

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 15050 - L2 Version 2  
Chandra X-Ray Center

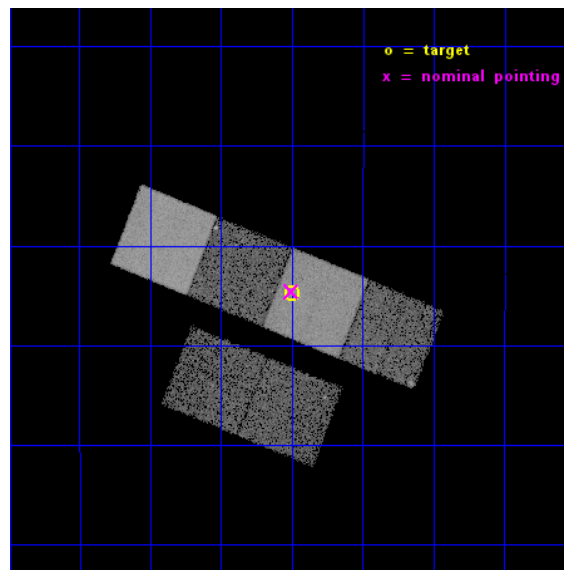
L2 Processing Date : Nov 29 2014

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# 1 Front

seq_num	702857	Sequence number
obs_id	15050	Observation id
title	C-GOALS: The Chandra-RBGS Survey of a Complete Sample of Major-Merger LIRGs	Proposal title
observer	Professor David Sanders	Principal investigator
object	NGC 1614	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	68.500417	Observer's specified target RA [deg]
dec_targ	-8.579444	Observer's specified target Dec [deg]
ra_nom	68.500966316213	Nominal RA [deg]
dec_nom	-8.5764734291391	Nominal Dec [deg]
roll_nom	21.703975605132	Nominal Roll [deg]
revision	2	Processing version of data
ontime	15967.037938476	Sum of GTIs [s]
livetime	15764.853689903	Livetime [s]
ontime2	15967.078978479	Sum of GTIs [s]
ontime3	15966.914818466	Sum of GTIs [s]
ontime5	15966.996898472	Sum of GTIs [s]
ontime6	15966.955858469	Sum of GTIs [s]
ontime7	15967.037938476	Sum of GTIs [s]
ontime8	15966.873778462	Sum of GTIs [s]
l2events	146316	Number of level 2 events

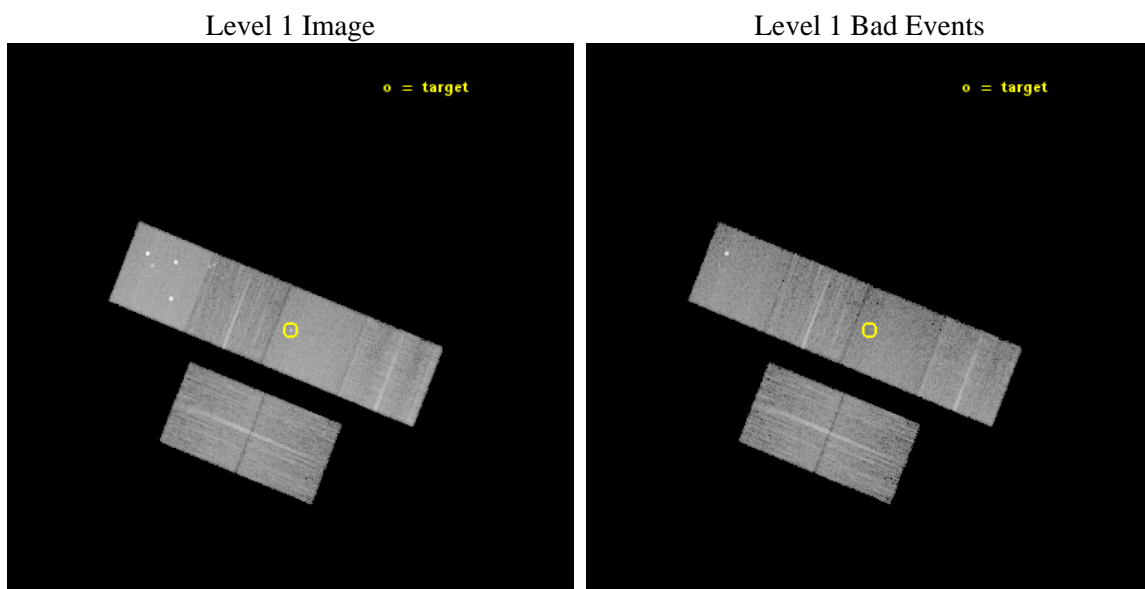




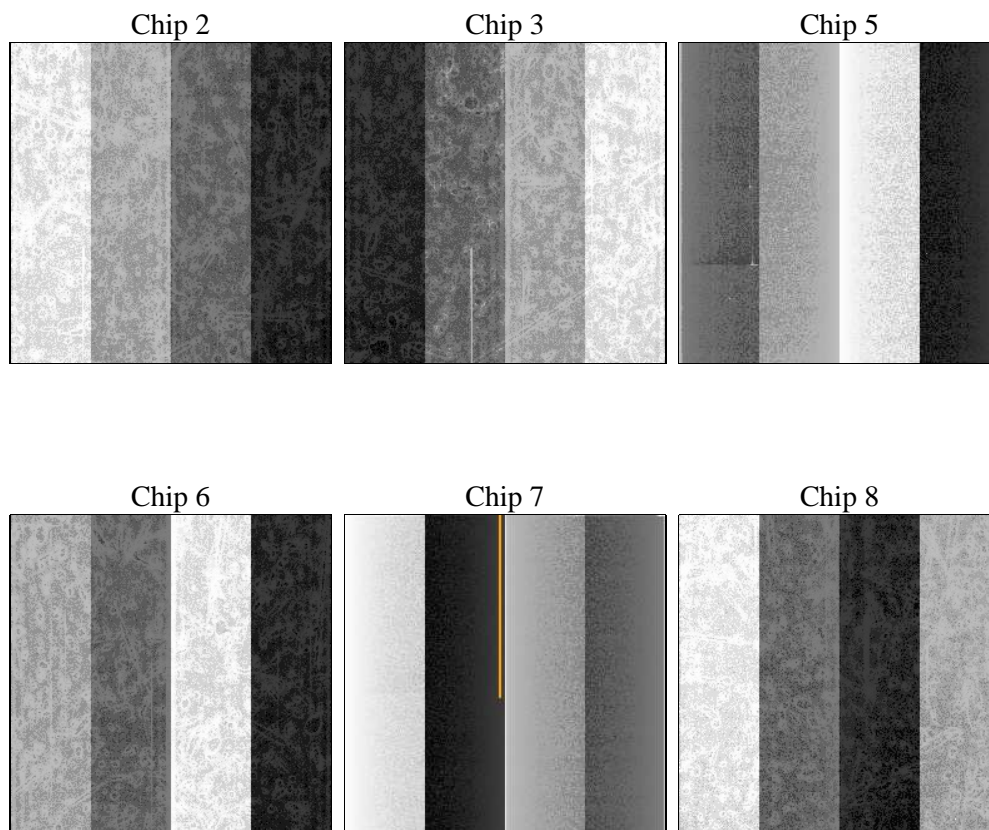
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	16000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	15967.037938476	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime2	15967.078978479	Sum of GTIs [s]
date	2014-11-29T20:31:18	Date and time of file creation	ontime3	15966.914818466	Sum of GTIs [s]
revision	2	Processing version of data	ontime5	15966.996898472	Sum of GTIs [s]
			ontime6	15966.955858469	Sum of GTIs [s]
			ontime7	15967.037938476	Sum of GTIs [s]
			ontime8	15966.873778462	Sum of GTIs [s]
			l1events	611836	Number of level 1 events

