

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 14356 - L2 Version 2  
Chandra X-Ray Center

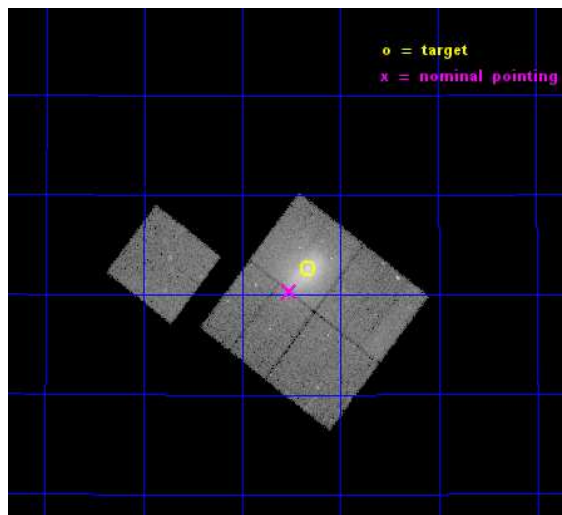
L2 Processing Date : Nov 28 2014

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# 1 Front

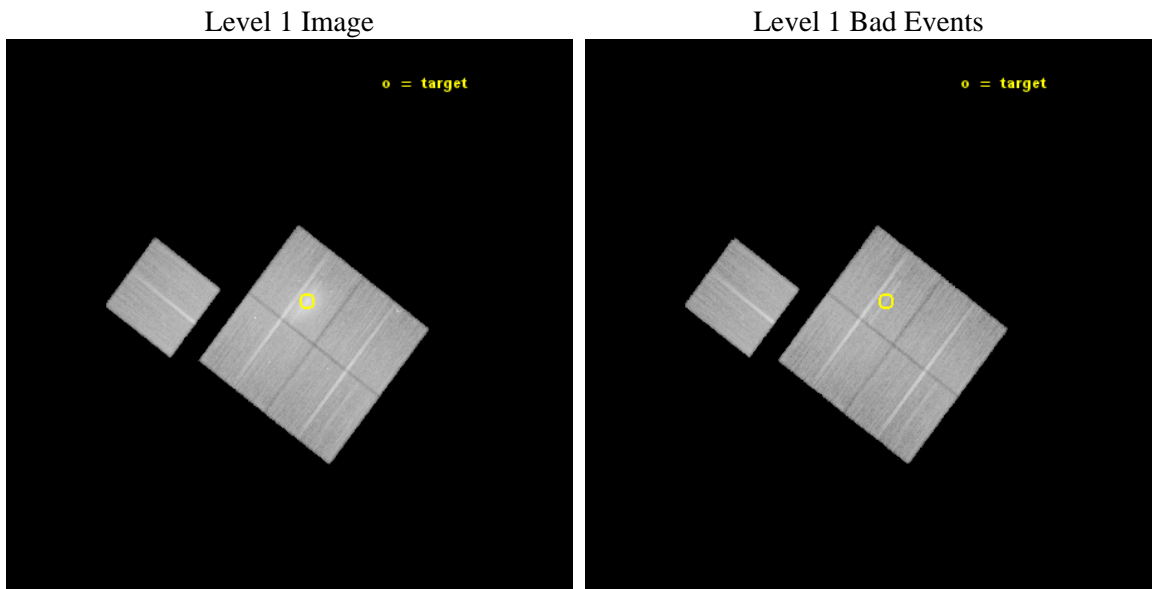
seq_num	801168	Sequence number
obs_id	14356	Observation id
title	A Chandra Study of the Large-Scale Shock Front in Abell 2219	Propo
observer	Prof. Steven Allen	Principal investigator
object	Abell 2219	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	250.083333	Observer's specified target RA [deg]
dec_targ	46.710833	Observer's specified target Dec [deg]
ra_nom	250.12972626347	Nominal RA [deg]
dec_nom	46.672994596878	Nominal Dec [deg]
roll_nom	307.43840207621	Nominal Roll [deg]
revision	2	Processing version of data
ontime	50083.600385189	Sum of GTIs [s]
livetime	49429.221275146	Livetime [s]
ontime0	50083.600385189	Sum of GTIs [s]
ontime1	50083.600385189	Sum of GTIs [s]
ontime2	50080.45941484	Sum of GTIs [s]
ontime3	50083.600385189	Sum of GTIs [s]
ontime6	50071.03652364	Sum of GTIs [s]
l2events	212123	Number of level 2 events



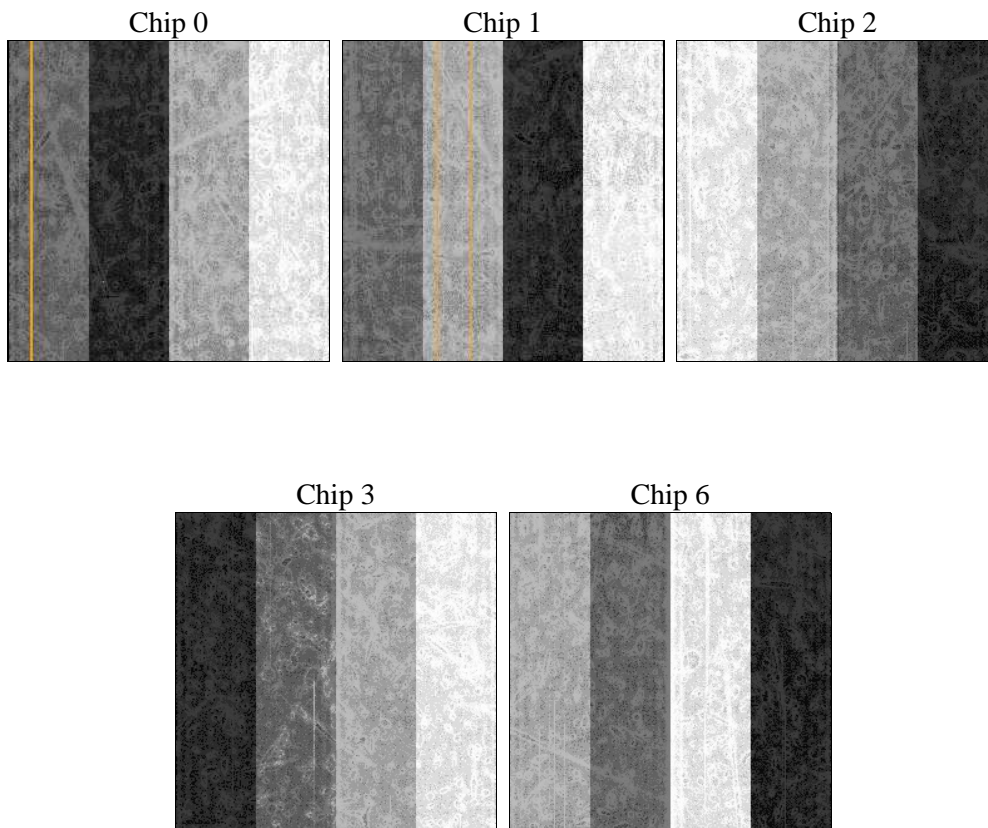
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	50000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	50083.600385189	Sum of GTIs [s]
caldbver	4.6.4	&#160	ontime0	50083.600385189	Sum of GTIs [s]
date	2014-11-28T10:46:37	Date and time of file creation	ontime1	50083.600385189	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	50080.45941484	Sum of GTIs [s]
			ontime3	50083.600385189	Sum of GTIs [s]
			ontime6	50071.03652364	Sum of GTIs [s]
			l1events	1299968	Number of level 1 events

