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   Titolo   Adaptive Filtering : Algorithms and Practical Implementation / / by
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   Descrizione fisica   1 online resource (505 pages) : illustrations

   Disciplina   621.3822

   Soggetti   Signal processing
                           Image processing
                           Speech processing systems
                           Electronic circuits
                           Electrical engineering
                           Automatic control
                           Signal, Image and Speech Processing
                           Circuits and Systems
                           Communications Engineering, Networks
                           Control and Systems Theory

   Lingua di pubblicazione Inglese

   Formato   Materiale a stampa

   Livello bibliografico   Monografia

   Note generali   Includes index.

   Nota di contenuto   Introduction to Adaptive Filtering -- Fundamentals of Adaptive Filtering
                           -- The Least-Mean-Square (LMS) Algorithm -- LMS-Based Algorithms
                           -- LMS-Based Algorithms -- Conventional RLS Adaptive Filter -- Set-
                           Membership Adaptive Filtering -- Adaptive Lattice-Based RLS
                           Algorithms -- Fast Transversal RLS Algorithms -- QR-Decomposition-
                           Based RLS Filters -- Adaptive IIR Filters -- Nonlinear Adaptive Filtering
                           -- Subband Adaptive Filters -- Blind Adaptive Filtering -- Kalman
                           Filtering -- Complex Differentiation -- Quantization Effects in the LMS
                           Algorithm -- Quantization Effects in the RLS Algorithm -- Analysis of
                           Set-Membership Affine Projection Algorithm -- Index.

   Sommario/riassunto   In the fifth edition of this textbook, author Paulo S.R. Diniz presents
                           updated text on the basic concepts of adaptive signal processing and
                           adaptive filtering. He first introduces the main classes of adaptive

filtering algorithms in a unified framework, using clear notations that facilitate actual implementation. Algorithms are described in tables, which are detailed enough to allow the reader to verify the covered concepts. Examples address up-to-date problems drawn from actual applications. Several chapters are expanded and a new chapter 'Kalman Filtering' is included. The book provides a concise background on adaptive filtering, including the family of LMS, affine projection, RLS, set-membership algorithms and Kalman filters, as well as nonlinear, sub-band, blind, IIR adaptive filtering, and more. Problems are included at the end of chapters. A MATLAB package is provided so the reader can solve new problems and test algorithms. The book also offers easy access to working algorithms for practicing engineers.