Chapter 5 - Detailed Observation Designs

Contents

Introduction to Chapter 5

Detailed Observation Designs

Each NIMS Detailed Observation Design consists of an OAPEL form and a Pointer plot. The OAPEL form is a brief description of the design of the observation. The Pointer plot is a plot of the target body with the NIMS footprint incorporated in the mosaic design superimposed on the target body. The size and orientation of the target body is plotted as it appears at the time of the first NIMS footprint plotted. For long observations, the target body may rotate or move relative to the spacecraft during the observation. Some observations, such as calibrations, do not have Pointer plots.

The Pointer plots and OAPEL forms in this chapter have been updated to report the actual data returned.

The Pointer plots have the spatial extent of the actual data returned outlined with a thick line. When no data were returned for a particular observation, its Pointer plot has a single slash across the plot with the text "NO DATA RETURNED" printed in the upper left corner of the plot.

The text of the OAPEL forms have been modified to reflect the actual NIMS instrument parameters for playback. An extra line containing one or some of the following statements has been added to the Observation Objective section of the OAPEL form to report the data retun status:

```
"Data Returned"      == Data from this observation returned
"No Data Returned"   == NO Data from this observation returned
"Processor Halted"   == The NIMS Processor had halted at this time.
```

More information regarding NIMS data return can be found in Chapter 7 of this guide.

```
NIMS Software Reload                     ACTIVITY ID:   16NNHRSPEC01-
                                          START TIME:   98-201/05:57:01.932

Activity ID: Orbit 16  Target N  Inst N  OAPEL HRSPEC  SeqNo 01 -

Title        NIMS Software Reload                        Instrument      NIMS
Requestor    NIMS-SWG/M. SEGURA         Team   NIMS  Working Group    SWG

Time System  CDS       Load ID          Calendar Date  07/20/98  Week  29

Start        IEE+CDS 00000061:00:0 98-201/05:57:01.932   IEE+000/01:01:40.666
End          IEE+CDS 00000063:00:0 98-201/05:59:03.266   IEE+000/01:03:42.000
Duration             00000002:00:0     000/00:02:01.334       000/00:02:01.334

Top Label    16NNHRSPEC01-
Bottom Label

Plot Key     NIMS      Type            SCI
CDS Bytes          0   Report Options  BOTH         Scan Platform      No
CDS Source   OAP       Spin State      DUAL         DMS                No
```

Observation Objective

NIMS real-time software reload

Each NIMS GEM observation will have an instrument reload before the start of each observation. Each reload has its own OAPEL form, but only this first form is included in the NIMSGUIDE.

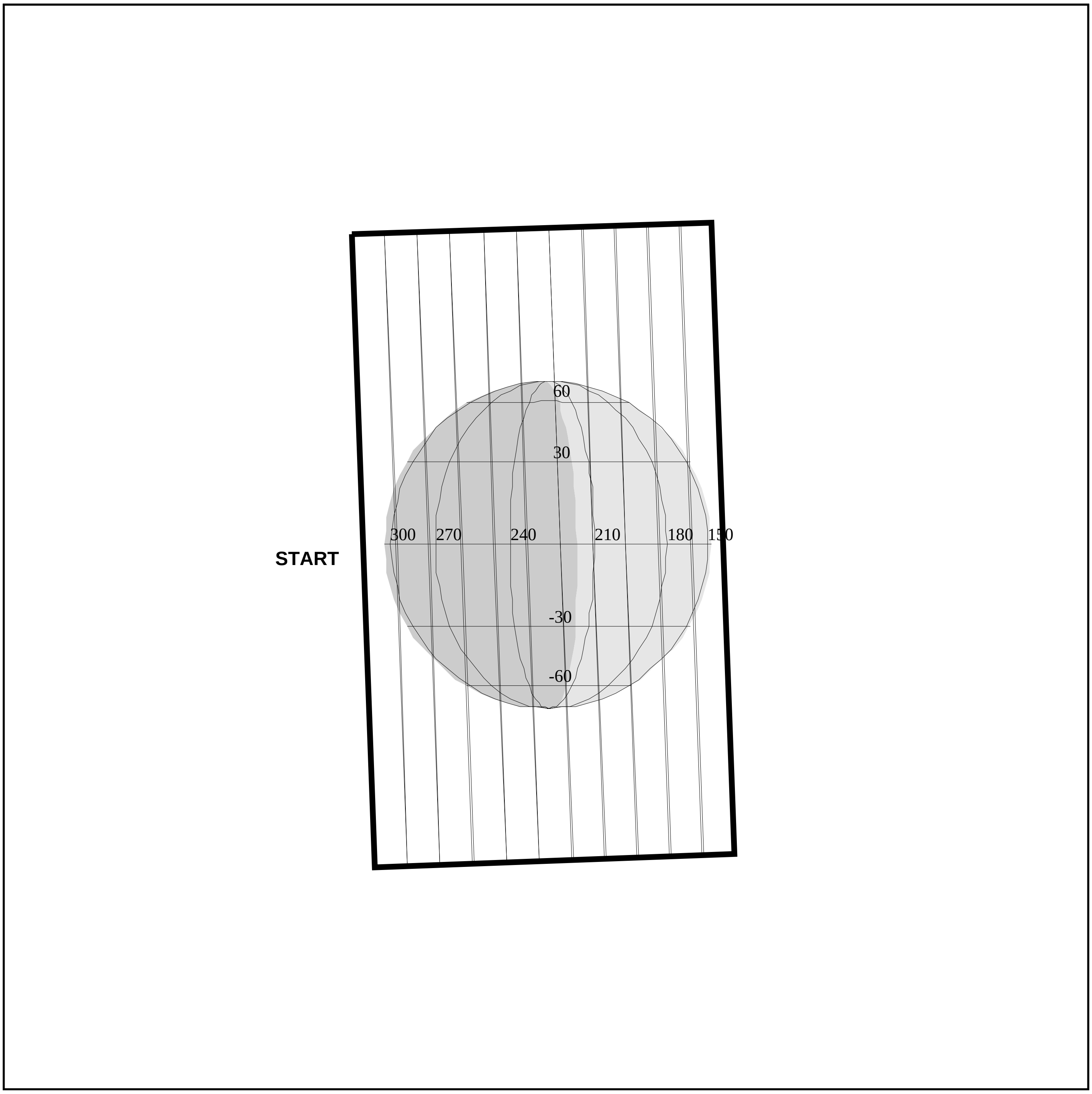
The NIMS E16 reload OAPELS are:
16NNHRSPEC01, 16NNJUPRTS01, 16NNHOTMAP01, 16NNHOTMAP02,
16NNSUCOMP01, 16NNSUCOMP02, 16NNSUCOMP04, 16NNGLOBAL01,
16NNWHTOVL01, 16NNJUPRTS02, 16NNJUPRTS03, 16NNGLOBAL02,
16NNJUPWHT01

Design Detail

Use a standard set of commands to halt the instrument, load the software and reinitialize the instrument.

```
6CKSUM - Check Sum NIMS RAM 1000 - 14BC
37PL   - Halt NIMS Processor
37MRL  - Memory Reallocate
6MCOPY - Copy flight software from CDS to NIMS 1000
6MCOPY - Copy flight software from CDS to NIMS 1598
37IRT  - Instrument Reset
37MN   - Memory Normal
37IST  - Chopper Reference.
```

Galileo Activity Plan Form   12/08/97 15:43:18   rev 6/95



165DA:TT= 0 TMC= 1 C= 2.80 XC= 0.00 BS= 0/0394 TC= 3
A= 728 pD= 536 SR=17.450 RA50=245.03 DEC50=-23.36 cone= 69.84 clock=101.10
117DA:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/0394
1:#s= 1 Cs= -5.40 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 546 rD= 2

16INHRSPEC01

TARGET G3.1 lisac: 5/ 8/1998 12:38: 0

FILE:P.16INHRSPEC01

TARGET BODY : IO

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980330-tour.NS

PERIAPSIS:

START:IEE 98-201/04:54:35.402 +CDS 32:00:0

OBSERVATION:16INHRSPEC01

THINNING:NIM 2

BODY PLOT TIME:TARGET-TIME D= 536 S= 0.300

DESCRIP:Io_Monitoring_at_High_Spec_Res

Io Monitoring at High Spectral Resolutio	ACTIVITY ID: 16INHRSPEC01*
	START TIME: 98-201/05:59:03.266

Activity ID: Orbit 16 Target I Inst N OAPEL HRSPEC SeqNo 01 *

Title	Io Monitoring at High Spectral Resolutio	Instrument	NIMS
Requestor	NIMS-SWG/R.	Team NIMS Working Group	SWG

Time System	CDS	Load ID	Calendar Date	07/20/98	Week 29

Start	IEE+CDS 00000063:00:0	98-201/05:59:03.266	IEE+000/01:03:42.000
End	IEE+CDS 00000074:00:0	98-201/06:10:10.599	IEE+000/01:14:49.333
Duration	00000011:00:0	000/00:11:07.333	000/00:11:07.333

Top Label	16INHRSPEC01-
Bottom Label	

Plot Key	NIMS	Type	SCI		
CDS Bytes	150	Report Options	BOTH	Scan Platform	Yes
CDS Source	OAP	Spin State	DUAL	DMS	Yes

Observation Objective

Io monitoring at high spectral resolution coordinated with SSI.
Phase angle is approximately 90 degrees - good nightside coverage of Prometheus region.
TICS=45,FMT=LPU, MBTG= 0.730, PPR_RA=0.033

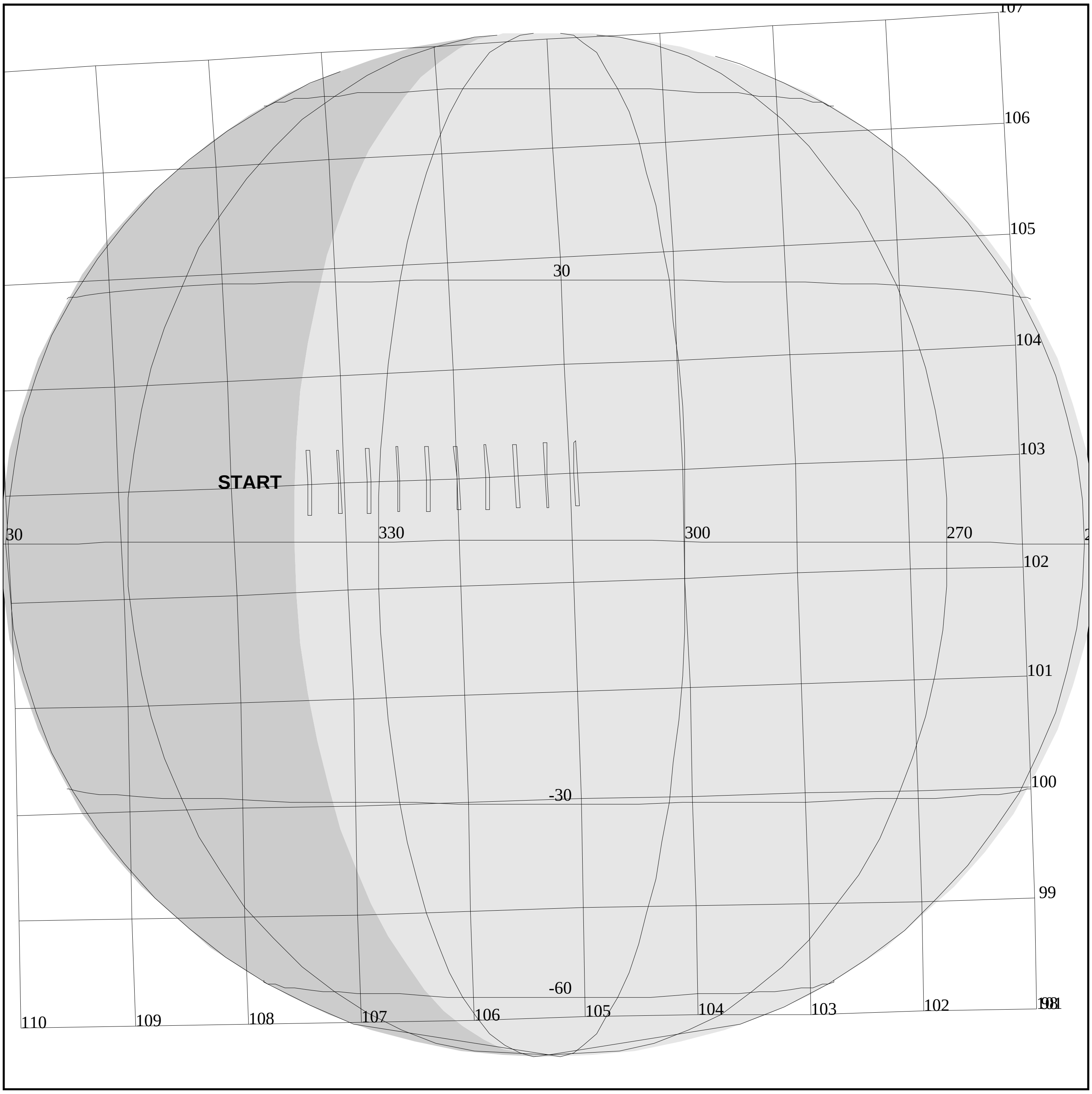
Data Returned

Design Detail

Global Mosaic in Long Map, 408 wavelengths, record mode is LPU.
Central longitude is approximately 225 degrees West.
NIMS resolution is approximately 500 km/pixel.
Cost is approximately 2.5 Mbits.

