

# V&V Reference Report

## L2 ASCDS Version : 10.1.1

Observation 14816 - L2 Version 2  
Chandra X-Ray Center

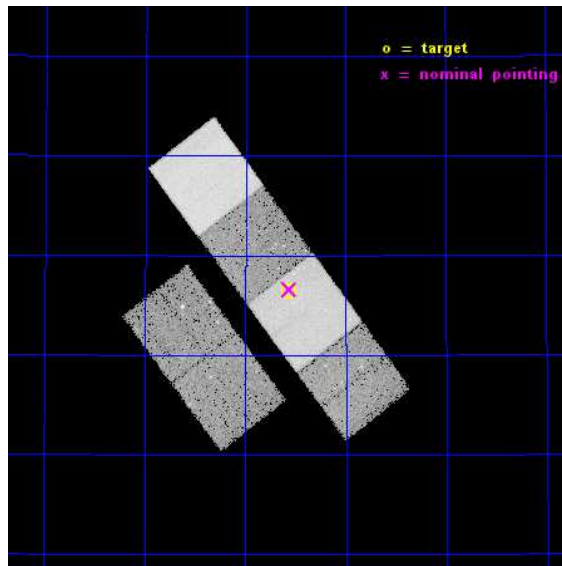
L2 Processing Date : Dec 8 2014

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# 1 Front

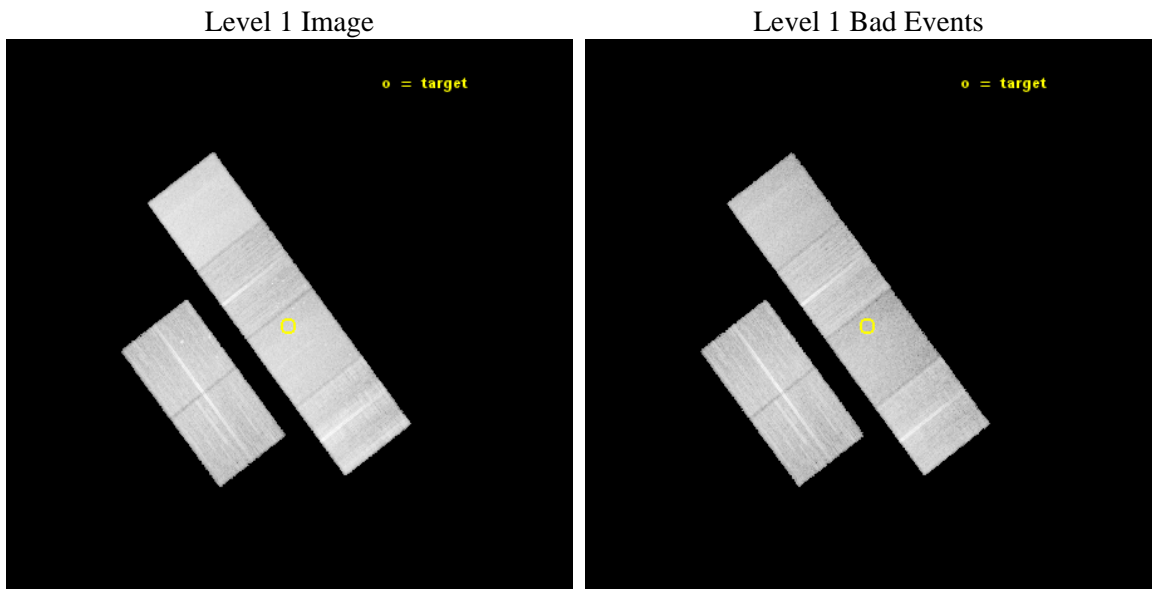
seq_num	501944	Sequence number
obs_id	14816	Observation id
title	Constraining the Energetics of Fermi-LAT GRBs with Chandra	Proposa
observer	Dr Judith Racusin	Principal investigator
object	GRB 130907A	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	215.892	Observer's specified target RA [deg]
dec_targ	45.607417	Observer's specified target Dec [deg]
ra_nom	215.8904692038	Nominal RA [deg]
dec_nom	45.61025323739	Nominal Dec [deg]
roll_nom	52.874158403756	Nominal Roll [deg]
revision	2	Processing version of data
ontime	36264.589344978	Sum of GTIs [s]
liveltime	35805.385278778	Livetime [s]
ontime2	36261.389414668	Sum of GTIs [s]
ontime3	36261.225254595	Sum of GTIs [s]
ontime5	36264.548304975	Sum of GTIs [s]
ontime6	36258.025314271	Sum of GTIs [s]
ontime7	36264.589344978	Sum of GTIs [s]
ontime8	36264.425184965	Sum of GTIs [s]
l2events	274010	Number of level 2 events



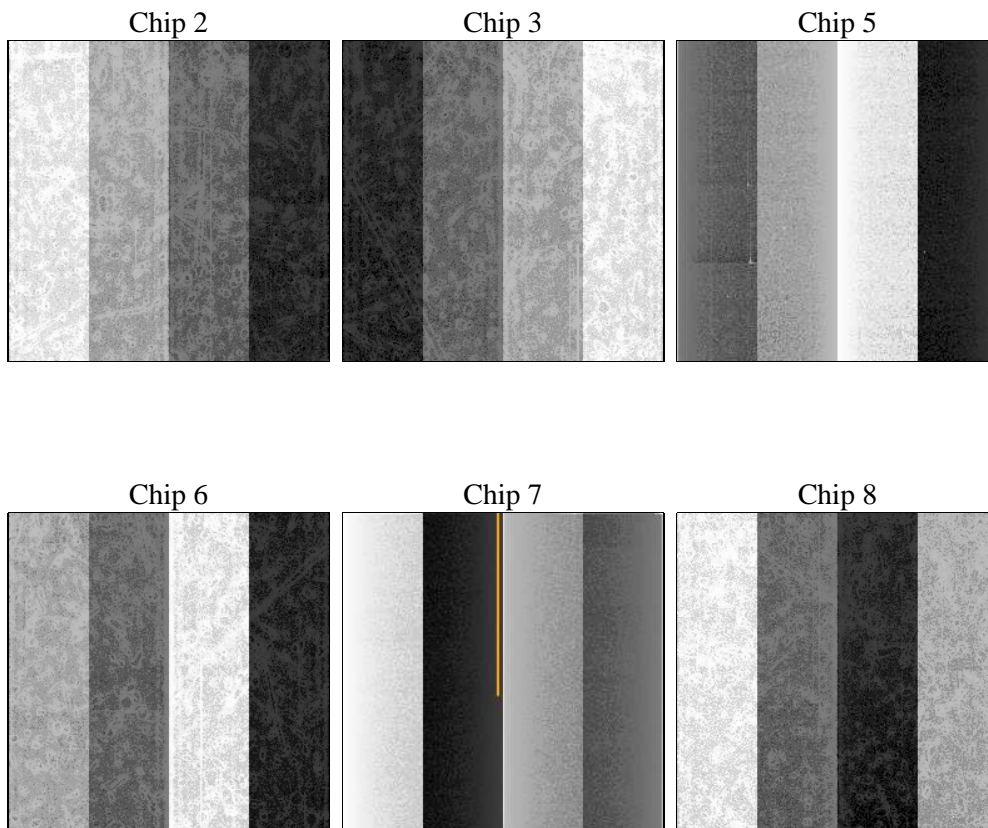
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	36300.000000	[s] Scheduled observation exposure time
ascdsver	10.3.1	Processing system revision	ontime	36264.589344978	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime2	36261.389414668	Sum of GTIs [s]
date	2014-12-08T12:20:16	Date and time of file creation	ontime3	36261.225254595	Sum of GTIs [s]
revision	2	Processing version of data	ontime5	36264.548304975	Sum of GTIs [s]
			ontime6	36258.025314271	Sum of GTIs [s]
			ontime7	36264.589344978	Sum of GTIs [s]
			ontime8	36264.425184965	Sum of GTIs [s]
			l1events	1114399	Number of level 1 events

