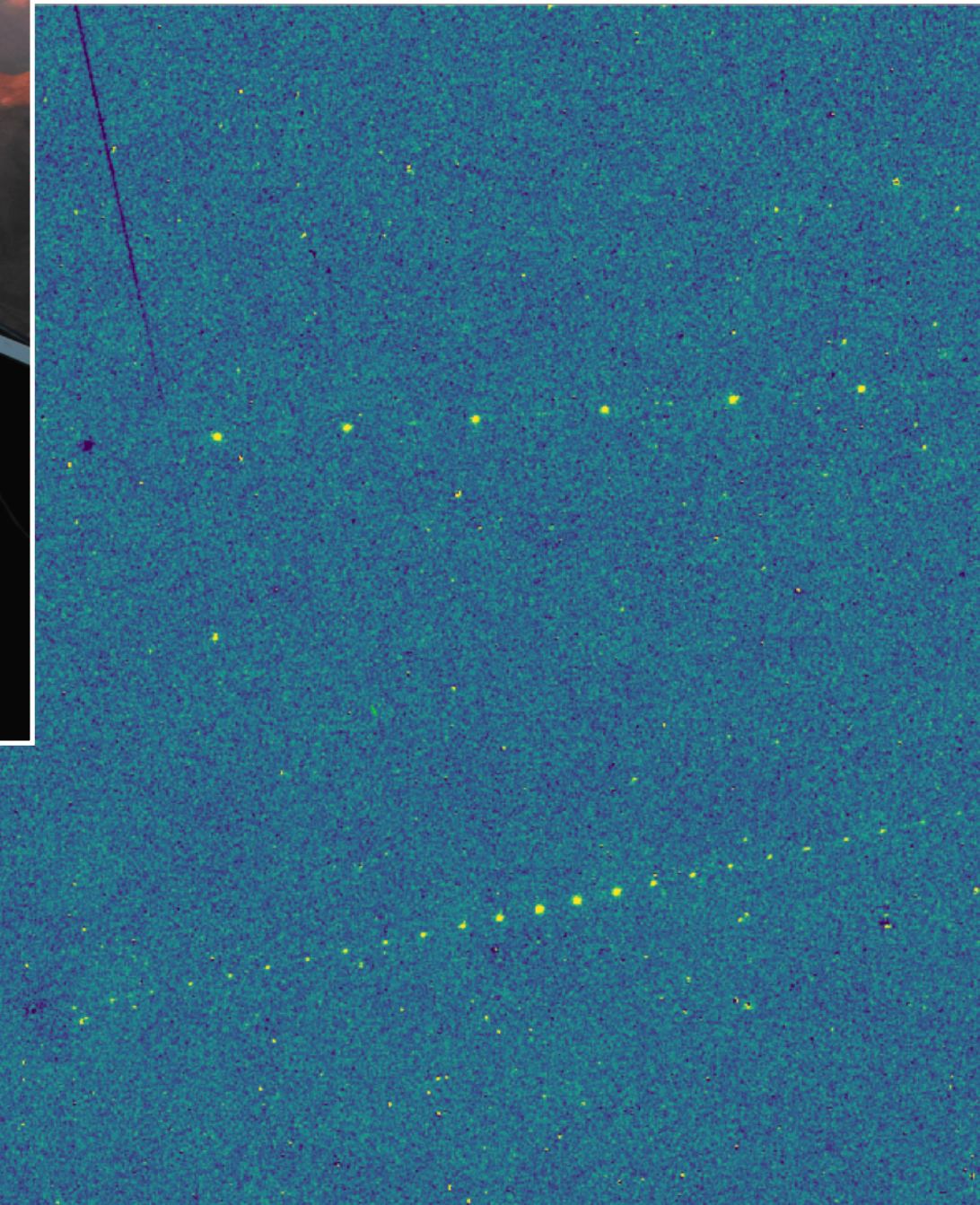




EVRYSCOPE

Argus Array



Variability & Glints

Satellite Constellations

Hank Corbett
