NISTTech

NOBLE-GAS-EXCIMER DETECTORS OF SLOW NEUTRONS

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Abstract

The present invention relates to apparatus and methods for use in highly sensitive and efficient neutron detection, that includes using trigger reactions to initiate far-ultraviolet (FUV) optical emissions. ;;;;;;;In some embodiments of the present invention, a method for the detection of slow neutrons includes absorption of a slow neutron with a high neutron capture-cross-section nucleus, decay of the compound nucleus into energetic particles, creation of excimers from the energetic particles reacting with a background gas to form excimers, radiative decay of excimers resulting in emission of FUV radiation, and detection of the FUV radiation using an optical detector.

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References

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Status of Availability

This invention is available for licensing exclusively or non-exclusively in any field of use.

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