

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 1792 - L2 Version 11
Chandra X-Ray Center

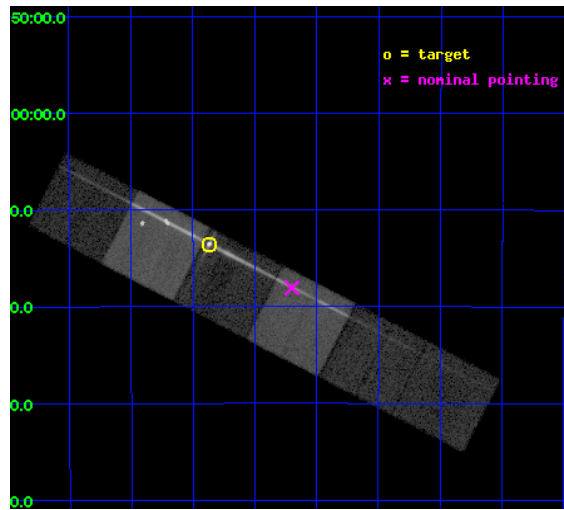
L2 Processing Date : Dec 18 2012

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

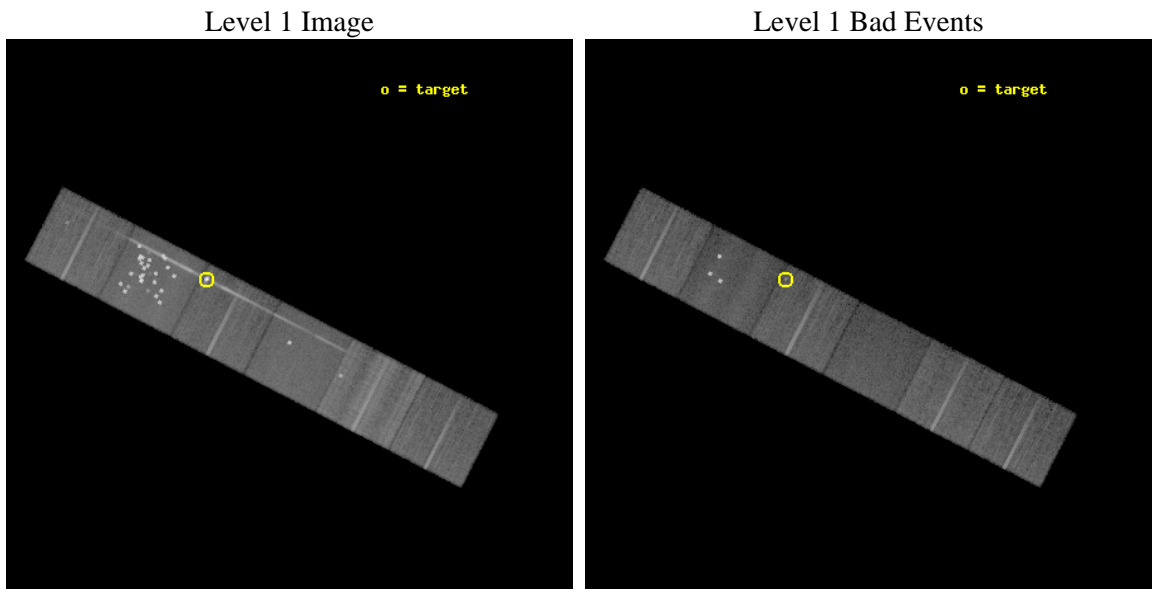
seq_num	390010	Sequence number
obs_id	1792	Observation id
title	GRATINGS CALIBRATION OBSERVATIONS OF PKS2155-304	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	PKS2155-304	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	329.716667	Observer's specified target RA [deg]
dec_targ	-30.225556	Observer's specified target Dec [deg]
ra_nom	329.55025172752	Nominal RA [deg]
dec_nom	-30.30116112742	Nominal Dec [deg]
roll_nom	27.225534305922	Nominal Roll [deg]
revision	11	Processing version of data
ontime	21158.211045042	Sum of GTIs [s]
livetime	20890.293036844	Livetime [s]
ontime4	21158.334165037	Sum of GTIs [s]
ontime5	21158.25208503	Sum of GTIs [s]
ontime6	21158.211045042	Sum of GTIs [s]
ontime7	21158.293125033	Sum of GTIs [s]
ontime8	21158.170024961	Sum of GTIs [s]
ontime9	21158.128965035	Sum of GTIs [s]
l2events	278205	Number of level 2 events



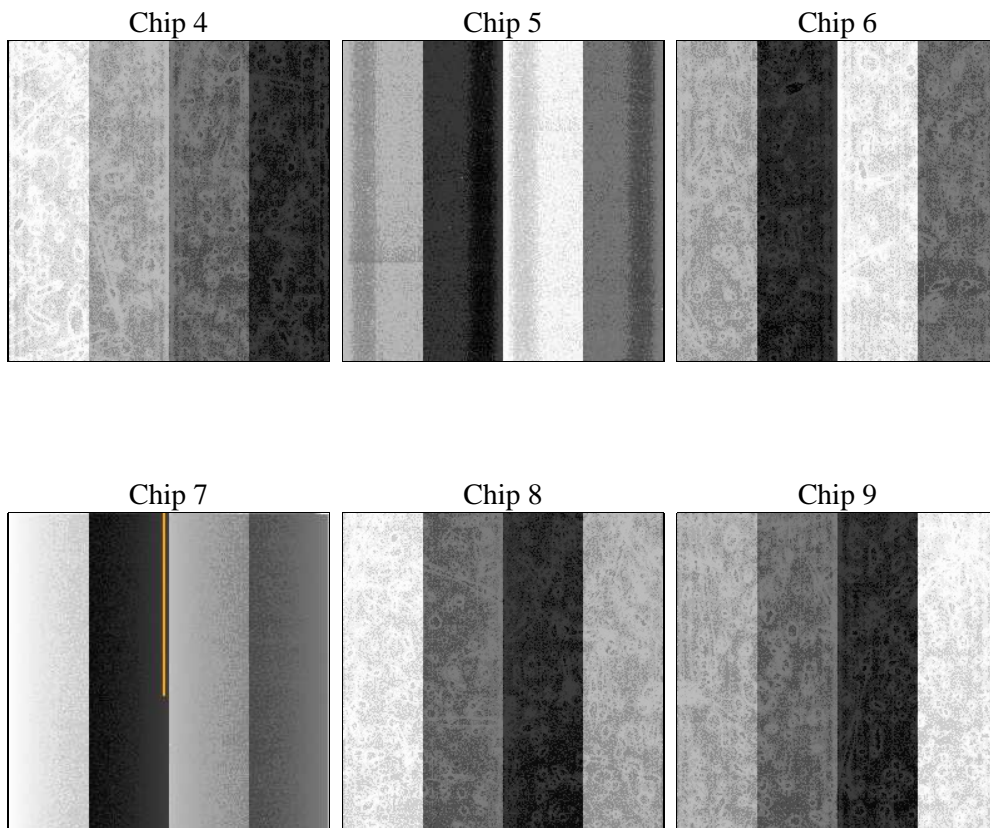
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	21400.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	21158.211045042	Sum of GTIs [s]
caldsver	4.5.1.1	 	ontime4	21158.334165037	Sum of GTIs [s]
date	2012-08-31T14:30:29	Date and time of file creation	ontime5	21158.25208503	Sum of GTIs [s]
revision	5	Processing version of data	ontime6	21158.211045042	Sum of GTIs [s]
			ontime7	21158.293125033	Sum of GTIs [s]
			ontime8	21158.170024961	Sum of GTIs [s]
			ontime9	21158.128965035	Sum of GTIs [s]
			l1events	1218707	Number of level 1 events

