

Spectroscopy of Eu-doped Lu₂O₃-based X-ray phosphor.

Autorzy

Eugeniusz Zych

Dariusz Hreniak

Wiesław Stręk

Rok wydania

2002

Czasopismo

Journal of Alloys and
Compounds

Numer woluminu

341

Strony

385-390

DOI

10.1016/S0925-
8388(02)00043-9

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

Nanoparticulate powders of Eu-doped Lu₂O₃ were prepared using combustion process and glycine as a fuel. Such powders could be relatively easily sintered to translucent bodies at 1700 °C. Excitation and emission spectra were recorded for both types of the materials. The excitation spectra revealed the existence of much more efficient energy transfer from the host to the dopant in the sintered ceramics. Strong variations in the relative intensities of the excitation transitions are seen when comparing the powder and its sintered analog. This was explained assuming preferential occupation of the C_{3i} site in the glycine-derived powder in comparison with the pellets. Most profound emission under X-ray excitation was found for the sintered ceramic doped with 5% of Eu.

Słowa kluczowe

Phosphors, Lu₂O₃, X-ray detection, Sintering, Nanoceramics

Adres publiczny

[https://doi.org/10.1016/S0925-8388\(02\)00043-9](https://doi.org/10.1016/S0925-8388(02)00043-9)

Strona internetowa wydawcy

<http://www.elsevier.com>