

# V&V Reference Report

## L2 ASCDS Version : 10.1.1

Observation 14815 - L2 Version 2  
Chandra X-Ray Center

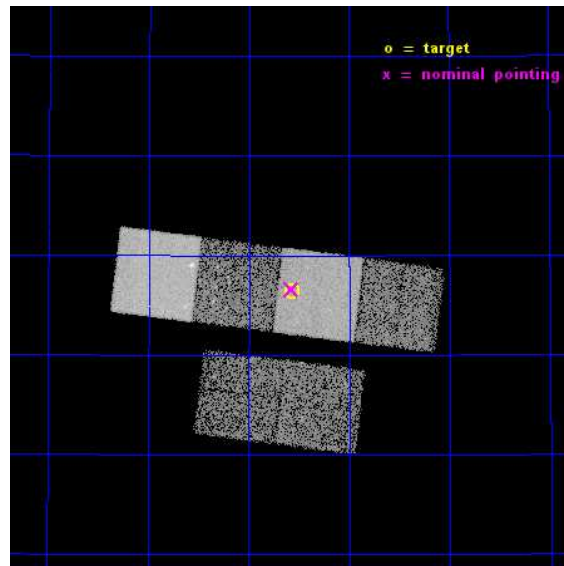
L2 Processing Date : Dec 7 2014

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# 1 Front

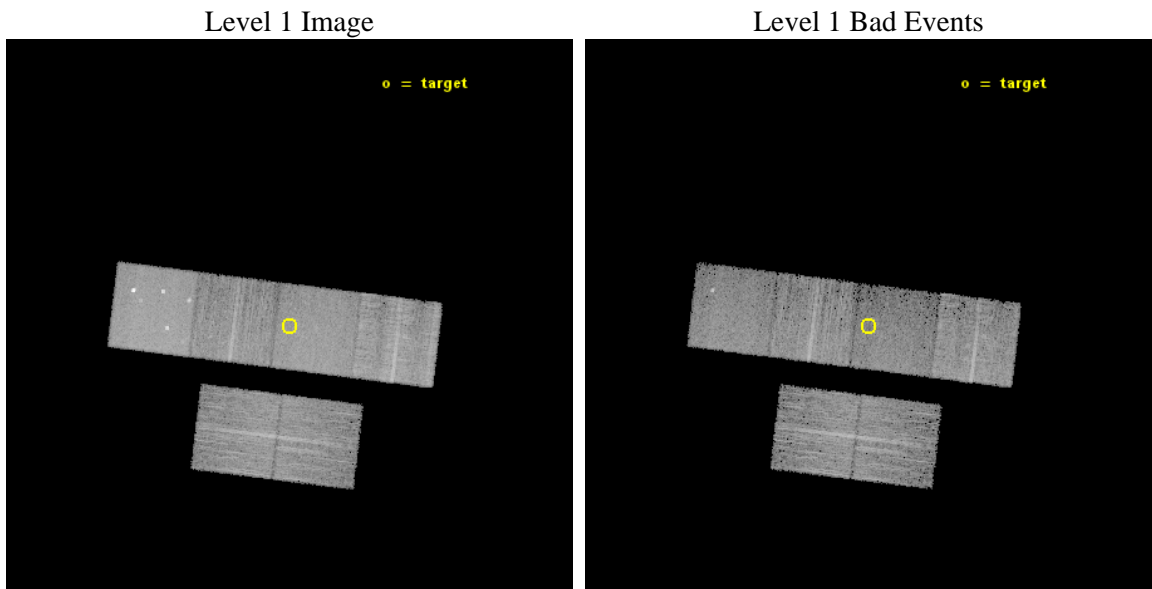
seq_num	501943	Sequence number
obs_id	14815	Observation id
title	Constraining the Energetics of Fermi-LAT GRBs with Chandra	Proposa
observer	Dr Judith Racusin	Principal investigator
object	GRB 130907A	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	215.892	Observer's specified target RA [deg]
dec_targ	45.607417	Observer's specified target Dec [deg]
ra_nom	215.89386430868	Nominal RA [deg]
dec_nom	45.610166973344	Nominal Dec [deg]
roll_nom	6.9553178964653	Nominal Roll [deg]
revision	2	Processing version of data
ontime	13737.599948883	Sum of GTIs [s]
livetime	13563.646186541	Livetime [s]
ontime2	13737.599948883	Sum of GTIs [s]
ontime3	13737.599948883	Sum of GTIs [s]
ontime5	13737.599948883	Sum of GTIs [s]
ontime6	13737.599948883	Sum of GTIs [s]
ontime7	13737.599948883	Sum of GTIs [s]
ontime8	13734.358948588	Sum of GTIs [s]
l2events	106663	Number of level 2 events



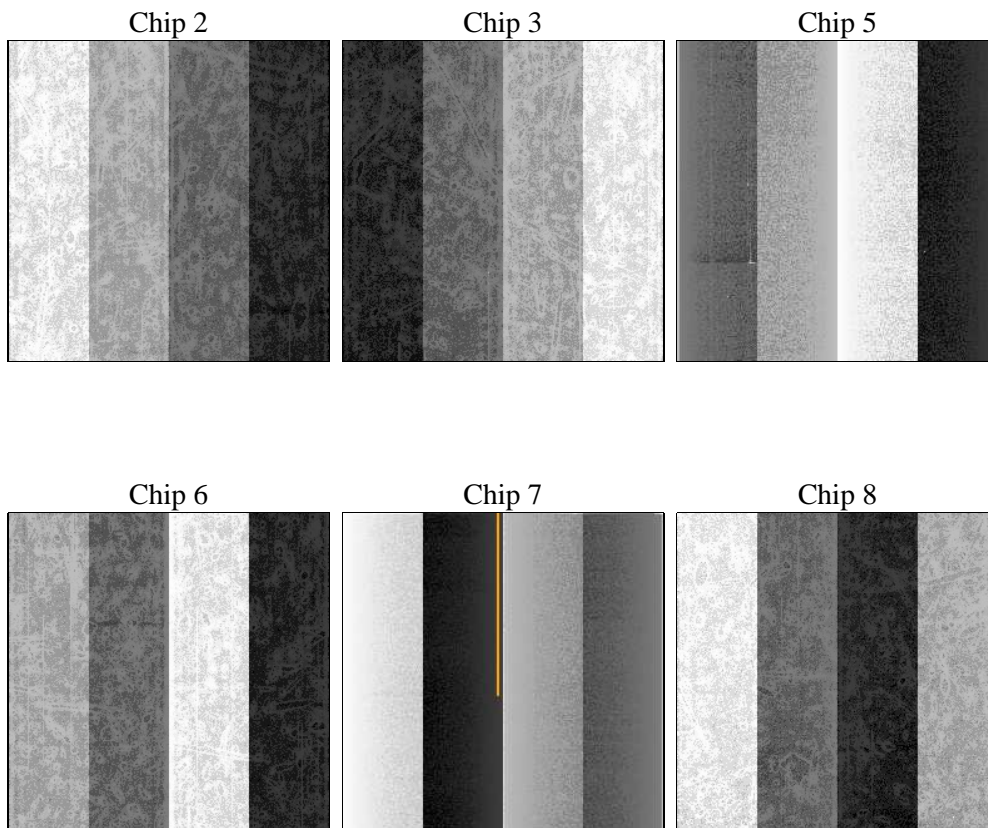
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	13770.000000	[s] Scheduled observation exposure time
ascdsver	10.3.1	Processing system revision	ontime	13737.599948883	Sum of GTIs [s]
caldbver	4.6.4	&#160	ontime2	13737.599948883	Sum of GTIs [s]
date	2014-12-07T21:08:41	Date and time of file creation	ontime3	13737.599948883	Sum of GTIs [s]
revision	2	Processing version of data	ontime5	13737.599948883	Sum of GTIs [s]
			ontime6	13737.599948883	Sum of GTIs [s]
			ontime7	13737.599948883	Sum of GTIs [s]
			ontime8	13734.358948588	Sum of GTIs [s]
			l1events	443887	Number of level 1 events

