

Stability of Viscous Rotating Gravitating Streams in a Magnetic Field

Prem Kumar Bhatia and Ravi Prakash Mathur

Department of Mathematics, M. B. M. Engineering College, Faculty of Engineering,
Jai Narain Vyas University, Jodhpur, India

Reprint requests to Prof. P. K. B.; E-mail: pkbhatia123@yahoo.com

Z. Naturforsch. **61a**, 258 – 262 (2006); received January 23, 2006

We have studied the stability of two superposed viscous compressible gravitating streams rotating about an axis perpendicular to the direction of a horizontal magnetic field. For wave propagation parallel to the direction of the magnetic field the dispersion relation is derived by solving the linearized perturbation equations. Both the viscosity and rotation are found to suppress the instability of the system.

Key words: Rotation; Magnetic Field; Gravitating Streams; Perturbations; Instability.