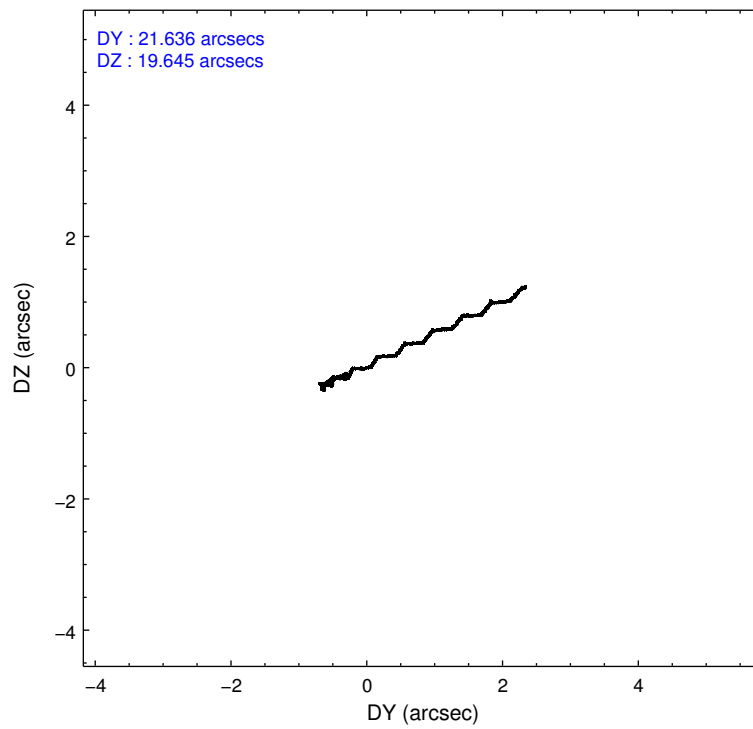
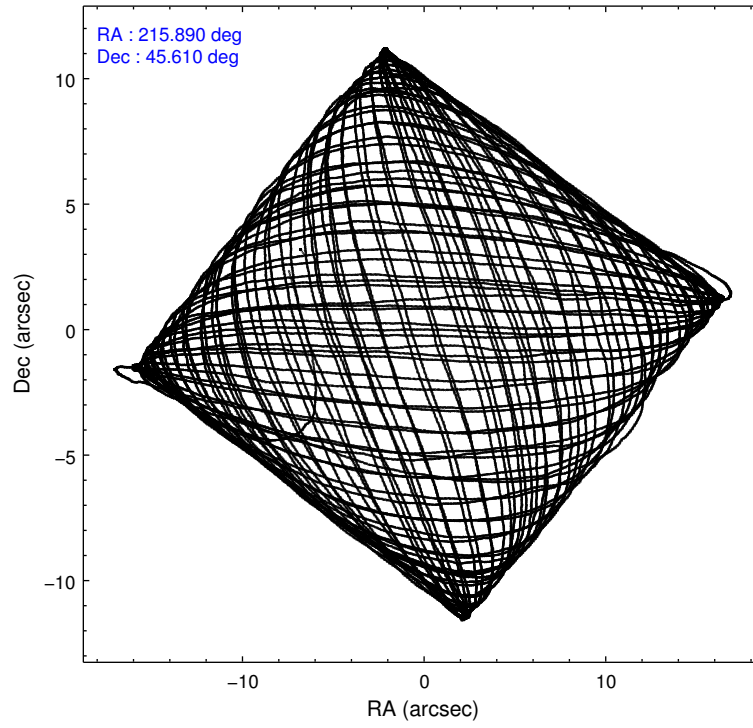
### 2.1.4 Events

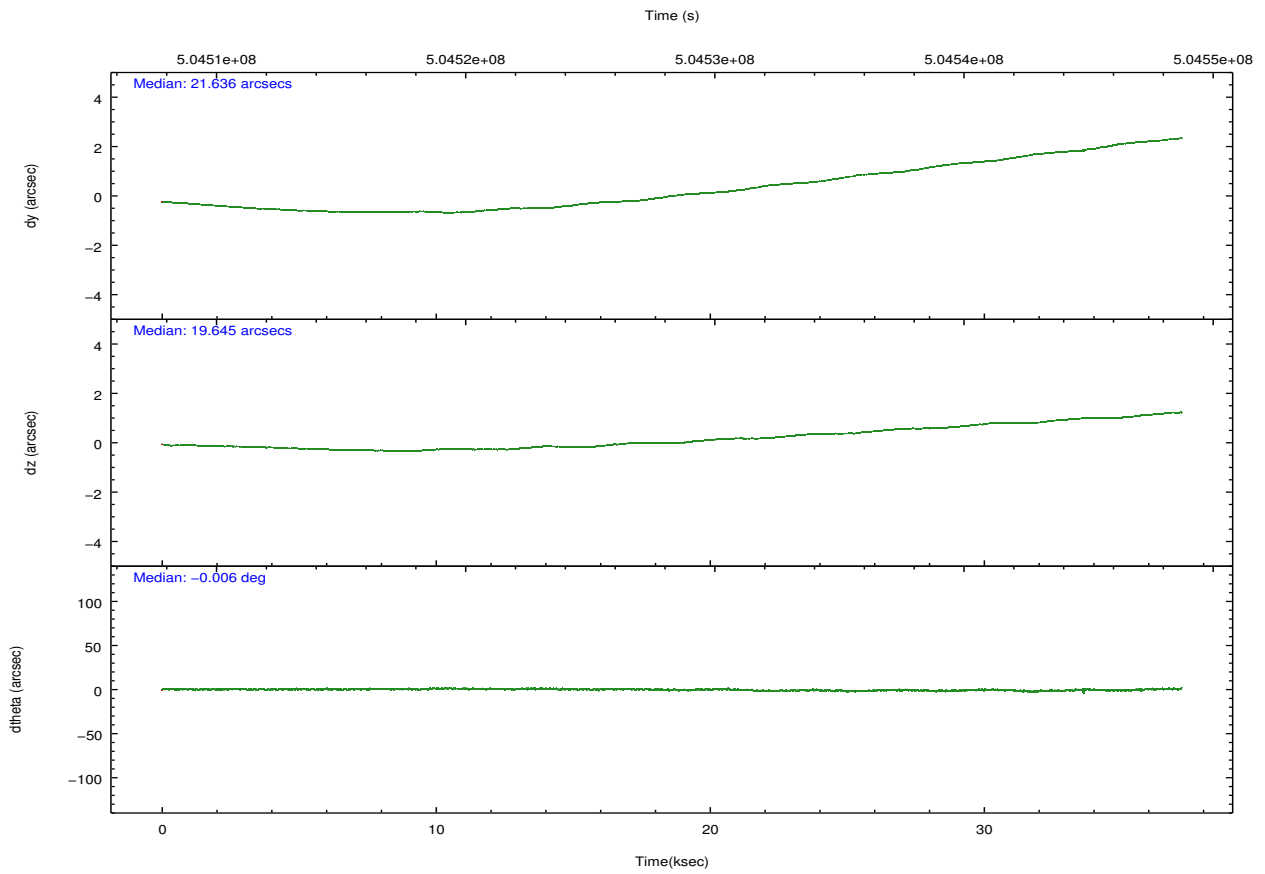
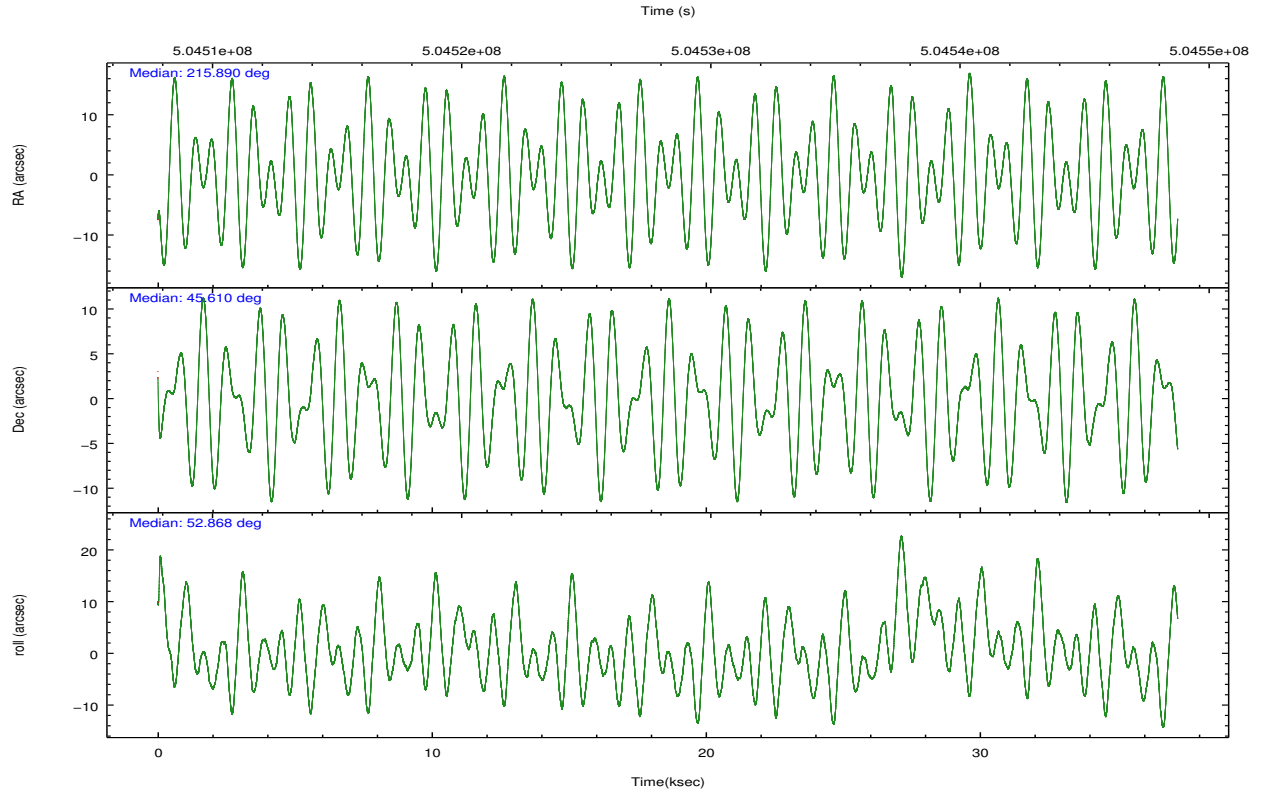
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	162056	149342	240277	160199	190215	212310	grade 0 events	7381	6355	7999	7097	8863	17215
rejected events	142424	131841	118494	140390	100071	149707		4%	4%	3%	4%	4%	8%
rejected %	87%	88%	49%	87%	52%	70%	grade 1 events	98	99	462	88	293	154
								0%	0%	0%	0%	0%	0%
							grade 2 events	4906	3882	38435	4527	19406	14543
								3%	2%	15%	2%	10%	6%
							grade 3 events	1848	1786	4813	2014	8029	7048
								1%	1%	2%	1%	4%	3%
							grade 4 events	1927	1906	4629	1967	8004	6713
								1%	1%	1%	1%	4%	3%
							grade 5 events	6555	7197	19330	7232	20446	11346
								4%	4%	8%	4%	10%	5%
							grade 6 events	3575	3577	65939	4209	45855	17090
								2%	2%	27%	2%	24%	8%
							grade 7 events	135766	124540	98670	133065	79319	138201
								83%	83%	41%	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	215.886177	215.8904692038021	CCD I2 on	O4	Y
[deg] Pointing Dec	45.583076	45.61025323738997	CCD I3 on	O5	Y
[deg] Pointing Roll	52.720598	52.87415840375643	CCD S0 on	N	N
[s] Window start time (MET)	504316867.184000	504316867.184000	CCD S1 on	O1	Y
[s] Window stop time (MET)	505612807.184000	505612807.184000	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	-190.1400660498719	CCD S5 on	N	N
[mm] SIM translation stage offset	0	0.00754346686406393	Number of optional ACIS chips dropped	0	0
[s] Observation start time (MET)	504510564.184000	504508996.35884	On-chip summing requested	N	N
Observation start date	2013-12-27T05:48:17	2013-12-27T05:23:16	Subarray requested	NONE	NONE
[s] Observation end time (MET)	504546864.184000	504548006.83598	Alternating exposures requested	N	N
Observation end date	2013-12-27T15:53:17	2013-12-27T16:13:26	[s] Primary exposure time	0.000000	3.2
Read mode	TIMED	TIMED			

