Chapter 5 - Detailed Observation Designs

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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: 17NNJUPRTS01-** **START TIME: 98-268/06:17:55.335**

Activity ID: Orbit 17 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**	**09/25/98 Week 39**
Start	**JEE-CDS 00001550:00:0**	**98-268/06:17:55.335**		**JEE-001/02:07:13.333**	
End	**JEE-CDS 00001540:00:0**	**98-268/06:28:02.002**		**JEE-001/01:57:06.666**	
Duration	**00000010:00:0**	**000/00:10:06.667**		**000/00:10:06.667**	

Top Label	**17NNJUPRTS01-**				
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 Software Reload

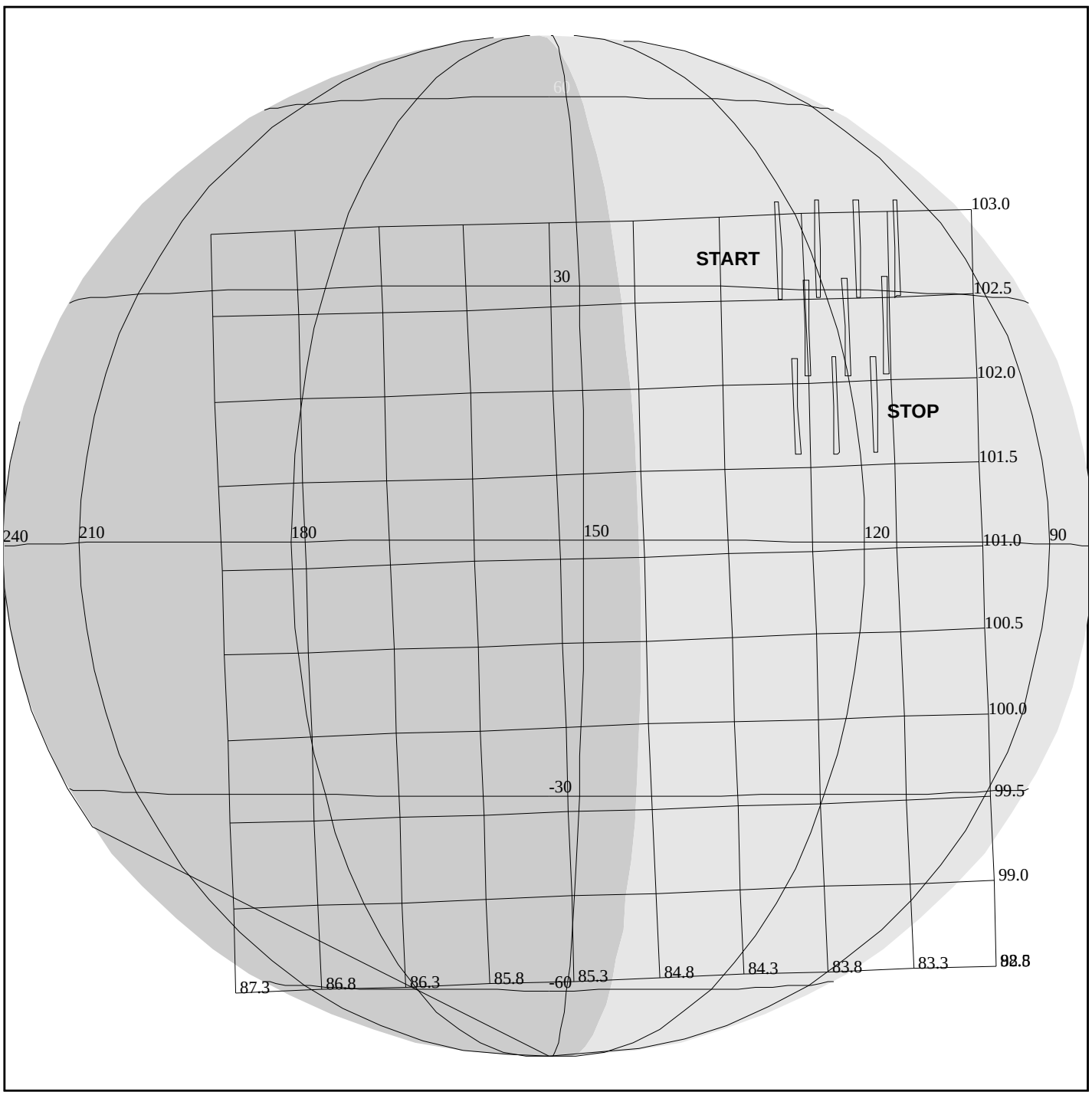
Each NIMS GEM observation will have an instrument reload before the start of each observation. Each reload has its own OAPEL form, but only this first form is included in the NIMSGUIDE.

The NIMS E17 reload OAPELs are:
17NNJUPRTS01,17NNEUR20H01,17NNWHTOVL01,17NNWHTOVL02, 17NNJUPRTS02,17NNWHTOVL03,17NNJUPRTS03,17NNGLOBAL01, 17NNSUCOMP01,17NNSUCOMP02,17NNSUCOMP03,17NNSUCOMP04, 17NNGLOBAL02

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



165DA:TT= 0 TMC= 1 C= 0.00 XC= 0.00 BS= 0/8836 TC= 1(35 125)
A= 728 pD= 1810 SR=17.450 RA50=251.32 DEC50=-22.20 cone= 83.94 clock=102.78
117DA:#SB= 1 OR= 0.060 RR=12.000 BM=F RC= 1 BS= 0/8836
1:#s= 3 Cs= -11.50 XCs= 0.00 Cr= 13.00 XCr= -8.00 sD= 582 rD= 24

17JNJUPRTS01

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17JNJUPRTS01

CENTRAL BODY:JUPITER

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS: **THINNING:NIM 7**

START:JEE 98-269/08:26:40.000 -CDS 1536:00:0 **BODY PLOT TIME:TARGET-TIME D= 1810 S= 1.000**

OBSERVATION:17JNJUPRTS01 **DESCRIP:Jupiter_Realtime_Observation**

Jupiter Realtime Observation — **ACTIVITY ID: 17JNJUPRTS01*** / **START TIME: 98-268/06:28:02.002**

Activity ID: Orbit 17 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 09/25/98 Week 39**
Start	**JEE-CDS 00001540:00:0**	**98-268/06:28:02.002**	**JEE-001/01:57:06.666**
End	**JEE-CDS 00001526:00:0**	**98-268/06:42:11.335**	**JEE-001/01:42:57.333**
Duration	**00000014:00:0**	**000/00:14:09.333**	**000/00:14:09.333**

Top Label 17JNJUPRTS01*
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

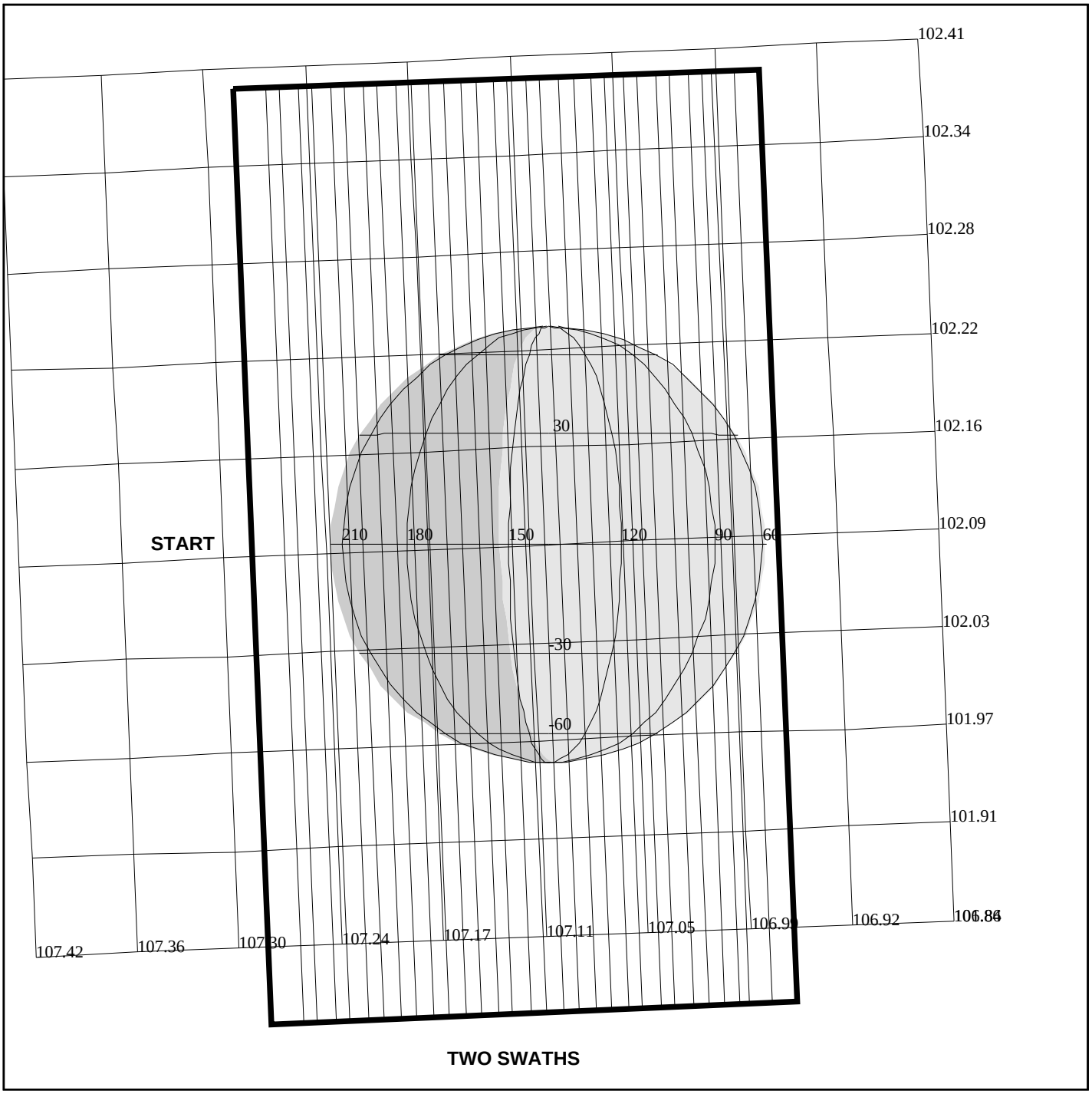
Design Detail

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

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

Long Map (LM), Gain 2, Grating Start 0, R/T, RT408

Galileo Activity Plan Form **08/31/98 13:50:52 rev 6/95**



TWO SWATHS

165EA:TT= 0 TMC= 1 C= 3.00 XC= 0.00 BS= 0/3022 TC= 3
A= 728 pD= 1810 SR=17.450 RA50=276.66 DEC50=-24.44 cone=107.27 clock=102.09
117EA:#SB= 1 OR= 0.020 RR=12.000 BM=F RC= 1 BS= 0/3022
1:#s= 2 Cs= -5.20 XCs= 0.00 Cr= 5.20 XCr= 0.00 sD= 814 rD= 182

