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: 14NNJUPRTS01- START TIME: 98-087/18:20:20.400

Activity ID: Orbit 14 Target N Inst N OAPEL JUPRTS 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 03/28/98	Week 13

Start	JEE-CDS 00000810:00:0	98-087/18:20:20.400	JEE-000/13:39:00.000
End	JEE-CDS 00000806:00:0	98-087/18:24:23.067	JEE-000/13:34:57.333
Duration	00000004:00:0	000/00:04:02.667	000/00:04:02.667

Top Label   14NNJUPRTS01-
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.

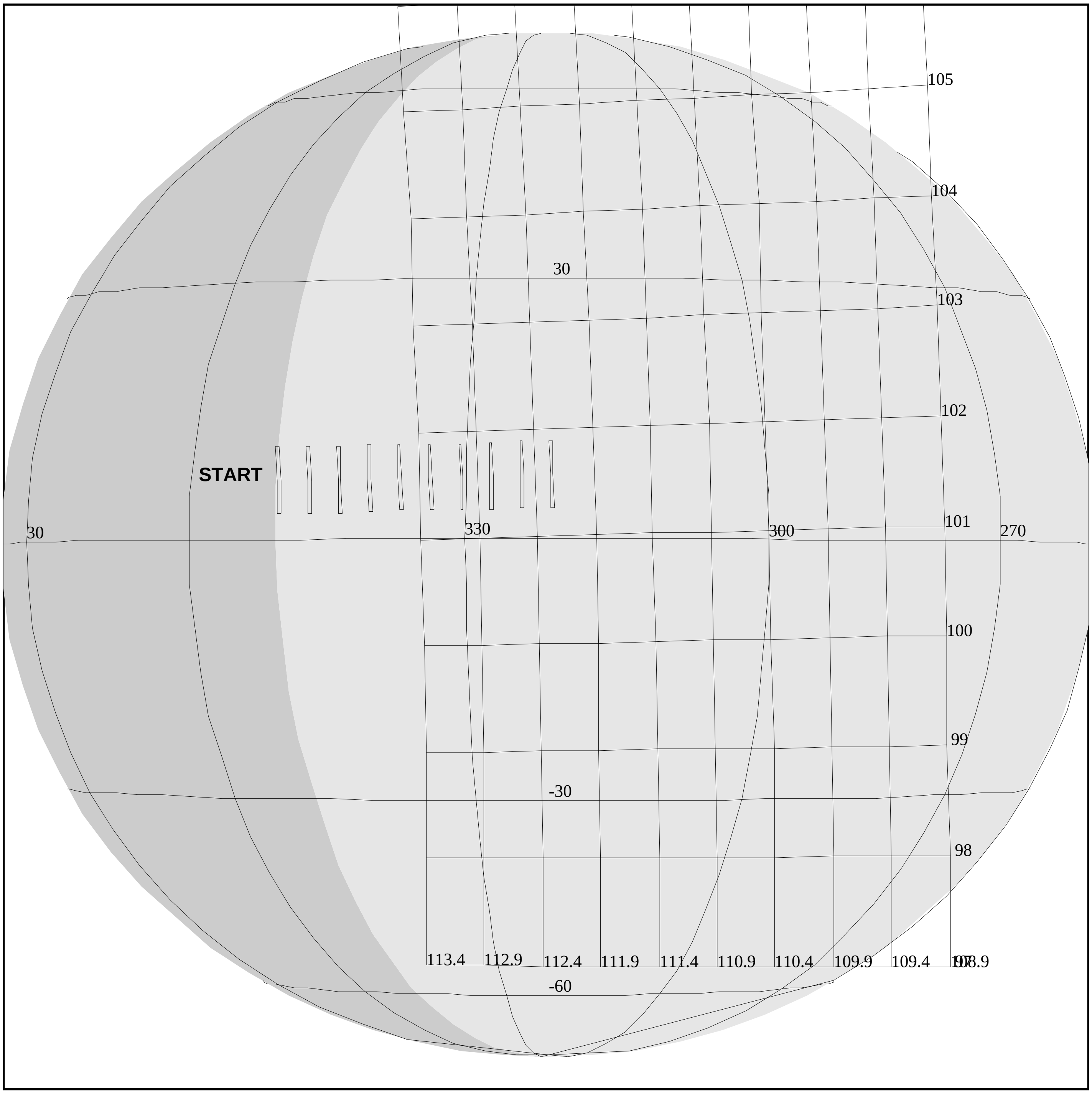
The NIMS E14 reload OAPELS are:
14NNJUPRTS01, 14NNHRSPEC01, 14NNICERAF01, 14ENSUCOMP01,
14NNSUCOMP02, 14NNSUCOMP03, 14ENEUR15H01, 14ENEUR17H01.
14ENEUR20H01, 14NNPCTRLT01, 14JNJUPRTS02, 14CNGLOBAL01

Design Detail

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

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   03/09/98 14:16:19   rev 6/95



165DA:TT= 0 TMC= 1 C= 27.00 XC= 0.00 BS= 0/3397 TC= 1(7 331)
A=1820 pD= 1820 SR=17.450 RA50=277.43 DEC50=-24.08 cone=114.60 clock=101.59
117DA:#SB= 1 OR= 0.060 RR=12.000 BM=F RC= 1 BS= 0/3397
1:#s= 1 Cs= -36.00 XCs= 0.00 Cr= 10.70 XCr= -12.00 sD= 1820 rD= 40

14JNJUPRTS01

TARGET G3.1 lisac: 3/12/1998 13:59:49

FILE:P.14JNJUPRTS01

CENTRAL BODY:JUPITER

MINI:m.target

S/C EPH:/DATA/NAVIO/E12RE14C.NS

PERIAPSIS:

START:JEE 98-088/07:59:20.400 -CDS 796:00:0

OBSERVATION:14JNJUPRTS01

THINNING:NIM 7

BODY PLOT TIME:TARGET-TIME D= 1820 S= 1.000

DESCRIP:Jupiter_Realtime_Observation

Jupiter Realtime Observation	ACTIVITY ID: 14JNJUPRTS01* START TIME: 98-087/18:28:25.734

Activity ID: Orbit 14 Target J Inst N OAPEL JUPRTS SeqNo 01 *

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

Time System	CDS	Load ID		Calendar Date	03/28/98	Week	13

Start	JEE-CDS 00000802:00:0	98-087/18:28:25.734	JEE-000/13:30:54.666
End	JEE-CDS 00000786:00:0	98-087/18:44:36.400	JEE-000/13:14:44.000
Duration	00000016:00:0	000/00:16:10.666	000/00:16:10.666

Top Label 14JNJUPRTS01*
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

Search for Jupiter atmospheric composition and thermal variations over time.
Look at 6.5 degrees North latitude.