UNC-Chapel Hill

2022-08-09

Vera C. Rubin Observatory
Project & Community Workshop 2022

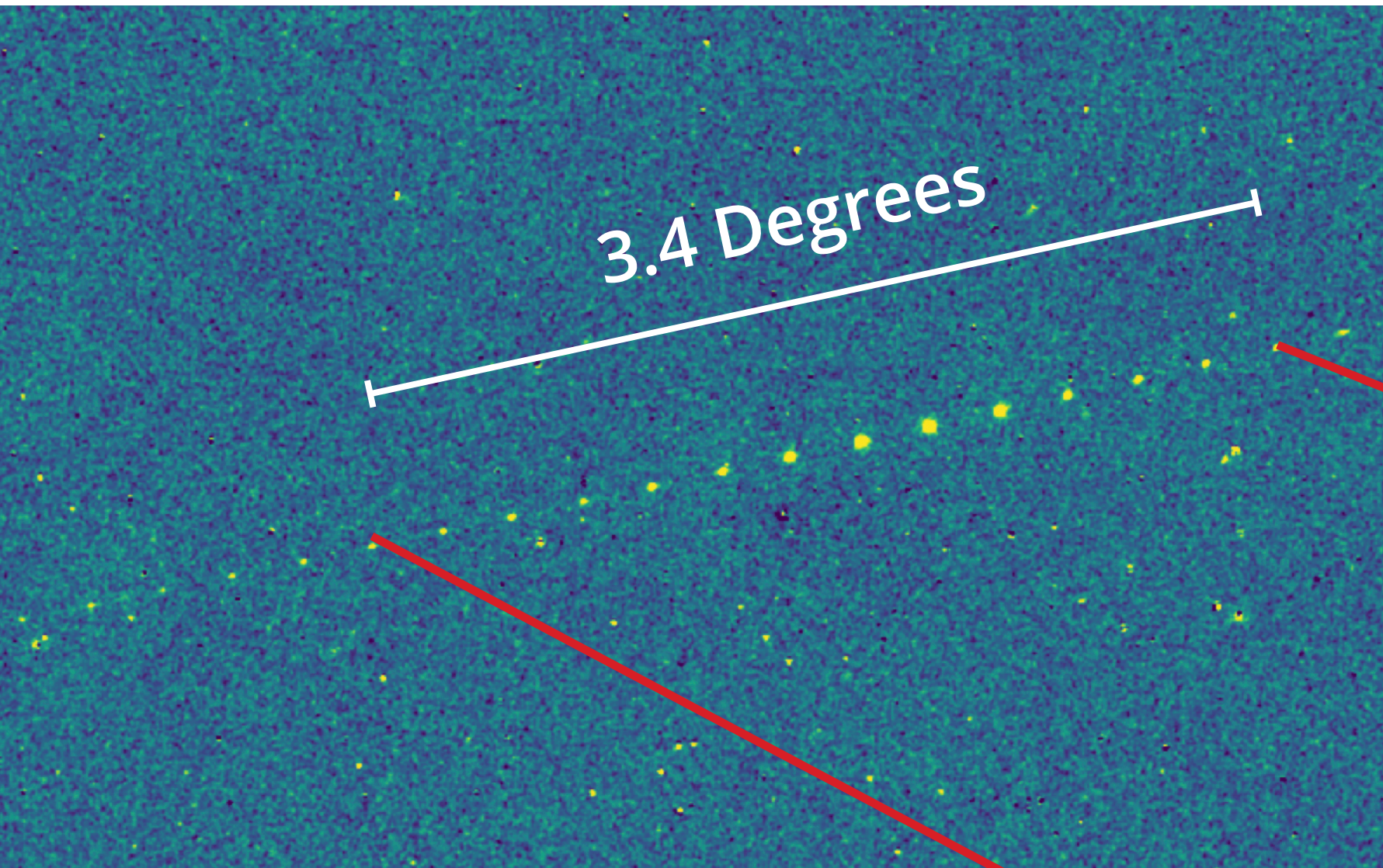


THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

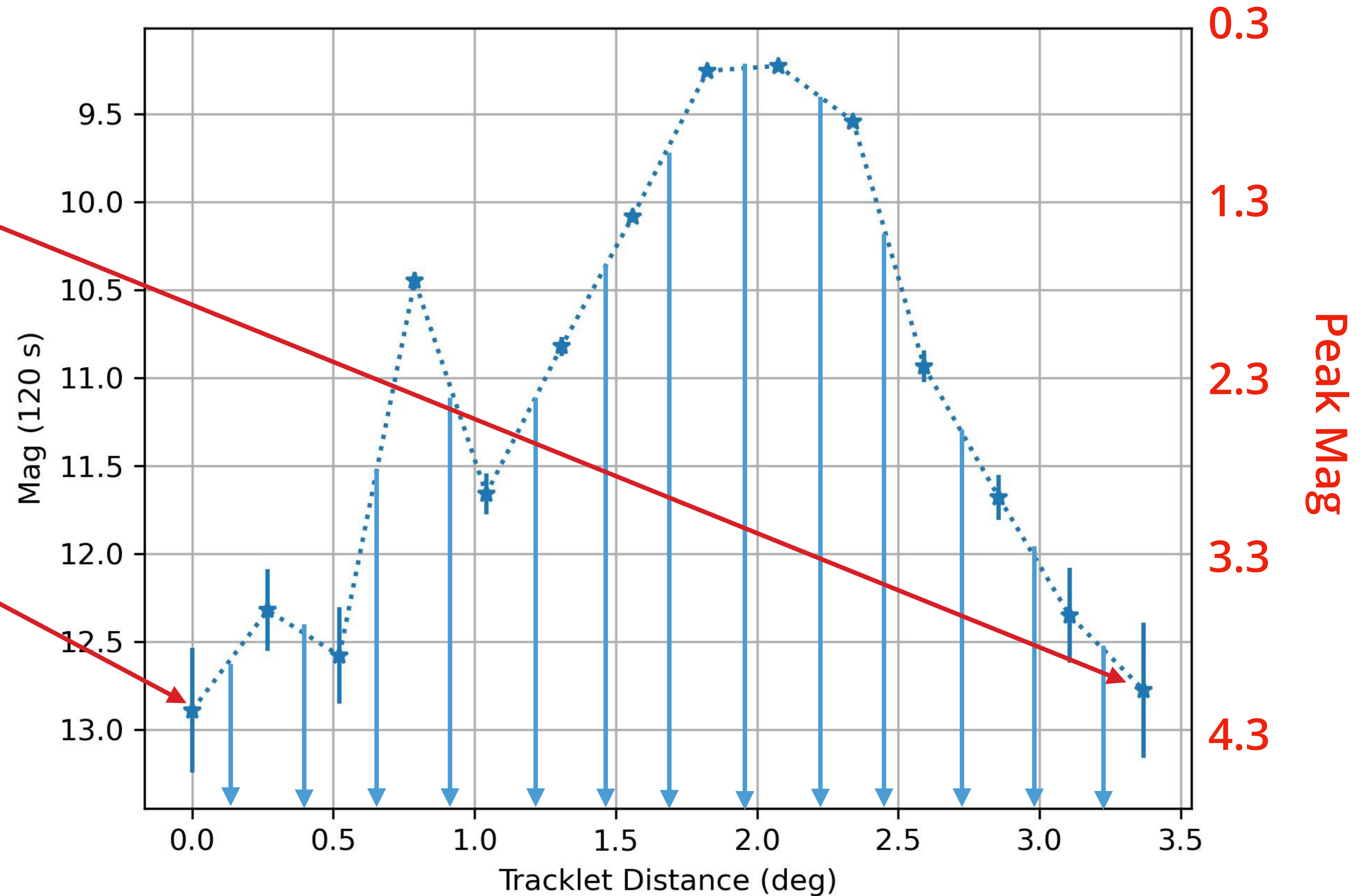


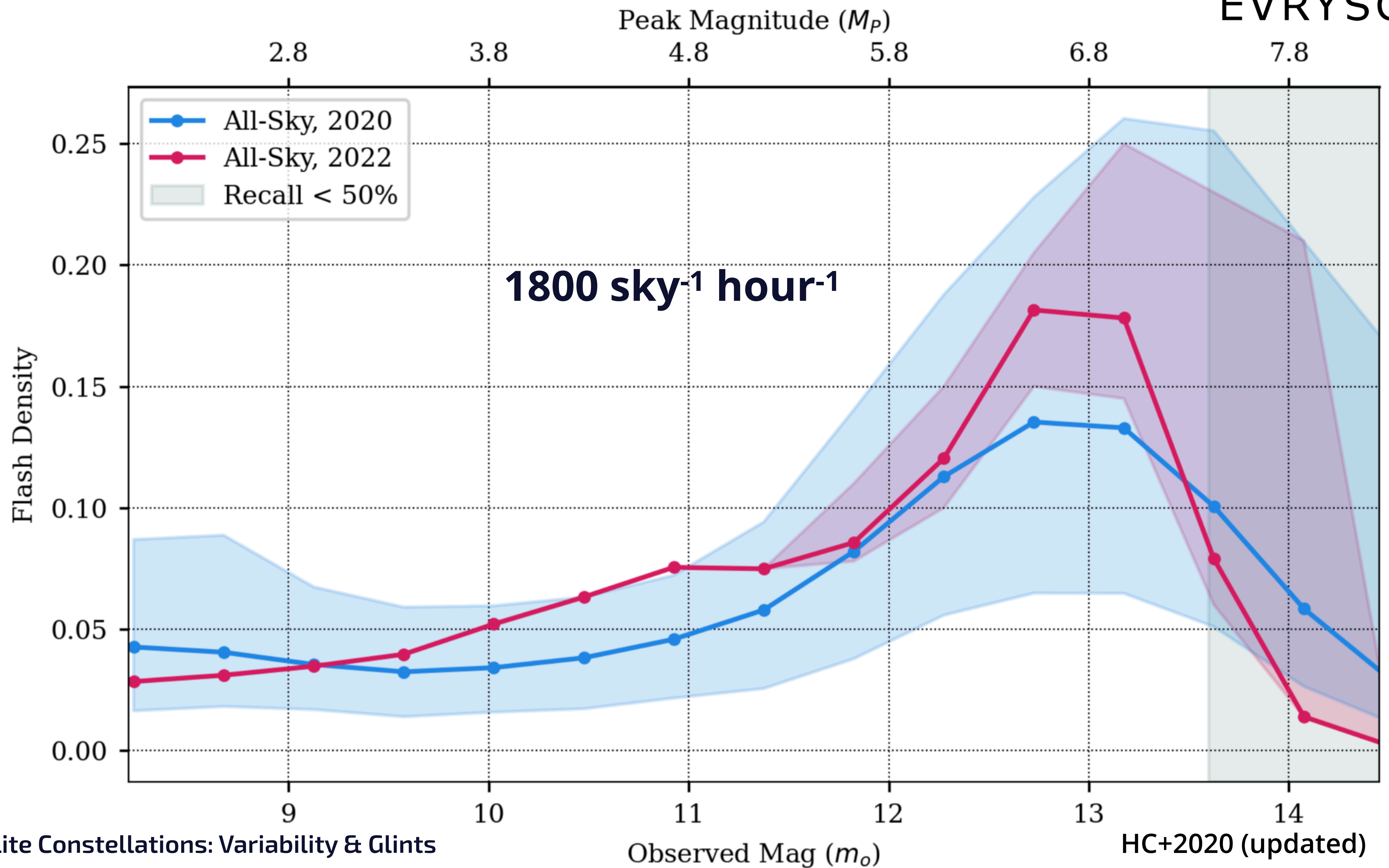
