This folder contains the public simulation dataset explained in deliverable D3.2.

The results are saved in HDF5 format. A MATLAB script, *readHDF5.m*, is available in the same folder to read the files and write the timeseries in a MATLAB structure – the user only needs to determine the mooring integrity case (1-8), load case (1-13), and controller ID (*BLAYS*). Please see the script documentation for information on how to use the function.

The following convention is adopted to identify the simulation files:

LCID_ctrID.h5

where "LCID" can be any of the load cases nomenclature acronym provided in the spreadsheet *loadCases.xlsx*, while "ctrID" is an identifier for the control strategy adopted in the simulation. For the present simulation dataset, the identifier "BLAYS" (BaseLine controller, Artificial Yaw Stiffness) is adopted. For example, the times series for load case 5, with locked turret, are written in the file *5LT_BLAYS.h5*.

In the MATLAB script, the following codes are used for the mooring integrity cases:

- HNMG - moorCase = 1

- HMG - moorCase = 2

- NL4S - moorCase = 3

- NL4M - moorCase = 4

- LT - moorCase = 5

- FRS - moorCase = 6

- CLW4 - moorCase = 7

- BL4 - moorCase = 8

For example, if the mooring integrity case NL4S, the load case 8, and controller ID BLAYS are used, the following command is given:

[simData] = readHDF5(3,8,'BLAYS')

Another script, *checkTS.m*, exemplifies how to use the readHDF5 function and plot results.

The structure *simData*, written by the script, has one field called *Dynamic.* This field contains the following fields:

- *Nacelle* – wind turbine nacelle time series.
- *Origo* – wave elevation time series at the origin.
- *Wind turbine* – wind turbine time series: aerodynamic forces and moments, blade 1 azimuth angle, generator power, generator speed, wind speed at hub height, mechanical generator torque, blade pitch angles, and rotor speed.

Important: the output time steps for different fields may vary, so a particular time array is available for each of them.