### 2.1.4 Events

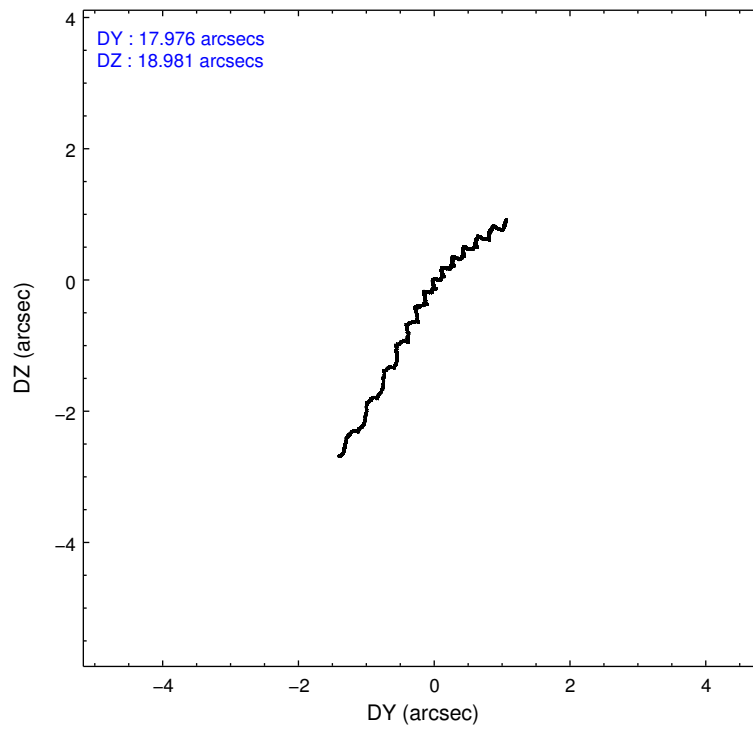
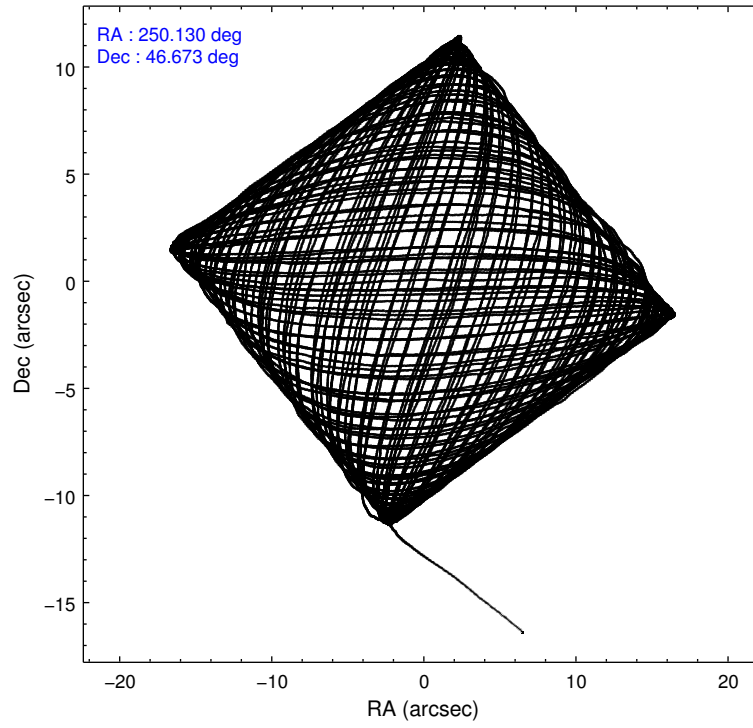
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	227287	239696	257852	322899	252234
rejected events	195824	202986	222758	217798	221840
rejected %	86%	84%	86%	67%	87%

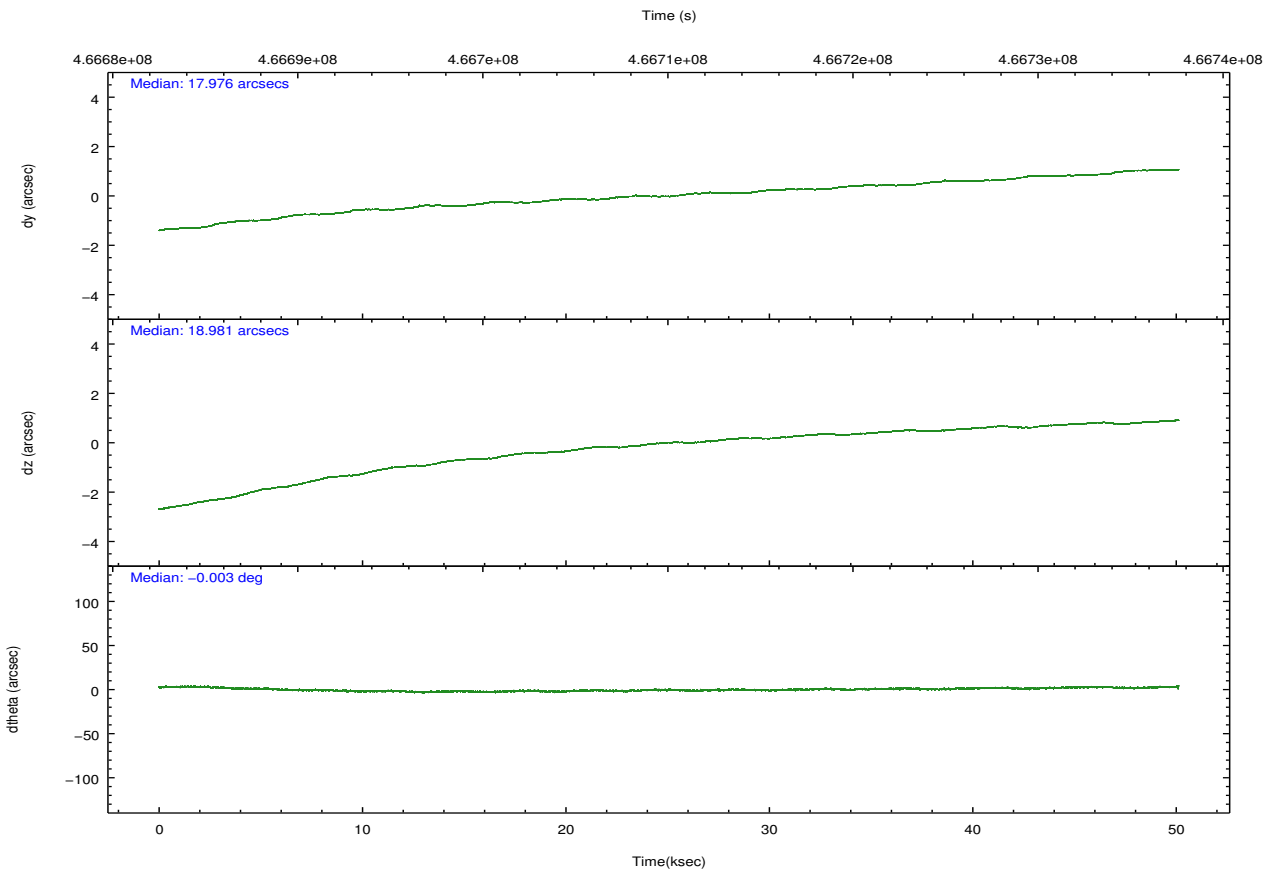
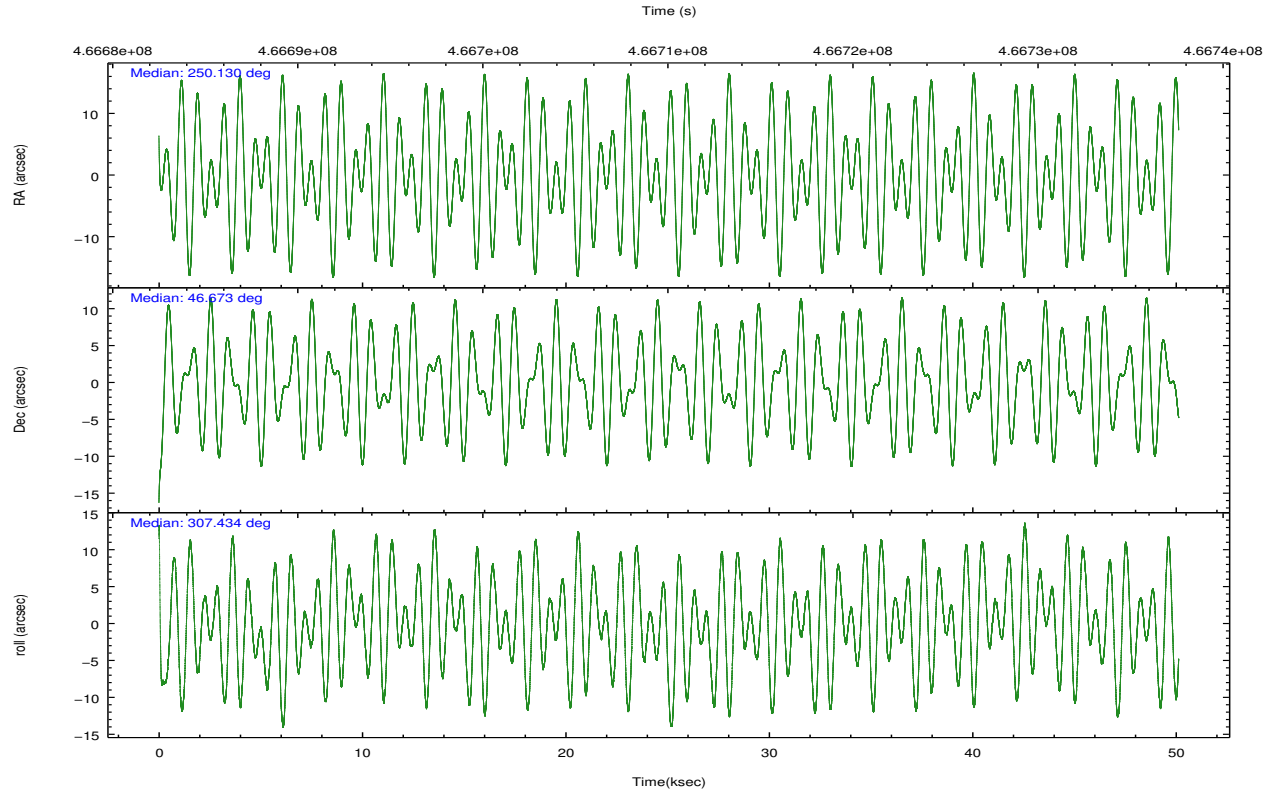
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	11634	14179	15349	71960	10524
	5%	5%	5%	22%	4%
grade 1 events	132	129	184	412	129
	0%	0%	0%	0%	0%
grade 2 events	7545	8462	7512	14304	6852
	3%	3%	2%	4%	2%
grade 3 events	3171	3420	3131	5282	3123
	1%	1%	1%	1%	1%
grade 4 events	2935	3395	3131	5443	3052
	1%	1%	1%	1%	1%
grade 5 events	11807	12421	11180	13408	12675
	5%	5%	4%	4%	5%
grade 6 events	6183	7258	5975	8124	6845
	2%	3%	2%	2%	2%
grade 7 events	183880	190432	211390	203966	209034
	80%	79%	81%	63%	82%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-01236	ACIS-01236	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	Y	Y
Observation mode	POINTING	POINTING	CCD I1 on	Y	Y
[deg] Pointing RA	250.092646	250.1297262634732	CCD I2 on	Y	Y
[deg] Pointing Dec	46.683434	46.67299459687811	CCD I3 on	Y	Y
[deg] Pointing Roll	307.256684	307.4384020762051	CCD S0 on	N	N
[mm] SIM focus pos	-0.782348	-0.7809083437167272	CCD S1 on	N	N
[mm] SIM defocus	0	0.001439871863259334	CCD S2 on	O1	Y
[mm] SIM translation stage pos	-226.292463	-226.2883771404	CCD S3 on	N	N
[mm] SIM translation stage offset	-7.3	-7.304075862529686	CCD S4 on	N	N
[s] Observation start time (MET)	466685113.184000	466683789.33082	CCD S5 on	N	N
Observation start date	2012-10-15T10:44:06	2012-10-15T10:23:09	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	466735113.184000	466736015.13362	On-chip summing requested	N	N
Observation end date	2012-10-16T00:37:26	2012-10-16T00:53:35	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect





