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.

NIMS Software Reload		ACTIVITY ID:	26NNDETECT01-
		START TIME:	00-004/10:44:01.133

Activity ID: Orbit 26 Target N Inst N OAPEL DETECT 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 01/04/00 Week 01

Start	IEE+CDS 00000225:00:0	00-004/10:44:01.133	IEE+000/03:47:30.000
End	IEE+CDS 00000230:00:0	00-004/10:49:04.466	IEE+000/03:52:33.333
Duration	00000005:00:0	000/00:05:03.333	000/00:05:03.333

Top Label 26NNDETECT01-
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 reload prior to the inbound NIMS Grating Step Test. 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 is included in the NIMSGUIDE. The NIMS E26 reload OAPELS are:

26NNDETECT01, 26NNHSLOKI01, 26NNDETECT03, 26NNRELOAD01, 26NNRELOAD02.

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.

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Grating Step Test		ACTIVITY ID:	26NNDETECT02-
		START TIME:	00-004/10:49:04.466

Activity ID: Orbit 26 Target N Inst N OAPEL DETECT SeqNo 02 -

Title	Grating Step Test			Instrument	NIMS
Requestor	NIMS-SWG/M. SEGURA	Team	NIMS	Working Group	SWG

Time System	CDS	Load ID		Calendar Date	01/04/00	Week	01

Start	IEE+CDS	00000230:00:0	00-004/10:49:04.466	IEE+000/03:52:33.333
End	IEE+CDS	00000244:00:0	00-004/11:03:13.799	IEE+000/04:06:42.666
Duration		00000014:00:0	000/00:14:09.333	000/00:14:09.333

Top Label	26NNDETECT02-
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

Procedure to return NIMS Grating position Housekeeping via CDS and MROH

Design Detail

NIMS Housekeeping values, including Grating Position, are copied using 6MCOPY commands from NIMS memory locations to CDS memory locations at selected MF times to collect every other grating position over the NIMS grating cycle. These CDS locations are sent down via a 6MROH command during E26 Cruise after the E26 Encounter period.

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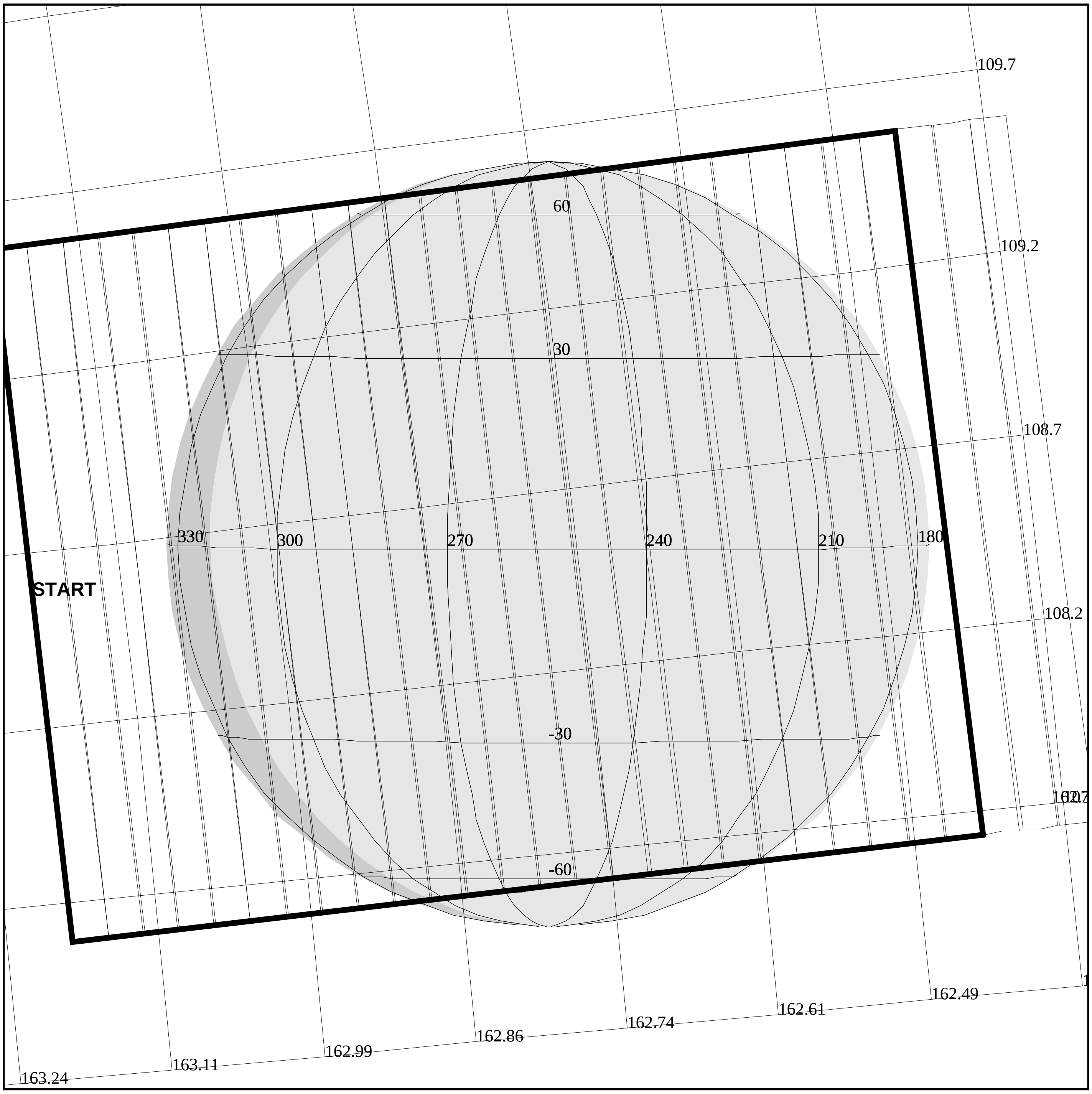

