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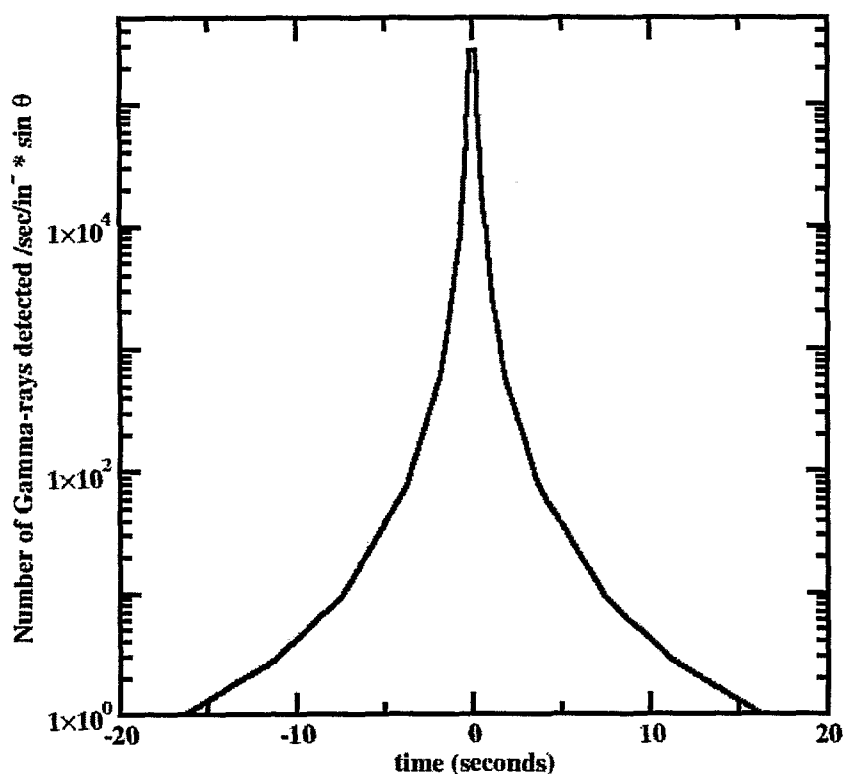
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(54) Title: APPARATUS AND METHOD FOR DETECTION OF RADIOACTIVE MATERIALS



(57) Abstract: Digital images or the charge from pixels in light sensitive semiconductor based imagers are used to detect gamma rays and energetic particles emitted by radioactive materials. Methods may be used to identify pixel-scale artifacts introduced into digital images and video images by high energy gamma rays. Statistical tests and other comparisons on the artifacts in the images or pixels may be used to prevent false-positive detection of gamma rays. The sensitivity of the system may be used to detect radiological material at distances in excess of 50 meters. Advanced processing techniques allow for gradient searches to more accurately determine the source's location, while other acts may be used to identify the specific isotope. Coordination of different imagers and network alerts permit the system to separate non-radioactive objects from radioactive objects.

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