Comet Review, May 15 2018

Attendees:

* Kelly Fast (by telecon)
* Rudy Frahm (by telecon)
* Maria Womack (by telecon)
* Glen Cushing (by telecon)
* Tilden Barnes
* Gerbs Bauer
* Lori Feaga
* Mike Kelley
* Tony Farnham
* Ben Hirsch
* Ludmilla Kolokolova
* Emily Kramer
* Karl Hibbitts
* Anne Raugh (recording)
* Vivian Zohery (recording)
* Elizabeth Warner
* Steve Joy
* Nalin Samarasinha
* Tiffany Finlay (late morning)
* +/- others in and out by telecon for individual data sets

[Note that comments in square brackets are note by A.Raugh to A.Raugh for later follow-up.]

…:compil-comet:unid-emis (Catalog of Cometary Unidentified Emission Lines)

Prepared using PDS4 Beta version (contains CSV files).

Mike Kelley’s presentation contains items that should be taken as liens unless otherwise noted below. See also the text liens list sent separately by Mike.

Lori Feaga’s presentation contains a list of issues that should be taken as liens unless otherwise indicated below.

OLAF notes:

* Check – does OLAF scrub user input for problematic characters? (‘&’, ‘>’, ‘<’) It seems to be doing so for ‘&’, at least.
* Wavelength can be multi-valued.
* Is there a “spectrum” profile? If so, do we need to expand on this for Spectral Dictionary?
* Need to do something about creating and including overview documentation for all collections.

The deVico atlas (PDS3) data set should be referenced. Probably best to migrate that data set and provide a registry reference rather than dealing with the PDS3 cross-referencing issue.

Certification status: Not certified. Delta review is sufficient. Overview document is essential.

…:gbo-apache\_point:uranian satellites.

Karl Hibbitts’ presentation includes lists of items that should be taken as liens unless otherwise.

(Note he did not use PDS4 labels to read the data.) Karl questions whether the wavelength calibration is correct, given the location of the water bands. Mike Kelley notes that, even though they are examining the calibrated data, atmospheric effects appear to not have been removed. There seem to be some fundamental problems with the processed data, but this is a very useful data set for exercising the new Spectral Dictionary.

Certification Status: Not certified. The processed data must be atmospherically corrected to be useful. Full review required.

Hale-Bopp Lightcurves

Tony’s presentation contains a list of items that should be taken as liens unless otherwise noted.

[Sounds like we need a wiki page on how (and possibly when) to cite various sources of information – like data culled from a website, JPL Horizons orbits, PDS3 data sets, etc.]

Emily Kramer’s presentation: An overview document would be useful. There are also some URLs in documents that shouldn’t be there and don’t resolve now.

Raugh comment: Is this likely to remain a single-collection bundle? If not, some reorganization would be in order.

Richard Chen reported some sort of offset problem, but this did not, somehow, affect the science analysis. How is that possible?

Certification: Certified. Can publish with liens, provided the bundle readme.txt is the “missing” overview. [Follow-up: “readme.txt” isn’t quite the full missing overview. Emily will supply a list of the sort of thing that still seems to be missing via email so we can make sure we hit everything.]

ISON Groundbased observations

[Shouldn’t use “gbo” in a bundle name – we use that acronym for a different set of words.]

[Shouldn’t use “ISON” in a bundle name – there are too many comets with that name.]

Emily Kramer’s presentation contains a number of issues that should be taken as liens.

Note that the “HFOSC” acronym refers to one of several instruments actually used.

Tony Farnham’s presentation contains issues that should be taken as liens.

[The IDL suite read\_PDS seems to be having serious issues with these data, but this is likely to be a result of schema changes since read\_PDS was written. We need to either find someone to update and maintain that tool, or at the very least warn users on the download page.]

Certification: Not certified. Delta review is sufficient.

IHW NNSN

Nalin’s document contains issues that should be taken as liens. The AAREADME.TXT does need updating for the current state of the volume.

Additional notes:

* Orientation-time-scale-revs.asc – 6 images were not resolvable. A list of those files would be useful to have.
* Can the time of observation discrepancies noted in the known issues file also be noted in the labels of the affected files?
* Find the filter description and additional ancillary documentation from the original publications (perhaps these are in another V2.0 dataset and just not included here?) and include in the document/ directory here. [See V1.0, document/common/appendix/near\_nuc.apx]
* There may be additional images with timing issues (from non-Japanese observatories?). Nalin will check his email notes and see if he can find the correspondence that identified them.

Emily Kramer’s presentation lists issues that should be taken as liens.

Richard Chen noted some issues in labels that can be screened programmatically.

Certification: Not certified. Delta review is sufficient.

New Horizons PEPSSI

Steve Joy’s presentation contains issues that should be taken as liens.

