

🖶 Get Print Book

### Introduction to X-Ray Powder Diffractometry

By Ron Jenkins, Robert Snyder



#### Introduction to X-Ray Powder Diffractometry By Ron Jenkins, Robert Snyder

When bombarded with X-rays, solid materials produce distinct scattering patterns similar to fingerprints. X-ray powder diffraction is a technique used to fingerprint solid samples, which are then identified and cataloged for future use-much the way the FBI keeps fingerprints on file. The current database of some 70,000 material prints has been put to a broad range of uses, from the analysis of moon rocks to testing drugs for purity.

Introduction to X-ray Powder Diffractometry fully updates the achievements in the field over the past fifteen years and provides a much-needed explanation of the state-of-the-art techniques involved in characterizing materials. It covers the latest instruments and methods, with an emphasis on the fundamentals of the diffractometer, its components, alignment, calibration, and automation.

The first three chapters outline diffraction theory in clear language, accessible to both students and professionals in chemistry, physics, geology, and materials science. The book's middle chapters describe the instrumentation and procedures used in X-ray diffraction, including X-ray sources, X-ray detection, and production of monochromatic radiation. The chapter devoted to instrument design and calibration is followed by an examination of specimen preparation methods, data collection, and reduction. The final two chapters provide in-depth discussions of qualitative and quantitative analysis.

While the material is presented in an orderly progression, beginning with basic concepts and moving on to more complex material, each chapter stands on its own and can be studied independently or used as a professional reference. More than 230 illustrations and tables demonstrate techniques and clarify complex material.

Self-contained, timely, and user-friendly, Introduction to X-ray Powder Diffractometry is an enormously useful text and professional reference for analytical chemists, physicists, geologists and materials scientists, and upperlevel undergraduate and graduate students in materials science and analytical chemistry.

X-ray powder diffraction-a technique that has matured significantly in recent years-is used to identify solid samples and determine their composition by analyzing the so-called "fingerprints" they generate when X-rayed. This unique volume fulfills two major roles: it is the first textbook devoted solely to X-ray powder diffractometry, and the first up-to-date treatment of the subject in 20 years. This timely, authoritative volume features:

\* Clear, concise descriptions of both theory and practice-including fundamentals of diffraction theory and all aspects of the diffractometer

\* A treatment that reflects current trends toward automation, covering the newest instrumentation and automation techniques

\* Coverage of all the most common applications, with special emphasis on qualitative and quantitative analysis

\* An accessible presentation appropriate for both students and professionals

\* More than 230 tables and illustrations

Introduction to X-ray Powder Diffractometry, a collaboration between two internationally known and respected experts in the field, provides invaluable guidance to anyone using X-ray powder diffractometers and diffractometry in materials science, ceramics, the pharmaceutical industry, and elsewhere.

**<u>Download</u>** Introduction to X-Ray Powder Diffractometry ...pdf

**Read Online** Introduction to X-Ray Powder Diffractometry ...pdf

## Introduction to X-Ray Powder Diffractometry

By Ron Jenkins, Robert Snyder

#### Introduction to X-Ray Powder Diffractometry By Ron Jenkins, Robert Snyder

When bombarded with X-rays, solid materials produce distinct scattering patterns similar to fingerprints. X-ray powder diffraction is a technique used to fingerprint solid samples, which are then identified and cataloged for future use-much the way the FBI keeps fingerprints on file. The current database of some 70,000 material prints has been put to a broad range of uses, from the analysis of moon rocks to testing drugs for purity.

Introduction to X-ray Powder Diffractometry fully updates the achievements in the field over the past fifteen years and provides a much-needed explanation of the state-of-the-art techniques involved in characterizing materials. It covers the latest instruments and methods, with an emphasis on the fundamentals of the diffractometer, its components, alignment, calibration, and automation.

The first three chapters outline diffraction theory in clear language, accessible to both students and professionals in chemistry, physics, geology, and materials science. The book's middle chapters describe the instrumentation and procedures used in X-ray diffraction, including X-ray sources, X-ray detection, and production of monochromatic radiation. The chapter devoted to instrument design and calibration is followed by an examination of specimen preparation methods, data collection, and reduction. The final two chapters provide in-depth discussions of qualitative and quantitative analysis.

While the material is presented in an orderly progression, beginning with basic concepts and moving on to more complex material, each chapter stands on its own and can be studied independently or used as a professional reference. More than 230 illustrations and tables demonstrate techniques and clarify complex material.

Self-contained, timely, and user-friendly, Introduction to X-ray Powder Diffractometry is an enormously useful text and professional reference for analytical chemists, physicists, geologists and materials scientists, and upper-level undergraduate and graduate students in materials science and analytical chemistry.

