

V&V Reference Report

L2 ASCDS Version : 10.3.3

Observation 17147 - L2 Version 1
Chandra X-Ray Center

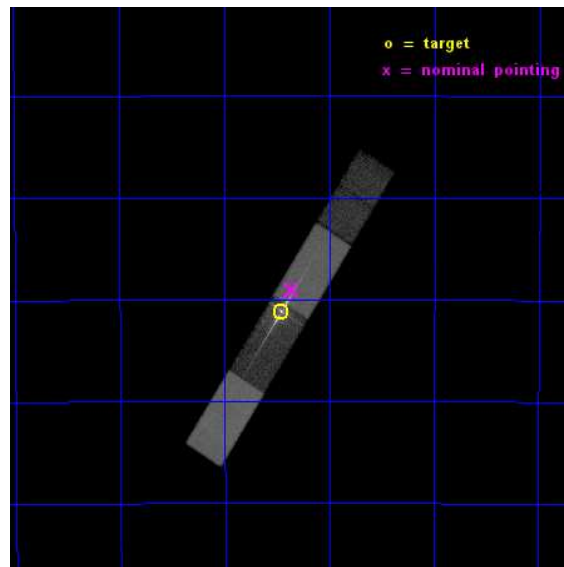
L2 Processing Date : May 14 2015

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1 Front

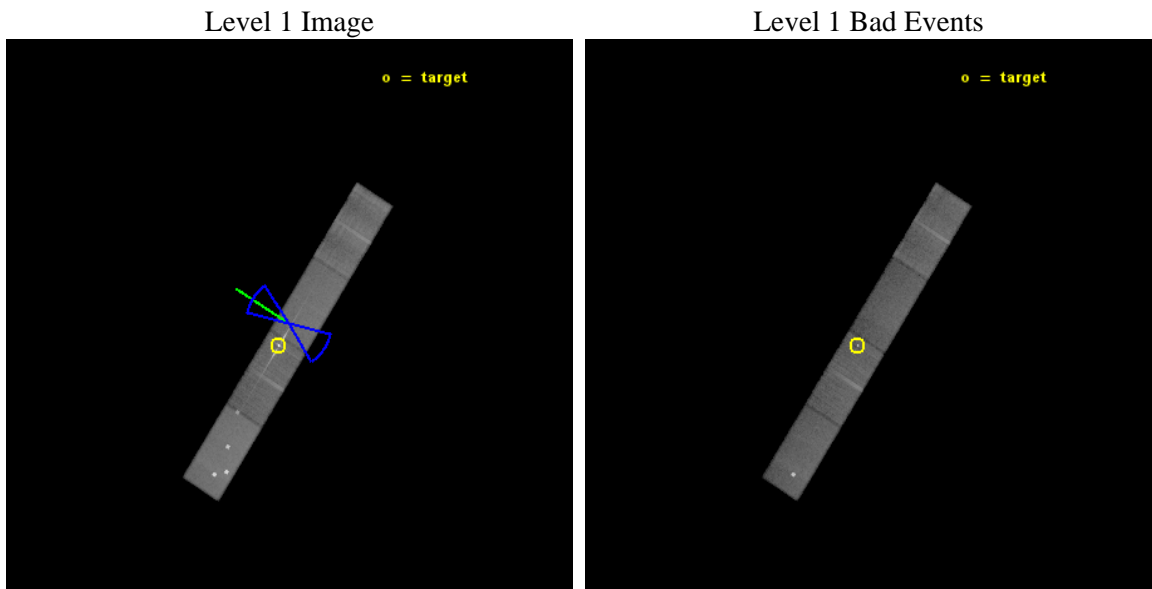
seq_num	703136	Sequence number
obs_id	17147	Observation id
title	Diffuse Extended Emission in Centaurus A: The best case with which to study AGN/Host Galaxy Interaction	Proposal title
observer	Dr. Alex Markowitz	Principal investigator
object	Centaurus A	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	201.365	Observer's specified target RA [deg]
dec_targ	-43.019167	Observer's specified target Dec [deg]
ra_nom	201.34064148273	Nominal RA [deg]
dec_nom	-42.984171030191	Nominal Dec [deg]
roll_nom	302.14001596319	Nominal Roll [deg]
revision	1	Processing version of data
ontime	49703.821897507	Sum of GTIs [s]
livetime	48460.802318049	Livetime [s]
ontime5	49705.503967524	Sum of GTIs [s]
ontime6	49703.821897507	Sum of GTIs [s]
ontime7	49705.545007467	Sum of GTIs [s]
ontime8	49705.421887517	Sum of GTIs [s]
l2events	255930	Number of level 2 events



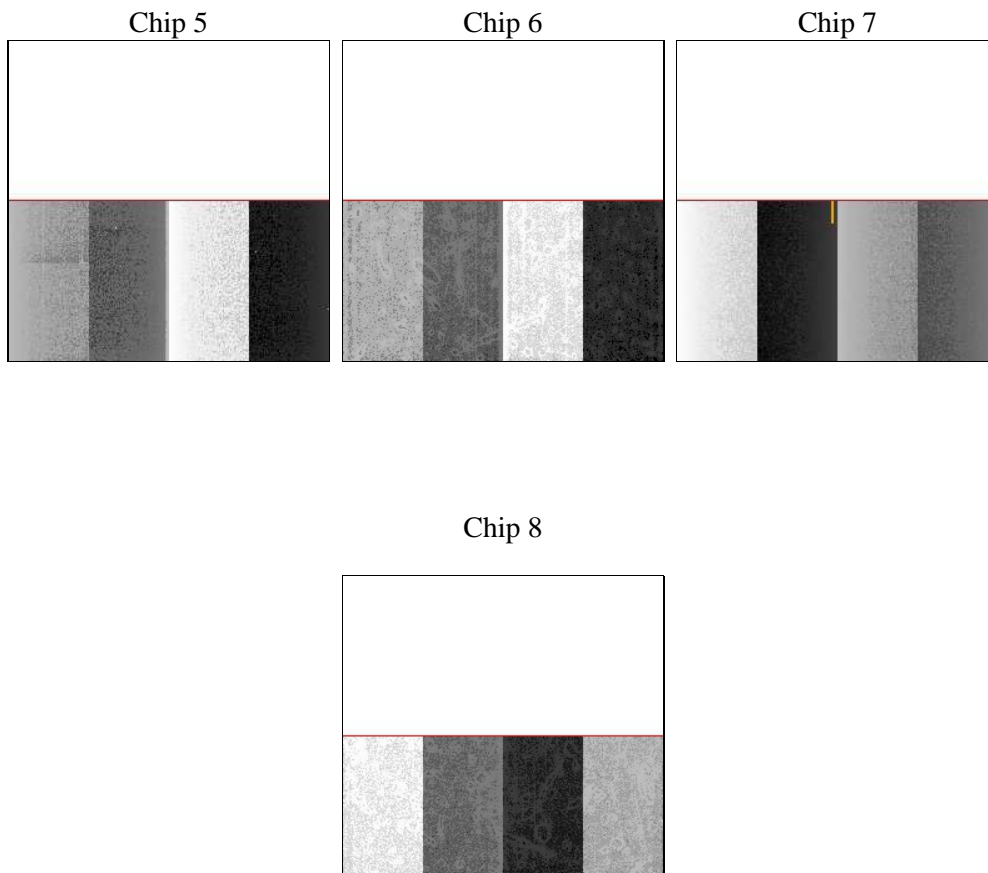
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	49650.000000	[s] Scheduled observation exposure time
ascdsver	10.3.3	Processing system revision	ontime	49703.821897507	Sum of GTIs [s]
caldsver	4.6.7	 	ontime5	49705.503967524	Sum of GTIs [s]
date	2015-05-14T15:00:13	Date and time of file creation	ontime6	49703.821897507	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	49705.545007467	Sum of GTIs [s]
			ontime8	49705.421887517	Sum of GTIs [s]
			l1events	781616	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			zo_pos	(3965.76, 3841.34)	src1a sky pixel position
			zo_pos_tgd	(3966.00, 3840.72)	src1a sky pixel position via todetect

2.1.4 Events

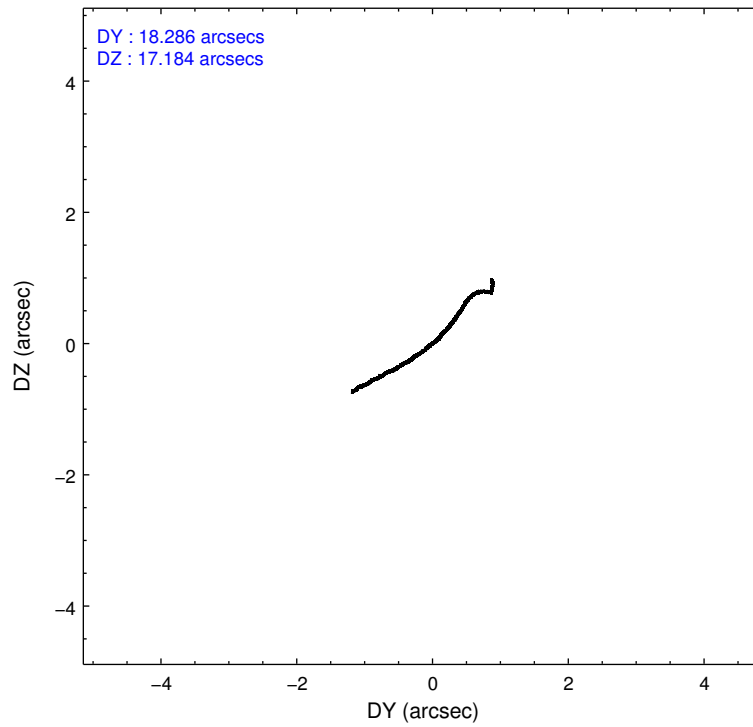
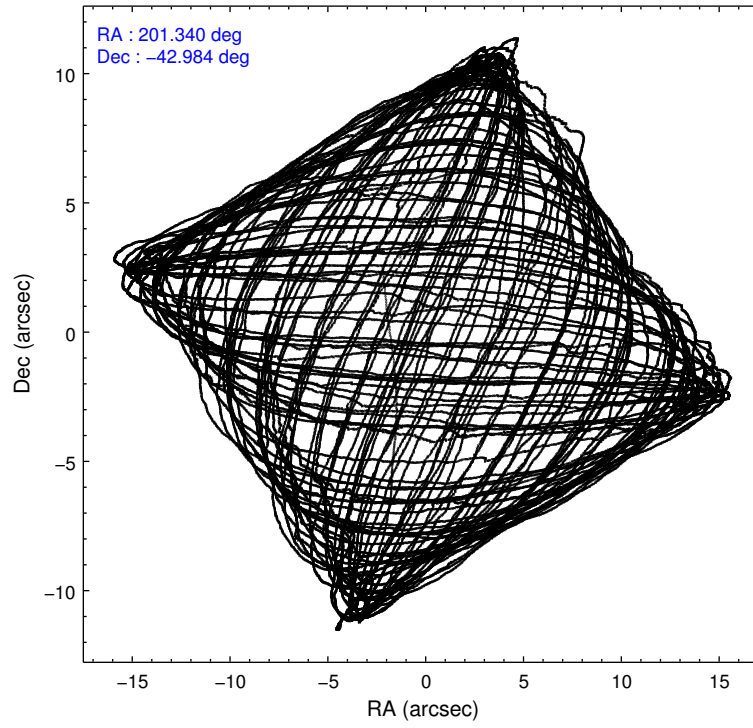
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	253751	184474	176309	167082
rejected events	113870	114636	90763	122971
rejected %	44%	62%	51%	73%

