Temperature and concentration analysis of MHD free convection flow of incompressible fluids over corrugated vibrating bottom surface with Heat and Mass transfer

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Temperature and concentration analysis of Magnetohydrodynamic free convection flow of incompressible fluids over corrugated vibrating bottom surface with heat and mass transfer is discussed. Energy and concentration equations are obtained for computation of their respective profiles. The unsteady flow two-dimensional governing equations are solved numerically by explicit finite difference method of the Forward Time Backward Space scheme. The numerical results shows that the applied parameters such as the magnetic Reynolds number, Eckerts number, Joules heating parameter, Radiative parameter, Dufour number, Prandtl number, Soret number and Schmidt number have significant effects on the fluid flow and heat transfer. MATLAB computer package is used to plot the physical effects of the parameters.

Keywords: Vibrating corrugated; Magnetohydrodynamic; Concentration profile; Temperature profile; Incompressible fluid.