

# V&V Reference Report

## L2 ASCDS Version : 8.5.1.1

Observation 15372 - L2 Version 2  
Chandra X-Ray Center

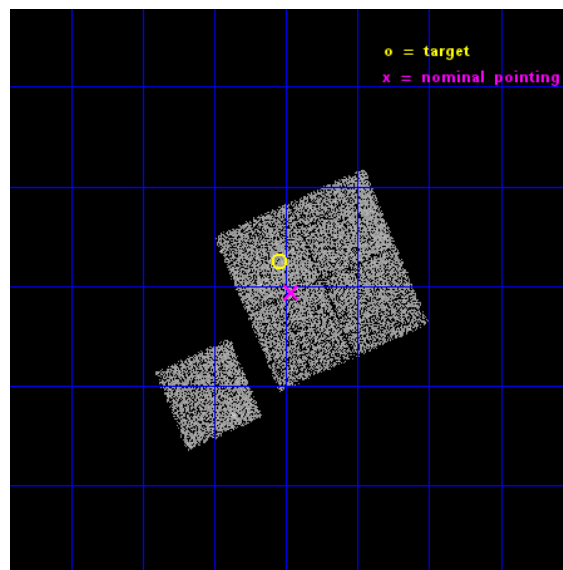
L2 Processing Date : Dec 2 2014

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# 1 Front

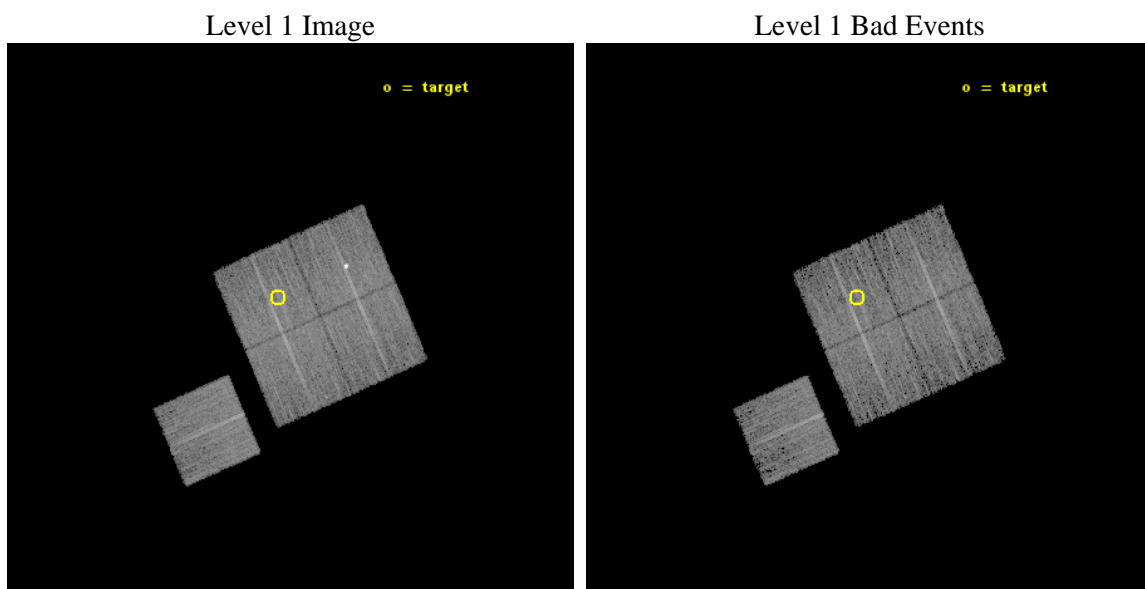
seq_num	801362	Sequence number
obs_id	15372	Observation id
title	A Search for Cool Cores in a Sample of $z = 0.4$ Galaxy Clusters	Pro
observer	Professor Gordon Garmire	Principal investigator
object	GMBCG J178.26065+01.04053	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	178.26	Observer's specified target RA [deg]
dec_targ	1.0405	Observer's specified target Dec [deg]
ra_nom	178.2403264728	Nominal RA [deg]
dec_nom	0.98977310244057	Nominal Dec [deg]
roll_nom	246.47741649958	Nominal Roll [deg]
revision	2	Processing version of data
ontime	10081.049127638	Sum of GTIs [s]
livetime	9949.3327992253	Livetime [s]
ontime0	10080.926007628	Sum of GTIs [s]
ontime1	10080.967047632	Sum of GTIs [s]
ontime2	10081.008087635	Sum of GTIs [s]
ontime3	10081.049127638	Sum of GTIs [s]
ontime6	10080.884967625	Sum of GTIs [s]
l2events	26523	Number of level 2 events



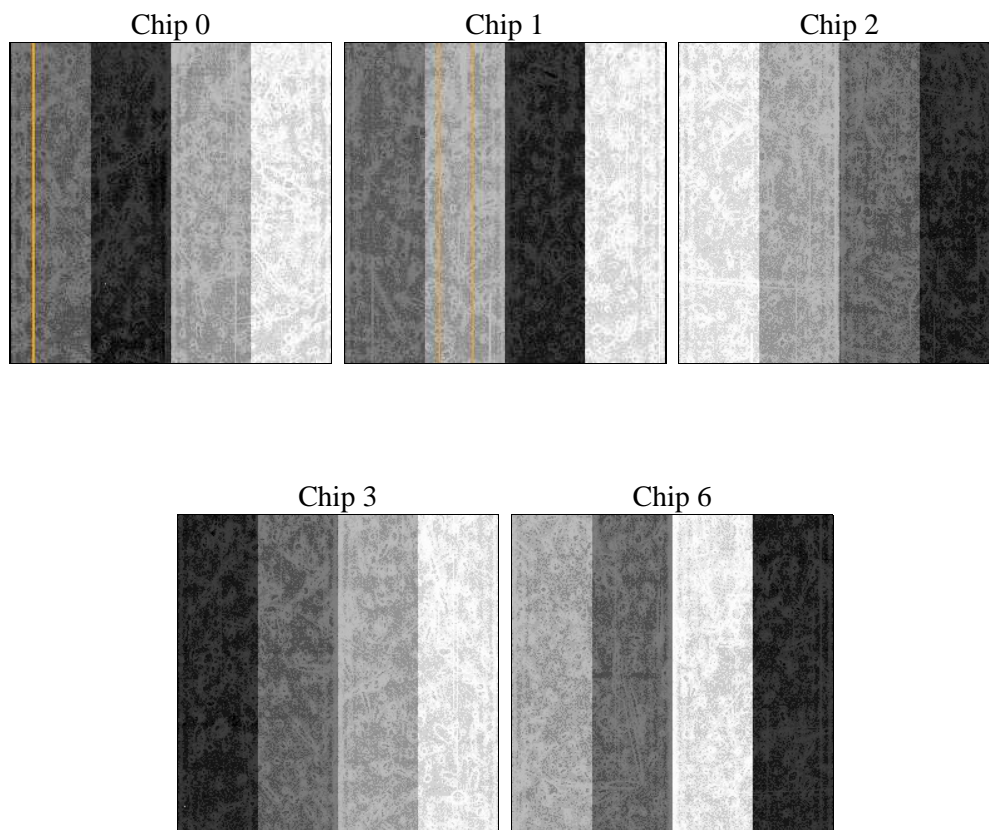
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	10000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	10081.049127638	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime0	10080.926007628	Sum of GTIs [s]
date	2014-12-02T21:51:38	Date and time of file creation	ontime1	10080.967047632	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	10081.008087635	Sum of GTIs [s]
			ontime3	10081.049127638	Sum of GTIs [s]
			ontime6	10080.884967625	Sum of GTIs [s]
			l1events	266026	Number of level 1 events

### 2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	50360	57739	52097	52306	53524
rejected events	44308	44627	46186	46160	47264
rejected %	87%	77%	88%	88%	88%

