

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 2520 - L2 Version 3
Chandra X-Ray Center

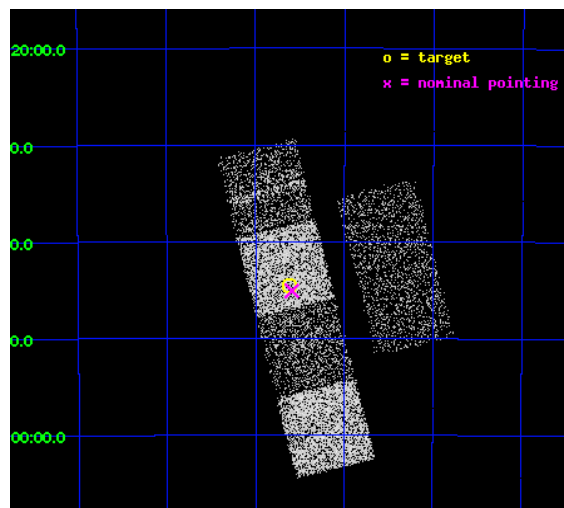
L2 Processing Date : Sep 29 2012

Contents

1	Front	2
2	OBI	3
2.1	OBI	3
2.1.1	Images	3
2.1.2	Bias	3
2.1.3	Parameters	4
2.1.4	Events	4
2.2	Compared Parameters	5
2.3	Aspect	6
2.4	Star Slots	9
2.4.1	Slot 3	9
2.4.2	Slot 4	10
2.4.3	Slot 5	11
2.4.4	Slot 6	12
2.4.5	Slot 7	13
2.5	FID Slots	14
2.5.1	Slot 0	14
2.5.2	Slot 1	15
2.5.3	Slot 2	16
3	Gratings	17
3.1	LETG Arm	17
A	Summary	19
A.1	Status	19
A.2	Comments	19

1 Front

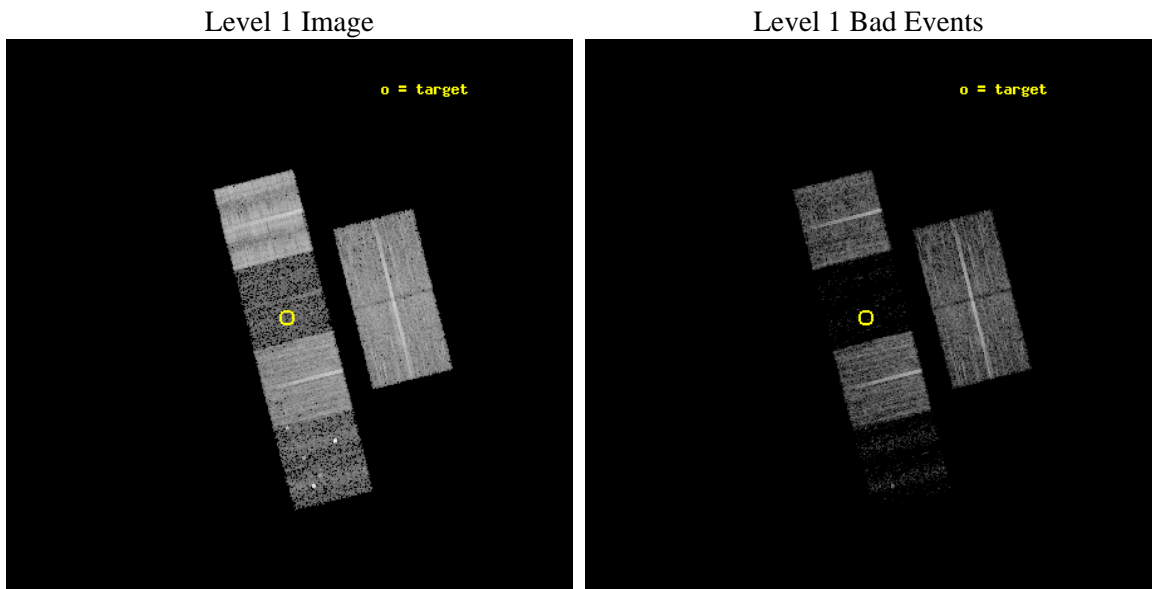
seq_num	100030	Sequence number
obs_id	2520	Observation id
title	ACIS-S LOW ENERGY SPECTROSCOPY AND PHOTOMETRIC IMAGING OF CHARGE EXCHANGE X-RAY EMISSION FROM COMET C/LINEAR WM1 (2000)	Proposal titl
observer	Dr. Carey Lisse	Principal investigator
object	C/LINEAR WM1 (2000)	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	333.65424	Observer's specified target RA [deg]
dec_targ	-51.74252	Observer's specified target Dec [deg]
ra_nom	333.64784538285	Nominal RA [deg]
dec_nom	-51.751376065398	Nominal Dec [deg]
roll_nom	255.78980457793	Nominal Roll [deg]
revision	3	Processing version of data
ontime	8806.4000081867	Sum of GTIs [s]
livetime	8694.8880687056	Livetime [s]
ontime2	8806.4000081867	Sum of GTIs [s]
ontime3	8806.4000081867	Sum of GTIs [s]
ontime5	8806.4000081867	Sum of GTIs [s]
ontime6	8806.4000081867	Sum of GTIs [s]
ontime7	8806.4000081867	Sum of GTIs [s]
ontime8	8806.4000081867	Sum of GTIs [s]
l2events	16361	Number of level 2 events



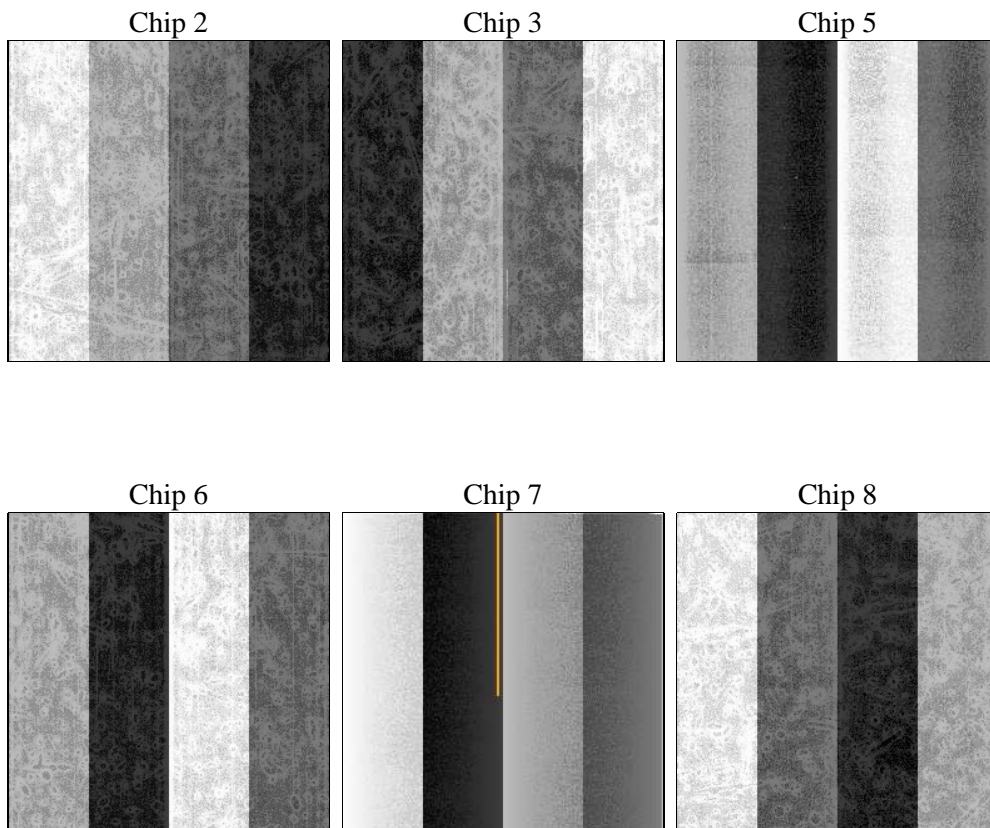
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	8750.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	8806.4000081867	Sum of GTIs [s]
caldsver	4.5.2	 	ontime2	8806.4000081867	Sum of GTIs [s]
date	2012-09-29T15:32:43	Date and time of file creation	ontime3	8806.4000081867	Sum of GTIs [s]
revision	3	Processing version of data	ontime5	8806.4000081867	Sum of GTIs [s]
			ontime6	8806.4000081867	Sum of GTIs [s]
			ontime7	8806.4000081867	Sum of GTIs [s]
			ontime8	8806.4000081867	Sum of GTIs [s]
			l1events	213171	Number of level 1 events

