1. Record Nr. UNINA9910300536903321

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Titolo	Theory of Hybrid Systems: Deterministic and Stochastic / / by Mohamad S. Alwan, Xinzhi Liu
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2018
ISBN	981-10-8046-1
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (xvi, 241 pages) : illustrations
Collana	Nonlinear Physical Science, , 1867-8440
Disciplina	004.259
Soggetti	Control engineering System theory Statistical physics Physics Mathematical physics Control and Systems Theory Systems Theory, Control Applications of Nonlinear Dynamics and Chaos Theory Mathematical Methods in Physics Statistical Physics and Dynamical Systems Mathematical Physics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- Analysis of Hybrid Systems -- Singularly Perturbed Systems (SPSs) -- Systems of Dierential Equations with Piecewise Continuous Arguments (EPCA): A Hybrid System Approach -- Reliable Control and State Estimation for Uncertain Impulsive Large-Scale Systems -- Stochastic Hybrid (Impulsive) Systems -- Stochastic Systems with EPCA -- Input-to-State Stability (ISS) for Stochastic Hybrid Systems -- Stability in Terms of Two Measures.
Sommario/riassunto	This book is the first to present the application of the hybrid system theory to systems with EPCA (equations with piecewise continuous arguments). The hybrid system paradigm is a valuable modeling tool for describing a wide range of real-world applications. Moreover, although new technology has produced, and continues to produce

highly hierarchical sophisticated machinery that cannot be analyzed as a whole system, hybrid system representation can be used to reduce the structural complexity of these systems. That is to say, hybrid systems have become a modeling priority, which in turn has led to the creation of a promising research field with several application areas. As such, the book explores recent developments in the area of deterministic and stochastic hybrid systems using the Lyapunov and Razumikhin–Lyapunov methods to investigate the systems' properties. It also describes properties such as stability, stabilization, reliable control, H-infinity optimal control, input-to-state stability (ISS) /stabilization, state estimation, and large-scale singularly perturbed systems.