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Advanced Structured Materials • Volume 134, Pages 141 - 154 • 2020

Document type
Book Chapter

Source type
Book Series

ISSN
18698433

DOI
10.1007/978-3-030-47491-1_8

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Free Vibrations of an Open Non-circular Cylindrical Shell of Variable Thickness

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The natural frequencies and the corresponding vibration modes of open cylindrical shells with an elliptical cross-section and variable thickness are analyzed. Variations in the cutting of the shell along both the minor and major axes are allowed and various boundary conditions are considered. The numerical solutions are obtained using the finite element package FEMAP with the NASTRAN solver. A number of low-frequency vibrations are investigated in terms of their dependence on the cutting angle along major and minor axes of the shell. © Springer Nature Switzerland AG 2020.

Author keywords

Elliptical crosssection; FEM; Free vibrations; Open non-circular cylindrical shell; Variable thickness

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