

New Book Information

Solid Oxide Fuel Cell (SOFC) Materials

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Handbook

Developing materials for SOFC applications is one of the key topics in energy research. The book focuses on manganite structured materials, such as doped lanthanum chromites and lanthanum manganites, which have interesting properties: thermal and chemical stability, mixed ionic and electrical conductivity, electrocatalytic activity, magnetocaloric property and colossal magnetoresistance (CMR).

Keyword: Solid Oxide Fuel Cells, SOFC, Manganite Structured Materials, Lanthanum Chromites, Lanthanum Manganites, Electrocatalytic Activity, Magnetocaloric Property, Colossal Magnetoresistance, High Temperature NO_x Sensors, Hard Disk Read Heads, Magnetic Sensors, Magnetoresistive Random Access Memories, Charge Density Distribution

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Summary:

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These materials have applications in solid oxide fuel cells, high temperature NO_x sensors, hard disk read heads, magnetic sensors and magnetoresistive random access memories.

For the first time, the charge density distributions have been studied in these materials as synthesized by high temperature solid state reaction. Charge density analysis is helpful in understanding the physical and chemical properties of materials and in developing optimized structures. The morphological, elemental, optical and magnetic properties of the materials have also been studied.