165DA:TT= 0 TMC= 1 C= 5.50 XC= 0.00 BS= 0/7299 TC= 1(0 274)
A= 728 pD= 1446 SR=17.450 RA50= 7.50 DEC50= 3.46 cone=163.18 clock=108.61
117DA:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/7299
1:#s= 1 Cs= -14.30 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 1446 rD= 2

26INHSLOKI01

TARGET G3.1 lisac:12/ 2/1999 10:30:12

FILE:P.26INHSLOKI01

TARGET BODY : IO

MINI:m.target

S/C EPH:/DATA/NAVIO/991130-tour.NS

PERIAPSIS: **THINNING:NIM 2**

START:IEE 00-004/06:56:31.133 +CDS 259:00:0 **BODY PLOT TIME:TARGET-TIME D= 1446 S= 0.700**

OBSERVATION:26INHSLOKI01 **DESCRIP:IO_LOKI_OBSERVATION**

Io Loki Observation	ACTIVITY ID:	26INHSLOKI01-
	START TIME:	00-004/11:14:21.133

Activity ID: Orbit 26 Target I Inst N OAPEL HSLOKI SeqNo 01 -

Title	Io Loki Observation			Instrument	NIMS
Requestor	NIMS-SWG/M. SEGURA	Team	NIMS	Working Group	SWG

Time System	CDS	Load ID		Calendar Date	01/04/00	Week	01

Start	IEE+CDS 00000255:00:0	00-004/11:14:21.133	IEE+000/04:17:50.000
End	IEE+CDS 00000267:00:0	00-004/11:26:29.133	IEE+000/04:29:58.000
Duration	00000012:00:0	000/00:12:08.000	000/00:12:08.000

Top Label 26INHSLOKI01-
Bottom Label

Plot Key	NIMS	Type	SCI		
CDS Bytes	300	Report Options	BOTH	Scan Platform	No
CDS Source	OAP	Spin State	DUAL	DMS	No

Observation Objective

Nearly global observation of Loki hemisphere at ~160 Km/NIMS pixel.

Data Returned

Design Detail

BTG=3.29 Mbits, TICs=354, FMT=MPW

Center observation at 274 deg. West longitude - equator.
Long Map, Nyquist sampling.
4 Rims for targetting, 8 Rims scan.

Single swath across the daylit disk.

SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT

Fixed Long Map (XLM), Gain 4, Grating Start 0, MPW, ILM442, ILM360

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Grating Step Test		ACTIVITY ID:	26NNDETECT04-
		START TIME:	00-004/10:49:04.466

Activity ID: Orbit 26 Target N Inst N OAPEL DETECT SeqNo 04 -

Title	Grating Step Test			Instrument	NIMS
Requestor	NIMS-SWG/M. SEGURA	Team	NIMS	Working Group	SWG

Time System	CDS	Load ID		Calendar Date	01/04/00	Week	01

Start	IEE+CDS 00000285:00:0	00-004/11:44:41.133	IEE+000/04:48:10.000
End	IEE+CDS 00000299:00:0	00-004/11:58:50.466	IEE+000/05:02:19.333
Duration	00000014:00:0	000/00:14:09.333	000/00:14:09.333

Top Label	26NNDETECT04-
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

Procedure to return NIMS Grating position Housekeeping via CDS and MROH

Design Detail

NIMS Housekeeping values, including Grating Position, are copied using 6MCOPY commands from NIMS memory locations to CDS memory locations at selected MF times to collect every other grating position over the NIMS grating cycle. These CDS locations are sent down via a 6MROH command during E26 Cruise after the E26 Encounter period.

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NIMS Chopper Off		ACTIVITY ID:	26NNCHOPOF01-
		START TIME:	00-006/02:41:13.000

Activity ID: Orbit 26 Target N Inst N OAPEL CHOPOF SeqNo 01 -

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

Time System	CDS	Load ID		Calendar Date	06/07/00	Week	23

Start	JEE+CDS 00000000:00:0	00-006/02:41:13.000	JEE+001/23:07:11.000
End	JEE+CDS 00000000:00:0	00-006/02:43:15.000	JEE+001/23:09:13.000
Duration	00000000:00:0	000/00:02:02.000	000/00:02:02.000

Top Label	26NNCHOPOF01-
Bottom Label	

Plot Key	NIMS	Type	SCI		
CDS Bytes	000	Report Options	TOL	Scan Platform	No
CDS Source	***	Spin State	N	DMS	No

Observation Objective

Turn off NIMS Chopper

Design Detail

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