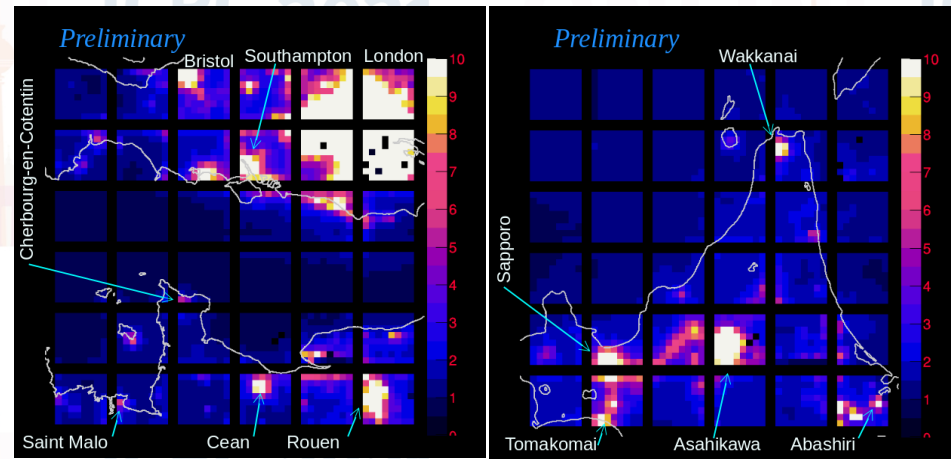


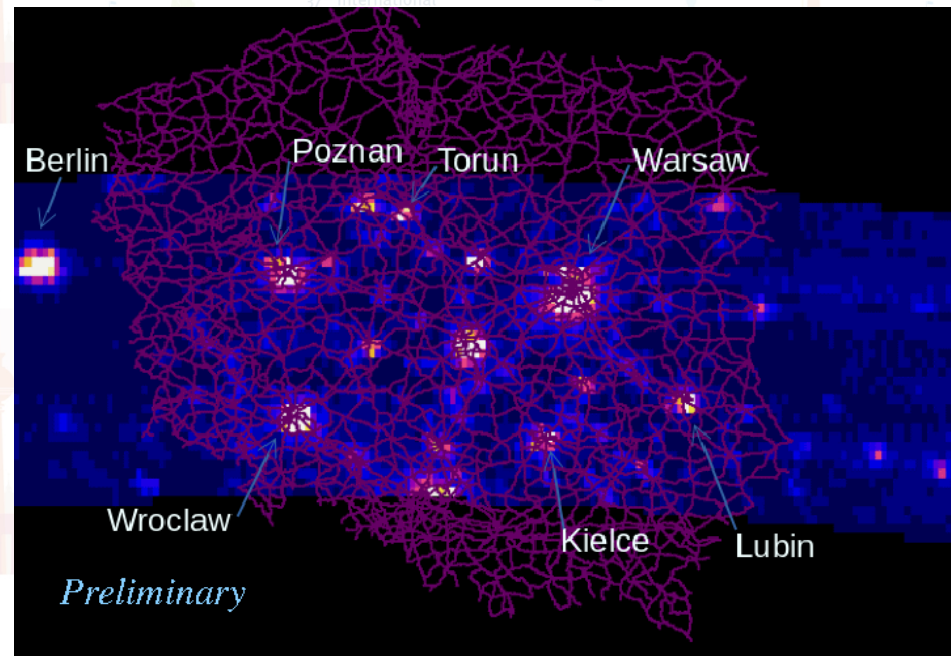
Measurement of UV light emission of the nighttime Earth by Mini-EUSO for space-based UHECR observations

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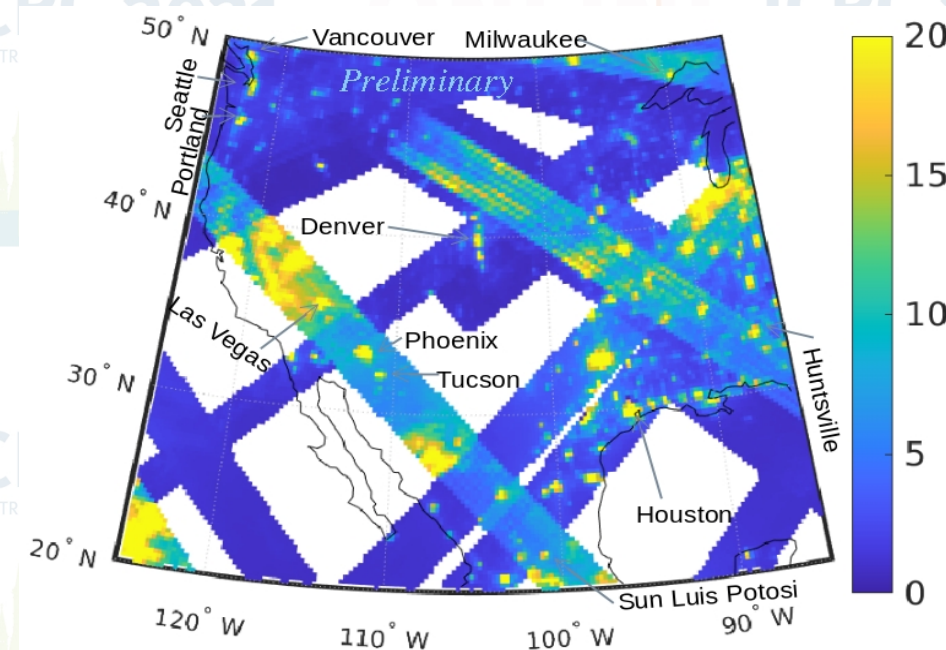
(a) NCBJ, PL; (b) KTH Royal Inst. Tech., SE; (c) Univ. Turin, IT, (d) INAF-Turin, IT. (e) INFN-Turin, IT. (f) INFN-Rome Tor Vergata, IT (g) Univ. Rome Tor Vergata, IT. (h) RIKEN, JP. (i) SINP, MSU, RUS. (j) Colorado School of Mines, USA. (k) Univ. Warsaw, PL.



