



# ***Module 1 Activity***

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# Activity Overview



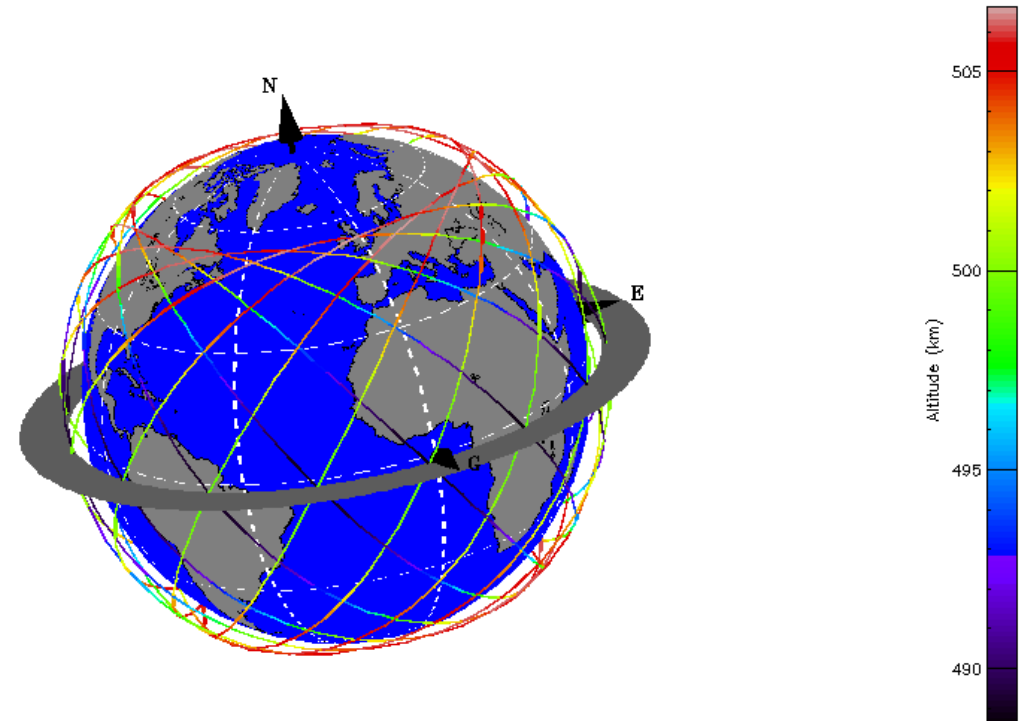
- **Using SPENVIS to generate some environment results for a few reference orbits**
- Guided example for Mid-Latitude LEO (ex. ISS)
  - Looking at trapped fluxes, dose-depth curves
- On your own: generate environments for couple other orbits
  - Walking around to help with issues and answer questions

# Guided Activity

## Mid Latitude LEO (ISS, Starlink)

Mission Duration	10 years
Apogee	420 km
Perigee	420 km
Inclination	52.0 deg
RAAN <sup>1</sup>	0 deg
Argument of Perigee	0 deg
True Anomaly	0 deg

<sup>1</sup>Right Ascension of the Ascending Node



# On your own



By yourself or in a small group, generate results for these other reference orbits

Polar LEO (POES, Iridium)	
Mission Duration	7 years
Apogee	825 km
Perigee	825 km
Inclination	98.8 deg
RAAN <sup>1</sup>	0 deg
Argument of Perigee	0 deg
True Anomaly	0 deg

HEO (Van Allen Probes, MMS)	
Mission Duration	2 years
Apogee	70000 km
Perigee	2500 km
Inclination	28 deg
RAAN	0 deg
Argument of Perigee	0 deg
True Anomaly	0 deg

