

1. Record Nr.	UNINA9910876867303321
Titolo	Advances in ceramic armor : a collection of papers presented at the 29th International Conference on Advanced Ceramics and Composites, January 23-28, 2005, Cocoa Beach, Florida // editor, Jeffrey J. Swab ; general editors, Dongming Zhu, Waltraud M. Kriven
Pubbl/distr/stampa	Westerville, Ohio, : American Ceramic Society, c2005
ISBN	1-282-31304-5 9786612313042 0-470-29127-3 0-470-29166-4
Descrizione fisica	1 online resource (312 p.)
Collana	Ceramic engineering and science proceedings, , 0196-6219 ; ; v. 26/7
Altri autori (Persone)	SwabJeffrey J ZhuDongming KrivenWaltraud M
Disciplina	620.14 623.7/4
Soggetti	Armor Ceramic materials Composite materials
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Advances in Ceramic Armor; Contents; Preface; Impact and Penetration Modeling; Some Observations on the Strength of Failed Ceramic; Modeling Dynamically Impacted Ceramic Material Experiments; Modeling Spherical Indentation Experiments onto Silicon Carbide; Analysis of Time-Resolved Penetration of Long Rods into Glass Targets; A Constitutive Model for Damaged and Powder Silicon Carbide; Designs and Simulations of Ballistic-Resistant MetaVCeramic Sandwich Structures; Considerations on Incorporating XCT into Predictive Modeling of Impact Damage in Armor Ceramics Failure Wave Propagation in Brittle SubstancesFabrication and Simulation of Random and Periodic Macrostructures; Dynamic and Static Testing to Predict Performance; The Correlation of Microstructural and Mechanical Characteristics of Silicon Carbide with

Ballistic Performance; High Strain Rate Compression Testing of Ceramics and Ceramic Composites; Recent Advancements in Split Hopkinson Pressure Bar (SHPB) Technique for Small Strain Measurements; Compression Testing and Response of Sic-N Ceramics: Intact, Damaged and Powder; Damage Effects on the Dynamic Response of Hot-Pressed Sic-N  
Effects of Porosity Distribution on the Dynamic Behavior of Sic  
Effect of Room-Temperature Hardness and Toughness on the Ballistic Performance of Sic-Based Ceramics; The Penetration of Armor Piercing Projectiles through Reaction Bonded Ceramics; The Effective Hardness of Hot Pressed Boron Carbide with Increasing Shock stress; Hardness and Hardness Determination in Silicon Carbide Materials; Damage Characterization: Observations, Mechanisms, and Implications; Sphere Impact Induced Damage in Ceramics: I. Armor-Grade SiC and TiB<sub>2</sub>; Sphere Impact Induced Damage in Ceramics: 11. Amor-Grade B<sub>4</sub>C and WC  
Sphere Impact Induced Damage in Ceramics: III Analysis  
A Comparison of Ceramic Materials Dynamically Impacted by Tungsten Carbide Spheres; Non-Destructive Evaluation; Ultrasonic Techniques for Evaluation of SiC Armor Tile; Non-Destructive Evaluation (NDE) of Ceramic Armor. Fundamentals; Non-Destructive Evaluation (NDE) of Ceramic Armor: Testing; On Non-Destructive Evaluation Techniques for Ballistic Impact Damage in Armor Ceramics; Novel Material Concepts; Static and Dynamic Fracture Behavior of Layered Alumina Ceramics; Processing and Ballistic Performance of Al<sub>2</sub>O<sub>3</sub>/B<sub>2</sub>O<sub>3</sub> Composites  
Tactical Vehicle Armor Systems that Utilize Large, Complex-Shaped Reaction Bonded Ceramic Tiles  
Means of Using Advance Processing to Eliminate Anomalous Defects on SiC Armor; Ballistic Properties of Pressureless Sintered SiC/matrix Composites; Improved Ballistic Performance by Using a Polymer Matrix Composite Facing on Boron Carbide Armor Tiles; Analysis of Scattering Sites in Transparent Magnesium Aluminate Spinel; Author Index

---

Sommario/riassunto

Contains over 30 papers on the development and incorporation of ceramic materials for armor applications. Topics include impact and penetration modeling, dynamic and static testing to predict performance, damage characterization, non-destructive evaluation and novel material concepts.

---