Boundary layer flow over a moving plate in MHD Jeffrey nanofluid: A revised model

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ABSTRACT
The flow and heat transfer of magnetohydrodynamic (MHD) Jeffrey nanofluid induced by a moving plate is examined numerically. The formulation is established by using the revised model of passively controlled boundary layer instead of actively, which is more realistic physically. The similarity transformation variables are used to transform the partial differential equations into a set of ordinary differential equations before solving it via numerical approach called as the Runge-Kutta Fehlberg method. Graphical representation of the physical parameters over the temperature profile is deliberated. Temperature profile is slowed down due to the parameters of Deborah number and plate velocity while the reverse trend is observed for thermophoresis diffusion parameter. The Brownian motion has shown an insignificant outcome on the temperature profile. A comparison with the earlier publication has been conducted and a perfect agreement between the data is detected.

KEYWORDS:
Layer flow; Moving plate; MHD Jeffrey nanofluid