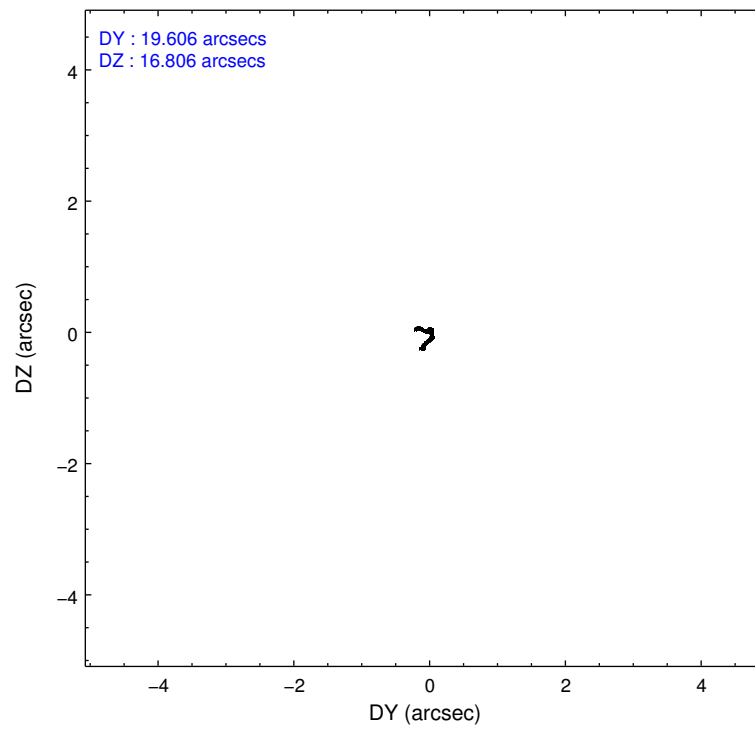
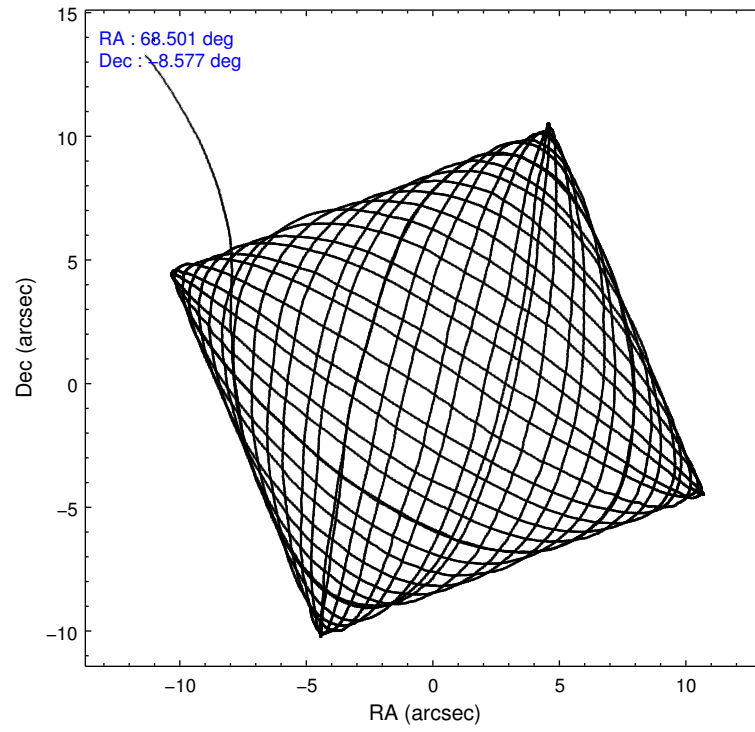
### 2.1.4 Events

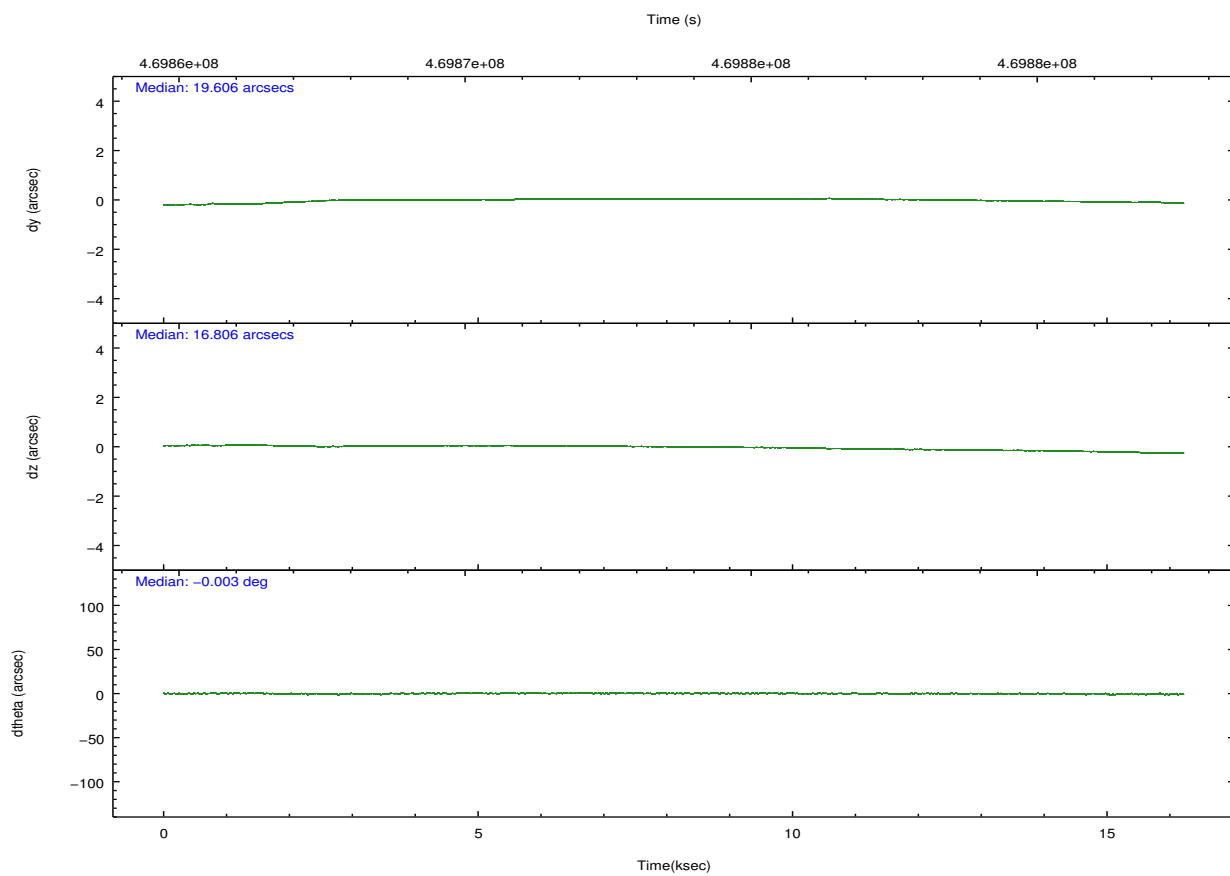
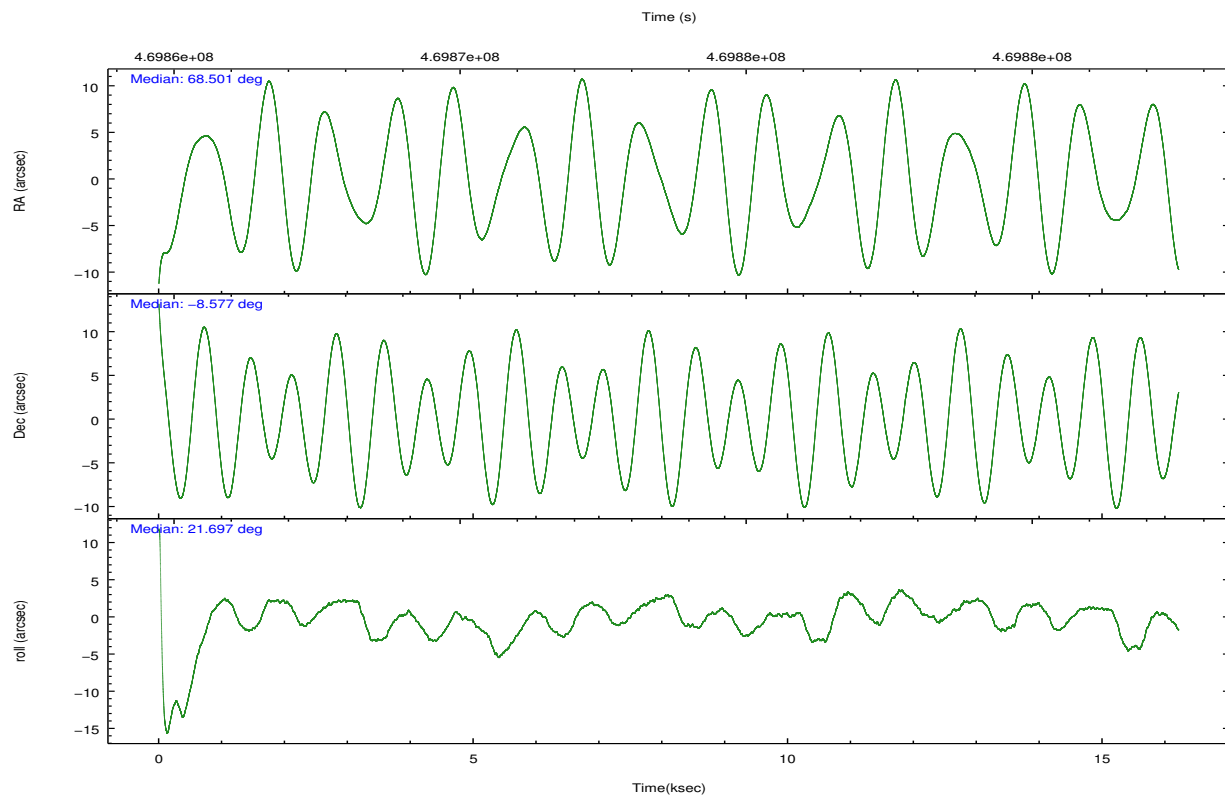
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	84003	78260	145961	82401	111947	109264	grade 0 events	3424	3208	11048	3906	4646	8676
rejected events	74223	69197	72620	71641	62294	79275		4%	4%	7%	4%	4%	7%
rejected %	88%	88%	49%	86%	55%	72%	grade 1 events	53	53	246	59	140	83
								0%	0%	0%	0%	0%	0%
							grade 2 events	2401	1945	22352	2363	10192	7128
								2%	2%	15%	2%	9%	6%
							grade 3 events	997	988	2339	1061	4316	3131
								1%	1%	1%	1%	3%	2%
							grade 4 events	1046	994	2152	1066	4225	2960
								1%	1%	1%	1%	3%	2%
							grade 5 events	3758	4277	10847	4276	11365	6260
								4%	5%	7%	5%	10%	5%
							grade 6 events	1913	1929	35478	2365	26281	8110
								2%	2%	24%	2%	23%	7%
							grade 7 events	70411	64866	61499	67305	50782	72916
								83%	82%	42%	81%	45%	66%

