Three-dimensional stagnation point viscous flow on a permeable moving surface with anisotropic slip

ABSTRACT

In this paper, the problem of a steady laminar three-dimensional stagnation point boundary layer flow on a permeable moving surface with anisotropic slip in a viscous fluid is investigated. A similarity transformation reduces the governing system of nonlinear partial differential equations into the ordinary (similarity) differential equations. The resulting equations are then solved numerically by using the bvp4c function in Matlab. The effects of surface mass transfer parameter, slip parameter, ratio of slip factors and moving parameter on the fluid flow characteristics are presented in the forms of tables and figures and are discussed in details.

Keyword: Anisotropic slip; Dual solutions; Laminar boundary layer; Moving surface; Stagnation point flow