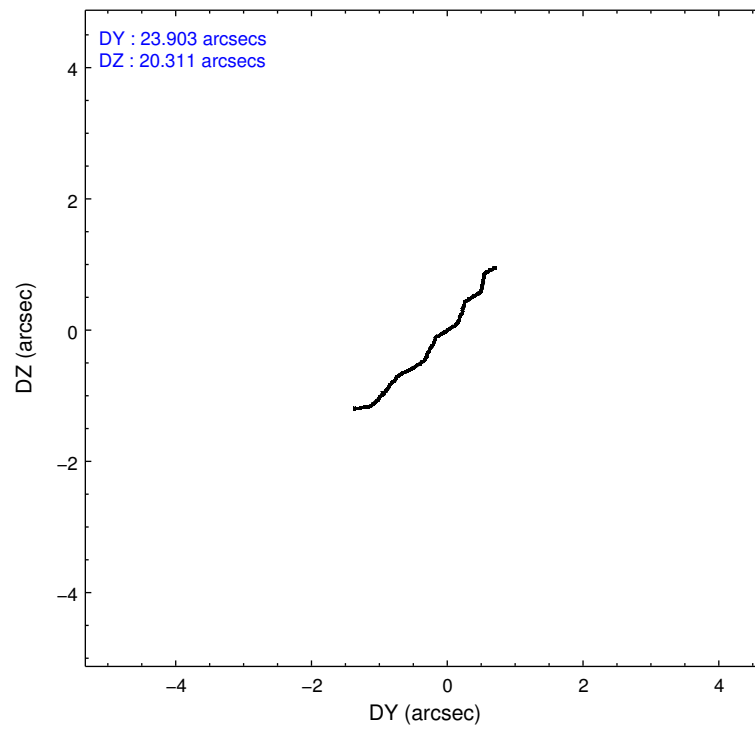
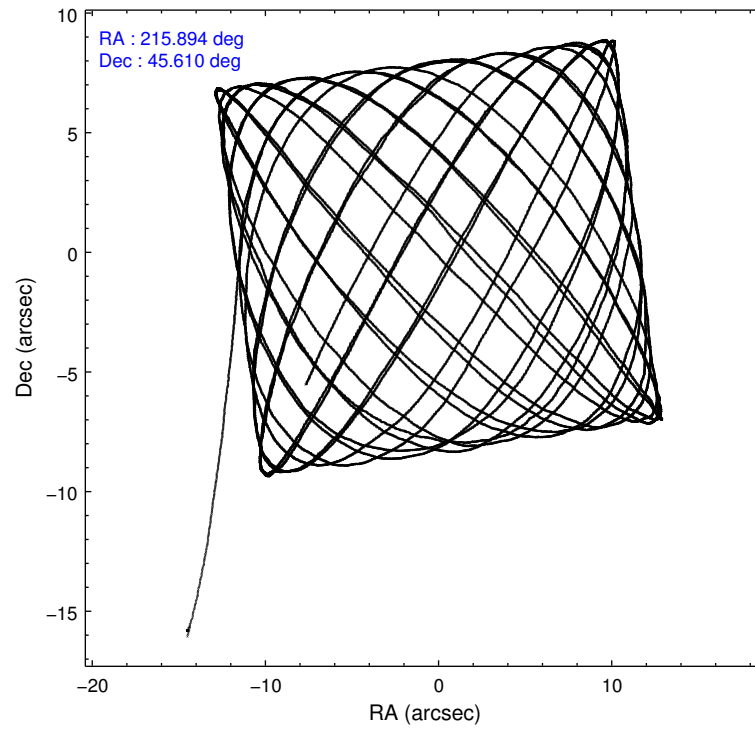
### 2.1.4 Events

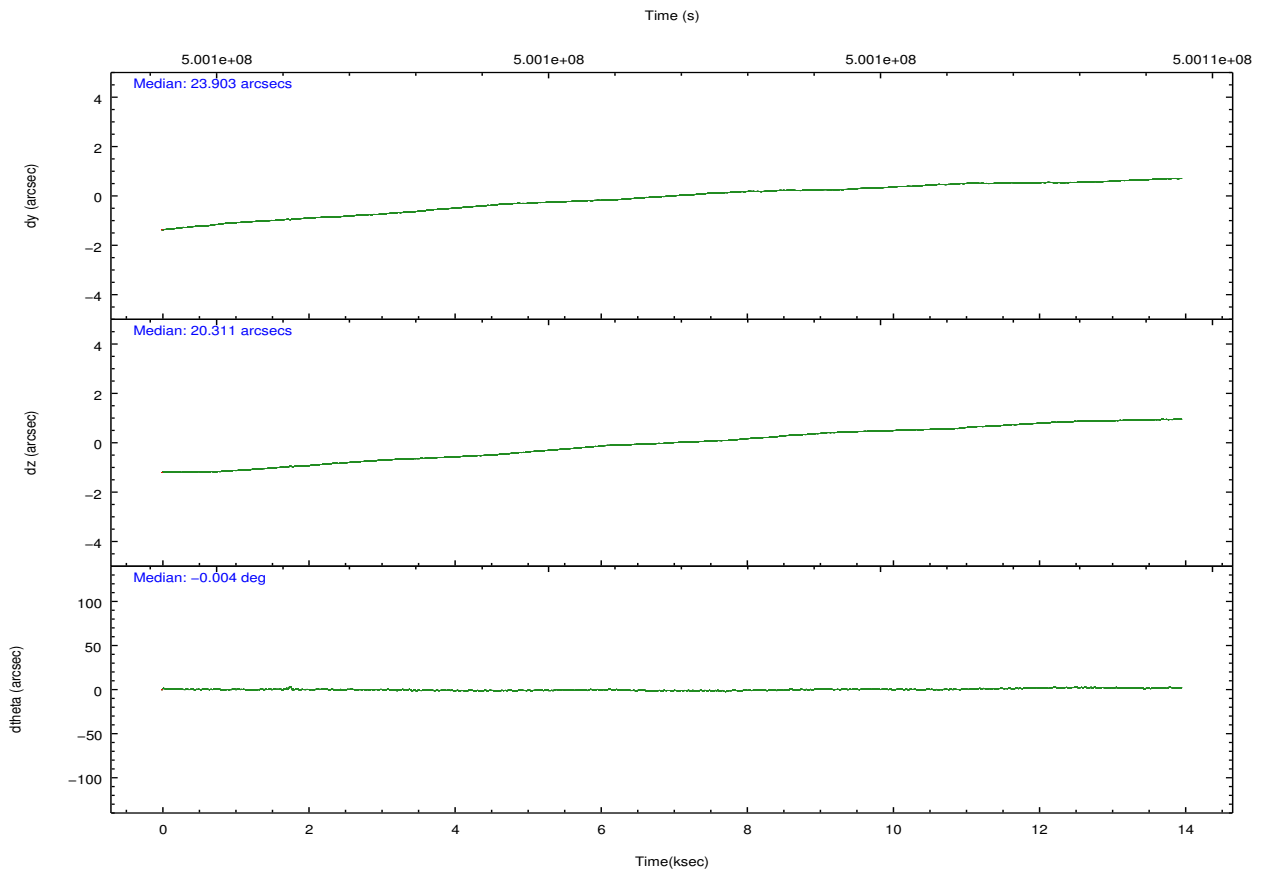
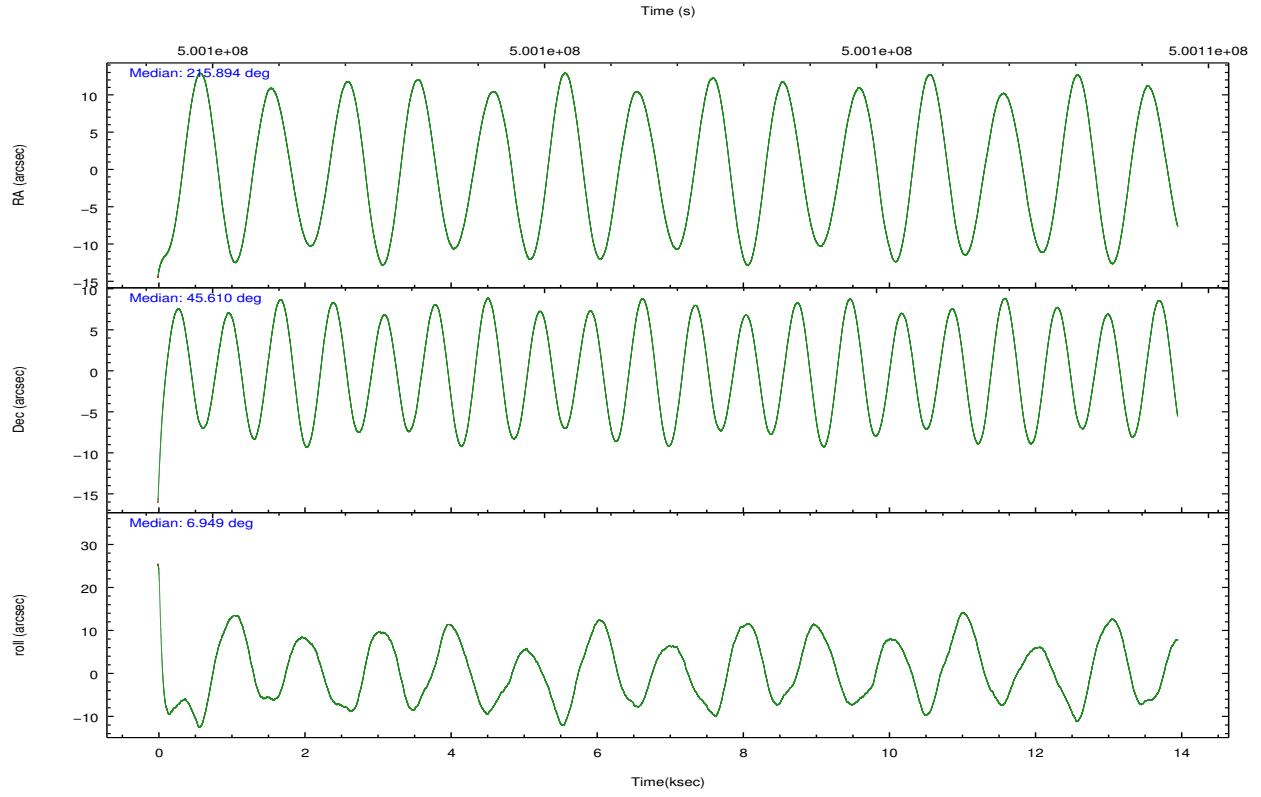
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	63589	58249	100590	63356	73919	84184	grade 0 events	2575	2482	8296	2957	3454	6559
rejected events	56517	51332	47012	55440	38837	59341		4%	4%	8%	4%	4%	7%
rejected %	88%	88%	46%	87%	52%	70%	grade 1 events	35	42	642	42	105	54
								0%	0%	0%	0%	0%	0%
							grade 2 events	1805	1550	16020	1721	7459	5945
								2%	2%	15%	2%	10%	7%
							grade 3 events	701	750	1895	780	3077	2688
								1%	1%	1%	1%	4%	3%
							grade 4 events	676	730	1861	780	3026	2513
								1%	1%	1%	1%	4%	2%
							grade 5 events	2343	2782	7222	2806	7772	4360
								3%	4%	7%	4%	10%	5%
							grade 6 events	1316	1406	25520	1683	18076	7138
								2%	2%	25%	2%	24%	8%
							grade 7 events	54138	48507	39134	52587	30950	54927
								85%	83%	38%	83%	41%	65%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-235678	ACIS-235678	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	215.862973	215.8938643086751	CCD I2 on	O4	Y
[deg] Pointing Dec	45.593411	45.61016697334404	CCD I3 on	O5	Y
[deg] Pointing Roll	6.820736	6.955317896465305	CCD S0 on	N	N
[s] Window start time (MET)	499305667.184000	499305667.184000	CCD S1 on	O1	Y
[s] Window stop time (MET)	501120007.184000	501120007.184000	CCD S2 on	O2	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S3 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S4 on	O3	Y
[mm] SIM translation stage pos	-190.132523	-190.1425803651734	CCD S5 on	N	N
[mm] SIM translation stage offset	0	0.01005778216563158	Number of optional ACIS chips dropped	0	0
[s] Observation start time (MET)	500095055.184000	500093784.52923	On-chip summing requested	N	N
Observation start date	2013-11-06T03:16:28	2013-11-06T02:56:24	Subarray requested	NONE	NONE
[s] Observation end time (MET)	500108825.184000	500109625.3926	Alternating exposures requested	N	N
Observation end date	2013-11-06T07:05:58	2013-11-06T07:20:25	[s] Primary exposure time	0.000000	3.2
Read mode	TIMED	TIMED			

