Cassini Ultraviolet Imaging Spectrograph
UVIS HSP

Ring Stellar Occultation Atlas

Volume 8: Rev 246 – Rev 288

Version: 1.3
May 31, 2018

Table of Contents

The table lists all occultations in this volume, including the star name, rev number, indication of ingress (I) or egress (E), date of the occultation, duration of the occultation, radial range coverage and elevation angle of the star.

Occultations are presented chronologically in the order they were observed. To keep the file size of this atlas manageable, it is presented in multiple volumes, each one covering a subset of the occultations.

Introduction

Over the course of the Cassini mission, the High Speed Photometer (HSP) of the Ultraviolet Imaging Spectrograph (UVIS) observed 170 occultations of stars by Saturn's rings. Details on the UVIS instrument can be found in Esposito et al. (1998, 2004). Information on the handling of HSP ring occultation data as well as a summary of data calibration and reduction techniques for the first part of the Cassini mission are in Colwell et al. (2010). This document provides a tabular and visual overview of these stellar occultations.

Description of Data Products in the Atlas

The HSP data consist of a time series of measured photon counts. With the exception of observations of some faint stars where the background signal dominates or is a significant contribution, the measured signal is primarily due to starlight transmitted through the rings. The HSP integration times are 1, 2, 4, or 8 msec. The majority of occultations used a 1 msec integration period, with most of the rest at 2 msec. In this atlas the data are binned to 1 second.

The data are shown in two plots: (1) a plot spanning the range of 70,000 km to 150,000 km from Saturn for all occultations to allow direct comparison of signal and coverage on a single distance scale; and (2) a plot that shows the data zoomed to the radial range of coverage of the occultation.

Two additional geometry plots are included for each occultation: (1) the radial ring plane resolution of the occultation (in the frame of Saturn, not accounting for ring particle motion or diffraction); and (2) the value of ϕ, an angle measured in the ring plane in the counterclockwise sense from the outward radial vector at the measurement point to the direction to the star projected into the ring plane. Thus, an observation where the look vector to the star is tangent to the rings has ϕ=90 degrees.

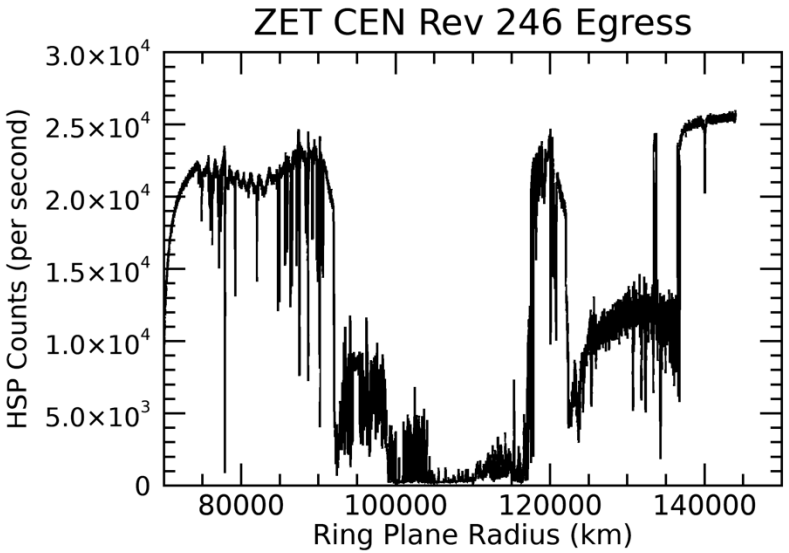
On the page following the data plots, a geometry visualization is shown at a time near the middle of the occultation. The position of the UVIS HSP field of view is labeled on each of these plots. Occultations that cut a chord across the rings, are presented here as separate "Ingress" and "Egress" occultations, referring to the portion of the occultation where the observation point is approaching or receding from Saturn, respectively. Some geometry visualizations are missing and will be included in the next revision of this volume.

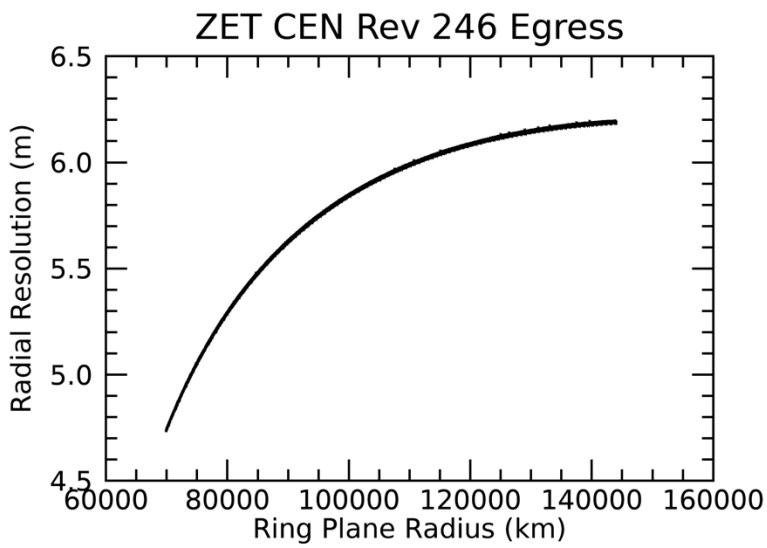
Document assembled by Joshua Colwell, UVIS Co-Investigator, University of Central Florida, with the assistance of Stephanie Eckert Grant, Richard Jerousek, and Tina Notrika, UCF.

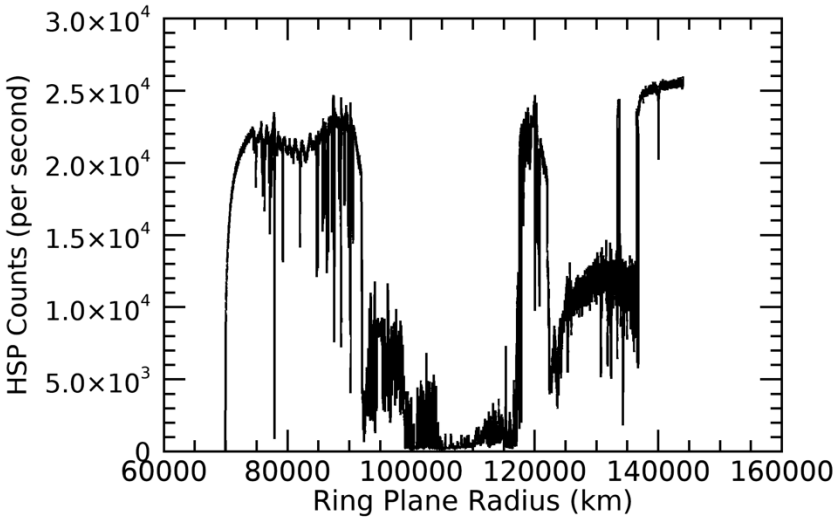
References

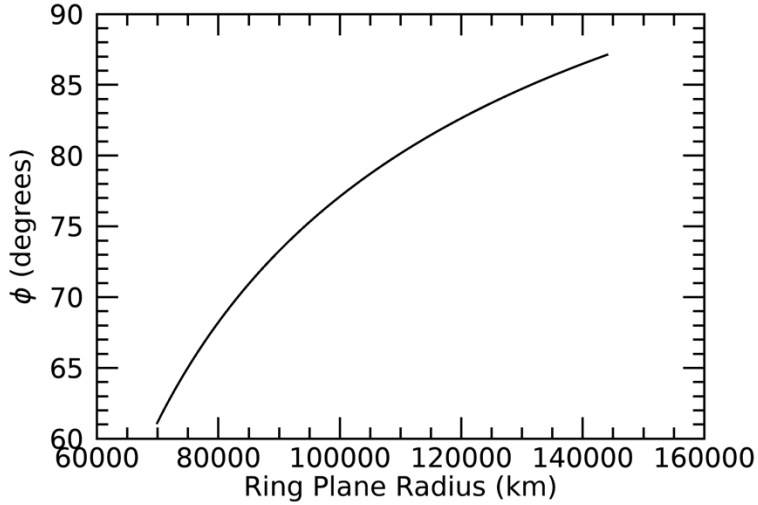
1. Colwell, J. E., L. W. Esposito, D. Pettis, M. Sremčević, R. G. Jerousek, E. T. Bradley 2010. Cassini UVIS Stellar Occultation Observations of Saturn's Rings. *Astron. J.* **140**, 1569-1578, doi:10.1088/0004-6256/140/6/1569.
2. Esposito, L. W., J. E. Colwell, and W. E. McClintock 1998. Cassini UVIS Observations of Saturn's Rings. *Planet. Space Sci.* **46**, 1221-1235.
3. Esposito, L. W., C. A. Barth, J. E. Colwell, G. M. Lawrence, W. E. McClintock, A. I. F. Stewart, H. U. Keller, , A. Korth, H. Lauche, M. Festou, A. L. Lane, C. J. Hansen, J. N. Maki, R. A. West, H. Jahn, R. Reulke, K. Warlich, D. E. Shemansky, and Y. L. Yung 2004. The Cassini Ultraviolet Imaging Spectrograph Investigation. *Space Sci. Rev.* **115**, 299-361.

Star		Rev	Ing/Eg	Year/Day	B	ϕ	Radius	Duration (min)
ζ	CEN	246	E	2016-296	53.6	61.1- 87.1	69910-144020	213.7
ε	SGR	247	E	2016-306	37.9	247.5-209.2	131510-165889	108.3
ε	SGR	247	I	2016-306	37.9	271.1-247.5	143101-131510	60.2
κ	SCO	247	E	2016-306	43.4	241.7-228.0	108397-111491	33.4
κ	SCO	247	I	2016-306	43.4	284.0-241.7	145116-108397	123.8
α	LUP	248	E	2016-315	53.9	108.0-113.1	72487-146613	165.2
λ	SCO	248	E	2016-315	41.7	241.9-219.1	87541- 94808	45.3
λ	SCO	248	I	2016-315	41.7	295.8-241.9	146529- 87541	146.8
β	CRU	253	I	2016-353	65.2	257.0-253.0	142423- 75438	120
α	PAV	254	I	2016-360	56.6	300.8-273.8	146924-121523	55.5
β	CRU	262	I	2017-052	65.2	258.9-253.9	147992- 68616	140.3
η	CMA	265	I	2017-072	27	135.4-108.7	137822-113583	173
β	CRU	267	I	2017-087	65.2	257.6-256.4	90601- 76140	25
α	CMA	272	E	2017-120	13.5	95.0- 49.7	101028-143371	235.7
α	CMA	272	I	2017-120	13.5	141.1- 95.0	145340-101028	242
α	CMA	274	E	2017-133	13.5	72.5- 30.0	67816-151660	259.7
ε	CMA	276	E	2017-147	26	96.9- 38.4	78383-146397	348.8
ε	CMA	276	I	2017-147	26	98.7- 96.9	78418- 78383	6.5
γ	ORI	276	E	2017-149	-11.2	81.6-144.8	67895-149909	192.8
γ	ORI	276	I	2017-149	-11.2	77.8- 81.6	68048- 67895	6.6
ε	ORI	277	E	2017-156	-3.5	87.5-133.5	110402-158694	67.4
ε	ORI	277	I	2017-156	-3.5	41.4- 87.5	159146-110402	67.8
ζ	ORI	277	E	2017-156	-2.7	88.2-133.2	100633-142173	46.3
ζ	ORI	277	I	2017-156	-2.7	35.5- 88.2	165925-100633	60.9
κ	ORI	279	E	2017-171	5.2	92.8- 56.6	135211-167521	99.8
κ	ORI	279	I	2017-171	5.2	129.9- 92.8	169592-135211	103.3
κ	ORI	280	E	2017-177	5.2	92.8- 51.7	113448-150437	99.7
κ	ORI	280	I	2017-177	5.2	133.5- 92.8	149618-113448	98.5
α	CMA	281	E	2017-178	13.5	278.8-340.5	72322-151777	319.1
α	CMA	281	I	2017-178	13.5	218.3-278.8	146547- 72322	304.6
κ	ORI	281	E	2017-184	5.2	92.8- 39.2	91253-153745	125
κ	ORI	281	I	2017-184	5.2	146.6- 92.8	154310- 91253	125.7
α	CMA	282	E	2017-185	13.5	279.2-331.6	92210-150458	285.6
α	CMA	282	I	2017-185	13.5	228.6-279.2	145050- 92210	268.8
κ	CMA	282	E	2017-186	29.3	68.0- 35.3	66132-126671	221.7
κ	CMA	283	E	2017-193	29.3	51.0- 37.3	71928-103079	104.2
β	ORI	288	E	2017-228	3.1	91.8- 31.7	80553-161530	84.1
β	ORI	288	I	2017-228	3.1	152.5- 91.8	164278- 80553	86
δ	ORI	288	E	2017-227	-4.5	268.4-214.9	93906-158115	91
δ	ORI	288	I	2017-227	-4.5	321.8-268.4	157199- 93906	90.2


ZET CEN Rev 246 Egress
HSP Counts (per second)
3.0×10^4
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
80000
100000
120000
140000
Ring Plane Radius (km)

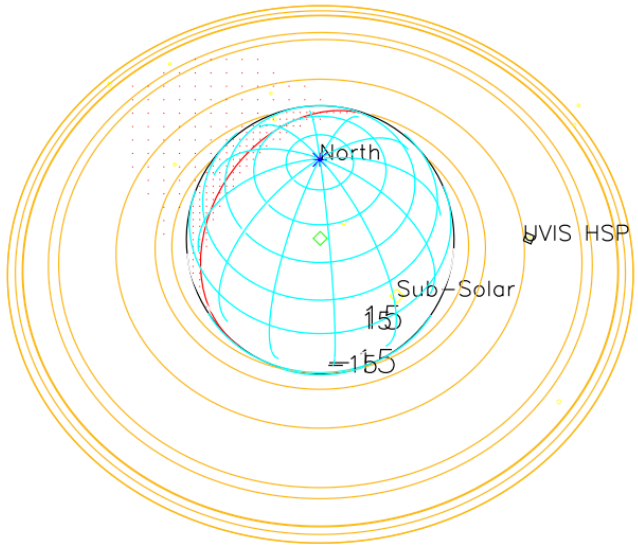

ZET CEN Rev 246 Egress
Radial Resolution (m)
6.5
6.0
5.5
5.0
4.5
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)


HSP Counts (per second)
3.0×10^4
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)


ϕ (degrees)
90
85
80
75
70
65
60
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)

TETHYS

MIMAS



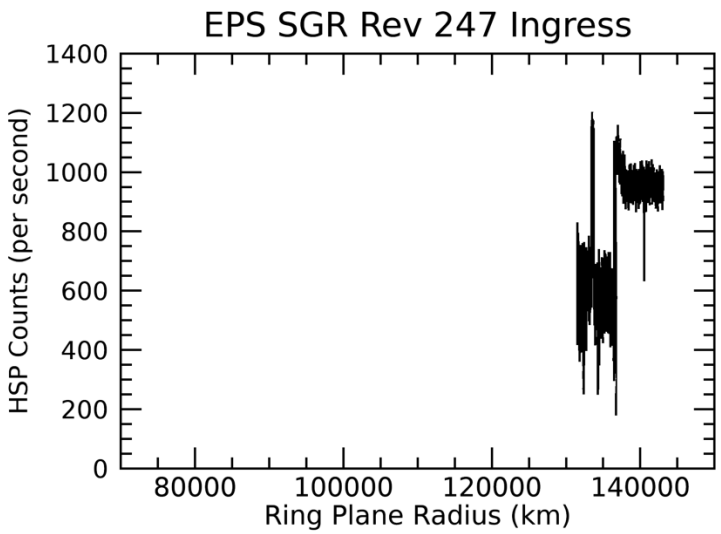
2016-296T08:53:00.000 607098.37 km

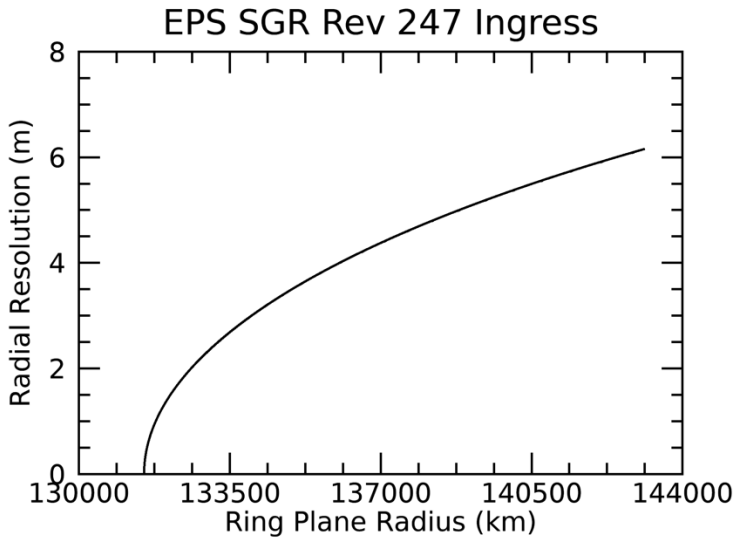
Target RA/dec: 221.97, -48.04

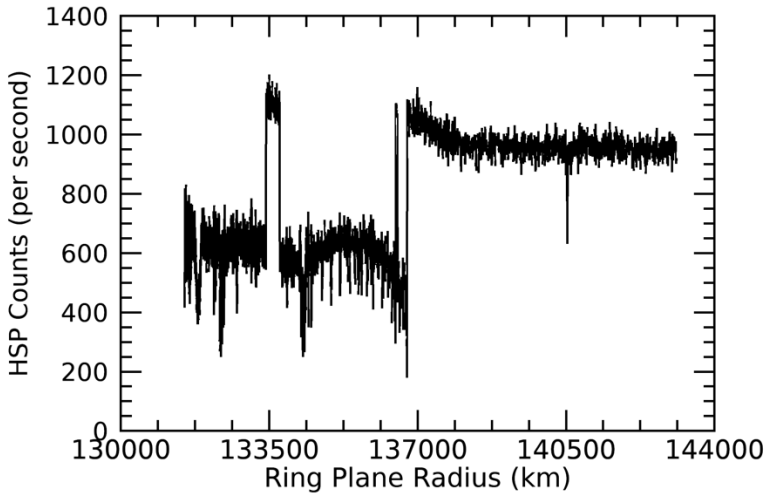
Subsolar lat/lon: 22.12, -90.68

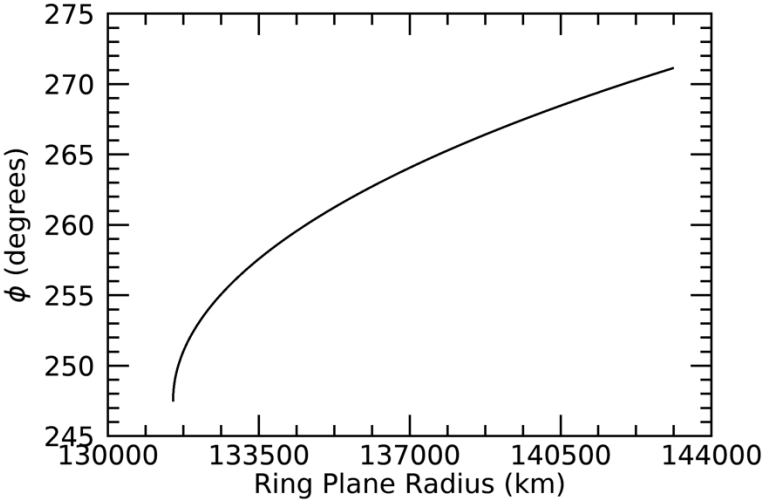
Sub-s/c lat/lon: 49.32, -126.40

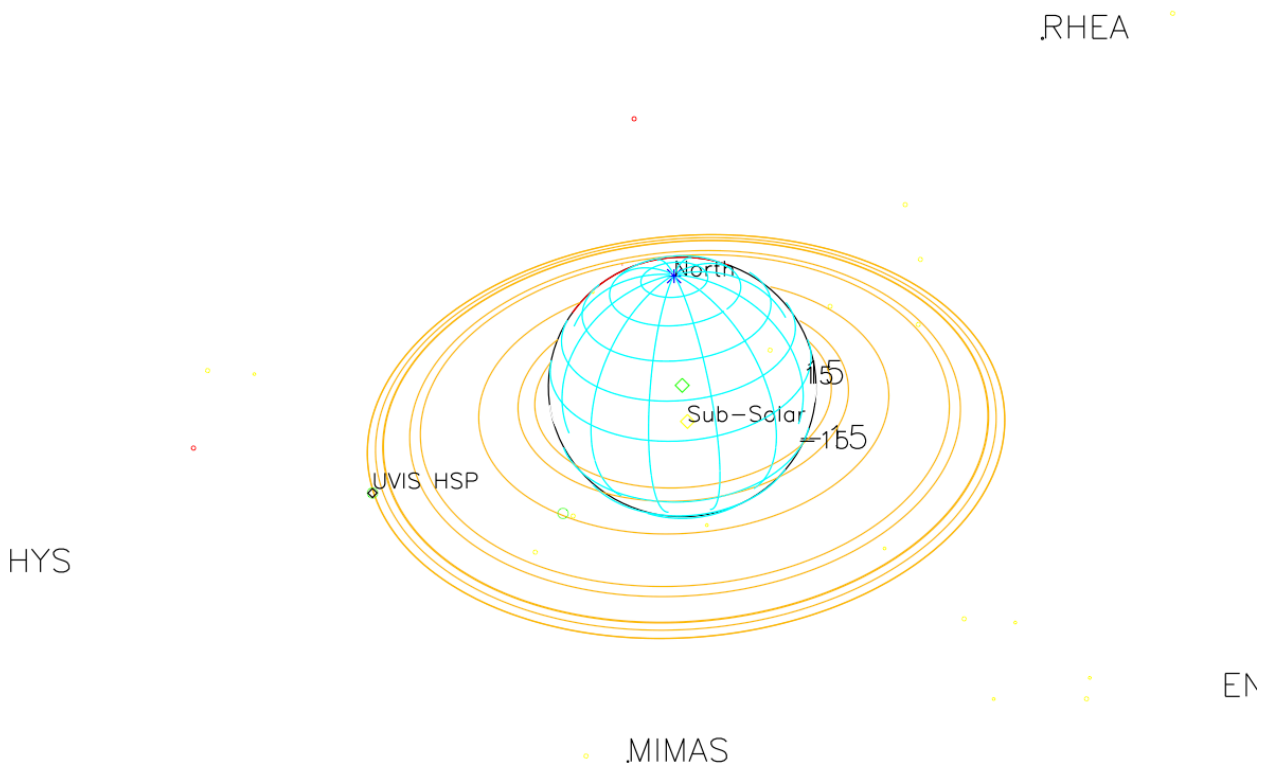
ENCELADUS


EPS SGR Rev 247 Ingress
HSP Counts (per second)
Ring Plane Radius (km)
0
200
400
600
800
1000
1200
1400
80000
100000
120000
140000

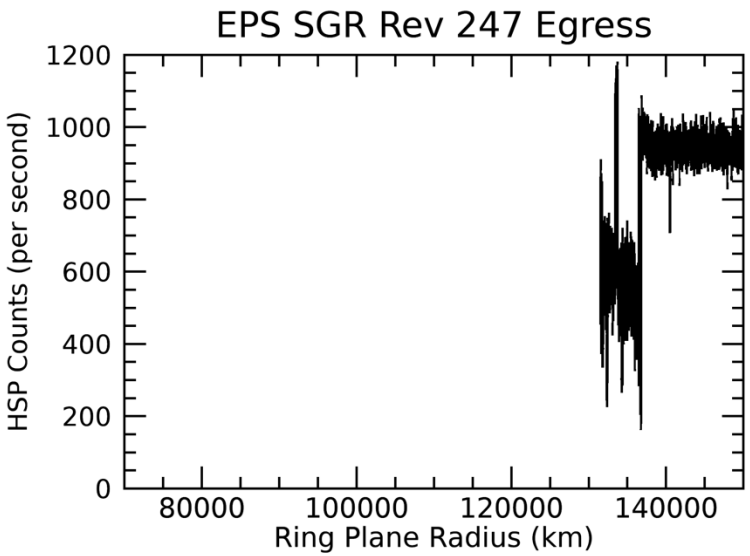

EPS SGR Rev 247 Ingress
Radial Resolution (m)
Ring Plane Radius (km)
0
2
4
6
8
130000
133500
137000
140500
144000

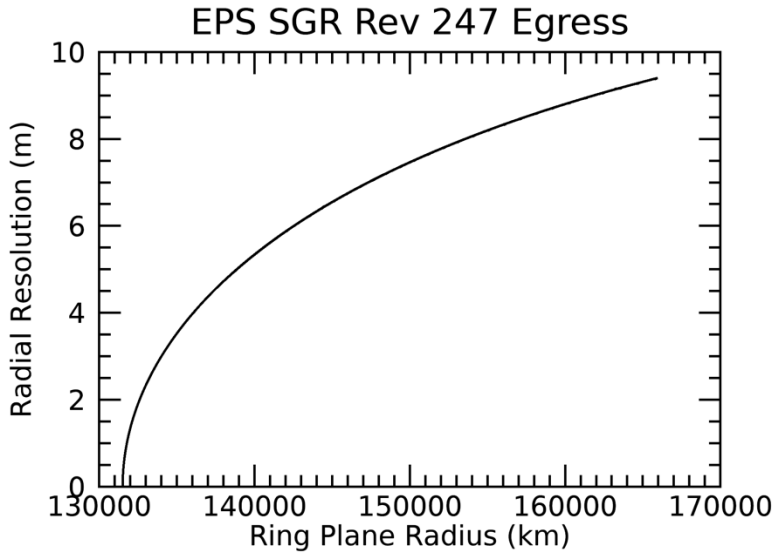

HSP Counts (per second)
Ring Plane Radius (km)
0
200
400
600
800
1000
1200
1400
130000
133500
137000
140500
144000

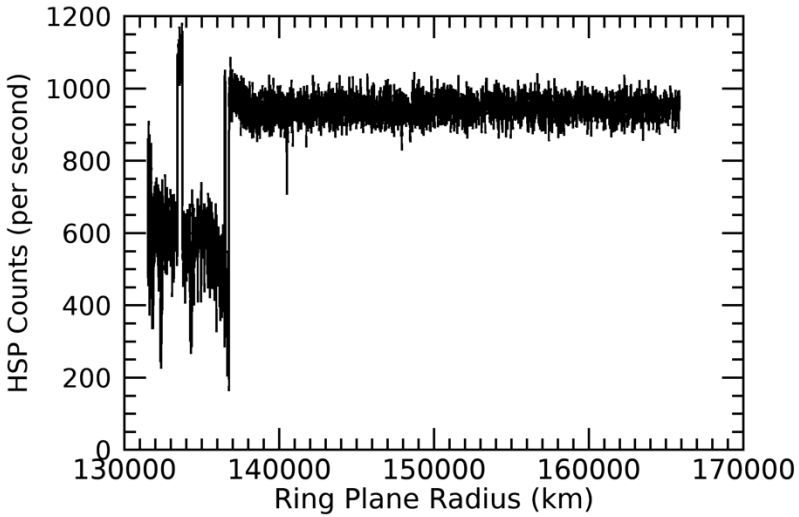

ϕ (degrees)
Ring Plane Radius (km)
245
250
255
260
265
270
275
130000
133500
137000
140500
144000

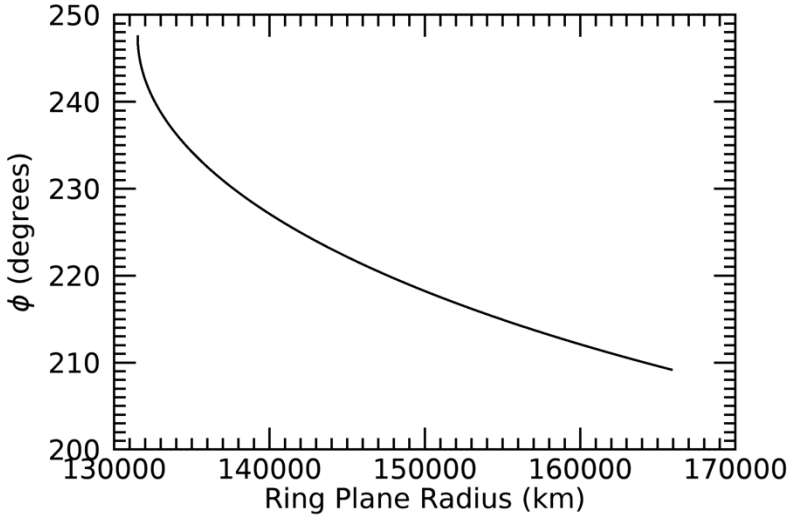


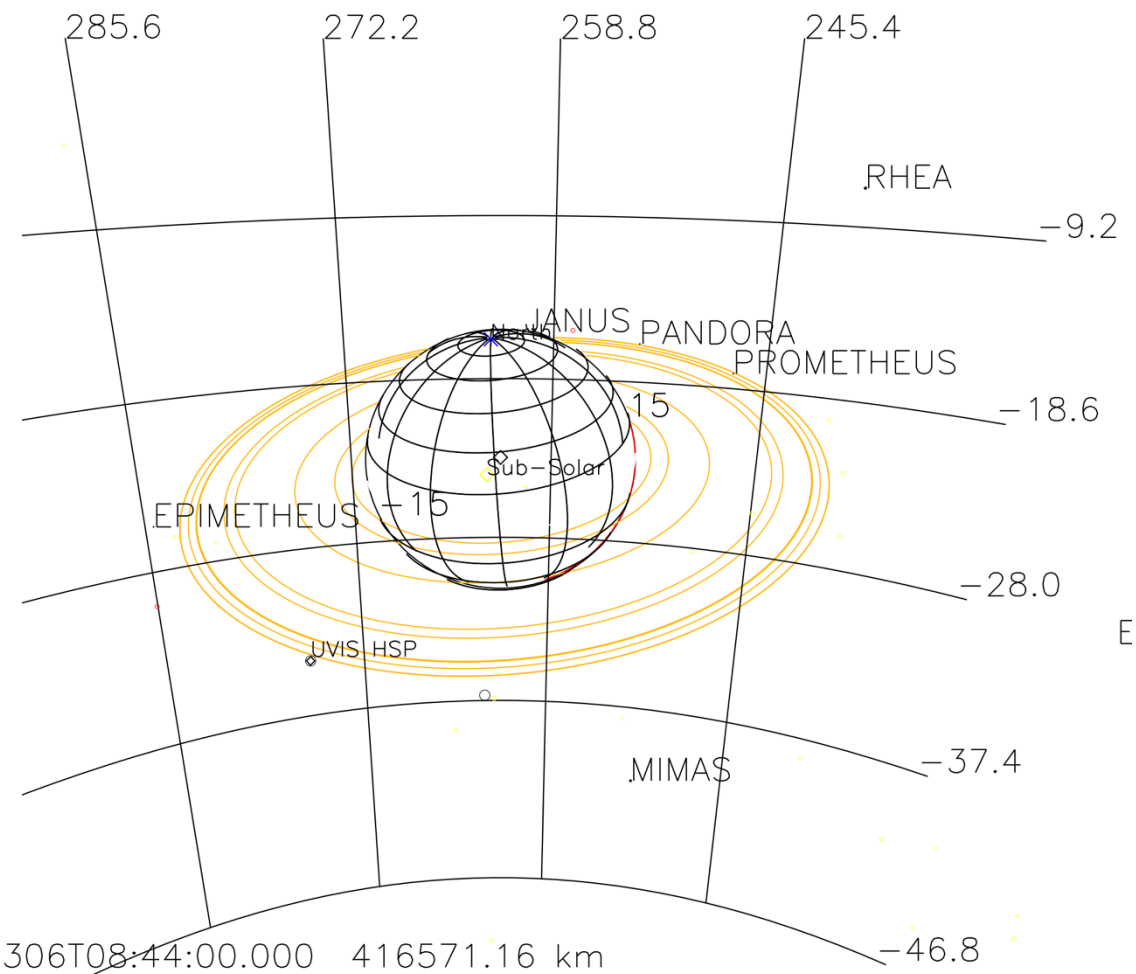
2016-306T07:14:00.000 445956.71 km
Target RA/dec: 254.78, -30.30
Subsolar lat/lon: 22.14, 137.46
Sub-s/c lat/lon: 30.85, 136.43


EPS SGR Rev 247 Egress
HSP Counts (per second)
Ring Plane Radius (km)
0
200
400
600
800
1000
1200
80000
100000
120000
140000

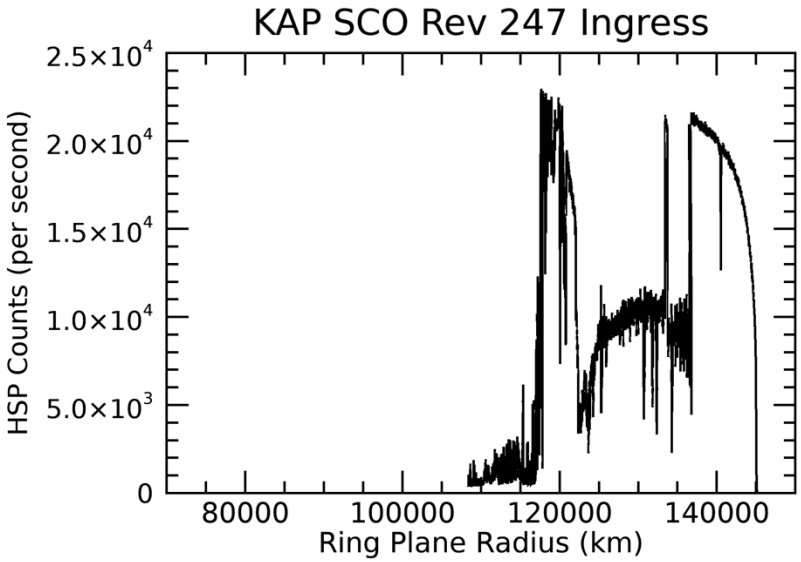

EPS SGR Rev 247 Egress
Radial Resolution (m)
Ring Plane Radius (km)
0
2
4
6
8
10
130000
140000
150000
160000
170000

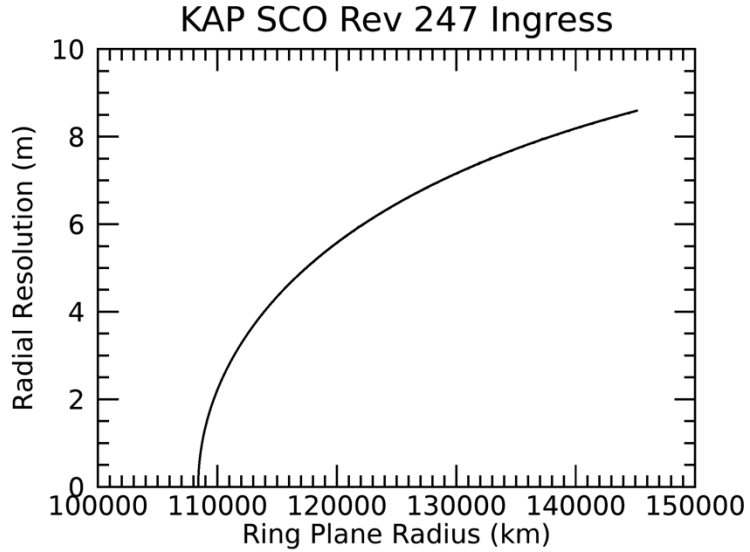

HSP Counts (per second)
Ring Plane Radius (km)
0
200
400
600
800
1000
1200
130000
140000
150000
160000
170000

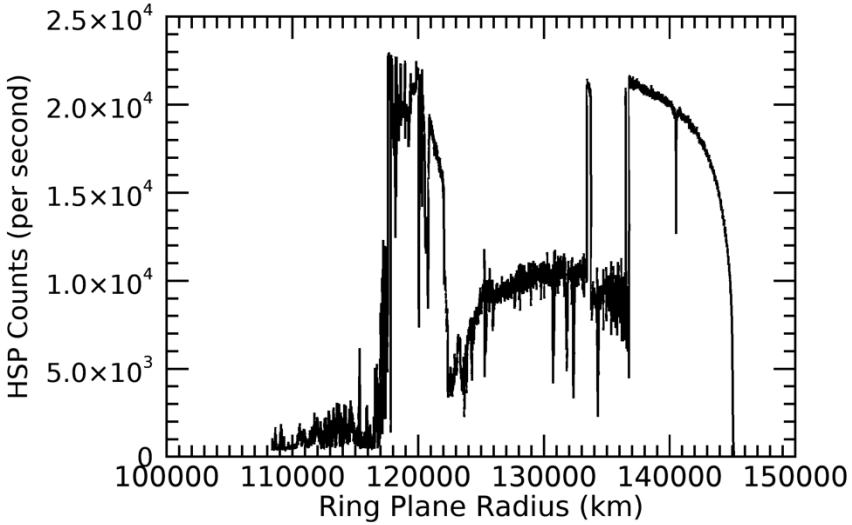

ϕ (degrees)
Ring Plane Radius (km)
200
210
220
230
240
250
130000
140000
150000
160000
170000

