

Moon madness

Paul Klauninger
Jim Thompson





Date: 17:45 EST on December 17, 2020

Location: $45^{\circ} 07' \text{ N}$ and $76^{\circ} 23' \text{ W}$

Equipment: Canon 70D with Canon 70mm lens

Exposure: 0.25 sec at ISO3200

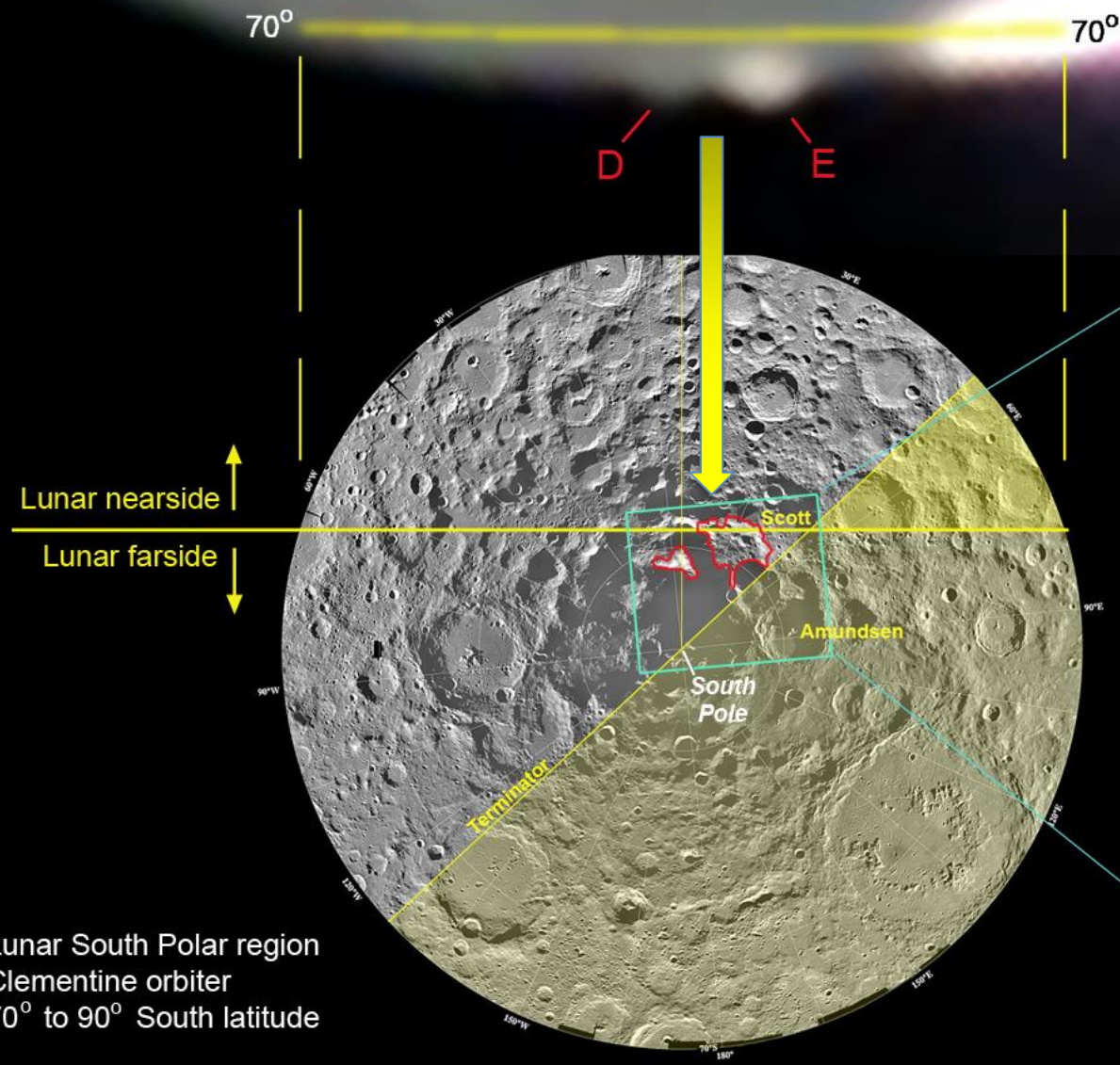
Apparent lunar diameter: 31.57 arc-min

Lunar phase: 137.1 degrees

