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

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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.