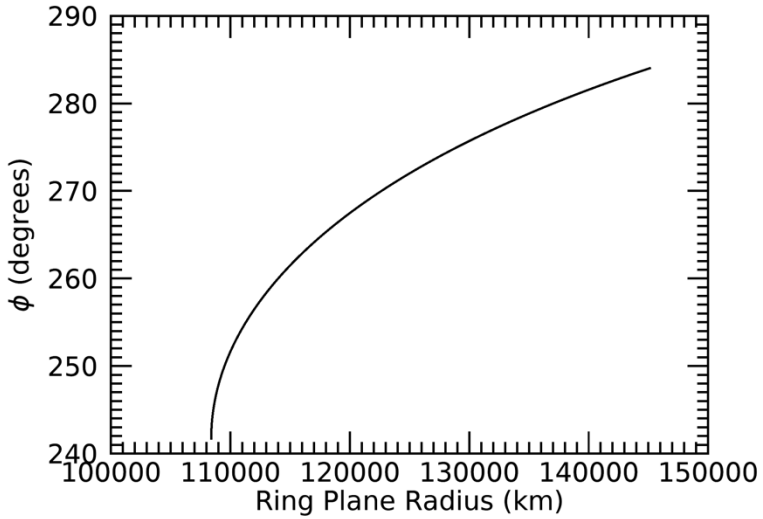


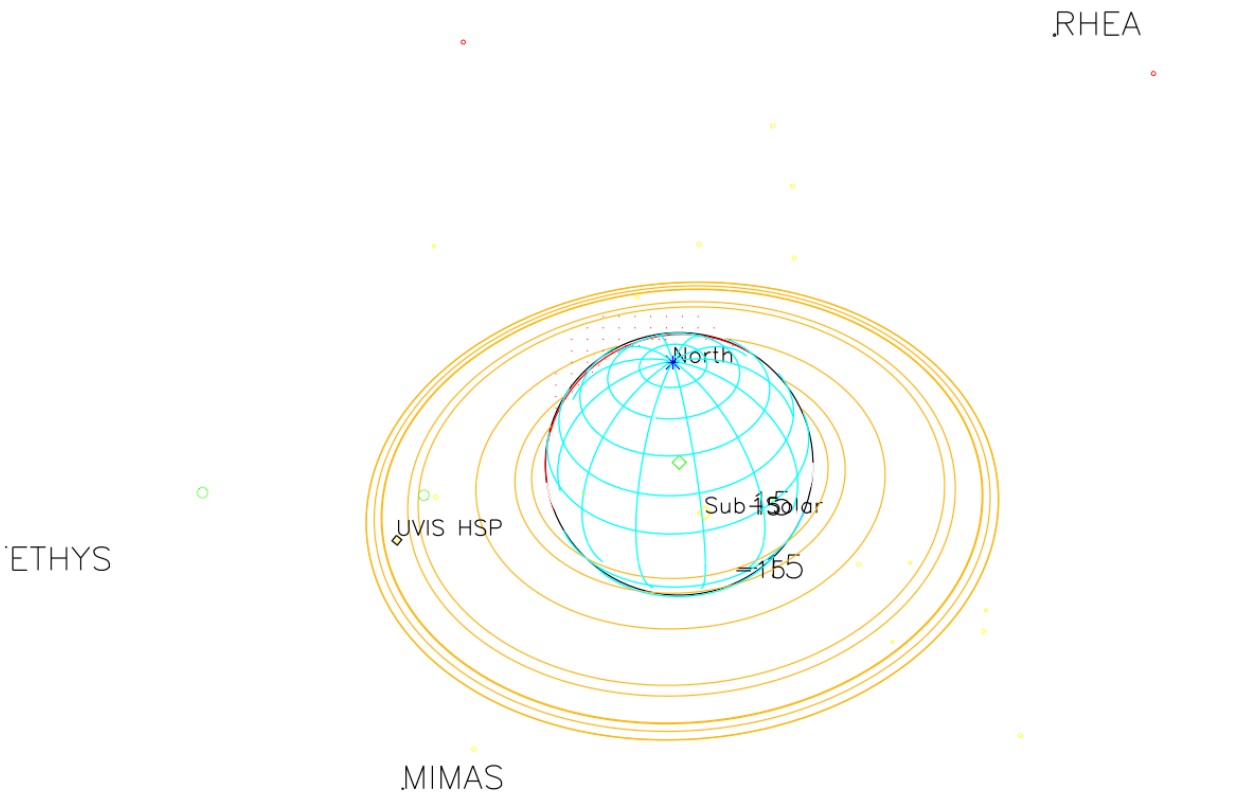
2016−306T08:44:00.000 416571.16 km
Target RA/dec: 262.21, −23.27
Subsolar lat/lon: 22.14, 86.78
Sub−s/c lat/lon: 24.00, 92.87


KAP SCO Rev 247 Ingress
HSP Counts (per second)
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
80000
100000
120000
140000
Ring Plane Radius (km)


KAP SCO Rev 247 Ingress
Radial Resolution (m)
10
8
6
4
2
0
100000
110000
120000
130000
140000
150000
Ring Plane Radius (km)


HSP Counts (per second)
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
100000
110000
120000
130000
140000
150000
Ring Plane Radius (km)


ϕ (degrees)
290
280
270
260
250
240
100000
110000
120000
130000
140000
150000
Ring Plane Radius (km)

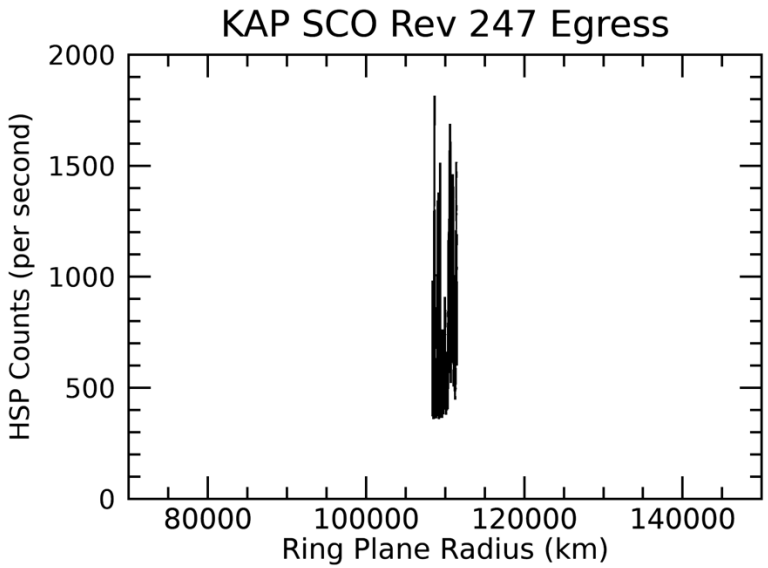


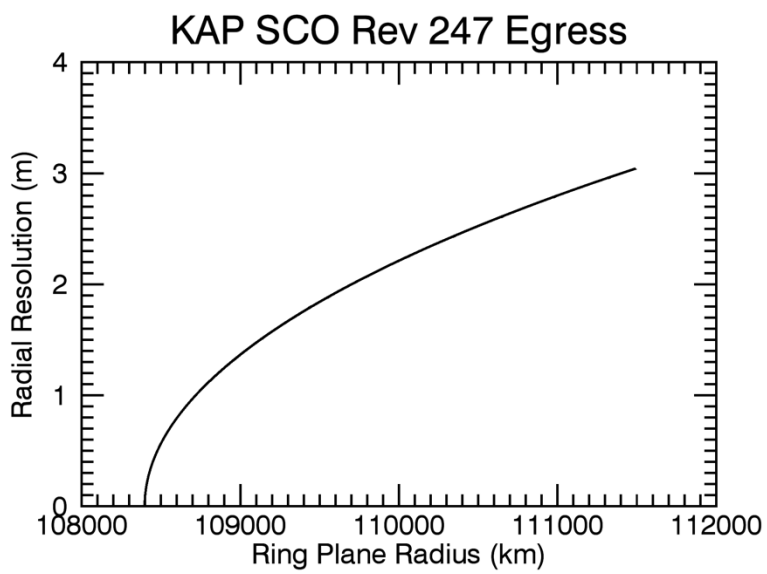
2016-306T05:04:00.000 484307.39 km

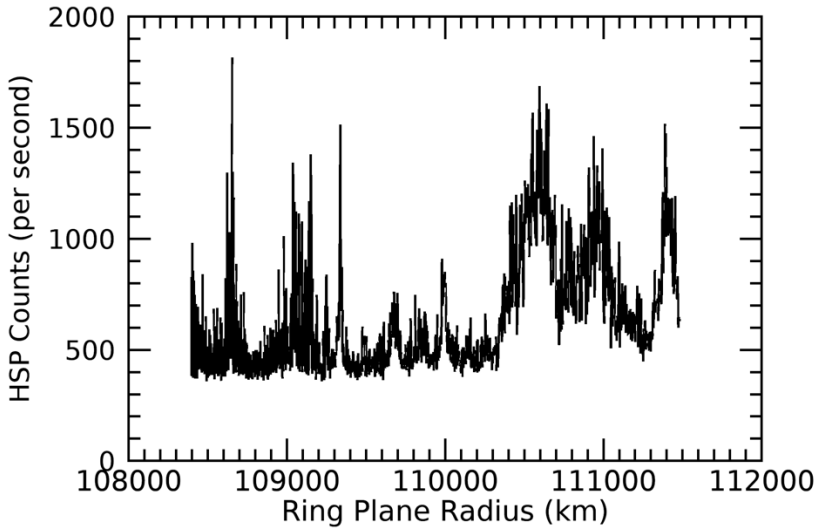
Target RA/dec: 246.45, -36.65

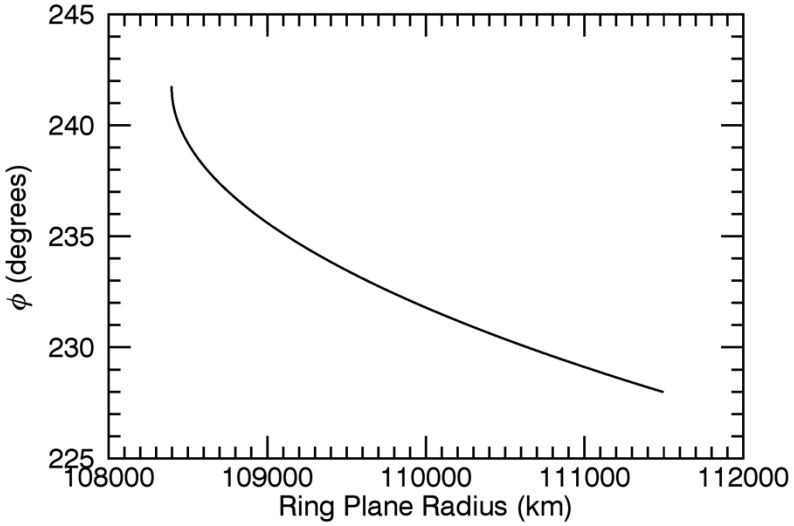
Subsolar lat/lon: 22.14, -149.35

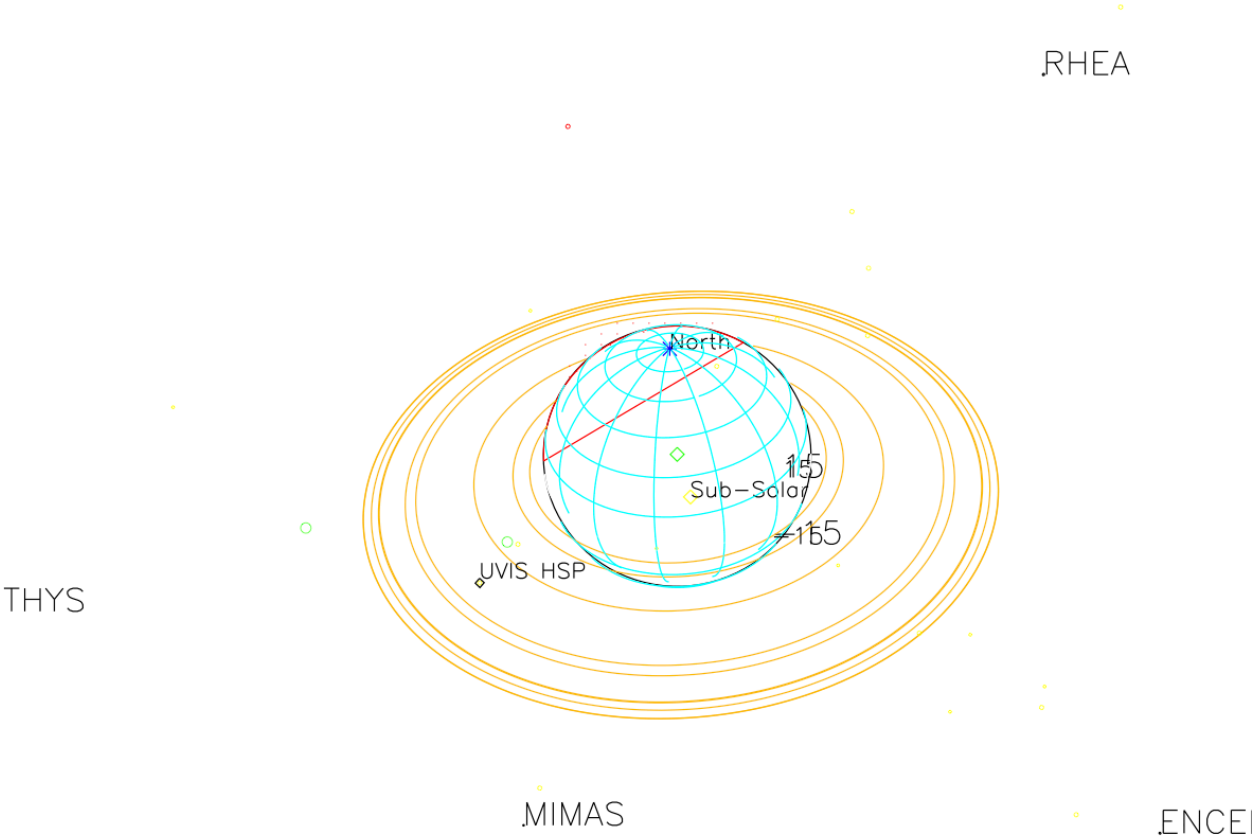
Sub-s/c lat/lon: 37.28, -158.69


KAP SCO Rev 247 Egress
HSP Counts (per second)
2000
1500
1000
500
0
80000
100000
120000
140000
Ring Plane Radius (km)

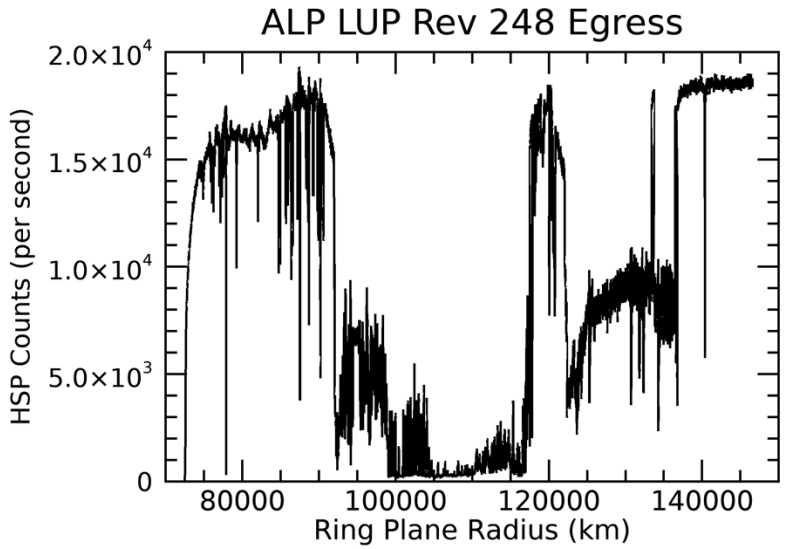

KAP SCO Rev 247 Egress
Radial Resolution (m)
4
3
2
1
0
108000
109000
110000
111000
112000
Ring Plane Radius (km)

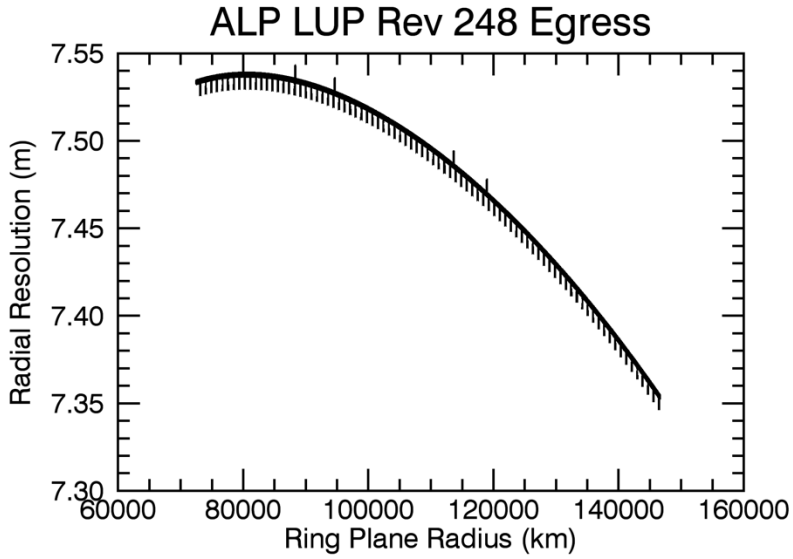

HSP Counts (per second)
2000
1500
1000
500
0
108000
109000
110000
111000
112000
Ring Plane Radius (km)

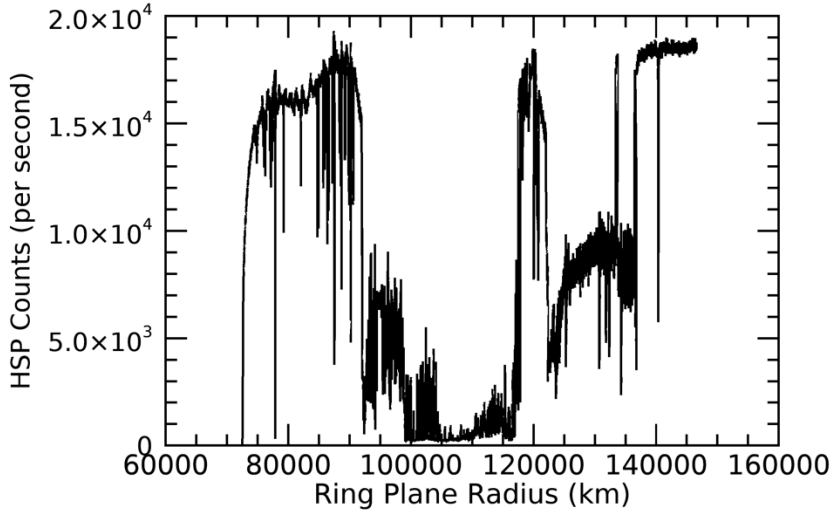

ϕ (degrees)
245
240
235
230
225
108000
109000
110000
111000
112000
Ring Plane Radius (km)

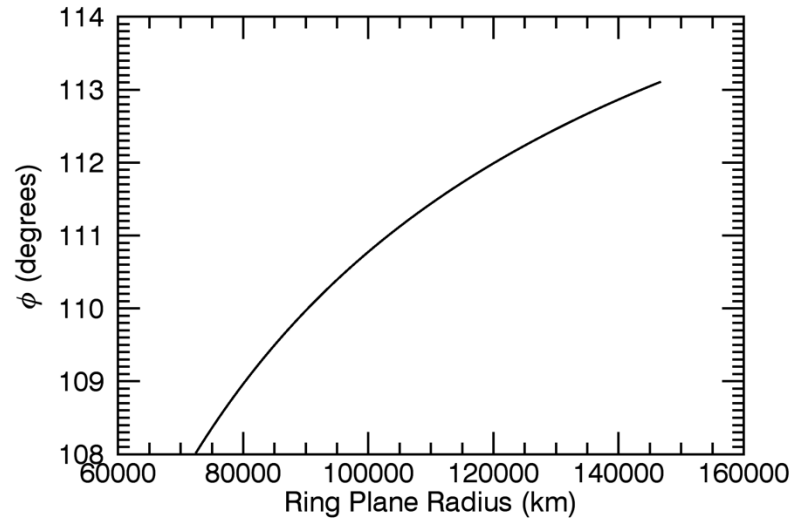


2016-306T06:23:00.000 460781.26 km
Target RA/dec: 251.49, -32.98
Subsolar lat/lon: 22.14, 166.17
Sub-s/c lat/lon: 33.54, 161.91

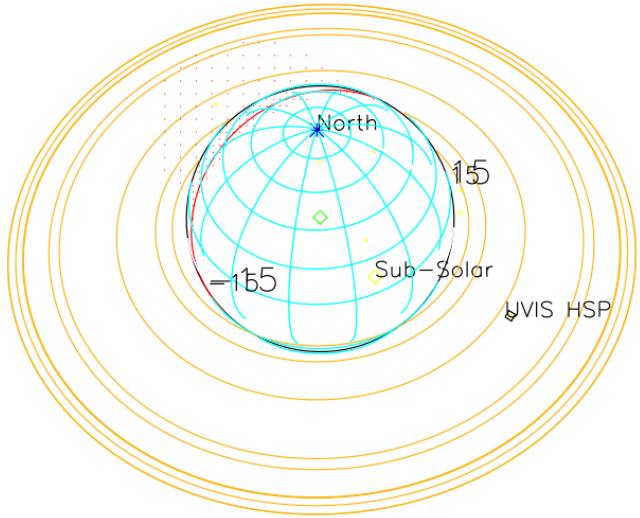

ALP LUP Rev 248 Egress
HSP Counts (per second)
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
80000
100000
120000
140000
Ring Plane Radius (km)


ALP LUP Rev 248 Egress
Radial Resolution (m)
7.55
7.50
7.45
7.40
7.35
7.30
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)


HSP Counts (per second)
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)


ϕ (degrees)
114
113
112
111
110
109
108
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)

RHEA

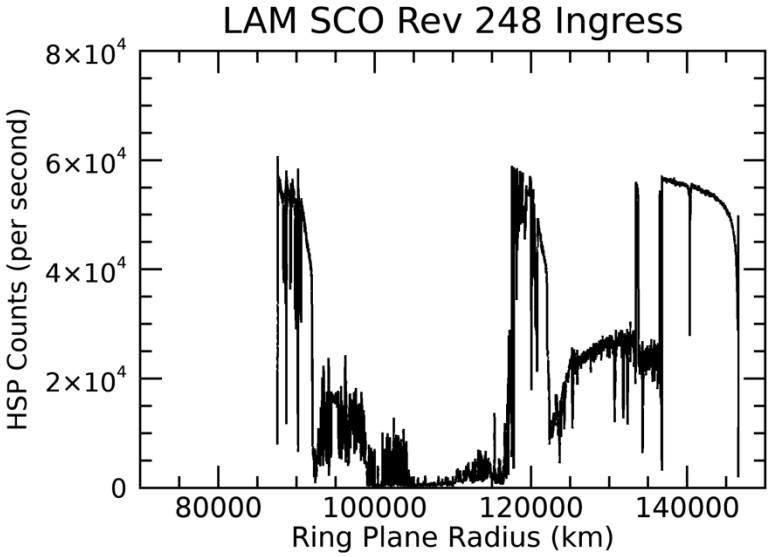


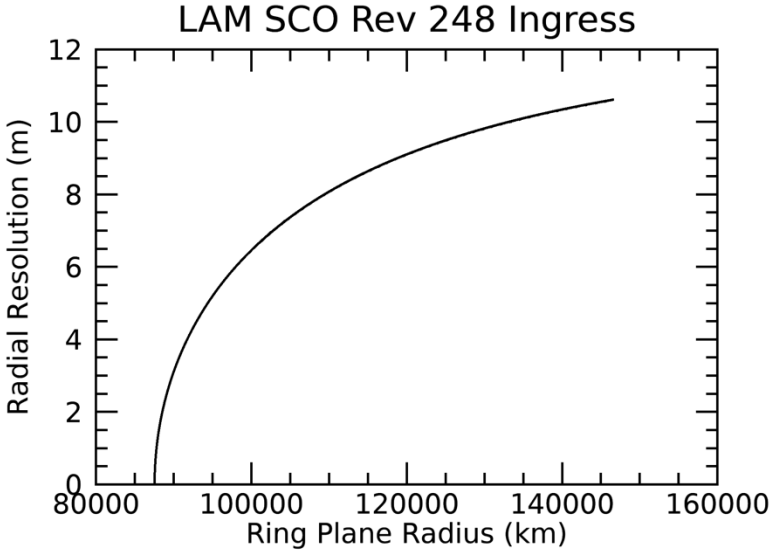
ETHYS

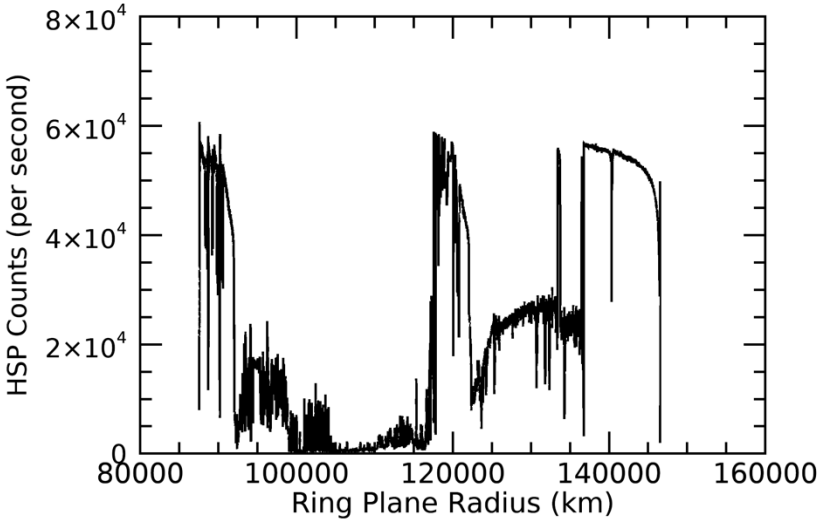
MIMAS

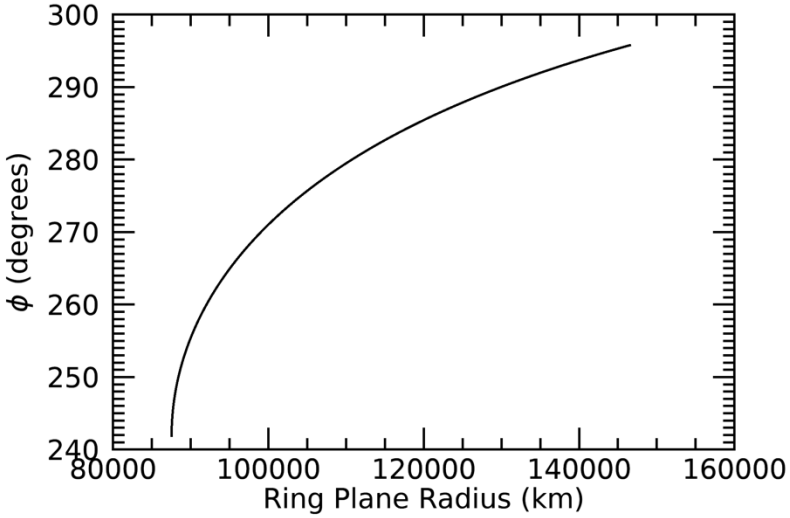
2016-315T15:17:00.000 546186.33 km
Target RA/dec: 233.73, -43.69
Subsolar lat/lon: 22.15, 128.67
Sub-s/c lat/lon: 44.71, 105.52

ENCELADUS

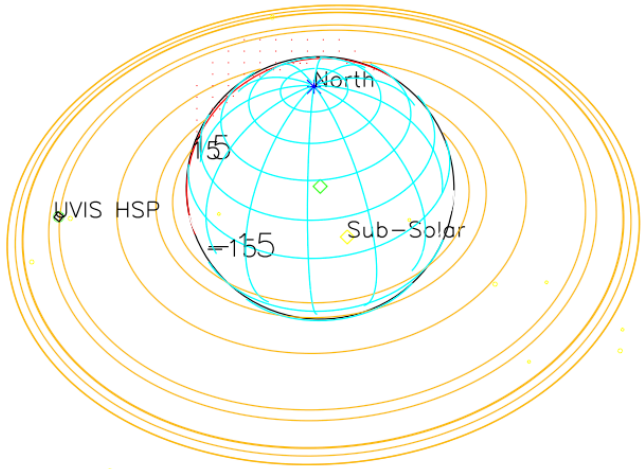

LAM SCO Rev 248 Ingress
HSP Counts (per second)
8×10^4
6×10^4
4×10^4
2×10^4
0
80000
100000
120000
140000
Ring Plane Radius (km)


LAM SCO Rev 248 Ingress
Radial Resolution (m)
12
10
8
6
4
2
0
80000
100000
120000
140000
160000
Ring Plane Radius (km)


HSP Counts (per second)
8×10^4
6×10^4
4×10^4
2×10^4
0
80000
100000
120000
140000
160000
Ring Plane Radius (km)


ϕ (degrees)
300
290
280
270
260
250
240
80000
100000
120000
140000
160000
Ring Plane Radius (km)

RHEA



THYS

MIMAS

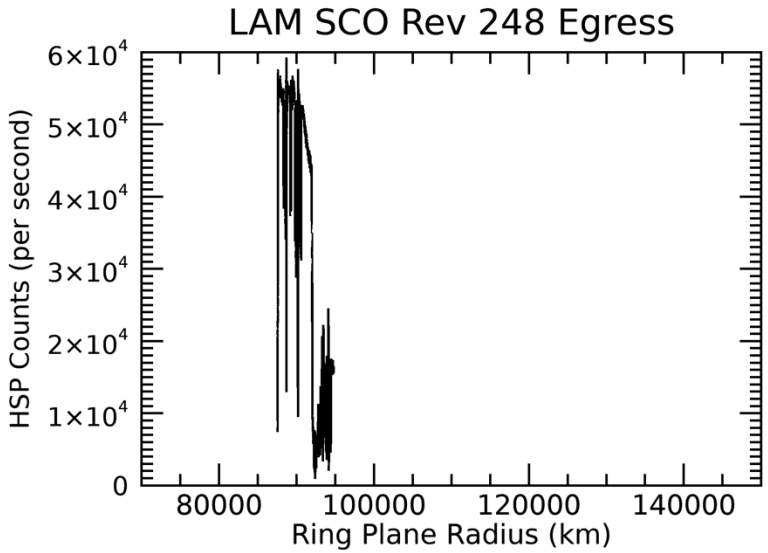
2016−315T18:35:00.000 485670.61 km

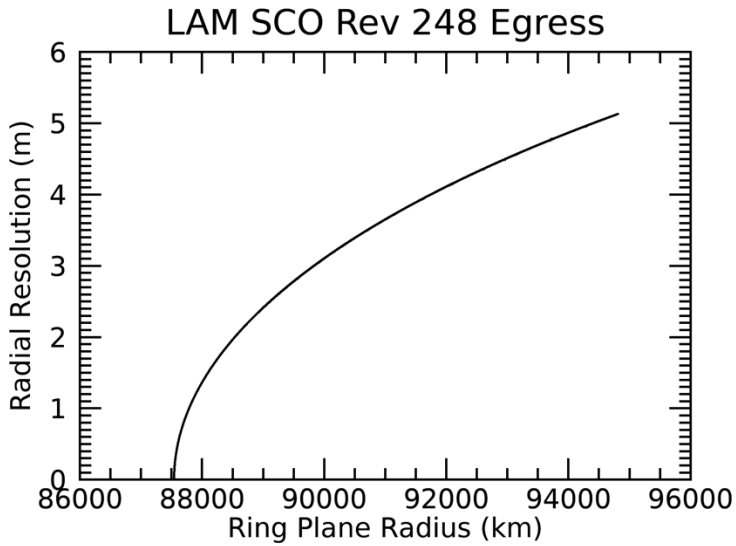
Target RA/dec: 246.10, −36.83

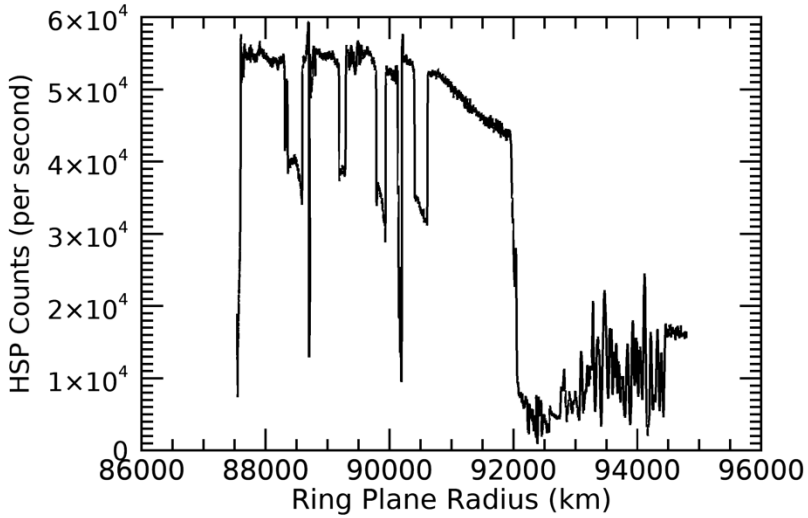
Subsolar lat/lon: 22.15, 17.19

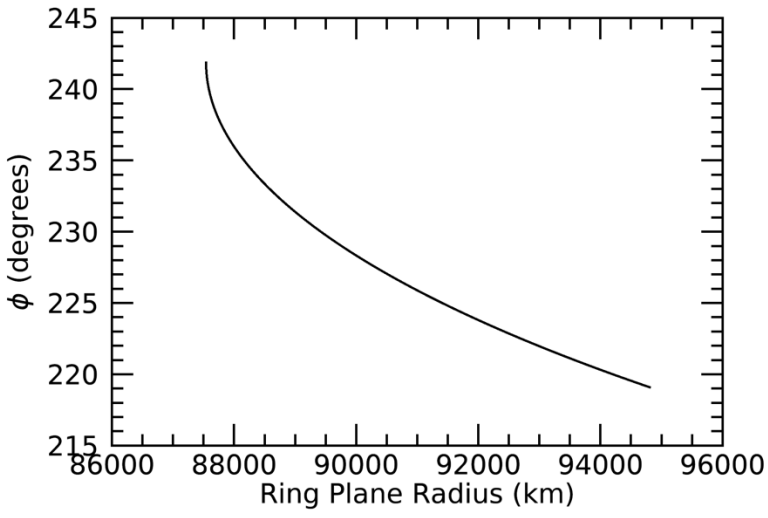
Sub−s/c lat/lon: 37.48, 7.16

ENCELADUS

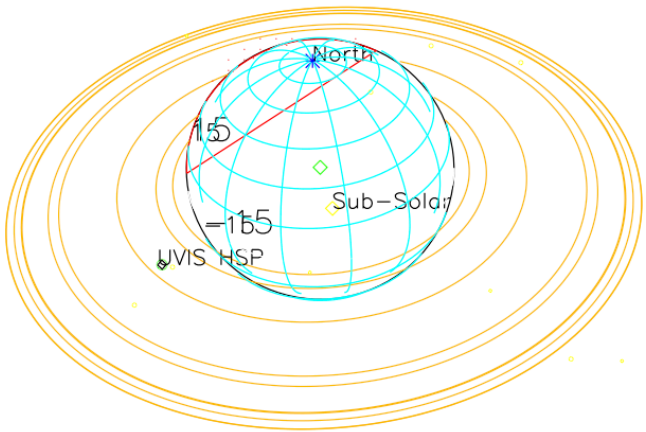

LAM SCO Rev 248 Egress
HSP Counts (per second)
6×10^4
5×10^4
4×10^4
3×10^4
2×10^4
1×10^4
0
80000
100000
120000
140000
Ring Plane Radius (km)


LAM SCO Rev 248 Egress
Radial Resolution (m)
6
5
4
3
2
1
0
86000
88000
90000
92000
94000
96000
Ring Plane Radius (km)


HSP Counts (per second)
6×10^4
5×10^4
4×10^4
3×10^4
2×10^4
1×10^4
0
86000
88000
90000
92000
94000
96000
Ring Plane Radius (km)


ϕ (degrees)
245
240
235
230
225
220
215
86000
88000
90000
92000
94000
96000
Ring Plane Radius (km)

RHEA

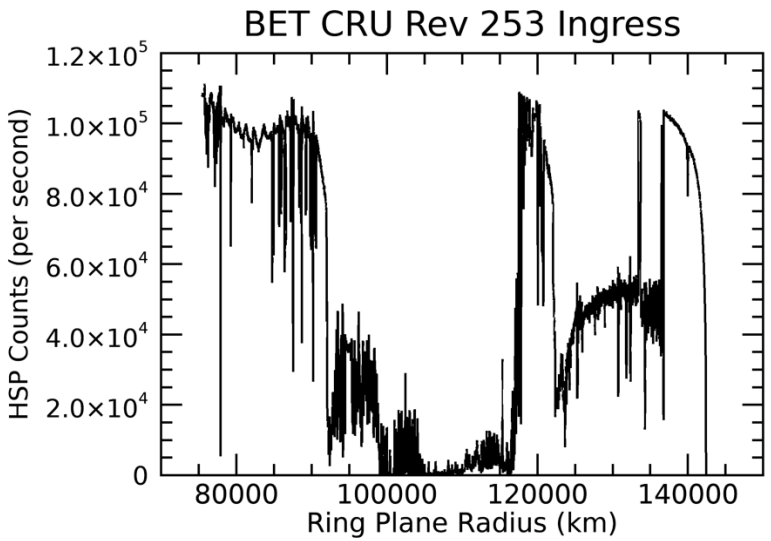


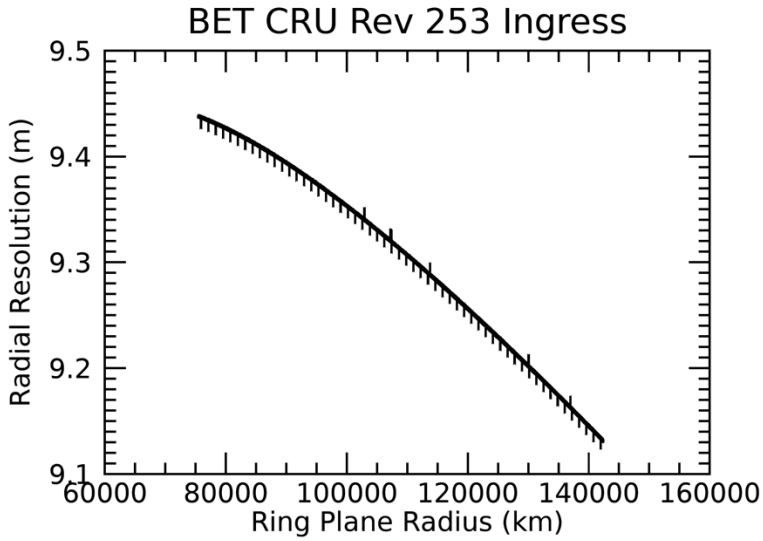
MIMAS

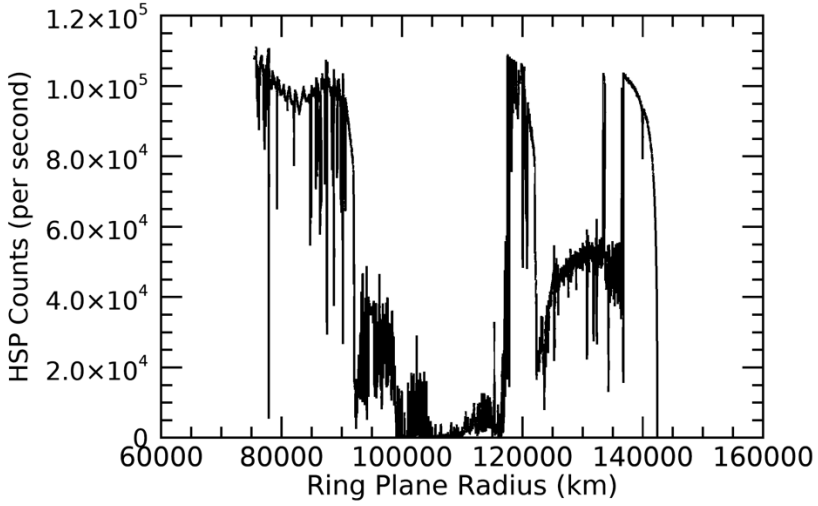
THYS

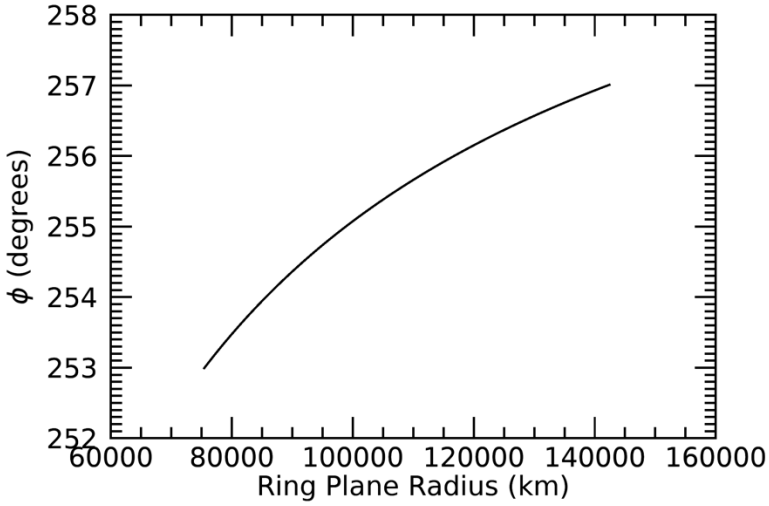
ENCELAI

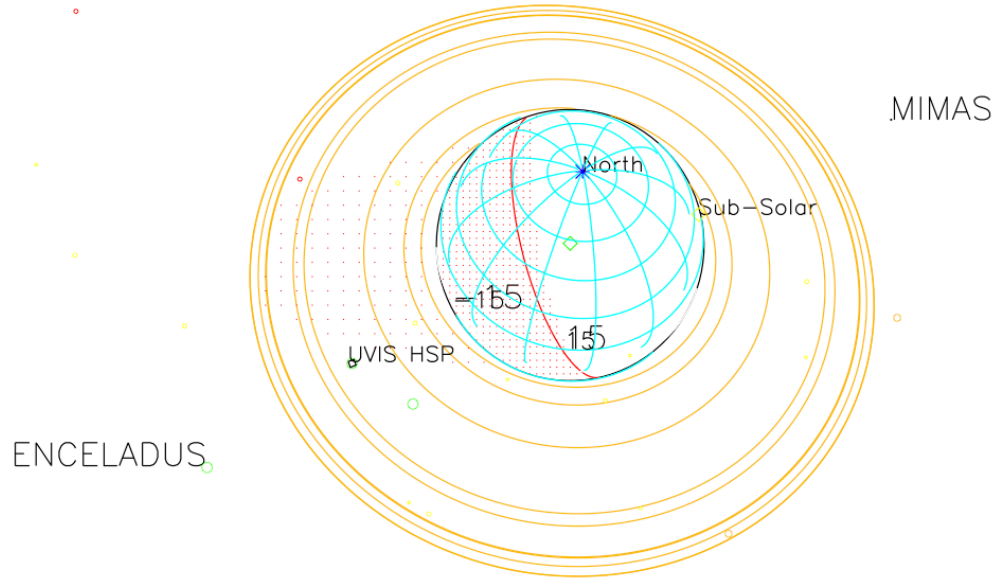
2016-315T20:11:00.000 457105.74 km
Target RA/dec: 252.22, -32.35
Subsolar lat/lon: 22.15, -36.86
Sub-s/c lat/lon: 32.90, -40.72