## 2.3 Aspect





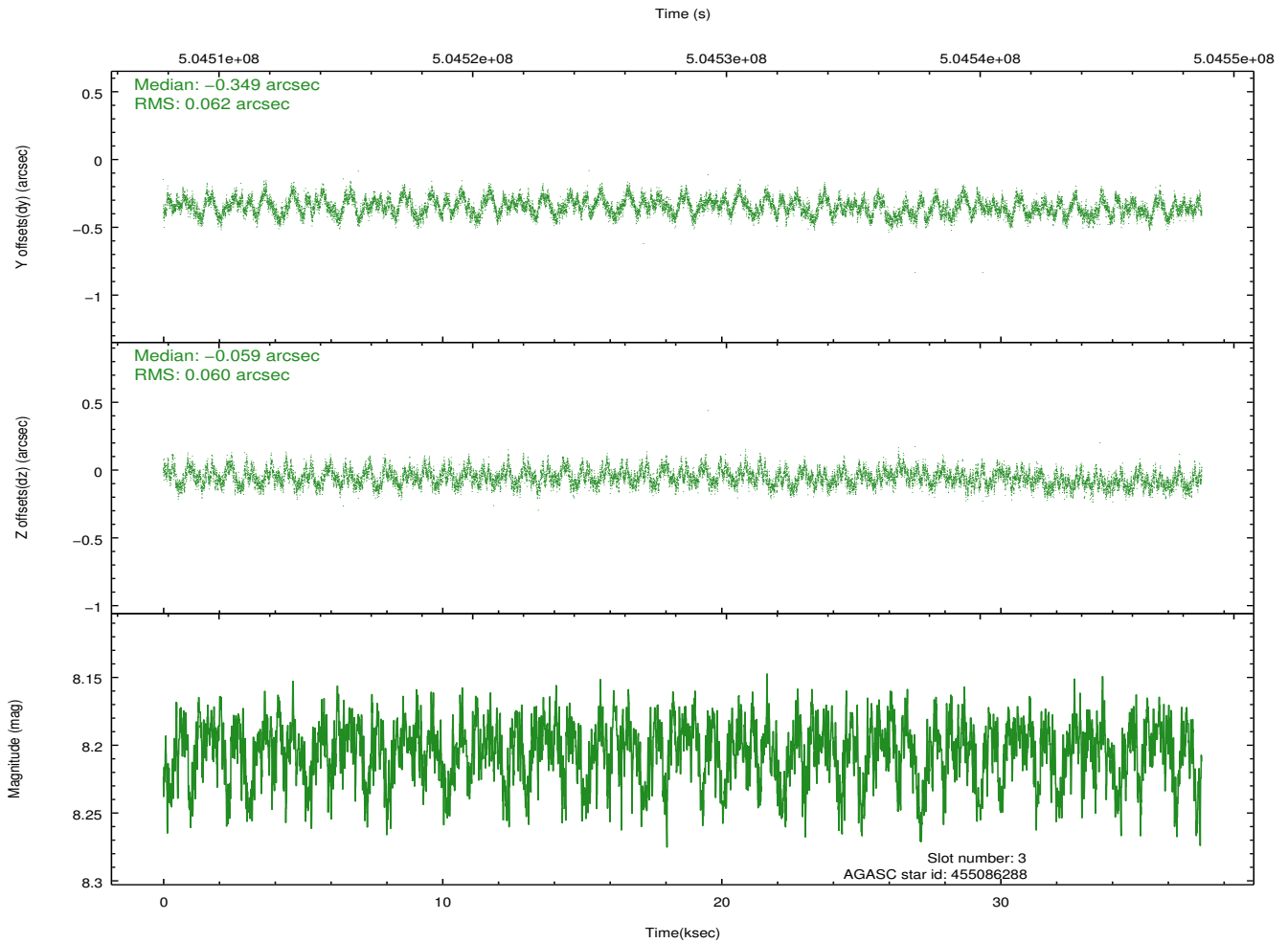
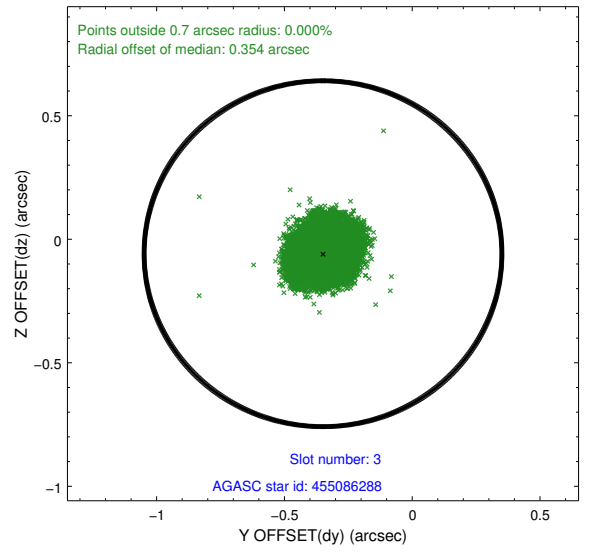
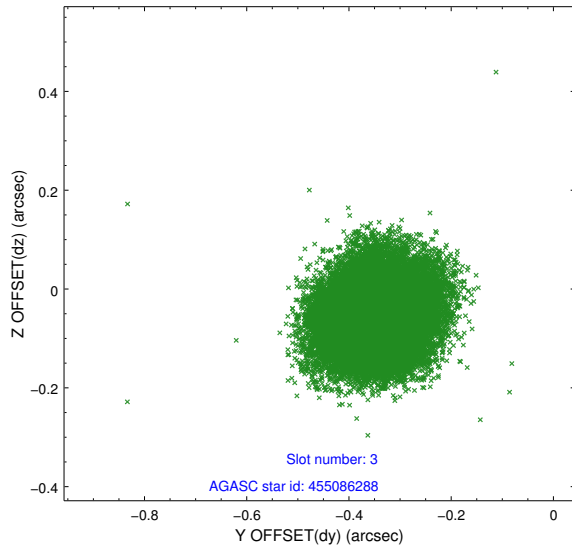
### Slot Statistics

