

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 11972 - L2 Version 2
Chandra X-Ray Center

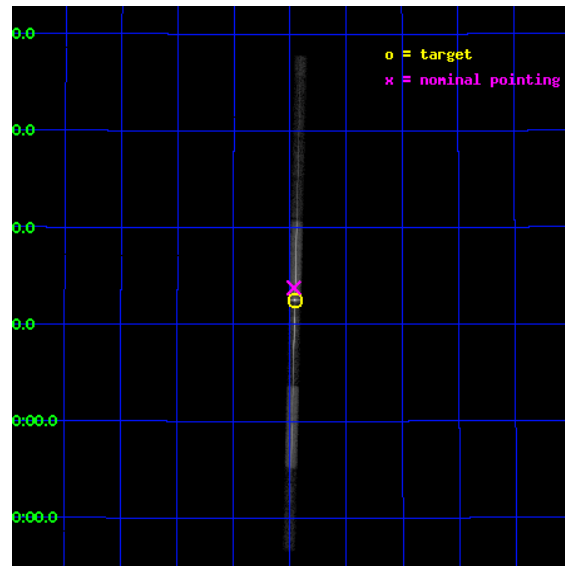
L2 Processing Date : Jun 30 2012

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

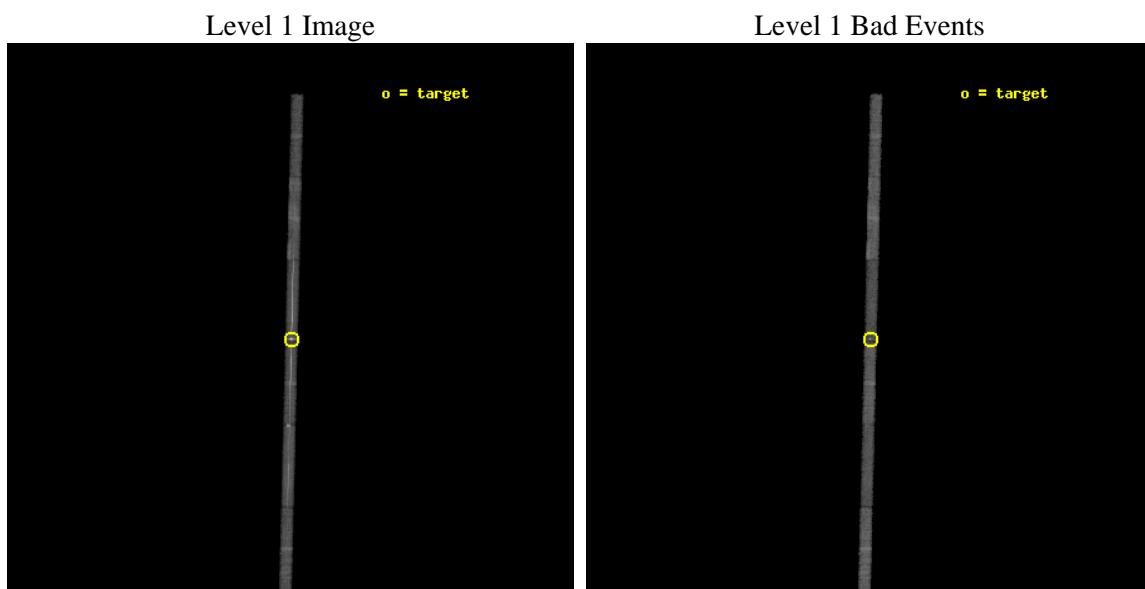
seq_num	790221	Sequence number
obs_id	11972	Observation id
title	AO-11 Calibration Observations of Mkn421	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	MKN421	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	166.113333	Observer's specified target RA [deg]
dec_targ	38.208806	Observer's specified target Dec [deg]
ra_nom	166.11603853063	Nominal RA [deg]
dec_nom	38.229758052889	Nominal Dec [deg]
roll_nom	271.368258761	Nominal Roll [deg]
revision	2	Processing version of data
ontime	20065.305477202	Sum of GTIs [s]
livetime	18954.056237236	Livetime [s]
ontime4	20065.346517205	Sum of GTIs [s]
ontime5	20065.264437199	Sum of GTIs [s]
ontime6	20065.223397195	Sum of GTIs [s]
ontime7	20065.305477202	Sum of GTIs [s]
ontime8	20065.182357192	Sum of GTIs [s]
ontime9	20065.141317189	Sum of GTIs [s]
l2events	111719	Number of level 2 events



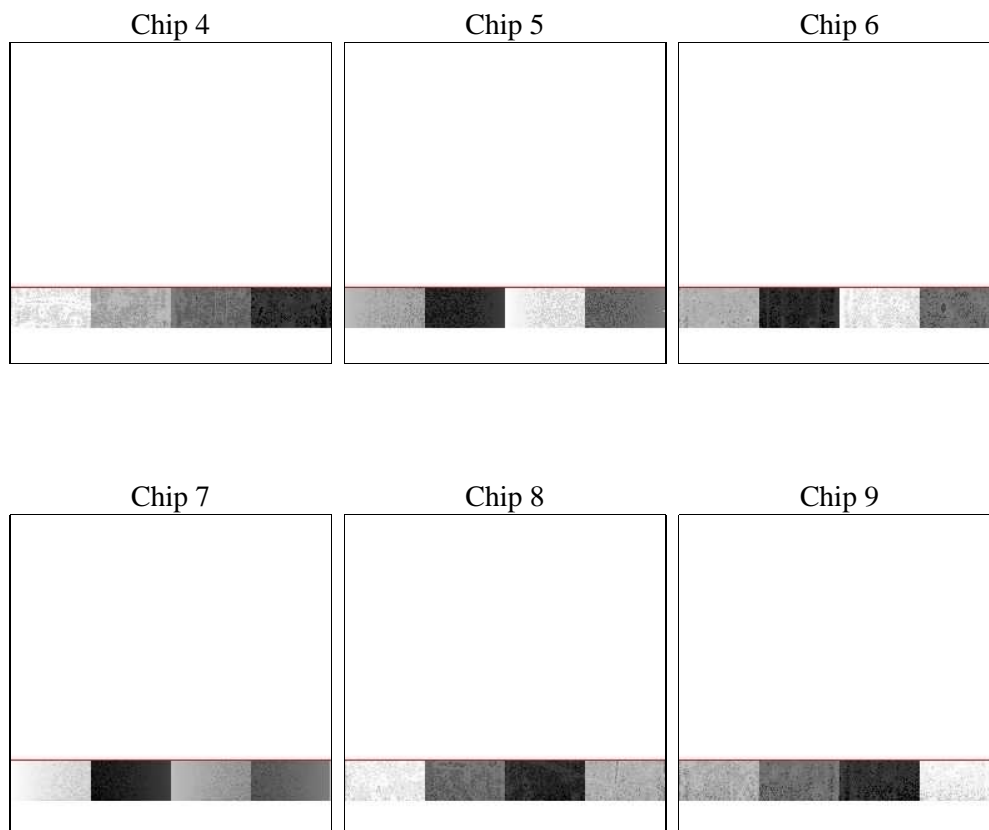
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	20000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	20065.305477202	Sum of GTIs [s]
caldsver	4.5.0	 	ontime4	20065.346517205	Sum of GTIs [s]
date	2012-06-30T00:41:29	Date and time of file creation	ontime5	20065.264437199	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	20065.223397195	Sum of GTIs [s]
			ontime7	20065.305477202	Sum of GTIs [s]
			ontime8	20065.182357192	Sum of GTIs [s]
			ontime9	20065.141317189	Sum of GTIs [s]
			l1events	253007	Number of level 1 events