X-ray powder diffraction-a technique that has matured significantly in recent years-is used to identify solid samples and determine their composition by analyzing the so-called "fingerprints" they generate when X-rayed. This unique volume fulfills two major roles: it is the first textbook devoted solely to X-ray powder diffractometry, and the first up-to-date treatment of the subject in 20 years.

This timely, authoritative volume features:

\* Clear, concise descriptions of both theory and practice-including fundamentals of diffraction theory and all aspects of the diffractometer

\* A treatment that reflects current trends toward automation, covering the newest instrumentation and automation techniques

\* Coverage of all the most common applications, with special emphasis on qualitative and quantitative analysis

\* An accessible presentation appropriate for both students and professionals

\* More than 230 tables and illustrations

Introduction to X-ray Powder Diffractometry, a collaboration between two internationally known and respected experts in the field, provides invaluable guidance to anyone using X-ray powder diffractometers and diffractometry in materials science, ceramics, the pharmaceutical industry, and elsewhere.

#### Introduction to X-Ray Powder Diffractometry By Ron Jenkins, Robert Snyder Bibliography

- Sales Rank: #2134885 in Books
- Published on: 1996-06-28
- Ingredients: Example Ingredients
- Original language: English
- Number of items: 1
- Dimensions: 9.19" h x 1.03" w x 6.30" l, 1.55 pounds
- Binding: Hardcover
- 432 pages

**<u>Download</u>** Introduction to X-Ray Powder Diffractometry ...pdf

Read Online Introduction to X-Ray Powder Diffractometry ...pdf

## Download and Read Free Online Introduction to X-Ray Powder Diffractometry By Ron Jenkins, Robert Snyder

#### **Editorial Review**

#### From the Publisher

Illustrated with a significant amount of useful figures and diagrams this volume contains all of the fundamentals required to understand the theory and practice of powder diffraction with a strong emphasis on the two most important applications: qualitative and quantitative analysis.

#### From the Inside Flap

When bombarded with X-rays, solid materials produce distinct scattering patterns similar to fingerprints. Xray powder diffraction is a technique used to fingerprint solid samples, which are then identified and cataloged for future use-much the way the FBI keeps fingerprints on file. The current database of some 70,000 material prints has been put to a broad range of uses, from the analysis of moon rocks to testing drugs for purity. Introduction to X-ray Powder Diffractometry fully updates the achievements in the field over the past fifteen years and provides a much-needed explanation of the state-of-the-art techniques involved in characterizing materials. It covers the latest instruments and methods, with an emphasis on the fundamentals of the diffractometer, its components, alignment, calibration, and automation. The first three chapters outline diffraction theory in clear language, accessible to both students and professionals in chemistry, physics, geology, and materials science. The book's middle chapters describe the instrumentation and procedures used in X-ray diffraction, including X-ray sources, X-ray detection, and production of monochromatic radiation. The chapter devoted to instrument design and calibration is followed by an examination of specimen preparation methods, data collection, and reduction. The final two chapters provide in-depth discussions of qualitative and quantitative analysis. While the material is presented in an orderly progression, beginning with basic concepts and moving on to more complex material, each chapter stands on its own and can be studied independently or used as a professional reference. More than 230 illustrations and tables demonstrate techniques and clarify complex material. Self-contained, timely, and user-friendly, Introduction to X-ray Powder Diffractometry is an enormously useful text and professional reference for analytical chemists, physicists, geologists and materials scientists, and upper-level undergraduate and graduate students in materials science and analytical chemistry.

#### From the Back Cover

When bombarded with X-rays, solid materials produce distinct scattering patterns similar to fingerprints. X-ray powder diffraction is a technique used to fingerprint solid samples, which are then identified and cataloged for future use-much the way the FBI keeps fingerprints on file. The current database of some 70,000 material prints has been put to a broad range of uses, from the analysis of moon rocks to testing drugs for purity.

Introduction to X-ray Powder Diffractometry fully updates the achievements in the field over the past fifteen years and provides a much-needed explanation of the state-of-the-art techniques involved in characterizing materials. It covers the latest instruments and methods, with an emphasis on the fundamentals of the diffractometer, its components, alignment, calibration, and automation.

The first three chapters outline diffraction theory in clear language, accessible to both students and professionals in chemistry, physics, geology, and materials science. The book's middle chapters describe the instrumentation and procedures used in X-ray diffraction, including X-ray sources, X-ray detection, and production of monochromatic radiation. The chapter devoted to instrument design and calibration is followed by an examination of specimen preparation methods, data collection, and reduction. The final two chapters

provide in-depth discussions of qualitative and quantitative analysis.