## 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	68.484148	68.50096631621271	CCD I2 on	O2	Y
[deg] Pointing Dec	-8.598160	-8.576473429139099	CCD I3 on	Y	Y
[deg] Pointing Roll	21.544820	21.70397560513166	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	O1	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.145094680475	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01257209746719923	CCD S4 on	Y	Y
[s] Observation start time (MET)	469865755.184000	469864772.45174	CCD S5 on	N	N
Observation start date	2012-11-21T06:14:48	2012-11-21T05:59:32	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	469881755.184000	469883131.74023	On-chip summing requested	N	N
Observation end date	2012-11-21T10:41:28	2012-11-21T11:05:31	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



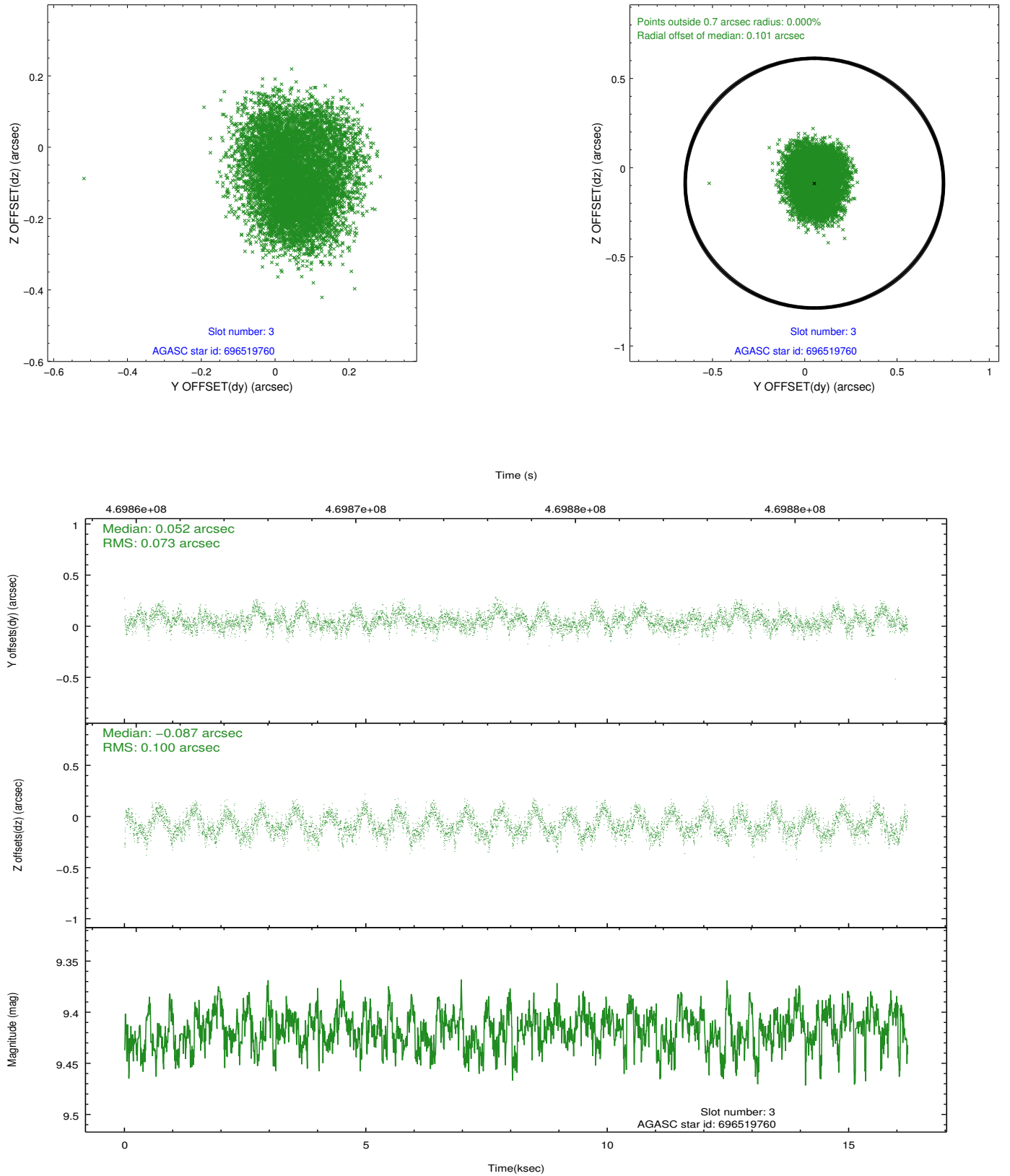


### Slot Statistics

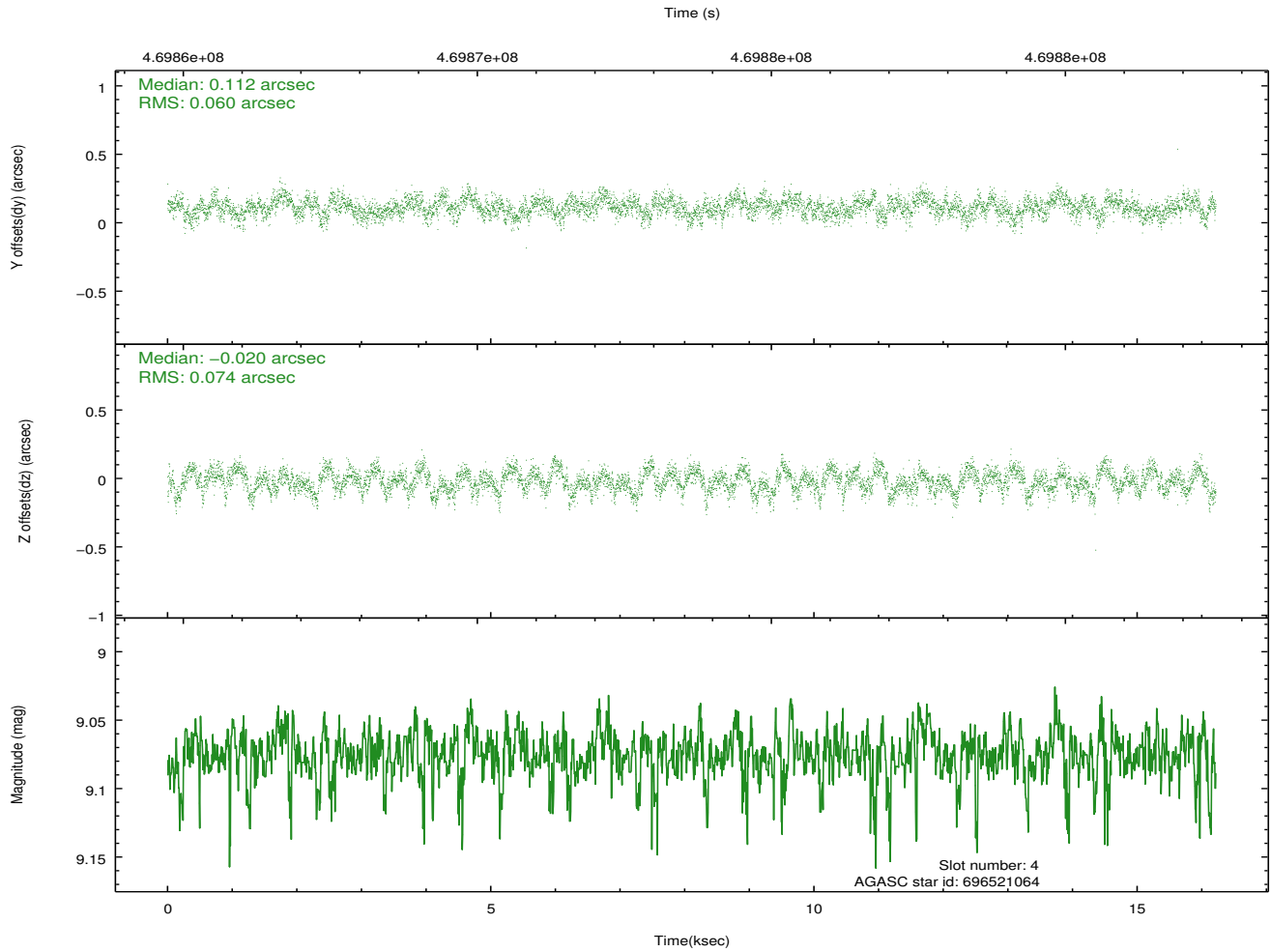
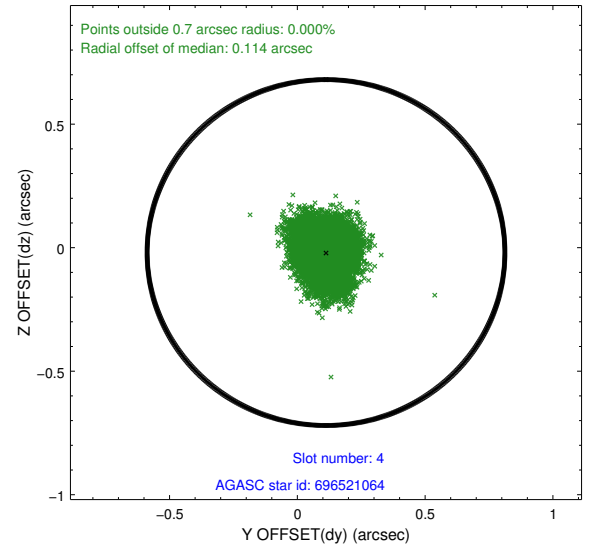
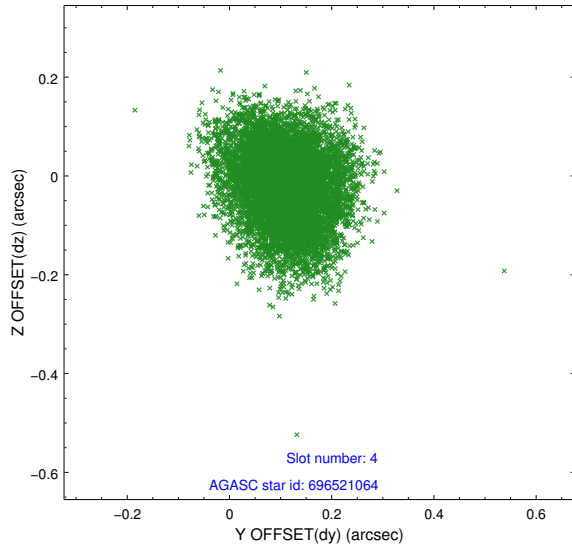
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.99	3955	-0.125	-0.034	0.007	0.012	0.000000	0.000000	-772.82	-1738.11
1	FID		ACIS-S-4	7.08	3955	0.296	0.070	0.006	0.012	0.000000	0.000000	2140.77	170.16
2	FID		ACIS-S-5	7.11	3955	-0.202	-0.027	0.007	0.012	0.000000	0.000000	-1825.38	164.09
3	GUIDE	used	696519760	9.42	7906	0.052	-0.087	0.136	0.206	68.219285	-8.141333	-273.85	1875.47
4	GUIDE	used	696521064	9.08	7907	0.112	-0.020	0.104	0.164	68.274218	-8.590236	-684.51	300.48
5	GUIDE	used	696526616	8.91	7901	-0.158	0.055	0.113	0.178	68.778464	-8.693471	848.31	-703.84
6	GUIDE	used	696529576	8.86	7888	0.184	0.150	0.095	0.153	68.370548	-8.687170	-492.98	-149.54
7	GUIDE	used	696540912	7.12	7910	-0.189	-0.099	0.079	0.143	68.410354	-8.255667	208.13	1243.34

