

Photogrammetric Processing of Planetary Stereo Images Using SOCET SET®

Draft Agenda: July 25- 27, 2016

We will begin the workshop at 8:30 AM on Monday, July 25th. Please plan on being in the USGS Astrogeology building by 8 AM to get your Visitor ID and get settled in the Roddy Room. On Tuesday and Wednesday, the workshop will begin at 8 AM and end by approximately 5PM. Each day, lunch is on your own and off campus (unless you want to bring your lunch) at nearby restaurants from 11:30 AM to 1:00 PM. Each afternoon, we will begin promptly at 1:00 PM. Please plan on being at your workstation by 1:00 PM and ready to start.

Monday, July 25th

8:30 AM

Welcome and Introduction to Photogrammetric Processing using HiRISE Imagery

10:00 AM

Image Preparation for Ingestion into SOCET SET®

- Jitter evaluation
- Image processing script – hi4socet.pl
- Image processing script – hidata4socet.pl

10:45 AM

Overview of the SOCET SET® Process

11:30 AM - 1:00 PM LUNCH ON YOUR OWN

1:00 - ~5:00 PM

The SOCET SET® Process: Hands-on Instruction

- Login instructions for Windows and Unix server (handout)
- Create a project in SOCET SET® (handout and tutorial)
- Bring over project files (handout)
- Import HiRISE images
- Import MOLA DEM
- Import MOLA tracks
- Multi-Sensor Triangulation (MST)
 - Backup *a priori* files
 - Setup relative orientation
 - Measure tie points
 - Bundle adjustment
 - Back up relative orientation stage

Tuesday, July 26th

8:00 - ~9:00 An Overview: Bundle Adjustment

9:00 - ~11:30 AM

The SOCET SET® Process: Hands-on Instruction

- Review relative orientation. Introduce vertical and horizontal alignment to MOLA
- Multi-Sensor Triangulation (MST)
 - Establish vertical alignment to MOLA
 - Bundle Adjustment using vertical alignment to MOLA
 - Backup vertical alignment stage
 - Setup absolute orientation
 - Establish horizontal alignment to MOLA
 - Bundle Adjustment using vertical and horizontal alignment to MOLA
 - Backup horizontal alignment stage

11:30 AM - 1:00 PM LUNCH ON YOUR OWN

1:00 - ~5:00 PM

The SOCET SET® Process: Hands-on Instruction

- Download “answer” files, solve, save final solution
- Backup final solution: Absolute orientation, vertical and horizontal alignment to MOLA
- Generate pairwise rectified images
- Extract DTM: NGATE followed by AATE onepass
- View DTM
- Download “exercise” DTM
- Introduce and practice DTM editing using Interactive Terrain Extraction

Wednesday, July 27th

8:00 - ~11:30 AM

The SOCET SET® Process: Hands-on Instruction

- Review DTM extraction using NGATE and AATE. Introduce orthorectification, final product generation
 - CalcOrthoBndry
 - Create orthorectified images
 - Export DTM and orthorectified images
- Transfer ***/Output_Products*** to Unix systems using Windows Explorer
- Open PuTTY Session. Run scripts to generate DTM and ortho cube files

11:30 AM - 1:00 PM LUNCH ON YOUR OWN

1:00 - ~5:00 PM

- Finish up product generation and export
- Wrap up discussion