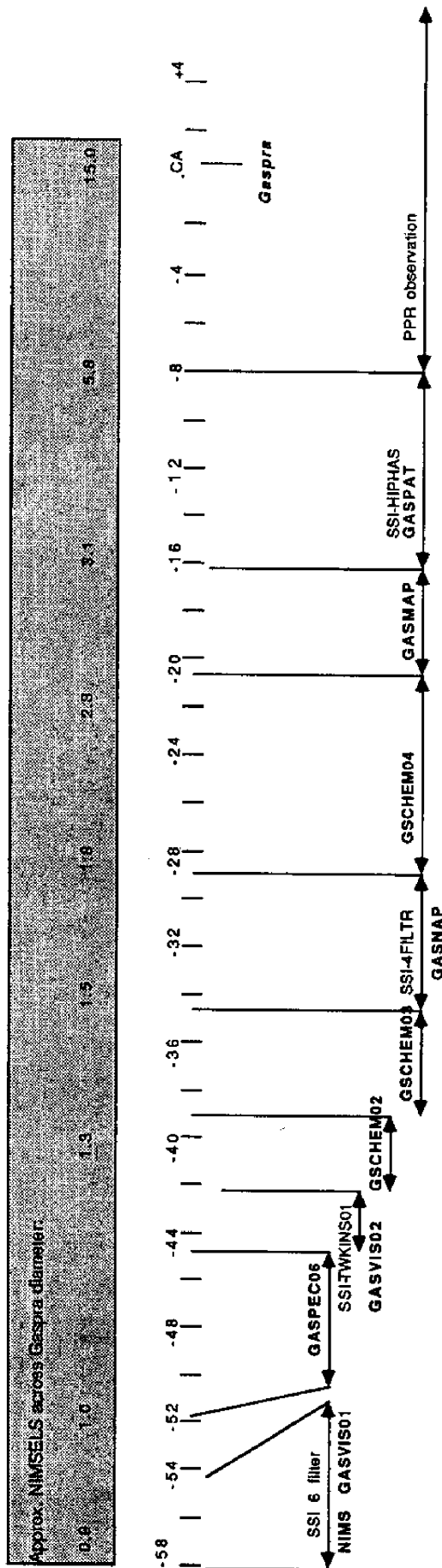


# **GASPRA Encounter** **Gaspra Closest Approach (GCA), 302/22:37:00.702** **GCA-58 rims to -8 rims (1 RIM = 60.67 sec)**



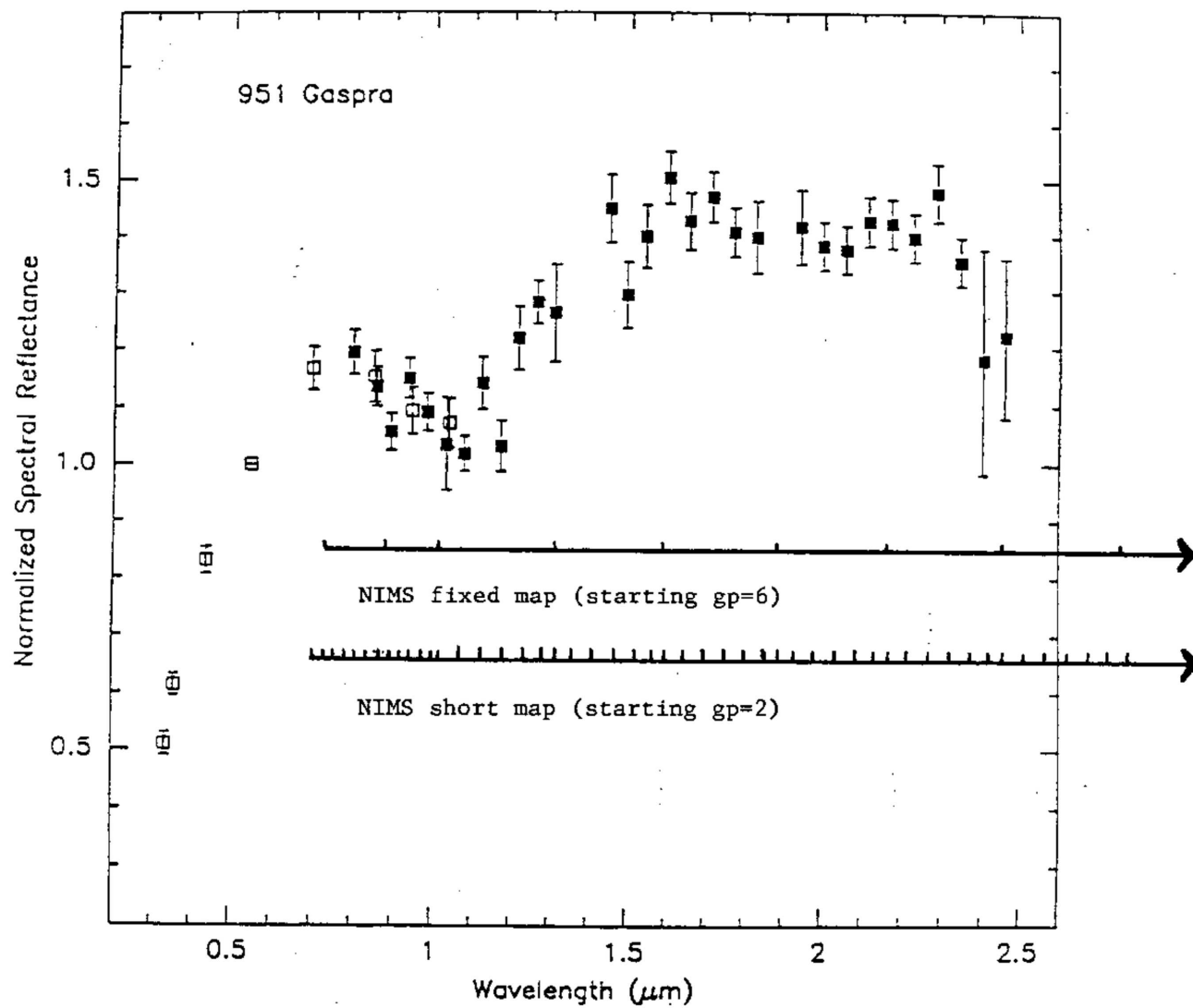
- GASVIS01 NIMS ride-along in XMLM Special Sequence with SSI in IM4 (2.333 sec frames).
- GASVIS02 NIMS ride-along in XM with SSI in IM4 (2.333 sec frames)
- GASPEC06 NIMS completes the last FM observation at LM Nyquist rate by covering lower hemisphere. GASPEC05 covers upper hemisphere.
- GSCH02,03,04 NIMS scans each of 2 error ellipse hemispheres(02,03), and center of error ellipse (04) in SM @Nyquist rate (0.11 mrad/sec).
- GASNAP NIMS ride-along in XMLM Special Sequence with SSI in IM4 (2.333 sec frames).
- GASMAP NIMS scans the error ellipse in XM @Nyquist rate. (0.75 mrad/sec).
- GASPAT Joint NIMS/SSI observation, NIMS in XM @ 0.84 mrad/sec slow rates.

**NIMS/SSI Gaspra Activities - Far Encounter**  
**Gaspra Closest Approach (GCA) = 302/22:37:00.702 UTC**

Approximate numbers across Gaspra diameter	01	18	41	76										
<b>RIMS to C/A:</b>	473	442	407	368	337	302	263	232	197	158	127	92	64	
<b>SSI observations:<sup>1</sup></b> (every 30° of rotation)	•	•	•	•	•	•	•	•	•	•	•	•	•	
<b>NIMS observations:<sup>1</sup></b> (every 15° of rotation)	F	X	S	X	S	X	F	X	S	F	X	S	X	F
										UVS Obs.				

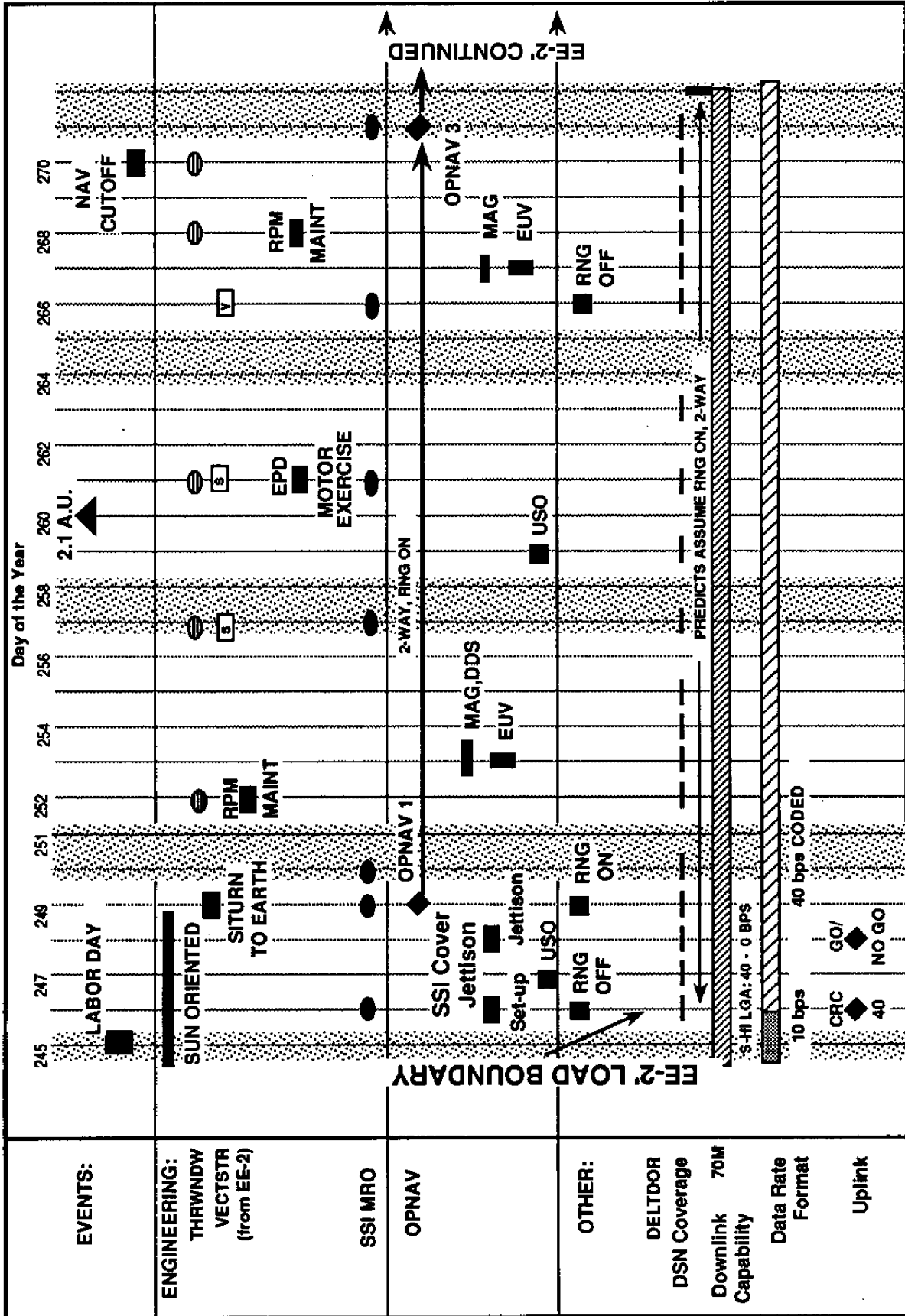
Totals

Number	Mode
12	X - Fixed Map (17 $\lambda$ ) (GASPER)
8	S - Short Map (102 $\lambda$ ) (GASCUR)
5	F - Full Map (204 $\lambda$ ) (GASPEC)

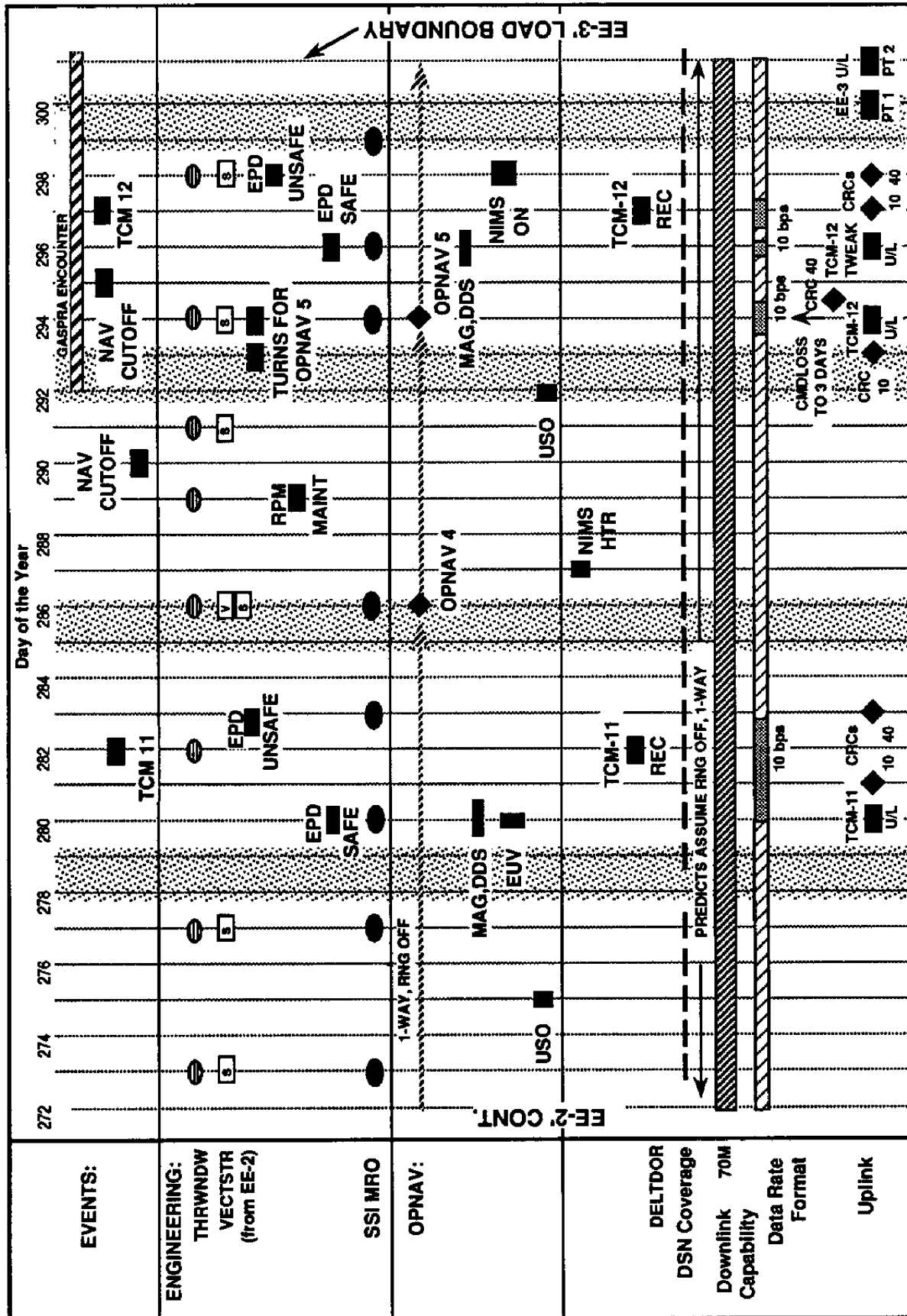


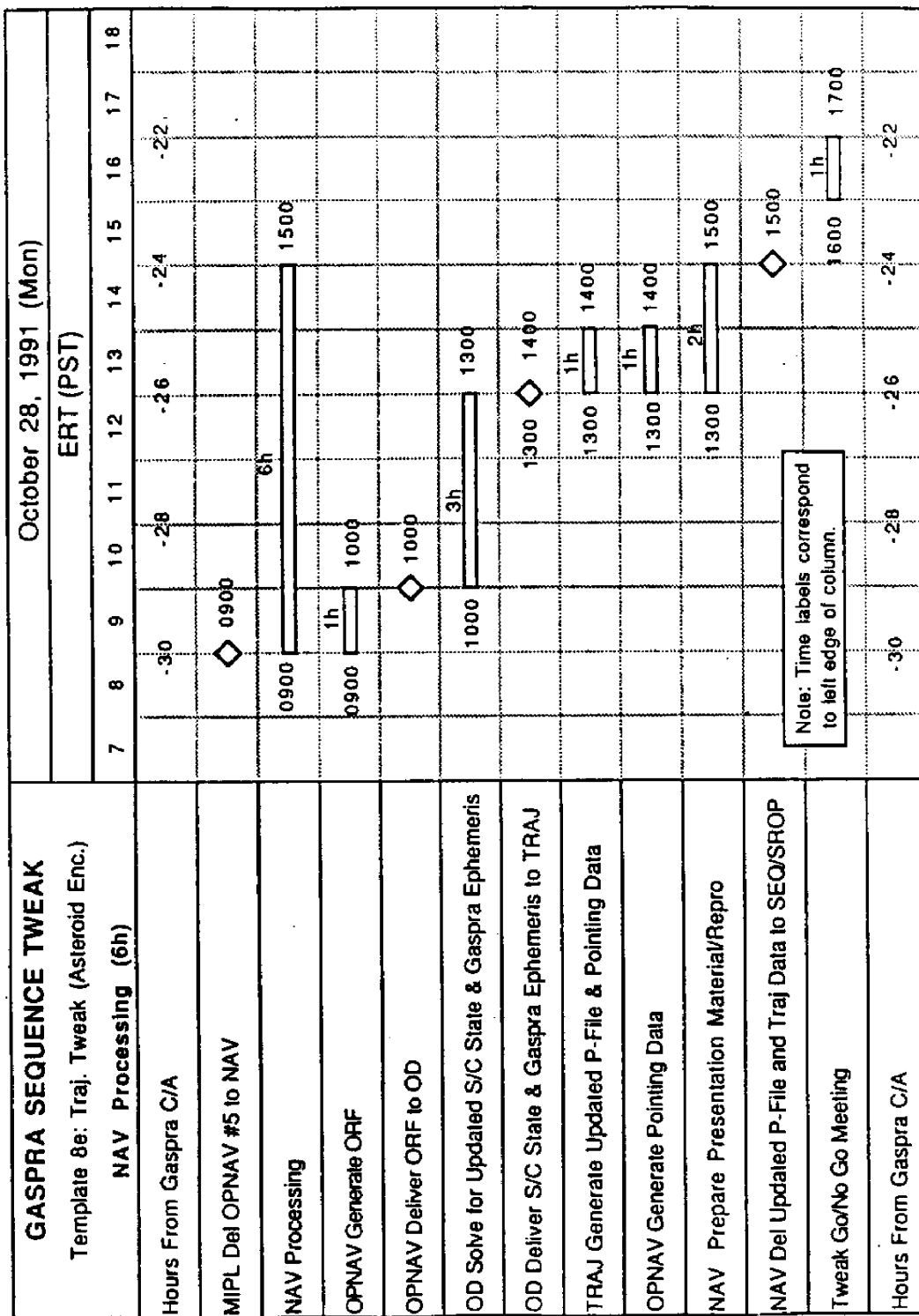


# EE-2' OVERVIEW, PART 1



# EE-2' OVERVIEW, PART 2

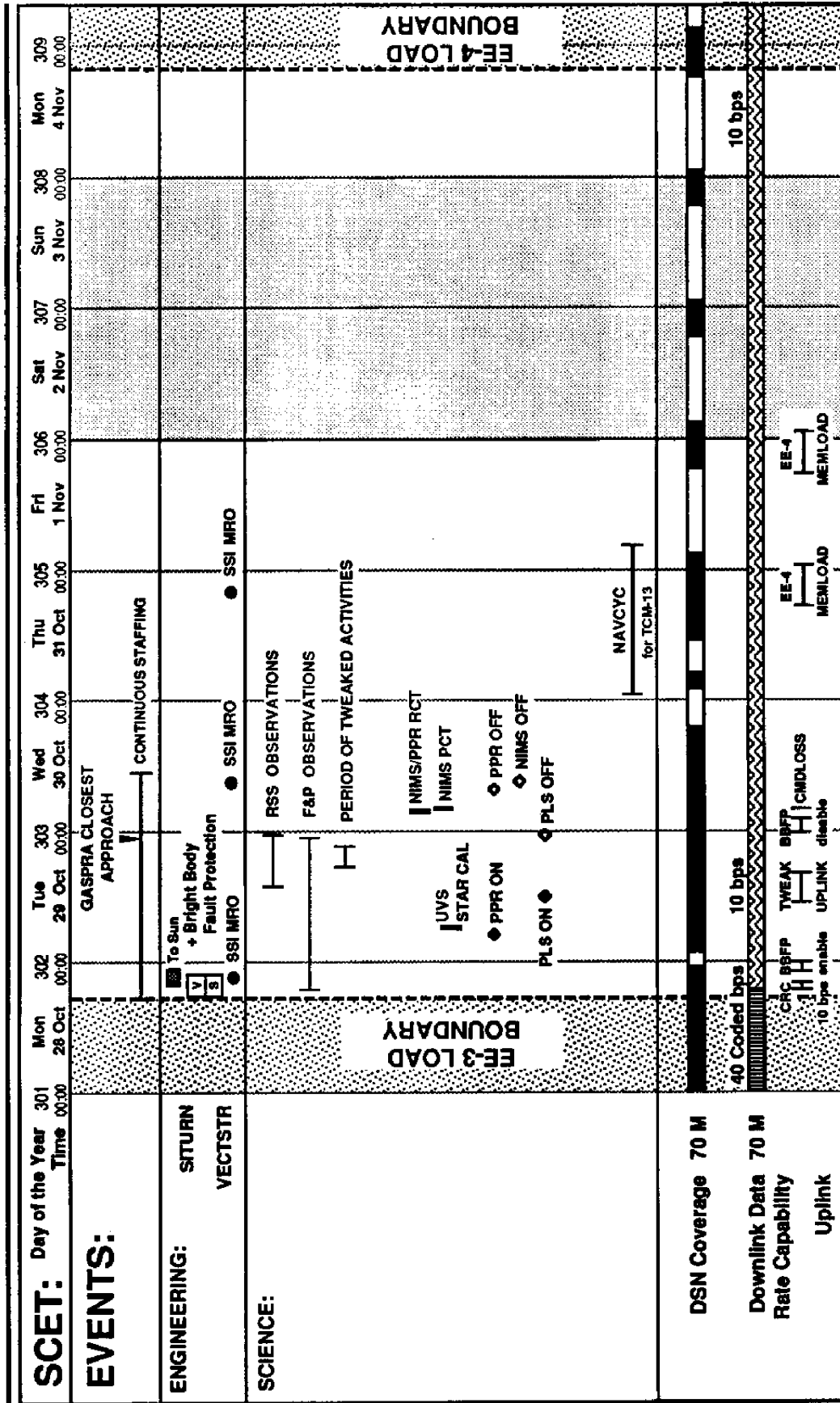




September 20, 1991

LAD

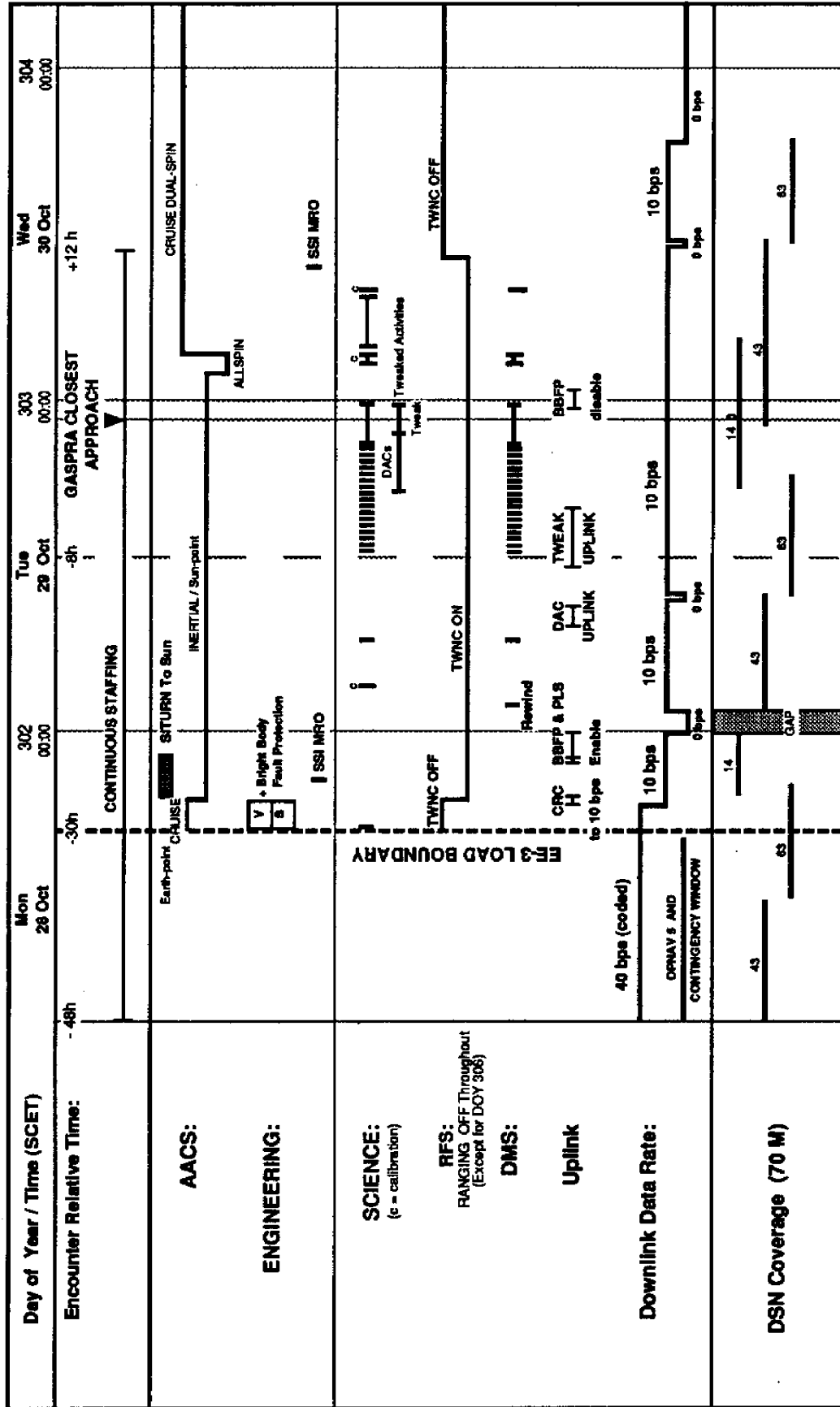
# EE-3' Overview



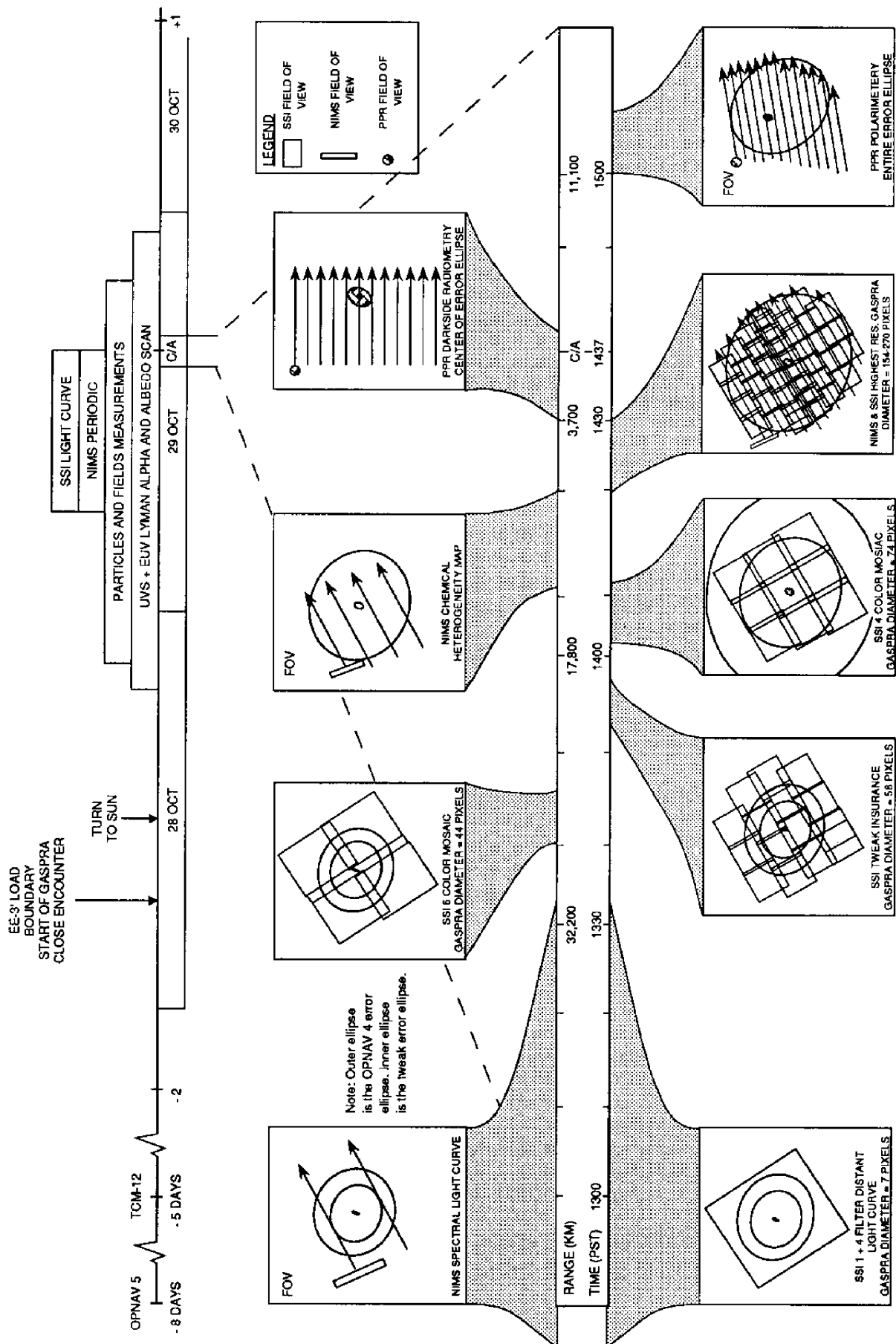
JMK/BMcL/ET  
11 October 91

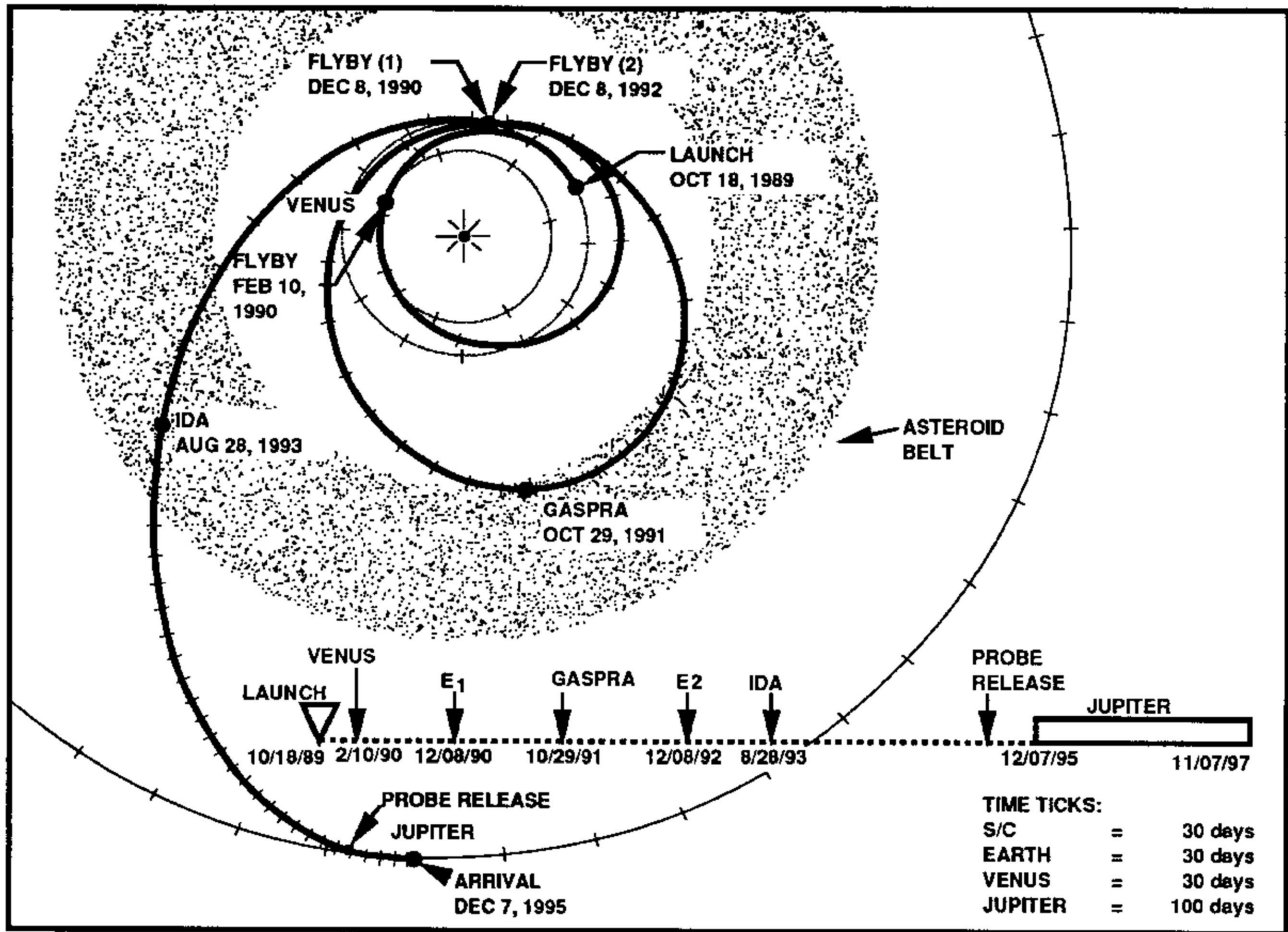
Project **Calico**  
Mission Design Team

# Gaspra Flyby Timeline

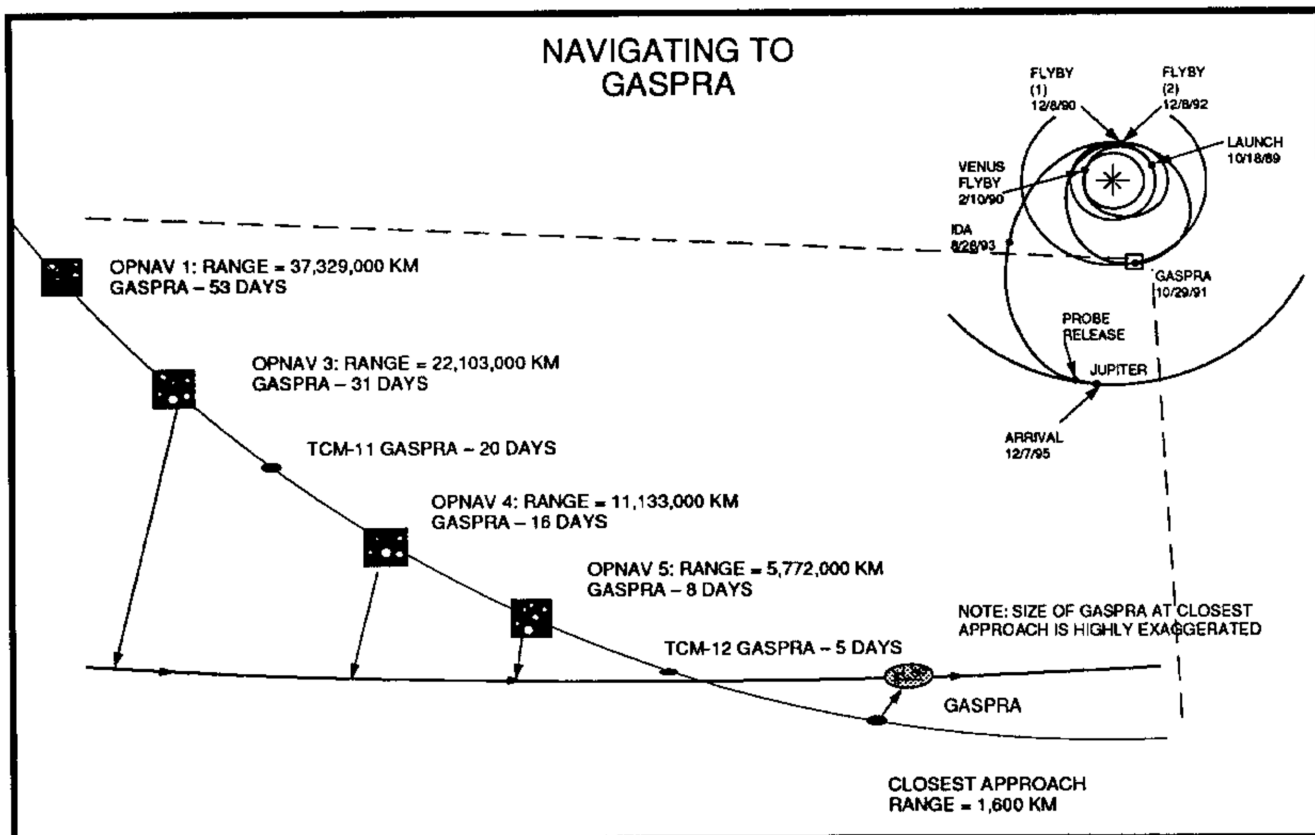


# GALILEO GASPRA KEY EVENTS TIMELINE





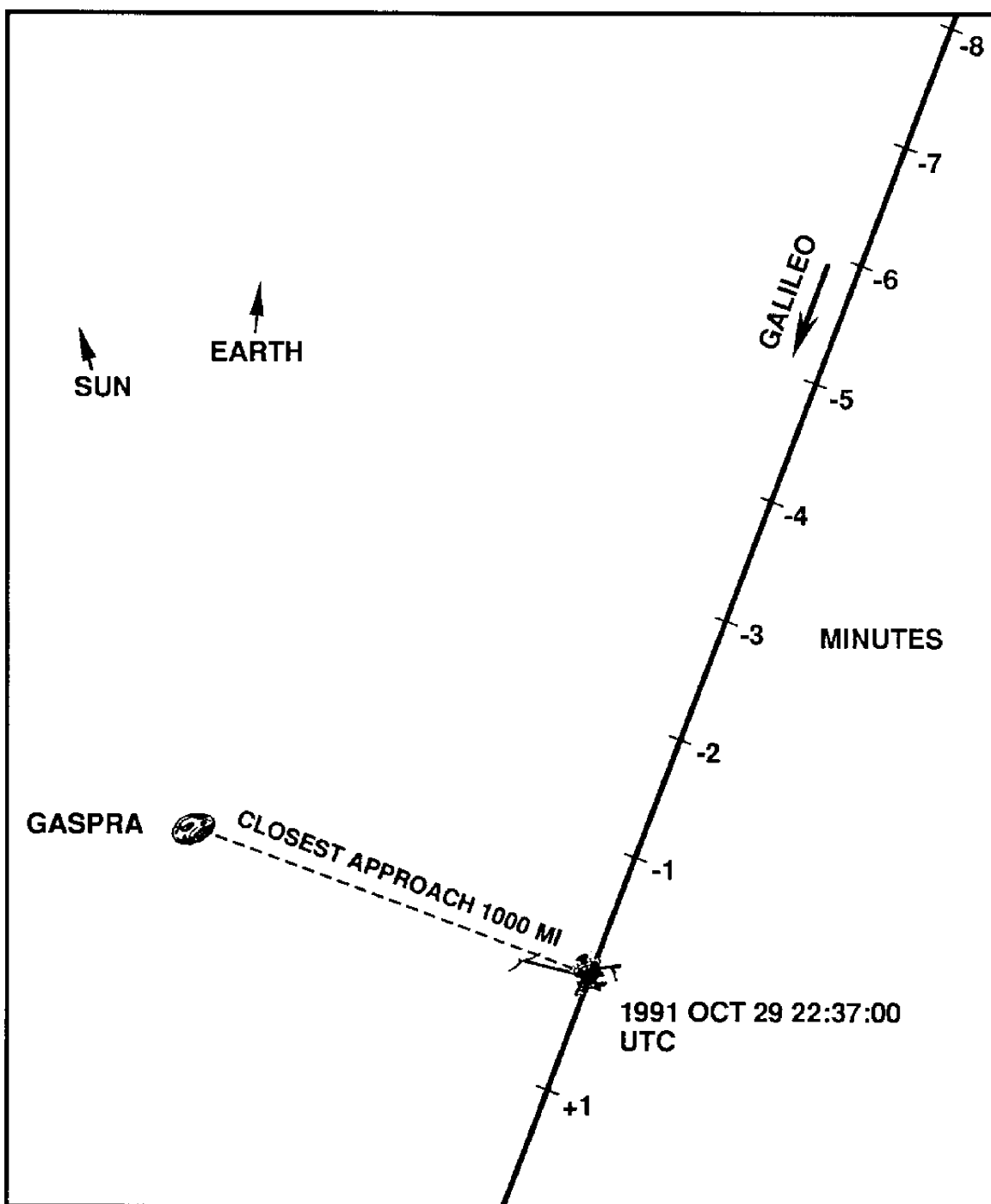
VEEGA TRAJECTORY



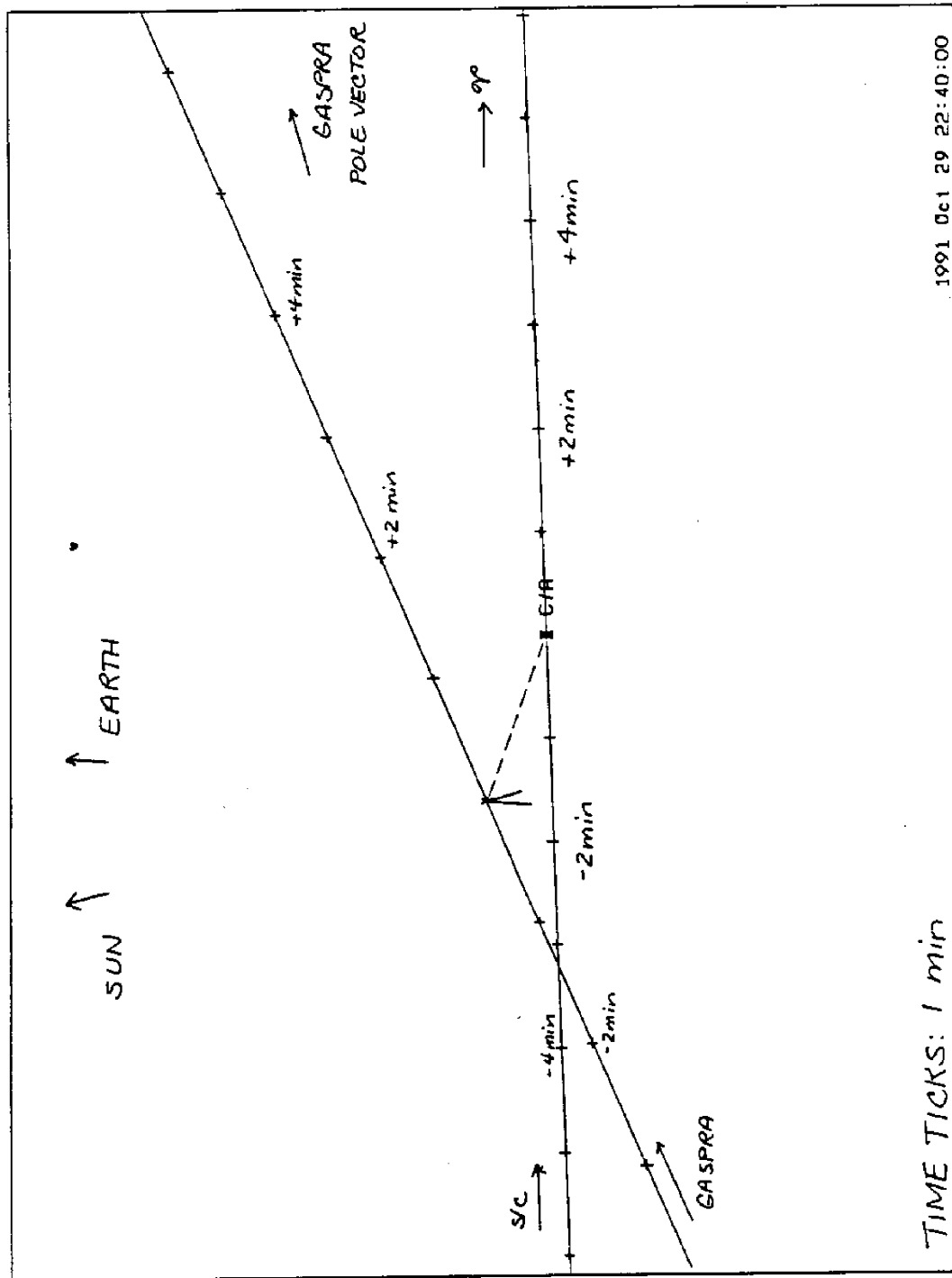
Path of Galileo past Gaspra showing OPNAV locations and ranges.



## GALILEO AT ASTEROID GASPRA

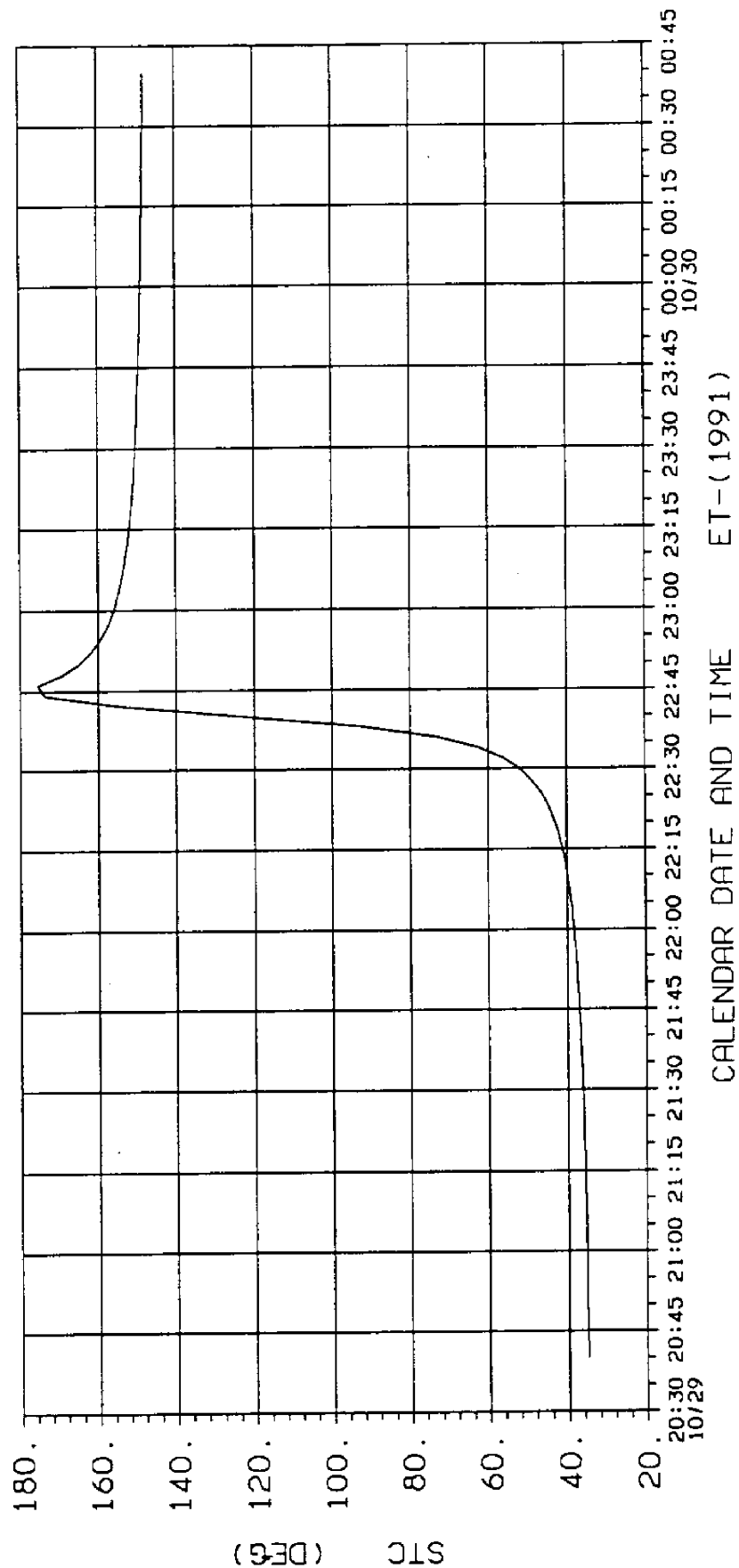


DARKSIDE FLYBY  
 SUN-CENTERED N. ECLIPTIC POLE VIEW: CA -1 + 6 MIN



TIME TICKS: 1 min  
 1991 Oct 29 22:40:00

# SUN-GASPRA-SPACECRAFT ANGLE (DEG)



Sequence: EE3PEF Created: 10/08/91 Begin: 91-301/16:30:00.000 Finish: 91-308/22:10:00.000

YR DOY	Time	PSID	Command	Parameters	Description	GCM	O	S	RIM	MF	I
91 301	16:30:00.133		DMS:		RDY, TRACK 3, FWD, TIC 216 +/- 0;						
91 301	16:31:58.800	481A4A	7VECT	READY	Inert vect update UTC				1,071,406:72:0		
91 301	16:31:58.800	481A4A	7VECT						1,071,408:68:0		
91 301	19:42:54.133	490A476A6A	6TMCHG	EHRLRS					1,071,597:52:0		
91 301	19:42:56.133	20Q6A	6TMCHG	ELSNCG	10 BPS TDM-NO NIMS R/T / NO CHANGE				1,071,597:55:0		
91 301	19:43:00.800	490A412A4C	7MODE	INT	AACS INERTIAL MODE				1,071,597:62:0		
91 301	19:45:00.800	490A412A4E	7SAFE	UNSTOW	S/P TO 153 deg cone				1,071,599:60:0		
91 301	19:49:10.800	490A412A4F	7VECT		Inert vect update UTC				1,071,603:71:0		
91 301	19:49:14.800	490A412A4G	7TURN	2,MVR	ALERT Thruster				1,071,603:77:0		
91 301	19:53:02.800	490A412A406A4A	7STAR	7,3000,95.710999	Star catalog update				1,071,607:55:0		
91 301	19:53:04.800	490A412A406A4B	7STAR	8,131,322.005997	Star catalog update				1,071,607:58:0		
91 301	19:53:06.800	490A412A406A4C	7STAR	9,396,206.390999	Star catalog update				1,071,607:61:0		
91 301	19:53:08.800	490A412A406A4D	7STAR	10,0,0,0,0,0	Star catalog update				1,071,607:64:0		
91 301	19:53:10.800	490A412A406A4E	7STAR	11,0,0,0,0,0	Star catalog update				1,071,607:67:0		
91 301	19:53:12.800	490A412A406A4F	7STAR	12,0,0,0,0,0	Star catalog update				1,071,607:70:0		
91 301	21:04:00.800	481B4A	7VECT	RTH	Inert vect update UTC				1,071,677:72:0		
91 301	21:04:02.800	481B4B	7STAR	1,3000,95.710999	Star catalog update				1,071,677:75:0		
91 301	21:04:04.800	481B4C	7STAR	2,131,322.005997	Star catalog update				1,071,677:78:0		
91 301	21:04:06.800	481B4D	7STAR	3,396,206.390999	Star catalog update				1,071,677:81:0		
91 301	21:04:08.800	481B4E	7STAR	4,0,0,0,0,0	Star catalog update				1,071,677:84:0		
91 301	21:04:10.800	481B4F	7STAR	5,0,0,0,0,0	Star catalog update				1,071,677:87:0		
91 301	21:04:12.800	481B4G	7STAR	6,0,0,0,0,0	Star catalog update				1,071,677:90:0		
91 302	02:30:05.400	20A3A	40T1PR	CMD,40T1PR,20A3A	PCT Heater 1 OFF (primary relay)				1,072,000:26:0		
91 302	02:30:10.733	20A3B	40T1PR	CMD,40T1PR,20A3B	PCT Heater 1 OFF (primary relay)				1,072,000:34:0		
91 302	02:33:05.400	20A3C	40T2R	CMD,40T2R,20A3C,	PCT Heater 2 OFF				1,072,003:23:0		
91 302	02:33:10.733	20A3D	40T2R	CMD,40T2R,20A3D,	PCT Heater 2 OFF				1,072,003:31:0		
91 302	02:37:04.733		DMS:	*REWIND	S806, TRACK *4, *REV, TIC 216 +/- 0;				1,072,007:18:0		
91 302	02:37:04.733	20L6A	6DMSR	CMD,6DMSR,20L6A,	Tape recorder rewind				1,072,007:18:0		
91 302	02:37:13.133		DMS:	*READY	RDY, TRACK *1, *FWD, TIC * 201 +/- 0;				1,072,007:30:6		
91 302	06:35:28.733	165KA4A	7TMOT	DIS,TMC	Disable IVP - Target Motion				1,072,242:89:0		
91 302	06:35:29.400	165KA4B	7SCAN	NORM,200.460999,	Check S/P Position				1,072,242:90:0		
91 302	06:35:30.066	176KB6A	6TMCHG	ELSLRS	10 BPS TDM / LRS Rec 7.68kb/s				1,072,243:00:0		
91 302	06:39:23.400	117KA	CSMOS	GS	***** GROUP START CSMOS				1,072,246:77:0		
91 302	06:39:31.400	175KB422A6A	6DMSC	R7,0	DMS Control Tape runup 7.68kps				1,072,246:89:0		
91 302	06:39:31.400		DMS:	*RUNUP	R7, TRACK 1, FWD, TIC 201 +/- 0;				1,072,247:00:0		
91 302	06:39:32.733	117KA105A106A4A	7STRP	0.0059,0.0,0,0,0	Slew =,0.04				1,072,247:00:2		
91 302	06:39:32.866		DMS:	*RECORD	R7, TRACK 1, FWD, TIC * 202 +/- 0;				1,072,249:52:0		
91 302	06:42:08.733	117KA105A106A4B	7STRP	-0.0059,0.0014,0	Slew =16.97				1,072,249:73:0		
91 302	06:42:22.733	117KA105A106A4C	7STRP	0.0059,0.0,0,0,0	Slew =,0.04				1,072,252:27:0		
91 302	06:44:54.066	175KB422A6B	6DMSC	RDY,0	DMS Control Tape stop				1,072,252:27:0		
91 302	06:44:54.066		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC * 277 +/- 0;				1,072,252:27:0		

