

Event display for muon tomography station. M. PHIPPS, J. LOCKE, J. ALBERTO DE FARIA, and M. HOHLMANN. Florida Institute of Technology, Department of Physics and Space Sciences, 150 West University Blvd, Melbourne, FL 32901. Muon tomography is a passive imaging technique capable of discriminating high-Z material with technological applications in both the private and public sectors. In 2011, we built a muon tomography station using gas electron multiplier (GEM) detectors with an active volume of approximately one cubic foot. To accompany this station, we developed an event display that processes the detector hits and maps them to XZ and YZ projections. Each event comprises an incoming and outgoing track, and by extending two lines of best fit, we can recreate and display the path of each muon. Any notable deviations between the incoming and outgoing tracks can be attributed to muon scattering or detector inefficiencies. The program is coded in C++ using the ROOT Library, CERN's data analysis platform for particle physics, and it will be integrated into our automatic monitoring environment to graphically display events online to monitor the station during data taking.