

# V&V Reference Report

## L2 ASCDS Version : 10.2.1

Observation 15794 - L2 Version 2  
Chandra X-Ray Center

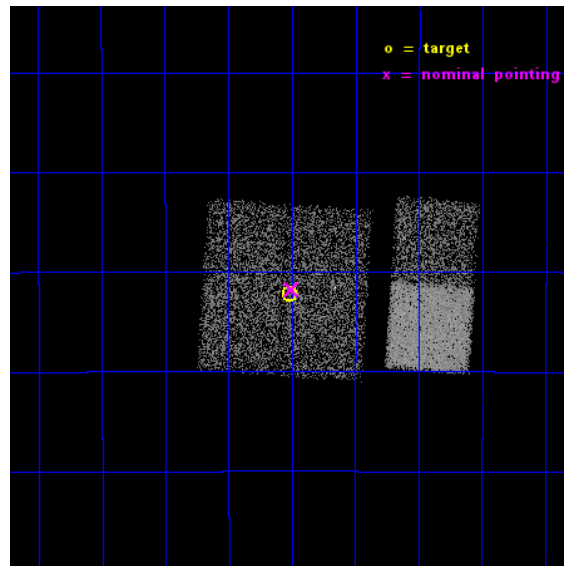
L2 Processing Date : Dec 10 2014

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# 1 Front

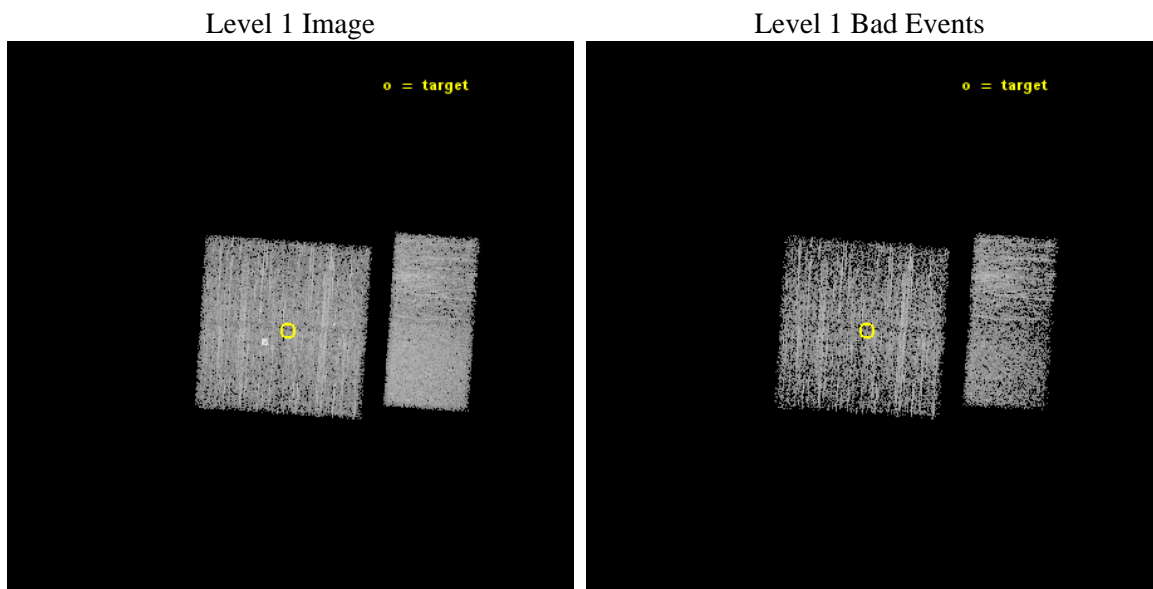
seq_num	401591	Sequence number
obs_id	15794	Observation id
title	The Nature of INTEGRAL Sources in the Galactic Plane	Proposal titl
observer	Dr. John Tomsick	Principal investigator
object	IGR J18088-2741	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	272.254167	Observer's specified target RA [deg]
dec_targ	-27.704	Observer's specified target Dec [deg]
ra_nom	272.2510323228	Nominal RA [deg]
dec_nom	-27.696162141547	Nominal Dec [deg]
roll_nom	93.957944427316	Nominal Roll [deg]
revision	2	Processing version of data
ontime	4975.3959341645	Sum of GTIs [s]
livetime	4912.3944750224	Livetime [s]
ontime0	4975.2728141546	Sum of GTIs [s]
ontime1	4975.3138541579	Sum of GTIs [s]
ontime2	4975.3548941612	Sum of GTIs [s]
ontime3	4975.3959341645	Sum of GTIs [s]
ontime6	4975.4780141711	Sum of GTIs [s]
ontime7	4975.4369741678	Sum of GTIs [s]
l2events	27224	Number of level 2 events



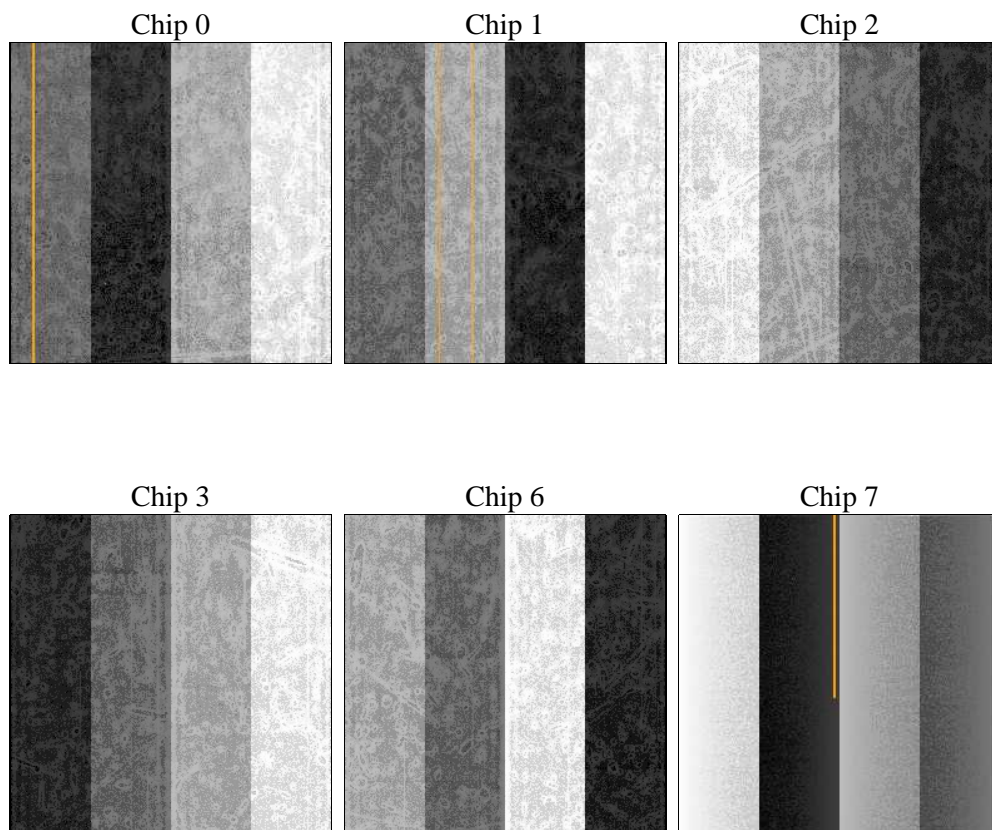
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	5000.000000	[s] Scheduled observation exposure time
ascdsver	10.3.1	Processing system revision	ontime	4975.3959341645	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime0	4975.2728141546	Sum of GTIs [s]
date	2014-12-10T10:13:28	Date and time of file creation	ontime1	4975.3138541579	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	4975.3548941612	Sum of GTIs [s]
			ontime3	4975.3959341645	Sum of GTIs [s]
			ontime6	4975.4780141711	Sum of GTIs [s]
			ontime7	4975.4369741678	Sum of GTIs [s]
			l1events	143766	Number of level 1 events

