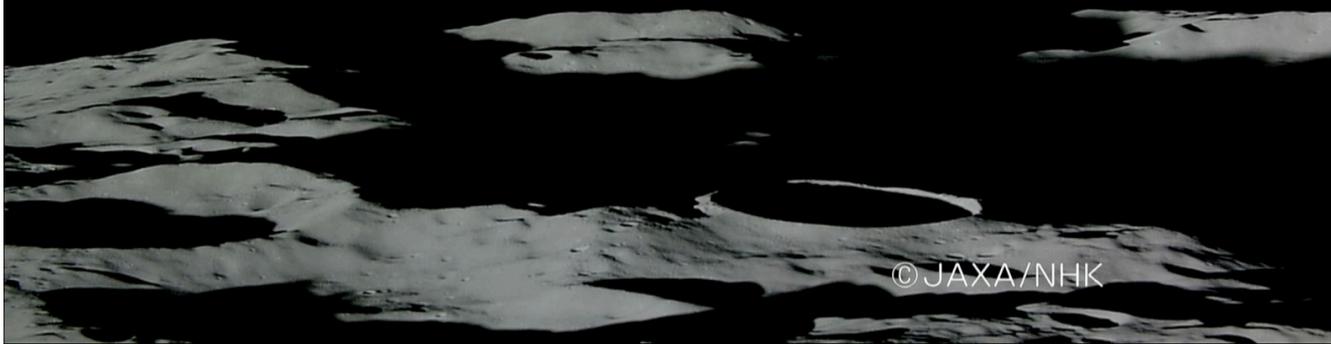
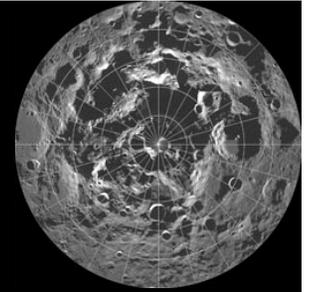


