

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 14385 - L2 Version 1  
Chandra X-Ray Center

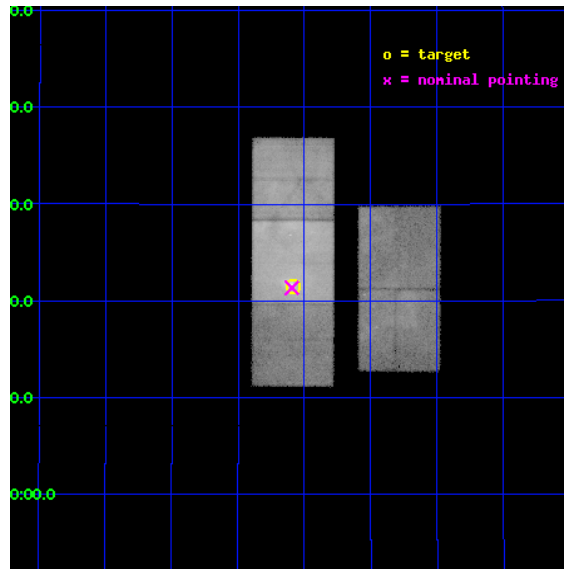
L2 Processing Date : Feb 9 2012

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# 1 Front

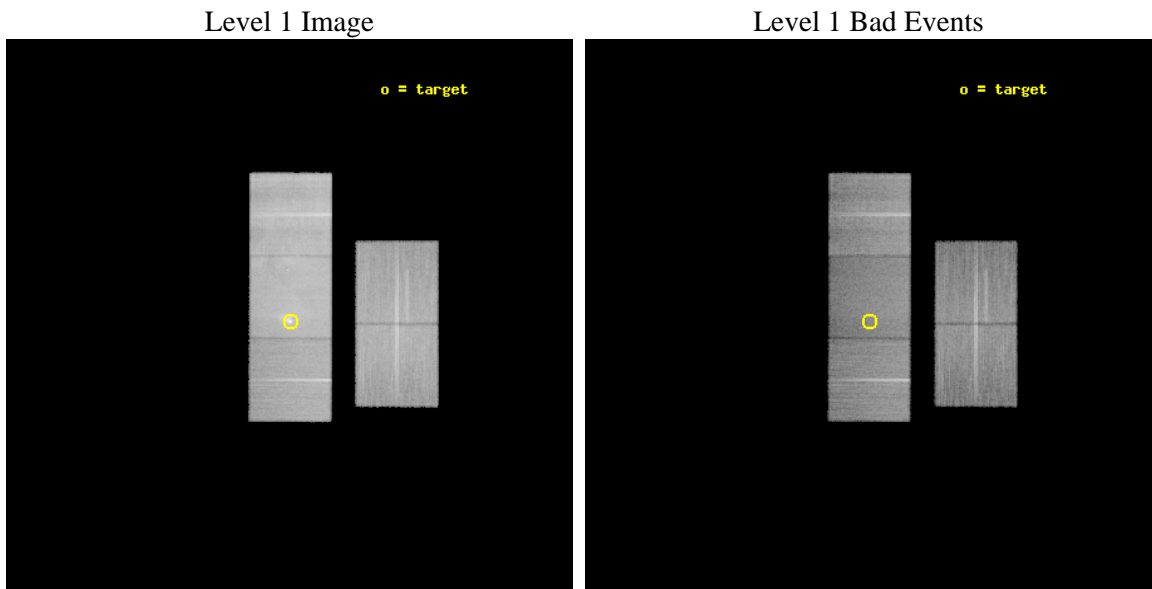
seq_num	501569	Sequence number
obs_id	14385	Observation id
title	Spatially-Resolved Spectroscopy of the IC443 Pulsar Wind Nebula and Environs	Proposal title
observer	Dr. Martin Weisskopf	Principal investigator
object	IC443	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	94.270833	Observer's specified target RA [deg]
dec_targ	22.3575	Observer's specified target Dec [deg]
ra_nom	94.273593456799	Nominal RA [deg]
dec_nom	22.355875562659	Nominal Dec [deg]
roll_nom	270.15558096397	Nominal Roll [deg]
revision	1	Processing version of data
ontime	45067.084171295	Sum of GTIs [s]
livetime	44478.249538693	Livetime [s]
ontime2	45054.355949938	Sum of GTIs [s]
ontime3	45063.861060917	Sum of GTIs [s]
ontime6	45057.620080292	Sum of GTIs [s]
ontime7	45067.084171295	Sum of GTIs [s]
ontime8	45063.820031047	Sum of GTIs [s]
l2events	622408	Number of level 2 events



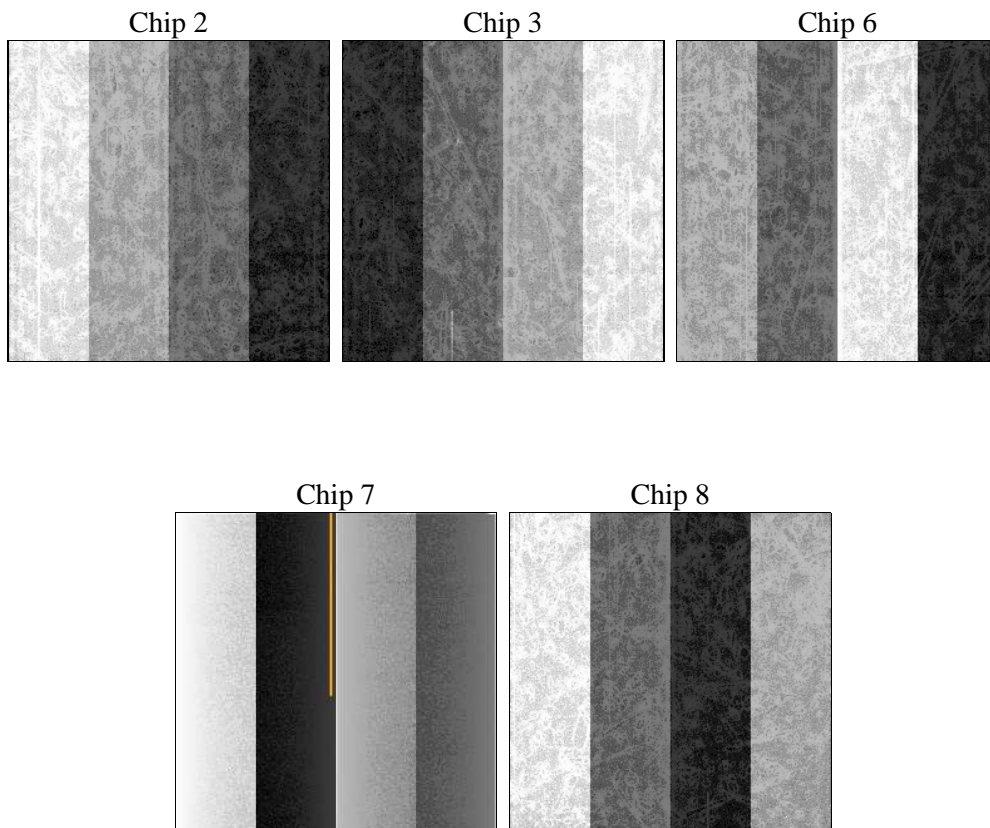
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	45000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	45067.084171295	Sum of GTIs [s]
caldsver	4.4.7	&#160	ontime2	45054.355949938	Sum of GTIs [s]
date	2012-02-10T01:44:34	Date and time of file creation	ontime3	45063.861060917	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	45057.620080292	Sum of GTIs [s]
			ontime7	45067.084171295	Sum of GTIs [s]
			ontime8	45063.820031047	Sum of GTIs [s]
			l1events	1953210	Number of level 1 events