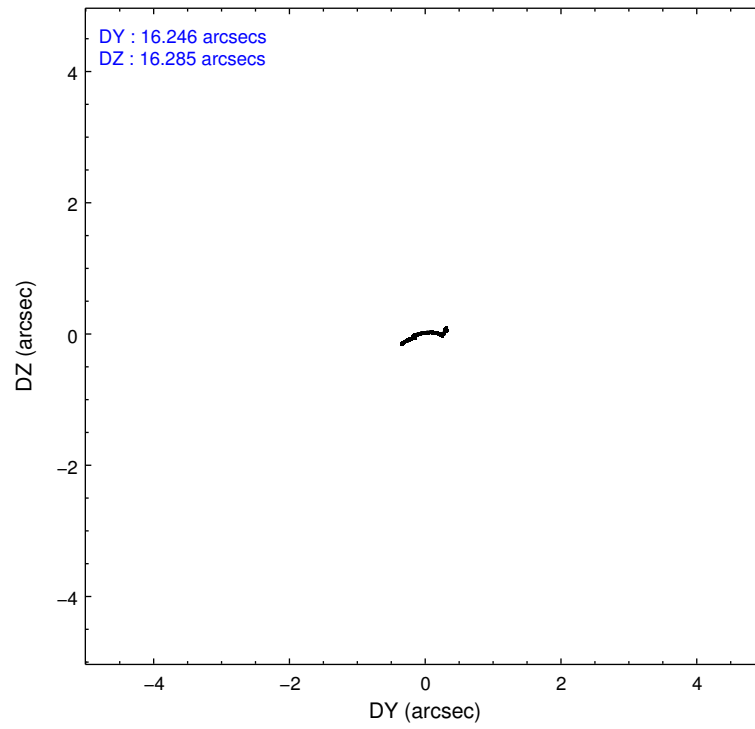
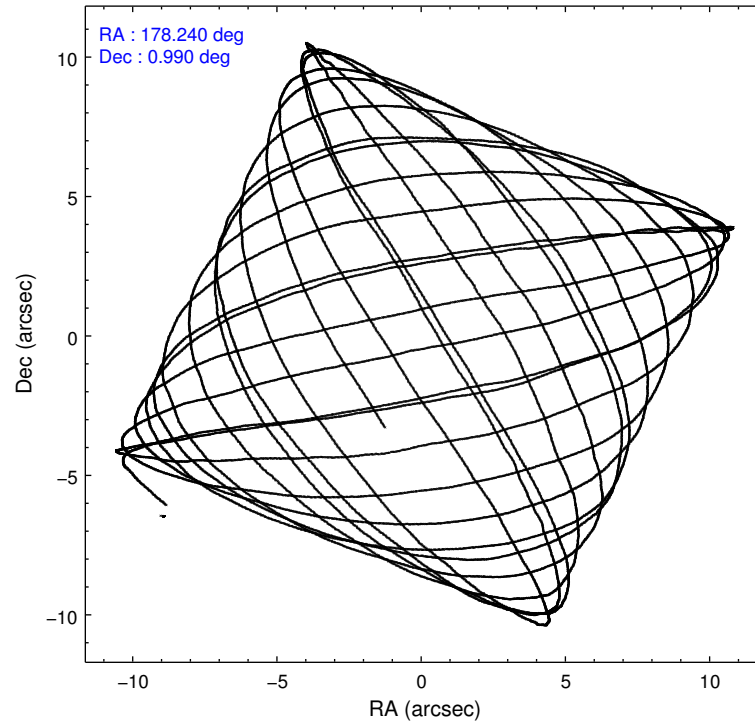
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	2023	2309	2104	2252	2173
	4%	3%	4%	4%	4%
grade 1 events	17	22	35	37	20
	0%	0%	0%	0%	0%
grade 2 events	1466	7883	1416	1268	1366
	2%	13%	2%	2%	2%
grade 3 events	667	682	598	680	649
	1%	1%	1%	1%	1%
grade 4 events	613	679	604	673	624
	1%	1%	1%	1%	1%
grade 5 events	2439	2530	2282	2899	2657
	4%	4%	4%	5%	4%
grade 6 events	1294	1568	1191	1276	1458
	2%	2%	2%	2%	2%
grade 7 events	41841	42066	43867	43221	44577
	83%	72%	84%	82%	83%

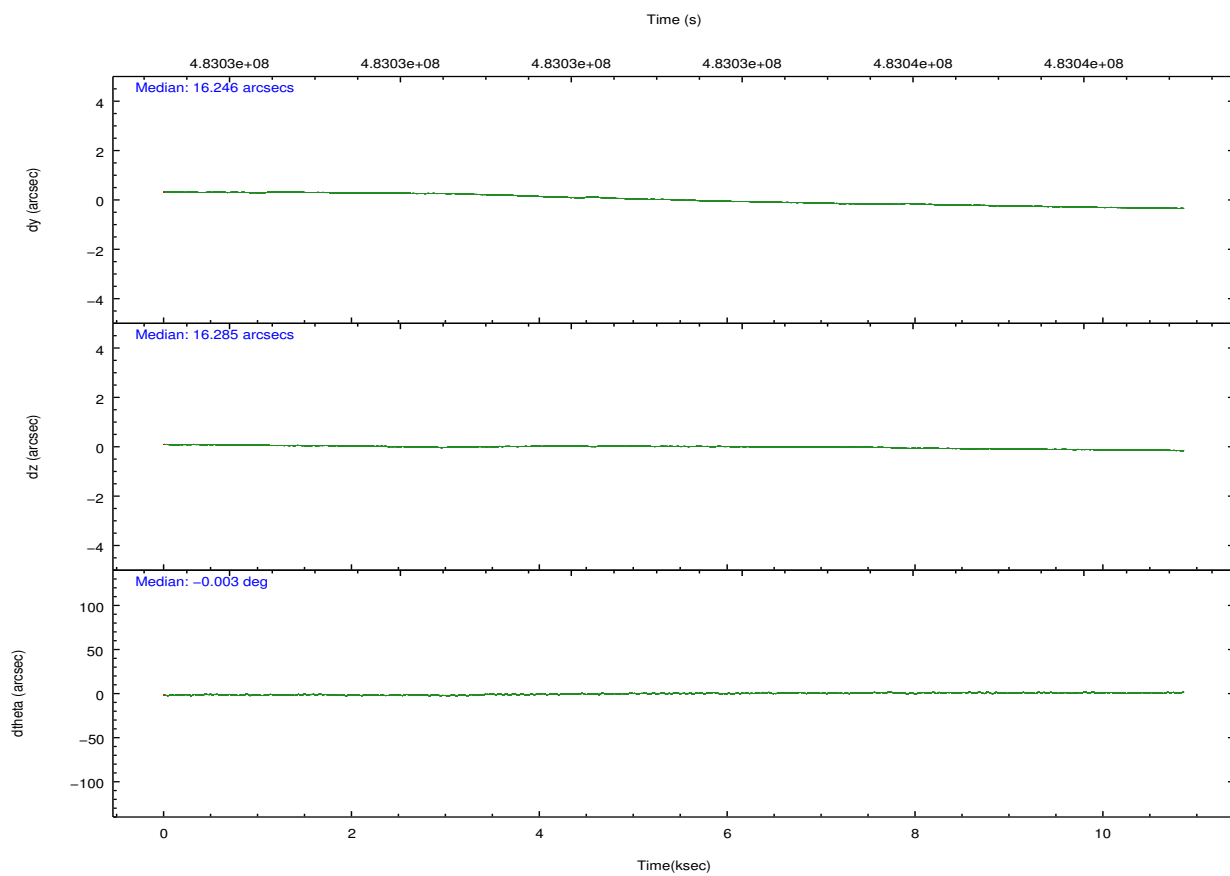
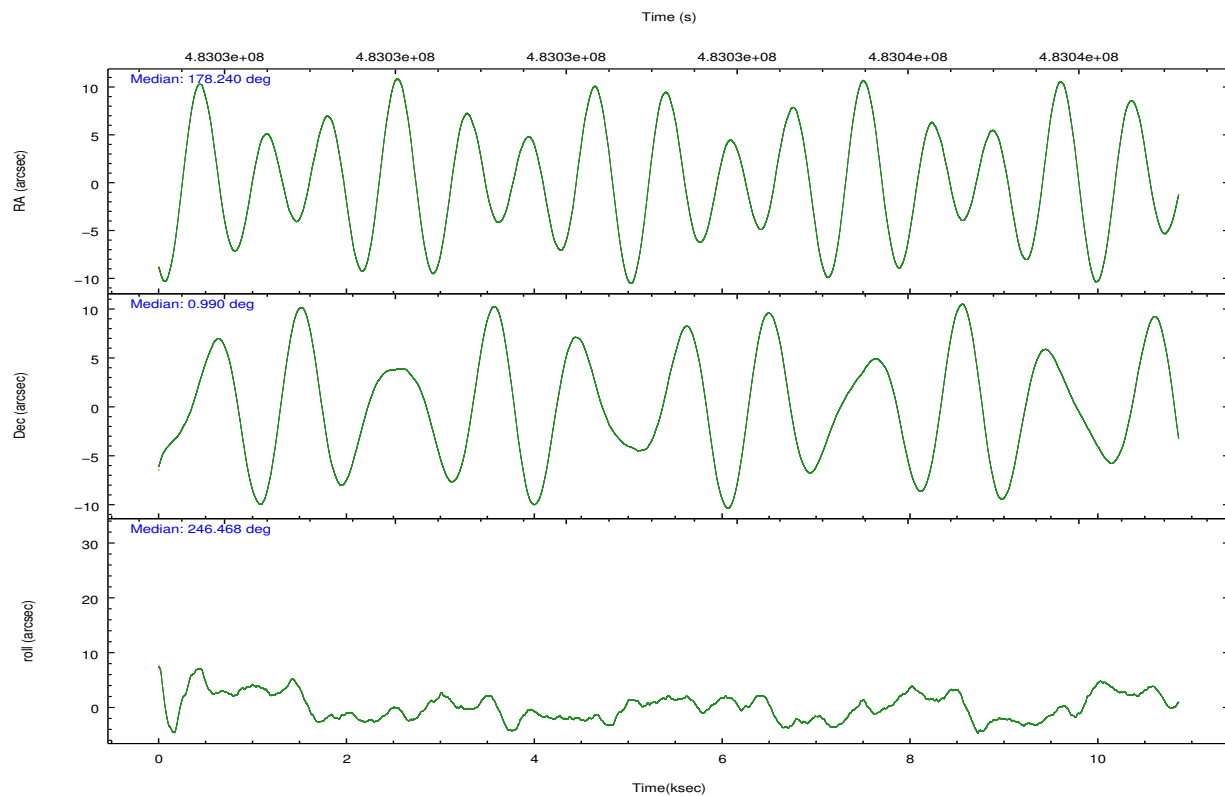