### 2.1.4 Events

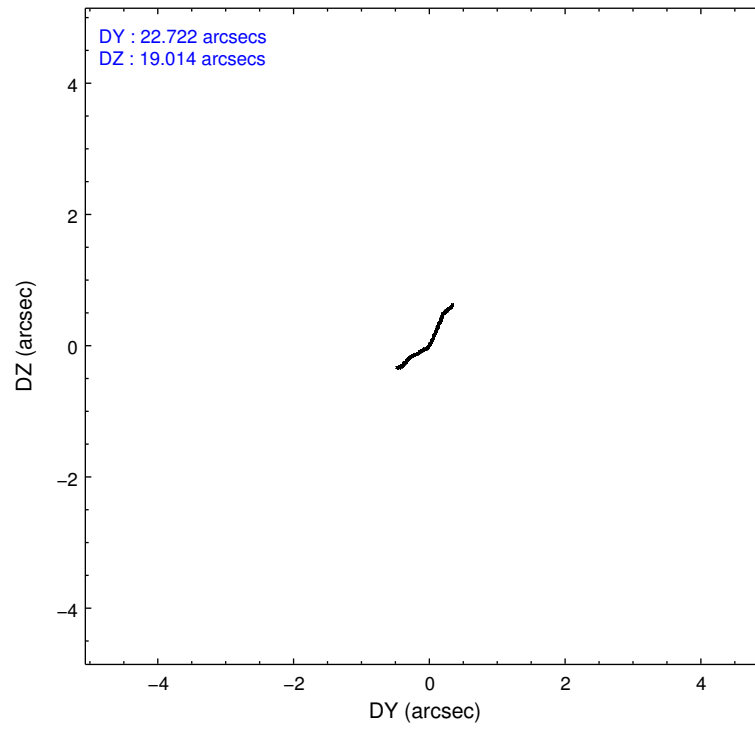
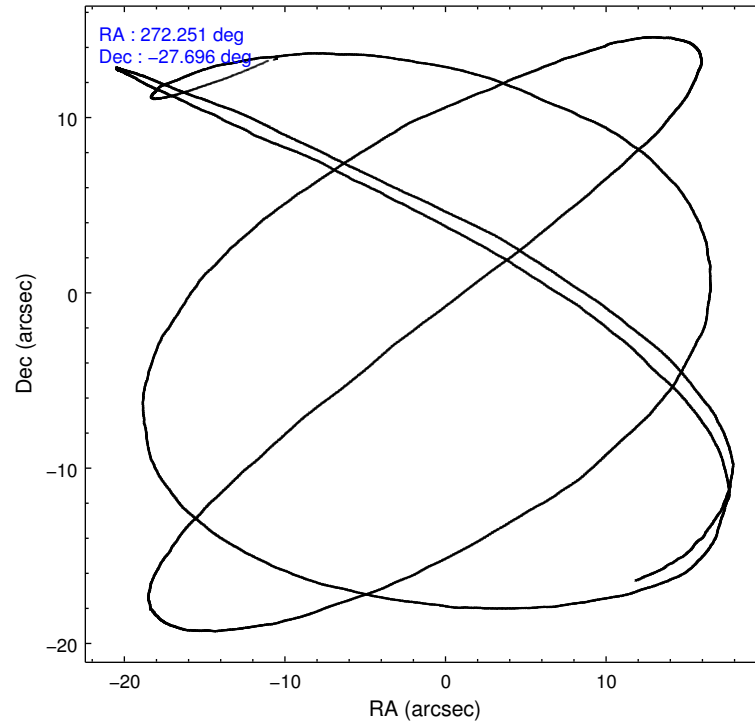
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7		ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	20733	22536	22520	22798	24382	30797	grade 0 events	1331	2893	1444	1358	1304	1403
rejected events	17550	17653	19351	19789	21176	16963		6%	12%	6%	5%	5%	4%
rejected %	84%	78%	85%	86%	86%	55%	grade 1 events	10	10	19	14	16	42
								0%	0%	0%	0%	0%	0%
							grade 2 events	729	757	647	595	681	2929
								3%	3%	2%	2%	2%	9%
							grade 3 events	287	324	261	250	297	1212
								1%	1%	1%	1%	1%	3%
							grade 4 events	282	303	306	281	297	1156
								1%	1%	1%	1%	1%	3%
							grade 5 events	1045	1144	1025	1268	1185	3133
								5%	5%	4%	5%	4%	10%
							grade 6 events	556	612	516	531	630	7160
								2%	2%	2%	2%	2%	23%
							grade 7 events	16493	16493	18302	18501	19972	13762
								79%	73%	81%	81%	81%	44%