Long Map (LM), Gain 2, Grating Start 0, LPU, E16ILM243C, E16ILM228C

Galileo Activity Plan Form 07/23/98 08:42:11 rev 6/95



165DB:TT= 0 TMC= 1 C= 19.00 XC= 0.00 BS= 0/0282 TC= 1(7 325)
A= 728 pD= 1810 SR=17.450 RA50=286.10 DEC50=-23.54 cone=107.34 clock=103.02
117DB:#SB= 1 OR= 0.060 RR=12.000 BM=F RC= 1 BS= 0/0282
1:#s= 1 Cs= -36.00 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 1820 rD= 40

16JNJUPRTS01

TARGET G3.1 lisac: 7/ 2/1998 10:34:52

FILE:P.16JNJUPRTS01

CENTRAL BODY:JUPITER

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980518-tour.NS

PERIAPSIS:

START:JEE 98-202/00:18:08.066 -CDS 735:00:0

OBSERVATION:16JNJUPRTS01

THINNING:NIM 7

BODY PLOT TIME:TARGET-TIME D= 1810 S= 1.000

DESCRIP:Jupiter_Realtime_Observation

Jupiter Realtime Observation		ACTIVITY ID:	16JNJUPRTS01*
		START TIME:	98-201/11:48:54.066

Activity ID: Orbit 16 Target J Inst N OAPEL JUPRTS SeqNo 01 *

Title	Jupiter Realtime Observation			Instrument	NIMS
Requestor	NIMS-AWG/A. OCAMPO	Team	NIMS	Working Group	AWG

Time System	CDS	Load ID		Calendar Date	07/20/98 Week 29

Start	JEE-CDS 00000741:00:0	98-201/11:48:54.066	JEE-000/12:29:14.000
End	JEE-CDS 00000717:00:0	98-201/12:13:10.066	JEE-000/12:04:58.000
Duration	00000024:00:0	000/00:24:16.000	000/00:24:16.000

Top Label 16JNJUPRTS01*
Bottom Label

Plot Key	NIMS	Type	SCI		
CDS Bytes	0	Report Options	BOTH	Scan Platform	Yes
CDS Source	OAP	Spin State	DUAL	DMS	No

Observation Objective

Search for Jupiter atmospheric composition and thermal variations over time.

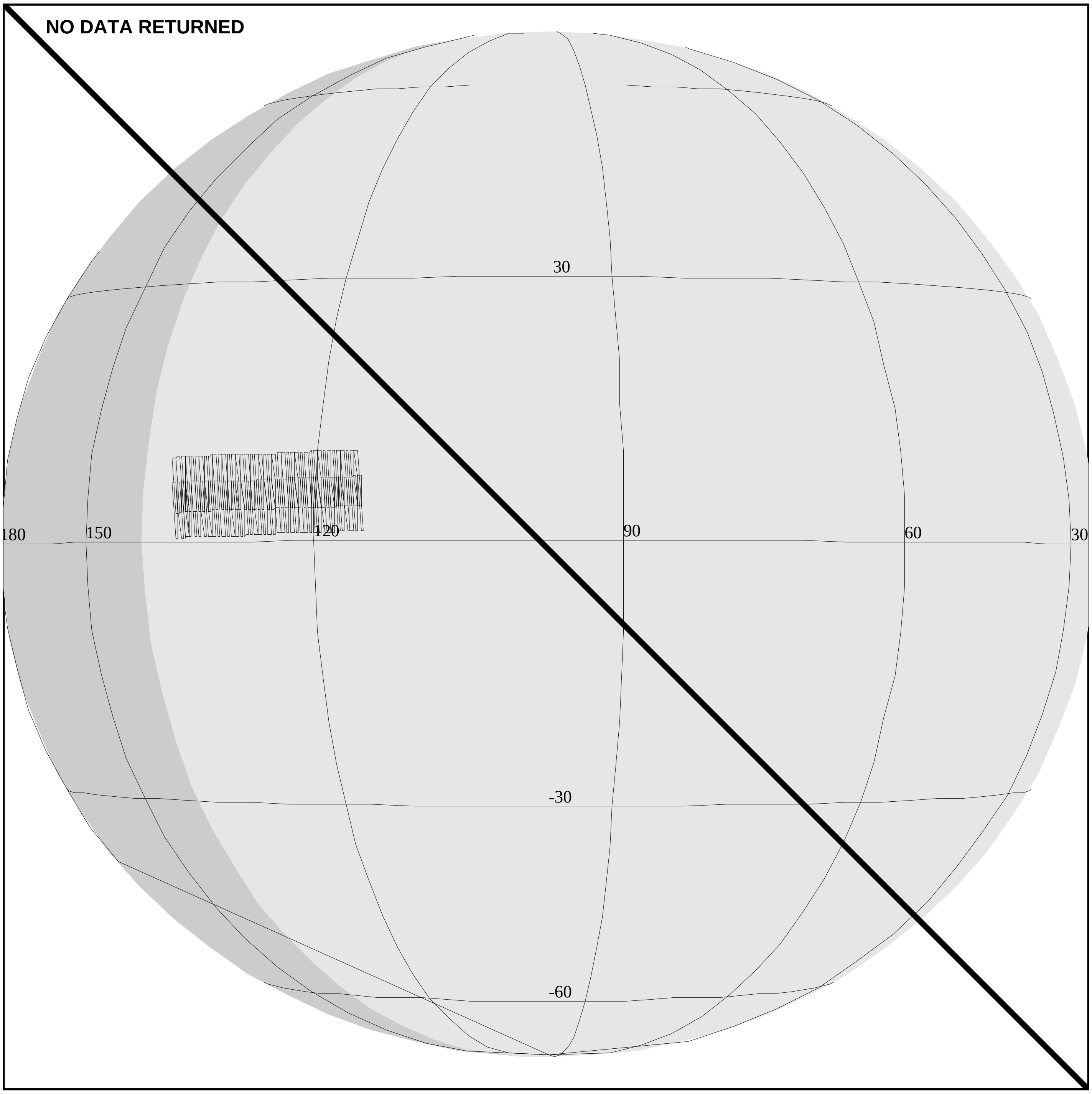
FREE_RTS = 0.16 mbits

Data Returned

Design Detail

Long map. One scan ten RIMS long.
Equator - Nyquist sampling not necessary.
Longitude - not dependent. No overlap in FOV.

Long Map (LM), Gain 2, Grating Start 0, R/T, E16JLM408



165DC:TT= 0 TMC= 1 C= 17.00 XC= 3.00 BS= 0/8512 TC= 1(5 125)
A= 728 pD= 4326 SR=17.450 RA50=307.08 DEC50=-19.34 cone=127.26 clock=104.24
117DC:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/8512
1:#s= 2 Cs= -21.20 XCs= 0.00 Cr= 34.00 XCr= -4.00 sD= 2134 rD= 24

16JNHOTMAP01

TARGET G3.1 lisac: 7/ 2/1998 10:34:52

FILE:P.16JNHOTMAP01

CENTRAL BODY:JUPITER

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980518-tour.NS

PERIAPSIS:

START:JEE 98-202/00:18:08.066 -CDS 470:00:0

OBSERVATION:16JNHOTMAP01

THINNING:NIM 2

BODY PLOT TIME:TARGET-TIME D= 4326 S= 1.000

DESCRIP:NIMS+Jupiter_HotMap

NIMS Jupiter HotMap	ACTIVITY ID: 16JNHOTMAP01-
	START TIME: 98-201/16:11:47.400

Activity ID: Orbit 16 Target J Inst N OAPEL HOTMAP SeqNo 01 -

Title	NIMS Jupiter HotMap			Instrument	NIMS
Requestor	NIMS-AWG/K. BAINES	Team	NIMS	Working Group	AWG

Time System	CDS	Load ID		Calendar Date	07/20/98	Week 29

Start	JEE-CDS 00000481:00:0	98-201/16:11:47.400	JEE-000/08:06:20.666
End	JEE-CDS 00000441:00:0	98-201/16:52:14.066	JEE-000/07:25:54.000
Duration	00000040:00:0	000/00:40:26.666	000/00:40:26.666

Top Label   16JNHOTMAP01-
Bottom Label

Plot Key	NIMS	Type	SCI		
CDS Bytes	150	Report Options	BOTH	Scan Platform	Yes
CDS Source	OAP	Spin State	DUAL	DMS	Yes

Observation Objective

Long mapping of hotspot region at high spatial resolution.
Observation uses special wavelength table JHT204A
(i.e., 80 wavelengths of thermal from 4.2 to 5.2 um
plus 124wavelengths sampling reflected sunlight).

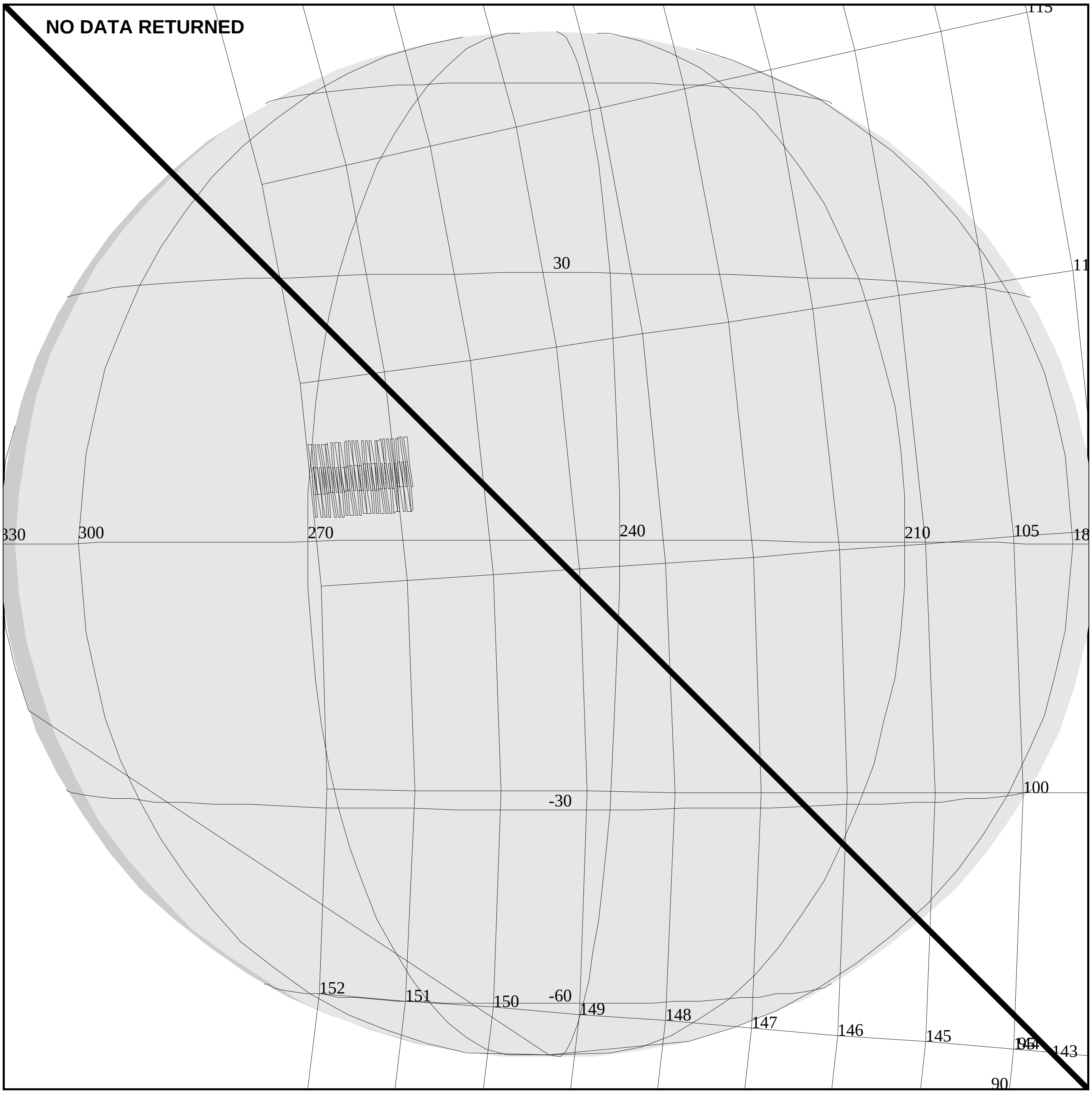
Format = LPU, Tics = 355, MBTG = 5.440

Processor Halted, No Data Returned

Design Detail

Long Map, Nyquist-sampled observation 5 X 1 (50 X 10 mrad) area centered
near 7 degrees North latitude, approximately 95 degrees West longitude,
covering about 26 degrees of longitude at about 325 km IFOV spatial resolution
Science scan lasts 200 * 8.666 = 1732 secs = 28:52 = 28:50 CDS
accumulating 5.44 MBTG in 170 colors (assuming 1.30 compression)
and using 405 tics. Four RIMS availble for targetting.
NIMS wavelength table used is GEM170.