## 2.2 Compared Parameters

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	178.237134	178.2403264727976	CCD I2 on	Y	Y
[deg] Pointing Dec	1.017052	0.9897731024405689	CCD I3 on	Y	Y
[deg] Pointing Roll	246.268789	246.477416499583	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	-225.842463	-225.8433433320239	CCD S3 on	N	N
[mm] SIM translation stage offset	-7.75	-7.749109670905796	CCD S4 on	N	N
[s] Observation start time (MET)	483028637.184000	483027251.21229	CCD S5 on	N	N
Observation start date	2013-04-22T14:36:10	2013-04-22T14:14:11	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	483038637.184000	483039513.80045	On-chip summing requested	N	N
Observation end date	2013-04-22T17:22:50	2013-04-22T17:38:33	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



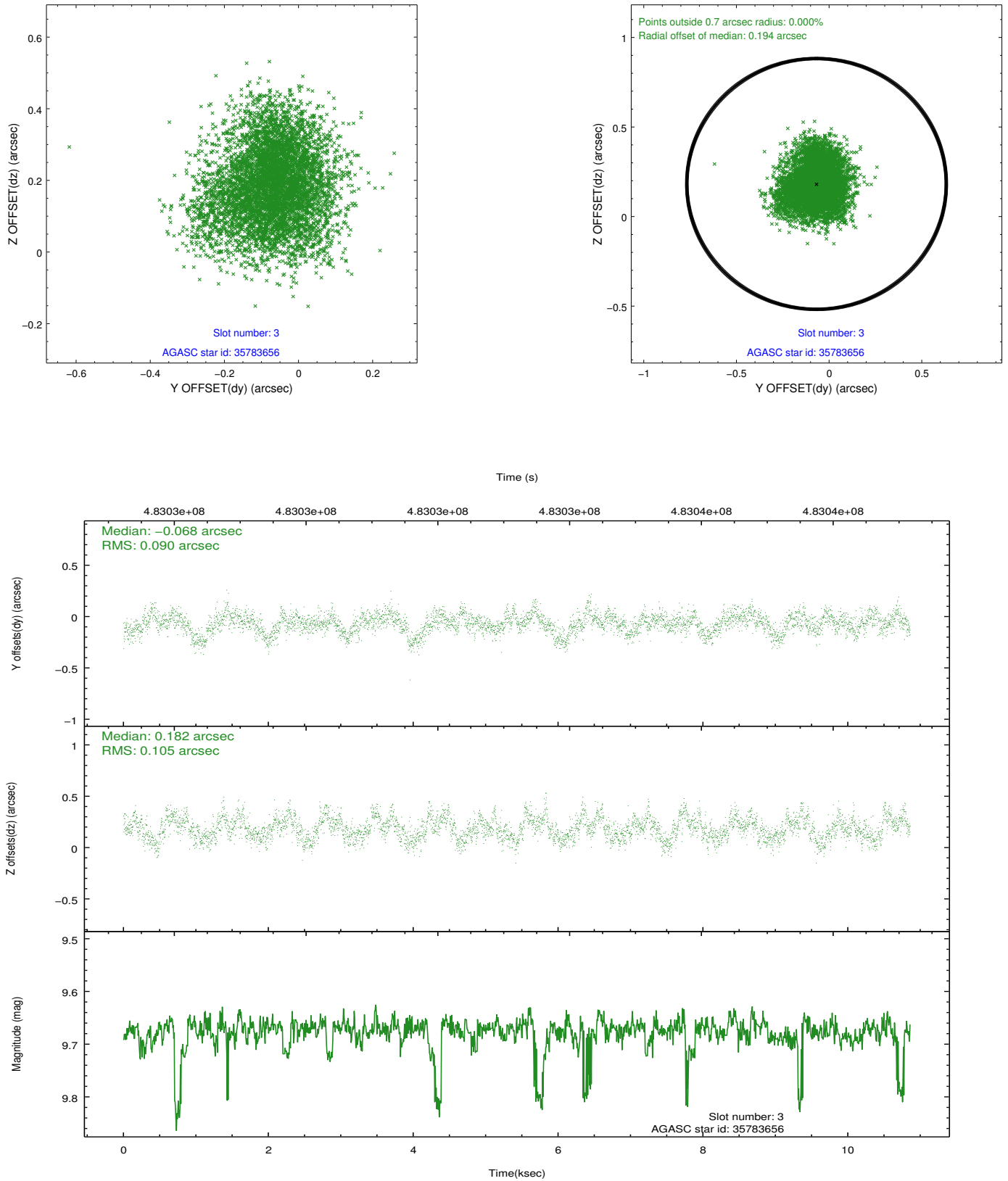


### Slot Statistics

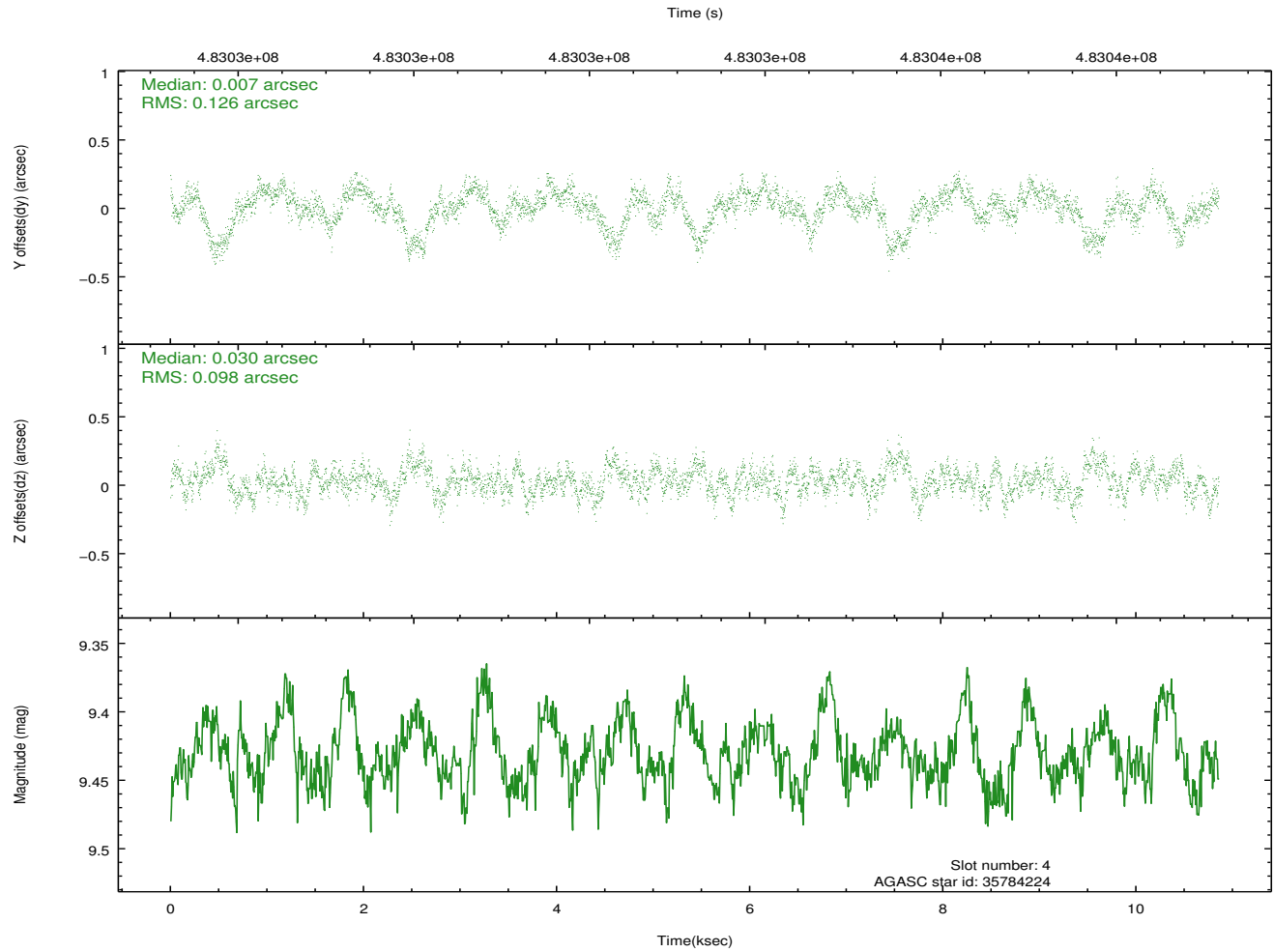
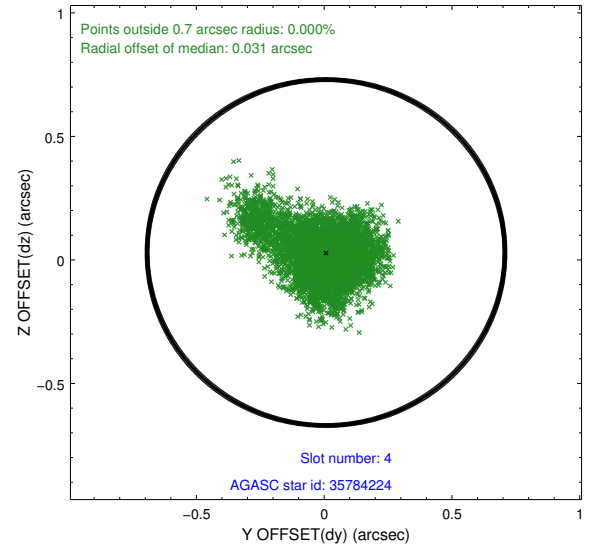
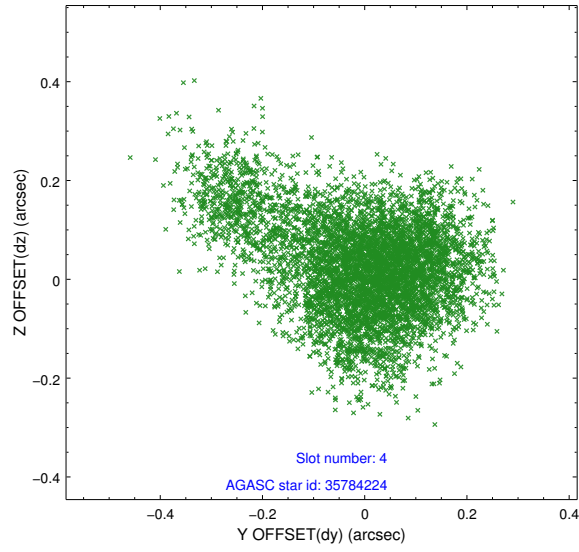
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.13	2649	0.163	-0.134	0.007	0.012	0.000000	0.000000	923.20	-999.10
1	FID		ACIS-I-5	7.12	2649	-0.308	0.127	0.007	0.011	0.000000	0.000000	-1825.15	898.30
2	FID		ACIS-I-6	7.12	2649	0.054	0.078	0.008	0.013	0.000000	0.000000	388.07	1543.34
3	GUIDE	used	35783656	9.68	5261	-0.068	0.182	0.149	0.233	178.538116	0.980270	-314.55	1045.16
4	GUIDE	used	35784224	9.43	5266	0.007	0.030	0.158	0.304	178.398190	1.076869	-430.35	443.59
5	GUIDE	used	35787624	6.66	5297	-0.222	0.040	0.084	0.124	178.459489	0.552116	1210.17	1406.19
6	GUIDE	used	35788008	9.40	5293	-0.036	0.269	0.117	0.190	177.612047	1.006805	940.03	-2044.27
7	GUIDE	used	35655264	10.04	5289	0.327	-0.518	0.191	0.341	177.442753	0.638880	2398.20	-2070.65