 SCHMIDT **FUTURES**

Streaks Variability & Glints



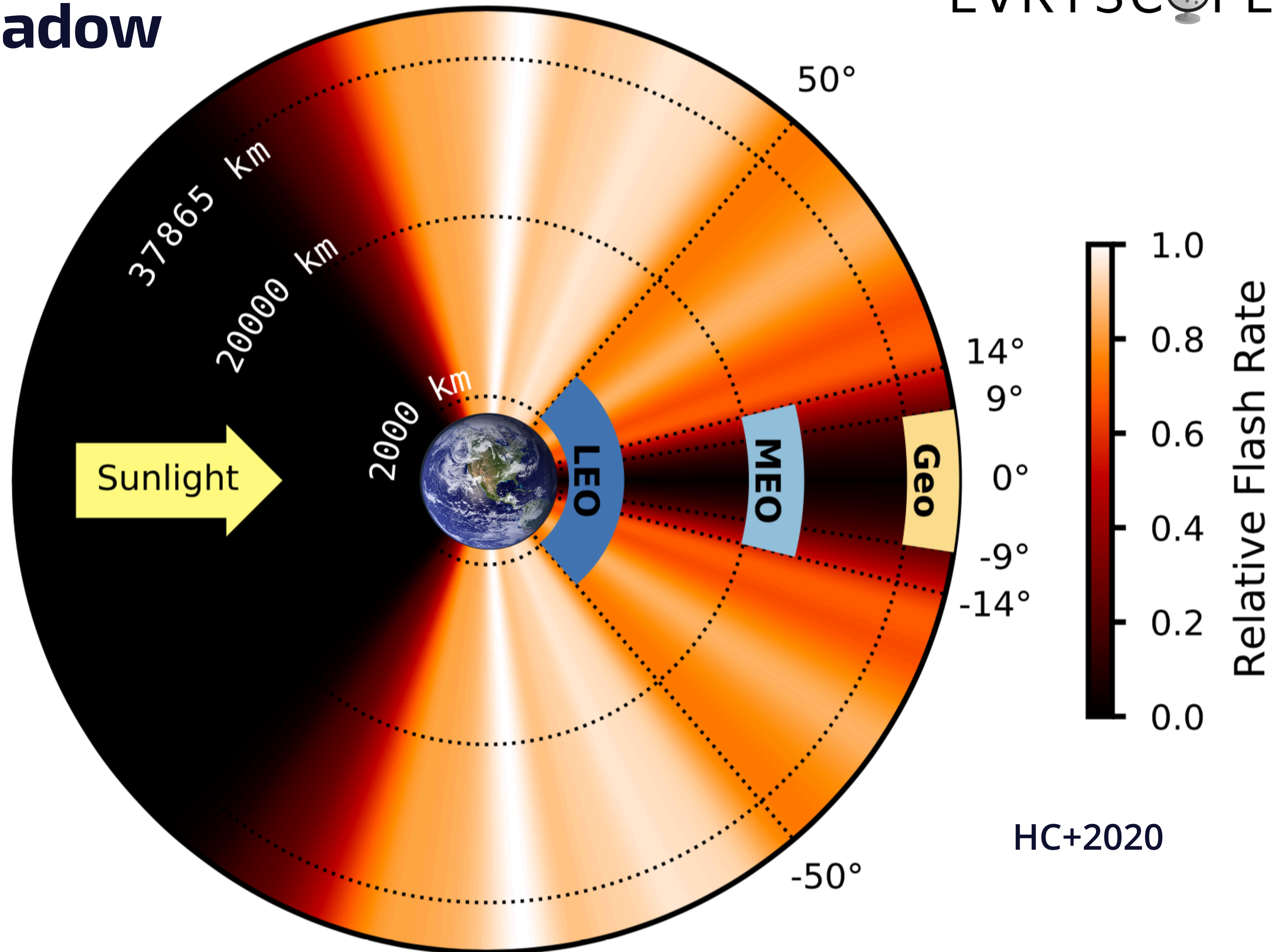
3.4 magnitude variability in
3.4 degree tracklet





