Abstract Submitted
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Particle Identification Trigger for MUSE[1] SHRADDHA DOGRA, Rutgers University, New Brunswick — The Muon proton Scattering Experiment (MUSE) uses a mixed beam of electrons, muons and pions from the PiM1 beam line of the Paul Scherrer Institute (PSI) in Villigen, Switzerland. The experiment will simultaneously measure elastic scattering cross-sections of both electrons and muons, from a liquid hydrogen target, and will extract the charge radius of the proton. Comparison of scattering cross sections will provide data for the proton radius puzzle, and comparison of cross sections obtained with positive and negative polarity beams will determine two-photon exchange radiative corrections. Correct particle identification at the trigger level is required to obtain a data set that is mainly from electron and muon scattering, rather than a data set that is dominated by pion scattering. This is done using a particle identification trigger (PID). I will discuss recent developments and results related to the PID trigger along with other aspects of experiment triggering.

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