FREE_RTS= 0.16 Mbits

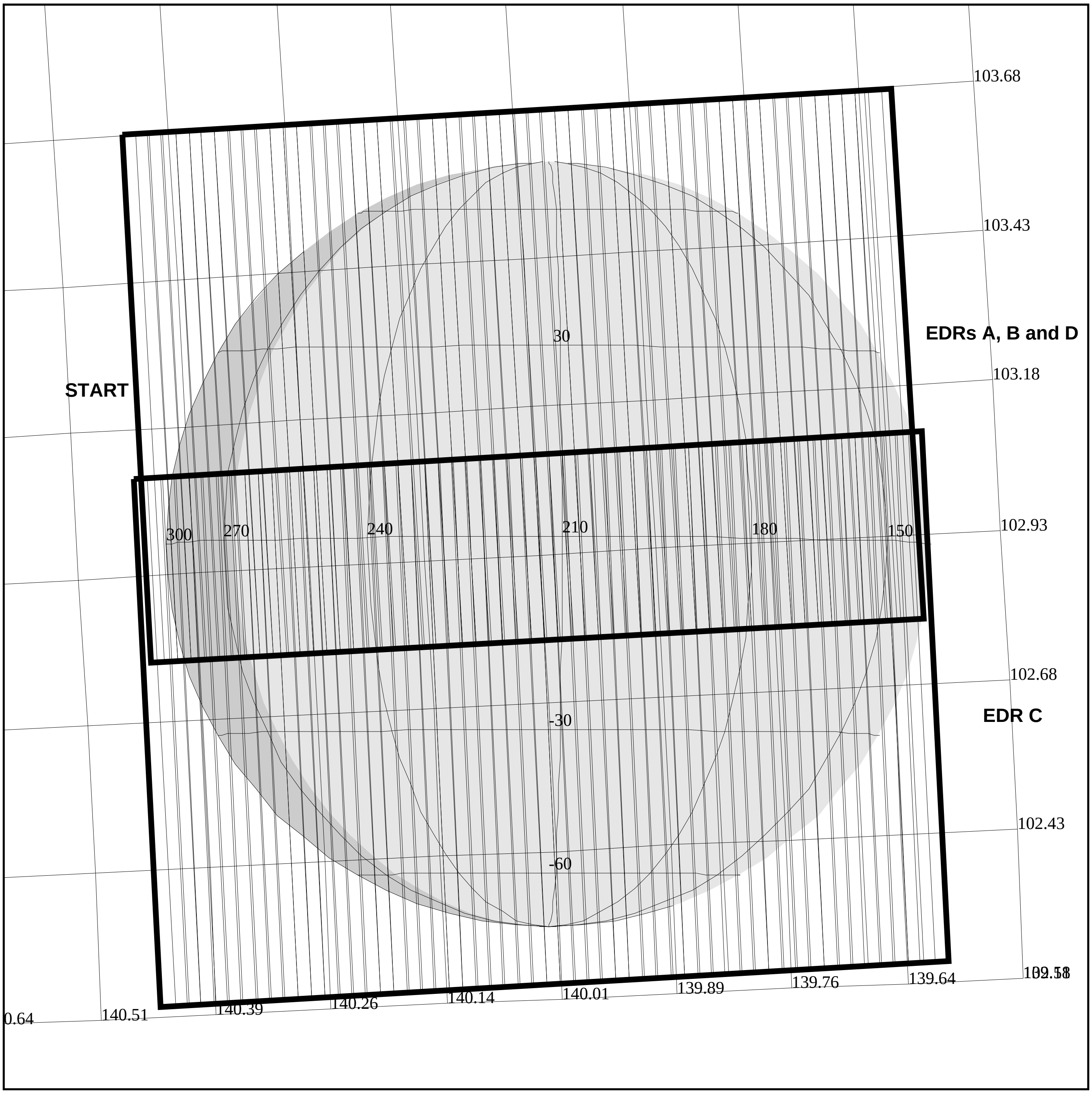
Data Returned

Design Detail

Long map, gain state 2.
One scan 10 RIMS long at 6.5 degrees North latitude.
No overlap in FOV.

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

Long Map (LM), Gain 2, Grating Start 0, R/T, E14JLM408



165DB:TT= 0 TMC= 1 C= 7.50 XC= 3.20 BS= 0/4599 TC= 3
A= 728 pD= 2906 SR=17.450 RA50=304.91 DEC50=-19.55 cone=140.43 clock=103.23
117DB:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/4599
1:#s= 2 Cs= -14.35 XCs= 0.00 Cr= 14.30 XCr= -6.50 sD= 1442 rD= 24

14INHRSPEC01

DESIGN G3.2 lisac: 3/18/1998 15:16:34

FILE:P.14INHRSPEC01

TARGET BODY : IO

MINI:m.14INHRSPEC01

S/C EPH:/DATA/NAVIO/E12RE14C.NS

PERIAPSIS:

START:IEE 98-088/04:48:14.400 +CDS 04:00:0

OBSERVATION:14INHRSPEC01

THINNING:NIM 1

BODY PLOT TIME:TARGET-TIME D= 2906 S= 0.700

DESCRIP:14INHRSPEC01

Io Monitoring at High Spectral Resolutio	ACTIVITY ID:	14INHRSPEC01-
	START TIME:	98-088/04:46:13.067

Activity ID: Orbit 14 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	03/29/98	Week	13

Start	IEE-CDS 00000002:00:0	98-088/04:46:13.067	IEE-000/00:02:01.333
End	IEE+CDS 00000023:00:0	98-088/05:11:29.733	IEE+000/00:23:15.333
Duration	00000025:00:0	000/00:25:16.666	000/00:25:16.666

Top Label 14INHRSPEC01-
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

Highest Resolution observation of Io during the GEM E-orbits.
Best view of South Pole prior to I25.
Coordinated with SSI.

TICS=952, FMT=MPW, BTG=6.566 MBTG

Data Returned

Design Detail

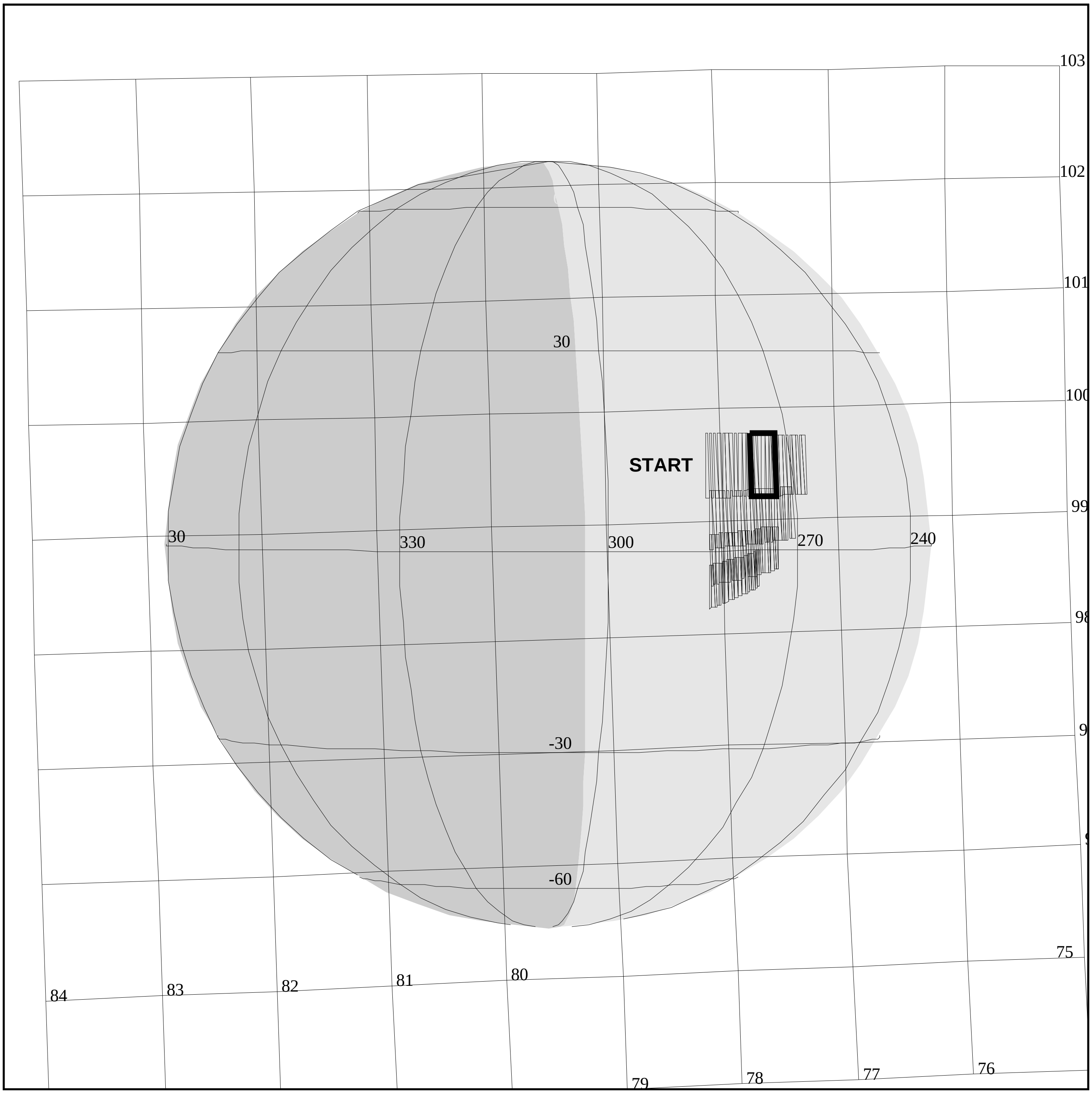
Global Mosaic in Long Map, 408 wavelengths, record mode is MPW.
NIMS resolution is approximately 125 km/pixel.
Central longitude is approximately 200 degrees West.
Coverage is from 110 West to 290 West.

The entire disk is covered in two swaths:

EDR A, North Swath, 324 wavelengths
EDR B, North Swath, 36 wavelengths
EDR D, North Swath, 360 wavelengths (EDRs merged)
EDR C, South Swath, 360 wavelengths

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

E14ILM036, E14ILM324
Long Map (LM), Gain 2, Grating Start 0, MPW, E14ILM442, E14ILM360



165DC:TT=   0 TMC= 1 C= -15.00 XC=   2.00 BS= 0/3587 TC= 1(10   300   )
A= 728 pD= 5642 SR=17.450 RA50=237.57 DEC50=-22.47 cone= 78.13 clock= 99.50
117DC:#SB= 1 OR= 0.040 RR=12.000 BM=F RC= 1 BS= 0/3587
1:#s= 4 Cs= -18.30 XCs=   0.00 Cr=   16.50 XCr=   -9.00 sD= 1394 rD=   20

14ENICERAF01

DESIGN G3.2 lisac: 3/18/1998 15:18:13

FILE:P.14ENICERAF01

TARGET BODY :   EUROPA

MINI:m.14ENICERAF01

S/C EPH:/DATA/NAVIO/E12RE14C.NS

PERIAPSIS:

THINNING:NIM   2

START:EEE 98-088/13:20:52.400   -CDS 69:00:0

BODY PLOT TIME:TARGET-TIME D= 5642 S= 0.700

OBSERVATION:14ENICERAF01

DESCRIP:Europa_Ice_Rift

Europa Ice Rift	ACTIVITY ID: 14ENICERAF01- START TIME: 98-088/12:07:03.734

Activity ID: Orbit 14 Target E Inst N OAPEL ICERAF SeqNo 01 -

Title	Europa Ice Rift			Instrument	NIMS
Requestor	NIMS-SWG/A. OCAMPO	Team	NIMS	Working Group	SWG

Time System	CDS	Load ID		Calendar Date	03/29/98	Week 13

Start	EEE-CDS 00000073:00:0	98-088/12:07:03.734	EEE-000/01:13:48.666
End	EEE-CDS 00000029:00:0	98-088/12:51:33.067	EEE-000/00:29:19.333
Duration	00000044:00:0	000/00:44:29.333	000/00:44:29.333

Top Label	14ENICERAF01-
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 regional mosaic covering West longitude 265-285 degrees (prominent intersecting dark linea).

