




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Latest developments in silica-based thermoluminescence spectrometry and dosimetry

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Abstract

Using irradiated doped-silica preforms from which fibres for thermoluminescence dosimetry applications can be fabricated we have carried out a range of luminescence studies, the TL yield of the fibre systems offering many advantages over conventional passive dosimetry types. In this paper we investigate such media, showing emission spectra for irradiated preforms and the TL response of glass beads following irradiation to an Am-241-Be neutron source located in a tank of water, the glass fibres and beads offering the advantage of being able to be placed directly into liquid. The outcomes from these and other lines of research are intended to inform development of doped silica radiation dosimeters of versatile utility, extending from environmental evaluations through to clinical and industrial applications. (C) 2015 Elsevier Ltd. All rights reserved.


Keywords

Author Keywords: Dosimetry; Ge-doped silica fibre; Thermoluminescence; Glass beads TLDs










KeyWords Plus: OPTICAL-FIBERS; GLASS-BEADS; GE; RADIATION; LUMINESCENCE; DEFECTS; CENTERS

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