## 2.4 Star Slots

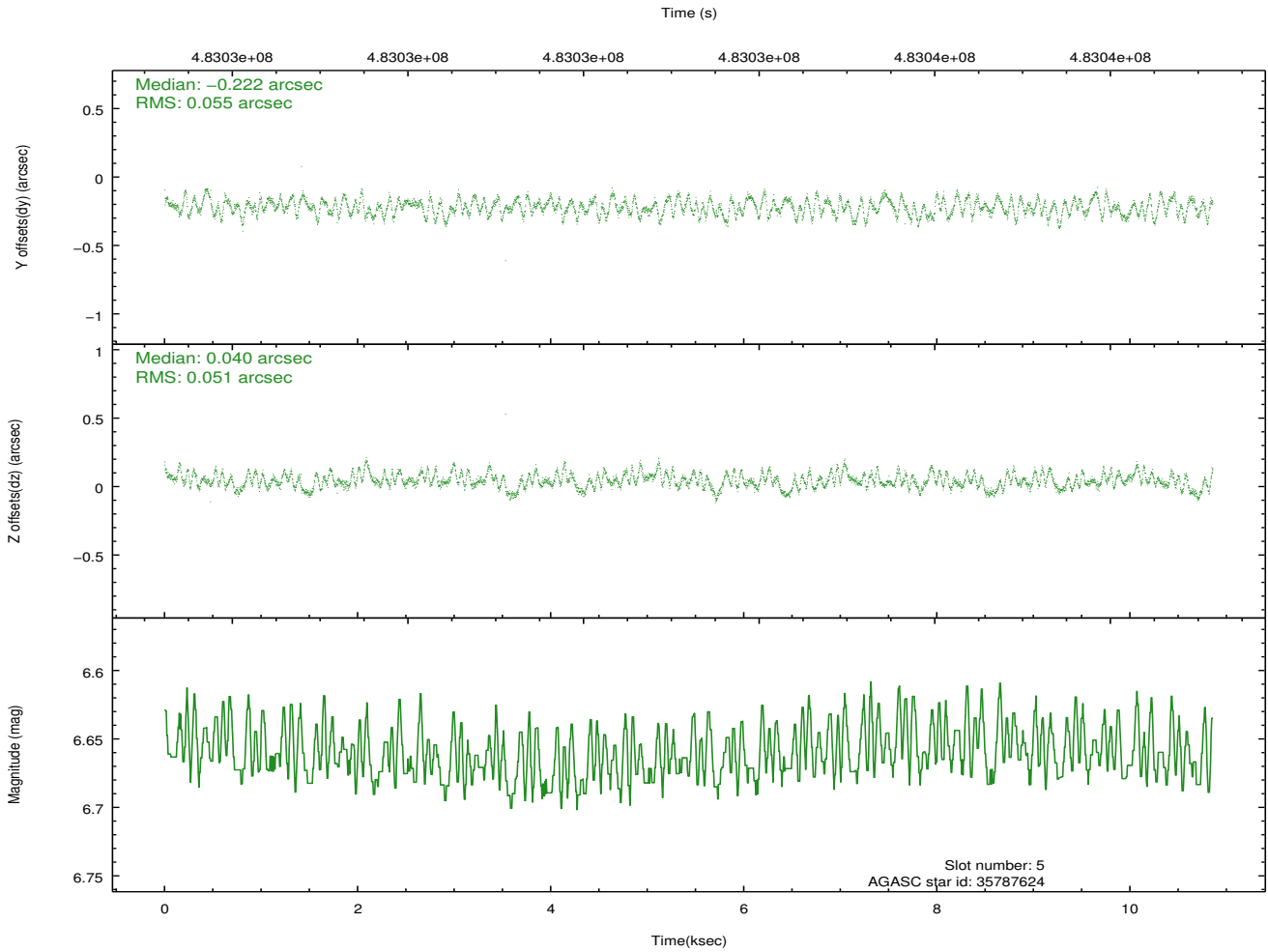
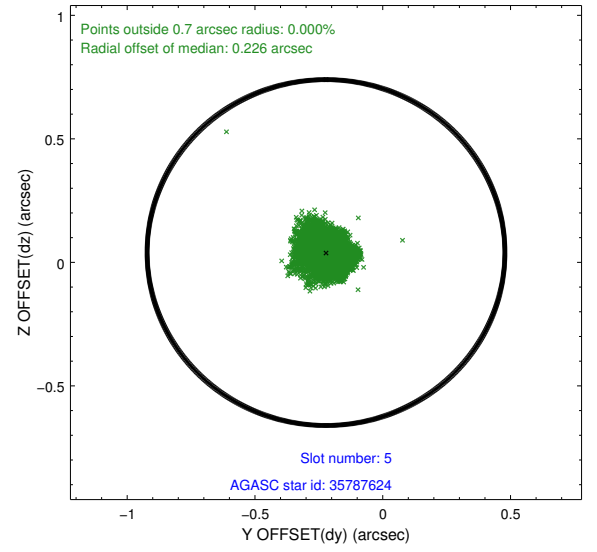
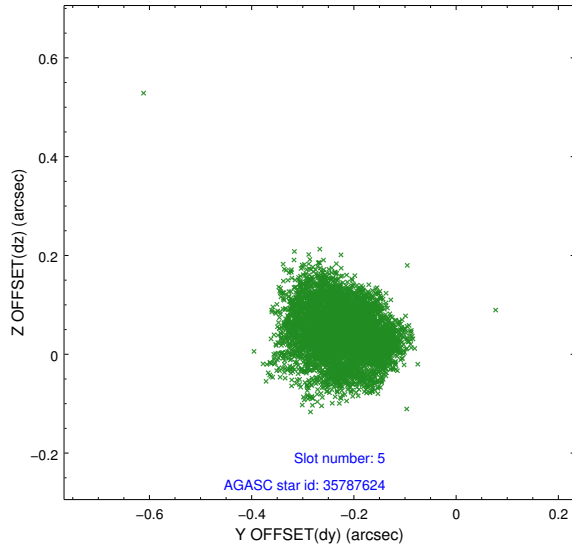
