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MHD FLOW PAST A VERTICAL PLATE OF CASSON FLUID WITH HEAT AND MASS TRANSFER EFFECTS

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Abstract: The mode of heat transfer will play an important role in the heat engineering applications. The present work is focused on analytical investigation of unsteady heat and mass transfer rate through porous medium in the presence of uniform transverse magnetic field along with radiation/absorption, heat generation/ absorption and homogeneous chemical reaction effects. The coupled nonlinear partial equations into ordinary differential equations by perturbation method. The effects of various parameters on flow characteristics are investigated .The results are presented through various graphs which are plotted for the effect of different parameters on fluid flow. Impact of Casson parameter leads to decrease the fluid velocity. The heavier species with low conductivity reduces the flow within the boundary layer.The Casson parameter is taken due to the significance of non-Newtonian fluids in real time applications in chemical industries and petroleum refineries.

Keywords and Phrases: Casson fluid, thermal radiation, Grashof Number, Porous Medium, MHD.

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