While the material is presented in an orderly progression, beginning with basic concepts and moving on to more complex material, each chapter stands on its own and can be studied independently or used as a professional reference. More than 230 illustrations and tables demonstrate techniques and clarify complex material.

Self-contained, timely, and user-friendly, Introduction to X-ray Powder Diffractometry is an enormously useful text and professional reference for analytical chemists, physicists, geologists and materials scientists, and upper-level undergraduate and graduate students in materials science and analytical chemistry.

X-ray powder diffraction-a technique that has matured significantly in recent years-is used to identify solid samples and determine their composition by analyzing the so-called "fingerprints" they generate when X-rayed. This unique volume fulfills two major roles: it is the first textbook devoted solely to X-ray powder diffractometry, and the first up-to-date treatment of the subject in 20 years.

This timely, authoritative volume features:

\* Clear, concise descriptions of both theory and practice-including fundamentals of diffraction theory and all aspects of the diffractometer

\* A treatment that reflects current trends toward automation, covering the newest instrumentation and automation techniques

\* Coverage of all the most common applications, with special emphasis on qualitative and quantitative analysis

\* An accessible presentation appropriate for both students and professionals

\* More than 230 tables and illustrations

Introduction to X-ray Powder Diffractometry, a collaboration between two internationally known and respected experts in the field, provides invaluable guidance to anyone using X-ray powder diffractometers and diffractometry in materials science, ceramics, the pharmaceutical industry, and elsewhere.

#### **Users Review**

#### From reader reviews:

#### James Stover:

The book Introduction to X-Ray Powder Diffractometry make one feel enjoy for your spare time. You can utilize to make your capable a lot more increase. Book can for being your best friend when you getting tension or having big problem with your subject. If you can make looking at a book Introduction to X-Ray Powder Diffractometry to become your habit, you can get considerably more advantages, like add your current capable, increase your knowledge about a number of or all subjects. It is possible to know everything if you like available and read a reserve Introduction to X-Ray Powder Diffractometry. Kinds of book are several. It means that, science guide or encyclopedia or others. So , how do you think about this reserve?

#### Karen Strickland:

Do you certainly one of people who can't read gratifying if the sentence chained from the straightway, hold on guys that aren't like that. This Introduction to X-Ray Powder Diffractometry book is readable by simply you who hate those perfect word style. You will find the data here are arrange for enjoyable studying experience without leaving even decrease the knowledge that want to offer to you. The writer associated with Introduction to X-Ray Powder Diffractometry content conveys the thought easily to understand by lots of people. The printed and e-book are not different in the written content but it just different in the form of it. So , do you even now thinking Introduction to X-Ray Powder Diffractometry is not loveable to be your top record reading book?

#### Kelli Valverde:

Reading can called brain hangout, why? Because when you find yourself reading a book mainly book entitled Introduction to X-Ray Powder Diffractometry your head will drift away trough every dimension, wandering in each aspect that maybe unknown for but surely might be your mind friends. Imaging just about every word written in a publication then become one application form conclusion and explanation this maybe you never get before. The Introduction to X-Ray Powder Diffractometry giving you another experience more than blown away your head but also giving you useful facts for your better life in this era. So now let us present to you the relaxing pattern here is your body and mind will be pleased when you are finished reading it, like winning a. Do you want to try this extraordinary spending spare time activity?

#### **Maurice Conner:**

Reserve is one of source of information. We can add our know-how from it. Not only for students but native or citizen require book to know the update information of year to year. As we know those textbooks have many advantages. Beside we all add our knowledge, can bring us to around the world. Through the book Introduction to X-Ray Powder Diffractometry we can get more advantage. Don't one to be creative people? Being creative person must prefer to read a book. Just choose the best book that appropriate with your aim. Don't end up being doubt to change your life at this book Introduction to X-Ray Powder Diffractometry. You can more inviting than now.

## Download and Read Online Introduction to X-Ray Powder Diffractometry By Ron Jenkins, Robert Snyder #26F5Y04XR78

## **Read Introduction to X-Ray Powder Diffractometry By Ron Jenkins, Robert Snyder for online ebook**

Introduction to X-Ray Powder Diffractometry By Ron Jenkins, Robert Snyder 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 Introduction to X-Ray Powder Diffractometry By Ron Jenkins, Robert Snyder books to read online.

# Online Introduction to X-Ray Powder Diffractometry By Ron Jenkins, Robert Snyder ebook PDF download

Introduction to X-Ray Powder Diffractometry By Ron Jenkins, Robert Snyder Doc

Introduction to X-Ray Powder Diffractometry By Ron Jenkins, Robert Snyder Mobipocket

Introduction to X-Ray Powder Diffractometry By Ron Jenkins, Robert Snyder EPub