

V&V Reference Report

L2 ASCDS Version : 10.3.3

Observation 17657 - L2 Version 1
Chandra X-Ray Center

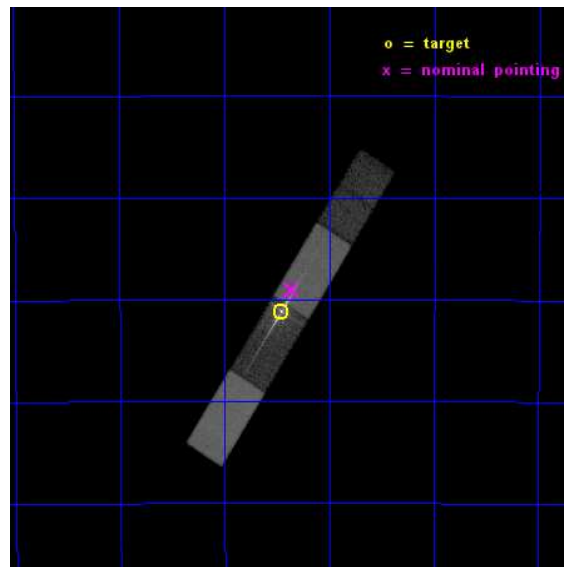
L2 Processing Date : May 18 2015

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

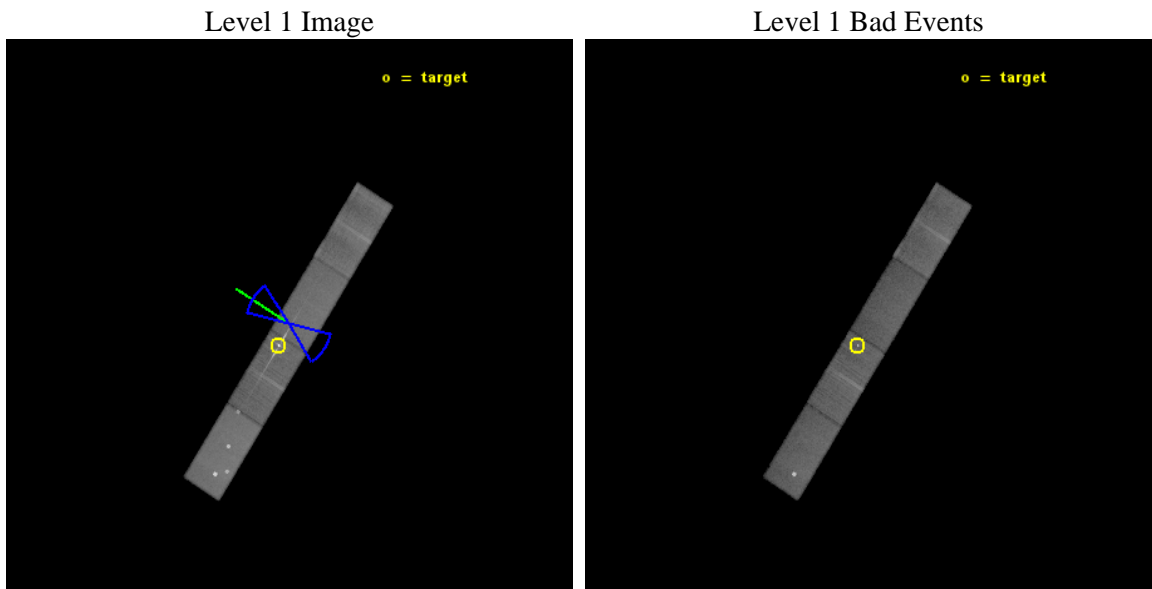
seq_num	703136	Sequence number
obs_id	17657	Observation id
title	Diffuse Extended Emission in Centaurus A: The best case with which to study AGN/Host Galaxy Interaction	Proposal title
observer	Dr. Alex Markowitz	Principal investigator
object	Centaurus A	Source name
dtcycle	0	
cycle	P	events from which 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	201.34062879663	Nominal RA [deg]
dec_nom	-42.98417099747	Nominal Dec [deg]
roll_nom	302.14000519777	Nominal Roll [deg]
revision	1	Processing version of data
ontime	50409.303147912	Sum of GTIs [s]
livetime	49148.64051861	Livetime [s]
ontime5	50409.344187975	Sum of GTIs [s]
ontime6	50409.303147912	Sum of GTIs [s]
ontime7	50409.385227919	Sum of GTIs [s]
ontime8	50409.262107968	Sum of GTIs [s]
l2events	266010	Number of level 2 events



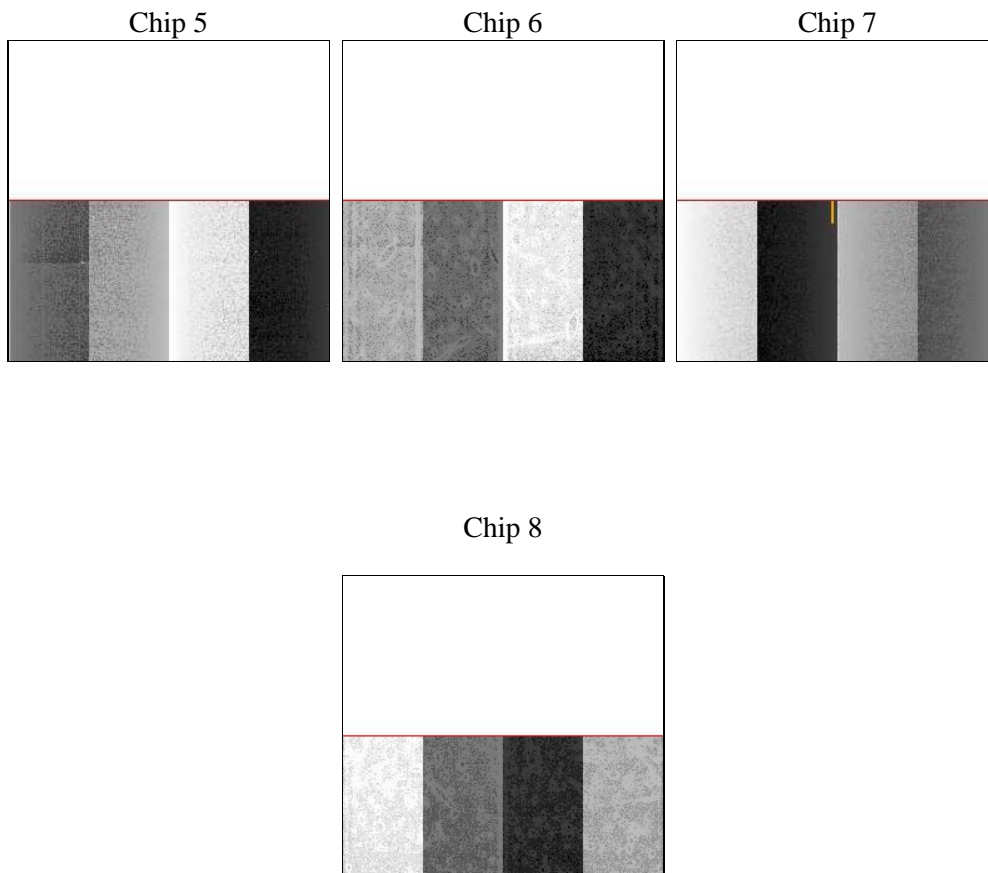
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	50350.000000	[s] Scheduled observation exposure time
ascdsver	10.3.3	Processing system revision	ontime	50409.303147912	Sum of GTIs [s]
caldbver	4.6.7	 	ontime5	50409.344187975	Sum of GTIs [s]
date	2015-05-18T13:38:21	Date and time of file creation	ontime6	50409.303147912	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	50409.385227919	Sum of GTIs [s]
			ontime8	50409.262107968	Sum of GTIs [s]
			l1events	796120	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			zo_pos	(3965.72, 3840.66)	src1a sky pixel position
			zo_pos_tgd	(3966.29, 3840.93)	src1a sky pixel position via todetect

2.1.4 Events

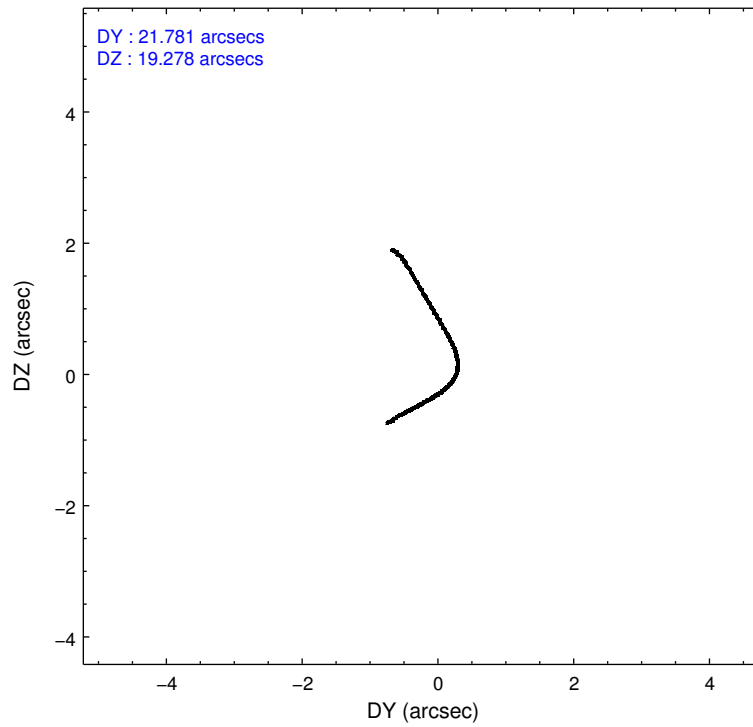
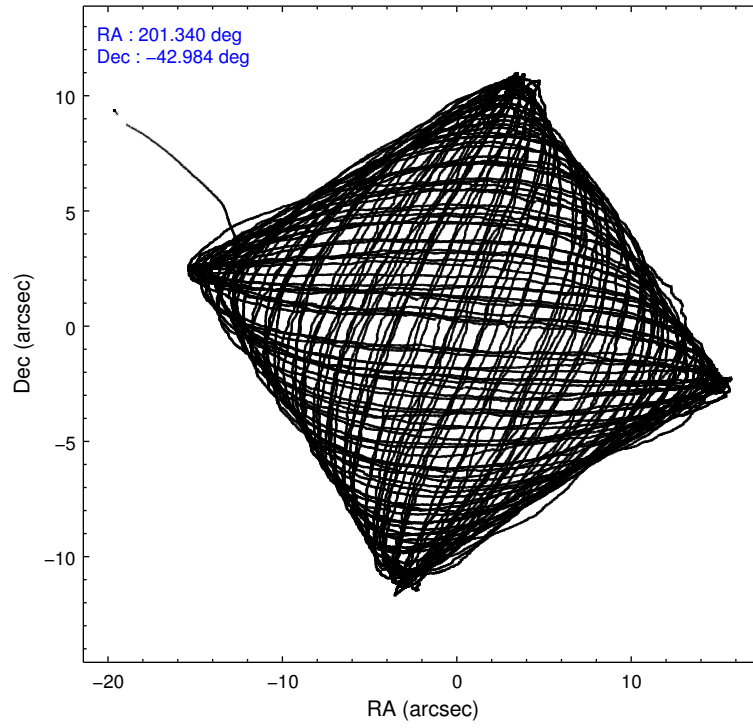
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	245000	194816	182255	174049
rejected events	120020	122738	94493	127815
rejected %	48%	63%	51%	73%

