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	Disciplina	629.8/312
	Soggetti	Physics Economic theory Applied mathematics Engineering mathematics Electrical engineering Artificial intelligence Mathematical Methods in Physics Numerical and Computational Physics, Simulation Economic Theory/Quantitative Economics/Mathematical Methods Mathematical and Computational Engineering Communications Engineering, Networks Artificial Intelligence
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	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	1. Preliminaries -- 2. Kalman Filter: An Elementary Approach -- 3. Orthogonal Projection and Kalman Filter -- 4. Correlated System and Measurement Noise Processes -- 5. Colored Noise -- 6. Limiting Kalman Filter -- 7. Sequential and Square-Root Algorithms -- 8. Extended Kalman Filter and System Identification -- 9. Decoupling of Filtering Equations -- 10. Kalman Filtering for Interval Systems -- 11. Wavelet Kalman Filtering -- 12. Notes -- References -- Answers and Hints to Exercises.
	Sommario/riassunto	Kalman Filtering with Real-Time Applications presents a thorough discussion of the mathematical theory and computational schemes of

Kalman filtering. The filtering algorithms are derived via different approaches, including a direct method consisting of a series of elementary steps, and an indirect method based on innovation projection. Other topics include Kalman filtering for systems with correlated noise or colored noise, limiting Kalman filtering for time-invariant systems, extended Kalman filtering for nonlinear systems, interval Kalman filtering for uncertain systems, and wavelet Kalman filtering for multiresolution analysis of random signals. The last two topics are new additions to this third edition. Most filtering algorithms are illustrated by using simplified radar tracking examples. The style of the book is informal, and the mathematics is elementary but rigorous. The text is self-contained, suitable for self-study, and accessible to all readers with a minimum knowledge of linear algebra, probability theory, and system engineering.