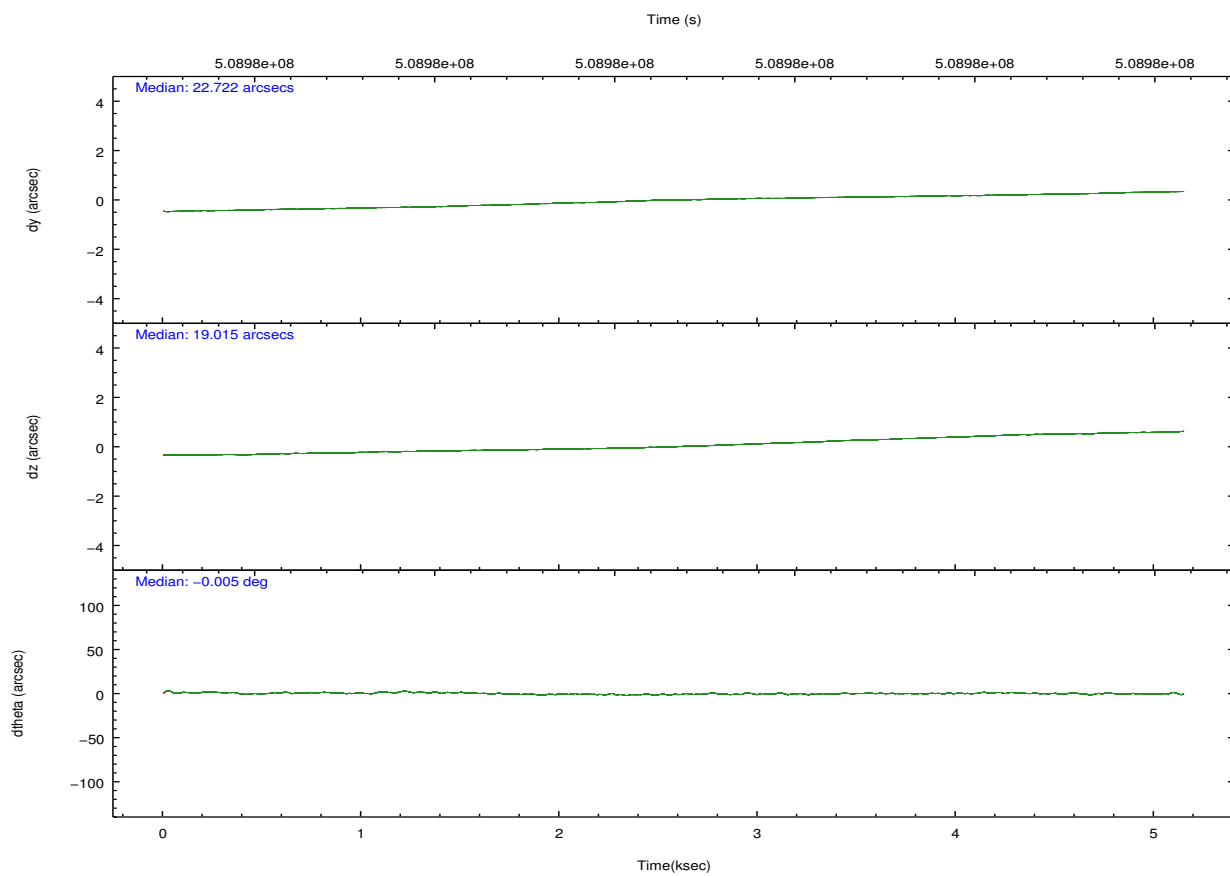
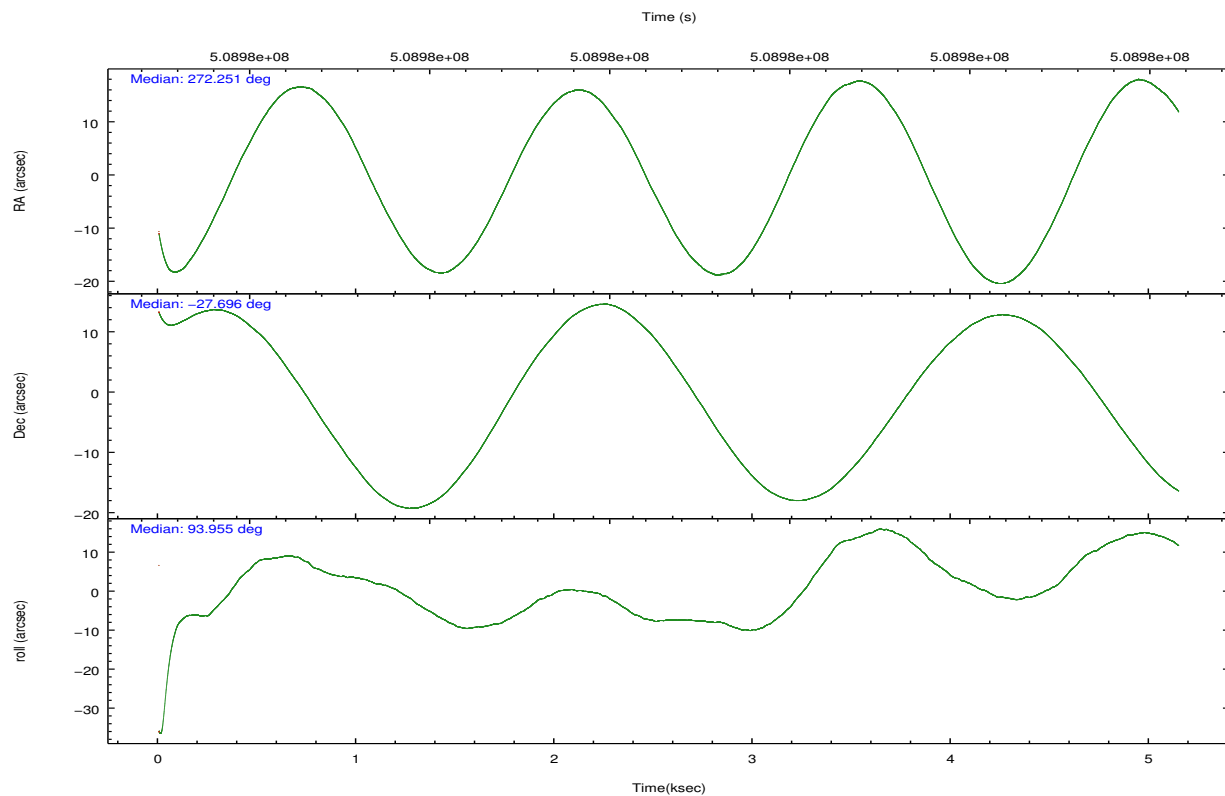


