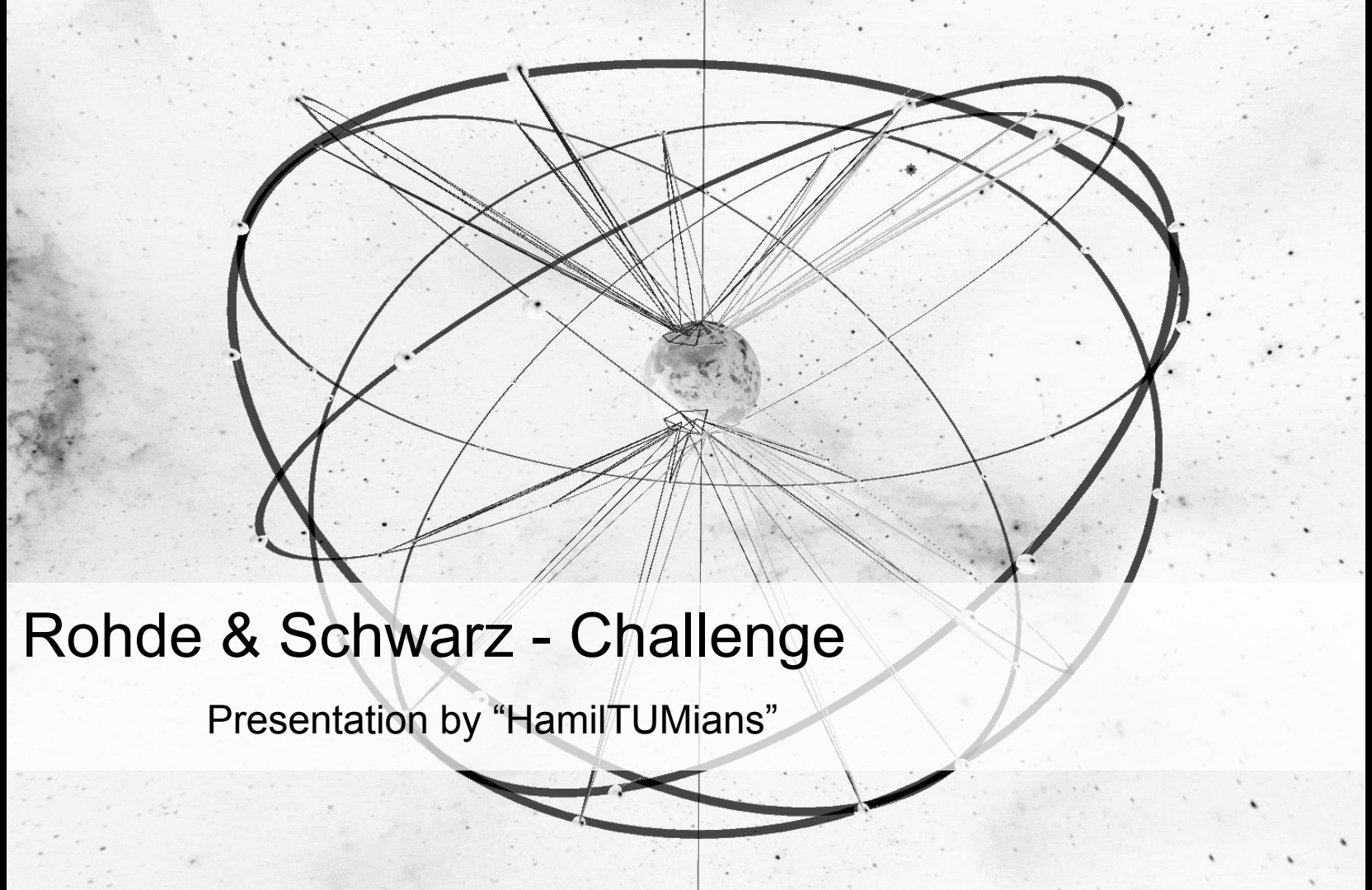
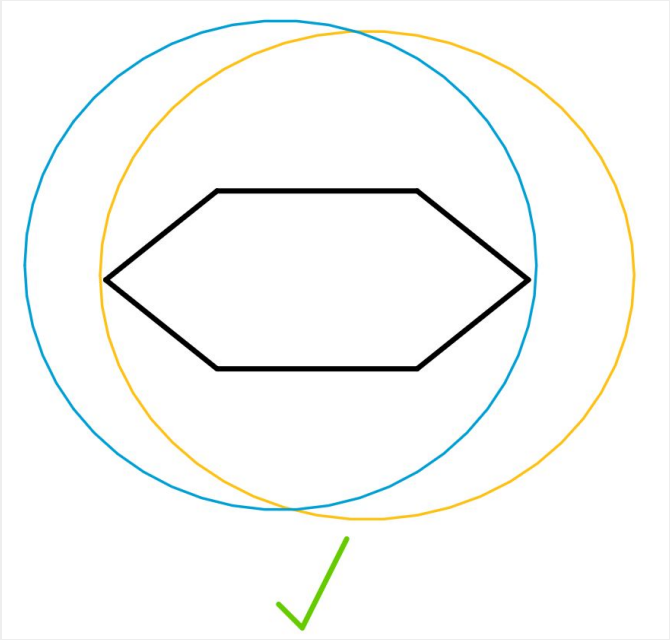


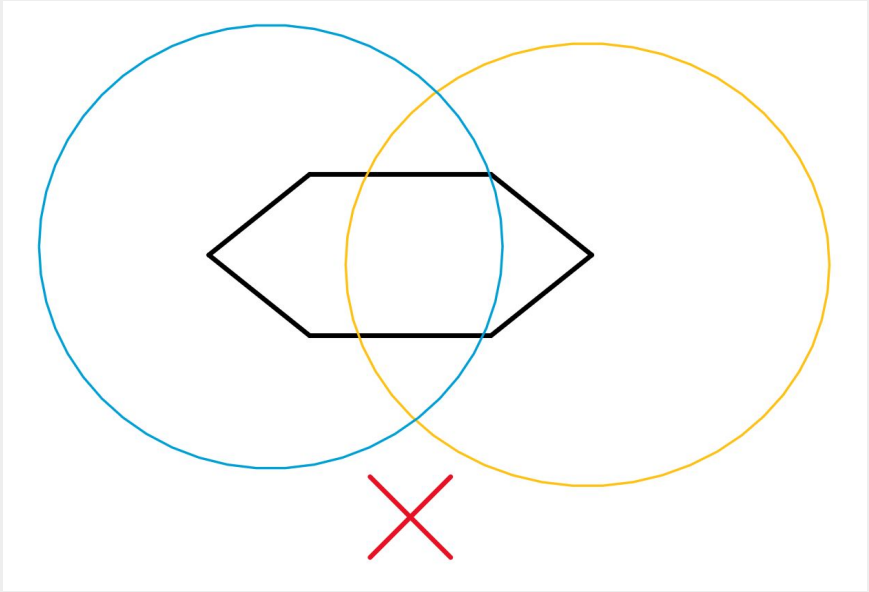
Rohde & Schwarz - Challenge

Presentation by “HamilTUMians”

Motivation

