Synthesis of Sr-Al-O:Eu Phosphor with EDTA Complex

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ABSTRACT

Since an oxide fluorescent substance has chemical stability, it is very expectable in the fluorescent substance of such a use. We have developed the powder form of the mixture of the metal-EDTA complexes prepared by the spray-dry mixing method as the starting material for synthesis of the oxide particles. In this study, Sr-Al-O:Eu phosphors were synthesized with the mixture of the metal-EDTA complexes. Although the variation of the metal composition in the EDTA-complexes gave no effect on changing in color of luminescence of the sample, the variation of treatment temperature of the Sr-Al-O-Eu oxide powder in reducing atmosphere influenced on changing in color of luminescence. At a treatment temperature of 1400°C, a new type of blue phosphor was created.

Keywords: Phosphor, EDTA Complex, Oxide, Spray-dry, Sr-Al-O, Europium

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