17ENEUR20H01

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17ENEUR20H01

TARGET BODY : EUROPA

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS: **THINNING:NIM 2**

START:EEE 98-269/03:54:40.733 -CDS 1244:00:0 **BODY PLOT TIME:TARGET-TIME D= 1810 S= 0.400**

OBSERVATION:17ENEUR20H01 **DESCRIP:EUROPA_-20_HOURS**

Europa 20 Hour Map — **ACTIVITY ID: 17ENEUR20H01-** / **START TIME: 98-268/06:48:15.513**

Activity ID: Orbit 17 Target E Inst N OAPEL EUR20H SeqNo 01 -

Title	**Europa 20 Hour Map**			**Instrument**	**NIMS**
Requestor	**NIMS-SWG/M. SEGURA**	**Team**	**NIMS**	**Working Group**	**SWG**

Time System	**CDS**	**Load ID**		**Calendar Date**	**09/25/98 Week 39**
Start	**EEE-CDS 00001248:00:0**	**98-268/06:48:15.513**		**EEE-000/21:01:52.000**	
End	**EEE-CDS 00001234:00:0**	**98-268/07:02:24.847**		**EEE-000/20:47:42.666**	
Duration	**00000014:00:0**	**000/00:14:09.334**		**000/00:14:09.334**	

Top Label	**17ENEUR20H01-**				
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

Distant Europa global mapping at 20 hours prior to closest approach.
Special emphasis given to the non-ice components on Europa’s surface.

Data Returned

Design Detail

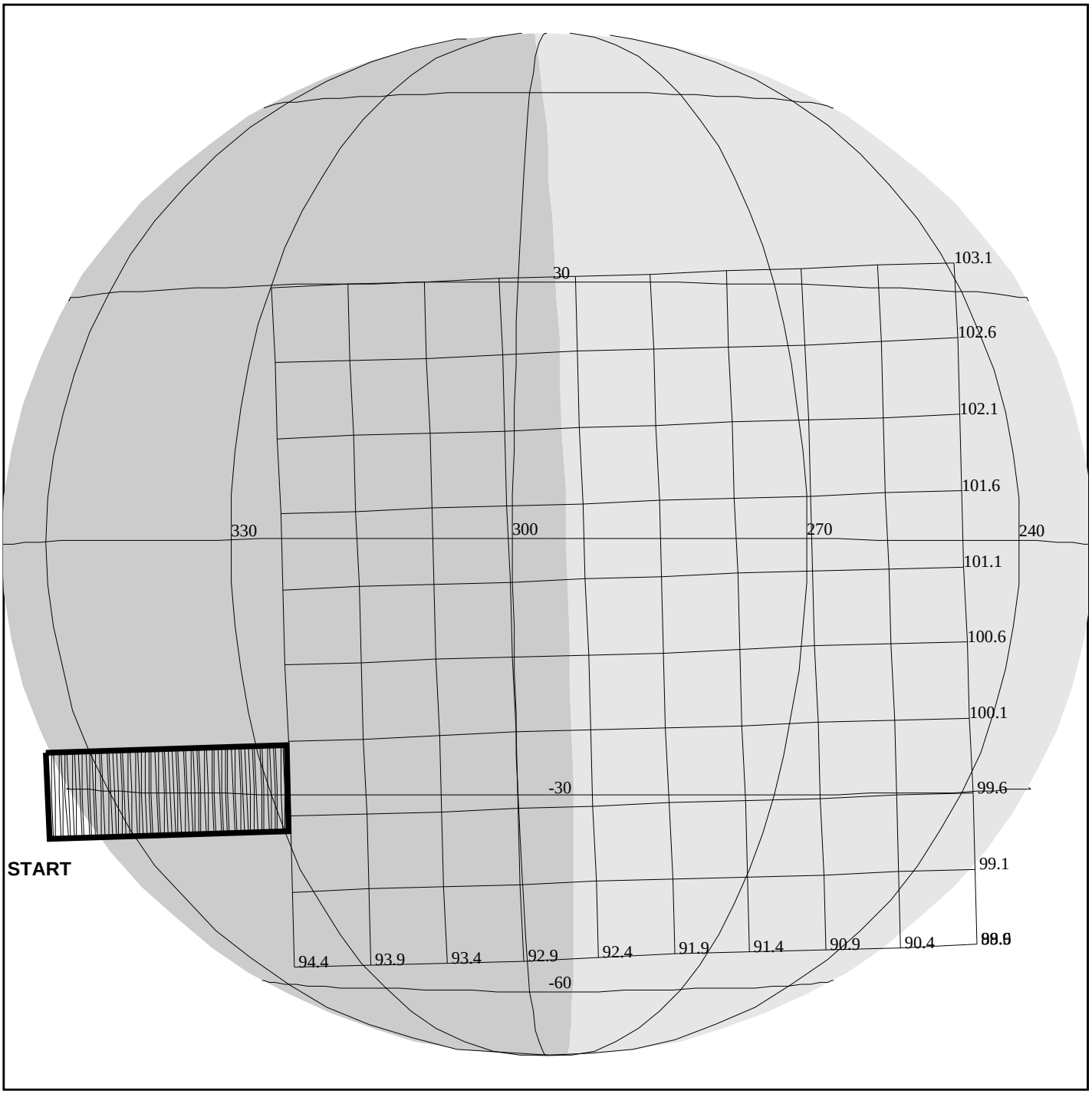
Long Map, Nyquist sampling, 2 scans across the body with one
Rim of time between the 2 scans.

First Scan in Gain State 4 - emphasis on longer wavelengths.
Second scan in Gain State 3 - emphasis on shorter wavelengths.

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

Long Map (LM), Gain 4, Grating Start 0, LPU, ELM240T, ELM240T
Long Map (LM), Gain 3, Grating Start 0, LPU, ELM240V, ELM240V

Galileo Activity Plan Form **08/31/98 13:50:52 rev 6/95**



165EB:TT= 0 TMC= 1 C= 12.00 XC= 0.00 BS= 0/3608 TC= 1(-30 350)
A= 546 pD= 1810 SR=17.450 RA50=264.12 DEC50=-26.46 cone= 95.99 clock= 99.83
117EB:#SB= 1 OR= 0.040 RR=12.000 BM=F RC= 1 BS= 0/3608
1:#s= 1 Cs= -24.00 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 1810 rD= 2

17JNWHTOVL01

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17JNWHTOVL01

CENTRAL BODY:JUPITER

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS: **THINNING:NIM 2**

START:JEE 98-269/08:26:40.000 -CDS 1290:00:0 **BODY PLOT TIME:TARGET-TIME D= 1810 S= 1.000**

OBSERVATION:17JNWHTOVL01 **DESCRIP:NIMS_MERGING_WHITE_OVAL**

Jupiter White Oval	ACTIVITY ID: 17JNWHTOVL01- START TIME: 98-268/10:37:46.668

Activity ID: Orbit 17 Target J Inst N OAPEL WHTOVL SeqNo 01 -

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

Time System	CDS	Load ID		Calendar Date	09/25/98 Week 39
Start	JEE-CDS 00001293:00:0	98-268/10:37:46.668		JEE-000/21:47:22.000	
End	JEE-CDS 00001280:00:0	98-268/10:50:55.335		JEE-000/21:34:13.333	
Duration	00000013:00:0	000/00:13:08.667		000/00:13:08.667	

Top Label	17JNWHTOVL01-				
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.

