

# V&V Reference Report

## L2 ASCDS Version : 7.6.10

Observation 1794 - L2 Version 7  
Chandra X-Ray Center

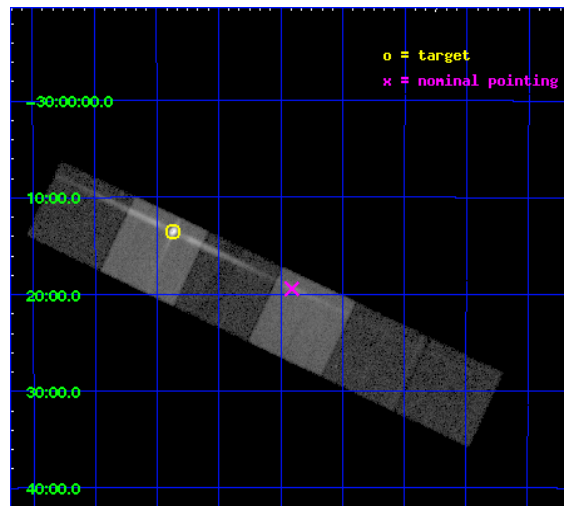
L2 Processing Date : Jan 13 2010

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# 1 Front

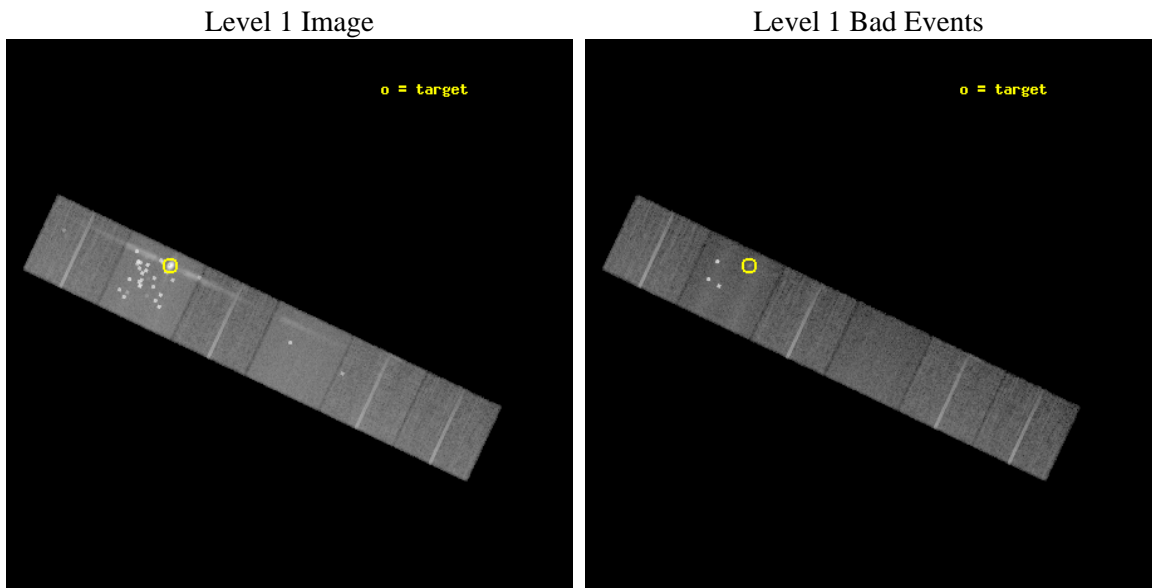
seq_num	390012	Sequence number
obs_id	1794	Observation id
title	GRATINGS CALIBRATION OBSERVATIONS OF PKS2155-304	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	PKS2155-304	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	329.716667	Observer's specified target RA
dec_targ	-30.225556	Observer's specified target Dec
ra_nom	329.4774750894	Nominal RA
dec_nom	-30.32457315319	Nominal Dec
roll_nom	25.261647347543	Nominal Roll
revision	7	Processing version of data
ontime	21158.400019705	Sum of GTIs [s]
livetime	20890.479618597	Livetime [s]
ontime4	21158.400019705	Sum of GTIs [s]
ontime5	21158.400019705	Sum of GTIs [s]
ontime6	21158.400019705	Sum of GTIs [s]
ontime7	21158.400019705	Sum of GTIs [s]
ontime8	21155.159029558	Sum of GTIs [s]
ontime9	21155.159029558	Sum of GTIs [s]
l2events	264059	Number of level 2 events



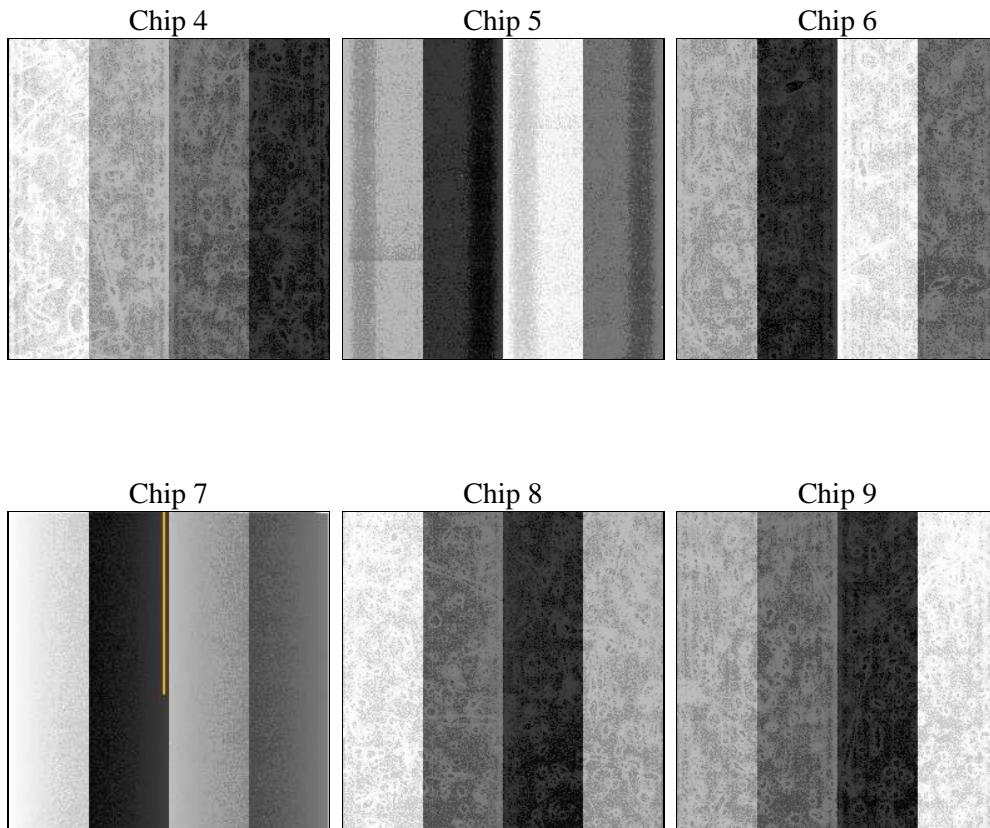
## 2 OBI

### 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	Scheduled observation exposure time
ascdsver	7.6.11.9	ASCDS version number	ontime	21158.400019705	Sum of GTIs [s]
caldbver	3.5.0.1	&#160	ontime4	21158.400019705	Sum of GTIs [s]
date	2008-11-24T16:32:41	Date and time of file creation	ontime5	21158.400019705	Sum of GTIs [s]
revision	4	Processing version of data	ontime6	21158.400019705	Sum of GTIs [s]
			ontime7	21158.400019705	Sum of GTIs [s]
			ontime8	21155.159029558	Sum of GTIs [s]
			ontime9	21155.159029558	Sum of GTIs [s]
			l1events	1051742	Number of level 1 events

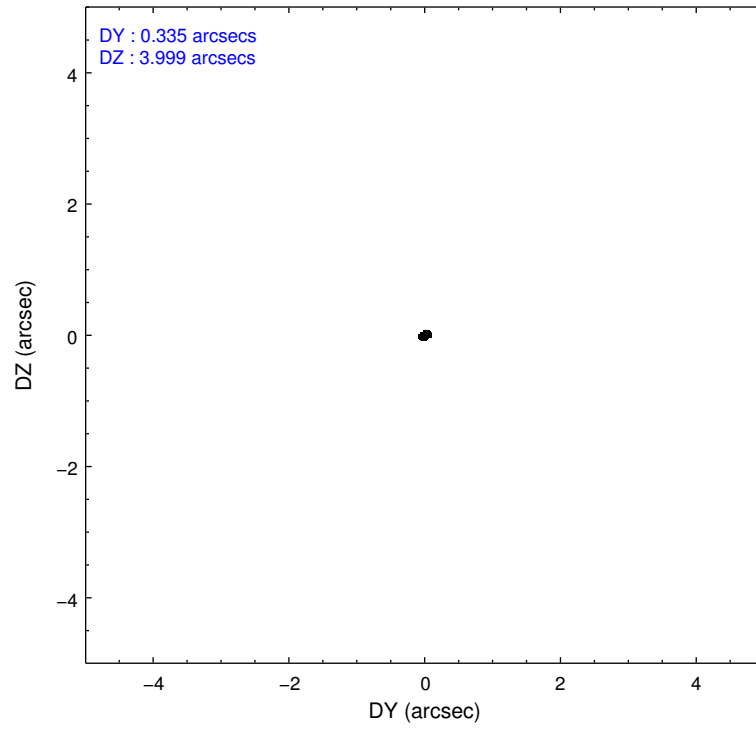
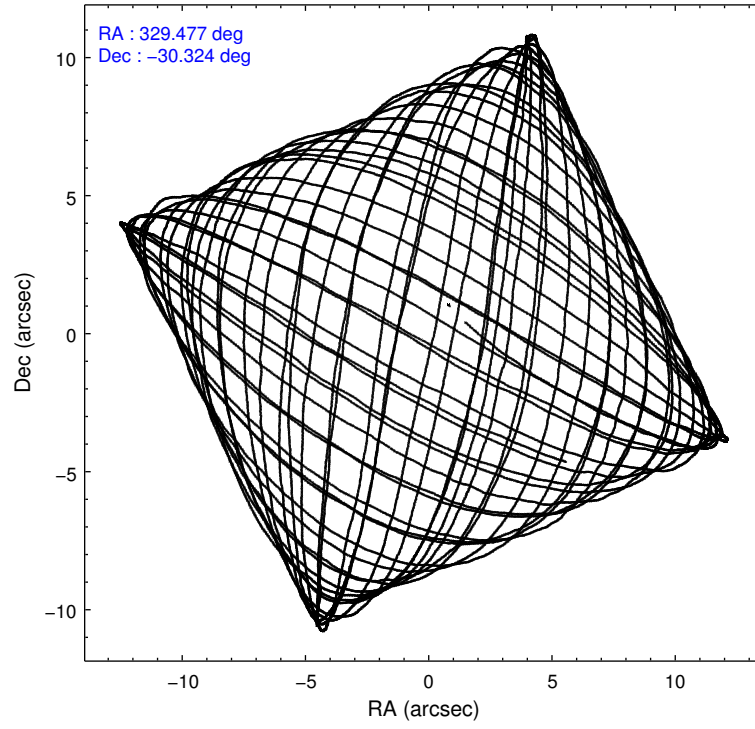
### 2.1.4 Events