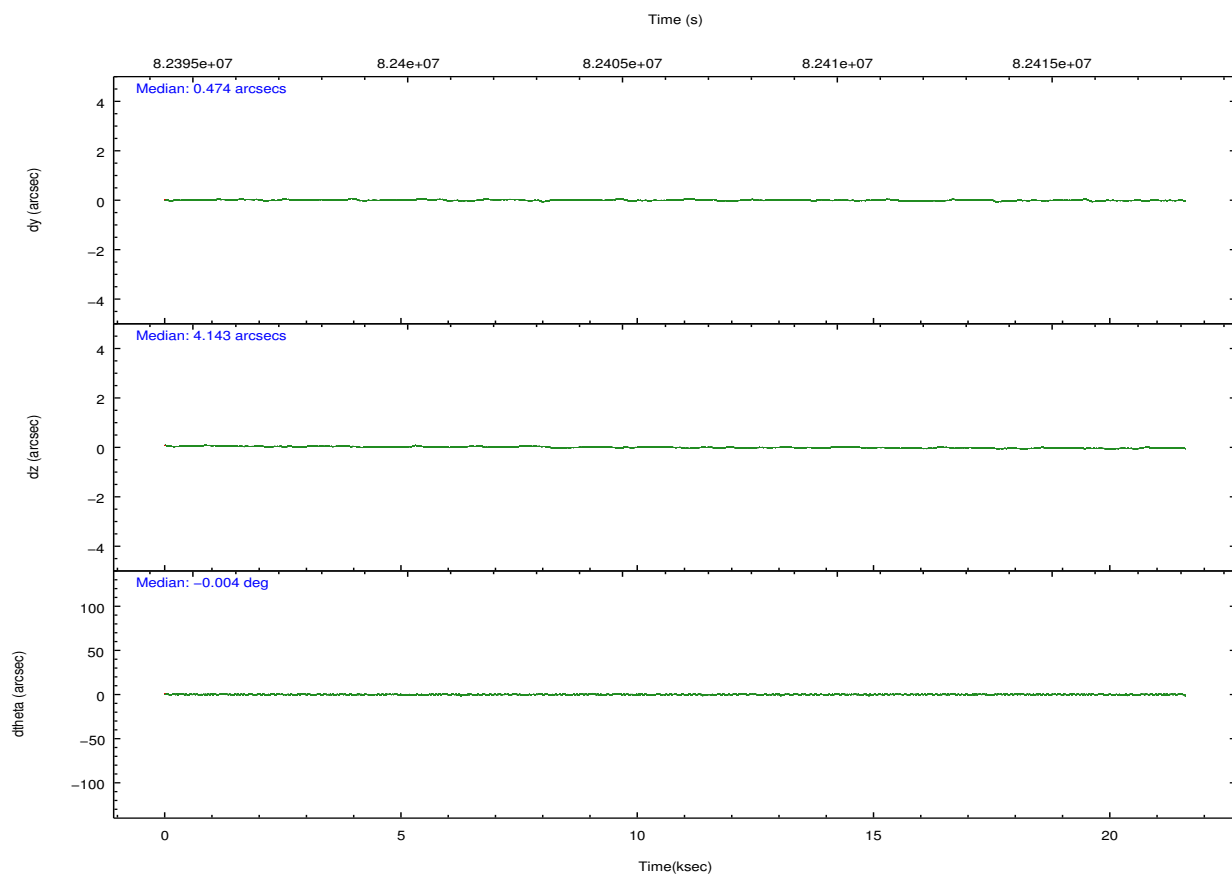
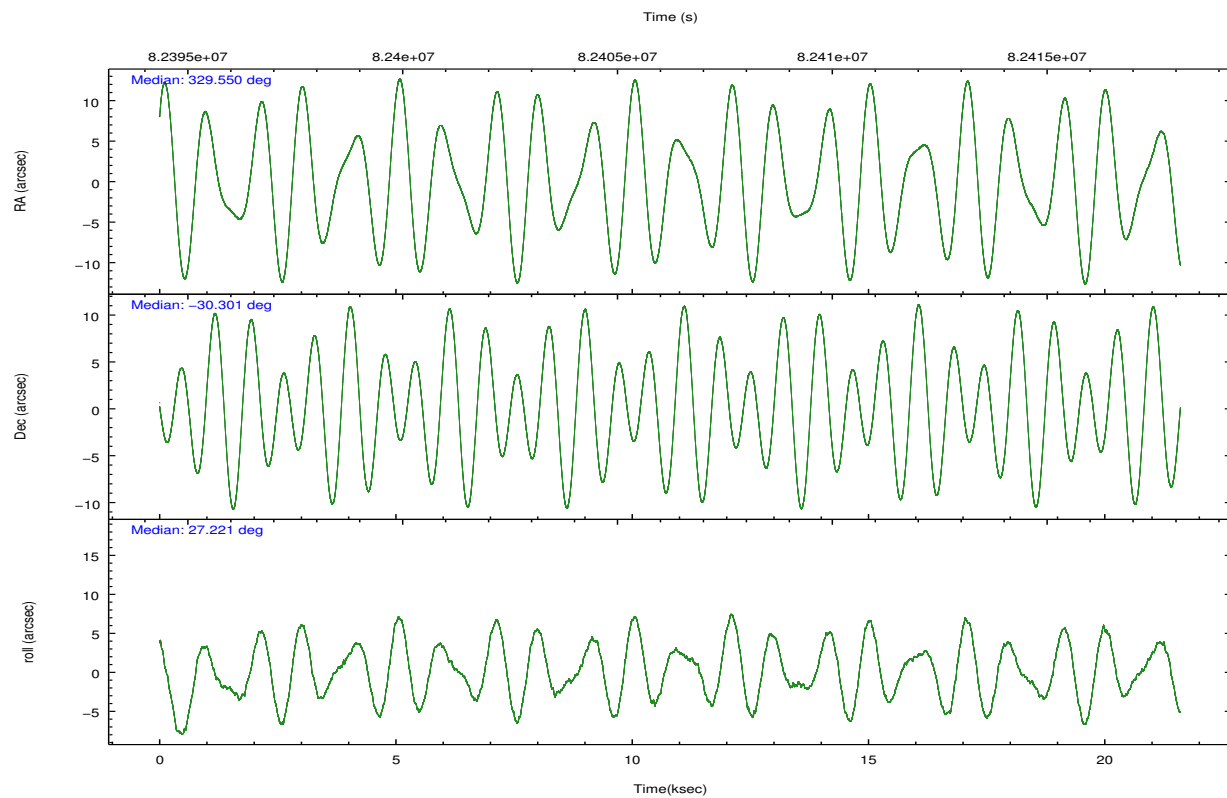
2.1.4 Events

	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	157991	345789	188578	162465	226113	137771	grade 0 events	5409	134958	41493	15396	30947	3204
rejected events	137681	115061	126696	89932	137851	120219		3%	39%	22%	9%	13%	2%
rejected %	87%	33%	67%	55%	60%	87%	grade 1 events	75	160	301	83	206	32
								0%	0%	0%	0%	0%	0%
							grade 2 events	9327	30158	11623	14428	20283	8145
								5%	8%	6%	8%	8%	5%
							grade 3 events	761	8424	1936	4255	10421	824
								0%	2%	1%	2%	4%	0%
							grade 4 events	825	5222	1799	3843	9667	801
								0%	1%	0%	2%	4%	0%
							grade 5 events	2488	16891	3084	8779	4833	2924
								1%	4%	1%	5%	2%	2%
							grade 6 events	3996	52033	5052	34630	16948	4584
								2%	15%	2%	21%	7%	3%
							grade 7 events	135110	97943	123290	81051	132808	117257
								85%	28%	65%	49%	58%	85%

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	329.533220	329.5502517275161	Subarray requested	NONE	NONE
[deg] Pointing Dec	-30.324247	-30.30116112741973	Alternating exposures requested	N	N
[deg] Pointing Roll	27.060313	27.22553430592197	[s] Primary exposure time	0.000000	3.2
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-182.131972	-182.1344861297048			
[mm] SIM translation stage offset	-8.000551	-7.998036453302973			
[s] Observation start time (MET)	82395625.184000	82395186.948172			
Observation start date	2000-08-11T15:39:21	2000-08-11T15:33:06			
[s] Observation end time (MET)	82417025.184000	82417161.92399301			
Observation end date	2000-08-11T21:36:01	2000-08-11T21:39:21			
Read mode	TIMED	TIMED			

