

## Galileo Orbiter Photopolarimeter Raw Data

PDS\_VERSION\_ID = PDS3  
LABEL\_REVISION\_NOTE = "Larry Travis, 1999-05-14;  
Lyle Huber, 1999-10-12;  
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OBJECT = DATA\_SET  
DATA\_SET\_ID = "GO-J-PPR-2-REDR-V1.0"  
OBJECT = DATA\_SET\_INFORMATION  
DATA\_SET\_NAME = "Galileo Orbiter PPR  
Reformatted EDR V1.0"  
DATA\_SET\_COLLECTION\_MEMBER\_FLG = "N"  
DATA\_OBJECT\_TYPE = TABLE  
START\_TIME = 1996-06-26T22:56:24  
STOP\_TIME = 2002-01-21T09:11:14  
DATA\_SET\_RELEASE\_DATE = 2002-11-30  
PRODUCER\_FULL\_NAME = "Larry D. Travis"  
DETAILED\_CATALOG\_FLAG = "N"  
CITATION\_DESC = "Travis, L.D., T.Z. Martin,  
G.S. Orton, J.R. Spencer, L.K. Tamppari, R.F. Beebe and L.F. Huber,  
GO-J-PPR-2-REDR-V1.0, NASA Planetary Data System, 2002."  
DATA\_SET\_DESC = "

### Data Set Overview

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The Photopolarimeter/Radiometer (PPR) subsystem is one of the four remote sensing instruments mounted on the Galileo Orbiter scan platform and is designed to measure the degree of linear polarization and intensity of reflected or scattered sunlight and the intensity of thermally emitted radiation from Jupiter and its major satellites. Primary science objectives and anticipated results of the PPR experiment are to: (1) determine the vertical and horizontal distribution of cloud and haze particles in the atmosphere of Jupiter; (2) determine the energy budget of Jupiter and the variation in the amount and spatial distribution of reflected solar radiation and emitted thermal radiation for Jupiter and its satellites, including the thermal structure of the atmosphere of Jupiter; and (3) measure and map the photometric, polarimetric, and thermal radiometric properties of the major satellites of Jupiter. These objectives of course contribute to the broader goals of the Galileo Mission science disciplines of atmospheres and satellites as planned and coordinated by the Atmospheres Working Group (AWG) and the Satellite Working Group

(SWG).

With the Galileo Orbiter constrained to use the low-gain antenna, the Jupiter Phase mission planning was necessarily predicated on the strategy of recording most of the observations by the remote sensing instruments during each encounter period, or Jupiter and satellite close approach, for playback during the long cruise portions of the eccentric orbits. As a consequence, the key spacecraft resources for science operations were Data Memory System (DMS) track usage, bits-to-ground as a measure of downlink telemetry capability, and propellant for spacecraft attitude reorientation, or science turns. Initial planning by the Galileo Project Science Group (PSG) thus entailed the allocation of spacecraft resources to the three science disciplines - atmospheres, magnetosphere, and satellites - with the respective working groups planning and coordinating specific observations, or Orbit Activity Plan Elements (OAPELs). The resulting plans are summarized in the Orbit Planning Guide (OPG; [GLLOPG]).

The OPG summarizes the basic science objectives for each discipline and describes the strategies that were adopted given the resources allocated to each WG. For the AWG, the strategy was to focus on integrated studies of a variety of atmospheric features and to emphasize observations that are unique in terms of instrumental capability or observing geometry opportunities. For the SWG, the objective was to obtain global coverage of the satellites at modest spatial resolution consistent with resources and to emphasize small regions of interest for high spatial resolution and full multispectral coverage. AWG and SWG objectives required coordinated observations by two or more of the four scan platform instruments as well as some observations by individual instruments.

#### AWG Science Objectives and Observation Strategy:

Atmospheric science objectives for the Galileo Mission were to: (1) determine the chemical composition of the atmosphere; (2) determine the structure of the atmosphere to a depth of at least 10 bars; (3) determine the nature of the cloud particles and the location and structure of the cloud layers; (4) determine the radiative energy balance in the atmosphere; (5) investigate the circulation and dynamics of the atmosphere; and (6) investigate the upper atmosphere and ionosphere. The Galileo Probe addressed these objectives at one location and time, while the Orbiter observations are essential for completing the picture by providing spatial and temporal coverage. Observations by the remote sensing instruments on the Orbiter provide high spatial resolution with broad spectral and phase angle coverage. In general, coordinated observations by the scan platform instruments

are the optimum strategy because of the broad spectral coverage thus afforded. While many of the AWG observations were accordingly coordinated, the planned sequences typically involved distinct OAPELs for the individual instruments closely spaced in time rather than actually simultaneous measurements because of practical issues of efficient DMS tape usage.

Since the number of image frames from the Solid State Imaging (SSI) system was rather restricted for the low-gain antenna mission, the AWG emphasized the observation of discrete atmospheric features utilizing joint remote sensing by the scan platform instruments. So the primary AWG observational objective was for local regions defined by spatial scales of about 10,000 km, to determine the temperature structure, distribution of minor gaseous constituents, properties of the clouds, radiative energy budget, and wind field from observations at the highest spatial resolution over a range of emission and phase angles. These local regions included the Probe Entry Site, shearing regions at the edges of jets, white ovals, brown 'barges', infrared 'hot spots', and equatorial plumes. Because of the need to obtain SSI frames spaced appropriately in time for determining cloud motions and to obtain a range of emission and phase angles, these observations were called feature tracks. Features covering a broader area are also important, but their coverage could not involve joint observations by all remote sensing instruments at their fullest capabilities. These regions included the Great Red Spot (GRS), the North and South Polar Regions, and two stable axisymmetric features: South Tropical Zone (STrZ) and North Equatorial Belt (NEB). In order to establish context, to study zonal wave structure, and to provide a modest survey for temporal variations, global observations by individual instruments were planned on a very limited basis. Finally, given the limitations of local or regional feature characterization and the relatively modest opportunities for complete longitudinal coverage in global maps, meridional scans were employed to provide sensitive studies of meridional variability of temperature, composition, or cloud properties.

PPR observations in support of the AWG strategy are characterized by the following OAPEL types:

- 1) FTBAS: Basic feature track support; observes the local regions in both radiometry and photopolarimetry as part of the atmospheric feature campaign involving all the remote sensing instruments.
- 2) FTPOL: Adds feature track coverage to FTBAS in photopolarimetry at other phase angles.
- 3) FTRAD: Repeat of feature track in FTBAS in radiometry at different emission angle.
- 4) REGMAP: Characterize properties of a region larger than the

standard feature track; nominally 4 times larger in both dimensions.

5) GLOBAL: Global map with complete coverage over 360 degrees of longitude with variable latitude range.

6) NSSTRP: North-south stripe provides pole-to-pole coverage at selected longitudes, sometimes selected to pass through features observed in feature track or regional map observations.

#### SWG Science Objectives and Observation Strategy:

Satellite science objectives for the Galileo Mission were to: (1) characterize the morphology, geology, and physical state of the satellite surfaces; (2) investigate the surface mineralogy of the satellites and determine the distribution of the compositional units; (3) determine the gravitational fields, magnetic fields, and dynamical properties of the satellites; and (4) study satellite atmospheres and ionospheres, extended gas clouds arising from the satellites, and interactions with the magnetosphere. Observations to achieve the satellite science objectives have far less emphasis on coordinated measurements by the scan platform instruments than that for atmospheres, but instead are often focussed on timing of specific observations within the context of the satellite encounter geometry.

Principal PPR satellite science objectives are: (1) characterizing the nature of current Io volcanism including temporal variability; (2) the search for possible internal activity on Europa and delineation of Europa's surface thermophysical properties; (3) characterizing the surface physical and optical properties with photopolarimetric phase observations; (4) determining global surface thermophysical property variations and surface volatile stability on Ganymede and Callisto; and (5) obtaining absolute temperature distribution maps. The PPR OAPEL types employed to obtain appropriate observations to realize these objectives are:

1) DGTM (Dayside Global Thermal Map): Determine global daytime brightness temperature with highest possible spatial resolution as a function of wavelength to characterize global variations in surface compaction, its correlation with geological unit, and its possible use for evaluating surface ages, emplacement mechanisms, or compositions; investigate sub-resolution temperature variations as probes of surface roughness and local albedo distribution; and evaluate stability of volatiles on the surface.

2) TPO (Thermal Phase Observation): Observe the variation in brightness temperature of a particular point on the surface when seen from different directions to improve the determination of kinetic surface temperatures.

3) DRKMAP (Darkside Map): Determine global nighttime brightness temperatures with highest possible spatial resolution as a function of

wavelength to characterize global variations in surface compaction, its correlation with geological unit, and its possible use for evaluating surface ages, emplacement mechanisms, or compositions and to look for possible sources of endogenic heat for Europa.

4) HIRESS (High Resolution Samples): Determine brightness temperature distribution for small areas near closest approach to characterize local variations in surface properties, evaluate stability of volatiles on the surface, and look for possible sources of endogenic heat for Europa.

5) PPO (Polarimetry Phase Observation): Measure polarization of reflected sunlight as a function of phase angle to infer grain sizes and refractive index of surface particles.

6) IOLITE (Io Bright-Side Monitoring): Map thermal emission as a function of wavelength with best possible spatial resolution on several orbits to characterize spatial distribution and temporal variability of large, low-temperature, high power hot spots on Io's sunlit hemisphere.

7) IOMON (Io Monitoring): Map thermal emission as a function of wavelength with best possible spatial resolution on several orbits to characterize spatial distribution and temporal variability of large, low-temperature, high power hot spots.

As indicated in the Orbit Planning Guide, the Galileo Orbiter Jupiter Phase began with the approach to Jupiter and orbit insertion (JA/J0) followed by the prime mission with a tour of eleven orbits around Jupiter. NASA approved the Galileo Europa Mission (GEM) to follow the prime mission with a tour of fourteen more orbits with a focus on Europa and concluding with two encounters of Io. The Io encounters were placed at the end of GEM because of the increased risk to the spacecraft and instruments from the intense radiation expected at that closer approach to Jupiter. Despite some effects attributable to the radiation, the overall Galileo Orbiter health remained quite good, and NASA thus approved a further extended tour, the Galileo Millennium Mission (GMM), which among a number of objectives, permitted observations from two platforms as the Cassini spacecraft made its Jupiter flyby in late 2000 on its way to Saturn. The tours were shaped by close, or targeted, encounters with Ganymede, Europa, Callisto, and Io, with one such encounter on each orbit except numbers 5 and 13, which were used as 'phasing orbits' with no planned encounter science owing to the effect of Jupiter solar conjunction on telemetry. There were in addition to the targeted encounters, non-targeted satellite encounters that permitted observations at intermediate ranges for a number of the orbits. The convention adopted for designating the tour encounter phases covering the period of several days about the satellite encounters and Jupiter closest approach was to use the letter corresponding to the targeted satellite and the orbit number,

e.g., G1, E4, C10, and I24. Based upon the allocated spacecraft resources, the specific opportunities presented by each encounter phase, and the observation strategies described above, the working groups designed a detailed plan for the mission as described in the Orbit Activity Plan [GLLOAP].

PPR observations in the detailed mission plan used the basic OAPEL types described above (as well as a few special types added later), usually in a special PPR Burst-to-Tape record format that stored the relatively low rate (216 bps) PPR data in spacecraft memory until an appropriately-sized block of data was accumulated to be written to the DMS tape. Other PPR observations were made in the so-called 'ride-along' mode with a record format that included the PPR data as part of the Low Rate Science along with data from the prime instrument for that particular OAPEL, nearly always either the Near-Infrared Mapping Spectrometer (NIMS) or SSI instruments. For both types of PPR observations, the original strategy was to use one of three principal PPR operational modes: (1) cycle mode, for which the PPR filter wheel makes a complete cycle over a period of about 28 seconds, making photopolarimetry and thermal radiometry measurements; (2) radiometry mode, for which the PPR filter wheel cycles back and forth over just the 7 radiometry positions; and (3) photopolarimetry mode, for which the PPR filter wheel makes a complete cycle, but steps through the radiometry positions without taking any data.

Midway through the G1 encounter, the PPR instrument exhibited anomalous behavior with the filter wheel becoming stuck at a single radiometry position. As a consequence, all planned PPR OAPELs for G2 were canceled and a sequence involving thermal cycling of the instrument in an attempt to recover wheel stepping was added at the end of the G2 encounter. When that recovery attempt failed, all PPR OAPELs in C3 and E4 were performed at the single radiometry band at which the wheel was stuck. Another recovery sequence at the end of the E4 sequence proved successful and all PPR observations from then until the end of the Jupiter Phase Nominal Mission were performed using an operational mode that allows stepping the wheel back and forth over a few positions, thus permitting operations without going back to the position at which the wheel had become stuck. This same strategy was followed throughout GEM and GMM, but it was necessary to have the filter wheel step through the worrisome position on several occasions in order to start a new cycle. In each case this operation was successful and the filter wheel did not become stuck. Of course, this means that most PPR OAPELs were then made at fewer wavelengths than originally planned. See the INST.CAT file for a detailed description of the PPR operational modes and the nature of the filter wheel anomaly.