BET CRU Rev 253 Ingress
HSP Counts (per second)
1.2×10^5
1.0×10^5
8.0×10^4
6.0×10^4
4.0×10^4
2.0×10^4
0
80000
100000
120000
140000
Ring Plane Radius (km)


BET CRU Rev 253 Ingress
Radial Resolution (m)
9.5
9.4
9.3
9.2
9.1
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)


HSP Counts (per second)
1.2×10^5
1.0×10^5
8.0×10^4
6.0×10^4
4.0×10^4
2.0×10^4
0
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)


ϕ (degrees)
258
257
256
255
254
253
252
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)

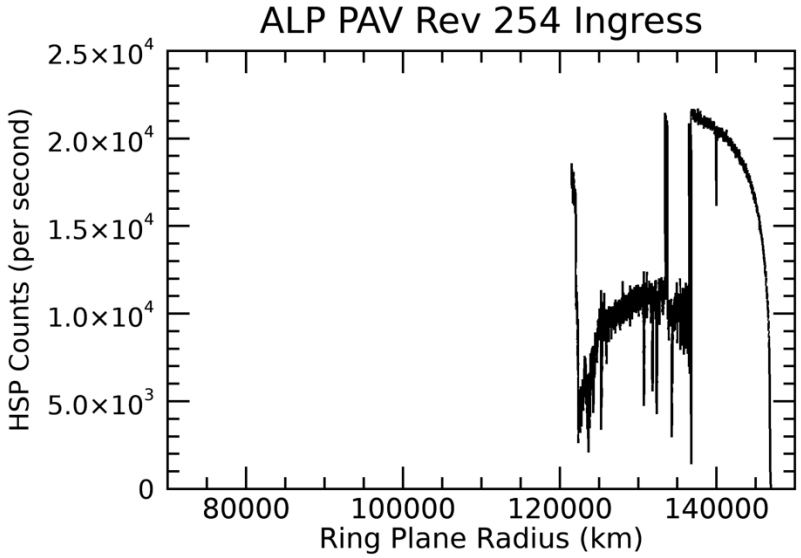


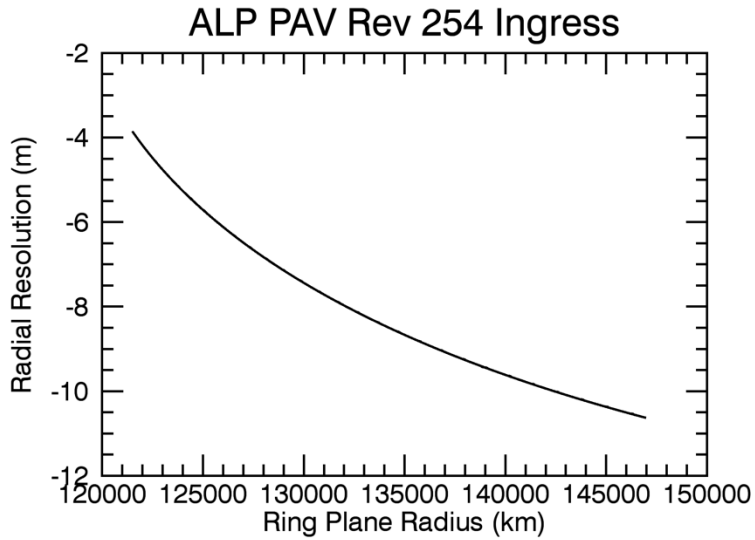
2016-353T12:11:00.000 428319.86 km

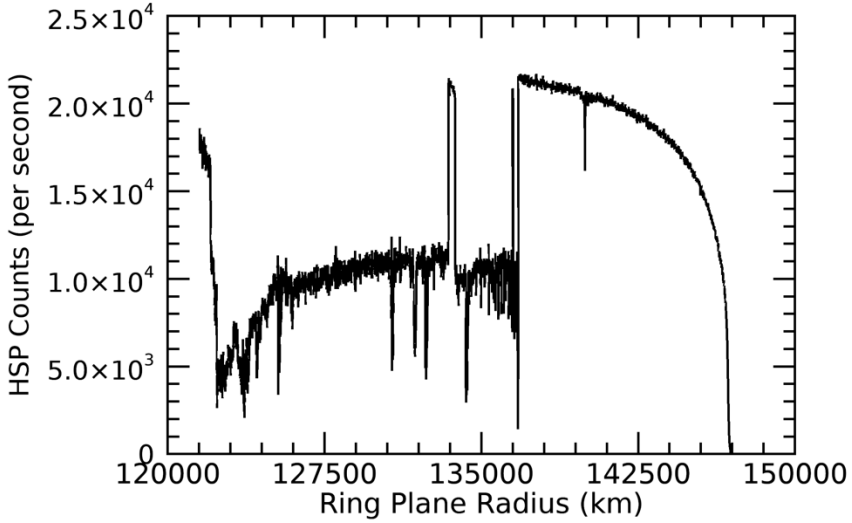
Target RA/dec: 165.61, -55.40

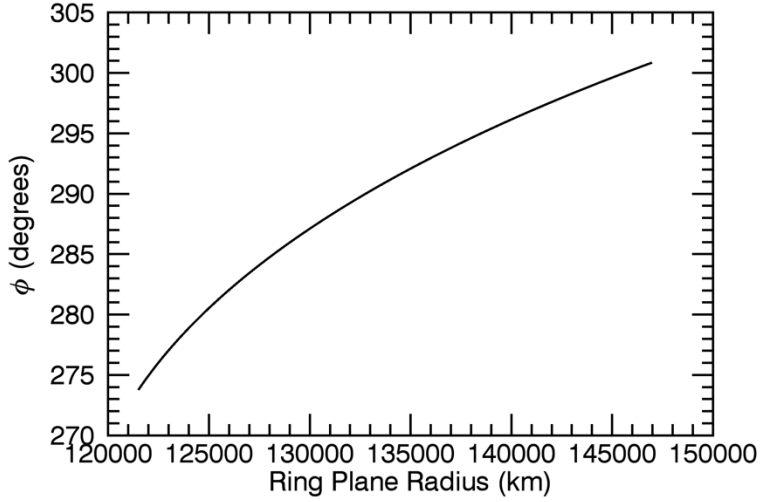
Subsolar lat/lon: 22.20, 24.51

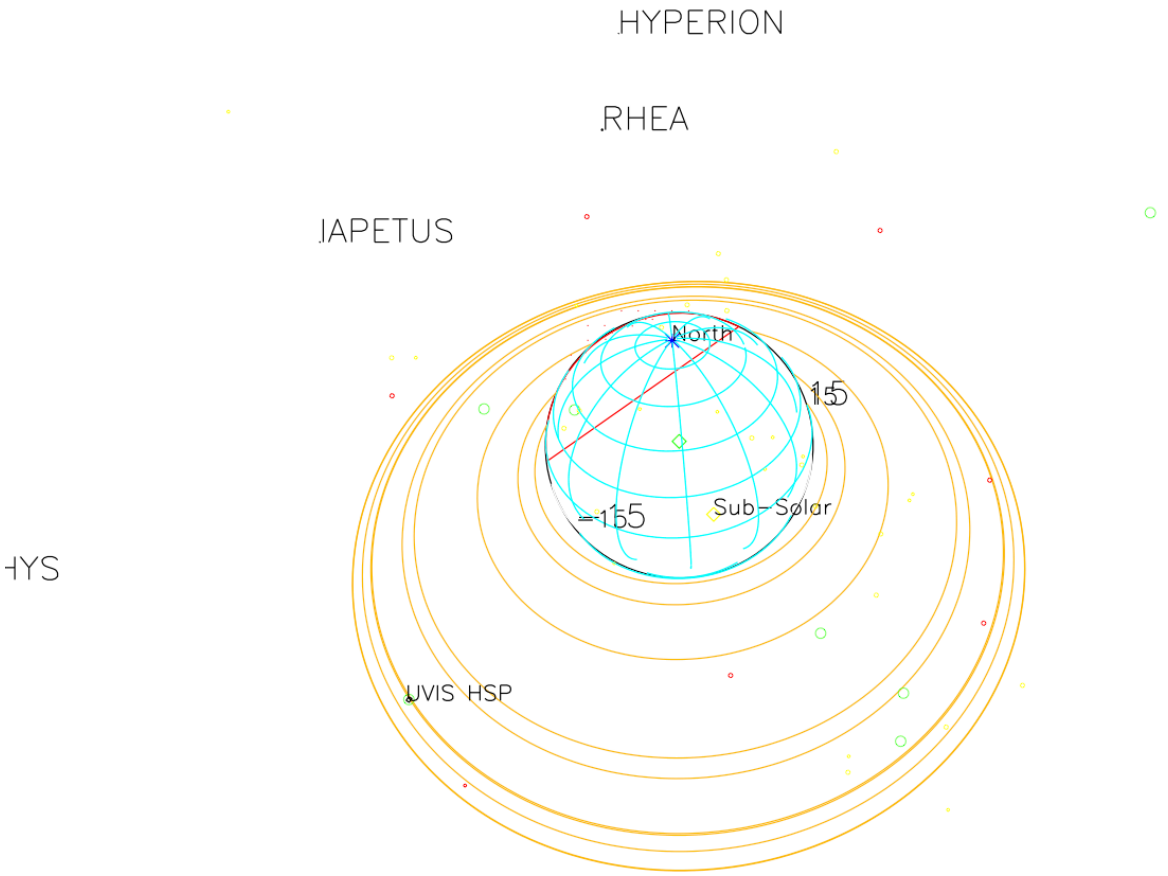
Sub-s/c lat/lon: 54.02, -78.29


ALP PAV Rev 254 Ingress
HSP Counts (per second)
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
80000
100000
120000
140000
Ring Plane Radius (km)


ALP PAV Rev 254 Ingress
Radial Resolution (m)
-2
-4
-6
-8
-10
-12
120000
125000
130000
135000
140000
145000
150000
Ring Plane Radius (km)


HSP Counts (per second)
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
120000
127500
135000
142500
150000
Ring Plane Radius (km)


ϕ (degrees)
305
300
295
290
285
280
275
270
120000
125000
130000
135000
140000
145000
150000
Ring Plane Radius (km)

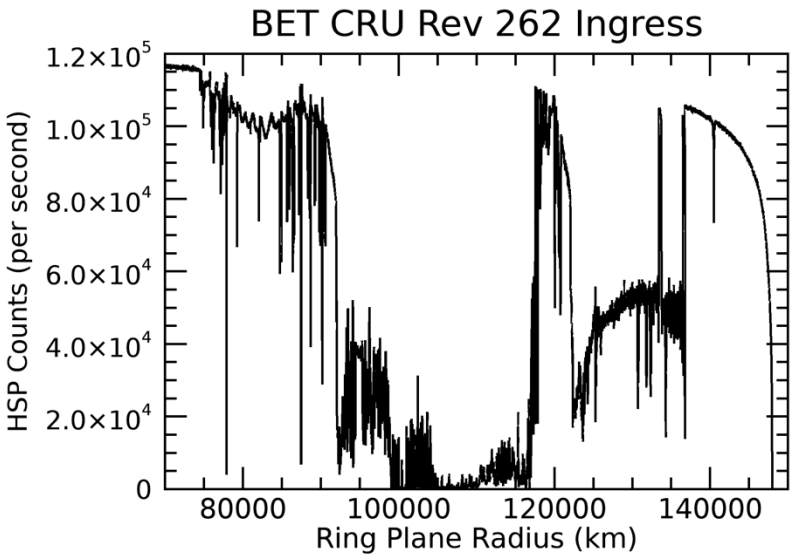


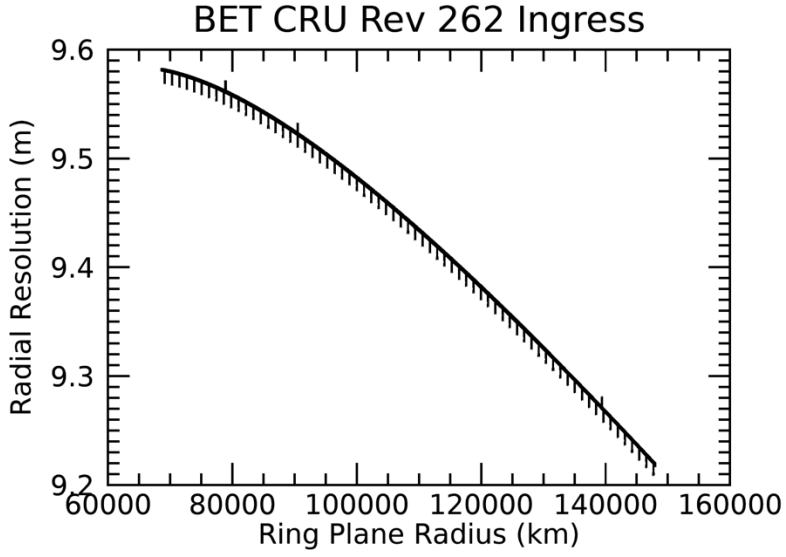
2016-360T23:08:00.000 204339.58 km

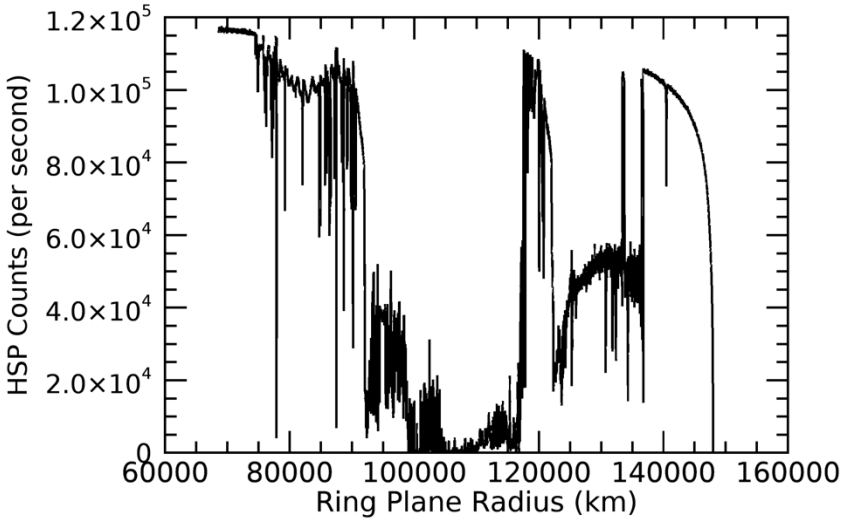
Target RA/dec: 246.40, -42.29

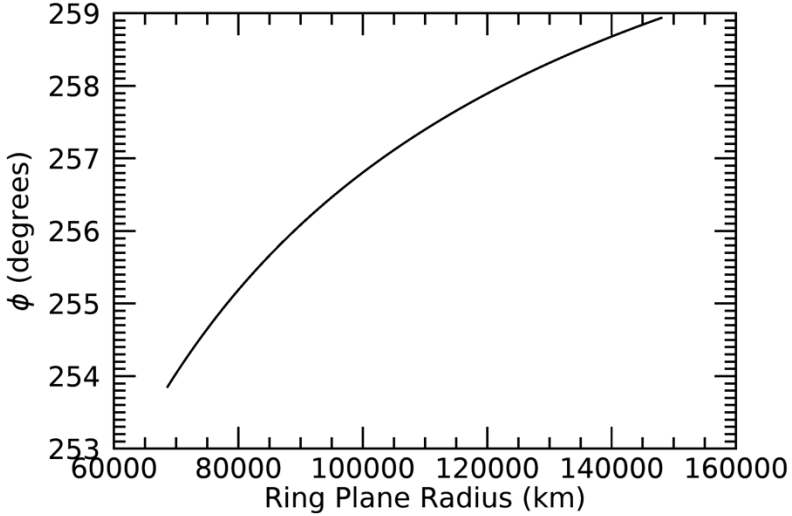
Subsolar lat/lon: 22.21, 99.27

Sub-s/c lat/lon: 43.79, 88.58


BET CRU Rev 262 Ingress
HSP Counts (per second)
1.2×10^5
1.0×10^5
8.0×10^4
6.0×10^4
4.0×10^4
2.0×10^4
0
80000
100000
120000
140000
Ring Plane Radius (km)

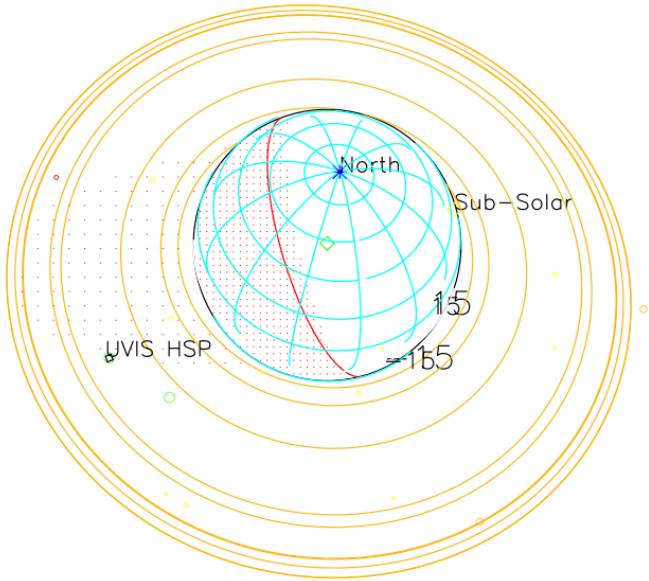

BET CRU Rev 262 Ingress
Radial Resolution (m)
9.6
9.5
9.4
9.3
9.2
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)


HSP Counts (per second)
1.2×10^5
1.0×10^5
8.0×10^4
6.0×10^4
4.0×10^4
2.0×10^4
0
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)


ϕ (degrees)
259
258
257
256
255
254
253
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)

RHEA

DI(



MIMAS

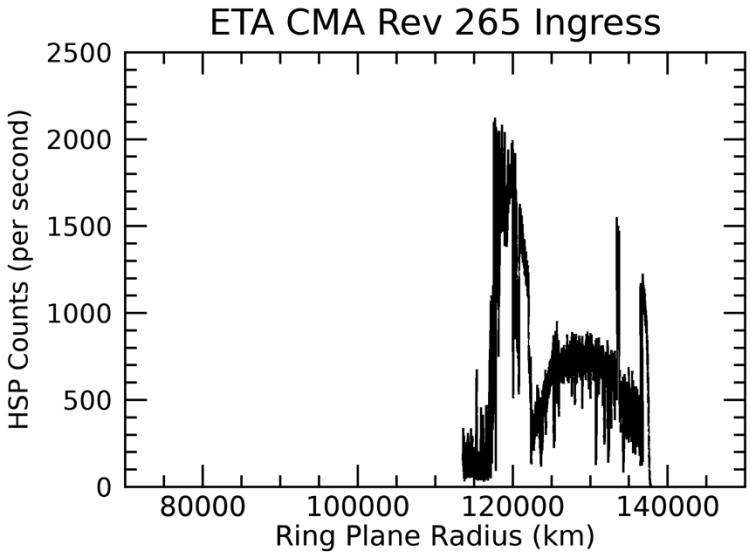
2017−052T00:59:00.000 420686.80 km

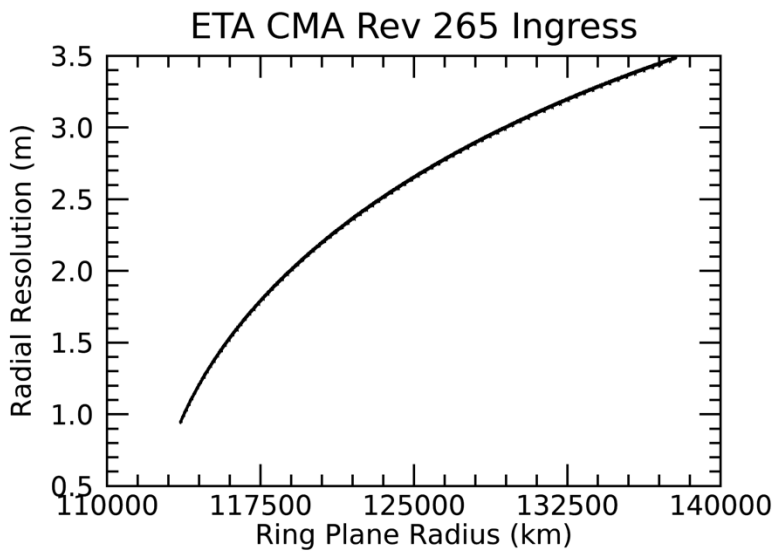
Target RA/dec: 165.12, −5.69

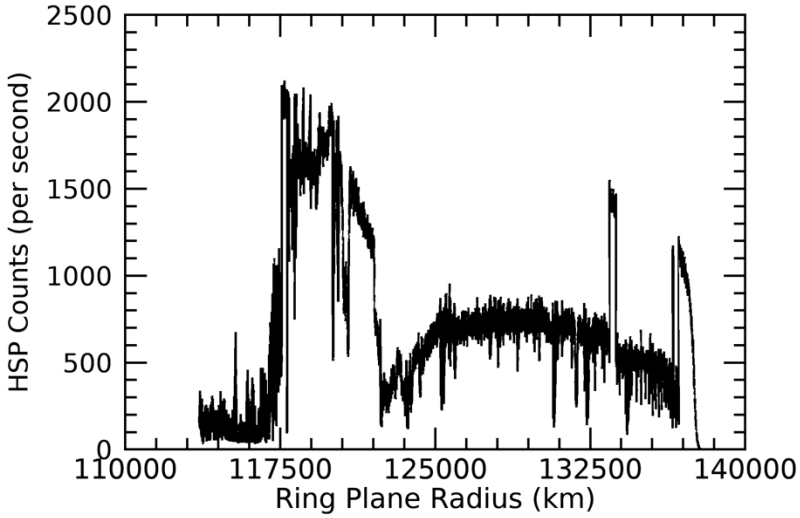
Subsolar lat/lon: 22.25, −96.56

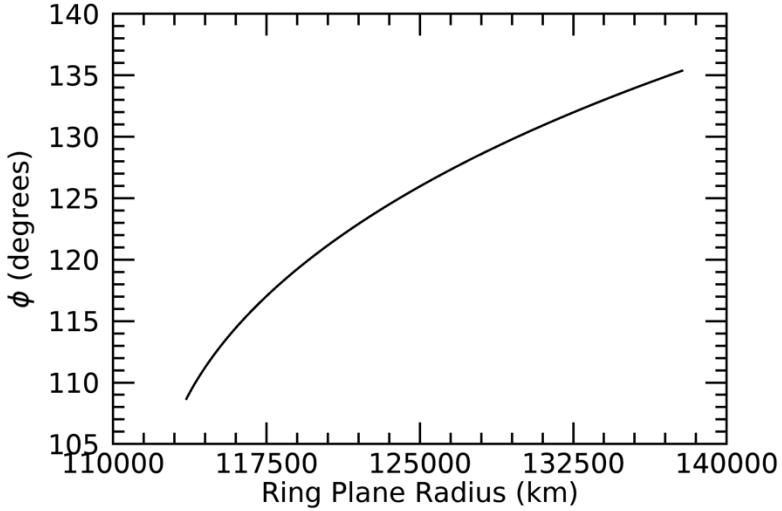
Sub−s/c lat/lon: 54.28, 157.83

ENCELADUS


ETA CMA Rev 265 Ingress
HSP Counts (per second)
2500
2000
1500
1000
500
0
80000
100000
120000
140000
Ring Plane Radius (km)

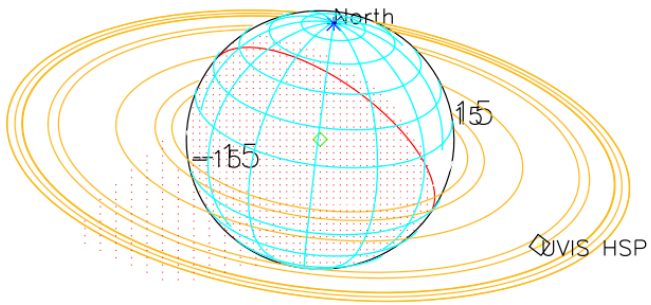

ETA CMA Rev 265 Ingress
Radial Resolution (m)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
110000
117500
125000
132500
140000
Ring Plane Radius (km)


HSP Counts (per second)
2500
2000
1500
1000
500
0
110000
117500
125000
132500
140000
Ring Plane Radius (km)


ϕ (degrees)
140
135
130
125
120
115
110
105
110000
117500
125000
132500
140000
Ring Plane Radius (km)

TITAN

ENCELADUS



MIMAS

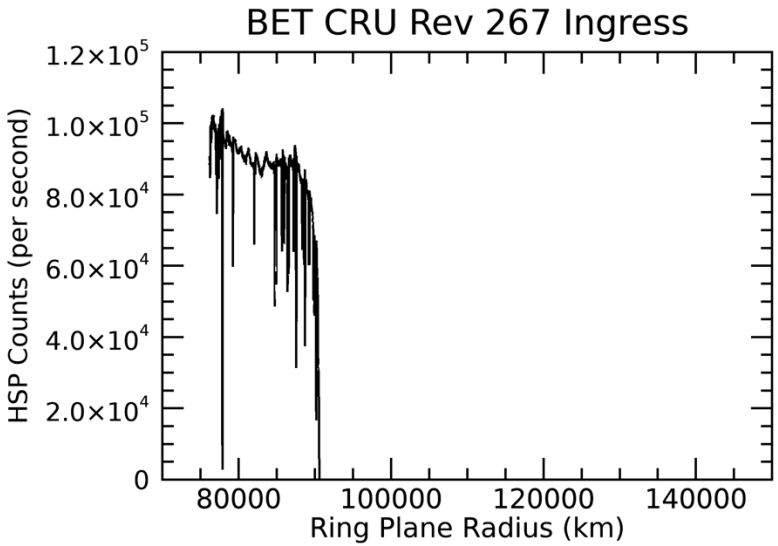
TETHYS

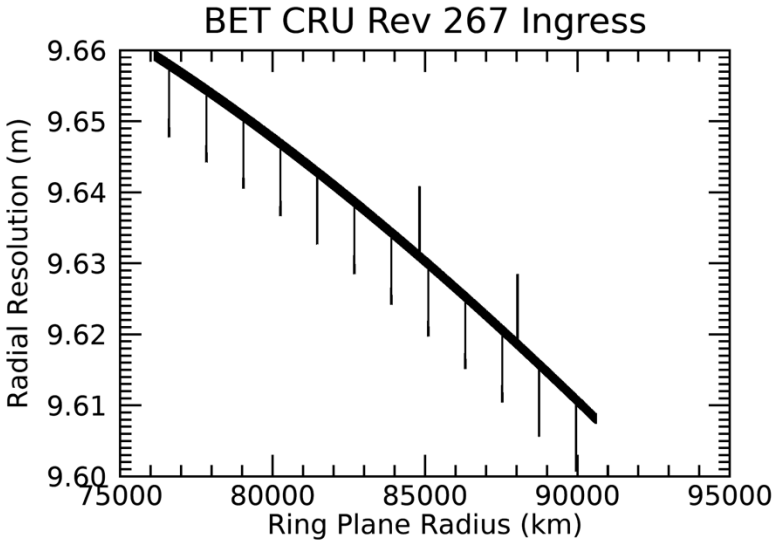
2017-072T01:14:00.000 1079483.0 km

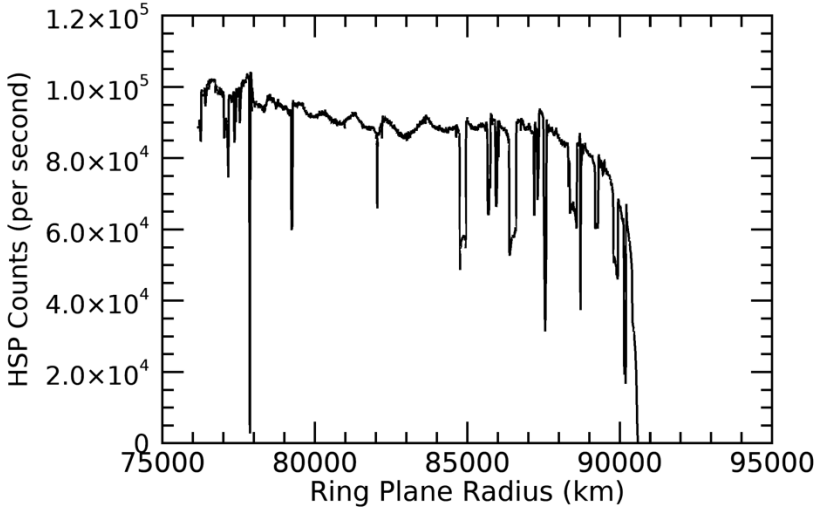
Target RA/dec: 117.03, -27.02

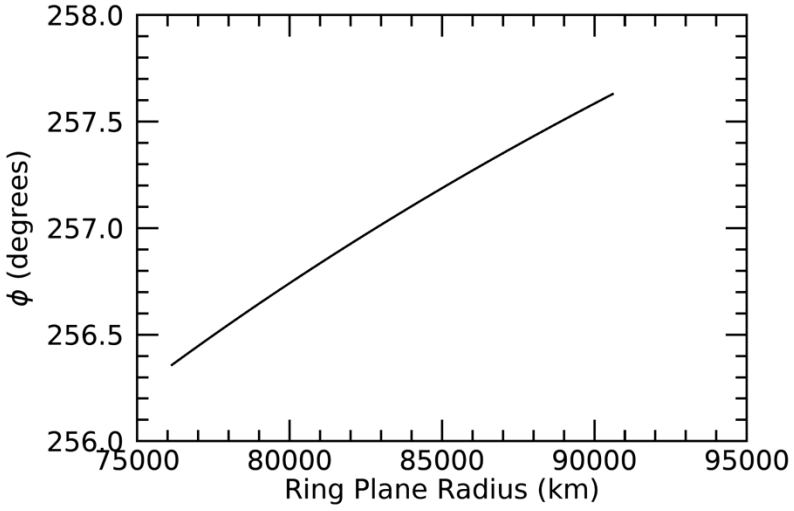
Subsolar lat/lon: 22.27, -120.19

Sub-s/c lat/lon: 21.27, 91.09

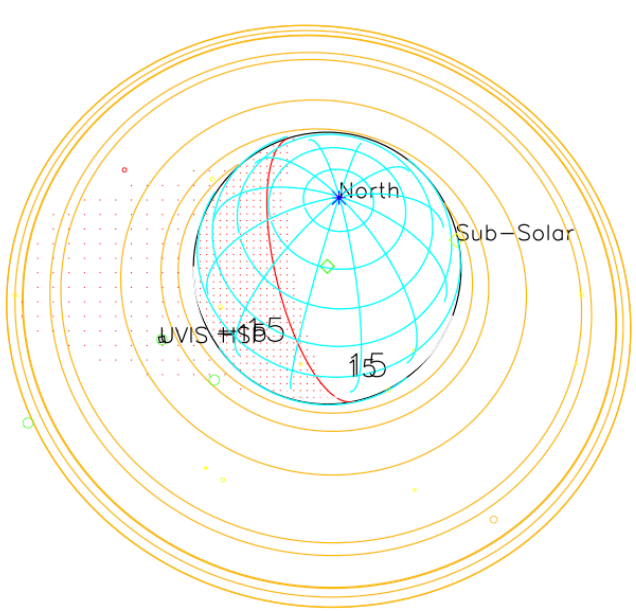

BET CRU Rev 267 Ingress
HSP Counts (per second)
1.2×10^5
1.0×10^5
8.0×10^4
6.0×10^4
4.0×10^4
2.0×10^4
0
80000
100000
120000
140000
Ring Plane Radius (km)


BET CRU Rev 267 Ingress
Radial Resolution (m)
9.66
9.65
9.64
9.63
9.62
9.61
9.60
75000
80000
85000
90000
95000
Ring Plane Radius (km)


HSP Counts (per second)
1.2×10^5
1.0×10^5
8.0×10^4
6.0×10^4
4.0×10^4
2.0×10^4
0
75000
80000
85000
90000
95000
Ring Plane Radius (km)


ϕ (degrees)
258.0
257.5
257.0
256.5
256.0
75000
80000
85000
90000
95000
Ring Plane Radius (km)

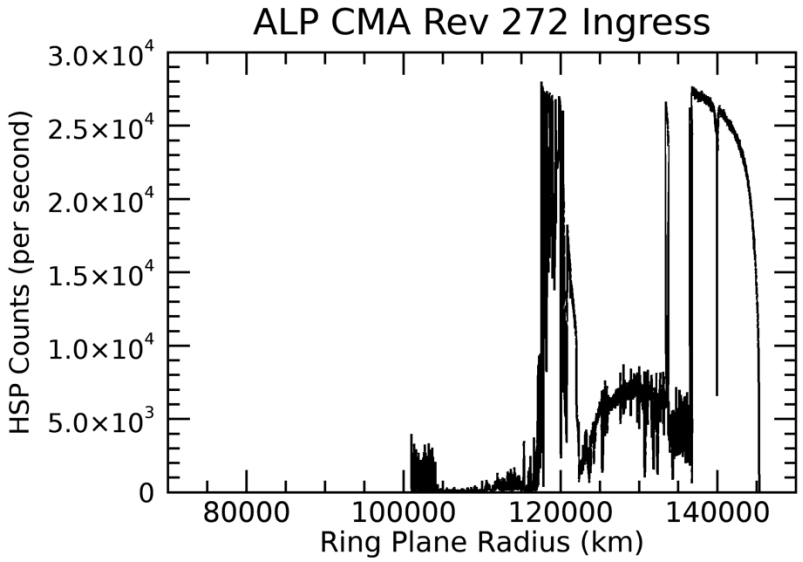
DIONE

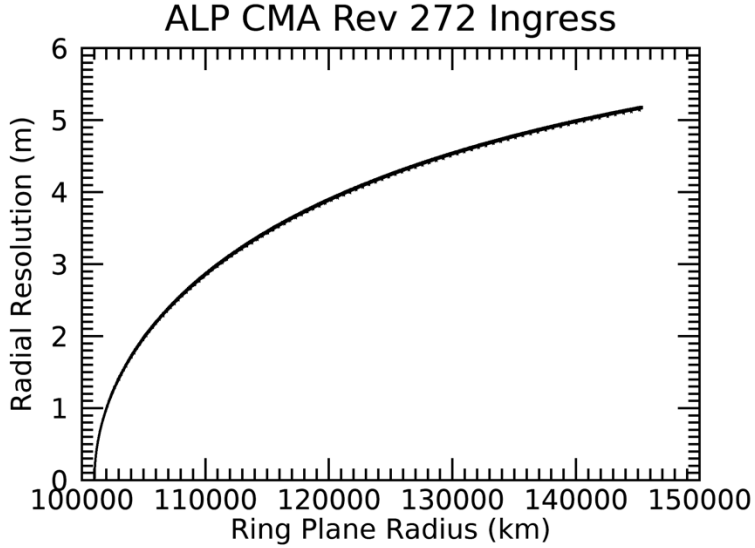


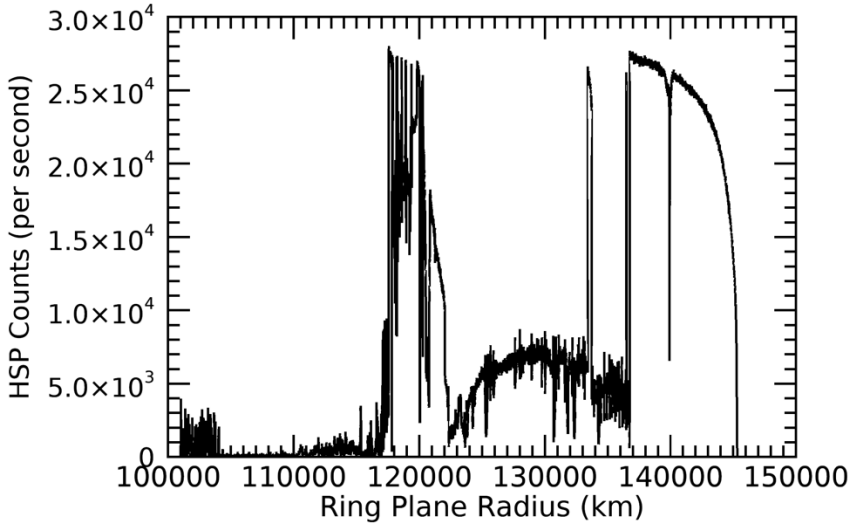
MIMAS

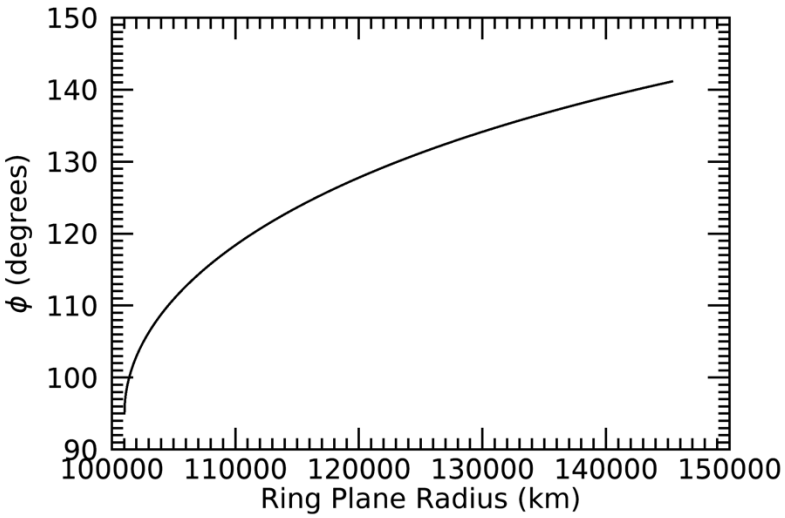
2017−087T21:38:00.000 392321.92 km
Target RA/dec: 170.10, −56.87
Subsolar lat/lon: 22.27, −10.76
Sub−s/c lat/lon: 56.12, −112.59

