

Contribution ID: 109

Type: Poster

## The scintillating fiber tracker of the Zirè detector onboard the NUSES satellite

Tuesday 13 May 2025 18:18 (2 minutes)

NUSES is a pathfinder satellite that will be deployed in a low Earth orbit, designed with new technologies for space-based detectors. Zirè is one of the payload of NUSES and aims to measure electrons, protons, and light nuclei in an kinetic energy range spanning from a few MeVs to several hundred MeVs, as well as photons in the energy range from 0.1 MeV to 10 MeV. Zirè consists of a Fiber TracKer (FTK), a Plastic Scintillator Tower (PST), a calorimeter (CALOg), an AntiCoincidence System (ACS) and a Low Energy Module (LEM). The FTK will be based on thin scintillating fibers readout by SiPM arrays. We assembled a prototype of Ziré (Zirettino) equipped with a single FTK layer, a reduced number of PST layers and a partially instrumented CALOg. A first version of the Ziré 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 performance of FTK will be presented and discussed.

## Eligibility for "Best presentation for young researcher" or "Best poster for young researcher" prize

Yes

**Authors:** GILIBERTI, Mario (Universita e INFN, Bari (IT)); LIGUORI, Antonio; LOPARCO, Francesco (Universita e INFN, Bari (IT)); LORUSSO, Leonarda (INFN Bari); MAZZIOTTA, Nicola (Universita e INFN, Bari (IT)); PAN-ZARINI, Giuliana (Universita e INFN, Bari (IT)); PILLERA, Roberta (Universita e INFN, Bari (IT))

Presenter: LORUSSO, Leonarda (INFN Bari)

Session Classification: Rapid-Fire talks