Rotating Flow of a Micropolar Fluid Induced by a Stretching Surface

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This investigation deals with the boundary layer flow of a micropolar fluid over a stretching surface. The flow is considered in a rotating frame of reference. The governing nonlinear partial differential equations are reduced to coupled nonlinear ordinary differential equations. The set of similarity equations has been solved analytically employing the homotopy analysis method (HAM). The series solutions are given for velocity and microrotation, and the convergence of these solutions are explicitly discussed. Attention has been focused to the variations of the emerging parameters on the velocity and microrotation are discussed through graphs.

Key words: Micropolar Fluid; Stretching Sheet; Series Solution; HAM.