Galileo Activity Plan Form   07/23/98 08:42:12   rev 6/95



165DD:TT= 0 TMC= 1 C= 9.00 XC= 2.50 BS= 0/0746 TC= 1(7 265)
A= 728 pD= 2356 SR=17.450 RA50=331.28 DEC50=-10.82 cone=151.99 clock=107.90
117DD:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/0746
1:#s= 2 Cs= -11.60 XCs= 0.00 Cr= 20.00 XCr= -4.00 sD= 1168 rD= 20

16JNHOTMAP02

TARGET G3.1 lisac: 7/ 2/1998 10:34:52

FILE:P.16JNHOTMAP02

CENTRAL BODY:JUPITER

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980518-tour.NS

PERIAPSIS:

START:JEE 98-202/00:18:08.066 -CDS 183:00:0

OBSERVATION:16JNHOTMAP02

THINNING:NIM 2

BODY PLOT TIME:TARGET-TIME D= 2356 S= 1.000

DESCRIP:NIMS+Jupiter_HotMap

NIMS Jupiter HotMap		ACTIVITY ID:	16JNHOTMAP02-
		START TIME:	98-201/21:02:59.400

Activity ID: Orbit 16 Target J Inst N OAPEL HOTMAP SeqNo 02 -

Title	NIMS Jupiter HotMap			Instrument	NIMS
Requestor	NIMS-AWG/K. BAINES	Team	NIMS	Working Group	AWG

Time System	CDS	Load ID		Calendar Date	07/20/98	Week	29

Start	JEE-CDS 00000193:00:0	98-201/21:02:59.400	JEE-000/03:15:08.666
End	JEE-CDS 00000167:00:0	98-201/21:29:16.733	JEE-000/02:48:51.333
Duration	00000026:00:0	000/00:26:17.333	000/00:26:17.333

Top Label	16JNHOTMAP02-
Bottom Label	

Plot Key	NIMS	Type	SCI		
CDS Bytes	150	Report Options	BOTH	Scan Platform	Yes
CDS Source	OAP	Spin State	DUAL	DMS	Yes

Observation Objective

Long mapping of hotspot region at high spatial resolution.
Observation uses special wavelength table JHT204A
(i.e., 80 wavelengths of thermal from 4.2 to 5.2 um
plus 124 wavelengths sampling reflected sunlight).

TICS= 355, FMT= LPU MBTG= 5.440

S/C SAFED, No Data Returned

Design Detail

Long Map, Nyquist-sampled observation 5 X 1 (50 mrad X 10 mrad) area
centered near 7 degrees North latitude, approximately 220 degrees
West longitude, covering about 23 degrees of longitude at about 294 km
IFOV spatial resolution.
Science scan lasts 200 * 8.666 = 1732 secs = 28:52 = 28:50 CDS
accumulating 5.44 Mbits in 170 colors
(assuming 1.30 compression) and using 406 tics.
Four RIMS available for targetting.
NIMS wavelength table used is GEM170.

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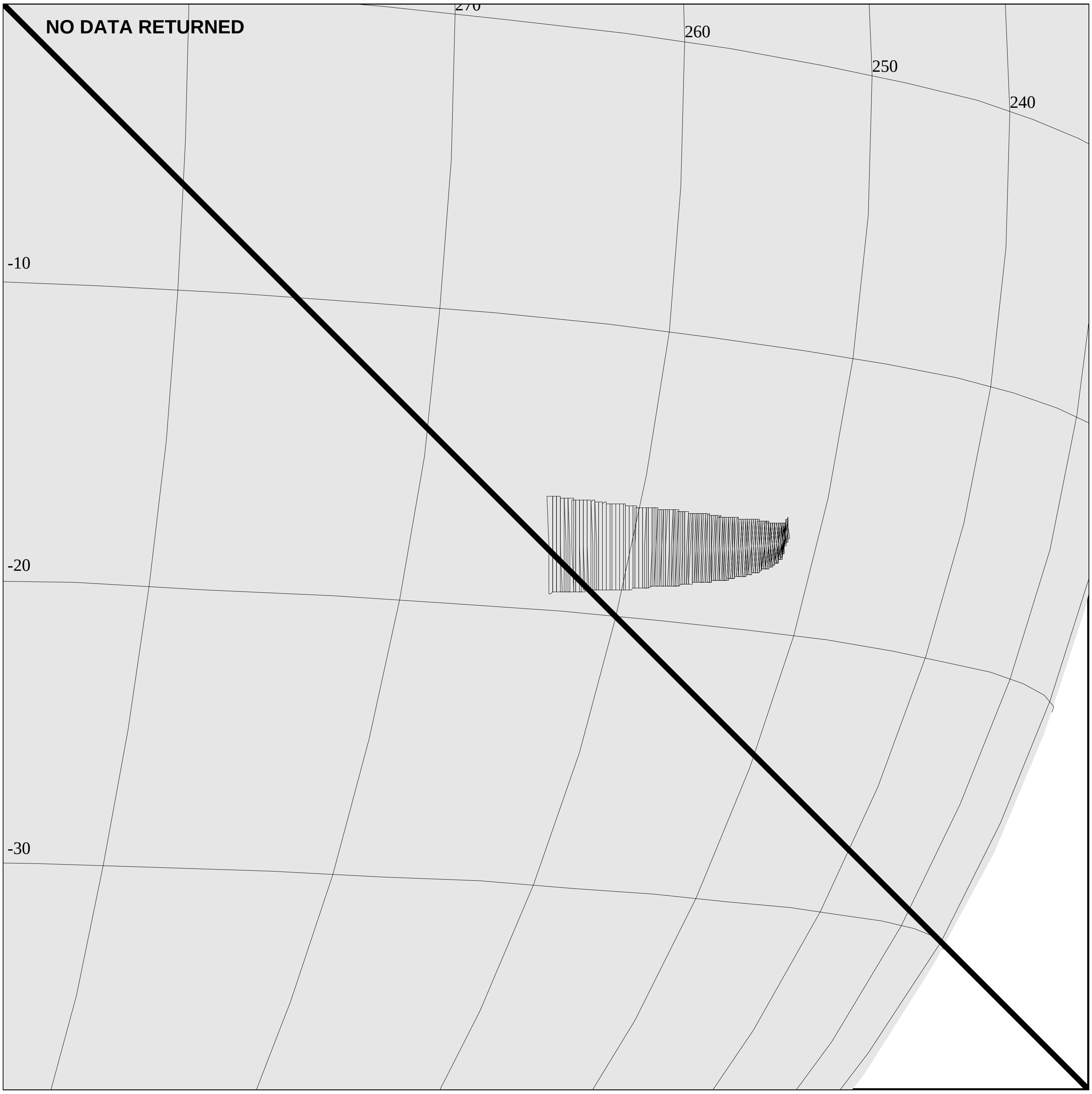

165DE:TT= 0 TMC= 1 C= 19.00 XC= 0.00 BS= 0/0826 TC= 1(-17 255)
A= 728 pD= 3994 SR=17.450 RA50=250.81 DEC50=-18.07 cone= 74.28 clock=107.53
117DE:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/0826
1:#s= 1 Cs= -39.82 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 3994 rD= 2

16ENSUCOMP01

TARGET G3.1 lisac: 7/ 2/1998 10:34:52

FILE:P.16ENSUCOMP01

TARGET BODY : EUROPA

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980518-tour.NS

PERIAPSIS:

START:EEE 98-202/05:04:16.733 -CDS 26:00:0

OBSERVATION:16ENSUCOMP01

THINNING:NIM 1

BODY PLOT TIME:TARGET-TIME D= 3994 S= 2.700

DESCRIP:Europa_Surface_Composition

Europa Surface Composition	ACTIVITY ID: 16ENSUCOMP01- START TIME: 98-202/04:32:56.067

Activity ID: Orbit 16 Target E Inst N OAPEL SUCOMP SeqNo 01 -

Title	Europa Surface Composition			Instrument	NIMS
Requestor	NIMS-SWG/A. OCAMPO	Team	NIMS	Working Group	SWG

Time System	CDS	Load ID		Calendar Date	07/21/98	Week	29

Start	EEE-CDS	00000031:00:0	98-202/04:32:56.067	EEE-000/00:31:20.666
End	EEE-CDS	00000004:00:0	98-202/05:00:14.067	EEE-000/00:04:02.666
Duration		00000027:00:0	000/00:27:18.000	000/00:27:18.000

Top Label	16ENSUCOMP01-
Bottom Label	

Plot Key	NIMS	Type	SCI		
CDS Bytes	150	Report Options	BOTH	Scan Platform	Yes
CDS Source	OAP	Spin State	DUAL	DMS	Yes

Observation Objective

Europa surface composition observation covering latitude at -41 degrees and West longitude at 188 degrees on Aegnor linea terrain.