Lunar Polar Illumination



© JAXA/NHK

Ben Bussey, Andy McGovern,
Catherine Neish

JHU/APL

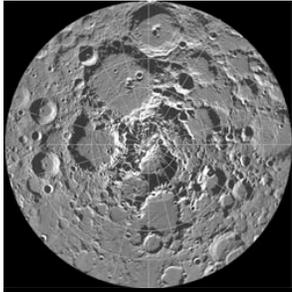
Paul Spudis

LPI

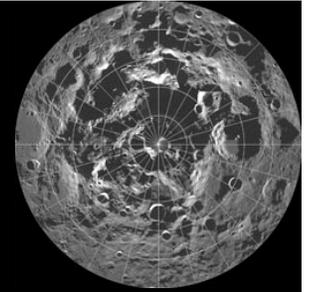
Soren Sorensen

UCL

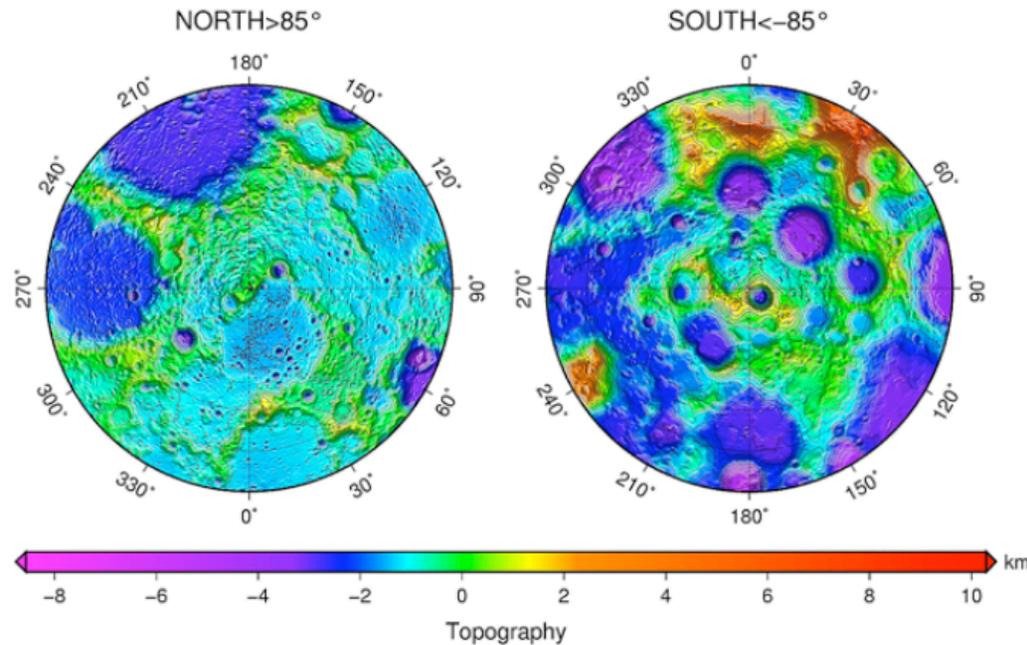
NASA
LUNAR
SCIENCE
INSTITUTE



