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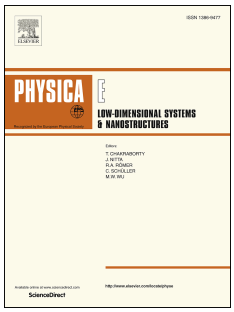

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Investigation of permeability effect on slip velocity and temperature jump boundary conditions for FMWNT/Water nanofluid flow and heat transfer inside a microchannel filled by a porous media

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Abstract

The fluid flow and heat transfer of a nanofluid is numerically examined in a two dimensional microchannel filled by a porous media. Present nanofluid consists of the functionalized multi-walled carbon nanotubes suspended in water which are enough stable through the base fluid. The homogenous mixture is in the thermal equilibrium which means provide a single phase substance. The porous media is considered as a Darcy- Forchheimer model. Moreover the slip velocity and temperature jump boundary conditions are assumed on the microchannel horizontal sides which mean the influences of permeability and porosity values on theses boundary conditions are presented for the first time at present