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Nota di contenuto	Advanced Ceramics and Novel Processing; Preface, Committees and Sponsors; Table of Contents; Advanced Ceramics; Synthesis and Characterization of Hafnium Carbide Based Ceramics; Grain Boundary Segregation-Induced Phase Transformation and Grain Growth in Y2O3-Stabilized ZrO2 Polycrystals; A Model for Estimating Internal Stress during Sintering of Ceramic Multiphase Laminates; Fabrication of Nitride Ceramics by Electric Current Assisted Sintering; Effect of Initial Alpha-SiC Content on Thermal Conductivity of Silicon Carbide Ceramics Fabrication of Carbon Nanotube Reinforced Boron Carbide Composite by Hot-Pressing Following Extrusion Molding Consolidation of SiC Powder Coated with SiO2 Nanolayer by Spark Plasma Sintering; High-Speed Deposition of SiC Thick Film by Halide Precursor; Lamellar and Rod-Like Eutectic Growth of TiB2-TiC-TiN Composites by Arc-Melting; Preparation of Zirconium Phosphate Bonded Silicon Nitride Ceramic

Coatings by Cold Spray and Pressureless Sintering; Consolidation of Titanium Carbide with Zirconium Carbide by Spark Plasma Sintering
 Influence of the Process Temperature of Spark Plasma Sintering on Microstructure and Nanoindentation Hardness/Young's Modulus of WC-8wt% Co
 Effect of pH on the Microstructure and Purity of Copper-Coated Tungsten Composite Powders Prepared by Electroless Plating;
 Fabrication and Properties of W-Cu Functionally Graded Material by Tape-Casting; Synthesis of S and N Co-Doped Mesoporous Titanium Oxide by Anodization Process; A Wettability Tunable Surface of Nafion® with Controlling the Flip-Flop Property by DC Applied Voltage
 Interlayer Surface Modification of Layered Perovskite $\text{HLaNb}_2\text{O}_7 \cdot x\text{H}_2\text{O}$ with Diol Compounds Possessing Ethylene Oxide Chains
 TL Properties of Pure Al_2O_3 Grown by the Micro-Pulling down Method; Optical and Scintillation Properties of Cr Doped $\text{Y}_3\text{Ga}_5\text{O}_{12}$ Crystal for Infra-Red Scintillators; Growth and Luminescence Properties of Ce and Ca Co-Doped $\text{LiGdF}_4\text{-LiF}$ Eutectic Scintillator; Effect of Annealing Temperature on Structure and Mechanical Property of Magnetron Sputtered c-BN Films; Electroceramics
 Engineering of Lead-Free Piezoelectrics in Alkali Niobate Ceramic System: Improvement in Density by Two-Step Mixing Process
 Iron Composite Anodes for Fabricating All-Solid-State Iron-Air Rechargeable Batteries; Chemical Reactivity and Cathode Properties of LaCoO_3 on Lanthanum Silicate Oxyapatite Electrolyte; Preparation of Layered Double Hydroxide and its Graphene Composite Films as Electrodes for Photoelectrochemical Cells; Mesoporous Hollow Carbon Derived from Soft-Templated Hydrothermal Process for Supercapacitor Electrode
 Highly (004)-Oriented Texture of -LiAlO_2 Films by Laser Chemical Vapor Deposition

Sommario/riassunto

Materials science is an interdisciplinary and integrated research field, concerning the relationship among microstructure, processing and property of materials. Although ceramics were anciently invented, modern ceramics are advancing rapidly, leading into new fields far beyond the conventional image of ceramics. The properties of materials, in particular ceramics, are strongly affected by processing, and thus a new processing can produce new materials which can trigger significant development of society. The present book comprises 58 peer-reviewed scientific papers presented to the 5th Interna