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SLAMMING

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The bottom hinged Oscillating Wave Surge Converters are quite efficient to extract power from ocean waves. However such devices can experience wave slamming. This talk deals with numerical studies of wave slamming on an oscillating plate. The Navier–Stokes equations are discretized using the Finite Volume method with the Volume of Fluid (VOF) approach for interface capturing. Waves are generated by a flap-type wave maker in a numerical wave tank, and the dynamic mesh method is applied to model the motion of the oscillating plate. Mesh and time step convergence studies are performed. The flow characteristics in a slamming event is analysed based on numerical results. Various simulations with different plate density, water depth and wave amplitudes are investigated.