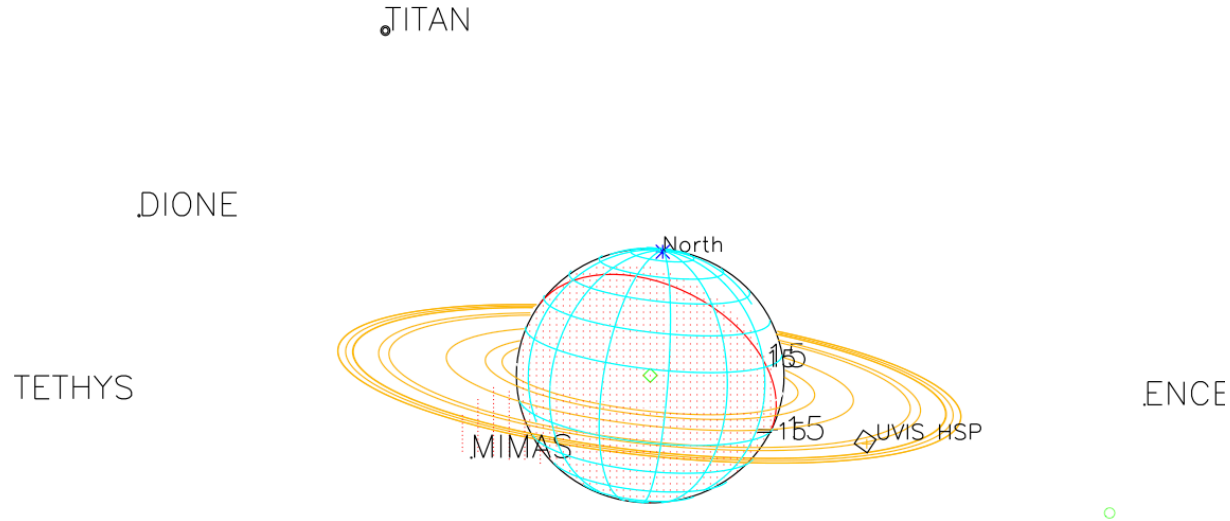
ENCELADUS


ALP CMA Rev 272 Ingress
HSP Counts (per second)
3.0×10^4
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
80000
100000
120000
140000
Ring Plane Radius (km)


ALP CMA Rev 272 Ingress
Radial Resolution (m)
6
5
4
3
2
1
0
100000
110000
120000
130000
140000
150000
Ring Plane Radius (km)


HSP Counts (per second)
3.0×10^4
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
100000
110000
120000
130000
140000
150000
Ring Plane Radius (km)


ϕ (degrees)
150
140
130
120
110
100
90
100000
110000
120000
130000
140000
150000
Ring Plane Radius (km)

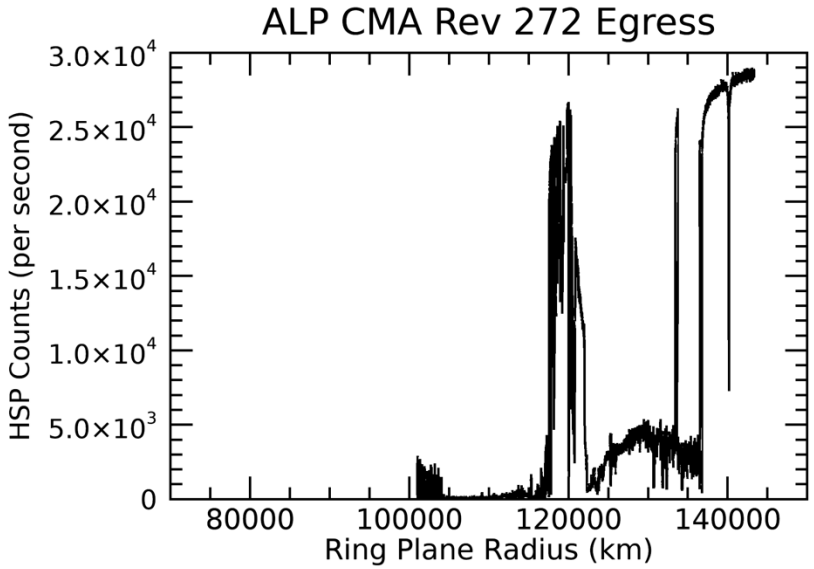


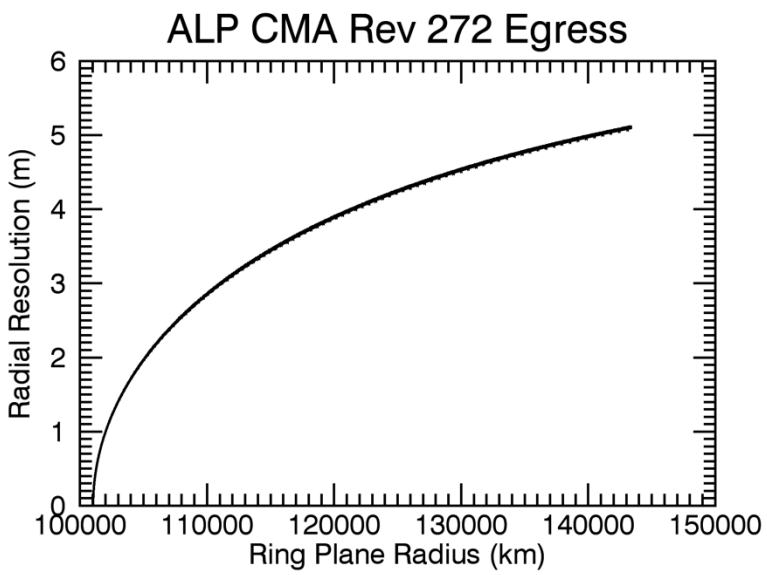
2017-120T19:39:00.000 1160503.4 km

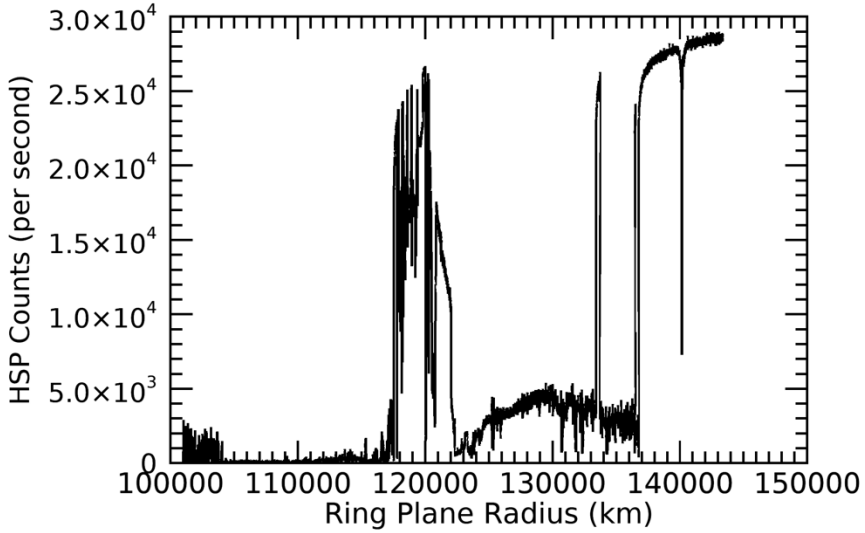
Target RA/dec: 106.31, -15.32

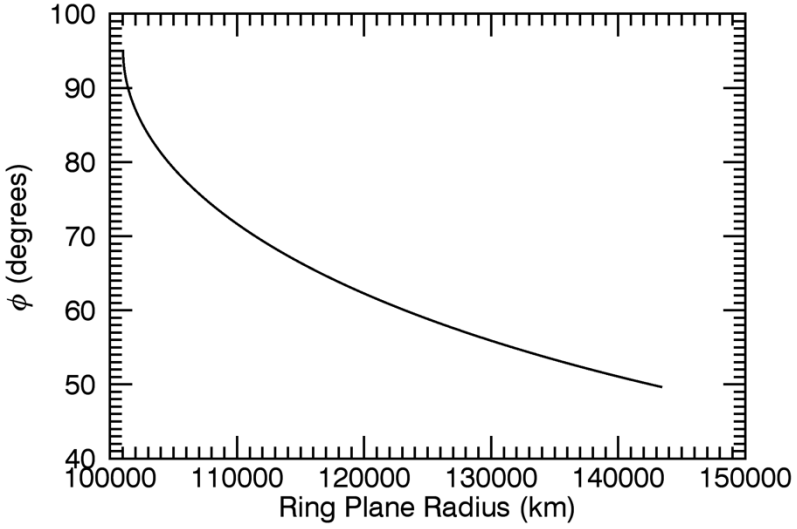
Subsolar lat/lon: 22.28, -58.82

Sub-s/c lat/lon: 10.39, 141.71


ALP CMA Rev 272 Egress
HSP Counts (per second)
3.0×10^4
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
80000
100000
120000
140000
Ring Plane Radius (km)

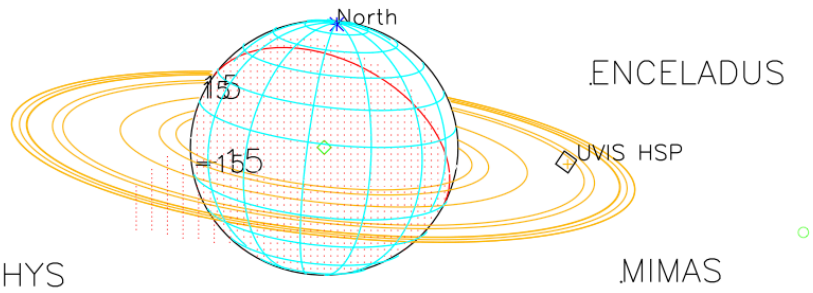

ALP CMA Rev 272 Egress
Radial Resolution (m)
6
5
4
3
2
1
0
100000
110000
120000
130000
140000
150000
Ring Plane Radius (km)


HSP Counts (per second)
3.0×10^4
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
100000
110000
120000
130000
140000
150000
Ring Plane Radius (km)


φ (degrees)
100
90
80
70
60
50
40
100000
110000
120000
130000
140000
150000
Ring Plane Radius (km)

TITAN

IONE

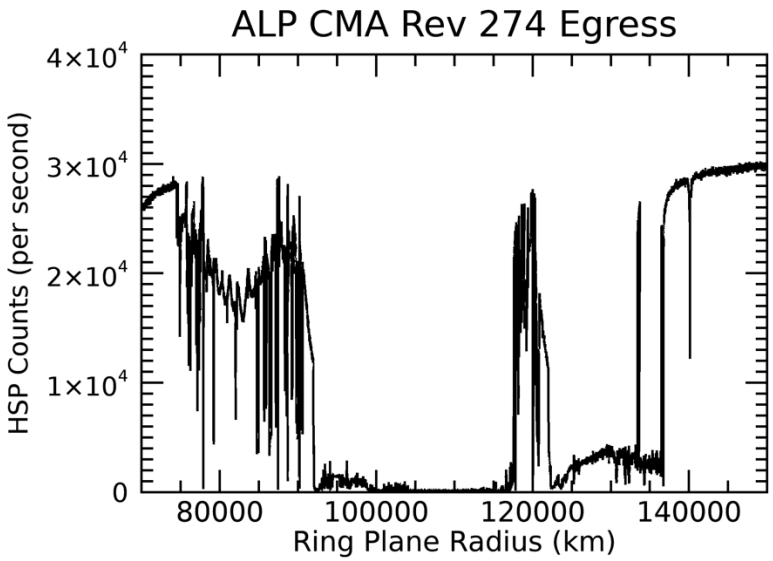


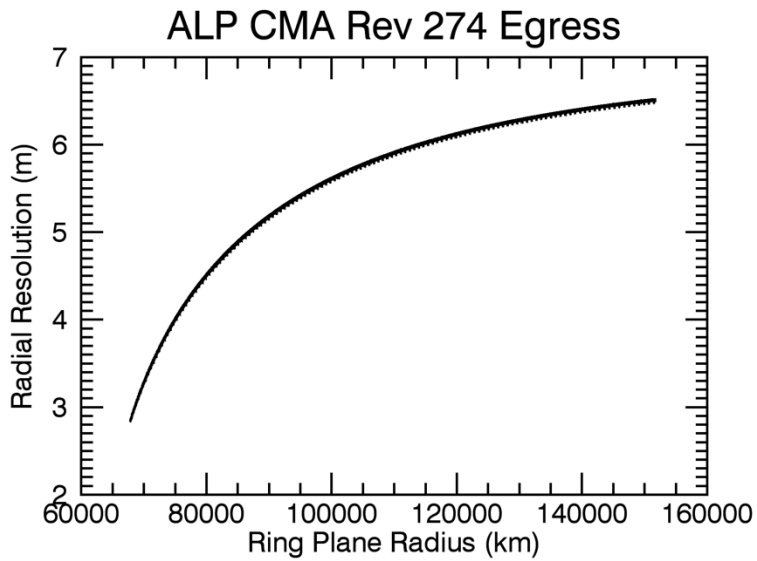
2017−120T23:38:00.000 1125022.8 km

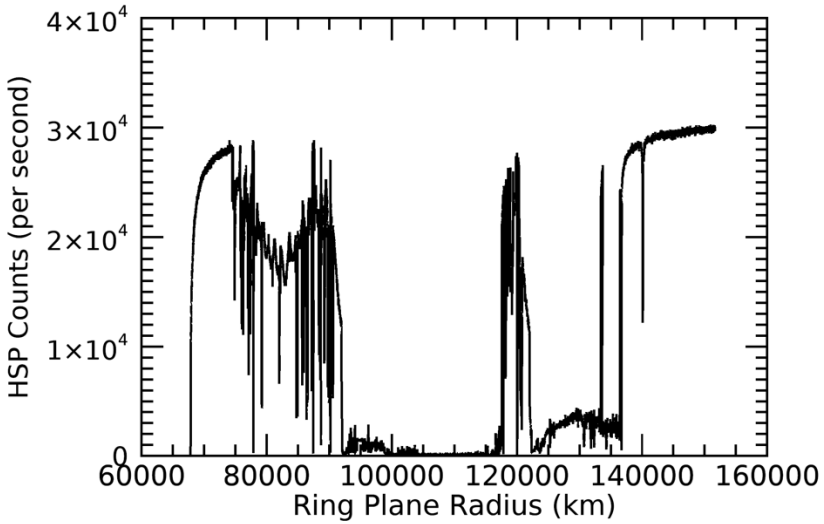
Target RA/dec: 107.11, −16.43

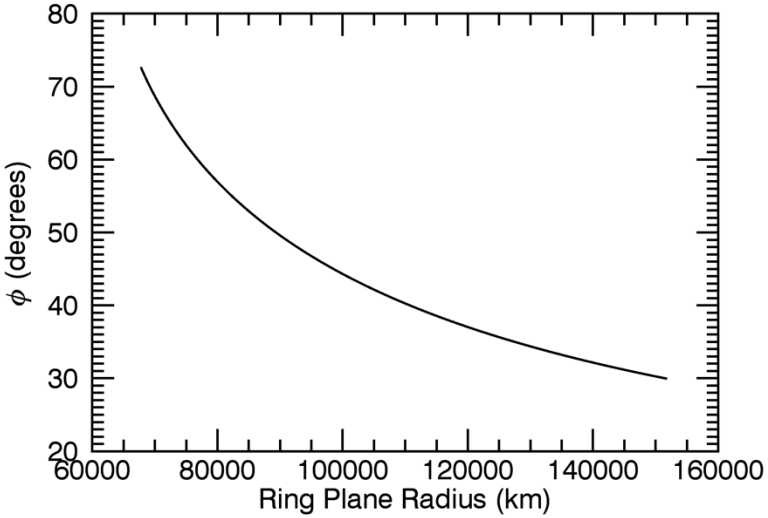
Subsolar lat/lon: 22.28, 166.61

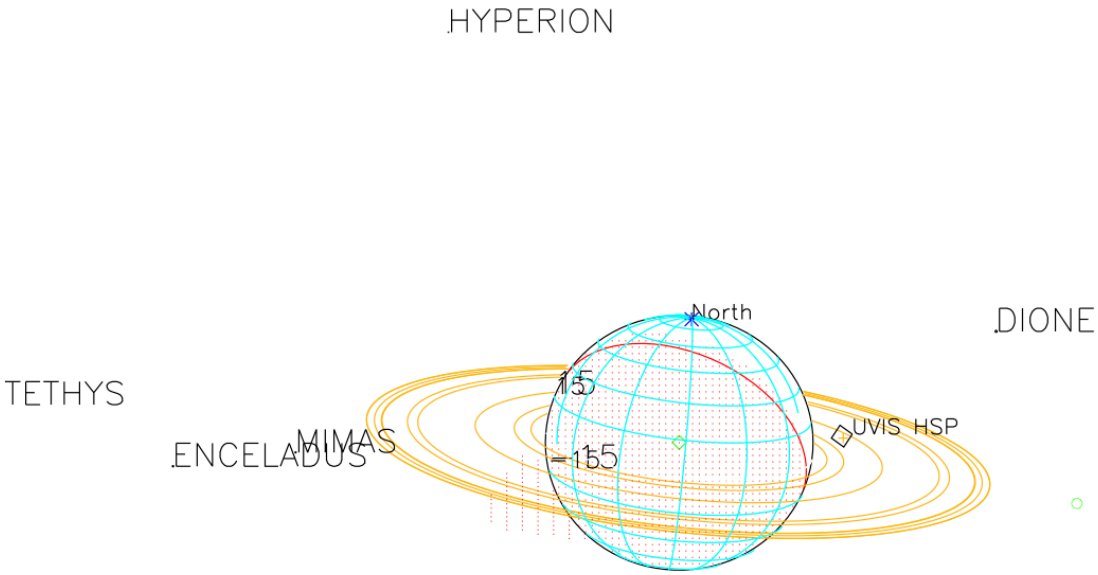
Sub−s/c lat/lon: 11.39, 7.80


ALP CMA Rev 274 Egress
HSP Counts (per second)
4×10^4
3×10^4
2×10^4
1×10^4
0
80000
100000
120000
140000
Ring Plane Radius (km)


ALP CMA Rev 274 Egress
Radial Resolution (m)
7
6
5
4
3
2
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)


HSP Counts (per second)
4×10^4
3×10^4
2×10^4
1×10^4
0
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)


ϕ (degrees)
80
70
60
50
40
30
20
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)

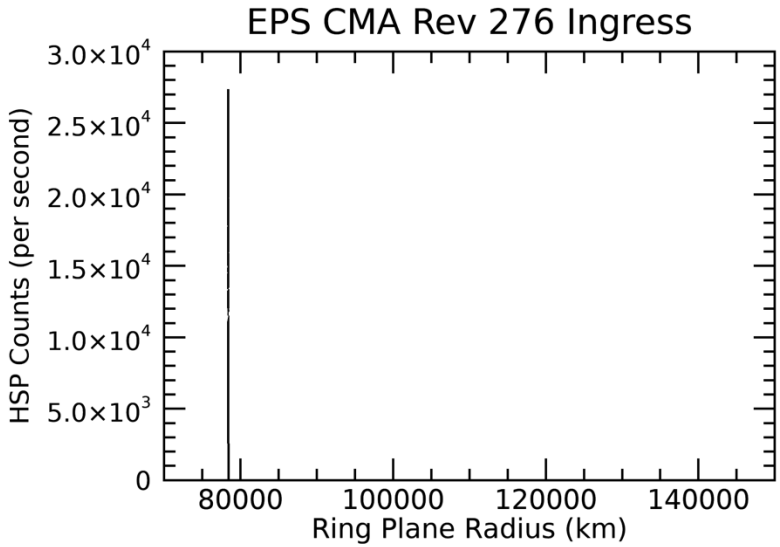


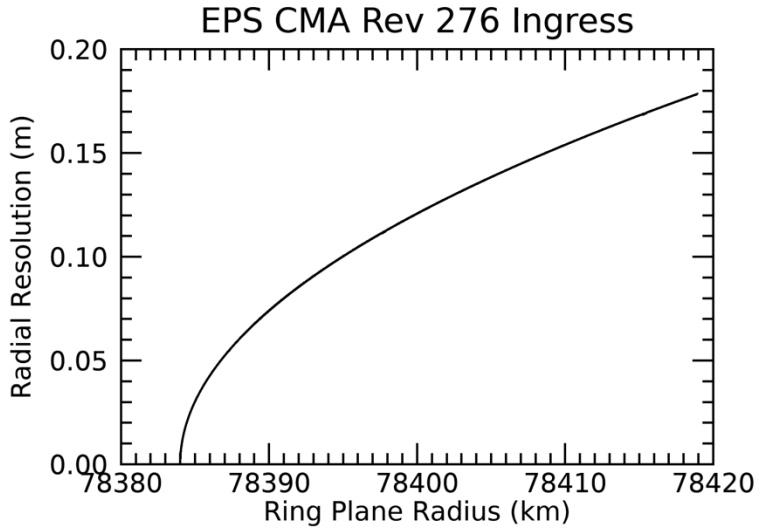
2017−133T21:49:00.000 1121506.0 km

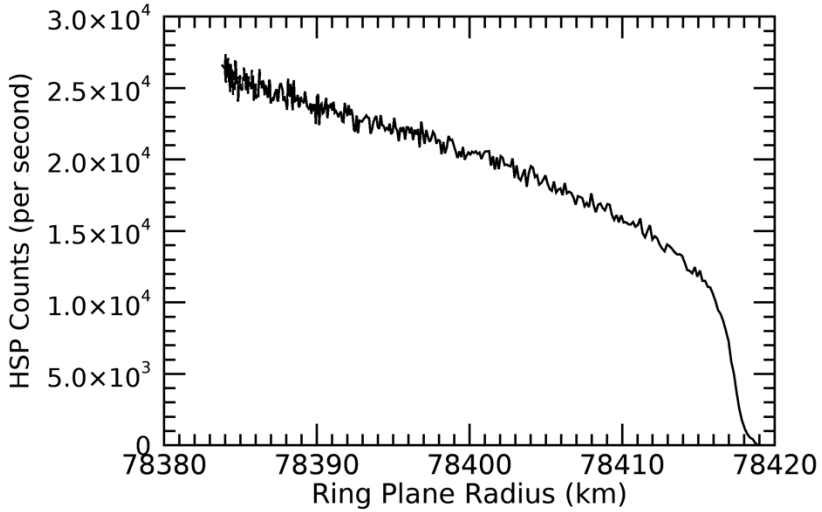
Target RA/dec: 105.23, −16.85

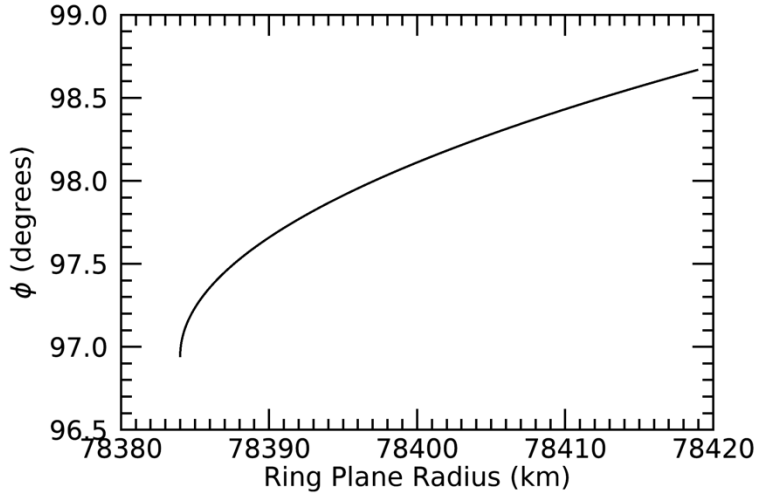
Subsolar lat/lon: 22.28, 128.10

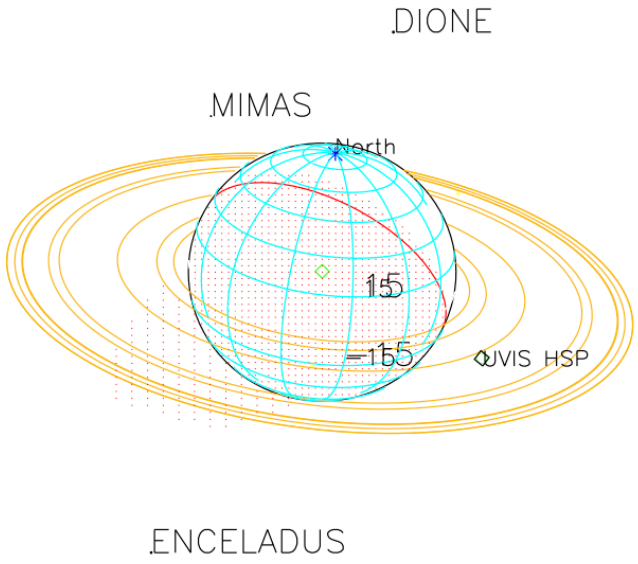
Sub−s/c lat/lon: 11.58, −33.03


EPS CMA Rev 276 Ingress
HSP Counts (per second)
3.0×10^4
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
80000
100000
120000
140000
Ring Plane Radius (km)


EPS CMA Rev 276 Ingress
Radial Resolution (m)
0.20
0.15
0.10
0.05
0.00
78380
78390
78400
78410
78420
Ring Plane Radius (km)


HSP Counts (per second)
3.0×10^4
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
78380
78390
78400
78410
78420
Ring Plane Radius (km)


ϕ (degrees)
99.0
98.5
98.0
97.5
97.0
96.5
78380
78390
78400
78410
78420
Ring Plane Radius (km)

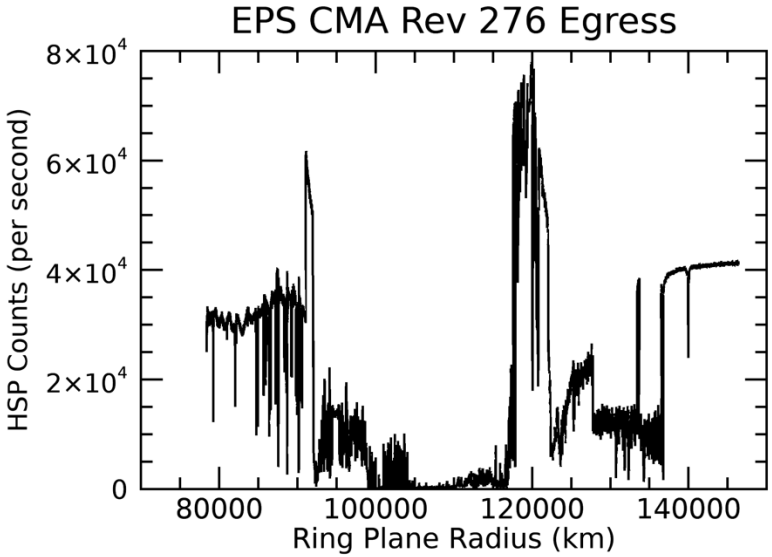


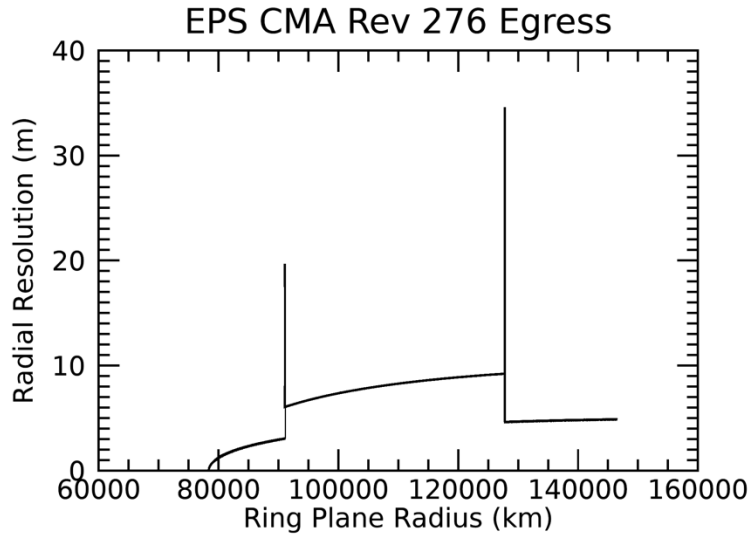
2017-147T19:18:00.000 785726.13 km

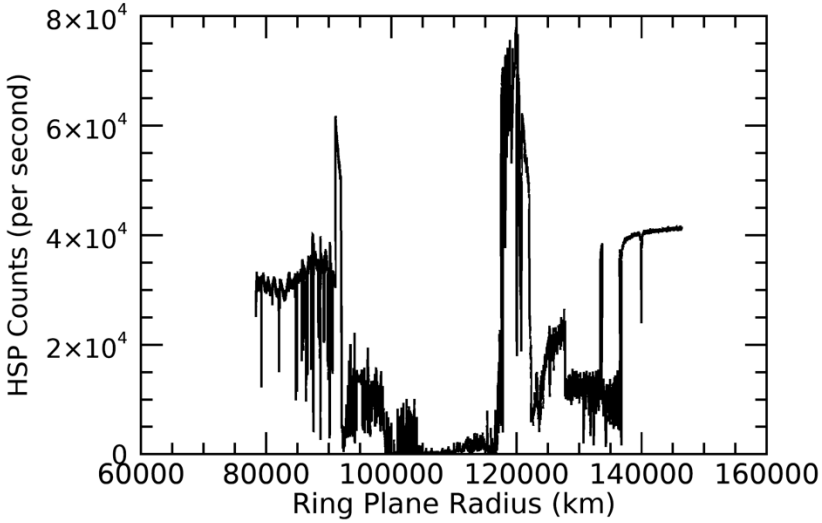
Target RA/dec: 110.64, -26.36

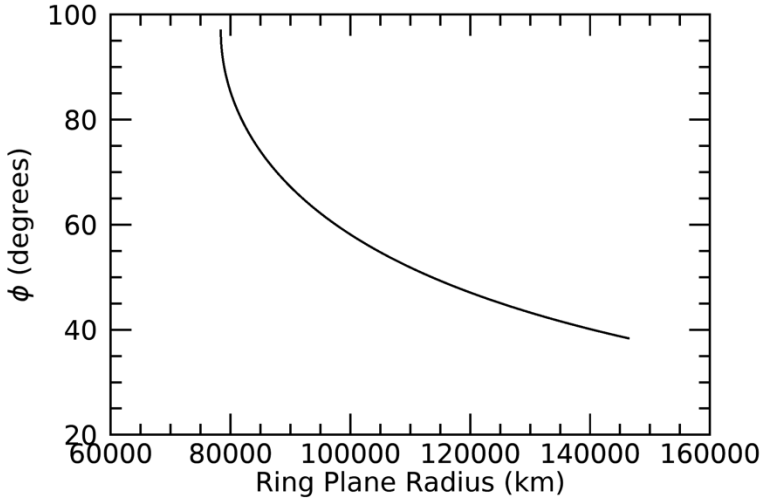
Subsolar lat/lon: 22.28, 22.47

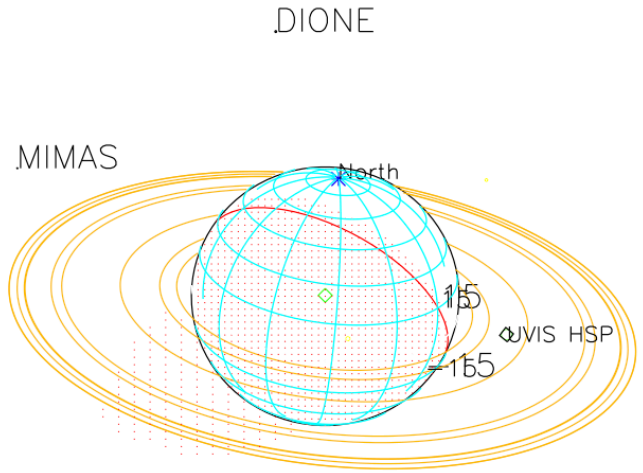
Sub-s/c lat/lon: 20.19, -134.95


EPS CMA Rev 276 Egress
HSP Counts (per second)
8×10^4
6×10^4
4×10^4
2×10^4
0
80000
100000
120000
140000
Ring Plane Radius (km)


EPS CMA Rev 276 Egress
Radial Resolution (m)
40
30
20
10
0
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)


HSP Counts (per second)
8×10^4
6×10^4
4×10^4
2×10^4
0
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)


ϕ (degrees)
100
80
60
40
20
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)

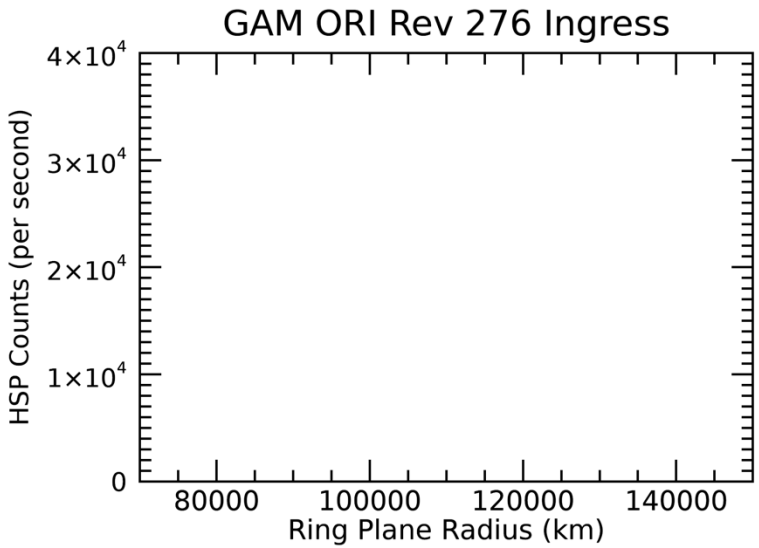


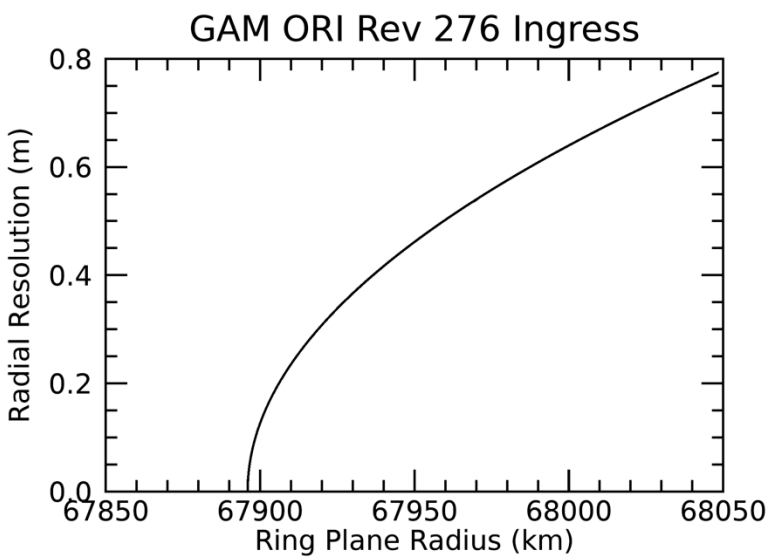
2017−147T21:44:00.000 733769.72 km

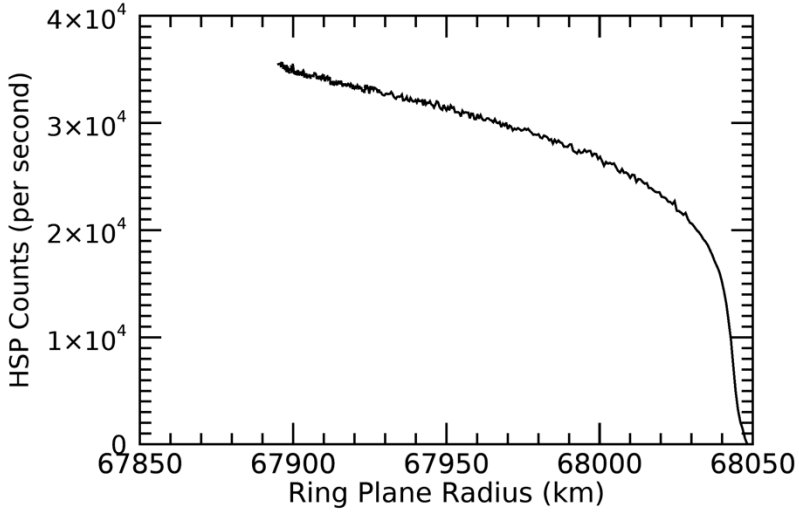
Target RA/dec: 111.94, −27.84

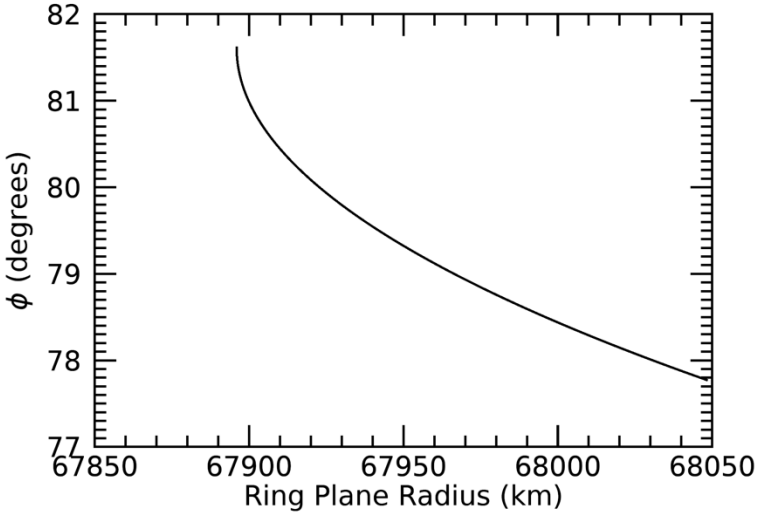
Subsolar lat/lon: 22.28, −59.74

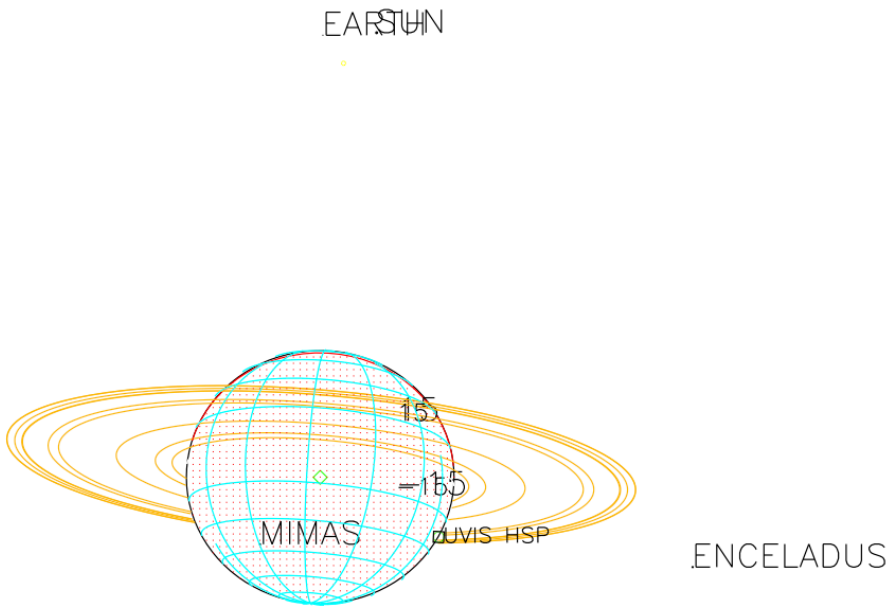
Sub−s/c lat/lon: 21.61, 143.91


GAM ORI Rev 276 Ingress
HSP Counts (per second)
4×10^4
3×10^4
2×10^4
1×10^4
0
80000
100000
120000
140000
Ring Plane Radius (km)