Data Returned

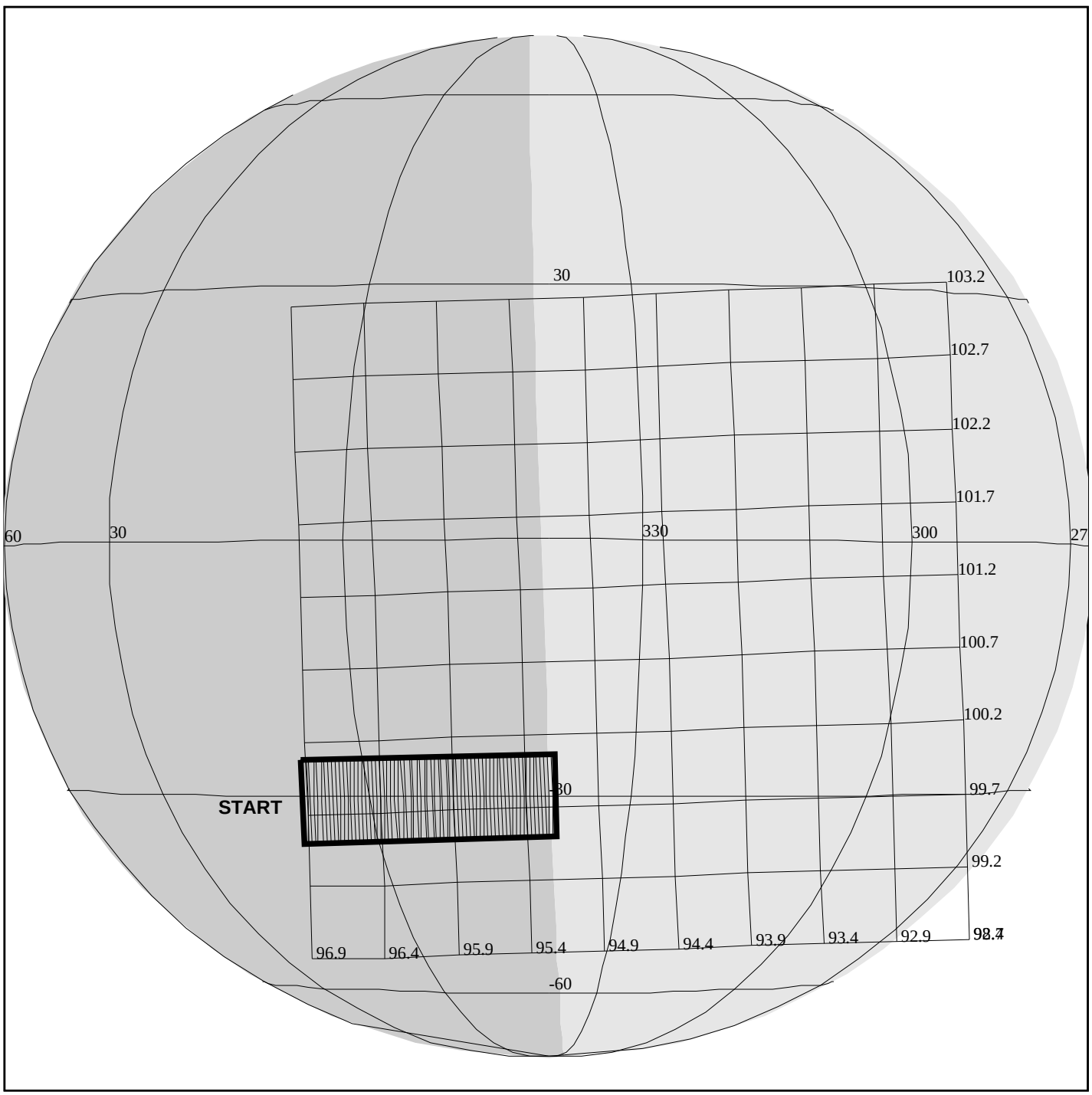
Design Detail

4 Rims of targeting time, one scan 12 Rims long.
Longitude coverage: 350 degrees to 357 degrees (centered)
Latitude: 30 degrees South
Long map mode, Nyquist sampling
Nightside.

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

Long Map (LM), Gain 4, Grating Start 0, LPU, JSB253B, JSB66B

Galileo Activity Plan Form 08/31/98 13:50:53 rev 6/95



165EC:TT= 0 TMC= 1 C= 18.00 XC= 0.00 BS= 0/7076 TC= 1(-30 350)
A= 728 pD= 1810 SR=17.450 RA50=265.12 DEC50=-26.56 cone= 96.89 clock= 99.78
117EC:#SB= 1 OR= 0.040 RR=12.000 BM=F RC= 1 BS= 0/7076
1:#s= 1 Cs= -24.00 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 1810 rD= 2

17JNWHTOVL02

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17JNWHTOVL02

CENTRAL BODY:JUPITER

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS: **THINNING:NIM 2**

START:JEE 98-269/08:26:40.000 -CDS 1216:00:0 **BODY PLOT TIME:TARGET-TIME D= 1810 S= 1.000**

OBSERVATION:17JNWHTOVL02 **DESCRIP:NIMS_MERGING_WHITE_OVAL**

Jupiter White Oval	**ACTIVITY ID: 17JNWHTOVL02-** **START TIME: 98-268/11:51:35.335**

Activity ID: Orbit 17 Target J Inst N OAPEL WHTOVL SeqNo 02 -

Title	**Jupiter White Oval**			**Instrument**	**NIMS**
Requestor	**NIMS-AWG/K. BAINES**	**Team**	**NIMS**	**Working Group**	**AWG**

Time System	**CDS**	**Load ID**		**Calendar Date**	**09/25/98 Week 39**
Start	**JEE-CDS 00001220:00:0**	**98-268/11:51:35.335**		**JEE-000/20:33:33.333**	
End	**JEE-CDS 00001206:00:0**	**98-268/12:05:44.668**		**JEE-000/20:19:24.000**	
Duration	**00000014:00:0**	**000/00:14:09.333**		**000/00:14:09.333**	

Top Label	**17JNWHTOVL02-**				
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.

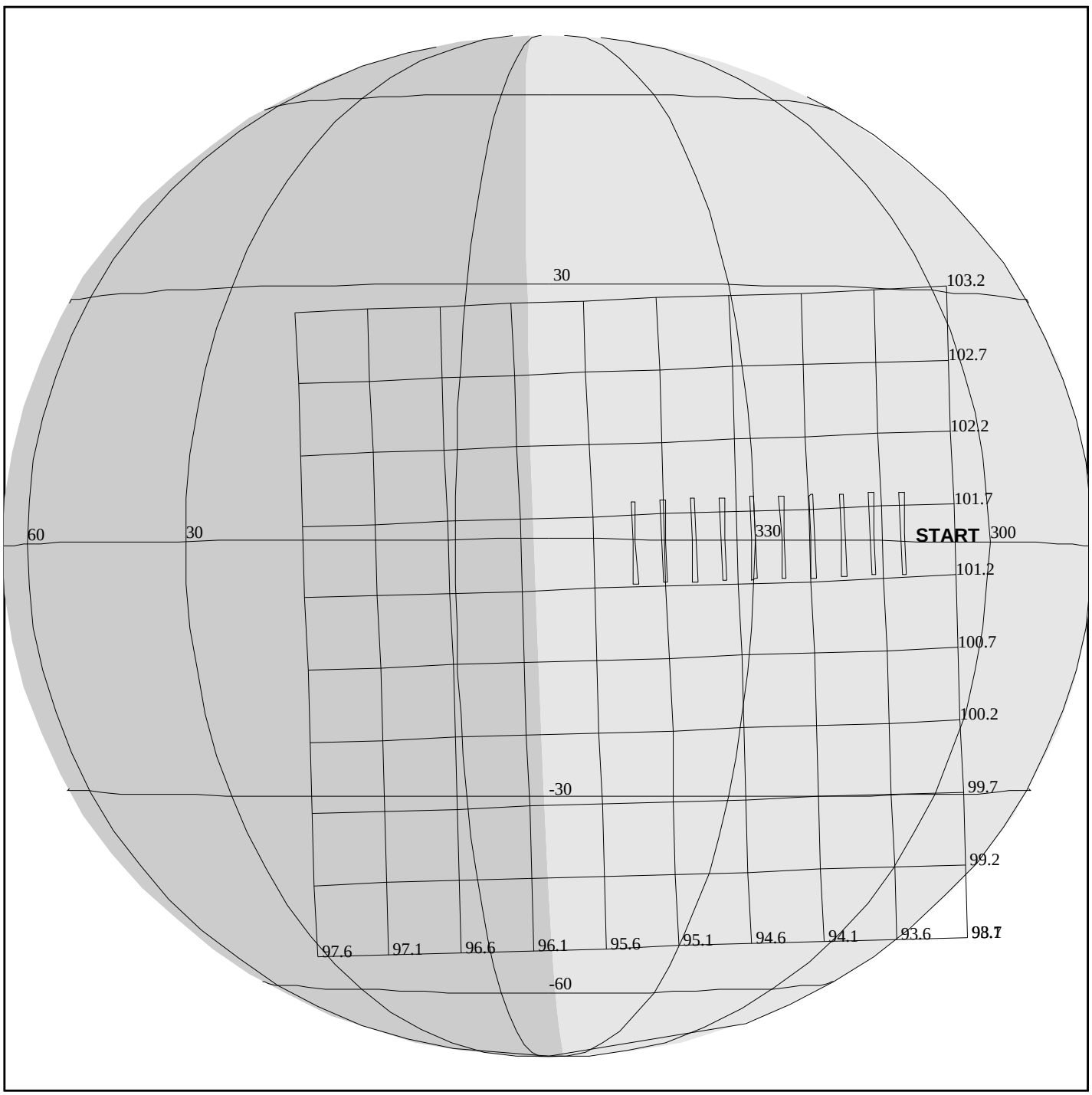
Data Returned

Design Detail

4 Rims of targeting time, one scan 12 Rims long.
Longitude coverage: 350 degrees to 357 degrees (centered)
Latitude: 30 degrees South
Long map mode, Nyquist sampling
Nightside and Terminator.

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

Long Map (LM), Gain 4, Grating Start 0, LPU, JSB253B, JSB66B



165DB:TT= 0 TMC= 1 C= -43.00 XC= 0.00 BS= 0/0716 TC= 3
A= 728 pD= 1810 SR=17.450 RA50=261.39 DEC50=-24.59 cone= 93.40 clock=101.52
117DB:#SB= 1 OR= 0.060 RR=12.000 BM=F RC= 1 BS= 0/0716
1:#s= 1 Cs= 36.00 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 1810 rD= 2

17JNJUPRTS02

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17JNJUPRTS02

CENTRAL BODY:JUPITER

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS: **THINNING:NIM 7**

START:JEE 98-269/08:26:40.000 -CDS 1196:00:0 **BODY PLOT TIME:TARGET-TIME D= 1810 S= 1.000**

OBSERVATION:17JNJUPRTS02 **DESCRIP:Jupiter_Realtime_Observation**

Jupiter Realtime Observation — **ACTIVITY ID: 17JNJUPRTS02*** / **START TIME: 98-268/12:11:48.668**

Activity ID: Orbit 17 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 09/25/98 Week 39**
Start	**JEE-CDS 00001200:00:0**	**98-268/12:11:48.668**	**JEE-000/20:13:20.000**
End	**JEE-CDS 00001186:00:0**	**98-268/12:25:58.002**	**JEE-000/19:59:10.666**
Duration	**00000014:00:0**	**000/00:14:09.334**	**000/00:14:09.334**