### 2.1.4 Events

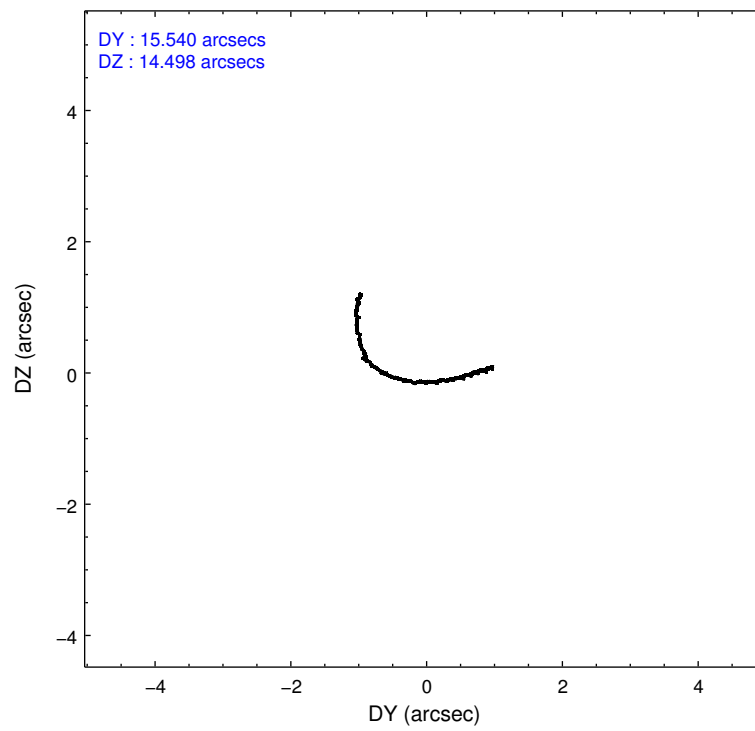
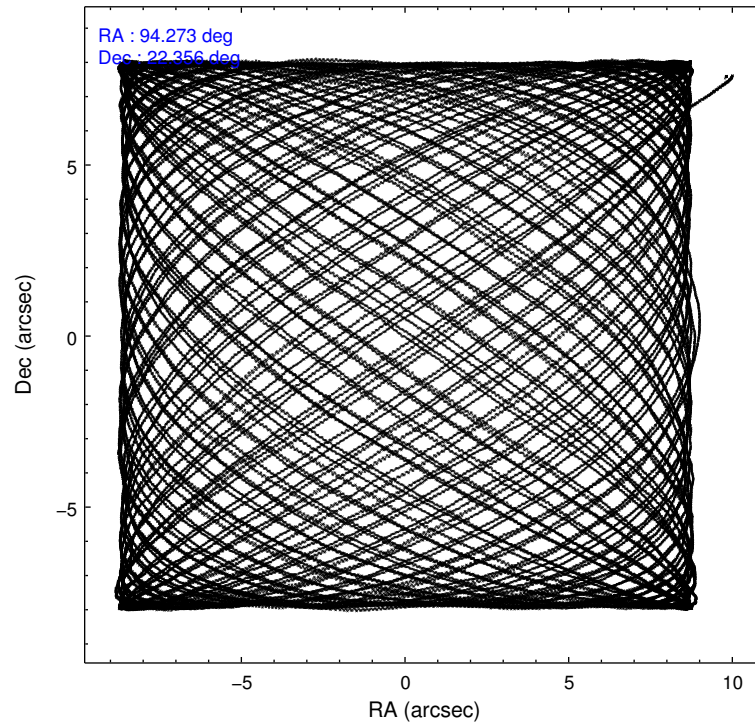
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
level 1 events	310265	301460	318777	512560	510148
rejected events	245154	243138	253032	204240	281184
rejected %	79%	80%	79%	39%	55%

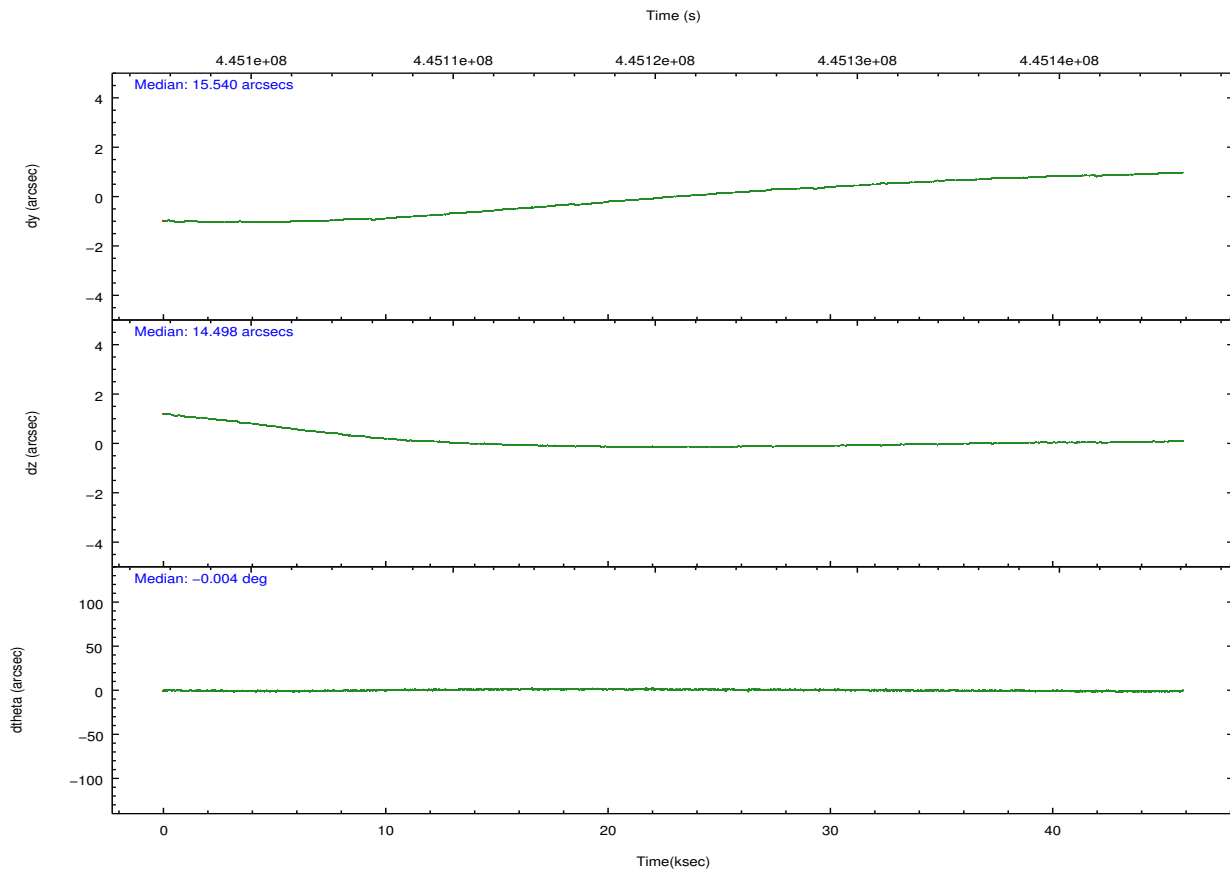
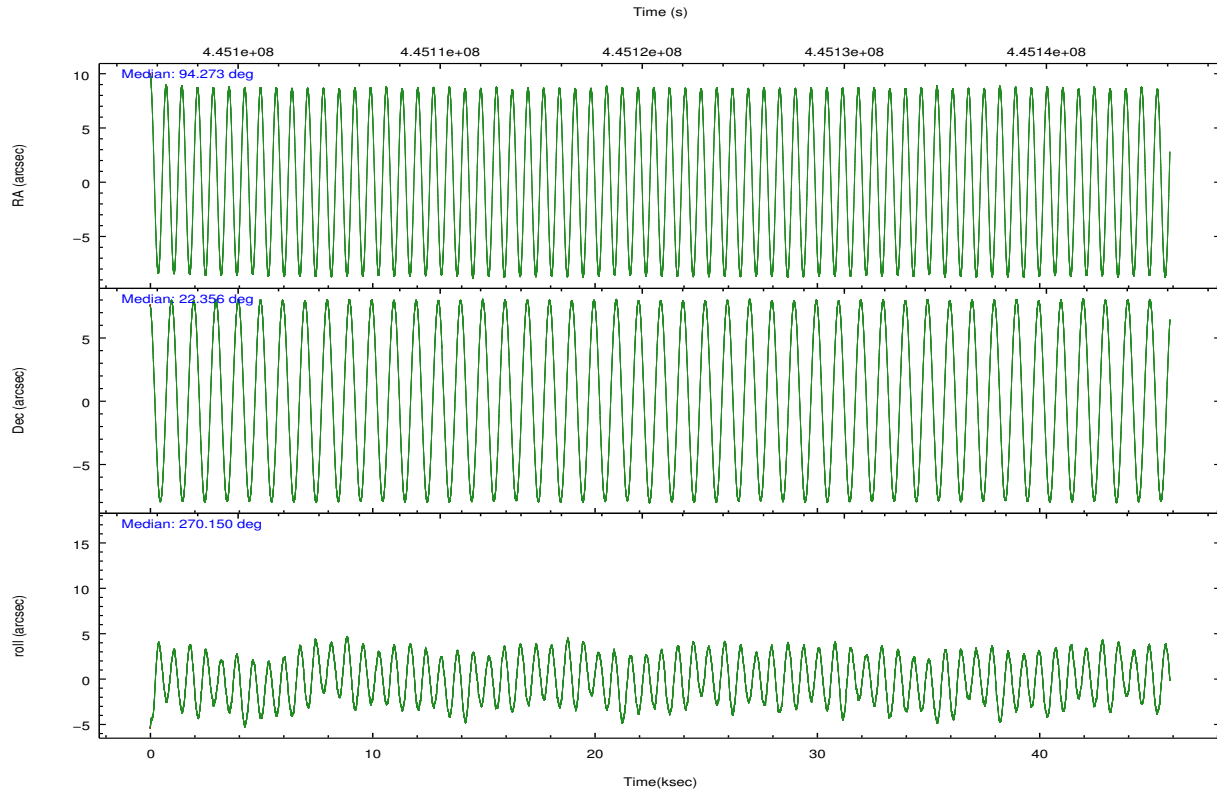
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
grade 0 events	40304	34507	39067	56346	139940
	12%	11%	12%	10%	27%
grade 1 events	305	292	295	429	690
	0%	0%	0%	0%	0%
grade 2 events	10243	9091	10500	73237	34523
	3%	3%	3%	14%	6%
grade 3 events	3993	3993	4252	31567	13536
	1%	1%	1%	6%	2%
grade 4 events	4121	4059	4137	30964	12586
	1%	1%	1%	6%	2%
grade 5 events	12024	13554	13995	38455	20578
	3%	4%	4%	7%	4%
grade 6 events	6455	6678	7800	116228	28389
	2%	2%	2%	22%	5%
grade 7 events	232820	229286	238731	165334	259906
	75%	76%	74%	32%	50%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-23678	ACIS-23678	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	94.258396	94.27359345679859	CCD I2 on	O1	Y
[deg] Pointing Dec	22.379340	22.35587556265911	CCD I3 on	Y	Y
[deg] Pointing Roll	270.004733	270.1555809639711	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	N	N
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1400660498719	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	CCD S4 on	Y	Y
[s] Observation start time (MET)	445098809.184000	445097016.55958	CCD S5 on	N	N
Observation start date	2012-02-08T14:32:23	2012-02-08T14:03:36	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	445143809.184000	445144631.91209	On-chip summing requested	N	N
Observation end date	2012-02-09T03:02:23	2012-02-09T03:17:11	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



