

Numerical Treatment of the MHD Convective Heat and Mass Transfer in an Electrically Conducting Fluid over an Infinite Solid Surface in Presence of the Internal Heat Generation

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Z. Naturforsch. **58a**, 601 – 611 (2003); received November 4, 2002

Numerical solutions of a set of non-linear partial differential equations are investigated. We obtained the velocity distribution of a conducting fluid flowing over an infinite solid surface in the presence of an uniform magnetic field and internal heat generation. The temperature and concentration distributions of the fluid are studied as well as the skin-friction, rate of mass transfer and local wall heat flux. The effect of the parameters of the problem on these distributions is illustrated graphically.

Key words: Magnetohydrodynamic; Thermal Diffusivity; Electrical Conductivity; Heat Flux; Finite Difference Technique.