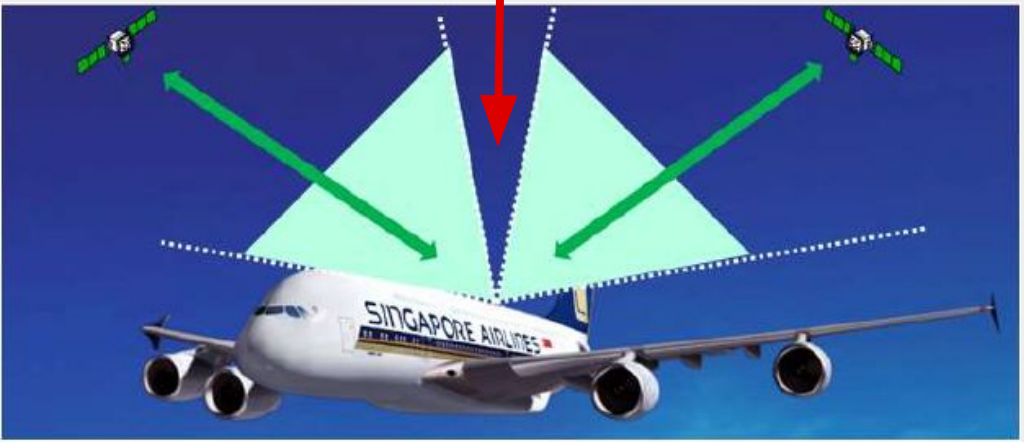
- We need a satellite communication system for airplanes across the globe
- Airspace is divided into fixed regions
- Regions must be fully covered by at least one satellite at all times



