

عنوان مقاله:

An Analytical Study on Effects of adding Nanoparticles to Water and Enhancement in Thermal Properties Based on Falkner-Skan Model

محل انتشار:

مجله مکانیک سازه های پیشرفته کامپوزیت، دوره 1، شماره 1 (سال: 1393)

تعداد صفحات اصل مقاله: 9

نویسندگان:

Y. Rostamiyan - *Department of Mechanical Engineering, Sari Branch, Islamic Azad University, Sari, Iran*

M. Abbasi - *Department of Mechanical Engineering, Sari Branch, Islamic Azad University, Sari, Iran*

F. Aghajani - *Department of Mechanical Engineering, Sari Branch, Islamic Azad University, Sari, Iran*

F. Hedayati - *Department of Mechanical Engineering, Sari Branch, Islamic Azad University, Sari, Iran*

خلاصه مقاله:

In the age of technology, it is vital to cool down different parts of a device to use it more beneficially. Using nanofluids is one of the most common methods which has shown very effective results. In this paper, we have rephrased a classic equation in fluid mechanics, i.e. the Falkner-Skan boundary layer equation, in order to be used for nanofluid. This nonlinear equation, which was presented by Liao, has been solved by Homotopy Analysis Method (HAM). This method is very capable to solve a wide range of nonlinear equations. The physical interpretation of results which are velocity and temperature profiles are explained in details and they are parallel with experimental outcomes of previous researchers.

کلمات کلیدی:

Falkner-skan, Boundary Layer, Nanofluids, HAM

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1026182>

