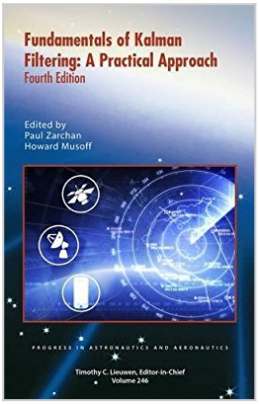

Fundamentals of Kalman Filtering (Progress in Aeronautics and Astronautics)

By Paul Zarchan, Howard Musoff

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In 2008 the National Academy of Engineering awarded Rudolf Kalman the Charles Stark Draper Prize--the engineering equivalent of the Nobel Prize -- for the development and dissemination of the optimal digital technique (known as the Kalman Filter) that is pervasively used to control a vast array of consumer, health, commercial, and defense products. Fundamentals of Kalman Filtering, Fourth Edition is a practical guide to building Kalman filters that shows how the filtering equations can be applied to real-life problems. Numerous examples are presented in detail, showing the many ways in which Kalman filters can be designed. For this edition, source code listings appearing in the text have been converted from FORTRAN to MATLAB(R). In addition, both FORTRAN and MATLAB* source code are available electronically for all of the examples so that the interested reader can verify concepts and explore issues beyond the scope of the text. In certain instances, the authors intentionally introduce mistakes to the initial filter designs to show the reader what happens when the filter is not working properly. The text carefully sets up a problem before the Kalman filter is actually formulated, to give the reader an intuitive feel for the problem being addressed. Because real problems are seldom presented as differential equations, and usually do not have unique solutions, the authors illustrate several different filtering approaches. Readers will gain experience in software and performance tradeoffs for determining the best filtering approach. The fourth edition features four new chapters presenting the following techniques: the State Dependent Ricatti Equation Filter (SDRE), the Unscented Kalman Filter (UKF), the Interactive Multiple Model (IMM) Filter Bank, and the Cramer-Rao lower bound (CRLB), for finding the best that a filter can perform.

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Editorial Review

About the Author
Paul Zarchan holds a BSEE from City College of New York and a MSEE from Columbia University. He has more than 40 years of experience in missile guidance and control. He worked as principal engineer for Raytheon, as senior research Engineer with the Israeli Ministry of Defense, as a principal member of the technical staff at the Charles Stark Draper Laboratory, and as a member of the technical staff at MIT Lincoln Laboratory, working on problems related to missile defense. He is also the author of Tactical and Strategic Missile Guidance, Sixth Edition. Howard Musoff, who passed away in 2004, held a BSEE form the City College of New York, a MSEE from Northeastern University, and a ScD from MIT. He was a principal member of the technical staff at the Charles Stark Draper Laboratory, where he was employed for more than 40 years, and where he designed Kalman filters for applications in the field of inertial navigation. He was also a co-holder of two patents in that field.

Users Review

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Playing with family within a park, coming to see the marine world or hanging out with close friends is thing that usually you might have done when you have spare time, subsequently why you don't try issue that really opposite from that. One activity that make you not sensation tired but still relaxing, trilling like on roller

coaster you are ride on and with addition of knowledge. Even you love Fundamentals of Kalman Filtering (Progress in Aeronautics and Astronautics), you are able to enjoy both. It is great combination right, you still want to miss it? What kind of hangout type is it? Oh can happen its mind hangout men. What? Still don't get it, oh come on its named reading friends.

Jamie Gregory:

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