Radiation and Mass Transfer Effects on the Magnetohydrodynamic Unsteady Flow Induced by a Stretching Sheet

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This investigation deals with the influence of radiation on magnetohydrodynamic (MHD) and mass transfer flow over a porous stretching sheet. Attention has been particularly focused to the unsteadiness. The arising problems of velocity, temperature, and concentration fields are solved by a powerful analytic approach, namely, the homotopy analysis method (HAM). Velocity, temperature, and concentration fields are sketched for various embedded parameters and interpreted. Computations of skin friction coefficients, local Nusselt number, and mass transfer are developed and examined.

Key words: Magnetohydrodynamic; Radiation; Concentration Field; Series Solutions.