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Structures in the Oscillatory regime of RLDCC flow[1] NAGANGUDY PANCHAPAKESAN, Department of Aerospace Engineering, Indian Institute of Technology, Madras — Rotating lid driven cubical cavity flow (RLDCC flow) is studied with a view to test structure eduction algorithms. OpenFoam software was used to simulate the RLDCC flow at Reynolds numbers higher than the critical Reynolds number for this geometry. Vortex bubble and other characteristic structures were observed in these simulations. The vector fields of the simulations were further analyzed with LCS and other methodologies to educe the structures. The structures were compared with level sets of different dynamical variables. The ability of these algorithms to present a coherent representation of the time evolution and unsteady dynamics of the bubble and other structures is evaluated.

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