YR	DOY	Time	PSID	Command	Parameters	Description	GCM	O	S	RIM	MF
91	302	06:44:55.333		DMS:	*READY	RDY, TRACK 1, FWD, TIC * 278 +/- 0;					
91	302	06:44:58.733	117KA11A	CSMOS	GE	***** GROUP END CSMOS					1,072,252:28:9
91	302	06:49:38.733	20KB4A	7SAFE	UNSTOW	S/P TO 153 deg cone					1,072,252:34:0
91	302	14:29:41.400	165IG4A	7TMOT	DIS,TMC	Disable IVP - Target Motion					1,072,256:90:0
91	302	14:29:42.066	165IG4B	7SCAN	NORM,247.091999,	Check S/P Position					1,072,711:89:0
91	302	14:32:40.066	128IE149A13IA4A	37IST	1,0,0,OFF,0,1,1	Chopper ON, Sync, 63Hz (Ref)Gain State 4	46				1,072,711:90:0
91	302	14:33:40.733		DMS:	*RUNUP	R806, TRACK 1, FWD, TIC 278 +/- 0;	46				1,072,715:84:0
91	302	14:33:40.733	175IQ422A6A	6DMSC	R806,0	DMS Control Tape runup 806.4kb	46				1,072,715:84:0
91	302	14:33:40.733	128IE149A13IB4A	37IOP	1,0	Full Map, Grating Start Position =0	461	00			1,072,715:84:0
91	302	14:33:45.400	176IQ6A	6TMCHG	NCGA18	NO CHANGE / 806.4 KBPS SSI + 1/8 NIMS RECO	461	00			1,072,716:00:0
91	302	14:33:45.933		DMS:	*RECORD	R806, TRACK 1, FWD, TIC * 343 +/- 3;	461	00			1,072,716:00:8
91	302	14:33:54.733		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC * 559 +/- 3;	461	00			1,072,716:14:0
91	302	14:33:54.733	175IQ422A6B	6DMSC	RDY,0	DMS Control Tape stop	461	00			1,072,716:14:0
91	302	14:33:57.400		DMS:	*READY	RDY, TRACK 1, FWD, TIC * 570 +/- 4;	461	00			1,072,716:18:0
91	302	14:37:24.733	GAPNGASPEC01		-----START-----		461	00			:
91	302	14:37:24.733	165JA4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	461	00			1,072,719:56:0
91	302	14:37:25.400	165JA4B	7SCAN	NORM,246.922998,	Check S/P Position	461	00			1,072,719:57:0
91	302	14:37:42.733	117JA	CSMOS	GS	***** GROUP START CSMOS	461	00			1,072,719:83:0
91	302	14:37:44.066	175JK422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	461	00			1,072,719:85:0
91	302	14:37:44.066		DMS:	*RUNUP	R28, TRACK 1, FWD, TIC 570 +/- 4;	461	00			1,072,719:85:0
91	302	14:37:48.066	176JK6A	6TMCHG	ELSMPW	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	461	00			1,072,720:00:0
91	302	14:37:48.066		DMS:	*RECORD	R28, TRACK 1, FWD, TIC * 572 +/- 4;	461	00			1,072,720:00:0
91	302	14:37:52.066	117JA105A106A4A	7STRP	0.0055,0.0,0,0,0	Slew =,0.03	461	00			1,072,720:06:0
91	302	14:41:05.400		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC * 745 +/- 4;	461	00			1,072,723:23:0
91	302	14:41:05.400	GAPNGASPEC01		-----STOP-----		461	00			:
91	302	14:41:05.400	175JK422A6B	6DMSC	RDY,0	DMS Control Tape stop	461	00			1,072,723:23:0
91	302	14:41:05.400	117JA11A	CSMOS	GE	***** GROUP END CSMOS	461	00			1,072,723:23:0
91	302	14:41:06.600		DMS:	*READY	RDY, TRACK 1, FWD, TIC * 746 +/- 4;	461	00			1,072,723:24:8
91	302	14:49:58.733	165JB4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	461	00			1,072,732:04:0
91	302	14:49:58.733	GAPNGASPER01		-----START-----		461	00			:
91	302	14:49:59.400	165JB4B	7SCAN	NORM,246.894999,	Check S/P Position	461	00			1,072,732:05:0
91	302	14:51:52.066	117JB	CSMOS	GS	***** GROUP START CSMOS	461	00			1,072,733:83:0
91	302	14:51:52.733	128JB149A13IA4A	37IOP	7,6	Fixed Map, Grating Start Position =6	467	06			1,072,733:84:0
91	302	14:51:57.400	176JW6A	6TMCHG	ELSMPW	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	467	06			1,072,734:00:0
91	302	14:51:57.400	175JW422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	467	06			1,072,734:00:0
91	302	14:51:57.400		DMS:	*RUNUP	R28, TRACK 1, FWD, TIC 746 +/- 4;	467	06			1,072,734:00:0
91	302	14:52:01.400		DMS:	*RECORD	R28, TRACK 1, FWD, TIC * 748 +/- 5;	467	06			1,072,734:06:0
91	302	14:52:01.400	117JB105A106A4A	7STRP	0.006,0.0,0,0,0,0,	Slew =,0.76	467	06			1,072,734:06:0
91	302	14:52:12.066	117JB11A	CSMOS	GE	***** GROUP END CSMOS	467	06			1,072,734:22:0
91	302	14:52:12.066	175JW422A6B	6DMSC	RDY,0	DMS Control Tape stop	467	06			1,072,734:22:0
91	302	14:52:12.066		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC * 757 +/- 5;	467	06			1,072,734:22:0
91	302	14:52:13.266		DMS:	*READY	RDY, TRACK 1, FWD, TIC * 758 +/- 5;	467	06			1,072,734:23:8

YR	DOY	Time	PSID	Command	Parameters	Description	GCM	O	S	RIM	MF	I
--	--	----	----	-----	-----	-----	-----	-----	-----	-----	-----	-----
91	302	14:52:54.733	GAPNGASPER01		-----STOP-----		467	06			:	:
91	302	15:07:06.066	GAPNGASCUR01		-----START-----		467	06			:	:
91	302	15:07:06.066	165EA4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	467	06		1,072,748:89:0		
91	302	15:07:06.733	165EA4B	7SCAN	NORM,247.058998,	Check S/P Position	467	06		1,072,748:90:0		
91	302	15:08:59.400	117EA	CSMOS	GS	***** GROUP START CSMOS	467	06		1,072,750:77:0		
91	302	15:09:04.066	128EA149A131A4A	37IOP	5,2	Short Map, Grating Start Position =2	465	02		1,072,750:84:0		
91	302	15:09:08.066		DMS:	*RUNUP	R115, TRACK 1, FWD, TIC 758 +/-	465	02		1,072,750:90:0		
91	302	15:09:08.066	175IP422A6A	6DMSC	R115,0	DMS Control Tape runup 115.2kb	465	02		1,072,750:90:0		
91	302	15:09:08.733	117EA105A106A4A	7STRP	0.00001,0.0,0.0,0,	Slew =,0.12	465	02		1,072,751:00:0		
91	302	15:09:08.733	176IP6A	6TMCHG	NCGHCM	NO CHANGE / 115.2 comp image + NIMS + PW	465	02		1,072,751:00:0		
91	302	15:09:12.066		DMS:	*RECORD	R115, TRACK 1, FWD, TIC * 765 +/-	465	02		1,072,751:05:0		
91	302	15:09:14.066	117EA105A106B4A	7STRP	-0.00325,0.0,0.0,0	Slew =,4.87	465	02		1,072,751:08:0		
91	302	15:09:18.733	117EA105A106B4B	7STRP	0.00227,0.0,0.0,0,	Slew =,0.12	465	02		1,072,751:15:0		
91	302	15:09:39.400		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC * 861 +/-	465	02		1,072,751:46:0		
91	302	15:09:39.400	175IP422A6B	6DMSC	RDY,0	DMS Control Tape stop	465	02		1,072,751:46:0		
91	302	15:09:39.400	117EA105A106C4A	7STRP	-0.0005,0.0,0.0,0,	Slew =,4.87	465	02		1,072,751:46:0		
91	302	15:09:40.600		DMS:	*READY	RDY, TRACK 1, FWD, TIC * 862 +/-	465	02		1,072,751:47:8		
91	302	15:09:43.400	175IS422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	465	02		1,072,751:52:0		
91	302	15:09:43.400		DMS:	*RUNUP	R28, TRACK 1, FWD, TIC 862 +/-	465	02		1,072,751:52:0		
91	302	15:09:43.400	176IR6A	6TMCHG	ELSMPW	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	465	02		1,072,751:52:0		
91	302	15:09:47.400		DMS:	*RECORD	R28, TRACK 1, FWD, TIC * 863 +/-	465	02		1,072,751:58:0		
91	302	15:09:47.400	117EA105A106C4B	7STRP	0.0045,0.0,0.0,0.0	Slew =,0.12	465	02		1,072,751:58:0		
91	302	15:10:28.733	117EA11A	CSMOS	GE	***** GROUP END CSMOS	465	02		1,072,752:29:0		
91	302	15:10:28.733	GAPNGASCUR01		-----STOP-----		465	02		:	:	
91	302	15:10:28.733		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC * 900 +/-	465	02		1,072,752:29:0		
91	302	15:10:28.733	175IS422A6B	6DMSC	RDY,0	DMS Control Tape stop	465	02		1,072,752:29:0		
91	302	15:10:29.933		DMS:	*READY	RDY, TRACK 1, FWD, TIC * 901 +/-	465	02		1,072,752:30:8		
91	302	15:25:22.066	GAPNGASPER02		-----START-----		465	02		:	:	
91	302	15:25:22.066	165JC4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	465	02		1,072,767:04:0		
91	302	15:25:22.733	165JC4B	7SCAN	NORM,246.858999,	Check S/P Position	465	02		1,072,767:05:0		
91	302	15:27:15.400	117JC	CSMOS	GS	***** GROUP START CSMOS	465	02		1,072,768:83:0		
91	302	15:27:16.066	128JC149A131A4A	37IOP	7,6	Fixed Map, Grating Start Position =6	467	06		1,072,768:84:0		
91	302	15:27:20.733	176JV6A	6TMCHG	ELSMPW	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	467	06		1,072,769:00:0		
91	302	15:27:20.733	175JV422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	467	06		1,072,769:00:0		
91	302	15:27:20.733		DMS:	*RUNUP	R28, TRACK 1, FWD, TIC 901 +/-	467	06		1,072,769:00:0		
91	302	15:27:24.733	117JC105A106A4A	7STRP	0.006,0.0,0.0,0.0,	Slew =,0.76	467	06		1,072,769:06:0		
91	302	15:27:24.733		DMS:	*RECORD	R28, TRACK 1, FWD, TIC * 902 +/-	467	06		1,072,769:06:0		
91	302	15:27:35.400	117JC11A	CSMOS	GE	***** GROUP END CSMOS	467	06		1,072,769:22:0		
91	302	15:27:35.400		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC * 911 +/-	467	06		1,072,769:22:0		
91	302	15:27:35.400	175JV422A6B	6DMSC	RDY,0	DMS Control Tape stop	467	06		1,072,769:22:0		
91	302	15:27:36.600		DMS:	*READY	RDY, TRACK 1, FWD, TIC * 912 +/-	467	06		1,072,769:23:8		
91	302	15:28:18.066	GAPNGASPER02		-----STOP-----		467	06		:	:	

YR	DOY	Time	PSID	Command	Parameters	Description	GCM	O	S	RIM	MF
91	302	15:42:29.400	165EB4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	467	06		1,072,783:89:0	
91	302	15:42:29.400	GAPNGASCUR02		-----START-----		467	06			:
91	302	15:42:30.066	165EB4B	7SCAN	NORM,247.019999,	Check S/P Position	467	06		1,072,783:90:0	
91	302	15:44:22.733	117EB	CSMOS	GS	***** GROUP START CSMOS	467	06		1,072,785:77:0	
91	302	15:44:27.400	128EB149A131A4A	37IOP	5,2	Short Map, Grating Start Position =2	465	02		1,072,785:84:0	
91	302	15:44:31.400	175IO422A6A	6DMSC	R115,0	DMS Control Tape runup 115.2kb	465	02		1,072,785:90:0	
91	302	15:44:31.400		DMS:	*RUNUP	R115, TRACK 1, FWD, TIC 912 +/-	465	02		1,072,785:90:0	
91	302	15:44:32.066	117EB105A106A4A	7STRP	0.00001,0.0,0.0,0,	Slew =,0.12	465	02		1,072,786:00:0	
91	302	15:44:32.066	176IO6A	6TMCHG	NCGHCM	NO CHANGE / 115.2 comp image + NIMS + PW	465	02		1,072,786:00:0	
91	302	15:44:35.400		DMS:	*RECORD	R115, TRACK 1, FWD, TIC * 919 +/-	465	02		1,072,786:05:0	
91	302	15:44:37.400	117EB105A106B4A	7STRP	-0.0035,0.0,0.0,0,	Slew =,4.87	465	02		1,072,786:08:0	
91	302	15:44:42.066	117EB105A106B4B	7STRP	0.00227,0.0,0.0,0,	Slew =,0.12	465	02		1,072,786:15:0	
91	302	15:45:02.733	117EB105A106C4A	7STRP	-0.0005,0.0,0.0,0,	Slew =,4.87	465	02		1,072,786:46:0	
91	302	15:45:02.733		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *1015 +/-	465	02		1,072,786:46:0	
91	302	15:45:02.733	175IO422A6B	6DMSC	RDY,0	DMS Control Tape stop	465	02		1,072,786:46:0	
91	302	15:45:03.933		DMS:	*READY	RDY, TRACK 1, FWD, TIC *1016 +/-	465	02		1,072,786:47:8	
91	302	15:45:06.733	175IT422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	465	02		1,072,786:52:0	
91	302	15:45:06.733	176IS6A	6TMCHG	*RUNUP	R28, TRACK 1, FWD, TIC 1016 +/-	465	02		1,072,786:52:0	
91	302	15:45:06.733		DMS:	ELSMPW	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	465	02		1,072,786:52:0	
91	302	15:45:10.733		DMS:	*RECORD	R28, TRACK 1, FWD, TIC *1018 +/-	465	02		1,072,786:58:0	
91	302	15:45:10.733	117EB105A106C4B	7STRP	0.005,0.0,0.0,0,0,	Slew =,0.12	465	02		1,072,786:58:0	
91	302	15:45:56.733		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *1058 +/-	465	02		1,072,787:36:0	
91	302	15:45:56.733	117EB11A	CSMOS	GE	***** GROUP END CSMOS	465	02		1,072,787:36:0	
91	302	15:45:56.733	GAPNGASCUR02		-----STOP-----		465	02		:	
91	302	15:45:56.733	175IT422A6B	6DMSC	RDY,0	DMS Control Tape stop	465	02		1,072,787:36:0	
91	302	15:45:57.933		DMS:	*READY	RDY, TRACK 1, FWD, TIC *1059 +/-	465	02		1,072,787:37:8	
91	302	16:00:45.400	GAPNGASPER03		-----START-----		465	02		:	
91	302	16:00:45.400	165JD4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	465	02		1,072,802:04:0	
91	302	16:00:46.066	165JD4B	7SCAN	NORM,246.816,-21	Check S/P Position	465	02		1,072,802:05:0	
91	302	16:02:38.733	117JD	CSMOS	GS	***** GROUP START CSMOS	465	02		1,072,803:83:0	
91	302	16:02:39.400	128JD149A131A4A	37IOP	7,6	Fixed Map, Grating Start Position =6	467	06		1,072,803:84:0	
91	302	16:02:44.066	175JU422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	467	06		1,072,804:00:0	
91	302	16:02:44.066	176JU6A	6TMCHG	ELSMPW	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	467	06		1,072,804:00:0	
91	302	16:02:44.066		DMS:	*RUNUP	R28, TRACK 1, FWD, TIC 1059 +/-	467	06		1,072,804:00:0	
91	302	16:02:48.066		DMS:	*RECORD	R28, TRACK 1, FWD, TIC *1060 +/-	467	06		1,072,804:06:0	
91	302	16:02:48.066	117JD105A106A4A	7STRP	0.006,0.0,0.0,0,0,	Slew =,0.76	467	06		1,072,804:06:0	
91	302	16:02:58.733	175JU422A6B	6DMSC	RDY,0	DMS Control Tape stop	467	06		1,072,804:22:0	
91	302	16:02:58.733		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *1070 +/-	467	06		1,072,804:22:0	
91	302	16:02:58.733	117JD11A	CSMOS	GE	***** GROUP END CSMOS	467	06		1,072,804:22:0	
91	302	16:02:59.933		DMS:	*READY	RDY, TRACK 1, FWD, TIC *1071 +/-	467	06		1,072,804:23:8	
91	302	16:03:41.400	GAPNGASPER03		-----STOP-----		467	06		:	
91	302	16:15:51.400	165IF4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	467	06		1,072,816:89:0	

YR	DOY	Time	PSID	Command	Parameters	Description	GCM	O	S	RIM	MF	I
91	302	16:15:52.066	165IF4B	7SCAN	NORM,246.973999,	Check S/P Position	467	06		1,072,816:90:0		-
91	302	16:19:50.733		DMS:	*RUNUP	R806, TRACK 1, FWD, TIC 1071 +/- 9;	467	06		1,072,820:84:0		-
91	302	16:19:50.733	128ID149A131A4A	37IOP	1,0	Full Map, Grating Start Position =0	461	00		1,072,820:84:0		-
91	302	16:19:50.733	175IN422A6A	6DMSC	R806,0	DMS Control Tape runup 806.4kb	461	00		1,072,820:84:0		-
91	302	16:19:55.400	176IN6A	6TMCHG	NGCAI8	NO CHANGE / 806.4 KBPS SSI + 1/8 NIMS RECO	461	00		1,072,821:00:0		-
91	302	16:19:55.933		DMS:	*RECORD	R806, TRACK 1, FWD, TIC *1136 +/- 12;	461	00		1,072,821:00:8		-
91	302	16:20:04.733	175IN422A6B	6DMSC	RDY,0	DMS Control Tape stop	461	00		1,072,821:14:0		-
91	302	16:20:04.733		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *1352 +/- 12;	461	00		1,072,821:14:0		-
91	302	16:20:07.400		DMS:	*READY	RDY, TRACK 1, FWD, TIC *1363 +/- 13;	461	00		1,072,821:18:0		-
91	302	16:23:34.733	GAPNGASPEC02		-----START-----		461	00		:	:	-
91	302	16:23:34.733	165JE4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	461	00		1,072,824:56:0		-
91	302	16:23:35.400	165JE4B	7SCAN	NORM,246.786999,	Check S/P Position	461	00		1,072,824:57:0		-
91	302	16:23:52.733	117JE	CSMOS	GS	***** GROUP START CSMOS	461	00		1,072,824:83:0		-
91	302	16:23:58.066	175JJ422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	461	00		1,072,825:00:0		-
91	302	16:23:58.066		DMS:	*RUNUP	R28, TRACK 1, FWD, TIC 1363 +/- 13;	461	00		1,072,825:00:0		-
91	302	16:23:58.066	176JJ6A	6TMCHG	ELSMWP	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	461	00		1,072,825:00:0		-
91	302	16:24:02.066	117JE105A106A4A	7STRP	0.00597,0.0,0,0,0,	Slew =,0.03	461	00		1,072,825:06:0		-
91	302	16:24:02.066		DMS:	*RECORD	R28, TRACK 1, FWD, TIC *1365 +/- 13;	461	00		1,072,825:06:0		-
91	302	16:27:31.400	GAPNGASPEC02		-----STOP-----		461	00		:	:	-
91	302	16:27:31.400	175JJ422A6B	6DMSC	RDY,0	DMS Control Tape stop	461	00		1,072,828:47:0		-
91	302	16:27:31.400		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *1549 +/- 13;	461	00		1,072,828:47:0		-
91	302	16:27:31.400	117JE11A	CSMOS	GE	***** GROUP END CSMOS	461	00		1,072,828:47:0		-
91	302	16:27:32.600		DMS:	*READY	RDY, TRACK 1, FWD, TIC *1550 +/- 13;	461	00		1,072,828:48:8		-
91	302	16:36:08.733	GAPNGASPER04		-----START-----		461	00		:	:	-
91	302	16:36:08.733	165JF4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	461	00		1,072,837:04:0		-
91	302	16:36:09.400	165JF4B	7SCAN	NORM,246.734999,	Check S/P Position	461	00		1,072,837:05:0		-
91	302	16:38:02.066	117JF	CSMOS	GS	***** GROUP START CSMOS	461	00		1,072,838:83:0		-
91	302	16:38:02.733	128JF149A131A4A	37IOP	7,6	Fixed Map, Grating Start Position =6	467	06		1,072,838:84:0		-
91	302	16:38:07.400		DMS:	*RUNUP	R28, TRACK 1, FWD, TIC 1550 +/- 13;	467	06		1,072,839:00:0		-
91	302	16:38:07.400	175JT422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	467	06		1,072,839:00:0		-
91	302	16:38:07.400	176JT6A	6TMCHG	ELSMWP	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	467	06		1,072,839:00:0		-
91	302	16:38:11.400		DMS:	*RECORD	R28, TRACK 1, FWD, TIC *1551 +/- 14;	467	06		1,072,839:06:0		-
91	302	16:38:11.400	117JF105A106A4A	7STRP	0.007,0.0,0,0,0,0,	Slew =,0.76	467	06		1,072,839:06:0		-
91	302	16:38:23.400	175JT422A6B	6DMSC	RDY,0	DMS Control Tape stop	467	06		1,072,839:24:0		-
91	302	16:38:23.400	117JF11A	CSMOS	GE	***** GROUP END CSMOS	467	06		1,072,839:24:0		-
91	302	16:38:23.400		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *1562 +/- 14;	467	06		1,072,839:24:0		-
91	302	16:38:24.600		DMS:	*READY	RDY, TRACK 1, FWD, TIC *1563 +/- 14;	467	06		1,072,839:25:8		-
91	302	16:39:04.733	GAPNGASPER04		-----STOP-----		467	06		:	:	-
91	302	16:53:16.066	165EC4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	467	06		1,072,853:89:0		-
91	302	16:53:16.066	GAPNGASCUR03		-----START-----		467	06		:	:	-
91	302	16:53:16.733	165EC4B	7SCAN	NORM,246.917,-21	Check S/P Position	467	06		1,072,853:90:0		-
91	302	16:55:09.400	117EC	CSMOS	GS	***** GROUP START CSMOS	467	06		1,072,855:77:0		-



YR	DOY	Time	PSID	Command	Parameters	Description	GCM	O	S	RIM	MF	I
91	302	16:55:14.066	128EC149A131A4A	37IOP	5,2	Short Map, Grating Start Position =2	465	02		1,072,855:84:0	--	--
91	302	16:55:18.066	175IM422A6A	6DMSC	R115,0	DMS Control Tape runup 115.2kb	465	02		1,072,855:90:0	--	--
91	302	16:55:18.066		DMS:	*RUNUP	R115, TRACK 1, FWD, TIC 1563 +/- 14;	465	02		1,072,855:90:0	--	--
91	302	16:55:18.733	176IM6A	6TMCHG	NCGHCM	NO CHANGE / 115.2 comp image + NIMS + PW	465	02		1,072,856:00:0	--	--
91	302	16:55:18.733	117EC105A106A4A	7STRP	0.00001,0.0,0.0,0,	Slew =,0.12	465	02		1,072,856:00:0	--	--
91	302	16:55:22.066		DMS:	*RECORD	R115, TRACK 1, FWD, TIC *1569 +/- 14;	465	02		1,072,856:05:0	--	--
91	302	16:55:24.066	117EC105A106B4A	7STRP	-0.0035,0.0,0.0,0,	Slew =,4.87	465	02		1,072,856:08:0	--	--
91	302	16:55:28.733	117EC105A106B4B	7STRP	0.00227,0.0,0.0,0,	Slew =,0.12	465	02		1,072,856:15:0	--	--
91	302	16:55:49.400		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *1666 +/- 14;	465	02		1,072,856:46:0	--	--
91	302	16:55:49.400	175IM422A6B	6DMSC	RDY,0	DMS Control Tape stop	465	02		1,072,856:46:0	--	--
91	302	16:55:50.066	117EC105A106C4A	7STRP	-0.0005,0.0,0.0,0,	Slew =,4.87	465	02		1,072,856:47:0	--	--
91	302	16:55:50.600		DMS:	*READY	RDY, TRACK 1, FWD, TIC *1667 +/- 14;	465	02		1,072,856:47:8	--	--
91	302	16:55:53.400		DMS:	*RUNUP	R28, TRACK 1, FWD, TIC 1667 +/- 14;	465	02		1,072,856:52:0	--	--
91	302	16:55:53.400	175IU422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	465	02		1,072,856:52:0	--	--
91	302	16:55:53.400	176IT6A	6TMCHG	ELSMWP	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	465	02		1,072,856:52:0	--	--
91	302	16:55:57.400		DMS:	*RECORD	R28, TRACK 1, FWD, TIC *1668 +/- 15;	465	02		1,072,856:58:0	--	--
91	302	16:55:58.066	117EC105A106C4B	7STRP	0.005,0.0,0.0,0,0,	Slew =,0.12	465	02		1,072,856:59:0	--	--
91	302	16:56:42.733	GAPNGASCUR03		-----STOP-----		465	02		:	--	--
91	302	16:56:42.733		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *1708 +/- 15;	465	02		1,072,857:35:0	--	--
91	302	16:56:42.733	117EC11A	CSMOS	GE	***** GROUP END CSMOS	465	02		1,072,857:35:0	--	--
91	302	16:56:42.733	175IU422A6B	6DMSC	RDY,0	DMS Control Tape stop	465	02		1,072,857:35:0	--	--
91	302	16:56:43.933		DMS:	*READY	RDY, TRACK 1, FWD, TIC *1709 +/- 15;	465	02		1,072,857:36:8	--	--
91	302	17:11:32.066	165JG4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	465	02		1,072,872:04:0	--	--
91	302	17:11:32.066	GAPNGASPER05		-----START-----		465	02		:	--	--
91	302	17:11:32.733	165JG4B	7SCAN	NORM,246.672998,	Check S/P Position	465	02		1,072,872:05:0	--	--
91	302	17:13:25.400	117JG	CSMOS	GS	***** GROUP START CSMOS	465	02		1,072,873:83:0	--	--
91	302	17:13:26.066	128JG149A131A4A	37IOP	7,6	Fixed Map, Grating Start Position =6	467	06		1,072,873:84:0	--	--
91	302	17:13:30.733		DMS:	*RUNUP	R28, TRACK 1, FWD, TIC 1709 +/- 15;	467	06		1,072,874:00:0	--	--
91	302	17:13:30.733	175JS422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	467	06		1,072,874:00:0	--	--
91	302	17:13:30.733	176JS6A	6TMCHG	ELSMWP	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	467	06		1,072,874:00:0	--	--
91	302	17:13:34.733	117JG105A106A4A	7STRP	0.007,0.0,0.0,0,0,	Slew =,0.76	467	06		1,072,874:06:0	--	--
91	302	17:13:34.733		DMS:	*RECORD	R28, TRACK 1, FWD, TIC *1710 +/- 15;	467	06		1,072,874:06:0	--	--
91	302	17:13:46.733		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *1721 +/- 15;	467	06		1,072,874:24:0	--	--
91	302	17:13:46.733	117JG11A	CSMOS	GE	***** GROUP END CSMOS	467	06		1,072,874:24:0	--	--
91	302	17:13:46.733	175JS422A6B	6DMSC	RDY,0	DMS Control Tape stop	467	06		1,072,874:24:0	--	--
91	302	17:13:47.933		DMS:	*READY	RDY, TRACK 1, FWD, TIC *1722 +/- 16;	467	06		1,072,874:25:8	--	--
91	302	17:14:28.066	GAPNGASPER05		-----STOP-----		467	06		:	--	--
91	302	17:28:39.400	GAPNGASCUR04		-----START-----		467	06		:	--	--
91	302	17:28:39.400	165ED4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	467	06		1,072,888:89:0	--	--
91	302	17:28:40.066	165ED4B	7SCAN	NORM,246.848,-21	Check S/P Position	467	06		1,072,888:90:0	--	--
91	302	17:30:32.733	117ED	CSMOS	GS	***** GROUP START CSMOS	467	06		1,072,890:77:0	--	--
91	302	17:30:37.400	128ED149A131A4A	37IOP	5,2	Short Map, Grating Start Position =2	465	02		1,072,890:84:0	--	--

YR	DOY	Time	PSID	Command	Parameters	Description	GCM	O	S	RIM	MF	I
91	302	17:30:41.400		DMS:	*RUNUP	R115, TRACK 1, FWD, TIC 1722 +/- 16;	465	02		1,072,890:90:0		-
91	302	17:30:41.400	175IL422A6A	6DMSC	R115,0	DMS Control Tape runup 115.2kb	465	02		1,072,890:90:0		-
91	302	17:30:42.066	117ED105A106A4A	7STRP	0.00001,0.0,0.0,0,	Slew =,0.12	465	02		1,072,891:00:0		-
91	302	17:30:42.066	176IL6A	6TMCHG	NCGHCM	NO CHANGE / 115.2 comp image + NIMS + PW	465	02		1,072,891:00:0		-
91	302	17:30:45.400		DMS:	*RECORD	R115, TRACK 1, FWD, TIC *1728 +/- 16;	465	02		1,072,891:05:0		-
91	302	17:30:47.400	117ED105A106B4A	7STRP	-0.0035,0.0,0.0,0,	Slew =,4.87	465	02		1,072,891:08:0		-
91	302	17:30:52.066	117ED105A106B4B	7STRP	0.00227,0.0,0.0,0,	Slew =,0.12	465	02		1,072,891:15:0		-
91	302	17:31:12.733		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *1824 +/- 16;	465	02		1,072,891:46:0		-
91	302	17:31:12.733	175IL422A6B	6DMSC	RDY,0	DMS Control Tape stop	465	02		1,072,891:46:0		-
91	302	17:31:13.400	117ED105A106C4A	7STRP	-0.0005,0.0,0.0,0,	Slew =,4.87	465	02		1,072,891:47:0		-
91	302	17:31:13.933		DMS:	*READY	RDY, TRACK 1, FWD, TIC *1825 +/- 16;	465	02		1,072,891:47:8		-
91	302	17:31:16.733		DMS:	*RUNUP	R28, TRACK 1, FWD, TIC 1825 +/- 16;	465	02		1,072,891:52:0		-
91	302	17:31:16.733	175IV422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	465	02		1,072,891:52:0		-
91	302	17:31:16.733	176IU6A	6TMCHG	ELSMWP	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	465	02		1,072,891:52:0		-
91	302	17:31:20.733		DMS:	*RECORD	R28, TRACK 1, FWD, TIC *1827 +/- 17;	465	02		1,072,891:58:0		-
91	302	17:31:21.400	117ED105A106C4B	7STRP	0.005,0.0,0.0,0.0,	Slew =,0.12	465	02		1,072,891:59:0		-
91	302	17:32:06.066	175IV422A6B	6DMSC	RDY,0	DMS Control Tape stop	465	02		1,072,892:35:0		-
91	302	17:32:06.066	GAPNGASCUR04		-----STOP-----		465	02		:		-
91	302	17:32:06.066	117ED11A	CSMOS	GE	***** GROUP END CSMOS	465	02		1,072,892:35:0		-
91	302	17:32:06.066		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *1867 +/- 17;	465	02		1,072,892:35:0		-
91	302	17:32:07.266		DMS:	*READY	RDY, TRACK 1, FWD, TIC *1868 +/- 17;	465	02		1,072,892:36:8		-
91	302	17:46:55.400	165JH4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	465	02		1,072,907:04:0		-
91	302	17:46:55.400	GAPNGASPER06		-----START-----		465	02		:		-
91	302	17:46:56.066	165JH4B	7SCAN	NORM,246.594999,	Check S/P Position	465	02		1,072,907:05:0		-
91	302	17:48:48.733	117JH	CSMOS	GS	***** GROUP START CSMOS	465	02		1,072,908:83:0		-
91	302	17:48:49.400	128JH149A131A4A	37IOP	7,6	Fixed Map, Grating Start Position =6	467	06		1,072,908:84:0		-
91	302	17:48:54.066		DMS:	*RUNUP	R28, TRACK 1, FWD, TIC 1868 +/- 17;	467	06		1,072,909:00:0		-
91	302	17:48:54.066	175JR422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	467	06		1,072,909:00:0		-
91	302	17:48:54.066	176JR6A	6TMCHG	ELSMWP	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	467	06		1,072,909:00:0		-
91	302	17:48:58.066		DMS:	*RECORD	R28, TRACK 1, FWD, TIC *1869 +/- 17;	467	06		1,072,909:06:0		-
91	302	17:48:58.066	117JH105A106A4A	7STRP	0.007,0.0,0.0,0.0,	Slew =,0.76	467	06		1,072,909:06:0		-
91	302	17:49:10.066	175JR422A6B	6DMSC	RDY,0	DMS Control Tape stop	467	06		1,072,909:24:0		-
91	302	17:49:10.066	117JH11A	CSMOS	GE	***** GROUP END CSMOS	467	06		1,072,909:24:0		-
91	302	17:49:10.066		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *1880 +/- 17;	467	06		1,072,909:24:0		-
91	302	17:49:11.266		DMS:	*READY	RDY, TRACK 1, FWD, TIC *1881 +/- 17;	467	06		1,072,909:25:8		-
91	302	17:49:51.400	GAPNGASPER06		-----STOP-----		467	06		:		-
91	302	18:02:01.400	165IE4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	467	06		1,072,921:89:0		-
91	302	18:02:02.066	165IE4B	7SCAN	NORM,246.761,-21	Check S/P Position	467	06		1,072,921:90:0		-
91	302	18:06:04.733		DMS:	*RUNUP	R115, TRACK 1, FWD, TIC 1881 +/- 17;	467	06		1,072,925:90:0		-
91	302	18:06:04.733	175IK422A6A	6DMSC	R115,0	DMS Control Tape runup 115.2kb	467	06		1,072,925:90:0		-
91	302	18:06:05.400	176IK6A	6TMCHG	NCGHCM	NO CHANGE / 115.2 comp image + NIMS + PW	467	06		1,072,926:00:0		-
91	302	18:06:08.733		DMS:	*RECORD	R115, TRACK 1, FWD, TIC *1887 +/- 18;	467	06		1,072,926:05:0		-

YR	DOY	Time	PSID	Command	Parameters	Description	GCM	O	S	RIM	MF	I
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91	302	18:08:06.733		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *2302 +/- 18;	467	06		1,072,928:00:0		
91	302	18:08:06.733	175IK422A6B	6DMSC	RDY,0	DMS Control Tape stop	467	06		1,072,928:00:0		
91	302	18:08:07.933		DMS:	*READY	RDY, TRACK 1, FWD, TIC *2303 +/- 18;	467	06		1,072,928:01:8		
91	302	18:09:44.733	GAPNGASPEC03		-----START-----		467	06		:		
91	302	18:09:44.733	165JI4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	467	06		1,072,929:56:0		
91	302	18:09:45.400	165JI4B	7SCAN	NORM,246.539,-21	Check S/P Position	467	06		1,072,929:57:0		
91	302	18:10:02.733	117JI	CSMOS	GS	***** GROUP START CSMOS	467	06		1,072,929:83:0		
91	302	18:10:03.400	128JI149A131A4A	37IOP	1,0	Full Map, Grating Start Position =0	461	00		1,072,929:84:0		
91	302	18:10:08.066	175JI422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	461	00		1,072,930:00:0		
91	302	18:10:08.066	176JI6A	DMS:	*RUNUP	R28, TRACK 1, FWD, TIC 2303 +/- 18;	461	00		1,072,930:00:0		
91	302	18:10:08.066		6TMCHG	ELSPW	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	461	00		1,072,930:00:0		
91	302	18:10:12.066		DMS:	*RECORD	R28, TRACK 1, FWD, TIC *2305 +/- 18;	461	00		1,072,930:06:0		
91	302	18:10:12.066	117JI105A106A4A	7STRP	0.007,0.0,0.0,0,0,	Slew =,0.03	461	00		1,072,930:06:0		
91	302	18:14:18.066	GAPNGASPEC03		-----STOP-----		461	00		:		
91	302	18:14:18.066		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *2521 +/- 18;	461	00		1,072,934:11:0		
91	302	18:14:18.066	117JI11A	CSMOS	GE	***** GROUP END CSMOS	461	00		1,072,934:11:0		
91	302	18:14:18.066	175JI422A6B	6DMSC	RDY,0	DMS Control Tape stop	461	00		1,072,934:11:0		
91	302	18:14:19.266		DMS:	*READY	RDY, TRACK 1, FWD, TIC *2522 +/- 19;	461	00		1,072,934:12:8		
91	302	18:22:18.733	165JJ4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	461	00		1,072,942:04:0		
91	302	18:22:18.733	GAPNGASPER07		-----START-----		461	00		:		
91	302	18:22:19.400	165JJ4B	7SCAN	NORM,246.466,-20	Check S/P Position	461	00		1,072,942:05:0		
91	302	18:24:12.066	117JJ	CSMOS	GS	***** GROUP START CSMOS	461	00		1,072,943:83:0		
91	302	18:24:12.733	128JJ149A131A4A	37IOP	7,6	Fixed Map, Grating Start Position =6	467	06		1,072,943:84:0		
91	302	18:24:17.400		DMS:	*RUNUP	R28, TRACK 1, FWD, TIC 2522 +/- 19;	467	06		1,072,944:00:0		
91	302	18:24:17.400	176JQ6A	6TMCHG	ELSPW	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	467	06		1,072,944:00:0		
91	302	18:24:17.400	175JQ422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	467	06		1,072,944:00:0		
91	302	18:24:21.400	117JJ105A106A4A	7STRP	0.008,0.0,0.0,0,0,	Slew =,0.76	467	06		1,072,944:06:0		
91	302	18:24:21.400		DMS:	*RECORD	R28, TRACK 1, FWD, TIC *2523 +/- 19;	467	06		1,072,944:06:0		
91	302	18:24:34.733	175JQ422A6B	6DMSC	RDY,0	DMS Control Tape stop	467	06		1,072,944:26:0		
91	302	18:24:34.733		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *2535 +/- 19;	467	06		1,072,944:26:0		
91	302	18:24:34.733	117JJ11A	CSMOS	GE	***** GROUP END CSMOS	467	06		1,072,944:26:0		
91	302	18:24:35.933		DMS:	*READY	RDY, TRACK 1, FWD, TIC *2536 +/- 19;	467	06		1,072,944:27:8		
91	302	18:25:14.733	GAPNGASPER07		-----STOP-----		467	06		:		
91	302	18:39:26.066	165EE4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	467	06		1,072,958:89:0		
91	302	18:39:26.066	GAPNGASCUR05		-----START-----		467	06		:		
91	302	18:39:26.733	165EE4B	7SCAN	NORM,246.647999,	Check S/P Position	467	06		1,072,958:90:0		
91	302	18:41:19.400	117EE	CSMOS	GS	***** GROUP START CSMOS	467	06		1,072,960:77:0		
91	302	18:41:24.066	128EE149A131A4A	37IOP	5,2	Short Map, Grating Start Position =2	465	02		1,072,960:84:0		
91	302	18:41:28.066		DMS:	*RUNUP	R115, TRACK 1, FWD, TIC 2536 +/- 19;	465	02		1,072,960:90:0		
91	302	18:41:28.066	175II422A6A	6DMSC	R115,0	DMS Control Tape runup 115.2kb	465	02		1,072,960:90:0		
91	302	18:41:28.733	176II6A	6TMCHG	NCGHCM	NO CHANGE / 115.2 comp image + NIMS + PW	465	02		1,072,961:00:0		
91	302	18:41:28.733	117EE105A106A4A	7STRP	0.00001,0.0,0.0,0,	Slew =,0.12	465	02		1,072,961:00:0		
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YR	DOY	Time	PSID	Command	Parameters	Description	GCM	O	S	RIM	MF	I
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91	302	18:41:32.066		DMS:	*RECORD	R115, TRACK 1, FWD, TIC *2543 +/- 20;	465	02		1,072,961:05:0		
91	302	18:41:34.066	117EE105A106B4A	7STRP	-0.00325,0.0,0.0	Slew =,4.87	465	02		1,072,961:08:0		
91	302	18:41:38.733	117EE105A106B4B	7STRP	0.00227,0.0,0.0	Slew =,0.12	465	02		1,072,961:15:0		
91	302	18:41:59.400		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *2639 +/- 20;	465	02		1,072,961:46:0		
91	302	18:41:59.400	175II422A6B	6DMSC	RDY,0	DMS Control Tape stop	465	02		1,072,961:46:0		
91	302	18:42:00.066	117EE105A106C4A	7STRP	-0.0005,0.0,0.0	Slew =,4.87	465	02		1,072,961:47:0		
91	302	18:42:00.600		DMS:	*READY	RDY, TRACK 1, FWD, TIC *2640 +/- 20;	465	02		1,072,961:47:8		
91	302	18:42:03.400		DMS:	*RUNUP	R28, TRACK 1, FWD, TIC 2640 +/- 20;	465	02		1,072,961:52:0		
91	302	18:42:03.400	176IV6A	6TMCHG	ELSMPW	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	465	02		1,072,961:52:0		
91	302	18:42:03.400	175IW422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	465	02		1,072,961:52:0		
91	302	18:42:07.400		DMS:	*RECORD	R28, TRACK 1, FWD, TIC *2641 +/- 20;	465	02		1,072,961:58:0		
91	302	18:42:08.066	117EE105A106C4B	7STRP	0.00475,0.0,0.0	Slew =,0.12	465	02		1,072,961:59:0		
91	302	18:42:50.733	GAPNGASCUR05		-----STOP-----		465	02		:		
91	302	18:42:50.733	117EE11A	CSMOS	GE	***** GROUP END CSMOS	465	02		1,072,962:32:0		
91	302	18:42:50.733	175IW422A6B	6DMSC	RDY,0	DMS Control Tape stop	465	02		1,072,962:32:0		
91	302	18:42:50.733		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *2679 +/- 20;	465	02		1,072,962:32:0		
91	302	18:42:50.733		DMS:	*READY	RDY, TRACK 1, FWD, TIC *2680 +/- 20;	465	02		1,072,962:33:8		
91	302	18:42:51.933			-----START-----		465	02		:		
91	302	18:57:42.066	GAPNGASPER08				465	02		1,072,977:04:0		
91	302	18:57:42.066	165JK4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	465	02		1,072,977:05:0		
91	302	18:57:42.733	165JK4B	7SCAN	NORM,246.358999,	Check S/P Position	465	02		1,072,978:83:0		
91	302	18:59:35.400	117JK	CSMOS	GS	***** GROUP START CSMOS	465	02		1,072,978:84:0		
91	302	18:59:36.066	128JK149A131A4A	37IOP	7,6	Fixed Map, Grating Start Position =6	467	06		1,072,979:00:0		
91	302	18:59:40.733		DMS:	*RUNUP	R28, TRACK 1, FWD, TIC 2680 +/- 20;	467	06		1,072,979:00:0		
91	302	18:59:40.733	176JP6A	6TMCHG	ELSMPW	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	467	06		1,072,979:00:0		
91	302	18:59:40.733	175JP422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	467	06		1,072,979:06:0		
91	302	18:59:44.733	117JK105A106A4A	7STRP	0.007,0.0,0.0	Slew =,0.76	467	06		1,072,979:06:0		
91	302	18:59:44.733		DMS:	*RECORD	R28, TRACK 1, FWD, TIC *2682 +/- 21;	467	06		1,072,979:24:0		
91	302	18:59:56.733	117JK11A	CSMOS	GE	***** GROUP END CSMOS	467	06		1,072,979:26:0		
91	302	18:59:58.066		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *2693 +/- 21;	467	06		1,072,979:26:0		
91	302	18:59:58.066	175JP422A6B	6DMSC	RDY,0	DMS Control Tape stop	467	06		1,072,979:27:8		
91	302	18:59:59.266		DMS:	*READY	RDY, TRACK 1, FWD, TIC *2694 +/- 21;	467	06		:		
91	302	19:00:38.066	GAPNGASPER08		-----STOP-----		467	06		:		
91	302	19:14:49.400	GAPNGASCUR06		-----START-----		467	06		:		
91	302	19:14:49.400	165EF4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	467	06		1,072,993:89:0		
91	302	19:14:50.066	165EF4B	7SCAN	NORM,246.494999,	Check S/P Position	467	06		1,072,993:90:0		
91	302	19:16:42.733	117EF	CSMOS	GS	***** GROUP START CSMOS	467	06		1,072,995:77:0		
91	302	19:16:47.400	128EF149A131A4A	37IOP	5,2	Short Map, Grating Start Position =2	465	02		1,072,995:84:0		
91	302	19:16:51.400	175IH422A6A	6DMSC	R115,0	DMS Control Tape runup 115.2kb	465	02		1,072,995:90:0		
91	302	19:16:51.400		DMS:	*RUNUP	R115, TRACK 1, FWD, TIC 2694 +/- 21;	465	02		1,072,995:90:0		
91	302	19:16:52.066	176IH6A	6TMCHG	NCGHCM	NO CHANGE / 115.2 comp image + NIMS + PW	465	02		1,072,996:00:0		
91	302	19:16:52.066	117EF105A106A4A	7STRP	0.00001,0.0,0.0	Slew =,0.12	465	02		1,072,996:00:0		
91	302	19:16:55.400		DMS:	*RECORD	R115, TRACK 1, FWD, TIC *2701 +/- 21;	465	02		1,072,996:05:0		

YR	DOY	Time	PSID	Command	Parameters	Description	GCM	O	S	RIM	MF	I
91	302	19:16:57.400	117EF105A106B4A	7STRP	-0.0035,0.0,0.0,0,	Slew =,4.87	465	02		1,072,996:08:0		
91	302	19:17:02.066	117EF105A106B4B	7STRP	0.00227,0.0,0.0,0,	Slew =,0.12	465	02		1,072,996:15:0		
91	302	19:17:22.733		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *2797 +/-	465	02		1,072,996:46:0		
91	302	19:17:22.733	175IH422A6B	6DMSC	RDY,0	DMS Control Tape stop	465	02		1,072,996:46:0		
91	302	19:17:23.400	117EF105A106C4A	7STRP	-0.0005,0.0,0.0,0,	Slew =,4.87	465	02		1,072,996:47:0		
91	302	19:17:23.933		DMS:	*READY	RDY, TRACK 1, FWD, TIC *2798 +/-	465	02		1,072,996:47:8		
91	302	19:17:26.733		DMS:	*RUNUP	R28, TRACK 1, FWD, TIC 2798 +/-	465	02		1,072,996:52:0		
91	302	19:17:26.733	175IX422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	465	02		1,072,996:52:0		
91	302	19:17:26.733	176IW6A	6TMCHG	ELSMPW	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	465	02		1,072,996:52:0		
91	302	19:17:30.733		DMS:	*RECORD	R28, TRACK 1, FWD, TIC *2800 +/-	465	02		1,072,996:58:0		
91	302	19:17:31.400	117EF105A106C4B	7STRP	0.005,0.0,0.0,0.0,	Slew =,0.12	465	02		1,072,996:59:0		
91	302	19:18:16.066	175IX422A6B	6DMSC	RDY,0	DMS Control Tape stop	465	02		1,072,997:35:0		
91	302	19:18:16.066		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *2839 +/-	465	02		1,072,997:35:0		
91	302	19:18:16.066	GAPNGASCUR06		-----STOP-----		465	02				
91	302	19:18:16.066	117EF11A	CSMOS	GE	***** GROUP END CSMOS	465	02		1,072,997:35:0		
91	302	19:18:17.266		DMS:	*READY	RDY, TRACK 1, FWD, TIC *2840 +/-	465	02		1,072,997:36:8		
91	302	19:23:56.733	GAPUOUTGAS01		-----START-----		465	02				
91	302	19:24:30.066	165KB4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	465	02		1,073,003:50:0		
91	302	19:24:30.733	165KB4B	7SCAN	NORM,245.575998,	Check S/P Position	465	02		1,073,003:51:0		
91	302	19:24:48.066	117KB	CSMOS	GS	***** GROUP START CSMOS	465	02		1,073,003:77:0		
91	302	19:24:56.066	175KA422A6A	6DMSC	R7,0	DMS Control Tape runup 7.68kps	465	02		1,073,003:89:0		
91	302	19:24:56.066		DMS:	*RUNUP	R7, TRACK 1, FWD, TIC 2840 +/-	465	02		1,073,003:89:0		
91	302	19:24:57.400	117KB105A106A4A	7STRP	0.027207,0.0,0.0,0	Slew =,0.02	465	02		1,073,004:00:0		
91	302	19:24:57.400	176KA6A	6TMCHG	ELSLRS	10 BPS TDM / LRS Rec 7.68kb/s	465	02		1,073,004:00:0		
91	302	19:24:57.533		DMS:	*RECORD	R7, TRACK 1, FWD, TIC *2841 +/-	465	02		1,073,004:00:2		
91	302	19:48:47.400	117KB11A	CSMOS	GE	***** GROUP END CSMOS	465	02		1,073,027:52:0		
91	302	19:49:07.400	175KA422A6B	6DMSC	RDY,0	DMS Control Tape stop	465	02		1,073,027:82:0		
91	302	19:49:08.666		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *3181 +/-	465	02		1,073,027:82:0		
91	302	19:49:12.066	165ID4A	DMS:	*READY	RDY, TRACK 1, FWD, TIC *3182 +/-	465	02		1,073,027:83:9		
91	302	19:49:12.733	165ID4B	7TMOT	DIS,TMC	Disable IVP - Target Motion	465	02		1,073,027:89:0		
91	302	19:49:12.733	165ID4B	7SCAN	NORM,246.275999,	Check S/P Position	465	02		1,073,027:90:0		
91	302	19:49:48.066	GAPUOUTGAS01		-----STOP-----		465	02				
91	302	19:52:14.733	175IG422A6A	6DMSC	R115,0	DMS Control Tape runup 115.2kb	465	02		1,073,030:90:0		
91	302	19:52:14.733		DMS:	*RUNUP	R115, TRACK 1, FWD, TIC 3182 +/-	465	02		1,073,030:90:0		
91	302	19:52:15.400	176IG6A	6TMCHG	NCGHCM	NO CHANGE / 115.2 comp image + NIMS + PW	465	02		1,073,031:00:0		
91	302	19:52:18.733		DMS:	*RECORD	R115, TRACK 1, FWD, TIC *3189 +/-	465	02		1,073,031:05:0		
91	302	19:54:16.733		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *3603 +/-	465	02		1,073,033:00:0		
91	302	19:54:16.733	175IG422A6B	6DMSC	RDY,0	DMS Control Tape stop	465	02		1,073,033:00:0		
91	302	19:54:17.933		DMS:	*READY	RDY, TRACK 1, FWD, TIC *3604 +/-	465	02		1,073,033:01:8		
91	302	19:55:54.733	165JM4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	465	02		1,073,034:56:0		
91	302	19:55:54.733	GAPNGASPEC04		-----START-----		465	02				
91	302	19:55:55.400	165JM4B	7SCAN	NORM,246.018999,	Check S/P Position	465	02		1,073,034:57:0		