Top Label 17JNJUPRTS02*
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

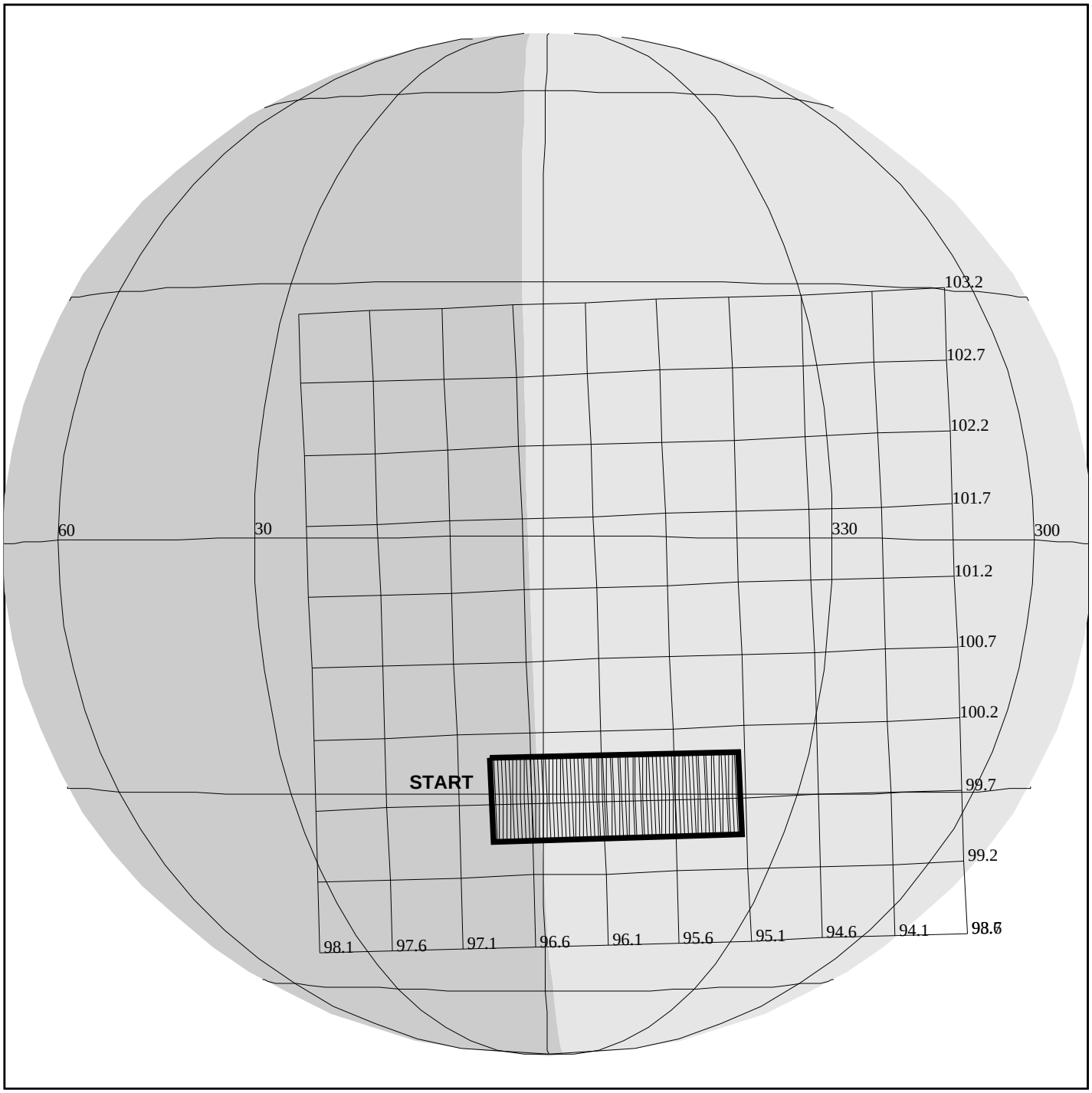
Design Detail

Long map. One scan ten RIMS long.
Equator - Nyquist sampling not necessary.
Longitude - not dependent. No overlap in FOV.
NIMS R/T only returns every seventh FOV.

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

Long Map (LM), Gain 2, Grating Start 0, R/T, RT408

Galileo Activity Plan Form **08/31/98 13:50:53 rev 6/95**



165ED:TT= 0 TMC= 1 C= 17.00 XC= 0.00 BS= 0/3446 TC= 1(-30 350)
A= 728 pD= 1810 SR=17.450 RA50=265.09 DEC50=-26.59 cone= 96.87 clock= 99.76
117ED:#SB= 1 OR= 0.040 RR=12.000 BM=F RC= 1 BS= 0/3446
1:#s= 1 Cs= -24.00 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 1810 rD= 2

17JNWHTOVL03

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17JNWHTOVL03

CENTRAL BODY:JUPITER

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS: **THINNING:NIM 2**

START:JEE 98-269/08:26:40.000 -CDS 1181:00:0 **BODY PLOT TIME:TARGET-TIME D= 1810 S= 1.000**

OBSERVATION:17JNWHTOVL03 **DESCRIP:NIMS_MERGING_WHITE_OVAL**

Jupiter White Oval — **ACTIVITY ID: 17JNWHTOVL03-** / **START TIME: 98-268/12:27:59.335**

Activity ID: Orbit 17 Target J Inst N OAPEL WHTOVL SeqNo 03 -

Title	**Jupiter White Oval**			**Instrument**	**NIMS**
Requestor	**NIMS-AWG/K. BAINES**	**Team**	**NIMS**	**Working Group**	**AWG**

Time System	**CDS**	**Load ID**		**Calendar Date**	**09/25/98 Week 39**
Start	**JEE-CDS 00001184:00:0**	**98-268/12:27:59.335**		**JEE-000/19:57:09.333**	
End	**JEE-CDS 00001170:00:0**	**98-268/12:42:08.668**		**JEE-000/19:43:00.000**	
Duration	**00000014:00:0**	**000/00:14:09.333**		**000/00:14:09.333**	

Top Label	**17JNWHTOVL03-**				
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.

Data Returned

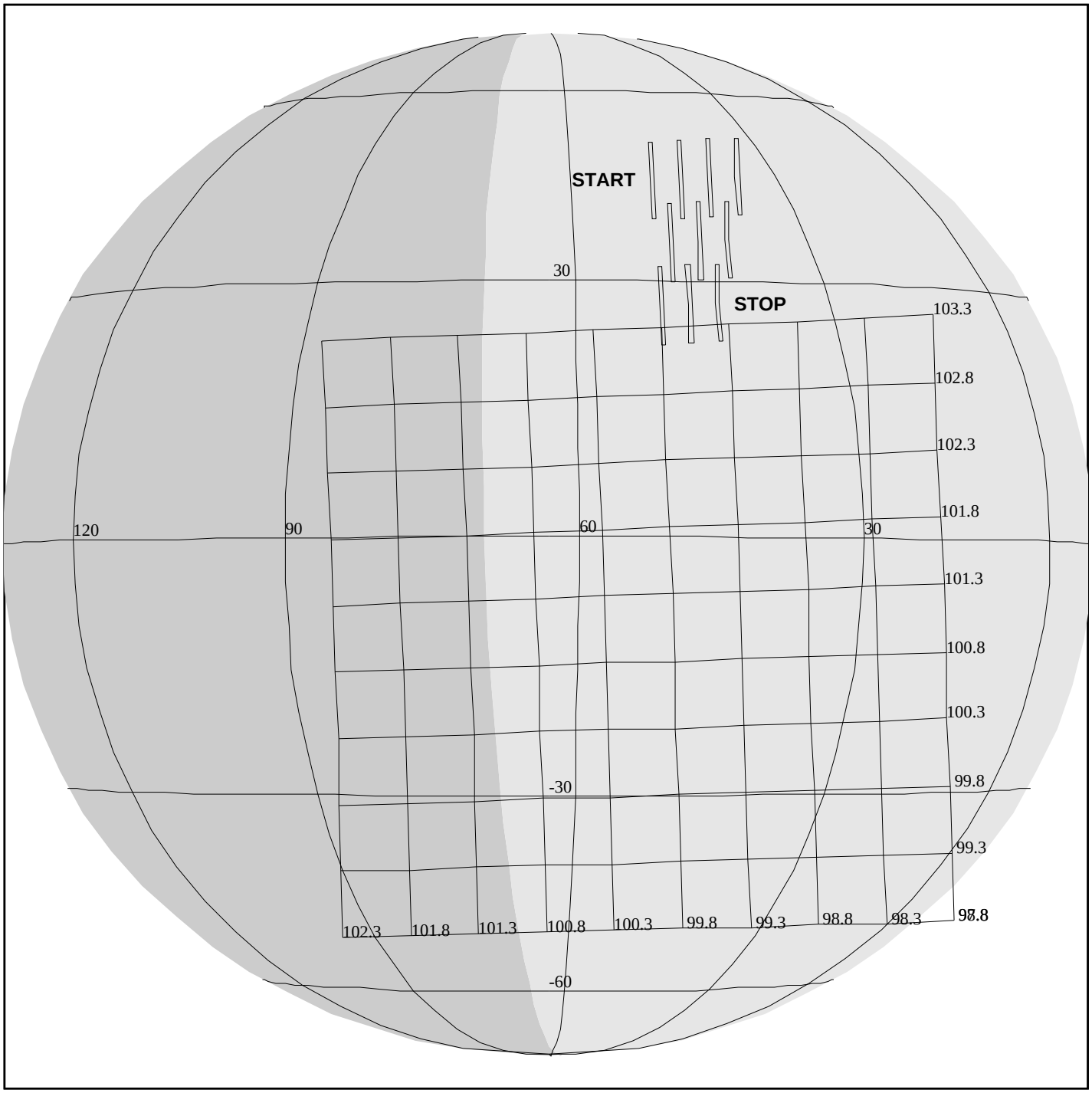
Design Detail

4 Rims of targeting time, one scan 12 Rims long.
Longitude coverage: 350 degrees to 357 degrees (centered)
Latitude: 30 degrees South
Long map mode, Nyquist sampling
Terminator and Dayside.

