

# V&V Reference Report

## L2 ASCDS Version : 8.5.1.1

Observation 13953 - L2 Version 2  
Chandra X-Ray Center

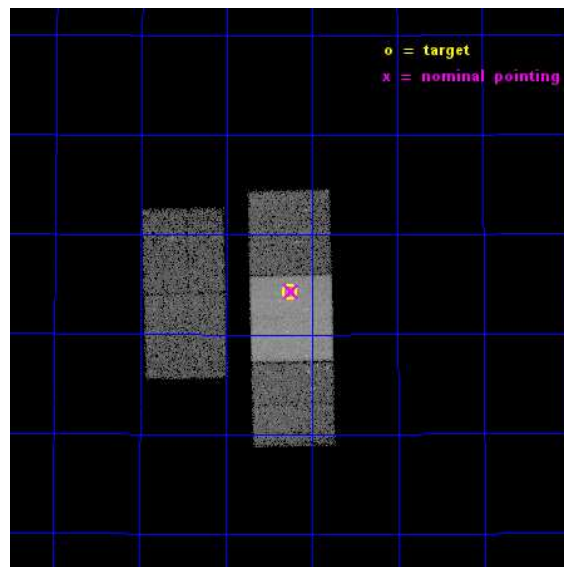
L2 Processing Date : Nov 30 2014

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# 1 Front

seq_num	702675	Sequence number
obs_id	13953	Observation id
title	Identifying Analogs of NGC 6240: Galaxies with Dual Supermassive Black Holes	Proposal title
observer	Dr. Julia Comerford	Principal investigator
object	SDSS J123915.40+531414.6	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	189.814167	Observer's specified target RA [deg]
dec_targ	53.237389	Observer's specified target Dec [deg]
ra_nom	189.8099886053	Nominal RA [deg]
dec_nom	53.239056092579	Nominal Dec [deg]
roll_nom	88.762546422506	Nominal Roll [deg]
revision	2	Processing version of data
ontime	20066.300154328	Sum of GTIs [s]
livetime	19804.119170217	Livetime [s]
ontime2	20066.300154328	Sum of GTIs [s]
ontime3	20066.300154328	Sum of GTIs [s]
ontime6	20066.300154328	Sum of GTIs [s]
ontime7	20066.300154328	Sum of GTIs [s]
ontime8	20066.300154328	Sum of GTIs [s]
l2events	111493	Number of level 2 events

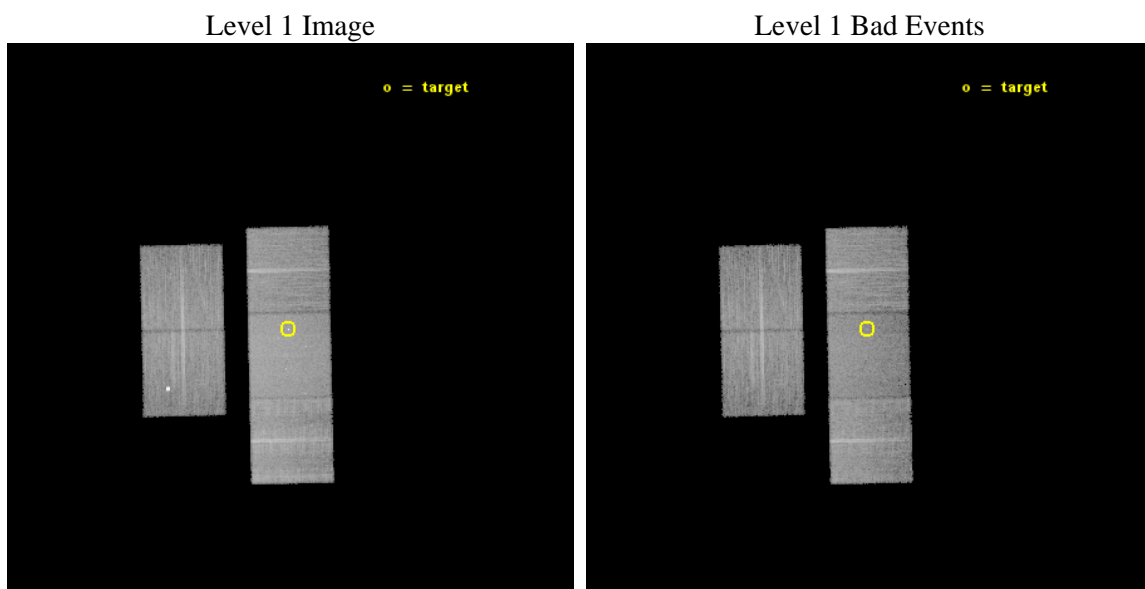




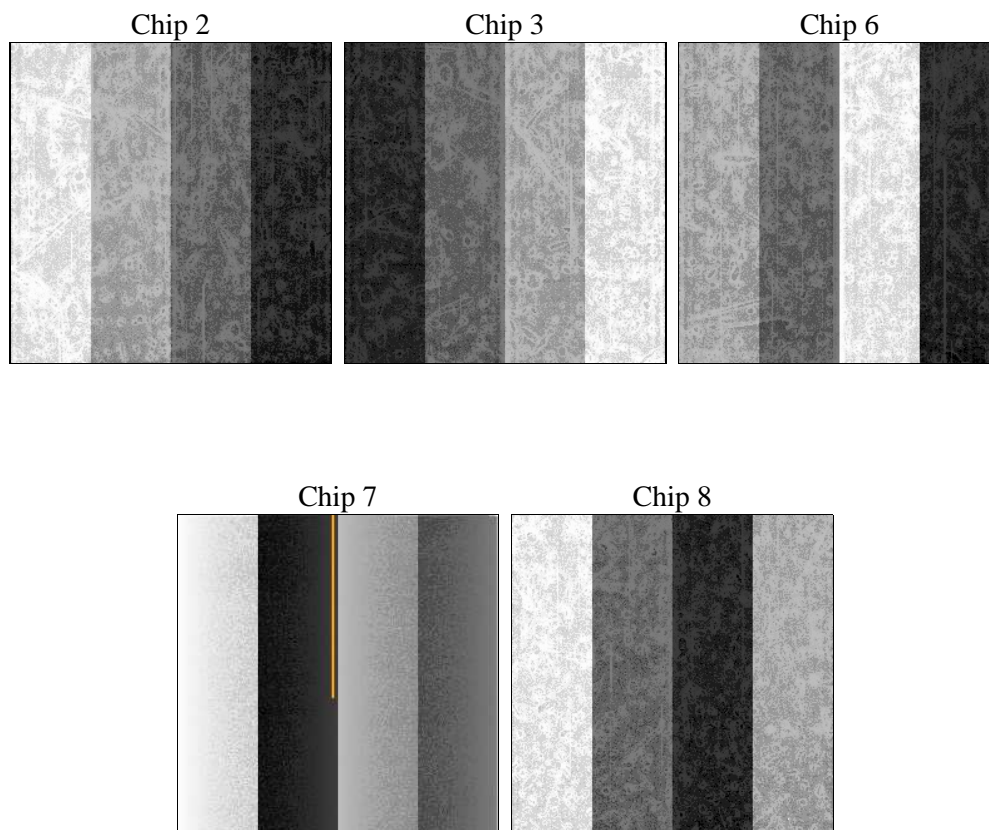
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	20000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	20066.300154328	Sum of GTIs [s]
caldbver	4.6.4	&#160	ontime2	20066.300154328	Sum of GTIs [s]
date	2014-12-01T07:04:00	Date and time of file creation	ontime3	20066.300154328	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	20066.300154328	Sum of GTIs [s]
			ontime7	20066.300154328	Sum of GTIs [s]
			ontime8	20066.300154328	Sum of GTIs [s]
			l1events	635509	Number of level 1 events

