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Inverse-kinematics proton scattering from ^{50}Ca with a liquid hydrogen target and GRETINA[1] FRANK DEVONE, Ursinus College — An inverse-kinematics proton-scattering measurement of ^{50}Ca was performed by the Ursinus College Nuclear Structure Group at the National Superconducting Cyclotron Laboratory at Michigan State University. The secondary beam was a 90 MeV/u super-cocktail of exotic isotopes centered around ^{50}Ca. This beam was aimed at a liquid hydrogen target with an effective thickness of 265 mg/cm^2 and a temperature of 16 K. GRETINA, the first stage of GRETA (the Gamma ray energy tracking array), was used to measure the gamma rays which were created as a result of inelastic scattering of beam particles from protons in the target. Only half of the GRETINA mounting shell was used to accommodate the liquid hydrogen target. However all seven available detectors were used in this half of the shell. In the experiment, we collected data on 3x10^7 ^{50}Ca particles. GEANT4 simulations of GRETINA allowed us to obtain gamma-ray intensities and inelastic cross sections. Preliminary results will be presented.

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