

عنوان مقاله:

Free Vibration of Thin-Walled Cylindrical Shells

محل انتشار:

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خلاصه مقاله:

A method is presented for calculating the free vibrations of an isentropic thin-walled circular cylindrical shell with different boundary conditions. The method is based on Love's theory of shells. An experimental study was conducted on a circular cylindrical shell with simply supported boundary conditions. The objective was to evaluate the validity of the theory. To investigate the effects of a shell's dimension and boundary conditions on its natural frequencies, various models were studied. Shells with different lengths and radius/thickness ratios were compared. Moreover, shells with simply supported and clamped boundary conditions were modeled and analyzed. By comparing such varying terms interesting results were obtained, especially from designing point of view.

کلمات کلیدی:

circular cylindrical shell, natural frequency, mode shape, Love theory

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