The observations in the present data set are the PPR Experiment Data Record (EDR) level data for the GEM and GMM phases from E12 encounter through I33 encounter. The PPR EDRs include instrument housekeeping and science data and these are presented in ASCII tabular format, hence designated R\_EDR for reformatted EDR. Data for each PPR observation, or OAPEL, are contained in a single data file. File labels specify the OAPEL, time of observation, data file format, and contain a unique PRODUCT\_NAME for the observation that is generally the same as the Galileo observation ID with -R\_EDR or -RDR appended to indicate reformatted EDR (present data set) or reduced data, respectively.

The observation ID is a 12-character field that begins with two characters for the orbit (e.g., E4, with the letter dropped after orbit C9), followed by one letter for the target body (J - Jupiter, C - Callisto, E - Europa, G - Ganymede, I - Io, N - calibration target, X - space or not applicable), followed by one letter for the prime instrument for the OAPEL (N - NIMS, P - PPR, S - SSI, U - UVS), followed by six characters for the observation name (usually the OAPEL type, but also proper names or abbreviations thereof), followed by a 2-digit observation series number. Thus, the observation IDs for the two PPR global maps of Jupiter in orbit G1 are G1JPGLOBAL01 and G1JPGLOBAL02, while the PPR ride-along with one of the NIMS observations of a brown barge at 42-degree phase angle in orbit E11 is 11JNBRG04203. An exception to the leading portion (prior to -R\_EDR) of the PRODUCT\_NAME being identical to the observation ID is that we retain the leading letter for the orbits after C9.

#### Parameters =====

The PPR presents to the Galileo Orbiter Command and Data Subsystem (CDS), an 18-byte instrument data buffer for each 2/3-sec interval corresponding to one minor frame (or MOD91) count of the spacecraft clock (91 minor frames constitute one RIM count of the spacecraft clock). For each of the 18-byte PPR minor frame records, the first six bytes are housekeeping data that completely specify the instrument status, both commanded parameters and position within operational measurement mode cycles. The remaining twelve bytes are three sets of PPR science data sample pairs and their associated identifying parameters and parity check bit.

Because of the differences in time required for specific steps of the instrument operation, the various operational modes of the PPR result

in the generation of the 18-byte minor frame records at variable rates. Those rates range from just slightly slower than that at which the CDS performs the readout of those records every 2/3 second to a rate that is about three times slower. Accordingly, the PPR design uses two internal 18-byte buffers that are alternately filled, with one buffer being active, or in the state of being filled, and the other containing the previous 18 bytes of housekeeping and science data for the sequence. At the time of each CDS readout of PPR data, it is only the non-active buffer that is presented and placed into the CDS processing stream, and whenever that buffer has been previously transferred, the PPR sets a flag in the housekeeping data of that record to indicate that it is a 'repeat' record. For PPR observations that use the Low Rate Science format to record to the DMS tape, all PPR minor frame records are recorded and ultimately returned. With the PPR Burst-to-Tape record mode, however, the CDS checks the PPR housekeeping to identify and discard the repeat records, storing only the non-redundant records for playback and downlink telemetry.

## Data

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The PPR raw binary EDR data are reformatted into ASCII tables, i.e., R\_EDR, with each record corresponding to the housekeeping and science data from each PPR minor frame record returned. Each record begins with the spacecraft clock RIM and MOD91 counts that correspond to the time that the respective buffer for that record was readout by the CDS. This is followed by housekeeping data and the three pairs of science data samples with their identifying parameters.

For PPR observations that use the Burst-to-Tape record mode, the spacecraft scan platform pointing (viz., right ascension and declination angles) information is merged with the PPR science data because the Attitude and Articulation Control System (AACS) readouts that are included in the Low Rate Science record blocks and provide scan platform pointing would not otherwise be available with adequate frequency in the playback and downlink of the Burst-to-Tape mode. So the last two columns of the R\_EDR records are scan platform right ascension and declination angles, which are set to zero when the PPR observation uses the Low Rate Science record mode. In all record formats other than PPR Burst-to-Tape, the AACS information is delivered directly to the SPICE System, which provides general target and observing geometry and is archived in PDS. For the Burst-to-Tape record mode, the scan platform right ascension and declination are obtained from the PPR science data and then delivered to the SPICE System.



Note also that in the PPR Burst-to-Tape record mode, the second byte of the PPR housekeeping is deleted from the data stored in the CDS memory buffer in order to reduce the total data volume slightly and to optimize the sizing of the buffer. The second byte of housekeeping was chosen because the bits therein correspond to the values for three parameters: photopolarimetry gain, radiometry gain, and number of samples, and all three of these parameters are set by command and do not change during instrument operation unless reset by sending a new command. For the present R\_EDR data set, the values for these three parameters are set to default values of 0, 0, and 1, respectively, to reflect the omitted byte in the actual EDR data returned. See the data label file format for a detailed description of these parameters. When the EDR data are processed to generate reduced science data, the known values for these parameters are manually input based upon the Galileo Sequence of Events File (SEF), which indicates the timing of the PPR commands and the commanded parameter values.

Listed below by orbit are the PPR R\_EDR data files with the data filename, observation ID (modified as described above), observation start time, and duration. Files are located in subdirectories by orbit name and then by target.

G1:

Filename	Observation ID	Start Time	Duration
GRSMNC01.TAB	G1JPGRSMNC01	1996-06-26T22:56:24	01:03:21
GRSMND01.TAB	G1JPGRSMND01	1996-06-27T00:02:08	00:34:16
GRSEXC01.TAB	G1JPGRSEXC01	1996-06-27T00:50:41	00:31:09
GRSRAD01.TAB	G1JPGRSRAD01	1996-06-27T01:24:02	00:15:54
MEMPIS01.TAB	G1GNMEMPIS01	1996-06-27T03:14:15	00:08:03
DRTM__01.TAB	G1GPDRTM__01	1996-06-27T03:24:46	00:29:23
AMON__01.TAB	G1GNAMON__01	1996-06-27T05:02:26	00:04:54
PTAH__01.TAB	G1GNPTAH__01	1996-06-27T05:11:30	00:03:54
HIRESS01.TAB	G1GPHIRESS01	1996-06-27T06:27:25	00:05:27
HIRESS02.TAB	G1GPHIRESS02	1996-06-27T06:43:40	00:07:57
DRKMAP01.TAB	G1GPDRKMAP01	1996-06-27T07:45:13	00:38:41
STP15001.TAB	G1GPSTP15001	1996-06-27T08:32:48	00:00:25
DRKMAP02.TAB	G1GPDRKMAP02	1996-06-27T08:59:01	02:15:35
GRS00501.TAB	G1JNGRS00501	1996-06-27T11:20:38	00:11:34
GLOBAL1A.TAB	G1JPGLOBAL01_PT1	1996-06-27T12:46:31	00:55:12
GLOBAL1B.TAB	G1JPGLOBAL01_PT2	1996-06-27T13:41:45	02:09:05
GLOBAL1C.TAB	G1JPGLOBAL01_PT3	1996-06-27T15:50:52	02:06:55
GLOBAL1D.TAB	G1JPGLOBAL01_PT4	1996-06-27T17:57:48	02:06:34
GLOBAL1E.TAB	G1JPGLOBAL01_PT5	1996-06-27T20:04:24	01:38:42
GR043P01.TAB	G1JPGR043P01	1996-06-27T21:48:30	00:10:42

STP02503.TAB	G1EPSTP02503	1996-06-27T22:22:12	00:00:26
NHILAT01.TAB	G1ENNHILAT01	1996-06-28T00:00:56	00:30:06
STP04404.TAB	G1EPSTP04404	1996-06-28T03:03:14	00:00:26
STP05505.TAB	G1EPSTP05505	1996-06-28T05:27:14	00:00:26
STP06606.TAB	G1EPSTP06006	1996-06-28T06:30:32	00:00:26
STP06507.TAB	G1EPSTP06507	1996-06-28T07:30:32	00:00:26
GRS09102.TAB	G1JNGRS09102	1996-06-28T08:47:44	00:11:55
STP07008.TAB	G1EPSTP07008	1996-06-28T09:07:24	00:00:26
STP07509.TAB	G1EPSTP07509	1996-06-28T10:15:38	00:00:26
THRMAL02.TAB	G1INTHRMAL02	1996-06-28T11:23:26	00:01:36
VOLCAN05.TAB	G1INVOLCAN05	1996-06-28T11:28:30	00:00:08
STP08010.TAB	G1EPSTP08010	1996-06-28T12:02:53	00:00:26
RCTCAL01.TAB	G1NPRCTCAL01	1996-06-28T13:16:24	00:01:25
THRMAL03.TAB	G1INTHRMAL03	1996-06-28T13:54:06	00:03:24
STP08511.TAB	G1EPSTP08511	1996-06-28T14:02:50	00:00:26
IODISK01.TAB	G1IPIODISK01	1996-06-28T18:21:58	00:12:16
GR123P01.TAB	G1JPGR123P01	1996-06-28T18:36:12	00:13:30
GLOBAL02.TAB	G1JPGLOBAL02	1996-06-28T19:08:33	02:49:57
PLLOKI01.TAB	G1ISPLLOKI01	1996-06-29T01:06:31	00:00:27
PLATEN01.TAB	G1ISPLATEN01	1996-06-29T02:51:41	00:00:26
IOECLP01.TAB	G1IPIOECLP01	1996-06-29T03:37:57	00:04:40
IOECLI02.TAB	G1ISIOECLI02	1996-06-29T03:46:47	00:00:38
PLSHTX01.TAB	G1XBPLSHTX01	1996-06-30T02:00:52	00:02:01

G2:

Filename	Observation ID	Start Time	Duration
FWAREC01.TAB	G2XPFWAREC01	1996-09-10T14:02:04	12:36:20

C3:

Filename	Observation ID	Start Time	Duration
RCTCAL01.TAB	C3NPRCTCAL01	1996-11-03T14:20:30	00:01:16
DRTM__01.TAB	C3CPDRTM__01	1996-11-04T11:02:28	00:46:42
ASGARD01.TAB	C3CNASGARD01	1996-11-04T12:00:28	00:29:21
DRKMAP01.TAB	C3CPDRKMAP01	1996-11-04T12:34:29	00:12:03
CRATER01.TAB	C3CNCRATER01	1996-11-04T13:21:31	00:03:37
CSPOTS01.TAB	C3CNCSPOTS01	1996-11-04T13:52:15	00:06:01
STP12003.TAB	C3CPSTP12003	1996-11-04T14:20:08	00:00:20
DRKMAP02.TAB	C3CPDRKMAP02	1996-11-04T14:26:00	01:34:24
FT2D__01.TAB	C3JPFT2D__01	1996-11-05T08:02:14	00:09:47
FT2BAS01.TAB	C3JPFT2BAS01	1996-11-05T08:23:28	00:25:28
NSSTRP01.TAB	C3JPNSSTRP01	1996-11-05T09:57:04	00:25:08
FT1BAS01.TAB	C3JPFT1BAS01	1996-11-05T20:48:40	00:51:16
FT1D__01.TAB	C3JPFT1D__01	1996-11-05T21:59:26	00:17:57
FT1RAD01.TAB	C3JPFT1RAD01	1996-11-05T23:02:25	00:17:17

IOMON_01.TAB	C3IPIOMON_01	1996-11-06T04:16:01	00:25:27
IOLITE01.TAB	C3IPIOLITE01	1996-11-06T10:43:46	00:58:27
HRSPEC01.TAB	C3INHRSPEC01	1996-11-06T11:52:35	00:07:23
STP03004.TAB	C3EPSTP03004	1996-11-06T15:52:14	00:00:20
DGTM__01.TAB	C3EPDGTM__01	1996-11-06T17:33:30	00:38:12
TPO01001.TAB	C3EPTPO01001	1996-11-06T18:13:48	00:12:04
TPO07803.TAB	C3EPTPO07803	1996-11-06T20:20:02	00:11:05
DRKMAP01.TAB	C3EPDRKMAP01	1996-11-06T20:36:22	00:11:05
STP09101.TAB	C3EPSTP09101	1996-11-06T21:10:13	00:00:21
DRKMAP02.TAB	C3EPDRKMAP02	1996-11-06T21:12:46	00:26:06
STP07002.TAB	C3IPSTP07002	1996-11-06T22:23:32	00:00:20
IOMON_02.TAB	C3IPIOMON_02	1996-11-06T23:22:11	00:18:36
STP08003.TAB	C3IPSTP08003	1996-11-07T00:49:08	00:00:20
STP11003.TAB	C3EPSTP11003	1996-11-07T01:24:32	00:00:20
STP06004.TAB	C3GPSTP06004	1996-11-07T05:17:04	00:00:20

