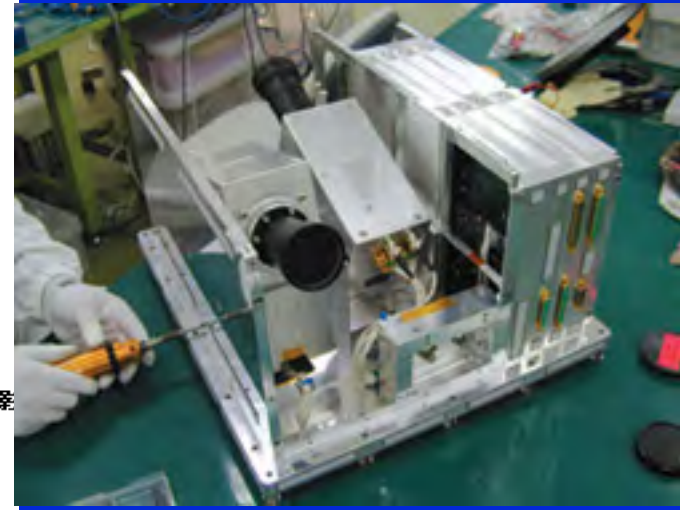
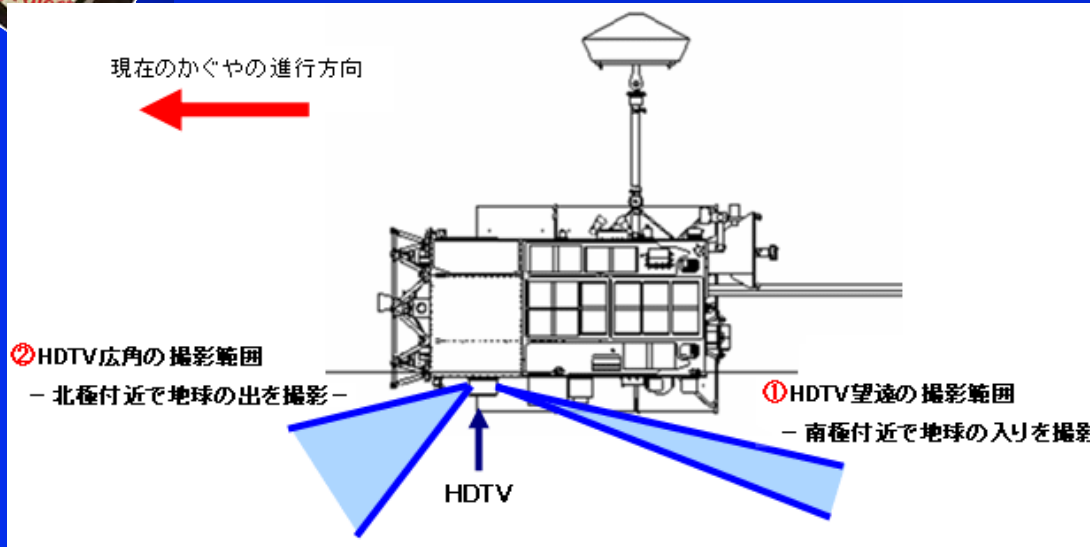




ハイビジョンカメラHDTV



SELENE and EN



Optic System of HDTV

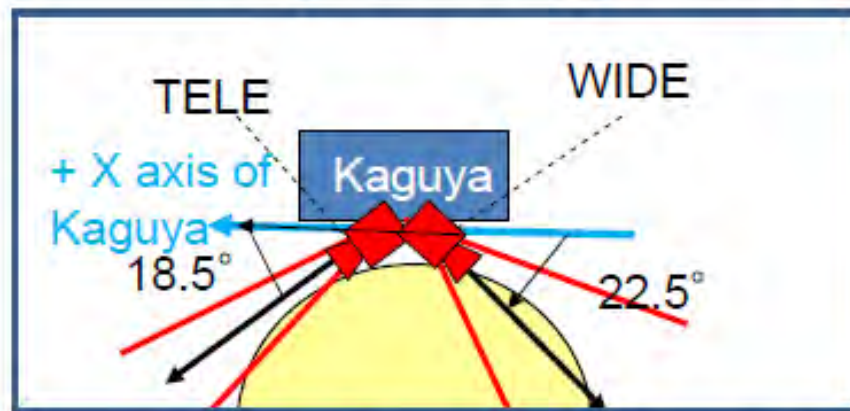


Figure 3 Mounting location of HDTV

Table 1 Specification HDTV optics

Item	Telephoto	Wide-angle
Focal length	35 mm	10 mm
View angle	15.5 (H) x 8.7 (V), 17.8 (D)	50.1 (H) x 29.5 (V), 56.3 (D)
F number	F5.6 (fixed)	F5.6 (fixed)
ND filter	1/8	1
Dimensions	81.5 (L) x 60 (D)	112.5 (L) x 60 (D)
Weight	260 g	330 g
Mounting Angle	18.5 deg.	22.5 deg.
Field of view	15.5 deg x 8.8 deg	51.5 deg x 29.5 deg
Main object	Earth	Moon

Resolution > 85m/pixel



Resolution > 45 m/pixel

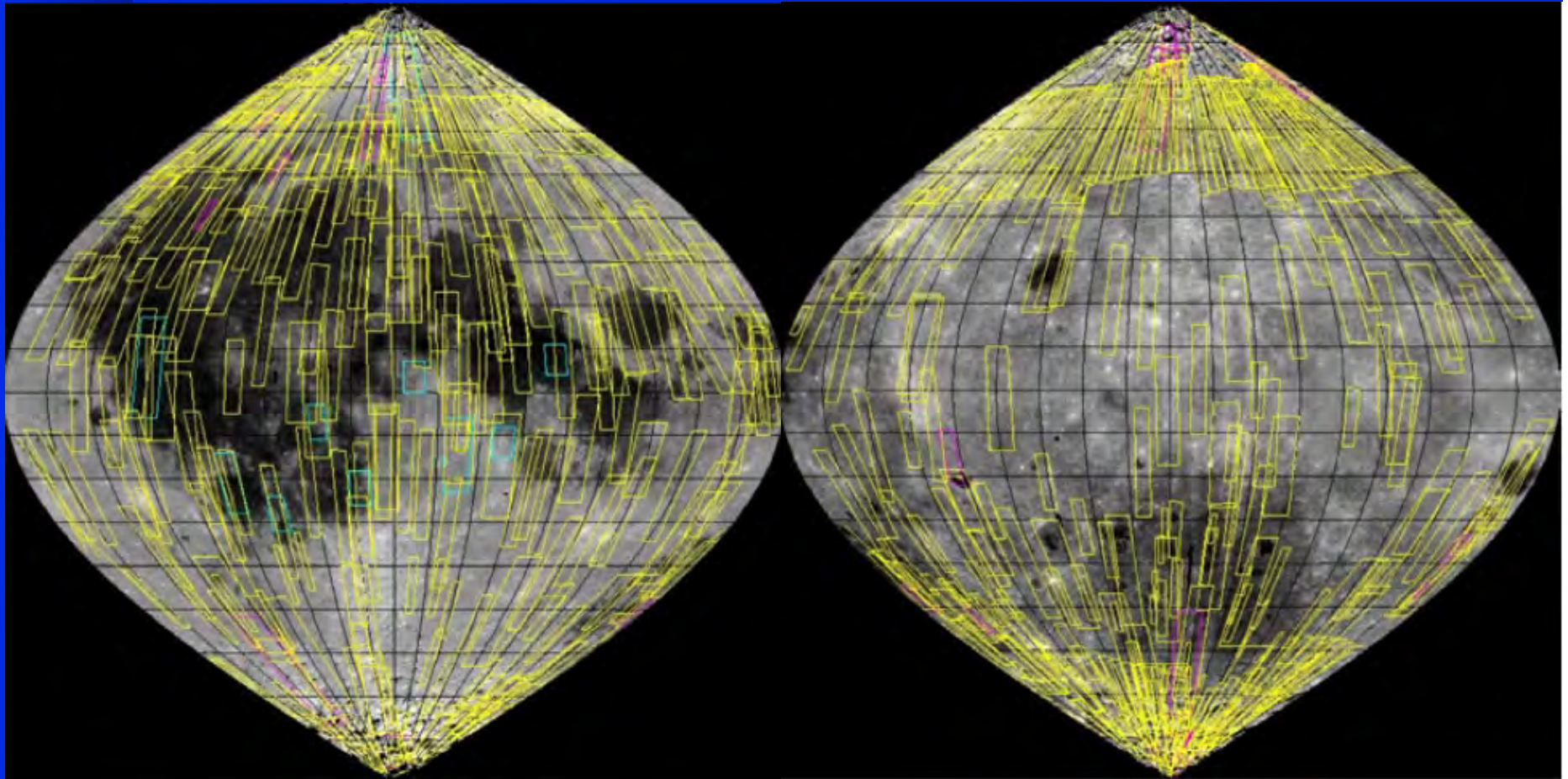
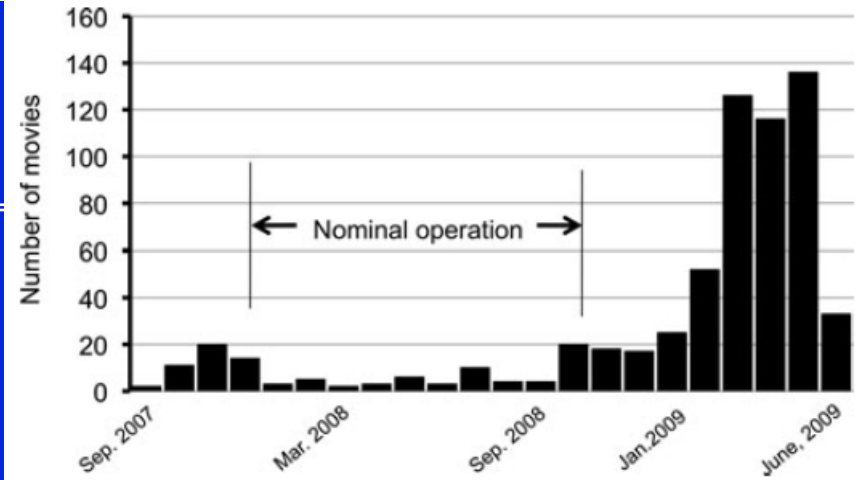


Figure 4. Schematic view of HDTV images for WIDE and TELE.
1920pixel x 1080pixel



Explorer

HDTVによる月面の 高精細撮影





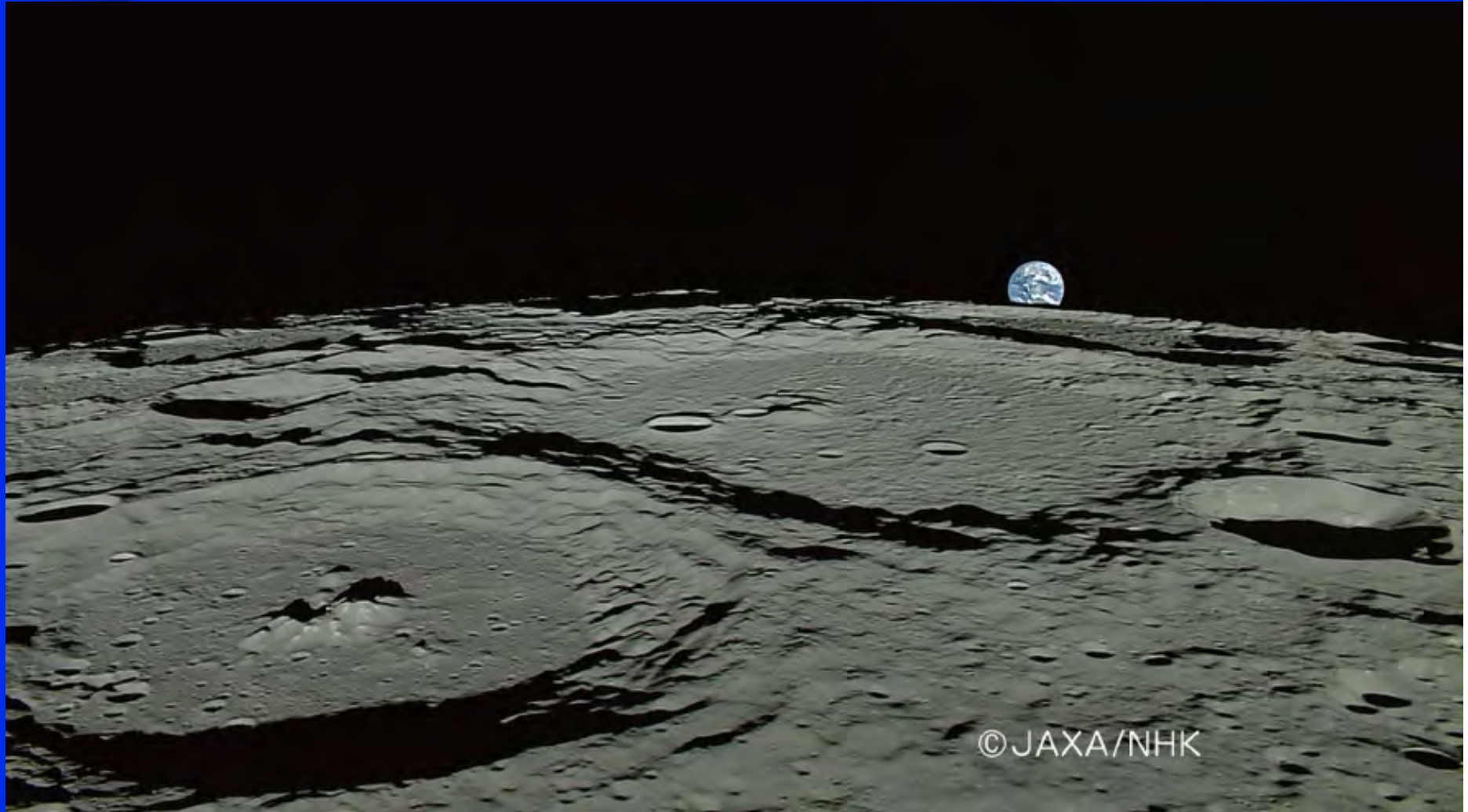
南極に上る“満地球”

