

1. Record Nr.	UNINA9910144579303321
Autore	Widrow Bernard <1929->
Titolo	Adaptive inverse control : a signal processing approach / / Bernard Widrow, Eugene Walach
Pubbl/distr/stampa	Piscataway, New Jersey : , : IEEE Press, , c2008 [Piscataway, New Jersey] : , : IEEE Xplore, , [2008]
ISBN	0-13-005968-4 1-281-13498-8 9786611134983 0-470-23161-0 0-470-23160-2
Edizione	[Reissue ed.]
Descrizione fisica	1 online resource (526 p.)
Collana	IEEE Press series on power engineering
Altri autori (Persone)	WalachEugene
Disciplina	600 629.8
Soggetti	Acoustical engineering Adaptive control systems Adaptive signal processing
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Originally published: Hemel Hempstead: Prentice Hall, 1996.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Preface -- 1. The Adaptive Inverse Control Concept -- 2. Wiener Filters -- 3. Adaptive LMS Filters -- 4. Adaptive Modeling -- 5. Inverse Plant Modeling -- 6. Adaptive Inverse Control -- 7. Other Configurations for Adaptive Inverse Control -- 8. Plant Disturbance Canceling -- 9. System Integration -- 10. Multiple-Input Multiple-Output (MIMO) Adaptive Inverse Control Systems -- 11. Nonlinear Adaptive Inverse Control -- 12. Pleasant Surprises -- A Stability and Misadjustment of the LMS Adaptive Filter -- B Comparative Analyses of Dither Modeling Schemes A, B, C -- C A Comparison of the Self-Tuning Regulator of Astrom and Wittenmark with the Techniques of Adaptive Inverse Control -- D Adaptive Inverse Control for Unstable Linear SISO Plants -- E Orthogonalizing Adaptive Algorithms: RLS, DFT/LMS, and DCT/LMS -- F A MIMO Application: An Adaptive Noise-Canceling System Used for Beam Control at the Stanford Linear Accelerator Center -- G Thirty Years of Adaptive Neural Networks: Perceptron Madaline,

---

Sommario/riassunto

A self-contained introduction to adaptive inverse control. Now featuring a revised preface that emphasizes the coverage of both control systems and signal processing, this reissued edition of Adaptive Inverse Control takes a novel approach that is not available in any other book. Written by two pioneers in the field, Adaptive Inverse Control presents methods of adaptive signal processing that are borrowed from the field of digital signal processing to solve problems in dynamic systems control. This unique approach allows engineers in both fields to share tools and techniques. Clearly and intuitively written, Adaptive Inverse Control illuminates theory with an emphasis on practical applications and commonsense understanding. It covers: the adaptive inverse control concept; Weiner filters; adaptive LMS filters; adaptive modeling; inverse plant modeling; adaptive inverse control; other configurations for adaptive inverse control; plant disturbance canceling; system integration; Multiple-Input Multiple-Output (MIMO) adaptive inverse control systems; nonlinear adaptive inverse control systems; and more. Complete with a glossary, an index, and chapter summaries that consolidate the information presented, Adaptive Inverse Control is appropriate as a textbook for advanced undergraduate- and graduate-level courses on adaptive control and also serves as a valuable resource for practitioners in the fields of control systems and signal processing.

---