**Analysis of Mixed convective side heated square cavity using Energy streamlines**

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**Abstract**

Analysis of two dimensional natural convective lid driven cavity flow is carried out numerically. The top wall is assumed to slide in its own plane at a constant speed. Isothermal temperature is maintained at vertical walls in which the left wall is assumed to be at a higher temperature than the right wall. Governing equations of this problem, expressed in dimensionless form are solved by using the finite volume method. Numerical results are computed for the control parameters arising in the system, namely, the Reynolds number (*Re*) and Richardson number (*Ri*) in the range of 100 ≤ *Re* ≤ 400 and 0.001 ≤ *Ri* ≤ 10.The contours of isotherms, streamlines and energy streamlines are used to visualize the flow and thermal characteristics.

**Keywords**: Mixed convection; Reynolds number; Richardson number; Field synergy.