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| Altri autori (Persone) | GuoRuyan |
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| Nota di contenuto | Morphotropic Phase Boundary Perovskites, High Strain Piezoelectrics, and Dielectric Ceramics; Contents; Preface; Morphotropic Phase Boundary Material Systems and Their Structure-Property-Chemistry Relations; Local Atomic Structure and Morphotropic Phase Boundary; Structure and Dynamics of The Ferroelectric Relaxors Pb(Mg1/3Nb2/3) O3 and Pb(Zn13Nb2/3)O3; Morphotropic Phase Boundary and Related |

Properties in Relaxor-Based Piezoelectric Perovskite Solid Solutions; The Morphotropic Phase Boundary in Perovskite Ferroelectric Relaxor Systems
In-Situ Neutron Diffraction Study of the Ferroelastic Behavior of Pb(Zr, Ti)O3Fourier Harmonic Analysis of the Electromechanical Response of Electroactive Materials; High Curie Temperature, High Performance Perovskite Single Crystals in the Pb(Yb1/2Nb1/2)O3-PbTiO3 and BiScO3-PbTiO3 Systems; Electromechanical Performance Advantages and Limitations of - Oriented Pb(Mg1/3Nb2/3)O3-PbTiO3 Crystals; Polarization Induced Cracking in Partially Electroded PSZT Ceramic; Acceptor Doped PZN-PT Single Crystals; Structure and Dielectric Properties in Novel BiGaO3-PbTiO3 Crystalline Solutions
Preparation and Electrical Properties of Pb(ln1/2Nb1/2)O3 Based Relaxor MaterialsComposition and Sintering Process Effects on Ferroelectric Fatigue in (1-x)Pb(Mg1/3Nb2/3)O3-x PbTiO3 Ceramics; Sintering Behavior of Additive Free (Pure) Lead Metaniobate Ceramics; Electroceramic Fibers for Active Control; Influence of Hot-Pressing Parameters in Microstructure Evolution of PBN on Morphotropic Phase Boundary; Synthesis of High Strain Piezoelectric Crystals and Textured Ceramics; Feasibility of the Growth of Relaxor-Based Ferroelectric Single Crystals
Two Inches Size Single Crystal Growth of Piezoelectric Pb[(Zn1/3Nbl/3) 0.91Ti0.09]O3 by the Solution Bridgman MethodImproved Dielectric And Piezoelectric Properties of  Pb(Mg1/3Nb2/3)O3-32.5PbTiO3 Ceramics and [001]Textured PMN-PT; Laser Heated Pedestal Growth of Lead Magnesium Niobate - Lead Titanate Crystals and Their Characterization; Effect of Li2O and PbO Additions on Abnormal Grain and Single Crystal Growth in the Pb(Mg1/3Nb2/3)O3-35 MOL% PbTiO3 System; High Aspect Ratio Platelet SrTiO3 for Templated Grain Growth of PMN-PT Ceramics
Synthesis of PMN and 65PMN-35PT Ceramics and Films by a New Suspension MethodDielectric Materials Development and Device Fabrications; Microwave Properties of Low-Temperature Co-Fired Ceramic Systems*; Near-Zero Tf Doped-Niobate Ceramics for Dielectric Resonator Applications; Low-T Sintering, Low-Dielectric Materials for High Frequency Ceramic Multilayer Parts; Low-Inductance Barium Strontium Titanate Thin Film Capacitors for Decoupling Applications; Dielectric Properties of (Sr,.xPbx)Ti03 (x=0.2,0.25, and 0.3): MgO Composites
Lattice Misfit as a Design Parameter for Enhanced Dielectric Response and Tunability in Epitaxial Barium Strontium Titanate Films

Sommario/riassunto

Proceedings of the Symposium on Dielectric Materials and Multilayer Electronic Devices and the Symposium on Morphotropic Phase Boundary Phenomena and Perovskite Materials, held April 28 - May 1, 2002, in St. Louis, Missouri, during the 104th Annual Meeting of the American Ceramic Society, and the Focused Session on High Strain Piezoelectrics, held April 22-25, 2001, in Indianapolis, Indiana, during the 103rd Annual Meeting of the American Ceramic Society.

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| Autore | Yang Xin-She |
| Titolo | Introduction to computational engineering with Matlab / / Xin-She Yang |
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Volume Method""; ""8.1 Introduction""; ""8.2 Elliptic Equations""; ""8.3 Parabolic Equations""; ""8.4 Hyperbolic Equations""; ""8.5 Heat Conduction: A Case Study""; ""9. Finite Element Method""; ""9.1 Finite Element Formulation""; ""9.1.1 Weak Formulation""; ""9.1.2 Shape Functions""; ""9.2 Elasticity""; ""9.2.1 Plane Stress and Plane Strain""
""9.2.2 Plane Stress and Plane Strain""""9.2.3 Implementation""; ""10. Heat Conduction""; ""10.1 Basic Formulation""; ""10.2 Element-by-Element Assembly""; ""10.3 Application of Boundary Conditions""; ""10.4 A Simple Program: 1-D Heat Conduction""; ""10.5 2-D Heat Transfer""; ""11. Time-Dependent Problems""; ""11.1 The Time Dimension""; ""11.2 Time-Stepping""; ""11.3 1-D Transient Heat Transfer""; ""11.4 Wave Equation""; ""12. Optimization in Engineering""; ""12.1 Introduction""; ""12.2 Bioinspired Algorithms""; ""12.2.1 Genetic Algorithms""; ""12.2.2 Neural Networks""
""12.2.3 Virtual Bee Algorithms""""12.2.4 Cellular Automata""; ""12.2.5 Optimization""; ""12.2.6 No Free Lunch Theorems""; ""12.3 Engineering Optimization""; ""12.3.1 Function and Multilevel Optimization""; ""12.3.2 Multi-Peaked Functions""; ""12.3.3 Inverse Analysis""; ""13. Cellular Automata""; ""13.1 Introduction""; ""13.2 Cellular Automata""; ""13.2.1 Fundamentals of Cellular Automaton""; ""13.2.2 Finite State Cellular Automata""; ""13.2.3 Stochastic Cellular Automata""; ""13.2.4 Reversible Cellular Automata""; ""13.3 Cellular Automata and PDEs""
""13.3.1 Rule-Based and Equation-Based ?""

Sommario/riassunto

This book strives to provide a concise introduction to computational engineering by introducing a wider range of numerical methods commonly used in computational modelling and scientific computing. These methods in-clude finite difference methods, finite volume methods, finite element methods, virtual bee algorithms, and cellu-lar automata. It also covers a wide spectrum of advanced topics in engineering applications, and these advanced topics include elasticity, heat conduction, reaction-diffusion system, optimisation, stochastic cellular auto-mata, combustion, consolidation, heat transfer of carbon nanotubes, and pattern formation. The accompanied concise Matlab programs, no more than 100 lines each, demonstrate how each numeri-cal method works. The animation and visualization of the results provide a first hand experience to the readers, es-pecially for undergraduates and graduates, to master the fundamentals of the numerical methods. These Matlab programs can also be modified