©JAXA/NHK





北極に沈む“満地球”



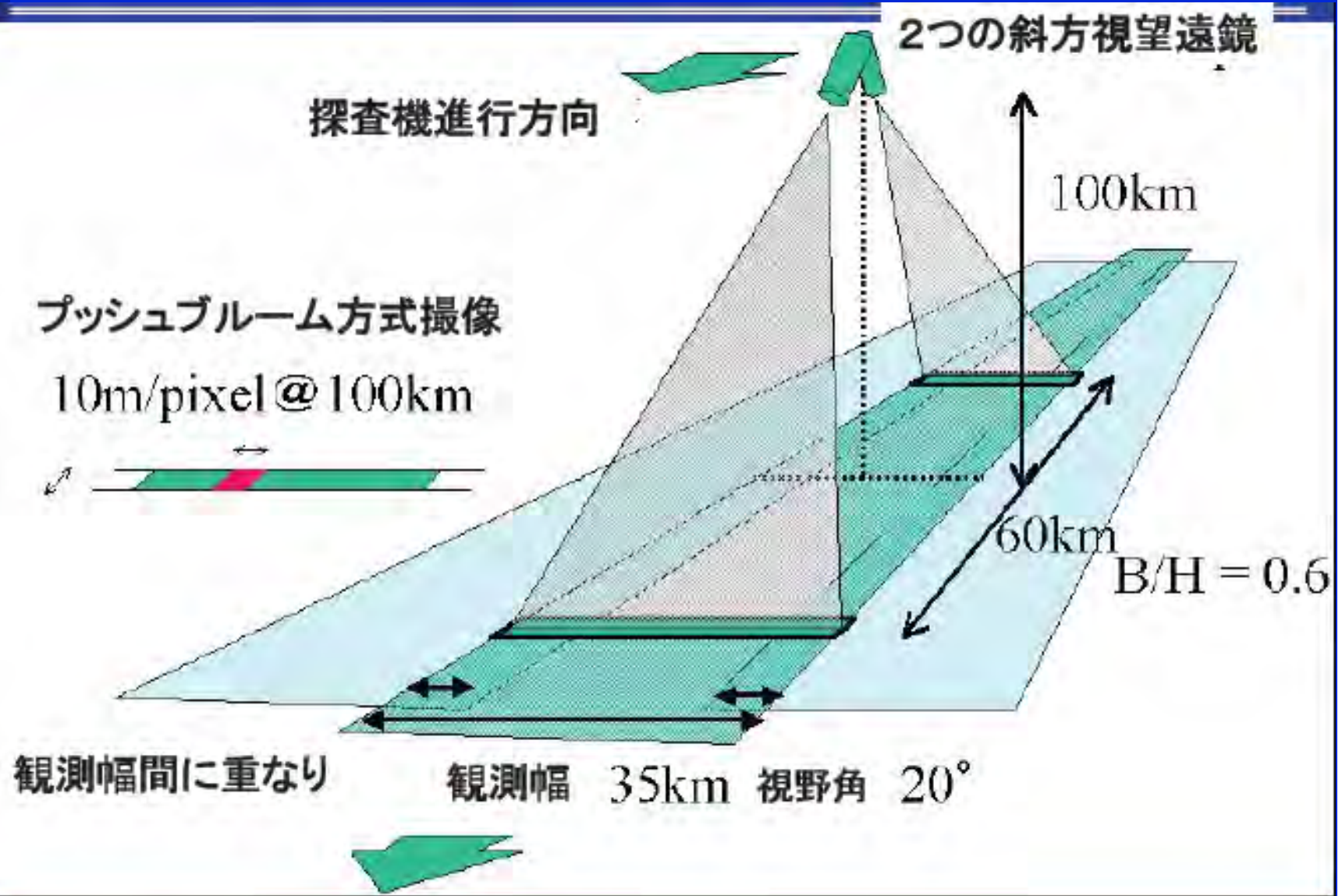
©JAXA/NHK

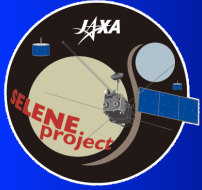
プラスキットクレータ(直径109km)、ロジェストベンスキークレータ(直径177km)

61
2008.4.5

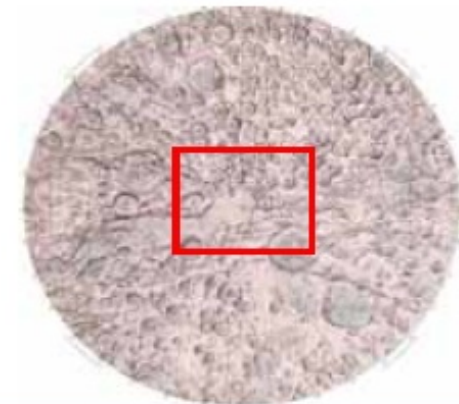
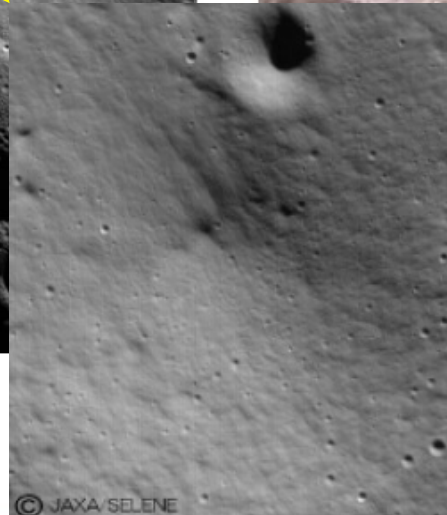
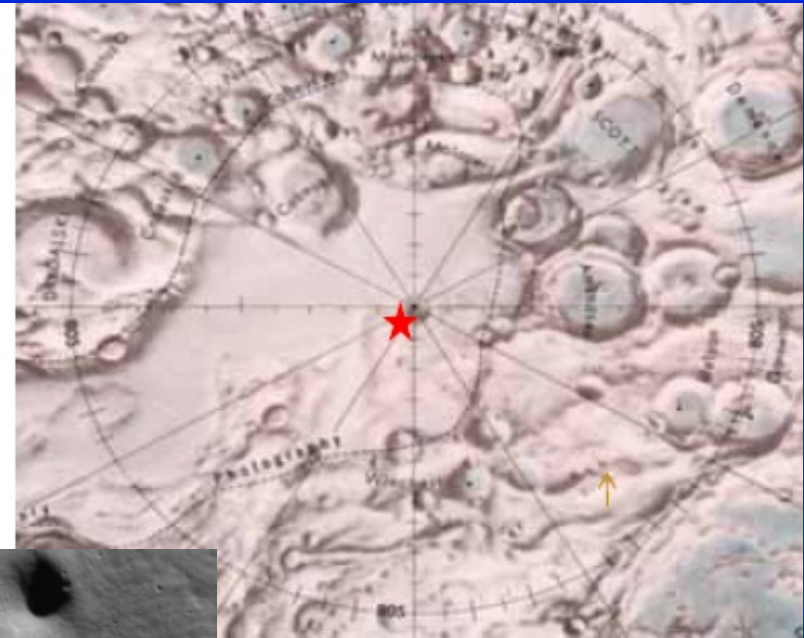
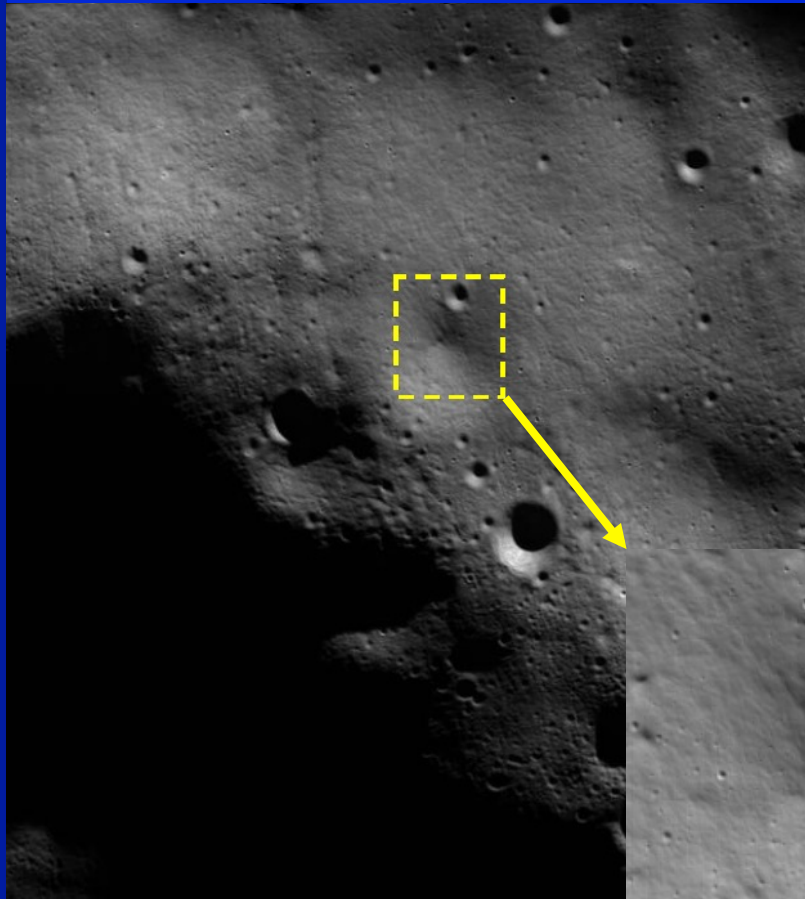


地形カメラの特徴

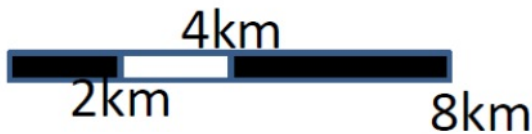




地形カメラTCの初画像



↑
地球
方向

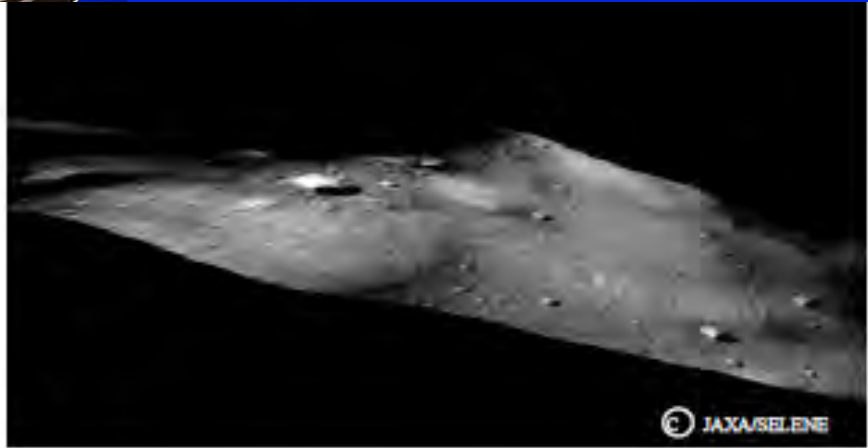


地形カメラ初画像データ
(南緯89° 東経240°) 11月3日撮影
月の裏側で、南極点から約30kmの位置

出典<http://www.lpi.usra.edu/resources/mapcatalog>



3次元地形画像



地形カメラ立体視データから作成した3次元地形画像

左上の画像：西から東を見る。右上の画像：南から北を見る。左下の画像：北から南をみる。右下の画像：東から西を見る。



地形カメラ(TC)の画像4.



