

Rotation Effects On Unsteady Magnetohydrodynamic Second Grade Fluid Flow In A Porous Medium Past An Infinite Inclined Plate

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ABSTRACT

An analysis to establish the exact solution of second grade fluid problem for unsteady magnetohydrodynamic (MHD) flows and rotating effects past an infinite inclined plate in a porous medium is presented in this paper. It is assumed that the bounding infinite inclined plate has an isothermal plate. Based on Boussinesq approximation the expressions for dimensionless velocity, temperature and concentration are obtained by using Laplace transform method. The derived solutions satisfying the involved differential equations with imposed boundary and initial conditions. The graphical result on the influence of various parameters on the velocity has been analyzed and discussed in this paper.

KEYWORDS: Exact solutions; Flow instabilities; Magnetic effects; Magnetic fluids; Porous media fluid flow

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