MHD FREE CONVECTION FLOW OF OLDROYD FLUID WITH HEAT AND MASS TRANSFER PAST A VERTICAL POROUS PLATE

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Abstract

The objective of this paper is to study the effect of Oldroyd fluid on MHD free convection flow past a vertical porous plate with heat and mass transfer taking Visco-elastic and Darcy resistance terms into account and the constant permeability of the medium numerically and neglecting induced magnetic field in comparison to applied magnetic field. The velocity, temperature and concentration distributions are derived, discussed numerically and shown in figures 1,2and 3 respectively. It is observed that velocity increases with increase in G_m and K but it decreases with the increase in M, μ and λ. It is observed that increase in Prandtl number P_r causes decreases in temperature. It is observed that increase in Schmidt number S_c leads to decreases in concentration.