

Internship s title : Heave simulation with the Euler Overlay method in STARCCM+ Duration 4 to 6 months

Detailed theme for trainee/project name (if applicable) :

Main missions: In oil and gas companies the knowledge of the behavior of big offshore structures in real environment is crucial for safety reason. The progress of the CFD can provide answers to problems that tests in tanks cannot model at a reasonable cost.

The objective of the internship is to validate a numerical methodology by comparison to available experimental data. More specifically it is about modelling realistic sea states interacting with offshore structures. For that the Euler Overlay method (Chimera meshing technique) will be used with a wave VOF model. This model allows computing waves up to the fifth order in the Stokes' theory of waves. Validations will be first performed by using a well-known benchmark solution on a cylinder. Application to a floater dedicated to wind turbines will be then carried out.

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