Spatial Stability of Hydromagnetic Swirling Flows

Dua NK[1],Goel [2]R & Hari Kishan[3]
[1]Department of Mathematics, P.D.M. College of Engineering, Bahadurgarh (Haryana),India
[2,3] Department of Mathematics, D.N. College, Meerut(U.P.)India

ABSTRACT

In this paper, the spatial stability of axisymmetric disturbances of a density stratified swirling flow of an in viscid incompressible hydromagnetic fluid confined between two concentric cylindrical non-conducting rigid boundaries has been discussed. The spectrum of eigen values for $k_r > 0$ has been obtained. Some necessary conditions of instability and sufficient conditions for stability have been established.

KEYWORDS: Hydro magnetic, fluid, swirling flows, Stratified shear