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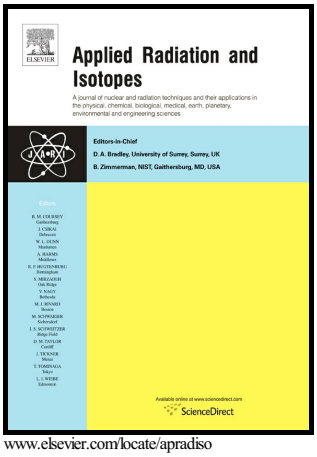


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PII: S0969-8043(16)30655-8
DOI: http://dx.doi.org/10.1016/j.apradiso.2017.06.007
Reference: ARI7911

To appear in: *Applied Radiation and Isotopes*

Received date: 27 November 2016
Revised date: 6 June 2017
Accepted date: 8 June 2017

Cite this article as: Sonali Gaikwad, R.R. Patil, M.S. Kulkarni and S.V. Moharil Optically stimulated luminescence study in rare earth doped $SrBPO_5$, *Applie Radiation and Isotopes,* http://dx.doi.org/10.1016/j.apradiso.2017.06.007

# Optically stimulated luminescence study in rare earth doped $SrBPO_5$

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**Abstract**

Optically stimulated luminescence (OSL) was studied in rare earth doped $SrBPO_5$ for the possible applications in radiation dosimetry using optically stimulated luminescence. The study shows that the sensitivity of the Eu doped $SrBPO_5$ shows good OSL and the sensitivity is comparable to that of $Al_2O_3$:C. It is observed that annealing has a profound effect on the OSL sensitivity. Slowly cooled Eu doped sample shows highest sensitivity and is 77% compared to that $Al_2O_3$:C whereas lowest sensitivity is observed in the quenched sample. Other properties like good linearity and low fading will make this phosphor suitable for the applications in radiation dosimetry using OSL.

Keywords: Inorganic materials; Thermoluminescence; Optically stimulated luminescence Optical properties; Radiation effects; Sulphate based phosphors

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