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Magnetogasdynamic natural convection in a long vertical microchannel

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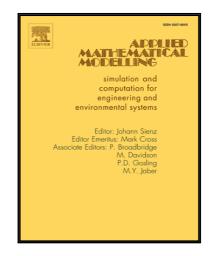
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# Highlights

#### • Original study

There were no studies on microscale magnetogasdynamic natural convection.

#### • New finding – Velocity

Results show that a greater magnetic force would result in a flatter velocity profile.

#### • New finding – Thermal-flow characteristics

Results reveal that magnetic force results in decreases in thermal-flow characteristics.

#### • New finding – Enhanced magnetic effects

These effects could be further enhanced with higher by increasing gas rarefaction.

### • Potential benefits of the present study

This study could benefit the designs of magnetically controllable microfluidic devices.

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