2.1.4 Events

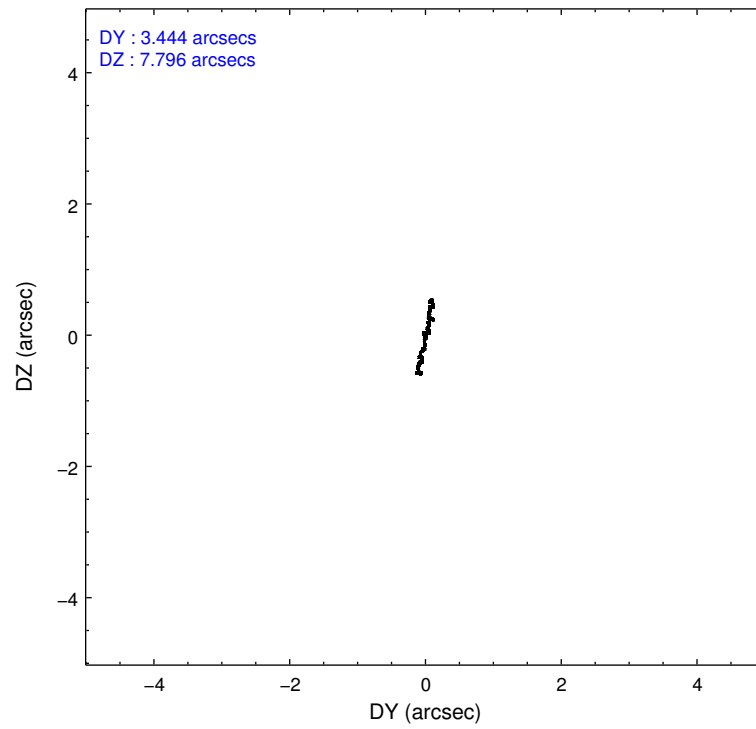
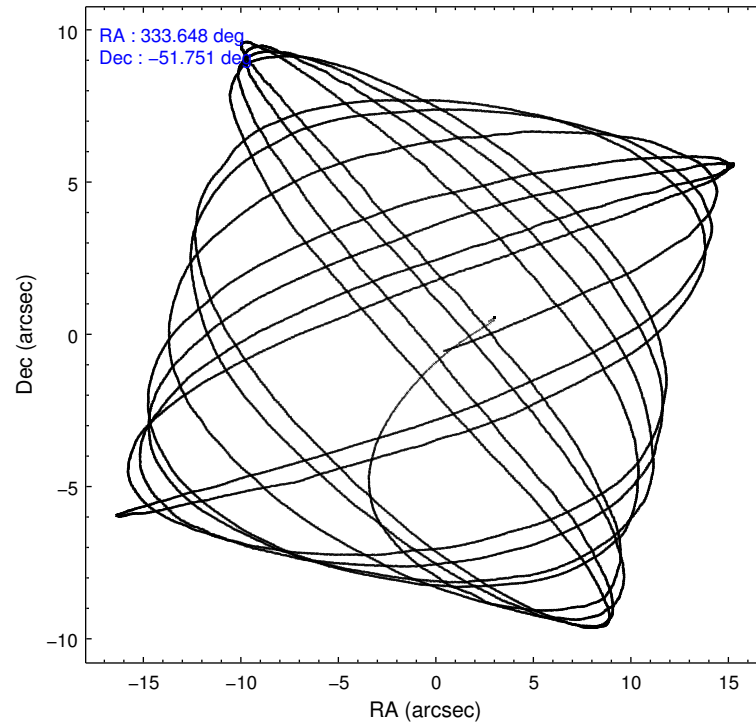
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	43371	37778	13312	40110	7193	71407
rejected events	40792	36454	3255	37562	1312	36207
rejected %	94%	96%	24%	93%	18%	50%

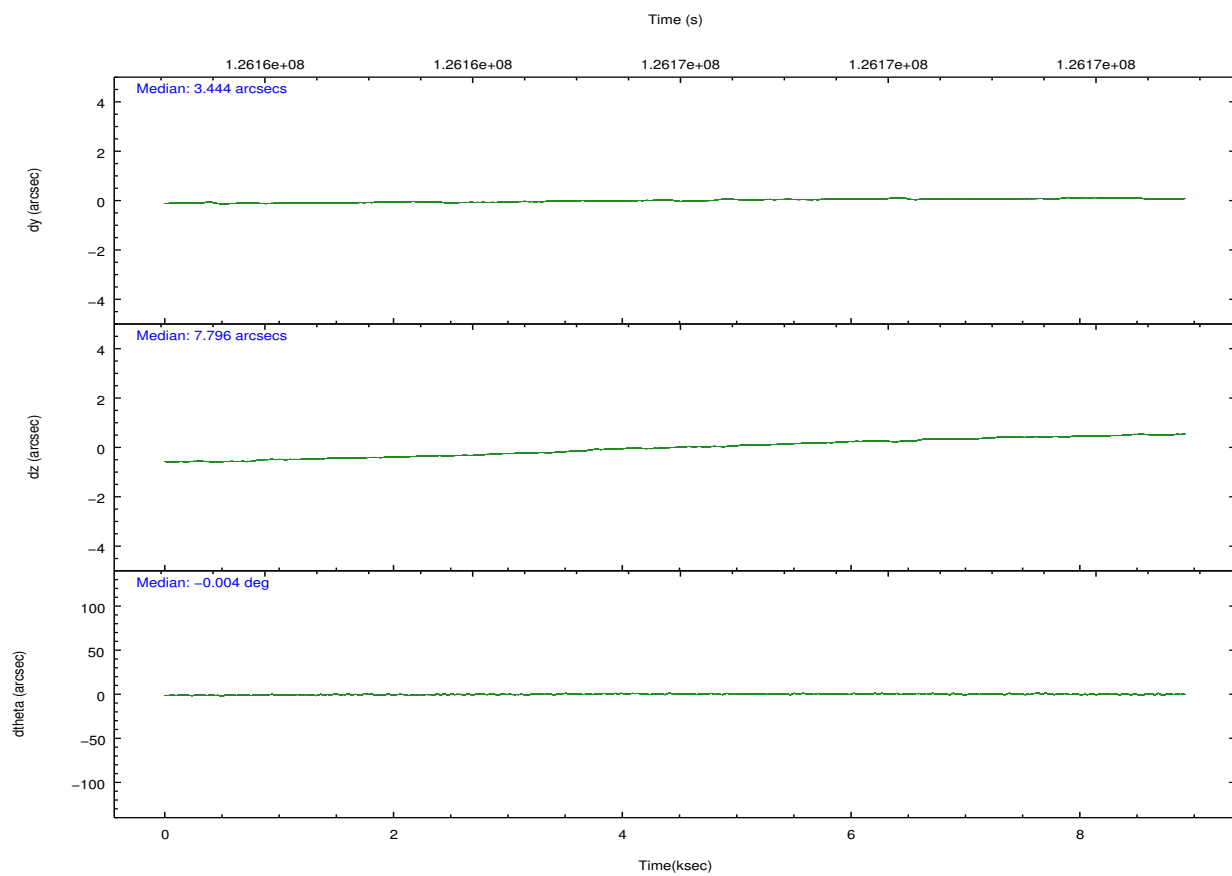
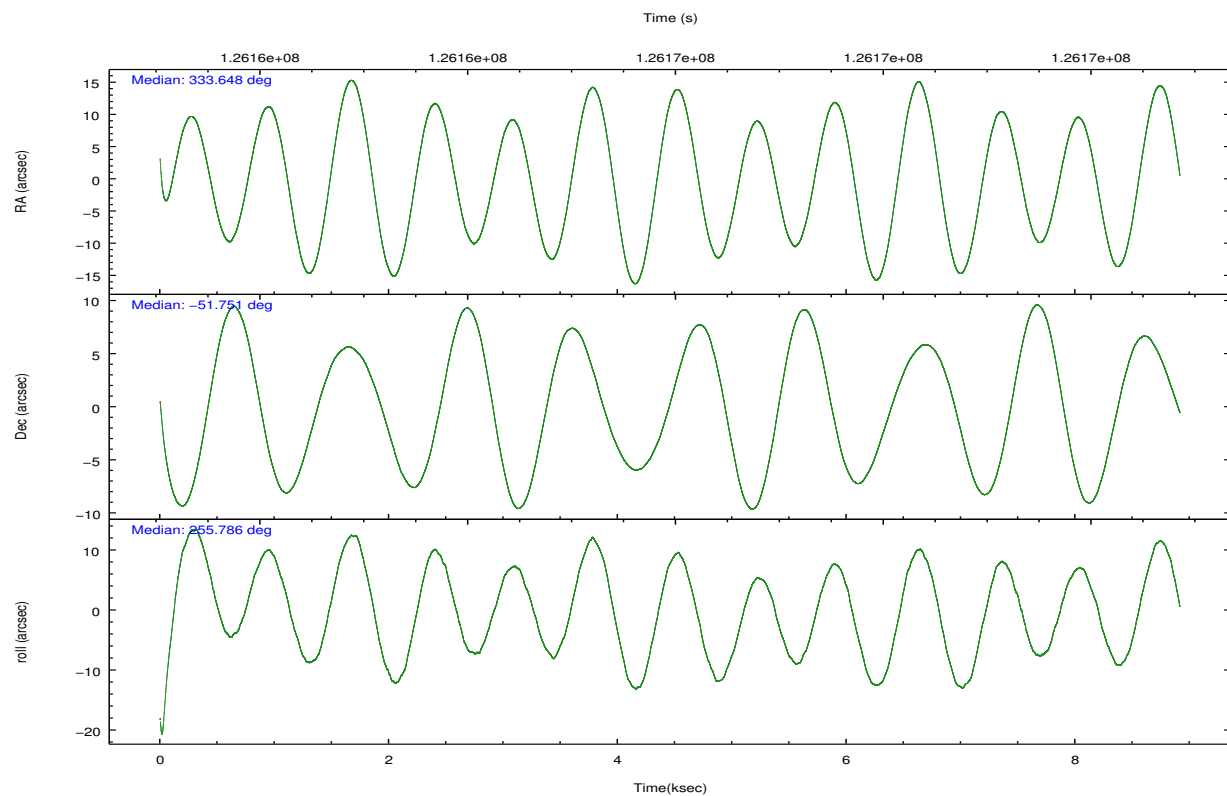
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	1245	605	4731	1486	1707	11394
	2%	1%	35%	3%	23%	15%
grade 1 events	19	11	155	16	33	108
	0%	0%	1%	0%	0%	0%
grade 2 events	651	170	2999	502	1792	4611
	1%	0%	22%	1%	24%	6%
grade 3 events	231	253	810	230	803	6548
	0%	0%	6%	0%	11%	9%
grade 4 events	289	189	821	234	801	5698
	0%	0%	6%	0%	11%	7%
grade 5 events	57	35	478	33	217	501
	0%	0%	3%	0%	3%	0%
grade 6 events	164	107	698	97	779	6952
	0%	0%	5%	0%	10%	9%
grade 7 events	40715	36408	2620	37512	1061	35595
	93%	96%	19%	93%	14%	49%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-235678	ACIS-235678	Obspar file type	PREDICTED	ACTUAL
Grating	LETG	LETG	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	333.635285	333.6478453828547	Subarray requested	NONE	NONE
[deg] Pointing Dec	-51.725238	-51.75137606539777	Alternating exposures requested	N	N
[deg] Pointing Roll	255.623348	255.7898045779343	[s] Primary exposure time	0.000000	3.2
[s] Window start time (MET)	126144064.184000	126144064.184000			
[s] Window stop time (MET)	126230404.184000	126230404.184000			
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-190.132523	-190.1400660498719			
[mm] SIM translation stage offset	0	0.00754346686406393			
[s] Observation start time (MET)	126161657.184000	126160515.64653			
Observation start date	2001-12-31T04:53:13	2001-12-31T04:35:15			
[s] Observation end time (MET)	126170407.184000	126170540.65943			
Observation end date	2001-12-31T07:19:03	2001-12-31T07:22:20			
Read mode	TIMED	TIMED			