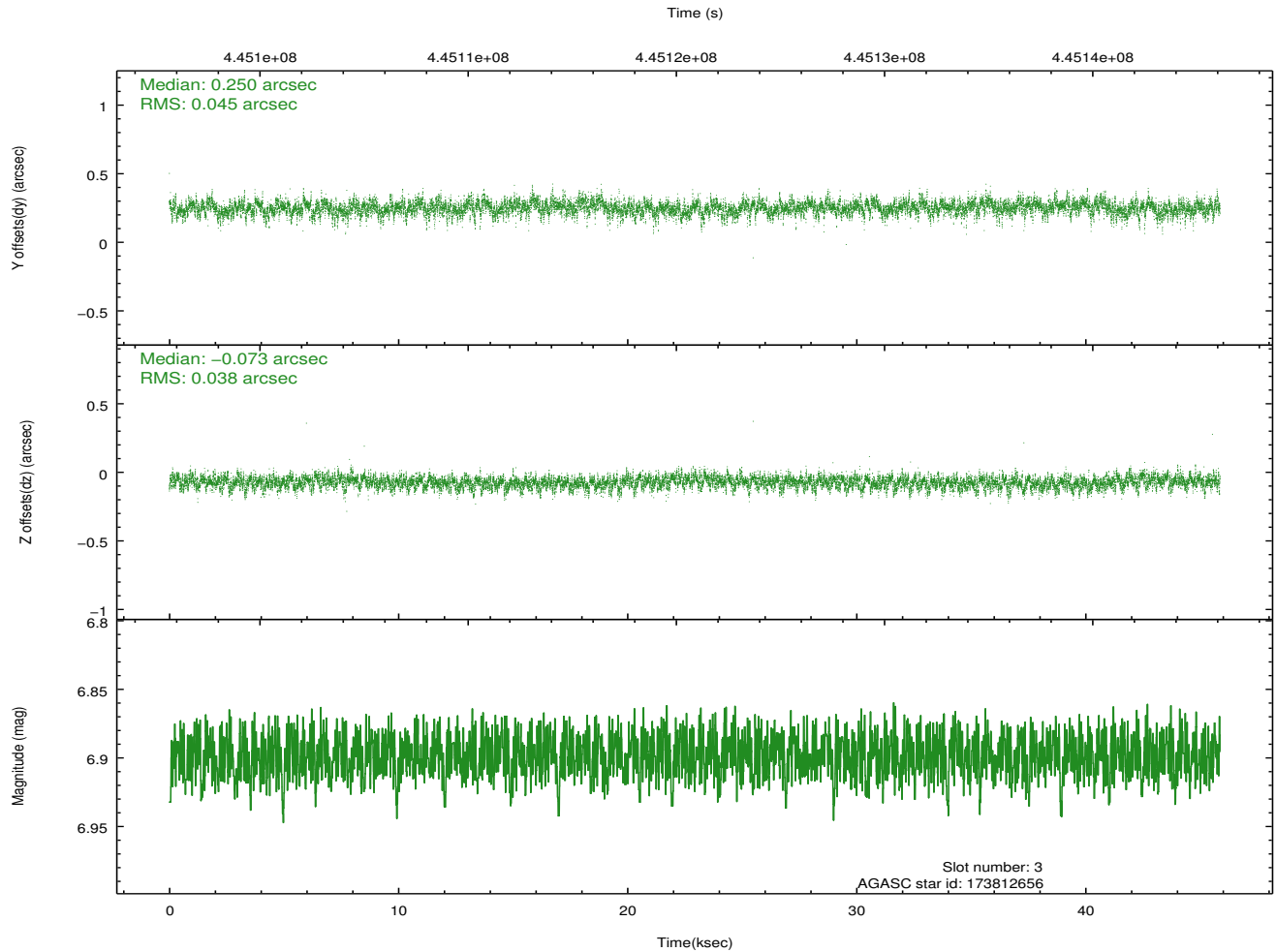
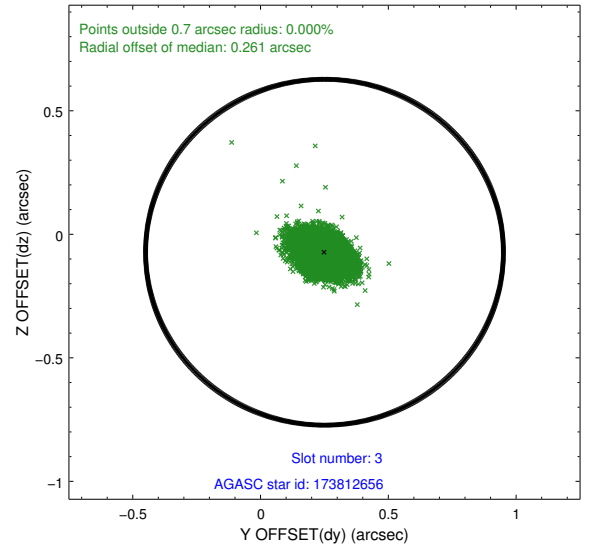
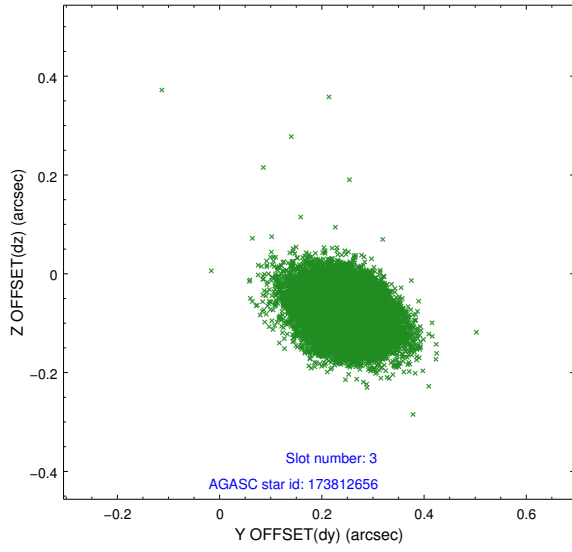