## 2.3 Aspect



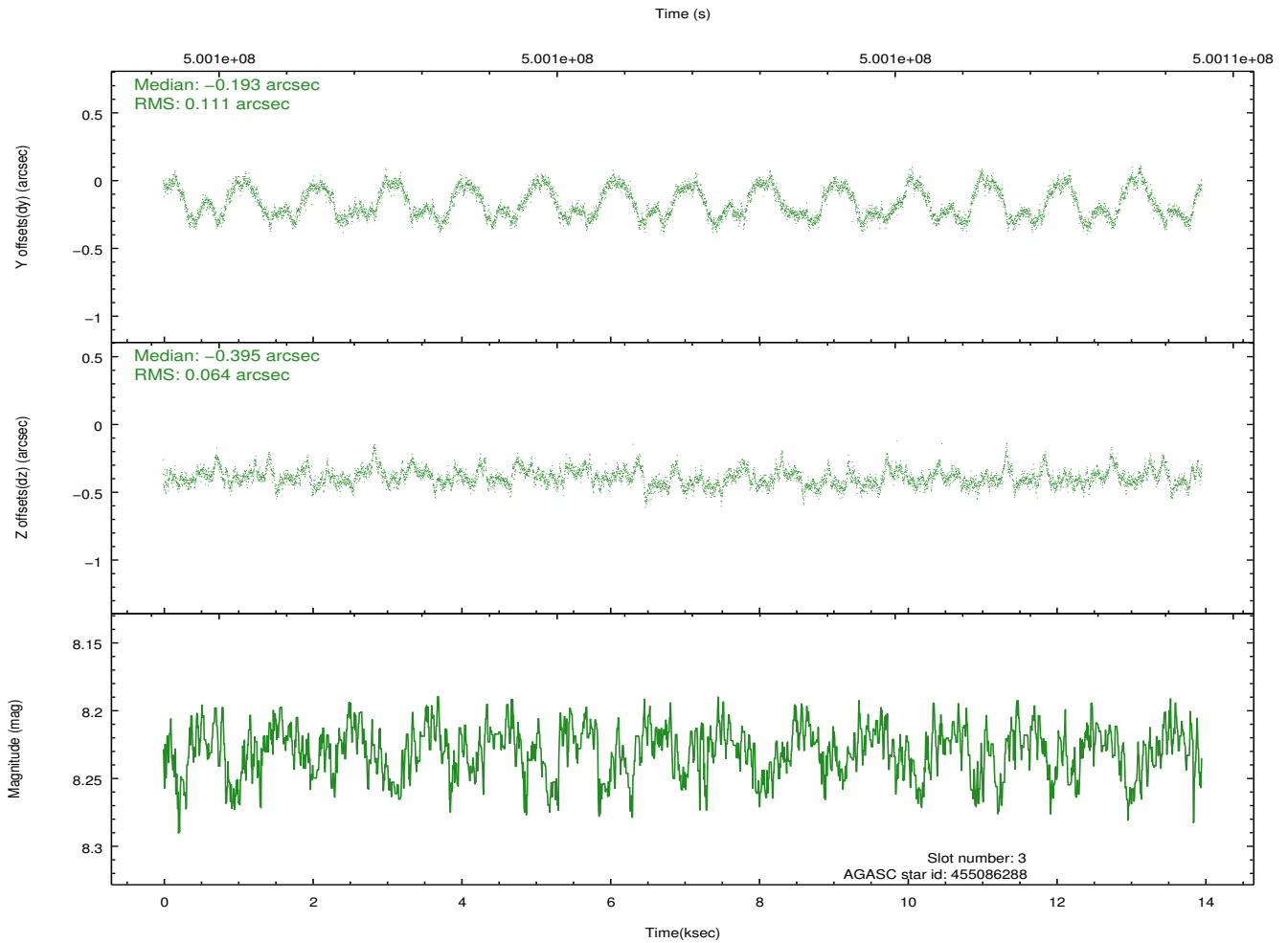
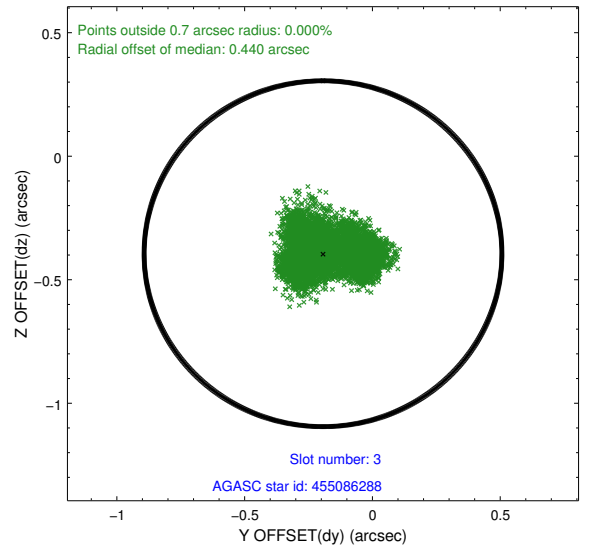
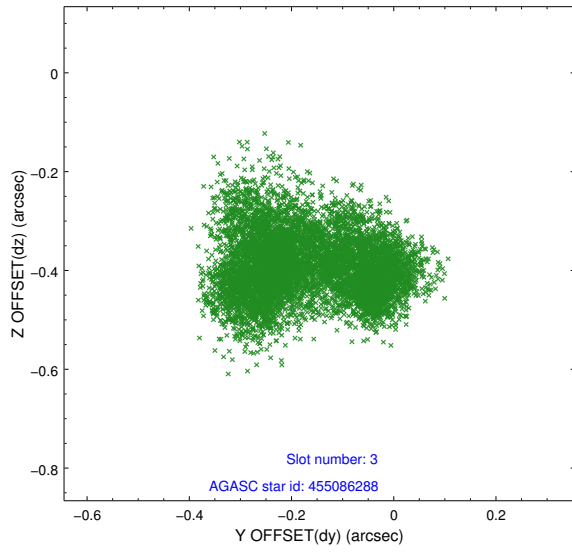


