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Simulation of three dimensional MHD natural convection using double MRT Lattice Boltzmann method

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***Highlights (for review)**

- Double MRT Lattice Botlzmann method has been developed for three dimensional MHD flow.

- Average and local Nusselt number decrease by augmentation of Hartmann number considerably, as average Nusselt number drops 71% when the Hartmann number increases from 0 to 100 for $Gr=2\times10^5$.

- Heat transfer rate enhances by increasing Grashof numbers and the average Nusselt number increases 330% by enhancement of Grashof number from 2×10^3 to 2×10^5.