TICS= 1004, FMT=MPW MBTG= 6.566, PPR_RA=0.189

S/C SAFED, No Data Returned

Design Detail

NIMS mode = LM Record mode = MPW Gain state = 2 Grating position = 0

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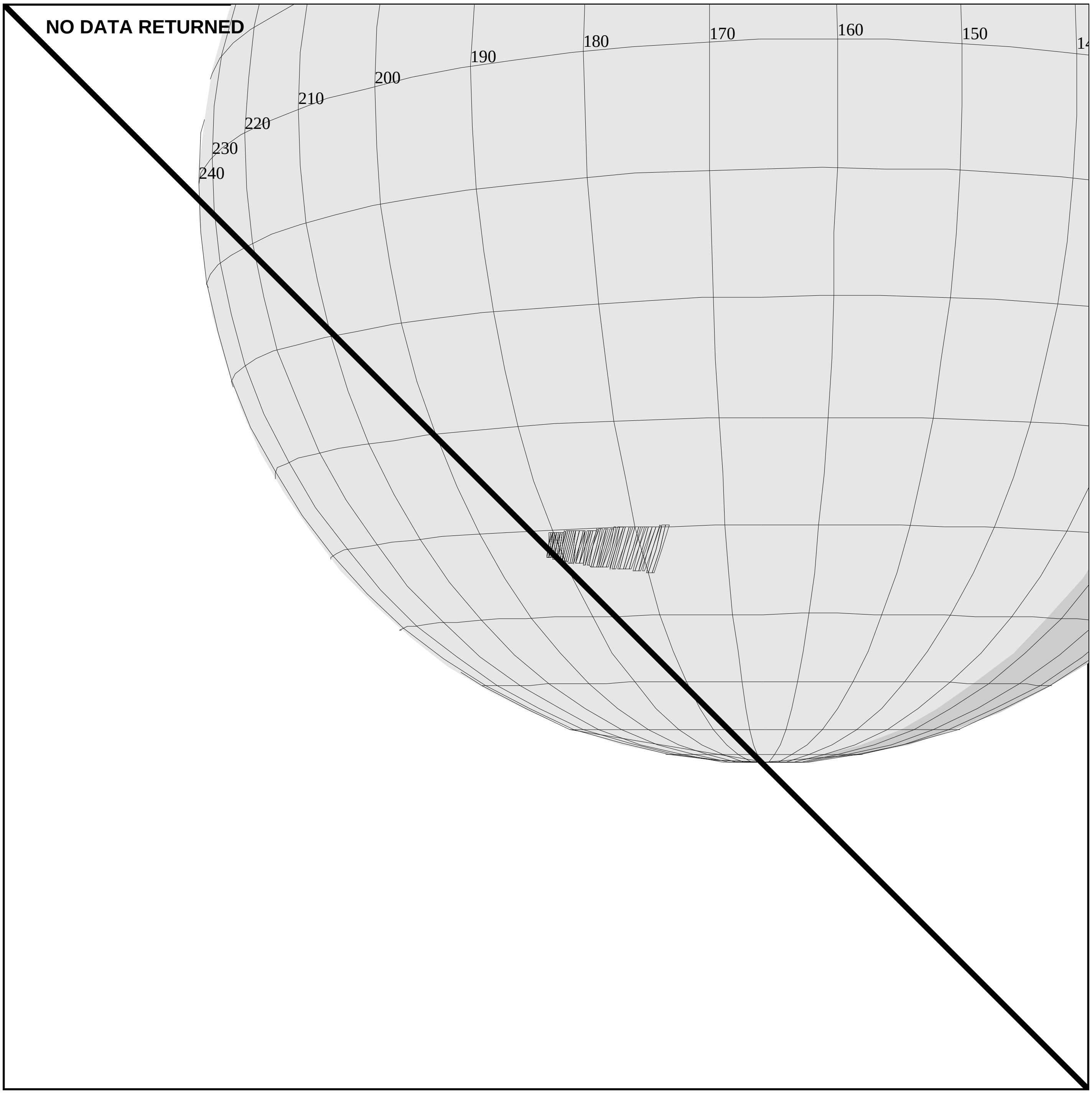


165DF:TT= 0 TMC= 1 C= -12.00 XC= 0.00 BS= 0/8106 TC= 1(-42 188)
A= 182 pD= 2720 SR=17.450 RA50= 32.66 DEC50= 19.67 cone=139.66 clock=272.54
117DF:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/8106
1:#s= 1 Cs= 27.10 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 2720 rD= 2

16ENSUCOMP02

TARGET G3.1 lisac: 7/ 2/1998 10:34:52

FILE:P.16ENSUCOMP02

TARGET BODY : EUROPA

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980518-tour.NS

PERIAPSIS:

START:EEE 98-202/05:04:16.733 +CDS 14:00:0

OBSERVATION:16ENSUCOMP02

THINNING:NIM 2

BODY PLOT TIME:TARGET-TIME D= 2720 S= 1.000

DESCRIP:Europa_Surface_Composition

Europa Surface Composition	ACTIVITY ID: 16ENSUCOMP02- START TIME: 98-202/05:14:23.399

Activity ID: Orbit 16 Target E Inst N OAPEL SUCOMP SeqNo 02 -

Title	Europa Surface Composition			Instrument	NIMS
Requestor	NIMS-SWG/A. OCAMPO	Team	NIMS	Working Group	SWG

Time System	CDS	Load ID		Calendar Date	07/21/98	Week 29

Start	EEE+CDS 00000010:00:0	98-202/05:14:23.399	EEE+000/00:10:06.666
End	EEE+CDS 00000029:00:0	98-202/05:33:36.066	EEE+000/00:29:19.333
Duration	00000019:00:0	000/00:19:12.667	000/00:19:12.667

Top Label	16ENSUCOMP02-
Bottom Label	

Plot Key	NIMS	Type	SCI		
CDS Bytes	150	Report Options	BOTH	Scan Platform	Yes
CDS Source	OAP	Spin State	DUAL	DMS	Yes

Observation Objective

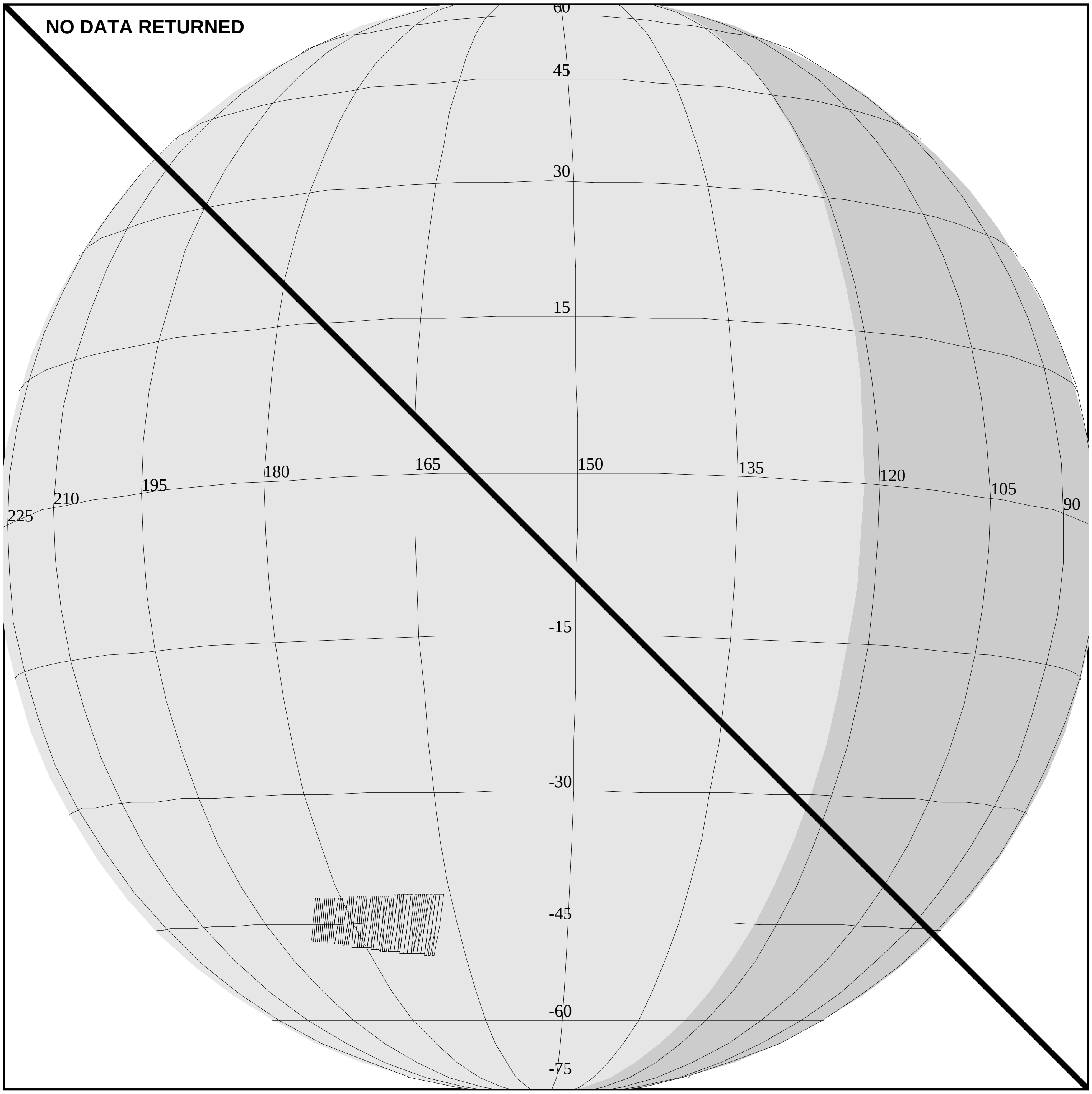
Europa surface composition observation covering latitude at -21 degrees and West longitude at 141 degrees on the Taliesin crater region.

S/C SAFED, No Data Returned

Design Detail

NIMS mode = LM Record mode FMT = MPW
Gain state = 2 Grating position = 0 Tics =794
MBTG = 5.554, PPR_RA=0.150

Galileo Activity Plan Form 07/23/98 08:42:12 rev 6/95



165DG:TT= 0 TMC= 1 C= -14.00 XC= 0.00 BS= 0/1018 TC= 1(-45 177)
A= 182 pD= 2356 SR=17.450 RA50= 46.07 DEC50= 20.78 cone=127.75 clock=278.39
117DG:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/1018
1:#s= 1 Cs= 23.50 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 2356 rD= 2

16ENSUCOMP03

TARGET G3.1 lisac: 7/ 2/1998 10:34:52

FILE:P.16ENSUCOMP03

TARGET BODY : EUROPA

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980518-tour.NS

PERIAPSIS:

START:EEE 98-202/05:04:16.733 +CDS 30:00:0

OBSERVATION:16ENSUCOMP03

THINNING:NIM 2

BODY PLOT TIME:TARGET-TIME D= 2356 S= 1.000

DESCRIP:Europa_Surface_Composition_03

Europa Surface Composition	ACTIVITY ID: 16ENSUCOMP03-
	START TIME: 98-202/05:33:36.066

Activity ID: Orbit 16 Target E Inst N OAPEL SUCOMP SeqNo 03 -

Title	Europa Surface Composition			Instrument	NIMS
Requestor	NIMS-SWG/A. OCAMPO	Team	NIMS	Working Group	SWG

Time System	CDS	Load ID		Calendar Date	07/21/98	Week	29

Start	EEE+CDS 00000029:00:0	98-202/05:33:36.066	EEE+000/00:29:19.333
End	EEE+CDS 00000045:00:0	98-202/05:49:46.733	EEE+000/00:45:30.000
Duration	00000016:00:0	000/00:16:10.667	000/00:16:10.667

Top Label 16ENSUCOMP03-
Bottom Label

Plot Key	NIMS	Type	SCI		
CDS Bytes	150	Report Options	BOTH	Scan Platform	Yes
CDS Source	OAP	Spin State	DUAL	DMS	Yes

Observation Objective

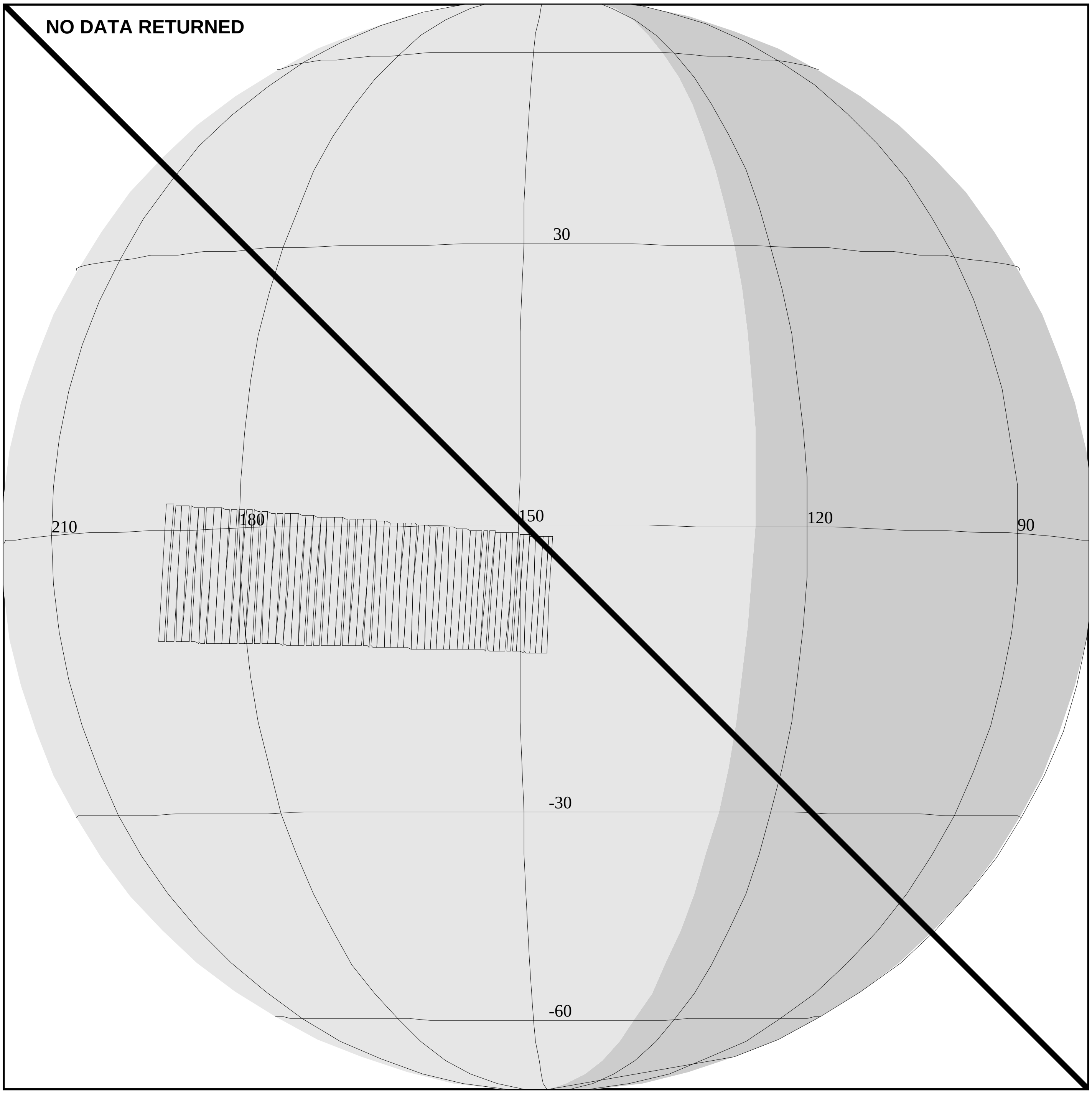
Europa surface composition observation covering latitude at -43 degrees and West longitude at 175 degrees on the northern portion of the Thrace Macula region.

