# 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: 15NNJUPRTS01-
START TIME: 98-151/02:43:51.749

Activity ID: Orbit 15 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 | 05/31/98 Week 22 |
| Start | JEE-CDS 00001415:00:0 | 98-151/02:43:51.749 | | JEE-000/23:50:43.333 | |
| End | JEE-CDS 00001405:00:0 | 98-151/02:53:58.416 | | JEE-000/23:40:36.666 | |
| Duration | 00000010:00:0 | 000/00:10:06.667 | | 000/00:10:06.667 | |

| | | | | | |
|---|---|---|---|---|---|
| Top Label | 15NNJUPRTS01 | | | | |
| 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

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.

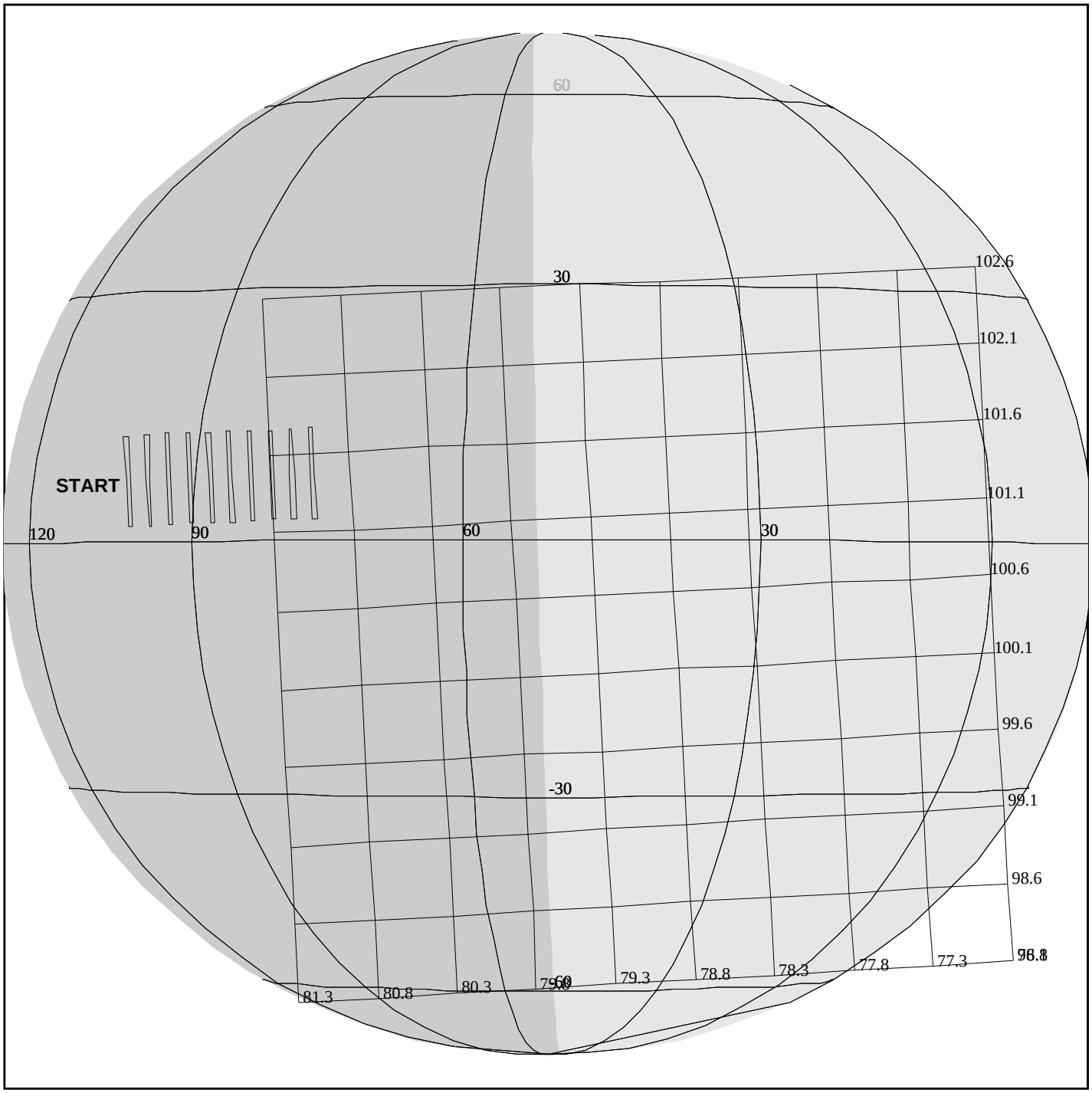
The NIMS E15 reload OAPELS are:
15NNJUPRTS01,15NNHRSPEC01,15NNHRSPEC02,15NNREGION01,
15NNSUCOMP01,15NNSUCOMP02,15NNSUCOMP03,15NNGLOBAL01,
15NNEUR16H01,15NNJUPRTS02,15NNJPDARK01,15NNJPDARK02,
15NNEUR20H01,15NNJPDARK03,15NNEUR22H01

## 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 04/24/98 15:59:22 rev 6/95




165DA:TT= 0 TMC= 1 C= 0.00 XC= 0.00 BS= 0/3791 TC= 1(7 100 )
A= 728 pD= 1810 SR=17.450 RA50=254.89 DEC50=-24.17 cone= 82.26 clock=101.53
117DA:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/3791
1:#s= 1 Cs= -18.10 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 1820 rD= 40

# 15JNJUPRTS01

**TARGET G3.1 lisac: 4/10/1998 14: 9:13**

**FILE:P.15JNJUPRTS01**

**CENTRAL BODY:JUPITER**

**MINI:m.target**

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

**PERIAPSIS:** **THINNING:NIM 7**

**START:JEE 98-152/02:34:27.800 -CDS 1400:00:0** **BODY PLOT TIME:TARGET-TIME D= 1810 S= 1.000**

**OBSERVATION:15JNJUPRTS01** **DESCRIP:Jupiter_Realtime_Observation**

**Jupiter Realtime Observation** — **ACTIVITY ID: 15JNJUPRTS01*** / **START TIME: 98-151/02:53:58.416**

**Activity ID: Orbit 15 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 05/31/98 Week 22** |
| **Start** | **JEE-CDS 00001405:00:0** | **98-151/02:53:58.416** | **JEE-000/23:40:36.666** |
| **End** | **JEE-CDS 00001390:00:0** | **98-151/03:09:08.416** | **JEE-000/23:25:26.666** |
| **Duration** | **00000015:00:0** | **000/00:15:10.000** | **000/00:15:10.000** |

**Top Label** 15JNJUPRTS01*
**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

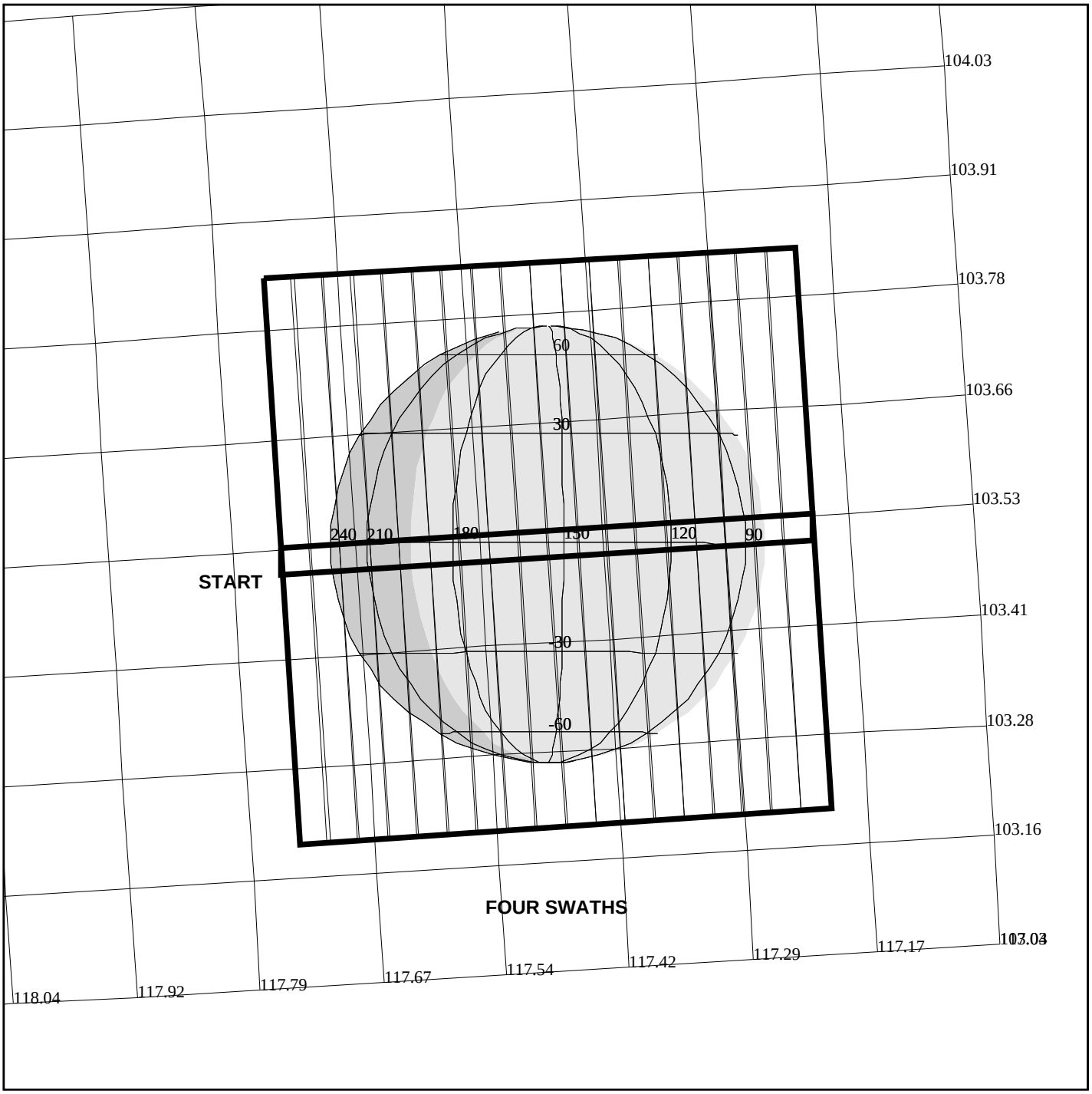
Data Returned

## Design Detail

Long map. One scan at +7 degrees latitude.
No overlap in FOV.
Nightside
NIMS R/T only returns every seventh FOV.

Long Map (LM), Gain 4, Grating Start 0, R/T, E15JLM408

Galileo Activity Plan Form 04/24/98 15:59:22 rev 6/95




165DB:TT= 0 TMC= 1 C= 4.60 XC= 0.00 BS= 0/5357 TC= 3
A= 728 pD= 3812 SR=17.450 RA50=293.67 DEC50=-22.54 cone=117.74 clock=103.52
117DB:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/5357
1:#s= 4 Cs= -9.20 XCs= 0.00 Cr= 9.06 XCr= 0.00 sD= 930 rD= 24

## 15INHRSPEC01

**TARGET G3.1 lisac: 4/10/1998 14: 9:13**

**FILE:P.15INHRSPEC01**

**TARGET BODY : IO**

**MINI:m.target**

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

**PERIAPSIS:**

**THINNING:NIM 2**

**START:IEE 98-151/20:58:46.466 -CDS 455:00:0**

**BODY PLOT TIME:TARGET-TIME D= 3812 S= 0.400**

**OBSERVATION:15INHRSPEC01**

**DESCRIP:Io_Monitoring_at_High_Spec_Res**

**Io Monitoring High Spectral Resolution** **ACTIVITY ID: 15INHRSPEC01-**
**START TIME: 98-151/13:14:47.261**

**Activity ID: Orbit 15 Target I Inst N OAPEL HRSPEC SeqNo 01 -**

| | | | |
|---|---|---|---|
| **Title** | **Io Monitoring High Spectral Resolution** | **Instrument** | **NIMS** |
| **Requestor** | **NIMS-SWG/R.** | **Team NIMS** | **Working Group SWG** |

| | | | |
|---|---|---|---|
| **Time System** | **CDS** | **Load ID** | **Calendar Date 05/31/98 Week 22** |
| **Start** | **IEE-CDS 00000460:00:0** | **98-151/13:14:47.261** | **IEE-000/07:45:06.666** |
| **End** | **IEE-CDS 00000434:00:0** | **98-151/13:41:04.594** | **IEE-000/07:18:49.333** |
| **Duration** | **00000026:00:0** | **000/00:26:17.333** | **000/00:26:17.333** |

**Top Label** **15INHRSPEC01-**
**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

**Second highest resolution observation during the GEM E-orbits.**
**This observation targets the Pele-Marduk-Reiden region that will be imaged in I24. Observation coordinated with SSI.**

