

On the Impulsive Motion of Flat Plate in a Generalized Second Grade Fluid

Moustafa El-Shahed

Girls College of Education, P.O. Box 3771, Qassim-Unaizah, Kingdom of Saudi Arabia

Reprint requests to Dr. M. E.-S; E-mail: elshahedm@yahoo.com

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We investigate the effect of a transverse magnetic field on the unsteady flow of a generalized second grade fluid through a porous medium past an infinite flat plate. Using fractional partial differential equations, we are able to describe the velocity and stress fields of the flow. We also obtain exact analytic solutions of these differential equations in terms of the Fox's H -function.

Key words: Generalized Second Grade Fluid; Integral Transforms; Fractional Calculus; Wright Function; Fox's H -function.