## 2.4 Star Slots

### 2.4.1 Slot 3

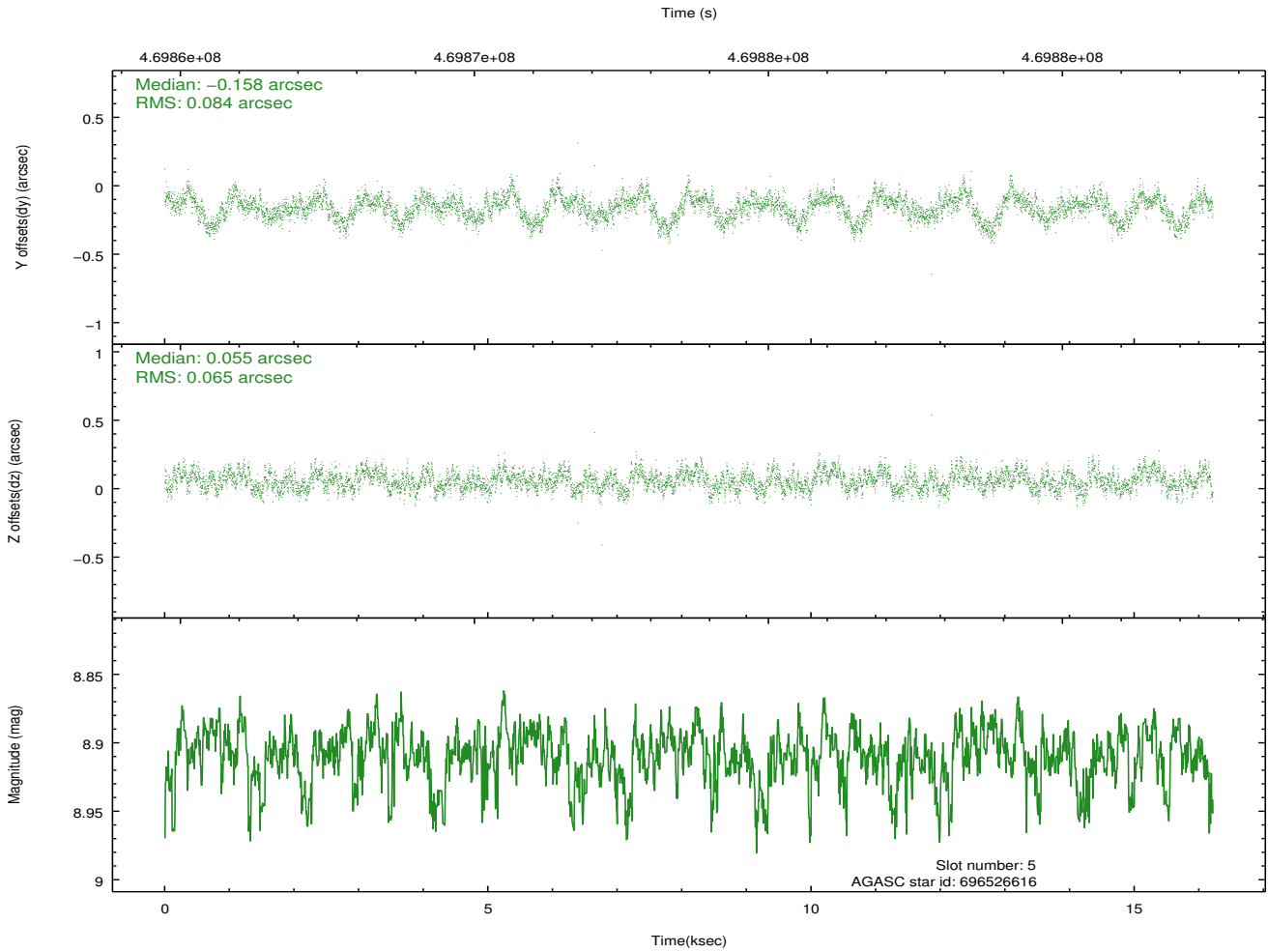
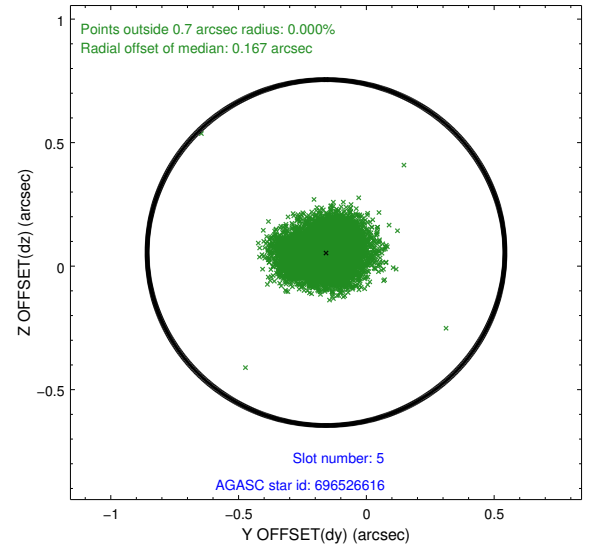
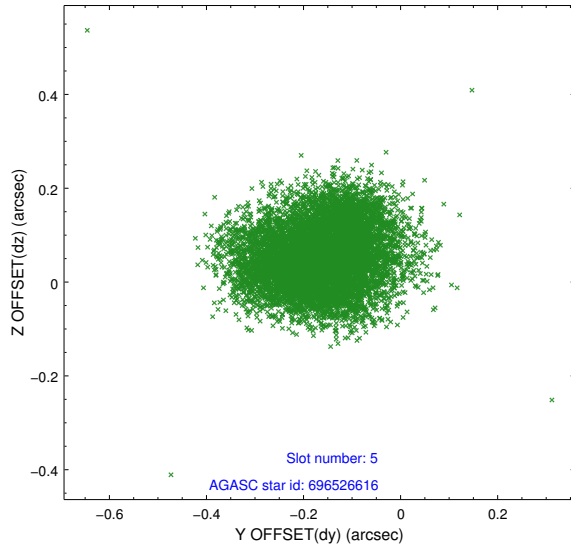


