

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 3168 - L2 Version 5
Chandra X-Ray Center

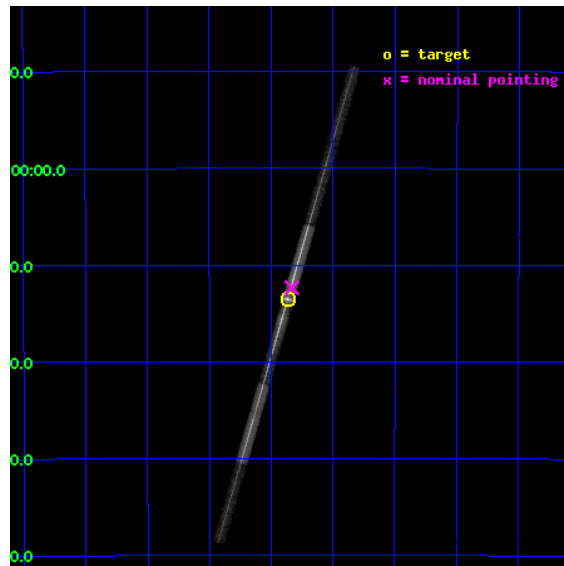
L2 Processing Date : Sep 28 2012

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

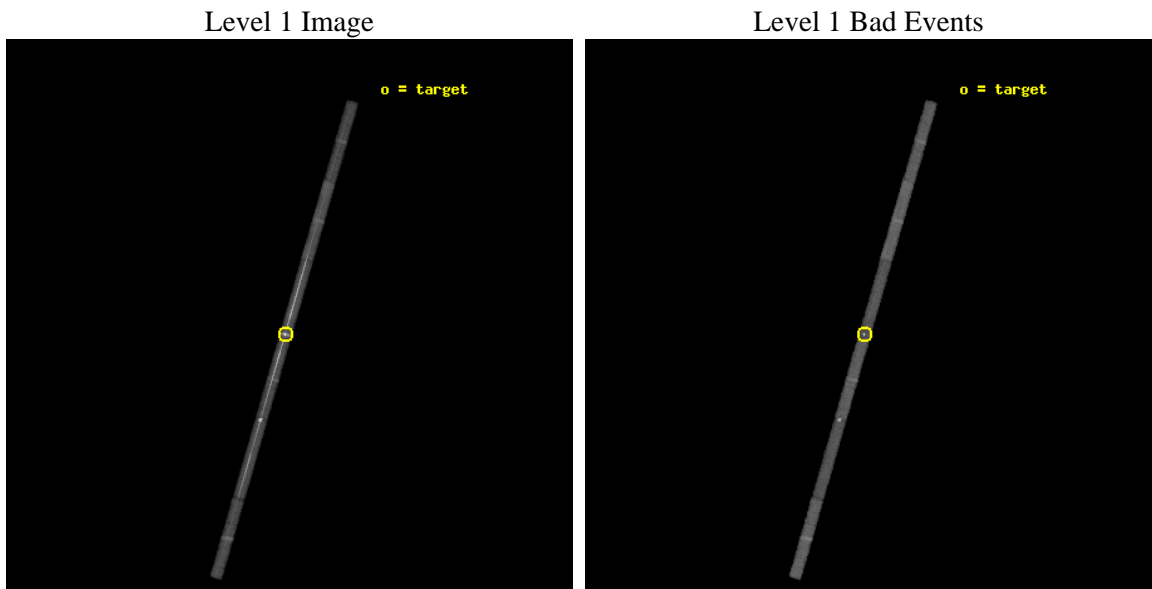
seq_num	790062	Sequence number
obs_id	3168	Observation id
title	AO3 CALIBRATION OBSERVATIONS OF PKS2155-304	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	PKS2155-304	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	329.716667	Observer's specified target RA [deg]
dec_targ	-30.225556	Observer's specified target Dec [deg]
ra_nom	329.70810138888	Nominal RA [deg]
dec_nom	-30.205924830855	Nominal Dec [deg]
roll_nom	286.1681948425	Nominal Roll [deg]
revision	5	Processing version of data
ontime	30485.000129774	Sum of GTIs [s]
livetime	28796.691259368	Livetime [s]
ontime4	30485.000129774	Sum of GTIs [s]
ontime5	30485.000129774	Sum of GTIs [s]
ontime6	30483.518069685	Sum of GTIs [s]
ontime7	30485.000129774	Sum of GTIs [s]
ontime8	30485.000129774	Sum of GTIs [s]
ontime9	30484.259089768	Sum of GTIs [s]
l2events	339305	Number of level 2 events



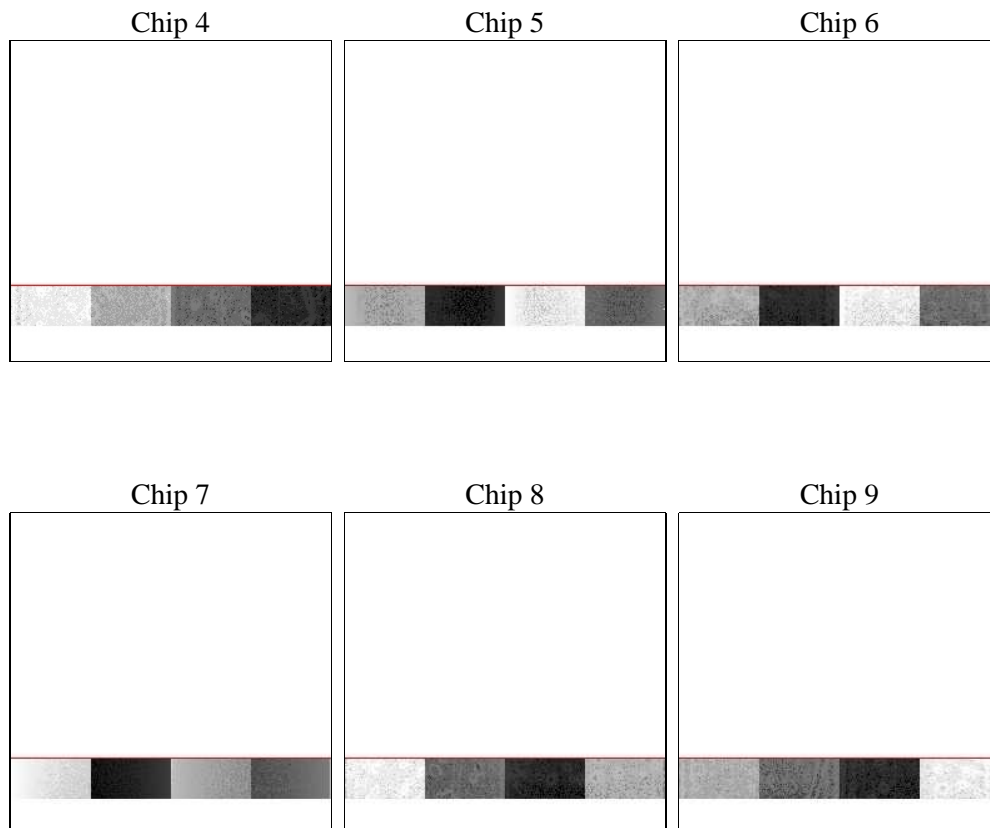
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	30000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	30485.000129774	Sum of GTIs [s]
caldbver	4.5.2	 	ontime4	30485.000129774	Sum of GTIs [s]
date	2012-09-28T06:59:38	Date and time of file creation	ontime5	30485.000129774	Sum of GTIs [s]
revision	4	Processing version of data	ontime6	30483.518069685	Sum of GTIs [s]
			ontime7	30485.000129774	Sum of GTIs [s]
			ontime8	30485.000129774	Sum of GTIs [s]
			ontime9	30484.259089768	Sum of GTIs [s]
			l1events	589204	Number of level 1 events

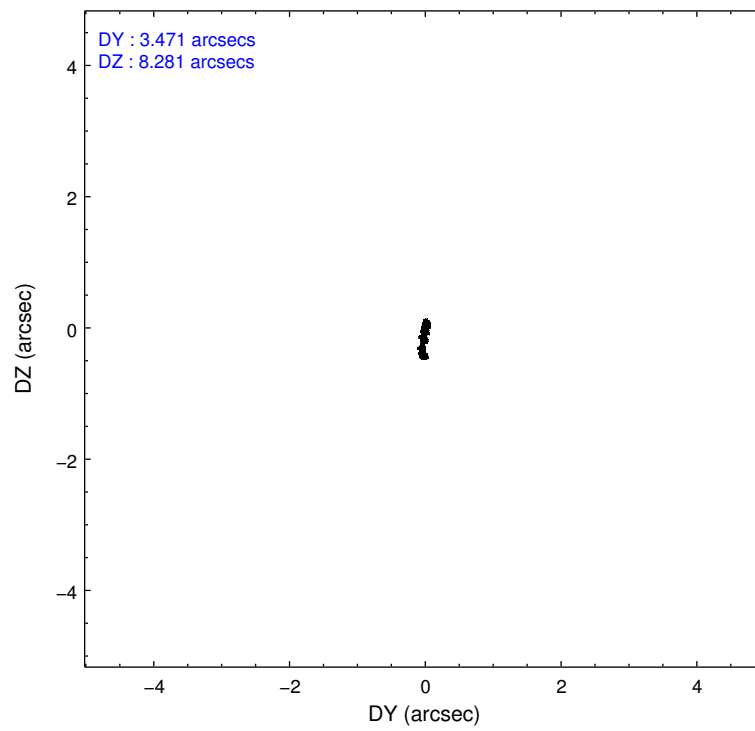
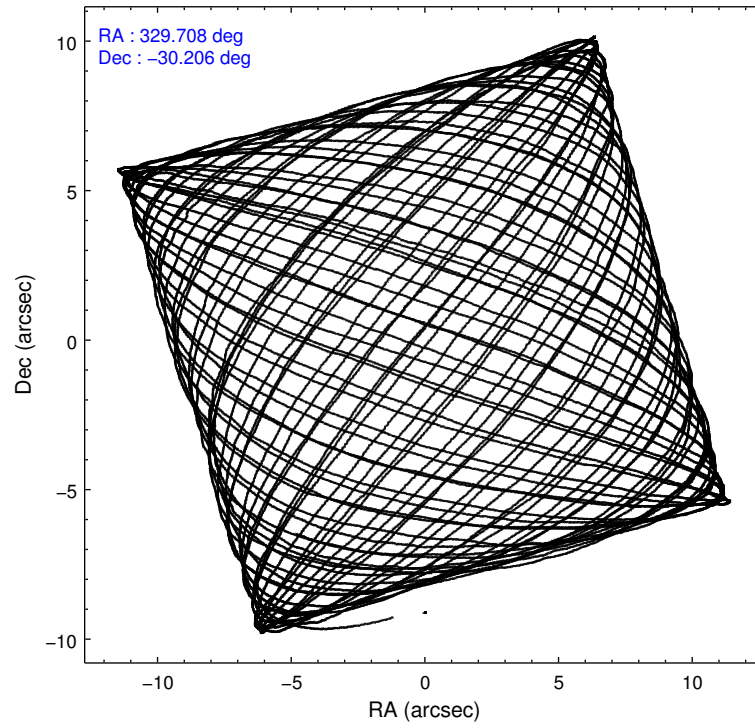
2.1.4 Events

