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Simulation of Lifeboat Launching Under Storm Conditions

Recent development of numerical methods for a coupled simulation of fluid flow and flow-induced motion of rigid bodies have made it possible to simulate launching of lifeboats from offshore platforms or marine vessels, taking into account all relevant details of the geometry, the wind and the waves. One such method developed by authors and coworkers is described, and an example of simulation of lifeboat launching under storm conditions is presented. It is shown that by using overlapping grids and local mesh refinement, one can perform a simulation covering 6 s of real time on a single processor in less than a day, using a grid with about 300,000 control volumes for half of the geometry. This is considered sufficient to undertake design studies and to find the near-optimum lifeboat shape for most likely usage conditions, since earlier studies with calm water and no wind conditions showed acceptable agreement between simulation and experiment.

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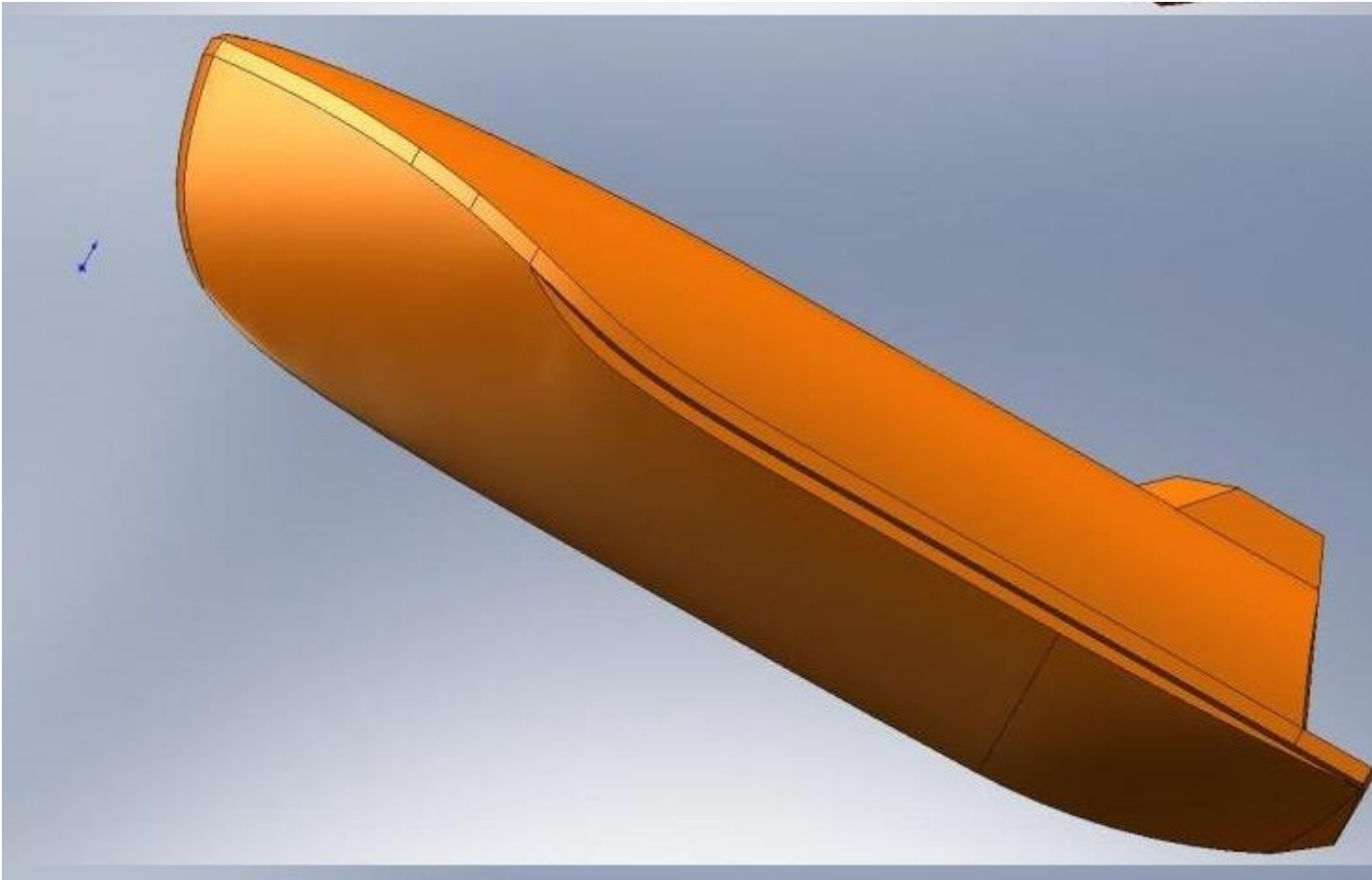
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