2.3 Aspect



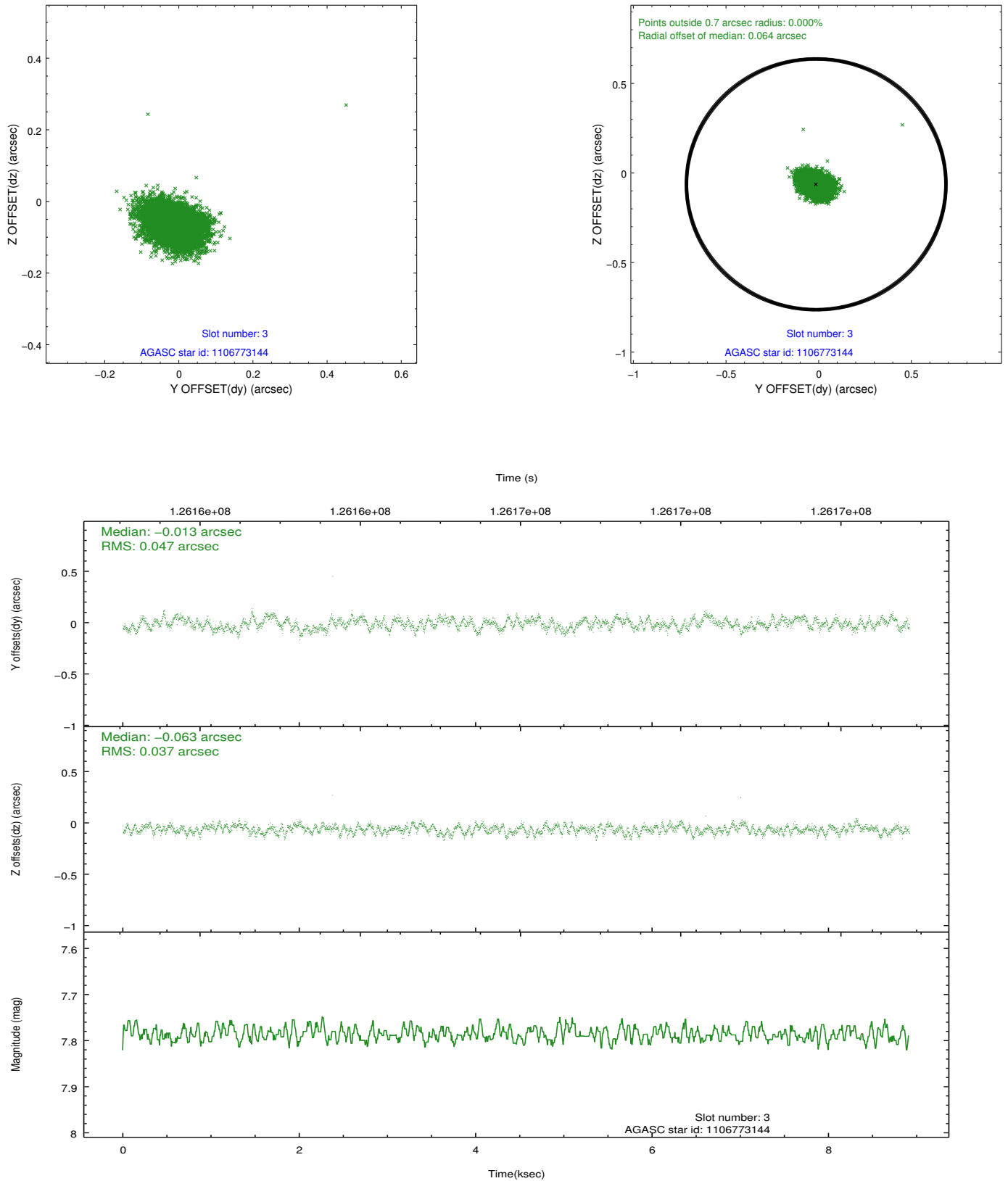


Slot Statistics

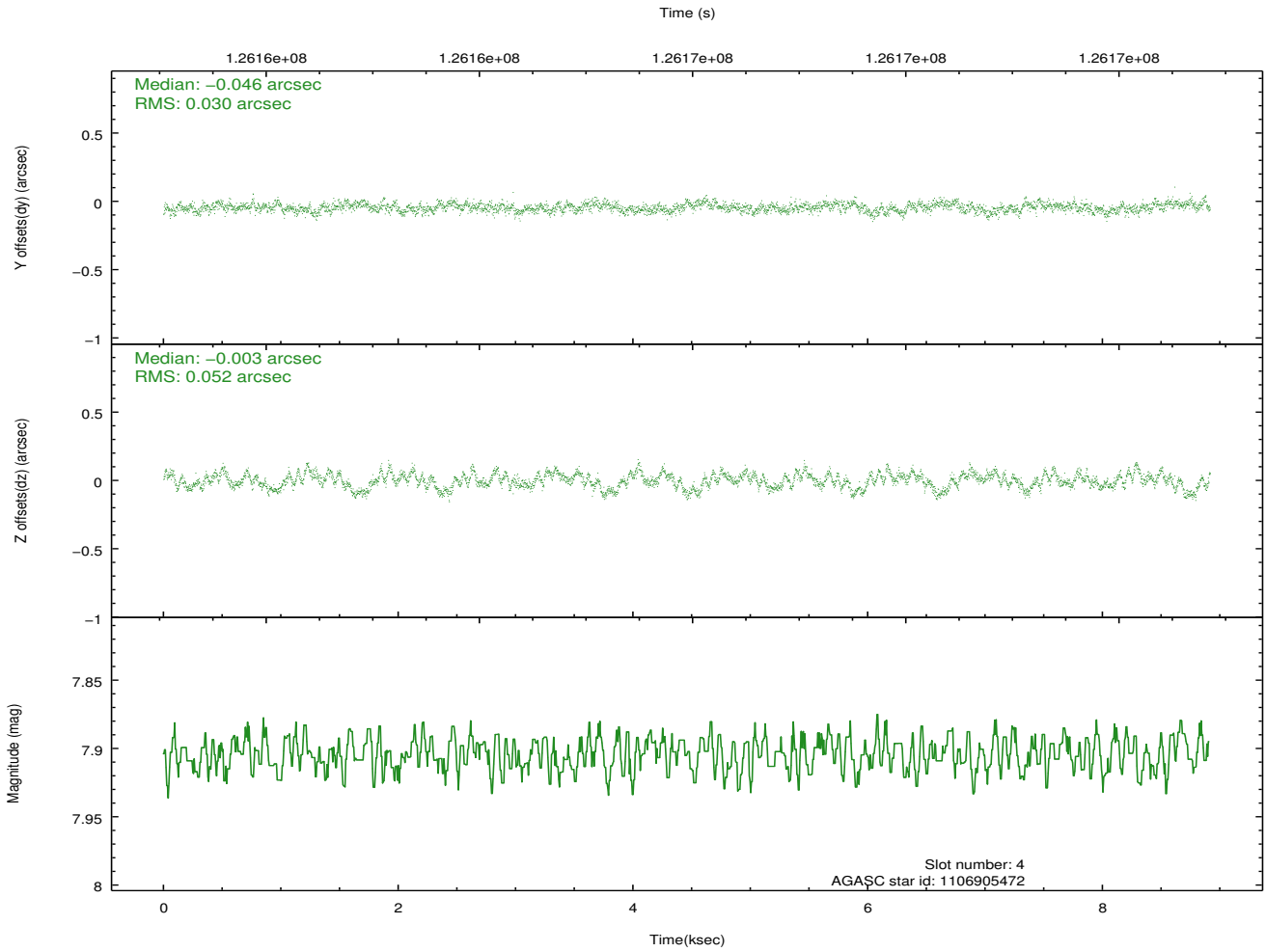
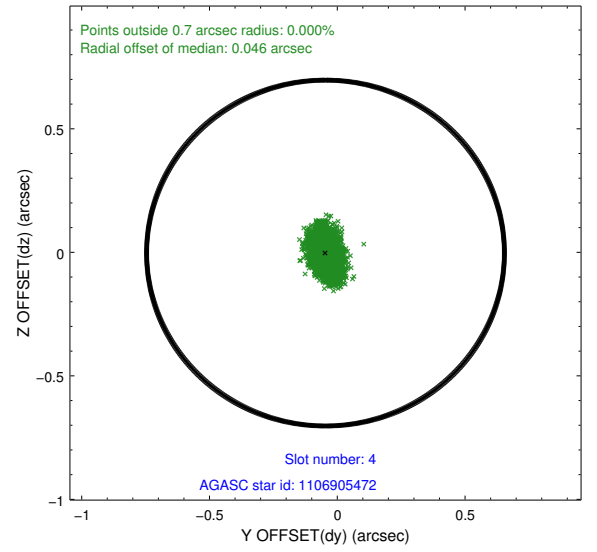
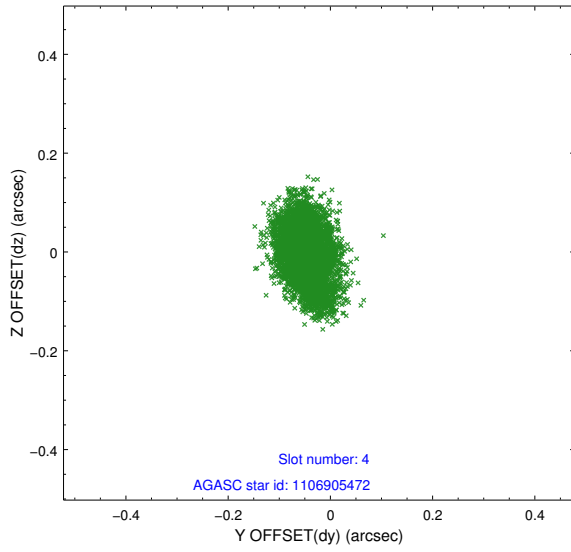
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.12	2174	-0.004	-0.006	0.008	0.014	0.000000	0.000000	-756.10	-1728.97
1	FID	ACIS-S-4	7.20	2174	-0.021	0.004	0.006	0.012	0.000000	0.000000	2156.88	178.89
2	FID	ACIS-S-5	7.24	2175	-0.006	0.011	0.008	0.015	0.000000	0.000000	-1808.15	173.27
3	GUIDE	1106773144	7.79	4348	-0.013	-0.063	0.063	0.099	333.747596	-52.196523	1581.89	659.89