YR	DOY	Time	PSID	Command	Parameters	Description	GCM	O	S	RIM	MF	I
91	302	19:56:12.733	117JM	CSMOS	GS	***** GROUP START CSMOS	465	02		1,073,034:83:0	--	--
91	302	19:56:13.400	128JM149A131A4A	37IOP	1,0	Full Map, Grating Start Position =0	461	00		1,073,034:84:0	--	--
91	302	19:56:18.066		DMS:	*RUNUP	R28, TRACK 1, FWD, TIC 3604 +/- 23;	461	00		1,073,035:00:0	--	--
91	302	19:56:18.066	175JH422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	461	00		1,073,035:00:0	--	--
91	302	19:56:18.066	176JH6A	6TMCHG	ELSPWP	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	461	00		1,073,035:00:0	--	--
91	302	19:56:22.066		DMS:	*RECORD	R28, TRACK 1, FWD, TIC *3606 +/- 23;	461	00		1,073,035:06:0	--	--
91	302	19:56:22.066	117JM105A106A4A	7STRP	0.0073,0.0,0,0,0	Slew =,0.03	461	00		1,073,035:06:0	--	--
91	302	20:00:38.066		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *3831 +/- 23;	461	00		1,073,039:26:0	--	--
91	302	20:00:38.066	GAPNGASPEC04		-----STOP-----		461	00		:	--	--
91	302	20:00:38.066	117JM11A	CSMOS	GE	***** GROUP END CSMOS	461	00		1,073,039:26:0	--	--
91	302	20:00:38.066	175JH422A6B	6DMSC	RDY,0	DMS Control Tape stop	461	00		1,073,039:26:0	--	--
91	302	20:00:39.266		DMS:	*READY	RDY, TRACK 1, FWD, TIC *3832 +/- 24;	461	00		1,073,039:27:8	--	--
91	302	20:08:28.733	165JN4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	461	00		1,073,047:04:0	--	--
91	302	20:08:28.733	GAPNGASPER10		-----START-----		461	00		:	--	--
91	302	20:08:29.400	165JN4B	7SCAN	NORM,245.865999,	Check S/P Position	461	00		1,073,047:05:0	--	--
91	302	20:10:22.066	117JN	CSMOS	GS	***** GROUP START CSMOS	461	00		1,073,048:83:0	--	--
91	302	20:10:22.733	128JN149A131A4A	37IOP	7,6	Fixed Map, Grating Start Position =6	467	06		1,073,048:84:0	--	--
91	302	20:10:27.400	175JN422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	467	06		1,073,049:00:0	--	--
91	302	20:10:27.400	176JN6A	6TMCHG	ELSPWP	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	467	06		1,073,049:00:0	--	--
91	302	20:10:27.400		DMS:	*RUNUP	R28, TRACK 1, FWD, TIC 3832 +/- 24;	467	06		1,073,049:00:0	--	--
91	302	20:10:31.400	117JN105A106A4A	7STRP	0.0083,0.0,0,0,0	Slew =,0.76	467	06		1,073,049:06:0	--	--
91	302	20:10:31.400		DMS:	*RECORD	R28, TRACK 1, FWD, TIC *3833 +/- 24;	467	06		1,073,049:06:0	--	--
91	302	20:10:44.733	117JN11A	CSMOS	GE	***** GROUP END CSMOS	467	06		1,073,049:26:0	--	--
91	302	20:10:47.400	175JN422A6B	6DMSC	RDY,0	DMS Control Tape stop	467	06		1,073,049:30:0	--	--
91	302	20:10:47.400		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *3848 +/- 24;	467	06		1,073,049:30:0	--	--
91	302	20:10:48.600		DMS:	*READY	RDY, TRACK 1, FWD, TIC *3849 +/- 24;	467	06		1,073,049:31:8	--	--
91	302	20:11:24.733	GAPNGASPER10		-----STOP-----		467	06		:	--	--
91	302	20:25:36.066	GAPNGASCUR07		-----START-----		467	06		:	--	--
91	302	20:25:36.066	165EG4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	467	06		1,073,063:89:0	--	--
91	302	20:25:36.733	165EG4B	7SCAN	NORM,245.938,-20	Check S/P Position	467	06		1,073,063:90:0	--	--
91	302	20:27:29.400	117EG	CSMOS	GS	***** GROUP START CSMOS	467	06		1,073,065:77:0	--	--
91	302	20:27:34.066	128EG149A131A4A	37IOP	5,2	Short Map, Grating Start Position =2	465	02		1,073,065:84:0	--	--
91	302	20:27:38.066		DMS:	*RUNUP	R115, TRACK 1, FWD, TIC 3849 +/- 24;	465	02		1,073,065:90:0	--	--
91	302	20:27:38.066	175IF422A6A	6DMSC	R115,0	DMS Control Tape runup 115.2kb	465	02		1,073,065:90:0	--	--
91	302	20:27:38.733	176IF6A	6TMCHG	NGCHCM	NO CHANGE / 115.2 comp image + NIMS + PW	465	02		1,073,066:00:0	--	--
91	302	20:27:38.733	117EG105A106A4A	7STRP	0.00001,0.0,0,0,0,	Slew =,0.12	465	02		1,073,066:00:0	--	--
91	302	20:27:42.066		DMS:	*RECORD	R115, TRACK 1, FWD, TIC *3855 +/- 25;	465	02		1,073,066:05:0	--	--
91	302	20:27:44.066	117EG105A106B4A	7STRP	-0.0046,0.0,0,0,0,	Slew =,4.87	465	02		1,073,066:08:0	--	--
91	302	20:27:48.733	117EG105A106B4B	7STRP	0.00227,0.0,0,0,0,	Slew =,0.12	465	02		1,073,066:15:0	--	--
91	302	20:28:09.400		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *3951 +/- 25;	465	02		1,073,066:46:0	--	--
91	302	20:28:09.400	175IF422A6B	6DMSC	RDY,0	DMS Control Tape stop	465	02		1,073,066:46:0	--	--
91	302	20:28:10.066	117EG105A106C4A	7STRP	-0.0005,0.0,0,0,0,	Slew =,4.87	465	02		1,073,066:47:0	--	--

YR	DOY	Time	PSID	Command	Parameters	Description	GCM	O	S	RIM	MF	I
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91	302	20:28:10.600		DMS:	*READY	RDY, TRACK 1, FWD, TIC *3952 +/- 25;	465	02		1,073,066:47:8		
91	302	20:28:13.400		DMS:	*RUNUP	R28, TRACK 1, FWD, TIC 3952 +/- 25;	465	02		1,073,066:52:0		
91	302	20:28:13.400	175IY422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	465	02		1,073,066:52:0		
91	302	20:28:13.400	176IX6A	6TMCHG	ELSPWP	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	465	02		1,073,066:52:0		
91	302	20:28:17.400		DMS:	*RECORD	R28, TRACK 1, FWD, TIC *3954 +/- 25;	465	02		1,073,066:58:0		
91	302	20:28:18.066	117EG105A106C4B	7STRP	0.007,0.0,0.0,0.0,	Slew =,0.12	465	02		1,073,066:59:0		
91	302	20:29:21.400	117EG11A	CSMOS	GE	***** GROUP END CSMOS	465	02		1,073,067:63:0		
91	302	20:29:21.400	GAPNGASCUR07		-----STOP-----		465	02		:	:	
91	302	20:29:21.400		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *4010 +/- 25;	465	02		1,073,067:63:0		
91	302	20:29:21.400	175IY422A6B	6DMSC	RDY,0	DMS Control Tape stop	465	02		1,073,067:63:0		
91	302	20:29:22.600		DMS:	*READY	RDY, TRACK 1, FWD, TIC *4011 +/- 25;	465	02		1,073,067:64:8		
91	302	20:43:52.066	165JO4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	465	02		1,073,082:04:0		
91	302	20:43:52.066	GAPNGASPER11		-----START-----		465	02		:	:	
91	302	20:43:52.733	165JO4B	7SCAN	NORM,245.372,-20	Check S/P Position	465	02		1,073,082:05:0		
91	302	20:45:45.400	117JO	CSMOS	GS	***** GROUP START CSMOS	465	02		1,073,083:83:0		
91	302	20:45:46.066	128JO149A131A4A	37IOP	7,6	Fixed Map, Grating Start Position =6	467	06		1,073,083:84:0		
91	302	20:45:46.733	175JM422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	467	06		1,073,083:85:0		
91	302	20:45:50.733	176JM6A	DMS:	*RUNUP	R28, TRACK 1, FWD, TIC 4011 +/- 25;	467	06		1,073,083:85:0		
91	302	20:45:50.733		6TMCHG	ELSPWP	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	467	06		1,073,084:00:0		
91	302	20:45:54.733	117JO105A106A4A	DMS:	*RECORD	R28, TRACK 1, FWD, TIC *4012 +/- 26;	467	06		1,073,084:00:0		
91	302	20:46:10.733	117JO11A	7STRP	0.01,0.0,0.0,0.0,	Slew =,0.76	467	06		1,073,084:06:0		
91	302	20:46:10.733	175JM422A6B	CSMOS	GE	***** GROUP END CSMOS	467	06		1,073,084:30:0		
91	302	20:46:10.733		6DMSC	RDY,0	DMS Control Tape stop	467	06		1,073,084:30:0		
91	302	20:46:11.933		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *4030 +/- 26;	467	06		1,073,084:30:0		
91	302	20:46:11.933		DMS:	*READY	RDY, TRACK 1, FWD, TIC *4031 +/- 26;	467	06		1,073,084:31:8		
91	302	20:46:48.066	GAPNGASPER11		-----STOP-----		467	06		:	:	
91	302	21:00:59.400	GAPNGASCUR08		-----START-----		467	06		:	:	
91	302	21:00:59.400	165EH4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	467	06		1,073,098:89:0		
91	302	21:01:00.066	165EH4B	7SCAN	NORM,245.344999,	Check S/P Position	467	06		1,073,098:90:0		
91	302	21:01:56.733	128EH149A131A4A	37IST	0.0,0,OFF,0,1,2	Gain State 3	367	06		1,073,099:84:0		
91	302	21:02:52.733	117EH	CSMOS	GS	***** GROUP START CSMOS	367	06		1,073,100:77:0		
91	302	21:02:57.400	128EH149A131B4A	37IOP	5,2	Short Map, Grating Start Position =2	365	02		1,073,100:84:0		
91	302	21:03:01.400		DMS:	*RUNUP	R115, TRACK 1, FWD, TIC 4031 +/- 26;	365	02		1,073,100:90:0		
91	302	21:03:01.400	175IE422A6A	6DMSC	R115,0	DMS Control Tape runup 115.2kb	365	02		1,073,100:90:0		
91	302	21:03:02.066	176IE6A	6TMCHG	NGCHCM	NO CHANGE / 115.2 comp image + NIMS + PW	365	02		1,073,101:00:0		
91	302	21:03:02.066	117EH105A106A4A	7STRP	0.00001,0.0,0.0,0,	Slew =,0.12	365	02		1,073,101:00:0		
91	302	21:03:05.400		DMS:	*RECORD	R115, TRACK 1, FWD, TIC *4037 +/- 26;	365	02		1,073,101:05:0		
91	302	21:03:07.400	117EH105A106B4A	7STRP	-0.0055,0.0,0.0,0,	Slew =,4.87	365	02		1,073,101:08:0		
91	302	21:03:12.066	117EH105A106B4B	7STRP	0.00227,0.0,0.0,0,	Slew =,0.12	365	02		1,073,101:15:0		
91	302	21:03:32.733		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *4134 +/- 26;	365	02		1,073,101:46:0		
91	302	21:03:32.733	175IE422A6B	6DMSC	RDY,0	DMS Control Tape stop	365	02		1,073,101:46:0		
91	302	21:03:33.400	117EH105A106C4A	7STRP	-0.0005,0.0,0.0,0,	Slew =,4.87	365	02		1,073,101:47:0		

YR	DOY	Time	PSID	Command	Parameters	Description	GCM	O	S	RIM	MF	I
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91	302	21:03:33.933		DMS:	*READY	RDY, TRACK 1, FWD, TIC *4135 +/- 27;	365	02		1,073,101:47:8	--	--
91	302	21:03:36.733		DMS:	*RUNUP	R28, TRACK 1, FWD, TIC 4135 +/- 27;	365	02		1,073,101:52:0	--	--
91	302	21:03:36.733	176IY6A	6TMCHG	ELSMPW	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	365	02		1,073,101:52:0	--	--
91	302	21:03:36.733	175IZ422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	365	02		1,073,101:52:0	--	--
91	302	21:03:40.733		DMS:	*RECORD	R28, TRACK 1, FWD, TIC *4136 +/- 27;	365	02		1,073,101:58:0	--	--
91	302	21:03:41.400	117EH105A106C4B	7STRP	0.0085,0.0,0,0,0	Slew =,0.12	365	02		1,073,101:59:0	--	--
91	302	21:04:58.066	175IZ422A6B	6DMSC	RDY,0	DMS Control Tape stop	365	02		1,073,102:83:0	--	--
91	302	21:04:58.066	117EH11A	CSMOS	GE	***** GROUP END CSMOS	365	02		1,073,102:83:0	--	--
91	302	21:04:58.066		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *4204 +/- 27;	365	02		1,073,102:83:0	--	--
91	302	21:04:58.066	GAPNGASCUR08		-----STOP-----		365	02		:	--	--
91	302	21:04:59.266		DMS:	*READY	RDY, TRACK 1, FWD, TIC *4205 +/- 27;	365	02		1,073,102:84:8	--	--
91	302	21:13:11.400	165JP4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	365	02		1,073,111:04:0	--	--
91	302	21:13:11.400	GAPNGASPER12		-----START-----		365	02		:	--	--
91	302	21:13:12.066	165JP4B	7SCAN	NORM,244.691999,	Check S/P Position	365	02		1,073,111:05:0	--	--
91	302	21:15:04.733	117JP	CSMOS	GS	***** GROUP START CSMOS	365	02		1,073,112:83:0	--	--
91	302	21:15:05.400	128JP149A131A4A	37IOP	7,6	Fixed Map, Grating Start Position =6	367	06		1,073,112:84:0	--	--
91	302	21:15:10.066	176JL6A	6TMCHG	ELSMPW	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	367	06		1,073,113:00:0	--	--
91	302	21:15:10.066		DMS:	*RUNUP	R28, TRACK 1, FWD, TIC 4205 +/- 27;	367	06		1,073,113:00:0	--	--
91	302	21:15:10.066	175JL422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	367	06		1,073,113:00:0	--	--
91	302	21:15:14.066		DMS:	*RECORD	R28, TRACK 1, FWD, TIC *4206 +/- 28;	367	06		1,073,113:06:0	--	--
91	302	21:15:14.066	117JP105A106A4A	7STRP	0.011,0.0,0,0,0,0,	Slew =,0.76	367	06		1,073,113:06:0	--	--
91	302	21:15:31.400		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *4222 +/- 28;	367	06		1,073,113:32:0	--	--
91	302	21:15:31.400	117JP11A	CSMOS	GE	***** GROUP END CSMOS	367	06		1,073,113:32:0	--	--
91	302	21:15:31.400	175JL422A6B	6DMSC	RDY,0	DMS Control Tape stop	367	06		1,073,113:32:0	--	--
91	302	21:15:32.600		DMS:	*READY	RDY, TRACK 1, FWD, TIC *4223 +/- 28;	367	06		1,073,113:33:8	--	--
91	302	21:16:07.400	GAPNGASPER12		-----STOP-----		367	06		:	--	--
91	302	21:30:15.400	GAPNGASPEC05		-----START-----		367	06		:	--	--
91	302	21:30:15.400	128JQ149A131A4A	37IOP	1,0	Full Map, Grating Start Position =0	361	00		1,073,127:84:0	--	--
91	302	21:30:57.400	165JQ4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	361	00		1,073,128:56:0	--	--
91	302	21:30:58.066	165JQ4B	7SCAN	NORM,244.106998,	Check S/P Position	361	00		1,073,128:57:0	--	--
91	302	21:31:15.400	117JQ	CSMOS	GS	***** GROUP START CSMOS	361	00		1,073,128:83:0	--	--
91	302	21:31:16.066	128JQ149A131B4A	37IST	0,0,0,OFF,0,1,3	Gain State 1	161	00		1,073,128:84:0	--	--
91	302	21:31:20.733		DMS:	*RUNUP	R28, TRACK 1, FWD, TIC 4223 +/- 28;	161	00		1,073,129:00:0	--	--
91	302	21:31:20.733	175JG422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	161	00		1,073,129:00:0	--	--
91	302	21:31:20.733	176JG6A	6TMCHG	ELSMPW	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	161	00		1,073,129:00:0	--	--
91	302	21:31:24.733		DMS:	*RECORD	R28, TRACK 1, FWD, TIC *4224 +/- 28;	161	00		1,073,129:06:0	--	--
91	302	21:31:24.733	117JQ105A106A4A	7STRP	0.0085,0.0,0,0,0,0	Slew =,0.03	161	00		1,073,129:06:0	--	--
91	302	21:35:18.733	GAPNGASVIS01		-----START-----		161	00		:	--	--
91	302	21:35:18.733	128IA149A131A4A	37SS	0,6,1,0,6,0,12	Special Sequence (loads PTABs for modes 12)	161	00		1,073,132:84:0	--	--
91	302	21:36:19.400	128IA149A131B4A	37SS	1,3,1,0,0,1,24	Special Sequence (loads PTABs for modes 12)	161	00		1,073,133:84:0	--	--
91	302	21:36:22.733	GAPNGASPEC05		-----STOP-----		161	00		:	--	--
91	302	21:36:22.733		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *4486 +/- 28;	161	00		1,073,133:89:0	--	--



YR	DOY	Time	PSID	Command	Parameters	Description	GCM	O	S	RIM	MF	I
91	302	21:36:22.733	117JQ11A	CSMOS	GE	***** GROUP END CSMOS	161	00		1,073,133:89:0		
91	302	21:36:22.733	175JG422A6B	6DMSC	RDY,0	DMS Control Tape stop	161	00		1,073,133:89:0		
91	302	21:36:23.933		DMS:	*READY	RDY, TRACK 1, FWD, TIC *4487 +/- 28;	161	00		1,073,133:90:8		
91	302	21:36:36.733	165EJ4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	161	00		1,073,134:19:0		
91	302	21:36:37.400	165EJ4B	7SCAN	NORM,244.509998,	Check S/P Position	161	00		1,073,134:20:0		
91	302	21:37:20.066	128IA149A13IC4A	37IOP	12,0	Special Sequence 1, Grating Start Position	16C	00		1,073,134:84:0		
91	302	21:37:23.400	165IA4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	16C	00		1,073,134:89:0		
91	302	21:37:24.066	165IA4B	7SCAN	NORM,243.827,-20	Check S/P Position	16C	00		1,073,134:90:0		
91	302	21:37:48.733		DMS:	*RUNUP	R403, TRACK 1, FWD, TIC 4487 +/- 28;	16C	00		1,073,135:36:0		
91	302	21:37:48.733	175ID422A6A	6DMSC	R403,0	DMS Control Tape runup 403.2kb	16C	00		1,073,135:36:0		
91	302	21:37:49.400	165IA4C	7VECT		Inert vect update UTC	16C	00		1,073,135:37:0		
91	302	21:37:50.066	165IA4D	7TMOT	ENA,TMC	Enable IVP - Target Motion	16C	00		1,073,135:38:0		
91	302	21:37:50.733	176ID6A	6TMCHG	NGCIM4	NO CHANGE / 403.2 KBPS IMAGE + 1/8 NIMS RE	16C	00		1,073,135:39:0		
91	302	21:37:52.533		DMS:	*RECORD	R403, TRACK 1, FWD, TIC *4509 +/- 31;	16C	00		1,073,135:41:7		
91	302	21:38:36.066	118IA110A111A4A	7STRP	0.0069,0.0,156,0	Slew =,1.21	16C	00		1,073,136:16:0		
91	302	21:39:28.066	118IA110A111A4B	7STRP	0.0,0.0069,0,0,0	Slew =0,5.0	16C	00		1,073,137:03:0		
91	302	21:40:20.066	118IA110A111A4C	7STRP	0.0069,0.0,156,0	Slew =,1.21	16C	00		1,073,137:81:0		
91	302	21:41:18.733		DMS:	*RUNDOWN	RDY, TRACK 1, FWD, TIC *7046 +/- 31;	16C	00		1,073,138:78:0		
91	302	21:41:18.733	175ID422A6B	6DMSC	RDY,0	DMS Control Tape stop	16C	00		1,073,138:78:0		
91	302	21:41:18.733	GAPNGASVIS01		-----STOP-----		16C	00		:		
91	302	21:41:21.533		DMS:	*READY	RDY, TRACK 1, FWD, TIC *7050 +/- 32;	16C	00		1,073,138:82:2		
91	302	21:43:24.066	128JR149A131A4A	37IOP	1,0	Full Map, Grating Start Position =0	161	00		1,073,140:84:0		
91	302	21:43:24.066	GAPNGASPEC06		-----START-----		161	00		:		
91	302	21:43:42.733	165JR4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	161	00		1,073,141:21:0		
91	302	21:43:43.400	165JR4B	7SCAN	NORM,243.126999,	Check S/P Position	161	00		1,073,141:22:0		
91	302	21:44:00.733	117JR	CSMOS	GS	***** GROUP START CSMOS	161	00		1,073,141:48:0		
91	302	21:44:03.400	176JF6A	6TMCHG	ELSMPW	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	161	00		1,073,141:52:0		
91	302	21:44:06.066		DMS:	*RUNUP	R28, TRACK 1, FWD, TIC 7050 +/- 32;	161	00		1,073,141:56:0		
91	302	21:44:06.066	175JF422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	161	00		1,073,141:56:0		
91	302	21:44:08.733	165JR4C	7VECT		Inert vect update UTC	161	00		1,073,141:60:0		
91	302	21:44:09.400	165JR4D	7TMOT	ENA,TMC	Enable IVP - Target Motion	161	00		1,073,141:61:0		
91	302	21:44:10.066	117JR105A106A4A	7STRP	0.0091,0.0,0,0,0	Slew =,0.06	161	00		1,073,141:62:0		
91	302	21:44:10.066		DMS:	*RECORD	R28, TRACK 1, FWD, TIC *7052 +/- 33;	161	00		1,073,141:62:0		
91	302	21:45:32.733	165JR4E	7VECT		Inert vect update UTC	161	00		1,073,143:04:0		
91	302	21:46:31.800		DMS:	*REVERSE	R28, TRACK 1, FWD, TIC *7177 +/- 33;	161	00		1,073,144:01:6		
91	302	21:46:37.000		DMS:	*RESUME	R28, TRACK *2, *REV, TIC *7176 +/- 33;	161	00		1,073,144:09:4		
91	302	21:46:56.733	165JR4F	7VECT		Inert vect update UTC	161	00		1,073,144:39:0		
91	302	21:47:11.400	117JR105A106B4A	7STRP	-0.004,0.0,0,0,0	Slew =,10.0	161	00		1,073,144:61:0		
91	302	21:47:16.066	117JR105A106B4B	7STRP	0.013101,0.0,0,0	Slew =,0.06	161	00		1,073,144:68:0		
91	302	21:48:20.733	165JR4G	7VECT		Inert vect update UTC	161	00		1,073,145:74:0		
91	302	21:49:44.733	165JR4H	7VECT		Inert vect update UTC	161	00		1,073,147:18:0		
91	302	21:50:32.733	GAPNGASVIS02		-----START-----		161	00		:		

YR	DOY	Time	PSID	Command	Parameters	Description	GCM	O	S	RIM	MF	I
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91	302	21:51:06.066	GAPNGASPEC06		-----STOP-----		161	00			:	:
91	302	21:51:06.066		DMS:	*RUNDOWN	RDY, TRACK 2, REV, TIC *6940 +/- 33;	161	00		1,073,148:49:0		
91	302	21:51:06.066	117JR11A	CSMOS	GE	***** GROUP END CSMOS	161	00		1,073,148:49:0		
91	302	21:51:06.066	175JF422A6B	6DMSC	RDY,0	DMS Control Tape stop	161	00		1,073,148:49:0		
91	302	21:51:06.733	165IB4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	161	00		1,073,148:50:0		
91	302	21:51:07.266		DMS:	*READY	RDY, TRACK 2, REV, TIC *6939 +/- 34;	161	00		1,073,148:50:8		
91	302	21:51:07.400	165IB4B	7SCAN	NORM,242.296999,	Check S/P Position	161	00		1,073,148:51:0		
91	302	21:51:24.733	117IA	CSMOS	GS	***** GROUP START CSMOS	161	00		1,073,148:77:0		
91	302	21:51:29.400	128IB149A13IA4A	37IOP	7,6	Fixed Map, Grating Start Position =6	167	06		1,073,148:84:0		
91	302	21:51:32.066		DMS:	*RUNUP	R403, TRACK 2, REV, TIC 6939 +/- 34;	167	06		1,073,148:88:0		
91	302	21:51:32.066	175IC422A6A	6DMSC	R403,0	DMS Control Tape runup 403.2kb	167	06		1,073,148:88:0		
91	302	21:51:32.733	165IB4C	7VECT		Inert vect update UTC	167	06		1,073,148:89:0		
91	302	21:51:33.400	165IB4D	7TMOT	ENA,TMC	Enable IVP - Target Motion	167	06		1,073,148:90:0		
91	302	21:51:34.066	117IA105A106A4A	7STRP	0.019603,0.0,0.0	Slew =,0.86	167	06		1,073,149:00:0		
91	302	21:51:34.066	176IC6A	6TMCHG	NGCIM4	NO CHANGE / 403.2 KBPS IMAGE + 1/8 NIMS RE	167	06		1,073,149:00:0		
91	302	21:51:35.866		DMS:	*RECORD	R403, TRACK 2, REV, TIC *6917 +/- 37;	167	06		1,073,149:02:7		
91	302	21:52:02.066	117IA105A106B4A	7STRP	0.0028,0.0065,0,	Slew =0,4.7	167	06		1,073,149:42:0		
91	302	21:52:06.733	117IA105A106B4B	7STRP	-0.024505,0.0,0,	Slew =,0.86	167	06		1,073,149:49:0		
91	302	21:52:39.400	117IA105A106C4A	7STRP	0.0006,0.0065,0,	Slew =0,4.7	167	06		1,073,150:07:0		
91	302	21:52:44.066	117IA105A106C4B	7STRP	0.023404,0.0,0,0	Slew =,0.86	167	06		1,073,150:14:0		
91	302	21:53:14.733	117IA105A106D4A	7STRP	-0.0028,0.0065,0	Slew =0,4.7	167	06		1,073,150:60:0		
91	302	21:53:19.400	117IA105A106D4B	7STRP	-0.017702,0.0,0,	Slew =,0.86	167	06		1,073,150:67:0		
91	302	21:53:30.733	128JS149A13IA4A	37IOP	5,2	Short Map, Grating Start Position =2	165	02		1,073,150:84:0		
91	302	21:53:30.733	GAPNGSCHEM02		-----START-----		165	02		:	:	:
91	302	21:53:44.066	GAPNGASVIS02		-----STOP-----		165	02		:	:	:
91	302	21:53:44.066	175IC422A6B	6DMSC	RDY,0	DMS Control Tape stop	165	02		1,073,151:13:0		
91	302	21:53:44.066		DMS:	*RUNDOWN	RDY, TRACK 2, REV, TIC *5339 +/- 37;	165	02		1,073,151:13:0		
91	302	21:53:44.066	117IA11A	CSMOS	GE	***** GROUP END CSMOS	165	02		1,073,151:13:0		
91	302	21:53:46.866		DMS:	*READY	RDY, TRACK 2, REV, TIC *5335 +/- 38;	165	02		1,073,151:17:2		
91	302	21:54:01.400	165JS4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	165	02		1,073,151:39:0		
91	302	21:54:02.066	165JS4B	7SCAN	NORM,243.330999,	Check S/P Position	165	02		1,073,151:40:0		
91	302	21:54:18.733	176JE6A	6TMCHG	ELSMPW	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	165	02		1,073,151:65:0		
91	302	21:54:19.400	117JS	CSMOS	GS	***** GROUP START CSMOS	165	02		1,073,151:66:0		
91	302	21:54:24.733		DMS:	*RUNUP	R28, TRACK 2, REV, TIC 5335 +/- 38;	165	02		1,073,151:74:0		
91	302	21:54:24.733	175JE422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	165	02		1,073,151:74:0		
91	302	21:54:27.400	165JS4C	7VECT		Inert vect update UTC	165	02		1,073,151:78:0		
91	302	21:54:28.066	165JS4D	7TMOT	ENA,TMC	Enable IVP - Target Motion	165	02		1,073,151:79:0		
91	302	21:54:28.733	117JS105A106A4A	7STRP	-0.018502,0.0,0,	Slew =,0.12	165	02		1,073,151:80:0		
91	302	21:54:28.733		DMS:	*RECORD	R28, TRACK 2, REV, TIC *5334 +/- 38;	165	02		1,073,151:80:0		
91	302	21:55:40.066	165JS4E	7VECT		Inert vect update UTC	165	02		1,073,153:05:0		
91	302	21:56:52.066	165JS4F	7VECT		Inert vect update UTC	165	02		1,073,154:22:0		
91	302	21:57:18.066	117JS105A106B4A	7STRP	0.019502,-0.0095	Slew =0,7.9	165	02		1,073,154:61:0		

YR	DOY	Time	PSID	Command	Parameters	Description	GCM	O	S	RIM	MF	I
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91	302	21:57:23.400	117JS105A106B4B	7STRP	-0.020003,0.0,0,0,	Slew =,0.12	165	02			1,073,154:69:0	
91	302	21:58:04.733	165JS4G	7VECT		Inert vect update UTC	165	02			1,073,155:40:0	
91	302	21:58:34.066	GAPNGASNAP01		-----START-----		165	02			:	:
91	302	21:58:34.066	128IC149A131A4A	37SS	2,2,1,0,0,1,24	Special Sequence (loads PTABS for modes 12)	165	02			1,073,155:84:0	
91	302	21:59:16.733	165JS4H	7VECT		Inert vect update UTC	165	02			1,073,156:57:0	
91	302	21:59:34.733	128IC149A131B4A	37SS	3,4,1,0,6,0,12	Special Sequence (loads PTABS for modes 12)	165	02			1,073,156:84:0	
91	302	22:00:26.733		DMS:	*RUNDOWN	RDY, TRACK 2, REV, TIC *5019 +/- 38;	165	02			1,073,157:71:0	
91	302	22:00:26.733	117JS11A	CSMOS	GE	***** GROUP END CSMOS	165	02			1,073,157:71:0	
91	302	22:00:26.733	175JE422A6B	6DMSC	RDY,0	DMS Control Tape stop	165	02			1,073,157:71:0	
91	302	22:00:26.733	GAPNGSCHEM02		-----STOP-----		165	02			:	:
91	302	22:00:27.933		DMS:	*READY	RDY, TRACK 2, REV, TIC *5018 +/- 38;	165	02			1,073,157:72:8	
91	302	22:00:35.400	128IC149A131C4A	37IOP	13,0	Special Sequence 2, Grating Start Position	16D	00			1,073,157:84:0	
91	302	22:00:38.733	165IC4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	16D	00			1,073,157:89:0	
91	302	22:00:39.400	165IC4B	7SCAN	NORM,241.348,-20	Check S/P Position	16D	00			1,073,157:90:0	
91	302	22:01:04.066		DMS:	*RUNUP	R403, TRACK 2, REV, TIC 5018 +/- 38;	16D	00			1,073,158:36:0	
91	302	22:01:04.066	175IB422A6A	6DMSC	R403,0	DMS Control Tape runup 403.2kb	16D	00			1,073,158:36:0	
91	302	22:01:04.733	165IC4C	7VECT		Inert vect update UTC	16D	00			1,073,158:37:0	
91	302	22:01:05.400	165IC4D	7TMOT	ENA,TMC	Enable IVP - Target Motion	16D	00			1,073,158:38:0	
91	302	22:01:06.066	176IB6A	6TMCHG	NCGIM4	NO CHANGE / 403.2 KBPS IMAGE + 1/8 NIMS RE	16D	00			1,073,158:39:0	
91	302	22:01:07.866		DMS:	*RECORD	R403, TRACK 2, REV, TIC *4996 +/- 41;	16D	00			1,073,158:41:7	
91	302	22:01:34.066	118IB110A111A4A	7STRP	0.007,0.0,104,0,	Slew =,1.21	16D	00			1,073,158:81:0	
91	302	22:02:41.400	165IC4E	7VECT		Inert vect update UTC	16D	00			1,073,160:00:0	
91	302	22:02:43.400	118IB110A111A4B	7STRP	0.0,0.007,0.0,0,0,	Slew =0,5.0	16D	00			1,073,160:03:0	
91	302	22:03:18.066	118IB110A111A4C	7STRP	0.007,0.0,104,0,	Slew =,1.21	16D	00			1,073,160:55:0	
91	302	22:04:25.400	165IC4F	7VECT		Inert vect update UTC	16D	00			1,073,161:65:0	
91	302	22:04:27.400	118IB110A111A4D	7STRP	0.0,0.007,0.0,0,0,	Slew =0,5.0	16D	00			1,073,161:68:0	
91	302	22:05:02.066	118IB110A111A4E	7STRP	0.007,0.0,104,0,	Slew =,1.21	16D	00			1,073,162:29:0	
91	302	22:06:18.066	175IB422A6B	6DMSC	RDY,0	DMS Control Tape stop	16D	00			1,073,163:52:0	
91	302	22:06:18.066		DMS:	*RUNDOWN	RDY, TRACK 2, REV, TIC *1179 +/- 41;	16D	00			1,073,163:52:0	
91	302	22:06:18.066	GAPNGASNAP01		-----STOP-----		16D	00			:	:
91	302	22:06:20.866		DMS:	*READY	RDY, TRACK 2, REV, TIC *1175 +/- 42;	16D	00			1,073,163:56:2	
91	302	22:06:39.400	128JT149A131A4A	37IOP	5,2	Short Map, Grating Start Position =2	165	02			1,073,163:84:0	
91	302	22:06:39.400	GAPNGSCHEM04		-----START-----		165	02			:	:
91	302	22:06:44.733	165JT4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	165	02			1,073,164:01:0	
91	302	22:06:45.400	165JT4B	7SCAN	NORM,241.518999,	Check S/P Position	165	02			1,073,164:02:0	
91	302	22:07:01.400	176JD6A	6TMCHG	ELSMPW	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	165	02			1,073,164:26:0	
91	302	22:07:02.733	117JT	CSMOS	GS	***** GROUP START CSMOS	165	02			1,073,164:28:0	
91	302	22:07:08.066	175JD422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	165	02			1,073,164:36:0	
91	302	22:07:08.066		DMS:	*RUNUP	R28, TRACK 2, REV, TIC 1175 +/- 42;	165	02			1,073,164:36:0	
91	302	22:07:10.733	165JT4C	7VECT		Inert vect update UTC	165	02			1,073,164:40:0	
91	302	22:07:11.400	165JT4D	7TMOT	ENA,TMC	Enable IVP - Target Motion	165	02			1,073,164:41:0	
91	302	22:07:12.066		DMS:	*RECORD	R28, TRACK 2, REV, TIC *1173 +/- 43;	165	02			1,073,164:42:0	

YR	DOY	Time	PSID	Command	Parameters	Description	GCM	O	S	RIM	MF	I
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91	302	22:07:12.066	117JT105A106A4A	7STRP	-0.026006,0.0,0,0,	Slew =,0.12	165	02		1,073,164:42:0		
91	302	22:08:51.400	165JT4E	7VECT		Inert vect update UTC	165	02		1,073,166:09:0		
91	302	22:10:31.400	165JT4F	7VECT		Inert vect update UTC	165	02		1,073,167:68:0		
91	302	22:11:08.733	117JT105A106B4A	7STRP	0.027007,-0.008,	Slew =0,9.1	165	02		1,073,168:33:0		
91	302	22:11:14.066	117JT105A106B4B	7STRP	-0.029509,0.0,0,0,	Slew =,0.12	165	02		1,073,168:41:0		
91	302	22:12:12.066	165JT4G	7VECT		Inert vect update UTC	165	02		1,073,169:37:0		
91	302	22:13:52.066	165JT4H	7VECT		Inert vect update UTC	165	02		1,073,171:05:0		
91	302	22:15:36.733	GAPNGSCHEM04		-----STOP-----		165	02		:	:	
91	302	22:15:36.733	175JD422A6B	6DMSC	RDY,0	DMS Control Tape stop	165	02		1,073,172:71:0		
91	302	22:15:36.733		DMS:	*RUNDOWN	RDY, TRACK 2, REV, TIC * 730 +/- 43;	165	02		1,073,172:71:0		
91	302	22:15:36.733	117JT11A	CSMOS	GE	***** GROUP END CSMOS	165	02		1,073,172:71:0		
91	302	22:15:37.933		DMS:	*READY	RDY, TRACK 2, REV, TIC * 729 +/- 43;	165	02		1,073,172:72:8		
91	302	22:15:45.400	GAPNGASMAP01		-----START-----		165	02		:	:	
91	302	22:15:45.400	128JU149A131A4A	37IOP	7,6	Fixed Map, Grating Start Position =6	167	06		1,073,172:84:0		
91	302	22:16:02.733	165JU4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	167	06		1,073,173:19:0		
91	302	22:16:03.400	165JU4B	7SCAN	NORM,238.775,-19	Check S/P Position	167	06		1,073,173:20:0		
91	302	22:16:20.733	117JU	CSMOS	GS	***** GROUP START CSMOS	167	06		1,073,173:46:0		
91	302	22:16:24.733	176JC6A	6TMCHG	ELSMPW	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	167	06		1,073,173:52:0		
91	302	22:16:26.066	175JC422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	167	06		1,073,173:54:0		
91	302	22:16:26.066		DMS:	*RUNUP	R28, TRACK 2, REV, TIC 729 +/- 43;	167	06		1,073,173:54:0		
91	302	22:16:28.733	165JU4C	7VECT		Inert vect update UTC	167	06		1,073,173:58:0		
91	302	22:16:29.400	165JU4D	7TMOT	ENA,TMC	Enable IVP - Target Motion	167	06		1,073,173:59:0		
91	302	22:16:30.066		DMS:	*RECORD	R28, TRACK 2, REV, TIC * 727 +/- 43;	167	06		1,073,173:60:0		
91	302	22:16:30.066	117JU105A106A4A	7STRP	-0.030509,0.0,0,0,	Slew =,0.76	167	06		1,073,173:60:0		
91	302	22:17:13.400	165JU4E	7VECT		Inert vect update UTC	167	06		1,073,174:34:0		
91	302	22:17:14.733	117JU105A106B4A	7STRP	0.033012,-0.0088	Slew =,9.32	167	06		1,073,174:36:0		
91	302	22:17:22.733	117JU105A106B4B	7STRP	-0.036016,0.0,0,0,	Slew =,0.76	167	06		1,073,174:48:0		
91	302	22:17:57.400	165JU4F	7VECT		Inert vect update UTC	167	06		1,073,175:09:0		
91	302	22:18:14.733	117JU105A106C4A	7STRP	0.037017,-0.0085	Slew =,9.32	167	06		1,073,175:35:0		
91	302	22:18:24.066	117JU105A106C4B	7STRP	-0.037518,0.0,0,0,	Slew =,0.76	167	06		1,073,175:49:0		
91	302	22:18:42.066	165JU4G	7VECT		Inert vect update UTC	167	06		1,073,175:76:0		
91	302	22:19:18.066	117JU105A106D4A	7STRP	0.035515,-0.0092	Slew =,9.32	167	06		1,073,176:39:0		
91	302	22:19:26.066	165JU4H	7VECT		Inert vect update UTC	167	06		1,073,176:51:0		
91	302	22:19:26.733	117JU105A106D4B	7STRP	-0.034514,0.0,0,0,	Slew =,0.76	167	06		1,073,176:52:0		
91	302	22:20:16.733	117JU11A	CSMOS	GE	***** GROUP END CSMOS	167	06		1,073,177:36:0		
91	302	22:20:16.733		DMS:	*RUNDOWN	RDY, TRACK 2, REV, TIC * 528 +/- 43;	167	06		1,073,177:36:0		
91	302	22:20:16.733	175JC422A6B	6DMSC	RDY,0	DMS Control Tape stop	167	06		1,073,177:36:0		
91	302	22:20:16.733	GAPNGASMAP01		-----STOP-----		167	06		:	:	
91	302	22:20:17.933		DMS:	*READY	RDY, TRACK 2, REV, TIC * 527 +/- 43;	167	06		1,073,177:37:8		
91	302	22:20:26.066	165EI4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	167	06		1,073,177:50:0		
91	302	22:20:26.066	GAPNGASPAT01		-----START-----		167	06		:	:	
91	302	22:20:26.733	165EI4B	7SCAN	NORM,234.219999,	Check S/P Position	167	06		1,073,177:51:0		

YR	DOY	Time	PSID	Command	Parameters	Description	GCM	O	S	RIM	MF	I
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91	302	22:20:44.066	117EI	CSMOS	GS	***** GROUP START CSMOS	167	06		1,073,177:77:0	--	--
91	302	22:20:51.400		DMS:	*RUNUP	R403, TRACK 2, REV, TIC 527 +/- 43;	167	06		1,073,177:88:0	--	--
91	302	22:20:51.400	175IA422A6A	6DMSC	R403,0	DMS Control Tape runup 403.2kb	167	06		1,073,177:88:0	--	--
91	302	22:20:52.066	165EI4C	7VECT		Inert vect update UTC	167	06		1,073,177:89:0	--	--
91	302	22:20:52.733	165EI4D	7TMOT	ENA,TMC	Enable IVP - Target Motion	167	06		1,073,177:90:0	--	--
91	302	22:20:53.400	176IA6A	6TMCHG	NGCIM4	NO CHANGE / 403.2 KBPS IMAGE + 1/8 NIMS RE	167	06		1,073,178:00:0	--	--
91	302	22:20:53.400	117EI105A106A4A	7STRP	0.016001,0.0,0.0	Slew =,0.84	167	06		1,073,178:00:0	--	--
91	302	22:20:55.200		DMS:	*RECORD	R403, TRACK 2, REV, TIC * 505 +/- 46;	167	06		1,073,178:02:7	--	--
91	302	22:21:20.000		DMS:	*REVERSE	R403, TRACK 2, REV, TIC * 200 +/- 46;	167	06		1,073,178:39:9	--	--
91	302	22:21:20.733	117EI105A106B4A	7STRP	0.008,0.0045,0.0	Slew =,4.73	167	06		1,073,178:41:0	--	--
91	302	22:21:26.600		DMS:	*RESUME	R403, TRACK *3, *FWD, TIC * 218 +/- 50;	167	06		1,073,178:49:8	--	--
91	302	22:21:36.733	165EI4E	7VECT		Inert vect update UTC	167	06		1,073,178:65:0	--	--
91	302	22:21:38.066	117EI105A106B4B	7STRP	-0.029408,-0.001	Slew =,0.84	167	06		1,073,178:67:0	--	--
91	302	22:22:17.400	117EI105A106C4A	7STRP	0.0085,0.033924,	Slew =,4.73	167	06		1,073,179:35:0	--	--
91	302	22:22:28.733	165EI4F	7VECT		Inert vect update UTC	167	06		1,073,179:52:0	--	--
91	302	22:22:30.066	117EI105A106C4B	7STRP	0.022004,0.0,0.0	Slew =,0.84	167	06		1,073,179:54:0	--	--
91	302	22:23:00.066	117EI105A106D4A	7STRP	0.0025,-0.0068,0	Slew =,4.73	167	06		1,073,180:08:0	--	--
91	302	22:23:04.733	117EI105A106D4B	7STRP	-0.029408,0.0013	Slew =,0.84	167	06		1,073,180:15:0	--	--
91	302	22:23:20.733	165EI4G	7VECT		Inert vect update UTC	167	06		1,073,180:39:0	--	--
91	302	22:23:44.066	117EI105A106E4A	7STRP	-0.005,-0.0068,0	Slew =,4.73	167	06		1,073,180:74:0	--	--
91	302	22:23:48.733	117EI105A106E4B	7STRP	0.040722,-0.0005	Slew =,0.84	167	06		1,073,180:81:0	--	--
91	302	22:24:12.733	165EI4H	7VECT		Inert vect update UTC	167	06		1,073,181:26:0	--	--
91	302	22:24:42.066	117EI105A106F4A	7STRP	-0.0032,-0.01510	Slew =,4.73	167	06		1,073,181:70:0	--	--
91	302	22:24:49.400	117EI105A106F4B	7STRP	-0.042325,-0.001	Slew =,0.84	167	06		1,073,181:81:0	--	--
91	302	22:25:04.733	165EI4I	7VECT		Inert vect update UTC	167	06		1,073,182:13:0	--	--
91	302	22:25:45.400	117EI105A106G4A	7STRP	-0.001,0.011001,	Slew =,4.73	167	06		1,073,182:74:0	--	--
91	302	22:25:50.733	117EI105A106G4B	7STRP	0.050543,-0.0005	Slew =,0.84	167	06		1,073,182:82:0	--	--
91	302	22:25:56.733	165EI4J	7VECT		Inert vect update UTC	167	06		1,073,183:00:0	--	--
91	302	22:26:48.733	165EI4K	7VECT		Inert vect update UTC	167	06		1,073,183:78:0	--	--
91	302	22:26:56.733	117EI105A106H4A	7STRP	-0.0005,-0.0035,	Slew =,4.73	167	06		1,073,183:90:0	--	--
91	302	22:27:01.400	117EI105A106H4B	7STRP	-0.059269,-0.002	Slew =,0.84	167	06		1,073,184:06:0	--	--
91	302	22:27:40.733	165EI4L	7VECT		Inert vect update UTC	167	06		1,073,184:65:0	--	--
91	302	22:28:15.400	175IA422A6B	6DMSC	RDY,0	DMS Control Tape stop	167	06		1,073,185:26:0	--	--
91	302	22:28:15.400		DMS:	*RUNDOWN	RDY, TRACK 3, FWD, TIC *5248 +/- 50;	167	06		1,073,185:26:0	--	--
91	302	22:28:18.066	117EI11A	CSMOS	GE	***** GROUP END CSMOS	167	06		1,073,185:30:0	--	--
91	302	22:28:18.200		DMS:	*READY	RDY, TRACK 3, FWD, TIC *5252 +/- 51;	167	06		1,073,185:30:2	--	--
91	302	22:28:50.066	176MA6A	6TMCHG	ELSMPP	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS REC	167	06		1,073,185:78:0	--	--
91	302	22:28:51.400	175MA422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	167	06		1,073,185:80:0	--	--
91	302	22:28:51.400		DMS:	*RUNUP	R28, TRACK 3, FWD, TIC 5252 +/- 51;	167	06		1,073,185:80:0	--	--
91	302	22:28:55.400		DMS:	*RECORD	R28, TRACK 3, FWD, TIC *5253 +/- 52;	167	06		1,073,185:86:0	--	--
91	302	22:28:57.400	165LA4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	167	06		1,073,185:89:0	--	--
91	302	22:28:58.066	165LA4B	7SCAN	NORM,221.198999,	Check S/P Position	167	06		1,073,185:90:0	--	--

YR	DOY	Time	PSID	Command	Parameters	Description	GCM	O	S	RIM	MF	I
91	302	22:29:00.733	117LA	CSMOS	GS	***** GROUP START CSMOS	167	06		1,073,186:03:0	--	--
91	302	22:29:23.400	165LA4C	7VECT		Inert vect update UTC	167	06		1,073,186:37:0	--	--
91	302	22:29:24.066	165LA4D	7TMOT	ENA,TMC	Enable IVP - Target Motion	167	06		1,073,186:38:0	--	--
91	302	22:29:24.733	117LA105A106A4A	7STRP	0.044329,0.0,0.0	Slew =,2.55	167	06		1,073,186:39:0	--	--
91	302	22:29:46.733	117LA105A106A4B	7STRP	-0.044028,0.0013	Slew =,12.0	167	06		1,073,186:72:0	--	--
91	302	22:29:54.066	117LA105A106A4C	7STRP	0.044329,0.0,0.0	Slew =,2.55	167	06		1,073,186:83:0	--	--
91	302	22:30:15.400	165LA4E	7VECT		Inert vect update UTC	167	06		1,073,187:24:0	--	--
91	302	22:30:16.066	117LA105A106A4D	7STRP	-0.044028,0.0013	Slew =,12.0	167	06		1,073,187:25:0	--	--
91	302	22:30:23.400	117LA105A106A4E	7STRP	0.044329,0.0,0.0	Slew =,2.55	167	06		1,073,187:36:0	--	--
91	302	22:30:45.400	117LA105A106A4F	7STRP	-0.044028,0.0013	Slew =,12.0	167	06		1,073,187:69:0	--	--
91	302	22:30:52.733	117LA105A106A4G	7STRP	0.044329,0.0,0.0	Slew =,2.55	167	06		1,073,187:80:0	--	--
91	302	22:30:55.400	157JC156A121A4A	37IOP	0,0	Safe, Grating Start Position =0	160	00		1,073,187:84:0	--	--
91	302	22:31:07.400	165LA4F	7VECT		Inert vect update UTC	160	00		1,073,188:11:0	--	--
91	302	22:31:14.733	117LA105A106A4H	7STRP	-0.044028,0.0013	Slew =,12.0	160	00		1,073,188:22:0	--	--
91	302	22:31:22.066	117LA105A106A4I	7STRP	0.044329,0.0,0.0	Slew =,2.55	160	00		1,073,188:33:0	--	--
91	302	22:31:44.066	117LA105A106A4J	7STRP	-0.044028,0.0013	Slew =,12.0	160	00		1,073,188:66:0	--	--
91	302	22:31:51.400	117LA105A106A4K	7STRP	0.044329,0.0,0.0	Slew =,2.55	160	00		1,073,188:77:0	--	--
91	302	22:31:59.400	165LA4G	7VECT		Inert vect update UTC	160	00		1,073,188:89:0	--	--
91	302	22:32:00.733	GAPNGASPAT01		-----STOP-----		160	00		:	--	--
91	302	22:32:13.400	117LA105A106A4L	7STRP	-0.044028,0.0013	Slew =,12.0	160	00		1,073,189:19:0	--	--
91	302	22:32:20.733	117LA105A106A4M	7STRP	0.044329,0.0,0.0	Slew =,2.55	160	00		1,073,189:30:0	--	--
91	302	22:32:42.733	117LA105A106A4N	7STRP	-0.044028,0.0013	Slew =,12.0	160	00		1,073,189:63:0	--	--
91	302	22:32:50.066	117LA105A106A4O	7STRP	0.044329,0.0,0.0	Slew =,2.55	160	00		1,073,189:74:0	--	--
91	302	22:32:51.400	165LA4H	7VECT		Inert vect update UTC	160	00		1,073,189:76:0	--	--
91	302	22:33:12.066	117LA105A106A4P	7STRP	-0.044028,0.0013	Slew =,12.0	160	00		1,073,190:16:0	--	--
91	302	22:33:19.400	117LA105A106A4Q	7STRP	0.044329,0.0,0.0	Slew =,2.55	160	00		1,073,190:27:0	--	--
91	302	22:33:41.400	117LA105A106A4R	7STRP	-0.044028,0.0013	Slew =,12.0	160	00		1,073,190:60:0	--	--
91	302	22:33:43.400	165LA4I	7VECT		Inert vect update UTC	160	00		1,073,190:63:0	--	--
91	302	22:33:48.733	117LA105A106A4S	7STRP	0.044329,0.0,0.0	Slew =,2.55	160	00		1,073,190:71:0	--	--
91	302	22:34:10.733	117LA105A106A4T	7STRP	-0.044028,0.0013	Slew =,12.0	160	00		1,073,191:13:0	--	--
91	302	22:34:18.066	117LA105A106A4U	7STRP	0.044329,0.0,0.0	Slew =,2.55	160	00		1,073,191:24:0	--	--
91	302	22:34:35.400	165LA4J	7VECT		Inert vect update UTC	160	00		1,073,191:50:0	--	--
91	302	22:34:40.066	117LA105A106A4V	7STRP	-0.044028,0.0013	Slew =,12.0	160	00		1,073,191:57:0	--	--
91	302	22:34:47.400	117LA105A106A4W	7STRP	0.044329,0.0,0.0	Slew =,2.55	160	00		1,073,191:68:0	--	--
91	302	22:35:09.400	117LA105A106B4A	7STRP	-0.044529,0.0025	Slew =,12.0	160	00		1,073,192:10:0	--	--
91	302	22:35:16.733	117LA105A106B4B	7STRP	0.044329,0.0,0.0	Slew =,2.55	160	00		1,073,192:21:0	--	--
91	302	22:35:27.400	165LA4K	7VECT		Inert vect update UTC	160	00		1,073,192:37:0	--	--
91	302	22:35:38.733	117LA105A106B4C	7STRP	-0.044529,0.0025	Slew =,12.0	160	00		1,073,192:54:0	--	--
91	302	22:35:46.066	117LA105A106B4D	7STRP	0.044329,0.0,0.0	Slew =,2.55	160	00		1,073,192:65:0	--	--
91	302	22:36:08.066	117LA105A106B4E	7STRP	-0.044529,0.0025	Slew =,12.0	160	00		1,073,193:07:0	--	--
91	302	22:36:15.400	117LA105A106B4F	7STRP	0.044329,0.0,0.0	Slew =,2.55	160	00		1,073,193:18:0	--	--
91	302	22:36:19.400	165LA4L	7VECT		Inert vect update UTC	160	00		1,073,193:24:0	--	--

YR	DOY	Time	PSID	Command	Parameters	Description	GCM	O	S	RIM	MF	I
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91	302	22:36:37.400	117LA105A106C4A	7STRP	-0.04503,0.00345	Slew =,12.0	160	00		1,073,193:51:0		
91	302	22:36:44.733	117LA105A106C4B	7STRP	0.044329,0.0005,	Slew =,2.55	160	00		1,073,193:62:0		
91	302	22:37:06.733	117LA105A106C4C	7STRP	-0.04503,0.00345	Slew =,12.0	160	00		1,073,194:04:0		
91	302	22:37:11.400	165LA4M	7VECT		Inert vect update UTC	160	00		1,073,194:11:0		
91	302	22:37:14.066	117LA105A106C4D	7STRP	0.044329,0.0005,	Slew =,2.55	160	00		1,073,194:15:0		
91	302	22:37:36.066	117LA105A106D4A	7STRP	-0.046032,0.0047	Slew =,12.0	160	00		1,073,194:48:0		
91	302	22:37:43.400	117LA105A106D4B	7STRP	0.044329,0.001,0	Slew =,2.55	160	00		1,073,194:59:0		
91	302	22:38:05.400	117LA105A106E4A	7STRP	-0.046032,0.0031	Slew =,12.0	160	00		1,073,195:01:0		
91	302	22:38:12.733	117LA105A106E4B	7STRP	0.044329,0.00725	Slew =,2.55	160	00		1,073,195:12:0		
91	302	22:38:34.733	117LA105A106F4A	7STRP	-0.046032,0.0035	Slew =,12.0	160	00		1,073,195:45:0		
91	302	22:38:42.066	117LA105A106F4B	7STRP	0.044329,0.0055,	Slew =,2.55	160	00		1,073,195:56:0		
91	302	22:39:04.066	117LA11A	CSMOS	GE	***** GROUP END CSMOS	160	00		1,073,195:89:0		
91	302	22:45:06.066		DMS:	*RUNDOWN	RDY, TRACK 3, FWD, TIC *6106 +/- 52;	160	00		1,073,201:86:0		
91	302	22:45:06.066	175MA422A6B	6DMSC	RDY,0	DMS Control Tape stop	160	00		1,073,201:86:0		
91	302	22:45:07.266		DMS:	*READY	RDY, TRACK 3, FWD, TIC *6107 +/- 52;	160	00		1,073,201:87:8		
91	302	22:45:08.066	175MB422A6A	6DMSC	R7,0	DMS Control Tape runup 7.68kps	160	00		1,073,201:89:0		
91	302	22:45:08.066		DMS:	*RUNUP	R7, TRACK 3, FWD, TIC 6107 +/- 52;	160	00		1,073,201:89:0		
91	302	22:45:09.400	176MB6A	6TMCHG	ELSLRS	10 BPS TDM / LRS Rec 7.68kb/s	160	00		1,073,202:00:0		
91	302	22:45:09.533		DMS:	*RECORD	R7, TRACK 3, FWD, TIC *6108 +/- 52;	160	00		1,073,202:00:2		
91	302	22:57:16.066	165LB4A	7TMOT	DIS,TMC	Disable IVP - Target Motion	160	00		1,073,213:89:0		
91	302	22:57:16.733	165LB4B	7SCAN	NORM,75.438999,2	Check S/P Position	160	00		1,073,213:90:0		
91	302	23:00:23.400	117LB	CSMOS	GS	***** GROUP START CSMOS	160	00		1,073,217:06:0		
91	302	23:00:32.733	117LB105A106A4A	7STRP	-0.024505,0.0,0,	Slew =,1.01	160	00		1,073,217:20:0		
91	302	23:01:00.066	117LB105A106A4B	7STRP	0.026806,-0.0016	Slew =17.31	160	00		1,073,217:61:0		
91	302	23:01:05.400	117LB105A106A4C	7STRP	-0.024505,0.0,0,	Slew =,1.01	160	00		1,073,217:69:0		
91	302	23:01:32.733	117LB105A106A4D	7STRP	0.026806,-0.0016	Slew =17.31	160	00		1,073,218:19:0		
91	302	23:01:38.066	117LB105A106A4E	7STRP	-0.024505,0.0,0,	Slew =,1.01	160	00		1,073,218:27:0		
91	302	23:02:05.400	117LB105A106A4F	7STRP	0.026806,-0.0016	Slew =17.31	160	00		1,073,218:68:0		
91	302	23:02:10.733	117LB105A106A4G	7STRP	-0.024505,0.0,0,	Slew =,1.01	160	00		1,073,218:76:0		
91	302	23:02:38.066	117LB105A106A4H	7STRP	0.026806,-0.0016	Slew =17.31	160	00		1,073,219:26:0		
91	302	23:02:43.400	117LB105A106A4I	7STRP	-0.024505,0.0,0,	Slew =,1.01	160	00		1,073,219:34:0		
91	302	23:03:10.733	117LB105A106A4J	7STRP	0.026806,-0.0016	Slew =17.31	160	00		1,073,219:75:0		
91	302	23:03:16.066	117LB105A106A4K	7STRP	-0.024505,0.0,0,	Slew =,1.01	160	00		1,073,219:83:0		
91	302	23:03:43.400	117LB105A106A4L	7STRP	0.026806,-0.0016	Slew =17.31	160	00		1,073,220:33:0		
91	302	23:03:48.733	117LB105A106A4M	7STRP	-0.024505,0.0,0,	Slew =,1.01	160	00		1,073,220:41:0		
91	302	23:04:16.066	117LB105A106A4N	7STRP	0.026806,-0.0016	Slew =17.31	160	00		1,073,220:82:0		
91	302	23:04:21.400	117LB105A106A4O	7STRP	-0.024505,0.0,0,	Slew =,1.01	160	00		1,073,220:90:0		
91	302	23:04:48.733	117LB105A106A4P	7STRP	0.026806,-0.0016	Slew =17.31	160	00		1,073,221:40:0		
91	302	23:04:54.066	117LB105A106A4Q	7STRP	-0.024505,0.0,0,	Slew =,1.01	160	00		1,073,221:48:0		
91	302	23:05:21.400	117LB105A106A4R	7STRP	0.026806,-0.0016	Slew =17.31	160	00		1,073,221:89:0		
91	302	23:05:26.733	117LB105A106A4S	7STRP	-0.024505,0.0,0,	Slew =,1.01	160	00		1,073,222:06:0		
91	302	23:05:54.066	117LB105A106A4T	7STRP	0.026806,-0.0016	Slew =17.31	160	00		1,073,222:47:0		

