Record Nr. UNINA9910830476703321 Autore Niemantsverdriet J. W Titolo Spectroscopy in catalysis [[electronic resource]]: an introduction // J. W. Niemantsverdriet Pubbl/distr/stampa Weinheim,: Wiley-VCH [Chichester, : John Wiley, distributor], 2007 **ISBN** 1-281-08797-1 1-282-11840-4 9786612118401 9786611087975 3-527-61134-7 3-527-61135-5 Edizione [3rd completely rev. and enl. ed.] Descrizione fisica 1 online resource (346 p.) Disciplina 541.395 543.0858 Soggetti Catalysis Spectrum analysis Catalysts - Analysis Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Previous ed.: 2000. Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Spectroscopy in Catalysis; Contents; Preface; List of Acronyms; 1 Introduction: 1.1 Heterogeneous Catalysis: 1.2 The Aim of Catalyst Characterization; 1.3 Spectroscopic Techniques; 1.4 Research Strategies; References; 2 Temperature-Programmed Techniques; 2.1 Introduction; 2.2 Temperature-Programmed Reduction; 2.2.1 Thermodynamics of Reduction; 2.2.2 Reduction Mechanisms; 2.2.3 Applications; 2.3 Temperature-Programmed Sulfidation; 2.4 Temperature-Programmed Reaction Spectroscopy; 2.5 Temperature-Programmed Desorption; 2.5.1 TPD Analysis; 2.5.2 Desorption in the **Transition State Theory** 2.6 Temperature-Programmed Reaction Spectroscopy in

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Sommario/riassunto

"... this book is a uniquely helpful guide to many of the major (and some minor) techniques used to investigate the structures of solid catalysts and model systems and is written from the perspective of a prolific researcher in the field. The writing is enjoyable to read, the illustrations are clear, and the reader is guided efficiently to key technical references for further details... " -Journal of the American Chemical Society Superbly organized and of great pedagogic value, Spectroscopy in Catalysis describes the most important modern analytical techniques used to inv