

## Magnetohydrodynamic free convection flow past an oscillating plate embedded in a porous medium

### Abstract:

The objective of this paper is to study the radiation and thermal diffusion/Soret effects on a magnetohydrodynamic (MHD) free convection flow of an incompressible viscous fluid near an oscillating plate embedded in a porous medium. The governing coupled linear partial differential equations are solved analytically using Laplace transform method. The results for velocity, temperature and concentration fields are obtained. The deduced results for skin friction, Nusselt number and Sherwood number are computed numerically in tabular forms. Graphs are plotted to see the effects of various embedded flow parameters. A detailed discussion of these flow parameters along with their physical interpretation is also presented and appropriate conclusion are drawn.