TICS = 1638, FMT = MPW, BTG = 0.912 Mbits, PPR_RA = 0.309

Data Returned

Design Detail

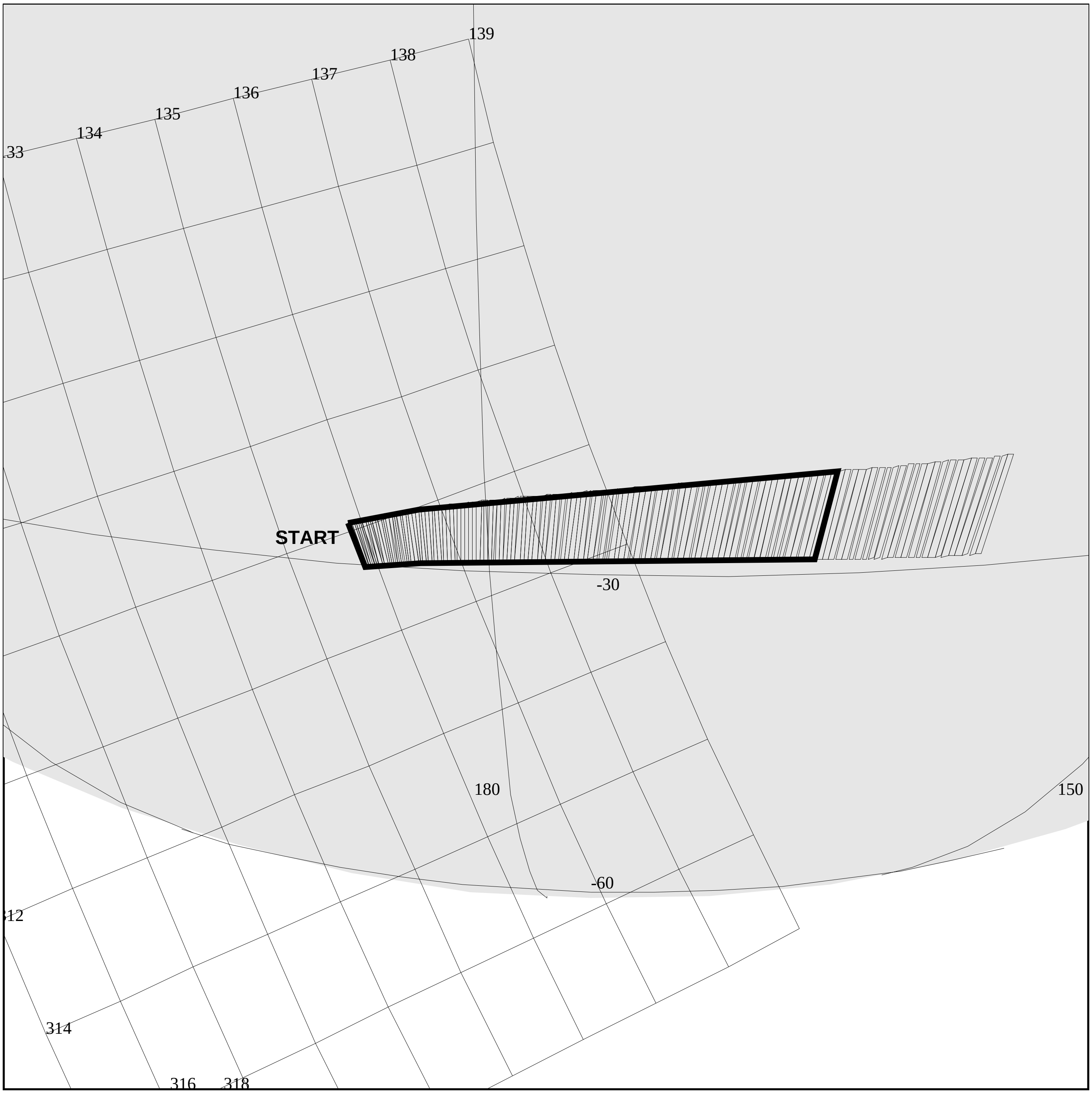
NIMS mode = LM. Record Mode = MPW. Gain State = 2. Grating Position = 0

Mosaic of 4 overlapping swaths,
starting at 12.5 degrees North latitude and
ending at -2.5 degrees South latitude.

Only central 2 Rims of upper swath returned.
Centered on 12 deg Latitude, 275 W Longitude

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

Long Map (LM), Gain 2, Grating Start 0, MPW, E14ELM442, E14ELM360



165DD:TT= 0 TMC= 1 C= 0.00 XC= 0.00 BS= 0/8147 TC= 1(-29 185)
A= 182 pD= 3458 SR=17.450 RA50= 28.54 DEC50= -8.23 cone=135.86 clock=308.27
117DD:#SB= 1 OR= 0.040 RR=12.000 BM=F RC= 1 BS= 0/8147
1:#s= 1 Cs= 46.00 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 3458 rD= 180

14ENSUCOMP01

DESIGN G3.2 lisac: 3/18/1998 15:14:11

FILE:P.14ENSUCOMP01

TARGET BODY : EUROPA

MINI:m.14ENSUCOMP01

S/C EPH:/DATA/NAVIO/E12RE14C.NS

PERIAPSIS:

START:EEE 98-088/13:20:52.400 +CDS 11:00:0

OBSERVATION:14ENSUCOMP01

THINNING:NIM 1

BODY PLOT TIME:TARGET-TIME D= 3458 S= 2.500

DESCRIP:Europa_Surface_Composition

Europa Surface Composition	ACTIVITY ID: 14ENSUCOMP01- START TIME: 98-088/13:29:58.400

Activity ID: Orbit 14 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	03/29/98	Week	13

Start	EEE+CDS	00000009:00:0	98-088/13:29:58.400	EEE+000/00:09:06.000
End	EEE+CDS	00000030:00:0	98-088/13:51:12.400	EEE+000/00:30:20.000
Duration		00000021:00:0	000/00:21:14.000	000/00:21:14.000

Top Label   14ENSUCOMP01-
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 at latitude = -29 degrees and West longitude = 185-170 degrees. The targets are dark spots and a pull-apart wedge-shaped area.