### 2.1.4 Events

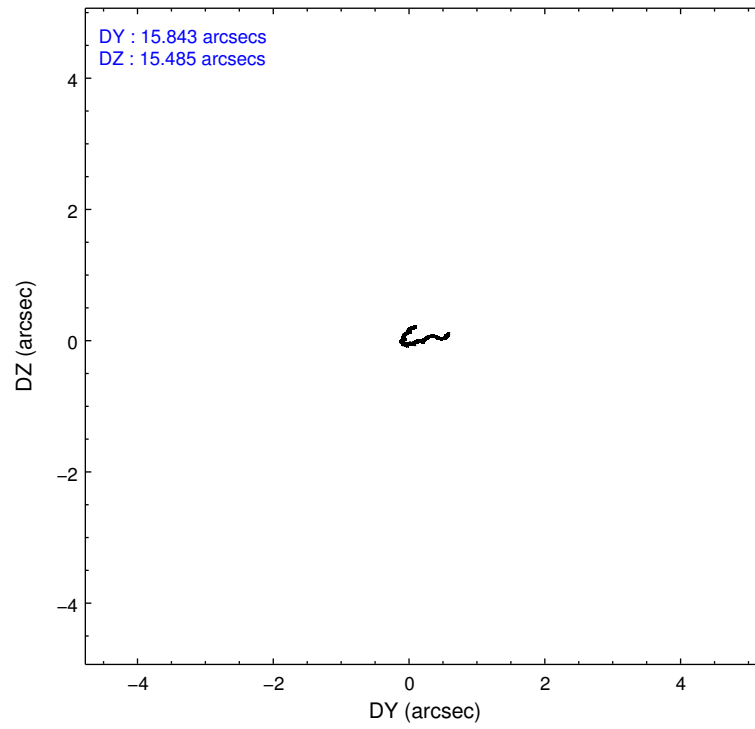
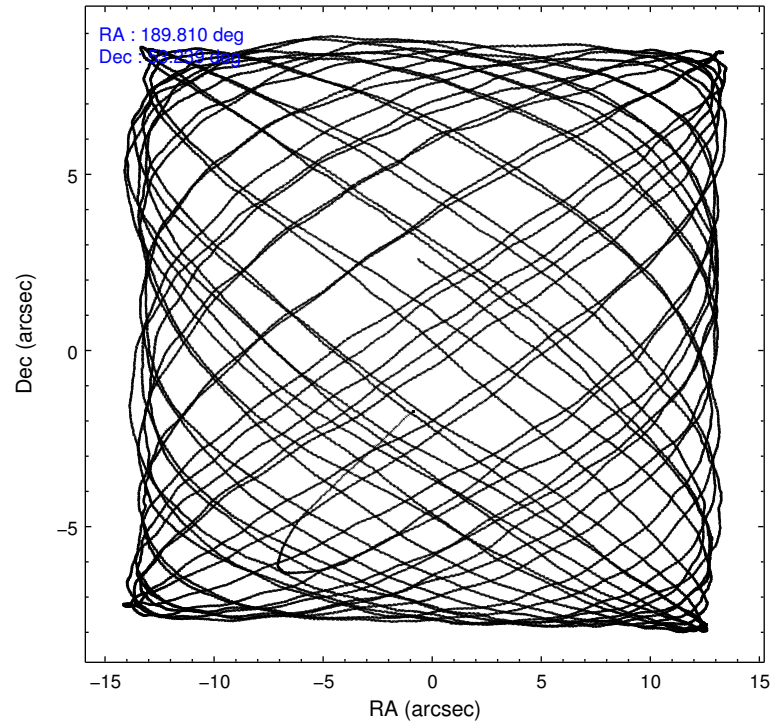
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
level 1 events	107924	115065	112167	151440	148913
rejected events	95644	97078	98751	84271	109553
rejected %	88%	84%	88%	55%	73%