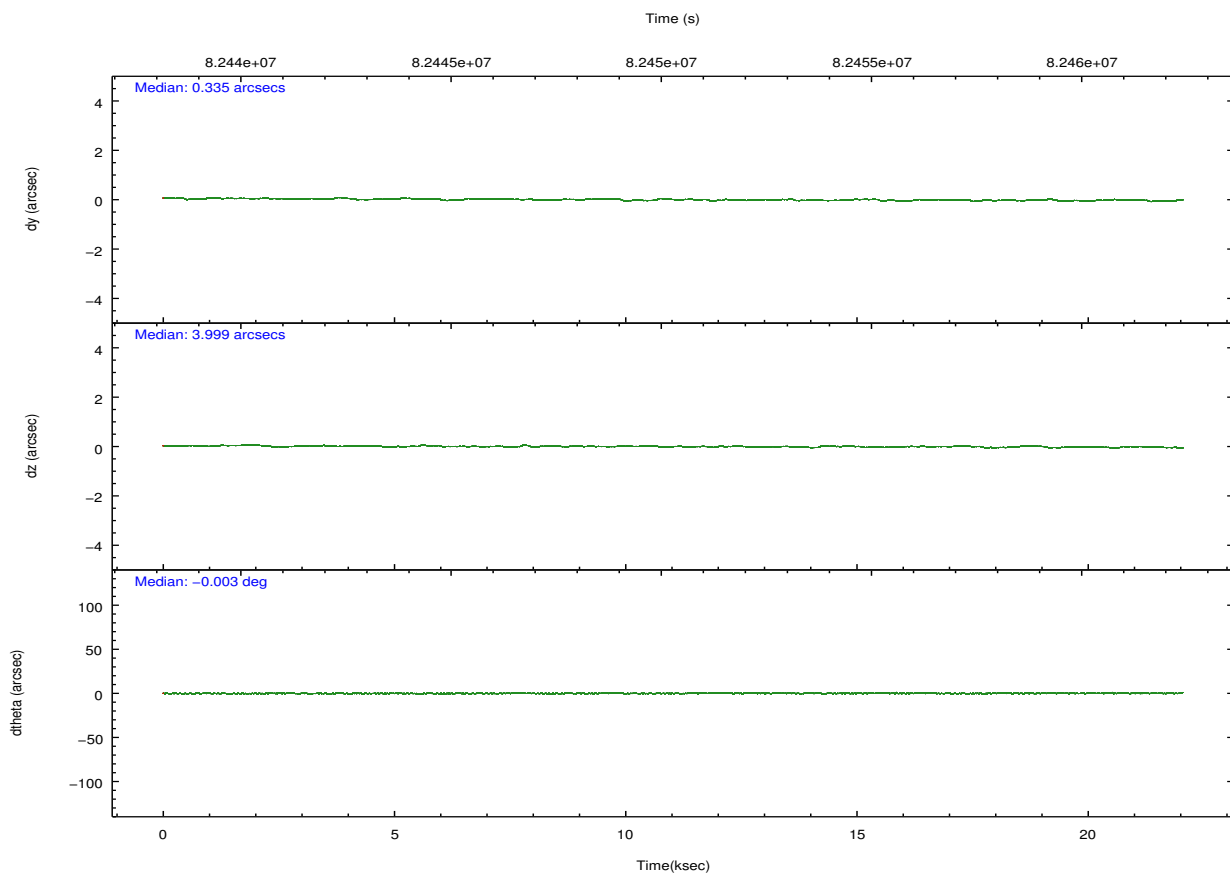
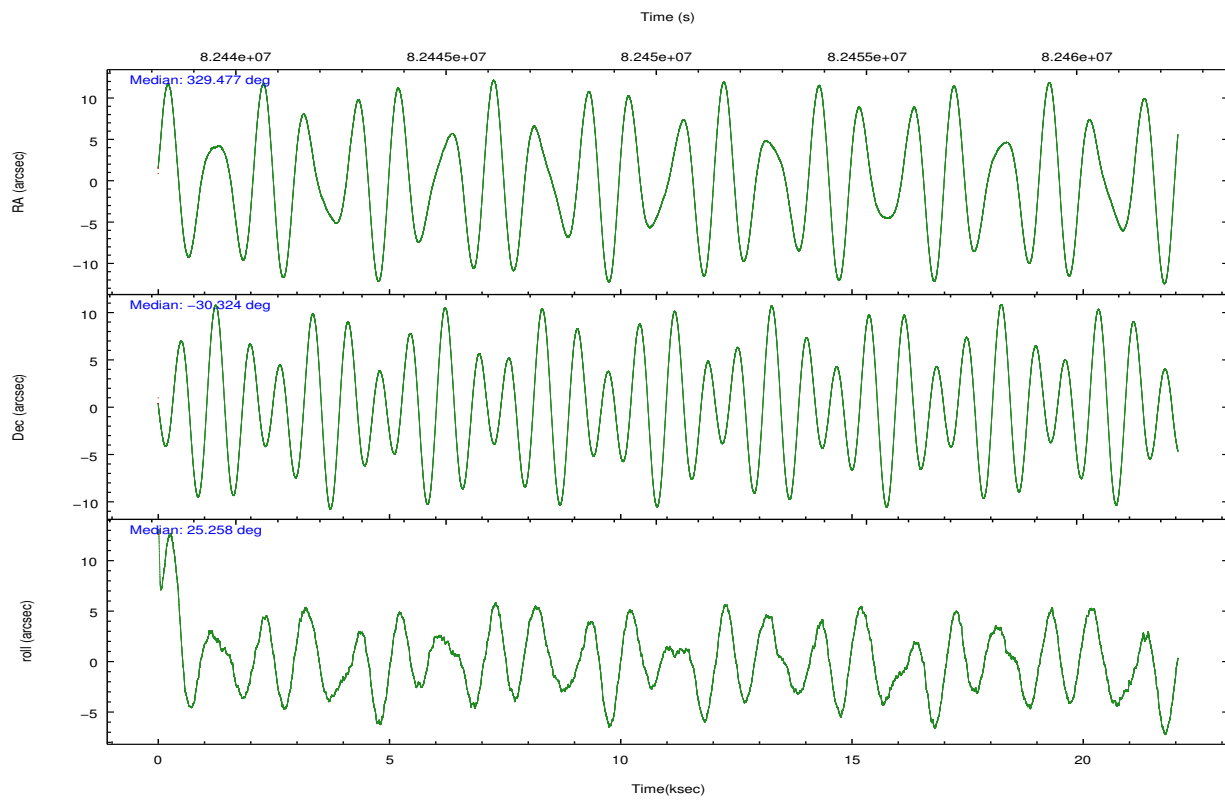
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	140152	356106	125873	163084	148257	118270	grade 0 events	5662	127077	8376	11440	8866	3348
rejected events	122544	111353	105725	88426	118445	103648		4%	35%	6%	7%	5%	2%
rejected %	87%	31%	83%	54%	79%	87%	grade 1 events	36	245	31	72	57	16
								0%	0%	0%	0%	0%	0%
							grade 2 events	7062	41779	6372	14925	9293	6044
								5%	11%	5%	9%	6%	5%
							grade 3 events	757	9779	934	4109	2230	819
								0%	2%	0%	2%	1%	0%
							grade 4 events	726	7807	869	3912	1968	832
								0%	2%	0%	2%	1%	0%
							grade 5 events	2493	14719	3096	8795	4157	3126
								1%	4%	2%	5%	2%	2%
							grade 6 events	3406	58375	3602	40291	7457	3582
								2%	16%	2%	24%	5%	3%
							grade 7 events	120010	96325	102593	79540	114229	100503
								85%	27%	81%	48%	77%	84%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	6	6
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
Pointing RA	329.459541	329.4774750894017	Subarray requested	NONE	NONE
Pointing Dec	-30.347163	-30.32457315318966	Alternating exposures requested	N	N
Pointing Roll	25.095959	25.261647347543	Primary exposure time	0.000000	3.2
SIM focus pos (mm)	-0.684267	-0.6828225247311905			
SIM defocus (mm)	0	0.001444936568705701			
SIM translation stage pos (mm)	-182.131972	-182.1344861297048			
SIM translation stage offset (mm)	-8.000551	-7.998036453302973			
Observation start time	82439456.184000	82439076.93731301			
Observation start date	2000-08-12T03:49:52	2000-08-12T03:44:36			
Observation end time	82460856.184000	82461619.25065599			
Observation end date	2000-08-12T09:46:32	2000-08-12T10:00:19			
Read mode	TIMED	TIMED			