ナガオカクレータ Mosaic
19.4N, 154.0E D:46km

3D

120E



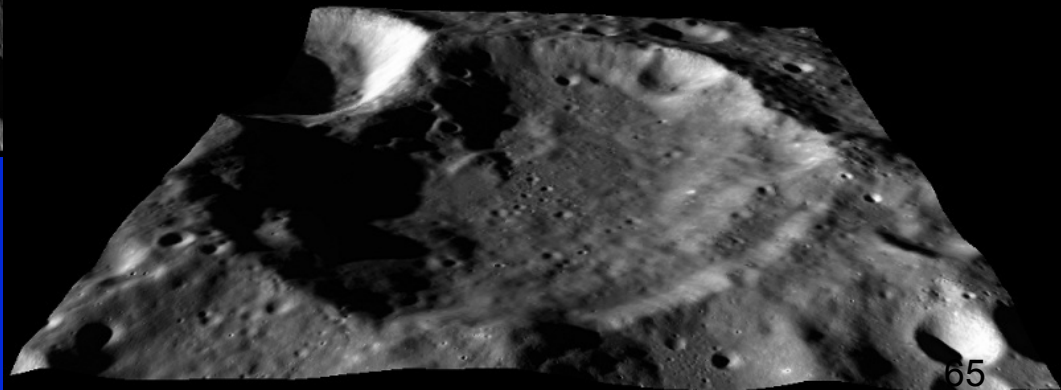
170E

50N

モスクワの海

ナガオカ

10N

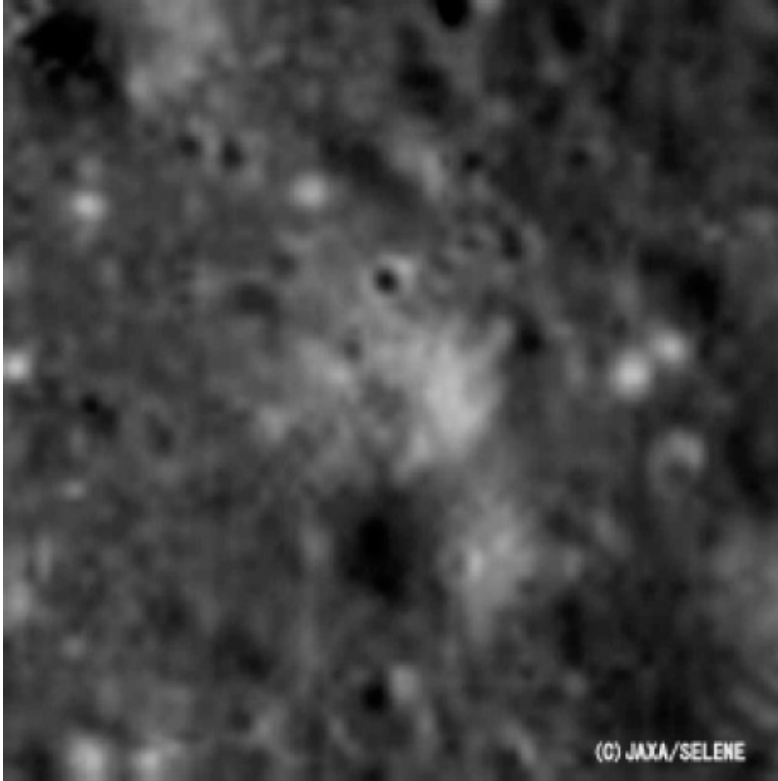


65

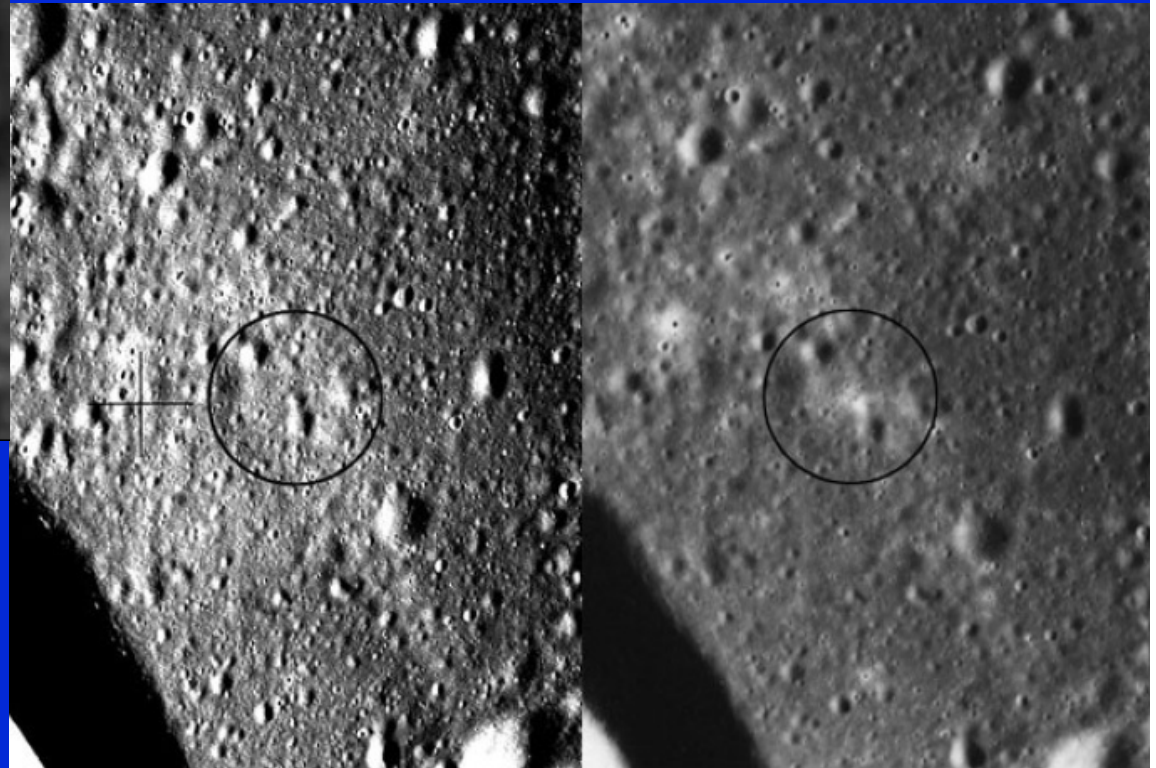


地形カメラの画像 5.

アポロ15号着陸地点
ハドレー谷
26.17N/3.38E
1971.7.30



(C) JAXA/SELENE



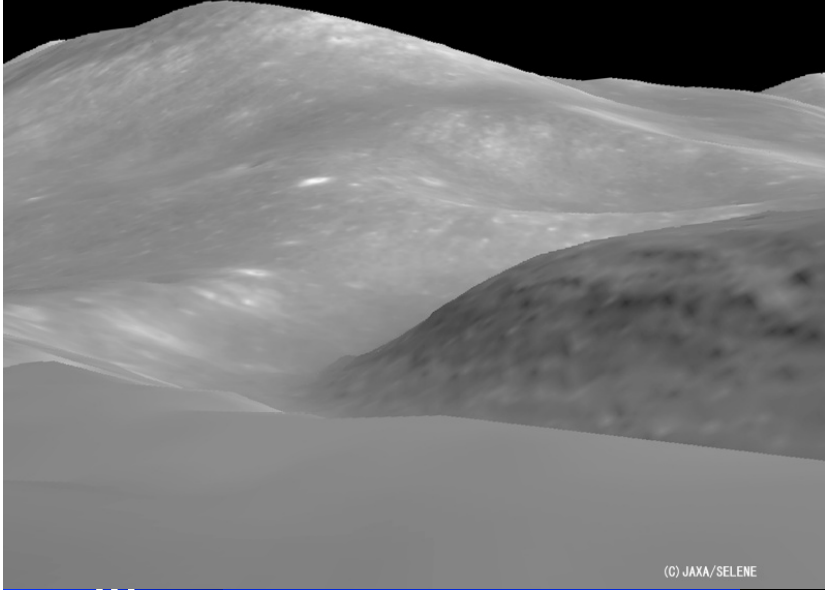
SELenologic

A15着陸前

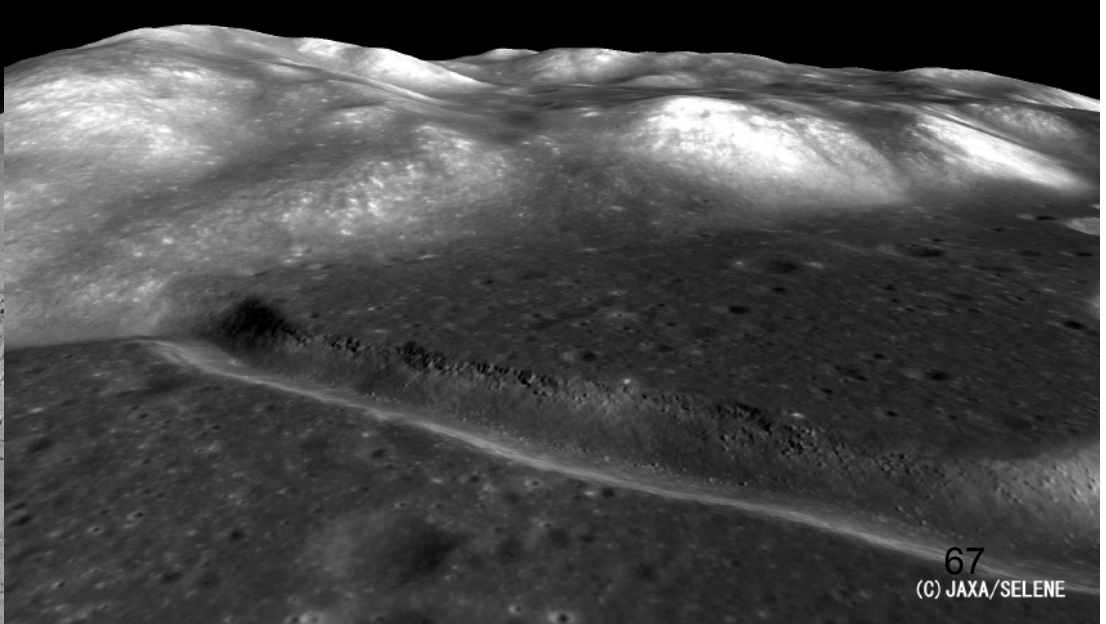
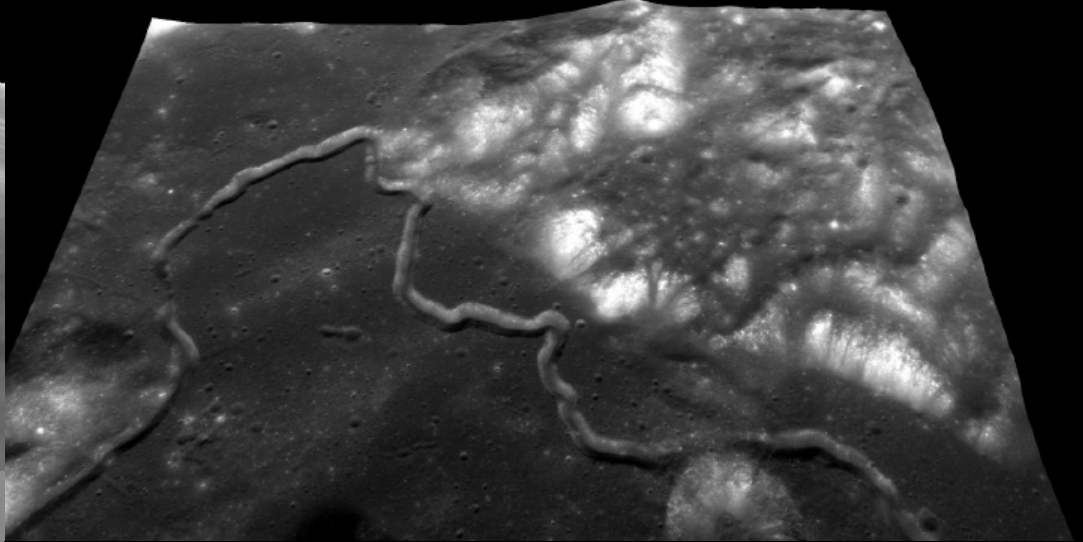
着陸後



地形カメラの映像 5.