**Data Returned**

## Design Detail

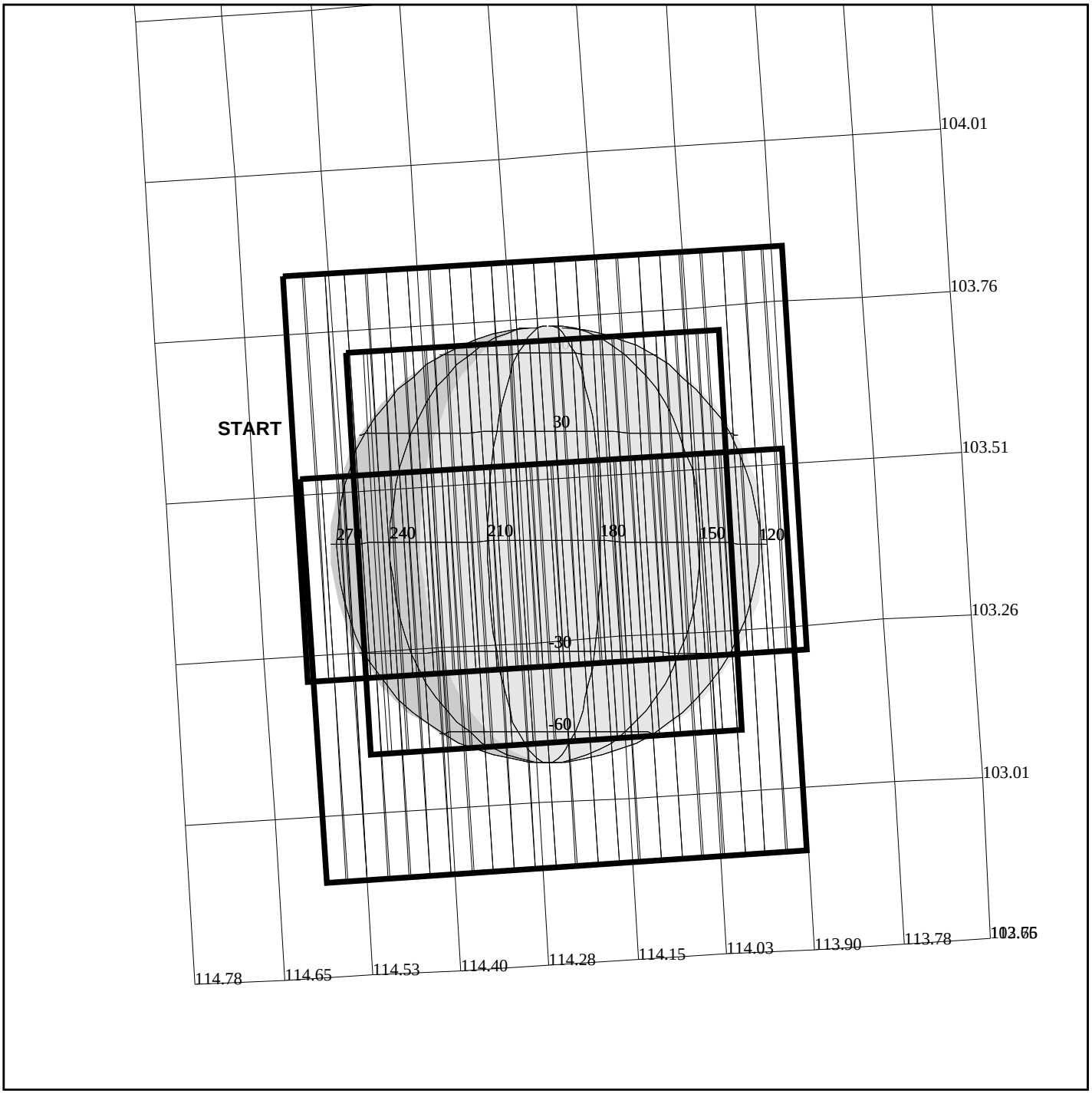
**Global Mosaic in Long Map, 408 wavelengths. Record Mode is MPW.**
**NIMS resolution is approximately 150 km/pixel.**
**Central longitude about 155 West.**

**TICS= 1110, FMT= MPW, MBTG= 3.022, PPR_RA=0.21**

**4 identical swaths across the disk.**
**Swaths 1-3 in Long Map**
**Swath 4 in Long Spectrometer (nearly equatorial)**
**Swath 3 returned with thresholding.**

**Long Map (LM), Gain 2, Grating Start 0, MPW, E15ILM442, E15ILM360**

**Galileo Activity Plan Form** **04/24/98 15:59:22 rev 6/95**




165DD:TT= 0 TMC= 1 C= 6.00 XC= 2.00 BS= 0/1949 TC= 3
A= 728 pD= 2548 SR=17.450 RA50=290.28 DEC50=-22.88 cone=114.58 clock=103.53
117DD:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/1949
1:#s= 2 Cs= -12.00 XCs= 0.00 Cr= 12.00 XCr= -5.00 sD= 1212 rD= 22

## 15INHRSPEC02

**TARGET G3.1 lisac: 4/10/1998 14: 9:13**

**FILE:P.15INHRSPEC02**

**TARGET BODY : IO**

**MINI:m.target**

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

**PERIAPSIS:** **THINNING:NIM 2**

**START:IEE 98-151/20:58:46.466 -CDS 199:00:0** **BODY PLOT TIME:TARGET-TIME D= 2548 S= 0.400**

**OBSERVATION:15INHRSPEC02** **DESCRIP:Io_Monitoring_at_High_Spec_Res**

| | |
|---|---|
| **Io Monitoring High Spectral Resolution** | **ACTIVITY ID: 15INHRSPEC02-**<br>**START TIME: 98-151/17:33:37.927** |

**Activity ID: Orbit 15 Target I Inst N OAPEL HRSPEC SeqNo 02 -**

| | | | |
|---|---|---|---|
| **Title** | **Io Monitoring High Spectral Resolution** | **Instrument** | **NIMS** |
| **Requestor** | **NIMS-SWG/R.** | **Team NIMS** | **Working Group SWG** |

| | | | | | |
|---|---|---|---|---|---|
| **Time System** | **CDS** | **Load ID** | **Calendar Date** | **05/31/98** | **Week 22** |
| **Start** | **IEE-CDS 00000204:00:0** | **98-151/17:33:37.927** | | **IEE-000/03:26:16.000** | |
| **End** | **IEE-CDS 00000178:00:0** | **98-151/17:59:55.261** | | **IEE-000/02:59:58.666** | |
| **Duration** | **00000026:00:0** | **000/00:26:17.334** | | **000/00:26:17.334** | |

| | | | | | |
|---|---|---|---|---|---|
| **Top Label** | **15INHRSPEC02-** | | | | |
| **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

**Second highest resolution observation during the GEM E-orbits.
This observation targets the Pele-Marduk-Reiden region that will be imaged in I24. Observation coordinated with SSI.**

**Data Returned**

## Design Detail

**Global Mosaic in Long Map, 408 wavelengths. Record Mode is MPW.
NIMS resolution is approximately 230 km/pixel.
Central longitude about 195 West.**

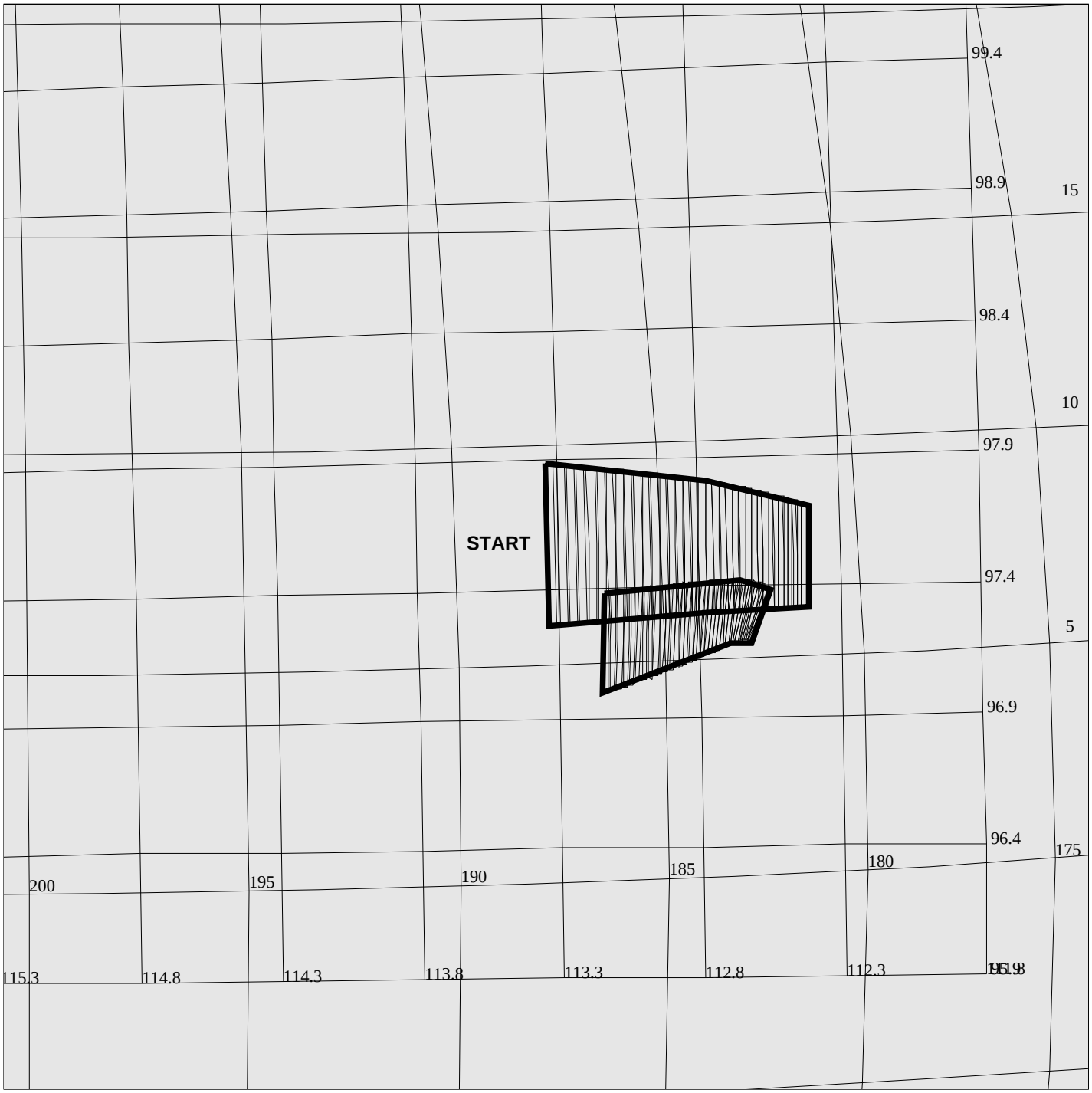
**TICS= 1110, FMT= MPW, MBTG= 5.280, PPR_RA=0.21**

**Three swaths: first swath across the northern hemispehre,
second swath across the southern hemisphere,
third swath across the equator.**

**The first two swaths were returned thresholded.**

**Long Map (LM), Gain 2, Grating Start 0, MPW, E15ILM442, E15ILM360**

**Galileo Activity Plan Form 04/24/98 15:59:22 rev 6/95**




165DE:TT= 0 TMC= 1 C= 7.00 XC= 2.00 BS= 0/5619 TC= 1(7 185 )
A= 182 pD= 3812 SR=17.450 RA50=289.60 DEC50=-28.46 cone=113.32 clock= 97.55
117DE:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/5619
1:#s= 2 Cs= -18.85 XCs= 0.00 Cr= 21.00 XCr= -9.00 sD= 1892 rD= 34

## 15ENREGION01

**TARGET G3.1 lisac: 4/10/1998 14: 9:13**

**FILE:P.15ENREGION01**

**TARGET BODY : EUROPA**

**MINI:m.target**

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

**PERIAPSIS:** **THINNING:NIM 2**

**START:EEE 98-151/21:12:55.800 -CDS 28:00:0** **BODY PLOT TIME:TARGET-TIME D= 3812 S= 4.000**

**OBSERVATION:15ENREGION01** **DESCRIP:Europa_Global**

| | |
|---|---|
| **Europa Regional Observation** | **ACTIVITY ID: 15ENREGION01-**<br>**START TIME: 98-151/20:43:29.130** |

**Activity ID: Orbit 15 Target E Inst N OAPEL REGION SeqNo 01 -**

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

| | | | |
|---|---|---|---|
| **Time System** | **CDS** | **Load ID** | **Calendar Date 05/31/98 Week 22** |
| **Start** | **EEE-CDS 00000028:00:0** | **98-151/20:43:29.130** | **EEE-000/00:28:18.666** |
| **End** | **EEE-CDS 00000007:00:0** | **98-151/21:04:43.130** | **EEE-000/00:07:04.666** |
| **Duration** | **00000021:00:0** | **000/00:21:14.000** | **000/00:21:14.000** |