Data Returned

Design Detail

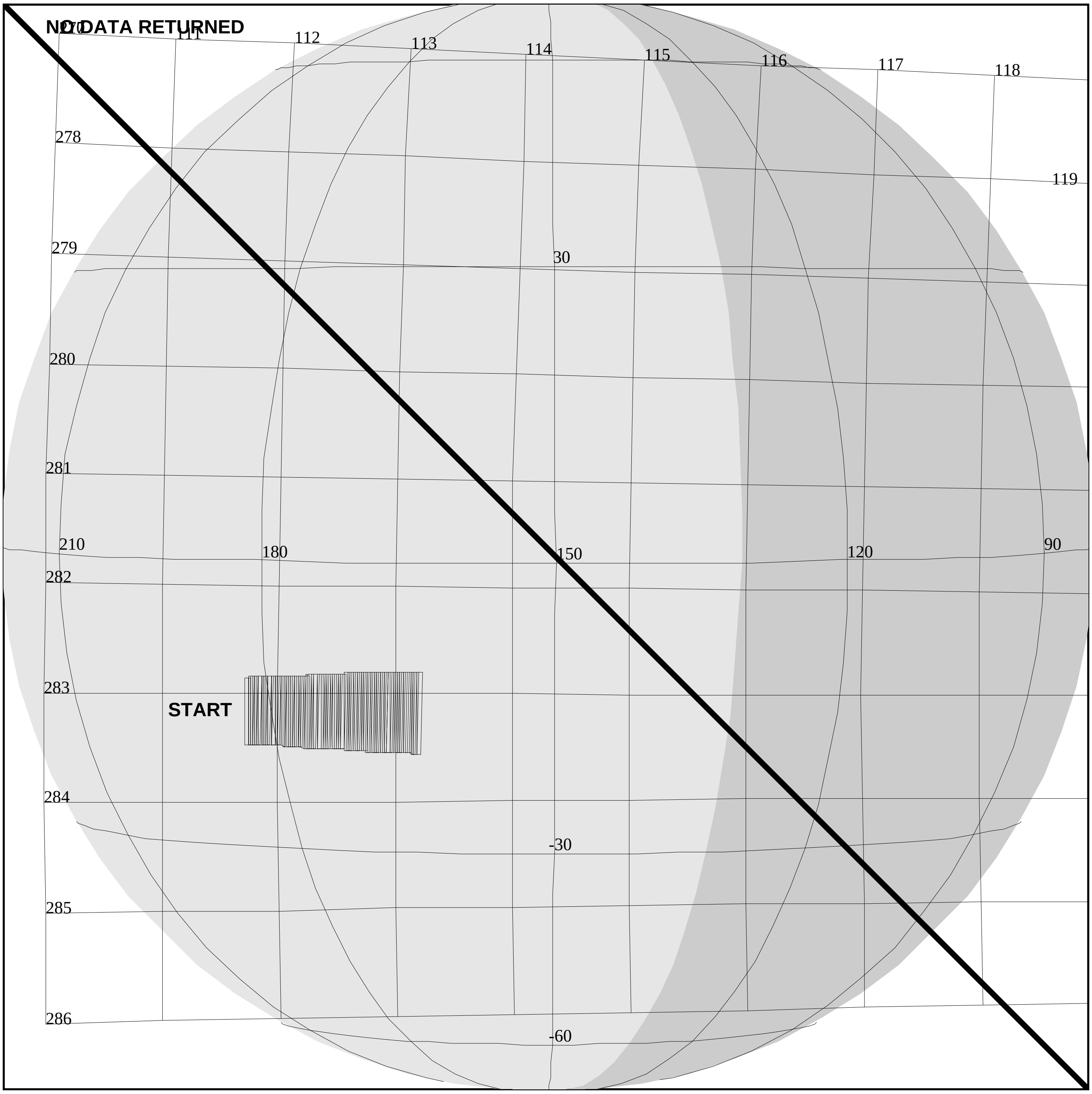
NIMS mode = LM
Record mode FMT = MPW
Gain State = 2.
Grating Position = 0 = 1004
TICS = 1004
MBTG = 4.159
PPR_RA= 0.189

A single west-east single swath at -29 degrees latitude.

First 15 of 19 Rims returned.

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

Long Map (LM), Gain 2, Grating Start 0, MPW, E14ELM442, E14ELM360



165DE:TT= 0 TMC= 1 C= 0.00 XC= 0.00 BS= 0/5063 TC= 1(-15 183)
A= 182 pD= 2002 SR=17.450 RA50= 48.42 DEC50= 16.55 cone=111.73 clock=283.16
117DE:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/5063
1:#s= 1 Cs= 19.90 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 2002 rD= 2

14ENSUCOMP02

DESIGN G3.2 lisac: 3/18/1998 15:15:18

FILE:P.14ENSUCOMP02

TARGET BODY : EUROPA

MINI:m.14ENSUCOMP02

S/C EPH:/DATA/NAVIO/E12RE14C.NS

PERIAPSIS:

START:EEE 98-088/13:20:52.400 +CDS 49:00:0

OBSERVATION:14ENSUCOMP02

THINNING:NIM 1

BODY PLOT TIME:TARGET-TIME D= 2002 S= 1.000

DESCRIP:Europa_Surface_Composition

Europa Surface Composition		ACTIVITY ID:	14ENSUCOMP02-
		START TIME:	98-088/14:05:21.733

Activity ID: Orbit 14 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 03/29/98 Week 13

Start	EEE+CDS 00000044:00:0	98-088/14:05:21.733	EEE+000/00:44:29.333
End	EEE+CDS 00000059:00:0	98-088/14:20:31.733	EEE+000/00:59:39.333
Duration	00000015:00:0	000/00:15:10.000	000/00:15:10.000

Top Label 14ENSUCOMP02-
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 = -15 degrees and West longitude = 183 degrees on an area bright plains, wedges and dark material.

No Data Returned

Design Detail

NIMS mode = LM.
Record mode FMT = MPW
Gain State = 2.
Grating Position = 0
TICS = 583
MBTG = 2.112
PPR_RA= 0.110

A single west-east single swath at -15 degrees latitude.

No data returned. Observation very similar to 12ENICEBRG01.

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

Long Map (LM), Gain 2, Grating Start 0, MPW, E14ELM442

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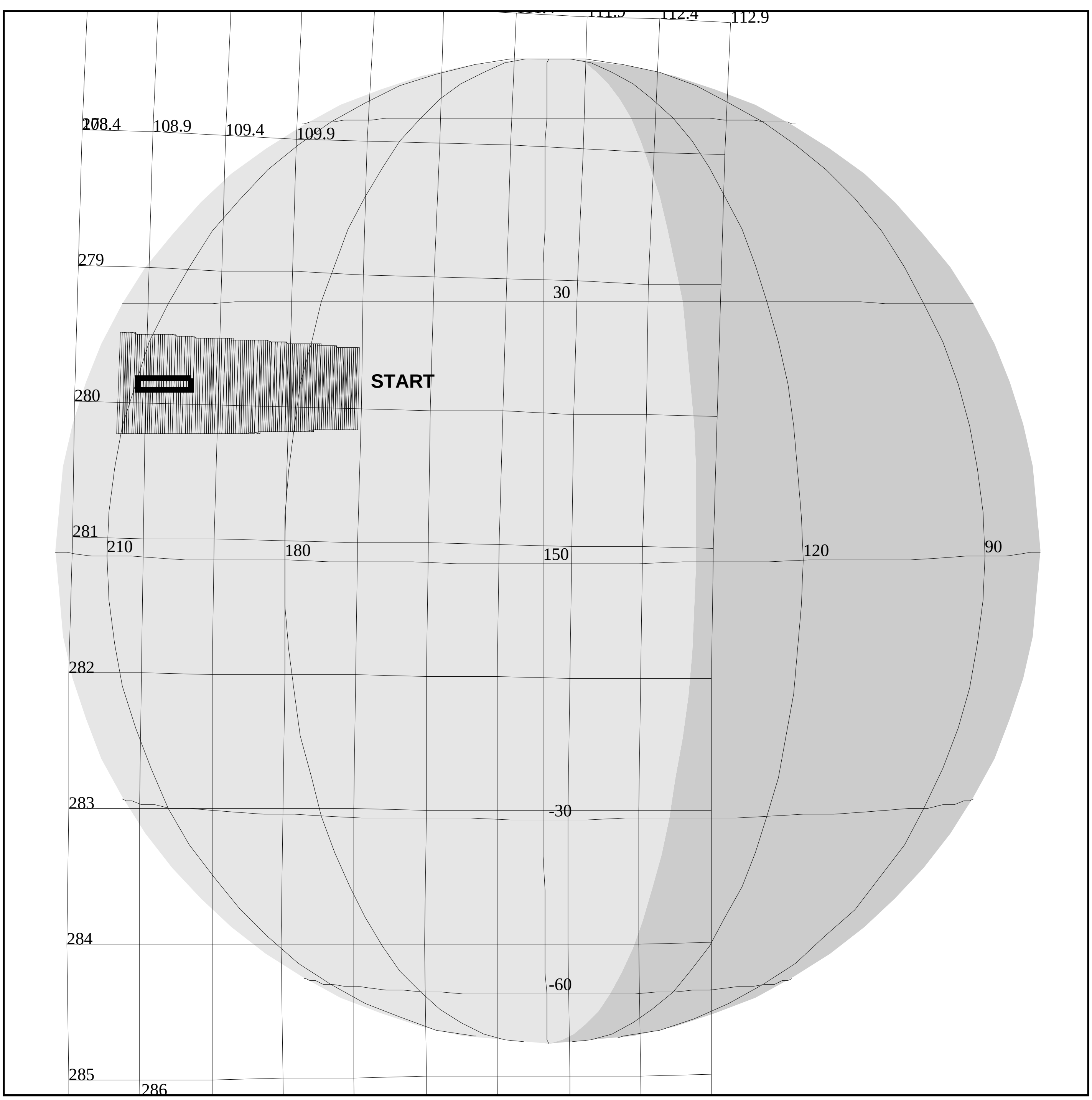


165DF:TT= 0 TMC= 1 C= 28.90 XC= 0.00 BS= 0/8339 TC= 1(20 214)
A= 704 pD= 2902 SR=17.450 RA50= 48.84 DEC50= 19.88 cone=110.41 clock=279.86
117DF:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/8339
1:#s= 1 Cs= -28.90 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 2902 rD= 2

14ENSUCOMP03

DESIGN G3.2 lisac: 3/18/1998 15:16: 0

FILE:P.14ENSUCOMP03

TARGET BODY : EUROPA

MINI:m.14ENSUCOMP03

S/C EPH:/DATA/NAVIO/E12RE14C.NS

PERIAPSIS:

START:EEE 98-088/13:20:52.400 +CDS 67:00:0

OBSERVATION:14ENSUCOMP03

THINNING:NIM 1

BODY PLOT TIME:TARGET-TIME D= 2902 S= 0.900

DESCRIP:Europa_Surface_Composition

Europa Surface Composition		ACTIVITY ID:	14ENSUCOMP03-
		START TIME:	98-088/14:24:34.400

Activity ID: Orbit 14 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	03/29/98	Week	13

Start	EEE+CDS 00000063:00:0	98-088/14:24:34.400	EEE+000/01:03:42.000
End	EEE+CDS 00000086:00:0	98-088/14:47:49.733	EEE+000/01:26:57.333
Duration	00000023:00:0	000/00:23:15.333	000/00:23:15.333

Top Label   14ENSUCOMP03-
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 = +20 degrees and West longitude = 214 degrees on intersecting triple band terrain. This observation employs long spectrometer mode, where the 20 x-cone pixels are collaped onto a single pixel from each mirror scan to trade spatial coverage for better signal-to-noise.

