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The Zirè experiment on board the NUSES space mission

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The Zirè detector is one of the two scientific payloads of the NUSES satellite, which is currently under construction and test. Zirè aims to measure electrons, protons, and light nuclei in an kinetic energy range spanning from a few MeVs up to several hundred MeVs, enabling the study of low-energy cosmic rays, space weather phenomena, and potential Magnetosphere-Lithosphere-Ionosphere Coupling (MILC) signals. The instrument is designed to also detect photons in the energy range from 0.1 MeV to 10MeV, which is very much relevant for the study of transient events as gamma-ray bursts (GRBs) and solar flares. All the Zirè subdetectors will be equipped with a readout system entirely based on the Silicon Photomultiplier (SiPM) technology. This work provides a general overview of the design activities, scientific goals, and the current development status of the payload.

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

No

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