

# 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, adding opposing mixed convection in a vertical lid-driven differentially heated rectangular enclosure is investigated. the vertical walls are moving maintained isothermally at 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 convection natural convection. the prandtl number has been varied from 0.1 to 5. through the study the rayleigh number aspect ratio are kept constant at 1042 respectively. the phenomenon inside the enclosure is analyzed through isotherm pattern streamline pattern. the effect of both richardson prandtl numbers on local average nusselt numbers has been studied. the average nusselt number has been correlated in terms of richardson prandtl numbers. a comparison is made with the previous results. the comparison shows good agreements with previous results.