Abstract Submitted
for the APR21 Meeting of
The American Physical Society

EUSO-SPB2 Telescope Optics and Testing[1] VIKTORIA KUNGEL, Colorado School of Mines, JEM-EUSO COLLABORATION — The Extreme Universe Space Observatory - Super Pressure Balloon (EUSO-SPBII) mission will fly two custom telescopes to measure Čerenkov- and fluorescence-emission from extensive air-showers at the PeV and EeV-scale. Both telescopes have 1-meter diameter apertures and UV/UV-visible sensitivity. The design and physical components common to both Cherenkov & fluorescence optics, as well as their specifications will be presented.

Telescope integration and calibration will be performed in Colorado. Laboratory tests will verify the radius of curvature of the main mirror, the point spread function, and the efficiency of the integrated telescope. The end-to-end test of the fully integrated instruments will be carried out in field campaigns. A new method is developed with the help of a high-power pulsed laser system to estimate the aerosol vertical optical depth (VOD) for the use of astrophysical instrumentation. EUSO-SPBII target launch date is 2023.

[1]NNX13AH55G

Viktoria Kungel
Colorado School of Mines

Date submitted: 08 Jan 2021 Electronic form version 1.4