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Ahmed Yousof Bakier, Mohamed Ahmed Mansour

COMBINED OF MAGNETIC FIELD AND THERMOPHORESIS PARTICLE DEPOSITION IN FREE CONVECTION BOUNDARY LAYER FROM A VERTICAL FLAT PLATE EMBEDDED IN A POROUS MEDIUM

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ABSTRACT

Deals with heat and mass transfer by steady laminar boundary layer flow of Newtonian, viscous fluid over a vertical flat plate embedded in a fluid-saturated porous medium in the presence of thermophoretic and magnetic field. The resulting similarity equation are solved by finite difference marching technique. The nature of variation of particle concentration profile and magnetic field with respect to buoyancy force, , and Prandtl number is found to be similar. Comparisons with previous published work are performed and the results are found to be in excellent agreement.

KEYWORDS

mass transfer, magnetic field, thermophoresis, free convection, boundary layer

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