Regression test

Test run started 2025-08-27T02:12:44Z
Ashes version: 3.32.0

TurbSim benchmark			
Load case set 1			
Load case	Time series	Error score	
Turb1	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
Turb2	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

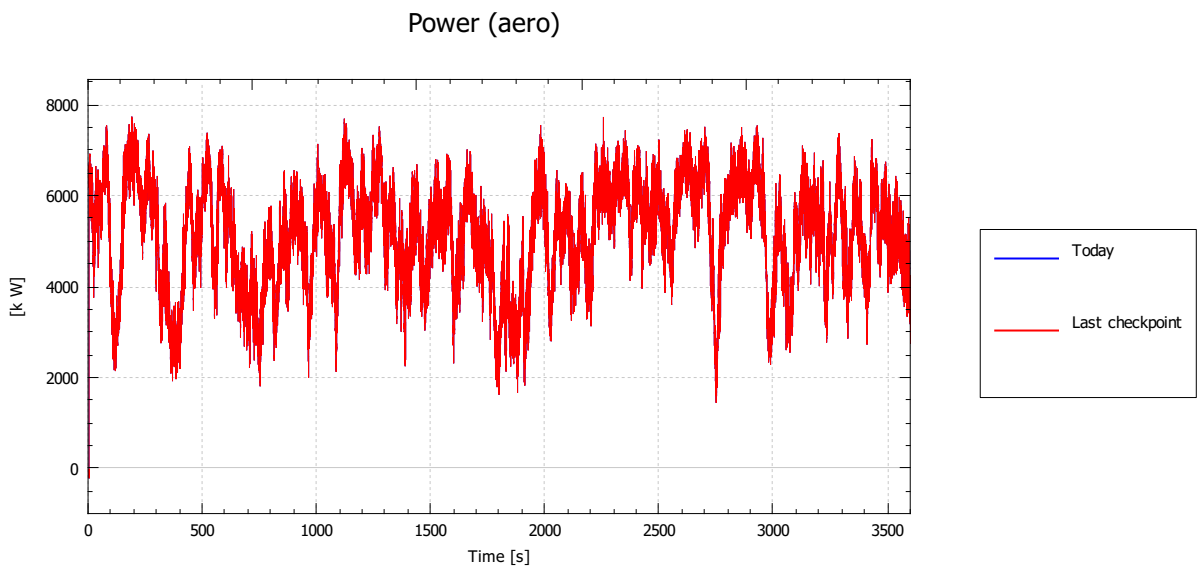
	Rotation per timestep	0.000000	PASS
	Wind speed at hub, magnitude	0.000000	PASS
	Wind angle at hub	0.000000	PASS
	Yaw angle relative to forward	0.000000	PASS
	Yaw angle to reference direction	0.000000	PASS
	Yaw error	0.000000	PASS
	Torque about yaw axis	0.000000	PASS
Turb3	Power (aero)	0.000000	PASS
	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
Turb4	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
Turb5	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
Turb6	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

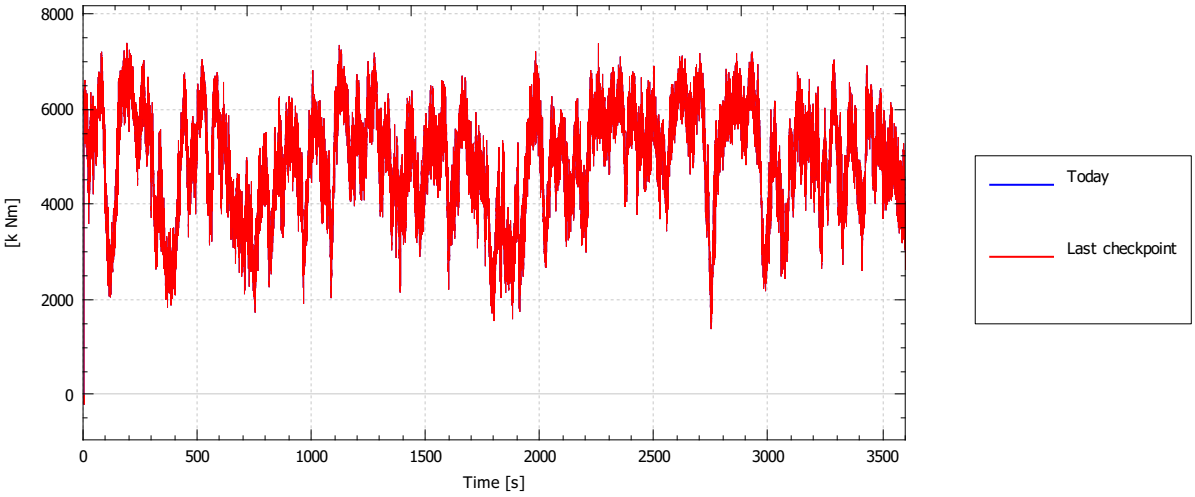
	Yaw angle to reference direction	0.000000	PASS
	Yaw error	0.000000	PASS
	Torque about yaw axis	0.000000	PASS
Turb7	Power (aero)	0.000000	PASS
	Torque (aero)	0.000000	PASS
	Thrust (aero)	0.000000	PASS
	RPM	0.000000	PASS
	TSR	0.000000	PASS
	Representative demanded pitch angle	0.000000	PASS
	Power coef. (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

Load case: Turb1

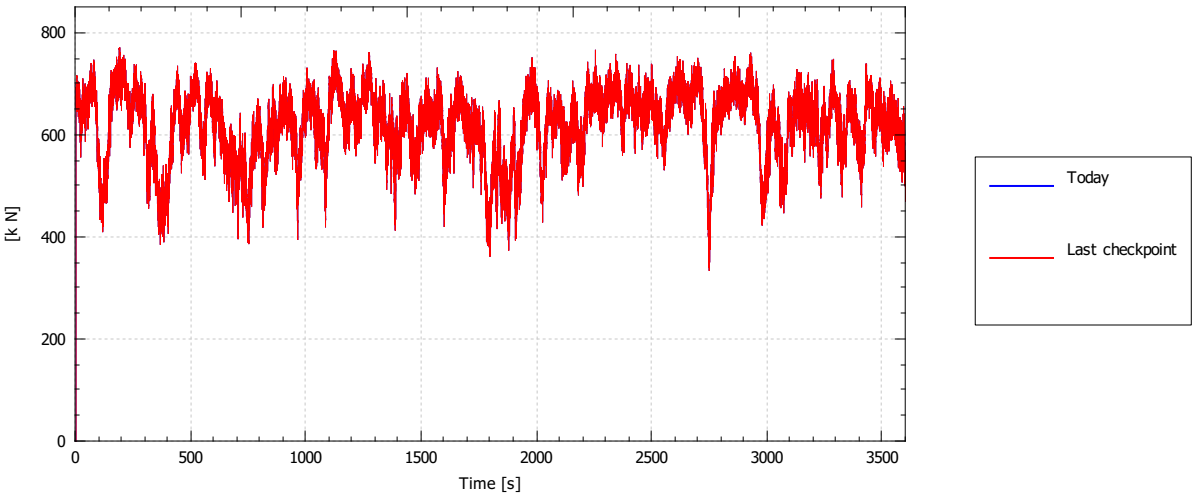
Rotor



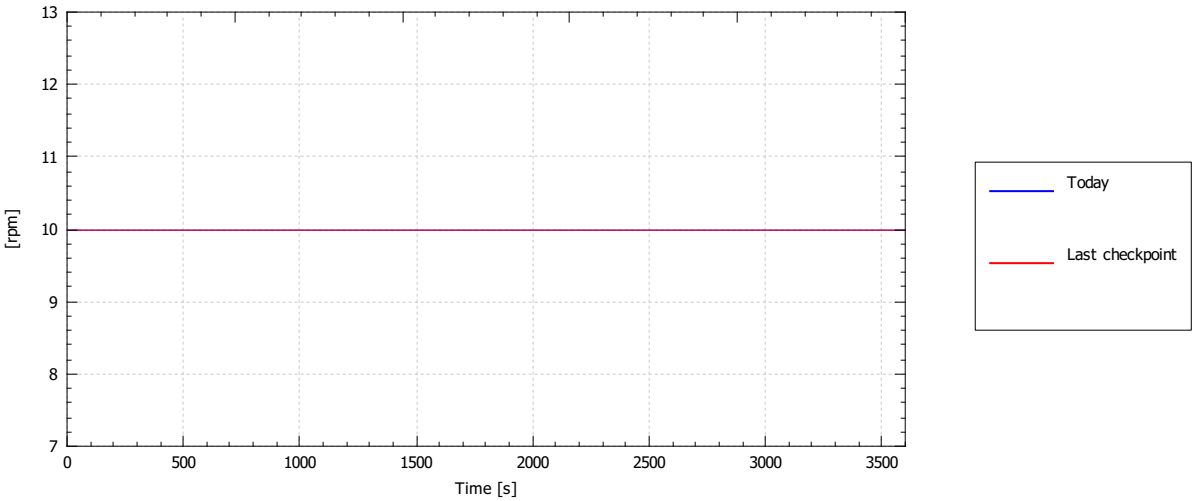
Torque (aero)



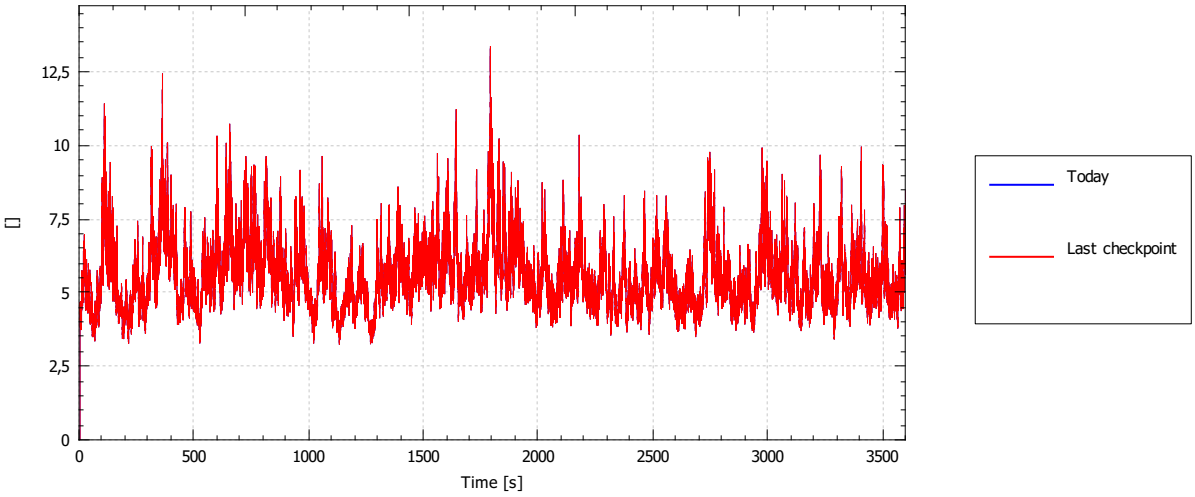
Thrust (aero)



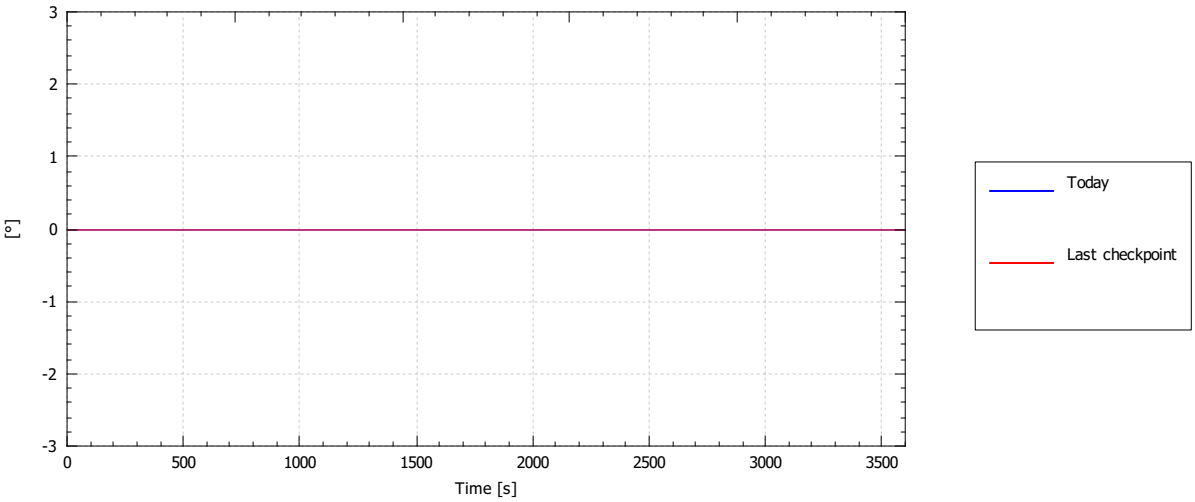
RPM



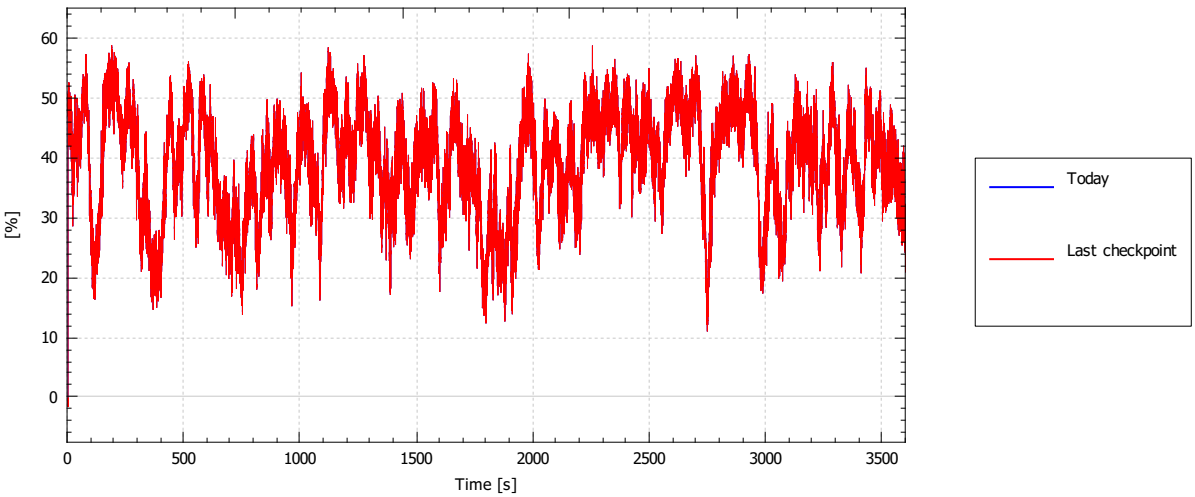
TSR



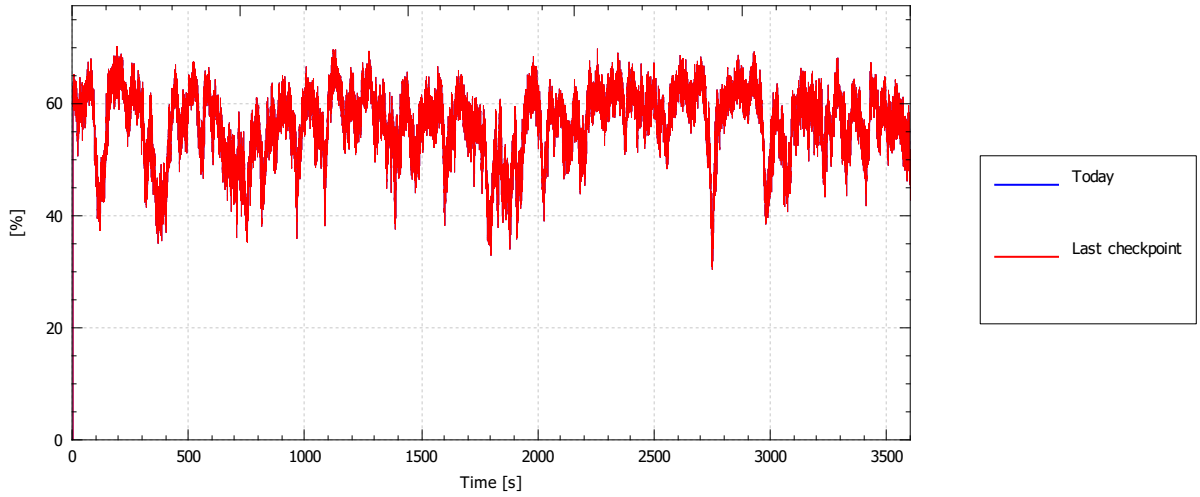
Representative demanded pitch angle



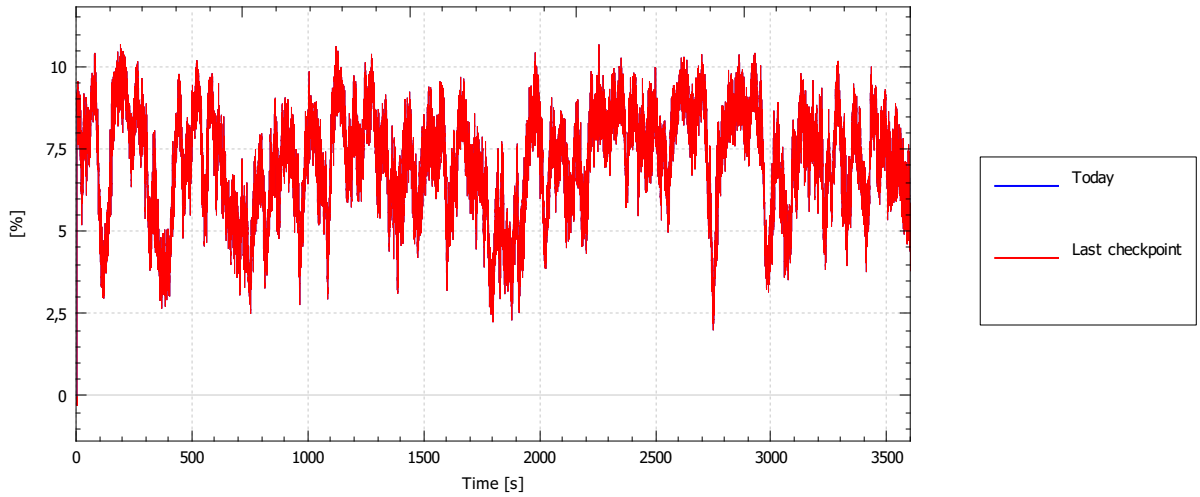
Power coef. (CP)



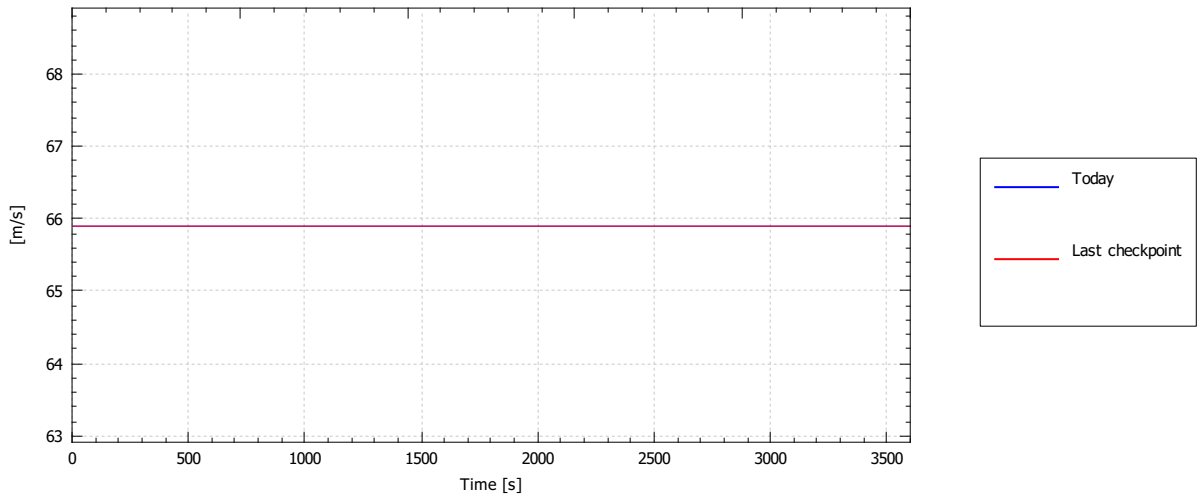
Thrust coef. (CT)



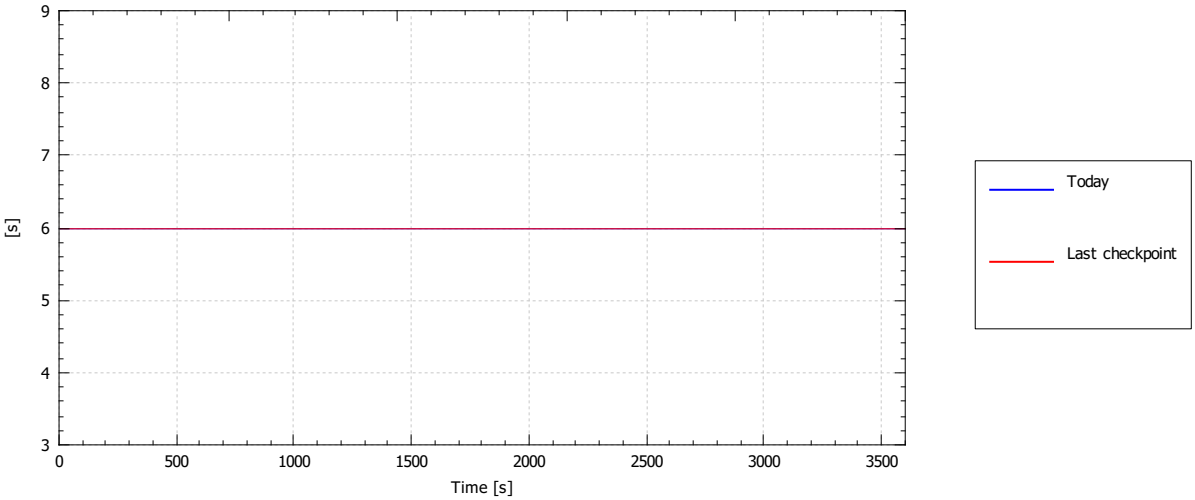
Torque coef. (CQ)



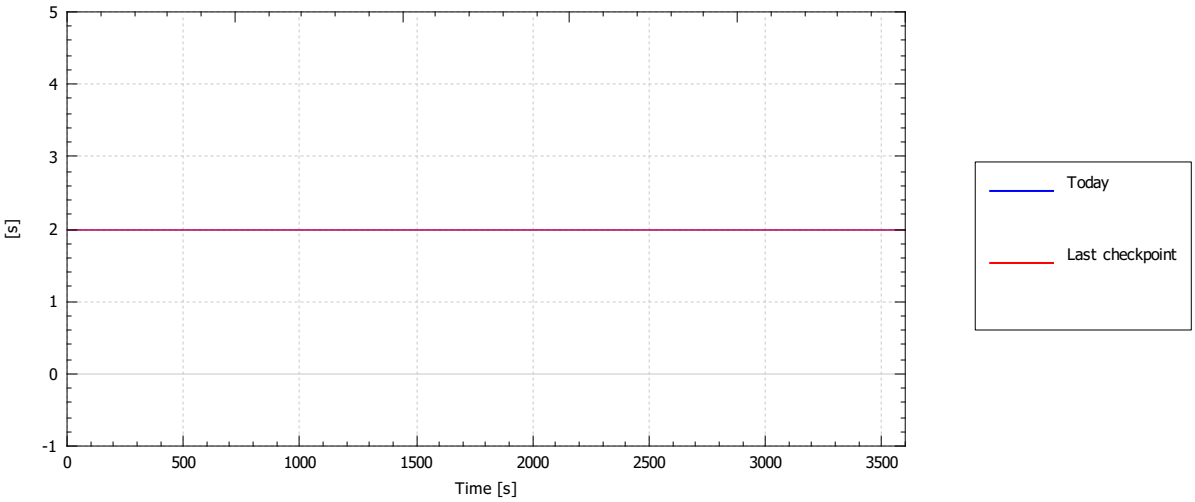
Tip speed



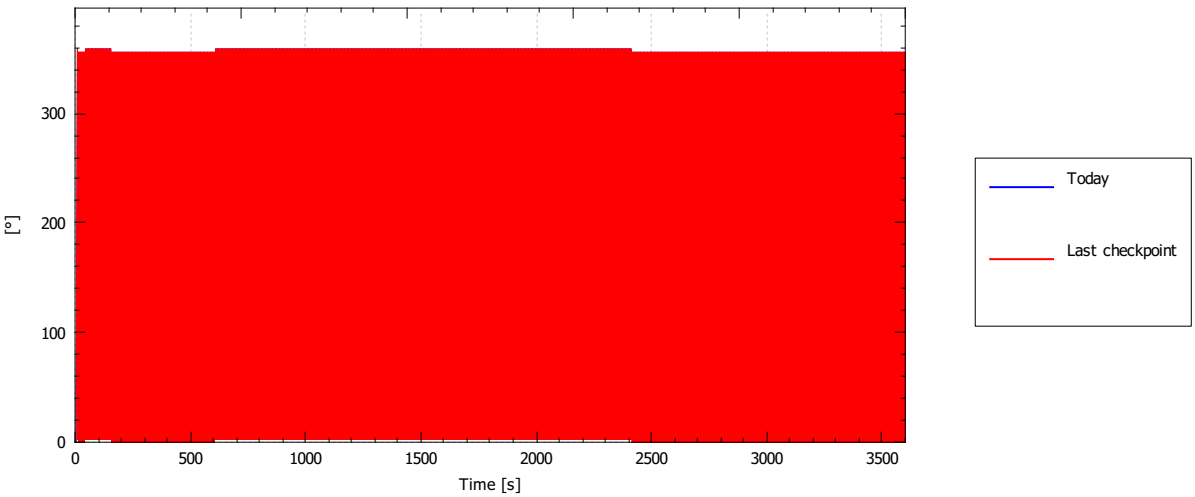
1P (one revolution)



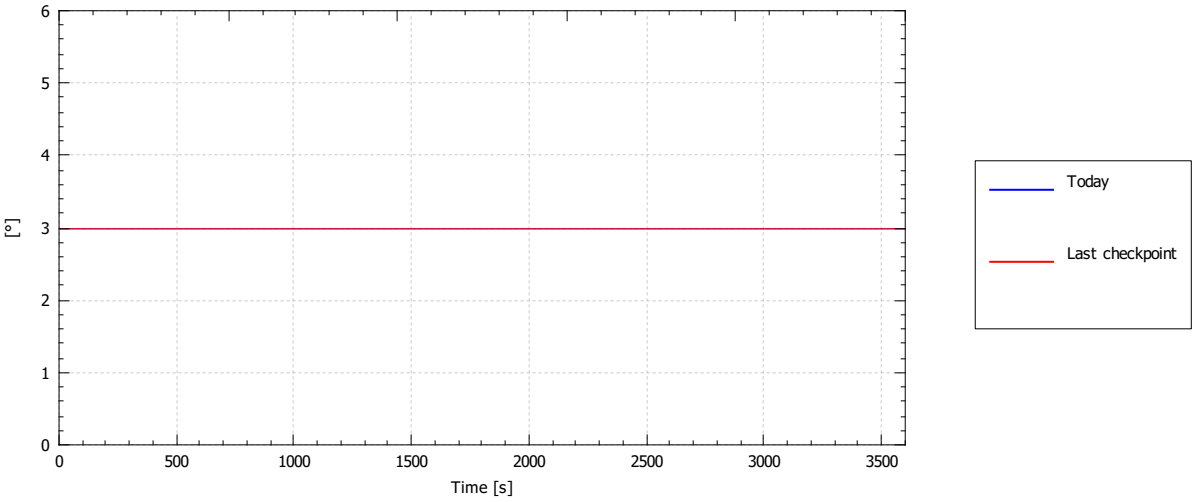
nP (blade passing)



