

52. Photoluminescence Studies of Some Aluminio-Borate Phosphors

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ABSTRACT

Inorganic Borate host luminescent materials have attracted the interest of many researchers due to their varied applications. Some of the Alumino-Borates $\text{Li}_3\text{AlB}_2\text{O}_6:\text{Eu}^{3+}$, $\text{YAl}_3(\text{BO}_3)_4:\text{Ce}^{3+}$, $\text{Li}_2\text{AlBO}_4:\text{Eu}^{3+}$ have been prepared in our laboratory by novel solution combustion technique. And their photoluminescence have been investigated. The phosphors $\text{Li}_3\text{AlB}_2\text{O}_6:\text{Eu}^{3+}$ and $\text{Li}_2\text{AlBO}_4:\text{Eu}^{3+}$ shows intense peak at 615nm upon excited by 254 nm radiations and therefore can be good candidate for lamp and display application. The phosphor $\text{YAl}_3(\text{BO}_3)_4:\text{Ce}^{3+}$ shows emission at 380nm and 481nm under 254nm excitation.

Keywords: Borate, Aluminio-Borate, Combustion synthesis, Photoluminescence.