Kaguya Topography



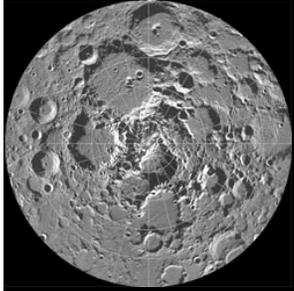
NODA ET AL.: ILLUMINATION CONDITIONS AT THE LUNAR POLAR REGIONS



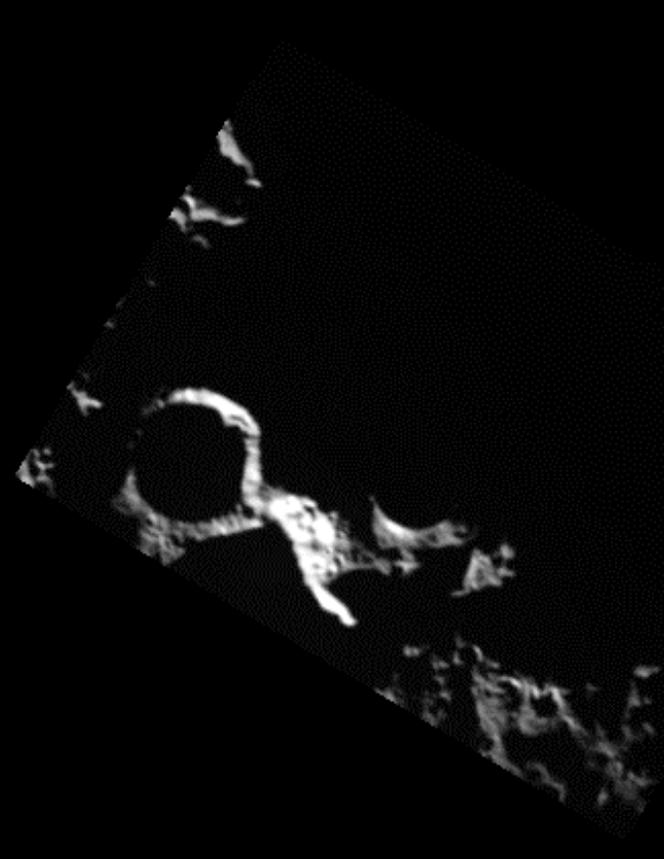
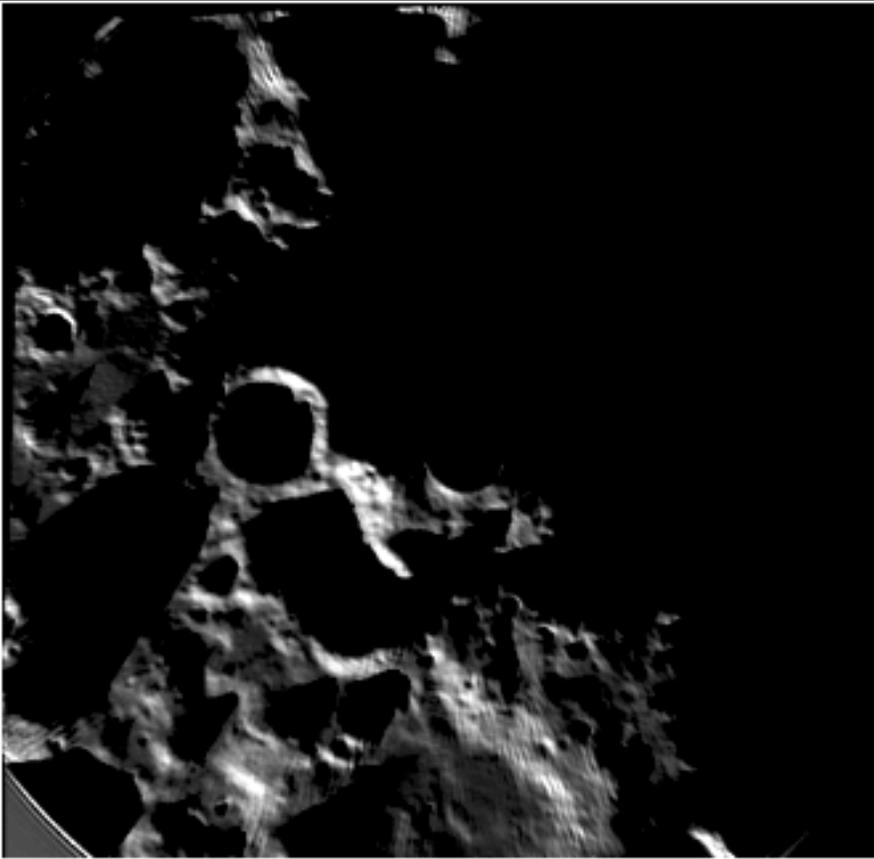
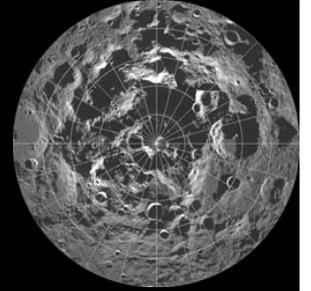
Noda et al., *GRL* 2008