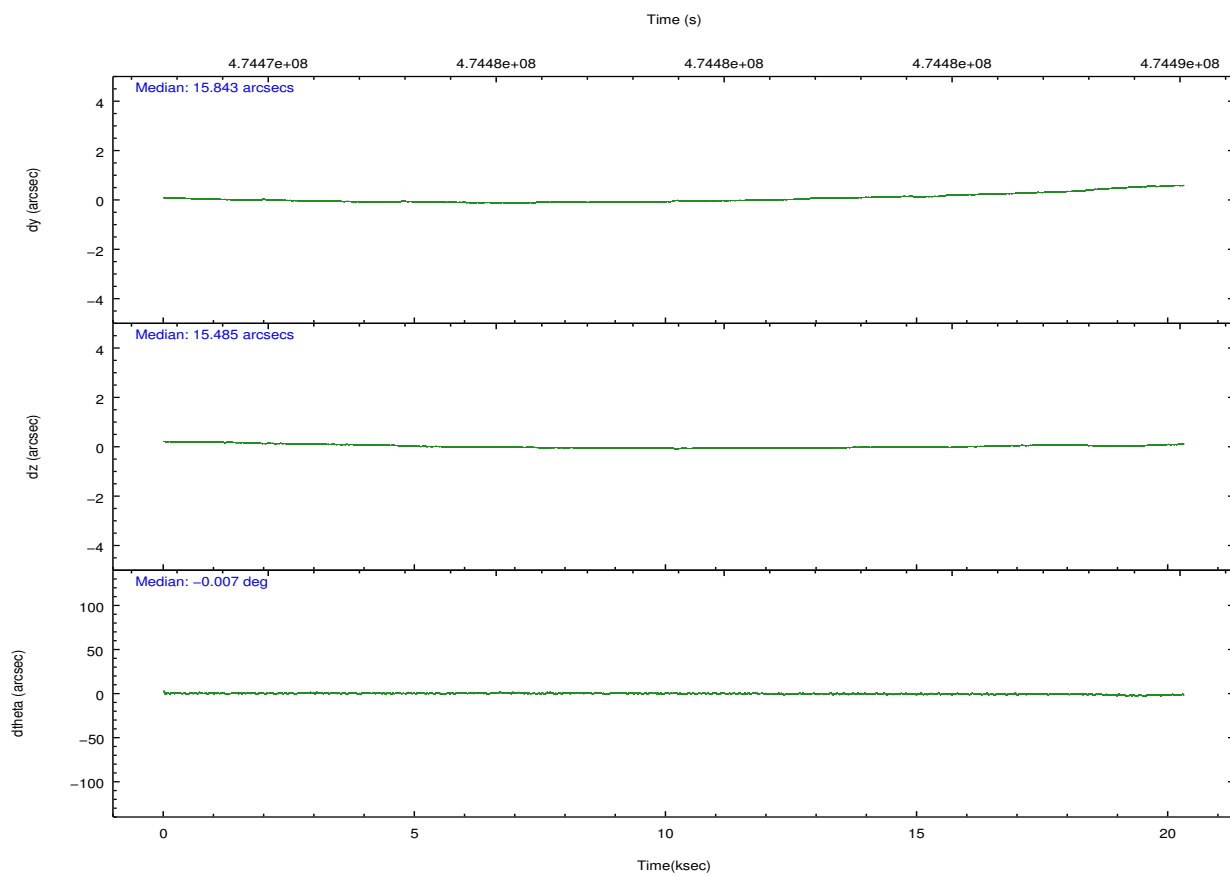
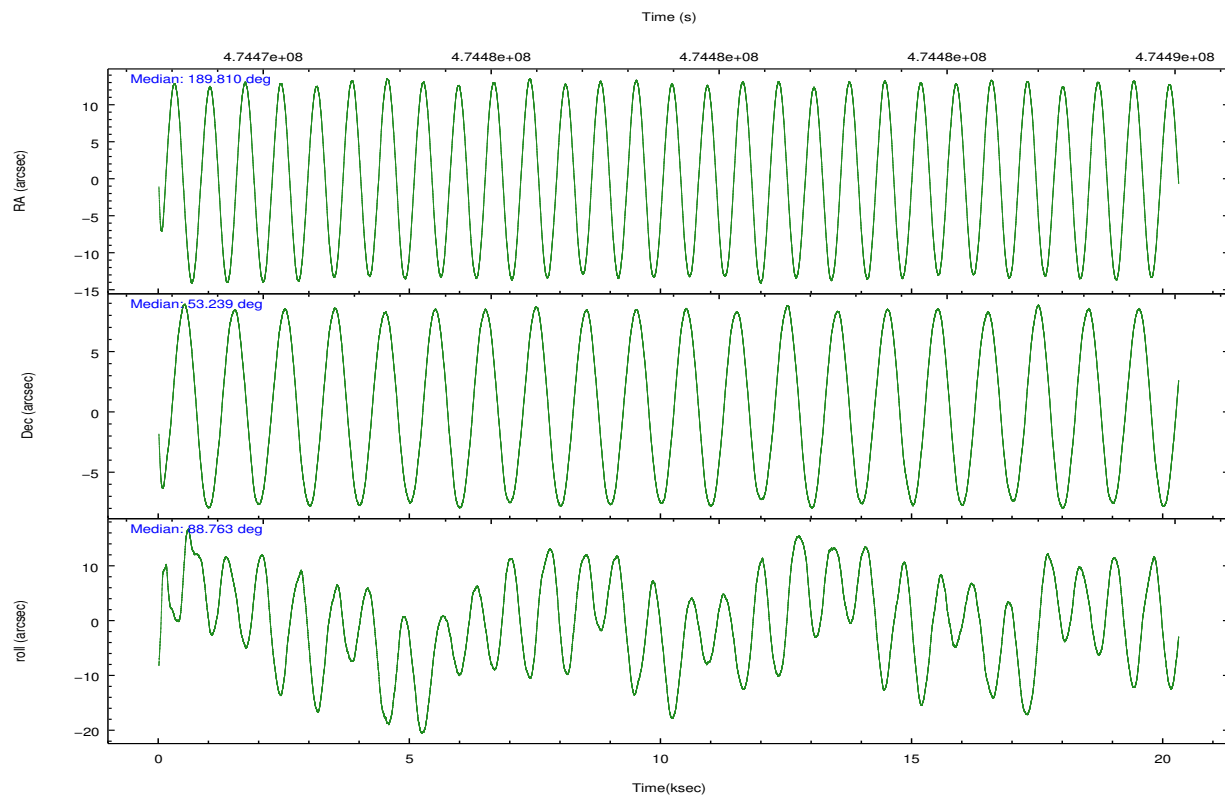
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
grade 0 events	4389	10199	4580	6122	11254
	4%	8%	4%	4%	7%
grade 1 events	55	84	49	178	116
	0%	0%	0%	0%	0%
grade 2 events	2969	2696	2989	13690	9462
	2%	2%	2%	9%	6%
grade 3 events	1191	1261	1375	5917	3951
	1%	1%	1%	3%	2%
grade 4 events	1222	1253	1444	5846	3776
	1%	1%	1%	3%	2%
grade 5 events	4774	5659	5952	15455	8479
	4%	4%	5%	10%	5%
grade 6 events	2510	2581	3029	35610	10920
	2%	2%	2%	23%	7%
grade 7 events	90814	91332	92749	68622	100955
	84%	79%	82%	45%	67%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-23678	ACIS-23678	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	189.832465	189.8099886053036	CCD I2 on	O2	Y
[deg] Pointing Dec	53.215277	53.23905609257894	CCD I3 on	O1	Y
[deg] Pointing Roll	88.587926	88.76254642250649	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	N	N
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1400660498719	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	CCD S4 on	O3	Y
[s] Observation start time (MET)	474469054.184000	474468045.64963	CCD S5 on	N	N
Observation start date	2013-01-13T12:56:27	2013-01-13T12:40:45	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	474489054.184000	474489810.50081	On-chip summing requested	N	N
Observation end date	2013-01-13T18:29:47	2013-01-13T18:43:30	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



