

P226-009

Room: 304

Time: May 23 16:35-16:48

Preliminary Study of Stereo Vision with Fisheye Lens Cameras on Asteroids

Yoshio Hamada[1]; Hirohide Demura[1]; Naru Hirata[1]; Noriaki Asada[1]; Demura Hirohide Aizu Lunar and Planetary Science Group[2]

[1] Univ. of Aizu; [2] -

This research demonstrates advantages of stereovision with fisheye lens cameras for a rover, a lander or close-observation missions to asteroids, and a method to determine three-dimensional locations of objects on the asteroid surface space from stereo pair images taken by a fisheye lens camera. This system realizes maintenance-free and high robustness because the angle of view of a fisheye lens is 180-degree and the cameras are fixed. And all data processing has to be completed by an onboard computer on a spacecraft. The method employs an epipolar line expanding to the case for fisheye lenses and a window concerning distortion of the lens.