<sup>1</sup>Right Ascension of the Ascending Node

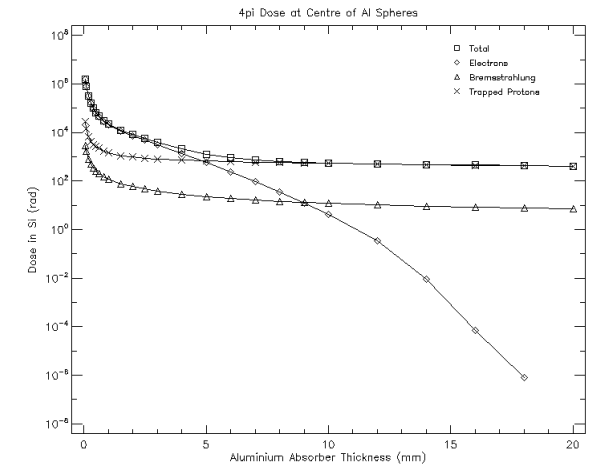
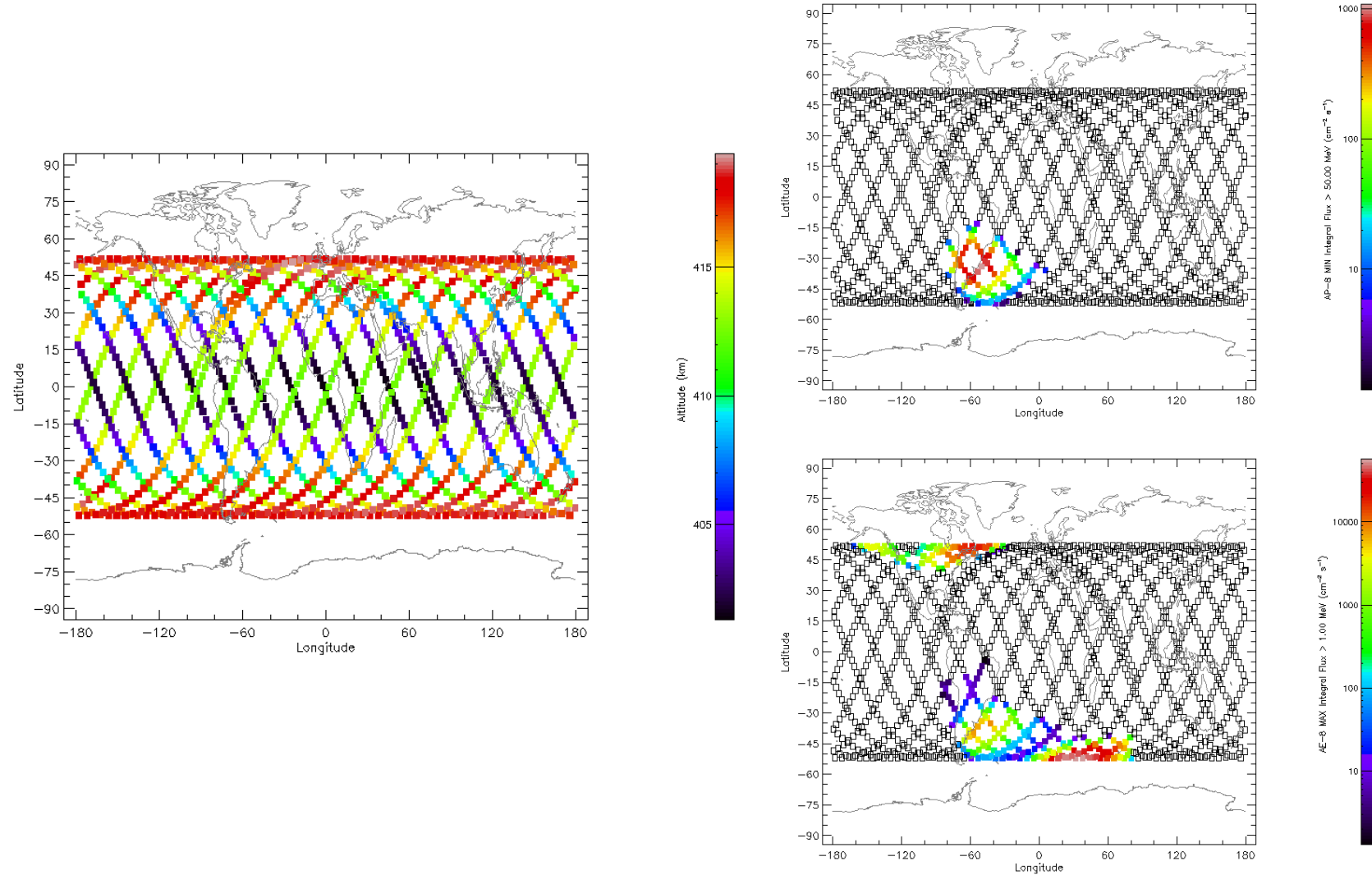
How do the environments at these orbits differ?



