RADIATION EFFECTS ON MHD FLOWS PAST AN INFINITE VERTICAL PLATE WITH VARIABLE TEMPERATURE AND UNIFORM MASS DIFFUSION

D. Deka and R. K. Deka

Abstract

Thermal radiation effects on unsteady flow of a viscous incompressible and electrically conducting fluid past an impulsively started infinite vertical plate in presence of (i) variable temperature, (ii) uniform mass diffusion and (iii) a uniform magnetic field applied transversely to the flow, are studied. The dimensionless governing equations are solved by using the Laplace transform technique. The velocity, concentration as well as temperature distributions and skin-friction are studied for different values of the parameters involved. Results obtained are presented with the help of graphs and table.

Keywords and phrases: thermal radiation, MHD flows, variable temperature, uniform mass diffusion, Laplace transform, magnetic field.

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