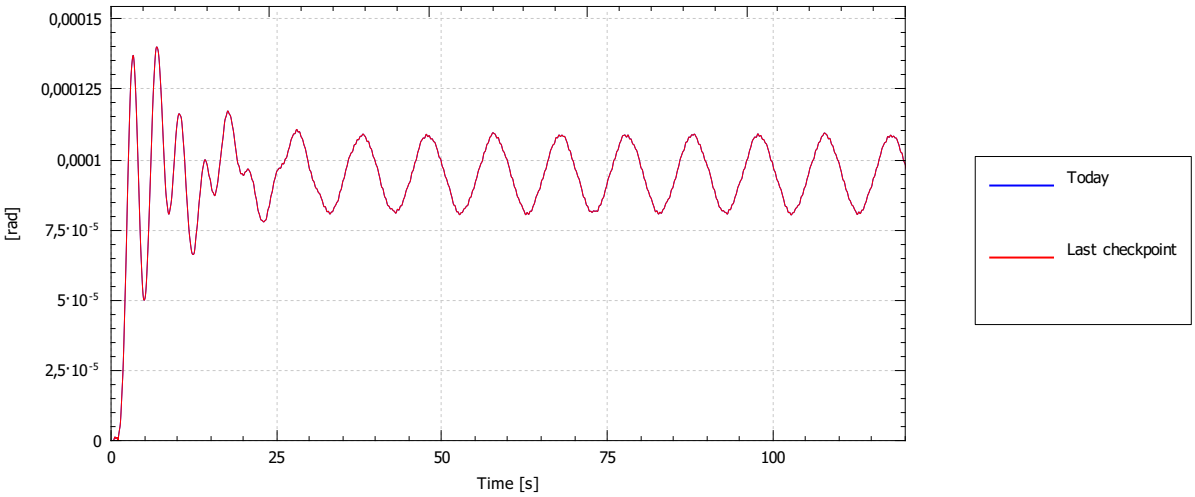
Deformational rotation (2nd prin.)



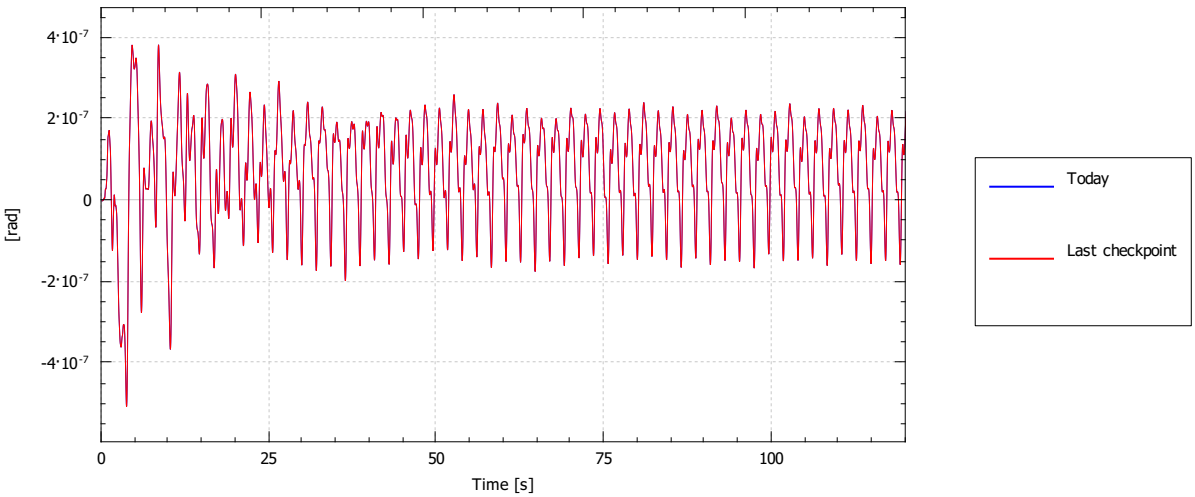
Deformational rotation (i) - rad



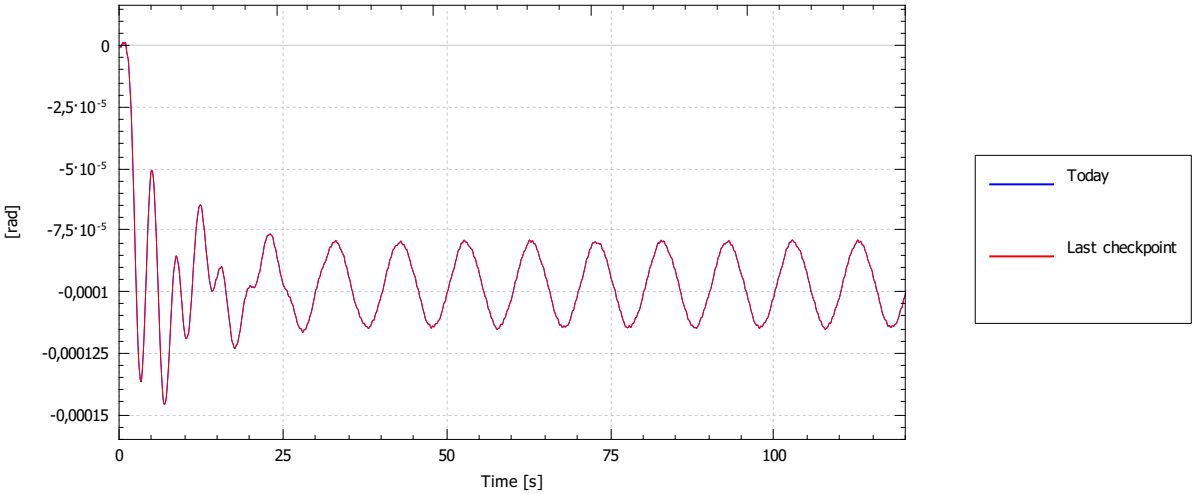
Deformational rotation (j) - rad



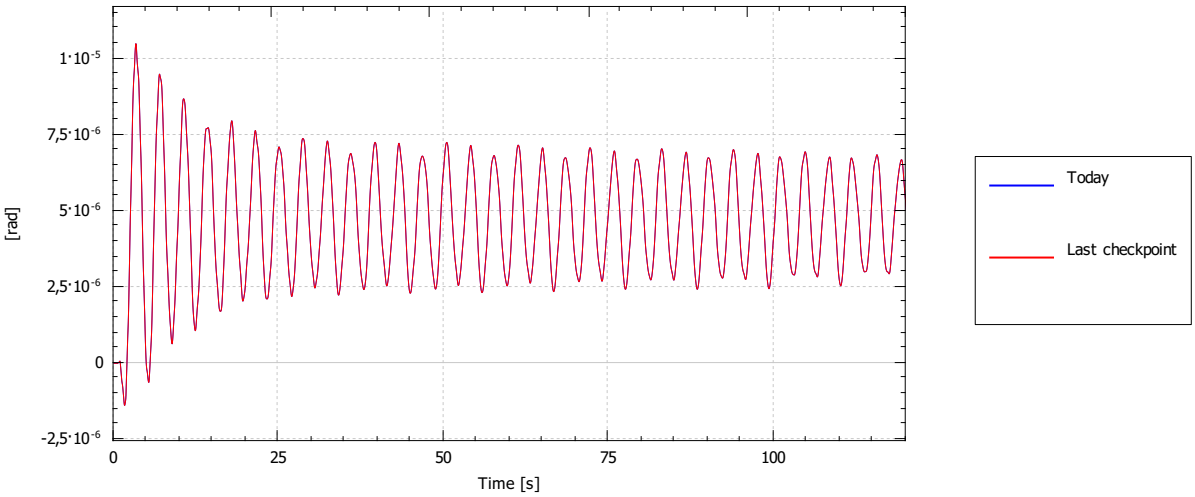
Deformational rotation (axial) - rad



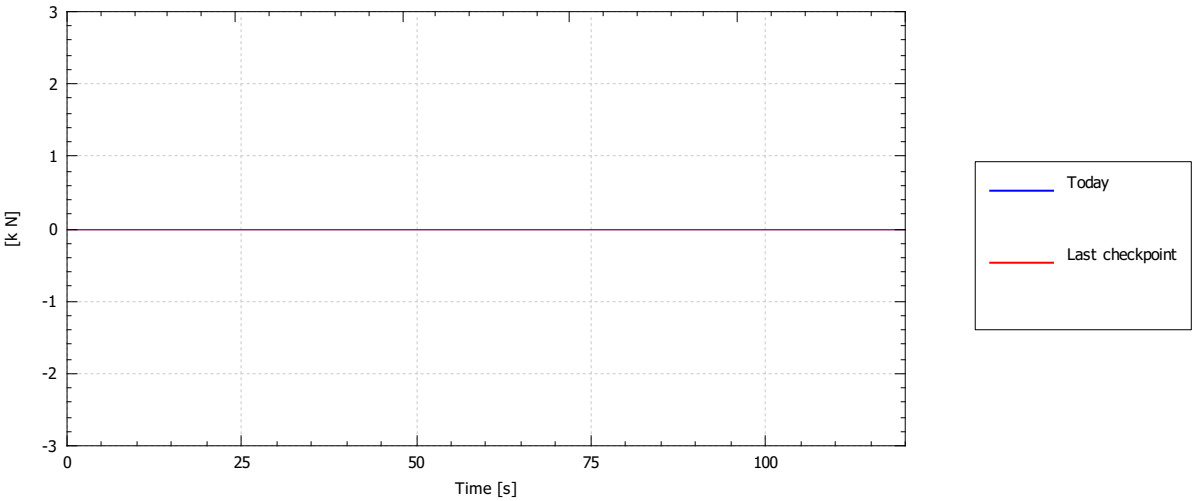
Deformational rotation (1st prin.) - rad



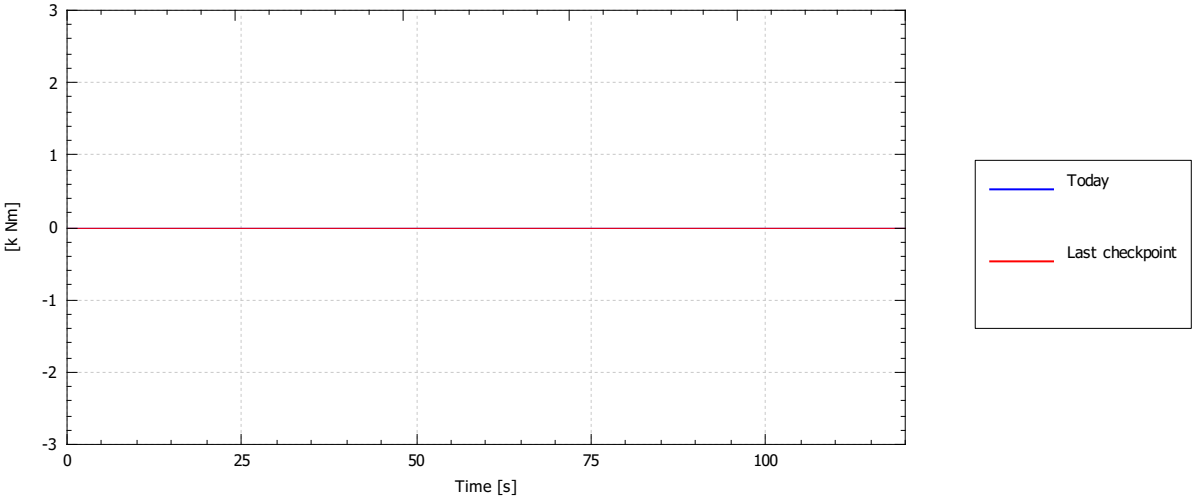
Deformational rotation (2nd prin.) - rad



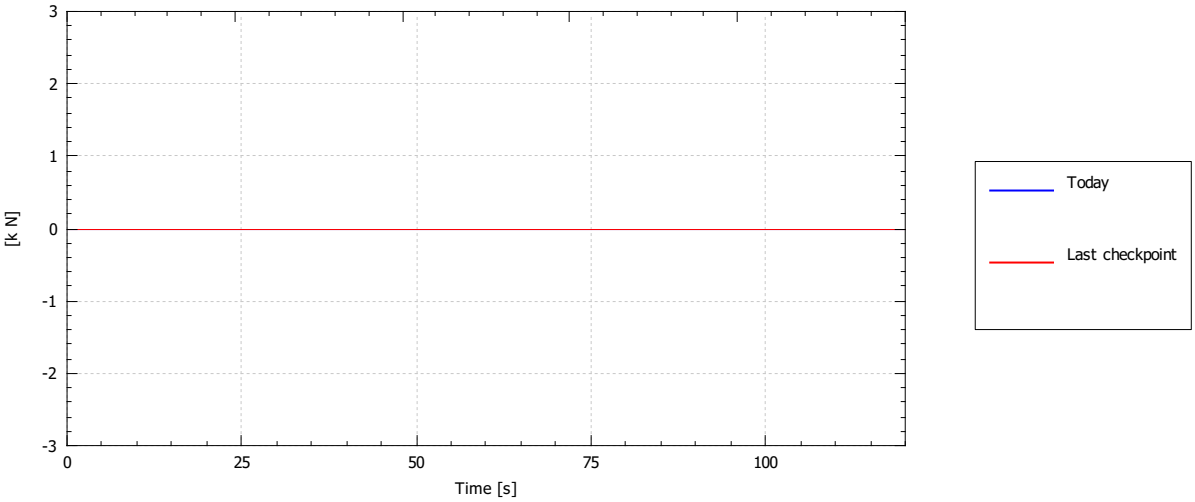
Damping force, i



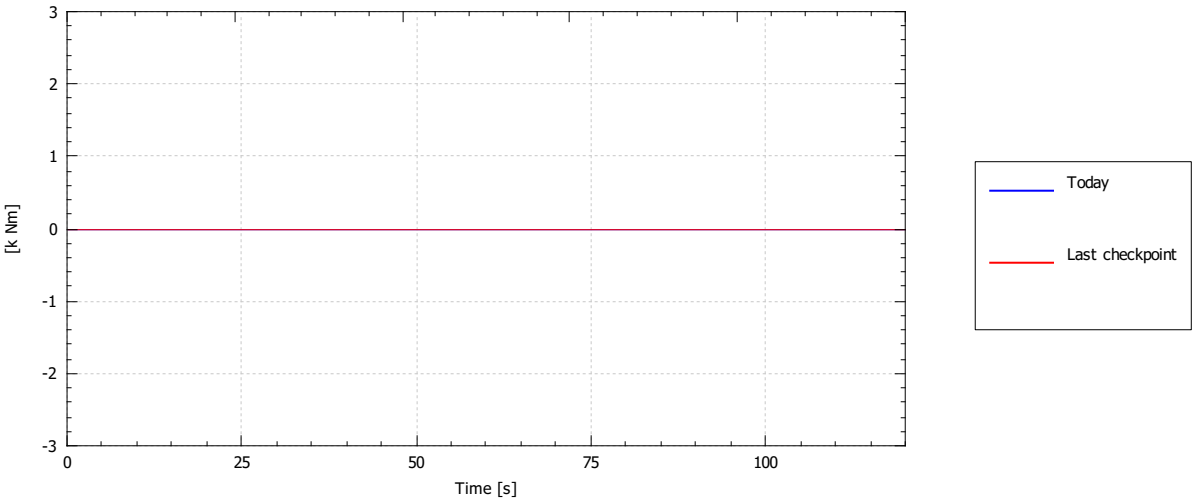
Damping moment, i



Damping force, sum

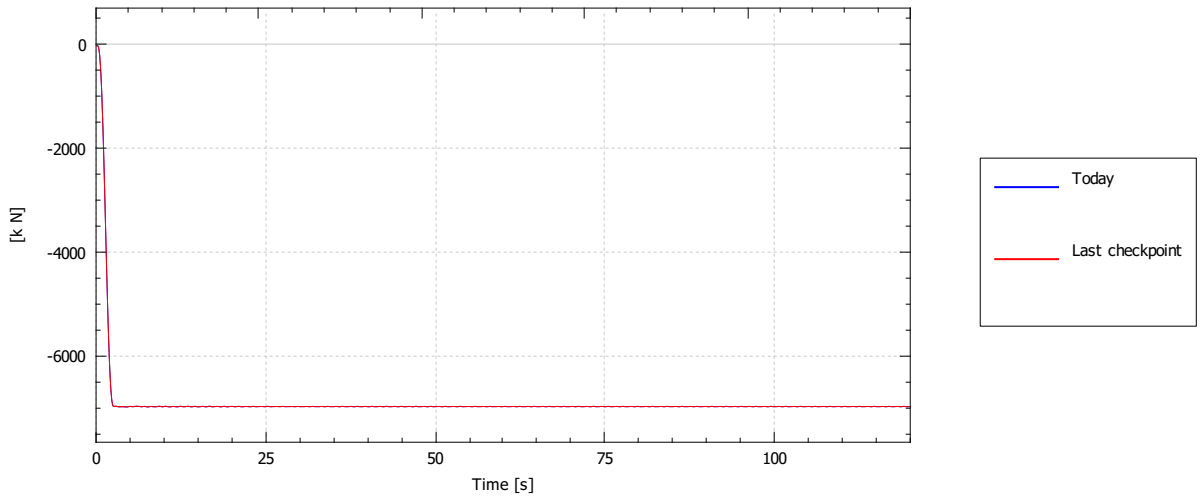


Damping moment, sum

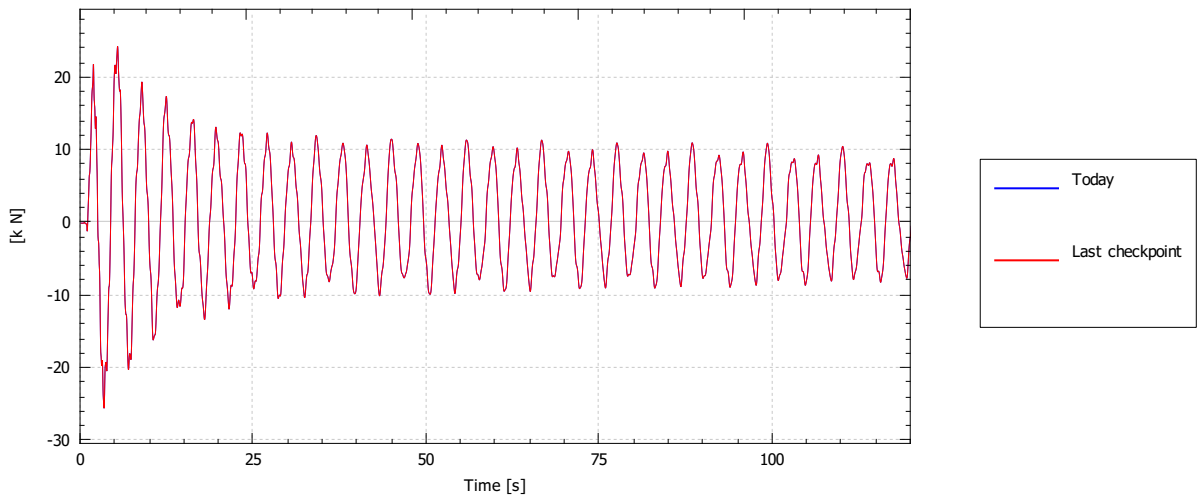


Beam element [Element 6 | Monopile]

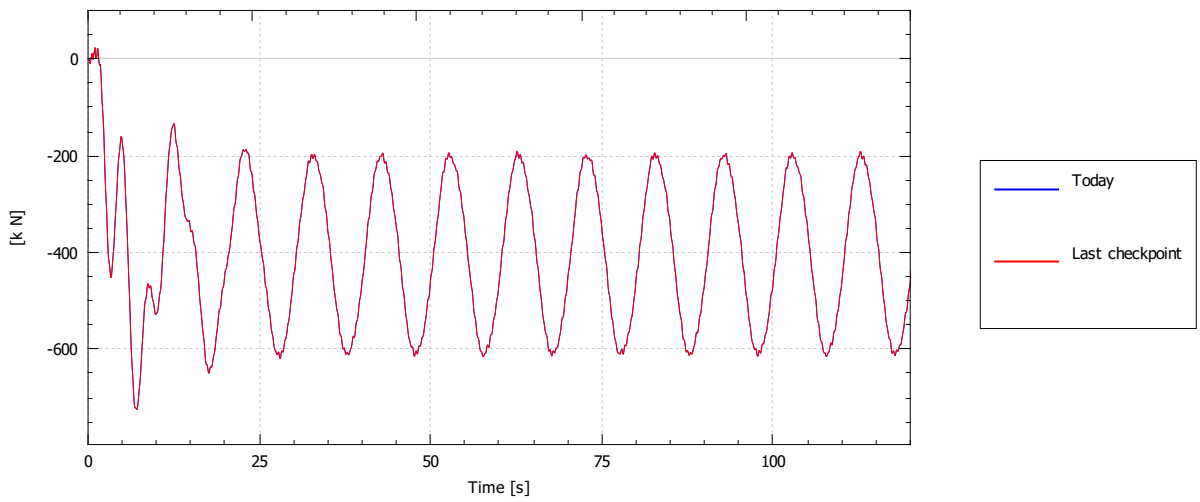
Axial force



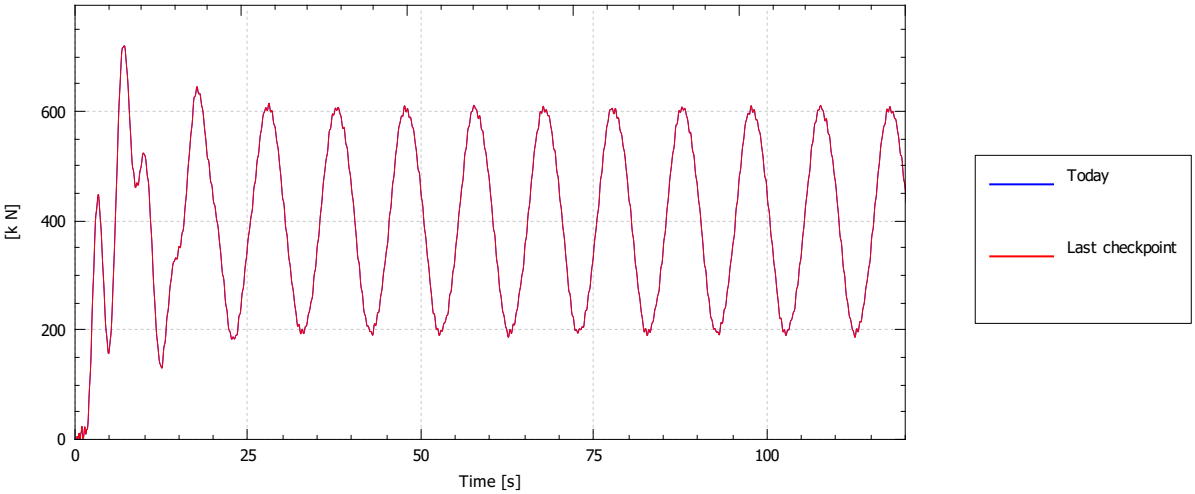
Shear force (1st prin. axis)



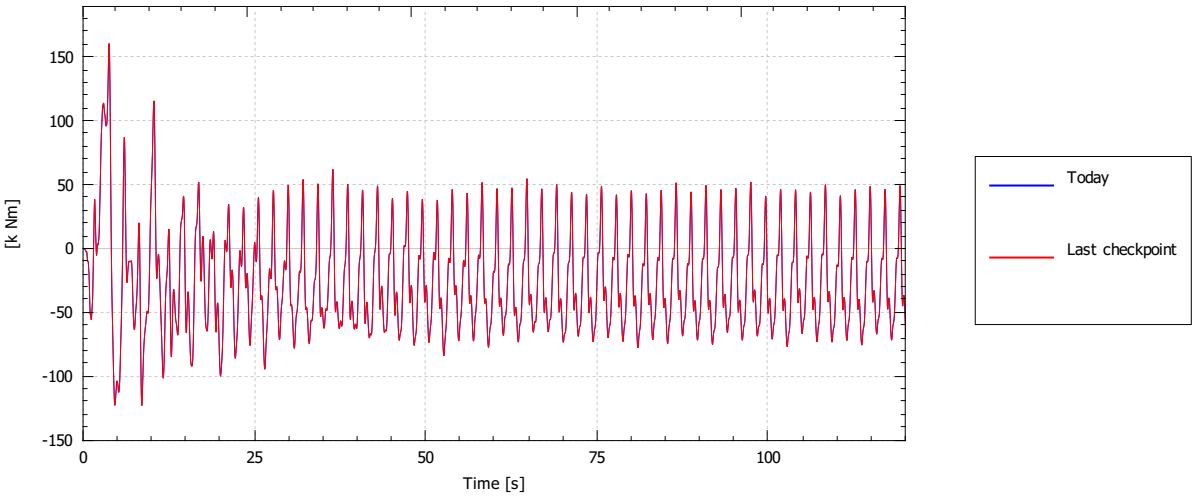
Shear force (2nd prin. axis)



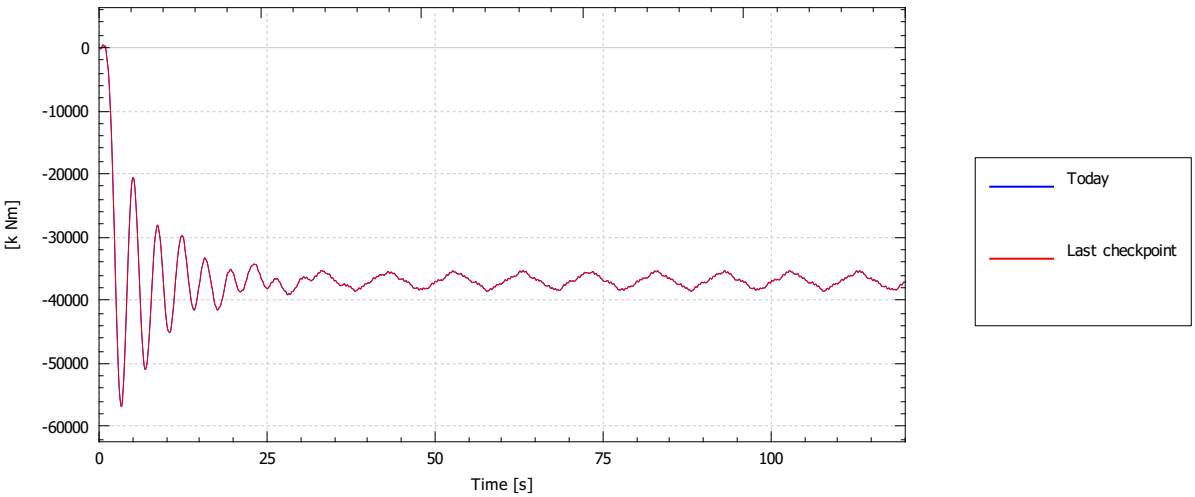
Shear force, mag.



