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The NUSES space mission

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NUSES is a new space mission aiming to test innovative observational and technological approaches related to the study of cosmic rays, high energy astrophysical neutrinos, Sun-Earth environment, Space weather and magnetosphere-ionosphere-lithosphere coupling (MILC). The satellite will host two payloads, named TERZINA and ZIRE'. ZIRE' will perform measurements of electrons, protons and light nuclei from few up to hundreds MeV, test new tools for the detection of cosmic MeV photons, and the monitoring of MILC signals. TERZINA, as a pathfinder of the POEMMA mission, will observe the Cherenkov light produced by EAS generated by cosmic ray primaries at very high energies and will monitor the light emissions from the Earth's limb in the near UV and visible ranges at the ns time scale. In this way it will test the observational concept of detecting Earth skinmming astrophysical tau neutrinos. The scientific objectives and development status of the mission will be presented.

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