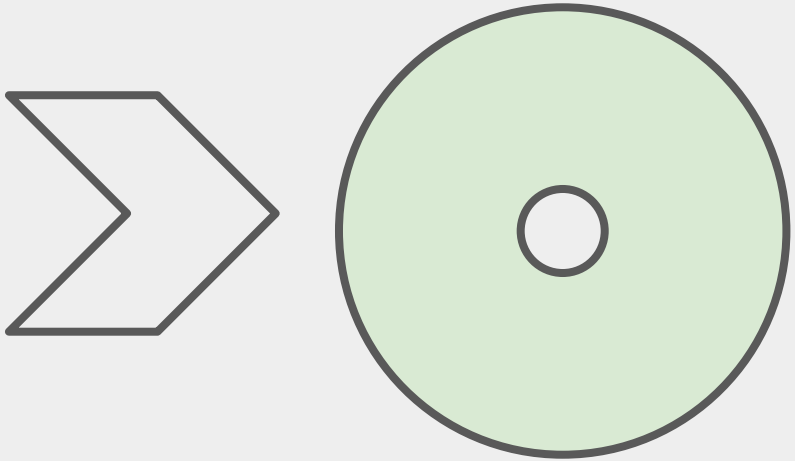


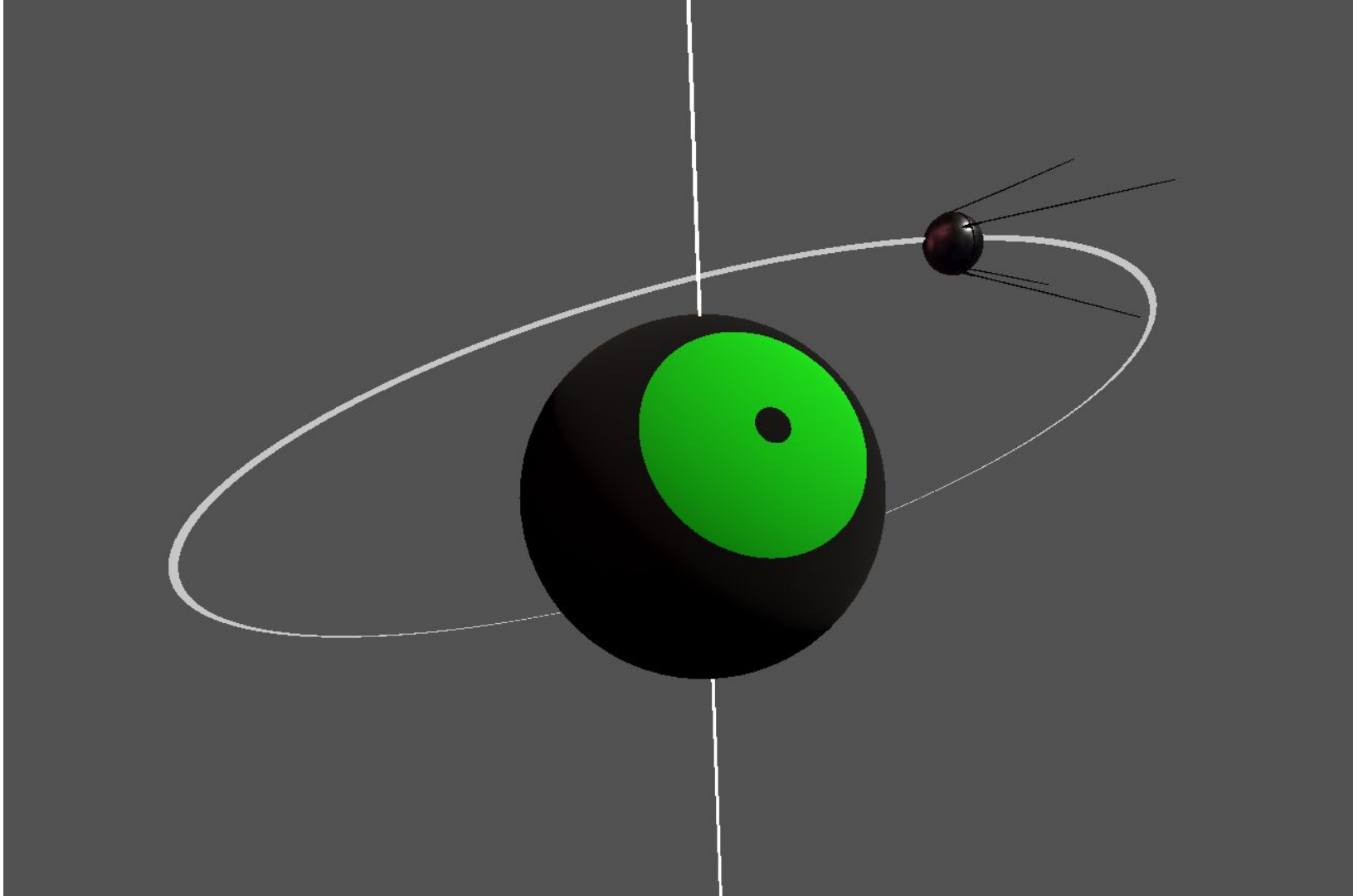
Motivation

The plane can’t communicate with this satellite



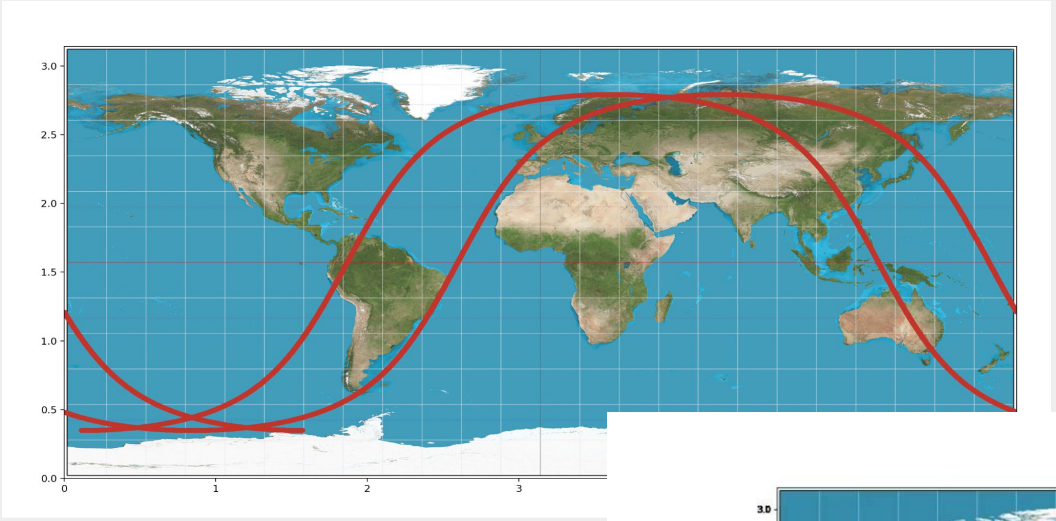
Effective Vision Cones





