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Chaotic Transitions in Deterministic and Stochastic Dynamical Systems: Applications of Melnikov Processes in Engineering, Physics, and Neuroscience

By Emil Simiu

Princeton University Press. Paperback. Book Condition: new. BRAND NEW, Chaotic Transitions in Deterministic and Stochastic Dynamical Systems: Applications of Melnikov Processes in Engineering, Physics, and Neuroscience, Emil Simiu, The classical Melnikov method provides information on the behavior of deterministic planar systems that may exhibit transitions, i.e. escapes from and captures into preferred regions of phase space. This book develops a unified treatment of deterministic and stochastic systems that extends the applicability of the Melnikov method to physically realizable stochastic planar systems with additive, state-dependent, white, colored, or dichotomous noise. The extended Melnikov method yields the novel result that motions with transitions are chaotic regardless of whether the excitation is deterministic or stochastic. It explains the role in the occurrence of transitions of the characteristics of the system and its deterministic or stochastic excitation, and is a powerful modeling and identification tool. The book is designed primarily for readers interested in applications. The level of preparation required corresponds to the equivalent of a first-year graduate course in applied mathematics. No previous exposure to dynamical systems theory or the theory of stochastic processes is required. The theoretical prerequisites and developments are presented in the first part of the book. The second part...

Reviews

An exceptional publication and also the typeface applied was fascinating to learn. It normally will not expense excessive. Your life period will be transform once you comprehensive looking over this pdf.
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Comprehensive manual! Its this sort of excellent read through. We have read through and i also am certain that i will going to read through once more again later on. You wont sense monotony at at any time of your time (that's what catalogs are for regarding in the event you question me).
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