

عنوان مقاله:

ANALYTICAL INVESTIGATION OF VISCOELASTIC FLUID FLOW IN A CHANNEL WITH A STRETCHING WALL

محل انتشار:

کنفرانس ملی مهندسی مکانیک ایران (سال: 1392)

تعداد صفحات اصل مقاله: 10

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خلاصه مقاله:

The present work is concerned with the steady upper-convected Maxwell (UCM) fluid flow through a parallel plate channel with stretching walls. The governing continuity and momentum equations are reduced to a third order nonlinear ordinary differential equation by using similarity solution transformation. The obtained equation solved by applying the analytical Homotopy Analysis Method (HAM). The results are verified by comparing with numerical solutions and demonstrate a good accuracy of the obtained analytical solutions. Profiles for velocity are presented for various values of physical parameters. The study shows that a back flow occurs near the center line of the channel

کلمات کلیدی:

UCM fluid, stretching wall, Homotopy analysis method

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/247873>