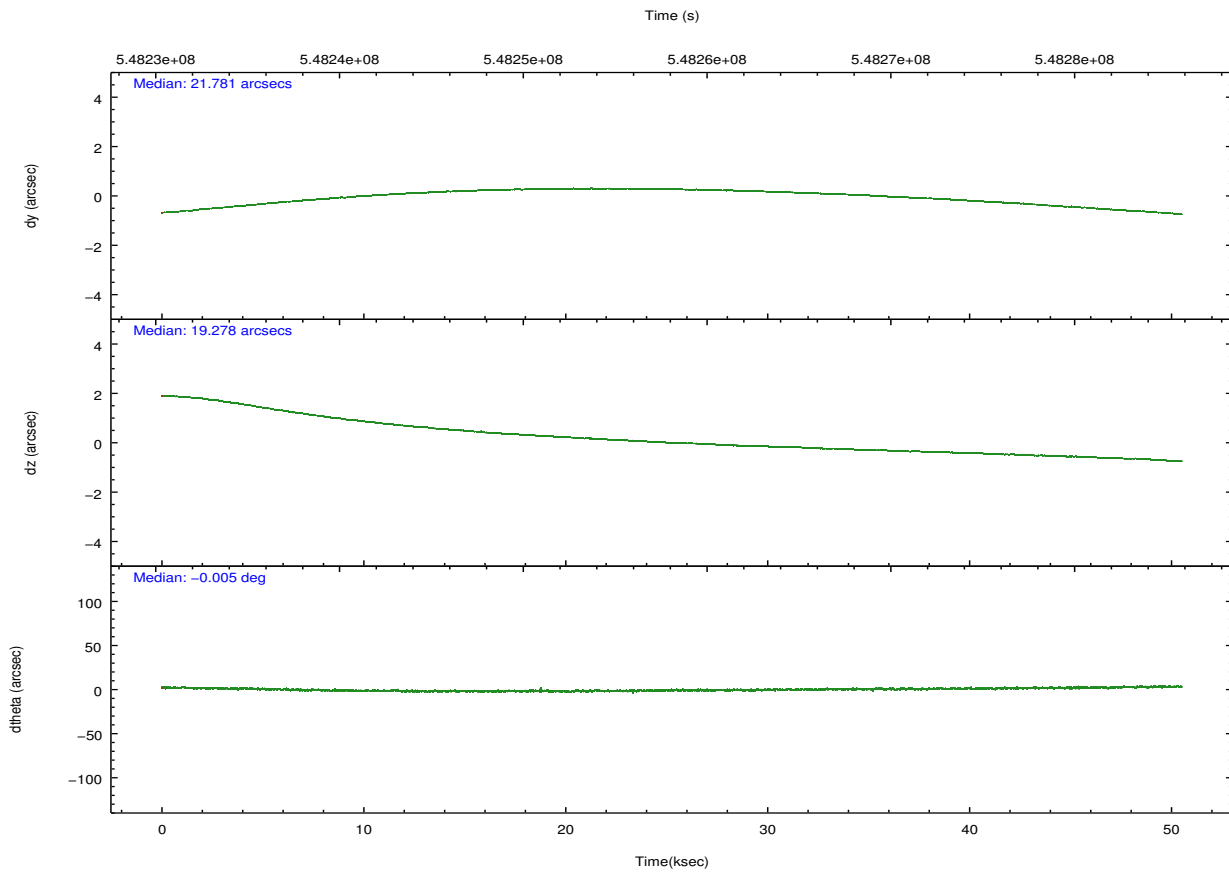
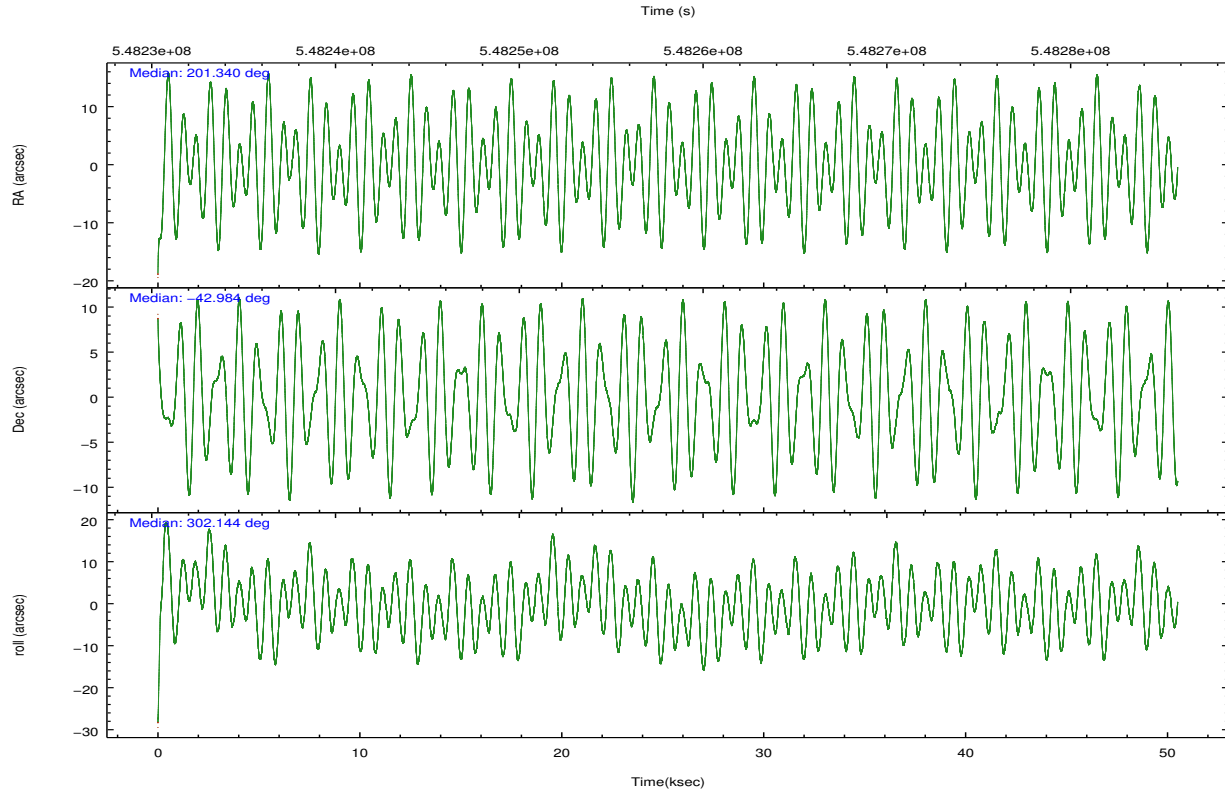
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	26380	36559	8501	12715
	10%	18%	4%	7%
grade 1 events	323	936	218	97
	0%	0%	0%	0%
grade 2 events	32739	12737	18411	10535
	13%	6%	10%	6%
grade 3 events	7943	5244	8296	5304
	3%	2%	4%	3%
grade 4 events	5322	5366	8137	4920
	2%	2%	4%	2%
grade 5 events	23584	7198	17580	8951
	9%	3%	9%	5%
grade 6 events	52602	12173	44420	12763
	21%	6%	24%	7%
grade 7 events	96107	114603	76692	118764
	39%	58%	42%	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	201.3406287966266	Subarray requested	CUSTOM	1/2
[deg] Pointing Dec	-42.971670	-42.98417099747017	Subarray start row	1	1
[deg] Pointing Roll	301.960628	302.1400051977653	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	-182.1370004450064			
[mm] SIM translation stage offset	-8	-7.995522138001405			
[s] Observation start time (MET)	548232985.184000	548231775.4730999			
Observation start date	2015-05-17T06:55:18	2015-05-17T06:36:15			
[s] Observation end time (MET)	548283335.184000	548284302.62604			
Observation end date	2015-05-17T20:54:28	2015-05-17T21:11:42			
Read mode	TIMED	TIMED			