GAM ORI Rev 276 Ingress
Radial Resolution (m)
0.8
0.6
0.4
0.2
0.0
67850
67900
67950
68000
68050
Ring Plane Radius (km)


HSP Counts (per second)
4×10^4
3×10^4
2×10^4
1×10^4
0
67850
67900
67950
68000
68050
Ring Plane Radius (km)


ϕ (degrees)
82
81
80
79
78
77
67850
67900
67950
68000
68050
Ring Plane Radius (km)

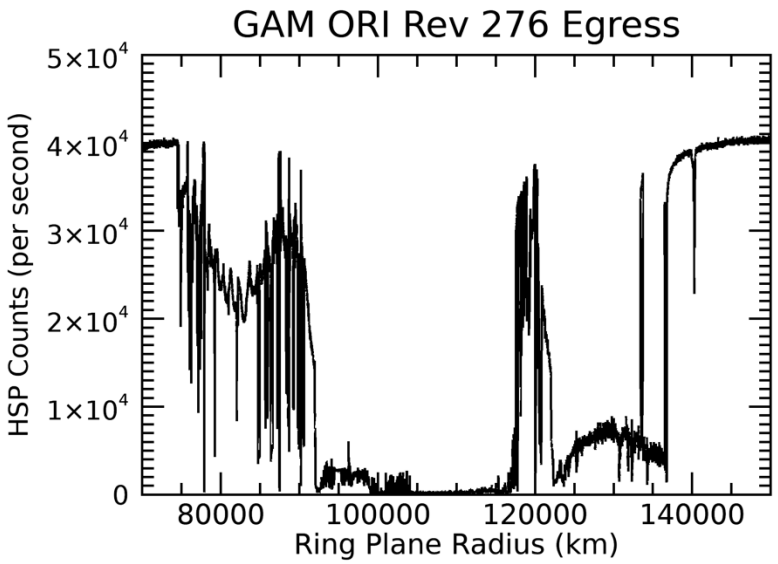


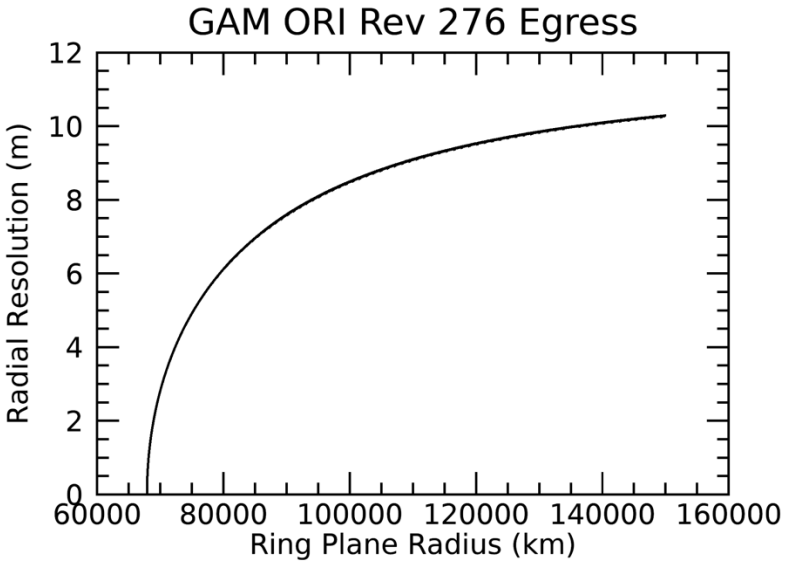
2017-149T14:26:00.000 781827.32 km

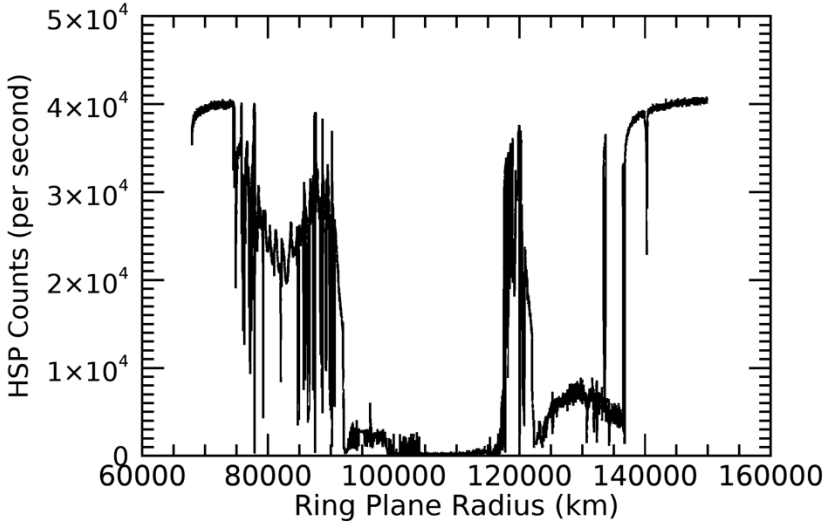
Target RA/dec: 85.22, 8.25

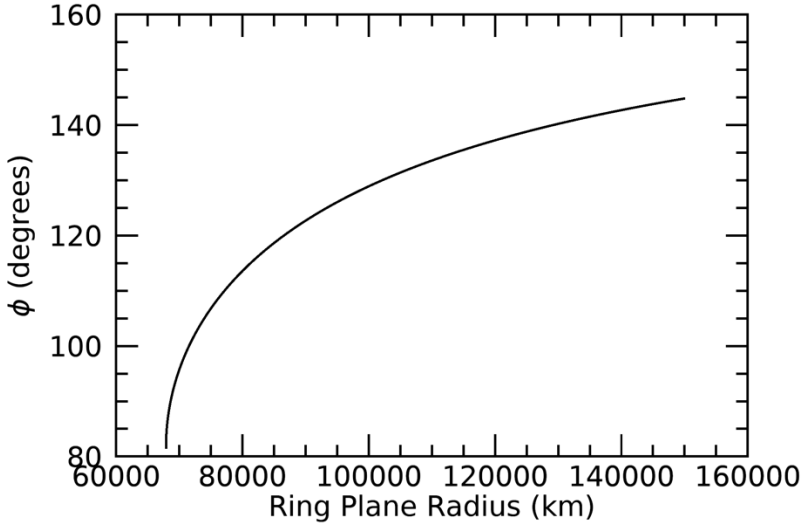
Subsolar lat/lon: 22.28, 5.35

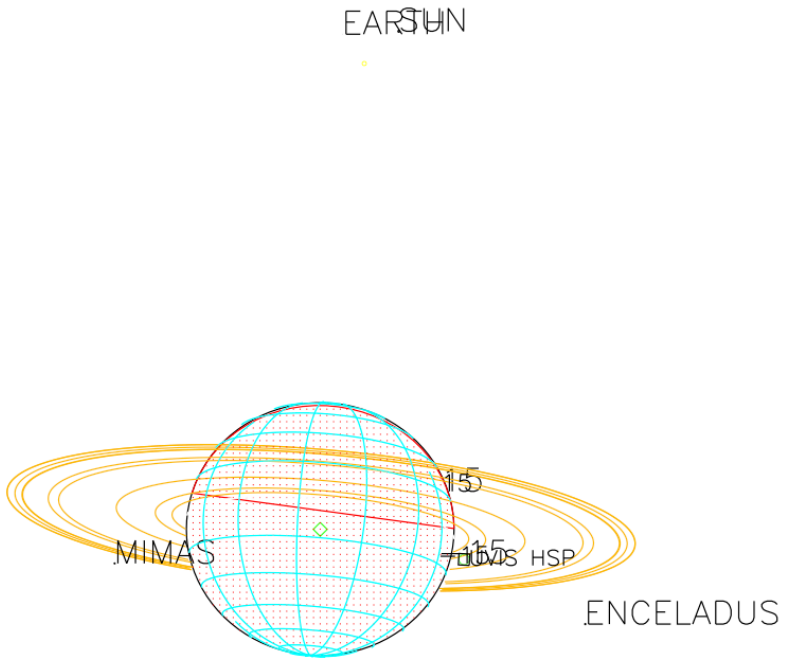
Sub-s/c lat/lon: -10.64, -173.87


GAM ORI Rev 276 Egress
HSP Counts (per second)
5×10^4
4×10^4
3×10^4
2×10^4
1×10^4
0
80000
100000
120000
140000
Ring Plane Radius (km)


GAM ORI Rev 276 Egress
Radial Resolution (m)
12
10
8
6
4
2
0
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)


HSP Counts (per second)
5×10^4
4×10^4
3×10^4
2×10^4
1×10^4
0
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)


ϕ (degrees)
160
140
120
100
80
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)

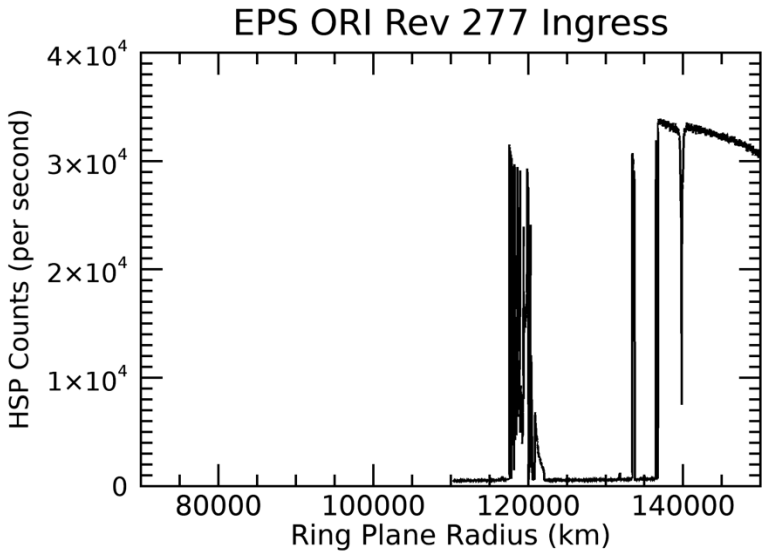


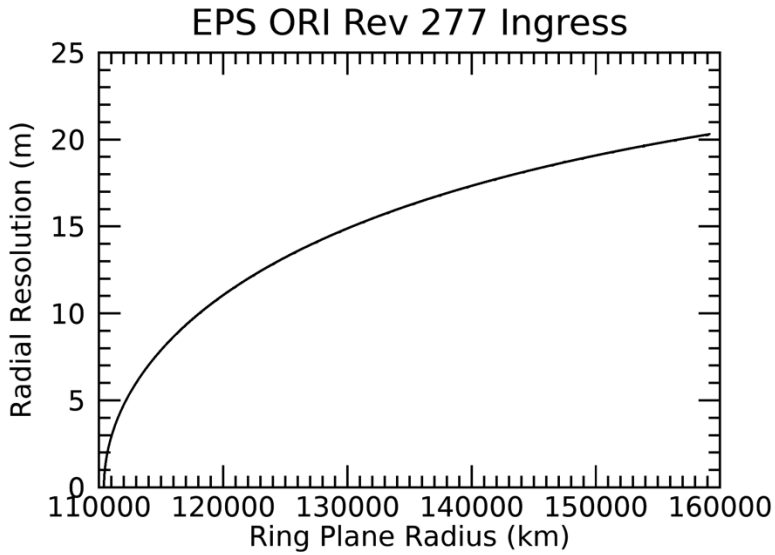
2017-149T16:06:00.000 815292.06 km

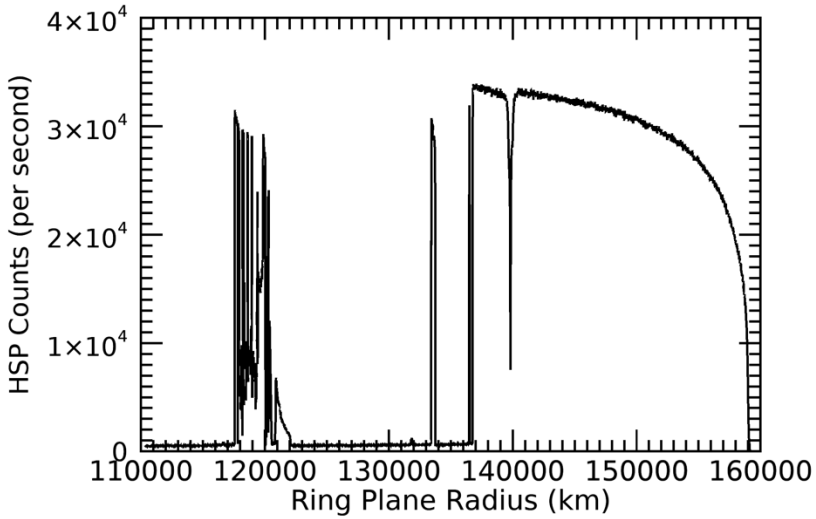
Target RA/dec: 85.87, 7.28

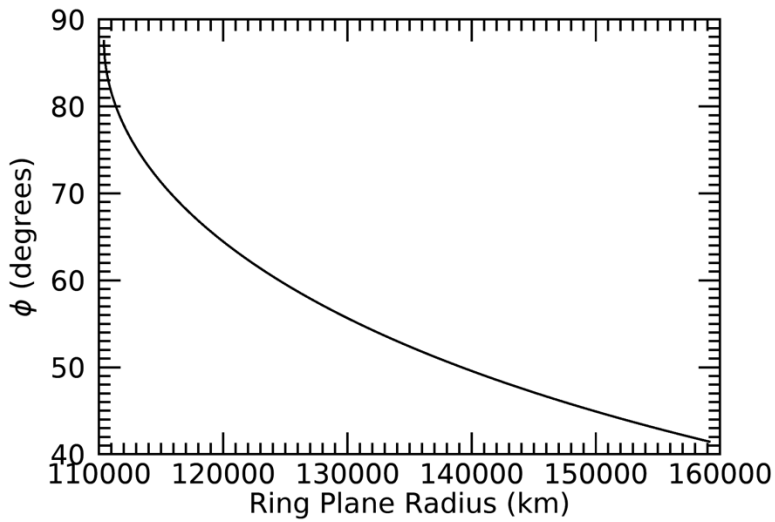
Subsolar lat/lon: 22.28, -50.95

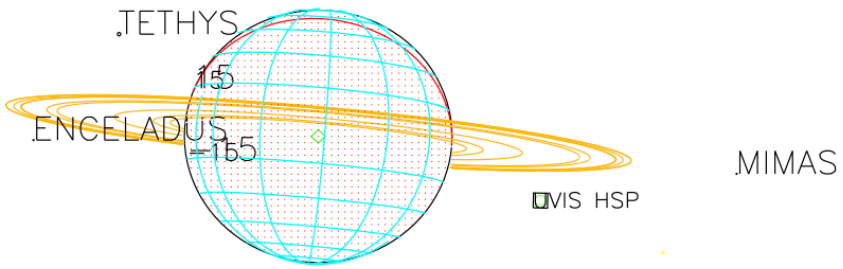
Sub-s/c lat/lon: -9.78, 130.40


EPS ORI Rev 277 Ingress
HSP Counts (per second)
4×10^4
3×10^4
2×10^4
1×10^4
0
80000
100000
120000
140000
Ring Plane Radius (km)


EPS ORI Rev 277 Ingress
Radial Resolution (m)
25
20
15
10
5
0
110000
120000
130000
140000
150000
160000
Ring Plane Radius (km)


HSP Counts (per second)
4×10^4
3×10^4
2×10^4
1×10^4
0
110000
120000
130000
140000
150000
160000
Ring Plane Radius (km)


ϕ (degrees)
90
80
70
60
50
40
110000
120000
130000
140000
150000
160000
Ring Plane Radius (km)

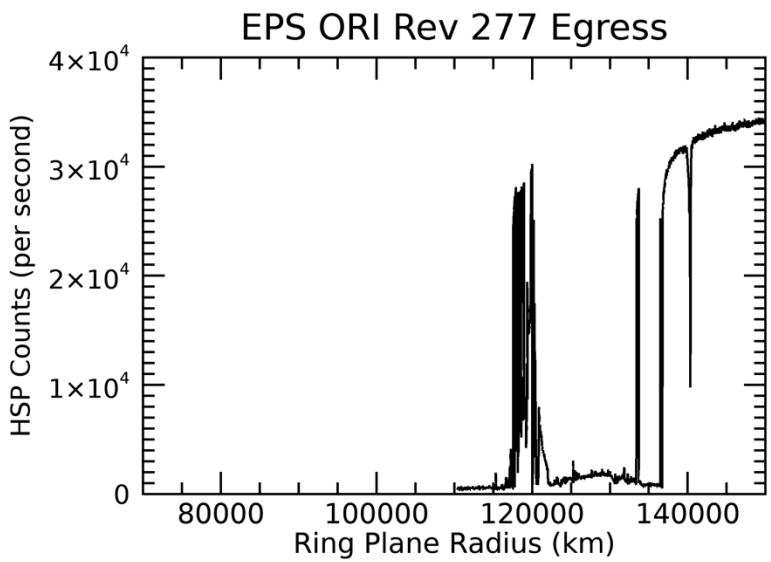


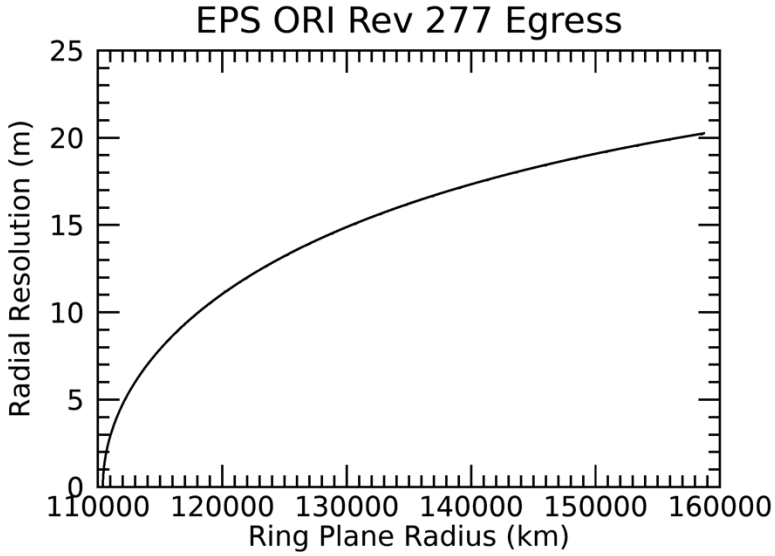
2017-156T19:58:00.000 1064808.4 km

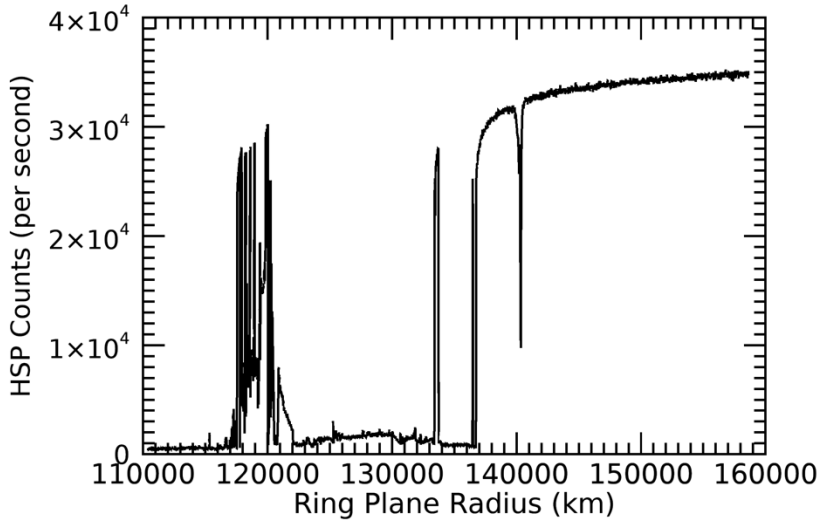
Target RA/dec: 89.43, 0.28

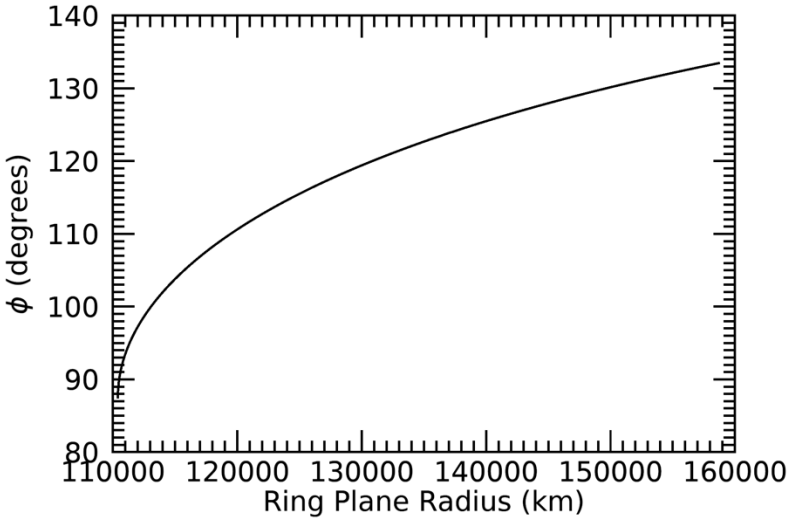
Subsolar lat/lon: 22.28, -96.89

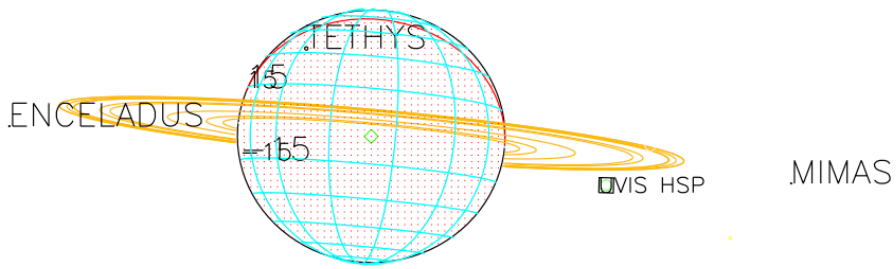
Sub-s/c lat/lon: -3.73, 87.21


EPS ORI Rev 277 Egress
HSP Counts (per second)
4×10^4
3×10^4
2×10^4
1×10^4
0
80000
100000
120000
140000
Ring Plane Radius (km)


EPS ORI Rev 277 Egress
Radial Resolution (m)
25
20
15
10
5
0
110000
120000
130000
140000
150000
160000
Ring Plane Radius (km)


HSP Counts (per second)
4×10^4
3×10^4
2×10^4
1×10^4
0
110000
120000
130000
140000
150000
160000
Ring Plane Radius (km)


ϕ (degrees)
140
130
120
110
100
90
80
110000
120000
130000
140000
150000
160000
Ring Plane Radius (km)

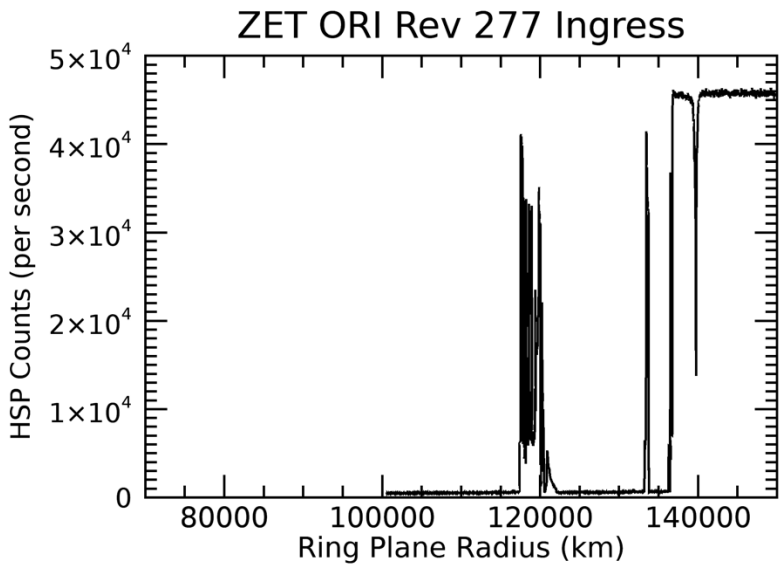


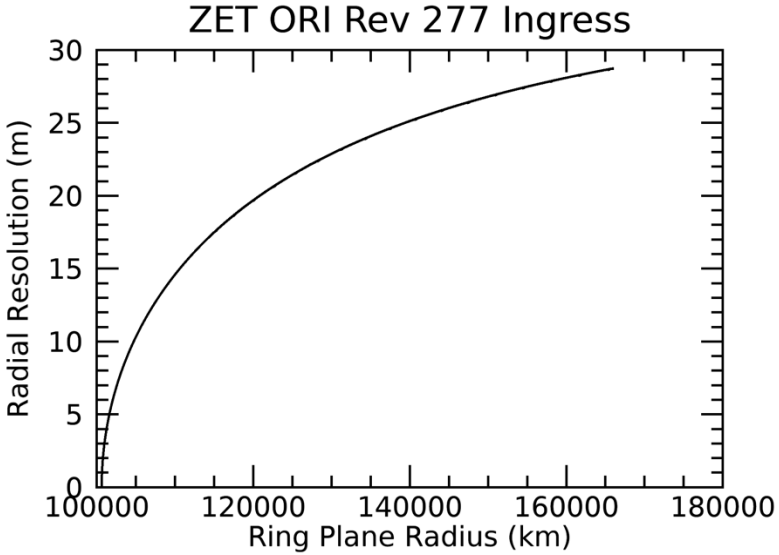
2017-156T21:06:00.000 1077819.7 km

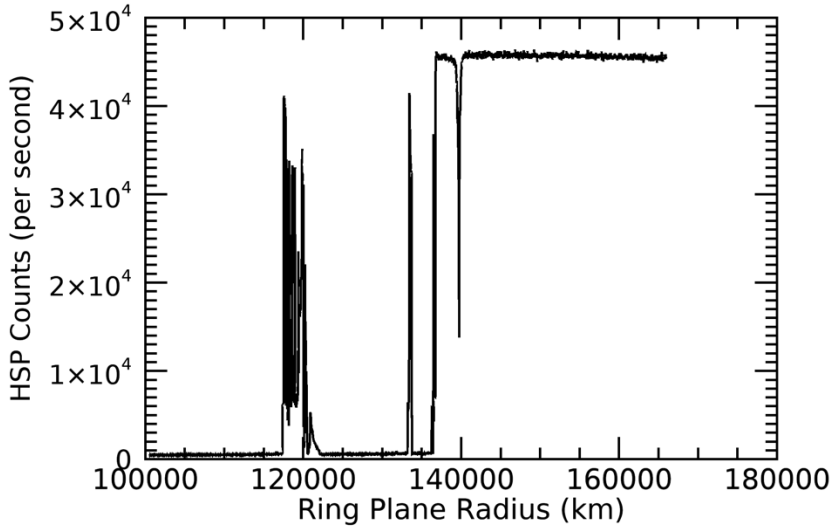
Target RA/dec: 89.67, -0.09

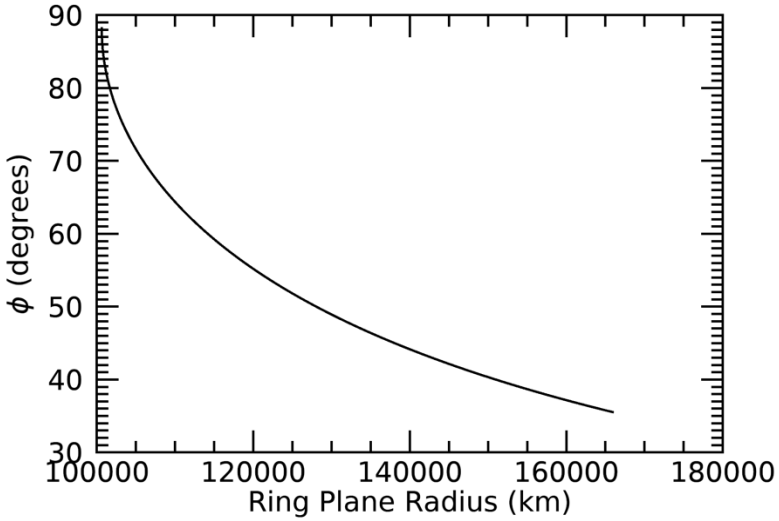
Subsolar lat/lon: 22.28, -135.17

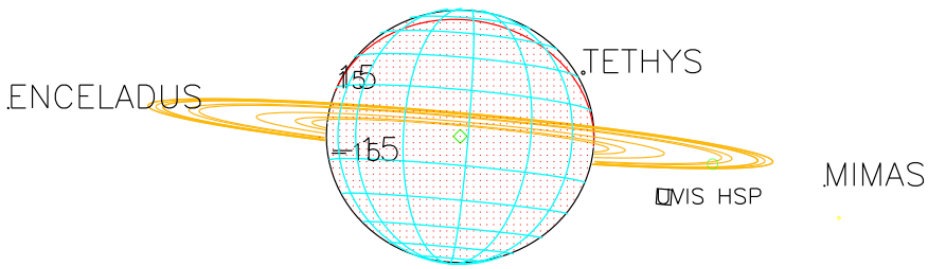
Sub-s/c lat/lon: -3.41, 49.13


ZET ORI Rev 277 Ingress
HSP Counts (per second)
5×10^4
4×10^4
3×10^4
2×10^4
1×10^4
0
80000
100000
120000
140000
Ring Plane Radius (km)


ZET ORI Rev 277 Ingress
Radial Resolution (m)
30
25
20
15
10
5
0
100000
120000
140000
160000
180000
Ring Plane Radius (km)


HSP Counts (per second)
5×10^4
4×10^4
3×10^4
2×10^4
1×10^4
0
100000
120000
140000
160000
180000
Ring Plane Radius (km)


ϕ (degrees)
90
80
70
60
50
40
30
100000
120000
140000
160000
180000
Ring Plane Radius (km)

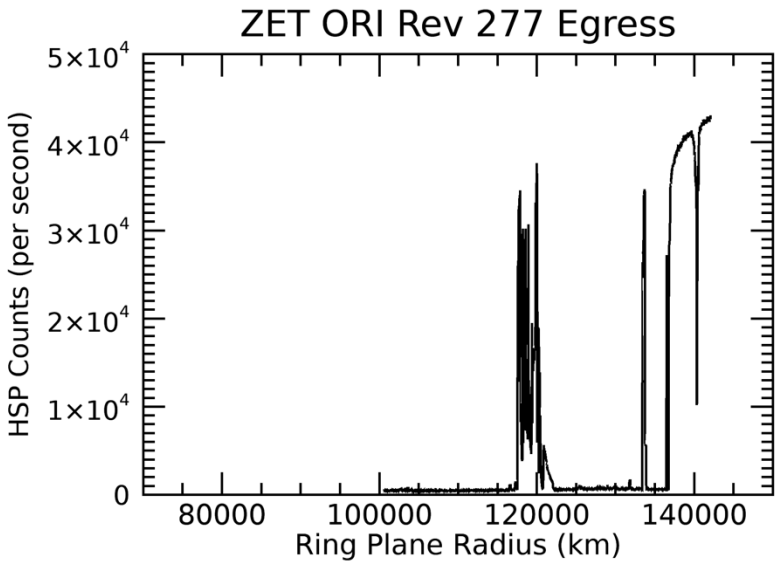


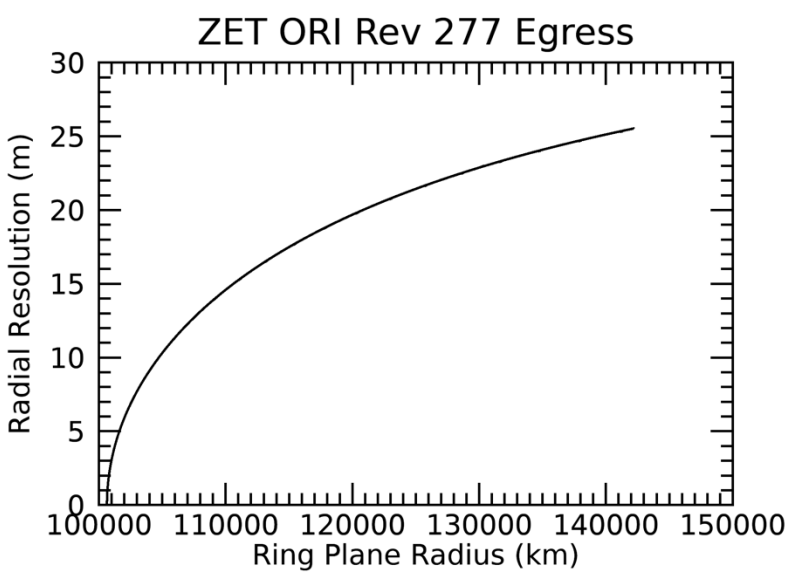
2017-156T22:40:00.000 1095014.8 km

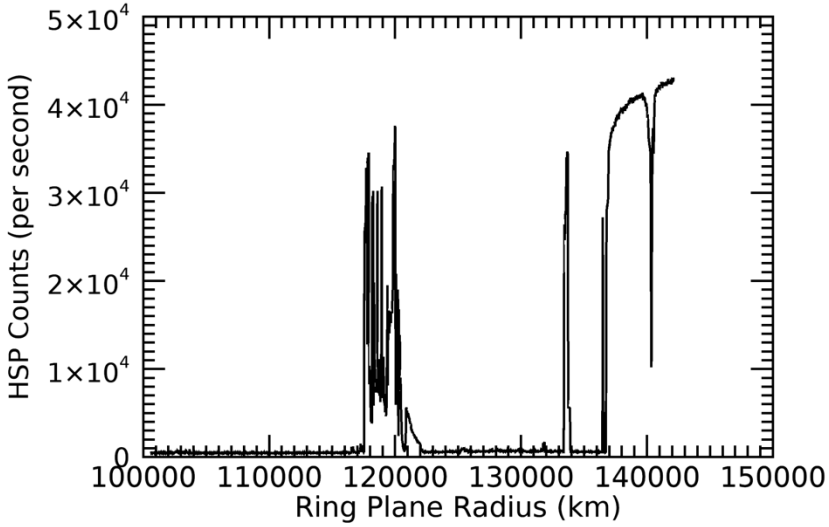
Target RA/dec: 89.99, -0.58

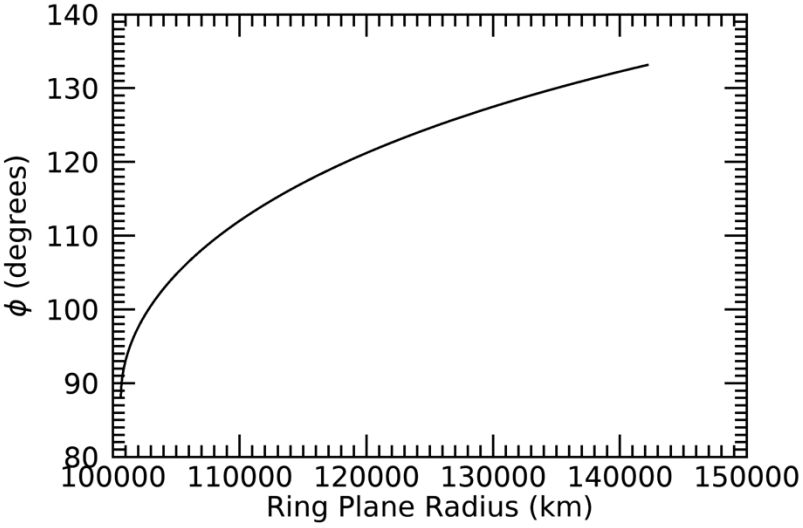
Subsolar lat/lon: 22.28, 171.90

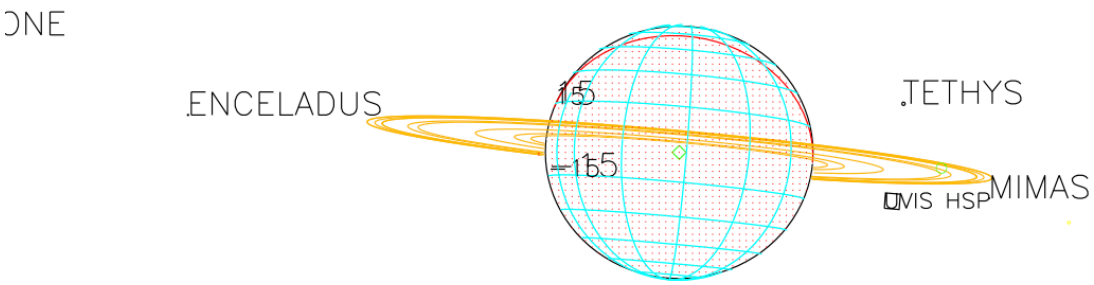
Sub-s/c lat/lon: -2.98, -3.52


ZET ORI Rev 277 Egress
HSP Counts (per second)
5×10^4
4×10^4
3×10^4
2×10^4
1×10^4
0
80000
100000
120000
140000
Ring Plane Radius (km)


