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

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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 a 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 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 performance of FTK will be presented and discussed.

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

Yes

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