### Slot Statistics

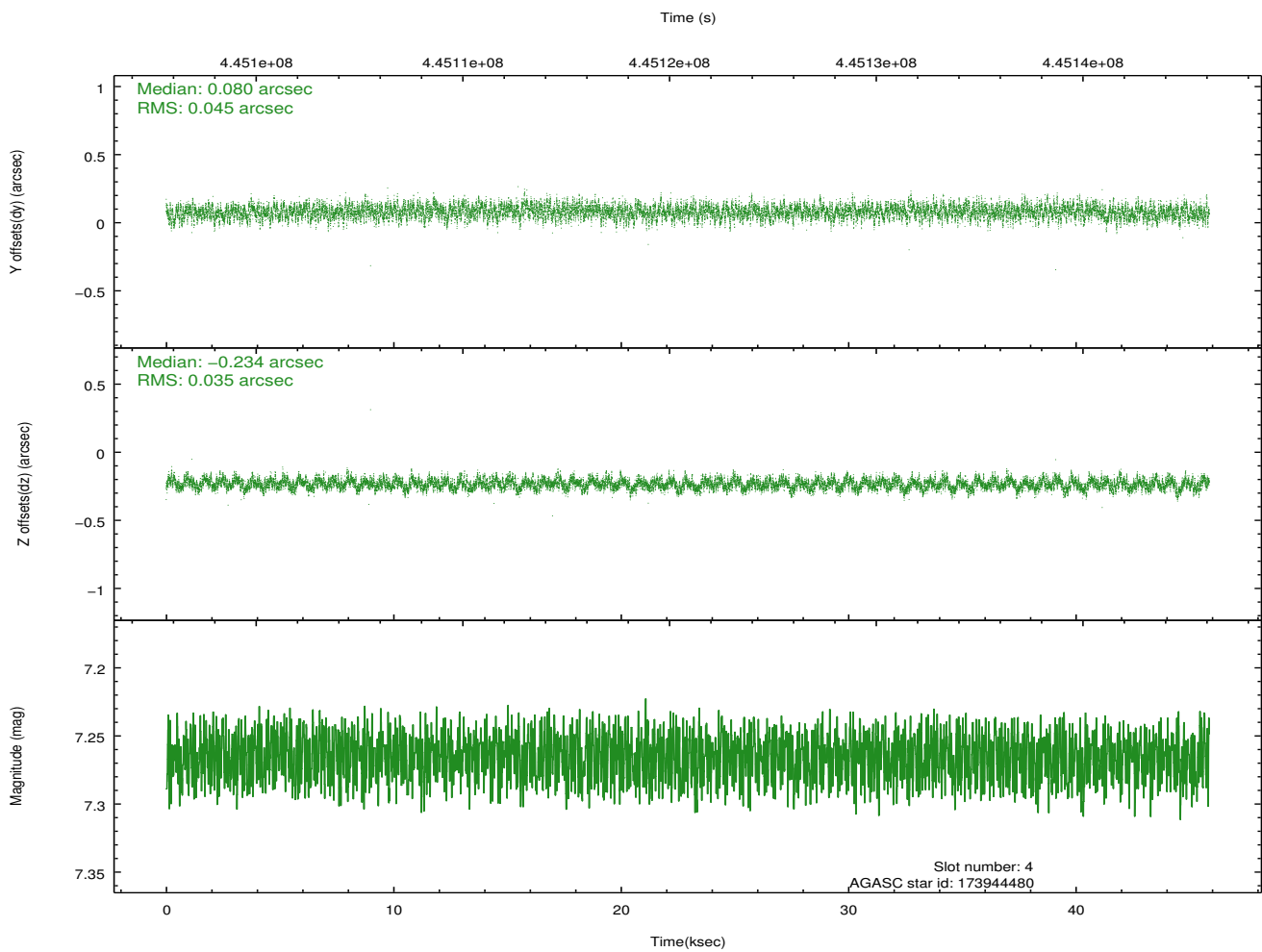
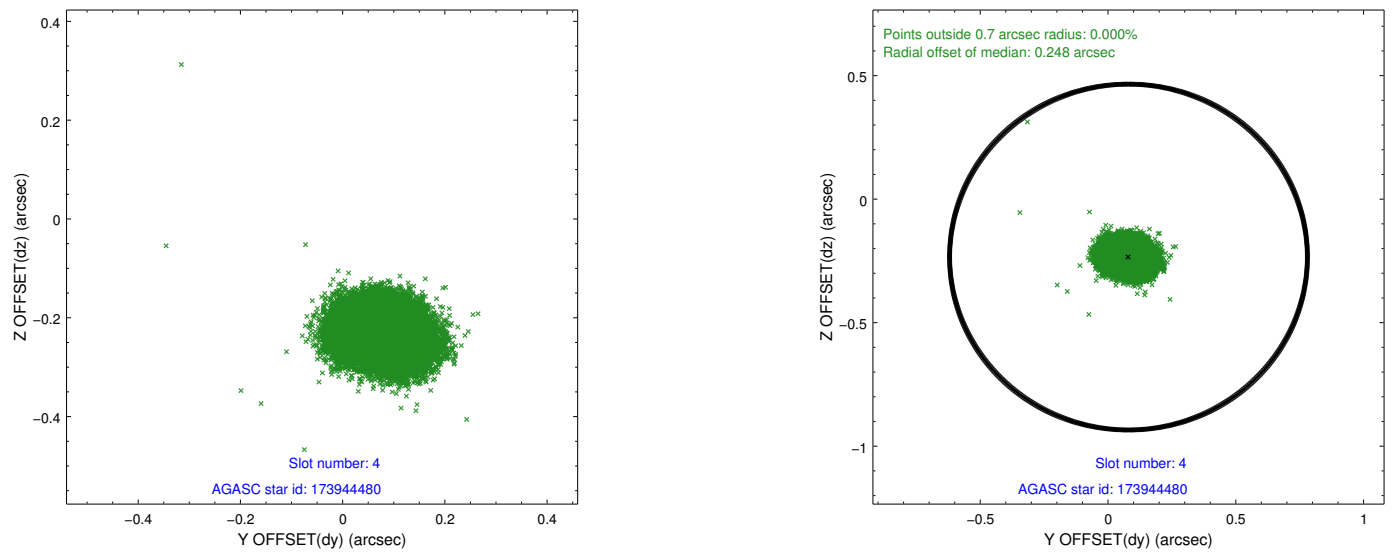
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.92	11187	-0.115	-0.030	0.013	0.021	0.000000	0.000000	-768.58	-1736.01
1	FID	ACIS-S-4	7.01	11188	0.240	0.064	0.023	0.032	0.000000	0.000000	2145.07	172.56
2	FID	ACIS-S-5	7.04	11188	-0.154	-0.025	0.028	0.042	0.000000	0.000000	-1821.47	166.15
3	GUIDE	173812656	6.90	22375	0.250	-0.073	0.061	0.105	93.618833	21.781696	2147.45	-2137.76
4	GUIDE	173944480	7.27	22375	0.080	-0.234	0.060	0.098	94.334818	22.143978	847.48	254.94
5	GUIDE	246161944	8.72	22367	-0.050	0.166	0.074	0.128	94.664308	23.007934	-2264.77	1345.67
6	GUIDE	246160408	8.10	22375	-0.143	0.111	0.075	0.128	94.748784	23.001135	-2241.39	1625.69
7	GUIDE	246160608	8.74	22366	-0.138	0.027	0.088	0.145	94.789542	22.968548	-2124.54	1761.10