Summary

- **Two Working simulations of arbitrary satellite constellations**
  - **Calculation of satellite coverage maps 2D**
  - GPU accelerated visualization and calculation of satellite coverage
  - Visualization of region handovers verification
- Easily verifiable sectorization of earth and according satellite constellation
  - 62 satellites in total on 7 different orbits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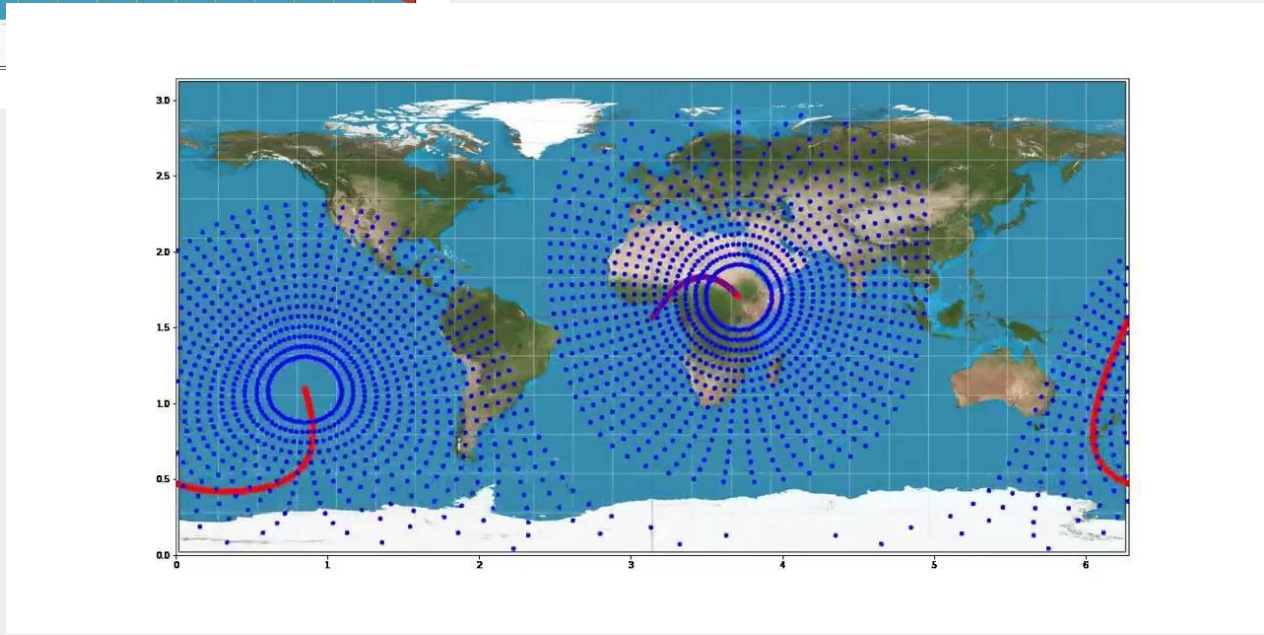
3.0
2.5
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6

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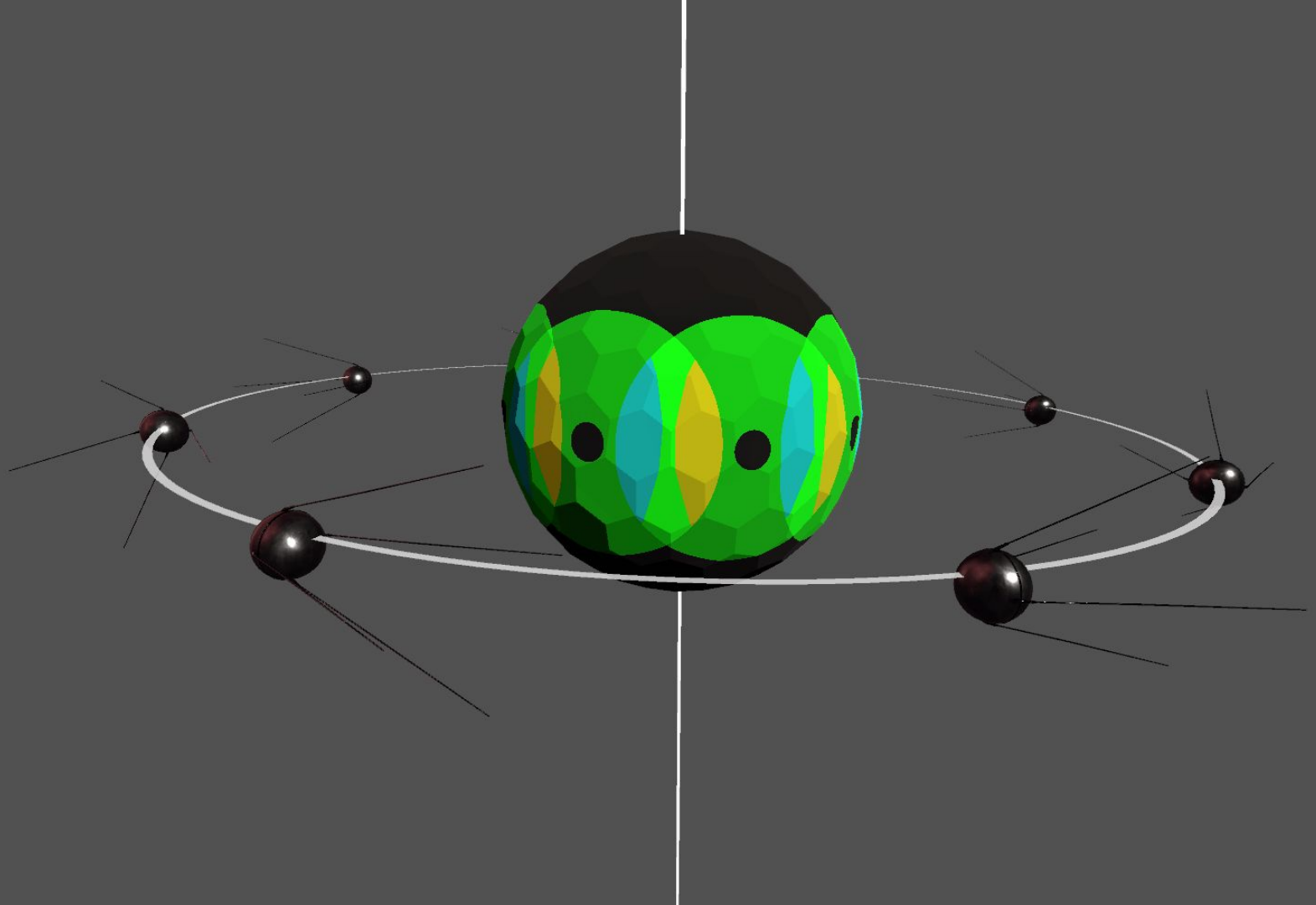

