



entropy



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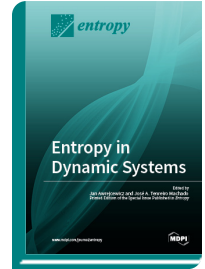
## Entropy in Dynamic Systems

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In order to measure and quantify the complex behavior of real-world systems, either novel mathematical approaches or modifications of classical ones are required to precisely predict, monitor, and control complicated chaotic and stochastic processes. Though the term of entropy comes from Greek and emphasizes its analogy to energy, today, it has wandered to different branches of pure and applied sciences and is understood in a rather rough way, with emphasis placed on the transition from regular to chaotic states, stochastic and deterministic disorder, and uniform and non-uniform distribution or decay of diversity. This collection of papers addresses the notion of entropy in a very broad sense. The presented manuscripts follow from different branches of mathematical/physical sciences, natural/social sciences, and engineering-oriented sciences with emphasis placed on the complexity of dynamical systems. Topics like timing chaos and spatiotemporal chaos, bifurcation, synchronization and anti-synchronization, stability, lumped mass and continuous mechanical systems modeling, novel nonlinear phenomena, and resonances are discussed.



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