VHEPA 2016



Contribution ID: 15 Type: oral

The Extreme Universe Space Observatory super pressure balloon mission

Saturday, January 9, 2016 1:15 PM (45 minutes)

The Extreme Universe Space Observatory on a super pressure balloon (EUSO-SPB) mission will make the first fluorescence observations of high energy cosmic ray extensive air showers by looking down on the atmosphere from near space. EUSO-SPB follows a successful overnight flight in August 2014 of the JEM-EUSO prototype mission named EUSO-Balloon. EUSO-Balloon recorded artificial tracks and pulses that were generated by a laser and optical flashers that were flown in a helicopter under the balloon. Preparations are underway for EUSO-SPB with the potential for a flight of 50 days duration. The planned launch site is Wanaka, New Zealand. We describe the mission, the updated instrument, and expected detection rates of extensive air showers events produced by cosmic primaries.

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