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RANS Simulation of the LNG Ship Squat in Shallow Water

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Abstract : Squat is the reduction in under-keel clearance between a vessel at-rest and underway due to the increased flow of water past the moving body. The forward motion of the ship induces a relative velocity between the ship and the surrounding water that causes a water level depression in which the ship sinks. The problem of ship squat is one among the crucial factors affecting the navigation of ships in restricted waters. This article investigates the LNG ship squat, its effects on flow streamlines around the ship hull and ship behavior and motion using computational fluid dynamics which is applied by Ansys-Fluent.

Keywords : ship squat, CFD, confined, mechanic
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