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Nanofluid flow and forced convection heat transfer due to Lorentz forces in a porous lid driven cubic enclosure with hot obstacle

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Highlights (for review)

- Lattice Boltzmann Method (LBM) is utilized to model the MHD nanofluid.
- A porous three dimensional enclosure with hot cubic obstacle is considered.
- Results are demonstrated in forms of isokinetic, isotherms, streamlines and Nusselt number.
- Convective heat transfer improves with rise of Darcy number.
- Lorentz forces makes conduction mode stronger than convection.

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