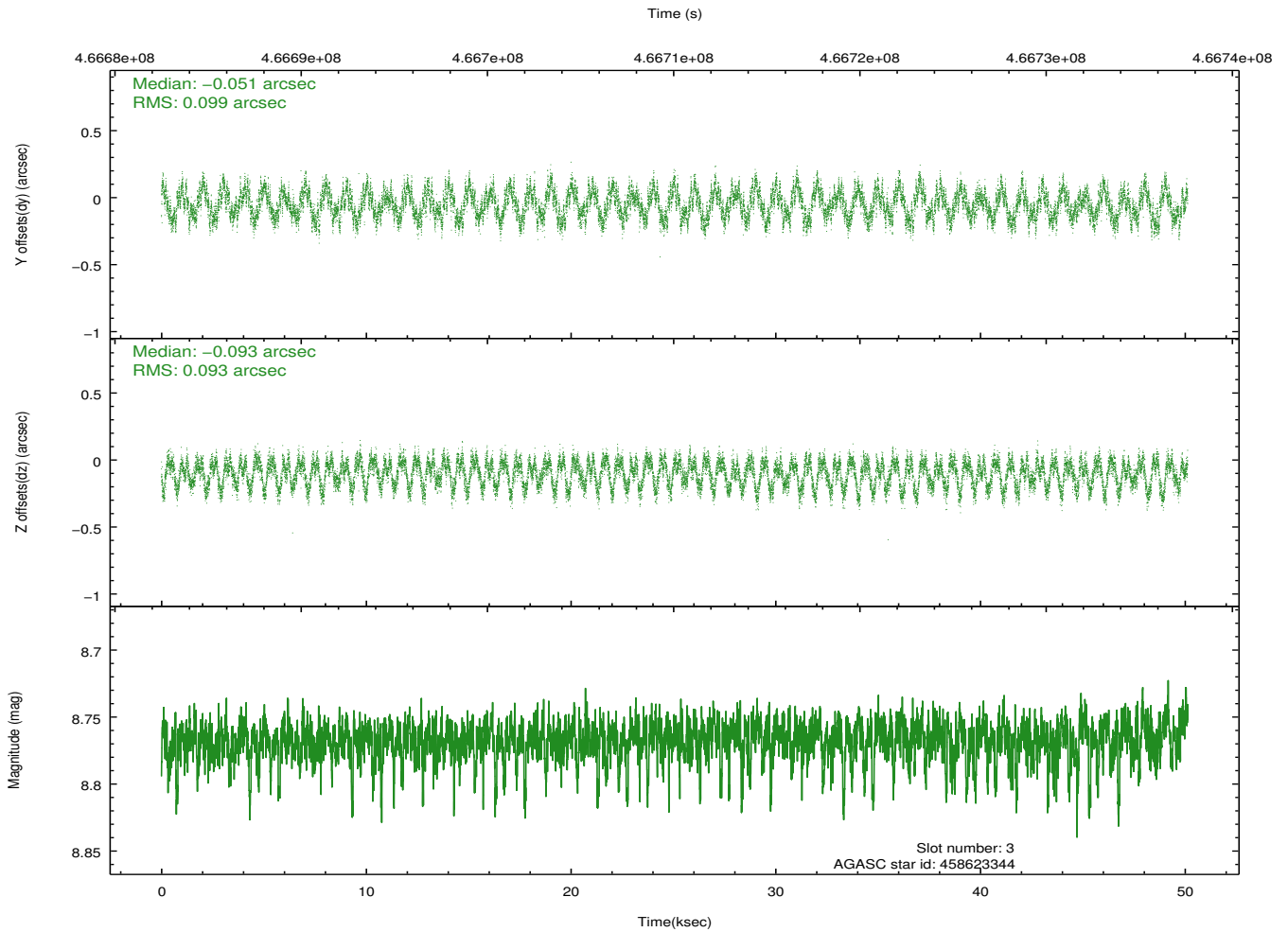
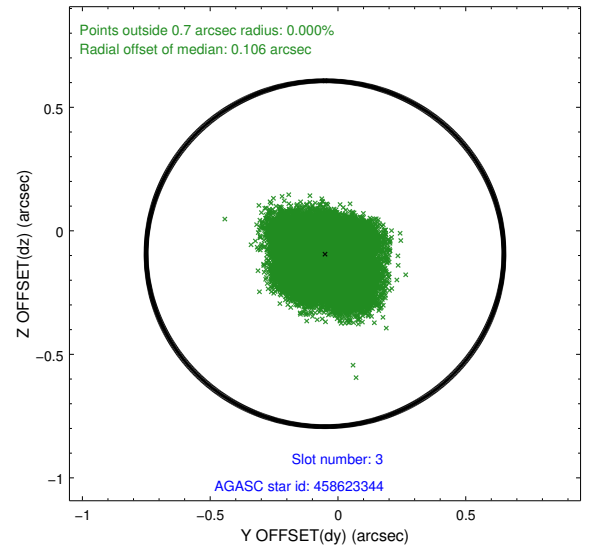
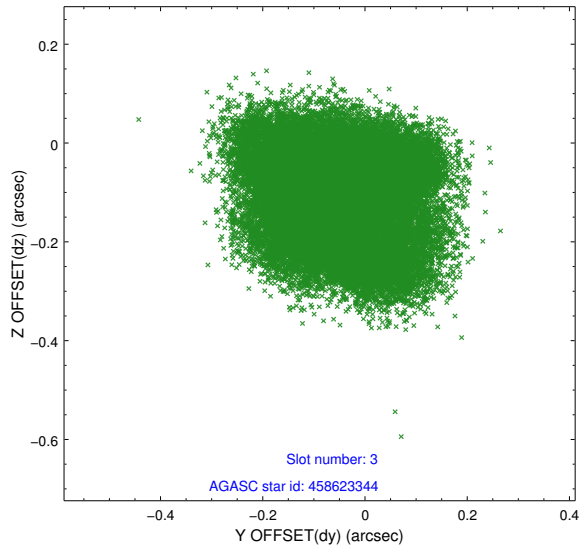
### Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.06	12227	0.114	-0.056	0.027	0.040	0.000000	0.000000	921.42	-992.33
1	FID		ACIS-I-5	7.05	12226	-0.325	0.087	0.029	0.047	0.000000	0.000000	-1827.19	905.23
2	FID		ACIS-I-6	7.07	12227	0.121	0.043	0.016	0.066	0.000000	0.000000	386.91	1549.72
3	GUIDE	used	458623344	8.77	24443	-0.051	-0.093	0.149	0.219	250.330399	47.465003	-1889.77	2164.97
4	GUIDE	used	458623752	7.89	24451	-0.052	0.219	0.072	0.117	249.631548	46.393849	134.34	-1539.78
5	GUIDE	used	458626288	8.93	24405	0.022	-0.053	0.096	0.158	250.637186	47.079533	-330.33	1928.34
6	GUIDE	used	458626368	8.16	24444	-0.016	-0.016	0.088	0.148	249.060506	46.794229	-1870.33	-1773.02
7	GUIDE	used	458634664	9.22	24334	0.110	-0.046	0.113	0.177	251.009501	46.332103	2375.66	1056.70