## 2.4.2 Slot 4

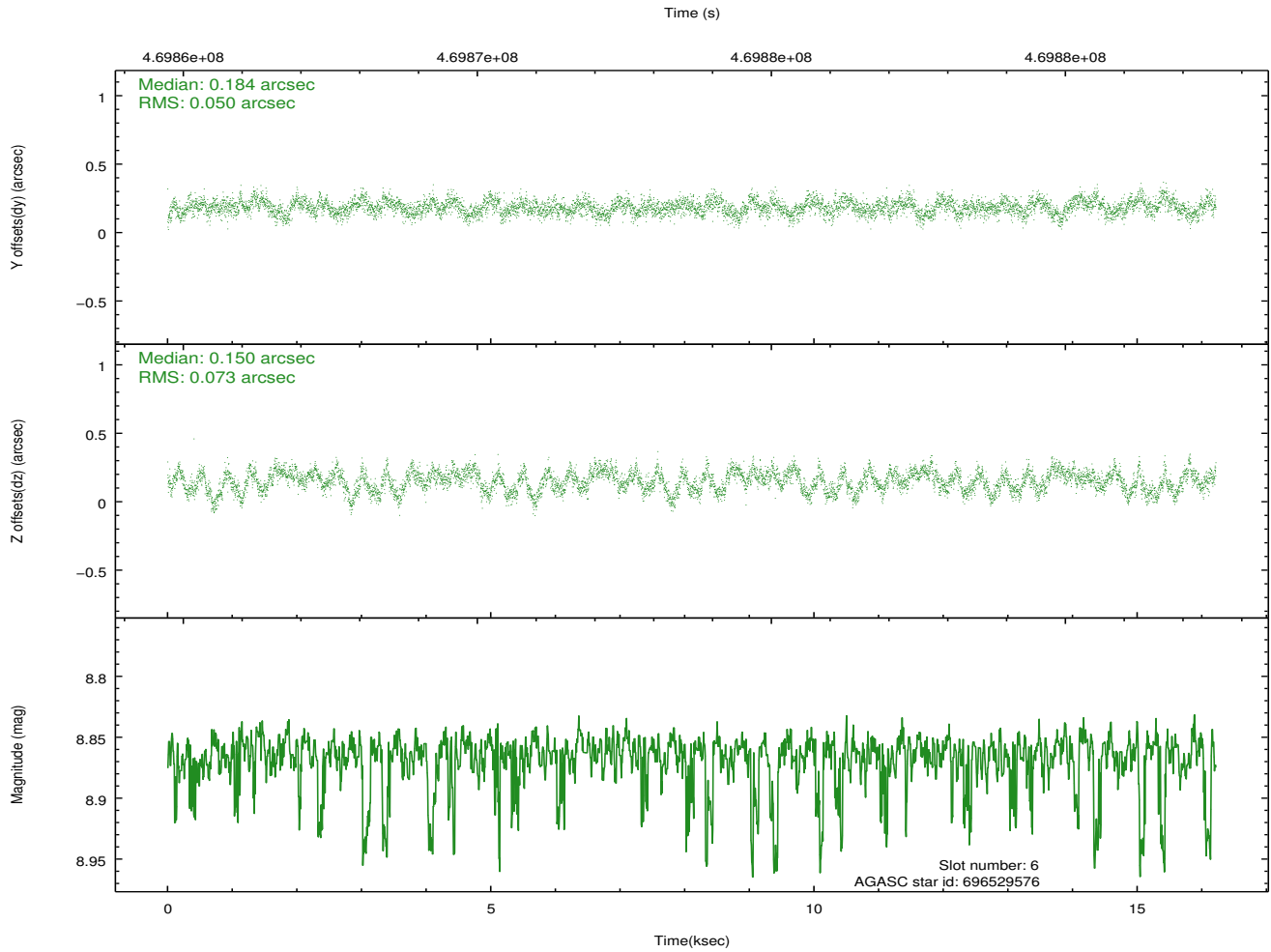
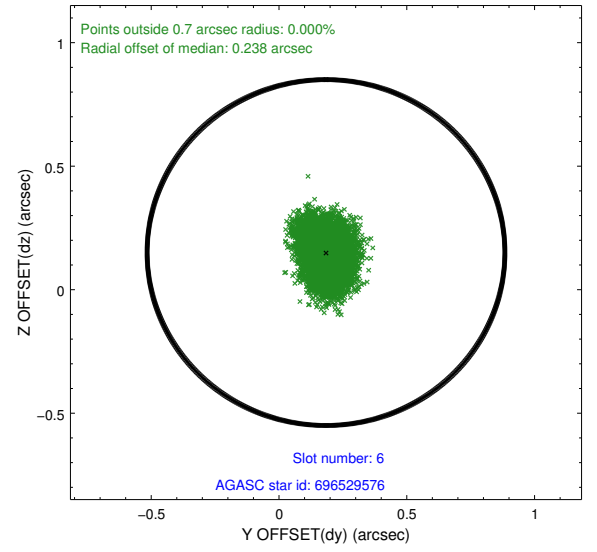
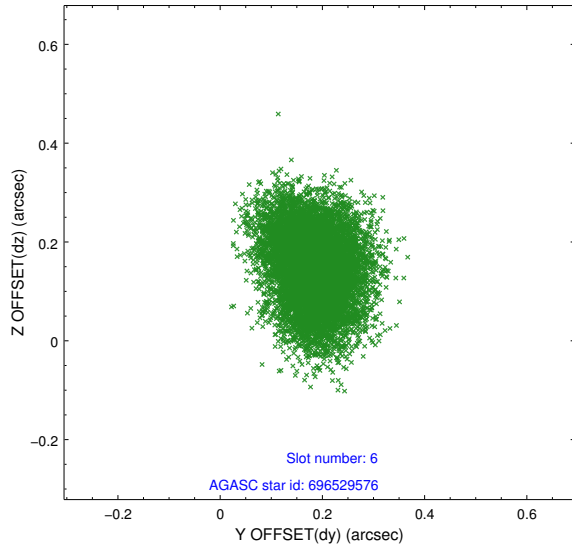




