

Wind Turbine sub-communicator

CPU 1

CPU 2

CPU 3

CPU 4

ALM

Flow velocity sampling to the control points

MPI_reduce: velocity at each control point

Computation of the forces

MPI_Bcast: force distribution on the blades

Struct.

Solve Beam 1

Solve Beam 2

Solve Beam 3

Loop over
dt_struct

MPI_Reduce: rotor hub loads

Drivetrain Dyn.

MPI_Bcast : hub azimuth, rotor speed and pitch angle

Controller

MPI_Bcast: Blades displacement

ALM

Flow velocity sampling
Computation of the forces
Distribution of the forces