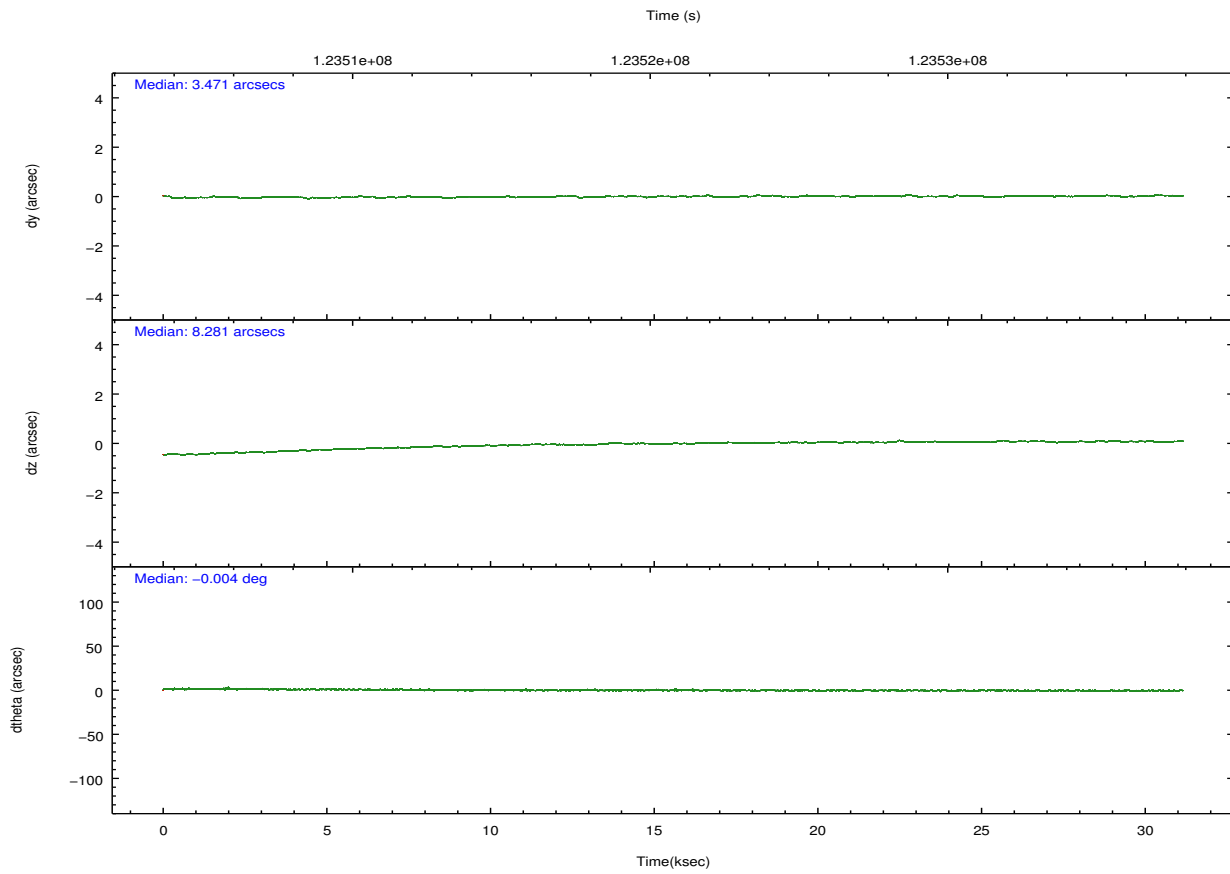
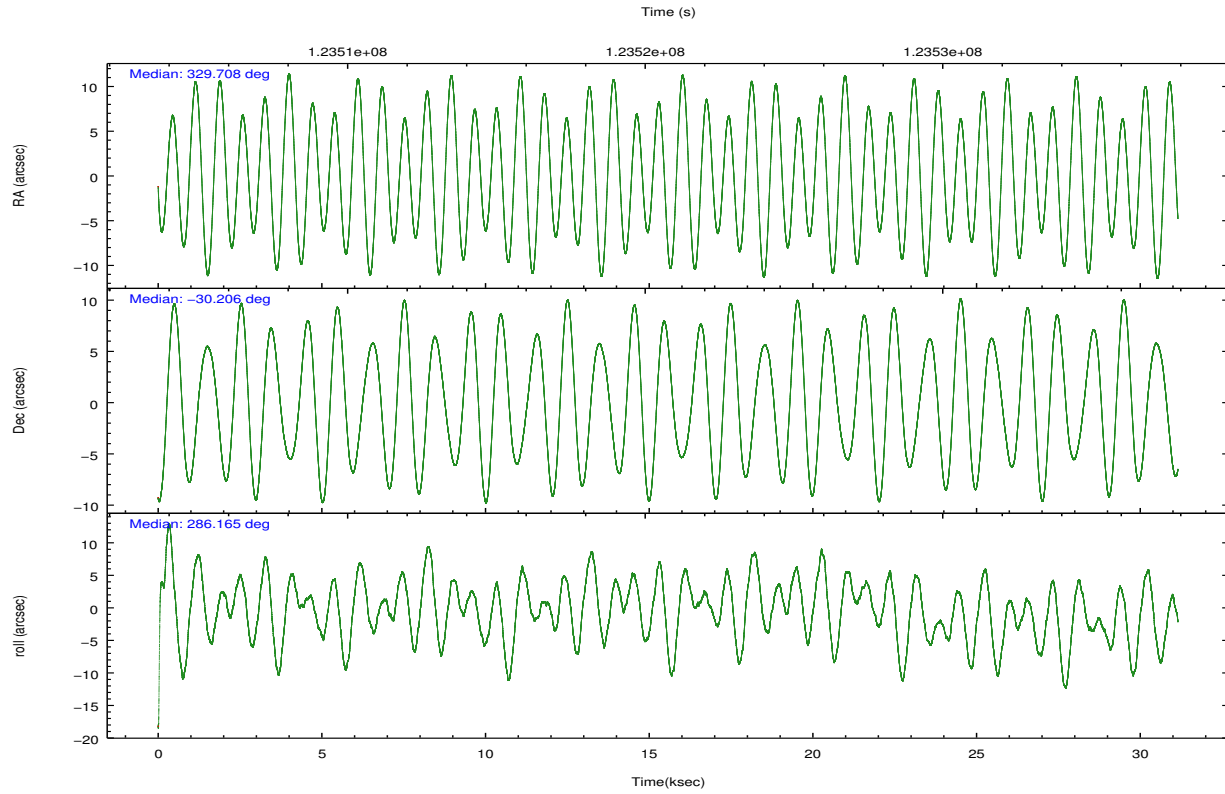
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	41362	98671	112532	245011	57312	34316	grade 0 events	3816	34124	67489	54680	10033	3956
rejected events	34598	25552	29911	57557	39550	27552		9%	34%	59%	22%	17%	11%
rejected %	83%	25%	26%	23%	69%	80%	grade 1 events	11	3030	127	1704	31	17
								0%	3%	0%	0%	0%	0%
							grade 2 events	980	11851	7658	46065	2334	857
								2%	12%	6%	18%	4%	2%
							grade 3 events	645	6869	2732	20939	1321	680
								1%	6%	2%	8%	2%	1%
							grade 4 events	663	7519	2776	20857	1312	607
								1%	7%	2%	8%	2%	1%
							grade 5 events	907	6795	1020	10410	1272	1011
								2%	6%	0%	4%	2%	2%
							grade 6 events	660	12757	1966	44921	2762	664
								1%	12%	1%	18%	4%	1%
							grade 7 events	33680	15726	28764	45435	38247	26524
								81%	15%	25%	18%	66%	77%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-456789	ACIS-456789	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	329.685097	329.7081013888787	Subarray requested	CUSTOM	1/8
[deg] Pointing Dec	-30.187266	-30.20592483085481	Subarray start row	113	113
[deg] Pointing Roll	286.000012	286.1681948425029	Subarray row count	128	128
[s] Window start time (MET)	122169664.184000	122169664.184000	Alternating exposures requested	N	N
[s] Window stop time (MET)	124761664.184000	124761664.184000	[s] Primary exposure time	0.000000	0.7
[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)	123506344.184000	123504906.59013			
Observation start date	2001-11-30T11:18:00	2001-11-30T10:55:06			
[s] Observation end time (MET)	123536344.184000	123536807.66641			
Observation end date	2001-11-30T19:38:00	2001-11-30T19:46:47			
Read mode	TIMED	TIMED			

