

## عنوان مقاله:

Numerical Study of Sinusoidal Temperature in Magneto- Convection

## محل انتشار:

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## نویسندگان:

H. Jamai - *Laboratoire d'Énergétique et des Transferts Thermique et Massique (LETTM), Département de Physique, Faculté des Sciences de Tunis*

S. O. Fakhreddine - *Laboratoire d'Énergétique et des Transferts Thermique et Massique (LETTM), Département de Physique, Faculté des Sciences de Tunis*

H. Sammouda - *Ecole Supérieure des Sciences et de Technologie de Hammam Sousse - Université de Sousse*

## خلاصه مقاله:

In this paper we would like to present a numerical study of the effect of magnetic fields on natural convection (magneto-convection) flow of electrically conducting fluid. The 2D square cavity which was studied is subjected to a sinusoidal temperature conditions. The left and the right walls were respectively heated and cooled with a sinusoidal temperature while the top wall was kept thermally insulated. The equations are solved numerically by employing finite element method (MEF) using the software COMSOL Multiphysics. We presented the results in wide range of Hartmann number and Rayleigh number in terms of isotherm contours, velocities fields streamlines, and in an average and local Nusselt number which varies sinusoidally. Our results are shown to be in good conformity with the available benchmark solutions.

## کلمات کلیدی:

Numerical study (MEF), Sinusoidal temperature, Magneto, convection

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