

B11: COMPUTATIONAL ANALYSIS OF MHD FLOW WITH HEAT AND MASS TRANSFER IN A BIFURCATING POROUS CHANNEL

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Abstract

This study examines the effect of heat and mass transfer on MHD flow of viscous fluid in a bifurcating porous channel. The governing partial differential equations are transformed to ordinary differential equations and solved analytically. The influence of the various embedded parameters on the velocity, temperature and concentration profiles are analyzed. The effect of the bifurcation angle on the transport velocity is also discussed.

Keywords: MHD flow Bifurcating Concentration Mass transfer

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B12: Hydromagnetic and Thermal Boundary Layer Flow Due to Radial Stretching Sheet with Dufour and Soret Effects

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Abstract

In this paper, the problem of Hydromagnetic and Thermal Boundary Layer Flow Due to Radial Stretching Sheet with Dufour and Soret Effects was analyzed using the Adomian Decomposition. The governing partial differential equations (PDEs) were reduced with the help of similarity variables to non linear coupled ordinary differential equations (ODEs). The influences of various physical parameters were presented numerically and graphically. Numerical comparisons were carried out with the existing literature and a good agreement was established. The magnetic parameter was found to be a reduction agent of the velocity profile.

Keywords: Radial stretching, Stagnation point, Hydromagnetic and Adomian Decomposition Method.

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