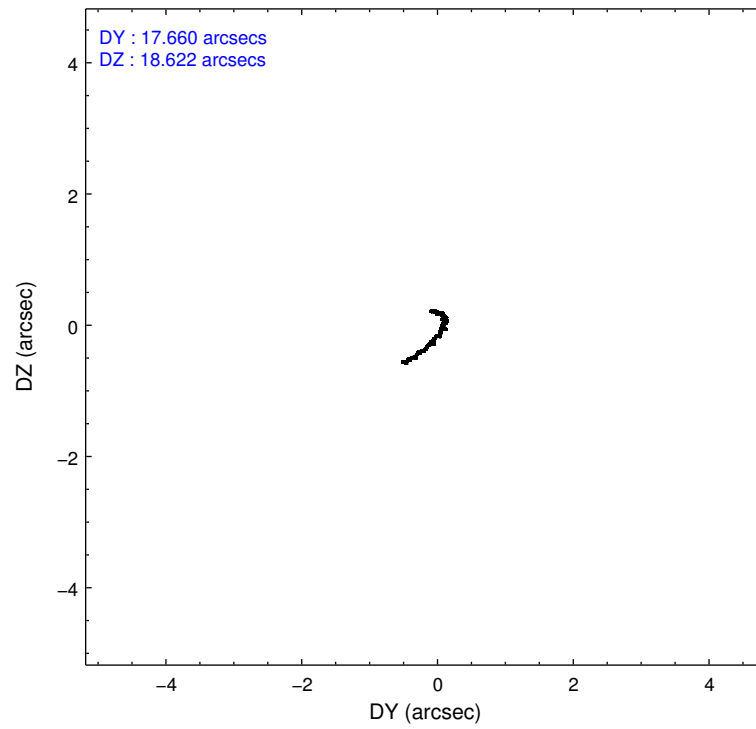
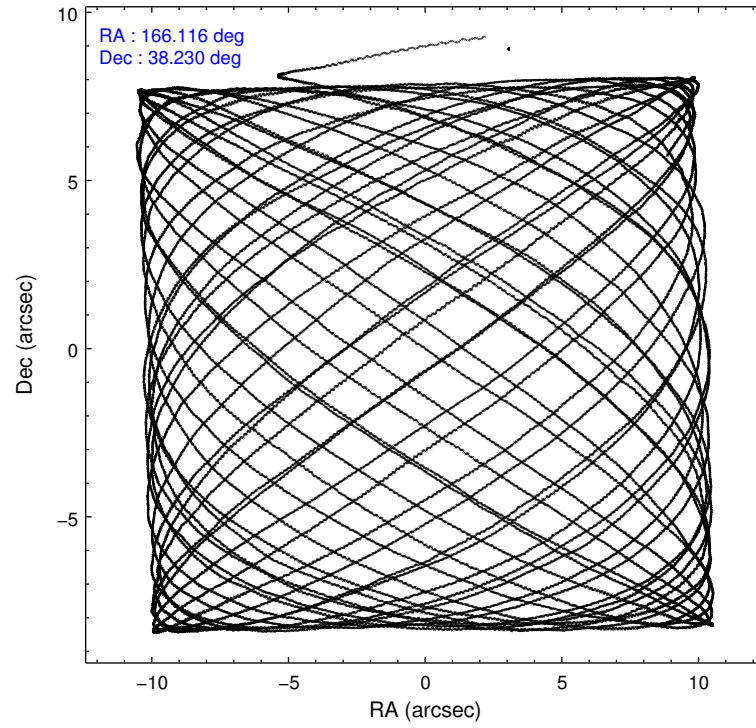
2.1.4 Events

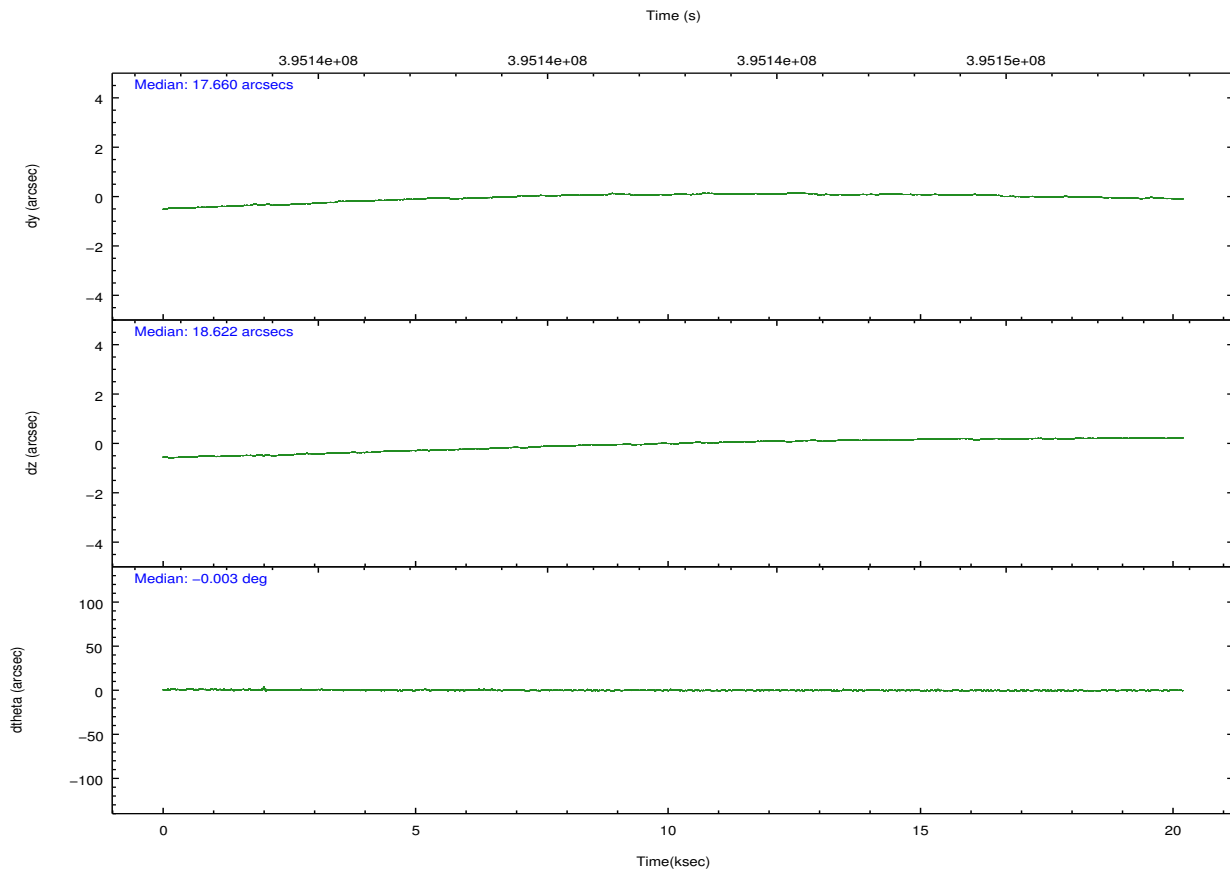
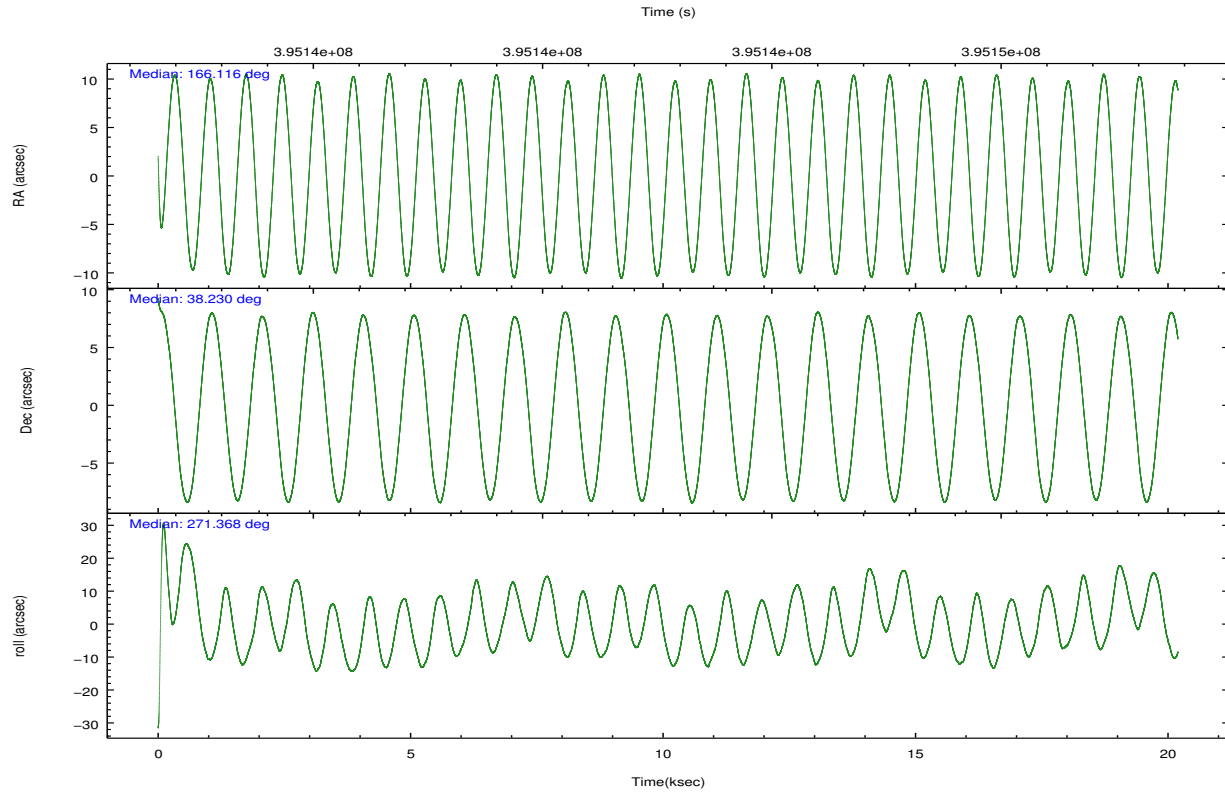
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	29092	38043	41936	82589	38303	23044	grade 0 events	1641	7189	15015	16343	3712	1333
rejected events	25291	14588	21961	19617	27742	19692		5%	18%	35%	19%	9%	5%
rejected %	86%	38%	52%	23%	72%	85%	grade 1 events	15	152	32	795	13	9
								0%	0%	0%	0%	0%	0%
							grade 2 events	709	5047	2134	15250	1983	562
								2%	13%	5%	18%	5%	2%
							grade 3 events	510	1831	1007	7147	1020	483
								1%	4%	2%	8%	2%	2%
							grade 4 events	467	1765	1012	7152	999	468
								1%	4%	2%	8%	2%	2%
							grade 5 events	800	2805	807	5144	1193	787
								2%	7%	1%	6%	3%	3%
							grade 6 events	474	7623	808	17082	2848	506
								1%	20%	1%	20%	7%	2%
							grade 7 events	24476	11631	21121	13676	26535	18896
								84%	30%	50%	16%	69%	81%

