1) **HYDROMAGNETIC TURBULENT FLOW OF A ROTATING SYSTEM PAST A SEMI-INFINITE VERTICAL PLATE WITH HALL CURRENT**

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Abstract:
 In this study we have investigated a turbulent flow of a rotating system past a semi-infinite vertical porous plate. We have considered the flow in the presence of a variable magnetic field. An induced electric current known as Hall current exists due to the presence of both electric field and magnetic field. As the partial differential equations governing this problem are highly non-linear, they are solved numerically using a finite difference scheme.
Further we have investigated the effects of various parameters on the velocity, temperature and concentration profile. The skin friction and the rate of mass transfer is calculated using Newton's interpolation formula. We have noted that the Hall current, rotation, Eckert number, injection and Schmidt number affect the velocity, temperature and concentration profiles.