4	GUIDE	1106905472	7.90	4350	-0.046	-0.003	0.062	0.105	333.959376	-52.158506	1334.80	1079.75
5	GUIDE	1106774680	7.78	4350	-0.004	-0.018	0.055	0.086	332.589342	-51.960089	1411.61	-2034.26
6	GUIDE	1106907400	9.06	4348	-0.060	-0.043	0.066	0.106	334.001770	-51.303937	-1671.94	420.79
7	GUIDE	1106903912	9.50	4347	0.121	0.129	0.105	0.163	334.390785	-52.413614	1996.37	2223.28

2.4 Star Slots

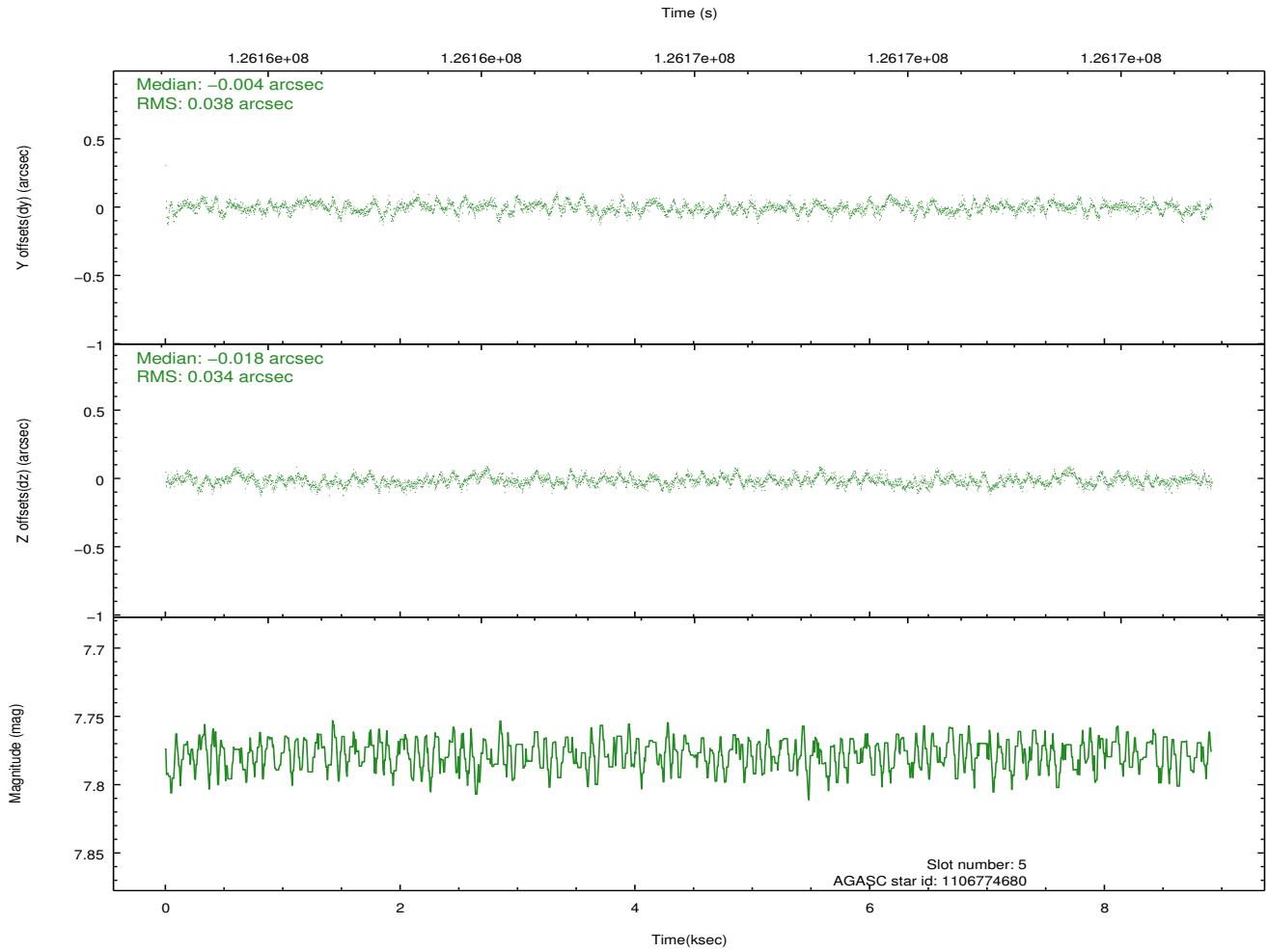
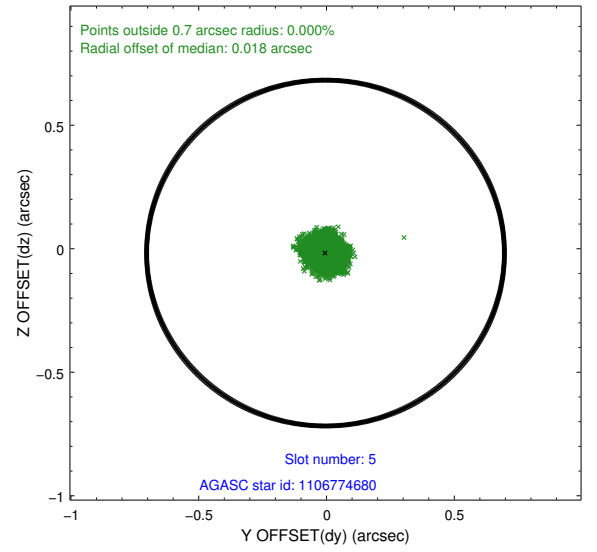
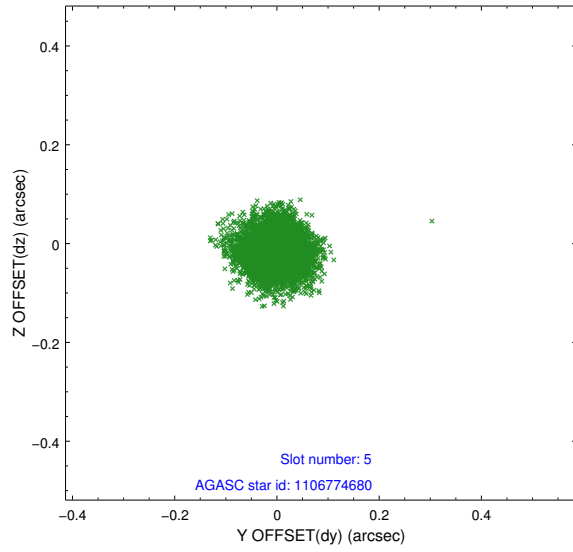
2.4.1 Slot 3



