

## عنوان مقاله:

Comparison of Various Shell Theories for Vibrating Functionally Graded Cylindrical Shells

## محل انتشار:

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## نویسنده:

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## خلاصه مقاله:

The classical shell theory, first-order shear deformation theory, and third-order shear deformation theory are employed to study the natural frequencies of functionally graded cylindrical shells. The governing equations of motion describing the vibration behavior of functionally graded cylindrical shells are derived by Hamilton's principle. Resulting equations are solved using the Navier-type solution method for a functionally graded cylindrical shell with simply supported edges. The effects of transverse shear deformation, geometric size, and configurations of the constituent materials on the natural frequencies of the shell are investigated. Validity of present formulation was checked by comparing the numerical results with the Love's shell theory.

## کلمات کلیدی:

Functionally graded material, Cylindrical shell, Natural frequency, Various shell theories

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1722341>