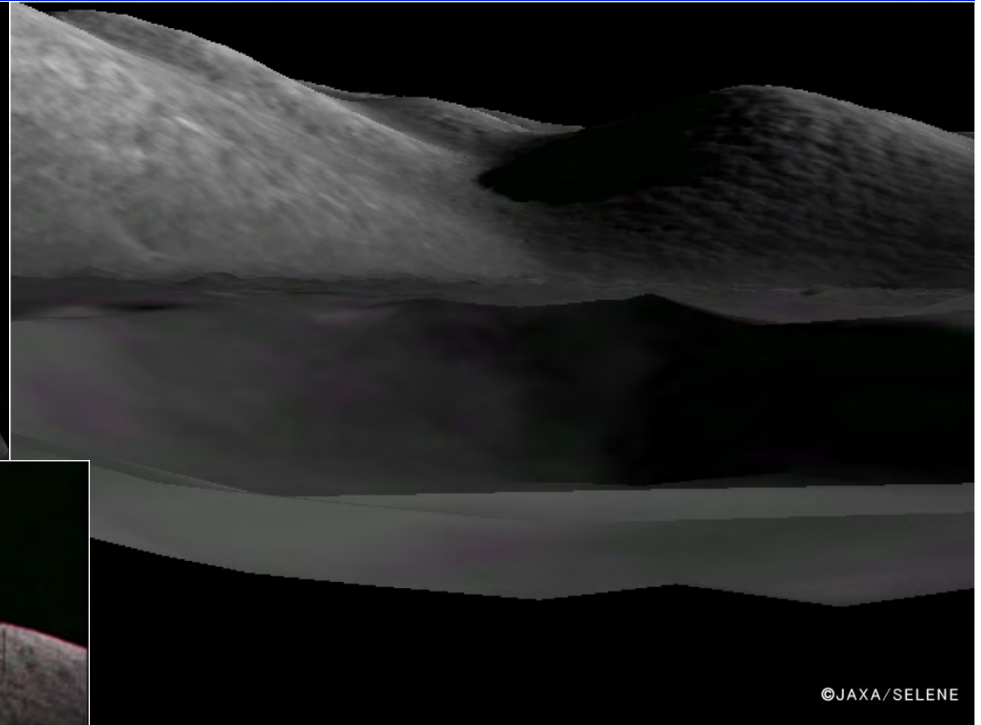
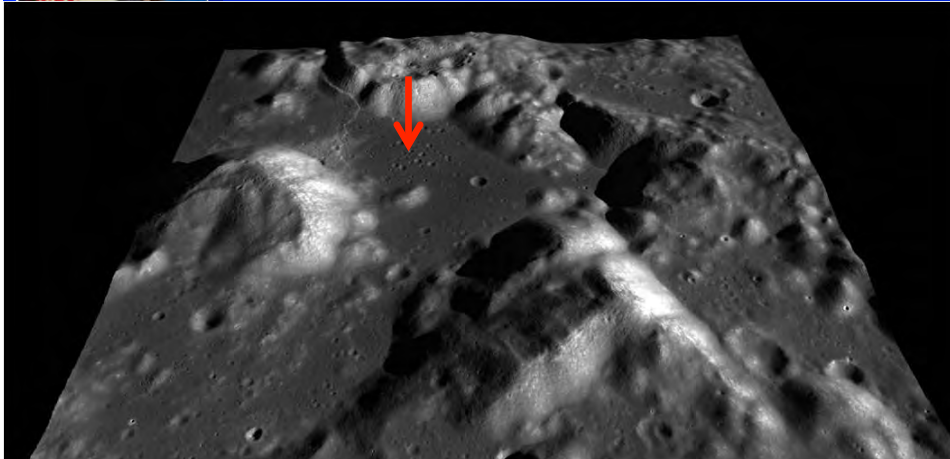
(C) JAXA/SELENE



