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YVO4:Eu3+ thin films prepared by PLD

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Abstract content
   (Max 300 words)

Oxide thin film phosphors have been given attention because of its high resolution and high efficiency planar display. The oxide based phosphors appeared to be a potential candidate for a red emission display phosphor. YVO4:Eu3+ thin films is one of the most promising oxide-based red phosphor with application in high pressure mercury lamps, television cathode ray tube displays but mostly in plasma display panels [1]. Thin films of YVO4:Eu3+ have been prepared by pulse laser deposition (PLD) which is known as a unique process that provides stoichiometric transfer of target materials. The films were deposited at room temperature with different oxygen pressure. The structure and the luminescence of the YVO4:Eu3+ have been studied. Photoluminescence (PL) showed a strong red emission peak at the 5Do-7F2 transition at 619 nm. This is due to energy transfer to Eu3+ ions from absorption of UV light in the VO43- group [2]. X-ray diffraction spectra and PL indicated that YVO4:Eu3+ thin films phosphor material is successfully prepared by PLD.
References
[1] Georgescu, S.; Cotoi, E.; Voiculescu, A. M.; Toma, O.; Matei, C. Condensed Matter.
2010, 55, 750.
[2] Kim, D.; Kang, W. Bull. Korian. Cham. Soc. 2004, 25, 12.

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