lot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_x
0	FID		ACIS-S-4	7.01	9077	0.197	-0.010	0.019	0.045	0.000000	0.000000	2138.42	167.35
1	FID		ACIS-S-5	7.04	9076	-0.203	-0.003	0.036	0.093	0.000000	0.000000	-1828.16	160.73
2	FID		ACIS-S-6	7.14	9077	-0.018	0.028	0.018	0.048	0.000000	0.000000	386.42	804.56
3	GUIDE	used	455086288	8.20	18150	-0.349	-0.059	0.094	0.143	215.702797	46.116120	1249.61	1526.80
4	GUIDE	used	455086552	9.64	18134	-0.124	-0.060	0.154	0.240	215.917824	45.938415	1065.17	709.25
5	GUIDE	used	455087560	9.10	18138	0.421	0.402	0.129	0.203	216.163817	45.147976	-818.49	-1506.58
6	GUIDE	used	455089920	8.85	18144	0.260	-0.016	0.182	0.252	215.305866	45.311512	-1663.09	579.94
7	BAD	used	455091840	9.80	17412	-0.232	-0.278	0.163	0.257	216.675913	45.456349	853.07	-1856.53

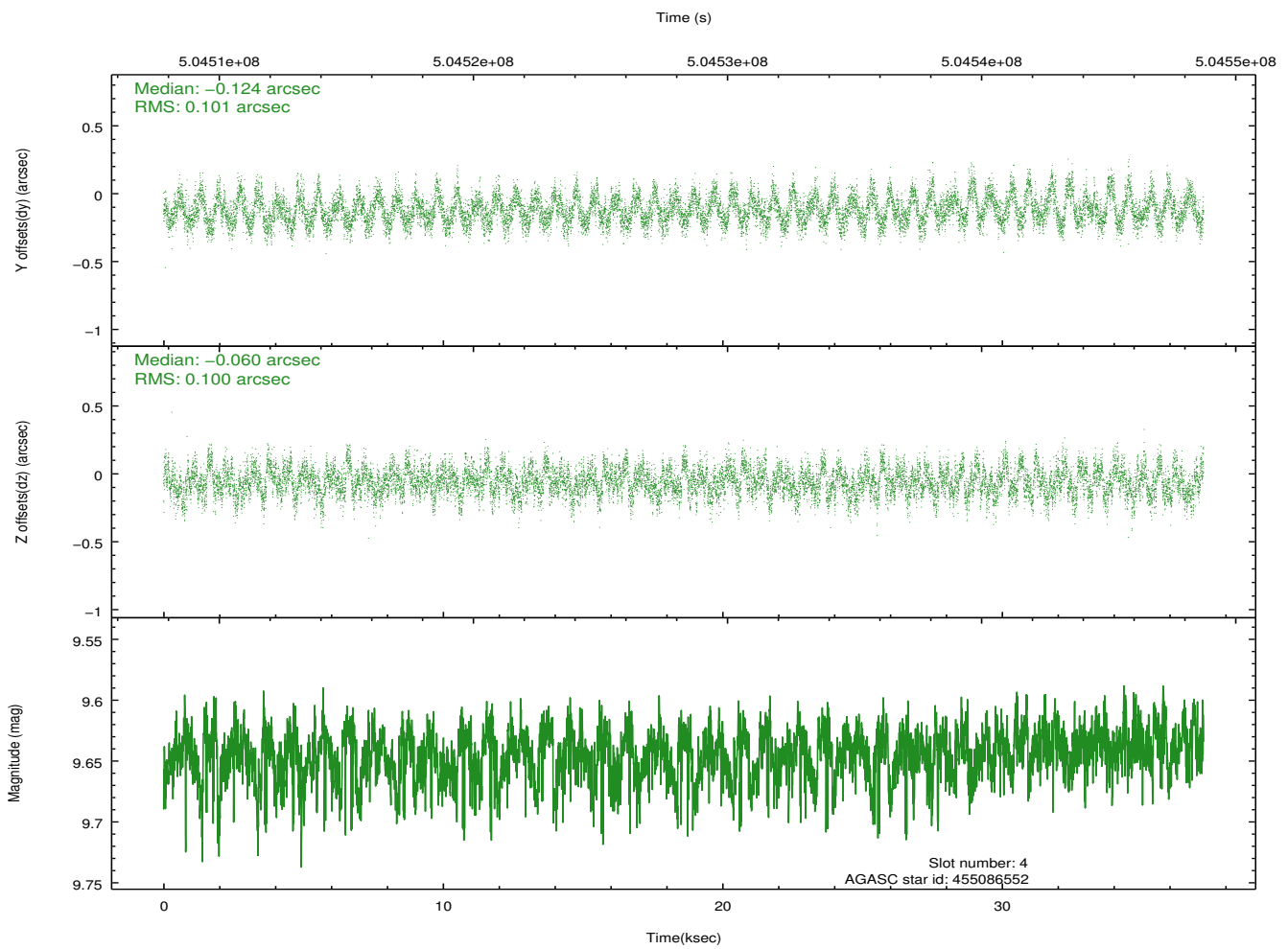
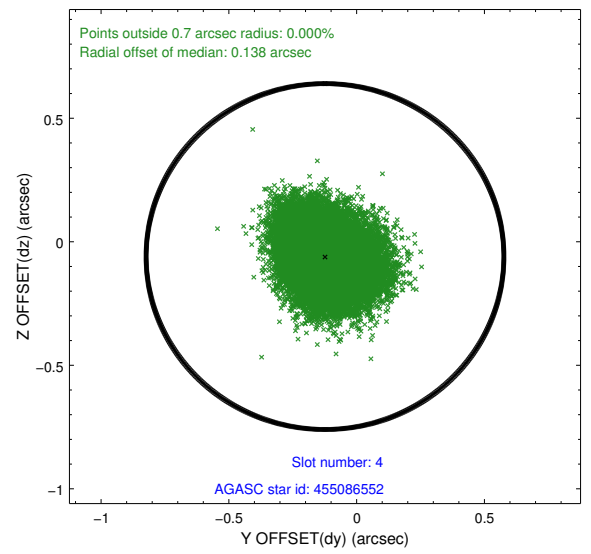
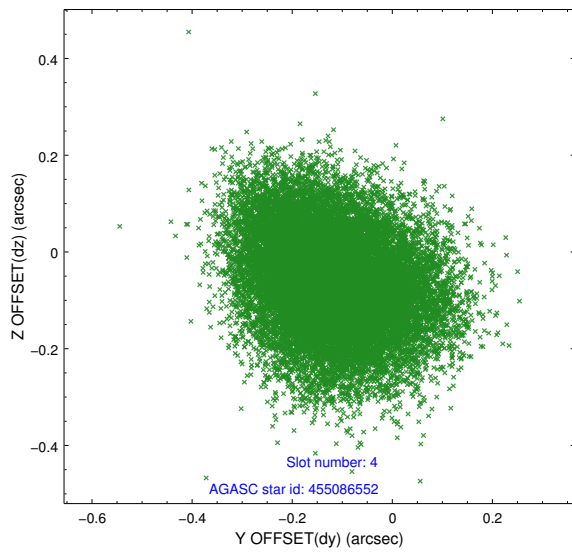
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## 2.4 Star Slots