S/C SAFED, No Data Returned

Design Detail

NIMS mode = LM Record mode FMT = MPW
Gain state = 2 Grating position = 0 Tics = 899
MBTG = 6.295, PPR_RA=0.169

Galileo Activity Plan Form 07/23/98 08:42:12 rev 6/95



165DH:TT= 0 TMC= 1 C= 0.00 XC= 0.00 BS= 0/1392 TC= 1(-7 147)
A= 728 pD= 2902 SR=17.450 RA50= 52.72 DEC50= 22.71 cone=121.28 clock=278.60
117DH:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/1392
1:#s= 1 Cs= -28.90 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 2902 rD= 2

16ENSUCOMP04

TARGET G3.1 lisac: 7/ 2/1998 10:34:52

FILE:P.16ENSUCOMP04

TARGET BODY : EUROPA

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980518-tour.NS

PERIAPSIS:

THINNING:NIM 2

START:EEE 98-202/05:04:16.733 +CDS 87:00:0

BODY PLOT TIME:TARGET-TIME D= 2902 S= 1.000

OBSERVATION:16ENSUCOMP04

DESCRIP:Europa_Surface_Composition_04

Europa Surface Composition		ACTIVITY ID:	16ENSUCOMP04-
		START TIME:	98-202/06:26:10.733

Activity ID: Orbit 16 Target E Inst N OAPEL SUCOMP SeqNo 04 -

Title	Europa Surface Composition			Instrument	NIMS
Requestor	NIMS-SWG/A. OCAMPO	Team	NIMS	Working Group	SWG

Time System	CDS	Load ID		Calendar Date	07/21/98	Week	29

Start	EEE+CDS 00000081:00:0	98-202/06:26:10.733	EEE+000/01:21:54.000
End	EEE+CDS 00000104:00:0	98-202/06:49:26.066	EEE+000/01:45:09.333
Duration	00000023:00:0	000/00:23:15.333	000/00:23:15.333

Top Label	16ENSUCOMP04-
Bottom Label	

Plot Key	NIMS	Type	SCI		
CDS Bytes	150	Report Options	BOTH	Scan Platform	Yes
CDS Source	OAP	Spin State	DUAL	DMS	Yes

Observation Objective

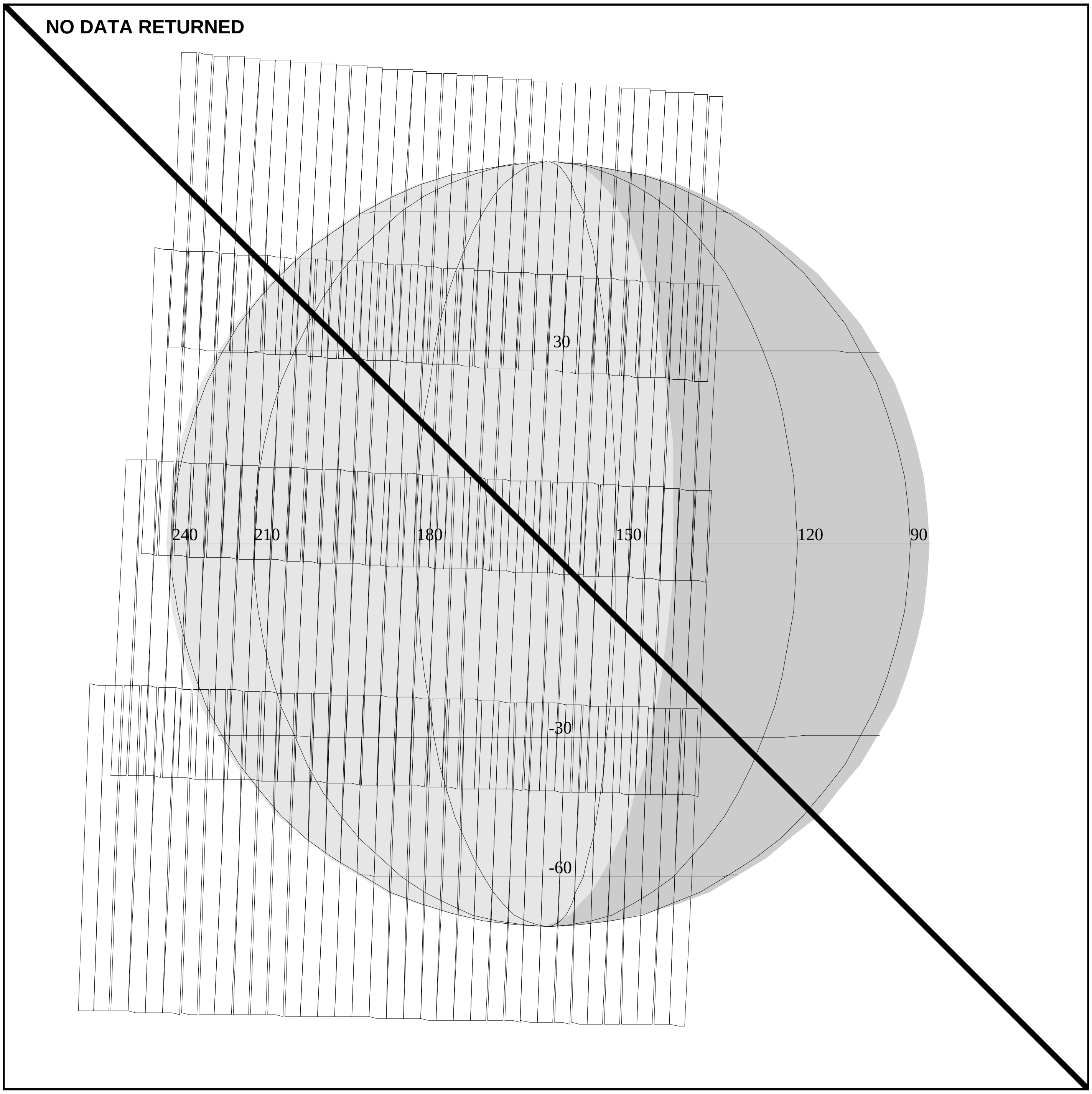
Europa surface composition observation covering latitude at -7 degrees West longitude at 196 degrees on the Wedge terrain.

S/C SAFED, No Data Returned

Design Detail

NIMS mode = LM Record mode FMT = LPU
Gain state = 2 Grating position = 0 Tics = 269
MBTG = 4.159, PPR_RA=0.189

Galileo Activity Plan Form   07/23/98 08:42:12   rev 6/95



165DI:TT= 0 TMC= 1 C= 5.20 XC= -11.00 BS= 0/0886 TC= 3
A= 728 pD= 7452 SR=17.450 RA50= 55.13 DEC50= 22.21 cone=119.30 clock=279.91
117DI:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/0886
1:#s= 4 Cs= -18.40 XCs= 0.00 Cr= 18.30 XCr= 7.00 sD= 1848 rD= 20

16ENGLOBAL01

TARGET G3.1 lisac: 7/ 2/1998 10:34:52

FILE:P.16ENGLOBAL01

TARGET BODY : EUROPA

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980518-tour.NS

PERIAPSIS:

START:EEE 98-202/05:04:16.733 +CDS 304:00:0

OBSERVATION:16ENGLOBAL01

THINNING:NIM 2

BODY PLOT TIME:TARGET-TIME D= 7452 S= 0.700

DESCRIP:Europa_Global_Observation

Europa Global Observation		ACTIVITY ID:	16ENGLOBAL01-
		START TIME:	98-202/10:07:36.733

Activity ID: Orbit 16 Target E Inst N OAPEL GLOBAL SeqNo 01 -

Title	Europa Global Observation			Instrument	NIMS
Requestor	NIMS-SWG/A. OCAMPO	Team	NIMS	Working Group	SWG

Time System	CDS	Load ID		Calendar Date	07/21/98	Week	29

Start	EEE+CDS 00000300:00:0	98-202/10:07:36.733	EEE+000/05:03:20.000
End	EEE+CDS 00000356:00:0	98-202/11:04:14.066	EEE+000/05:59:57.333
Duration	00000056:00:0	000/00:56:37.333	000/00:56:37.333

Top Label	16ENGLOBAL01-
Bottom Label	

Plot Key	NIMS	Type	SCI		
CDS Bytes	150	Report Options	BOTH	Scan Platform	Yes
CDS Source	OAP	Spin State	DUAL	DMS	Yes

Observation Objective

Europa Global mosaic covering West longitude 236-128 degrees.
Resolution = 71 km/pixel.
This observation is one in a set, designed to provide 360 degrees of longitudinal coverage.

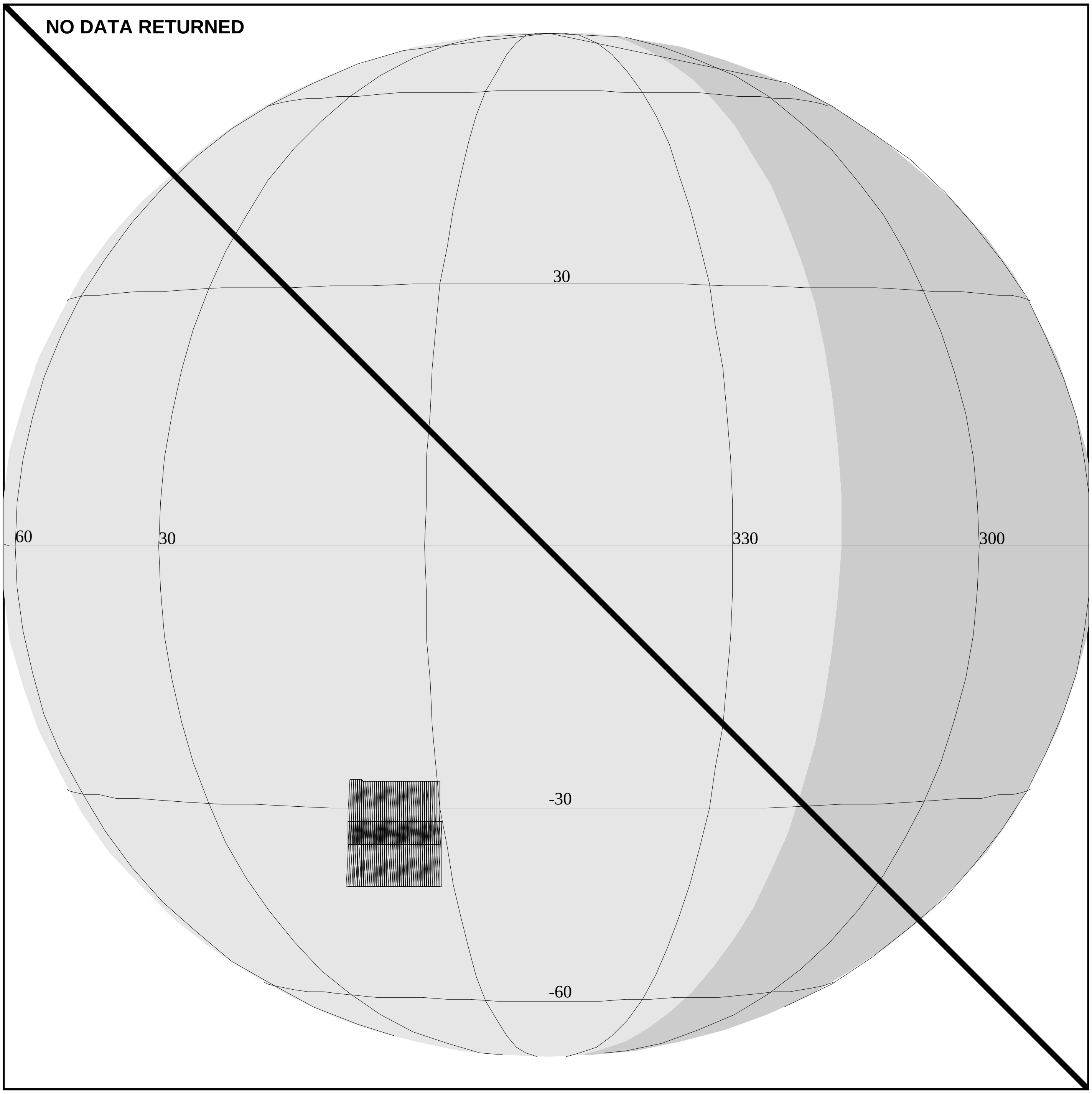
TICS=494 , FMT=LPU, MBTG=8.974, PPR_RA=0.409

