

Abstract Submitted
for the TSF14 Meeting of
The American Physical Society

Luminescence of $\text{La}_{0.2}\text{Y}_{1.8}\text{O}_3$ ceramic scintillator SUNIL SAHI, WEI CHEN, RASOOL KENARANGUI, Univ of Texas, Arlington — Inorganic single crystals and organic (plastic and liquid) scintillators are the two important types of scintillators. Both of these scintillators have their own drawbacks. Inorganic single crystals are expensive and difficult to grow in desire shape and size. Also, some efficient inorganic scintillator such as NaI and CsI are not environmental friendly. But on the other hand, organic scintillators have low density and hence poor energy resolution which limits their use in gamma spectroscopy. Ceramic scintillator can be a cost effective alternative to inorganic single crystal. Here we have studied the luminescence of $\text{La}_{0.2}\text{Y}_{1.8}\text{O}_3$ ceramic scintillator. We have fabricated $\text{La}_{0.2}\text{Y}_{1.8}\text{O}_3$ ceramic and characterized structurally using XRD and TEM. Photoluminescence and radioluminescence studies were done using UV and X-ray as an excitation source. We have used gamma isotopes with different energy to studies the scintillation properties of $\text{La}_{0.2}\text{Y}_{1.8}\text{O}_3$ scintillator. Preliminary studies of $\text{La}_{0.2}\text{Y}_{1.8}\text{O}_3$ scintillator shows promising result with energy resolution comparable to that of NaI and CsI.

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Date submitted: 17 Sep 2014

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