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Toward the detection of UHE neutrinos with the Cherenkov Telescope on EUSO-SPB2

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Detecting ultrahigh-energy (UHE) neutrinos is a challenging task because fluxes are low, and the interaction cross-sections are minute. Motivated by the detection of high-energy neutrinos with IceCube, we are developing a compact Cherenkov telescope to detect Earth-skimming (UHE) neutrinos from a high-altitude balloon flight. The 1 m diameter Schmidt telescope has a 512-pixel silicon-photomultiplier (SiPMs) camera, read out with 100MS/s. The telescope will fly aboard the Extreme Universe Space Observatory Super Pressure Balloon 2 (EUSO-SPB2), a precursor to the proposed Probe of Extreme Multi-Messenger Astrophysics (POEMMA) mission. In this flash talk I will summarize the status of the Cherenkov telescope development and its expected performance.

Collaboration name

EUSO-SPB2

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