

1. Record Nr.	UNINA9910830518803321
Titolo	CVD diamond for electronic devices and sensors [[electronic resource]] / / 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
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	CVD Diamond for Electronic Devices and Sensors; Contents; Series 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; 14 Doped Diamond Electron Devices; 15 Optoelectronic Devices Using Homoepitaxial Diamond p -n and p -i -n Junctions; Electrochemical

and Biological Sensors; 16 Biofunctionalization of Diamond Surfaces: Fundamentals and Applications; 17 Diamond Electrochemical Sensors; Micro-Electro-Mechanical Systems; 18 CVD Diamond MEMS  
Superconductivity in CVD Diamond19 Superconductivity in Diamond

---

#### 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

---