2.3 Aspect



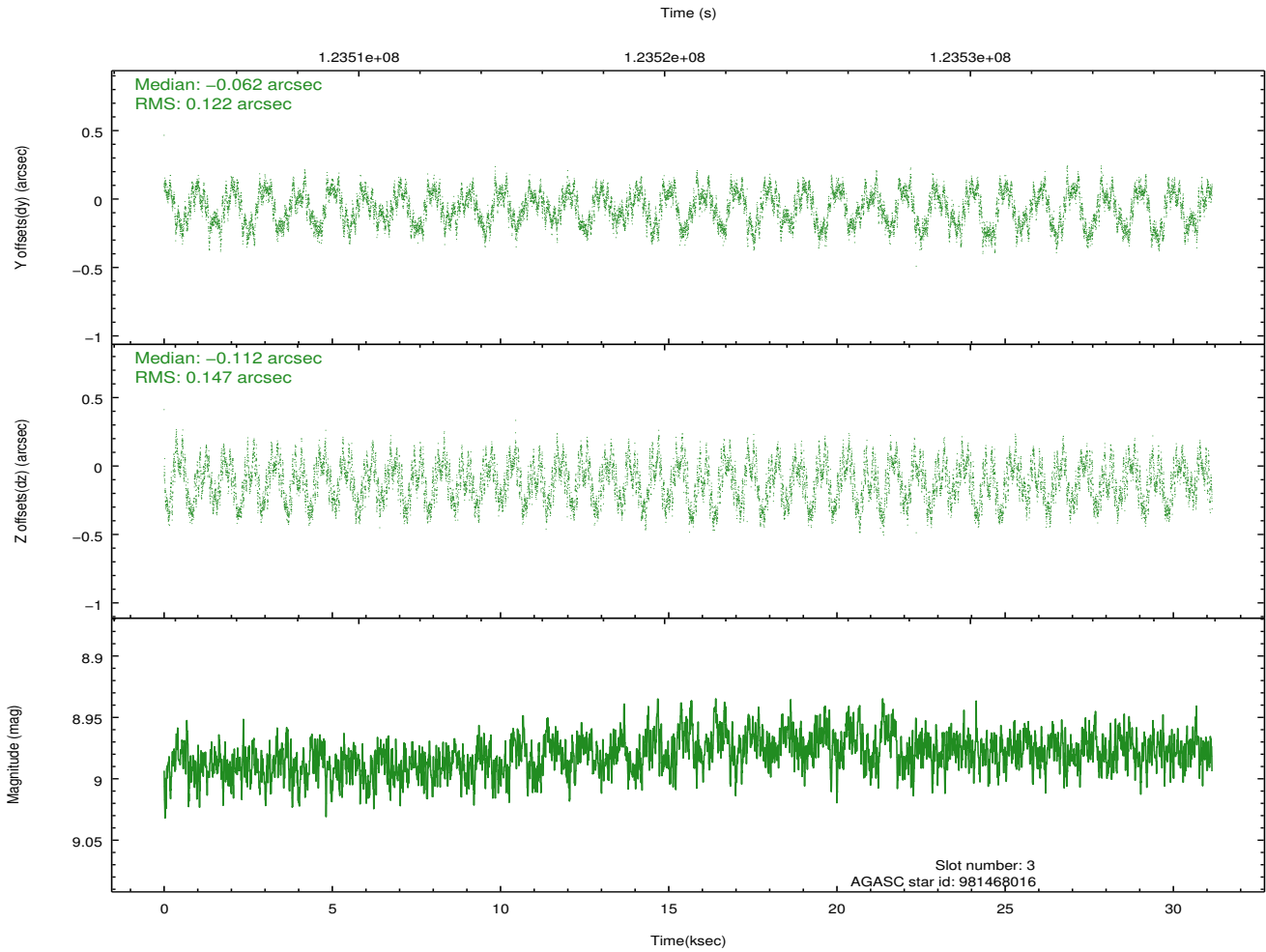
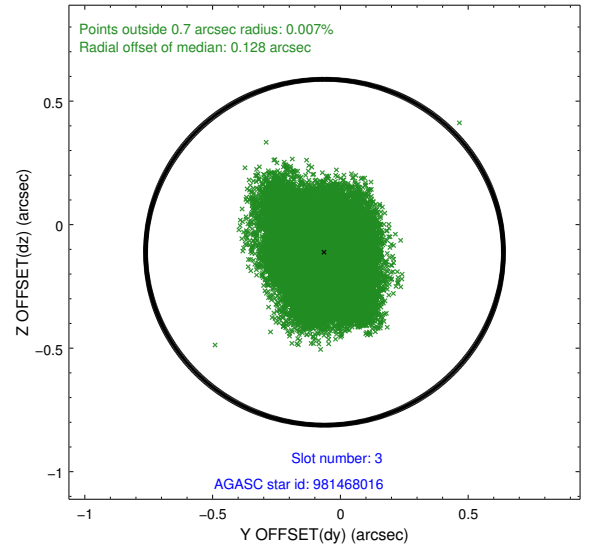
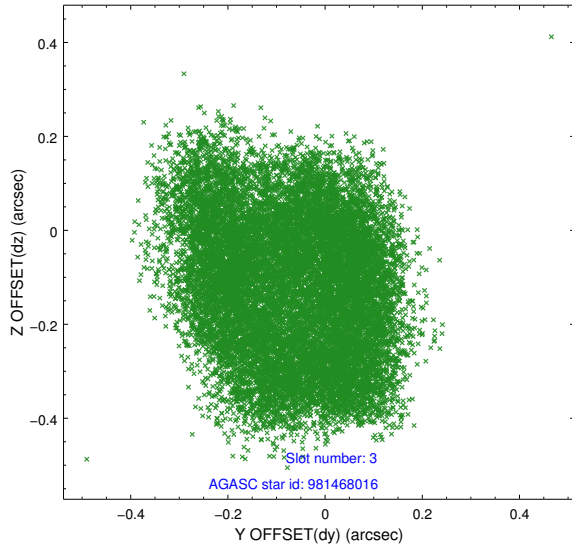


Slot Statistics

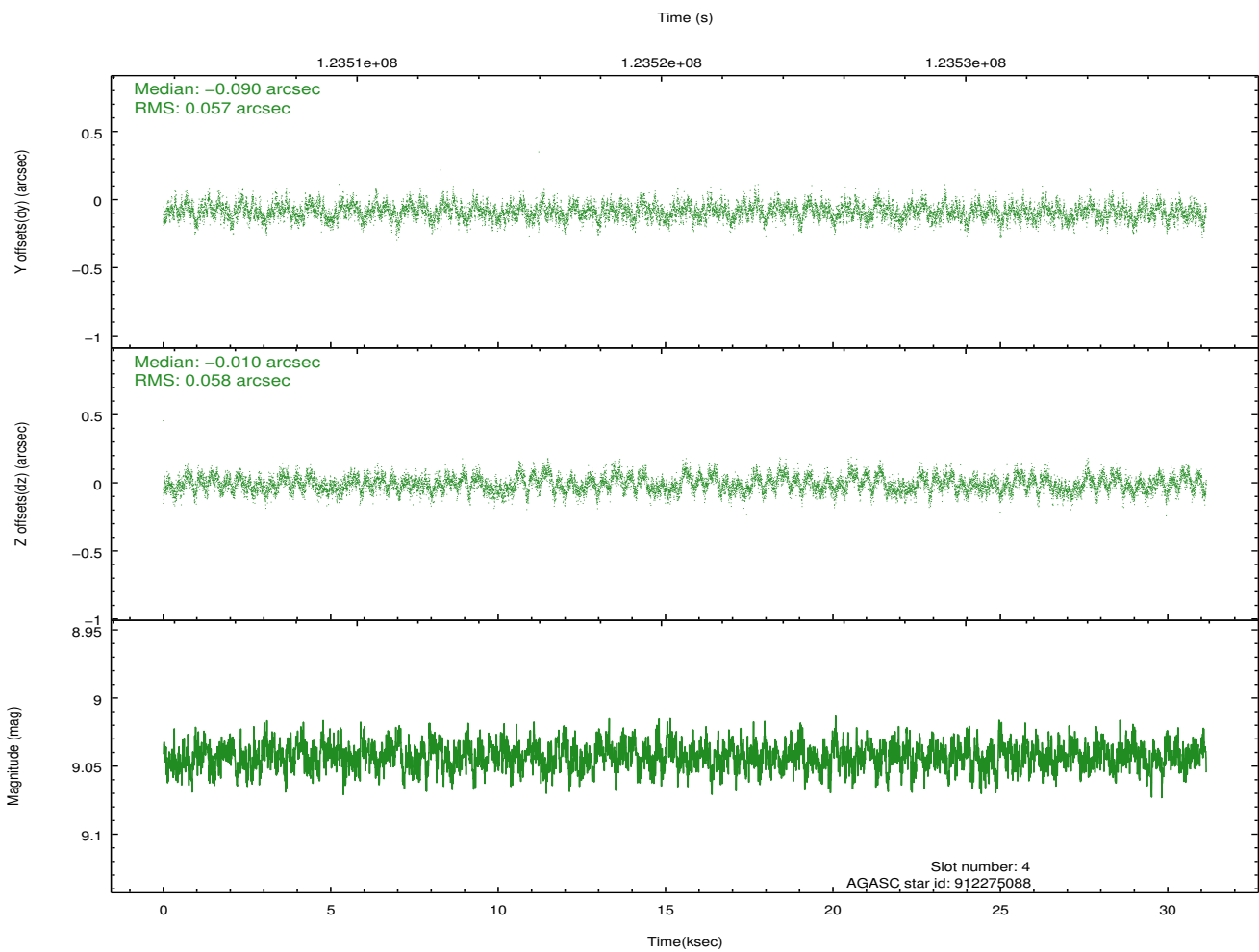
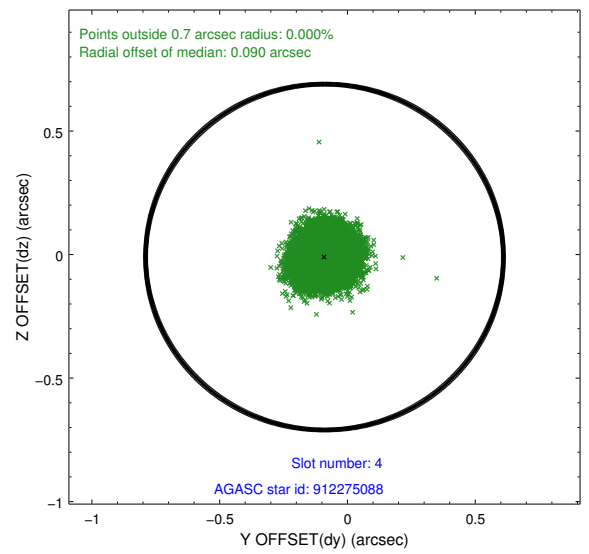
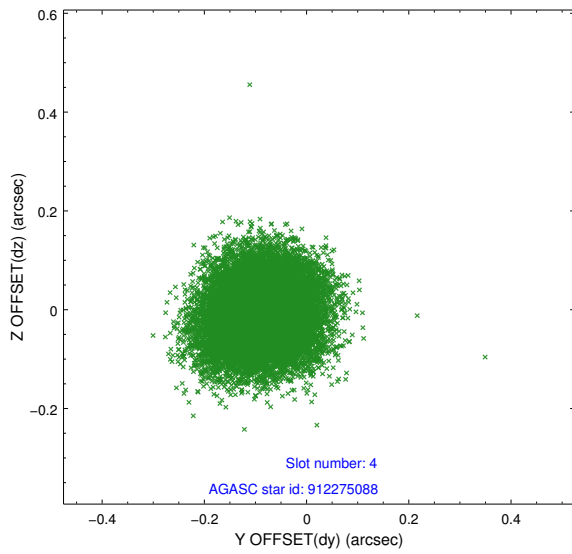
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.09	7599	-0.015	-0.114	0.008	0.015	0.000000	0.000000	-755.58	-1894.29
1	FID	ACIS-S-4	7.18	7599	0.020	0.038	0.005	0.010	0.000000	0.000000	2157.72	14.23
2	FID	ACIS-S-5	7.23	7599	-0.036	0.084	0.008	0.014	0.000000	0.000000	-1808.34	8.05
3	GUIDE	981468016	8.98	15190	-0.062	-0.112	0.210	0.300	328.842457	-30.034984	-1240.88	-2375.70
4	GUIDE	912275088	9.04	15193	-0.090	-0.010	0.088	0.139	329.619228	-29.738698	-1608.56	247.40
5	GUIDE	981478152	9.41	15181	0.035	0.120	0.110	0.188	329.415589	-30.057192	-680.06	-677.86
6	GUIDE	981468128	9.37	15186	0.061	0.004	0.102	0.183	329.756350	-30.158334	-38.26	242.35
7	GUIDE	981469488	9.60	15176	0.049	0.004	0.106	0.174	329.261199	-30.045155	-852.83	-1129.02