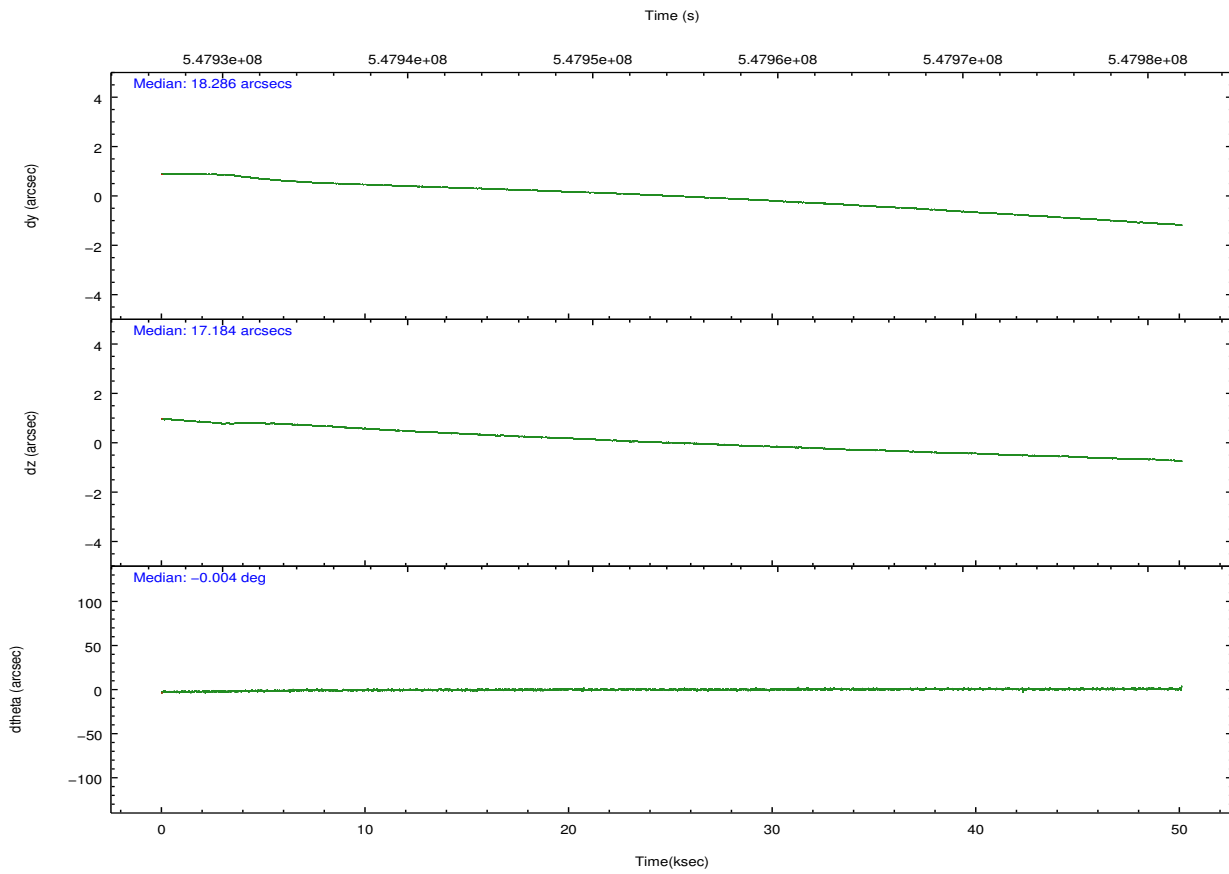
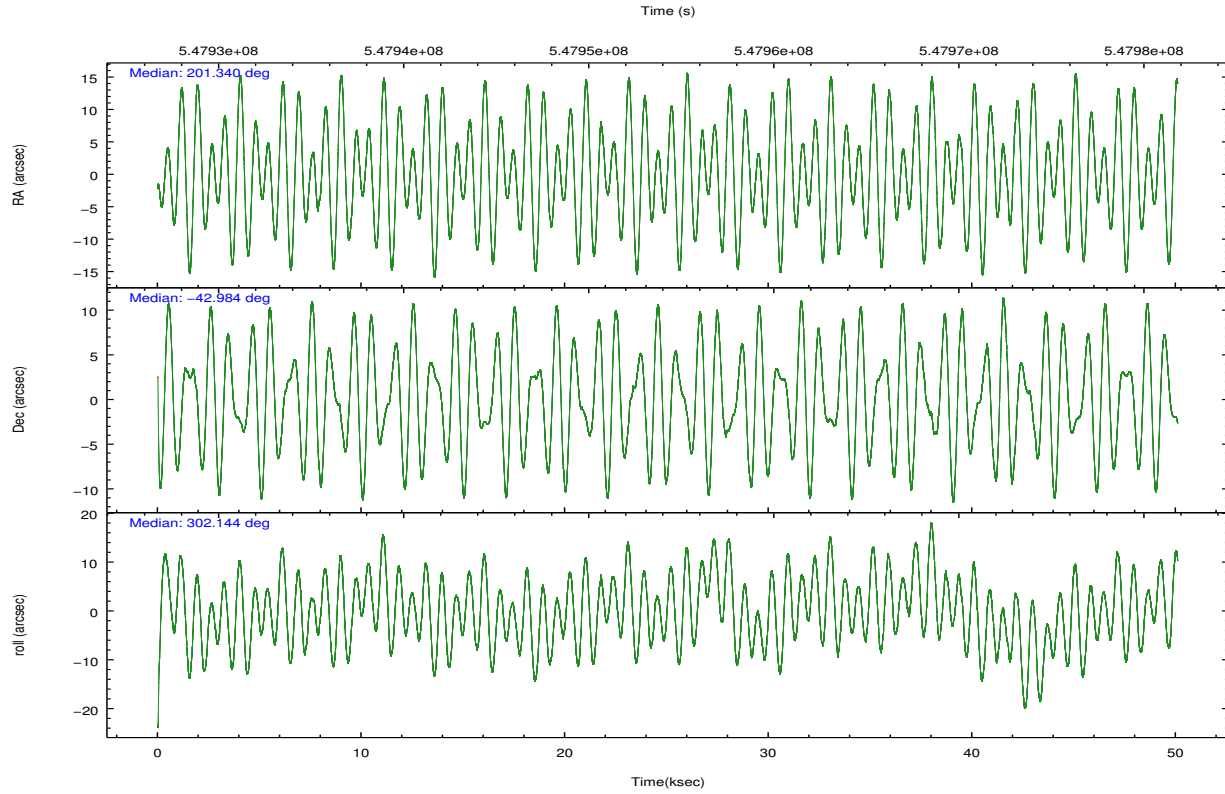
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	44558	35653	8389	11716
	17%	19%	4%	7%
grade 1 events	319	935	186	86
	0%	0%	0%	0%
grade 2 events	32937	12430	17962	10191
	12%	6%	10%	6%
grade 3 events	7170	5060	8213	4976
	2%	2%	4%	2%
grade 4 events	5232	4989	8015	4814
	2%	2%	4%	2%
grade 5 events	23721	7199	16956	8612
	9%	3%	9%	5%
grade 6 events	49992	11707	42974	12414
	19%	6%	24%	7%
grade 7 events	89822	106501	73614	114273
	35%	57%	41%	68%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-5678	ACIS-5678	Obspar file type	PREDICTED	ACTUAL
Grating	LETG	LETG	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	201.307252	201.340641482733	Subarray requested	CUSTOM	1/2
[deg] Pointing Dec	-42.971670	-42.98417103019086	Subarray start row	1	1
[deg] Pointing Roll	301.960628	302.1400159631859	Subarray row count	512	512
[deg] Roll angle	125.000000	125.000000	Alternating exposures requested	N	N
[deg] Roll tolerance	22.000000	22.000000	[s] Primary exposure time	0.000000	1.6
Roll constraint allows 180D rotation	Y	Y			
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-182.132523	-182.1344861297048			
[mm] SIM translation stage offset	-8	-7.998036453302973			
[s] Observation start time (MET)	547929682.184000	547928035.15607			
Observation start date	2015-05-13T18:40:15	2015-05-13T18:13:55			
[s] Observation end time (MET)	547979332.184000	547980411.6339999			
Observation end date	2015-05-14T08:27:45	2015-05-14T08:46:51			
Read mode	TIMED	TIMED			