Data Returned

Design Detail

NIMS mode = LM.
Record mode FMT = MPW
Gain State = 2.
Grating Position = 0
Tics = 1004
MBTG = 1.459
PPR_RA= 0.189

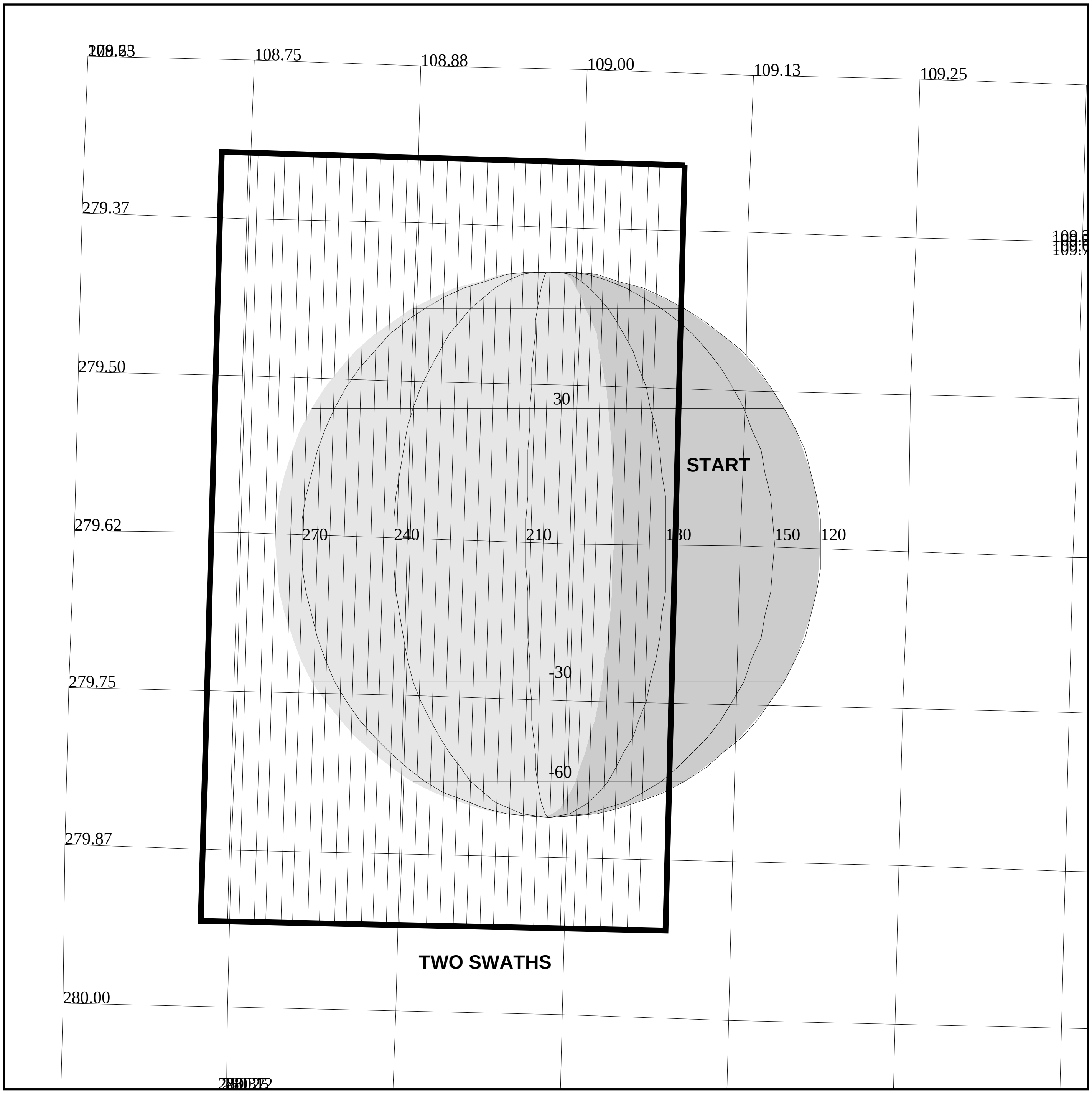
A single-pixel west-east swath at +20 degrees latitude.

Only 3 of 16 Rims returned.

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

Long Spectrometer (LS), Gain 2, Grating Start 0, MPW, E14ELM442, E14ELM360

Galileo Activity Plan Form   03/09/98 14:16:20   rev 6/95



165DI:TT= 0 TMC= 1 C= 1.50 XC= 0.00 BS= 0/8853 TC= 3
A= 728 pD= 2178 SR=17.450 RA50= 50.14 DEC50= 20.47 cone=109.07 clock=279.62
117DI:#SB= 1 OR= 0.020 RR=12.000 BM=F RC= 1 BS= 0/8853
1:#s= 2 Cs= -5.70 XCs= 0.00 Cr= 5.69 XCr= 0.00 sD= 862 rD= 388

14ENEUR15H01

DESIGN G3.2 lisac: 3/18/1998 15:12:58

FILE:P.14ENEUR15H01

TARGET BODY : EUROPA

MINI:m.14ENEUR15H01

S/C EPH:/DATA/NAVIO/E12RE14C.NS

PERIAPSIS:

START:EEE 98-088/13:20:52.400 +CDS 894:00:0

OBSERVATION:14ENEUR15H01

THINNING:NIM 2

BODY PLOT TIME:TARGET-TIME D= 2178 S= 0.500

DESCRIP:EUROPA_+15_HOURS

14ENEUR15H01	ACTIVITY ID: 14ENEUR15H01- START TIME: 98-089/04:14:41.733

Activity ID: Orbit 14 Target E Inst N OAPEL EUR15H SeqNo 01 -

Title	14ENEUR15H01			Instrument	NIMS
Requestor	NIMS-SWG/M. SEGURA	Team	NIMS	Working Group	SWG

Time System CDS Load ID Calendar Date 03/30/98 Week 13

Start	EEE+CDS 00000884:00:0	98-089/04:14:41.733	EEE+000/14:53:49.333
End	EEE+CDS 00000911:00:0	98-089/04:41:59.733	EEE+000/15:21:07.333
Duration	00000027:00:0	000/00:27:18.000	000/00:27:18.000

Top Label 14ENEUR15H01-
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 Europa at plus 15 hours from Europa closest approach.
The first scan is in gain state 3 and the second scan is in gain state 4.
This is the first of a set of three distant Europa observations.

