

## عنوان مقاله:

Lattice Boltzmann Simulation of Natural Convection Flow in Inclined Open-ended Porous Cavities

## محل انتشار:

چهارمین کنفرانس ملی و دومین کنفرانس بین المللی پژوهش های کاربردی در مهندسی برق، مکانیک و مکاترونیک (سال: 1395)

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## خلاصه مقاله:

A numerical study of free convection flow has been carried out on inclined open-ended cavities using the lattice Boltzmann method (LBM). Pore level simulation of flow and conjugate heat transfer is performed for a 2D open-ended cavity which is partially filled with square obstacles in regular arrangements. A parametric study is performed using major parameters such as the Rayleigh number and the eccentricity of the porous media. Results are presented in form of streamlines, isotherms and average Nusselt numbers. It is found that Depending on the application, heat transfer can be enhanced or decreased by selecting appropriate parameters. Comprehensive discussions on the effectiveness of the porous cavity compared to a nonporous one, at different situations are also provided

## کلمات کلیدی:

Free convection, lattice Boltzmann method (LBM), porous media, Open ended cavity

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/626421>