YR	DOY	Time	PSID	Command	Parameters	Description	GCM	O	S	RIM	MF	I
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91	302	23:05:59.400	117LB105A106A4U	7STRP	-0.024505,0.0,0,	Slew =,1.01	160	00		1,073,222:55:0		
91	302	23:06:26.733	117LB105A106A4V	7STRP	0.026806,-0.0016	Slew =17.31	160	00		1,073,223:05:0		
91	302	23:06:32.066	117LB105A106A4W	7STRP	-0.024505,0.0,0,	Slew =,1.01	160	00		1,073,223:13:0		
91	302	23:06:59.400	117LB105A106A4X	7STRP	0.026806,-0.0016	Slew =17.31	160	00		1,073,223:54:0		
91	302	23:07:04.733	117LB105A106A4Y	7STRP	-0.024505,0.0,0,	Slew =,1.01	160	00		1,073,223:62:0		
91	302	23:07:32.066	117LB105A106A4Z	7STRP	0.026806,-0.0016	Slew =17.31	160	00		1,073,224:12:0		
91	302	23:07:37.400	117LB105A106A4AA	7STRP	-0.024505,0.0,0,	Slew =,1.01	160	00		1,073,224:20:0		
91	302	23:08:04.733	117LB105A106A4AB	7STRP	0.026806,-0.0016	Slew =17.31	160	00		1,073,224:61:0		
91	302	23:08:10.066	117LB105A106A4AC	7STRP	-0.024505,0.0,0,	Slew =,1.01	160	00		1,073,224:69:0		
91	302	23:08:37.400	117LB105A106A4AD	7STRP	0.026806,-0.0016	Slew =17.31	160	00		1,073,225:19:0		
91	302	23:08:42.733	117LB105A106A4AE	7STRP	-0.024505,0.0,0,	Slew =,1.01	160	00		1,073,225:27:0		
91	302	23:09:10.066	117LB105A106A4AF	7STRP	0.026806,-0.0016	Slew =17.31	160	00		1,073,225:68:0		
91	302	23:09:15.400	117LB105A106A4AG	7STRP	-0.024505,0.0,0,	Slew =,1.01	160	00		1,073,225:76:0		
91	302	23:09:42.733	117LB105A106A4AH	7STRP	0.026806,-0.0016	Slew =17.31	160	00		1,073,226:26:0		
91	302	23:09:48.066	117LB105A106A4AI	7STRP	-0.024505,0.0,0,	Slew =,1.01	160	00		1,073,226:34:0		
91	302	23:10:15.400	117LB105A106A4AJ	7STRP	0.026806,-0.0016	Slew =17.31	160	00		1,073,226:75:0		
91	302	23:10:20.733	117LB105A106A4AK	7STRP	-0.024505,0.0,0,	Slew =,1.01	160	00		1,073,226:83:0		
91	302	23:10:48.066	117LB105A106A4AL	7STRP	0.026806,-0.0016	Slew =17.31	160	00		1,073,227:33:0		
91	302	23:10:53.400	117LB105A106A4AM	7STRP	-0.024505,0.0,0,	Slew =,1.01	160	00		1,073,227:41:0		
91	302	23:11:20.733	117LB105A106A4AN	7STRP	0.026806,-0.0016	Slew =17.31	160	00		1,073,227:82:0		
91	302	23:11:26.066	117LB105A106A4AO	7STRP	-0.024505,0.0,0,	Slew =,1.01	160	00		1,073,227:90:0		
91	302	23:11:53.400	117LB105A106A4AP	7STRP	0.026806,-0.0016	Slew =17.31	160	00		1,073,228:40:0		
91	302	23:11:58.733	117LB105A106A4AQ	7STRP	-0.024505,0.0,0,	Slew =,1.01	160	00		1,073,228:48:0		
91	302	23:12:26.066	117LB105A106A4AR	7STRP	0.026806,-0.0016	Slew =17.31	160	00		1,073,228:89:0		
91	302	23:12:31.400	117LB105A106A4AS	7STRP	-0.024505,0.0,0,	Slew =,1.01	160	00		1,073,229:06:0		
91	302	23:12:58.733	117LB11A	CSMOS	GE	***** GROUP END CSMOS	160	00		1,073,229:47:0		
91	302	23:14:28.066	20LA4A	7SAFE	UNSTOW	S/P TO 153 deg cone	160	00		1,073,230:90:0		
91	302	23:29:38.733	175MB422A6B	6DMSC	RDY,0	DMS Control Tape stop	160	00		1,073,246:00:0		
91	302	23:29:38.733		DMS:	*RUNDOWN	RDY, TRACK 3, FWD, TIC *6734 +/- 52;	160	00		1,073,246:00:0		
91	302	23:29:40.000		DMS:	*READY	RDY, TRACK 3, FWD, TIC *6735 +/- 52;	160	00		1,073,246:01:9		
91	303	01:18:03.400	20F4A	7MODE	CRU	AACS CRUISE MODE	160	00		1,073,353:20:0		
91	303	01:28:56.733	190JA4B	7MODE	CRU	AACS CRUISE MODE	160	00		1,073,363:90:0		
91	303	01:28:57.400	190JA4C	7SAFE	UNSTOW	S/P TO 153 deg cone	160	00		1,073,364:00:0		
91	303	01:32:54.066	190JA4D	7MODE	SPNL	AACS ALL-SPIN LOW	160	00		1,073,367:82:0		
91	303	01:34:56.733	GANNPCTCAL01		-----START-----		160	00		:		
91	303	01:34:56.733	128JV149A131A4A	37IOP	3,0	Long Map, Grating Start Position =0	163	00		1,073,369:84:0		
91	303	01:35:01.400	176JA6A	6TMCHG	ELSMPW	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	163	00		1,073,370:00:0		
91	303	01:40:59.400	190JA4E	7SAFE	UNSTOW	S/P TO 153 deg cone	163	00		1,073,375:82:0		
91	303	01:58:16.666	192JA4A	7CONE	17.4,54.88	Check S/P Position	163	00		1,073,393:00:0		
91	303	01:58:17.333	192JA4B	7CLK	17.4,244.07	Check S/P Position	163	00		1,073,393:01:0		
91	303	02:04:16.666		DMS:	*RUNUP	R28, TRACK 3, FWD, TIC 6735 +/- 52;	163	00		1,073,398:85:0		
91	303	02:04:16.666	175JA422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	163	00		1,073,398:85:0		

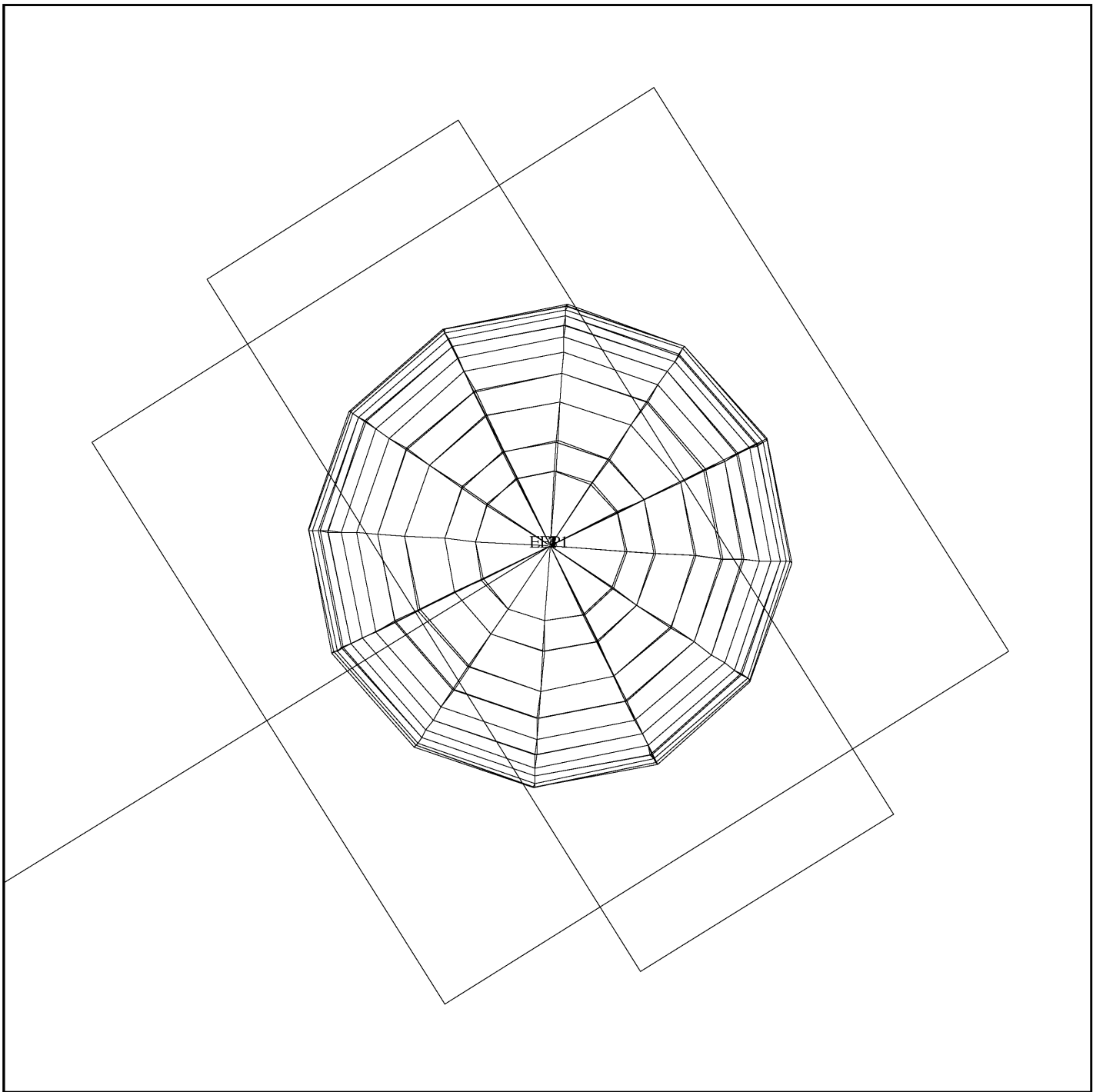


YR	DOY	Time	PSID	Command	Parameters	Description	GCM	O	S	RIM	MF	I
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91	303	02:04:20.666		DMS:	*RECORD	R28, TRACK 3, FWD, TIC *6737 +/- 53;	163	00		1,073,399:00:0		
91	303	02:05:16.666	157JA156A121A4A	371ST	1,2,0,OFF,0,0,3	Chopper ON, Sync, Chopper (Ref)	1R3	00		1,073,399:84:0		
91	303	02:05:20.666		DMS:	*RUNDOWN	RDY, TRACK 3, FWD, TIC *6789 +/- 53;	1R3	00		1,073,399:90:0		
91	303	02:05:20.666	175JA422A6B	6DMSC	RDY,0	DMS Control Tape stop	1R3	00		1,073,399:90:0		
91	303	02:05:21.866		DMS:	*READY	RDY, TRACK 3, FWD, TIC *6790 +/- 53;	1R3	00		1,073,400:00:8		
91	303	02:07:18.666		DMS:	*RUNUP	R28, TRACK 3, FWD, TIC 6790 +/- 53;	1R3	00		1,073,401:85:0		
91	303	02:07:18.666	175JX422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	1R3	00		1,073,401:85:0		
91	303	02:07:22.666		DMS:	*RECORD	R28, TRACK 3, FWD, TIC *6792 +/- 53;	1R3	00		1,073,402:00:0		
91	303	02:08:22.666		DMS:	*RUNDOWN	RDY, TRACK 3, FWD, TIC *6845 +/- 53;	1R3	00		1,073,402:90:0		
91	303	02:08:22.666	175JX422A6B	6DMSC	RDY,0	DMS Control Tape stop	1R3	00		1,073,402:90:0		
91	303	02:08:23.866		DMS:	*READY	RDY, TRACK 3, FWD, TIC *6846 +/- 53;	1R3	00		1,073,403:00:8		
91	303	02:09:19.333	157JA156A121B4A	371OP	0,0	Safe, Grating Start Position =0	1R0	00		1,073,403:84:0		
91	303	02:09:24.000	191JA4A	7SAFE	UNSTOW	S/P TO 153 deg cone	1R0	00		1,073,404:00:0		
91	303	02:11:25.333	185JA10A3A	40HRP	1	RCT Heater ON (primary relay)	1R0	00		1,073,406:00:0		
91	303	02:11:25.333	GANNPCTCAL01		-----STOP-----		1R0	00		:		
91	303	02:13:26.666	191JA4B	7MODE	CRU	AACS CRUISE MODE	1R0	00		1,073,408:00:0		
91	303	08:39:36.666	128JW149A131A4A	371OP	3,0	Long Map, Grating Start Position =0	1R3	00		1,073,789:84:0		
91	303	08:39:36.666	GANNRCTCAL01		-----START-----		1R3	00		:		
91	303	08:39:41.333	192JB4A	7CONE	17,4,0,0	Check S/P Position	1R3	00		1,073,790:00:0		
91	303	08:39:41.333	176JB6A	6TMCHG	ELSMPW	10 BPS TDM-NO NIMS R/T / 28.8 KBPS PWS + N	1R3	00		1,073,790:00:0		
91	303	08:42:39.333		DMS:	*RUNUP	R28, TRACK 3, FWD, TIC 6846 +/- 53;	1R3	00		1,073,792:85:0		
91	303	08:42:39.333	175JB422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	1R3	00		1,073,792:85:0		
91	303	08:42:43.333		DMS:	*RECORD	R28, TRACK 3, FWD, TIC *6847 +/- 54;	1R3	00		1,073,793:00:0		
91	303	08:43:39.333	157JB156A121A4A	371ST	1,0,0,OFF,0,1,3	Chopper ON, Sync, 63Hz (Ref)Gain State 1	163	00		1,073,793:84:0		
91	303	08:43:43.333		DMS:	*RUNDOWN	RDY, TRACK 3, FWD, TIC *6900 +/- 54;	163	00		1,073,793:90:0		
91	303	08:43:43.333	175JB422A6B	6DMSC	RDY,0	DMS Control Tape stop	163	00		1,073,793:90:0		
91	303	08:43:44.533		DMS:	*READY	RDY, TRACK 3, FWD, TIC *6901 +/- 54;	163	00		1,073,794:00:8		
91	303	08:45:41.333		DMS:	*RUNUP	R28, TRACK 3, FWD, TIC 6901 +/- 54;	163	00		1,073,795:85:0		
91	303	08:45:41.333	175JY422A6A	6DMSC	R28,0	DMS Control Tape runup 28.8kbp	163	00		1,073,795:85:0		
91	303	08:45:45.333		DMS:	*RECORD	R28, TRACK 3, FWD, TIC *6902 +/- 54;	163	00		1,073,796:00:0		
91	303	08:46:45.333		DMS:	*RUNDOWN	RDY, TRACK 3, FWD, TIC *6955 +/- 54;	163	00		1,073,796:90:0		
91	303	08:46:45.333	175JY422A6B	6DMSC	RDY,0	DMS Control Tape stop	163	00		1,073,796:90:0		
91	303	08:46:46.533		DMS:	*READY	RDY, TRACK 3, FWD, TIC *6956 +/- 55;	163	00		1,073,797:00:8		
91	303	08:52:45.333	157JB156A121B4A	371OP	0,0	Safe, Grating Start Position =0	160	00		1,073,802:84:0		
91	303	08:55:51.333	20JA4A	7SAFE	UNSTOW	S/P TO 153 deg cone	160	00		1,073,805:90:0		
91	303	08:55:52.000	185JA10B3A	40HRPR	1	RCT Heater OFF (primary relay)	160	00		1,073,806:00:0		
91	303	08:58:50.666	20YU4A	371OP	CMD,371OP,20YU4A	Grating Start Position =37	160	00		1,073,808:86:0		
91	303	08:58:54.000	GANNRCTCAL01		-----STOP-----		160	00		:		
91	303	08:59:51.333	20YU3A	37AR	CMD,37AR,20YU3A,	NIMS Power OFF				1,073,809:86:0		
91	303	09:00:11.333	20YU3B	37H	CMD,37H,20YU3B,,	Replacement Heaters ON				1,073,810:25:0		
91	303	09:03:06.000	20D3A	37F2P	CMD,37F2P,20D3A,	Shield Flash Heater ON (primary relay)				1,073,813:14:0		
91	303	09:03:10.666	20D3B	37F2P	CMD,37F2P,20D3B,	Shield Flash Heater ON (primary relay)				1,073,813:21:0		

YR	DOY	Time	PSID	Command	Parameters	Description	GCM	O	S	RIM	MF	I
91	303	09:08:06.000	20E3A	40T1P	CMD,40T1P,20E3A, PCT Heater 1 ON	(primary relay)				1,073,818	09:0	
91	303	09:08:10.666	20E3B	40T1P	CMD,40T1P,20E3B, PCT Heater 1 ON	(primary relay)				1,073,818	16:0	
91	303	09:11:06.000	20E3C	40T2	CMD,40T2,20E3C,P PCT Heater 2 ON					1,073,821	06:0	
91	303	09:11:10.666	20E3D	40T2	CMD,40T2,20E3D,S PCT Heater 2 ON					1,073,821	13:0	
91	308	22:09:59.733		DMS:	RDY, TRACK 3, FWD, TIC 6956 +/- 55;					1,081,712	26:0	

Heading	NIMS Obstab (Planned)		Comments
	Columns		
-----			
OAPEL	1 - 12	.Oapel Name from SEF (no aliases yet)	
EXT	14 - 14	.Extension (allow for split OAPELs)	
PSID	16 - 17	.2 Letter ID for the OAPEL	
SCLK1	19 - 29	.Start time of OBS in SCLK	
SCLK2	31 - 41	.STOP time of OBS in SCLK	
MODE	43 - 44	.NIMS Instrument MODE	
GAIN	46 - 47	.Gain State (true value)	
CHOP	49 - 50	.Chopper State (1=Ref,2=63Hz,3=FreeRun,4=Off)	
GRAT_OFF	52 - 53	.Grating Offset	
PTAB_A(6)	55 - 71	.First PTAB (repeat count,mirror op,autobias...	
PTAB_B(6)	73 - 89	.Second PTAB (...grating start, grating delta.... (...number of grating postions)	
ECAL	92 - 92	.Electronics Calibration Active (1=yes)	
OPCAL	94 - 94	.Optics Calibration active (1=yes)	
UTC1	96 - 112	.Start time of OBS in UTC (from SEF - ISO STANDARD)	
REAL_TIME	115 - 115	.NIMS in Real-Time Telemetry (1=yes)	
RECORD	117 - 117	.NIMS in Record Telemetry(1=yes)	
TARGET	120 - 127	.Primary Target of OBS GASPRA - P - Gaspra CALIBRATION - N - Non-Science	
(the single letter abbreviation appears as the third character in the OBSNAME (OAPEL Name) ).			
INPUT SEF FILE: EE11_921118.SEF			
-----			
OAPEL, EXT, PSID, SCLK1, SCLK2, MODE, GAIN, CHOP, GRAT_OFF, PTAB_A(6), PTAB_B(6), ECAL, OPCAL, UTC1, REAL_TIME, RECORD, TARGET			
-----			
OAPEL	EXT PSID SCLK1	SCLK2	M G C O   PTAB A     PTAB B   E O UTC1 R T TARGET
-----			
GAPSLTCRV01	A IG 01072716:00	01072716:14	1 4 2 4 1 1 0 0 2 12 1 1 0 0 2 12 0 0 1991-302T14:33:45 0 1 GASPRA
GAPNGASPER01	A JA 01072720:00	01072723:23	1 4 2 4 1 1 0 0 2 12 1 1 0 0 2 12 0 0 1991-302T14:37:48 0 1 GASPRA
GAPNGASPER01	A JB 01072734:06	01072734:22	7 4 2 4 1 1 0 6 0 12 1 1 0 6 0 12 0 0 1991-302T14:52:01 0 1 GASPRA
GAPSLTCRVB01	A EA 01072751:05	01072751:46	5 4 2 4 1 1 0 2 4 6 1 1 0 2 4 6 0 0 1991-302T15:09:12 0 1 GASPRA
GAPSLTCRVB01	B EA 01072751:58	01072752:29	5 4 2 4 1 1 0 2 4 6 1 1 0 2 4 6 0 0 1991-302T15:09:47 0 1 GASPRA
GAPNGASPER02	A JC 01072769:06	01072769:22	7 4 2 4 1 1 0 6 0 12 1 1 0 6 0 12 0 0 1991-302T15:27:24 0 1 GASPRA
GAPSLTCRVB02	A EB 01072786:05	01072786:46	5 4 2 4 1 1 0 2 4 6 1 1 0 2 4 6 0 0 1991-302T15:44:35 0 1 GASPRA
GAPSLTCRVB02	B EB 01072786:58	01072787:36	5 4 2 4 1 1 0 2 4 6 1 1 0 2 4 6 0 0 1991-302T15:45:10 0 1 GASPRA
GAPNGASPER03	A JD 01072804:06	01072804:22	7 4 2 4 1 1 0 6 0 12 1 1 0 6 0 12 0 0 1991-302T16:02:48 0 1 GASPRA
GAPSLTCRVC02	A IF 01072821:00	01072821:14	1 4 2 4 1 1 0 0 2 12 1 1 0 0 2 12 0 0 1991-302T16:19:55 0 1 GASPRA
GAPNGASPER02	A JE 01072825:06	01072828:47	1 4 2 4 1 1 0 0 2 12 1 1 0 0 2 12 0 0 1991-302T16:24:02 0 1 GASPRA
GAPNGASPER04	A JF 01072839:06	01072839:24	7 4 2 4 1 1 0 6 0 12 1 1 0 6 0 12 0 0 1991-302T16:38:11 0 1 GASPRA
GAPSLTCRVB03	A EC 01072856:05	01072856:46	5 4 2 4 1 1 0 2 4 6 1 1 0 2 4 6 0 0 1991-302T16:55:22 0 1 GASPRA
GAPSLTCRVB03	B EC 01072856:58	01072857:35	5 4 2 4 1 1 0 2 4 6 1 1 0 2 4 6 0 0 1991-302T16:55:57 0 1 GASPRA
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OAPEL	EXT	PSID	SCLK1	SCLK2	M	G	C	O	PTAB A		PTAB B		E	O	UTC1	R	T	TARGET	
-----																			
GAPNGASPER05	A	JG	01072874:06	01072874:24	7	4	2	4	1	1	0	6	0	12	1	1	0	6	0 12 0 0 1991-302T17:13:34 0 1 GASPRA
GAPSLTCRVB04	A	ED	01072891:05	01072891:46	5	4	2	4	1	1	0	2	4	6	1	1	0	2	4 6 0 0 1991-302T17:30:45 0 1 GASPRA
GAPSLTCRVB04	B	ED	01072891:58	01072892:35	5	4	2	4	1	1	0	2	4	6	1	1	0	2	4 6 0 0 1991-302T17:31:20 0 1 GASPRA
GAPNGASPER06	A	JH	01072909:06	01072909:24	7	4	2	4	1	1	0	6	0	12	1	1	0	6	0 12 0 0 1991-302T17:48:58 0 1 GASPRA
GAPSLTCRVC03	A	IE	01072926:05	01072928:00	7	4	2	4	1	1	0	6	0	12	1	1	0	6	0 12 0 0 1991-302T18:06:08 0 1 GASPRA
GAPNGASPEC03	A	JJ	01072930:06	01072934:11	1	4	2	4	1	1	0	0	2	12	1	1	0	0	2 12 0 0 1991-302T18:10:12 0 1 GASPRA
GAPNGASPER07	A	JJ	01072944:06	01072944:26	7	4	2	4	1	1	0	6	0	12	1	1	0	6	0 12 0 0 1991-302T18:24:21 0 1 GASPRA
GAPSLTCRVB05	A	EE	01072961:05	01072961:46	5	4	2	4	1	1	0	2	4	6	1	1	0	2	4 6 0 0 1991-302T18:41:32 0 1 GASPRA
GAPSLTCRVB05	B	EE	01072961:58	01072962:32	5	4	2	4	1	1	0	2	4	6	1	1	0	2	4 6 0 0 1991-302T18:42:07 0 1 GASPRA
GAPNGASPER08	A	JK	01072979:06	01072979:26	7	4	2	4	1	1	0	6	0	12	1	1	0	6	0 12 0 0 1991-302T18:59:44 0 1 GASPRA
GAPSLTCRVB06	A	EF	01072996:05	01072996:46	5	4	2	4	1	1	0	2	4	6	1	1	0	2	4 6 0 0 1991-302T19:16:55 0 1 GASPRA
GAPSLTCRVB06	B	EF	01072996:58	01072997:35	5	4	2	4	1	1	0	2	4	6	1	1	0	2	4 6 0 0 1991-302T19:17:30 0 1 GASPRA
GAPSLTCRVC04	A	ID	01073031:05	01073033:00	5	4	2	4	1	1	0	2	4	6	1	1	0	2	4 6 0 0 1991-302T19:52:18 0 1 GASPRA
GAPNGASPEC04	A	JM	01073035:06	01073039:26	1	4	2	4	1	1	0	0	2	12	1	1	0	0	2 12 0 0 1991-302T19:56:22 0 1 GASPRA
GAPNGASPER10	A	JN	01073049:06	01073049:30	7	4	2	4	1	1	0	6	0	12	1	1	0	6	0 12 0 0 1991-302T20:10:31 0 1 GASPRA
GAPSLTCRVB07	A	EG	01073066:05	01073066:46	5	4	2	4	1	1	0	2	4	6	1	1	0	2	4 6 0 0 1991-302T20:27:42 0 1 GASPRA
GAPSLTCRVB07	B	EG	01073066:58	01073067:63	5	4	2	4	1	1	0	2	4	6	1	1	0	2	4 6 0 0 1991-302T20:28:17 0 1 GASPRA
GAPNGASPER11	A	JO	01073084:00	01073084:30	7	4	2	4	1	1	0	6	0	12	1	1	0	6	0 12 0 0 1991-302T20:45:50 0 1 GASPRA
GAPSLTCRVB08	A	EH	01073101:05	01073101:46	5	3	2	4	1	1	0	2	4	6	1	1	0	2	4 6 0 0 1991-302T21:03:05 0 1 GASPRA
GAPSLTCRVB08	B	EH	01073101:58	01073102:83	5	3	2	4	1	1	0	2	4	6	1	1	0	2	4 6 0 0 1991-302T21:03:40 0 1 GASPRA
GAPNGASPER12	A	JP	01073113:06	01073113:32	7	3	2	4	1	1	0	6	0	12	1	1	0	6	0 12 0 0 1991-302T21:15:14 0 1 GASPRA
GAPNGASPEC05	A	JQ	01073129:06	01073133:89	1	1	2	4	1	1	0	0	2	12	1	1	0	0	2 12 0 0 1991-302T21:31:24 0 1 GASPRA
GAPS6FILTR01	A	IA	01073135:41	01073138:78	12	1	2	4	1	0	6	0	12	3	1	0	0	0	1 24 0 0 1991-302T21:37:52 0 1 GASPRA
GAPNGASPEC06	A	JR	01073141:62	01073144:01	1	1	2	4	1	1	0	0	2	12	1	1	0	0	2 12 0 0 1991-302T21:44:10 0 1 GASPRA
GAPNGASPEC06	B	JR	01073144:09	01073148:49	1	1	2	4	1	1	0	0	2	12	1	1	0	0	2 12 0 0 1991-302T21:46:37 0 1 GASPRA
GAPSTWKINS01	A	IB	01073149:02	01073150:90	7	1	2	4	1	1	0	6	0	12	1	1	0	6	0 12 0 0 1991-302T21:51:35 0 1 GASPRA
GAPNGSCHEM02	A	JS	01073151:00	01073151:13	5	1	2	4	1	1	0	2	4	6	1	1	0	2	4 6 0 0 1991-302T21:53:30 0 1 GASPRA
GAPNGSCHEM02	B	JS	01073151:80	01073157:71	5	1	2	4	1	1	0	2	4	6	1	1	0	2	4 6 0 0 1991-302T21:54:28 0 1 GASPRA
GAPS4FILTR01	A	IC	01073158:41	01073163:52	13	1	2	4	1	0	0	1	24	4	1	1	0	6	0 12 0 0 1991-302T22:01:07 0 1 GASPRA
GAPNGSCHEM04	A	JT	01073164:42	01073172:71	5	1	2	4	1	1	0	2	4	6	1	1	0	2	4 6 0 0 1991-302T22:07:12 0 1 GASPRA
GAPNGASMAP01	A	JU	01073173:60	01073177:36	7	1	2	4	1	1	0	6	0	12	1	1	0	6	0 12 0 0 1991-302T22:16:30 0 1 GASPRA
GAPSHIPHAS01	A	EI	01073178:02	01073178:39	7	1	2	4	1	1	0	6	0	12	1	1	0	6	0 12 0 0 1991-302T22:20:55 0 1 GASPRA
GAPSHIPHAS01	B	EI	01073178:49	01073185:26	7	1	2	4	1	1	0	6	0	12	1	1	0	6	0 12 0 0 1991-302T22:21:26 0 1 GASPRA
GANNPCTCAL01	A	JV	01073399:00	01073399:90	3	1	2	4	1	1	0	0	1	24	1	1	0	0	1 24 0 0 1991-303T02:04:20 0 1 PCT
GANNPCTCAL01	B	JV	01073402:00	01073402:90	3	1	1	4	1	1	0	0	1	24	1	1	0	0	1 24 0 0 1991-303T02:07:22 0 1 PCT
GANNRCTCAL01	A	JW	01073793:00	01073793:90	3	1	1	4	1	1	0	0	1	24	1	1	0	0	1 24 0 0 1991-303T08:42:43 0 1 RCT
GANNRCTCAL01	B	JW	01073796:00	01073796:90	3	1	2	4	1	1	0	0	1	24	1	1	0	0	1 24 0 0 1991-303T08:45:45 0 1 RCT
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**GAPSLTCRVC01**

POINTER C4.1Wsusan: 9/23/1991 13:37:48

FILE:P.GAPSLTCRVC01

CENTRAL BODY:PLUTO

MINI:m.GAPSLTCRVC01

S/C EPH:/gptr/eph/EE3P-091691.t

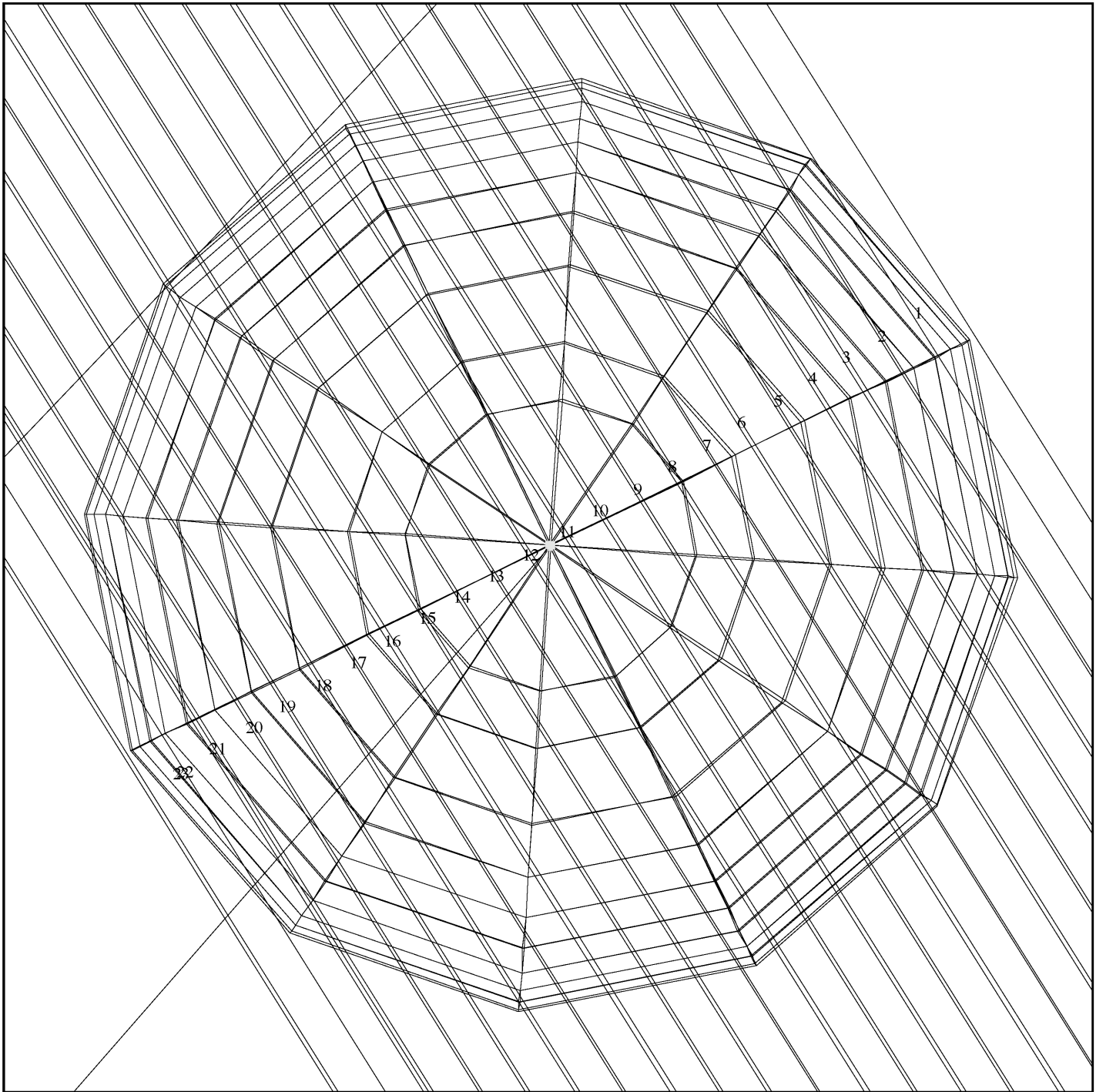
PERIAPSIS:91-302/22:37:59.0

START:GEE 91-302/22:37:00.666 -CDS 477:00:0

ACTIVITY:GAPSLTCRVC01

DESCRIP:4-COLOR LIGHTCURVE

Gaspra Distant Light Curve				ACTIVITY ID: GAPSLTCRVC01*	
				START TIME: 91-302/14:45:50	
Activity ID: Orbit GA Target P Inst S OAPEL LTCRVC SeqNo 01 Multi *					
Title	Gaspra Distant Light Curve			Instrument	NIMS
Requestor	C. Byrnes		Team	NIMS	Working Group AWG
Time System	CDS	Load ID	EE3	Calendar Date	10/29/91 Week 44
Start	GCA-CDS	00000468:00:0		91-302/14:45:50	GCA-000/07:53:12
End	GCA-CDS	00000465:00:0		91-302/14:48:52	GCA-000/07:50:10
Duration		00000003:00:0		000/00:03:02	000/00:03:02
Top Label	GAPSLTCRVC01*				
Bottom Label					
Plot Key	NIMS	Riding Plot Key	Conflict		Yes
CDS Bytes	216	Report Options	Real Time Activity		No
<p style="text-align: center;">Observation Objective</p> <p>This observation is part of SSI's final rotation Gaspra 'movie' and lightcurve. Each segment of the total lightcurve covers 30 degrees of rotation of Gaspra. Every third segment is through four filters to give data on the color of Gaspra. The remaining segments are through a single filter.</p>					
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias</p> <p>NIMS will ride-along behind SSI in various modes. Here, NIMS is in Full Map mode</p> <p>Full Map (FM), Gain 4, Grating Start 0, Chopper 63Hz, AI8</p>					
Last Changed	05/03/95	Changed By	FEL	10/08/91 13:58:04	
Galileo Activity Plan Form					rev 5/95



## GAPNGASPEC01

POINTER C4.1Wsusan: 9/23/1991 13:39:38

FILE:P.GAPNGASPEC01

CENTRAL BODY:PLUTO

MINI:m.GAPNGASPEC01

S/C EPH:/gpnr/eph/EE3P-091691.t

PERIAPSIS:91-302/22:37:59.0

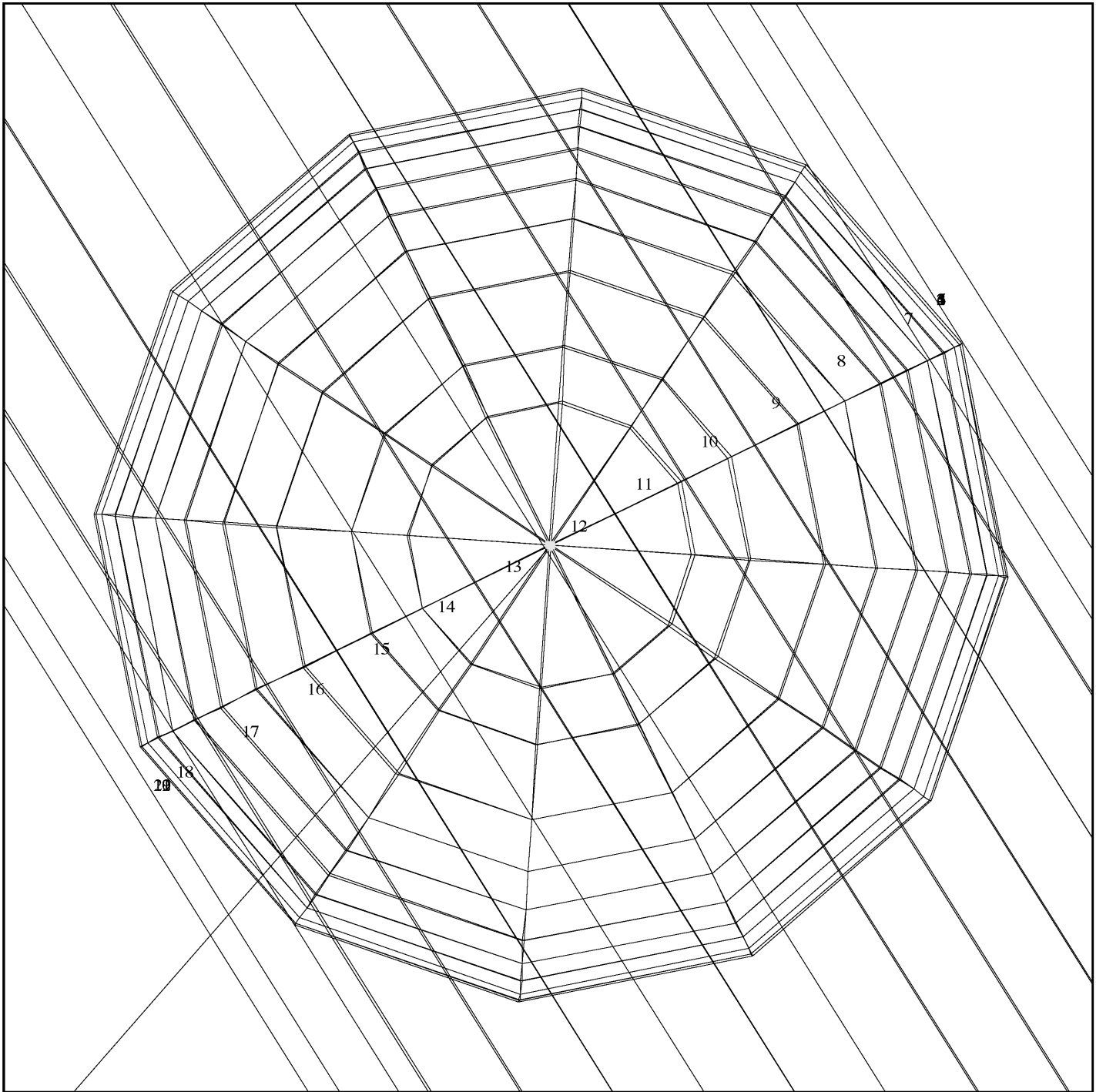
START:GEE 91-302/22:37:00.666 -CDS 473:00:0

ACTIVITY:GAPNGASPEC01

DESCRIP:NIMS 1ST 204 WVLNGHT LM NYQ RATE

Gaspra Highest Spectral Resolution Map		ACTIVITY ID: GAPNGASPEC01+	
		START TIME: 91-302/14:38:45	
Activity ID: Orbit GA Target P Inst N OAPEL GASPEC SeqNo 01 Multi +			
Title	Gaspra Highest Spectral Resolution Map		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000473:00:0	91-302/14:38:45	GCA-000/07:58:15
End	GCA-CDS 00000469:66:0	91-302/14:42:04	GCA-000/07:54:56
Duration	00000003:25:0	000/00:03:19	000/00:03:19
Top Label	GAPNGASPEC01+		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	181	Report Options	Real Time Activity No
<p style="text-align: center;">Observation Objective</p> <p>NIMS will perform a disk spectral integration of Gaspra which, when combined with other observations, will provide 15 degree rotational samples. Rotationally resolved data will help determine the nature of spectral differences on Gaspra, suspected to have originated from a differentiated parent body.</p>			
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias</p> <p>NIMS will map the error ellipse plus scan platform error with a single swath in Full Map mode at Long Map Nyquist sampling rate (0.03 mrad/sec). This is one of five Full Map observations in the Gaspra Far Encounter, the fifth of which verifies the observation in Full Map mode of the first quadrant.</p> <p>Full Map (FM), Gain 4, Grating Start 0, Chopper 63Hz, MPW</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95





## GAPNGASPER01

POINTER C4.1Wsusan: 9/23/1991 13:41:47

FILE:P.GAPNGASPER01

CENTRAL BODY:PLUTO

MINI:m.GAPNGASPER01

S/C EPH:/gp/eph/EE3P-091691.t

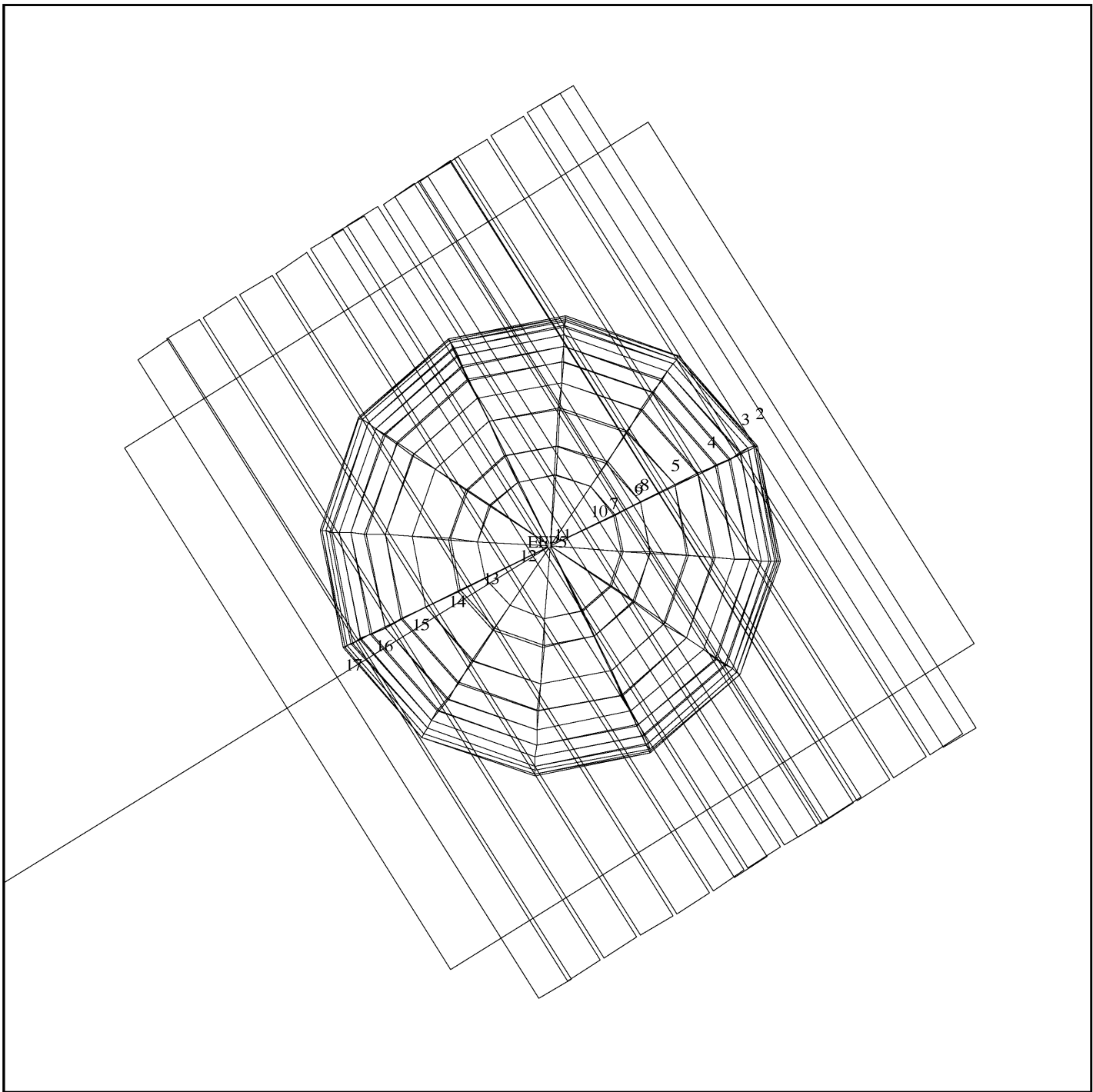
PERIAPSIS:91-302/22:37:59.0

START:GEE 91-302/22:37:00.666 -CDS 459:00:0

ACTIVITY:GAPNGASPER01

DESCRIP:NIMS 17 WVLNGTH NYQ RATE

Gaspra 15 Degree Periodic Rotation Sam		ACTIVITY ID: GAPNGASPER01-	
		START TIME: 91-302/14:52:54	
Activity ID: Orbit GA Target P Inst N OAPEL GASPER SeqNo 01 Multi -			
Title	Gaspra 15 Degree Periodic Rotation Sam		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000459:00:0	91-302/14:52:54	GCA-000/07:44:06
End	GCA-CDS 00000458:67:0	91-302/14:53:10	GCA-000/07:43:50
Duration	00000000:24:0	000/00:00:16	000/00:00:16
Top Label	GAPNGASPER01-		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	181	Report Options	Real Time Activity No
<p style="text-align: center;">Observation Objective</p> <p>NIMS will perform a disk spectral integration of Gaspra which, when combined with other observations, will provide 15 degree rotational samples. Rotationally resolved data will help determine the nature of spectral differences on Gaspra, suspected to have originated from a differentiated parent body.</p>			
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias</p> <p>NIMS will map the error ellipse plus scan platform error with a single swath in Fixed Map mode at Nyquist sampling rate (0.75 mrad/sec). This is one of 11 Fixed Map observations in the Gaspra Far Encounter, The Fixed Map observation planned for GEE-CDS 179:00:0 is missing due to negotiations with UVS.</p> <p>Fixed Map (XM), Gain 4, Grating Start 6, Chopper 63Hz, MPW</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95



**GAPNGASCUR01**

POINTER C4.1Wsusan: 9/23/1991 13:45:43

FILE:P.GAPSLTCRVB01

CENTRAL BODY:PLUTO

MINI:m.GAPSLTCRVB01

S/C EPH:/gptr/eph/EE3P-091691.t

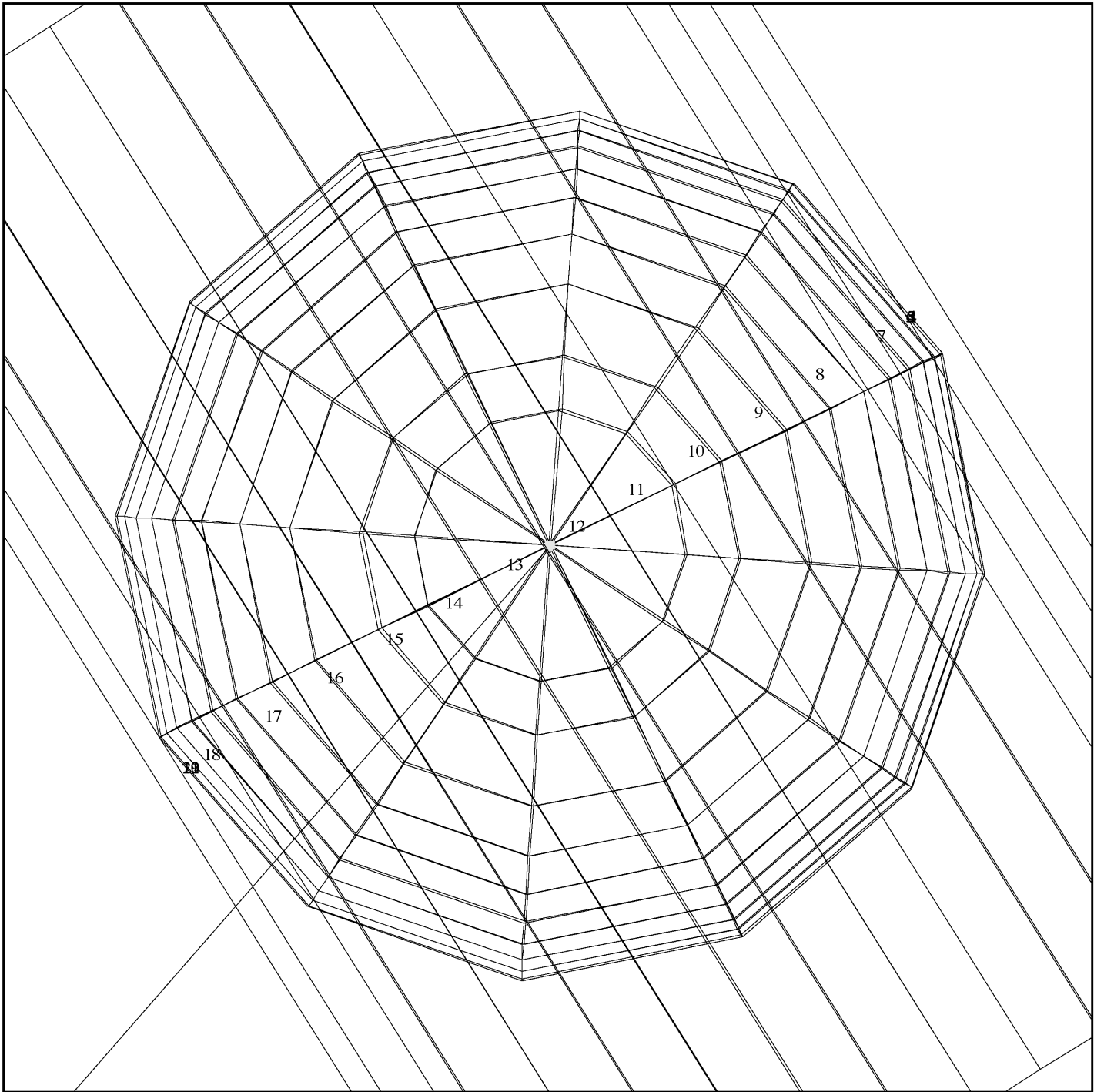
PERIAPSIS:91-302/22:37:59.0

START:GEE 91-302/22:37:00.666 -CDS 442:00:0

ACTIVITY:GAPSLTCRVB01

DESCRIP:SSI LTCRVB01/NIMS GASCUR01

Gaspra Spectral Light Curve				ACTIVITY ID: GAPNGASCUR01+	
				START TIME: 91-302/15:10:06	
Activity ID: Orbit GA Target P Inst N OAPEL GASCUR SeqNo 01 Multi +					
Title	Gaspra Spectral Light Curve			Instrument	NIMS
Requestor	C. Byrnes		Team	NIMS	Working Group AWG
Time System	CDS	Load ID	EE3	Calendar Date	10/29/91 Week 44
Start	GCA-CDS	00000442:00:0		91-302/15:10:06	GCA-000/07:26:54
End	GCA-CDS	00000440:61:0		91-302/15:11:26	GCA-000/07:25:34
Duration		00000001:30:0		000/00:01:20	000/00:01:20
Top Label	GAPNGASCUR01+				
Bottom Label					
Plot Key	NIMS	Riding Plot Key	Conflict		Yes
CDS Bytes	181	Report Options	Real Time Activity		No
<p style="text-align: center;">Observation Objective</p> <p>NIMS will observe the spectral light curve of Gaspra periodically throughout a full rotation of Gaspra (7.04 hours). This observation, combined with others, give 15 degree samples of Gaspra's rotation. Rotationally resolved data will aid in determining the nature of spectral differences on the surface of Gaspra, an asteroid suspected to have originated from a differentiated parent body.</p>					
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias GAPSLTCRVB01</p> <p>SSI will cover the error ellipse in 4 colors every 90 degrees (before GASPECs) and 1 color every 30 degrees (during GASCURs). NIMS utilizes the SSI readout time (26.667 sec) to scan as much as is possible, repositions -0.5 mrad while the recorder winds down from SSI rates and up to NIMS rates, then finishes the single swath.</p> <p>Short Map (SM), Gain 4, Grating Start 2, Chopper 63Hz, HCM,MPW</p>					
Last Changed	05/03/95	Changed By	FEL	10/08/91 13:58:04	
Galileo Activity Plan Form					rev 5/95