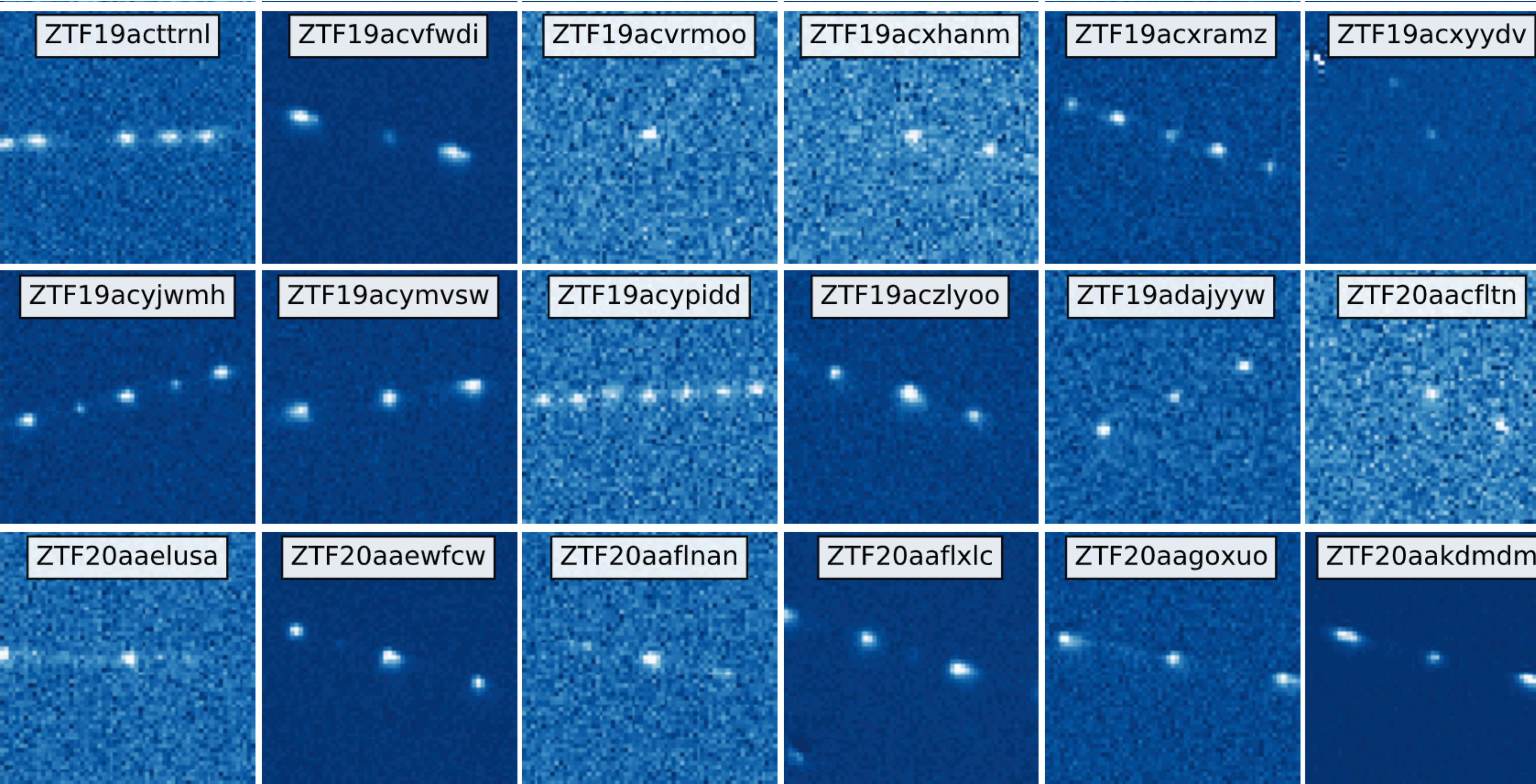
Glints in Earth's Shadow

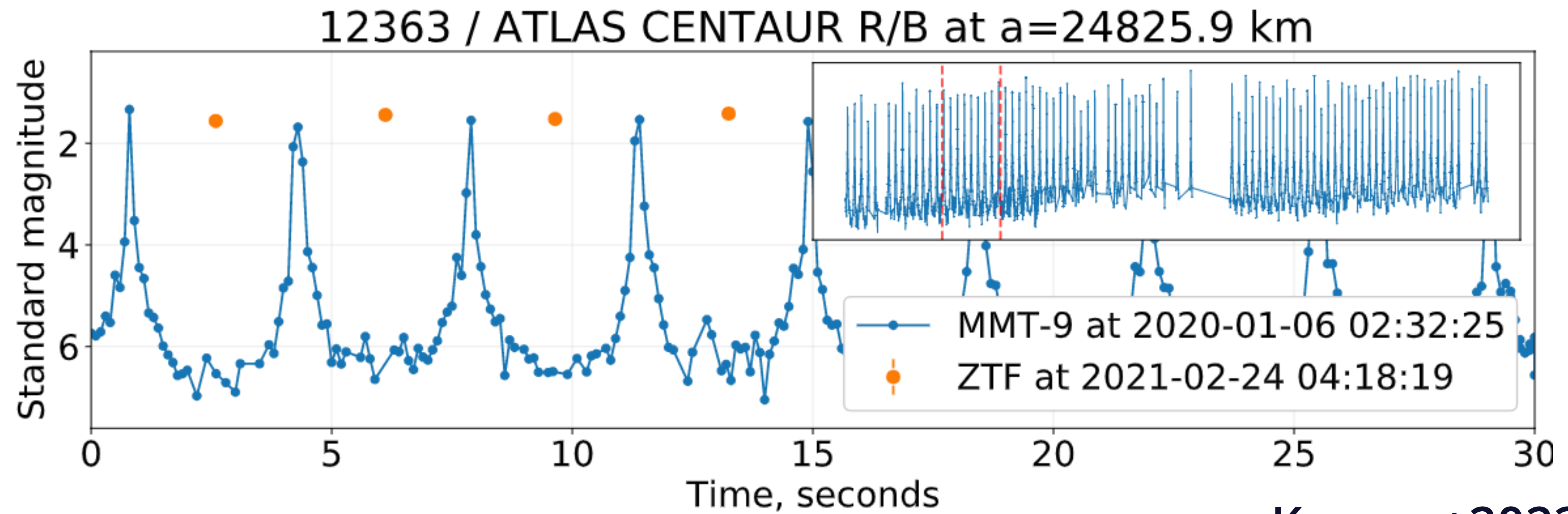
- Evryscope glints within Earth's shadow:
 - LEO: 34%
 - MEO: 4%
 - GEO: 1%
- **Majority come from LEO for $m_{\text{peak}} < 7.8$**