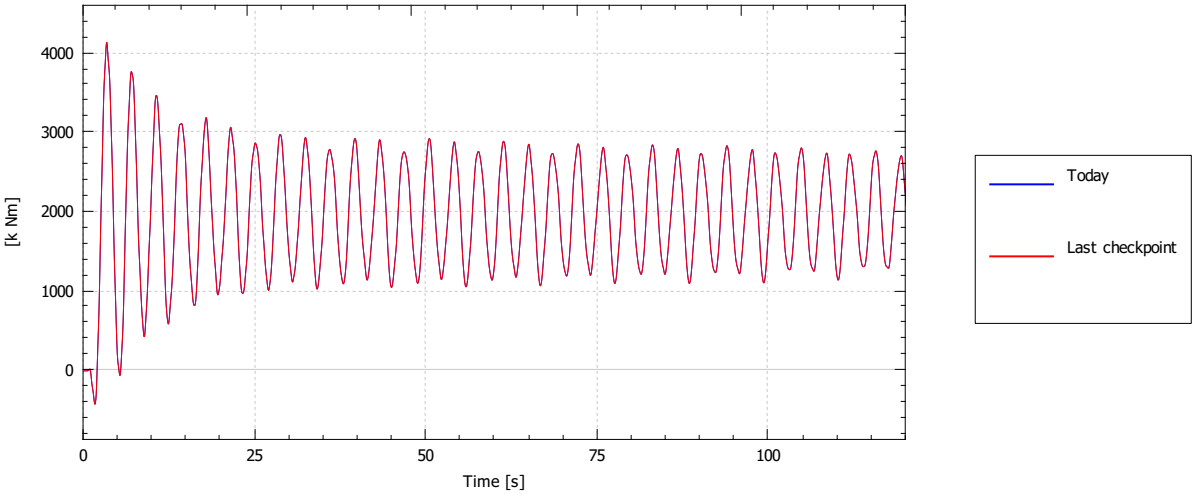
Torque



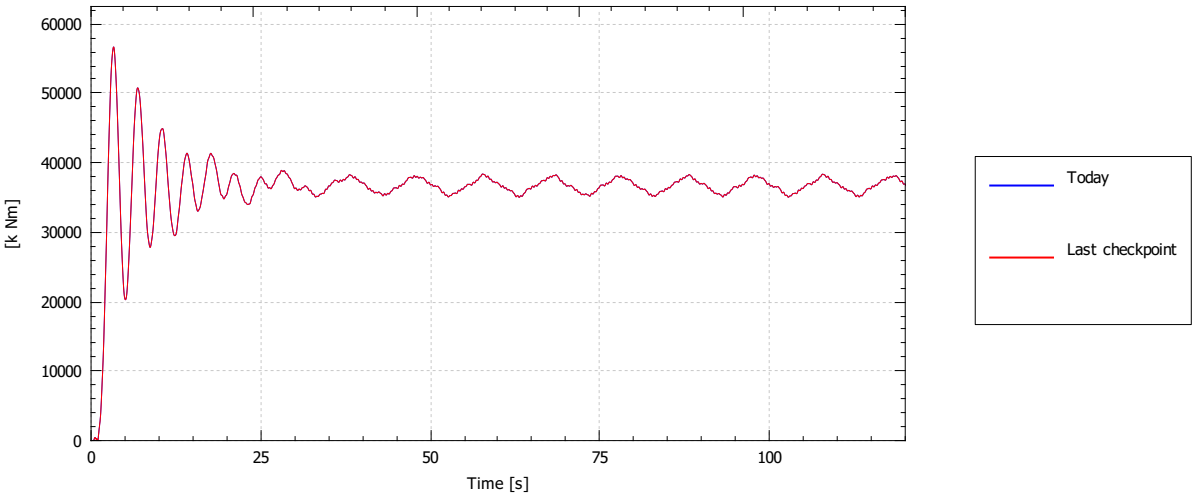
Moment (1st prin. axis), i



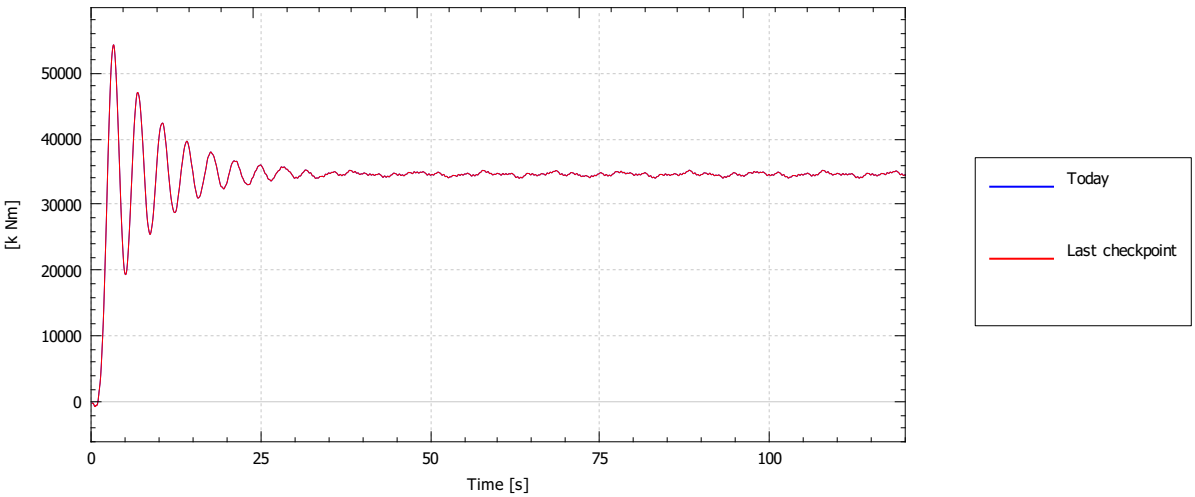
Moment (2nd prin. axis), i



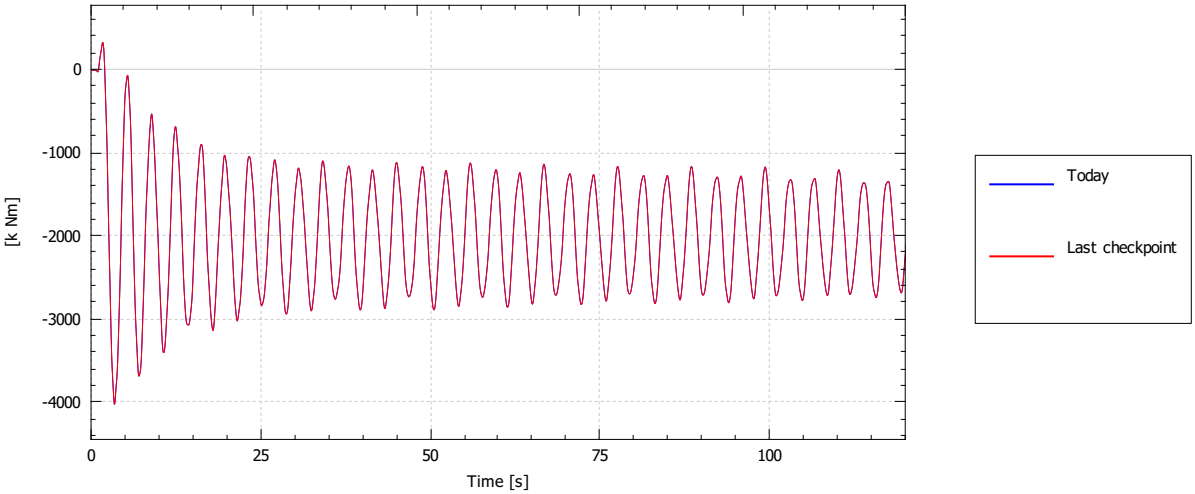
Moment, mag., i



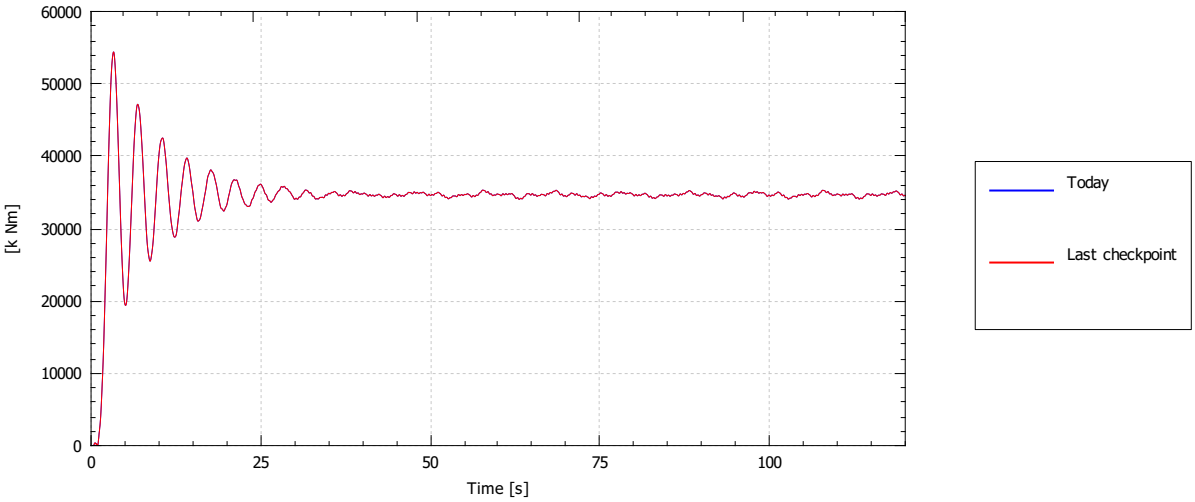
Moment (1st prin. axis), j



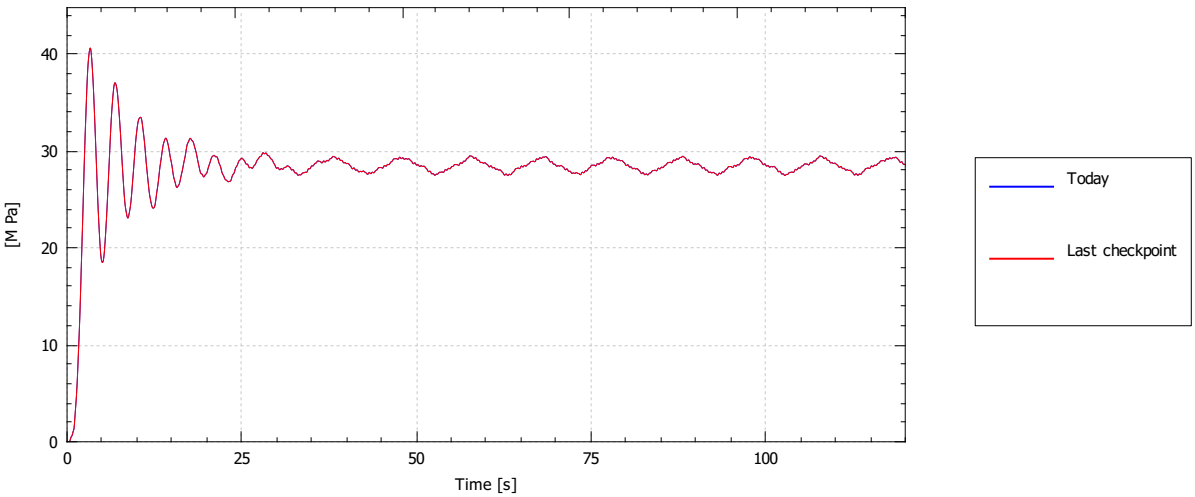
Moment (2nd prin. axis), j



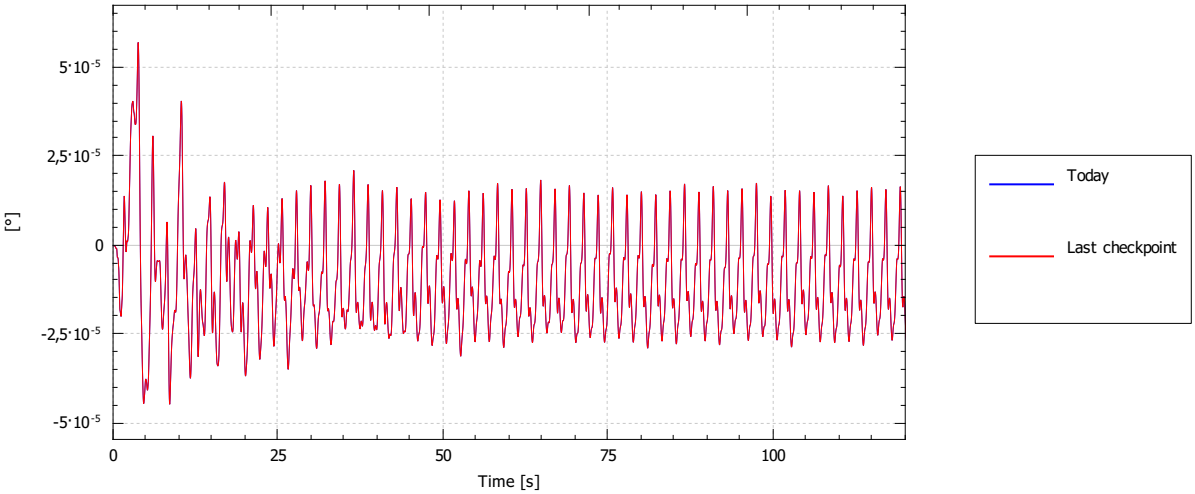
Moment, mag., j



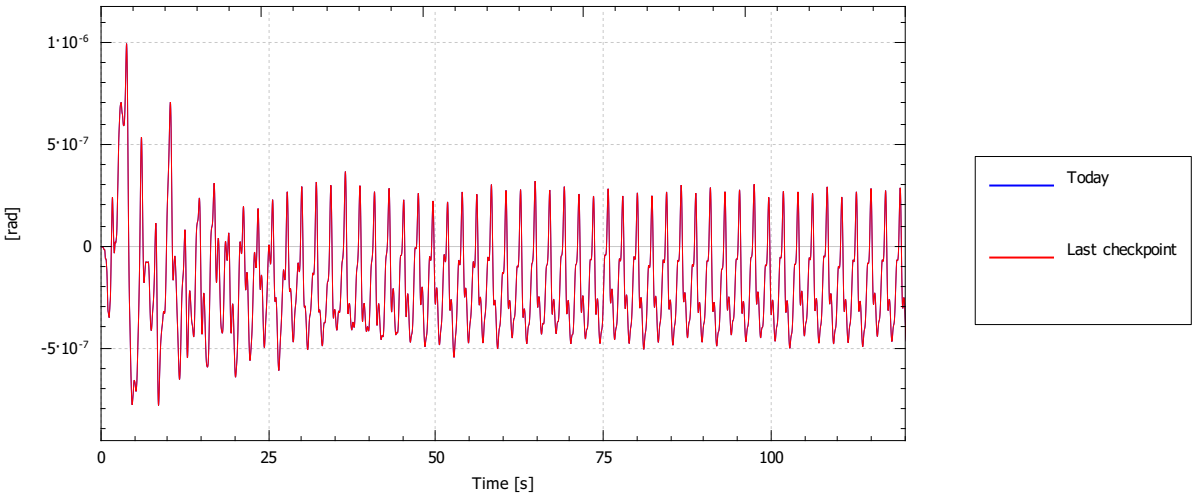
Max normal stress



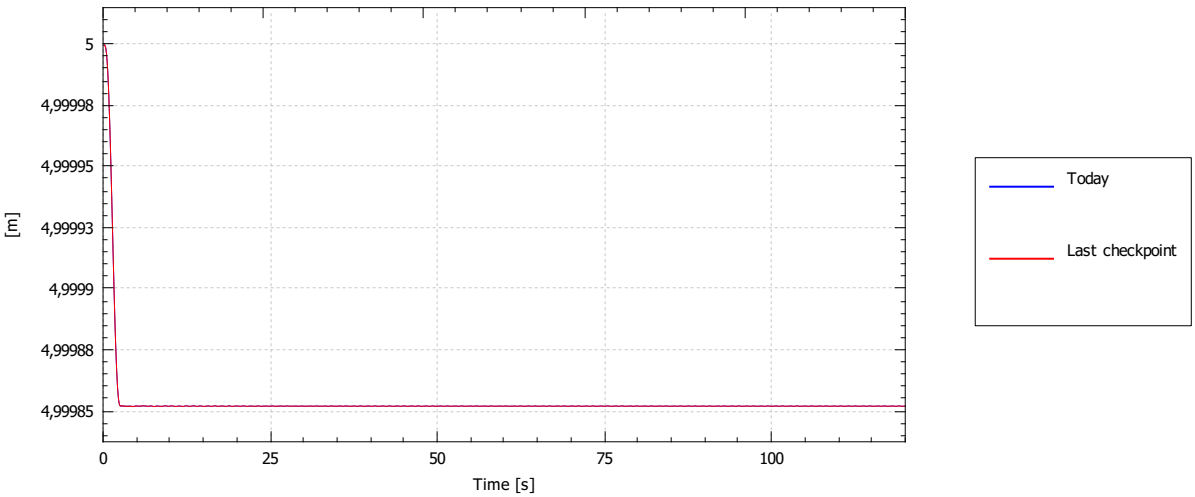
Twist (structural)



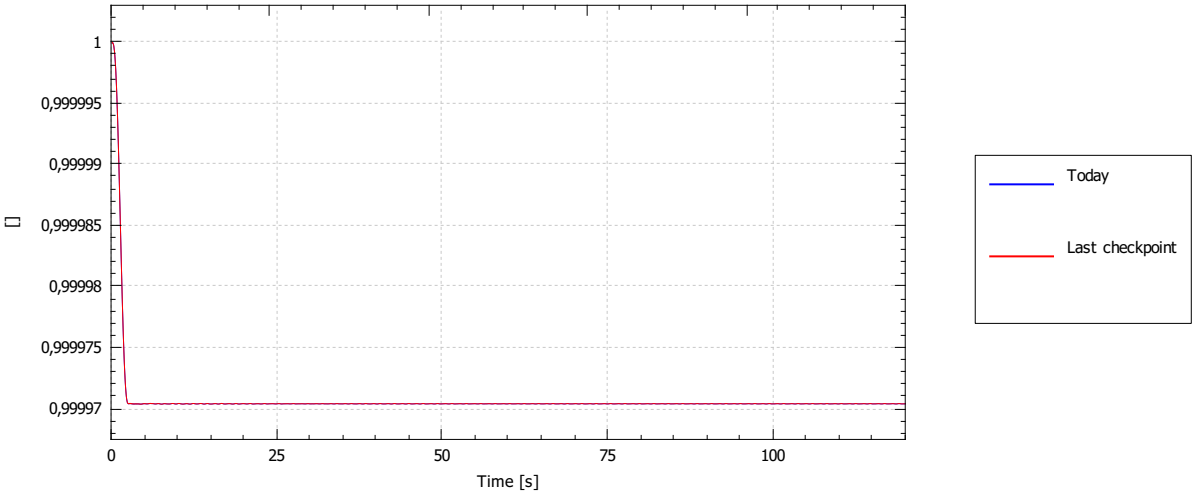
Twist (structural) - rad



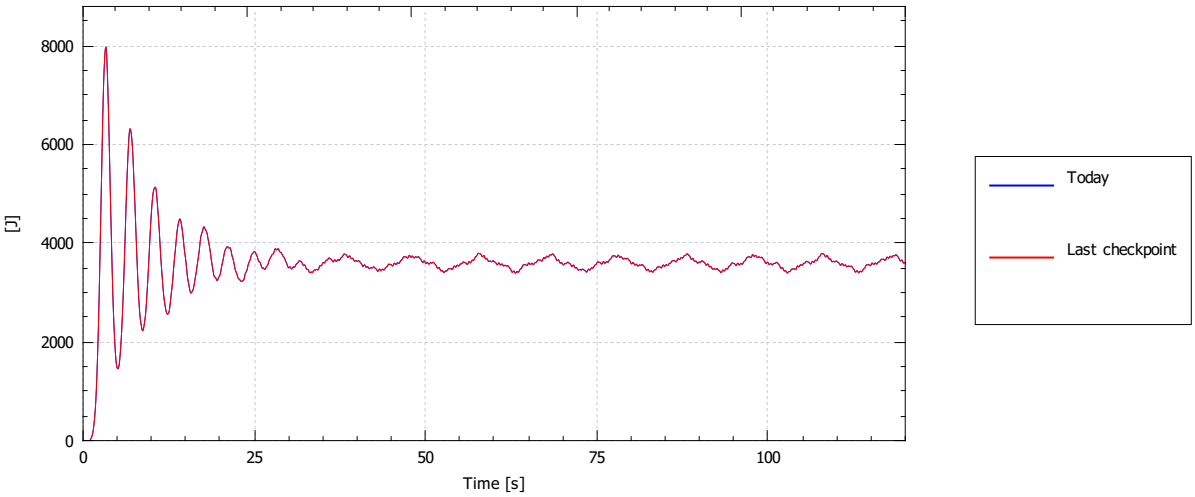
Deformed length



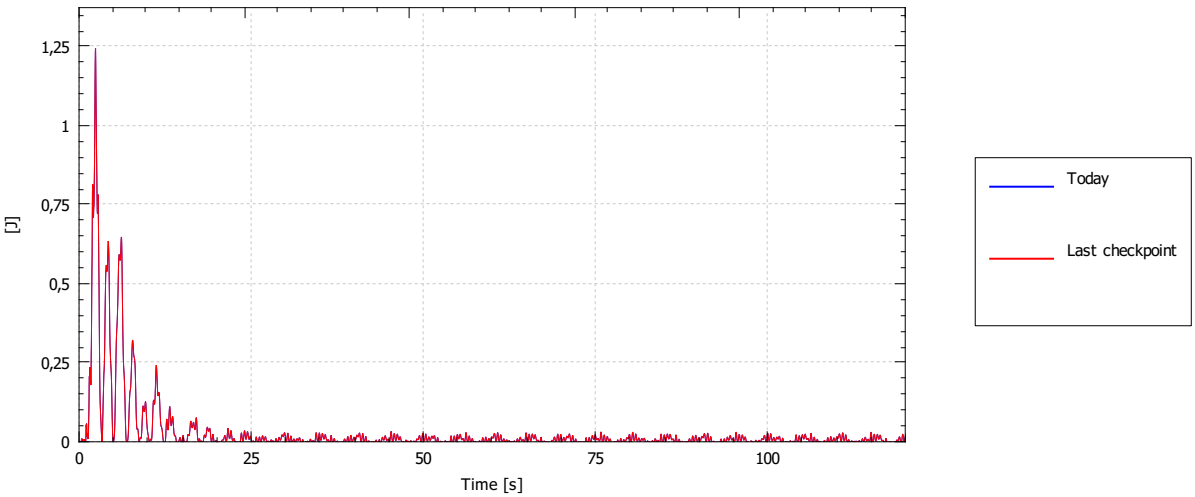
Elongation



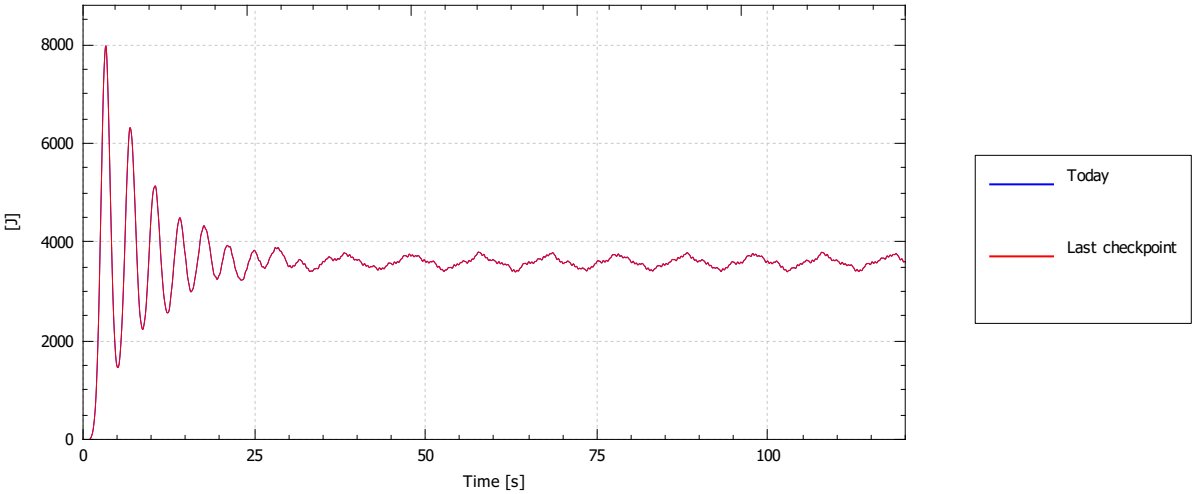
Strain energy



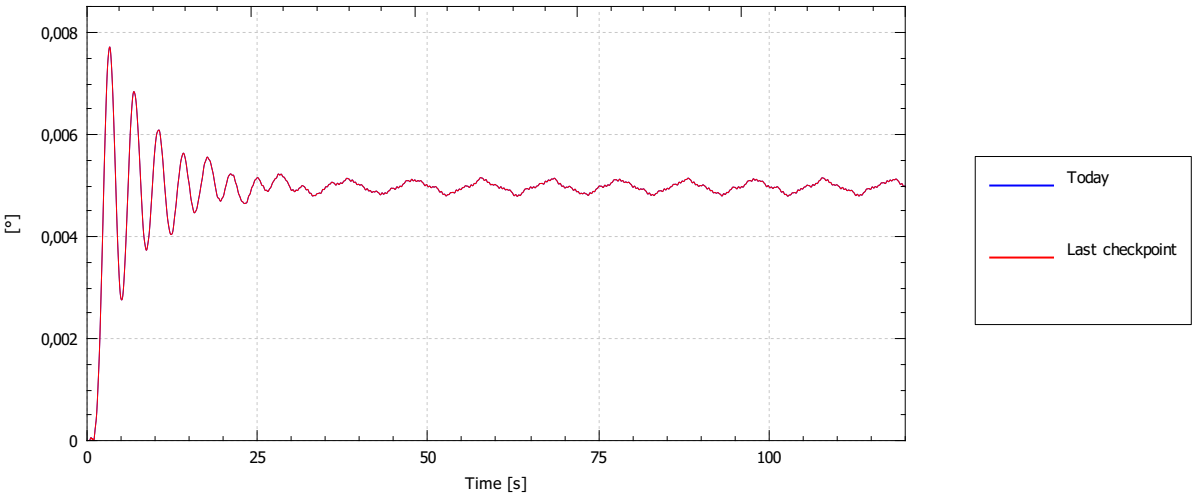
Kinetic energy



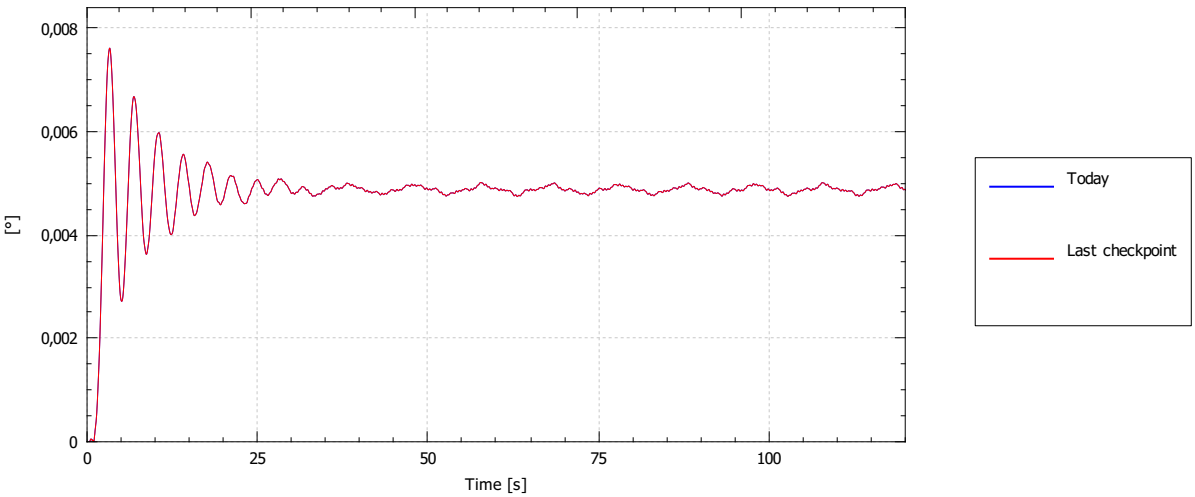
Mechanical energy



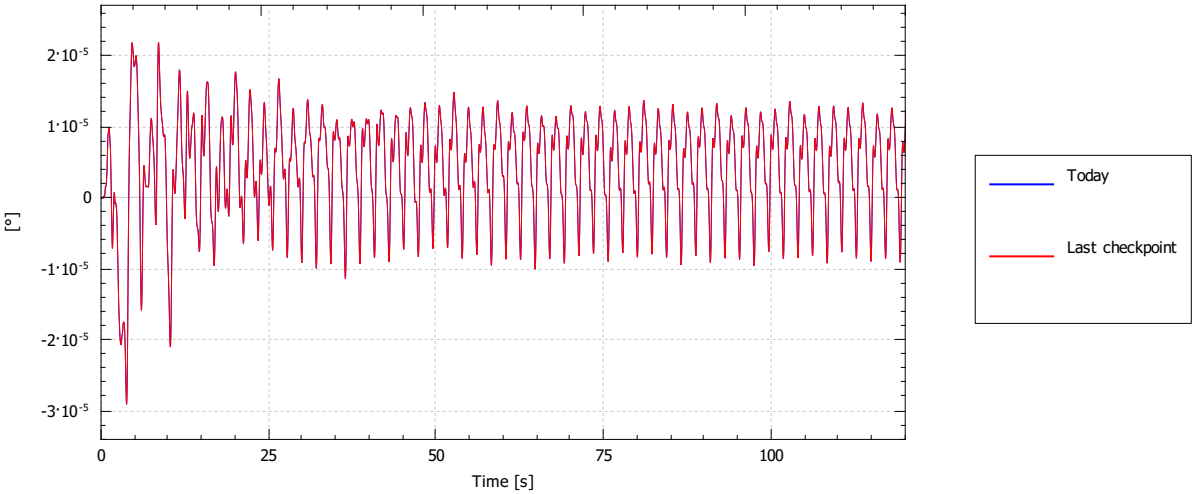
Deformational rotation (i)



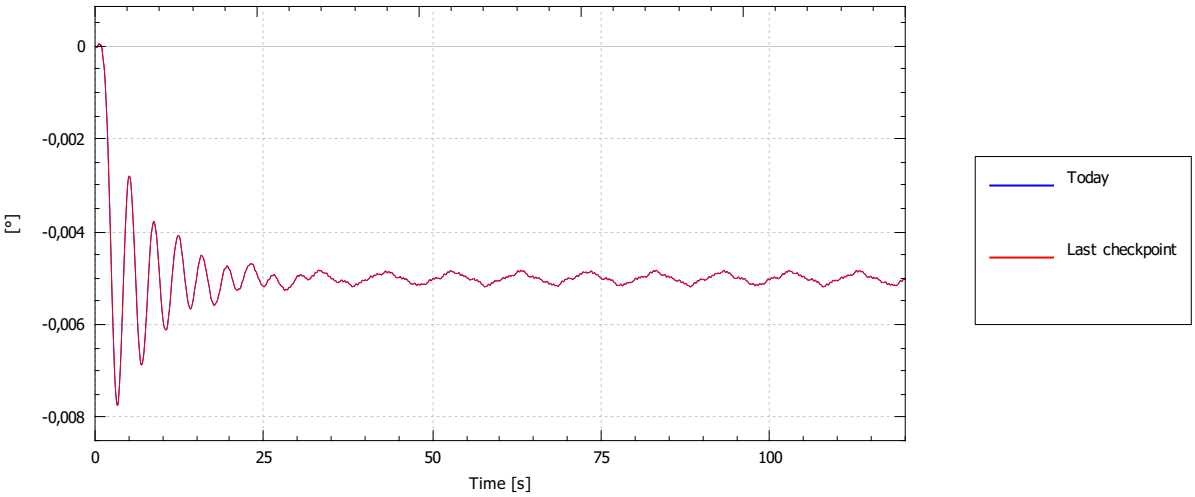
Deformational rotation (j)



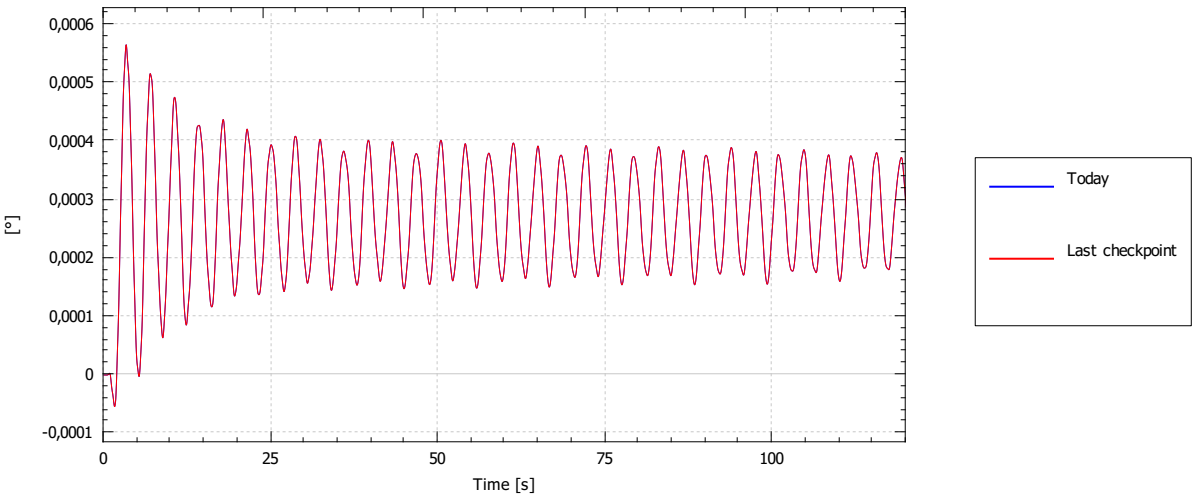
Deformational rotation (axial)



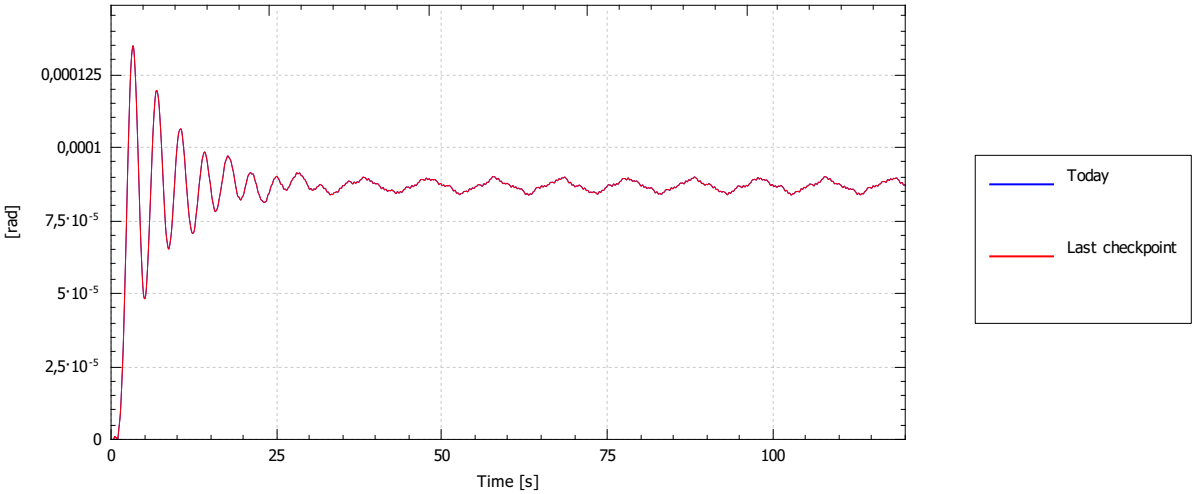
Deformational rotation (1st prin.)



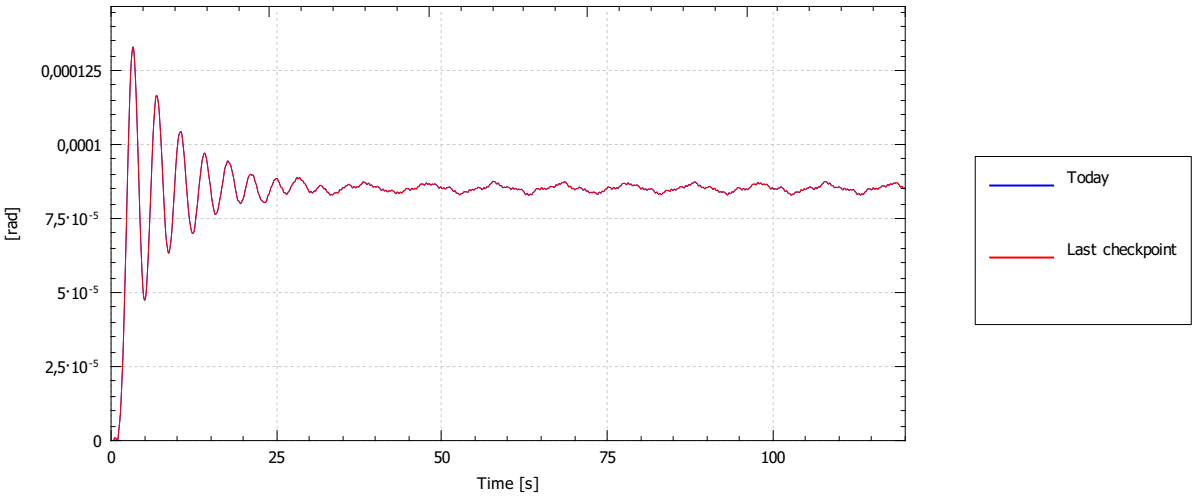
Deformational rotation (2nd prin.)



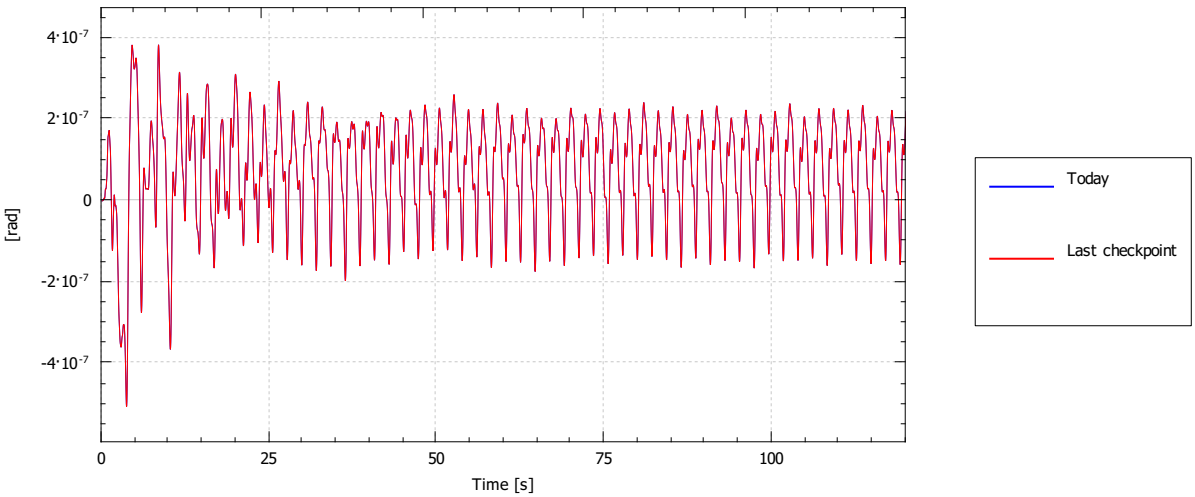
Deformational rotation (i) - rad



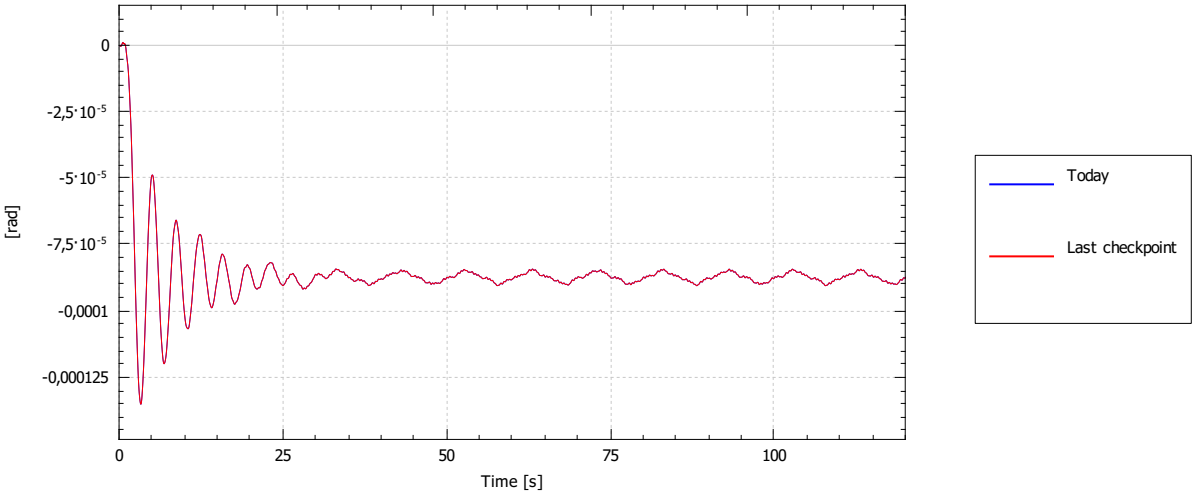
Deformational rotation (j) - rad



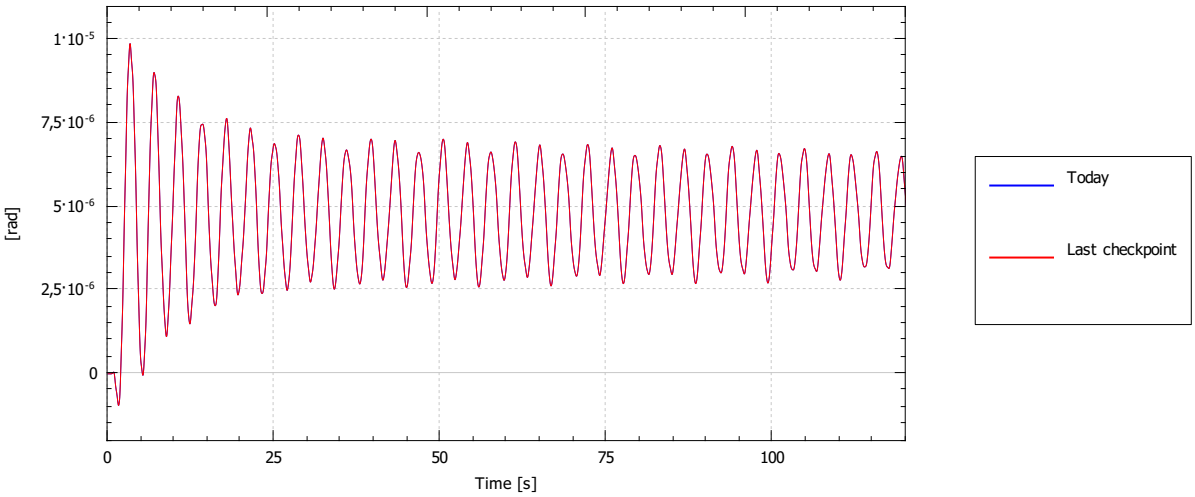
Deformational rotation (axial) - rad



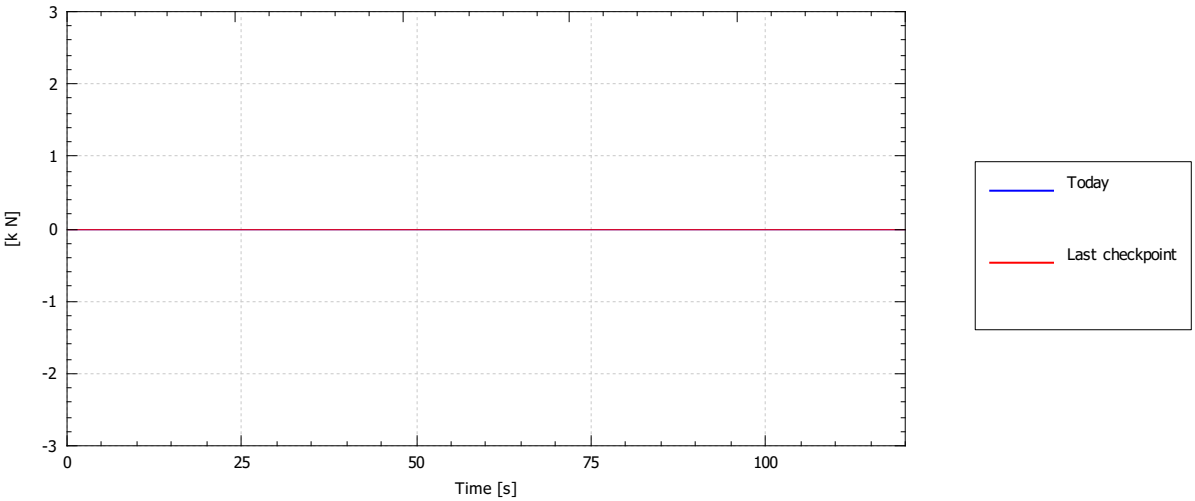
Deformational rotation (1st prin.) - rad



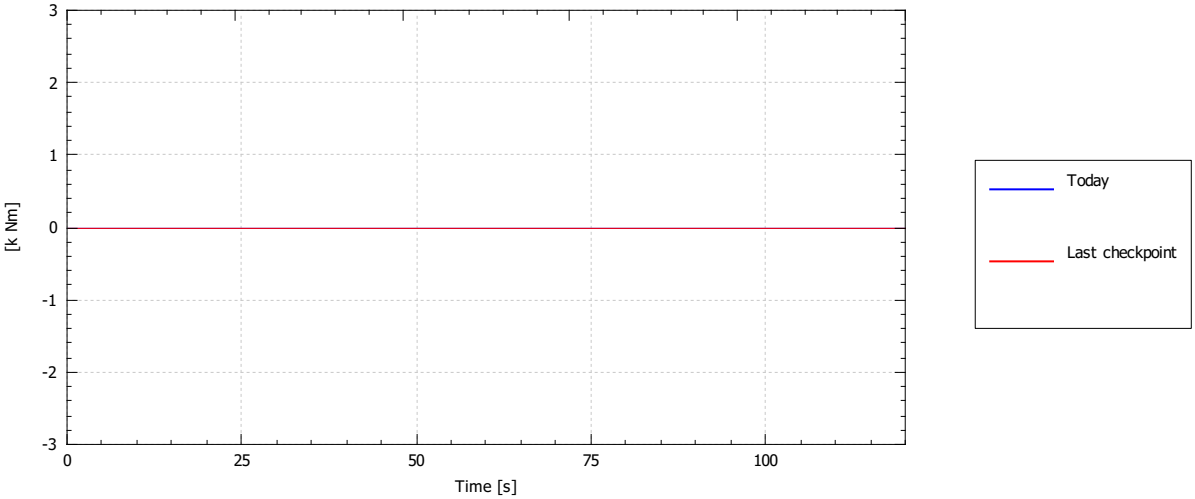
Deformational rotation (2nd prin.) - rad