S/C SAFED, No Data Returned

Design Detail

NIMS mode = LM.
Record mode = LPU.
Number of swaths = 4.
Polar swath is at Gain state 3.
Equatorial swath is at Gain state 2.
Grating position = 0.

Galileo Activity Plan Form   07/23/98 08:42:12   rev 6/95



165EA:TT= 0 TMC= 1 C= 7.00 XC= -3.00 BS= 0/2180 TC= 1(-33 6)
A= 728 pD= 5086 SR=17.450 RA50= 46.23 DEC50= 16.76 cone=128.90 clock=283.30
117EA:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/2180
1:#s= 2 Cs= -25.20 XCs= 0.00 Cr= 14.00 XCr= 6.50 sD= 2530 rD= 24

16JNWHTOVL01

TARGET G3.1 lisac: 7/ 2/1998 10:34:52

FILE:P.16JNWHTOVL01

CENTRAL BODY:JUPITER

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980518-tour.NS

PERIAPSIS: **THINNING:NIM 2**

START:JEE 98-202/00:18:08.066 +CDS 704:00:0 **BODY PLOT TIME:TARGET-TIME D= 5086 S= 1.000**

OBSERVATION:16JNWHTOVL01 **DESCRIP:NIMS_MERGING_WHITE_OVAL**

Jupiter White Oval Observation	ACTIVITY ID: 16JNWHTOVL01- START TIME: 98-202/11:57:49.399

Activity ID: Orbit 16 Target J Inst N OAPEL WHTOVL SeqNo 01 -

Title	Jupiter White Oval Observation			Instrument	NIMS
Requestor	NIMS-SWG/M. SEGURA	Team	NIMS	Working Group	SWG

Time System	CDS	Load ID		Calendar Date	07/21/98	Week	29

Start	JEE+CDS 00000692:00:0	98-202/11:57:49.399	JEE+000/11:39:41.333
End	JEE+CDS 00000732:00:0	98-202/12:38:16.066	JEE+000/12:20:08.000
Duration	00000040:00:0	000/00:40:26.667	000/00:40:26.667

Top Label	16JNWHTOVL01-
Bottom Label	

Plot Key	NIMS	Type	SCI		
CDS Bytes	0	Report Options	BOTH	Scan Platform	Yes
CDS Source	OAP	Spin State	DUAL	DMS	Yes

Observation Objective

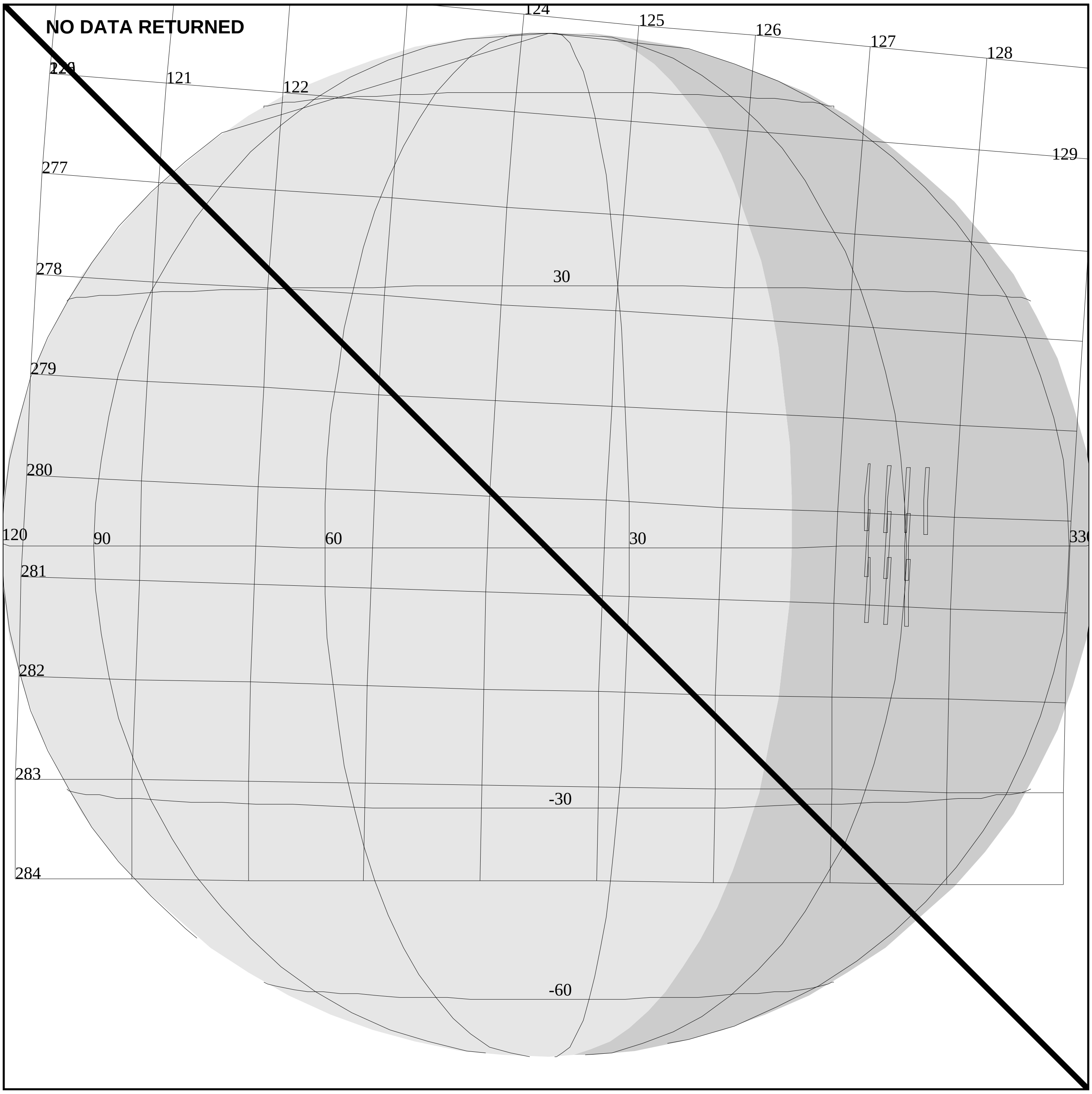
To observe the newly created white oval, which was formed in the Spring of 1998, from the merging of two white ovals previously named BC and DE.

S/C SAFED, No Data Returned

Design Detail

LM mode, gain state 2, Recformat LPU

Galileo Activity Plan Form   07/23/98 08:42:13   rev 6/95



165DJ:TT= 0 TMC= 1 C= 3.00 XC= -7.00 BS= 0/8560 TC= 1(0 0)
A= 728 pD= 1810 SR=17.450 RA50= 46.48 DEC50= 19.69 cone=127.76 clock=279.85
117DJ:#SB= 1 OR= 0.060 RR=12.000 BM=F RC= 1 BS= 0/8560
1:#s= 3 Cs= -11.50 XCs= 0.00 Cr= 8.50 XCr= 7.00 sD= 580 rD= 34

16JNJUPRTS02

TARGET G3.1 lisac: 7/ 2/1998 10:34:52

FILE:P.16JNJUPRTS02

CENTRAL BODY:JUPITER

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980518-tour.NS

PERIAPSIS:

START:JEE 98-202/00:18:08.066 +CDS 794:00:0

OBSERVATION:16JNJUPRTS02

THINNING:NIM 7

BODY PLOT TIME:TARGET-TIME D= 1810 S= 1.000

DESCRIP:Jupiter_Realtime_Observation_02

Jupiter Realtime Observation		ACTIVITY ID:	16JNJUPRTS02*
		START TIME:	98-202/13:28:49.399

Activity ID: Orbit 16 Target J Inst N OAPEL JUPRTS SeqNo 02 *

Title	Jupiter Realtime Observation			Instrument	NIMS
Requestor	NIMS-AWG/A. OCAMPO	Team	NIMS	Working Group	AWG

Time System	CDS	Load ID		Calendar Date 07/21/98	Week 29

Start	JEE+CDS 00000782:00:0	98-202/13:28:49.399	JEE+000/13:10:41.333
End	JEE+CDS 00000804:00:0	98-202/13:51:04.066	JEE+000/13:32:56.000
Duration	00000022:00:0	000/00:22:14.667	000/00:22:14.667

Top Label	16JNJUPRTS02*
Bottom Label	

Plot Key	NIMS	Type	SCI		
CDS Bytes	0	Report Options	BOTH	Scan Platform	Yes
CDS Source	OAP	Spin State	DUAL	DMS	No

Observation Objective

Search for Jupiter atmospheric composition and thermal variations over time.

FREE_RTS=0.16 mbits

S/C SAFED, No Data Returned

Design Detail

Long map. Three scans, each three RIMS long.
Target to 35 degrees North latitude for first scan.
No scan overlap; Nyquist sampling not necessary - lit surface only.
Not longitudinal dependent. No overlap in FOV.
NIMS R/T only returns every seventh FOV.