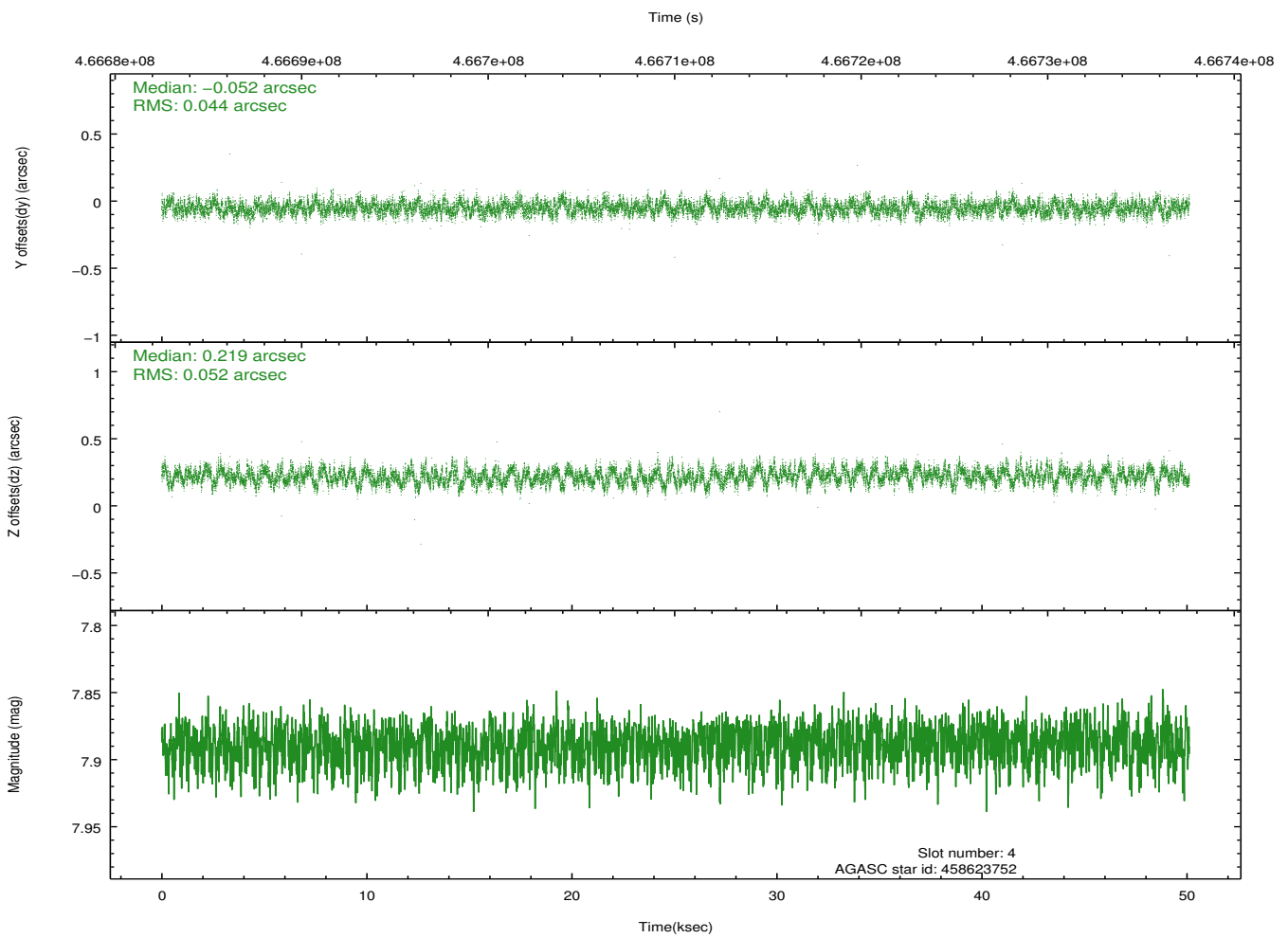
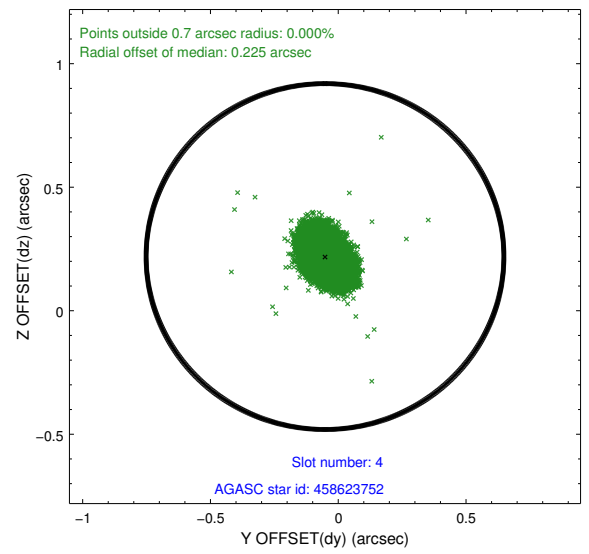
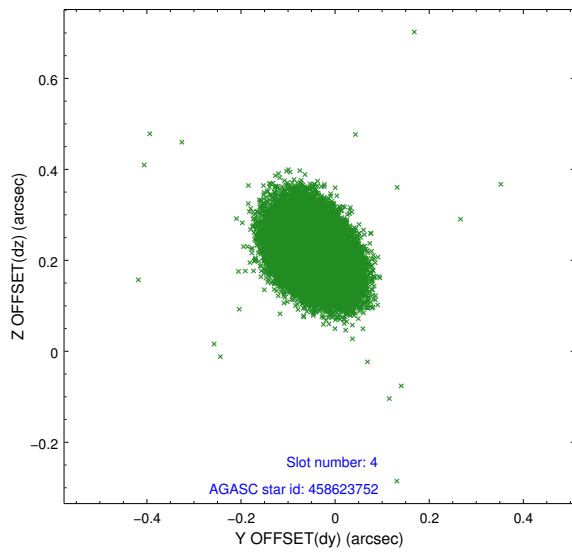
∞

