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The POEMMA Balloon with Radio mission

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To measure particles with energies above 10^19 eV, enormous exposures are needed. The Probe Of Extreme Multi-Messenger Astrophysics (POEMMA) is a new design for such a mission. It is a proposed as a dual-satellite mission to observe Ultra-High-Energy Cosmic Rays (UHECRs) at the highest energies and Very-High-Energy Neutrinos (VHENs) following multi-messenger alerts of astrophysical transient events.
POEMMA Balloon with Radio (PBR) is a small-scale version of this design; it is a planned mission that will fly on a NASA Super pressure Balloon in 2027 from Wanaka, New Zealand. It uses an hybrid focal surface consisting of a fluorescent camera (FC) and a Cherenkov camera (CC) to exploit three main science goals: measure ultra-high energy cosmic rays showers with energies above a few EeV; observe high-altitude horizontal air showers with energies above the cosmic ray knee by a novel hybrid system consisting of optical and radio measurements and follow up astrophysical event alerts to search for very high energy neutrinos. In this talk an overview of the mission and the current developments will be presented.

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

No

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