## 2.4 Star Slots

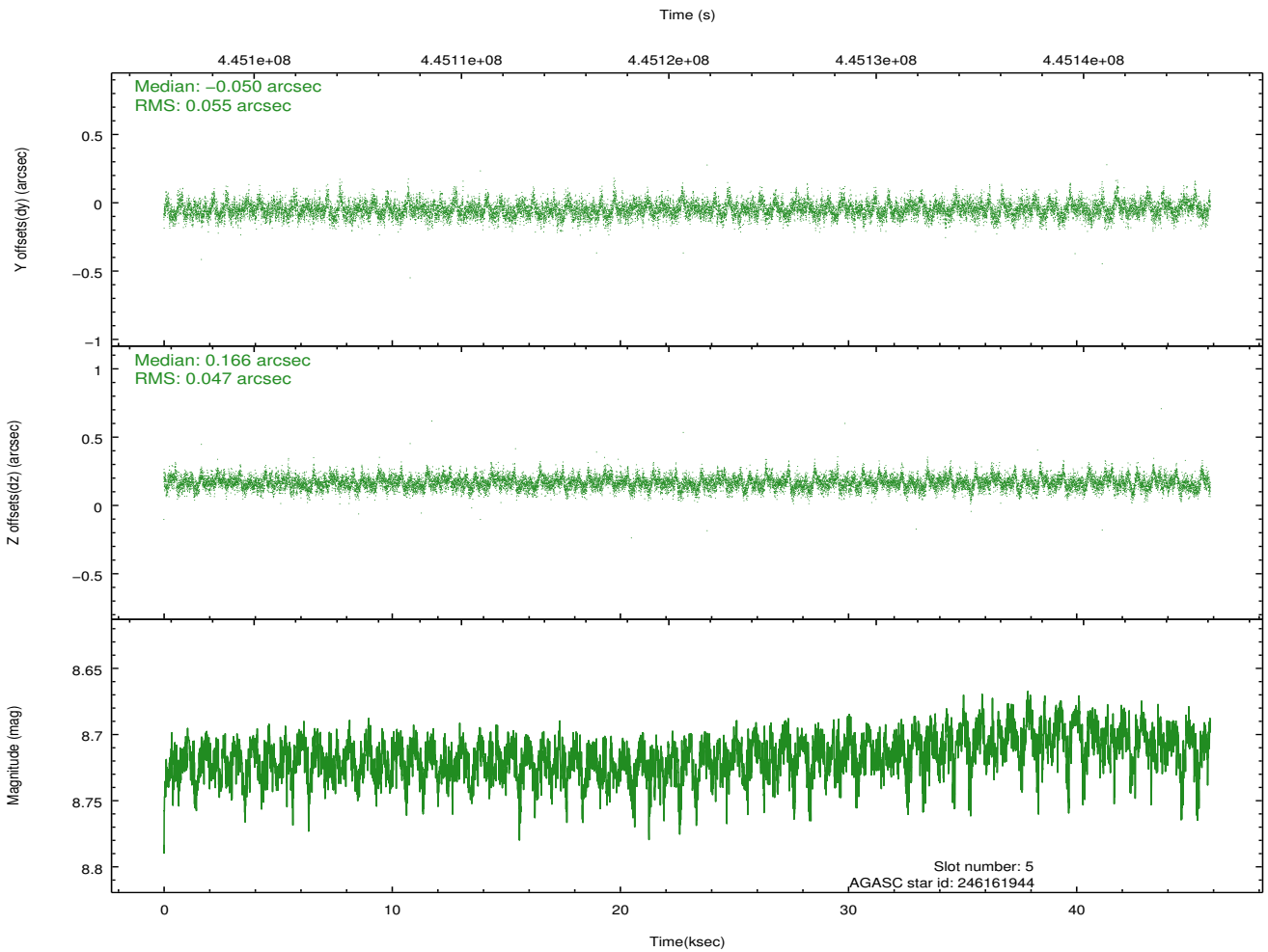
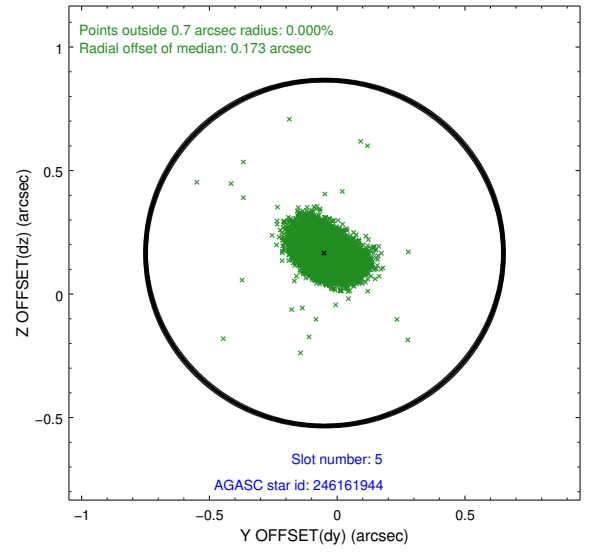
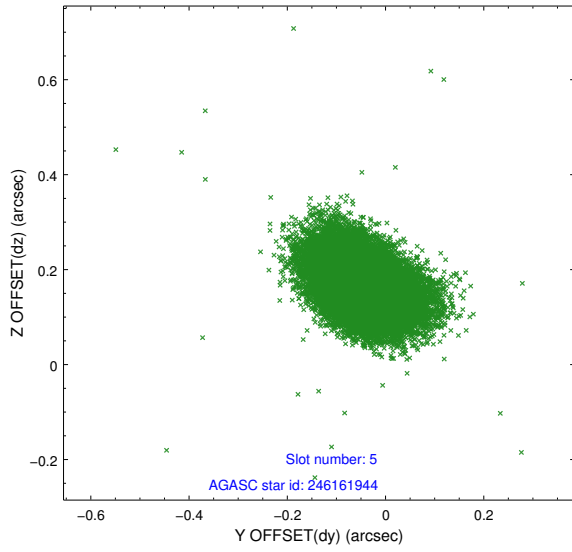
### 2.4.1 Slot 3



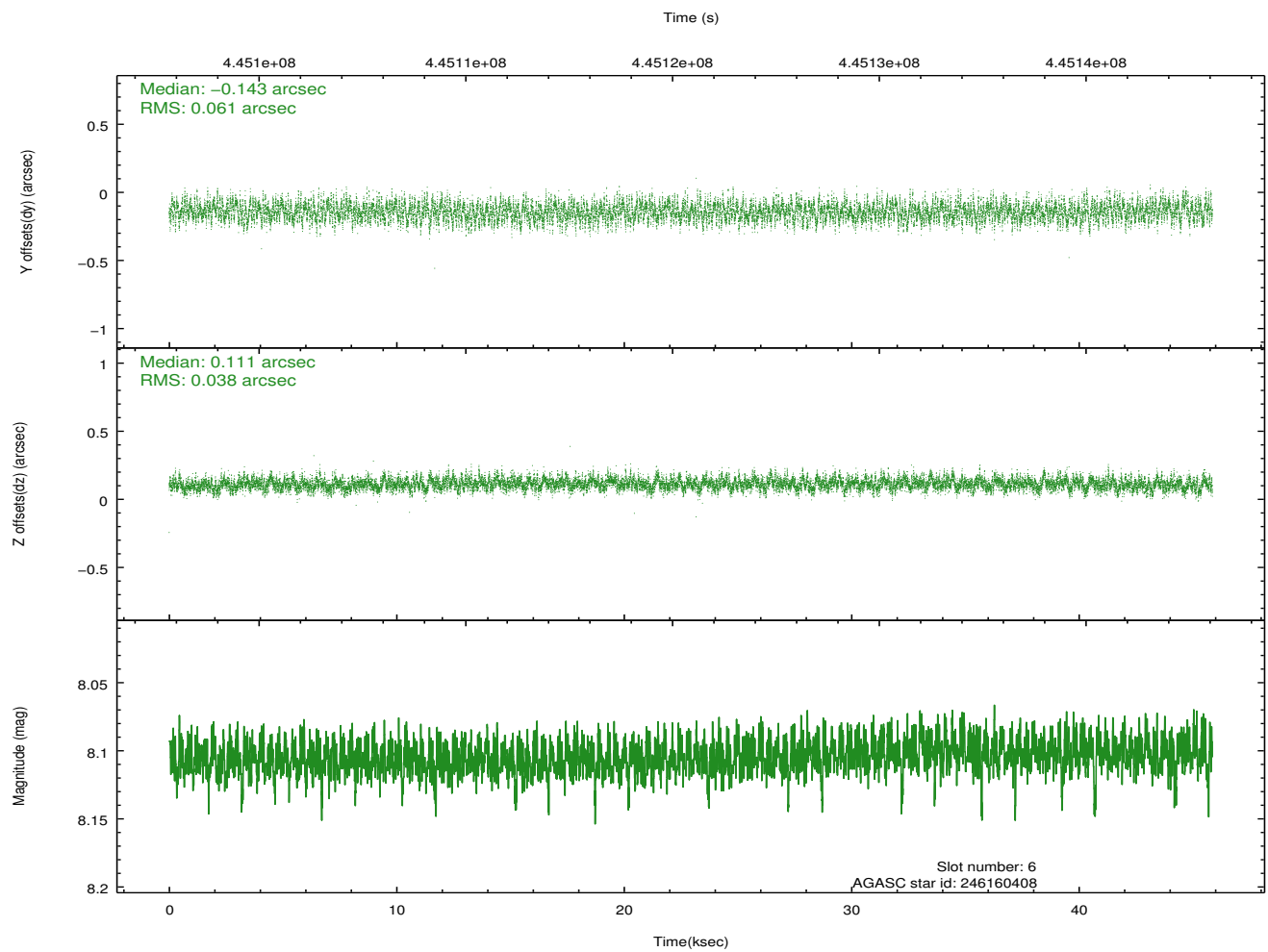
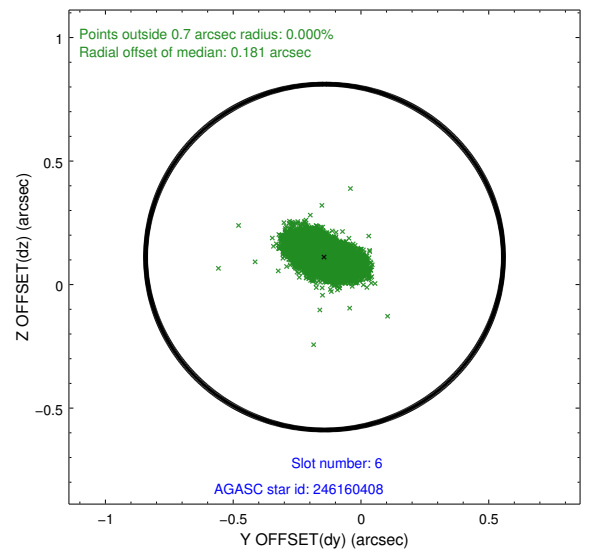
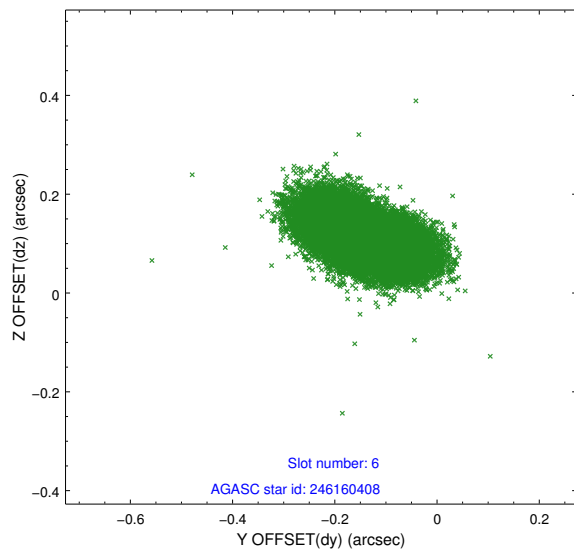
## 2.4.2 Slot 4



