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Doubly stratified mixed convection flow of Maxwell nanofluid with heat generation/absorption

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Abstract: Magnetohydrodynamic (MHD) doubly stratified flow of Maxwell nanofluid in presence of mixed convection is analyzed in this article. Effects of thermophoresis, Brownian motion and heat generation/absorption are present. The flow is induced due to linear stretching of sheet. Mathematical formulation is made under boundary layer approach. Expressions of velocity, temperature and nanoparticles concentration are developed. The obtained results are plotted and discussed to examine the variations in temperature and nanoparticles concentration due to different physical parameters. Numerical computations are made to obtain the values of local Nusselt and Sherwood numbers. Impact of sundry parameters on the flow quantities is analyzed graphically.

Keywords: Doubly stratified flow; Maxwell nanofluid; Heat generation/absorption.

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