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	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	166.097499	166.1160385306306	CCD I2 on	N	N
[deg] Pointing Dec	38.252877	38.22975805288914	CCD I3 on	N	N
[deg] Pointing Roll	271.223147	271.3682587609958	CCD S0 on	O1	Y
[s] Window start time (MET)	394329666.184000	394329666.184000	CCD S1 on	Y	Y
[s] Window stop time (MET)	404870466.184000	404870466.184000	CCD S2 on	Y	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S3 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S4 on	Y	Y
[mm] SIM translation stage pos	-182.132523	-182.1370004450064	CCD S5 on	Y	Y
[mm] SIM translation stage offset	-8	-7.995522138001405	Number of optional ACIS chips dropped	0	0
[s] Observation start time (MET)	395132836.184000	395131944.29706	On-chip summing requested	N	N
Observation start date	2010-07-10T07:06:10	2010-07-10T06:52:24	Subarray requested	CUSTOM	1/8
[s] Observation end time (MET)	395152836.184000	395152970.63564	Subarray start row	113	113
Observation end date	2010-07-10T12:39:30	2010-07-10T12:42:50	Subarray row count	128	128
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	0.7

2.3 Aspect



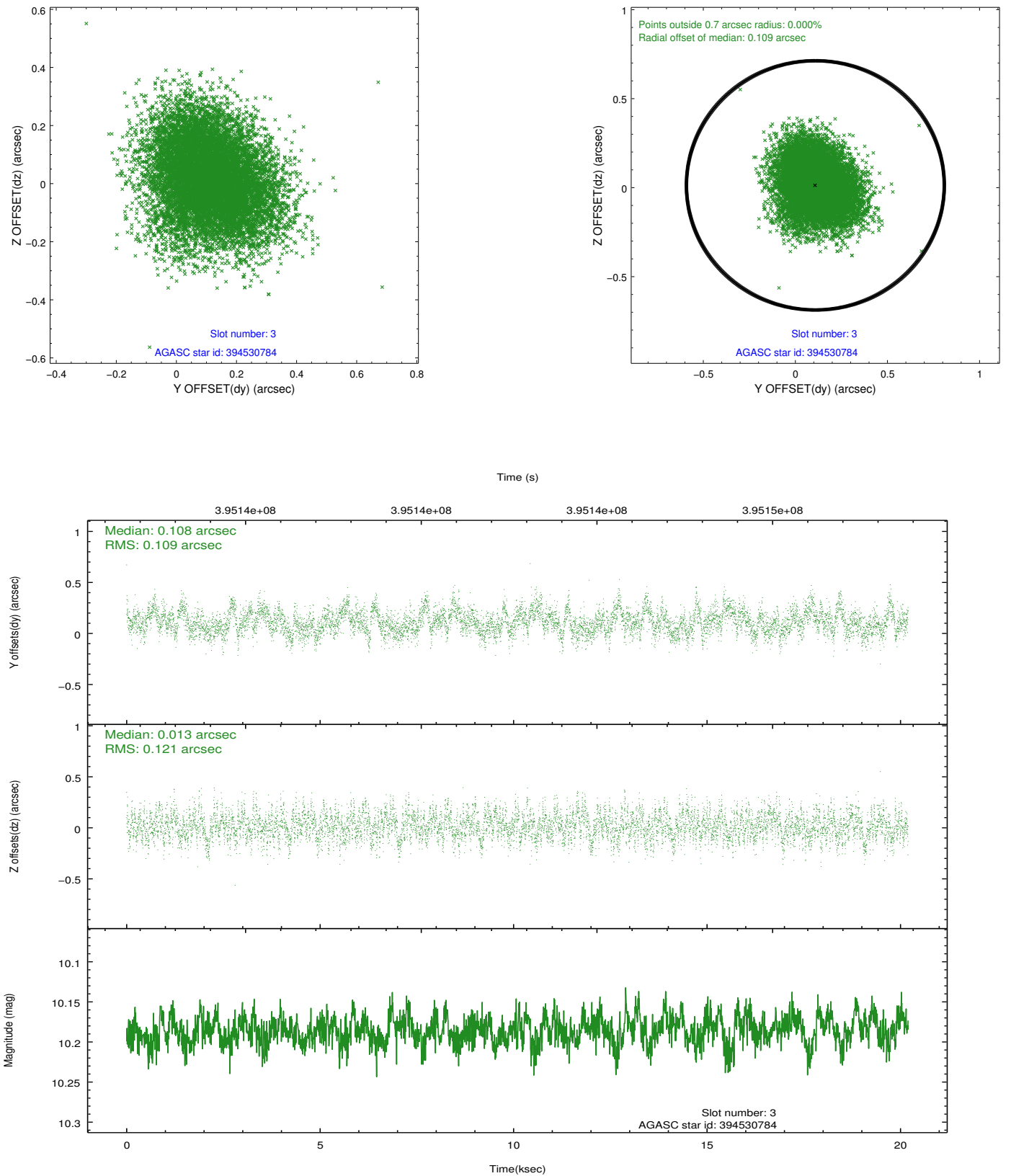


Slot Statistics

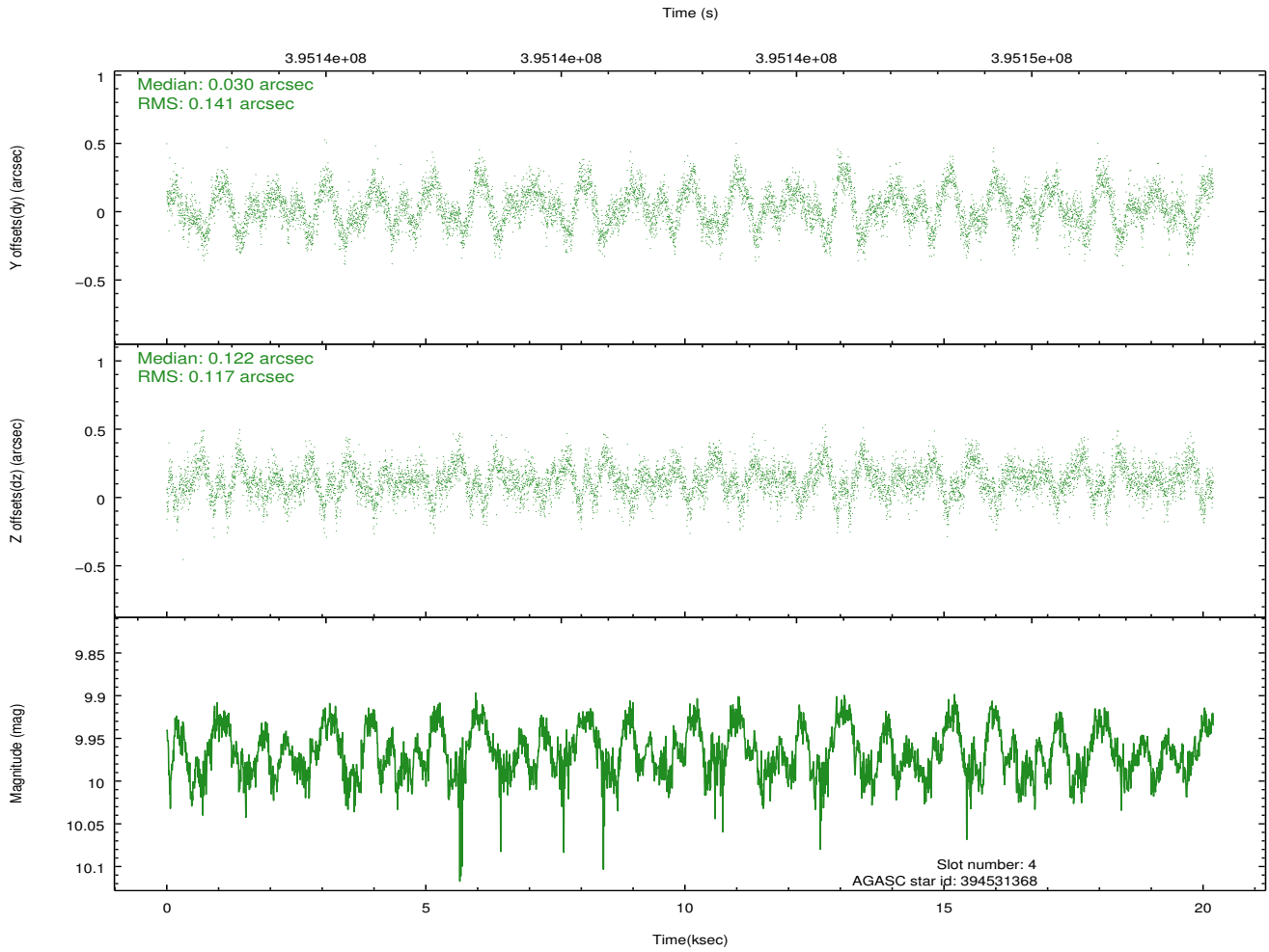
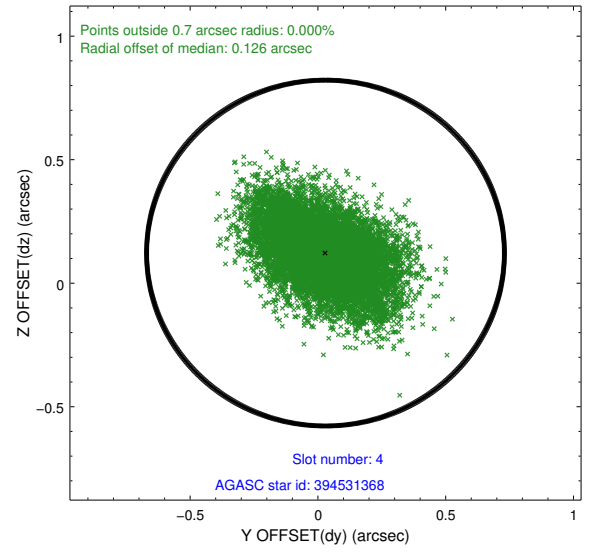
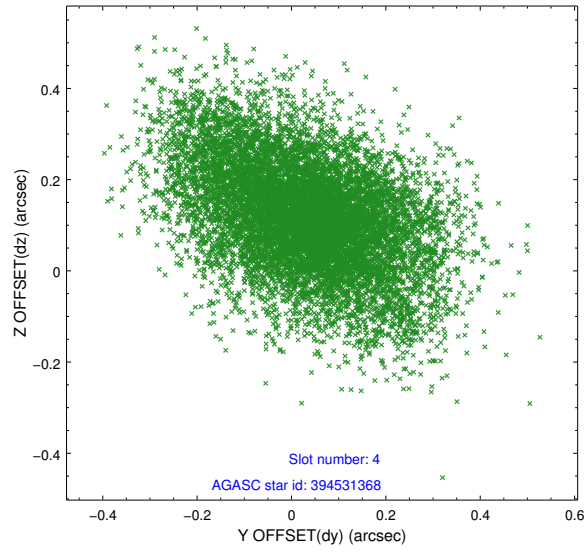
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.87	4925	-0.140	-0.088	0.010	0.022	0.000000	0.000000	-770.25	-1904.82
1	FID	ACIS-S-4	6.94	4926	0.139	0.082	0.007	0.012	0.000000	0.000000	2143.25	3.55
2	FID	ACIS-S-6	7.16	4926	-0.027	0.013	0.012	0.026	0.000000	0.000000	392.12	641.12
3	GUIDE	394530784	10.19	9831	0.108	0.013	0.175	0.281	165.569172	38.418674	-632.18	-1476.66
4	GUIDE	394531368	9.97	9803	0.030	0.122	0.194	0.324	165.794613	38.837127	-2121.91	-803.95
5	GUIDE	394533848	8.73	9846	0.012	0.027	0.102	0.158	166.382906	38.276007	-67.71	804.99
6	GUIDE	394543960	9.79	9822	0.068	-0.129	0.164	0.257	165.802757	37.787371	1656.78	-873.81
7	GUIDE	394546712	6.61	9851	-0.217	-0.039	0.078	0.141	166.451462	38.394357	-489.21	1008.81

2.4 Star Slots

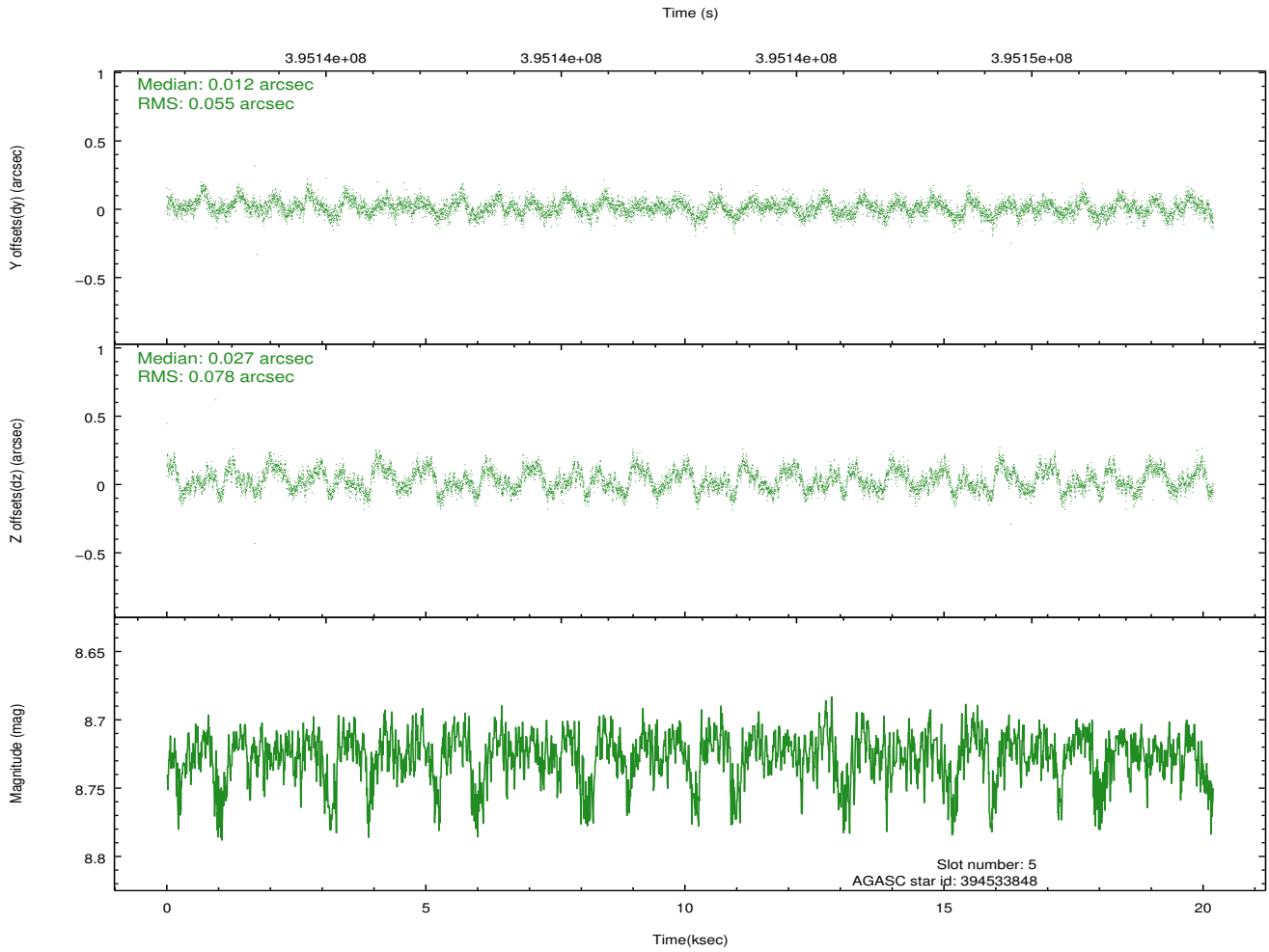
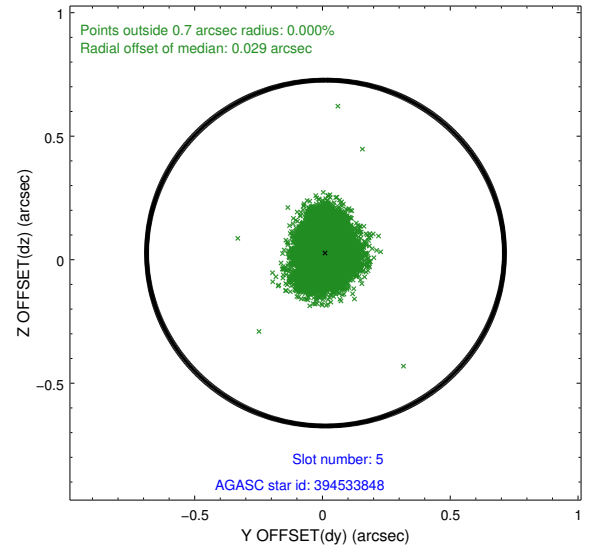
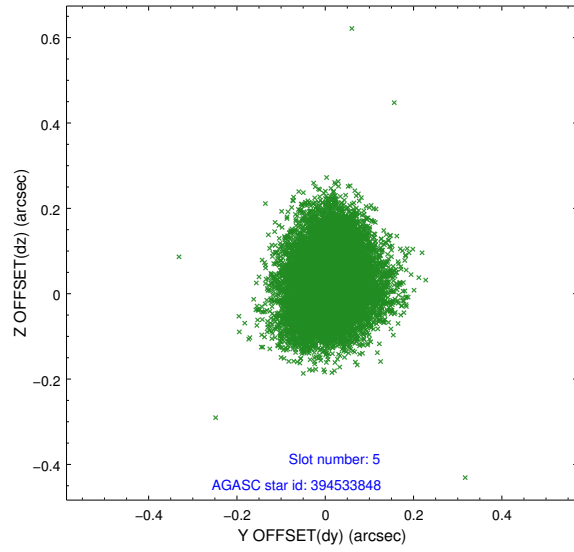
2.4.1 Slot 3