E4:

Filename	Observation ID	Start Time	Duration
FT1BAS01.TAB	E4JPFT1BAS01	1996-12-18T01:59:40	00:26:06
FT1D__01.TAB	E4JPFT1D__01	1996-12-18T02:29:04	00:09:46
FT1RAD01.TAB	E4JPFT1RAD01	1996-12-18T04:07:04	00:45:42
FTP01601.TAB	E4JPFTP01601	1996-12-18T12:44:45	00:29:23
IOMON_01.TAB	E4IPIOMON_01	1996-12-18T14:32:29	00:10:46
GLOBAL01.TAB	E4EPGLOBAL01	1996-12-18T20:17:20	00:15:00
IOLITE01.TAB	E4IPIOLITE01	1996-12-18T22:06:56	00:22:11
DGTMDM01.TAB	E4EPDGTMMDM01	1996-12-19T01:58:28	01:03:41
SUCOMP02.TAB	E4ENSUCOMP02	1996-12-19T05:20:25	00:09:18
SUCOMP03.TAB	E4ENSUCOMP03	1996-12-19T06:25:42	00:12:47
IOMON_02.TAB	E4IPIOMON_02	1996-12-19T08:37:52	00:09:07
DRKMAP02.TAB	E4EPDRKMAP02	1996-12-19T09:43:35	01:05:00
FTP09501.TAB	E4JPFTP09501	1996-12-19T11:10:23	00:07:30
IOECLP02.TAB	E4IPIOECLP02	1996-12-19T15:36:28	00:10:06
RCTCAL01.TAB	E4NPRCTCAL01	1996-12-20T00:45:12	00:01:18
FWAREC01.TAB	E4XPFWAREC01	1996-12-21T02:54:44	17:51:22

E6:

Filename	Observation ID	Start Time	Duration
RCTCAL01.TAB	E6NPRCTCAL01	1997-02-19T13:33:53	00:01:25
NSSTRP01.TAB	E6JPNSSTRP01	1997-02-19T18:46:35	00:51:35
CHEMIS02.TAB	E6INCHEMIS02	1997-02-20T04:02:42	00:03:31
NSSTRP02.TAB	E6JPNSSTRP02	1997-02-20T06:36:23	00:32:19
FT3EM101.TAB	E6JPFT3EM101	1997-02-20T10:27:56	00:32:20
IOLITE01.TAB	E6IPIOLITE01	1997-02-20T11:26:35	00:29:38
TERINC01.TAB	E6ENTERINC01	1997-02-20T12:04:05	00:31:12

DGTM__01.TAB	E6EPDGTM__01	1997-02-20T14:17:27	00:35:35
SUCOMP01.TAB	E6ENSUCOMP01	1997-02-20T16:13:44	00:08:04
SUCOMP02.TAB	E6ENSUCOMP02	1997-02-20T16:31:56	00:08:04
PPO06001.TAB	E6EPPPO06001	1997-02-20T16:49:20	00:05:16
PPO10602.TAB	E6EPPPO10602	1997-02-20T17:00:40	00:02:20
HIRESS01.TAB	E6EPHIRESS01	1997-02-20T17:06:18	00:16:12
DRKMAP01.TAB	E6EPDRKMAP01	1997-02-20T19:25:51	00:45:43
FT1EM101.TAB	E6JPFT1EM101	1997-02-20T21:04:06	00:42:16
FT1EM201.TAB	E6JPFT1EM201	1997-02-20T22:31:53	01:04:00
CHEMIS06.TAB	E6INCHEMIS06	1997-02-21T04:02:32	00:02:43
FT2EM201.TAB	E6JPFT2EM201	1997-02-21T07:12:37	00:36:09
FT2EM101.TAB	E6JPFT2EM101	1997-02-21T08:59:47	00:42:07
THRMNS01.TAB	E6JNTHRMNS01	1997-02-21T11:07:12	00:29:48
NSSTRP03.TAB	E6JPNSSTRP03	1997-02-21T14:51:39	00:25:08
GLOBAL01.TAB	E6GPGLOBAL01	1997-02-21T23:14:11	00:08:48
GLOBAL01.TAB	E6CNGLOBAL01	1997-02-22T22:08:16	00:08:14
DRKMAP01.TAB	E6CPDRKMAP01	1997-02-22T22:22:26	00:29:42

G7:

Filename	Observation ID	Start Time	Duration
GLOBAL01.TAB	G7CSGLOBAL01	1997-04-02T16:42:56	00:00:52
NSSTRP02.TAB	G7JPNSSTRP02	1997-04-03T10:46:44	00:19:52
CHEMIS03.TAB	G7INCHEMIS03	1997-04-03T18:00:29	00:03:15
HRSPEC01.TAB	G7INHRSPEC01	1997-04-03T21:03:29	00:02:57
GLOBAL01.TAB	G7IPGLOBAL01	1997-04-03T21:10:34	00:19:30
FTSEM201.TAB	G7JPFTSEM201	1997-04-03T23:27:05	00:17:37
TOPMAP02.TAB	G7ISTOPMAP02	1997-04-04T01:46:38	00:00:06
DGTM__01.TAB	G7EPDGTM__01	1997-04-04T02:35:09	01:03:41
LOWFOT01.TAB	G7ESLOWFOT01	1997-04-04T04:15:16	00:00:22
VLOFOT01.TAB	G7ESVLOFOT01	1997-04-04T04:32:28	00:00:21
CHEMIS05.TAB	G7INCHEMIS05	1997-04-04T04:49:38	00:00:57
IOMON__01.TAB	G7IPIOMON__01	1997-04-04T04:57:43	00:01:17
TOPMAP03.TAB	G7ISTOPMAP03	1997-04-04T05:04:41	00:00:05
SMONHI01.TAB	G7ISSMONHI01	1997-04-04T05:04:48	00:00:06
TYRMAC01.TAB	G7ESTYRMAC01	1997-04-04T05:09:50	00:00:06
TYRMAC02.TAB	G7ESTYRMAC02	1997-04-04T05:14:54	00:00:01
FEX00203.TAB	G7JNFEX00203	1997-04-04T05:20:58	00:01:40
TPO_3001.TAB	G7EPTPO_3001	1997-04-04T05:30:15	00:16:59
APEXCR01.TAB	G7ESAPEXCR01	1997-04-04T06:14:01	00:00:01
APEXCR02.TAB	G7ESAPEXCR02	1997-04-04T06:18:21	00:00:02
APEXCR03.TAB	G7ESAPEXCR03	1997-04-04T06:22:43	00:00:02
APEXCR04.TAB	G7ESAPEXCR04	1997-04-04T06:27:04	00:00:02
TPO_9002.TAB	G7EPTPO_9002	1997-04-04T06:33:46	00:18:36
DGTM__02.TAB	G7EPDGTM__02	1997-04-04T06:57:02	00:40:09
DRKMAP01.TAB	G7EPDRKMAP01	1997-04-04T07:42:32	01:34:41

RCTCAL01.TAB	G7NPRCTCAL01	1997-04-04T11:03:28	00:01:04
HOTMAP01.TAB	G7JPHOTMAP01	1997-04-04T11:36:06	01:01:24
REGMAP01.TAB	G7JPREGMAP01	1997-04-04T12:59:00	00:46:42
GRSEM201.TAB	G7JPGRSEM201	1997-04-04T18:37:44	00:45:04
GRSEM101.TAB	G7JPGRSEM101	1997-04-04T19:39:24	00:26:07
FTNEM101.TAB	G7JPFTNEM101	1997-04-04T20:26:56	00:35:46
FEAP6602.TAB	G7JNFEAP6602	1997-04-04T21:15:28	00:05:00
PFTB6602.TAB	G7JNPFTB6602	1997-04-04T21:25:30	00:00:03
FTSEM101.TAB	G7JPFTSEM101	1997-04-04T21:42:45	00:16:15
FEA53M01.TAB	G7JNFEA53M01	1997-04-04T22:10:50	00:10:18
FTNEM201.TAB	G7JPFTNEM201	1997-04-04T22:26:14	00:24:49
DRTM__01.TAB	G7GPDRTM__01	1997-04-05T01:04:59	00:44:24
EWSTRP01.TAB	G7JPEWSTRP01	1997-04-05T02:19:48	00:15:20
DRKMAP01.TAB	G7GPD RKMAP01	1997-04-05T03:41:43	00:45:08
HILAT_01.TAB	G7GNHILAT_01	1997-04-05T04:33:16	00:23:03
THRMAL06.TAB	G7INTHRMAL06	1997-04-05T05:09:36	00:00:03
PALIMP01.TAB	G7GSPALIMP01	1997-04-05T05:40:02	00:00:05
ENKIDU01.TAB	G7GPENKIDU01	1997-04-05T06:00:14	00:06:50
CATENA01.TAB	G7GSCATENA01	1997-04-05T06:12:22	00:00:13
BRITRL01.TAB	G7GNBRITRL01	1997-04-05T06:20:26	00:04:44
NICHOL01.TAB	G7GSNICHOL01	1997-04-05T06:31:36	00:00:22
ACHELS01.TAB	G7GSACHELS01	1997-04-05T06:33:37	00:00:14
NUNSUL01.TAB	G7GSNUNSUL01	1997-04-05T06:35:38	00:00:14
NEITH_01.TAB	G7GSNEITH_01	1997-04-05T06:37:40	00:00:18
KITTU_01.TAB	G7GSKITTU_01	1997-04-05T06:39:46	00:00:52
KITTU_02.TAB	G7GSKITTU_02	1997-04-05T06:40:41	00:00:43
KITTU_01.TAB	G7GNKITTU_01	1997-04-05T06:42:42	00:11:38
HIRESS01.TAB	G7GPHIRESS01	1997-04-05T07:11:00	00:14:09
DRKMAP02.TAB	G7GPD RKMAP02	1997-04-05T08:45:02	01:07:19
STP12001.TAB	G7GPSTP12001	1997-04-05T10:02:52	00:08:10
STP12501.TAB	G7IPSTP12501	1997-04-05T11:05:34	00:00:17
STP12001.TAB	G7EPSTP12001	1997-04-05T11:17:42	00:00:17
STP13501.TAB	G7CPSTP13501	1997-04-05T11:58:09	00:00:17
FTP13003.TAB	G7JPFTP13003	1997-04-05T16:44:18	00:18:10
FEA13002.TAB	G7JNFEA13002	1997-04-05T17:05:32	00:01:39
STP14501.TAB	G7IPSTP14501	1997-04-05T17:24:45	00:00:17
EWSTRP02.TAB	G7JPEWSTRP02	1997-04-05T22:24:01	00:20:00
STP15501.TAB	G7IPSTP15501	1997-04-06T06:20:16	00:00:17
STP15501.TAB	G7CPSTP15501	1997-04-06T10:05:44	00:00:17
STP13001.TAB	G7EPSTP13001	1997-04-06T11:57:58	00:00:17

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Filename	Observation ID	Start Time	Duration
POLMAP01.TAB	G8CPPOLMAP01	1997-05-06T09:38:10	01:10:39
SPOLE_01.TAB	G8CNSPOLE_01	1997-05-06T11:18:24	00:30:04