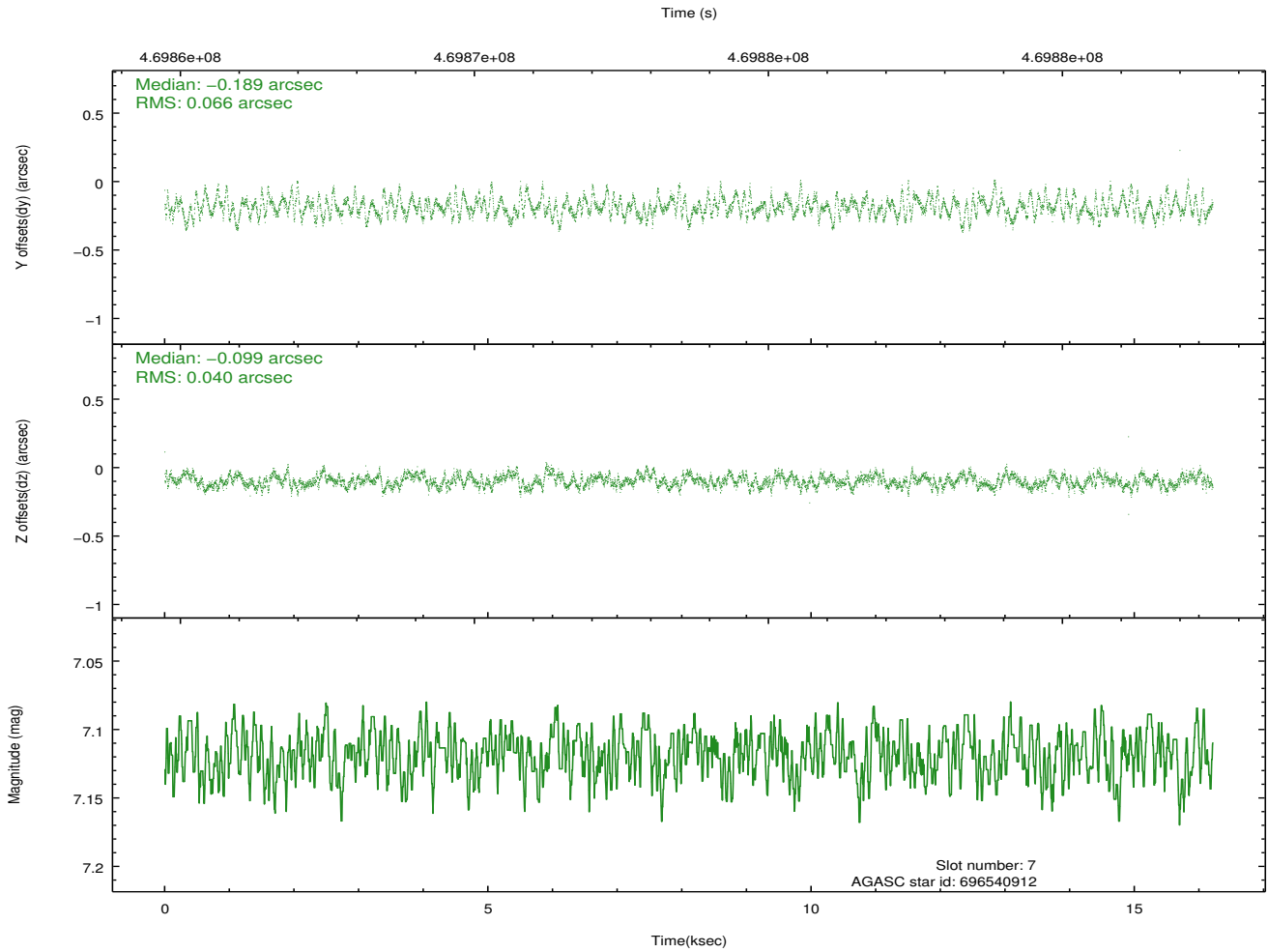
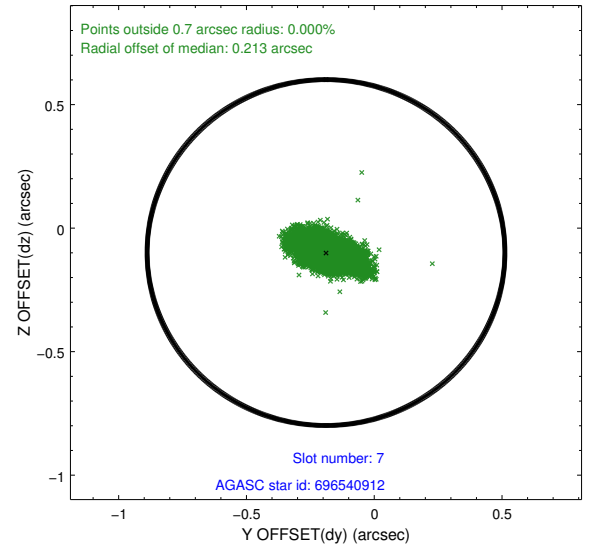
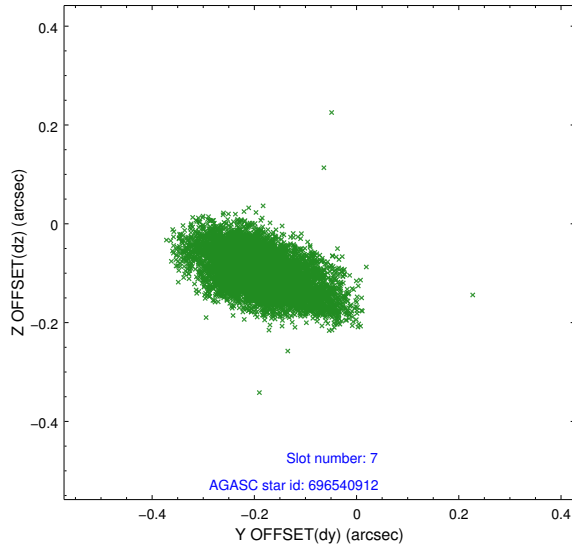
### 2.4.3 Slot 5