## GAPNGASPER02

POINTER C4.1Wsusan: 9/23/1991 13:48:15

FILE:P.GAPNGASPER02

CENTRAL BODY:PLUTO

MINI:m.GAPNGASPER02

S/C EPH:/gp/eph/EE3P-091691.t

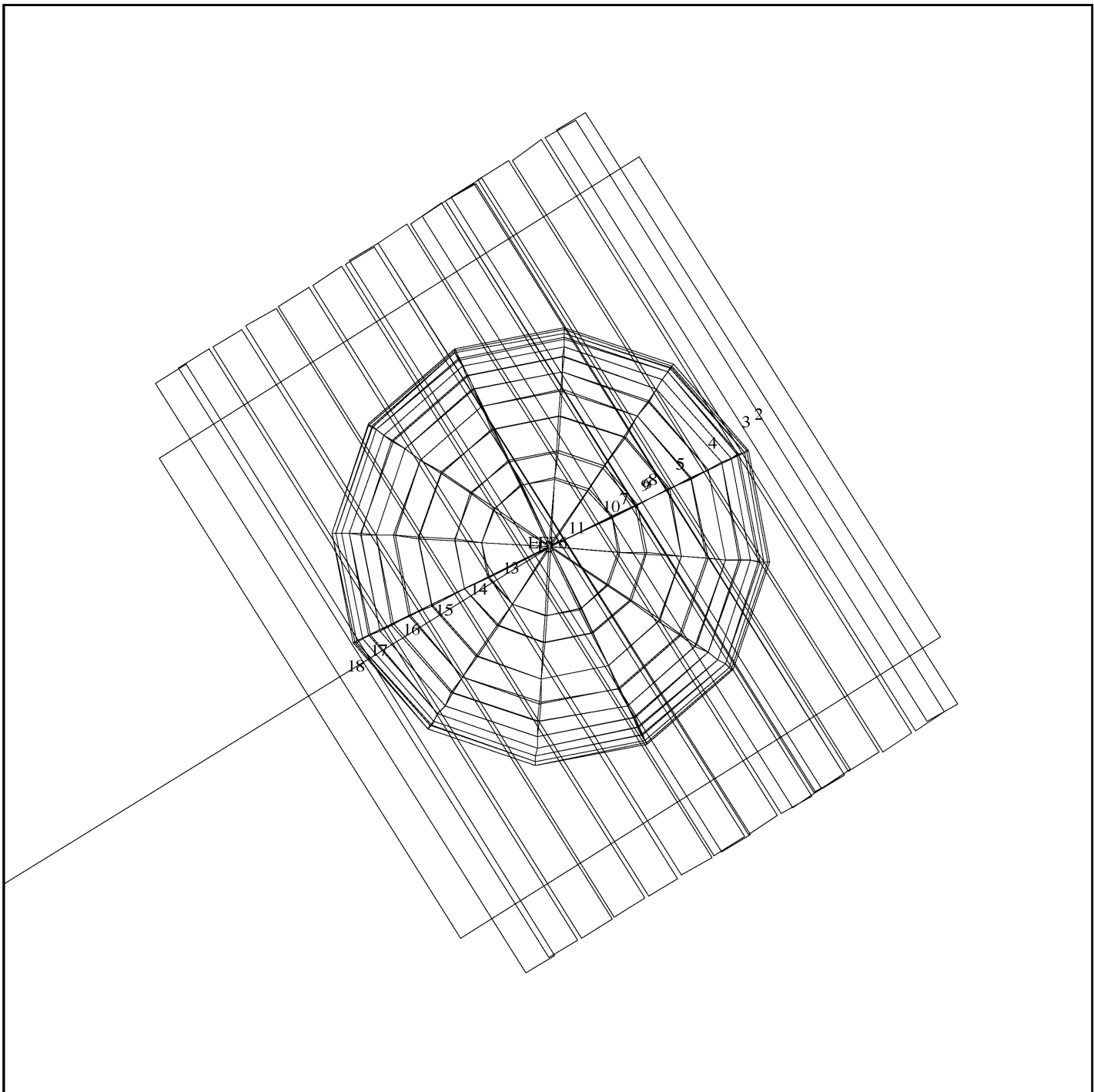
PERIAPSIS:91-302/22:37:59.0

START:GEE 91-302/22:37:00.666 -CDS 424:00:0

ACTIVITY:GAPNGASPER02

DESCRIP:NIMS 17 WVLNGTH NYQ RATE

Gaspra 15 Degree Periodic Rotation Sam		ACTIVITY ID: GAPNGASPER02-	
		START TIME: 91-302/15:28:18	
Activity ID: Orbit GA Target P Inst N OAPEL GASPER SeqNo 02 Multi -			
Title	Gaspra 15 Degree Periodic Rotation Sam		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000424:00:0	91-302/15:28:18	GCA-000/07:08:42
End	GCA-CDS 00000423:67:0	91-302/15:28:34	GCA-000/07:08:26
Duration	00000000:24:0	000/00:00:16	000/00:00:16
Top Label	GAPNGASPER02-		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	181	Report Options	Real Time Activity No
<p style="text-align: center;">Observation Objective</p> <p>NIMS will perform a disk spectral integration of Gaspra which, when combined with other observations, will provide 15 degree rotational samples. Rotationally resolved data will help determine the nature of spectral differences on Gaspra, suspected to have originated from a differentiated parent body.</p>			
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias</p> <p>NIMS will map the error ellipse plus scan platform error with a single swath in Fixed Map mode at Nyquist sampling rate (0.75 mrad/sec). This is one of 11 Fixed Map observations in the Gaspra Far Encounter, The Fixed Map observation planned for GEE-CDS 179:00:0 is missing due to negotiations with UVS.</p> <p>Fixed Map (XM), Gain 4, Grating Start 6, Chopper 63Hz, MPW</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95



**GAPNGASCUR02**

POINTER C4.1Wsusan: 9/23/1991 13:50:40

FILE:P.GAPSLTCRVB02

CENTRAL BODY:PLUTO

MINI:m.GAPSLTCRVB02

S/C EPH:/gptra/eph/EE3P-091691.t

PERIAPSIS:91-302/22:37:59.0

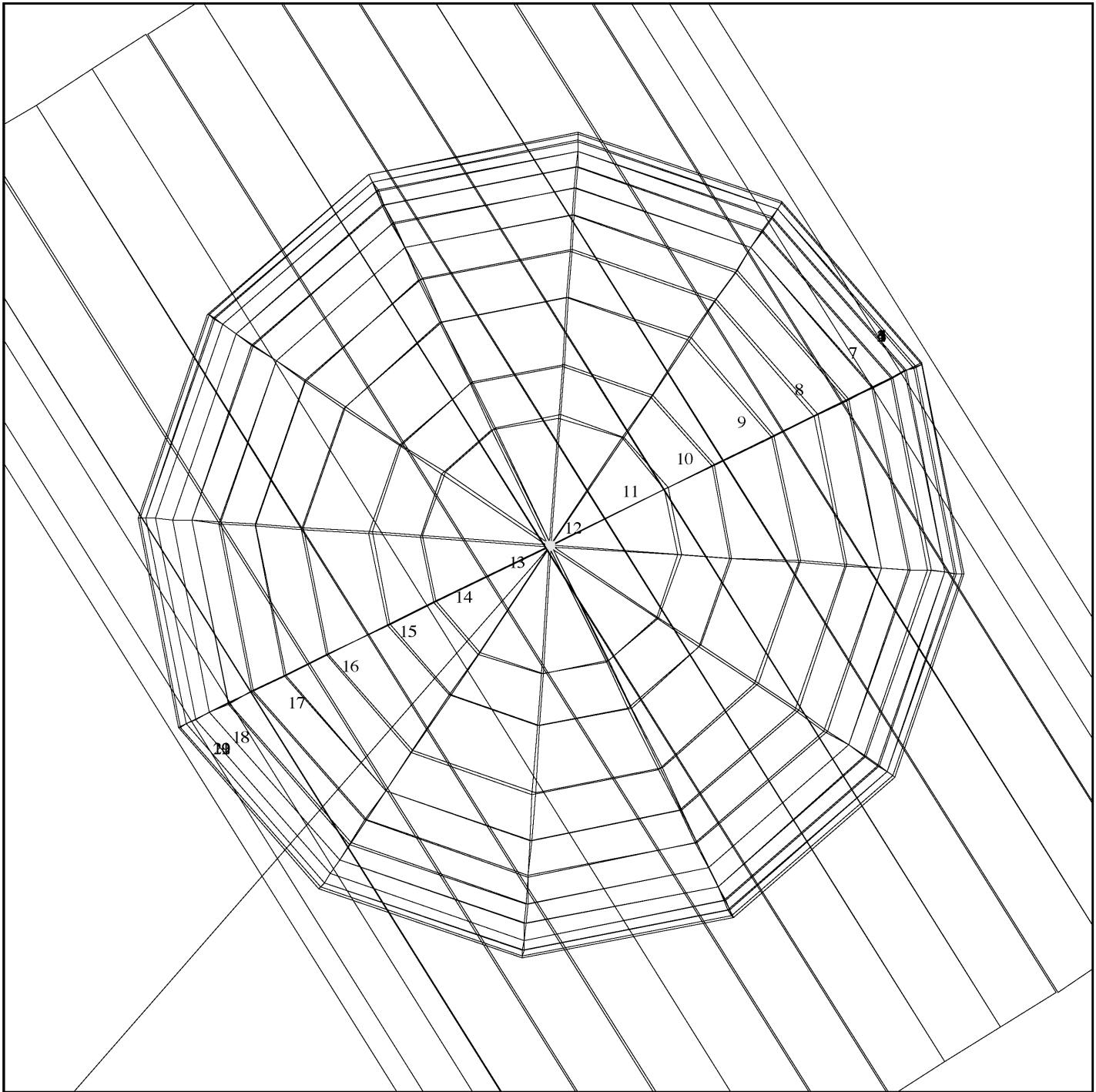
START:GEE 91-302/22:37:00.666    -CDS 407:00:0

ACTIVITY:GAPSLTCRVB02

DESCRIP:SSI LTCRVB02/NIMS GASCUR02

Gaspra Spectral Light Curve		ACTIVITY ID: GAPNGASCUR02+	
		START TIME: 91-302/15:45:29	
Activity ID: Orbit GA Target P Inst N OAPEL GASCUR SeqNo 02 Multi +			
Title	Gaspra Spectral Light Curve		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000407:00:0	91-302/15:45:29	GCA-000/06:51:31
End	GCA-CDS 00000405:47:0	91-302/15:46:59	GCA-000/06:50:01
Duration	00000001:44:0	000/00:01:30	000/00:01:30
Top Label	GAPNGASCUR02+		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	181	Report Options	Real Time Activity No
<p style="text-align: center;">Observation Objective</p> <p>NIMS will observe the spectral light curve of Gaspra periodically throughout a full rotation of Gaspra (7.04 hours). This observation, combined with others, give 15 degree samples of Gaspra's rotation. Rotationally resolved data will aid in determining the nature of spectral differences on the surface of Gaspra, an asteroid suspected to have originated from a differentiated parent body.</p>			
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias GAPSLTCRVB02</p> <p>SSI will cover the error ellipse in 4 colors every 90 degrees (before the SSI readout time (26.667 sec) to scan as much as is possible, repositions -0.5 mrad while the recorder winds down from SSI rates and up to NIMS rates, then finishes the single swath.</p> <p>Short Map (SM), Gain 4, Grating Start 2, Chopper 63Hz, HCM,MPW</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95





## GAPNGASPER03

POINTER C4.1Wsusan: 9/23/1991 13:53:15

FILE:P.GAPNGASPER03

CENTRAL BODY:PLUTO

MINI:m.GAPNGASPER03

S/C EPH:/gp/eph/EE3P-091691.t

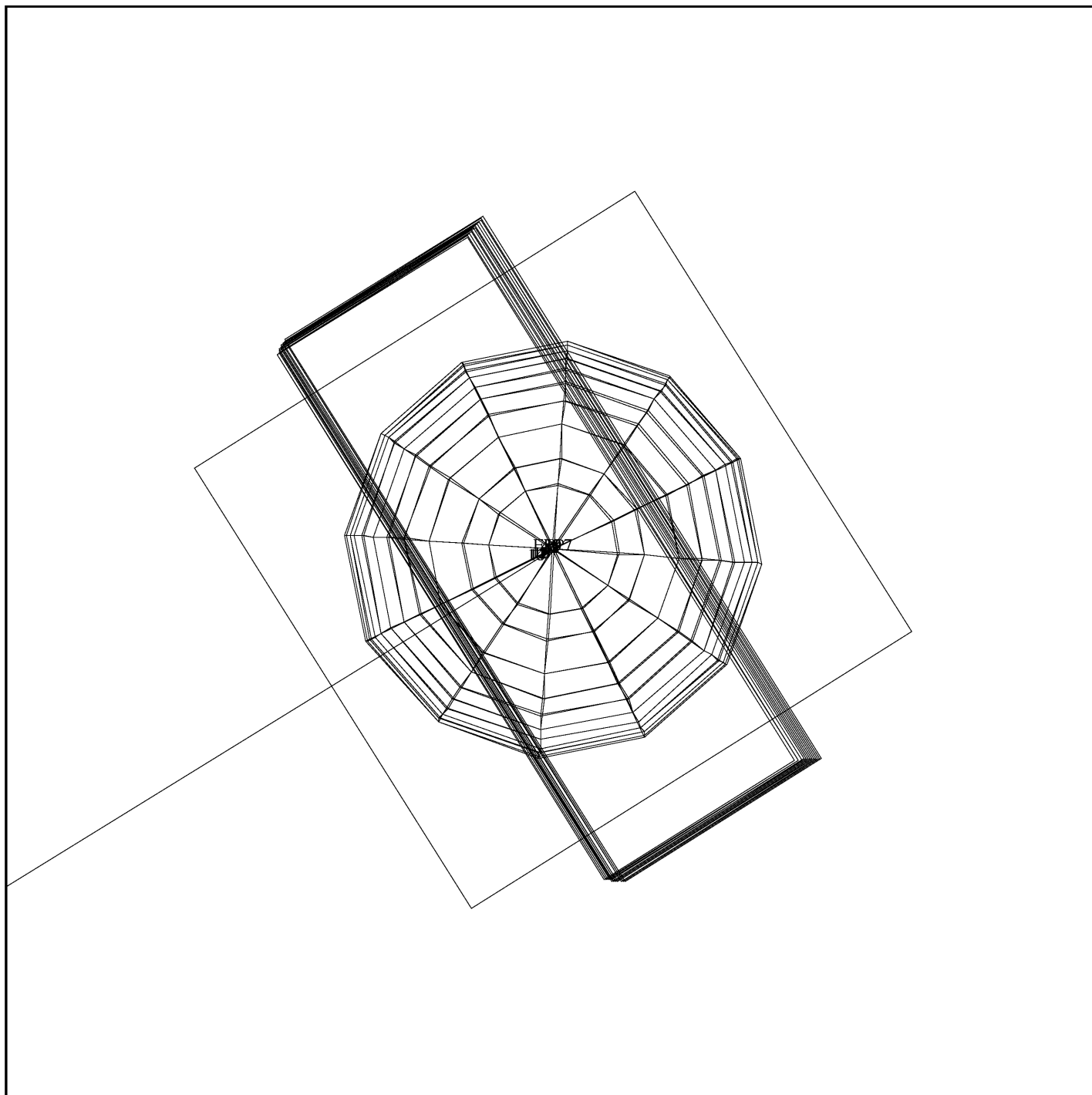
PERIAPSIS:91-302/22:37:59.0

START:GEE 91-302/22:37:00.666 -CDS 389:00:0

ACTIVITY:GAPNGASPER03

DESCRIP:NIMS 17 WVLNGTH NYQ RATE

Gaspra 15 Degree Periodic Rotation Sam		ACTIVITY ID: GAPNGASPER03-	
		START TIME: 91-302/16:03:41	
Activity ID: Orbit GA Target P Inst N OAPEL GASPER SeqNo 03 Multi -			
Title	Gaspra 15 Degree Periodic Rotation Sam		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000389:00:0	91-302/16:03:41	GCA-000/06:33:19
End	GCA-CDS 00000388:67:0	91-302/16:03:57	GCA-000/06:33:03
Duration	00000000:24:0	000/00:00:16	000/00:00:16
Top Label	GAPNGASPER03-		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	181	Report Options	Real Time Activity No
<p style="text-align: center;">Observation Objective</p> <p>NIMS will perform a disk spectral integration of Gaspra which, when combined with other observations, will provide 15 degree rotational samples. Rotationally resolved data will help determine the nature of spectral differences on Gaspra, suspected to have originated from a differentiated parent body.</p>			
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias</p> <p>NIMS will map the error ellipse plus scan platform error with a single swath in Fixed Map mode at Nyquist sampling rate (0.75 mrad/sec). This is one of 11 Fixed Map observations in the Gaspra Far Encounter, The Fixed Map observation planned for GEE-CDS 179:00:0 is missing due to negotiations with UVS.</p> <p>Fixed Map (XM), Gain 4, Grating Start 6, Chopper 63Hz, MPW</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95



## **GAPSLTCRVC02**

**POINTER C4.1Wsusan: 9/23/1991 13:56:24**

**FILE:P.GAPSLTCRVC02**

**CENTRAL BODY:PLUTO**

**MINI:m.GAPSLTCRVC02**

**S/C EPH:/gp/eph/EE3P-091691.t**

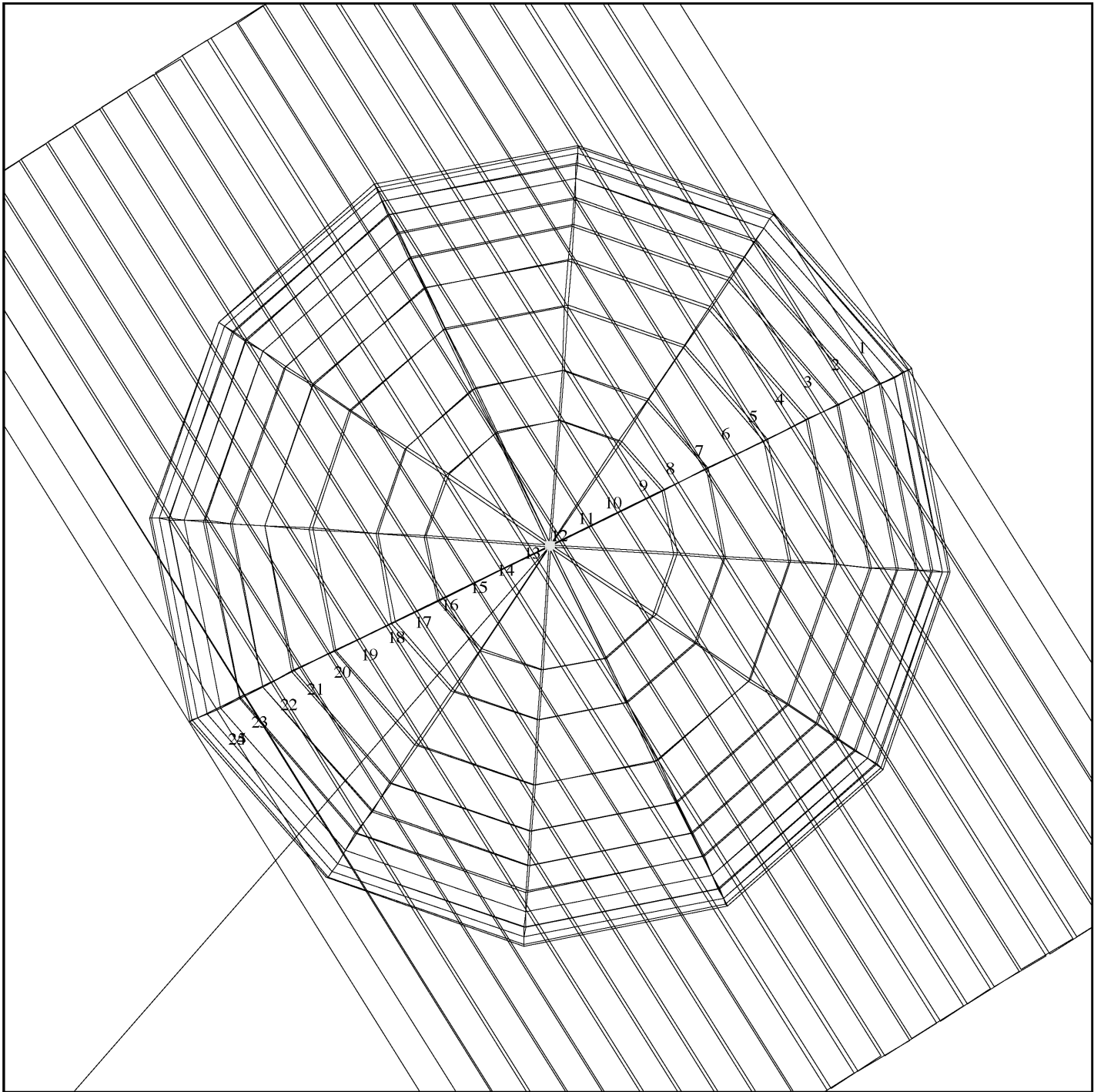
**PERIAPSIS:91-302/22:37:59.0**

**START:GEE 91-302/22:37:00.666 -CDS 372:00:0**

**ACTIVITY:GAPSLTCRVC02**

**DESCRIP:4-FILTER LIGHTCURVE**

Gaspra Distant Light Curve				ACTIVITY ID: GAPSLTCRVC02*	
				START TIME: 91-302/16:35:02	
Activity ID: Orbit GA Target P Inst S OAPEL LTCRVC SeqNo 02 Multi *					
Title		Gaspra Distant Light Curve		Instrument NIMS	
Requestor		C. Byrnes		Team NIMS Working Group AWG	
Time System		CDS Load ID EE3		Calendar Date 10/29/91 Week 44	
Start		GCA-CDS 00000360:00:0		91-302/16:35:02 GCA-000/06:04:00	
End		GCA-CDS 00000357:00:0		91-302/16:38:04 GCA-000/06:00:58	
Duration		00000003:00:0		000/00:03:02 000/00:03:02	
Top Label		GAPSLTCRVC02*			
Bottom Label					
Plot Key		NIMS		Riding Plot Key Conflict Yes	
CDS Bytes		216		Report Options Real Time Activity No	
<p align="center">Observation Objective</p> <p>This observation is part of SSI's final rotation Gaspra 'movie' and lightcurve. Each segment of the total lightcurve covers 30 degrees of rotation of Gaspra. Every third segment is through four filters to give data on the color of Gaspra. The remaining segments are through a single filter.</p>					
<p align="center">Design Detail</p> <p align="right">Alias</p> <p>NIMS will ride-along behind SSI in various modes. Here, NIMS is in Full Map mode</p> <p align="center">Full Map (FM), Gain 4, Grating Start 0, Chopper 63Hz, AI8</p>					
Last Changed 05/03/95				Changed By FEL	
				10/08/91 13:58:04	
Galileo Activity Plan Form				rev 5/95	



**GAPNGASPEC02**

POINTER C4.1Wsusan: 9/23/1991 14:37:58

FILE:P.GAPNGASPEC02

CENTRAL BODY:PLUTO

MINI:m.GAPNGASPEC02

S/C EPH:/gp/eph/EE3P-091691.t

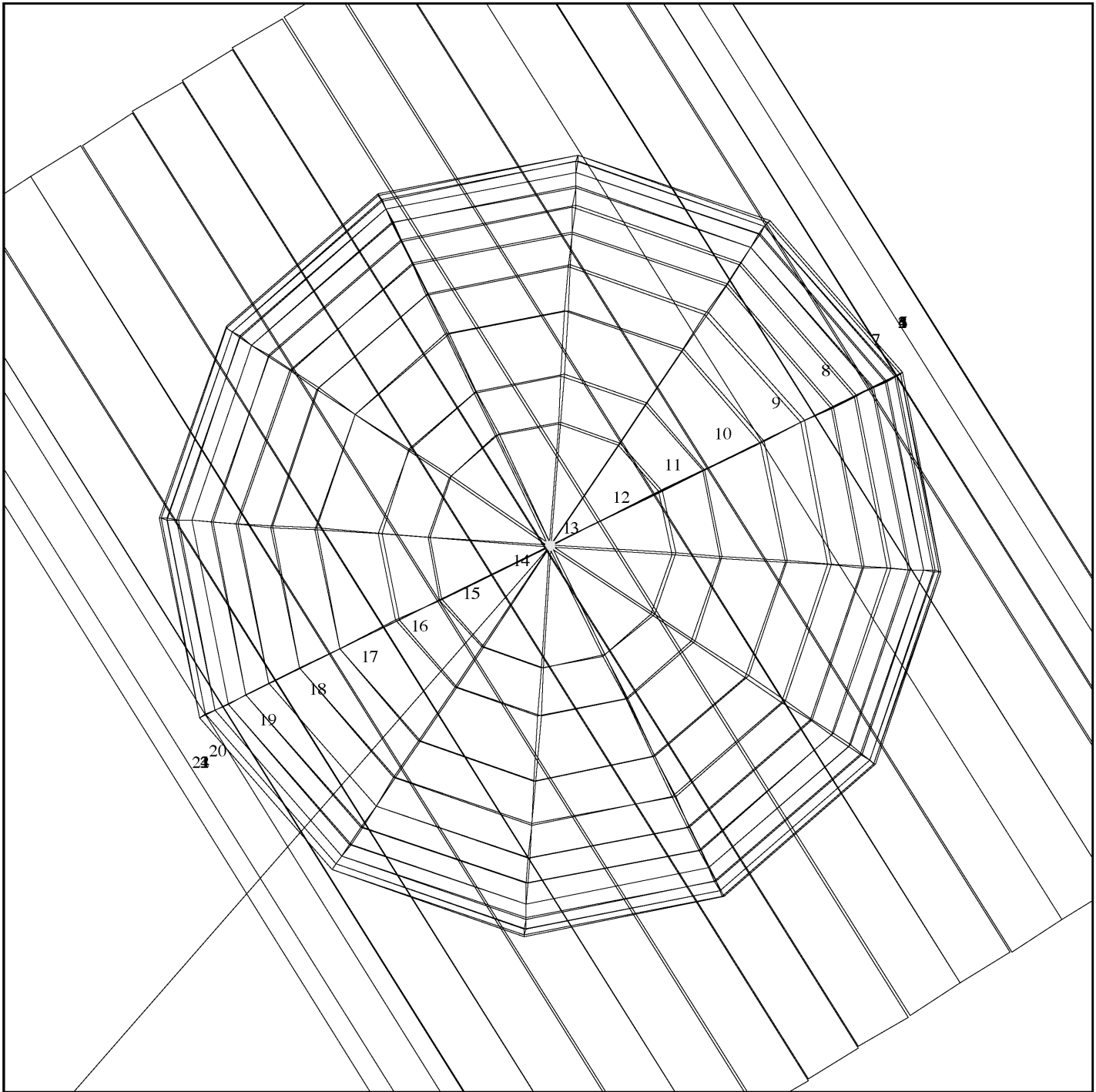
PERIAPSIS:91-302/22:37:59.0

START:GEE 91-302/22:37:00.666 -CDS 368:00:0

ACTIVITY:GAPNGASPEC02

DESCRIP:2ND NIMS 204 WVLNGTH LM NYQ RATE

Gaspra Highest Spectral Resolution Map		ACTIVITY ID: GAPNGASPEC02+	
		START TIME: 91-302/16:24:55	
Activity ID: Orbit GA Target P Inst N OAPEL GASPEC SeqNo 02 Multi +			
Title	Gaspra Highest Spectral Resolution Map		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000368:00:0	91-302/16:24:55	GCA-000/06:12:05
End	GCA-CDS 00000364:42:0	91-302/16:28:30	GCA-000/06:08:30
Duration	00000003:49:0	000/00:03:35	000/00:03:35
Top Label	GAPNGASPEC02+		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	181	Report Options	Real Time Activity No
<p style="text-align: center;">Observation Objective</p> <p>NIMS will perform a disk spectral integration of Gaspra which, when combined with other observations, will provide 15 degree rotational samples. Rotationally resolved data will help determine the nature of spectral differences on Gaspra, suspected to have originated from a differentiated parent body.</p>			
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias</p> <p>NIMS will map the error ellipse plus scan platform error with a single swath in Full Map mode at Long Map Nyquist sampling rate (0.03 mrad/sec). This is one of five Full Map observations in the Gaspra Far Encounter, the fifth of which verifies the observation in Full Map mode of the first quadrant.</p> <p>Full Map (FM), Gain 4, Grating Start 0, Chopper 63Hz, MPW</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95



## GAPNGASPER04

POINTER C4.1Wsusan: 9/23/1991 14:41:40

FILE:P.GAPNGASPER04

CENTRAL BODY:PLUTO

MINI:m.GAPNGASPER04

S/C EPH:/gp/eph/EE3P-091691.t

PERIAPSIS:91-302/22:37:59.0

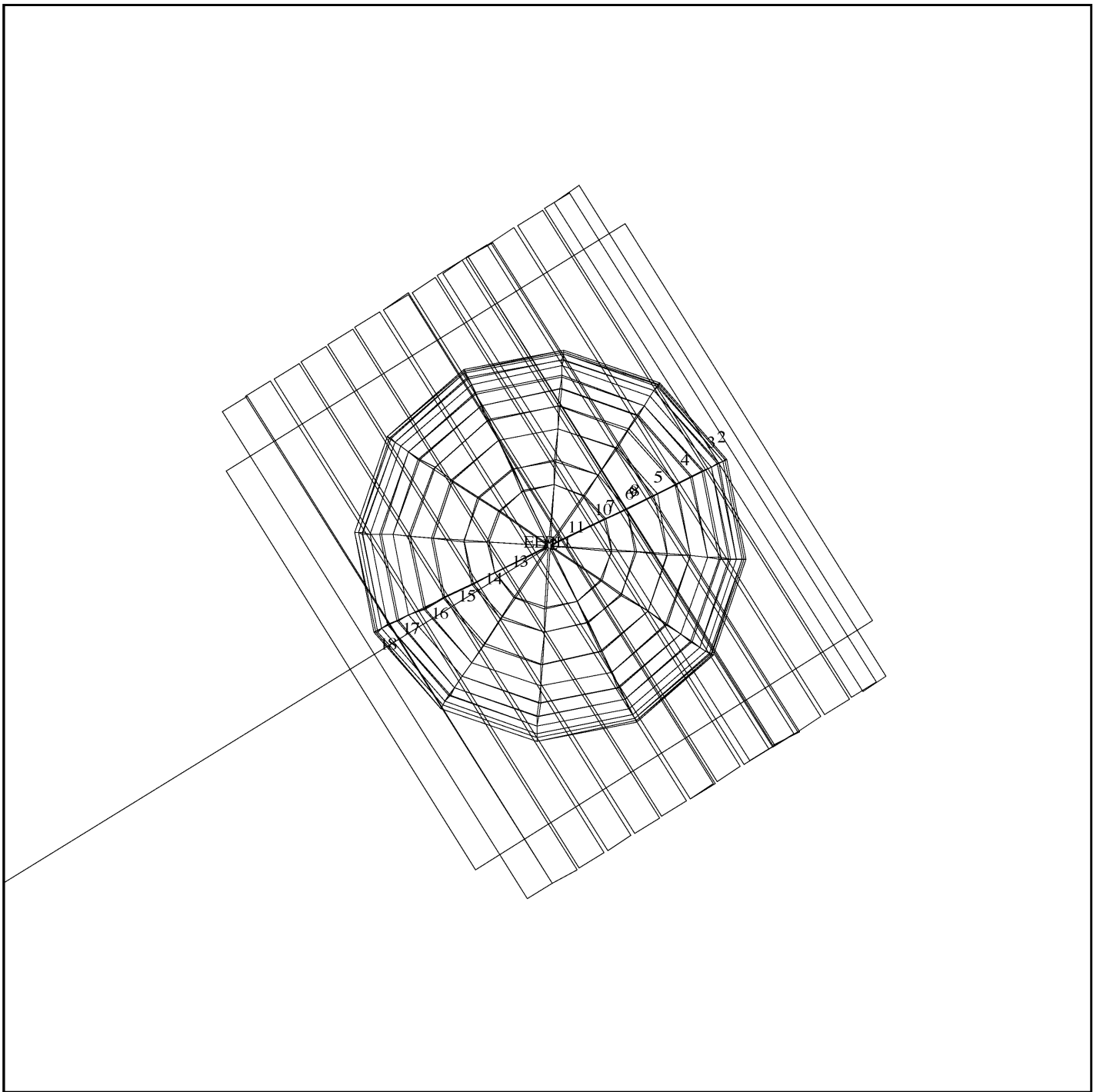
START:GEE 91-302/22:37:00.666 -CDS 354:00:0

ACTIVITY:GAPNGASPER04

DESCRIP:NIMS 17 WVLNGTH NYQ RATE

Gaspra 15 Degree Periodic Rotation Sam		ACTIVITY ID: GAPNGASPER04-	
		START TIME: 91-302/16:39:04	
Activity ID: Orbit GA Target P Inst N OAPEL GASPER SeqNo 04 Multi -			
Title	Gaspra 15 Degree Periodic Rotation Sam		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000354:00:0	91-302/16:39:04	GCA-000/05:57:56
End	GCA-CDS 00000353:65:0	91-302/16:39:22	GCA-000/05:57:38
Duration	00000000:26:0	000/00:00:18	000/00:00:18
Top Label	GAPNGASPER04-		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	181	Report Options	Real Time Activity No
<p style="text-align: center;">Observation Objective</p> <p>NIMS will perform a disk spectral integration of Gaspra which, when combined with other observations, will provide 15 degree rotational samples. Rotationally resolved data will help determine the nature of spectral differences on Gaspra, suspected to have originated from a differentiated parent body.</p>			
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias</p> <p>NIMS will map the error ellipse plus scan platform error with a single swath in Fixed Map mode at Nyquist sampling rate (0.75 mrad/sec). This is one of 11 Fixed Map observations in the Gaspra Far Encounter, The Fixed Map observation planned for GEE-CDS 179:00:0 is missing due to negotiations with UVS.</p> <p>Fixed Map (XM), Gain 4, Grating Start 6, Chopper 63Hz, MPW</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95





**GAPNGASCUR03**

POINTER C4.1Wsusan: 9/23/1991 14:46:16

FILE:P.GAPSLTCRVB03

CENTRAL BODY:PLUTO

MINI:m.GAPSLTCRVB03

S/C EPH:/gptr/eph/EE3P-091691.t

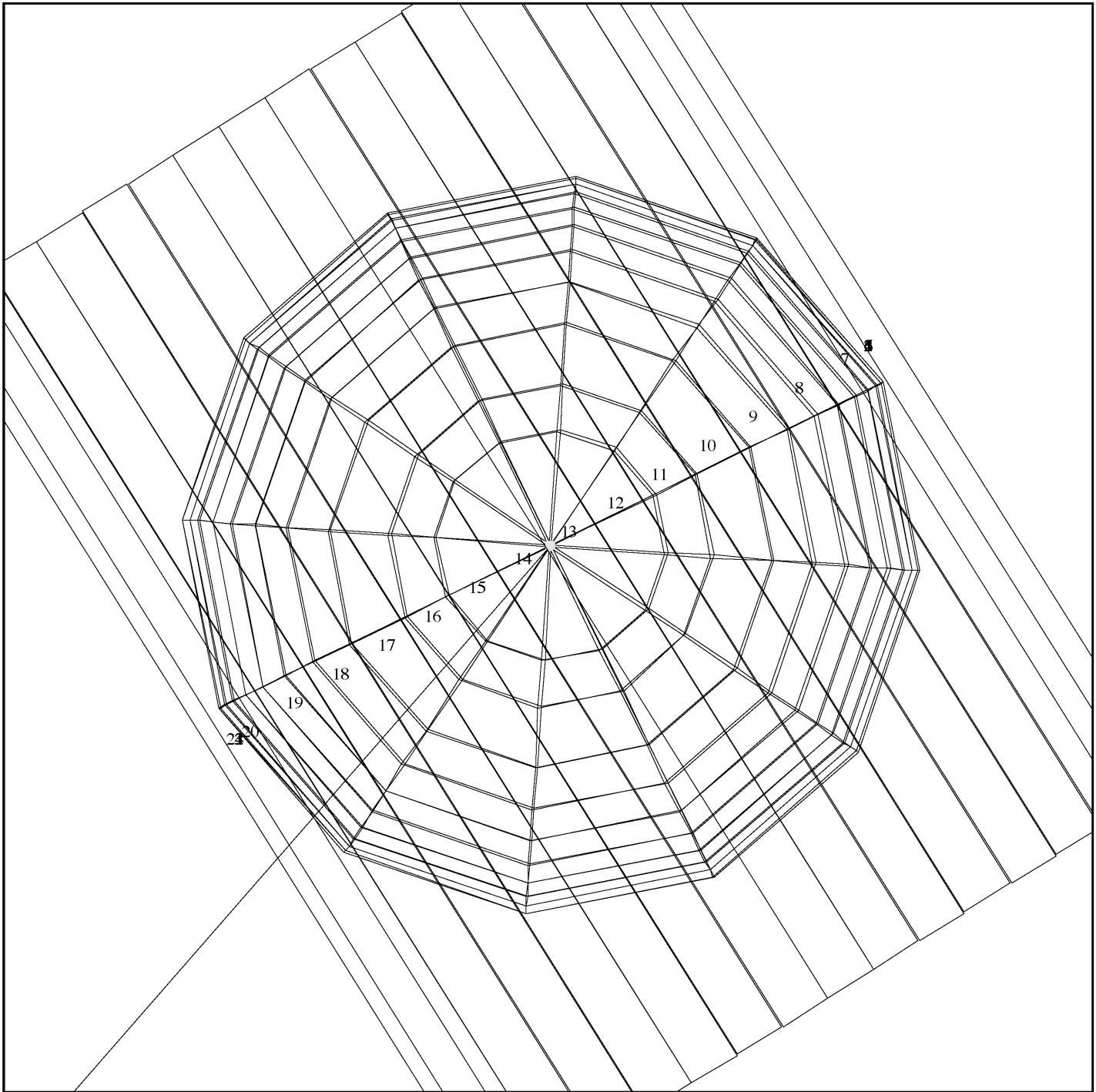
PERIAPSIS:91-302/22:37:59.0

START:GEE 91-302/22:37:00.666 -CDS 337:00:0

ACTIVITY:GAPSLTCRVB03

DESCRIP:SSI LTCRVB03/NIMS GASCUR03

Gaspra Spectral Light Curve		ACTIVITY ID: GAPNGASCUR03+	
		START TIME: 91-302/16:56:16	
Activity ID: Orbit GA Target P Inst N OAPEL GASCUR SeqNo 03 Multi +			
Title	Gaspra Spectral Light Curve		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000337:00:0	91-302/16:56:16	GCA-000/05:40:44
End	GCA-CDS 00000335:56:0	91-302/16:57:40	GCA-000/05:39:20
Duration	00000001:35:0	000/00:01:24	000/00:01:24
Top Label	GAPNGASCUR03+		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	181	Report Options	Real Time Activity No
<p style="text-align: center;">Observation Objective</p> <p>NIMS will observe the spectral light curve of Gaspra periodically throughout a full rotation of Gaspra (7.04 hours). This observation, combined with others, give 15 degree samples of Gaspra's rotation. Rotationally resolved data will aid in determining the nature of spectral differences on the surface of Gaspra, an asteroid suspected to have originated from a differentiated parent body.</p>			
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias GAPSLTCRVB03</p> <p>SSI will cover the error ellipse in 4 colors every 90 degrees (before the SSI readout time (26.667 sec) to scan as much as is possible, repositions -0.5 mrad while the recorder winds down from SSI rates and up to NIMS rates, then finishes the single swath.</p> <p>Short Map (SM), Gain 4, Grating Start 2, Chopper 63Hz, HCM,MPW</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95



## GAPNGASPER05

POINTER C4.1Wsusan: 9/23/1991 14:52:13

FILE:P.GAPNGASPER05

CENTRAL BODY:PLUTO

MINI:m.GAPNGASPER05

S/C EPH:/gp/eph/EE3P-091691.t

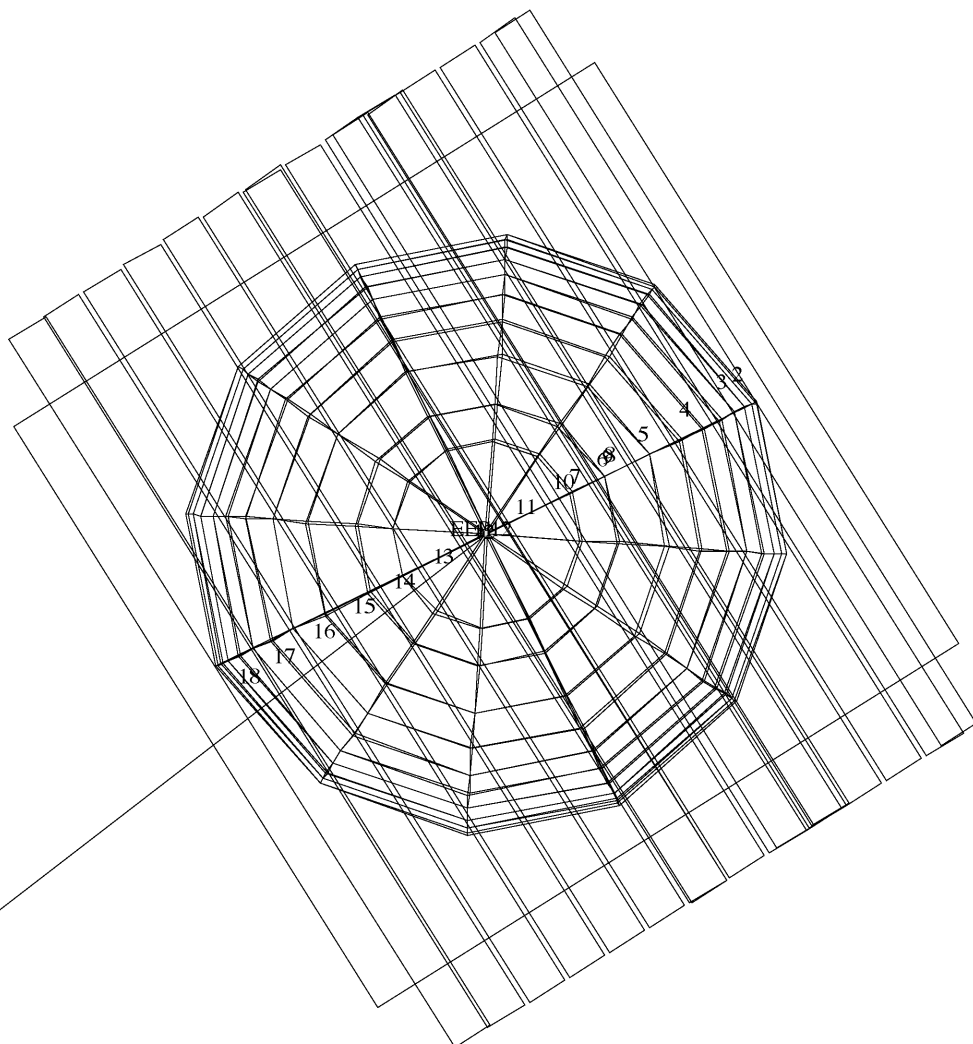
PERIAPSIS:91-302/22:37:59.0

START:GEE 91-302/22:37:00.666 -CDS 319:00:0

ACTIVITY:GAPNGASPER05

DESCRIP:NIMS 17 WVLNGTH NYQ RATE

Gaspra 15 Degree Periodic Rotation Sam		ACTIVITY ID: GAPNGASPER05-	
		START TIME: 91-302/17:14:28	
Activity ID: Orbit GA Target P Inst N OAPEL GASPER SeqNo 05 Multi -			
Title	Gaspra 15 Degree Periodic Rotation Sam		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000319:00:0	91-302/17:14:28	GCA-000/05:22:32
End	GCA-CDS 00000318:65:0	91-302/17:14:45	GCA-000/05:22:15
Duration	00000000:26:0	000/00:00:17	000/00:00:17
Top Label	GAPNGASPER05-		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	181	Report Options	Real Time Activity No
<p style="text-align: center;">Observation Objective</p> <p>NIMS will perform a disk spectral integration of Gaspra which, when combined with other observations, will provide 15 degree rotational samples. Rotationally resolved data will help determine the nature of spectral differences on Gaspra, suspected to have originated from a differentiated parent body.</p>			
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias</p> <p>NIMS will map the error ellipse plus scan platform error with a single swath in Fixed Map mode at Nyquist sampling rate (0.75 mrad/sec). This is one of 11 Fixed Map observations in the Gaspra Far Encounter, The Fixed Map observation planned for GEE-CDS 179:00:0 is missing due to negotiations with UVS.</p> <p>Fixed Map (XM), Gain 4, Grating Start 6, Chopper 63Hz, MPW</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95



## GAPNGASCUR04

POINTER C4.1Wsusan: 9/23/1991 14:54:30

FILE:P.GAPSLTCRVB04

CENTRAL BODY:PLUTO

MINI:m.GAPSLTCRVB04

S/C EPH:/gptr/eph/EE3P-091691.t

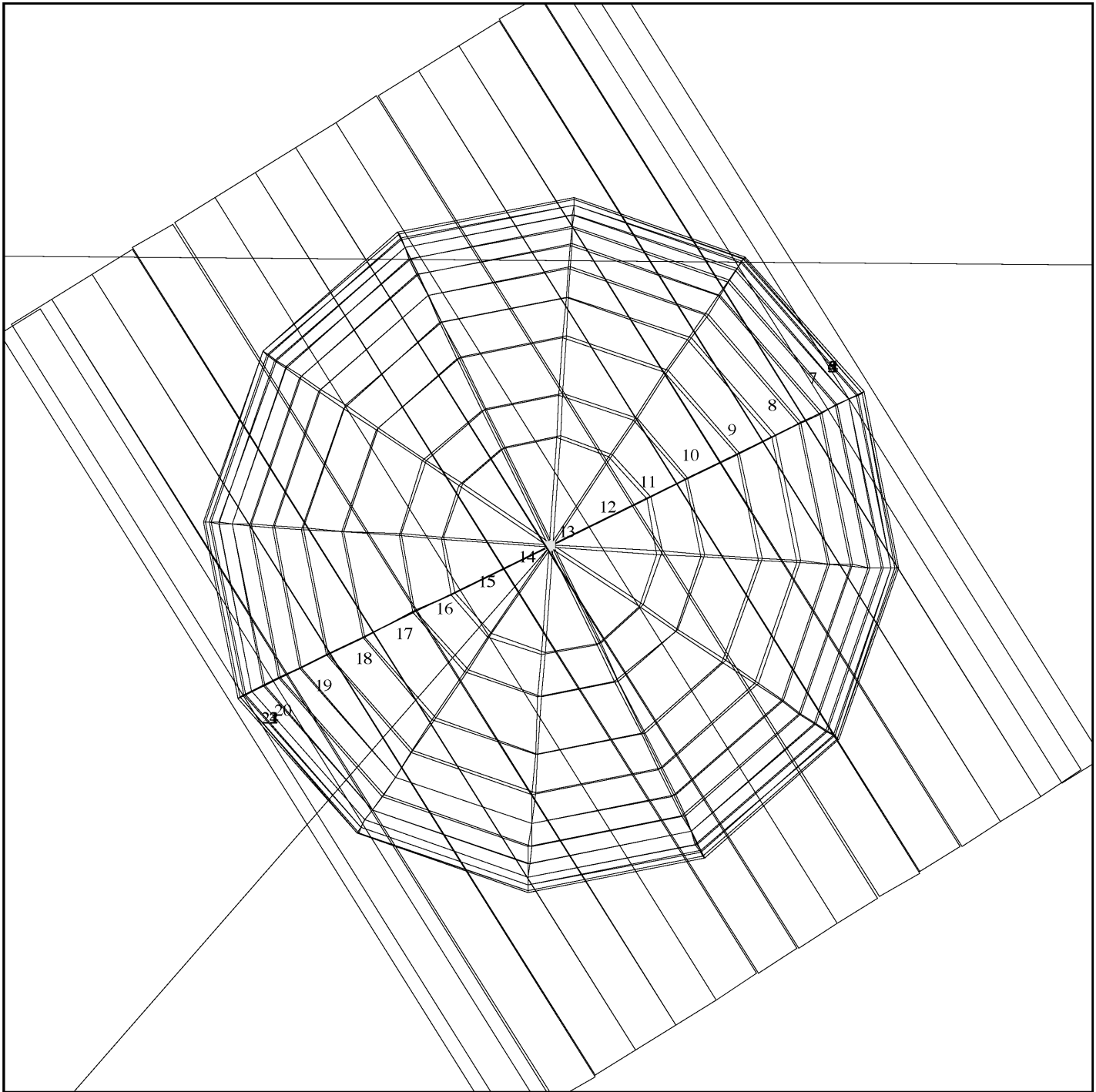
PERIAPSIS:91-302/22:37:59.0

START:GEE 91-302/22:37:00.666 -CDS 302:00:0

ACTIVITY:GAPSLTCRVB04

DESCRIP:SSI LTCRVB04/NIMS GASCUR04

Gaspra Spectral Light Curve				ACTIVITY ID: GAPNGASCUR04+	
				START TIME: 91-302/17:31:39	
Activity ID: Orbit GA Target P Inst N OAPEL GASCUR SeqNo 04 Multi +					
Title	Gaspra Spectral Light Curve			Instrument	NIMS
Requestor	C. Byrnes		Team	NIMS	Working Group AWG
Time System	CDS	Load ID	EE3	Calendar Date	10/29/91 Week 44
Start	GCA-CDS	00000302:00:0		91-302/17:31:39	GCA-000/05:05:21
End	GCA-CDS	00000300:56:0		91-302/17:33:03	GCA-000/05:03:57
Duration		00000001:35:0		000/00:01:24	000/00:01:24
Top Label	GAPNGASCUR04+				
Bottom Label					
Plot Key	NIMS	Riding Plot Key	Conflict		Yes
CDS Bytes	181	Report Options	Real Time Activity		No
<p align="center"><b>Observation Objective</b></p> <p>NIMS will observe the spectral light curve of Gaspra periodically throughout a full rotation of Gaspra (7.04 hours). This observation, combined with others, give 15 degree samples of Gaspra's rotation. Rotationally resolved data will aid in determining the nature of spectral differences on the surface of Gaspra, an asteroid suspected to have originated from a differentiated parent body.</p>					
<p align="center"><b>Design Detail</b></p> <p align="right">Alias GAPSLTCRVB04</p> <p>SSI will cover the error ellipse in 4 colors every 90 degrees (before the SSI readout time (26.667 sec) to scan as much as is possible, repositions -0.5 mrad while the recorder winds down from SSI rates and up to NIMS rates, then finishes the single swath.</p> <p>Short Map (SM), Gain 4, Grating Start 2, Chopper 63Hz, HCM,MPW</p>					
Last Changed	05/03/95	Changed By	FEL	10/08/91 13:58:04	
Galileo Activity Plan Form					rev 5/95



## GAPNGASPER06

POINTER C4.1Wsusan: 9/23/1991 14:56:53

FILE:P.GAPNGASPER06

CENTRAL BODY:PLUTO

MINI:m.GAPNGASPER06

S/C EPH:/gptr/eph/EE3P-091691.t

PERIAPSIS:91-302/22:37:59.0

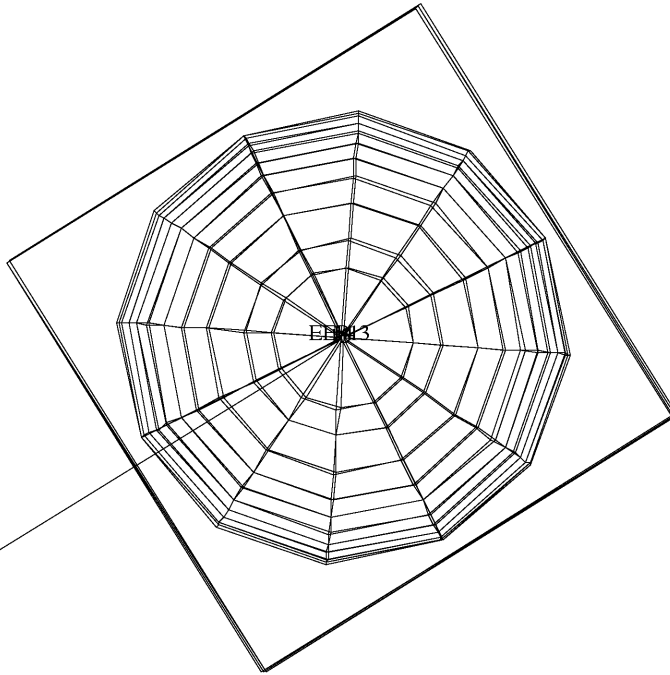
START:GEE 91-302/22:37:00.666 -CDS 284:00:0