STP04101.TAB	G8CPSTP04101	1997-05-06T11:54:40	00:10:43
BURI_01.TAB	G8CNBURI_01	1997-05-06T12:15:53	00:10:45
ADLIND01.TAB	G8CNADLIND01	1997-05-06T12:31:03	00:18:36
STP06101.TAB	G8CPSTP06101	1997-05-06T13:00:20	00:03:28
POLMAP02.TAB	G8CPPOLMAP02	1997-05-06T13:39:49	00:28:35
POLMAP03.TAB	G8CPPOLMAP03	1997-05-06T16:15:31	00:09:23
IOMON_01.TAB	G8IPIOMON_01	1997-05-07T10:51:47	00:06:42
VOLCAN04.TAB	G8INVOLCAN04	1997-05-07T12:09:38	00:01:41
OSIRIS01.TAB	G8GNOSIRIS01	1997-05-07T13:09:17	00:11:14
POLMAP01.TAB	G8GPPOLMAP01	1997-05-07T13:34:34	00:35:49
URUK_01.TAB	G8GNURUK_01	1997-05-07T14:36:15	00:19:00
TRANSI01.TAB	G8GNTRANSI01	1997-05-07T14:57:29	00:07:30
LIDARK01.TAB	G8GNLIDARK01	1997-05-07T15:07:35	00:05:50
MELKAR01.TAB	G8GNMELKAR01	1997-05-07T15:26:48	00:08:27
DARTRL01.TAB	G8GNDARTRL01	1997-05-07T15:40:56	00:06:40
STP15601.TAB	G8GPSTP15601	1997-05-07T16:12:18	00:00:21
STP14402.TAB	G8GPSTP14402	1997-05-07T16:19:23	00:00:21
STP12704.TAB	G8GPSTP12704	1997-05-07T16:58:49	00:00:26
POLMAP02.TAB	G8GPPOLMAP02	1997-05-07T17:00:51	01:09:51
STP03901.TAB	G8EPSTP03901	1997-05-07T18:33:52	00:00:25
FEA04101.TAB	G8JNFEA04101	1997-05-07T21:28:47	00:01:38
FT2BAS01.TAB	G8JPFT2BAS01	1997-05-07T21:35:13	00:42:05
FT2RAD01.TAB	G8JPFT2RAD01	1997-05-07T23:19:59	00:12:04
NSSTRP01.TAB	G8JPNSSTRP01	1997-05-08T05:03:46	01:01:47
STP02501.TAB	G8EPSTP02501	1997-05-08T09:08:29	00:00:24
FEAP1001.TAB	G8JNFEAP1001	1997-05-08T09:25:39	00:05:00
FTP01001.TAB	G8JPFTP01001	1997-05-08T09:46:53	00:15:38
RCTCAL01.TAB	G8NPRCTCAL01	1997-05-08T10:35:09	00:01:20
PFTB1003.TAB	G8JNPFTB1003	1997-05-08T11:14:51	00:07:04
FEAP1002.TAB	G8JNFEAP1002	1997-05-08T11:26:56	00:05:02
STP02001.TAB	G8IPSTP02001	1997-05-08T12:18:33	00:00:26
STP04101.TAB	G8EPSTP04101	1997-05-08T12:29:41	00:00:26
STP05001.TAB	G8IPSTP05001	1997-05-08T15:25:37	00:00:26
HOT05801.TAB	G8JPHOT05801	1997-05-08T15:32:42	00:59:06
NSSTRP02.TAB	G8JPNSSTRP02	1997-05-08T16:43:27	00:32:40
GRS05901.TAB	G8JPGRS05901	1997-05-08T17:24:55	01:00:28
STP07001.TAB	G8EPSTP07001	1997-05-08T18:39:44	00:00:25
REG06201.TAB	G8JPREG06201	1997-05-08T18:44:48	01:02:14
STP07001.TAB	G8IPSTP07001	1997-05-08T19:53:34	00:00:25
FEAP7101.TAB	G8JNFEAP7101	1997-05-08T20:01:39	00:04:59
PFTB7101.TAB	G8JNPFTB7101	1997-05-08T20:12:46	00:06:59
FT1BAS01.TAB	G8JPFT1BAS01	1997-05-08T20:20:51	00:31:47
PFTB7102.TAB	G8JNPFTB7102	1997-05-08T21:04:20	00:06:59
FEAP7102.TAB	G8JNFEAP7102	1997-05-08T21:17:29	00:04:58
STP12001.TAB	G8CPSTP12001	1997-05-08T21:34:39	00:00:25
STP09901.TAB	G8IPSTP09901	1997-05-09T01:24:11	00:00:25

STP10001.TAB	G8EPSTP10001	1997-05-09T02:36:59	00:00:25
REG09301.TAB	G8JPREG09301	1997-05-09T03:13:43	00:17:27
GRS09801.TAB	G8JPGRS09801	1997-05-09T03:39:41	00:22:22
HOT09601.TAB	G8JPHOT09601	1997-05-09T05:10:41	00:37:36
FEA10401.TAB	G8JNFEA10401	1997-05-09T06:38:39	00:01:39
FTP10402.TAB	G8JPFTP10402	1997-05-09T06:58:53	00:14:44
FEA10402.TAB	G8JNFEA10402	1997-05-09T07:19:05	00:00:48
REG10401.TAB	G8JPREG10401	1997-05-09T08:00:51	00:35:22
STP13001.TAB	G8IPSTP13001	1997-05-09T11:22:47	00:00:25
STP13601.TAB	G8CPSTP13601	1997-05-09T11:27:50	00:00:25
STP14001.TAB	G8EPSTP14001	1997-05-09T18:45:39	00:00:25
STP14001.TAB	G8IPSTP14001	1997-05-10T20:12:25	00:00:26

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Filename	Observation ID	Start Time	Duration
REGMAP01.TAB	C9JPREGMAP01	1997-06-25T01:53:13	04:10:51
REGMAP02.TAB	C9JPREGMAP02	1997-06-25T09:53:28	01:08:58
POLMAP01.TAB	C9CPPOLMAP01	1997-06-25T11:42:41	00:53:44
ANARR_01.TAB	C9CNANARR_01	1997-06-25T13:59:09	00:12:09
CRATER01.TAB	C9CSCRATER01	1997-06-25T14:23:28	00:00:49
SKULD_01.TAB	C9CNSKULD_01	1997-06-25T14:29:31	00:10:00
NOLAT_01.TAB	C9CNNOLAT_01	1997-06-25T14:57:45	00:10:44
VALHAL01.TAB	C9CSVALHAL01	1997-06-25T15:13:01	00:01:58
VALSPC01.TAB	C9CNVALSPC01	1997-06-25T15:19:03	00:06:40
POLMAP02.TAB	C9CPPOLMAP02	1997-06-25T16:07:35	01:02:14
POLMAP01.TAB	C9GPPOLMAP01	1997-06-26T13:57:59	01:36:44
CLIPSE01.TAB	C9ENCLIPSE01	1997-06-26T16:00:20	00:04:44
STP00403.TAB	C9GPSTP00403	1997-06-26T16:23:35	00:08:29
BRILED01.TAB	C9GNBRILED01	1997-06-26T17:27:17	00:11:18
SULCUS01.TAB	C9GSSULCUS01	1997-06-26T17:55:37	00:00:32
STP04604.TAB	C9GPSTP04604	1997-06-26T18:03:41	00:19:14
CLIPSE03.TAB	C9ENCLIPSE03	1997-06-26T18:50:12	00:04:42
POLMAP02.TAB	C9GPPOLMAP02	1997-06-26T19:10:25	01:02:41
GRS05101.TAB	C9JNGRS05101	1997-06-26T20:24:14	00:03:18
GRS05102.TAB	C9JNGRS05102	1997-06-26T20:44:23	00:03:22
FT1BAS01.TAB	C9JPFT1BAS01	1997-06-26T20:53:33	00:29:05
GRS05103.TAB	C9JNGRS05103	1997-06-26T21:50:09	00:03:22
GLOBAL02.TAB	C9NGGLOBAL02	1997-06-26T21:58:12	00:20:10
FT1RAD01.TAB	C9JPFT1RAD01	1997-06-26T22:26:34	00:17:00
FT2BAS01.TAB	C9JPFT2BAS01	1997-06-27T03:03:37	00:31:20
GLOBAL01.TAB	C9ESGLOBAL01	1997-06-27T03:50:09	00:00:54
FT2RAD01.TAB	C9JPFT2RAD01	1997-06-27T04:32:35	00:59:06
PHOTOM01.TAB	C9ISPHOTOM01	1997-06-27T06:01:35	00:00:07
GRS01102.TAB	C9JNGRS01102	1997-06-27T06:38:59	00:03:20
GRS01103.TAB	C9JNGRS01103	1997-06-27T08:24:09	00:03:19

CHEMIS01.TAB	C9INCHEMIS01	1997-06-27T10:36:36	00:02:01
GRS03901.TAB	C9JNGRS03901	1997-06-27T17:08:55	00:03:19
STP06501.TAB	C9IPSTP06501	1997-06-27T17:17:00	00:10:43
NSSTRP02.TAB	C9JPNSSTRP02	1997-06-27T20:59:26	00:33:07
VOLCAN01.TAB	C9INVOLCAN01	1997-06-27T21:36:51	00:01:33
CHEMIS03.TAB	C9INCHEMIS03	1997-06-27T22:31:23	00:03:24
FEA05701.TAB	C9JNFEA05701	1997-06-27T22:46:34	00:08:26
FEA05702.TAB	C9JNFEA05702	1997-06-28T00:32:47	00:03:19
FTP25701.TAB	C9JPFTP25701	1997-06-28T00:40:52	00:27:18
FEA05703.TAB	C9JNFEA05703	1997-06-28T01:13:14	00:03:20
FEA05704.TAB	C9JNFEA05704	1997-06-28T02:01:46	00:03:19
STP08101.TAB	C9IPSTP08101	1997-06-28T02:10:51	00:16:06
FTP19502.TAB	C9JPFTP19502	1997-06-28T15:43:47	00:15:39
NSSTRP03.TAB	C9JPNSSTRP03	1997-06-28T17:51:12	00:39:23
ECLIPS02.TAB	C9ISECLIPS02	1997-06-28T18:36:44	00:00:27
CHEMIS06.TAB	C9INCHEMIS06	1997-06-28T18:42:46	00:02:34
STP14505.TAB	C9GPSTP14505	1997-06-28T19:37:22	00:00:25
FEA10201.TAB	C9JNFEA10201	1997-06-28T21:00:16	00:03:20
FEA10202.TAB	C9JPFTP10202	1997-06-28T21:08:22	00:16:33
RCTCAL01.TAB	C9NPRCTCAL01	1997-07-14T11:36:59	00:02:47
PCTCAL01.TAB	C9NPPCTCAL01	1997-07-14T11:43:20	00:10:57

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Filename	Observation ID	Start Time	Duration
DRTM__01.TAB	C10CPDRTM__01	1997-09-16T19:39:14	00:48:20
DRKMAP01.TAB	C10CPDRKMAP01	1997-09-16T20:46:59	01:23:53
RCTCAL01.TAB	C10NPRCTCAL01	1997-09-16T22:19:00	00:00:42
ASGARDS1.TAB	C10CSASGARD01	1997-09-16T23:56:05	00:01:39
ASGARDN1.TAB	C10CNASGARD01	1997-09-17T00:00:06	00:08:57
PALIMP01.TAB	C10CNPALIMP01	1997-09-17T00:29:24	00:05:00
SMTHPLS1.TAB	C10CSSMTHPL01	1997-09-17T00:35:31	00:00:04
SMTHPLN1.TAB	C10CNSMTHPL01	1997-09-17T00:37:30	00:11:01
VALHAL01.TAB	C10CNVALHAL01	1997-09-17T00:53:42	00:08:58
CATENA01.TAB	C10CNCATENA01	1997-09-17T01:29:05	00:22:59
DRTM__02.TAB	C10CPDRTM__02	1997-09-17T02:00:25	00:34:17
DRKMAP02.TAB	C10CPDRKMAP02	1997-09-17T02:37:50	01:11:32
CHEMIS01.TAB	C10INCHEMIS01	1997-09-18T07:50:06	00:02:49
NPOLEM06.TAB	C10JNNPOLEM06	1997-09-18T08:25:29	00:13:33
NSSTRP01.TAB	C10JPNSSTRP01	1997-09-18T08:43:41	00:27:49
SPOLEM08.TAB	C10JNSPOLEM08	1997-09-18T09:32:13	00:11:26
NPOLEM01.TAB	C10JNNPOLEM01	1997-09-18T09:48:24	00:13:32
SPOLEM01.TAB	C10JNSPOLEM01	1997-09-18T10:27:50	00:13:38
NPOLEM02.TAB	C10JNNPOLEM02	1997-09-18T11:03:10	00:13:41
SPOLEM02.TAB	C10JNSPOLEM02	1997-09-18T11:42:36	00:13:41
FEA04101.TAB	C10JNFEA04101	1997-09-18T12:07:52	00:03:36