## 2.4 Star Slots

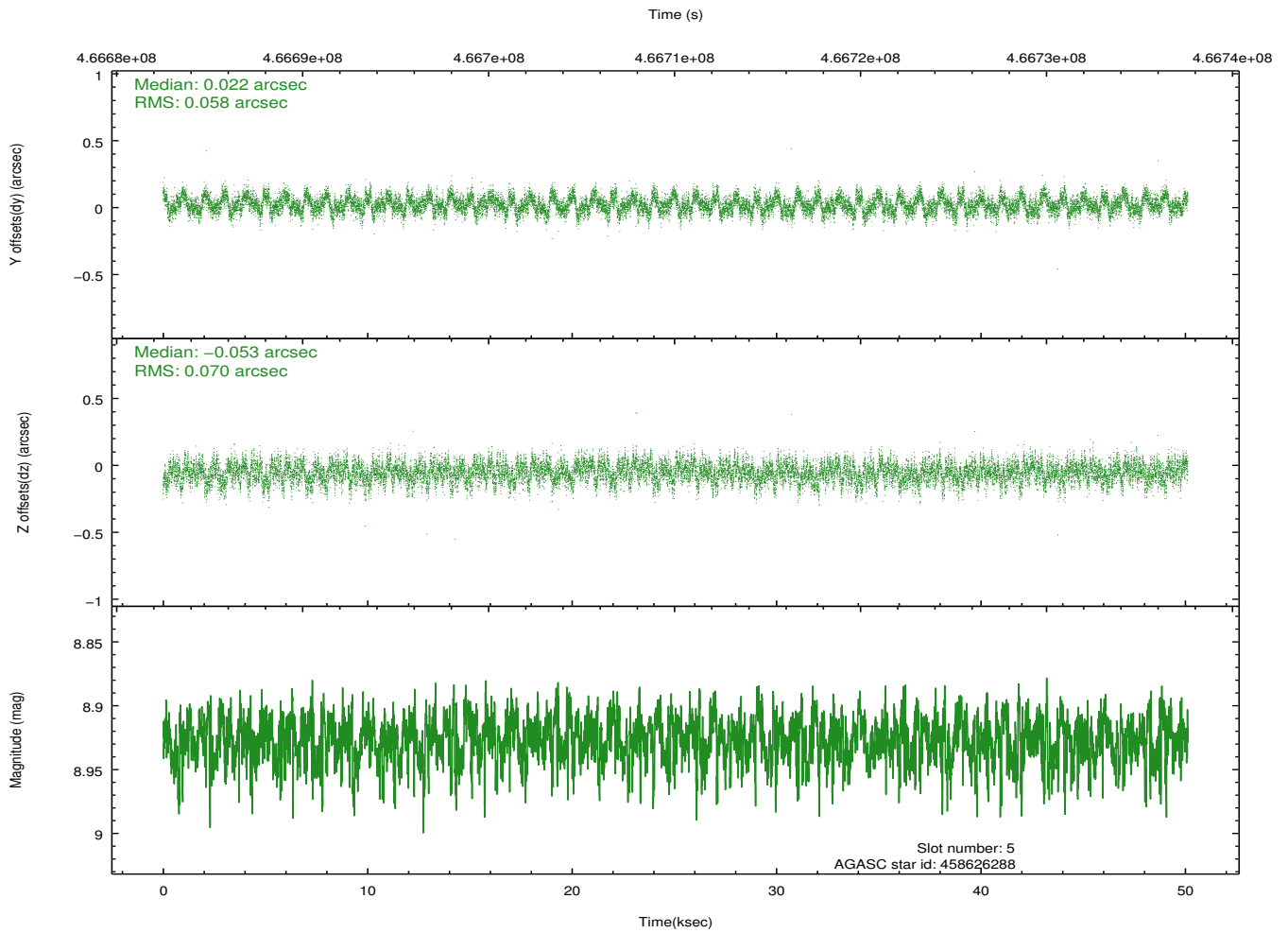
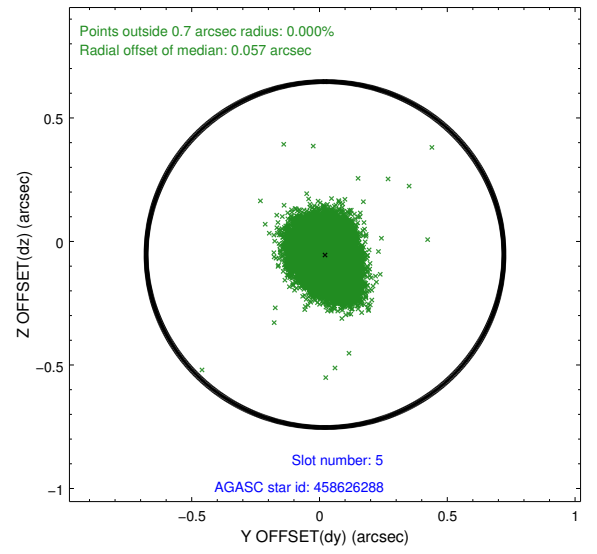
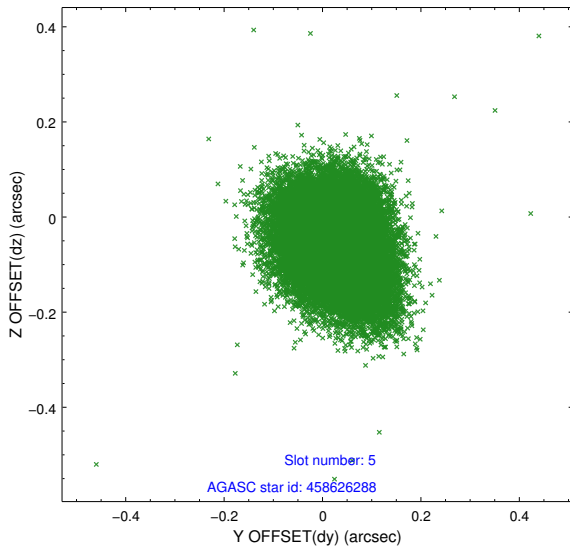
### 2.4.1 Slot 3



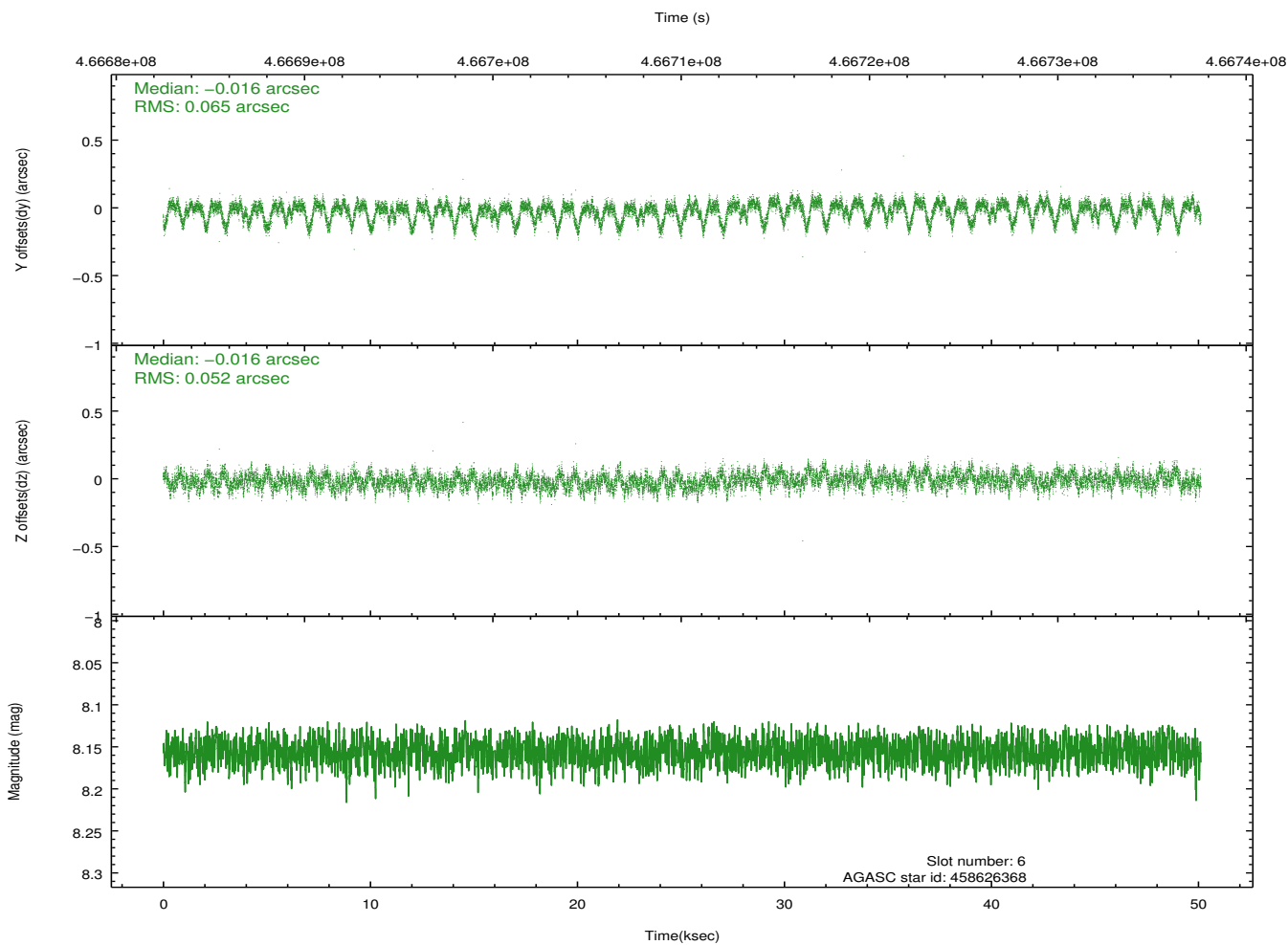
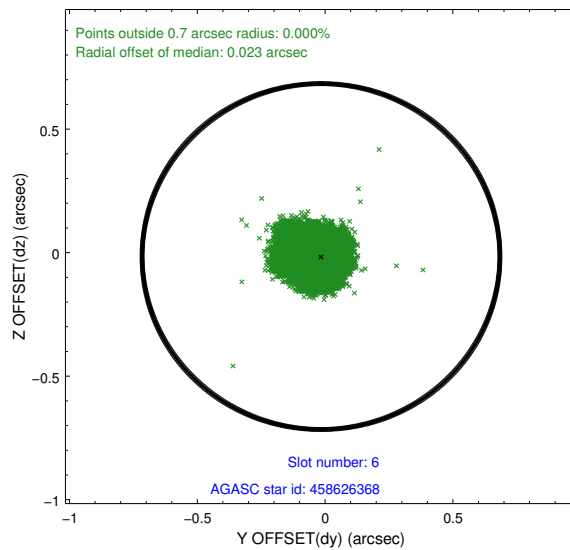
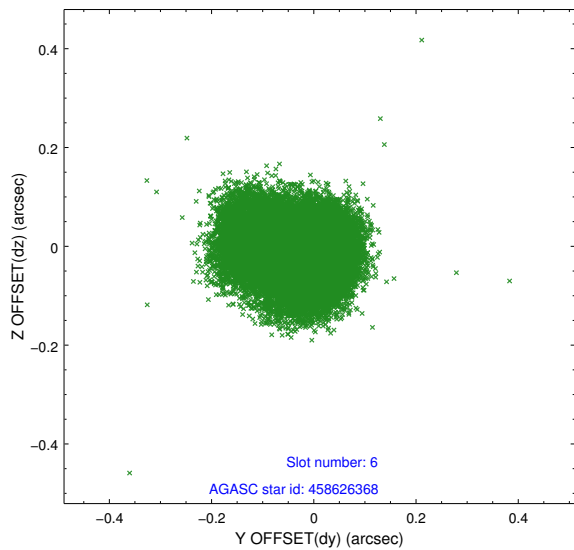
## 2.4.2 Slot 4