### Slot Statistics

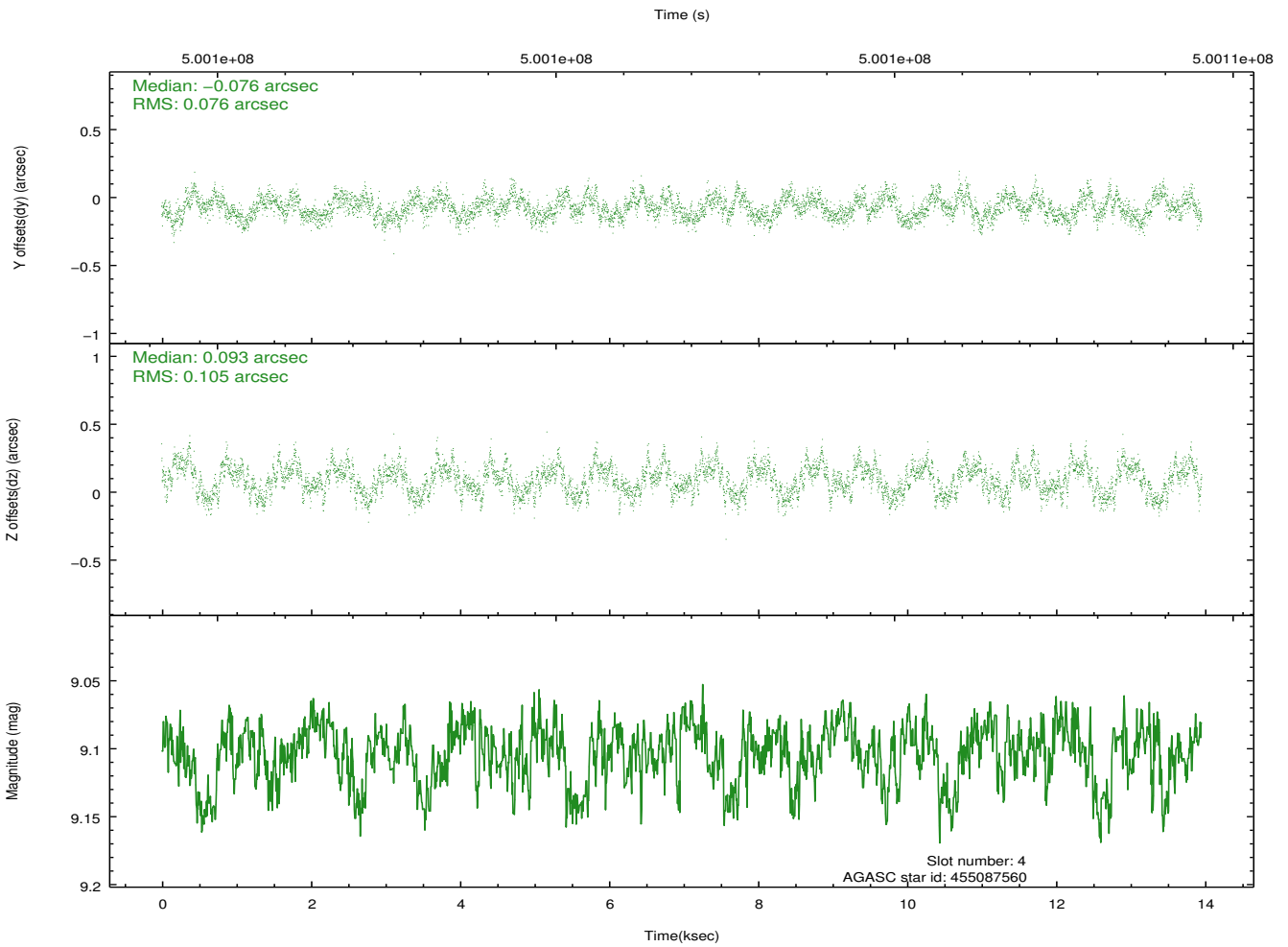
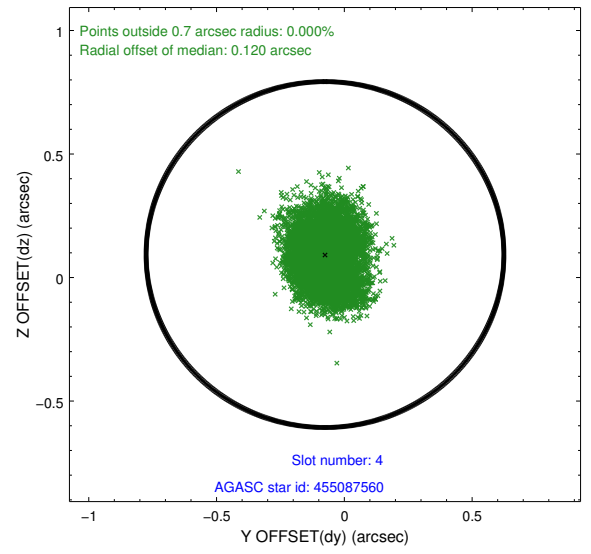
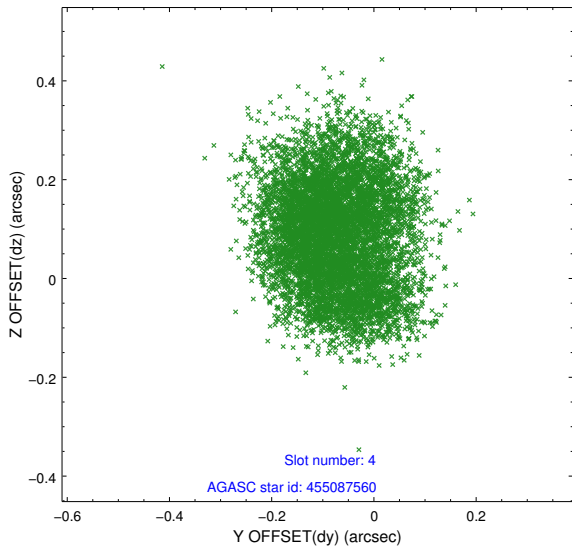
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.95	3405	-0.154	-0.005	0.019	0.049	0.000000	0.000000	-777.13	-1741.74
1	FID		ACIS-S-4	7.04	3405	0.316	0.074	0.012	0.053	0.000000	0.000000	2136.43	166.48
2	FID		ACIS-S-5	7.06	3405	-0.193	-0.063	0.020	0.041	0.000000	0.000000	-1829.60	160.39
3	GUIDE	used	455086288	8.23	6810	-0.193	-0.395	0.144	0.209	215.702797	46.116120	-173.26	1915.54
4	GUIDE	used	455087560	9.10	6807	-0.076	0.093	0.141	0.216	216.163817	45.147976	566.87	-1680.50
5	GUIDE	used	455089920	8.85	6808	0.341	0.272	0.241	0.338	215.305866	45.311512	-1519.25	-835.41
6	GUIDE	used	455091840	9.78	6739	-0.066	0.004	0.206	0.309	216.675913	45.456349	1981.03	-723.29
7	GUIDE	used	455090240	9.11	6799	-0.047	0.011	0.146	0.254	216.902094	45.073417	2403.92	-2155.76