NPOLEM03.TAB	C10JNNPOLEM03	1997-09-18T12:18:02	00:11:32
FNP04101.TAB	C10JNFNP04101	1997-09-18T13:48:18	00:13:17
SPAURD01.TAB	C10JNSPAURD01	1997-09-18T14:03:08	00:24:11
SPOLEM04.TAB	C10JNSPOLEM04	1997-09-18T14:33:28	00:13:37
FNP04102.TAB	C10JNFNP04102	1997-09-18T14:50:39	00:11:35
SPOLEM05.TAB	C10JNSPOLEM05	1997-09-18T15:28:08	00:13:33
NPOLEM04.TAB	C10JNNPOLEM04	1997-09-18T16:02:26	00:13:38
SPOLEM06.TAB	C10JNSPOLEM06	1997-09-18T16:42:53	00:13:37
NPOLEM05.TAB	C10JNNPOLEM05	1997-09-18T17:18:20	00:13:34
SPOLEM07.TAB	C10JNSPOLEM07	1997-09-18T17:57:42	00:13:38
SPAURD02.TAB	C10JNSPAURD02	1997-09-18T18:47:15	00:23:03
IOMON_02.TAB	C10IPIOMON_02	1997-09-18T19:19:40	00:19:09
NOISE_01.TAB	C10NPNOISE_01	1997-09-18T20:51:40	00:05:02
REGMAP01.TAB	C10JPREGMAP01	1997-09-18T21:25:02	01:00:44
FEA02101.TAB	C10JNFEA02101	1997-09-18T23:23:21	00:03:33
FT2BAS01.TAB	C10JPFT2BAS01	1997-09-18T23:28:24	00:14:26
FEASUB01.TAB	C10JNFEASUB01	1997-09-19T00:24:01	00:11:59
FT1BAS01.TAB	C10JPFT1BAS01	1997-09-19T01:06:29	01:10:09
FEA02102.TAB	C10JNFEA02102	1997-09-19T02:22:19	00:03:33
REGMAP02.TAB	C10JPREGMAP02	1997-09-19T02:30:24	01:33:38
IOMON_01.TAB	C10IPIOMON_01	1997-09-19T04:05:26	00:35:47
HRSPEC01.TAB	C10INHRSPEC01	1997-09-19T04:42:48	00:10:19
NSPEC_01.TAB	C10INNSPEC_01	1997-09-19T04:56:58	00:05:43
FEA07401.TAB	C10JNFEA07401	1997-09-19T10:08:26	00:03:40
CHEMIS05.TAB	C10INCHEMIS05	1997-09-19T10:24:37	00:02:28
THRCYL01.TAB	C10JNTHRCYL01	1997-09-19T10:40:48	00:19:59
FEA07402.TAB	C10JNFEA07402	1997-09-19T11:14:06	00:02:08
THRCYL02.TAB	C10JNTHRCYL02	1997-09-19T11:22:12	00:20:02
FEA07403.TAB	C10JNFEA07403	1997-09-19T11:52:32	00:03:48
THRCYL03.TAB	C10JNTHRCYL03	1997-09-19T12:02:38	00:21:44
THRCYL04.TAB	C10JNTHRCYL04	1997-09-19T13:00:20	00:22:31
IOMON_03.TAB	C10IPIOMON_03	1997-09-19T15:33:00	00:18:46
REGMAP04.TAB	C10JPREGMAP04	1997-09-19T16:24:34	01:29:41
REGMAP05.TAB	C10JPREGMAP05	1997-09-19T19:03:19	01:31:35
FEA09901.TAB	C10JNFEA09901	1997-09-19T20:57:34	00:03:38
FEA09902.TAB	C10JNFEA09902	1997-09-19T21:38:01	00:03:38
CHEMIS07.TAB	C10INCHEMIS07	1997-09-19T21:57:10	00:01:29
FEA09903.TAB	C10JNFEA09903	1997-09-19T22:10:22	00:03:40
FEA53M01.TAB	C10JNFEA53M01	1997-09-19T22:54:51	00:25:56
SPAURN01.TAB	C10JNSPAURN01	1997-09-20T04:14:22	00:29:09
REGMAP03.TAB	C10JPREGMAP03	1997-09-20T06:00:32	01:31:50
FEA11401.TAB	C10JNFEA11401	1997-09-20T07:37:36	00:03:45
FEA11402.TAB	C10JNFEA11402	1997-09-20T08:07:53	00:03:28

E11:

Filename	Observation ID	Start Time	Duration
RCTCAL01.TAB	E11NPRCTCAL01	1997-11-04T23:47:01	00:01:25
DGTM_01.TAB	E11CPDGTM_01	1997-11-05T06:39:28	00:07:10
BRG53M02.TAB	E11JNBRG53M02	1997-11-05T17:20:53	00:19:59
CYLMOS06.TAB	E11JNCYLMOS06	1997-11-06T02:47:06	00:10:02
M17HR_01.TAB	E11ENM17HR_01	1997-11-06T03:00:12	00:19:09
M15HR_01.TAB	E11ENM15HR_01	1997-11-06T05:24:50	00:20:58
GLOBAL10.TAB	E11JPGLOBAL10	1997-11-06T10:45:43	02:52:51
BRG04203.TAB	E11JNBRG04203	1997-11-06T14:31:51	00:06:41
GLOBAL21.TAB	E11JPGLOBAL21	1997-11-06T14:39:18	00:43:00
BRG04204.TAB	E11JNBRG04204	1997-11-06T15:26:27	00:06:41
GLOBAL22.TAB	E11JPGLOBAL22	1997-11-06T15:34:14	01:10:52
HOTSPT01.TAB	E11EPHOTSPT01	1997-11-06T17:50:24	00:46:38
DRKLIT01.TAB	E11ENDRKLIT01	1997-11-06T18:49:42	00:12:00
CYCLOD01.TAB	E11ENCYCLOD01	1997-11-06T19:27:06	00:11:59
HOTSPT02.TAB	E11EPHOTSPT02	1997-11-06T21:36:31	01:04:25
THRMNS01.TAB	E11JNTHRMNS01	1997-11-07T01:06:50	00:46:08
BRGFUL01.TAB	E11JNBRGFUL01	1997-11-07T02:48:57	00:20:01
BRG02003.TAB	E11JNBRG02003	1997-11-07T03:36:28	00:04:52
GLOBAL31.TAB	E11JPGLOBAL31	1997-11-07T05:57:04	00:32:52
GLOBAL32.TAB	E11JPGLOBAL32	1997-11-07T06:40:12	00:51:20
CHEMIS01.TAB	E11INCHEMIS01	1997-11-07T07:46:12	00:02:32
GLOBAL40.TAB	E11JPGLOBAL40	1997-11-07T07:51:57	01:36:33
CHEMIS02.TAB	E11INCHEMIS02	1997-11-07T16:12:47	00:02:51
IODISK01.TAB	E11IPIODISK01	1997-11-07T19:00:59	00:04:41
CHEMIS03.TAB	E11INCHEMIS03	1997-11-07T19:47:08	00:02:00
HRSPEC01.TAB	E11INHRSPEC01	1997-11-07T23:45:44	00:02:50
NSPEC_01.TAB	E11INNSPEC_01	1997-11-07T23:52:49	00:02:48
IODISK02.TAB	E11IPIODISK02	1997-11-08T03:01:36	00:04:18
CHEMIS04.TAB	E11INCHEMIS04	1997-11-08T03:32:15	00:02:49

E12:

Filename	Observation ID	Start Time	Duration
RCTCAL01.TAB	E12NPRCTCAL01	1997-12-15T12:13:04	00:01:25
GLOBAL01.TAB	E12ENGLOBAL01	1997-12-16T07:12:00	00:16:03
HOTSPT01.TAB	E12EPHOTSPT01	1997-12-16T10:00:26	01:05:47
DLINEA01.TAB	E12ENDLINEA01	1997-12-16T11:17:38	00:06:59
CPWYLL01.TAB	E12ENCPWYLL01	1997-12-16T11:43:55	00:07:17
ICEBRG01.TAB	E12ENICEBRG01	1997-12-16T12:48:07	00:10:26
HOTSPT02.TAB	E12EPHOTSPT02	1997-12-16T13:07:29	00:41:55
HRSPEC01.TAB	E12INHRSPEC01	1997-12-16T14:14:35	00:04:11
COOLDN01.TAB	E12NPCOOLDN01	1997-12-16T20:37:48	00:03:00

E14:

Filename	Observation ID	Start Time	Duration
IOMON_01.TAB	E14IPIOMON_01	1998-03-29T03:57:16	00:50:36
HRSPEC01.TAB	E14INHRSPEC01	1998-03-29T04:52:10	00:16:00
DARKHR01.TAB	E14EPDARKHR01	1998-03-29T11:10:05	00:55:50
ICERAF01.TAB	E14ENICERAF01	1998-03-29T12:10:59	00:30:56
SUCOMP01.TAB	E14ENSUCOMP01	1998-03-29T13:31:52	00:18:58
SUCOMP02.TAB	E14ENSUCOMP02	1998-03-29T14:10:17	00:10:57
SUCOMP03.TAB	E14ENSUCOMP03	1998-03-29T14:28:30	00:18:58
DGTMHR01.TAB	E14EPDGTMHR01	1998-03-29T14:51:30	00:54:52
DRKMAP01.TAB	E14EPDRKMAP01	1998-03-29T15:52:28	00:54:32
RCTCAL01.TAB	E14NPRCTCAL01	1998-03-30T12:23:42	00:01:26

E15:

Filename	Observation ID	Start Time	Duration
HIPHAS01.TAB	E15ISHIPHAS01	1998-05-30T23:58:54	00:00:26
ECLIPS01.TAB	E15ISECLIPS01	1998-05-31T00:17:14	00:00:01
ECLIPS02.TAB	E15ISECLIPS02	1998-05-31T00:50:59	00:07:52
RCTCAL01.TAB	E15NPRCTCAL01	1998-05-31T09:50:04	00:01:25
HRSPEC01.TAB	E15INHRSPEC01	1998-05-31T13:18:38	00:21:03
HRSPEC02.TAB	E15INHRSPEC02	1998-05-31T17:37:28	00:18:46
DRKMAP01.TAB	E15EPDRKMAP01	1998-05-31T17:57:24	01:10:52
DRTMHR01.TAB	E15EPDRTMHR01	1998-05-31T19:10:10	00:55:12
REGMAP01.TAB	E15ESREGMAP01	1998-05-31T20:10:12	00:01:14
PHOTOM01.TAB	E15ESPHOTOM01	1998-05-31T20:16:15	00:00:23
CILIXS01.TAB	E15ESCILIXS01	1998-05-31T20:42:28	00:00:27
REGION01.TAB	E15ENREGION01	1998-05-31T20:44:32	00:19:09
CILIXS02.TAB	E15ESCILIXS02	1998-05-31T21:07:16	00:01:30
RELIEF01.TAB	E15ESRELIEF01	1998-05-31T21:10:26	00:00:21
RELIEF02.TAB	E15ESRELIEF02	1998-05-31T21:17:30	00:00:22
SUCOMP01.TAB	E15ENSUCOMP01	1998-05-31T21:21:56	00:19:12
SUCOMP02.TAB	E15ENSUCOMP02	1998-05-31T21:50:16	00:19:08
REGMAP02.TAB	E15ESREGMAP02	1998-05-31T22:15:34	00:02:32
SUCOMP03.TAB	E15ENSUCOMP03	1998-05-31T22:22:37	00:10:03
DARKHR01.TAB	E15EPDARKHR01	1998-05-31T22:40:31	00:55:51
DGTM__01.TAB	E15EPDGTM__01	1998-05-31T23:40:29	00:32:19
GLOBAL01.TAB	E15ENGLOBAL01	1998-06-01T02:20:13	00:30:16
RCTCAL02.TAB	E15NPRCTCAL02	1998-06-01T10:34:22	00:01:26
EUR16H01.TAB	E15ENEUR16H01	1998-06-01T13:20:28	00:11:45
EUR20H01.TAB	E15ENEUR20H01	1998-06-01T17:50:27	00:10:55
ECLIPS03.TAB	E15ISECLIPS03	1998-06-01T18:46:38	00:03:49
EUR22H01.TAB	E15ENEUR22H01	1998-06-01T19:05:16	00:10:05
ECLIPS04.TAB	E15ISECLIPS04	1998-06-01T19:39:12	00:03:50
KANEHI01.TAB	E15ISKANEHI01	1998-06-01T21:18:48	00:00:01

E16:

Filename	Observation ID	Start Time	Duration
HRSPEC02.TAB	E16INHRSPEC02	1998-07-20T06:06:04	00:02:45
RCTCAL01.TAB	E16NPRCTCAL01	1998-07-20T11:20:14	00:01:25
IOMON_01.TAB	E16IPIOMON_01	1998-07-20T11:30:37	00:16:55
WHTOVL01.TAB	E16JPWHTOVL01	1998-07-20T13:18:50	00:23:33
WAVEST01.TAB	E16JPWAVEST01	1998-07-20T14:20:31	01:57:14
HOTMAP01.TAB	E16JNHOTMAP01	1998-07-20T16:22:51	00:23:45
WAVEST02.TAB	E16JPWAVEST02	1998-07-20T16:58:53	00:25:28

E17:

Filename	Observation ID	Start Time	Duration
EUR20H01.TAB	E17ENEUR20H01	1998-09-25T06:57:45	00:09:04
WHTOVL03.TAB	E17JNWHTOVL03	1998-09-25T12:32:26	00:09:57
GSHAPE01.TAB	E17ESGSHAPE01	1998-09-25T12:57:29	00:00:05
RCTCAL01.TAB	E17NPRCTCAL01	1998-09-25T20:20:16	00:01:25
WAVEST01.TAB	E17JPWAVEST01	1998-09-25T20:27:41	00:11:32
WAVEST02.TAB	E17JPWAVEST02	1998-09-25T21:43:31	00:03:41
GLOBAL01.TAB	E17ENGGLOBAL01	1998-09-25T22:55:18	00:44:55
DRTM_01.TAB	E17EPDRTM_01	1998-09-26T00:25:57	00:48:40
DRKPOL01.TAB	E17EPDRKPOL01	1998-09-26T01:15:51	00:23:11
DARKHR01.TAB	E17EPDARKHR01	1998-09-26T01:42:09	00:04:20
DISSRR01.TAB	E17ESDISSRR01	1998-09-26T03:41:55	00:00:14
AGENOR01.TAB	E17ESAGENOR01	1998-09-26T03:44:05	00:01:06
THRACE01.TAB	E17ESTHRACE01	1998-09-26T03:46:15	00:00:23
LIBLIN01.TAB	E17ESLIBLIN01	1998-09-26T03:47:50	00:00:15
STRSLP01.TAB	E17ESSTRSLP01	1998-09-26T03:49:34	00:01:15
RHIANN01.TAB	E17ESRHIANN01	1998-09-26T03:52:10	00:00:06
THYLIN01.TAB	E17ESTHYLIN01	1998-09-26T03:53:45	00:00:28
SOUTH01.TAB	E17ESSOUTH01	1998-09-26T03:55:38	00:00:34
REGMAP02.TAB	E17ESREGMAP02	1998-09-26T04:56:10	00:02:23
REGMAP03.TAB	E17ESREGMAP03	1998-09-26T04:59:55	00:00:14
DARKHR02.TAB	E17EPDARKHR02	1998-09-26T05:00:59	00:59:06
DRKMAP02.TAB	E17EPDRKMAP02	1998-09-26T06:26:55	01:14:08
DRKMAP03.TAB	E17EPDRKMAP03	1998-09-26T07:42:06	01:14:47
RCTCAL02.TAB	E17NPRCTCAL02	1998-09-26T09:00:58	00:01:56

E18:

Filename	Observation ID	Start Time	Duration
STP10601.TAB	E18IPSTP10601	1998-11-21T14:17:12	00:01:16
GLOBAL01.TAB	E18EPGLOBAL01	1998-11-21T18:48:39	00:00:51
WHTOVL01.TAB	E18JNWHTOVL01	1998-11-22T00:31:18	00:16:05
RCTCAL01.TAB	E18NPRCTCAL01	1998-11-22T03:14:51	00:01:20

E19:

Filename	Observation ID	Start Time	Duration
RCTCAL01.TAB	E19NPRCTCAL01	1999-01-31T10:47:25	00:01:21
POL09001.TAB	E19JPPOL09001	1999-01-31T11:05:48	02:06:19
GLOBAL01.TAB	E19EPGLOBAL01	1999-01-31T21:23:17	00:21:00
POL05102.TAB	E19JPPOL05102	1999-01-31T22:05:45	01:51:58
REGMAP01.TAB	E19EPREGMAP01	1999-02-01T00:20:14	00:50:07
STP04203.TAB	E19GPSTP04203	1999-02-01T03:13:06	00:01:19

C20:

Filename	Observation ID	Start Time	Duration
RCTCAL01.TAB	C20NPRCTCAL01	1999-05-02T17:56:59	00:01:25
HRSPEC01.TAB	C20INHRSPEC01	1999-05-02T19:56:39	00:03:02
WAVEST02.TAB	C20JPWAVEST02	1999-05-03T01:25:55	03:04:48
WAVEST03.TAB	C20JPWAVEST03	1999-05-03T06:51:51	03:07:15
GRWAKE01.TAB	C20JNGRWAKE01	1999-05-03T10:03:58	00:09:34
HOTMAP03.TAB	C20JNHOTMAP03	1999-05-03T11:12:17	00:07:03
GRWAKE02.TAB	C20JNGRWAKE02	1999-05-03T11:24:31	00:09:02
GRWAKE03.TAB	C20JNGRWAKE03	1999-05-03T12:01:15	00:09:42
HOTMAP02.TAB	C20JNHOTMAP02	1999-05-03T12:47:20	00:07:03
WAVEST04.TAB	C20JPWAVEST04	1999-05-03T12:59:32	00:01:33
RCTCAL02.TAB	C20NPRCTCAL02	1999-05-04T11:36:27	00:01:25

C21:

Filename	Observation ID	Start Time	Duration
RCTCAL01.TAB	C21NPRCTCAL01	1999-06-30T04:51:59	00:06:29
CALCOL01.TAB	C21NMCALCOL01	1999-06-30T05:12:31	00:04:02
HIRESS01.TAB	C21CPHIRESS01	1999-06-30T07:52:56	00:10:45
GLOBAL01.TAB	C21IPGLOBAL01	1999-07-01T22:15:15	00:15:53
GLOBAL02.TAB	C21IPGLOBAL02	1999-07-02T04:13:09	01:03:12
HRSPEC01.TAB	C21INHRSPEC01	1999-07-02T07:03:14	00:55:44
GLOBAL03.TAB	C21IPGLOBAL03	1999-07-02T14:19:51	00:16:15
RCTCAL02.TAB	C21NPRCTCAL02	1999-07-02T15:09:32	00:01:22

C22:

Filename	Observation ID	Start Time	Duration
RCTCAL01.TAB	C22NPRCTCAL01	1999-08-11T16:23:06	00:01:25
REGMAP01.TAB	C22JPREGMAP01	1999-08-11T19:51:46	02:07:35
REGMAP02.TAB	C22JPREGMAP02	1999-08-11T22:43:38	02:07:36
REGMAP03.TAB	C22JPREGMAP03	1999-08-12T01:29:08	02:47:26
WHTOVL01.TAB	C22JNWHTOVL01	1999-08-12T18:10:32	00:01:50

I24:

Filename	Observation ID	Start Time	Duration
RCTCAL01.TAB	I24NPRCTCAL01	1999-10-10T08:14:08	00:01:17
WAVEST01.TAB	I24JPWAVEST01	1999-10-10T09:04:03	00:00:57
LOKI__02.TAB	I24IPLOKI__02	1999-10-11T03:42:18	00:37:31
PELE_N01.TAB	I24INPELE__01	1999-10-11T04:22:42	00:03:59
PELE_S01.TAB	I24ISPELE__01	1999-10-11T04:27:47	00:02:07
PILLANS1.TAB	I24ISPILLAN01	1999-10-11T04:31:24	00:00:31
PILLANN1.TAB	I24INPILLAN01	1999-10-11T04:32:01	00:01:25
COLCHSS1.TAB	I24ISCOLCHS01	1999-10-11T04:34:31	00:00:26
COLCHSN1.TAB	I24INCOLCHS01	1999-10-11T04:35:03	00:01:25
ZAMAMAS1.TAB	I24ISZAMAMA01	1999-10-11T04:38:29	00:00:30
ZAMAMAN1.TAB	I24INZAMAMA01	1999-10-11T04:39:06	00:01:19
PROMTHS1.TAB	I24ISPROMTH01	1999-10-11T04:42:41	00:04:24
PROMTHN1.TAB	I24INPROMTH01	1999-10-11T04:47:11	00:01:16
COLCHSS2.TAB	I24ISCOLCHS02	1999-10-11T04:51:10	00:00:03
COLCHSN2.TAB	I24INCOLCHS02	1999-10-11T04:52:31	00:00:50
TOHIL_01.TAB	I24ISTOHIL_01	1999-10-11T04:54:39	00:01:30
NTOHIL01.TAB	I24INNTOHIL01	1999-10-11T04:57:27	00:00:50
PROMTHS2.TAB	I24ISPROMTH02	1999-10-11T04:59:38	00:04:29
PROMTHN2.TAB	I24INPROMTH02	1999-10-11T05:05:25	00:06:58
ZAMAMAS2.TAB	I24ISZAMAMA02	1999-10-11T05:13:43	00:03:19
ZAMAMAN2.TAB	I24INZAMAMA02	1999-10-11T05:18:20	00:02:34
DORIANS1.TAB	I24ISDORIAN01	1999-10-11T05:22:12	00:00:07
DORIANN1.TAB	I24INDORIAN01	1999-10-11T05:23:37	00:00:50
AMSKGIS1.TAB	I24ISAMSKGI01	1999-10-11T05:25:47	00:03:18
AMSKGIN1.TAB	I24INAMSKGI01	1999-10-11T05:30:23	00:02:34
TERMAPS1.TAB	I24ISTERMAP01	1999-10-11T05:34:20	00:00:16
TERMAPN1.TAB	I24INTERMAP01	1999-10-11T05:35:54	00:01:16
REGION01.TAB	I24INREGION01	1999-10-11T06:09:54	00:31:58
PPLUME01.TAB	I24INPPLUME01	1999-10-11T06:47:38	00:04:59
PELEPM01.TAB	I24INPELEPM01	1999-10-11T08:06:10	00:04:59
REGION02.TAB	I24INREGION02	1999-10-11T10:45:56	00:16:24
GLOCOL01.TAB	I24ISGLOCOL01	1999-10-11T18:05:07	00:00:48
ECLIPS01.TAB	I24ISECLIPS01	1999-10-12T03:57:46	00:05:14

I25:

Filename	Observation ID	Start Time	Duration
RCTCAL01.TAB	I25NPRCTCAL01	1999-11-25T13:23:24	00:01:18
DRKMAP01.TAB	I25EPDRKMAP01	1999-11-25T14:13:19	01:29:09
H2O12001.TAB	I25EPH2O12001	1999-11-25T15:47:06	00:36:06
NOPOLE01.TAB	I25JNNOPOLE01	1999-11-25T16:38:50	00:11:00
DARKBP01.TAB	I25ESDARKBP01	1999-11-25T16:59:10	00:00:04
MOTTER01.TAB	I25ESMOTTER01	1999-11-25T17:01:10	00:00:02

SUBJUP01.TAB	I25JNSUBJUP01	1999-11-25T17:15:16	00:03:08
DGTM__01.TAB	I25EPDGTM__01	1999-11-25T17:33:20	01:01:03
GLOBAL01.TAB	I25ESGLOBAL01	1999-11-25T18:46:20	00:01:40
H2O40_02.TAB	I25EPH2O40_02	1999-11-25T18:49:00	00:31:00
EQUATR01.TAB	I25JNEQUATR01	1999-11-25T19:25:42	00:06:35
GLOBAL01.TAB	I25JNGLOBAL01	1999-11-25T19:44:54	00:01:59
GLOBAL01.TAB	I25IPGLOBAL01	1999-11-25T22:54:02	01:07:53
EMAKNGS2.TAB	I25ISEMAKNG02	1999-11-26T04:39:52	00:01:30
EMAKNGN2.TAB	I25INEMAKNG02	1999-11-26T04:42:42	00:00:49
GIANTSS1.TAB	I25ISGIANTS01	1999-11-26T04:46:56	00:00:14
GIANTSN1.TAB	I25INGIANTS01	1999-11-26T04:48:30	00:01:40
CULANNS1.TAB	I25ISCULANN01	1999-11-26T04:53:00	00:01:40
CULANNN1.TAB	I25INCULANN01	1999-11-26T04:56:00	00:00:48
TERM__01.TAB	I25ISTERM__01	1999-11-26T05:03:06	00:02:07
TERMAP01.TAB	I25INTERMAP01	1999-11-26T05:06:33	00:00:48
REGION01.TAB	I25INREGION01	1999-11-26T05:10:06	00:45:02
RCTCAL02.TAB	I25NPRCTCAL02	1999-11-26T08:26:02	00:04:22

I27:

Filename	Observation ID	Start Time	Duration
RCTCAL01.TAB	I27NPRCTCAL01	2000-02-22T00:09:59	00:01:17
LIMBRD01.TAB	I27JPLIMBRD01	2000-02-22T01:53:28	01:05:18
LIMBRD02.TAB	I27JPLIMBRD02	2000-02-22T04:54:07	00:26:45
DRKMAP01.TAB	I27IPDRKMAP01	2000-02-22T06:59:50	01:11:11
LOKI__01.TAB	I27IPLOKI__01	2000-02-22T11:21:43	00:47:30
DAEDAL01.TAB	I27IPDAEDAL01	2000-02-22T12:25:25	00:38:07
LOKI__02.TAB	I27IPLOKI__02	2000-02-22T13:06:51	00:18:03
LOKI__03.TAB	I27IPLOKI__03	2000-02-22T13:25:55	00:07:12
HRPELE01.TAB	I27INHRPELE01	2000-02-22T13:35:07	00:05:01
PELE__01.TAB	I27ISPELE__01	2000-02-22T13:40:58	00:00:11
MULNGU01.TAB	I27IPMULNGU01	2000-02-22T13:41:19	00:01:09
SAPPNG01.TAB	I27ISSAPPNG01	2000-02-22T13:47:01	00:00:32
CHACC__01.TAB	I27ISCHACC__01	2000-02-22T13:49:04	00:01:03
PROMTHS1.TAB	I27ISPROMTH01	2000-02-22T13:51:05	00:00:42
MOSAIC01.TAB	I27INMOSAIC01	2000-02-22T13:57:21	00:18:16
PROMTHN1.TAB	I27INPROMTH01	2000-02-22T14:16:57	00:09:32
TOHIL__01.TAB	I27ISTOHIL__01	2000-02-22T14:27:46	00:00:32
PROMTH02.TAB	I27ISPROMTH02	2000-02-22T14:29:47	00:00:50
CAMAXTS1.TAB	I27ISCAMAXT01	2000-02-22T14:32:50	00:01:41
CAMAXTN1.TAB	I27INCAMAXT01	2000-02-22T14:35:48	00:01:58
AMARANS1.TAB	I27ISAMARAN01	2000-02-22T14:39:55	00:00:40
AMARANN1.TAB	I27INAMARAN01	2000-02-22T14:41:51	00:11:09
ZALTRM01.TAB	I27ISZALTRM01	2000-02-22T15:08:13	00:00:48
FROST__01.TAB	I27IPFROST__01	2000-02-22T16:15:35	01:06:18
DGTM__01.TAB	I27IPDGTM__01	2000-02-22T17:25:28	00:38:44

RCTCAL02.TAB I27NPRCTCAL02 2000-02-22T23:24:29 00:01:17

G28:

Filename	Observation ID	Start Time	Duration
RCTCAL01.TAB	G28NPRCTCAL01	2000-05-20T09:27:33	00:00:56
HIRES_01.TAB	G28GPHIRES_01	2000-05-20T09:59:15	00:11:08
SMOOTH01.TAB	G28GSSMOOTH01	2000-05-20T10:13:30	00:00:49
BRTDRK01.TAB	G28GSBRTDRK01	2000-05-20T10:14:26	00:00:54
NICHOL01.TAB	G28GSNICHOL01	2000-05-20T10:15:27	00:00:54
ARBELA01.TAB	G28GSARBELA01	2000-05-20T10:16:27	00:01:58
CALDRA01.TAB	G28GSCALDRA01	2000-05-20T10:18:29	00:02:50
FEATRE01.TAB	G28GNFEATRE01	2000-05-20T10:21:26	00:08:03
SMOOTH02.TAB	G28GSSMOOTH02	2000-05-20T10:29:36	00:00:54
BRTDRK02.TAB	G28GSBRTDRK02	2000-05-20T10:30:37	00:00:54
NICHOL02.TAB	G28GSNICHOL02	2000-05-20T10:31:37	00:00:54
CALDRA02.TAB	G28GSCALDRA02	2000-05-20T10:34:39	00:02:50
LMSCAN01.TAB	G28GNLMSCAN01	2000-05-20T10:37:37	00:11:58
SMTHDR01.TAB	G28GSSMTHDR01	2000-05-20T10:54:37	00:00:07
PERRIN01.TAB	G28GNPERRIN01	2000-05-20T12:02:33	00:07:58
GLOBAL01.TAB	G28GPGLOBAL01	2000-05-20T12:27:32	00:02:42
STP11401.TAB	G28EPSTP11401	2000-05-20T13:34:24	00:02:30
STP10302.TAB	G28EPSTP10302	2000-05-20T14:57:32	00:03:07
STP09003.TAB	G28EPSTP09003	2000-05-20T16:58:45	00:02:13
STP07704.TAB	G28EPSTP07704	2000-05-20T18:59:05	00:02:12
STP06105.TAB	G28EPSTP06105	2000-05-20T20:57:29	00:03:06
STP04506.TAB	G28EPSTP04506	2000-05-20T22:57:42	00:02:13
STP03007.TAB	G28EPSTP03007	2000-05-21T00:58:01	00:02:12
STP01808.TAB	G28EPSTP01808	2000-05-21T03:05:33	00:03:06
STP00609.TAB	G28EPSTP00609	2000-05-21T04:12:16	00:03:06
NSSTRP01.TAB	G28JPNSSTRP01	2000-05-21T04:20:59	00:21:44
DKSPOL01.TAB	G28JPKSPOL01	2000-05-21T04:47:39	00:00:36
DKSPOT01.TAB	G28JPKSPOT01	2000-05-21T04:48:27	02:09:00
WHTOVL01.TAB	G28JPWHTOVL01	2000-05-21T07:23:22	00:46:41
LIMBRD01.TAB	G28JPLIMBRD01	2000-05-21T08:21:39	00:53:14
LIMBRD02.TAB	G28JPLIMBRD02	2000-05-21T10:19:57	00:54:54
RCTCAL02.TAB	G28NPRCTCAL02	2000-05-21T11:59:03	00:01:19
STP05001.TAB	G28IPSTP05001	2000-05-21T12:24:26	00:02:53
STP04502.TAB	G28IPSTP04502	2000-05-21T13:04:01	00:02:41

G29:

Filename	Observation ID	Start Time	Duration
RCTCAL01.TAB	G29NPRCTCAL01	2000-12-28T07:30:03	00:01:17
HIRES_01.TAB	G29GPHIRES_01	2000-12-28T07:54:38	00:25:17
NPOLE_01.TAB	G29GPNPOLE_01	2000-12-28T08:19:56	00:09:39



TROS__01.TAB	G29GPTROS__01	2000-12-28T08:29:36	00:09:32
BARNRD01.TAB	G29GPBARNRD01	2000-12-28T08:39:08	00:15:04
PERRIN01.TAB	G29GPPERRIN01	2000-12-28T08:56:29	00:04:53
AIRGLO01.TAB	G29GSAIRGLO01	2000-12-28T09:21:22	00:19:27
NICECL01.TAB	G29GPNICECL01	2000-12-28T09:45:33	00:11:44
ECLEGR01.TAB	G29GPECLEGR01	2000-12-28T09:58:34	00:12:23
CAPCOL01.TAB	G29GSCAPCOL01	2000-12-28T10:16:20	00:13:31
DARDAN01.TAB	G29GSDARDAN01	2000-12-28T10:31:30	00:02:55
REGION01.TAB	G29GNREGION01	2000-12-28T10:36:24	00:15:00
DGTM__01.TAB	G29GPDGTM__01	2000-12-28T10:54:57	01:48:07
GLOBAL01.TAB	G29CNGLOBAL01	2000-12-28T13:46:30	00:02:04
GLOBAL01.TAB	G29GNGLOBAL01	2000-12-28T17:18:51	00:09:51
GLOBAL02.TAB	G29GNGLOBAL02	2000-12-28T17:31:58	00:10:13
NEB__01.TAB	G29JPNEB__01	2000-12-28T18:40:26	02:03:08
STP12001.TAB	G29IPSTP12001	2000-12-28T21:42:36	00:03:22
GLOBAL03.TAB	G29GNGLOBAL03	2000-12-28T22:37:20	00:07:44
STP11002.TAB	G29IPSTP11002	2000-12-28T23:08:38	00:04:00
WATCH_01.TAB	G29INWATCH_01	2000-12-28T23:17:46	00:03:00
NWGRS_01.TAB	G29JPNWGRS_01	2000-12-29T01:02:47	02:02:57
GRWAKE01.TAB	G29JNGRWAKE01	2000-12-29T03:07:30	00:25:54
WATCH_02.TAB	G29INWATCH_02	2000-12-29T03:52:49	00:03:08
GRWAKE02.TAB	G29JNGRWAKE02	2000-12-29T03:59:54	00:14:11
HTSPOT01.TAB	G29JNHTSPOT01	2000-12-29T05:24:47	00:14:14
HTSPOT02.TAB	G29JNHTSPOT02	2000-12-29T06:02:12	00:16:06
NSSTRP01.TAB	G29JPNSSTRP01	2000-12-29T06:20:18	00:24:54
STP04703.TAB	G29IPSTP04703	2000-12-29T06:46:46	00:04:28
STP10801.TAB	G29EPSTP10801	2000-12-29T08:06:38	00:04:28
STP03704.TAB	G29IPSTP03704	2000-12-29T08:21:48	00:04:28
STP08302.TAB	G29EPSTP08302	2000-12-29T11:54:08	00:04:27
AURORA01.TAB	G29JNAURORA01	2000-12-29T12:50:44	00:12:06
GLOBAL01.TAB	G29ENGGLOBAL01	2000-12-29T13:30:09	00:02:59
AURORA02.TAB	G29JNAURORA02	2000-12-29T13:50:22	00:13:02
AURORA03.TAB	G29JNAURORA03	2000-12-29T14:52:01	00:12:07
AURORA04.TAB	G29JNAURORA04	2000-12-29T15:52:41	00:12:59
GLOCOL01.TAB	G29ISGLOCOL01	2000-12-29T16:32:20	00:00:30
AURORA05.TAB	G29JNAURORA05	2000-12-29T16:52:22	00:12:58
STP05203.TAB	G29EPSTP05203	2000-12-29T17:24:40	00:03:33
AURORA06.TAB	G29JNAURORA06	2000-12-29T17:56:05	00:10:08
STP01705.TAB	G29IPSTP01705	2000-12-29T18:29:22	00:03:34
AURORA07.TAB	G29JNAURORA07	2000-12-29T19:14:58	00:12:56
PROMTH01.TAB	G29ISPROMTH01	2000-12-29T20:00:30	00:00:28
AURORA08.TAB	G29JNAURORA08	2000-12-29T20:15:37	00:12:57
STP03704.TAB	G29EPSTP03704	2000-12-29T20:48:54	00:03:33
RCTCAL02.TAB	G29NPRCTCAL02	2000-12-29T21:02:10	00:02:04

C30:

Filename	Observation ID	Start Time	Duration
GLOBAL01.TAB	C30IPGLOBAL01	2001-05-23T16:30:12	00:17:56
WHTOVL01.TAB	C30JPWHTOVL01	2001-05-23T20:04:56	00:36:30
HIRES_01.TAB	C30CPHIRES_01	2001-05-25T11:14:37	00:08:00
EWSCAN01.TAB	C30CPEWSCAN01	2001-05-25T14:00:04	00:01:56
EWSCAN02.TAB	C30CPEWSCAN02	2001-05-25T14:16:28	00:03:34
NSPOLE01.TAB	C30CPNSPOLE01	2001-05-25T14:28:52	00:00:38

I31:

Filename	Observation ID	Start Time	Duration
RCTCAL01.TAB	I31NPRCTCAL01	2001-08-04T15:09:25	00:00:57
STP13501.TAB	I31CPSTP13501	2001-08-04T15:23:42	00:06:32
WHTOVL01.TAB	I31JPWHTOVL01	2001-08-05T07:24:17	00:41:55
VORTEX01.TAB	I31JPVORTEX01	2001-08-05T08:11:00	00:42:39
GLOBAL01.TAB	I31IPGLOBAL01	2001-08-06T00:19:23	01:36:37
PELEDK01.TAB	I31IPPELEDK01	2001-08-06T01:57:44	00:57:47
NPOLRG01.TAB	I31IPNPOLRG01	2001-08-06T02:57:22	00:54:51
NSDRK_01.TAB	I31IPNSDRK_01	2001-08-06T03:56:41	00:09:46
LOKI__01.TAB	I31IPLOKI__01	2001-08-06T04:13:12	00:10:05
LEIKNG01.TAB	I31IPLEIKNG01	2001-08-06T04:25:46	00:06:34
THERML01.TAB	I31INTHERML01	2001-08-06T04:37:27	00:09:59
HSISUM01.TAB	I31INHHSISUM01	2001-08-06T04:49:34	00:03:55
HIRES_01.TAB	I31IPHIRE_01	2001-08-06T04:53:37	00:06:06
SO2MAP01.TAB	I31INSO2MAP01	2001-08-06T05:02:42	00:00:39
TVASHT01.TAB	I31INTVASHT01	2001-08-06T05:14:50	00:09:53
GISHBR01.TAB	I31INGISHBR01	2001-08-06T05:39:07	00:07:57
NSSTRP01.TAB	I31IPNSSTRP01	2001-08-06T05:57:23	00:16:34
AMRANI01.TAB	I31INAMRANI01	2001-08-06T06:20:33	00:15:07
REGION01.TAB	I31INREGION01	2001-08-06T06:50:55	01:12:46
DGTM__01.TAB	I31IPDGTM__01	2001-08-06T09:05:04	01:57:54
POLMAP01.TAB	I31IPPOLMAP01	2001-08-06T12:30:30	00:28:52
STP03002.TAB	I31CPSTP03002	2001-08-06T14:13:42	00:06:15
STP01503.TAB	I31CPSTP01503	2001-08-07T01:49:21	00:04:00