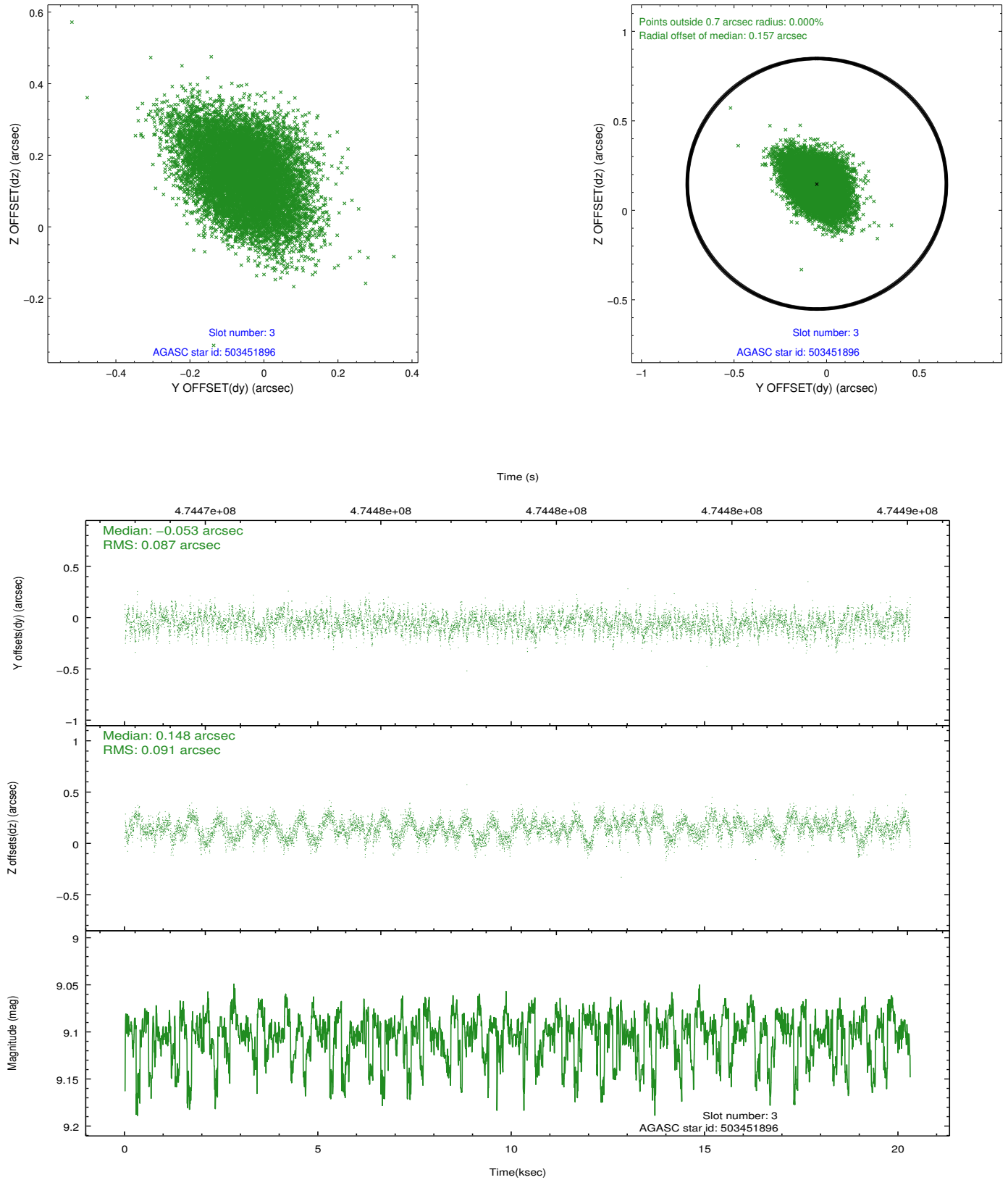


### Slot Statistics

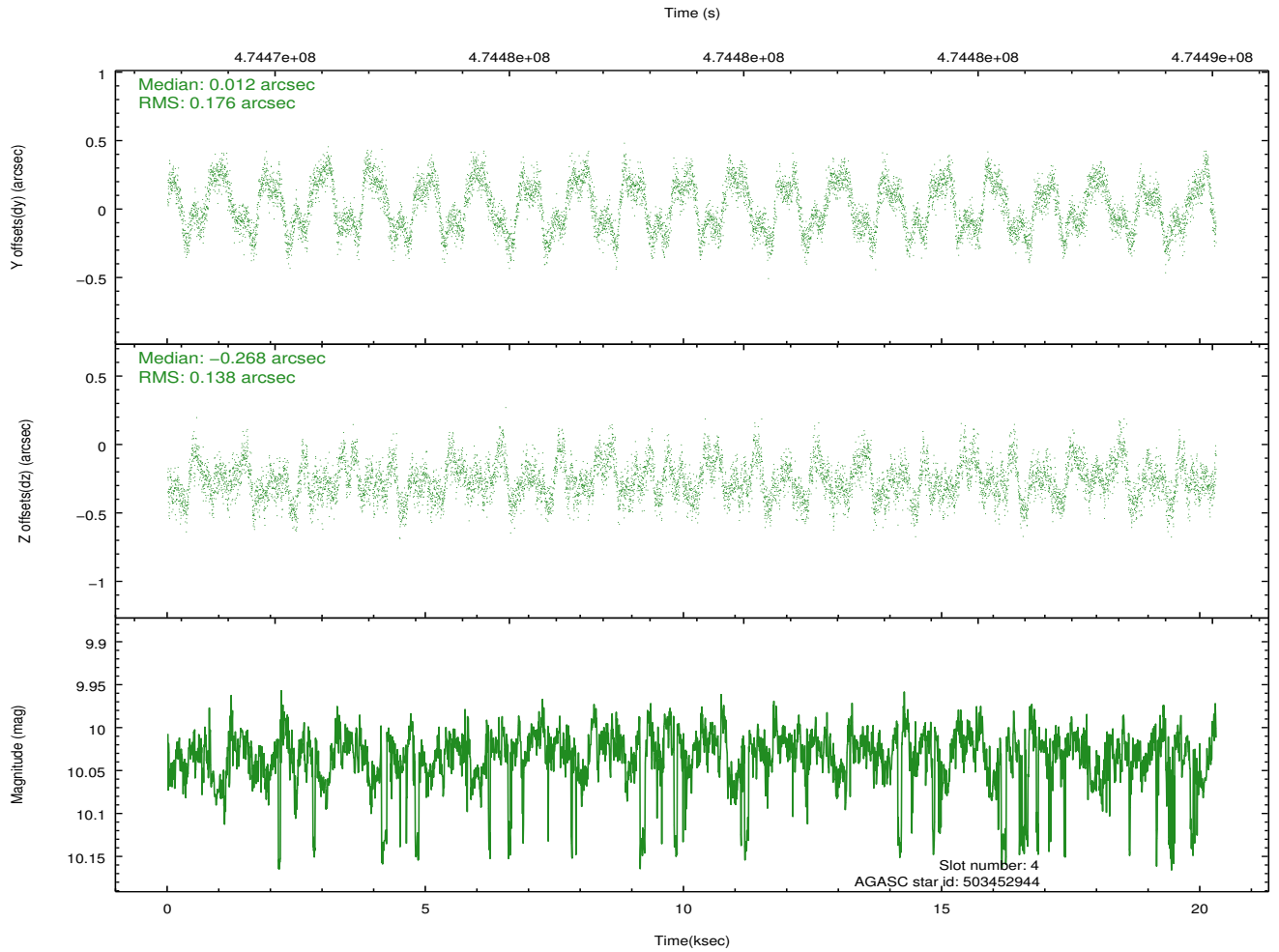
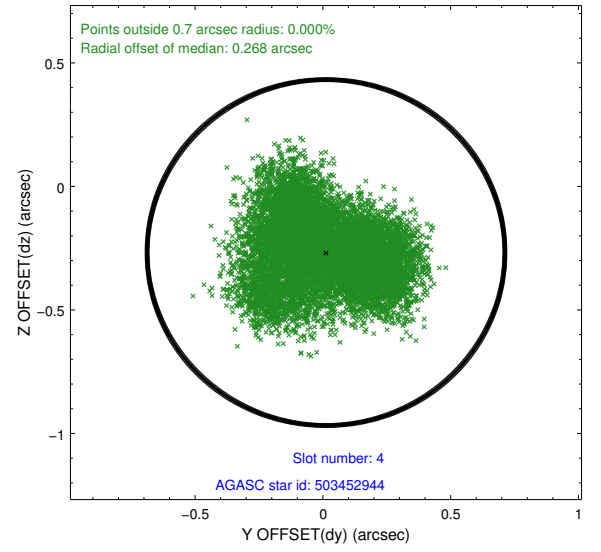
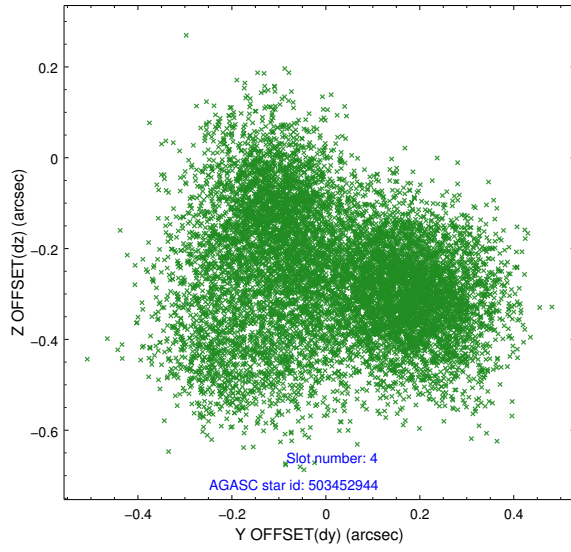
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-1	7.07	4953	0.082	-0.096	0.010	0.020	0.000000	0.000000	927.25	-1732.61
1	FID		ACIS-S-5	7.11	4953	-0.151	0.039	0.009	0.014	0.000000	0.000000	-1821.92	164.84
2	FID		ACIS-S-6	7.21	4953	0.048	0.068	0.010	0.016	0.000000	0.000000	392.52	809.08
3	GUIDE	used	503451896	9.10	9854	-0.053	0.148	0.134	0.218	190.970723	53.808346	2213.93	-2365.50
4	GUIDE	used	503452944	10.03	9764	0.012	-0.268	0.246	0.359	189.079920	53.109236	-412.32	1616.30
5	GUIDE	used	503456160	10.30	9885	0.040	0.017	0.268	0.407	189.098698	52.742399	-1732.54	1557.41
6	GUIDE	used	503456216	9.46	9894	-0.231	-0.168	0.173	0.273	189.385132	53.753172	1916.73	1002.36
7	GUIDE	used	503457368	10.41	9805	0.243	0.253	0.240	0.393	190.025572	53.026920	-666.03	-434.14

