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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 $\text{Sr}_2\text{NaNb}_5\text{O}_{15}$ Piezoelectric Ceramics; Sintering of Defect-Free $\text{BaTi}_{0.975}\text{Sn}_{0.025}\text{O}_3/\text{BaTi}_{0.85}\text{Sn}_{0.15}\text{O}_3$ 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 $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ for Pinning Enhancement; Electrical Properties of $\text{Hg}_{0.8}\text{Ti}_{0.2}\text{Ba}_2\text{Ca}_{n-1}\text{Cu}_n\text{O}_{2n+2}$ 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_2 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 $\text{Ba}_2\text{YCu}_3\text{O}_{6+x}$ Superconductor with Coated Conductor Buffer Layers; Chemical Tailoring of Electronic Doping in $\text{Y}_{1-x}\text{Gd}_x\text{Ba}_{1.9}\text{Sr}_{0.1}\text{Cu}_3\text{O}_7$ -High T_c Superconductors; Processing-Property Relations for $\text{Y}_{1-x}\text{Gd}_x\text{Ba}_2\text{Cu}_3\text{O}_7$ -High T_c Superconductors; MAGNETOELECTRIC MULTIFERROICS; Finite-Size Effects in Nanoscaled Multiferroics

Functionally Graded Piezomagnetic and Piezoelectric Bilayers for Magnetic Field Sensors: Magnetoelectric Interactions at Low-Frequencies and at Bending Modes

Magnetic and Electrical Properties of $0.7\text{Bi}_{0.95}\text{Dy}_{0.05}\text{FeO}_3-0.3\text{Pb}(\text{Fe}_{0.5}\text{Nb}_{0.5})\text{O}_3$ Multiferroic; Multiferroic Nanofilm with Bilayer of $\text{Pb}(\text{Zr}_{0.52}\text{Ti}_{0.48})\text{O}_3$ and CoFe_2O_4 Prepared by Electrophoretic Deposition; MULTIFUNCTIONAL OXIDES; Synthesis and Characterization of Ternary Cobalt Spinel Oxides for Photoelectrochemical Water Splitting to Produce Hydrogen; Author Index

Sommario/riassunto

This book contains 26 papers from the Magnetoelectric 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 Magnetoelectrics; YBCO Pinning Methods and Properties; YBCO Processing and Reliability Related Issues; New Superconductors and MgB_2 .