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Study of the EUSO-SPB2 Photodetection Module

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The Extreme Universe Space Observatory Super Pressure Balloon 2 (EUSO-SPB2) is an approved NASA balloon mission that is planned to fly in 2023 from Wanaka, NZ with target duration of up to 100 days. It is a pathfinder for the Probe of Extreme Multi-Messenger Astrophysics (POEMMA), a candidate for an Astrophysics probe-class mission. EUSO-SPB2 will consist of a Cherenkov telescope and a fluorescence telescope. The first is optimized for fast signals and is devoted to estimate the background sources for astrophysical neutrino observations; the second looks at the nadir to measure the fluorescence emission of Ultra High Energy Cosmic Rays (UHECRs). The long-duration flight will provide a large number of VHECR Cherenkov signal and UHECR fluorescence tracks. In this paper, we discuss the calibration with dedicated signal of the photodetection module and the correlation to simulation studies of the camera response.

In-person participation

Yes

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