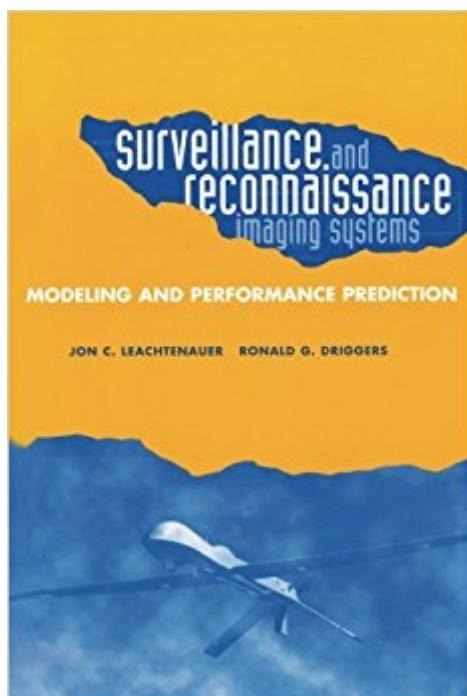


The book was found

Surveillance And Reconnaissance Systems: Modeling And Performance Prediction



Synopsis

An up-to-date, comprehensive review of surveillance and reconnaissance (S&R) imaging system modelling and performance prediction. This resource helps the reader predict the information potential of new surveillance system designs, compare and select from alternative measures of information extraction, relate the performance of tactical acquisition sensors and surveillance sensors, and understand the relative importance of each element of the image chain on S&R system performance. It provides system descriptions and characteristics, S&R modelling history, and performance modelling details. With an emphasis on validated prediction of human observer performance, this book addresses the specific design and analysis techniques used with today's S&R imaging systems. It offers in-depth discussions on everything from the conceptual performance prediction model, linear shift invariant systems, and measurement variables used for S&R information extraction to predictor variables, target and environmental considerations, CRT and flat panel display selection, and models for image processing. Conversion methods between alternative modelling approaches are examined to help the reader perform system comparisons.

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Customer Reviews

Jon C. Leachtenauer formed his own consulting agency, J/M Leachtenauer Associates, Inc, and is currently a consultant to the National Imagery and Mapping Agency. He is the author of over 150

technical reports, as well as numerous published papers covering all aspects of the image exploitation process. Mr. Leachtenauer holds an A.B. and M.S. in Geology from Syracuse University. Ronald G. Driggers is a senior engineer with the U.S. Army Night Vision and Electronic Sensors Directorate and is the U.S. representative to the NATO panel on advanced thermal imager characterization. Dr. Driggers is the author of two other books on infrared and electro-optic systems and has published over 30 refereed journal papers. He holds a Ph.D. in electrical engineering from the University of Memphis.

I purchased this book for background reading when I was preparing my own book, "The Technical Collection of Intelligence" (CQ Press, 2011). I can best describe it by contrasting the audiences of the two books. My book was written for intelligence collectors, analysts, and managers in the intelligence community. It contained one equation. The Leachtenauer and Driggers book is written for engineers and project managers who build imaging systems (not just for intelligence), and it contains hundreds of equations. So both books have been used as texts for graduate level courses, but for very different courses. "Surveillance and Reconnaissance Imaging Systems" presents a comprehensive picture of the tradeoffs that have to be made in designing an imaging system, whether optical or radar. It would have helped to have a discussion of spectral imaging, which (in all fairness) has become very important since the book was published. And a more detailed discussion of imaging platform tradeoffs would have been useful for some system designers. Otherwise, the book serves its intended purpose well.

Great book. Strong historical background information.

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