ZET ORI Rev 277 Egress
Radial Resolution (m)
30
25
20
15
10
5
0
100000
110000
120000
130000
140000
150000
Ring Plane Radius (km)


HSP Counts (per second)
5×10^4
4×10^4
3×10^4
2×10^4
1×10^4
0
100000
110000
120000
130000
140000
150000
Ring Plane Radius (km)


ϕ (degrees)
140
130
120
110
100
90
80
100000
110000
120000
130000
140000
150000
Ring Plane Radius (km)

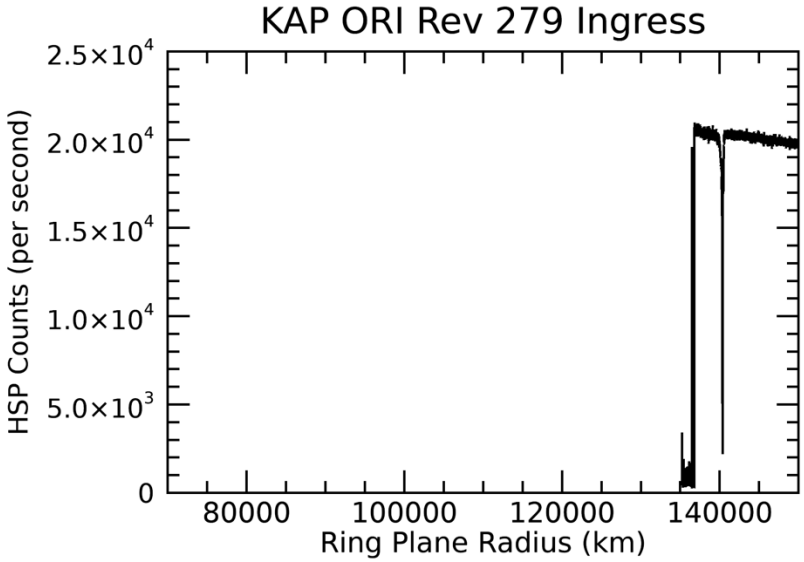


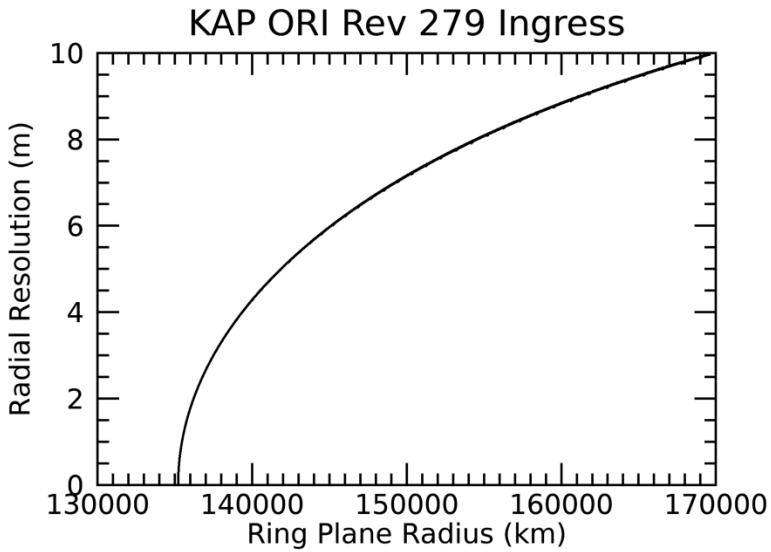
2017-156T23:33:00.000 1104314.1 km

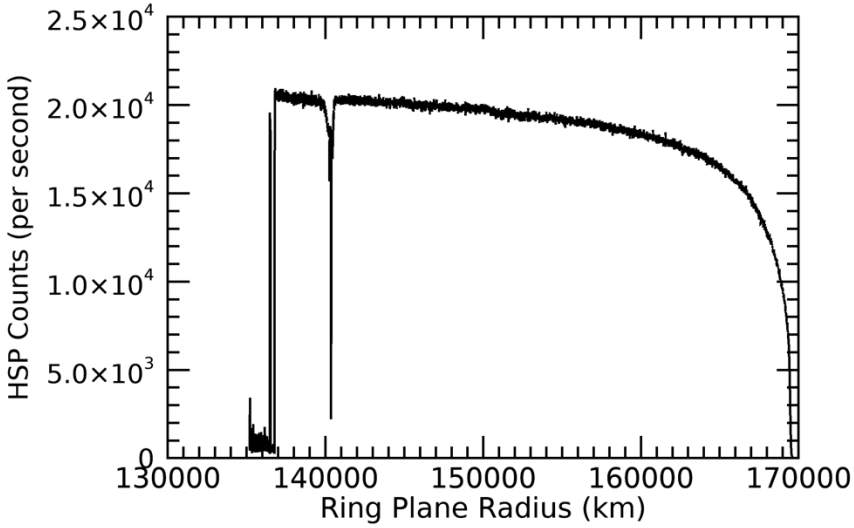
Target RA/dec: 90.17, -0.85

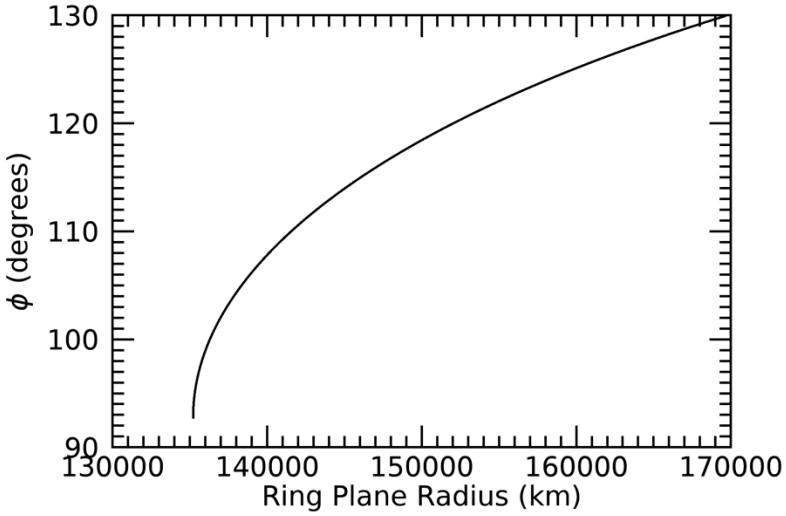
Subsolar lat/lon: 22.28, 142.06

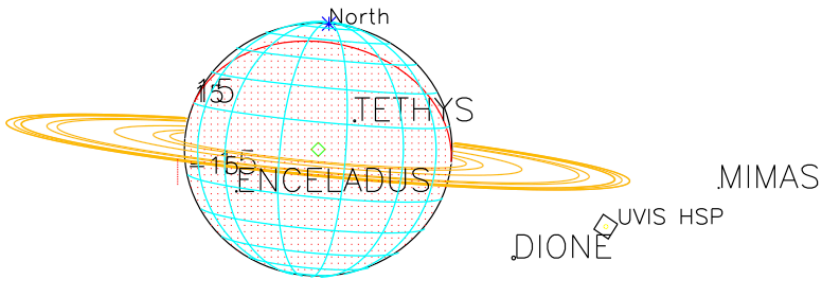
Sub-s/c lat/lon: -2.74, -33.20


KAP ORI Rev 279 Ingress
HSP Counts (per second)
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
80000
100000
120000
140000
Ring Plane Radius (km)


KAP ORI Rev 279 Ingress
Radial Resolution (m)
10
8
6
4
2
0
130000
140000
150000
160000
170000
Ring Plane Radius (km)


HSP Counts (per second)
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
130000
140000
150000
160000
170000
Ring Plane Radius (km)


ϕ (degrees)
130
120
110
100
90
130000
140000
150000
160000
170000
Ring Plane Radius (km)

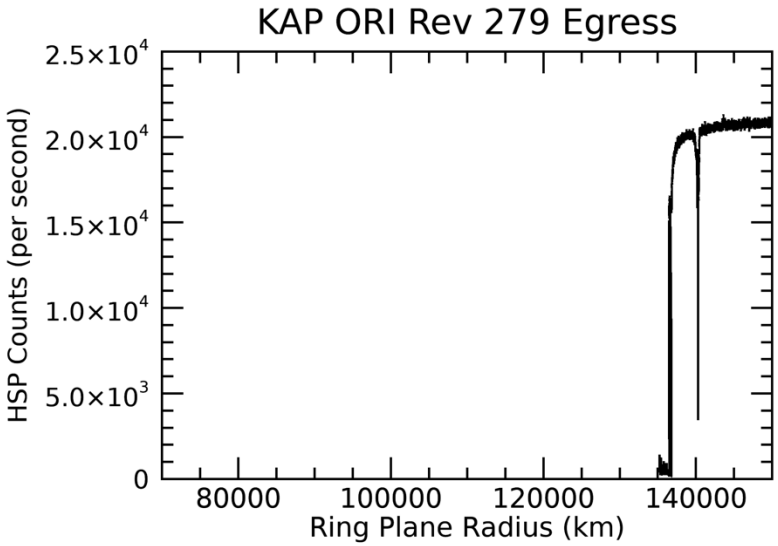


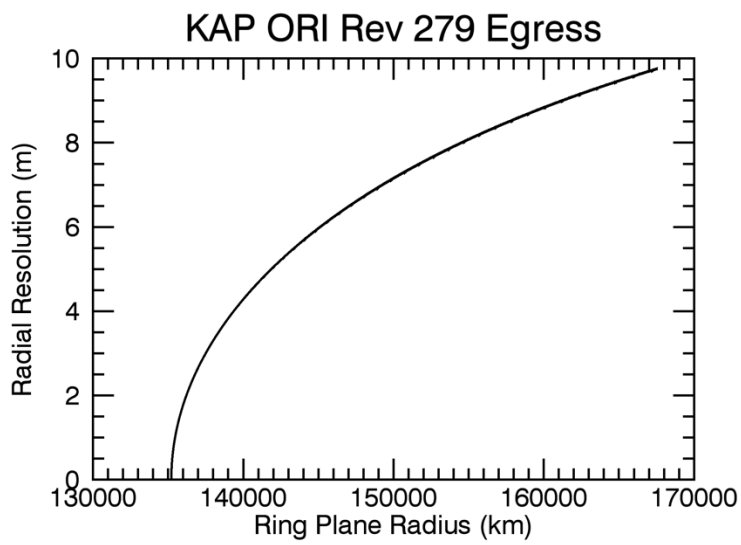
2017-171T01:20:00.000 1267636.8 km

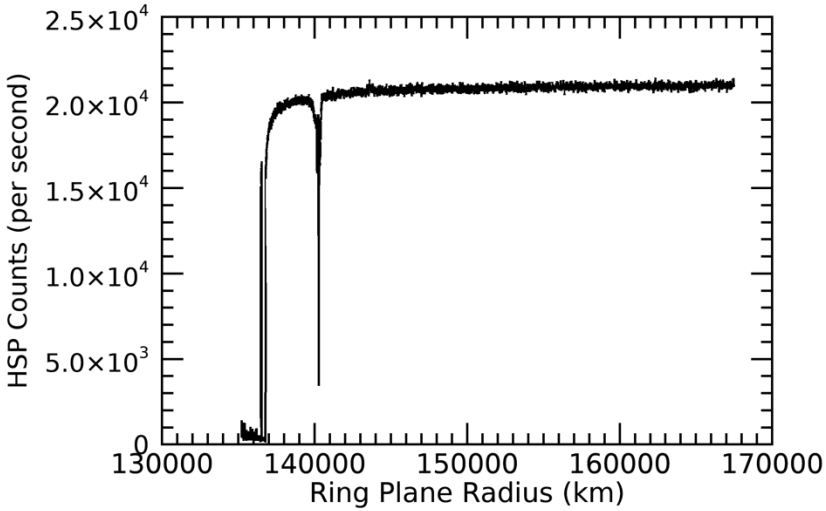
Target RA/dec: 92.86, -8.21

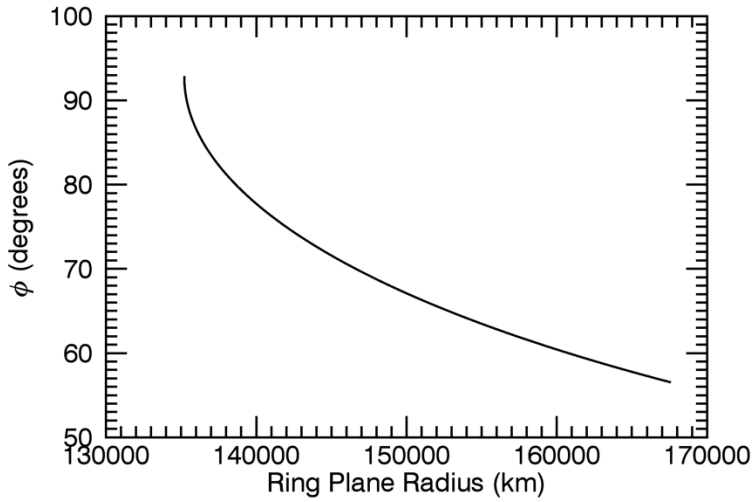
Subsolar lat/lon: 22.28, -108.82

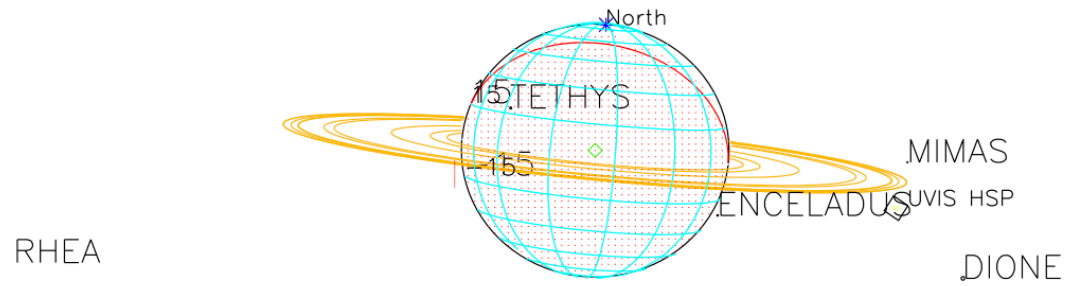
Sub-s/c lat/lon: 3.48, 77.47


KAP ORI Rev 279 Egress
HSP Counts (per second)
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
80000
100000
120000
140000
Ring Plane Radius (km)


KAP ORI Rev 279 Egress
Radial Resolution (m)
10
8
6
4
2
0
130000
140000
150000
160000
170000
Ring Plane Radius (km)


HSP Counts (per second)
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
130000
140000
150000
160000
170000
Ring Plane Radius (km)


φ (degrees)
100
90
80
70
60
50
130000
140000
150000
160000
170000
Ring Plane Radius (km)

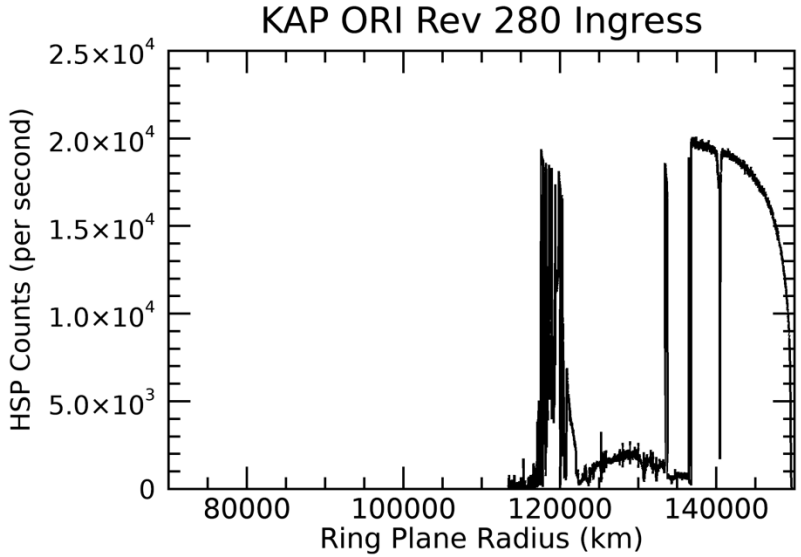


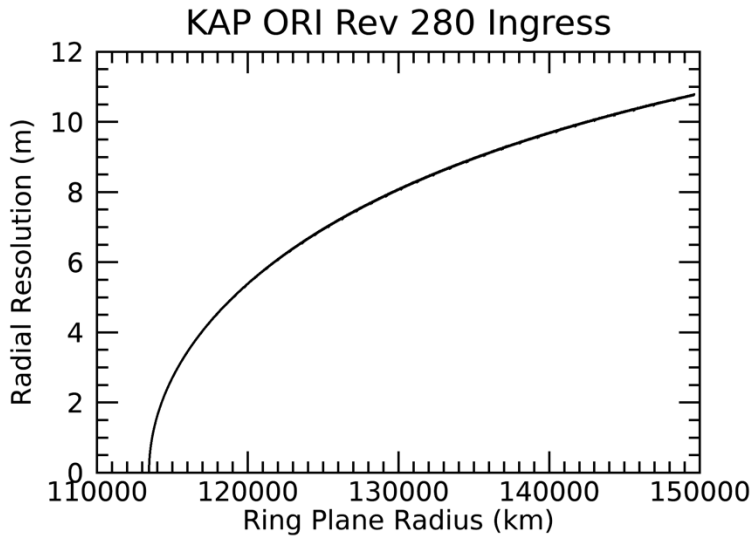
2017-171T03:01:00.000 1270770.4 km

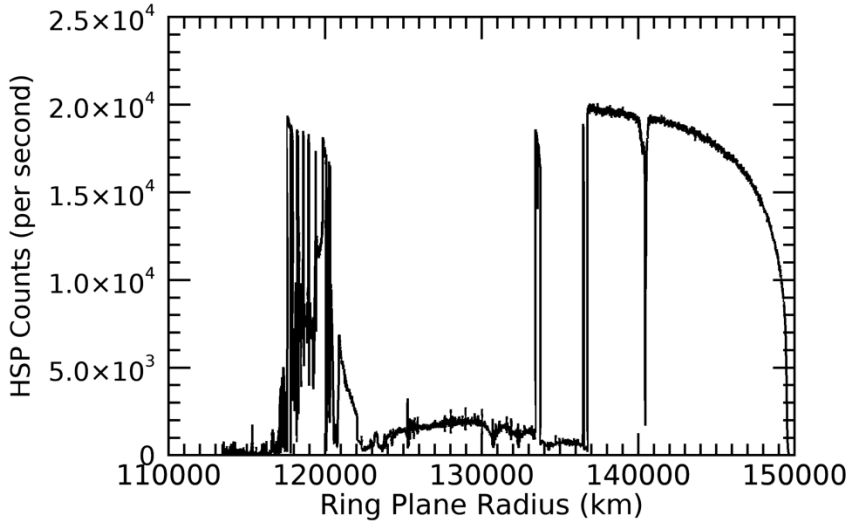
Target RA/dec: 93.12, -8.60

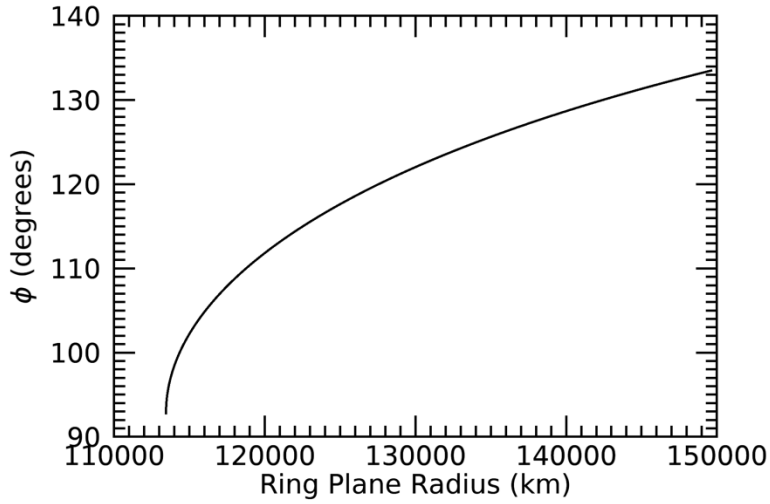
Subsolar lat/lon: 22.28, -165.68

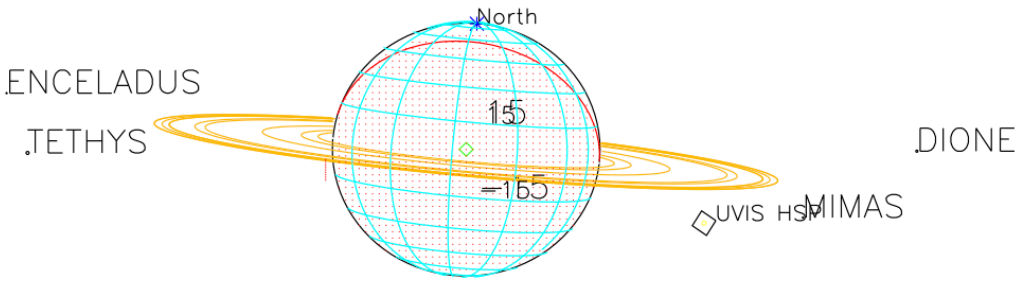
Sub-s/c lat/lon: 3.81, 20.83


KAP ORI Rev 280 Ingress
HSP Counts (per second)
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
80000
100000
120000
140000
Ring Plane Radius (km)


KAP ORI Rev 280 Ingress
Radial Resolution (m)
12
10
8
6
4
2
0
110000
120000
130000
140000
150000
Ring Plane Radius (km)


HSP Counts (per second)
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
110000
120000
130000
140000
150000
Ring Plane Radius (km)


ϕ (degrees)
140
130
120
110
100
90
110000
120000
130000
140000
150000
Ring Plane Radius (km)

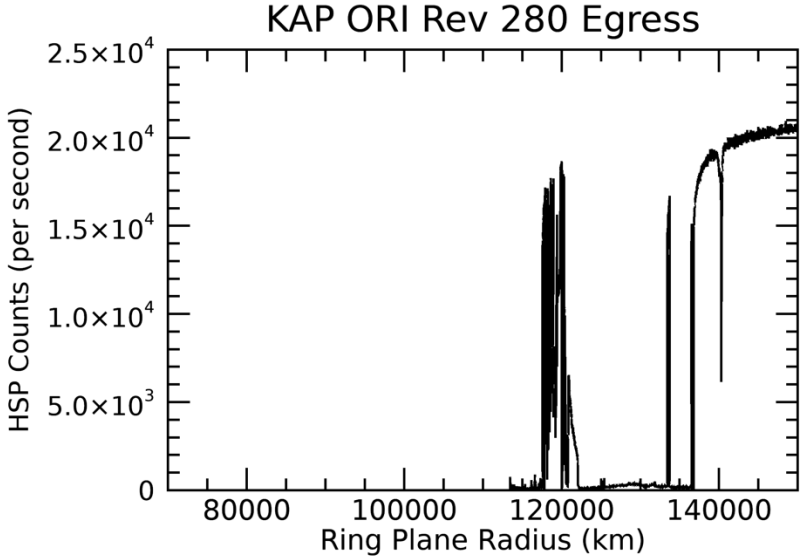


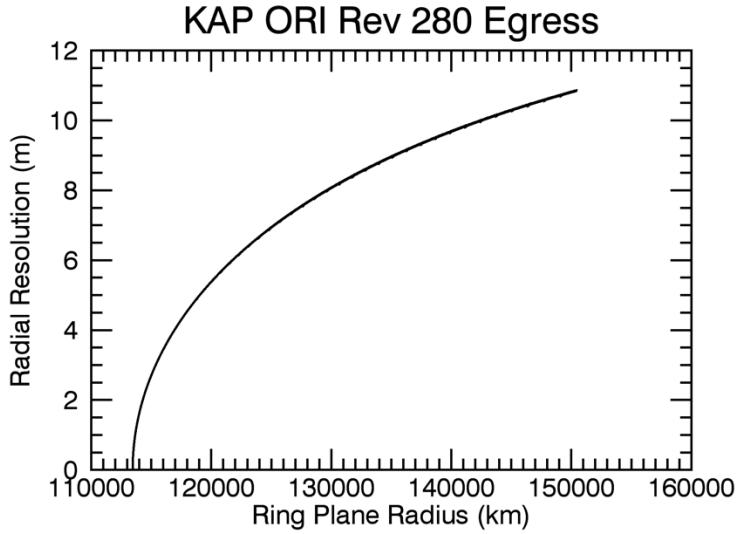
2017-177T12:09:00.000 1267324.5 km

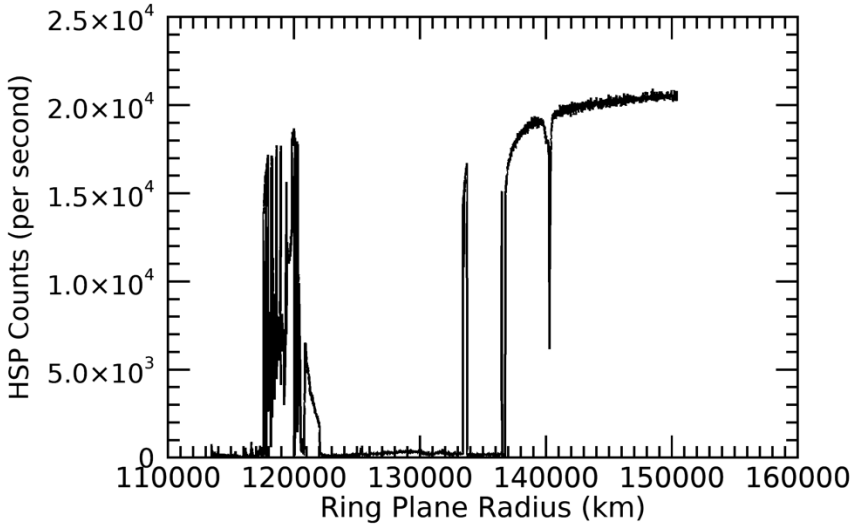
Target RA/dec: 91.84, -8.26

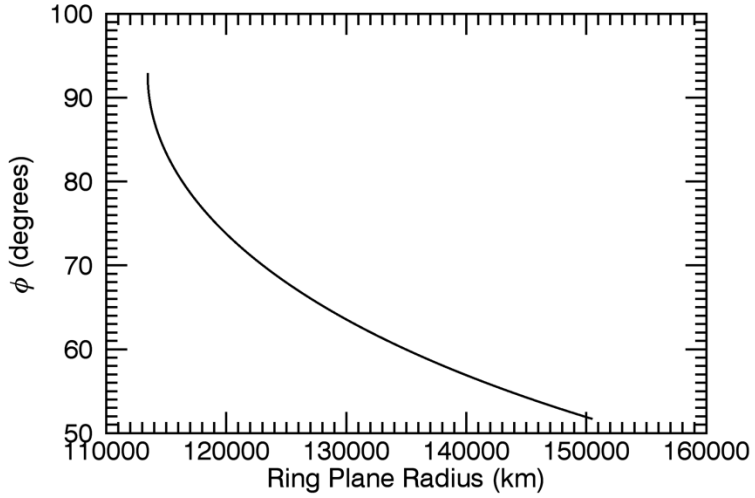
Subsolar lat/lon: 22.28, 61.21

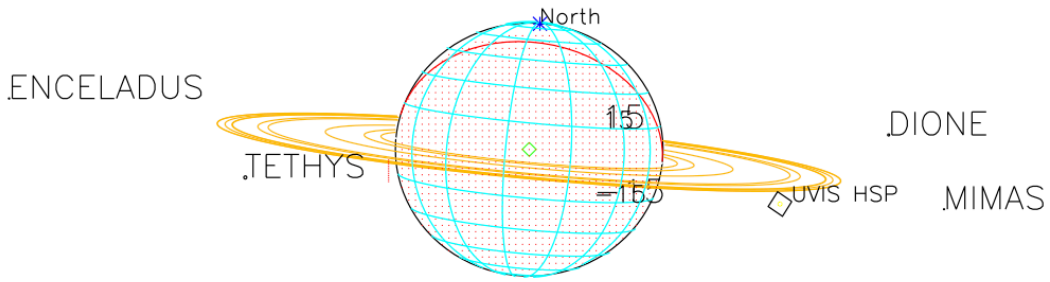
Sub-s/c lat/lon: 3.45, -113.72


KAP ORI Rev 280 Egress
HSP Counts (per second)
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
80000
100000
120000
140000
Ring Plane Radius (km)


KAP ORI Rev 280 Egress
Radial Resolution (m)
12
10
8
6
4
2
0
110000
120000
130000
140000
150000
160000
Ring Plane Radius (km)


HSP Counts (per second)
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
110000
120000
130000
140000
150000
160000
Ring Plane Radius (km)


φ (degrees)
100
90
80
70
60
50
110000
120000
130000
140000
150000
160000
Ring Plane Radius (km)

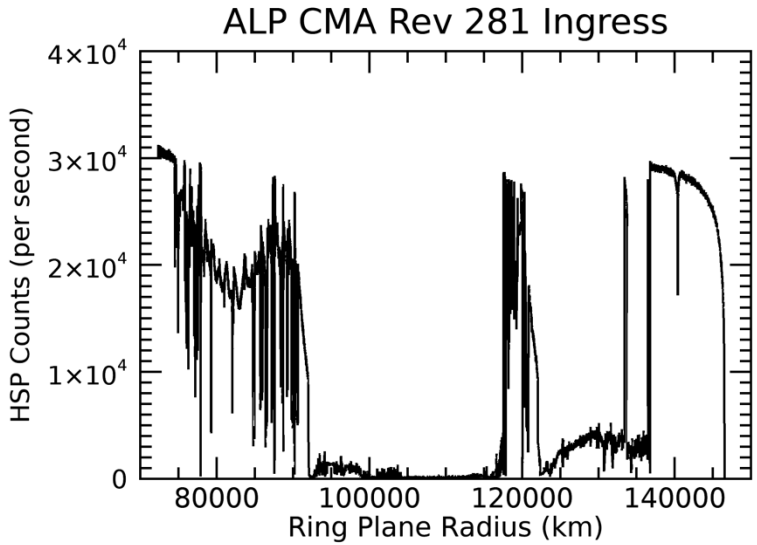


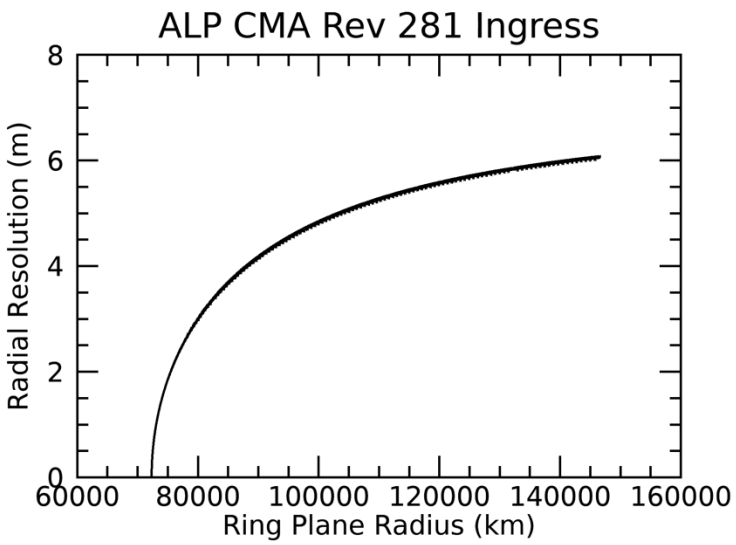
2017−177T13:48:00.000 1270667.6 km

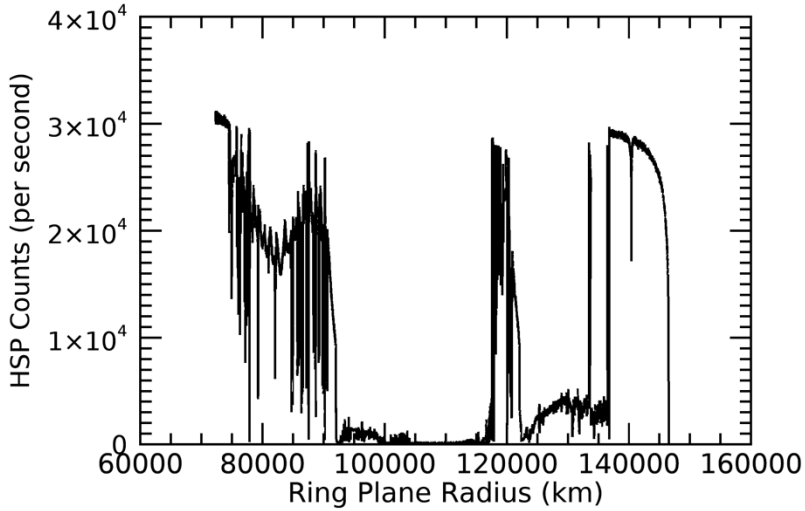
Target RA/dec: 92.10, −8.64

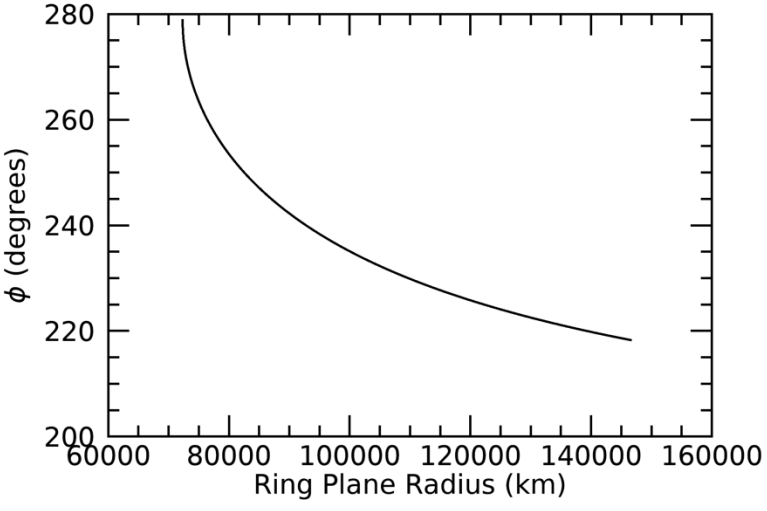
Subsolar lat/lon: 22.28, 5.47

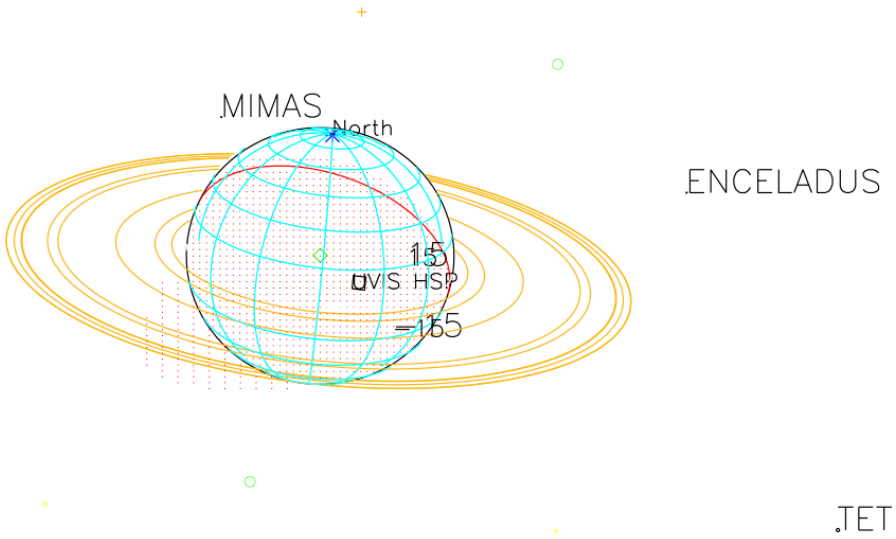
Sub−s/c lat/lon: 3.77, −169.25


ALP CMA Rev 281 Ingress
HSP Counts (per second)
4×10^4
3×10^4
2×10^4
1×10^4
0
80000
100000
120000
140000
Ring Plane Radius (km)


ALP CMA Rev 281 Ingress
Radial Resolution (m)
8
6
4
2
0
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)


HSP Counts (per second)
4×10^4
3×10^4
2×10^4
1×10^4
0
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)


ϕ (degrees)
280
260
240
220
200
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)