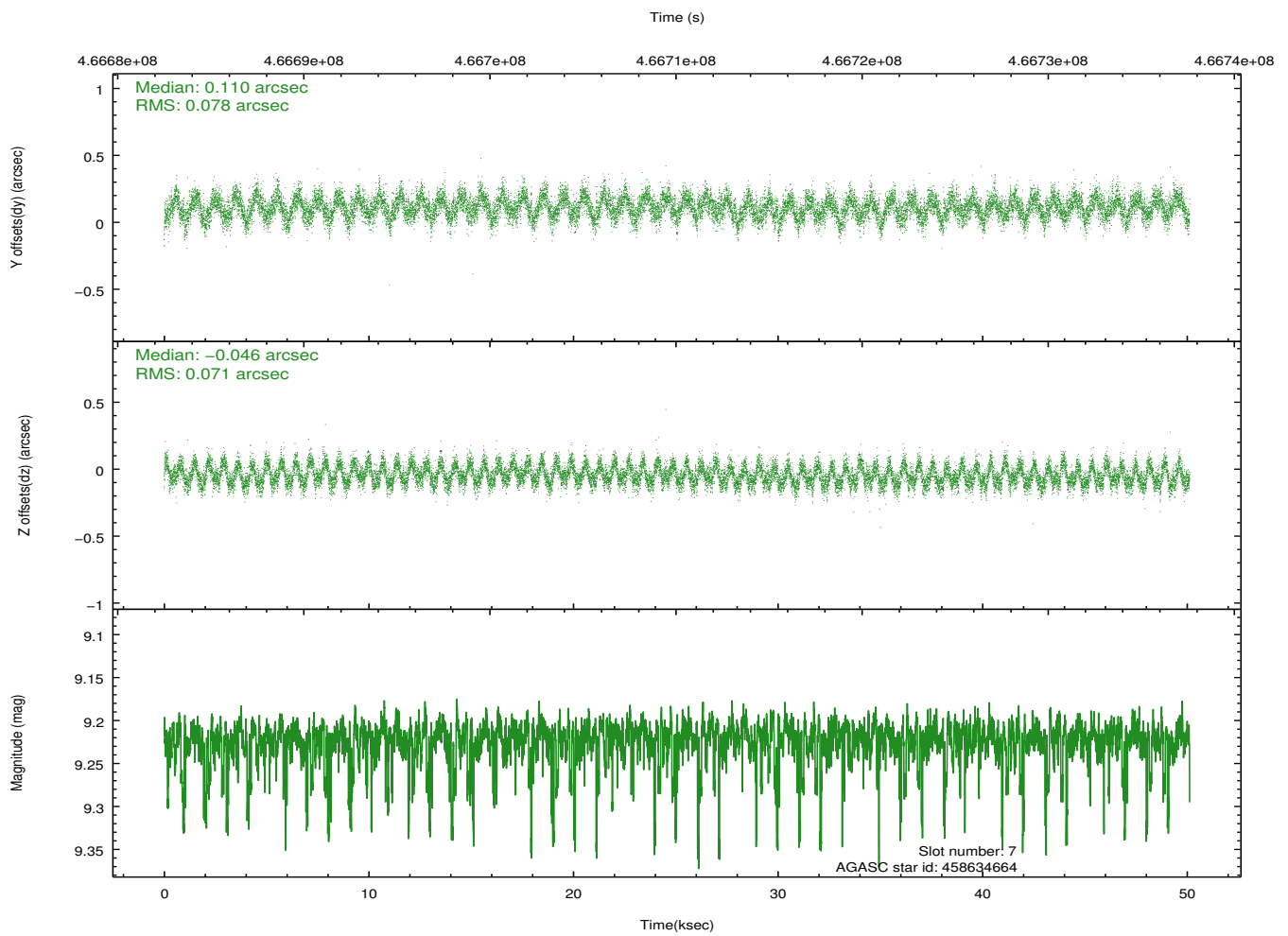
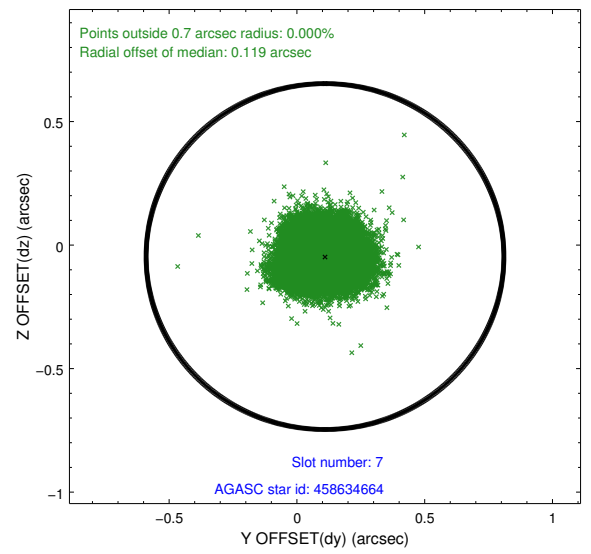
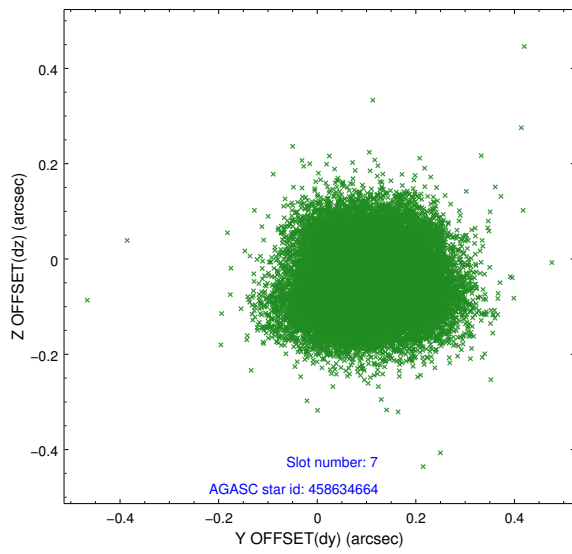
### 2.4.3 Slot 5