2.3 Aspect





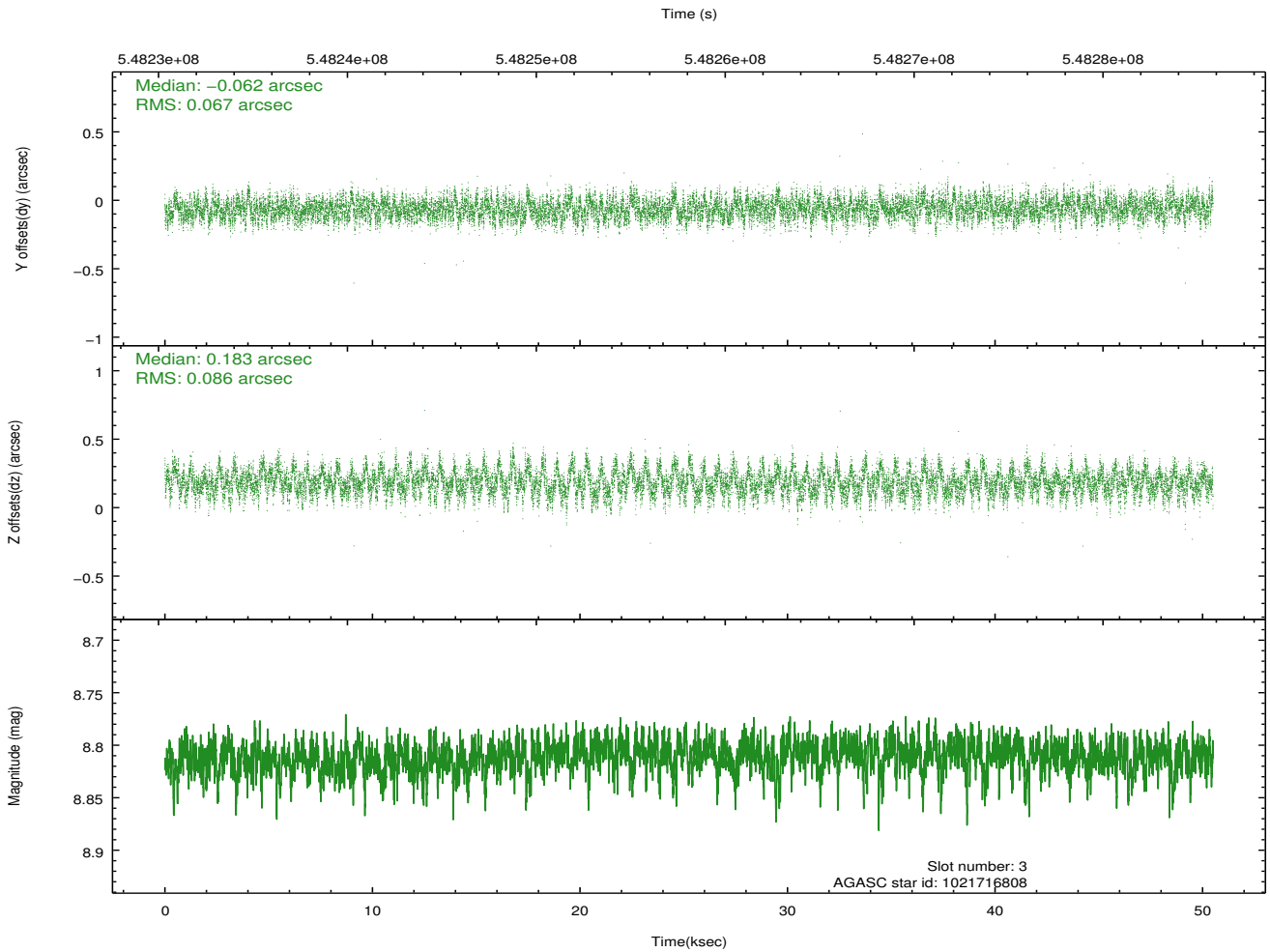
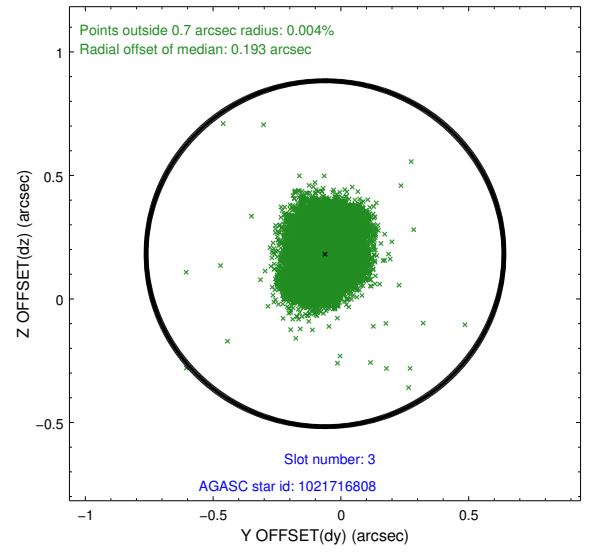
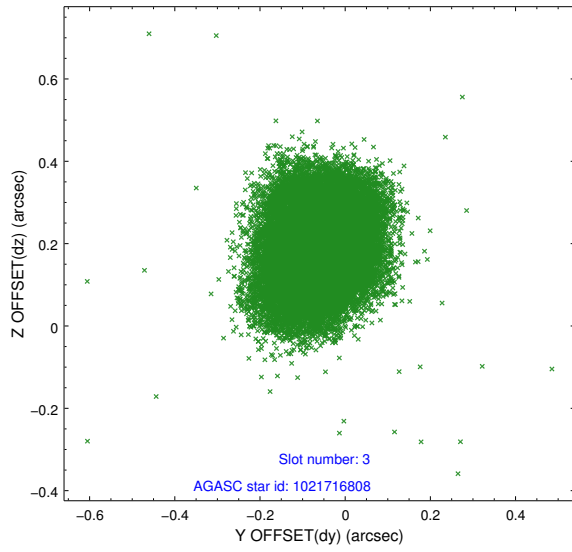
Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-1	7.09	12317	-0.060	0.115	0.014	0.025	0.000000	0.000000	921.69	-1901.21
1	FID		ACIS-S-4	7.08	12319	0.153	-0.008	0.009	0.024	0.000000	0.000000	2139.29	2.81
2	FID		ACIS-S-6	7.29	12318	-0.116	-0.093	0.011	0.023	0.000000	0.000000	387.54	640.06
3	GUIDE	used	1021716808	8.81	24628	-0.062	0.183	0.117	0.188	200.901189	-42.531395	-1912.24	-76.16
4	GUIDE	used	1021717656	8.31	24625	-0.268	-0.011	0.089	0.149	201.139642	-43.082878	106.91	-585.89
5	GUIDE	used	1021719704	7.58	24632	0.300	0.061	0.075	0.121	200.511976	-43.050426	-857.56	-1929.92
6	GUIDE	used	1021721672	9.50	24612	-0.329	-0.137	0.147	0.232	201.740358	-43.079729	935.63	758.46
7	GUIDE	used	1022235840	9.43	24567	0.355	-0.104	0.143	0.230	201.679306	-43.544276	2265.56	-268.68

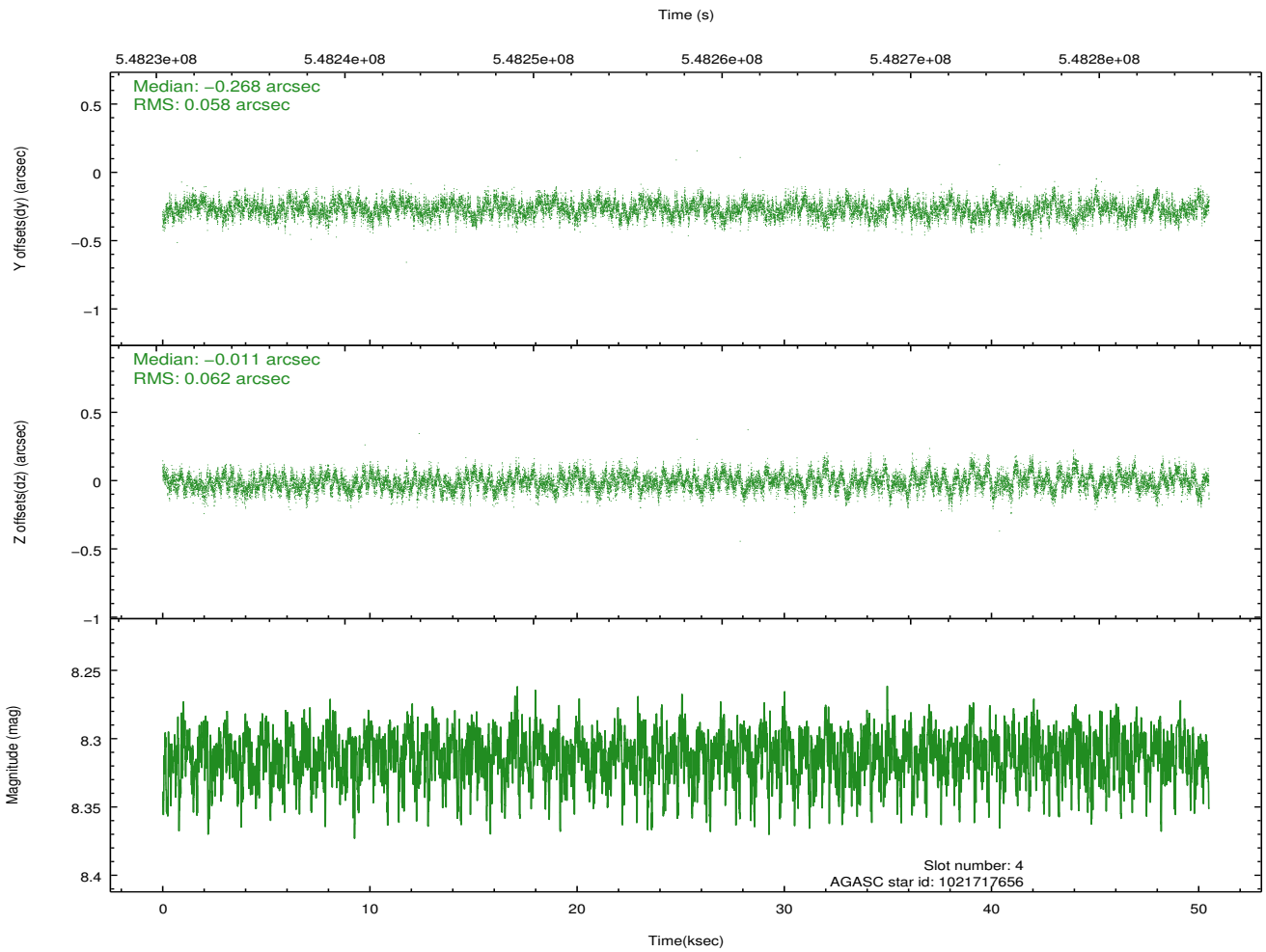
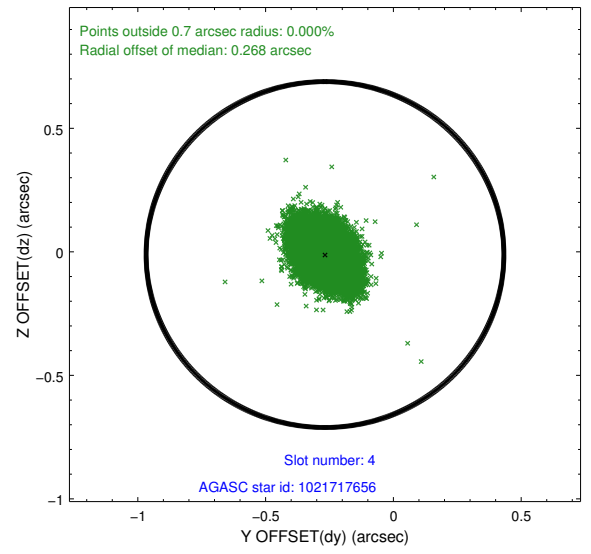
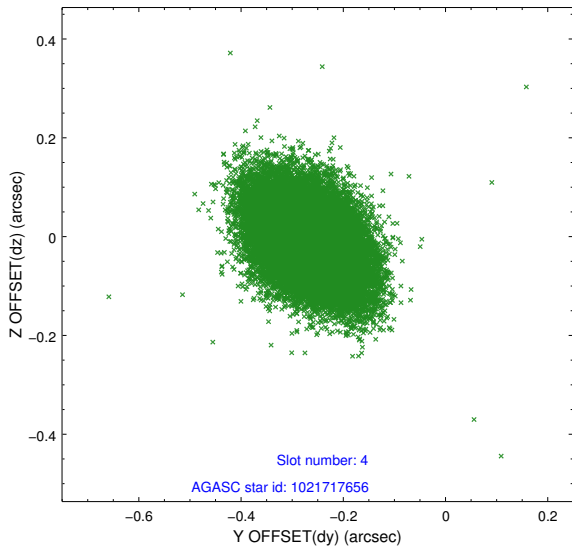
∞

