International J. of Math. Sci. & Engg. Appls. (IJMSEA) ISSN 0973-9424, Vol. 5 No. II (March, 2011), pp. 193-202

HYDROMAGNETIC CONVERGENT CHANNEL FLOW OF A VISCO-ELASTIC ELECTRICALLY CONDUCTING FLUID WITH SLIP VELOCITY

RITA CHOUDHURY AND DEBASISH DEY

Abstract

The study of two-dimensional boundary layer flow along the wall of a convergent channel with slip velocity of a visco-elastic electrically conducting fluid in presence of a strong transverse magnetic field has been investigated analytically. Similarity solutions are obtained by considering a special form of magnetic field and the slip velocity. Expressions for velocity and approximate skin friction at the wall have been obtained and numerically worked out for different values of the flow parameters involved in the solution. The visco-elastic effects on the velocity and the approximate skin friction co-efficient have been presented graphically for various values of the flow parameters across the boundary layer.

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Key Words : Visco-elastic, Boundary layer, Similarity solution, MHD, Slip velocity.2010 Mathematics Subject Classification : 76A05, 76A10.