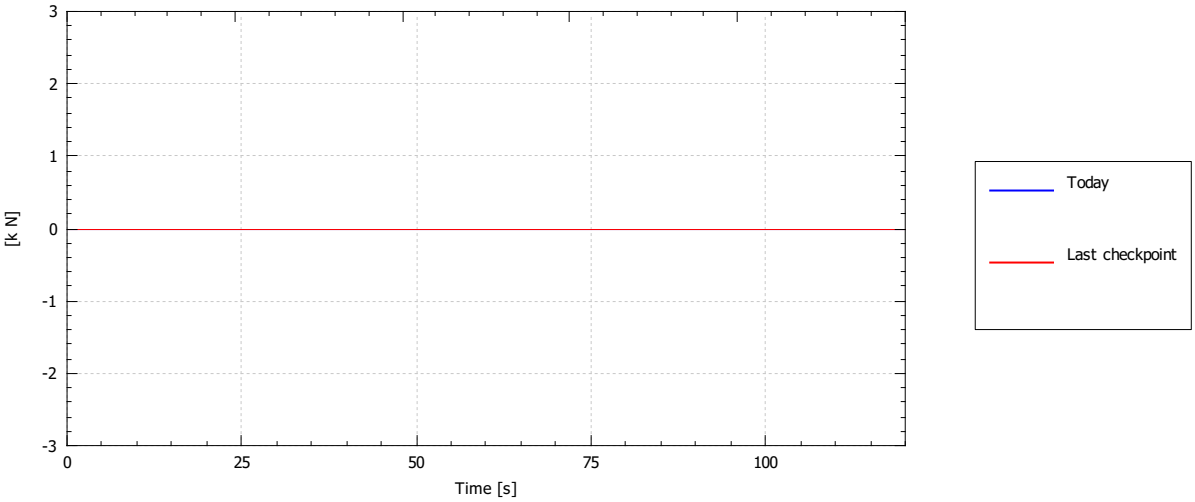
Damping force, i



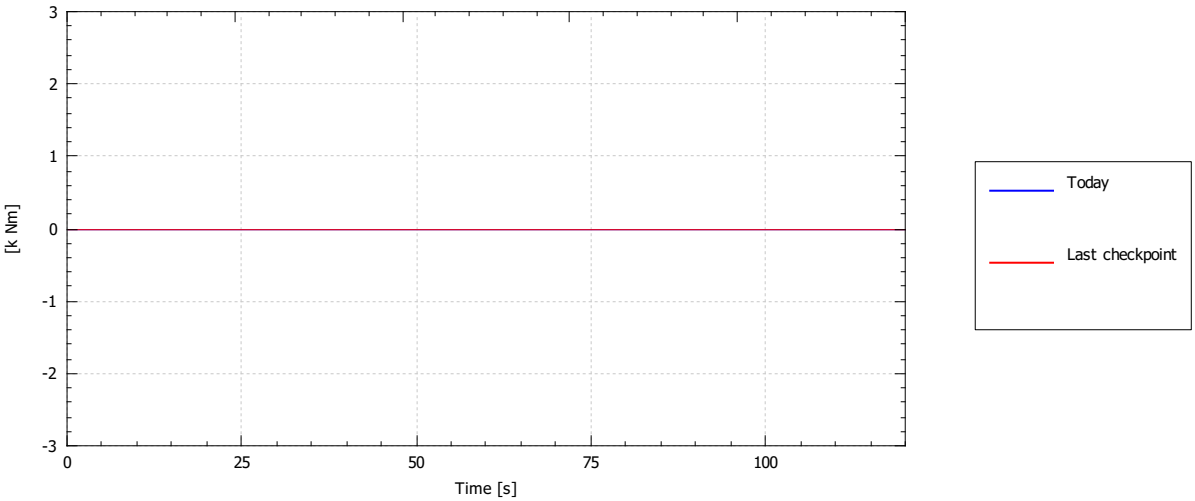
Damping moment, i



Damping force, sum

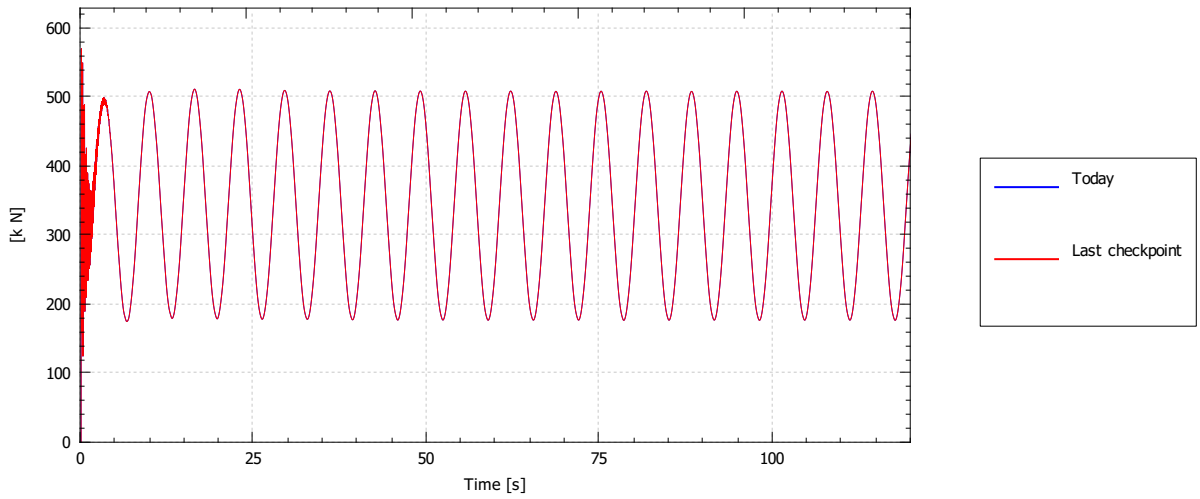


Damping moment, sum

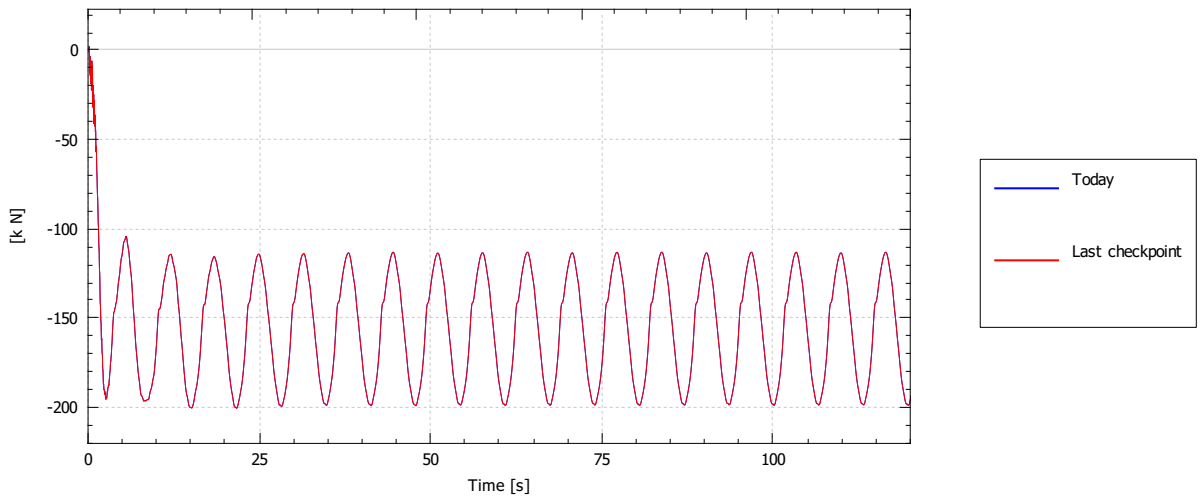


Beam element [Element 1 | Blade 1]

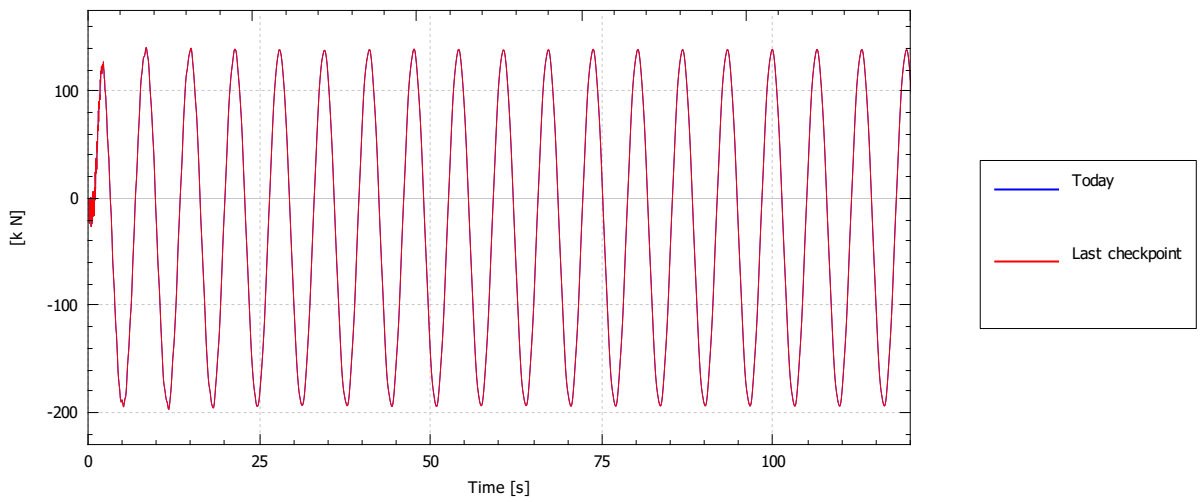
Axial force



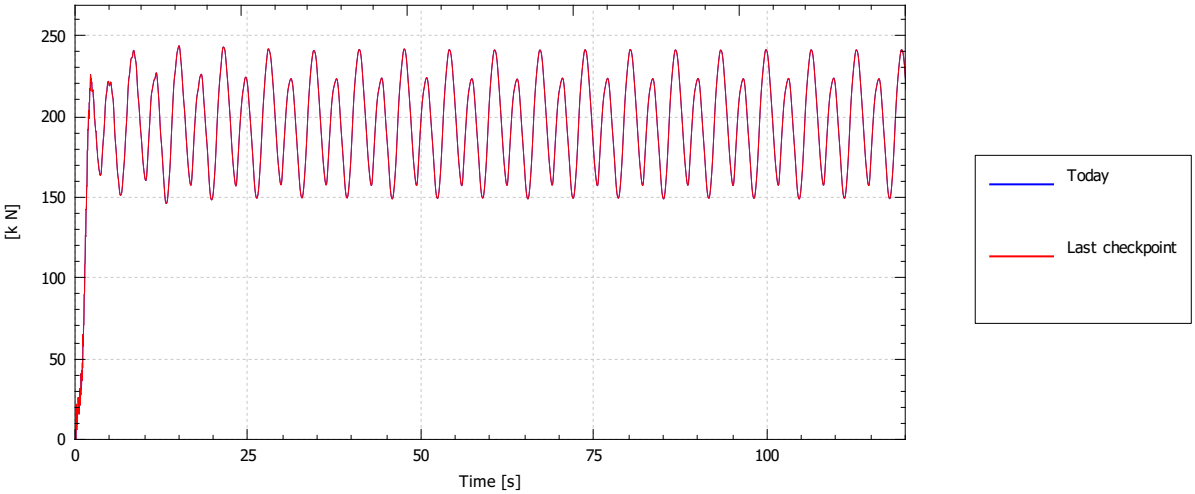
Shear force (1st prin. axis)



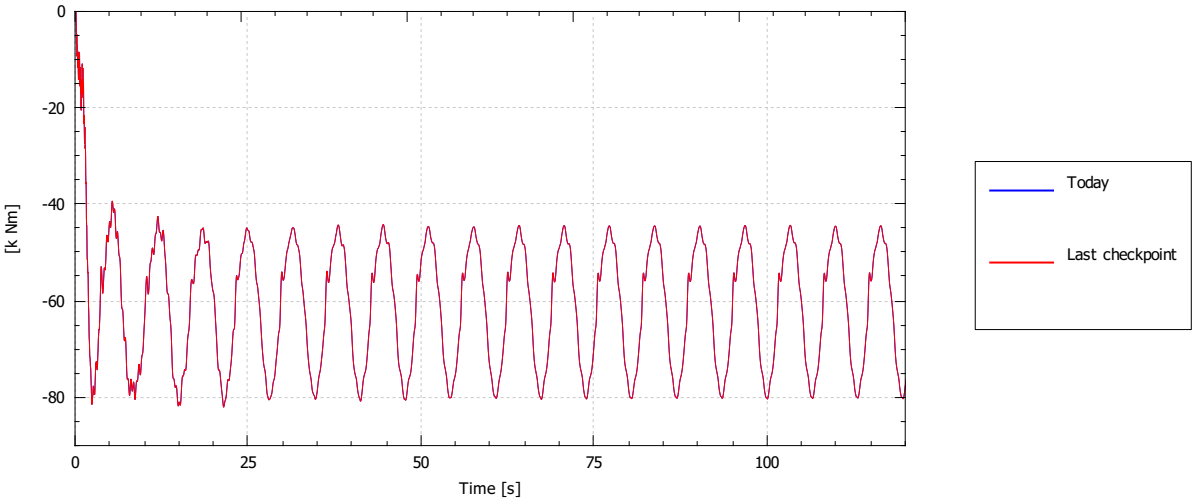
Shear force (2nd prin. axis)



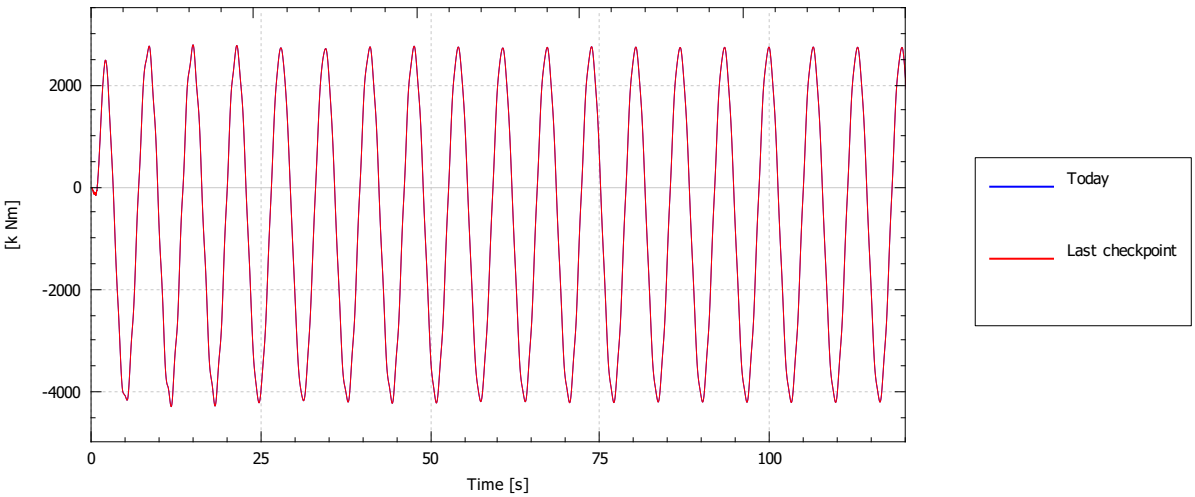
Shear force, mag.



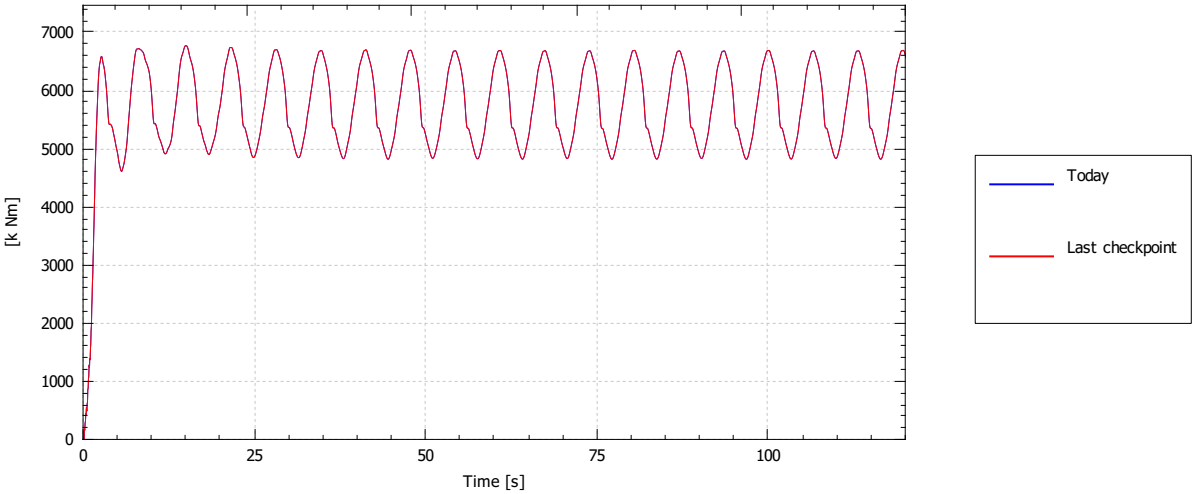
Torque



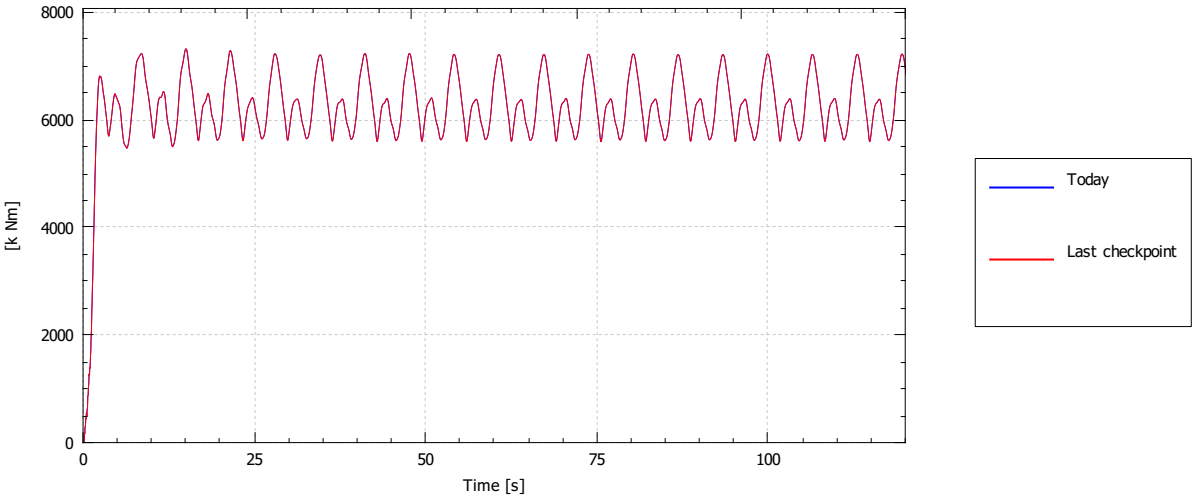
Moment (1st prin. axis), i



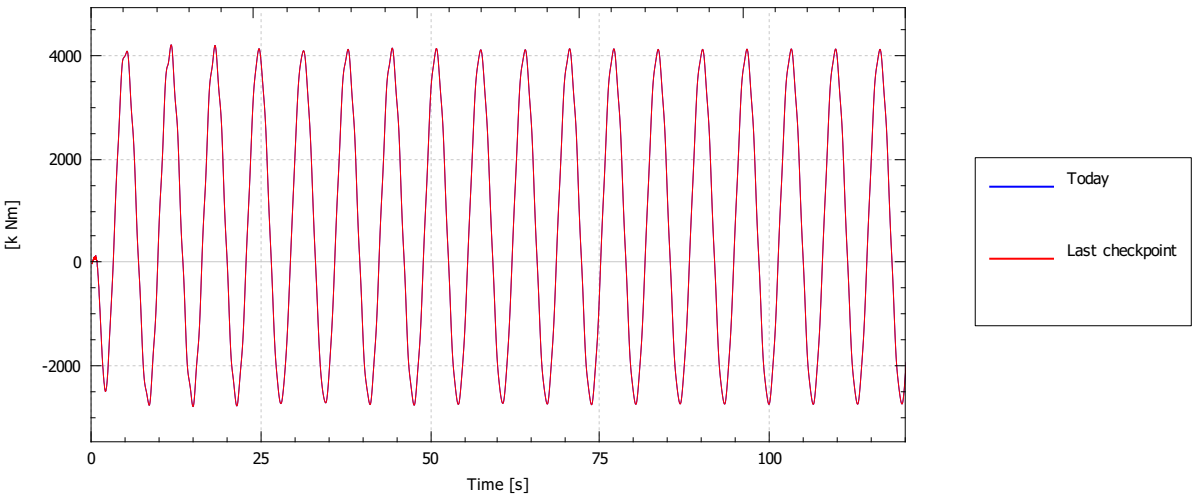
Moment (2nd prin. axis), i

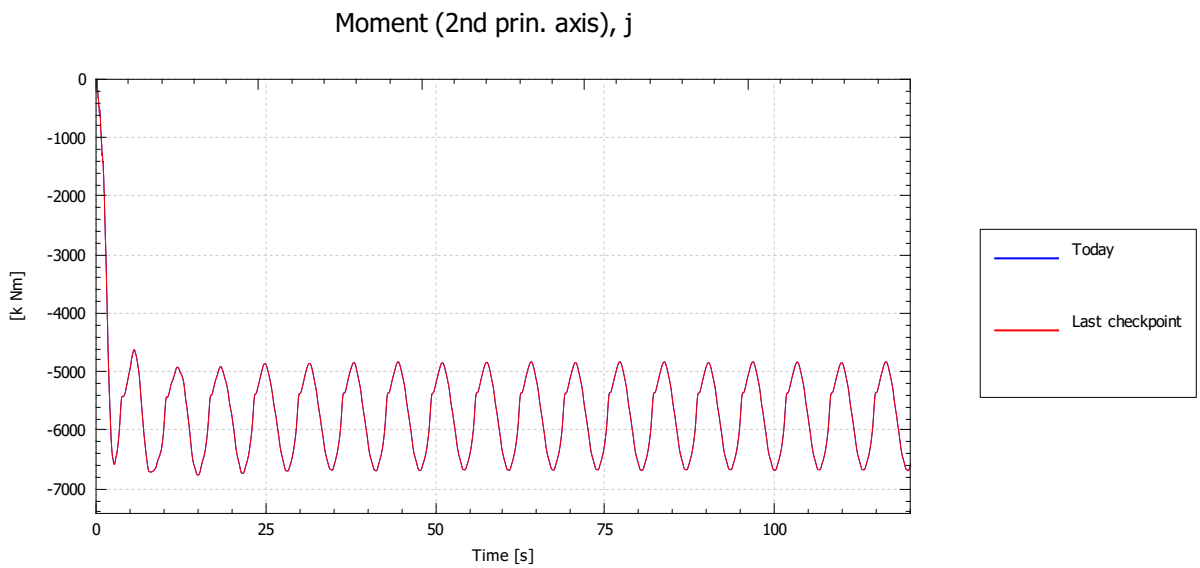


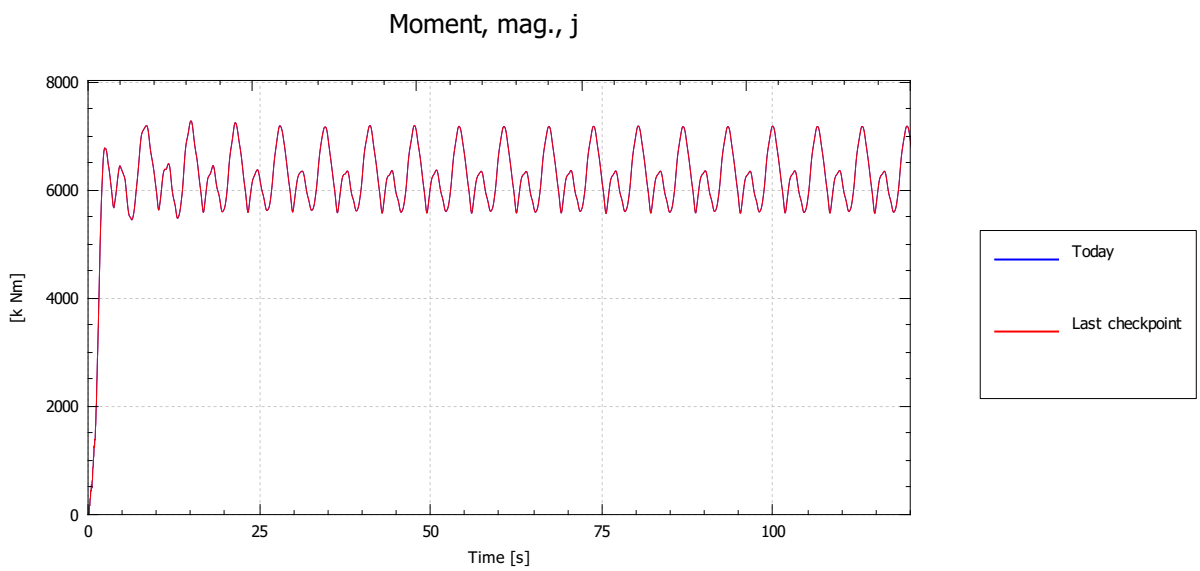
Moment, mag., i

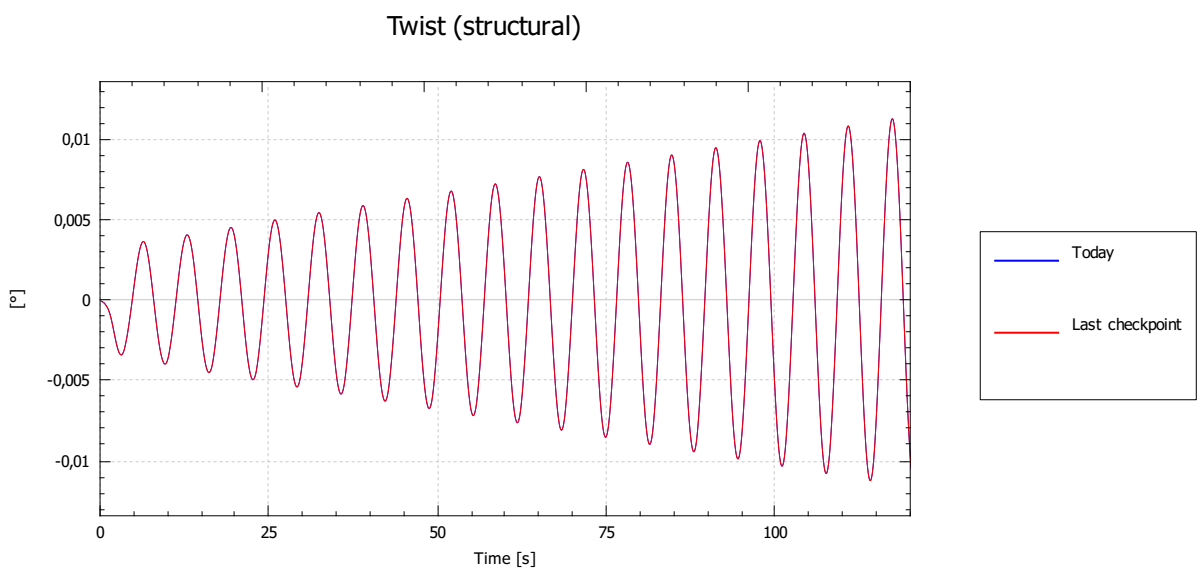


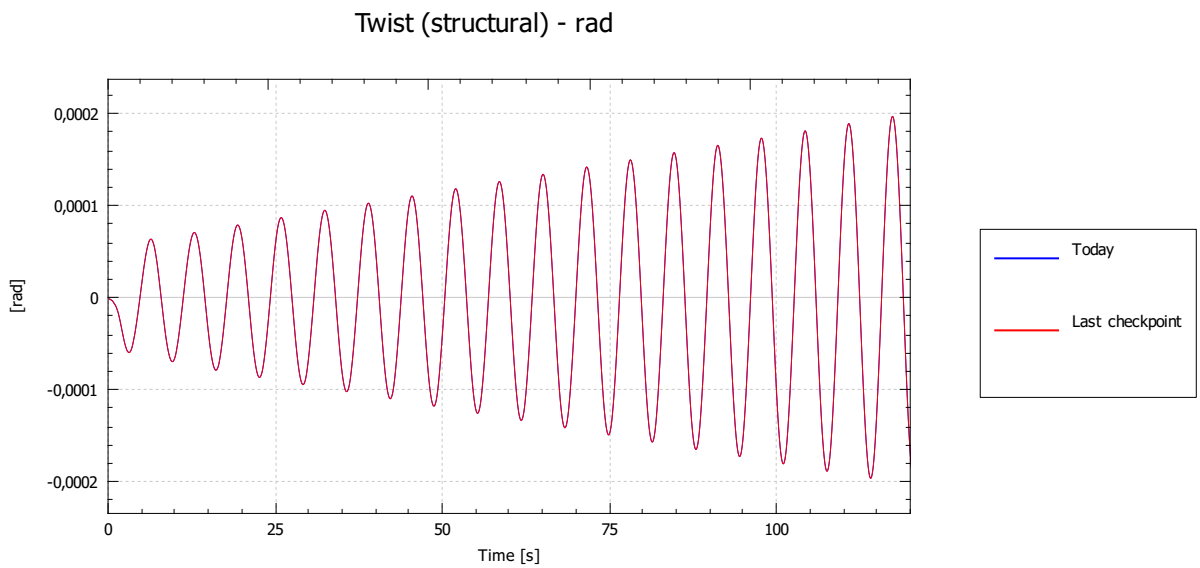
Moment (1st prin. axis), j

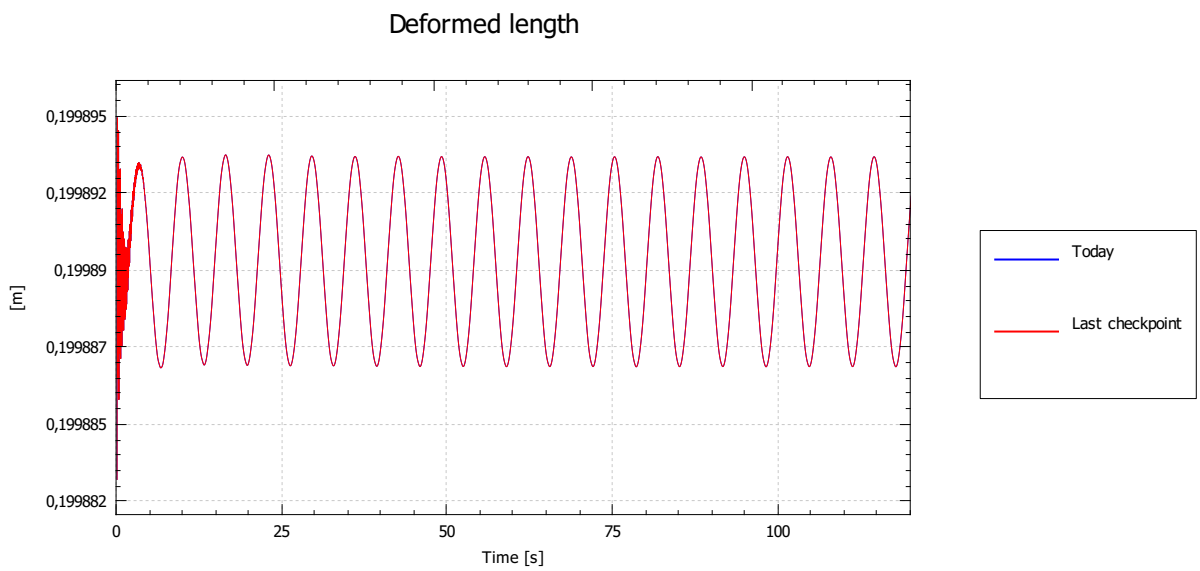


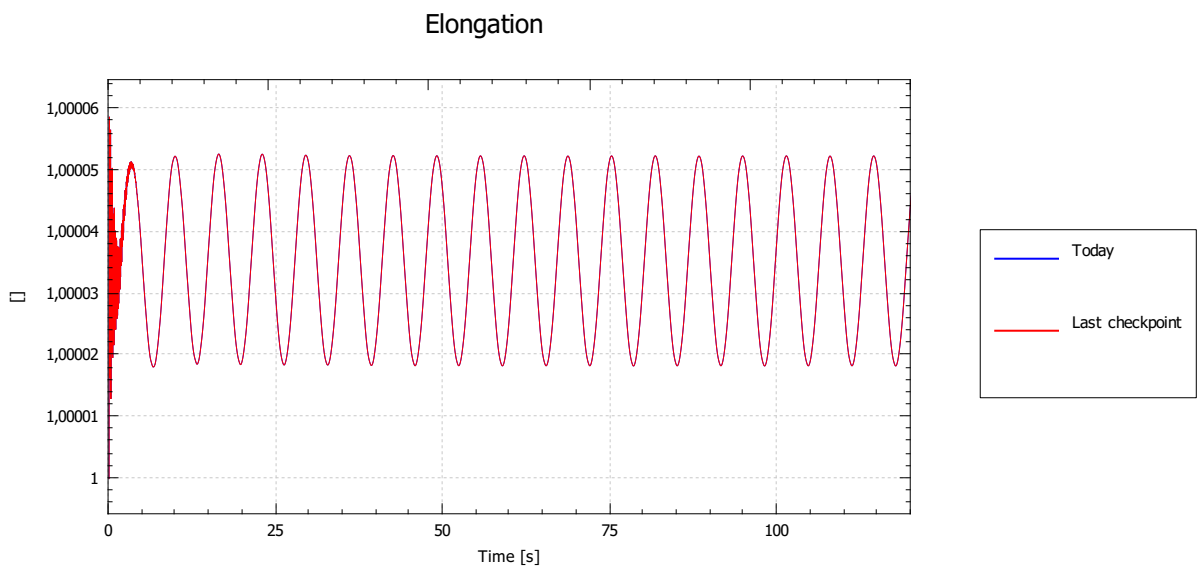

Moment (2nd prin. axis), j
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
[k Nm]
0
25
50
75
100
Time [s]
Today
Last checkpoint

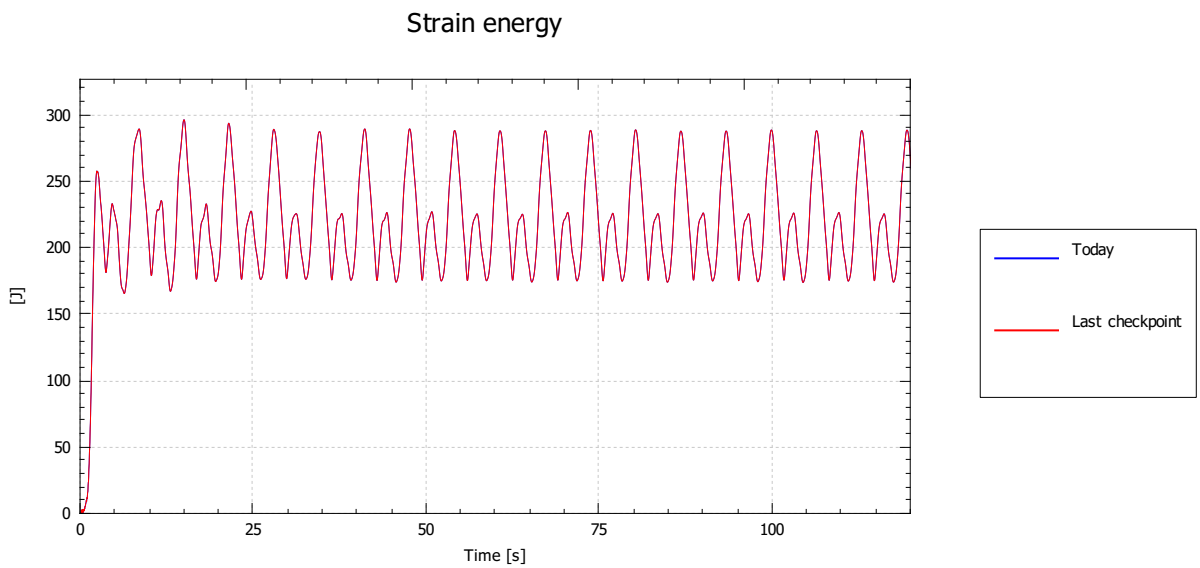

Moment, mag., j
8000
6000
4000
2000
0
[k Nm]
0
25
50
75
100
Time [s]
Today
Last checkpoint

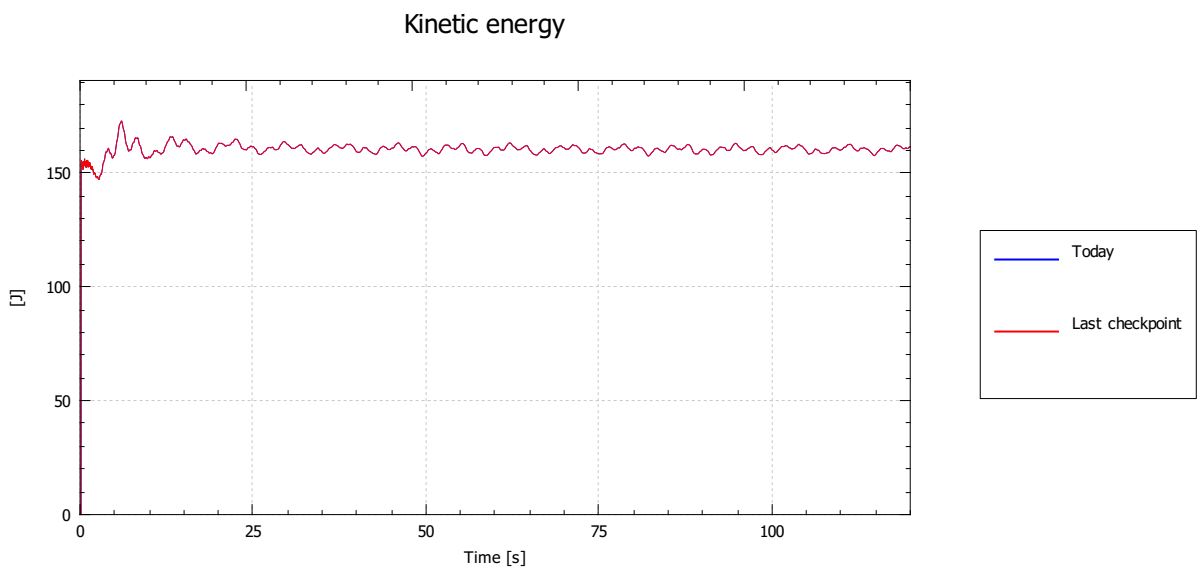

Twist (structural)
0,01
0,005
0
-0,005
-0,01
[°]
0
25
50
75
100
Time [s]
Today
Last checkpoint