2.3 Aspect





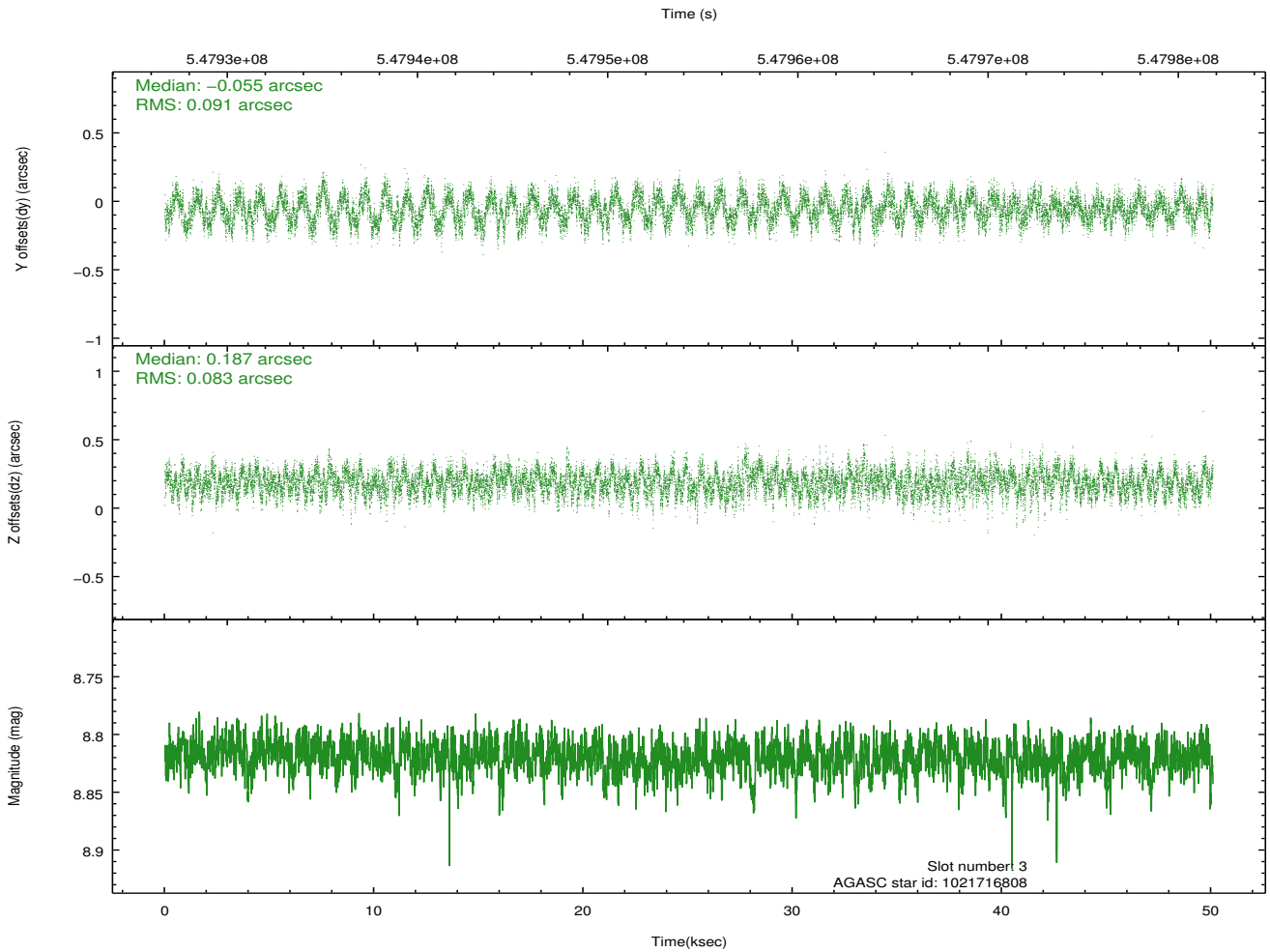
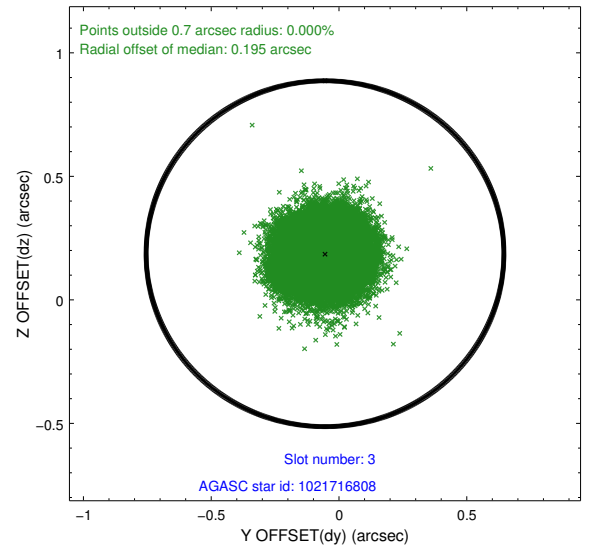
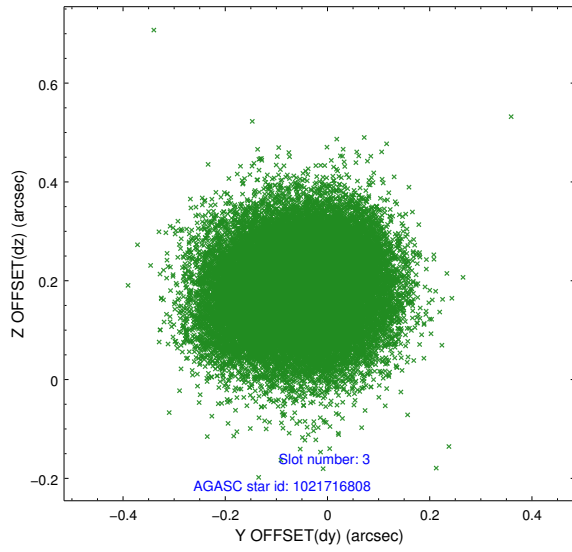
Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-1	7.07	12218	-0.023	0.174	0.011	0.025	0.000000	0.000000	925.26	-1898.92
1	FID		ACIS-S-4	7.04	12218	0.115	-0.065	0.010	0.016	0.000000	0.000000	2142.84	4.97
2	FID		ACIS-S-6	7.26	12216	-0.114	-0.097	0.010	0.018	0.000000	0.000000	391.14	642.32
3	GUIDE	used	1021716808	8.82	24426	-0.055	0.187	0.135	0.204	200.901189	-42.531395	-1912.28	-76.19
4	GUIDE	used	1021717656	8.31	24428	-0.266	-0.025	0.123	0.193	201.139642	-43.082878	106.87	-585.91
5	GUIDE	used	1021719704	7.57	24433	0.268	0.034	0.096	0.155	200.511976	-43.050426	-857.63	-1929.98
6	GUIDE	used	1021721672	9.46	24414	-0.283	-0.057	0.342	0.493	201.740358	-43.079729	935.58	758.47
7	GUIDE	used	1022235840	9.43	24371	0.367	-0.102	0.175	0.277	201.679306	-43.544276	2265.52	-268.68

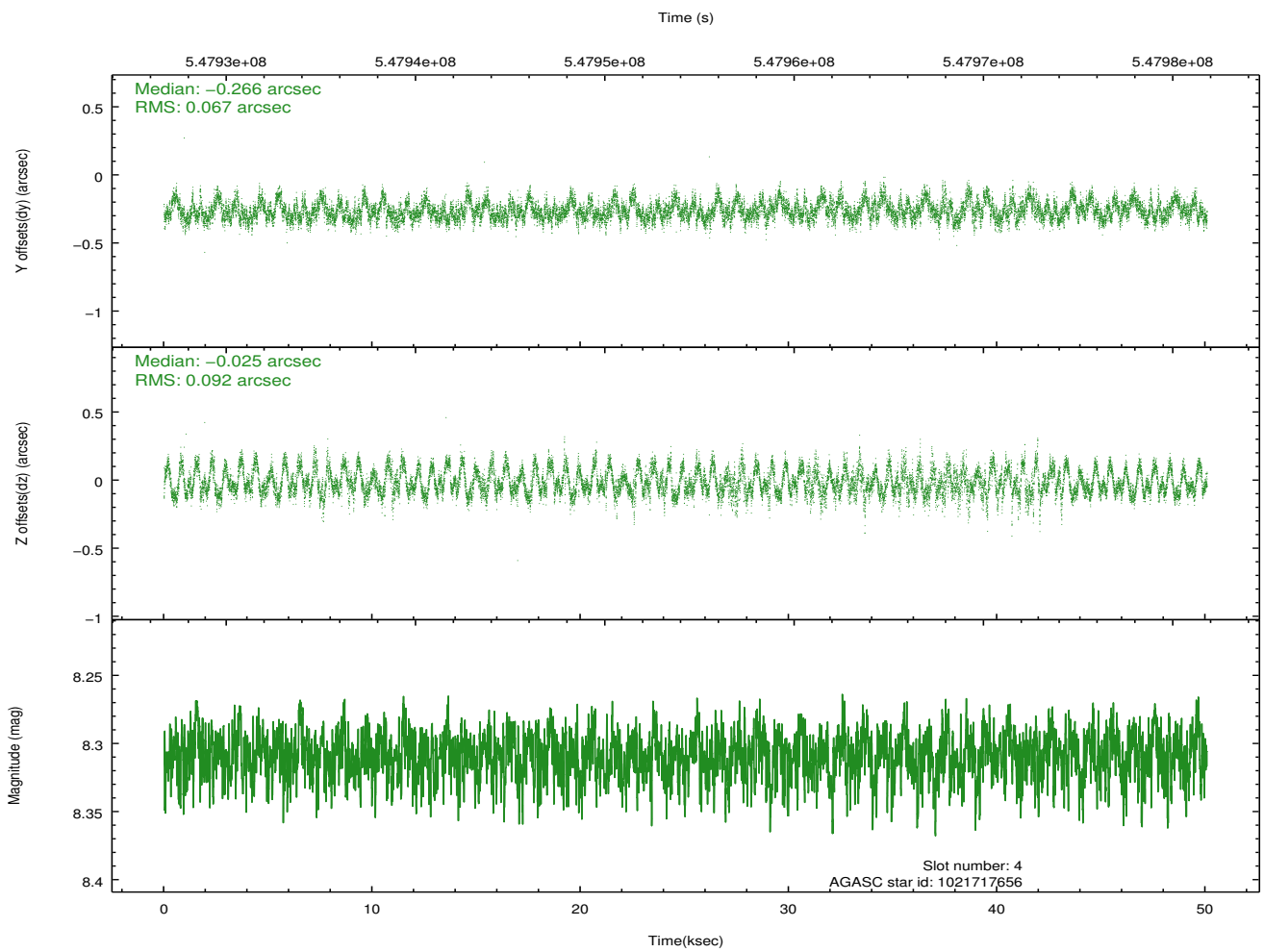
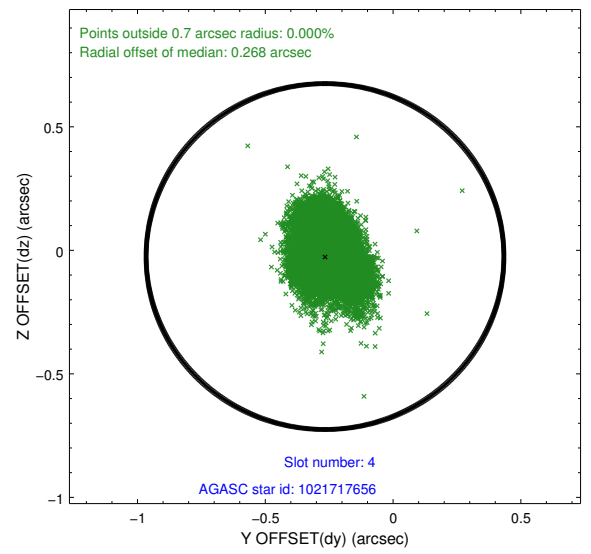
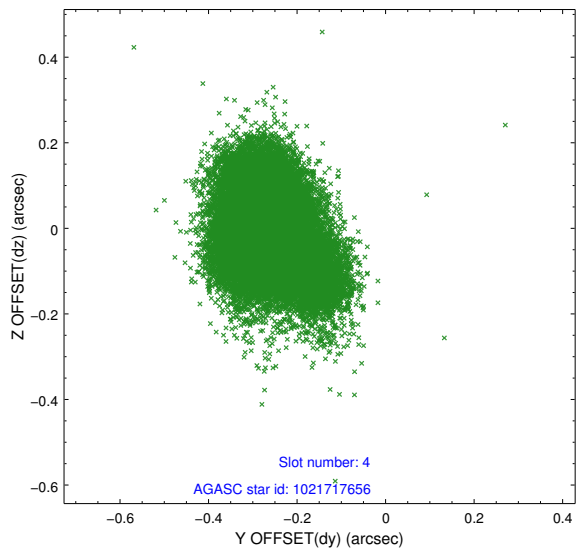
∞