ACTIVITY:GAPNGASPER06

DESCRIP:NIMS 17 WVLNGTH NYQ RATE

Gaspra 15 Degree Periodic Rotation Sam		ACTIVITY ID: GAPNGASPER06-	
		START TIME: 91-302/17:49:51	
Activity ID: Orbit GA Target P Inst N OAPEL GASPER SeqNo 06 Multi -			
Title	Gaspra 15 Degree Periodic Rotation Sam		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000284:00:0	91-302/17:49:51	GCA-000/04:47:09
End	GCA-CDS 00000283:65:0	91-302/17:50:08	GCA-000/04:46:52
Duration	00000000:26:0	000/00:00:17	000/00:00:17
Top Label	GAPNGASPER06-		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	181	Report Options	Real Time Activity No
<p style="text-align: center;">Observation Objective</p> <p>NIMS will perform a disk spectral integration of Gaspra which, when combined with other observations, will provide 15 degree rotational samples. Rotationally resolved data will help determine the nature of spectral differences on Gaspra, suspected to have originated from a differentiated parent body.</p>			
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias</p> <p>NIMS will map the error ellipse plus scan platform error with a single swath in Fixed Map mode at Nyquist sampling rate (0.75 mrad/sec). This is one of 11 Fixed Map observations in the Gaspra Far Encounter, The Fixed Map observation planned for GEE-CDS 179:00:0 is missing due to negotiations with UVS.</p> <p>Fixed Map (XM), Gain 4, Grating Start 6, Chopper 63Hz, MPW</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95





## GAPSLTCRVC03

POINTER C4.1W  
susan: 9/23/1991 14:58:53

FILE:P.GAPSLTCRVC03

CENTRAL BODY:PLUTO

MINI:m.GAPSLTCRVC03

S/C EPH:/gp/eph/EE3P-091691.t

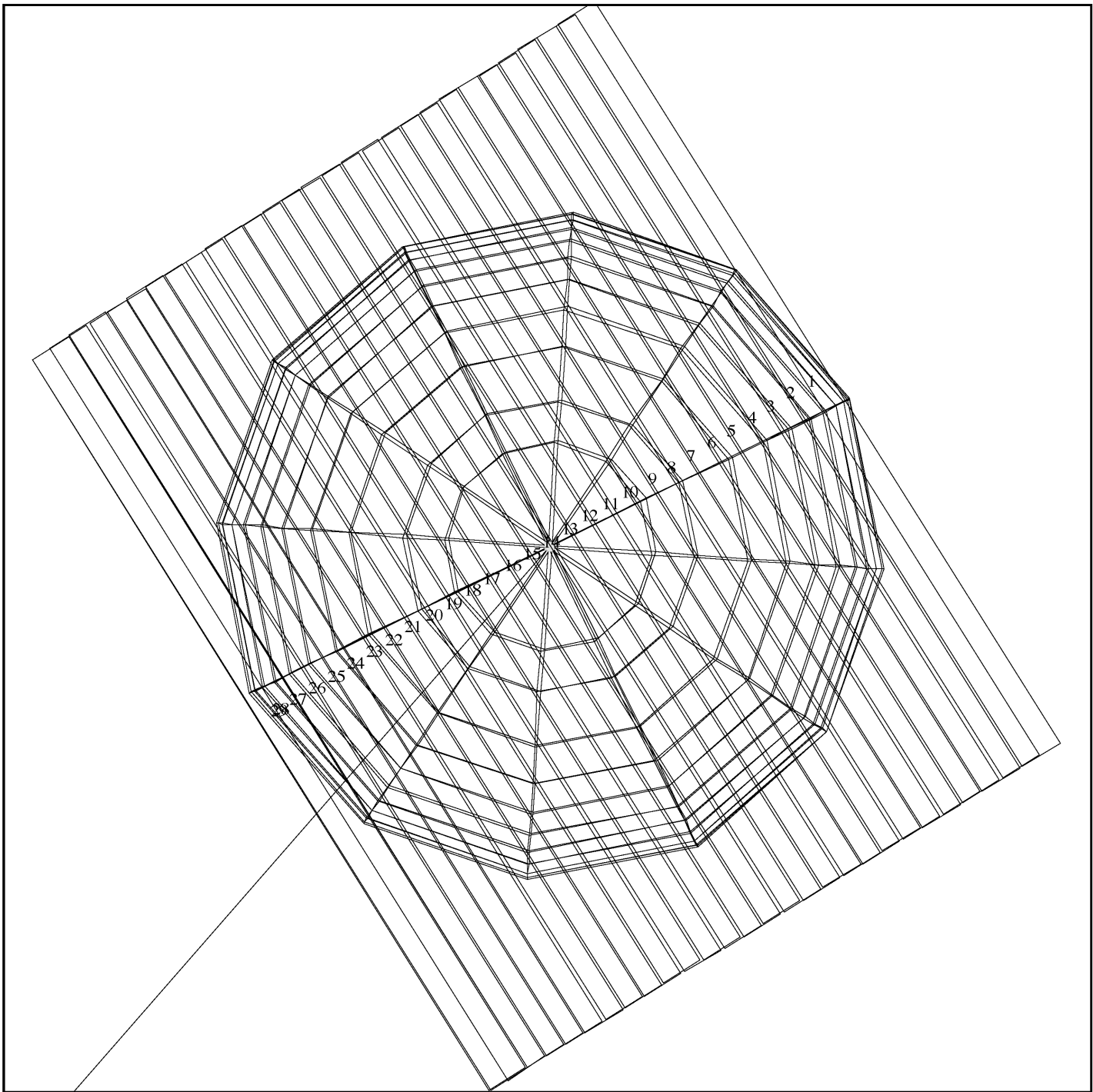
PERIAPSIS:91-302/22:37:59.0

START:GEE 91-302/22:37:00.666 -CDS 267:00:0

ACTIVITY:GAPSLTCRVC03

DESCRIP:4-FILTER LIGHTCURVE

Gaspra Distant Light Curve				ACTIVITY ID: GAPSLTCRVC03*	
				START TIME: 91-302/18:24:14	
Activity ID: Orbit GA Target P Inst S OAPEL LTCRVC SeqNo 03 Multi *					
Title	Gaspra Distant Light Curve			Instrument	NIMS
Requestor	C. Byrnes		Team	NIMS	Working Group AWG
Time System	CDS	Load ID	EE3	Calendar Date	10/29/91 Week 44
Start	GCA-CDS	00000252:00:0		91-302/18:24:14	GCA-000/04:14:48
End	GCA-CDS	00000249:00:0		91-302/18:27:16	GCA-000/04:11:46
Duration		00000003:00:0		000/00:03:02	000/00:03:02
Top Label	GAPSLTCRVC03*				
Bottom Label					
Plot Key	NIMS	Riding Plot Key	Conflict		Yes
CDS Bytes	128	Report Options	Real Time Activity		No
<p style="text-align: center;">Observation Objective</p> <p>This observation is part of SSI's final rotation Gaspra 'movie' and lightcurve. Each segment of the total lightcurve covers 30 degrees of rotation of Gaspra. Every third segment is through four filters to give data on the color of Gaspra. The remaining segments are through a single filter.</p>					
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias</p> <p>NIMS will ride-along behind SSI in various modes. Here, NIMS is in Fixed Map mode</p> <p>Fixed Map (XM), Gain 4, Grating Start 6, Chopper 63Hz, HCM</p>					
Last Changed	05/03/95	Changed By	FEL	10/08/91 13:58:04	
Galileo Activity Plan Form					rev 5/95



**GAPNGASPEC03**

POINTER C4.1Wsusan: 9/23/1991 15: 8:51

FILE:P.GAPNGASPEC03

CENTRAL BODY:PLUTO

MINI:m.GAPNGASPEC03

S/C EPH:/gptra/eph/EE3P-091691.t

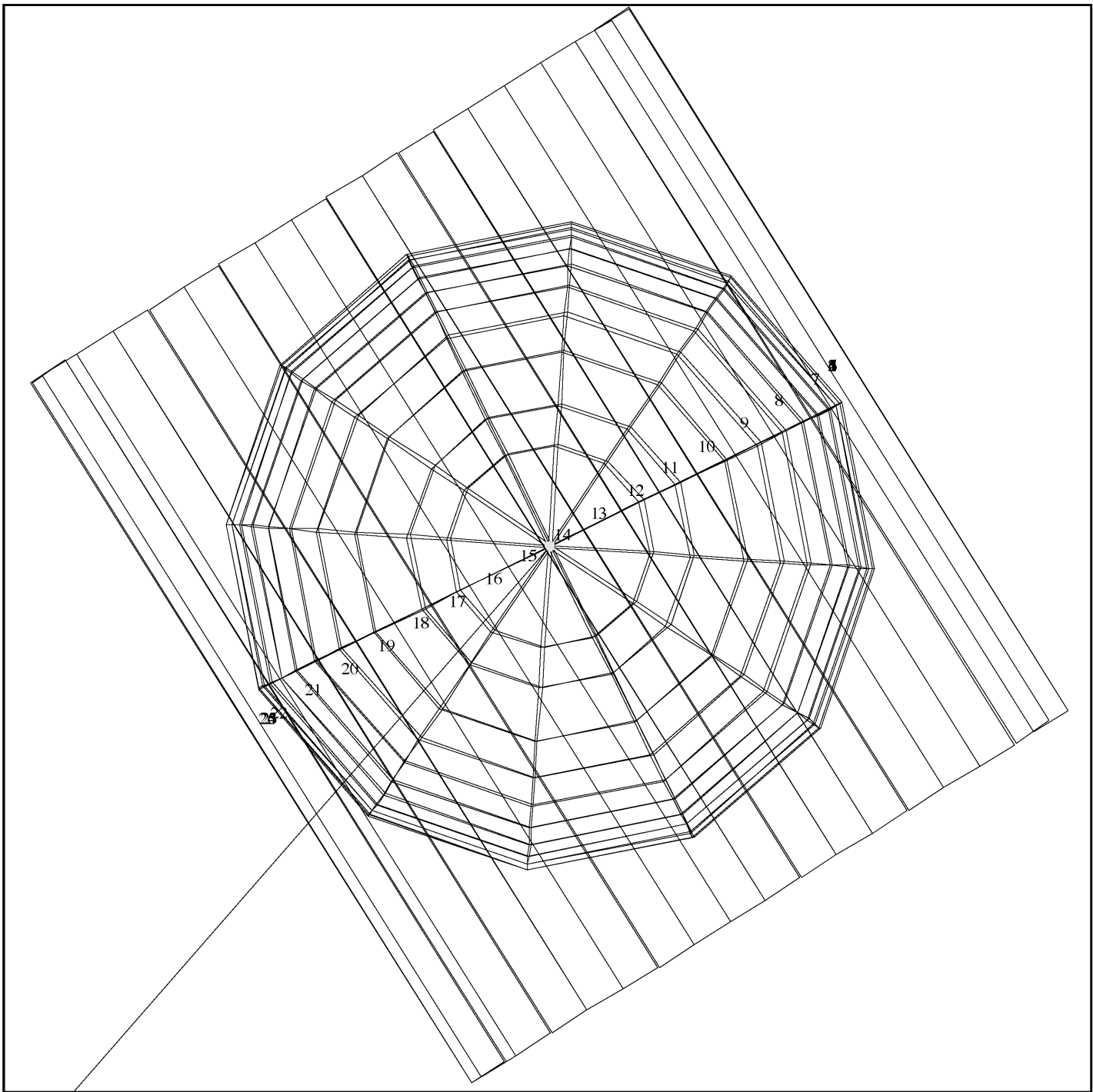
PERIAPSIS:91-302/22:37:59.0

START:GEE 91-302/22:37:00.666    -CDS 263:00:0

ACTIVITY:GAPNGASPEC03

DESCRIP:3RD NIMS 204 WVLNGTH LM NYQ

Gaspra Highest Spectral Resolution Map		ACTIVITY ID: GAPNGASPEC03-	
		START TIME: 91-302/18:11:05	
Activity ID: Orbit GA Target P Inst N OAPEL GASPEC SeqNo 03 Multi -			
Title	Gaspra Highest Spectral Resolution Map		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000263:00:0	91-302/18:11:05	GCA-000/04:25:55
End	GCA-CDS 00000258:78:0	91-302/18:15:16	GCA-000/04:21:44
Duration	00000004:13:0	000/00:04:11	000/00:04:11
Top Label	GAPNGASPEC03-		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	181	Report Options	Real Time Activity No
<p style="text-align: center;">Observation Objective</p> <p>NIMS will perform a disk spectral integration of Gaspra which, when combined with other observations, will provide 15 degree rotational samples. Rotationally resolved data will help determine the nature of spectral differences on Gaspra, suspected to have originated from a differentiated parent body.</p>			
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias</p> <p>NIMS will map the error ellipse plus scan platform error with a single swath in Full Map mode at Long Map Nyquist sampling rate (0.03 mrad/sec). This is one of five Full Map observations in the Gaspra Far Encounter, the fifth of which verifies the observation in Full Map mode of the first quadrant.</p> <p>Full Map (FM), Gain 4, Grating Start 0, Chopper 63Hz, MPW</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95



## GAPNGASPER07

POINTER C4.1Wsusan: 9/23/1991 15:11:34

FILE:P.GAPNGASPER07

CENTRAL BODY:PLUTO

MINI:m.GAPNGASPER07

S/C EPH:/gp/eph/EE3P-091691.t

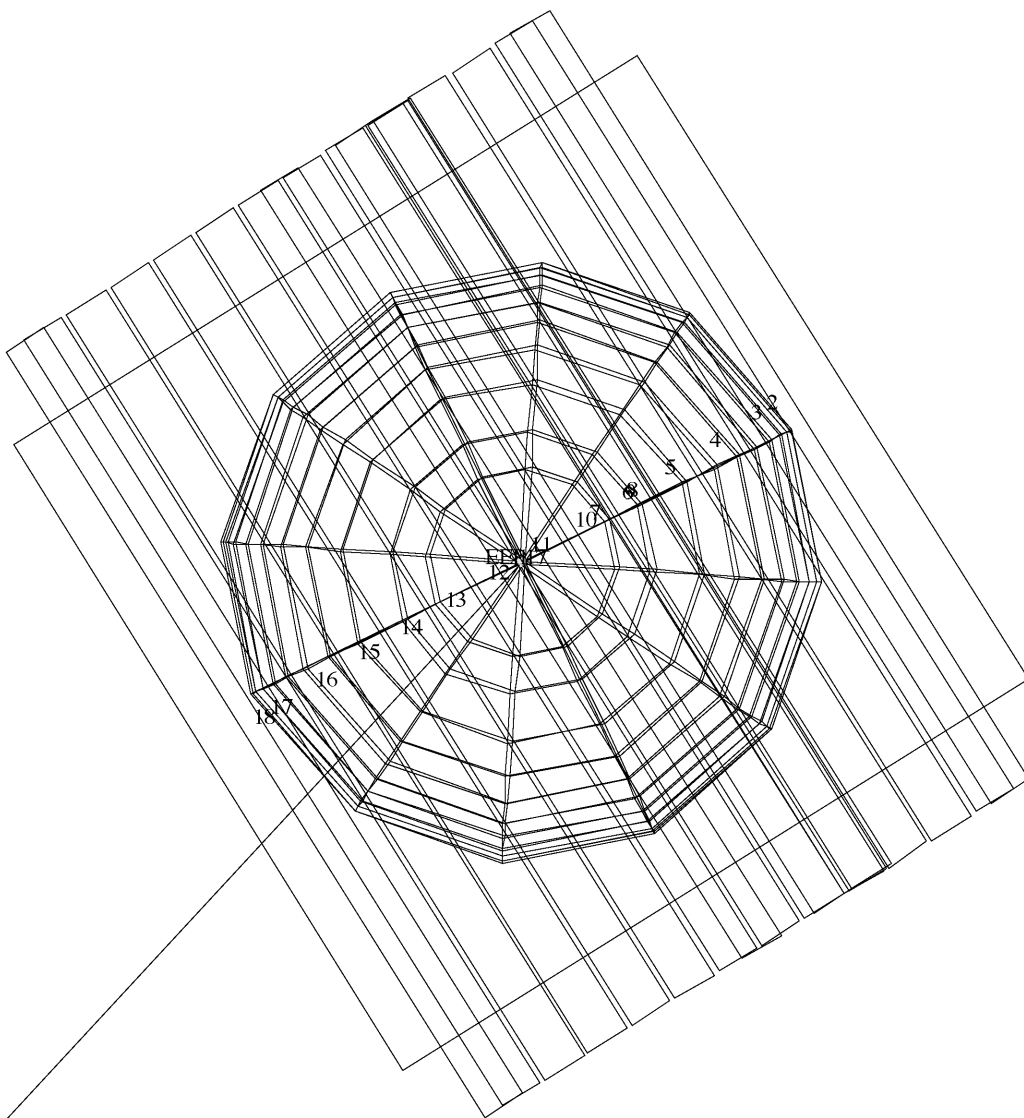
PERIAPSIS:91-302/22:37:59.0

START:GEE 91-302/22:37:00.666 -CDS 249:00:0

ACTIVITY:GAPNGASPER07

DESCRIP:NIMS 17 WVLNGTH NYQ RATE

Gaspra 15 Degree Periodic Rotation Sam		ACTIVITY ID: GAPNGASPER07-	
		START TIME: 91-302/18:25:14	
Activity ID: Orbit GA Target P Inst N OAPEL GASPER SeqNo 07 Multi -			
Title	Gaspra 15 Degree Periodic Rotation Sam		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000249:00:0	91-302/18:25:14	GCA-000/04:11:46
End	GCA-CDS 00000424:63:0	91-302/18:25:33	GCA-000/04:11:27
Duration	00000000:28:0	000/00:00:19	000/00:00:19
Top Label	GAPNGASPER07-		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	181	Report Options	Real Time Activity No
<p style="text-align: center;">Observation Objective</p> <p>NIMS will perform a disk spectral integration of Gaspra which, when combined with other observations, will provide 15 degree rotational samples. Rotationally resolved data will help determine the nature of spectral differences on Gaspra, suspected to have originated from a differentiated parent body.</p>			
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias</p> <p>NIMS will map the error ellipse plus scan platform error with a single swath in Fixed Map mode at Nyquist sampling rate (0.75 mrad/sec). This is one of 11 Fixed Map observations in the Gaspra Far Encounter, The Fixed Map observation planned for GEE-CDS 179:00:0 is missing due to negotiations with UVS.</p> <p>Fixed Map (XM), Gain 4, Grating Start 6, Chopper 63Hz, MPW</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95



## GAPNGASCUR05

POINTER C4.1Wsusan: 9/23/1991 15:17:20

FILE:P.GAPSLTCRVB05

CENTRAL BODY:PLUTO

MINI:m.GAPSLTCRVB05

S/C EPH:/gptr/eph/EE3P-091691.t

PERIAPSIS:91-302/22:37:59.0

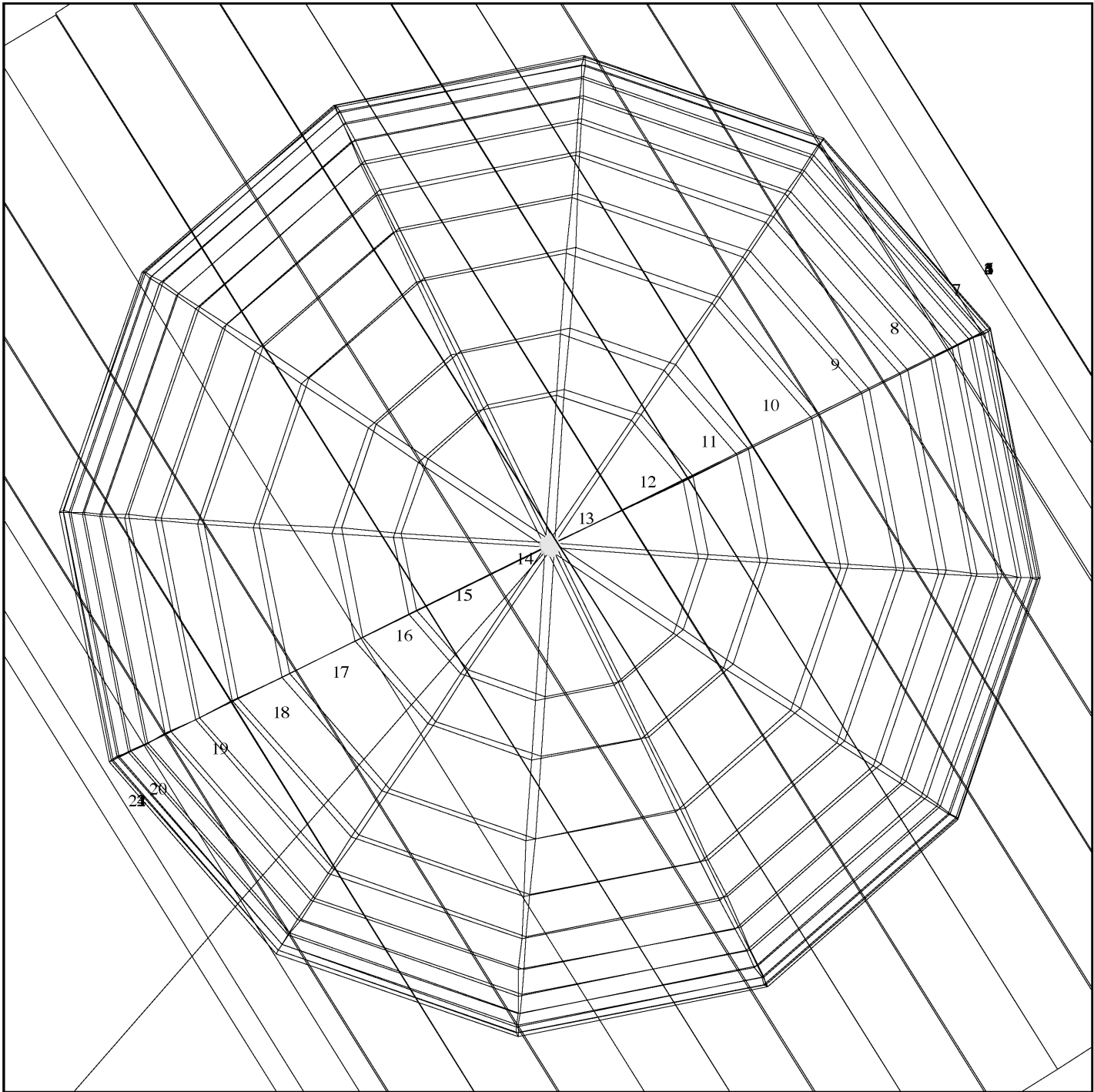
START:GEE 91-302/22:37:00.666 -CDS 232:00:0

ACTIVITY:GAPSLTCRVB05

DESCRIP:SSI LTCRVB05/NIMS GASCUR05

Gaspra Spectral Light Curve		ACTIVITY ID: GAPNGASCUR05+	
		START TIME: 91-302/18:42:26	
Activity ID: Orbit GA Target P Inst N OAPEL GASCUR SeqNo 05 Multi +			
Title	Gaspra Spectral Light Curve		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000232:00:0	91-302/18:42:26	GCA-000/03:54:34
End	GCA-CDS 00000230:59:0	91-302/18:25:33	GCA-000/03:53:12
Duration	00000001:32:0	000/00:01:22	000/00:01:22
Top Label	GAPNGASCUR05+		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	181	Report Options	Real Time Activity No
<p align="center"><b>Observation Objective</b></p> <p>NIMS will observe the spectral light curve of Gaspra periodically throughout a full rotation of Gaspra (7.04 hours). This observation, combined with others, give 15 degree samples of Gaspra's rotation. Rotationally resolved data will aid in determining the nature of spectral differences on the surface of Gaspra, an asteroid suspected to have originated from a differentiated parent body.</p>			
<p align="center"><b>Design Detail</b></p> <p align="right">Alias GAPSLTCRVB05</p> <p>SSI will cover the error ellipse in 4 colors every 90 degrees (before the SSI readout time (26.667 sec) to scan as much as is possible, repositions -0.5 mrad while the recorder winds down from SSI rates and up to NIMS rates, then finishes the single swath.</p> <p>Short Map (SM), Gain 4, Grating Start 2, Chopper 63Hz, HCM,MPW</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95





**GAPNGASPER08**

POINTER C4.1Wsusan: 9/23/1991 15:20:31

FILE:P.GAPNGASPER08

CENTRAL BODY:PLUTO

MINI:m.GAPNGASPER08

S/C EPH:/gptr/eph/EE3P-091691.t

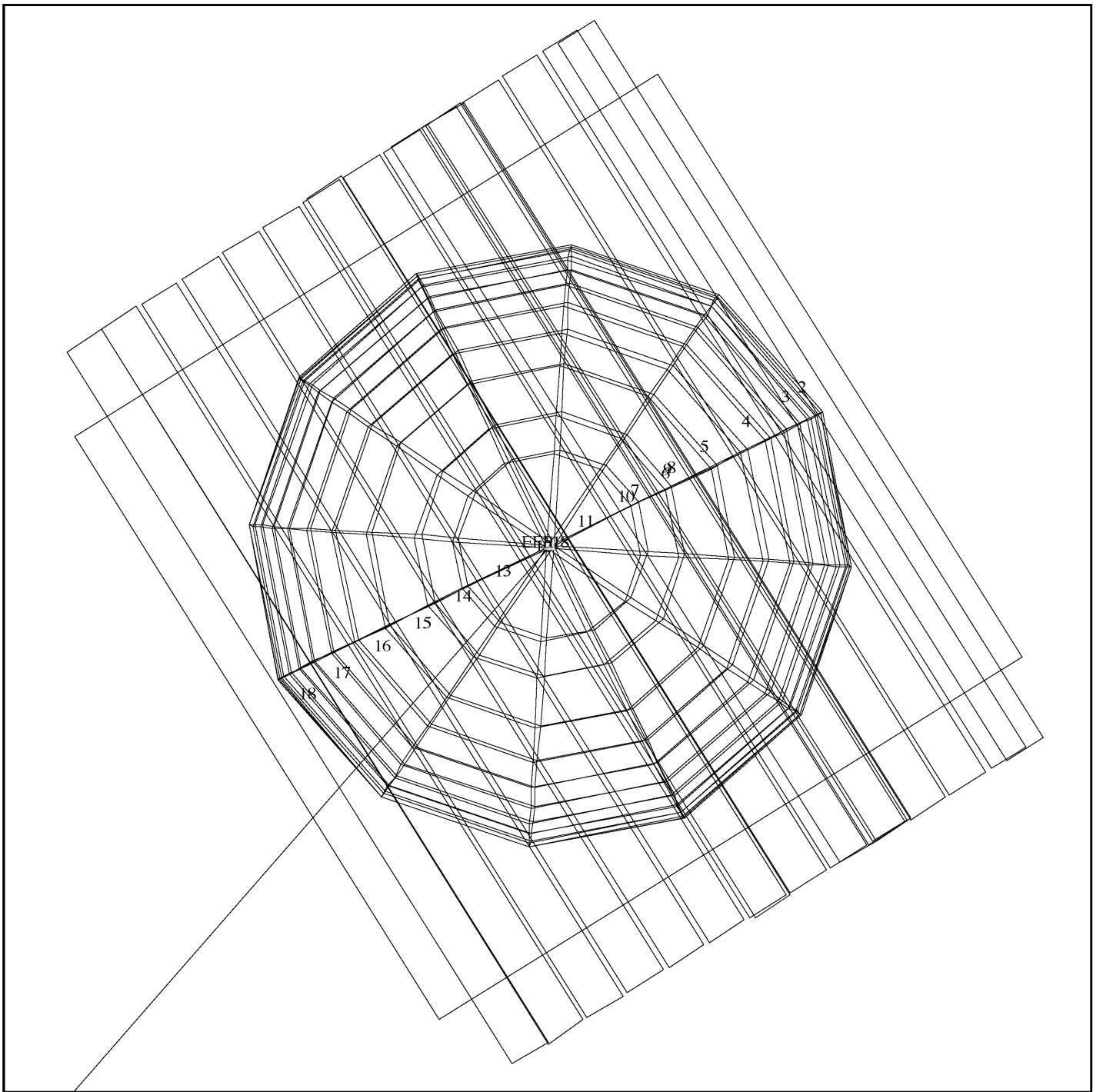
PERIAPSIS:91-302/22:37:59.0

START:GEE 91-302/22:37:00.666 -CDS 214:00:0

ACTIVITY:GAPNGASPER08

DESCRIP:NIMS 17 WVLNGTH NYQ RATE

Gaspra 15 Degree Periodic Rotation Sam		ACTIVITY ID: GAPNGASPER08-	
		START TIME: 91-302/19:00:38	
Activity ID: Orbit GA Target P Inst N OAPEL GASPER SeqNo 08 Multi -			
Title	Gaspra 15 Degree Periodic Rotation Sam		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000214:00:0	91-302/19:00:38	GCA-000/03:36:22
End	GCA-CDS 00000213:63:0	91-302/19:00:56	GCA-000/03:36:04
Duration	00000000:28:0	000/00:00:18	000/00:00:18
Top Label	GAPNGASPER08-		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	181	Report Options	Real Time Activity No
<p style="text-align: center;">Observation Objective</p> <p>NIMS will perform a disk spectral integration of Gaspra which, when combined with other observations, will provide 15 degree rotational samples. Rotationally resolved data will help determine the nature of spectral differences on Gaspra, suspected to have originated from a differentiated parent body.</p>			
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias</p> <p>NIMS will map the error ellipse plus scan platform error with a single swath in Fixed Map mode at Nyquist sampling rate (0.75 mrad/sec). This is one of 11 Fixed Map observations in the Gaspra Far Encounter, The Fixed Map observation planned for GEE-CDS 179:00:0 is missing due to negotiations with UVS.</p> <p>Fixed Map (XM), Gain 4, Grating Start 6, Chopper 63Hz, MPW</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95



## GAPNGASCUR06

POINTER C4.1Wsusan: 9/23/1991 15:25:31

FILE:P.GAPSLTCRVB06

CENTRAL BODY:PLUTO

MINI:m.GAPSLTCRVB06

S/C EPH:/gptr/eph/EE3P-091691.t

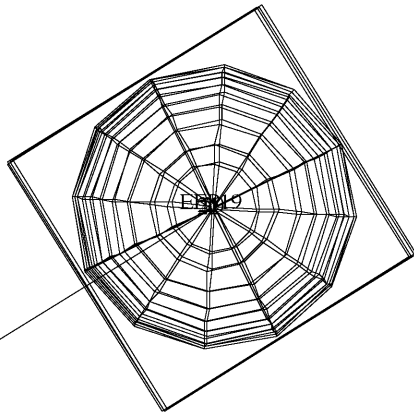
PERIAPSIS:91-302/22:37:59.0

START:GEE 91-302/22:37:00.666 -CDS 197:00:0

ACTIVITY:GAPSLTCRVB06

DESCRIP:SSI LTCRVB06/NIMS GASCUR06

Gaspra Spectral Light Curve				ACTIVITY ID: GAPNGASCUR06+	
				START TIME: 91-302/19:17:49	
Activity ID: Orbit GA Target P Inst N OAPEL GASCUR SeqNo 06 Multi +					
Title	Gaspra Spectral Light Curve			Instrument	NIMS
Requestor	C. Byrnes		Team	NIMS	Working Group AWG
Time System	CDS	Load ID	EE3	Calendar Date	10/29/91 Week 44
Start	GCA-CDS	00000197:00:0		91-302/19:17:49	GCA-000/03:19:11
End	GCA-CDS	00000195:77:0		91-302/19:18:59	GCA-000/03:18:01
Duration		00000001:14:0		000/00:01:10	000/00:01:10
Top Label	GAPNGASCUR06+				
Bottom Label					
Plot Key	NIMS	Riding Plot Key	Conflict		Yes
CDS Bytes	181	Report Options	Real Time Activity		No
<p style="text-align: center;">Observation Objective</p> <p>NIMS will observe the spectral light curve of Gaspra periodically throughout a full rotation of Gaspra (7.04 hours). This observation, combined with others, give 15 degree samples of Gaspra's rotation. Rotationally resolved data will aid in determining the nature of spectral differences on the surface of Gaspra, an asteroid suspected to have originated from a differentiated parent body.</p>					
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias GAPSLTCRVB06</p> <p>SSI will cover the error ellipse in 4 colors every 90 degrees (before the SSI readout time (26.667 sec) to scan as much as is possible, repositions -0.5 mrad while the recorder winds down from SSI rates and up to NIMS rates, then finishes the single swath.</p> <p>Short Map (SM), Gain 4, Grating Start 2, Chopper 63Hz, HCM,MPW</p>					
Last Changed	05/03/95	Changed By	FEL	10/08/91 13:58:04	
Galileo Activity Plan Form					rev 5/95



## **GAPSLTCRVC04**

**POINTER C4.1W**susan: 9/25/1991 8:13: 5

**FILE:**P.GAPSLTCRVC04

**CENTRAL BODY:**PLUTO

**MINI:**m.GAPSLTCRVC04

**S/C EPH:**/gptr/eph/EE3P-091691.t

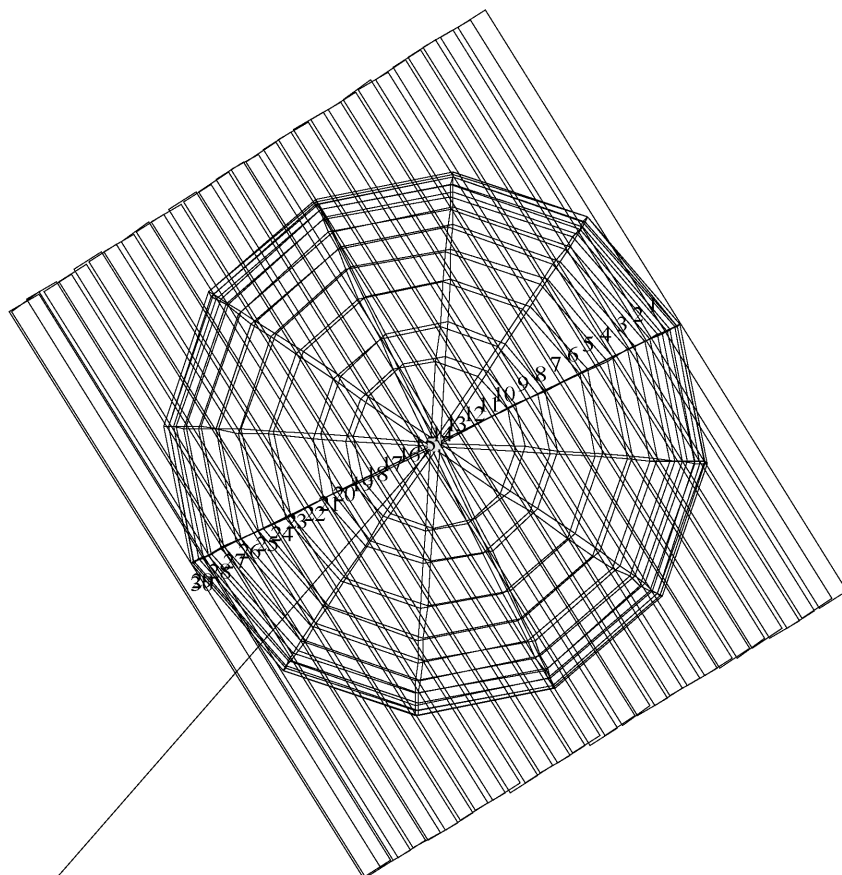
**PERIAPSIS:**91-302/22:37:59.0

**START:**GEE 91-302/22:37:00.666 -CDS 162:00:0

**ACTIVITY:**GAPSLTCRVC04

**DESCRIP:**4-FILTER LIGHTCURVE

Gaspra Distant Light Curve				ACTIVITY ID: GAPSLTCRVC04*		START TIME: 91-302/20:13:26	
Activity ID: Orbit GA Target P Inst S OAPEL LTCRVC SeqNo 04 Multi *							
Title	Gaspra Distant Light Curve				Instrument		NIMS
Requestor	C. Byrnes			Team	NIMS	Working Group	AWG
Time System	CDS	Load ID	EE3	Calendar Date	10/29/91	Week 44	
Start	GCA-CDS 00000144:00:0		91-302/20:13:26		GCA-000/02:25:36		
End	GCA-CDS 00000141:00:0		91-302/20:16:28		GCA-000/02:22:34		
Duration	00000003:00:0		000/00:03:02		000/00:03:02		
Top Label	GAPSLTCRVC04*						
Bottom Label							
Plot Key	NIMS	Riding Plot Key			Conflict		Yes
CDS Bytes	128	Report Options			Real Time Activity		No
<p style="text-align: center;">Observation Objective</p> <p>This observation is part of SSI's final rotation Gaspra 'movie' and lightcurve. Each segment of the total lightcurve covers 30 degrees of rotation of Gaspra. Every third segment is through four filters to give data on the color of Gaspra. The remaining segments are through a single filter.</p>							
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias</p> <p>NIMS will ride-along behind SSI in various modes. Here, NIMS is in Short Map mode</p> <p>Short Map (SM), Gain 4, Grating Start 2, Chopper 63Hz, HCM</p>							
Last Changed	05/03/95	Changed By	FEL	10/08/91 13:58:04			
Galileo Activity Plan Form							rev 5/95



## GAPNGASPEC04

POINTER C4.1Wsusan: 9/25/1991 8:14:41

FILE:P.GAPNGASPEC04

CENTRAL BODY:PLUTO

MINI:m.GAPNGASPEC04

S/C EPH:/gp/eph/EE3P-091691.t

PERIAPSIS:91-302/22:37:59.0

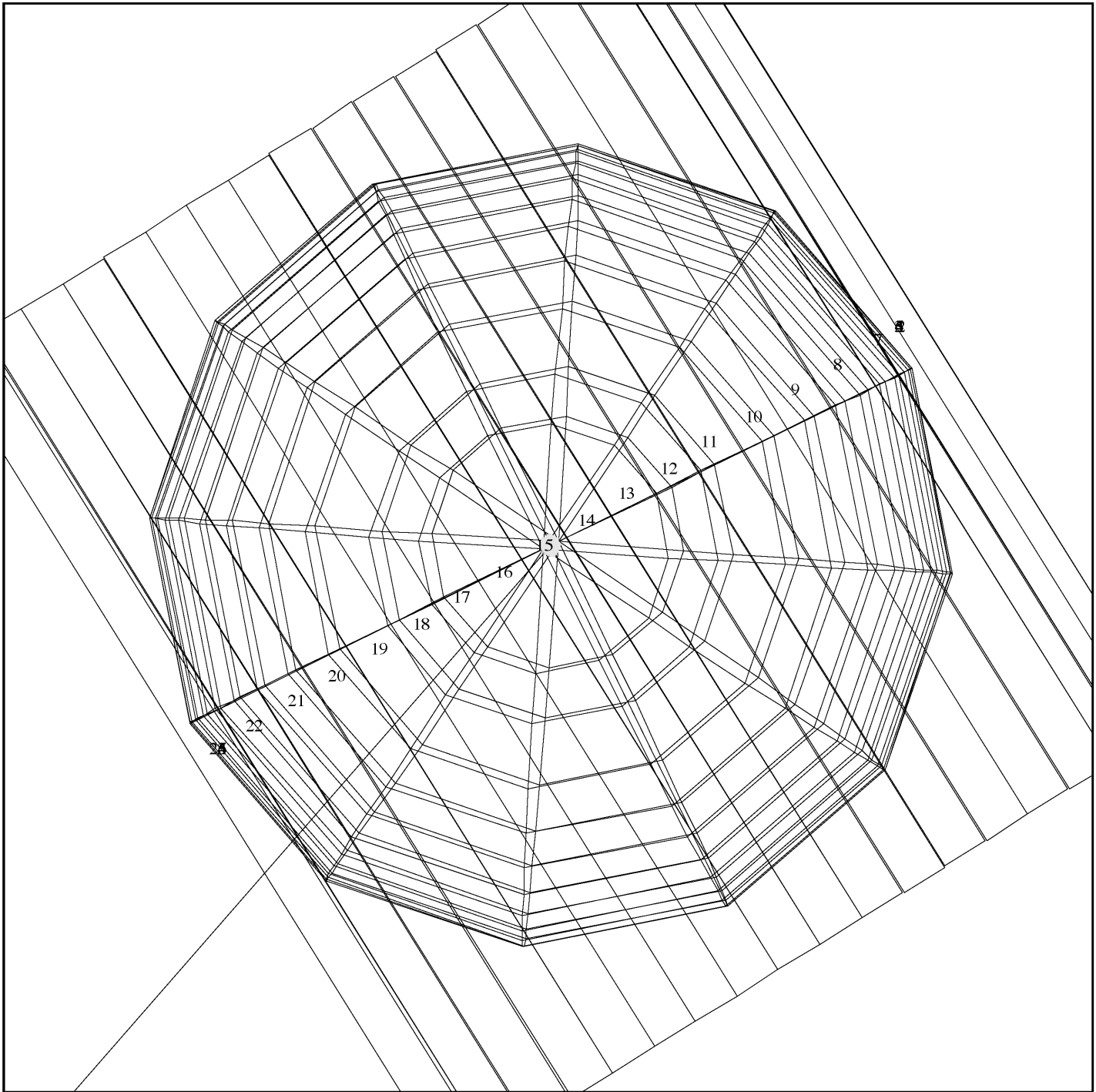
START:GEE 91-302/22:37:00.666 -CDS 158:00:0

ACTIVITY:GAPNGASPEC04

DESCRIP:4TH NIMS 204 WVLGTHS LM NYQ RATE

Gaspra Highest Spectral Resolution Map		ACTIVITY ID: GAPNGASPEC04-	
		START TIME: 91-302/19:57:15	
Activity ID: Orbit GA Target P Inst N OAPEL GASPEC SeqNo 04 Multi -			
Title	Gaspra Highest Spectral Resolution Map		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000158:00:0	91-302/19:57:15	GCA-000/02:39:45
End	GCA-CDS 00000153:61:0	91-302/20:01:38	GCA-000/02:35:22
Duration	00000004:30:0	000/00:04:23	000/00:04:23
Top Label	GAPNGASPEC04-		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	181	Report Options	Real Time Activity No
<p align="center"><b>Observation Objective</b></p> <p>NIMS will perform a disk spectral integration of Gaspra which, when combined with other observations, will provide 15 degree rotational samples. Rotationally resolved data will help determine the nature of spectral differences on Gaspra, suspected to have originated from a differentiated parent body.</p>			
<p align="center"><b>Design Detail</b></p> <p align="right">Alias</p> <p>NIMS will map the error ellipse plus scan platform error with a single swath in Full Map mode at Long Map Nyquist sampling rate (0.03 mrad/sec). This is one of five Full Map observations in the Gaspra Far Encounter, the fifth of which verifies the observation in Full Map mode of the first quadrant.</p> <p>Full Map (FM), Gain 4, Grating Start 0, Chopper 63Hz, MPW</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95





**GAPNGASPER10**

POINTER C4.1Wsusan: 9/25/1991 9: 8:36

FILE:P.GAPNGASPER10

CENTRAL BODY:PLUTO

MINI:m.GAPNGASPER10

S/C EPH:/gp/eph/EE3P-091691.t

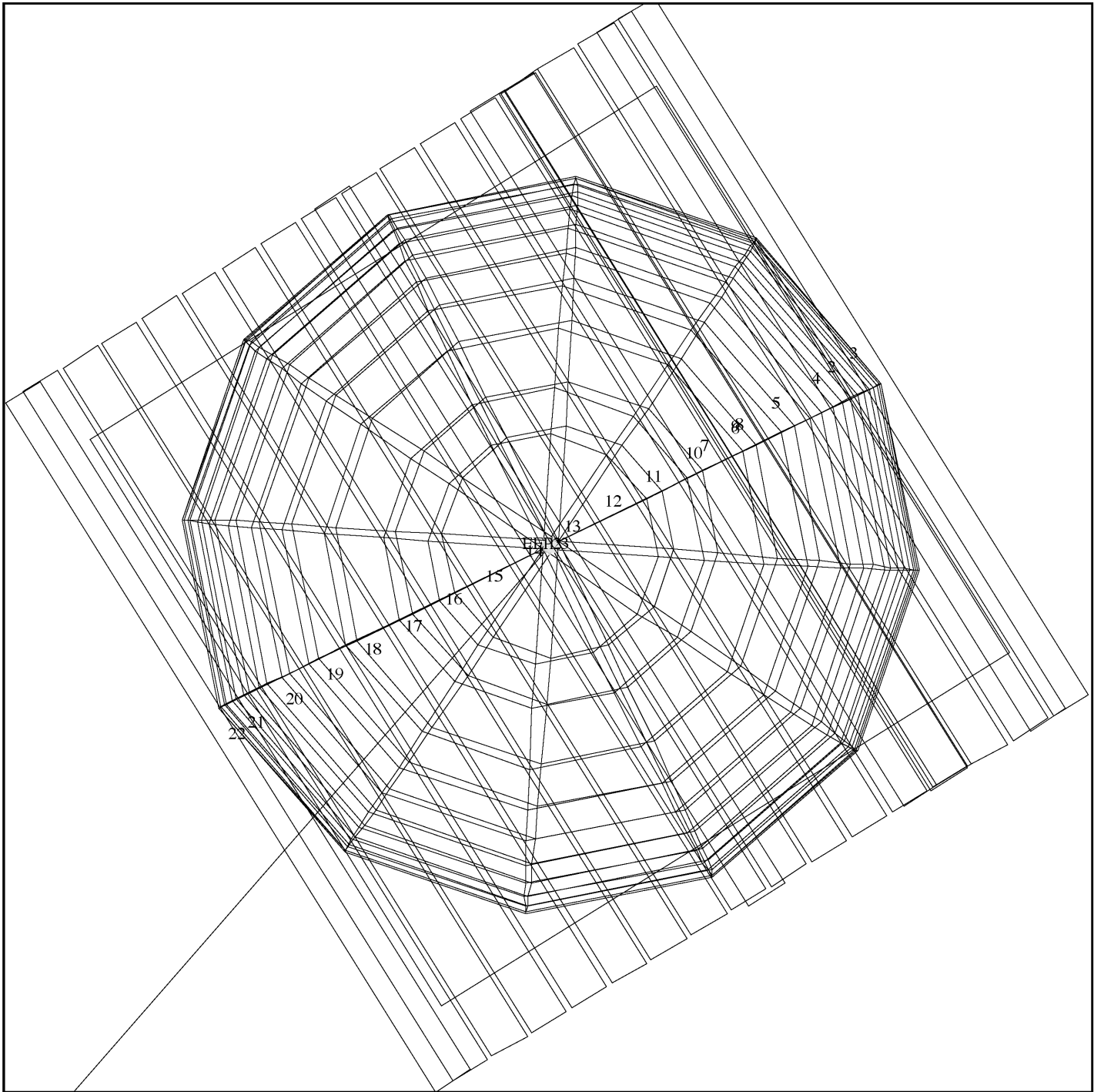
PERIAPSIS:91-302/22:37:59.0

START:GEE 91-302/22:37:00.666 -CDS 144:00:0

ACTIVITY:GAPNGASPER10

DESCRIP:NIMS 17 WVLNGTH NYQ RATE

Gaspra 15 Degree Periodic Rotation Sam		ACTIVITY ID: GAPNGASPER10-	
		START TIME: 91-302/20:11:24	
Activity ID: Orbit GA Target P Inst N OAPEL GASPER SeqNo 10 Multi -			
Title	Gaspra 15 Degree Periodic Rotation Sam		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000144:00:0	91-302/20:11:24	GCA-000/02:25:36
End	GCA-CDS 00000143:59:0	91-302/20:11:46	GCA-000/02:25:14
Duration	00000000:32:0	000/00:00:22	000/00:00:22
Top Label	GAPNGASPER10-		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	181	Report Options	Real Time Activity No
<p style="text-align: center;">Observation Objective</p> <p>NIMS will perform a disk spectral integration of Gaspra which, when combined with other observations, will provide 15 degree rotational samples. Rotationally resolved data will help determine the nature of spectral differences on Gaspra, suspected to have originated from a differentiated parent body.</p>			
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias</p> <p>NIMS will map the error ellipse plus scan platform error with a single swath in Fixed Map mode at Nyquist sampling rate (0.75 mrad/sec). This is one of 11 Fixed Map observations in the Gaspra Far Encounter, The Fixed Map observation planned for GEE-CDS 179:00:0 is missing due to negotiations with UVS.</p> <p>Fixed Map (XM), Gain 4, Grating Start 6, Chopper 63Hz, MPW</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95



**GAPNGASCUR07**

**POINTER C4.1Wsusan: 9/25/1991 9:10:38**

**FILE:P.GAPSLTCRVB07**

**CENTRAL BODY:PLUTO**

**MINI:m.GAPSLTCRVB07**

**S/C EPH:/gptr/eph/EE3P-091691.t**

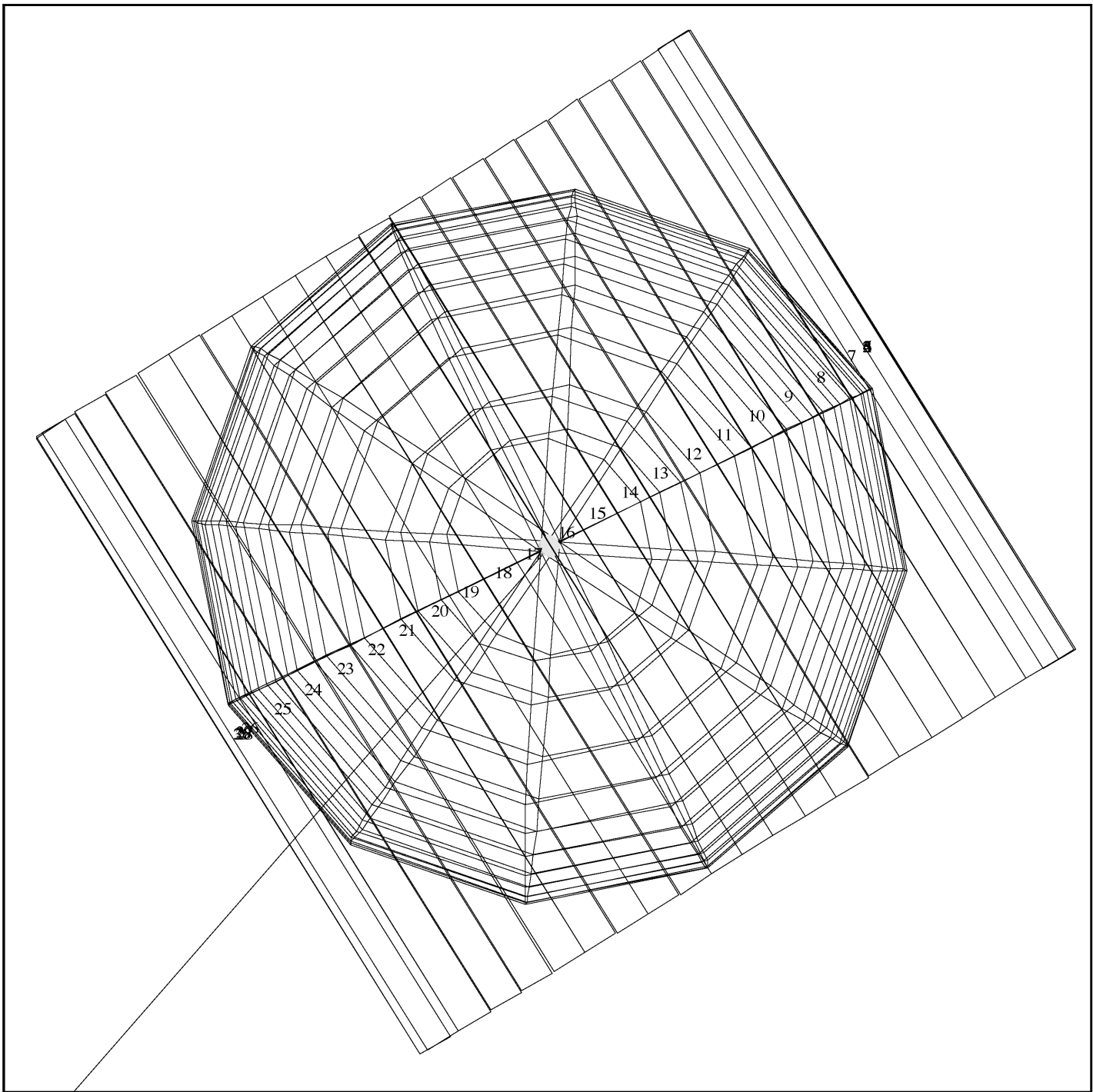
**PERIAPSIS:91-302/22:37:59.0**

**START:GEE 91-302/22:37:00.666 -CDS 127:00:0**

**ACTIVITY:GAPSLTCRVB07**

**DESCRIP:SSI LTCRV07/NIMS GASCUR07**

Gaspra Spectral Light Curve				ACTIVITY ID: GAPNGASCUR07+	
				START TIME: 91-302/20:28:36	
Activity ID: Orbit GA Target P Inst N OAPEL GASCUR SeqNo 07 Multi +					
Title	Gaspra Spectral Light Curve			Instrument	NIMS
Requestor	C. Byrnes		Team	NIMS	Working Group AWG
Time System	CDS	Load ID	EE3	Calendar Date	10/29/91 Week 44
Start	GCA-CDS	00000127:00:0		91-302/20:28:36	GCA-000/02:08:24
End	GCA-CDS	00000126:28:0		91-302/20:29:18	GCA-000/02:07:42
Duration		00000000:63:0		000/00:00:42	000/00:00:42
Top Label	GAPNGASCUR07+				
Bottom Label					
Plot Key	NIMS	Riding Plot Key	Conflict		Yes
CDS Bytes	181	Report Options	Real Time Activity		No
<p style="text-align: center;">Observation Objective</p> <p>NIMS will observe the spectral light curve of Gaspra periodically throughout a full rotation of Gaspra (7.04 hours). This observation, combined with others, give 15 degree samples of Gaspra's rotation. Rotationally resolved data will aid in determining the nature of spectral differences on the surface of Gaspra, an asteroid suspected to have originated from a differentiated parent body.</p>					
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias GAPSLTCRVB07</p> <p>SSI will cover the error ellipse in 4 colors every 90 degrees (before the SSI readout time (26.667 sec) to scan as much as is possible, repositions -0.5 mrad while the recorder winds down from SSI rates and up to NIMS rates, then finishes the single swath.</p> <p>Short Map (SM), Gain 4, Grating Start 2, Chopper 63Hz, HCM,MPW</p>					
Last Changed	05/03/95	Changed By	FEL	10/08/91 13:58:04	
Galileo Activity Plan Form					rev 5/95