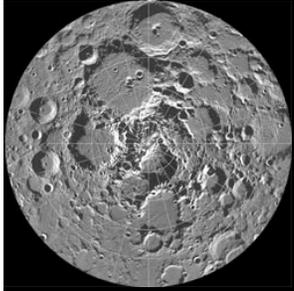
- 1 Hz 1064nm laser
- 40 m spot size
- 5 m vertical accuracy
- 500 m/pixel spatial

- No 100% areas
- Regions >80% exist at both poles

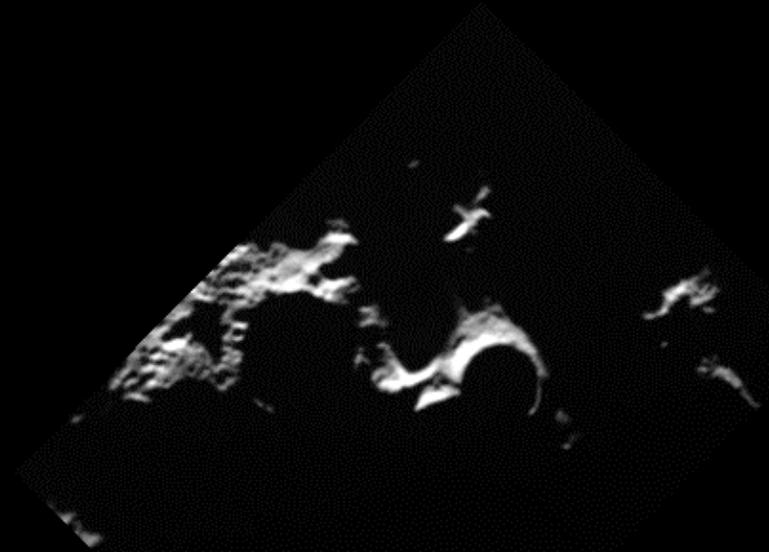
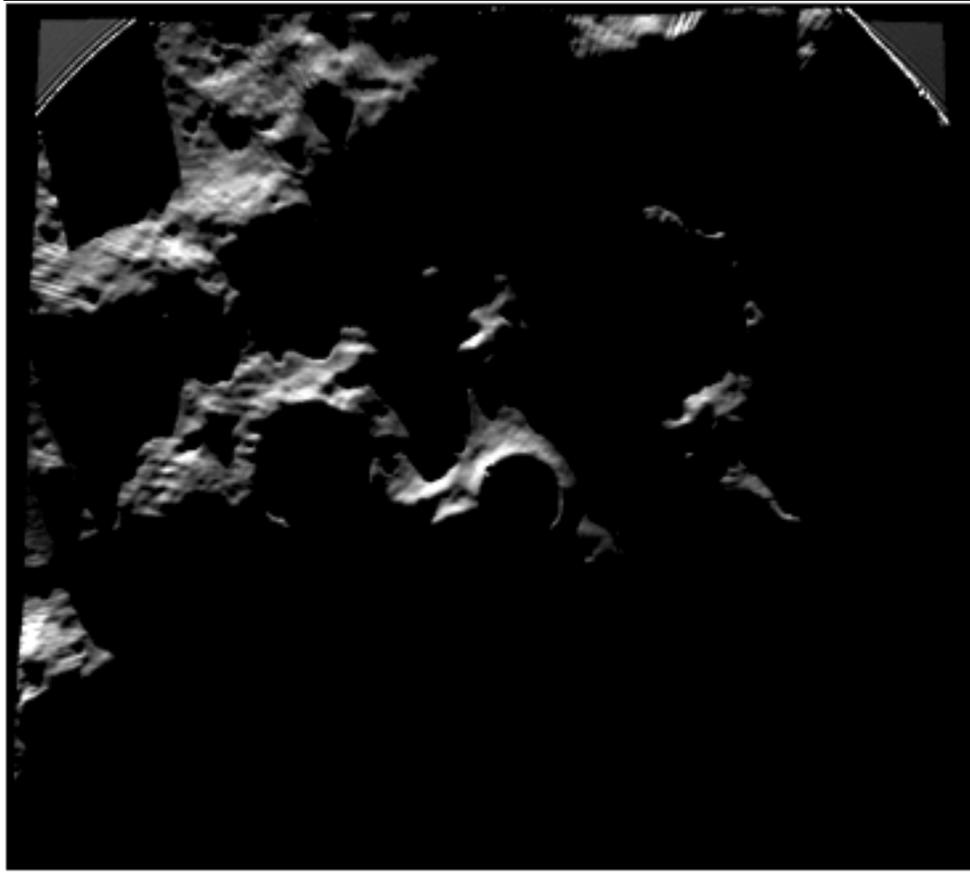
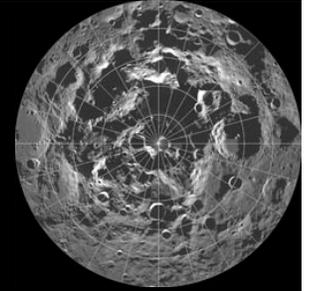


