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DISSIPATION EFFECT ON THE FLOW OF HEAT AND MASS TRANSFER THROUGH NON-DARCIAN POROUS MEDIUM IN A COAXIAL DUCT WITH RADIATION

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Abstract

In this paper we investigate the mixed convection flow through a porous medium in a coaxial cylindrical duct whose inner boundary is kept at constant temperature and a uniform heat flux is maintained on the outer cylinder is considered. The effects are taken into account under Boussinesq approximations related to density variation have been solved using perturbation method. The non linear viscous dissipation and radiation is taken in the energy equation and its effects on Velocity, Temperature and Concentration fields and also have been evaluated computationally in this reference to the related parameters . The velocity, temperature and concentration fields also have been evaluated and discussed computationally for the different variation in the governing parameters.

Key Words : *Heat transfer, Porous medium, Dissipation effect, Radiation.*

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