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-012367	ACIS-012367	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	272.268313	272.2510323227968	CCD I2 on	Y	Y
[deg] Pointing Dec	-27.719210	-27.69616214154684	CCD I3 on	Y	Y
[deg] Pointing Roll	93.757375	93.95794442731591	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	-233.592463	-233.5874344608287	CCD S3 on	O2	Y
[mm] SIM translation stage offset	0	-0.005018542100998502	CCD S4 on	N	N
[s] Observation start time (MET)	508978905.184000	508977859.76706	CCD S5 on	N	N
Observation start date	2014-02-16T23:00:38	2014-02-16T22:44:19	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	508983905.184000	508984861.02995	On-chip summing requested	N	N
Observation end date	2014-02-17T00:23:58	2014-02-17T00:41:01	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



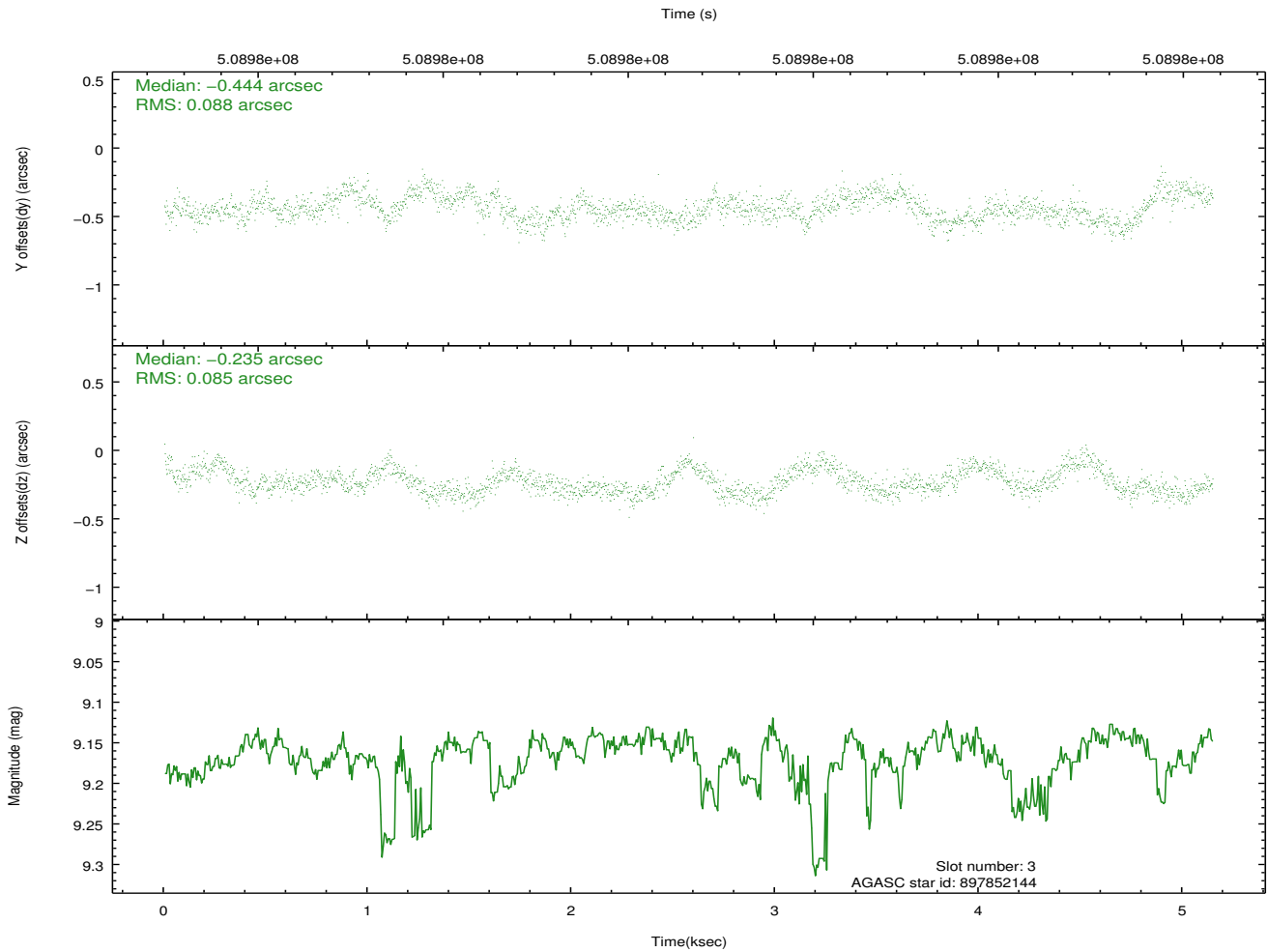
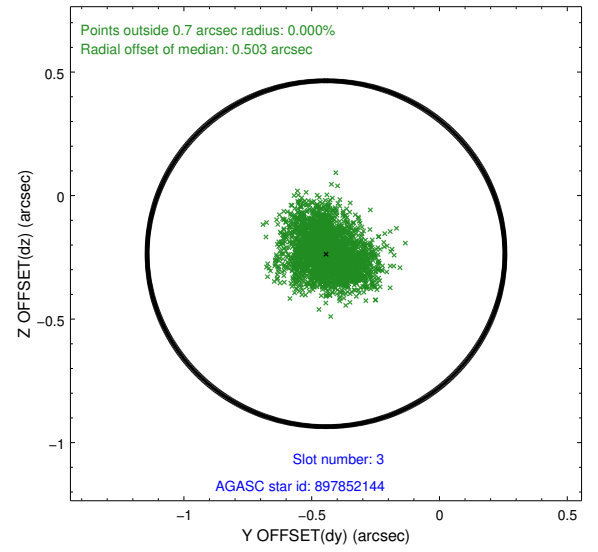
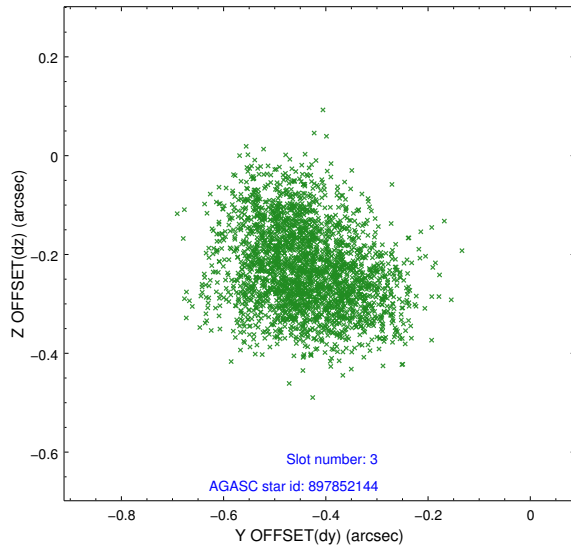


