

A cosmic muon test facility with the MRPC telescopes of the EEE Project

Extreme Energy Events (EEE) detectors (telescopes) are designed to measure secondary cosmic ray tracks, with good spatial resolution, to study high energy primary cosmic rays.

A Highly configurable digitizer board (**Waveboard**) is developed for Beam Dump eXperiment (BDX) at Jefferson Laboratory (Jlab) but is usable also for other kind of detector.

The simultaneous presence, in the INFN section of Genova, of an EEE telescope, the INFN-Waveboard (WB) and experts in both devices led to the creation of a collaboration. The result is the development of a detectors test facility that integrated the EEE large area detector tracking capabilities with the WB's multi-device simultaneous streaming data acquisition.

The link between the EEE track and signals from the detector under test detector is obtained by implementing a streaming DAQ with a common time reference between the two systems given by the GPS signal.

According to the detector under examination, different measurements can be performed: in a scintillator crystal bars, for example, the efficiency and optical attenuation along the detector length can be easily tested. In a first test run, we characterized some scintillator crystal of PbWO₄ from the POKER detector.

