Abstract Submitted for the DFD14 Meeting of The American Physical Society

Rotating Lid-Driven Cubical Cavity (RLDCC) Flow NAGAN-GUDY PANCHAPAKESAN, Indian Institute of Technology Madras, Chennai, JI-TENDRA KUMAR, ADA, Bangalore — Fluid motion in a cubical cavity geometry driven by a rotating lid was simulated using OpenFoam software. The flow structure observed is compared with cylindrical cavity driven by rotating lid and the evolution of the flow with Reynolds number is presented. The critical Reynolds number for transition to oscillatory flow is estimated. The flow structure around the critical Reynolds number is visualized and the effects of parameters on the structure is presented.

Nagangudy Panchapakesan Indian Institute of Technology Madras, Chennai

Date submitted: 01 Aug 2014 Electronic form version 1.4