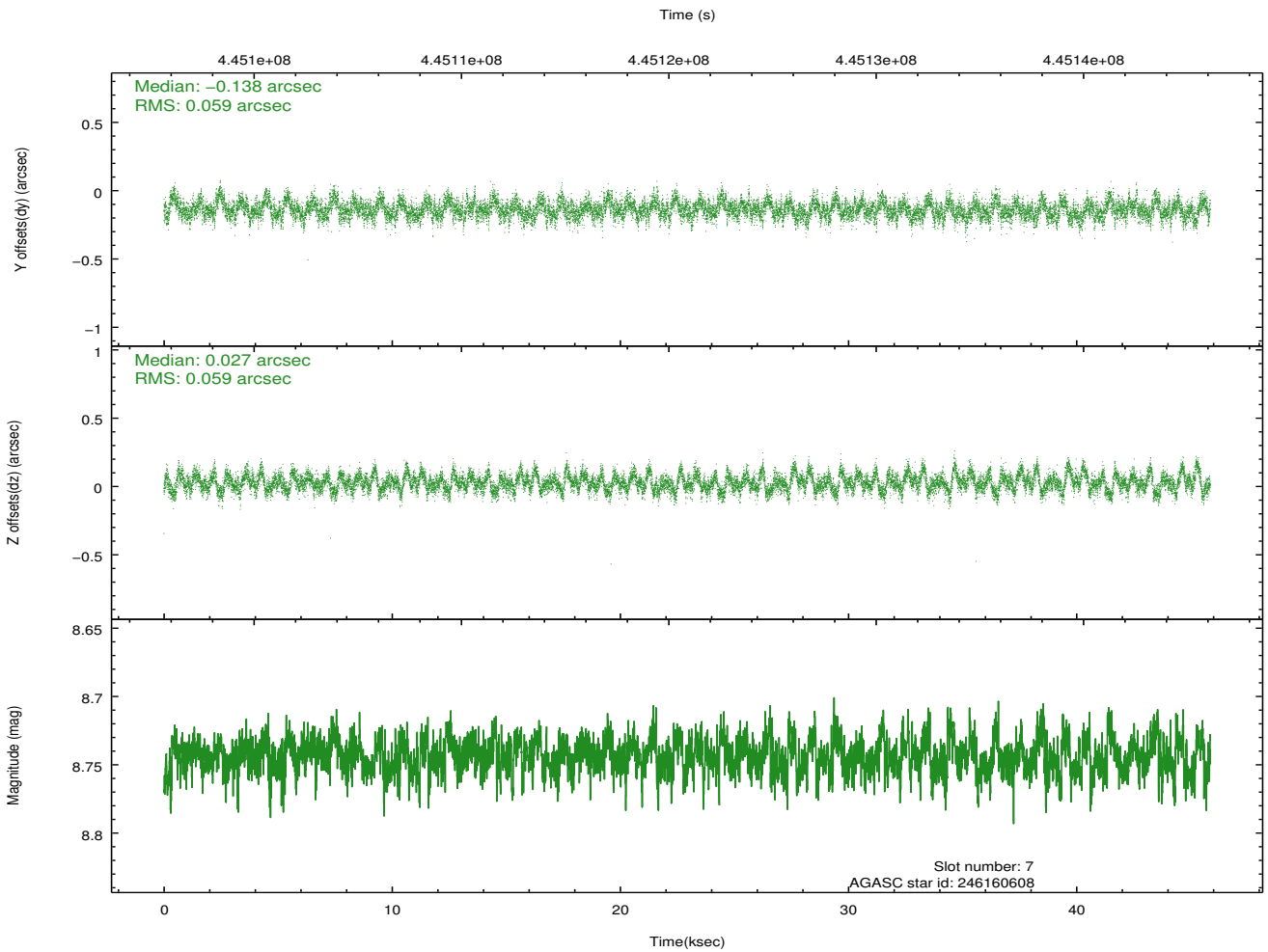
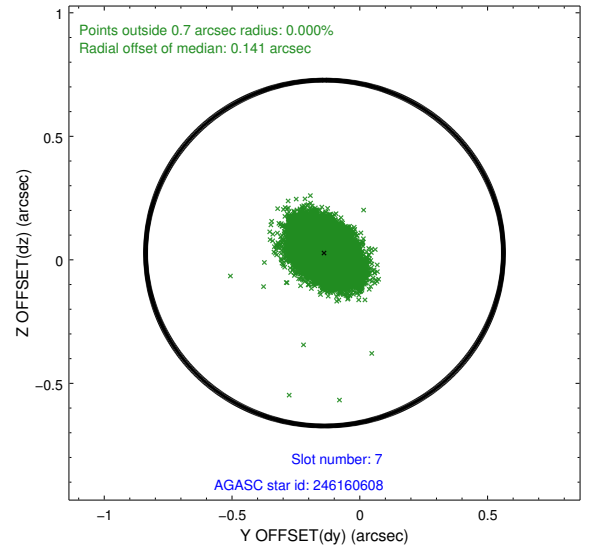
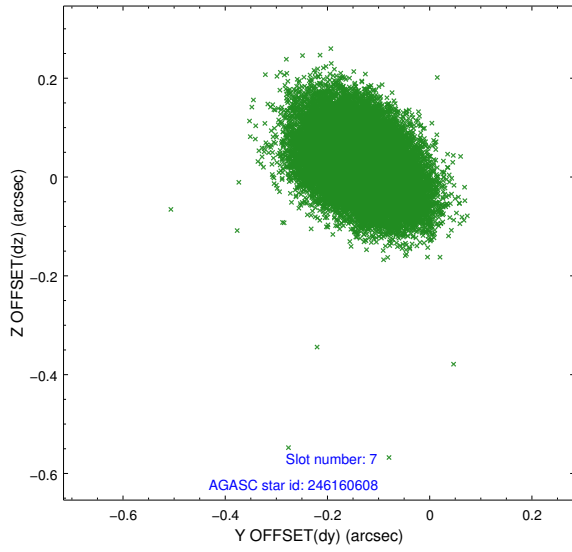
### 2.4.3 Slot 5



