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Nota di contenuto	25th Annual Conference on Composites, Advanced Ceramics, Materials, and Structures: A; Contents; Preface; Product Development and Commercialization; Commercial Applications for Advanced Ceramics in Diesel Engines; Ceramic Matrix Composites from Space to Earth: The Move from Prototype to Serial Production; Application of Tyranno™ Fiber/Si-Ti-C-O Matrix Composite to the Thermal Protection System of the Japanese Hope-X Space Vehicle; Will Pigs Fly before Ceramics Do?; Structural Ceramics with Complex Shape-Forming Methods; RBAO: From Materials Development to Commercial Components Molybdenum Disilicide Materials for Glass Melting Sensor Sheaths Silicon Nitride Ceramics for Valve-Train Applications in Advanced Diesel Engines; Ceramic Coatings for Cylinder liners in

Advanced Combustion Engines, Manufacturing Process, and Characterization; Porous Ceramic Preforms for Local Reinforcement of Light Metal Engine Components; Cermet Tool and Die Materials from Metal Coated Powders; Novel Real-Time Method for Measuring the Densification Rate of Carbon-Carbon Fiber-Matrix Composites and Other Articles

Optimizations of Ceramic Core Manufacture Using Real-Time Monitoring and Process Design Thermomechanical Property Characterization; Mechanical Properties of Silicon Carbide Ceramics Densified with Rare-Earth Oxide and Alumina Additions; Creep-Resistant Biomorphic Silicon-Carbide Based Ceramics; Creep Mechanisms of Alumina/SiC Nanocomposites; Mechanical Behavior of Er<sub>2</sub>O<sub>3</sub> Single Crystals; Long-Term Tensile Creep Behavior of Highly Heat-Resistant Silicon Nitride for Ceramic Gas Turbines; Tensile Creep in the Next-Generation Silicon Nitride

Evaluation of Creep Property of AS800 Silicon Nitride from As-Processed Surface Regions On the Mechanism of High-Temperature Strength Degradation of Low-Doped HIPed Silicon Nitride by In-Depth TEM-SEM Investigation; Nondiamond Finishing of Silicon Nitride for Low-Friction against Steel; Influence of Microstructure and Grain Boundary Phase on Tribological Properties of Si<sub>3</sub>N<sub>4</sub> Ceramics; Effect of Microstructure on Wear Behavior of Silicon Nitride; Production and Characterization of Hexagonal Ceramic Packing; Mechanical Properties of Boron Carbide Ceramics; Oxidation of ZrB<sub>2</sub>-SiC

Indentation Damage of Silicon Carbide Deposited on Different Substrates Behavioral Modeling and Life Prediction; Thermal Imaging Detection and Characterization of Normal Cracks; An Analysis of Crack-Growth Resistance of Microcracking Brittle Solids and Composites; Modeling of Fracture Resistance of a Ceramic Composite at Elevated Temperatures; Design Issues for Variable Mixed Mode I/II Testing; Influence of Crack Path on Crack Resistance of Brittle Matrix Composites; Compliance and Crack-Bridging Analysis for Alumina Ceramics; Slow Crack Growth of Sapphire

Microscopic Simulation of Microcrack Propagation in Al<sub>2</sub>O<sub>3</sub>-ZrO<sub>2</sub> Ceramic Composites

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### Sommario/riassunto

This volume is part of the Ceramic Engineering and Science Proceeding (CESP) series. This series contains a collection of papers dealing with issues in both traditional ceramics (i.e., glass, whitewares, refractories, and porcelain enamel) and advanced ceramics. Topics covered in the area of advanced ceramic include bioceramics, nanomaterials, composites, solid oxide fuel cells, mechanical properties and structural design, advanced ceramic coatings, ceramic armor, porous ceramics, and more.

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