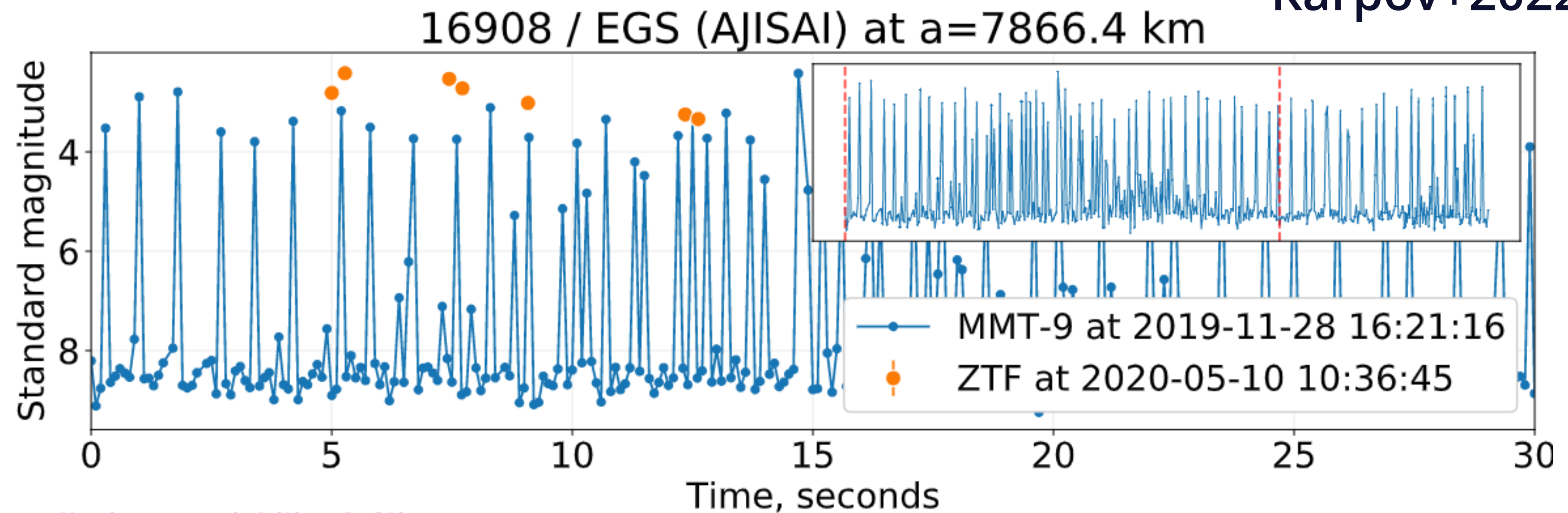
Glints in the ZTF Alert Stream

Karpov+2022



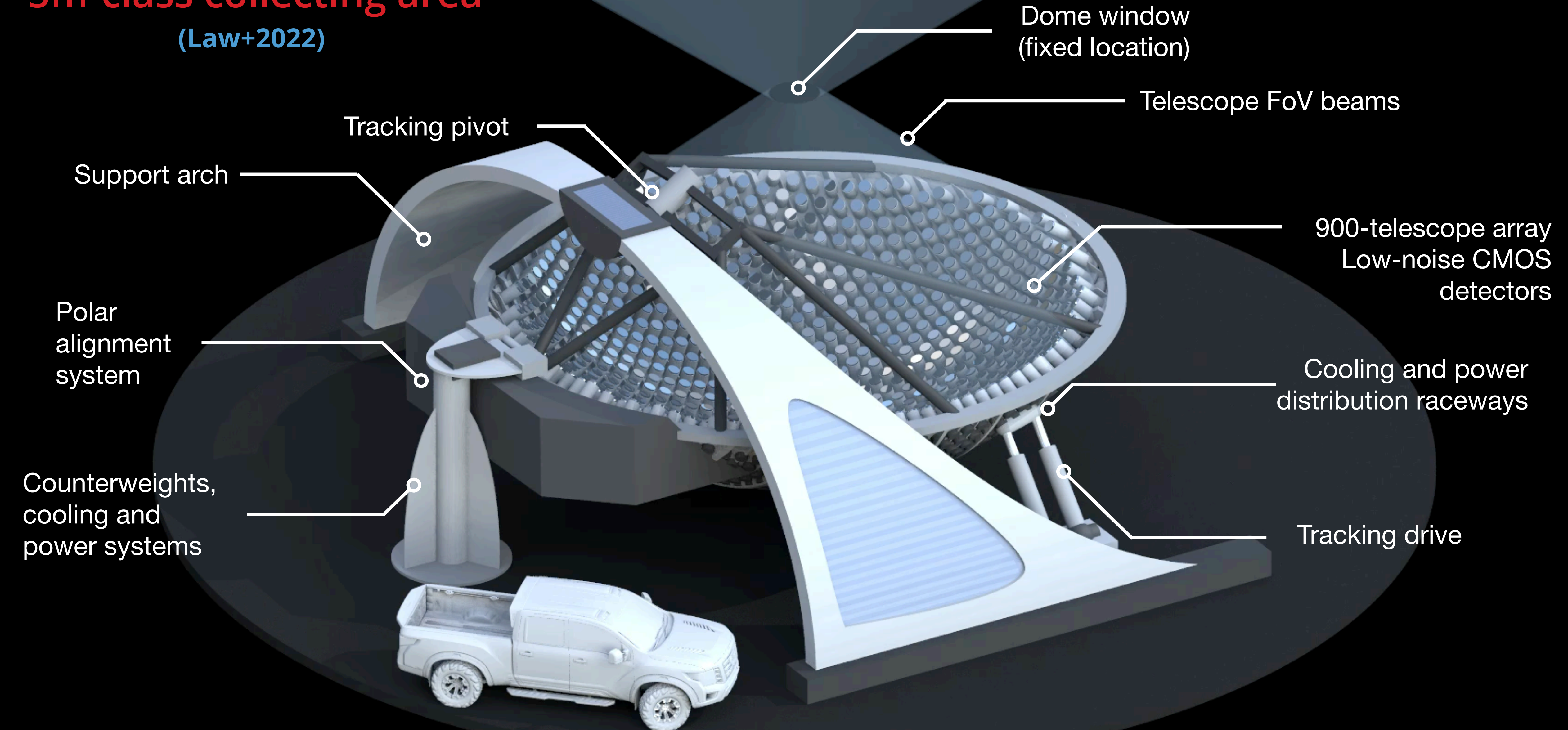


Karpov+2022



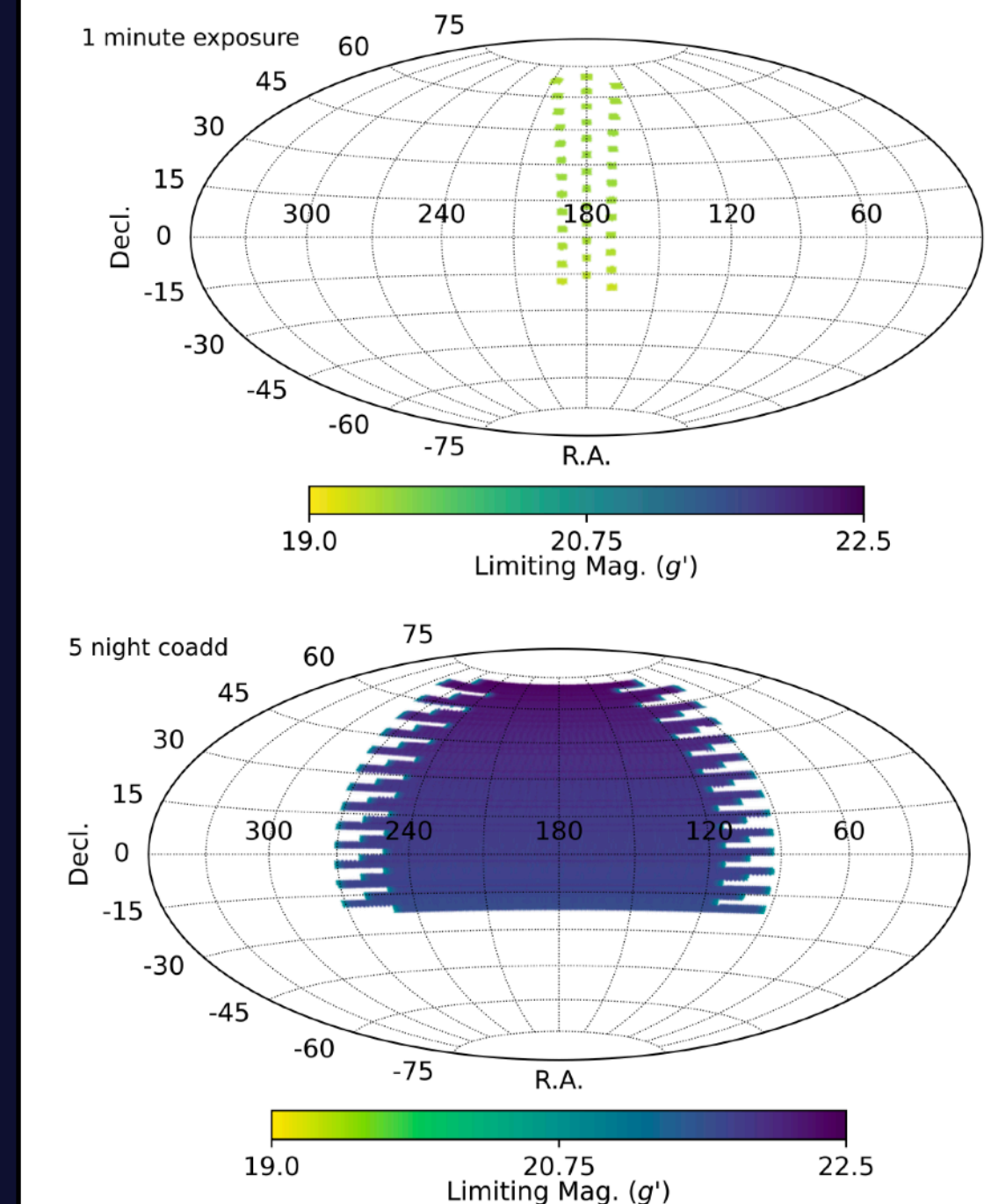
