

عنوان مقاله:

Investigation of The Electromagnetic Force Effect in N/MEMS Switch by Homotopy Perturbation Method

محل انتشار:

دومین کنفرانس بین المللی کاربرد مواد و ساخت پیشرفته در صنایع (سال: 1401)

تعداد صفحات اصل مقاله: 6

نویسندگان:

;Nikta Shams Mohammadi - Master Student, Shahrood University of Technology

;Hamid Samadi - Master Student, Babol University of Technology

;Mohammad Rahimzadeh - Assistant Professor, Golestan University

;Zohreh Asadi - Master Degree, Sari Azad University

;Davood Domiri Ganji - Professor, Babol University of Technology

خلاصه مقاله:

The effect of the electromagnetic force parameter and the relation between wire displacements are vital considerations in the design of nano/microelectromechanical systems. In this paper, a semi-analytical method called the Homotopy Perturbation Method (HPM) has been applied to solve nonlinear equations of a nano/microelectromechanical systems switch. The results for various values of electromagnetic force are shown to demonstrate the method's validity. Additionally, it was determined that the provided method is exact and effective for the given situation. The results in all situations prove the accuracy of HPM, where all of the calculations have a striking similarity to the numerical approach. This approach is beneficial for the solution of a large number of nonlinear equations.

کلمات کلیدی:

.Electromagnetic Force, Homotopy Perturbation Method, MEMS Switch, Numerical Method

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1493358>