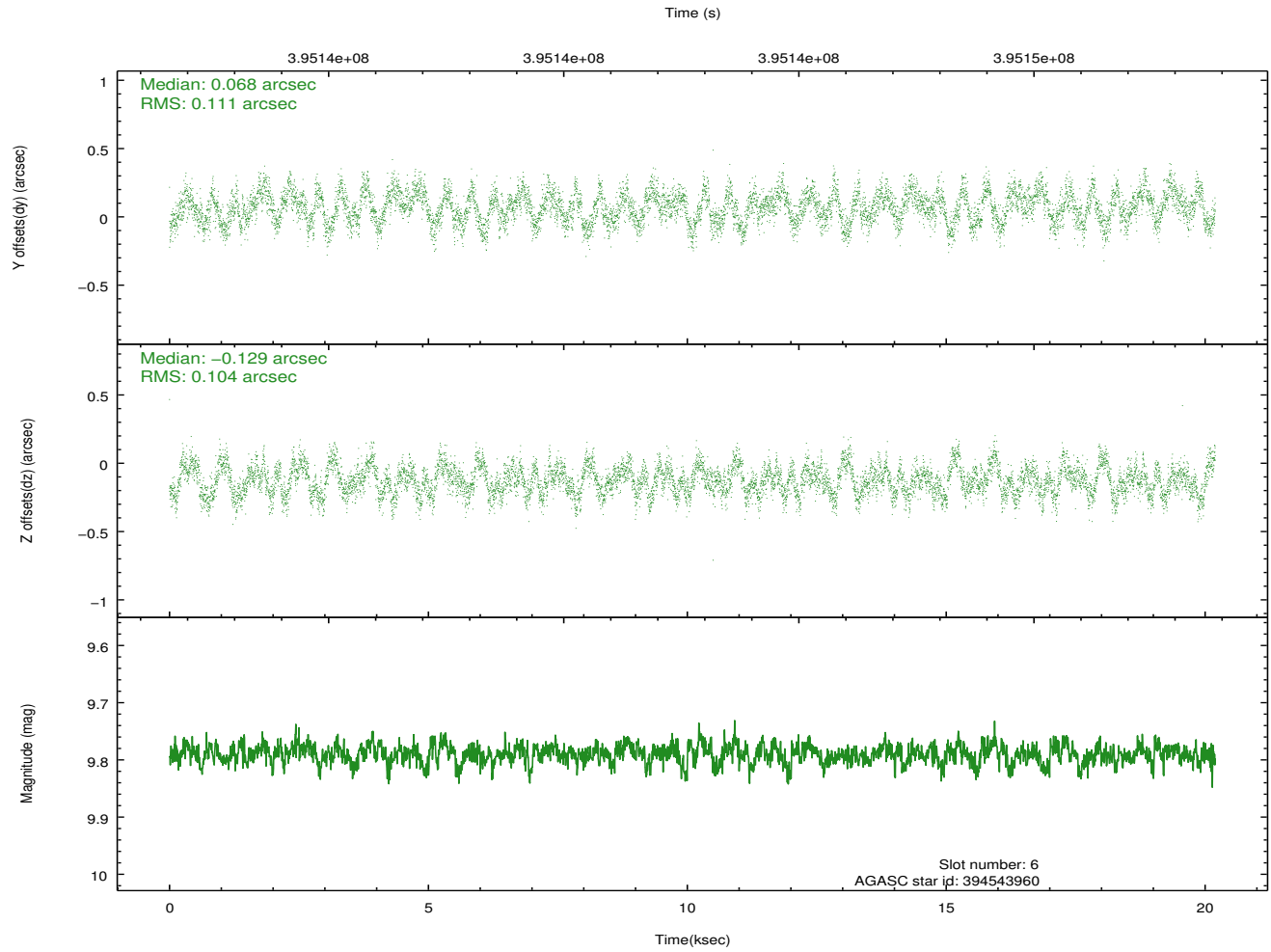
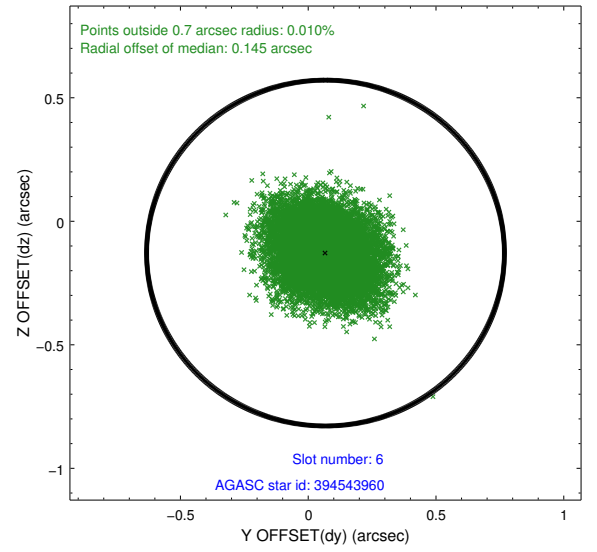
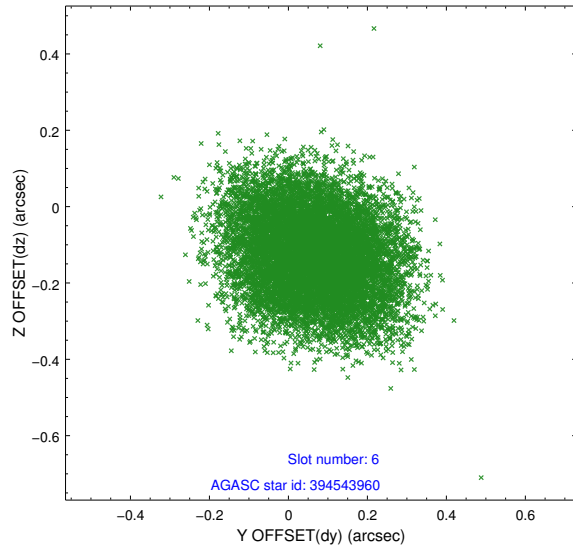
2.4.2 Slot 4



