# Alignment-Calibration and Processing of HIRISE CCD Data

A. Zubarev, I. Nadezhdina

Moscow State University of Geodesy and Cartography (MIIGAiK), Extraterrestrial Laboratory (MExLab) (lorencs@mail.ru)

The HiRISE camera on board the Mars Reconnaissance Orbiter features a complex sensor plane. The plane has 14 individual CCD detector arrays, equipped with different filters. 2 CCDs carry near infrared-, 2 CCDs carry blue-green- and 10 CCDs have red filters. All CCDs have a the same size equal 2048 x 128 pixels. The sensor array is operated in the push broom mode. All together full size images for the red channel have a width of 20264 pixels, other channels an image width of 4048 pixels. For producing full red channel image, however, we have to adjust for misalignments between the CCDs, not accounted for in the nominal calibration data files. For example, this offset is near ±10 pixels for the red channel dataset. For solving misalignments we use automatic sub-pixel correlation. This software uses full EDR dataset (obtained from NASA PDS Imaging Node) and SPICE kernels for nominal calibration data.

FP7-SPACE PRoViDE "Lunar Data Workshop"
ISPRS Meeting of the Working Group IV/8 –
"Advances in Planetary Mapping and Spatial Databases"
MIIGAiK Extraterrestrial Laboratory (MExLab), Moscow, October 9-12, 2013