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Non-similar solution of steady MHD mixed convection flow over a rotating sphere

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Abstract

An analysis is accomplished to investigate the features of heat transfer and fluid flow of a steady laminar magnetohydrodynamics (MHD) mixed convection flow of water around a rotating sphere. The transformed governing equations of the non-similar boundary layers are solved by an implicit finite difference method along with the quasi-linearization technique. It is perceived that both the local friction coefficients in the x and y directions and the heat transfer coefficient are increasing and the point of separation is delayed with increasing magnetic parameter, suction parameter, and buoyancy force. © 2016 by Begell House, Inc.

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