

Magnetohydrodynamic slip flow and heat transfer over a non-linear shrinking surface in a heat generating fluid

ABSTRACT

In this paper, the problem of steady slip magnetohydrodynamic (MHD) boundary layer flow and heat transfer over a nonlinear permeable shrinking surface in a heat generating fluid is studied. The transformed boundary layer equations are then solved numerically using the `bvp4c` function in MATLAB solver. Numerical results are obtained for various values of the magnetic parameter, the slip parameter and the suction parameter. The skin friction coefficients, the heat transfer coefficients, as well as the velocity and temperature profiles for various values of parameters are also obtained and discussed.

Keyword: Heat generation; Heat transfer; Magnetohydrodynamic; Shrinking surface; Slip flow