2.4 Star Slots

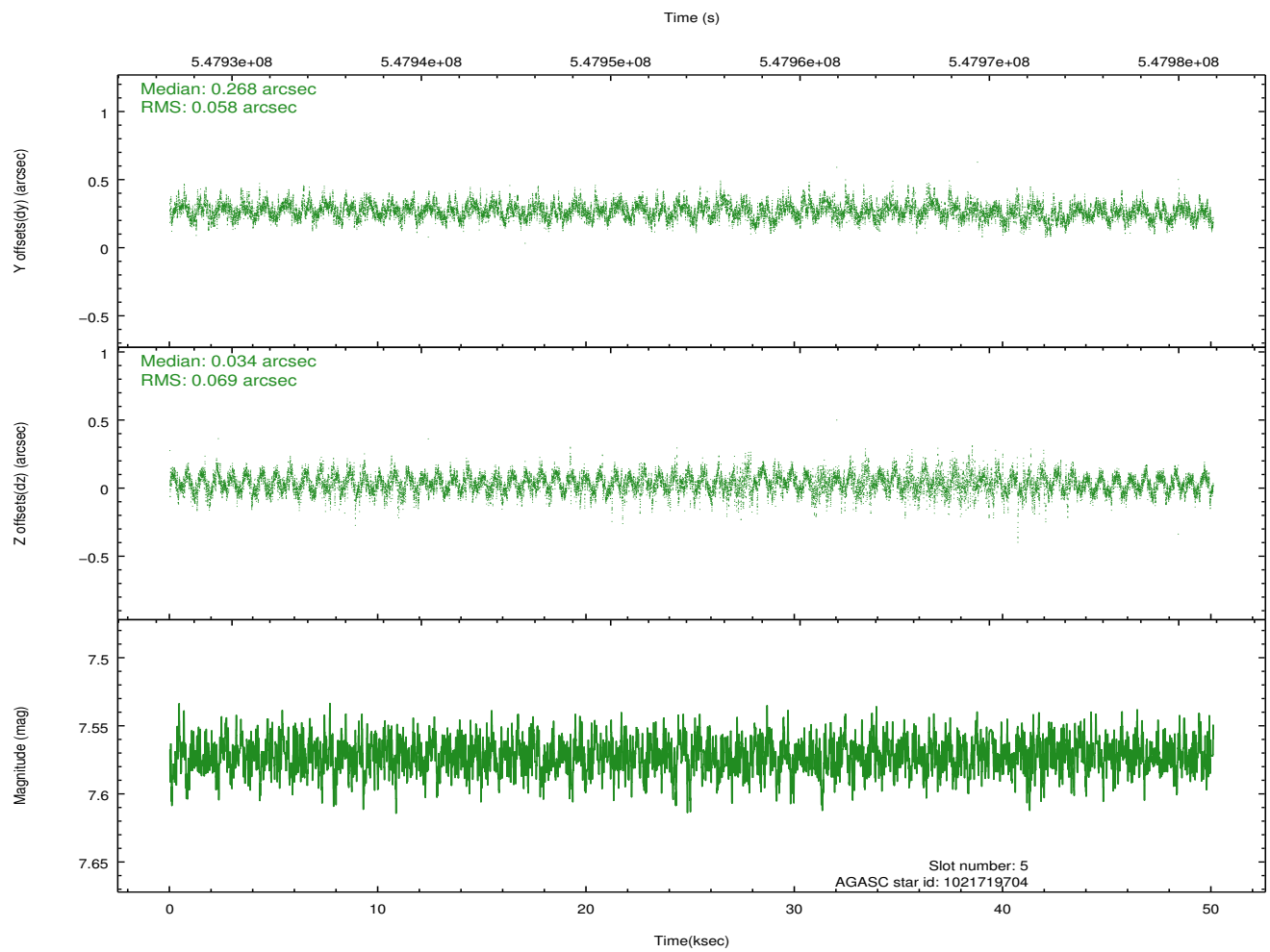
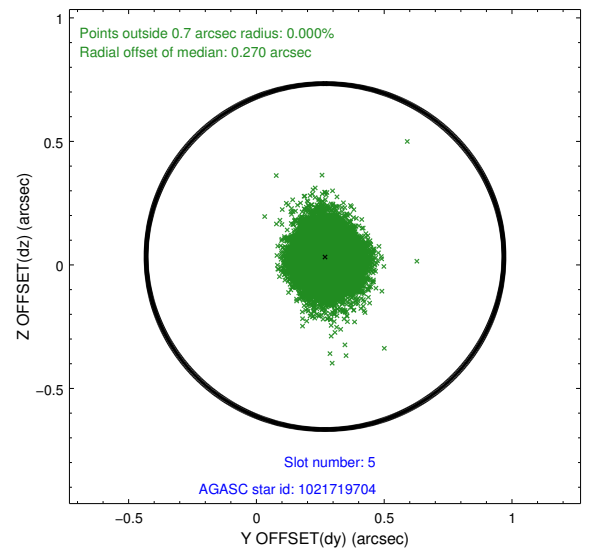
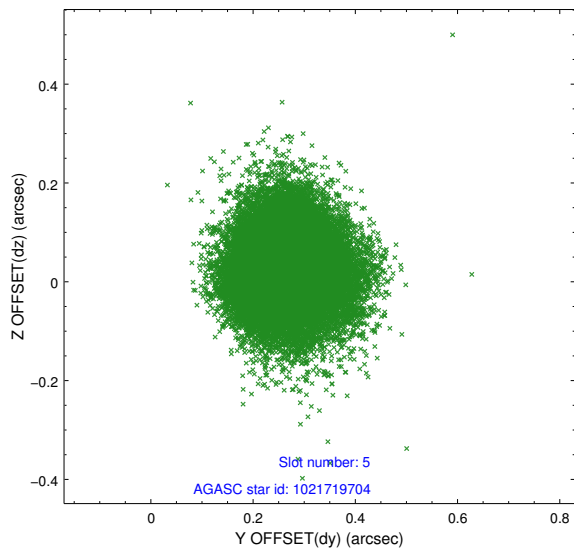
2.4.1 Slot 3