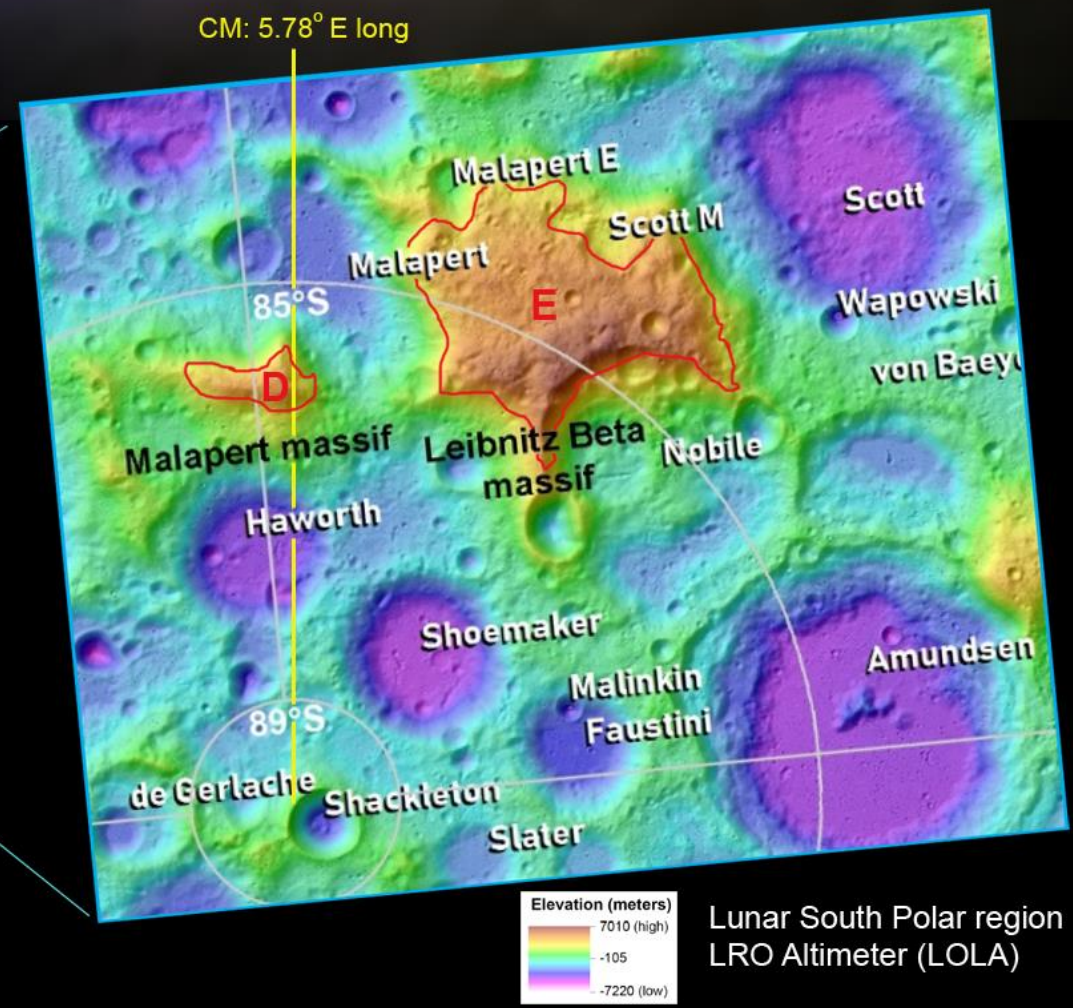
Colongitude: 306.4 degrees

Libration in latitude: $+5^{\circ} 51'$ (North)

Libration in longitude: $+5^{\circ} 47'$ (East)

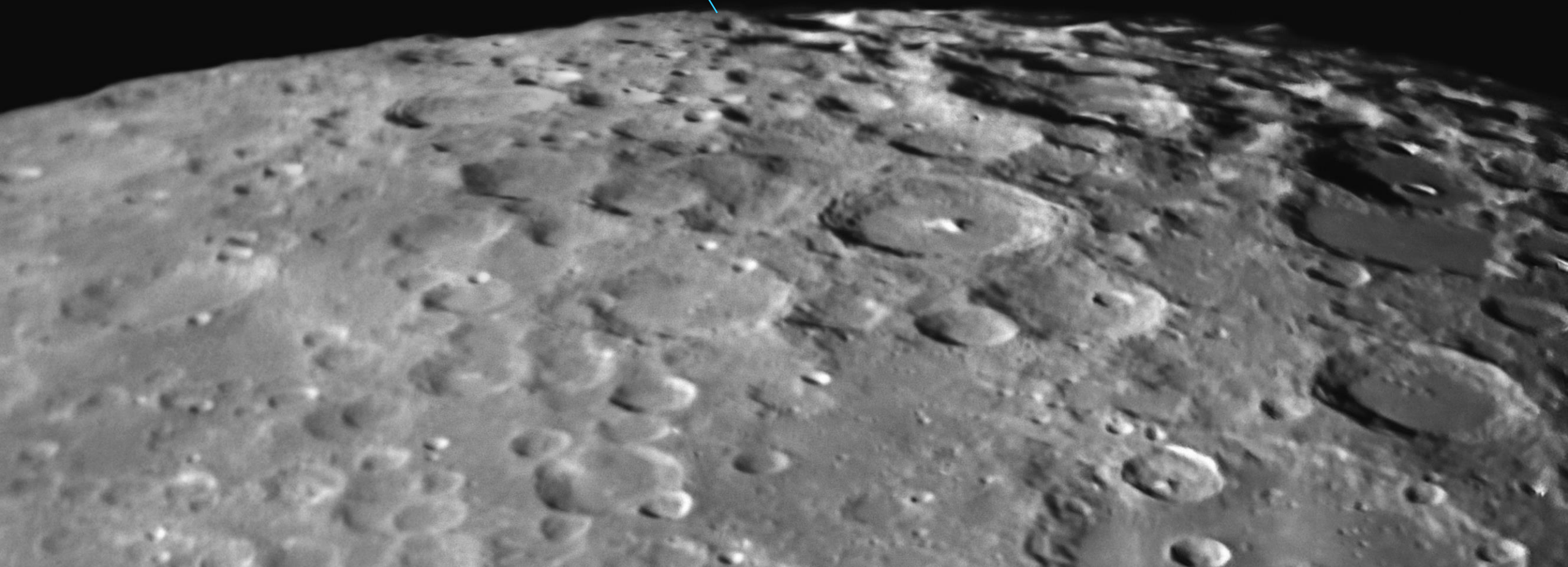


Lunar South Polar region
Clementine orbiter
70° to 90° South latitude



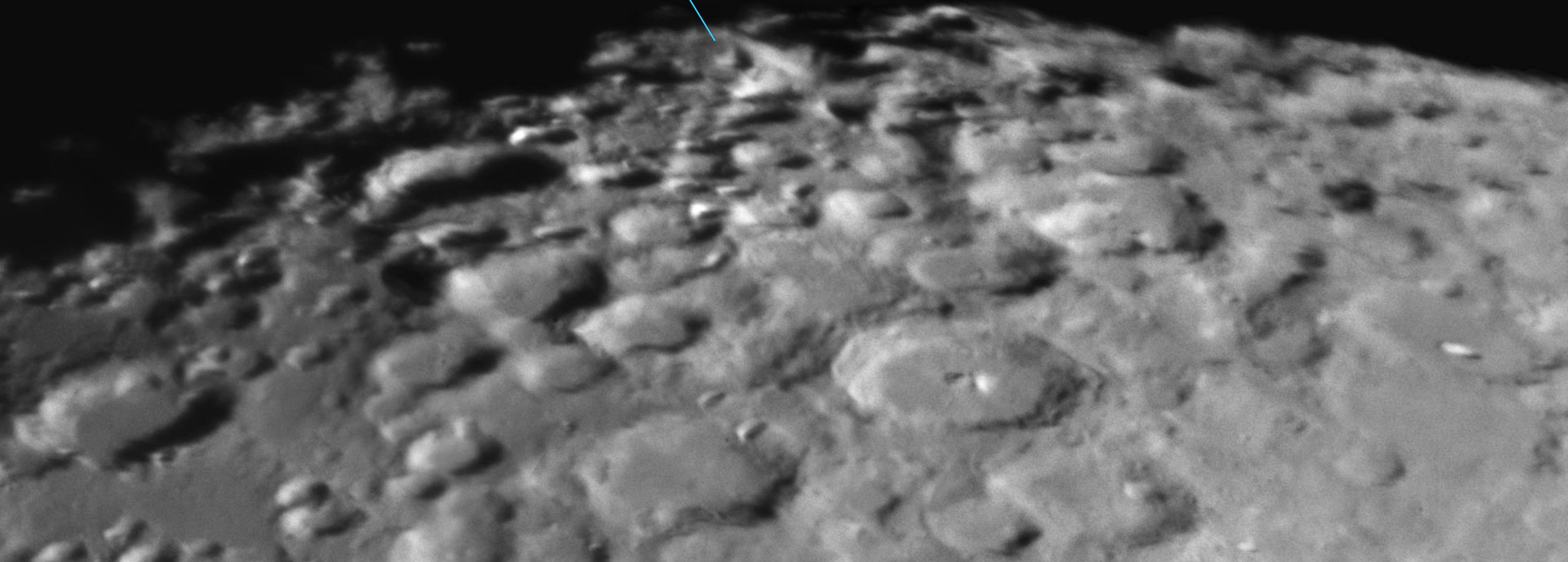
Lunar South Polar region
LRO Altimeter (LOLA)

