

Special Issue

Mathematical Modeling and Study of Nonlinear Dynamic Processes

Message from the Guest Editor

The development of computer technology has opened up new opportunities for the study of nonlinear dynamic processes. For example, using high-precision calculations, one can construct good approximations to unstable cycles contained in attractors of systems with quadratic nonlinearities. Of particular interest now are mathematical models whose equations have a non-smooth or discontinuous right-hand side. The development of qualitative and numerical methods brings about new ideas about the structure of attractors of dynamical systems. In recent years, the recurrent motions of dynamical systems have been studied in many papers. The classical results of general systems theory were generalized to the non-autonomous case, and the Poincaré recurrences statistics were also studied. These problems are the focus of this Special Issue. Particular attention is paid to modeling nonlinear dynamic systems with regular and chaotic behavior using modern numerical methods.

Guest Editor

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