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## The fiber tracker of the Zirè instrument on board NUSES

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NUSES is a low Earth orbit pathfinder satellite for innovative particle detectors dedicated to the study of cosmic radiation, astrophysical neutrinos, Sun-Earth environment, space weather and magnetosphere-ionosphere-lithosphere coupling. The satellite will host two instruments: Terzina and Zirè. While Terzina will focus on space based detection of ultra high energy extensive air showers, Zirè will perform measurements of electrons, protons and light nuclei from few up to hundreds MeV, also testing new tools for the detection of cosmic MeV photons, and monitoring possible MILC signals.

Zirè will consist of a scintillating fiber tracker, a stack of plastic scintillator counters and an array of LYSO crystals. An active veto system and a Low Energy Module (LEM) are also part of the payload. In this work we present the design of a novel tracker prototype based on plastic scintillating fibers coupled with SiPM linear arrays. The preliminary results obtained in a beam test with a concept module will be presented.

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

Yes

**Author:** PILLERA, Roberta (Universita e INFN, Bari (IT))

**Presenter:** PILLERA, Roberta (Universita e INFN, Bari (IT))

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