Leibnitz Beta
Massif

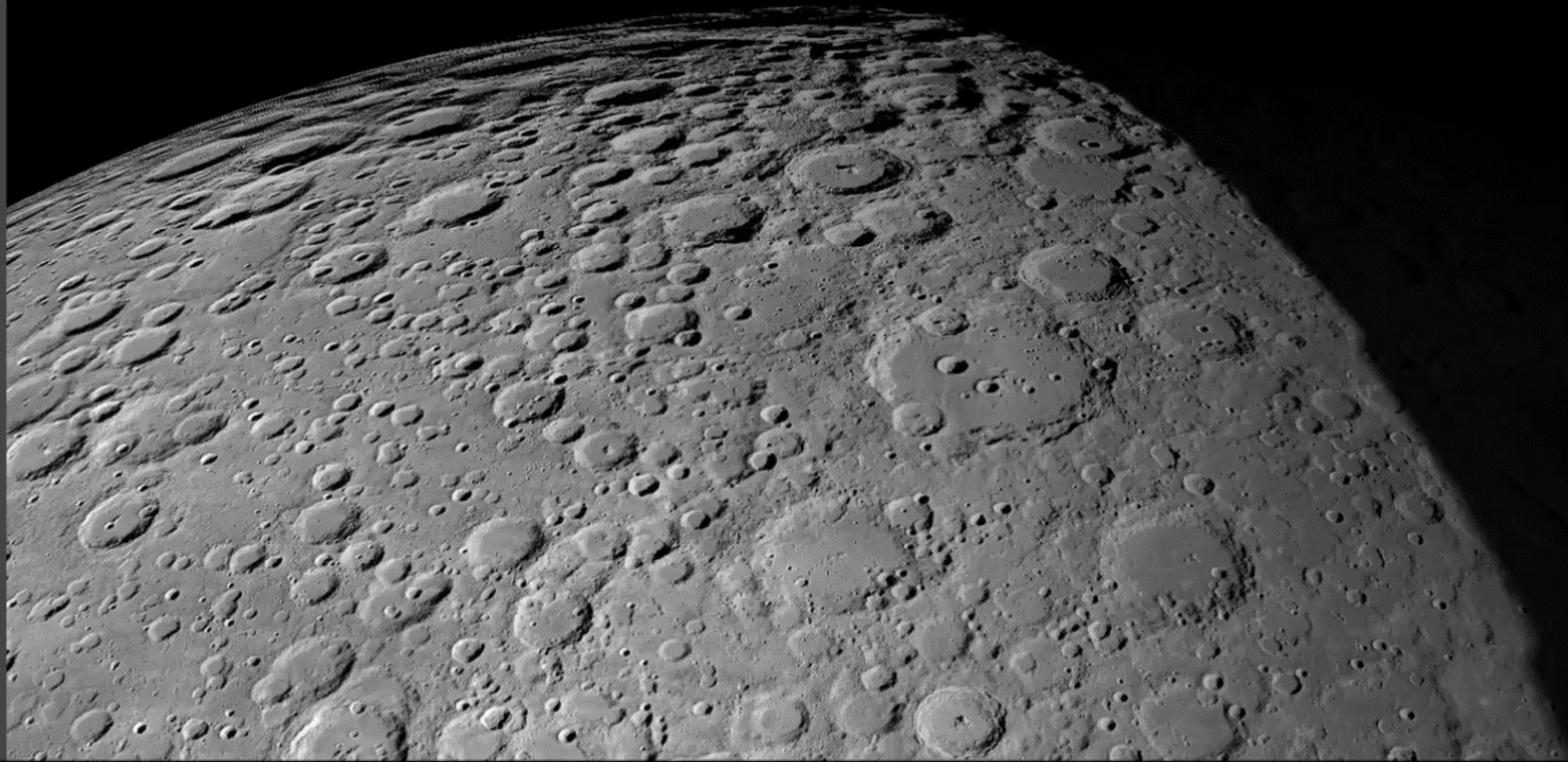


January 24, 2021

Leibnitz Beta
Massif



February 01, 2021



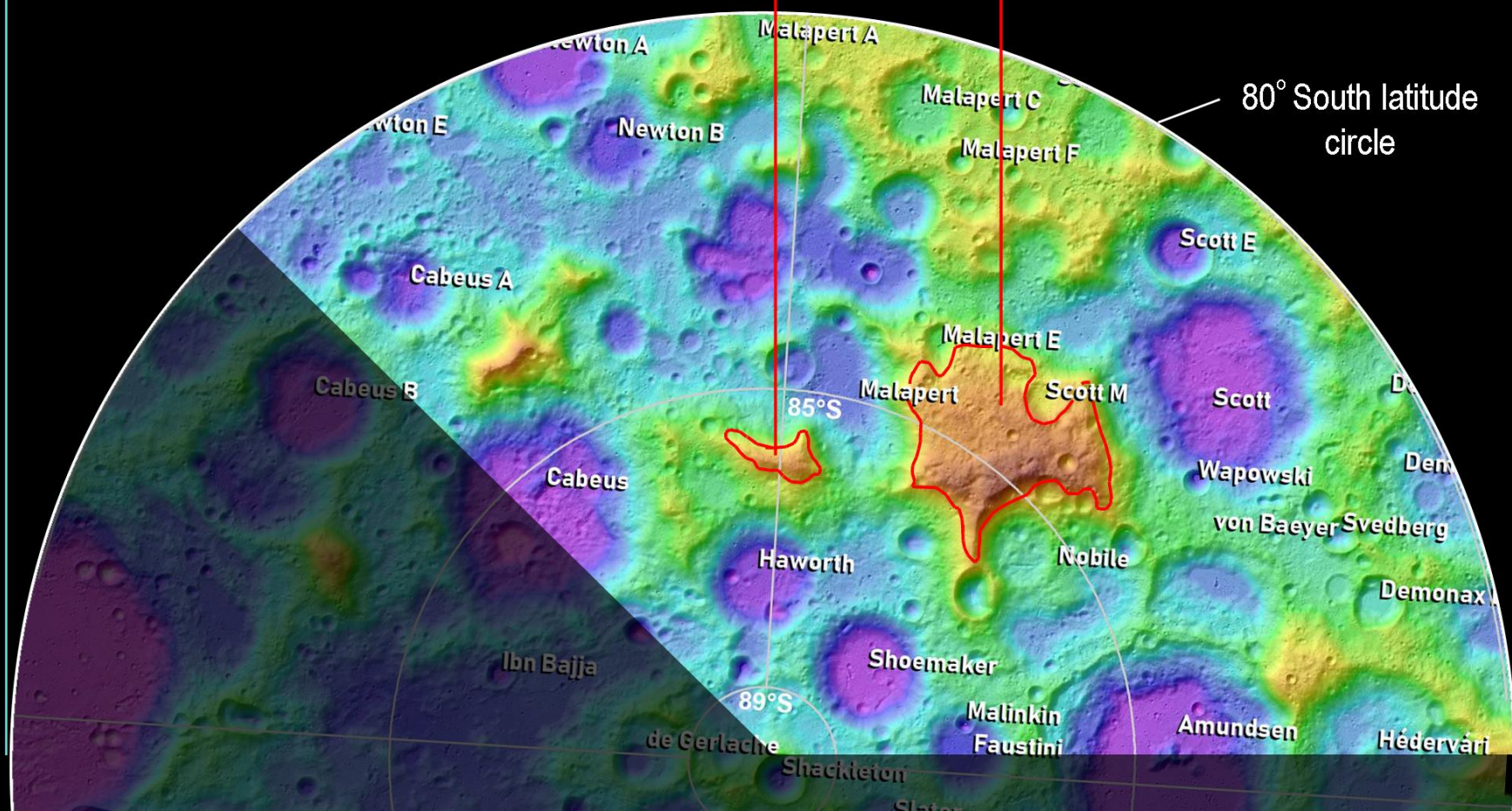
January 24, 2021 @ 23:57 UT
Latitude libration: +00° 14'
Longitude libration: -03° 30'

