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Progress of Domestic High-Purity Germanium Crystals growth and detector fabrication

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High Purity Germanium Detectors, HPGe is popular in nuclear plant, environment monitor and nuclear chemistry analysis because of its high energy resolution and high detection efficiency. This study aims to fabricate and test HPGe detector that is qualified for commercial purpose. The detector is made from domestic growth 13N crystal and the contact is made by Li diffusion and B ion implantation. The surface of the intrinsic surface is protected by sputtered SiN after chemical passivation. After encapsule the detector is cooled down to -175℃. The leakage current is in good condition 27pA@2900V. Then its spectrum performance is tested using 60Co. The energy resolution of 1.33MeV 60Co is 1.89keV. Other progress are also included.

Collaboration you are representing

Author: ZHANG, Wei

Presenter: ZHANG, Wei

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