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

Long Map (LM), Gain 2, Grating Start 0, LPU, JSB253B, JSB253B

Galileo Activity Plan Form **08/31/98 13:50:53 rev 6/95**



165DC:TT= 0 TMC= 1 C= -15.00 XC= 46.00 BS= 0/3648 TC= 3
A= 728 pD= 1810 SR=17.450 RA50=268.62 DEC50=-22.13 cone= 99.87 clock=104.41
117DC:#SB= 1 OR= 0.060 RR=12.000 BM=F RC= 1 BS= 0/3648
1:#s= 3 Cs= -11.50 XCs= 0.00 Cr= 12.00 XCr= -8.00 sD= 582 rD= 26

17JNJUPRTS03

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17JNJUPRTS03

CENTRAL BODY:JUPITER

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS: **THINNING:NIM 7**

START:JEE 98-269/08:26:40.000 -CDS 1070:00:0 **BODY PLOT TIME:TARGET-TIME D= 1810 S= 1.000**

OBSERVATION:17JNJUPRTS03 **DESCRIP:Jupiter_Realtime_Observation**

Jupiter Realtime Observation — **ACTIVITY ID: 17JNJUPRTS03*** / **START TIME: 98-268/14:20:13.335**

Activity ID: Orbit 17 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 09/25/98 Week 39**
Start	**JEE-CDS 00001073:00:0**	**98-268/14:20:13.335**	**JEE-000/18:04:55.333**
End	**JEE-CDS 00001058:00:0**	**98-268/14:35:23.335**	**JEE-000/17:49:45.333**
Duration	**00000015:00:0**	**000/00:15:10.000**	**000/00:15:10.000**

Top Label 17JNJUPRTS03*
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

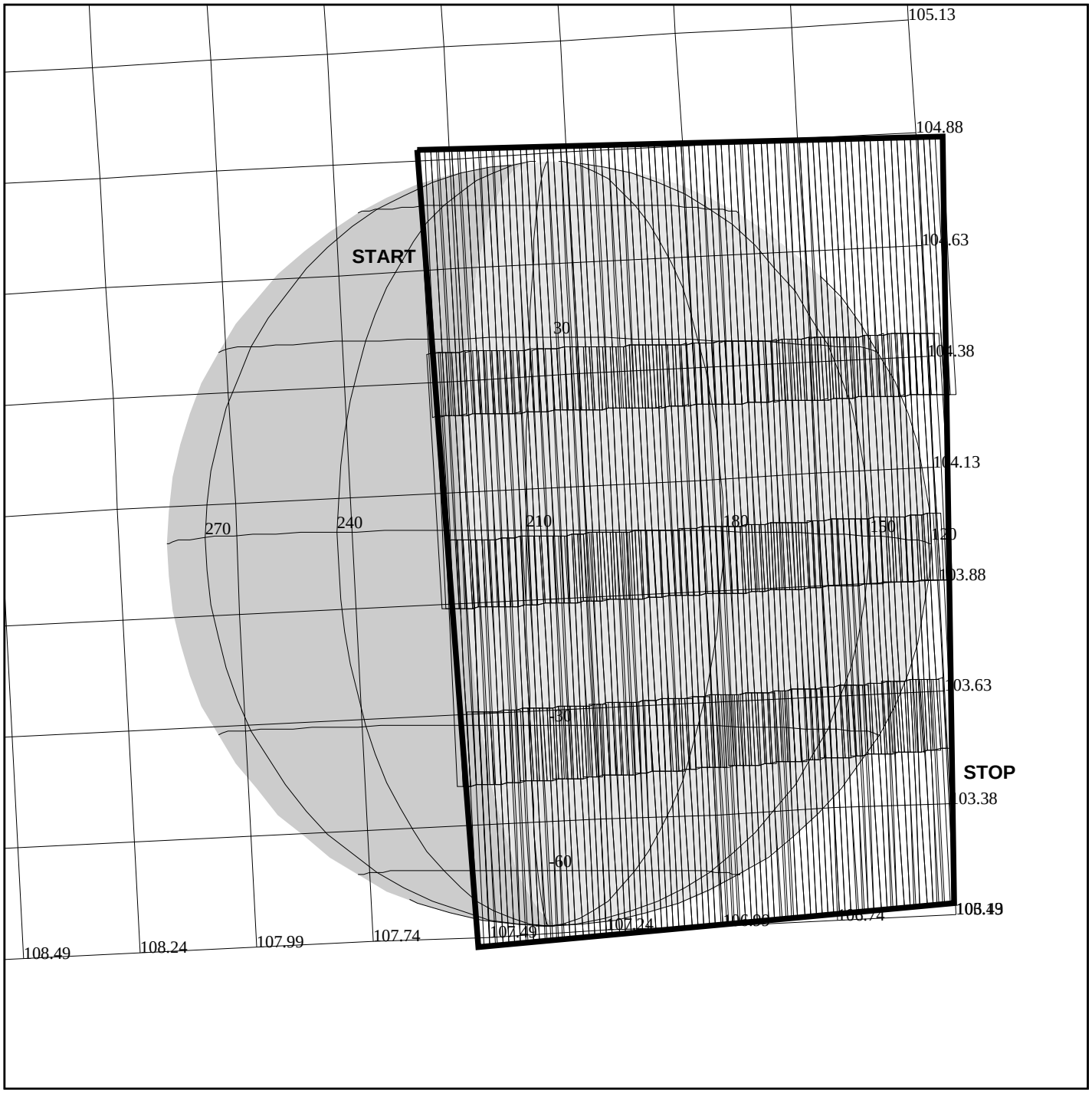
Design Detail

Long map. 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.

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

Long Map (LM), Gain 2, Grating Start 0, R/T, RT408

Galileo Activity Plan Form 08/31/98 13:50:54 rev 6/95



165DD:TT= 0 TMC= 1 C= 4.00 XC= 10.00 BS= 0/5558 TC= 3
A= 728 pD= 8180 SR=17.450 RA50=276.92 DEC50=-22.04 cone=107.55 clock=104.60
117DD:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/5558
1:#s= 4 Cs= -20.20 XCs= 0.00 Cr= 20.00 XCr= -7.30 sD= 2030 rD= 20

17ENGLOBAL01

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17ENGLOBAL01

TARGET BODY : EUROPA

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS: **THINNING:NIM 1**

START:EEE 98-269/03:54:40.733 -CDS 296:00:0 **BODY PLOT TIME:TARGET-TIME D= 8180 S= 0.700**

OBSERVATION:17ENGLOBAL01 **DESCRIP:Europa_Global_Observation**

Europa Global Observation

ACTIVITY ID: 17ENGLOBAL01-
START TIME: 98-268/22:46:47.513

Activity ID: Orbit 17 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 09/25/98 Week 39
Start	EEE-CDS 300:00:0	98-268/22:46:47.513	EEE-000/05:03:20.000
End	EEE-CDS 00000250:00:0	98-268/23:37:20.847	EEE-000/04:12:46.666
Duration	00000050:00:0	000/00:50:33.334	000/00:50:33.334

Top Label 17ENGLOBAL01-
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 at 236-128 degrees at
50 KM resolution.

Data Returned

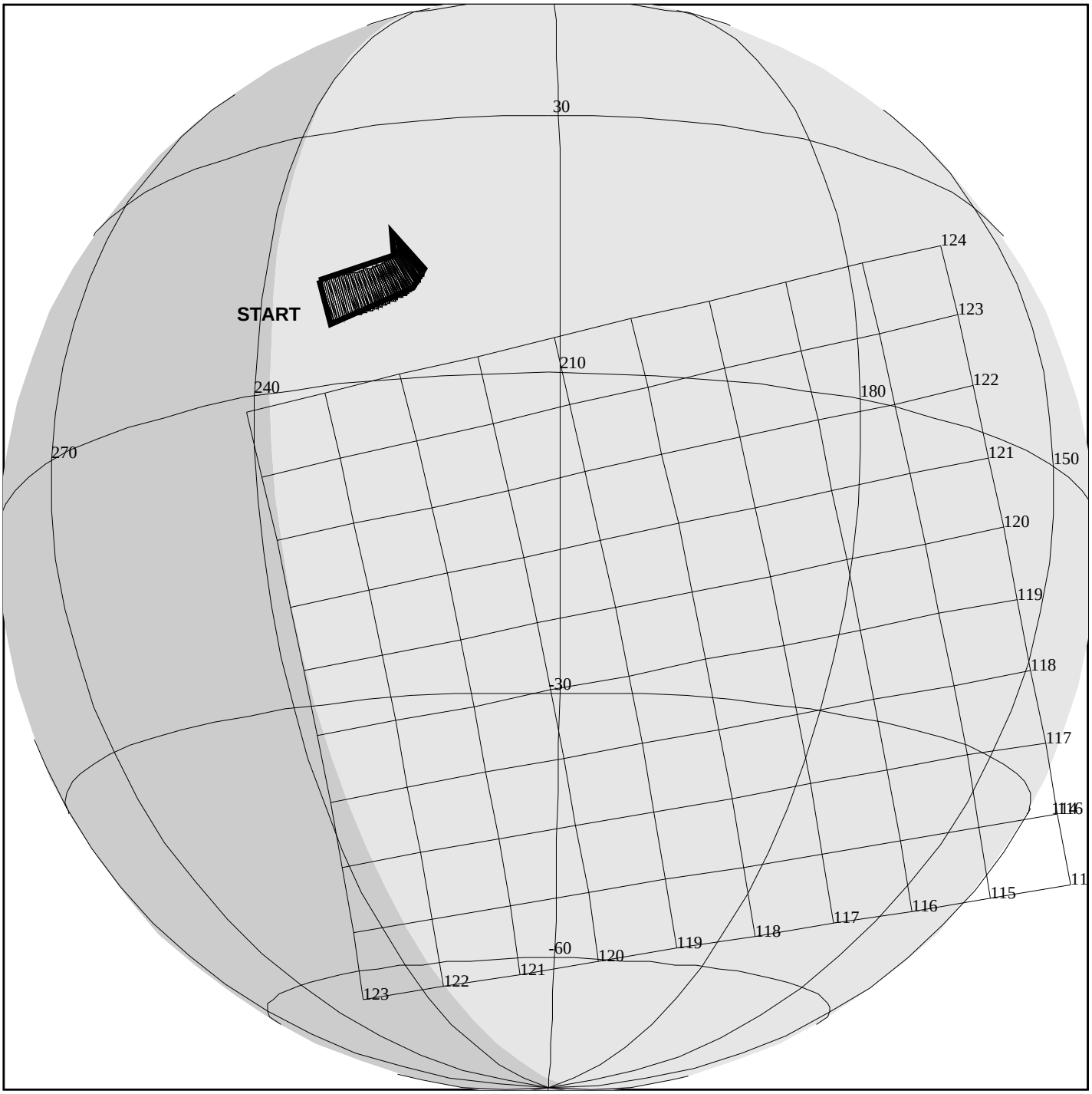
Design Detail

NIMS mode = LM TICS= 2373, FMT= MPW, MBTG= 8.890 , PPR_RA=0.459
Europa Global Mosaic
Number of swaths is four, from north to south.
Latitudes from +90 to -90 degrees.
Lit Longitudes from 220 (terminator) to 120 (limb) degrees west.
All swaths in gain state 3.