**Top Label 15ENREGION01-**
**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 observation.**

**Data Returned**

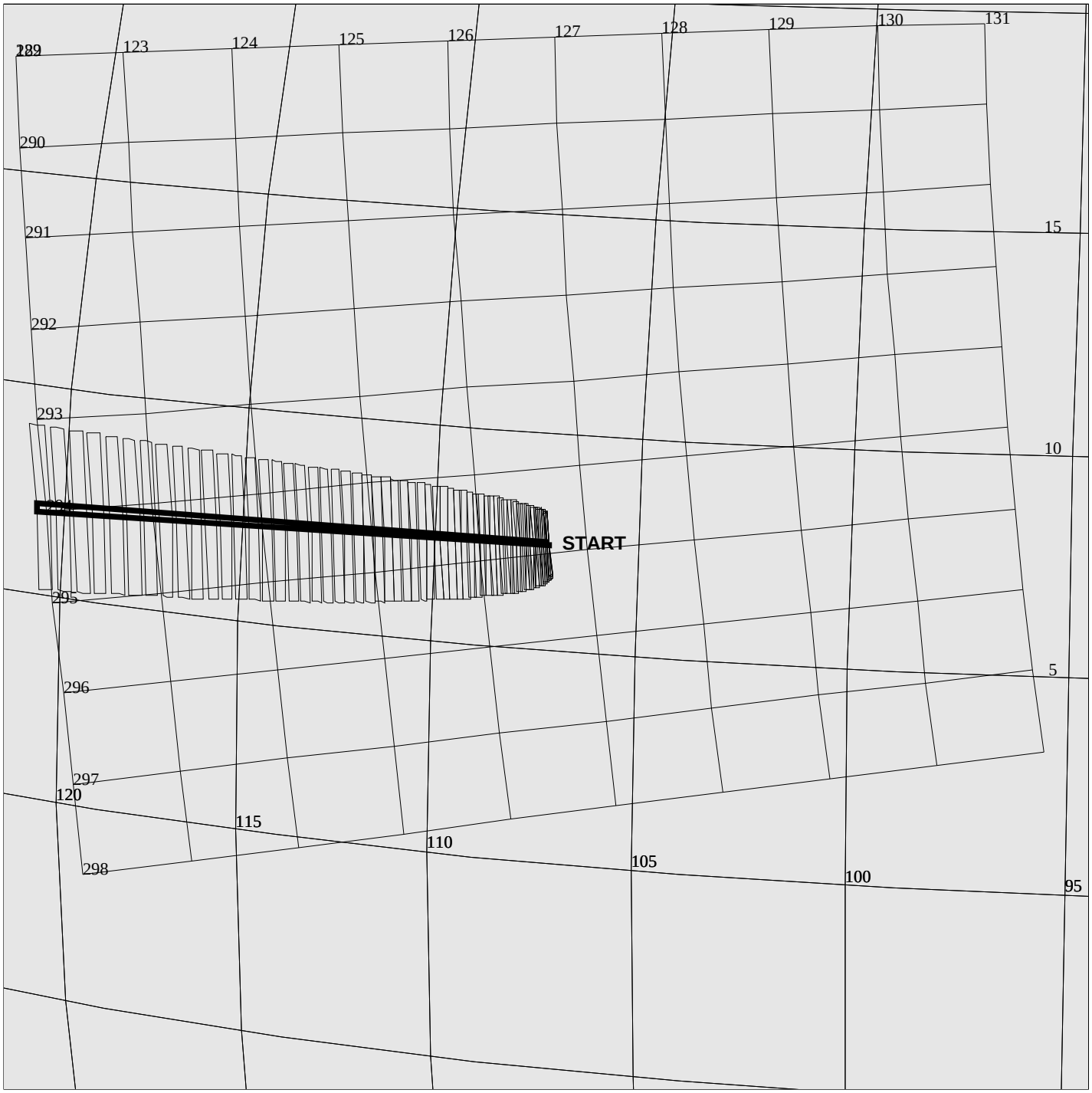
## Design Detail

**Europa Regional observation**

**Two swaths, centered at +7 latitude, 185 W. longitude**

**Long Map (LM), Gain 3, Grating Start 0, MPW, E15ELM442, E15ELM360**

**Galileo Activity Plan Form 04/24/98 15:59:22 rev 6/95**




165DF:TT= 0 TMC= 1 C= 19.00 XC= 0.00 BS= 0/2353 TC= 1(7 110 )
A= 728 pD= 3448 SR=17.450 RA50= 47.71 DEC50= 6.73 cone=126.64 clock=294.88
117DF:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/2353
1:#s= 1 Cs= -34.50 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 3458 rD= 2

# 15ENSUCOMP01

**TARGET G3.1 lisac: 4/10/1998 14: 9:13**

**FILE:P.15ENSUCOMP01**

**TARGET BODY : EUROPA**

**MINI:m.target**

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

**PERIAPSIS:** **THINNING:NIM 2**

**START:EEE 98-151/21:12:55.800 +CDS 09:00:0** **BODY PLOT TIME:TARGET-TIME D= 3448 S= 3.300**

**OBSERVATION:15ENSUCOMP01** **DESCRIP:Europa_Surface_Composition**

| | |
|---|---|
| Europa Surface Composition | ACTIVITY ID: 15ENSUCOMP01-<br>START TIME: 98-151/21:17:51.796 |

Activity ID: Orbit 15 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 | 05/31/98 Week 22 |
| Start | EEE+CDS 00000006:00:0 | 98-151/21:17:51.796 | | EEE+000/00:06:04.000 | |
| End | EEE+CDS 00000030:00:0 | 98-151/21:42:07.796 | | EEE+000/00:30:20.000 | |
| Duration | 00000024:00:0 | 000/00:24:16.000 | | 000/00:24:16.000 | |

| | | | | | |
|---|---|---|---|---|---|
| Top Label | 15ENSUCOMP01- | | | | |
| 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 = +7 degrees and West longitude = 107 to 121.

Data Returned

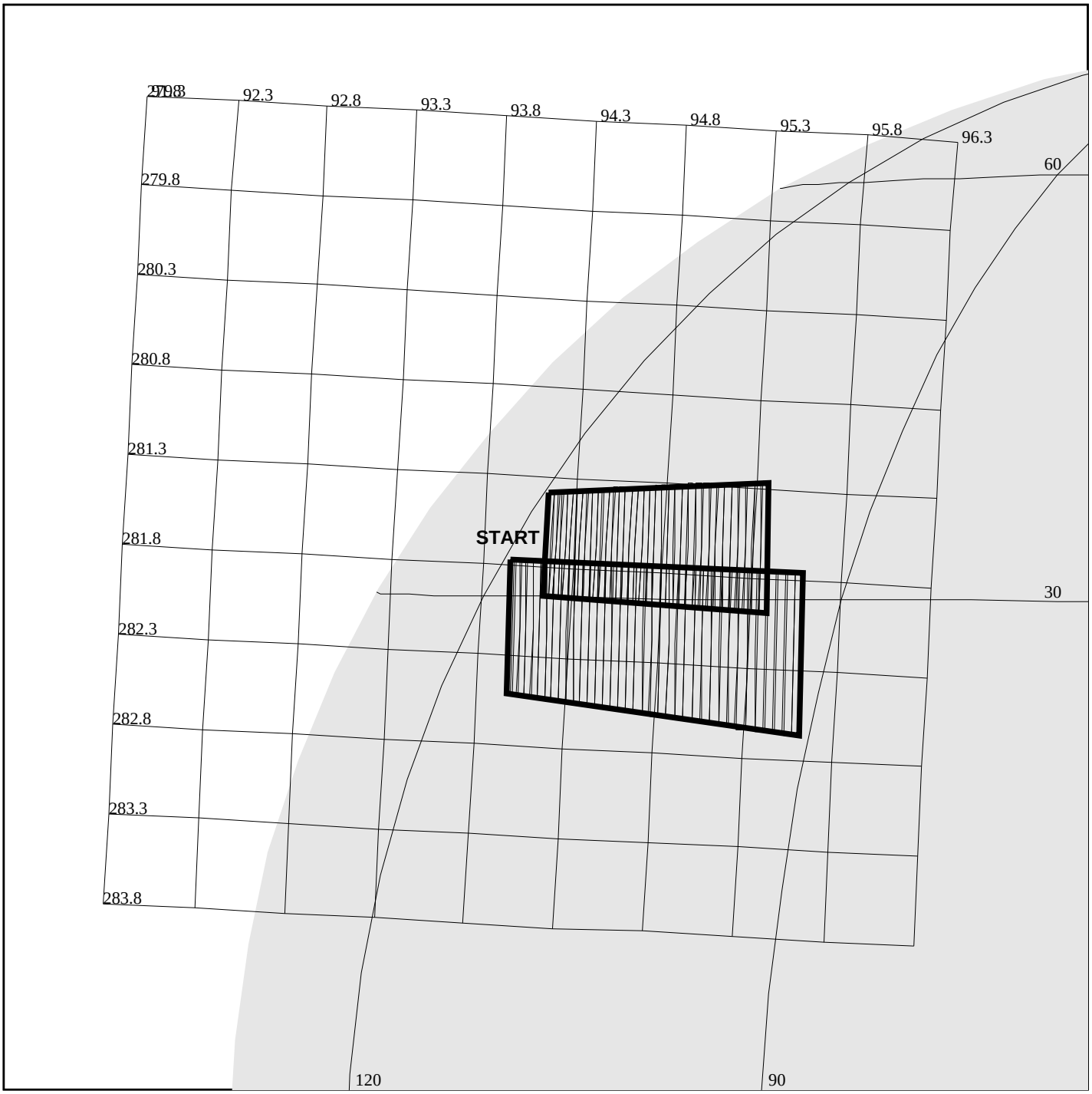
## Design Detail

NIMS mode = LS TICS= 1057, FMT= MPW, MBTG= 6.566, PPR_RA=0.199
Gain State = 3 Grating Position = 0

East-west single-pixel swath (long spectrometer mode).

Long Spectrometer (LS), Gain 3, Grating Start 0, MPW, E15ELM442, E15ELM360

Galileo Activity Plan Form 04/24/98 15:59:23 rev 6/95




165DG:TT= 0 TMC= 1 C= -9.25 XC= -3.00 BS= 0/7449 TC= 1(31 105 )
A= 728 pD= 3812 SR=17.450 RA50= 78.80 DEC50= 24.51 cone= 94.16 clock=281.67
117DG:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/7449
1:#s= 2 Cs= 18.50 XCs= 0.00 Cr= -18.50 XCr= 7.00 sD= 1864 rD= 32

# 15ENSUCOMP02

**TARGET G3.1 lisac: 4/10/1998 14: 9:13**

**FILE:P.15ENSUCOMP02**

**TARGET BODY : EUROPA**

**MINI:m.target**

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

**PERIAPSIS:** **THINNING:NIM 2**

**START:EEE 98-151/21:12:55.800 +CDS 37:00:0** **BODY PLOT TIME:TARGET-TIME D= 3812 S= 2.000**

**OBSERVATION:15ENSUCOMP02** **DESCRIP:Europa_Surface_Composition**

| | |
|---|---|
| **Europa Surface Composition** | **ACTIVITY ID: 15ENSUCOMP02-**<br>**START TIME: 98-151/21:46:10.462** |

**Activity ID: Orbit 15 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** | **05/31/98 Week 22** |
| **Start** | **EEE+CDS 00000034:00:0** | **98-151/21:46:10.462** | | **EEE+000/00:34:22.666** | |
| **End** | **EEE+CDS 00000059:00:0** | **98-151/22:11:27.129** | | **EEE+000/00:59:39.333** | |
| **Duration** | **00000025:00:0** | **000/00:25:16.667** | | **000/00:25:16.667** | |

| | | | | | |
|---|---|---|---|---|---|
| **Top Label** | **15ENSUCOMP02-** | | | | |
| **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 +30 degrees latitude and 105 degrees West longitude on a rough terrain region.**