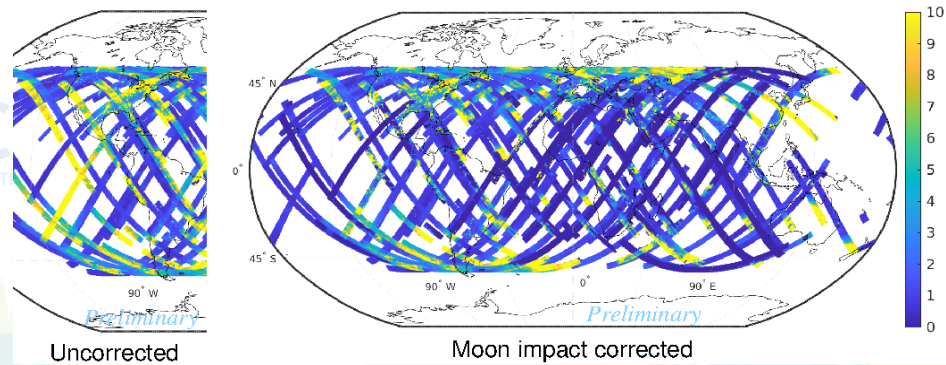
Single frame images (40.96 ms) obtained above English Channel and Northern Japan



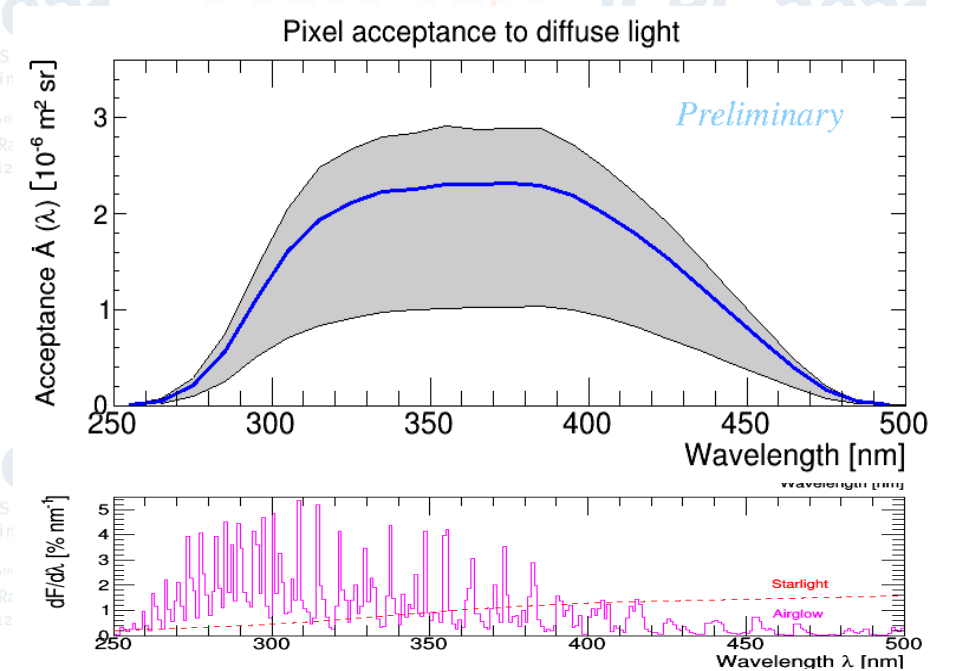
Composite image projected Poland obtained over ~50 s per location



Composite image above North America by the data obtained in multiple orbits in different months



Global data without (part; left) and with (right) preliminary correction of moonlight impact on background rate



Spectral response function (top) to diffuse light and typical airglow and starlight spectra (bottom)

- **Orbital UHECR detectors will fly at ~8 km/s above the atmosphere with varying conditions**
- **Locating capability, proven by the UV light maps, is essential for the air shower analysis**
- **“Landscapes”, airglow and other UV light sources will be background noise against air shower detection and analysis**
- **The Mini-EUSO data provide the first Global characterization of UV light background**