## 2.4 Star Slots

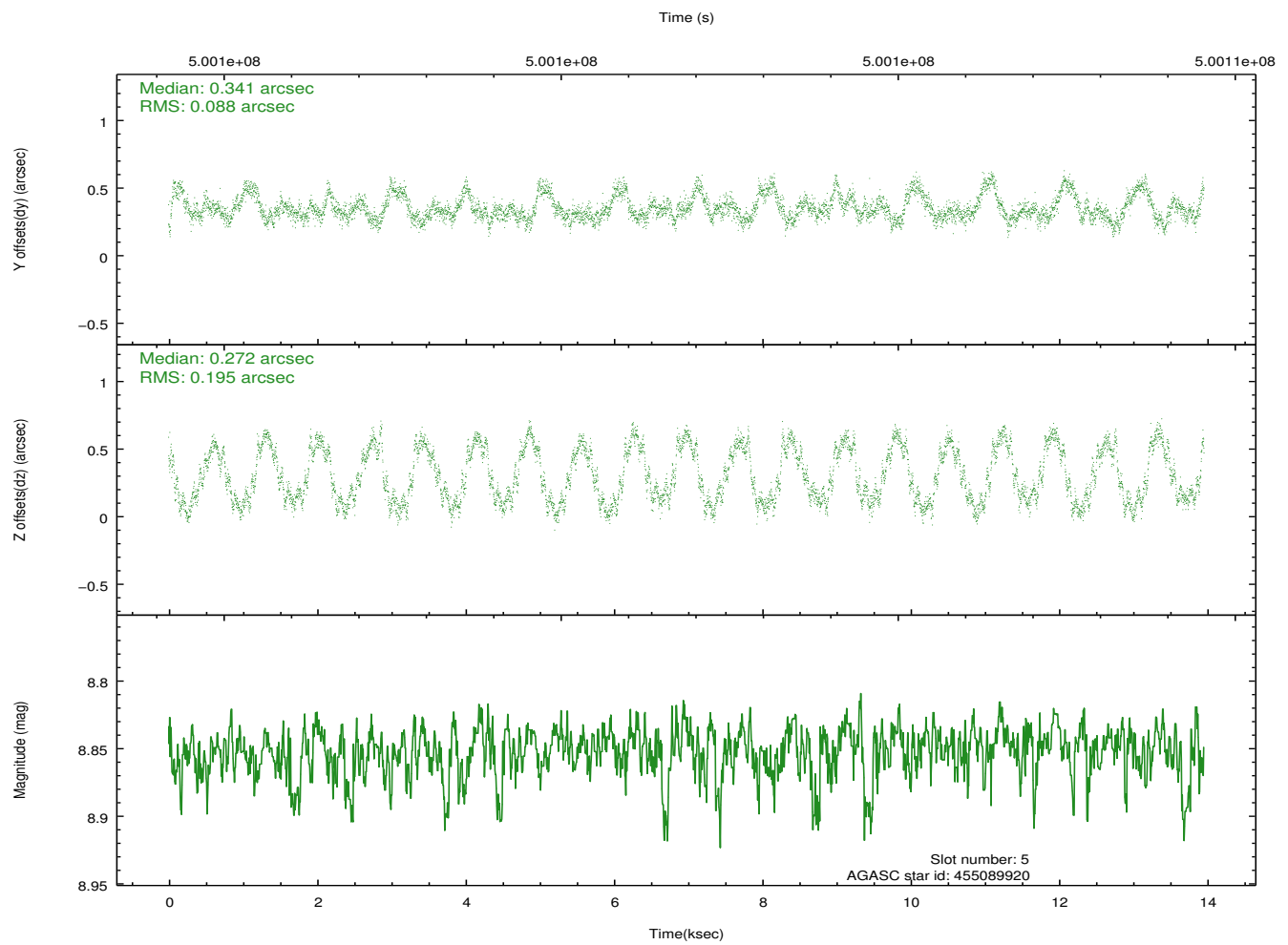
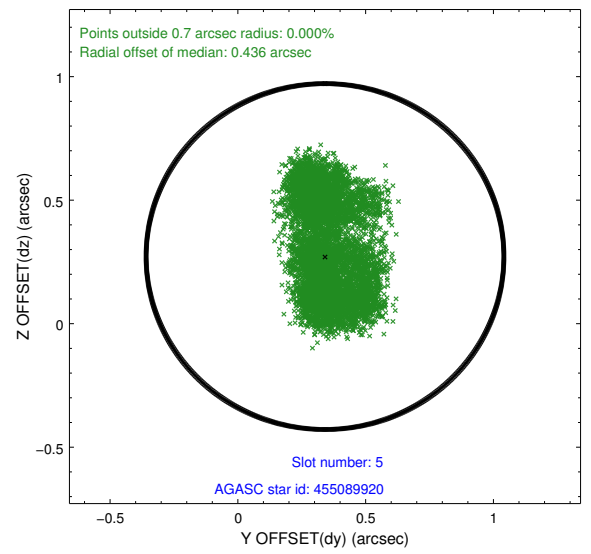
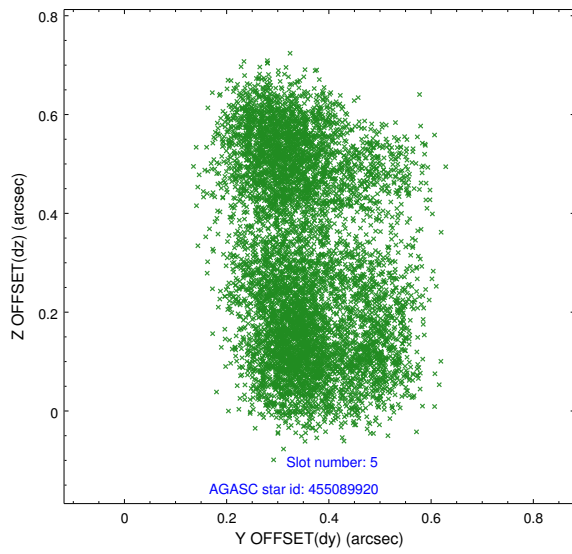
### 2.4.1 Slot 3



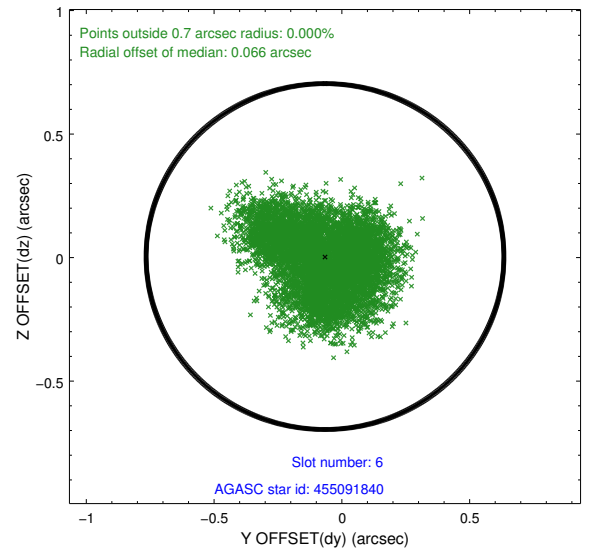
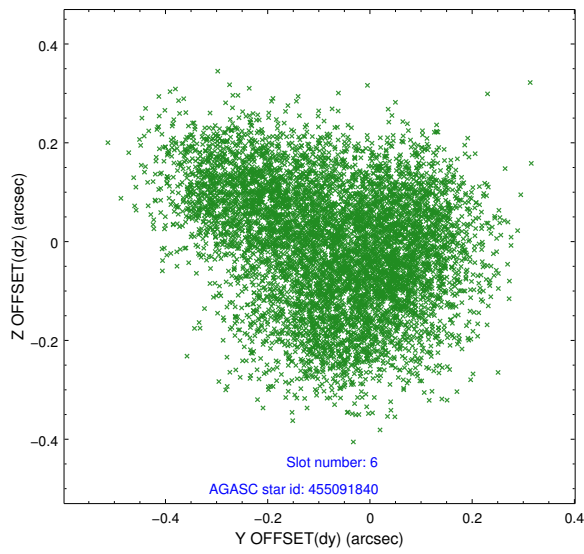
## 2.4.2 Slot 4



