Systèmes,contrôle optimal

Economie, recherche opérationnelle, jeux

Alan D. TAYLOR and William S. ZWICKER. — **Simple games: desirability relations, trading, pseudoweightings.** — Un vol. relié, 16,5×24, de XIII, 246 p. — ISBN 0-691-00120-0. — Prix: £38.00. — Princeton University Press, Princeton, 1999, distributed by John Wiley, Chichester.

Simple games are mathematical structures inspired by voting systems in which a single alternative, such as a bill, is pitted against the status quo. The first in-depth mathematical study of the subject as a coherent subfield of finite combinatorics – one with its own organized body of techniques and results – this book blends new theorems with some of the striking results from threshold logic, making all of it accessible to game theorists.

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Biswa Nath DATTA, (Editor). — **Applied and computational control, signals, and circuits, Vol. 1.** — Un vol. relié, 16,5×24,5, de XXI, 539 p. — ISBN 0-8176-3954-3. — Prix: SFr. 118.00. — Birkhäuser, Boston, 1999.

This new "annual volume" is an interdisciplinary publication that provides surveys, expository papers, algorithms, and software addressing significant new developments, applications and computations in control, signal processing, and circuit design and analysis. The goal is to provide authoritative and accessible accounts of fast-paced developments in computational engineering methods, applications and algorithms. These state-of-the-art surveys will benefit researchers and practitioners in applied mathematics, computer science and engineering. A more general goal is to foster communications and exchange of information between various scientific and engineering communities with mutual interests in concepts, software, new techniques and workable, reliable practices.

Vasile DRAGAN, Aristide HALANAY. — **Stabilization of linear systems.** — Systems & control. — Un vol. relié, 16×24, de XIV, 308 p. — ISBN 0-8176-3970-5. — Prix: SFr. 128.00. — Birkhäuser, Boston, 1999.

This new book focuses on various aspects of stabilization of linear systems, in particular those arising in the mathematical and physical applications that are found in many areas of research addressing stabilization of linear dynamical systems in continuous time. The authors deal specifically with stabilization under incomplete information by high-gain and adaptive procedures; in this connection, they pay close attention to systems with several time scales, which are of interest because they allow model reduction. One of the most important features of the book is a discussion of the discrete implementation of stabilization procedures. Problems of optimal stabilization are considered in connection with frequency domain conditions.

Ian R. PETERSEN, Andrey V. SAVKIN. — **Robust Kalman filtering for signals and systems with large uncertainties.** — Control engineering. — Un vol. relié, 16×24, de X, 200 p. — ISBN 0-8176-4089-4. — Prix: SFr. 118.00. — Birkhäuser, Boston, 1999.

The aim of this book is to cover recently developed theory of robust state estimation for the case in which the process model contains significant uncertainties and nonlinearities and the potential applications of this theory. Most of the book concentrates on the case of linear uncertain systems and robust filters constructed via Riccati equations methods. This approach extends the classical Kalman filter to the realm of systems with uncertain parameters. As well as standard filtering problems, more general filtering problems are introduced such as robust filters with missing data, sample and hybrid data filtering problems, robust prediction, and the design of low order filters.