

## **ENTROPY GENERATION IN COMBINED HEAT AND MASS TRANSFER EFFECT ON MHD FREE CONVECTION FLOW PAST AN OSCILLATING PLATE**

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### **ABSTRACT**

Analytical calculation of entropy generation due to unsteady magnetohydrodynamic heat and mass transfer in MHD flow past an infinite vertical oscillating plate was considered, taking account of the presence of free convection and mass transfer. The fluid and the plates are in a state of solid body oscillation with constant angular velocity about the z-axis normal to the plates. The energy and chemical species equations are solved in closed form by using separation of variable technique and then perturbation expansion for the momentum equation. The influences of various flow conditions were investigated, reported and discussed.

**KEYWORDS:** Free Convection, Magnetohydrodynamic Flows, Mass Transfer, Oscillating Plate, Permeable Surface, Porous Medium, Viscosity