

MHD MICROPOLAR FLUID FLOW THROUGH VERTICAL PLATE WITH HEAT GENERATION

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ABSTRACT

The numerical studies are performed to examine the micropolar fluid flow past an infinite vertical heated generation in a magnetic field. Finite difference technique is used as a tool for the numerical approach. The micropolar fluid behavior on two- dimensional unsteady flow has been considered and its non similar solution have been obtained. No similar equations of the corresponding momentum, angular momentum, energy and continuity equations are derived by employing the usual transformations. The dimensionless non similar equations for momentum, angular momentum, energy equation and continuity equations are solved numerically by finite difference technique. The effects on the velocity, microrotation, the spin gradient viscosity, Prandtl number, Grashoff number and Eckert number of the various important parameters entering into the problem separately are discussed with the help of graphs.

Keywords: Magneto hydrodynamics(MHD), Micropolar Fluid, Heat Generation, Vertical Plate.