Spotlight-Mode Synthetic Aperture Radar: A Signal Processing Approach

Daniel E. Wahl, Paul H. Eichel, Dennis C. Ghiglia, Paul A. Thompson, Charles V. Jakowatz

Spotlight-Mode Synthetic Aperture Radar: A Signal Processing Approach

Daniel E. Wahl, Paul H. Eichel, Dennis C. Ghiglia, Paul A. Thompson, Charles V. Jakowatz

Spotlight-Mode Synthetic Aperture Radar: A Signal Processing Approach Daniel E. Wahl, Paul H. Eichel, Dennis C. Ghiglia, Paul A. Thompson, Charles V. Jakowatz
Modern airborne and spaceborne imaging radars, known as *synthetic aperture radars (SARs)*, are capable of producing high-quality pictures of the earth's surface while avoiding some of the shortcomings of certain other forms of remote imaging systems. Primarily, radar overcomes the nighttime limitations of optical cameras, and the cloud- cover limitations of both optical and infrared imagers. In addition, because imaging radars use a form of *coherent illumination*, they can be used in certain special modes such as *interferometry*, to produce some unique derivative image products that *incoherent* systems cannot. One such product is a highly accurate digital terrain elevation map (DTEM). The most recent (ca. 1980) version of imaging radar, known as *spotlight-mode* SAR, can produce imagery with spatial resolution that begins to approach that of remote optical imagers. For all of these reasons, synthetic aperture radar imaging is rapidly becoming a key technology in the world of modern remote sensing.
Much of the basic `workings' of synthetic aperture radars is rooted in the concepts of *signal processing*. Starting with that premise, this book explores in depth the fundamental principles upon which the *spotlight* mode of SAR imaging is constructed, using almost exclusively the language, concepts, and major building blocks of signal processing.
Spotlight-Mode Synthetic Aperture Radar: A Signal Processing Approach is intended for a variety of audiences. Engineers and scientists working in the field of remote sensing but who do not have experience with SAR imaging will find an easy entrance into what can seem at times a very complicated subject. Experienced radar engineers will find that the book describes several modern areas of SAR processing that they might not have explored previously, e.g. interferometric SAR for change detection and terrain elevation mapping, or modern non-parametric approaches to SAR autofocus. Senior undergraduates (primarily in electrical engineering) who have had courses in digital signal and image processing, but who have had no exposure to SAR could find the book useful in a one-semester course as a reference.

Download and Read Free Online Spotlight-Mode Synthetic Aperture Radar: A Signal Processing Approach Daniel E. Wahl, Paul H. Eichel, Dennis C. Ghiglia, Paul A. Thompson, Charles V. Jakowatz

---

From reader reviews:

June Ross:

Do you one among people who can't read enjoyable if the sentence chained within the straightway, hold on guys this particular aren't like that. This Spotlight-Mode Synthetic Aperture Radar: A Signal Processing Approach book is readable by you who hate those perfect word style. You will find the data here are arrange for enjoyable studying experience without leaving actually decrease the knowledge that want to offer to you. The writer connected with Spotlight-Mode Synthetic Aperture Radar: A Signal Processing Approach content conveys the idea easily to understand by lots of people. The printed and e-book are not different in the content material but it just different as it. So , do you even now thinking Spotlight-Mode Synthetic Aperture Radar: A Signal Processing Approach is not loveable to be your top checklist reading book?

Cynthia Campbell:

The feeling that you get from Spotlight-Mode Synthetic Aperture Radar: A Signal Processing Approach may be the more deep you excavating the information that hide inside the words the more you get thinking about reading it. It doesn't mean that this book is hard to comprehend but Spotlight-Mode Synthetic Aperture Radar: A Signal Processing Approach giving you enjoyment feeling of reading. The author conveys their point in certain way that can be understood through anyone who read the idea because the author of this publication is well-known enough. This specific book also makes your own personal vocabulary increase well. Therefore it is easy to understand then can go with you, both in printed or e-book style are available. We highly recommend you for having this kind of Spotlight-Mode Synthetic Aperture Radar: A Signal Processing Approach instantly.

Dwight Roberts:

Often the book Spotlight-Mode Synthetic Aperture Radar: A Signal Processing Approach has a lot of knowledge on it. So when you check out this book you can get a lot of benefit. The book was compiled by the very famous author. Tom makes some research before write this book. That book very easy to read you may get the point easily after reading this book.

Kimberly Martin:

Reading a guide make you to get more knowledge from this. You can take knowledge and information from your book. Book is published or printed or created from each source which filled update of news. In this particular modern era like at this point, many ways to get information are available for you. From media social such as newspaper, magazines, science publication, encyclopedia, reference book, fresh and comic. You can add your understanding by that book. Are you ready to spend your spare time to open your book? Or just seeking the Spotlight-Mode Synthetic Aperture Radar: A Signal Processing Approach when you desired it?

Read Spotlight-Mode Synthetic Aperture Radar: A Signal Processing Approach by Daniel E. Wahl, Paul H. Eichel, Dennis C. Ghiglia, Paul A. Thompson, Charles V. Jakowatz for online ebook

Spotlight-Mode Synthetic Aperture Radar: A Signal Processing Approach by Daniel E. Wahl, Paul H. Eichel, Dennis C. Ghiglia, Paul A. Thompson, Charles V. Jakowatz Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Spotlight-Mode Synthetic Aperture Radar: A Signal Processing Approach by Daniel E. Wahl, Paul H. Eichel, Dennis C. Ghiglia, Paul A. Thompson, Charles V. Jakowatz books to read online.

Online Spotlight-Mode Synthetic Aperture Radar: A Signal Processing Approach by Daniel E. Wahl, Paul H. Eichel, Dennis C. Ghiglia, Paul A. Thompson, Charles V. Jakowatz ebook PDF download

Spotlight-Mode Synthetic Aperture Radar: A Signal Processing Approach by Daniel E. Wahl, Paul H. Eichel, Dennis C. Ghiglia, Paul A. Thompson, Charles V. Jakowatz Doc

Spotlight-Mode Synthetic Aperture Radar: A Signal Processing Approach by Daniel E. Wahl, Paul H. Eichel, Dennis C. Ghiglia, Paul A. Thompson, Charles V. Jakowatz Mobipocket

Spotlight-Mode Synthetic Aperture Radar: A Signal Processing Approach by Daniel E. Wahl, Paul H. Eichel, Dennis C. Ghiglia, Paul A. Thompson, Charles V. Jakowatz EPub