

Abstract Submitted  
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**On the instability of a circular hydraulic jump** HAMID AIT ABDERRAHMANE, ASLAN KASIMOV, King Abdullah University of Science and Technology (KAUST) — We present results of an experimental investigation of symmetry breaking of a circular hydraulic jump observed when a vertical jet of fluid impinges on a horizontal plate. Instabilities break the axial symmetry of the circular jump into quasi-steady polygonal patterns. In between, there exist irregular and unsteady asymmetric jumps. The dynamics of these patterns is recorded experimentally and analysed subsequently by Fourier spectral methods. The attractors that depict the dynamics of are reconstructed and analyzed with the aid of delay and nonlinear time series analysis methods.

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