Long-term dynamics of some composite systems of PDEs with nonlinear dissipation

Francesca Bucci

Università degli Studi di Firenze Dipartimento di Matematica Applicata Via S. Marta 3, 50139 Firenze, ITALY

E-mail: francesca.bucci@unifi.it

Abstract

This lecture will report on recent progress in the study of the long-time behaviour of some composite systems of partial differential equations which arise in the modeling of fluid/structure interactions. Major issues of concern are the existence of a global attractor as well as finiteness of its fractal dimension. Among the features which make the problems studied challenging are the hyperbolic-like character of the dynamics and the presence of semilinear terms with critical exponent's growth.