**GAPNGASPER11**

POINTER C4.1Wsusan: 9/25/1991 9:12:30

FILE:P.GAPNGASPER11

CENTRAL BODY:PLUTO

MINI:m.GAPNGASPER11

S/C EPH:/gptr/eph/EE3P-091691.t

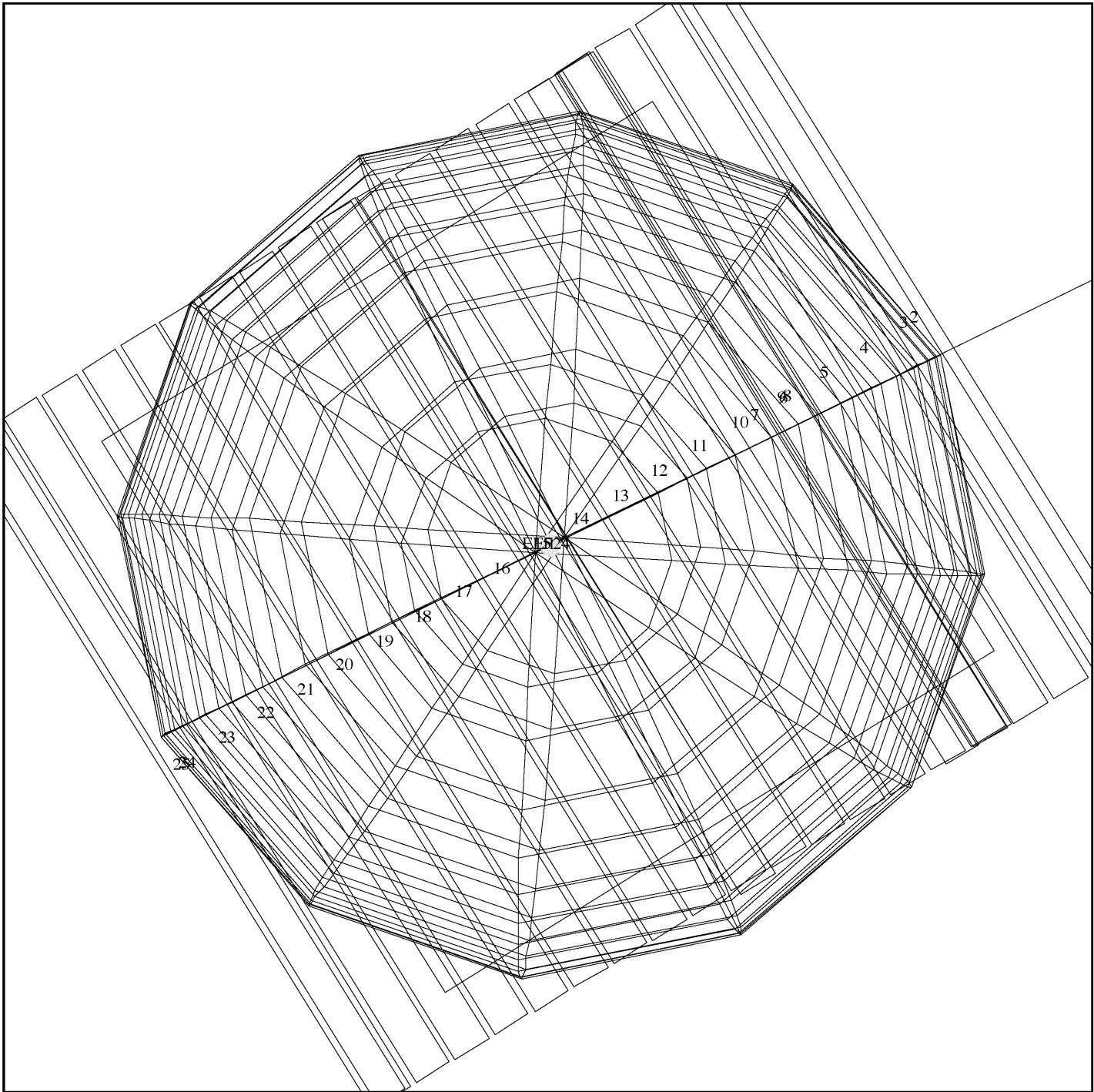
PERIAPSIS:91-302/22:37:59.0

START:GEE 91-302/22:37:00.666 -CDS 109:00:0

ACTIVITY:GAPNGASPER11

DESCRIP:NIMS 17 WVLNGTH NYQ RATE

Gaspra 15 Degree Periodic Rotation Sam		ACTIVITY ID: GAPNGASPER11-	
		START TIME: 91-302/20:46:48	
Activity ID: Orbit GA Target P Inst N OAPEL GASPER SeqNo 11 Multi -			
Title	Gaspra 15 Degree Periodic Rotation Sam		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000109:00:0	91-302/20:46:48	GCA-000/01:50:12
End	GCA-CDS 00000108:61:0	91-302/20:47:08	GCA-000/01:49:52
Duration	00000000:30:0	000/00:00:20	000/00:00:20
Top Label	GAPNGASPER11-		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	181	Report Options	Real Time Activity No
<p style="text-align: center;">Observation Objective</p> <p>NIMS will perform a disk spectral integration of Gaspra which, when combined with other observations, will provide 15 degree rotational samples. Rotationally resolved data will help determine the nature of spectral differences on Gaspra, suspected to have originated from a differentiated parent body.</p>			
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias</p> <p>NIMS will map the error ellipse plus scan platform error with a single swath in Fixed Map mode at Nyquist sampling rate (0.75 mrad/sec). This is one of 11 Fixed Map observations in the Gaspra Far Encounter, The Fixed Map observation planned for GEE-CDS 179:00:0 is missing due to negotiations with UVS.</p> <p>Fixed Map (XM), Gain 4, Grating Start 6, Chopper 63Hz, MPW</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95



## GAPNGASCUR08

POINTER C4.1Wsusan: 9/25/1991 9:29:35

FILE:P.GAPSLTCRVB08

CENTRAL BODY:PLUTO

MINI:m.GAPSLTCRVB08

S/C EPH:/gptr/eph/EE3P-091691.t

PERIAPSIS:91-302/22:37:59.0

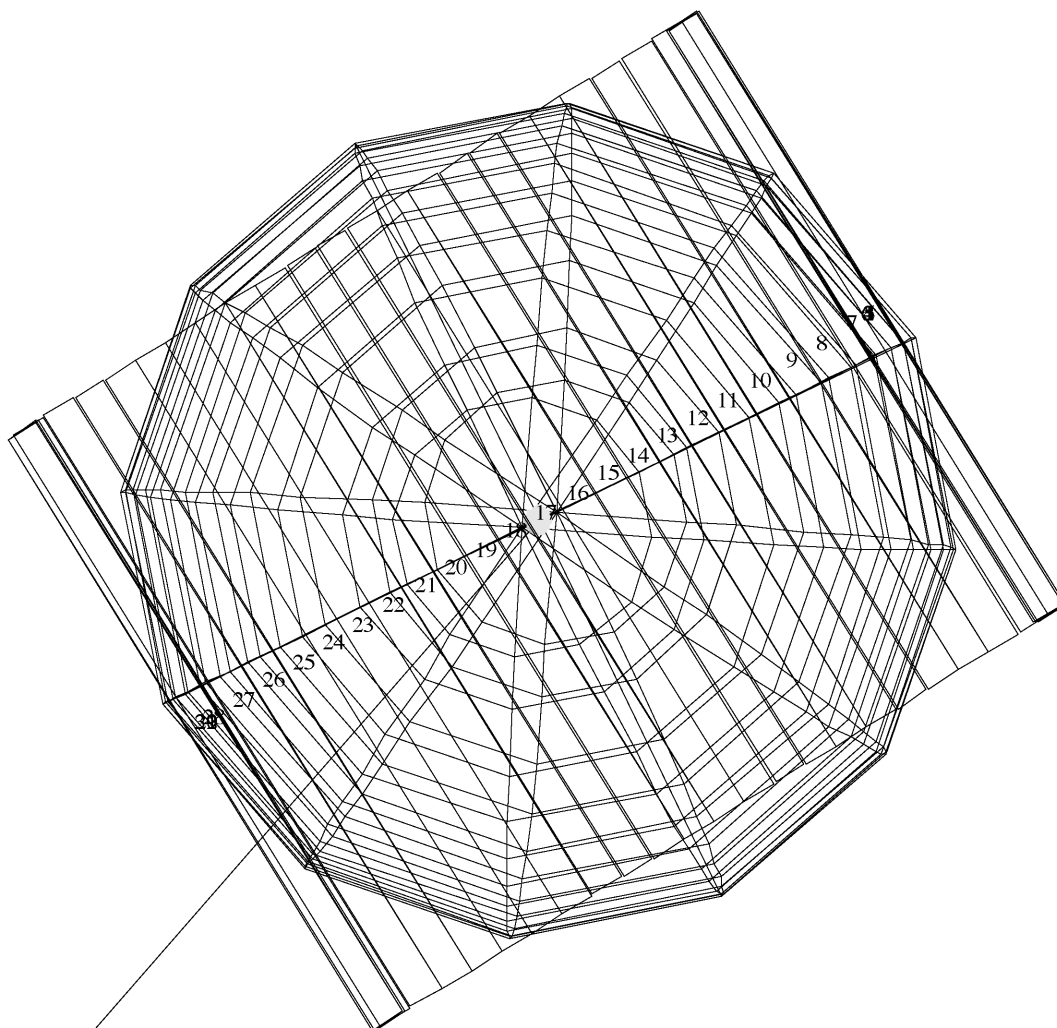
START:GEE 91-302/22:37:00.666 -CDS 92:00:0

ACTIVITY:GAPSLTCRVB08

DESCRIP:SSI LTCRVB08/NIMS GASCUR08

Gaspra Spectral Light Curve		ACTIVITY ID: GAPNGASCUR08+	
		START TIME: 91-302/21:03:59	
Activity ID: Orbit GA Target P Inst N OAPEL GASCUR SeqNo 08 Multi +			
Title	Gaspra Spectral Light Curve		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000092:00:0	91-302/21:03:59	GCA-000/01:33:01
End	GCA-CDS 00000090:08:0	91-302/21:05:55	GCA-000/01:31:05
Duration	00000001:83:0	000/00:01:56	000/00:01:56
Top Label	GAPNGASCUR08+		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	181	Report Options	Real Time Activity No
<p align="center"><b>Observation Objective</b></p> <p>NIMS will observe the spectral light curve of Gaspra periodically throughout a full rotation of Gaspra (7.04 hours). This observation, combined with others, give 15 degree samples of Gaspra's rotation. Rotationally resolved data will aid in determining the nature of spectral differences on the surface of Gaspra, an asteroid suspected to have originated from a differentiated parent body.</p>			
<p align="center"><b>Design Detail</b></p> <p align="right">Alias GAPSLTCRVB08</p> <p>SSI will cover the error ellipse in 4 colors every 90 degrees (before the SSI readout time (26.667 sec) to scan as much as is possible, repositions -0.5 mrad while the recorder winds down from SSI rates and up to NIMS rates, then finishes the single swath.</p> <p>Short Map (SM), Gain 3, Grating Start 2, Chopper 63Hz, HCM,MPW</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95





## GAPNGASPER12

POINTER C4.1Wsusan: 9/25/1991 9:31:52

FILE:P.GAPNGASPER12

CENTRAL BODY:PLUTO

MINI:m.GAPNGASPER12

S/C EPH:/gp/eph/EE3P-091691.t

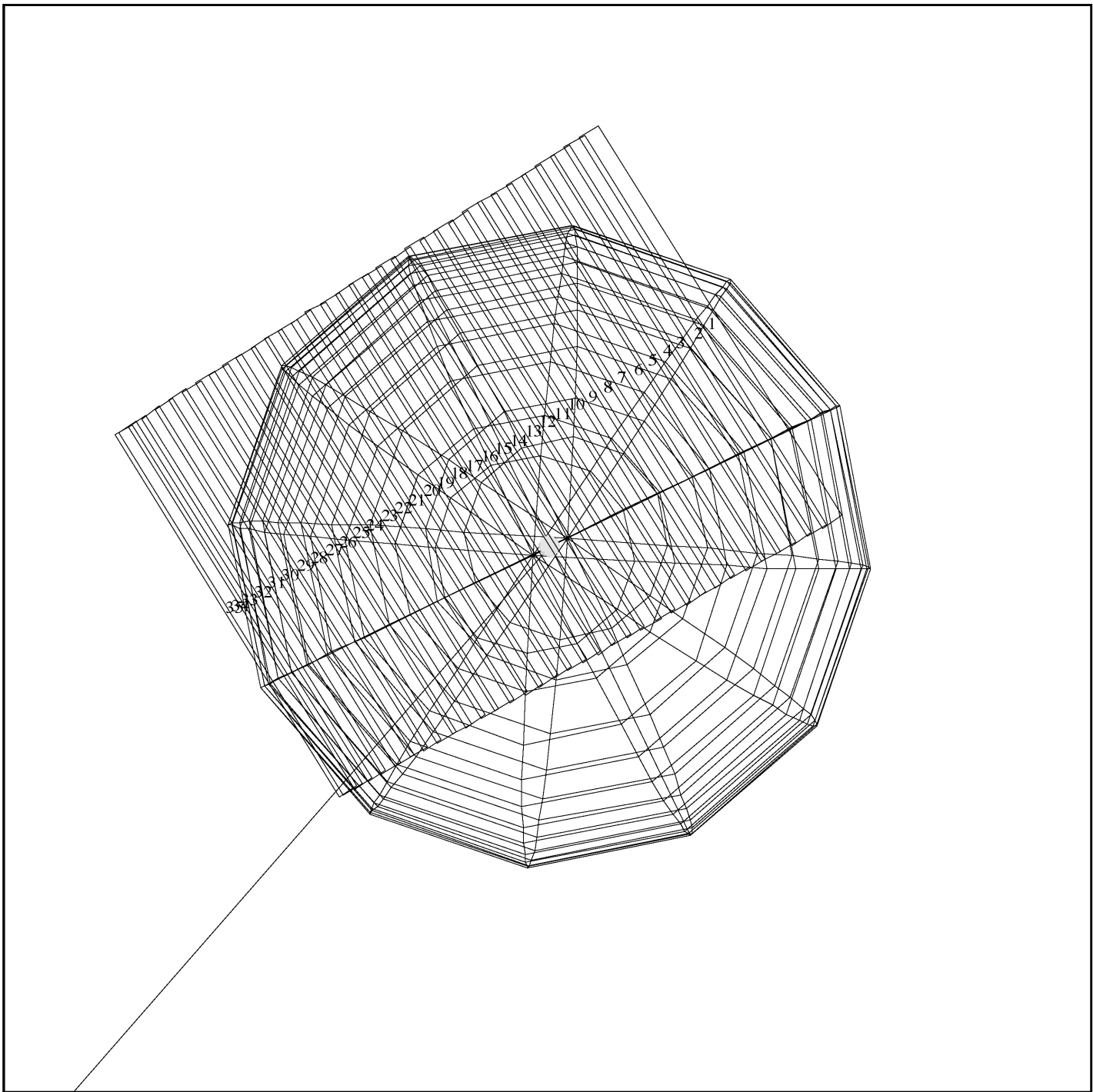
PERIAPSIS:91-302/22:37:59.0

START:GEE 91-302/22:37:00.666 -CDS 80:00:0

ACTIVITY:GAPNGASPER12

DESCRIP:NIMS 17 WVLNGTH NYQ RATE

Gaspra 15 Degree Periodic Rotation Sam		ACTIVITY ID: GAPNGASPER12-	
		START TIME: 91-302/21:16:07	
Activity ID: Orbit GA Target P Inst N OAPEL GASPER SeqNo 12 Multi -			
Title	Gaspra 15 Degree Periodic Rotation Sam		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000080:00:0	91-302/21:16:07	GCA-000/01:20:53
End	GCA-CDS 00000079:65:0	91-302/21:16:24	GCA-000/01:20:36
Duration	00000000:26:0	000/00:00:17	000/00:00:17
Top Label	GAPNGASPER12-		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	181	Report Options	Real Time Activity No
<p style="text-align: center;">Observation Objective</p> <p>NIMS will perform a disk spectral integration of Gaspra which, when combined with other observations, will provide 15 degree rotational samples. Rotationally resolved data will help determine the nature of spectral differences on Gaspra, suspected to have originated from a differentiated parent body.</p>			
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias</p> <p>NIMS will map the error ellipse plus scan platform error with a single swath in Fixed Map mode at Nyquist sampling rate (0.75 mrad/sec). This is one of 11 Fixed Map observations in the Gaspra Far Encounter, The Fixed Map observation planned for GEE-CDS 179:00:0 is missing due to negotiations with UVS.</p> <p>Fixed Map (XM), Gain 3, Grating Start 6, Chopper 63Hz, MPW</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95



**GAPNGASPEC05**

POINTER C4.1Wsusan: 9/25/1991 9:34:24

FILE:P.GAPNGASPEC05

CENTRAL BODY:PLUTO

MINI:m.GAPNGASPEC05

S/C EPH:/gptr/eph/EE3P-091691.t

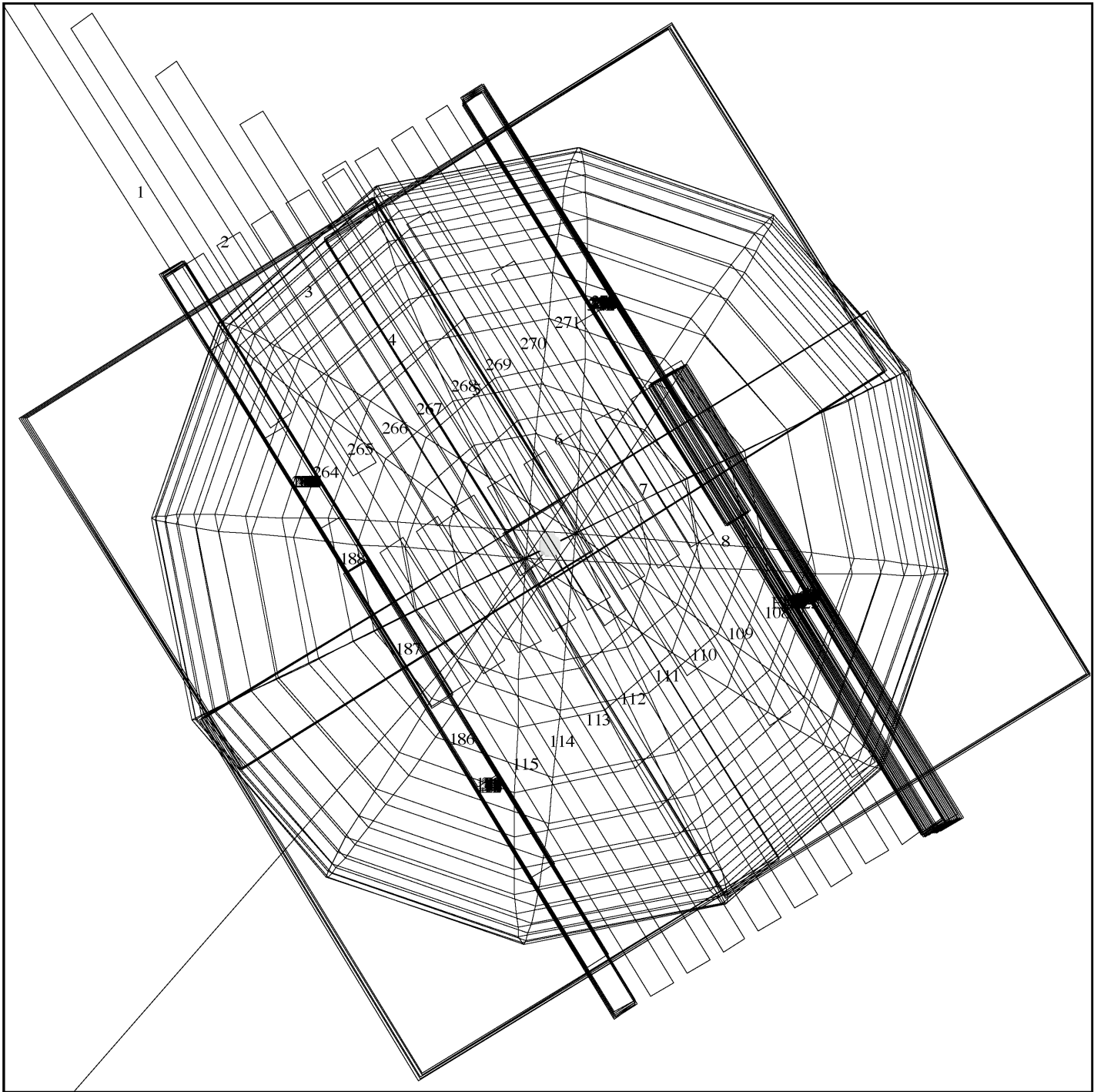
PERIAPSIS:91-302/22:37:59.0

START:GEE 91-302/22:37:00.666 -CDS 64:00:0

ACTIVITY:GAPNGASPEC05

DESCRIP:NIMS 204 WVLGTHS@LM NYQUIST RATE

Gaspra Highest Spectral Resolution Map		ACTIVITY ID: GAPNGASPEC05-	
		START TIME: 91-302/21:32:18	
Activity ID: Orbit GA Target P Inst N OAPEL GASPEC SeqNo 05 Multi -			
Title	Gaspra Highest Spectral Resolution Map		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000064:00:0	91-302/21:32:18	GCA-000/01:04:42
End	GCA-CDS 00000058:89:0	91-302/21:37:22	GCA-000/00:59:38
Duration	00000005:02:0	000/00:05:04	000/00:05:04
Top Label	GAPNGASPEC05-		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	181	Report Options	Real Time Activity No
<p align="center"><b>Observation Objective</b></p> <p>NIMS will perform a disk spectral integration of Gaspra which, when combined with other observations, will provide 15 degree rotational samples. Rotationally resolved data will help determine the nature of spectral differences on Gaspra, suspected to have originated from a differentiated parent body.</p>			
<p align="center"><b>Design Detail</b></p> <p align="right">Alias</p> <p>NIMS will map the error ellipse plus scan platform error with a single swath in Full Map mode at Long Map Nyquist sampling rate (0.03 mrad/sec). This is one of five Full Map observations in the Gaspra Far Encounter, the fifth of which verifies the observation in Full Map mode of the first quadrant.</p> <p>Full Map (FM), Gain 1, Grating Start 0, Chopper 63Hz, MPW</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95



## GAPNGASVIS01

POINTER C4.1Wsusan: 9/25/1991 9:50:30

FILE:P.GAPS6FILTR01

CENTRAL BODY:PLUTO

MINI:m.GAPS6FILTR01

S/C EPH:/gpnr/eph/EE3P-091691.t

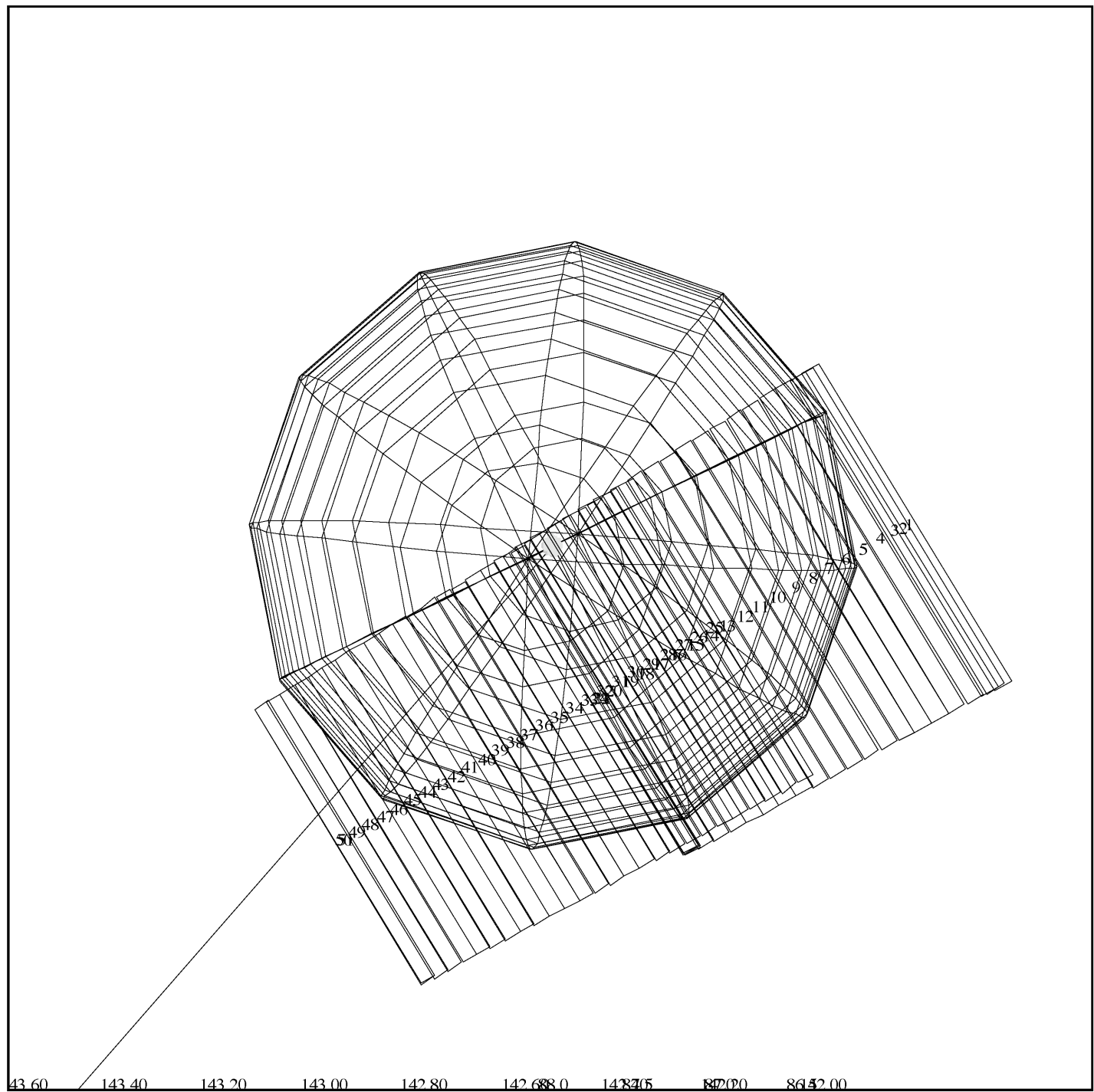
PERIAPSIS:91-302/22:37:59.0

START:GEE 91-302/22:37:00.666 -CDS 58:00:0

ACTIVITY:GAPS6FILTR01

DESCRIP:6-FILT 2X2 MOS

Gaspra Lower Phase Vista		ACTIVITY ID: GAPNGASVIS01*	
		START TIME: 91-302/21:38:22	
Activity ID: Orbit GA Target P Inst N OAPEL GASVIS SeqNo 01 Multi *			
Title	Gaspra Lower Phase Vista		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000058:00:0	91-302/21:38:22	GCA-000/00:58:38
End	GCA-CDS 00000054:52:0	91-302/21:41:50	GCA-000/00:55:10
Duration	00000003:39:0	000/00:03:28	000/00:03:28
Top Label	GAPNGASVIS01*		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	89	Report Options	Real Time Activity No
<p align="center"><b>Observation Objective</b></p> <p>This observation will be done in two modes. If Gaspra is captured while in the first, Gaspra will be analyzed in 408 wavelengths. If Gaspra is sampled while NIMS is in the second mode, 17 wavelength samples will be made.</p>			
<p align="center"><b>Design Detail</b></p> <p align="right">Alias GAPS6FILTR01</p> <p>This observation is a ride-along with a 6 filter, 2x2 SSI mosaic in IM4 (8.667 sec shutter cycle). It will be the first opportunity to use the special sequence capability of the NIMS instrument.</p> <p>NIMS will be commanded to Long Map mode while SSI shutters with 6 filters, and then will be commanded into Fixed Map mode while the scan platform slews at 1.2 mrad/sec to the next position of the 2x2 mosaic. This NIMS mode is a variation of the NIMS Stop-and-Slide mode.</p> <p>Special Sequence 12: Stop-and-Slide using Fixed Map and Long Map</p> <p>Fixed Map (XM), Gain 1, Grating Start 6, Chopper 63Hz, IM4, Repeat 6  Long Map (LM), Gain 1, Grating Start 0, Chopper 63Hz, IM4, Repeat 3</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95



# GAPNGASPEC06

POINTER C4.1Wsusan: 9/25/1991 10: 3:18

FILE:P.GAPNGASPEC06

CENTRAL BODY:PLUTO

MINI:m.GAPNGASPEC06

S/C EPH:/gptr/eph/EE3P-091691.t

PERIAPSIS:91-302/22:37:59.0

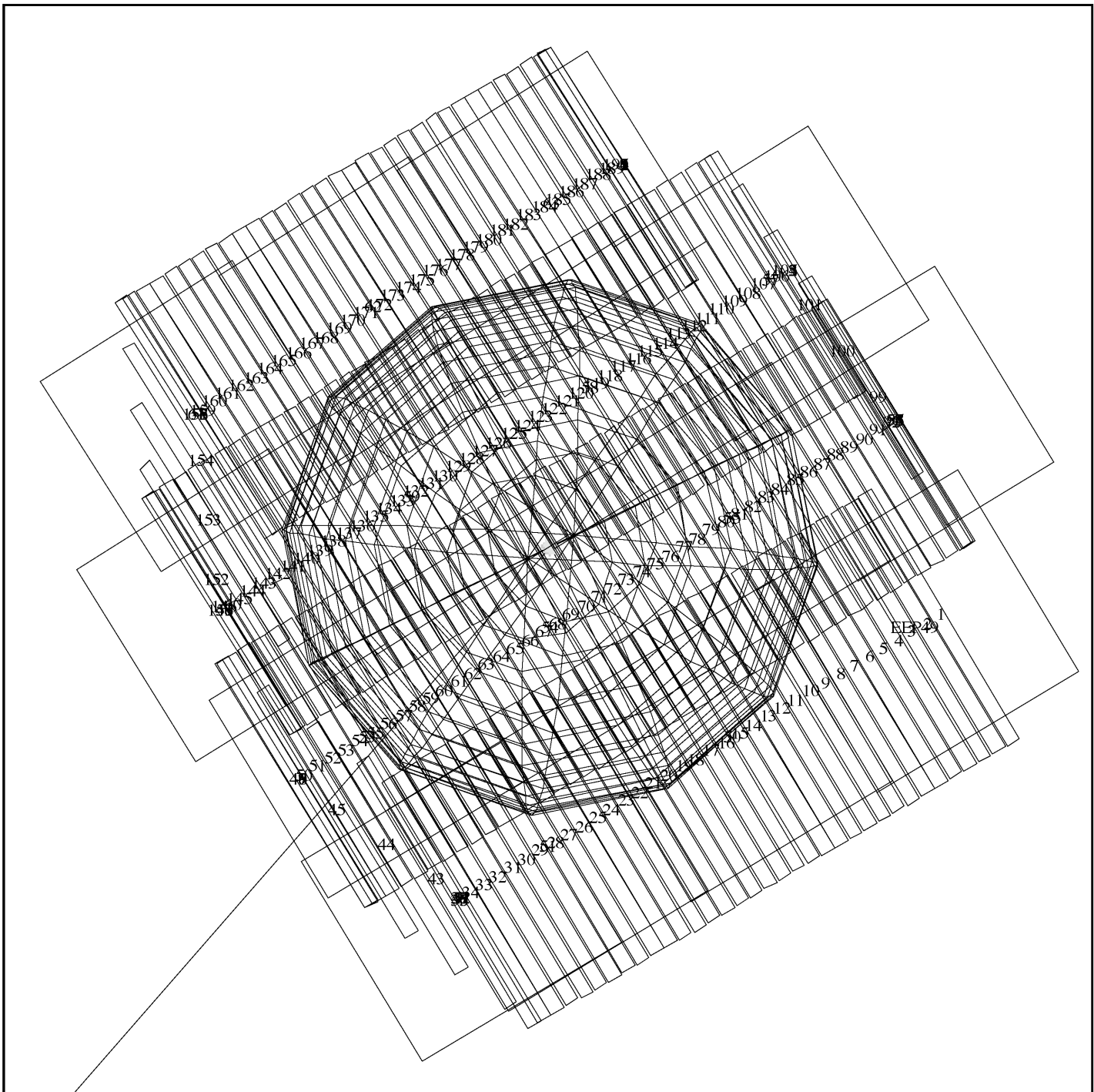
START:GEE 91-302/22:37:00.666 -CDS 52:00:0

ACTIVITY:GAPNGASPEC06

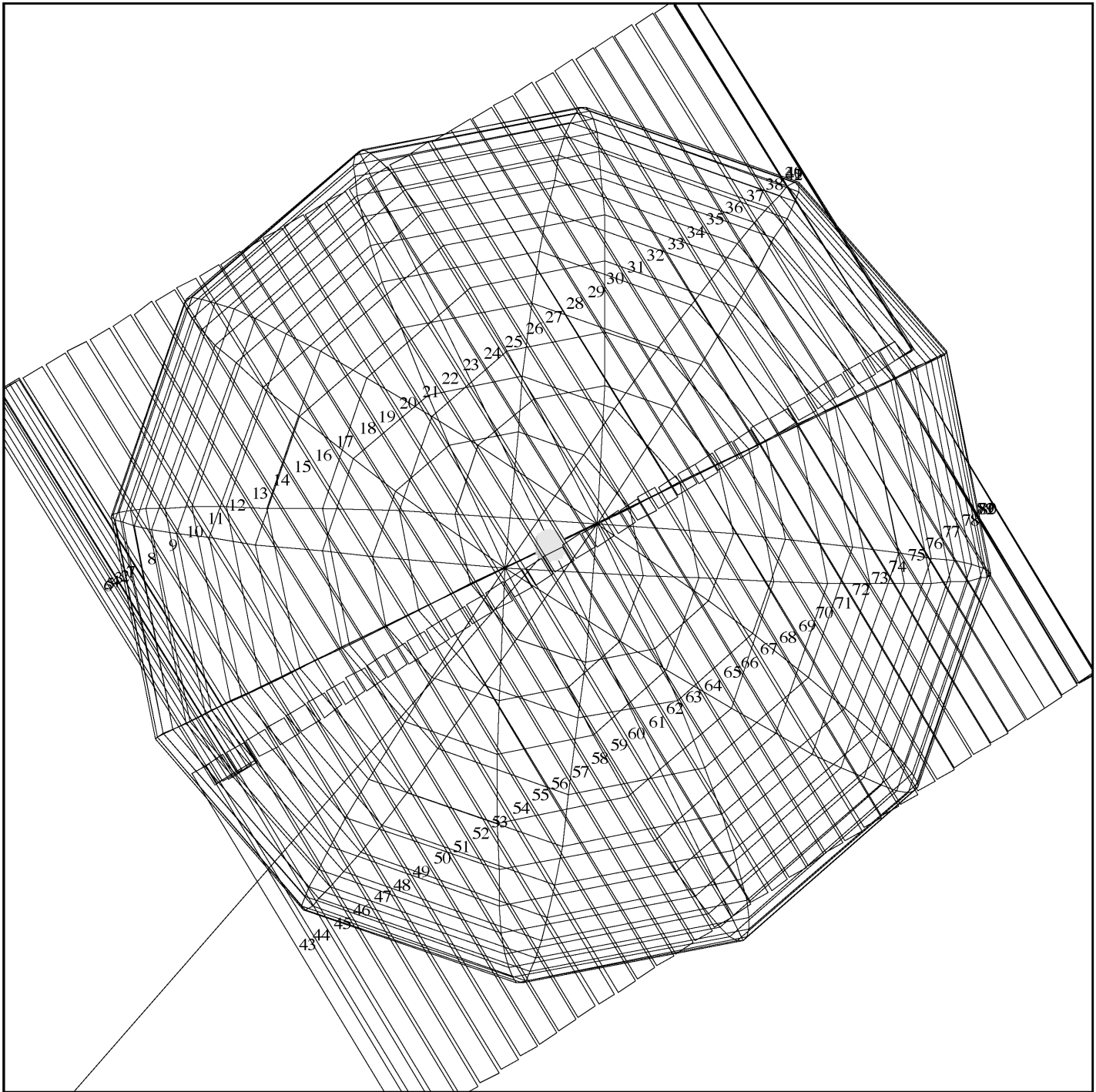
DESCRIP:NIMS 204 WVLGTHS@LM NYQUIST RATE

Gaspra Highest Spectral Resolution Map		ACTIVITY ID: GAPNGASPEC06-	
		START TIME: 91-302/21:44:26	
Activity ID: Orbit GA Target P Inst N OAPEL GASPEC SeqNo 06 Multi -			
Title	Gaspra Highest Spectral Resolution Map		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000052:00:0	91-302/21:44:26	GCA-000/00:52:34
End	GCA-CDS 00000045:13:0	91-302/21:51:22	GCA-000/00:45:38
Duration	00000006:78:0	000/00:06:56	000/00:06:56
Top Label	GAPNGASPEC06-		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	181	Report Options	Real Time Activity No
<p style="text-align: center;">Observation Objective</p> <p>NIMS will perform a disk spectral integration of Gaspra which, when combined with other observations, will provide 15 degree rotational samples. Rotationally resolved data will help determine the nature of spectral differences on Gaspra, suspected to have originated from a differentiated parent body.</p>			
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias</p> <p>NIMS will map the error ellipse plus scan platform error with a single swath in Full Map mode at Long Map Nyquist sampling rate (0.03 mrad/sec). This is one of five Full Map observations in the Gaspra Far Encounter, the fifth of which verifies the observation in Full Map mode of the first quadrant.</p> <p>Full Map (FM), Gain 1, Grating Start 0, Chopper 63Hz, MPW</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95





Gaspra Lower Phase Vista				ACTIVITY ID: GAPNGASVIS02*		START TIME: 91-302/21:52:31	
Activity ID: Orbit GA Target P Inst N OAPEL GASVIS SeqNo 02 Multi *							
Title	Gaspra Lower Phase Vista				Instrument		NIMS
Requestor	C. Byrnes			Team	NIMS	Working Group	AWG
Time System	CDS	Load ID	EE3	Calendar Date	10/29/91	Week 44	
Start	GCA-CDS	00000044:00:0		91-302/21:52:31	GCA-000/00:44:29		
End	GCA-CDS	00000041:78:0		91-302/21:54:41	GCA-000/00:42:19		
Duration		00000002:13:0		000/00:02:10	000/00:02:10		
Top Label	GAPNGASVIS02*						
Bottom Label							
Plot Key	NIMS	Riding Plot Key			Conflict	Yes	
CDS Bytes	37	Report Options			Real Time Activity	No	
<p style="text-align: center;">Observation Objective</p> <p>This observation provides an insurance against a tweak failure by covering the untweaked error ellipse.</p>							
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias GAPSTWKINS01</p> <p>This observation is a ride-along with a 1 filter, 4x4 SSI mosaic in IM4 (8.667 sec shutter cycle). NIMS will use the Fixed Map mode while the scan platform slews at 0.85 mrad/sec.</p> <p>Fixed Map (XM), Gain 1, Grating Start 6, Chopper 63Hz, IM4</p>							
Last Changed	05/03/95	Changed By	FEL	10/08/91 13:58:04			
Galileo Activity Plan Form						rev 5/95	



## GAPNGSCHEM02

POINTER C4.1Wsusan: 9/25/1991 10:15: 5

FILE:P.GAPNGSCHEM02

CENTRAL BODY:PLUTO

MINI:m.GAPNGSCHEM02

S/C EPH:/gp/eph/EE3P-091691.t

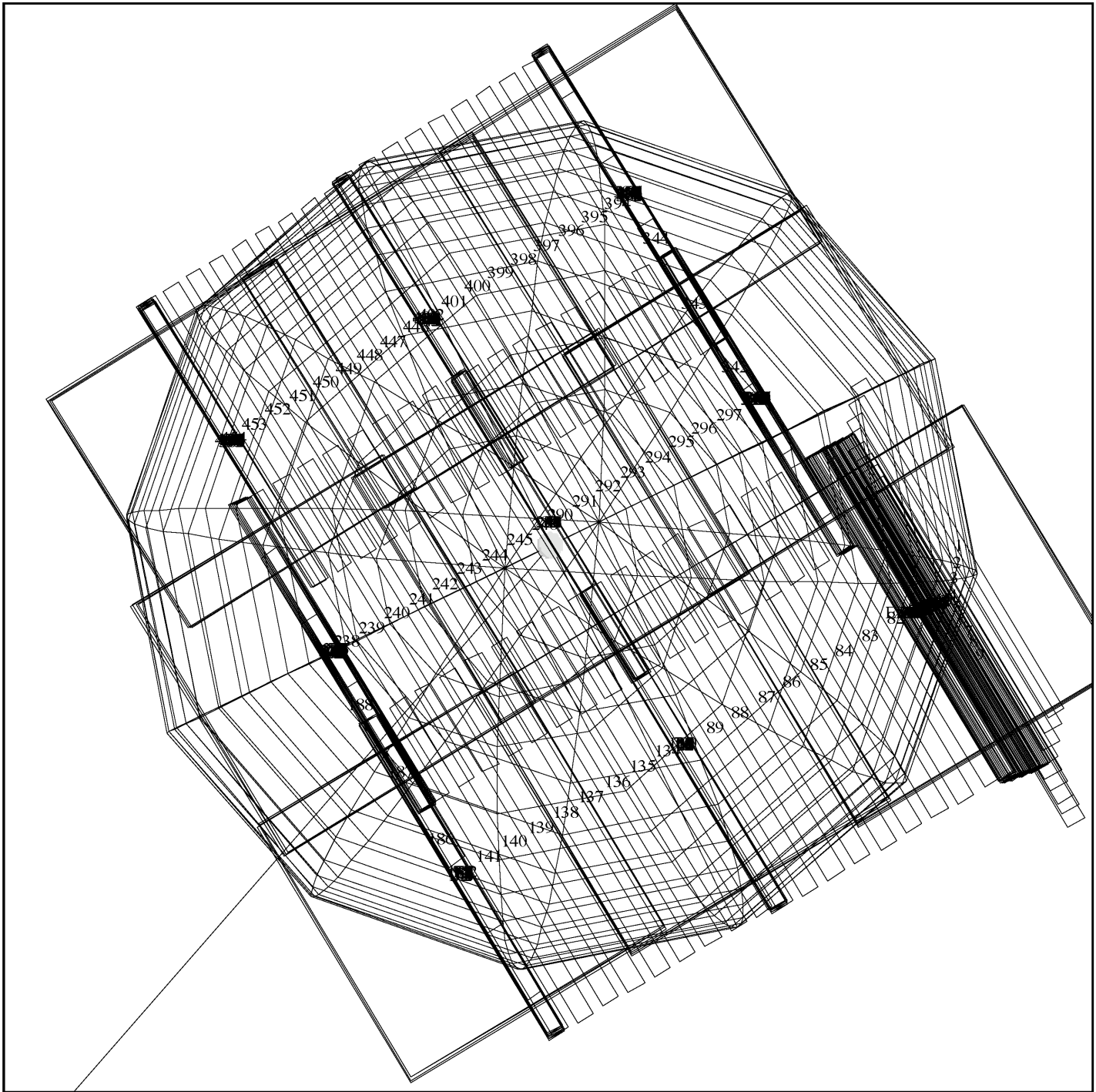
PERIAPSIS:91-302/22:37:59.0

START:GEE 91-302/22:37:00.666 -CDS 42:00:0

ACTIVITY:GAPNGSCHEM02

DESCRIP:NIMS 102 WVLNGTH HEMISPHERES

Gaspra Chemical Study		ACTIVITY ID: GAPNGSCHEM02+	
		START TIME: 91-302/21:55:26	
Activity ID: Orbit GA Target P Inst N OAPEL GSCHM SeqNo 02 Multi +			
Title	Gaspra Chemical Study		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000041:11:0	91-302/21:55:26	GCA-000/00:41:34
End	GCA-CDS 00000035:20:0	91-302/22:01:24	GCA-000/00:35:36
Duration	00000005:82:0	000/00:05:58	000/00:05:58
Top Label	GAPNGSCHEM02+		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	386	Report Options	Real Time Activity No
<p style="text-align: center;">Observation Objective</p> <p>Study chemical heterogeneity of Gaspra using 102 wavelengths.</p>			
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias</p> <p>This OAPEL was originally the 2nd of 4 separate scans of the error ellipse in Short Map mode at Nyquist sampling rate (0.11 mrad/sec). The first of those scans, GSCHM01, was replaced with GASPEC06 after growth in the OPNAV-reported 1 sigma error ellipse size late in sequencing. Therefore, GSCHM02 now marks the first of 3 separate error ellipse scans. In the actual sequence, the GSCHM03 OAPEL has been incorporated into the GSCHM02 activity. That is, the NIMS observation GSCHM02 actually includes both GSCHM02 and GSCHM03 OAPELS to agree with their definitions: that each would cover each hemisphere of the error ellipse without attention to the amount of overlap between the two strips. GSCHM04 will then scan the center of the error ellipse which has minimal coverage in GSCHM02.</p> <p>Short Map (SM), Gain 1, Grating Start 2, Chopper 63Hz, MPW</p>			
Last Changed	05/03/95	Changed By	FEL 10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95



**GAPNGASNAP01**

POINTER C4.1Wsusan: 9/25/1991 10:17:29

FILE:P.GAPS4FILTR01

CENTRAL BODY:PLUTO

MINI:m.GAPS4FILTR01

S/C EPH:/gpnr/eph/EE3P-091691.t

PERIAPSIS:91-302/22:37:59.0

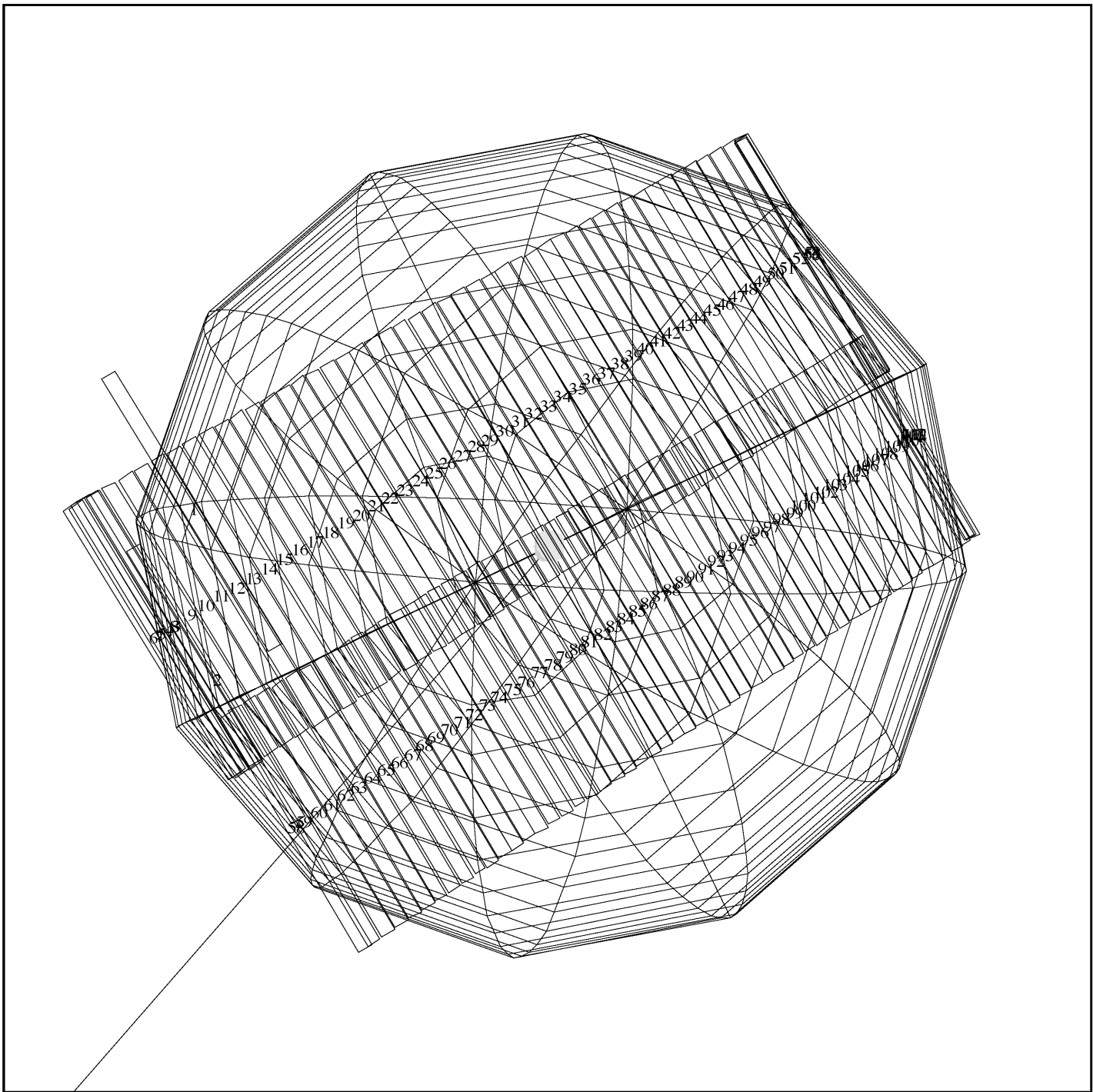
START:GEE 91-302/22:37:00.662   -CDS 35:00:0

ACTIVITY:GAPS4FILTR01

DESCRIP:3X3 4-FILTER MOSAIC

Gaspra Snapshot at Lower Phase Angles		ACTIVITY ID: GAPNGASNAP01*	
		START TIME: 91-302/22:01:44	
Activity ID: Orbit GA Target P Inst N OAPEL GASNAP SeqNo 01 Multi *			
Title	Gaspra Snapshot at Lower Phase Angles		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000034:81:0	91-302/22:01:44	GCA-000/00:35:16
End	GCA-CDS 00000030:19:0	91-302/22:06:28	GCA-000/00:30:32
Duration	00000004:62:0	000/00:04:44	000/00:04:44
Top Label	GAPNGASNAP01*		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	112	Report Options	Real Time Activity No
<p style="text-align: center;">Observation Objective</p> <p>NIMS will acquire the highest spectral resolution data of Gaspra (408 wavelengths) if captured in the NIMS field of view while SSI takes their highest resolution, four color observation of Gaspra. Otherwise, NIMS will acquire a Fixed Map spectrum of Gaspra as the scan platform slews into position for the next SSI frame.</p>			
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias GAPS4FILTR01</p> <p>SSI will shutter a 3x3 mosaic with 4 filters. As the scan platform slews between the 4 filter sets, NIMS will be commanded through a Special Sequence to Fixed Map mode. When the scan platform is stationary for shuttering of the 4 filter sets, NIMS will be commanded to Long Map mode. This NIMS mode is a variation of the NIMS Stop and Slide Mode.</p> <p>Special Sequence 13: Stop-and-Slide using Long Map and Fixed Map</p> <p>Long Map (LM), Gain 1, Grating Start 0, Chopper 63Hz, IM4, Repeat 2</p> <p>Fixed Map (XM), Gain 1, Grating Start 6, Chopper 63Hz, IM4, Repeat 4</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95





**GAPNGSCHEM04**

POINTER C4.1Wsusan: 9/25/1991 10:26:14

FILE:P.GAPNGSCHEM04

CENTRAL BODY:PLUTO

MINI:m.GAPNGSCHEM04

S/C EPH:/gptr/eph/EE3P-091691.t

PERIAPSIS:91-302/22:37:59.0

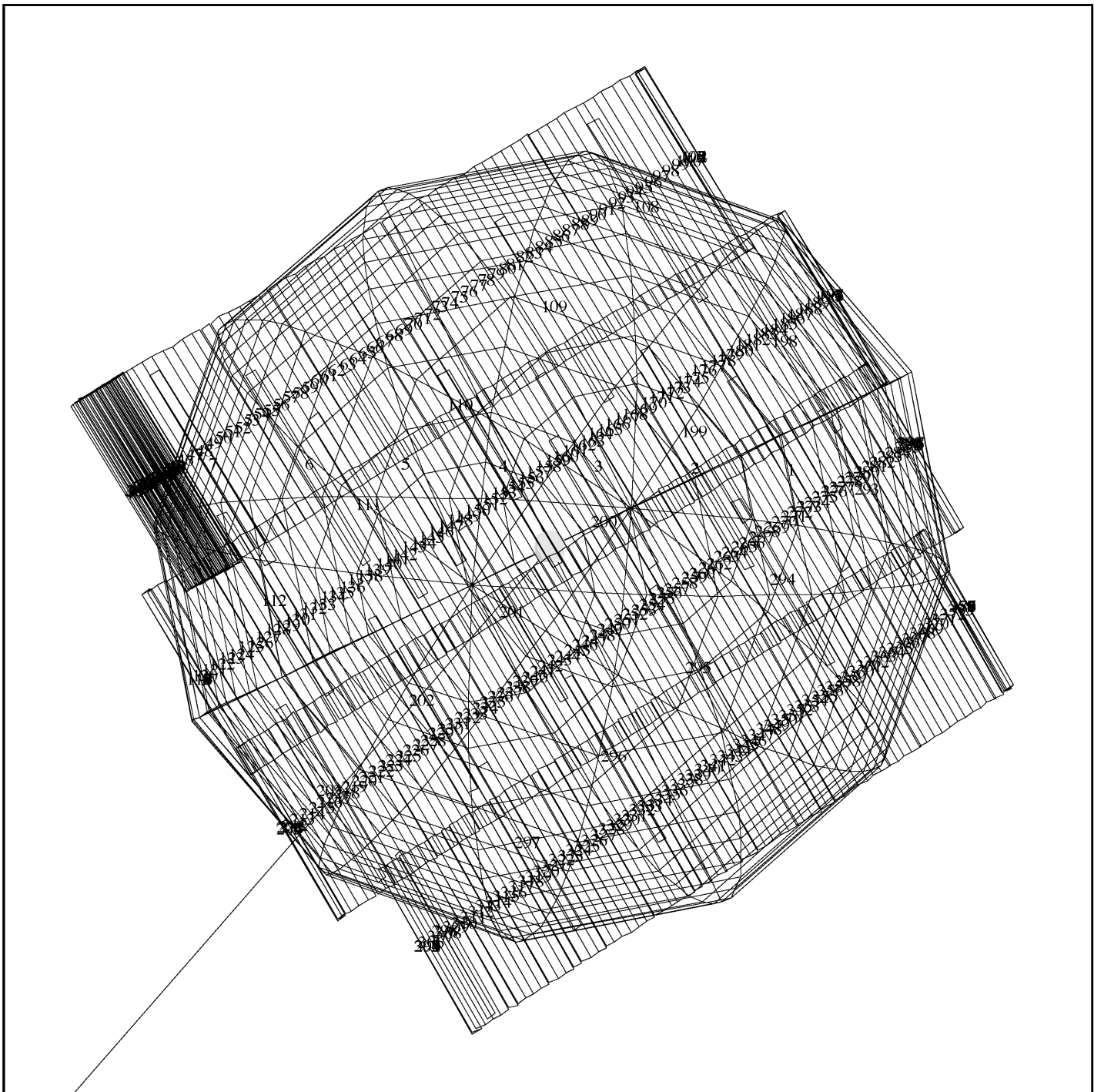
START:GEE 91-302/22:37:00.666    -CDS 29:00:0