Clementine Comparison

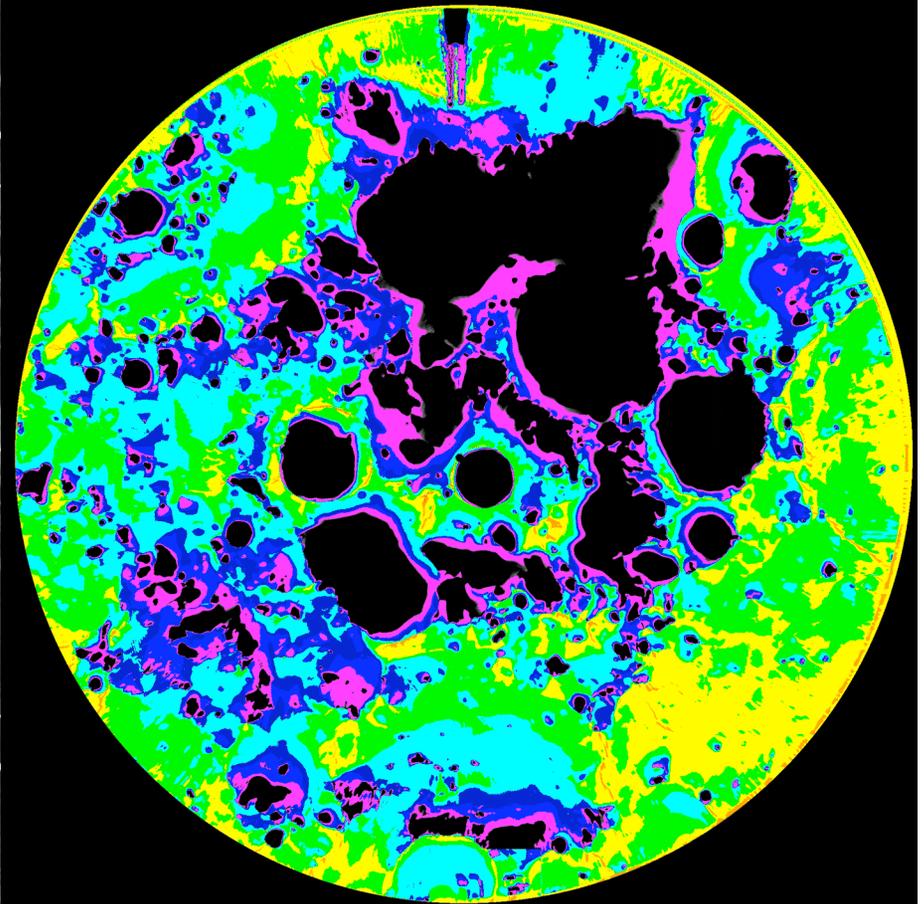
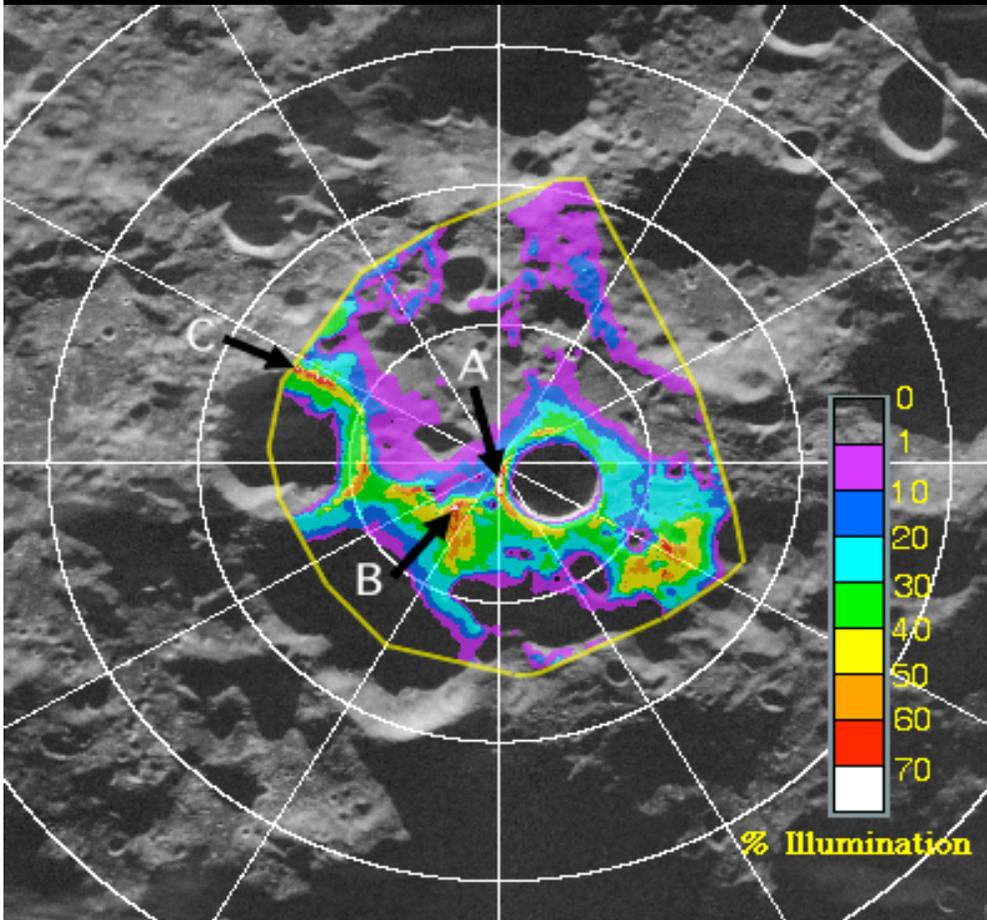
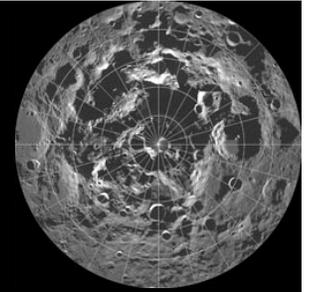
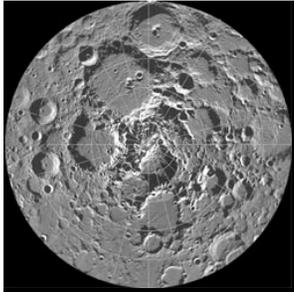


