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# Analysis of Heat Transfer in a Closed Cavity Ventilated Inside

In this work, we presented a numerical study of the phenomenon of heat transfer through the laminar, incompressible and steady mixed convection in a closed square cavity with the left vertical wall of the cavity is subjected to a warm temperature, while the right wall is considered to be cold. The horizontal are assumed adiabatic. . The numerical simulations were performed for a wide range of Reynolds numbers 1, 10, 100, and 1000 numbers are equal to 0.01,0.1 Richardson, 0.5,1 and 10.The analysis of the results shows a flow bicellular , one is created by the speed of the fan placed in the inner cavity, one on the left is due to the difference between the temperatures right wall and the left wall. Knowledge of the intensity of each of these cells allowed us to get an original result. And the values obtained from each of Nuselt convection which allow to know the rate of heat transfer in the cavity.Finally we find that there is a significant influence on the position of the fan on the heat transfer for values of Reynolds studied and for low values of Richardson handed this influence is negligible for high values of the latter.

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