## 2.4 Star Slots

### 2.4.1 Slot 3

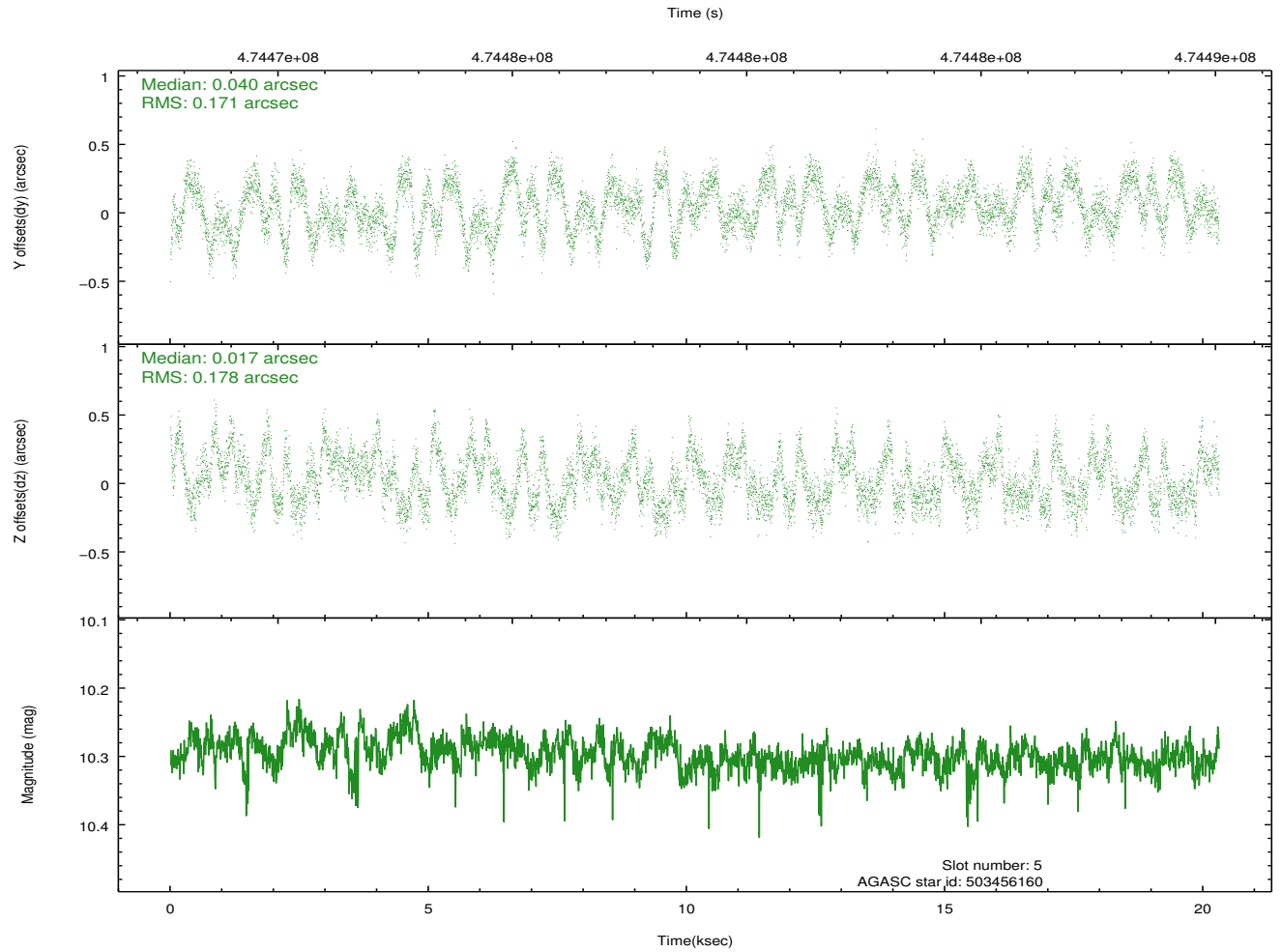
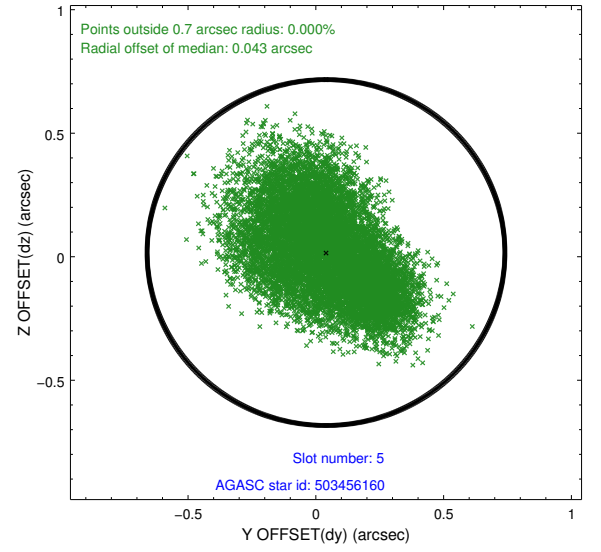
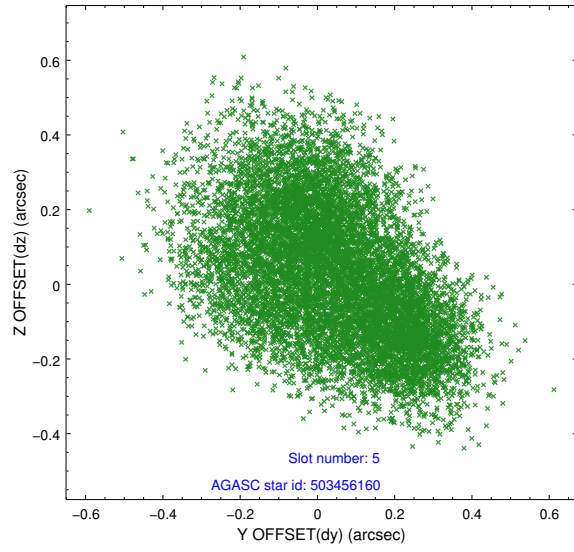


