NOTE: SLIT ORIENTATION ON GRAPHICS IS INCORRECT; SLIT CENTER LOCATION IS CORRECT. ALIGN SLIT WITH N/S AXIS.

KES

Galileo Geometry Laboratory Accessible 2007 Education for Astronomers with Disabilities

ACTIVITY ID: 19EUSURFAC01-

START TIME: 99-031/05:01:58.067

Activity ID: Orbit 19 **OAPEL** EUSURFAC **SeqNo** 01-

Title UVS Europa Surface Observation 1 **Instrument** UVS

Requestor UVS-SWG/W. SWEET X30523 **Team** UVS **Working Group** SWG

Time System CDS **Load ID** 19A **Calendar Date** 01/31/99 **Week** 57

Start	JEE-CDS 00001424:00:0	99-031/05:01:58.067	JEE-000/23:59:49.333
End	JEE-CDS 00001366:00:0	99-031/06:00:36.734	JEE-000/23:01:10.666
Duration	00000058:00:0	000/00:58:38.667	000/00:58:38.667

Top Label 19EUSURFAC01-

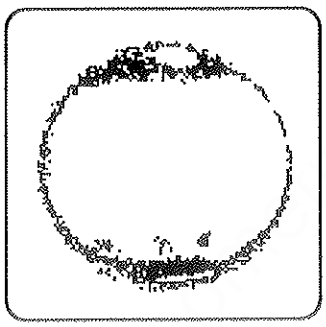
Bottom Label real-time

Plot Key UVS **Type** SCI

CDS Bytes 148 **Report Options** BOTH **Scan Platform** Yes

CDS Source OAP **Spin State** DUAL **DMS** No

Observation Objective



19EUSURFAC01: We will observe Europa's surface at various longitudes and phase angles with TMC on to get good signal using F/F full scans. These observations will complement the nominal mission observations to derive phase curves for several locations on Europa, to understand how exogenic processes affect the surface scattering. We are interested in obtaining a high signal-to-noise at the shorter wavelengths (< 2200 Å) to see if Europa's surface has any distinctive features in this region. Observe Europa's surface for ~1 hour.
Sunlight, 180° longitude, 85° phase

Rj = 16.7
UVS configuration: full F/G scan

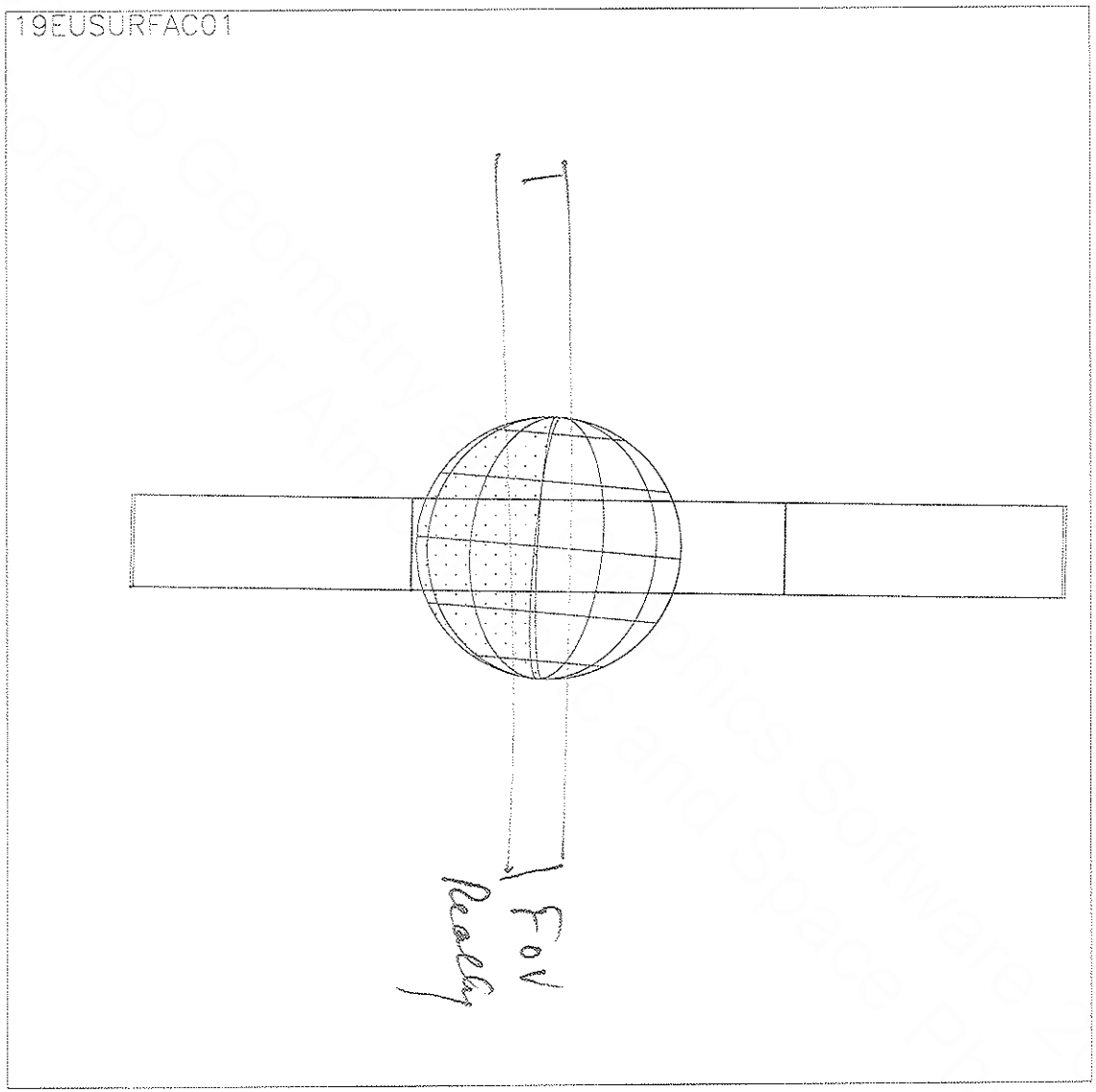
MBTG = 17712 bits/flush * 1 flush = 0.018

