

The Aligned Magnetic Field of a Dusty Fluid Flow over a Stretching Sheet

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Abstract

In this study, the aligned magnetic field on the flow of a dusty fluid over a stretching sheet is analyzed. The governing nonlinear boundary layer equations is transformed into ordinary differential equations and then solved numerically by the Runge-Kutta Fehlberg fourth-fifth method (RKF45). The numerical solutions with different values of aligned angle, fluid particle interaction parameter and Prandtl number are presented in graphical form. It is found that, increasing aligned angle lead to the decreasing velocity profile while increasing the temperature profile for both fluid and dust phases respectively.