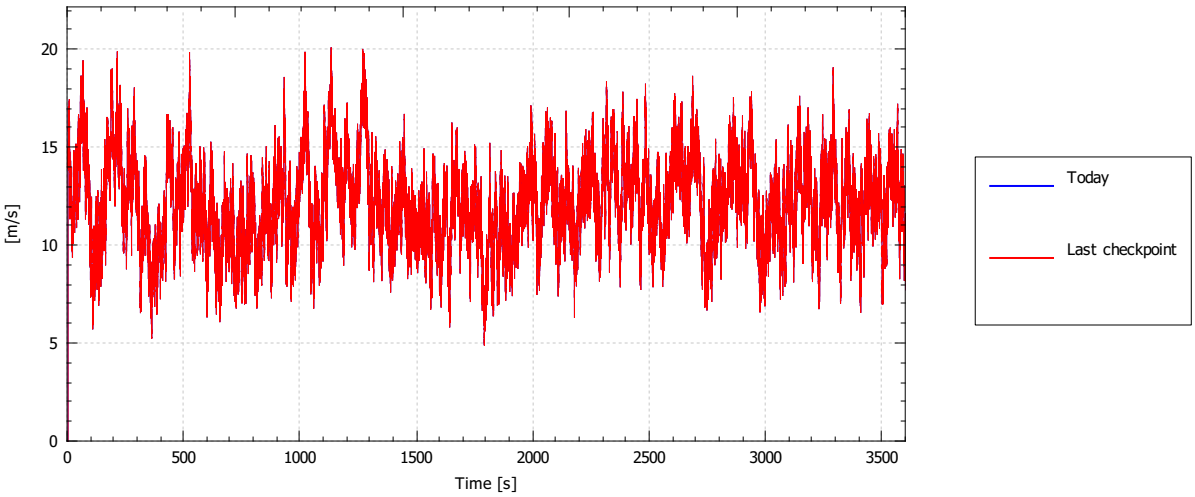
Azimuth angle



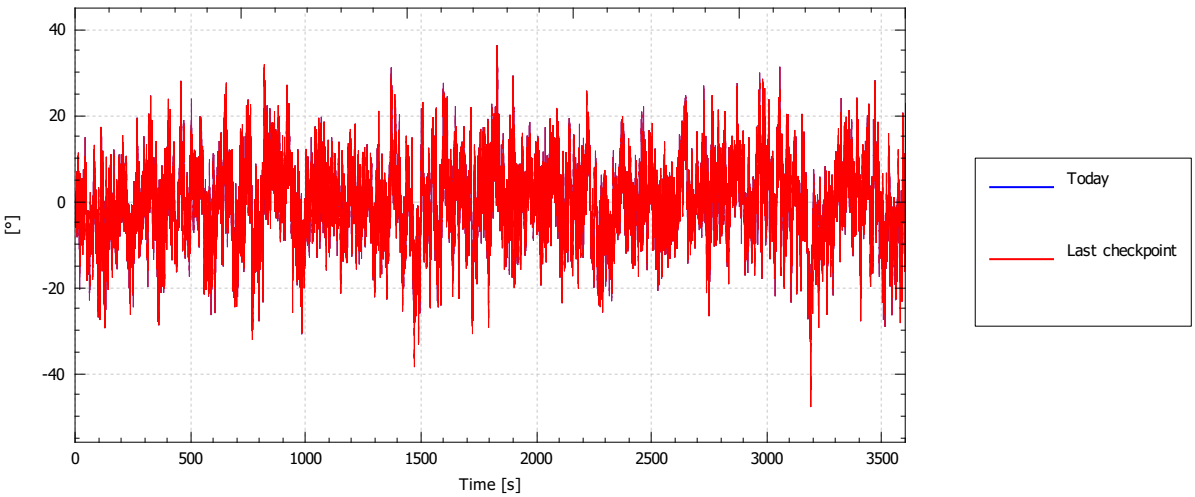
Rotation per timestep



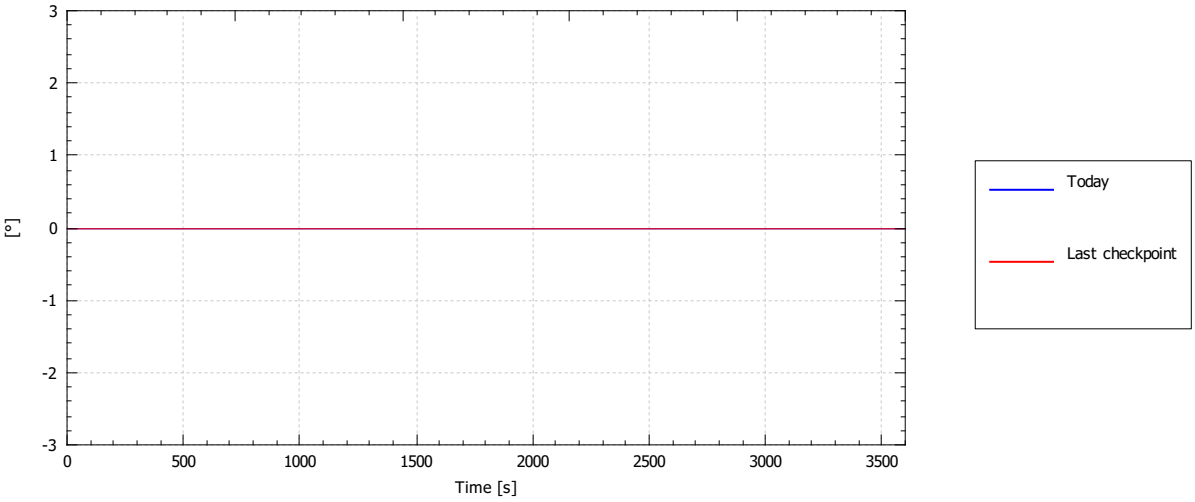
Wind speed at hub, magnitude



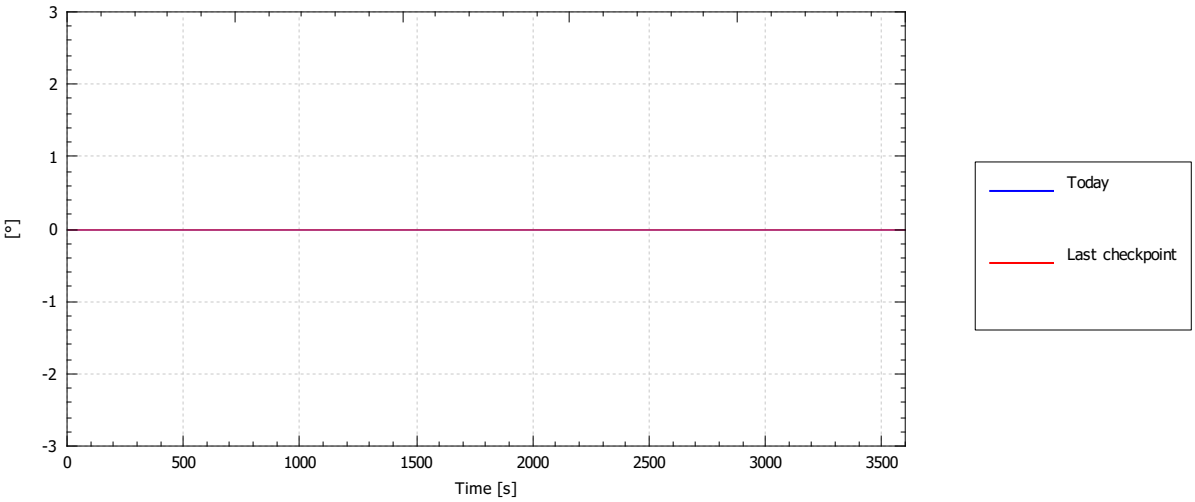
Wind angle at hub



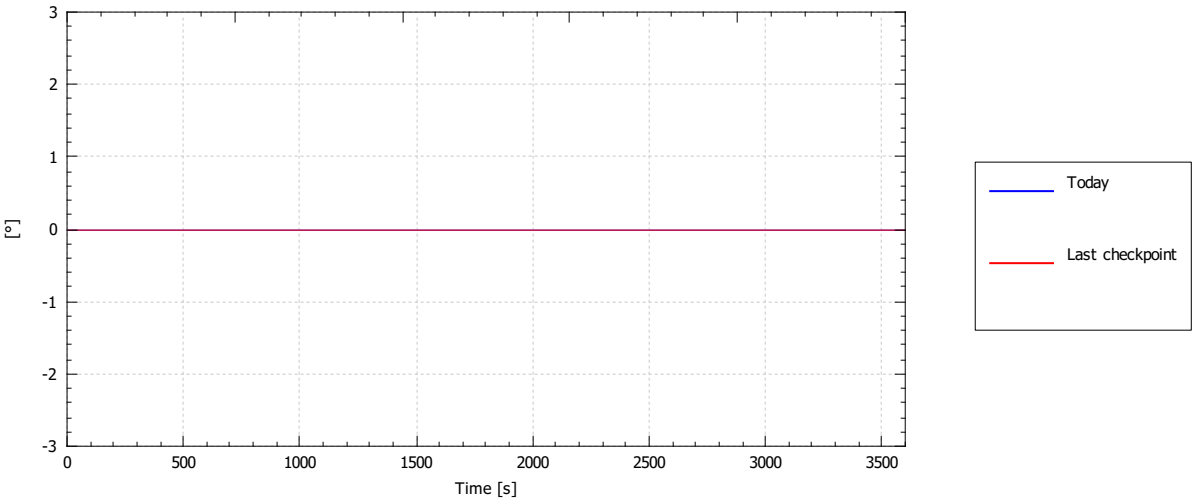
Yaw angle relative to forward

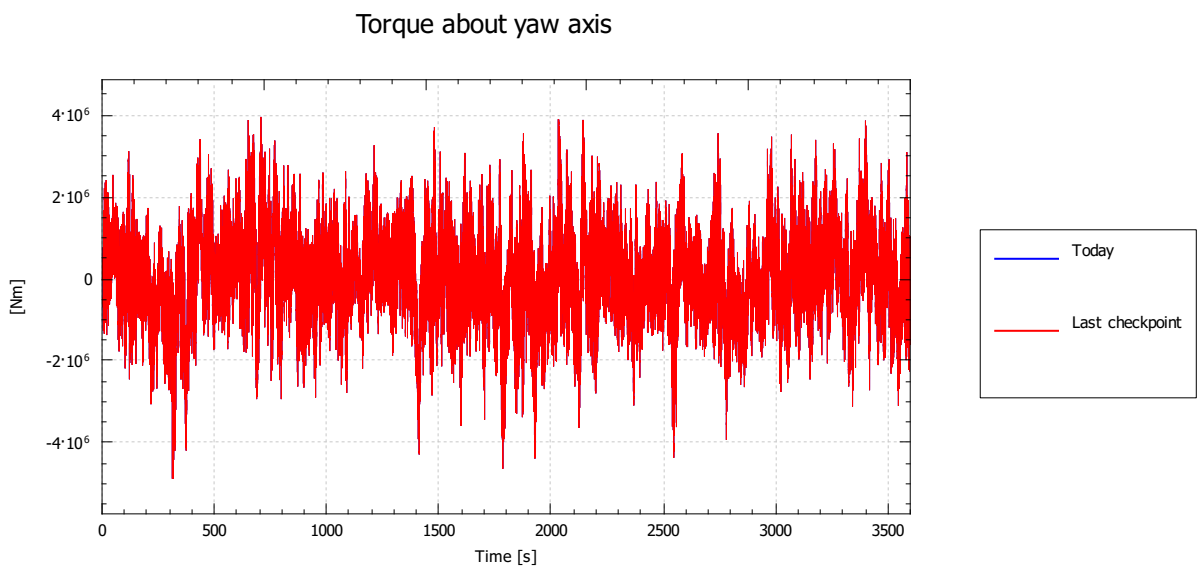


Yaw angle to reference direction



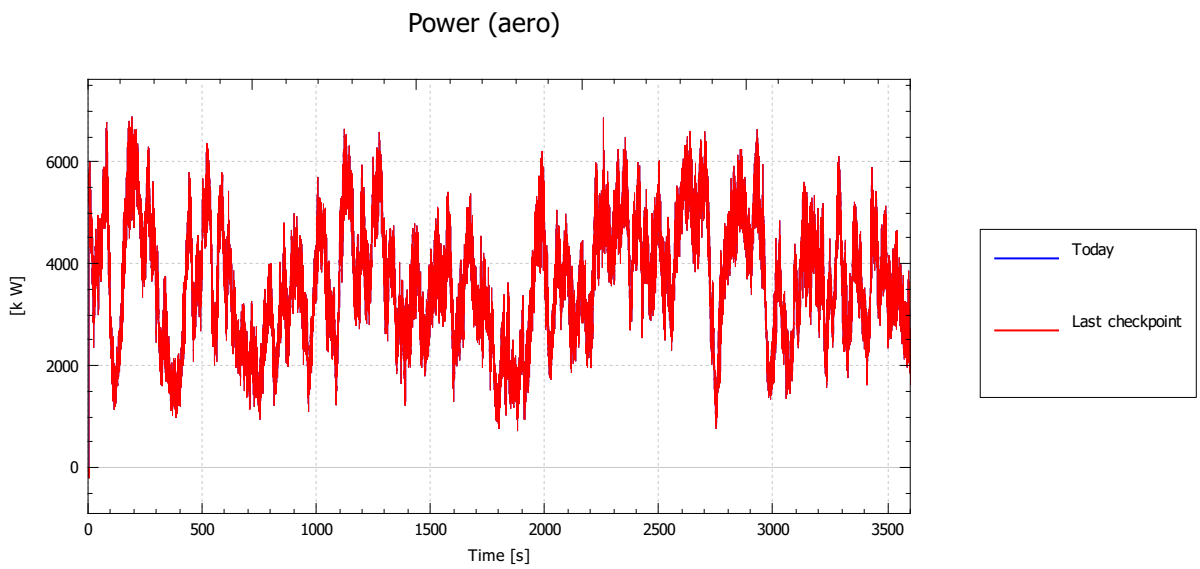
Yaw error



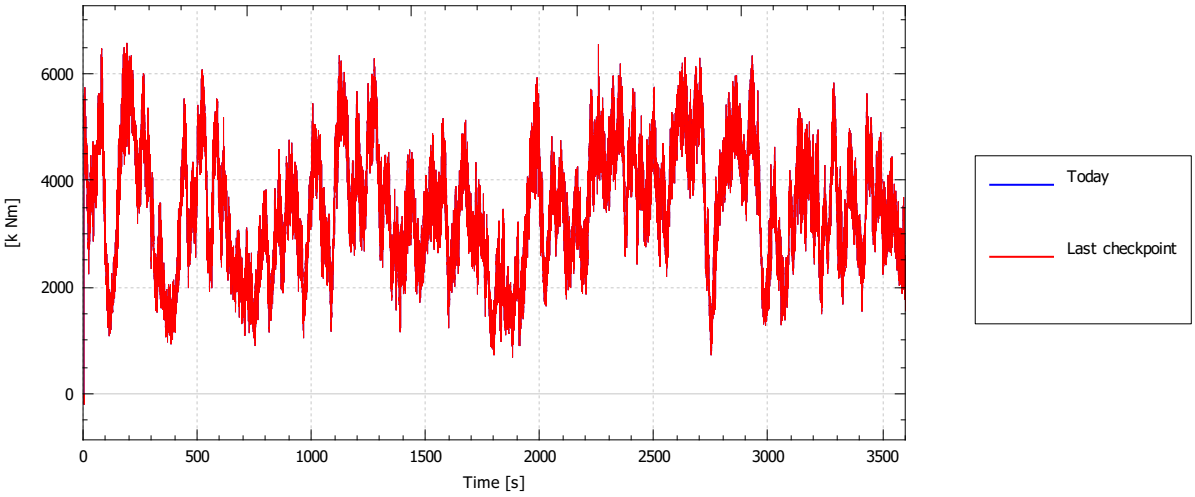


Load case: Turb2

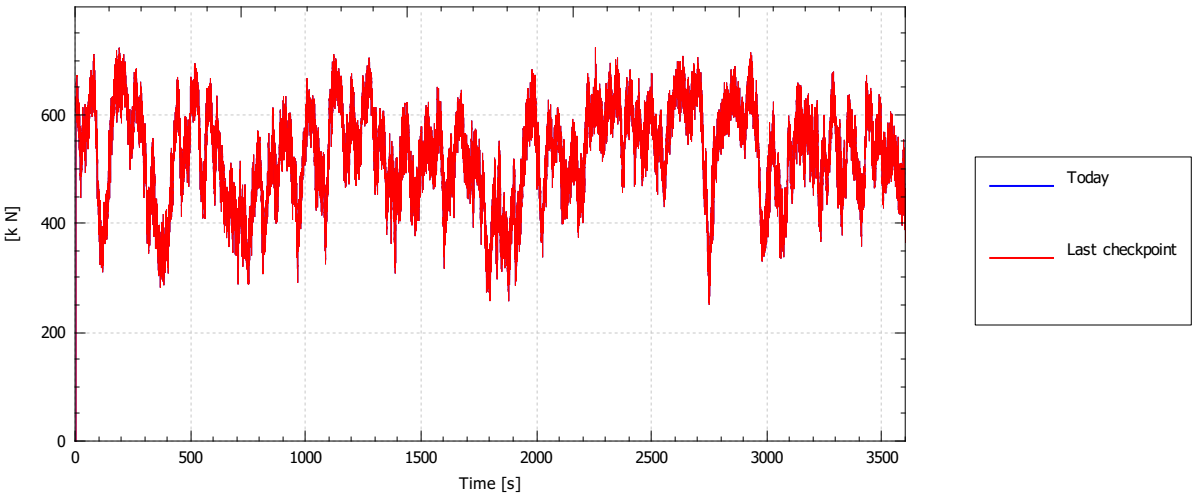
Rotor



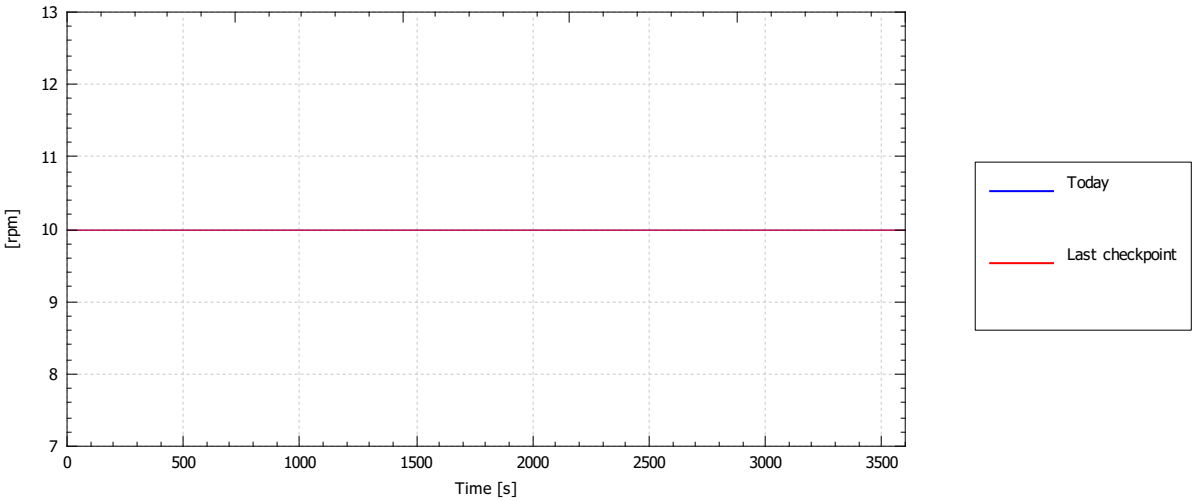
Torque (aero)



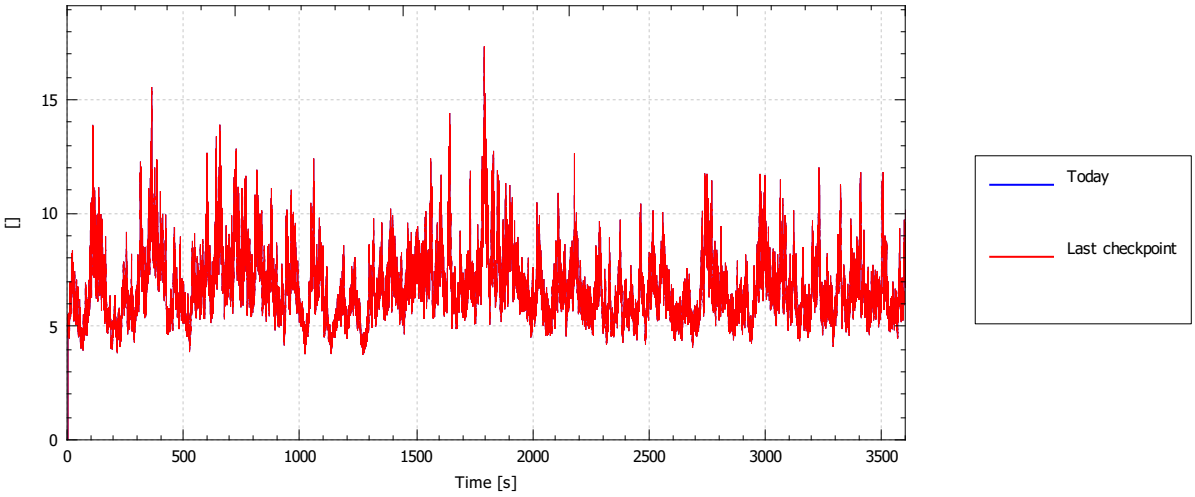
Thrust (aero)



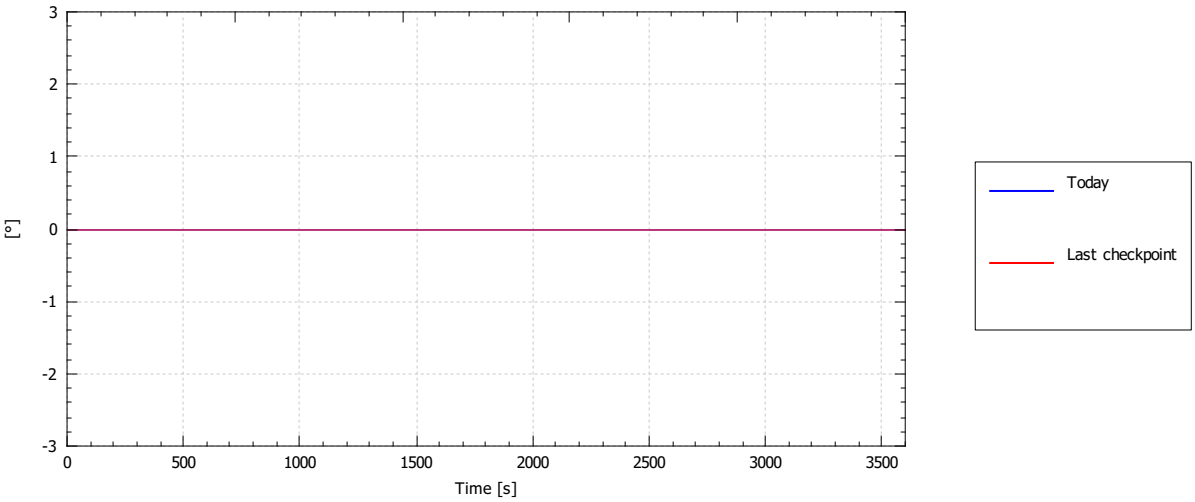
RPM



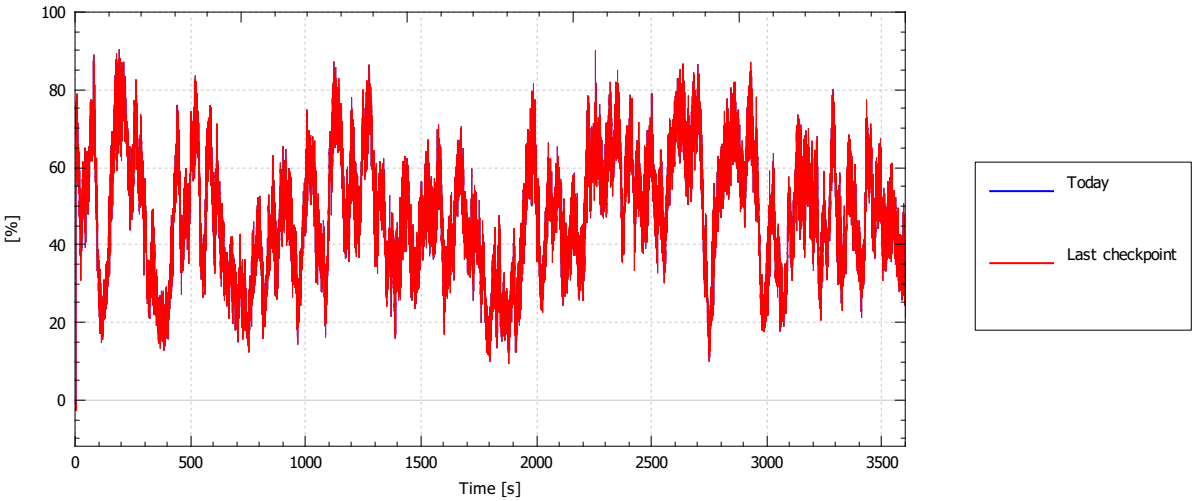
TSR



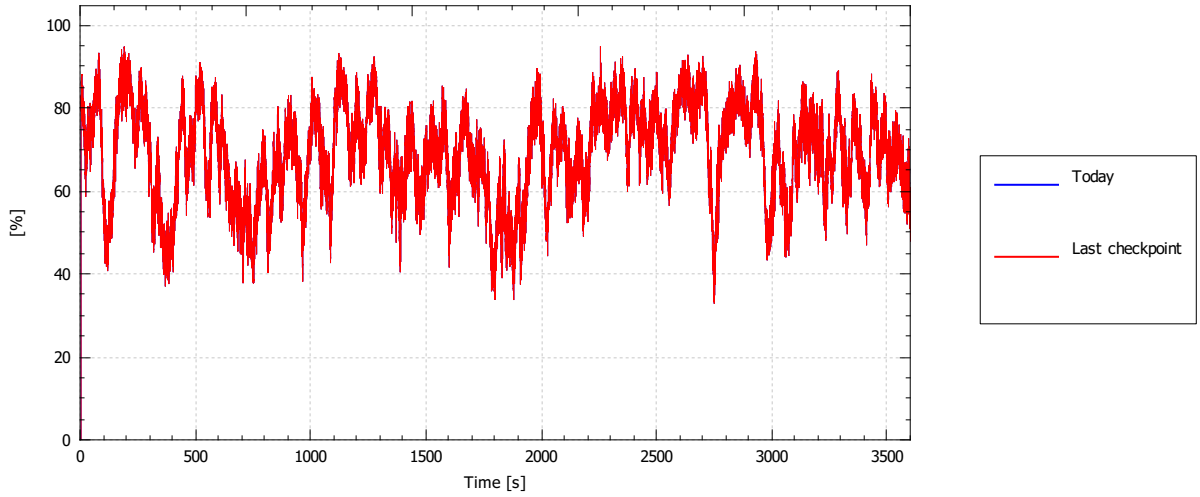
Representative demanded pitch angle



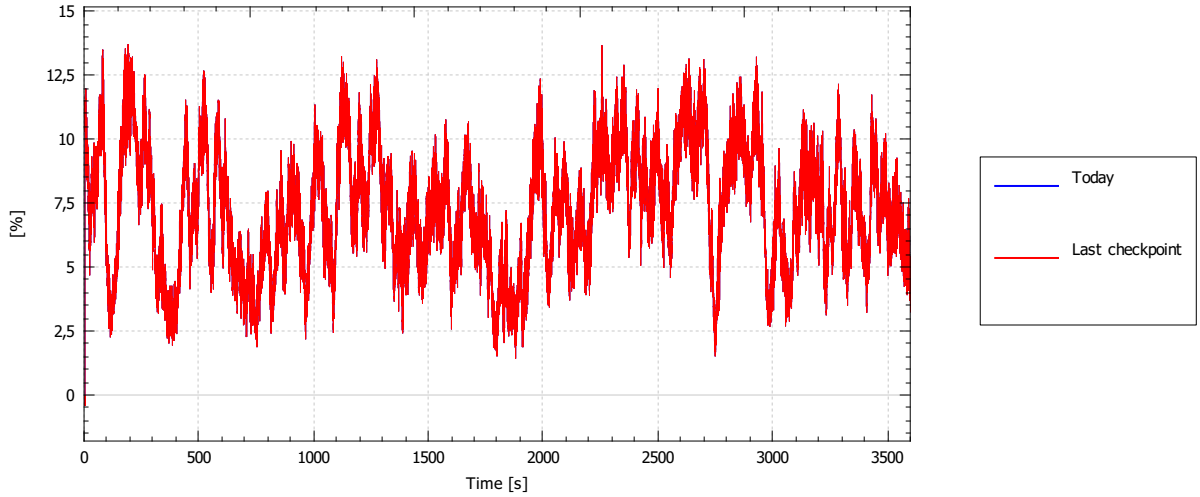
Power coef. (CP)



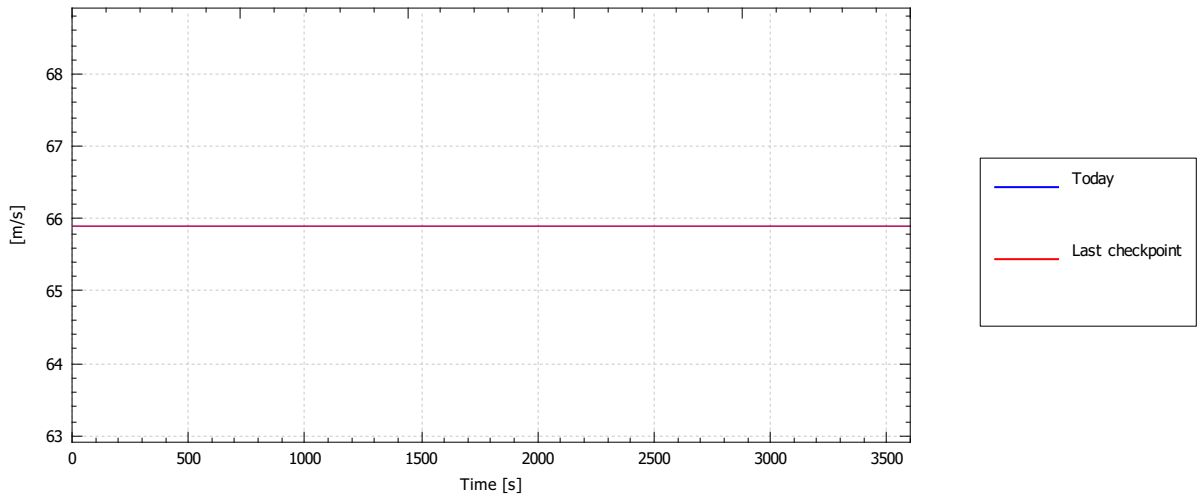
Thrust coef. (CT)



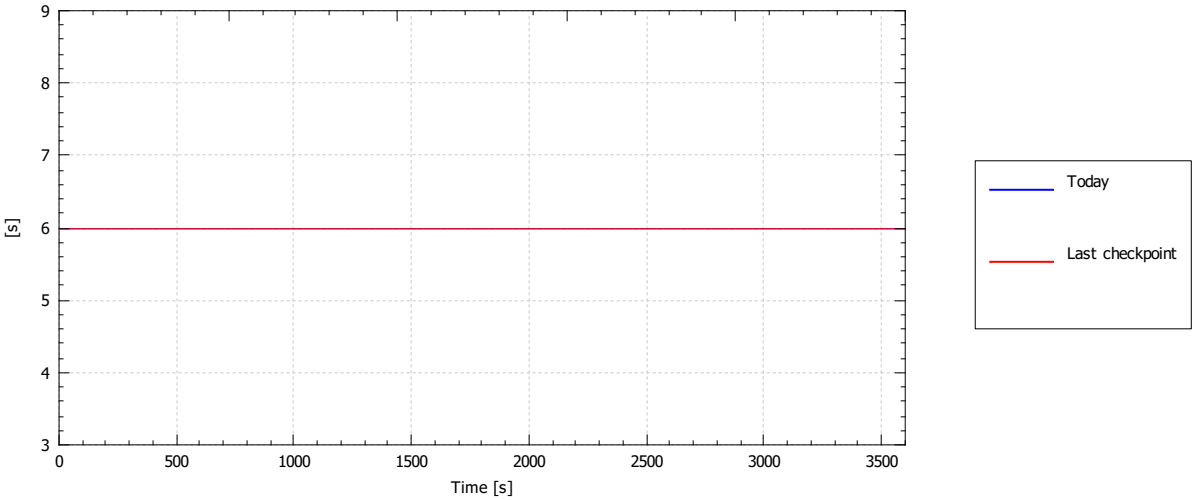
Torque coef. (CQ)



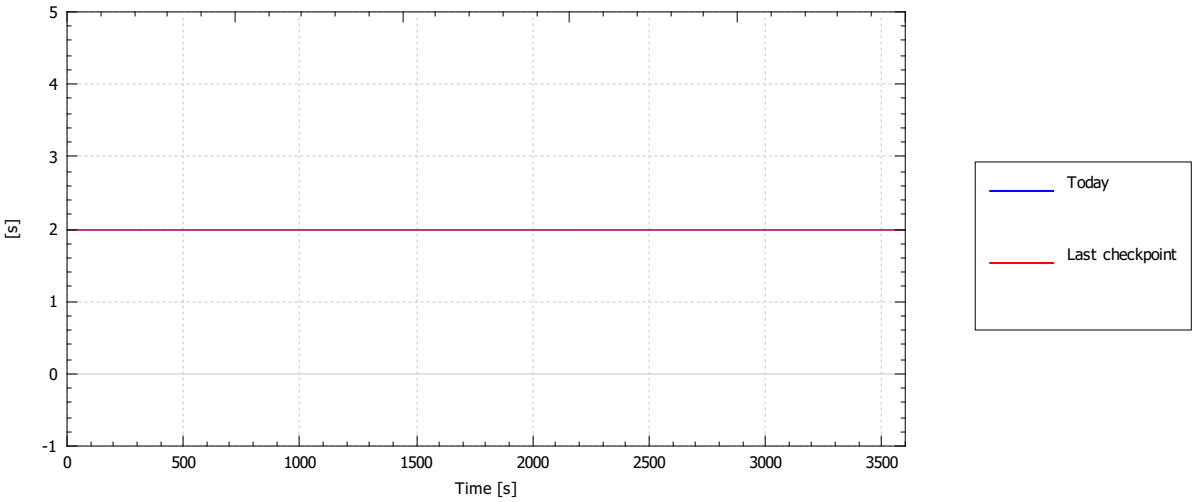
Tip speed



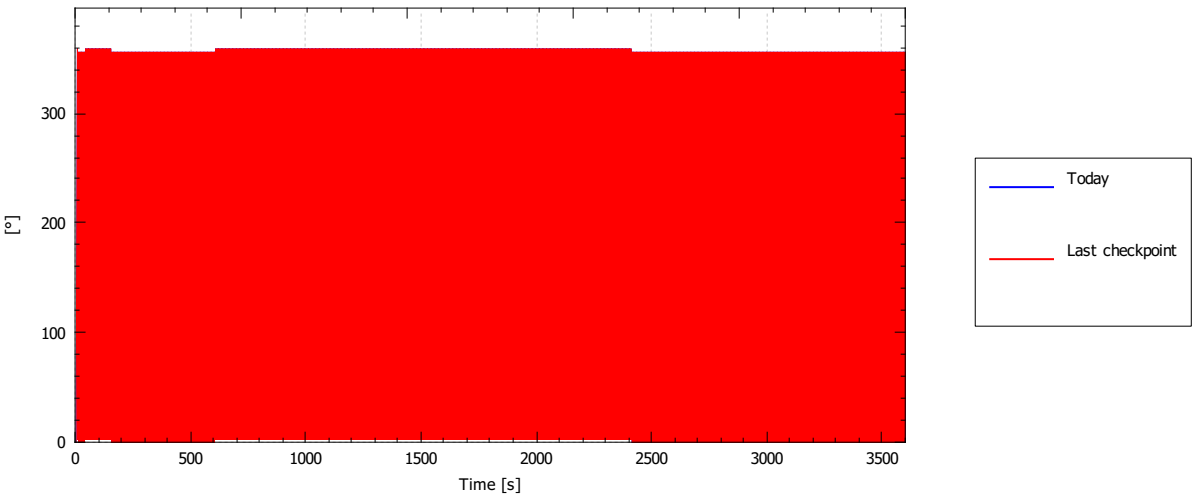
1P (one revolution)



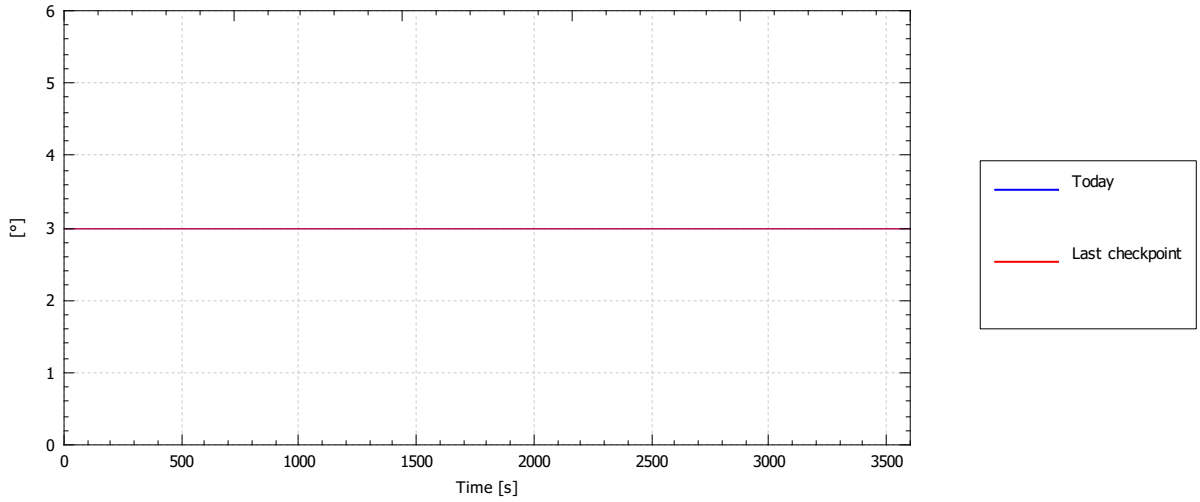
nP (blade passing)