Malapert
Massif

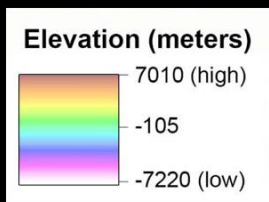
Leibnitz Beta
Massif

80° South latitude

80° South latitude
circle



Lunar South Polar region
LRO Altimeter (LOLA)





Date: 20:14 EST on February 14, 2021

Location: $45^{\circ} 07' \text{ N}$ and $76^{\circ} 23' \text{ W}$

Equipment: Canon 70D with 300x2 mm lens

Exposure: 2 sec at ISO3200

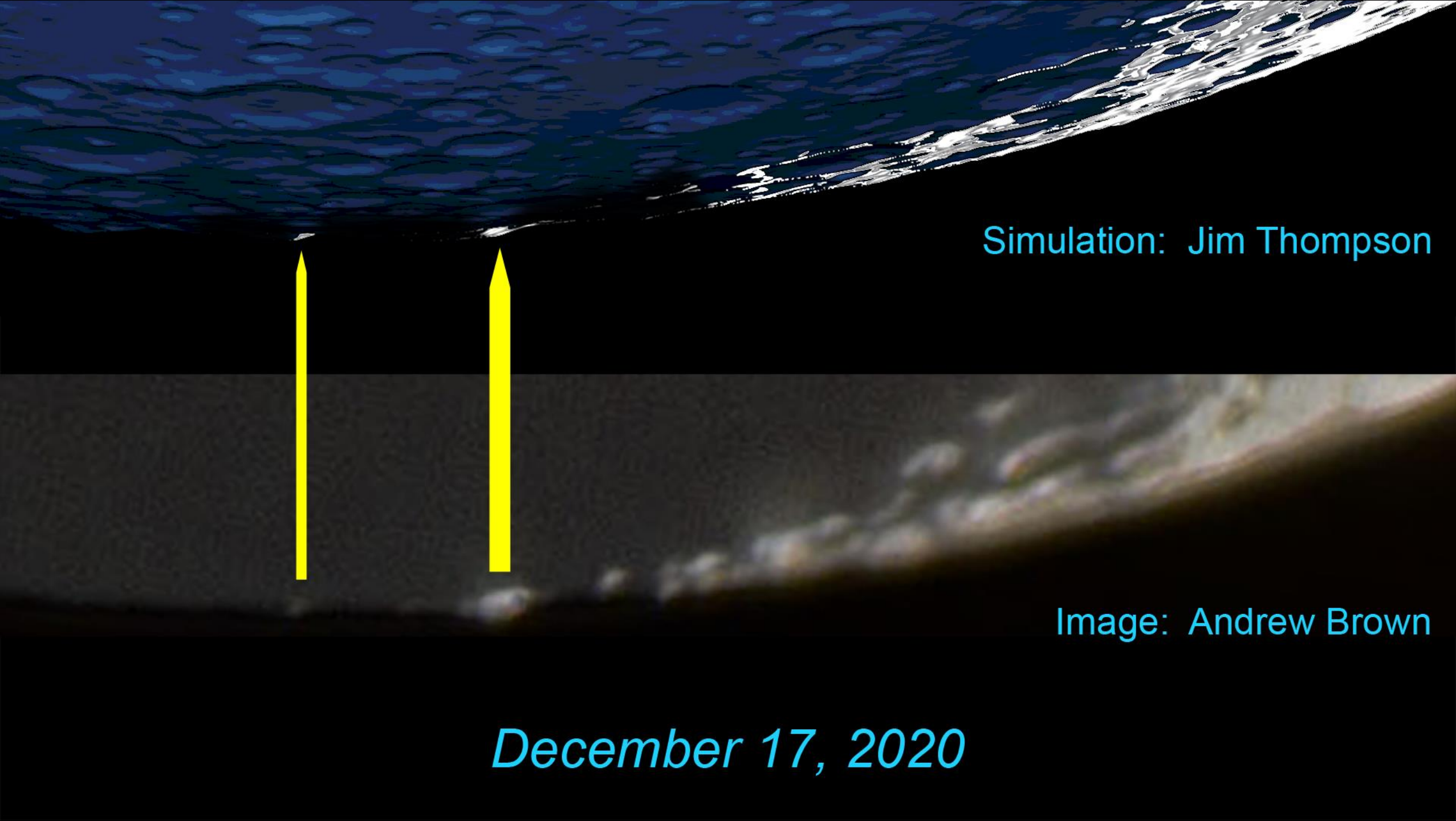
Apparent lunar diameter: 30.05 arc-min

Lunar phase: 141.7 degrees

Colongitude: 305.0 degrees

Libration in latitude: $+6^{\circ} 37'$ (North)

Libration in longitude: $+2^{\circ} 31'$ (East)



