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The NUSES space mission

Monday 21 August 2023 09:00 (18 minutes)

NUSES is a new space mission project aiming to test innovative observational and technological approaches related to the study of low energy cosmic and gamma rays, high energy astrophysical neutrinos, Sun-Earth environment, Space weather and Magnetosphere-Ionosphere-Lithosphere Coupling (MILC). The satellite will host two experiments, named Terzina and Zirè. While Terzina will focus on space based detection of ultra high energy cosmic ray or neutrino induced extensive air showers, Zirè will perform measurements of electrons, protons and light nuclei from few up to hundreds of MeVs, also testing new tools for the detection of cosmic MeV photons. Monitoring of possible MILC signals will also be possible extending the sensitivity to very low energy electrons with a dedicated Low Energy Module (LEM). Innovative technologies for space-based particle detectors, e.g. exploiting Silicon Photo Multipliers (SiPMs) for the light readout system, will be adopted. In this work, a general overview of the scientific goals, the design activities, and the overall status of the NUSES mission will be presented and discussed.

Collaboration / Activity

NUSES Collaboration

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