67
(C) JAXA/SELENE



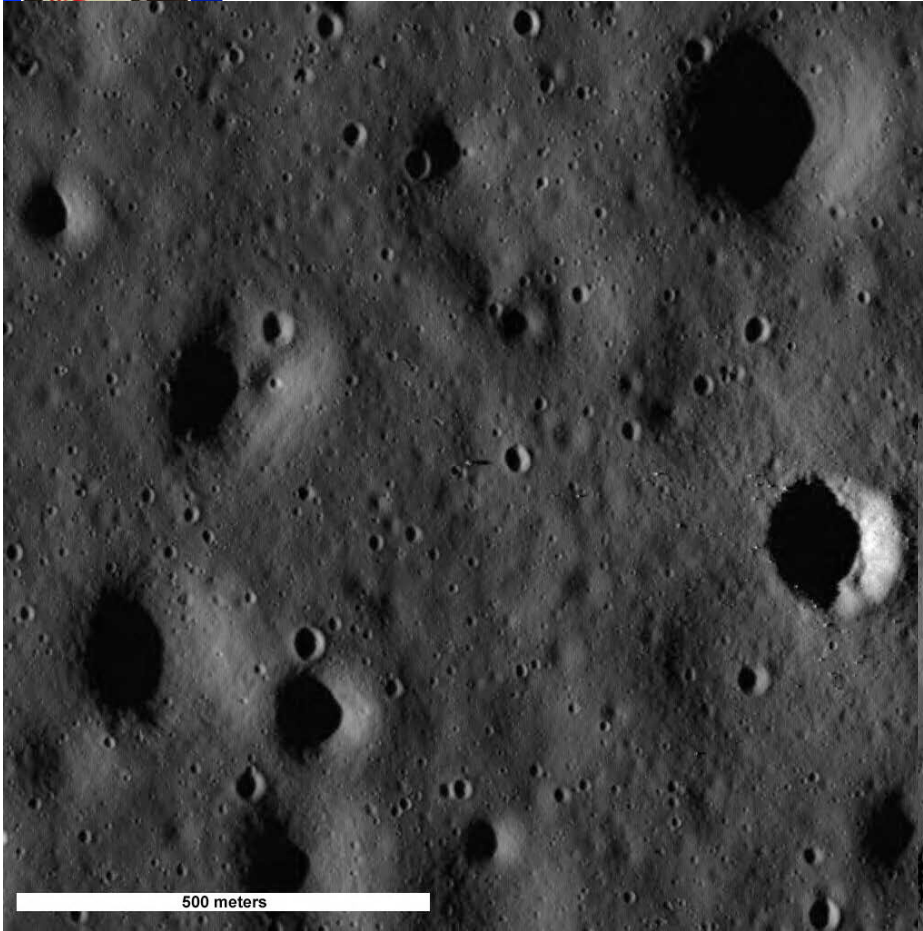
地形カメラの映像6. Apollo 17



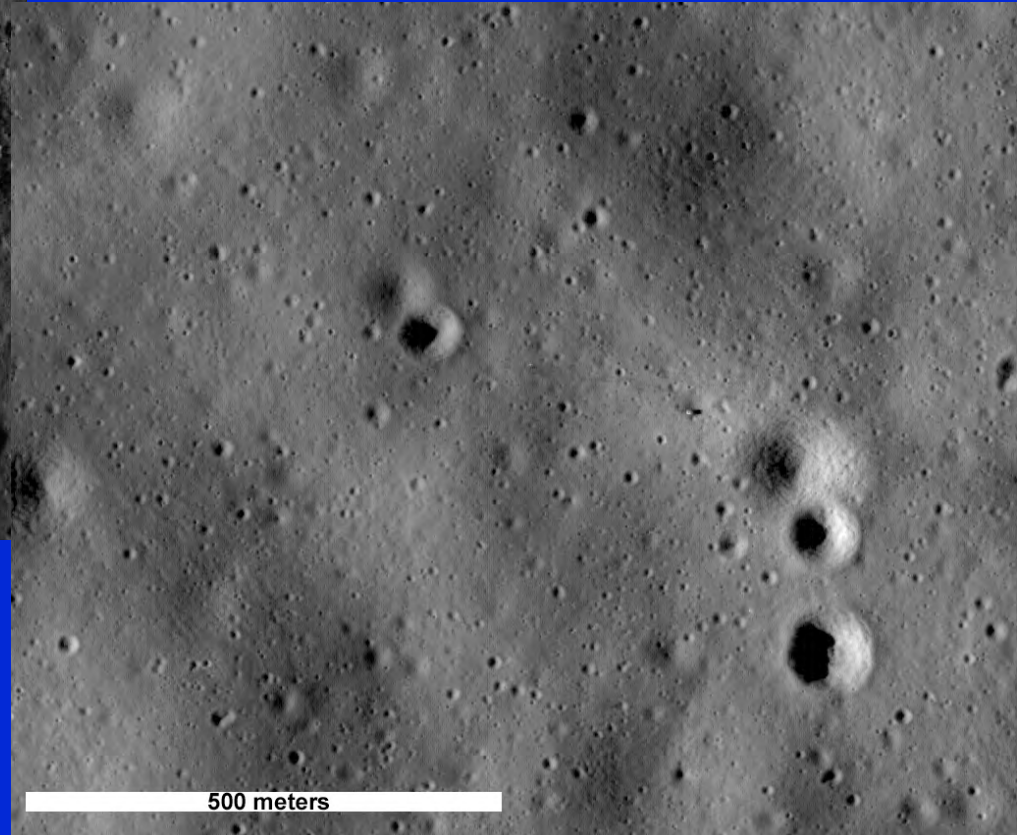
Taurus Littrow Valley



ルナー・リコネッサンス・オービター



Apollo 11 Eagle in
Mare Tranquillity

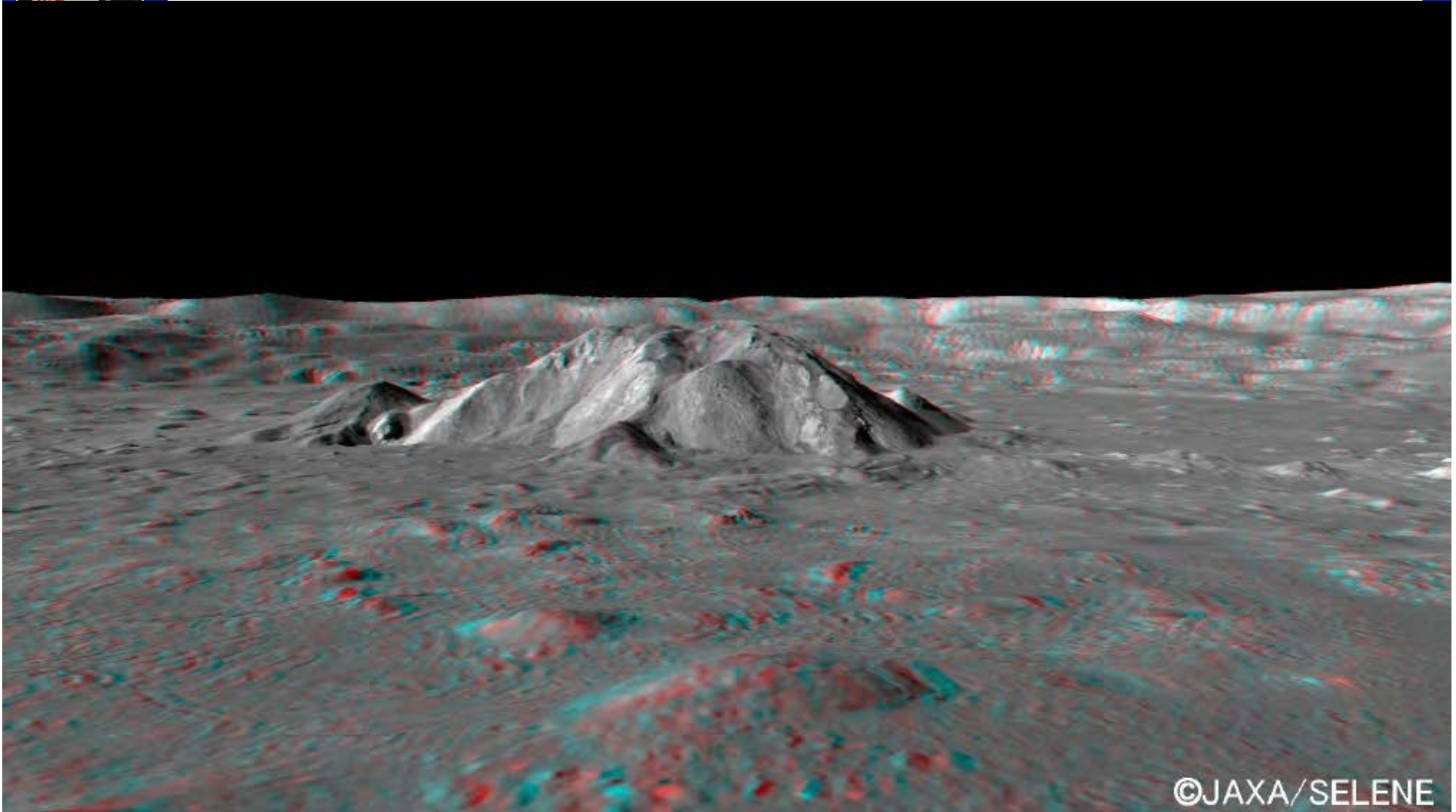


Apollo 14 Antares in
Fra Mauro Basin

SELENE



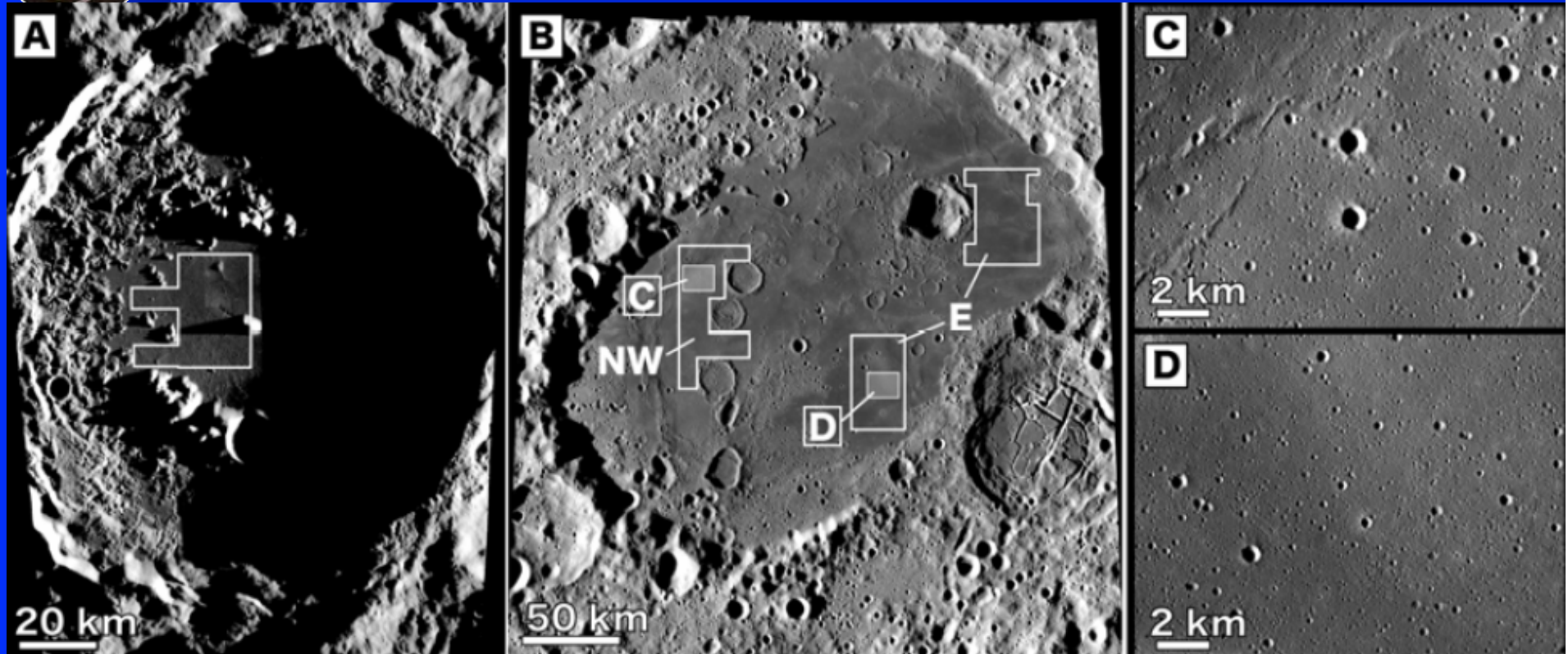
TCによるティコクレータの3次元映像



©JAXA/SELENE



地形カメラによる裏側の海の観測



SELEnologi

地形カメラ高分解能映像を使ってクレータ年代測定が行われた地域

- A. アントニアディAntoniadiクレータ、
- B. モスクワの海Mare Moscoviense
- C. B図中C領域のクローズアップ
- D. 同図中D領域のクローズアップ

Haruyama et al., 2008

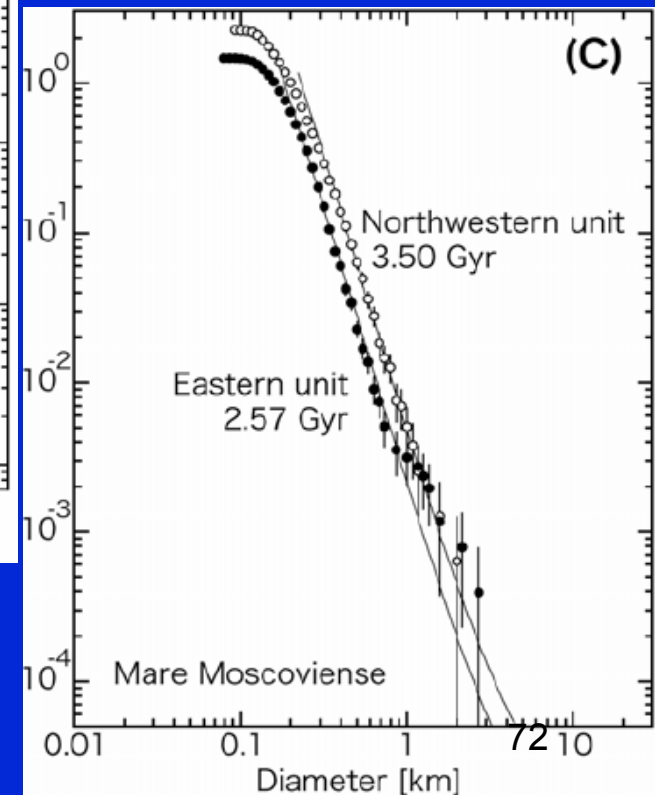
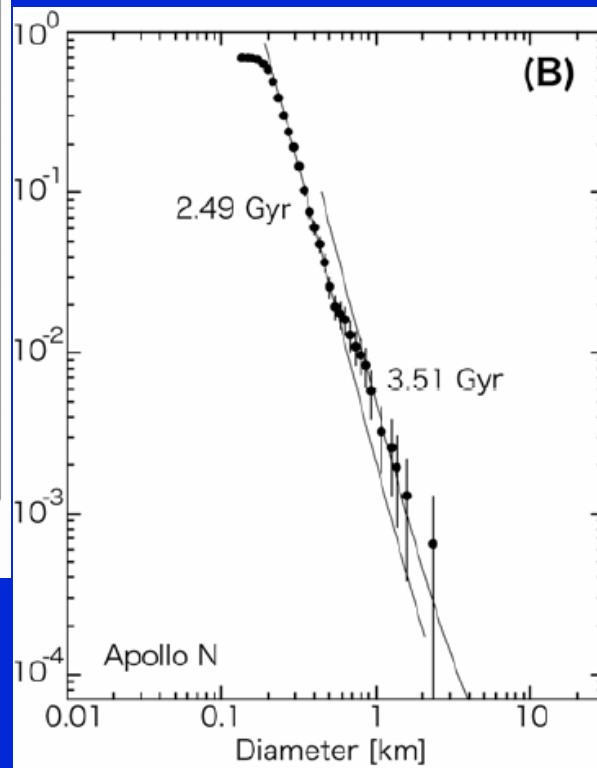
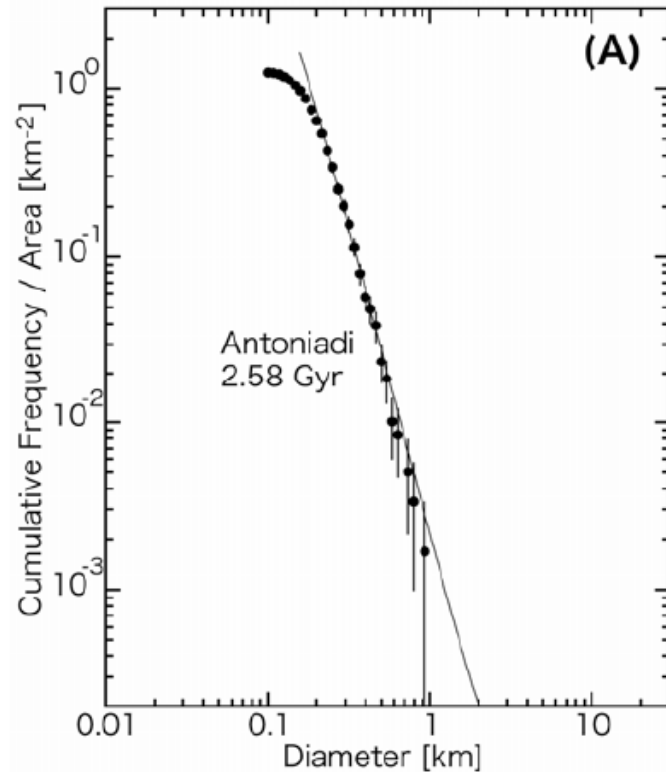


地形カメラによる海の観測2.

