

## عنوان مقاله:

Effect of number of layers on the buckling analysis of CNTs using nonlocal elasticity theory

## محل انتشار:

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## خلاصه مقاله:

In this article, using the nonlocal elasticity theory, the effect of number of layers on the axially compressed buckling of carbon nanotubes (CNTs) is studied. Moreover, the effects of temperature change and van der Waals forces between adjacent and the other two layers on the axial buckling load are taken into account. An elastic and isotropic multi-layer shell model under thermal effect is presented for axially compressed buckling of multi-walled carbon nanotubes (MWCNTs). An explicit formula for the axial stress in terms of the buckling modes is derived. Numerical results for 2, 4 and 8 layers of CNTs are obtained. It is shown that the axial buckling load of MWCNTs under temperature field is dependent on the wave number of the axially buckling modes, temperature change and number of layers

## کلمات کلیدی:

Nonlocal elasticity theory, Buckling analysis, MWCNTs, Temperature field

## لینک ثابت مقاله در پایگاه سیویلیکا:

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