Special Issue

Chaos Theory and Complexity

Message from the Guest Editor

Theoretical methods can vary from abstract topological spaces to applications of theorems, such as Melnikov's homoclinic and subharmonic theory or Poincaré's nonintegrability theorem, to specific problems. The above theoretical and numerical methods can be applied in fields including mechanical systems, nonlinear electric circuits, electronics, biology, economics, and medicine. Complexity is a vast area of investigation and concerns the above-mentioned nonlinear dynamical systems and partial differential equations, networks (graphs), fractals in the solid state, nanoscience, etc. Partial differential equations are of great importance in theories regarding the existence of solutions and integrability, but little research has been carried out on chaos and complexity. There are many applications, such as in diffusion or plasma physics. Network theory is a much more recent development, and, if we wish to apply networks, we should work numerically. These networks are applied in fields including economic networks, traffic, and epidemiology.

Guest Editor

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Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

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