2.4 Star Slots

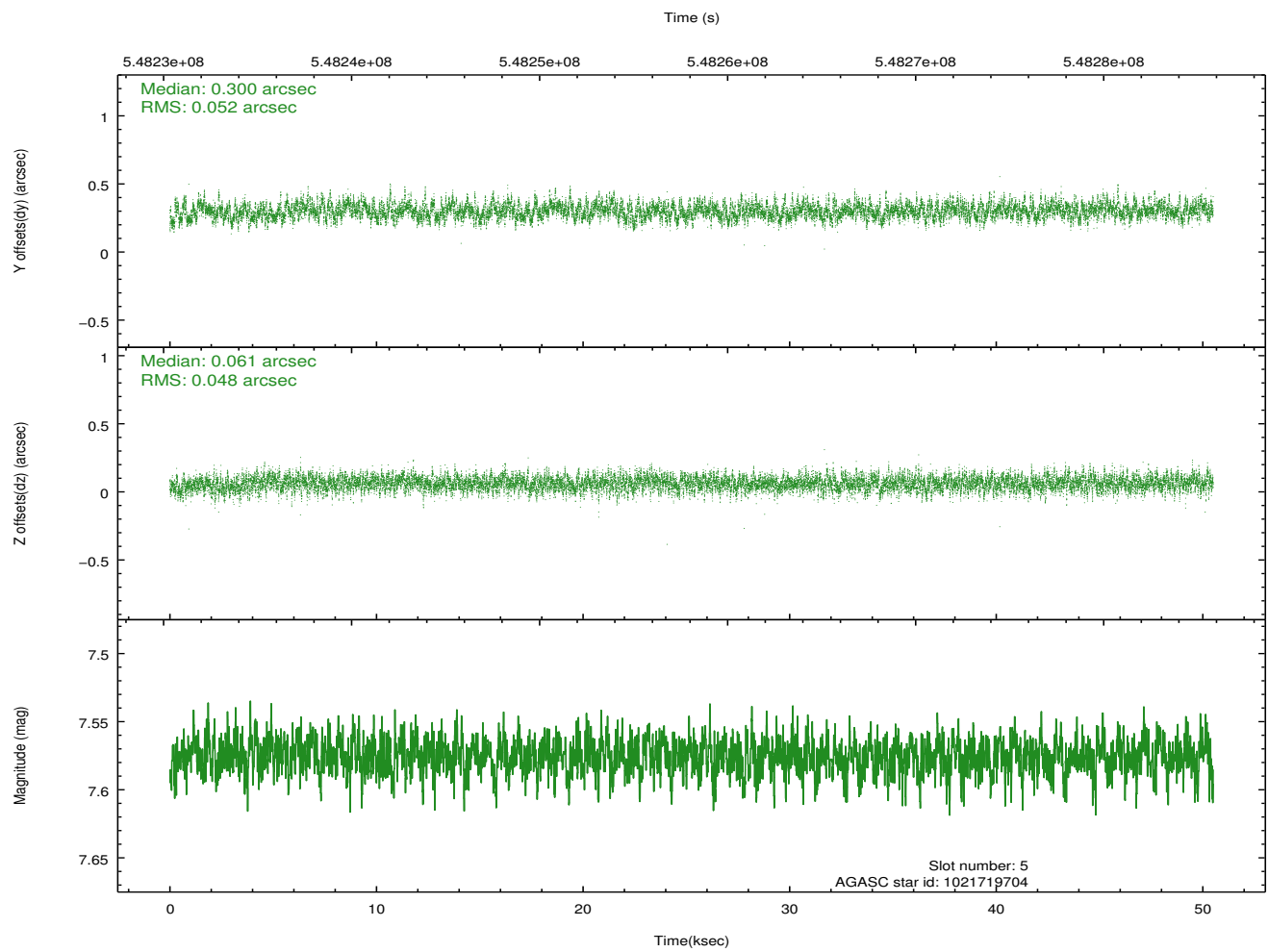
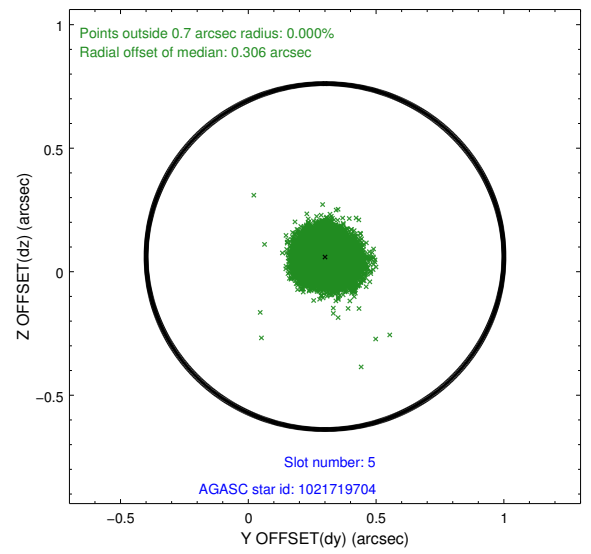
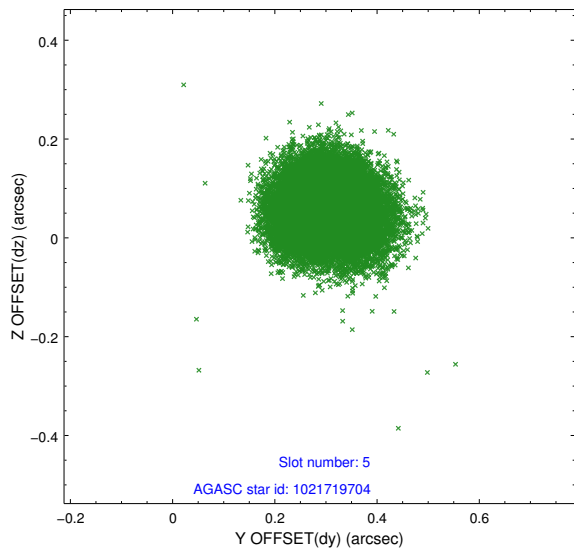
2.4.1 Slot 3