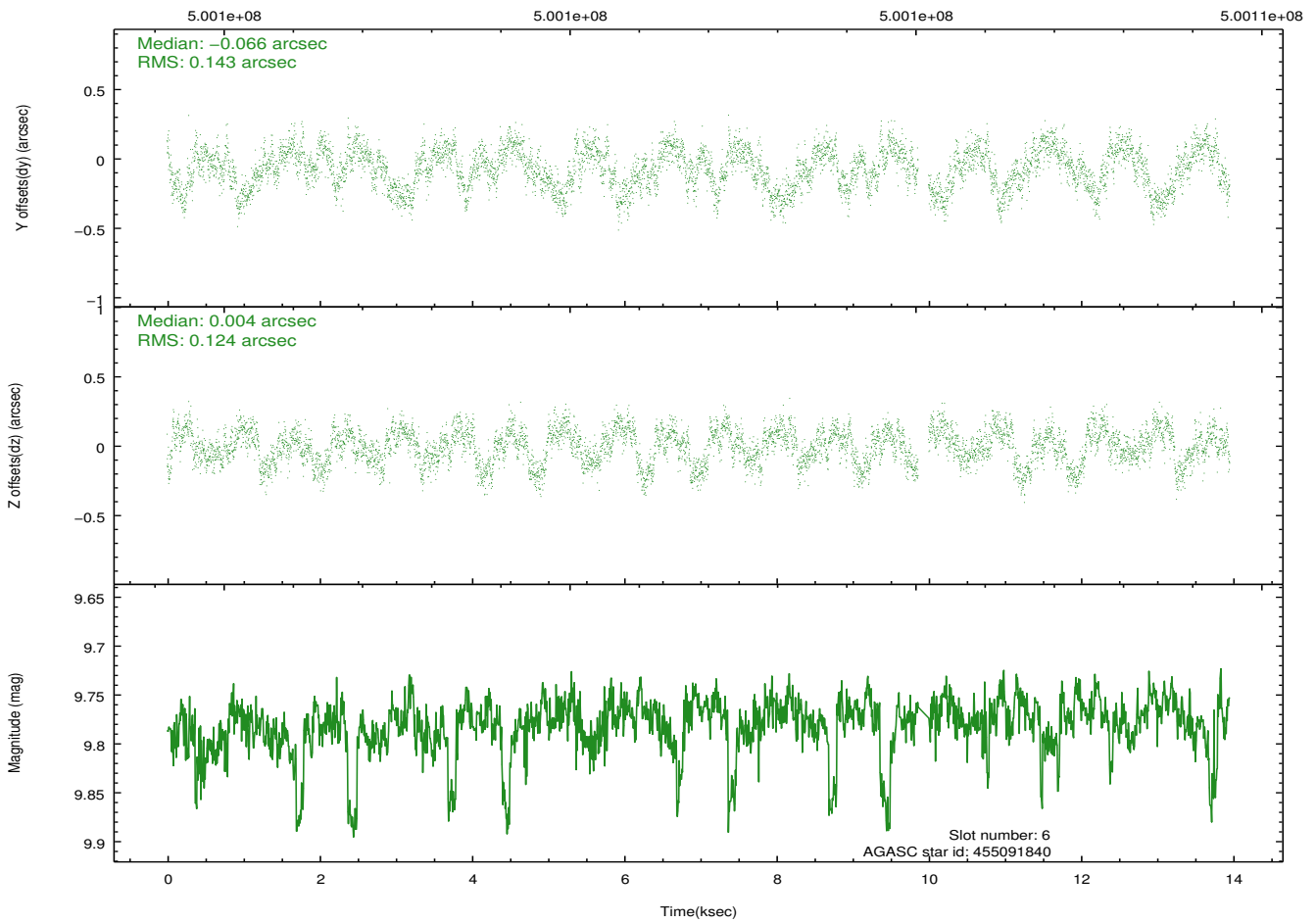
### 2.4.3 Slot 5



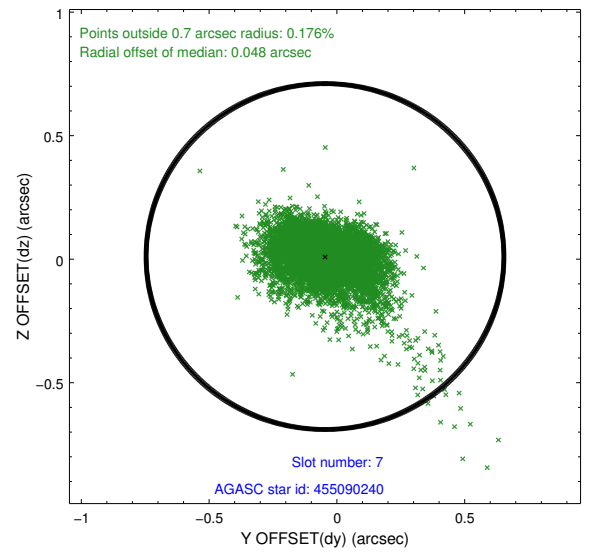
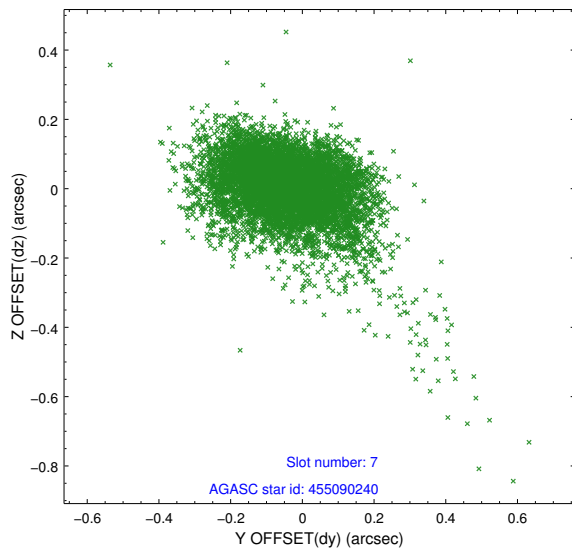
## 2.4.4 Slot 6



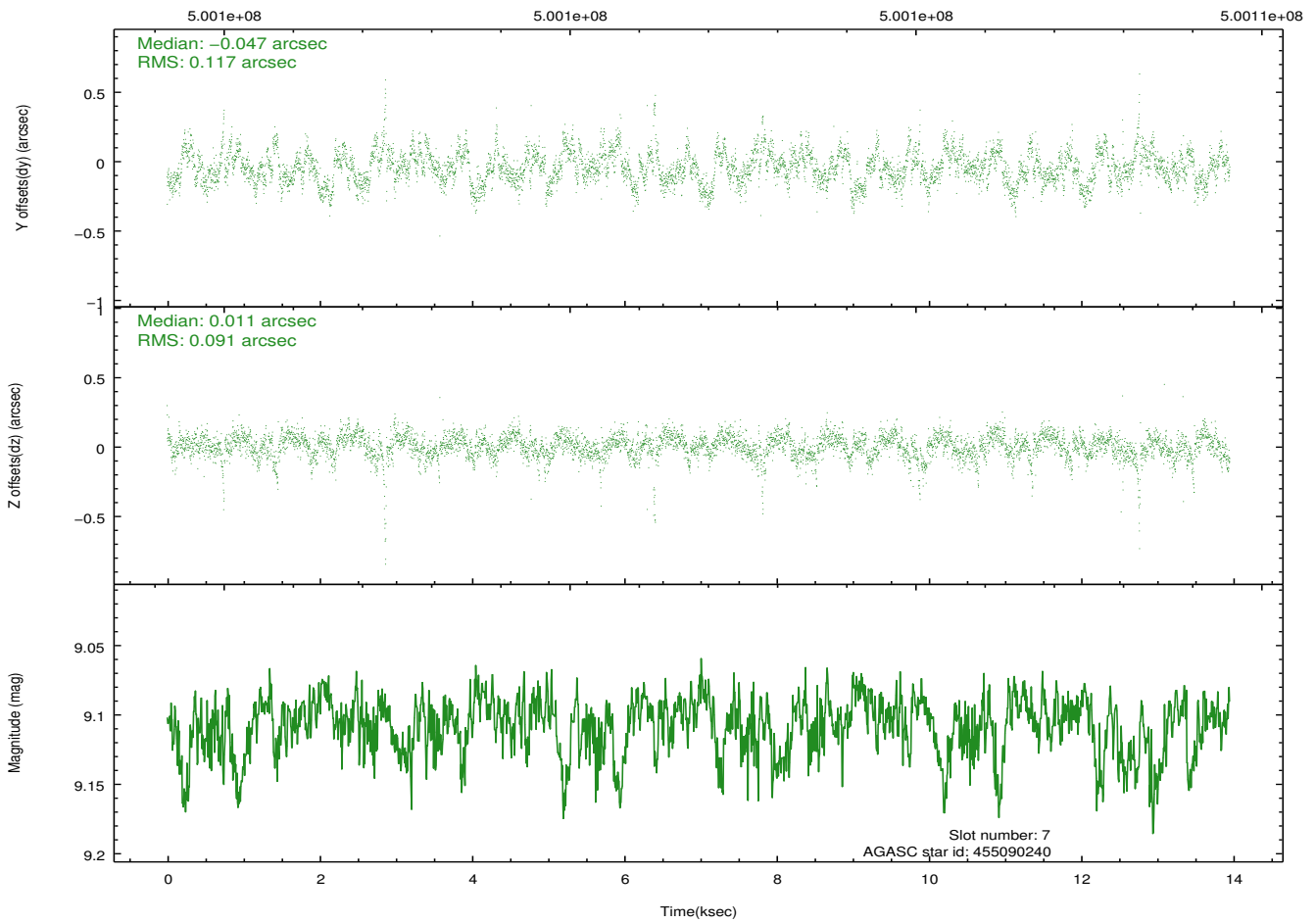
Time (s)



