

GROMOV–HAUSDORFF STABILITY FOR SEMILINEAR SYSTEMS WITH LARGE DIFFUSION

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ABSTRACT. This paper deals with the Gromov–Hausdorff stability for systems generated of reaction-diffusion equations whose diffusion coefficients are simultaneously large in a bounded smooth domains. The appropriated framework is presented to establish the conjugation between the attractors by means of ε -isometries.

1. Introduction

Topological stability in the sense of Gromov–Hausdorff has been introduced by [1] inspired by Gromov’s book [7]. This concept has been successfully used by Lee et al. in [11], [13] and [14] for reaction-diffusion equations under smooth perturbations of the domain. As seen in [11], the Gromov–Hausdorff stability is a consequence of the continuity of attractors obtained in [2]. Moreover, for problems related to domain perturbations, the existence of ε -isometries between the attractors is a necessary condition to define the Gromov–Hausdorff distance. Notice that papers [11], [13] and [14] are concerned with some type of domain perturbations.

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