

**Effect of Varying Concentration of Strontium on Structural and Luminescent  
Properties of  $\text{SrAl}_2\text{O}_4:\text{Ce}^{3+}$  Material**

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**Abstract**

In modern world, luminescent materials with tunable emission properties have found application in most of the areas that usually deals with material sciences. White light emitting diodes have matched the efficiency of florescent light and will rapidly release energy which can be used as light source in homes, offices and other premises in the future. The phenomenon of luminescent is brought about by the emission of light by a sample following excitation of some kind, most often as the result of absorption of light, although other stimuli such as chemical reaction, physical agitation and passage of current can also lead to emission of light in certain systems. The increase in population has led to faster and rapid industrialization and urbanization, and this has led to high increased demand of proper lighting which has become a challenge due to the low number of sources of power being set. This has therefore led to alternative and environment friendly methods such use of luminescent materials that absorbs UV light energy during day time and they glow at night giving light when releasing the energy they had absorbed. The present work represent the changes made in of dopant as well as subjecting these formed structure to different gases so as to come up with phosphors that can last longer. In case of my research am using  $\text{SrAl}_2\text{O}_4:\text{Ce}^{3+}$  to find how different concentration of strontium can affect luminescent materials during synthesis on its period of glow. The luminescence of  $\text{SrAl}_2\text{O}_4:\text{Ce}^{3+}$  is enhanced when subjected to some of gases.