Effect of Thermal Radiation on Flow, Heat, and Mass Transfer of a Nanofluid over a Stretching Horizontal Cylinder Embedded in a Porous Medium with Suction/Injection

Authors : Elsayed M. A. Elbashbeshy, T. G. Emam, M. S. El-Azab, K. M. Abdelgaber
Abstract : The effect of thermal radiation on flow, heat and mass transfer of an incompressible viscous nanofluid over a stretching horizontal cylinder embedded in a porous medium with suction/injection is discussed numerically. The governing boundary layer equations are reduced to a system of ordinary differential equations. Mathematica has been used to solve such system after obtaining the missed initial conditions. Comparison of obtained numerical results is made with previously published results in some special cases, and found to be in a good agreement.
Keywords : laminar flow, boundary layer, stretching horizontal cylinder, thermal radiation, suction/injection, nanofluid
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