

عنوان مقاله:

Viscoelastic Flow and Heat Transfer over a Non-Linearly Stretching Sheet: OHAM Solution

محل انتشار:

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خلاصه مقاله:

In this paper the viscoelastic flow and heat transfer over a non-linearly stretching sheet with the power law velocity of the form is investigated for the first time. A prescribed power-law surface temperature distribution of the form is considered. Mathematical model is constructed through the constitutive equations of second grade fluid. The arising non-linear boundary value problem has been treated analytically by a powerful optimal homotopy analysis method (OHAM). The solutions are found in excellent agreement with the obtained numerical solutions in the case of Newtonian fluid. The results show that velocity and skin friction coefficient have direct relationship with the power-law .index . Further the thermal boundary layer becomes thinner when larger values of are taken into account

کلمات کلیدی:

linearly stretching sheet, Non, Second grade fluid, linear problem, Heat transfer, Optimal homotopy analysis method ((OHAM

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