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Synthesis and Characterization of $\text{LaVO}_4\text{:Ln}$ ($\text{Ln}=\text{Eu}, \text{Li}$) by Combustion method

Abstract content
 (Max 300 words)
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Luminescence materials doped with rare earths have been studied in the past few decades because of their wide applications in lighting and laser displays [1]. The rare earth ion activated luminescence material such as Y_2O_3 , YVO_4 , and YBO_3 are used as host because of their single crystal structure and high chemical stability. LaVO_4 was prepared by the combustion method. The structure and luminescence properties of LaVO_4 have been studied. Photoluminescence showed a strong red emission peak at $5\text{D}_0-7\text{F}_2$ transition at 616 nm. This is due to energy transfer to Eu^{3+} ions followed by absorption of UV light in the VO_4^{3-} group. X-ray diffraction (XRD) spectra indicated that $\text{YVO}_4\text{:Eu}^{3+}$ thin films phosphor material is successfully prepared by combustion.

References

[1] Li-Ping, W.; Li-Miao, C.; Materials Characterization, 2012, 69, 108-114.

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yes

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Phd

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