### Slot Statistics

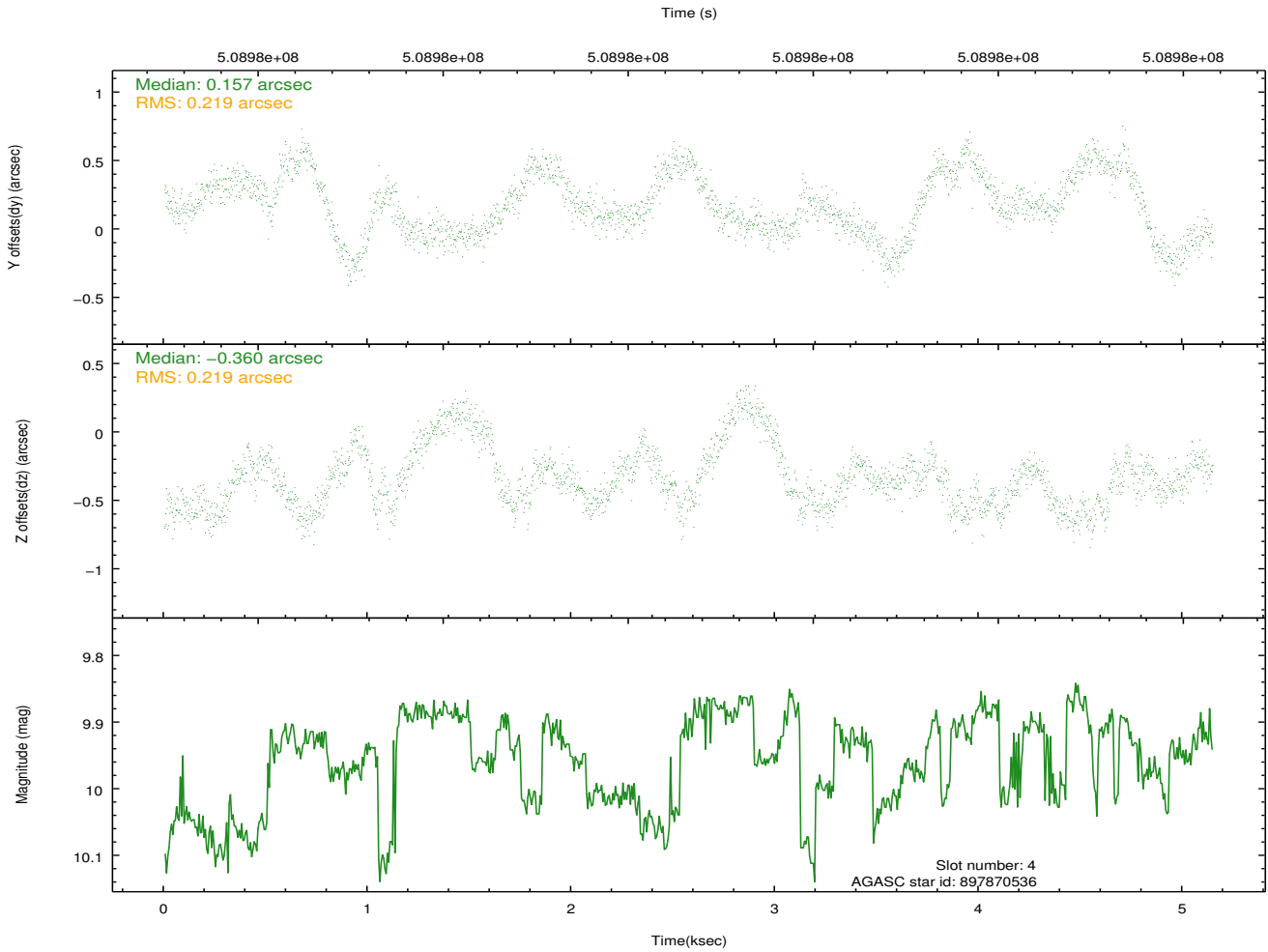
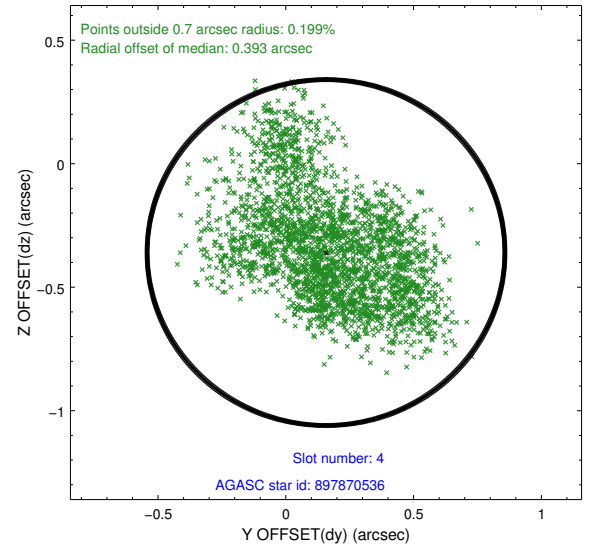
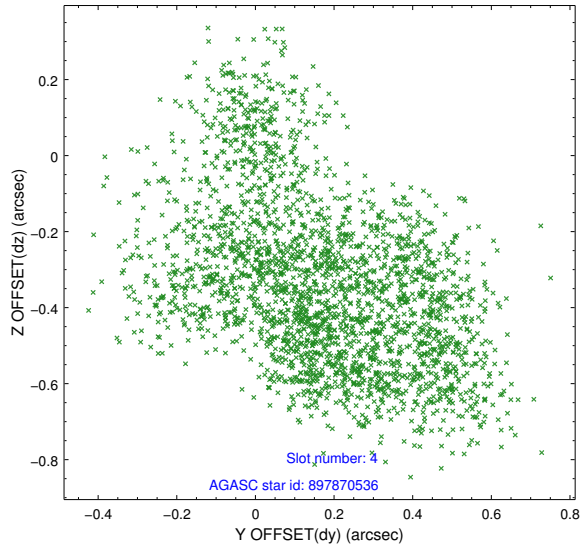
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.05	1256	-0.056	0.008	0.014	0.025	0.000000	0.000000	916.56	-842.75
1	FID		ACIS-I-4	7.00	1256	0.297	0.045	0.010	0.018	0.000000	0.000000	2137.52	1056.56
2	FID		ACIS-I-5	7.03	1256	-0.341	0.018	0.009	0.018	0.000000	0.000000	-1830.30	1055.55
3	GUIDE	used	897852144	9.17	2511	-0.444	-0.235	0.132	0.208	271.756846	-27.102058	2319.71	1490.97
4	GUIDE	used	897870536	9.95	2509	0.157	-0.360	0.332	0.530	271.938858	-27.887020	-535.31	1086.74
5	GUIDE	used	897987840	6.87	2511	0.225	0.615	0.090	0.160	272.936088	-28.032184	-1270.29	-2041.71
6	GUIDE	used	897993128	8.86	2511	-0.136	0.124	0.112	0.195	272.348606	-27.111207	2165.73	-399.99
7	GUIDE	used	898028672	7.36	2510	0.185	-0.153	0.115	0.189	272.225727	-27.783637	-222.24	150.83

