

عنوان مقاله:

Numerical Simulations of Unsteady 3D MHD Micropolar Fluid Flow over a Slendering Sheet

محل انتشار:

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خلاصه مقاله:

The purpose of the present analysis is to explore the numerical investigation on the time-dependent 3D magnetohydrodynamic flow of micropolar fluid over a slendering stretchable sheet. The prevailing PDEs are rehabilitated into coupled non-linear ODEs with the aid of appropriate similarity variables and then numerically calculated by applying the \mathcal{R} th RKM incorporate with shooting scheme. The contributions of various interesting variables are shown graphically. Emerging physical parameters on velocity, microrotation, and the surface drag coefficient are portrayed graphically. It is noticed that the microrotation profiles highly influenced by the vortex viscosity parameter and the micro-inertia density parameter. It is also concluded that the microrotation profiles (h_2) are promoted by increasing the spin gradient viscosity parameter. Excellent accuracy of the present results is observed .with the formerly published as a result of a special case

کلمات کلیدی:

MHD, slendering stretchable sheet, Micropolar Fluid, Time-dependent 3D flow, Numerical solution

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