

1. Record Nr.	UNINA9910299677603321
Titolo	Advances in Estimation, Navigation, and Spacecraft Control : Selected Papers of the Itzhack Y. Bar-Itzhack Memorial Symposium on Estimation, Navigation, and Spacecraft Control // edited by Daniel Choukroun, Yaakov Oshman, Julie Thienel, Moshe Idan
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2015
ISBN	3-662-44785-1
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (545 p.)
Disciplina	620 629.1 629.8
Soggetti	Aerospace engineering Astronautics Control engineering Aerospace Technology and Astronautics Control and Systems Theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	""Preface""; ""Contents""; ""Part I Estimation""; ""Steady-State Time Constant of the Kalman Filter""; ""1 Kalman Equations in Steady State""; ""2 Steady-State Solution of First-Order Filter""; ""3 Dynamic Response of First-Order Filter""; ""4 Steady-State Solution of Second-Order Filter""; ""5 Summary""; ""References""; ""Track-to-Track Fusion in Linear and Nonlinear Systems""; ""1 Introduction""; ""2 Track-to-Track Fusion Configurations and the Impact of Information Feedback""; ""2.1 T2TF without Memory""; ""2.2 T2TF with Memory"" ""3 Impact of Crosscorrelation on the Track-to-Track Fusion without Memory and No Feedback""""4 The Information Matrix Fusion""; ""4.1 IMF with Full Communication Rate a€? IMFcr""; ""4.2 IMF with Reduced Communication Rate a€? IMFrcr""; ""4.3 Generalized Information Matrix Fusion for Asynchronous T2TF""; ""5 Heterogenous Track-to-Track Fusion""; ""5.1 The Heterogenous Track-to-Track Fusion Problem "";

""5.2 The LMMSE Fuser""; ""5.3 The ML Fuser""; ""6 Example""; ""7 Conclusions""; ""State Dependent Difference Riccati Equation BasedEstimation for 2D Spiraling Target Maneuver""
""1 Introduction""""2 Problem Statement and Approach to the Solution"";
""2.1 Estimator for Linear System""; ""2.2 Estimators for Nonlinear System""; ""3 The Constant Acceleration Target Maneuver Model""; ""4 Kinematic Equations of Spiraling Target""; ""4.1 The Kinematics as a Function of Velocity""; ""5 The Variance and Spectrum of the Glint Noise""; ""6 Incorporation of the Kinematic Constraint""; ""6.1 Velocity Based Snap Kinematic Equation""; ""7 Planar Spiraling Target Maneuver Trajectory Model""; ""8 The SDDRE Based Discrete Estimator""; ""9 Simulation Results""; ""10 Conclusions""
""References""""A Guaranteed Bound Filter for Polynomial Systems""; ""1 Introduction""; ""2 Problem Statement""; ""3 The Data Processing Step"";
""4 The Time Update Step""; ""4.1 Calculating A() and B()""; ""5 Outline of the Filter Algorithm""; ""6 An Example""; ""7 Summary and Conclusions""; ""Reference Basis Model Updating a€? Following the Baruchand Bar-Itzhack Approach""; ""1 Introduction""; ""2 The General Model Updating Problem""; ""3 Reference Basis Model Updating""; ""3.1 Orthogonalization""; ""3.2 Stiffness Updating""; ""3.3 Alternative Formulation a€? Mass Matrix Update""
""4 Generalized Reference Basis""""5 Generalized Reference Basis with Connectivity Constraints""; ""5.1 Connectivity""; ""5.2 Implicit Parameterization by Weighting Matrix Adjustment""; ""5.3 A Posteriori Connectivity Assignment""; ""6 Direct Method a€? Manifold Distance Minimization""; ""7 Conclusion""; ""References""; ""Stochastic Estimation and Control for Linear Systems with Cauchy Noise""; ""1 Introduction"";
""2 Scalar Estimation Problem Formulation""; ""3 One Step"";
""Measurement Update""; ""Time Update""; ""Conditional pdf Factorization""
""4 The General Form of the Cauchy Estimator""

Sommario/riassunto

This book presents selected papers of the Itzhack Y. Bar-Itzhack Memorial Symposium on Estimation, Navigation, and Spacecraft Control. Itzhack Y. Bar-Itzhack, professor Emeritus of Aerospace Engineering at the Technion – Israel Institute of Technology, was a prominent and world-renowned member of the applied estimation, navigation, and spacecraft attitude determination communities. He touched the lives of many. He had a love for life, an incredible sense of humor, and wisdom that he shared freely with everyone he met. To honor Professor Bar-Itzhack's memory, as well as his numerous seminal professional achievements, an international symposium was held in Haifa, Israel, on October 14–17, 2012, under the auspices of the Faculty of Aerospace Engineering at the Technion and the Israeli Association for Automatic Control. The book contains 27 selected, revised, and edited contributed chapters written by eminent international experts. The book is organized in three parts: (1) Estimation, (2) Navigation and (3) Spacecraft Guidance, Navigation and Control. The volume was prepared as a reference for research scientists and practicing engineers from academy and industry in the fields of estimation, navigation, and spacecraft GN&C.
