

# **EFFECT OF MAGNETIC FIELD DEPENDENT VISCOSITY AND ROTATION ON FERROTHERMOHALINE CONVECTION IN THE PRESENCE OF DUST PARTICLES**

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This paper deals with the theoretical investigation of the combined effect of magnetic field dependent (MFD) viscosity and rotation on ferrothermohaline convection in the presence of dust particles subjected to a transverse uniform magnetic field. For a flat fluid layer contained between two free boundaries, an exact solution is obtained using a linearized stability theory and normal mode analysis method. The cases of stationary convection and oscillatory modes have been discussed. In this paper, an attempt is also made to obtain the sufficient conditions for the non-existence of overstability.

**Key words:** ferromagnetic fluid, ferrothermohaline convection, dust particles, rotation, magnetic field depended viscosity.

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