2.3 Aspect

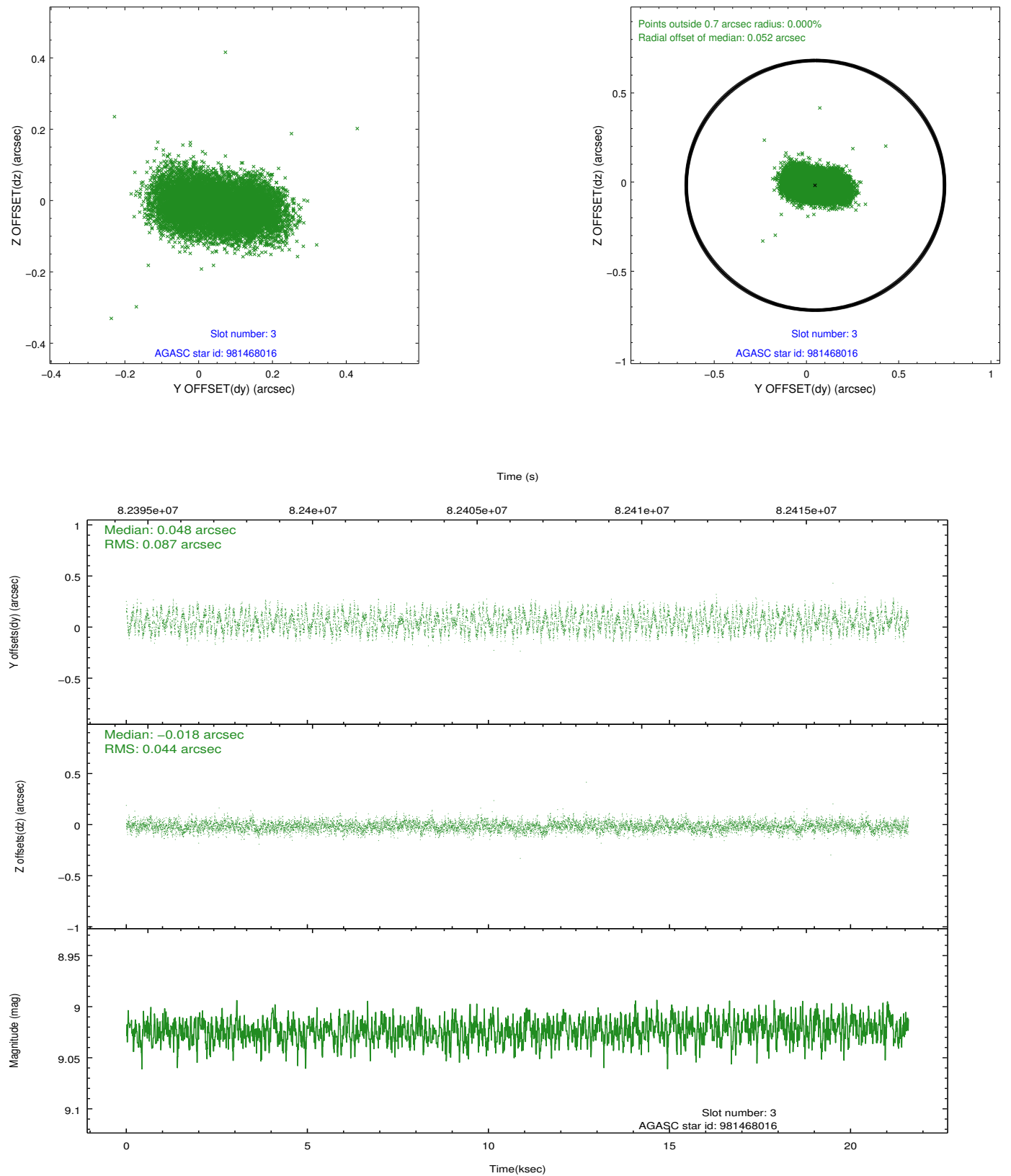


Slot Statistics

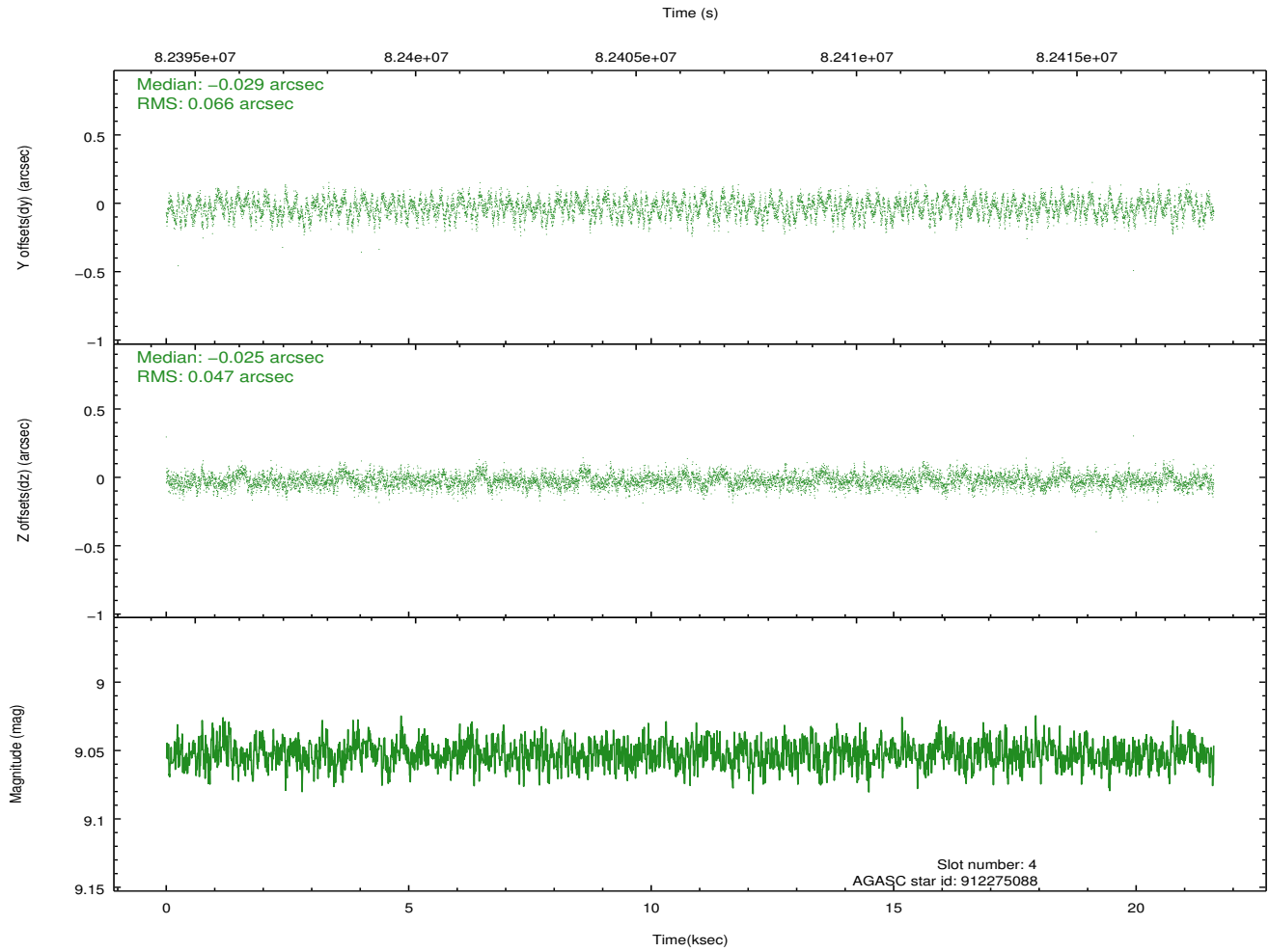
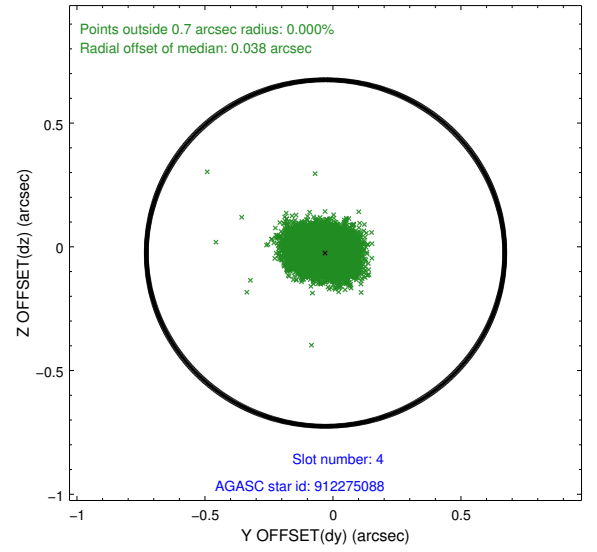
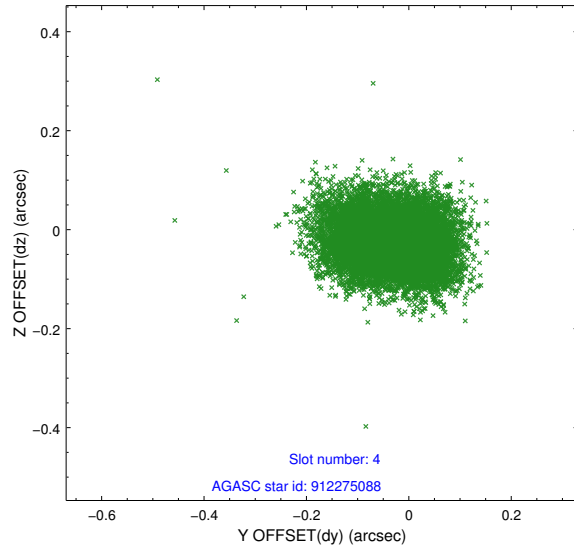
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	5269	-0.101	-0.082	0.005	0.010	0.000000	0.000000	-752.58	-1890.08
1	FID	ACIS-S-4	7.19	5268	0.075	0.054	0.006	0.010	0.000000	0.000000	2160.81	18.32
2	FID	ACIS-S-6	7.43	5268	-0.002	0.035	0.007	0.011	0.000000	0.000000	409.72	655.89
3	GUIDE	981468016	9.02	10533	0.048	-0.018	0.106	0.166	328.842457	-30.034984	-1446.13	1900.55
4	GUIDE	912275088	9.05	10532	-0.029	-0.025	0.087	0.138	329.619228	-29.738698	1198.46	1754.81
5	GUIDE	981478152	9.40	10534	-0.084	0.039	0.080	0.132	329.415589	-30.057192	111.21	1022.67
6	GUIDE	981468128	9.36	10532	0.072	-0.034	0.080	0.132	329.756350	-30.158334	890.37	215.18
7	GUIDE	981469488	9.60	10533	-0.007	0.036	0.086	0.142	329.261199	-30.045155	-297.92	1279.25