### 2.4.4 Slot 6

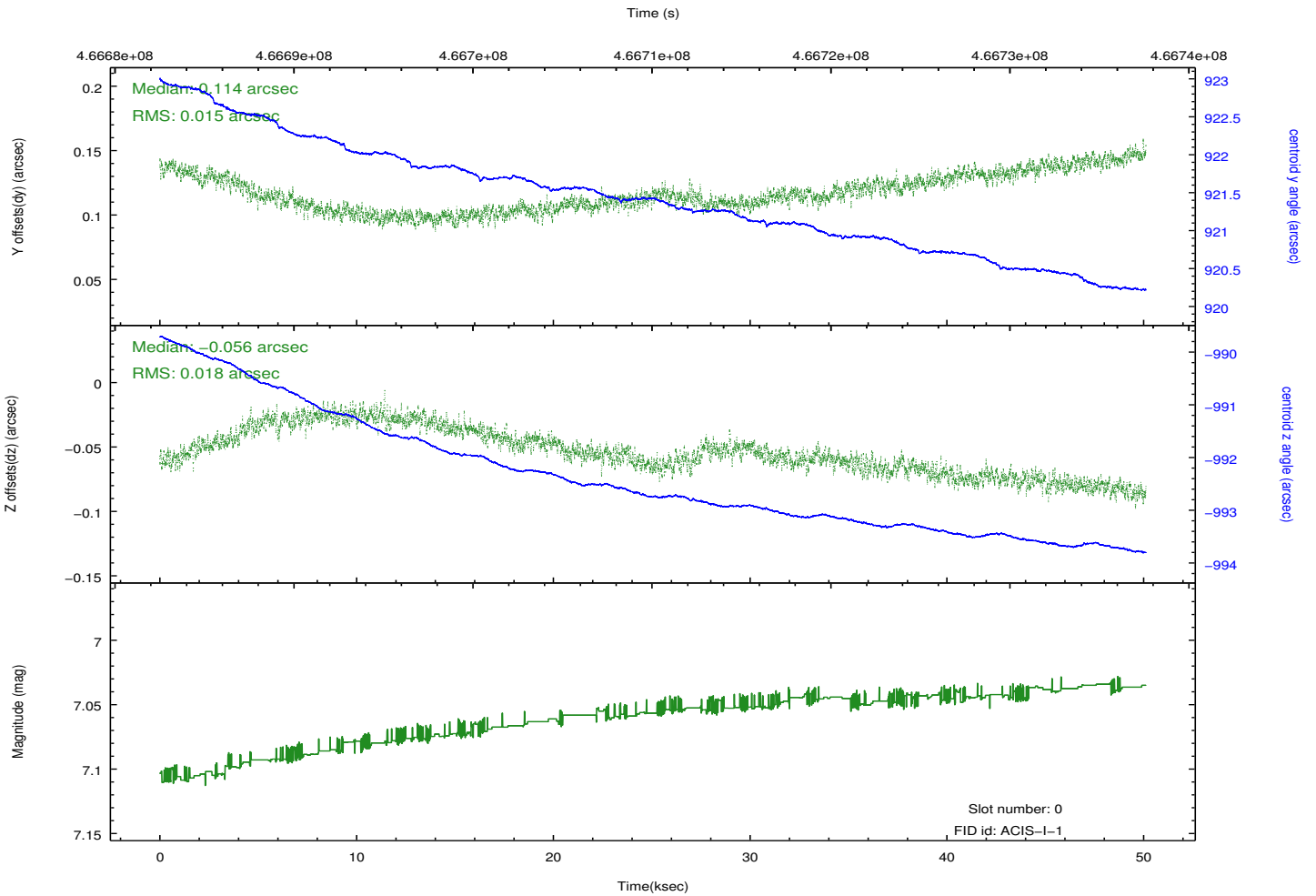
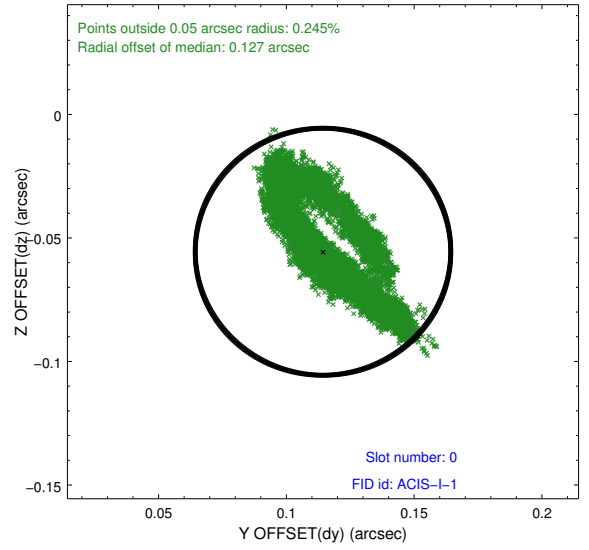
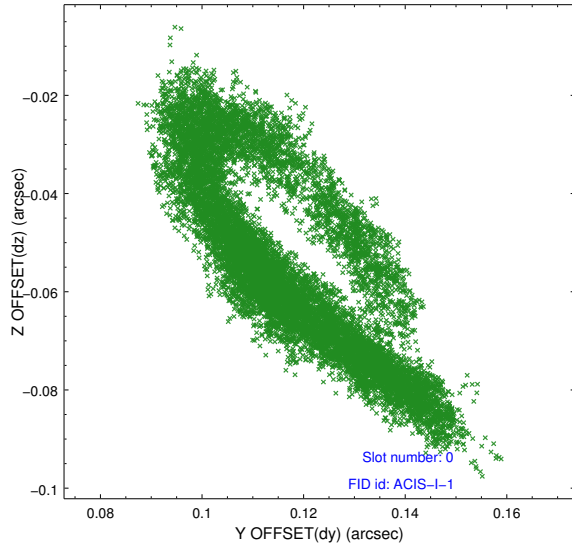


## 2.4.5 Slot 7

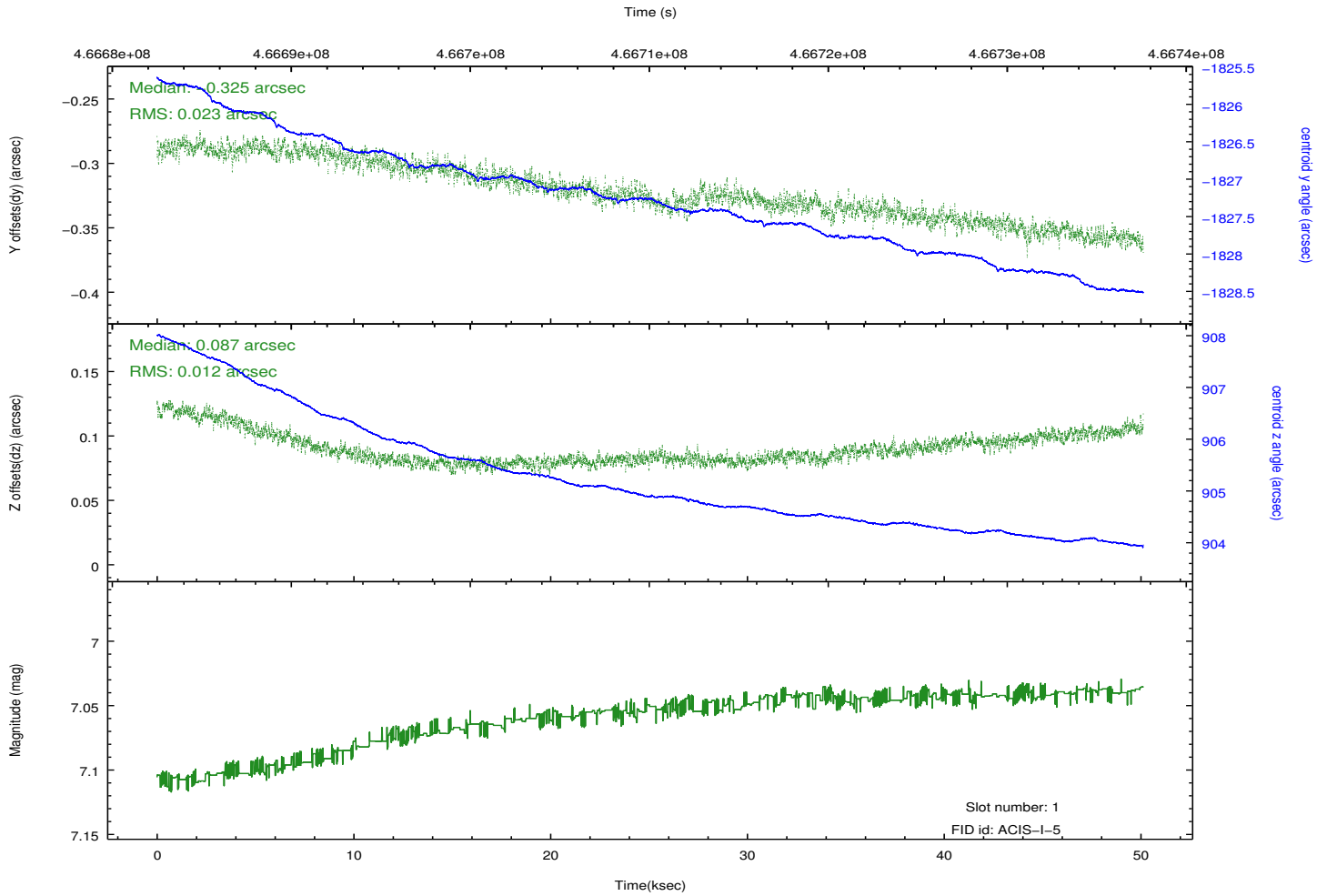
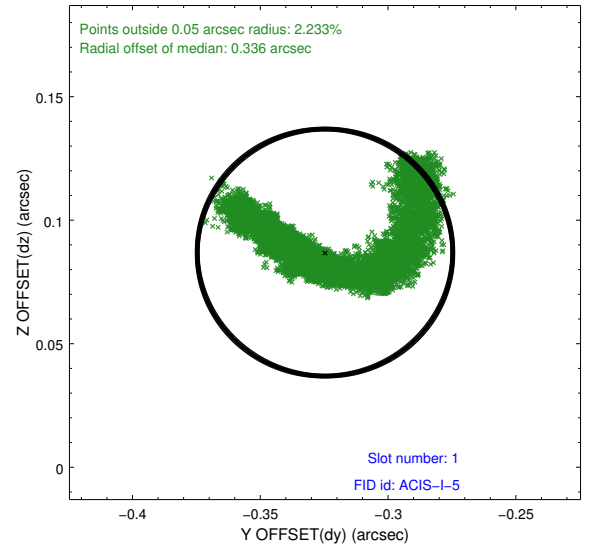
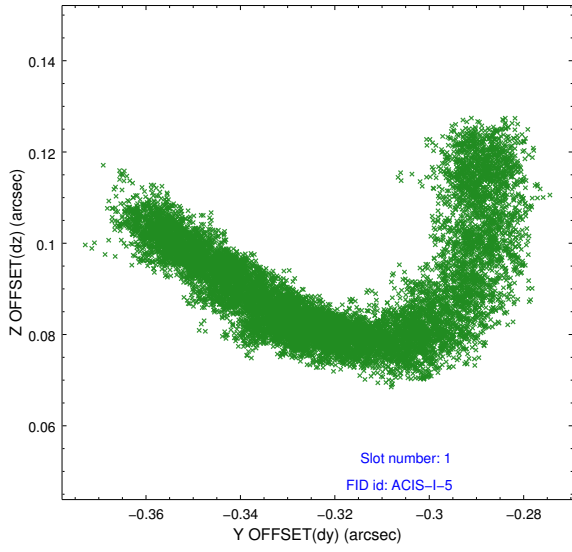


