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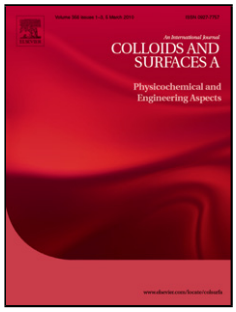

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Rotating electromagnetohydrodynamic flow of power-law fluids through a microparallel channel

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Graphical Abstract

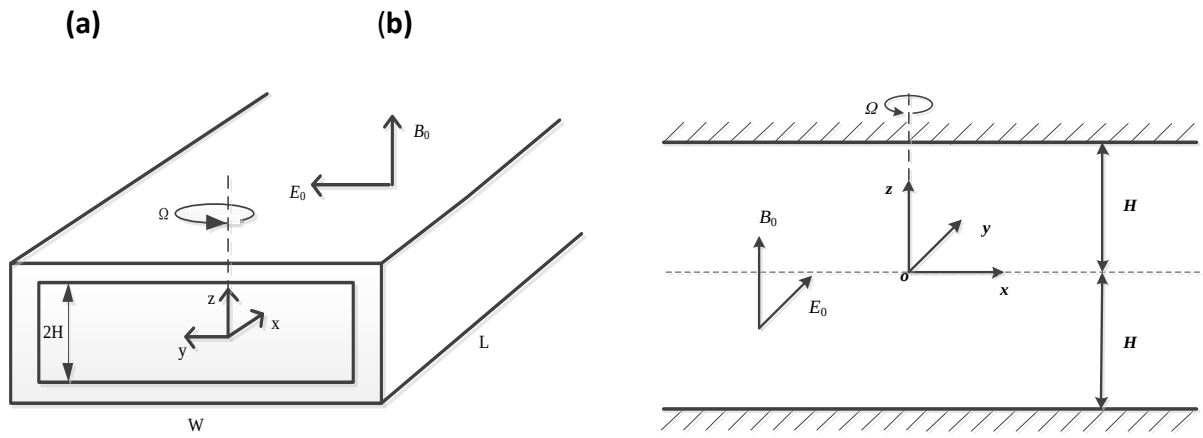

Fig. 1. (a) Schematic of the rotating EMHD flow through a microchannel; (b) Cross section of the microchannel.

Research Highlights:

- Numerical solution of rotating EMHD flow of power-law fluids is presented.
- The velocity of rotating EMHD flow is obtained by the finite difference method.
- Results are compared with existing works, and very well agreements are obtained.
- The effects of the related parameters on rotating EMHD velocity are studied.

ABSTRACT

In this study, rotating electromagnetohydrodynamic (EMHD) flow of power-law fluid through a narrow microchannel is investigated. The flow is actuated by the Coriolis force raised from the rotation of the microchannel and the Lorentz force induced by the interaction between

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