1. Record Nr. UNINA9910964892903321

Titolo	Diamond-like carbon films / / Yuto S. Tanaka, editor
Pubbl/distr/stampa	Hauppauge, N.Y., : Nova Science Publishers, c2012
ISBN	1-61324-909-8
Edizione	[1st ed.]
Descrizione fisica	1 online resource (219 p.)
Collana	Materials science and technologies
Altri autori (Persone)	TanakaYuto S
Disciplina	667/.9
Soggetti	Diamonds, Artificial Diamond thin films
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	Intro -- DIAMOND-LIKE CARBON FILMS -- DIAMOND-LIKE CARBON FILMS -- Contents -- Preface -- Advanced Pulsed Arc Technique of Fabrication of DLC Films and Their Technical and Medical Applications -- 1. Design and Operating Principles of the Pulsed Plasma Source -- The Main Result of the DLC Film Deposition by Pulsed Arc Technique -- 2. Plasma Separation -- 3. Spectroscopic and Probe Diagnostics of Carbon Plasma -- 4. A Novel Combined PVD-CVD Method of DLC Film Depositing -- References -- Peculiarities of Ion-Beam Synthesis of Carbon-Based Phases -- Abstract -- 1. Introduction -- 2. The Principle of Structural Compliance at Phase Transformation under Ion Irradiation -- 3. Experimental Evidences of the Principle of Structural Compliance at Ion Synthesis of Carbon-Rich or other Bulk Phases -- 3.1. Carbon Phase with the Face-Centered Cubic Structure Formed under Irradiation of Graphite Films -- 3.2. Ion Synthesis of Silicon Carbide by Carbon Implantation in Si -- 3.3. Ion Synthesis of Al4C3, AlN and AlB Phases -- 4. Carbon and Carbon-Rich Nanophases -- Conclusion -- Acknowledgments -- References -- Electron Field Emission Properties of Nonmetal and Metal Doped Diamond Like Carbon -- 1. Abstruct -- 2. Introduction -- 2.1. Diamond Like Carbon (DLC) as a Material -- 2.2. Structure of DLC -- 2.3. Why also there is Interest in DLC -- 2.4. Difficulties of Pure DLC Material and how to over Come the Problems -- 3. Basic Theory of Electron Field Emission -- 4. Field Emission of DLC Thin Films -- 5. Synthesis and Field Emission of Metal and Nonmetal Doped DLC Thin Films -- 5.1. Synthesis and Electron Field Emission

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Sommario/riassunto

This book presents current research from across the globe in the study of diamond-like carbon films. Topics discussed include the peculiarities of ion-beam synthesis of carbon-based phases; electron field emission properties of non-metal and metal doped diamond like carbon; internal stress and its reduction of hydrogenated diamond-like carbon thin films deposited by plasma CVD methods; incorporating crystalline diamond particles in diamond-like carbon films to improve their properties and diamond-like carbon films applied as an alignment layer for LCDs.