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خلاصه مقاله:

The purpose of this paper is to investigate the EGM method and the behavior of a solid particle suspended in a twodimensional rectangular cavity due to conjugate natural convection. A thermal lattice Boltzmann BGK model is implemented to simulate the two dimensional natural convection and the particle phase was modeled using the Lagrangian–Lagrangian approach where the solid particles are treated as points moving in the computational domain as a result of the fluid motion. Entropy generation due to heat transfer irreversibility, isotherms, streamlines and Nusselt numbers were obtained and discussed. Total entropy generations in various cases are also reported and optimum case is presented based on minimum entropy generation.

کلمات کلیدی:

Conjugate convection, Entropy generation, Lagrangian–Lagrangian (L–L), Lattice Boltzmann model, particle trajectory

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