

Estimation accuracy of range position by laser altimeter (LALT) on board SELENE

Hiroshi Araki [1], Nobuyuki Kawano [2], Takashi Takanezawa [3], Tsuneya Tsubokawa [4], Masatsugu Ooe [5]

[1] NAO, Mizusawa, [2] Div. Earth Rotation, NAO, [3] Dep. Astro. Sci., School of Math. & Phys. Sci., Grad. Univ. for Adv. Studies, [4] NAO, Mizusawa, [5] Div. Earth Rotation, Natl. Astronomical Obs.

Estimation accuracy of the range position of lunar laser altimeter (LALT) on board SELENE has been investigated. It was surveyed that range position by LALT may be identified on the digital elevation map (DEM) which is will be created using terrain camera (TC) on board SELENE. We found that the correlation function between simulation data of LALT and corresponding DEM profile (each data number is one hundred) falls down to 0.5 when LALT range position is displaced about one hundred meter. Thus it is possible that range positions of LALT are identified on DEM with the same accuracy. We are investigating how to calibrate the satellite attitude by measuring the time differences at the cross-over points on the calculated orbit and the lunar surface.