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Autore	Pupeikis Rimantas
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Nota di contenuto	1. Introduction -- 2. High Speed Least Mean Square Adaptive Filtering -- 3. Optimal Parametri Identi ation of Linear Periodially Time-variant Systems -- 4. Iterative Parametric Identification Algorithm of Autoregression -- 5. Layered Polynomial Filter Strutures -- 6. Exploring the Potentiality of Nonlinear Systems for Minimum Variance Control -- 7. Parametri Identification of Systems with Pieewise-linear Nonlinearities -- 8. Parametri Identification of Systems with Deadzones -- 9. Controlled Wiener System Simulation -- A Consistent parametri identification -- Examples of the use of DSP methods for modelling, ltering, identification, and control.
Sommario/riassunto	This book presents a general approach to block and recursive filtering, identification, and control, using signal observations processing techniques, and among others provides to the reader these results: The new version of least square algorithm that is speeded up without changing its adaptive characteristics, increasing the parallelism in

algorithm. The efficient lower triangular inverse matrix and the input signal covariance matrix computation method. The original bias correction approach that is used to eliminate the parameter estimation bias of an iterative autoregressive system parameter estimation algorithm in the presence of additive white noise. The discovery that nonlinear Volterra, polynomial autoregressive and bilinear systems have the same layered implementation routine, which allows us using the layered structure, the order of nonlinearity increased/decreased by adding/deleting more layers to/from the structure. The proven statement that the modular layered structures admit the very large scale integration implementation of the polynomial nonlinear filters. The book is aimed at three major groups of readers: senior undergraduate students, graduate students, and scientific research workers in electrical engineering, computer engineering, computer science, and digital control.