## 2.3 Aspect



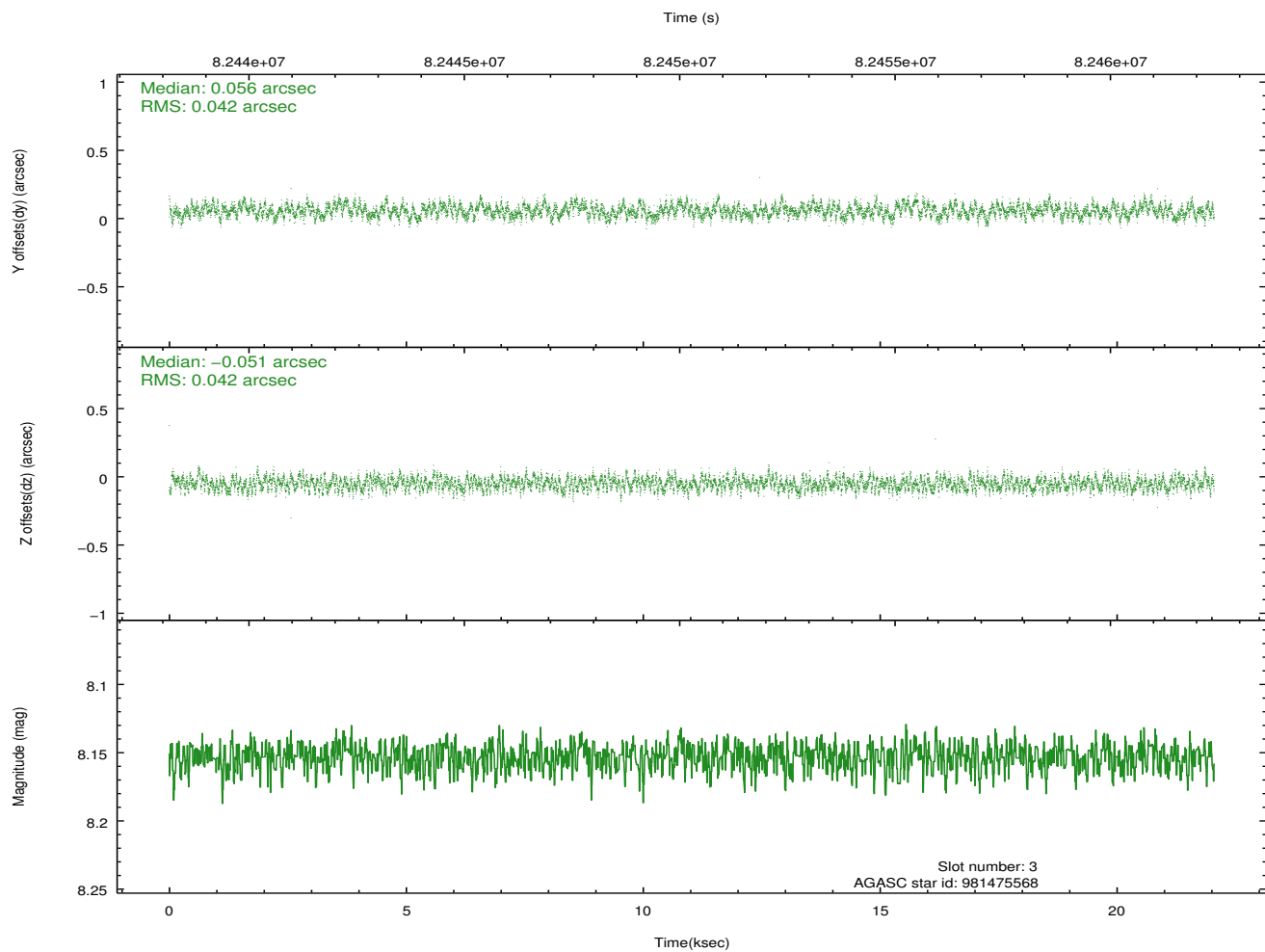
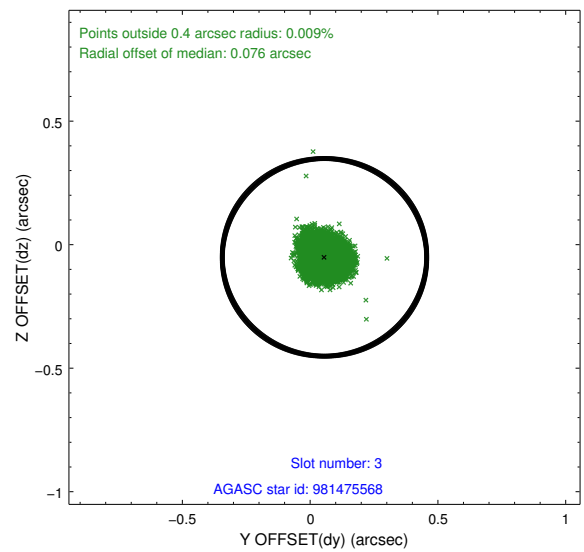
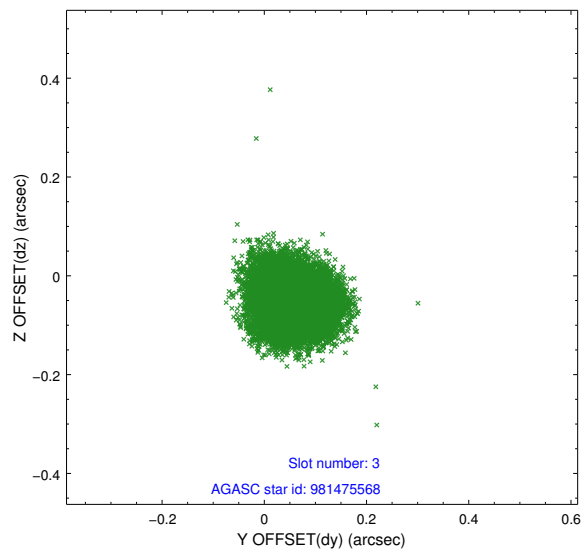


### Slot Statistics

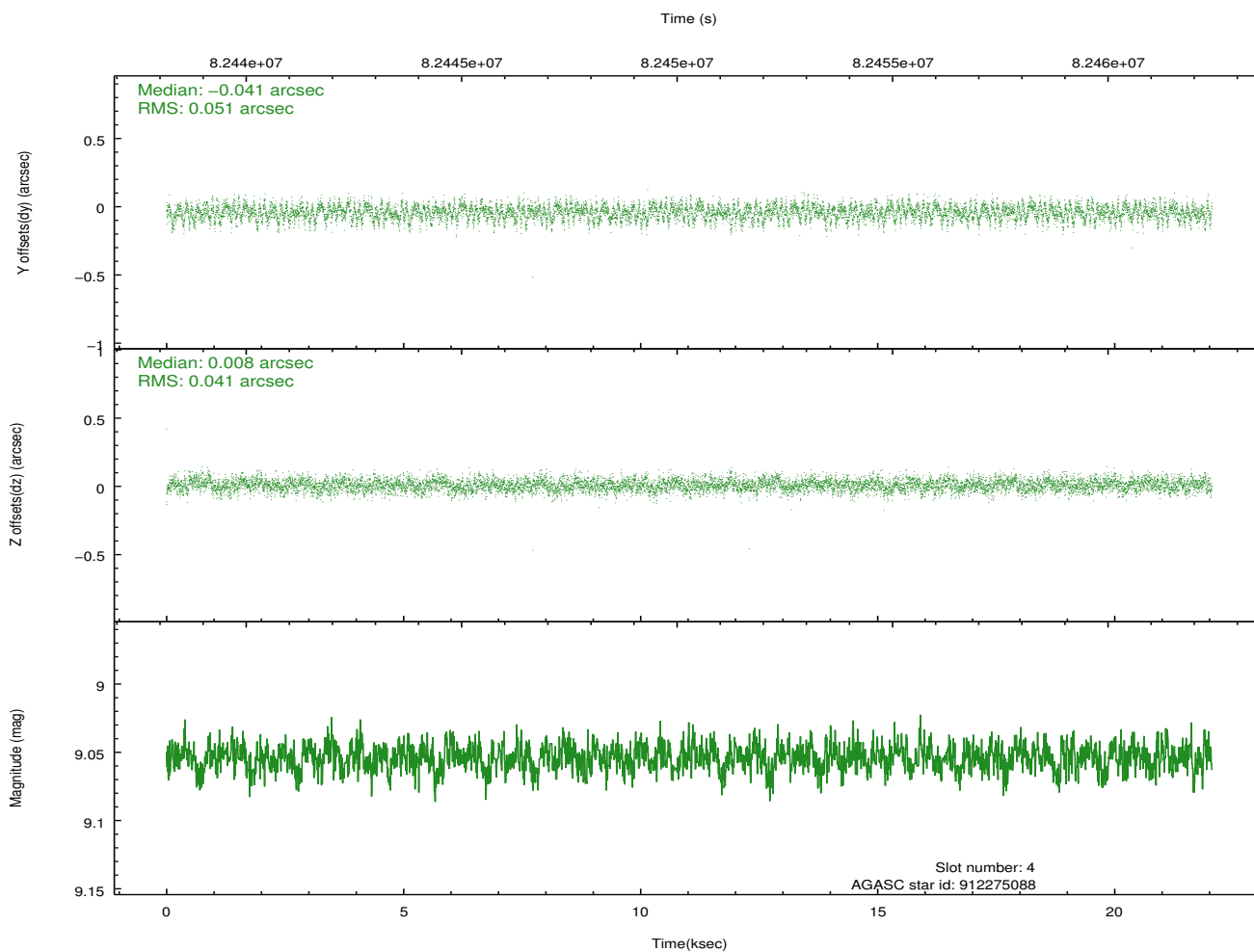
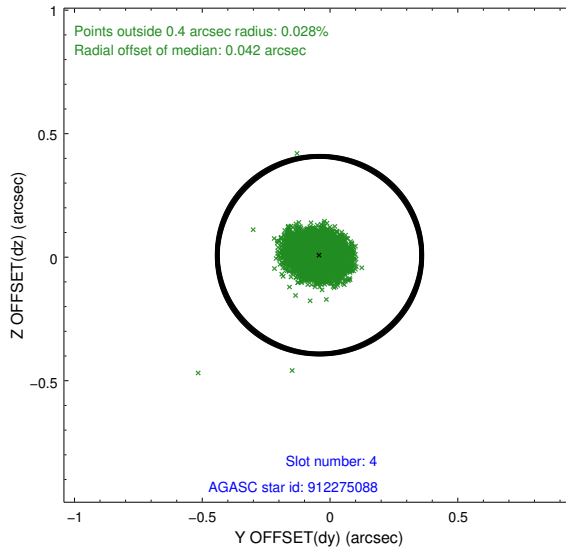
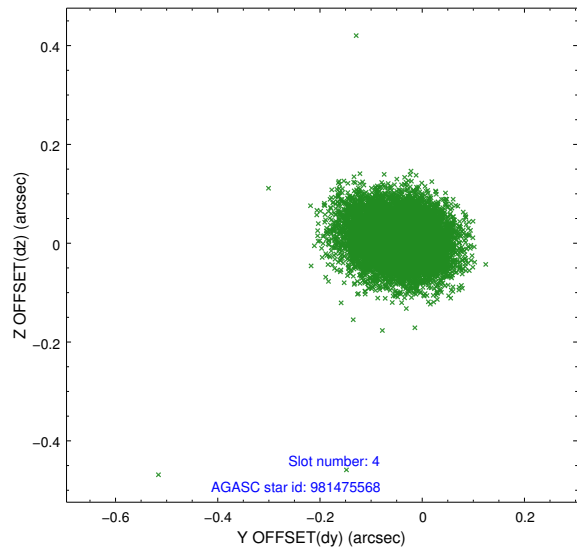
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	5376	-0.049	-0.087	0.007	0.011	0.000000	0.000000	-752.41	-1889.92
1	FID	ACIS-S-4	7.18	5378	0.045	0.047	0.005	0.009	0.000000	0.000000	2160.92	18.44
2	FID	ACIS-S-5	7.23	5379	-0.028	0.048	0.007	0.011	0.000000	0.000000	-1805.00	12.36
3	GUIDE	981475568	8.15	10754	0.056	-0.051	0.064	0.099	328.999408	-30.923402	-2167.40	-1279.75
4	GUIDE	912275088	9.05	10754	-0.041	0.008	0.069	0.113	329.619228	-29.738698	1381.09	1770.68
5	GUIDE	981478504	9.39	10749	-0.109	-0.006	0.085	0.137	329.103554	-31.216754	-2320.54	-2372.78
6	GUIDE	981478152	9.39	10726	0.003	0.074	0.088	0.143	329.415589	-30.057192	318.89	1002.32
7	GUIDE	981468128	9.36	10752	0.093	-0.024	0.070	0.115	329.756350	-30.158334	1125.05	221.82

