The ligand-to-metal energy transfer and the role of Lewis base ligands and silver plasmons in emission of new type of lanthanide phosphors.

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Rok wydania

2016

Czasopismo

Journal of Luminescence

Numer woluminu

170

Strony

340-347

DOI

10.1016/j.jlumin.2015.06.039

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

Two types of new Ln^{3+} chelates, phosphoro- and sulfono-derivatives of beta-diketones and Lewis base ligands were obtained and characterized by the high resolution photoluminescence spectroscopy at 293 and 77 as well as by luminescence decay times. The new type of phosphors shows very strong emission after excitation in the UV range within the ligand bands. The dynamics of the excited state will be discussed. The paths of the energy transfer (ET) are analyzed and mechanism of this process is proposed. The silica gels containing investigated complexes with silver particles were obtained and the role of silver plasmons on spectroscopic properties is displayed.

Słowa kluczowe

energy transfer, Silver plasmons

Adres publiczny

http://dx.doi.org/10.1016/j.jlumin.2015.06.039

Strona internetowa wydawcy

http://www.elsevier.com