

Preliminary classification of lunar spectral data for geologic mapping

Kenichi Kimura[1]; Noriaki Asada[2]; Hirohide Demura[2]; Naru Hirata[2]; Demura Hirohide Aizu Lunar and Planetary Science Group[3]

[1] none; [2] Univ. of Aizu; [3] -

A lunar explorer spacecraft, SELENE (SELenological and Engineering Explorer), will be launched in the summer of 2007. Huge volumes of image data obtained through the mission should be analyzed in terms of spectroscopic geology. However, method of region partitioning based on multi-band image of the moon has not been established. The purpose of this research is to investigate suitable procedures for region partitioning with 9 bands image data taken by Multiband Imager (MI) on SELENE. A classification technique by clustering which takes band luminance as feature quantity has been adopted for a geological classification in the past; however proper results have not been presented because band luminance is affected by the topographical effects and capturing timing. Therefore various texture features extracted from band images are also provided as the feature quantity, and the result of study if these bring a better result will be presented.