### 2.4.1 Slot 3



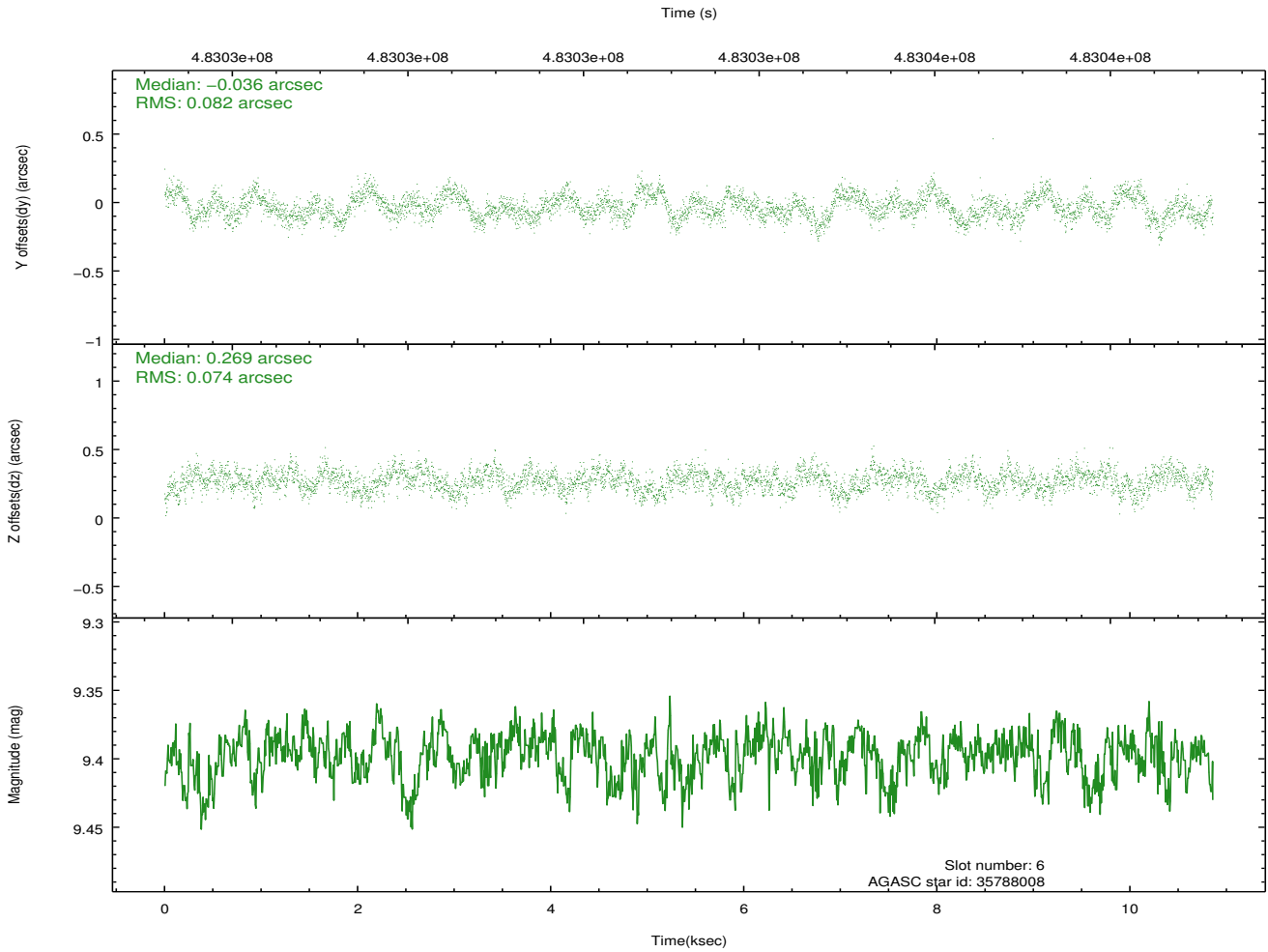
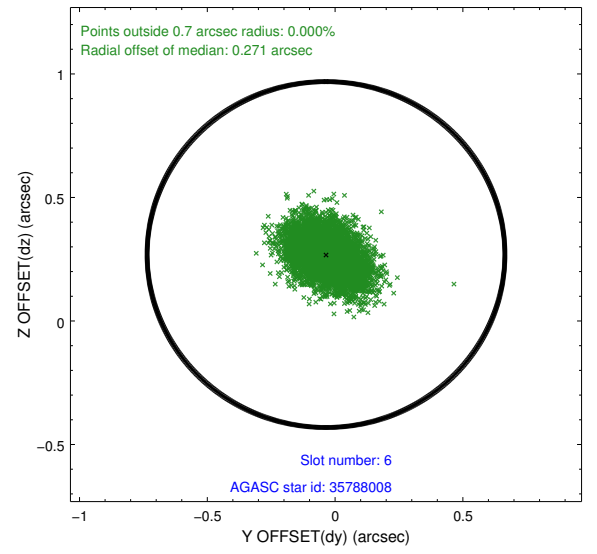
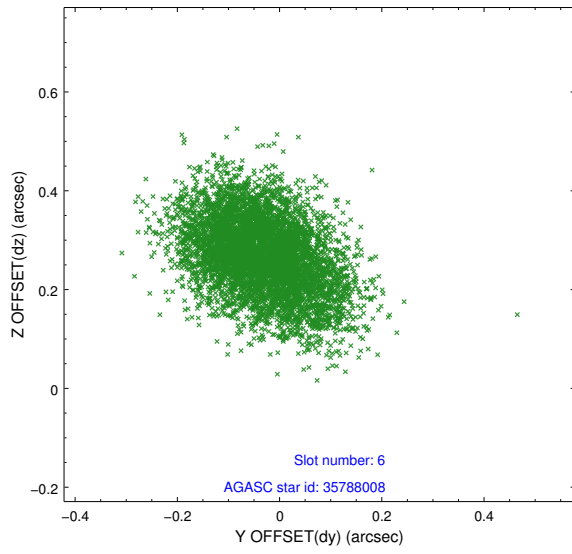
## 2.4.2 Slot 4



