

HEAT TRANSFER TO MHD OSCILLATORY FLOW IN A HORIZONTAL CHANNEL WITH HEAT SOURCE AND SUCTION

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Abstract

An analysis is presented to investigate the flow and heat transfer characteristics of a viscous incompressible and electrically conducting fluid through a horizontal channel bounded by two long vertical parallel porous plates at constant temperature in presence of (i) heat source (ii) suction and under the influence of a uniform magnetic field applied transversely to the flow. Solutions are presented for velocity and temperature distributions. Expressions for skin-friction and heat transfer coefficient are derived. The effects of magnetic Hartmann number, Prandtl number, suction parameter, time etc. on velocity and temperature distributions are studied. Numerical values of skin-friction as well as heat transfer co-efficient have been computed. Results obtained are discussed with the help of graphs and tables.

Key Words and Phrases : *Heat transfer, MHD flows, Magnetic field, Heat source, Uniform suction.*

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