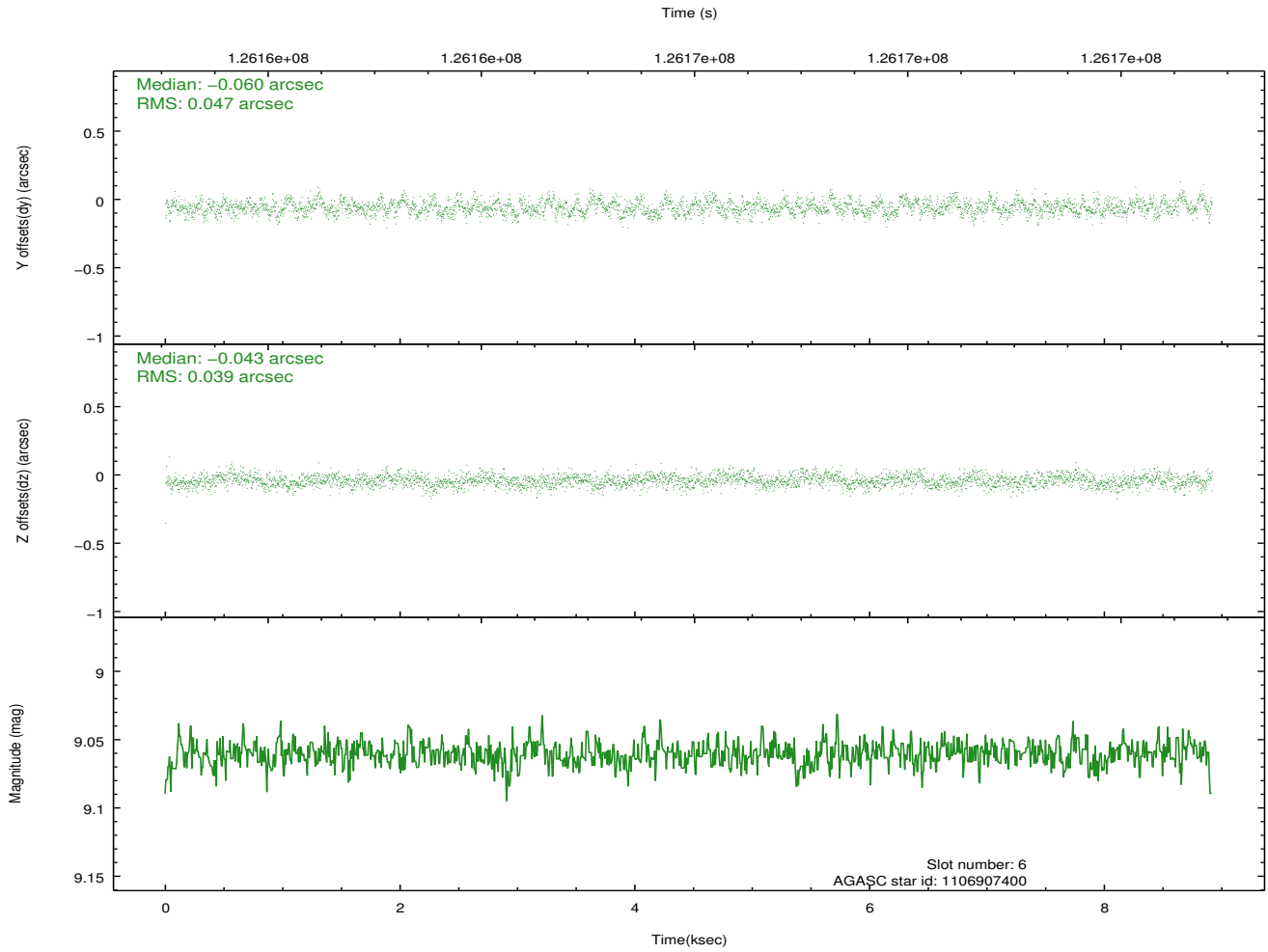
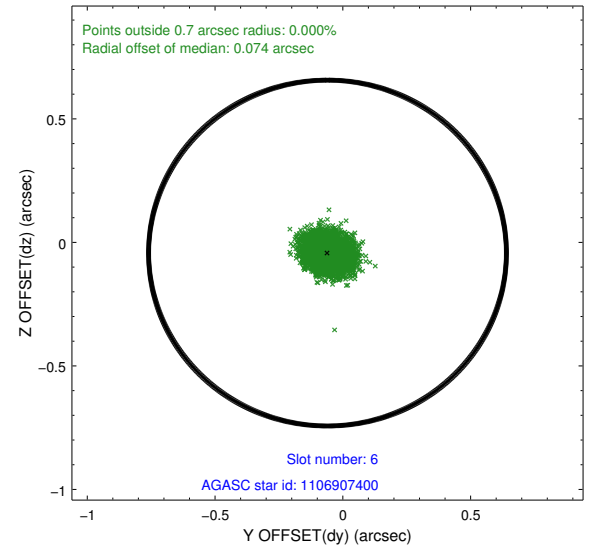
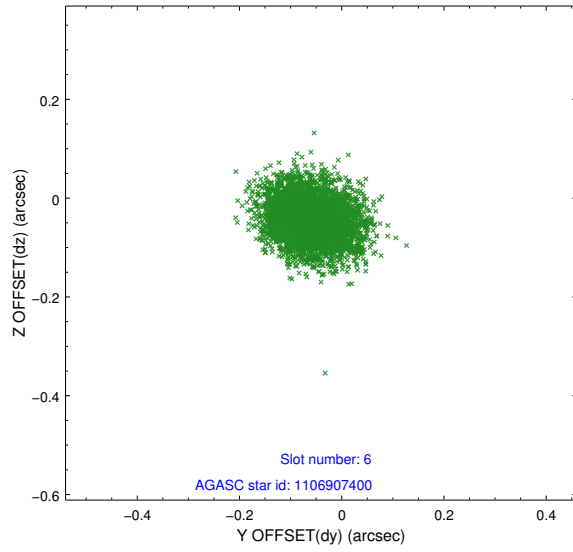
2.4.2 Slot 4