## 2.4 Star Slots

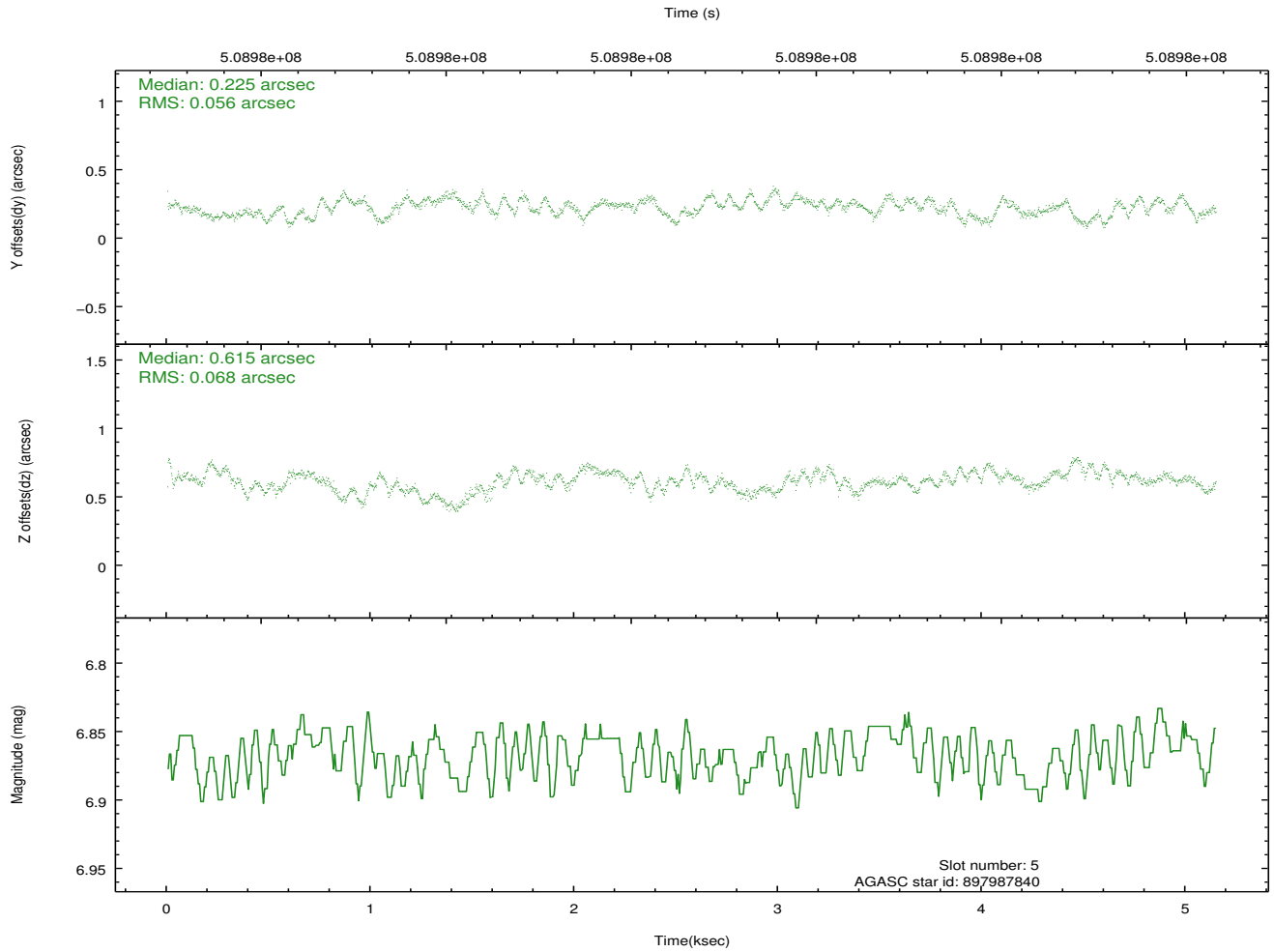
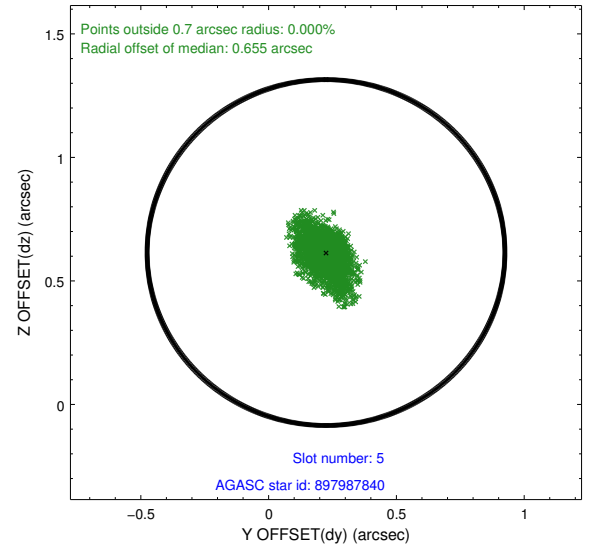
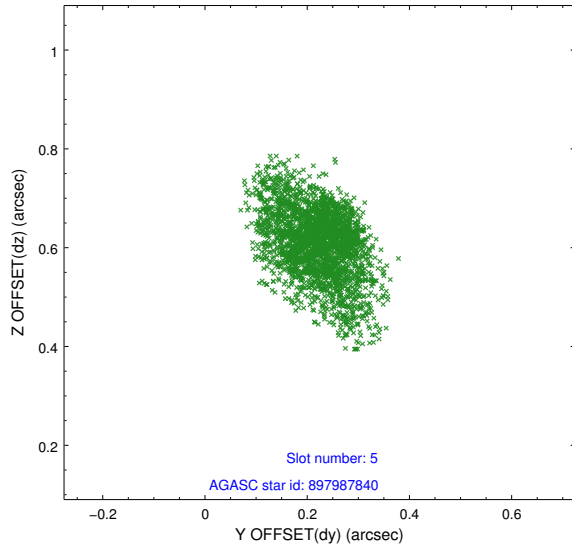
### 2.4.1 Slot 3



