

Abstract Submitted
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Active Proton Interrogation for Homeland Security¹ STEVEN GREENE, CHRISTOPHER MORRIS, GREGORY CANAVAN, KIWHAN CHUNG, JAY ELSON, GARY HOGAN, MARK MAKELA, FESSEHA MARIAM, MATTHEW MURRAY, ALEXANDER SAUNDERS, RANDY SPAULDING, ZHE-HUI WANG, LAURIE WATERS, FREDERICK WYSOCKI, Los Alamos National Laboratory — Energetic proton beams may provide an attractive technology for active interrogation of nuclear threats because: they have large fission cross sections, long mean free paths and high penetration, and proton beams can be manipulated with magnetic optics. We have measured time-dependent cross sections for delayed neutrons and gamma rays using 800 MeV protons from the Los Alamos Neutron Science Center and 4 GeV protons from the Brookhaven Alternating Gradient Synchrotron for a set of bare and shielded targets. The results show significant signals from both unshielded and shielded nuclear materials. Results will be presented.

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