

1. Record Nr.	UNINA9910452681303321
Titolo	Gadolinium [[electronic resource] ] : compounds, production, and applications // Caden C. Thompson, editor
Pubbl/distr/stampa	Hauppauge, N.Y., : Nova Science Publishers, c2010
ISBN	1-61728-334-7
Descrizione fisica	1 online resource (382 p.)
Collana	Chemical engineering methods and technology
Altri autori (Persone)	ThompsonCaden C
Disciplina	616.07/54
Soggetti	Gadolinium - Diagnostic use Magnetic resonance imaging Radiographic contrast media 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	""GADOLINIUM: COMPOUNDS, PRODUCTION AND APPLICATIONS ""; ""LIBRARY OF CONGRESS CATALOGING-IN-PUBLICATION DATA ""; ""CONTENTS ""; ""PREFACE ""; ""MAGNETIC INTERACTIONS IN OXO-CARBOXYLATE BRIDGED GADOLINIUM(III) COMPLEXES: SYNTHESIS, CRYSTAL STRUCTURES AND MAGNETIC PROPERTIES ""; ""ABSTRACT ""; ""INTRODUCTION ""; ""MAGNETIC ASPECTS ""; ""GADOLINIUM(III): MAGNETIC PROPERTIES ""; ""METAL ORGANIC FRAMEWORKS ""; ""Synthetic Routes ""; ""State of the Art ""; ""Type of Bridge A ""; ""Type of Bridge B ""; ""Type of Bridge C ""; ""Type of Bridge D""; ""Type of Bridge E""; ""Type of Bridge F "" ""PUBLISHED EMPIRICAL STUDIES """"THEORETICAL STUDIES ""; ""CONCLUSION ""; ""ACKNOWLEDGMENT ""; ""REFERENCES ""; ""APPLICATION OF GADOLINIUM FOILS AS CONVERTERS OF THERMAL NEUTRONS IN DETECTORS OF NUCLEAR RADIATION ""; ""ABSTRACT ""; ""1. INTRODUCTION ""; ""2. MATHEMATICAL MODELING OF CONVERTER PERFORMANCES ""; ""2.1. Theoretical Bases ""; ""2.1.1. Probability of neutrons absorption ""; ""2.1.2. Probability of gamma quanta formation ""; ""2.1.3. Probability of internal conversion electrons formation ""; ""2.1.3. Intensity of Auger electrons "" ""2.1.6. Passage of electrons through a substance """"2.2.1. Model representation and calculation ""; ""2.2.2. Probability of converters

activation"; "2.2.3. Modeling for a case of neutrons flow under various angles"; "2.2.4. Contribution of low-energetic electrons to general efficiency of converters"; "2.2.5. Contribution of X-rays and soft gamma radiations on general efficiency of converters"; "2.2.6. Modeling of converters executed from a set of thin drilling converters"; "2.3.1. Modeling of converters representing sandwiches, from supporting films and converters"

### "3. POSITION SENSITIVE DETECTORS OF THERMAL NEUTRONS WITH GADOLINIUM CONVERTERS"

"3.1. Normal Pressure Multistep Avalanche Chamber"; "3.1.1. Characteristics of the multistep avalanche chambers"; "3.1.2. Gas amplification and efficiency of registrations MSAC"; "3.1.3. Spatial resolution of the multistep avalanche chambers"; "3.1.4. Influence of gas mixtures on characteristic MSAC"; "3.1.5. Ways of stabilization of operating modes for work MSAC"; "3.1.6. Detector testing"; "3.1.7. Effects of some constructional elements on the MSAC characteristics"

### "3.2. Thermal Neutron Imaging Detectors Combining Novel Composite Foil Converters and Gaseous Electron Multipliers"

"3.2.1. The neutron converter foil"; "3.2.2. The Multistep avalanche chamber"; "3.2.3. Detector characteristics"; "3.3. Hybrid Low-Pressure (MSGC) Neutron Detectors"; "3.3.1. The detector principle"; "3.3.2. Converter fabrication"; "3.4. Resistive Plate Chambers with Gd-Coated Electrodes as Thermal Neutron Detectors"; "3.5. The Neutron Sensitivity Image Plates"; "3.5. Neutron Imaging Detector Using Capillary Phenomena and Liquid Scintillator"

"3.6. Position Sensitive Detection of Thermal Neutrons with Solid State Detectors (Gd Si Planar Detectors)"

---