Accuracy evaluation on the LISM/TC digital terrain model of the Moon

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Terrain Camera (TC) of SELENE is a push-broom stereo imaging camera with a high spatial resolution. TC stereoscopic data will be the source of a digital terrain model (DTM) of the Moon. We estimate the accuracy of the lunar DTM made from stereo pair images of TC.

We investigate an effect of stripe noises caused by gain differences among 4 (odd/even of right half, and odd/even of left half) read-out lines of the TC detector. It is predicted that the accuracy of the sub-pixel matching method for the DTM production is strongly affected by the stripe noise. We made simulated TC stereo pair images with the stripe noise and the noise of lossy data compression for DTM accuracy estimation.

We also estimate an effect of cyclic line noises as a worst case simulation of the cross-talk noise from Lunar Radar Sounder (LRS) of SELENE.