## 2.4 Star Slots

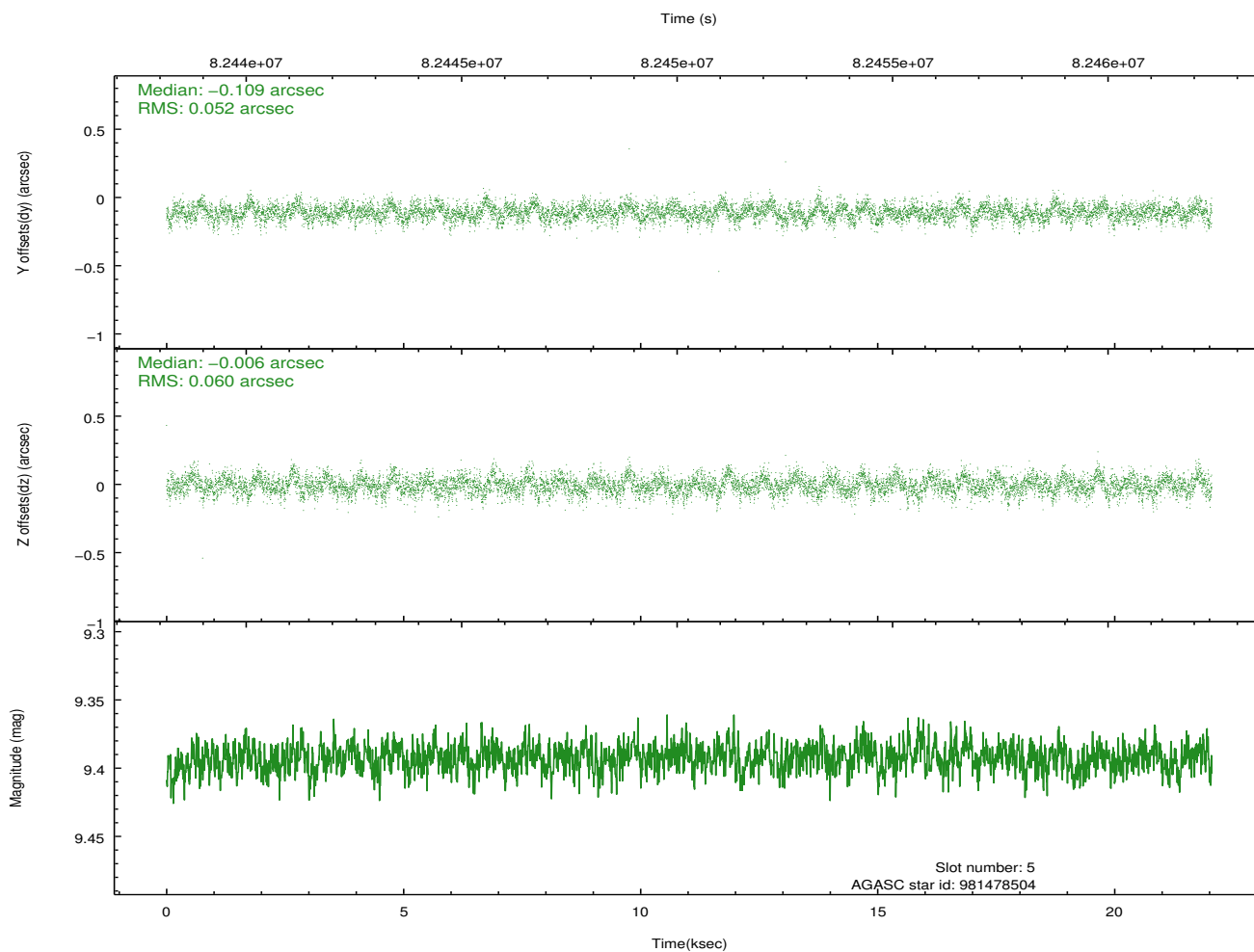
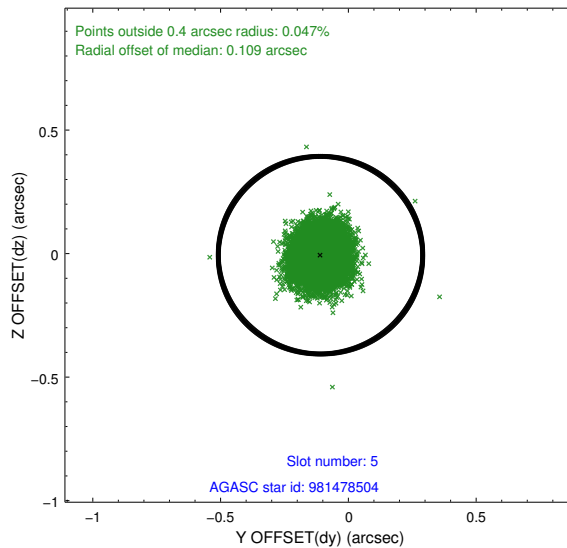
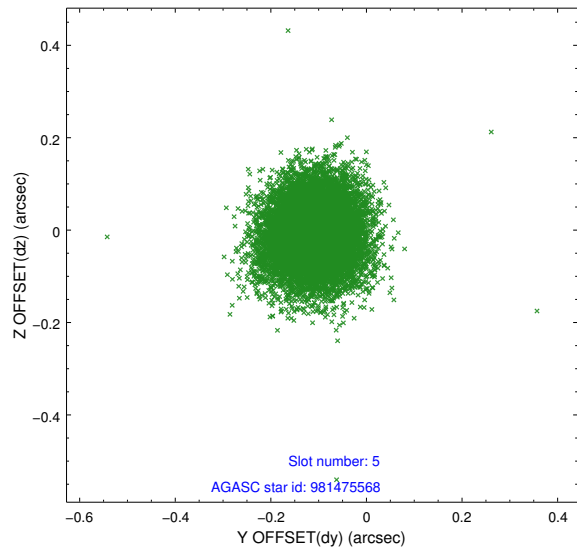
### 2.4.1 Slot 3