Data Returned

Design Detail

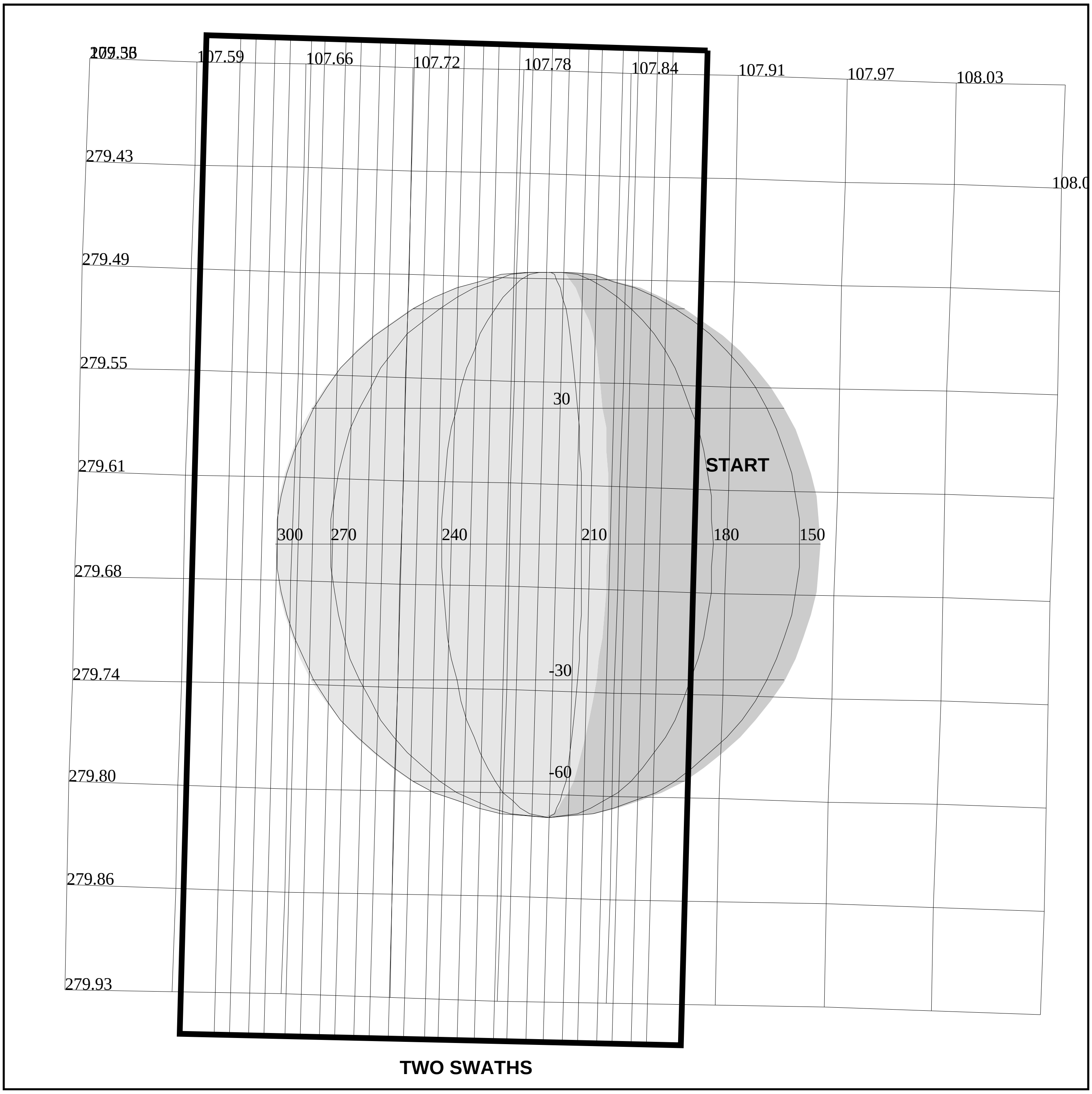
4 RIMS of targeting
Number of scans = 2
NIMS mode = LM
Gains State = 3 (first scan) , 4 (second scan).
Record Mode = LPU (first scan) and MPW (second scan)

Two identical swaths across the illuminated portion of Europa’s disk.
The first swath in gain state 3, concentrating on short wavelengths.
the second swath in gain state 4, concentrating on long wavelengths.

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

Long Map (LM), Gain 3, Grating Start 0, LPU, E14ELM240V, E14ELM168V
Long Map (LM), Gain 4, Grating Start 0, MPW, E14ELM442, E14ELM240T

Galileo Activity Plan Form 03/09/98 14:16:20 rev 6/95




```
165DJ:TT=   0 TMC= 1 C=    1.30 XC=    0.00 BS= 0/1249 TC= 3
   A= 728 pD=  1850 SR=17.450 RA50= 51.37 DEC50= 20.78 cone=107.88 clock=279.65
117DJ:#SB= 1 OR= 0.020 RR=12.000 BM=F RC=  1 BS= 0/1249
   1:#s=  2 Cs=   -4.80 XCs=    0.00 Cr=    4.80 XCr=    0.00 sD=   728 rD=   388
```

14ENEUR17H01

DESIGN G3.2 lisac: 3/18/1998 15:13:22

FILE:P.14ENEUR17H01

TARGET BODY : EUROPA

MINI:m.14ENEUR17H01

S/C EPH:/DATA/NAVIO/E12RE14C.NS

PERIAPSIS: **THINNING:NIM 2**

START:EEE 98-088/13:20:52.400 +CDS 1072:00:0 **BODY PLOT TIME:TARGET-TIME D= 1850 S= 0.500**

OBSERVATION:14ENEUR17H01 **DESCRIP:EUROPA_+17_HOURS**

14ENEUR17H01		ACTIVITY ID:	14ENEUR17H01-
		START TIME:	98-089/07:15:41.066

Activity ID: Orbit 14 Target E Inst N OAPEL EUR17H SeqNo 01 -

Title	14ENEUR17H01			Instrument	NIMS
Requestor	NIMS-SWG/M. SEGURA	Team	NIMS	Working Group	SWG

Time System	CDS	Load ID		Calendar Date	03/30/98	Week	13

Start	EEE+CDS 00001063:00:0	98-089/07:15:41.066	EEE+000/17:54:48.666
End	EEE+CDS 00001089:00:0	98-089/07:41:58.400	EEE+000/18:21:06.000
Duration	00000026:00:0	000/00:26:17.334	000/00:26:17.334

Top Label	14ENEUR17H01-
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 Europa at plus 17 hours from Europa closest approach.
The first scan is in gain state 3 and the second scan is in gain state 4.
This is the second of a set of three distant Europa observations.

Data Returned

Design Detail

4 RIMS of targeting
Number of scans = 2
NIMS mode = LM
Gains State = 3 (first scan) , 4 (second scan).
Record Mode = LPU

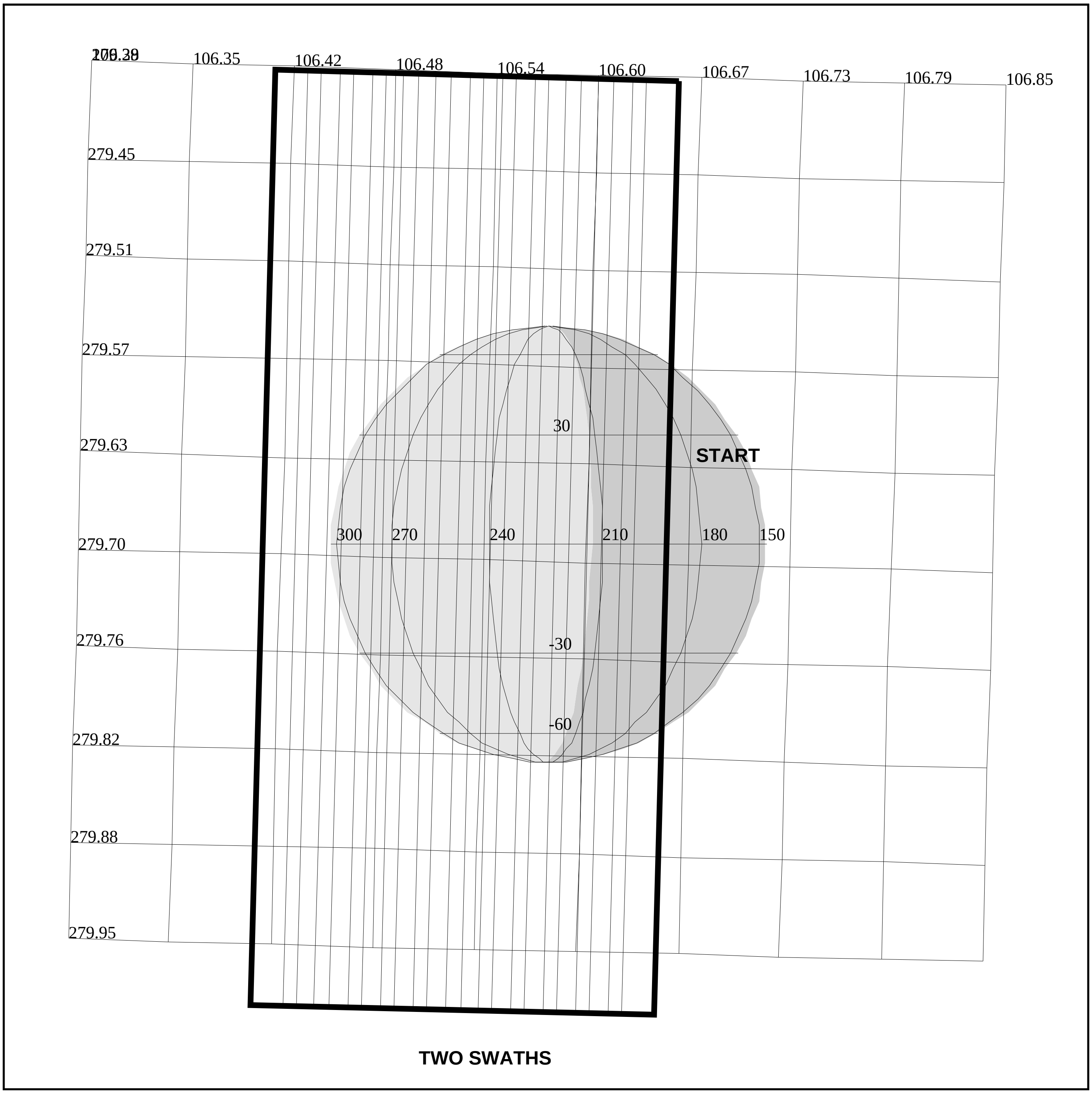
Two identical swaths across the illuminated portion of Europa’s disk.
The first swath in gain state 3, concentrating on short wavelengths.
the second swath in gain state 4, concentrating on long wavelengths.

