Paramarine Tutorial 6

In this tutorial we will perform a basic seakeeping analysis.

Basic Seakeeping Analysis

1. Under the analysis placeholder insert a seakeeping placeholder
2. Right click on seakeeping – insert – Seakeeping – sk_general_condition
3. Expand it and select use_loading_condition – then link the load_condition with one the loading conditions you have defined earlier
4. Right click on seakeeping – insert – Seakeeping – sk_proteus_hull_definition
5. Expand it and link the condition with the general_condition you created earlier
6. Right click on seakeeping – insert – Seakeeping – sk_speeds_and_headings
7. Expand it and insert a variable or a series of variables for speed, headings and profile
8. For example the speed of the FPSO is zero, headings start at 0 going up to 180 in increments of 30.
9. Right click on seakeeping – insert – Seakeeping – sk_wave_data
10. Expand it and select either jonswap or Bretschneider wave type
11. Add a range of frequencies. Before that change the units from Hz to r/s. To do this go to the default fixed data folder and under the units folder you can select the units for frequency.
12. Right click on seastate folder – insert – type a name for the sea state object
13. Expand the sea state created and give a value for the significant wave height and the period.
14. Expand the output folder – expand a sea state – click on the spectrum_graph to see the result
15. You can add several sea state conditions
16. Right click on seakeeping – insert – Seakeeping – sk_proteus_ship_and_waves
17. Expand it and link the hull_geometry, the speeds_and_headings and the wave_data with ones created earlier.
18. Expand the RAO_output_data, then the RAO_results, then the speed, then the heading. Double click on the RAO_graph and the phase_graph to see the responses
19. Right click on seakeeping – insert – Seakeeping – RMS_motions
20. Expand it and link the RAO_results with the output data of the sk_proteus_ship_and_waves. Expand the results folder, expand the sea state and double click on the graphical_results to see the RMS response.

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