POINTER SEQ

Design Detail

CDS	RIM	COMMAND	PARAMETERS	RSTD
0	000	COMMENT	UVS RIM 0	(384CB)
28	001	+UVFLUSH	DISCRD,UVS	(349CG)
38	001	CMDRS		(157CB)
	002	1	34UVS,07,S,N,N,N,S,0, ON,OFF,	ON, ON,OFF,NOOVR,1,00,9C,01,2C
	058	57	34UVS,C1,F,N,N,N,S,0,OFF,OFF,	ON,OFF,OFF,NOOVR,1,2C,05,00,00
54	002	TARGET	TMC on body	(165CE) (RA/Dec=280.74/-24.23)
28	057	+UVFLUSH	PACKET,UVS	(349CH)

Fri Dec 11 00:04:18 1998



Start UTC_TIME : 1999-031 // 05:05:55.800
No End Time :
Start SCLK : 1/04847647:00:0:0

Target Body : EUROPA
Target Ra/Dec : 280.82/-24.23 Deg
S/C to Body Center : 631343.3 Km (403.41422 Re)
Z-axis Pointing (Ra / Dec) : 165.00 / 60.50 Deg

Activity ID: **Orbit** 19 **OAPEL** EUATMOS_ **SeqNo** 01-

Title UVS Europa Atmosphere Observation **Instrument** UVS

Requestor UVS-SWG/W. SWEET X30523 **Team** UVS **Working Group** SWG

Time System	CDS	**Load ID**	19A	**Calendar Date**	01/31/99 Week 57
Start	JEE-CDS 00001364:00:0	99-031/06:02:38.067		JEE-000/22:59:09.333	
End	JEE-CDS 00001097:00:0	99-031/10:32:36.067		JEE-000/18:29:11.333	
Duration	00000267:00:0	000/04:29:58.000		000/04:29:58.000	

Top Label 19EUATMOS_01-

Bottom Label real-time

Plot Key	UVS	**Type**	SCI		
CDS Bytes	368	**Report Options**	BOTH	**Scan Platform**	Yes
CDS Source	OAP	**Spin State**	DUAL	**DMS**	No

Observation Objective

19EUATMOS_01: Europa atmosphere observation. We will look for Europa atmospheric emissions (oxygen, hydrogen and sulfur, as well as other possibilities). We will also monitor the tenuous atmosphere for possible outgassing episodes. Observe Europa's atmosphere for ~4 1/2 hours. Sunlight, 140° longitude.
First 3 hours, stare at Europa. 1216-1302 1 1/2 hrs
1356-1356 1 1/2 hrs
Third 1 hour: -8 radii from Europa 1356 background
Fourth 1/2 hour: -8 radii from Europa Lya background