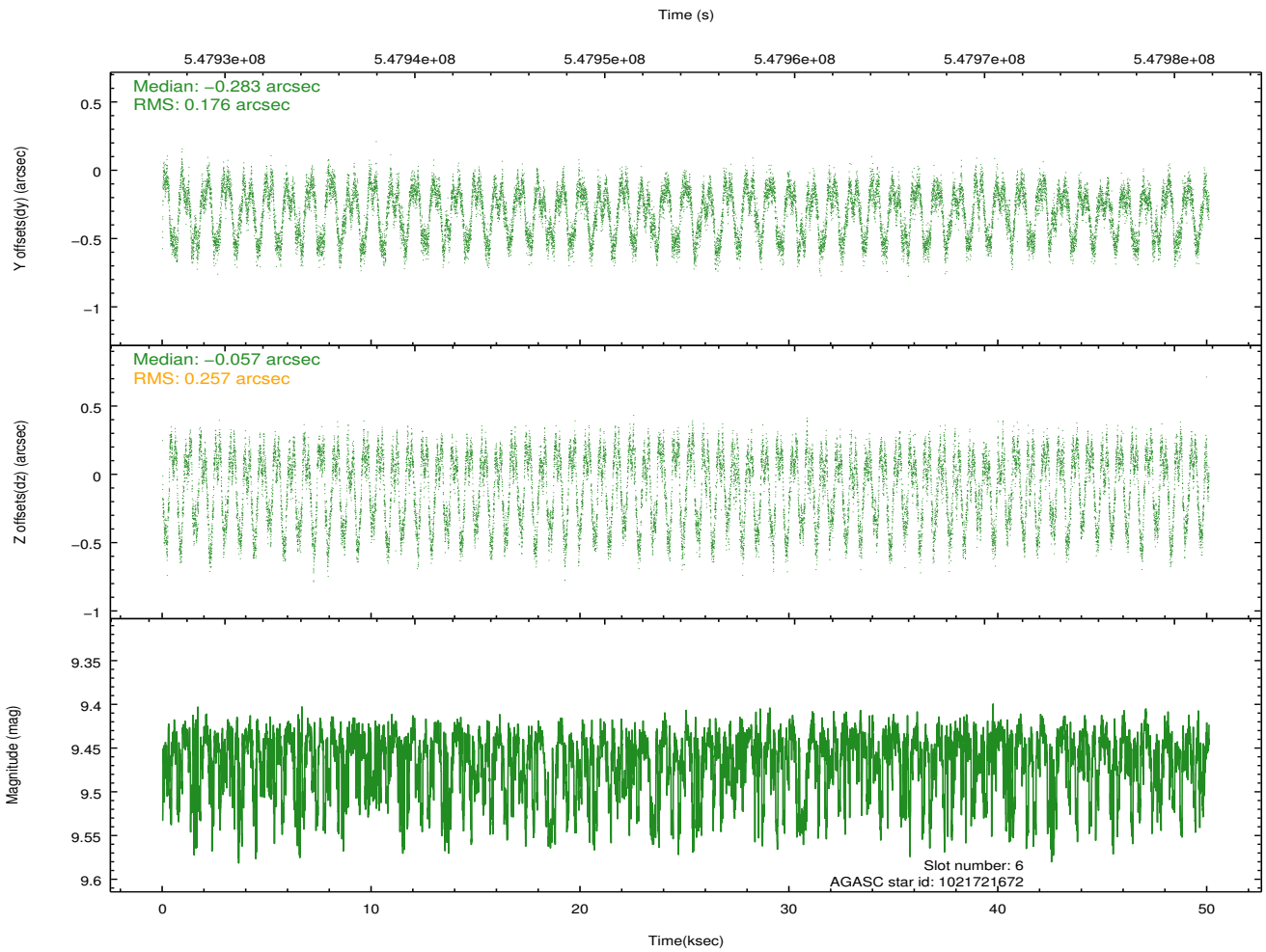
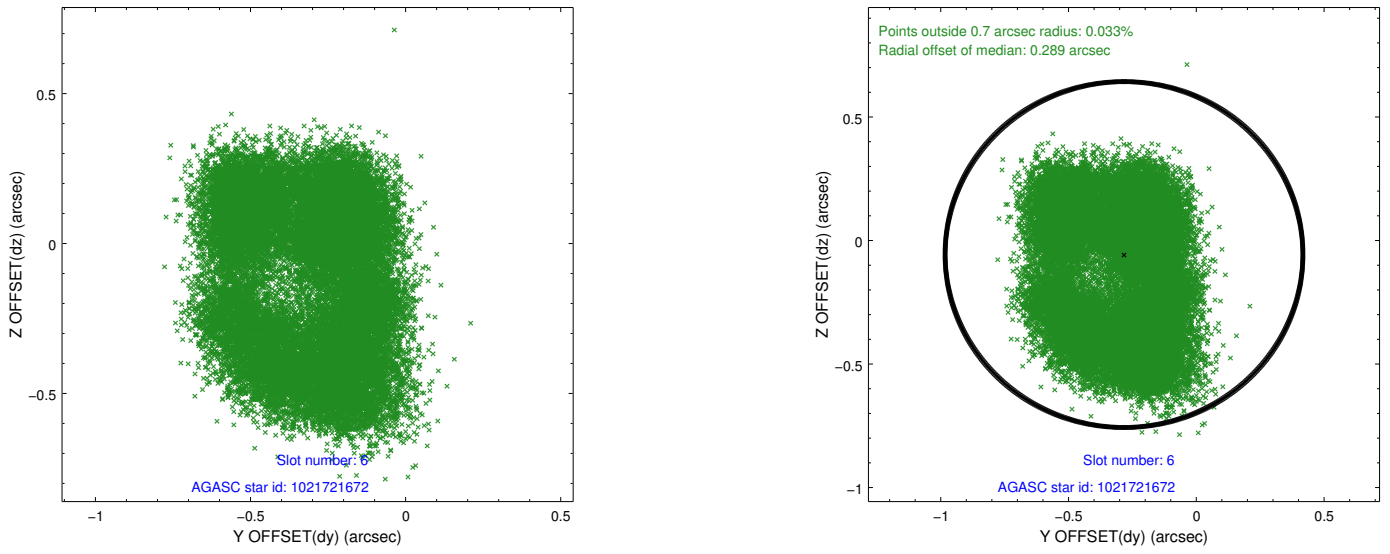
2.4.2 Slot 4



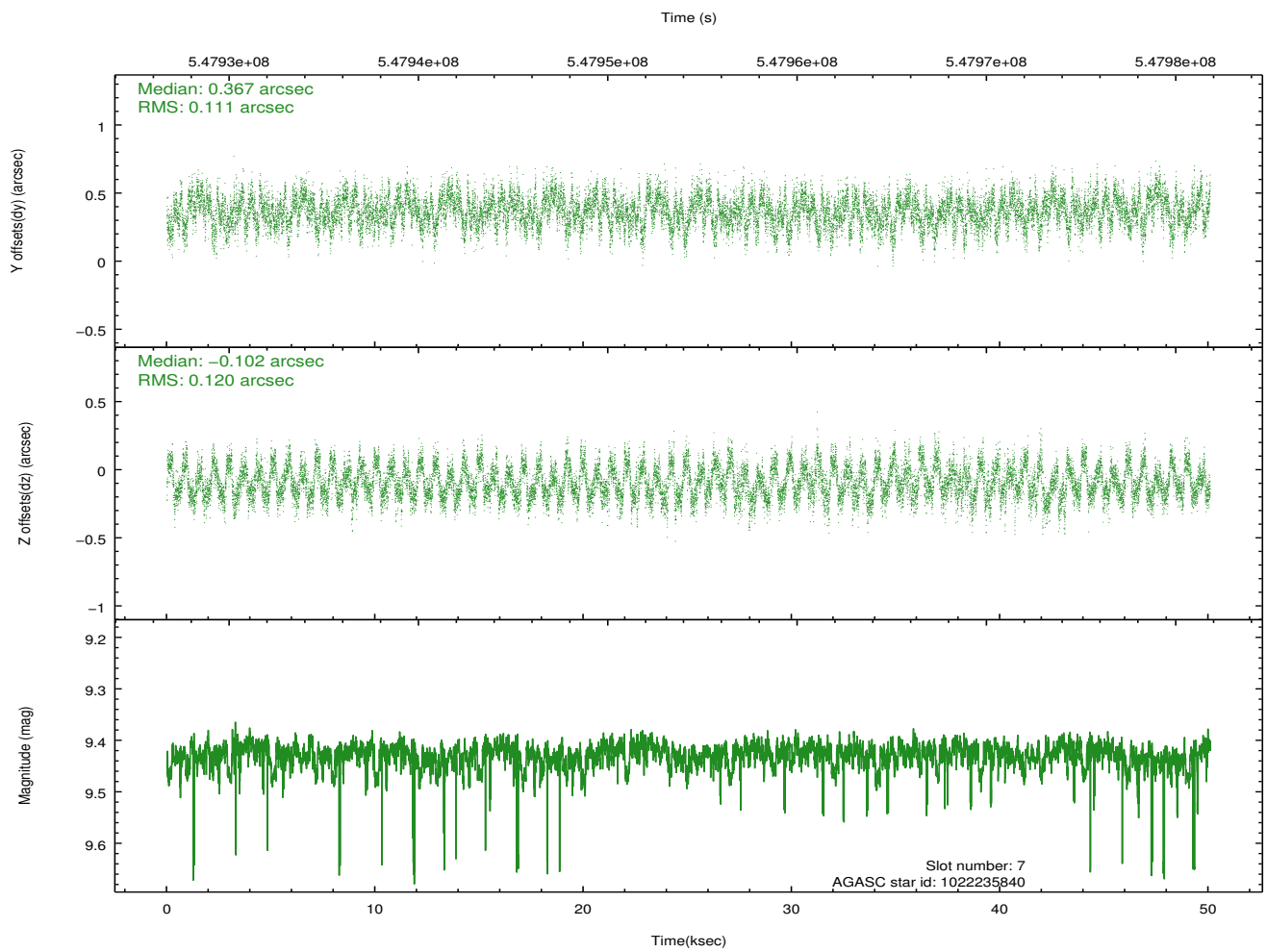
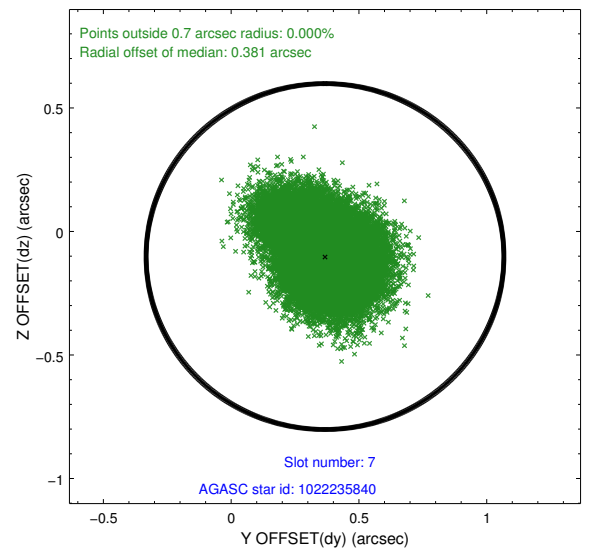
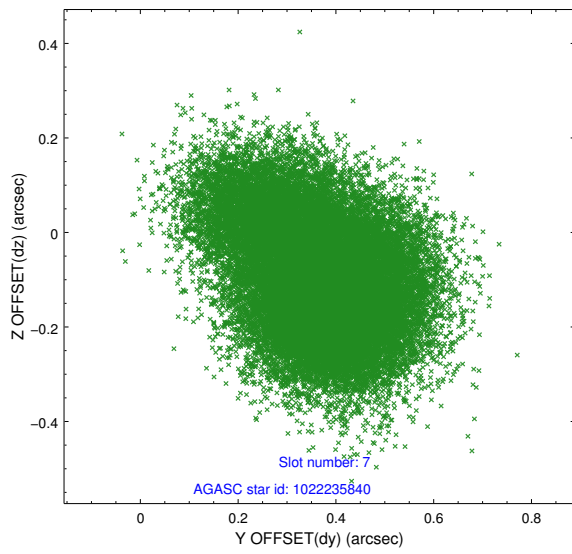
2.4.3 Slot 5