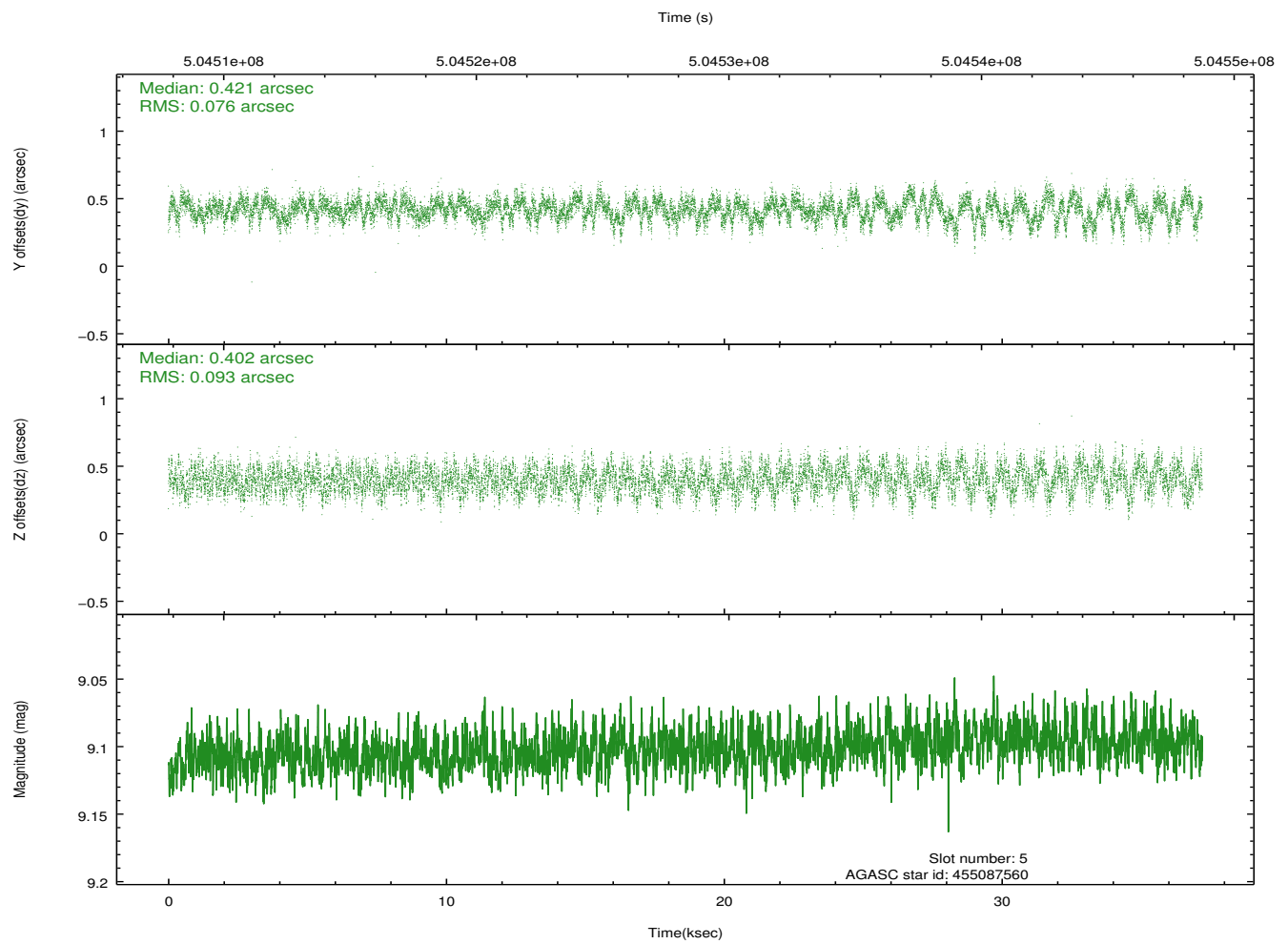
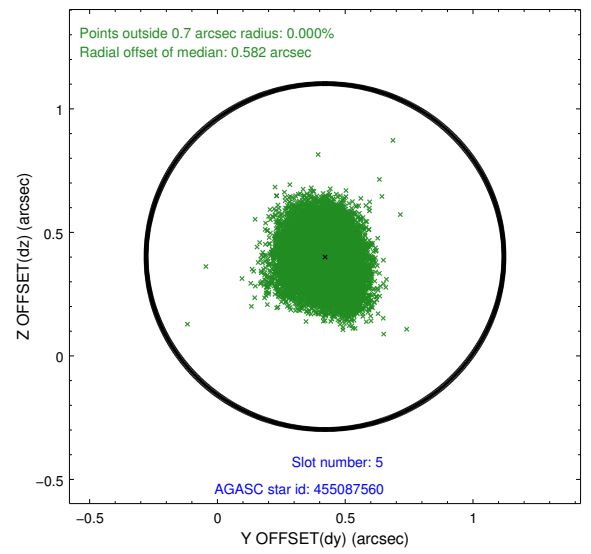
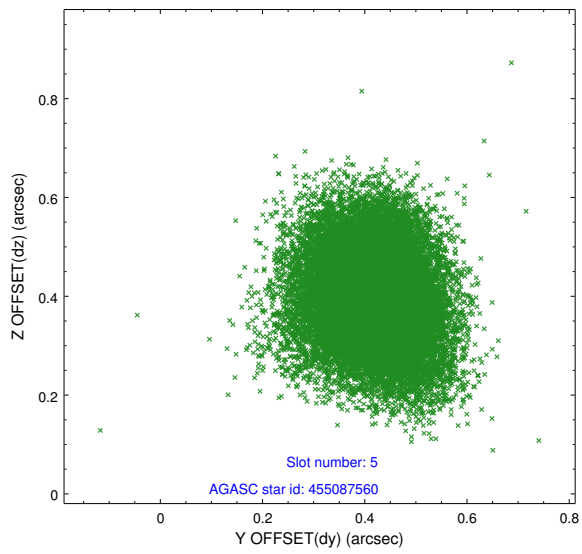
### 2.4.1 Slot 3



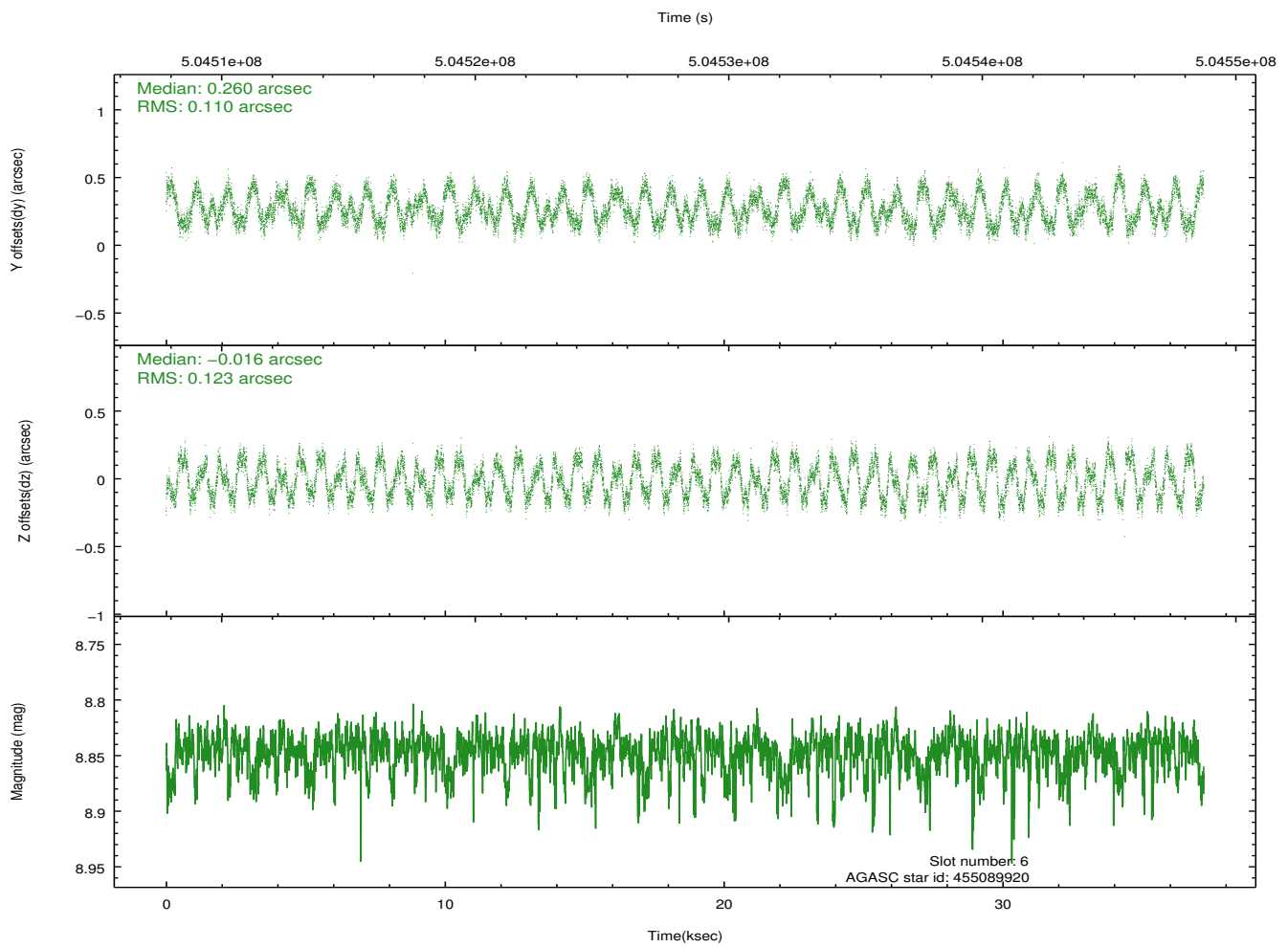
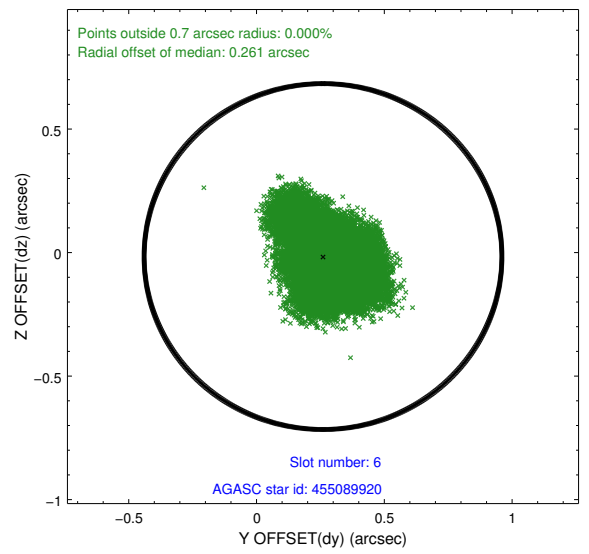
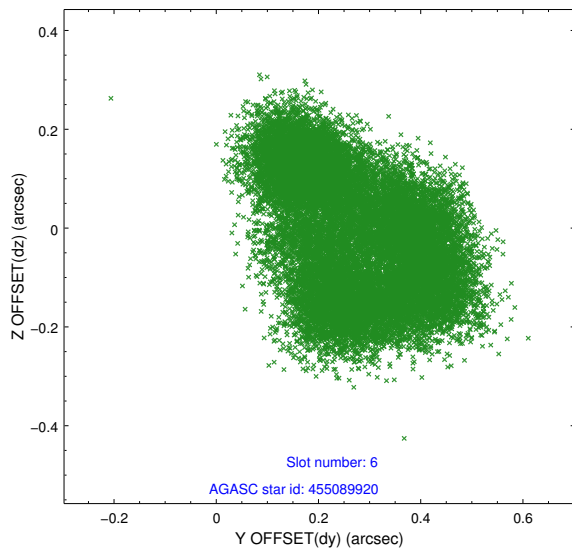
## 2.4.2 Slot 4



