Luminescence of Lanthanide Ions in Coordination Compounds and Nanomaterials
Ana de Bettencourt-Dias (Editor)


DESCRIPTION

This comprehensive book presents the theoretical principles, current applications and latest research developments in the field of luminescent lanthanide complexes; a rapidly developing area of research which is attracting increasing interest amongst the scientific community.

Luminescence of Lanthanide Ions in Coordination Compounds and Nanomaterials begins with an introduction to the basic theoretical and practical aspects of lanthanide ion luminescence, and the spectroscopic techniques used to evaluate the efficiency of luminescence. Subsequent chapters introduce a variety of different applications including:

- Circularly polarized luminescence
- Luminescence bioimaging with lanthanide complexes
- Two-photon absorption of lanthanide complexes
- Chemosensors
- Upconversion luminescence
- Excitation spectroscopy
- Heterometallic complexes containing lanthanides
Each chapter presents a detailed introduction to the application, followed by a description of experimental techniques specific to the area and an extensive review of recent literature.

This book is a valuable introduction to the literature for scientists new to the field, as well as providing the more experienced researcher with a comprehensive resource covering the most relevant information in the field; a ‘one stop shop’ for all key references.

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### ABOUT THE AUTHOR

**Professor Ana de Bettencourt-Dias, University of Nevada, Inorganic and Materials Chemistry**

Professor de Bettencourt-Dias' research interests lie in the development of new ligands (particularly organic and transition metal complexes) for highly emissive lanthanide ion complexes. She first became active in the field of the luminescent lanthanide ions in 2001 when she took her first academic position at Sycrause University, and her publications in this area include two well-received review articles which have been cited over 80 times. Professor de Bettencourt-Dias co-organised a symposium on 'Luminescence and Magnetism of Lanthanide-Containing Materials' at the ACS 2010 Fall Meeting, and she is program chair for the 2011 Rare Earth Research Conference.

In addition to her research, Professor de Bettencourt-Dias currently teaches classes in Advanced Inorganic Chemistry and Chemistry of the Less Common Elements.

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