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ISBN	1-4614-8742-0
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (xii, 262 pages) : illustrations (some color)
Collana	Gale eBooks
Disciplina	530.417
Soggetti	Surfaces (Physics) Catalysis
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Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Part I: Introduction -- Bridging Materials and Pressure Gaps in Surface Science and Heterogeneous Catalysis -- Part II: Model Systems for Nanocatalysts to Bridge Materials Gap -- Shape-Controlled Nanoparticles: Effect of Shape on Catalytic Activity, Selectivity, and Long-term Stability -- Non-Colloidal Nanocatalysts Fabricated with Nanolithography and Arc Plasma Deposition -- Dendrimer Encapsulated Metal Nanoparticles: Synthesis and Application in Catalysis -- Core-Shell Nanoarchitectures as Stable Nanocatalysts -- Shape-Controlled Bimetallic Nanocatalysts in Fuel Cells: Synthesis and Electrocatalytic Studies -- Part III: In situ Surface Characterization to Bridge Pressure Gaps -- Role of Surface Oxides on Model Nanocatalysts in Catalytic Activity of CO Oxidation -- Influence of Atomic Structure, Steps and Kinks, on the Catalytic Activity: In situ Surface Studies -- The Development of Ambient Pressure X-Ray Photoelectron Spectroscopy and its Application to Surface Science -- Electronic Excitations on Surfaces During Chemical and Photon Process. .
Sommario/riassunto	This unique book covers the latest surface science studies on model catalysts, including single crystals, non-colloidal nanocatalysts, and nanoparticles in various forms with the control of size, shape and composition. This book addresses the issue of bridging "materials and pressure gaps" and also discusses the important issue of metal-oxide interface and hot electron flows in heterogeneous catalysis. The current development of in-situ surface techniques that is relevant to bridging

“pressure gaps” is also highlighted. This book also: Provides a comprehensive view on materials (covering single crystal, nanoparticles, and nanostructures) and techniques (both ex-situ and in-situ surface apparatus) of surface science Discusses the role of metal-oxide interface, surface oxides and hot electron flows in heterogeneous catalysis and surface chemistry Covers the application of surface science in the renewable energy conversion Current Trends of Surface Science and Catalysis is an ideal book for graduate students and researchers in the field of surface science and catalysis.

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