Abstract Submitted
for the APR20 Meeting of
The American Physical Society

The Expected Performance of the EUSO-SPB2 Fluorescence Telescope[1] GEORGE FILIPPATOS, Colorado School of Mines, EUSO COLLABORATION — The Extreme Universe Space Observatory on a Super Pressure Balloon II (EUSO-SPB2) is a long-duration balloon based cosmic ray experiment is in preparation, as a successor to EUSO-SPB1 which flew in 2017. A science payload of two telescopes will measure ultra-high energy cosmic rays (EeV scale) via fluorescence and background Cherenkov measurements towards future tau neutrino observations. To understand the performance of the fluorescence telescope, extensive air showers and the response of the detector to these showers have been simulated. By comparison with simulations and field tests done for EUSO-SPB1, the expected performance of EUSO-SPB2 is estimated. In this talk I will describe the expected performance of the EUSO-SPB2 fluorescence telescope based on the results of these simulations and quantify the expected improvement over EUSO-SPB1.

[1]NASA grant NNX13AH55G

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Date submitted: 10 Jan 2020 Electronic form version 1.4