DESCRIPTION

A resource like no other-the first comprehensive guide to phase unwrapping

Phase unwrapping is a mathematical problem-solving technique increasingly used in synthetic aperture radar (SAR) interferometry, optical interferometry, adaptive optics, and medical imaging. In Two-Dimensional Phase Unwrapping, two internationally recognized experts sort through the multitude of ideas and algorithms cluttering current research, explain clearly how to solve phase unwrapping problems, and provide practicable algorithms that can be applied to problems encountered in diverse disciplines. Complete with case studies and examples as well as hundreds of images and figures illustrating the concepts, this book features:

* A thorough introduction to the theory of phase unwrapping
* Eight algorithms that constitute the state of the art in phase unwrapping
* Detailed description and analysis of each algorithm and its performance in a number of phase unwrapping problems
* C language software that provides a complete implementation of each algorithm
* Comparative analysis of the algorithms and techniques for evaluating results
* A discussion of future trends in phase unwrapping research
* Foreword by former NASA scientist Dr. John C. Curlander
Two-Dimensional Phase Unwrapping skillfully integrates concepts, algorithms, software, and examples into a powerful benchmark against which new ideas and algorithms for phase unwrapping can be tested. This unique introduction to a dynamic, rapidly evolving field is essential for professionals and graduate students in SAR interferometry, optical interferometry, adaptive optics, and magnetic resonance imaging (MRI).

ABOUT THE AUTHOR

DENNIS C. GHIGLIA is a Senior Scientist at the Vexcel Corporation in Boulder, Colorado, and formerly a distinguished member of the technical staff at Sandia National Laboratories. Dr. Ghiglia has written numerous articles and papers, coauthored Spotlight-Mode Synthetic Aperture Radar: A Signal Processing Approach, and holds two U.S. patents.

MARK D. PRITT is a Senior Engineer for Lockheed Martin Corporation, where he has worked on the research and development of image processing and phase unwrapping algorithms for nearly a decade. Dr. Pritt has published numerous papers and articles and holds five U.S. patents.

FEATURES

- An Instructor Support FTP site is available from the Wiley editorial department.

For additional product details, please visit https://www.wiley.com/en-us