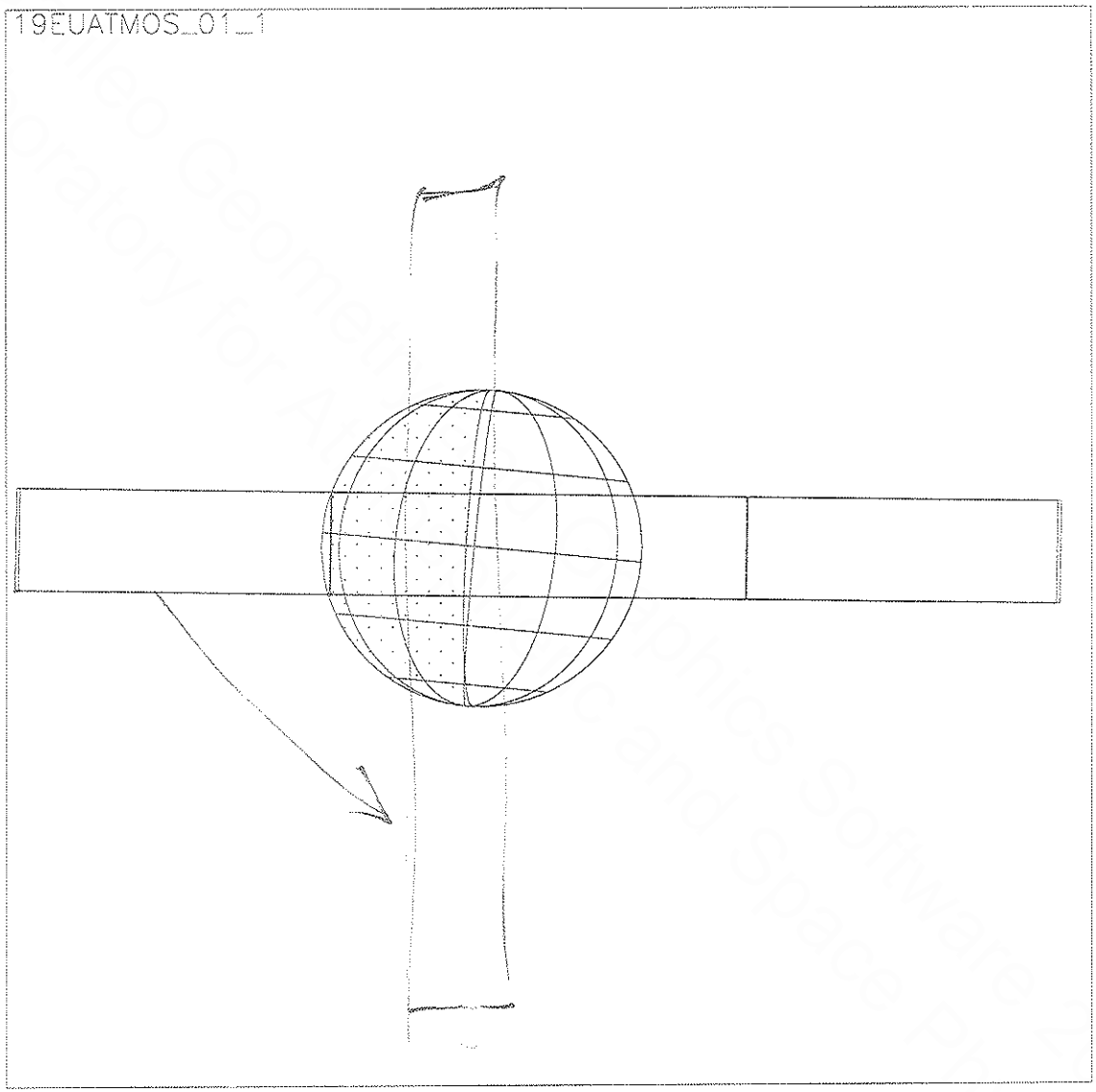
Rj = 14.9
UVS configuration: 1356-1479 Å 22 step G/G mini-scan
MBTG = 17712 bits/flush * 5 flushes = 0.089

