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Influence of working atmosphere on Y₃(Al,Ga)₅O₁₂:Tb thin films grown by PLD technique

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Abstract content
   (Max 300 words)

Y₃(Al,Ga)₅O₁₂:Tb thin films were grown on Si (100) substrates using the pulsed laser deposition technique. The influence of working atmosphere (base pressure, O₂, Ar and N₂) on the morphology and structure of the thin films were investigated by Atomic force microscopy (AFM) and X-ray diffraction (XRD) respectively. Auger electron spectroscopy (AES) was employed to analyze the surface chemical composition of the films and the Auger data confirmed the presence of all major elements, namely Yttrium (Y), Aluminum (Al), Gallium (Ga) and Oxygen (O) present in Y₃(Al,Ga)₅O₁₂:Tb phosphor. The brightest emission was given by the film which was deposited in oxygen atmosphere, which indicated that oxygen is the best working atmosphere for this kind of material. Depth profiles show the change in atomic concentration as well as the thickness of the thin films.

Apply to be
 consider for a student
   award (Yes / No)?

Yes

Level for award
 (Hons, MSc,
   PhD)?

PhD

Main supervisor (name and email)
and his / her institution

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Would you like to <br> submit a short paper <br> for the Conference
 Proceedings (Yes / No)?

Yes

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