ABSTRACT

In this paper, we study the effect of hall current for the case of three-dimensional non-parallel stratified shear flow of an inviscid, incompressible perfectly conducting fluid. The non-linear equations of the flow and the magnetic induction equation are obtained with the uniform applied magnetic field. These equations are linearized by assuming the perturbation from the undisturbed flow to be small. Numerical computations are carried out for the non-dimensional parameters. The effect of different physical parameters such as magnetic Reynolds number, magnetic pressure number, Hall parameter, Richardson number, Brunt-vaisalafrequency, longitudinal and transverse wave number are discussed with the help of graphs.