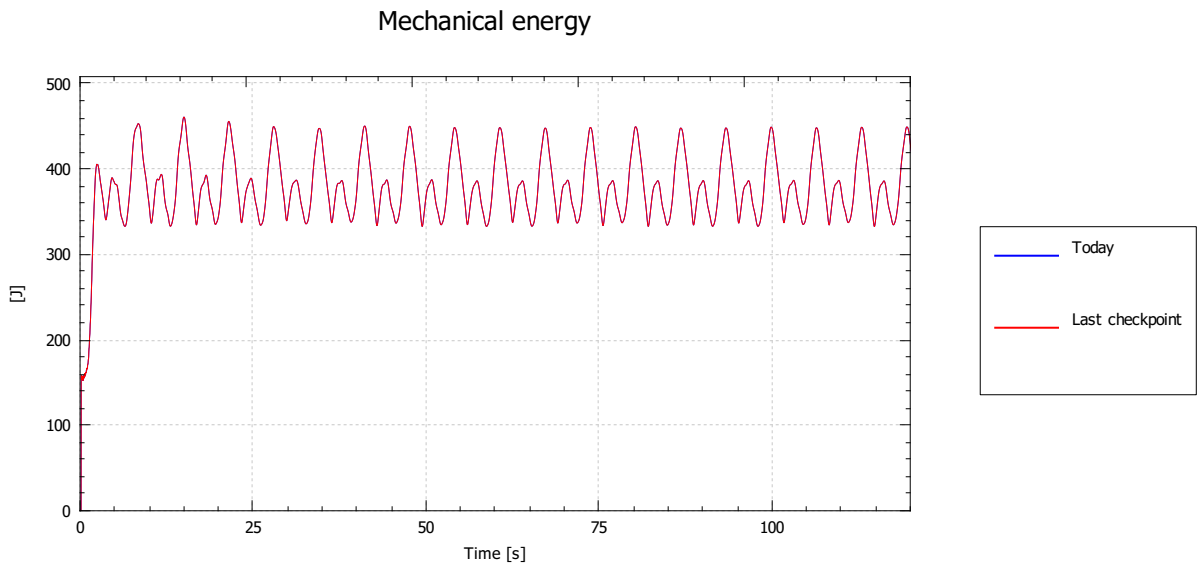

Twist (structural) - rad
0,0002
0,0001
0
-0,0001
-0,0002
[rad]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Deformed length
0,199895
0,199892
0,19989
0,199887
0,199885
0,199882
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

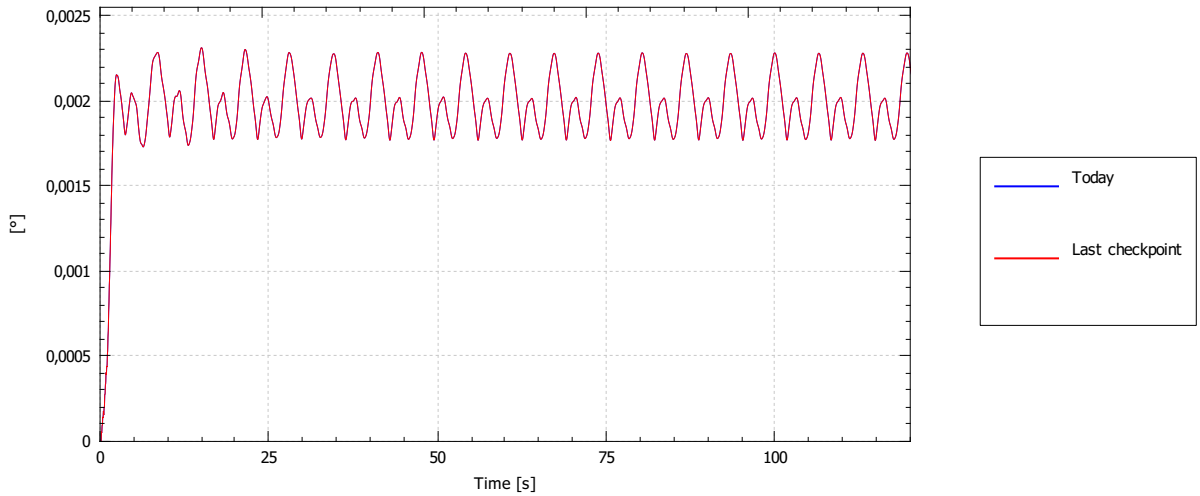

Elongation
1,00006
1,00005
1,00004
1,00003
1,00002
1,00001
1
[]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Strain energy
[J]
300
250
200
150
100
50
0
0
25
50
75
100
Time [s]
Today
Last checkpoint

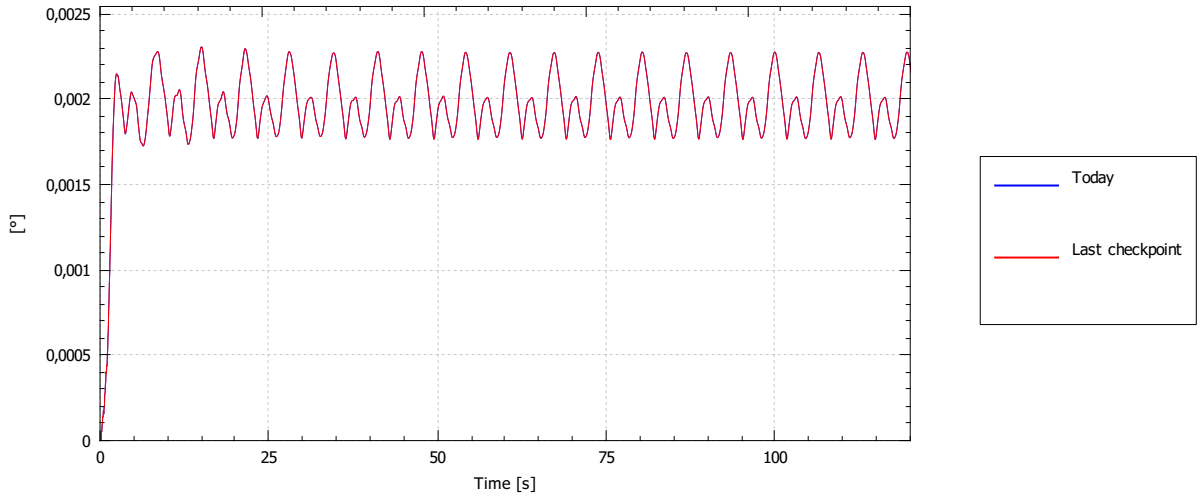

Kinetic energy
[J]
150
100
50
0
0
25
50
75
100
Time [s]
Today
Last checkpoint


Mechanical energy
[J]
500
400
300
200
100
0
0
25
50
75
100
Time [s]
Today
Last checkpoint

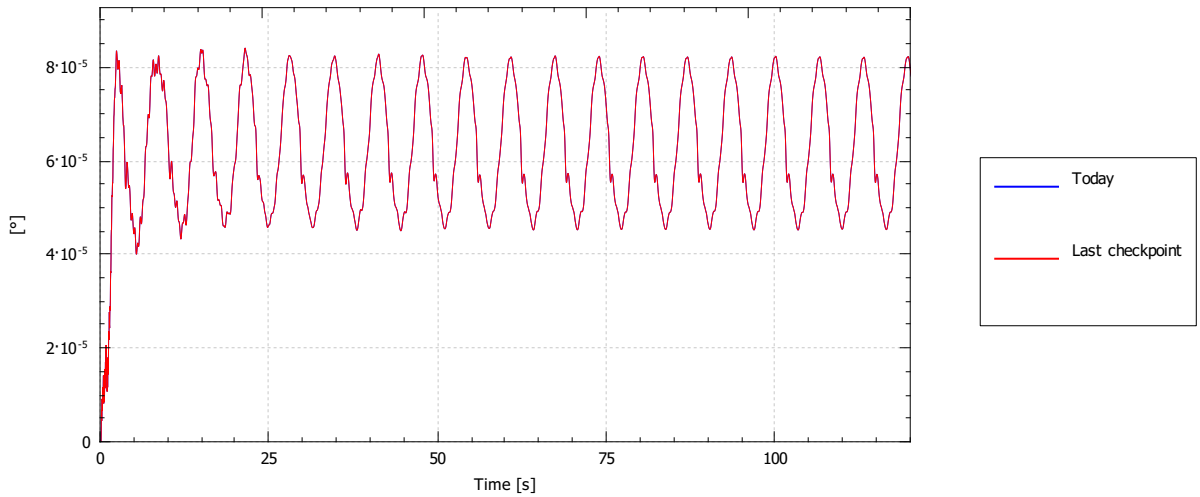
Deformational rotation (i)



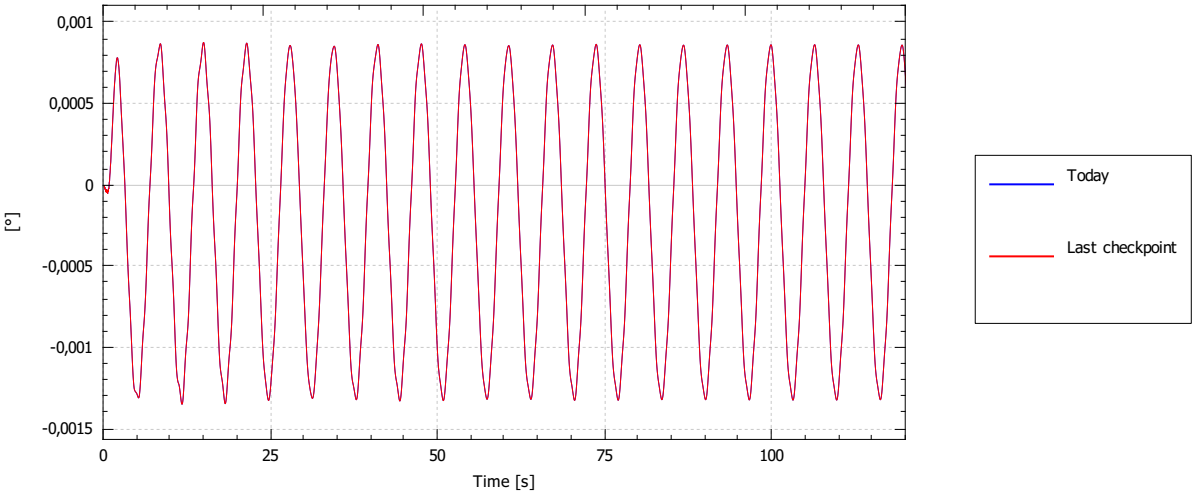
Deformational rotation (j)



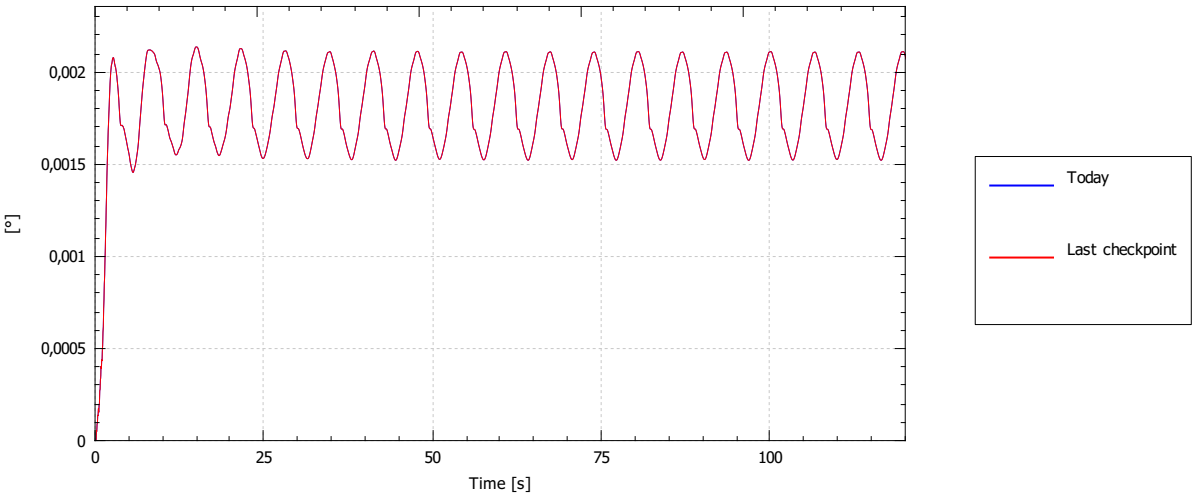
Deformational rotation (axial)



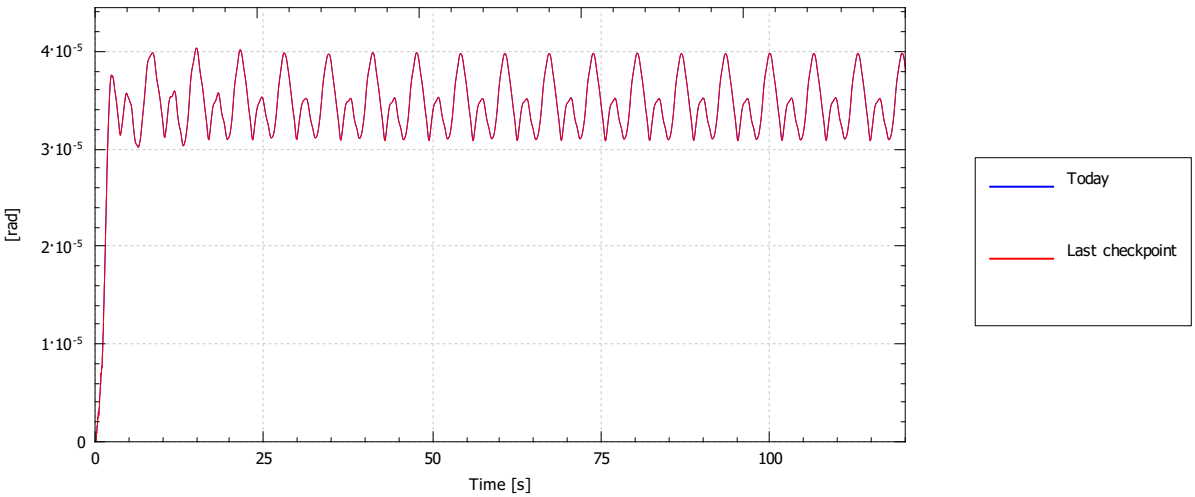
Deformational rotation (1st prin.)



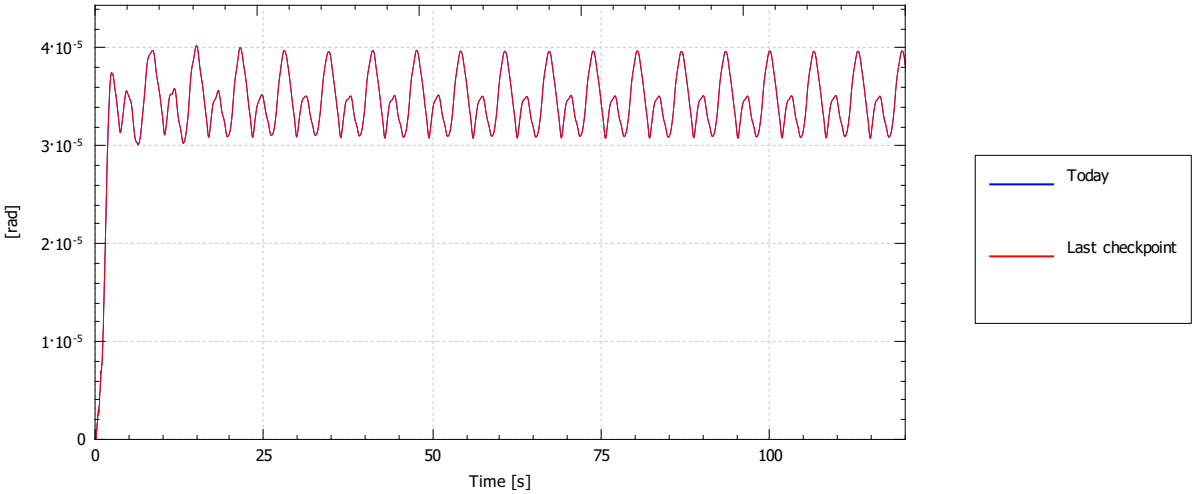
Deformational rotation (2nd prin.)



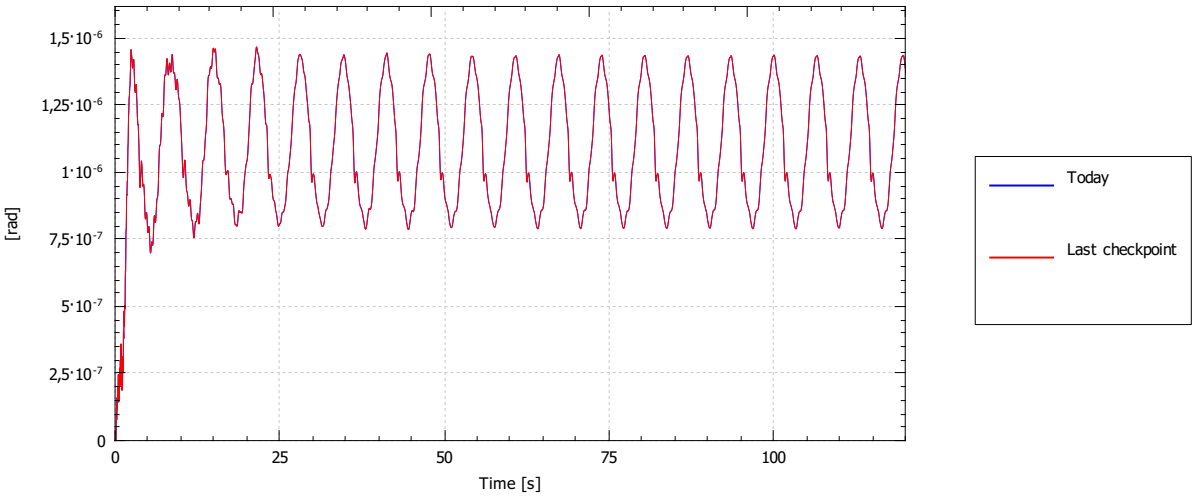
Deformational rotation (i) - rad



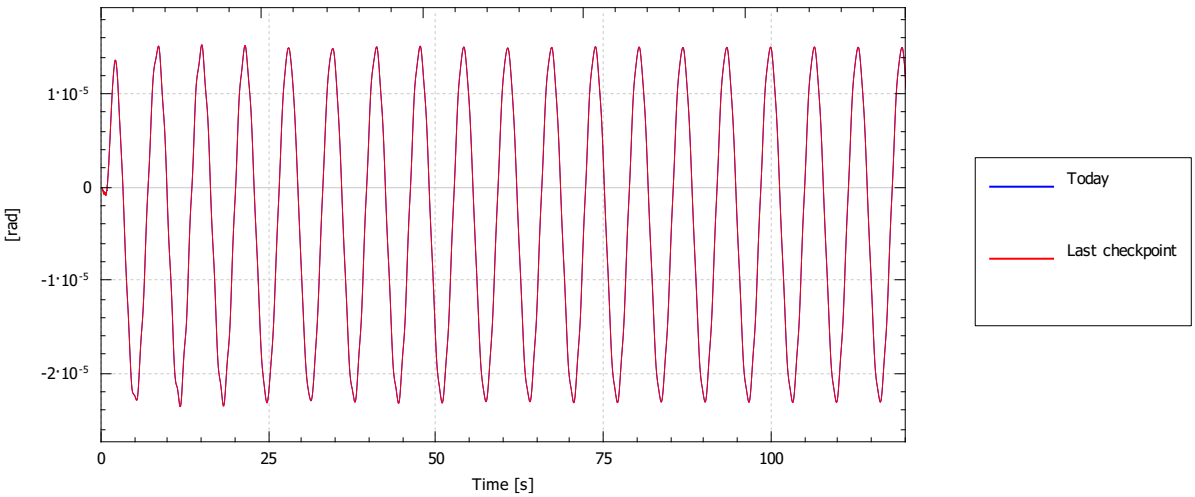
Deformational rotation (j) - rad

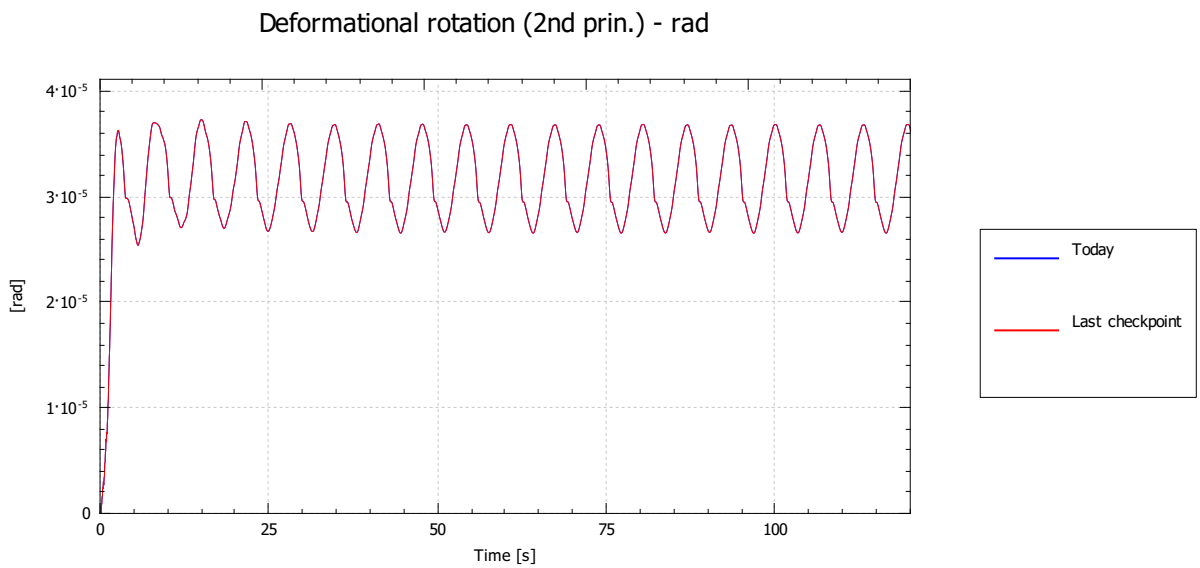


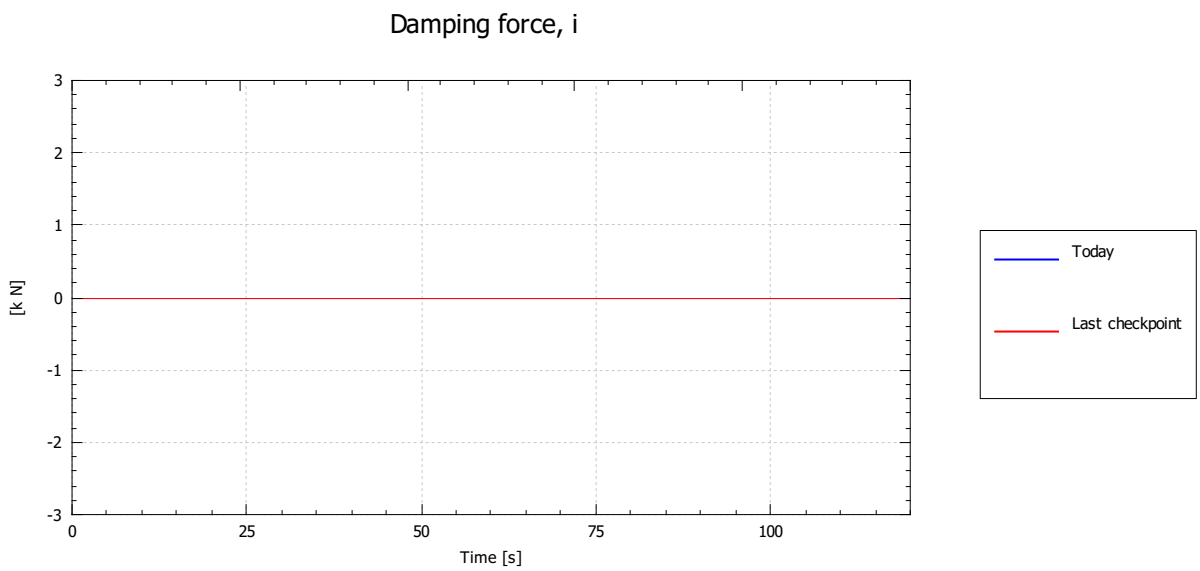
Deformational rotation (axial) - rad

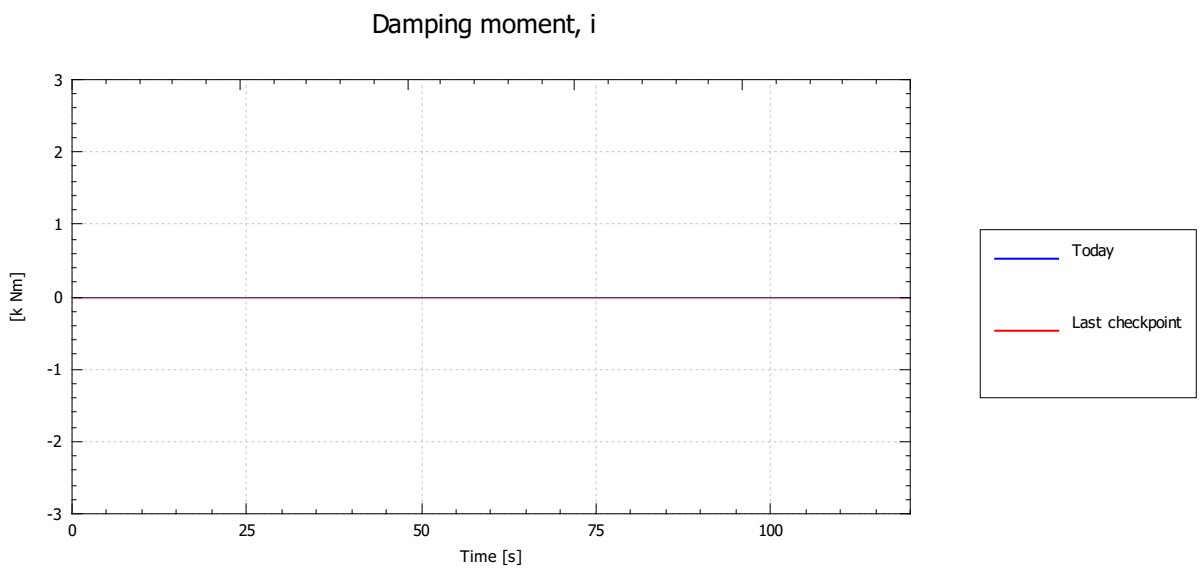


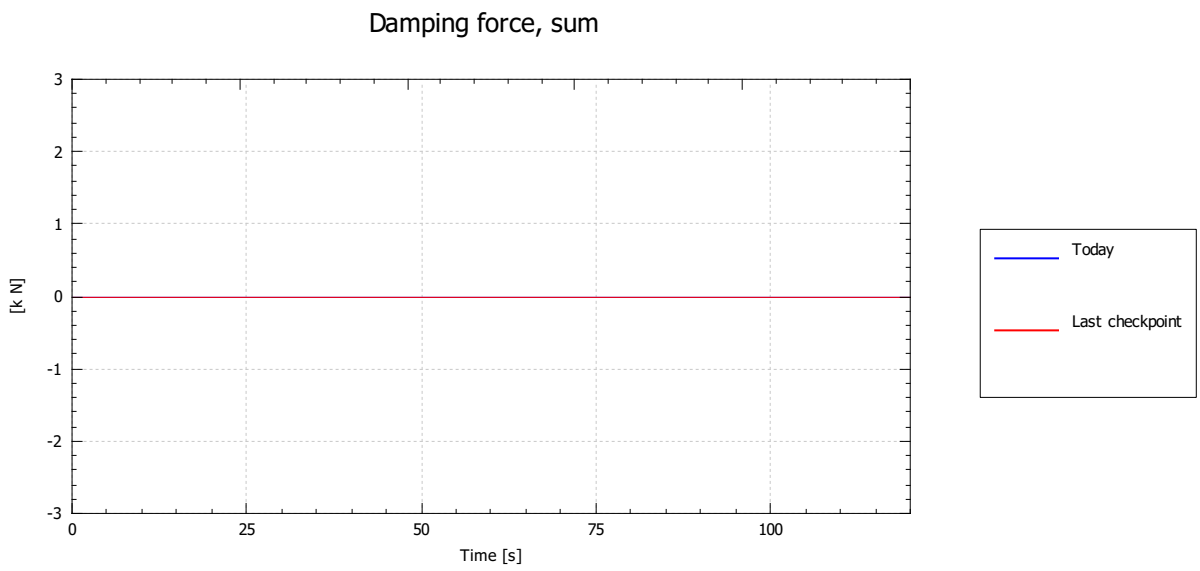
Deformational rotation (1st prin.) - rad

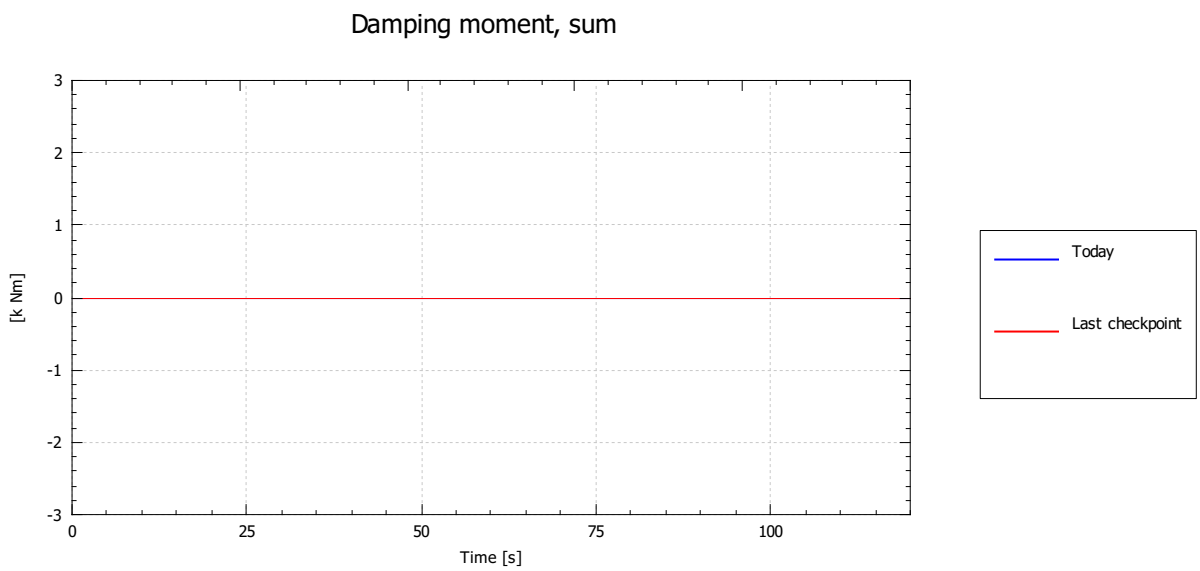



Deformational rotation (2nd prin.) - rad
4·10-5
3·10-5
2·10-5
1·10-5
0
[rad]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Damping force, i
3
2
1
0
-1
-2
-3
[k N]
0
25
50
75
100
Time [s]
Today
Last checkpoint

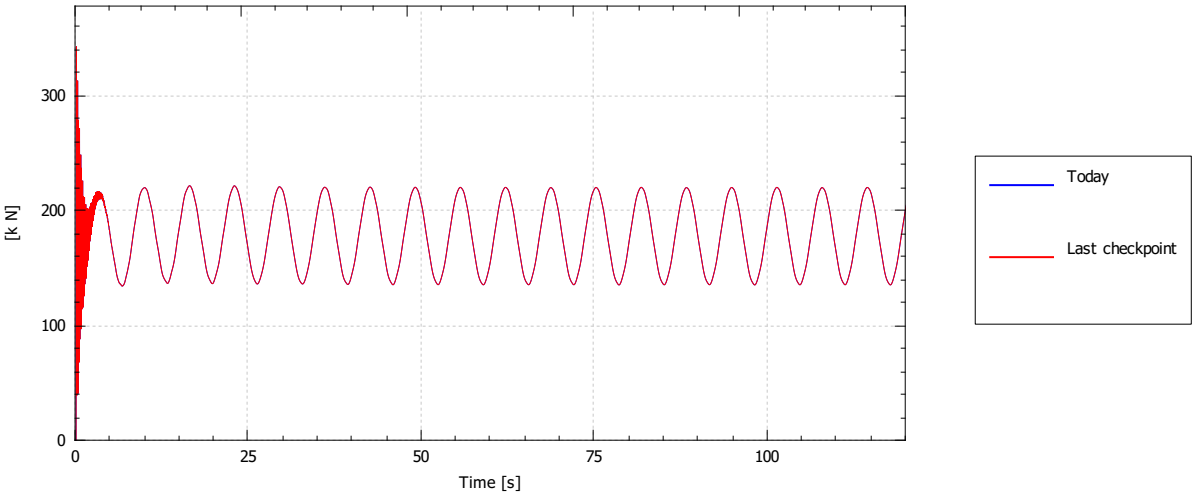

Damping moment, i
3
2
1
0
-1
-2
-3
[k Nm]
0
25
50
75
100
Time [s]
Today
Last checkpoint



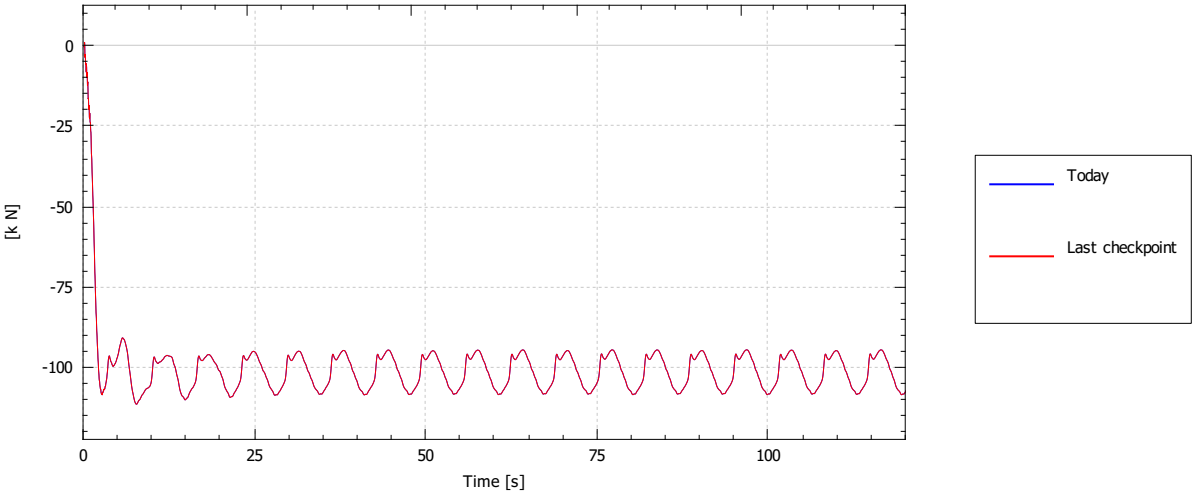


Beam element [Element 25 | Blade 1]

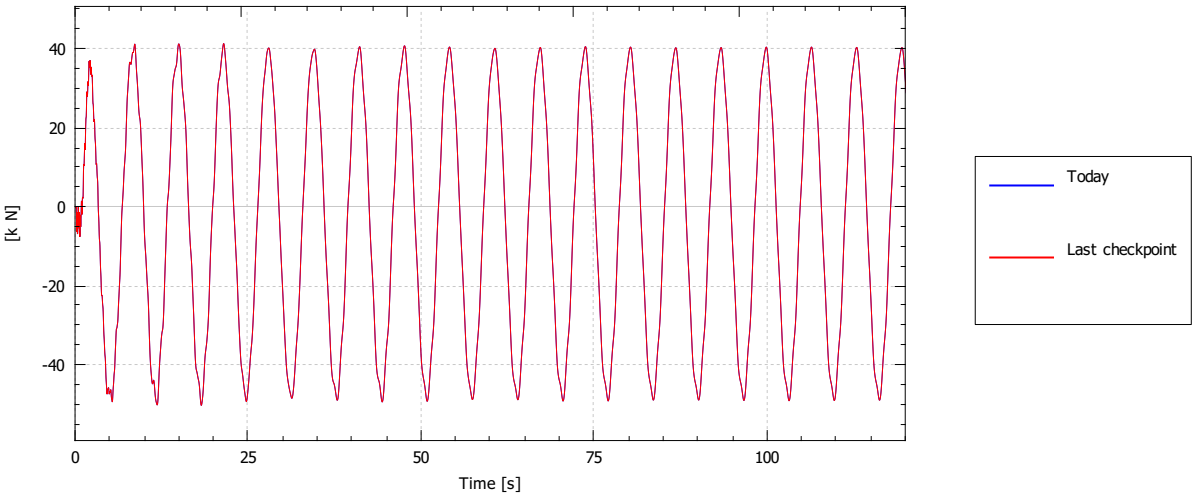
Axial force



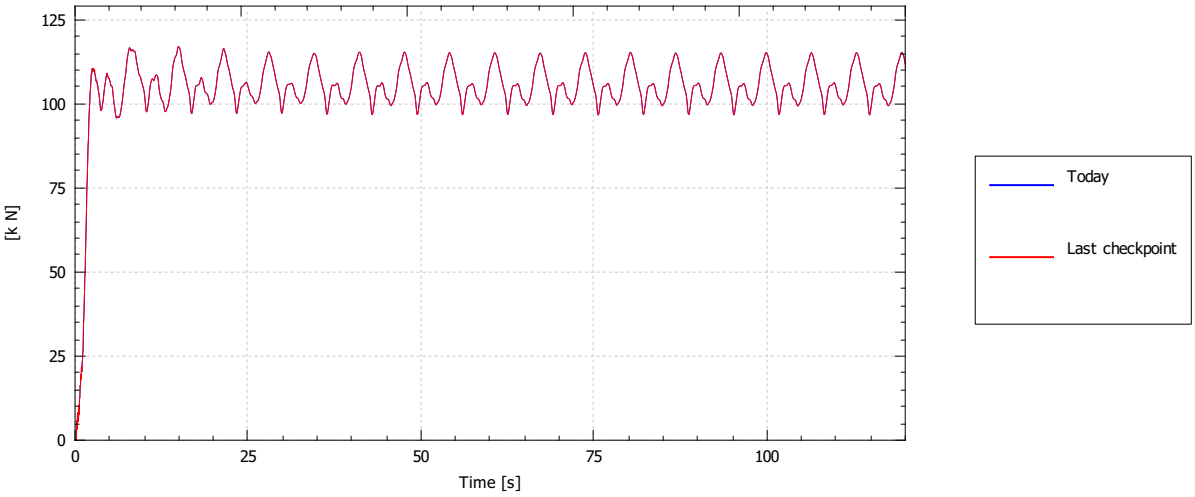
Shear force (1st prin. axis)



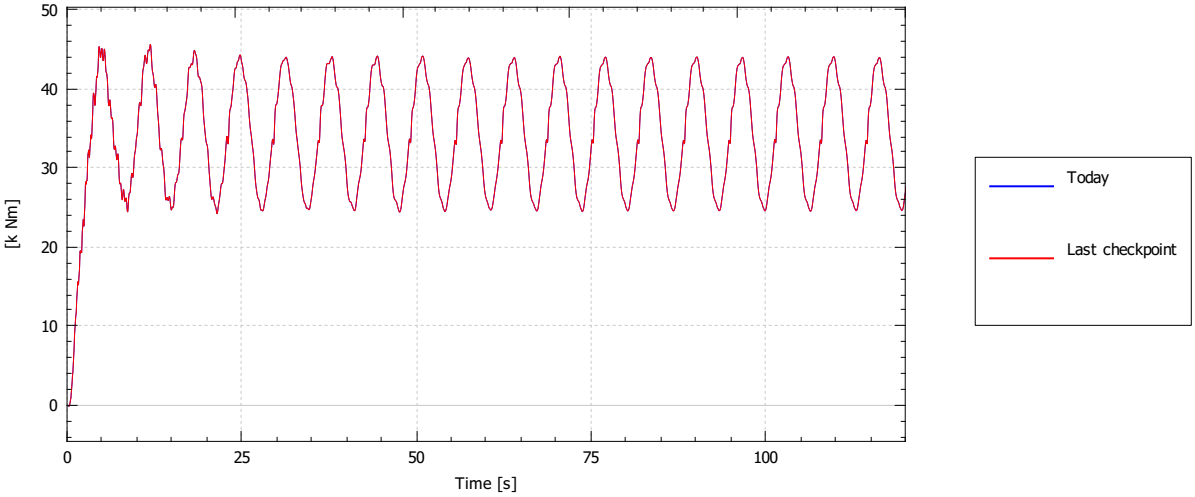
Shear force (2nd prin. axis)



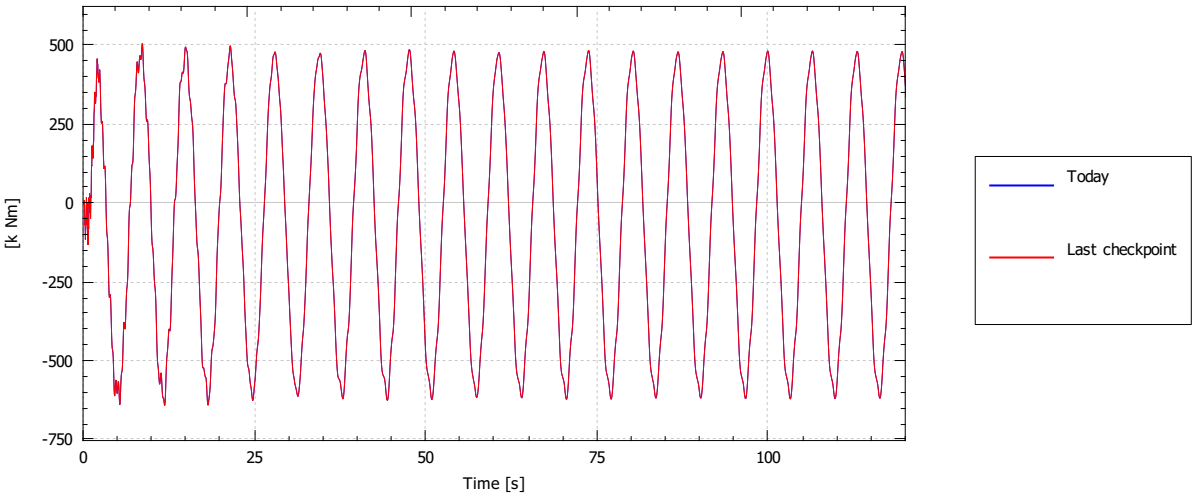
Shear force, mag.