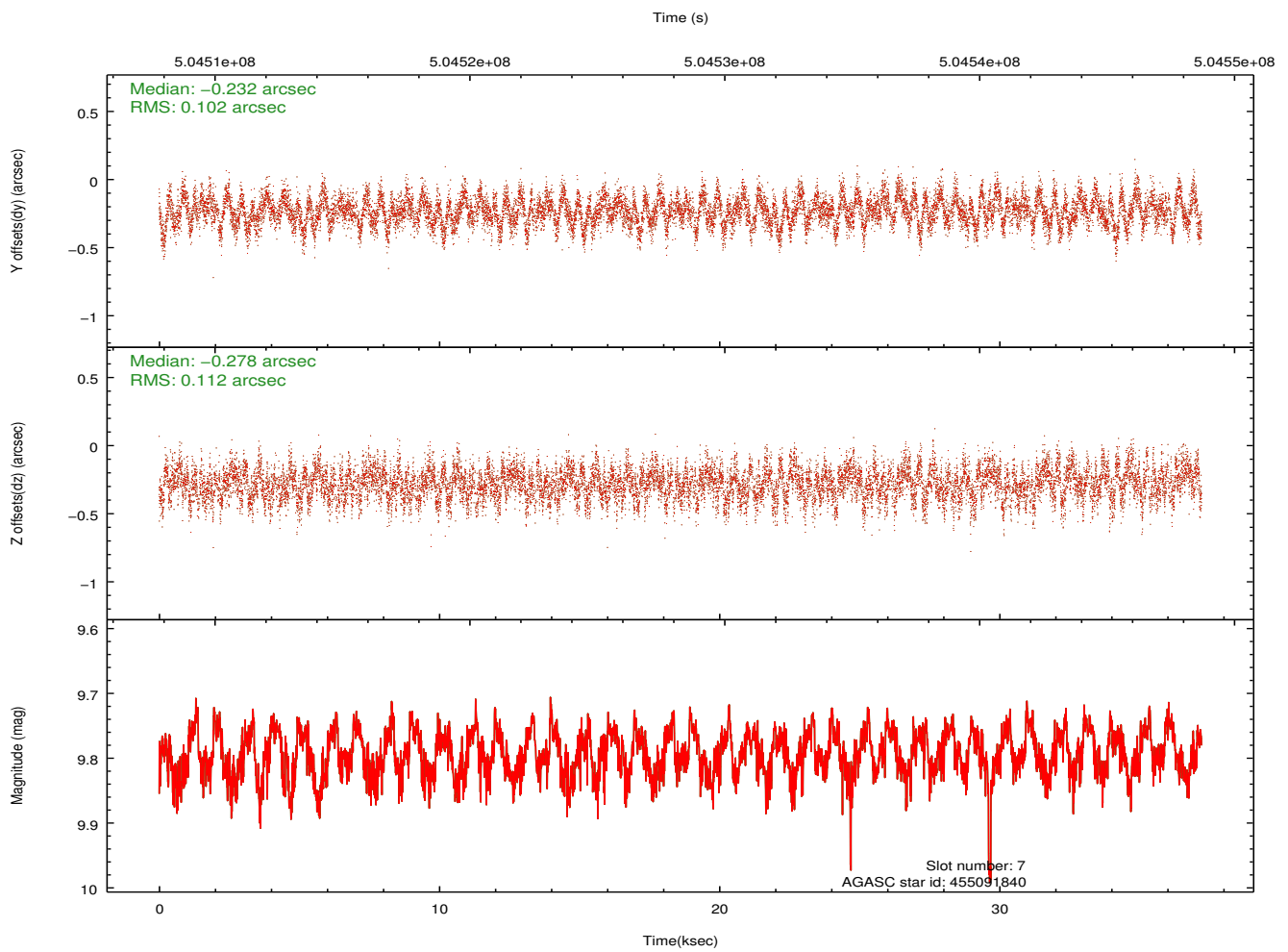
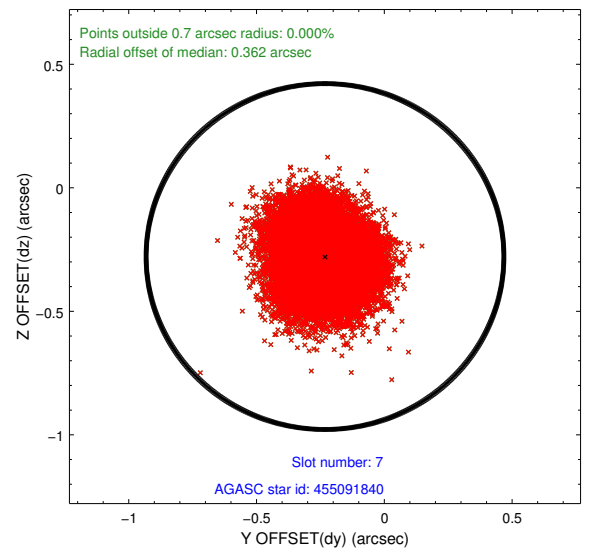
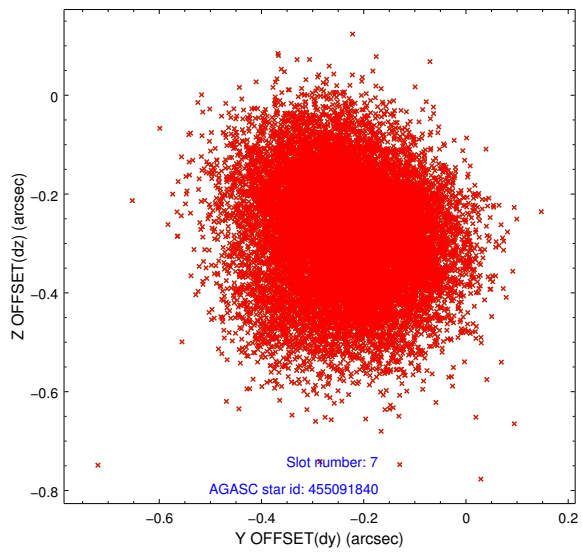
### 2.4.3 Slot 5