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

Long Map (LM), Gain 3, Grating Start 0, MPW, ELM442, ELM228C

Galileo Activity Plan Form 08/31/98 13:50:54 rev 6/95



165DE:TT= 0 TMC= 1 C= 0.00 XC= 0.00 BS= 0/3424 TC= 1(8.65 233)
A= 728 pD= 3448 SR=17.450 RA50=291.84 DEC50= -3.56 cone=121.71 clock=125.32
117DE:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/3424
1:#s= 1 Cs= -34.30 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 3448 rD= 2

17ENSUCOMP01

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17ENSUCOMP01

TARGET BODY : EUROPA

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS: **THINNING:NIM 1**

START:EEE 98-269/03:54:40.733 -CDS 33:00:0 **BODY PLOT TIME:TARGET-TIME D= 3448 S= 1.000**

OBSERVATION:17ENSUCOMP01 **DESCRIP:Europa_Surface_Composition**

Europa Surface Composition	ACTIVITY ID: 17ENSUCOMP01- START TIME: 98-269/03:11:42.180

Activity ID: Orbit 17 Target E Inst N OAPEL SUCOMP SeqNo 01 -

Title	Europa Surface Composition			Instrument	NIMS
Requestor	NIMS-SWG/J. SHIRLEY	Team	NIMS	Working Group	SWG

Time System	CDS	Load ID		Calendar Date	09/26/98 Week 39
Start	EEE-CDS 00000038:00:0	98-269/03:11:42.180		EEE-000/00:38:25.333	
End	EEE-CDS 00000014:00:0	98-269/03:35:58.180		EEE-000/00:14:09.333	
Duration	00000024:00:0	000/00:24:16.000		000/00:24:16.000	

Top Label 17ENSUCOMP01-
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 centered at 7 N, 225 W,
a region with strong non-ice material spectral features.

Data Returned

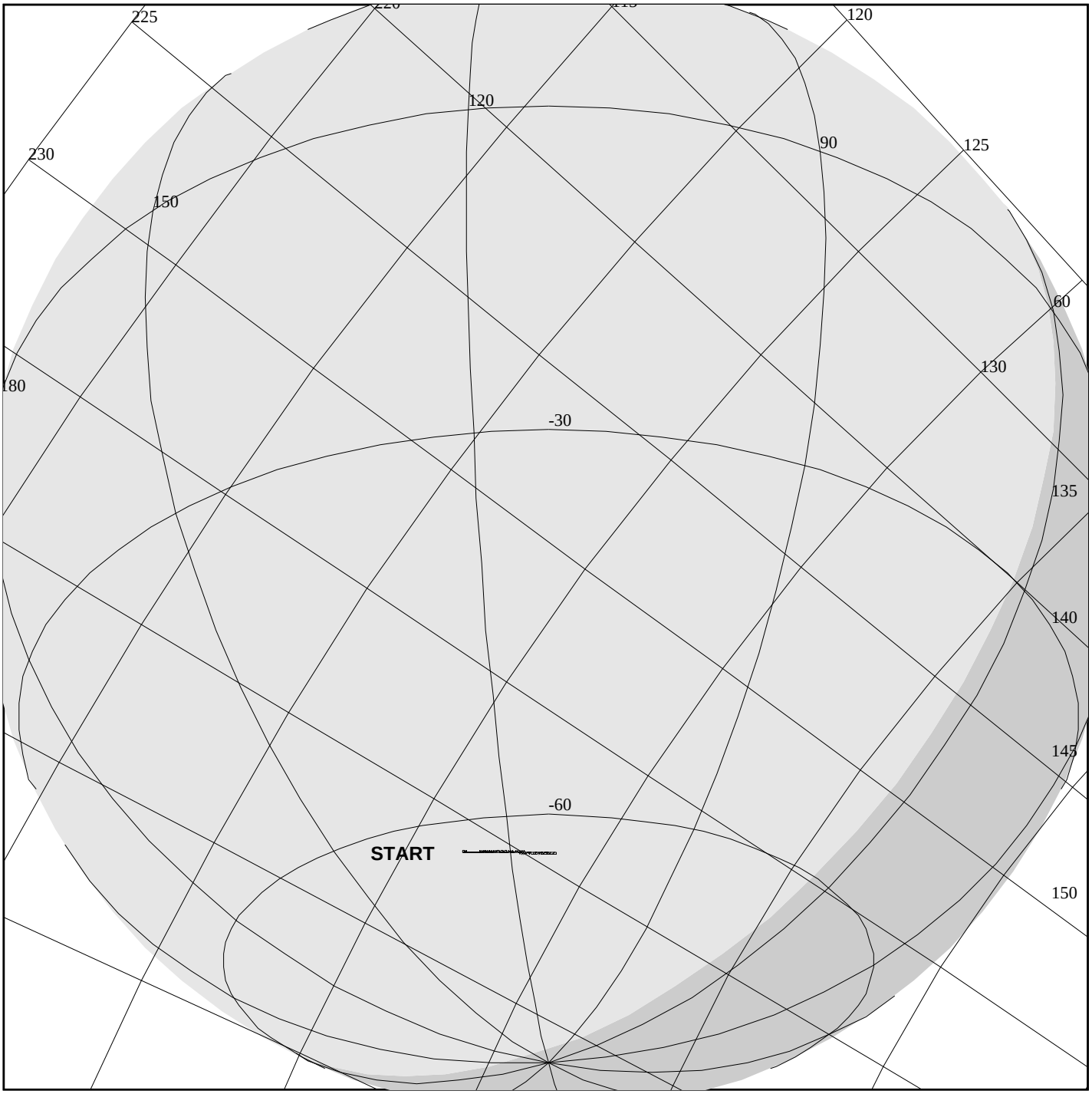
Design Detail

NIMS mode = LM TICS= 1057, FMT= MPW, MBTG= 8.098, PPR_RA=0.369
Single Swath centered near 9 degrees north latitude near the terminator.
Longitudes from 233 to 225 degrees west.
Gain state = 4 Grating position = 0

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

Long Map (LM), Gain 4, Grating Start 0, MPW, ELM442, ELM360

Galileo Activity Plan Form 08/31/98 13:50:54 rev 6/95



165DF:TT= 0 TMC= 1 C= -30.00 XC= 0.00 BS= 0/0340 TC= 1(-66 120)
A= 182 pD= 3082 SR=17.450 RA50= 17.47 DEC50= 41.55 cone=126.52 clock=241.07
117DF:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/0340
1:#s= 1 Cs= 30.70 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 3082 rD= 2

17ENSUCOMP02

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17ENSUCOMP02

TARGET BODY : EUROPA

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS: **THINNING:NIM 2**

START:EEE 98-269/03:54:40.733 +CDS 05:00:0 **BODY PLOT TIME:TARGET-TIME D= 3082 S= 1.000**

OBSERVATION:17ENSUCOMP02 **DESCRIP:Europa_Surface_Composition**

Europa Surface Composition	**ACTIVITY ID: 17ENSUCOMP02-** **START TIME: 98-269/03:54:10.179**

Activity ID: Orbit 17 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**	**09/26/98 Week 39**
Start	**EEE+CDS 4:00:0**	**98-269/03:54:10.179**		**EEE+000/00:04:02.666**	
End	**EEE+CDS 00000021:00:0**	**98-269/04:11:21.513**		**EEE+000/00:21:14.000**	
Duration	**00000017:00:0**	**000/00:17:11.334**		**000/00:17:11.334**	

Top Label	**17ENSUCOMP02-**				
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

Southern high latitudes of Europa imaged at high spectral resolution using long spectrometer mode to search for condensates of volatile non-water-ice materials.

Europa observed in Long Spectrometer mode for better signal-to-noise.