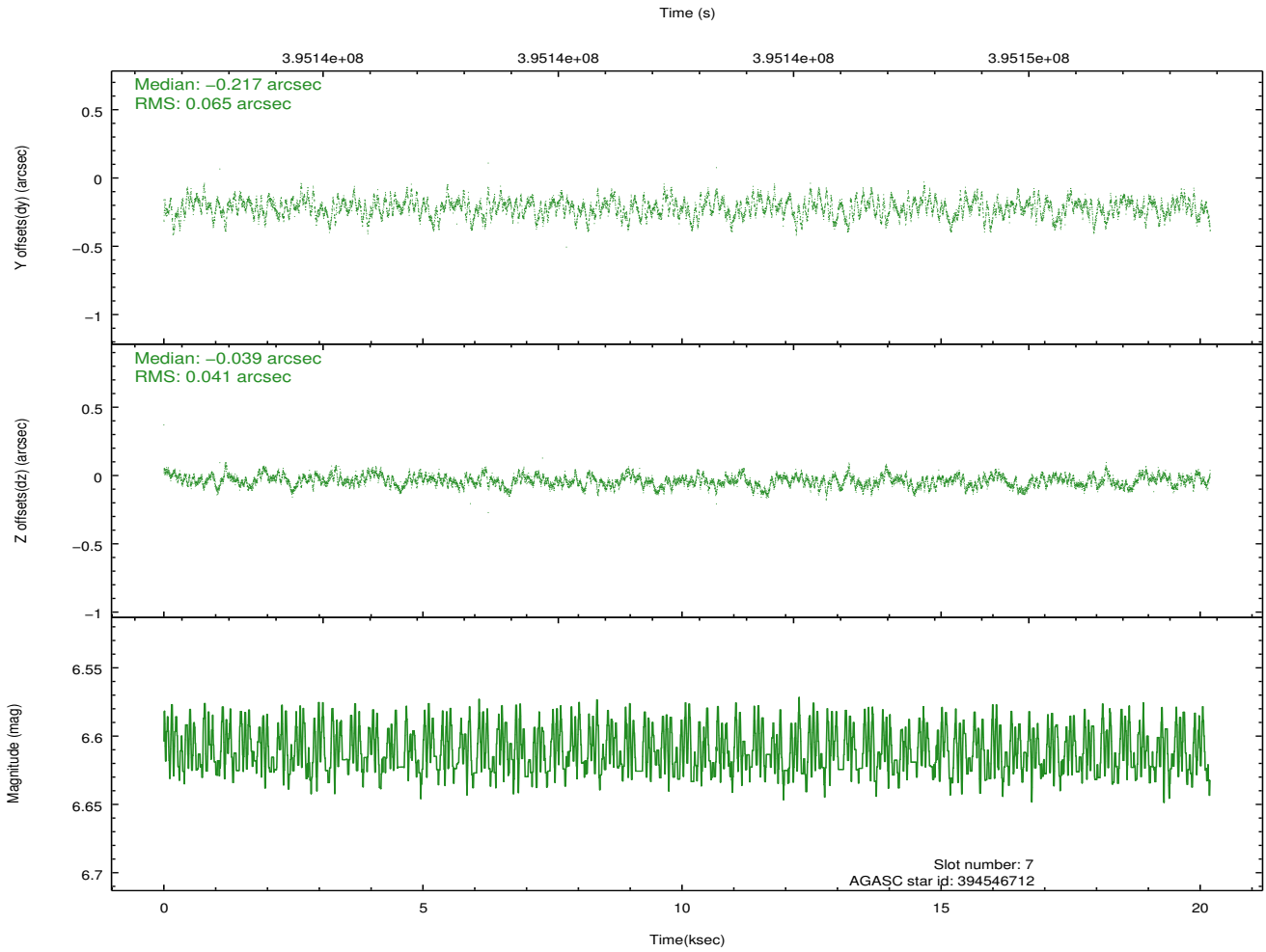
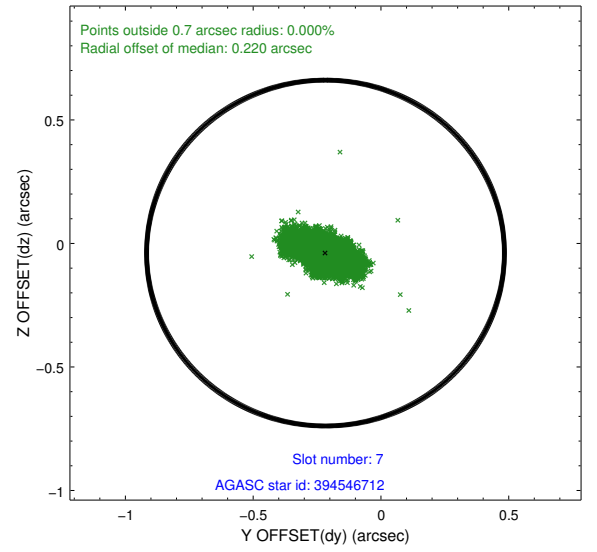
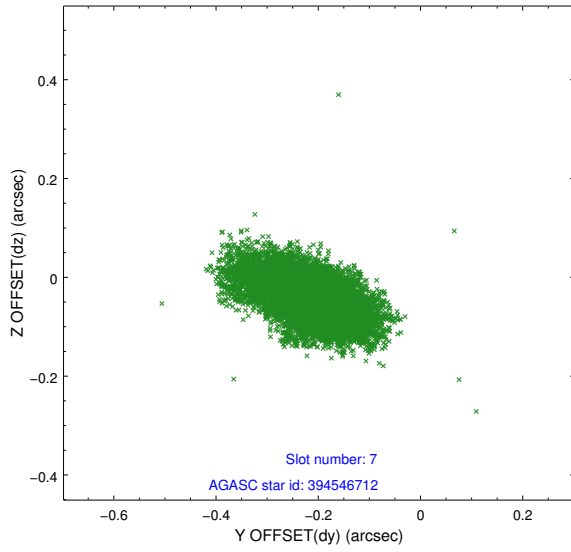
2.4.3 Slot 5