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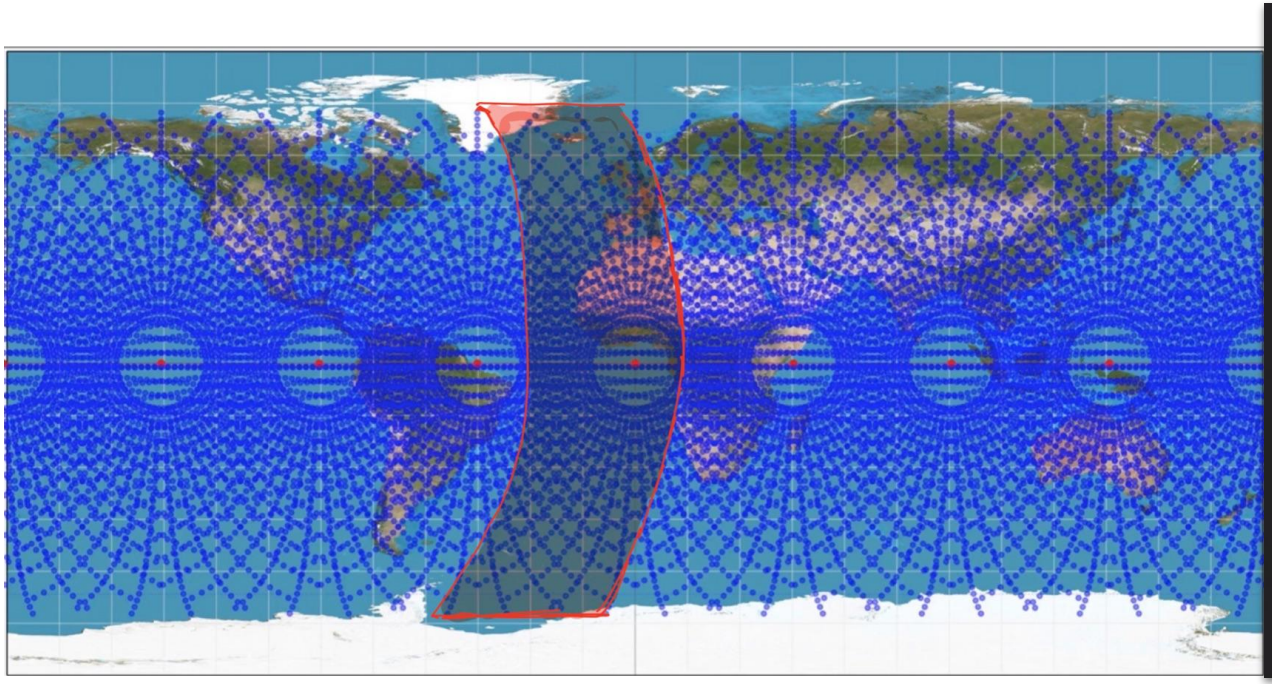
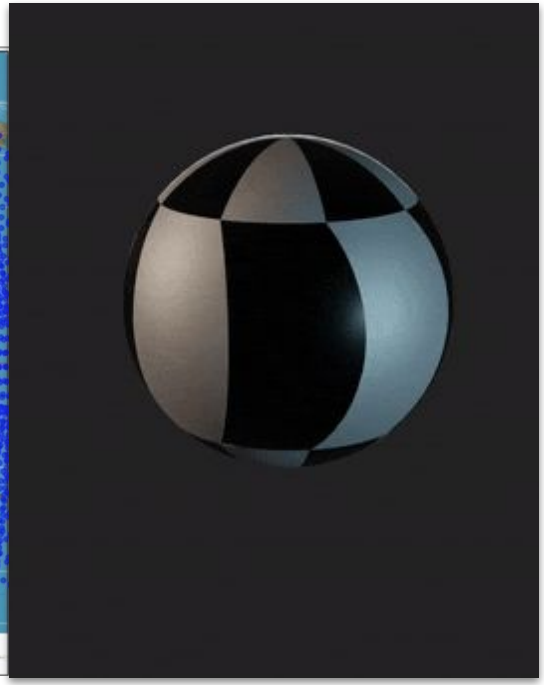
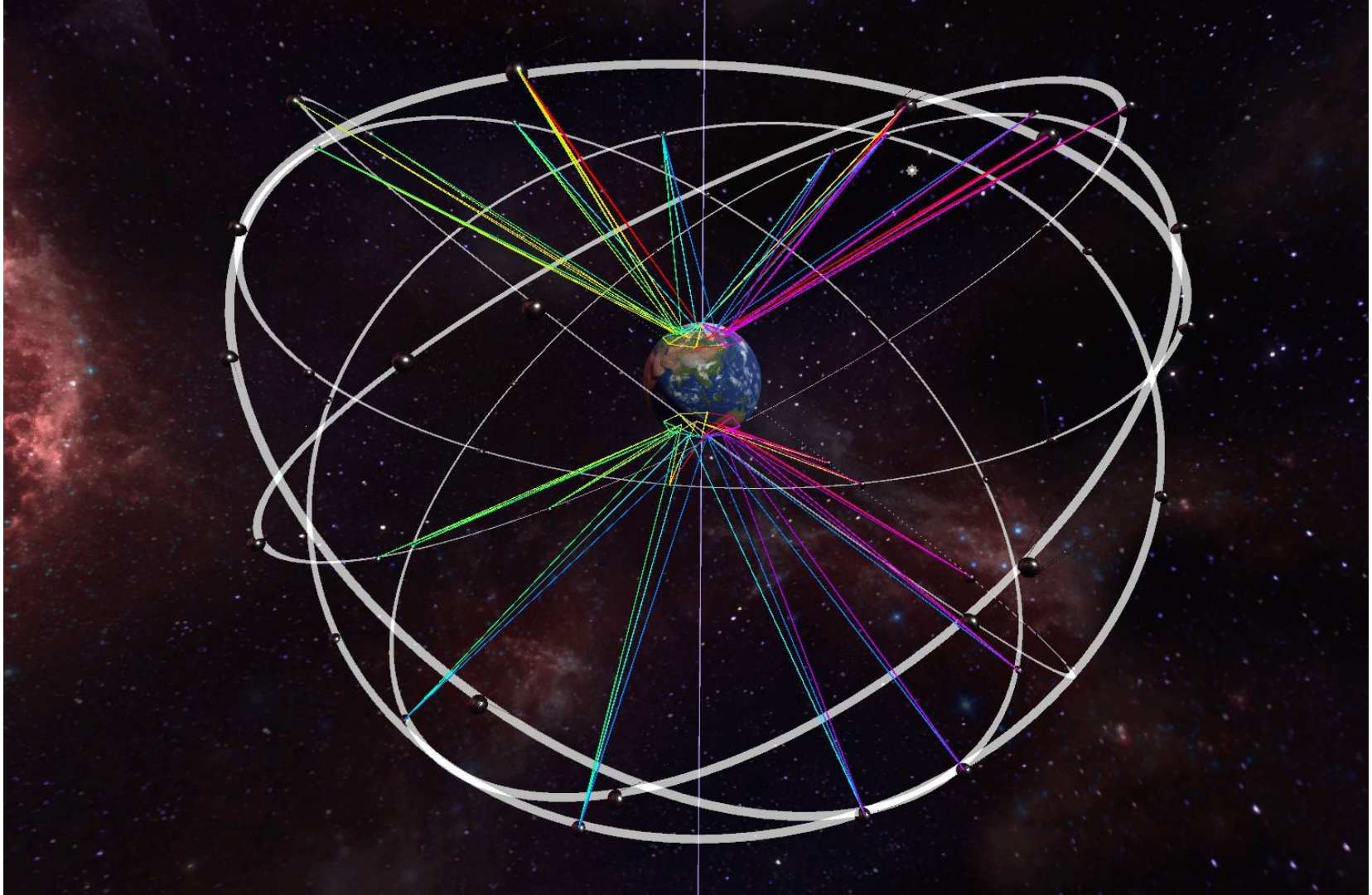
Equatorial coverage