2.4 Star Slots

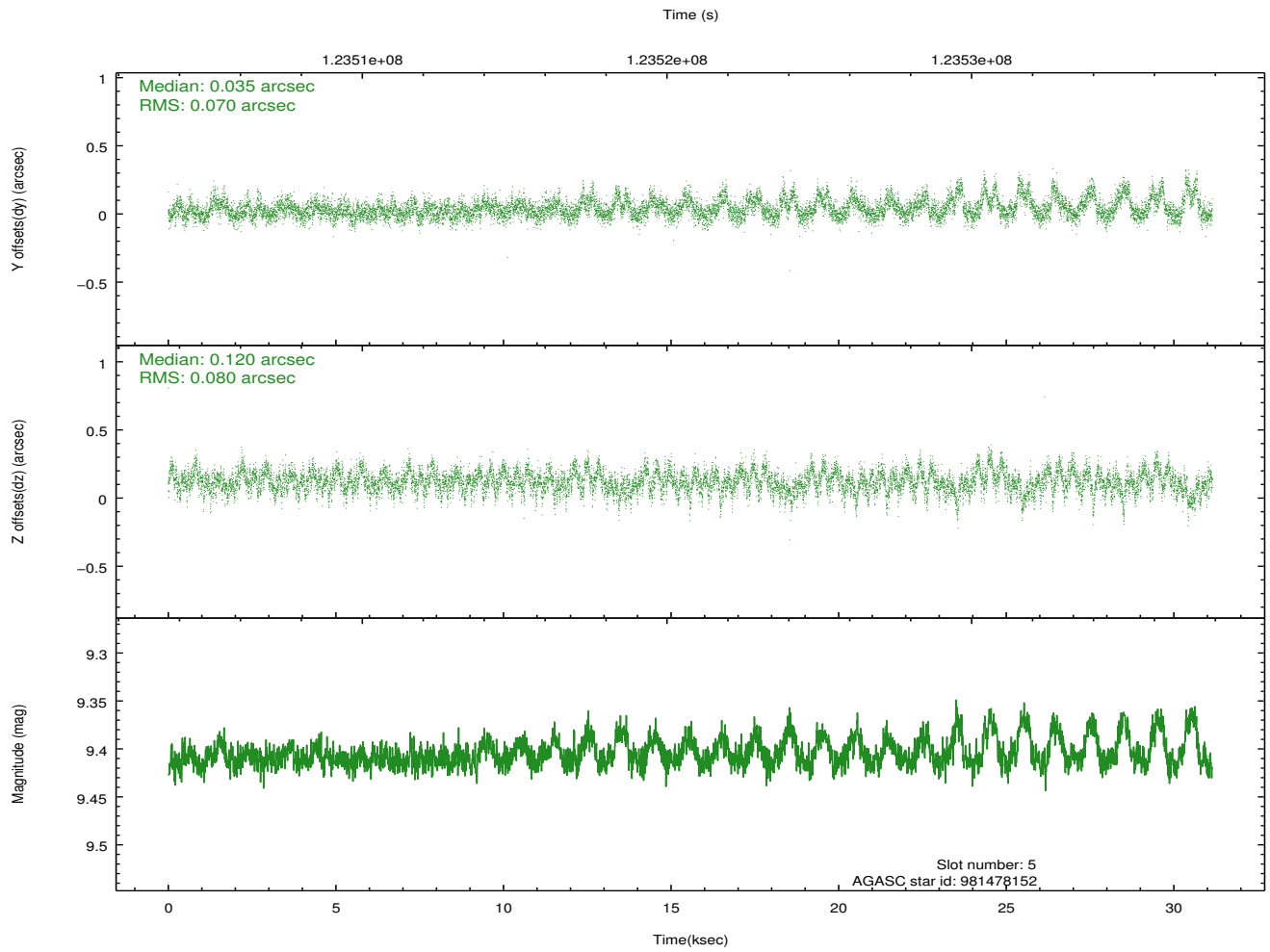
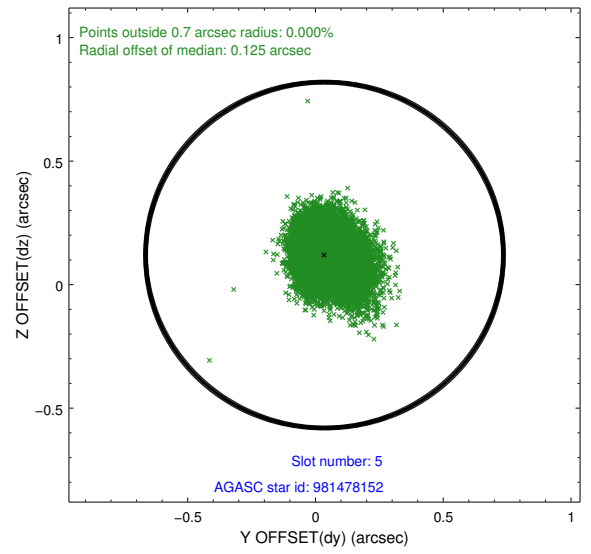
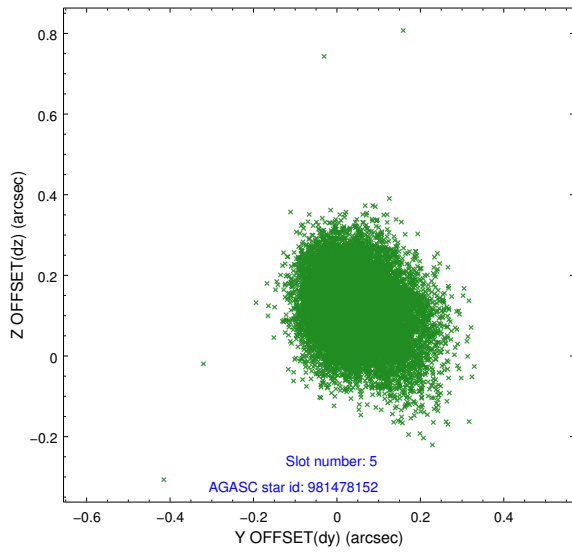
2.4.1 Slot 3



