

International J. of Math. Sci. & Engg. Appls. (IJMSEA)
ISSN 0973-9424, Vol. 5 No. IV (July, 2011), pp. 161-171

**EFFECT OF RIVLIN-ERICKSEN FLUID ON UNSTEADY MHD
FREE CONVECTIVE FLOW THROUGH POROUS MEDIUM
WITH HEAT AND MASS TRANSFER WITH HEAT
SOURCE/SINK AND TRANSPIRATION**

**SHELENDRA KUMAR, C. B. GUPTA, N. K. VARSHNEY AND JANAMEJAY
SINGH**

Abstract

An analysis of velocity, temperature, concentration and skin friction of Rivlin-Ericksen fluid of small electrical conductivity in a porous medium past an infinite porous vertical non-conducting moving plate in the presence of uniform transverse magnetic field is carried out. In this study velocity of fluid increases with the increase in G_m (Modified Grashof number) and K (Porosity parameter), but it decreases with the increase in M (Hartmann number), ω (Frequency) and λ (Visco-elastic parameter).

Key Words : *Rivlin-Ericksen Fluid, Porous medium, MHD Flow, Heat and Mass transfer, Heat source.*

2000 AMS Subject Classification : 76MXX.

©2011 Ascent Publishing House