

Abstract Details

Title: Powell-Eyring Magneto-Nanofluid Flow over a Stretching Cylinder with n^{th} Order of Chemical Reaction

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Abstract: We considered MHD stagnation point powell-eyring magneto nanofluid over a stretching cylinder with double stratification and n^{th} order chemical reaction. A mathematical governing model has developed for the momentum, temperature and concentration boundary layer. Whereas this prominent transformation are used to transform the principal nonlinear boundary layer equations for momentum, thermal energy and concentration to a system of nonlinear ordinary coupled differential equations with fitting boundary conditions and are solved numerically by using finite difference method. The solution of Skin-Friction, heat transfer rate (Nusselt Number) and mass transfer rate (Sherwood number) are illustrated for the various important parameters entering into the problem separately are discussed with the help of graphs.

Keywords: Nanofluid, Magneto Hydrodynamics, Stagnation, Chemical Reaction.