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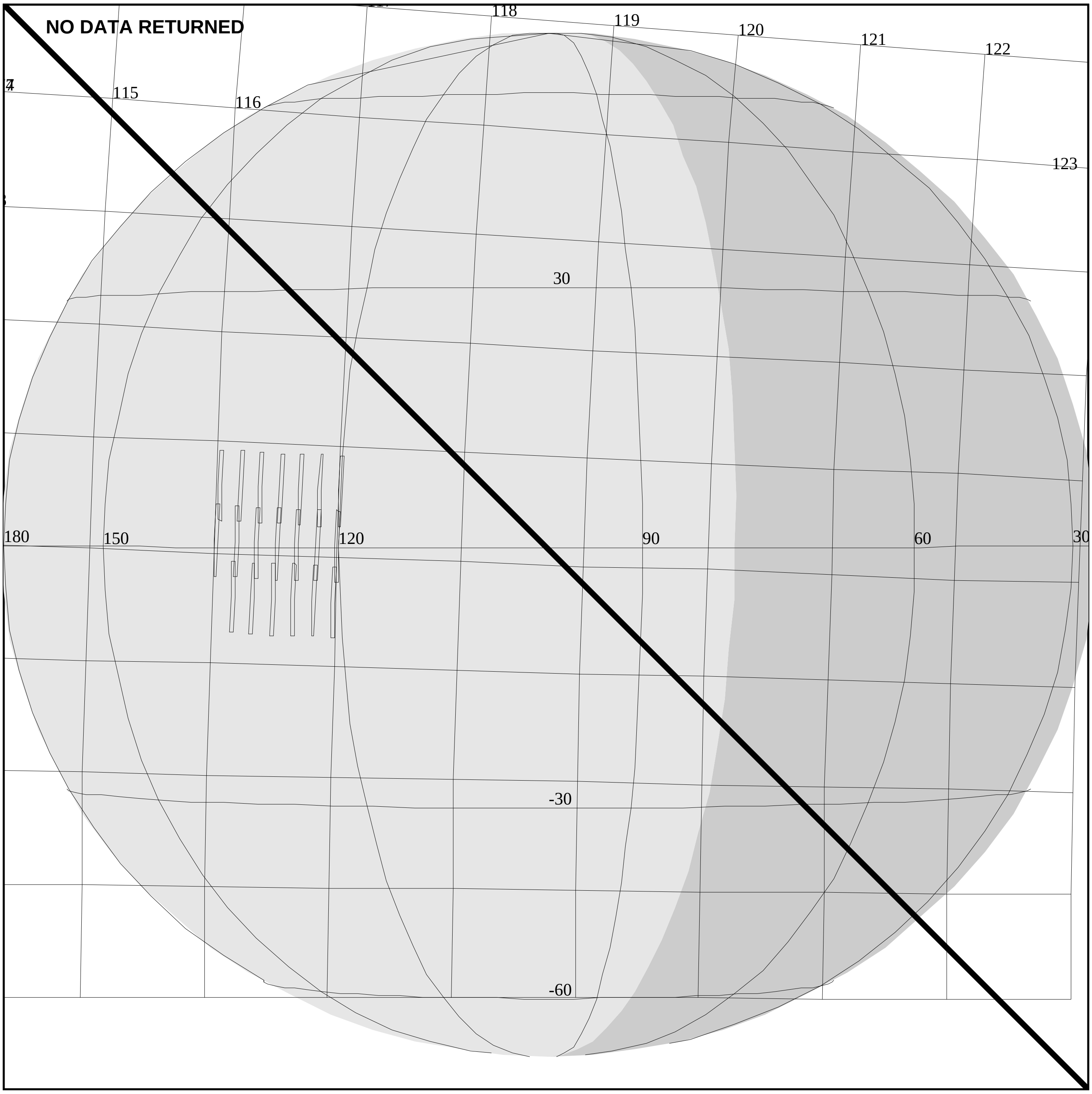


165DK:TT= 0 TMC= 1 C= 0.00 XC= -8.00 BS= 0/8580 TC= 1(0 120)
A= 728 pD= 3630 SR=17.450 RA50= 57.63 DEC50= 22.40 cone=117.02 clock=280.41
117DK:#SB= 1 OR= 0.060 RR=12.000 BM=F RC= 1 BS= 0/8580
1:#s= 3 Cs= -23.80 XCs= 0.00 Cr= 19.00 XCr= 8.00 sD= 1194 rD= 20

16JNJUPRTS03

TARGET G3.1 lisac: 7/ 2/1998 10:34:52

FILE:P.16JNJUPRTS03

CENTRAL BODY:JUPITER

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980518-tour.NS

PERIAPSIS:

START:JEE 98-202/00:18:08.066 +CDS 904:00:0

OBSERVATION:16JNJUPRTS03

THINNING:NIM 7

BODY PLOT TIME:TARGET-TIME D= 3630 S= 1.000

DESCRIP:Jupiter_Realtime_Observation_03

Jupiter Realtime Observation	ACTIVITY ID: 16JNJUPRTS03* START TIME: 98-202/15:24:05.399

Activity ID: Orbit 16 Target J Inst N OAPEL JUPRTS SeqNo 03 *

Title	Jupiter Realtime Observation			Instrument	NIMS
Requestor	NIMS-AWG/A. OCAMPO	Team	NIMS	Working Group	AWG

Time System	CDS	Load ID		Calendar Date	07/21/98	Week	29

Start	JEE+CDS 00000896:00:0	98-202/15:24:05.399	JEE+000/15:05:57.333
End	JEE+CDS 00000924:00:0	98-202/15:52:24.066	JEE+000/15:34:16.000
Duration	00000028:00:0	000/00:28:18.667	000/00:28:18.667

Top Label	16JNJUPRTS03*
Bottom Label	

Plot Key	NIMS	Type	SCI		
CDS Bytes	0	Report Options	BOTH	Scan Platform	Yes
CDS Source	OAP	Spin State	DUAL	DMS	No

Observation Objective

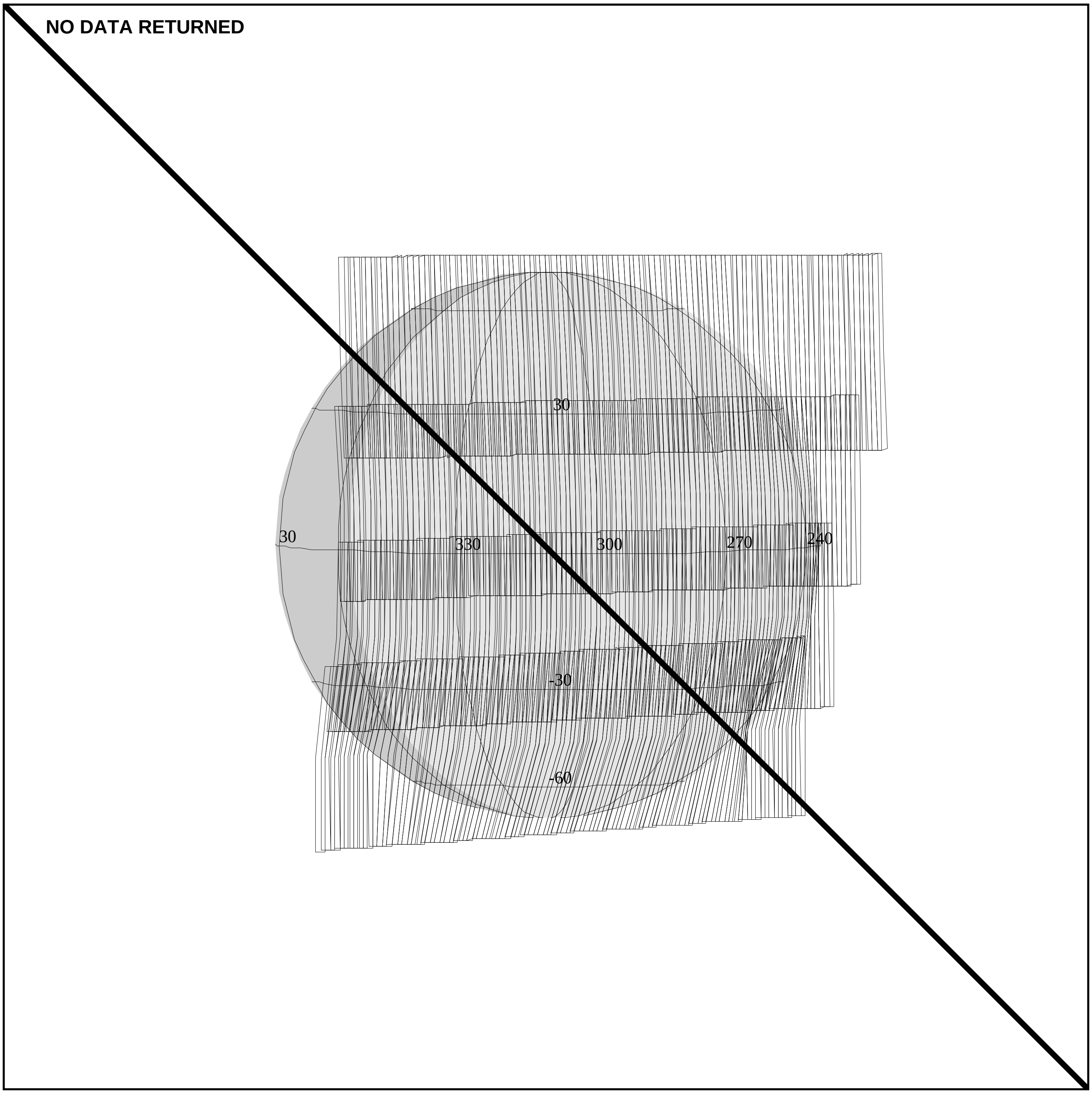
Search for Jupiter atmospheric composition and thermal variations over time.

FREE_RTS=0.16 mbits

S/C SAFED, No Data Returned

Design Detail

Long map. One scan ten RIMS long.
Equator - Nyquist sampling not necessary.
Longiutde - not dependent. No overlap in FOV.



165DL:TT= 0 TMC= 1 C= 10.00 XC= 9.50 BS= 0/1502 TC= 3
A= 728 pD= 10910 SR=17.450 RA50=307.20 DEC50=-21.89 cone=126.78 clock=101.10
117DL:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/1502
1:#s= 4 Cs= -27.00 XCs= 0.00 Cr= 28.00 XCr= -7.20 sD= 2706 rD= 20

16GNGLOBAL01

TARGET G3.1 lisac: 7/ 2/1998 10:34:52

FILE:P.16GNGLOBAL01

TARGET BODY : GANYMEDE

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980518-tour.NS

PERIAPSIS:

START:GEE 98-202/20:06:11.400 -CDS 200:00:0

OBSERVATION:16GNGLOBAL01

THINNING:NIM 1

BODY PLOT TIME:TARGET-TIME D=10910 S= 0.500

DESCRIP:GANYMEDE_GLOBAL_MAP

Ganymede Global Map		ACTIVITY ID:	16GNGLOBAL01*
		START TIME:	98-202/16:35:52.734

Activity ID: Orbit 16 Target G Inst N OAPEL GLOBAL SeqNo 01 *

Title	Ganymede Global Map			Instrument	NIMS
Requestor	NIMS-SWG/J. HUI	Team	NIMS	Working Group	SWG

Time System	CDS	Load ID		Calendar Date	07/21/98	Week	29

Start	GEE-CDS 00000208:00:0	98-202/16:35:52.734	GEE-000/03:30:18.666
End	GEE-CDS 00000140:00:0	98-202/17:44:38.067	GEE-000/02:21:33.333
Duration	00000068:00:0	000/01:08:45.333	000/01:08:45.333

Top Label	16GNGLOBAL01-
Bottom Label	

Plot Key	NIMS	Type	SCI		
CDS Bytes	150	Report Options	BOTH	Scan Platform	Yes
CDS Source	OAP	Spin State	DUAL	DMS	Yes

Observation Objective

Format = LPU, Tics = 228, MBTG = 5.107
To study composition of Ganymede’s surface in a global context.
Recover missing longitude coverage from the pime mission.

S/C SAFED, No Data Returned

Design Detail

Allow 4 RIMS for target Use CSMOS to cover the entire lit disk
at 0.03 mrad/sec (4 strips).
NIMS in LM mode. Gain State = 3. Chopper = Reference.
Record Mode = LPU.
Playback all recorded wavelengths

