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Particle Detection utilizing Modified Bandgap Reference Circuit Design

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A novel particle detector design is proposed utilizing a modified bandgap reference circuit. The output of the circuit is calibrated to be proportional to the work function of gallium nitride, which provides a reference voltage that is independent of temperature variations, supply variations and loading. It is hypothesized that particle interactions with the detector cause temporal fluctuations in the output. Experimental data of transient signals observed under neutron and alpha irradiation are presented.

Are you are a member of the APS Division of Particles and Fields?

Yes

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