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## Numerical Simulation of Dynamic Response of Structure Caused by Impact Pressure Using an Eulerian Scheme with Lagrangian Particles

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**Summary:** We have developed a new numerical scheme that combines a Eulerian scheme with Lagrangian particles to compute fluid-structure interaction caused by impact pressure. The proposed numerical model was applied to several problems such as interaction between a solid structure with dam breaking, and hydroelastic due to impact pressure acting on a vertical wall. The Lagrangian particles are useful and available to capture an interface between different phases. The model can estimate impact pressure acting on a vertical wall, its deformation, vibration, stress and strain. We made clear three dimensional impact pressure field of solid structure in space and time and advantageous effect of artificial stress term.

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