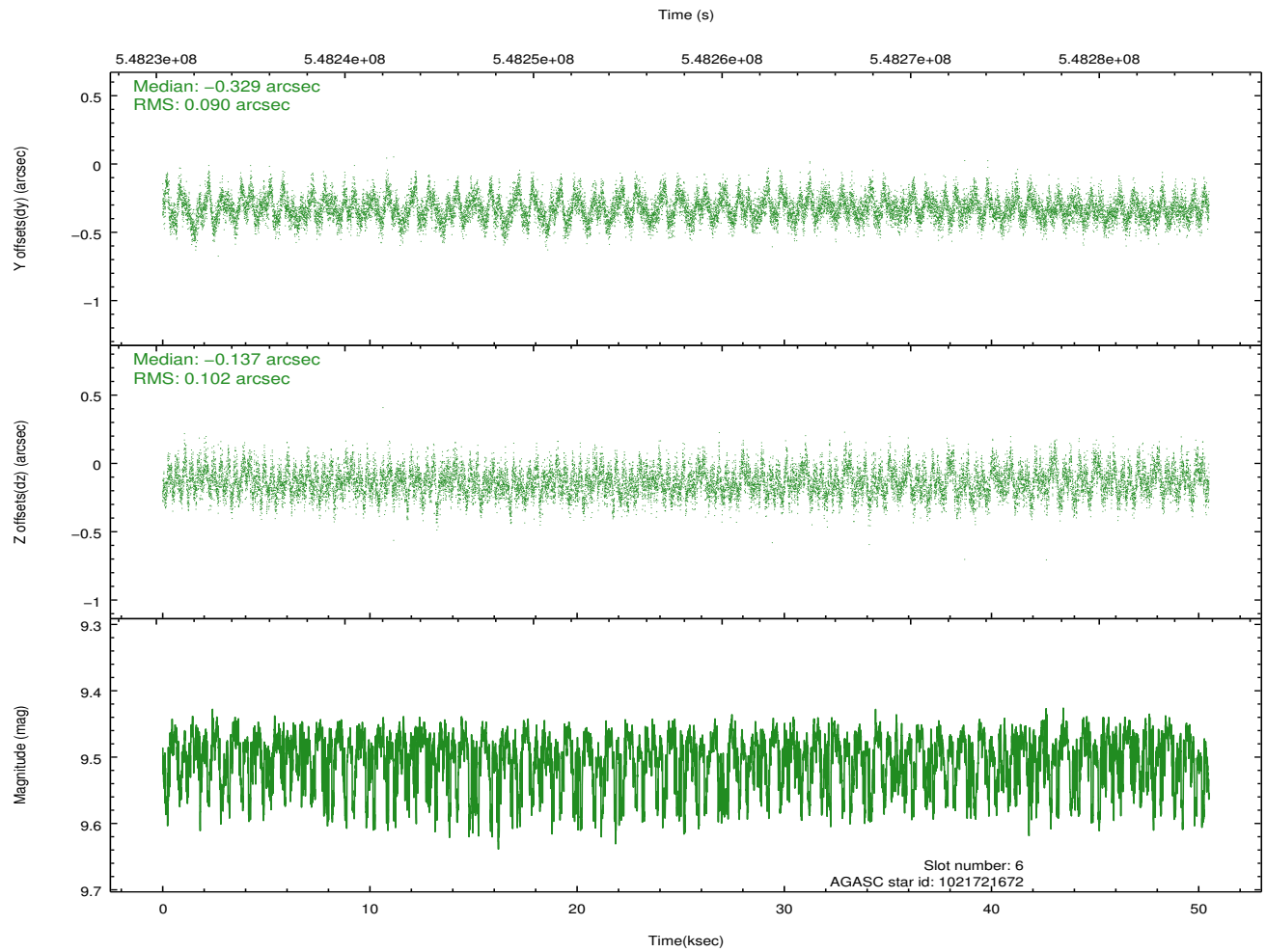
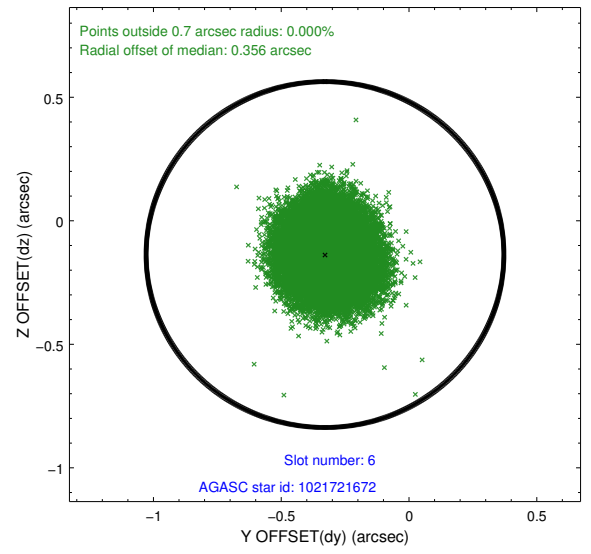
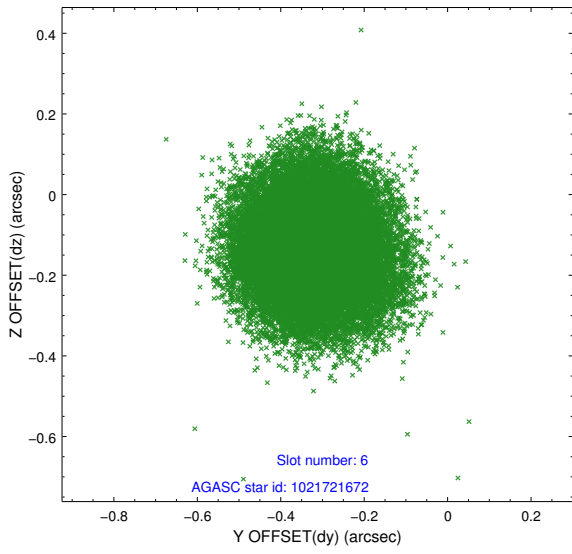
2.4.2 Slot 4



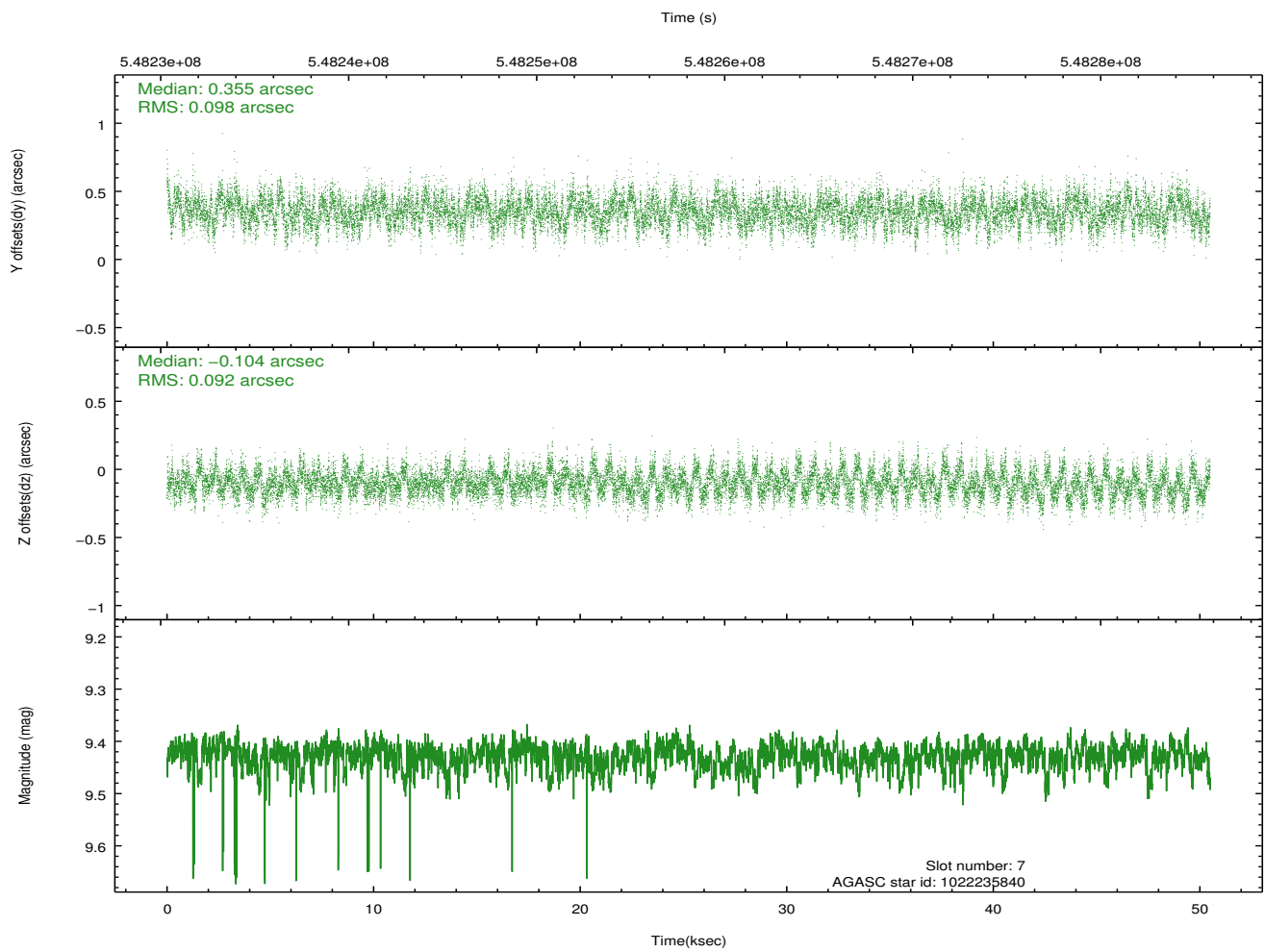
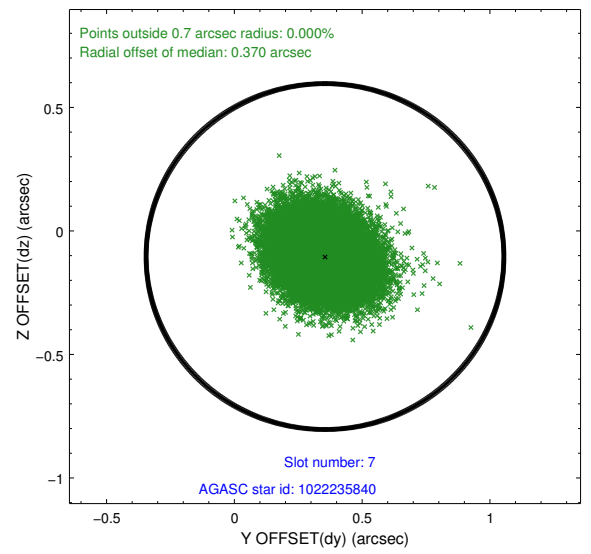
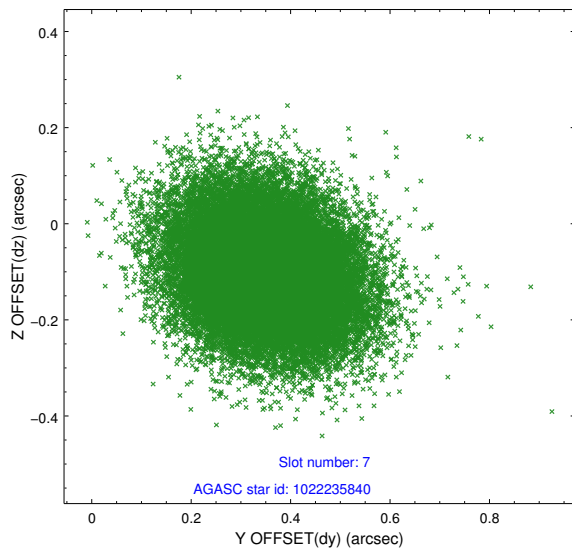
2.4.3 Slot 5