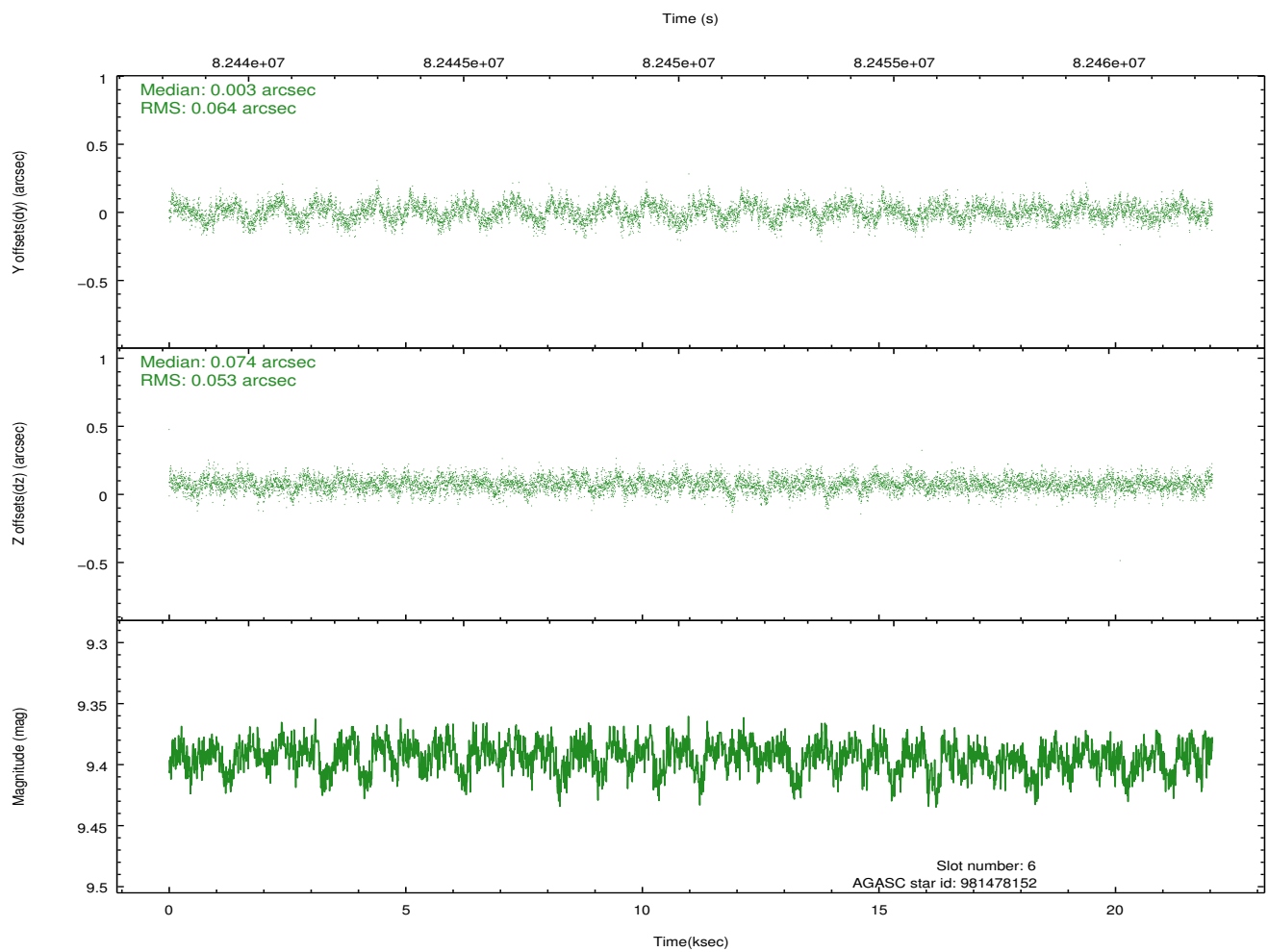
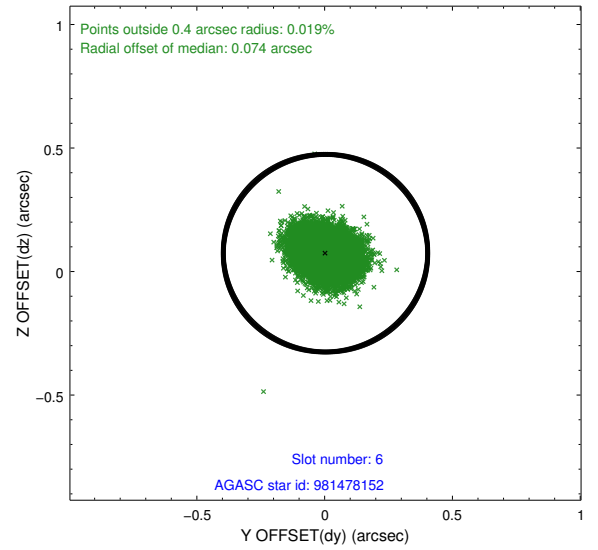
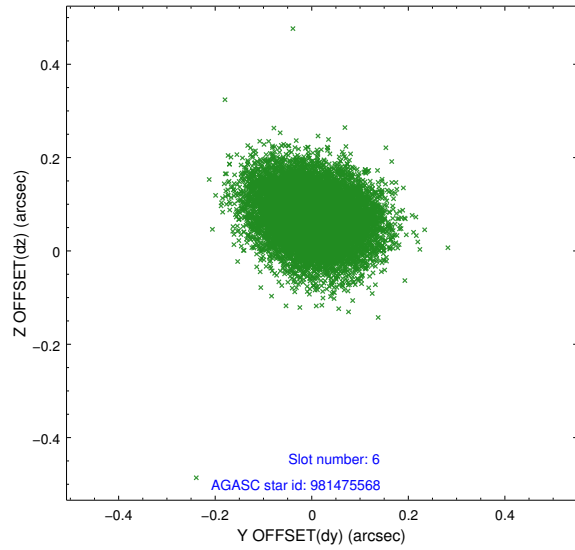
## 2.4.2 Slot 4



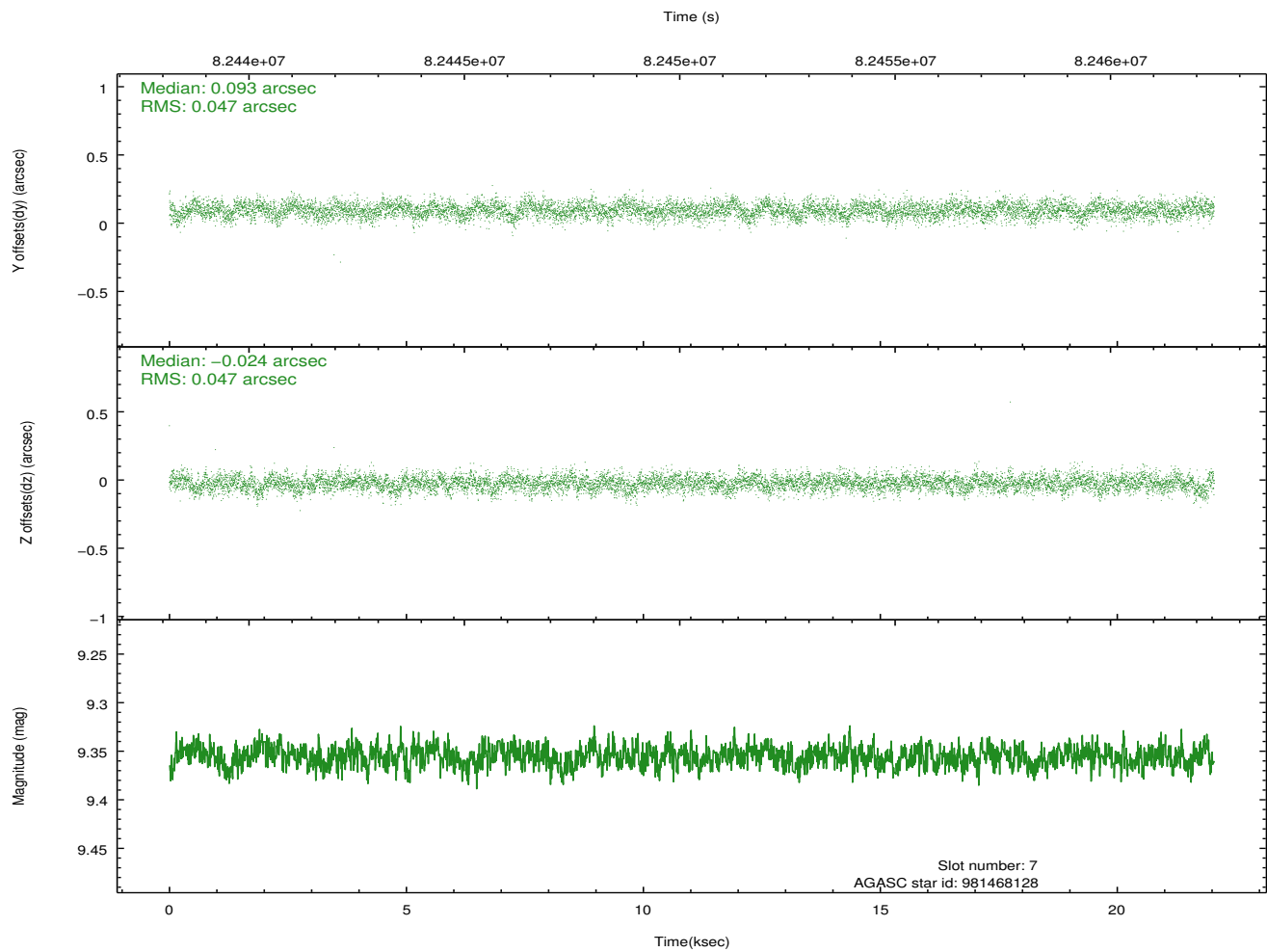
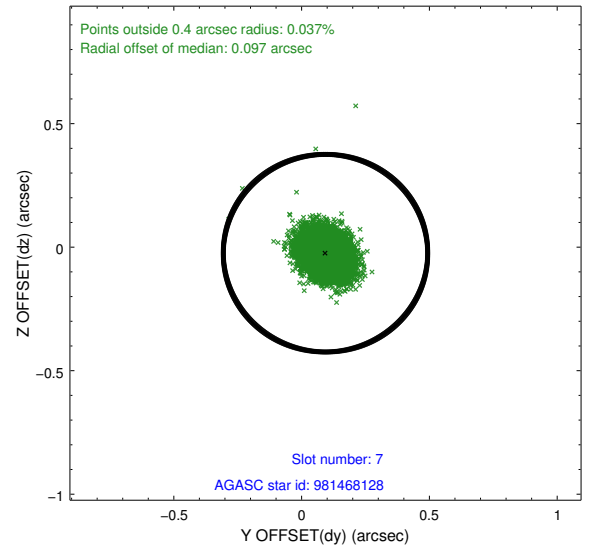
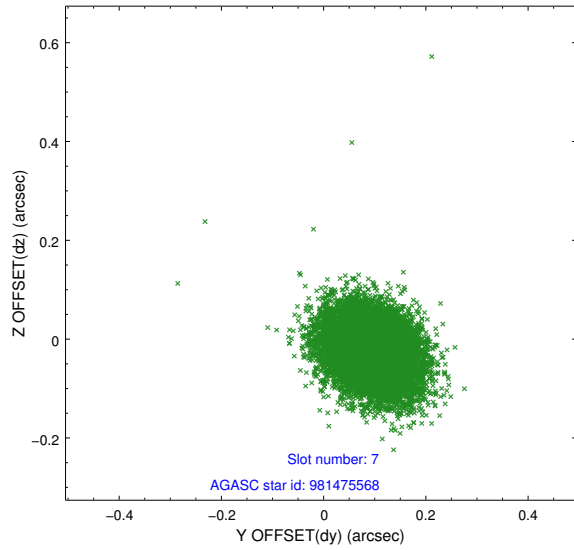
### 2.4.3 Slot 5