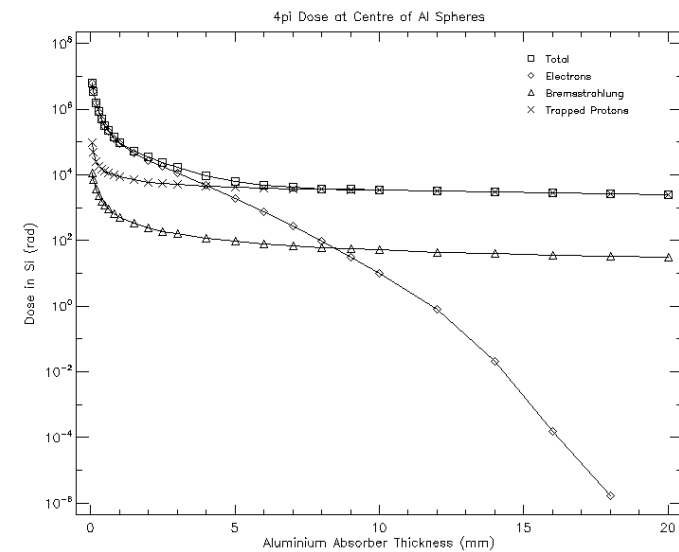
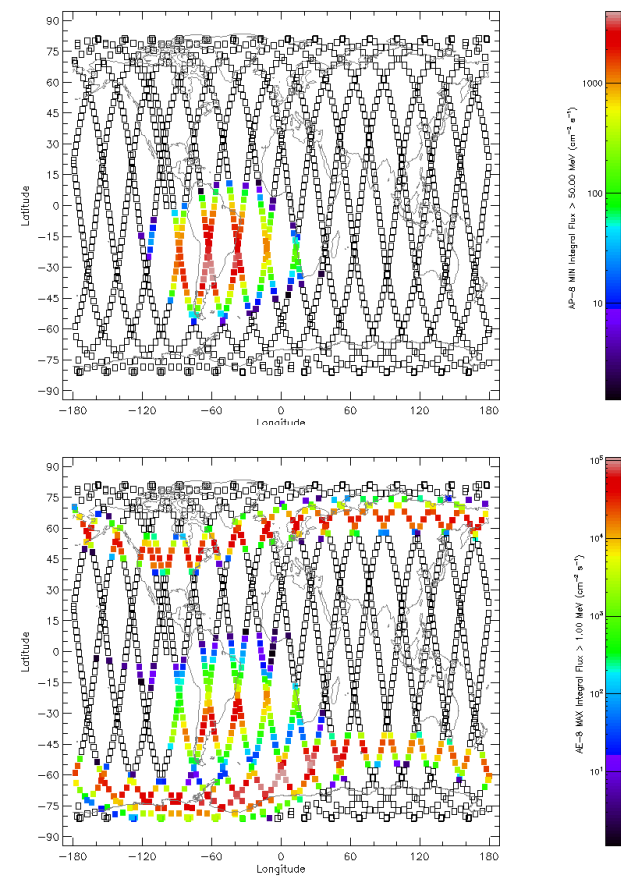
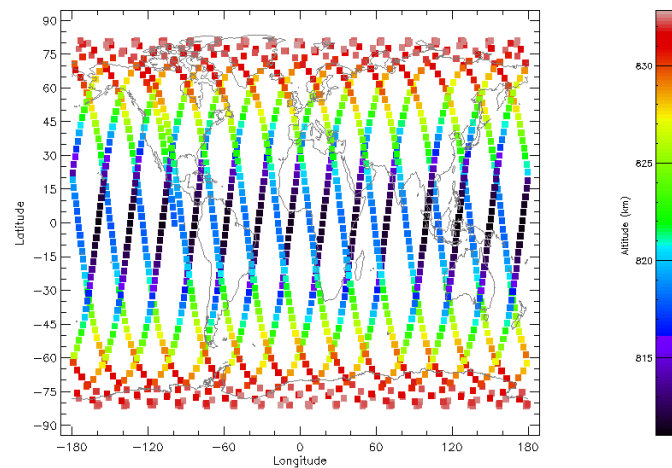