Rudy Frahm’s presentation contains issues that should be taken as liens.

These appear to be level 4 data, as opposed to level 5 (as indicated in DSID and descriptions).

The dataset.cat file refers to an as yet non-existent NH document data set. The plan is to deliver this. SBN will work details with Tiffany.

Certification: Not certified. Missing documentation is critical. Changes to data files (null to zero) appear to be trivial if they are not significant. Changes to attitude file is supporting data and a simple matter of output formatting. Delta review is sufficient – reviewers will do value comparisons to make sure trimming non-significant digits does not alter the values inadvertently.

New Horizons SWAP

Rudy Frahm’s presentation contains issues that should be taken as liens.

Steve Joy’s presentation contains a few additional issues (beyond those mentioned by Rudy) that should be taken as liens.

Additional Notes:

* On slide 5, the reference to line 160: This sentence should just be struck.
* On slide 7: Is it possible to present everything in a single data file with all the coordinate systems (and avoid repeating the primary data fields)?

Certification: Certified for release with documentation liens noted – unless the AU vs. kilometers issue turns out to be more complicated than a simple labeling issue.

New Horizons LORRI/Alice/REX

Paul Withers’ notes contain issues that should be taken as liens.

Additional Notes:

* The “unsorted references” appears to refer to the DATA\_SET\_REFERENCE\_INFO objects listed in the dataset.cat file.
* Some minor points in the catalog files are worded as questions and can be simply answered by the team as appropriate.
* Good documentation overall!

Looks like the aliceocc data might need a brief intro document to explain in simple (discipline) terms what is in the FITS file extensions and how to recover the wavelength and timing information to map to the spectrum (stored as an image).

Lyle Huber notes that in the FITS files the ARRAY structures in the PDS label would be better expressed as binary TABLE, if only to prompt slightly better documentation of what is in these extensions.

Lori Feaga’s presentation also contains typos and issues that should be taken as liens.

Additional notes:

* The issue of the overly long catalog files should be handled in some reasonable manner. It may not be worth the effort to pull out a separate document ***and*** chase down all the pointers in labels for a high-level data set that will be high priority for migration. SBN and NH will consider level of effort required and settle on a reasonable approach with a view toward migration.

Certification: Certified for publication now with a big, red note that uncertainties will be added to the data files in the final submission for the affected data types. Delta review required with reviewers to content themselves that no existing data have been negatively impacted by the change.

NH LEISA Composition Maps

Absorp/ only:

Karl Hibbitts absorb/ presentation contains issue to be taken as liens.

Additional Notes:

* Need a description of linear artifacts in low SNR data that result from flat fielding.
* Trent Hare notes that the absorp/ labels are missing the DATA\_SET\_MAP\_PROJECTION object they should contain. The labels are also extremely sparse. Trent has offered to help fill out the labels in an appropriate way. Trent notes they are also missing conveniently-formatted geometry (a separate file is not the usual method used for projected data).
* Glen Cushing notes the geometry does not seem to be in the same orientation as the other projection files. Trent notes there is no display direction keywords, so the default orientation is used and it is different from the map orientation. The QUBE in the geometry label is especially mysterious.
* It might actually be easier as well as more satisfying to go back to the original ISIS cubes and use the ISIS-to-PDS converter to generate the PDS files. There also an ISIS-to-FITS converter that might have a file padding issue, but SBN has code to correct file padding as needed.
* Also need a comment on errors/uncertainties.

All sections:

Jianyang’s presentation contains issues that should be taken as liens.

Glen Cushing’s notes list issues that should be taken as liens.

Color/ notes:

* An explanation of file naming conventions (rather than renaming files) is sufficient.
* The mvic\_\* files do not indicate what the four bands are.

Spec/ notes:

* The data gap in lines 199-207 is the glue bond line and needs to be mentioned more prominently.
* NaN is not allowed in data files, and these NaNs (in the wavelength file) appear without explanation.

Certification: Not certified. Re-review needed; same reviewers, if willing and available, will be recruited.

[These are highly valuable data with a ROSES deadline in mid-July. A special effort will be made by NH and SBN to try to get these data certified and posted in time for that call.]

NH GEOMAPS

Tony Farnham is presenting Jianyang Li’s comments, which should be taken as liens.

Trent Hare recommends that both 32-bit and 8-bit versions of mosaics be included.

Trent Hare’s notes list issues that need to be inspected for additional liens beyond what has been noted elsewhere. There are some typos listed, as well as issues that will be resolved once minimal FITS headers are replaced.

Additional Notes:

* Some map projections contain extra pixels (370 degrees of coverage) that should be clipped.

Certification: Not certified. Re-review needed; same reviewers.

[The same time criticality applies to this data set as to the previous.]