

عنوان مقاله:

Partition Effect on Thermo Magnetic Natural Convection and Entropy Generation in Inclined Porous Cavity

محل انتشار:

دوماهنامه مکانیک سیالات کاربردی, دوره 9, شماره 1 (سال: 1394)

تعداد صفحات اصل مقاله: 12

نویسندگان:

H. Heidary - *Department of Mechanical Engineering, Amirkabir University of Technology (Tehran Polytechnic),
Tehran, Iran*

M. J. Kermani - *Department of Mechanical Engineering, Amirkabir University of Technology (Tehran Polytechnic),
Tehran, Iran*

M. Pirmohammadi - *Department of Mechanical Engineering, Pardis Branch, Islamic Azad University, Pardis New
City, Tehran, Iran*

خلاصه مقاله:

In this study natural convection heat transfer fluid flow and entropy generation in a porous inclined cavity in the presence of uniform magnetic field is studied numerically. For control of heat transfer and entropy generation, one or two partitions are attached to horizontal walls. The left wall of enclosure is heated with a sinusoidal function and right wall is cooled isothermally. Horizontal walls of the enclosure are adiabatic. The governing equations are numerically solved in the domain by the control volume approach based on the SIMPLE technique. The influence of Hartmann number, inclination angle, partition height, irreversibility distribution ratio, and partition location is investigated on the flow and heat transfer characteristics and the entropy generation. The obtained results indicated that the partition, magnetic field and rotation of enclosure can be used as control elements for heat transfer, fluid flow and entropy generation in porous medium.

کلمات کلیدی:

MHD, Partition, free convection, Porous media

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1384917>

