

Monoclinic HfO₂:Eu X-ray phosphor.

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Rok wydania

2010

Czasopismo

Radiation Measurements

Numer woluminu

45

Strony

493-496

DOI

<https://doi.org/10.1016/j.radmeas.2009.12.017>

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

HfO₂ and HfO₂:Eu powders were synthesized with Pechini method at temperatures in the range of 600–1500 °C. Structural, radioluminescence and photoluminescence properties of the powders were investigated. The highest light output of about 20% of the efficiency of commercial GOS:Eu was found for materials containing 0.5% of Eu and prepared at 1500 °C. The data shows, that further improvement of light output could be obtained if materials are processed at yet higher temperatures. Emission spectra indicate that Eu³⁺ experiences variety of symmetries of its surroundings. Undoped materials produce broad band emission peaking at 480 nm and showing a significant afterglow.

Słowa kluczowe

Hafnia, HfO₂, Eu³⁺, Radioluminescence

Adres publiczny

<https://dx.doi.org/https://doi.org/10.1016/j.radmeas.2009.12.017>