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Nota di contenuto	Advances and Applications in Electroceramics; Contents; Preface; DIELECTRIC MATERIALS AND ELECTRONIC DEVICES; Numerical Simulations of a Back Grinding Process for Silicon Wafers; Sol-Gel Processing of Single Phase BiFeO3 Ceramics: A Structural, Microstructural, Dielectric, and Ferroelectric Study; Electro Ceramic Properties of Porous Silicon Thin Films on P-Type Crystalline Silicon; Tape Cast Dielectric Composites Produced with Camphene as a Freezing Medium; Electronic Transfer between Low-Dimensional Nanosystems Combined Dilatometer-Mass Spectrometer Analysis of the Sintering of Barium TitanateEffect of DC Poling Field on Ferroelectric Properties in Alkali Bismuth Titanate Lead-Free Ceramics; Multifunctional Nature of Modified Iron Titanates and Their Potential Applications; Long-Term Convergence of Bulk- and Nano-Crystal Properties; Influence of Magnetic Flux Density and Sintering Process on the Oriented Structure of C-Axis-Oriented Sr2NaNb5O15 Piezoelectric Ceramics; Sintering of

Defect-Free BaTi<sub>0.975</sub>Sn<sub>0.025</sub>O<sub>3</sub>/BaTi<sub>0.85</sub>Sn<sub>0.15</sub>O<sub>3</sub> Functionally Graded Materials  
Applications of High-Throughput Screening Tools for Thermoelectric Materials  
DEVELOPMENTS IN HIGH TEMPERATURE SUPERCONDUCTORS; Altering Self-Assembly of Second Phase Additions in YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-x</sub> for Pinning Enhancement; Electrical Properties of Hg<sub>0.8</sub>Tl<sub>0.2</sub>Ba<sub>2</sub>Ca<sub>n-1</sub>Cu<sub>n</sub>O<sub>2n+2</sub> for (n=1-5) HTSC System; Electrodeposited Ag-Stabilization Layer for High Temperature Superconducting Coated Conductors; The Combined Influence of SiC and Rare-Earth Oxides Doping on Superconducting Properties of MgB<sub>2</sub> Wires; Fabrication of GdBCO Coated Conductors on Clad-Type Textured Metal Substrates for HTS Cables  
Characteristics of Superconducting YBCO Phase Formation through Auto Combustion Citrate-Nitrate Sol-Gel  
Chemical Interactions of the Ba<sub>2</sub>YCu<sub>3</sub>O<sub>6+x</sub> Superconductor with Coated Conductor Buffer Layers; Chemical Tailoring of Electronic Doping in Y<sub>1-x</sub>Gd<sub>x</sub>Ba<sub>1.9</sub>Sr<sub>0.1</sub>Cu<sub>3</sub>O<sub>7</sub>-High T<sub>c</sub> Superconductors; Processing-Property Relations for Y<sub>1-x</sub>Gd<sub>x</sub>Ba<sub>2</sub>Cu<sub>3</sub>O<sub>7</sub>- High T<sub>c</sub> Superconductors; MAGNETOELECTRIC MULTIFERROICS; Finite-Size Effects in Nanoscaled Multiferroics  
Functionally Graded Piezomagnetic and Piezoelectric Bilayers for Magnetic Field Sensors: Magnetolectric Interactions at Low-Frequencies and at Bending Modes  
Magnetic and Electrical Properties of 0.7Bi<sub>0.95</sub>Dy<sub>0.05</sub>FeO<sub>3</sub>-0.3Pb(Fe<sub>0.5</sub>Nb<sub>0.5</sub>)O<sub>3</sub> Multiferroic; Multiferroic Nanofilm with Bilayer of Pb(Zr<sub>0.52</sub>Ti<sub>0.48</sub>)O<sub>3</sub> and CoFe<sub>2</sub>O<sub>4</sub> Prepared by Electrophoretic Deposition; MULTIFUNCTIONAL OXIDES; Synthesis and Characterization of Ternary Cobalt Spinel Oxides for Photoelectrochemical Water Splitting to Produce Hydrogen; Author Index

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Sommario/riassunto

This book contains 26 papers from the Magnetolectric Multiferroic Thin Films and Multilayers; Dielectric Ceramic Materials and Electronic Devices; Recent Developments in High-Temperature Superconductivity; and Multifunctional Oxides symposia held during the 2010 Materials Science and Technology (MS&T'10) meeting, October 17-21, 2010, Houston, Texas. Topics include: Properties; Structures; Synthesis; Characterization; Device Applications; Multiferroics and Magnetolectrics; YBCO Pinning Methods and Properties; YBCO Processing and Reliability Related Issues; New Superconductors and MgB<sub>2</sub>.

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