

عنوان مقاله:

Transient Approach to Radiative Heat Transfer Free Convection Flow with Ramped Wall Temperature

محل انتشار:

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خلاصه مقاله:

The effect of radiation on natural convection incompressible viscous fluid near a vertical flat plate with ramped wall temperature has been studied. An analytical solution of the governing equation has been obtained by employing Laplace transform technique. It is examined that two different solutions for the fluid velocities, one valid for fluids of Prandtl number Pr different from 1 Ra , Ra being the radiation parameter and the other for which the Prandtl number equal to 1 Ra . The variations of velocities and fluid temperature are presented graphically. Furthermore, the radiative heat transfer on natural convection flow near a ramped plate temperature has been compared with the flow near a plate with the constant wall temperature. It is found that an increase in radiation parameter leads to rise the fluid .velocity as well as temperature

کلمات کلیدی:

Natural convection, Ramped temperature, Isothermal plate and Stefan, Radiation, Boltzman constant

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