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## Free Vibrations of a Corrugated Closed Cylindrical Shell

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The frequencies and modes of free vibrations of a thin closed corrugated circular cylindrical shell with different clamped and free-ends boundary conditions and different physical and mechanical parameters are determined using the finite-element method. The test problem for an open corrugated elliptical cylindrical shell is solved. The solution demonstrates good agreement (less than 2.5%) between the calculated natural frequencies and the frequencies determined by other authors using the spline-collocation method in combination with the discrete-orthogonalization method. The frequencies of the corrugated shell are compared with those for a circular shell of equivalent mass. The dependence of the natural frequencies of a corrugated shell on the boundary conditions and the physical and mechanical characteristics of its material is established. Symmetric and antisymmetric vibration modes are determined for all the corrugated shells considered.

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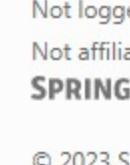
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