DESCRIPTION

Build your knowledge of SAR/ISAR imaging with this comprehensive and insightful resource

The newly revised Second Edition of *Inverse Synthetic Aperture Radar Imaging with MATLAB Algorithms* covers in greater detail the fundamental and advanced topics necessary for a complete understanding of inverse synthetic aperture radar (ISAR) imaging and its concepts. Distinguished author and academician, Caner Özdemir, describes the practical aspects of ISAR imaging and presents illustrative examples of the radar signal processing algorithms used for ISAR imaging. The topics in each chapter are supplemented with MATLAB codes to assist readers in better understanding each of the principles discussed within the book.

This new edition includes discussions of the most up-to-date topics to arise in the field of ISAR imaging and ISAR hardware design. The book provides a comprehensive analysis of advanced techniques like Fourier-based radar imaging algorithms, and motion compensation techniques along with radar fundamentals for readers new to the subject.

The author covers a wide variety of topics, including:

- Radar fundamentals, including concepts like radar cross section, maximum detectable range, frequency modulated continuous wave, and doppler frequency and pulsed radar

- The theoretical and practical aspects of signal processing algorithms used in ISAR imaging

- The numeric implementation of all necessary algorithms in MATLAB
• ISAR hardware, emerging topics on SAR/ISAR focusing algorithms such as bistatic ISAR imaging, polarimetric ISAR imaging, and near-field ISAR imaging,

• Applications of SAR/ISAR imaging techniques to other radar imaging problems such as thru-the-wall radar imaging and ground-penetrating radar imaging

Perfect for graduate students in the fields of electrical and electronics engineering, electromagnetism, imaging radar, and physics, *Inverse Synthetic Aperture Radar Imaging With MATLAB Algorithms* also belongs on the bookshelves of practicing researchers in the related areas looking for a useful resource to assist them in their day-to-day professional work.

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**ABOUT THE AUTHOR**

**CANER ÖZDEMIR**, PhD, teaches undergraduate and graduate courses on electromagnetics, antennas, radar and signal processing at Mersin University, Mersin, Turkey. His research interests are radar signal processing, ground penetrating radar, thru-the-wall imaging and antenna design. He has published more than 140 journal articles and conference/symposium papers on those fields. Dr. Özdemir is a recipient of URSI EMT-S Young Scientist Award in the 2004 International Symposium on Electromagnetic Theory in Pisa, Italy and holder of 2016 best paper award in SPIE-Journal of Applied Remote Sensing.

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