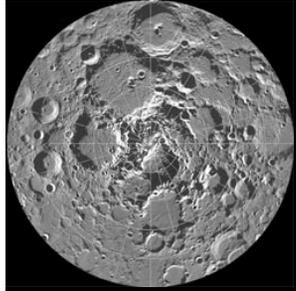


Clementine Comparison

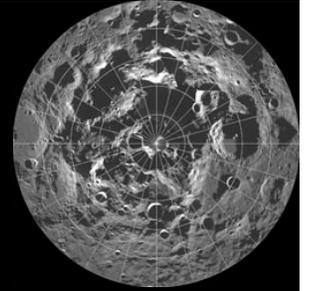


Clementine Comparison

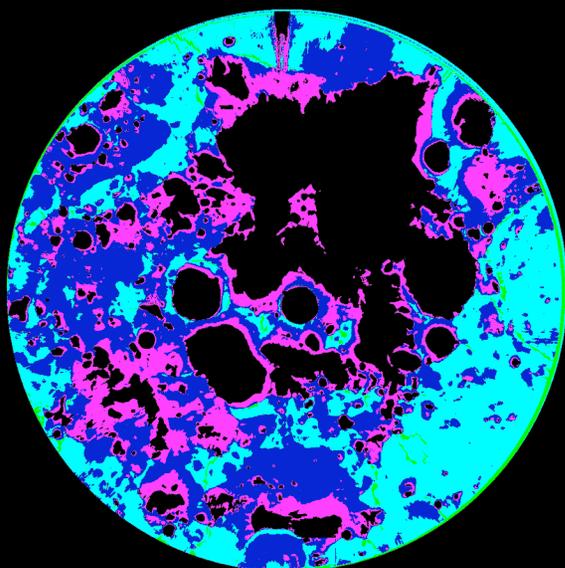
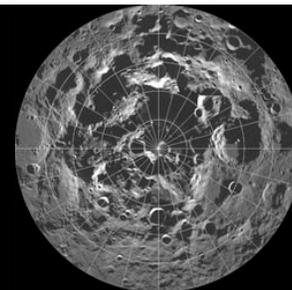
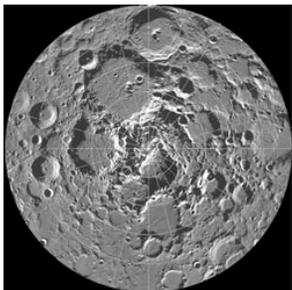




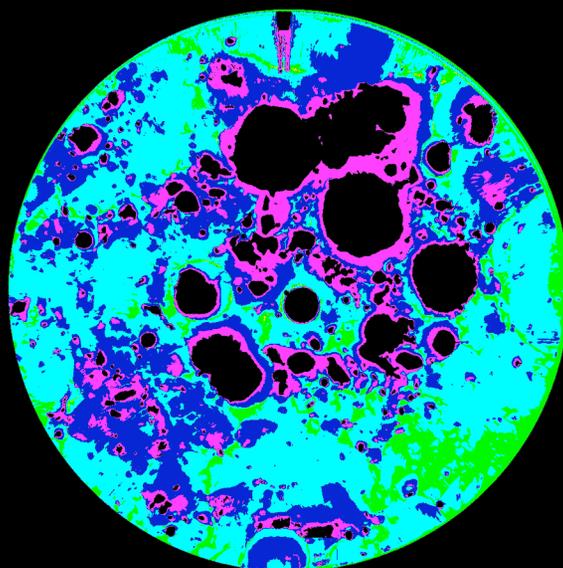
2011



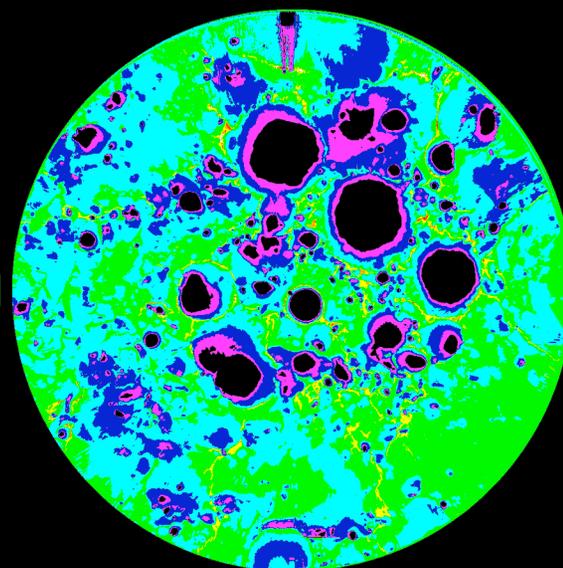
2020



Winter

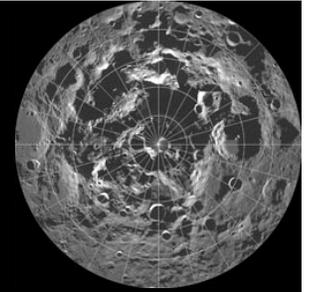
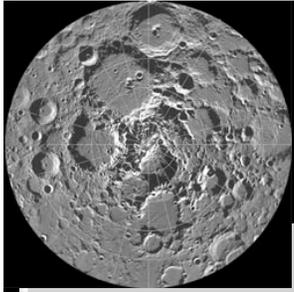