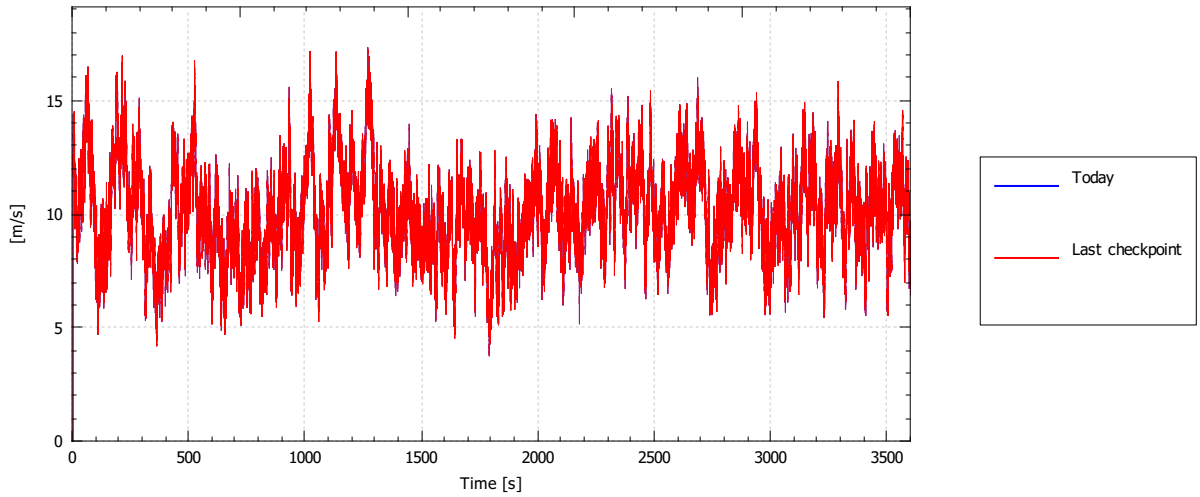
Azimuth angle



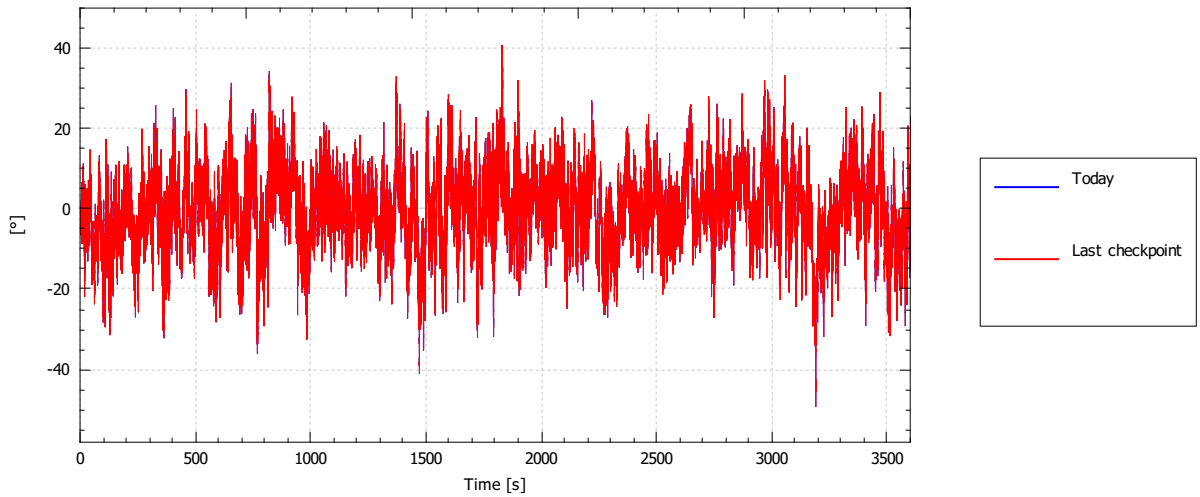
Rotation per timestep



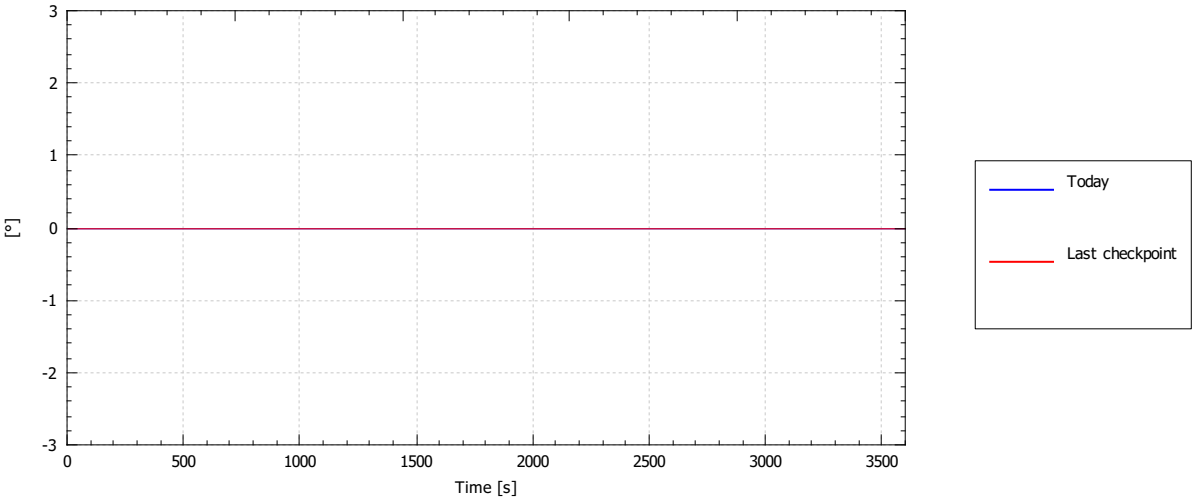
Wind speed at hub, magnitude



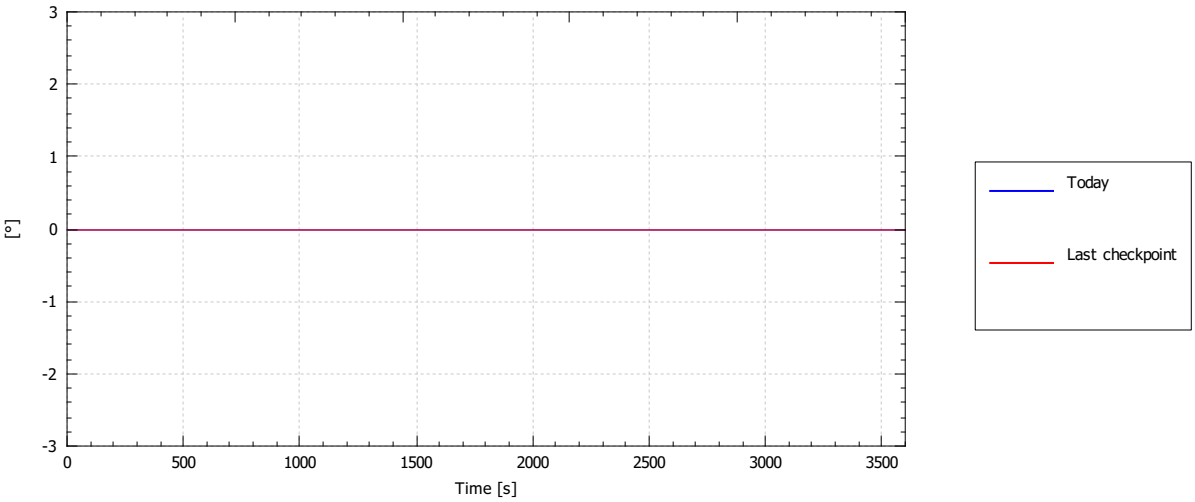
Wind angle at hub



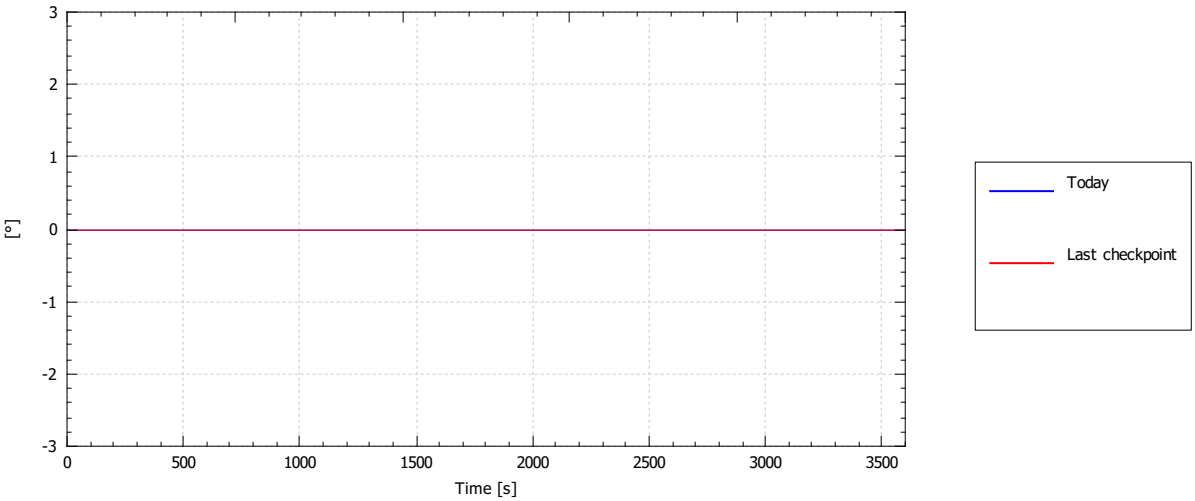
Yaw angle relative to forward

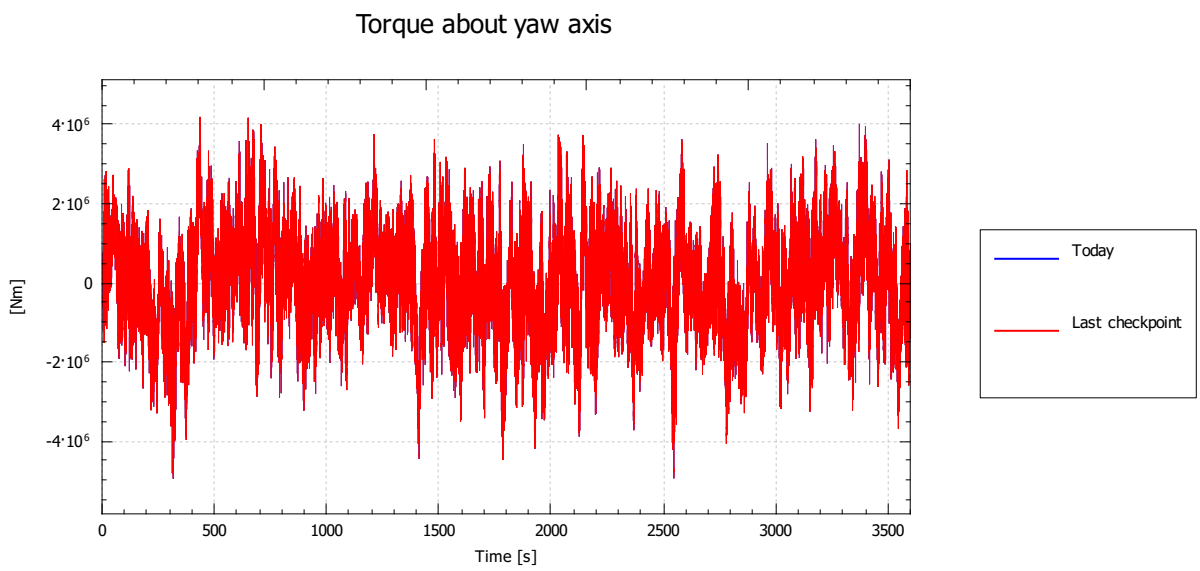


Yaw angle to reference direction



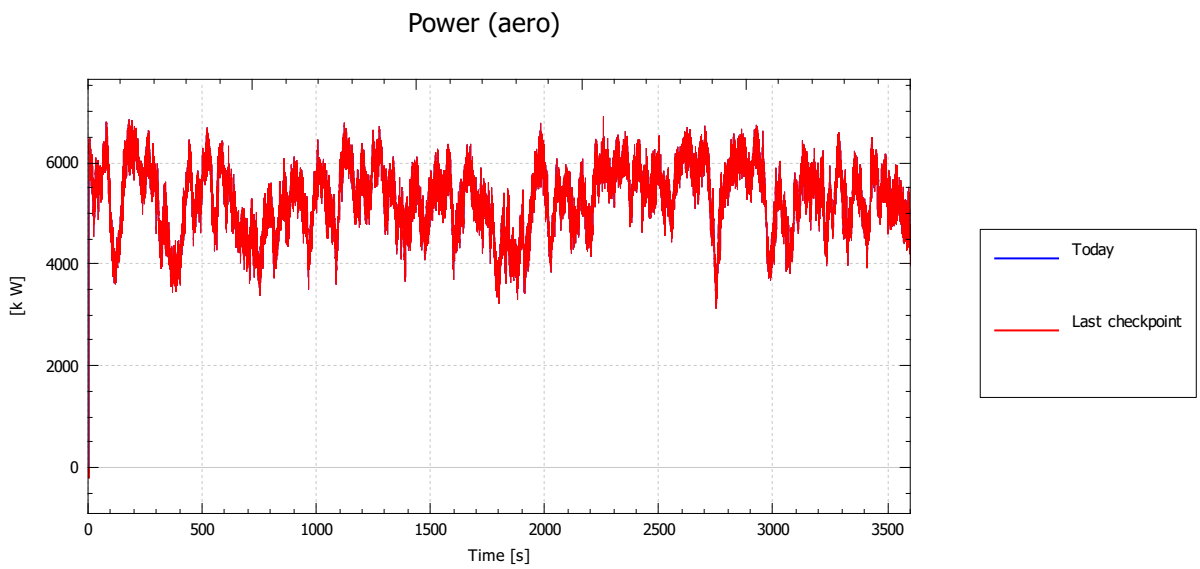
Yaw error



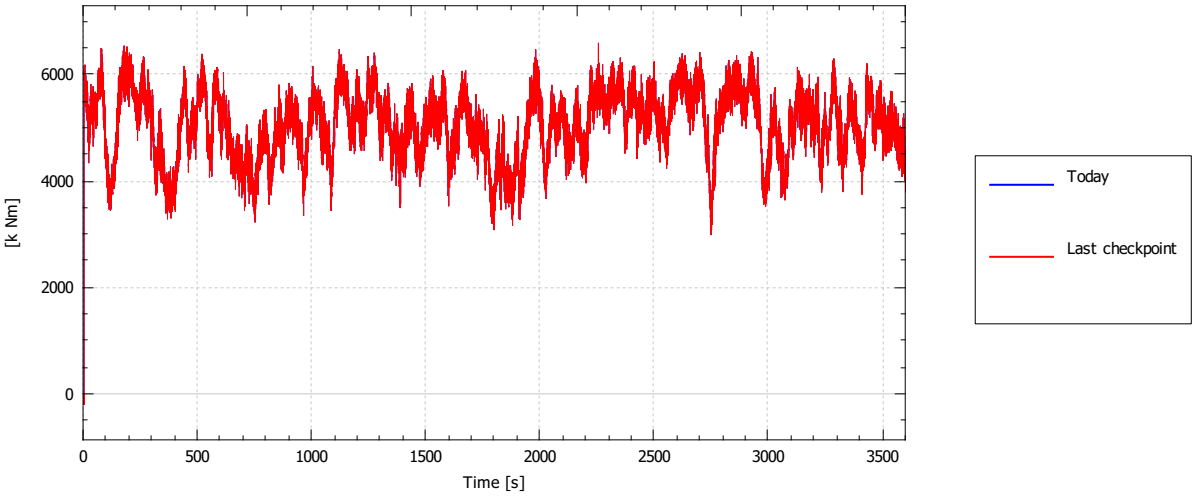


Load case: Turb3

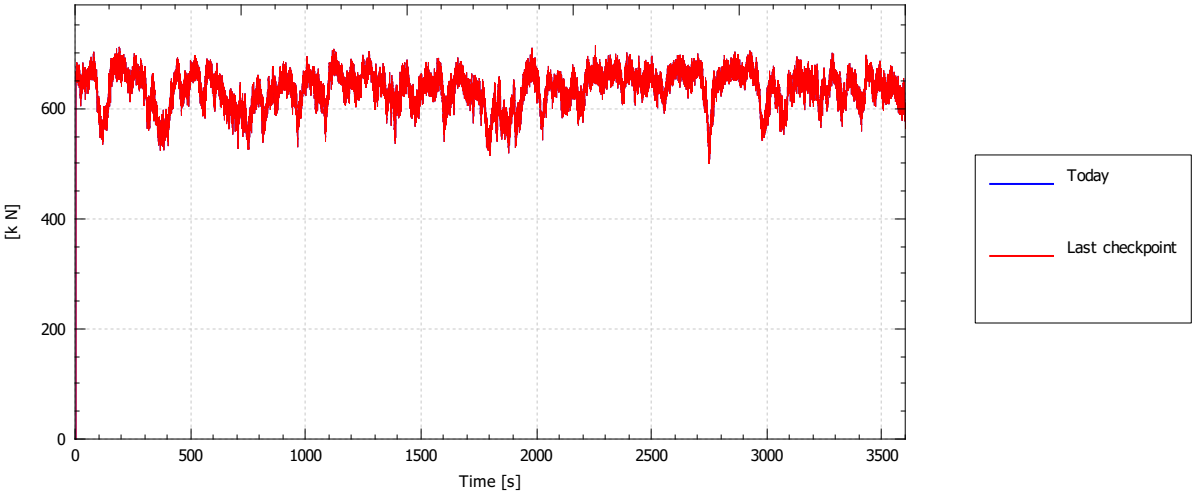
Rotor



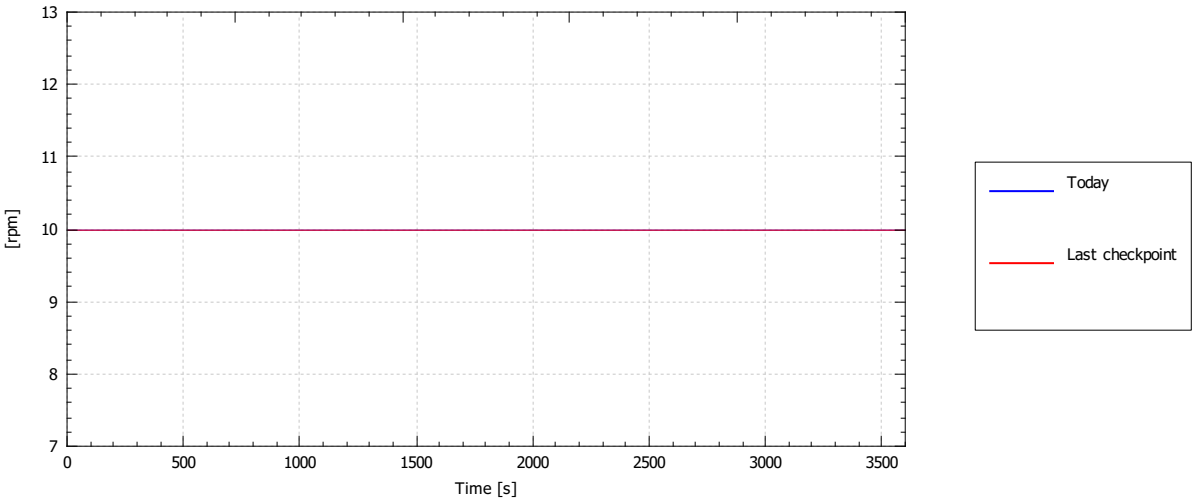
Torque (aero)



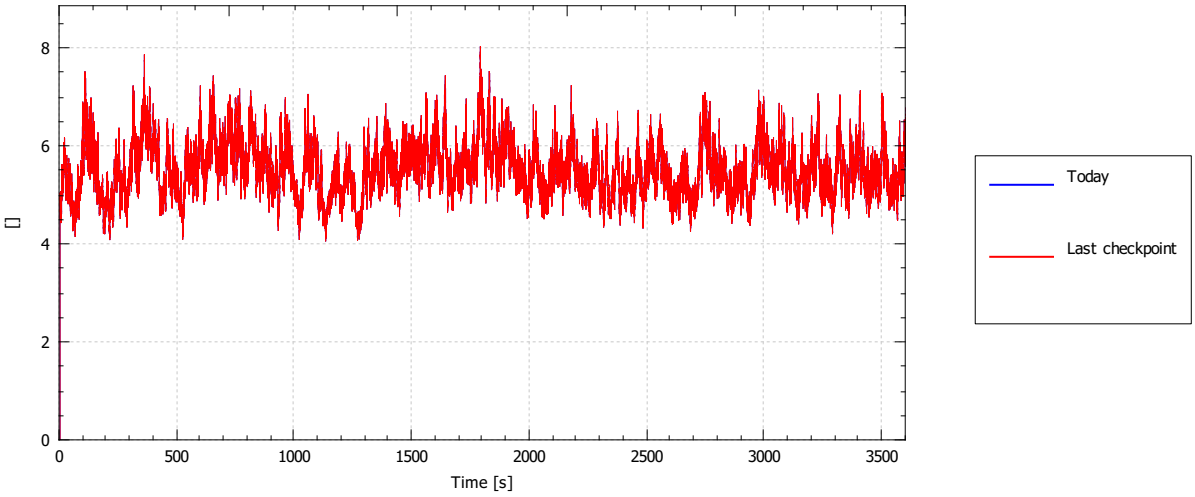
Thrust (aero)



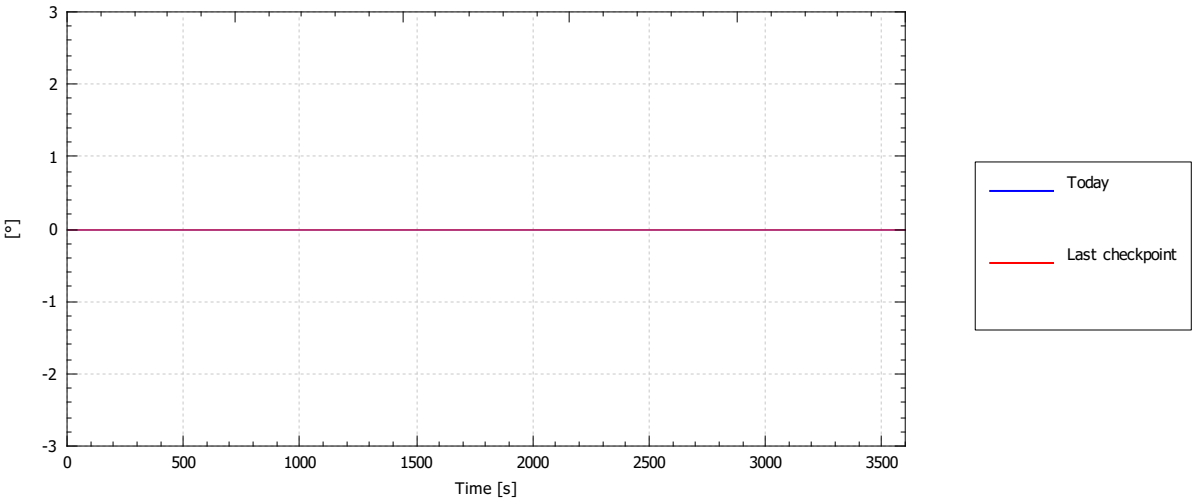
RPM



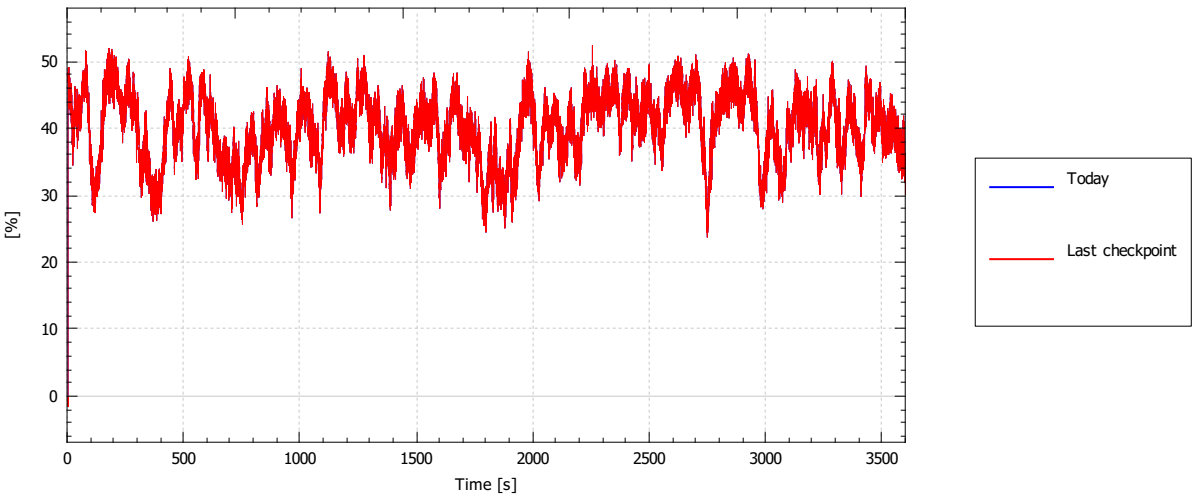
TSR

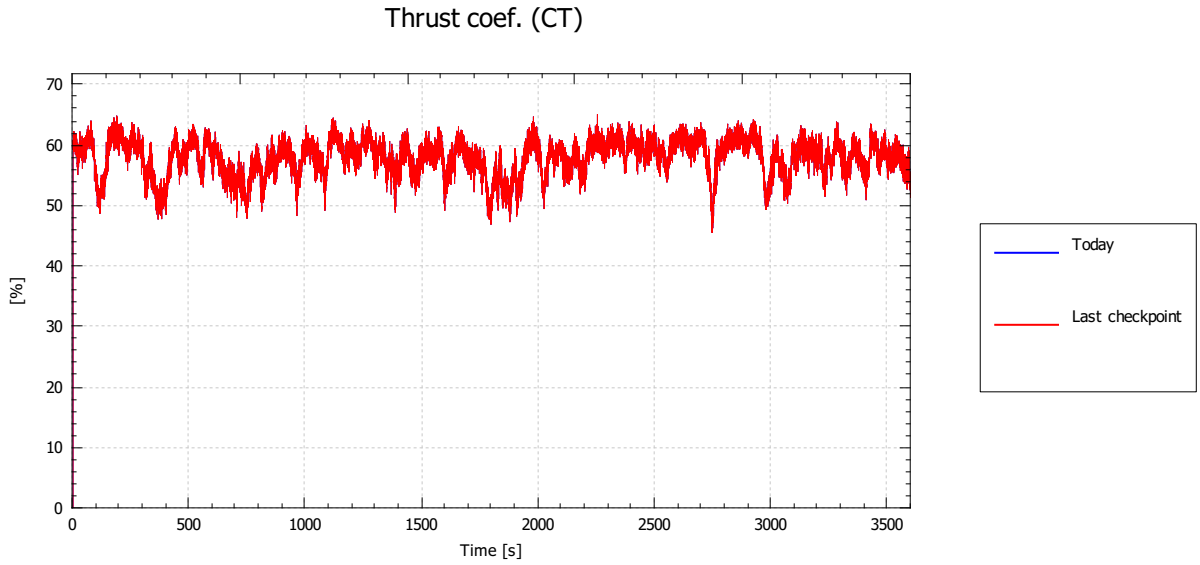


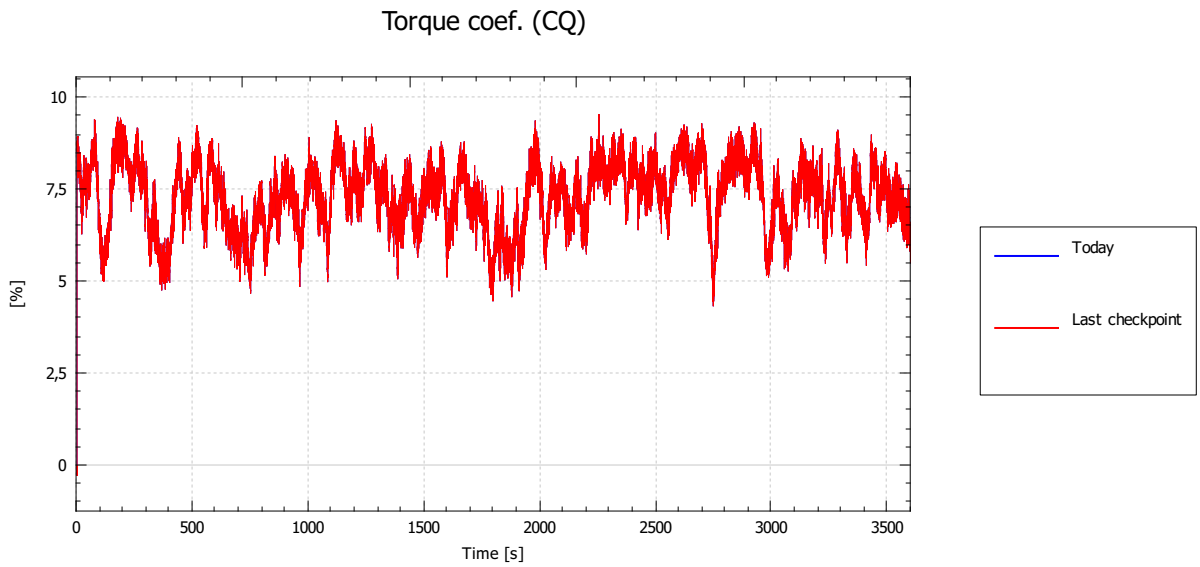
Representative demanded pitch angle

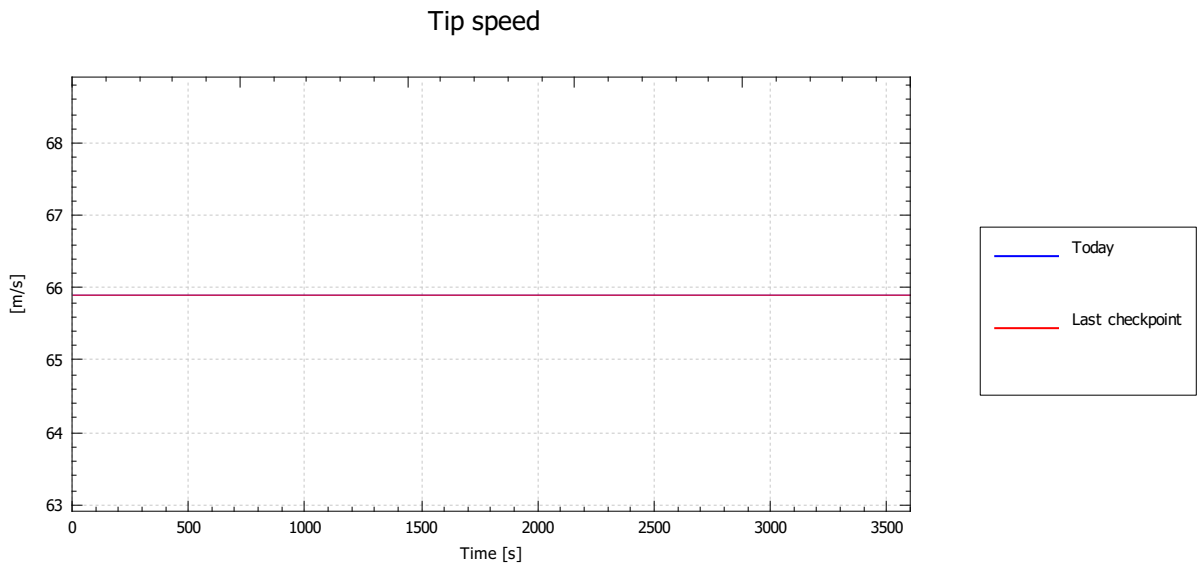


Power coef. (CP)

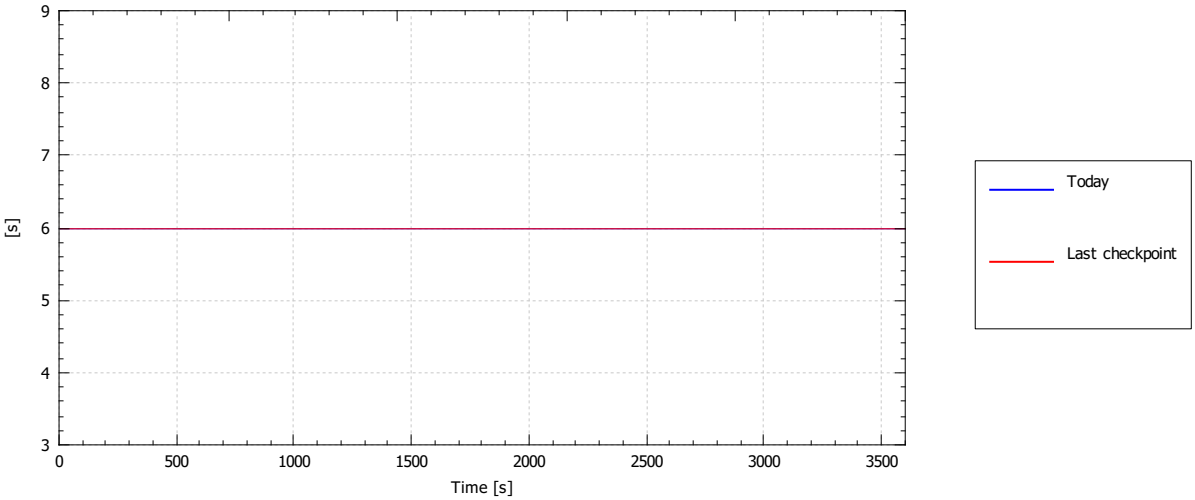



Thrust coef. (CT)
[%]
70
60
50
40
30
20
10
0
0
500
1000
1500
2000
2500
3000
3500
Time [s]
Today
Last checkpoint

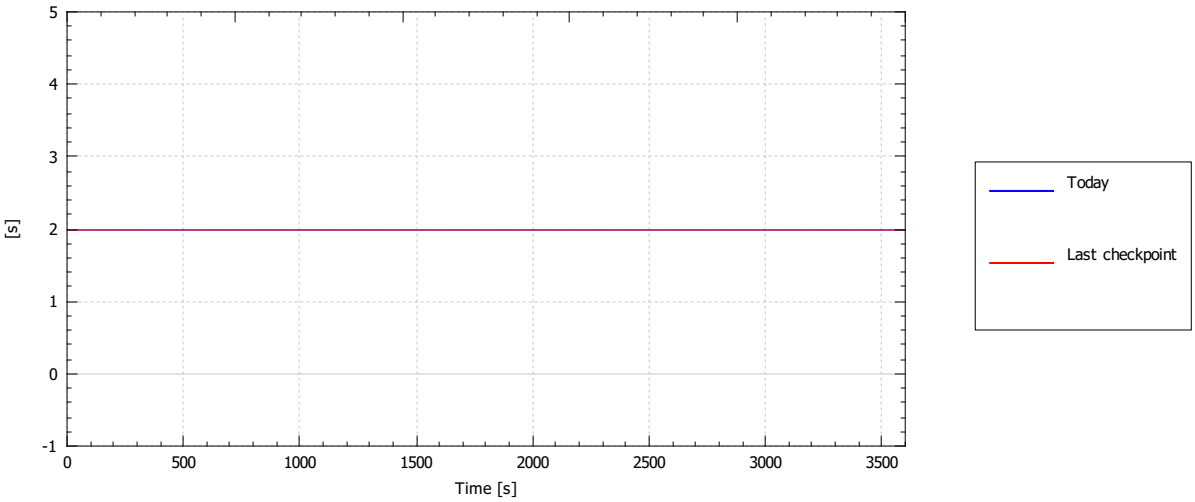

Torque coef. (CQ)
[%]
10
7,5
5
2,5
0
0
500
1000
1500
2000
2500
3000
3500
Time [s]
Today
Last checkpoint


Tip speed
[m/s]
68
67
66
65
64
63
0
500
1000
1500
2000
2500
3000
3500
Time [s]
Today
Last checkpoint

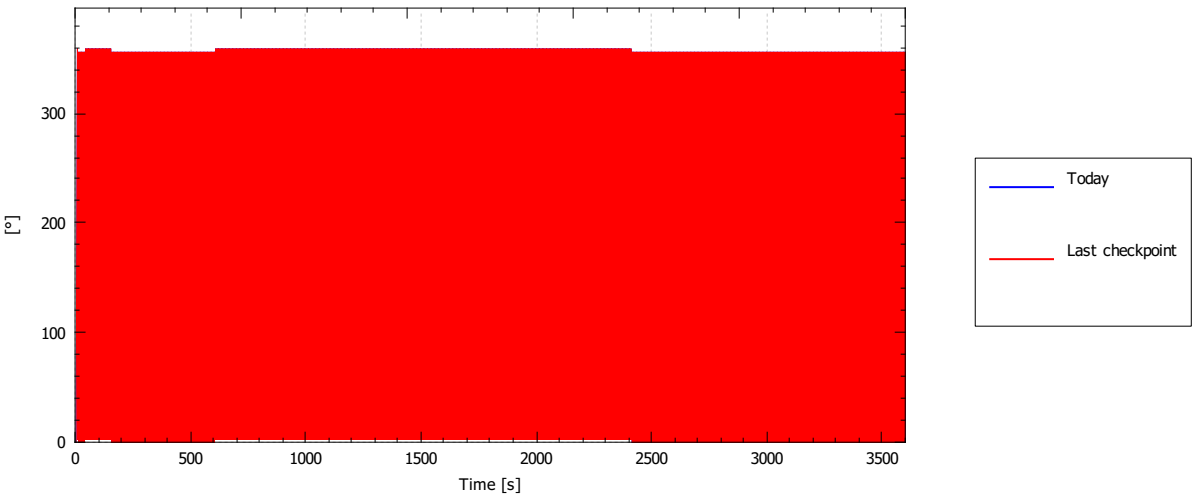
1P (one revolution)



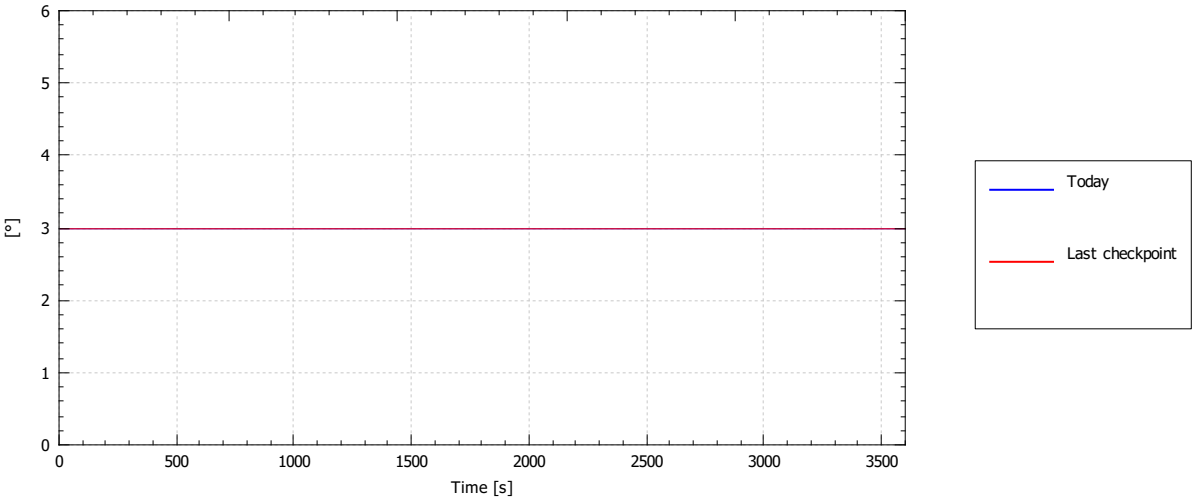
nP (blade passing)



