

1. Record Nr.	UNINA9910465413603321
Titolo	Nanopowders and nanocoatings [[electronic resource]] : production, properties and applications // V.F. Cotler, editor
Pubbl/distr/stampa	New York, : Nova Science Publishers, c2010
ISBN	1-61761-807-1
Descrizione fisica	1 online resource (242 p.)
Collana	Nanotechnology science and technology series
Altri autori (Persone)	CotlerV. F
Disciplina	620/.43
Soggetti	Coatings Nanoparticles - Industrial applications Perovskite materials Powders - Industrial applications Electronic books.
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	""NANOPOWDERS AND NANOCOATINGS: PRODUCTION, PROPERTIES AND APPLICATIONS ""; ""NANOPOWDERS AND NANOCOATINGS: PRODUCTION, PROPERTIES AND APPLICATIONS""; ""CONTENTS ""; ""PREFACE""; ""PEROVSKITE NANOPOWDERS: SYNTHESIS, CHARACTERIZATION, PROPERTIES AND APPLICATIONS ""; ""ABSTRACT ""; ""1. INTRODUCTION ""; ""2. SYNTHESIS OF PEROVSKITE NANOPOWDERS ""; ""2.1. Solid-State Reaction Route""; ""2.2. Mechanical Milling Method ""; ""2.3. Wet Chemical Routes ""; ""2.3.1. Sol-gel (colloidal) processing ""; ""2.3.2. Alkoxide-hydroxide sol-precipitation synthesis ""; ""2.3.3 Decomposition of complex double metal salts""""2.3.4. Hydrothermal routes ""; ""2.3.4.1. Hydrothermal process ""; ""2.3.4.2. Solvothermal process ""; ""2.3.4.3. Glycothermal process ""; ""2.3.4.4. Microwave-hydrothermal process ""; ""2.3.5. Spray pyrolysis ""; ""2.3.6. Microemulsion synthesis ""; ""2.3.7. High-gravity reactive precipitation ""; ""2.3.8. Room-temperature biosynthesis ""; ""2.4. Gas Phase Deposition ""; ""3. CHARACTERIZATION OF PEROVSKITE NANOPOWDERS""; ""3.1. Microstructural Characterization ""; ""3.1.1. Scanning electron microscopy (SEM) ""; ""3.1.2. Transmission electron microscopy (TEM) """"3.1.3. Scanning

transmission electron microscopy (STEM) ""; ""3.1.4. High-resolution transmission electron microscopy (HRTEM) ""; ""3.1.5. Spherical-corrected HRTEM/STEM ""; ""3.2. Spectroscopic Characterization""; ""3.2.1. X-ray diffraction (XRD)""; ""3.2.2. Extended X-ray absorption fine structure spectroscopy (EXAFS)""; ""3.2.3. Energy dispersive X-ray spectroscopy (EDS) ""; ""3.2.4. Electron energy loss spectroscopy (EELS) ""; ""3.2.5. X-ray photoelectron spectroscopy (XPS) ""; ""3.2.6. Infrared (IR) spectroscopy ""

""3.2.7. Raman spectroscopy """"3.2.8. Secondary ion mass spectroscopy (SIMS) ""; ""3.2.9. Optical absorption-emission spectroscopy""; ""3.2.10. Mossbauer spectroscopy ""; ""4. PROPERTIES OF PEROVSKITE NANOPOWDERS ""; ""4.1. Ferroelectric and Dielectric Properties ""; ""4.2. Electrical Conductivity ""; ""4.3. Magnetic Properties ""; ""4.4. Optical Properties ""; ""4.5. Multiferroic Properties ""; ""5. APPLICATIONS OF PEROVSKITE NANOPOWDERS ""; ""5.1. Electronics ""; ""5.2. Information Storage Devices ""; ""5.3. Photonics ""; ""5.4. Spintronics ""

""6. FUTURE OUTLOOK OF PEROVSKITE NANOPOWDERS""""7. CONCLUSION""; ""ACKNOWLEDGMENTS""; ""REFERENCES""; ""ELECTROCHEMICAL NANOCOATINGS ON TITANIUM FOR BIOMATERIAL APPLICATIONS ""; ""ABSTRACT ""; ""1. INTRODUCTION ""; ""2. TITANIUM-TYPES OF ALLOYS AND USES""; ""3. PASSIVE OXIDE LAYER ON TITANIUM ALLOYS""; ""4. ADVANTAGES OF USING NANO-CRYSTALLINE COATINGS ""; ""5. ELECTROCHEMICAL CATHODIC DEPOSITION ""; ""5.1. Mechanism""; ""5.2. Features of Cathodic Calcium Phosphate Coatings""; ""5.3. Nucleation and Grain Growth ""; ""5.4. Nano-Grained Cathodic HA Coatings ""; ""5.5. In Vitro Tests ""

""6. TiO₂ NANOTUBES ""