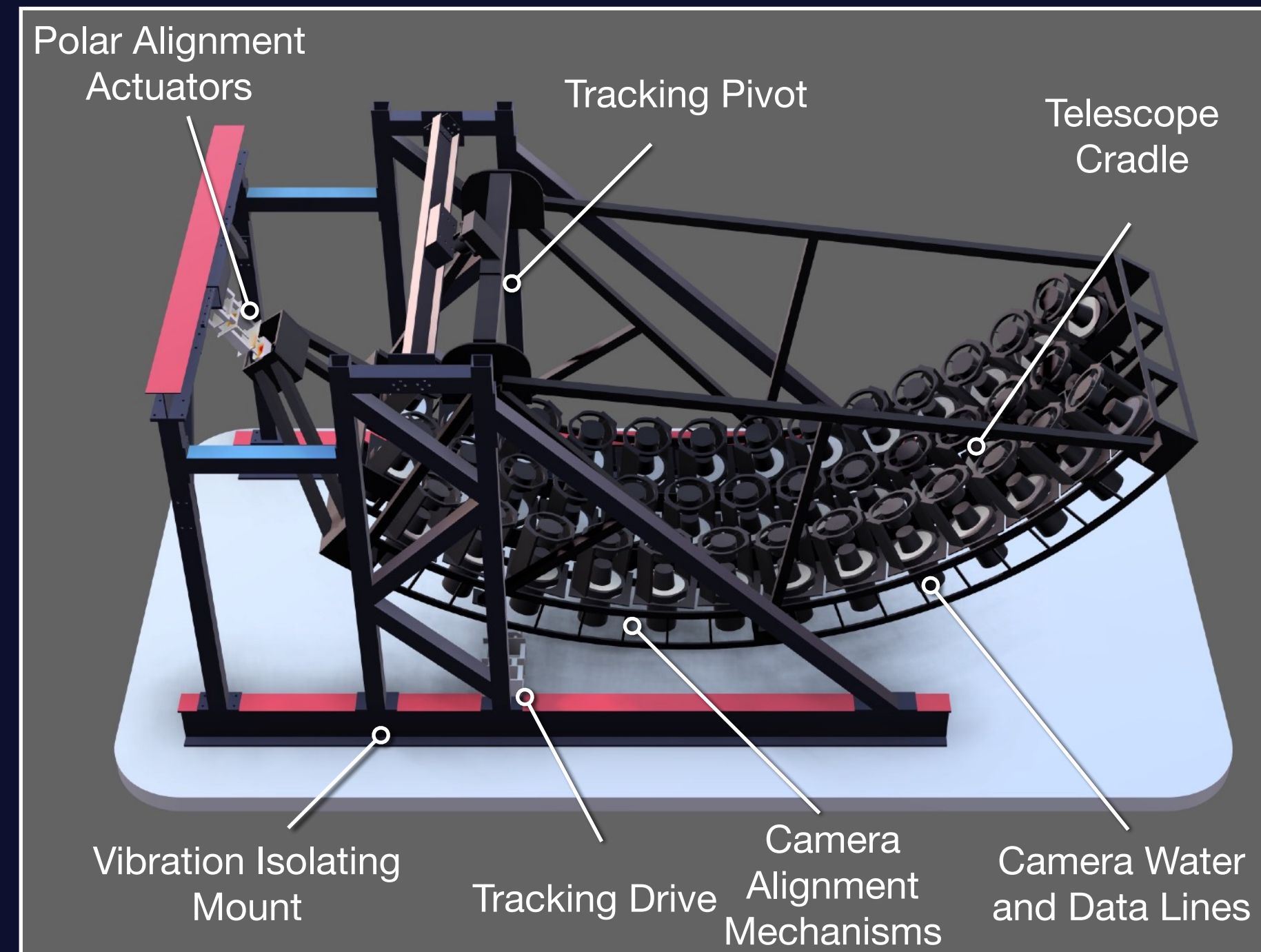
55 Gigapixels
5m-class collecting area
(Law+2022)

Argus Array 



Argus Array Pathfinder

- 2.3 GPix + 343 deg² FOV
- $m_g \sim 16.1$ every second
- Validation of full hardware & software design, early science
- **Operational Fall 2022**
 - Pisgah Astronomical Research Institute, Rosman, NC (USA)



Systematic constraints on LEO satellite glints down to 12th mag