クレータ分布計測による形成年代決定
A. アントニアディAntoniadiクレータ

Haruyama et al., 2008

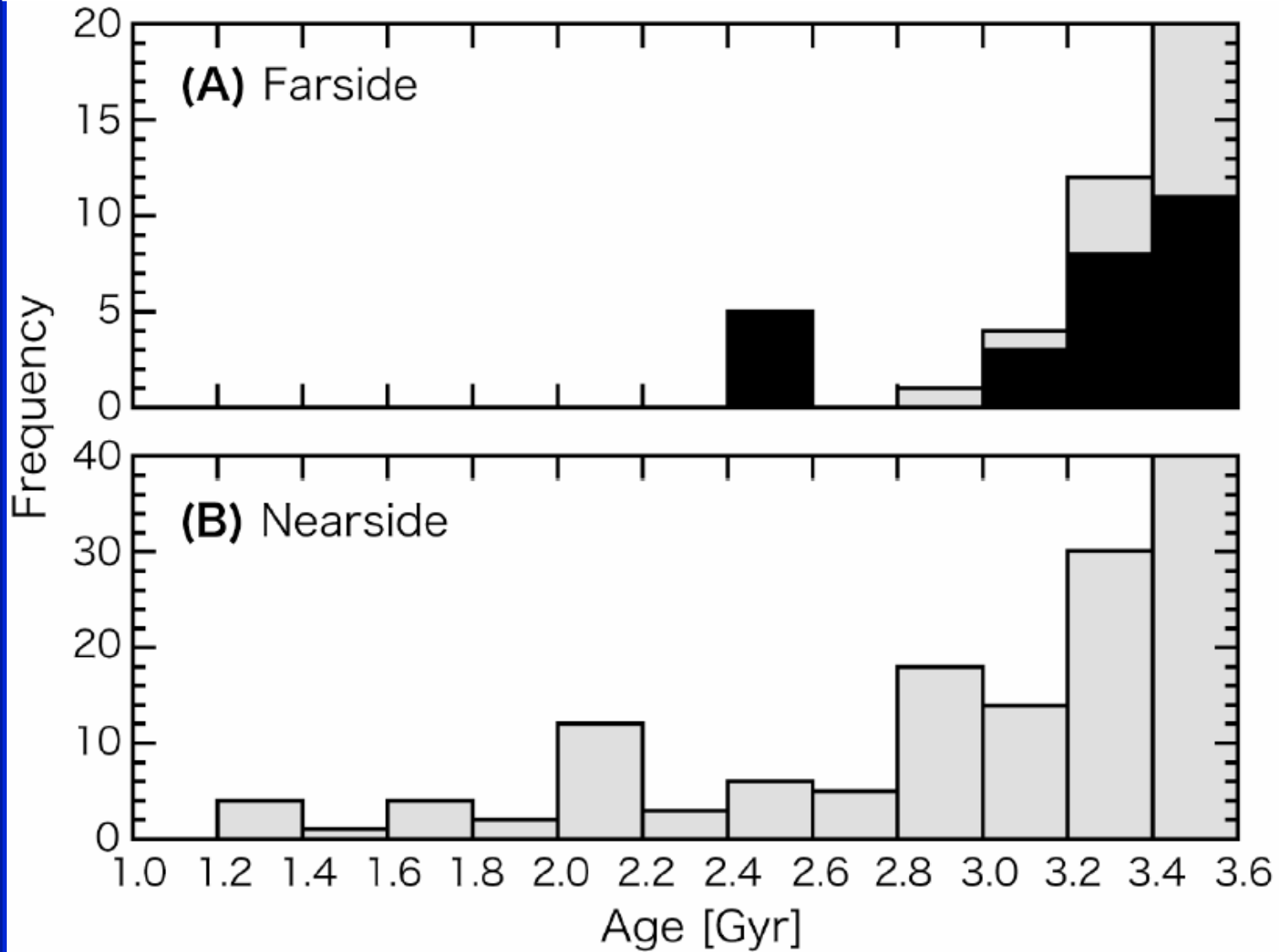
B. あぽろApollo N盆地
C. モスクワMoscovienseの海



SELenologic

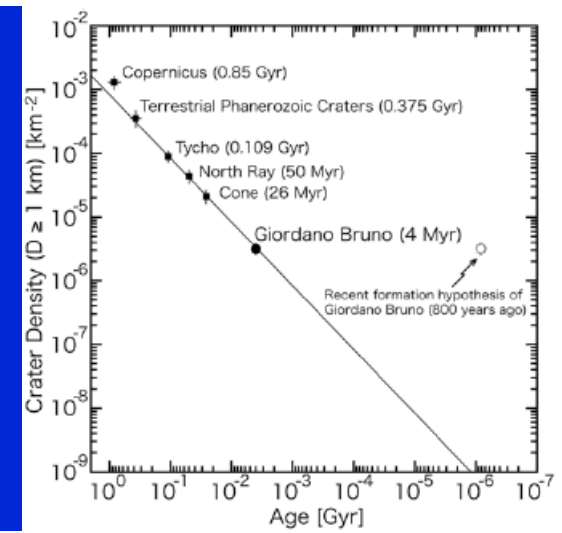
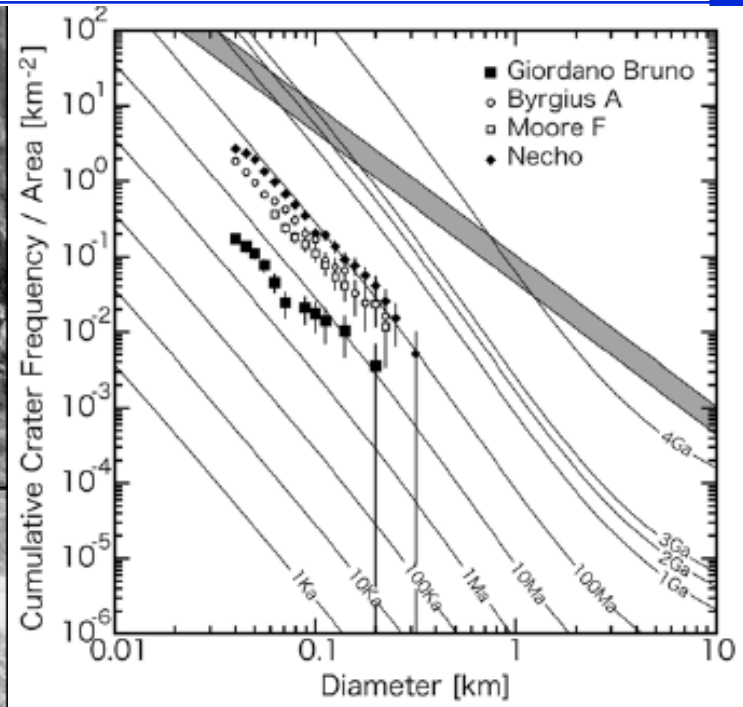
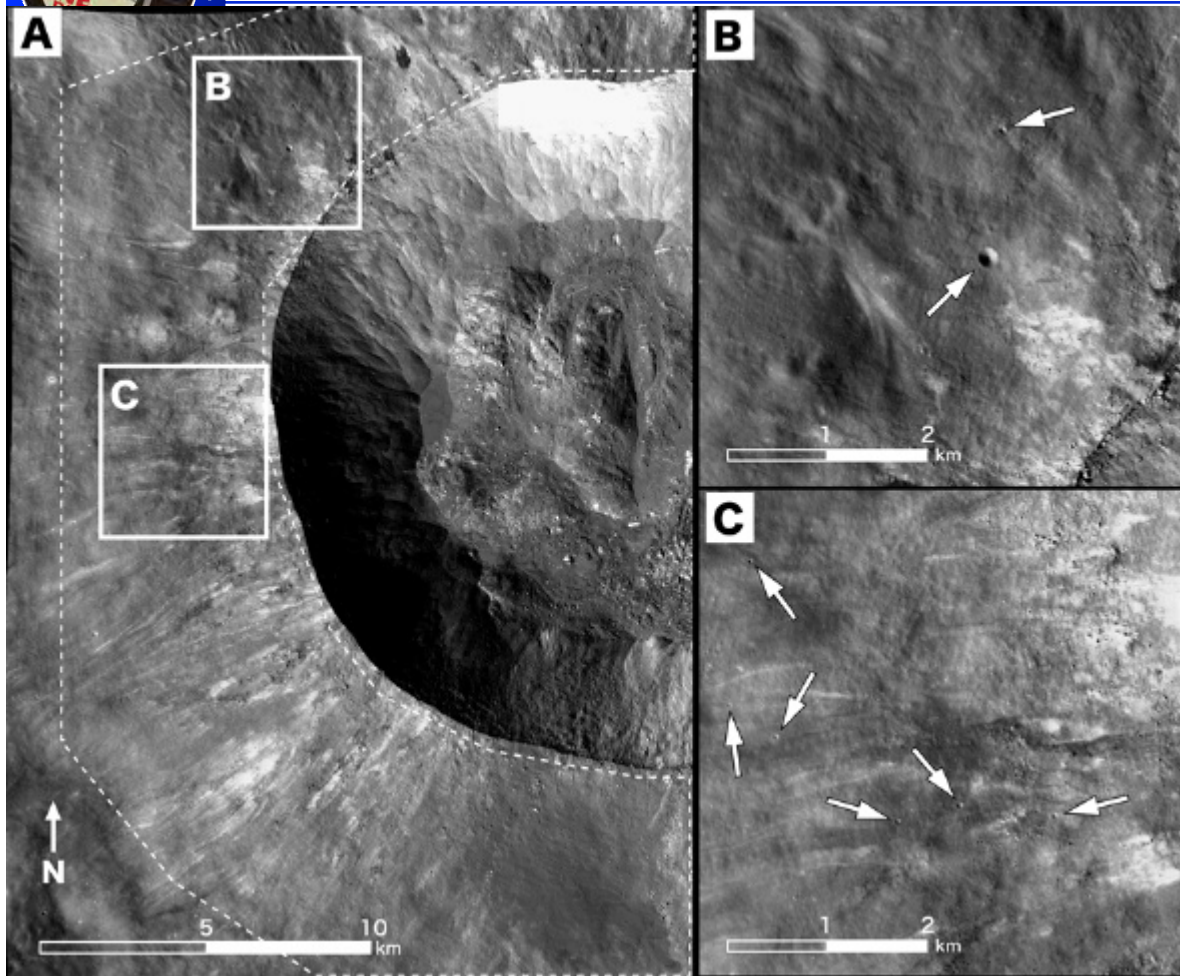


地形カメラによる海の観測3.





ジョルダノー・ブルーノ クレータ形成

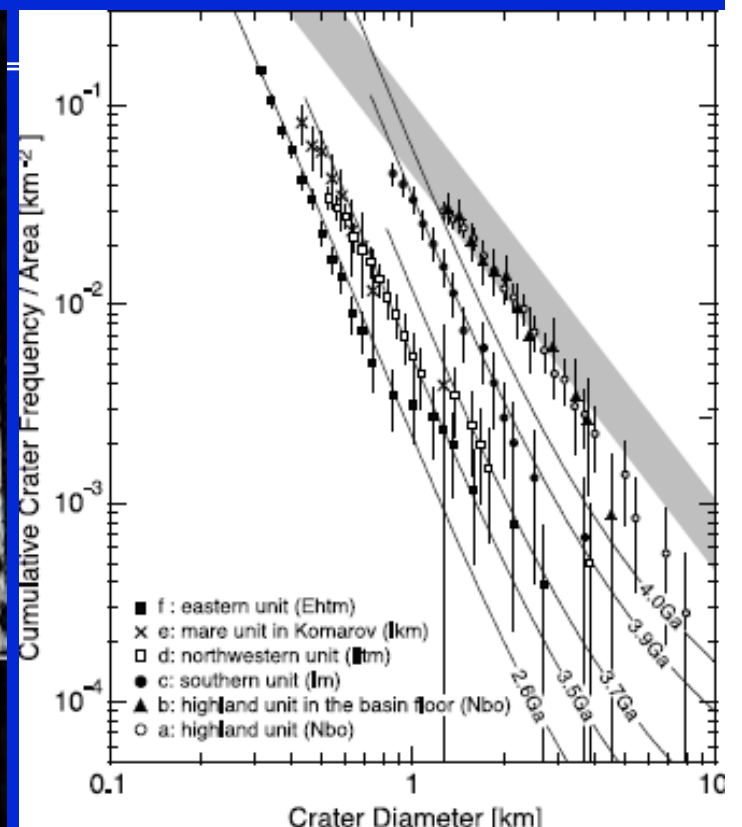
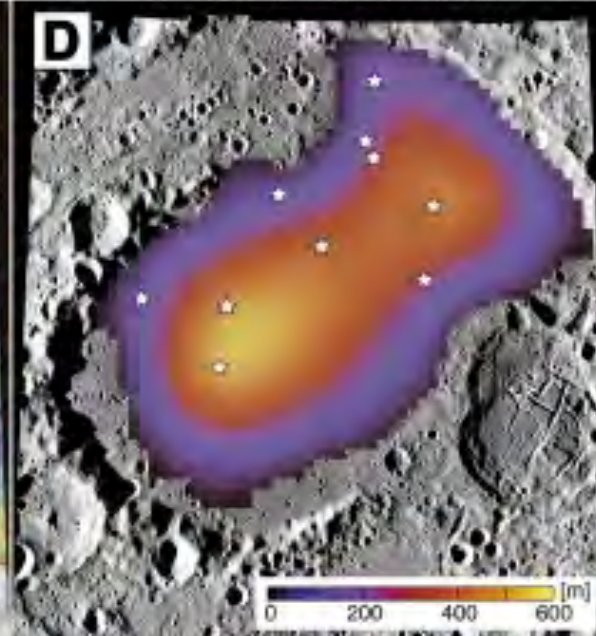
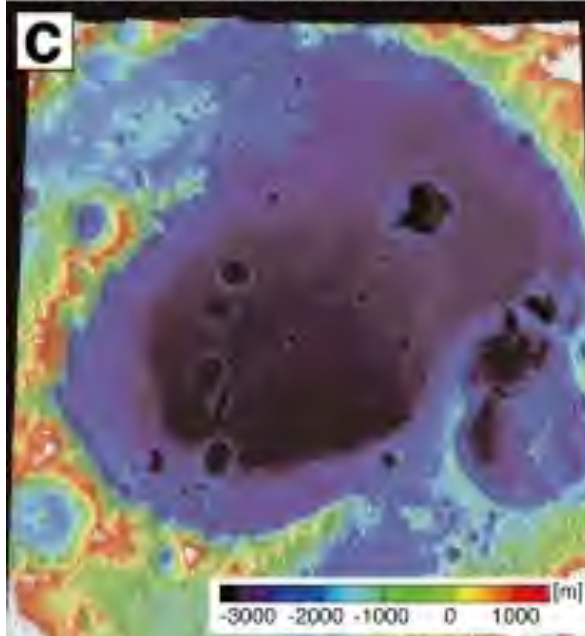
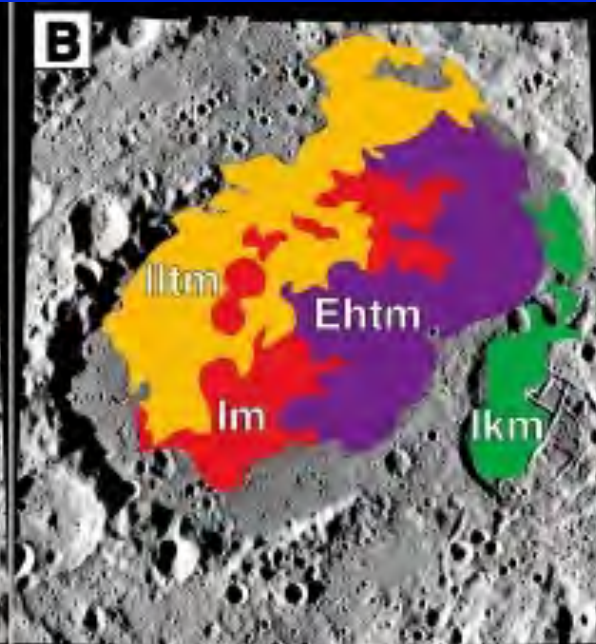
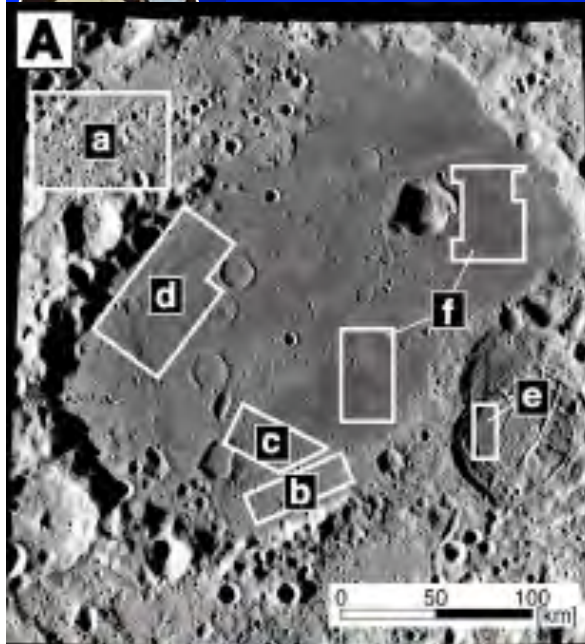