ACTIVITY:GAPNGSCHEM04

DESCRIP:NIMS 102 WVLNGTH CTR ELLIPSE

Gaspra Chemical Study		ACTIVITY ID: GAPNGSCHEM04+	
		START TIME: 91-302/22:08:09	
Activity ID: Orbit GA Target P Inst N OAPEL GSCHEM SeqNo 04 Multi +			
Title	Gaspra Chemical Study		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000028:49:0	91-302/22:08:09	GCA-000/00:28:51
End	GCA-CDS 00000020:20:0	91-302/22:16:34	GCA-000/00:20:26
Duration	00000008:29:0	000/00:08:25	000/00:08:25
Top Label	GAPNGSCHEM04+		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	401	Report Options	Real Time Activity No
<p style="text-align: center;">Observation Objective</p> <p>Study chemical heterogeneity of Gaspra using 102 wavelengths.</p>			
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias</p> <p>This is the last of 3 separate scans of the error ellipse in Short Map mode. This scan will cover the most probable position of Gaspra in the error ellipse (center of ellipse). Scans will be done at Nyquist rate (0.11 mrad/sec).</p> <p>Short Map (SM), Gain 1, Grating Start 2, Chopper 63Hz, MPW</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95





**GAPNGASMAP01**

POINTER C4.1Wsusan: 9/25/1991 10:30:25

FILE:P.GAPNGASMAP01

CENTRAL BODY:PLUTO

MINI:m.GAPNGASMAP01

S/C EPH:/gptr/eph/EE3P-091691.t

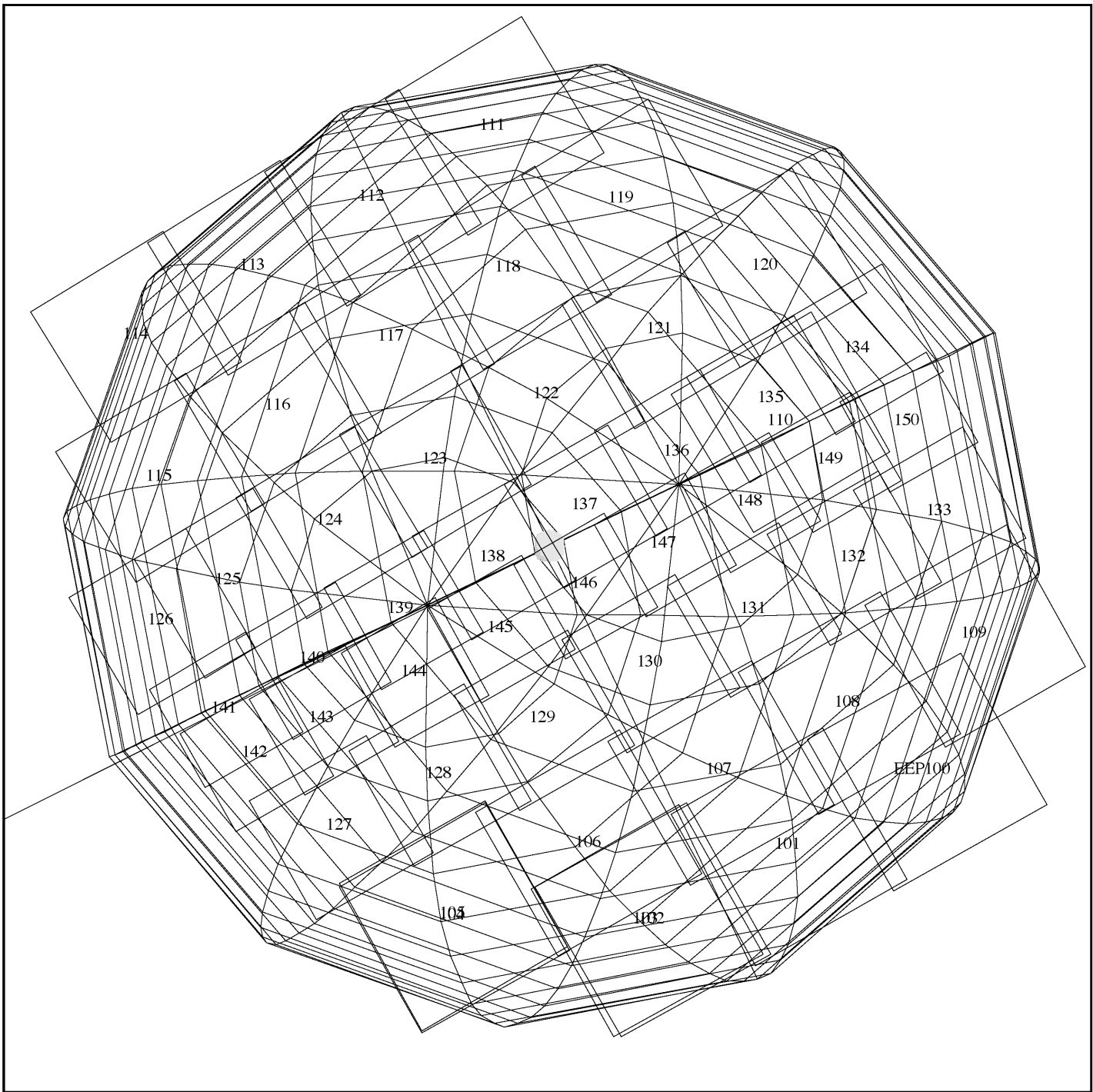
PERIAPSIS:91-302/22:37:59.0

START:GEE 91-302/22:37:00.666 -CDS 20:00:0

ACTIVITY:GAPNGASMAP01

DESCRIP:NIMS 17 WVLNGTHS FULL ELLIPSE

Gaspra Chemical Heterogeneity Map		ACTIVITY ID: GAPNGASMAP01-	
		START TIME: 91-302/22:17:27	
Activity ID: Orbit GA Target P Inst N OAPEL GASMAP SeqNo 01 Multi -			
Title	Gaspra Chemical Heterogeneity Map		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000019:31:0	91-302/22:17:27	GCA-000/00:19:33
End	GCA-CDS 00000015:55:0	91-302/22:21:14	GCA-000/00:15:46
Duration	00000003:67:0	000/00:03:47	000/00:03:47
Top Label	GAPNGASMAP01-		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	753	Report Options	Real Time Activity No
<p style="text-align: center;">Observation Objective</p> <p>Observe the distribution of composition at a compromise between phase angle (affects spectral sensitivity) and spatial resolution.</p>			
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias</p> <p>The first of 2 Fixed Map observations of Gaspra, NIMS will scan the error ellipse plus scan platform pointing errpr at 0.75 mrad/sec. The phase angle for this Fixed Map observation is lower that the observation at -16 Rims.</p> <p>Fixed Map (XM), Gain 1, Grating Start 6, Chopper 63Hz, MPW</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95



## GAPNGASPAT01

POINTER C4.1Wsusan: 9/25/1991 10:35: 5

FILE:P.GAPSHIPHAS01

CENTRAL BODY:PLUTO

MINI:m.GAPSHIPHAS01

S/C EPH:/gptr/eph/EE3P-091691.t

PERIAPSIS:91-302/22:37:59.0

START:GEE 91-302/22:37:00.666 -CDS 15:00:0

ACTIVITY:GAPSHIPHAS01

DESCRIP:7X7 1-FILTER HIGH PHASE

Gaspra Highest Spatial Resolution Obs		ACTIVITY ID: GAPNGASPAT01*	
		START TIME: 91-302/22:21:50	
Activity ID: Orbit GA Target P Inst N OAPEL GASPAT SeqNo 01 Multi *			
Title	Gaspra Highest Spatial Resolution Obs		Instrument NIMS
Requestor	C. Byrnes	Team NIMS	Working Group AWG
Time System	CDS	Load ID EE3	Calendar Date 10/29/91 Week 44
Start	GCA-CDS 00000015:00:0	91-302/22:21:50	GCA-000/00:15:10
End	GCA-CDS 00000007:39:0	91-302/22:29:30	GCA-000/00:07:30
Duration	00000007:52:0	000/00:07:40	000/00:07:40
Top Label	GAPNGASPAT01*		
Bottom Label			
Plot Key	NIMS	Riding Plot Key	Conflict Yes
CDS Bytes	351	Report Options	Real Time Activity No
<p style="text-align: center;">Observation Objective</p> <p>This is the highest priority NIMS observation with the best NIMS spatial resolution of the encounter at the lowest spectral resolution (17 wavelengths). However, Gaspra will be observed at higher phase angles than desired for NIMS observations.</p>			
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias GAPSHIPHAS01</p> <p>This observation includes a SSI mosaic which affords plenty of overlap between swaths. The slew rate was reduced as much as possible to 0.84 mrad/sec, 0.09 mrad/sec over the NIMS Nyquist rate, while still insuring the appropriate overlap between SSI frames. Due to the priority of the SSI science, the activity name given to this observation is SSI's HIPHAS01 in the sequence products.</p> <p>Fixed Map (XM), Gain 1, Grating Start 6, Chopper 63Hz, IM4</p>			
Last Changed	05/03/95	Changed By FEL	10/08/91 13:58:04
Galileo Activity Plan Form			rev 5/95

Gaspra PCT Calibration				ACTIVITY ID: GANNPCTCAL01-	
				START TIME: 91-303/01:35:58	
Activity ID: Orbit GA Target N Inst N OAPEL PCTCAL SeqNo 01 Multi -					
Title	Gaspra PCT Calibration			Instrument	NIMS
Requestor	C. Byrnes		Team	NIMS	Working Group AWG
Time System	CDS	Load ID	EE3	Calendar Date	10/29/91 Week 44
Start	GCA+CDS	00000177:00:0		91-303/01:35:58	GCA+000/02:58:58
End	GCA+CDS	00000221:67:0		91-303/02:20:27	GCA+000/03:43:27
Duration		00000044:00:0		000/00:44:29	000/00:44:29
Top Label	GANNPCTCAL01-				
Bottom Label					
Plot Key	NIMS	Riding Plot Key	Conflict		Yes
CDS Bytes	492	Report Options	Real Time Activity		No
<p style="text-align: center;">Observation Objective</p> <p>NIMS will perform a PCT Calibration for better analysis of data taken at Gaspra. This is the first full NIMS PCT Calibration that will be unsaturated for ALL NIMS detectors.</p>					
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias</p> <p>NIMS will calibrate by positioning the scan platform to the PCT and taking data in Long Map mode, Gain State 1. This is the gain state used during Gaspra closest approach. The spacecraft will be in Alspin. Two RIMs of the PCT Cal will be recorded: one RIM in Chopper 63Hz mode and one RIM in Chopper Reference mode. No Dark values are taken in Chopper Ref mode.</p> <p>Long Map (LM), Gain 1, Grating Start 0, Chopper 63Hz, MPW  Long Map (LM), Gain 1, Grating Start 0, Chopper Ref, MPW</p>					
Last Changed	05/03/95	Changed By	FEL	10/08/91 13:58:04	
Galileo Activity Plan Form					rev 5/95

Gaspra RCT Calibration				ACTIVITY ID: GANNRCTCAL01-	
				START TIME: 91-303/08:40:38	
Activity ID: Orbit GA Target N Inst N OAPEL RCTCAL SeqNo 01 Multi -					
Title	Gaspra RCT Calibration			Instrument	NIMS
Requestor	C. Byrnes		Team	NIMS	Working Group AWG
Time System	CDS	Load ID	EE3	Calendar Date	10/29/91 Week 44
Start	GCA+CDS	00000597:00:0		91-303/08:40:38	GCA+000/10:03:38
End	GCA+CDS	00000604:67:0		91-303/08:47:42	GCA+000/10:10:42
Duration		00000007:00:0		000/00:07:04	000/00:07:04
Top Label	GANNRCTCAL01-				
Bottom Label					
Plot Key	NIMS	Riding Plot Key	Conflict		Yes
CDS Bytes	259	Report Options	Real Time Activity		No
<p style="text-align: center;">Observation Objective</p> <p>NIMS will perform a RCT Calibration for better analysis of data taken at Gaspra.</p>					
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias</p> <p>The RCT Calibration should be performed with the spacecraft -Z axis sun-pointed +/- 8 degrees in order to satisfy sun avoidance flight rules. After sufficient time (6.5 hours) for the RCT to equilibrate after the RCT Heater is turned on, NIMS will position the scan platform to the RCT and take data in Long Map mode, Gain State 1. Two RIMS of the RCT Cal will be recorded: one RIM in Chopper Reference mode and one RIM in Chopper 63Hz mode. No Dark values are taken in Chopper Ref mode.</p> <p>Long Map (LM), Gain 1, Grating Start 0, Chopper Ref, MPW  Long Map (LM), Gain 1, Grating Start 0, Chopper 63Hz, MPW</p>					
Last Changed	05/03/95	Changed By	FEL	10/08/91 13:58:04	
Galileo Activity Plan Form					rev 5/95

Gaspra NIMS Turn Off Sequence.				ACTIVITY ID: GANNTURNOF01-	
				START TIME: 91-303/10:09:37	
Activity ID: Orbit GA Target N Inst N OAPEL TURNOF SeqNo 01 Multi -					
Title	Gaspra NIMS Turn Off Sequence.			Instrument	NIMS
Requestor	C. Byrnes		Team	NIMS	Working Group AWG
Time System	CDS	Load ID	EE3	Calendar Date	10/29/91 Week 44
Start	GCA+CDS	00000683:00:0		91-303/10:09:37	GCA+000/11:30:35
End	GCA+CDS	00000690:67:0		91-303/10:16:42	GCA+000/11:37:40
Duration		00000007:00:0		000/00:07:05	000/00:07:05
Top Label	GANNTURNOF01-				
Bottom Label					
Plot Key	NIMS	Riding Plot Key	Conflict		Yes
CDS Bytes	267	Report Options	Real Time Activity		No
<p style="text-align: center;">Observation Objective</p> <p>Turn off NIMS and turn on needed heaters.</p>					
<p style="text-align: center;">Design Detail</p> <p style="text-align: right;">Alias</p> <p>Turn off the NIMS instrument. Turn on the Replacement Heater and Shield Heater. Move the scan platform to the Safe, Unstow position.</p>					
Last Changed	05/03/95	Changed By	FEL	10/08/91 13:58:04	
Galileo Activity Plan Form					rev 5/95

NIMS Obstab (Data Returned)		Columns														Comments									
Heading		1	12	14	17	29	41	44	47	50	53	71	89	92	94	112	115	117	120	127					
OAPEL		.Oapel Name from SEF																							
EXT		.Extension (allow for split OAPELs)																							
PSID		.2 Letter ID for the OAPEL																							
SCLK1		.Start time of OBS in SCLK																							
SCLK2		.STOP time of OBS in SCLK																							
MODE		.NIMS Instrument MODE																							
GAIN		.Gain State (true value)																							
CHOP		.Chopper State (1=Ref,2=63Hz,3=FreeRun,4=Off)																							
GRAT_OFF		.Grating Offset																							
PTAB_A(6)		.First PTAB (repeat count,mirror op,autobias....																							
PTAB_B(6)		.Second PTAB (...grating start, grating delta....																							
		. (...number of grating postions)																							
ECAL		.Electronics Calibration Active (1=yes)																							
OPCAL		.Optics Calibration active (1=yes)																							
UTC1		.Start time of OBS in UTC (from SEF - ISO STANDARD)																							
REAL_TIME		.NIMS in Real-Time Telemetry (1=yes)																							
RECORD		.NIMS in Record Telemetry(1=yes)																							
TARGET		.Primary Target of OBS																							
		GASPRA - P - Gaspra																							
		CALIBRATION - N - Non-Science																							
(the single letter abbreviation appears as the third character in the OBSNAME (OAPEL Name) ).																									
INPUT SEF FILE: EE11_921118.SEF																									
-----																									
OAPEL, EXT, PSID, SCLK1, SCLK2, MODE, GAIN, CHOP, GRAT_OFF, PTAB_A(6), PTAB_B(6), ECAL, OPCAL, UTC1, REAL_TIME, RECORD, TARGET		-----																							
OAPEL	EXT PSID SCLK1	SCLK2	M	G	C	O	PTAB A	PTAB B	E	O	UTC1	R	T	TARGET											
GAPSLTCRVC01	A IG	01072716:00	01072716:13	1	4	2	4	1	1	0	0	2	12	1	1	0	0	2	12	0	0	1991-302T14:33:45	0	1	GASpra
GAPNGASPEC01	A JA	01072720:00	01072723:22	1	4	2	4	1	1	0	0	2	12	1	1	0	0	2	12	0	0	1991-302T14:37:48	0	1	GASpra
GAPNGASPER01	A JB	01072734:05	01072734:21	7	4	2	4	1	1	0	6	0	12	1	1	0	6	0	12	0	0	1991-302T14:52:01	0	1	GASpra
GAPNGASCUR01	A EA	01072751:04	01072751:45	5	4	2	4	1	1	0	2	4	6	1	1	0	2	4	6	0	0	1991-302T15:09:12	0	1	GASpra
GAPNGASCUR01	B EA	01072751:57	01072752:28	5	4	2	4	1	1	0	2	4	6	1	1	0	2	4	6	0	0	1991-302T15:09:47	0	1	GASpra
GAPNGASPER02	A JC	01072769:05	01072769:21	7	4	2	4	1	1	0	6	0	12	1	1	0	6	0	12	0	0	1991-302T15:27:24	0	1	GASpra
GAPNGASCUR02	A EB	01072786:04	01072786:45	5	4	2	4	1	1	0	2	4	6	1	1	0	2	4	6	0	0	1991-302T15:44:35	0	1	GASpra
GAPNGASCUR02	B EB	01072786:57	01072787:35	5	4	2	4	1	1	0	2	4	6	1	1	0	2	4	6	0	0	1991-302T15:45:10	0	1	GASpra
GAPNGASPER03	A JD	01072804:05	01072804:21	7	4	2	4	1	1	0	6	0	12	1	1	0	6	0	12	0	0	1991-302T16:02:48	0	1	GASpra
GAPSLTCRVC02	A IF	01072821:00	01072821:13	1	4	2	4	1	1	0	0	2	12	1	1	0	0	2	12	0	0	1991-302T16:19:55	0	1	GASpra
GAPNGASPEC02	A JE	01072825:05	01072828:46	1	4	2	4	1	1	0	0	2	12	1	1	0	0	2	12	0	0	1991-302T16:24:02	0	1	GASpra
GAPNGASPER04	A JF	01072839:05	01072839:23	7	4	2	4	1	1	0	6	0	12	1	1	0	6	0	12	0	0	1991-302T16:38:11	0	1	GASpra
GAPNGASCUR03	A EC	01072856:04	01072856:45	5	4	2	4	1	1	0	2	4	6	1	1	0	2	4	6	0	0	1991-302T16:55:22	0	1	GASpra
GAPNGASCUR03	B EC	01072856:57	01072857:34	5	4	2	4	1	1	0	2	4	6	1	1	0	2	4	6	0	0	1991-302T16:55:57	0	1	GASpra



OAPEL	EXT	PSID	SCLK1	SCLK2	M	G	C	O	PTAB A		PTAB B		E	O	UTC1	R	T	TARGET								
GAPNGASPER05	A	JG	01072874:05	01072874:23	7	4	2	4	1	1	0	6	0	12	1	1	0	6	0	12	0	0	1991-302T17:13:34	0	1	GASPPRA
GAPNGASCUR04	A	ED	01072891:04	01072891:45	5	4	2	4	1	1	0	2	4	6	1	1	0	2	4	6	0	0	1991-302T17:30:45	0	1	GASPPRA
GAPNGASCUR04	B	ED	01072891:57	01072892:34	5	4	2	4	1	1	0	2	4	6	1	1	0	2	4	6	0	0	1991-302T17:31:20	0	1	GASPPRA
GAPNGASPER06	A	JH	01072909:05	01072909:23	7	4	2	4	1	1	0	6	0	12	1	1	0	6	0	12	0	0	1991-302T17:48:58	0	1	GASPPRA
GAPSLTCRVC03	A	IE	01072926:04	01072927:90	7	4	2	4	1	1	0	6	0	12	1	1	0	6	0	12	0	0	1991-302T18:06:08	0	1	GASPPRA
GAPNGASPEC03	A	JJ	01072930:05	01072934:10	1	4	2	4	1	1	0	0	2	12	1	1	0	0	2	12	0	0	1991-302T18:10:12	0	1	GASPPRA
GAPNGASPER07	A	JJ	01072944:05	01072944:25	7	4	2	4	1	1	0	6	0	12	1	1	0	6	0	12	0	0	1991-302T18:24:21	0	1	GASPPRA
GAPNGASCUR05	A	EE	01072961:04	01072961:45	5	4	2	4	1	1	0	2	4	6	1	1	0	2	4	6	0	0	1991-302T18:41:32	0	1	GASPPRA
GAPNGASCUR05	B	EE	01072961:57	01072962:31	5	4	2	4	1	1	0	2	4	6	1	1	0	2	4	6	0	0	1991-302T18:42:07	0	1	GASPPRA
GAPNGASPER08	A	JK	01072979:05	01072979:25	7	4	2	4	1	1	0	6	0	12	1	1	0	6	0	12	0	0	1991-302T18:59:44	0	1	GASPPRA
GAPNGASCUR06	A	EF	01072996:04	01072996:45	5	4	2	4	1	1	0	2	4	6	1	1	0	2	4	6	0	0	1991-302T19:16:55	0	1	GASPPRA
GAPNGASCUR06	B	EF	01072996:57	01072997:34	5	4	2	4	1	1	0	2	4	6	1	1	0	2	4	6	0	0	1991-302T19:17:30	0	1	GASPPRA
GAPSLTCRVC04	A	ID	01073031:04	01073032:90	5	4	2	4	1	1	0	2	4	6	1	1	0	2	4	6	0	0	1991-302T19:52:18	0	1	GASPPRA
GAPNGASPEC04	A	JM	01073035:05	01073039:25	1	4	2	4	1	1	0	0	2	12	1	1	0	0	2	12	0	0	1991-302T19:56:22	0	1	GASPPRA
GAPNGASPER10	A	JN	01073049:05	01073049:29	7	4	2	4	1	1	0	6	0	12	1	1	0	6	0	12	0	0	1991-302T20:10:31	0	1	GASPPRA
GAPNGASCUR07	A	EG	01073066:04	01073066:45	5	4	2	4	1	1	0	2	4	6	1	1	0	2	4	6	0	0	1991-302T20:27:42	0	1	GASPPRA
GAPNGASCUR07	B	EG	01073066:57	01073067:62	5	4	2	4	1	1	0	2	4	6	1	1	0	2	4	6	0	0	1991-302T20:28:17	0	1	GASPPRA
GAPNGASPER11	A	JO	01073083:90	01073084:29	7	4	2	4	1	1	0	6	0	12	1	1	0	6	0	12	0	0	1991-302T20:45:50	0	1	GASPPRA
GAPNGASCUR08	A	EH	01073101:04	01073101:45	5	3	2	4	1	1	0	2	4	6	1	1	0	2	4	6	0	0	1991-302T21:03:05	0	1	GASPPRA
GAPNGASCUR08	B	EH	01073101:57	01073102:82	5	3	2	4	1	1	0	2	4	6	1	1	0	2	4	6	0	0	1991-302T21:03:40	0	1	GASPPRA
GAPNGASPER12	A	JP	01073113:05	01073113:31	7	3	2	4	1	1	0	6	0	12	1	1	0	6	0	12	0	0	1991-302T21:15:14	0	1	GASPPRA
GAPNGASPEC05	A	JQ	01073129:05	01073133:88	1	1	2	4	1	1	0	0	2	12	1	1	0	0	2	12	0	0	1991-302T21:31:24	0	1	GASPPRA
GAPNGASVIS01	A	IA	01073135:40	01073138:77	12	1	2	4	1	0	6	0	12	3	1	0	0	0	1	24	0	0	1991-302T21:37:52	0	1	GASPPRA
GAPNGASPEC06	A	JR	01073141:61	01073144:46	1	1	2	4	1	1	0	0	2	12	1	1	0	0	2	12	0	0	1991-302T21:44:10	0	1	GASPPRA
GAPNGASPEC06	B	JR	01073144:55	01073148:48	1	1	2	4	1	1	0	0	2	12	1	1	0	0	2	12	0	0	1991-302T21:46:37	0	1	GASPPRA
GAPNGASVIS02	A	IB	01073149:01	01073150:90	7	1	2	4	1	1	0	6	0	12	1	1	0	6	0	12	0	0	1991-302T21:51:35	0	1	GASPPRA
GAPNGSCHEM02	A	JS	01073151:00	01073151:12	5	1	2	4	1	1	0	2	4	6	1	1	0	2	4	6	0	0	1991-302T21:53:30	0	1	GASPPRA
GAPNGSCHEM02	B	JS	01073151:79	01073157:70	5	1	2	4	1	1	0	2	4	6	1	1	0	2	4	6	0	0	1991-302T21:54:28	0	1	GASPPRA
GAPNGASNAP01	A	IC	01073158:40	01073163:51	13	1	2	4	2	1	0	0	1	24	4	1	0	6	0	12	0	0	1991-302T22:01:07	0	1	GASPPRA
GAPNGSCHEM04	A	JT	01073164:41	01073172:70	5	1	2	4	1	1	0	2	4	6	1	1	0	2	4	6	0	0	1991-302T22:07:12	0	1	GASPPRA
GAPNGASMAP01	A	JU	01073173:59	01073177:35	7	1	2	4	1	1	0	6	0	12	1	1	0	6	0	12	0	0	1991-302T22:16:30	0	1	GASPPRA
GAPNGASMAP01	A	EI	01073178:01	01073178:43	7	1	2	4	1	1	0	6	0	12	1	1	0	6	0	12	0	0	1991-302T22:20:55	0	1	GASPPRA
GAPNGASMAP01	B	EI	01073178:52	01073185:25	7	1	2	4	1	1	0	6	0	12	1	1	0	6	0	12	0	0	1991-302T22:21:26	0	1	GASPPRA
GANNPCTCAL01	A	JV	01073398:90	01073399:89	3	1	2	4	1	1	0	0	1	24	1	1	0	0	1	24	0	0	1991-303T02:04:20	0	1	PCT
GANNPCTCAL01	B	JV	01073401:90	01073402:89	3	1	1	4	1	1	0	0	1	24	1	1	0	0	1	24	0	0	1991-303T02:07:22	0	1	PCT
GANNRCTCAL01	A	JW	01073792:90	01073793:89	3	1	1	4	1	1	0	0	1	24	1	1	0	0	1	24	0	0	1991-303T08:42:43	0	1	RCT
GANNRCTCAL01	B	JW	01073796:00	01073796:89	3	1	2	4	1	1	0	0	1	24	1	1	0	0	1	24	0	0	1991-303T08:45:45	0	1	RCT

NIMS GASGRA DATA

NIMS\_EDR NIMS EDR filename.  
 SCLK1 NIMS EDR Start SCLK (RIM:MF).  
 SCLK2 NIMS EDR End SCLK (RIM:MF).  
 NR Number of Data Records (MFs).  
 NF Number of 0-Fill Records (MFs).  
 OAPEL Observation Name.  
 GAS GASGRA Seen in Data: X = Yes, 0 = No  
 MODE NIMS Mode.  
 DATA\_RANGE SCLK Range (RIM:MF - RIM:MF) of Data Segment.  
 GAS\_RANGE SCLK Range (RIM:MF - RIM:MF) Where GASGRA Is Seen By NIMS Within the Data Segment.  
 COMMENTS Mirror Position where Gaspra seen in NIMS FOV. (Chopper Mode for Calibrations)

NOTES: 1) Any NIMS EDR may contain data from multiple Observations (OAPELs).

FEL 21jul95

NIMS_EDR	SCLK 1	SCLK2	( NR, NF)	OAPEL	GAS	MODE	DATA_RANGE	GAS_RANGE	COMMENTS
N10107271600.2	1072716.00	1072716.13	( 14, 0)	GAPSLTCRVC01	0	FM	(16.00 - 16.13)		
N10107272000.2	1072720.00	1072723.22	( 296, 0)	GAPNGASPEC01	X	FM	(20.00 - 23.22)	(21.45 - 21.66)	MP 9
N10107273405.2	1072734.05	1072734.21	( 17, 0)	GAPNGASPER01	X	XM	(34.05 - 34.21)	(34.15 - 34.16)	MP 9
N10107275104.2	1072751.04	1072752.28	( 116, 11)	GAPNGASCUR01	X	SM	(51.04 - 52.28)	(51.81 - 51.85)	MP 9,10
N10107276905.2	1072769.05	1072769.21	( 17, 0)	GAPNGASPER02	X	XM	(69.05 - 69.21)	(69.15 - 69.15)	MP 9
N10107278604.2	1072786.04	1072787.35	( 123, 11)	GAPNGASCUR02	X	SM	(86.04 - 87.35)	(86.84 - 86.89)	MP 9,10
N10107280405.2	1072804.05	1072804.21	( 17, 0)	GAPNGASPER03	X	XM	(04.05 - 04.21)	(04.15 - 04.15)	MP 9,10
N10107282100.2	1072821.00	1072821.13	( 14, 0)	GAPSLTCRVC02	X	FM	(21.00 - 21.13)	(21.05 - 21.06)	MP 9
N10107282505.2	1072825.05	1072828.46	( 315, 0)	GAPNGASPEC02	X	FM	(25.05 - 28.46)	(26.78 - 27.09)	MP 9,10
N10107283905.2	1072839.05	1072839.23	( 19, 0)	GAPNGASPER04	X	XM	(39.05 - 39.23)	(39.16 - 39.16)	MP 9,10
N10107285604.2	1072856.04	1072857.34	( 122, 11)	GAPNGASCUR03	X	SM	(56.04 - 57.34)	(56.86 - 57.01)	MP 9,10

NIMS GASPR4 DATA

NIMS_EDR	SCLK 1	SCLK2	( NR, NF)	OAPL	GAS	MODE	DATA_RANGE	GAS_RANGE	COMMENTS
N10107287405.2	1072874.05	1072874.23	( 19, 0)	GAPNGASPER05	X	XM	(74.05 - 74.23)	(74.16 - 74.16)	MP 9,10
N10107289104.2	1072891.04	1072892.34	( 122, 11)	GAPNGASCUR04	X	SM	(91.04 - 92.34)	(91.84 - 92.00)	MP 9,10
N10107290905.2	1072909.05	1072909.23	( 19, 0)	GAPNGASPER06	X	XM	(09.05 - 09.23)	(09.16 - 09.17)	MP 9,10
N10107292604.2	1072926.04	1072927.90	( 178, 0)	GAPSLTCRVC03	X	XM	(26.04 - 27.90)	(27.48 - 27.55)	MP 9,10
N10107293005.2	1072930.05	1072934.10	( 370, 0)	GAPNGASPEC03	X	FM	(30.05 - 34.10)	(32.06 - 32.30)	MP 9,10
N10107294405.2	1072944.05	1072944.25	( 21, 0)	GAPNGASPER07	X	XM	(44.05 - 44.25)	(44.17 - 44.17)	MP 9,10
N10107296104.2	1072961.04	1072962.31	( 119, 11)	GAPNGASCUR05	X	SM	(61.04 - 62.31)	(61.79 - 61.85)	MP 9,10
N10107297905.2	1072979.05	1072979.25	( 21, 0)	GAPNGASPER08	X	XM	(79.05 - 79.25)	(79.16 - 79.16)	MP 9,10
N10107299604.2	1072996.04	1072997.34	( 122, 11)	GAPNGASCUR06	X	SM	(96.04 - 97.34)	(96.09 - 96.09)	MP 9
					X	SM	(96.04 - 97.34)	(96.84 - 97.00)	MP 9,10
N10107303104.2	1073031.04	1073032.90	( 178, 0)	GAPSLTCRVC04	X	SM	(31.04 - 32.90)	(31.28 - 32.90)	MP 9,10
N10107303505.2	1073035.05	1073039.25	( 385, 0)	GAPNGASPEC04	X	FM	(35.05 - 39.25)	(37.02 - 37.41)	MP 9,10
N10107304905.2	1073049.05	1073049.29	( 25, 0)	GAPNGASPER10	X	XM	(49.05 - 49.29)	(49.17 - 49.18)	MP 9,10
N10107306604.2	1073066.04	1073067.62	( 150, 11)	GAPNGASCUR07	X	SM	(66.04 - 67.62)	(67.03 - 67.11)	MP 9,10
N10107308390.2	1073083.90	1073084.29	( 31, 0)	GAPNGASPER11	X	XM	(83.90 - 84.29)	(84.19 - 84.19)	MP 9,10
N10107310104.2	1073101.04	1073102.82	( 170, 11)	GAPNGASCUR08	X	SM	(01.04 - 02.82)	(01.08 - 01.09)	MP 9,10
					X	SM	(01.04 - 02.82)	(02.10 - 02.20)	MP 9,10
N10107311305.2	1073113.05	1073113.31	( 27, 0)	GAPNGASPER12	X	XM	(13.05 - 13.31)	(13.19 - 13.20)	MP 9,10
N10107312905.2	1073129.05	1073138.77	( 892, 133)	GAPNGASPEC05	X	FM	(29.05 - 33.88)	(31.19 - 31.46)	MP 4-6
					X	XM	(35.40 - 38.77)	(36.22 - 36.23)	MP 2-4
					X	XM	(35.40 - 38.77)	(37.87 - 37.87)	MP 2-4

NIMS GASGRA DATA

NIMS_EDR	SCLK 1	SCLK2	( NR, NF)	OAPL	GAS	MODE	DATA_RANGE	GAS_RANGE	COMMENTS
N10107314161.2	1073141.61	1073185.25	(3969, 400)	GAPNGASPEC06	X	FM	(41.61 - 48.48)	(43.70 - 44.05)	MP 17-19
				GAPNGASPEC06	X	FM	(41.61 - 48.48)	(45.41 - 45.66)	MP 17-19
				GAPNGASVIS02	X	XM	(49.01 - 51.12)	(49.71 - 49.73)	MP 3-5
				GAPNGASVIS02	X	XM	(49.01 - 51.12)	(50.37 - 50.38)	MP 16-17
				GAPNGSCHEM02	X	SM	(51.78 - 57.70)	(53.02 - 53.17)	MP 1-3
				GAPNGSCHEM02	X	SM	(51.78 - 57.70)	(56.07 - 56.22)	MP 19
				GAPNGASNAP01	X	XM	(58.41 - 63.52)	(60.65 - 60.77)	MP 8-11
				GAPNGASNAP01	X	LM	(58.41 - 63.52)	(60.78 - 61.12)	MP 8-11
				GAPNGASNAP01	X	XM	(58.41 - 63.52)	(61.13 - 61.18)	MP 8-11
				GAPNGSCHEM04	X	SM	(64.42 - 72.71)	(66.15 - 66.36)	MP 2-5
				GAPNGSCHEM04	X	SM	(64.42 - 72.71)	(70.30 - 70.51)	MP 16-19
				GAPNGASMAP01	X	XM	(73.60 - 77.36)	(74.88 - 75.01)	MP 3-8
				GAPNGASPAT01	X	XM	(78.02 - 85.25)	(81.13 - 81.15)	MP 0,1
				GAPNGASPAT01	X	XM	(78.02 - 85.25)	(83.19 - 83.25)	MP 7-13
				GAPNGASPAT01	X	XM	(78.02 - 85.25)	(84.71 - 84.77)	MP 16-19
N10107339890.2	1073398.90	1073399.89	( 91, 0)	GANNPCTCAL01	PCT	LM	(98.90 - 99.89)		Chopper 63 Hz
N10107340190.2	1073401.90	1073402.89	( 91, 0)	GANNPCTCAL01	PCT	LM	(01.90 - 02.89)		Chopper Ref
N10107379290.2	1073792.90	1073793.89	( 91, 0)	GANNRCTCAL01	RCT	LM	(92.90 - 93.89)		Chopper Ref
N10107379600.2	1073796.00	1073796.89	( 90, 0)	GANNRCTCAL01	RCT	LM	(96.00 - 96.89)		Chopper 63 Hz

22 July 1991

TO: F. T. Nicholson

FROM: R. M. Vaughan *RMV*

SUBJECT: Revised Gaspra Encounter B-Plane Statistics For EE-2' OPNAV Schedule

This memo presents the results of the latest orbit determination analysis for the LGA Gaspra encounter. It is intended as an update to the results presented in reference [1]. The primary change for the new analysis is the deletion of one OPNAV picture from the previous data arc of 5 pictures and changes in times for the remaining 4 pictures. Also, a new a priori estimate of the spacecraft state uncertainty based solely on radio data has been provided by Vince Pollmeier for use in the simulations. This reflected the actual data that will be available for navigation based on the EE-2' stations allocations in effect on 6/27/91. Finally, this analysis uses the updated a priori uncertainty for the Gaspra ephemeris parameters reported in reference [2].

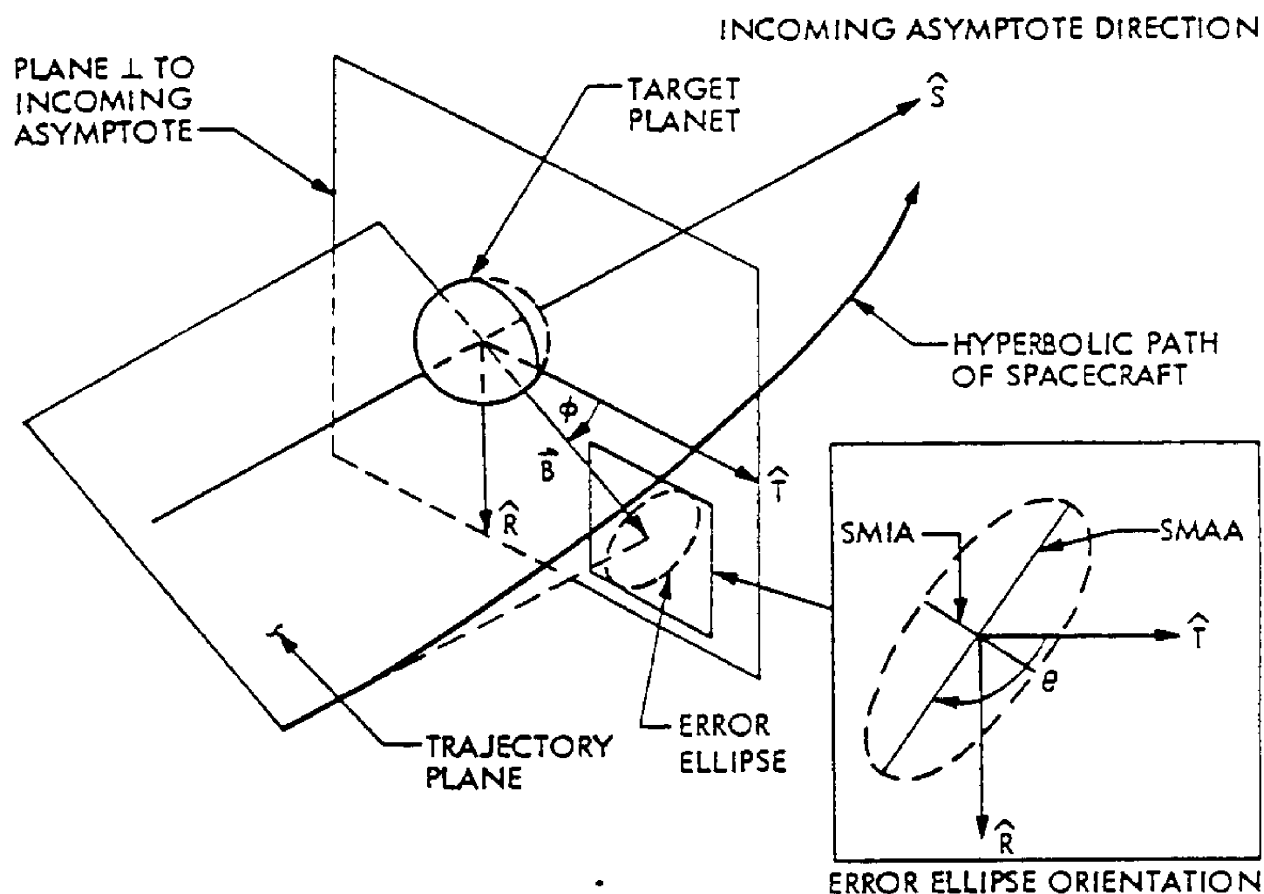
## 1 A Short Tutorial on B-Plane Statistics

Before presenting the details of the orbit determination simulations, a short discussion of the various methods used to quote B-plane statistics will be given. This is an attempt to clarify some misinterpretations of numbers presented in previous memos.

Figure 1 illustrates the definition of the B-plane and the navigation error ellipse. The spacecraft is assumed to flyby a target body on a hyperbolic trajectory. The B-plane is defined to be normal to the incoming asymptote of the hyperbola or, equivalently, normal to the velocity vector at "infinity" where infinity is defined to be far enough away from the vertex of the hyperbola that the trajectory essentially lies on the asymptote. The directions of the  $\hat{T}$  and  $\hat{R}$  axes and the  $\hat{B}$  vector itself are defined in the figure.

The  $\hat{B}$  vector is defined to be the vector from the origin to that point where the asymptote (or  $V_\infty$  vector) intersects the B-plane. For a typical flyby where there is significant bending of the hyperbola due to the gravitational attraction of the target body, the tip of the  $\hat{B}$  vector will be farther away from the B-plane origin than the spacecraft at the time it intersects the B-plane. Also, closest approach will generally occur after the spacecraft intersects the B-plane when its position reaches the vertex of the hyperbola. The navigation team internally uses the tip of the  $\hat{B}$  vector as its aimpoint. The  $\hat{B}$  vector corresponding to a desired closest approach geometry is automatically computed by the navigation software. Usually the coordinates of the  $\hat{B}$  vector are of interest only within the navigation team. In the case of the Gaspra flyby where there is almost no gravitational bending of the spacecraft trajectory, the tip of the  $\hat{B}$  vector is virtually identical to the spacecraft position at closest approach.

The navigation error ellipse defines the uncertainty associated with hitting the aimpoint in the B-plane. The navigation estimation technique is formulated using Gaussian, or normal, probability distributions. Let the  $R$  and  $T$  components of  $\hat{B}$  be denoted by  $B \cdot R$  and  $B \cdot T$ , respectively. The statistics of these components are assumed to follow the two-dimensional Gaussian distribution with



$$\vec{B} = \text{MISS PARAMETER} = \frac{1}{V_\infty} (\hat{S} \times \vec{H}), \text{ i.e., } \vec{B} \times (V_\infty \hat{S}) = \vec{H}$$

$\vec{H}$  = ANGULAR MOMENTUM VECTOR

$V_\infty$  = VELOCITY AT INFINITY

$\hat{T}$  = PARALLEL TO ECLIPTIC PLANE AND NORMAL TO  $\hat{S}$

$$\hat{R} = \hat{S} \times \hat{T}$$

Figure 1: The Navigation B-plane

probability density function

$$f_{RT} = \frac{1}{2\pi\sigma_R\sigma_T\sqrt{1-\rho_{RT}^2}} \exp \left\{ - \left[ \left( \frac{B \cdot R}{\sigma_R} \right)^2 - 2\rho_{RT} \left( \frac{B \cdot R}{\sigma_R} \right) \left( \frac{B \cdot T}{\sigma_T} \right) + \left( \frac{B \cdot T}{\sigma_T} \right)^2 \right] / 2(1 - \rho_{RT}^2) \right\}$$

where  $\sigma_R$  and  $\sigma_T$  are the standard deviations for each component and  $\rho_{RT}$  is the correlation coefficient between them. The concept of an error ellipse arises naturally when dealing with this type of distribution since contours of constant value of  $f_{RT}$  are ellipses. The size and orientation of the B-plane error ellipses are determined by the values of  $\sigma_R$ ,  $\sigma_T$  and  $\rho_{RT}$ . The standard deviations  $\sigma_R$  and  $\sigma_T$  are the  $1\sigma$   $B \cdot R$  and  $B \cdot T$  values that have been reported in previous memos such as reference [1] discussing navigation performance for the Gaspra encounter. The correlation coefficient  $\rho_{RT}$ , which would also be required to reconstruct the error ellipse, has not been reported.

A simple rotation of coordinates can be found for any two dimensional normal distribution such such that the correlation coefficient is zero in the new coordinate system. This is another of the standard ways of reporting navigation B-plane performance. Instead of giving  $\sigma_R$ ,  $\sigma_T$  and  $\rho_{RT}$  values, the two standard deviations in this special rotated coordinate system are given along with the rotation angle between the original  $\hat{R}$  and  $\hat{T}$  axes and the new coordinate system. These numbers correspond to the semi-major and semi-minor axes lengths of the error ellipse (SMAA and SMIA in Figure 1) and the rotation angle from the  $\hat{T}$  axis to the semi-major axis measured positive clockwise ( $\theta$  in Figure 1). The standard deviations in  $B \cdot R$  and  $B \cdot T$  are related to SMAA, SMIA and  $\theta$  as shown below:

$$\begin{aligned} \sigma_R &= \sqrt{(\text{SMAA} \sin \theta)^2 + (\text{SMIA} \cos \theta)^2} \\ \sigma_T &= \sqrt{(\text{SMAA} \cos \theta)^2 + (\text{SMIA} \sin \theta)^2} \end{aligned}$$

In this memo,  $1\sigma$  SMAA and SMIA values and the associated  $\theta$  values will be included along with the  $1\sigma$   $B \cdot R$  and  $B \cdot T$  values.

The probability of the aimpoint being within a certain area in the B-plane is defined to be the integral of the probability density function  $f_{RT}$  over that area. Usually this integral is quite difficult to evaluate for an area of arbitrary shape. However, if the area of interest is defined to be an ellipse centered on the nominal aimpoint with semi-major and semi-minor axes lengths of  $N\text{SMAA}$  and  $N\text{SMIA}$  and an orientation angle  $\theta$ , integrating  $f_{RT}$  gives

$$p(N\sigma) = 1 - e^{-N^2/2}$$

The fact that this integral results in an analytic formula for the probability of being inside an  $N\sigma$  error ellipse is related to the fact that the contours of constant value of  $f_{RT}$  form ellipses in the B-plane. These are just two of the many special properties of the two-dimensional Gaussian probability distribution. Some probability values computed from the above equation for various values of  $N$  are given in the table below:

$N$	$p(N\sigma)$
1.00	39.35%
2.00	86.47%
2.24	91.86%
3.00	98.89%
4.00	99.97%

Note that these values are not the same as the probabilities of being within  $N\sigma$  of the nominal value for a one-dimensional Gaussian distribution.

## 2 OD Simulation Description and Results

The trajectory used for this analysis has Gaspra flyby at 1600 km radial distance, 3.9° N ecliptic latitude on the darkside with closest approach at 22:39:02 UTC on 10/29/91 (DOY 302). This trajectory has nearly constant clock angle during approach as desired for the science observations in EE-3'. The recent change in flyby time to 22:37:00.687 UTC would have no appreciable affect on the results of the OD simulations.

Two optical data arcs were compared in this study. Both had 4 pictures in the period between 53 and 8 days before Gaspra closest approach. For convenience in the subsequent discussion, these two schedules will be referred to as ON1 and ON2. ON1 and ON2 are identical except for the placement of OPNAV #4 which occurs 2 days later for ON2. The ON1 OPNAV picture schedule matches OPNAV commands in the preliminary cruise profile package for EE-2'. SCP 005 has been approved to move OPNAV #4. The ON2 OPNAV picture schedule is to be considered the current baseline schedule. The change should be implemented in the final cruise profile package for EE-2'. The actual times and target stars for these two schedules are shown below:

Picture #	Time of Shutter		Star Content
	SCET (UTC)	Encounter Relative Time	
1	91-249/20:22	-53d 02:17	184489 (magnitude 9.0, spectral class F8) 90141 (magnitude 10.7, spectral class K6)
3	91-271/02:45	-31d 19:54	184459 (magnitude 9.1, spectral class A2)
4 (ON1)	91-284/22:30	-18d 00:09	184459 (magnitude 9.1, spectral class A2)
4 (ON2)	91-286/21:48	-16d 00:51	
5	91-294/14:00	-8d 08:39	184459 (magnitude 9.1, spectral class A2)

Optical data was weighted at 1 pixel for Gaspra images and 0.5 pixel for star images. Gaspra center-finding errors in pixel and line were included as consider parameters with a priori uncertainties of 15% of the image diameter. EME50 camera pointing angles for each picture were estimated as stochastic parameters with a priori uncertainty of 0.1° for RA and DEC. The a priori uncertainty for TWIST was assumed to be 10.0° for OPNAV pictures #1 and 3. Three cases for the a priori uncertainty for TWIST for OPNAV pictures #4 and 5 were investigated. The TWIST uncertainty assumptions for these three cases and the resulting B-plane statistics are presented below.

**Case 1** The first case assumed a TWIST uncertainty of 0.25° for both pictures 4 and 5. This is considered the baseline case and represents the best performance that can be expected if all OPNAV pictures are successfully returned and processed. This TWIST uncertainty assumes successful use of the single-frame mosaic technique to image multiple dim stars around Gaspra at the times of the last two OPNAV observations.

Table 1 shows the nominal (1 $\sigma$ ) B-plane statistics after incorporation of each OPNAV picture for case 1 for OPNAV pictures schedules ON1 and ON2. The table also lists the a priori B-plane statistics from the radio data solution.

**Case 2** The second case assumed a TWIST uncertainty of 10.0° for picture 4 and 0.25° for picture 5. This represents the case where dim stars cannot be seen in picture 4. Picture 4 is more vulnerable to loss of the dim star images required to measure TWIST since it will occur in the scan platform polar region. It should be possible to get the dim star images in picture 5 since a turn will be done to place the observation in the scan platform equatorial region.



Picture Time	1 $\sigma$ B-Plane Errors					Time-of-Flight (sec)
	$B \cdot R$ (km)	$B \cdot T$ (km)	SMAA (km)	SMIA (km)	$\theta$ ( $^{\circ}$ )	
Radio Only	172.7	117.8	172.7	117.8	90.1	18.5
G-53 <sup>d</sup>	167.3	113.0	167.3	113.1	89.1	18.2
G-31 <sup>d</sup>	159.5	106.0	160.2	105.0	96.8	17.5
ON1 OPNAV Picture Schedule						
G-18 <sup>d</sup>	113.5	91.1	113.5	91.2	91.0	16.3
G-8 <sup>d</sup>	70.8	60.9	75.2	55.4	60.1	14.2
ON2 OPNAV Picture Schedule						
G-16 <sup>d</sup>	107.4	87.5	107.5	87.4	85.3	16.0
G-8 <sup>d</sup>	69.5	60.0	74.0	54.3	59.6	14.1

Table 1: Gaspra B-plane Statistics for Case 1

Table 2 shows the nominal (1 $\sigma$ ) B-plane statistics after incorporation of OPNAV pictures 4 and 5 for case 2 for OPNAV picture schedules ON1 and ON2. The statistics prior to incorporation of OPNAV 4 are unchanged from case 1 since the new assumptions for case 2 applied only to the last two pictures. The B-plane statistics in Table 1 for  $G - 53d$  and  $G - 31d$  are the same for case 2.

Picture Time	1 $\sigma$ B-Plane Errors					Time-of-Flight (sec)
	$B \cdot R$ (km)	$B \cdot T$ (km)	SMAA (km)	SMIA (km)	$\theta$ ( $^{\circ}$ )	
ON1 OPNAV Picture Schedule						
G-18 <sup>d</sup>	114.4	102.8	115.3	101.8	74.8	17.3
G-8 <sup>d</sup>	72.0	64.7	78.6	56.5	54.8	14.4
ON2 OPNAV Picture Schedule						
G-16 <sup>d</sup>	112.2	99.9	116.6	94.8	62.3	17.1
G-8 <sup>d</sup>	71.8	64.3	79.0	55.1	54.3	14.4

Table 2: Gaspra B-plane Statistics for Case 2

**Case 3** The third case assumed a TWIST uncertainty of 10.0 $^{\circ}$  for both pictures 4 and 5. This is included as a worst case scenario in which dim stars are not visible in any of the OPNAV pictures. It does, however, assume that all 4 pictures are successfully returned and processed.

Table 3 shows the nominal (1 $\sigma$ ) B-plane statistics after incorporation of OPNAV picture 5 for case 3. The statistics prior to incorporation of OPNAV 4 are unchanged from case 1 since the new assumptions for case 3 applied only to the last two pictures. The B-plane statistics in Table 1 for  $G - 53d$  and  $G - 31d$  are the same for case 3. Furthermore, the statistics after incorporation of OPNAV 4 for this case are identical to those given for  $G - 18d$  and  $G - 16d$  in Table 2 for case 2 since the TWIST uncertainty was changed for OPNAV picture 5 only.

Picture Time	1 $\sigma$ B-Plane Errors					Time-of-Flight (sec)
	<i>B · R</i> (km)	<i>B · T</i> (km)	SMAA (km)	SMIA (km)	$\theta$ ( $^{\circ}$ )	
ON1 OPNAV Picture Schedule						
G-8 <sup>d</sup>	94.5	83.3	112.5	56.7	51.0	15.9
ON2 OPNAV Picture Schedule						
G-8 <sup>d</sup>	95.9	84.4	115.2	55.3	50.9	16.0

Table 3: Gaspra B-plane Statistics for Case 3

## References

- [1] Vaughan, R. M., "Gaspra Encounter B-plane Statistics for LGA EE-2' OPNAV Schedule." JPL IOM GLL-NAV-91-96, June 17, 1991.
- [2] Yeomans, D. K., "Updated Uncertainty Analysis for Asteroid 951 Gaspra." JPL IOM 314.6-1289, June 21, 1991.

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