## 2.4.4 Slot 6

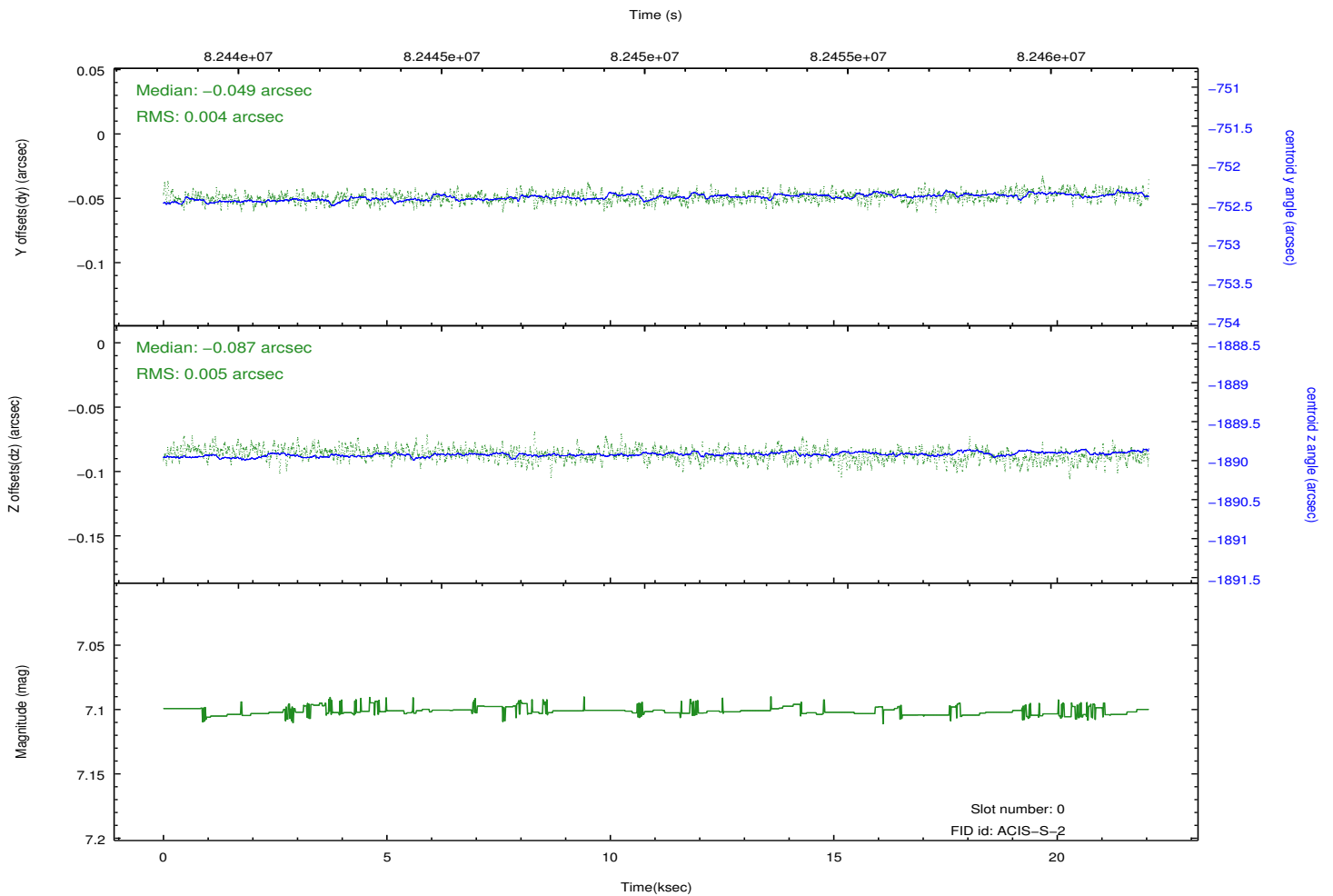
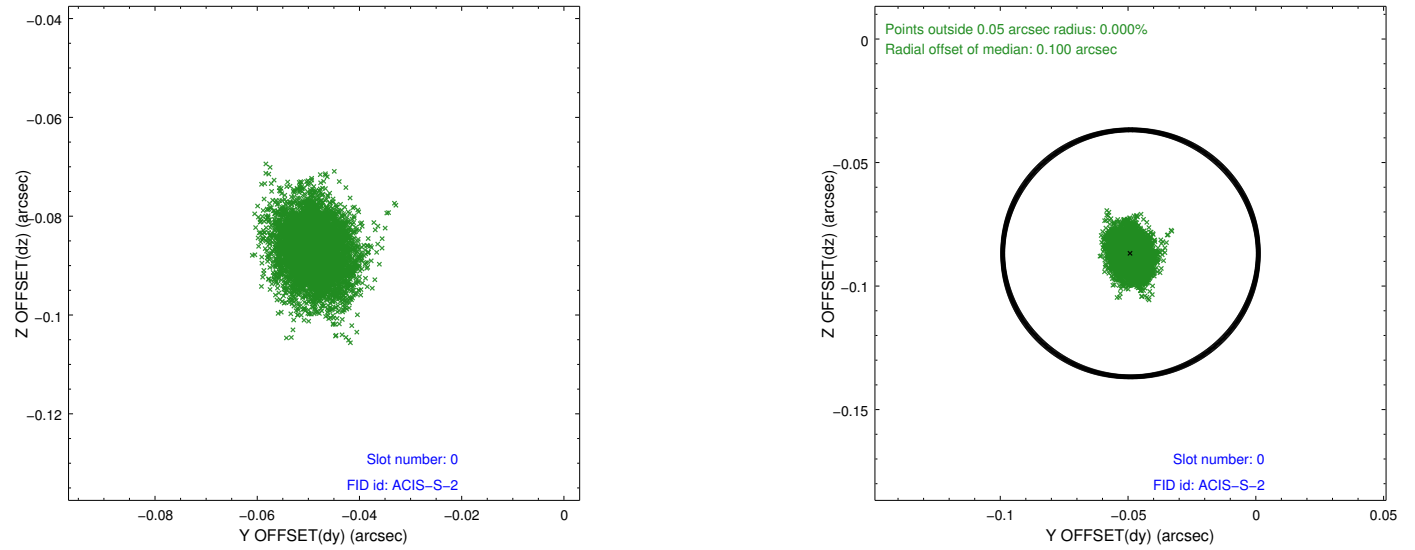