2.4.4 Slot 6

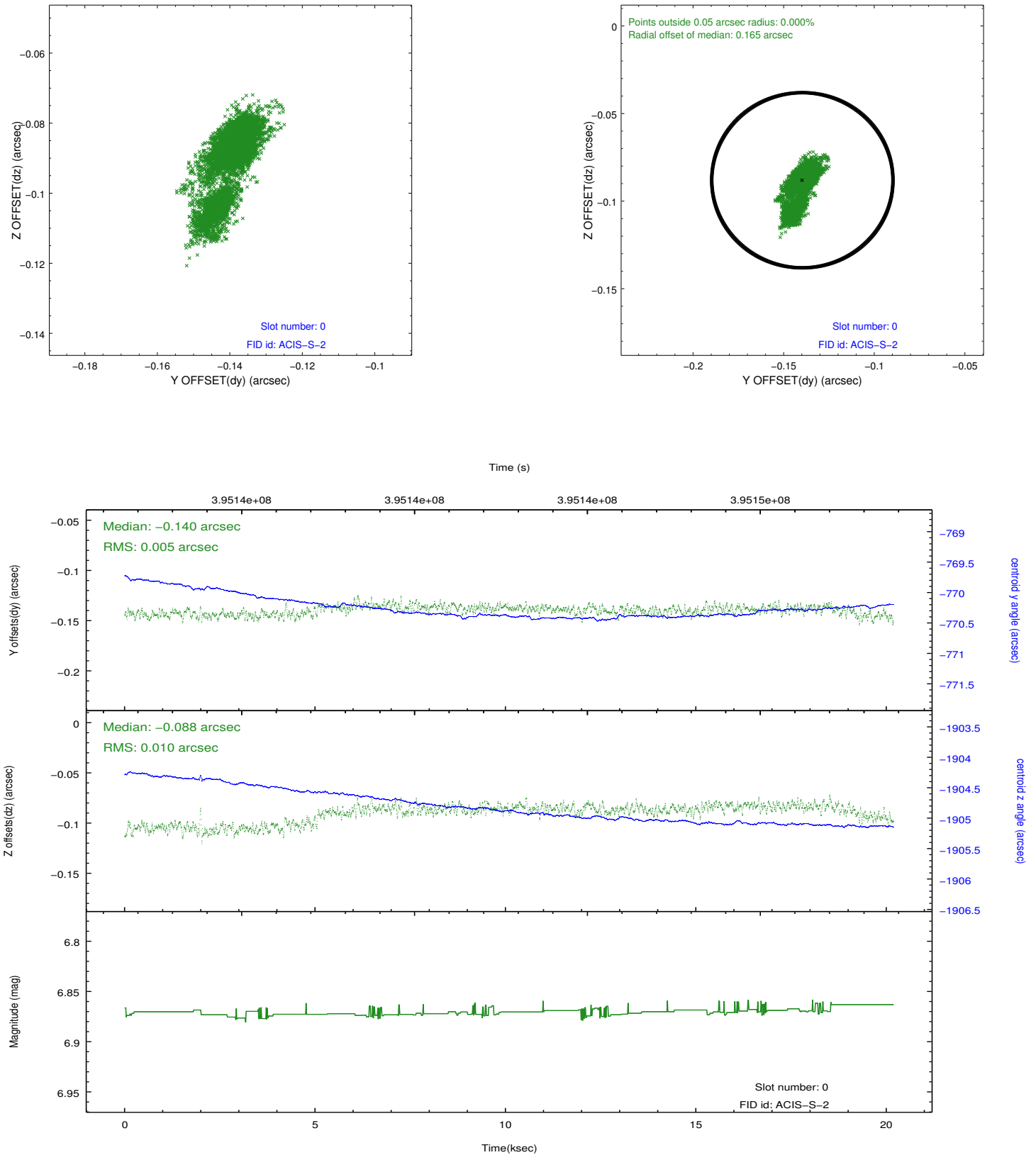


2.4.5 Slot 7

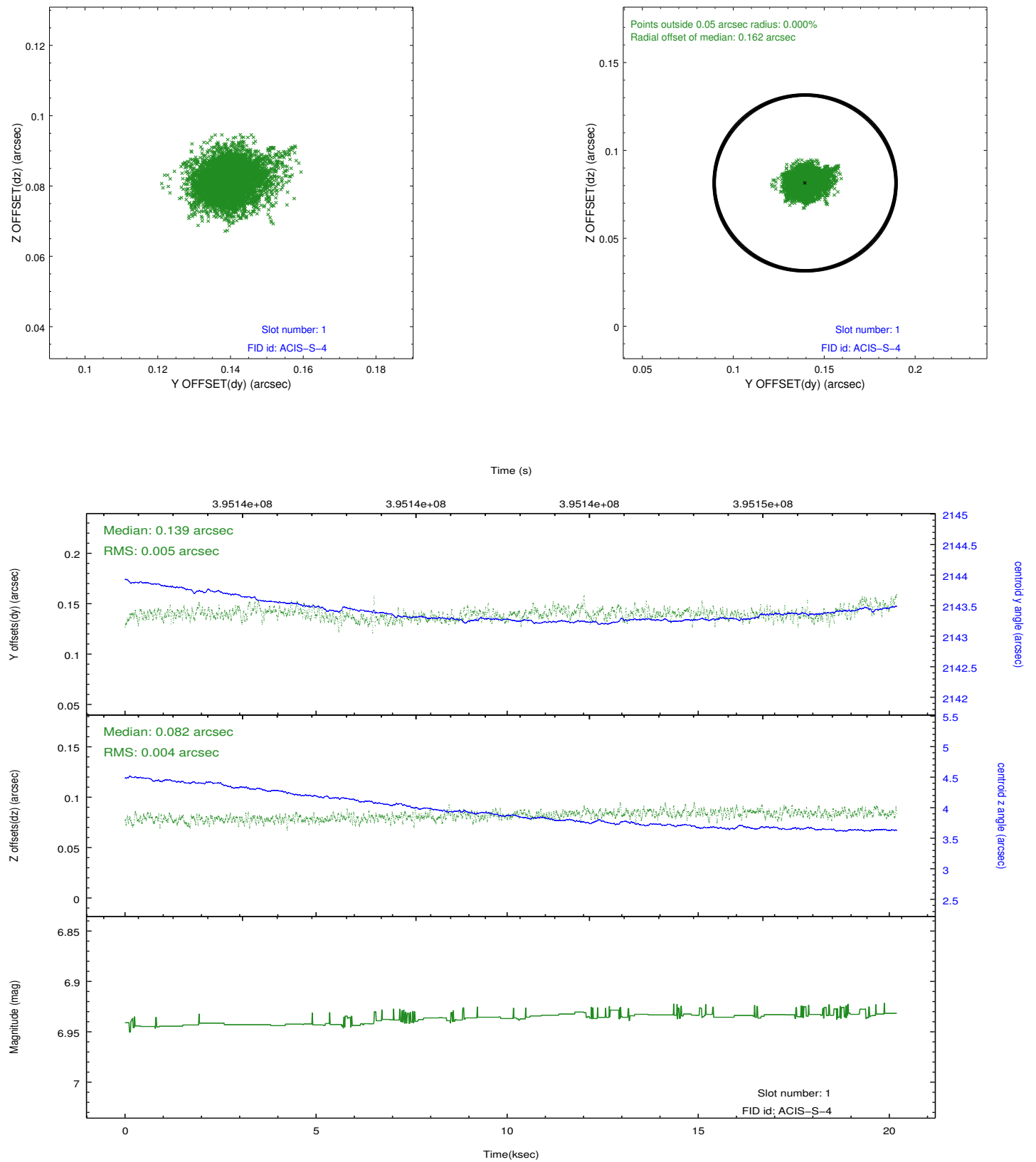


2.5 FID Slots

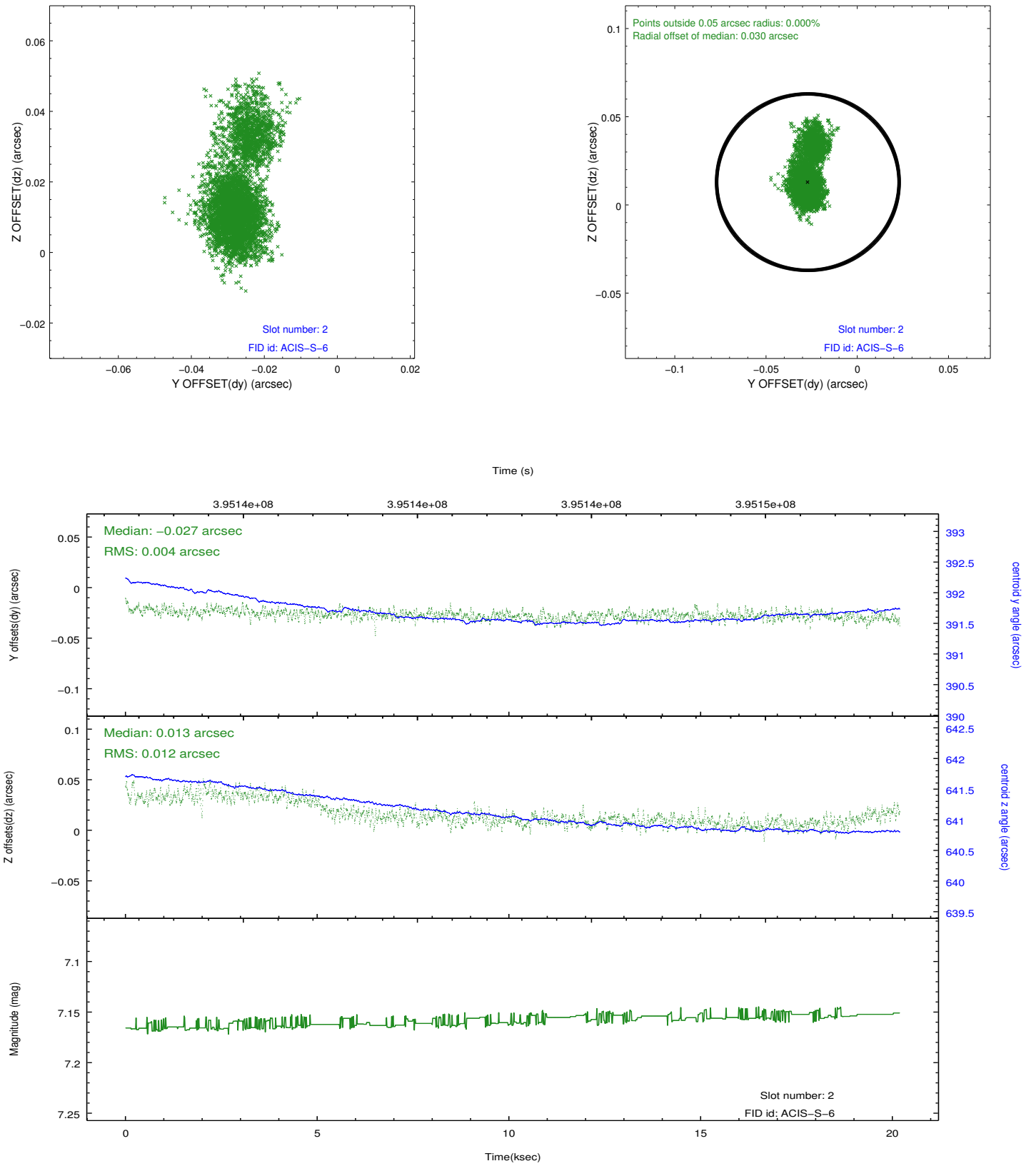
2.5.1 Slot 0



2.5.2 Slot 1

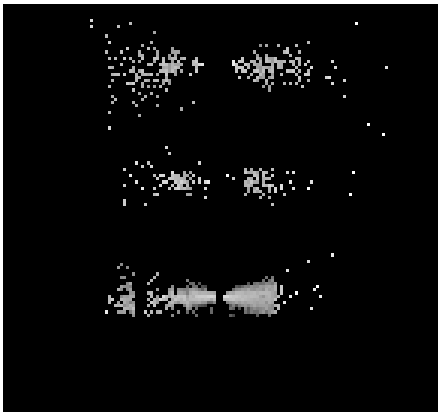


2.5.3 Slot 2

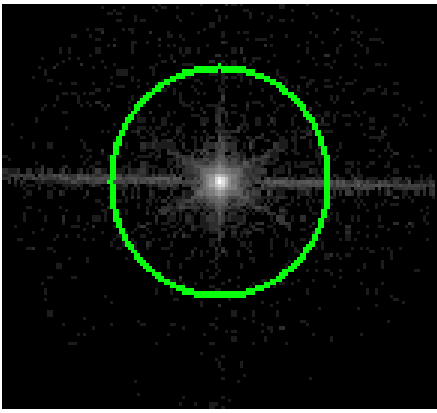


3 Gratings

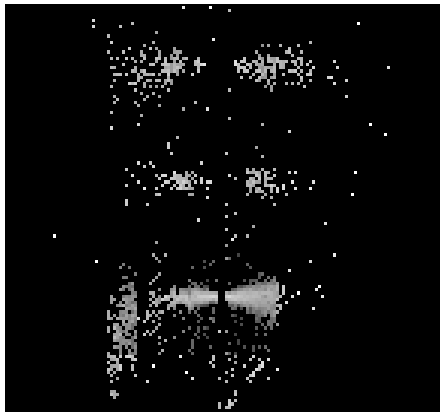
3.1 LETG Arm



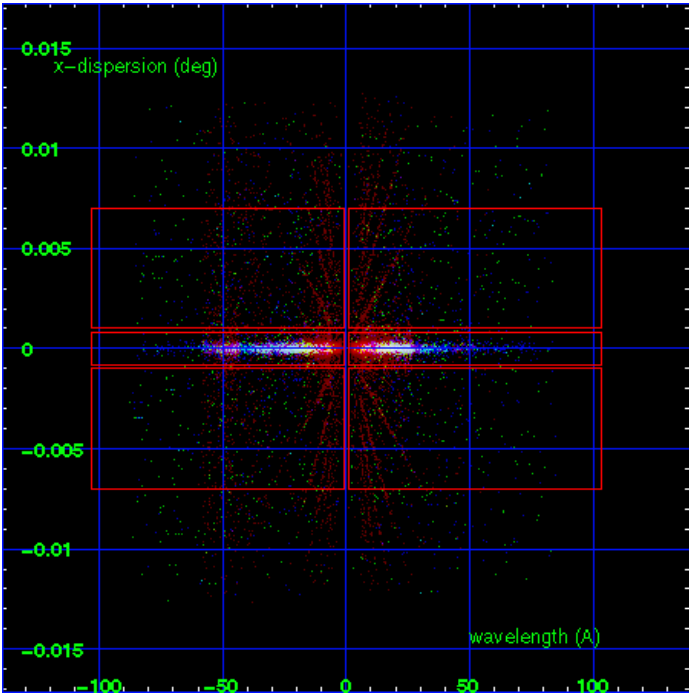
LETG Order Sort 123



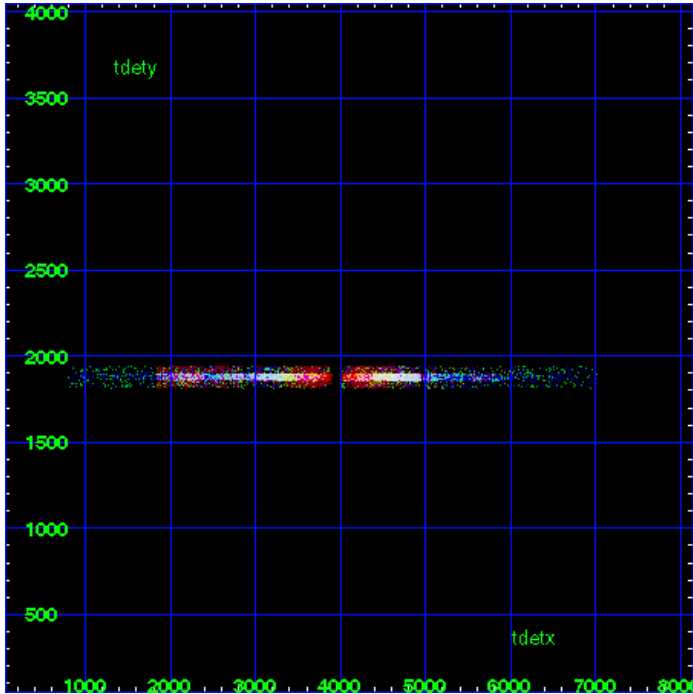
