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Analysis of entropy generation effects in flow and heat transfer of viscous fluid through a porous medium between two radially stretching surfaces
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Abstract
The present paper examines the entropy effects in flow and heat transfer of viscous fluid in a porous medium between two infinite radially stretching surfaces. With the aid of suitable similarity transformations, the partial differential equations describing the flow and heat transfer phenomenon are converted into nonlinear ordinary differential equations. Analytical and numerical solutions of these equations are obtained using homotopy analysis method and shooting technique with Runge Kutta Fehlberg method. The effects of various dimensionless parameters such as permeability parameter K, Reynolds number Re, Prandtl number Pr and Brinkman number Br on flow and heat transfer characteristics as well as on entropy generation are discussed in detail through graphs and tables. © 2015 Inderscience Enterprises Ltd.

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