SELENE

36N/103E, 22 km

Morota et al., *MePS* 44 (2009), 1115

モスクワの海の深さは？

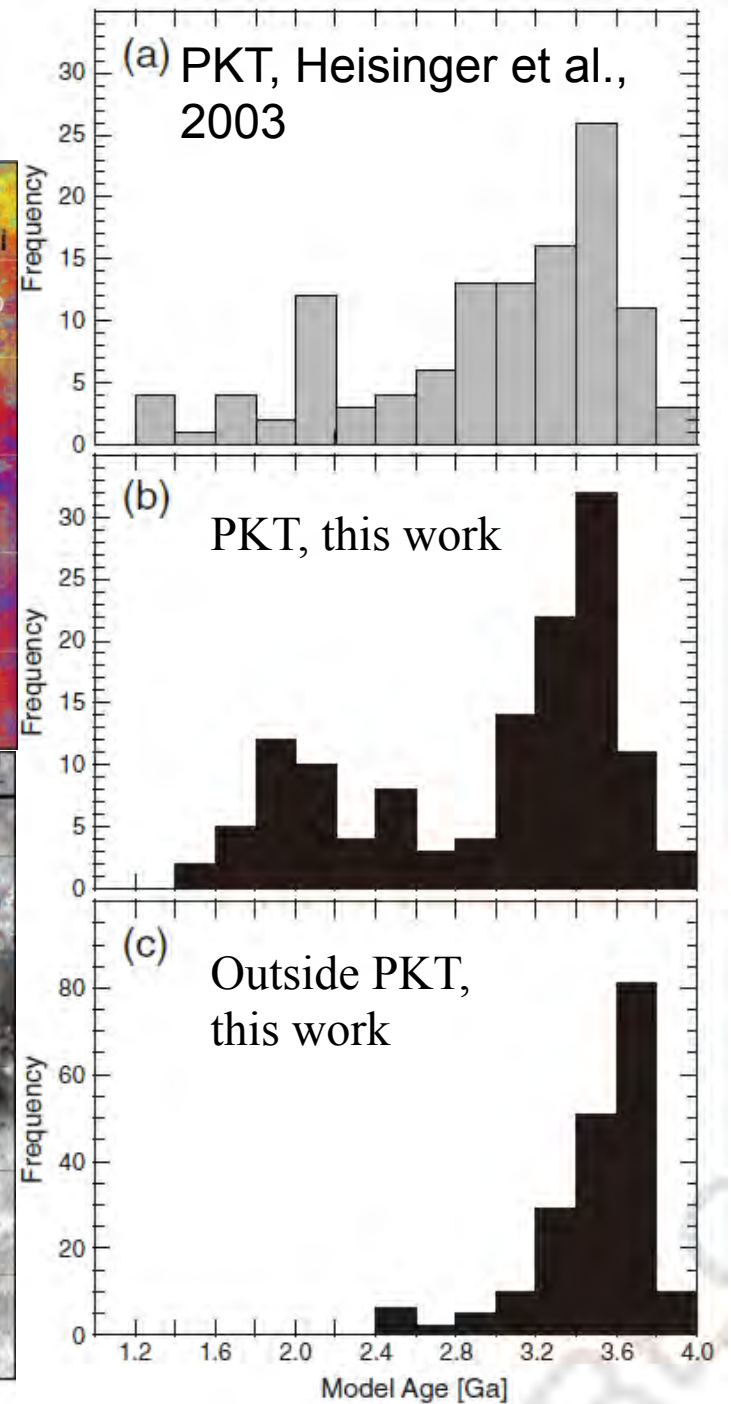
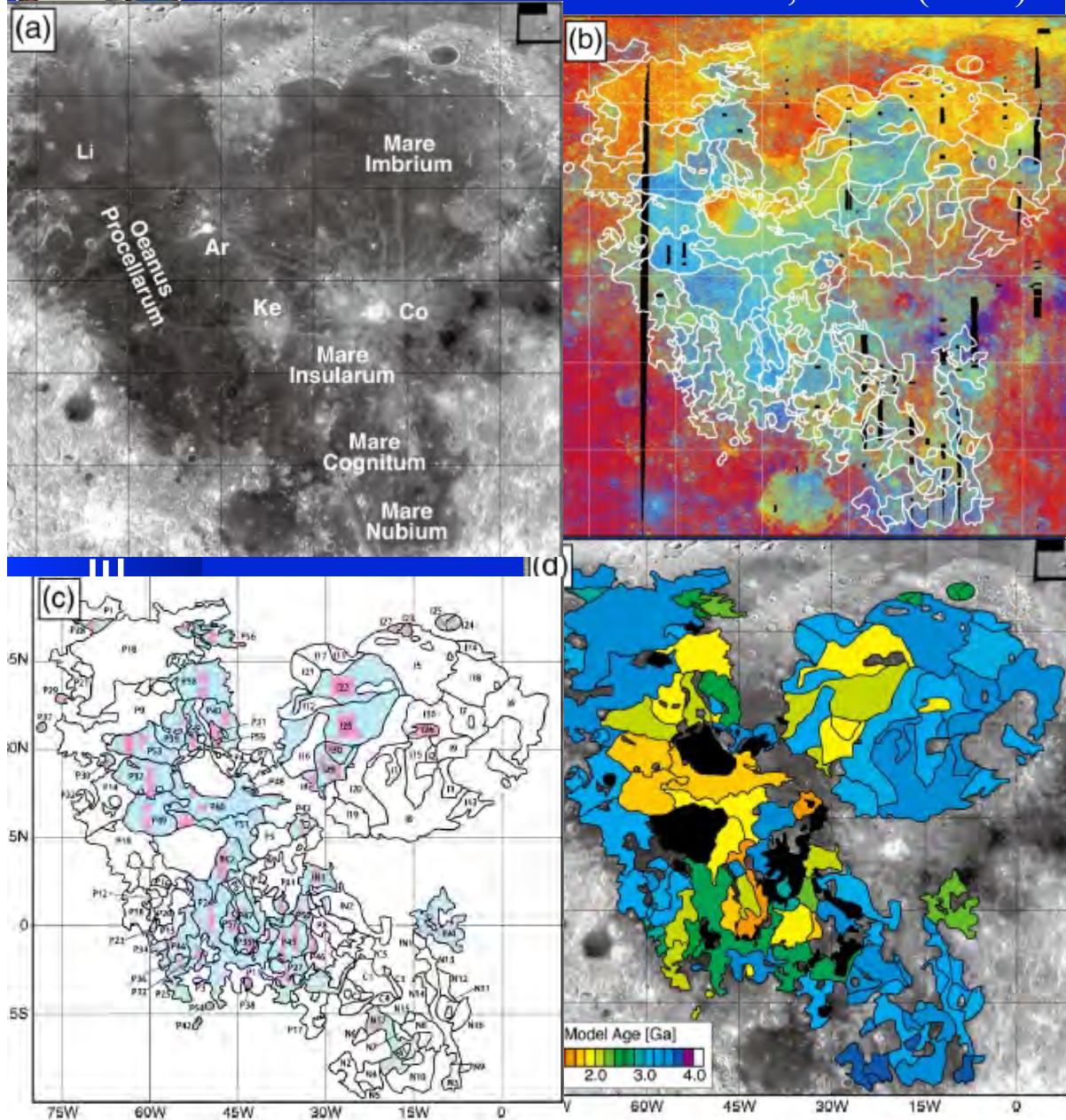


Morota et al., *GRL* 36, in press

History of Mare Volcanism



Morota et al., *EPSL* (2010)



