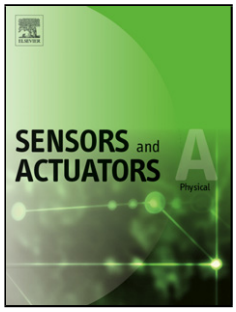

Title: Colorimetric energy sensitive scintillator detectors based on luminescent multilayer designs

Authors: Francisco J. Ferrer, Jorge Gil-Rostra, Agustín R. González-Elipe, Francisco Yubero

PII: S0924-4247(17)32057-5
DOI: https://doi.org/10.1016/j.sna.2018.01.062
Reference: SNA 10617

To appear in: *Sensors and Actuators A*

Received date: 14-11-2017
Revised date: 26-1-2018
Accepted date: 30-1-2018

Please cite this article as: Ferrer FJ, Gil-Rostra J, González-Elipe AR, Yubero F, Colorimetric energy sensitive scintillator detectors based on luminescent multilayer designs, *Sensors and Actuators: A Physical* (2010), https://doi.org/10.1016/j.sna.2018.01.062

SNA_2017_1730 revised

Colorimetric energy sensitive scintillator detectors based on luminescent multilayer designs

Francisco J. Ferrer[1], Jorge Gil-Rostra[2,*], Agustín R. González-Elipe[2], Francisco Yubero[2,*]

[1] Centro Nacional de Aceleradores (Universidad de Sevilla, CSIC, Junta de Andalucía). Av. Thomas A. Edison 7, E-41092 Seville, Spain

[2] Instituto de Ciencia de Materiales de Sevilla (CSIC, Universidad de Sevilla) CICCartuja, Av. Américo Vespucio 49, E-41092, Seville, Spain

* Corresponding authors: jorge.gil@icmse.csic.es; yubero@icmse.csic.es

HIGHLIGHTS

- An energy sensitive scintillator based on luminescent multilayer stacks is developed
- It works in transmission mode
- Its color response varied with kinetic energy of the radiation beam
- Free of degradation effects due to surface contamination
- Able to distinguish between different type of radiation and their energy