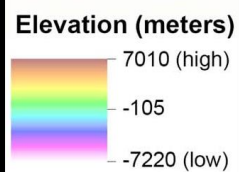
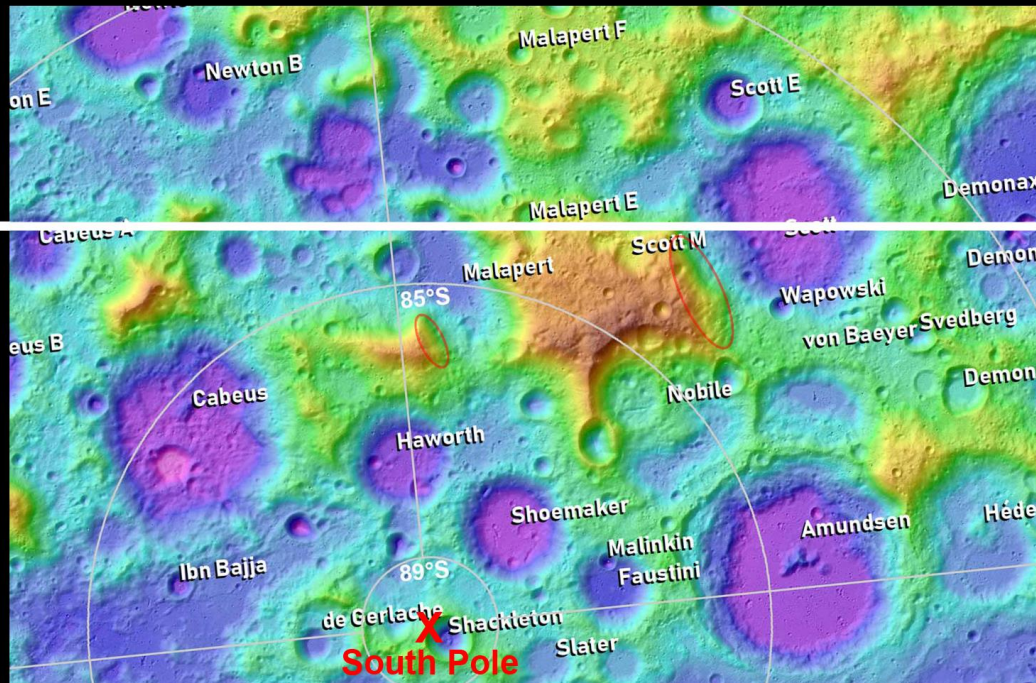
Simulation: Jim Thompson

Image: Andrew Brown

December 17, 2020

80° South
latitude

Nearside ↑
— Rim —
Farside ↓



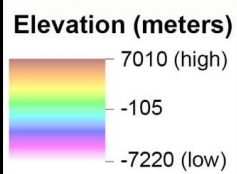
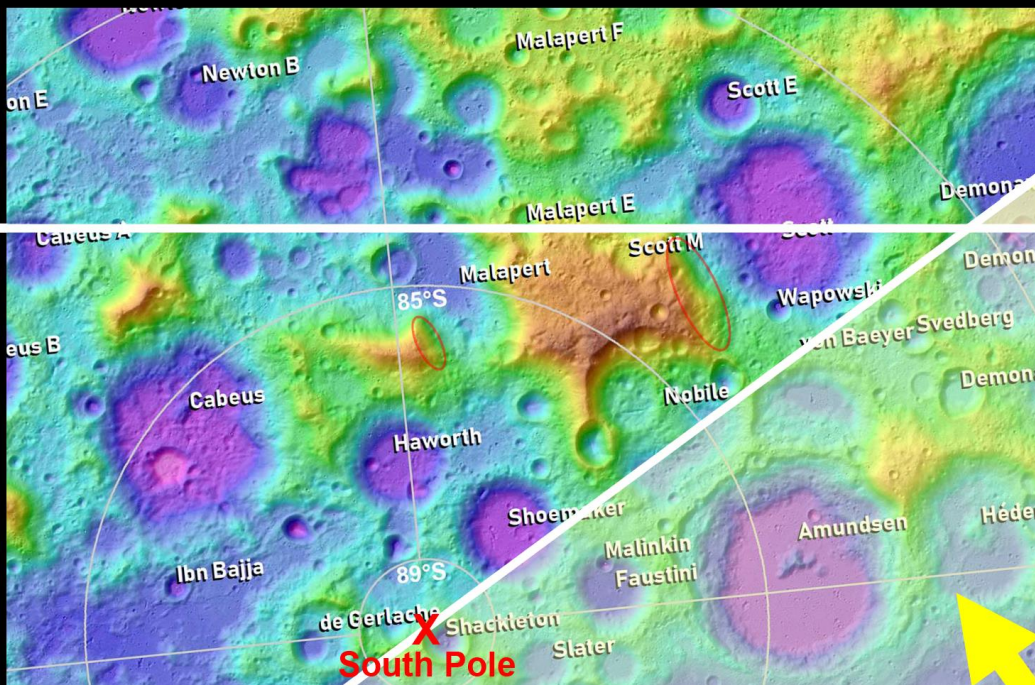
LRO polar topographic view

December 17, 2020

Latitudinal libration: $+5.85^\circ$ N
Longitudinal libration: $+5.78^\circ$ E
Colongitude: 306.4°
Phase: 137.1°