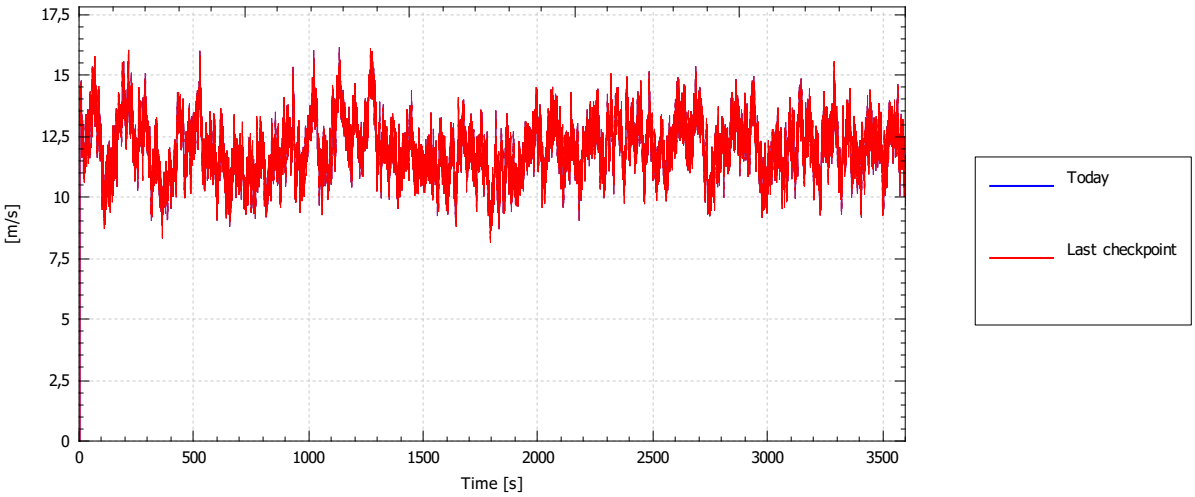
Azimuth angle



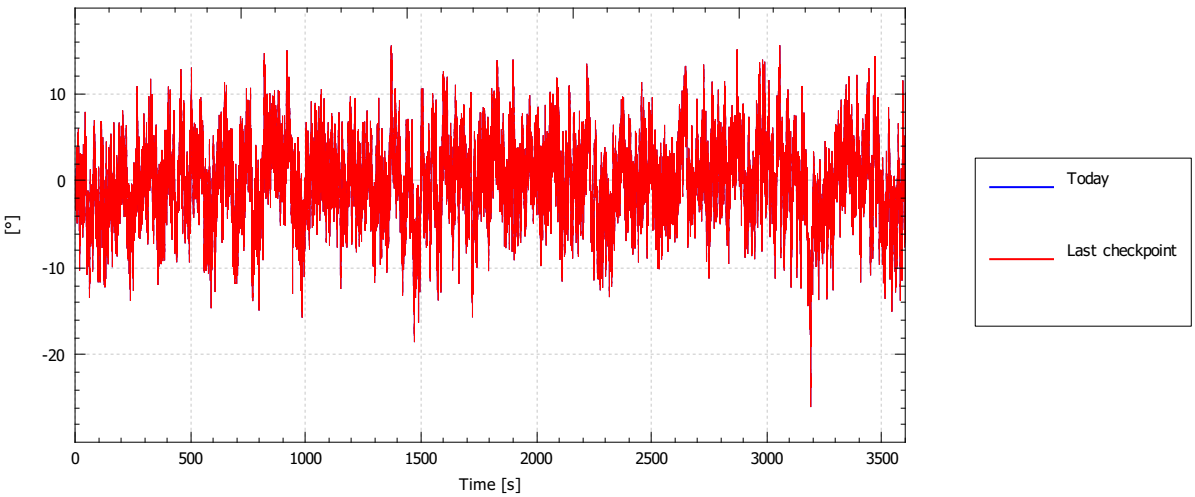
Rotation per timestep



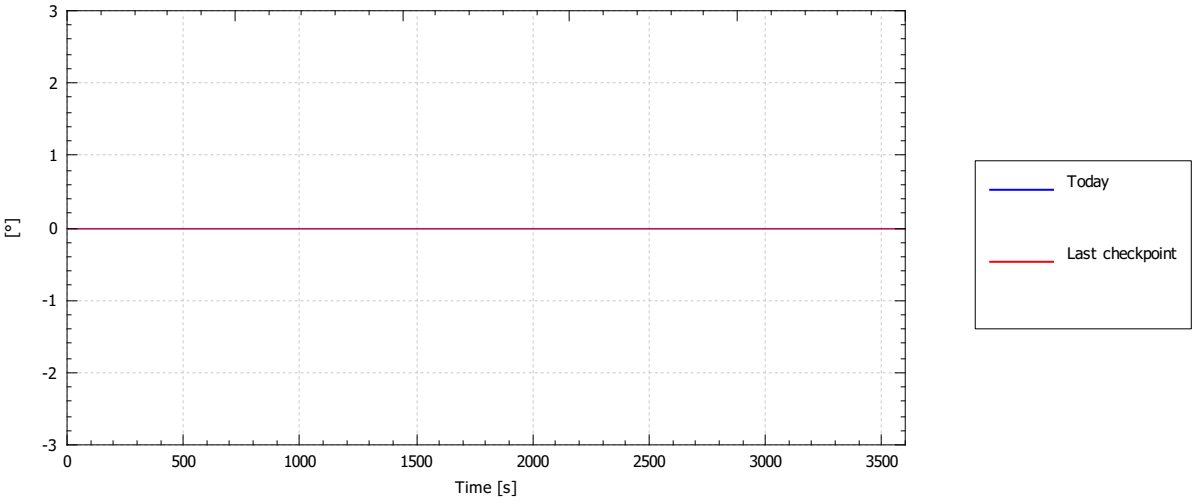
Wind speed at hub, magnitude



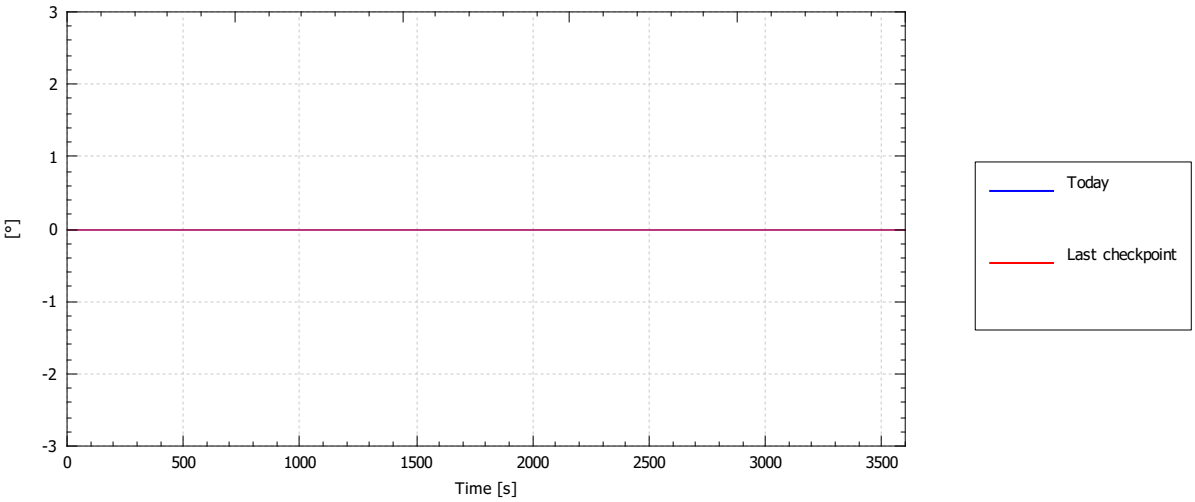
Wind angle at hub



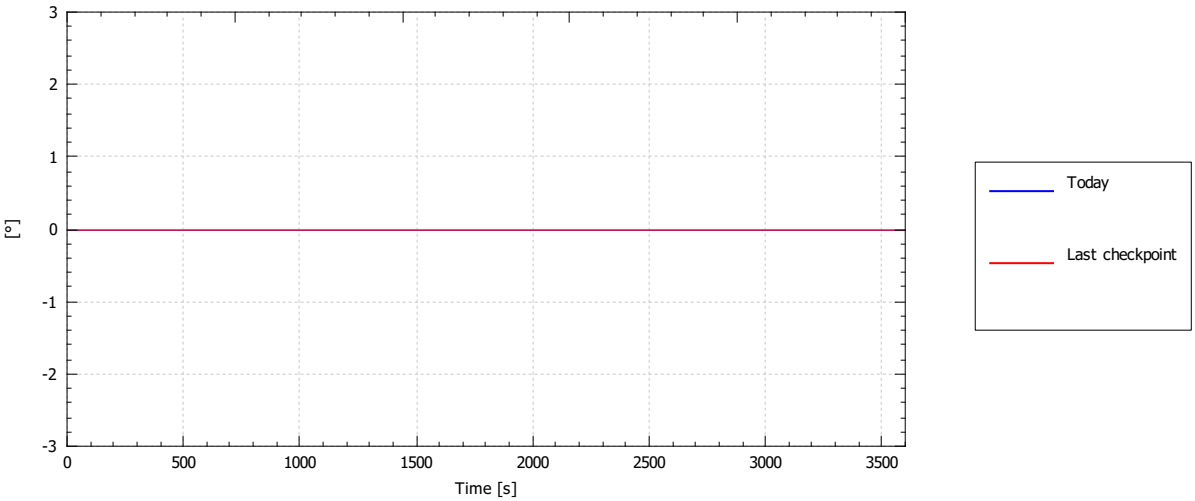
Yaw angle relative to forward

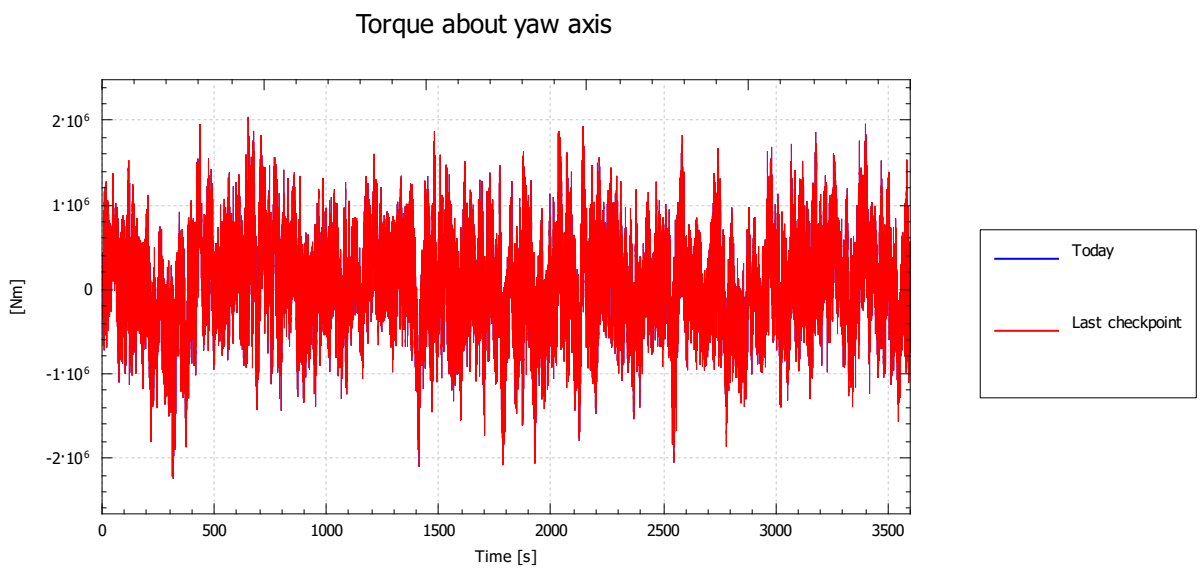


Yaw angle to reference direction



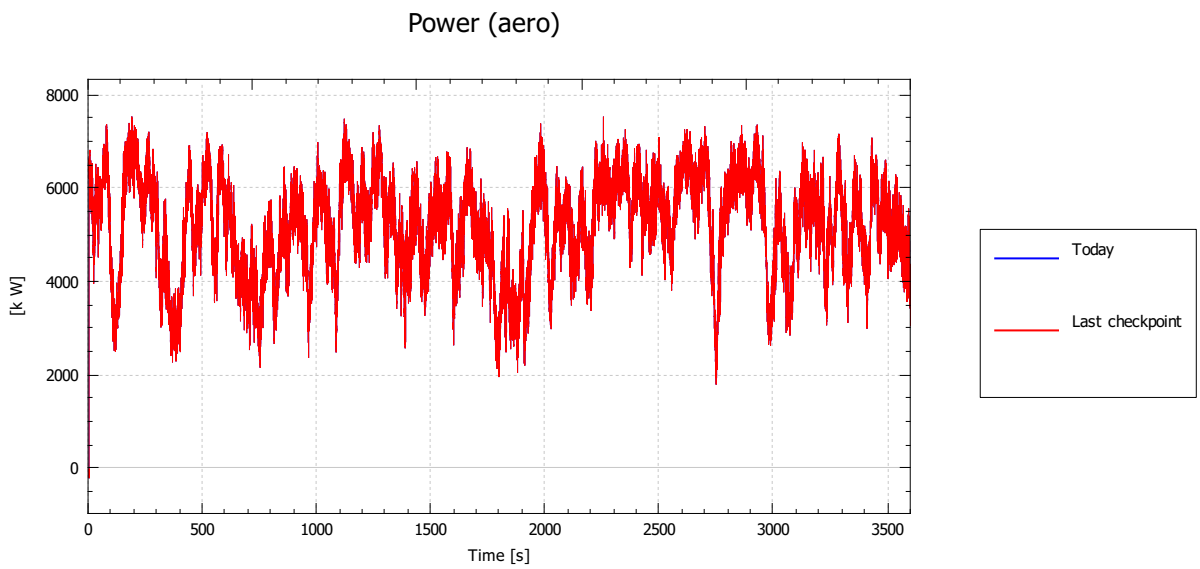
Yaw error



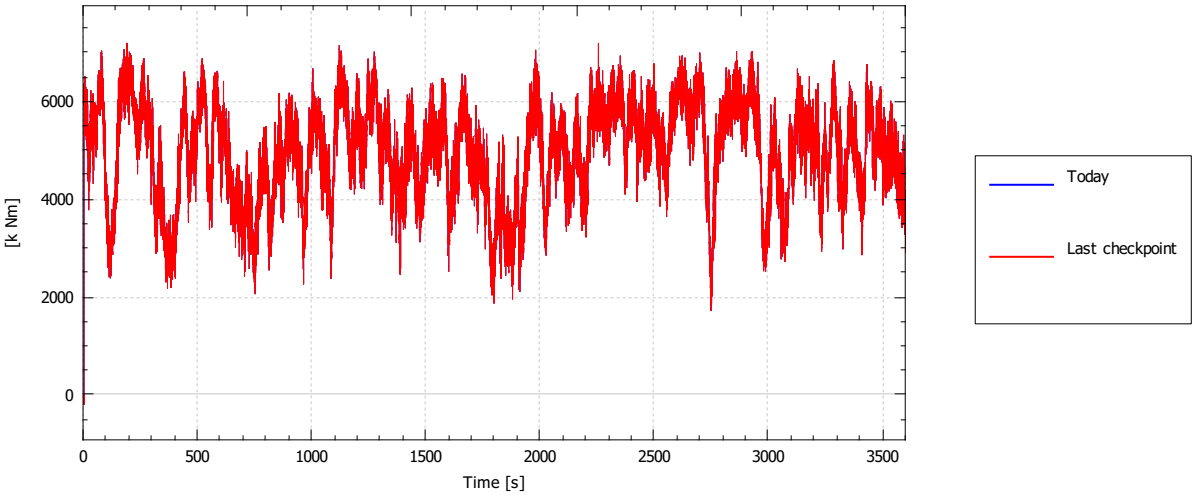


Load case: Turb4

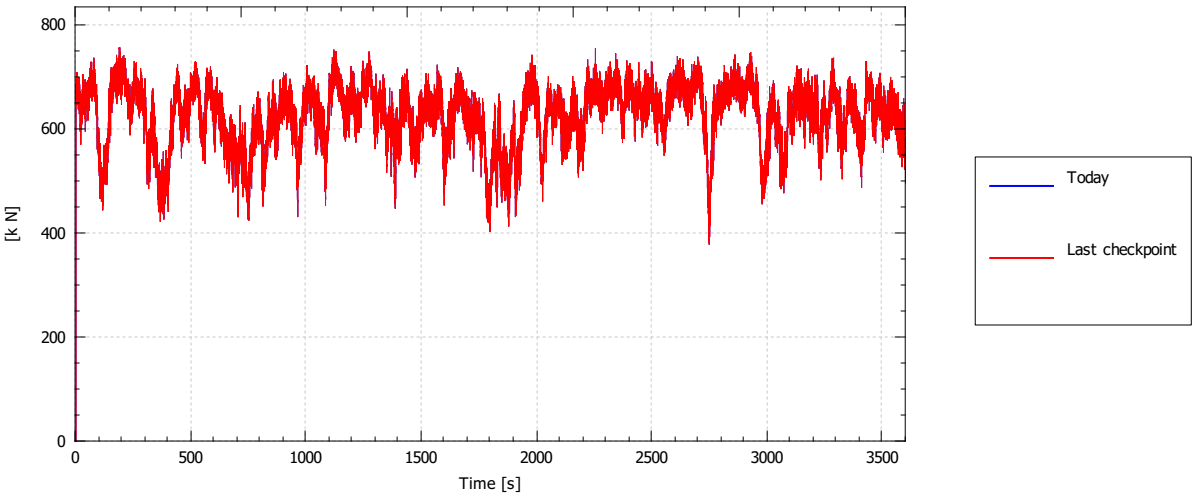
Rotor



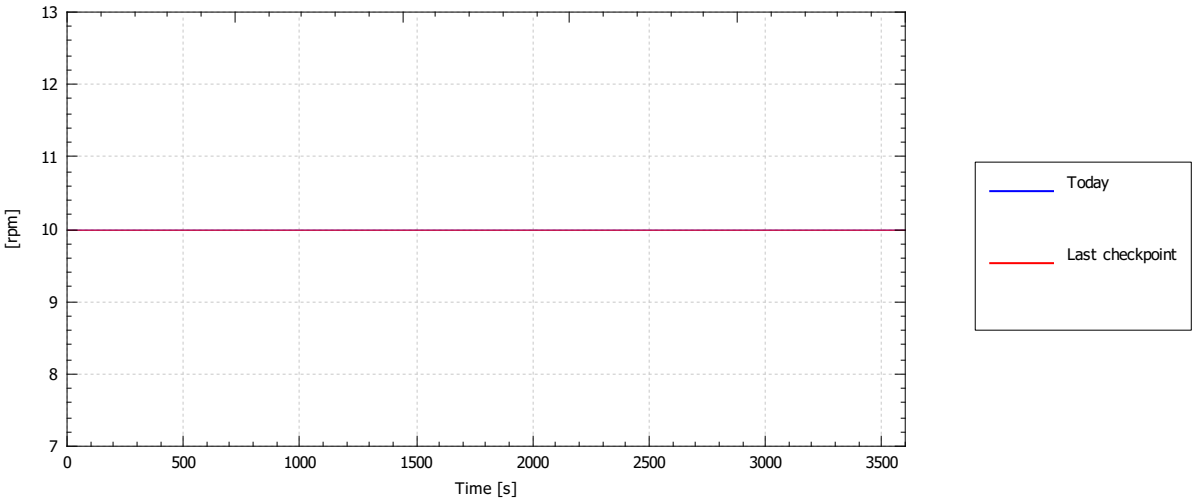
Torque (aero)



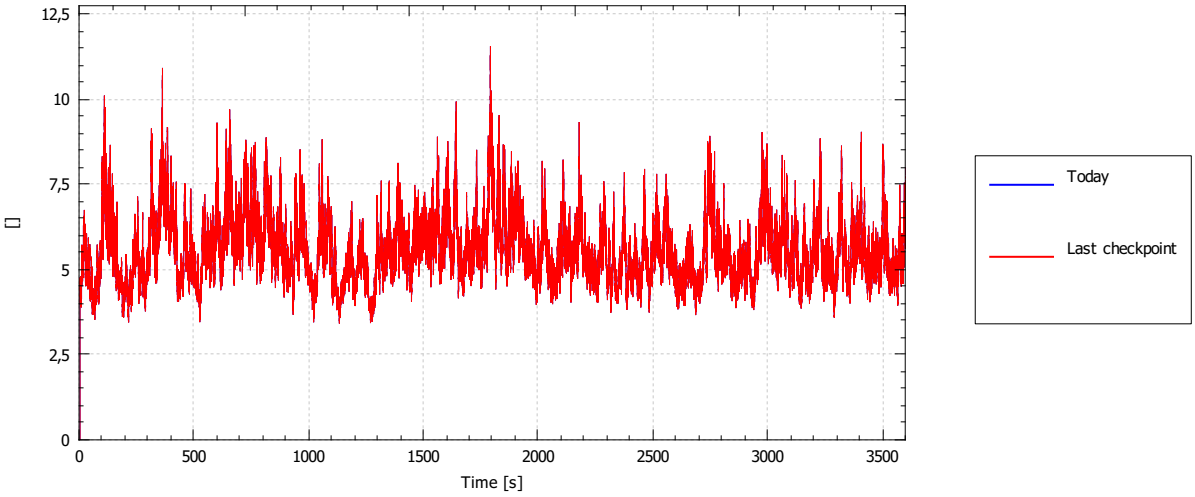
Thrust (aero)



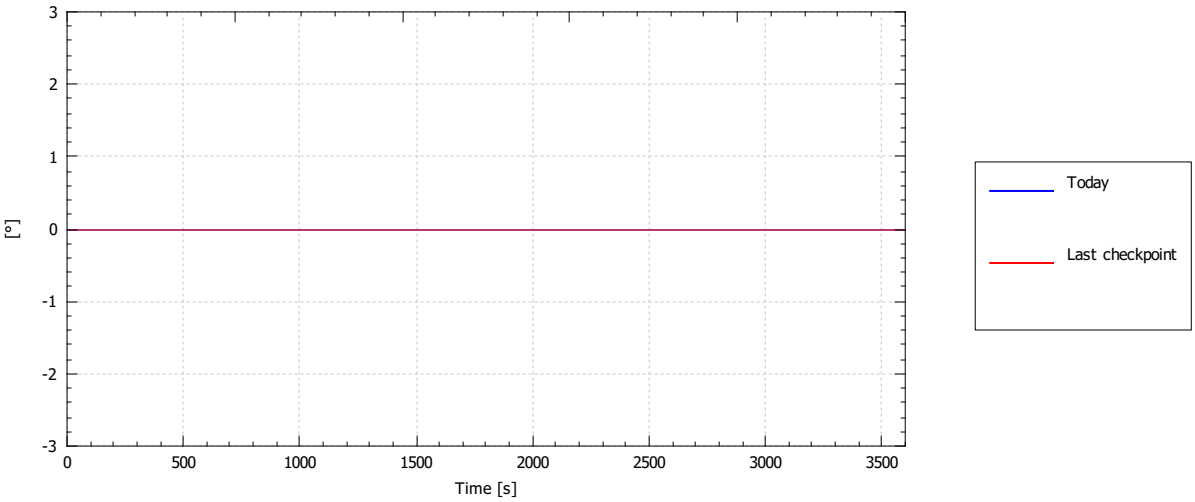
RPM



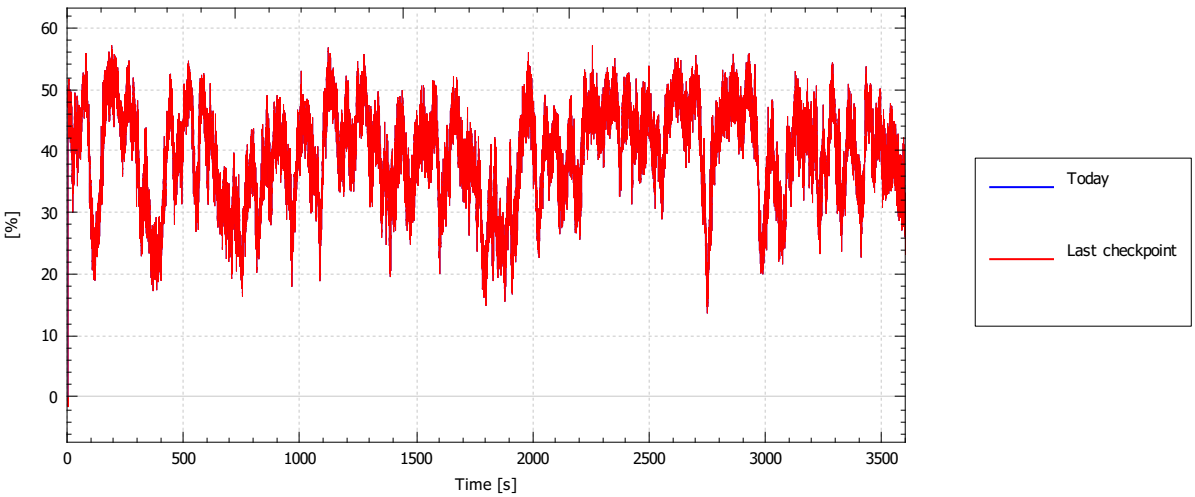
TSR



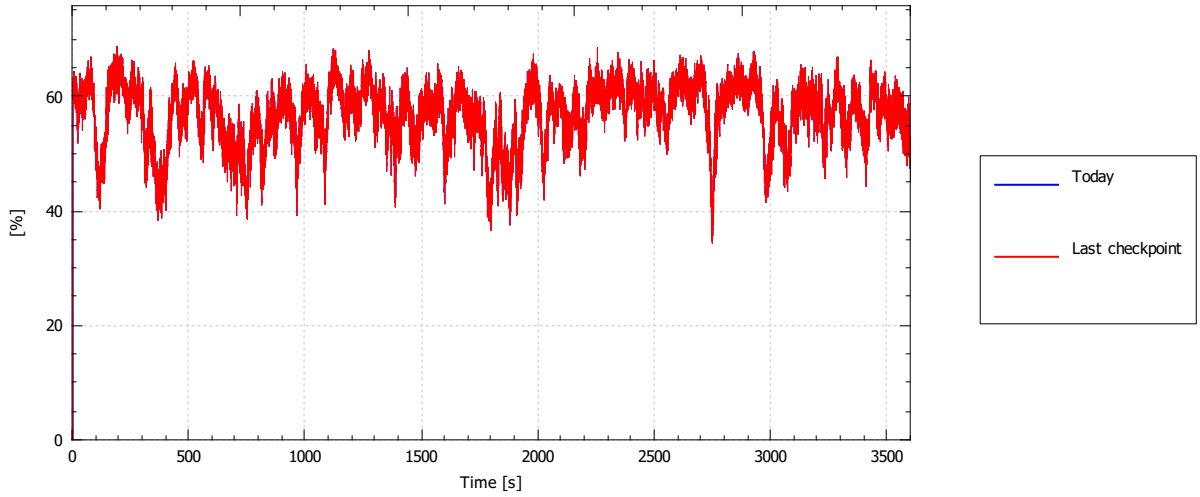
Representative demanded pitch angle



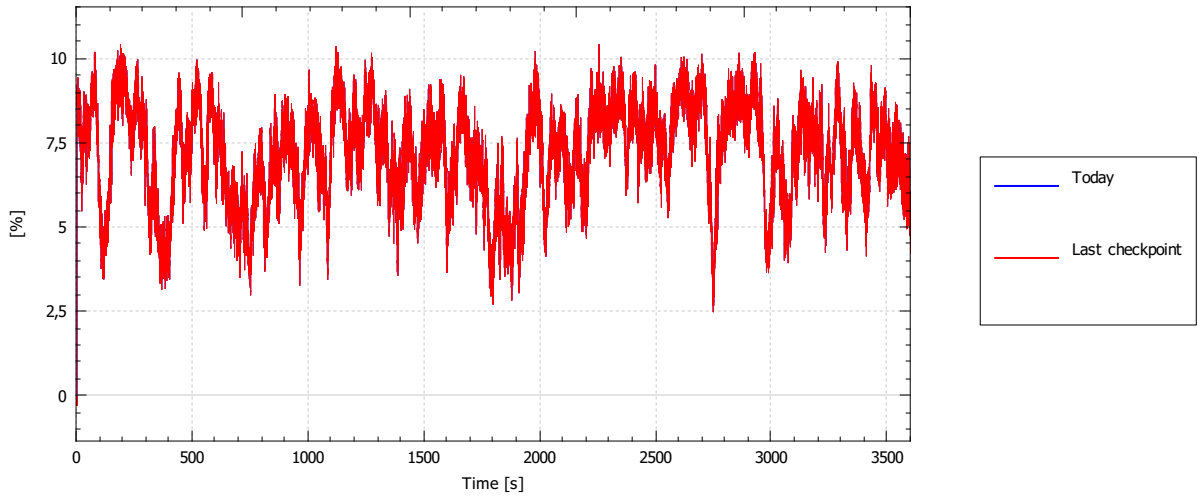
Power coef. (CP)



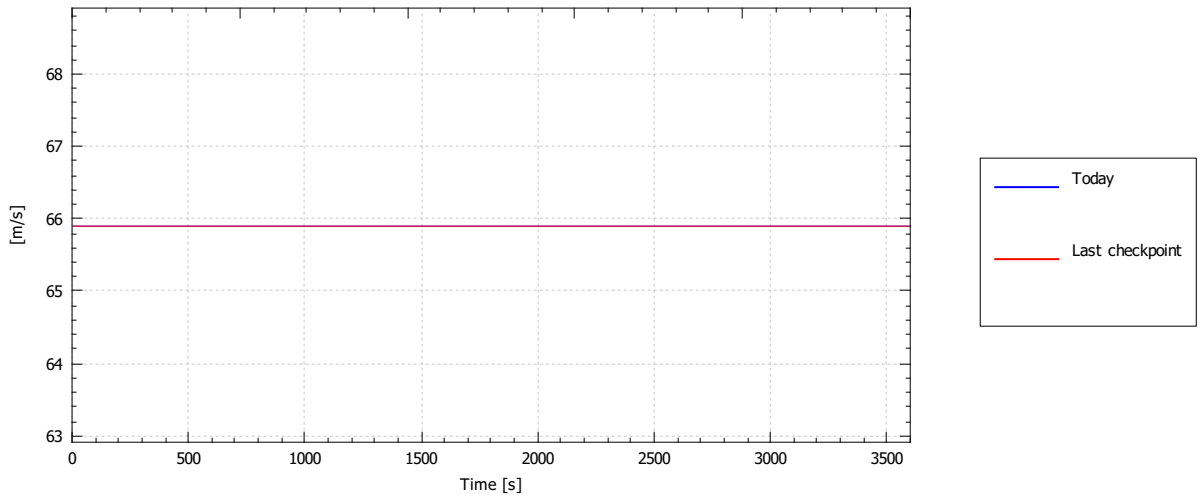
Thrust coef. (CT)



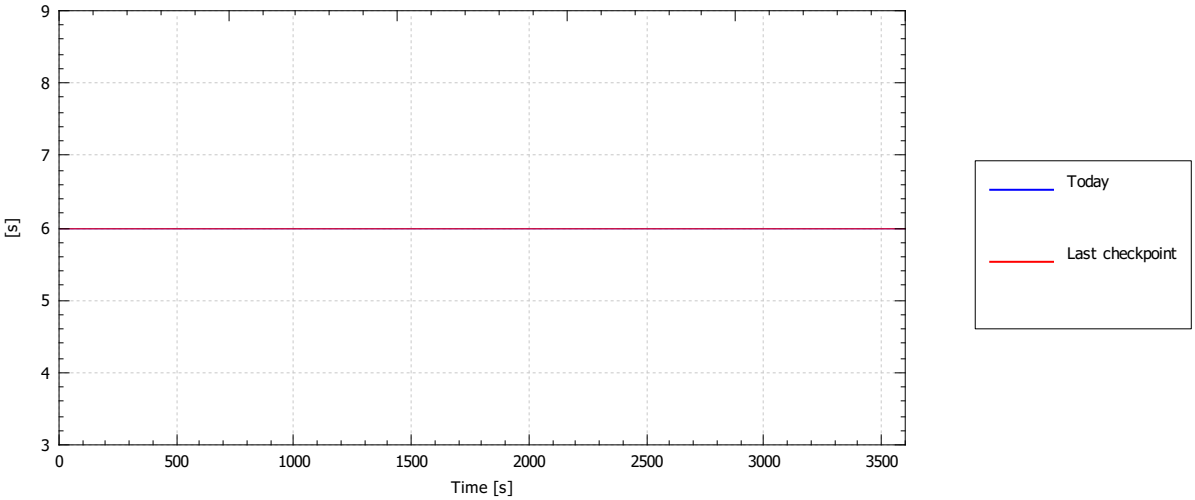
Torque coef. (CQ)