2.4.4 Slot 6

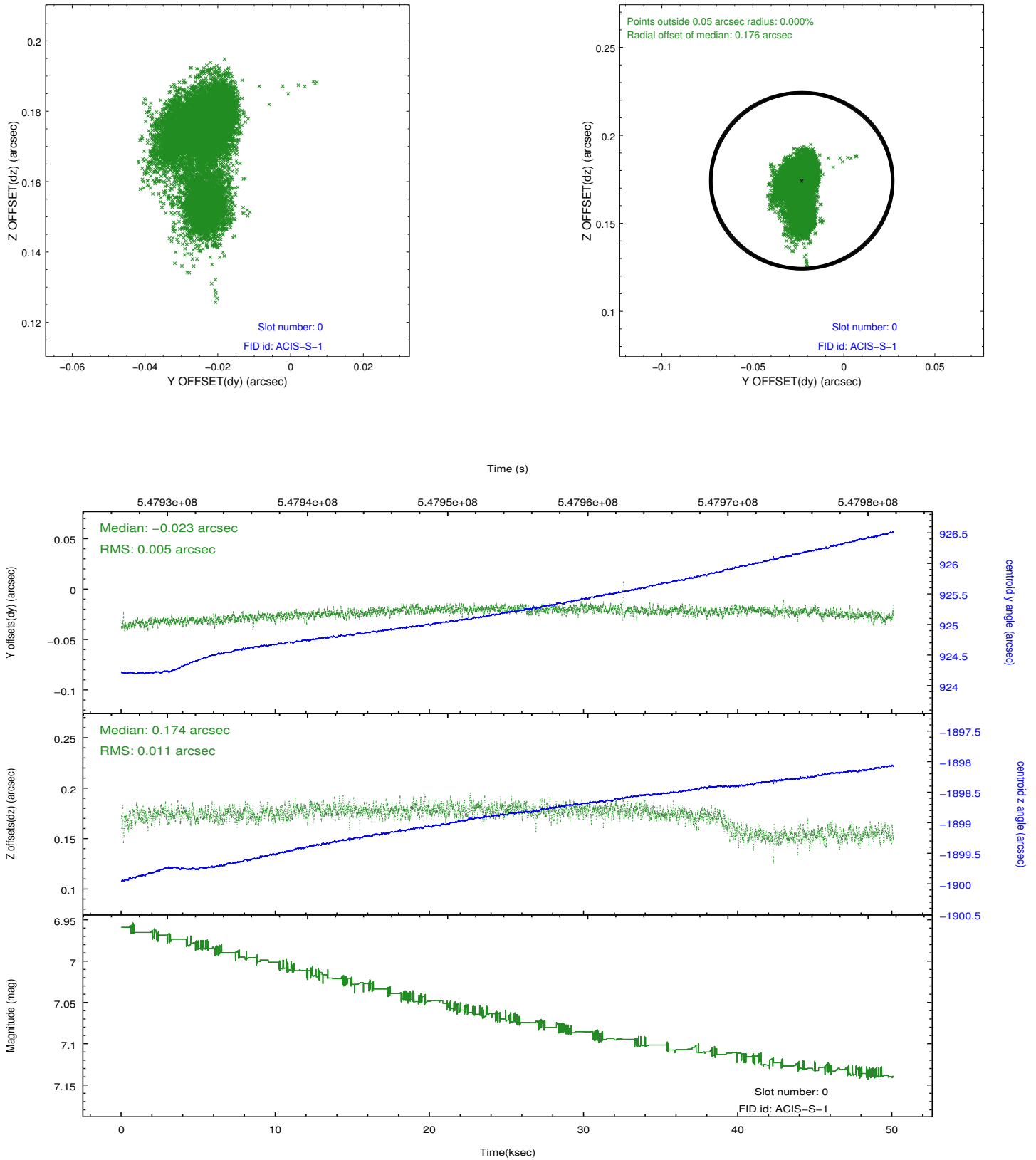


2.4.5 Slot 7

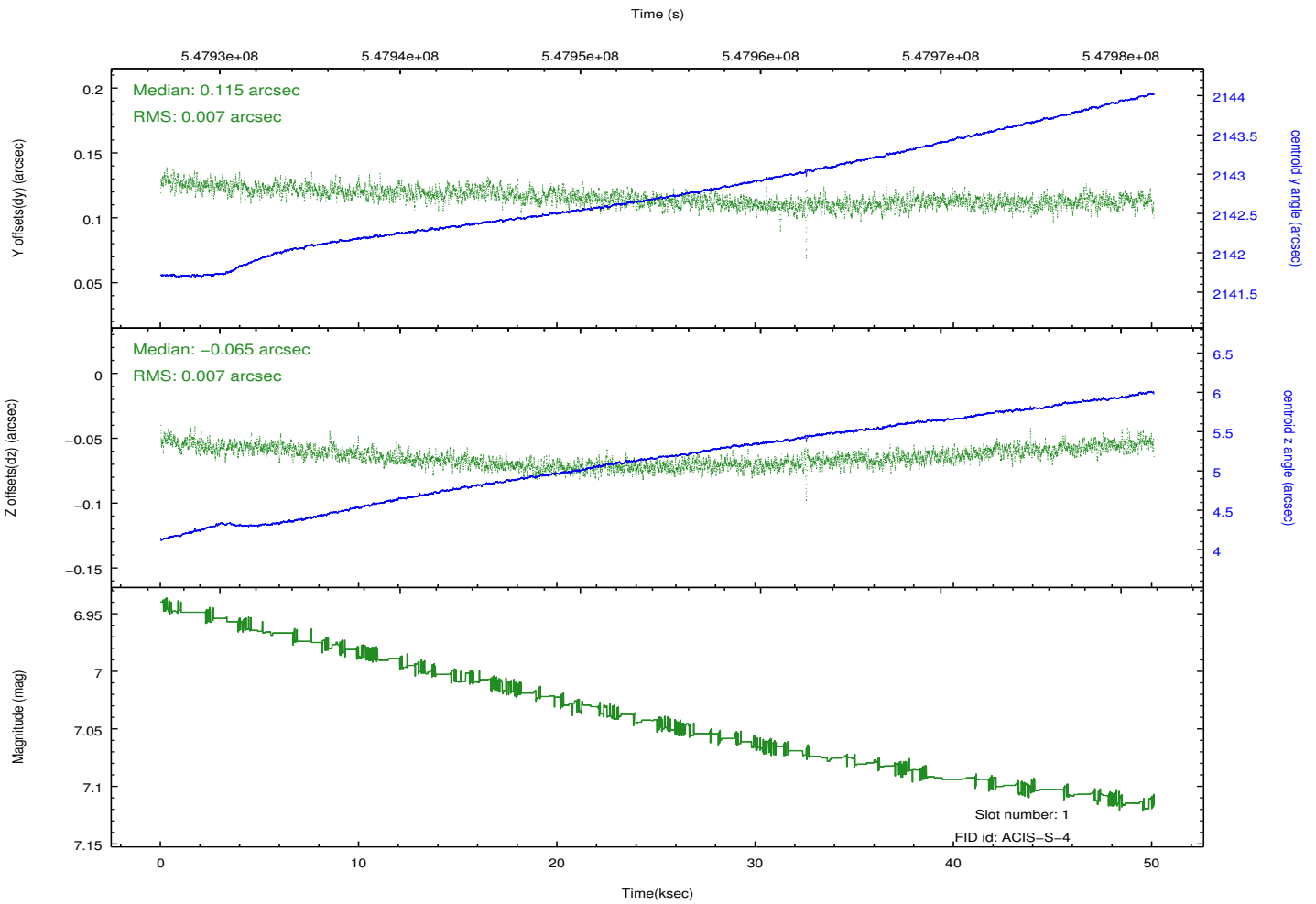
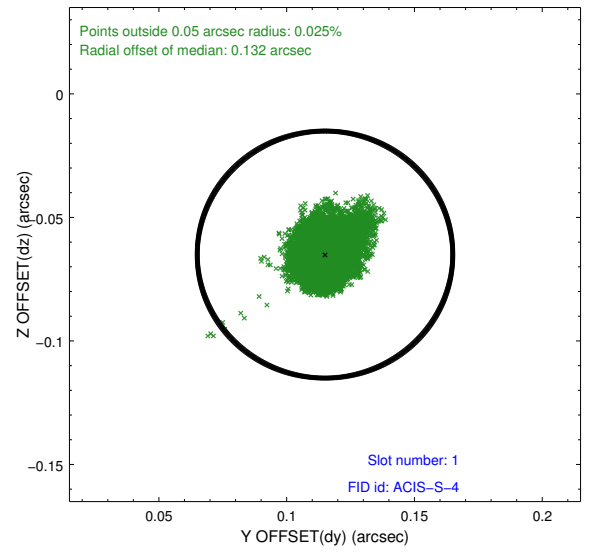
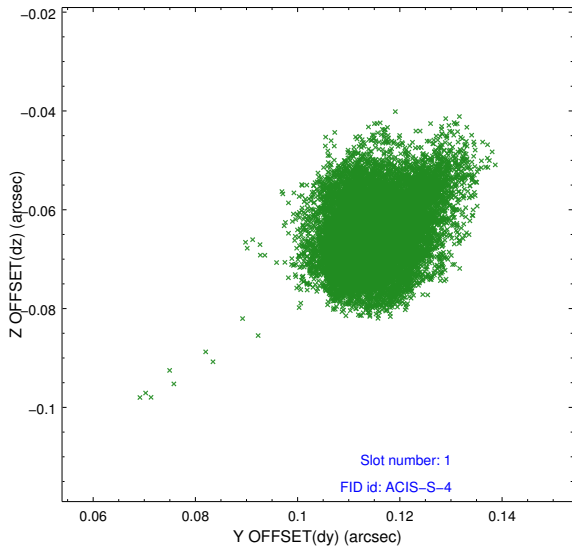


