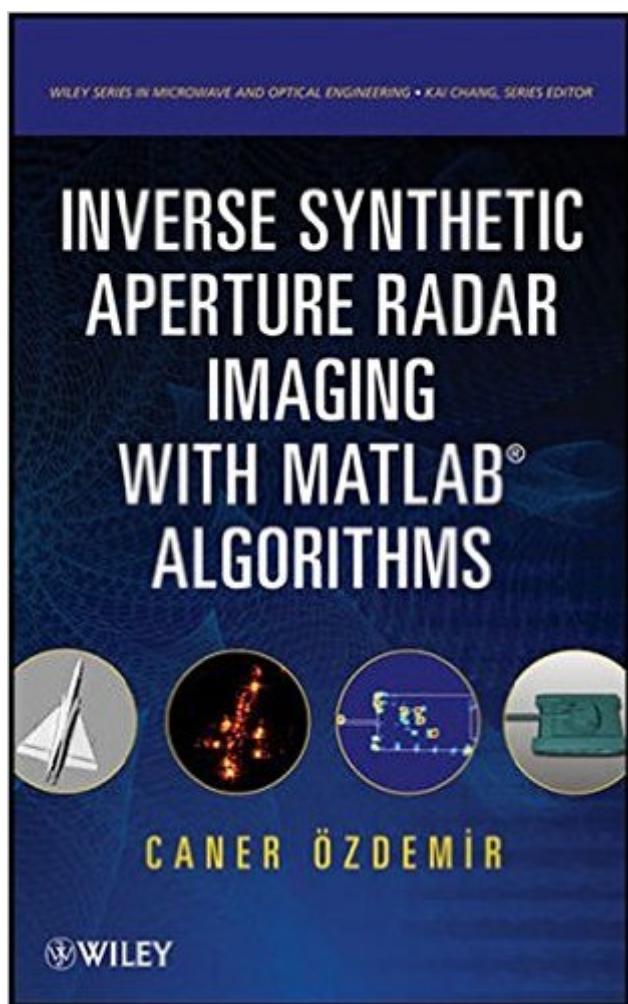


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# Inverse Synthetic Aperture Radar Imaging With MATLAB Algorithms



## Synopsis

This book provides a full representation of Inverse Synthetic Aperture Radar (ISAR) imagery, which is a popular and important radar signal processing tool. The book covers all possible aspects of ISAR imaging. The book offers a fair amount of signal processing techniques and radar basics before introducing the inverse problem of ISAR and the forward problem of Synthetic Aperture Radar (SAR). Important concepts of SAR such as resolution, pulse compression and image formation are given together with associated MATLAB codes. After providing the fundamentals for ISAR imaging, the book gives the detailed imaging procedures for ISAR imaging with associated MATLAB functions and codes. To enhance the image quality in ISAR imaging, several imaging tricks and fine-tuning procedures such as zero-padding and windowing are also presented. Finally, various real applications of ISAR imagery, like imaging the antenna-platform scattering, are given in a separate chapter. For all these algorithms, MATLAB codes and figures are included. The final chapter considers advanced concepts and trends in ISAR imaging.

## Book Information

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## Customer Reviews

The book provides some good information about ISAR imaging. There are a couple areas of improvement however. The first is only 4 chapters really deal with ISAR-- the other chapters provide review of the radar range equation and signal processing which can be found in just about any other introductory radar book. I wish the author would have expanded on the ISAR sections with more examples or details. The 2nd improvement is the matlab routines do have errors. I tried

downloading and running the script and there seem to be missing functions and some syntax errors. On the plus side the author was quick to respond to emails regarding the errors so perhaps he has corrected them. I would download the files from the FTP site to ensure you get the latest copies (assuming he updated the FTP site with the corrections). Also wish the matlab code was better commented and used more meaningful variable names vs. the mathematical symbols and cryptic abbreviations especially since it is a learning tool. Other than that this is about the only ISAR resource out there currently and is worth getting...

Expected better for what the book is priced at. Works as a decent overview and covers a few necessary topics but seems very limited in scope. Focuses on two specific cases of radar setup (2-pass pulse-compression LFM and SFCW). Simplistic examples. Awkwardly written. Errors in text are common but, to be fair, that's not actually different from a lot of technical texts. Feels like it is based around some example scripts the author's grad students put together. A lot of numerical methods, simulation and Matlab books come across this way.

Just an example: the implementation of CLEAN only reduces a few dB the scatterer response...

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