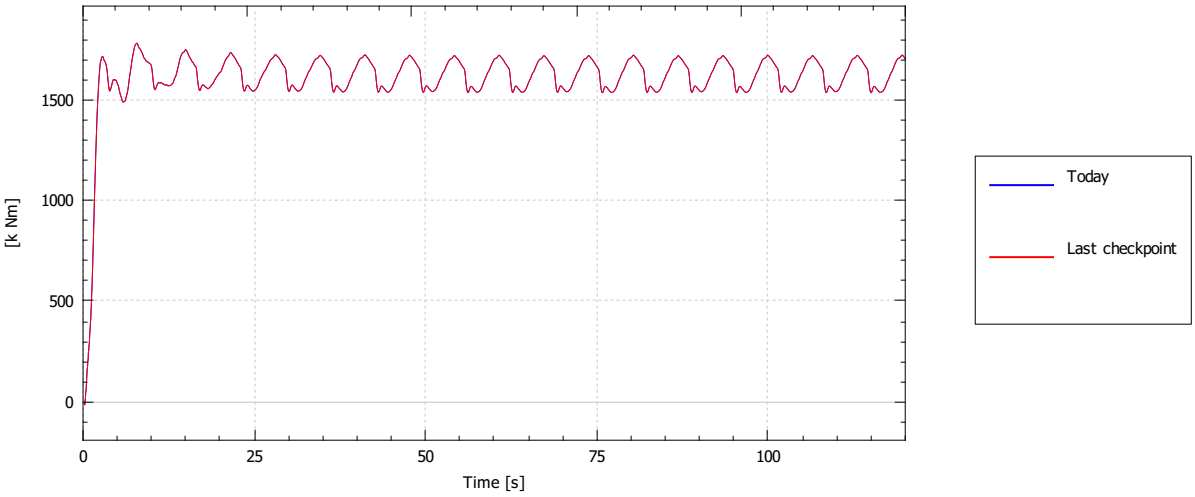
Torque



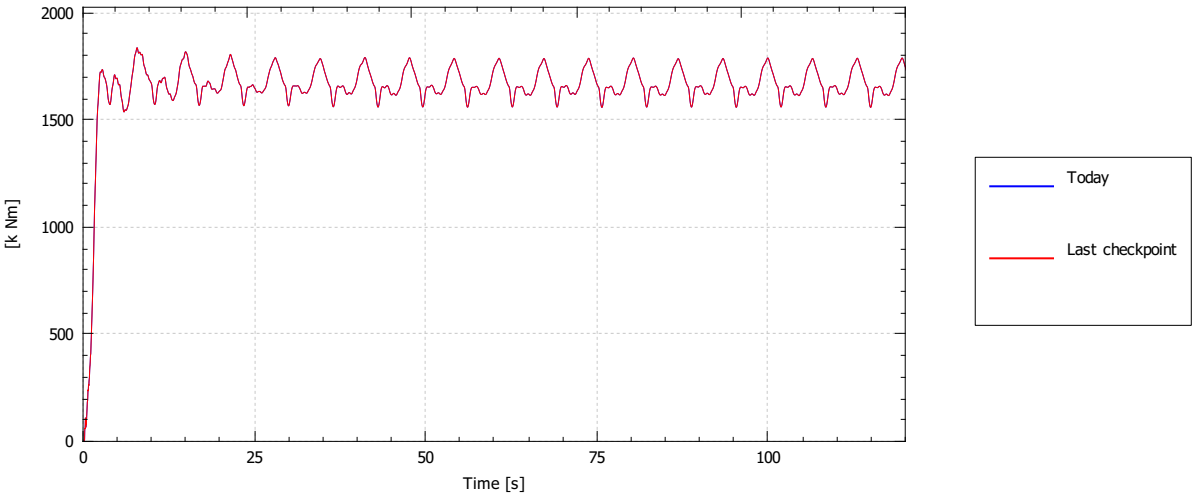
Moment (1st prin. axis), i



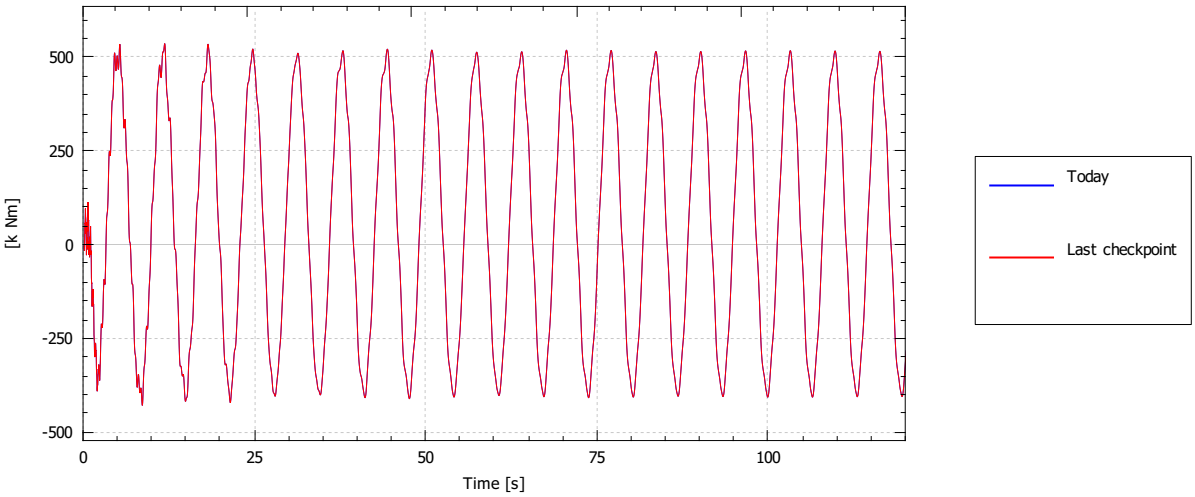
Moment (2nd prin. axis), i



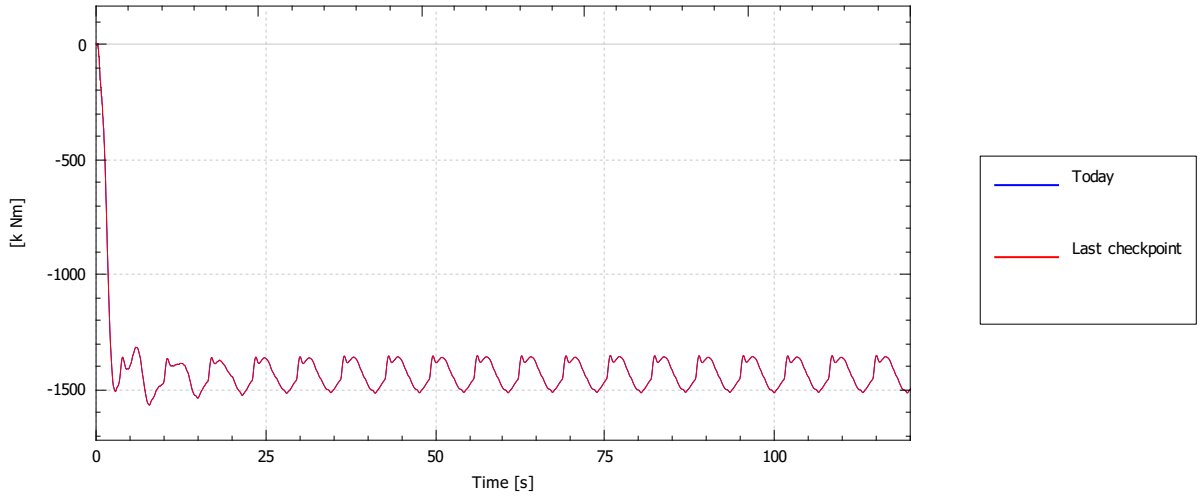
Moment, mag., i



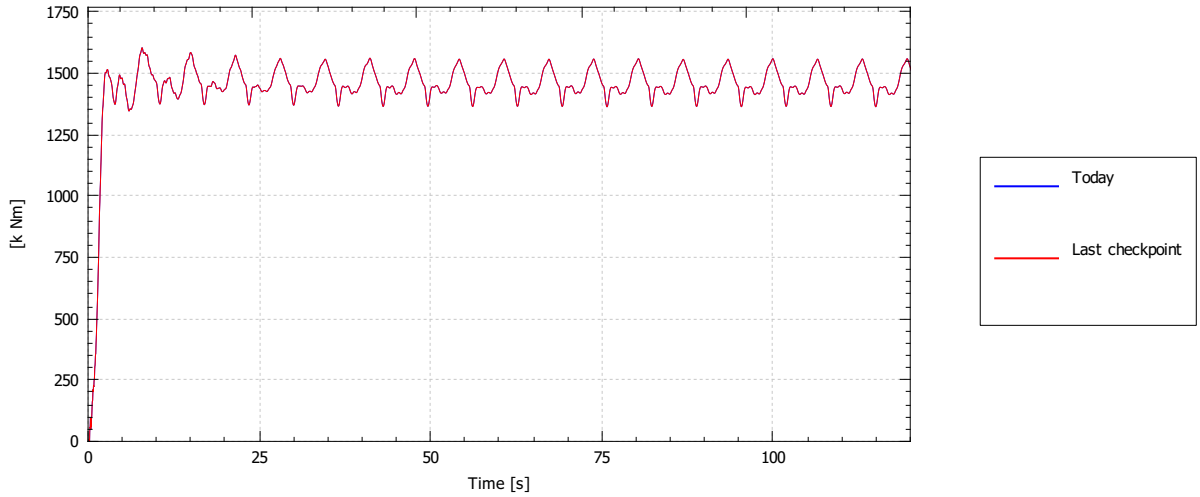
Moment (1st prin. axis), j



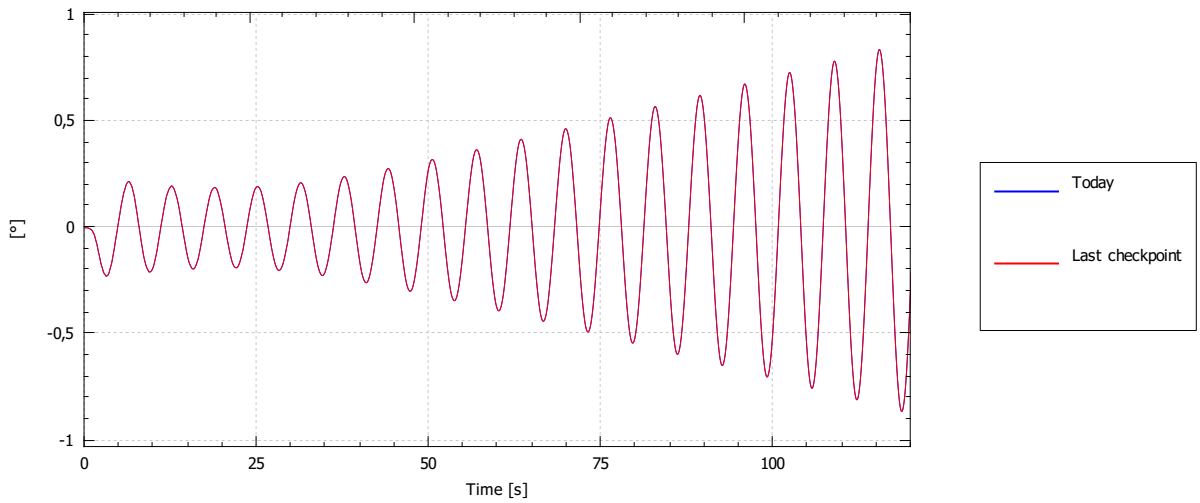
Moment (2nd prin. axis), j

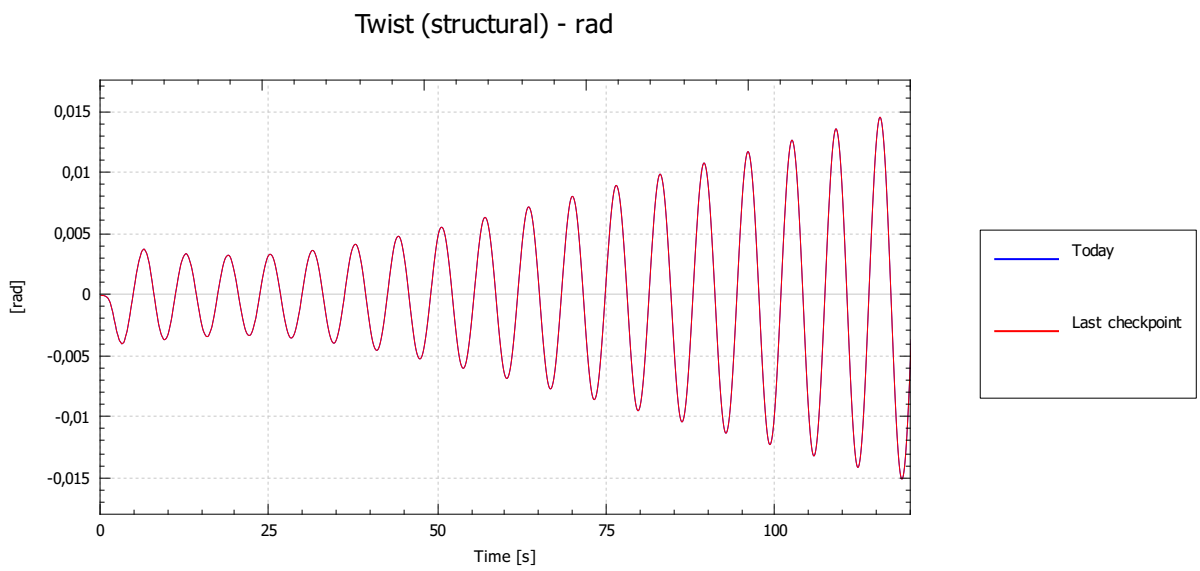


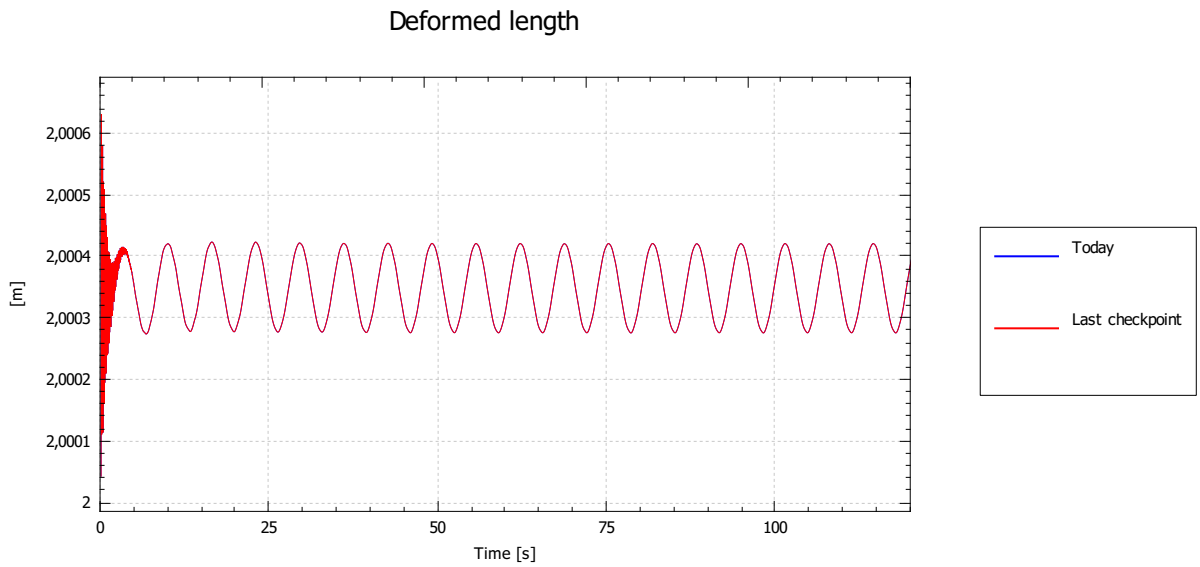
Moment, mag., j

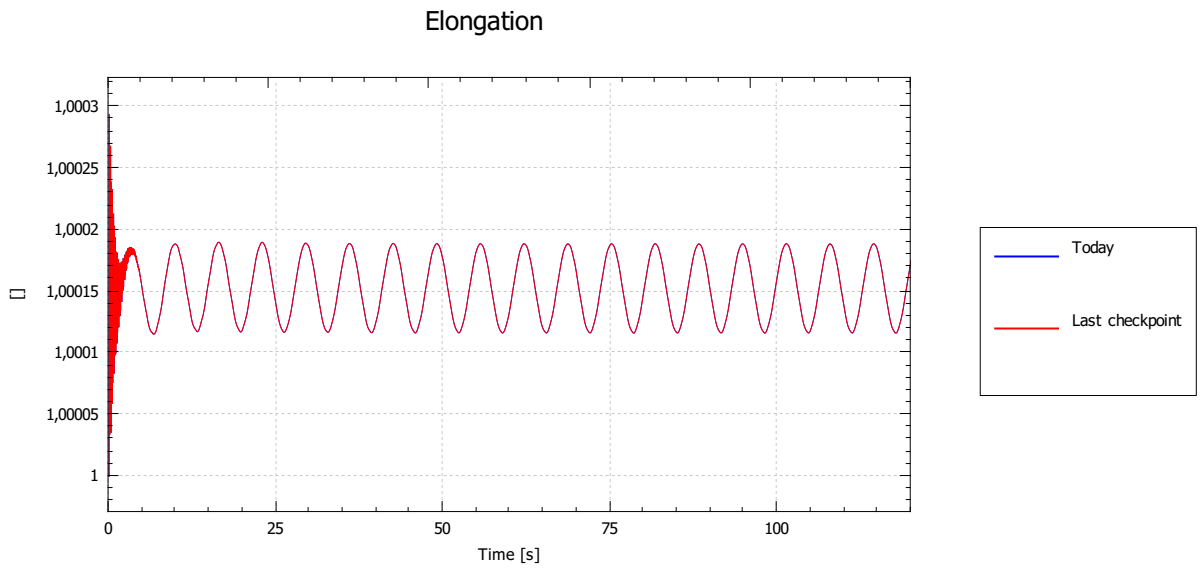


Twist (structural)

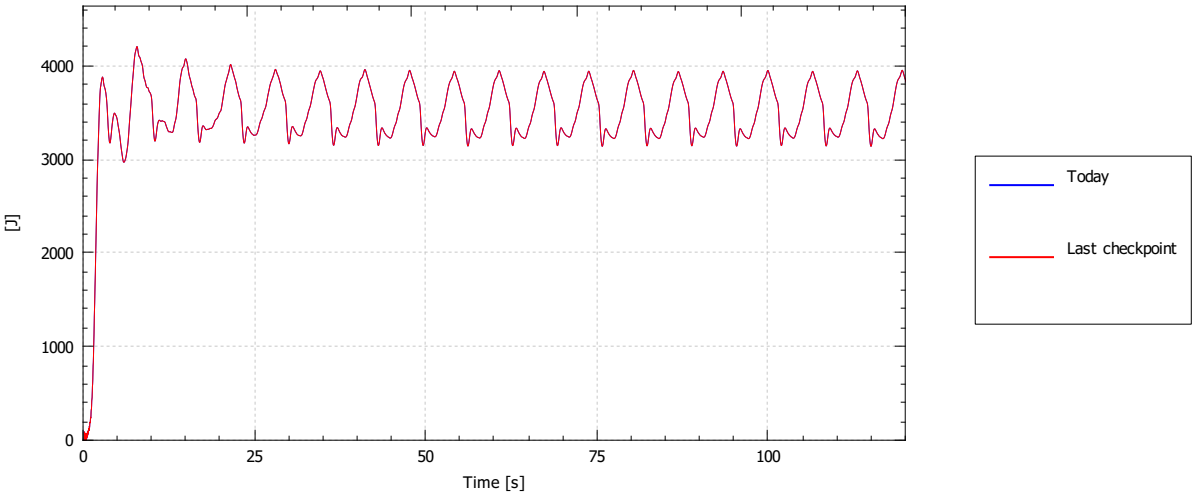



Twist (structural) - rad
0,015
0,01
0,005
0
-0,005
-0,01
-0,015
[rad]
0
25
50
75
100
Time [s]
Today
Last checkpoint

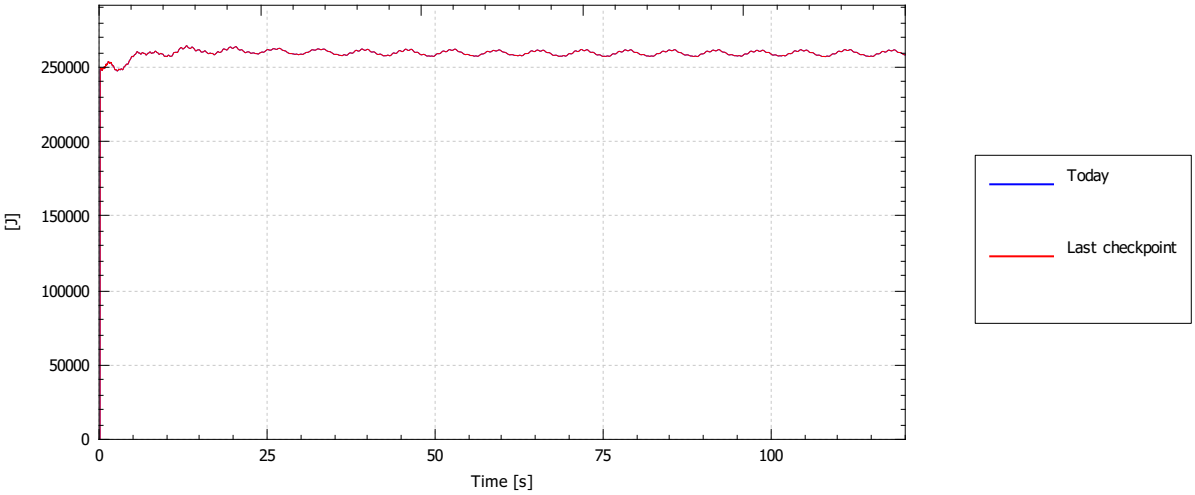

Deformed length
2,0006
2,0005
2,0004
2,0003
2,0002
2,0001
2
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Elongation
1,0003
1,00025
1,0002
1,00015
1,0001
1,00005
1
[]
0
25
50
75
100
Time [s]
Today
Last checkpoint

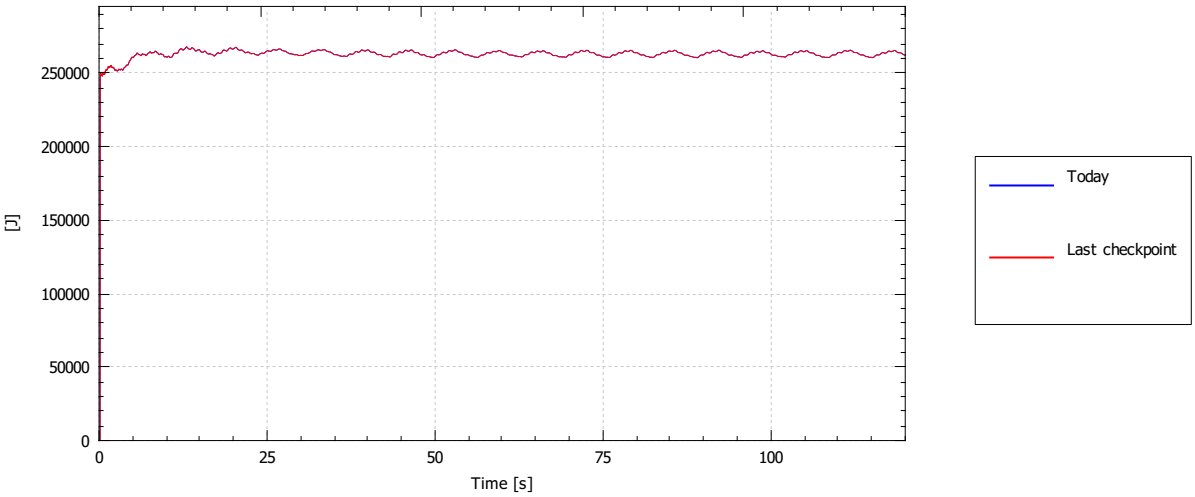
Strain energy



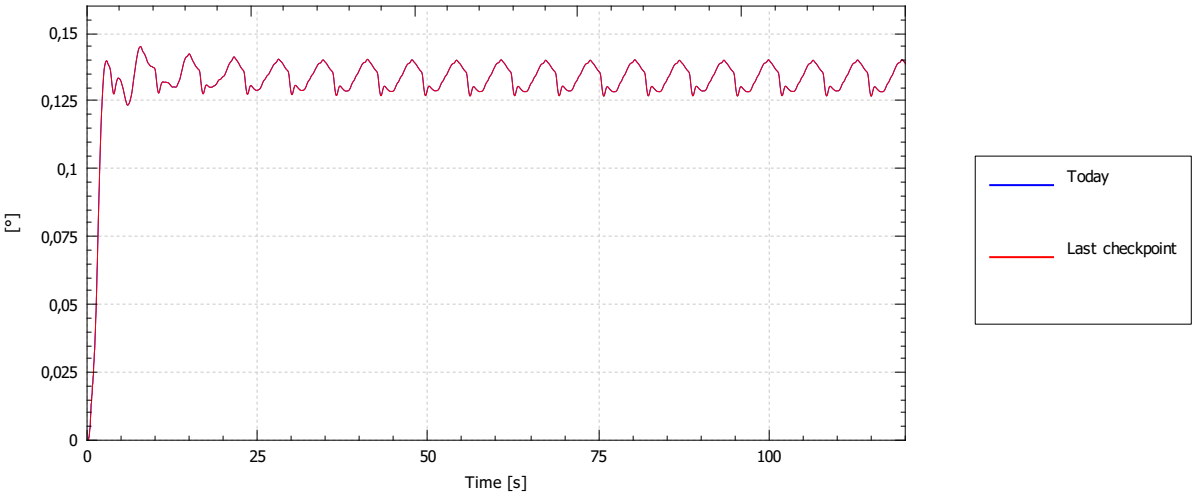
Kinetic energy



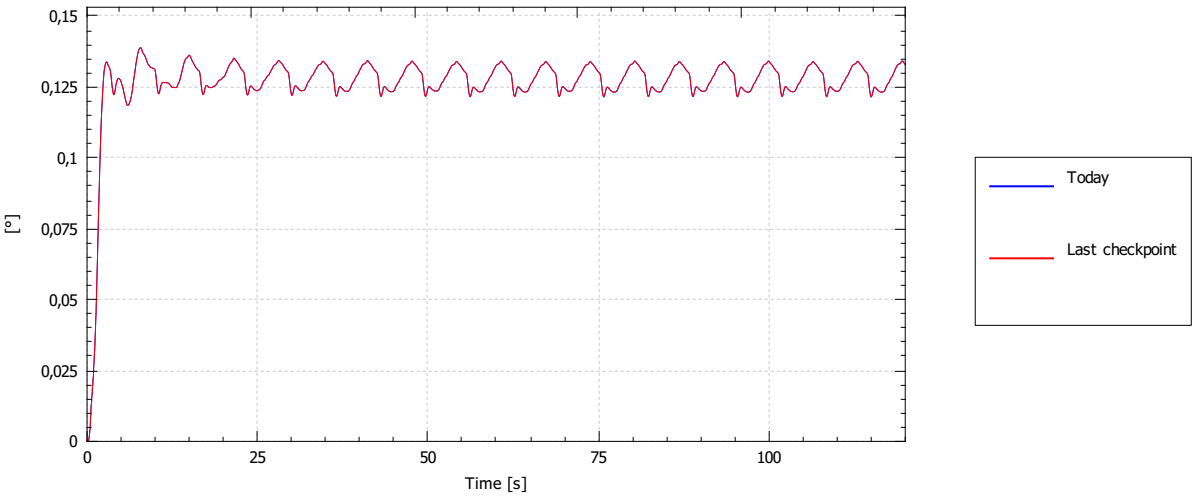
Mechanical energy



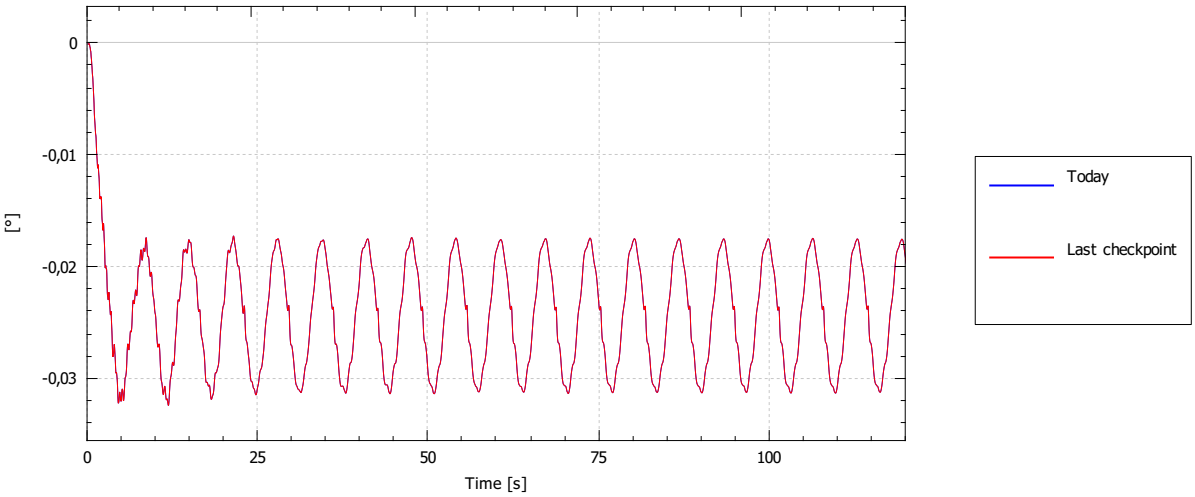
Deformational rotation (i)



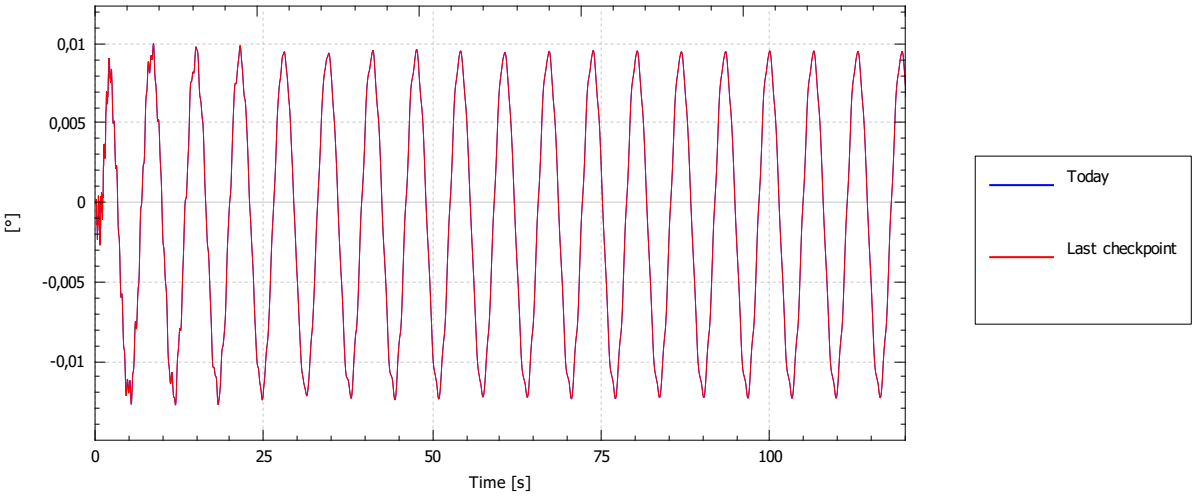
Deformational rotation (j)



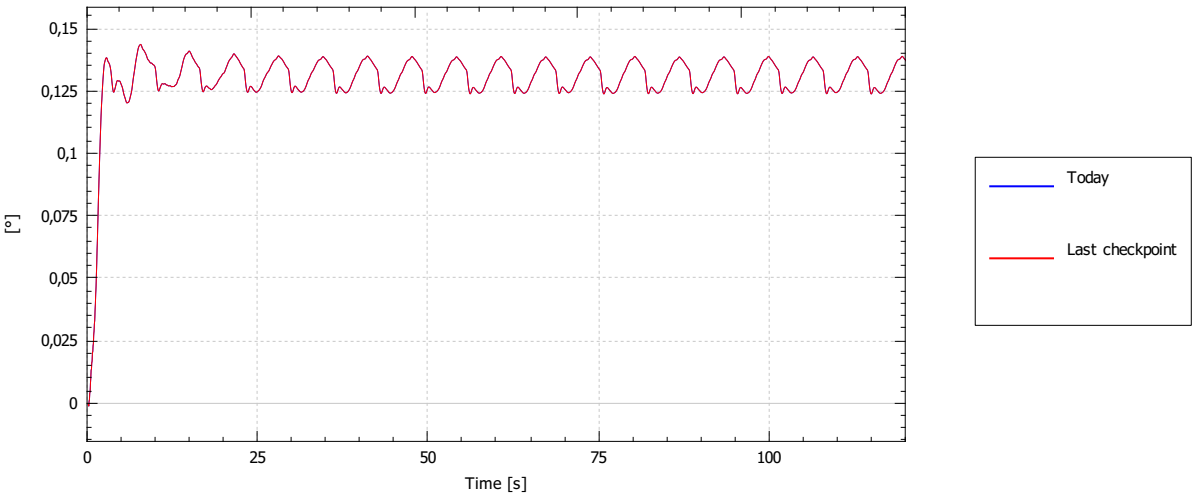
Deformational rotation (axial)



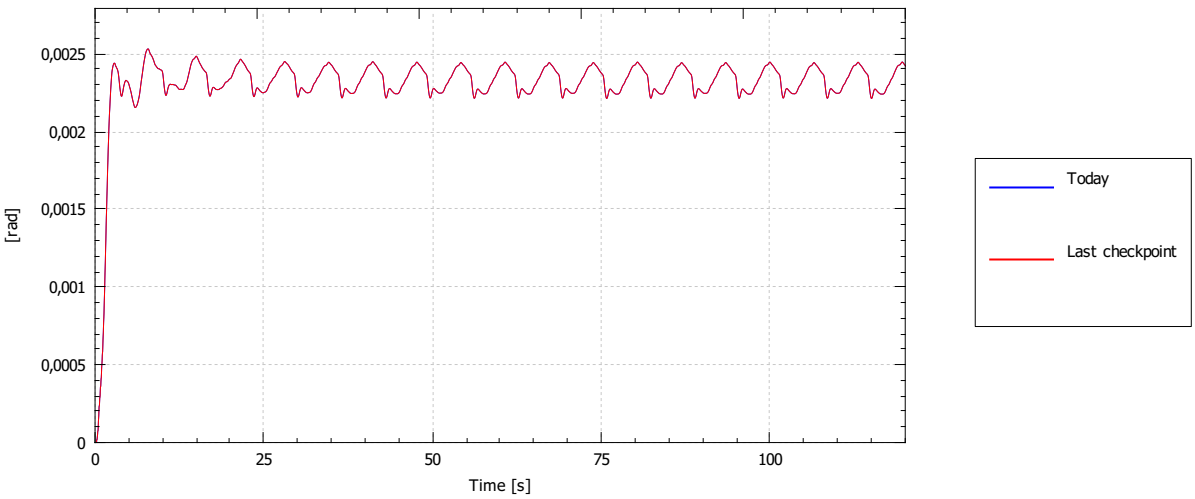
Deformational rotation (1st prin.)



