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Radovanovic -- Ferroelectrics. Structure-Property Correlations in Rare-Earth-Substituted BiFeO Epitaxial Thin Films at the Morphotropic Phase Boundary / Daisuke Kan, Ching-Jung Cheng, Valanoor Nagarajan, Ichiro Takeuchi -- Antiferroelectricity in Oxides: A Reexamination / Karin M Rabe -- Multiferroics. Probing Nanoscale Electronic Conduction in Complex Oxides / Jan Seidel, Ramamoorthy Ramesh -- Multiferroics with Magnetoelectric Coupling / Umesh V Waghmare -- Interfaces and Magnetism. Device Aspects of the SrTiO-LaAlO Interface; Basic Properties, Mobility, Nanostructuring, and Potential Applications / Hans Hilgenkamp -- X-Ray Spectroscopic Studies of Conducting Interfaces between Two Insulating Oxides / Hiroki Wadati, Atsushi Fujimori -- Interfacial Coupling between Oxide Superconductors and Ferromagnets / Mark G Blamire, Jason W A Robinson, Mehmet Egilmez -- Devices and Applications. Metal-Oxide Nanoparticles for Dye-Sensitized Solar Cells / Frederic Sauvage, Mohammad K Nazeeruddin, Michael Gratzel -- Hybrid Solar Cells from Ordered Nanostructures / Jonas Weickert, Lukas Schmidt-Mende -- Electric Field Effects in Functional Metal Oxides / Lily Mandal, Weinan Lin, James Lourembam, Satishchandra Ogale, Tom Wu -- Resistive Switchings in Transition-Metal Oxides / Isao H Inoue, Akihito Sawa.

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### Sommario/riassunto

Functional oxides are used both as insulators and metallic conductors in key applications across all industrial sectors. This makes them attractive candidates in modern technology? they make solar cells cheaper, computers more efficient and medical instrumentation more sensitive. Based on recent research, experts in the field describe novel materials, their properties and applications for energy systems, semiconductors, electronics, catalysts and thin films. This monograph is divided into 6 parts which allows the reader to find their topic of interest quickly and efficiently. \* Magnetic Oxides \* Dopants, Defects and Ferromagnetism in Metal Oxides \* Ferroelectrics \* Multiferroics \* Interfaces and Magnetism \* Devices and Applications This book is a valuable asset to materials scientists, solid state chemists, solid state physicists, as well as engineers in the electric and automotive industries.

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