**Data Returned**

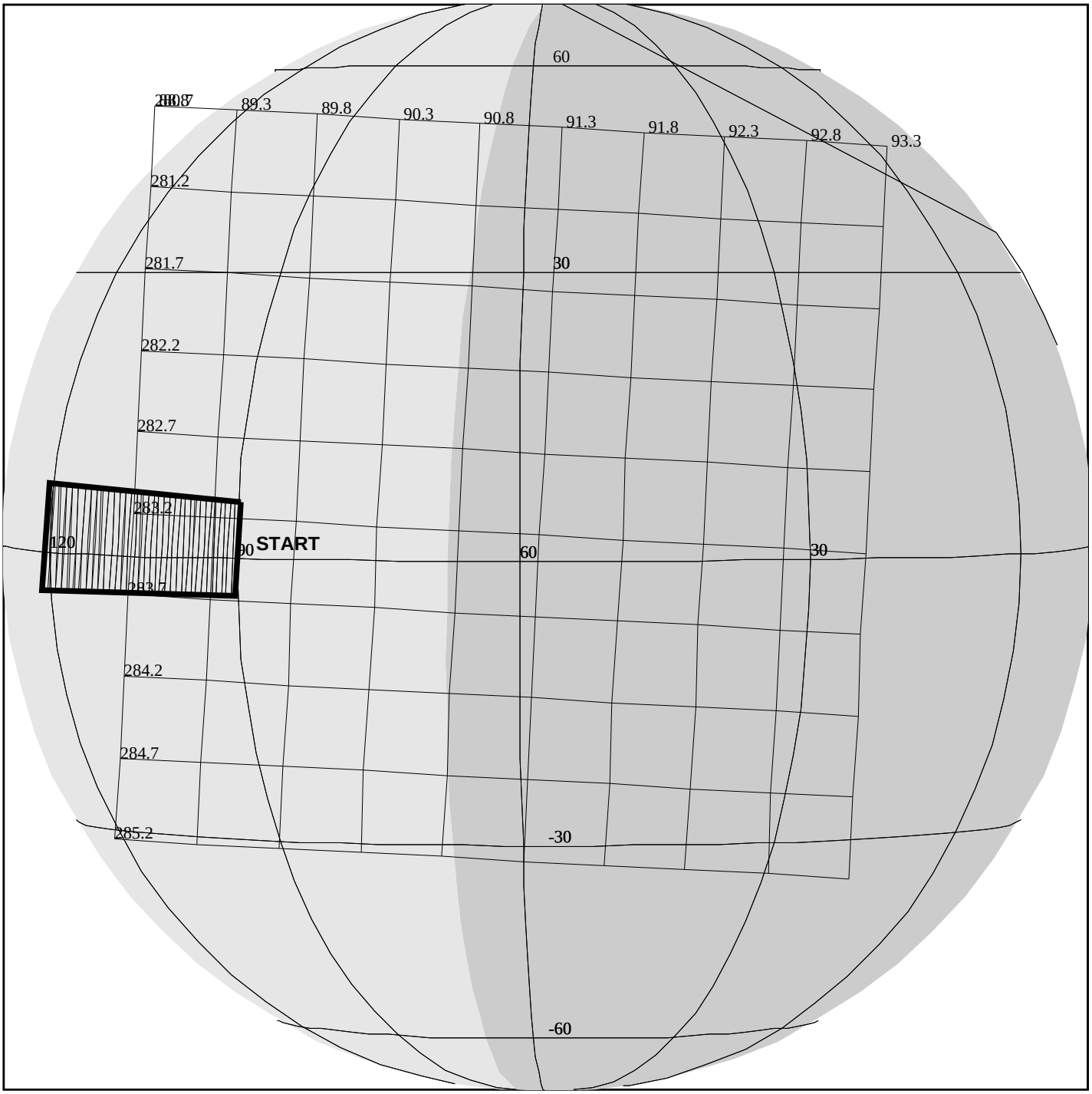
**Design Detail**

**NIMS mode = LM TICS= 1057, FMT= MPW, MBTG= 5.472, PPR_RA=0.199**
**Gain state = 3 Grating position = 0**

**Two swaths, centered at +30 latitude, 105 W. longitude.**

**Long Map (LM), Gain 3, Grating Start 0, MPW, E15ELM442, E15ELM360**

| | | |
|---|---|---|
| **Galileo Activity Plan Form** | **04/24/98 15:59:23** | **rev 6/95** |




165DH:TT= 0 TMC= 1 C= 0.00 XC= 0.00 BS= 0/3273 TC= 1(1 90 )
A= 728 pD= 1810 SR=17.450 RA50= 84.14 DEC50= 23.30 cone= 89.42 clock=283.35
117DH:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/3273
1:#s= 1 Cs= -18.10 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 1820 rD= 2

## 15ENSUCOMP03

**TARGET G3.1 lisac: 4/10/1998 14: 9:13**

**FILE:P.15ENSUCOMP03**

**TARGET BODY : EUROPA**

**MINI:m.target**

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

**PERIAPSIS:** **THINNING:NIM 2**

**START:EEE 98-151/21:12:55.800 +CDS 69:00:0** **BODY PLOT TIME:TARGET-TIME D= 1810 S= 1.000**

**OBSERVATION:15ENSUCOMP03** **DESCRIP:Europa_Surface_Composition**

| | |
|---|---|
| Europa Surface Composition | ACTIVITY ID: 15ENSUCOMP03-<br>START TIME: 98-151/22:16:30.462 |

Activity ID: Orbit 15 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 | 05/31/98 Week 22 |
| Start | EEE+CDS 00000064:00:0 | 98-151/22:16:30.462 | | EEE+000/01:04:42.666 | |
| End | EEE+CDS 00000081:00:0 | 98-151/22:33:41.796 | | EEE+000/01:21:54.000 | |
| Duration | 00000017:00:0 | 000/00:17:11.334 | | 000/00:17:11.334 | |

Top Label 15ENSUCOMP03-
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 the near-equatorial region between 90 and 120 degrees West longitude.

Data Returned

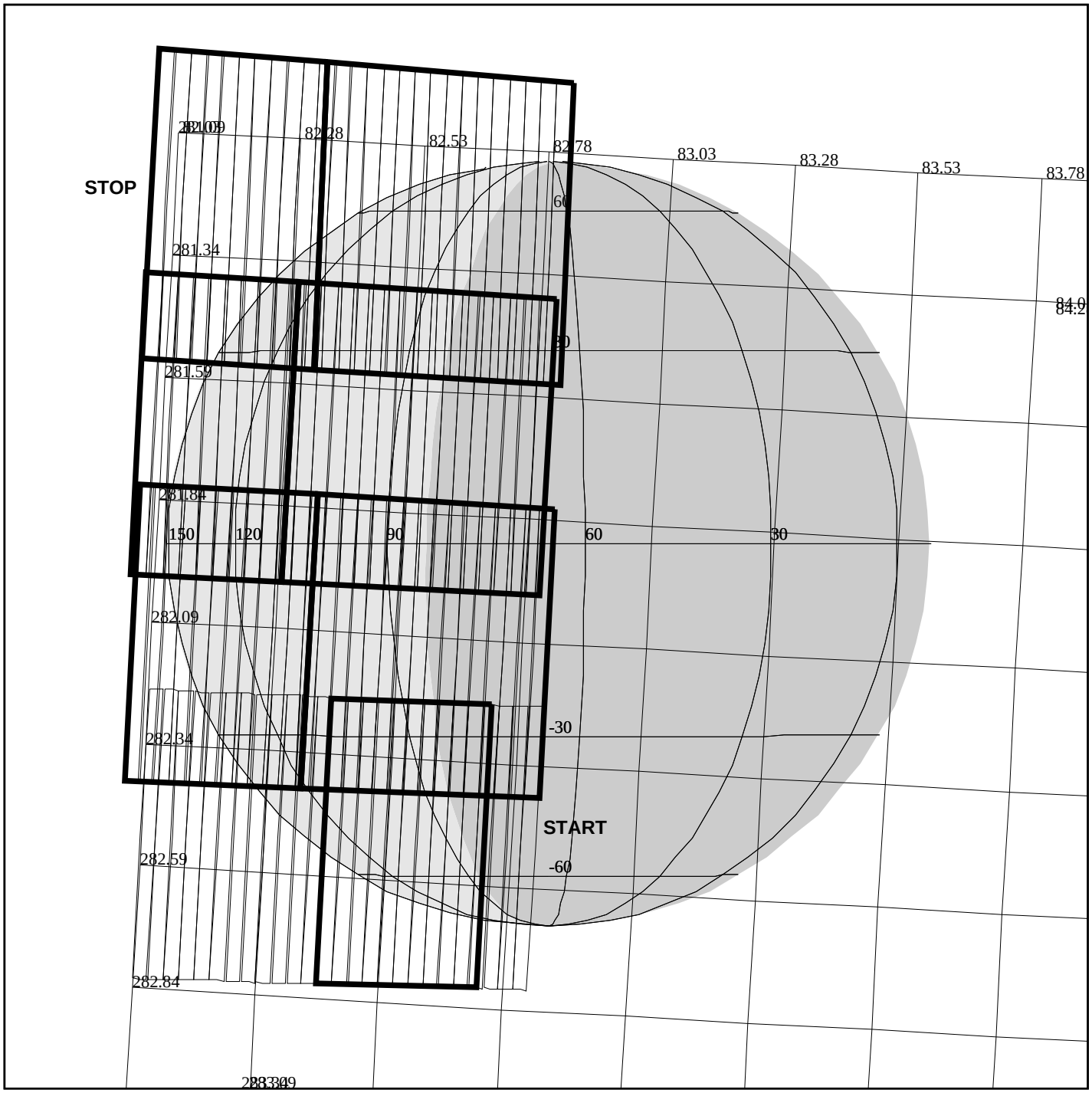
## Design Detail

NIMS mode = LM TICS= 530, FMT= MPW, MBTG= 1.933, PPR_RA=0.100
Gain State = 4 Grating Position = 0

Single swath along the equator from 90 to 120 degrees W. longitude.

Long Map (LM), Gain 4, Grating Start 0, MPW, E15ELM442, E15ELM228C
Long Map (LM), Gain 4, Grating Start 0, MPW, E15ELM442, E15ELM132C
Long Map (LM), Gain 4, Grating Start 0, MPW, E15ELM442, E15ELM360

Galileo Activity Plan Form 04/24/98 15:59:23 rev 6/95




165DI:TT= 0 TMC= 1 C= 0.00 XC= 10.75 BS= 0/6043 TC= 3
A= 728 pD= 5450 SR=17.450 RA50= 91.31 DEC50= 24.51 cone= 82.82 clock=282.51
117DI:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/6043
1:#s= 4 Cs= -13.40 XCs= 0.00 Cr= 13.40 XCr= -7.00 sD= 1348 rD= 20

## 15ENGLOBAL01

**TARGET G3.1 lisac: 4/10/1998 14: 9:13**

**FILE:P.15ENGLOBAL01**

**TARGET BODY : EUROPA**

**MINI:m.target**

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

**PERIAPSIS:** **THINNING:NIM 2**

**START:EEE 98-151/21:12:55.800 +CDS 304:00:0** **BODY PLOT TIME:TARGET-TIME D= 5450 S= 0.700**

**OBSERVATION:15ENGLOBAL01** **DESCRIP:Europa_Global**

Europa Global

ACTIVITY ID: 15ENGLOBAL01-
START TIME: 98-152/02:17:09.129

Activity ID: Orbit 15 Target E Inst N OAPEL GLOBAL SeqNo 01 -

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

| | | | | | |
|---|---|---|---|---|---|
| Time System | CDS | Load ID | | Calendar Date | 06/01/98 Week 22 |
| Start | EEE+CDS 00000302:00:0 | 98-152/02:17:09.129 | | EEE+000/05:05:21.333 | |
| End | EEE+CDS 00000336:00:0 | 98-152/02:51:31.796 | | EEE+000/05:39:44.000 | |
| Duration | 00000034:00:0 | 000/00:34:22.667 | | 000/00:34:22.667 | |

| | | | | | |
|---|---|---|---|---|---|
| Top Label | 15ENGLOBAL01- | | | | |
| 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 1/3 daylit disk from 70 to 150 degrees W. longitude at 58 KM resolution.

Data Returned

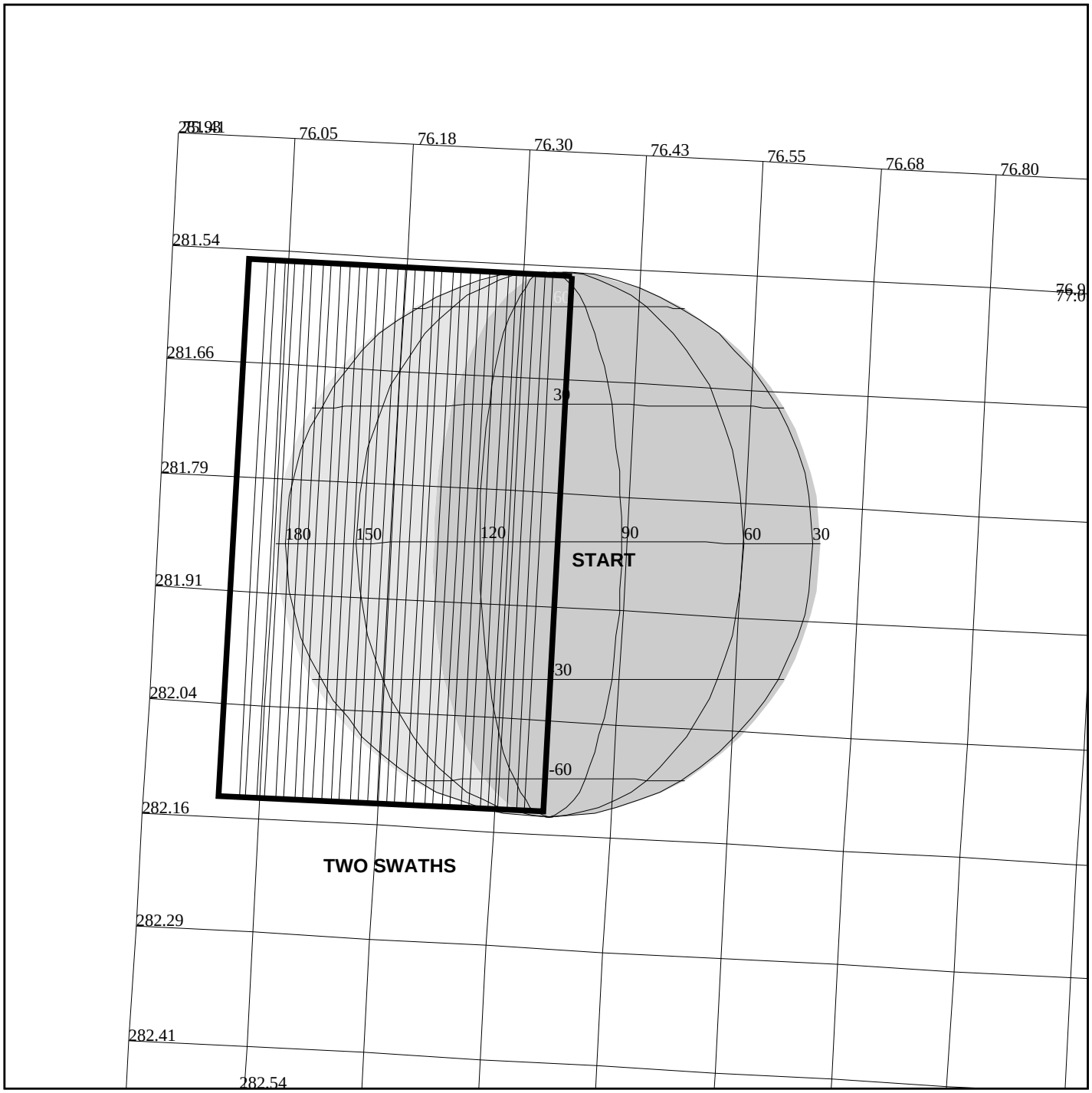
## Design Detail

NIMS mode = LM TICS= 1585, FMT=MPW, MBTG= 5.472, PPR_RA=0.299
Number of swaths is four. GS 4 near the terminator, GS 3 near the limb.

