1. Record Nr. UNINA9910219996203321

Titolo	Spectroscopy of transition metal ions on surfaces / / edited by Bert M. Weckhuysen, Pascal van der Voort, Gabriela Catana
Pubbl/distr/stampa	Leuven, Belgium : , : Leuven University Press, , [2000] ©2000
Descrizione fisica	1 online resource (308 pages) : illustrations
Disciplina	660/.2995
Soggetti	Transition metal catalysts
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Sommario/riassunto	Chemical industries are based on catalytic processes as both bulk and fine chemicals are often produced with heterogeneous catalysts. Transition metal ions dispersed on high-surface area inorganic solids are very important catalysts and a full characterization of these materials requires a profound knowledge of the oxidation state, coordination environment and dispersion of the metal ions on the catalyst surface. Such information can only be obtained by using a combination of complementary spectroscopic techniques. 'Spectroscopy of Transition metal ions on Surfaces' serves as an introduction to some of the most important spectroscopic techniques nowadays used for studying the chemistry and catalytic properties of transition metal ions on surfaces. The basic principles and the strengths and weaknesses of continuous wave electron spin resonance, pulsed electron spin resonance, solid state nuclear magnetic resonance, infrared spectroscopy, Raman spectroscopy, diffuse reflectance spectroscopy and X-ray photoelectron spectroscopy are critically reviewed by internationally recognized experts. This gives the reader a solid background for judging literature results and for planning and conducting his/her own experiments. Each chapter closes with several relevant examples mainly from the recent literature. In addition, the use of in situ techniques and chemometrical techniques

has been included because of its growing importance in catalyst characterization. As a consequence, the book has been written as a text not only for graduate students, but also for anyone else who is new in the field and wants a recent update. The following scientists have contributed to this textbook: Br.