## 2.4.4 Slot 6

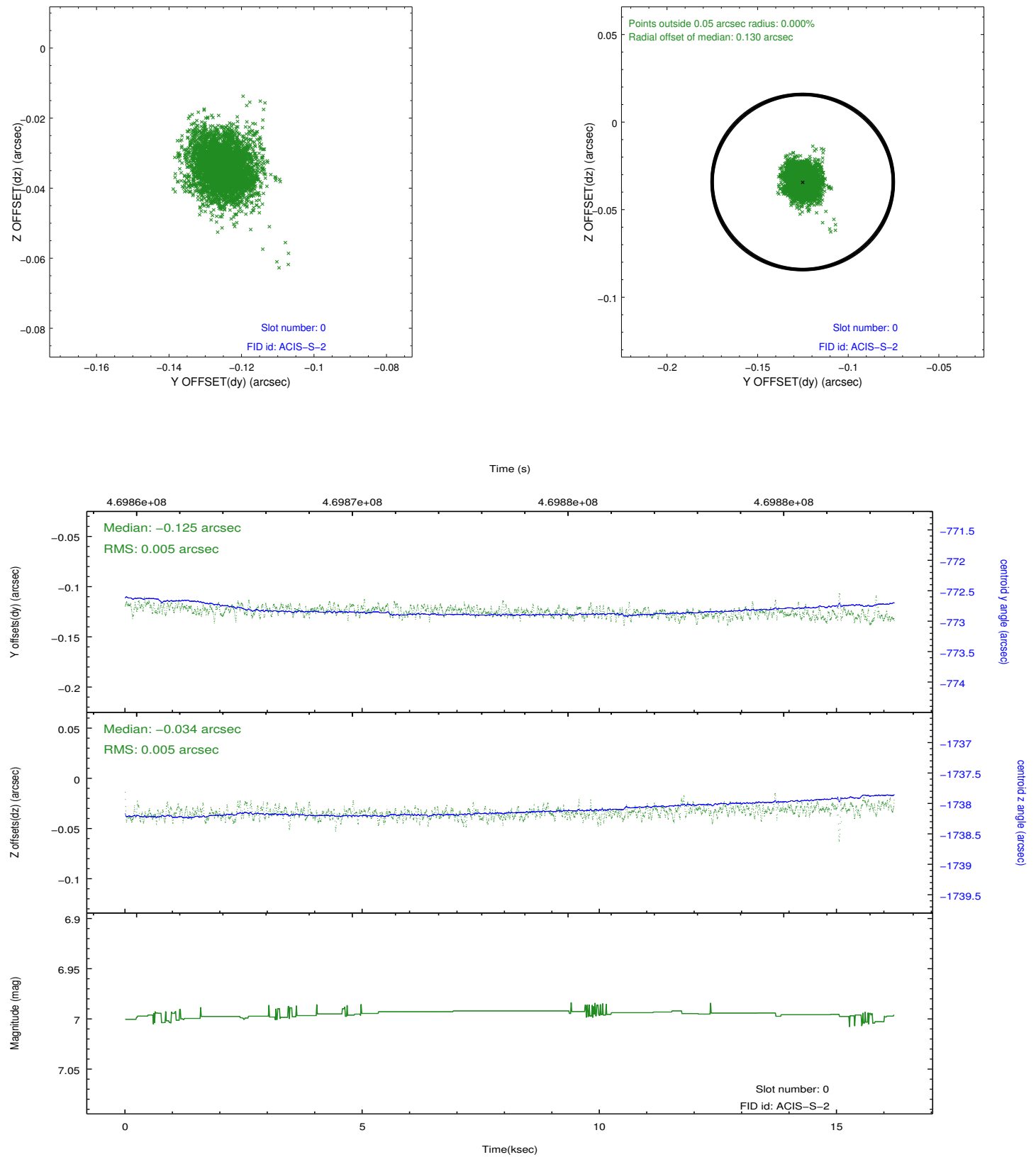


## 2.4.5 Slot 7

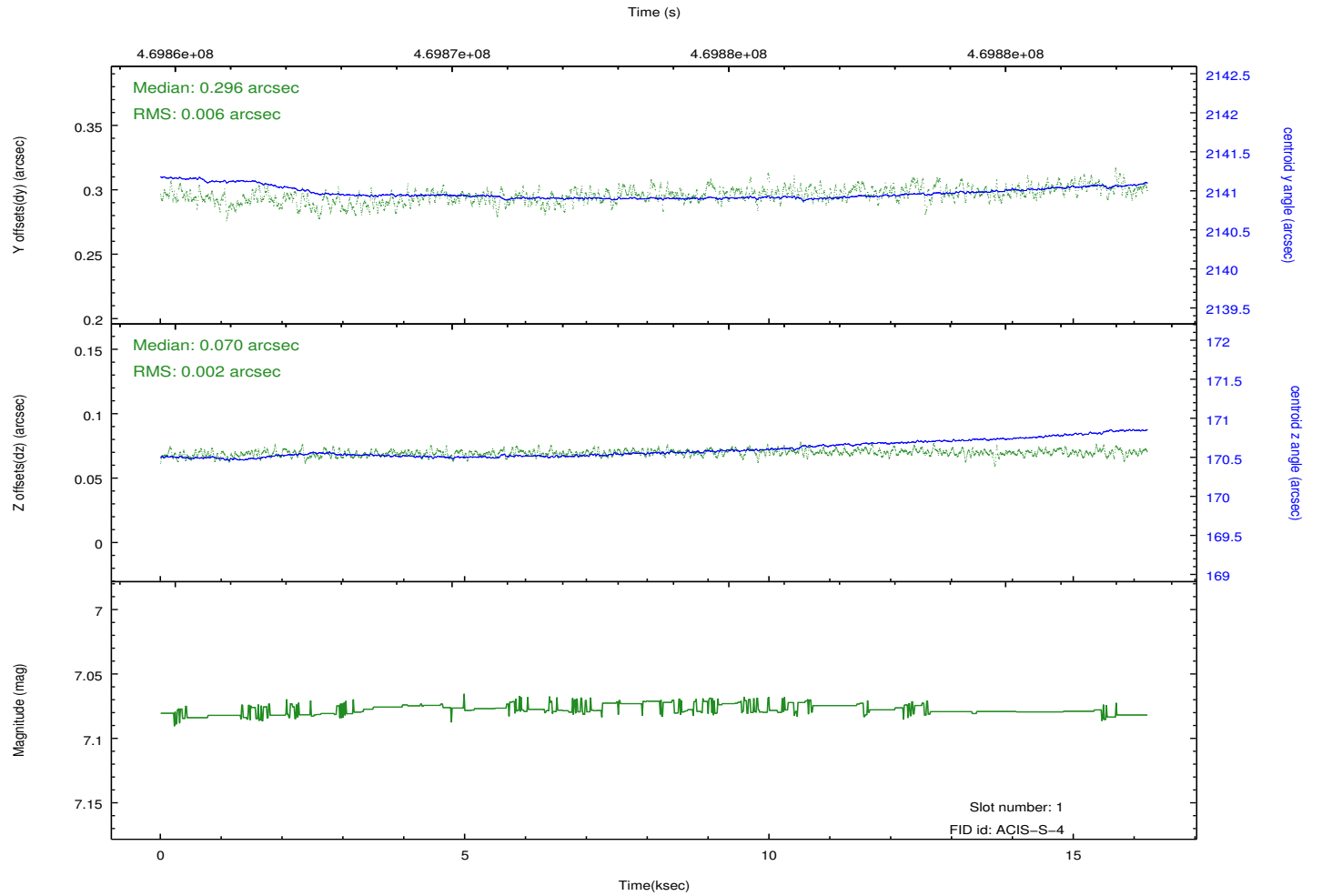
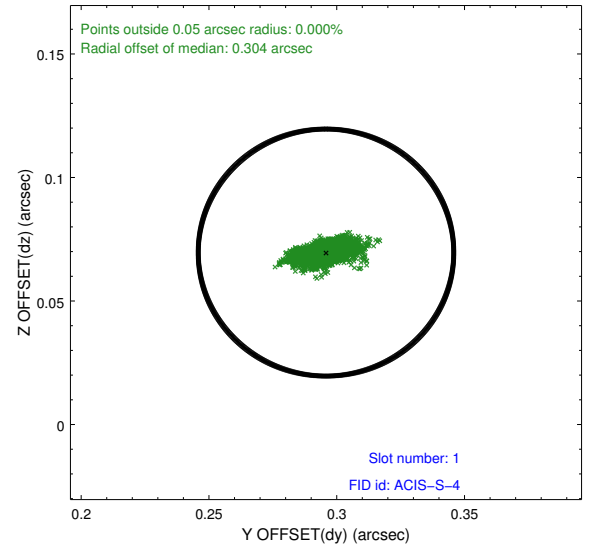
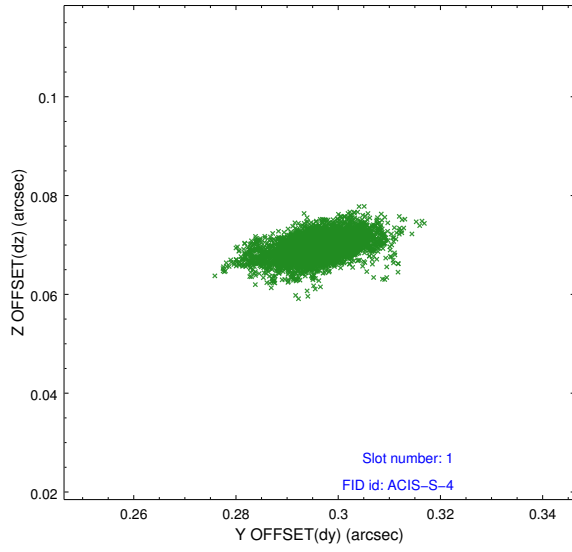