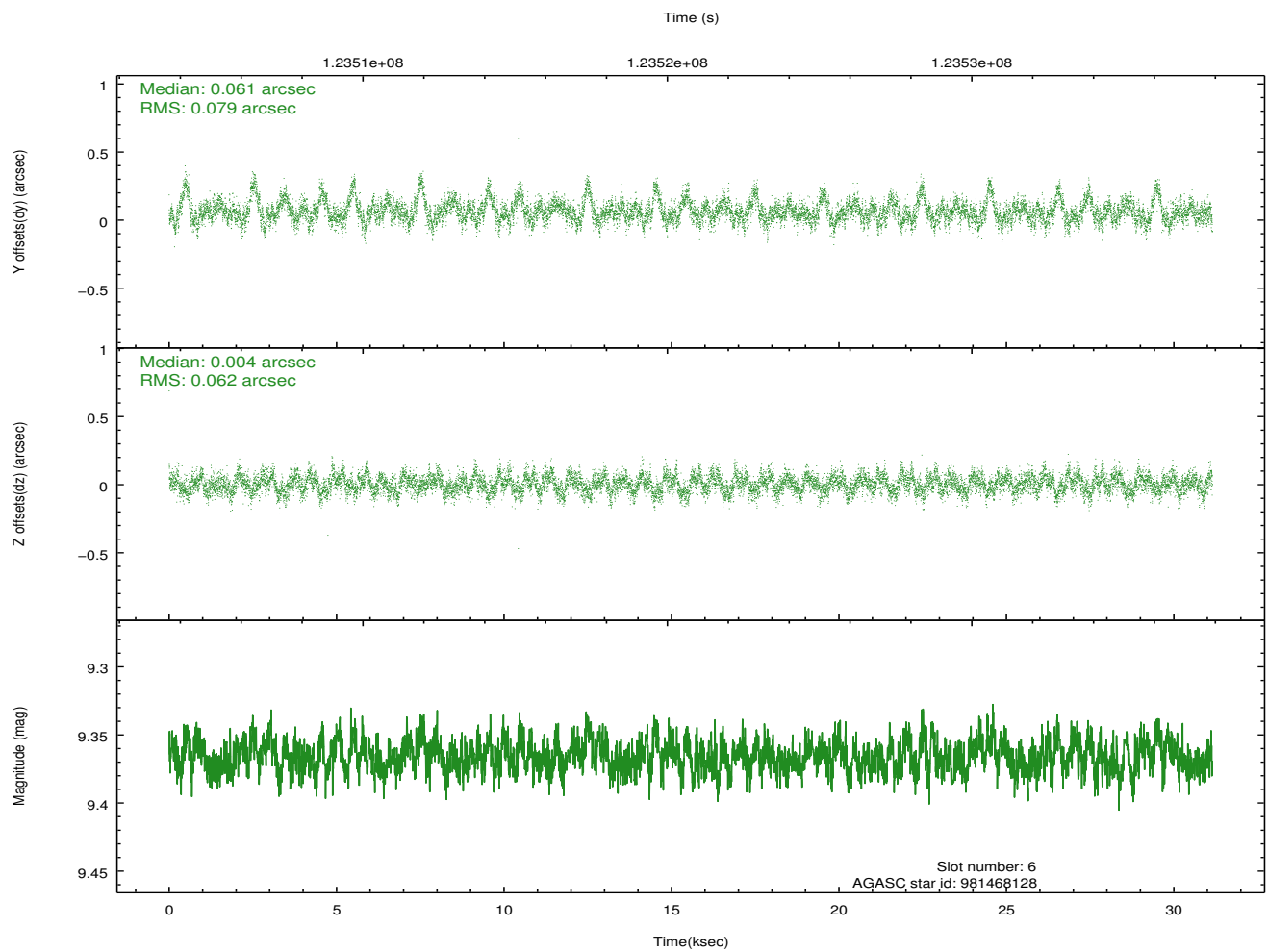
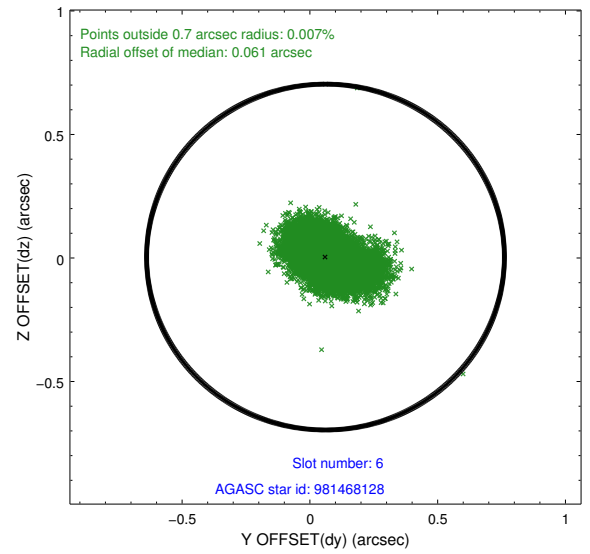
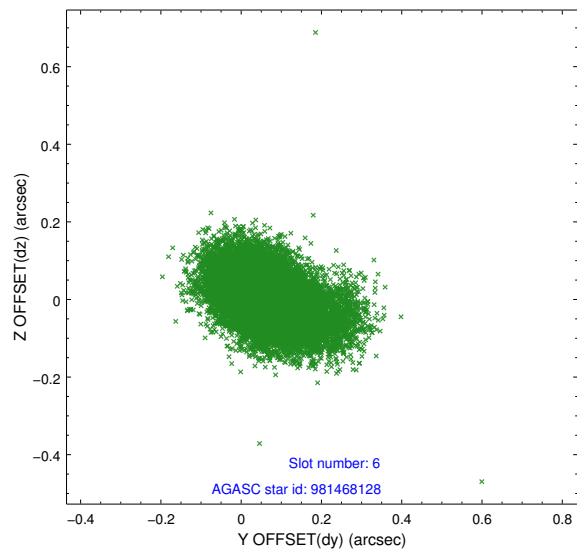
2.4.2 Slot 4



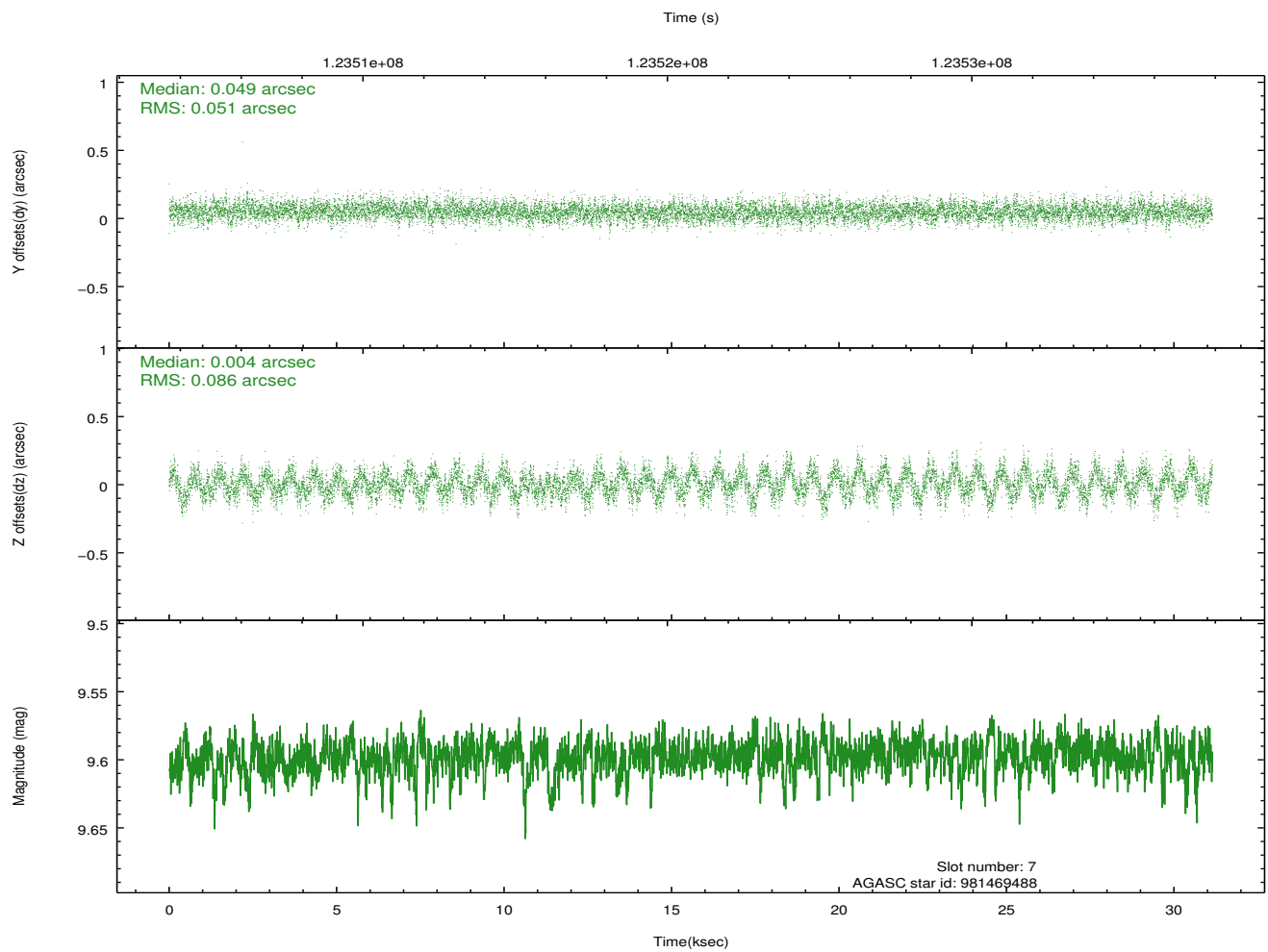
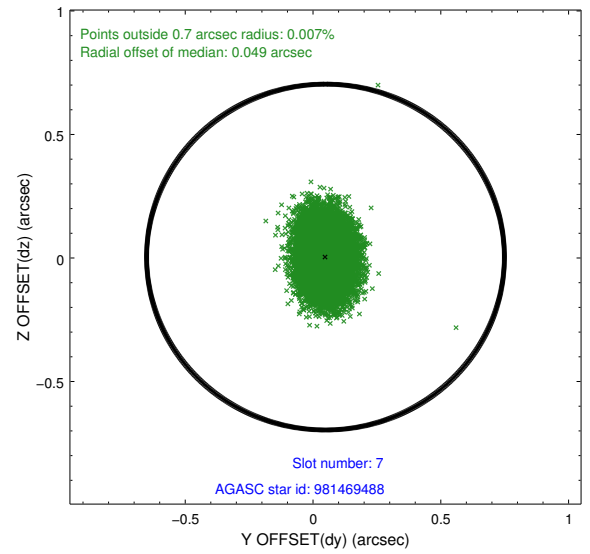
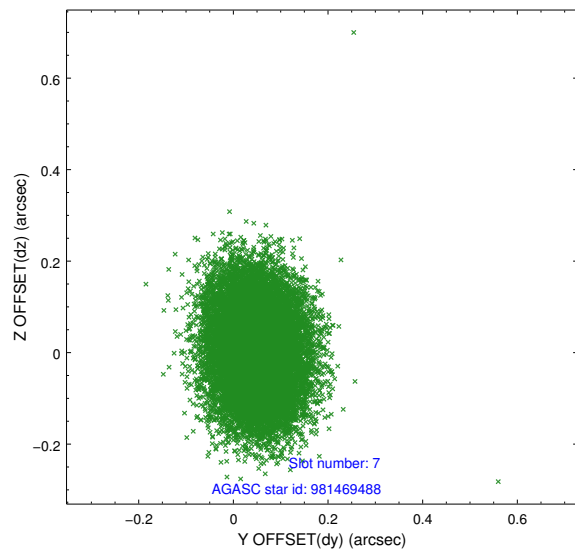
2.4.3 Slot 5



