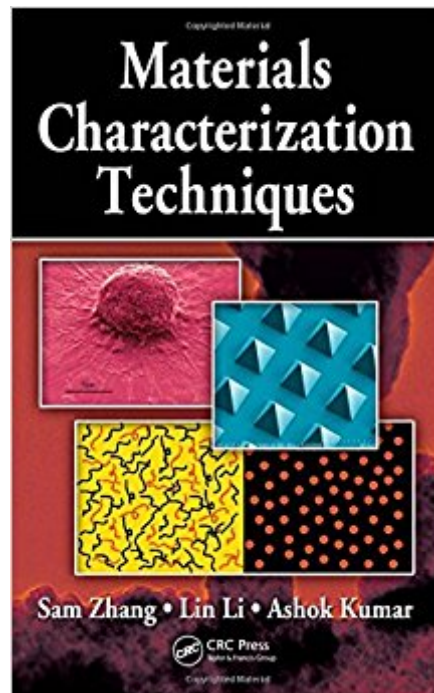




**Ebook Directory**  
the best source of ebook

The book was found

# Materials Characterization Techniques



## Synopsis

Experts must be able to analyze and distinguish all materials, or combinations of materials, in use today—whether they be metals, ceramics, polymers, semiconductors, or composites. To understand a material's structure, how that structure determines its properties, and how that material will subsequently work in technological applications, researchers apply basic principles of chemistry, physics, and biology to address its scientific fundamentals, as well as how it is processed and engineered for use. Emphasizing practical applications and real-world case studies, *Materials Characterization Techniques* presents the principles of widely used, advanced surface and structural characterization techniques for quality assurance, contamination control, and process improvement. This useful volume:

- Explores scientific processes to characterize materials using modern technologies
- Provides analysis of materials' performance under specific use conditions
- Focuses on the interrelationships and interdependence between processing, structure, properties, and performance
- Details the sophisticated instruments involved in an interdisciplinary approach to understanding the wide range of mutually interacting processes, mechanisms, and materials
- Covers electron, X-ray-photoelectron, and UV spectroscopy; scanning-electron, atomic-force, transmission-electron, and laser-confocal-scanning-florescent microscopy, and gel electrophoresis chromatography
- Presents the fundamentals of vacuum, as well as X-ray diffraction principles

Explaining appropriate uses and related technical requirements for characterization techniques, the authors omit lengthy and often intimidating derivations and formulations. Instead, they emphasize useful basic principles and applications of modern technologies used to characterize engineering materials, helping readers grasp micro- and nanoscale properties. This text will serve as a valuable guide for scientists and engineers involved in characterization and also as a powerful introduction to the field for advanced undergraduate and graduate students.

## Book Information

Hardcover: 344 pages

Publisher: CRC Press; 1 edition (December 22, 2008)

Language: English

ISBN-10: 1420042947

ISBN-13: 978-1420042948

Product Dimensions: 9.3 x 6.2 x 0.8 inches

Shipping Weight: 1.4 pounds (View shipping rates and policies)

Average Customer Review: 1.4 out of 5 stars 3 customer reviews

Best Sellers Rank: #1,287,693 in Books (See Top 100 in Books) #112 in [Books > Engineering & Transportation > Engineering > Materials & Material Science > Testing](#) #206 in [Books > Science & Math > Technology > Nanotechnology](#) #485 in [Books > Science & Math > Chemistry > Industrial & Technical](#)

## Customer Reviews

Nan Yang Technological University, Singapore Nanyang Technological University, Singaapore  
University of South Florida, Tampa, FL USA

Who is printing these books? I see another reviewer also received an incorrect print with correct cover. Same issue here - I'm not sure how that happens.

Correct cover, wrong binding

The book SENT TO ME by the publisher met my expectations.

[Download to continue reading...](#)

Catalyst Characterization: Physical Techniques for Solid Materials (Fundamental and Applied Catalysis) Materials Characterization Techniques Fundamentals of Powder Diffraction and Structural Characterization of Materials, Second Edition Characterization of Materials, 3 Volume Set Materials Characterization: Introduction to Microscopic and Spectroscopic Methods Microstructural Characterization of Materials Materials Characterization - Book 2: 300+ Questions & Example Answers Materials Characterization - Book 1: 400+ Questions & Answers Composite Materials for Implant Applications in the Human Body: Characterization and Testing/Pcn No. : 04-011780-54 (Astm Special Technical Publication// Stp) The Oil Painting Book: Materials and Techniques for Today's Artist (Watson-Guptill Materials and Techniques) Mass Spectrometry: Techniques for Structural Characterization of Glycans Polymer Characterization: Laboratory Techniques and Analysis Engineering Materials 3: Materials Failure Analysis: Case Studies and Design Implications (International Series on Materials Science and Technology) (v. 3) Processing Techniques and Tribological Behavior of Composite Materials (Advances in Chemical and Materials Engineering) Surface Wave Methods for Near-Surface Site Characterization Polymer Synthesis and Characterization: A Laboratory Manual Semiconductor Material and Device Characterization American Herbal Pharmacopoeia: Botanical Pharmacognosy - Microscopic Characterization of Botanical Medicines Fly Ash and Coal Conversion By-Products: Characterization, Utilization and

## Disposal III: Volume 86 (MRS Proceedings) A Handbook of Tropical Soil Biology: Sampling and Characterization of Below-ground Biodiversity

[Contact Us](#)

[DMCA](#)

[Privacy](#)

[FAQ & Help](#)