### 2.4.3 Slot 5

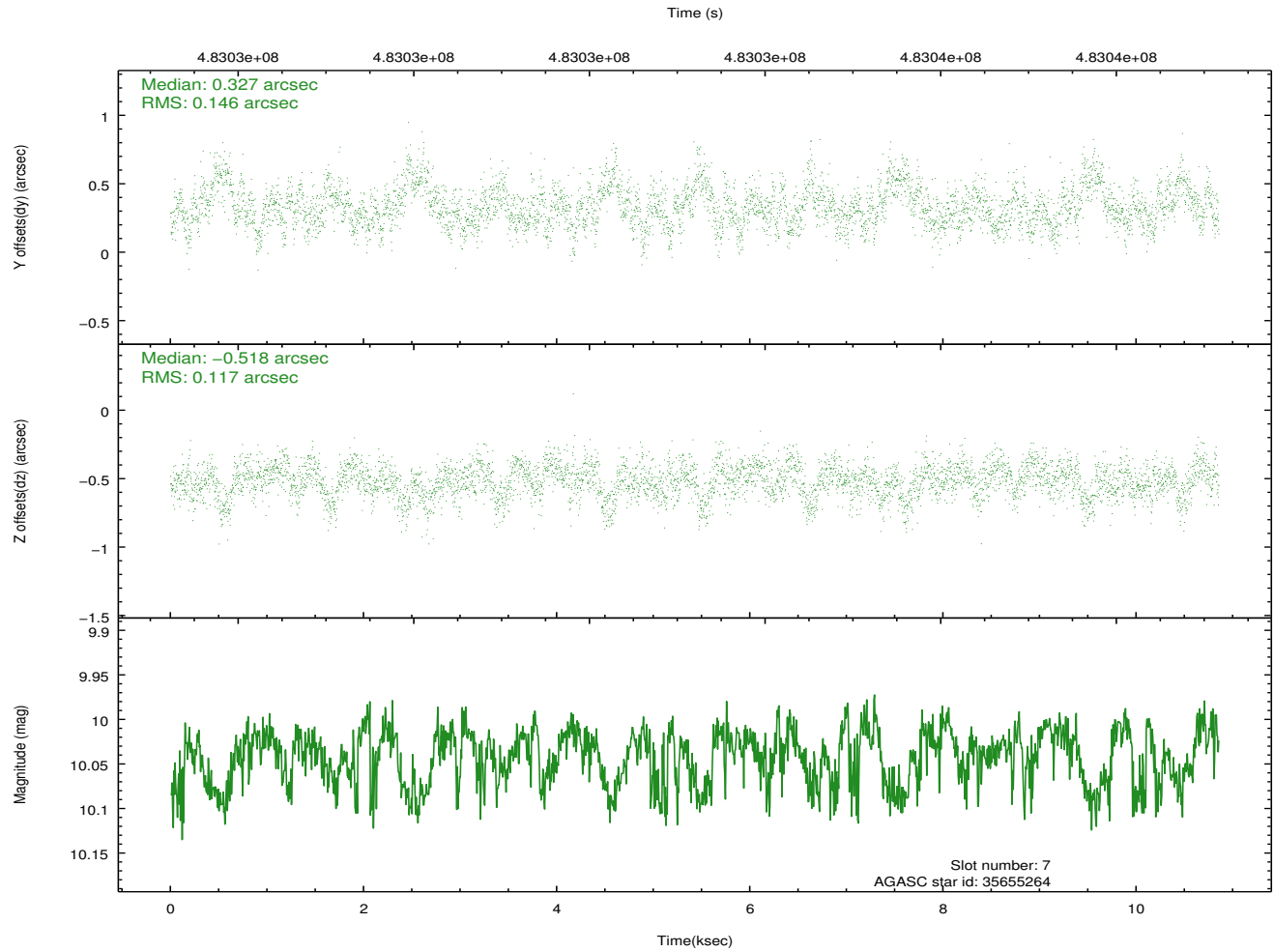
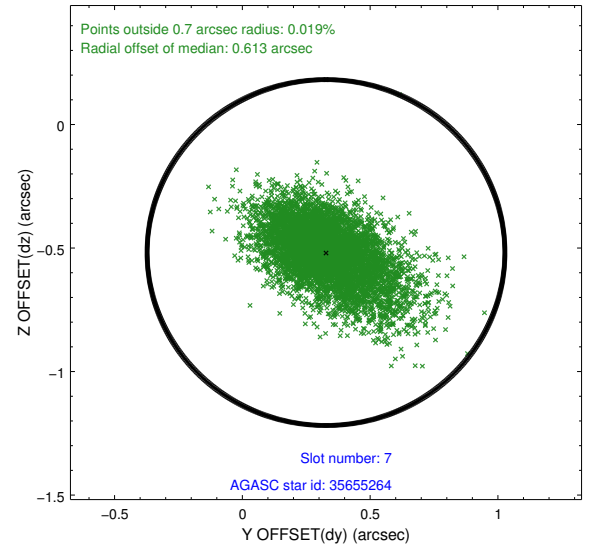
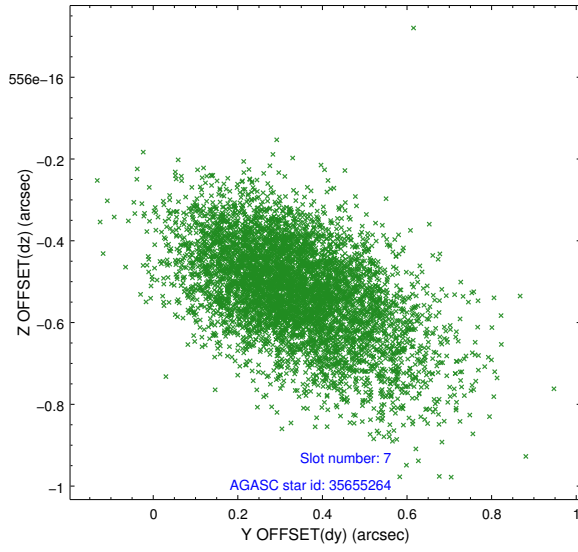


