

1. Record Nr.	UNINA9910139804803321
Titolo	Ruthenate and Rutheno-Cuprate Materials [[electronic resource] ] : Unconventional Superconductivity, Magnetism and Quantum Phase Transitions // edited by C. Noce, A. Vecchione, M. Cuoco, Alfonso Romano
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2002
ISBN	3-540-45814-X
Edizione	[1st ed. 2002.]
Descrizione fisica	1 online resource (XXIII, 332 p. 76 illus., 15 illus. in color.)
Collana	Lecture Notes in Physics, , 0075-8450 ; ; 603
Disciplina	537.6/23
Soggetti	Superconductivity Superconductors Magnetism Magnetic materials Strongly Correlated Systems, Superconductivity Magnetism, Magnetic Materials
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Toward the Full Determination of the Superconducting Order Parameter of Sr <sub>2</sub> RuO <sub>4</sub> -- Magnetic Excitations in 214-Ruthenates -- Unconventional Superconductivity with Either Multi-component or Multi-band, or with Chirality -- The Behaviour of a Triplet Superconductor in a Spin Only Magnetic Field -- Coexistence of Spin-Triplet Superconductivity and Ferromagnetism Induced by the Hund's Rule Exchange -- Quasi-particle Spectra of Sr <sub>2</sub> RuO <sub>4</sub> -- Normal State Properties of Sr <sub>2</sub> RuO <sub>4</sub> -- The Nature of the Superconducting State in Rutheno-Cuprates -- Coexistence of Superconductivity and Weak-Ferromagnetism in Eu <sub>2-x</sub> Ce <sub>x</sub> RuSr <sub>2</sub> Cu <sub>2</sub> O <sub>10</sub> ?? -- A Phase Diagram Approach to Superconductivity and Magnetism in Rutheno-Cuprates -- The Synthesis, Structure and Physical Properties of the Layered Ruthenocuprates RuSr <sub>2</sub> GdCu <sub>2</sub> O <sub>8</sub> and Pb <sub>2</sub> Sr <sub>2</sub> Cu <sub>2</sub> RuO <sub>8</sub> Cl -- Magnetism and Superconductivity in Ru <sub>1-x</sub> Sr <sub>2</sub> RECu <sub>2+x</sub> O <sub>8</sub> ?d (RE=Gd, Eu) and RuSr <sub>2</sub> Gd <sub>1-y</sub> Ce <sub>y</sub> Cu <sub>2</sub> O <sub>8</sub> Compounds -- ESR Studies of the Magnetism

in Ru-1212 and Ru-2212 -- Structure and Morphology of NdSr<sub>2</sub>RuCu<sub>2</sub>O<sub>7</sub> and GdSr<sub>2</sub>RuCu<sub>2</sub>O<sub>7</sub> -- Synthesis Effects on the Magnetic and Superconducting Properties of RuSr<sub>2</sub>GdCu<sub>2</sub>O<sub>8</sub> -- Comparison of Electronic Structure, Magnetic Mechanism, and Symmetry of Pairing in Ruthenates and Cuprates -- Magnetism, Spin Fluctuations and Superconductivity in Perovskite Ruthenates -- Metamagnetic Quantum Criticality in Sr<sub>3</sub>Ru<sub>2</sub>O<sub>7</sub> -- Metamagnetic Transition and Low-Energy Spin Density Fluctuations in Sr<sub>3</sub>Ru<sub>2</sub>O<sub>7</sub> -- Decrease of Ferromagnetic Transition Temperature in Nonstoichiometric SrRu<sub>1-x</sub>O<sub>3</sub> Perovskites -- Strain Effects in SrRuO<sub>3</sub> Thin Films and Heterostructures.

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Sommario/riassunto

Ruthenate materials have come into focus recently because of their very interesting magnetic and superconducting properties. From the first international conference on this topic, the present volume has emerged as a first coherent account of the considerable body of work, both theoretical and experimental, gathered in this field within a short time span. The book has been written in the form of a set of lectures and tutorial reviews with the aim of providing the research community with both a comprehensive and modern source of reference and a tutorial introduction for postgraduate students and nonspecialists working in related areas.

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