## 2.4.5 Slot 7

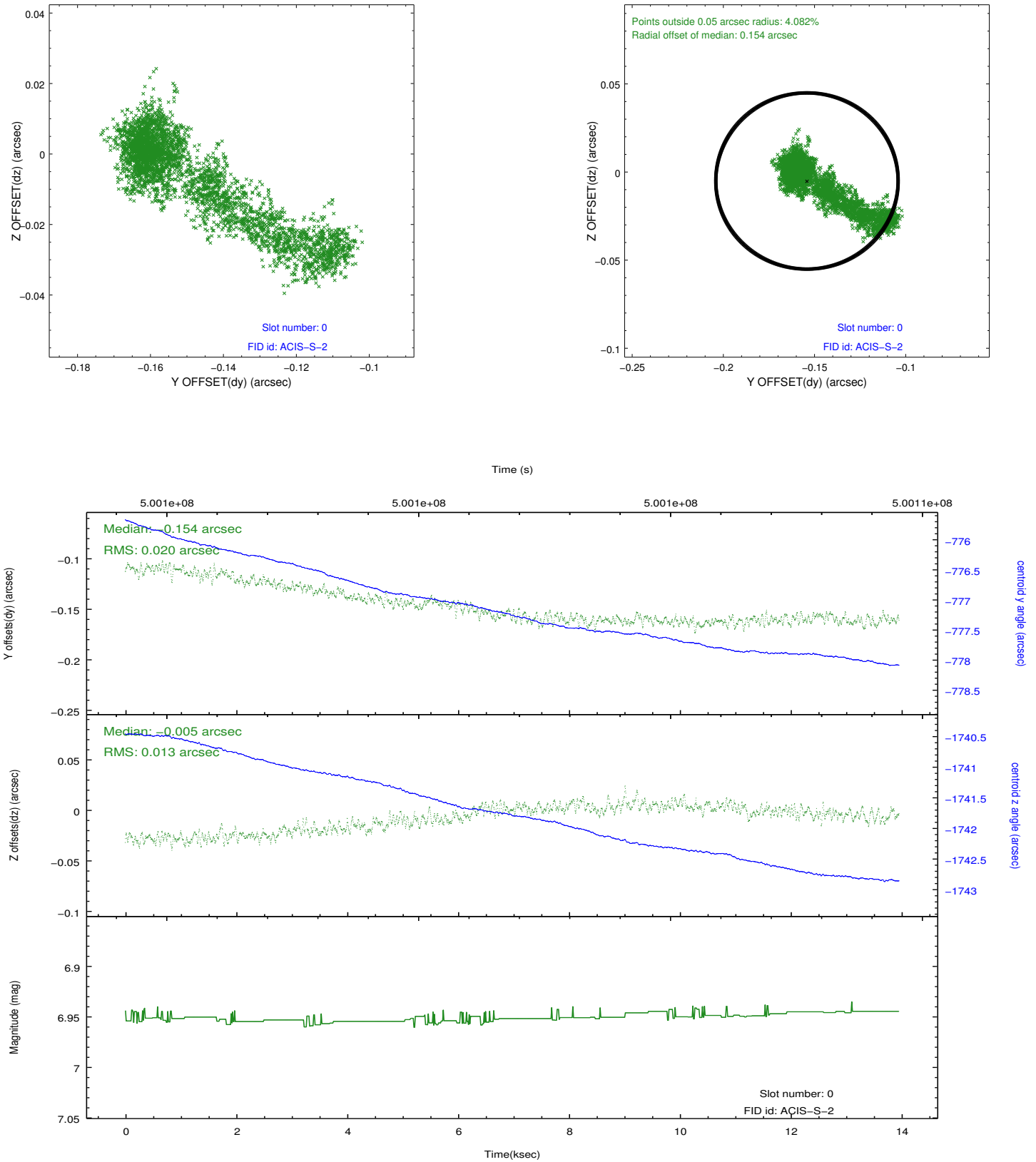


Time (s)

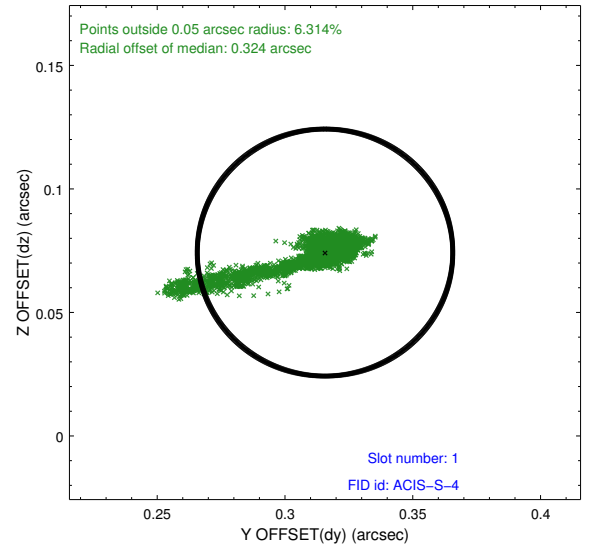
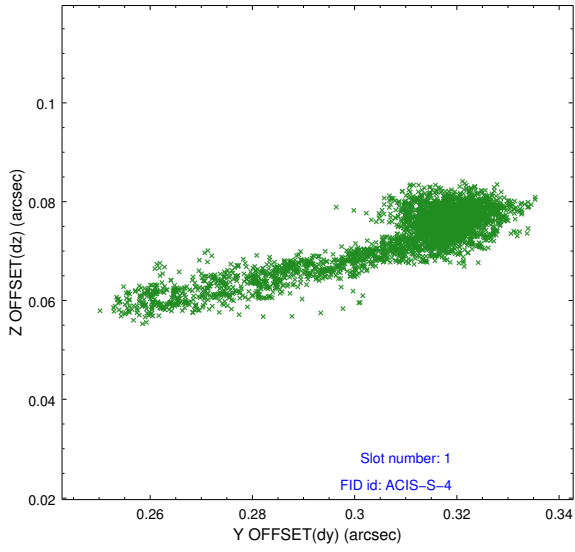