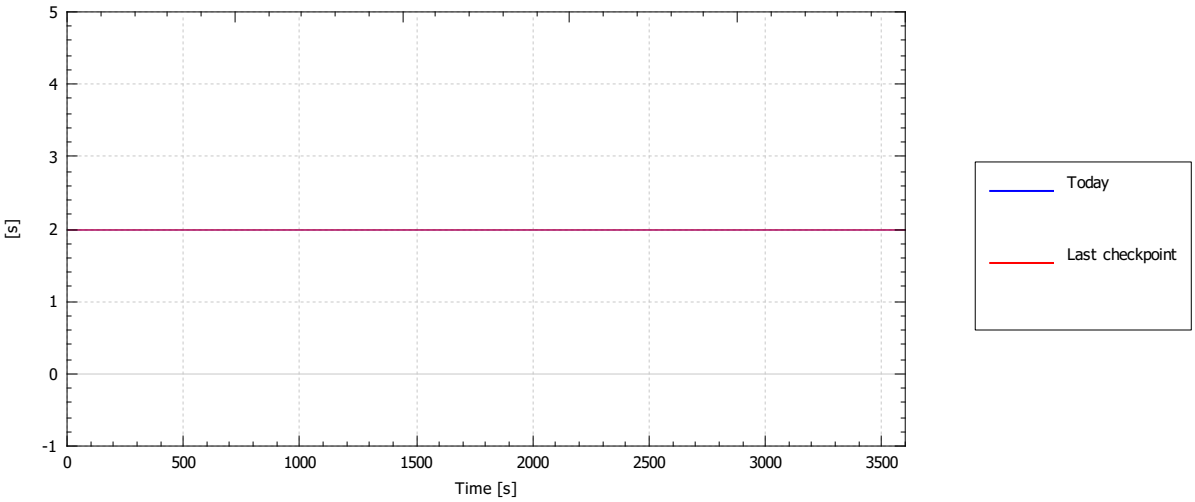
Tip speed



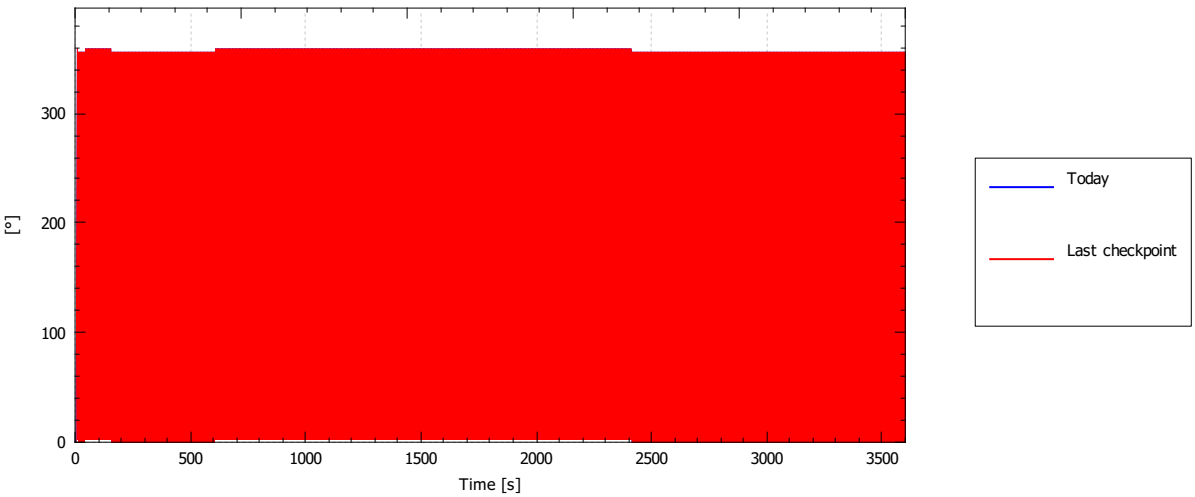
1P (one revolution)



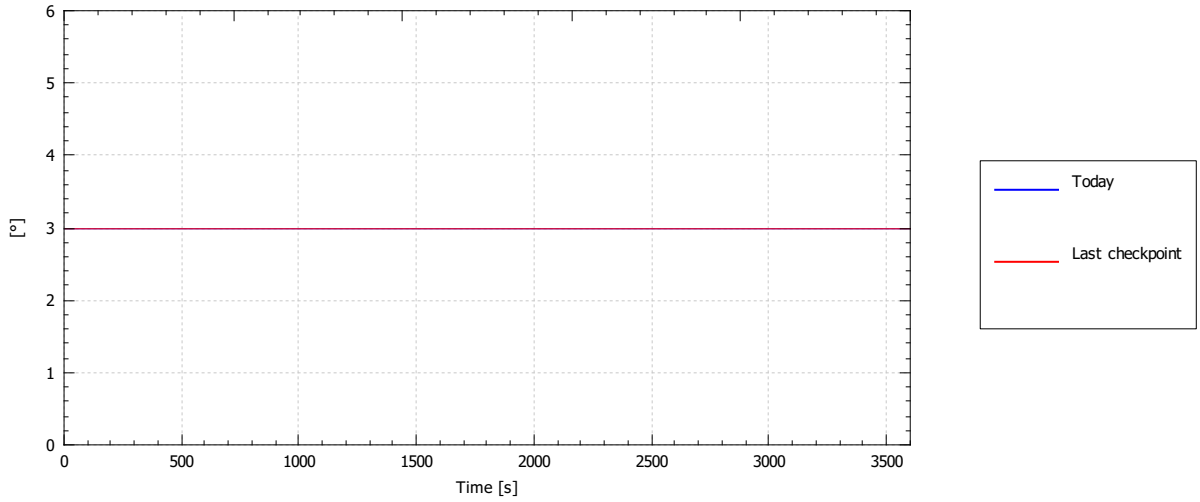
nP (blade passing)



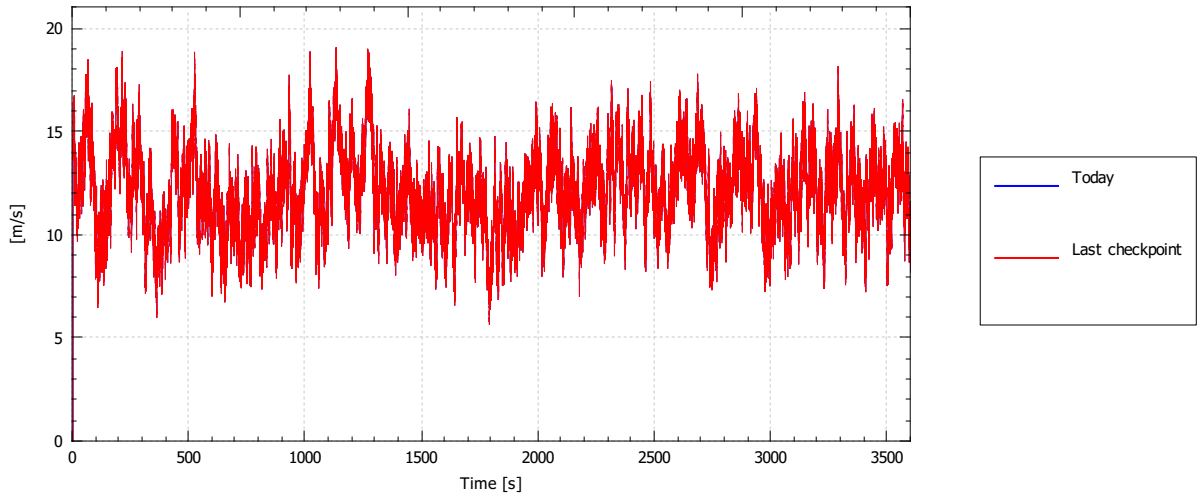
Azimuth angle



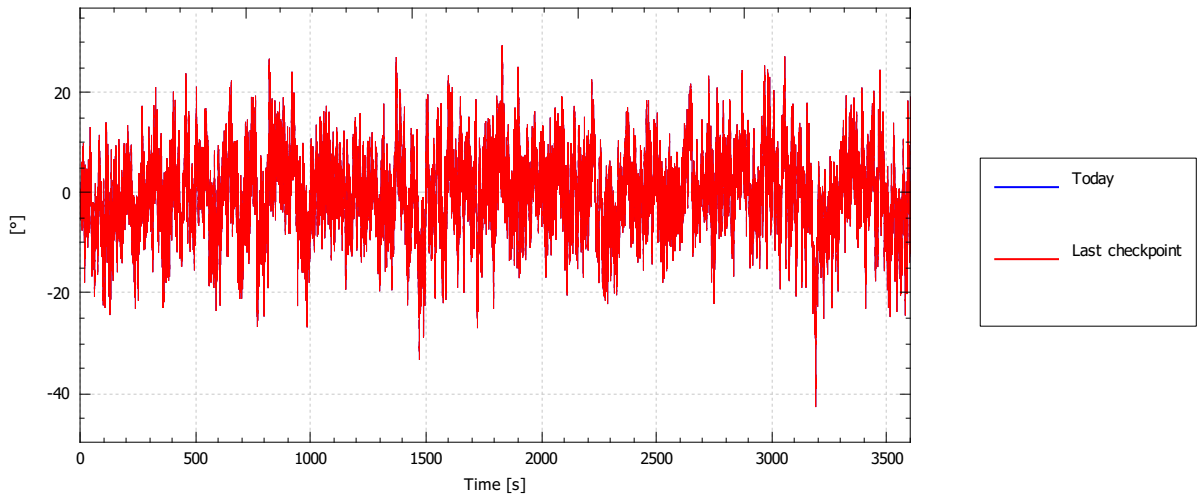
Rotation per timestep



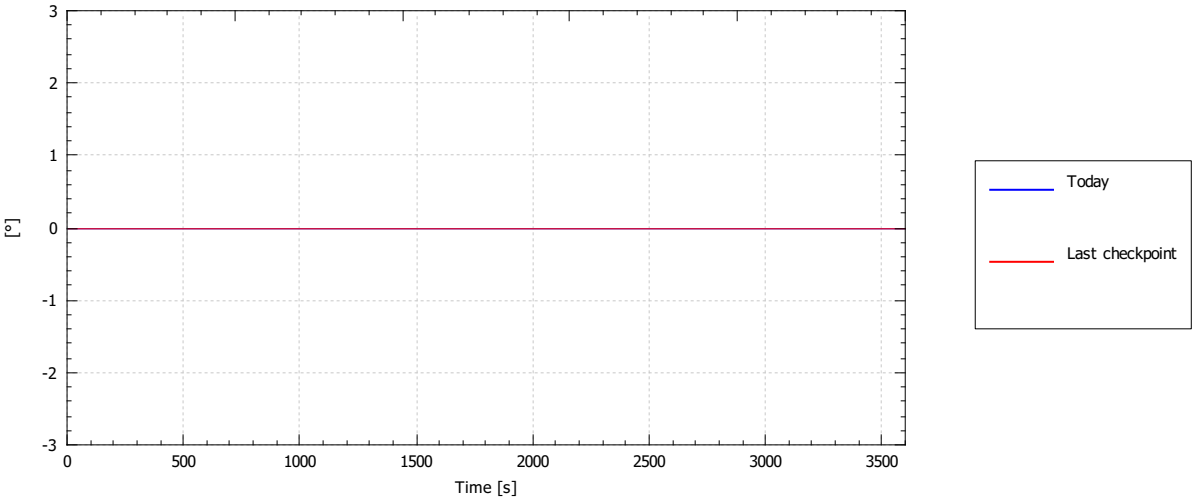
Wind speed at hub, magnitude



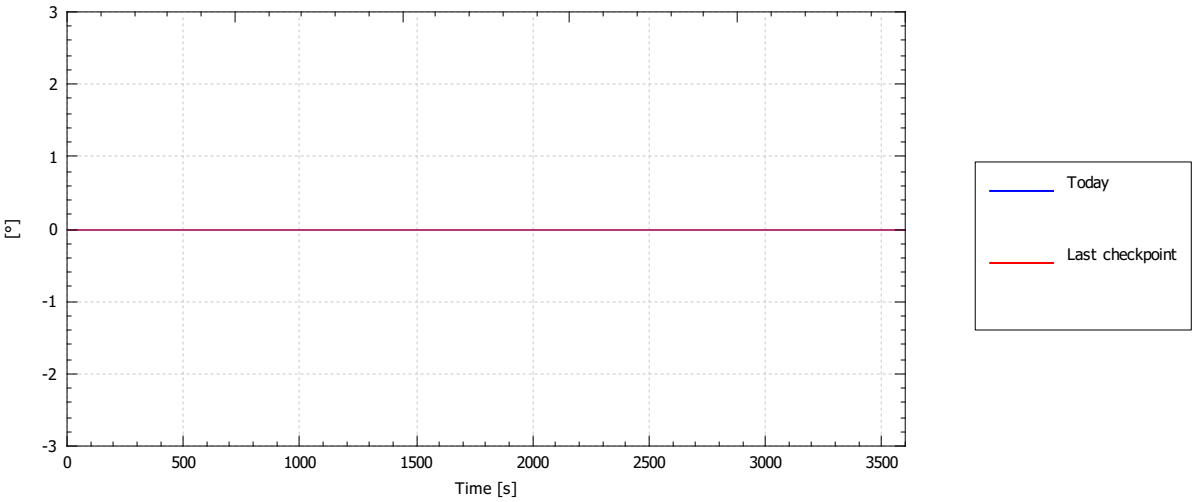
Wind angle at hub



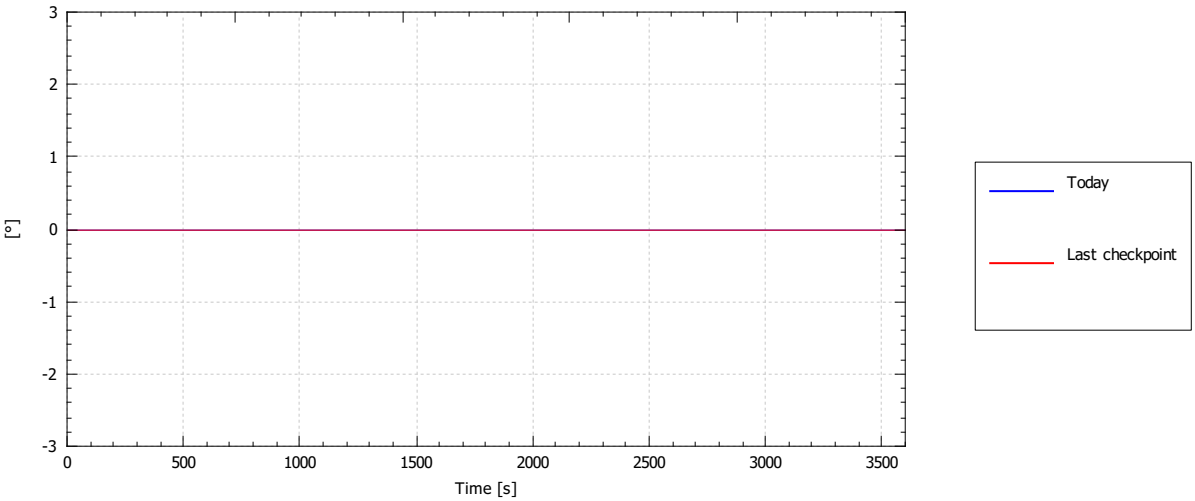
Yaw angle relative to forward

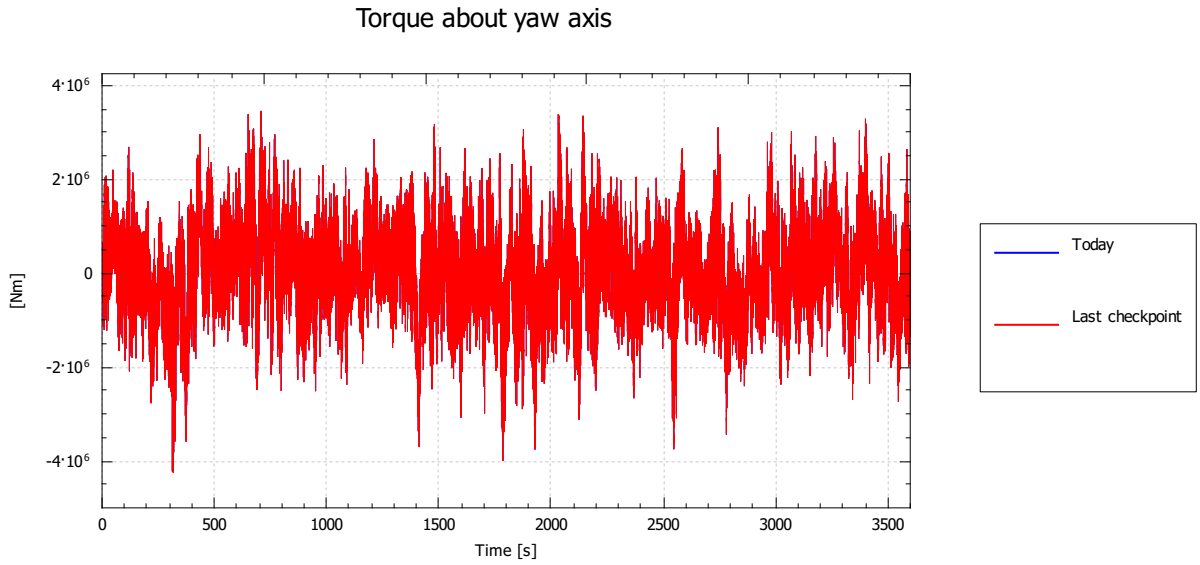


Yaw angle to reference direction



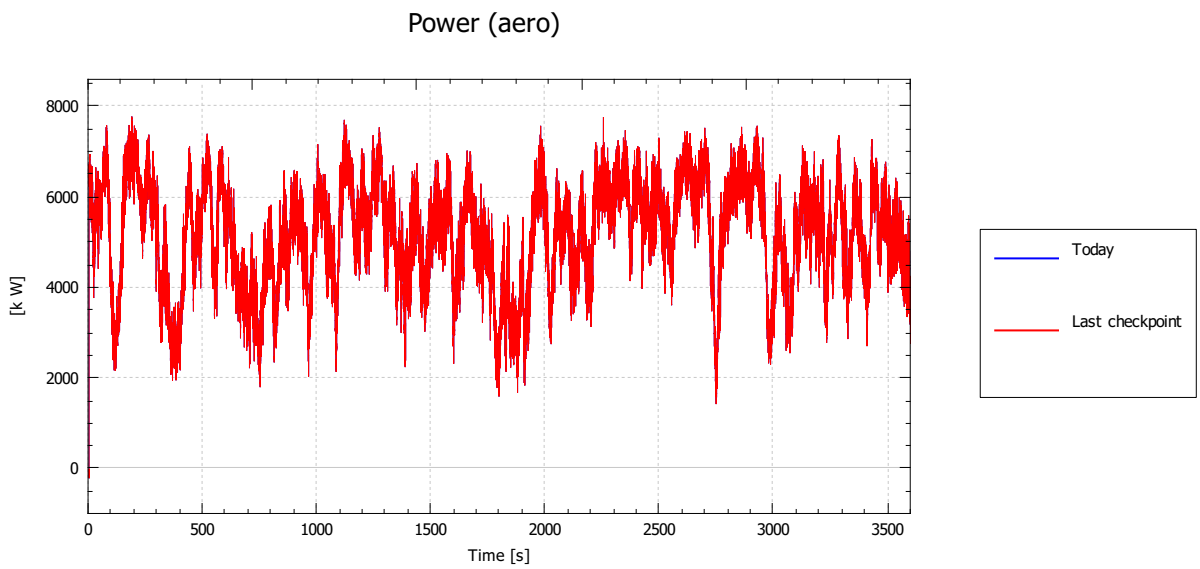
Yaw error

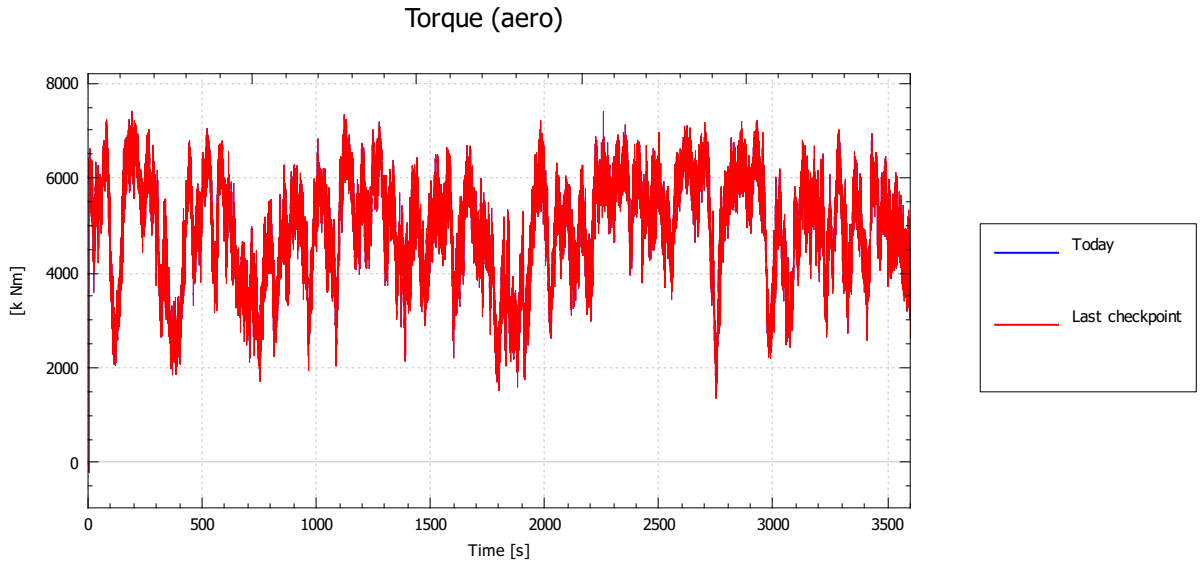


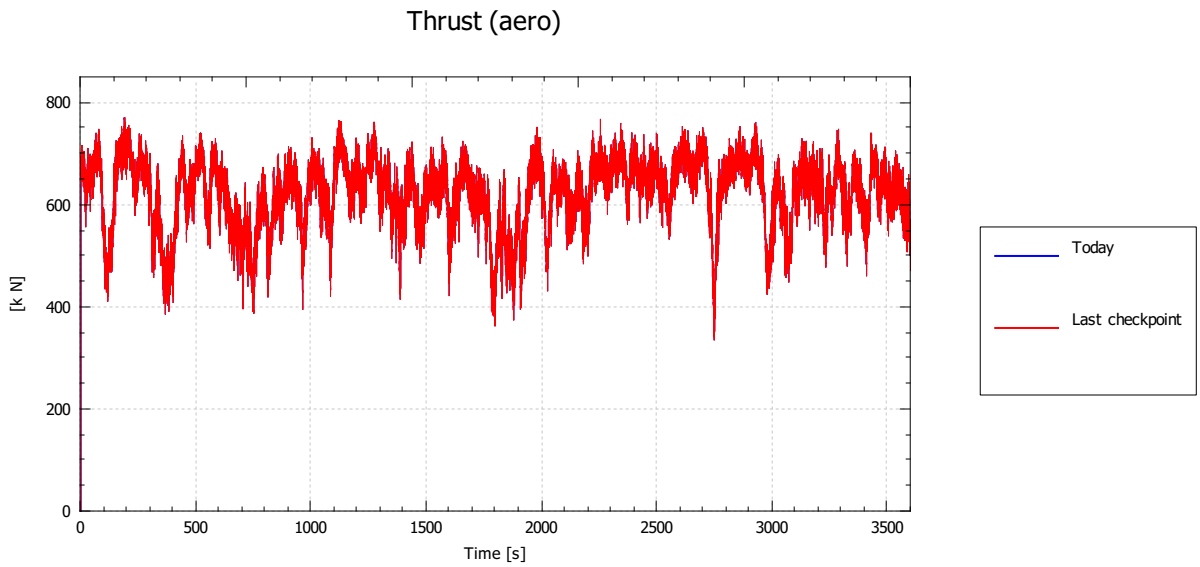


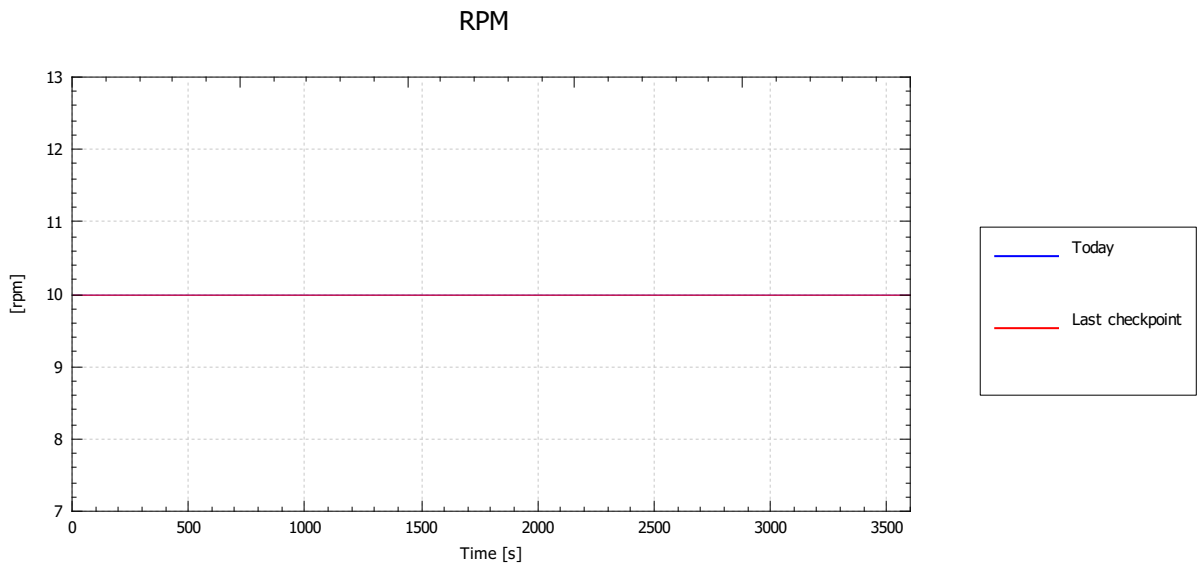
Load case: Turb5

Rotor

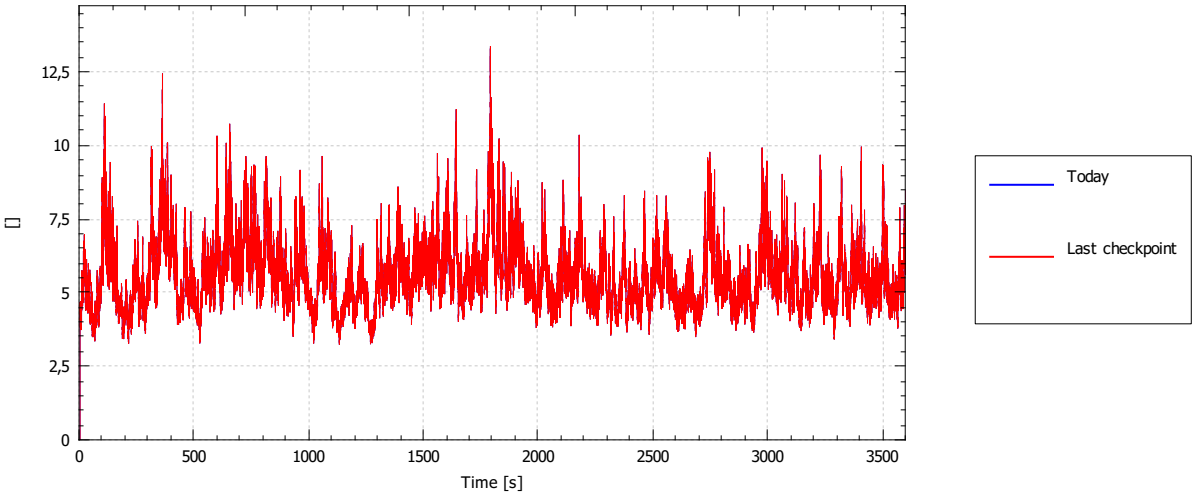



Torque (aero)
[k Nm]
8000
6000
4000
2000
0
0
500
1000
1500
2000
2500
3000
3500
Time [s]
Today
Last checkpoint

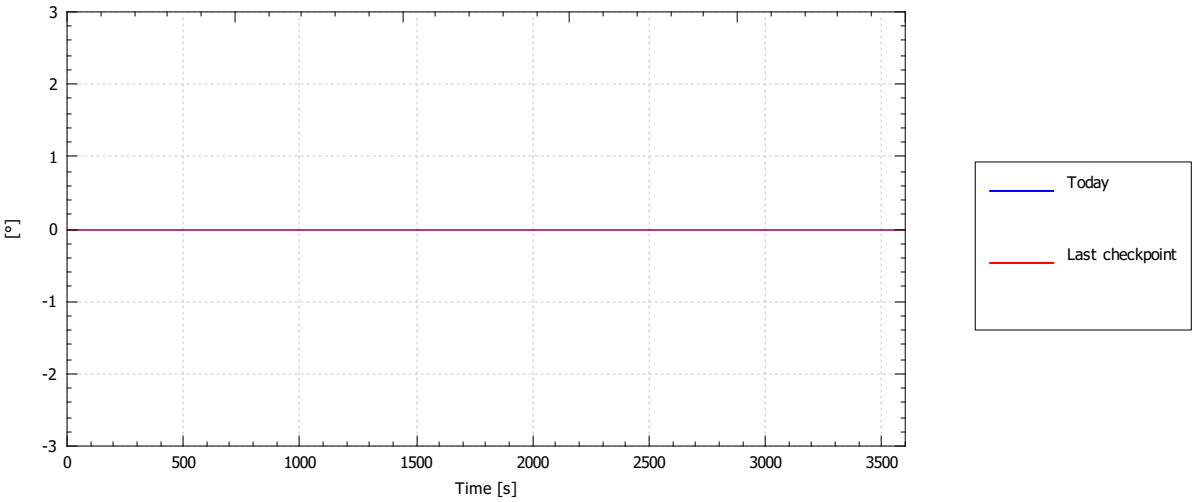

Thrust (aero)
[k N]
800
600
400
200
0
0
500
1000
1500
2000
2500
3000
3500
Time [s]
Today
Last checkpoint


RPM
[rpm]
13
12
11
10
9
8
7
0
500
1000
1500
2000
2500
3000
3500
Time [s]
Today
Last checkpoint

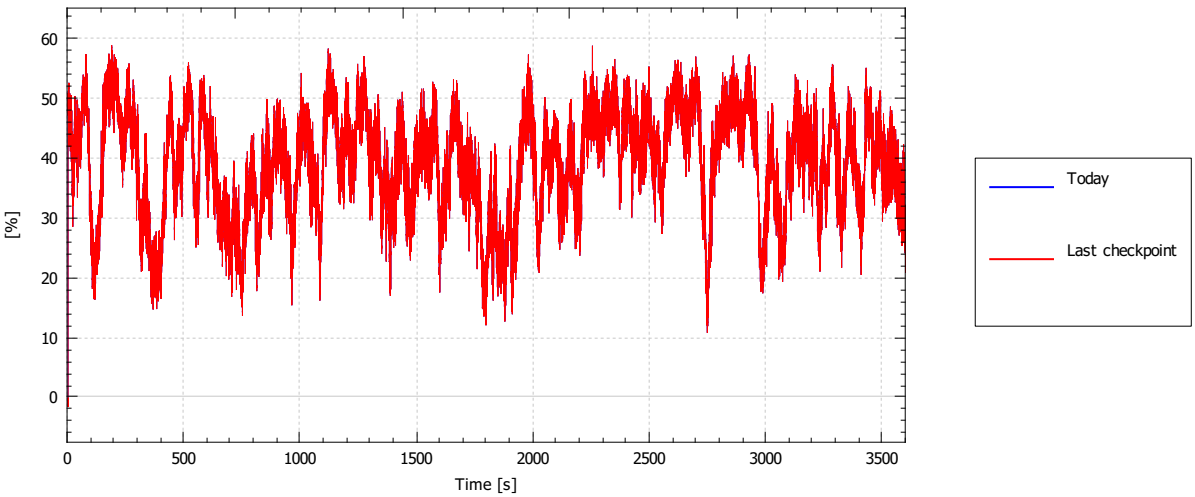
TSR



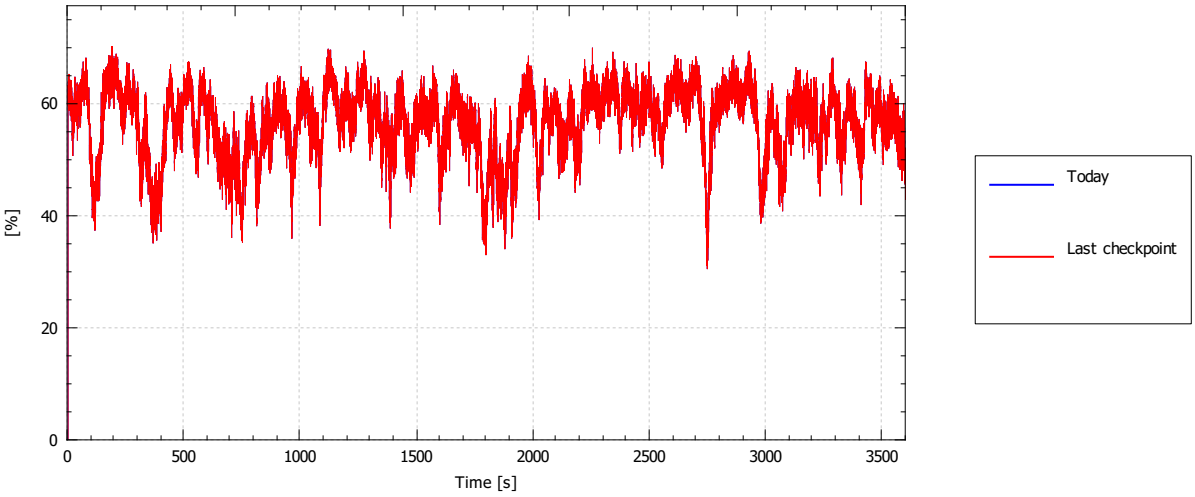
Representative demanded pitch angle



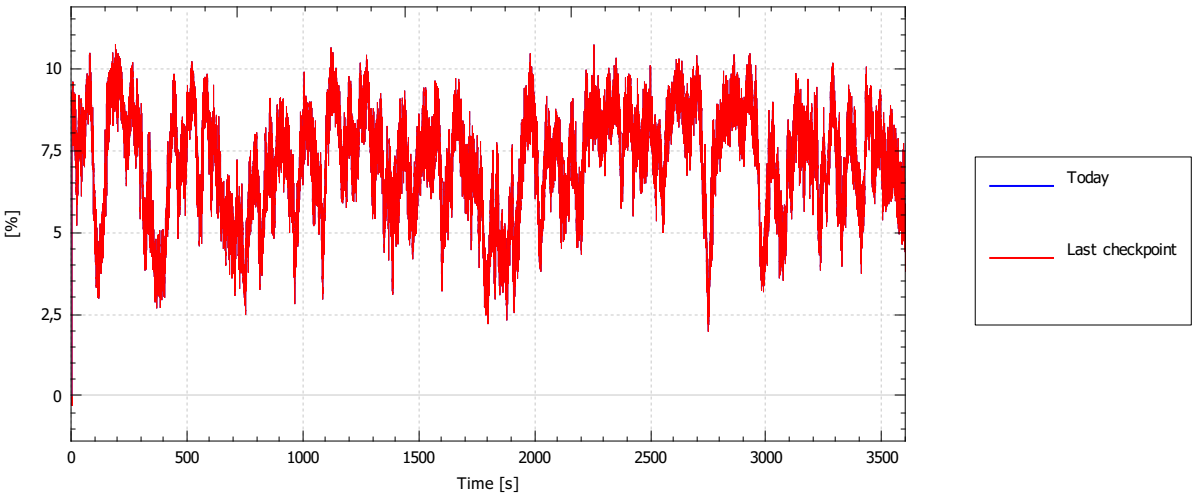
Power coef. (CP)