## 2.4.4 Slot 6



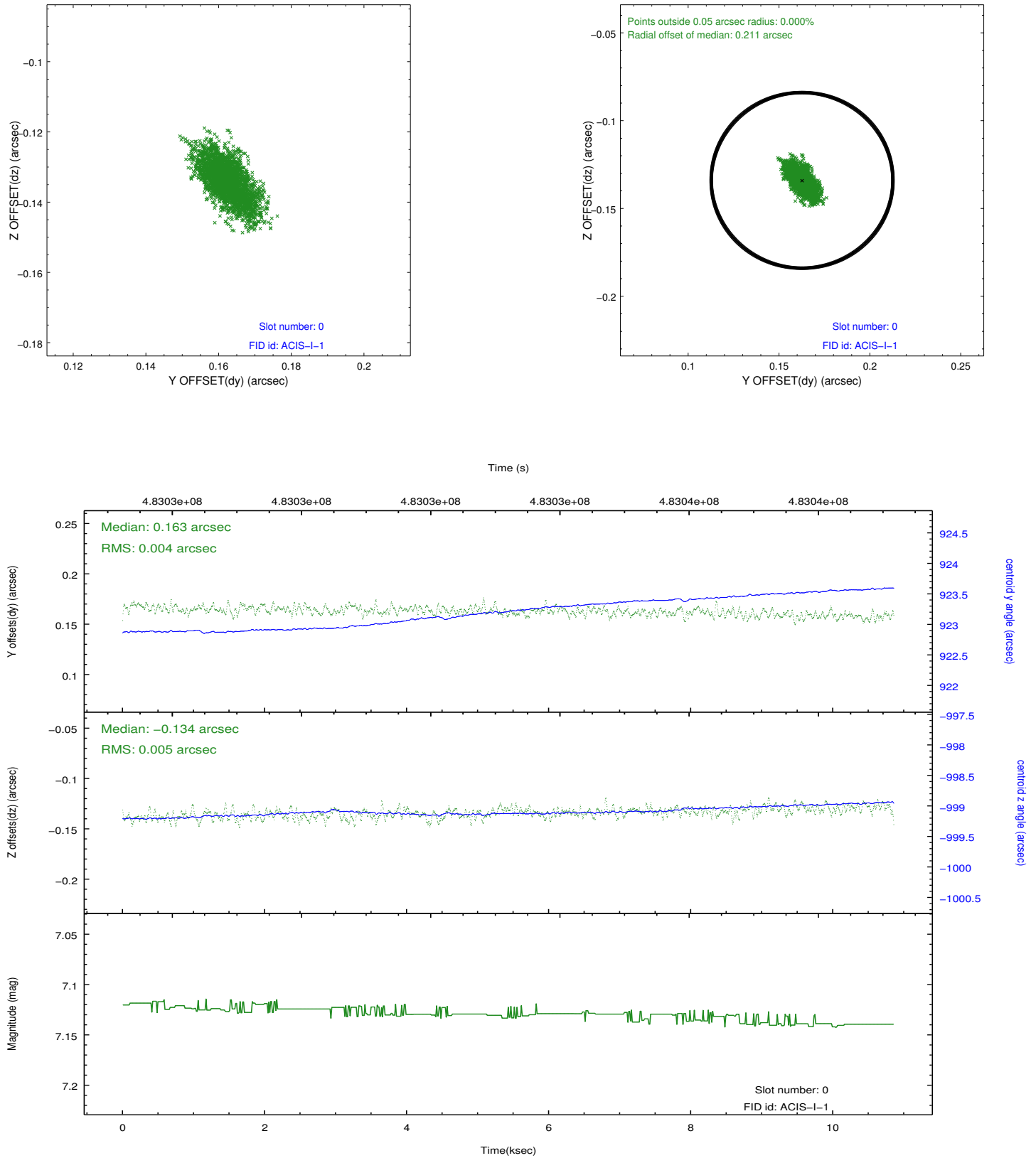


## 2.4.5 Slot 7

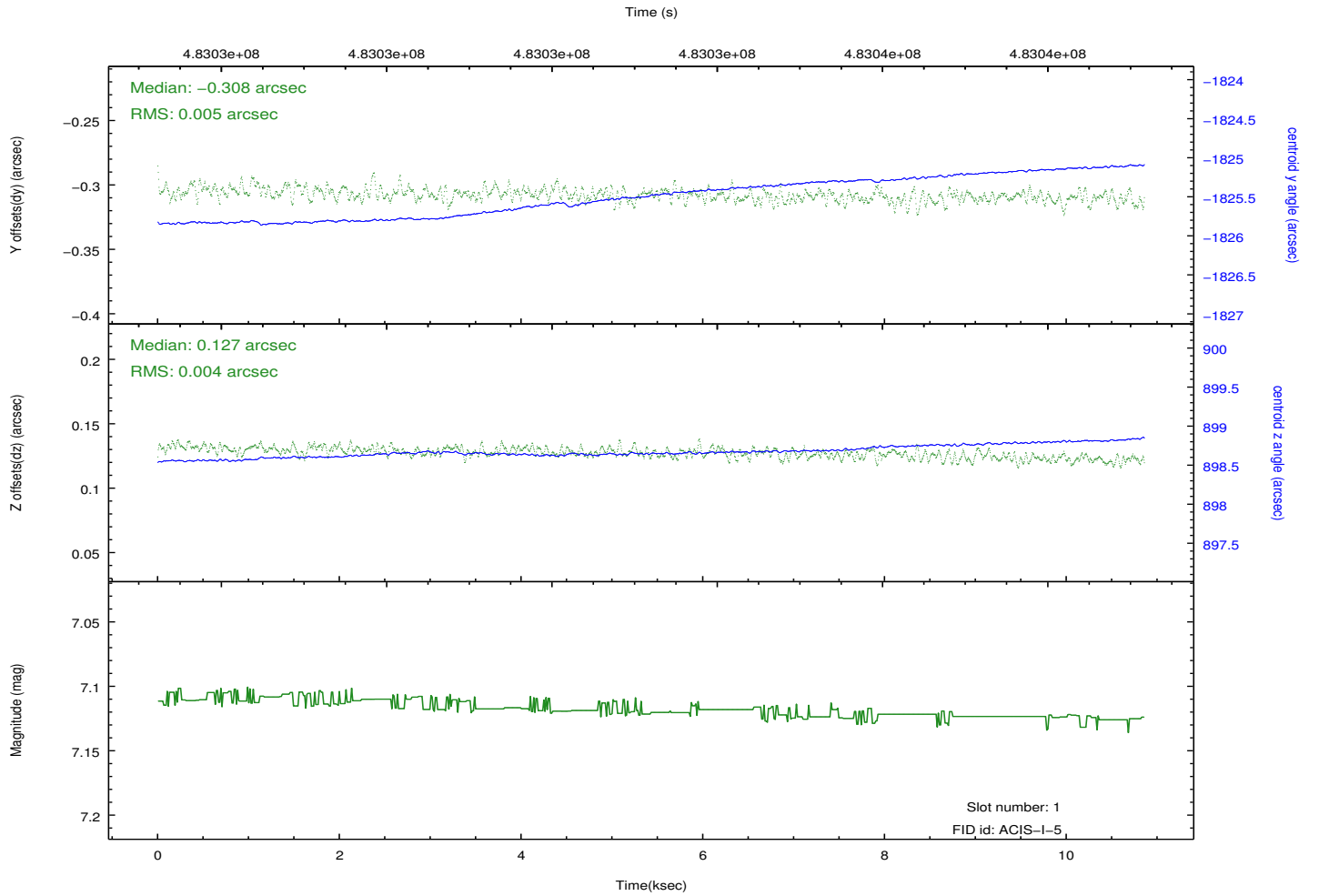
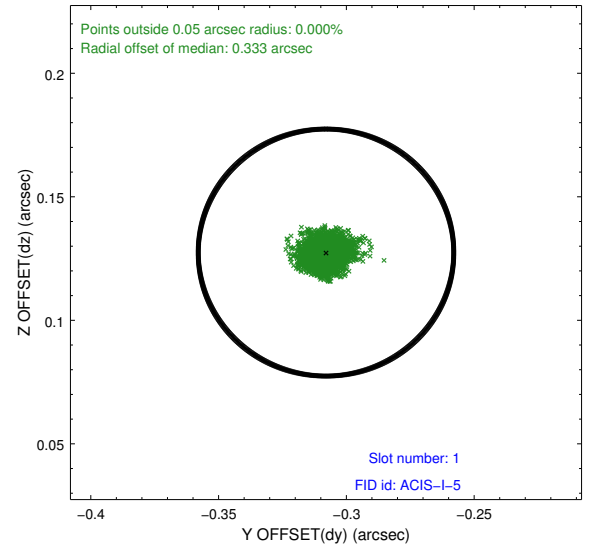
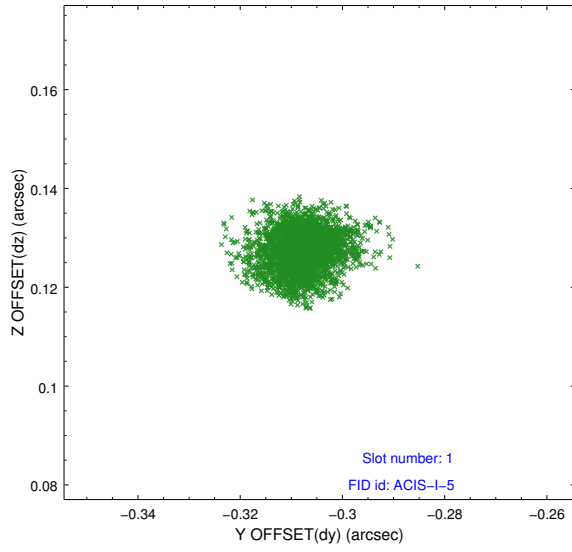


