

## عنوان مقاله:

Vibration of Carbon Nanotube Reinforced Cylindrical Shell Based on Higher Order Shear Deformation Theory

## محل انتشار:

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## خلاصه مقاله:

This paper presents the free vibration of nano composite cylindrical shells reinforced by single –walled carbon nanotubes (SWCNTs) based on third order shear deformation theory. The material properties of uniformly distributed carbon nanotube – reinforced composites (UD- CNTRCs) are constant in the thick-ness direction and determined by the rule of mixture. the analysis is carried out with strain – displacement relations from love's shell theory. The Hamilton's principle is employed to derive the governing equations and then solved by a wave propagation approach to obtain the vibration frequencies of UD- CNTRC cylin-drical shells. the influences of nanotube volume fraction, number of circumferential waves and the axial wave number on the natural frequencies of simply supported UD- CNTRC cylindrical shell are provided .Further , the case of clamped boundary condition is also studied and its results is compared with the case of simply supported boundary condition. The validity and accuracy of the present analysis are verified with available literature

## کلمات کلیدی:

Uniformly distributed; Cylindrical shell; Carbon nanotube; Wave propagation approach

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/188749>