## 2.4.2 Slot 4

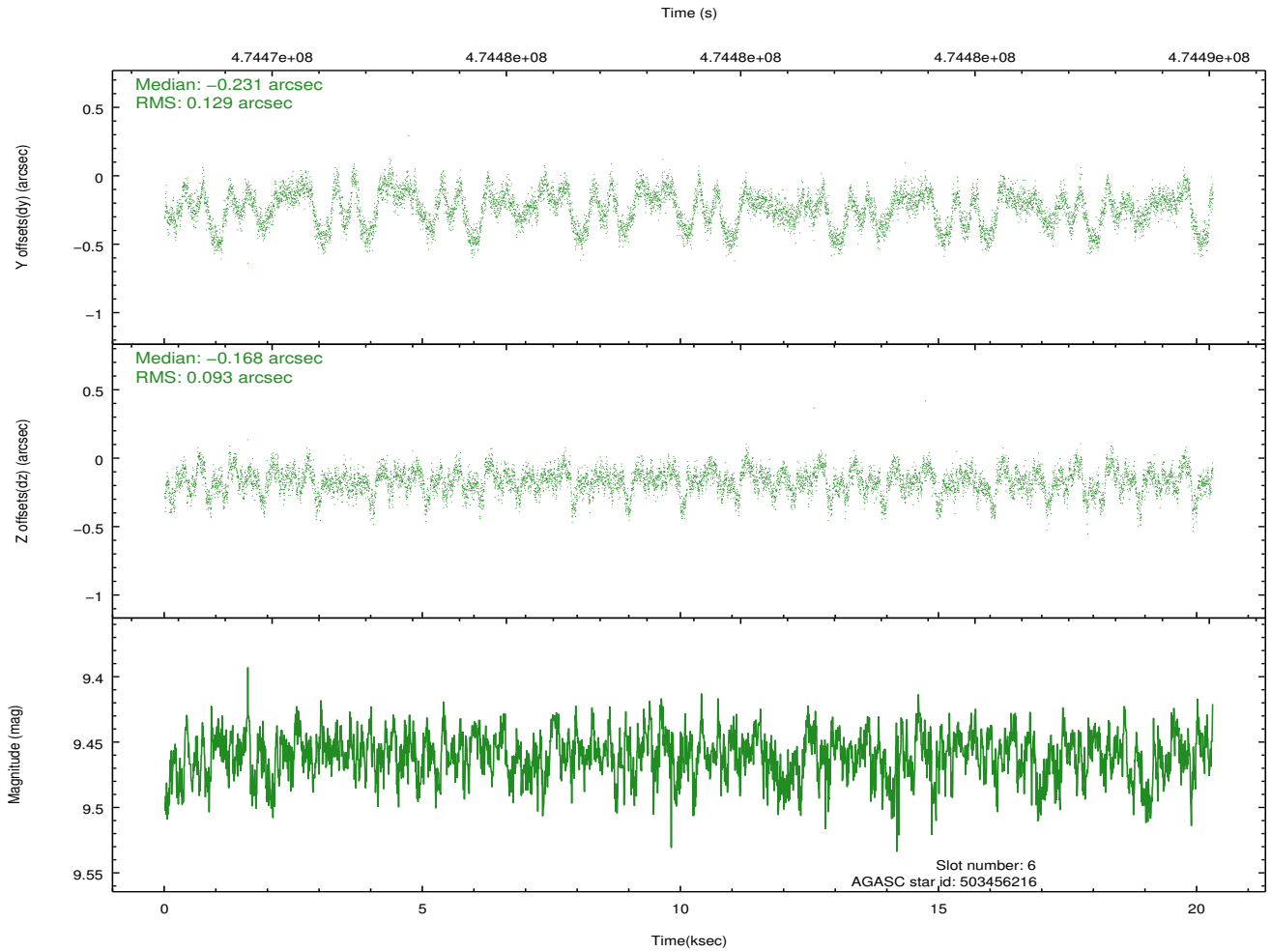
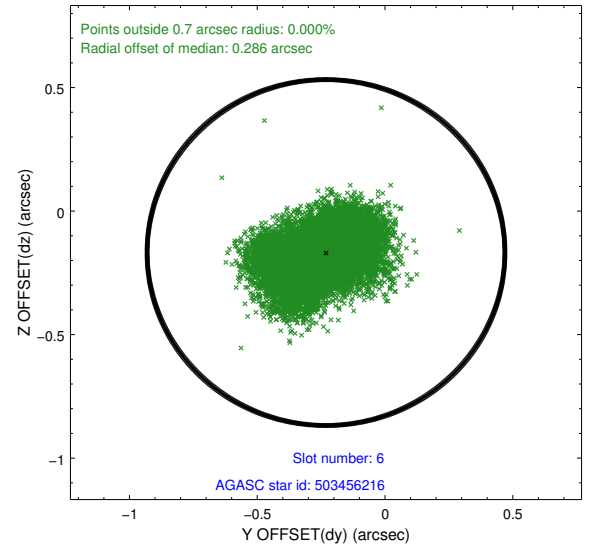
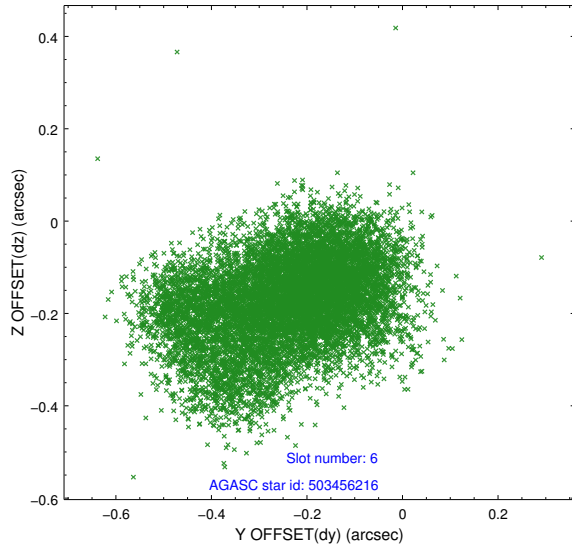