POINTER SEQ

Design Detail

CDS	RIM	COMMAND	PARAMETERS	PSID
0	000	COMMENT	UVS RIM 0	(384CA)
28	003	+UVFLUSH	DISCRD,UVS	(349CA)
66	003	CMDRS		(157CA)
	004	1	34UVS,D1,F,N,N,N,S,0,OFF,OFF, ON, ON,OFF,NOOVR,1,5A,45,00,39 → 1216-1304	
	094	91	34UVS,D1,F,N,N,N,S,0,OFF,OFF, ON, ON,OFF,NOOVR,1,B6,45,00,00 → 1356	
	244	241	34UVS,D1,F,N,N,N,S,0,OFF,OFF, ON, ON,OFF,NOOVR,1,5A,45,00,39	
	267	264	34UVS,C1,FI,N,N,N,S,0,OFF,OFF, ON,OFF,OFF,NOOVR,1,2C,05,00,00	
54	004	TARGET	TMC on body	(165CA) (RA/Dec=281.27/-24.18)
28	092	+UVFLUSH	PACKET,UVS	(349CB)
54	094	TARGET	TMC on body	(165CB) (RA/Dec=281.83/-24.12)
28	182	+UVFLUSH	PACKET,UVS	(349CD)
54	184	TARGET	with TMC +8 radii off body	(165CC) (RA/Dec=284.36/-23.95)
28	242	+UVFLUSH	PACKET,UVS	(349CE)
28	266	+UVFLUSH	PACKET,UVS	(349CF)

