1. Record Nr. UNINA9910298631103321

Titolo	Novel Aspects of Diamond : From Growth to Applications / / edited by Nianjun Yang
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2015
ISBN	3-319-09834-9
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (336 p.)
Collana	Topics in Applied Physics, , 0303-4216 ; ; 121
Disciplina	537.622 610.28 620.11 620.11295 620.11297 620.5 620115 621
Soggetti	Optical materials Electronics - Materials Nanoscience Nanostructures Nanotechnology Physics Semiconductors Biomedical engineering Optical and Electronic Materials Nanoscale Science and Technology Applied and Technical Physics Biomedical Engineering and Bioengineering
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	Homoepitaxial Diamond Growth by Plasma-Enhanced Chemical Vapor Deposition -- Diamond/-SiC Composite Thin Films: Preparation,

Properties and Applications -- Surface Chemistry of Diamond -- Surface Modifications of Nanodiamonds and Current Issues for Their Biomedical Applications -- Diamond Nanowires: Fabrication, Structure, Properties and Applications -- Nanoparticle-Based Diamond Electrodes -- Modified Diamond Electrodes for Electrochemical Systems for Energy Conversion and Storage -- Diamond PN/PIN Diode Type Electron Emitter with Negative Electron Affinity and its Potential for the High Voltage Vacuum Power Switch -- Diamond Ultramicro- and Nano-Electrode Arrays -- Advances in Electrochemical Biosensing Using Boron Doped Diamond Microelectrode.

Sommario/riassunto

This book focuses on new research fields of diamond, from its growth to applications. It covers growth of atomically flat diamond films, properties and applications of diamond nanoparticles, diamond nanoparticles based electrodes and their applications for energy storage and conversion (supercapacitors, CO2 conversion etc.). Diamond for biomimetic interface, all electrochemical devices for in vivo detections and photo-electrochemical degradation of environmental hazards are highlighted.