Joule Heating Effect on MHD Flow of Tangent Hyperbolic Mixed Nanofluid Embedded with MgO and CuO Nanoparticles

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A B S T R A C T

The present article emphasizes the study of the two-dimensional steady electrically conducting tangent hyperbolic nanofluid flow across a linear/non-linear elongating sheet frictional heating and uneven heat source effect. The governed yielded equations are resolved by adopting bvp5c Matlab package. The flow and temperature profiles for various constraints are graphed the flow and thermal transport rate of mixed nano liquid are evaluated and bestowed numerically for linear and non-linear extending sheets. The thermal transmission rate in non-linear extending case is significant than linear case in the presence of augmenting nanoparticle volume. Also, uneven heat source and Joule heating parameters effectively amplifies the thermal curves for both the criteria.

Keywords: Frictional heating, MHD, tangent hyperbolic fluid, thermal radiation, viscid dissipation, nanoparticles, extending surface.