



Contribution ID: 195

Type: Poster

The Zirè detector onboard the NUSES satellite

NUSES is a pathfinder satellite that will be deployed in a low Earth orbit, designed with new technologies for space-based detectors. The satellite will host two payloads, Terzina and Zirè. Terzina will detect ultra-high-energy cosmic-ray and neutrino air showers by the Cherenkov emission, while Zirè will perform measurements on low-energy cosmic rays and gamma rays. Zirè will consist of a Fiber TracKer (FTK), a Plastic Scintillator Tower (PST), a calorimeter (CALOG), an AntiCoincidence System (ACS) and a Low Energy Module (LEM). The PST and CALOG sub-detectors will be based on plastic and crystal scintillators with Silicon Photomultiplier (SiPM) readout. The FTK will be based on thin scintillating fibers readout by SiPM arrays. We assembled a prototype of Zirè (Zirettino) equipped with a single FTK layer, a reduced number of PST layers and a partially instrumented CALOG. A first version of the Zirè custom Front-End Board (FEB) featuring the on-the-shelf ASIC CITIROC by Omega/Weeroc was used for the readout. We carried out several beam test campaigns at the CERN PS and SPS facilities, as well as a dynamic test. The preliminary results of these tests will be presented and discussed.

Primary experiment

NUSES

Author: MAZZIOTTA, Nicola (Universita e INFN, Bari (IT))

Presenter: MAZZIOTTA, Nicola (Universita e INFN, Bari (IT))

Track Classification: Astroparticle Detectors