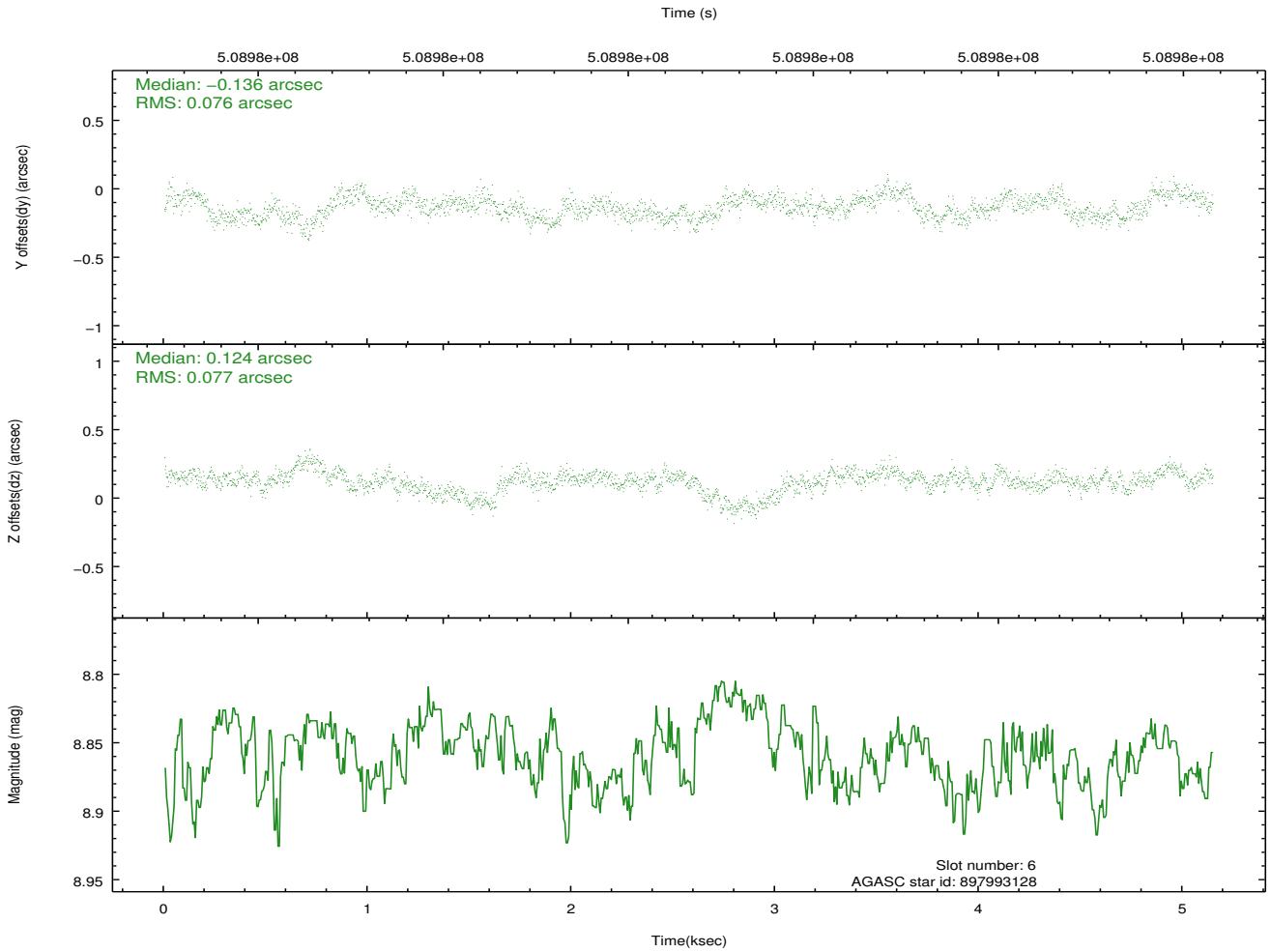
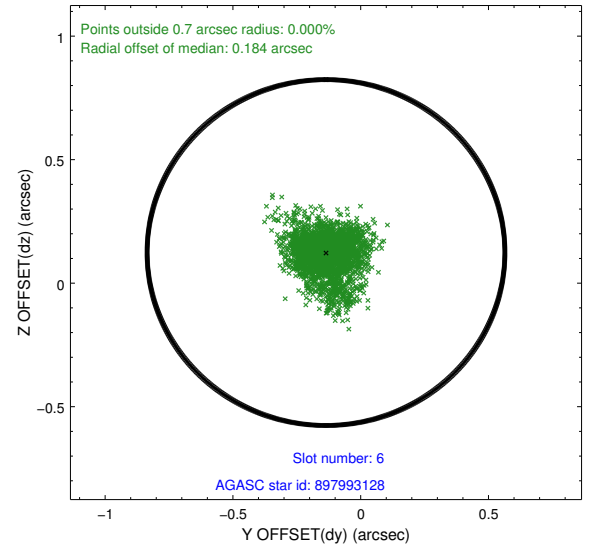
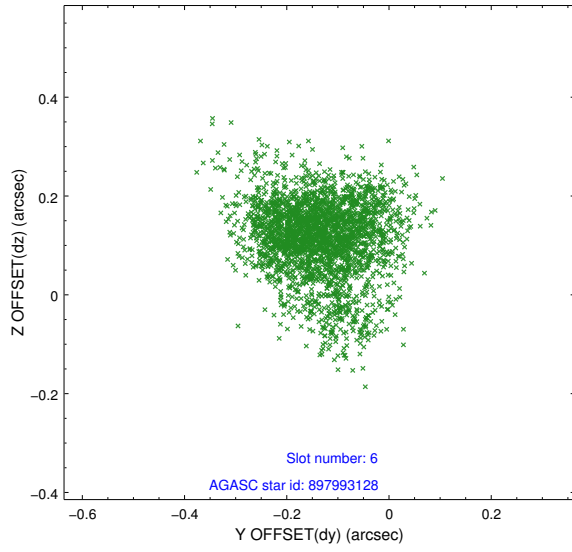
## 2.4.2 Slot 4