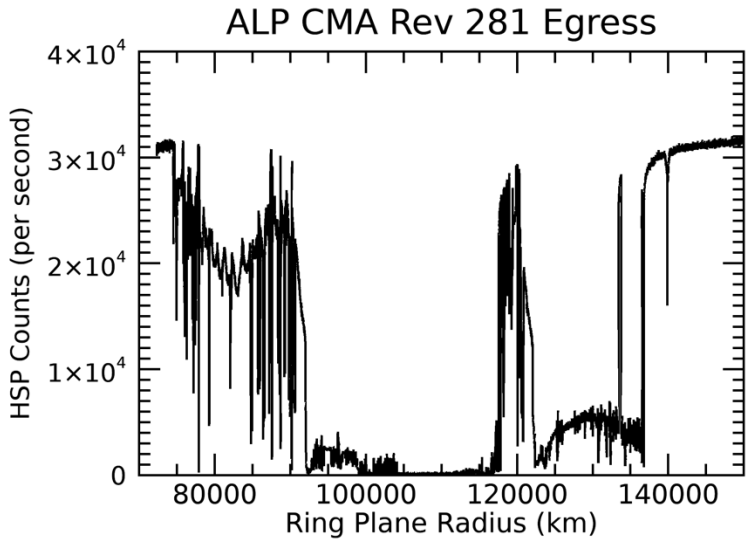


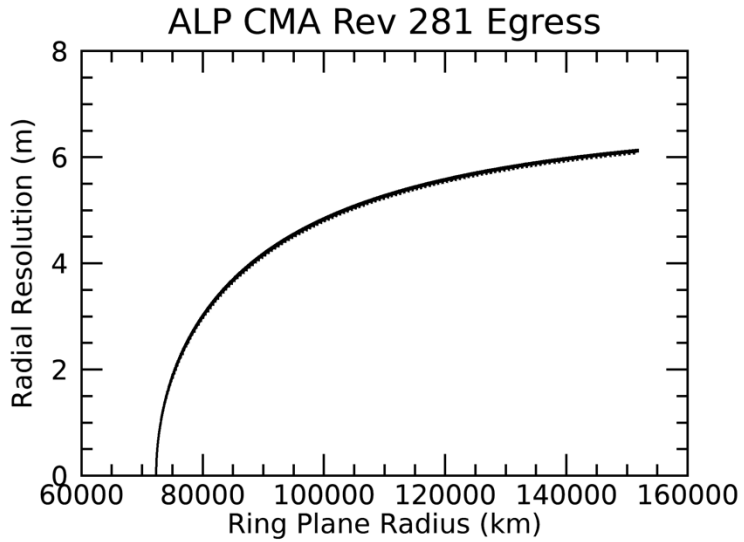
2017−179T19:42:00.000 942919.47 km

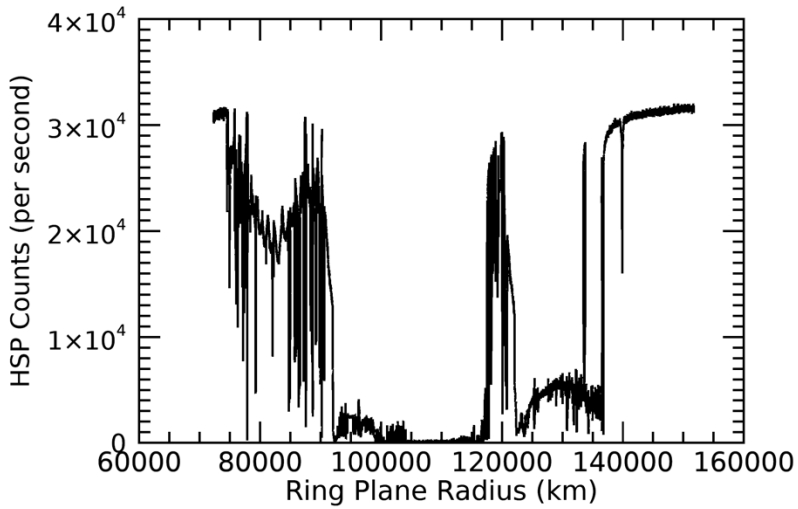
Target RA/dec: 102.47, −23.07

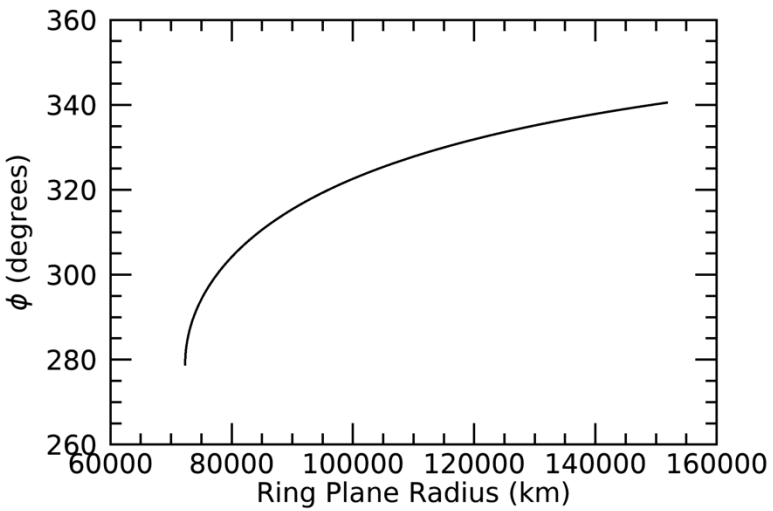
Subsolar lat/lon: 22.28, −15.37

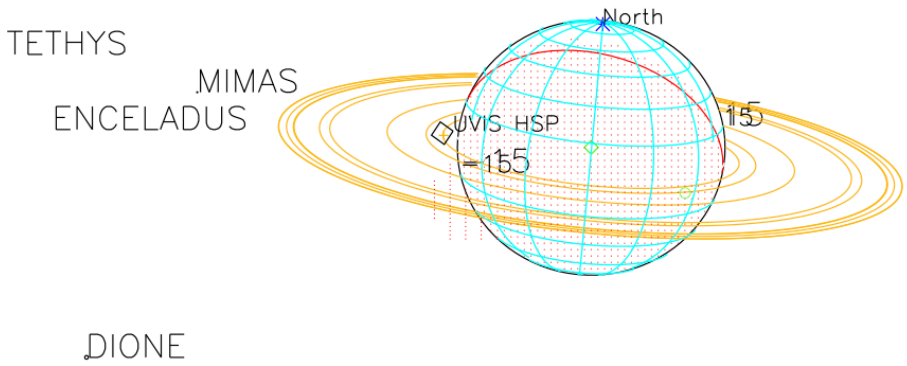
Sub−s/c lat/lon: 16.61, 178.57


ALP CMA Rev 281 Egress
HSP Counts (per second)
4×10^4
3×10^4
2×10^4
1×10^4
0
80000
100000
120000
140000
Ring Plane Radius (km)


ALP CMA Rev 281 Egress
Radial Resolution (m)
8
6
4
2
0
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)


HSP Counts (per second)
4×10^4
3×10^4
2×10^4
1×10^4
0
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)


ϕ (degrees)
360
340
320
300
280
260
60000
80000
100000
120000
140000
160000
Ring Plane Radius (km)

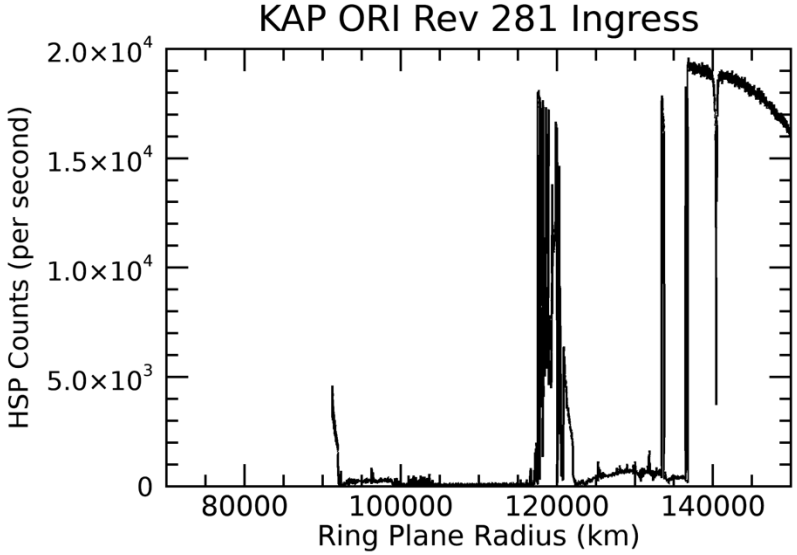


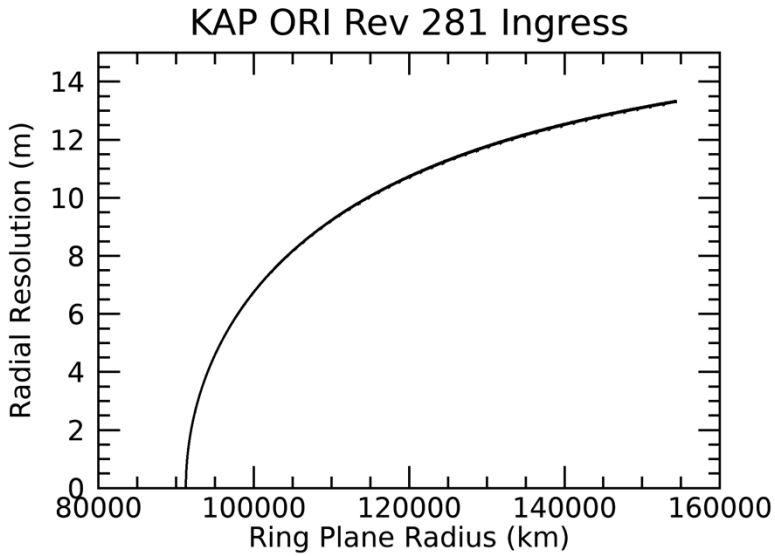
2017-179T00:54:00.000 1162268.5 km

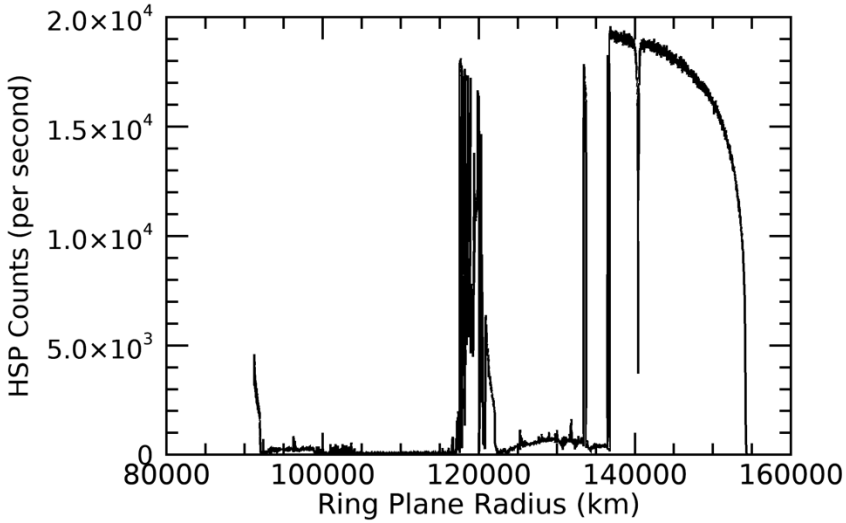
Target RA/dec: 97.87, -17.00

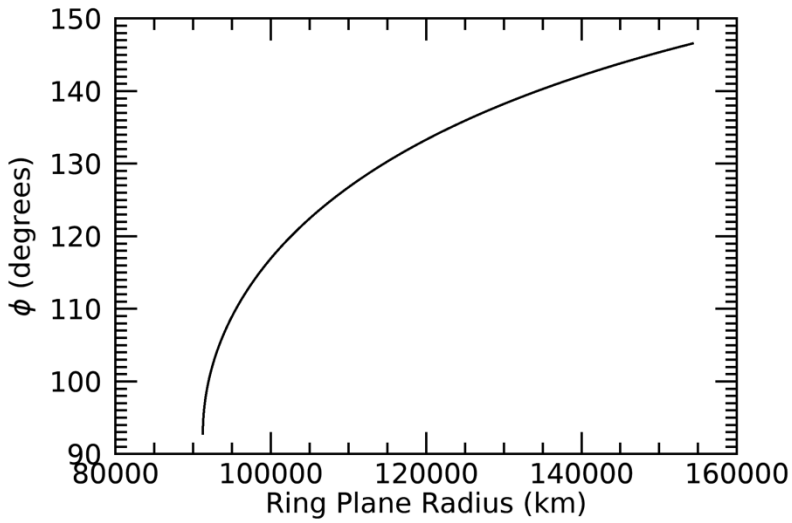
Subsolar lat/lon: 22.28, -100.27

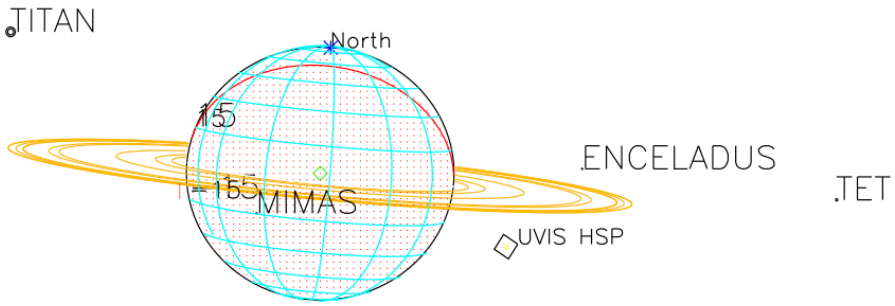
Sub-s/c lat/lon: 11.10, 89.85


KAP ORI Rev 281 Ingress
HSP Counts (per second)
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
80000
100000
120000
140000
Ring Plane Radius (km)


KAP ORI Rev 281 Ingress
Radial Resolution (m)
14
12
10
8
6
4
2
0
80000
100000
120000
140000
160000
Ring Plane Radius (km)


HSP Counts (per second)
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
80000
100000
120000
140000
160000
Ring Plane Radius (km)


ϕ (degrees)
150
140
130
120
110
100
90
80000
100000
120000
140000
160000
Ring Plane Radius (km)

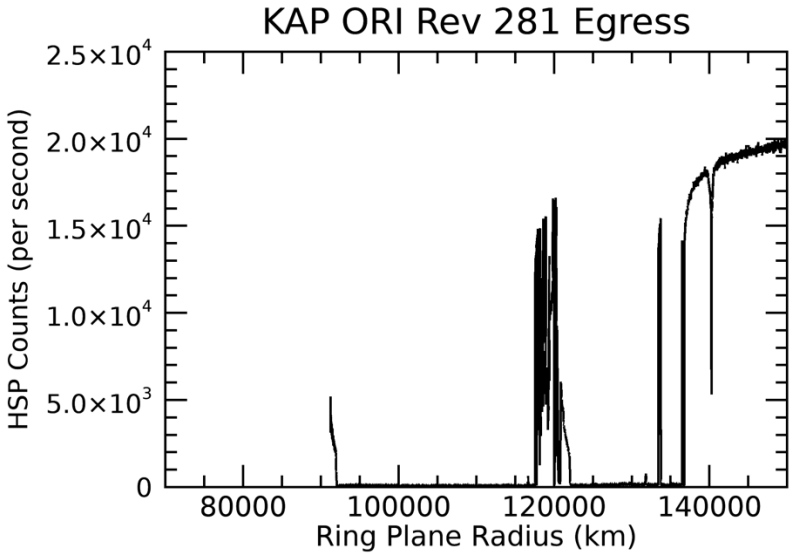


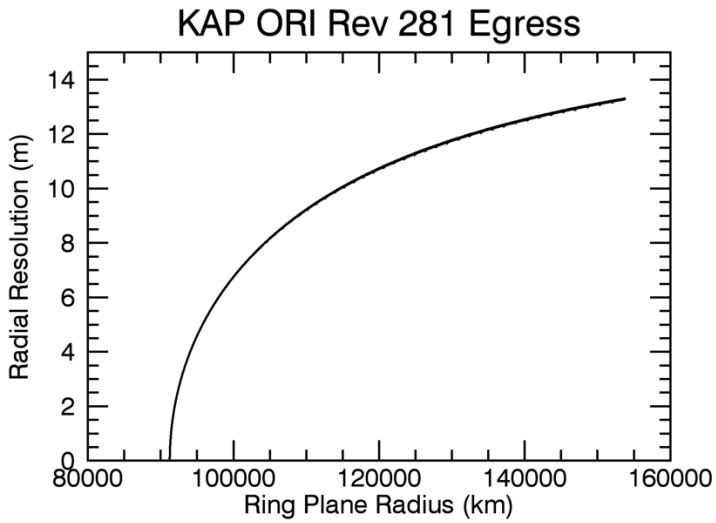
2017-183T22:57:00.000 1265813.5 km

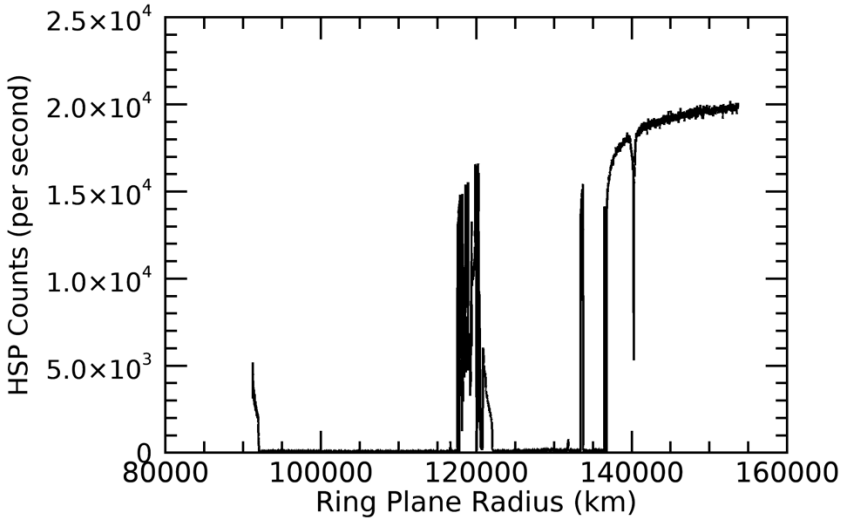
Target RA/dec: 90.78, -8.26

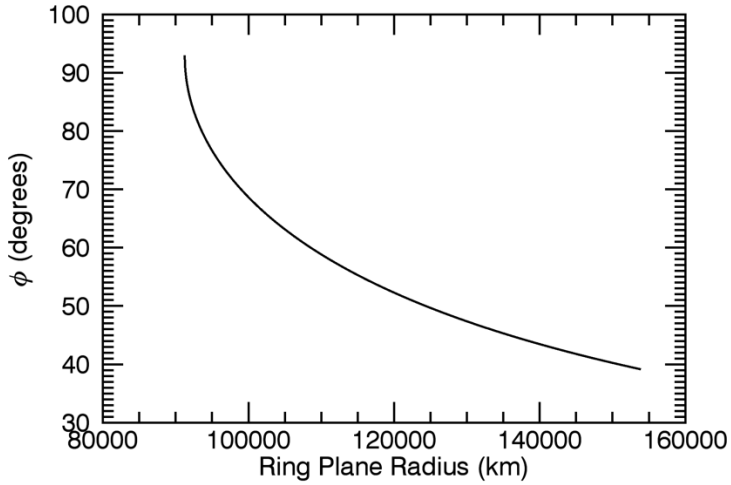
Subsolar lat/lon: 22.28, -128.19

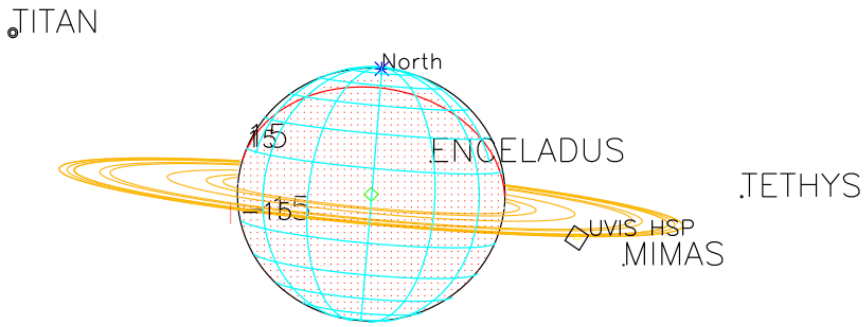
Sub-s/c lat/lon: 3.37, 55.61


KAP ORI Rev 281 Egress
HSP Counts (per second)
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
80000
100000
120000
140000
Ring Plane Radius (km)


KAP ORI Rev 281 Egress
Radial Resolution (m)
14
12
10
8
6
4
2
0
80000
100000
120000
140000
160000
Ring Plane Radius (km)


HSP Counts (per second)
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
80000
100000
120000
140000
160000
Ring Plane Radius (km)


φ (degrees)
100
90
80
70
60
50
40
30
80000
100000
120000
140000
160000
Ring Plane Radius (km)

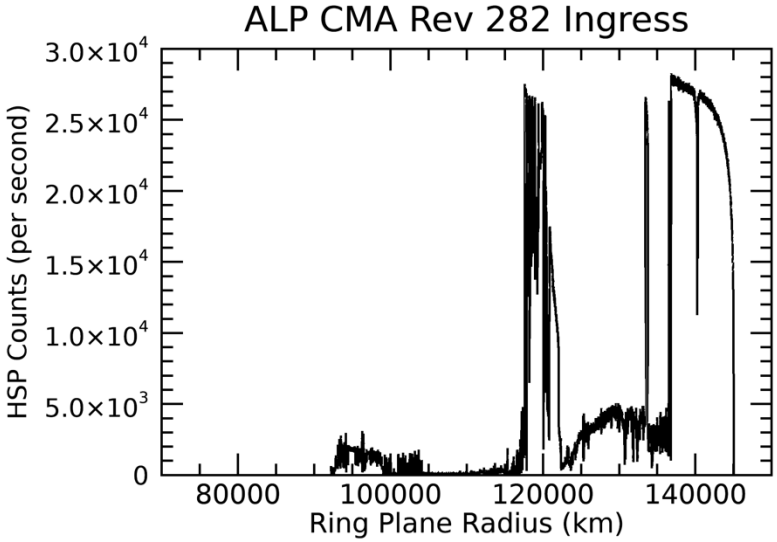


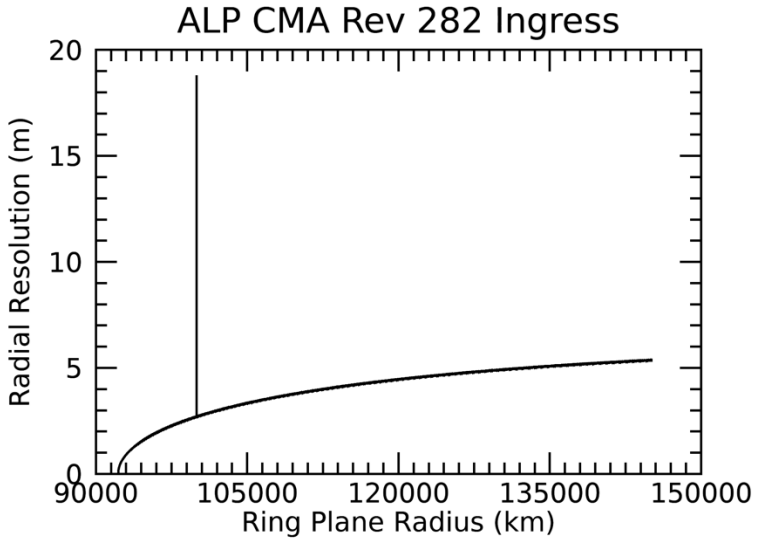
2017−184T01:30:00.000 1271189.6 km

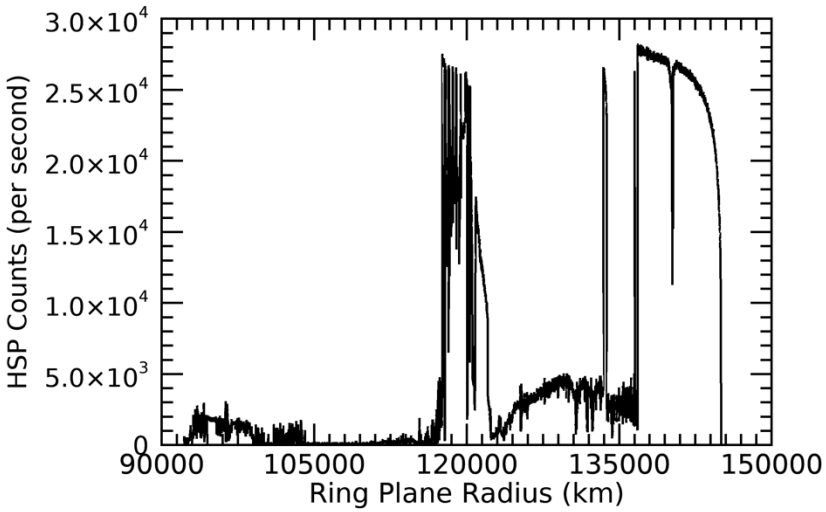
Target RA/dec: 91.17, −8.85

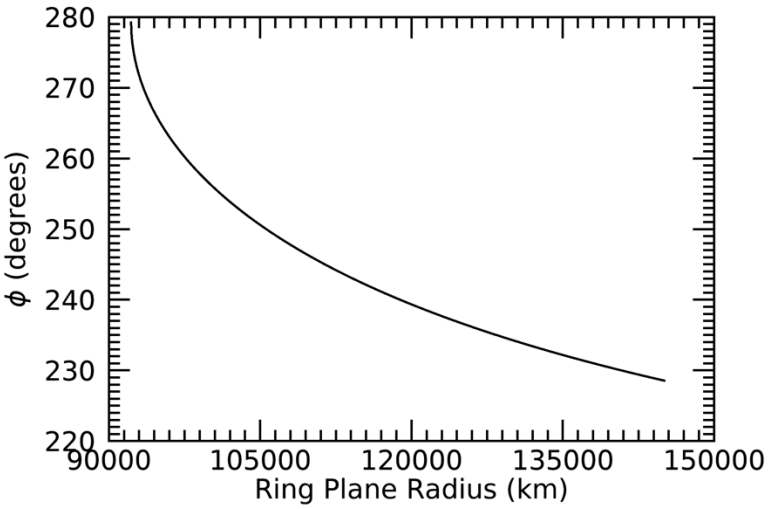
Subsolar lat/lon: 22.28, 145.67

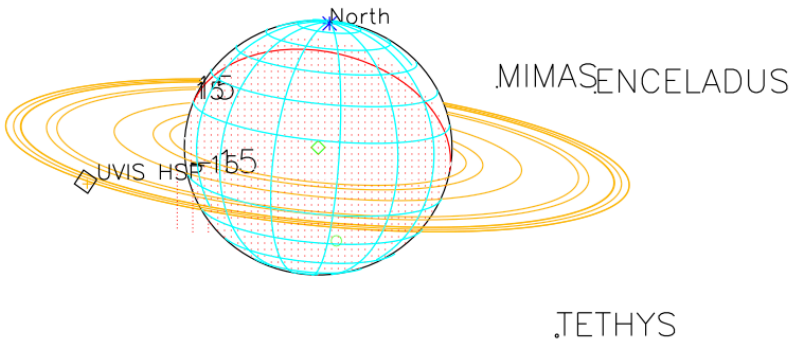
Sub−s/c lat/lon: 3.88, −30.21


ALP CMA Rev 282 Ingress
HSP Counts (per second)
Ring Plane Radius (km)
3.0×10^4
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
80000
100000
120000
140000


ALP CMA Rev 282 Ingress
Radial Resolution (m)
Ring Plane Radius (km)
20
15
10
5
0
90000
105000
120000
135000
150000


HSP Counts (per second)
Ring Plane Radius (km)
3.0×10^4
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
90000
105000
120000
135000
150000


ϕ (degrees)
Ring Plane Radius (km)
280
270
260
250
240
230
220
90000
105000
120000
135000
150000

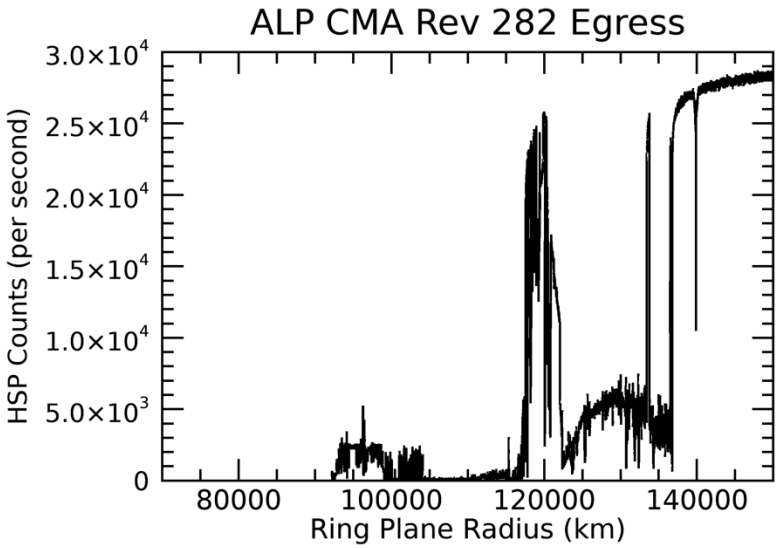


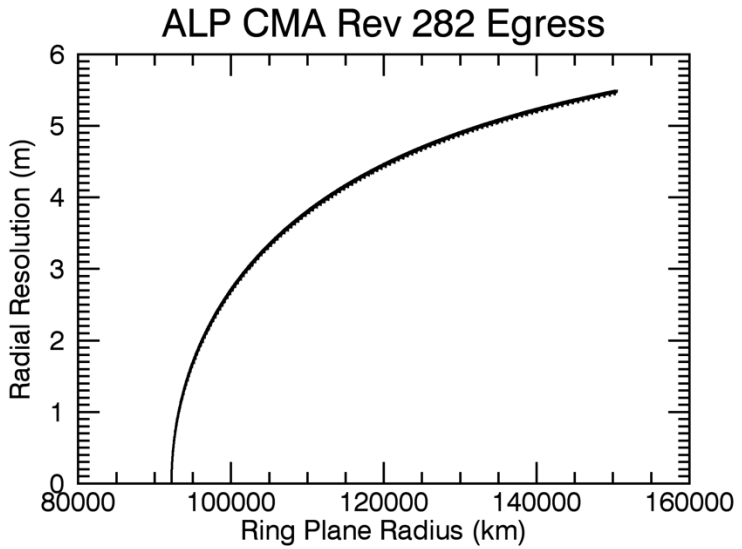
2017-185T08:06:00.000 1195508.1 km

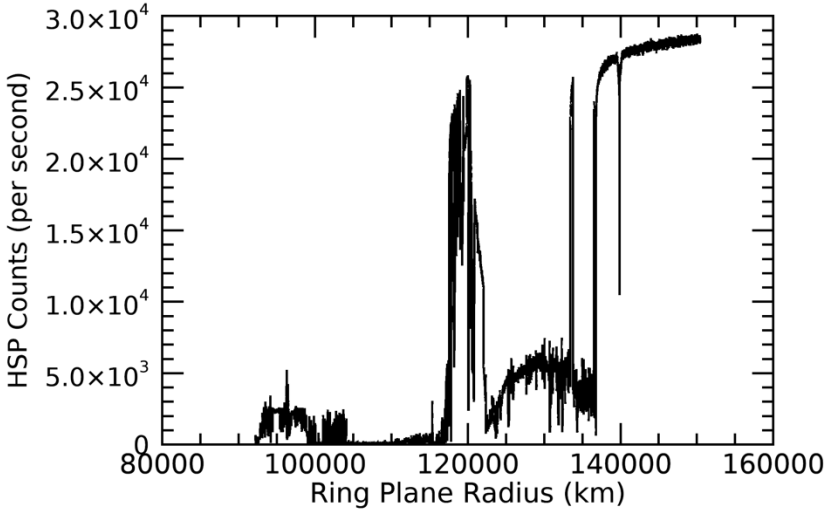
Target RA/dec: 96.09, -16.02

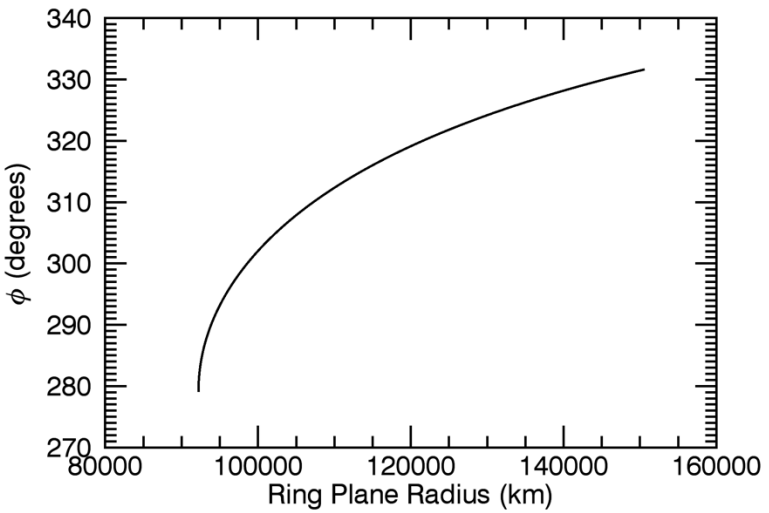
Subsolar lat/lon: 22.28, -168.05

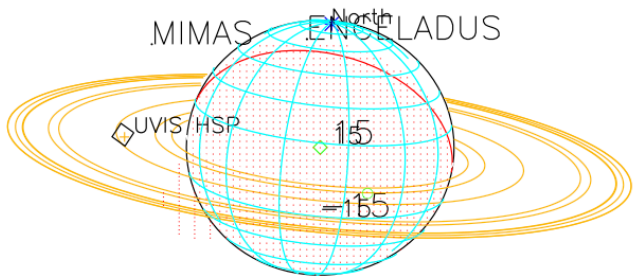
Sub-s/c lat/lon: 10.15, 20.21


ALP CMA Rev 282 Egress
HSP Counts (per second)
3.0×10^4
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
80000
100000
120000
140000
Ring Plane Radius (km)


ALP CMA Rev 282 Egress
Radial Resolution (m)
6
5
4
3
2
1
0
80000
100000
120000
140000
160000
Ring Plane Radius (km)


HSP Counts (per second)
3.0×10^4
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
80000
100000
120000
140000
160000
Ring Plane Radius (km)


ϕ (degrees)
340
330
320
310
300
290
280
270
80000
100000
120000
140000
160000
Ring Plane Radius (km)



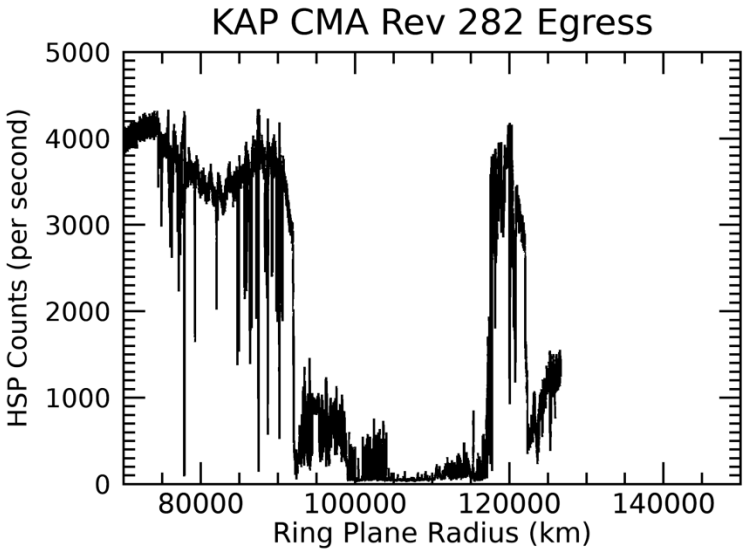
TI

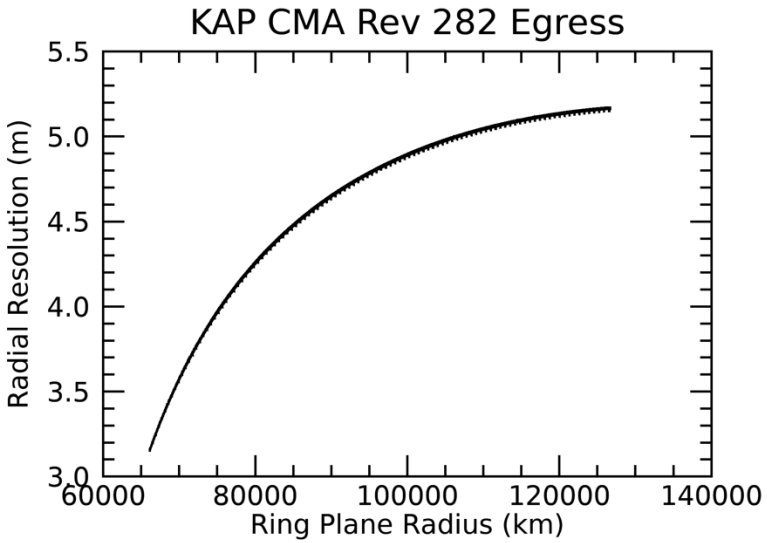
2017-185T11:46:00.000 1168213.8 km

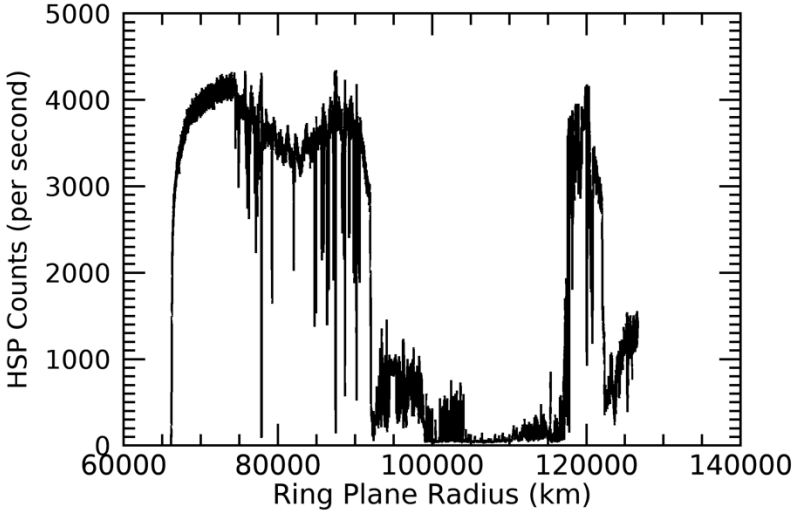
Target RA/dec: 96.78, -16.98

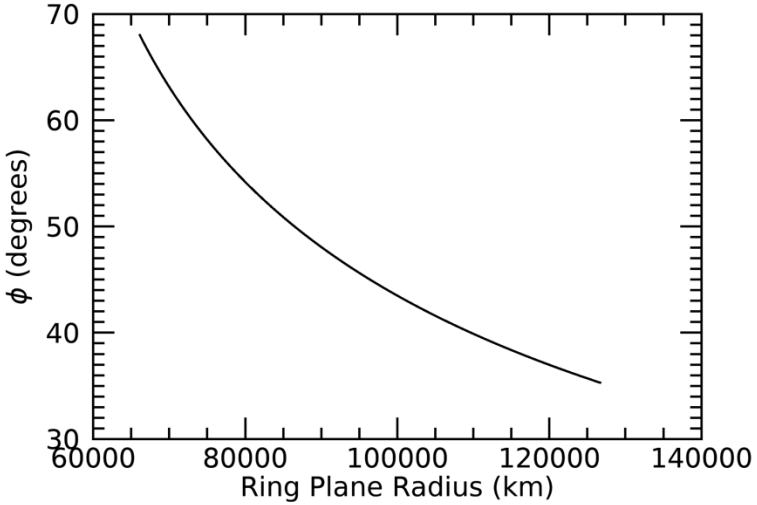
Subsolar lat/lon: 22.28, 68.08

Sub-s/c lat/lon: 11.01, -103.09


KAP CMA Rev 282 Egress
HSP Counts (per second)
Ring Plane Radius (km)
5000
4000
3000
2000
1000
0
80000
100000
120000
140000

