

**LARGE EDDY SIMULATION OF COUPLED HEAT AND MASS TRANSFER IN A CAVITY**

Ozgur Isik, Orkun Temel & Seyhan Uygur Onbasioglu

*Department of Mechanical Engineering, Istanbul Technical University, Istanbul, Turkey*

*Abstract* In this present study, a turbulent buoyant flow confined by walls with transient temperature boundary conditions was numerically and experimentally investigated. Numerical studies have been conducted by the means of Large Eddy Simulation (LES). In order to resolve the flow structure on the onset of turbulent, different grid resolutions have been tested. Numerical results are validated by experiments. Isotropy and homogeneity of flow field with respect to varying Rayleigh Number due to transient boundary conditions were investigated.