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(54) **TWO SINGLE CRYSTALS BASED PHOSWICH DETECTOR FOR DISCRIMINATING VARIOUS KINDS OF RADIATIONS**

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(58) **Field of Classification Search**
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See application file for complete search history.

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(57) **ABSTRACT**

The present invention discloses single crystal based phoswich detector for discriminating various kinds of radiations. The invented phoswich detector comprises a single crystal based scintillator having at least a pair of single crystals with identical refractive indices and different scintillation kinetics and a photo-sensor coupled to the single crystal based scintillator to detect a scintillation light pulse generated through interaction of radiation elements with the pair of the single crystals for discrimination of different kinds of radiation elements based on a dissimilarity in the scintillation light pulse shapes generated through the interactions.

8 Claims, 6 Drawing Sheets