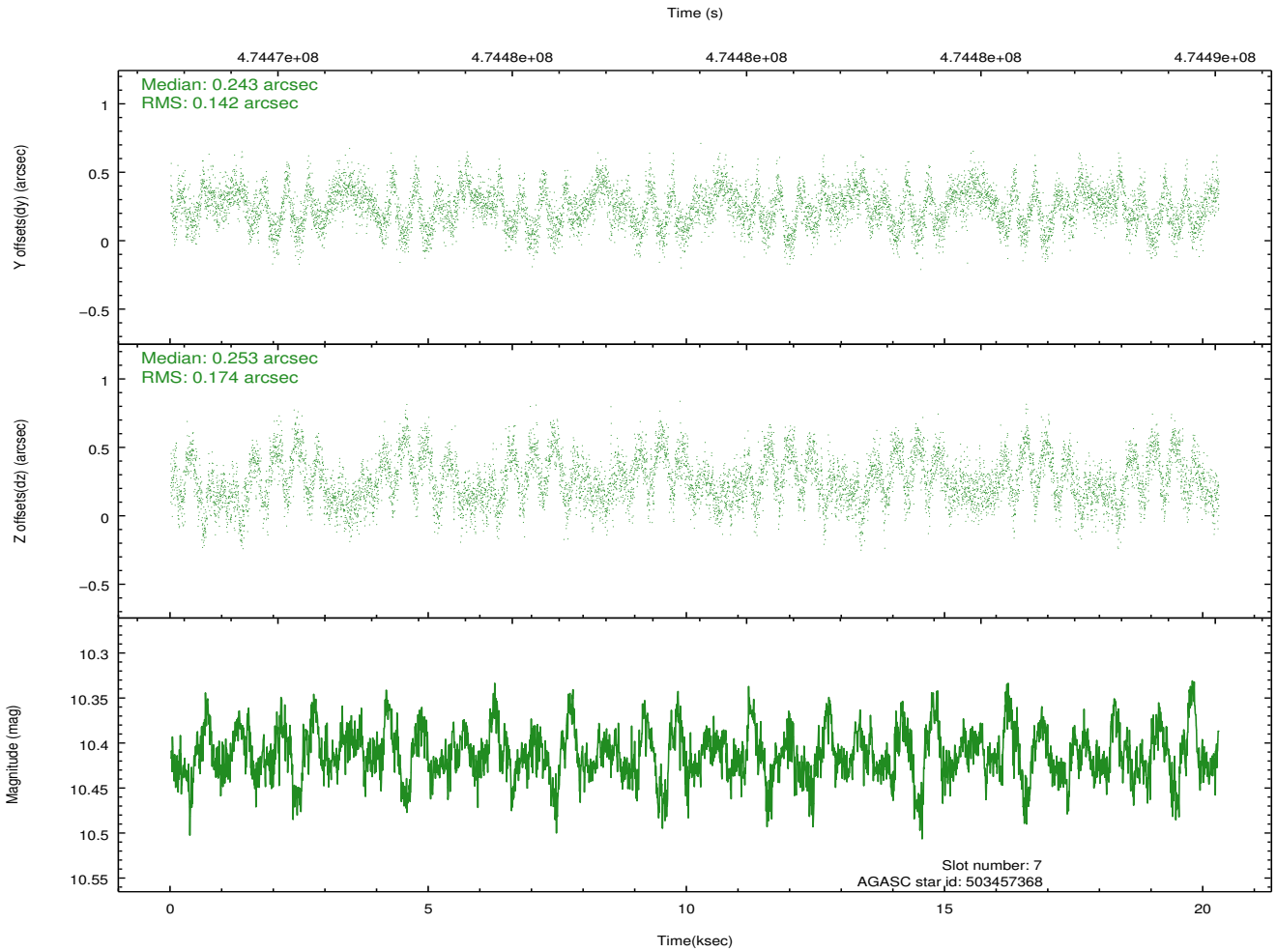
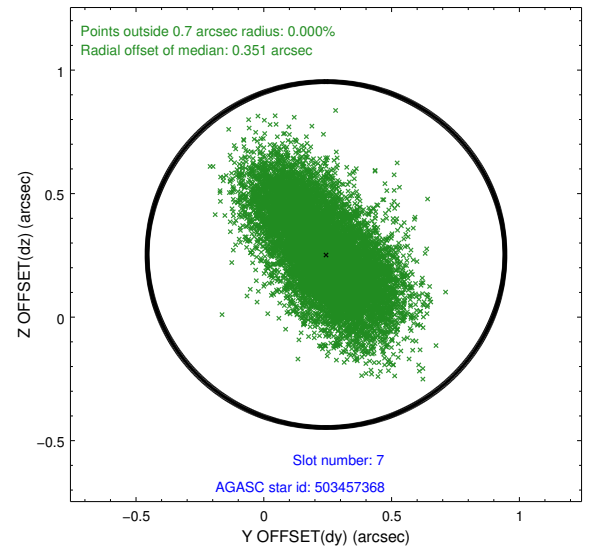
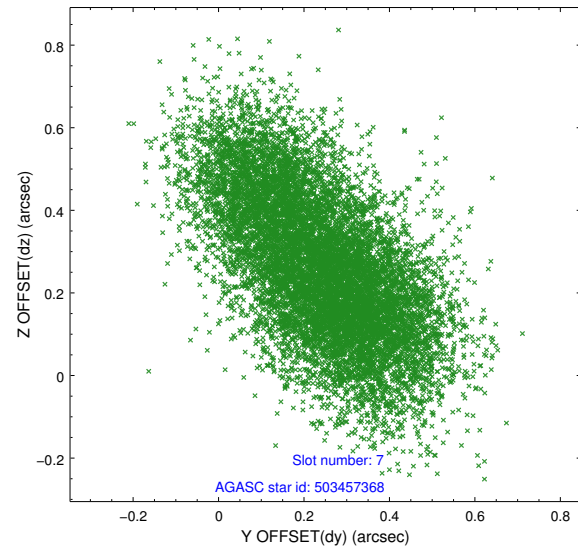
### 2.4.3 Slot 5