Global Map of Mare Basalts and Formation Ages



10

T. Morota et al. / Earth and Planetary Science Letters xxx (2010) xxx–xxx

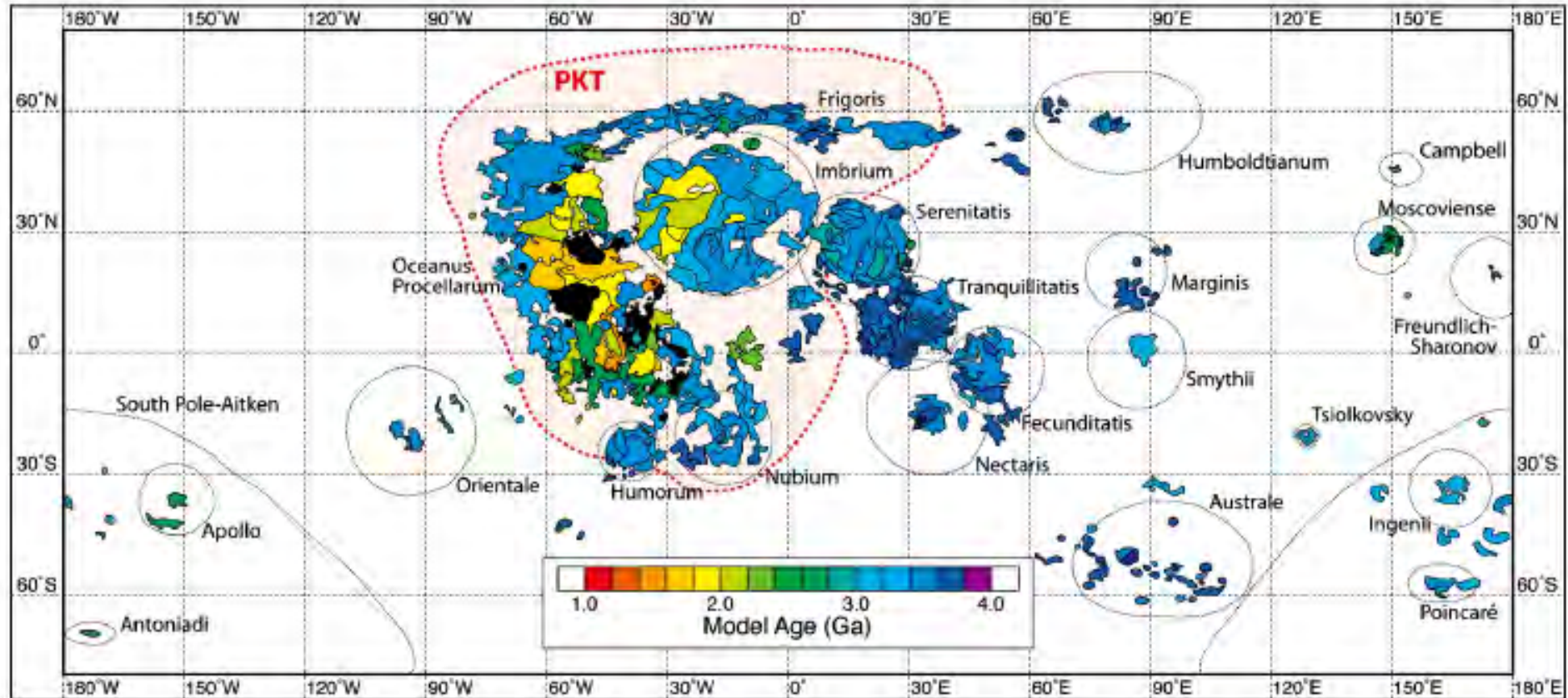
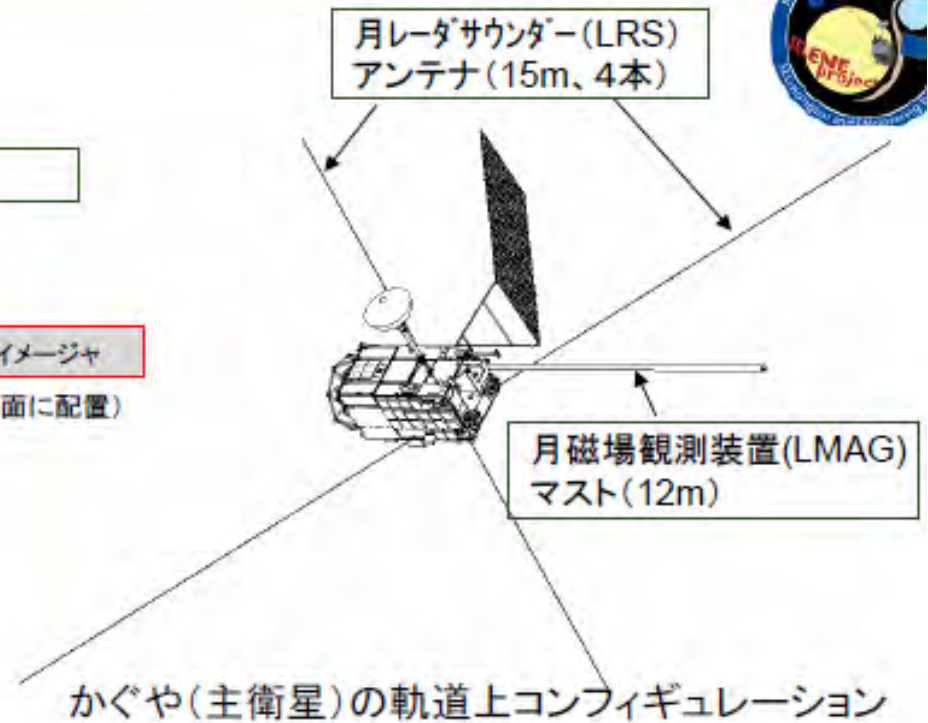
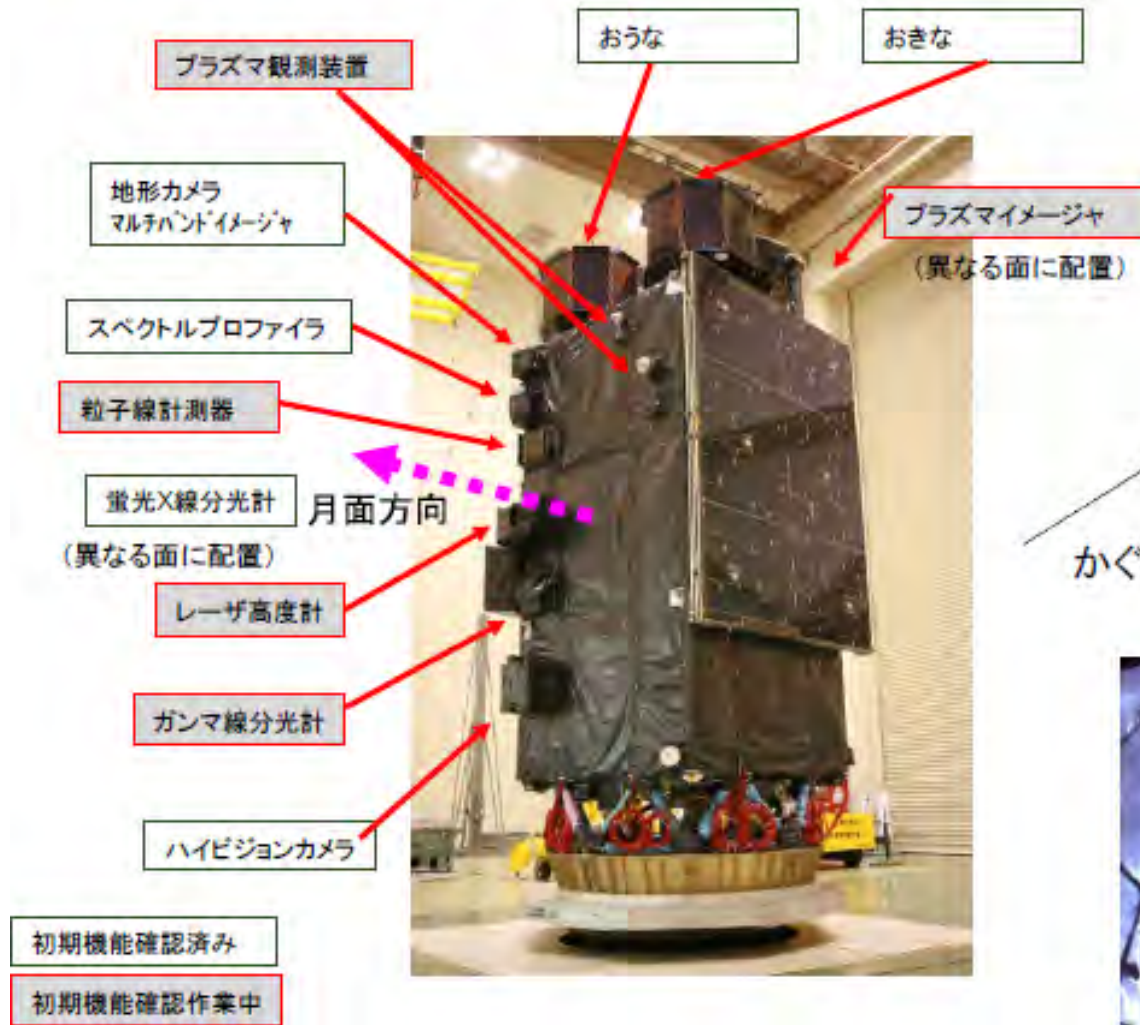


Fig. 5. Global map of the model ages of mare basalts on the lunar surface, including Oceanus Procellarum, Mare Imbrium, Nubium, Insularum (This study; Hiesinger et al., 2000, 2003), Mare Orientale (Greeley et al., 1993), Mare Serenitatis, Humorum, Tranquillitatis, Humboldtium, Australe (Hiesinger et al., 2000), Mare Cognitum (Hiesinger et al., 2003), Mare Fecunditatis (Hiesinger et al., 2006), Mare Frigoris and other nearside maria (Hiesinger et al., 2010), Mare Moscoviense (Haruyama et al., 2009; Morota et al., 2009), and those within the South Pole–Aitken basin (Haruyama et al., 2009), the Freundlich–Sharonov basin, the crater Campbell, the crater Kohlschütter (Morota et al., in press), and the crater Tsiolkovsky (Tyrie, 1988).



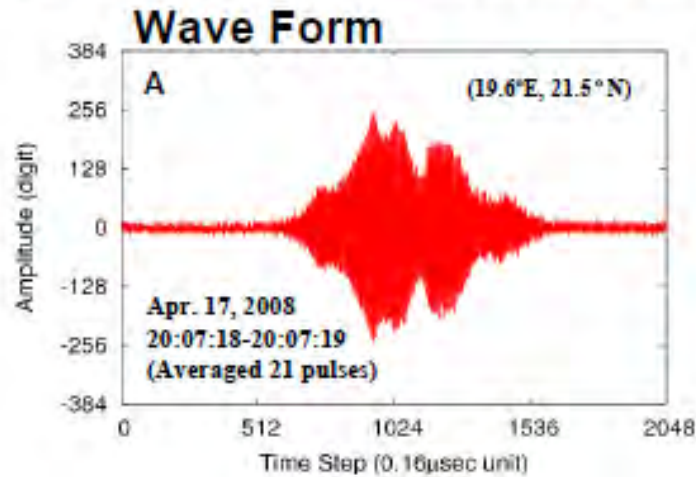
ミッション機器配置図



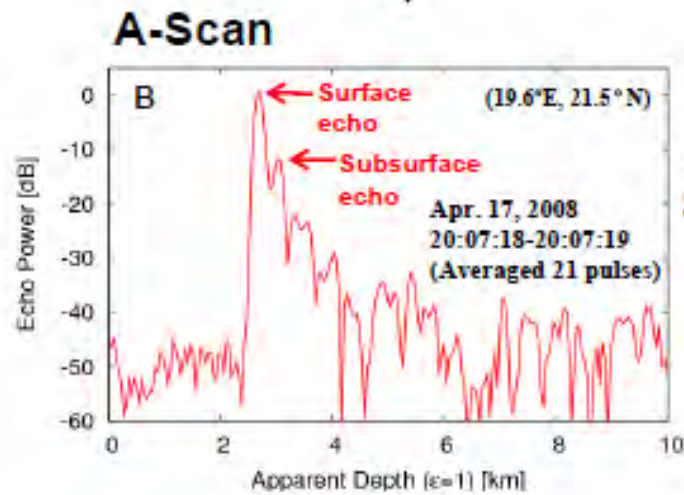
ミッション機器のセンサー部の配置 (打ち上げ時のコンフィギュレーション)

月磁場観測装置 (LMAG) マスト及び月レーダサウンダー (LRS) アンテナの進展後の様子 78

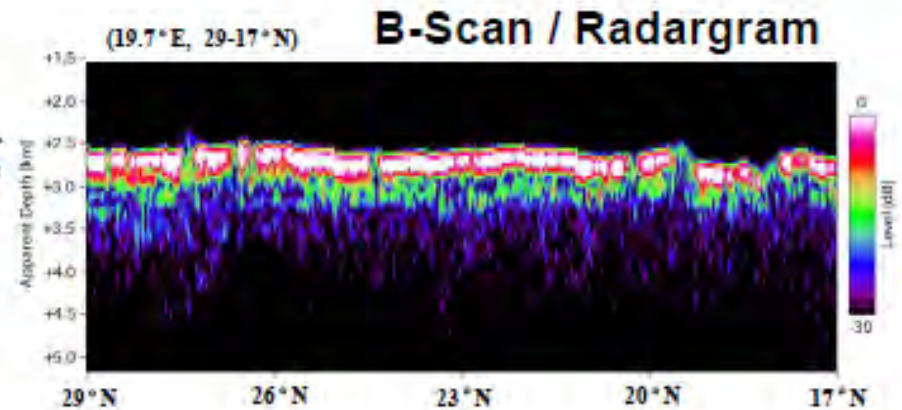
Raw Data Analysis



Fourier Transform



Series of A-Scan



Parameters

Spacecraft Altitude [km]	100
Frequency (FMCW) [MHz]	4-6
Pulse Width [µsec]	200
Range Resolution [m]	75
Transmitter Peak Power [W]	800
Pulse Repetition Rate [Hz]	20
Horizontal Resolution [m]	76