Record Nr. UNINA9910736978903321 Autore Wu Weihua **Titolo** Target Tracking with Random Finite Sets / / by Weihua Wu, Hemin Sun, Mao Zheng, Weiping Huang Singapore:,: Springer Nature Singapore:,: Imprint: Springer,, 2023 Pubbl/distr/stampa **ISBN** 981-19-9815-9 Edizione [1st ed. 2023.] 1 online resource (449 pages) Descrizione fisica Altri autori (Persone) SunHemin ZhengMao HuangWeiping Disciplina 621.3848 Soggetti Signal processing Automatic control **Probabilities** Digital and Analog Signal Processing Control and Systems Theory **Probability Theory** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto Introduction -- Single Target Tracking Algorithms -- Foundation of the Random Finite Set -- The Probability Hypothesis Density Filter -- The Cardinalized Probability Hypothesis Density Filter -- The Multi-Bernoulli Filter -- Labeled RFS-Based Filters -- Maneuvering Target Tracking -- Target Tracking for Doppler Radars -- Track-Before-Detect for Dim Targets -- Target Tracking With Non-Standard Measurements -- Target Tracking for Multiple Distributed Sensors --Appendix. This book focuses on target tracking and information fusion with Sommario/riassunto random finite sets. Both principles and implementations have been addressed, with more weight placed on engineering implementations. This is achieved by providing in-depth study on a number of major topics such as the probability hypothesis density (PHD), cardinalized PHD, multi-Bernoulli (MB), labeled MB (LMB), d-generalized LMB (d-

GLMB), marginalized d-GLMB, together with their Gaussian mixture and sequential Monte Carlo implementations. Five extended applications

are covered, which are maneuvering target tracking, target tracking for Doppler radars, track-before-detect for dim targets, target tracking with non-standard measurements, and target tracking with multiple distributed sensors. The comprehensive and systematic summarization in target tracking with RFSs is one of the major features of the book, which is particularly suited for readers who are interested to learn solutions in target tracking with RFSs. The book benefits researchers, engineers, and graduate students in the fields of random finite sets, target tracking, sensor fusion/data fusion/information fusion, etc.