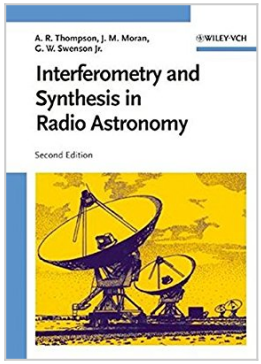

Interferometry and Synthesis in Radio Astronomy

By A. Richard Thompson, James M. Moran, George W. Swenson Jr.

Interferometry and Synthesis in Radio Astronomy By A. Richard Thompson, James M. Moran, George W. Swenson Jr.

Comprehensive, authoritative coverage of interferometric techniques for radio astronomy

In this Second Edition of Interferometry and Synthesis in Radio Astronomy, three leading figures in the development of large imaging arrays, including very-long-baseline interferometry (VLBI), describe and explain the technology that provides images of the universe with an angular resolution as fine as 1/20,000 of an arcsecond.

This comprehensive volume begins with a historical review followed by detailed coverage of the theory of interferometry and synthesis imaging, analysis of interferometer response, geometrical relationships, polarimetry, antennas, and arrays. Discussion of the receiving system continues with analysis of the response to signals and noise, analog design requirements, and digital signal processing.

The authors detail special requirements of VLBI including atomic frequency standards, broadband recording systems, and antennas in orbit. Further major topics include:
* Calibration of data and synthesis of images
* Image enhancement using nonlinear algorithms
* Techniques for astrometry and geodesy
* Propagation in the neutral atmosphere and ionized media
* Radio interference
* Related techniques: intensity interferometry, moon occultations, antenna holography, and optical interferometry

Interferometry and Synthesis in Radio Astronomy, Second Edition is comprehensive in that it provides an excellent overview of most radio astronomical instrumentation and techniques.

Interferometry and Synthesis in Radio Astronomy

By A. Richard Thompson, James M. Moran, George W. Swenson Jr.

Interferometry and Synthesis in Radio Astronomy By A. Richard Thompson, James M. Moran, George W. Swenson Jr.

Comprehensive, authoritative coverage of interferometric techniques for radio astronomy

In this Second Edition of Interferometry and Synthesis in Radio Astronomy, three leading figures in the development of large imaging arrays, including very-long-baseline interferometry (VLBI), describe and explain the technology that provides images of the universe with an angular resolution as fine as 1/20,000 of an arcsecond.

This comprehensive volume begins with a historical review followed by detailed coverage of the theory of interferometry and synthesis imaging, analysis of interferometer response, geometrical relationships, polarimetry, antennas, and arrays. Discussion of the receiving system continues with analysis of the response to signals and noise, analog design requirements, and digital signal processing.

The authors detail special requirements of VLBI including atomic frequency standards, broadband recording systems, and antennas in orbit. Further major topics include:
* Calibration of data and synthesis of images
* Image enhancement using nonlinear algorithms
* Techniques for astrometry and geodesy
* Propagation in the neutral atmosphere and ionized media
* Radio interference
* Related techniques: intensity interferometry, moon occultations, antenna holography, and optical interferometry

Interferometry and Synthesis in Radio Astronomy, Second Edition is comprehensive in that it provides an excellent overview of most radio astronomical instrumentation and techniques.

Interferometry and Synthesis in Radio Astronomy By A. Richard Thompson, James M. Moran, George W. Swenson Jr. Bibliography

- Sales Rank: #2041347 in Books
- Published on: 2001-04-25
- Original language: English
- Number of items: 1
- Dimensions: 9.59" h x 1.90" w x 7.11" l, 3.28 pounds
- Binding: Hardcover
- 715 pages

Editorial Review

Review
"this edition meets current demands by providing a comprehensive account of the techniques used today." (La Doc STI, May 2001)

"...the up-to-date edition of Thompson...with its exhaustive bibliography, becomes the indispensable source of background for those already in, or considering, radio astronomy." (The Observatory, Vol. 122, No. 1166, February 2002)

From the Back Cover
Comprehensive, authoritative coverage of interferometric techniques for radio astronomy

In this Second Edition of *Interferometry and Synthesis in Radio Astronomy*, three leading figures in the development of large imaging arrays, including very-long-baseline interferometry (VLBI), describe and explain the technology that provides images of the universe with an angular resolution as fine as 1/20,000 of an arcsecond.