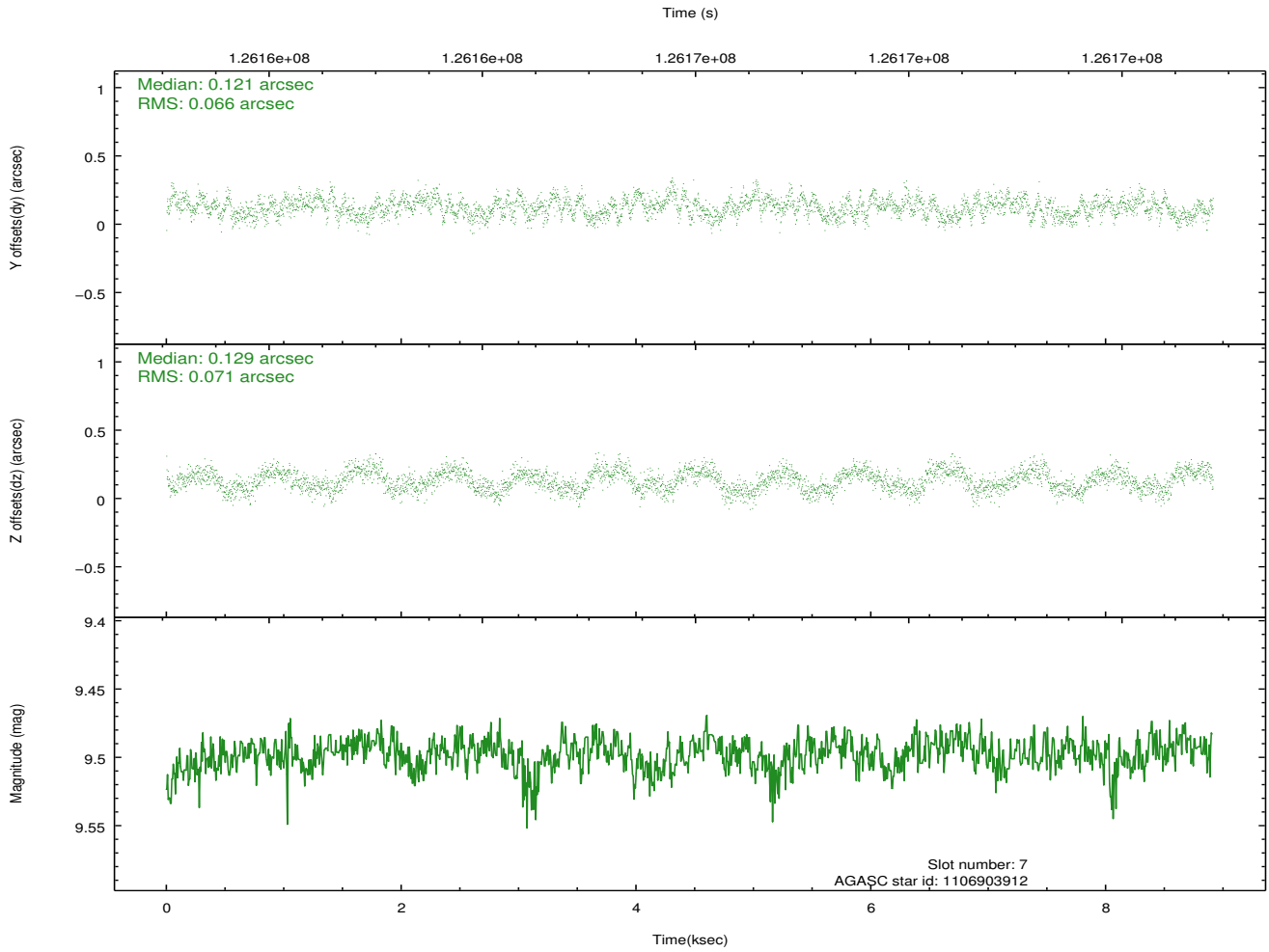
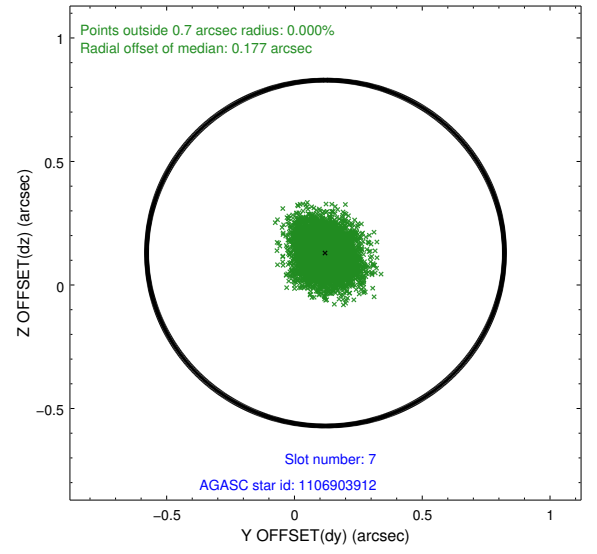
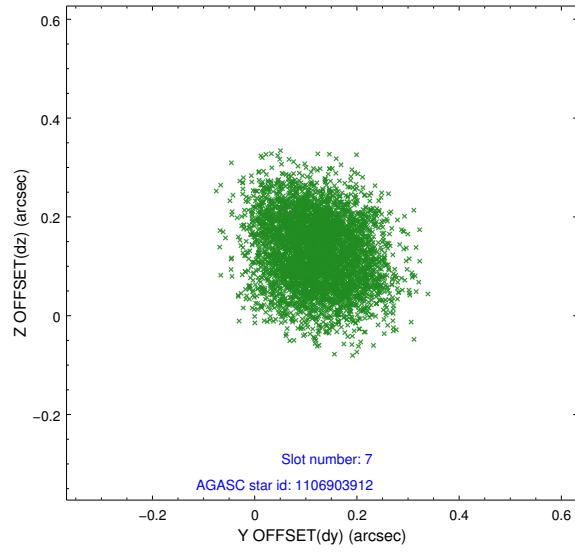
2.4.3 Slot 5