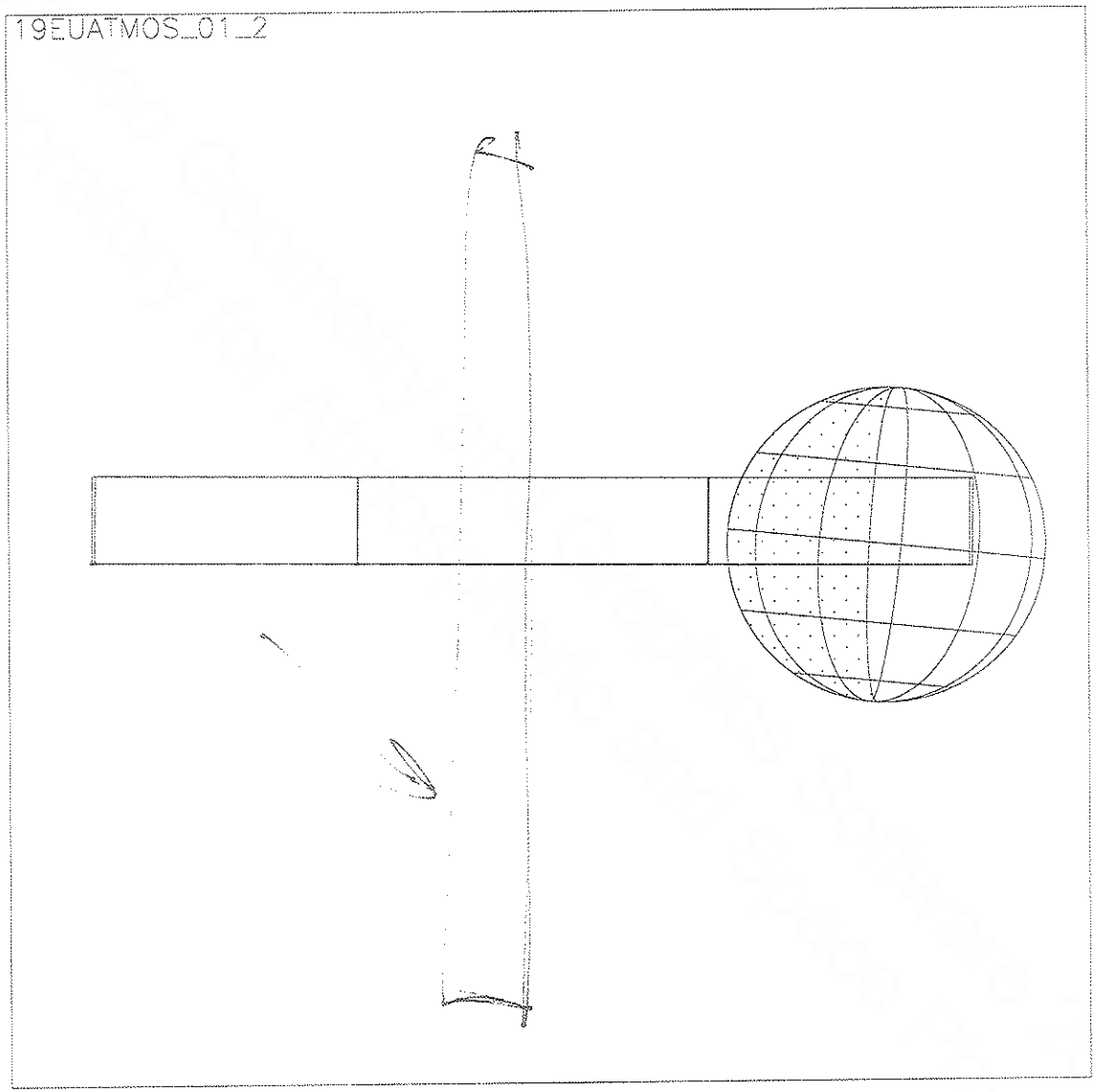
Fri Dec 11 00:07:21 1998



Start UTC_TIME : 1999-031 // 06:06:35.798
No End Time :
Start SCLK : 1/04847707:00:0:0

Target Body : EUROPA
Target Ra/Dec : 281.33/-24.18 Deg
S/C to Body Center : 583392.4 Km (372.77468 Re)
Z-axis Pointing (Ra / Dec) : 165.00 / 60.50 Deg

Fri Dec 11 00:09:00 1998



Start UTC_TIME : 1999-031 // 08:06:55.127
No End Time :
Start SCLK : 1/04847826:00:0:0

Target Body : EUROPA
Target Ra/Dec : 282.01/-24.12 Deg
S/C to Body Center : 494343.5 Km (315.87443 Re)
Z-axis Pointing (Ra / Dec) : 165.00 / 60.50 Deg

Fri Dec 11 00:10:48 1998

19EUATMOS_01_3

Start UTC_TIME : 1999-031 // 09:38:55.790
No End Time :
Start SCLK : 1/04847917:00:0:0

Target Body : EUROPA
Target Ra/Dec : 282.18/-24.10 Deg
S/C to Body Center : 431860.9 Km (275.94949 Re)
Z-axis Pointing (Ra / Dec) : 165.00 / 60.50 Deg

Activity ID: Orbit 19 OAPEL EUSURFAC SeqNo 02-

Title UVS Europa Surface Observation 2 **Instrument** UVS

Requestor UVS-SWG/W. SWEET X30523 **Team** UVS **Working Group** SWG

Time System CDS **Load ID** 19A **Calendar Date** 01/31/99 **Week** 57

Start	JEE-CDS 00000771:00:0	99-031/16:02:13.400	JEE-000/12:59:34.000
End	JEE-CDS 00000711:00:0	99-031/17:02:53.400	JEE-000/11:58:54.000
Duration	00000060:00:0	000/01:00:40.000	000/01:00:40.000

Top Label 19EUSURFAC02-

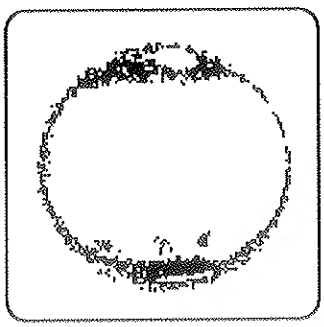
Bottom Label real-time

Plot Key UVS **Type** SCI

CDS Bytes 148 **Report Options** BOTH **Scan Platform** Yes

CDS Source OAP **Spin State** DUAL **DMS** No

Observation Objective



19EUSURFAC02: We will observe Europa's surface at various longitudes and phase angles with TMC on to get good signal using F/N full scans. These observations will complement the nominal mission observations to derive phase curves for several locations on Europa, to understand how exogenic processes affect the surface scattering. We are interested in obtaining a high signal-to-noise at the shorter wavelengths (< 2200 Å) to see if Europa's surface has any distinctive features in this region. Observe Europa's surface for ~ 1 hour. Brightside, at 190° longitude, 84° phase (may be saturated N channel; Amanda expects 6E8 cts where the previous maximum in 1 orbit was 1.5E8).