Data Returned

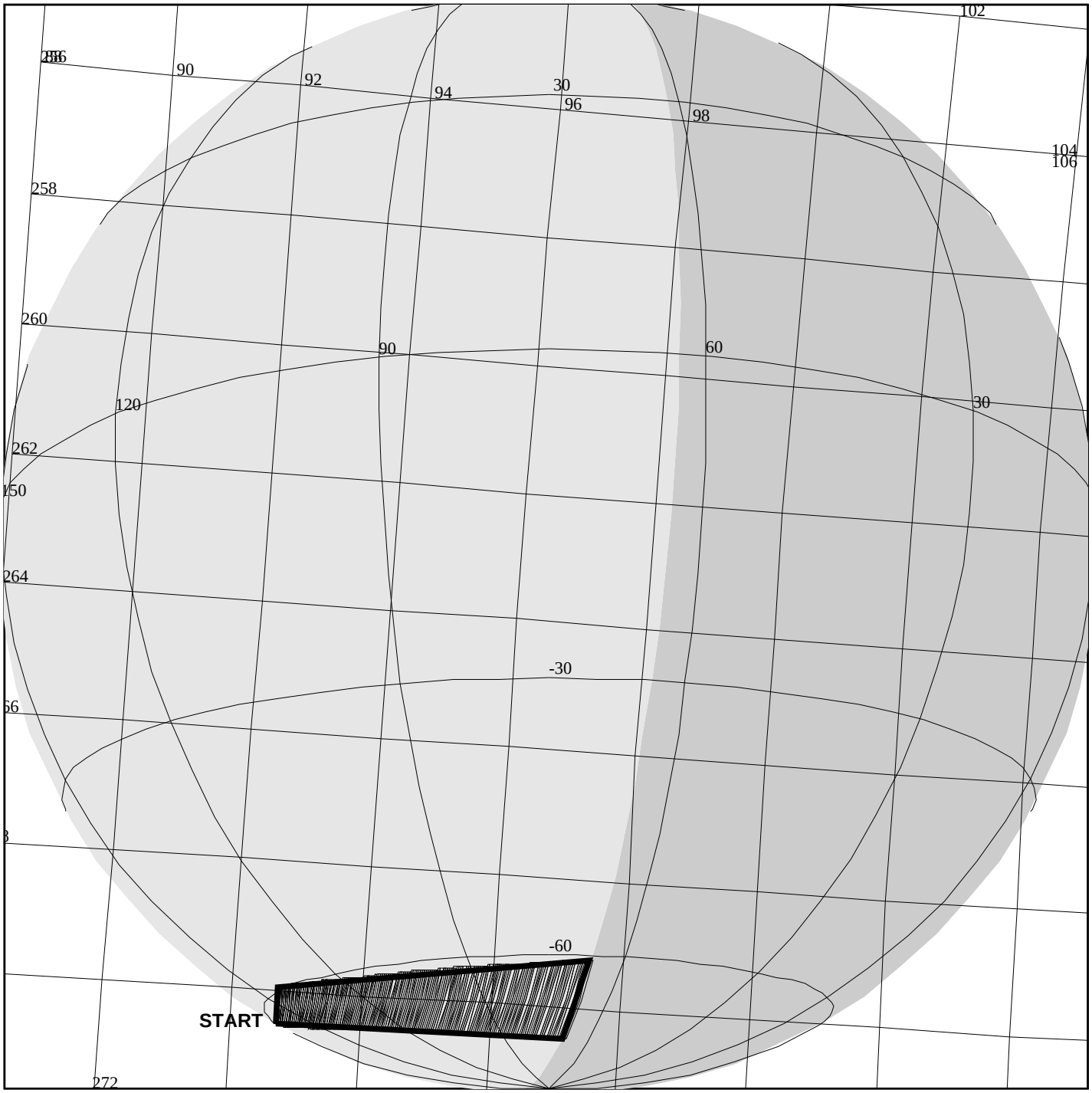
Design Detail

NIMS mode = LS TICS= 899, FMT= MPW, MBTG= 6.221, PPR_RA=0.169
Long Spectrometer Mode
Single swath centered near 63 degrees south latitude.
Longitudes from 128 to 113 degrees west.
Gain state = 4 Grating position = 0

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

Long Spectrometer (LS), Gain 4, Grating Start 0, MPW, ELM442, ELM360

Galileo Activity Plan Form	**08/31/98 13:50:54**	**rev 6/95**



165DG:TT= 0 TMC= 1 C= 2.70 XC= 0.00 BS= 0/3980 TC= 1(-60 156)
A= 182 pD= 3994 SR=17.450 RA50= 72.91 DEC50= 35.10 cone= 92.66 clock=270.22
117DG:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/3980
1:#s= 1 Cs= 39.80 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 3994 rD= 2

17ENSUCOMP03

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17ENSUCOMP03

TARGET BODY : EUROPA

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS: **THINNING:NIM 1**

START:EEE 98-269/03:54:40.733 +CDS 25:00:0 **BODY PLOT TIME:TARGET-TIME D= 3994 S= 1.000**

OBSERVATION:17ENSUCOMP03 **DESCRIP:Europa_Surface_Composition**

Europa Surface Composition	ACTIVITY ID: 17ENSUCOMP03- START TIME: 98-269/04:14:23.513

Activity ID: Orbit 17 Target E Inst N OAPEL SUCOMP SeqNo 03 -

Title	Europa Surface Composition			Instrument	NIMS
Requestor	NIMS-SWG/J. SHIRLEY	Team	NIMS	Working Group	SWG

Time System	CDS	Load ID		Calendar Date	09/26/98 Week 39
Start	EEE+CDS 00000024:00:0	98-269/04:14:23.513		EEE+000/00:24:16.000	
End	EEE+CDS 00000047:00:0	98-269/04:37:38.846		EEE+000/00:47:31.333	
Duration	00000023:00:0	000/00:23:15.333		000/00:23:15.333	

Top Label 17ENSUCOMP03-
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 -60 degrees and West longitudes 100 - 138 degrees for high-latitude leading side spectral coverage.

Data Returned

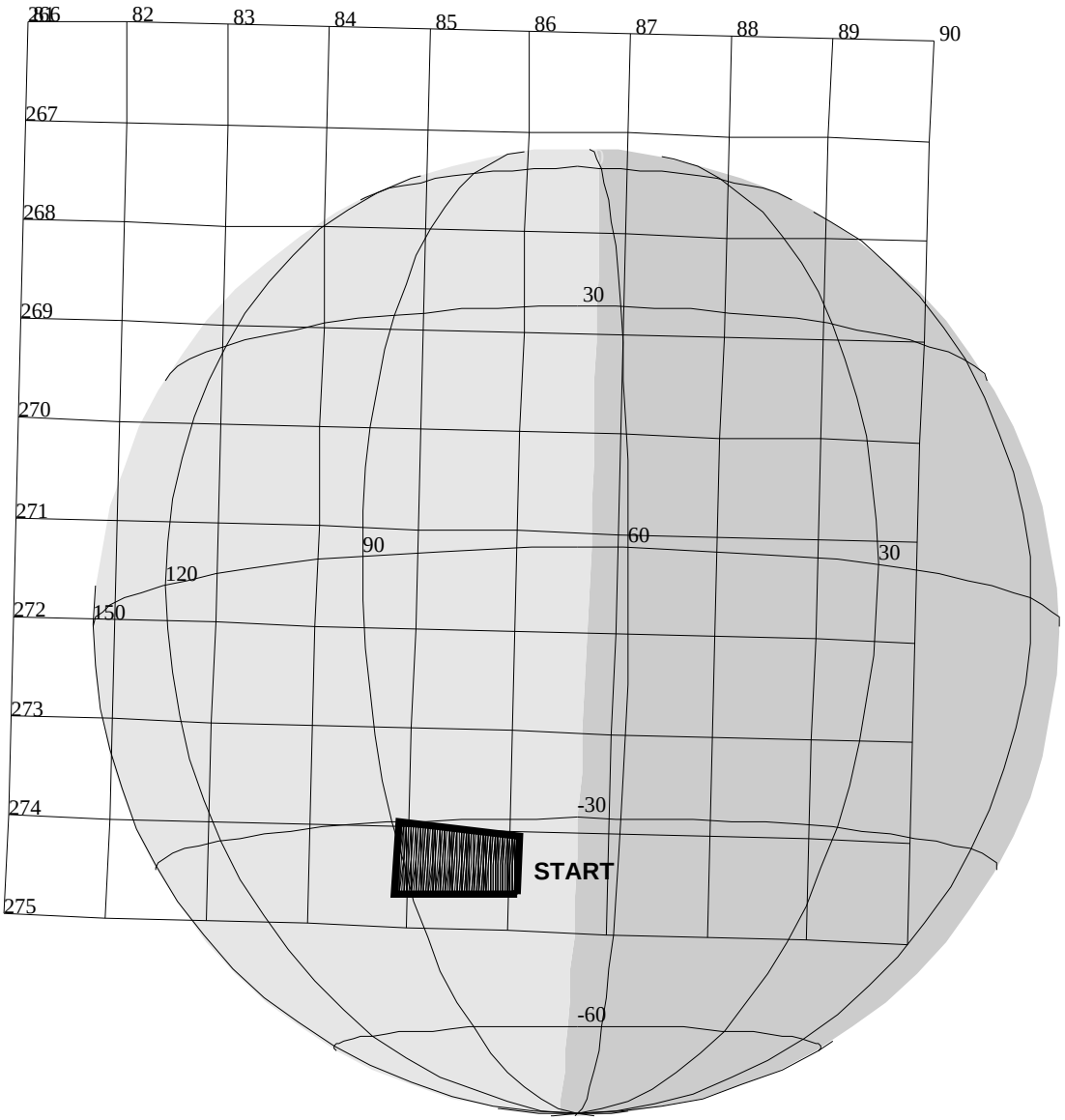
Design Detail

NIMS mode = LM TICS= 1163, FMT= MPW, MBTG= 7.200, PPR_RA=0.219
Single swath centered near 61 degrees south latitude.
Longitudes from 151 to 68 degrees west.
Swath goes from limb to terminator.
Gain state = 4 Grating position = 0

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

Long Map (LM), Gain 4, Grating Start 0, MPW, ELM442, ELM360

Galileo Activity Plan Form 08/31/98 13:50:55 rev 6/95



165DH:TT= 0 TMC= 1 C= 0.00 XC= -3.00 BS= 0/8348 TC= 1(-38 74)
A= 182 pD= 1810 SR=17.450 RA50= 81.30 DEC50= 31.77 cone= 86.10 clock=274.35
117DH:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/8348
1:#s= 1 Cs= -18.00 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 1810 rD= 2

17ENSUCOMP04

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17ENSUCOMP04

TARGET BODY : EUROPA

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS: **THINNING:NIM 1**

START:EEE 98-269/03:54:40.733 +CDS 49:00:0 **BODY PLOT TIME:TARGET-TIME D= 1810 S= 0.700**

OBSERVATION:17ENSUCOMP04 **DESCRIP:Europa_Surface_Composition**

Europa Surface Composition	ACTIVITY ID: 17ENSUCOMP04- START TIME: 98-269/04:39:40.179

Activity ID: Orbit 17 Target E Inst N OAPEL SUCOMP SeqNo 04 -

Title	Europa Surface Composition			Instrument	NIMS
Requestor	NIMS-SWG/J. SHIRLEY	Team	NIMS	Working Group	SWG

Time System	CDS	Load ID		Calendar Date	09/26/98 Week 39
Start	EEE+CDS 00000049:00:0	98-269/04:39:40.179		EEE+000/00:49:32.666	
End	EEE+CDS 00000060:00:0	98-269/04:50:47.513		EEE+000/01:00:40.000	
Duration	00000011:00:0	000/00:11:07.334		000/00:11:07.334	

Top Label	17ENSUCOMP04-				
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 centered near 30 S, 90 W
to obtain spectra for diffuse dark material.