80° South
latitude

Nearside ↑
— Rim —
Farside ↓



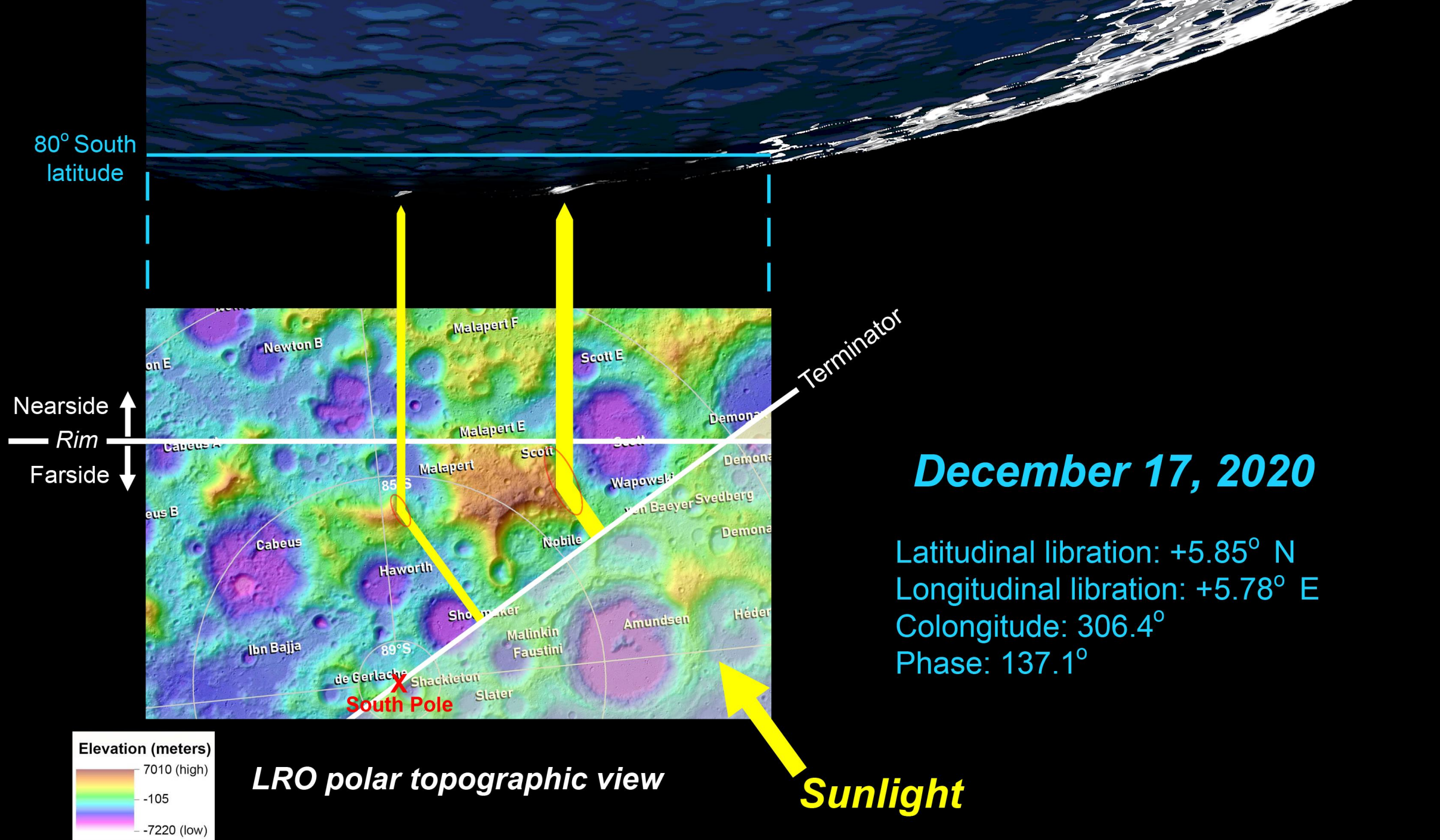
LRO polar topographic view

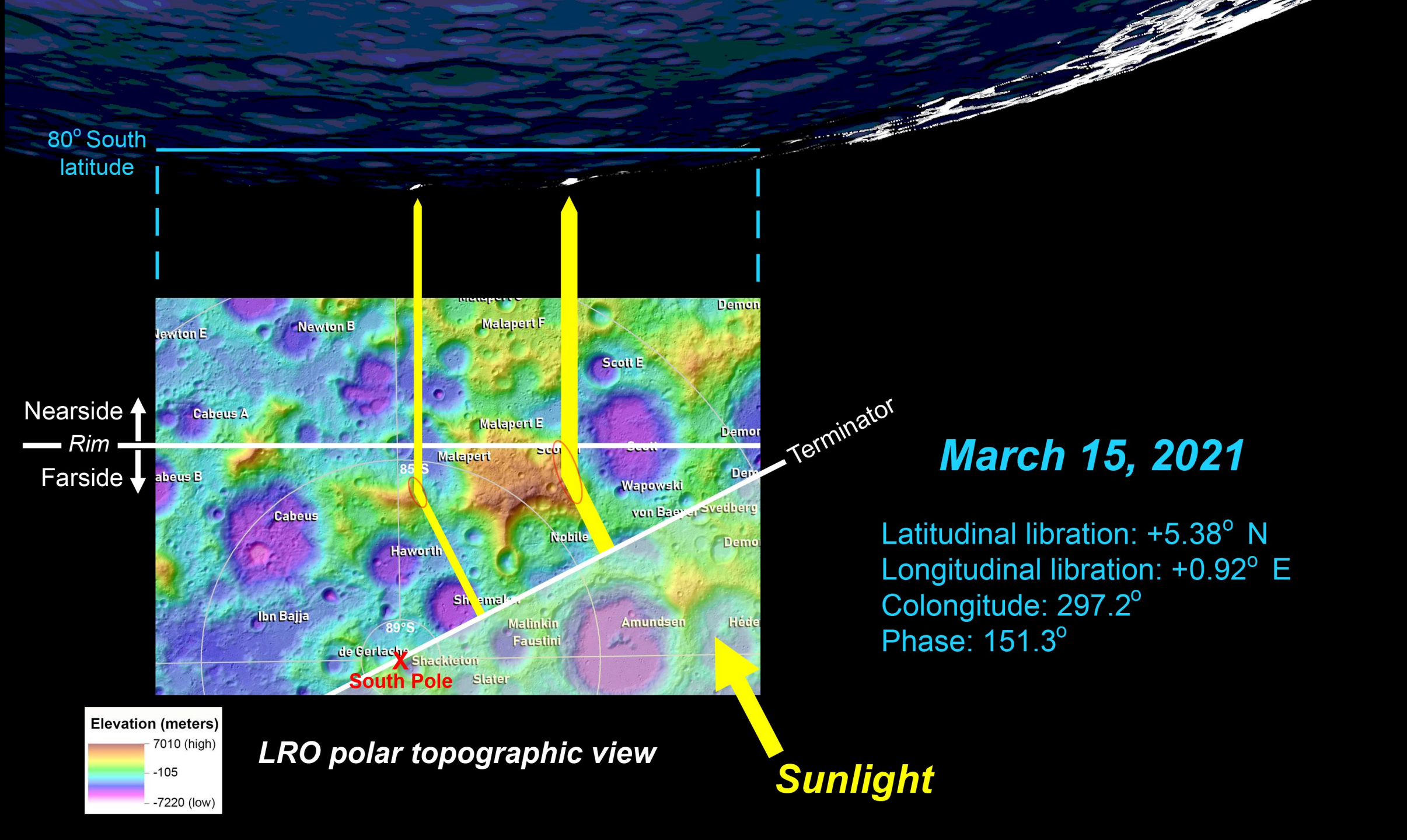
Terminator