I32:

Filename	Observation ID	Start Time	Duration
RCTCAL01.TAB	I32NPRCTCAL01	2001-10-15T07:30:39	00:01:19
VORTEX01.TAB	I32JPVORTEX01	2001-10-15T07:47:11	00:49:57
VORTEX02.TAB	I32JPVORTEX02	2001-10-15T10:13:48	00:34:44
WHTOVL01.TAB	I32JPWHTOVL01	2001-10-15T11:00:19	00:44:43
VORTEX03.TAB	I32JPVORTEX03	2001-10-15T12:43:27	00:44:43
VORTEX04.TAB	I32JPVORTEX04	2001-10-15T13:29:57	00:44:44
DRKMAP01.TAB	I32IPDRKMAP01	2001-10-15T14:19:11	00:29:01

DRKMAP02.TAB	I32IPDRKMAP02	2001-10-15T19:18:26	01:02:22
LOKI_S01.TAB	I32ISLOKI_01	2001-10-15T20:46:46	00:00:12
COLCHS01.TAB	I32IPCOLCHS01	2001-10-15T20:51:27	00:55:11
REGIONP1.TAB	I32IPREGION01	2001-10-15T21:53:29	00:56:46
BABBAR01.TAB	I32IPBABBAR01	2001-10-15T22:51:05	00:59:33
RAPATR01.TAB	I32IPRAPATR01	2001-10-15T23:51:45	00:28:48
THPELE01.TAB	I32INTHPELE01	2001-10-16T00:23:06	00:04:00
LOKI_P01.TAB	I32IPLOKI_01	2001-10-16T00:29:10	00:25:07
THLOKI01.TAB	I32INTHLOKI01	2001-10-16T00:54:24	00:10:09
PELE_01.TAB	I32ISPELE_01	2001-10-16T01:04:38	00:02:57
THPELE02.TAB	I32INTHPELE02	2001-10-16T01:07:41	00:06:57
HIRESS01.TAB	I32IPHIRESS01	2001-10-16T01:14:40	00:09:11
TELGNS01.TAB	I32ISTELGNS01	2001-10-16T01:23:52	00:03:56
THERML01.TAB	I32INTHERML01	2001-10-16T01:27:54	00:03:57
EMAKNGS1.TAB	I32ISEMAKNG01	2001-10-16T01:31:57	00:01:25
TELGNS02.TAB	I32ISTELGNS02	2001-10-16T01:33:22	00:01:48
TOHIL_01.TAB	I32ISTOHIL_01	2001-10-16T01:35:17	00:05:40
EMAKNGN1.TAB	I32INEMAKNG01	2001-10-16T01:40:57	00:12:09
TUPAN_01.TAB	I32ISTUPAN_01	2001-10-16T01:56:10	00:02:59
ITUPAN01.TAB	I32INITUPAN01	2001-10-16T01:59:09	00:08:06
TVASHT01.TAB	I32ISTVASHT01	2001-10-16T02:08:35	00:00:14
ICHAAC01.TAB	I32INICHAAC01	2001-10-16T02:10:14	00:11:16
GSHBAR01.TAB	I32ISGSHBAR01	2001-10-16T02:21:32	00:00:14
PROMTH01.TAB	I32INPROMTH01	2001-10-16T02:24:24	00:12:11
TERMIN01.TAB	I32ISTERMIN01	2001-10-16T02:38:38	00:00:49
TERMIN02.TAB	I32ISTERMIN02	2001-10-16T02:40:48	00:00:48
EWSCAN01.TAB	I32IPEWSCAN01	2001-10-16T02:46:38	00:11:26
POLMAP01.TAB	I32IPPOLMAP01	2001-10-16T03:01:39	00:08:46
REGIONN1.TAB	I32INREGION01	2001-10-16T03:13:00	01:04:36
POLDAY01.TAB	I32IPPOLDAY01	2001-10-16T04:18:31	00:27:45
AMALTH01.TAB	I32SSAMALTH01	2001-10-16T04:53:07	00:00:01
POLMAP02.TAB	I32IPPOLMAP02	2001-10-16T04:54:57	01:33:23
LIMBRD01.TAB	I32JPLIMBRD01	2001-10-16T06:32:53	00:27:51
REGION02.TAB	I32INREGION02	2001-10-16T07:03:33	00:35:21
GLOBAL01.TAB	I32EPGLOBAL01	2001-10-16T08:02:54	00:06:46
LIMBRD02.TAB	I32JPLIMBRD02	2001-10-16T15:18:50	00:27:50
RCTCAL02.TAB	I32NPRCTCAL02	2001-10-17T16:12:02	00:01:18

I33:

Filename	Observation ID	Start Time	Duration
RCTCAL01.TAB	I33NPRCTCAL01	2002-01-16T22:59:26	00:01:17
DRKMAP01.TAB	I33IPDRKMAP01	2002-01-16T23:22:02	00:09:26
PROMTH01.TAB	I33IPPROMTH01	2002-01-17T13:06:44	00:16:00
EWSCAN01.TAB	I33IPEWSCAN01	2002-01-17T13:29:21	00:04:13
MARDUK01.TAB	I33IPMARDUK01	2002-01-17T13:36:23	00:04:46

GLOBAL01.TAB	I33JNGLOBAL01	2002-01-19T23:46:46	00:23:12
GLOBAL02.TAB	I33JNGLOBAL02	2002-01-20T03:06:58	00:20:10
GLOBAL03.TAB	I33JNGLOBAL03	2002-01-20T06:28:10	00:27:10
FEATR01.TAB	I33JSFEATR01	2002-01-20T19:09:35	00:00:26
FEATR02.TAB	I33JSFEATR02	2002-01-20T19:38:54	00:00:26
FEATR03.TAB	I33JSFEATR03	2002-01-20T20:08:14	00:00:24
FEATR11.TAB	I33JSFEATR11	2002-01-20T20:40:35	00:00:25
FEATR12.TAB	I33JSFEATR12	2002-01-20T21:09:54	00:00:25
FEATR13.TAB	I33JSFEATR13	2002-01-20T21:39:14	00:00:26
FEATR21.TAB	I33JSFEATR21	2002-01-20T22:11:36	00:00:24
FEATR22.TAB	I33JSFEATR22	2002-01-20T22:40:54	00:00:25
FEATR23.TAB	I33JSFEATR23	2002-01-20T23:10:14	00:00:24
FEATR31.TAB	I33JSFEATR31	2002-01-21T05:10:11	00:00:24
FEATR32.TAB	I33JSFEATR32	2002-01-21T05:39:30	00:00:20
FEATR33.TAB	I33JSFEATR33	2002-01-21T06:08:53	00:00:21
FEATR41.TAB	I33JSFEATR41	2002-01-21T06:41:11	00:01:27
FEATR42.TAB	I33JSFEATR42	2002-01-21T07:10:30	00:01:26
FEATR43.TAB	I33JSFEATR43	2002-01-21T07:39:50	00:01:26
FEATR51.TAB	I33JSFEATR51	2002-01-21T08:12:11	00:00:24
FEATR57.TAB	I33JSFEATR57	2002-01-21T08:41:30	00:00:25
FEATR53.TAB	I33JSFEATR53	2002-01-21T09:10:50	00:00:24

#### Ancillary Data

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The housekeeping and science data in the full PPR minor frame records contain all of the commanded parameters and all variable parameter values that completely specify the instrument status, including the position within various measurement mode cycles. When observations are made using the PPR Burst-to-Tape record mode, the second byte of the PPR housekeeping is deleted before the data are stored in the CDS memory buffer. This byte contains the commanded values for the photopolarimetry gain, radiometry gain, and number of successive samples to be taken at each filter wheel position before stepping to the next position. These three parameters are set by command and do not change during instrument operation unless reset by a new command. The current data set uses default values of 0, 0, and 1, respectively, for these parameters for observations using the Burst-to-Tape mode. Actual values can be obtained from the Galileo Sequence of Events File (SEF), which is archived in the PDS by the Galileo Project and which indicates timing of the PPR commands and the commanded parameter values. When the EDR data are processed to generate reduced science data, the SEF or equivalent PPR-team-maintained command records are used to manually input the actual values for these three parameters.

The target body for each observation is indicated in the observation ID and in the label file for each data file. Observed location on the target body and observing geometry (viz., target range and incidence, emission, and phase angles) for each measurement sample within an observation sequence must be obtained from the SPICE system for the spacecraft clock time corresponding to the measurement. Note that the spacecraft clock RIM and MOD91 counts for each record of the current R\_EDR data set correspond to the time that the respective PPR memory buffer was readout by the CDS. The actual time at which the measurement samples were acquired is earlier than that time by varying amounts depending on instrument operation mode and the position of the data sample in the PPR buffer. When the EDR data are processed to generate reduced science data, the appropriate adjusted spacecraft clock time is determined and included as part of each measurement sample record in that data set. The SPICE data (kernels) and system tools are archived in PDS by the Galileo Project.

#### Coordinate System

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For PPR observations that use the Burst-to-Tape record mode, the right ascension and declination angles of the scan platform instrument boresight direction are merged with the PPR housekeeping and science data and appear as the last two columns of each R\_EDR data set record. All other record modes include the scan platform pointing in the AACS section of the Low Rate Science blocks, so it is necessary to use the SPICE system to obtain these angles for those observations. The SPICE system kernels contain Galileo spacecraft ephemeris, scan platform pointing, and instrument data necessary for providing target body coordinates and observing geometry as a function of time, using IAU standard coordinate systems as specified in the SPICE documentation.

#### Software

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PPR R\_EDR files are tables of ASCII format fields for each of the PPR housekeeping and science data elements. This simple conversion from the raw, binary EDR records involves no irreversible change or data reduction. As such, the R\_EDR data set represents an appropriate primary archive of all of the raw PPR data delivered to the ground and there is no expectation of any need for reprocessing to perform this conversion in the future. Accordingly, the software used to read the raw, binary EDR files and create the R\_EDR data is not archived with this data set.

"

CONFIDENCE\_LEVEL\_NOTE = "

### Confidence Level Overview

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The PPR R\_EDR data set represents all PPR data from the Jupiter Phase Nominal Mission and GEM and GMM extended tours as recovered from the Galileo Project ground system. When multiple passes of the DMS tape were downlinked, the data were merged to provide the most complete sequences.

### Data Coverage and Quality

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The R\_EDR data set is organized into a separate file for each PPR observation or OAPEL as listed in the Data section under DATA\_SET\_DESC above. The start times and durations in that set of lists correspond to the actual times of the first and last records returned for the particular OAPEL rather than the planned times, if different. In a few cases, the data begin later or end earlier than planned owing to limitations on DMS tape or bits-to-ground capability or losses during downlink and ground processing. There are, in addition, a few OAPELs that have coverage gaps.

Parity bits generated by the PPR instrument processor and placed in the PPR housekeeping and science data were monitored in the processing of the EDR data and indicate that there appear to be no instances of individual bit changes in the data stream. For PPR observations that use a DMS tape record mode employing the Low Rate Science format, any data gaps caused by telemetry dropouts appear as a loss of entire PPR minor frame records. In contrast, for the Burst-to-Tape record mode, the channelization procedure used in storing the PPR data stream in the CDS memory buffer can lead to the return of PPR minor frame records with missing bytes in which zero-fill is used by the ground system. The PPR science data samples use a non-zero 'dark' level offset larger than any expected noise. Thus, zero is not a legitimate value for these samples, for which the PPR processor uses a twos-complement mode that when converted from the raw data stream to the R\_EDR format will appear as 4095 if zero-fill has occurred.

### Limitations

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As described in the Data Set Overview section of DATA\_SET\_DESC above, the PPR instrument exhibited anomalous behavior with the filter wheel becoming stuck at a single radiometry position midway through the G1 encounter. While a recovery sequence involving thermal cycling of the instrument succeeded at the end of the E4 encounter, an operational mode different from that originally planned was then used during the remainder of the Jupiter Phase Nominal Mission and the GEM and GMM extended tours to avoid having to step through the position at which the filter wheel stuck more than on a limited number of occasions. As a consequence, many planned OAPELs were used with a somewhat different science strategy than that originally intended and some OAPEL names may seem slightly inconsistent with the actual observation. It should be noted that during encounter C20, the PPR exhibited quite anomalous behavior in radiometry measurements. All of the radiometry data samples were clustered at a DN value of 1412, slightly above the typical dark-level offset, and showed an extremely small scatter well below the typical noise level. This behavior was interpreted as being consistent with a failed radiometry detector or pre-amplifier. A PPR heating sequence was thus scheduled early in encounter C21 based upon the hope that one possible cause, debonding in the detector, might be at least partially reversed by high temperatures. Data playback from C21 (and all subsequent encounters) showed that the radiometry function had essentially recovered to nominal performance.