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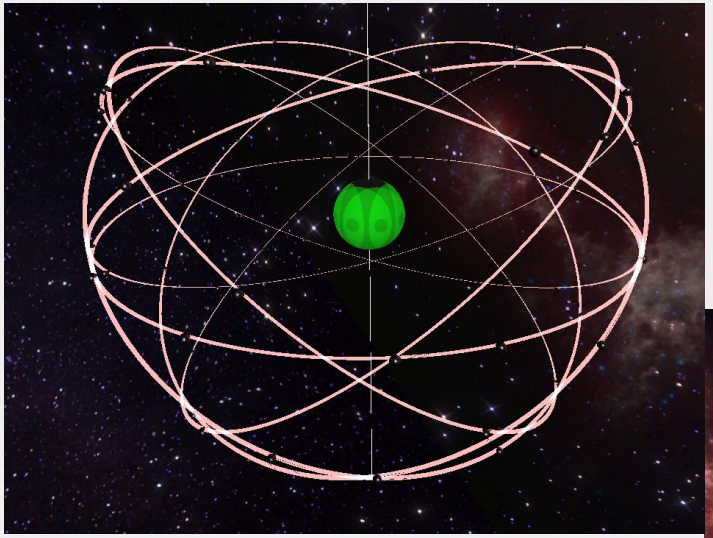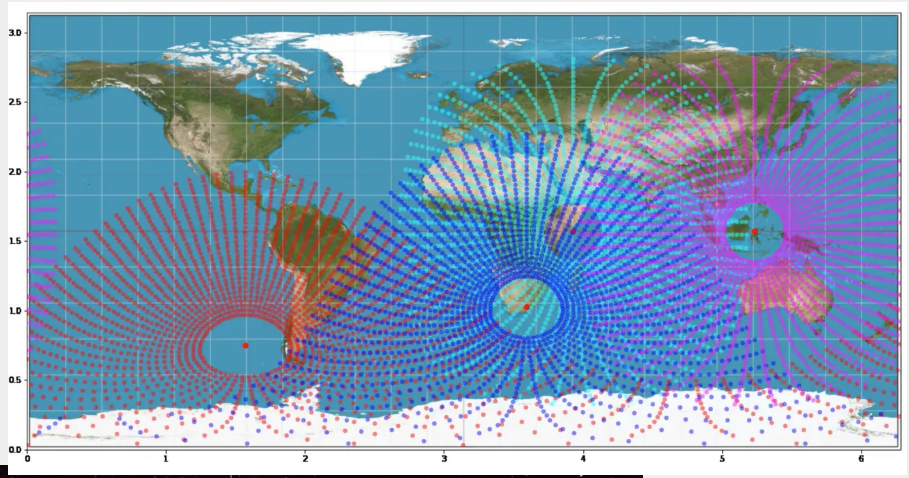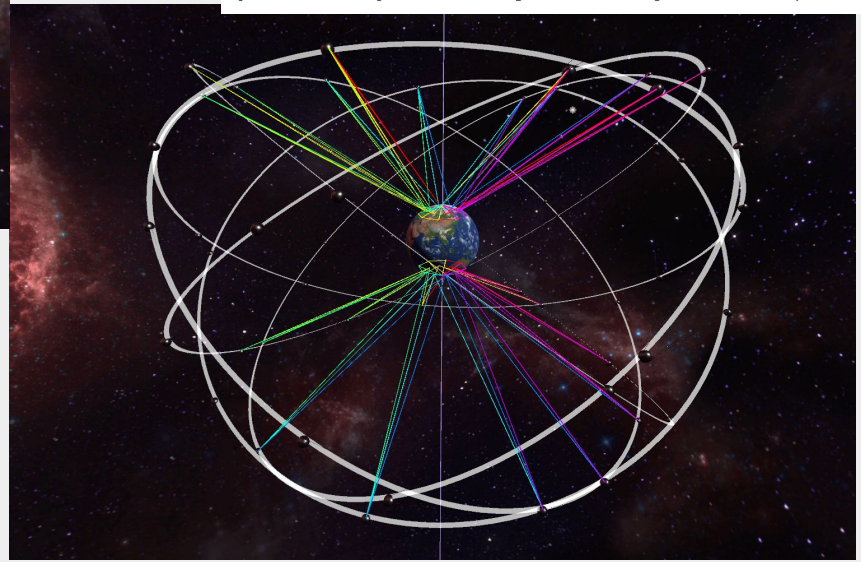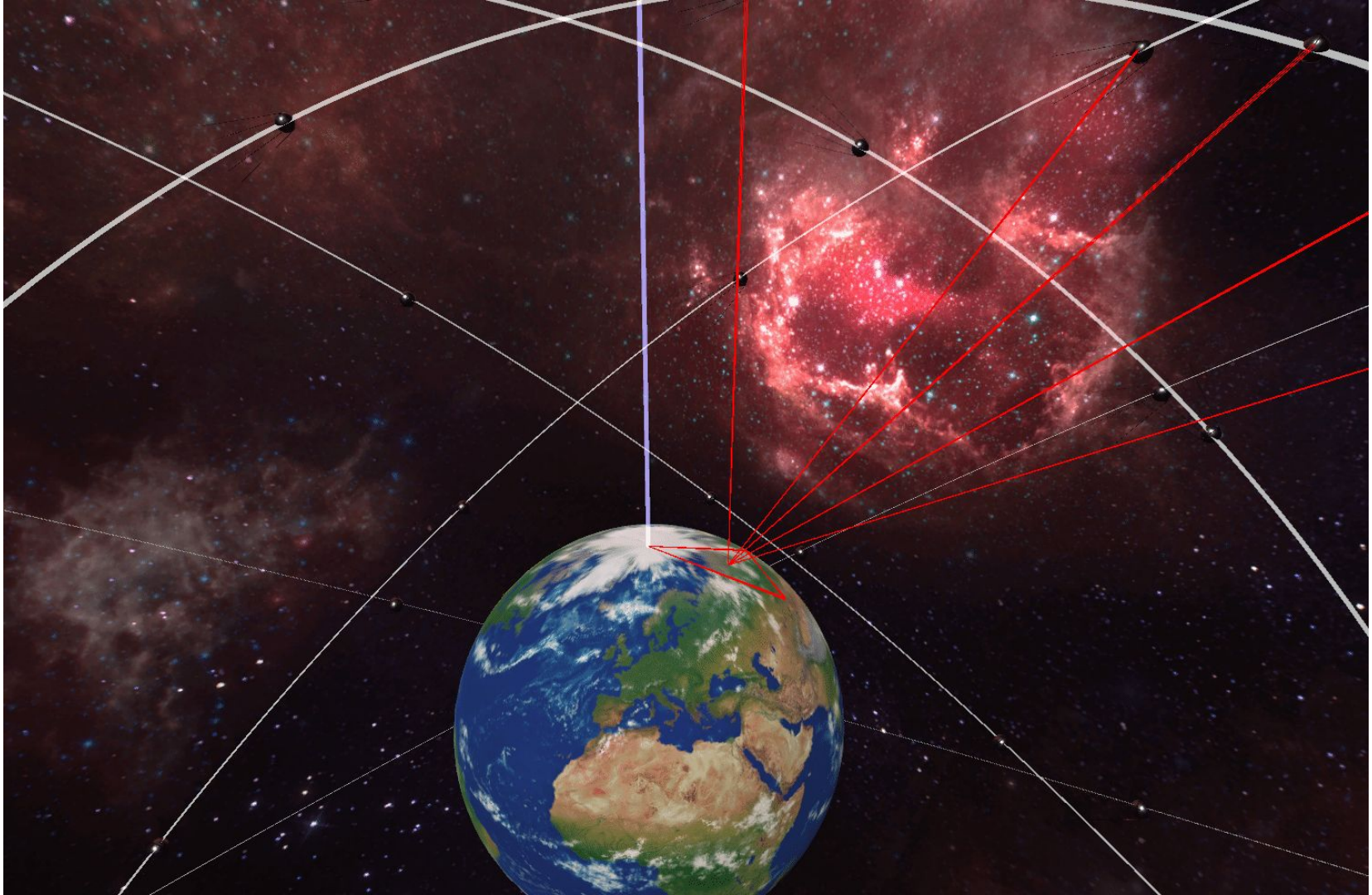
Thank you for listening!