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ORIGINAL ARTICLE

Investigation of Oldroyd-B fluid flow and heat transfer over a stretching sheet with nonlinear radiation and heat source

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Abstract

The given investigation concerns the study of non-Newtonian Oldroyd-B fluid flow across a permeable surface along with nonlinear thermal radiation, chemical reactions, and heat sources. Equations modified are thus numerically evaluated by employing bvp4c-technique. Obtained outcomes are exhibited graphically. Pictorial notations are used to investigate the consequences of necessary parameters of velocity, energy, and mass. Acquired outcomes provide promising agreement with already established consequences provided in the open literature. The obtained results guided that magnetic field parameter (M), porosity parameter (λ), Deborah number reduce momentum boundary layer thickness, furthermore, growth in the relevant Deborah number improves the corresponding momentum boundary layer.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

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