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Nota di contenuto	Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials IV: A Collection of Papers Presented at the 34th International Conference on Advanced Ceramics and Composites January 24-29, 2010 Daytona Beach, Florida; Contents; Preface; Introduction; GREEN MANUFACTURING AND SMART PROCESSING; Securing the Supply of Precious and Special Metals-The Need of Closing the Loop; Mechanical Properties of Cr-Si-N-O Thin Films Deposited by RF Reactive Unbalanced Magnetron Sputtering Room-Temperature Deposition and Magneto-Optical Properties of Transparent Cobalt/Lead Zirconate Titanate (PZT) Nanocomposite Films by Aerosol DepositionInfluence of Dispersant on Rheology of Zirconia-Paraffin Feedstocks and Mechanical Properties of Micro Parts Fabricated via LPIM; ADVANCED COMPOSITE MANUFACTURING; Fiber-Reinforced Ceramic Matrix Composites Processed by a Hybrid Process Based on

Chemical Vapor Infiltration, Slurry Impregnation and Spark Plasma Sintering; Manufacturing of the CMC Nose Cap for the Expert Spacecraft The Nature of Silicon Carbide Phases Developed from Different Carbonaceous Sources and Its Impact on the Microstructure of Cf/C-SiC Composites Shaping Radiation Curable Colloidal Dispersions-From Polymer/Ceramic Fibers and Microspheres to Gradient Porosity Ceramic Bulk Materials; Melt-Infiltration Processing of Titanium Carbide-Stainless Steel Cermets; Oxidation Behavior of Zirconium Diboride-Silicon Carbide Composites; RAPID PROCESSING; Nano-Crystalline Yttria Samaria Codoped Zirconia: Comparison of Electrical Conductivity of Microwave and Conventionally Sintered Samples Spark Plasma Sintering (FAST/SPS) of Novel Materials-Taking the Next Step Forward to Industrial Production Rapid Manufacturing of Ceramic Parts by Selective Laser Melting; JOINING AND MACHINING; Active Metal Brazing and Characterization of Brazed Joints between Silicon Carbide and Metallic Systems; Joining of Silicon Nitride with Glass or Powder under Mechanical Pressure; Fabrication of Thermodynamic Crystals by Structural Joining; Effect of Various Factors on Interface Formation in Magnetic Pressure Seam Welding; Production Environment Laser Assisted Machining of Silicon Nitride NET SHAPE FORMING Gelcasting of High Performance Carbide Ceramics with Larger Size/Complex Shape; Processing of Complex-Shaped Micro Parts by Reaction-Bonding and Sintering of Silicon Nitride; Thermoplastic Ceramic Injection Molding of Zirconia Toughened Alumina Components; Fabrication of Alumina Dental Crown Model with Biomimetic Structure by Using Stereolithography; Author Index

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#### Sommario/riassunto

This issue contains 25 invited and contributed papers, all peer reviewed according to the American Ceramic Society Review Process. The latest developments in processing and manufacturing technologies are covered, including green manufacturing, smart processing, advanced composite manufacturing, rapid processing, joining, machining, and net shape forming technologies. These papers discuss the most important aspects necessary for understanding and further development of processing and manufacturing of ceramic materials and systems.

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