2.4.4 Slot 6

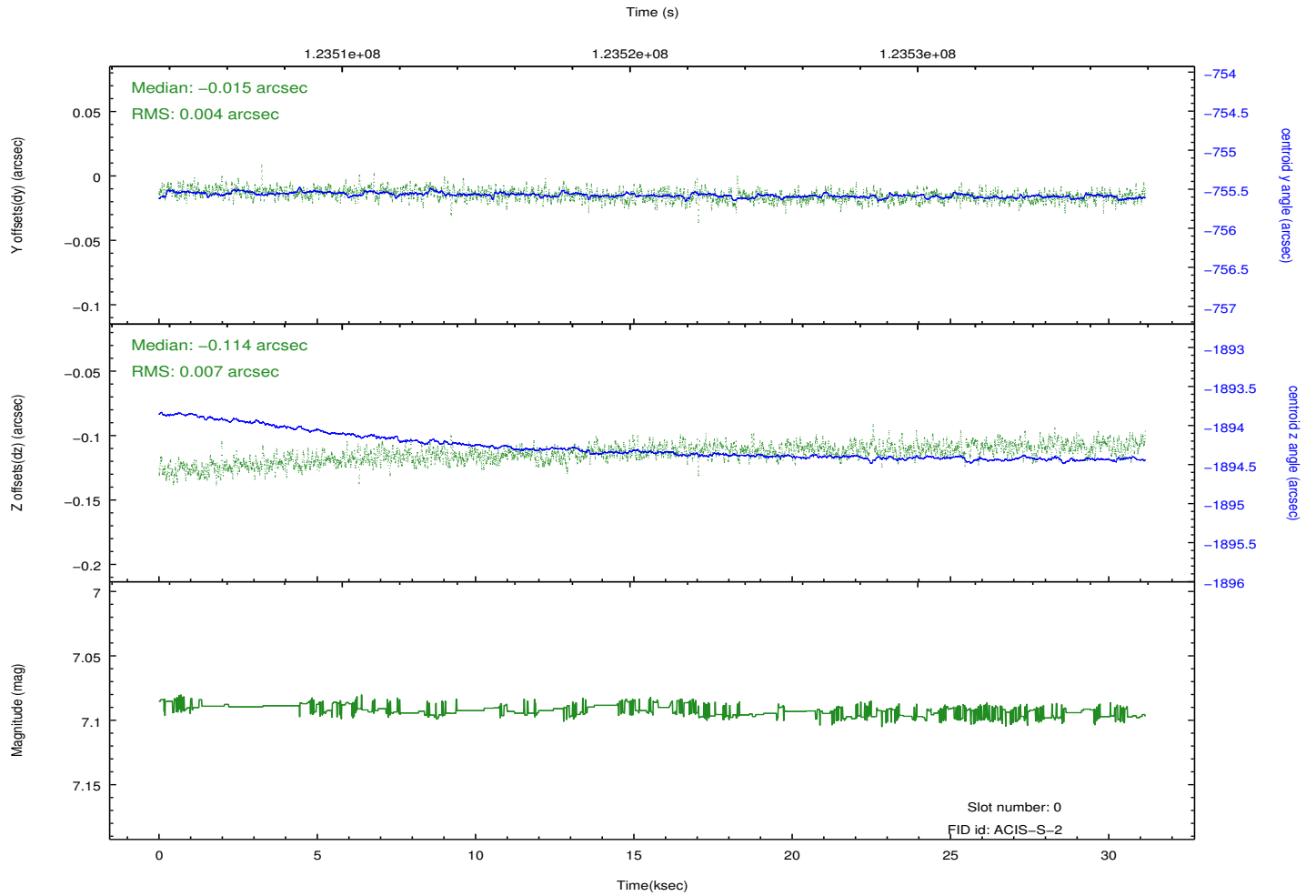
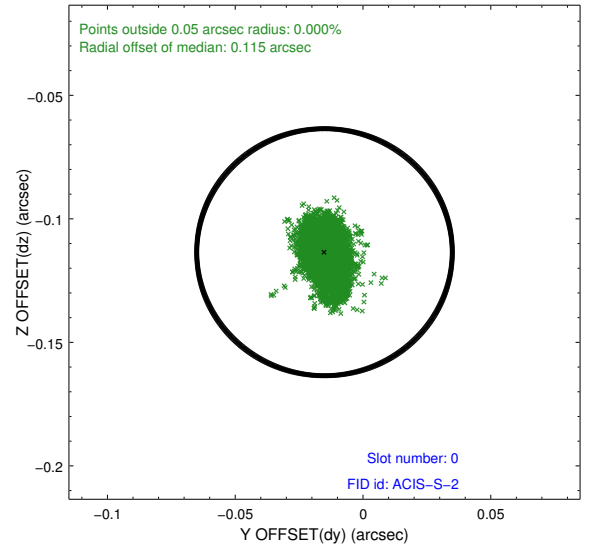
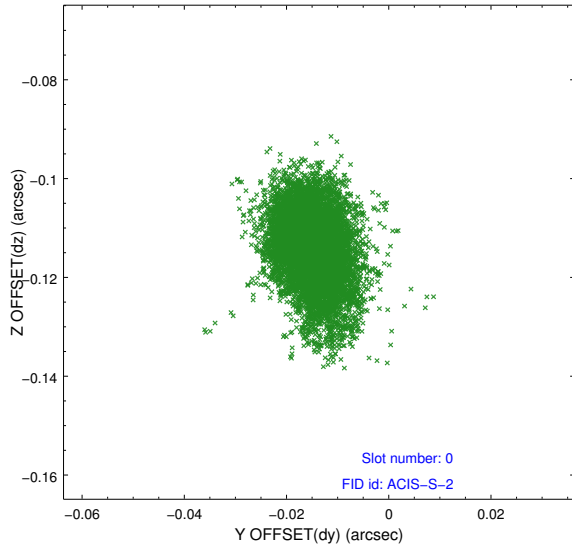


2.4.5 Slot 7

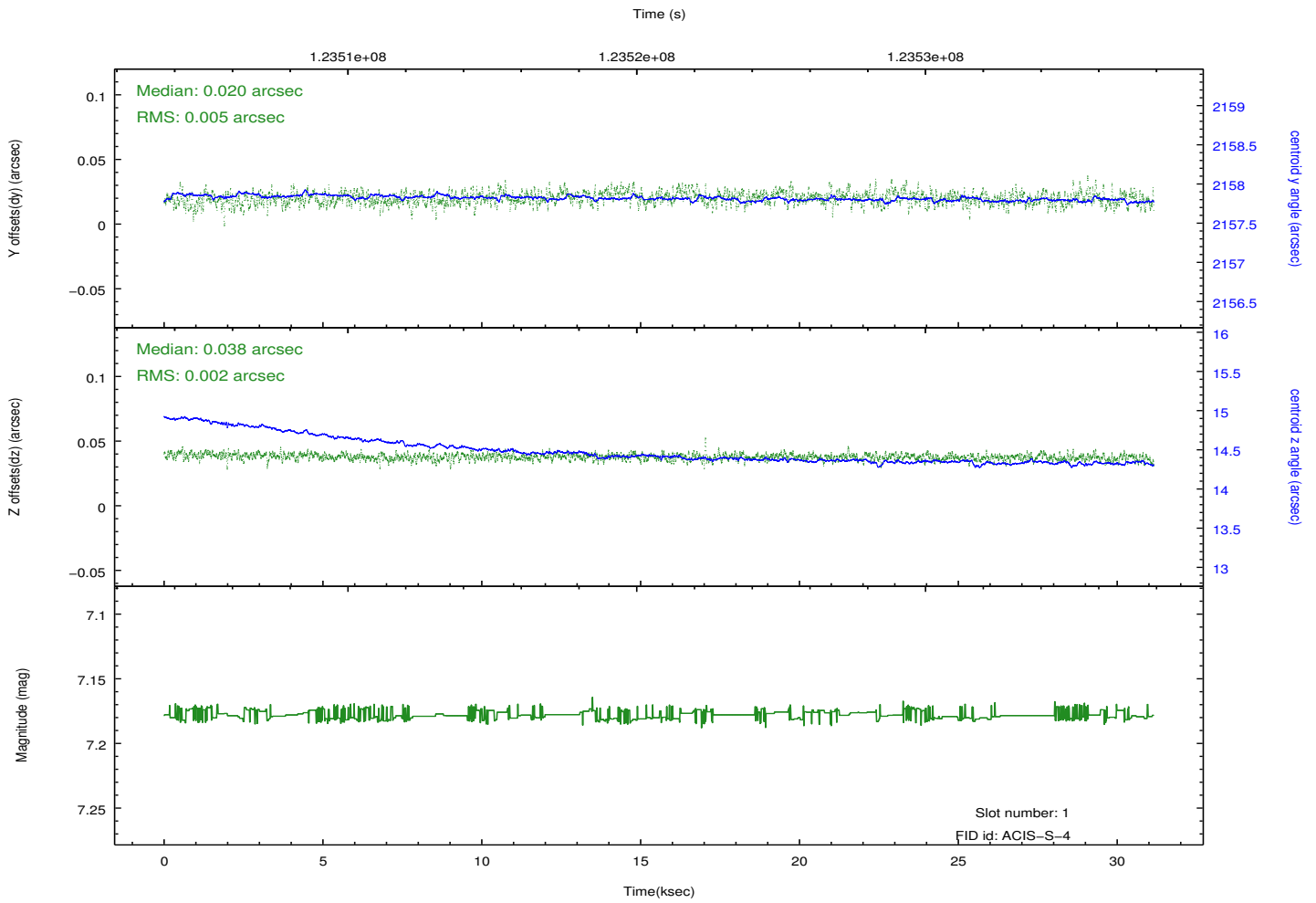
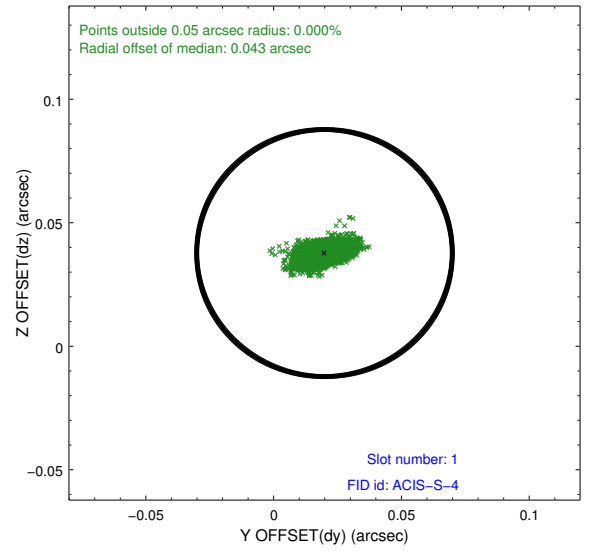
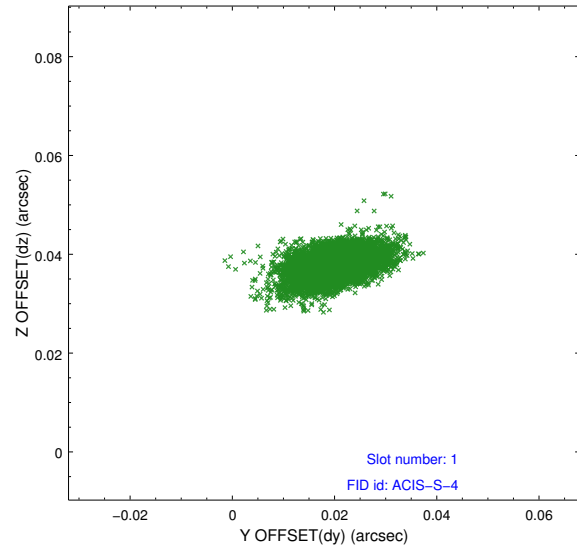