2.4.4 Slot 6

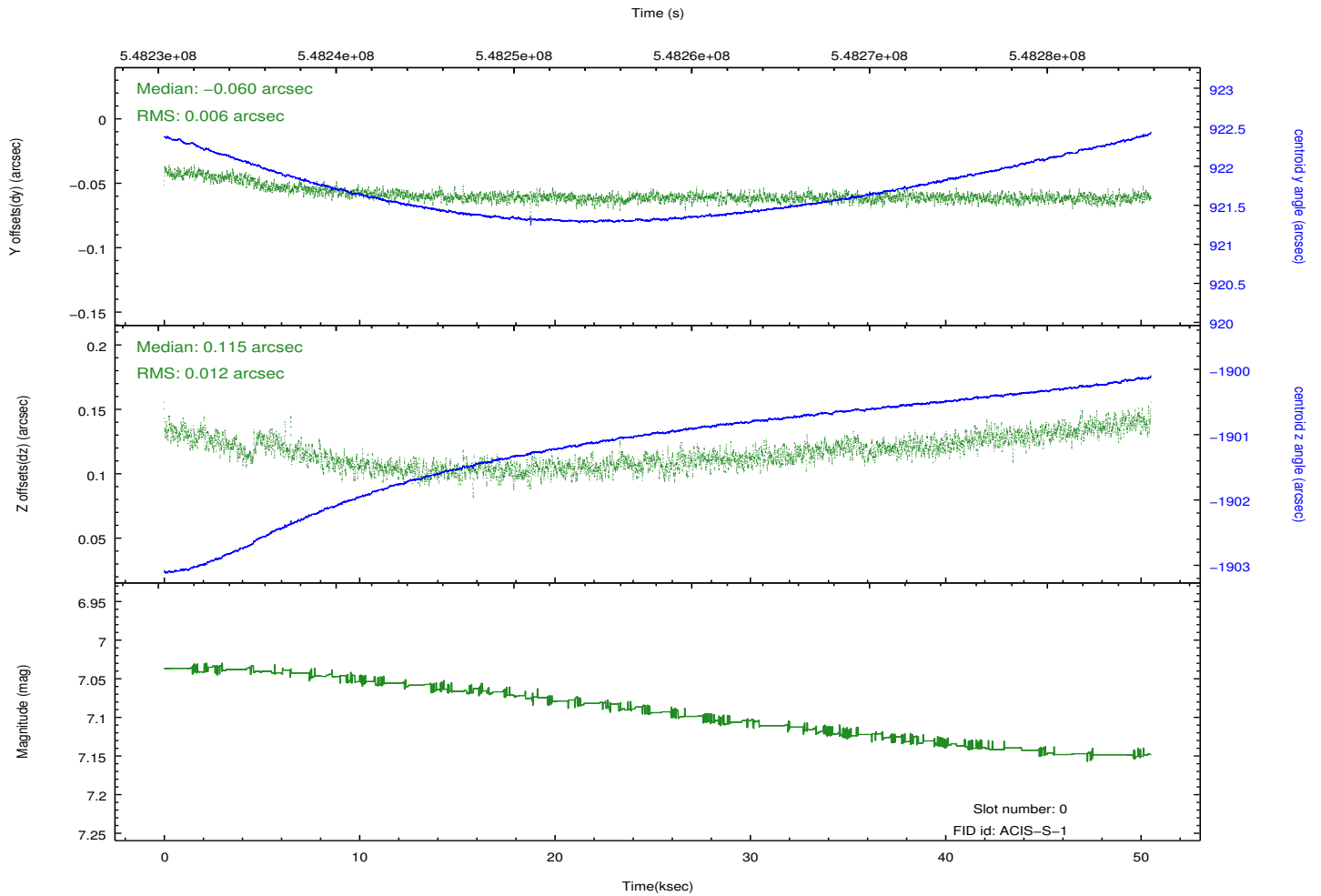
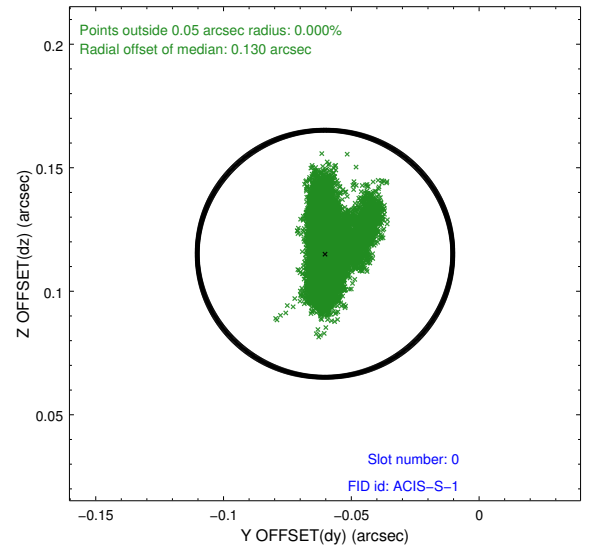
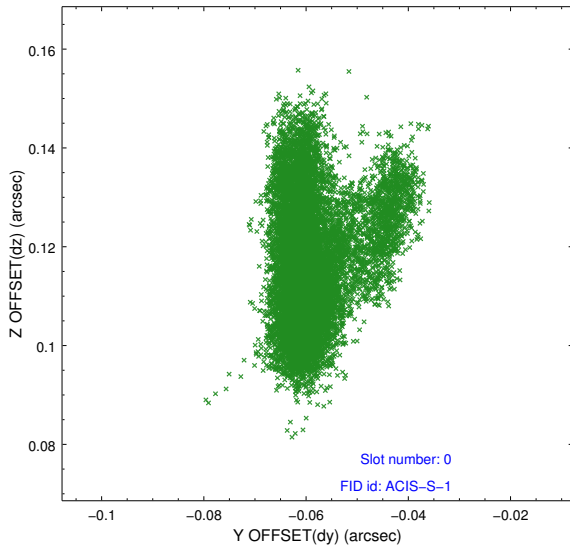


2.4.5 Slot 7

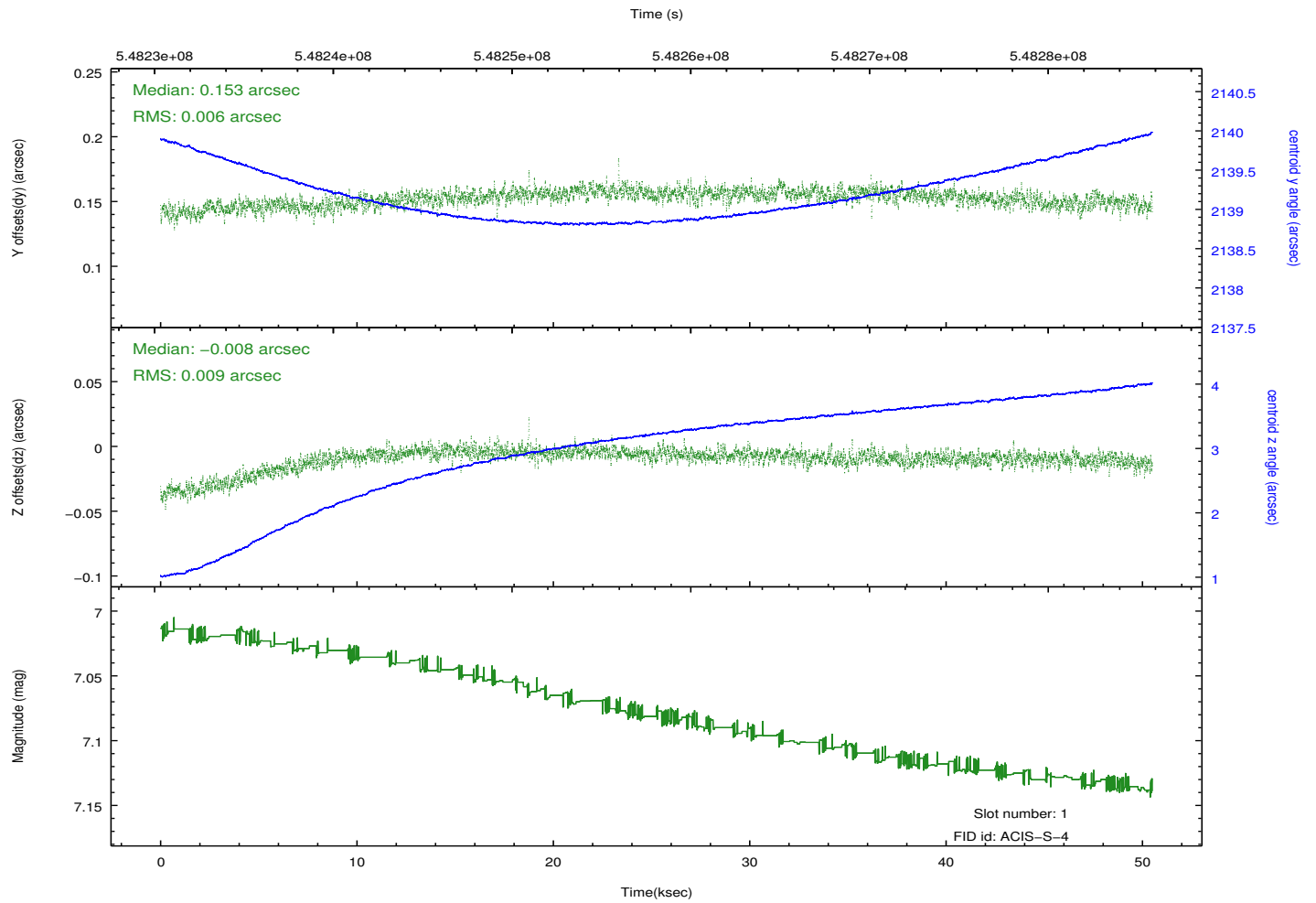
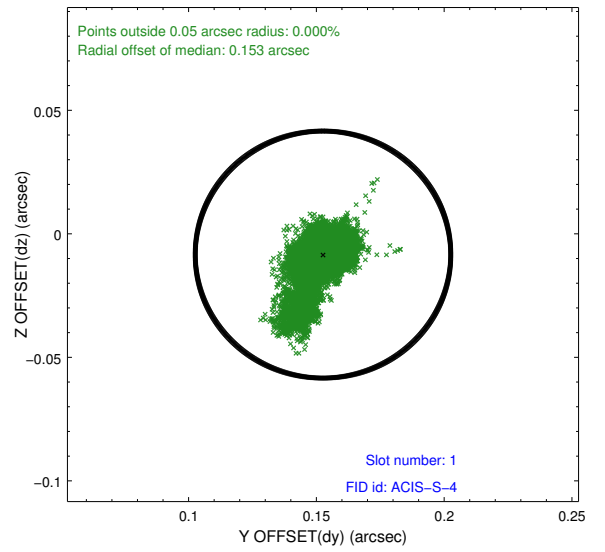
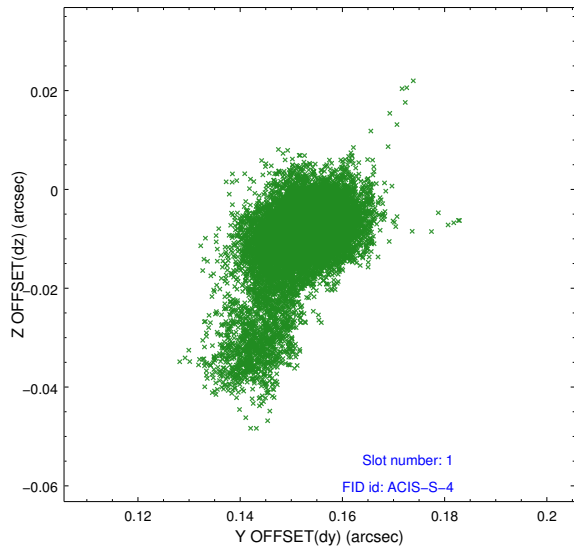


