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Title: PROTON INTERROGATION

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Proton interrogation

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Energetic proton beams may provide an attractive alternative when compared to electromagnetic and neutron beams 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 the 800 MeV proton beam from the Los Alamos Neutron Science Center for a set of bare and shielded targets. The results show significant signals from both unshielded and shielded nuclear materials. Results will be presented.