Data Returned

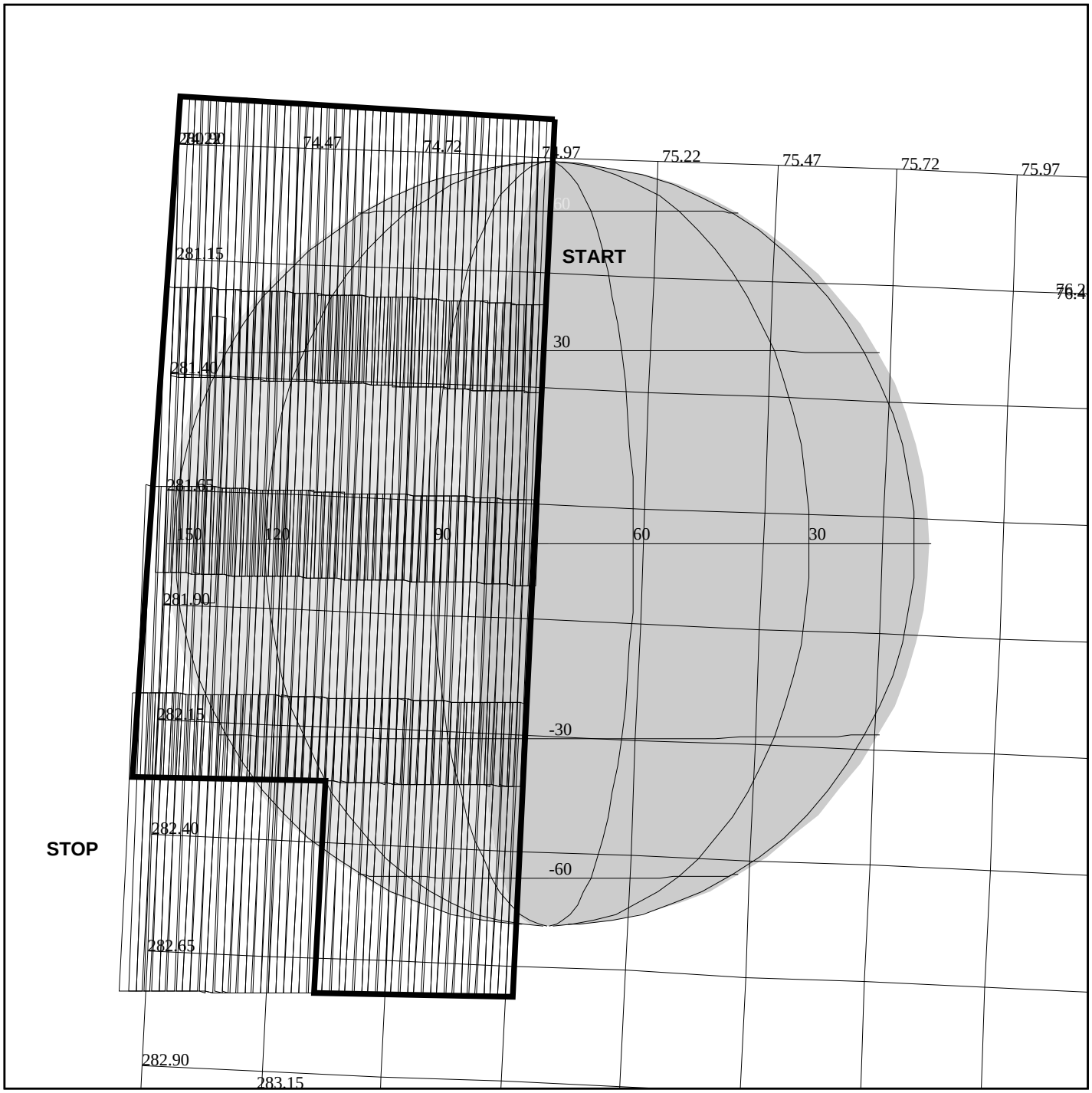
Design Detail

NIMS mode = LM TICS= 530, FMT= MPW, MBTG= 3.456, PPR_RA= 0.100
Single swath centered near 36 degrees south latitude.
Longitudes from 74 to 90 degrees west.
Gain state = 4 Grating position = 0

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

Long Map (LM), Gain 4, Grating Start 0, MPW, ELM442, ELM360

Galileo Activity Plan Form 08/31/98 13:50:55 rev 6/95



165DI:TT= 0 TMC= 1 C= -0.50 XC= -10.50 BS= 0/6578 TC= 3
A= 728 pD= 5450 SR=17.450 RA50= 94.18 DEC50= 25.43 cone= 74.99 clock=281.11
117DI:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/6578
1:#s= 4 Cs= -12.90 XCs= 0.00 Cr= 12.80 XCr= 7.00 sD= 1294 rD= 20

17ENGLOBAL02

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17ENGLOBAL02

TARGET BODY : EUROPA

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS: **THINNING:NIM 1**

START:EEE 98-269/03:54:40.733 +CDS 314:00:0 **BODY PLOT TIME:TARGET-TIME D= 5450 S= 0.700**

OBSERVATION:17ENGLOBAL02 **DESCRIP:Europa_Global_Observation**

Europa Global Observation	**ACTIVITY ID: 17ENGLOBAL02-** **START TIME: 98-269/09:04:34.846**

Activity ID: Orbit 17 Target E Inst N OAPEL GLOBAL SeqNo 02 -

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

Time System	**CDS**	**Load ID**		**Calendar Date**	**09/26/98 Week 39**
Start	**EEE+CDS**	**00000311:00:0**	**98-269/09:04:34.846**		**EEE+000/05:14:27.333**
End	**EEE+CDS**	**00000341:00:0**	**98-269/09:34:54.846**		**EEE+000/05:44:47.333**
Duration		**00000030:00:0**	**000/00:30:20.000**		**000/00:30:20.000**

Top Label	**17ENGLOBAL02-**				
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 at 70 - 150 degrees at 55 KM resolution.

Data Returned

Design Detail

NIMS mode = LM TICS= 1585, FMT= MPW, MBTG= 8.640, PPR_RA= 0.299
Europa Global Mosaic
Number of swaths is four, from north to south.
Latitudes from +90 to -90 degrees.
Lit Longitudes from 80 (terminator) to 162 (limb) degrees west.
First Swath in Gain State 4.
Second Swath in Gain State 3.
Third Swath in Gain State 3.
Fourth Swath in Gain State 4.

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

Long Map (LM), Gain 4,3,3,4, Grating Start 0, MPW, ELM442, ELM360

Galileo Activity Plan Form	**08/31/98 13:50:55**	**rev 6/95**

NIMS Chopper off	ACTIVITY ID: 17NNCHOPOF01- START TIME: 98-269/10:35:34.846

Activity ID: Orbit 17 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	09/26/98 Week 39
Start	EEE+CDS 00000401:00:0	98-269/10:35:34.846		EEE+000/06:45:27.333	
End	EEE+CDS 00000411:00:0	98-269/10:45:41.513		EEE+000/06:55:34.000	
Duration	00000010:00:0	000/00:10:06.667		000/00:10:06.667	

Top Label	17NNCHOPOF01-				
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 after encounter period.

Design Detail

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

37IST,1,0,0,OFF,0,0,0
37IST,1,1,0,OFF,0,0,0

Galileo Activity Plan Form	08/31/98 13:50:55	rev 6/95

NIMS Real-Time PCT Calibration — **ACTIVITY ID: 17NNPCTRLT01-** / **START TIME: 98-278/15:00:24.200**

Activity ID: Orbit 17 Target N Inst N OAPEL PCTRLT SeqNo 01 -

Title	**NIMS Real-Time PCT Calbration**	**nstrument**	**NIMS**
Requestor	**NIMS-SWG/M. SEGURA**	**Team NIMS**	**Working Group SWG**

Time System	**CDS**	**Load ID**	**Calendar Date 10/05/98 Week 40**
Start	**PCT+CDS 0:00:0**	**98-278/15:00:24.200**	**PCT+000/00:00:00.000**
End	**PCT+CDS 00000465:00:0**	**98-278/22:50:34.200**	**PCT+000/07:50:10.000**
Duration	**00000465:00:0**	**000/07:50:10.000**	**000/07:50:10.000**

Top Label	**17NNPCTRLT01-**				
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 in Real-Time.
At this time the off sun angle is about x.x degrees.

Data Returned

Design Detail

This is a Library Sequence.
1) Turn off PCT heaters 6 hours before calibration.
2) Scan Platform is at Safe/Unstow (cone = 153.00, clock = 0.00)
3) Set NIMS to Long Map Mode, Gain State 4, Chopper Reference, Mirror Blocking (1B, 1B) (11011,11011), ETB=PCT252.
4) Pause playback before using scan platform.
5) Select 2 Rims of Dark in Real-Time (Return 2 LM grating cycles)
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/Unstow (cone = 153.00, clock = 0.000).
9) NIMS to Safe Mode, Reset Mirror Blocking (00,00) (00000, 00000) and turn off Chopper.
10) Resume playback after using scan platform.

Long Map (LM), Gain 4, Grating Start 0, R/T, PCT252

Galileo Activity Plan Form **08/31/98 13:50:55 rev 6/95**

NIMS RCT Real-Time Calibration — ACTIVITY ID: 17NNRCTRLT01- / START TIME: 98-303/06:00:03.000

Activity ID: Orbit 17 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 10/30/98 Week 44
Start	RTA+CDS 0:00:0	98-303/06:00:03.000	RTA+000/00:00:00.000
End	RTA+CDS 00000787:00:0	98-303/19:15:47.666	RTA+000/13:15:44.666
Duration	00000787:00:0	000/13:15:44.666	000/13:15:44.666

Top Label	17NNRCTRLT01-				
Bottom Label					
Plot Key	NIMS	Type	SCI		
CDS Bytes	450	Report Options	BOTH	Scan Platform	No
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.

Data Returned

Design Detail

This is a Library Sequence.

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 08/31/98 13:50:56 rev 6/95