

Article Abstract

Title:	Unsteady MHD convective flow within a parallel plate rotating channel with thermal source/sink in a porous medium under slip boundary conditions
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Abstract:	Unsteady hydromagnetic convective flow of a viscous incompressible electrically conducting heat generating/absorbing fluid within a parallel plate rotating channel in a uniform porous medium under slip boundary conditions is investigated. Exact solution of the governing equations for fully developed flow is obtained in closed form. Expressions for skin friction due to primary and secondary flows and Nusselt number at the plate $\eta = 1$ are also derived. Asymptotic behavior of the solution for the fluid velocity is analyzed for large values of frequency parameter ω to gain some physical insight into the flow pattern. The numerical values of the primary and secondary velocities and fluid temperature are displayed graphically versus channel width variable η for various values of pertinent flow parameters whereas numerical values of skin frictions due to primary and secondary flows and Nusselt number at the plate $\eta = 1$ are presented in tabular form for different values of pertinent flow parameters.
Keywords:	Thermal source/sink, slip boundary conditions, periodic pressure gradient, convective flow, magnetic field, rotation, porous medium.