## 2.5 FID Slots

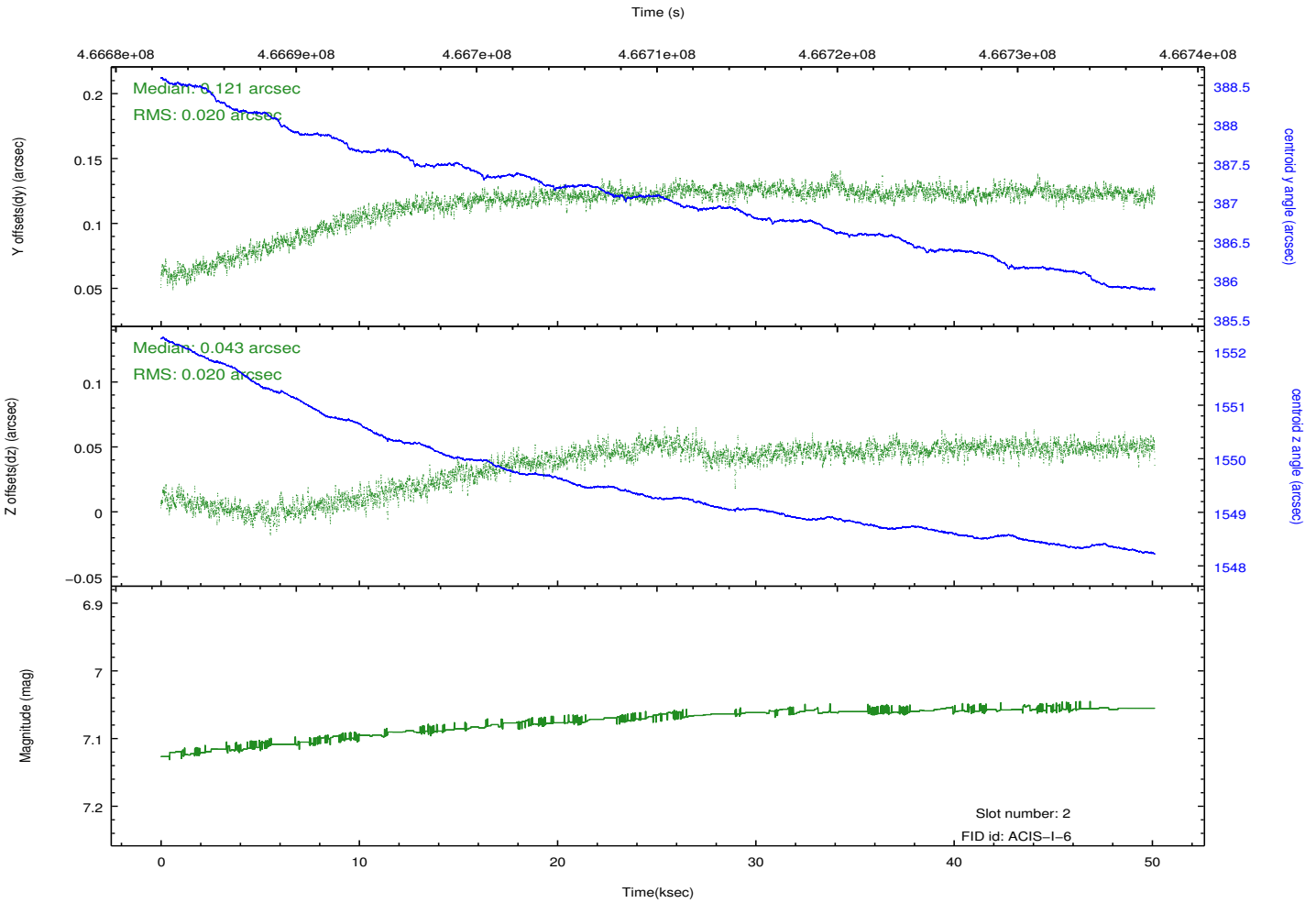
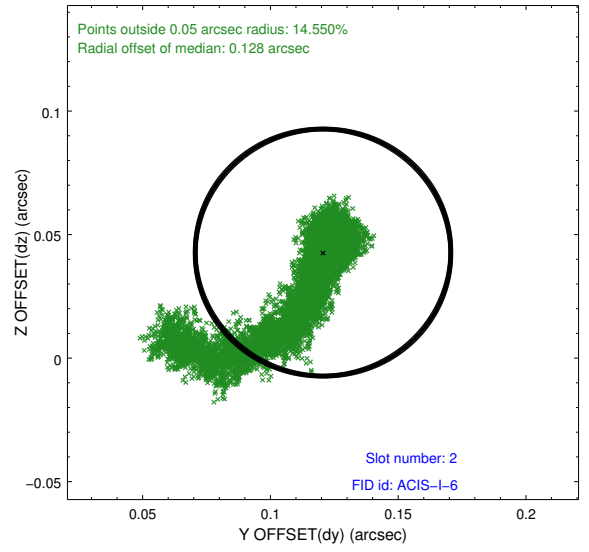
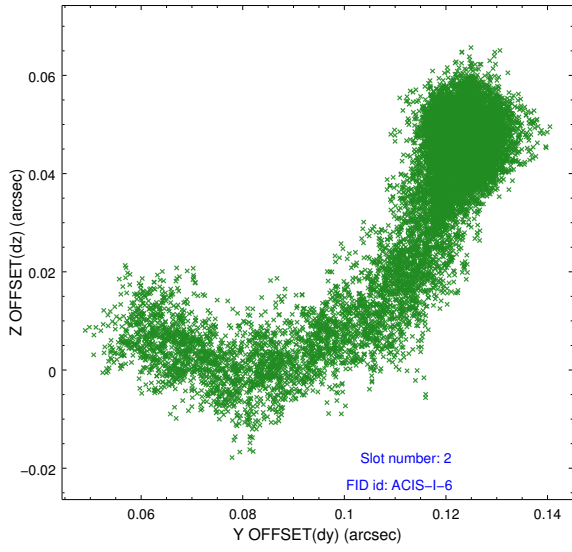
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2014.12.02
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	50.083600385189

## A.2 Comments

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.