Influence of Aligned MHD on Convective Boundary Layer Flow of Viscoelastic Fluid

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Abstract. Effects of aligned Magnetohydrodynamics (MHD) on the mixed convection boundary layer flow of viscoelastic fluid past a circular cylinder with Newtonian heating is investigated. Appropriate transformation is applied to the governing partial differential equations to transform them into dimensionless forms which are then solved using finite difference method known as Keller box. For verification purpose, the preliminary numerical solutions of the model are compared with previous study with a particular condition that the magnetic and viscosity effect are both absent. With strong agreement between the previous and current results, the authors believe that the extended outcome produced from the present model is accurate. Findings from the study will be presented in tabular and graphical form.

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