

Abstract Submitted
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Neutron Detection Research at BYU NIRDOSH CHAPAGAIN, ALEXANDER M. COREY, J. BART CZIRR, BRIAN JAMES, TREVOR M. JEX, MATTHEW S. MCARTHUR, LAWRENCE B. REES, Nuclear Physics Group, Brigham Young University — Neutron detectors are used in national security applications to detect potential radioactive materials. Since there is a shortage of Helium-3, a typical neutron detection material, BYU and associates have been pursuing technologies that may serve as an alternative to Helium-3 detectors. US Homeland Security requires that a replacement for Helium-3 detectors must have low gamma sensitivity and high neutron detection efficiency. Different techniques of neutron-gamma discrimination have been developed and tested at BYU. Presented will be an overview of Cadmium capture-gated neutron detection and Lithium-6 broken glass modulation techniques.

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