## 2.4.4 Slot 6

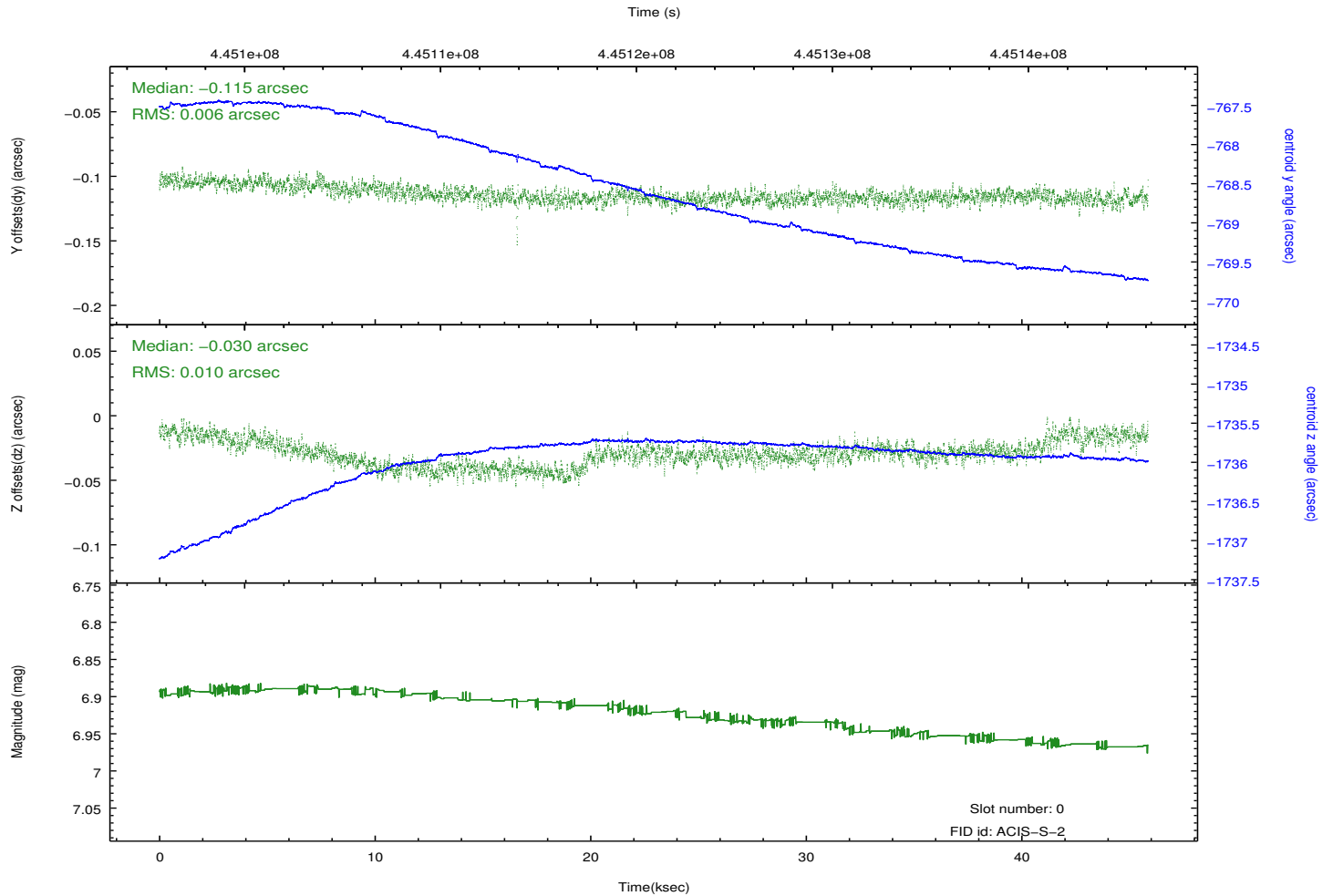
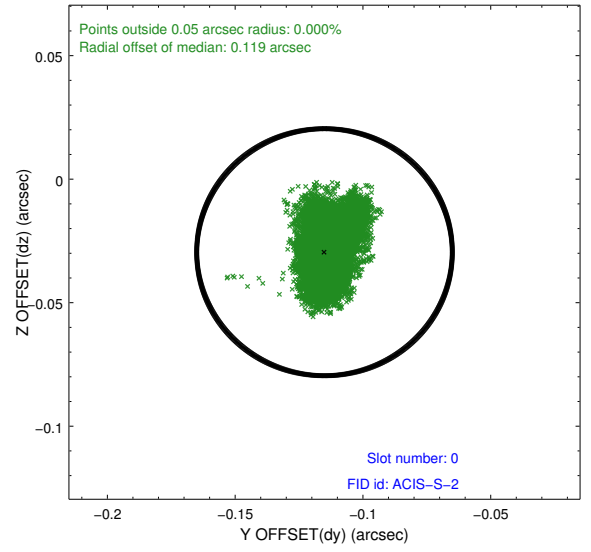
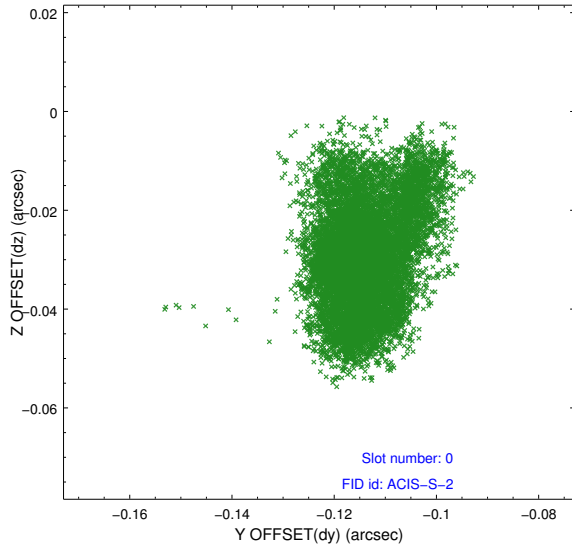


### 2.4.5 Slot 7

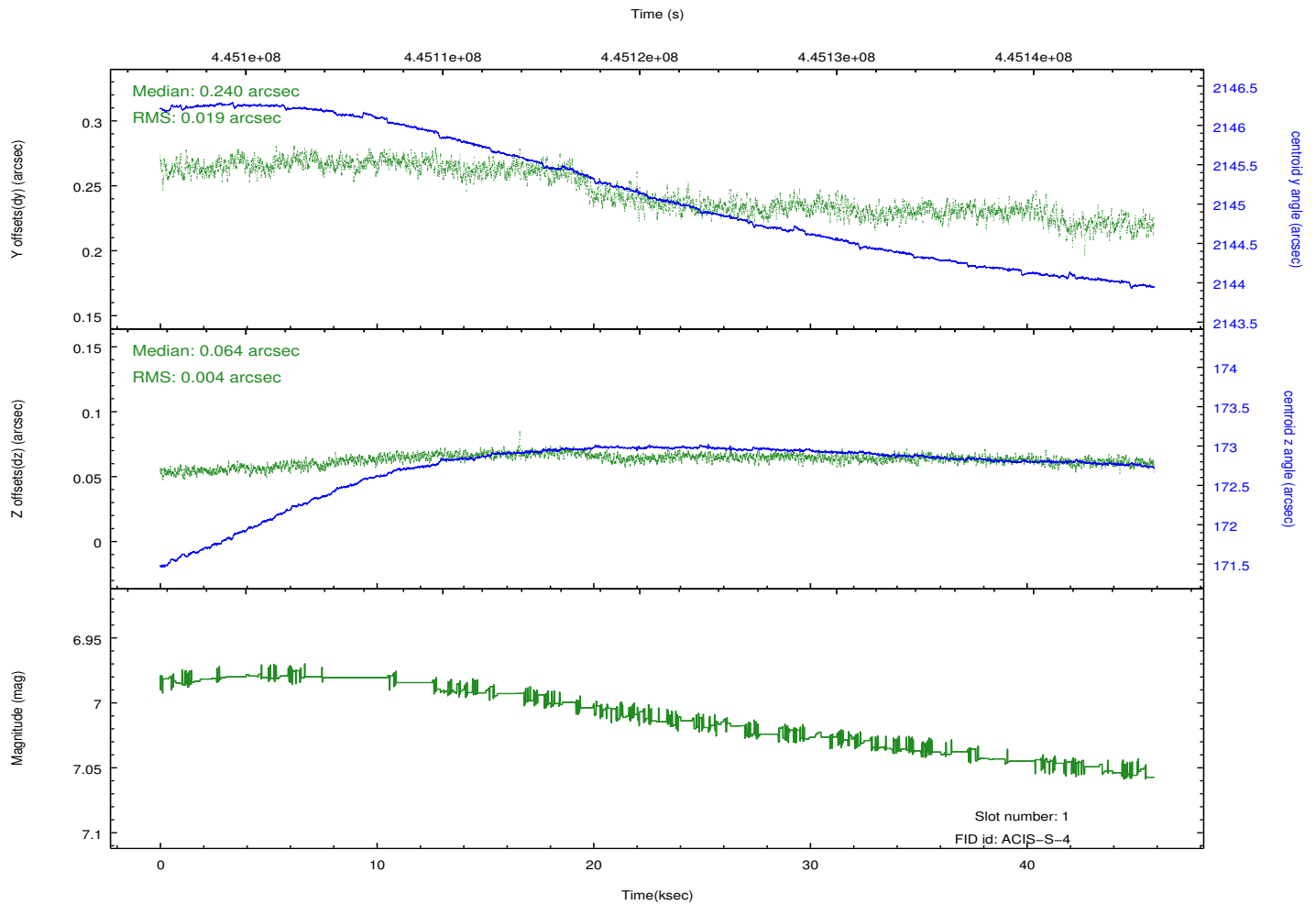
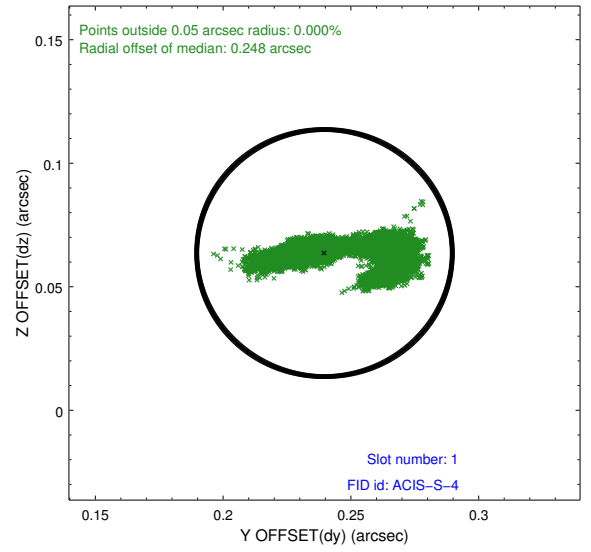
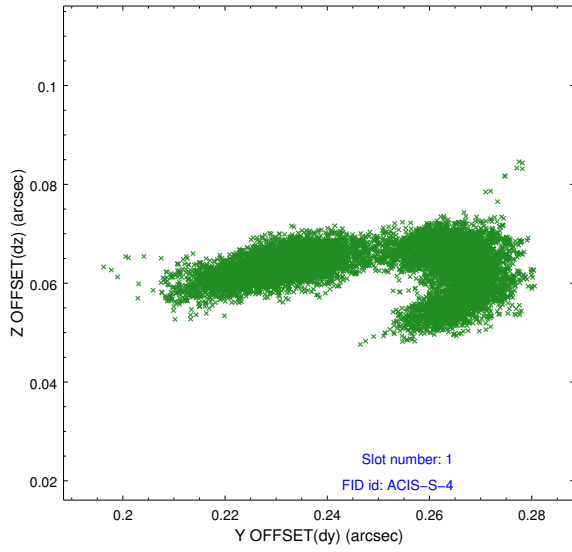