## 2.5 FID Slots

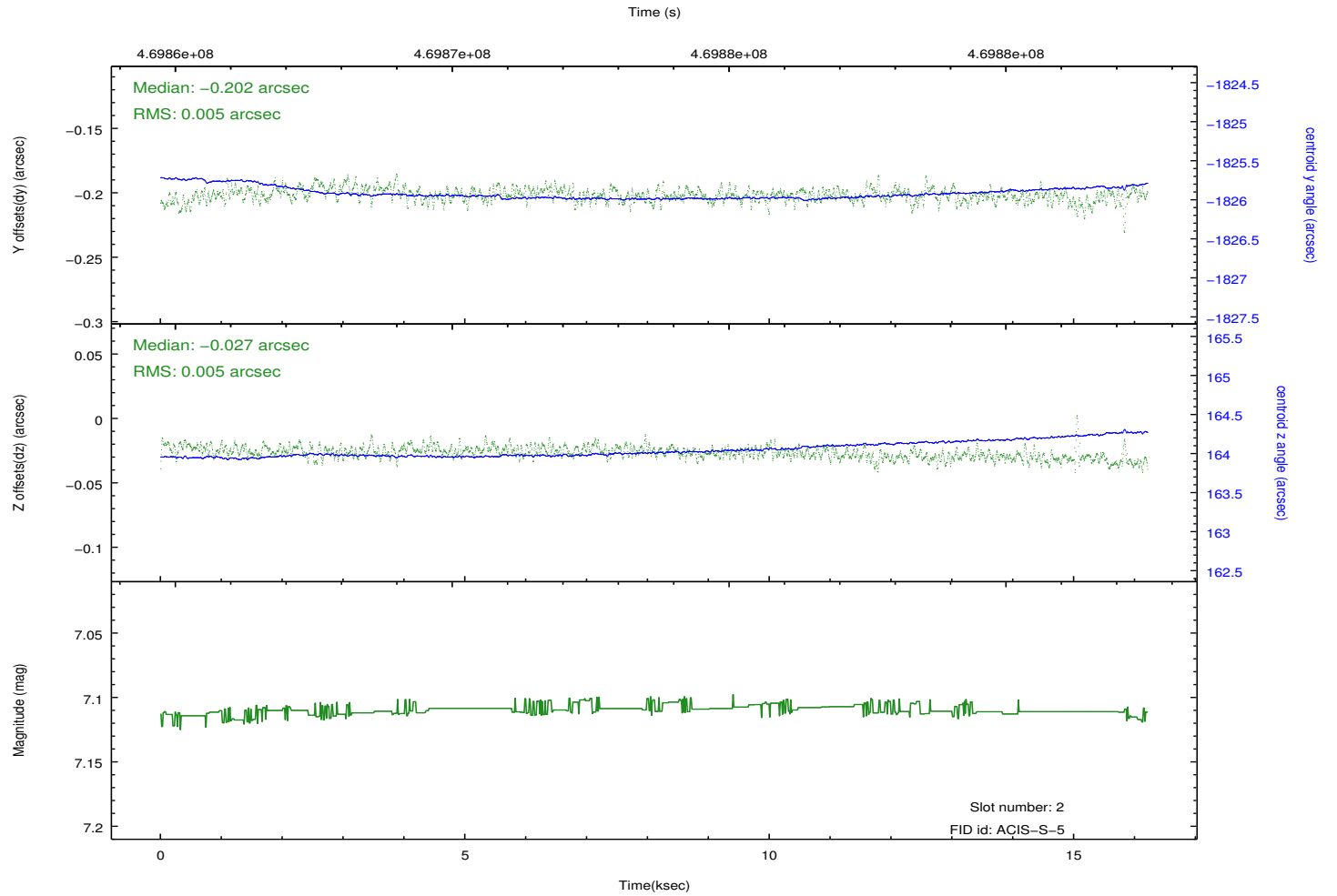
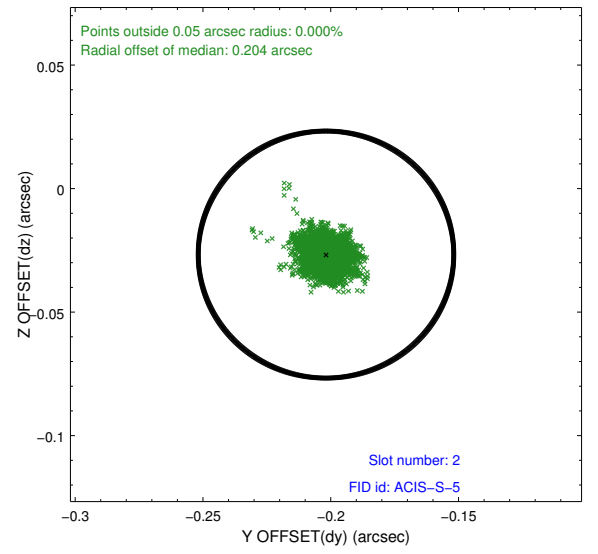
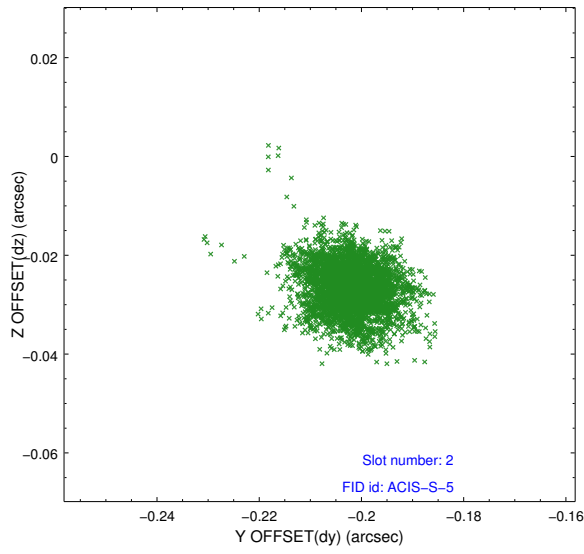
### 2.5.1 Slot 0



## 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)	2014.12.03
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	15.967037938476

## 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.