

عنوان مقاله:

Non-Uniform Heat Source/Sink and Thermal Radiation Effects on the Stretched Flow of Cylinder in a Thermally Stratified Medium

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خلاصه مقاله:

The paper addresses the influence of non-uniform heat source/sink in flow of couple stress fluid by a stretching cylinder in a thermally stratified medium. Thermal radiation effect in heat transfer analysis is also accounted. Conservation laws of mass, linear momentum and energy leads to nonlinear situation. Use of adequate transformations converts the partial differential equations into the ordinary differential equations. Series solutions of the resulting equations are obtained for the velocity and temperature. Convergence of the solutions is explicitly checked. Impacts of various sundry variable son the velocity, temperature, wall shear stress and Nusselt number are examined through graphical illustrations and numerical values. The effect of β and Re on velocity field is qualitatively similar. For larger values of curvature parameter γ velocity enhances. Influences of S and R on temperature on the temperature distribution are opposite. Heat transfer at the surface decays when A and B increase

کلمات کلیدی:

Couple stress fluid, Thermal radiation, Non, uniform heat source/sink and thermally stratified medium

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