Record Nr. UNINA9910145832503321 CVD diamond for electronic devices and sensors [[electronic resource] **Titolo** /] / edited by Ricardo S. Sussmann Pubbl/distr/stampa Chichester, U.K., : Wiley, 2009 **ISBN** 1-282-68433-7 9786612684333 0-470-74039-6 0-470-74036-1 Descrizione fisica 1 online resource (603 p.) Collana Wiley series in materials for electronic and optoelectronic applications Classificazione **UP 3100** UQ 8220 ZN 4174 Altri autori (Persone) SussmannRicardo S Disciplina 621.381 666.88 Soggetti Electronics - Materials Diamonds, Artificial Chemical vapor deposition Electronic books. 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. CVD Diamond for Electronic Devices and Sensors; Contents; Series Nota di contenuto Preface: Preface: List of Contributors: Basic Properties. Defects and Impurities, Surface properties and Synthesis; 1 Basic Properties of Diamond: Phonon Spectra, Thermal Properties, Band Structure; 2 Transport Properties of Electrons and Holes in Diamond; 3 Point Defects, Impurities and Doping; 4 Surface Conductivity of Diamond; 5 Recent Progress in the Understanding of CVD Growth of Diamond; 6 Heteroepitaxial Growth: Radiation Sensors: 7 Detectors for UV and Far UV Radiation; 8 Diamond Radiation Sensors for Radiotherapy 9 Radiation Sensors for High Energy Physics Experiments 10 CVD-Diamond Detectors for Experiments with Hadrons, Nuclei, and Atoms: 11 Neutron Detectors; Active Electronic Devices; 12 High-Power Switching Devices: 13 H-Terminated Diamond Field-Effect Transistors:

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Sommario/riassunto

Synthetic diamond is diamond produced by using chemical or physical processes. Like naturally occurring diamond it is composed of a three-dimensional carbon crystal. Due to its extreme physical properties, synthetic diamond is used in many industrial applications, such as drill bits and scratch-proof coatings, and has the potential to be used in many new application areas A brand new title from the respected Wiley Materials for Electronic and Optoelectronic Applications series, this title is the most up-to-date resource for diamond specialists. Beginning with an introduction to the pr