## 2.4.5 Slot 7

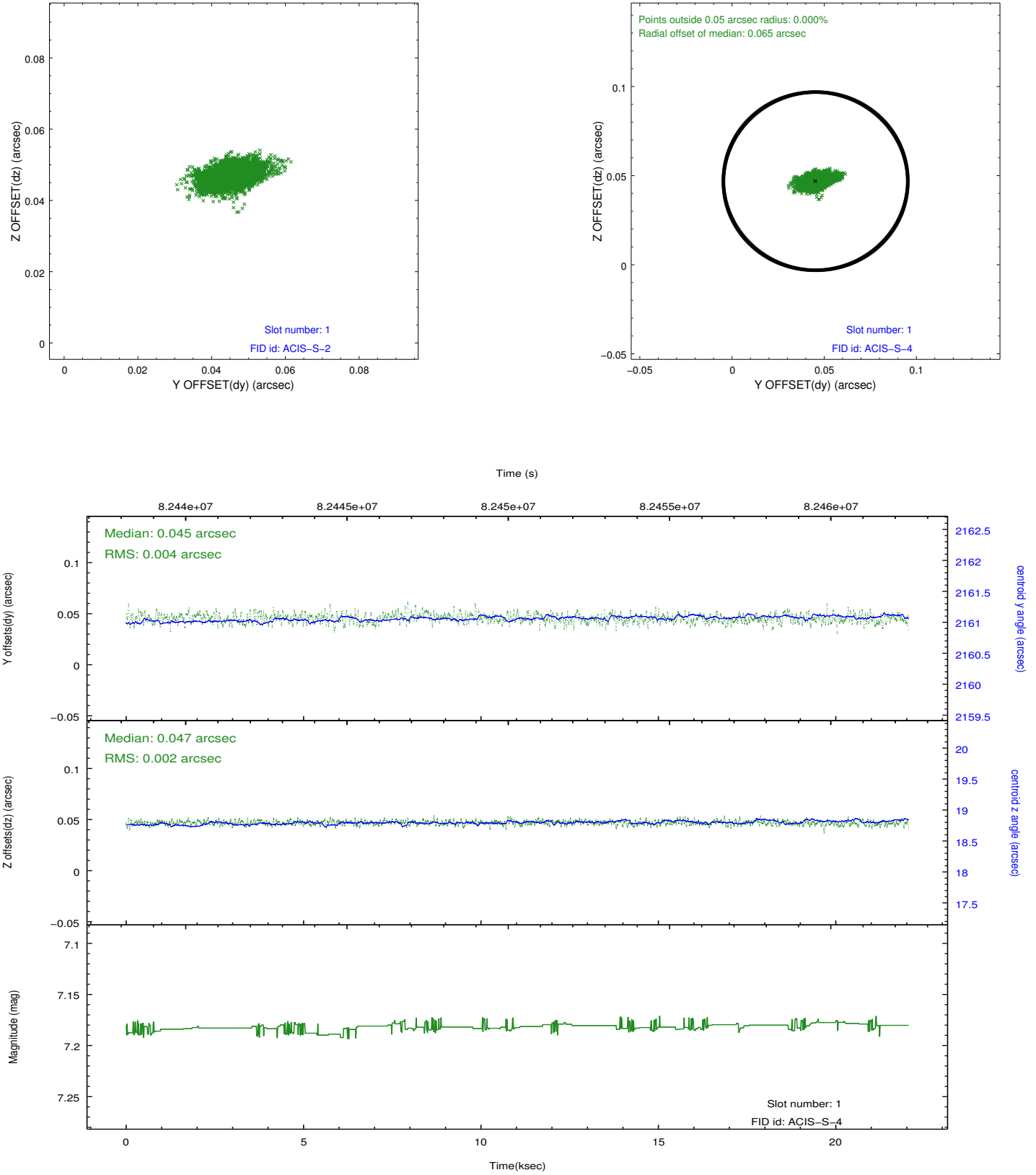


## 2.5 FID Slots

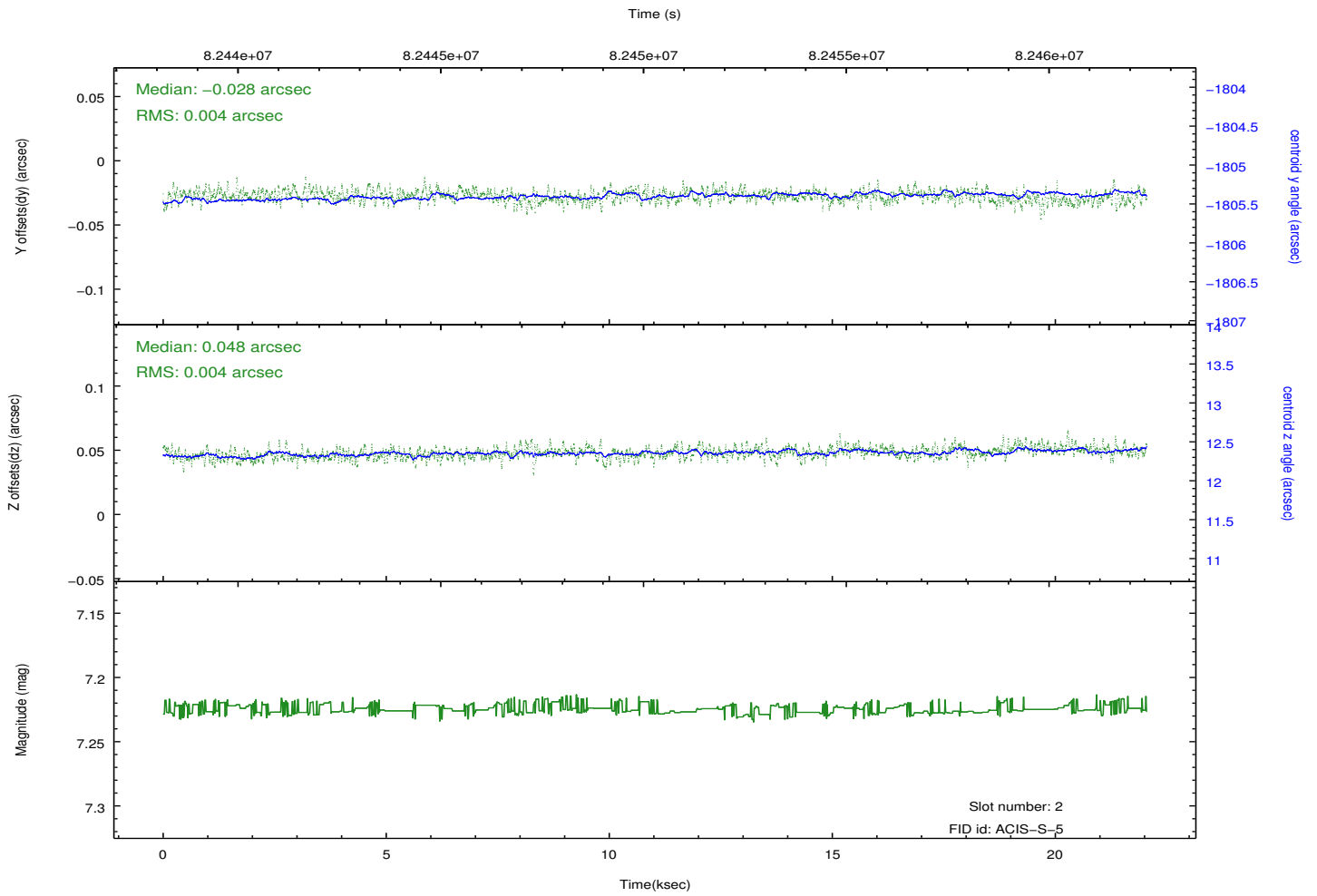
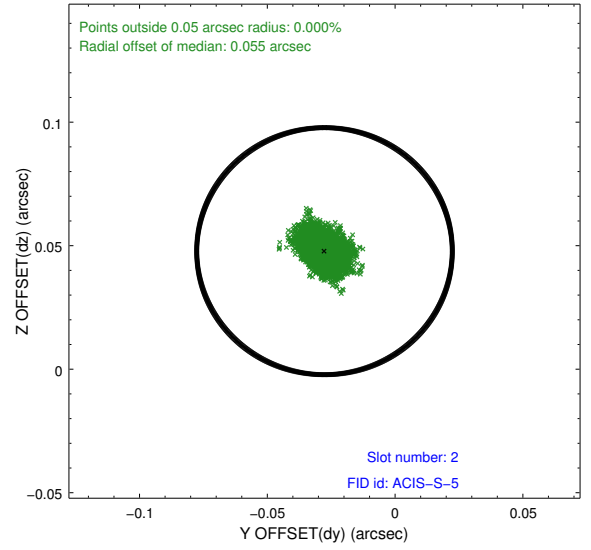
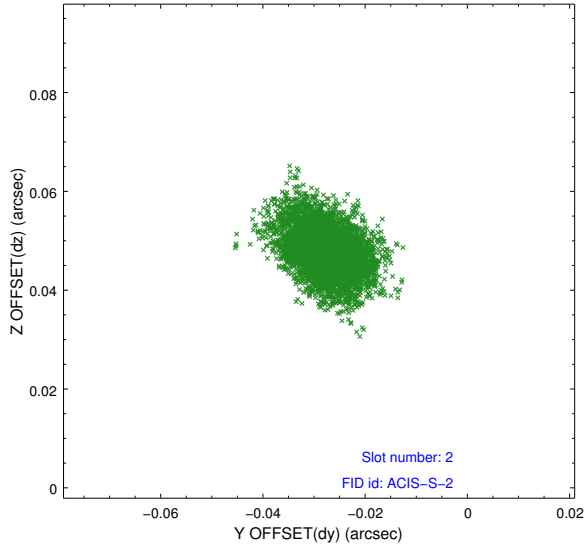
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2