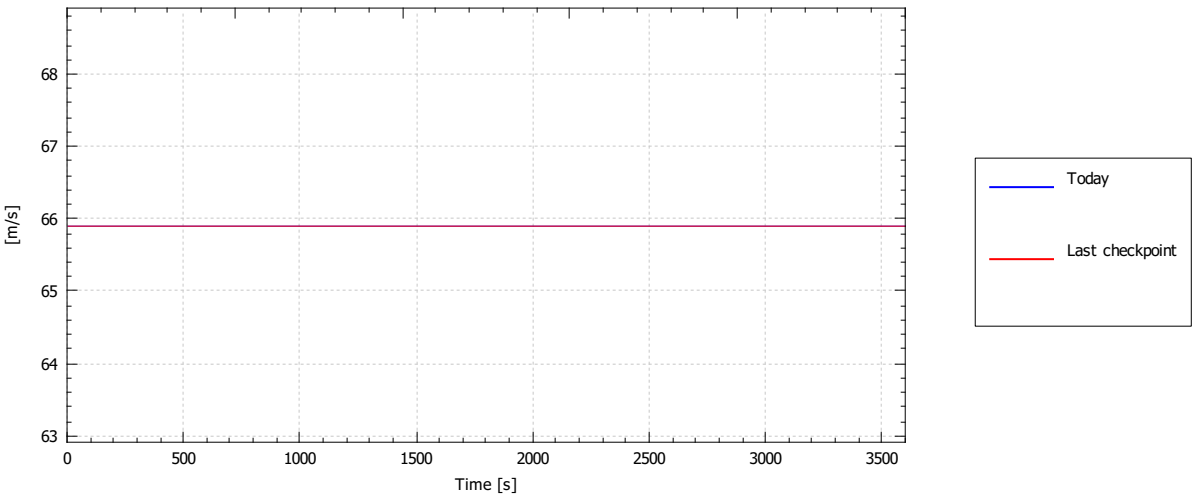
Thrust coef. (CT)



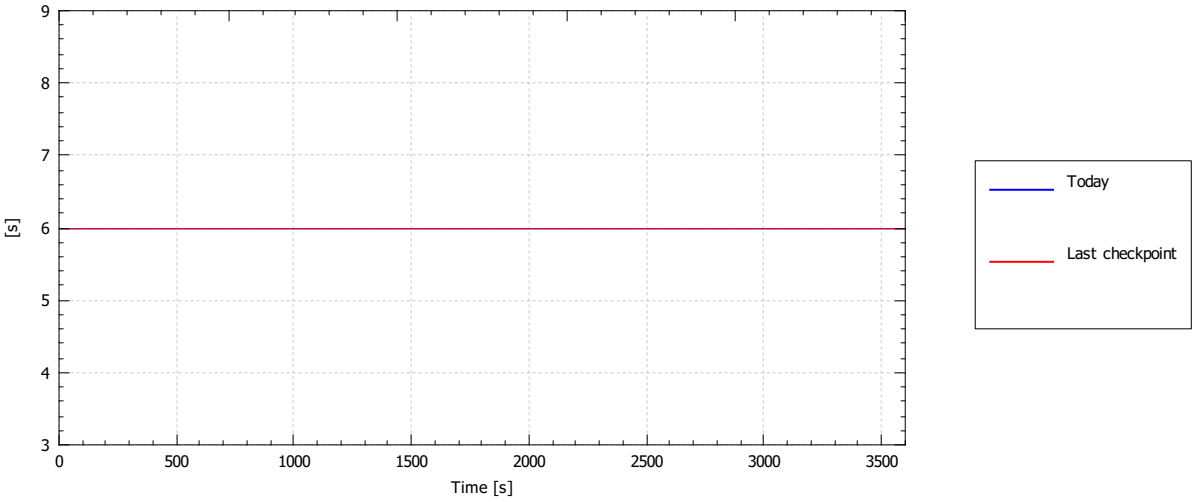
Torque coef. (CQ)



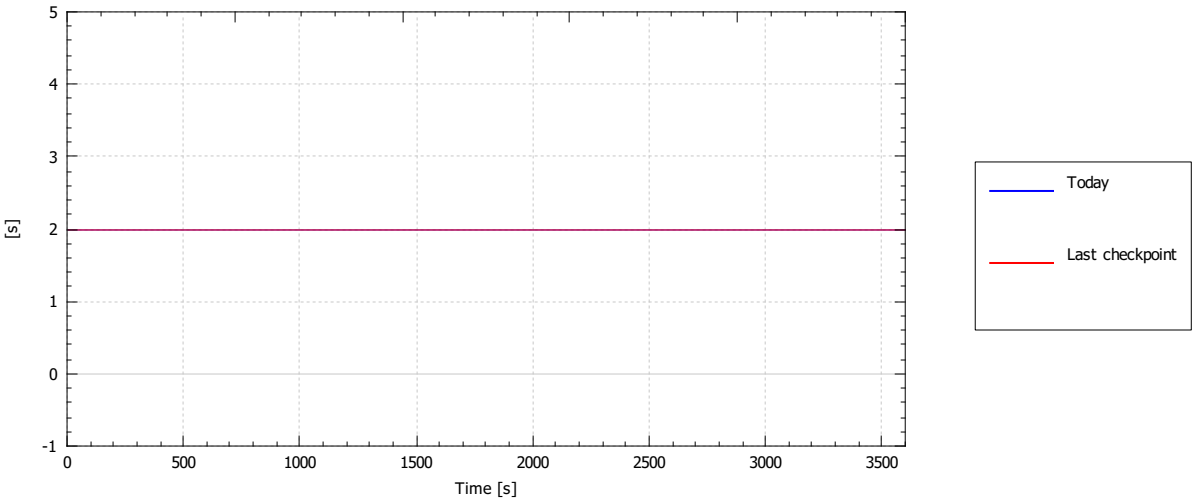
Tip speed



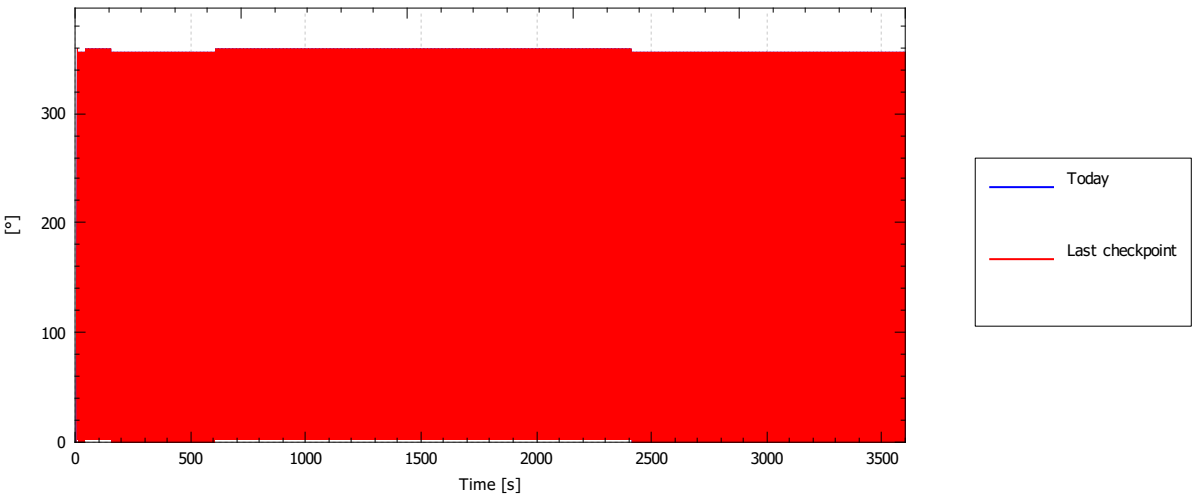
1P (one revolution)

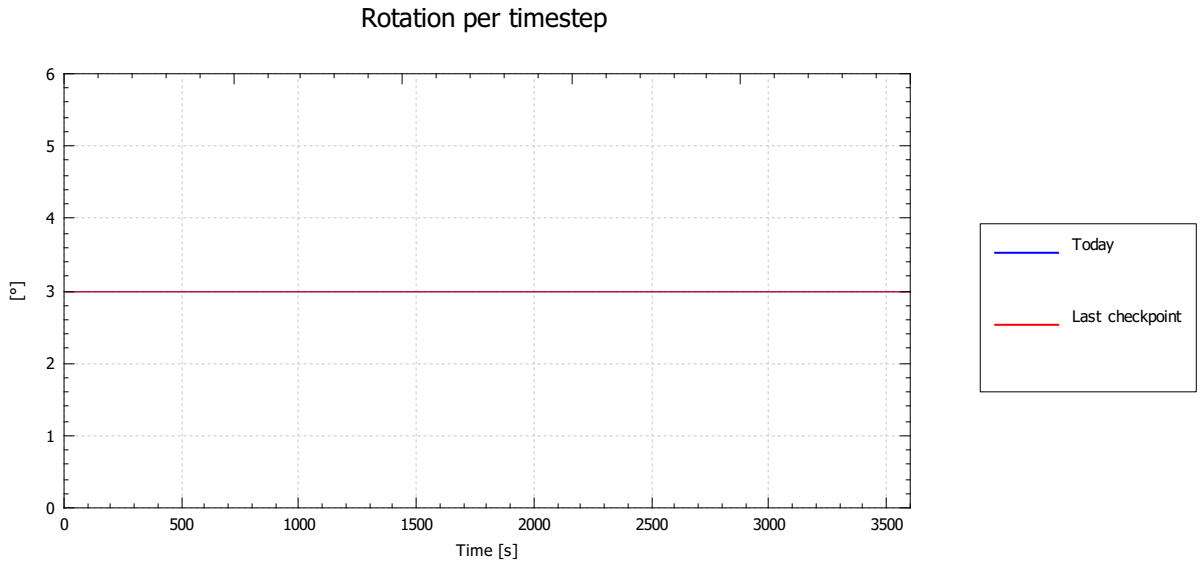


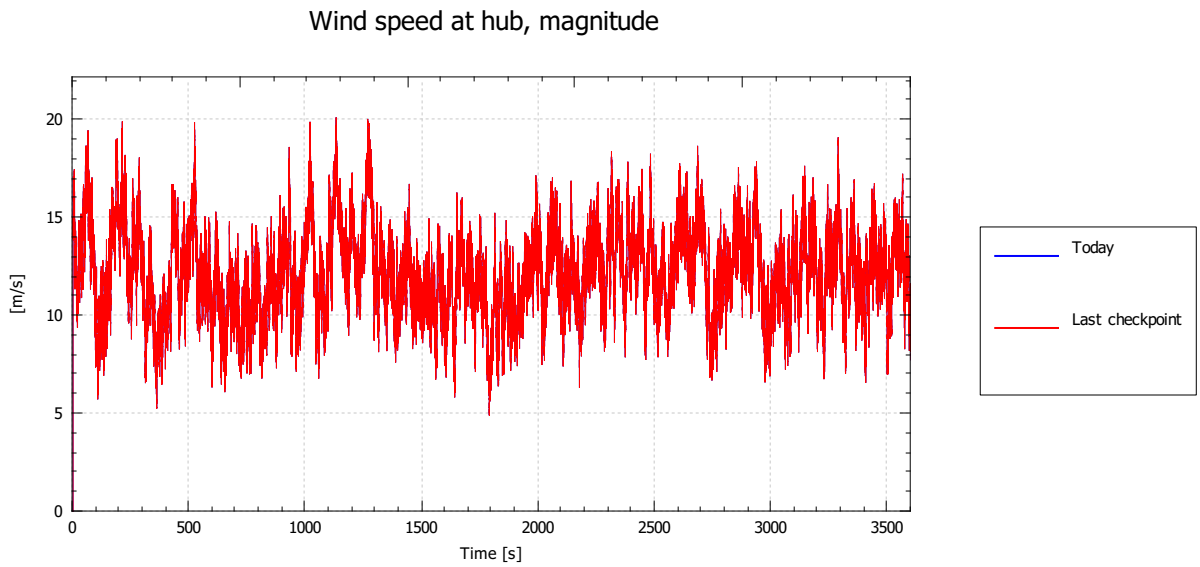
nP (blade passing)

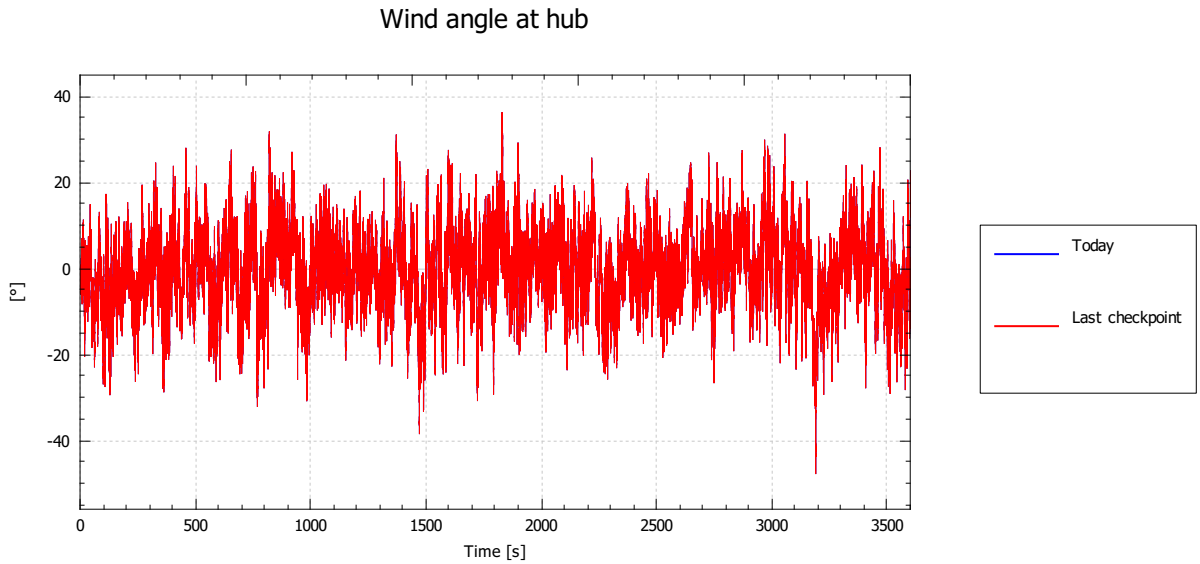


Azimuth angle

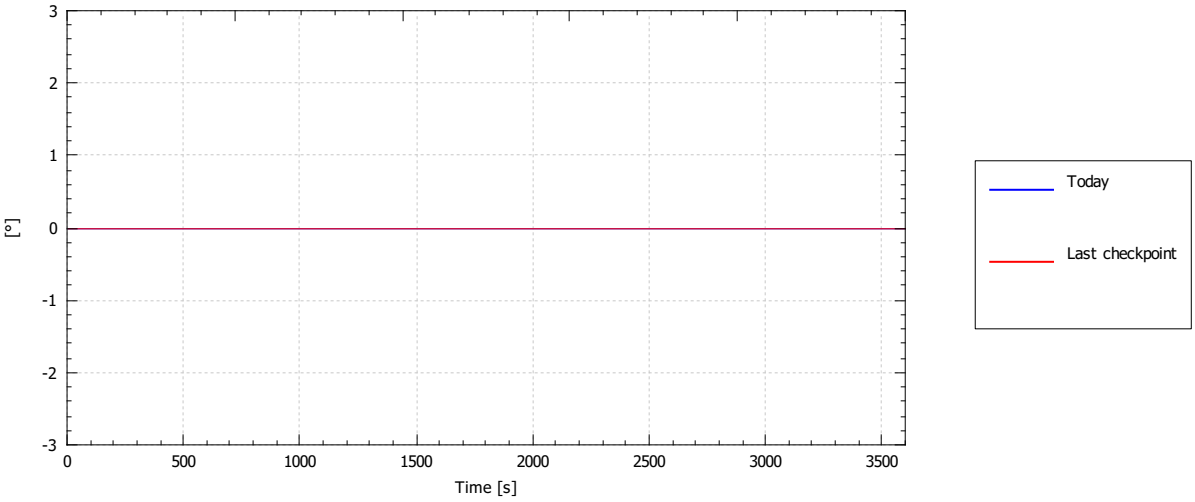



Rotation per timestep
[°]
Time [s]
Today
Last checkpoint

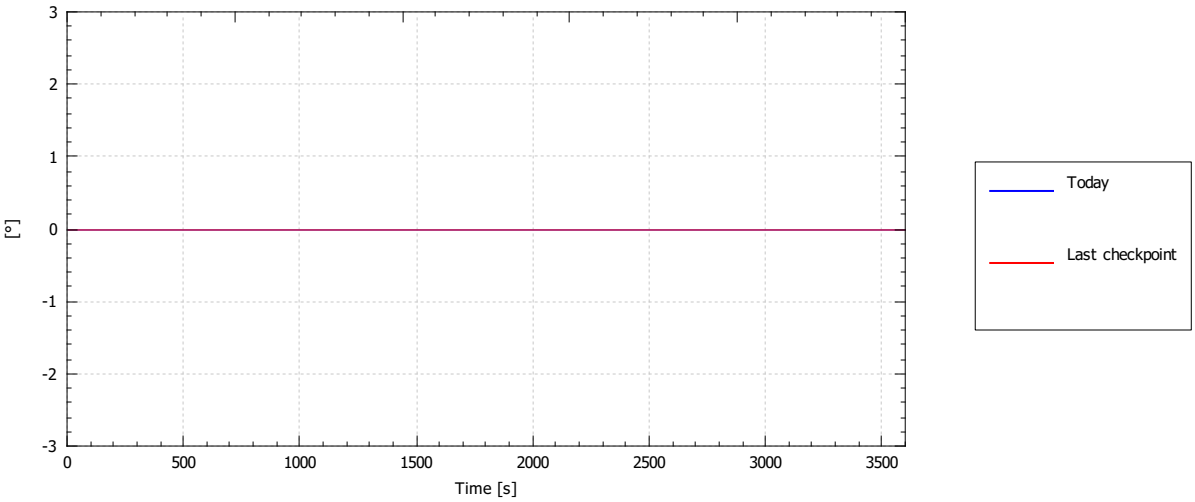

Wind speed at hub, magnitude
[m/s]
Time [s]
Today
Last checkpoint


Wind angle at hub
[°]
Time [s]
Today
Last checkpoint

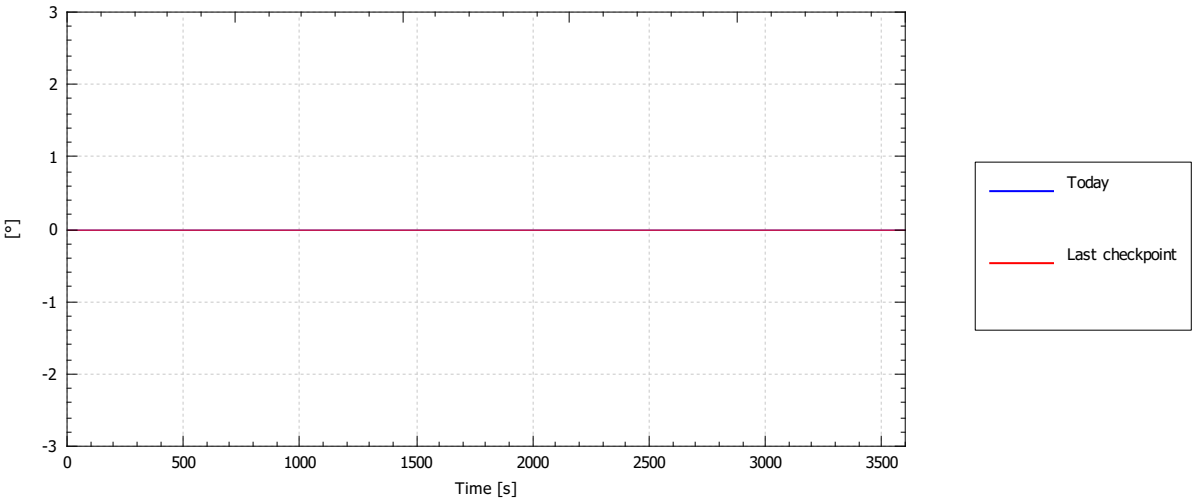
Yaw angle relative to forward

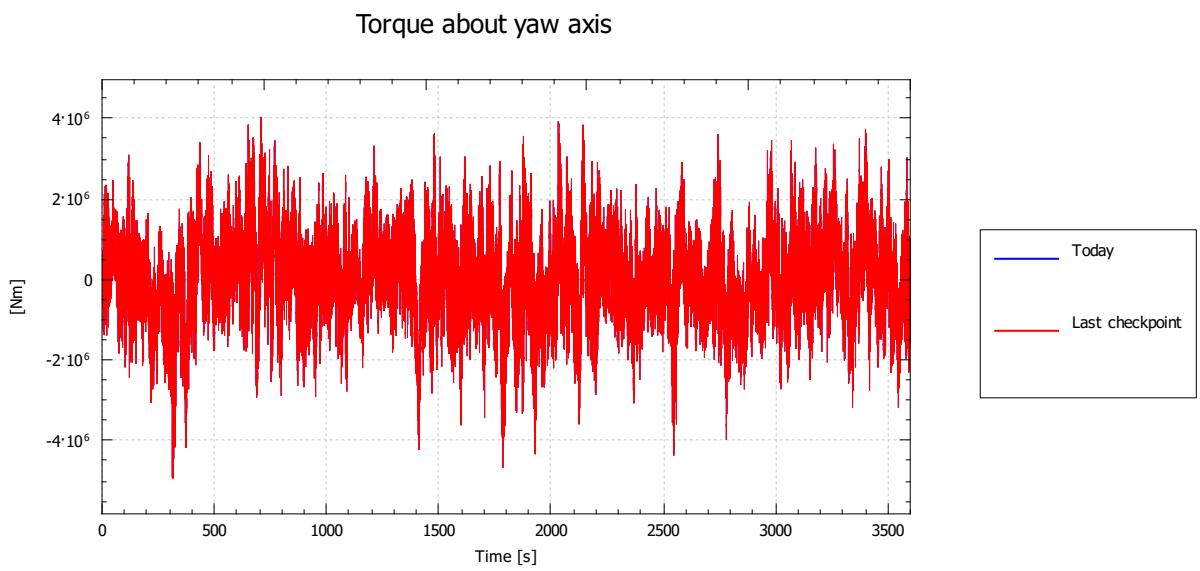


Yaw angle to reference direction



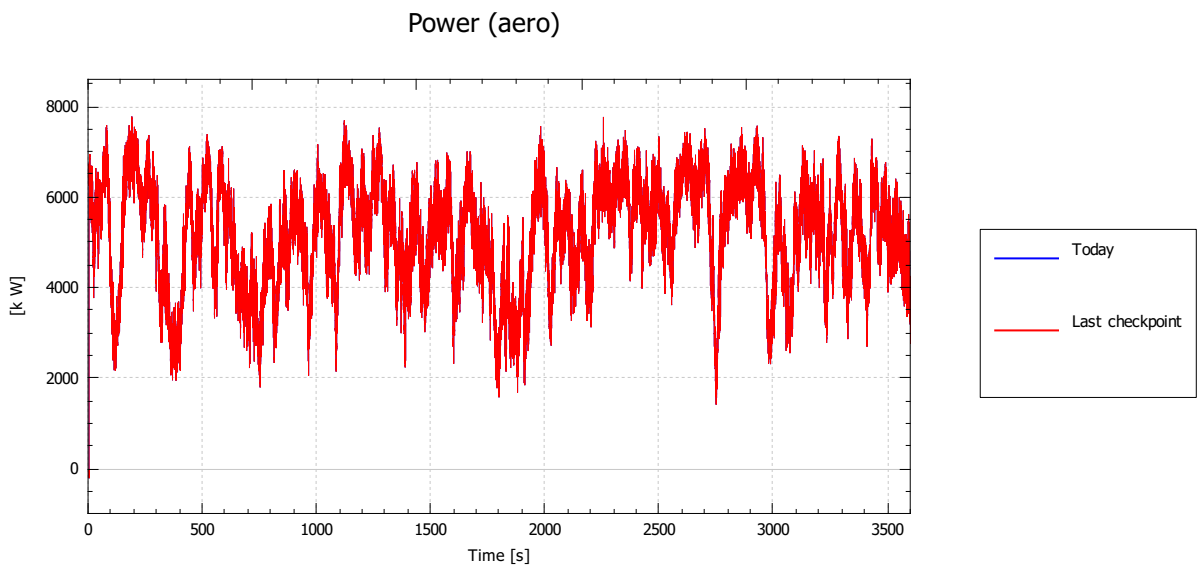
Yaw error

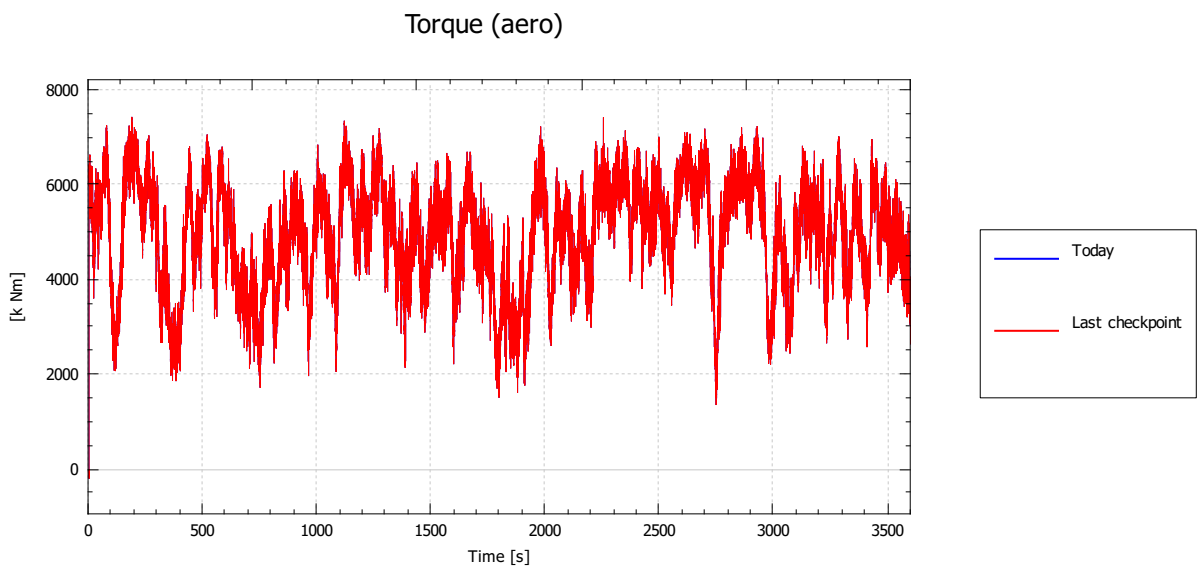


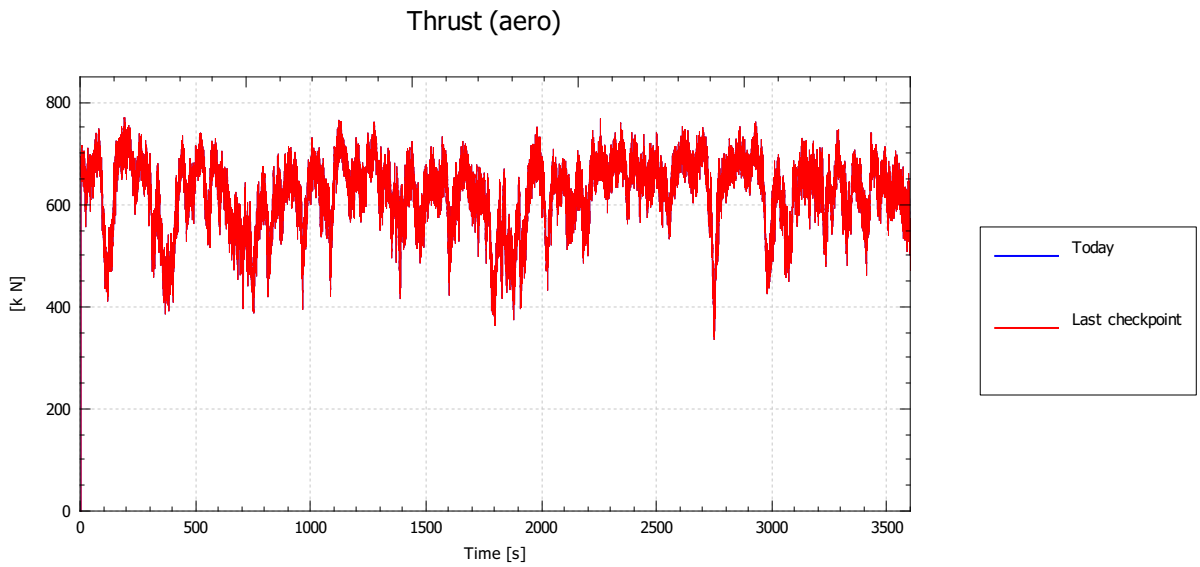


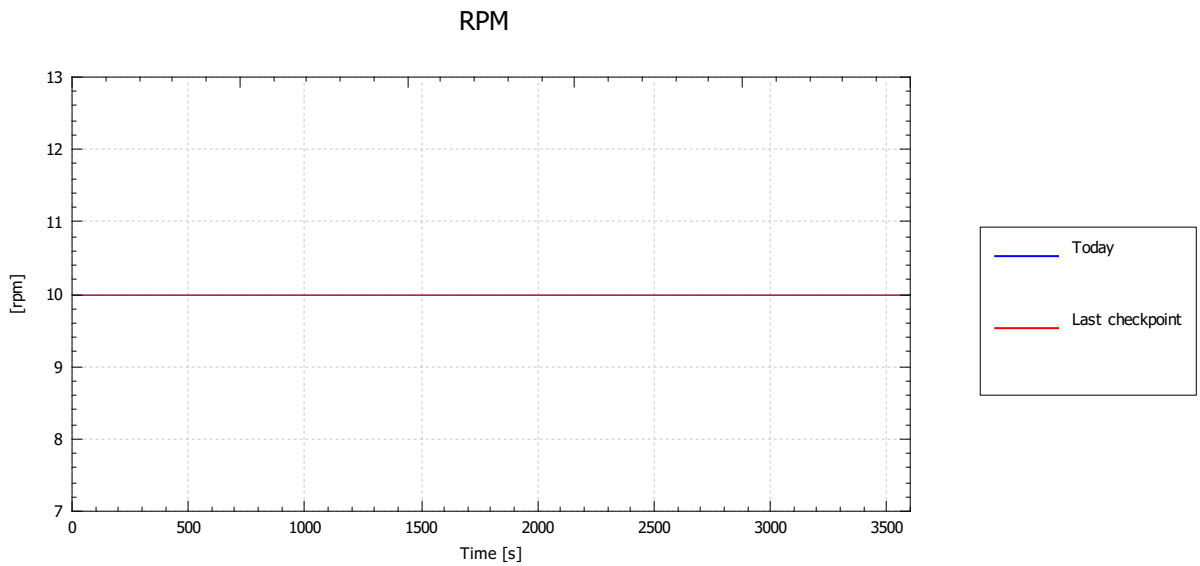
Load case: Turb6

Rotor

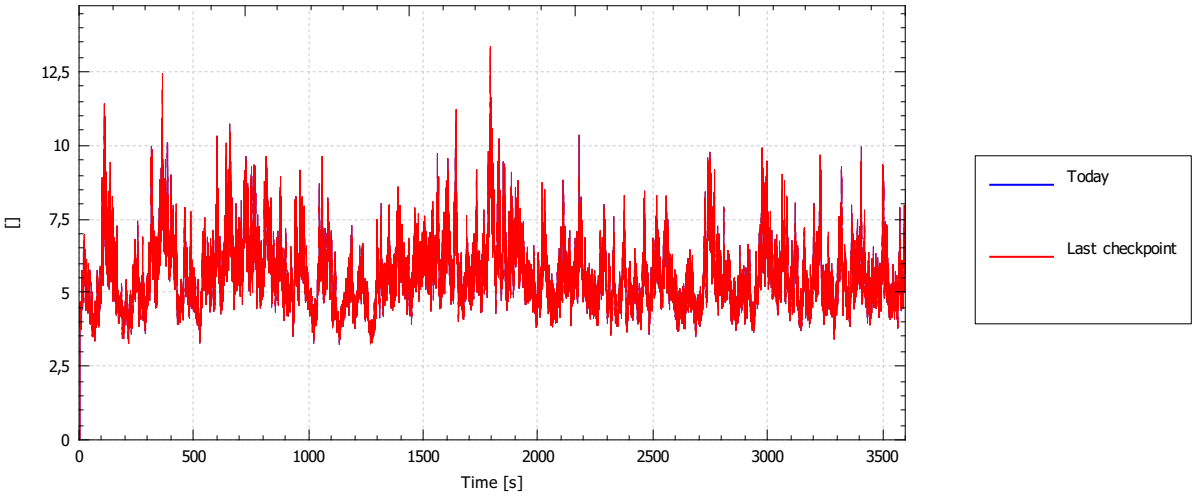



Torque (aero)
[k Nm]
8000
6000
4000
2000
0
0
500
1000
1500
2000
2500
3000
3500
Time [s]
Today
Last checkpoint

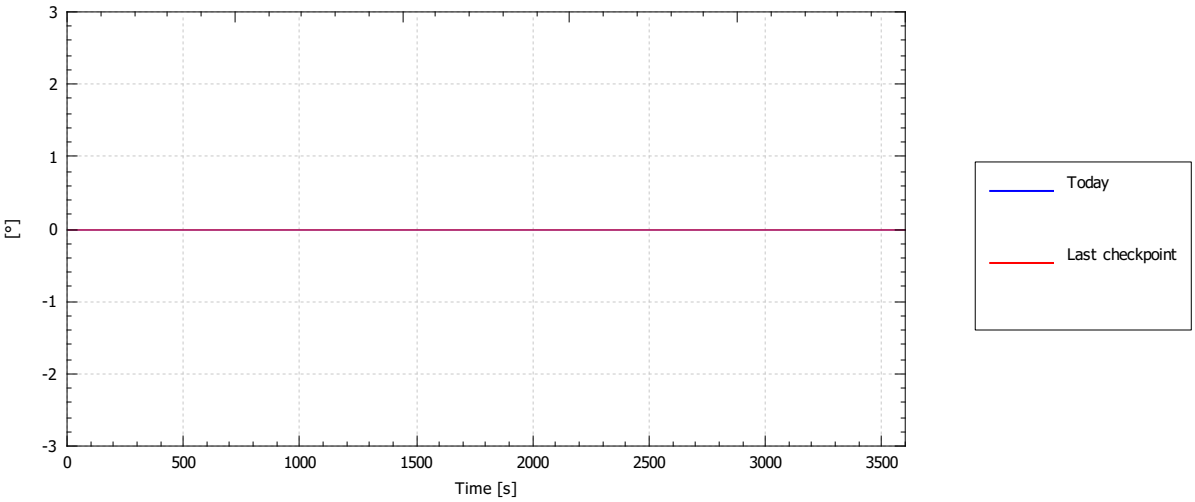

Thrust (aero)
[k N]
800
600
400
200
0
0
500
1000
1500
2000
2500
3000
3500
Time [s]
Today
Last checkpoint


RPM
[rpm]
13
12
11
10
9
8
7
0
500
1000
1500
2000
2500
3000
3500
Time [s]
Today
Last checkpoint

