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THERMAL SCIENCE

International Scientific Journal

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ON GENERALIZED HYDROMAGNETIC THERMOSOLUTAL CONVECTION: THE DUFOUR-EFFECT

ABSTRACT

The effect of uniform magnetic field on the Dufour-driven thermosolutal convection of an electrically conducting fluid completely confined in an arbitrary region bounded by rigid walls is considered. Some general qualitative results concerning the character of marginal state, stability of oscillatory motions and limitations on the oscillatory motions of growing amplitude, are derived. The results for the horizontal layer geometry in the present case follow as a consequence.

KEYWORDS

[Dufour-driven thermosolutal convection](#), [Rayleigh numbers](#), [Lewis numbers](#), [Prandtl numbers](#), [Chandrasekhar number](#)

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