1. Record Nr. UNINA9910137629003321

Titolo	Characterization of solid materials and heterogeneous catalysts [[electronic resource]] : from structure to surface reactivity / / edited by Michel Che and Jacques C. Vedrine
Pubbl/distr/stampa	Weinheim, : Wiley-VCH, c2012
ISBN	1-299-46436-X 3-527-64534-9 3-527-64533-0 3-527-64532-2
Descrizione fisica	1 online resource (1257 p.)
Altri autori (Persone)	CheM (Michel) VedrineJacques C
Disciplina	660.2995
Soggetti	Catalysts - Analysis Heterogeneous catalysis Solid state chemistry
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front Matter -- Molecular/Local Spectroscopies. Infrared Spectroscopy / Frdric Thibault-Starzyk, Franoise Maug -- Raman and UV-Raman Spectroscopies / Fengtao Fan, Zhaochi Feng, Can Li -- Electronic Spectroscopy: Ultra Violet-Visible and near IR Spectroscopies / Friederike C Jentoft -- Photoluminescence Spectroscopy / Masaya Matsuoka, Masakazu Saito, Masakazu Anpo -- Neutron Scattering / Herv Jobic -- Sum Frequency Generation and Infrared Reflection Absorption Spectroscopy / Karin Fttinger, Christian Weilach, Gunther Rupprechter -- Infra Red Reflection Absorption Spectroscopy and Polarisation Modulation-IRRAS / Christophe Mthivier, Claire-Marie Pradier -- Nuclear Magnetic Resonance Spectroscopy / Lynn F Gladden, Michal Lutecki, James McGregor -- Electron Paramagnetic Resonance Spectroscopy / Piotr Pietrzyk, Zbigniew Sojka, Elio Giamello -- Mssbauer Spectroscopy / Lorenzo Stievano, Friedrich E Wagner -- Low Energy Ion Scattering and Secondary Ion Mass Spectrometry / Norbert Kruse, Sergey Chenakin -- X-Ray Absorption Spectroscopy /

Christophe Geantet, Christophe Pichon -- Auger Electron, X ray and UV Photoelectron Spectroscopies / Wolfgang Grunert -- Single Molecule Spectroscopy / Timo Lebold, Jens Michaelis, Thomas Bein, Christoph Bruchle -- Macroscopic Techniques. X-Ray Diffraction and Small Angle X-Ray Scattering / Malte Behrens, Robert Schlgl -- Transmission Electron Microscopy / John Meurig Thomas, Caterina Ducati -- Scanning Probe Microscopy and Spectroscopy / Tomoaki Nishino -- Thermal Methods / Adrien Mekki-Berrada, Aline Auroux -- Surface Area/Porosity, Adsorption, Diffusion / Philip L Llewellyn, Emily Bloch, Sandrine Bourrelly -- Characterization of the Fluid Phase (Gas and/or Liquid). Mass Spectrometry / Sandra Alves, Jean-Claude Tabet -- Chromatographic Methods / Fabrice Bertoncini, Didier Thiebaut, Marion Courtiade, Thomas Dutriez -- Transient Techniques: Temporal Analysis of Products and Steady State Isotopic Transient Kinetic Analysis / Angelos M Efstathiou, John T Gleaves, Gregory S Yablonsky -- Advanced Characterization. Techniques Coupling for Catalyst Characterisation / Andrew M Beale, Matthew G O'Brien, Bert M Weckhuysen -- Quantum Chemistry Methods / Philippe Sautet -- Conclusions -- Index.

Sommario/riassunto

This two-volume book provides an overview of physical techniques used to characterize the structure of solid materials, on the one hand, and to investigate the reactivity of their surface, on the other. Therefore this book is a must-have for anyone working in fields related to surface reactivity. Among the latter, and because of its most important industrial impact, catalysis has been used as the directing thread of the book.After the preface and a general introduction to physical techniques by M. Che and J.C. Vedrine, two overviews on physical techniques are presented by G. Ert