

1. Record Nr.	UNINA9910427693203321
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Titolo	Hydrogen and Hydrogen-Containing Molecules on Metal Surfaces : Towards the Realization of Sustainable Hydrogen Economy // by Hideaki Kasai, Allan Abraham B. Padama, Bhume Chantaramolee, Ryan L. Arevalo
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2020
ISBN	981-15-6994-0
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (XVI, 151 p. 98 illus., 53 illus. in color.)
Collana	Springer Series in Surface Sciences, , 0931-5195 ; ; 71
Disciplina	634.905
Soggetti	Surfaces (Physics) Interfaces (Physical sciences) Thin films Chemistry, Physical and theoretical Materials—Surfaces Materials science Force and energy Surface and Interface Science, Thin Films Theoretical and Computational Chemistry Surfaces and Interfaces, Thin Films Energy Materials
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	1. Atoms and Molecules on Metal Surfaces: A General Overview -- 2. Behavior of Hydrogen and Hydrogenated Species on Flat and Stepped Metal Surfaces -- 2.1 Adsorption -- 2.2 Induced Segregation on Bimetallic Surfaces- 2.3 Induced Reconstructions -- 3. Quantum States and Dynamics of Hydrogen -- 3.1 Hindered Rotation of Molecules on Metal Surfaces -- 3.2 Nuclear Spin Conversion of Molecules Facilitated by Metal Surfaces -- 4. Review of the Current Status of Hydrogen Economy.
Sommario/riassunto	This book is dedicated to recent advancements in theoretical and computational studies on the interactions of hydrogen and

hydrogenated molecules with metal surfaces. These studies are driven by the development of high-performance computers, new experimental findings, and the extensive work of technological applications toward the realization of sustainable hydrogen economy. Understanding of the elementary processes of the physical and chemical reactions on the atomic scale is important in pursuing materials with high chemical reactivity and catalytic activity as well as high stability and durability. From this point of view, the book focuses on the behavior of hydrogen and hydrogenated molecules on flat, stepped, and reconstructed metal surfaces. It also tackles quantum mechanical properties of hydrogen and related adsorbates such as the molecular orbital angular momentum (spin) and diffusion along the minimum potential energy landscape on metal surfaces. All of these have been found to profoundly influence the outcomes of (1) catalytic reactions that involve hydrogen; (2) hydrogen storage in metals; and (3) hydrogen purification membranes. Lastly, it surveys the current status of the technology, outlook, and challenges for the long-desired sustainable hydrogen economy in relation to the topics covered in the book. .

2. Record Nr.	UNIORUON00484395
Autore	Braudel, Fernand
Titolo	Civiltà materiale, economia e capitalismo, secoli 15.-18. / Fernand Braudel
Pubbl/distr/stampa	3 v. ; 24 cm
ISBN	88-06-13049-8
Edizione	[Torino : Einaudi]
Descrizione fisica	Vol. 1. : Le strutture del quotidiano.
Disciplina	330.09
Soggetti	Storia economica - Sec. 15-18 Storia Moderna
Lingua di pubblicazione	Italiano
Formato	Materiale a stampa
Livello bibliografico	Monografia

