

Abstract Submitted
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The new type of intermittency at chaotic surface waves in cylindrical tanks under limited excitation TATYANA KRASNOPOLSKAYA, Institute of Hydromechanics NAS of Ukraine, ALEXANDER SHVETS, NTUU “Kiev politechnical institute” — The problem of scenario disclosure of transition from one type steady-stated regimes to another’s, in particular, from the regular regimes to chaotic is one of the most interesting in theory of dynamic systems. In space of parameters of the considered system (fluid free surface waves in cylindrical rigid tanks and process of the shaft rotation of the electromotor with a limited power, energizing spatial oscillations of a tank) the new scenario of transition such as chaos - “chaos” is found. This scenario belongs to type of transitions to chaos through intermittency. It is generalization of the known scenario of transition from a limit cycle to chaos through intermittency of the first type on Pomeau - Manneville. At the new scenario the role of a vanishing limit cycle of Pomeau – Manneville’s scenario plays vanishing, at a bifurcation, a chaotic attractor. A laminar phase of the detected intermittency is chaotic motion along of an originating new attractor in a neighbourhood of trajectories of a vanishing chaotic attractor. A turbulent phase is unpredictable beforehand drifts of trajectories in the remote fields of a phase space.

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