This comprehensive volume begins with a historical review followed by detailed coverage of the theory of interferometry and synthesis imaging, analysis of interferometer response, geometrical relationships, polarimetry, antennas, and arrays. Discussion of the receiving system continues with analysis of the response to signals and noise, analog design requirements, and digital signal processing.

The authors detail special requirements of VLBI including atomic frequency standards, broadband recording systems, and antennas in orbit. Further major topics include:

- Calibration of data and synthesis of images
- Image enhancement using nonlinear algorithms
- Techniques for astrometry and geodesy
- Propagation in the neutral atmosphere and ionized media
- Radio interference
- Related techniques: intensity interferometry, moon occultations, antenna holography, and optical interferometry

Interferometry and Synthesis in Radio Astronomy, Second Edition is comprehensive in that it provides an excellent overview of most radio astronomical instrumentation and techniques.

About the Author
A. RICHARD THOMPSON, PhD, has been associated with the National Radio Astronomy Observatory in numerous capacities for more than 27 years.

JAMES M. MORAN, PhD, is a senior scientist at the Smithsonian Astrophysical Observatory and Professor of Astronomy at Harvard University.

GEORGE W. SWENSON, Jr., PhD, is Professor Emeritus of Electrical Engineering and of Astronomy at the University of Illinois at Urbana-Champaign.

Users Review

From reader reviews:

Evelyn Spencer:

The book Interferometry and Synthesis in Radio Astronomy can give more knowledge and also the precise product information about everything you want. Why then must we leave the great thing like a book Interferometry and Synthesis in Radio Astronomy? A number of you have a different opinion about reserve. But one aim that will book can give many info for us. It is absolutely appropriate. Right now, try to closer with the book. Knowledge or information that you take for that, you may give for each other; it is possible to share all of these. Book Interferometry and Synthesis in Radio Astronomy has simple shape nevertheless, you know: it has great and big function for you. You can seem the enormous world by available and read a publication. So it is very wonderful.

Kathryn Mullins:

Now a day people who Living in the era just where everything reachable by match the internet and the resources in it can be true or not need people to be aware of each facts they get. How individuals to be smart in getting any information nowadays? Of course the reply is reading a book. Studying a book can help people out of this uncertainty Information particularly this Interferometry and Synthesis in Radio Astronomy book as this book offers you rich information and knowledge. Of course the data in this book hundred percent guarantees there is no doubt in it you may already know.

Arlene Farmer:

Reading a book tends to be new life style in this era globalization. With reading you can get a lot of information that could give you benefit in your life. Along with book everyone in this world may share their idea. Books can also inspire a lot of people. Lots of author can inspire all their reader with their story as well as their experience. Not only the storyplot that share in the books. But also they write about the knowledge about something that you need instance. How to get the good score toefl, or how to teach your kids, there are many kinds of book that exist now. The authors on this planet always try to improve their skill in writing, they also doing some study before they write for their book. One of them is this Interferometry and Synthesis in Radio Astronomy.

Paul Horn:

This Interferometry and Synthesis in Radio Astronomy is great e-book for you because the content and that is full of information for you who all always deal with world and have to make decision every minute. This specific book reveal it info accurately using great plan word or we can point out no rambling sentences inside. So if you are read it hurriedly you can have whole info in it. Doesn't mean it only will give you straight forward sentences but tough core information with attractive delivering sentences. Having Interferometry and Synthesis in Radio Astronomy in your hand like having the world in your arm, information in it is not ridiculous one particular. We can say that no book that offer you world throughout ten or fifteen small right but this reserve already do that. So , it is good reading book. Hi Mr. and Mrs. stressful

do you still doubt which?

Read Interferometry and Synthesis in Radio Astronomy By A. Richard Thompson, James M. Moran, George W. Swenson Jr. for online ebook

Interferometry and Synthesis in Radio Astronomy By A. Richard Thompson, James M. Moran, George W. Swenson Jr. 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 Interferometry and Synthesis in Radio Astronomy By A. Richard Thompson, James M. Moran, George W. Swenson Jr. books to read online.

Online Interferometry and Synthesis in Radio Astronomy By A. Richard Thompson, James M. Moran, George W. Swenson Jr. ebook PDF download

Interferometry and Synthesis in Radio Astronomy By A. Richard Thompson, James M. Moran, George W. Swenson Jr. Doc

Interferometry and Synthesis in Radio Astronomy By A. Richard Thompson, James M. Moran, George W. Swenson Jr. Mobipocket

Interferometry and Synthesis in Radio Astronomy By A. Richard Thompson, James M. Moran, George W. Swenson Jr. EPub