The study of the visco-elastic and magnetic properties of a non-Newtonian fluid on a porous surface

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Abstract:

In this paper, we have obtained the solution for the effect of an angle of inclination, mass flow rate, and skin friction on an MHD Non-Newtonian fluid of second-order type. The results are expressed in the terms of non-dimensional visco-elastic parameter (β) which is dependent on the frequency of excitation (σ) of the external disturbance and considering the angle of inclination (θ) magnetic parameter (m), and porosity (k) of the medium into account. We obtained expressions for velocity, skin friction and mass flow rate and compared with Newtonian.

Keywords:

Visco-elastic parameter, Angle of inclination, Frequency of excitation Magnification parameter, Magnetic parameter.