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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Part 1 Methodology of power-consuming preparation of nanostructured materials -- Methodology of thermal transformations -- Photo- and radiolytic methods -- Electrochemical methods -- Mechanochemical methods of nanomaterials preparation -- Part 2 The chemical transformations in inorganic matrices -- The peculiarities of structure of inorganic matrices -- Chemical transformations of guest in inorganic matrix -- Systems with crystal matrices -- Reactions in inorganic carrier of high dispersity -- The peculiarities of chemical transformations in sol-gel synthesis.- Part 3 The chemical transformations in organic matrices -- The routes of organometallic compounds decomposition in organic polymer matrices -- Stabilization of polynuclearic metalloclusters and nanoparticles with microencapsulation -- Self-organization of nanoparticles of core-shell structure at the decomposition of metal-containing precursors -- A solid-phase thermolysis of metal-containing monomers and polymers -- The novel approaches to the formation of nanostructured materials -- The preparation of novel layer structures as a route of nanoceramics synthesis -- Thermal transformations of unsaturated metal carboxylates -- Frontal regimes in the preparation of metallopolymer

nanocomposites.

Sommario/riassunto

The book is devoted to novel nanostructured materials and nanotechnology. A comprehensive analysis of the condensing methods of preparation of novel nanostructured materials is given. The methodology of power-consuming preparation of nanostructured materials is discussed, including thermolysis, photo- and radiolytic, electrochemical and mechanochemical methods. The peculiarities of chemical transformations in organic and inorganic matrices are compared. Special attention is given to kinetics and mechanism of the formation of nanocomposites. The structure and properties of such nanostructured materials are analysed.