Abstract Submitted
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Break of the symmetry in a two-lid driven cavity[1] THOMAS LEMEE, Univ. Paris-Sud, Laboratory F.A.S.T, France, Orsay, 91401, GERARD LABROSSE, Univ. Paris-Sud, Department of Physic, France, Orsay, 91401, GUILLAUME KASPERSKI, RANGA NARAYANAN, Univ. Florida,Department of Chemical Eng., Gainesville FL 32611, UNIV. PARIS-SUD, LABORATORY F.A.S.T TEAM, UNIV. PARIS-SUD, DEPARTMENT OF PHYSIC TEAM, UNIV. FLORIDA, DEPARTMENT OF CHEMICAL ENG. TEAM — The lid driven cavity has applications in crystal growth as well as in the coating industry. We study the problem of a driven cavity with two parallel walls moving at the same speed and in the same direction. Time marching calculations using Chebyshev-spectral method were done with different aspect ratios. As the Reynolds number increases, the onset of the instability is characterized by the break of the symmetry which is described and explained. The critical Reynolds number depends on the aspect ratio. This dependence is explained.

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