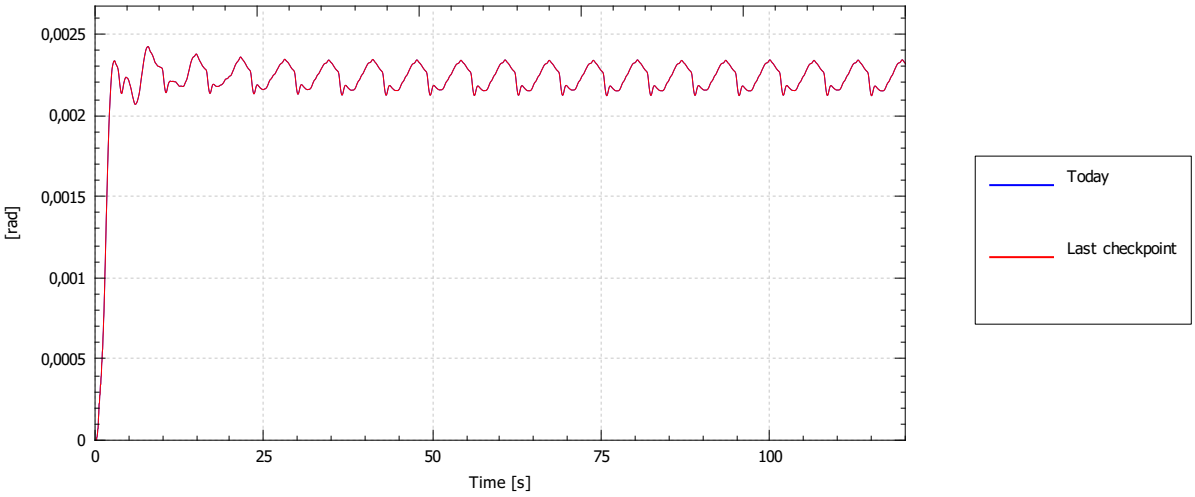
Deformational rotation (2nd prin.)



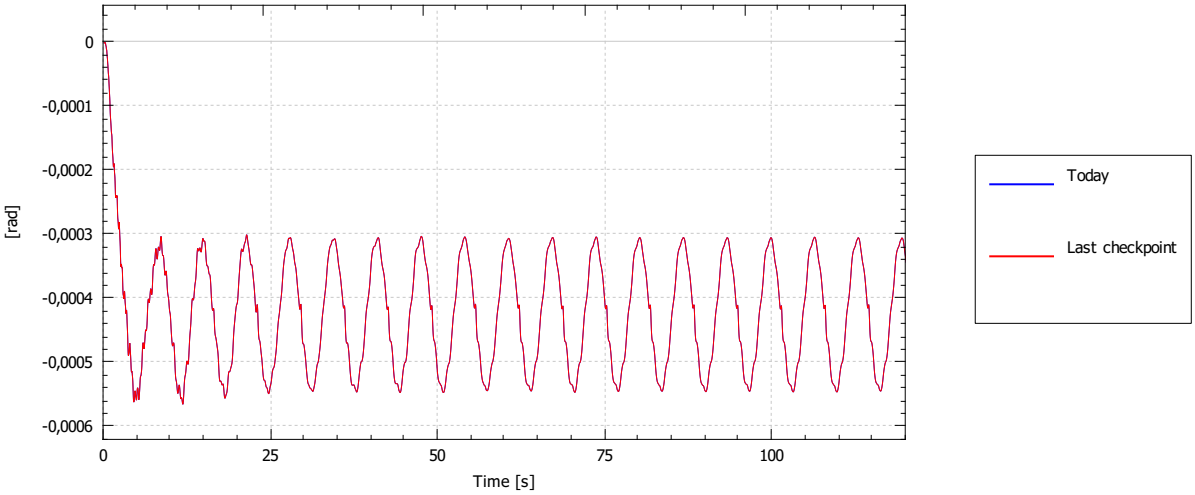
Deformational rotation (i) - rad



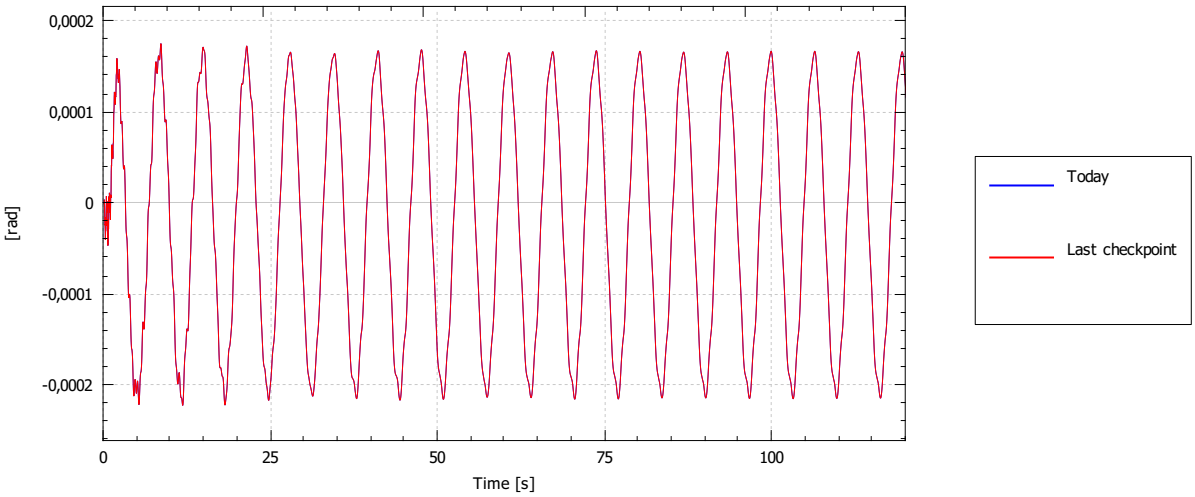
Deformational rotation (j) - rad



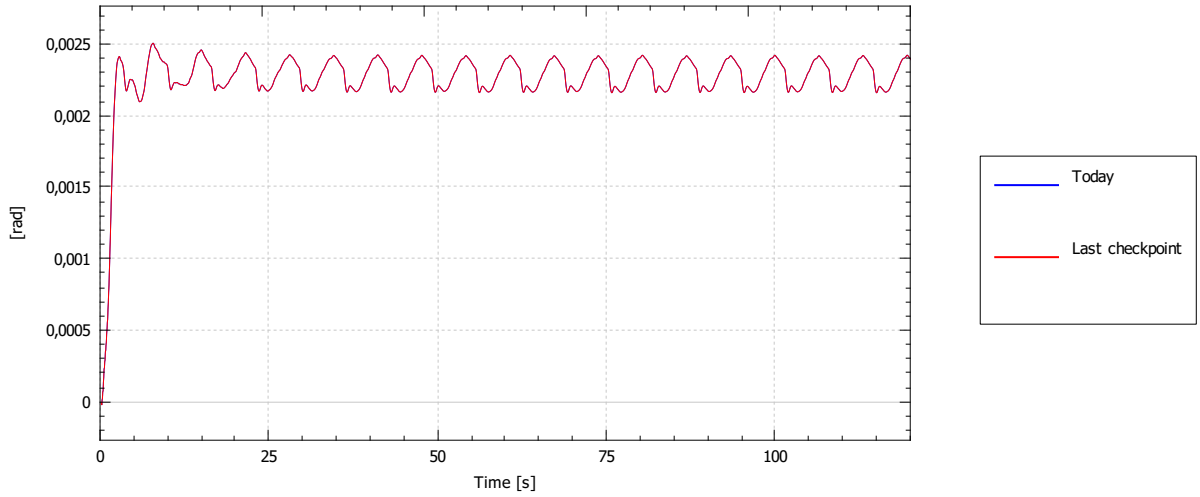
Deformational rotation (axial) - rad



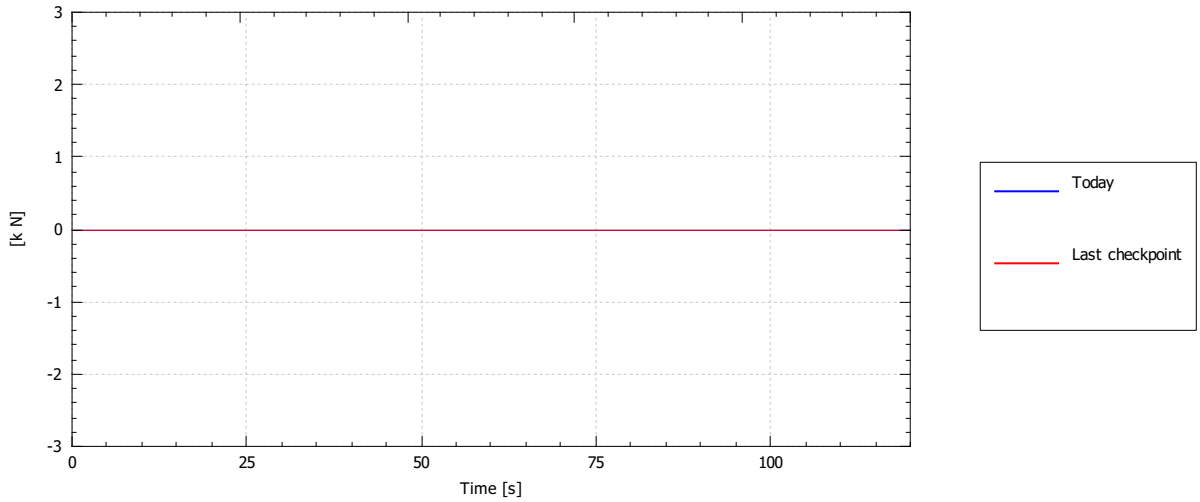
Deformational rotation (1st prin.) - rad



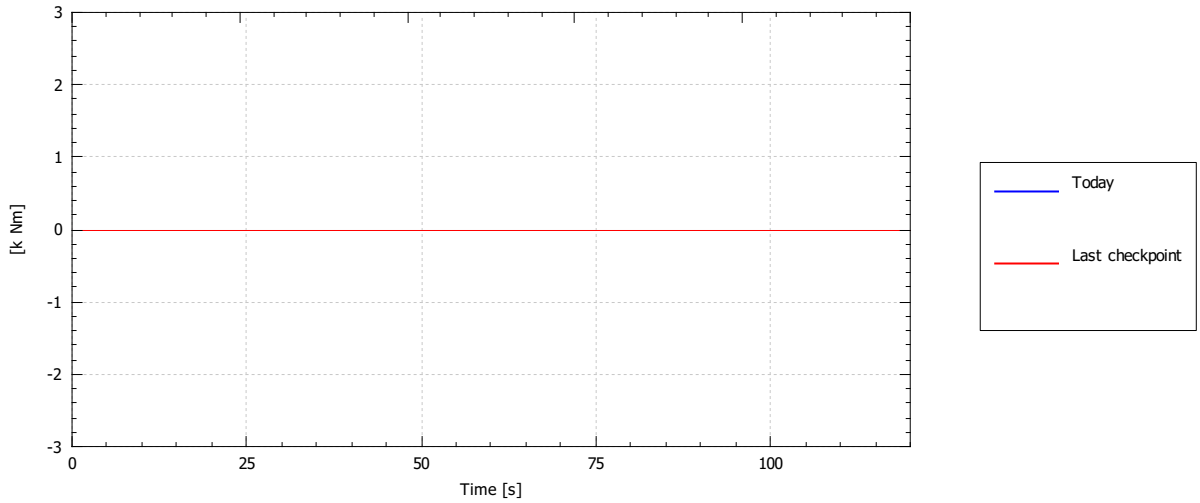
Deformational rotation (2nd prin.) - rad

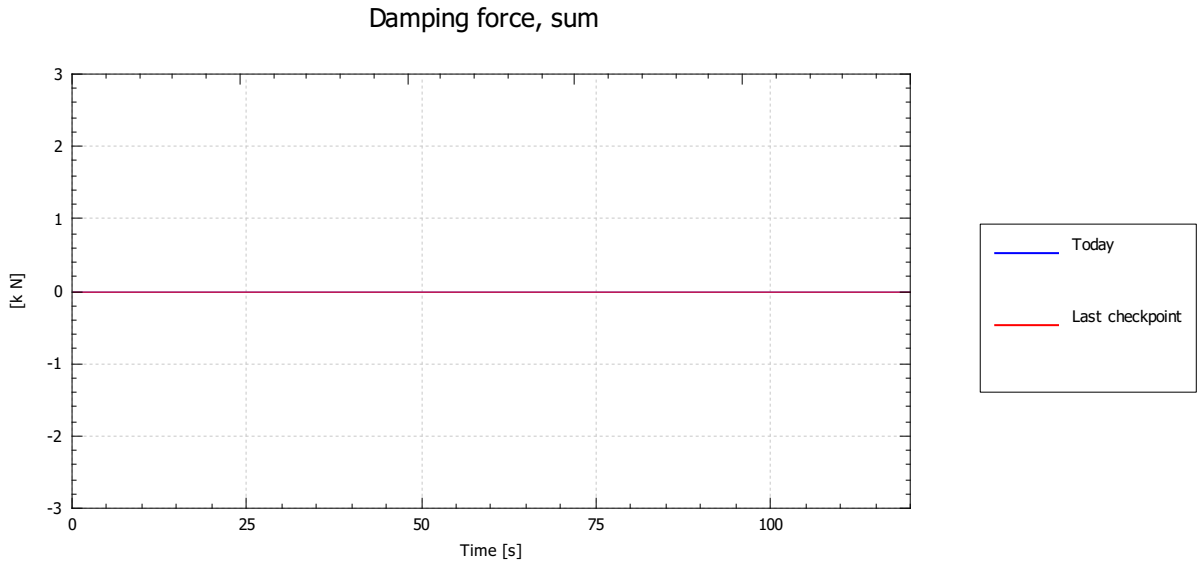


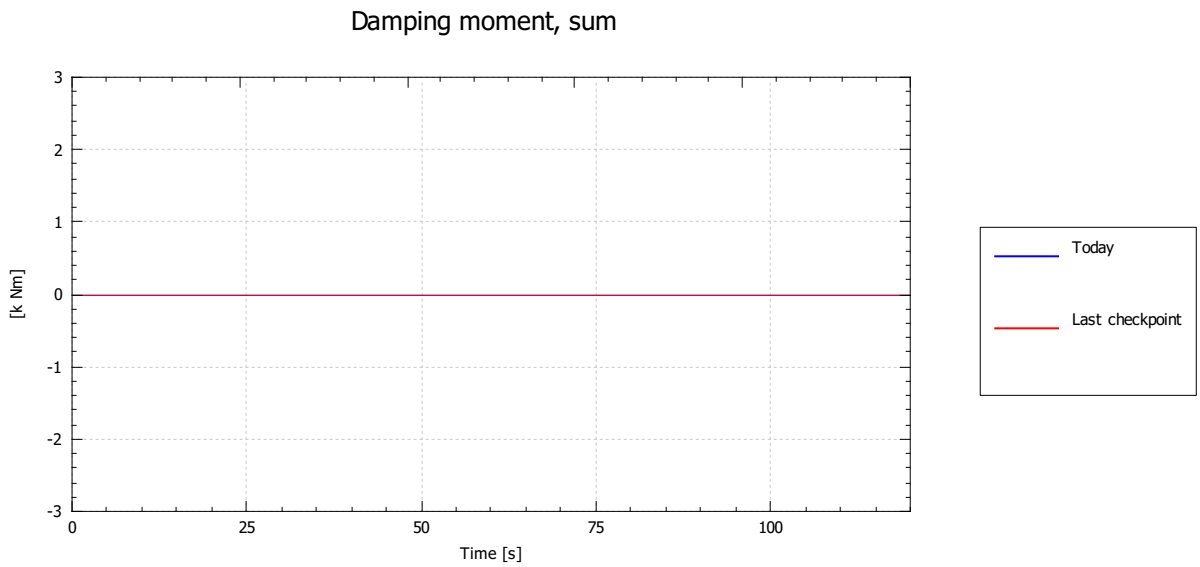
Damping force, i



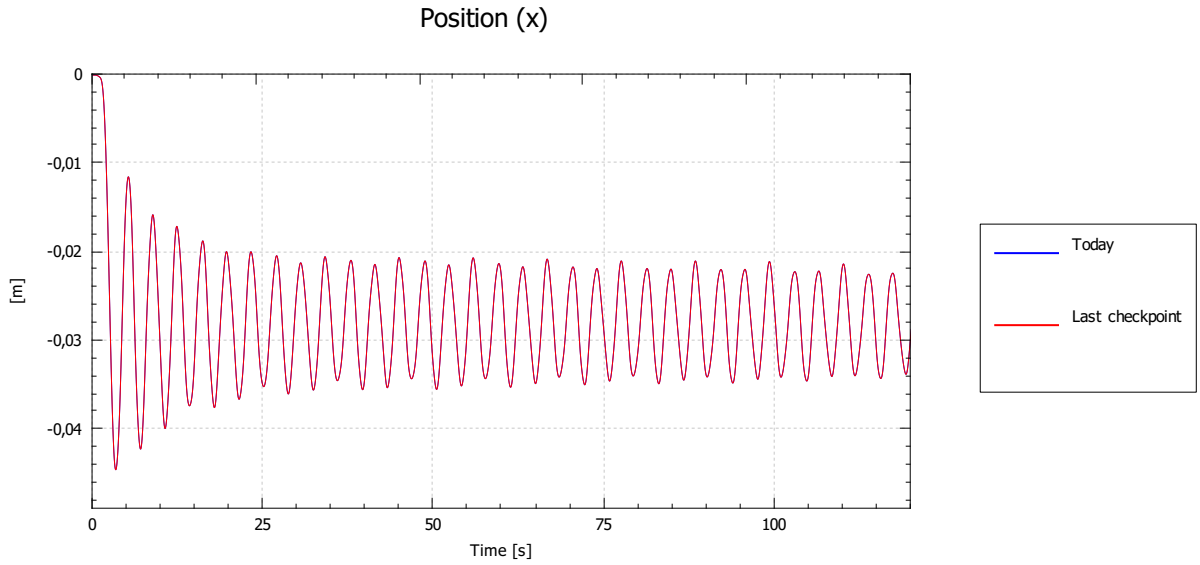
Damping moment, i

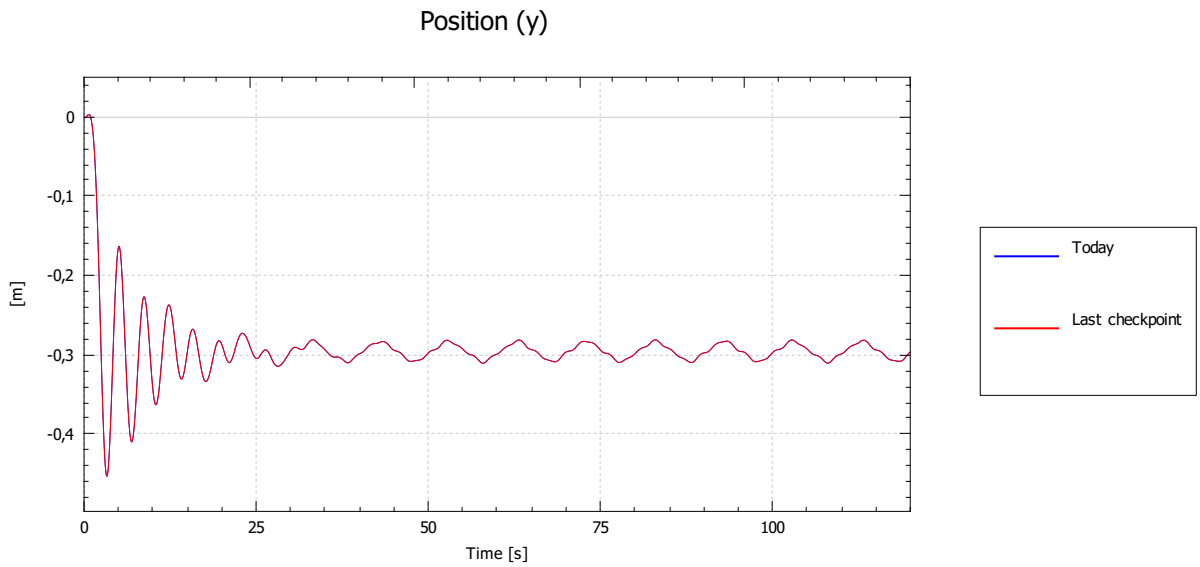


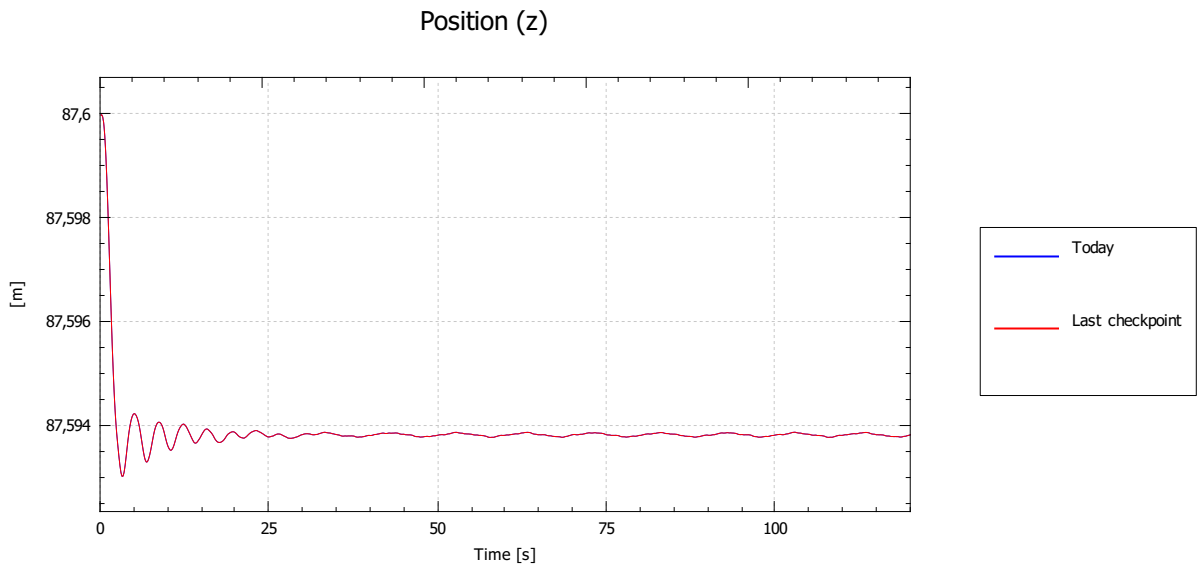


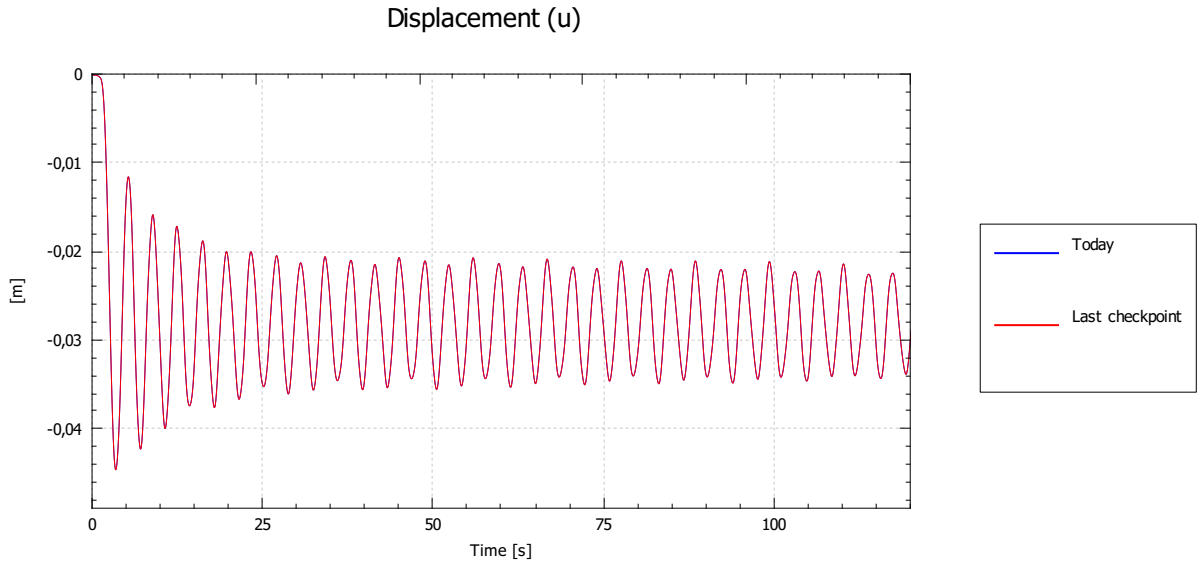


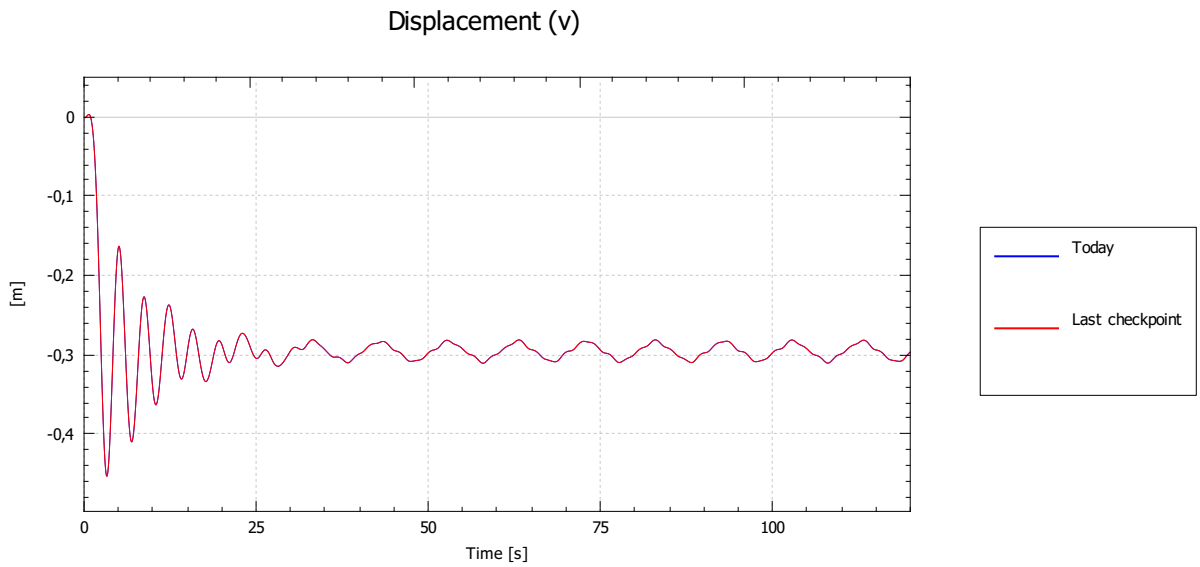
Node [Node RNA_node | Tubular tower]

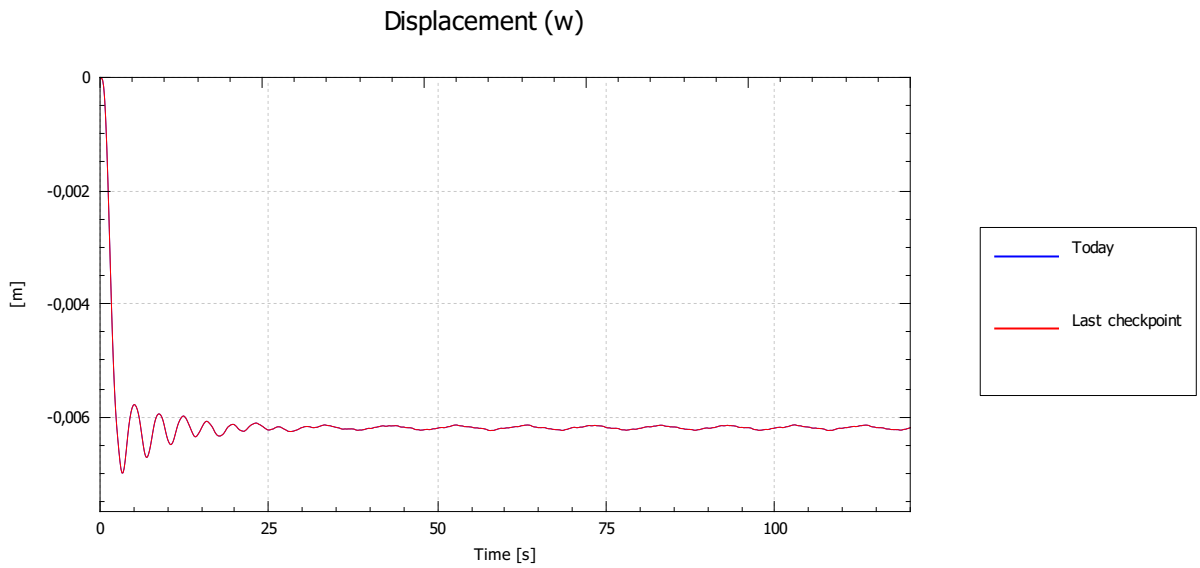

Position (x)
0
-0,01
-0,02
-0,03
-0,04
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Position (y)
0
-0,1
-0,2
-0,3
-0,4
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

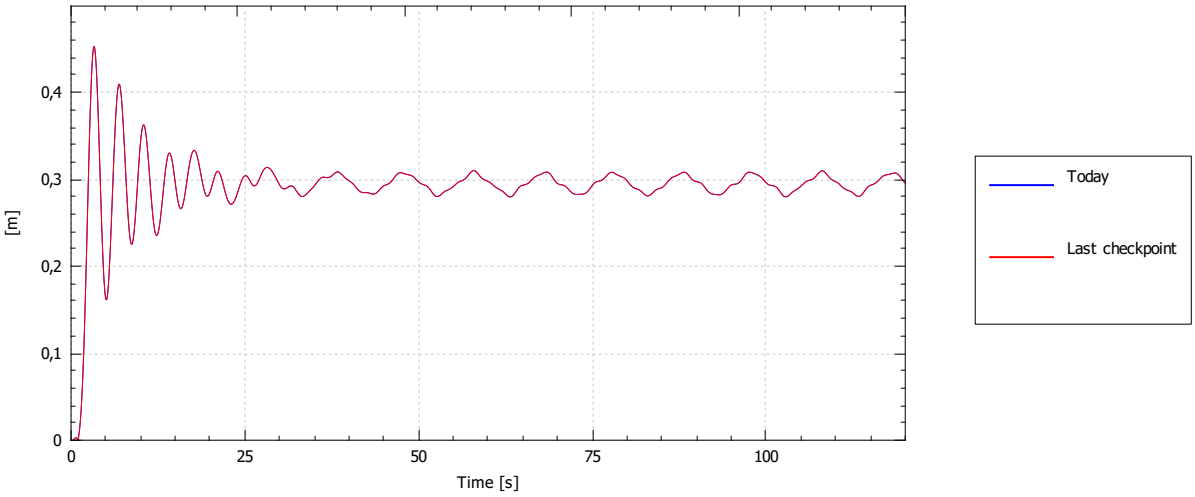

Position (z)
87,6
87,598
87,596
87,594
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Displacement (u)
0
-0,01
-0,02
-0,03
-0,04
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

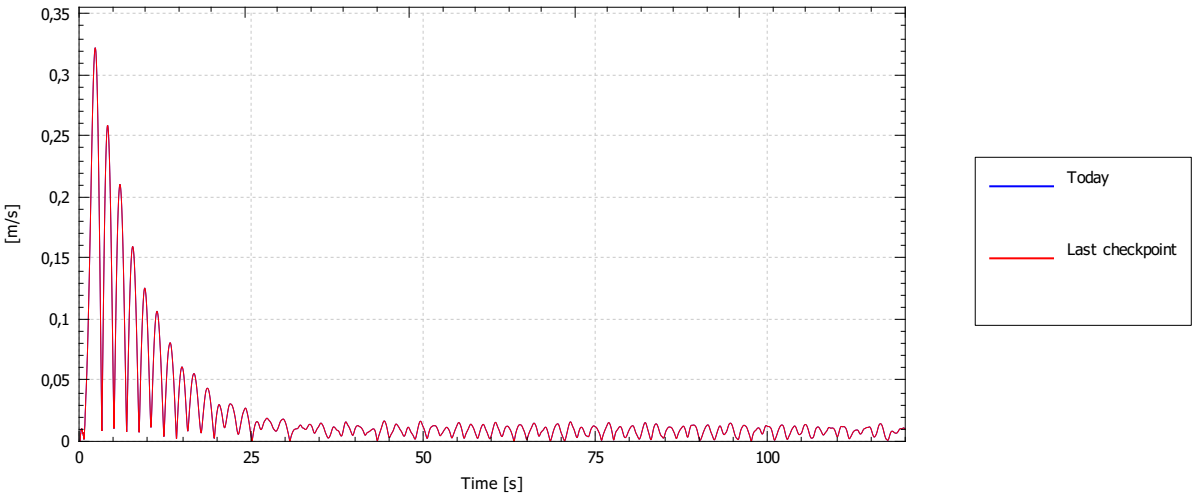

Displacement (v)
0
-0,1
-0,2
-0,3
-0,4
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Displacement (w)
0
-0,002
-0,004
-0,006
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