## 2.4.4 Slot 6

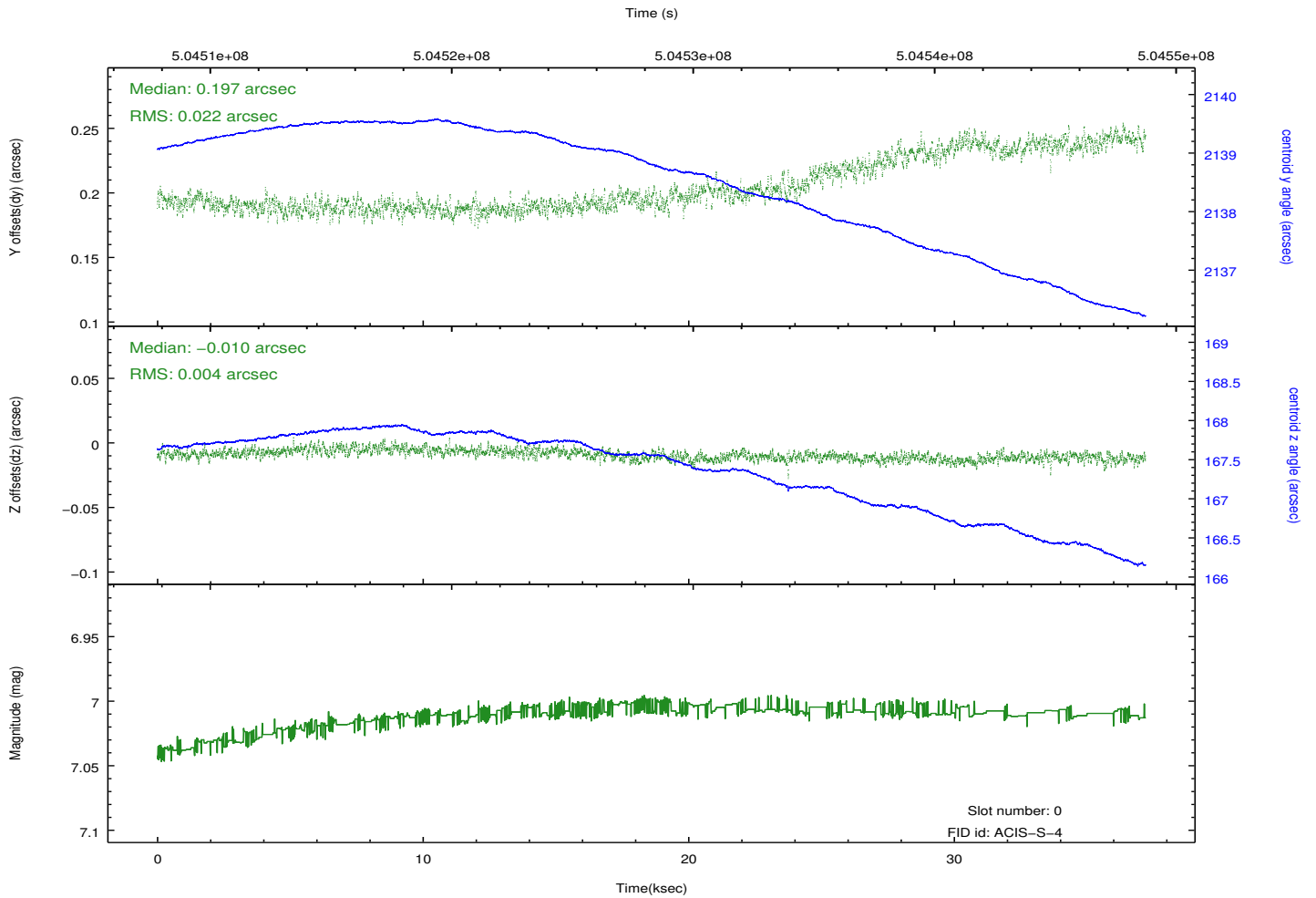
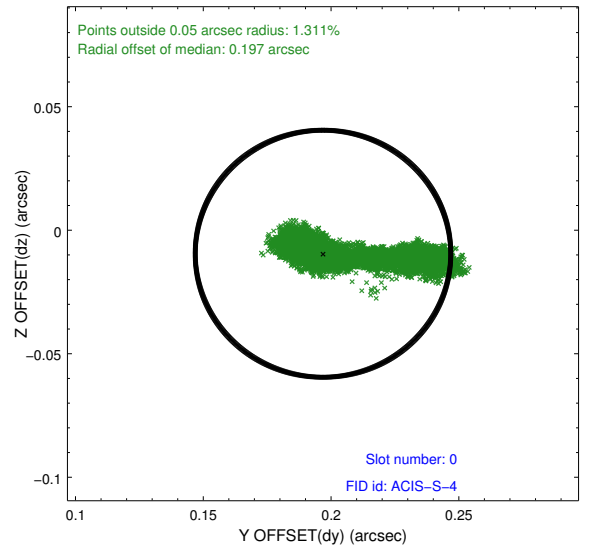
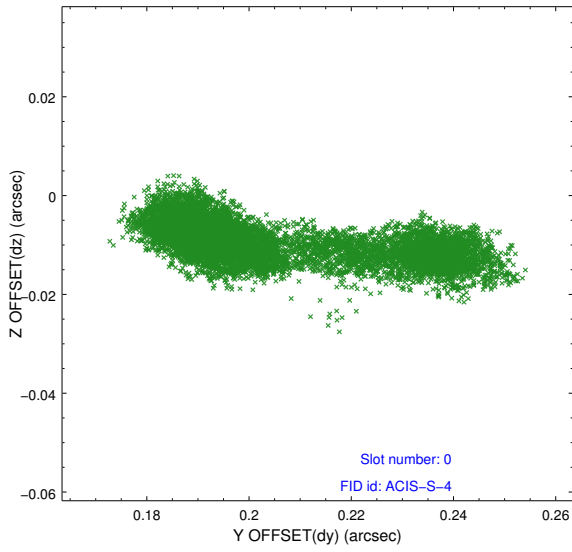


## 2.4.5 Slot 7

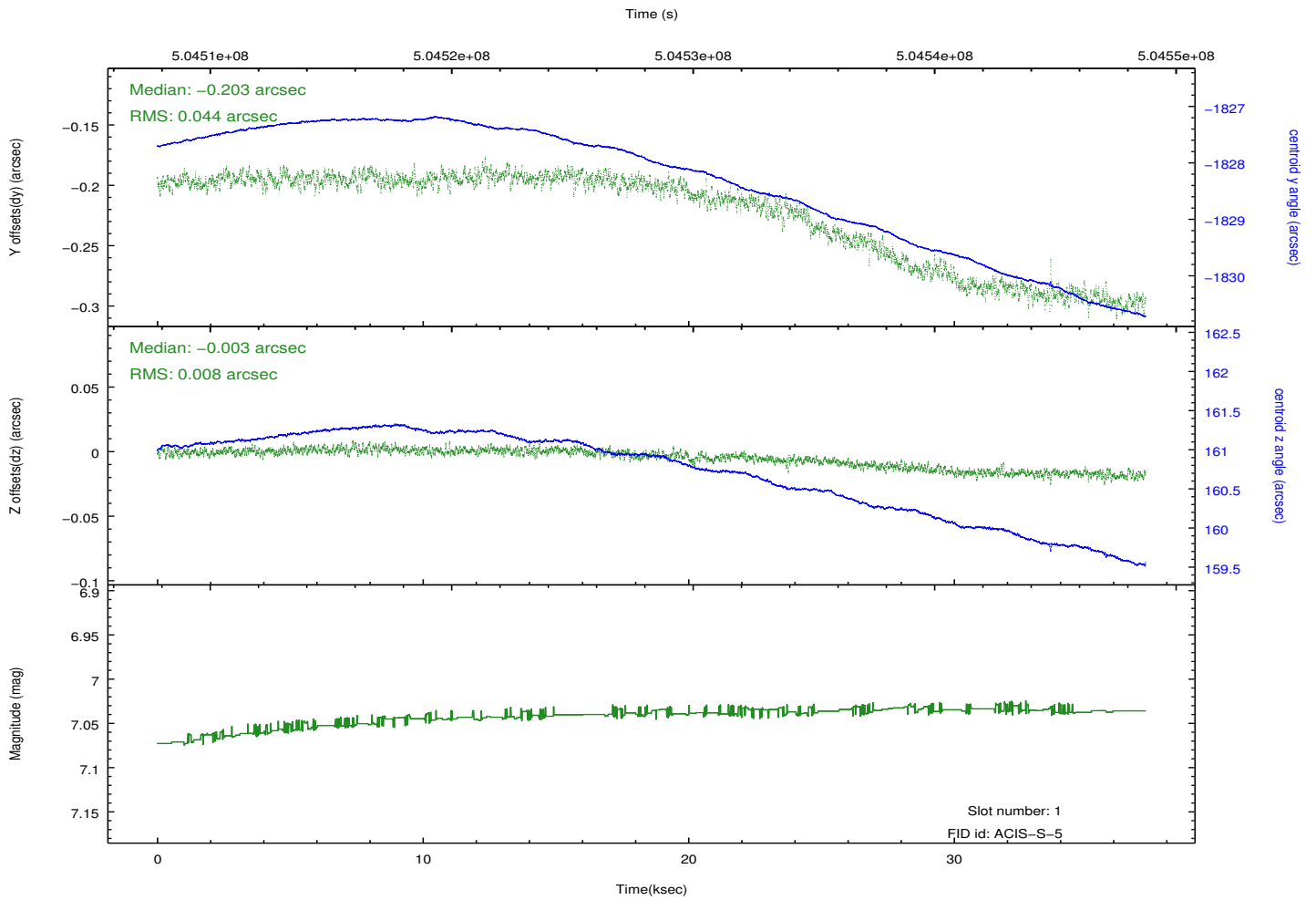
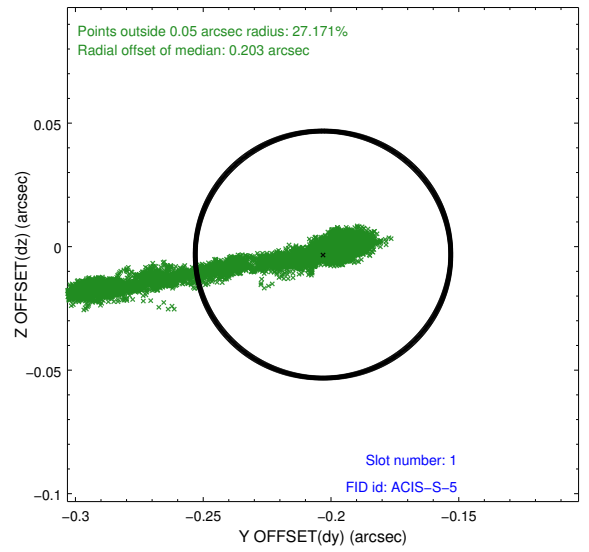
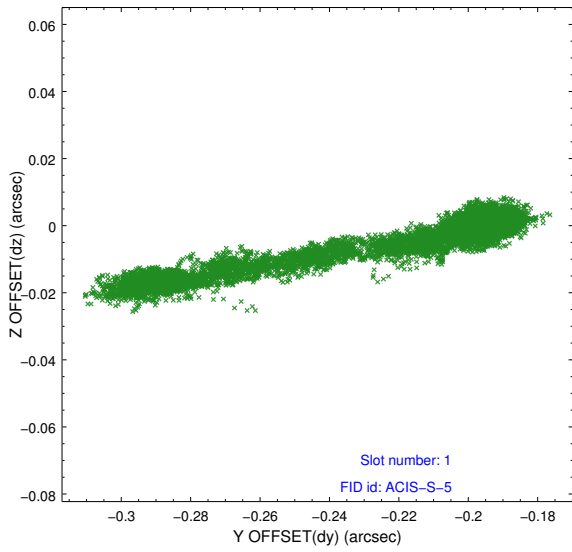