2.5 FID Slots

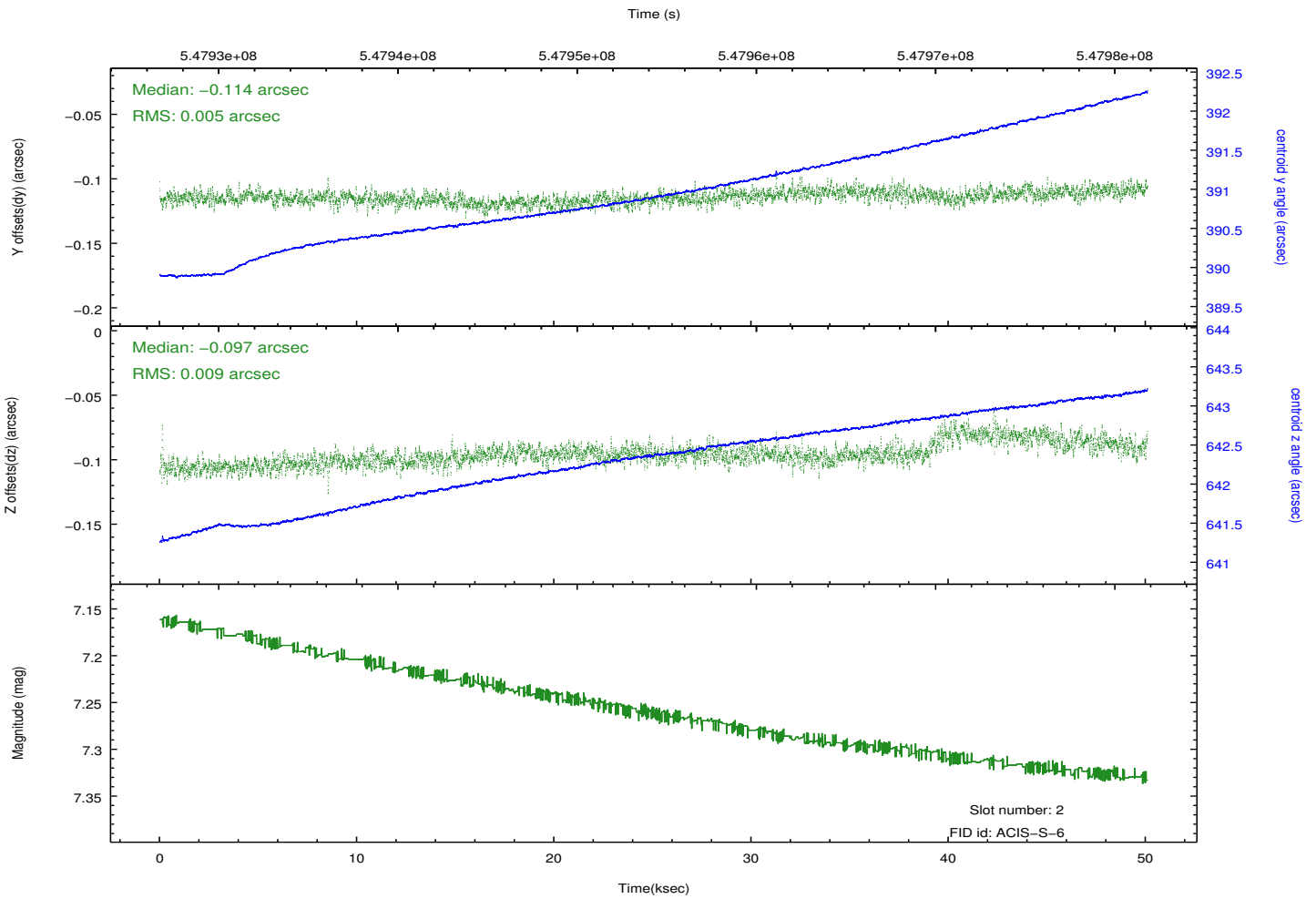
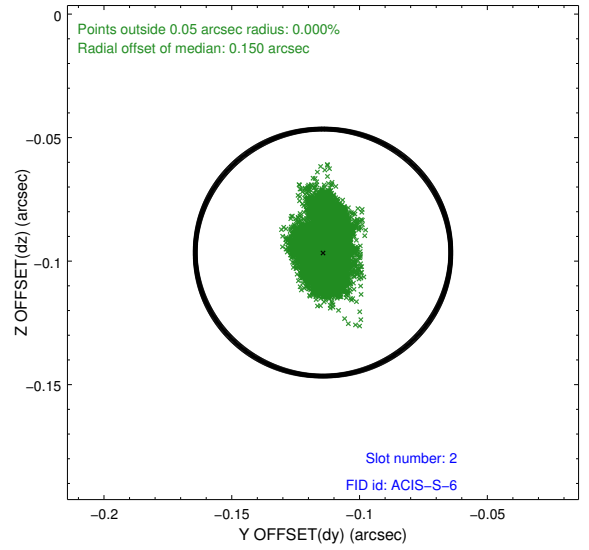
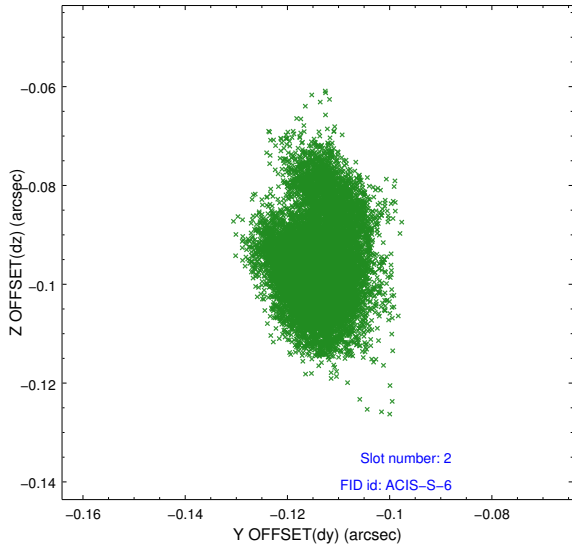
2.5.1 Slot 0



