

Archiving Data for Comet ISON

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What is PDS?

PDS maximizes NASA's return on investment in planetary science

- PDS is a long-term archive that ensures data can easily be accessed and studied for decades
 - NASA and international planetary missions
 - Ground-based observations
 - Special collections (e.g., Halley archive)
- Standardized content
 - Limited data formats
 - Required archive content (support material)

Why Archive Your Data?

- ISON is a unique, high profile comet
 - Could be paradigm changing object (Halley, Hale-Bopp)
 - Data will be studied for years
 - Few researchers exhaust the full potential of a dataset
- Archiving makes data more widely accessible
 - Available to others (and others' data available to you)
 - Available well into the future
 - Data won't get lost on a dusty shelf
 - Easy access to your own data in the future
 - PDS is searchable - easy to determine what is available
 - Data availability improves collaboration opportunities

Why Archive Your Data?

- Collections of data extend the science beyond what can be obtained from a single dataset
 - Long term evolution
 - Combine multiple datasets (e.g. Feaga talk)
 - Interrelationship between different data types
 - Investigate phenomena at variety of wavelengths
 - Comparison studies to past and future comets
 - New and different comets
 - Advances in analysis techniques, etc.
 - Use your imagination.....
- ISON is a priority for NASA
 - Expectation that data obtained with NASA-funded grants should be archived

Data Already Being Archived

- Small Bodies Node
 - Deep Impact (Should be delivered this year)
 - BRRISON balloon observation (designing archive)
 - FORTIS rocket (discussions underway for archiving)
- Archived elsewhere (linked to SBN)
 - HST
 - Spitzer
 - Messenger
 - MRO
 - Swift
 - SOHO, STEREO, SDO

What Goes into Archive?

Dataset must stand on its own

Drives what is required and how it is formatted

- Data that can/should be archived
 - Raw data
 - Spectra, images, photometry, time sequences, etc.
 - Calibration observations
 - Allow the user to calibrate on their own if desired
 - Calibrated data
 - You may know how best to calibrate your data
 - Higher order products
 - Production rates, comet colors, etc.

What Goes into Archive?

- Support documentation and data
 - Catalog/Context files describing data acquisition
 - Instrument, telescope
 - Calibration descriptions and data
 - Tables
 - Coefficients
 - Anything else useful/essential for understanding the data
 - Electronic/scanned observing logs
 - Weather information, seeing, data quality

Data Formats

- PDS SBN accepts limited types of data format
 - Ensures that the data will be usable in the future
 - Easier for users to access data
- Basic data and support formats (SBN)
 - FITS files
 - ASCII files (tables, list data, etc.)
- Documentation formats
 - ASCII
 - PDF

Archiving Process

- Use SBN OnLine Archiving Facility (OLAF) to facilitate data submission
 - Uploads data and creates the necessary labels
 - Submitter develops scripts to fill in label information
 - Submitter needs to prepare catalog files if they don't exist
- SBN personnel can help with issues that may arise
 - Help design labels
 - Provide basic, minimal templates for the catalog/context files
- Data will undergo a peer review
 - Make sure the dataset contains everything needed to be usable without additional input
 - Provide a list of liens that need addressed
- Submitter may need to make changes for final archiving

PDS SBN Information

For more information

- Mike A'Hearn
- Ludmilla Kolokolova
- Tony Farnham
- Lori Feaga
- Mike Kelley

PDS Websites

- PDS SBN Home
<http://pdssbn.astro.umd.edu/>
- OLAF
<http://sbn.psi.edu/olaf/>