## 2.5 FID Slots

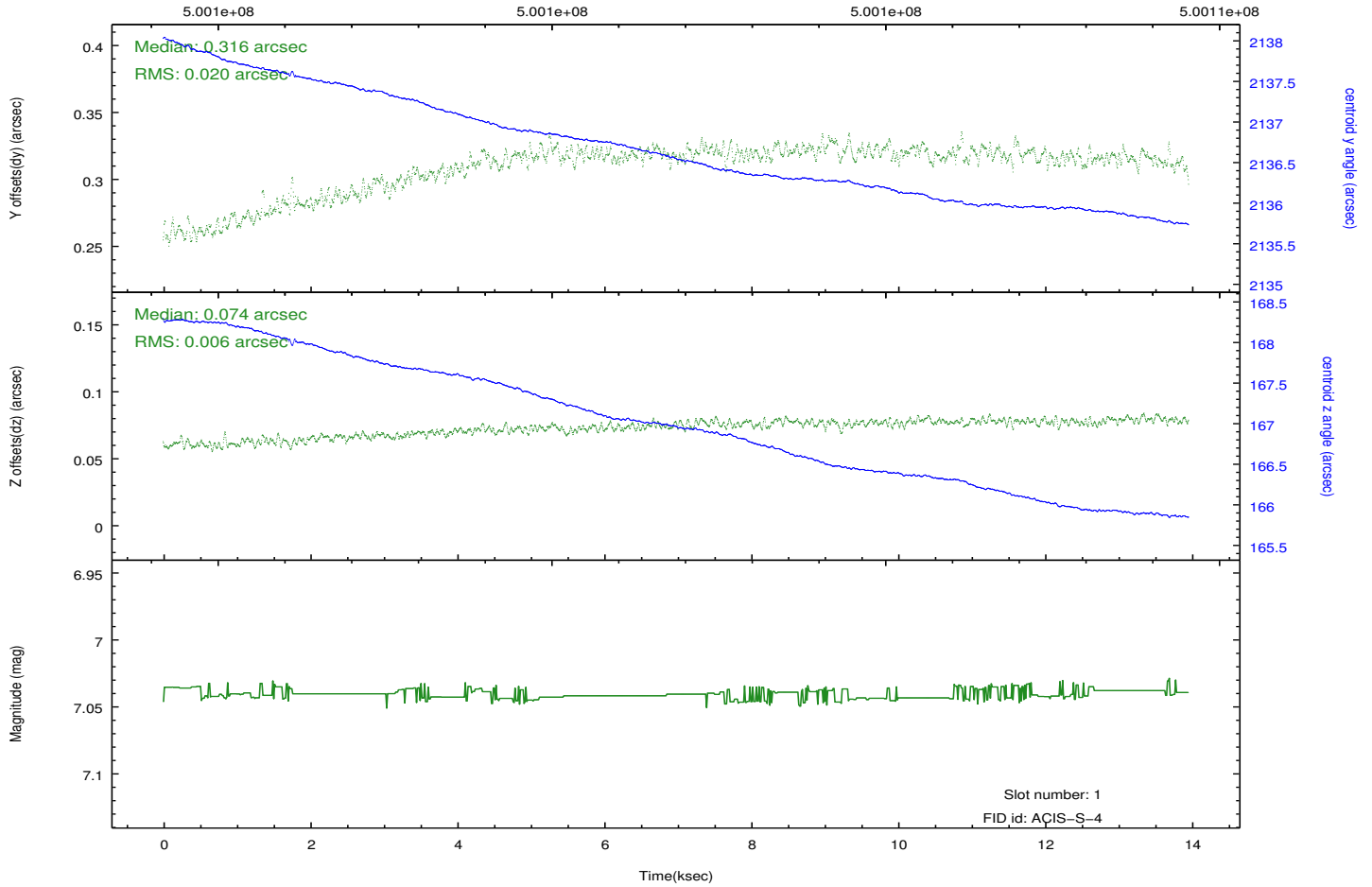
### 2.5.1 Slot 0



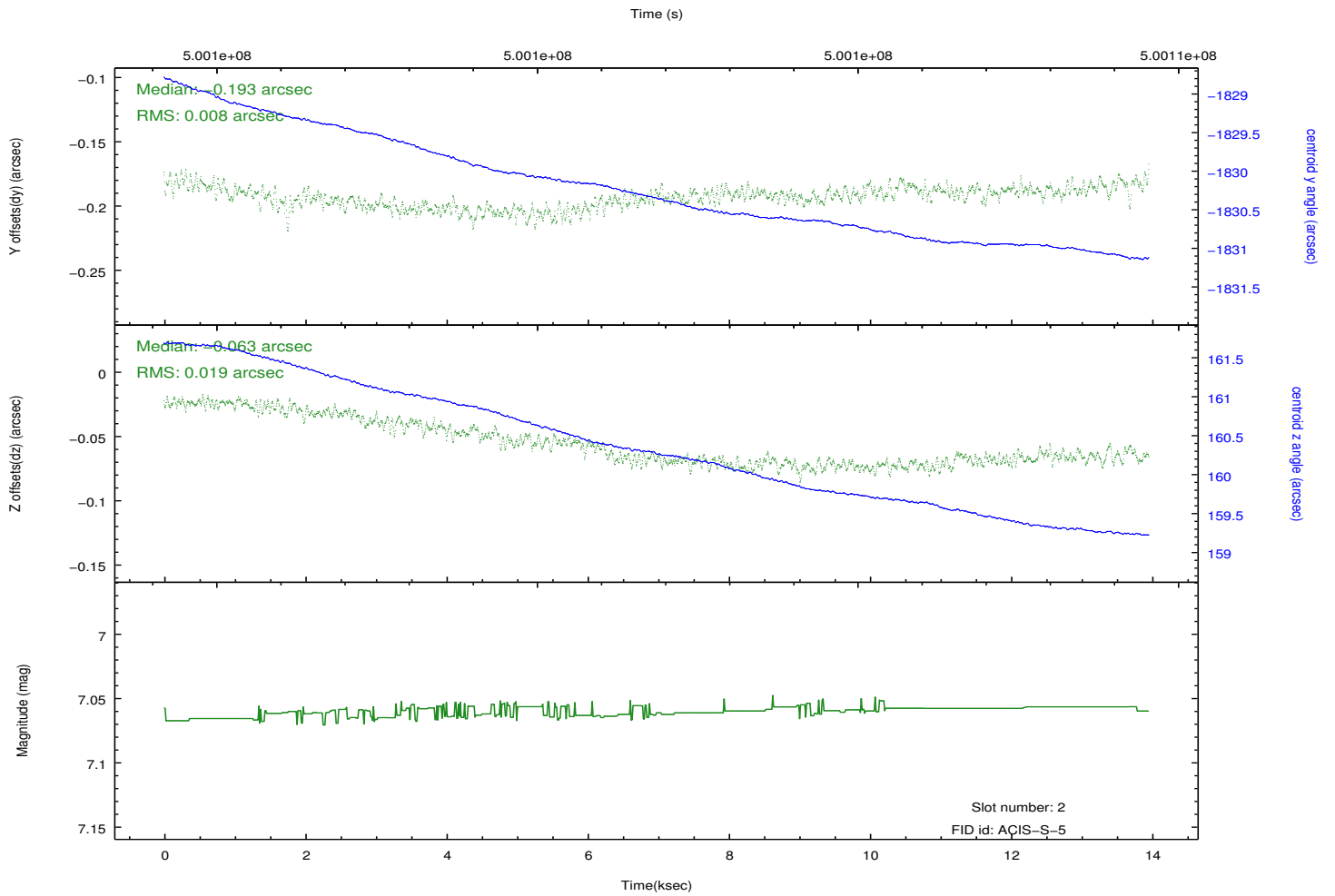
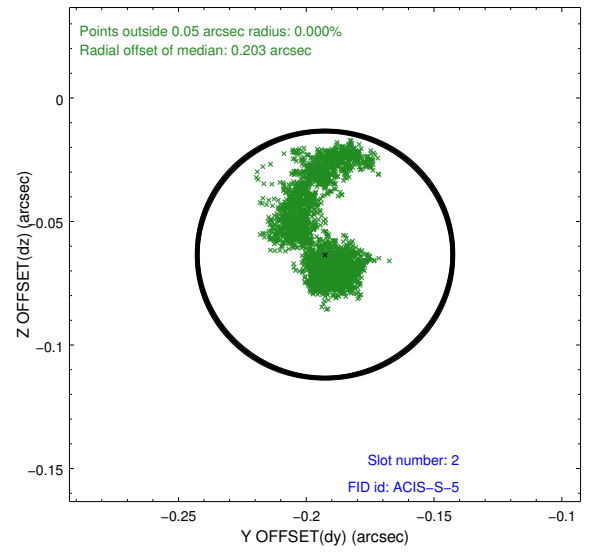
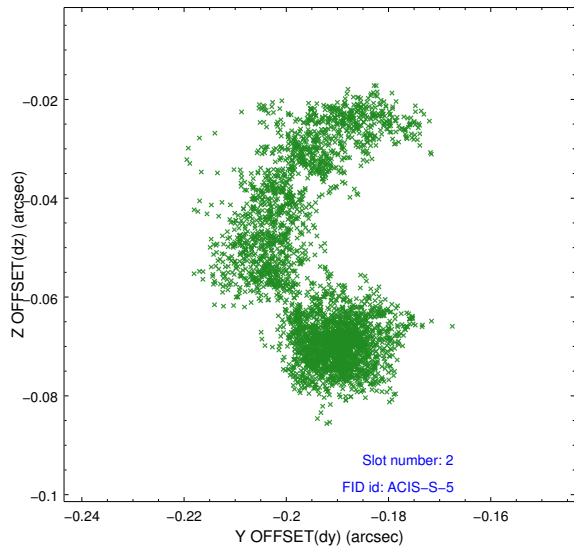
## 2.5.2 Slot 1



Time (s)



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2014.12.12
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	13.737599948883

## A.2 Comments

Window preference met.

These data have been reprocessed with new aspect alignment calibration files that correct small mean offsets (up to 0.4 arcsecs) and improve overall astrometric accuracy. The new calibration was determined using data from the time period being reprocessed and was performed using cross-correlation of X-ray sources with radio and optical counterparts.