

Morse-Smale Attractors for Semilinear Parabolic Equations on the Circle

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Abstract

We consider the global attractors for dynamical systems generated by semilinear parabolic equations of the form $u_t = u_{xx} + f(u, u_x)$, defined on the circle $S^1 = \mathbb{R}/2\pi\mathbb{Z}$. We discuss the characterization of the Morse-Smale attractors for these systems using Sturm permutations.

Keywords: classification of attractors; nonlinear boundary value problems; Morse-Smale systems.