Abstract Submitted
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Large-eddy simulation of appended submerged vehicles using an unstructured overset grid method[1] NICHOLAS MORSE, KRISHNAN MAHESH, University of Minnesota — Appended axisymmetric bodies are of particular interest in marine vehicle applications, in which the wakes and horseshoe vortices of the appendages are ingested by the propulsor. We discuss the application of a novel unstructured overset method to wall-resolved large-eddy simulation (LES) of an appended hull geometry. The numerical algorithm used in the present work is based on that developed by Horne and Mahesh [J. Comput. Phys (2019) 397: 108790] to address the discrete conservation and scaling challenges of overset methods. Simulation results are compared to relevant experimental data and LES of the unappended axisymmetric hull.

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