Only the second gain state 4 swath returned.

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

Long Map (LM), Gain 3, Grating Start 0, LPU, E14ELM240V
Long Map (LM), Gain 4, Grating Start 0, LPU, E14ELM240T, E14ELM240T

Galileo Activity Plan Form   03/09/98 14:16:20   rev 6/95



165DK:TT= 0 TMC= 1 C= 1.10 XC= 0.00 BS= 0/2907 TC= 3
A= 728 pD= 1632 SR=17.450 RA50= 52.65 DEC50= 21.08 cone=106.64 clock=279.68
117DK:#SB= 1 OR= 0.020 RR=12.000 BM=F RC= 1 BS= 0/2907
1:#s= 2 Cs= -4.00 XCs= 0.00 Cr= 4.00 XCr= 0.00 sD= 610 rD= 388

14ENEUR20H01

DESIGN G3.2 lisac: 3/18/1998 15:13:49

FILE:P.14ENEUR20H01

TARGET BODY : EUROPA

MINI:m.14ENEUR20H01

S/C EPH:/DATA/NAVIO/E12RE14C.NS

PERIAPSIS: **THINNING:NIM 2**

START:EEE 98-088/13:20:52.400 +CDS 1191:00:0 **BODY PLOT TIME:TARGET-TIME D= 1632 S= 0.400**

OBSERVATION:14ENEUR20H01 **DESCRIP:EUROPA_+20_HOURS**

14ENEUR20H01		ACTIVITY ID:	14ENEUR20H01-
		START TIME:	98-089/09:14:59.733

Activity ID: Orbit 14 Target E Inst N OAPEL EUR20H SeqNo 01 -

Title	14ENEUR20H01			Instrument	NIMS
Requestor	NIMS-SWG/M. SEGURA	Team	NIMS	Working Group	SWG

Time System	CDS	Load ID		Calendar Date	03/30/98	Week	13

Start	EEE+CDS 00001181:00:0	98-089/09:14:59.733	EEE+000/19:54:07.333
End	EEE+CDS 00001208:00:0	98-089/09:42:17.733	EEE+000/20:21:25.333
Duration	00000027:00:0	000/00:27:18.000	000/00:27:18.000

Top Label   14ENEUR20H01-
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 Europa at plus 20 hours from Europa closest approach.
The first scan is in gain state 3 and the second scan is in gain state 4.
This is the third of a set of three distant Europa observations.

Data Returned

Design Detail

4 RIMS of targeting
Number of scans = 2
NIMS mode = LM
Gains State = 3 (first scan) , 4 (second scan).
Record Mode = LPU

Two identical swaths across the illuminated portion of Europa’s disk.
The first swath in gain state 3, concentrating on short wavelengths.
the second swath in gain state 4, concentrating on long wavelengths.

Only the second gain state 4 swath returned.

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

Long Map (LM), Gain 3, Grating Start 0, LPU, E14ELM240V
Long Map (LM), Gain 4, Grating Start 0, LPU, E14ELM240T, E14ELM240T

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NIMS Real-Time PCT Calibration	ACTIVITY ID:	14NNPCTRLT01-
	START TIME:	98-089/13:36:05.399

Activity ID: Orbit 14 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 03/30/98 Week 13

Start	PCT+CDS 00000361:00:0	98-089/13:36:05.399	PCT+000/06:05:00.666
End	PCT+CDS 00000424:81:0	98-089/14:40:41.399	PCT+000/07:09:36.666
Duration	00000063:81:0	000/01:04:36.000	000/01:04:36.000

Top Label 14NNPCTRLT01-
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 an 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 x.x degrees.

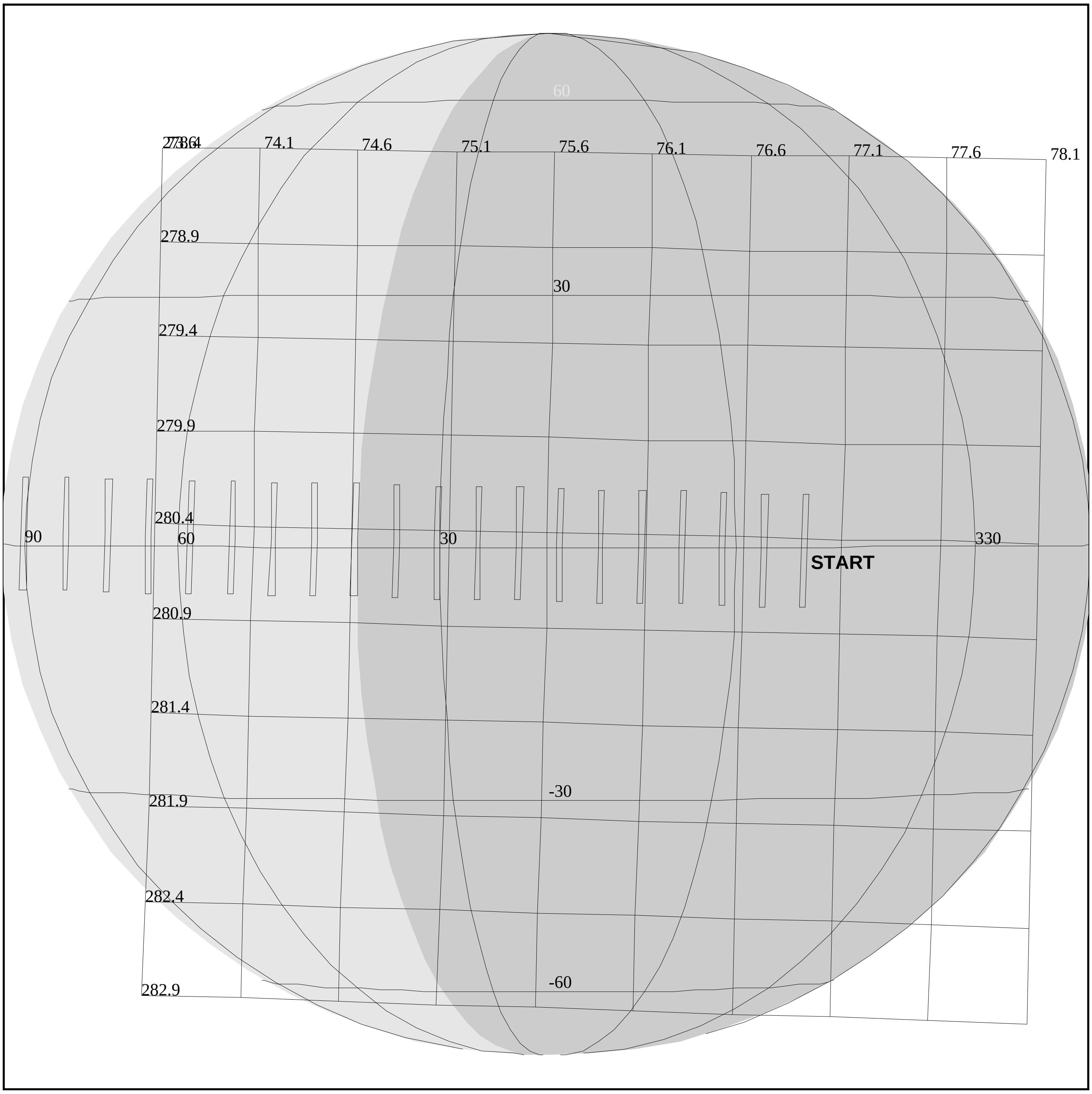
Data Returned

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 03/09/98 14:16:21 rev 6/95



165DG:TT= 0 TMC= 1 C= 23.00 XC= 0.00 BS= 0/0439 TC= 3
A= 728 pD= 3630 SR=17.450 RA50= 84.76 DEC50= 25.08 cone= 76.91 clock=280.50
117DG:#SB= 1 OR= 0.060 RR=12.000 BM=F RC= 1 BS= 0/0439
1:#s= 1 Cs= -72.00 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 3640 rD= 2

14JNJUPRTS02

TARGET G3.1 lisac: 3/12/1998 13:59:49

FILE:P.14JNJUPRTS02

CENTRAL BODY:JUPITER

MINI:m.target

S/C EPH:/DATA/NAVIO/E12RE14C.NS

PERIAPSIS:

START:JEE 98-088/07:59:20.400 +CDS 1935:00:0

OBSERVATION:14JNJUPRTS02

THINNING:NIM 7

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

DESCRIP:Jupiter_Realtime_Observation

Jupiter Realtime Observation	ACTIVITY ID:	14JNJUPRTS02*
	START TIME:	98-089/17:54:42.400

Activity ID: Orbit 14 Target J Inst N OAPEL JUPRTS SeqNo 02 *

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

Time System CDS Load ID Calendar Date 03/30/98 Week 13

Start	EEE+CDS 00001695:00:0	98-089/17:54:42.400	EEE+001/04:33:50.000
End	EEE+CDS 00001721:00:0	98-089/18:20:59.733	EEE+001/05:00:07.333
Duration	00000026:00:0	000/00:26:17.333	000/00:26:17.333

Top Label 14JNJUPRTS02*
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

Search for Jupiter atmospheric composition and thermal variations over time. Look at 6.5 degrees North latitude.

