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Nota di contenuto	Micro- and nanocomposites of barium zirconate incorporated in polymer matrix -- Structural features of carbon nanomaterials and determination of their thermophysical properties using pulsed radiation -- Effect of the low-frequency sound vibrations on the structural and morphological properties of the industrial catalysts for the carbon oxides' hydrogenation -- The current state and prospects of using the method of high-speed evaporation-condensation for the production of dispersed and nanocrystalline materials -- Review of the development of methods for producing dispersed iron -- SOME FEATURES OF THE CHEMICAL PLASTICIZATION OF POLYMERS WIHTOUT SIDE GROUPS -- Titanium-based alloys with a silicide nanophase -- Magnetoresistance and Magnetocapacitance Effect in Magnetic Tunnel ontact with Perpendicular Anisotropy of Magnetic Electrodes Tb22-Co5Fe73/Pr6O11/Tb19-Co5Fe76 -- Peculiarities of Phase Composition, Microstructure, and High-Temperature (600– 700 °C) Fracture Toughness of Ti–Al–Cu Composite -- Studies on

Microstructure and High-Temperature (600–700 °C) Mechanical Stability of Ti–Al–Mn–Si Composite -- The Effect of Phase Composition on Microstructure and High-Temperature (700–800 °C) Fracture Toughness of Ti–Fe Composites -- Features of ordered nanostructure formation in ultrathin FePd films annealed in hydrogen -- ADSORPTION PROPERTIES OF MAGNETIC CoFe₂O₄ BASED SPINEL NANOPARTICLES -- Silicaphosphate nanomaterials and nanocomposites doped with ZrO₂ and TiO₂: structure, functional properties and practical application. Review -- Nanocatalyst based on thermally expanded phlogopite, Pd(II) and Cu(II) compounds for oxidation of CO and SO₂ with atmospheric oxygen -- Nanomilling-driven volumetric changes in melt-quenched glassy arsenoselenides beyond the border of glass-forming region -- Thin CIGS Films Obtained by Spray Pyrolysis -- The synthesis monometallic and bimetallic nanoparticles of gold and silver with different approaches: the traditional media, the use extraction of agro waster and deep eutectic solvents -- Complex Method of Ni-Co-P Chemical Deposition and Chemical-Thermal Treatment of Boron and Titanium -- Dispersion Kinetics During Vacuum Annealing of Chromium Nanofilms Deposited onto Non-Metallic Materials -- Improvement of the Long-Term Strength and Operating Life of Ti-based Composites for High-Temperature Applications -- Microstructural Features Causing an Increase in High-Temperature (700–800 °C) Fracture Toughness of Ti–Cr–Al–X Composite -- Application of Various Reduction Techniques for the Improvement of Microstructure and Strength of YSZ–NiO(Ni) Solid Oxide Fuel Cell Anodes -- Impact of Microstructure on the Mechanical Behavior of Ti–Al–Ni Composite in a Wide Temperature Range (20–800 °C) -- The Effect of Hydrogen Concentration on the High-Temperature (600 °C) Reduction Performance and Strength of YSZ–NiO(Ni) Anode Material for Solid Oxide Fuel Cells -- Development and applicability verification of enhanced theoretical model for analysis of the complex electrochemical systems -- Phase Transitions In Anisotropic Submonolayer Adsorbed Films CFD-experiment, simulation and analysis of technologies for thermally expanded graphite synthesis by oxidized graphite particles high-speed heating in methane combustion products flow -- Analysis of Crystal Structure of Oxide Ceramic Coatings Formed on VT5 and VT14 Titanium Alloys -- Iron and Chromium Influence on Crystallization Kinetics of Cobalt-based Amorphous Alloys -- Prediction Of Isomorphous Substitution Limits And Thermodynamic Stability For Y₁–XInxvo₄ (Ln = Ce–Lu, Sc) Solid Solutions With Zircon-Type Structure -- The Systems Polyamides-Carbon Nanofillers: Quantum-chemical Modeling and Experimental Characteristics -- Maps of dynamic regimes of incommensurate superstructures described by the Lifshitz invariant.

Sommario/riassunto

This book highlights some of the latest advances in nanotechnology and nanomaterials from leading researchers in Ukraine, Europe and beyond. It features contributions presented at the 11th International Conference on Nanotechnologies and Nanomaterials, and was jointly organized by the Institute of Physics of the National Academy of Sciences of Ukraine, University of Tartu (Estonia), University of Turin (Italy), and Pierre and Marie Curie University (France). Internationally recognized experts from a wide range of universities and research institutions share their knowledge and key findings on material properties, behavior, synthesis and their applications. The book will be interesting for leading scientists, advanced undergraduate and graduate students in material and nanoscience. This book's companion volume also addresses topics such as nano-optics, nanoelectronics, energy storage and nanochemistry applications. .