2.5.2 Slot 1

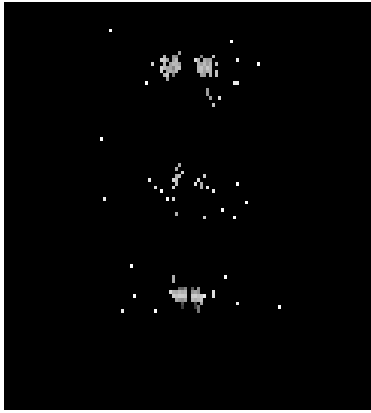


2.5.3 Slot 2

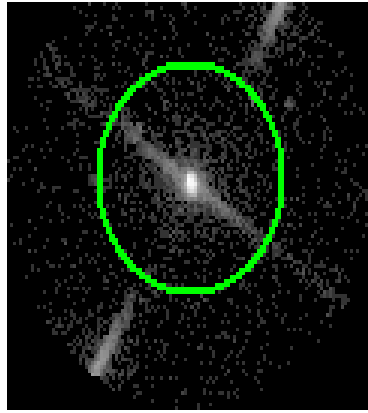


3 Gratings

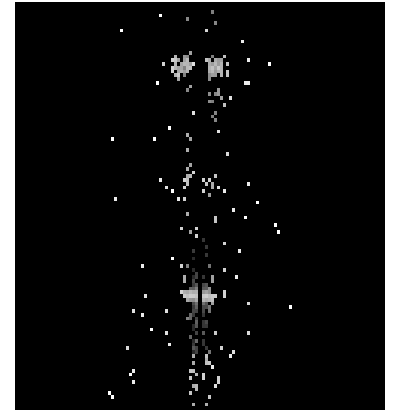
3.1 LETG Arm



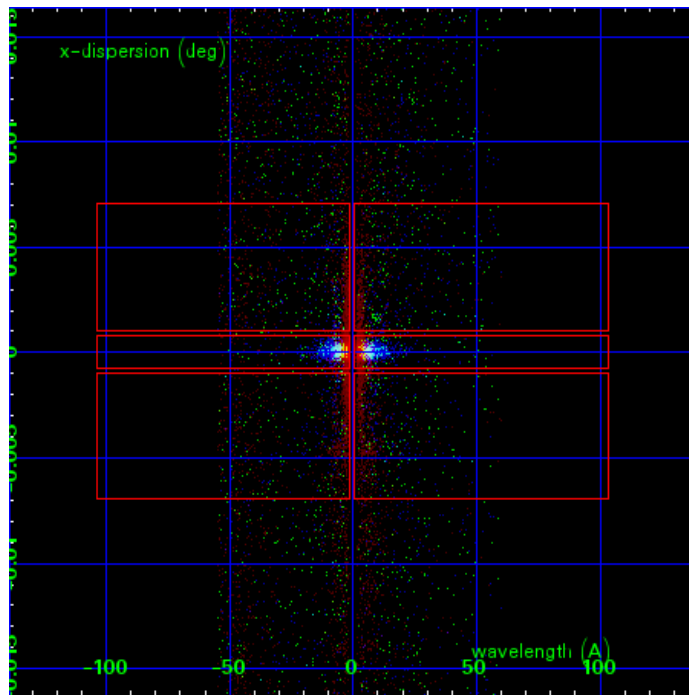
LETG Order Sort 123



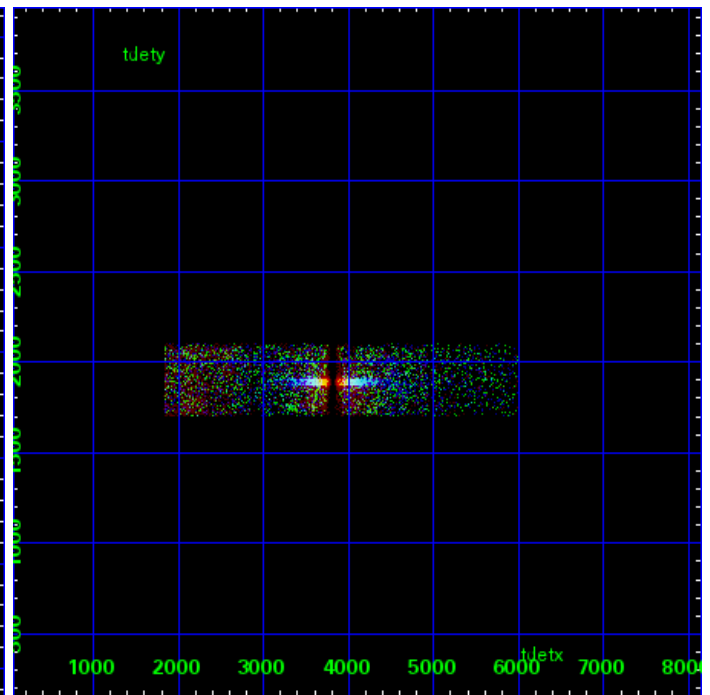
LETG Zero Order



LETG Order Sort ALL

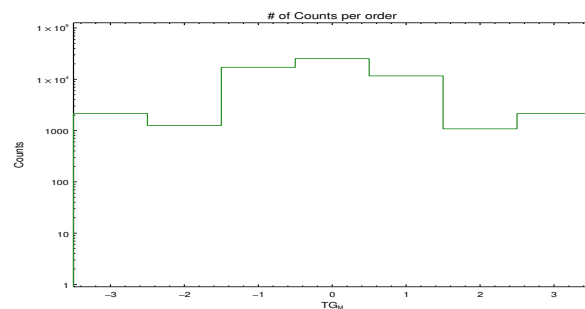


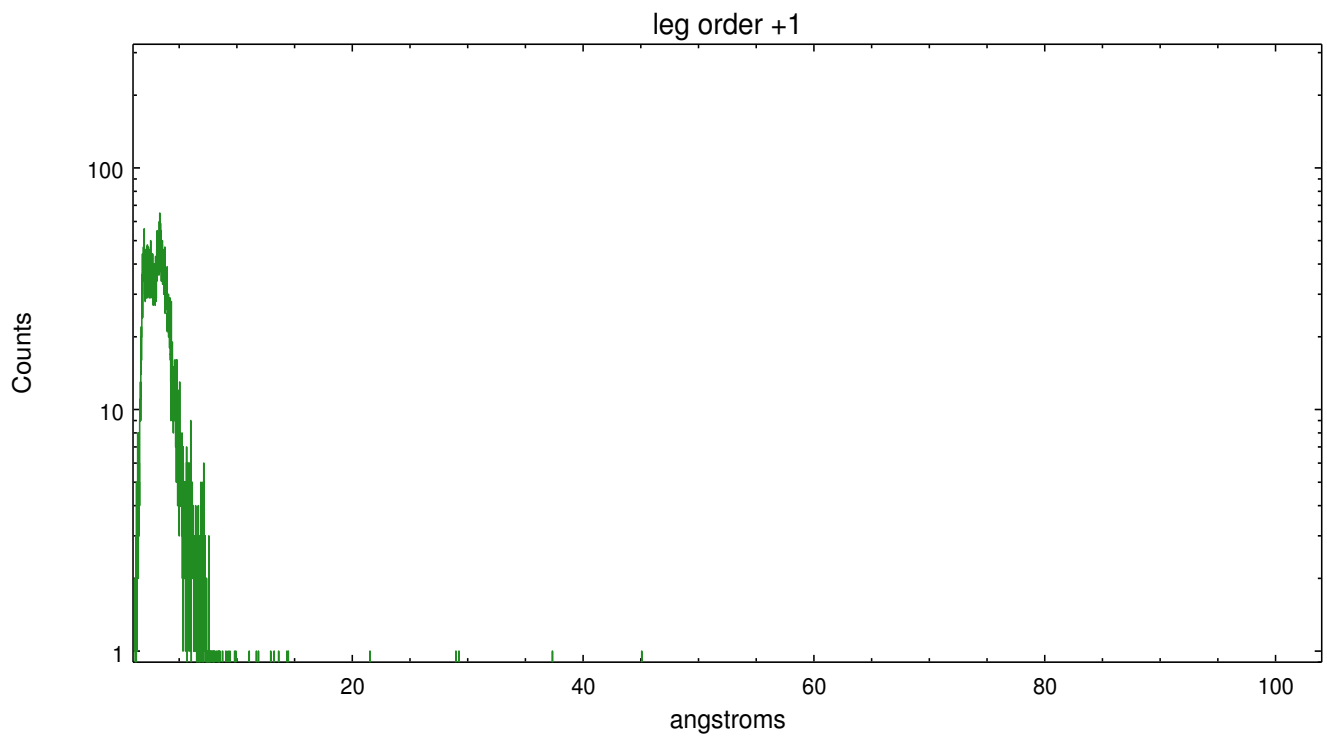
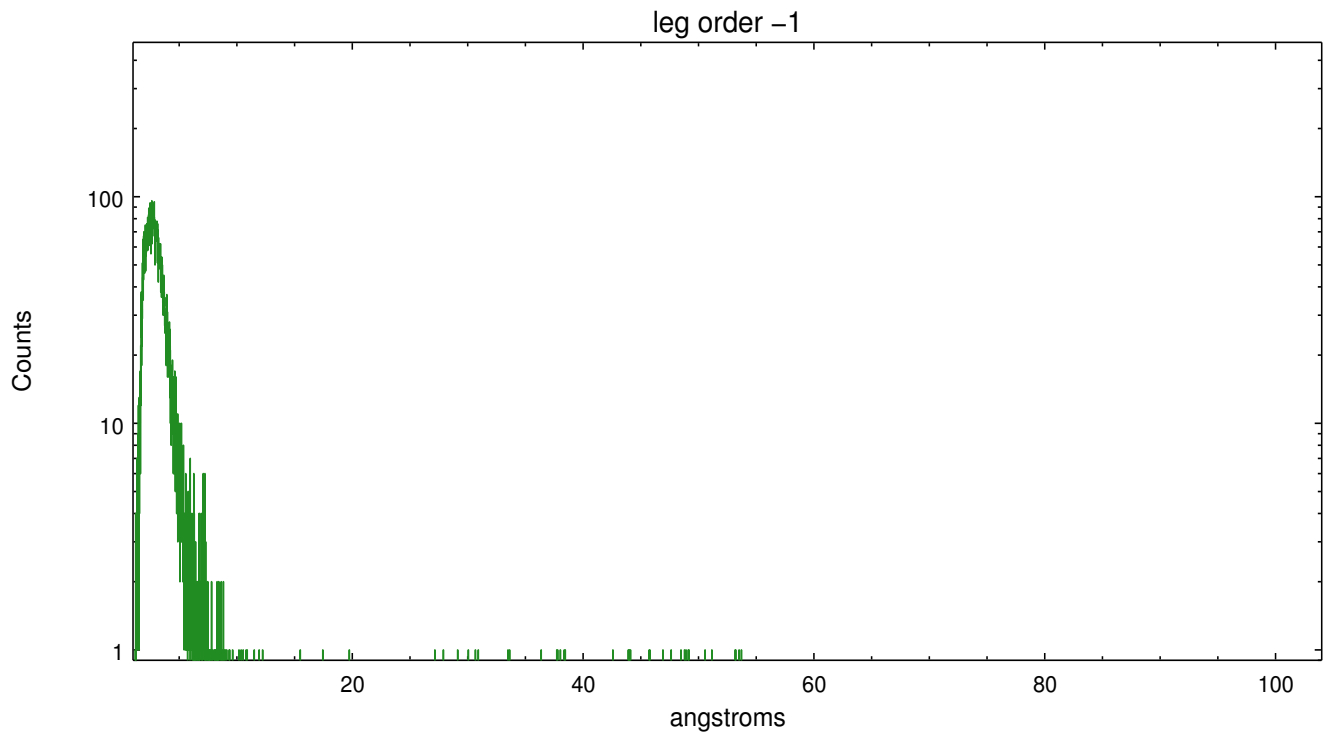
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	2152	1253	17112	25270	11660	1081	2143





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2015.05.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	49.703821897507

A.2 Comments

For ACIS-S with LETG (with or without CC mode):
Gain and CTI correction are not well calibrated on CCD_ID 5 (ACIS-S1).
Default order sorting can clip some regions, particularly longward of
30A (first order). User-specified custom processing parameters may be
required in `tg_resolve_events` (`osipfile=none`, `osort_lo`, `osort_hi ~0.5`)
though this can allow more zeroth order background at short wavelengths.

====

Roll constraint met.

=====

Zeroth order is extended. The zeroth order sky position was determined
using a software tool developed by CXC called `findzero`, which is
available in CIAO as part of the `tgdetect2` tool, as well as in standard
data processing. The tool calculates the point of intersection of the
readout streak on the ACIS CCD and the leg dispersed spectral arm,
rather than using a centroid position of the source. The `findzero`
results are more accurate than source centroid in this case.