

UPDATE ON OLAF CAPABILITIES. C. Kingston¹, E. Palmer, J. Stone, M. Drum, C. Neese, and B. Mueller,
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Introduction: The On-Line Archiving Facility (OLAF) provides an interface through which users can submit data to the NASA Planetary Data System (PDS) so that it can be reviewed, archived, and made available to the public. OLAF is maintained by the PDS's Asteroid and Dust Subnode of the Small Bodies Node (SBN).



Goals. The PDS4 standard can be complex and intimidating to learn, making archiving data a burdensome task. OLAF is designed so that users are not required to learn the details of the PDS4 information model or to maintain a current knowledge of the changing standards. OLAF outputs properly-formatted and PDS4-compliant XML product labels for any of several data types, with more currently under development.

Technical Details. In support of these goals, OLAF has undergone a transformation into a more modern web application. OLAF is a standalone web-based client application that communicates with the servers at the SBN. While both ends of the application are developed and maintained by SBN, this separation of concerns allows for the stateless development of both ends of the application and provides powerful tools for developing an extensive and dynamic library of modularized and reusable HTML and Javascript.

Current Data Types:

Traditional Interface. The ability for OLAF to support PDS3 and PDS4 formatted data still exists.

- Documents
- Fixed-Width Tables
- Multipart Tables
- FITS Images

Upgraded User Interface. The new application provides a greatly simplified interface for the following data types. Extension of the simplified interface to additional data types is underway.

- Documents
- CSV Tables
- 2D & FITS Images are in progress

New CSV Tables. OLAF currently includes the capability to upload tabular data as Comma Separated Values (CSV) files, as well as an improved method for uploading and batch processing to simplify the data submission process (**Figs. 1 and 2**). The use of CSV

files for tabular data allows users to use spreadsheet software like Excel to generate data files. CSV files also make it simpler to embed header definitions directly in the files either by hand or programmatically. Including the metadata in this way significantly reduces the number of steps in the data upload process. CSV files are also easier to format and more human-readable than fixed-width tables.

Benefits: Here are some of the ways OLAF improves submitting data to the PDS:

- Simplifies PDS4 label generation
- Allows easy upload of delimited (CSV) tables and metadata
- Avoids the need for PDS4 jargon
- Puts your data into a form ready for PDS peer review and archiving
- Supports several popular data types, with more coming soon

Future Developments: The modular design and highly-reusable nature of internal OLAF data structures ensures that developing support for new data types and other features is simple and easy. Decisions regarding development of new features is primarily driven by the needs of the planetary science/small bodies community. The next data types being developed are 2D Array Images and FITS Images.

Access: OLAF is currently available to beta testers and access can be granted for data providers with interest in providing data and feedback regarding the application. For more information, contact SBN or olaf@psi.edu.

# Keywords				
Product Name	CO2 Sublimation Rates			
Product Description	Thermal stability calculations for the sublimation rate of CO2 on Iapetus - Minimum effective obliquity of 4.3°			
Start Time	2008-02-03			
Stop Time	N/A			
Target Name	Saturn VIII (Iapetus)			
Target Type	Satellite			
Authors	A3021			
Facility	Literature			
Instrument	Literature			
Product Processing Level	Derived			
Science Search Facet	Physical Properties			
# Column Definitions				
cap_extent_start	cap_extent_stop	total_sublimation	net_movement	
real	real	real	real	
degree	degree	kg	kg	
		-9.9E+00	-9.9E+00	
Extent of polar cap, start	Extent of polar cap, stop	Total sublimation per solar orbit	Net movement per solar orbit	
# Data				
	89.5	90	1E+00	0
	88.5	90	1.3E+01	0
	87.5	90	2E+02	0
	86.5	90	2E+03	1.7E+03
	85.5	90	1.5E+04	1E+04
	84.5	90	1.1E+05	6.1E+04

Figure 1. Metadata can be added to the top of a CSV data file. OLAF parses this metadata to construct the XML labels required by PDS4.

column name
 data type
 units
 missing value constant
 description

File Name	Product Name	Product Description	Start Time	Stop Time	Target Name	Target Type	Author List	Facility	Instrument	Product Processing Level	Science Search Facet	Product Wavelength Ranges	Temperature
90.csv	Jeans-90	The Jeans escape calculations at 90K	2009-10-01	N/A	Iapetus	Satellite	Palmer, E.	Literature	Literature	Derived	Physical Properties	N/A	90
105.csv	Jeans-105	The Jeans escape calculations at 105K	2009-10-01	N/A	Iapetus	Satellite	Palmer, E.	Literature	Literature	Derived	Physical Properties	N/A	105
130.csv	Jeans-130	The Jeans escape calculations at 130K	2009-10-01	N/A	Iapetus	Satellite	Palmer, E.	Literature	Literature	Derived	Physical Properties	N/A	130
140.csv	Jeans-140	The Jeans escape calculations at 149K	2009-10-01	N/A	Iapetus	Satellite	Palmer, E.	Literature	Literature	Derived	Physical Properties	N/A	140

Figure 2. When submitting several files all with the same column definitions, a user can submit a CSV table containing header metadata definitions for each file to be included in the batch. In Figure 2, each row represents a different data product.