***Backup***

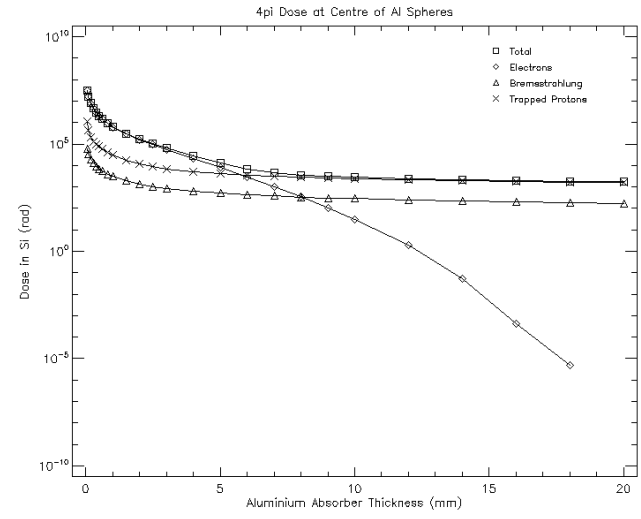
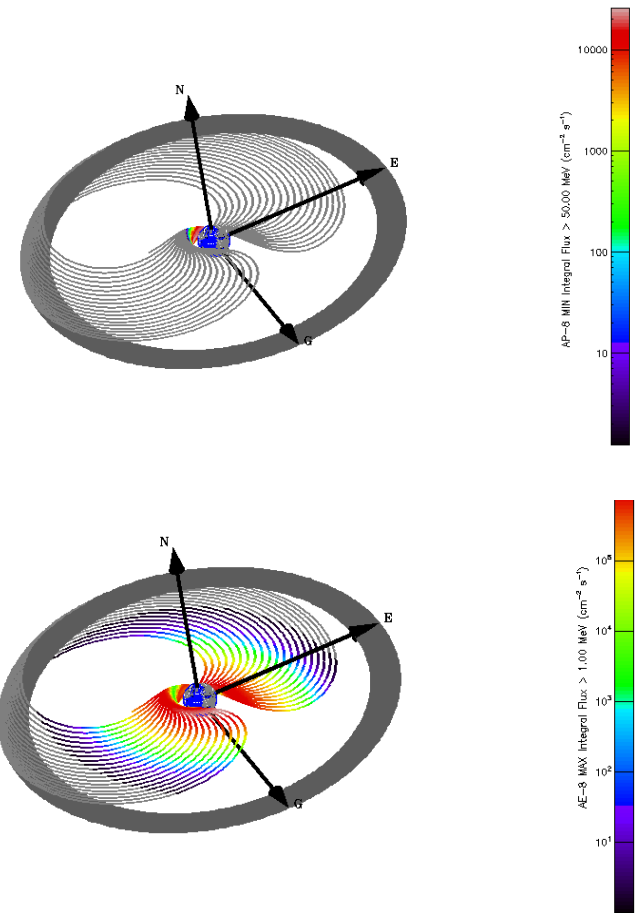
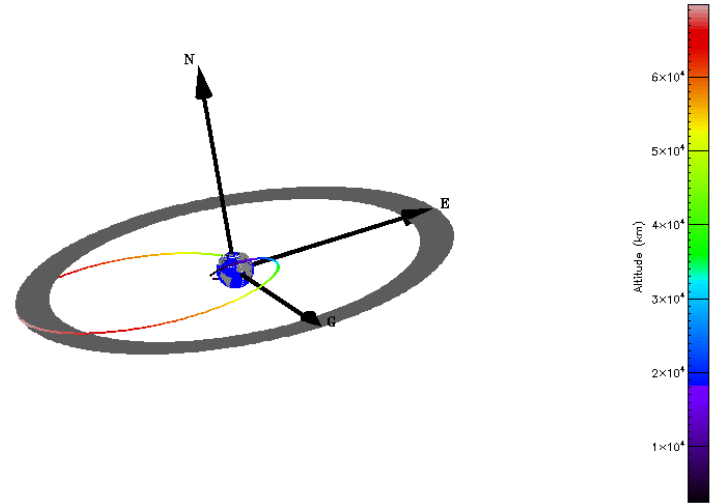
# Mid Latitude LEO



# Polar LEO











***Thank you***