2.5 FID Slots

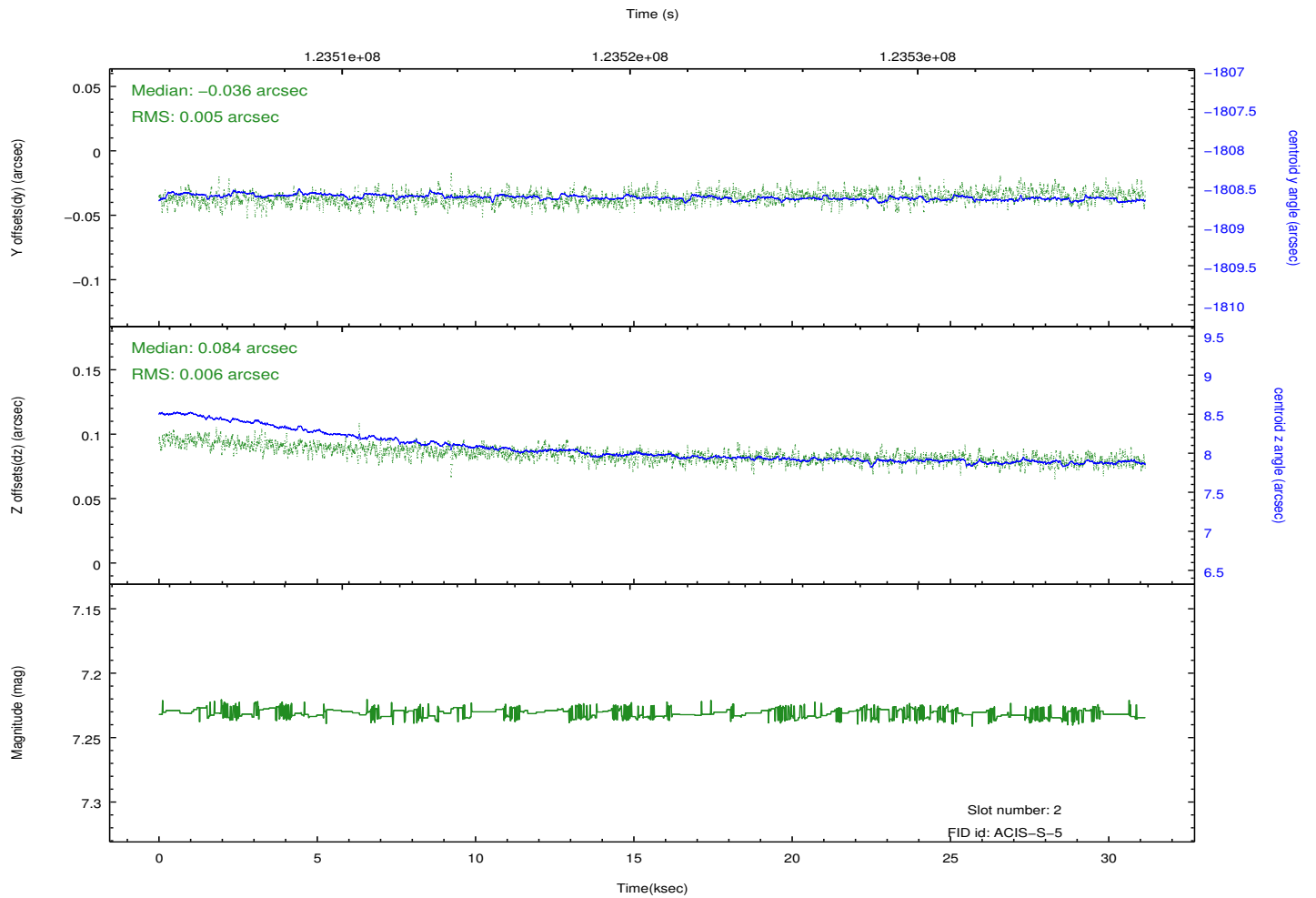
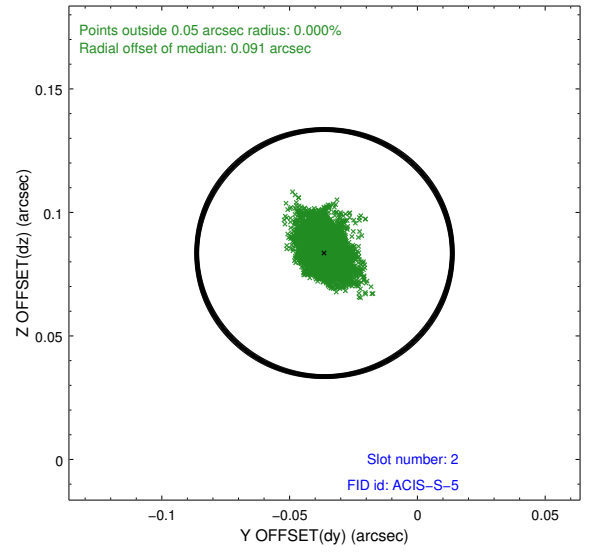
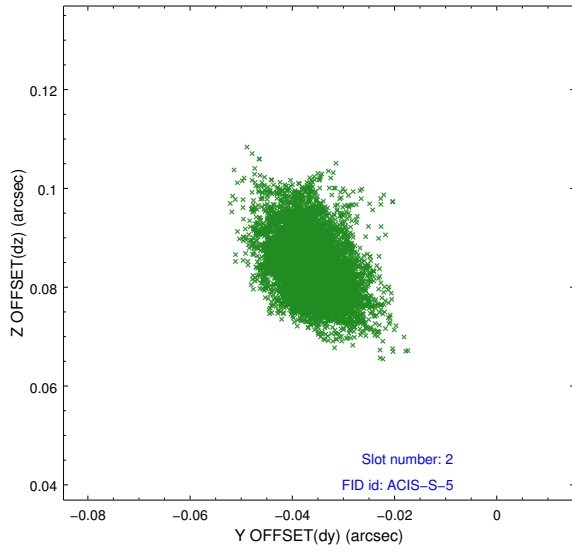
2.5.1 Slot 0