## 2.4.4 Slot 6

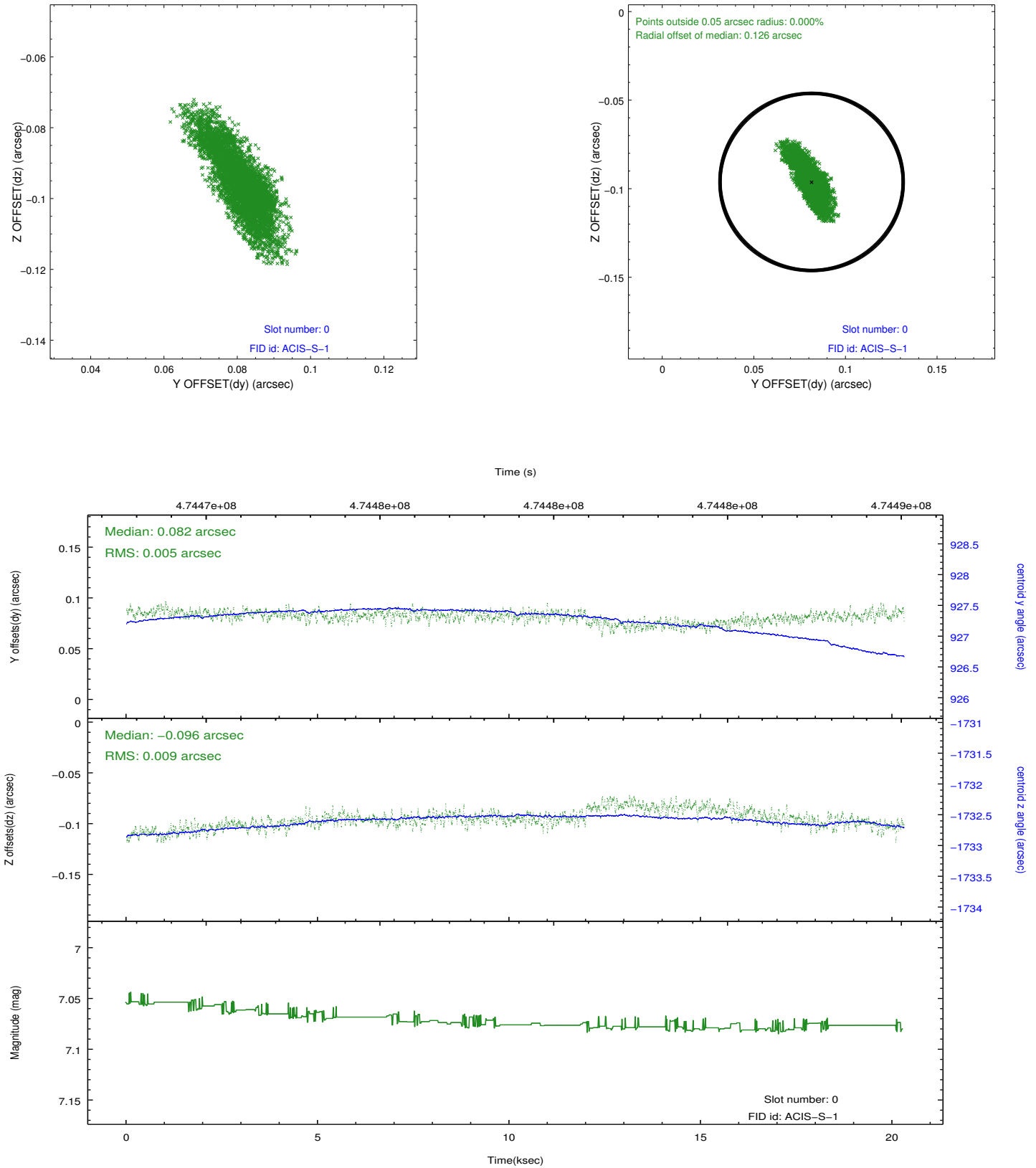


## 2.4.5 Slot 7

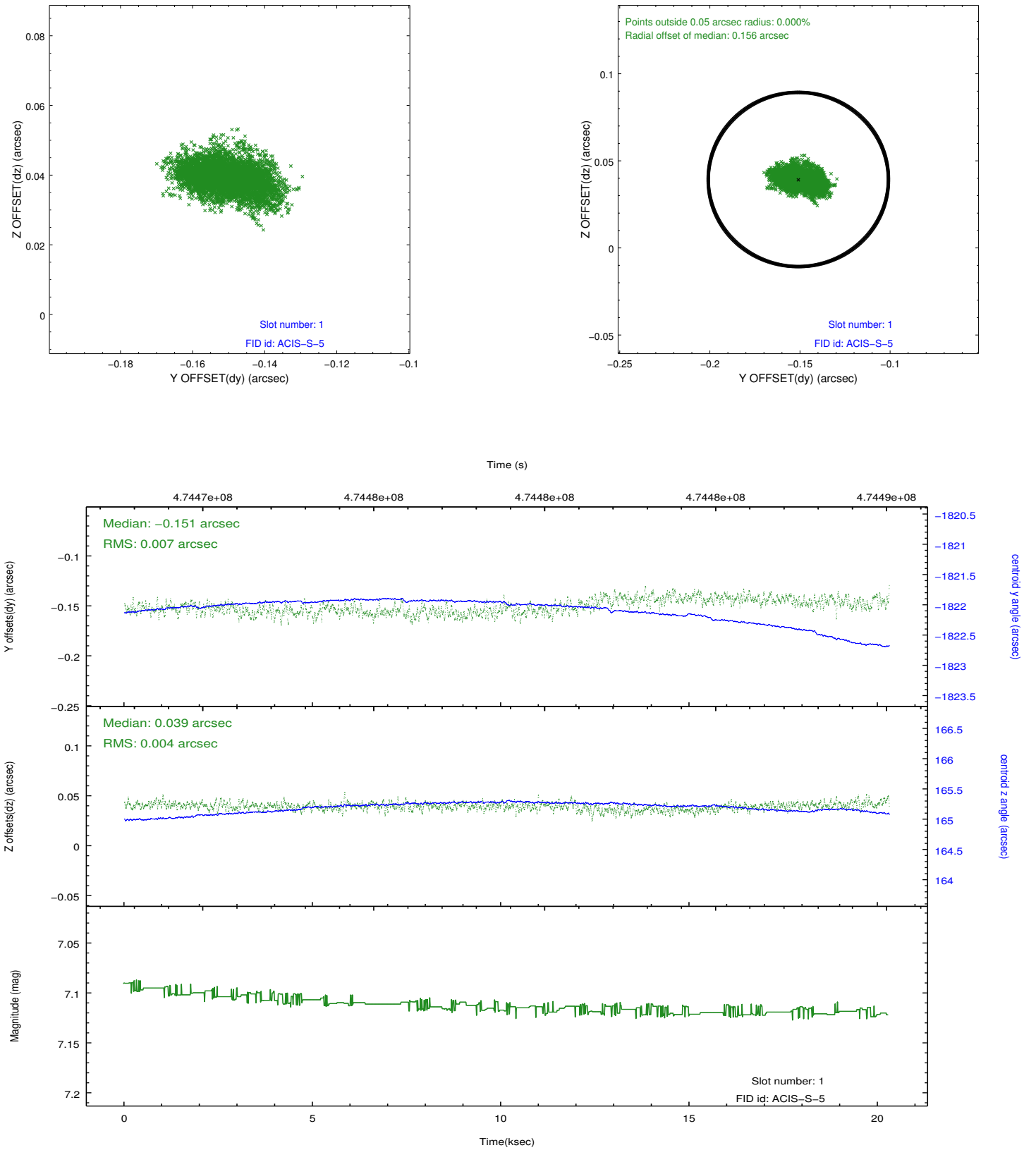


## 2.5 FID Slots

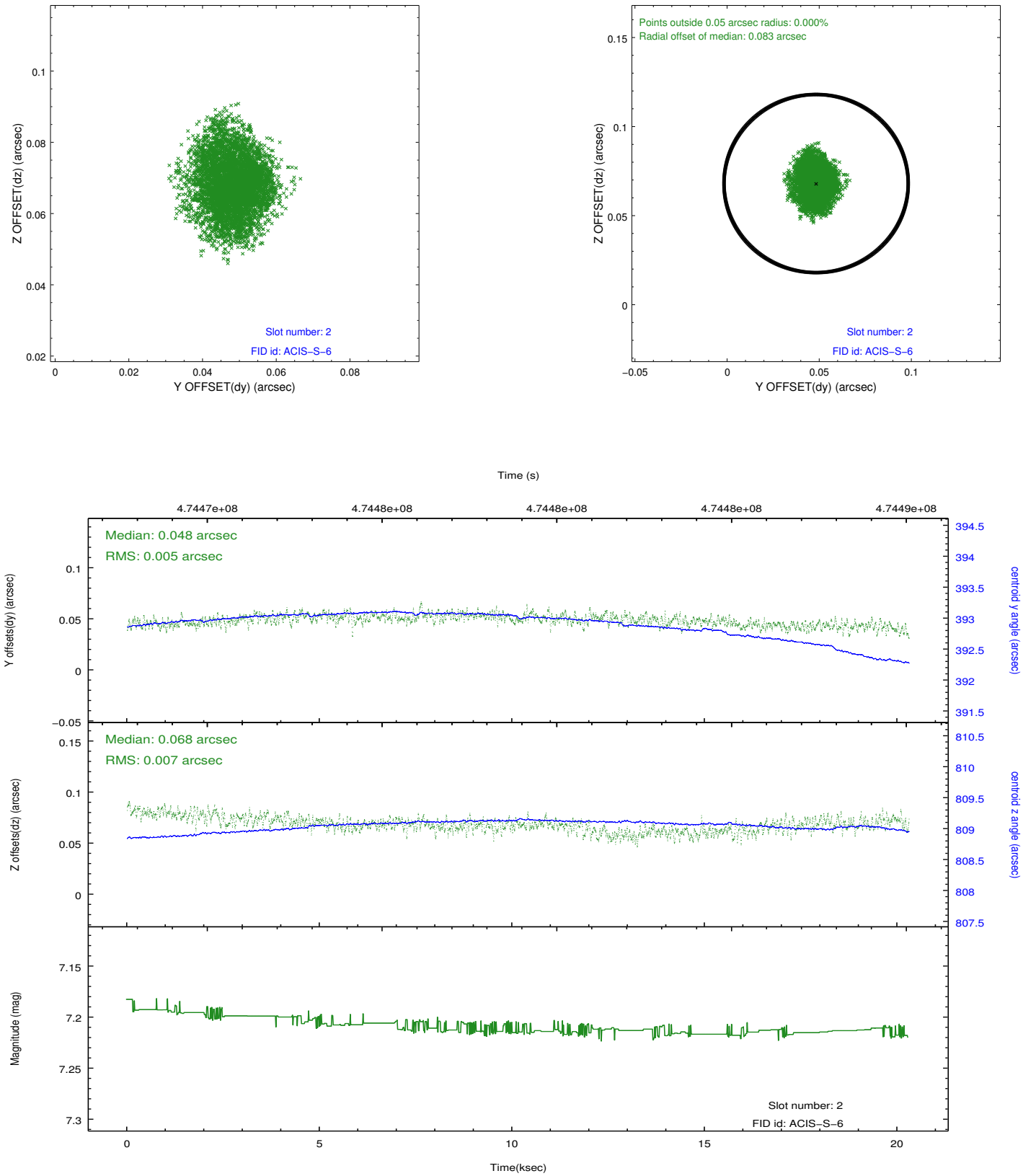
### 2.5.1 Slot 0



## 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)	2014.12.08
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.066300154328

## 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.