1. Record Nr. UNINA9910437804703321

Titolo	Diamond and related nanostructures / / Mircea Vasile Diudea, Csaba Levente Nagy, editors
Pubbl/distr/stampa	Dordrecht, : Springer Science, 2013
ISBN	94-007-6371-9
Edizione	[1st ed. 2013.]
Descrizione fisica	1 online resource (xiii, 393 pages) : illustrations (some color)
Collana	Carbon materials: chemistry and physics ; ; 6
Altri autori (Persone)	DiudeaMircea Vasile NagyCsaba Levente
Disciplina	620.5
Soggetti	Diamonds Nanostructures
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"ISSN: 1875-0745."
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Diamond Hydrocarbons and Related Structures -- Diamond and Diamond like Carbon -- Experimental access to centropolycyclic carbon compounds containing the massive C17 core – on the way to D5 seeds -- Two C28 Clathrates -- Diamond D5 -- Energetics of multi-shell cages -- On Molecular Dynamics of the Diamond D5 Substructures -- P-Type Networks and Their Topology -- Omega polynomial in hyperdiamonds -- Cluj and other polynomials of diamond D6 and related networks -- Hypergraphene from armchair nanotube Y junctions -- Energetics and topology of polybenzenes -- "Fullerene-like spheres with faces of negative curvature" -- Toward molecules with nonstandard symmetry -- Carbon networks in the solid state – a setup test for computational plane-wave studies of mechanical and electronic properties -- Drawing Diamond Structures with Eigenvectors -- On the Structure of QuasiCrystals in a Higher-Dimensional Space -- Mathematics of D5 Networks -- Quasicrystals: between spongy and full space filling.
Sommario/riassunto	Over the past twenty years, the field of carbon structures has been invigorated by the discovery of fullerenes and carbon nanotubes. These nano-structured carbons have attracted a tremendous interest in the fundamental properties of discrete carbon molecules, leading to the discovery of novel complex crystalline and quasi-crystalline materials. As a consequence, a variety of applications have been developed,

including technical and bio-medical materials and miniaturized tools. Diamond and Related Nanostructures focuses on the advances in the area of diamond-like carbon nanostructures (hyper-structures built from fullerenes and/or carbon nanotube junctions) and other related carbon nanostructures. Each chapter contributes to the topic from different fields, ranging from theory to synthesis and properties investigation of these new materials. This volume provides a source of inspiration and understanding to advanced undergraduates, graduates, and researchers in the fields of Physics, Graph Theory, Crystallography, Computational and Synthetic Chemistry.