2.4 Star Slots

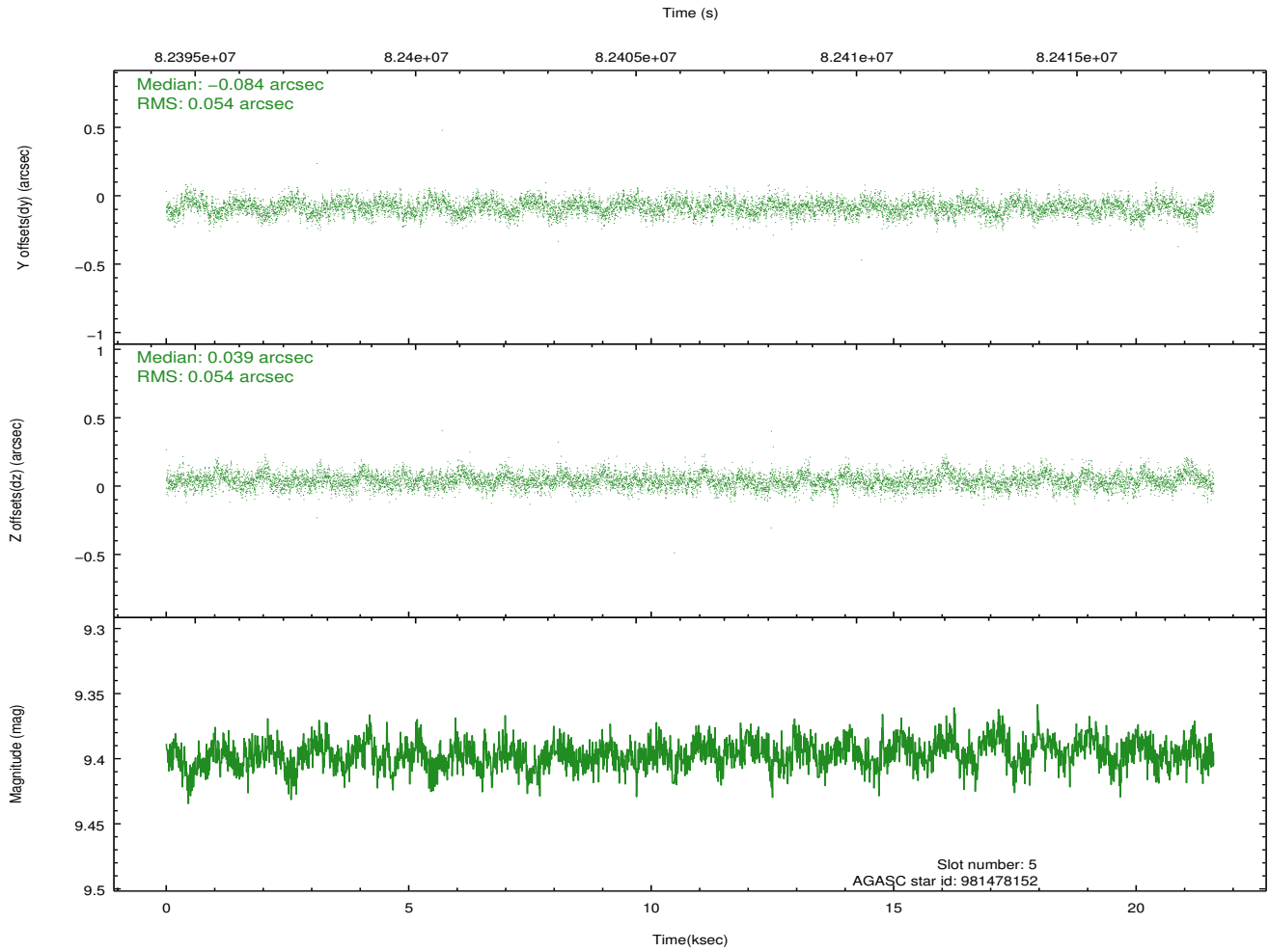
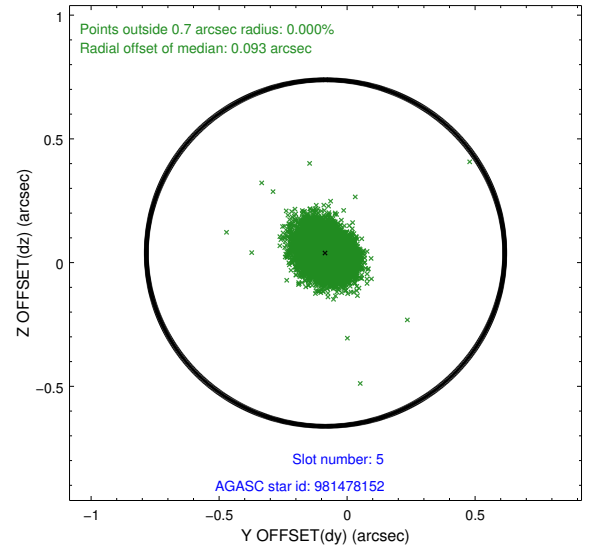
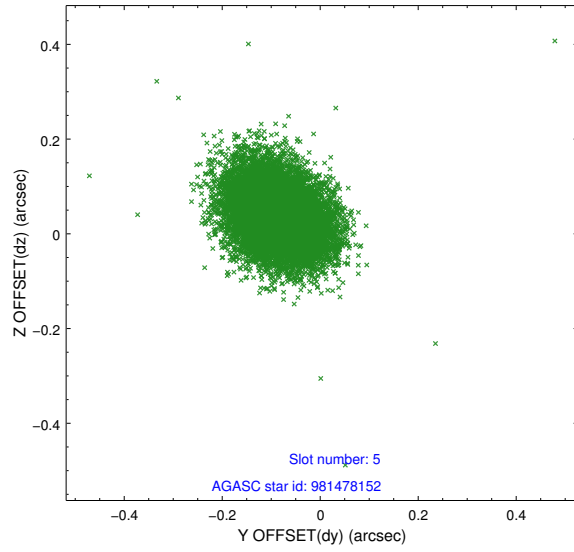
2.4.1 Slot 3