2.5.2 Slot 1

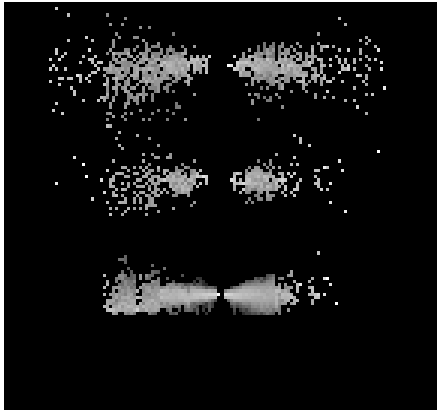


2.5.3 Slot 2

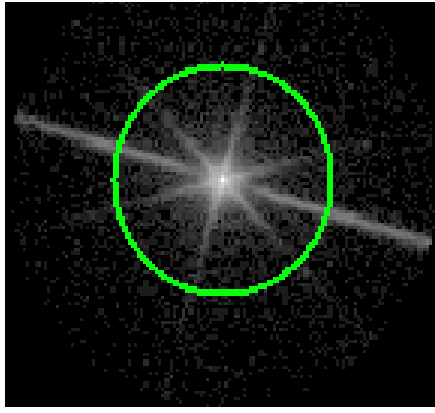


3 Gratings

3.1 LETG Arm



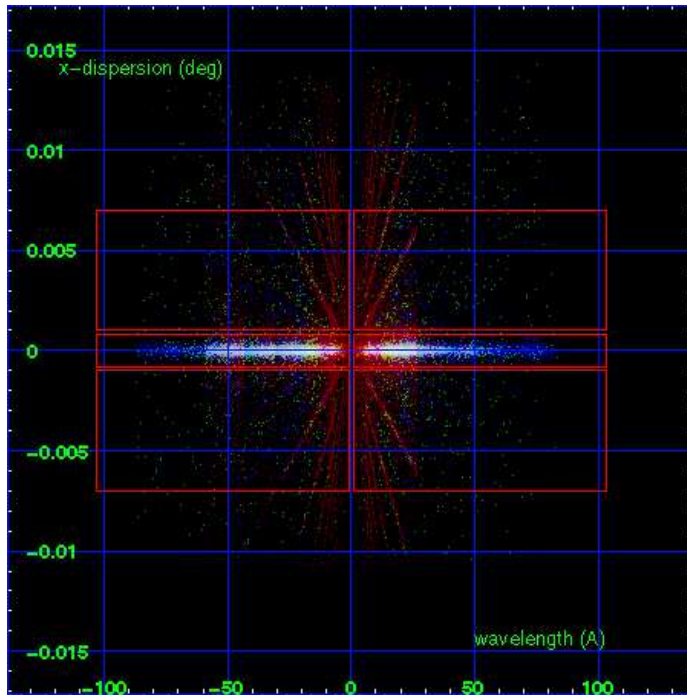
LETG Order Sort 123



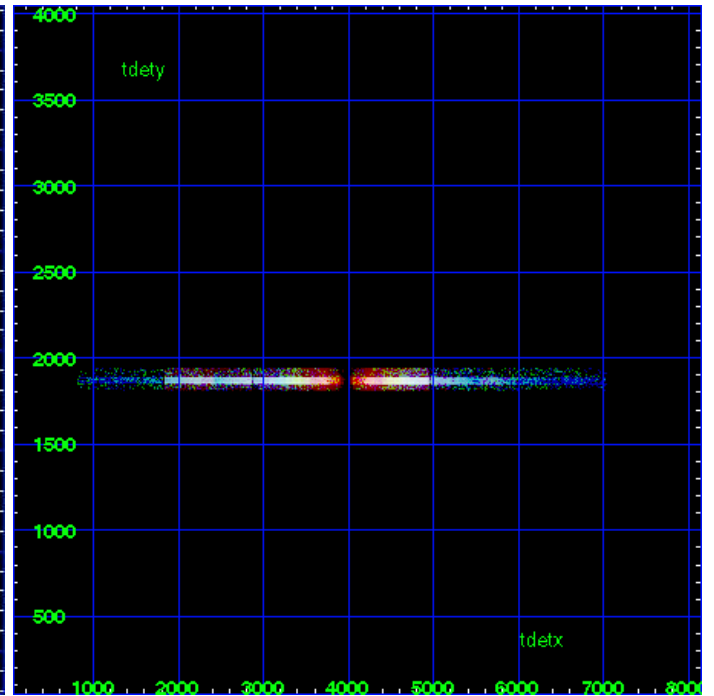
LETG Zero Order



LETG Order Sort ALL

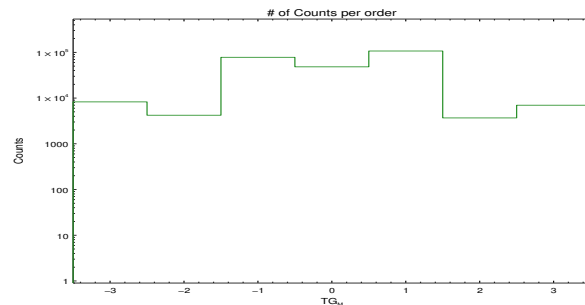


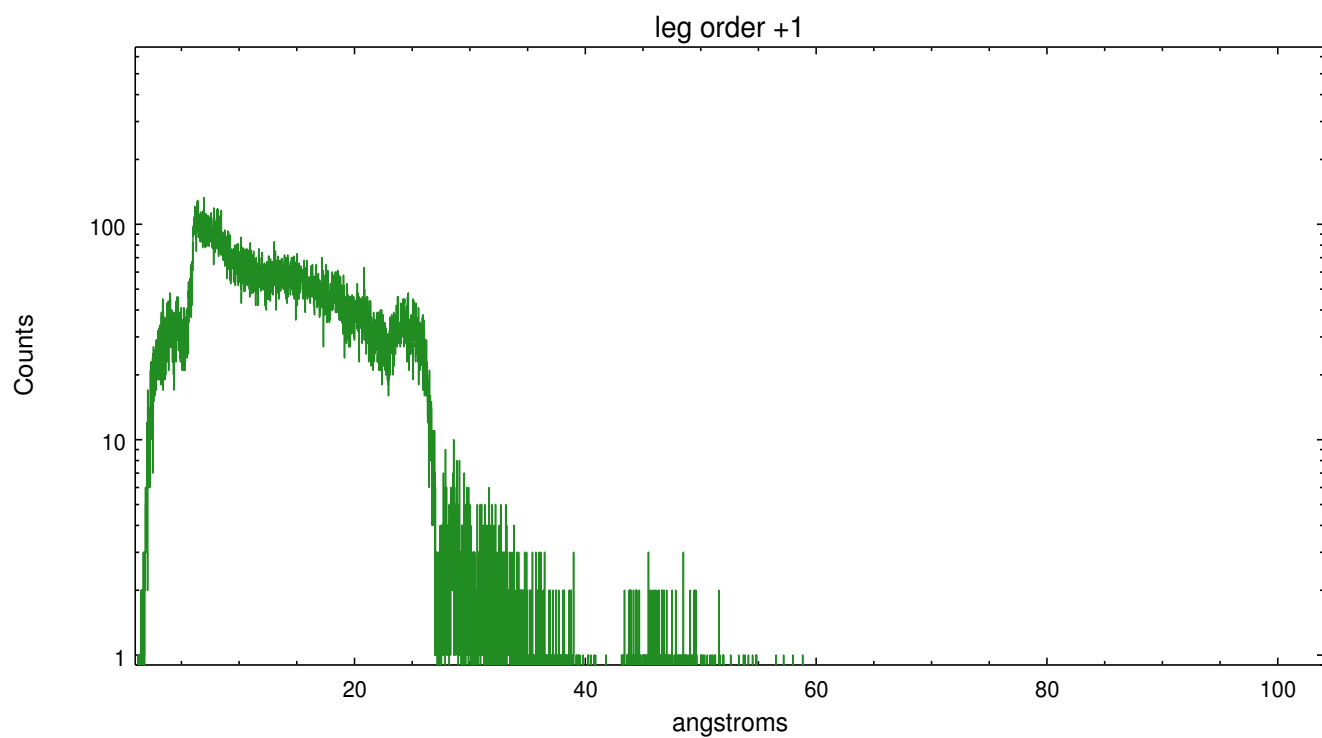
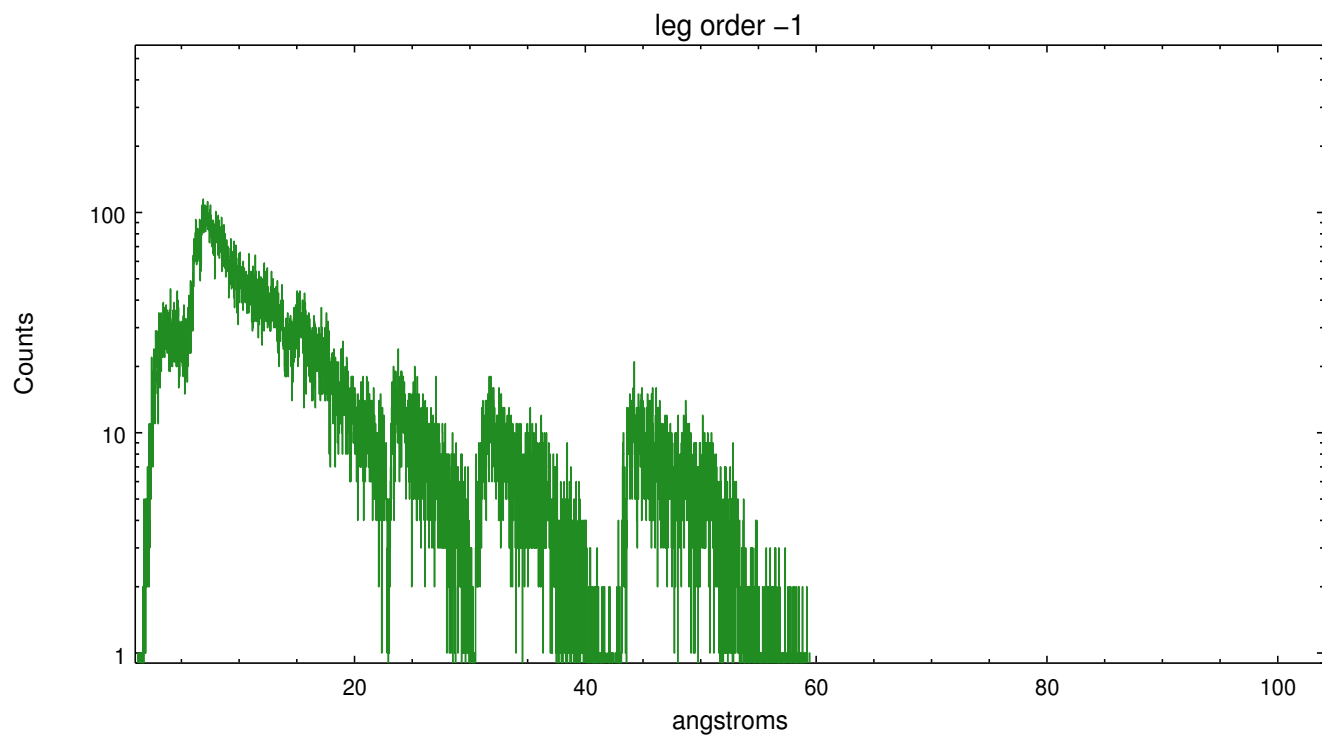
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	8253	4213	77929	48212	107012	3680	6979





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.10.24
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.485

A.2 Comments

Zeroth order piled up. Standard data processing software did not correctly locate the zeroth order due to pileup. Manual intervention was used to input the correct sky coordinates ($x=4040.66$, $y=3952.72$) into the `*src1a.fits` file table. These corrected coordinates were determined using a software tool developed by CXC called `findzero`, which is expected to be released in CIAO as `tg_findzo` (currently in ISIS as `findzo`). The tool calculates the point of intersection of the readout streak and the meg arm. The zeroth order source position determined by the standard pipeline processing using the tool `tgdetect` was not used in this processing. The newly determined zeroth order coordinates have been placed in the `*src1a.fits` file, replacing the coordinates determined by `tgdetect`. Note that these corrected coordinates of the zeroth order cannot be reproduced by running `tgdetect` on the data.