Record Nr. UNINA9910140842103321 Advances in polymer derived ceramics and composites [[electronic **Titolo** resource]]: a collection of papers presented at the 8th Pacific Rim Conference on Ceramic and Glass Technology, May 31-June 5, 2009, Vancouver, British Columbia / / edited by Paolo Colombo, Rishi Raj ; volume editor, Mrityunjay Singh Hoboken, NJ,: Wiley, c2010 Pubbl/distr/stampa **ISBN** 0-470-88063-5 1-282-70806-6 9786612708060 0-470-88062-7 Descrizione fisica 1 online resource (152 p.) Collana Ceramic transactions;; 213 Altri autori (Persone) ColomboPaolo <1960-> RajRishi SinghM (Mrityunjay) Disciplina 620.1/4 620.14 Ceramic materials Soggetti Composite materials Electronic books. Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali "American Ceramic Society". Nota di bibliografia Includes bibliographical references and author index. Advances in Polymer Derived Ceramics and Composites: Contents: Nota di contenuto Preface: Introduction: SYNTHESIS AND CHARACTERIZATION: Poly [(Silylyne)Ethynylene] and Poly[(Silylene)Ethynylene]: New Precursors for the Efficient Synthesis of Silicon Carbide; Synthesis of a Catalyst-Loaded SiC Material from Si-Based Polymer; Solid-State NMR Studies on Precursor-Derived Si-B-C-N Ceramics; Intermediate-Range Order in Polymer-Route Si-C-0 Fibers by High-Energy X-Ray Diffraction and Reverse Monte Carlo Modelling; Evaluation of Heat Stability of Si-O-C Fibers Derived from Polymethylsilsesquioxane Investigation of Nano Porous SiC Based Fibers Synthesized by Precursor MethodPROCESSING AND APPLICATIONS; Mullite Monoliths, Coatings

and Composites from a Preceramic Polymer Containing Alumina Nano-

Sized Particles; Functionally Graded Ceramics Derived from Preceramic Polymers; Generation of Ceramic Layers on Transition Metals via Reaction with SiCN-Precursors; Facile Ceramic Micro-Structure Generation Using Electrohydrodynamic Processing and Pyrolysis; Development of Si-N Based Hydrogen Separation Membrane; Porous Polymer Derived Ceramics Decorated with In-Situ Grown Nanowires Synthesis of Ceramic Nano Fiber from Precursor Polymer by Single Particle Nano-Fabrication TechniqueSynthesis of Novel SiBNC Fiber Precursor by a One-Pot Route; Preparation of SiC Ceramic Fibers Containing CNT; Preparation and Properties of Non-Circular Cross-Section SiC Fibers from a Preceramic Polymer; Economy of Fuel Gas in a Combustion Furnace by Means of Si-C-Zr-O Tyranno-Fiber Mat Sheets Converting High Temperature Gas Enthalpy into Radiant Heat Rays; Author Index

Sommario/riassunto

This book collects some of papers presented at the very successful Symposium ""Polymer Derived Ceramics and Composites"" in the framework of the 8th Pacific Rim Conference on Ceramic and Glass Technology. There, over 70 researchers from around the world discussed their latest innovations over four full days. It covers all the main aspects of interdisciplinary research and development in the field of Polymer-Derived-Ceramics, from the precursor synthesis and characteristics to the polymer-to-ceramic conversion, from processing and shaping of preceramic polymers into ceramic components to their