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Combined influence of radiation absorption and Hall current effects on MHD double-diffusive free convective flow past a stretching sheet
(2016) *Ain Shams Engineering Journal*, 7 (1), pp. 383-397. Cited 12 times.

Abstract
An analysis has been carried out on the influence of radiation absorption, variable viscosity, Hall current of a magnetohydrodynamic free-convective flow and heat and mass transfer over a stretching sheet in the presence of heat generation/absorption. The fluid viscosity is assumed to vary as an inverse linear function of temperature. The boundary-layer equations governing the fluid flow, heat and mass transfer under consideration have been reduced to a system of nonlinear ordinary differential equations by employing a similarity transformation. Using the finite difference scheme, numerical solutions to the transform ordinary differential equations have been obtained and the results are presented graphically. The numerical results obtained are in good agreement with the existing scientific literature. © 2016 Faculty of Engineering, Ain Shams University. Production and hosting by Elsevier B.V.

2-s2.0-84957702319
Document Type: Article
Publication Stage: Final
Source: Scopus
Access Type: Open Access