PDS Data Review

Rosetta NAVCAM

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Sept. 8 2020
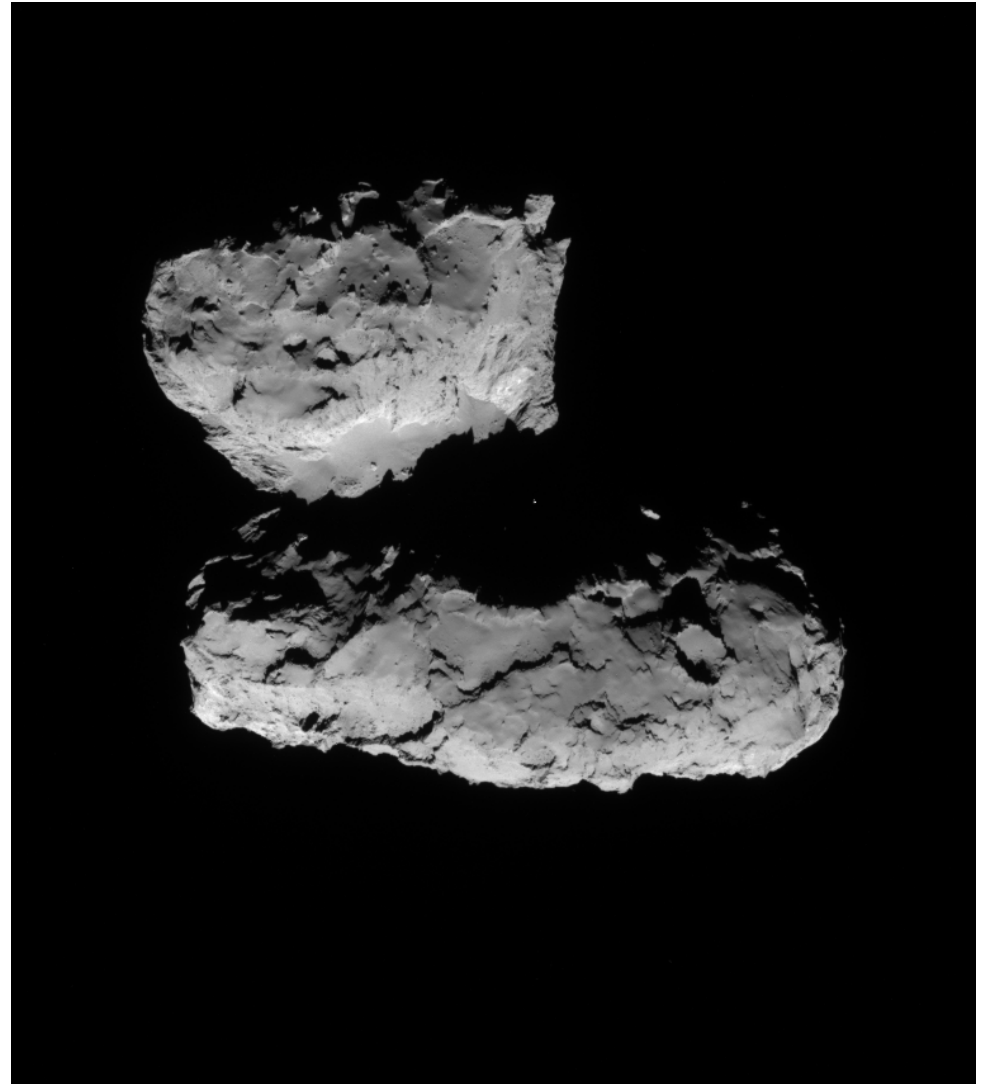
NAVCAM Instrument

- Navigation camera
  - 2 identical, redundant cameras
  - Only CAM1 (NAVCAM-A) was ever used extensively.
  - CAM2 (NAVCAM-B) took some test data to make sure it was working.

- 70 mm, f/2.2 camera
  - 1024 x 1024 pixels
  - 17.6 arcsec pixels (5° x 5° FOV)
  - 12 bit data

NAVCAM Datasets

- 3 Datasets:
  - ro-c-navcam-3-prl-mtp006-v1.0   859 images
  - ro-c-navcam-3-ext1-mtp026-v1.0   819 images
  - ro-c-navcam-3-ext3-mtp035-v1.0   51 images
- Radiometrically calibrated data
- Datasets are very similar, with most catalog and documents files the same between sets
- Data format
  - IMG files with detached PDS labels
  - FITS files with detached PDS labels
    - Under Extras directory
    - Not technically part of the archive (It should be)
  - PNG browse files
    - Very useful for referencing the images

NAVCAM Data Files

- Tested both IMG and FIT files
  - Used PDSREAD (IMG and FIT)
  - Used IDL FITS readers
  - Able to read every image
- Compared IMG and FIT and found them to be identical
- Spot-checked the browse images to confirm if they correspond to the data files
- Able to display and manipulate all images

Geometry Check

- Spot checked the geometry calculations in the labels against my calculations from the Rosetta SPICE data.

- Everything agrees

- One issue of concern:
  - Solar Elongation is given for the boresight-sun vectors, rather than the target-sun vectors (Noted in the dataset.cat file). This is odd and somewhat confusing, given that the two values can differ by many degrees

Suggestions

- Since the FITS files already exist, they should be moved from the Extras directory to the data directory so that they are officially part of the archive
  - Most of the SBN users prefer FITS to IMG format.
  - Extras directory is not technically part of the archive, so FITS files could disappear.

- One of the documents cited regarding the calibration process (Geiger et al.) is still listed as in prep.   Will it be published any time soon?

- Otherwise, no significant problems.