1. Record Nr. UNINA9910958706803321

Autore	Sworder David D.
Titolo	Estimation problems in hybrid systems / / David D. Sworder, John E. Boyd
Pubbl/distr/stampa	Cambridge : , : Cambridge University Press, , 1999
ISBN	1-107-11111-0 0-511-00781-7 1-280-41890-7 9786610418909 0-511-17175-7 0-511-14906-9 0-511-30201-0 0-511-54615-7 0-511-05059-3
Edizione	[1st ed.]
Descrizione fisica	1 online resource (xxi, 270 pages) : digital, PDF file(s)
Disciplina	629.8/3
Soggetti	Feedback control systems Estimation theory Nonlinear theories
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Title from publisher's bibliographic system (viewed on 05 Oct 2015).
Nota di bibliografia	includes bibliographical references (p. 257-262) and index.
Nota di contenuto	; 1. Hybrid Estimation -- ; 2. The Polymorphic Estimator -- ; 3. Situation Assessment -- ; 4. Image-Enhanced Target Tracking -- ; 5. Hybrid Plants with Base-State Discontinuities -- ; 6. Mode-Dependent Observations -- ; 7. Control of Hybrid Systems -- ; 8. Target Recognition and Prediction -- ; 9. Hybrid Estimation Using Measure Changes -- ; App. 1. PME Derivation Details -- ; App. 2. COM Derivation Details.
Sommario/riassunto	Developments in sensor and processor sophistication have created a need for effective estimation and control algorithms for hybrid, nonlinear systems. This book presents an effective, flexible family of estimation algorithms that can be used in estimating or controlling a variety of nonlinear plants. Several applications are studied, including

tracking a manoeuvring aircraft, automatic target recognition, and the decoding of signals transmitted across a wireless communications link. The authors begin by setting out the necessary theoretical background and then develop a practical, finite-dimensional approximation to an optimal estimator. Throughout the book, they illustrate theoretical results by simulation of control and estimation in real-world hybrid systems, drawn from a variety of engineering fields. The book will be of great interest to graduate students and researchers in electrical and computer engineering. It will also be a useful reference for practising engineers involved in the design of estimation, tracking or wireless communications systems.