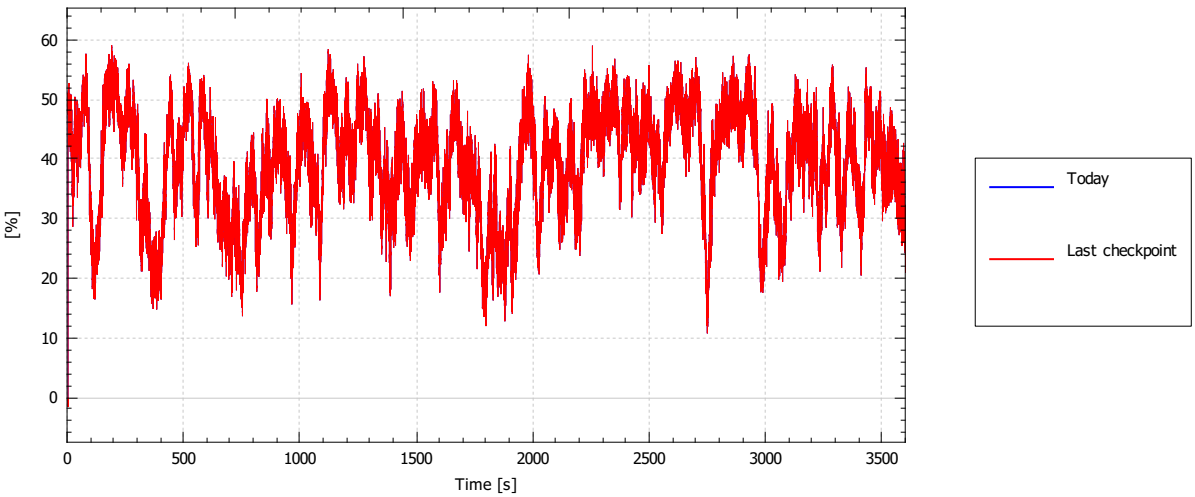
TSR



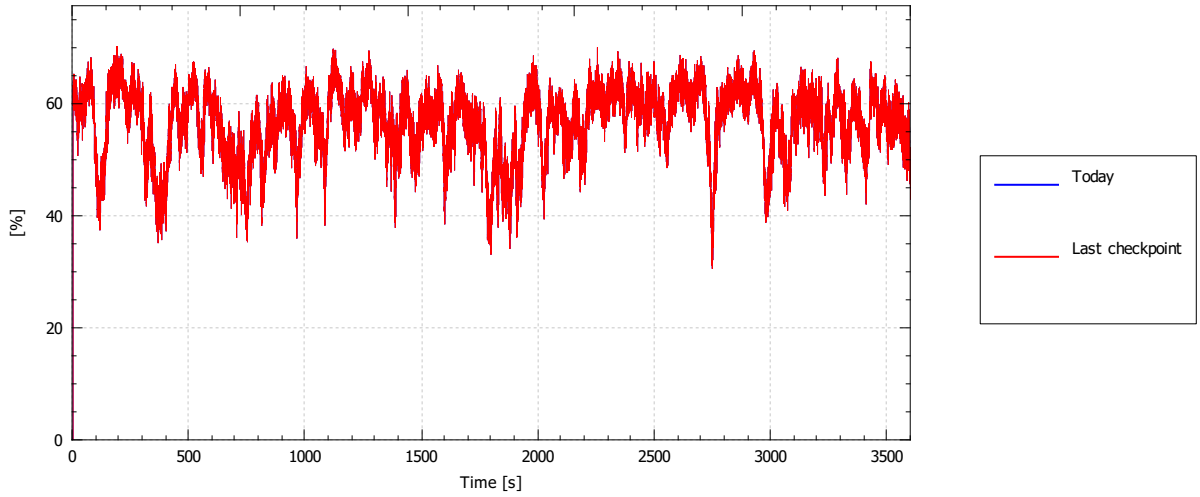
Representative demanded pitch angle



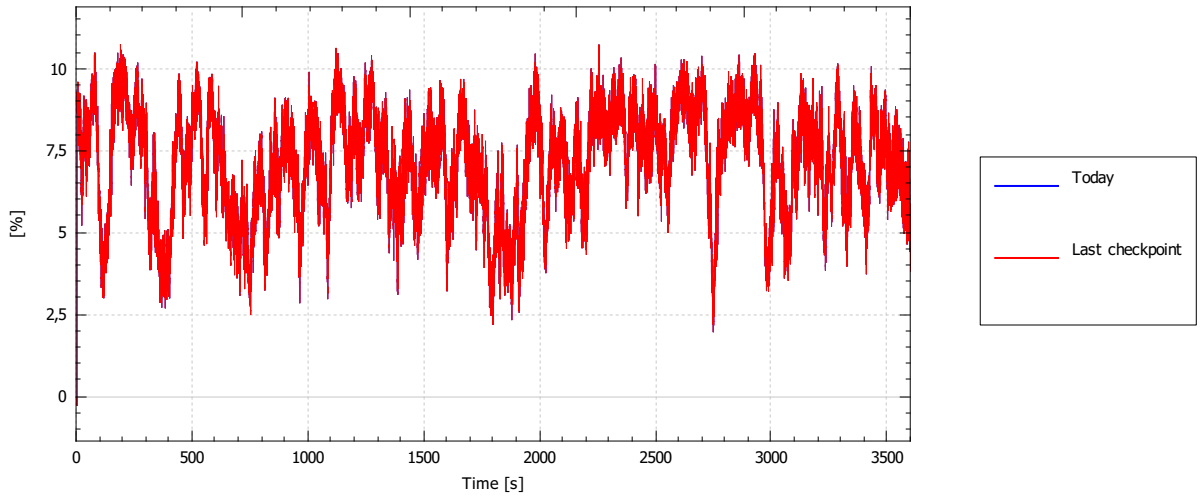
Power coef. (CP)



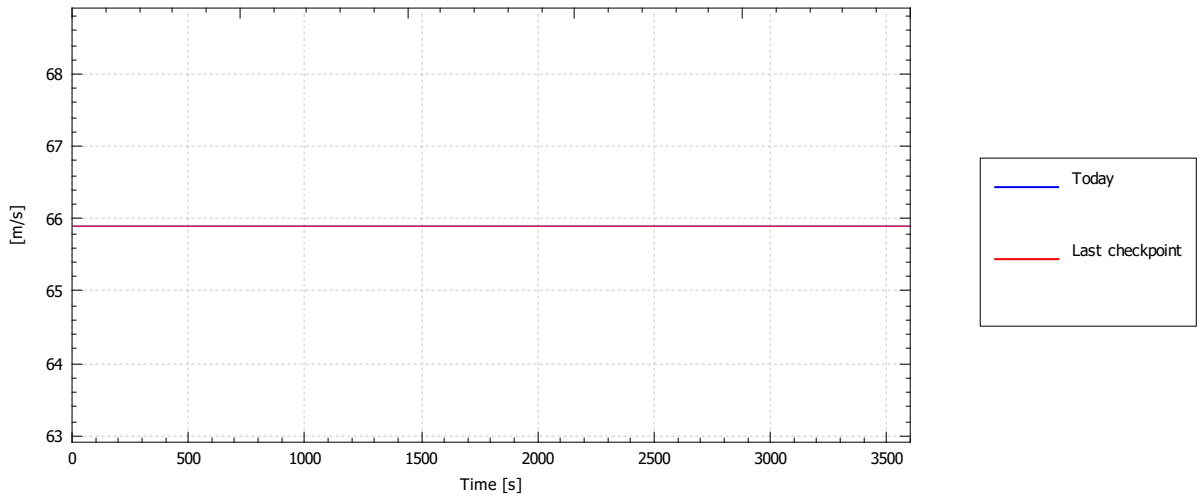
Thrust coef. (CT)



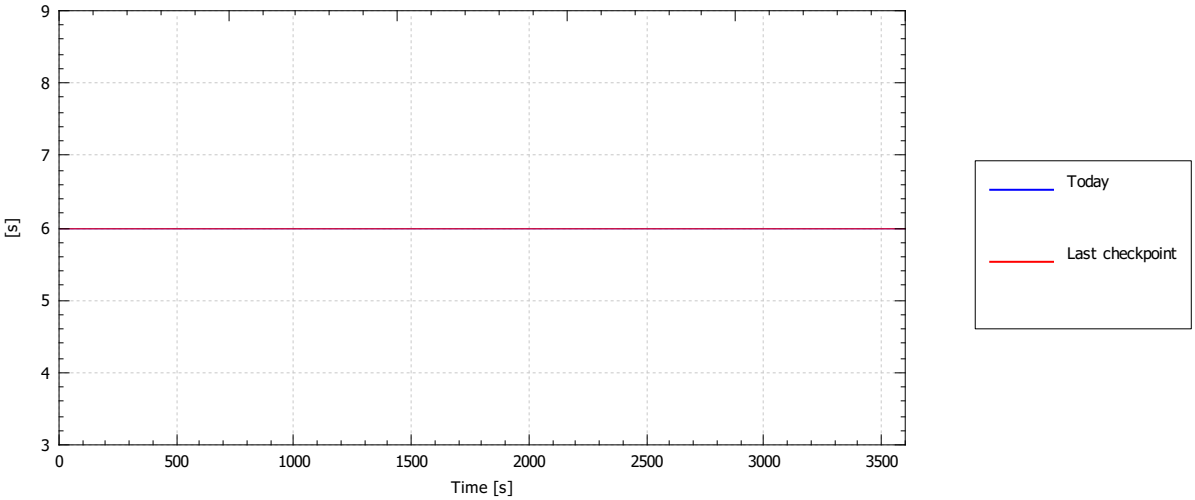
Torque coef. (CQ)



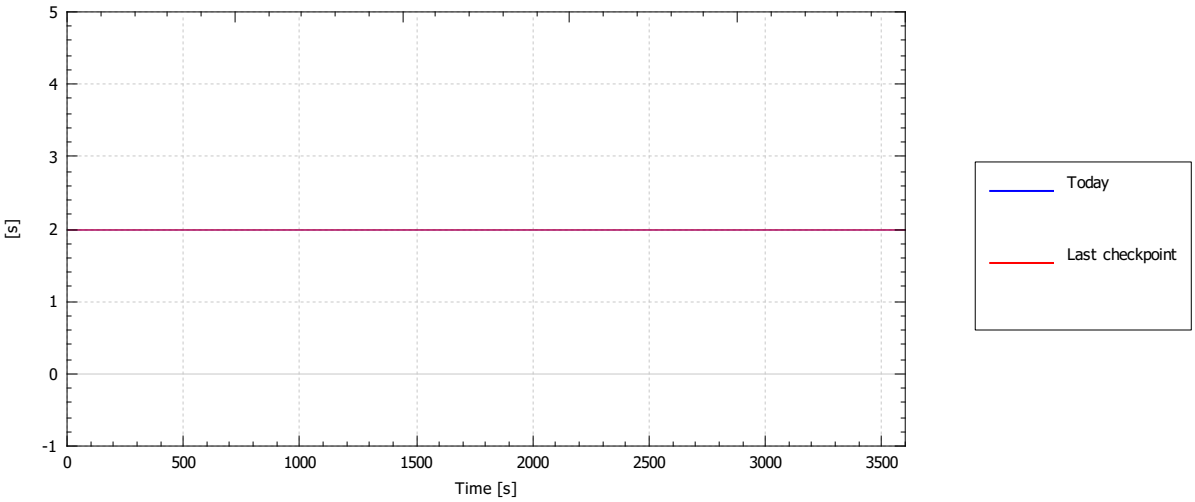
Tip speed



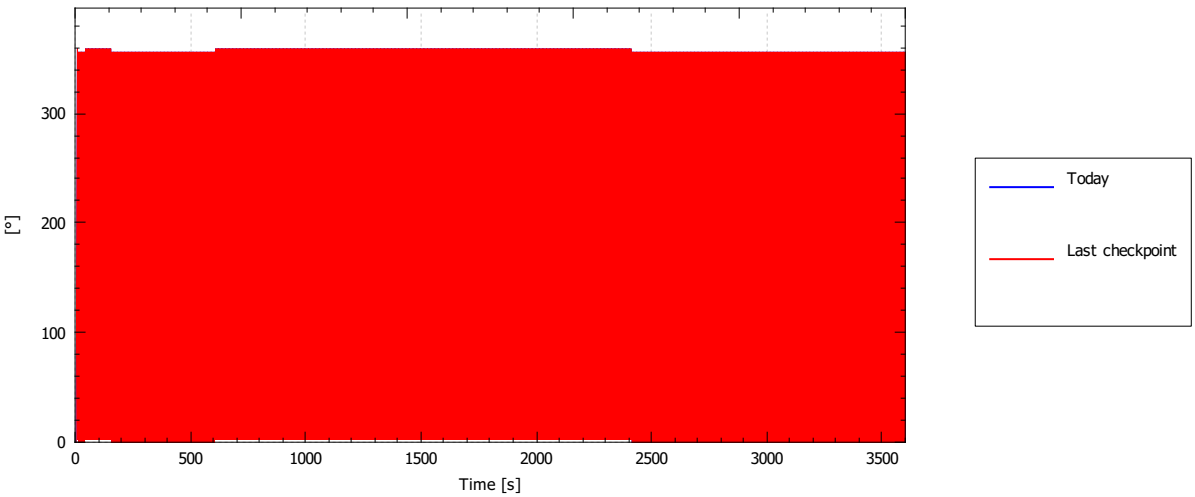
1P (one revolution)

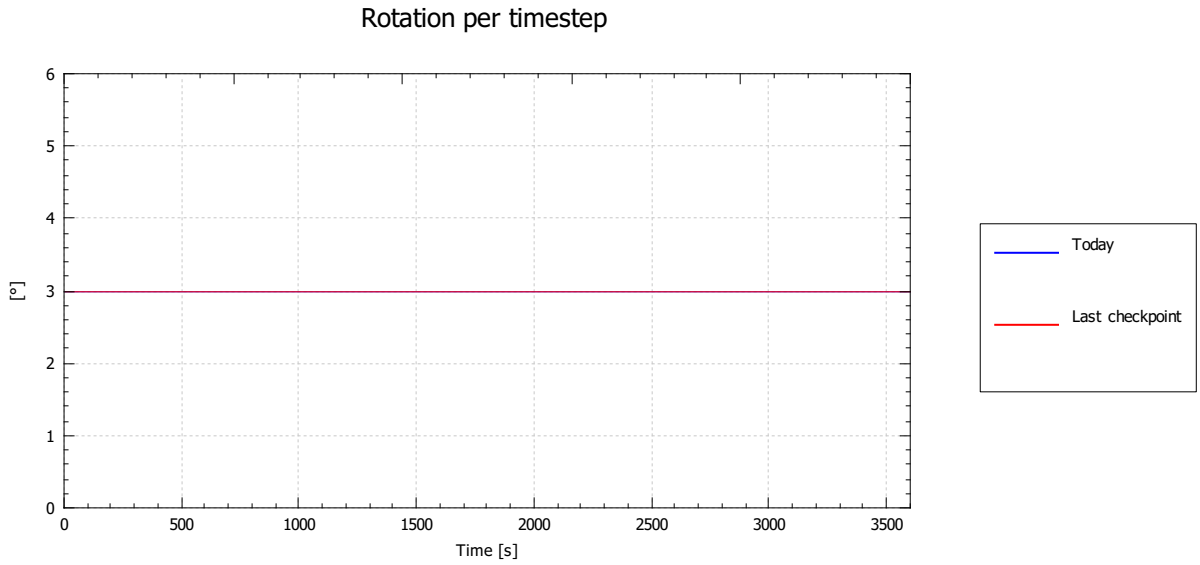


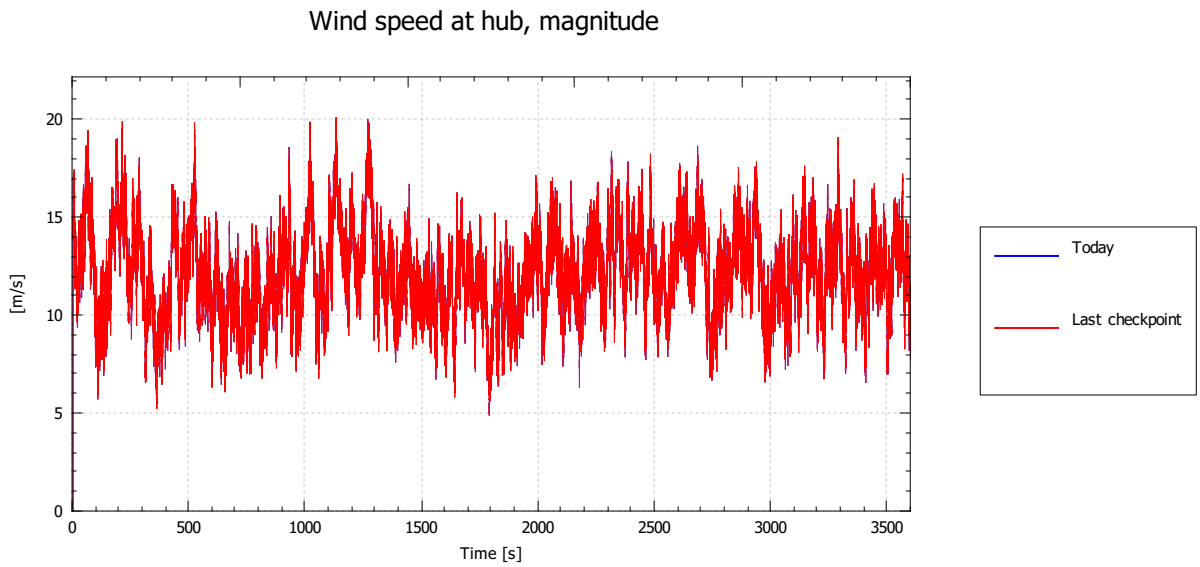
nP (blade passing)

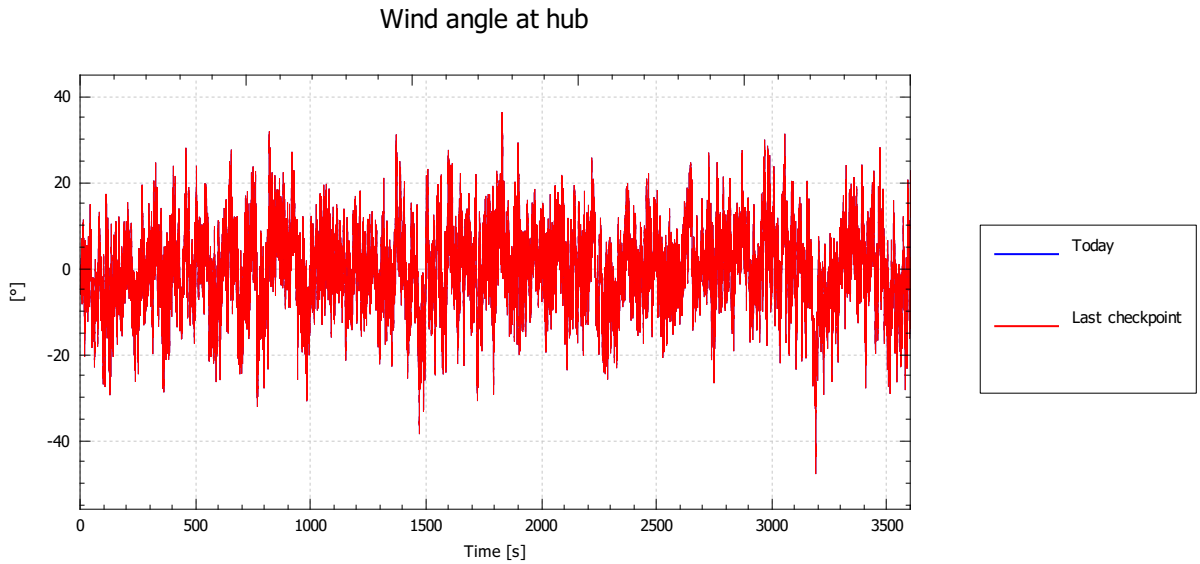


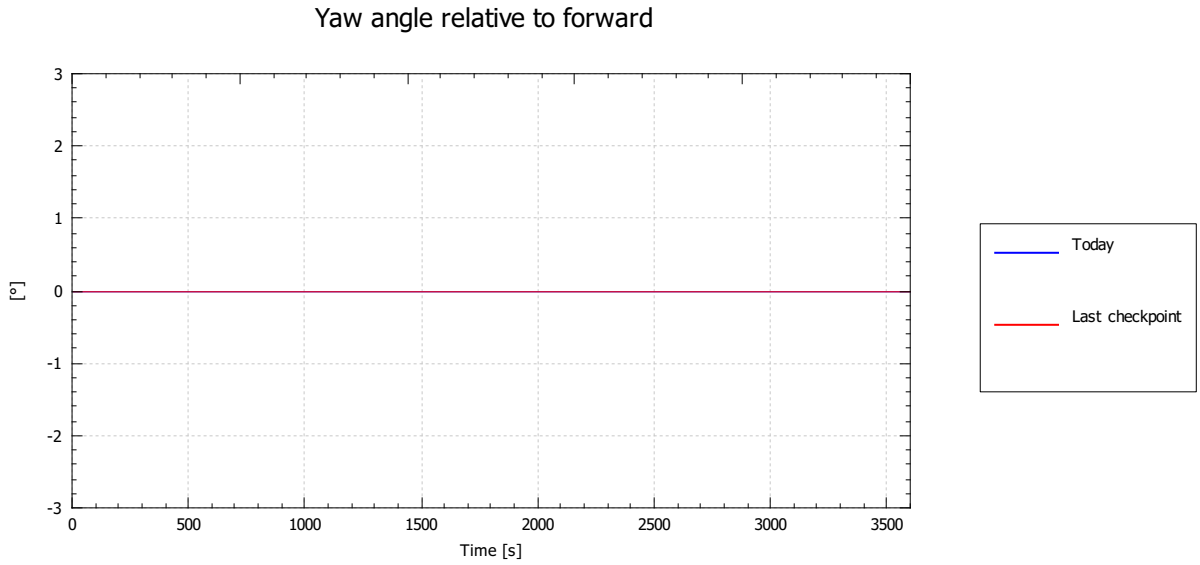
Azimuth angle

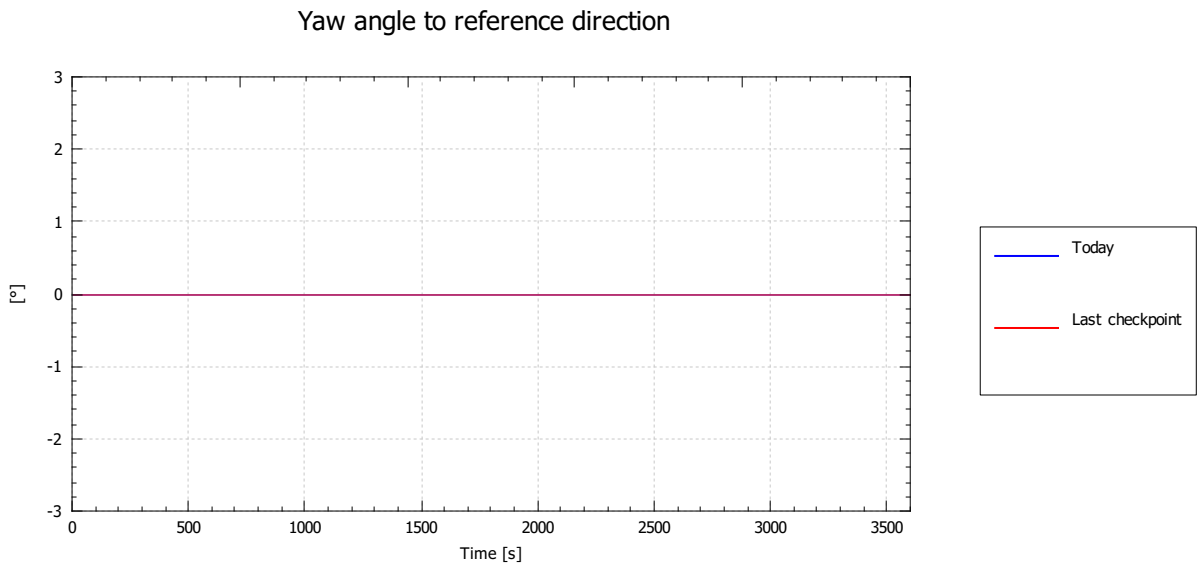


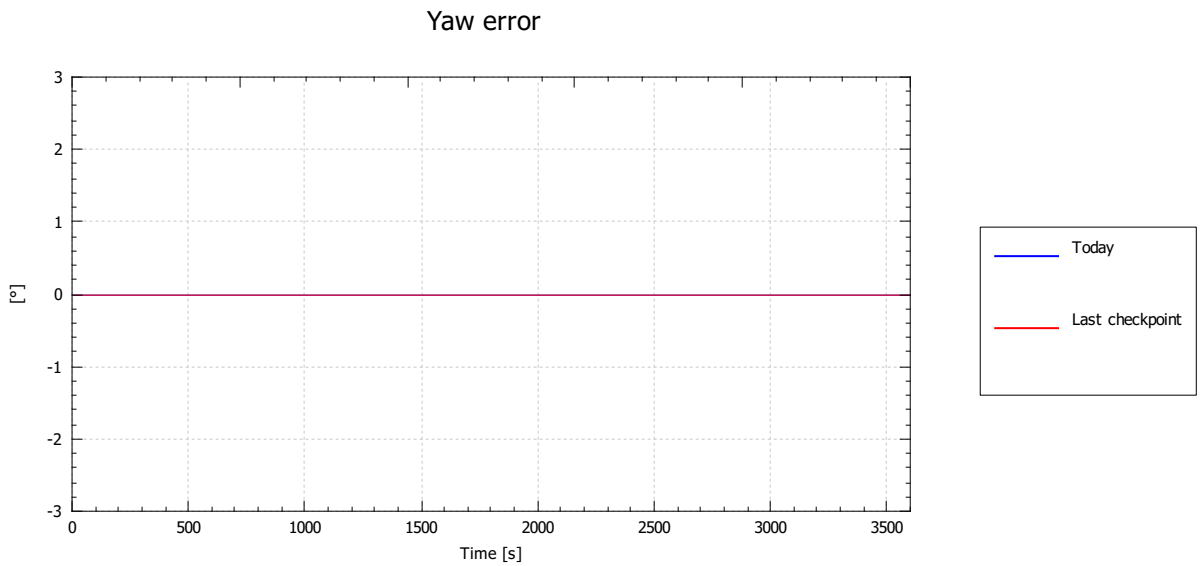

Rotation per timestep
[°]
Time [s]
Today
Last checkpoint

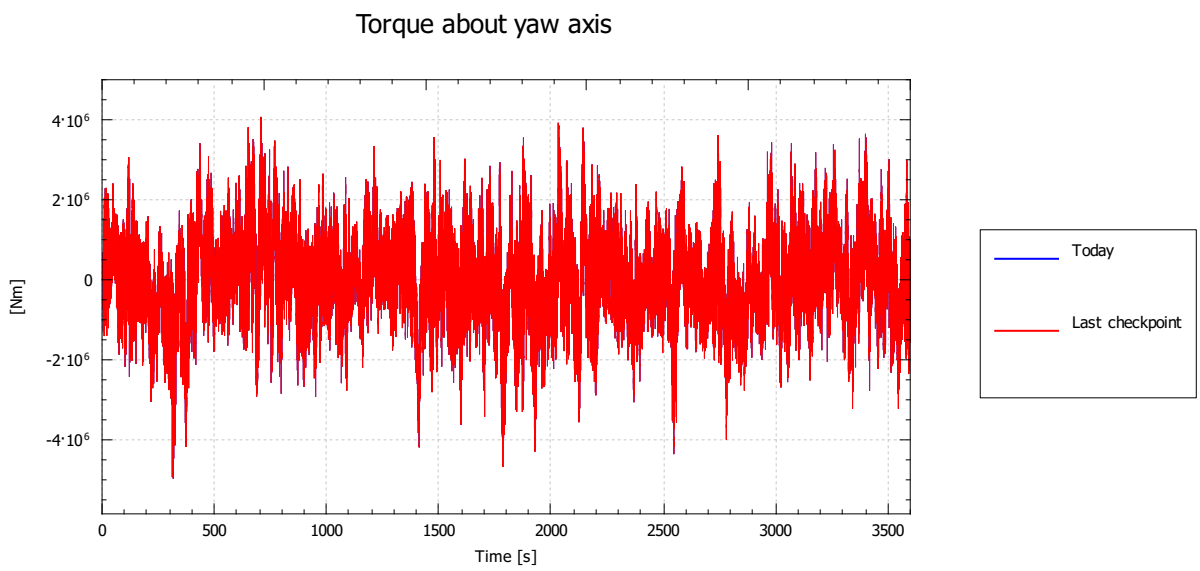

Wind speed at hub, magnitude
[m/s]
Time [s]
Today
Last checkpoint


Wind angle at hub
[°]
Time [s]
Today
Last checkpoint


Yaw angle relative to forward
[°]
3
2
1
0
-1
-2
-3
0
500
1000
1500
2000
2500
3000
3500
Time [s]
Today
Last checkpoint

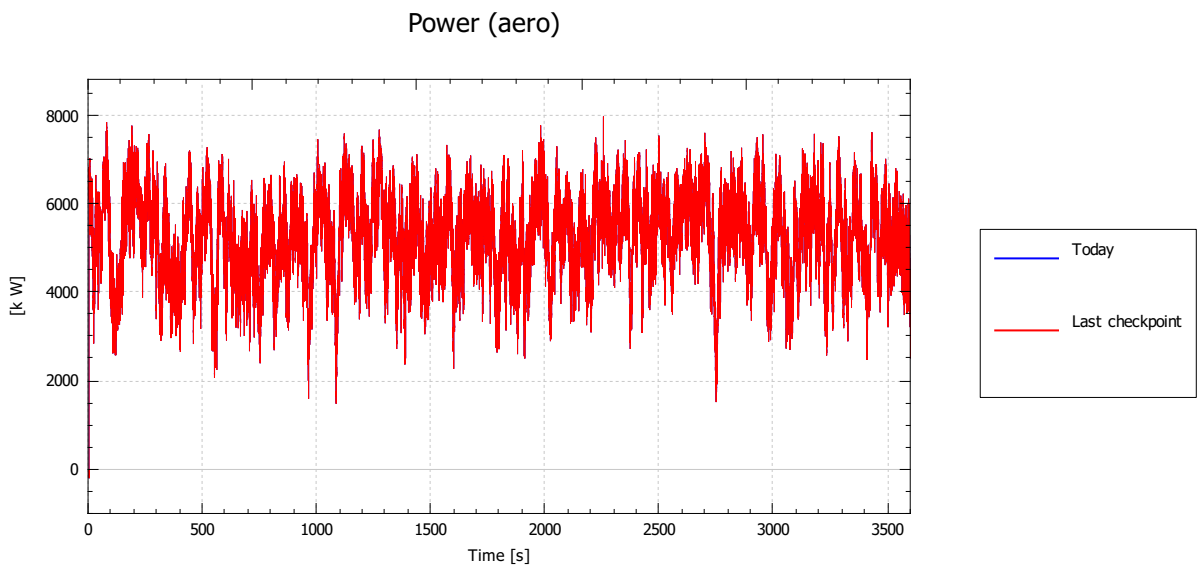

Yaw angle to reference direction
[°]
3
2
1
0
-1
-2
-3
0
500
1000
1500
2000
2500
3000
3500
Time [s]
Today
Last checkpoint

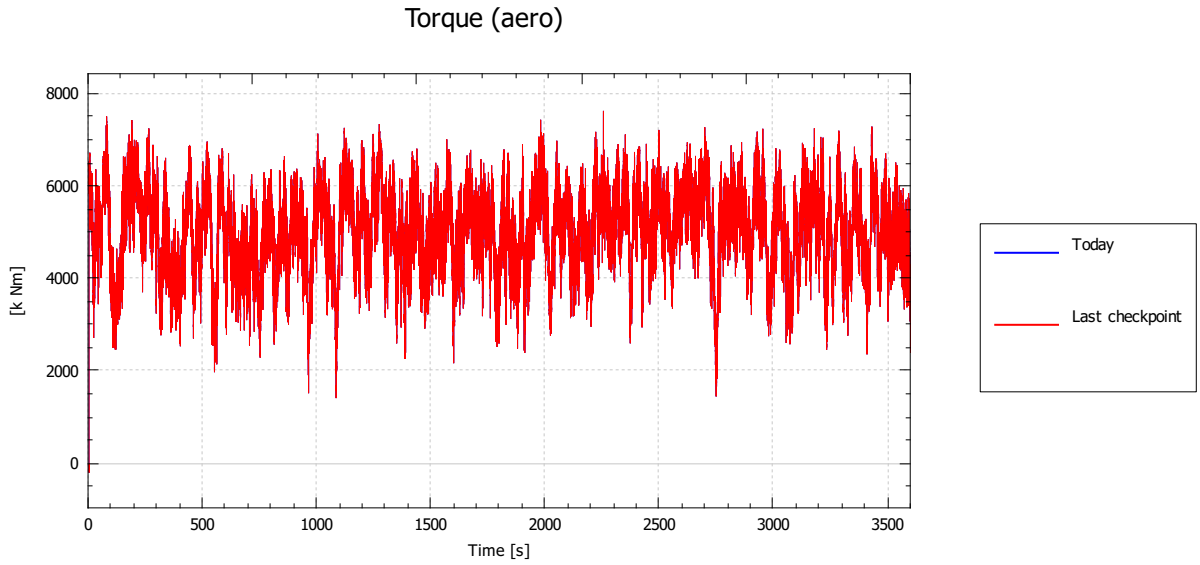

Yaw error
[°]
3
2
1
0
-1
-2
-3
0
500
1000
1500
2000
2500
3000
3500
Time [s]
Today
Last checkpoint

