

## MHD mixed convection flow of viscoelastic fluid embedded in porous medium

### Abstract

An analysis has been carried out to investigate the effect of magnetic field presence on the mixed convection boundary layer flow of viscoelastic fluid over a horizontal circular cylinder in a porous medium. The governing non-similar partial differential equations are transformed into dimensionless forms and then solved numerically using the Keller-box method. Some important parameters have been discussed in this study which include the Prandtl number ( $Pr$ ), magnetic parameter ( $M$ ), viscoelastic parameter ( $K$ ), porosity parameter ( $\epsilon$ ) and the mixed convection parameters ( $\lambda$ ). The results show the values of the velocity decrease when the value of viscoelastic parameter increase and the reverse trend were observe for temperature profile. Numerical results of local skin friction as well as local Nusselt number are also presented in tabular form.