| Swath | Gain | # waves | EDR |
|---|---|---|---|
| 1 | 4 | 228 | 15ENGLOBAL01 A |
| 1 | 3 | 0 | |
| 2 | 4 | 228, 132 | 15ENGLOBAL03 A, B |
| 2 | 3 | 228, 132 | 15ENGLOBAL04 A, B |
| 3 | 4 | 228, 132 | 15ENGLOBAL05 A, B |
| 3 | 3 | 228, 132 | 15ENGLOBAL06 A, B |
| 4 | 4 | 228, 132 | 15ENGLOBAL07 A, B |
| 4 | 3 | 228, 132 | 15ENGLOBAL08 A, B |

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT
TORQUE-SPIKES ALSO PRESENT. BOOMS ALSO PRESENT
Long Map (LM), Gain 3,4 Grating Start 0, MPW, E14ELM442, E14ELM228C
Long Map (LM), Gain 3,4 Grating Start 0, MPW, E14ELM442, E14ELM132C
Long Map (LM), Gain 3,4 Grating Start 0, MPW, E14ELM442, E14ELM360

Galileo Activity Plan Form 04/24/98 15:59:23 rev 6/95




165DK:TT= 0 TMC= 1 C= 0.00 XC= 0.00 BS= 0/4889 TC= 3
A= 728 pD= 2178 SR=17.450 RA50= 98.44 DEC50= 25.17 cone= 76.34 clock=281.85
117DK:#SB= 1 OR= 0.020 RR=12.000 BM=F RC= 1 BS= 0/4889
1:#s= 2 Cs= -5.70 XCs= 0.00 Cr= 5.69 XCr= 0.00 sD= 862 rD= 388

## 15ENEUR16H01

**TARGET G3.1 lisac: 4/10/1998 14: 9:13**

**FILE:P.15ENEUR16H01**

**TARGET BODY : EUROPA**

**MINI:m.target**

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

**PERIAPSIS:** **THINNING:NIM 2**

**START:EEE 98-151/21:12:55.800 +CDS 957:00:0** **BODY PLOT TIME:TARGET-TIME D= 2178 S= 0.500**

**OBSERVATION:15ENEUR16H01** **DESCRIP:EUROPA_+16_HOURS**

**Europa 16 Hour Map** — **ACTIVITY ID: 15ENEUR16H01-** / **START TIME: 98-152/13:15:23.129**

**Activity ID: Orbit 15 Target E Inst N OAPEL EUR16H SeqNo 01 -**

| | | | | | |
|---|---|---|---|---|---|
| **Title** | **Europa 16 Hour Map** | | | **Instrument** | **NIMS** |
| **Requestor** | **NIMS-SWG/M. SEGURA** | **Team** | **NIMS** | **Working Group** | **SWG** |

| | | | | | |
|---|---|---|---|---|---|
| **Time System** | **CDS** | **Load ID** | | **Calendar Date** | **06/01/98 Week 22** |
| **Start** | **EEE+CDS 00000953:00:0** | **98-152/13:15:23.129** | | **EEE+000/16:03:35.333** | |
| **End** | **EEE+CDS 00000973:00:0** | **98-152/13:35:36.462** | | **EEE+000/16:23:48.666** | |
| **Duration** | **00000020:00:0** | **000/00:20:13.333** | | **000/00:20:13.333** | |

| | | | | | |
|---|---|---|---|---|---|
| **Top Label** | **15ENEUR16H01-** | | | | |
| **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

**Distant Europa global mapping at 16 hours after closest approach.**
**Special emphasis given to the non-ice components on Europa’s surface.**

**Two identical scans: the first in gain state 4 MPW,**
**the second in gain state 3 LPU.**

**Return shorter wavelengths in gain state 3 as they will saturate in gain state 4.**

**Gain state 4 allows better resolution of low signals at longer wavelengths.**

**Data Returned**

## Design Detail

**Long Map, Nyquist sampling, 2 scans across the body.**

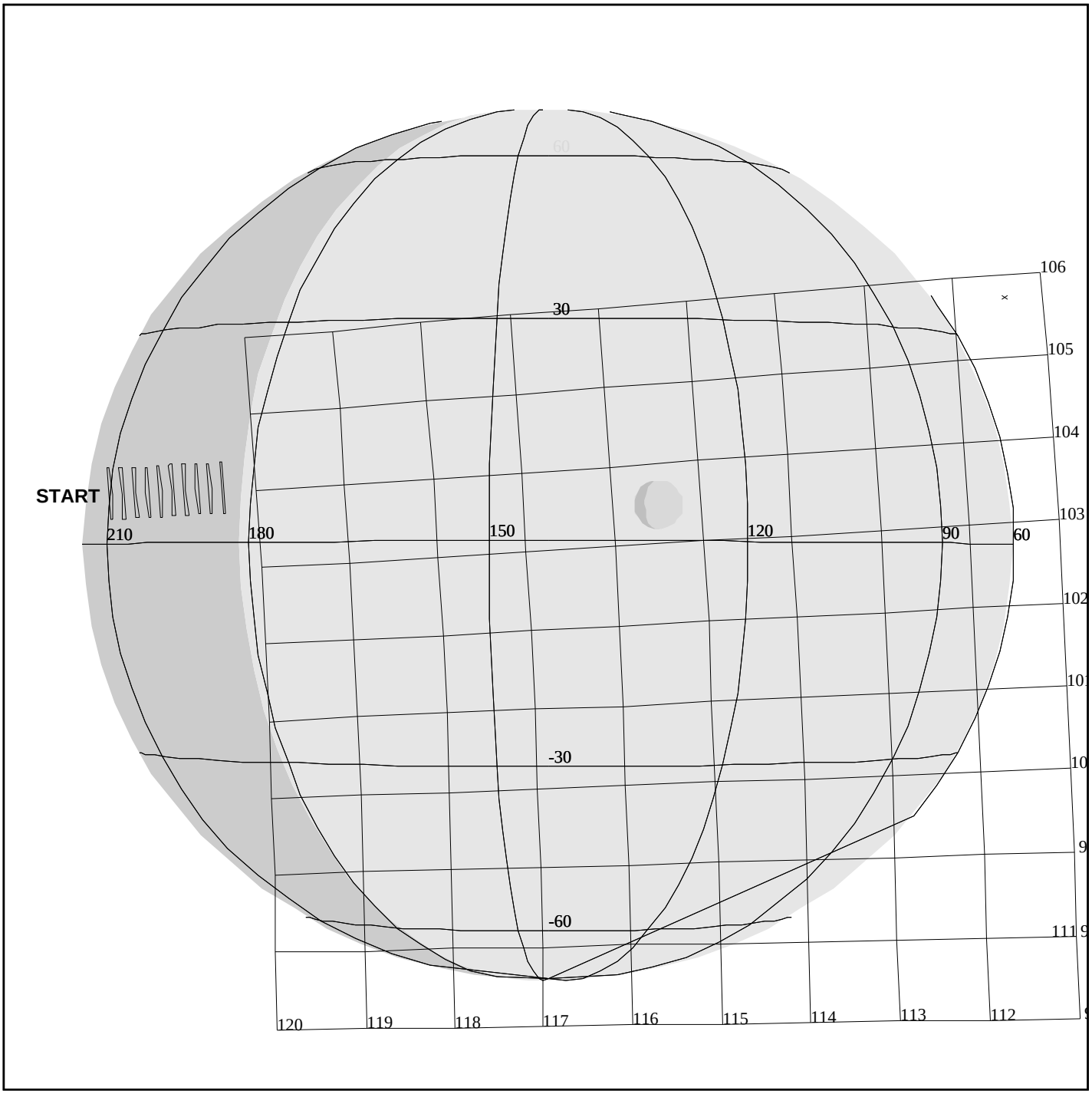
**Scan 1: MPW, gain state 4**
**Scan 2: LPU, gain state 3**

**SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT**

**BOOMS PRESENT**

**Long Map (LM), Gain 3, Grating Start 0, LPU, E15ELM240V, E15ELM168V**
**Long Map (LM), Gain 3, Grating Start 0, LPU, E15ELM240V, E15ELM72V**
**Long Map (LM), Gain 3, Grating Start 0, LPU, E15ELM240V, E15ELM240V**
**Long Map (LM), Gain 4, Grating Start 0, MPW, E15ELM442, E15ELM240T**
**Long Map (LM), Gain 4, Grating Start 0, MPW, E15ELM442, E15ELM120T**
**Long Map (LM), Gain 4, Grating Start 0, MPW, E15ELM442, E15ELM360**

**Galileo Activity Plan Form** — **04/24/98 15:59:24 rev 6/95**




165DC:TT= 0 TMC= 1 C= 11.00 XC= 0.00 BS= 0/9391 TC= 1(7 195 )
A= 728 pD= 1810 SR=17.450 RA50=297.79 DEC50=-21.52 cone=121.65 clock=104.09
117DC:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/9391
1:#s= 1 Cs= -18.10 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 1820 rD= 40

## 15JNJUPRTS02

**TARGET G3.1 lisac: 4/10/1998 14: 9:13**

**FILE:P.15JNJUPRTS02**

**CENTRAL BODY:JUPITER**

**MINI:m.target**

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

**PERIAPSIS:** **THINNING:NIM 7**

**START:JEE 98-152/02:34:27.800 -CDS 600:00:0** **BODY PLOT TIME:TARGET-TIME D= 1810 S= 0.850**

**OBSERVATION:15JNJUPRTS02** **DESCRIP:Jupiter_Realtime_Observation**

**Jupiter Realtime Observation** — **ACTIVITY ID: 15JNJUPRTS02*** / **START TIME: 98-152/14:26:24.415**

**Activity ID: Orbit 15 Target J Inst N OAPEL JUPRTS SeqNo 02 ***

| | | | |
|---|---|---|---|
| **Title** | **Jupiter Realtime Observation** | **Instrument** | **NIMS** |
| **Requestor** | **NIMS-AWG/M. SEGURA** | **Team NIMS** | **Working Group AWG** |

| | | | | | |
|---|---|---|---|---|---|
| **Time System** | **CDS** | **Load ID** | | **Calendar Date** | **06/01/98 Week 22** |
| **Start** | **JEE+CDS 00000704:00:0** | **98-152/14:26:24.415** | | **JEE+000/11:51:49.333** | |
| **End** | **JEE+CDS 00000728:00:0** | **98-152/14:50:40.415** | | **JEE+000/12:16:05.333** | |
| **Duration** | **00000024:00:0** | **000/00:24:16.000** | | **000/00:24:16.000** | |

| | | | | | |
|---|---|---|---|---|---|
| **Top Label** | **15JNJUPRTS02*** | | | | |
| **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**

