Contribution ID : 23

Type : plenary

Space Observatories of the Highest Energy Particles: POEMMA & EUSO-SPB

Monday, 23 November 2020 10:00 (1:00)

Content

What are the mysterious sources of the most energetic particles ever observed? What are the sources of energetic cosmic neutrinos? How do particles interact at extreme energies? Building on the progress achieved by the ground-based Auger Observatory in studying cosmic particles that reach 100 EeV, an international collaboration is working on space and sub-orbital missions to answer these questions. The Extreme Universe Space Observatory (EUSO) on a super pressure balloon (SPB) is designed to detect ultra-high energy cosmic rays (UHECRs) from above. EUSO-SPB1 flew in 2017 with a fluorescence telescope. EUSO-SPB2 is being built to observe both fluorescence and Cherenkov from UHECRs and neutrinos. These sub-orbital missions lead to POEMMA, the Probe Of Extreme Multi-Messenger Astrophysics, a space mission designed to discover the sources of UHECRs and to observe neutrinos above 20 PeV from energetic transient events. POEMMA will open new Multi-Messenger windows onto the most energetic events in the Universe, enabling the study of new astrophysics and particle physics at these otherwise inaccessible energies.

Summary

Primary author	(s) :	Prof. OLINTO, Angela V. (The University of Chicago)
Presenter(s) :	Prof.	OLINTO, Angela V. (The University of Chicago)