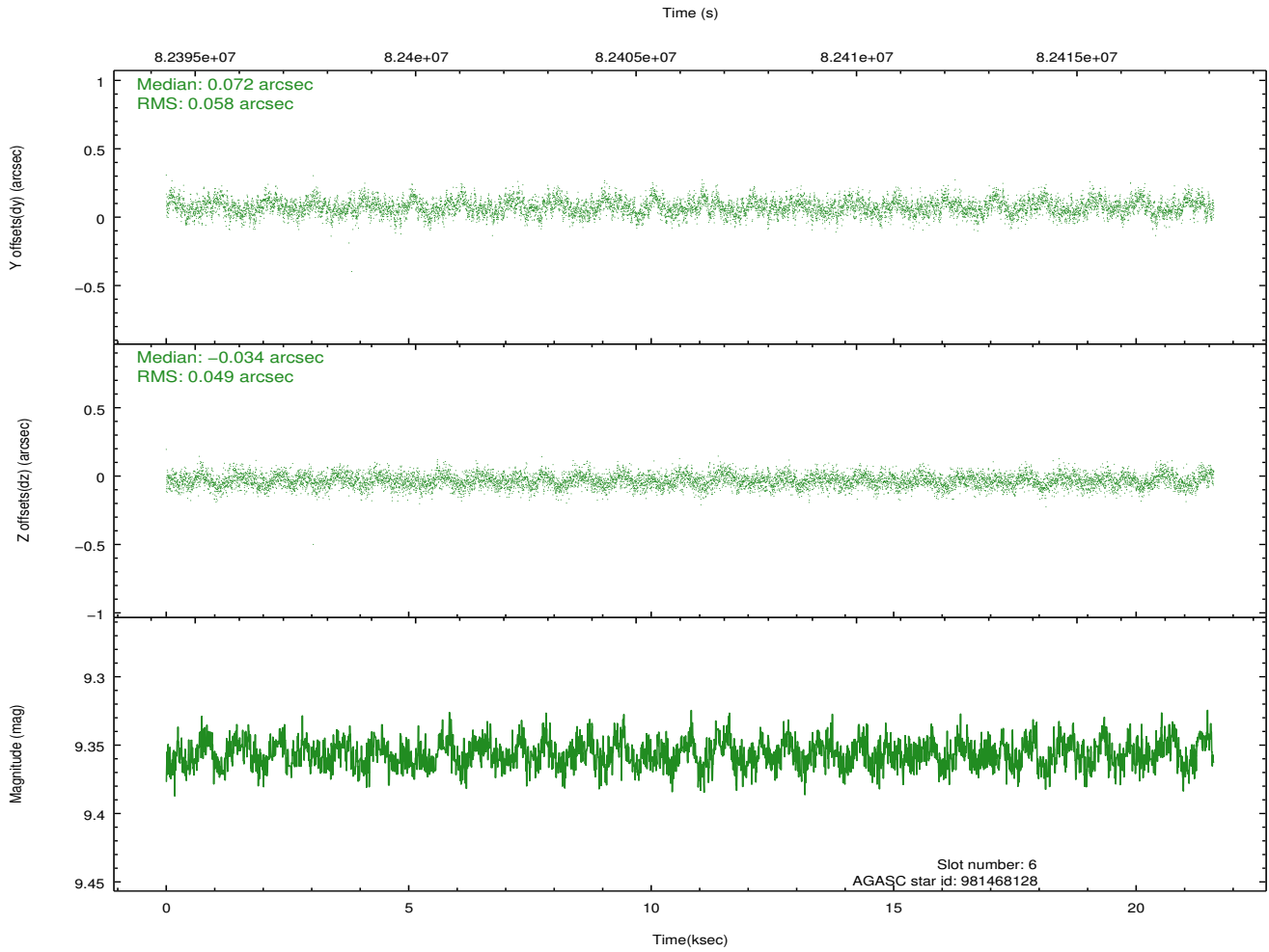
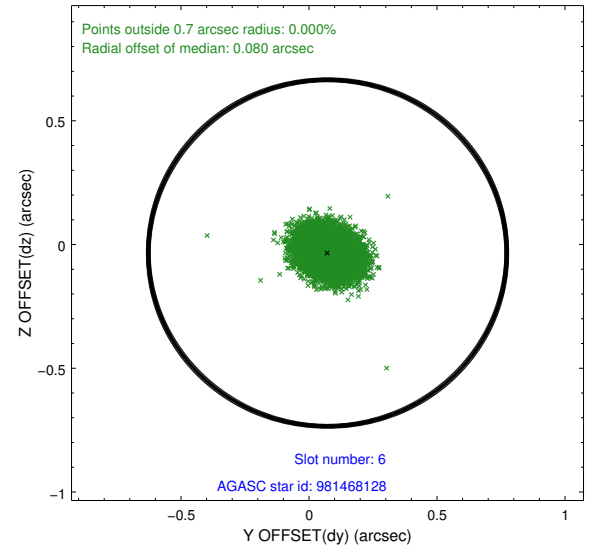
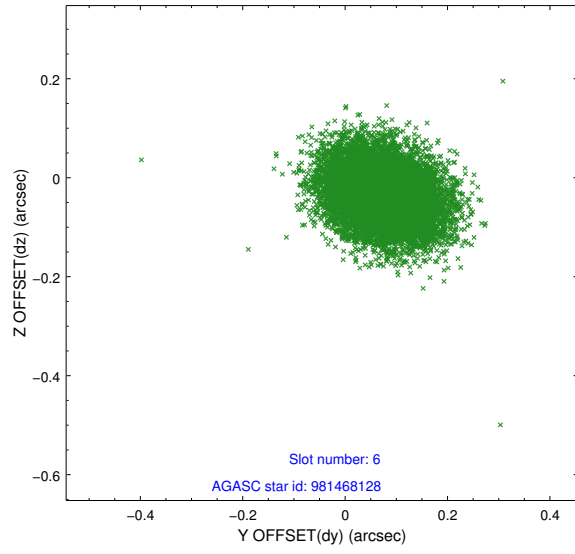
2.4.2 Slot 4



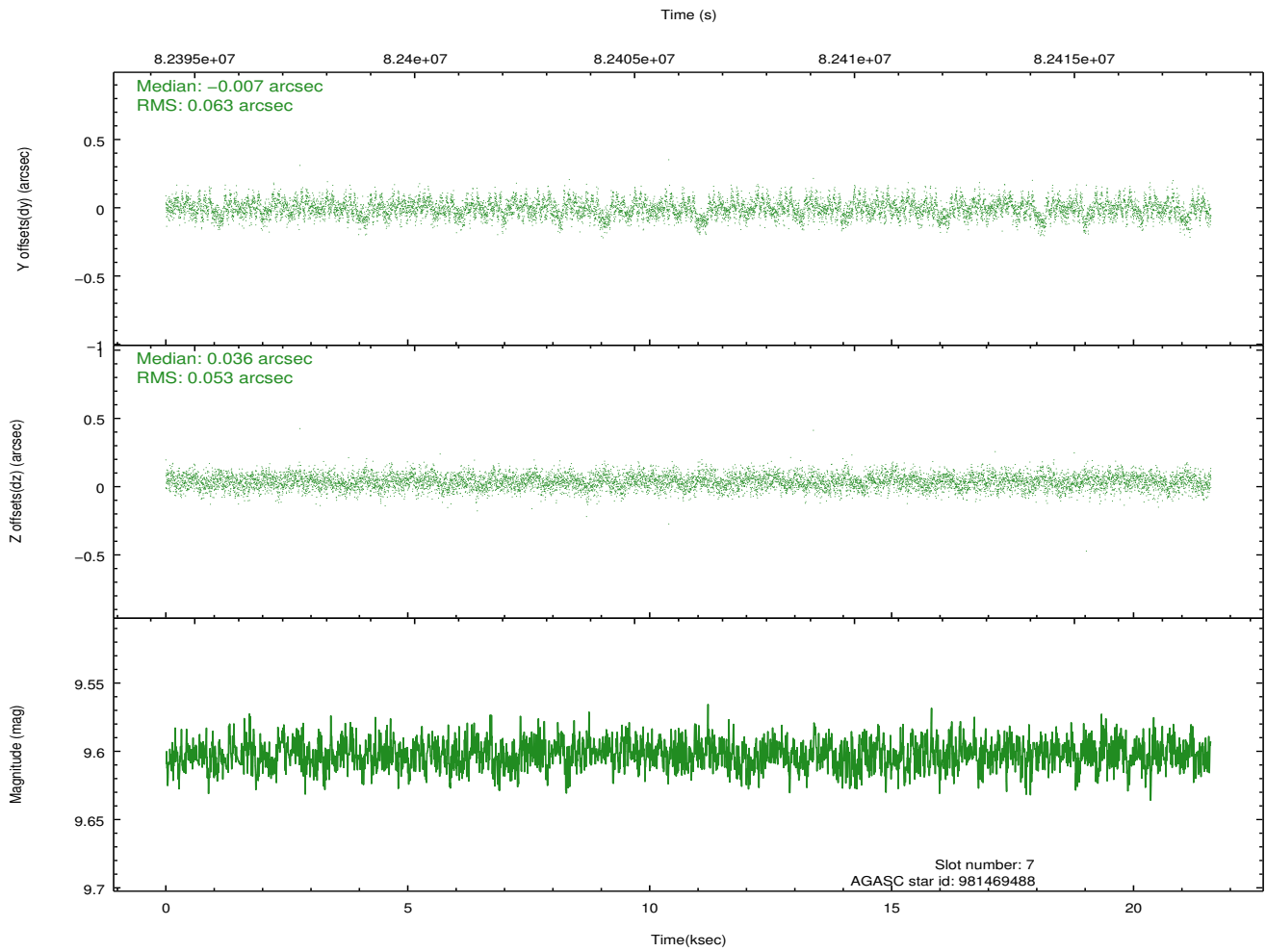
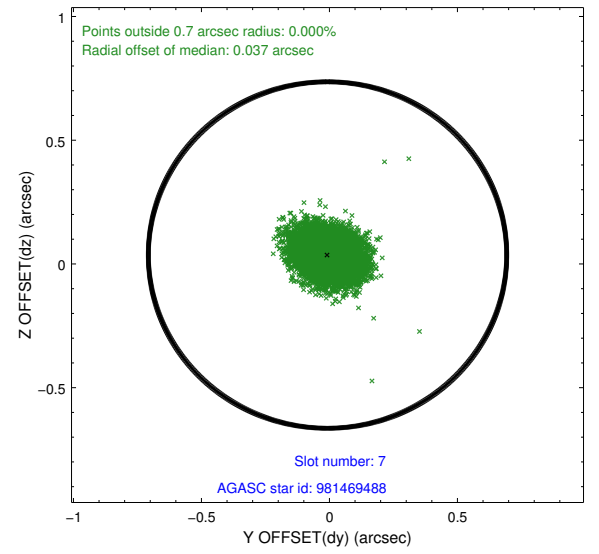
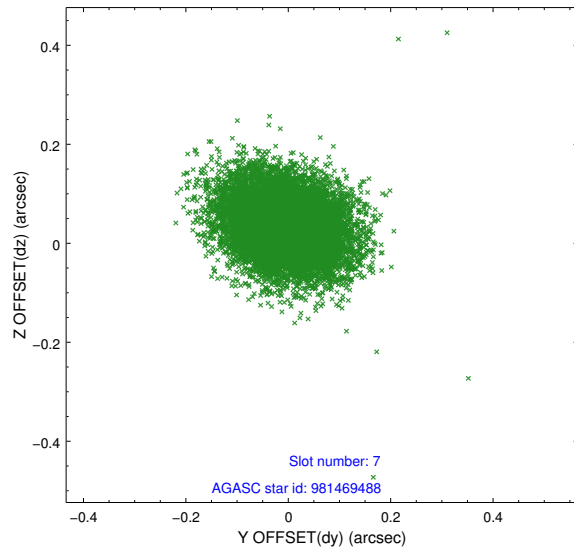
2.4.3 Slot 5