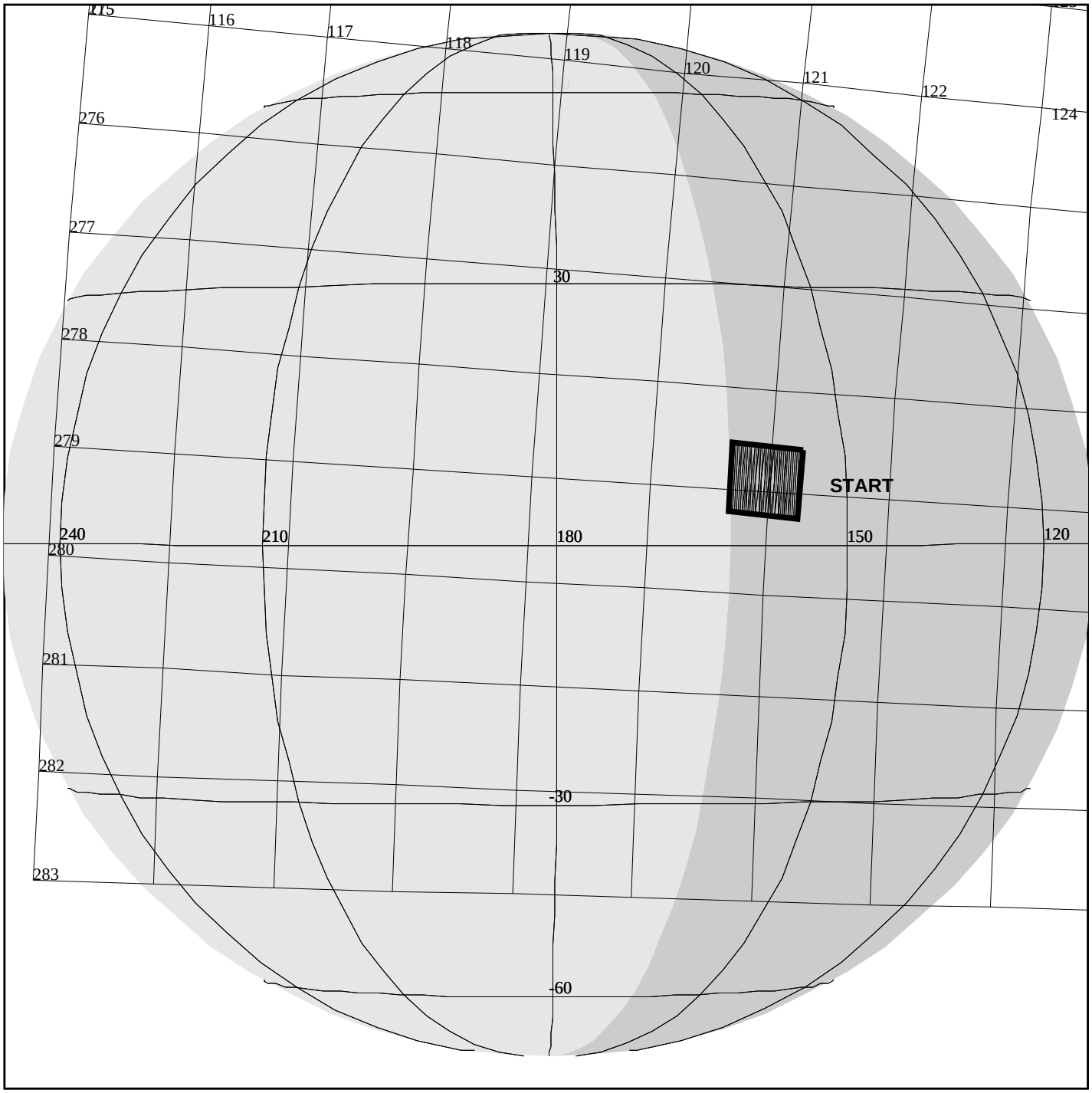
**Data Returned**

## Design Detail

**Long map. One scan, 20 RIMS long at +7 degrees latitude.**
**No overlap in FOV.**
**Nightside**
**NIMS R/T returns every seventh FOV.**

**SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT**

**Long Map (LM), Gain 4, Grating Start 0, R/T, E15JLM408**




165DN:TT= 0 TMC= 1 C= 5.00 XC= 0.00 BS= 0/1835 TC= 1(7 159 )
A= 728 pD= 1810 SR=17.450 RA50= 49.51 DEC50= 20.91 cone=121.25 clock=278.90
117DN:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/1835
1:#s= 1 Cs= -18.10 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 1820 rD= 40

# 15JNJPDARK01

**TARGET G3.1 lisac: 4/10/1998 14: 9:13**

**FILE:P.15JNJPDARK01**

**CENTRAL BODY:JUPITER**

**MINI:m.target**

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

**PERIAPSIS:** **THINNING:NIM 2**

**START:JEE 98-152/02:34:27.800 +CDS 842:00:0** **BODY PLOT TIME:TARGET-TIME D= 1810 S= 1.000**

**OBSERVATION:15JNJPDARK01** **DESCRIP:JUPITER_DARKSIDE_02**

**Jupiter Dark Observation** — **ACTIVITY ID: 15JNJPDARK01-** / **START TIME: 98-152/16:40:53.082**

**Activity ID: Orbit 15 Target J Inst N OAPEL JPDARK SeqNo 01 -**

| | | | | | |
|---|---|---|---|---|---|
| **Title** | **Jupiter Dark Observation** | | | **Instrument** | **NIMS** |
| **Requestor** | **NIMS-SWG/M. SEGURA** | **Team** | **NIMS** | **Working Group** | **AWG** |

| | | | | | |
|---|---|---|---|---|---|
| **Time System** | **CDS** | **Load ID** | | **Calendar Date** | **06/01/98 Week 22** |
| **Start** | **JEE+CDS 00000837:00:0** | **98-152/16:40:53.082** | | | **JEE+000/14:06:18.000** |
| **End** | **JEE+CDS 00000852:00:0** | **98-152/16:56:03.082** | | | **JEE+000/14:21:28.000** |
| **Duration** | **00000015:00:0** | **000/00:15:10.000** | | | **000/00:15:10.000** |

| | | | | | |
|---|---|---|---|---|---|
| **Top Label** | **15JNJPDARK01-** | | | | |
| **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

**Search for composition and thermal variations in Jupiter’s NEB North Equatorial Belt at +7 latitude.**
**First in a set of three observations covering the same nightside territory at the same phase angle but different incidence and emission angles.**

**Data Returned**

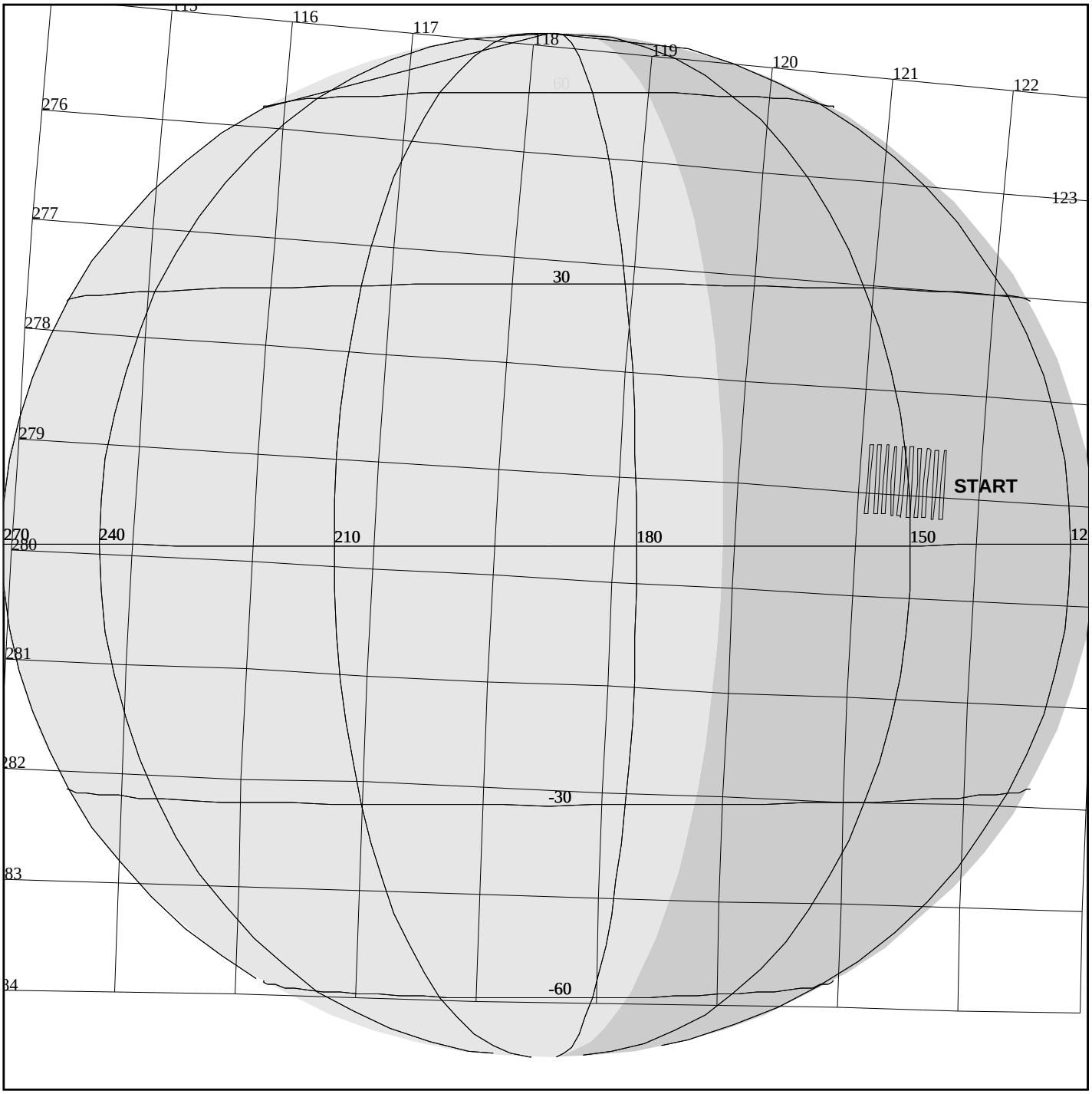
## Design Detail

**Single swath at +7 latitude, 155 to 170 W. longitude**
**Nightside, gain state 4**

**SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT**

**Long Map (LM), Gain 4, Grating Start 0, LPU, E15J5M253B, E15J5M149B**
**Long Map (LM), Gain 4, Grating Start 0, LPU, E15J5M253B, E15J5M80B**
**Long Map (LM), Gain 4, Grating Start 0, LPU, E15J5M253B, E15J5M229B**

**Galileo Activity Plan Form** — **04/24/98 15:59:24 rev 6/95**




165DJ:TT= 0 TMC= 1 C= 5.00 XC= 0.00 BS= 0/4383 TC= 1(7 150 )
A= 728 pD= 1810 SR=17.450 RA50= 49.05 DEC50= 20.78 cone=121.69 clock=278.88
117DJ:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/4383
1:#s= 1 Cs= -18.00 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 1820 rD= 40

## 15JNJUPRTS03

**TARGET G3.1 lisac: 4/10/1998 14: 9:13**

**FILE:P.15JNJUPRTS03**

**CENTRAL BODY:JUPITER**

**MINI:m.target**

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

**PERIAPSIS:** **THINNING:NIM 7**

**START:JEE 98-152/02:34:27.800 +CDS 856:00:0** **BODY PLOT TIME:TARGET-TIME D= 1810 S= 1.000**

**OBSERVATION:15JNJUPRTS03** **DESCRIP:Jupiter_Realtime_Observation**

**Jupiter Realtime Observation** — **ACTIVITY ID: 15JNJUPRTS03*** / **START TIME: 98-152/16:56:03.082**

**Activity ID: Orbit 15 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 06/01/98 Week 22** |
| **Start** | **JEE+CDS 00000852:00:0** | **98-152/16:56:03.082** | **JEE+000/14:21:28.000** |
| **End** | **JEE+CDS 00000866:00:0** | **98-152/17:10:12.415** | **JEE+000/14:35:37.333** |
| **Duration** | **00000014:00:0** | **000/00:14:09.333** | **000/00:14:09.333** |

**Top Label** 15JNJUPRTS03*
**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

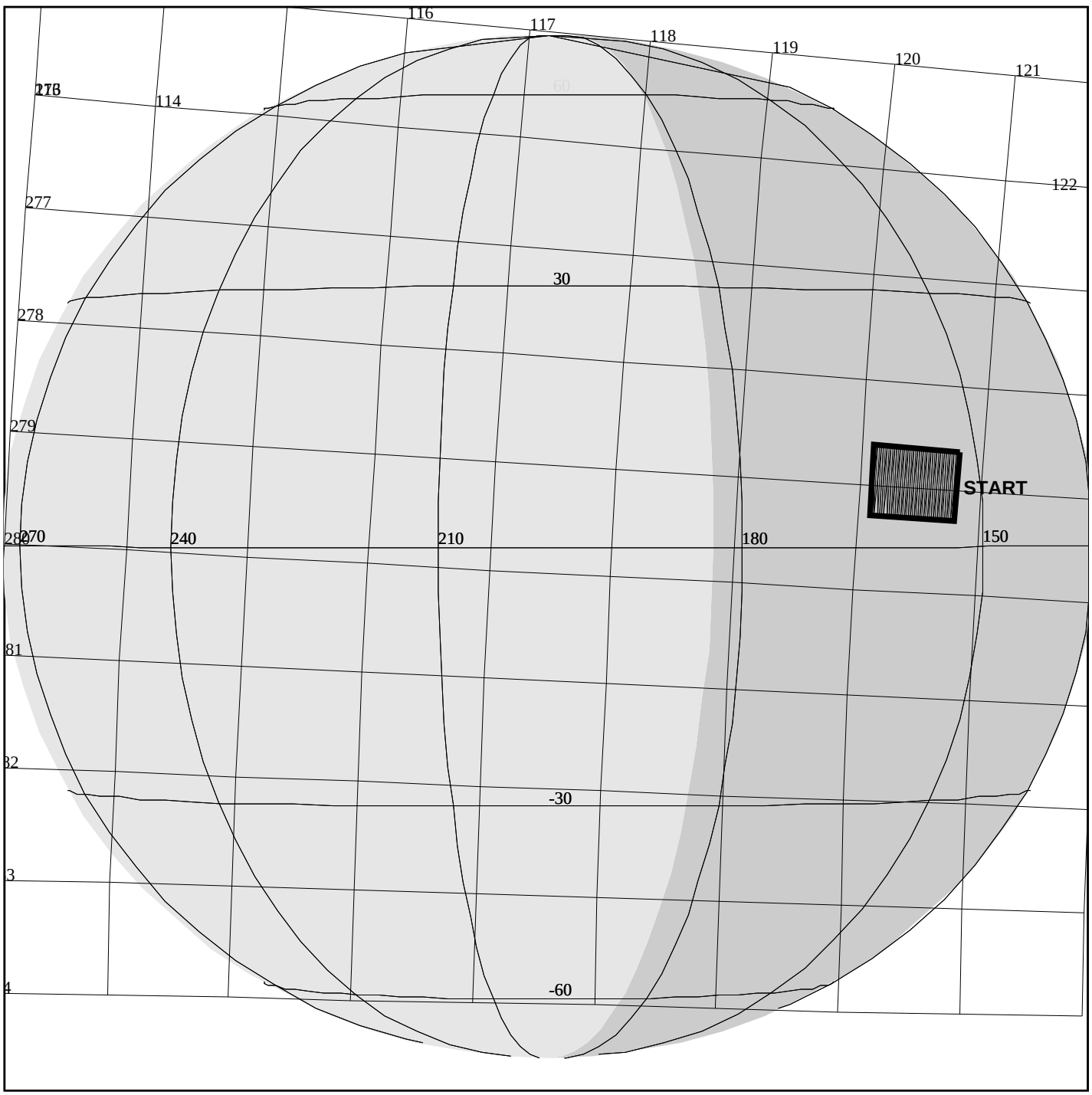
## Design Detail

Long map. one scan, 10 Rims long at +7 degrees latitude.
Nightside.
No overlap in FOV.
NIMS R/T only returns every seventh FOV.

