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Title:

Global attractors of infinite-dimensional dynamical systems and their stability under multi-valued perturbations

Abstract:

Global attractors - compact invariant stable uniformly attracting sets - are one of the most important objects for describing the long-time behavior of infinite-dimensional dynamical systems. But in many dissipative evolutionary systems we face the problem of a lack of uniqueness of solutions. In the report we discuss some examples including 3D Navier-Stokes systems, evolutionary inclusions and multi-dimensional systems. One of the possible ways to deal with such problems is to pass to multi-valued semigroups. We propose a generalization of the classical theory of global attractors to the case of multi-valued infinite-dimensional dynamical systems. As an application we consider the problem of stability of global attractors under multi-valued perturbation.