

Forced convection boundary layer stagnation-point flow in Darcy-Forchheimer porous medium past a shrinking sheet

ABSTRACT

A mathematical model of forced convection boundary layer stagnation-point slip flow in Darcy-Forchheimer porous medium over a shrinking sheet is presented in this paper. The governing partial differential equations are transformed into ordinary differential equation using self-similarity transformations which are then solved numerically with shooting method. A parametric study of the physical parameters involved in the problem is conducted and representative set of numerical results are presented through graphs and tables, and are discussed.

Keyword: Boundary layer; Heat transfer; Shrinking; Stagnation-point flow; Slip effects