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Abstract Details

Title: Investigation of Chemical Reaction on Micropolar Fluid over an Exponentially Stretching Sheet

Authors: S. Anuradha and R. Punithavalli

Abstract: Investigation on steady boundary layer flow of heat and mass transfer of a micro polar fluid over an exponentially stretching sheet has been made in this paper. The governing mathematical model of the problem considered basically. The basic partial differential equations are reduced to a system of nonlinear ordinary differential equations by using similarity approach which are solved analytically using perturbation technique and numerically by Mathematica. Numerical calculations for the analytical expressions are carried out and the results are shown graphically. The effects of the various dimensionless parameters related to the problem on the velocity, angular velocity, temperature and concentration fields are discussed. Comparative analysis has been made for both the numerical and perturbation solution and found a very good agreement.

Keywords: Boundary Layer Flow, Heat Transfer, Mass transfer, Micropolar Fluid, Exponential Stretching sheet, Perturbation Method.