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Titolo	Oxide Materials at the Two-Dimensional Limit / / edited by Falko P. Netzer, Alessandro Fortunelli
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Disciplina	546.7212
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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 at the end of each chapters and index.
Nota di contenuto	Ultrathin oxide films on Au(111) substrates -- Surface chemistry on oxide nanostructures -- Electronic structure methods for nanostructured interfaces -- 2-D titania systems -- Properties of reducible oxides as ultrathin films -- 2-D ceria systems -- Structure concepts in 2-D oxide materials -- Polarity in 2-D oxides -- Doping aspects in 2-D oxides -- Charge transfer effects in ultrathin oxide films -- Phonons in 2-D oxide systems -- Defects at interfaces of Si and 2-D oxide films -- Ultrathin films of ternary oxides -- 2-D oxide interfaces.
Sommario/riassunto	This book summarizes the current knowledge of two-dimensional oxide materials. The fundamental properties of 2-D oxide systems are

explored in terms of atomic structure, electronic behavior and surface chemistry. The concept of polarity in determining the stability of 2-D oxide layers is examined, charge transfer effects in ultrathin oxide films are reviewed as well as the role of defects in 2-D oxide films. The novel structure concepts that apply in oxide systems of low dimensionality are addressed, and a chapter giving an overview of state-of-the-art theoretical methods for electronic structure determination of nanostructured oxides is included. Special emphasis is given to a balanced view from the experimental and the theoretical side. Two-dimensional materials, and 2-D oxides in particular, have outstanding behavior due to dimensionality and proximity effects. Several chapters treat prototypical model systems as illustrative examples to discuss the peculiar physical and chemical properties of 2-D oxide systems. The chapters are written by renowned experts in the field.