

عنوان مقاله:

A discussion about the solutions of single wall carbon nanotube

محل انتشار:

دومین همایش ملی ریاضیات و کاربردهای آن در علوم مهندسی (سال: 1394)

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خلاصه مقاله:

This article is devoted to analyze the deformation of a single wall carbon nanotube (SWCNT) interacting with a curved bundle of nanotubes. As we know, what causes this deformation is vander Waals forces. To investigate the deformation, we assume that the bundle of nanotubes is rigid. In order to obtain an analytical solution, first the van der Waals force is approximated by a bilinear model and then Homotopy Perturbation Method (HPM) is applied to solve the equation that model the deformation of nanotubes. Obtained results by applied technique are in good agreement with those obtained by other numerical methods and physical experiments but with rather simple computational work.

کلمات کلیدی:

Homotopy Perturbation Method; Nanotubes

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