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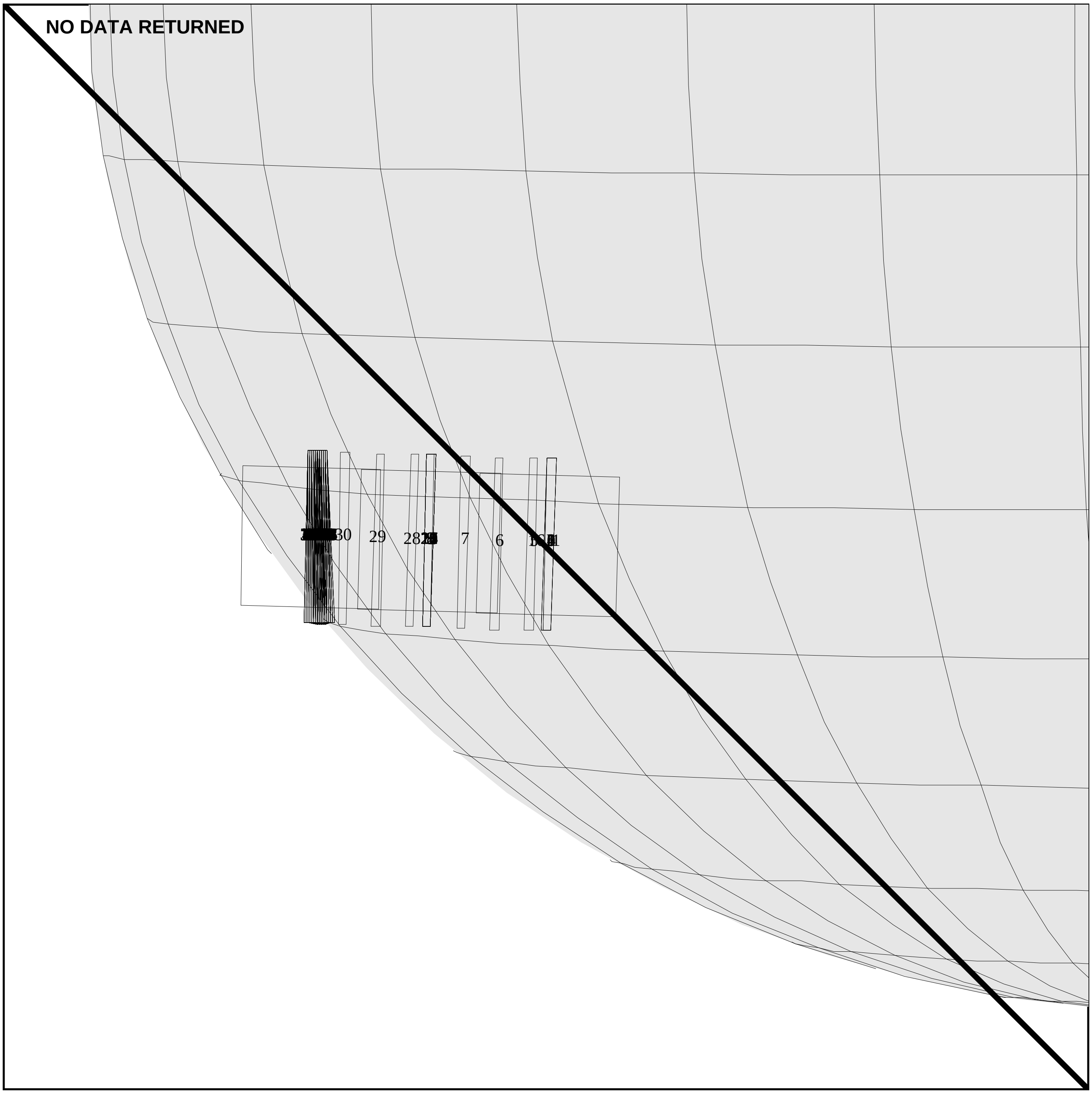

165IL:TT= 0 TMC= 1 C= 7.00 XC= 0.00 BS= 0/7376 TC= 1(-33 6)
A= 728 pD= 138 SR=17.450 RA50= 75.04 DEC50= 22.52 cone=101.21 clock=283.53
118IL:#SB= 1 Cs= -7.00 XCs= 0.00 TPP= 46 SR= 3.000 RR= 3.000 BM=T RC= 1 BS= 3/7376
1:#s= 3 #p= 1 Cr= 0.00 XCr= 0.00

16JNJUPWHT01

DESIGN G3.2 lisac: 7/ 8/1998 11: 3:10

FILE:P.16JSWTOVAL01

CENTRAL BODY:JUPITER III

MINI:m.16JSWTOVAL01

S/C EPH:/DATA/NAVIO/T-980518-tour.NS

PERIAPSIS:

START:JEE 98-202/00:18:08.066 +CDS 1282:00:0

OBSERVATION:16JSWTOVAL01

THINNING:NIM 2

BODY PLOT TIME:TARGET-TIME D= 138 S= 2.000

DESCRIP:1x3_Jupiter_White_Oval_part_1

Jupiter White Oval Window		ACTIVITY ID:	16JNJUPWHT01-
		START TIME:	98-202/20:27:25.399

Activity ID: Orbit 16 Target J Inst N OAPEL JUPWHT SeqNo 01 -

Title	Jupiter White Oval Window			Instrument	NIMS
Requestor	NIMS-SWG/M. SEGURA	Team	NIMS	Working Group	SWG

Time System CDS Load ID Calendar Date 07/21/98 Week 29

Start	JEE+CDS 00001196:00:0	98-202/20:27:25.399	JEE+000/20:09:17.333
End	JEE+CDS 00001697:00:0	98-203/04:53:59.399	JEE+001/04:35:51.333
Duration	00000501:00:0	000/08:26:34.000	000/08:26:34.000

Top Label 16JNJUPWHT01-
Bottom Label

Plot Key	NIMS	Type	SCI		
CDS Bytes	0	Report Options	BOTH	Scan Platform	No
CDS Source	OAP	Spin State	ALL	DMS	No

Observation Objective

To observe the newly created white oval, which was formed in the Spring of 1998, from the merging of two white ovals previously named BC and DE. Ride-along observation with SSI. Full NIMS spectra collected at center of each SSI frame over a 2 hour period.

S/C SAFED, No Data Returned

Design Detail

LM, REC = MPW (SSI ride-along format)
Gain state = 2

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NIMS Chopper off		ACTIVITY ID:	16NNCHOPOF01-
		START TIME:	98-203/08:21:16.066

Activity ID: Orbit 16 Target N Inst N OAPEL CHOPOF SeqNo 01 -

Title	NIMS Chopper off			Instrument	NIMS
Requestor	NIMS-SWG/M. SEGURA	Team	NIMS	Working Group	SWG

Time System	CDS	Load ID	Calendar Date	07/22/98	Week	29

Start	JEE+CDS 00001902:00:0	98-203/08:21:16.066	JEE+001/08:03:08.000
End	JEE+CDS 00001912:00:0	98-203/08:31:22.732	JEE+001/08:13:14.666
Duration	00000010:00:0	000/00:10:06.666	000/00:10:06.666

Top Label	16NNCHOPOF01-
Bottom Label	

Plot Key	NIMS	Type	SCI		
CDS Bytes	0	Report Options	BOTH	Scan Platform	No
CDS Source	OAP	Spin State	DUAL	DMS	No

Observation Objective

NIMS Chopper off

S/C SAFED, Not executed.

Design Detail

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NIMS Dark Calibration		ACTIVITY ID:	16HNDARKCL01-
		START TIME:	98-211/13:39:50.000

Activity ID: Orbit 16 Target H Inst N OAPEL DARKCL SeqNo 01 -

Title	NIMS Dark Calibration			Instrument	NIMS
Requestor	NIMS-SWG/M. SEGURA	Team	NIMS	Working Group	SWG

Time System	CDS	Load ID		Calendar Date 07/30/98	Week 30

Start	98-211/13:39:50.000
End	98-211/14:00:00.000
Duration	000/00:20:10.000

Top Label	16HNDARKCL01-
Bottom Label	

Plot Key	NIMS	Type	SCI		
CDS Bytes	0	Report Options	BOTH	Scan Platform	No
CDS Source	OAP	Spin State	DUAL	DMS	No

Observation Objective

NIMS Dark Calibration

Take 2 Rims of Dark data for each of the 4 gain states.
Dark data taken in a low noise environment.

Data Returned

Design Detail

2 Rims Gain State 2 : 16HNDARKCL02
2 Rims Gain State 4 : 16HNDARKCL04
2 Rims Gain State 3 : 16HNDARKCL03
2 Rims Gain State 1 : 16HNDARKCL01

Long Map (LM), Gain 1,2,3,4 Grating Start 0, MPW, E14HN442, E16HN408

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NIMS Chopper off	ACTIVITY ID: 16NNCHOPOF02- START TIME: 98-211/14:01:26.066

Activity ID: Orbit 16 Target N Inst N OAPEL CHOPOF SeqNo 02 -

Title	NIMS Chopper off			Instrument	NIMS
Requestor	NIMS-SWG/M. SEGURA	Team	NIMS	Working Group	SWG

Time System CDS Load ID Calendar Date 07/30/98 Week 30

Start	98-211/14:01:26.066
End	98-203/14:11:32.732
Duration	000/00:10:06.666

Top Label 16NNCHOPOF02-
Bottom Label

Plot Key	NIMS	Type	SCI		
CDS Bytes	0	Report Options	BOTH	Scan Platform	No
CDS Source	OAP	Spin State	DUAL	DMS	No

Observation Objective

NIMS Chopper off

Design Detail

Galileo Activity Plan Form 07/23/98 08:42:13 rev 6/95

NIMS RCT Real Time Calibration — ACTIVITY ID: 16NNRCTRLT01- — START TIME: 98-243/21:00:32.666

Activity ID: Orbit 16 Target N Inst N OAPEL RCTRLT SeqNo 01 -

Title	NIMS RCT Real Time Calibration	Instrument	NIMS
Requestor	NIMS-AWG/K. BAINES	Team NIMS Working Group	AWG

Time System	CDS	Load ID		Calendar Date 08/31/98	Week 35

Start	RTA+CDS 0:00:0	98-243/21:00:32.666	RTA+000/00:00:00.000
End	RTA+CDS 00000787:00:0	98-244/10:16:17.332	RTA+000/13:15:44.666
Duration	00000787:00:0	000/13:15:44.666	000/13:15:44.666

Top Label 16NNRCTRLT01-
Bottom Label

Plot Key	NIMS	Type	SCI		
CDS Bytes	450	Report Options	BOTH	Scan Platform	Yes
CDS Source	OAP	Spin State	DUAL	DMS	No

Observation Objective

This observation is a NIMS radiometric calibration using the RCT target. The data will be used to calibrate the NIMS thermal detectors. The calibration data will be returned using Real-Time Telemetry. An OPCAL is also performed.

Design Detail

1) Turn on RCT Heaters for 12 hours.
2) Set Engineering Variable Map to return NIMS Temps more frequently.
3) Set NIMS to Long Map Mode, Gain state 1, Chopper Reference, Mirror Blocking (11011,11011), ETB=RCT252.
4) Pause playback before using scan platform.
5) Slew to Dark (cone = 119.7), return 1 grating cycle (12 mf) in R/T
6) Slew to RCT (cone = 0.0), return 2 grating cycles (12 mf) in R/T
7) Slew to Dark (cone = 119.7), return 1 grating cycle (12 mf) in R/T
8) Slew to Safe (cone = 153.0)
9) Long Map, gain state 4, ETB=OPCAL48.
10) Use 37IST to turn on OPCAL Lamp (two times).
11) Select NIMS Real Time 1 Rim OPCAL, 1 Rim Dark, 1 Rim OPCAL
12) Set NIMS to Safe Mode and turn off Chopper.
13) Resume Playback after using scan platform.

Long Map (LM), Gain 1, Grating Start 0, R/T, RCT252
Long Map (LM), Gain 4, Grating Start 0, R/T, OPCAL48

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NIMS Real-Time PCT Calibration		ACTIVITY ID:	16NNPCTRLT01-
		START TIME:	98-255/00:00:34.733

Activity ID: Orbit 16 Target N Inst N OAPEL PCTRLT SeqNo 01 -

Title	NIMS Real-Time PCT Calibration			Instrument	NIMS
Requestor	NIMS-SWG/M. SEGURA	Team	NIMS	Working Group	SWG

Time System	CDS	Load ID		Calendar Date	09/12/98	Week	37

Start	PCT+CDS 0:00:0	98-255/00:00:34.733	PCT+000/00:00:00.000
End	PCT+CDS 00000465:00:0	98-255/07:50:44.733	PCT+000/07:50:10.000
Duration	00000465:00:0	000/07:50:10.000	000/07:50:10.000

Top Label   16NNPCTRLT01-
Bottom Label

Plot Key	NIMS	Type	SCI		
CDS Bytes	275	Report Options	BOTH	Scan Platform	Yes
CDS Source	OAP	Spin State	DUAL	DMS	No

Observation Objective

This observation is a NIMS photometric calibration usint the PCT target.
The data will be used to calibrate the NIMS visible detectors.
The calibration data will be returned using Real-Time Telemetry.
At this time the off sun angle is about 1.5 degrees.

Design Detail

1) Turn off PCT heaters 6 hours before calibration.
2) Scan Platform is at Safe/Unstow (cone = 153.00, clock = 0.00)
3) Chopper on, Gain State 4,
4) Set NIMS to Long Map Mode, ETB = PCT252,
   Mirror Blocking (1B, 1B) (11011, 11011)
5) Select 2 RIMs of Dark in Real-Time (Return 2 LM grating cycle)
6) Slew to PCT (cone 54.88, clock = 244.07)
7) Select 10 RIMS of PCT in Real-Time (Return 10 LM grating cycles)
8) Slew to Safe (cone = 153.00, clock = 0.00)
9) NIMS to Safe Mode, Reset Mirror Blocking (00,00) (00000, 00000)
10) Chopper Off.

Long Map (LM), Gain 4, Grating Start 0, RT, PCT252

Galileo Activity Plan Form   07/23/98 08:42:14   rev 6/95