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ISBN	0-273-77572-3
Edizione	[Fifth edition, International edition.]
Descrizione fisica	1 online resource (912 pages) : illustrations (some color)
Collana	Always learning
Disciplina	621.3815324
Soggetti	Adaptive filters
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Cover -- Title -- Contents -- Preface -- Acknowledgments -- Background and Preview -- 1. The Filtering Problem -- 2. Linear Optimum Filters -- 3. Adaptive Filters -- 4. Linear Filter Structures -- 5. Approaches to the Development of Linear Adaptive Filters -- 6. Adaptive Beamforming -- 7. Four Classes of Applications -- 8. Historical Notes -- Chapter 1 Stochastic Processes and Models -- 1.1 Partial Characterization of a Discrete-Time Stochastic Process -- 1.2 Mean Ergodic Theorem -- 1.3 Correlation Matrix -- 1.4 Correlation Matrix of Sine Wave Plus Noise -- 1.5 Stochastic Models -- 1.6 Wold Decomposition -- 1.7 Asymptotic Stationarity of an Autoregressive Process -- 1.8 Yule-Walker Equations -- 1.9 Computer Experiment: Autoregressive Process of Order Two -- 1.10 Selecting the Model Order -- 1.11 Complex Gaussian Proceses -- 1.12 Power Spectral Density -- 1.13 Propert ies of Power Spectral Density -- 1.14 Transmission of a Stationary Process Through a Linear Filter -- 1.15 Cramer Spectral Representation for a Stationary Process -- 1.16 Power Spectrum Estimation -- 1.17 Other Statistical Characteristics of a Stochastic Process -- 1.18 Polyspectra -- 1.19 Spectral-Correlation Density -- 1.20 Summary and Discussion -- Problems -- Chapter 2 Wiener Filters -- 2.1 Linear Optimum Filtering: Statement of the Problem -- 2.2 Principle of Orthogonality -- 2.3 Minimum Mean-Square Error -- 2.4 Wiener-Hopf Equations -- 2.5 Error-Performance Surface -- 2.6 Multiple Linear Regression Model -- 2.7 Example -- 2.8 Linearly

	Problems -- Epilogue -- 1. Robustness, Efficiency, and Complexity -- 2. Kernel-Based Nonlinear Adaptive Filtering -- Appendix A Theory of Complex Variables. A.1 Cauchy-Riemann Equations.
Sommario/riassunto	For courses in Adaptive Filters. Haykin examines both the mathematical theory behind various linear adaptive filters and the elements of supervised multilayer perceptrons. In its fifth edition, this highly successful book has been updated and refined to stay current with the field and develop concepts in as unified and accessible a manner as possible.