2.4.4 Slot 6

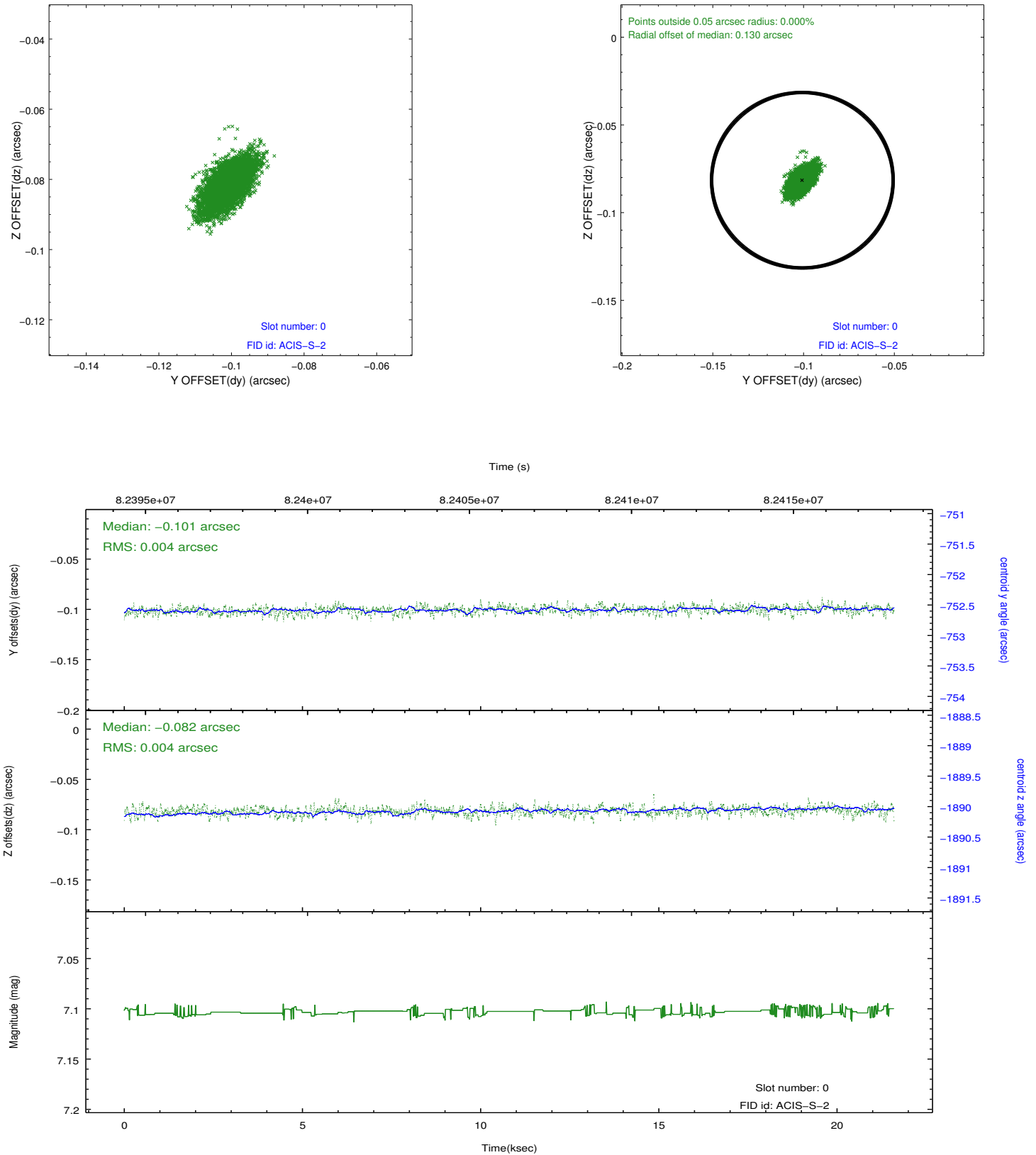


2.4.5 Slot 7

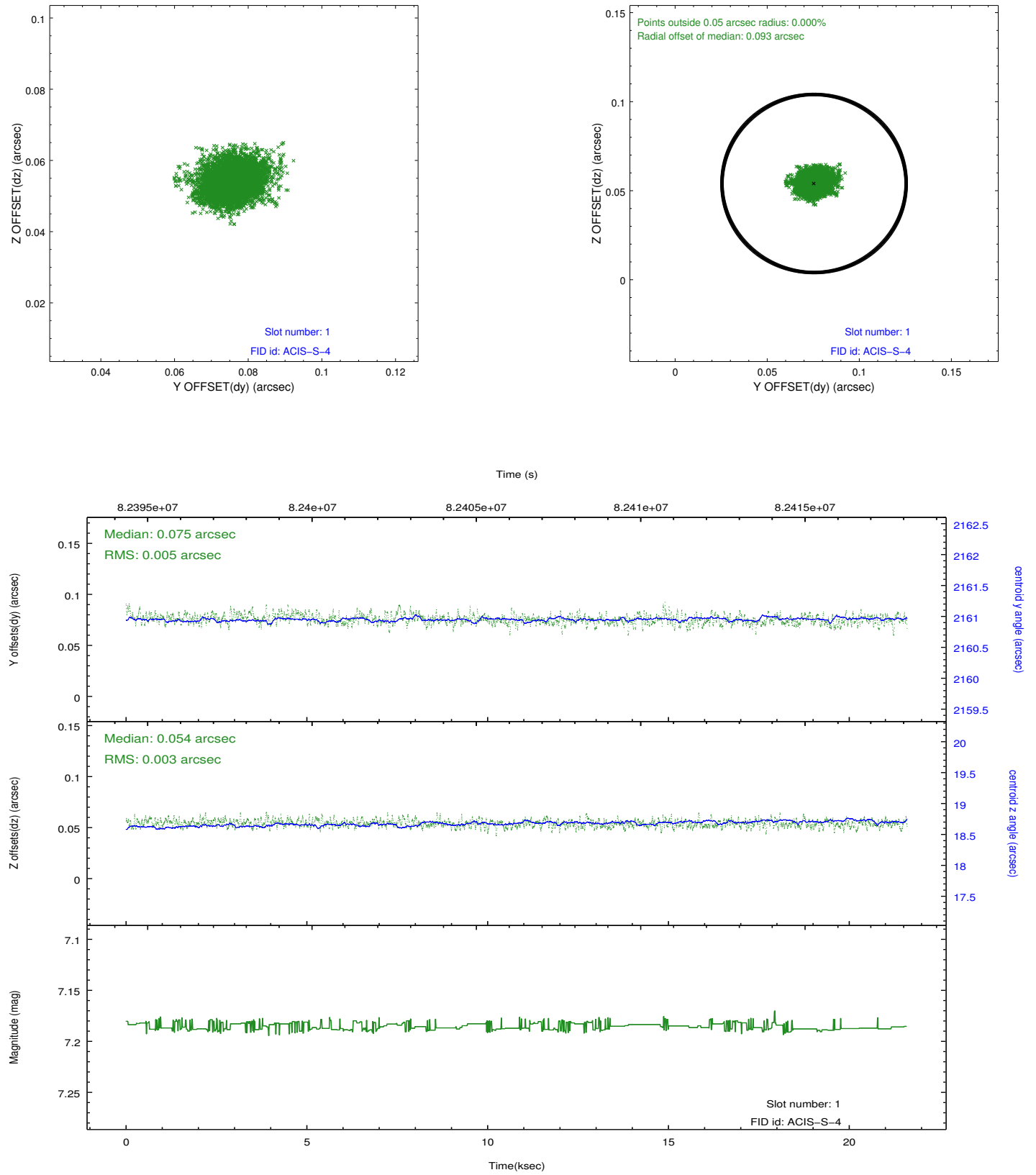


2.5 FID Slots

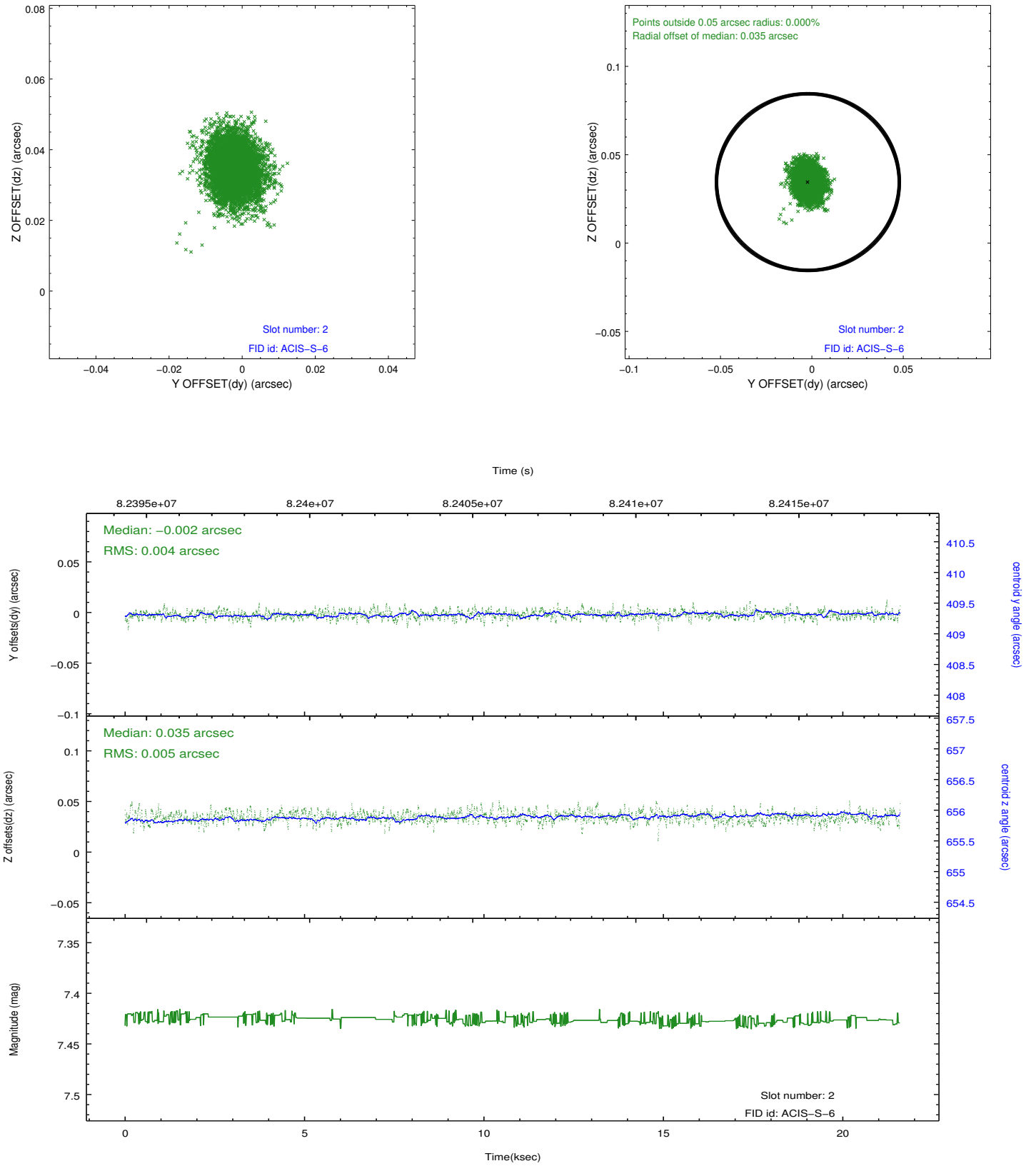
2.5.1 Slot 0



2.5.2 Slot 1

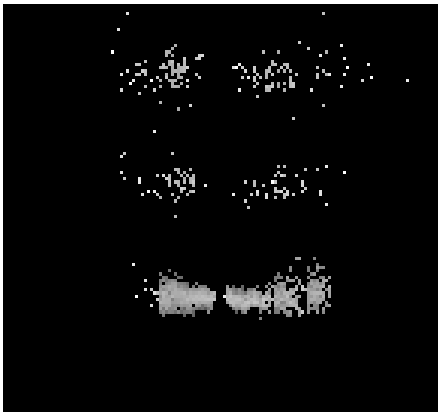


2.5.3 Slot 2

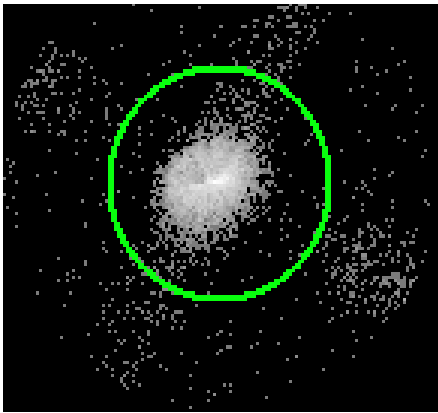


3 Gratings

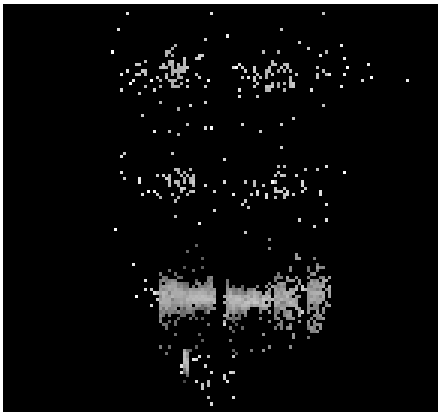
3.1 LETG Arm



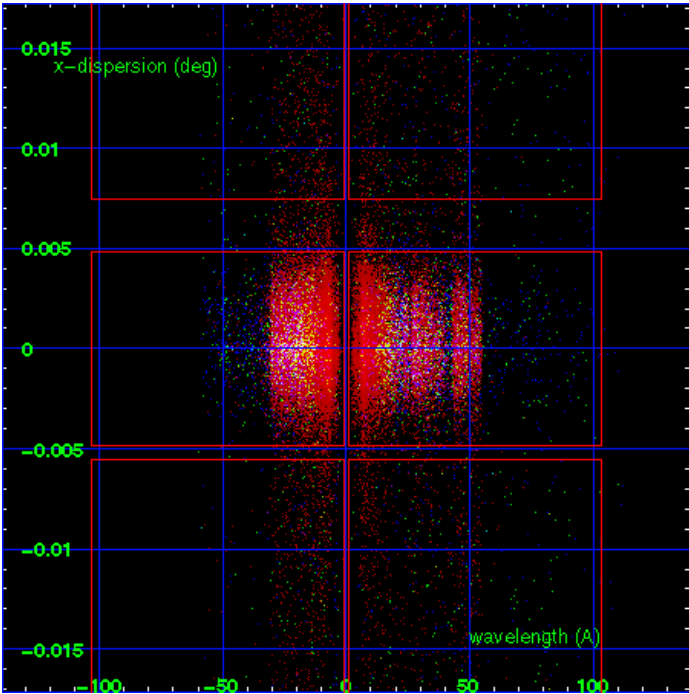
LETG Order Sort 123



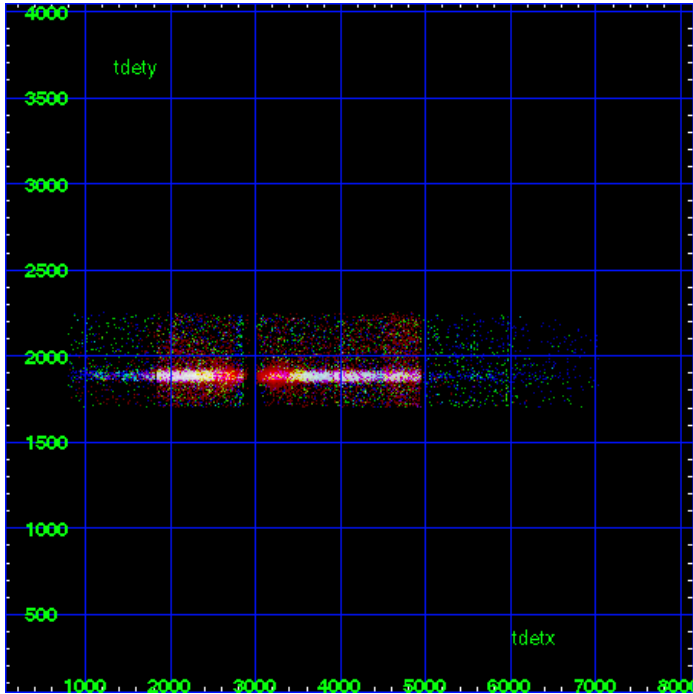
LETG Zero Order



LETG Order Sort ALL

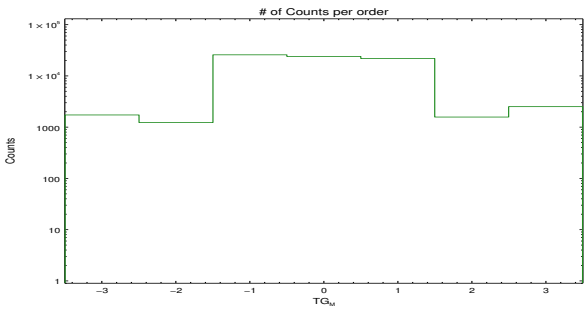


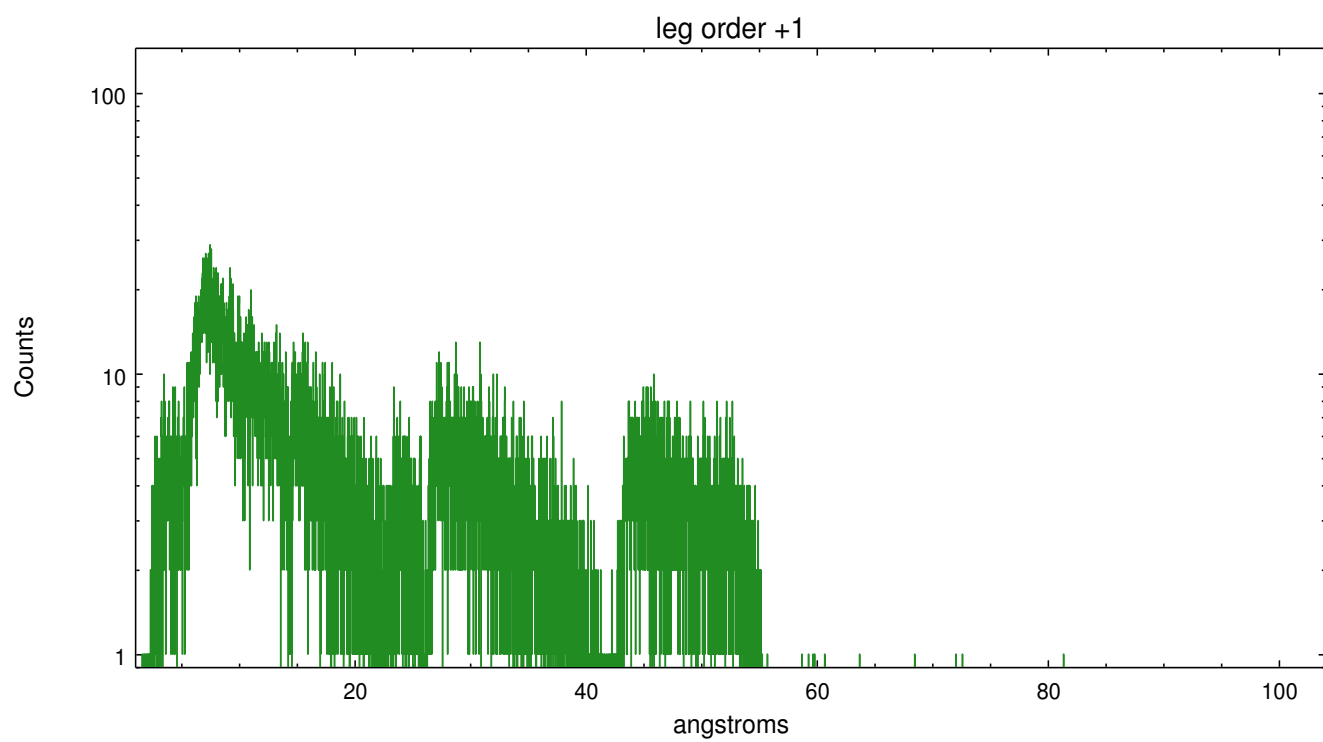
