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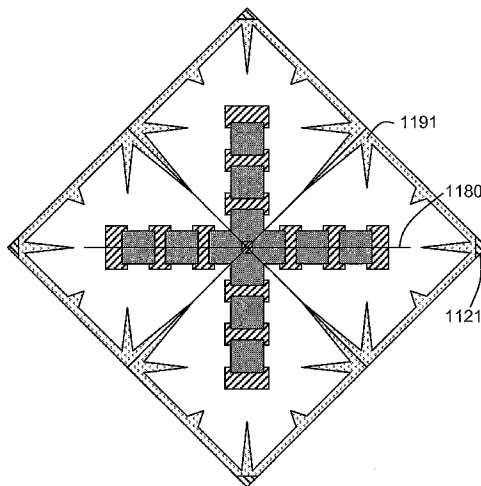
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(54) Title: SEMICONDUCTOR RADIATION DETECTOR OPTIMIZED FOR DETECTING VISIBLE LIGHT



(57) Abstract: A semiconductor radiation detector comprises a bulk layer of semiconductor material, and on a first surface of the bulk layer in the following order: a modified internal gate layer of semiconductor of second conductivity type, a barrier layer of semiconductor of first conductivity type and pixel dopings of semiconductor of the second conductivity type. The pixel dopings are adapted to be coupled to at least one pixel voltage in order to create pixels corresponding to pixel dopings. The device comprises a first conductivity type first contact. Said pixel voltage is defined as a potential difference between the pixel doping and the first contact. The bulk layer is of the first conductivity type. On a second surface of the bulk layer opposite to the first surface, there is noconductive back side layer that would transport secondary charges outside the active area of the device or function as the radiation entry window.



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