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Computation of a free floating body in a wave field are performed using a two phase flow solver of compressible Euler equation with variable density.
The 3D numerical method takes advantage of parallel computing and adaptative mesh refinement in the vicinity of the air/sea interface with a locally variable time step.

The physical approximations and numerical procedures are discussed regarding the challenging problem of the perturbation of a wave field by the current induced by the body motion.

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