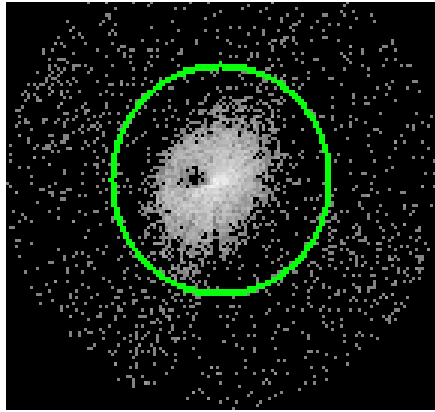


# 3 Gratings

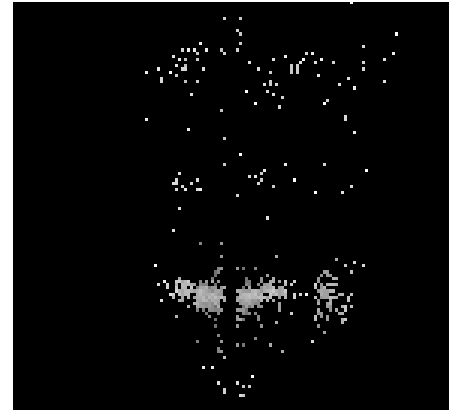
## 3.1 LETG Arm



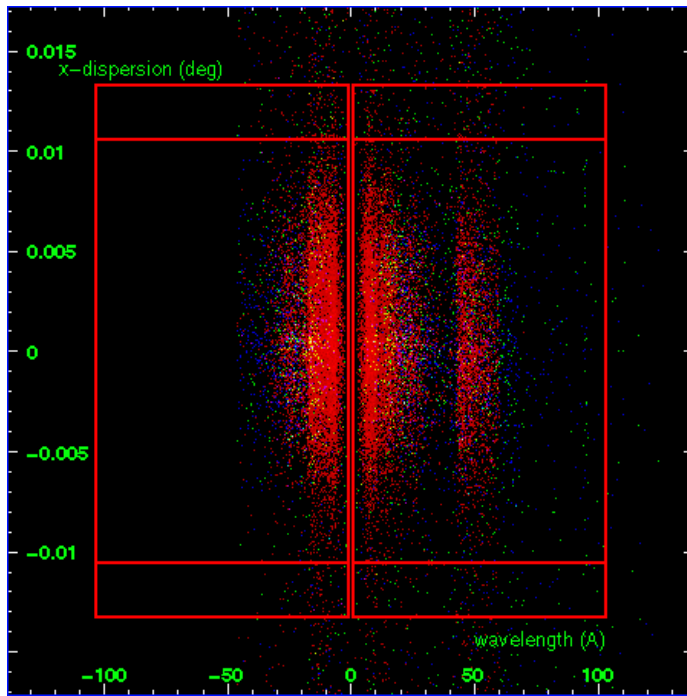
LETG Order Sort 123



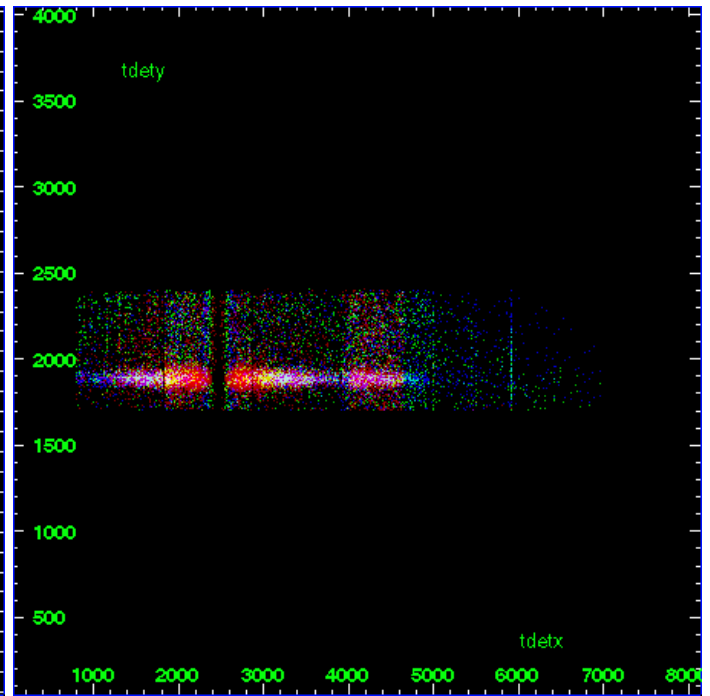
LETG Zero Order



LETG Order Sort ALL

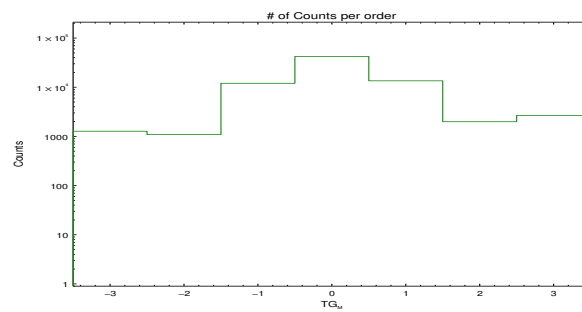


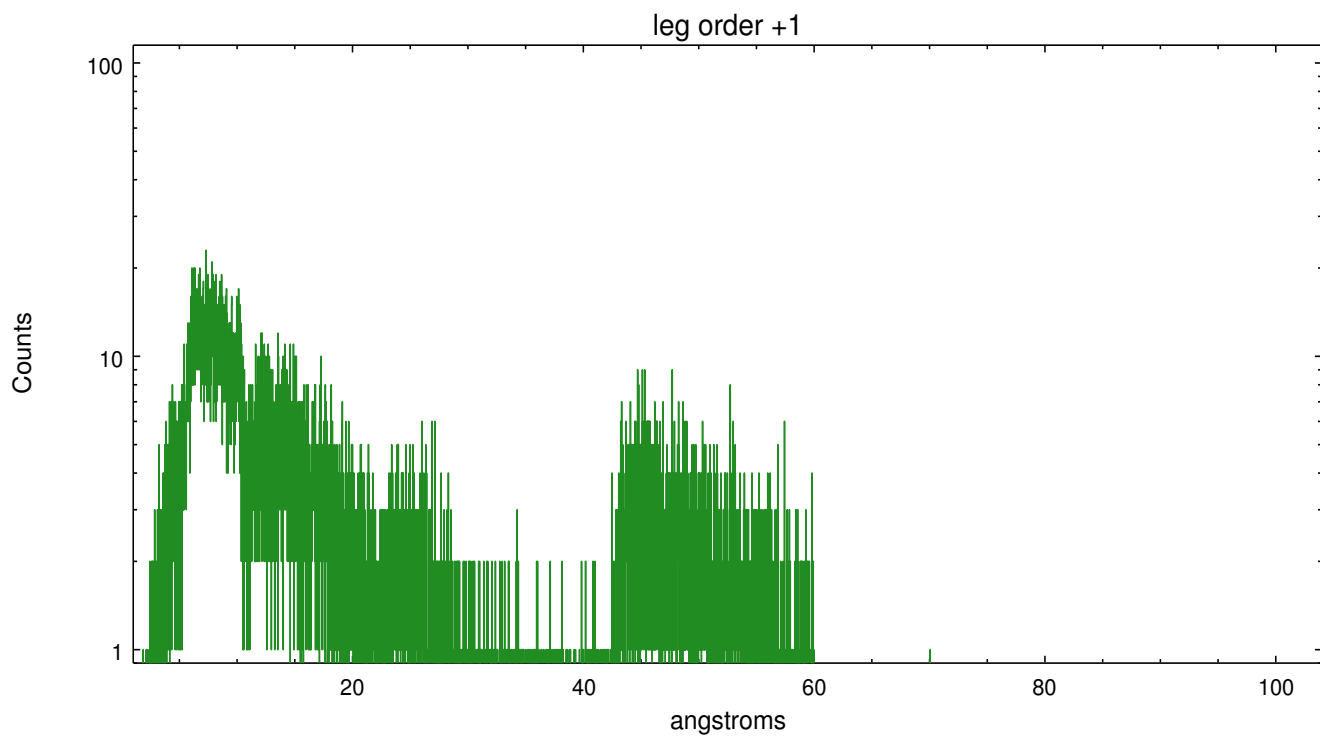
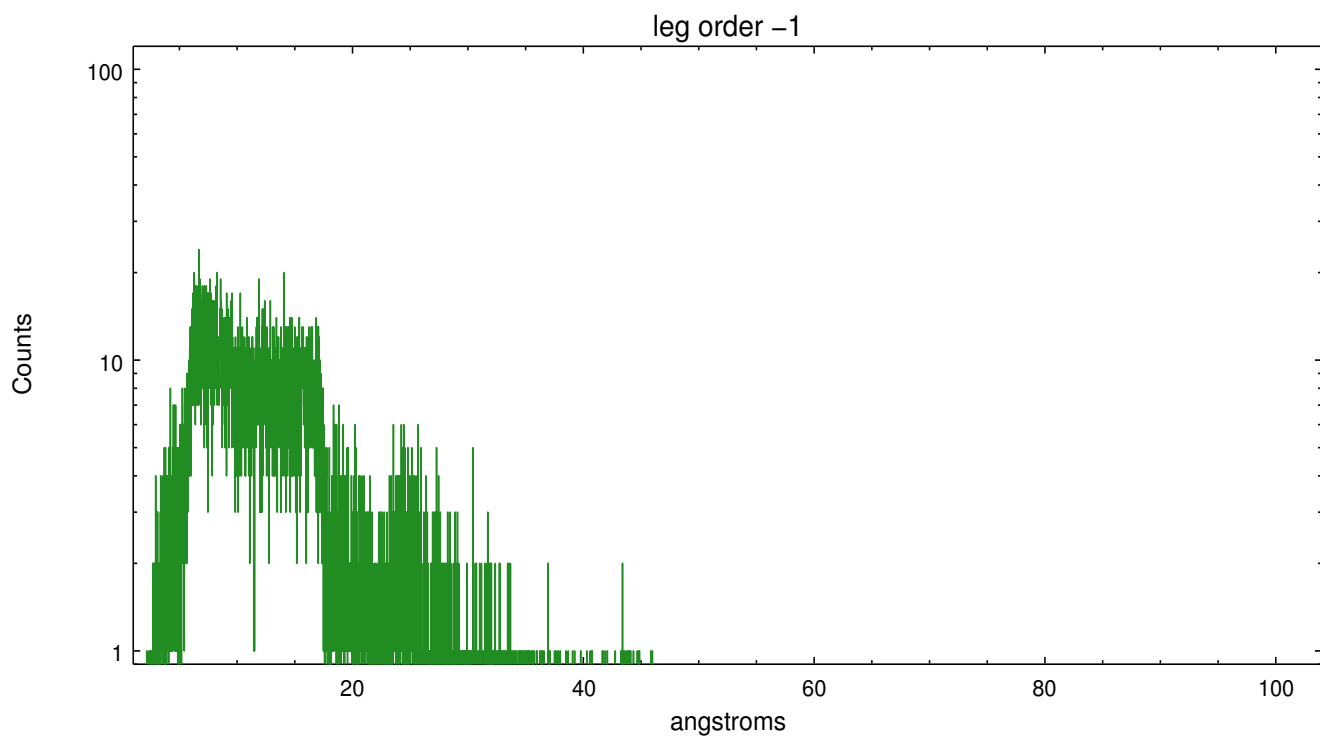
Spot Image LETG



Full Detector LETG

	order	order	order	order	order	order	order
	-3	-2	-1	0	1	2	3
Events	1273	1090	12015	42090	13504	1990	2668





# A Summary

## A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2010.01.14
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	21.161

## A.2 Comments

Note: off-axis (13.7 arcmin) and psf-broadened. Used custom extraction regions.