Spring

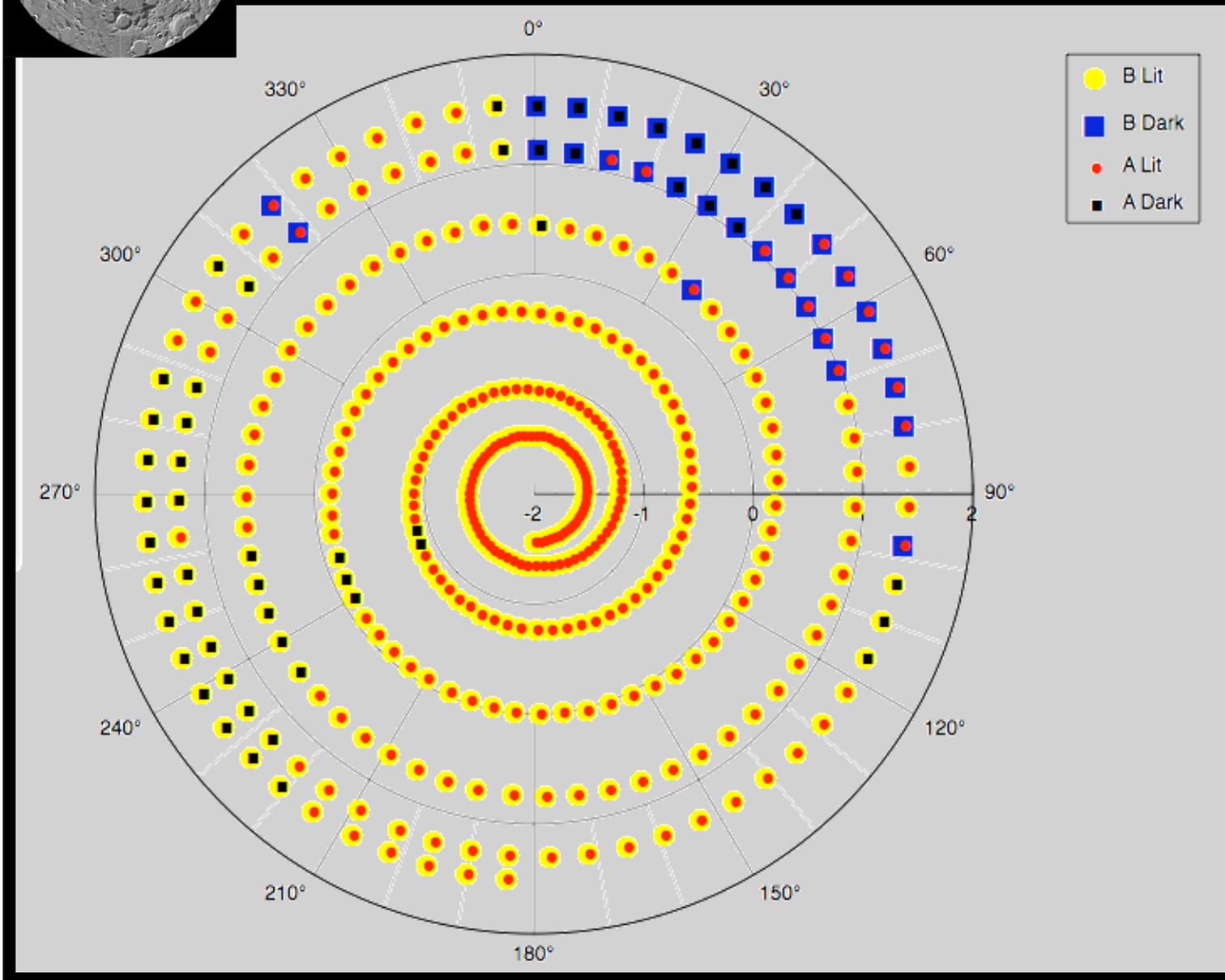


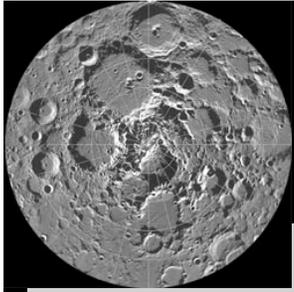
Summer



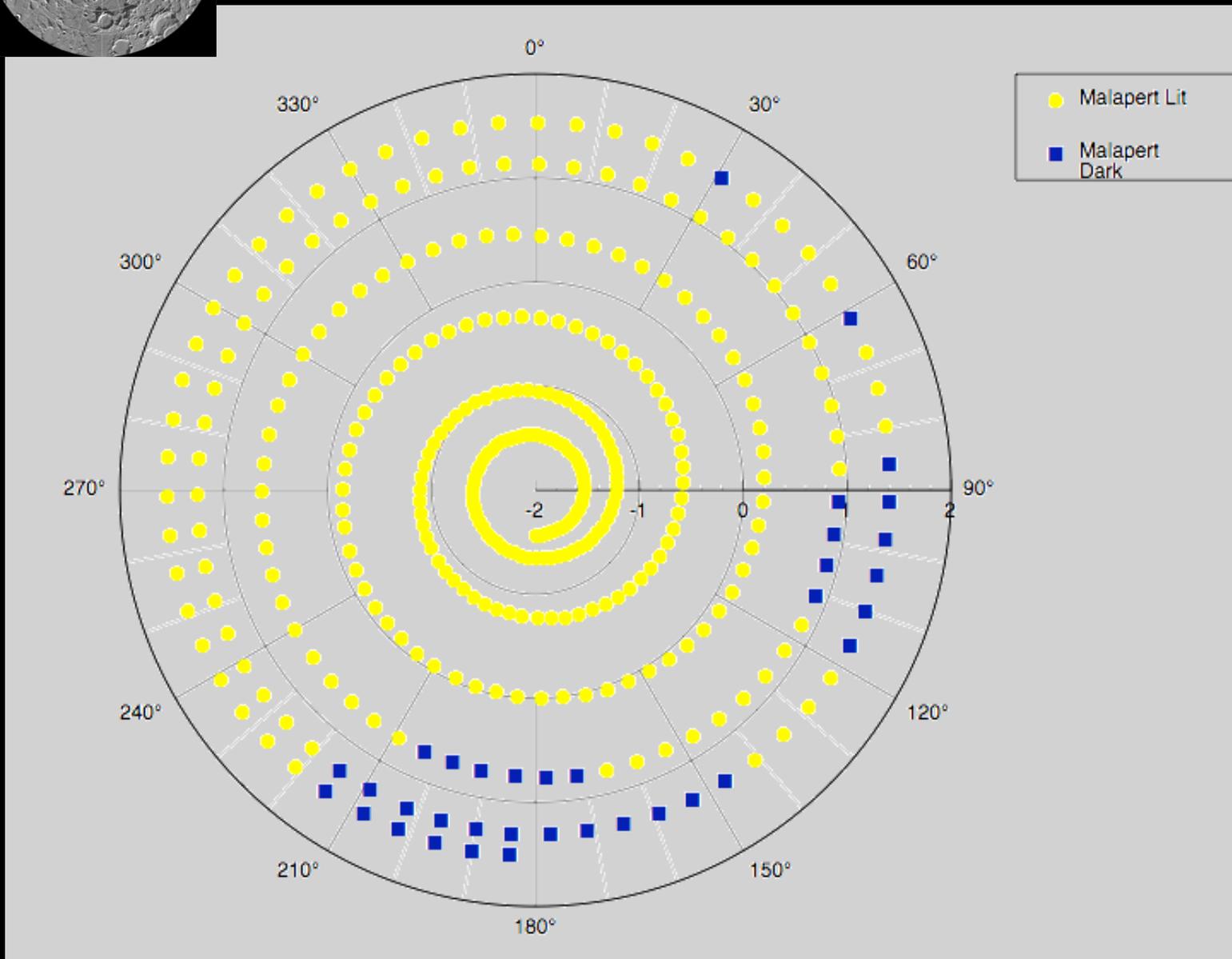
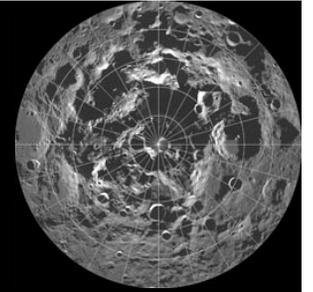


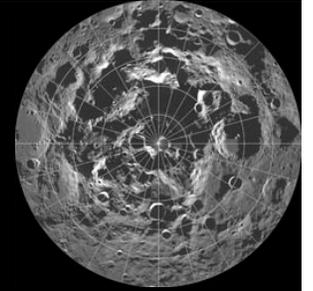
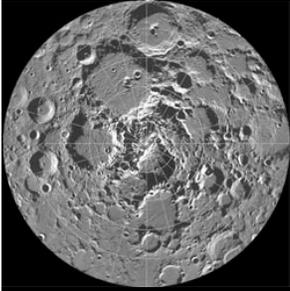
A & B in 2020





Malapert in 2020





Conclusions

- We have characterized seasonal illumination variations at the lunar poles
- Point A & B collectively lit ~ 97% of the time
- Point B also has > 6 months continuous sunlight
- Malapert mountain has ~8 months continuous sunlight