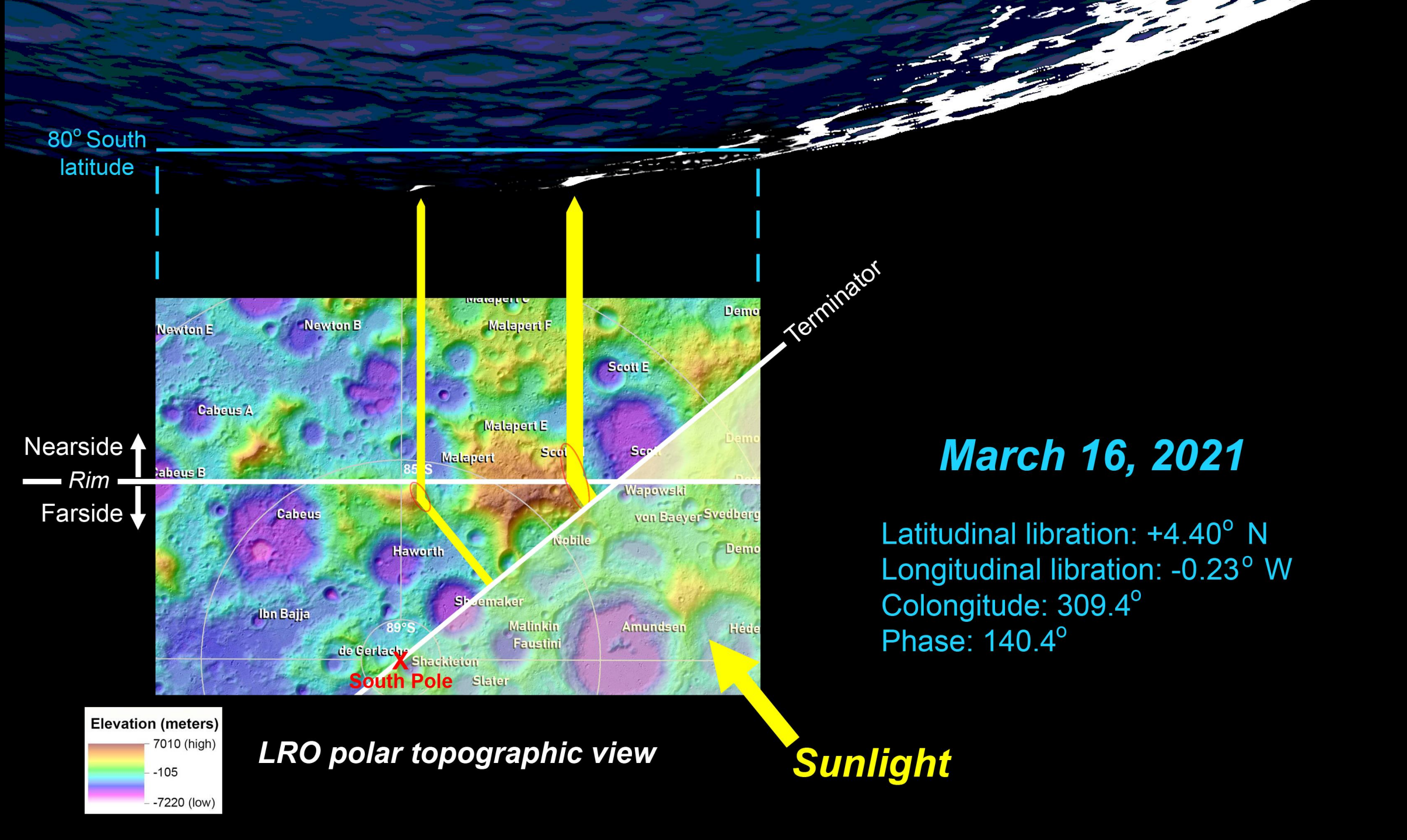
December 17, 2020

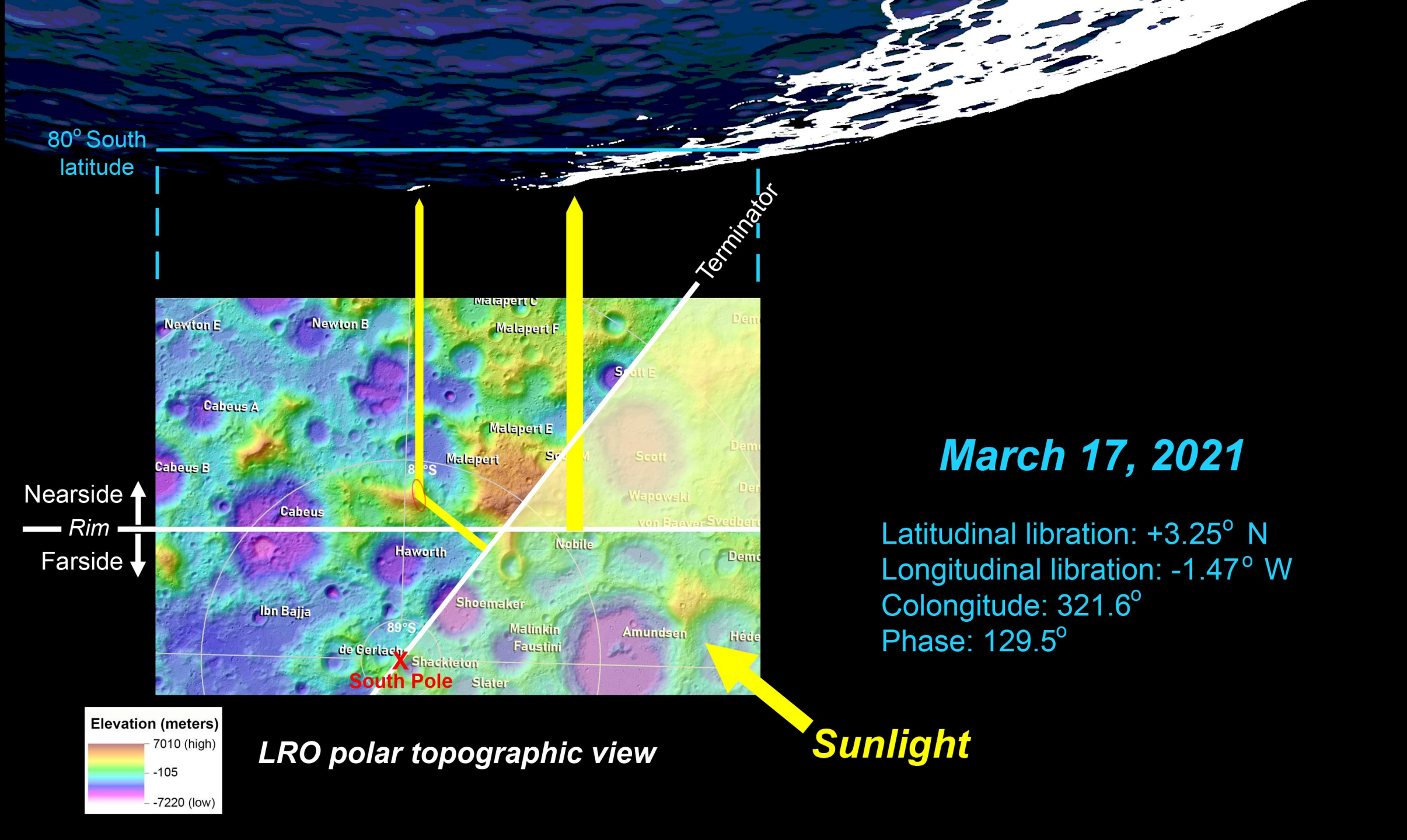
Latitudinal libration: $+5.85^\circ$ N
Longitudinal libration: $+5.78^\circ$ E
Colongitude: 306.4°
Phase: 137.1°