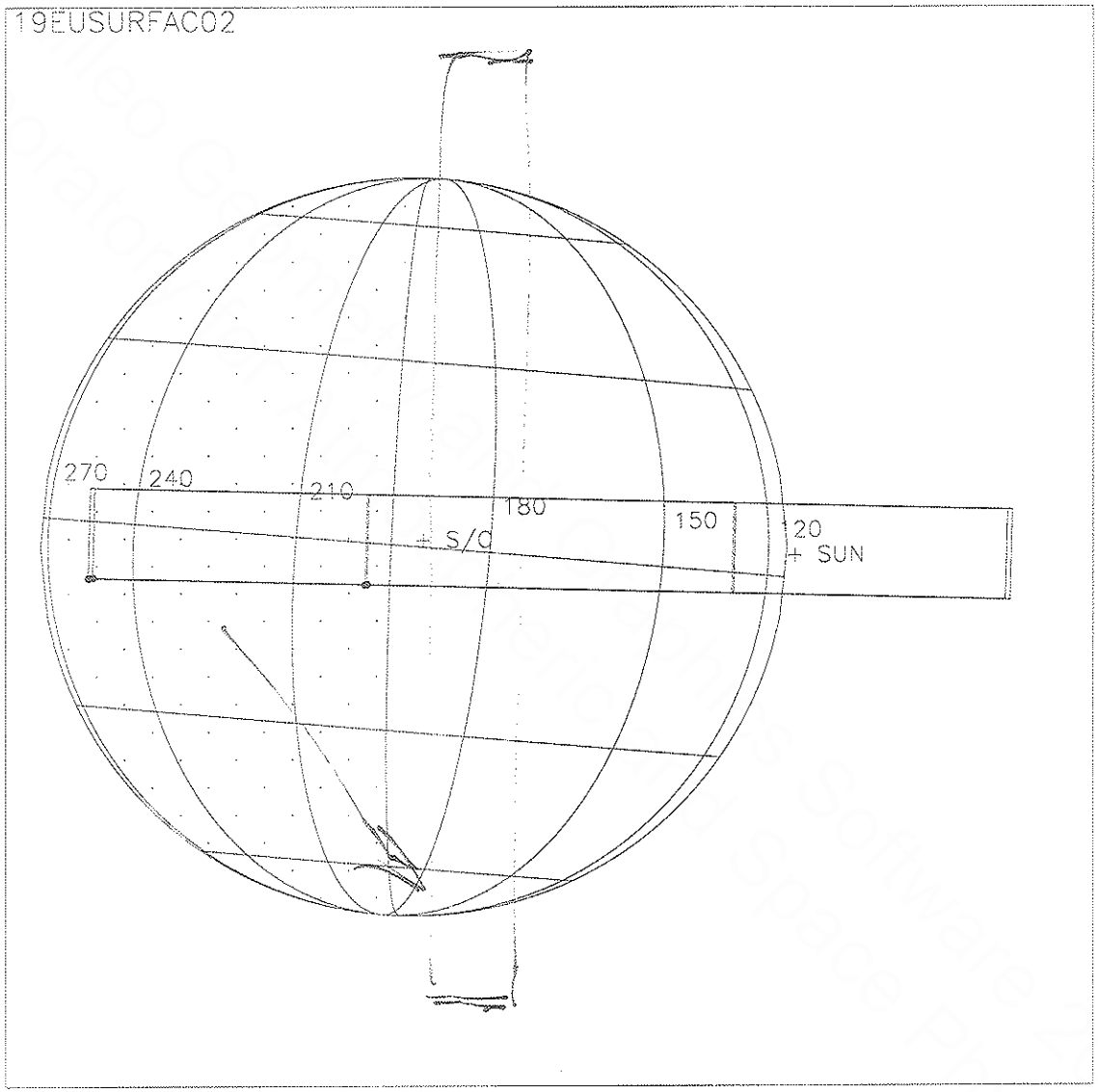
Rj = 12.0 (waiver G-15)
UVS configuration: full F/N scan,
MBTG = 17712 bits/flush * 1 flush = 0.018

POINTER SEQ

Design Detail

CDS	RIM	COMMAND	PARAMETERS	ISTD
0	000	COMMENT	UVS RIM 0	(384CC)
28	003	+UVFLUSH	DISCRD,UVS	(349CI)
38	003	CMDRS		(157CC)
	004	1	34UVS,07,S,N,N,N,S,0, ON, ON,OFF, ON,OFF,NOOVR,1,00,9C,01,2C	
	060	57	34UVS,C1,F,N,N,N,S,0,OFF,OFF, ON,OFF,OFF,NOOVR,1,2C,05,00,00	
54	004	TARGET	with TMC on body	(165CF) (RA/Dec=279.16/-24.46)
28	059	+UVFLUSH	PACKET,UVS	(349CJ)

Fri Dec 11 00:12:24 1998



Start UTC_TIME : 1999-031 // 16:06:11.110
No End Time :
Start SCLK : 1/04848300:00:0:0

Target Body : EUROPA
Target Ra/Dec : 279.29/-24.47 Deg
S/C to Body Center : 221759.4 Km (141.69933 Re)
Z-axis Pointing (Ra / Dec) : 165.00 / 60.50 Deg