Dual solutions of MHD stagnation slip flow past a permeable plate

ABSTRACT

In this paper, dual solution to the problem of steady laminar magnetohydrodynamics boundary layer stagnation slip flow of the electrically conducting fluid over a permeable plate with suction effect is performed. The governing partial differential equations of the boundary layer are transformed into nonlinear ordinary differential equations via similarity transformations, and then numerically solved using the bvp4c method, which is the integrated algorithm of MATLAB. The effect of magnetic, slip and suction parameters on the skin friction coefficients and the velocity profiles and are presented in graphical form and discussed in detail. Dual solutions have been identified when suction is implied.

Keyword: Dual solutions; MHD; Slip flow; Stagnation point; Suction