1. Record Nr. UNINA9911019750303321

Titolo	Ceramics in nuclear and alternative energy applications : a collection of papers presented at the 30th International Conference on Advanced Ceramics and Composites, January 22-27, 2006, Cocoa Beach, Florida / / editor, Sharon Marra; general editors, Andrew Wereszczak, Edgar Lara-Curzio
Pubbl/distr/stampa	Hoboken, NJ, : Wiley, c2007
ISBN	9786612312892 9781282312890 1282312898 9780470291344 0470291346 9780470291757 0470291753
Descrizione fisica	1 online resource (192 p.)
Collana	Ceramic engineering and science proceedings, , 0196-6219 ; ; v. 27/5
Altri autori (Persone)	MarraSharon WereszczakAndrew Lara-CurzioEdgar <1963->
Disciplina	620.14
Soggetti	Ceramics Nuclear energy Renewable energy sources
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"The American Ceramic Society."
Nota di bibliografia	Includes bibliographical references and author index.
Nota di contenuto	Ceramics in Nuclear and Alternative Energy Applications; Contents; Preface; Introduction; (GenIV) Next Generation Nuclear Power and Requirements for Standards, Codes and Data Bases for Ceramic Matrix Composites; Determination of Promising Inert Matrix Fuel Compounds; Densification Mechanism and Microstructural Evolution of Sic Matrix in NITE Process; Optimization of Sintering Parameters for Nitride Transmutation Fuels; Ceramics in Non-Thermal Plasma Discharges for Hydrogen Generation; Piezoelectric Ceramic Fiber Composites for Energy Harvesting to Power Electronic Components

Design Factor Using a SiC/SiC Composites for Core Component of Gas Cooled Fast Reactor. I: Hoop StressCharacterizations of Ti3SiC2 as Candidate for the Structural Materials of High Temperature Reactors; Influence of Specimen Type and Loading Configuration on the Fracture Strength of Sic Layer in Coated Particle Fuel; Investigation of Aluminides as Potential Matrix Materials for Inert Matrix Nuclear Fuels; Fluidised Bed Chemical Vapour Deposition of Pyrolytic Carbon; Strength Testing of Monolithic and Duplex Silicon Carbide Cylinders in Support of Use as Nuclear Fuel Cladding
Subcritical Crack Growth in Hi-Nicalon Type-S Fiber CVI-SiC/SiC CompositesElectrical Conductivity of Proton Conductive Ceramics Under Reactor irradiation; The Effects of Irradiation-Induced Swelling of Constituents on Mechanical Properties of Advanced SiC/SiC Composites; Behaviors of Radioluminescence of Optical Ceramics for Nuclear Applications; Author Index

Sommario/riassunto

This volume focuses on recent developments and advances of ceramics and ceramic matrix composites for use in fission and fusion reactors, nuclear fuels and alternative energy applications. With the continued increasing demands for energy, nuclear energy has experienced a renewed interest. Recent developments associated with advanced fuel cycles have resulted in new research efforts on nuclear fuel materials. The effects of radiation on the properties of ceramics and ceramic matrix composites are also addressed.