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

Long Map (LM), Gain 4, Grating Start 0, R/T, E15JLM408

**Galileo Activity Plan Form** 04/24/98 15:59:24 rev 6/95




165DO:TT= 0 TMC= 1 C= 5.00 XC= 0.00 BS= 0/7841 TC= 1(7 159 )
A= 728 pD= 1810 SR=17.450 RA50= 49.99 DEC50= 21.01 cone=120.79 clock=278.97
117DO:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/7841
1:#s= 1 Cs= -18.10 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 1820 rD= 40

## 15JNJPDARK02

**TARGET G3.1 lisac: 4/10/1998 14: 9:13**

**FILE:P.15JNJPDARK02**

**CENTRAL BODY:JUPITER**

**MINI:m.target**

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

**PERIAPSIS:** **THINNING:NIM 2**

**START:JEE 98-152/02:34:27.800 +CDS 875:00:0** **BODY PLOT TIME:TARGET-TIME D= 1810 S= 1.000**

**OBSERVATION:15JNJPDARK02** **DESCRIP:JUPITER_DARKSIDE_02**

**Jupiter Dark Observation** — **ACTIVITY ID: 15JNJPDARK02-** / **START TIME: 98-152/17:14:15.082**

**Activity ID: Orbit 15 Target J Inst N OAPEL JPDARK SeqNo 02 -**

| | | | |
|---|---|---|---|
| **Title** | **Jupiter Dark Observation** | **Instrument** | **NIMS** |
| **Requestor** | **NIMS-SWG/M. SEGURA** | **Team NIMS** | **Working Group AWG** |

| | | | | | |
|---|---|---|---|---|---|
| **Time System** | **CDS** | **Load ID** | **Calendar Date** | **06/01/98** | **Week 22** |
| **Start** | **JEE+CDS 00000870:00:0** | **98-152/17:14:15.082** | | **JEE+000/14:39:40.000** | |
| **End** | **JEE+CDS 00000889:00:0** | **98-152/17:33:27.748** | | **JEE+000/14:58:52.666** | |
| **Duration** | **00000019:00:0** | **000/00:19:12.666** | | **000/00:19:12.666** | |

| | | | | | |
|---|---|---|---|---|---|
| **Top Label** | **15JNJPDARK02-** | | | | |
| **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 composition and thermal variations in Jupiter’s NEB North Equatorial Belt at +7 latitude.**
**Second in a set of three observations covering the same nightside territory at the same phase angle but different incidence and emission angles.**

**Data Returned**

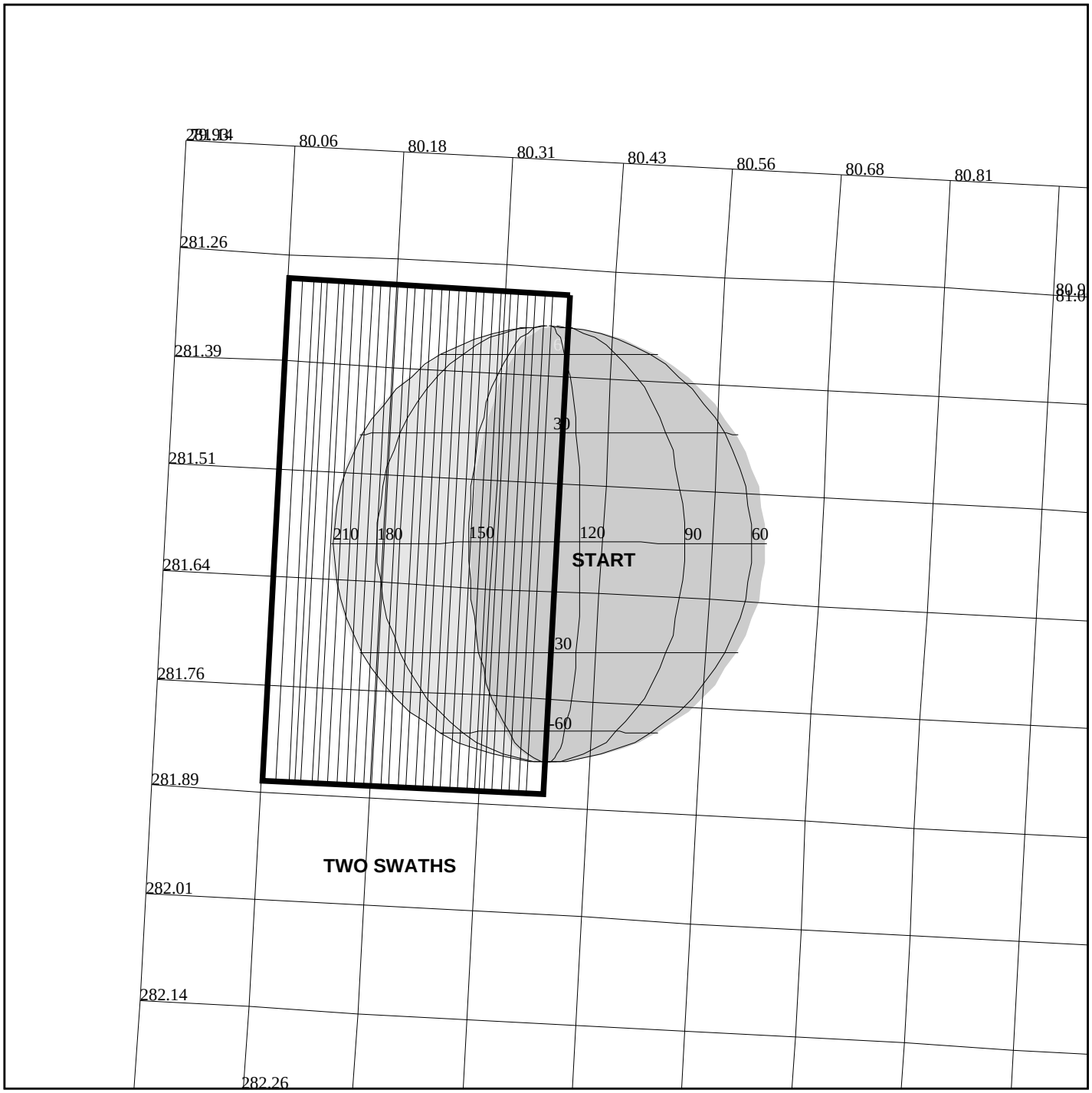
## Design Detail

**Single swath at +7 latitude, 155 to 170 W. longitude**
**Nightside, gain state 4**

**SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT**

**Long Map (LM), Gain 4, Grating Start 0, LPU, E15J5M253B, E15J5M149B**
**Long Map (LM), Gain 4, Grating Start 0, LPU, E15J5M253B, E15J5M80B**
**Long Map (LM), Gain 4, Grating Start 0, LPU, E15J5M253B, E15J5M229B**

**Galileo Activity Plan Form** — **04/24/98 15:59:24 rev 6/95**




165DL:TT= 0 TMC= 1 C= 0.00 XC= 0.00 BS= 0/3483 TC= 3
A= 728 pD= 2174 SR=17.450 RA50= 93.99 DEC50= 25.47 cone= 80.37 clock=281.58
117DL:#SB= 1 OR= 0.020 RR=12.000 BM=F RC= 1 BS= 0/3483
1:#s= 2 Cs= -5.20 XCs= 0.00 Cr= 5.20 XCr= 0.00 sD= 792 rD= 388

## 15ENEUR20H01

**TARGET G3.1 lisac: 4/10/1998 14: 9:13**

**FILE:P.15ENEUR20H01**

**TARGET BODY : EUROPA**

**MINI:m.target**

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

**PERIAPSIS:** **THINNING:NIM 2**

**START:EEE 98-151/21:12:55.800 +CDS 1224:00:0** **BODY PLOT TIME:TARGET-TIME D= 2174 S= 0.400**

**OBSERVATION:15ENEUR20H01** **DESCRIP:EUROPA_+20_HOURS**

**Europa 20 Hour Map** — **ACTIVITY ID: 15ENEUR20H01-** / **START TIME: 98-152/17:39:17.129**

**Activity ID: Orbit 15 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** | **06/01/98 Week 22** |
| **Start** | **EEE+CDS 00001214:00:0** | **98-152/17:39:17.129** | | **EEE+000/20:27:29.333** | |
| **End** | **EEE+CDS 00001236:00:0** | **98-152/18:01:31.796** | | **EEE+000/20:49:44.000** | |
| **Duration** | **00000022:00:0** | **000/00:22:14.667** | | **000/00:22:14.667** | |

| | | | | | |
|---|---|---|---|---|---|
| **Top Label** | **15ENEUR20H01-** | | | | |
| **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

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

**Two identical scans: the first in gain state 4 MPW,**
**the second in gain state 3 LPU.**

**Return shorter wavelengths in gain state 3 as they will saturate in gain state 4.**

**Gain state 4 allows better resolution of low signals at longer wavelengths.**

**Data Returned**

## Design Detail

**Long Map, Nyquist sampling, 2 scans across the body.**

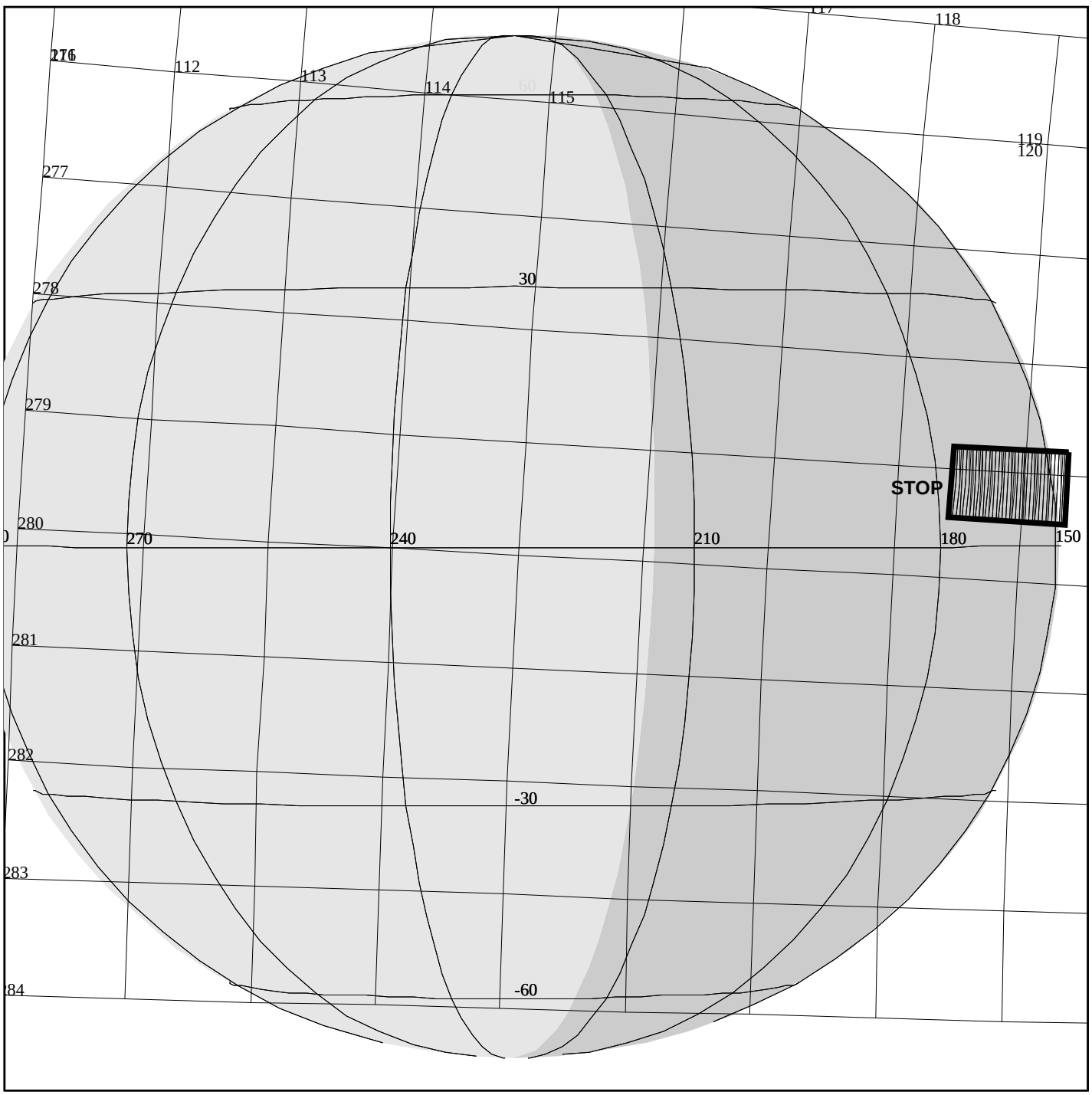
**Scan 1: MPW, gain state 4**
**Scan 2: LPU, gain state 3**

**SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT**

**BOOMS PRESENT**

**Long Map (LM), Gain 3, Grating Start 0, LPU, E15ELM240V, E15ELM168V**
**Long Map (LM), Gain 3, Grating Start 0, LPU, E15ELM240V, E15ELM72V**
**Long Map (LM), Gain 3, Grating Start 0, LPU, E15ELM240V, E15ELM240V**
**Long Map (LM), Gain 4, Grating Start 0, MPW, E15ELM442, E15ELM240T**
**Long Map (LM), Gain 4, Grating Start 0, MPW, E15ELM442, E15ELM120T**
**Long Map (LM), Gain 4, Grating Start 0, MPW, E15ELM442, E15ELM360**

**Galileo Activity Plan Form** **04/24/98 15:59:25 rev 6/95**




165DP:TT= 0 TMC= 1 C= 4.50 XC= 0.00 BS= 0/7123 TC= 1(7 159 )
A= 728 pD= 1810 SR=17.450 RA50= 51.51 DEC50= 21.35 cone=119.34 clock=279.12
117DP:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/7123
1:#s= 1 Cs= -18.10 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 1820 rD= 40

## 15JNJPDARK03

**TARGET G3.1 lisac: 4/10/1998 14: 9:13**

**FILE:P.15JNJPDARK03**

**CENTRAL BODY:JUPITER**

**MINI:m.target**

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

**PERIAPSIS:** **THINNING:NIM 2**

**START:JEE 98-152/02:34:27.800 +CDS 926:00:0** **BODY PLOT TIME:TARGET-TIME D= 1810 S= 1.000**

**OBSERVATION:15JNJPDARK03** **DESCRIP:JUPITER_DARKSIDE_03**

**Jupiter Dark Observation** — **ACTIVITY ID: 15JNJPDARK03-** / **START TIME: 98-152/18:06:49.748**

**Activity ID: Orbit 15 Target J Inst N OAPEL JPDARK SeqNo 03 -**

| | | | | | |
|---|---|---|---|---|---|
| **Title** | **Jupiter Dark Observation** | | | **Instrument** | **NIMS** |
| **Requestor** | **NIMS-SWG/M. SEGURA** | **Team** | **NIMS** | **Working Group** | **AWG** |

| | | | | | |
|---|---|---|---|---|---|
| **Time System** | **CDS** | **Load ID** | | **Calendar Date** | **06/01/98 Week 22** |
| **Start** | **JEE+CDS 00000922:00:0** | **98-152/18:06:49.748** | | **JEE+000/15:32:14.666** | |
| **End** | **JEE+CDS 00000938:00:0** | **98-152/18:23:00.415** | | **JEE+000/15:48:25.333** | |
| **Duration** | **00000016:00:0** | **000/00:16:10.667** | | **000/00:16:10.667** | |

| | | | | | |
|---|---|---|---|---|---|
| **Top Label** | **15JNJPDARK03-** | | | | |
| **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

**Search for composition and thermal variations in Jupiter’s NEB North Equatorial Belt at +7 latitude.**
**Third in a set of three observations covering the same nightside territory at the same phase angle but different incidence and emission angles.**

**Data Returned**

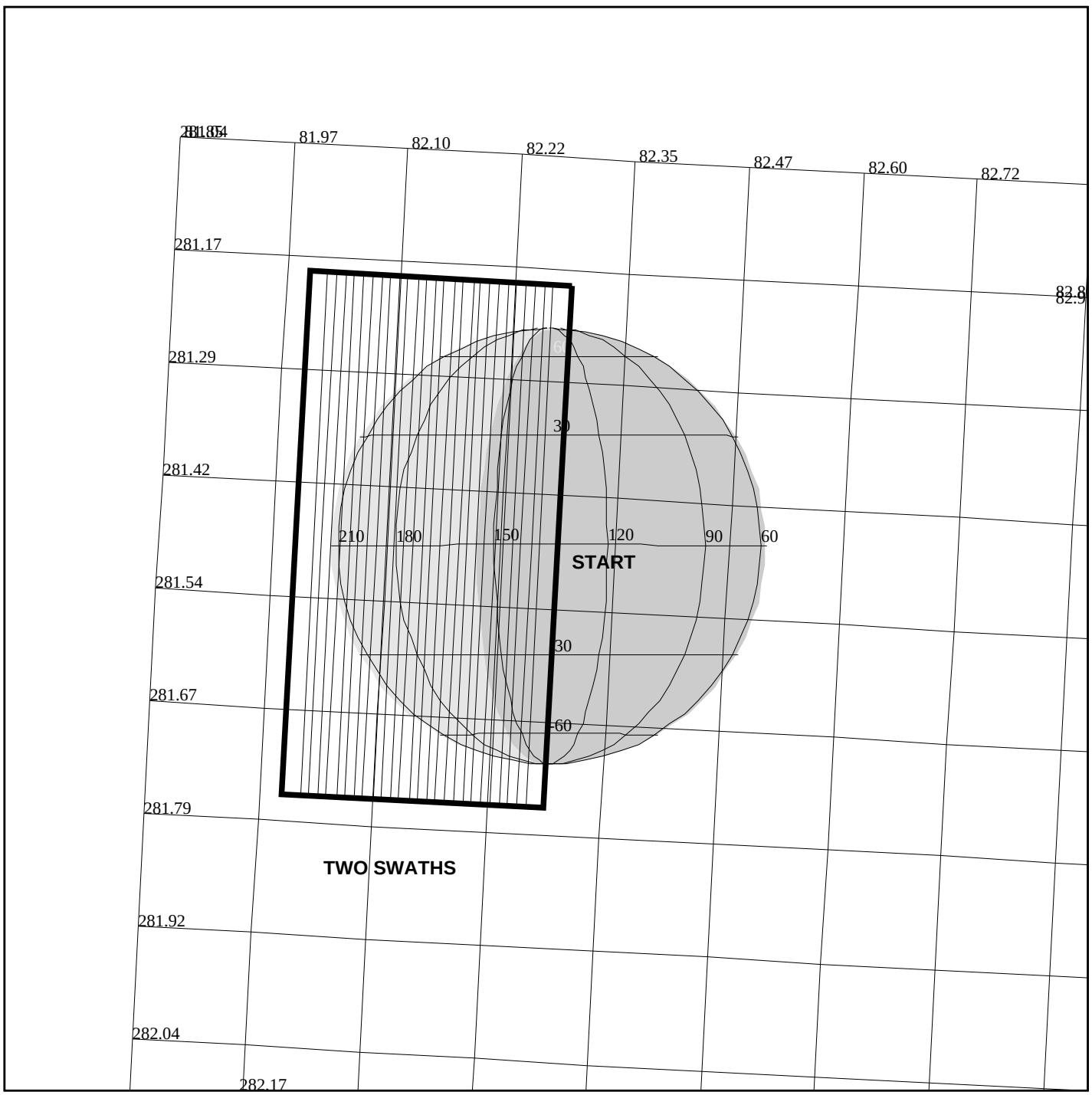
## Design Detail

**Single swath at +7 latitude, 155 to 170 W. longitude**
**Nightside, gain state 4**

**SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT**

**Long Map (LM), Gain 4, Grating Start 0, LPU, E15J5M253B, E15J5M149B**
**Long Map (LM), Gain 4, Grating Start 0, LPU, E15J5M253B, E15J5M80B**
**Long Map (LM), Gain 4, Grating Start 0, LPU, E15J5M253B, E15J5M229B**

**Galileo Activity Plan Form** — **04/24/98 15:59:25 rev 6/95**




165DM:TT= 0 TMC= 1 C= 0.00 XC= 0.00 BS= 0/6951 TC= 3
A= 728 pD= 1810 SR=17.450 RA50= 91.88 DEC50= 25.55 cone= 82.27 clock=281.47
117DM:#SB= 1 OR= 0.020 RR=12.000 BM=F RC= 1 BS= 0/6951
1:#s= 2 Cs= -4.75 XCs= 0.00 Cr= 4.80 XCr= 0.00 sD= 716 rD= 388

# 15ENEUR22H01

**TARGET G3.1 lisac: 4/10/1998 14: 9:13**

**FILE:P.15ENEUR22H01**

**TARGET BODY : EUROPA**

**MINI:m.target**

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

**PERIAPSIS:** **THINNING:NIM 2**

**START:EEE 98-151/21:12:55.800 +CDS 1298:00:0** **BODY PLOT TIME:TARGET-TIME D= 1810 S= 0.400**

**OBSERVATION:15ENEUR22H01** **DESCRIP:EUROPA_+22_HOURS**

**Europa 22 Hour Map** — **ACTIVITY ID: 15ENEUR22H01-** / **START TIME: 98-152/18:54:06.462**

**Activity ID: Orbit 15 Target E Inst N OAPEL EUR22H SeqNo 01 -**

| | | | | | |
|---|---|---|---|---|---|
| **Title** | **Europa 22 Hour Map** | | | **Instrument** | **NIMS** |
| **Requestor** | **NIMS-SWG/M. SEGURA** | **Team** | **NIMS** | **Working Group** | **SWG** |

| | | | | | |
|---|---|---|---|---|---|
| **Time System** | **CDS** | **Load ID** | | **Calendar Date** | **06/01/98 Week 22** |
| **Start** | **EEE+CDS 00001288:00:0** | **98-152/18:54:06.462** | | **EEE+000/21:42:18.666** | |
| **End** | **EEE+CDS 00001314:00:0** | **98-152/19:20:23.796** | | **EEE+000/22:08:36.000** | |
| **Duration** | **00000026:00:0** | **000/00:26:17.334** | | **000/00:26:17.334** | |

| | | | | | |
|---|---|---|---|---|---|
| **Top Label** | **15ENEUR22H01-** | | | | |
| **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

**Distant Europa global mapping at 22 hours after closest approach.**
**Special emphasis given to the non-ice components on Europa’s surface.**

**Two identical scans: the first in gain state 4 MPW,**
**the second in gain state 3 LPU.**

**Return shorter wavelengths in gain state 3 as they will saturate in gain state 4.**

**Gain state 4 allows better resolution of low signals at longer wavelengths.**

**Data Returned**

## Design Detail

**Long Map, Nyquist sampling, 2 scans across the body.**

**Scan 1: MPW, gain state 4**
**Scan 2: LPU, gain state 3**

**SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT**

**BOOMS PRESENT**

**Long Map (LM), Gain 3, Grating Start 0, LPU, E15ELM240V, E15ELM168V**
**Long Map (LM), Gain 3, Grating Start 0, LPU, E15ELM240V, E15ELM72V**
**Long Map (LM), Gain 3, Grating Start 0, LPU, E15ELM240V, E15ELM240V**
**Long Map (LM), Gain 4, Grating Start 0, MPW, E15ELM442, E15ELM240T**
**Long Map (LM), Gain 4, Grating Start 0, MPW, E15ELM442, E15ELM120T**
**Long Map (LM), Gain 4, Grating Start 0, MPW, E15ELM442, E15ELM360**

**Galileo Activity Plan Form** — **04/24/98 15:59:25 rev 6/95**

| | |
|---|---|
| **Chopper off** | **ACTIVITY ID: 15NNCHOPOF01-**<br>**START TIME: 98-152/19:24:26.462** |

**Activity ID: Orbit 15 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** | **06/01/98 Week 22** |
| **Start** | **EEE+CDS 00001318:00:0** | **98-152/19:24:26.462** | | **EEE+000/22:12:38.666** | |
| **End** | **EEE+CDS 00001328:00:0** | **98-152/19:34:33.129** | | **EEE+000/22:22:45.333** | |
| **Duration** | **00000010:00:0** | **000/00:10:06.667** | | **000/00:10:06.667** | |

| | | | | | |
|---|---|---|---|---|---|
| **Top Label** | **15NNCHOPOF01-** | | | | |
| **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**

**Preserve the lifetime of the NIMS Chopper by turning it off during Cruise.**

**Design Detail**

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

| | | |
|---|---|---|
| **Galileo Activity Plan Form** | **04/24/98 15:59:25** | **rev 6/95** |

NIMS RCT Real-Time Calibration — ACTIVITY ID: 15NNRCTRLT01- — START TIME: 98-180/08:00:05.666

Activity ID: Orbit 15 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 | 06/29/98 Week 26 |
| Start | RTA+CDS 0:00:0 | 98-180/08:00:05.666 | | RTA+000/00:00:00.000 | |
| End | RTA+CDS 00000787:00:0 | 98-180/21:15:50.332 | | RTA+000/13:15:44.666 | |
| Duration | 00000787:00:0 | 000/13:15:44.666 | | 000/13:15:44.666 | |

| | | | | | |
|---|---|---|---|---|---|
| Top Label | 15NNRCTRLT01- | | | | |
| 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 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.

## 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 04/24/98 15:59:25 rev 6/95