2.4.4 Slot 6

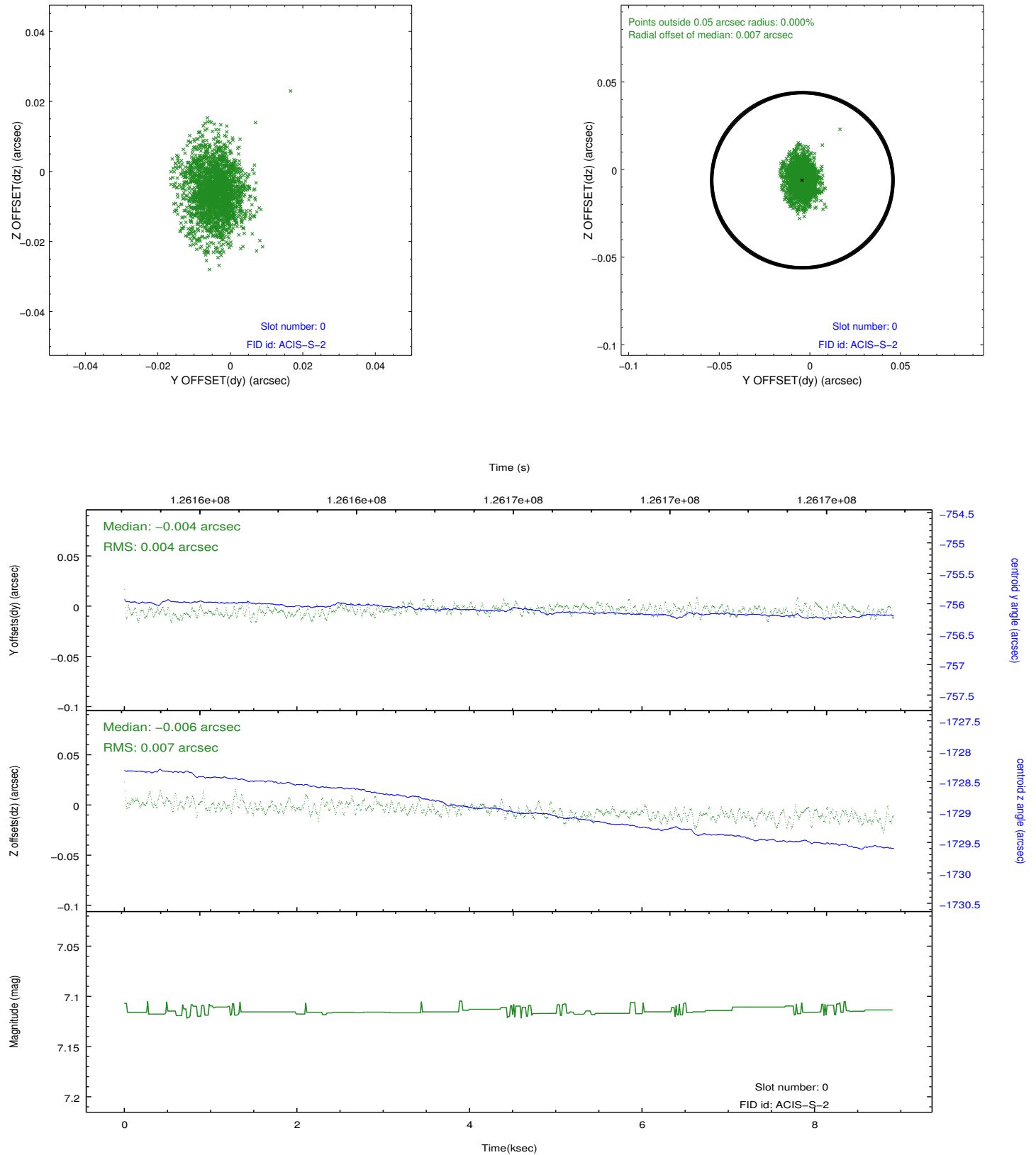


2.4.5 Slot 7

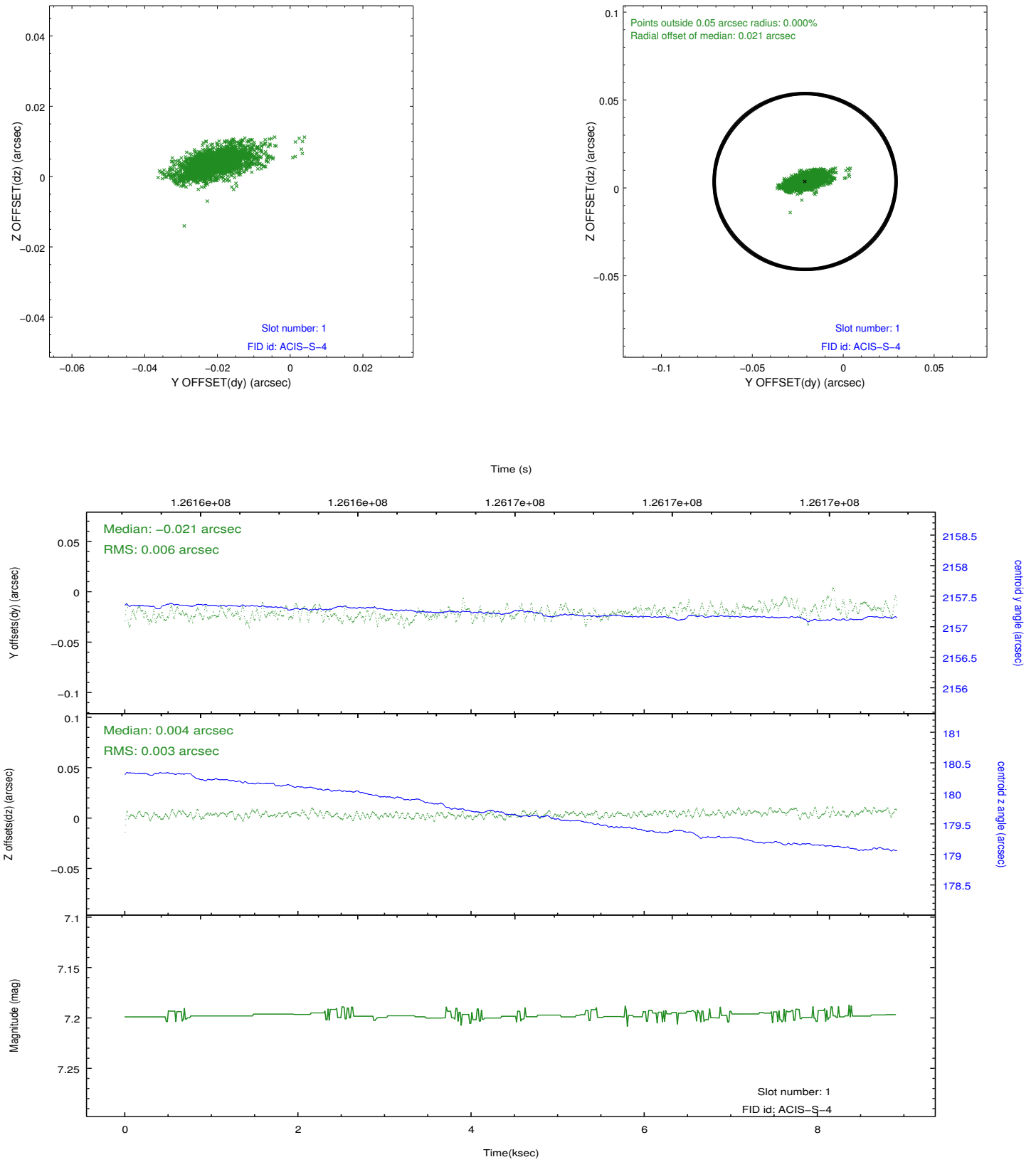


2.5 FID Slots

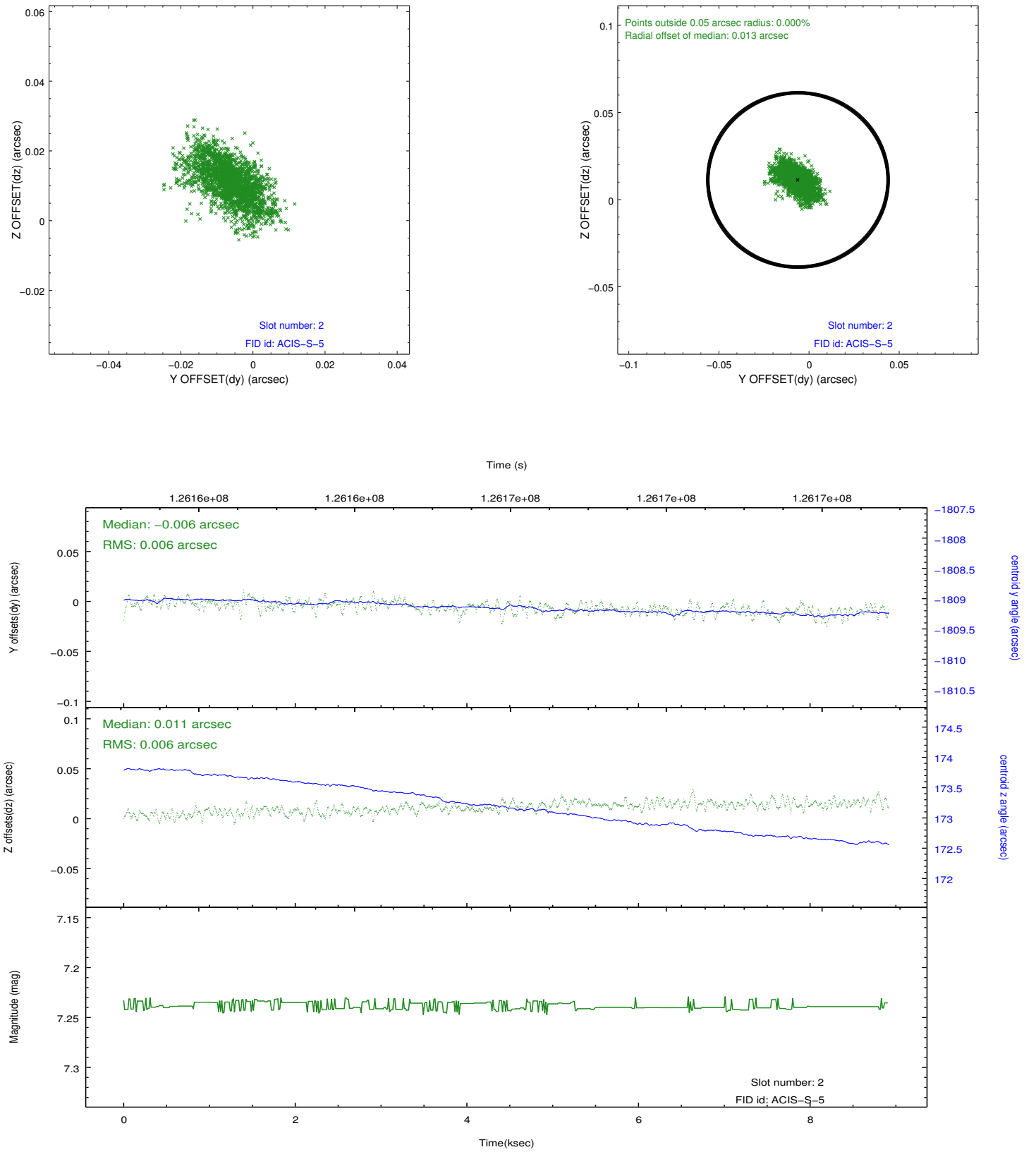
2.5.1 Slot 0



2.5.2 Slot 1

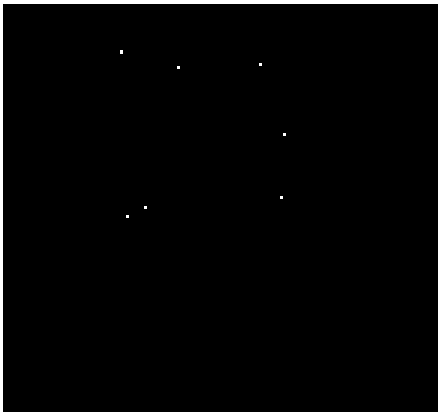


2.5.3 Slot 2

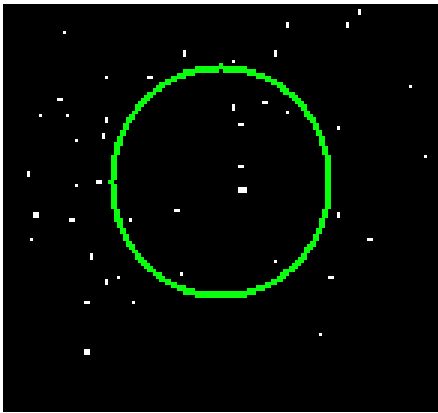


3 Gratings

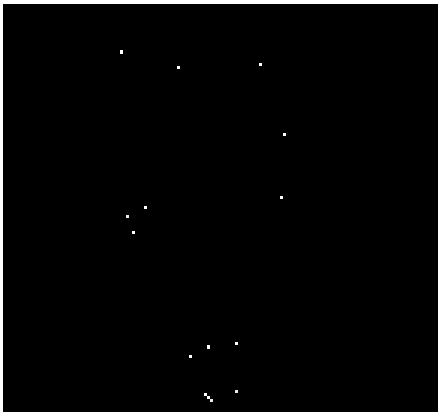
3.1 LETG Arm



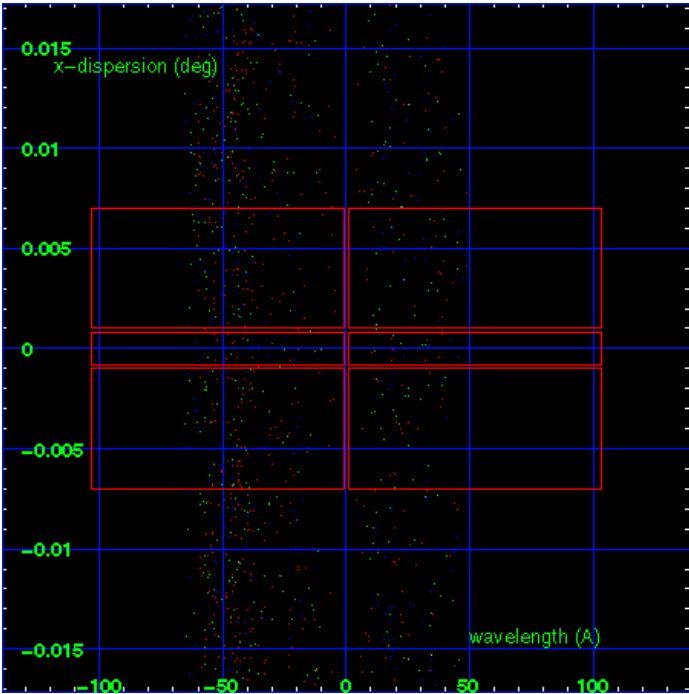
LETG Order Sort 123



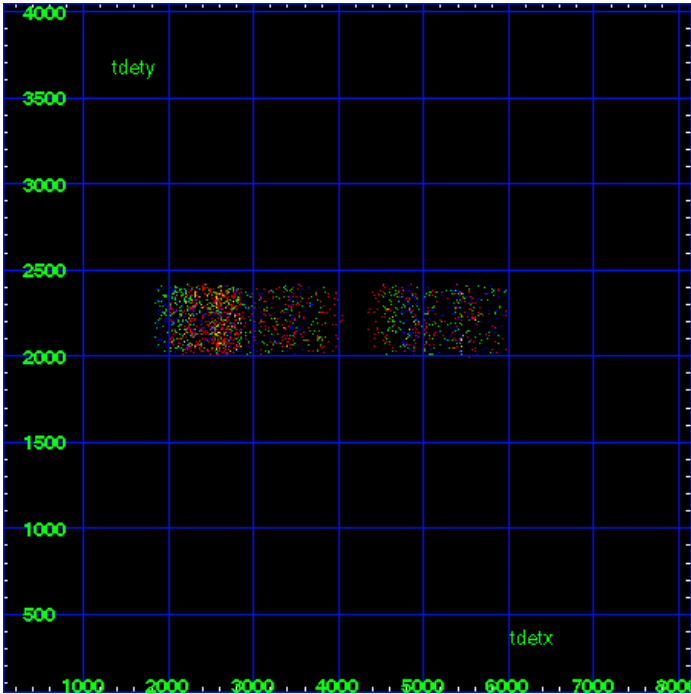
LETG Zero Order



LETG Order Sort ALL

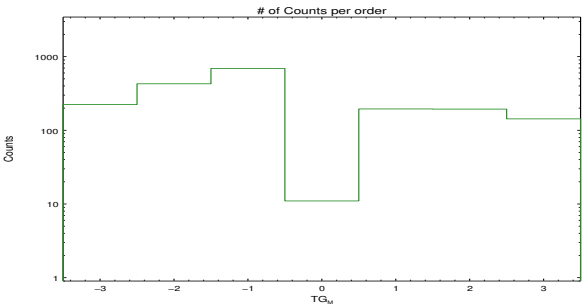


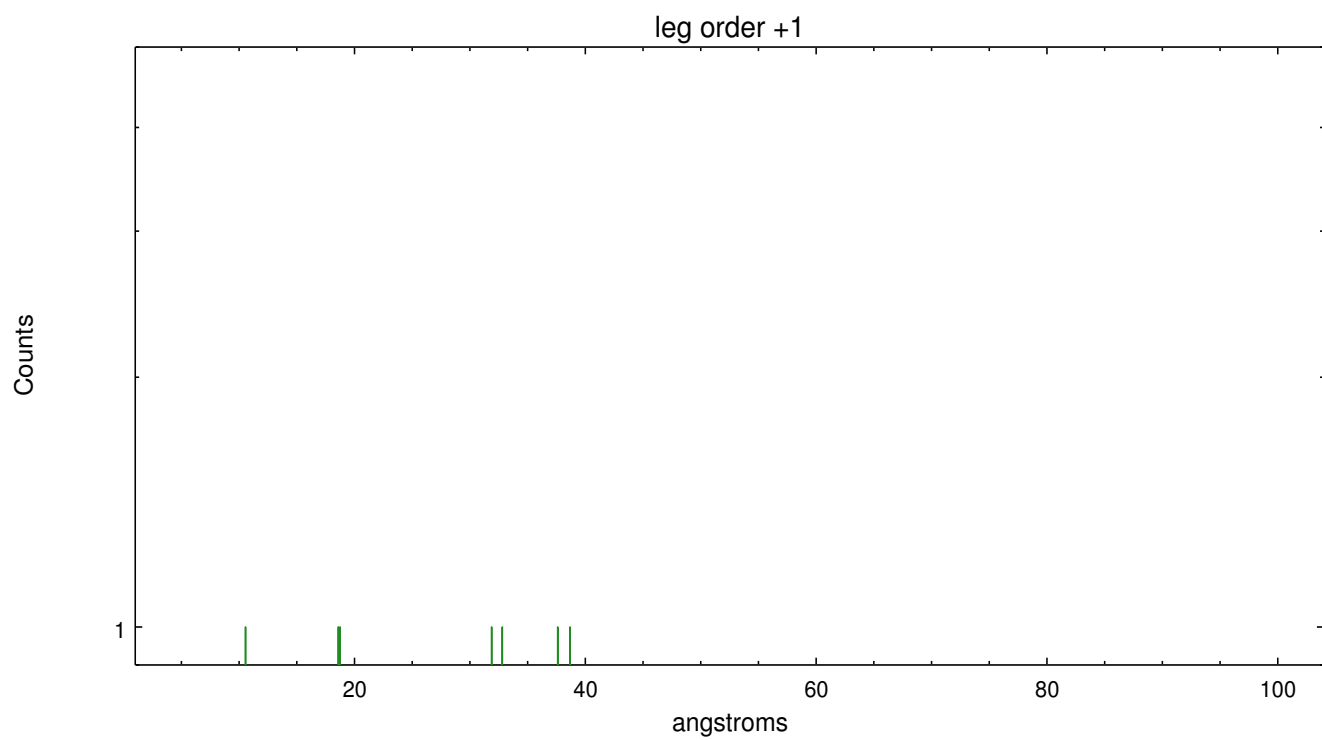
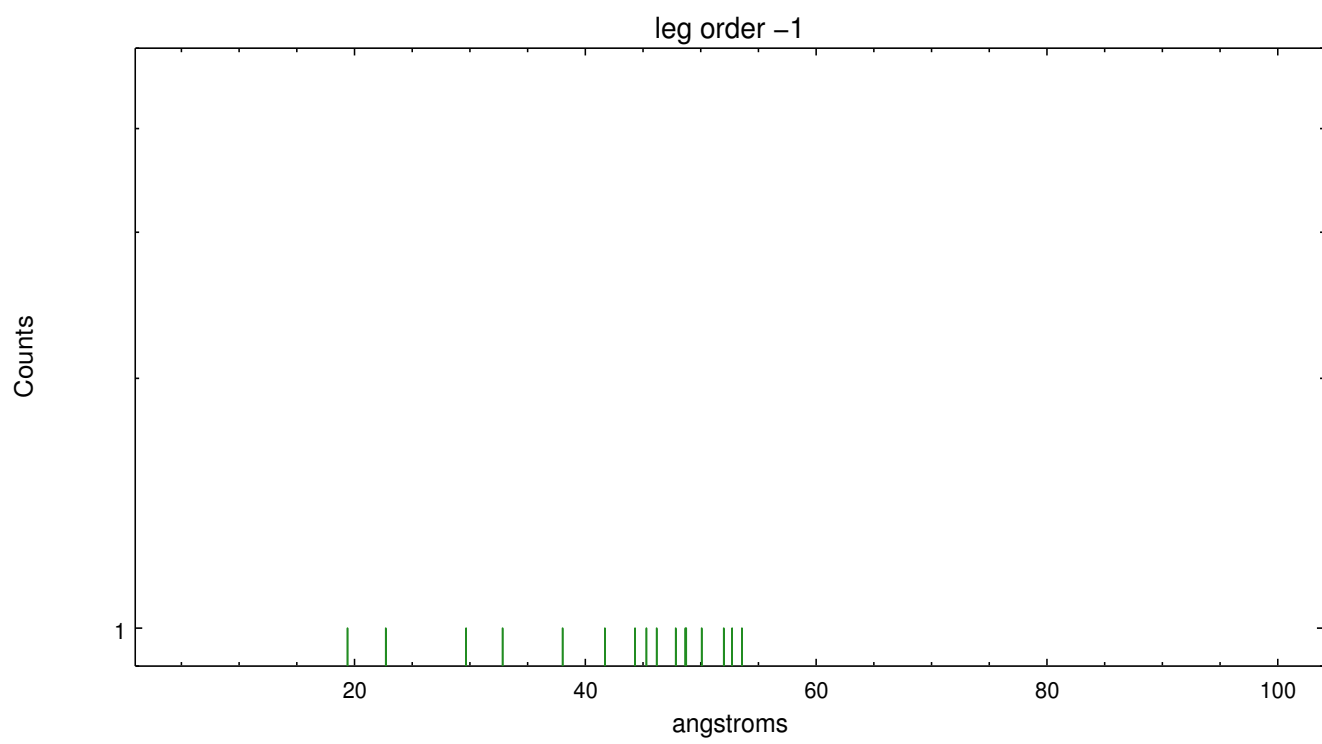
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	224	428	689	11	195	194	143





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.10.05
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	8.809

A.2 Comments

This is an observation of a moving target. Event positions are in the reference from of Chandra, not of the comet. Users should run a software tool such as sso_freeze to reposition the events in the reference from of the comet, then run normal data analysis tools such as tgdetect and spectral extraction.

===

Energy filter allowed only events with energies 0.1 to 2.0 keV to be recorded.

===

Streak on chip 8 is not fully removed with pipeline processing. Additional analysis procedures by the user may improve the uniformity of chip 8.

===

Standard software processing technique using the tool tgdetect failed to determine an accurate position for the zeroth order for this observation. The target is moving through the field of view during the observation. The processing software defaulted to the coordinates supplied by the user for the position of the zeroth order for the grating spectral extraction. Spectra products from this processing, which does not include sso_freeze, are not useful.