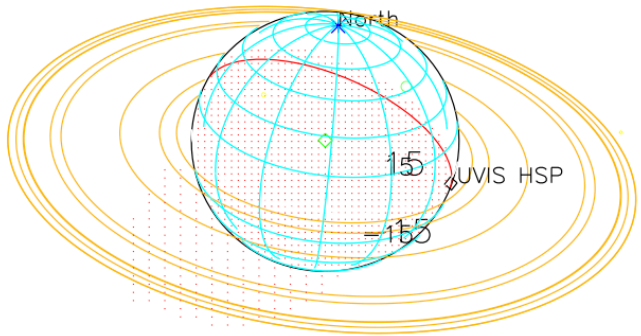

KAP CMA Rev 282 Egress
Radial Resolution (m)
Ring Plane Radius (km)
5.5
5.0
4.5
4.0
3.5
3.0
60000
80000
100000
120000
140000


HSP Counts (per second)
Ring Plane Radius (km)
5000
4000
3000
2000
1000
0
60000
80000
100000
120000
140000


ϕ (degrees)
Ring Plane Radius (km)
70
60
50
40
30
60000
80000
100000
120000
140000

RHEA

ENCELADUS



THYS

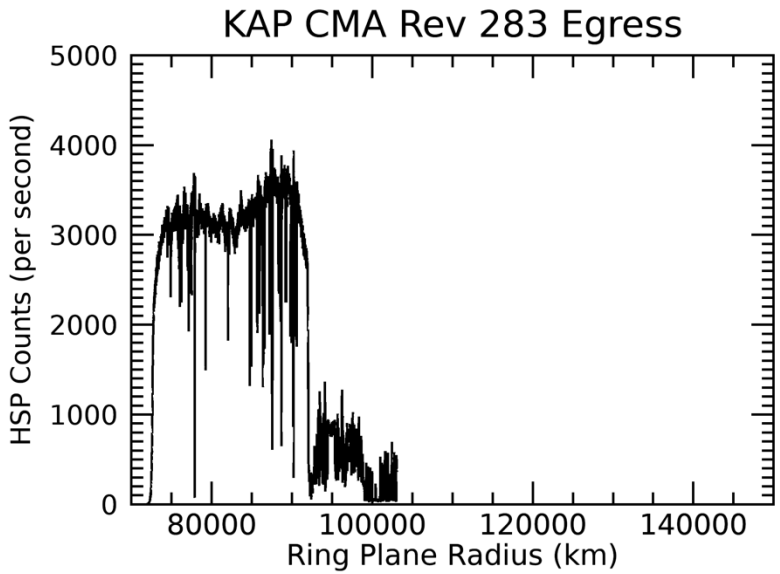
MIMAS

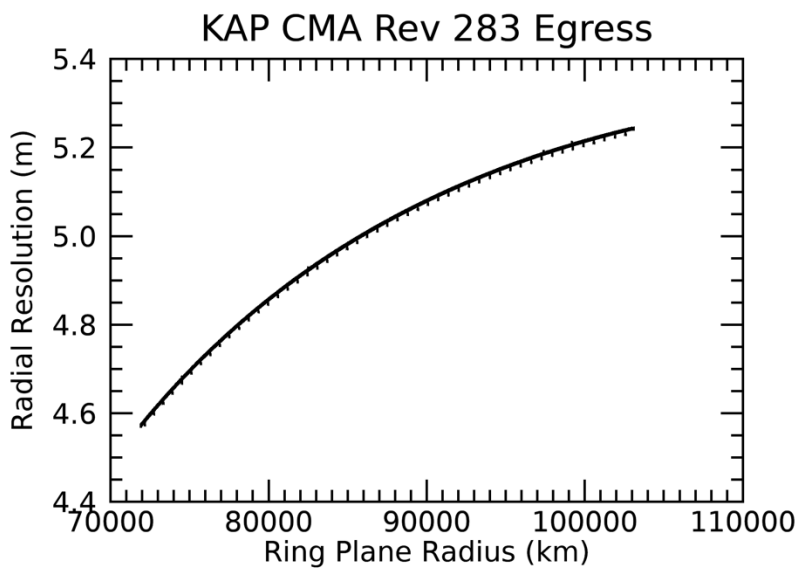
2017−186T21:30:00.000 663457.43 km

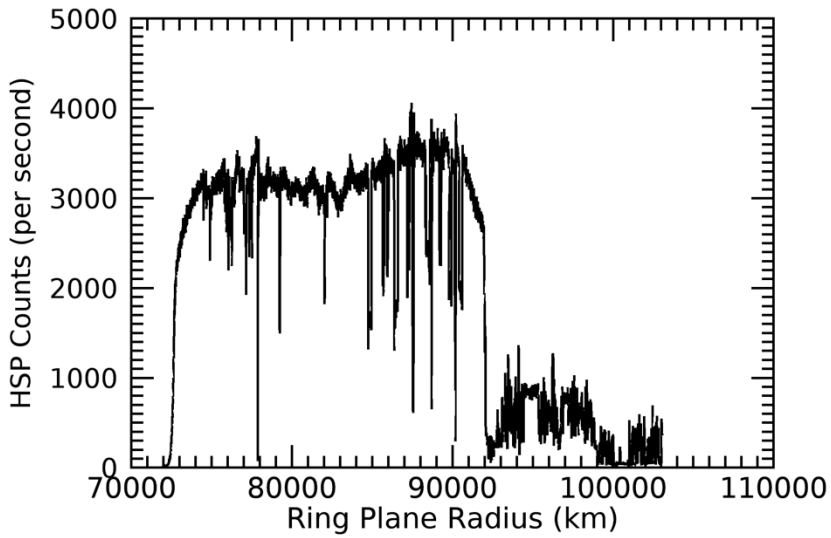
Target RA/dec: 108.27, −31.03

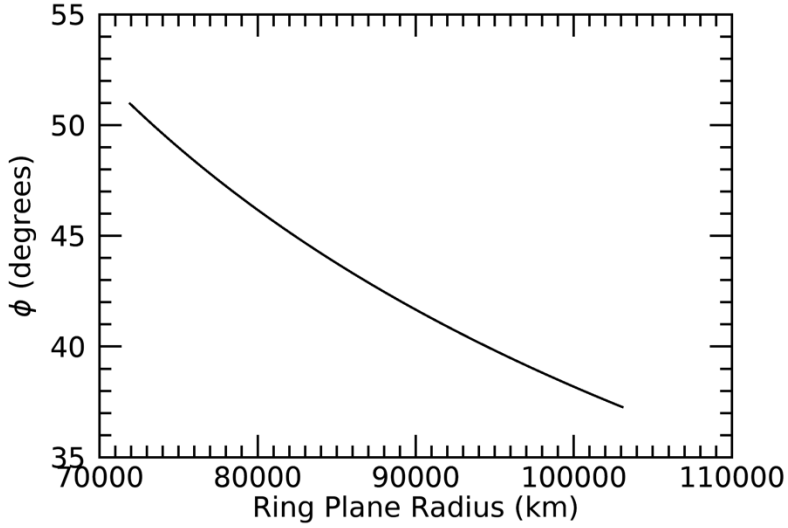
Subsolar lat/lon: 22.28, 8.50

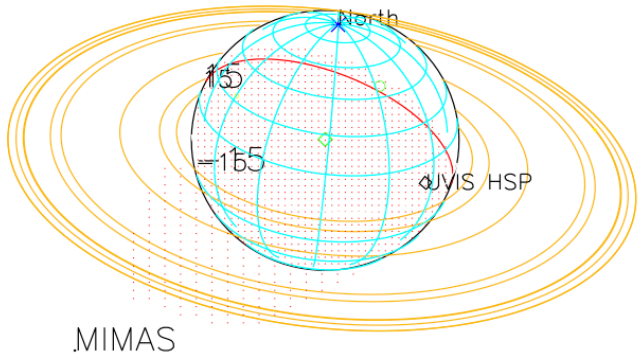
Sub−s/c lat/lon: 24.11, −153.16


KAP CMA Rev 283 Egress
HSP Counts (per second)
5000
4000
3000
2000
1000
0
80000
100000
120000
140000
Ring Plane Radius (km)


KAP CMA Rev 283 Egress
Radial Resolution (m)
5.4
5.2
5.0
4.8
4.6
4.4
70000
80000
90000
100000
110000
Ring Plane Radius (km)


HSP Counts (per second)
5000
4000
3000
2000
1000
0
70000
80000
90000
100000
110000
Ring Plane Radius (km)


ϕ (degrees)
55
50
45
40
35
70000
80000
90000
100000
110000
Ring Plane Radius (km)



MIMAS

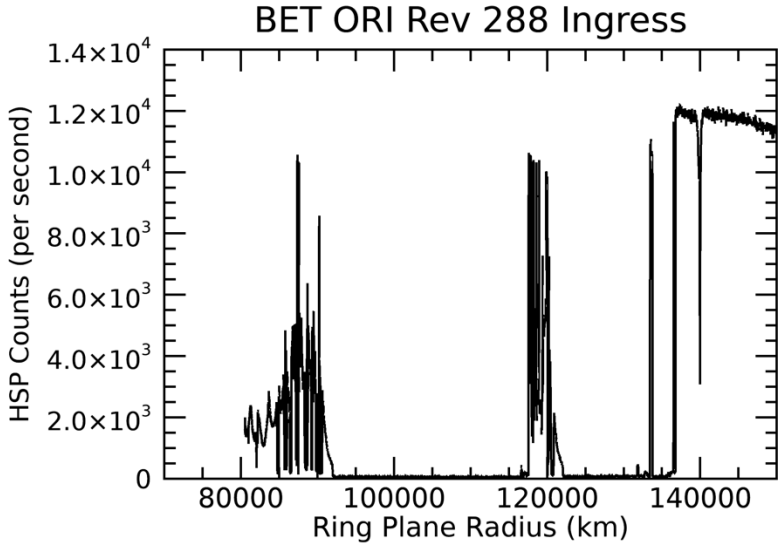
EN

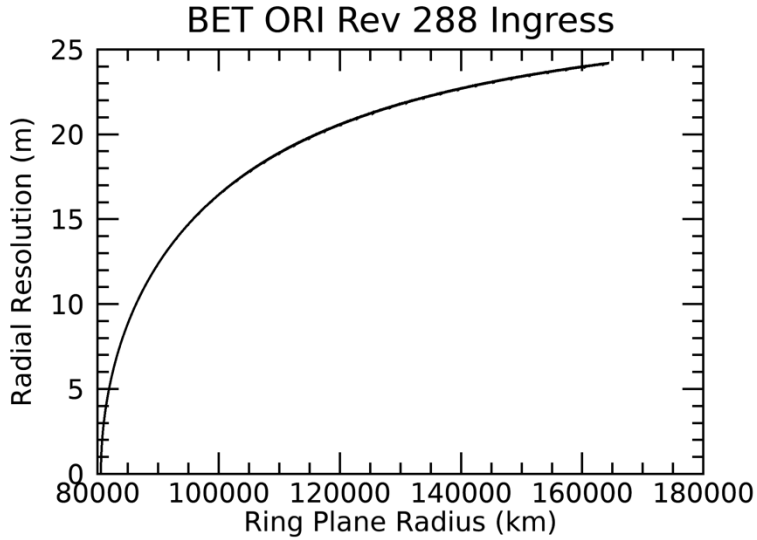
2017−193T08:50:00.000 666569.86 km

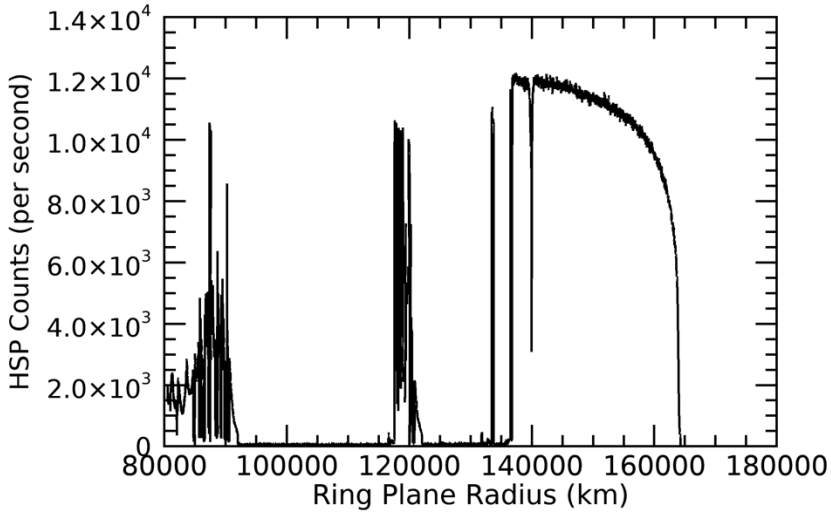
Target RA/dec: 107.08, −30.97

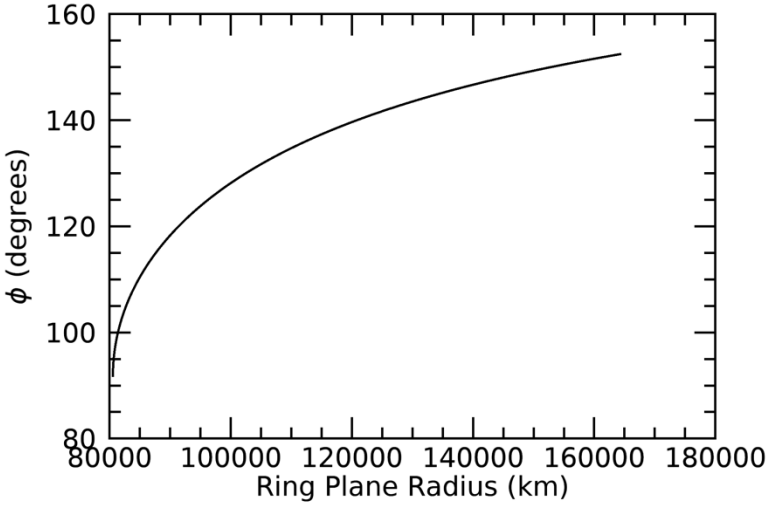
Subsolar lat/lon: 22.28, 161.08

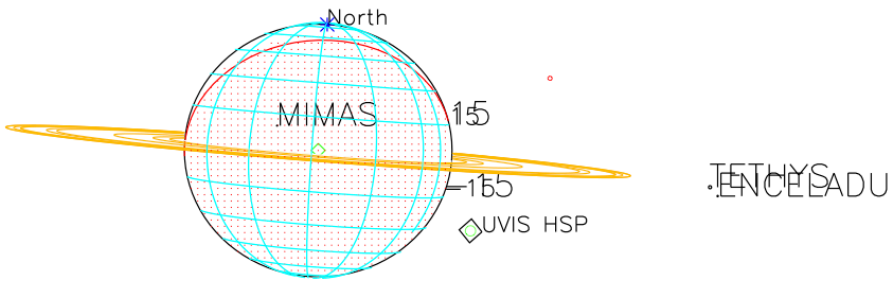
Sub−s/c lat/lon: 23.96, −1.94


BET ORI Rev 288 Ingress
HSP Counts (per second)
1.4×10^4
1.2×10^4
1.0×10^4
8.0×10^3
6.0×10^3
4.0×10^3
2.0×10^3
0
80000
100000
120000
140000
Ring Plane Radius (km)


BET ORI Rev 288 Ingress
Radial Resolution (m)
25
20
15
10
5
0
80000
100000
120000
140000
160000
180000
Ring Plane Radius (km)


HSP Counts (per second)
1.4×10^4
1.2×10^4
1.0×10^4
8.0×10^3
6.0×10^3
4.0×10^3
2.0×10^3
0
80000
100000
120000
140000
160000
180000
Ring Plane Radius (km)


ϕ (degrees)
160
140
120
100
80
80000
100000
120000
140000
160000
180000
Ring Plane Radius (km)

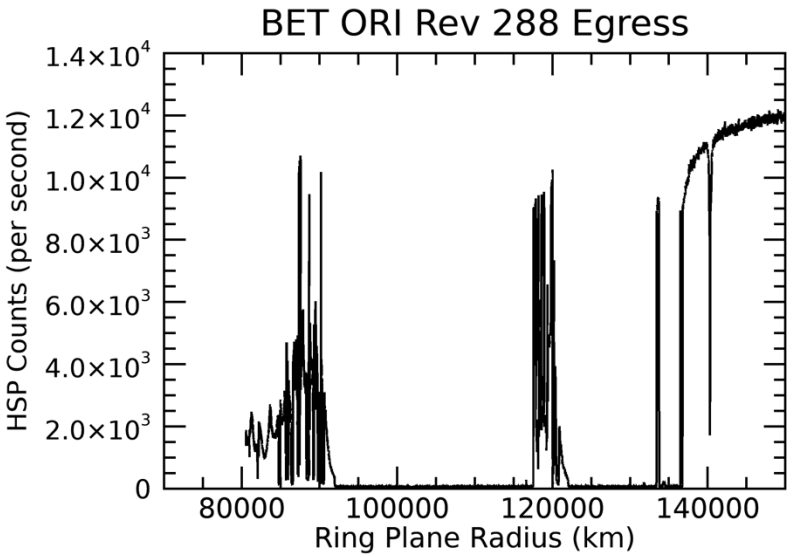


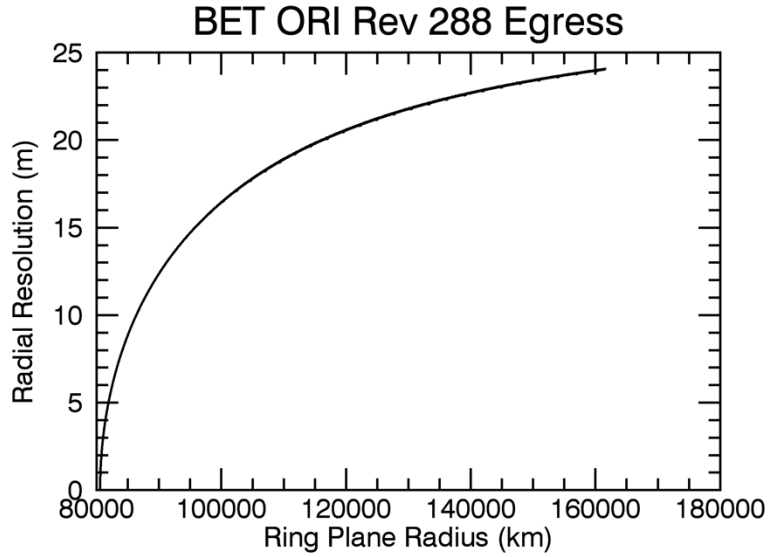
2017-228T17:52:00.000 1212492.1 km

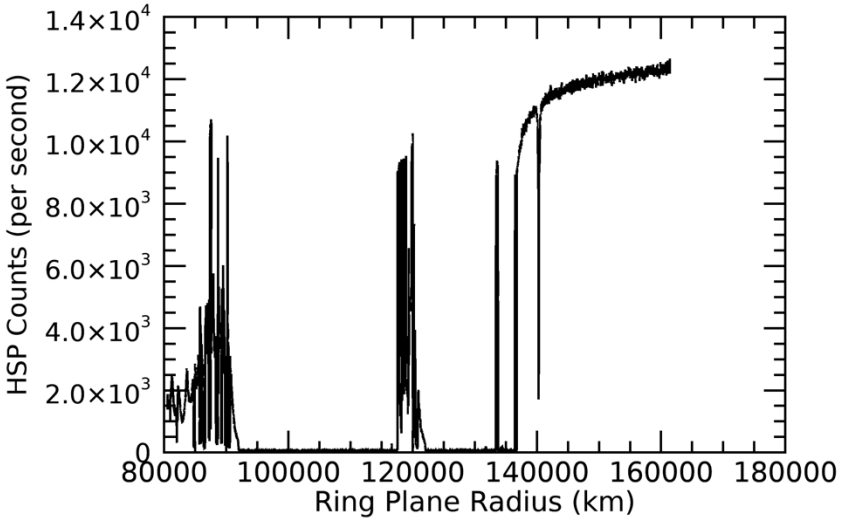
Target RA/dec: 81.91, -6.57

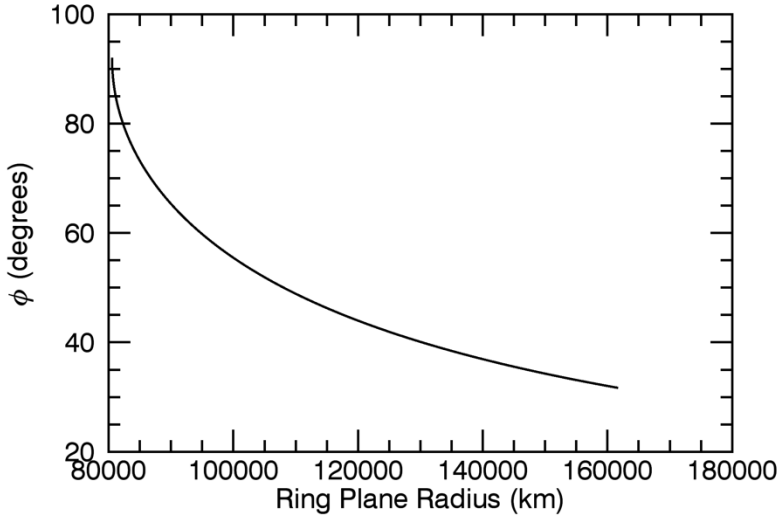
Subsolar lat/lon: 22.26, -80.68

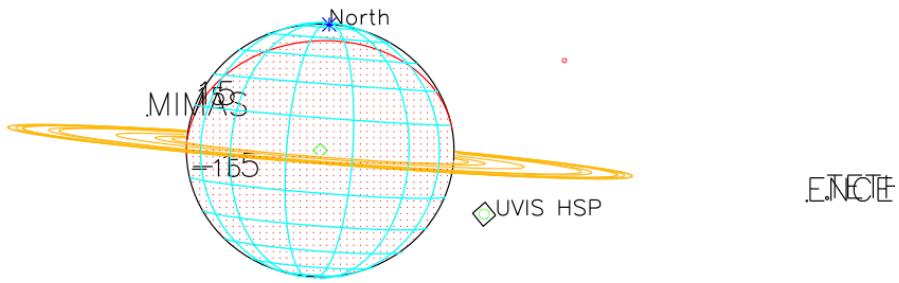
Sub-s/c lat/lon: 1.40, 92.97


BET ORI Rev 288 Egress
HSP Counts (per second)
1.4×10^4
1.2×10^4
1.0×10^4
8.0×10^3
6.0×10^3
4.0×10^3
2.0×10^3
0
80000
100000
120000
140000
Ring Plane Radius (km)


BET ORI Rev 288 Egress
Radial Resolution (m)
25
20
15
10
5
0
80000
100000
120000
140000
160000
180000
Ring Plane Radius (km)


HSP Counts (per second)
1.4×10^4
1.2×10^4
1.0×10^4
8.0×10^3
6.0×10^3
4.0×10^3
2.0×10^3
0
80000
100000
120000
140000
160000
180000
Ring Plane Radius (km)


φ (degrees)
100
80
60
40
20
80000
100000
120000
140000
160000
180000
Ring Plane Radius (km)

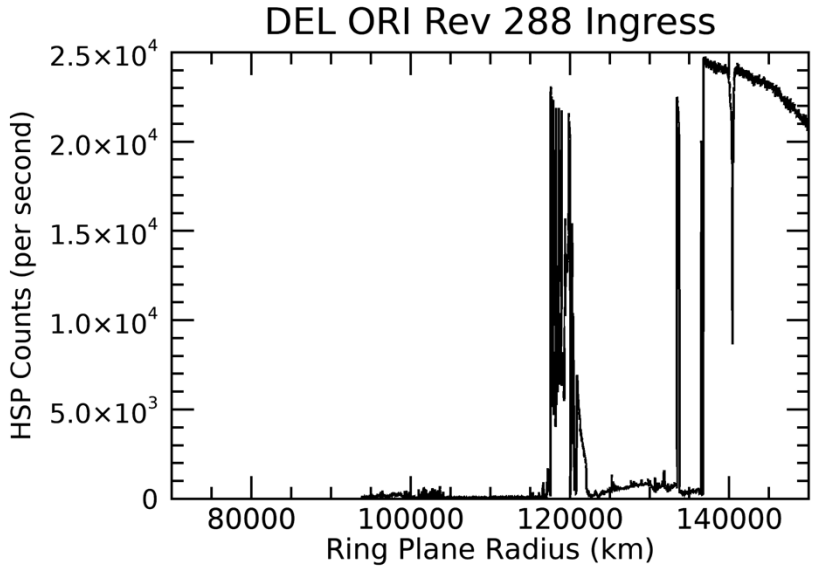


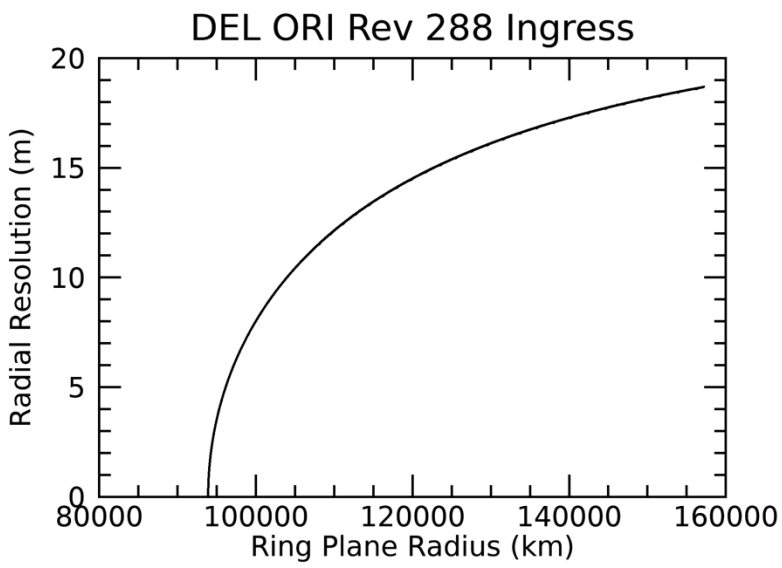
2017-228T19:17:00.000 1220815.4 km

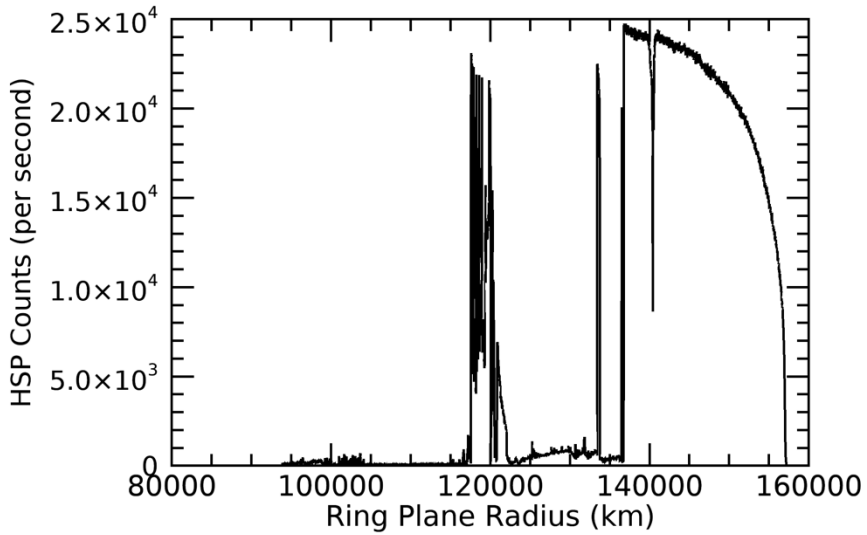
Target RA/dec: 82.13, -6.93

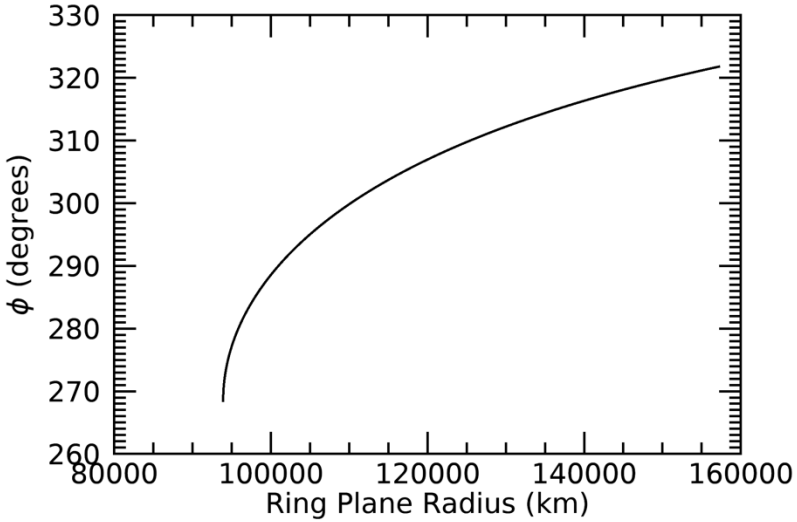
Subsolar lat/lon: 22.26, -128.53

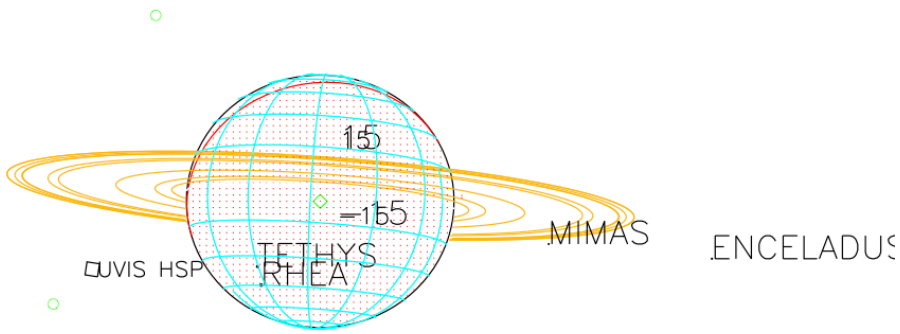
Sub-s/c lat/lon: 1.70, 45.31


DEL ORI Rev 288 Ingress
HSP Counts (per second)
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
80000
100000
120000
140000
Ring Plane Radius (km)


DEL ORI Rev 288 Ingress
Radial Resolution (m)
20
15
10
5
0
80000
100000
120000
140000
160000
Ring Plane Radius (km)


HSP Counts (per second)
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
80000
100000
120000
140000
160000
Ring Plane Radius (km)


ϕ (degrees)
330
320
310
300
290
280
270
260
80000
100000
120000
140000
160000
Ring Plane Radius (km)

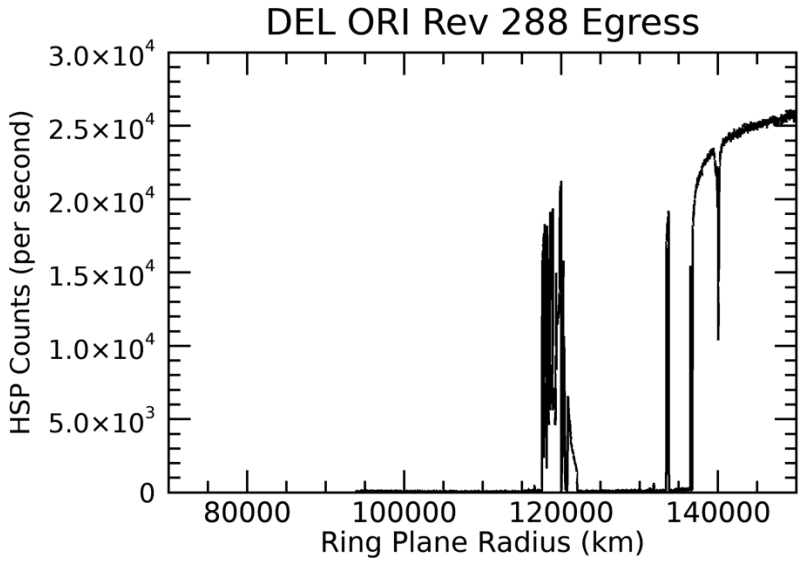


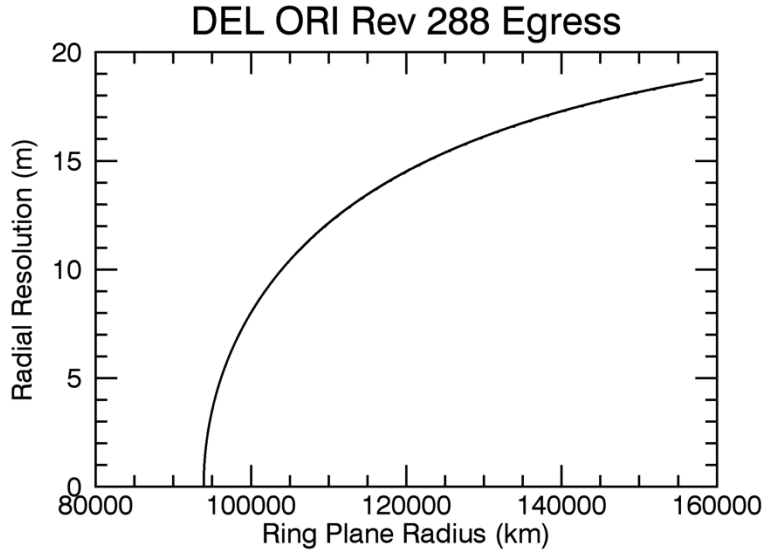
2017-227T15:56:00.000 940067.41 km

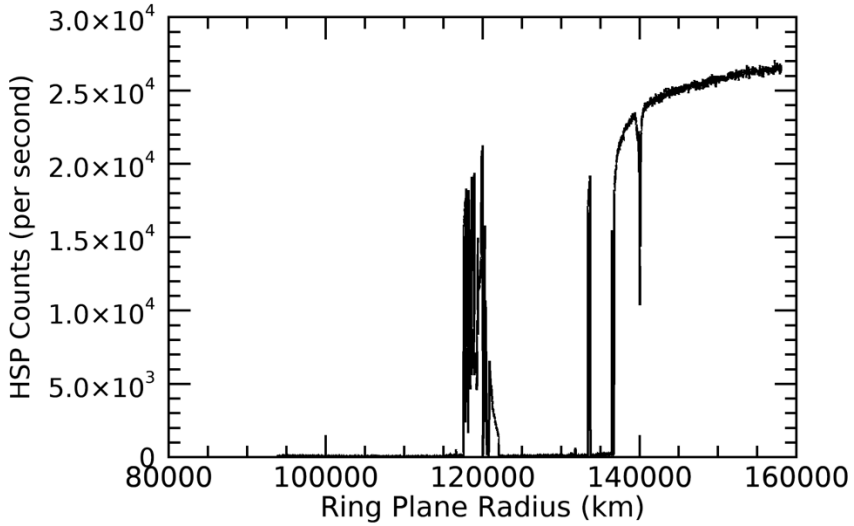
Target RA/dec: 76.76, 1.49

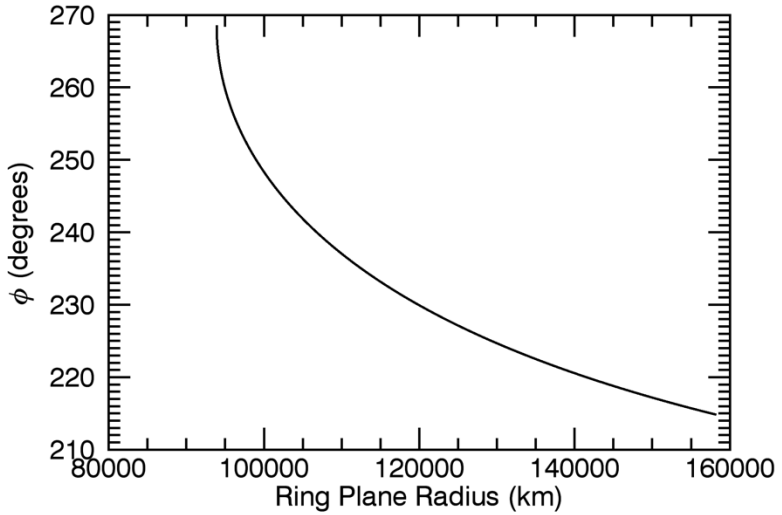
Subsolar lat/lon: 22.26, 75.39

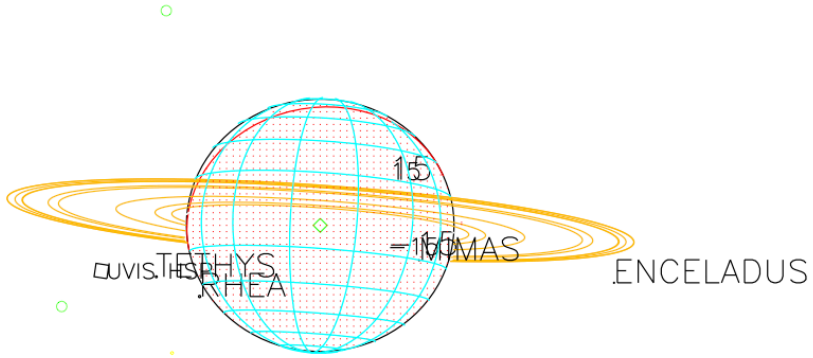
Sub-s/c lat/lon: -5.52, -115.50


DEL ORI Rev 288 Egress
HSP Counts (per second)
3.0×10^4
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
80000
100000
120000
140000
Ring Plane Radius (km)


DEL ORI Rev 288 Egress
Radial Resolution (m)
20
15
10
5
0
80000
100000
120000
140000
160000
Ring Plane Radius (km)


HSP Counts (per second)
3.0×10^4
2.5×10^4
2.0×10^4
1.5×10^4
1.0×10^4
5.0×10^3
0
80000
100000
120000
140000
160000
Ring Plane Radius (km)


φ (degrees)
270
260
250
240
230
220
210
80000
100000
120000
140000
160000
Ring Plane Radius (km)



2017-227T17:27:00.000 963298.40 km

Target RA/dec: 77.15, 0.87

Subsolar lat/lon: 22.26, 24.15

Sub-s/c lat/lon: -4.99, -166.38