

Infinite Dimensional Dynamical Systems*

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The study of dynamical systems has a long and rich history full of excitement and challenges, and continues to remain in the main stream of modern mathematics. Infinite dimensional dynamical systems are associated with those systems whose states, changing in time, must be depicted in infinite dimensional phase spaces. Studying the long-term behaviors of such systems is important in our understanding of their spatiotemporal pattern formation and global continuation, and has been among the major sources of motivation and applications of new development of nonlinear analysis and other mathematical theories. Theories of the infinite dimensional dynamical systems have also found more and more important applications in the physical and life sciences.

This special issue consists of a few samples of current research in the subject areas: from fundamental research to applications in biology, from ordinary differential equations to delay and/or partial differential equations, from autonomous to periodic and more general non-autonomous systems, from continuous semiflows to discrete maps, and from deterministic to stochastic processes. All papers are invited, but all have been reviewed.

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