Abstract

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m. a. teamah, m.m. khairat dawoodw. m. el-maghlany" numerical simulation of mixed convection in two sided lid-driven differentially heated rectangular enclosure" alexandria eng. journal vol. (49) no. 1, (2010).

in the present study, addingopposing mixed convection in a vertical lid-driven differentially heated rectangular enclosure is investigated. the vertical walls are movingmaintained isothermallyat different temperature, while the horizontal boundaries are assumed insulated surfaces. richardson number has been varied from 0.01 to 100 to simulate force convection dominated flow, mixed convectionnatural convection. the prandtl number has been varied from 0.1 to 5. through the study the rayleigh numberaspect ratio are kept constant at 1042 respectively. the phenomenon inside the enclosure is analyzed through isotherm patternstreamline pattern. the effect of both richardsonprandtl numbers on localaverage nusselt numbers has been studied. the average nusselt number has been correlated in terms of richardsonprandtl numbers. a comparison is made with the previous results. the comparison shows good agreements with previous results.