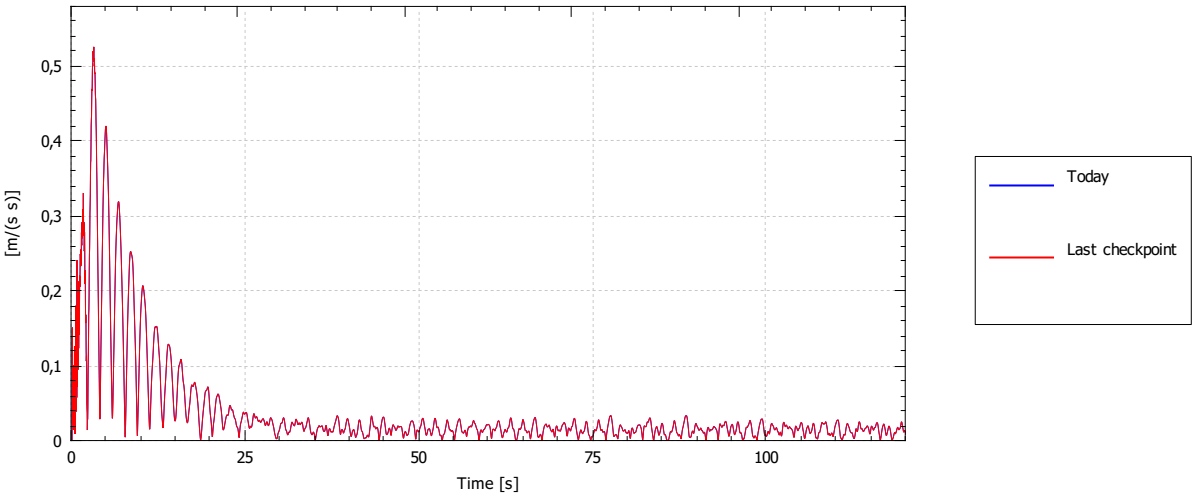
Displacement magnitude



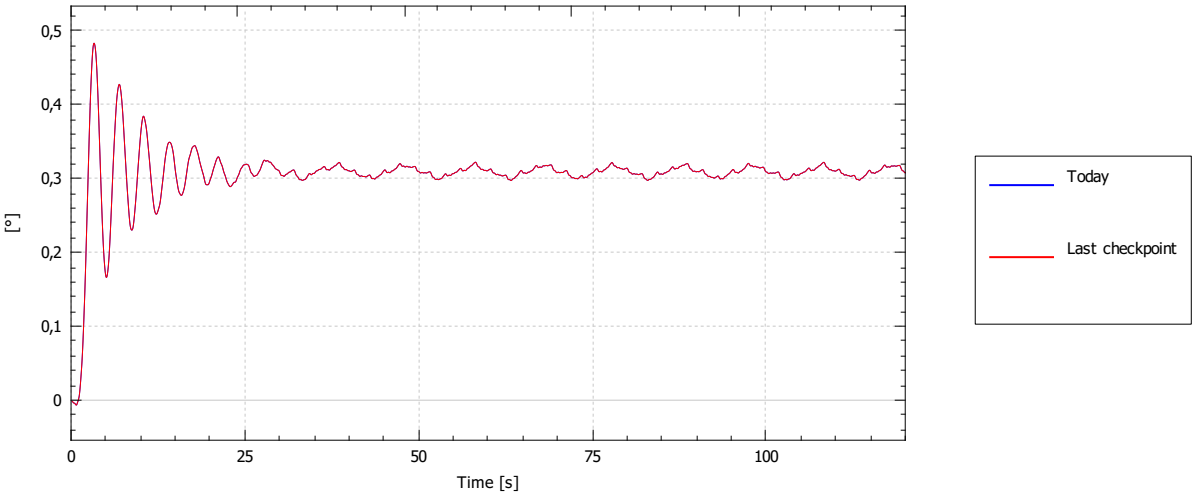
Speed



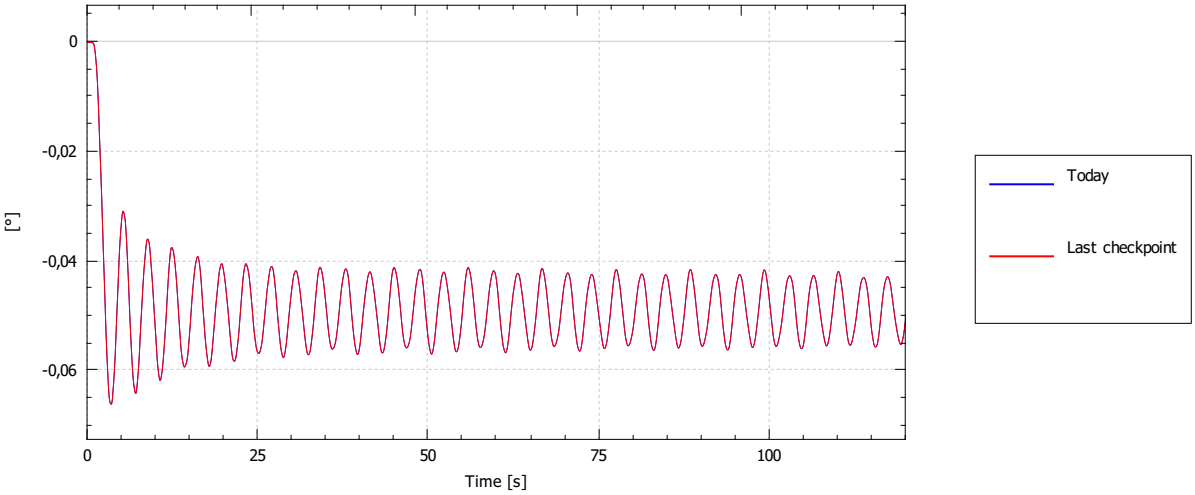
Acceleration, magnitude



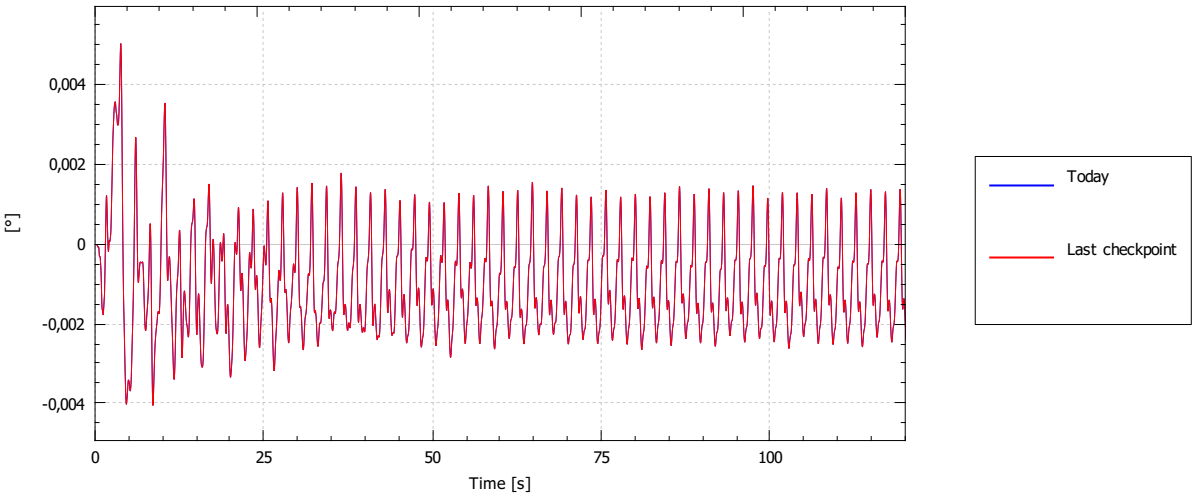
Rotational displacement (ru)



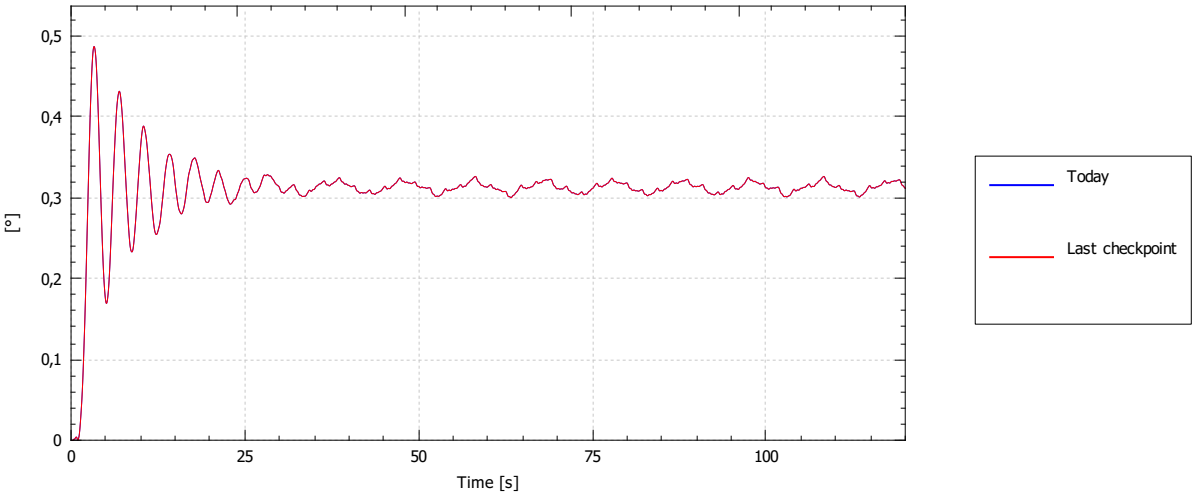
Rotational displacement (rv)



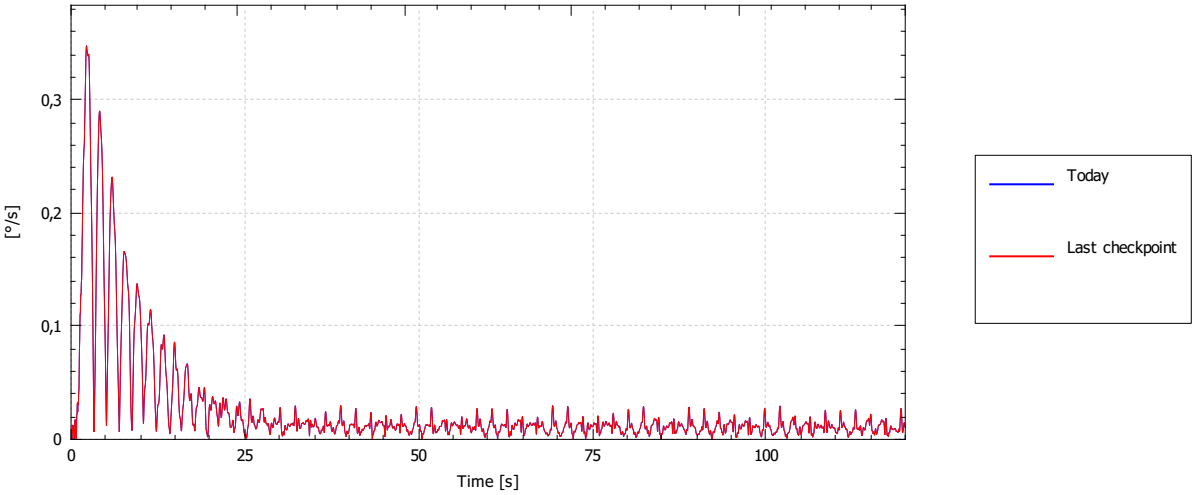
Rotational displacement (rw)



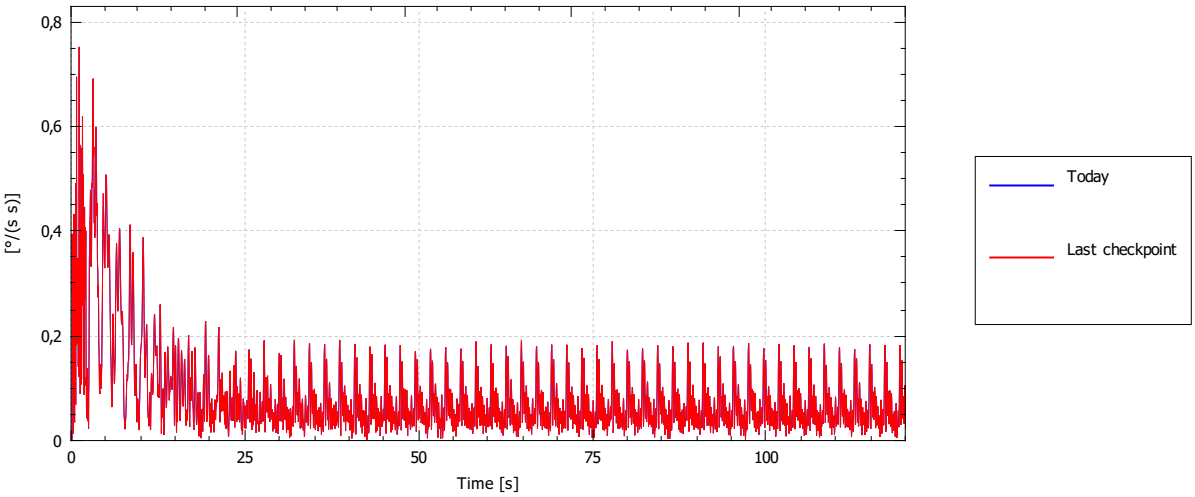
Rotational displacement magnitude



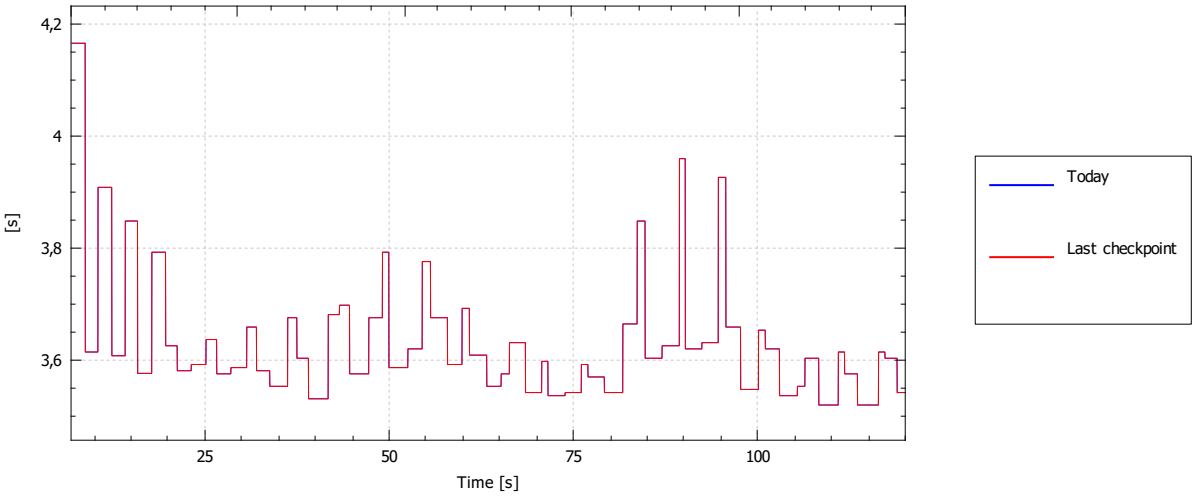
Rotational speed



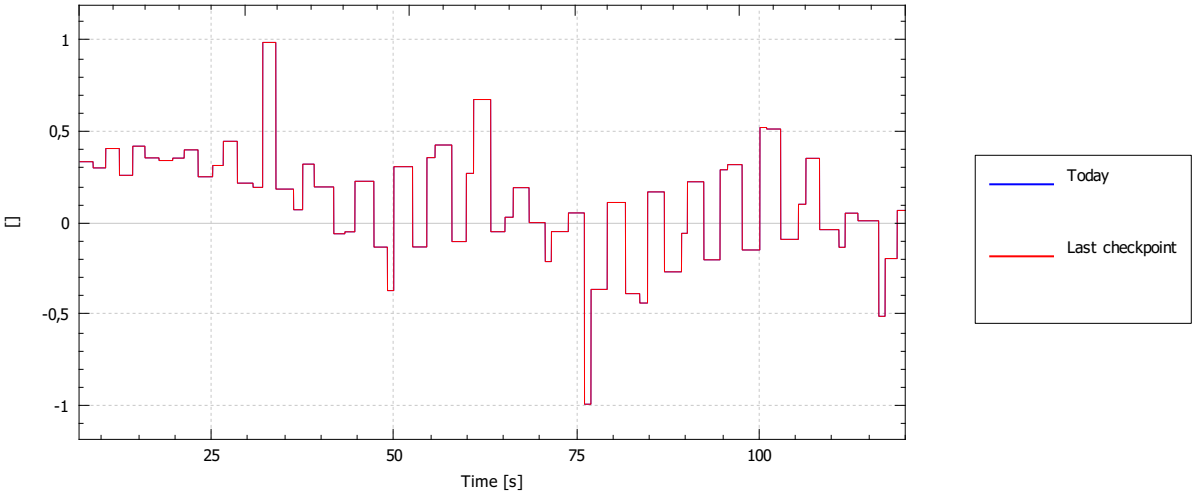
Rotational acceleration mag



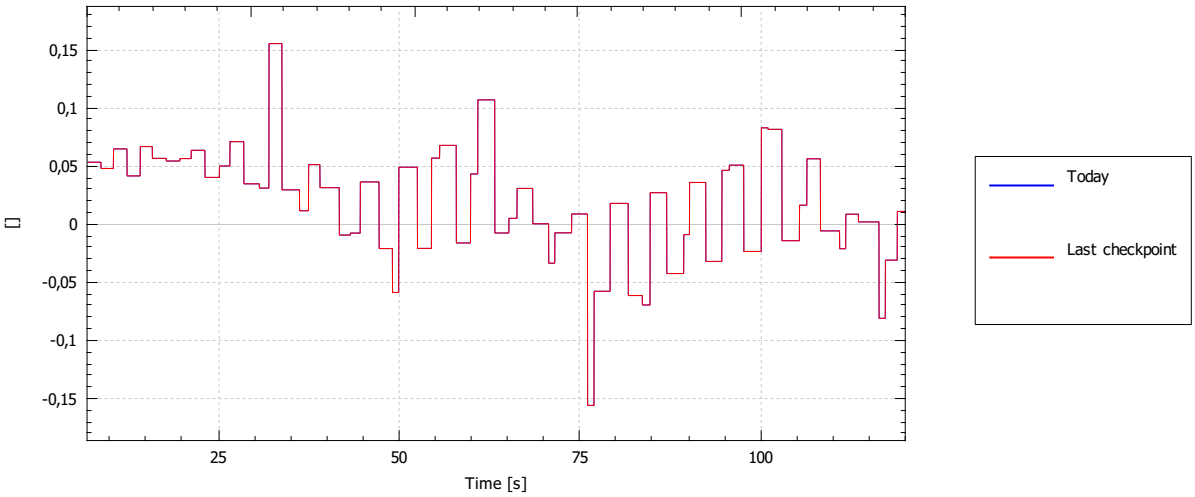
Displacement period



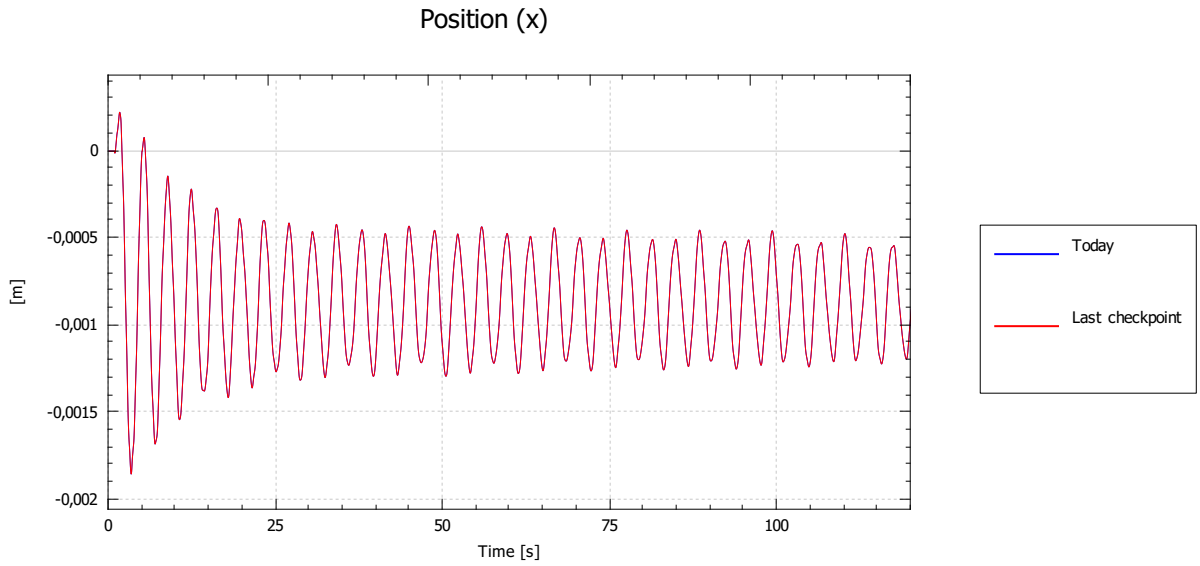
Displacement logarithmic decrement

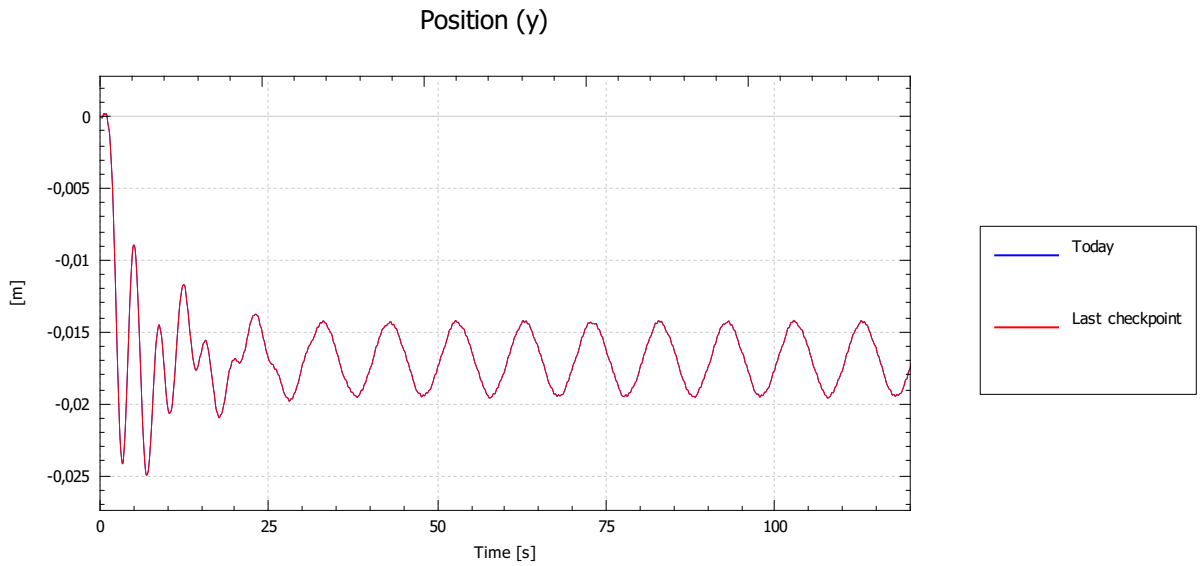


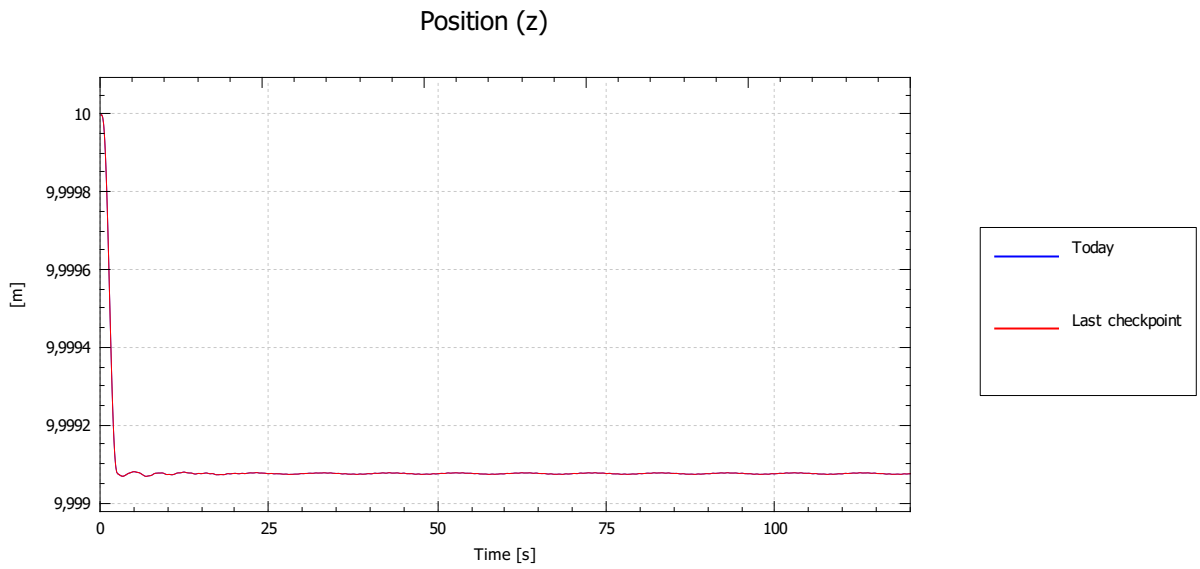
Displacement damping ratio

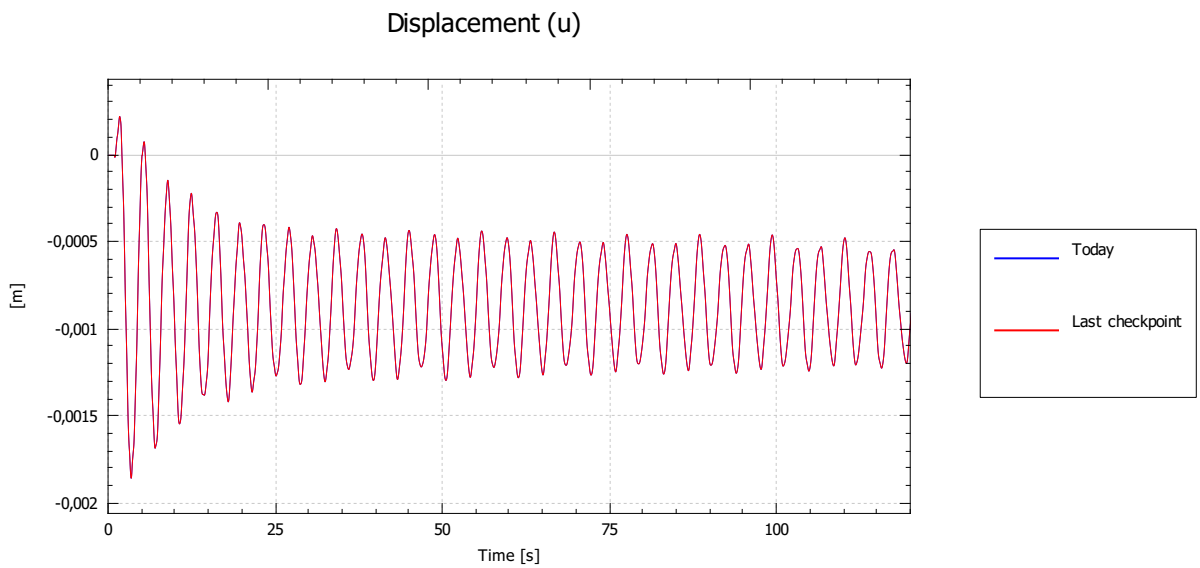


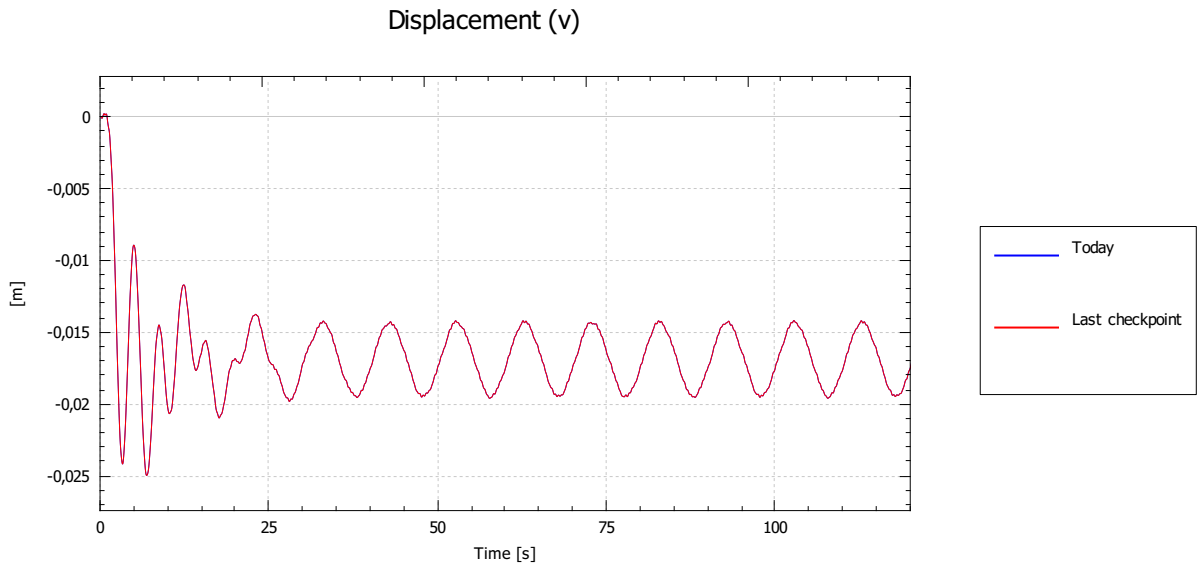
Node [Node 1 | Tubular tower]

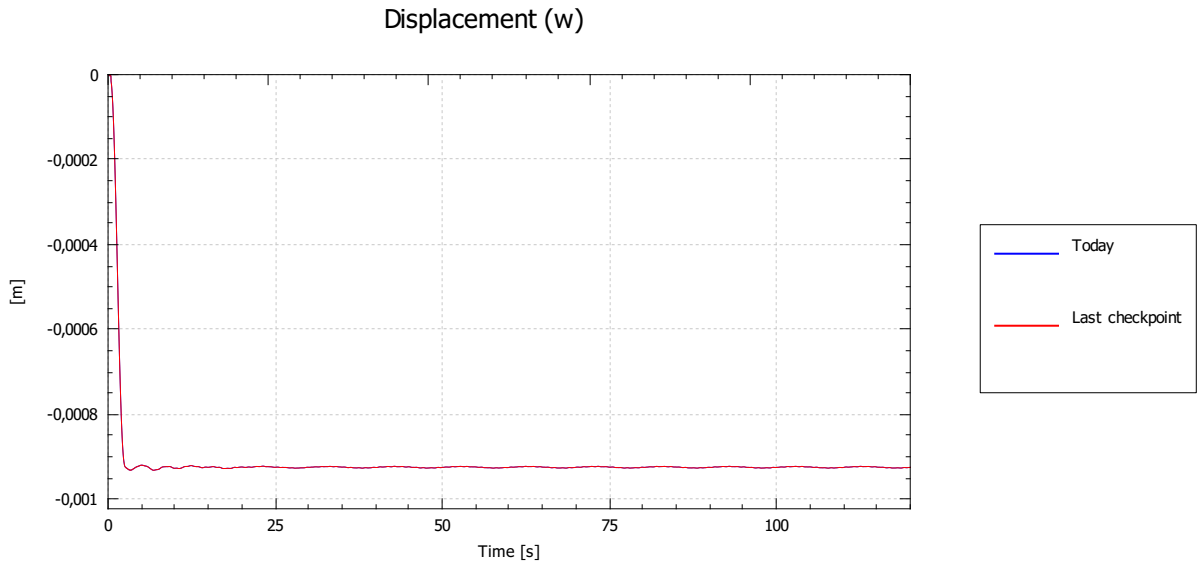




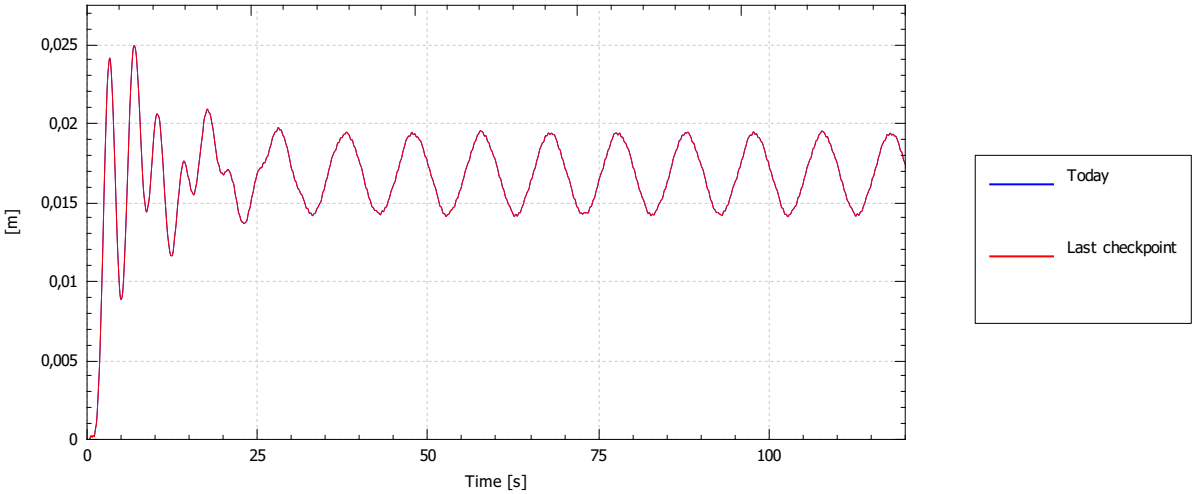



Displacement (u)
0
-0,0005
-0,001
-0,0015
-0,002
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

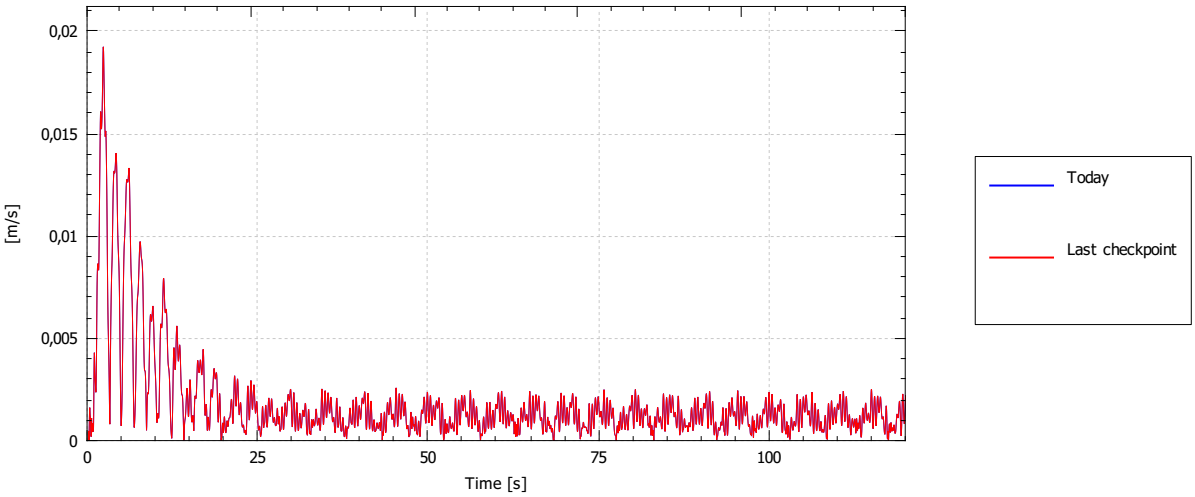

Displacement (v)
0
-0,005
-0,01
-0,015
-0,02
-0,025
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint


Displacement (w)
0
-0,0002
-0,0004
-0,0006
-0,0008
-0,001
[m]
0
25
50
75
100
Time [s]
Today
Last checkpoint

