Influence of Thermal Radiation on the Unsteady Mixed Convection Flow of a Jeffrey Fluid over a Stretching Sheet

Tasawar Hayat\textsuperscript{a,b} and Meraj Mustafa\textsuperscript{a}

\textsuperscript{a} Department of Mathematics, Quaid-I-Azam University 45320, Islamabad 44000, Pakistan
\textsuperscript{b} Department of Mathematics, College of Science, King Saud University, P.O. Box 2455, Riyadh 11451, Saudi Arabia

Reprint requests to T. H.; E-mail: pensy-t@yahoo.com

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This study is concerned with the effect of thermal radiation on the unsteady mixed convection flow of a Jeffrey fluid past a porous vertical stretching surface. The arising problems of flow and heat transfer are solved analytically by employing homotopy analysis method (HAM). It is observed that the flow field is influenced appreciably by the unsteadiness parameter $\zeta$, suction parameter $S$, mixed convection parameter $\lambda$, Deborah number $\beta$, Prandtl number $Pr$, and the radiation parameter $Nr$. Our performed computations depict that the heat transfer rate is increased with increasing values of $Pr$, $Nr$, and $\zeta$.

Key words: Series Solution; Jeffrey Fluid; Heat Transfer.