2.5 FID Slots

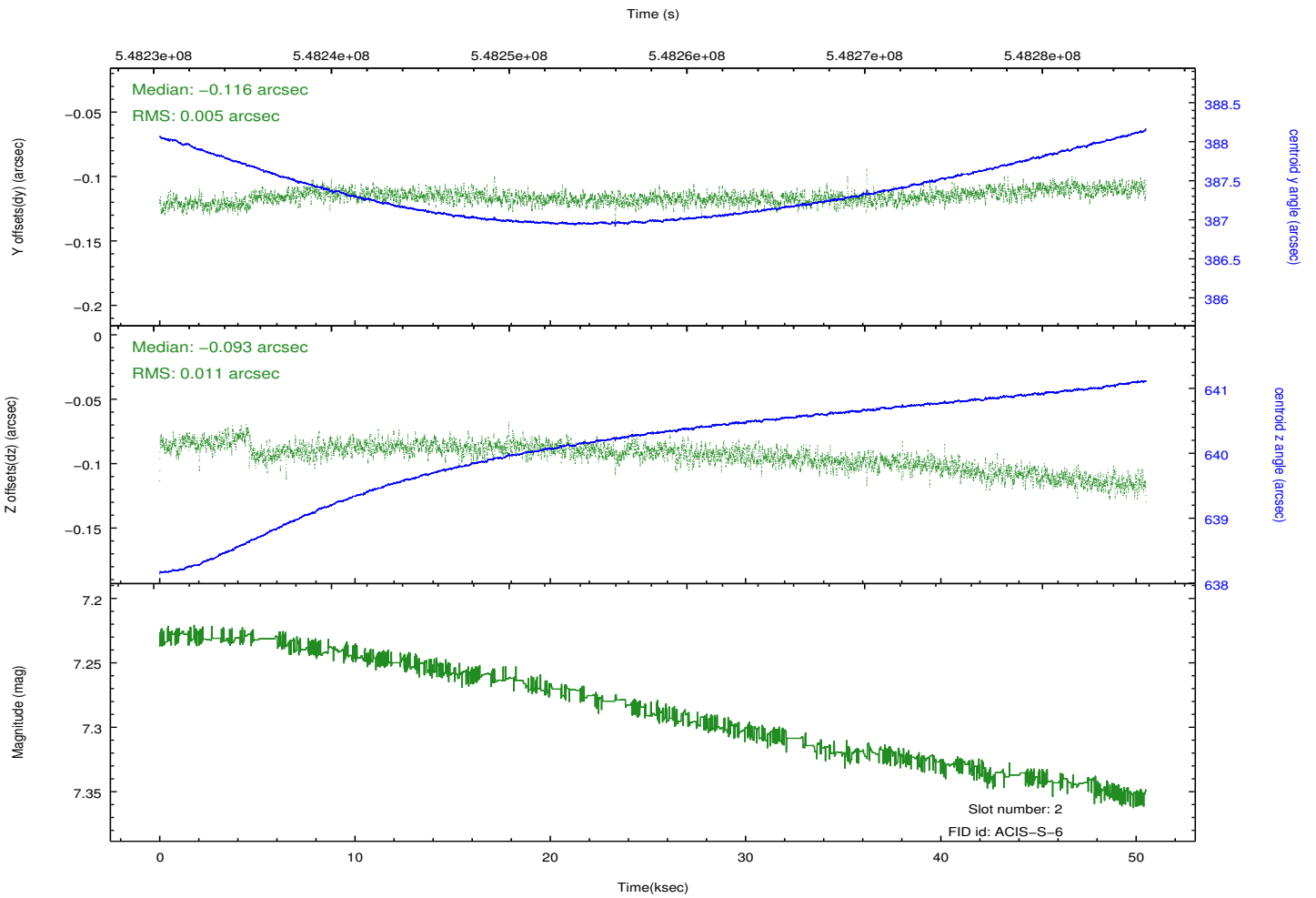
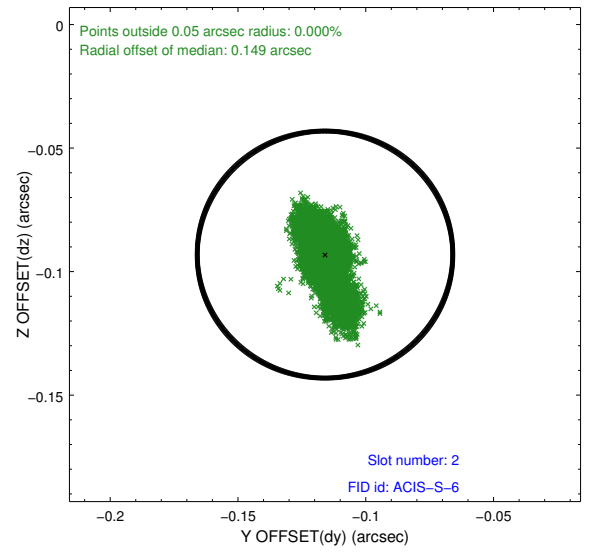
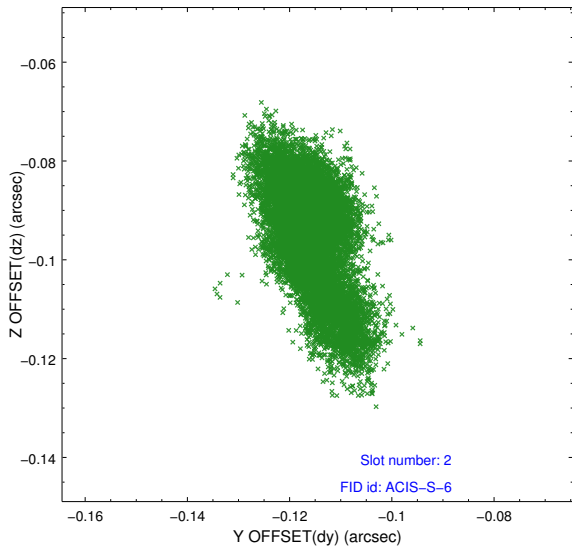
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