FREE_RTS= 0.16 mbits

Data Returned

Design Detail

One scan 20 RIMS long at 6.5 degrees North latitude.
No overlap in FOV.
The first 11 Rims over night-side Jupiter in gain state 4.
The second 9 Rims over day-side Jupiter in gain state 2.

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

Long Map (LM), Gain 4,2, Grating Start 0, R/T, E14JLM408

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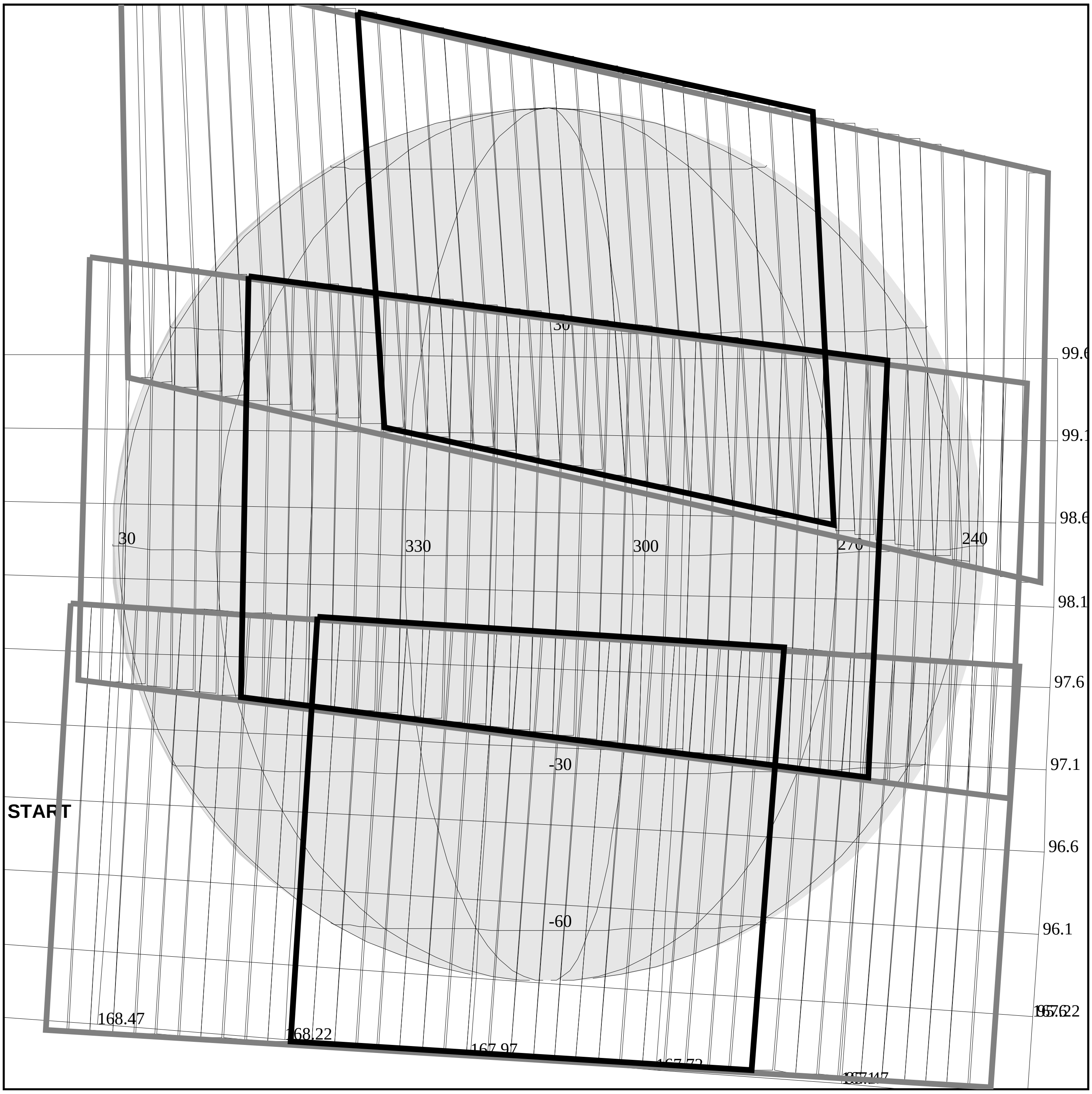

165DH:TT= 0 TMC= 1 C= 11.10 XC= -7.00 BS= 0/2531 TC= 3
A=1820 pD= 6710 SR=17.450 RA50=333.57 DEC50=-13.10 cone=168.54 clock= 96.46
117DH:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/2531
1:#s= 3 Cs= -22.00 XCs= 0.00 Cr= 22.00 XCr= 8.20 sD= 2210 rD= 40

14CNGLOBAL01

DESIGN G3.2 lisac: 3/18/1998 15:12:21

FILE:P.14CNGLOBAL01

TARGET BODY : CALLISTO

MINI:m.14CNGLOBAL01

S/C EPH:/DATA/NAVIO/E12RE14C.NS

PERIAPSIS:

START:CEE 98-090/04:29:41.000 -CDS 200:00:0

OBSERVATION:14CNGLOBAL01

THINNING:NIM 2

BODY PLOT TIME:TARGET-TIME D= 6710 S= 0.800

DESCRIP:Callisto_Global_Map

Callisto Global Map	ACTIVITY ID: 14CNGLOBAL01* START TIME: 98-090/01:06:27.000

Activity ID: Orbit 14 Target C Inst N OAPEL GLOBAL SeqNo 01 *

Title	Callisto Global Map			Instrument	NIMS
Requestor	NIMS-SWG/M. SEGURA	Team	NIMS	Working Group	SWG

Time System	CDS	Load ID		Calendar Date	03/31/98	Week 13

Start	CEE-CDS 00000201:00:0	98-090/01:06:27.000	CEE-000/03:23:14.000
End	CEE-CDS 00000163:00:0	98-090/01:44:52.334	CEE-000/02:44:48.666
Duration	00000038:00:0	000/00:38:25.334	000/00:38:25.334

Top Label 14CNGLOBAL01-
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

This observation will allow for trailing side compositional mapping. Prime mission observations as well as VGR an IUE observations have indicated cmpositional differences from leading side to trailing side. This observation, in conjunction with a C20 observation will answer this question.

FMT = LPU, Tics = 424, MBTG = 6.200, PPR_RA=0.299 Mbits for NIMS includes the 2.6 Mbits for delayed playback.

Data Returned

Design Detail

Instrument Mode = LM Scan rate 0.03 mrad,
Nyquist sampling, twenty percent overlap.
Phase angle = 16.82 degrees.
Cone angle = 168.43 degrees.
Resolution = 102 km/pixel.

The full disk is covered in three swaths, south to north.

Central portion of each swath returned in 243 wavelengths (dark box).
Full disk returned in 15 wavelengths (gray box).

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

E14CLM243C, E14CLM015C
Long Map (LM), Gain 4, Grating Start 0, LPU, E14CLM243C, E14CLM243C

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Chopper off	ACTIVITY ID: 14NNCHOPOF01- START TIME: 98-090/01:52:57.667

Activity ID: Orbit 14 Target N Inst N OAPEL CHOPOF SeqNo 01 -

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

Time System	CDS	Load ID	Calendar Date	03/31/98	Week 13

Start	CEE-CDS 00000155:00:0	98-090/01:52:57.667	CEE-000/02:36:43.333
End	CEE-CDS 00000149:00:0	98-090/01:59:01.667	CEE-000/02:30:39.333
Duration	00000006:00:0	000/00:06:04.000	000/00:06:04.000

Top Label	14NNCHOPOF01-
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

Turn off NIMS chopper after instrument reload.

Design Detail

Use tow NIMS 37IST commands, the first to set chopper 63Hx, the second to turn off the chopper.

37IST,1,0,0,OFF,0,0,0 Chopper 63Hz
37IST,1,1,0,OFF,0,0,0 Chopper Off

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NIMS RCT Real-Time Calibration ACTIVITY ID: 14NNRCTRLT01-
START TIME: 98-132/07:59:34.133

Activity ID: Orbit 14 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 05/12/98 Week 19

Start	RTA+CDS 00000000:00:0	98-132/07:59:34.133	RTA+000/00:00:00.000
End	RTA+CDS 00000794:00:0	98-132/21:22:23.466	RTA+000/13:22:49.333
Duration	00000794:00:0	000/13:22:49.333	000/13:22:49.333

Top Label 14NNRCTRLT01-
Bottom Label

Plot Key	NIMS	Type	SCI		
CDS Bytes	500	Report Options	BOTH	Scan Platform	No
CDS Source	OAP	Spin State	DUAL	DMS	No

Observation Objective

This observationis 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.

Data Returned

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

Galileo Activity Plan Form 03/09/98 14:16:22 rev 6/95