Sunlight

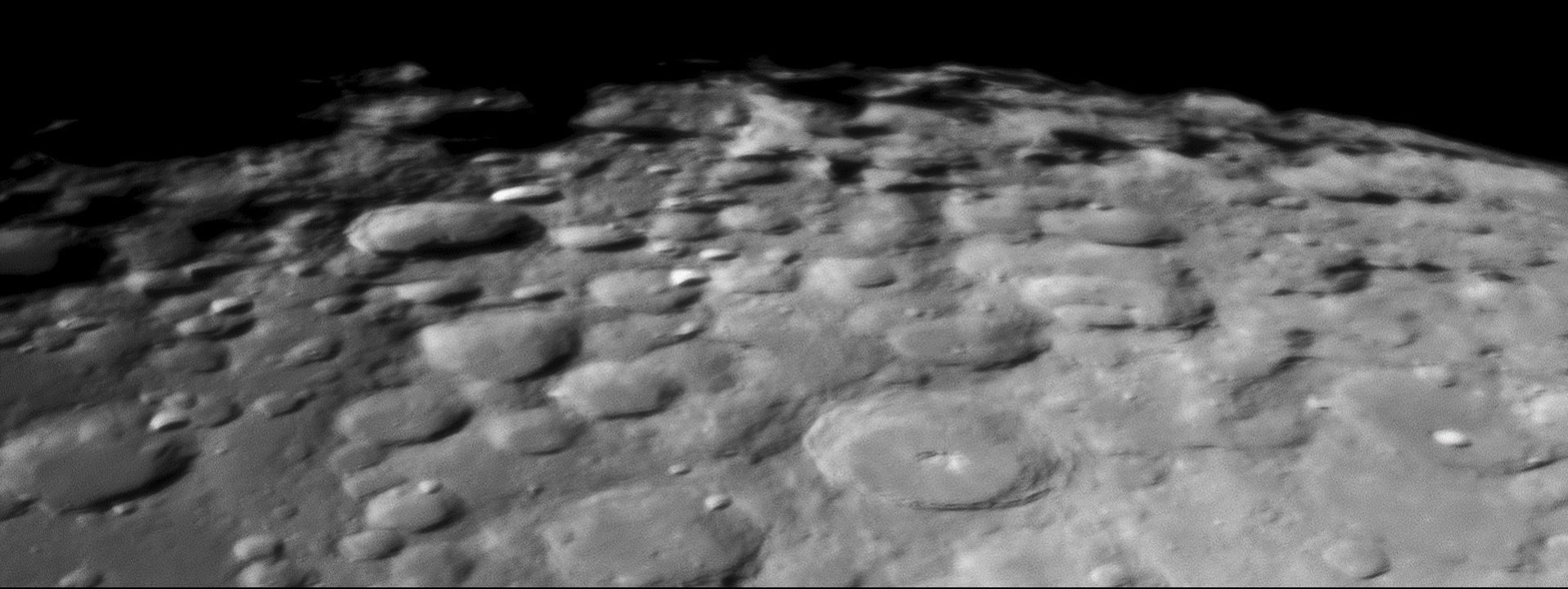












Date: January 31, 2021 @ 05:55 UT

Observer: Jim Thompson

Lunar phase: 329.0 degrees

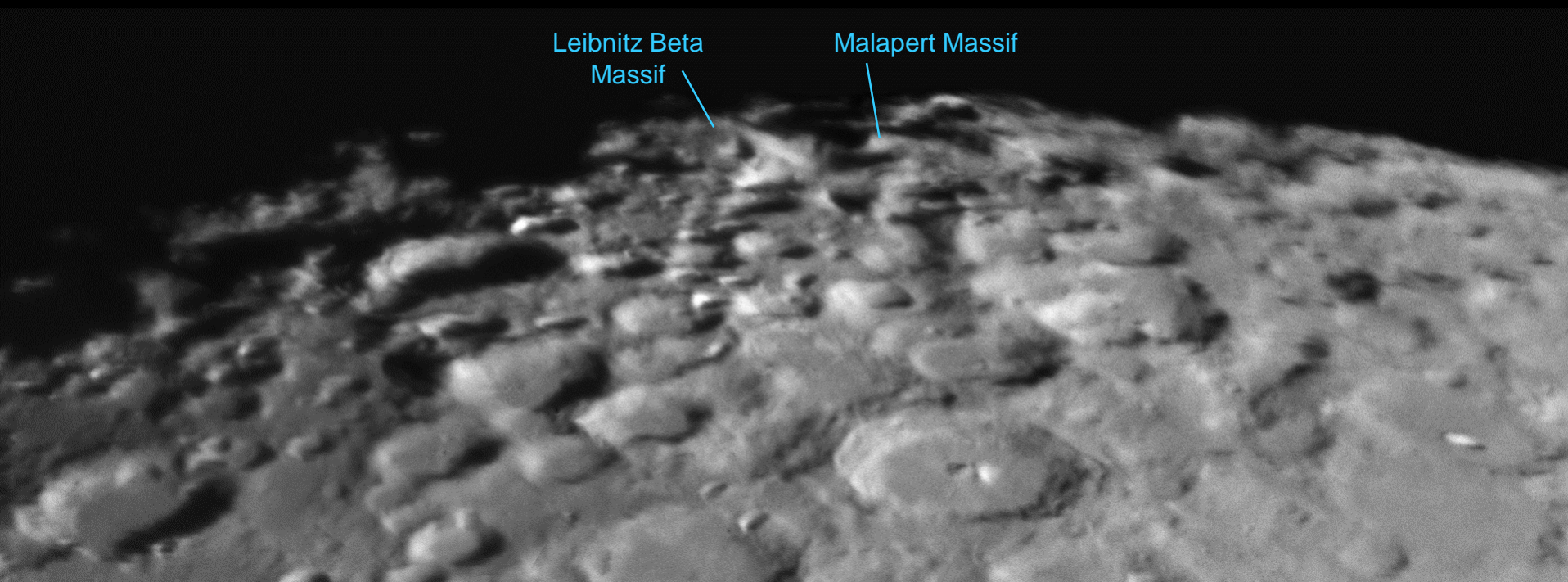
Colongitude: 124.8 degrees

Libration in latitude: $-6^{\circ} 12'$ (South)

Libration in longitude: $-3^{\circ} 16'$ (West)



Difference in time: 26h 45m



Leibnitz Beta
Massif

Malapert Massif

Date: February 01, 2021 @ 08:40 UT

Observer: Paul Klauninger

Lunar phase: 314.6 degrees

Colongitude: 138.3 degrees

Libration in latitude: $-5^{\circ} 56'$ (South)

Libration in longitude: $-2^{\circ} 30'$ (West)

