Flow and Mass Transfer of Second Grade Fluid in a Porous Medium Over a Nonlinear Stretching Sheet with Chemically Reactive Species and Suction

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Abstract:

This work is focused on flow and mass transfer of a second grade fluid in a porous medium over a nonlinear stretching sheet with chemically reactive species and suction. The governing partial differential equations are transformed into highly nonlinear ordinary differential equations by using special transformations, which are solved numerically using a finite difference code. Favorable comparison with previously published work (n = 1□0 linear stretching sheet) is performed and the variations of dimensionless concentration and velocity profiles as well as mass transfer characteristics with various parameters are graphed and tabulated.

Keywords:

Chemical Reactive Species, Second Grade Fluid, Nonlinear Stretching Sheet, Porous Media, Suction.

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