

Interaction problem of elastic spherical shell with liquid

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The models describe an elastic body between two curved surfaces, the distance between them being constant and small compared to other characteristic dimensions of the body particles motion ranging from the elasticity equations to the equations of thin shells theory. The Timoshenko type theory of shells takes into account inertia of rotation and shear deformation in which disturbance propagates at a finite speed. The analytical solution of the interaction of a thin spherical shell with the surrounding acoustic fluid problems was suggested. A case study of a dimensionless shell is introduced, the obtained results coinciding with critical results derived on the basis of Kirchhoff—Love equations.

Keywords: spherical shell, acoustic liquid, falling wave.

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