

**EFFECT OF DUSTY VISCOUS FLUID ON MHD FREE  
CONVECTION FLOW WITH HEAT AND MASS TRANSFER  
PAST A VERTICAL POROUS PLATE**

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**Abstract**

The objective of this analysis is to study the effect of Dusty fluid on MHD free convection flow past a vertical porous plate with heat and mass transfer taking Viscous and Darcy resistance terms into account and the constant permeability of the medium numerically and neglecting induced magnetic field in comparison to applied magnetic field. The velocity, temperature, concentration and skin friction distributions are derived. It is observed that velocity of dusty fluid and dust particles increases with the increase in  $G_r$  (Grashof number),  $K$  (Permeability parameter),  $B$  (Dusty fluid parameter) and  $B_1$  (Dust particles parameter), but it decreases with the increase in  $M$  (Magnetic parameter).

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Key Words : *Heat and mass transfer, Free convection, MHD, Porous medium, Vertical porous plate, Dusty fluid.*

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