## 2.5 FID Slots

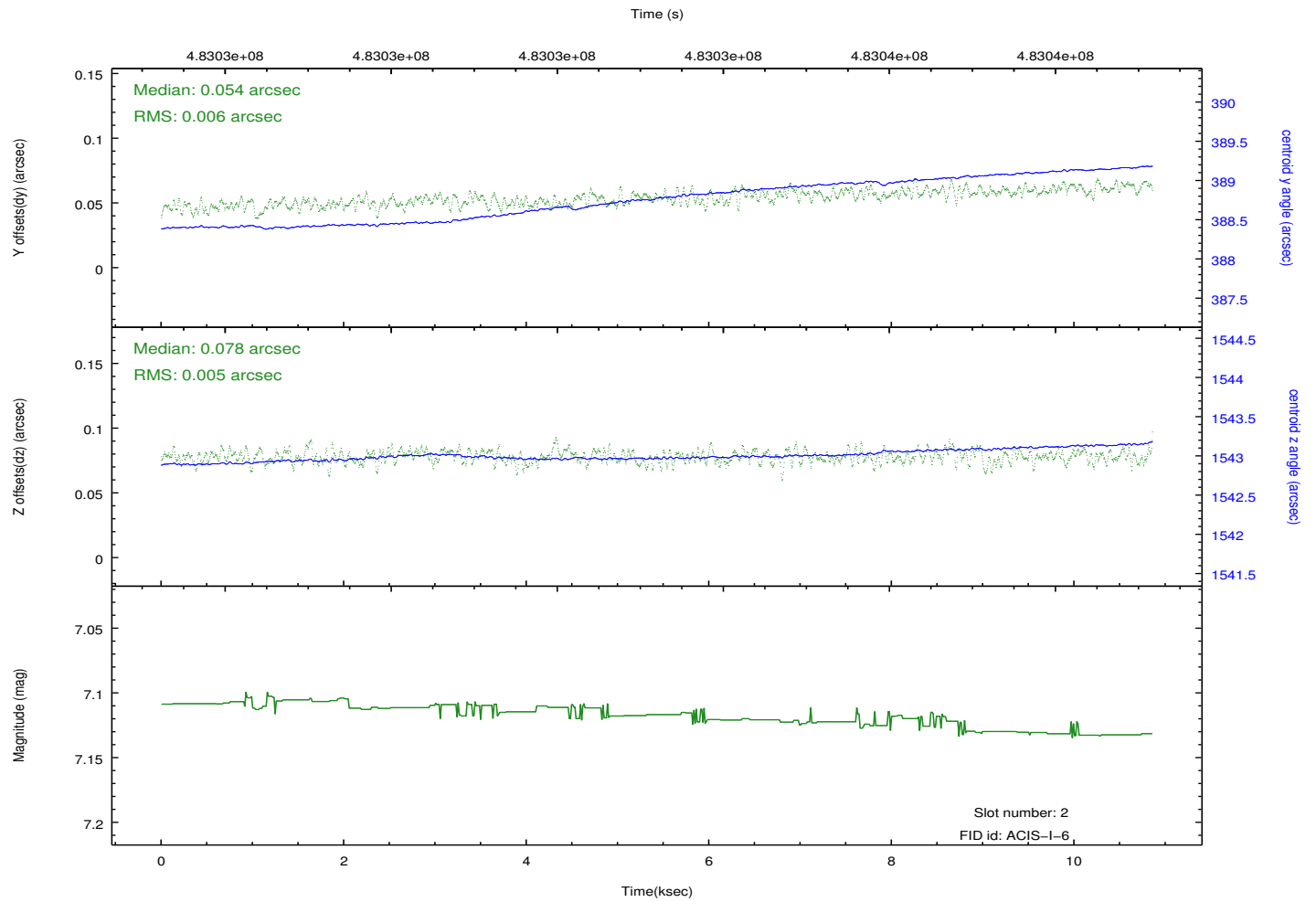
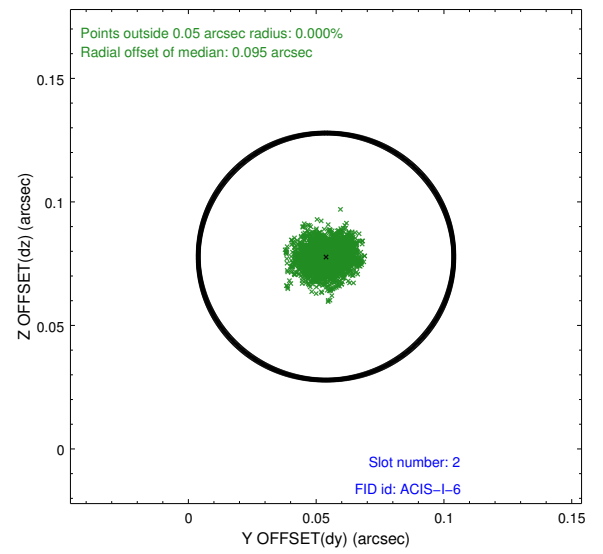
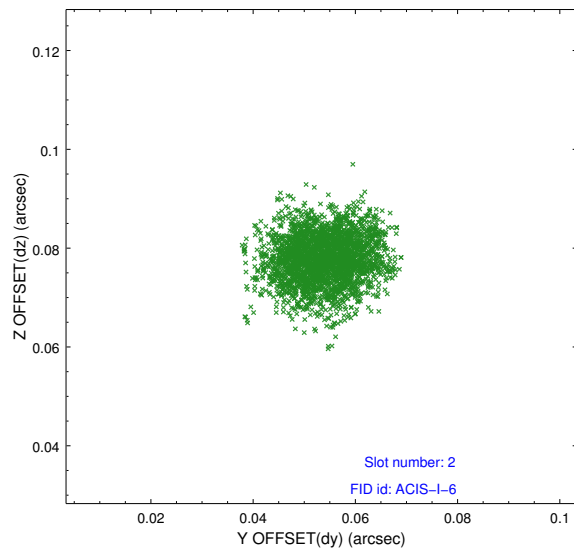
### 2.5.1 Slot 0



## 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)	2014.12.10
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.081049127638

## 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.