## 2.5 FID Slots

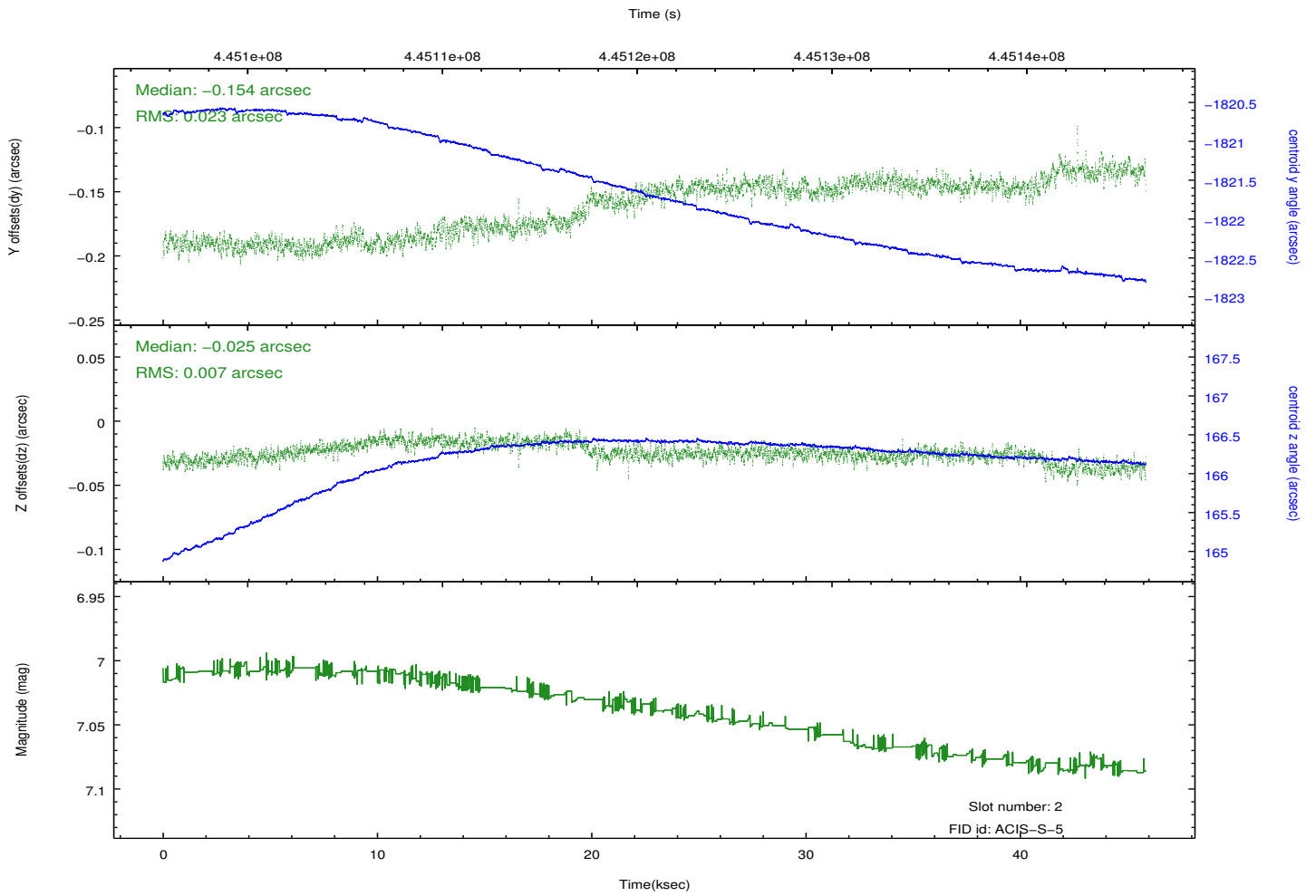
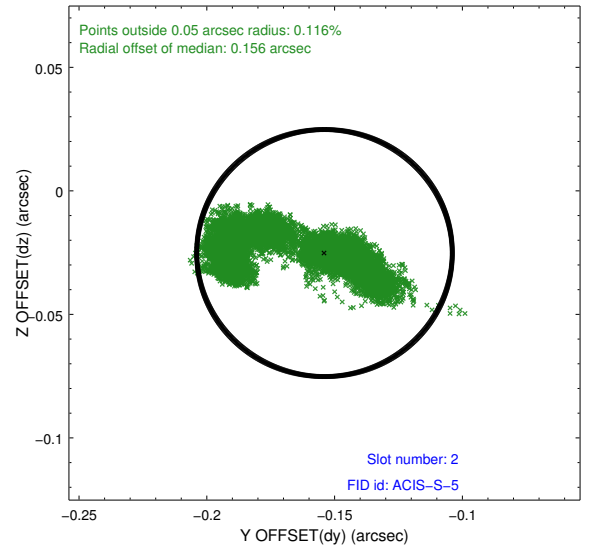
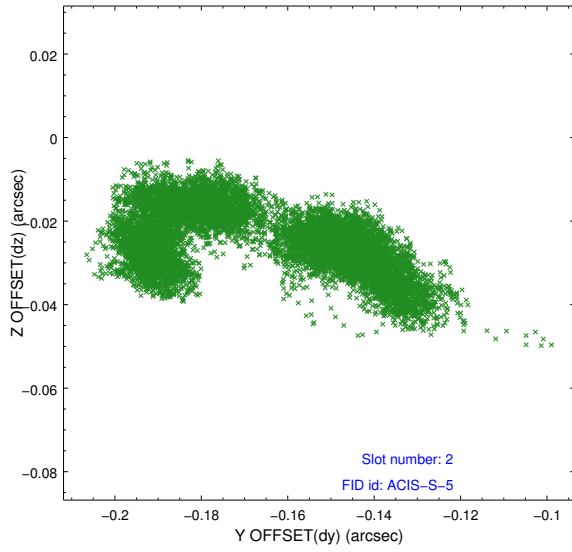
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.02.10
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	45.067084171295

## A.2 Comments

The data for this observation have been processed using the 'EDSER' sub-pixel event-repositioning algorithm of Li et al. (2004, ApJ, 610, 1204). Small-scale features should become sharper for sources near the aim point. The improvement will be less noticeable for off-axis sources where the size of the point-spread function is comparable to or larger than the size of an ACIS pixel. To take full advantage of the improvement, images should be binned on spatial scales smaller than the size of an ACIS pixel. Note that, at present, the point-spread function has not been calibrated for data to which the EDSER algorithm has been applied. If dither was disabled for the observation, then the algorithm can introduce artificial aliasing effects on spatial scales smaller than a pixel. If you would prefer to use no sub-pixel adjustment or to apply a coordinate randomization, then use `acis_process_events` to reprocess the data with the parameter `pix_adj=NONE` or `RANDOMIZE`, respectively.