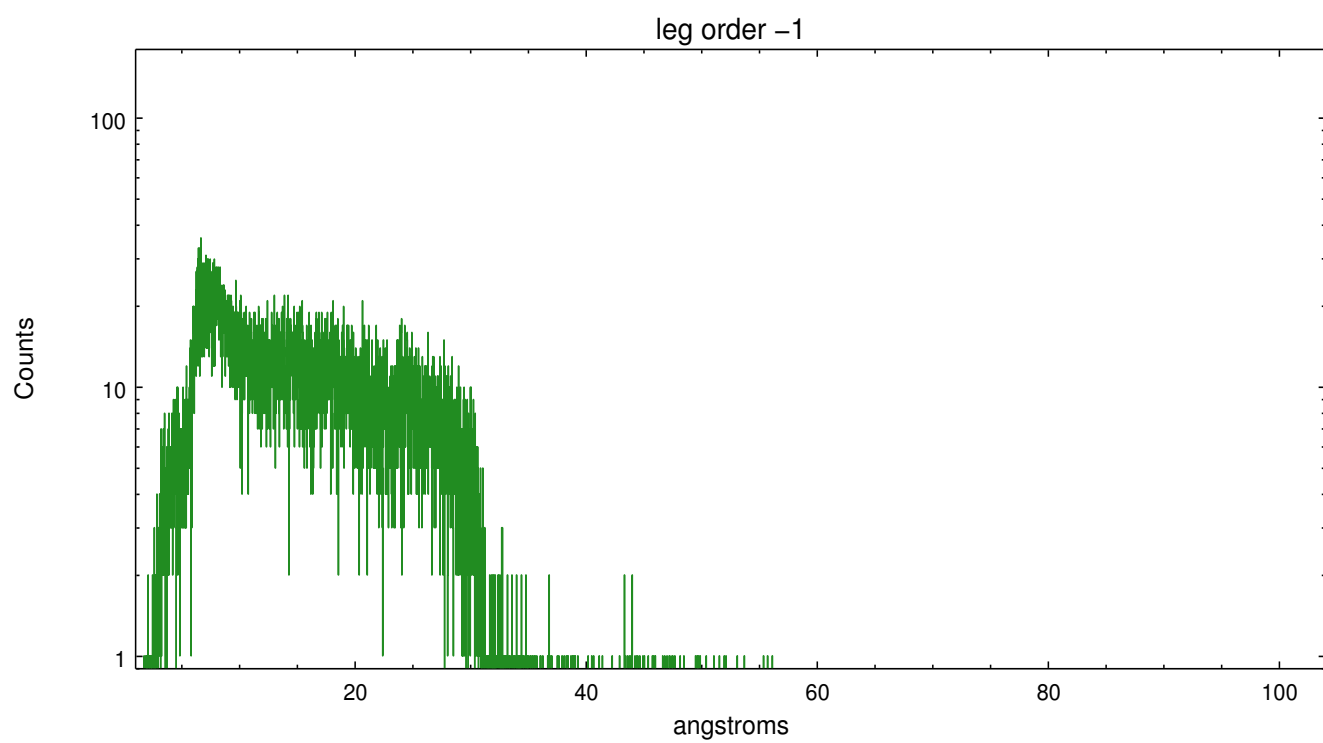
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1736	1233	25998	24136	22010	1579	2524





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2013.01.02
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	21.158

A.2 Comments

Target very off-axis. In tg_create_mask, the zeroth order region needs to be decreased; off-axis, the default size is too large and causes short wavelengths to be omitted from grating region. In tgextract, the off-axis source extent requires the tg_d range to be increased.

===

Reprocess using the following method: Columns x, y, r, w give parameters for tg_create_mask Columns s1, s2, d1, d2, u1, u2 give parameters for tgextract. Customized parts of the usage are as follows:
tg_create_mask use_user_pars = yes sA_zero_x = \$x sA_zero_y = \$y
sA_zero_rad = \$r sA_width_hcg = \$w sA_width_meg = \$w sA_width_leg
= \$w tgextract min_tg_d = \$s1 max_tg_d = \$s2 min_downbkg_tg_d =
\$d1 max_downbkg_tg_d = \$d2 min_upbkg_tg_d = \$u1 max_upbkg_tg_d =
\$u2 PKS 2155 series (LETG/ACIS): # obsid x y r w s1 s2 d1 d2 u1 u2 1791
3242.07 4497.14 47.96 598.78 -3.401e-03 3.401e-03 -2.592e-02 -3.887e-03
3.887e-03 2.592e-02