LETG Zero Order



LETG Order Sort ALL

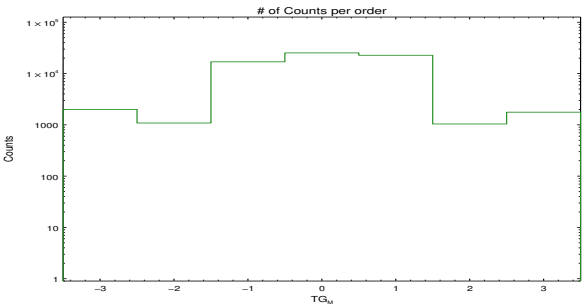


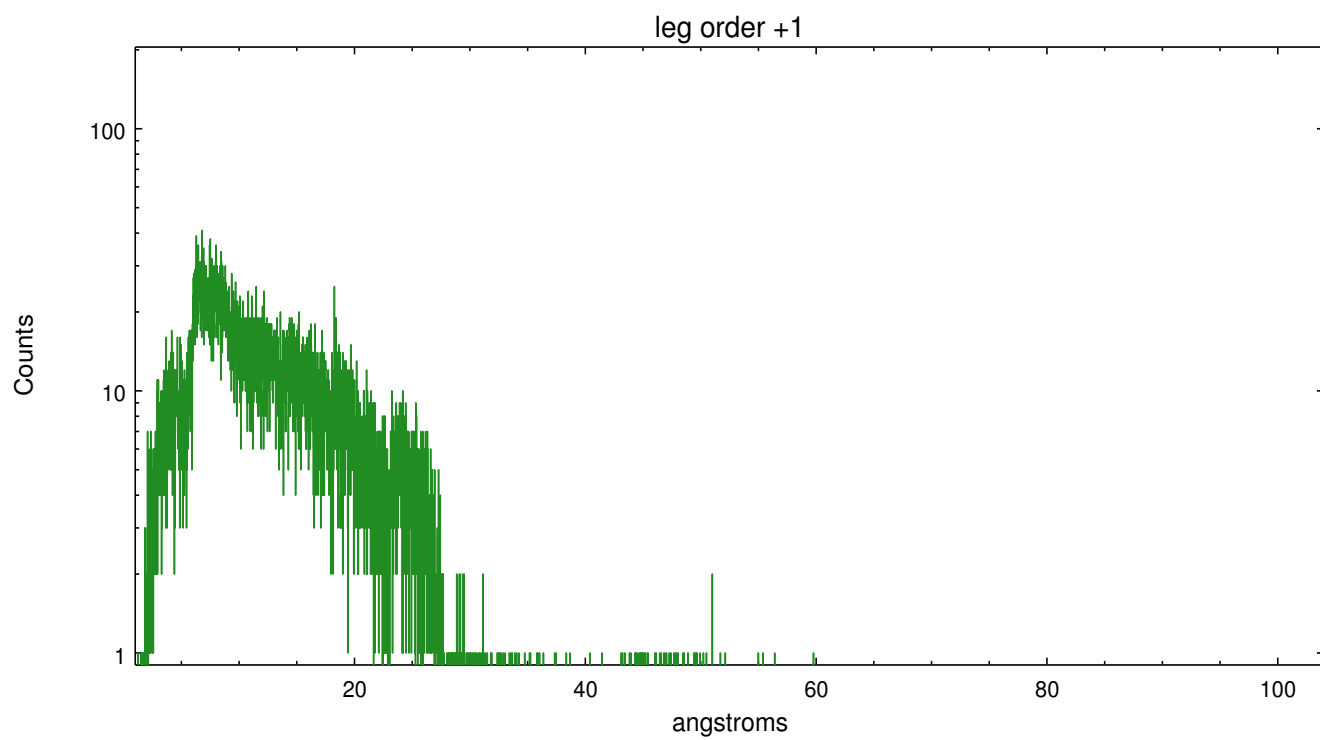
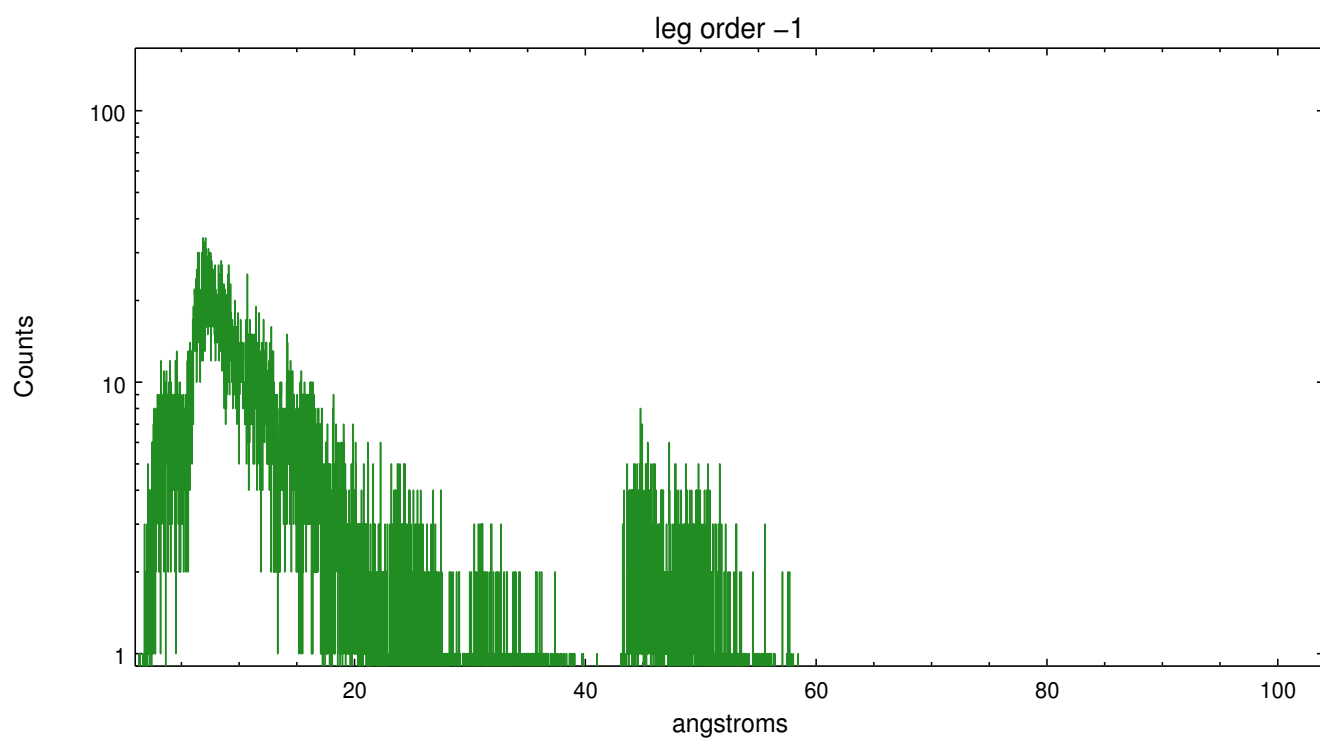
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1999	1086	16946	25300	22721	1040	1766





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.07.03
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.065305486858

A.2 Comments

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.