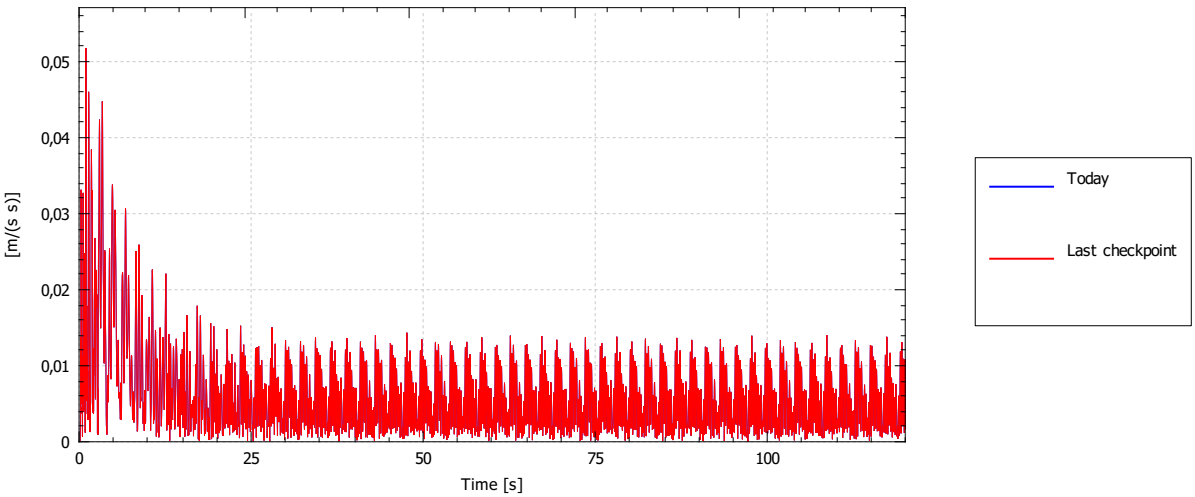
Displacement magnitude



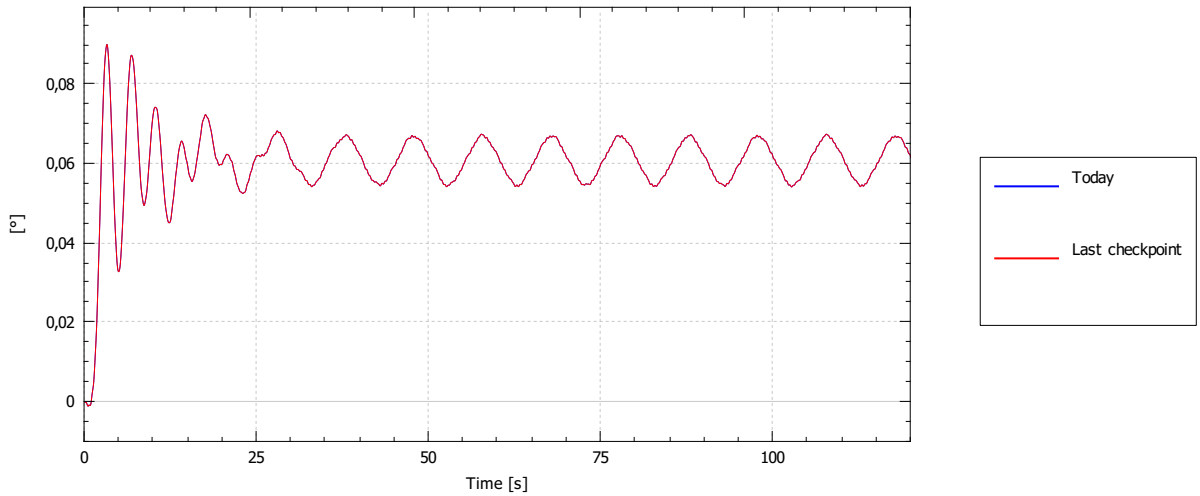
Speed



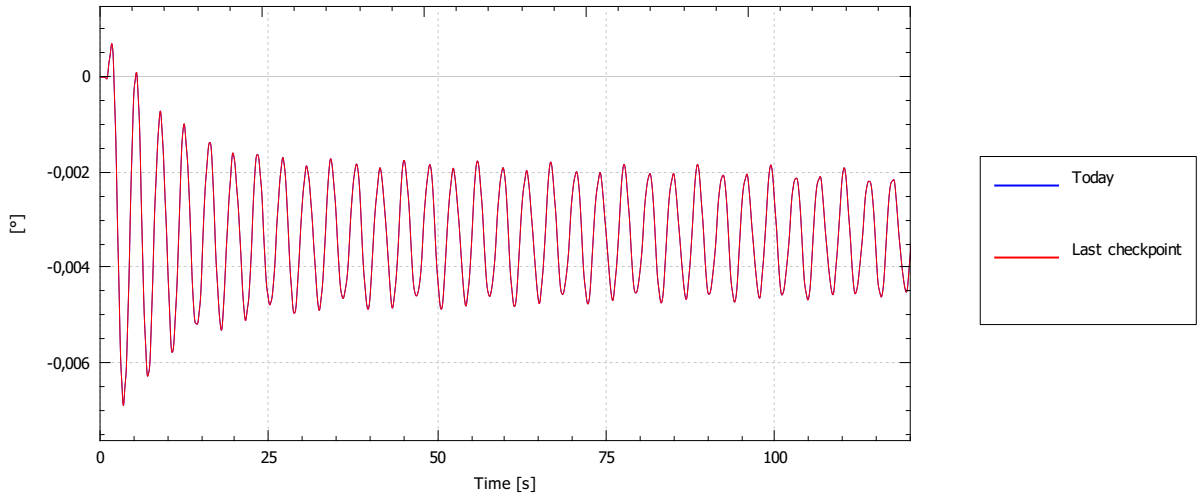
Acceleration, magnitude



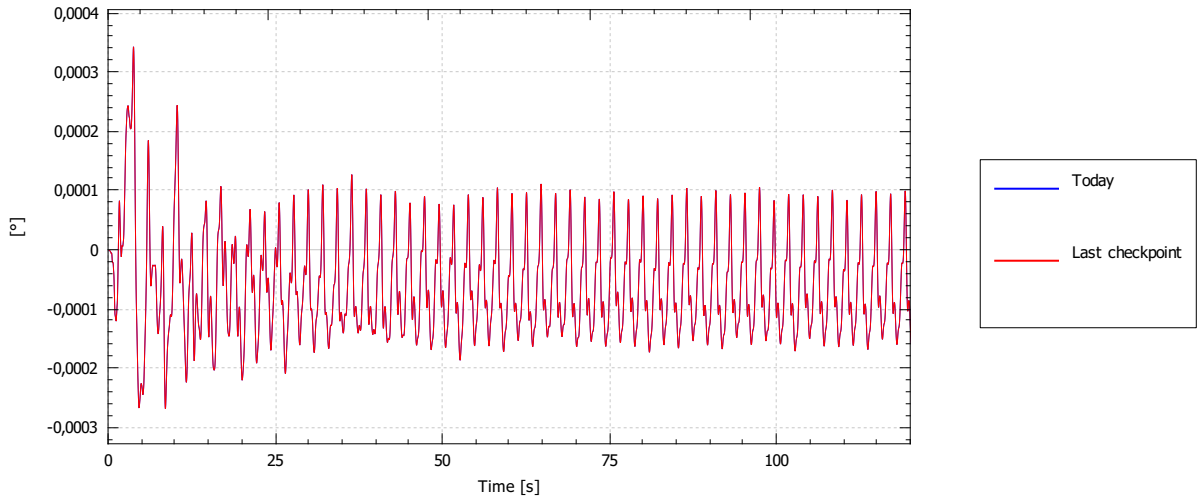
Rotational displacement (ru)



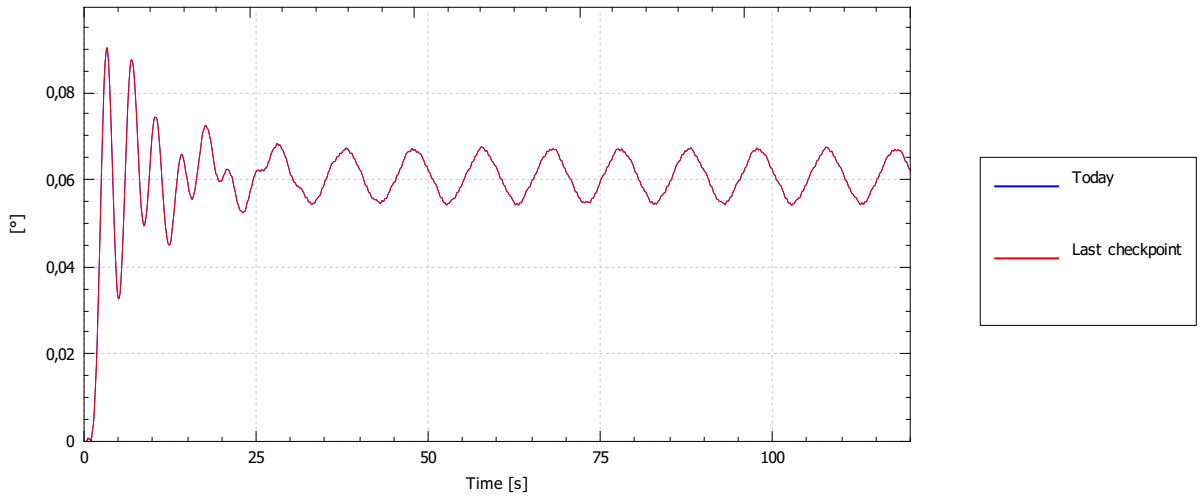
Rotational displacement (rv)



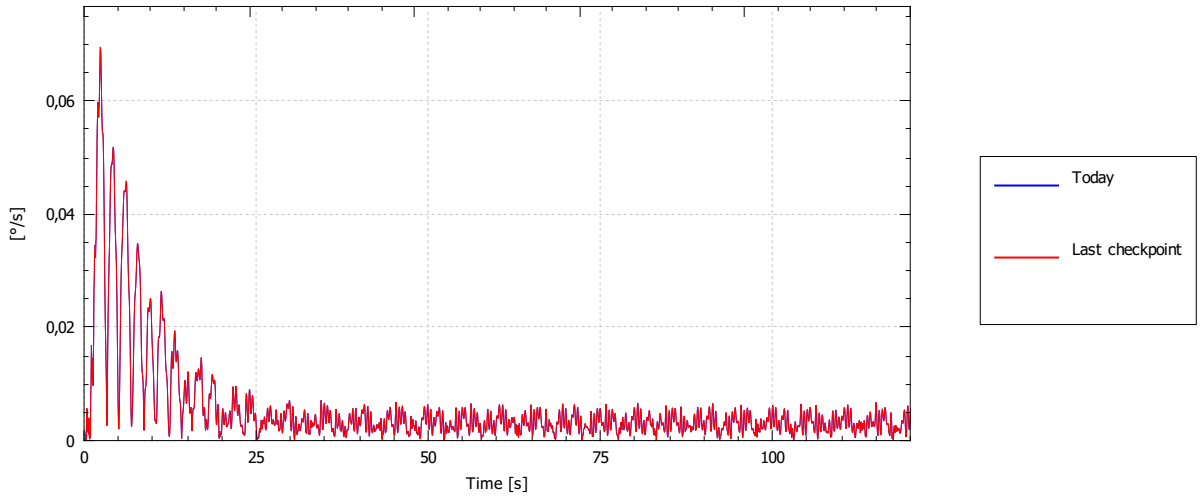
Rotational displacement (rw)



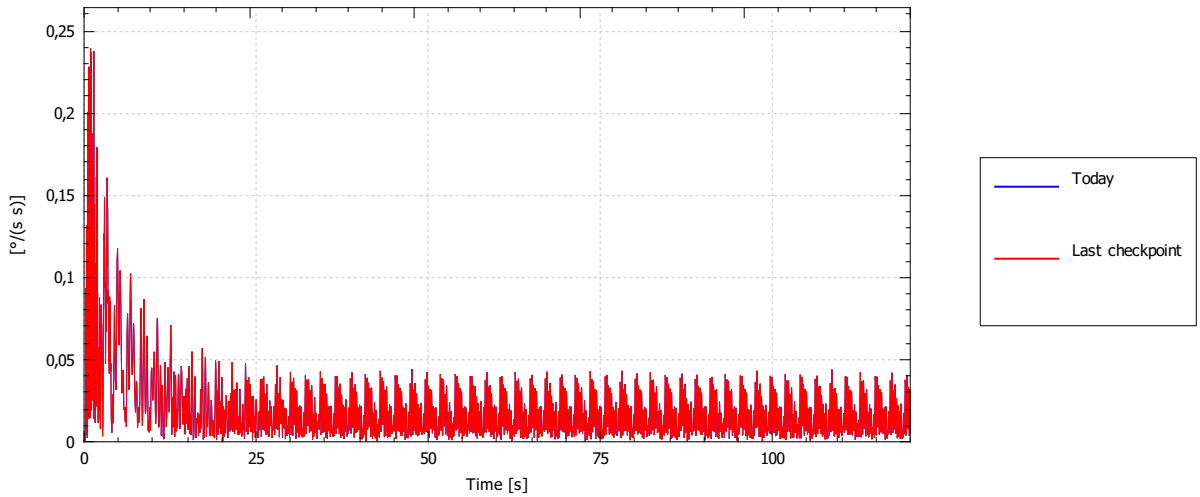
Rotational displacement magnitude



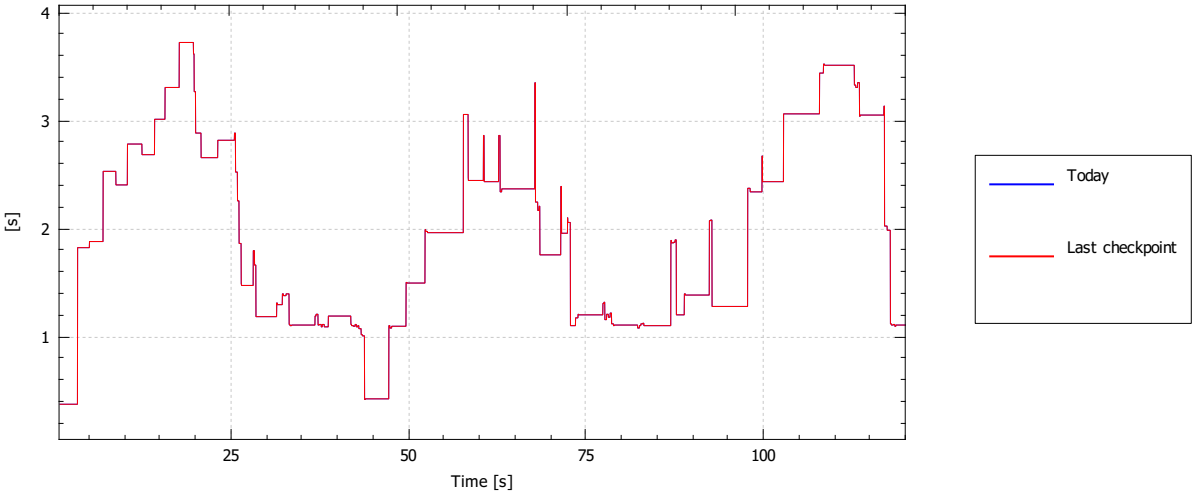
Rotational speed



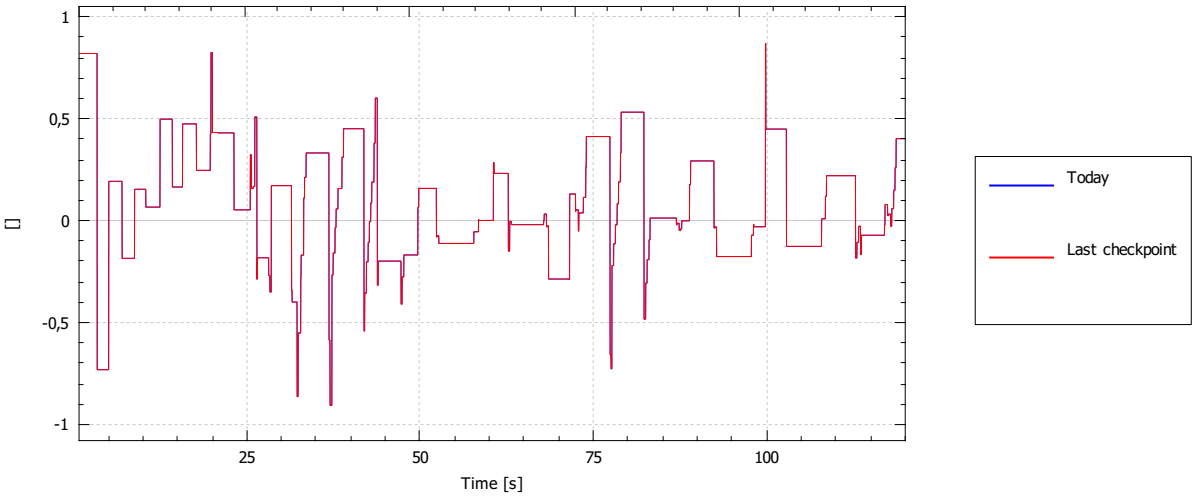
Rotational acceleration mag



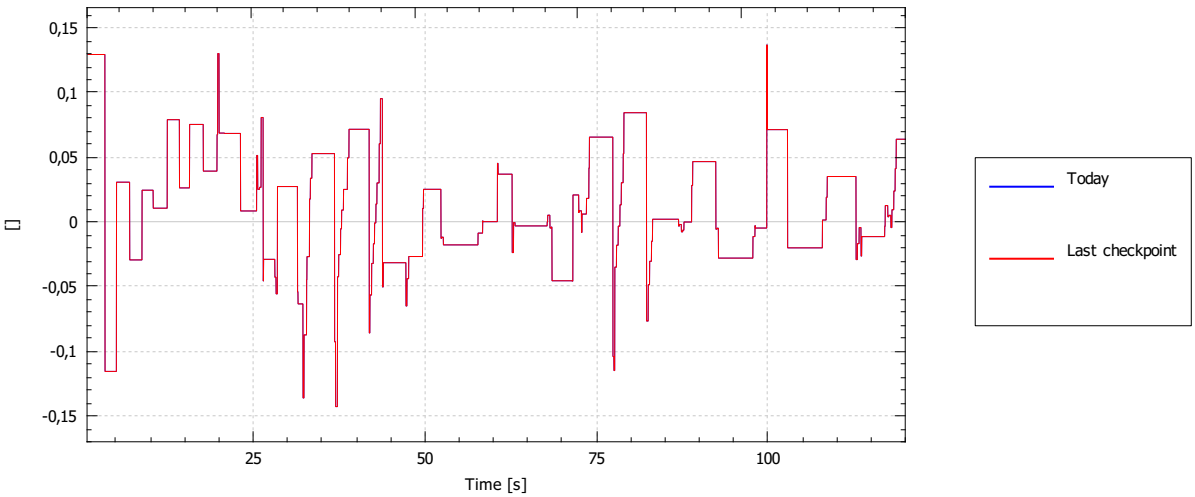
Displacement period



Displacement logarithmic decrement

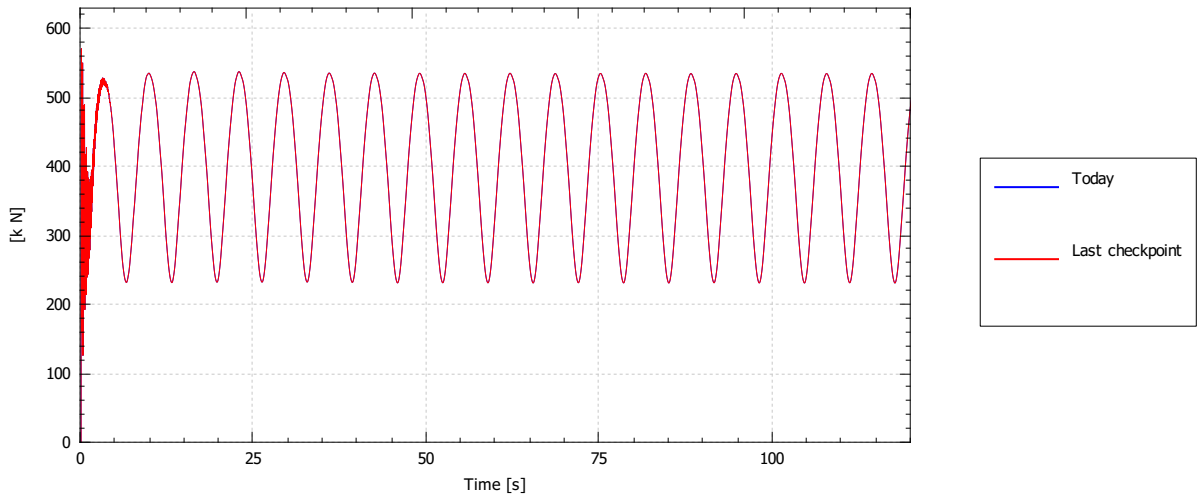


Displacement damping ratio

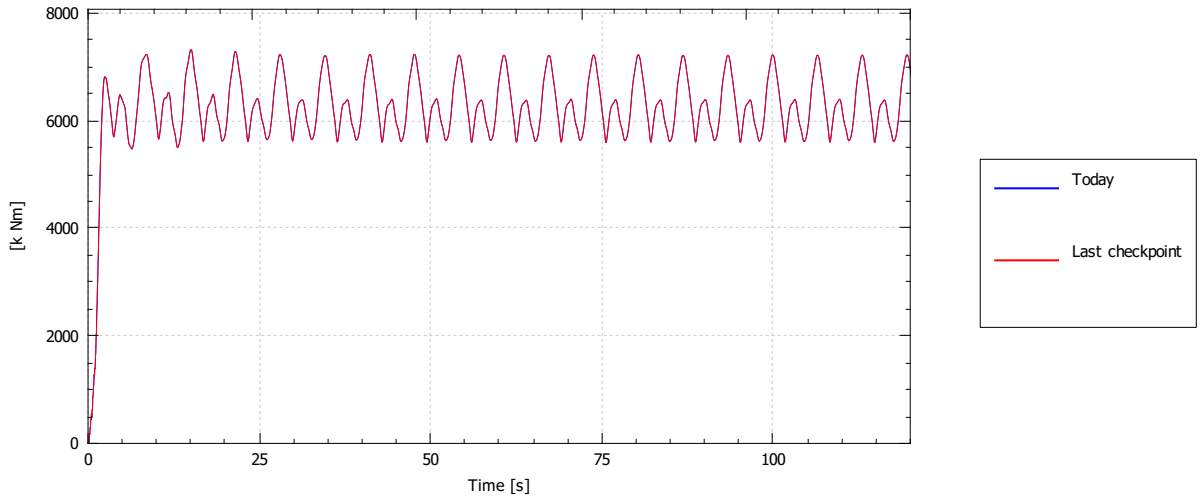


Blade [Time] [Blade 1]

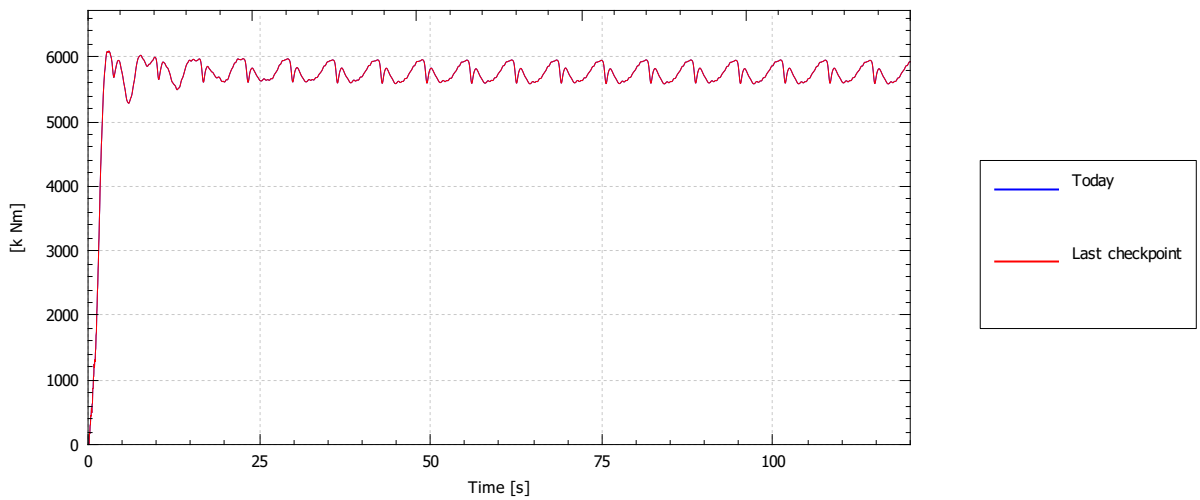
Root force (magnitude)



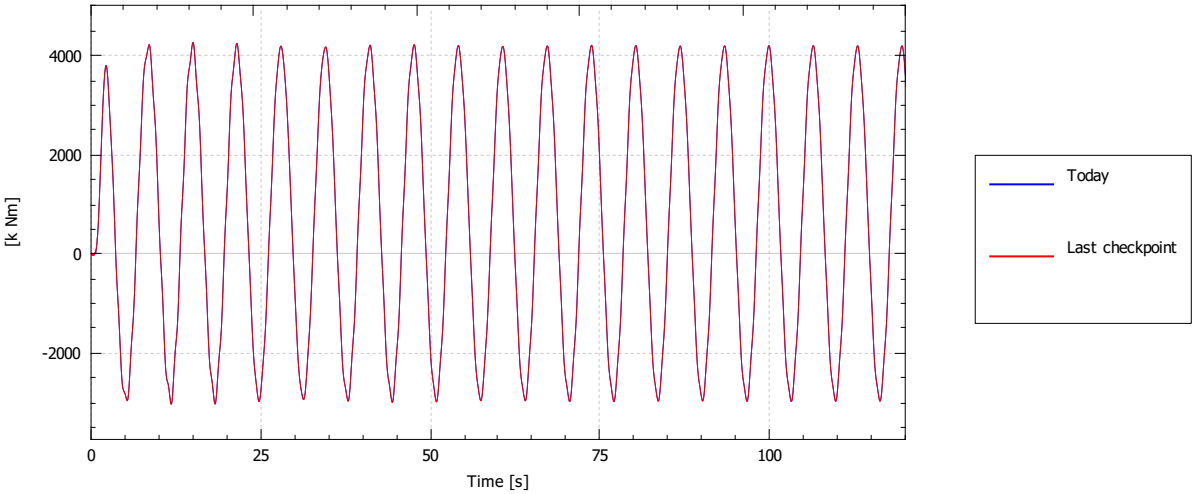
Root moment (magnitude)



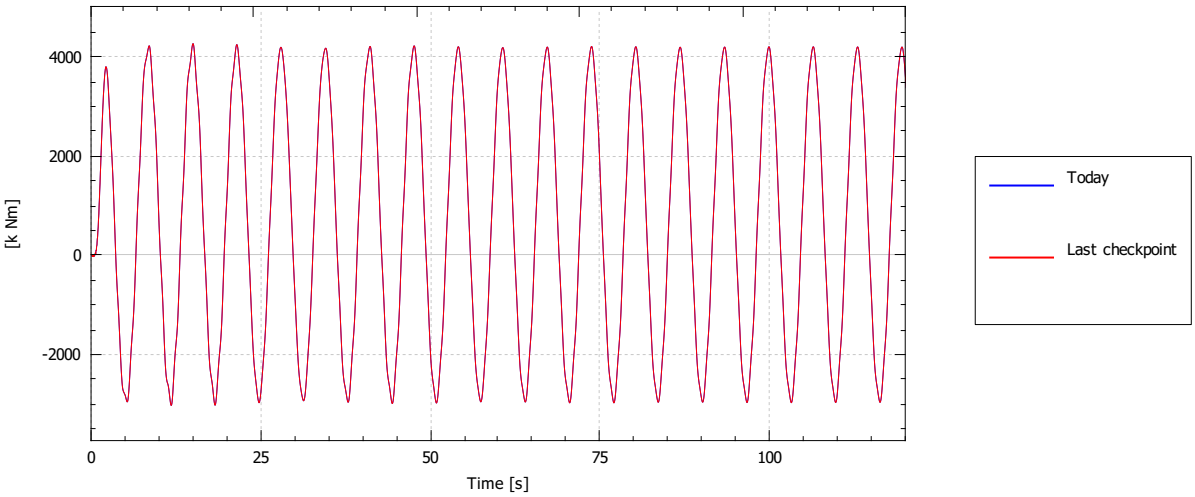
Root moment (out-of-plane)



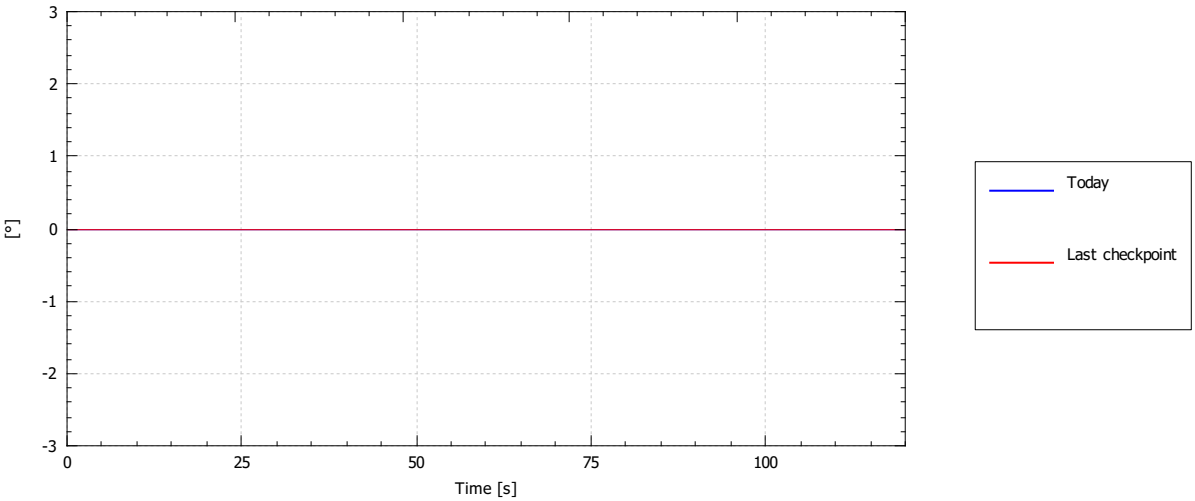
Root moment (in-plane)



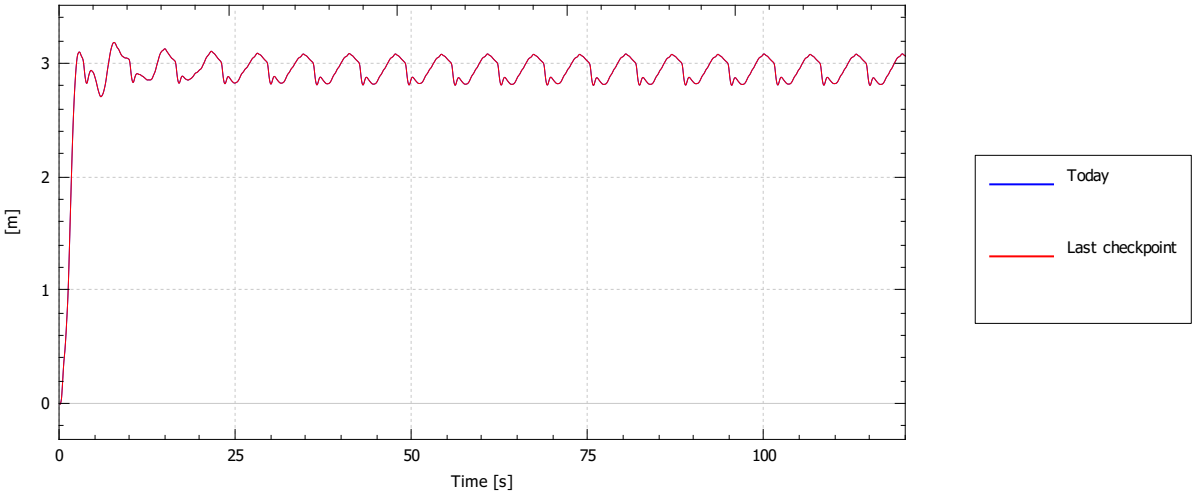
Root moment about shaft



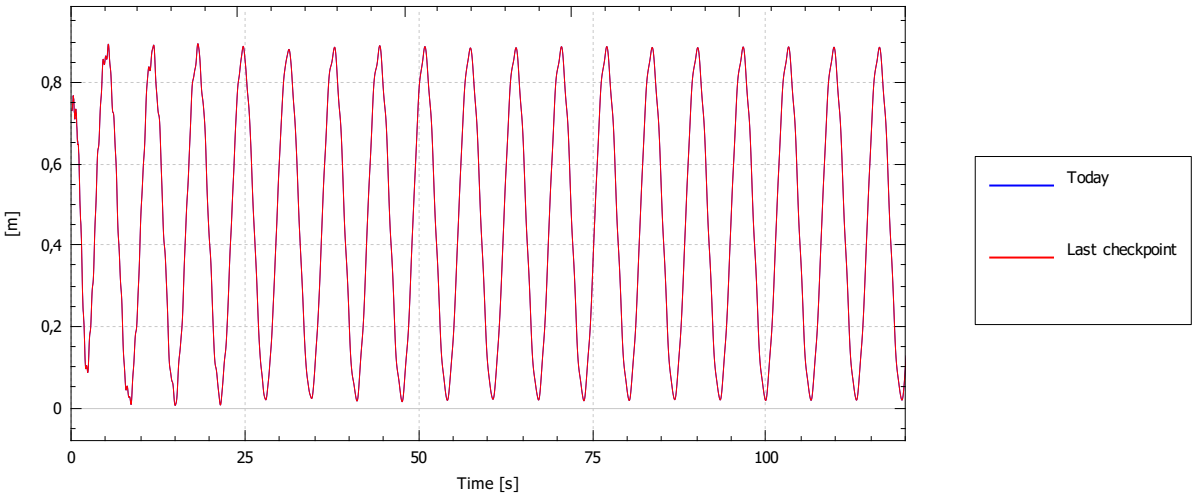
Pitch angle



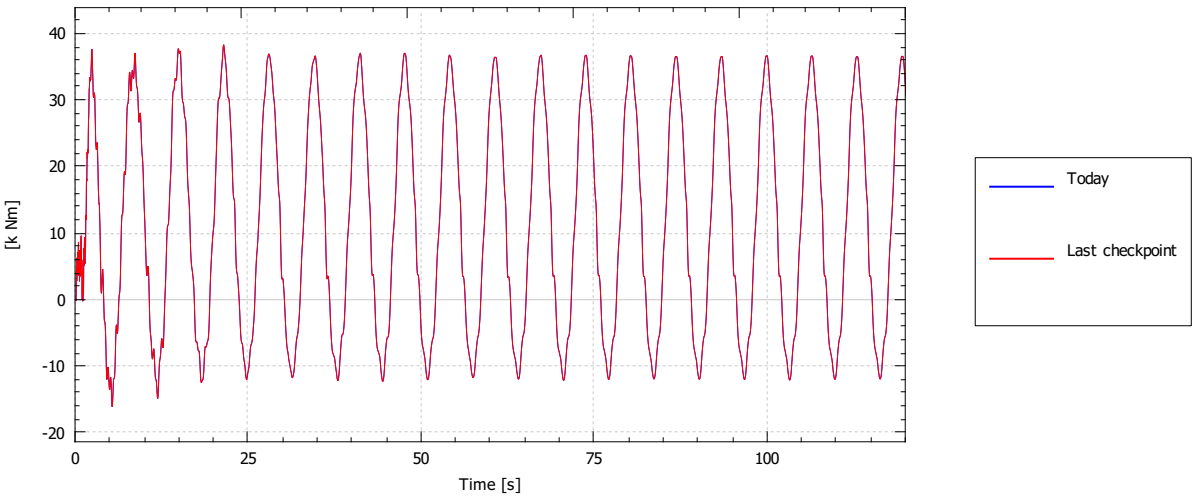
Tip deflection (out-of-plane)



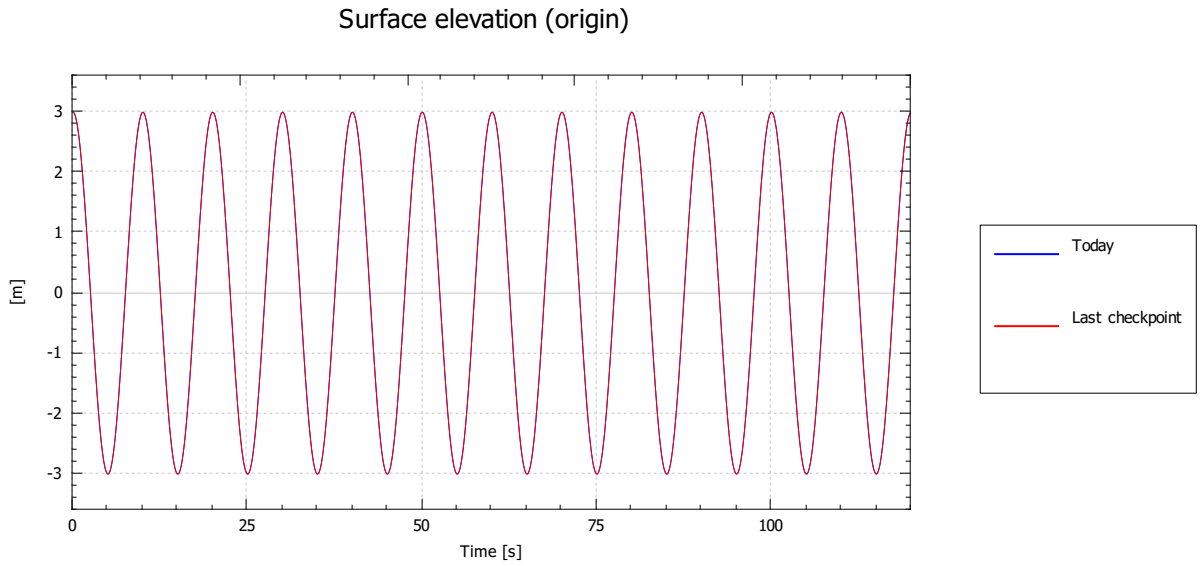
Tip deflection (in-plane)

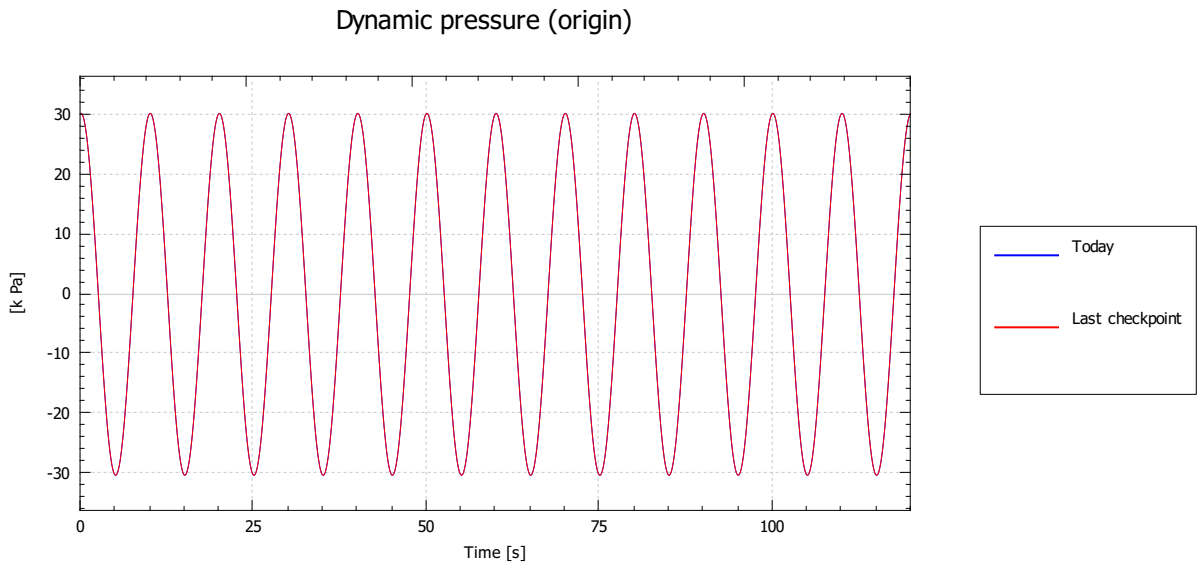


Root torque



Sea


Surface elevation (origin)
[m]
3
2
1
0
-1
-2
-3
0
25
50
75
100
Time [s]
Today
Last checkpoint


Dynamic pressure (origin)
[k Pa]
30
20
10
0
-10
-20
-30
0
25
50
75
100
Time [s]
Today
Last checkpoint