New Horizons Review, 19 May 2016

Start 8:15am

Attending in person:

Ludmilla Kolokolova

Steve Joy

Tiffany Finley

Andrew Poppe

Joe Peterson

Lori Feaga

Brian Carcich

Tilak Hewagawa

Cristina Thomas

Rudy Frahm

Tilden Barnes

Zou Xiaodon

Tony Farnham

Dick Simpson

Jianyang Li

Anne Raugh (recording)

By Telecon:

Jim Gaier

Larry Brown

Kimberly Ennico (?)

Richard Chen

Dustin Buccino

General Notes

* I am concerned that reviewers are not reviewing the PDS files, but rather the FITS files. This seems to be a major problem with the PEPSSI and SWAP reviews, e.g.

General Liens

* Some very brief, high-level description of when the actual encounter happened, and maybe where in the directory structure those data are, would be very helpful to users. [This should probably be in some permanent part of the data set description that users are likely to see – like the abstract.]
* The dataset.cat needs to reflect the state of the Pluto data now, as delivered (with little Pluto data at very low resolution).
* The boilerplate, all-encompassing descriptions that worked reasonably well for early mission and cruise data are not addressing the needs of users now, who are looking for the more interesting encounter data, and need to be able to find the most interesting data easily. AAREADME should be pared down to only relevant sections that actually address volume layout and otherwise refer users to documents.

PEPSSI

* It is not clear from instrument descriptions and SIS whether the instrument was capable of recording high and low resolution data simultaneously (and the data set incomplete because data have not been received), or not (and there are gaps because of alternating between modes). Larry B. explains the data taking is simultaneous, but getting the data down takes a long time. So this needs to be added to the documentation in appropriate (and editable) places.
* The description of the sequence table needs to be clearer on what it contains (planned observations as opposed to only those resulting in data), and it should indicate which sequences actually have observations in the data set.
* Steve’s presentation notes a couple of dangling references in the dataset.cat description found in the last review that persist in this data set.
* Please update the references that refer to JPL internal documents, which are not generally accessible to anyone outside JPL, to indicate that the referenced documents are not generally available (in the reference.cat file).
* The rateboxdefinitionplanes.fit file is still in a different place than that referenced in the ICD.
* Steve’s presentation notes an unexpected disconnect between low and high resolution data (see slide with “dataset.cat (2)” title and preceding graphs). Some sort of explanation should probably be added in something like the dataset.cat description.
* Rudy notes that there seem to be data points recorded below the lower sensitivity limit of the instrument. There should probably be an explanation somewhere of what is going on in this range.

Certification Status: Certified with minor liens

SWAP

* The ICD refers to the RPA as a “low-pass filter”. It is, in fact, a high-pass filter.
* Rudy’s presentation contains a list of typos in documents that should be taken as liens unless otherwise noted below.
  + File name case is not significant in PD3; no action required.
  + Remove the example code (that shows only level 3 data) from the level 2 data set.
  + If a parameter has no units, it should have no UNIT keyword, *not* “N/A”
  + Data in the “0x585” files are useful only for engineering, so they will be dropped from the level 3 data, and explanatory notes added to the documentation.
  + Add subphase table to the mission.cat description.
* There are some SWAP modes that contain degenerate images that contain, as far as I can tell, no description of the actual content of the file, only descriptions of FITS terminology. (“x586” vs “x584”, for example, where 584 has at least minimal descriptions of the significance of the data.)
* The traj.fmt file has two columns with the same name “LAT\_SC\_POSITION”; one needs to be renamed.
* If possible, add a trajectory table with higher time-resolution coordinates in all the coordinate systems for the Pluto system at the time of encounter.

Certification status: Certified, release pending correction of the label issue identified for the x586 files and removal of 585 file from the level 3 data. SBN will work release details and possible interim delivery offline.

Heather Elliott has a derived product related to a published paper that should be archived on an accelerated schedule if at all possible. Rudy is happy to serve as a reviewer for a telecon review on a short time scale. SBN will work the details with Heather offline to make that happen.

REX

* As for SWAP, the initial image data in the PDS labels are not described in any meaningful way in the level 3 data.
* Dick Simpson’s presentation notes an odd offset between I and Q values for one of the test sequences that should probably be investigated and explained.
* Dick’s “Comments” file contains a laundry list of mainly documentation issues that should be taken as liens unless otherwise noted following:
  + The comment regarding the I/Q scaling factor only requires action if there is some specific reason of interest to users for the selection of the value used.
* Dustin B.’s presentation contains comments regarding additional documentation needed that should be taken as liens unless otherwise noted following:
  + No documentation should ever imply that PDS will support “code samples”.

Certification Status: Certification held pending delta-review of liens directly related to data question (as opposed to typos and general documentation updates).

[After lunch]

SDC

* Andrew Poppe’s presentation contains a slide (13) called “Liens”. These items should be taken as liens.
* Jim Gaier’s presentation contains a list of issues that should be taken as liens except as noted:
  + Apparently the STIM Listing is missing a calibration period in 2014 (this is not mentioned in the presentation).

Some discussion about the fact that the SDC is not always pointed in the ram direction, as assumed, especially during Pluto encounter, but the SDC files contain no geometry information. Seems like a separate file providing geometry along with times the instrument was turned on, threshholds, etc., would be a reasonable solution. Suggested that for Pluto encounter, where geometry is well known and data are of high interest, that fairly detailed geometry be provided; whereas for cruise phase, where geometry might be reconstructed, provide low-cadence geometry or geometry for periods around recorded hits, as a sample for potential users to inspect if they are considering a more detailed study, to gauge what might be found in the data once better kernels are available or more detailed geometry is calculated.

Certification Status: On/Off table must be present before data can be certified or published. This should be reviewed and OKed by reviewers, but delta review is sufficient for certification at that point.

MVIC

* Jianyang’s presentation contains some minor points that should be taken as lies except as noted:
  + The unit in the calibrated images (“data number”) is actually correct.
  + The TARGET = “N/A” indicates data taken during maneuvers as a sort of diagnostic test. “N/A” is a reasonable value for TARGET\_NAME for these data.
* Tony’s presentation contains comments that should be taken as liens.

Certification Status: Certified; post with liens and notes.

ALICE

* Lori’s presentation contains comments that should be taken as liens. Note that she has also provided a document for typos.

Certification Status: Certified for release.

LORRI

* Tony’s presentation contains comments that should be taken as liens.
* Xiaoduan requests that, for lossy compressed images that have a corrupted block of 40x8 pixels resulting from the 34 pixels of housekeeping data, the quality map indicate the pixels that are affected. The team will look into doing this.

Certification Status: Certified for release.

LEISA

* Tilak’s presentation contains comments that should be taken as liens except as noted:
  + Clarification: Documentation should note that the object may or may not be in the window in any given observation.
  + The suggested modifications to nhsc.cat should only include those items that are at an appropriately general level for this file. The more detailed information is in the instrument catalog file.
  + Note that the type in the spectral range in the dataset.cat file (“1.225-2.5” should be “1.25-2.5”), is apparently repeated elsewhere in other document – in the ICD, for example.
  + The files indicating a missed target may, in fact, be the result of the target not being in the window, which was only a single pixel wide in one case.
* There are no errors and no error estimates provided, and there probably should be.
* Add a solar spectrum to the calibration information available in the dataset.
* It’s not clear if the smaller satellites are not represented because they are not observed, or if the data has not yet been downloaded. This should be mentioned at a high level.

Certification Status: Certified for release.