

## عنوان مقاله:

Mixed Convection and Radiation Heat Transfer in an Enclosure Filled with Unevenly Heated Plates at Different Configurations

## محل انتشار:

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## نویسندگان:

Sahar Noori - *Department of Aerospace engineering of Amirkabir University of Technology*

Armin Sheidani - *Politecnico di Milano*

Djavad Kamari - *Department of Aerospace Engineering, Amirkabir University of Technology*

## خلاصه مقاله:

In this study the effect of different configurations of three plates located in an air-filled container, which included vertical, horizontal and tilted, on coupled radiation and natural convection heat transfer has been numerically investigated. The side walls of the cavity were kept a constant temperature, while the upper and the lower walls were thermally insulated. In addition, non-uniform temperature distribution was applied to each of the plates. Moreover, in this study the effect of coupled heat transfer on flow separation and local Nu number was studied. The flow separation on the heated plates due to the thermal gradients was captured and the subsequent the effects were discussed. Also, the results reveal there are two main flow patterns known as separation of the convective flow and stretching of the CW vortex which are created by combined heat transfer. It was also demonstrated that these flow patterns are the main responsible for variations in the heat transfer.

## کلمات کلیدی:

convection, Radiation, Heated Plates

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1706299>

