Abstract

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the present study is concerned with the mixed convection in a rectangular lid-driven cavity under thermcombined buoyancy effects of thermal mass diffusion. double-diffusive convective flow in a rectangularmmenclosure with moving upper surface is studied numerically. both upperlower surfaces are beingmininsulatedimpermeable. constant different temperaturesconcentration are imposed along thernvertical walls of the enclosure, steady state laminar regime is considered. the transport equations formcontinuity, momentum, energyspices transfer are solved. the numerical results are reported for therneffect of richardson number, lewis number,buoyancy ratio on the iso-contours of stream line,rntemperature,concentration. in addition, the predicted results for both localaverage nusselt andnsherwood number pr ¼ 0.7. through out the study the grashof numeratoraspect ratiomare kept constant at 1042 respectively10 n 10, while richardson number has been variedfrom 0.01 to 10 to simulate forced convection dominated flow, mixed convectionnatural convectionrnominated flow.