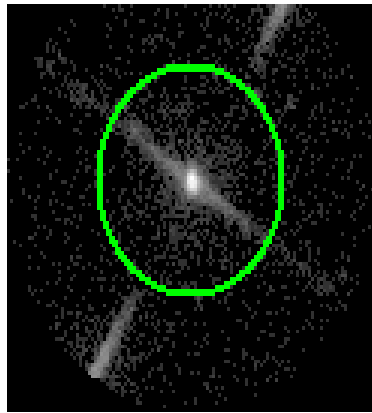


3 Gratings

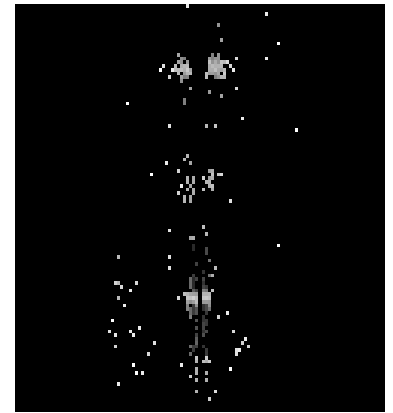
3.1 LETG Arm



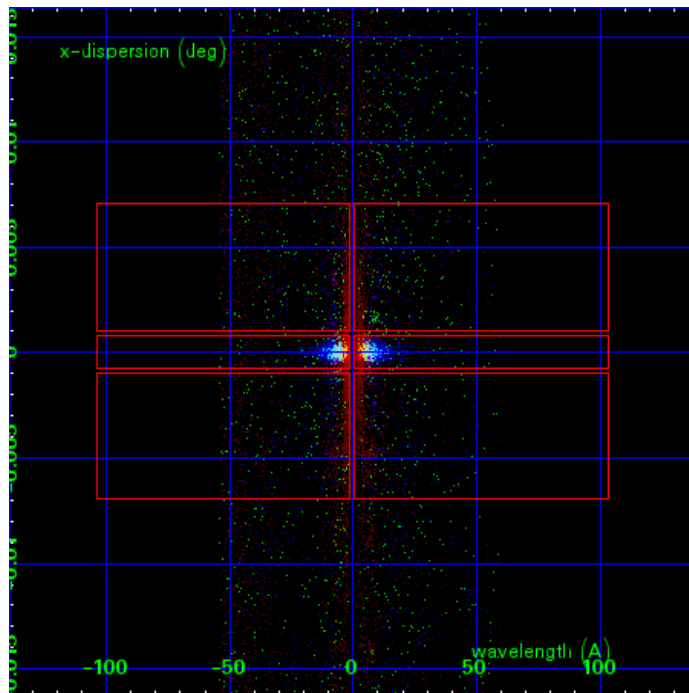
LETG Order Sort 123



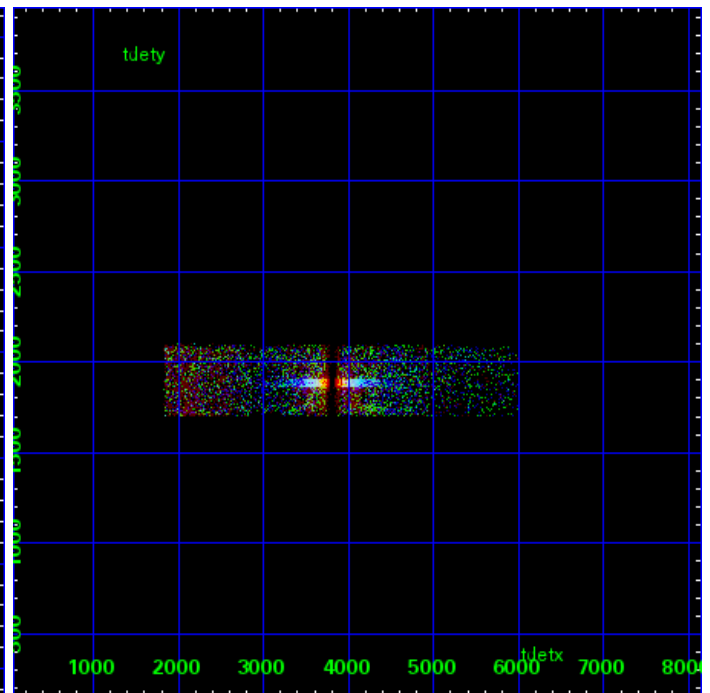
LETG Zero Order



LETG Order Sort ALL

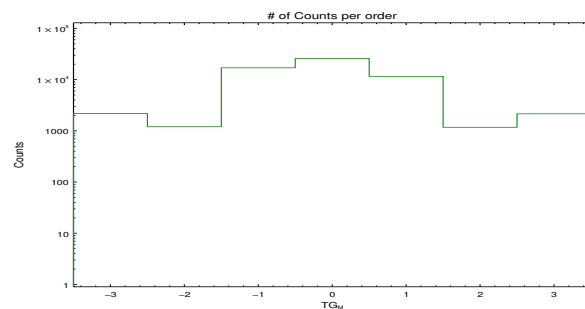


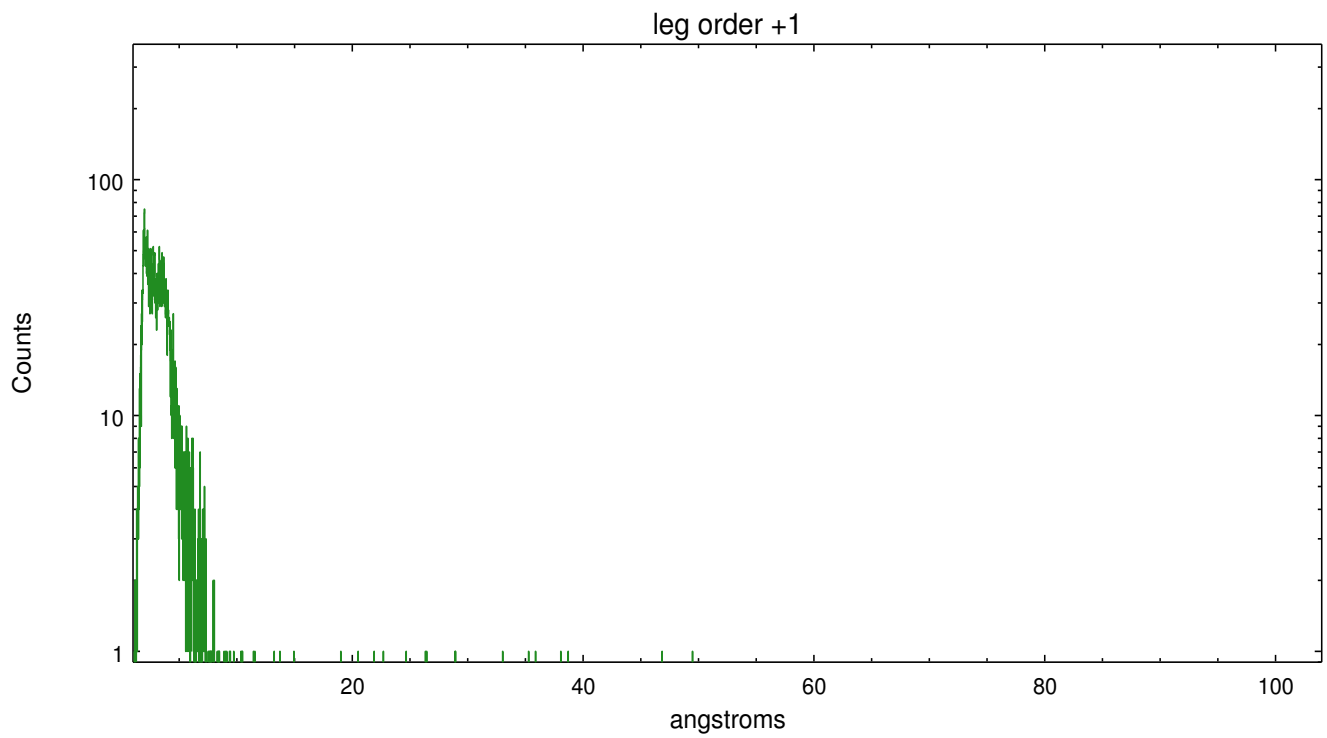
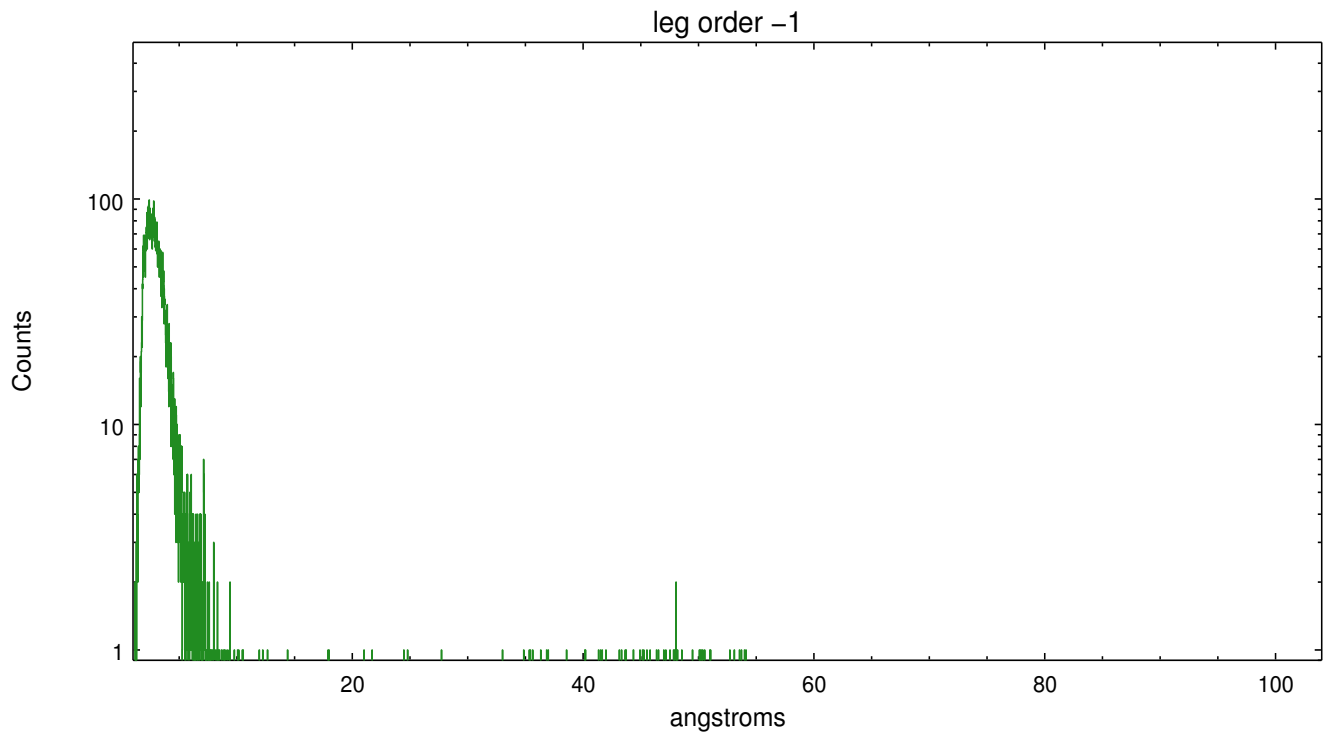
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	2181	1202	17027	25772	11592	1172	2149





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2015.05.19
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	50.409303147912

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.