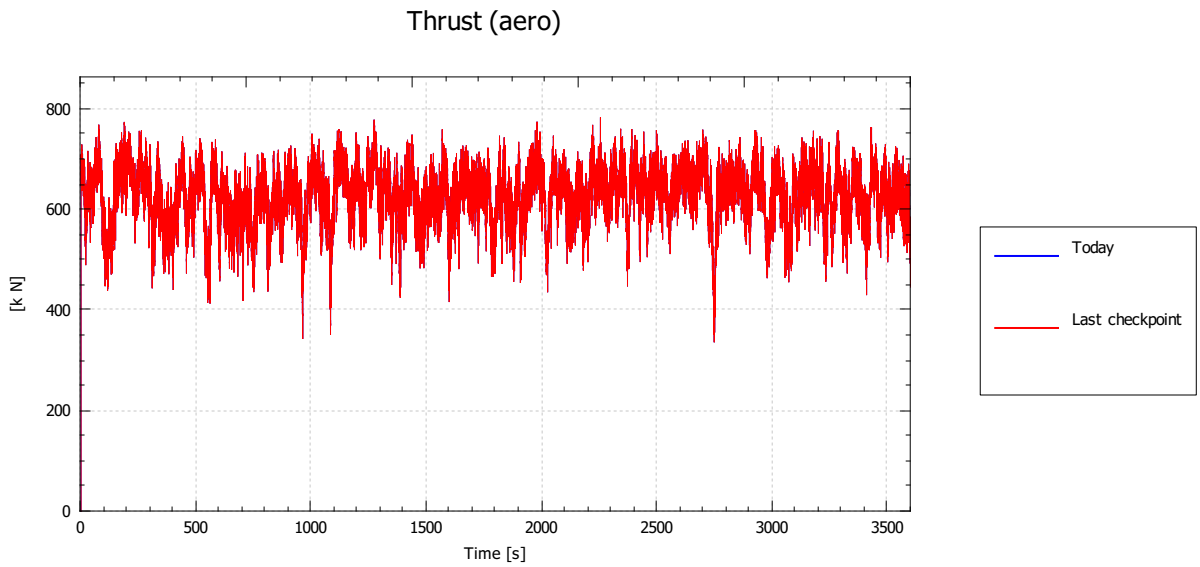


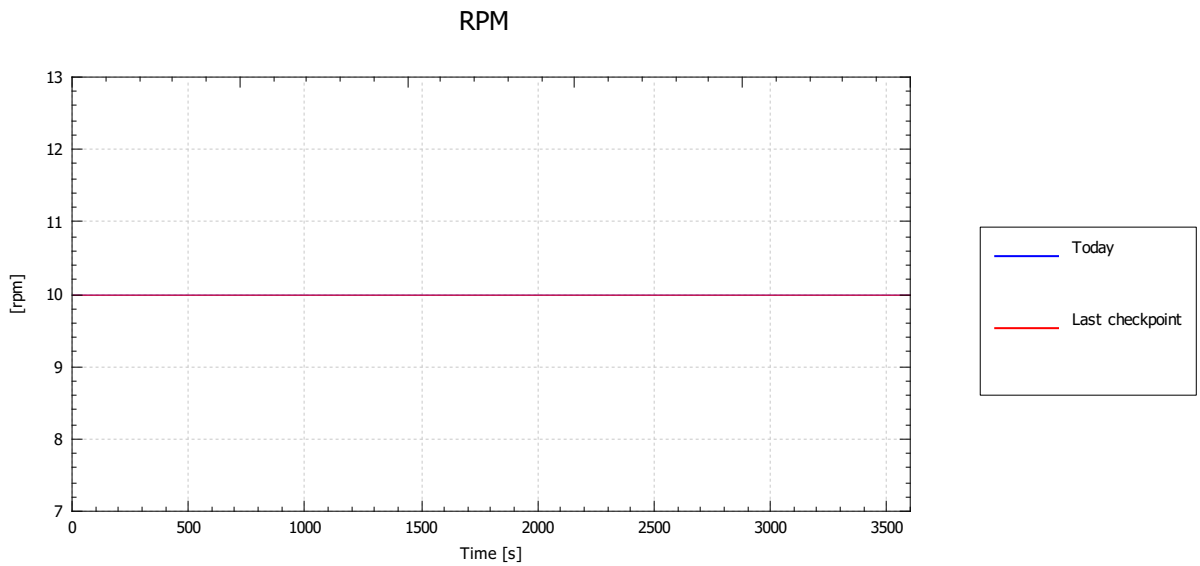
Load case: Turb7

Rotor

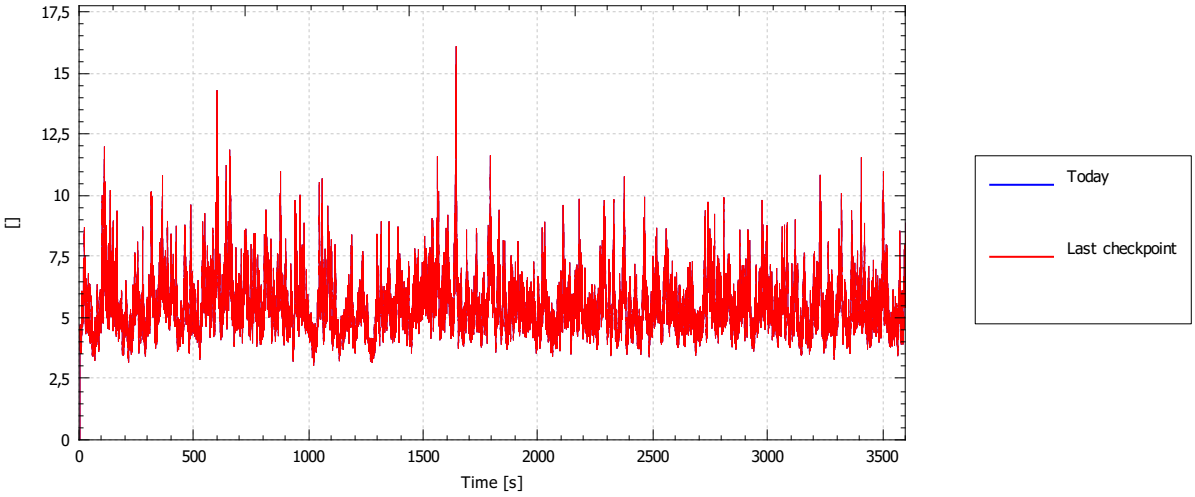



Torque (aero)
[k Nm]
8000
6000
4000
2000
0
0
500
1000
1500
2000
2500
3000
3500
Time [s]
Today
Last checkpoint

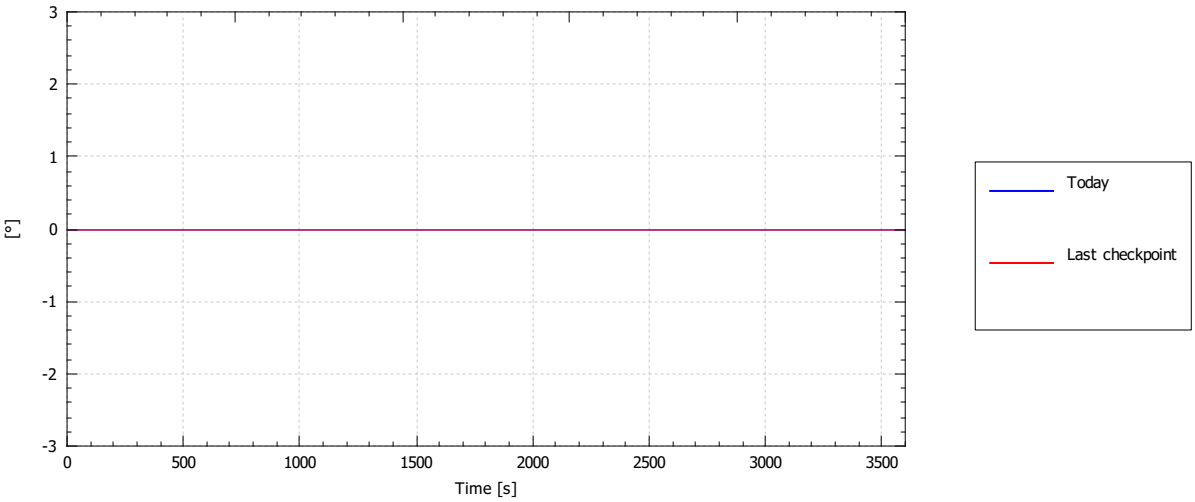

Thrust (aero)
[k N]
800
600
400
200
0
0
500
1000
1500
2000
2500
3000
3500
Time [s]
Today
Last checkpoint


RPM
[rpm]
13
12
11
10
9
8
7
0
500
1000
1500
2000
2500
3000
3500
Time [s]
Today
Last checkpoint

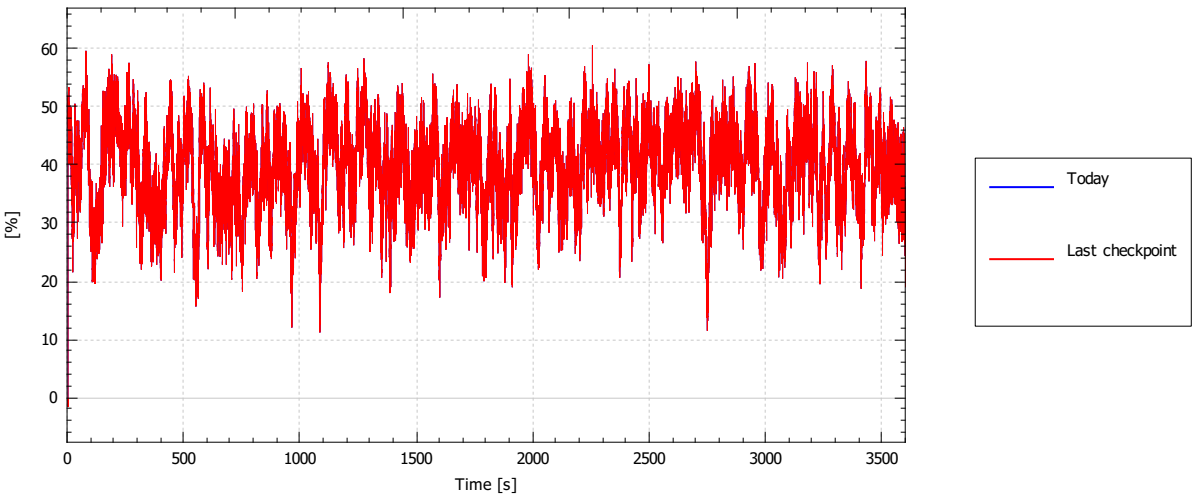
TSR



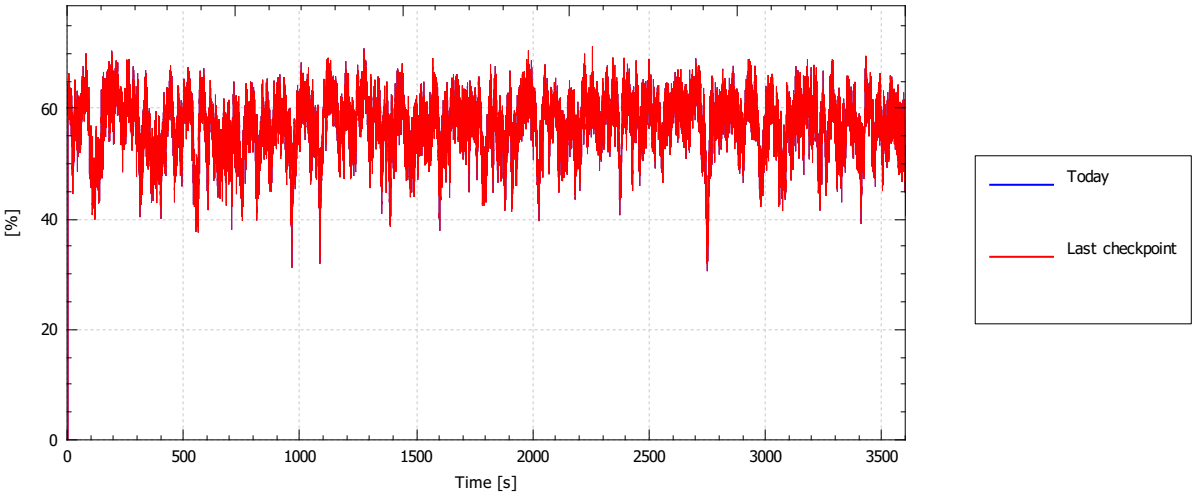
Representative demanded pitch angle



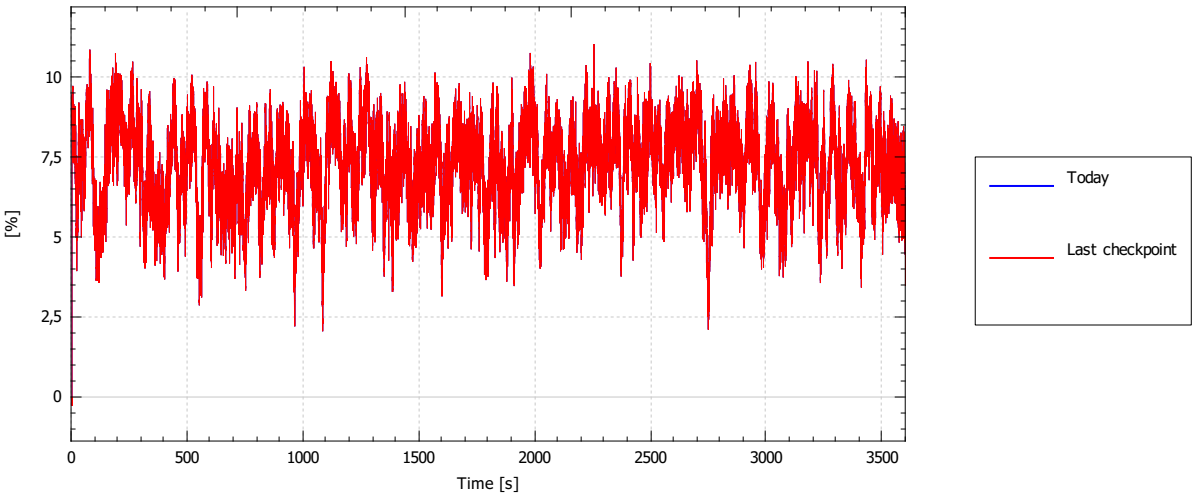
Power coef. (CP)



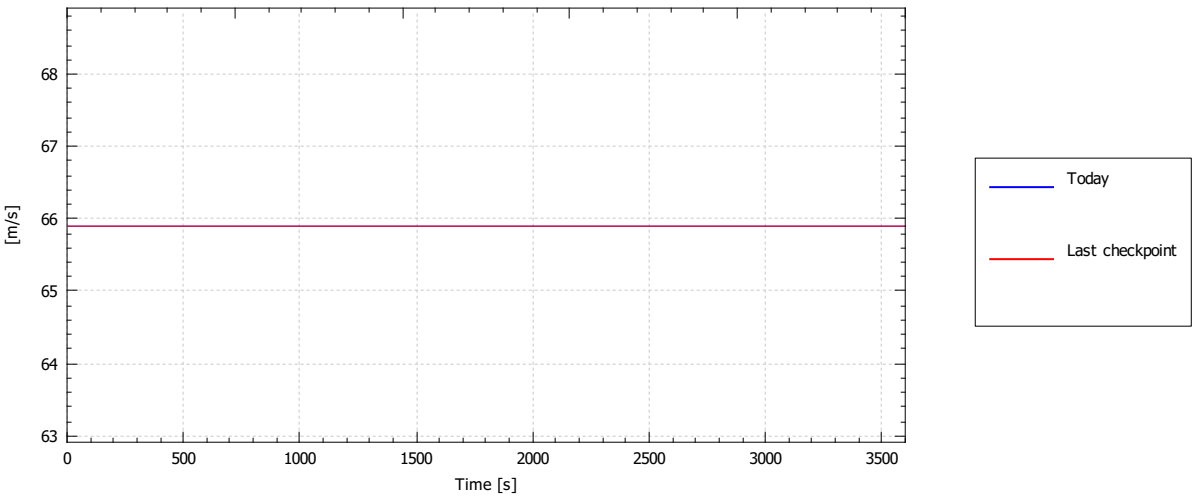
Thrust coef. (CT)



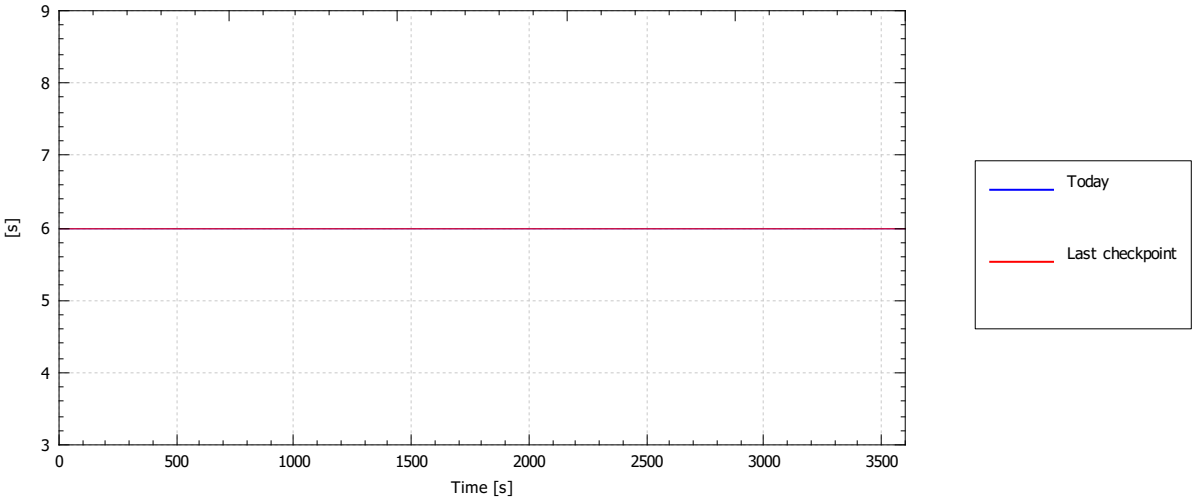
Torque coef. (CQ)



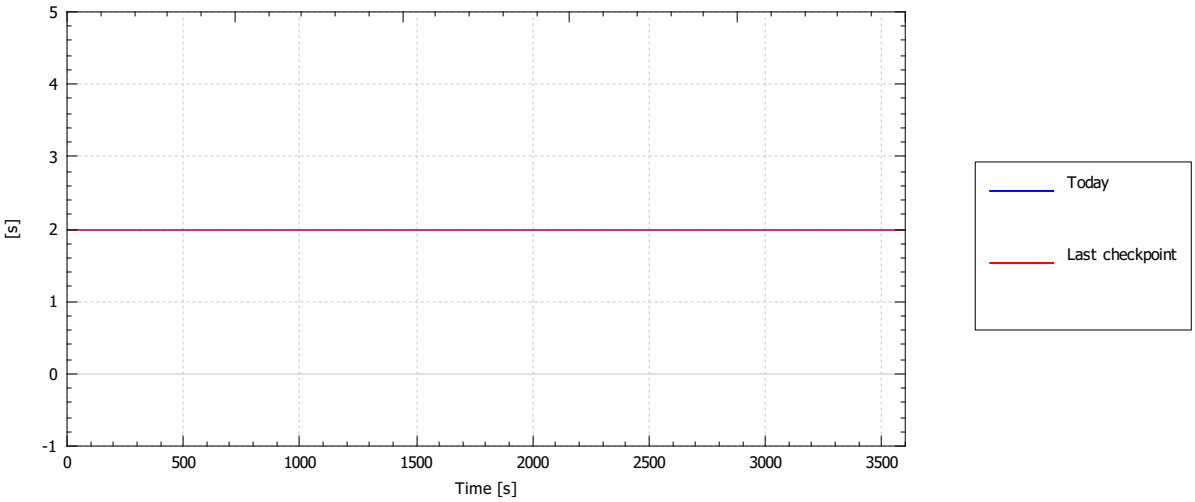
Tip speed



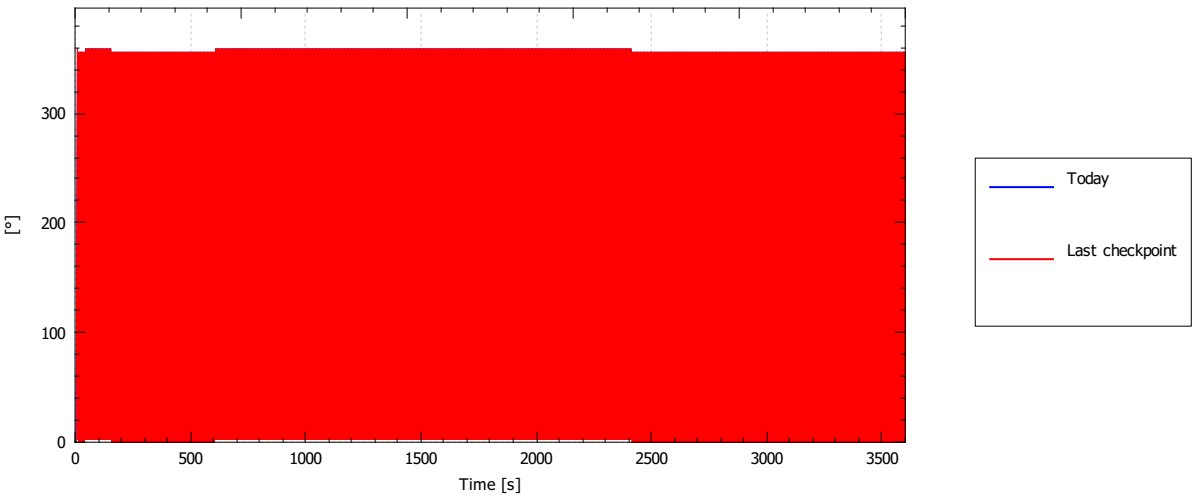
1P (one revolution)



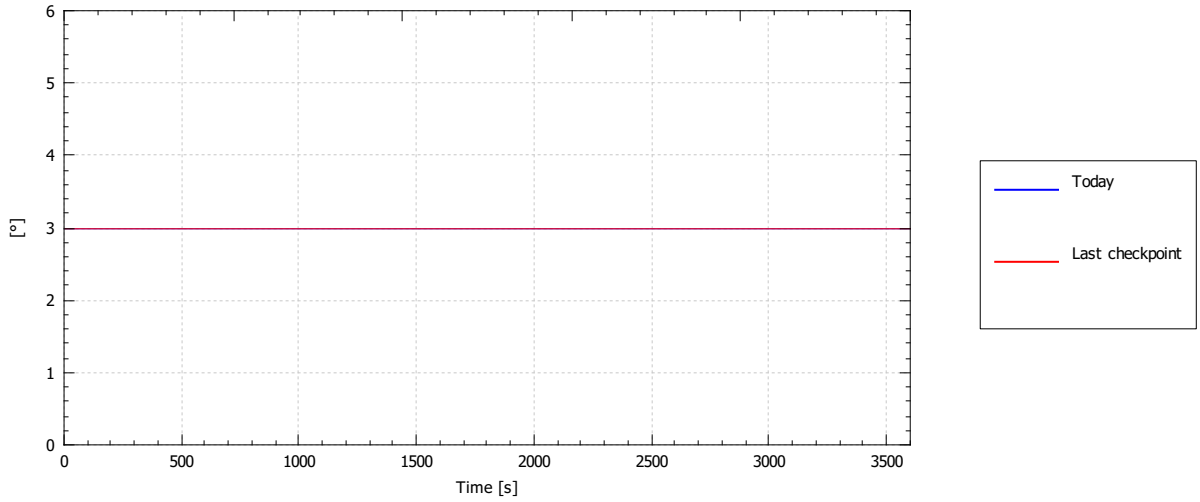
nP (blade passing)



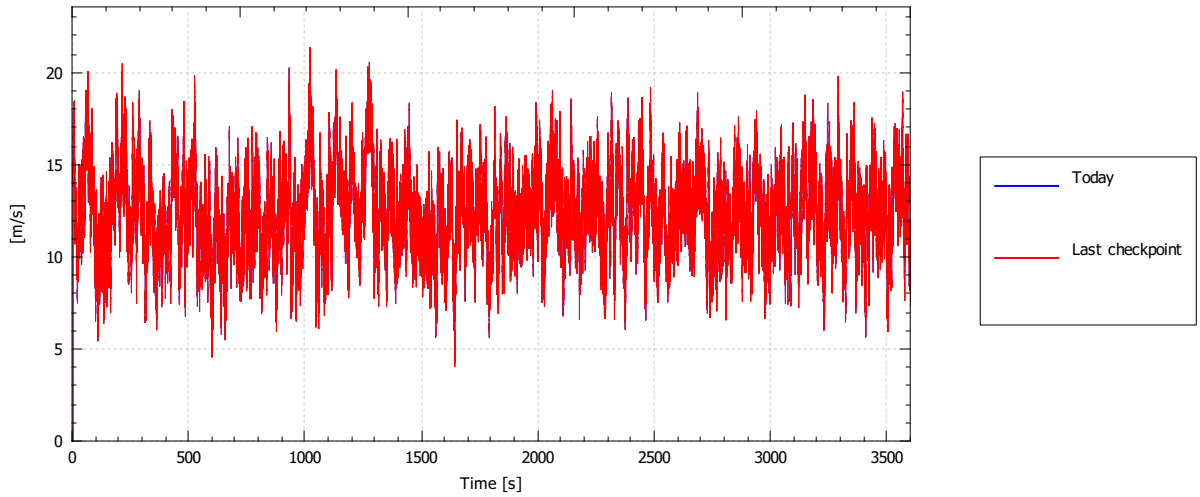
Azimuth angle



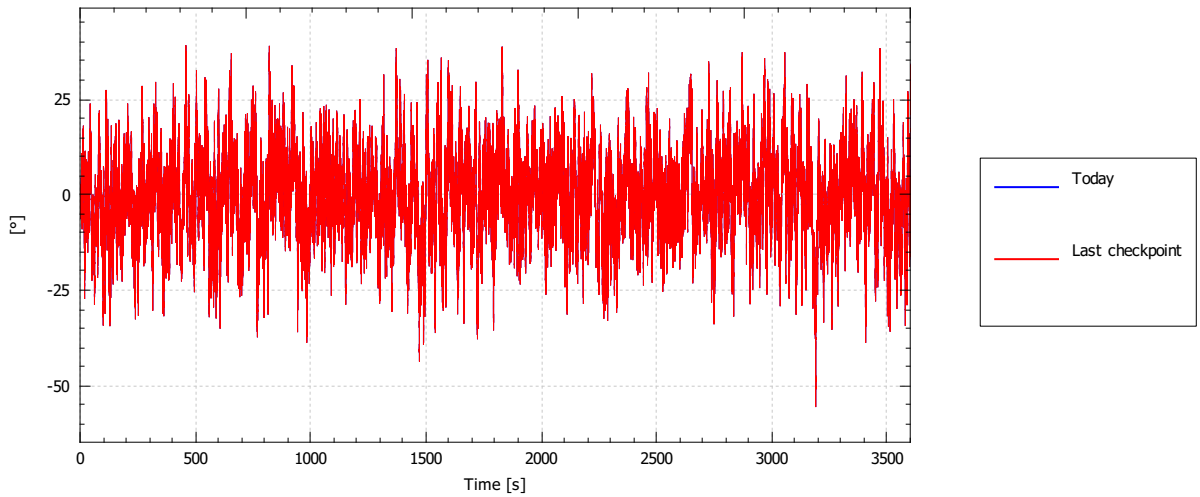
Rotation per timestep

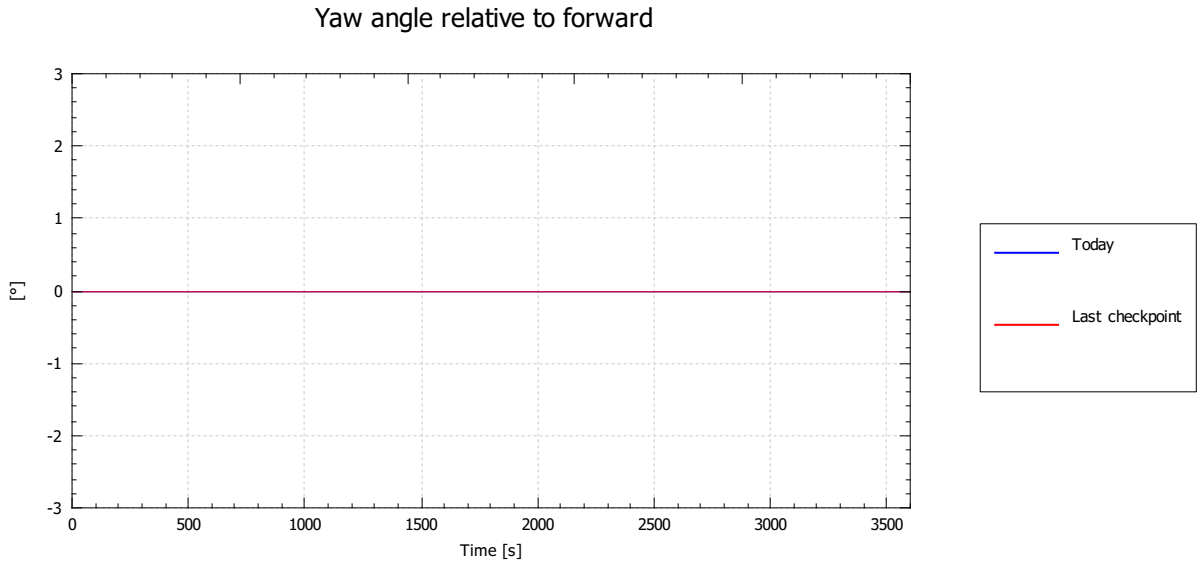


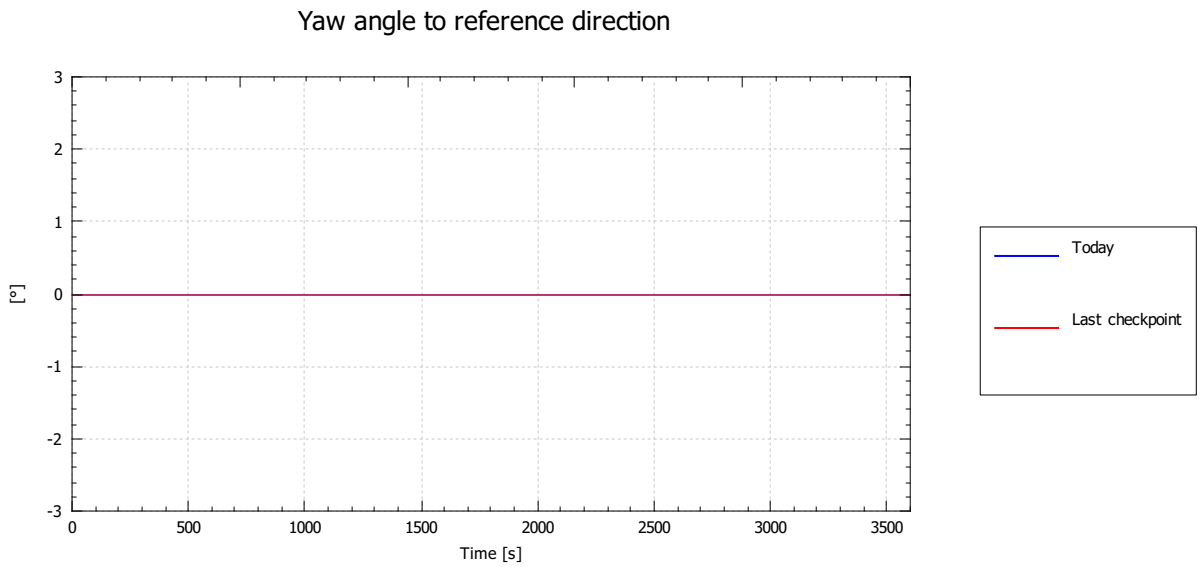
Wind speed at hub, magnitude

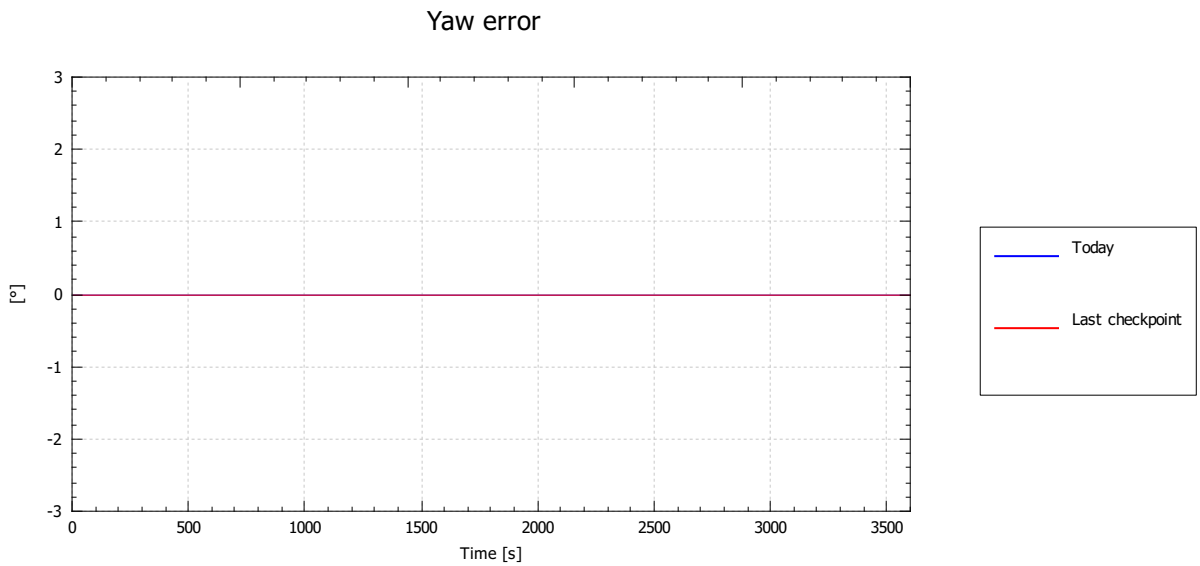


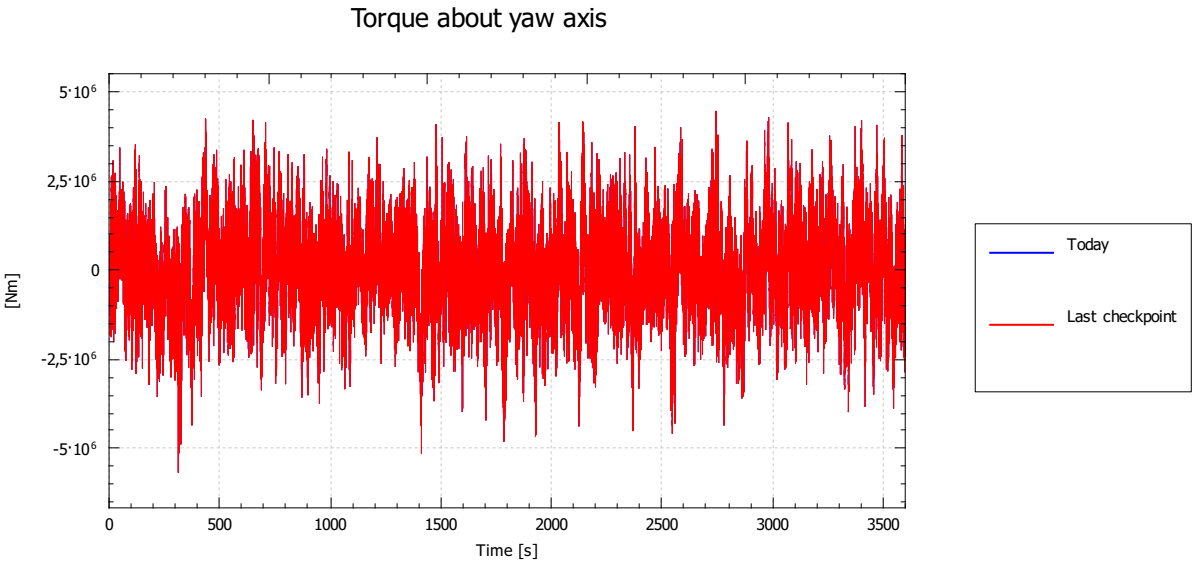
Wind angle at hub




Yaw angle relative to forward
[°]
3
2
1
0
-1
-2
-3
0
500
1000
1500
2000
2500
3000
3500
Time [s]
Today
Last checkpoint


Yaw angle to reference direction
[°]
3
2
1
0
-1
-2
-3
0
500
1000
1500
2000
2500
3000
3500
Time [s]
Today
Last checkpoint


Yaw error
[°]
3
2
1
0
-1
-2
-3
0
500
1000
1500
2000
2500
3000
3500
Time [s]
Today
Last checkpoint


Torque about yaw axis
5·10⁶
2,5·10⁶
0
-2,5·10⁶
-5·10⁶
[Nm]
0
500
1000
1500
2000
2500
3000
3500
Time [s]
Today
Last checkpoint