## 2.5 FID Slots

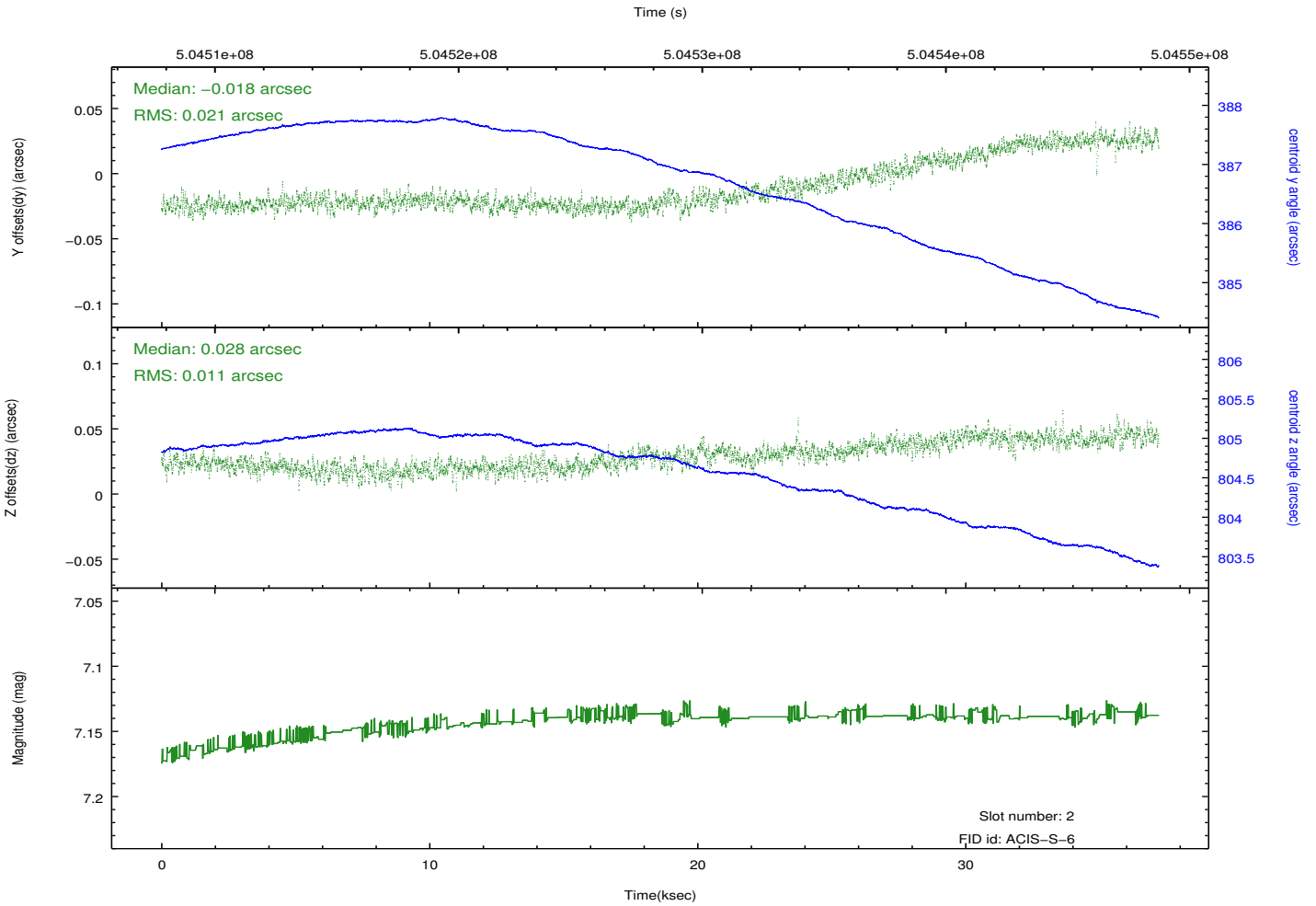
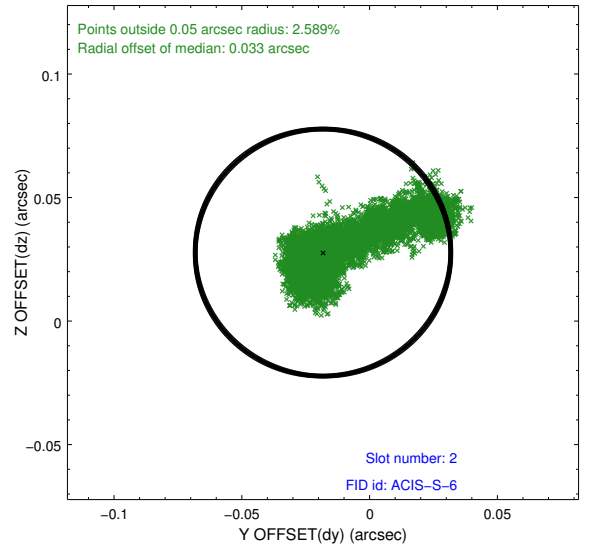
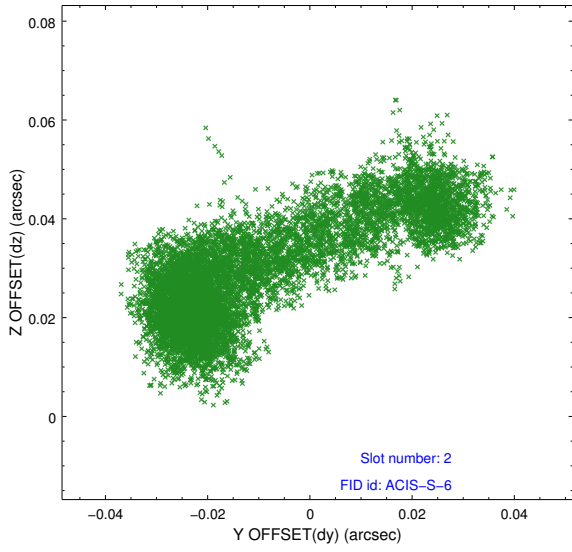
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2014.12.16
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	36.264589344978

## A.2 Comments

Window constraint 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.