1. Record Nr. UNINA9910456388103321

Titolo	Advances in statistical control, algebraic systems theory, and dynamic systems characteristics [[electronic resource]] : a tribute to Michael K. Sain / / edited by Chang-Hee Won, Cheryl B. Schrader, Anthony N. Michel
Pubbl/distr/stampa	Boston, Mass., : Birkhauser, 2008
ISBN	1-282-92436-2 9786612924361 0-8176-4795-3
Edizione	[1st ed. 2008.]
Descrizione fisica	1 online resource (367 p.)
Collana	Systems & control : foundations & applications
Altri autori (Persone)	WonChang-Hee SchraderCheryl B MichelAnthony N SainMichael K
Disciplina	515.642 519.2
Soggetti	Stochastic control theory Nonlinear control theory System analysis Differentiable dynamical systems Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Festschrift for Michael K. Sain.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	pt. 1. Statistical control -- pt. 2. Algebraic systems theory -- pt. 3. Dynamic systems characteristics -- pt. 4. Engineering education.
Sommario/riassunto	This volume—dedicated to Michael K. Sain on the occasion of his seventieth birthday—is a collection of chapters covering recent advances in stochastic optimal control theory and algebraic systems theory. Written by experts in their respective fields, the chapters are thematically organized into four parts: * Part I focuses on statistical control theory, where the cost function is viewed as a random variable and performance is shaped through cost cumulants. In this respect, statistical control generalizes linear-quadratic-Gaussian and H-infinity

control. * Part II addresses algebraic systems theory, reviewing the use of algebraic systems over semirings, modules of zeros for linear multivariable systems, and zeros in linear time-delay systems. * Part III discusses advances in dynamical systems characteristics. The chapters focus on the stability of a discontinuous dynamical system, approximate decentralized fixed modes, direct optimal adaptive control, and stability of nonlinear systems with limited information. * Part IV covers engineering education and includes a unique chapter on theology and engineering, one of Sain's latest research interests. The book will be a useful reference for researchers and graduate students in systems and control, algebraic systems theory, and applied mathematics. Requiring only knowledge of undergraduate-level control and systems theory, the work may be used as a supplementary textbook in a graduate course on optimal control or algebraic systems theory.