### 2.4.3 Slot 5

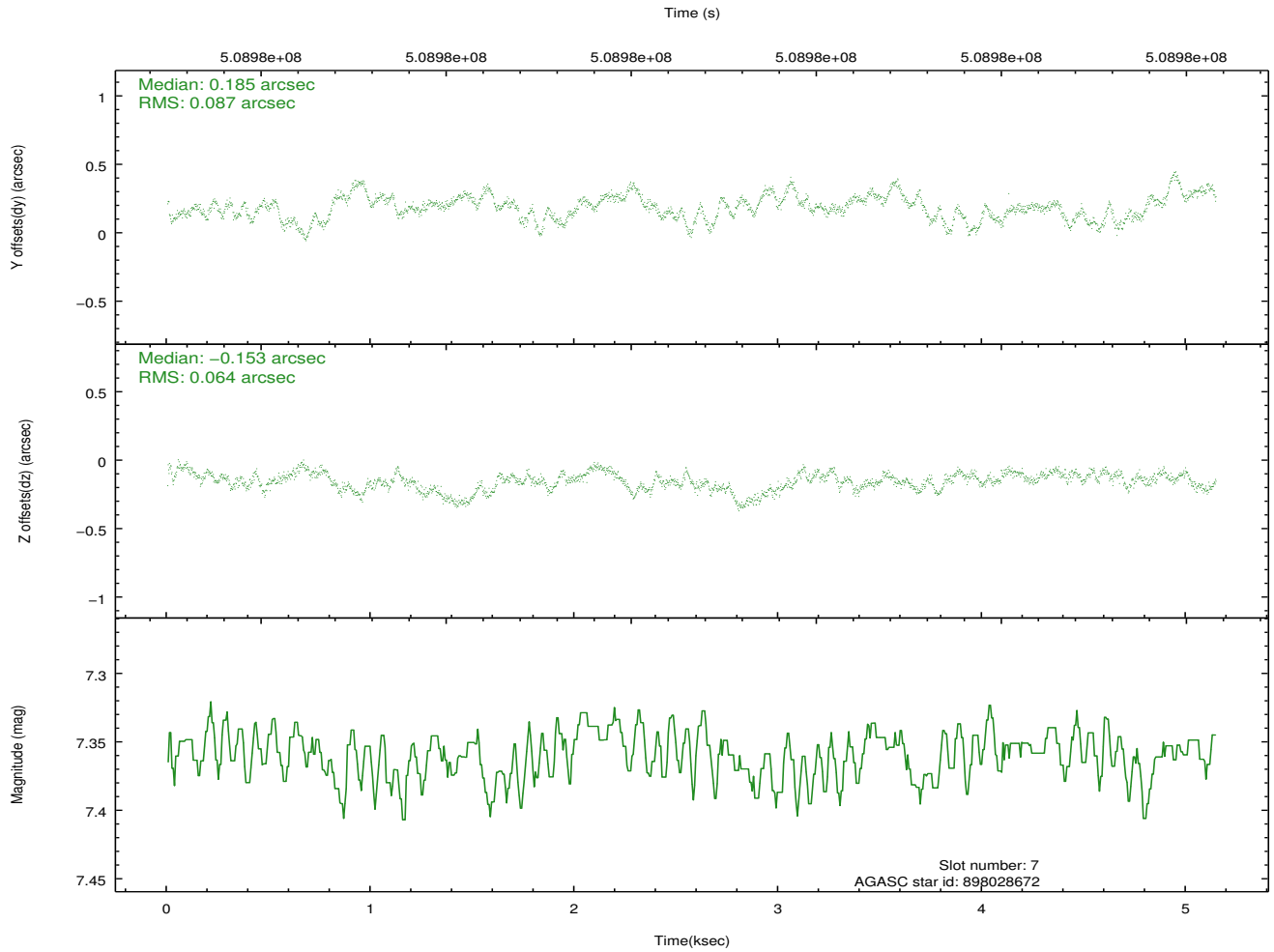
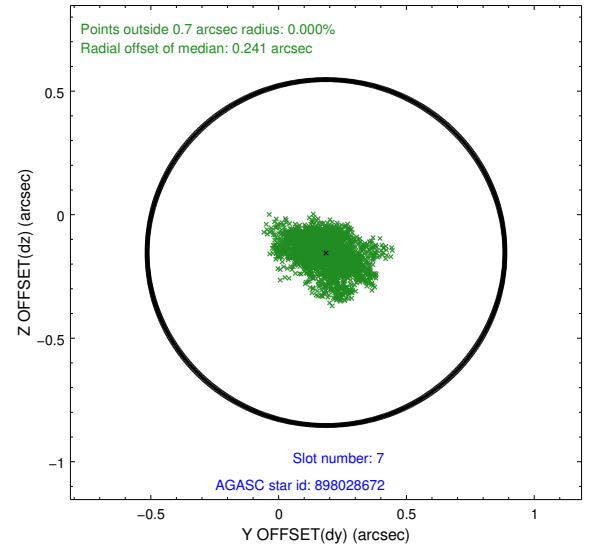
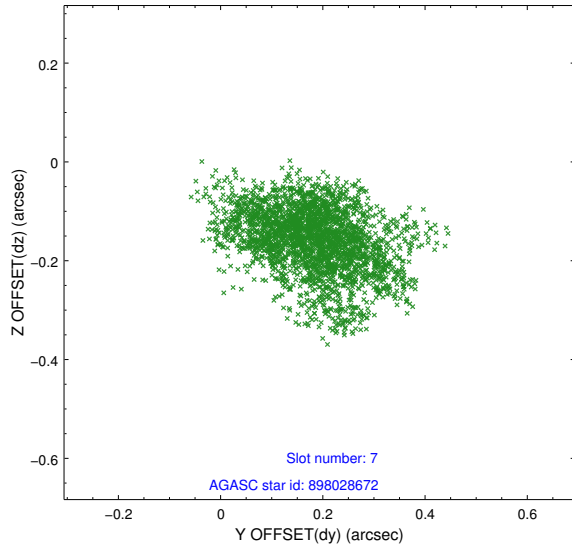


## 2.4.4 Slot 6



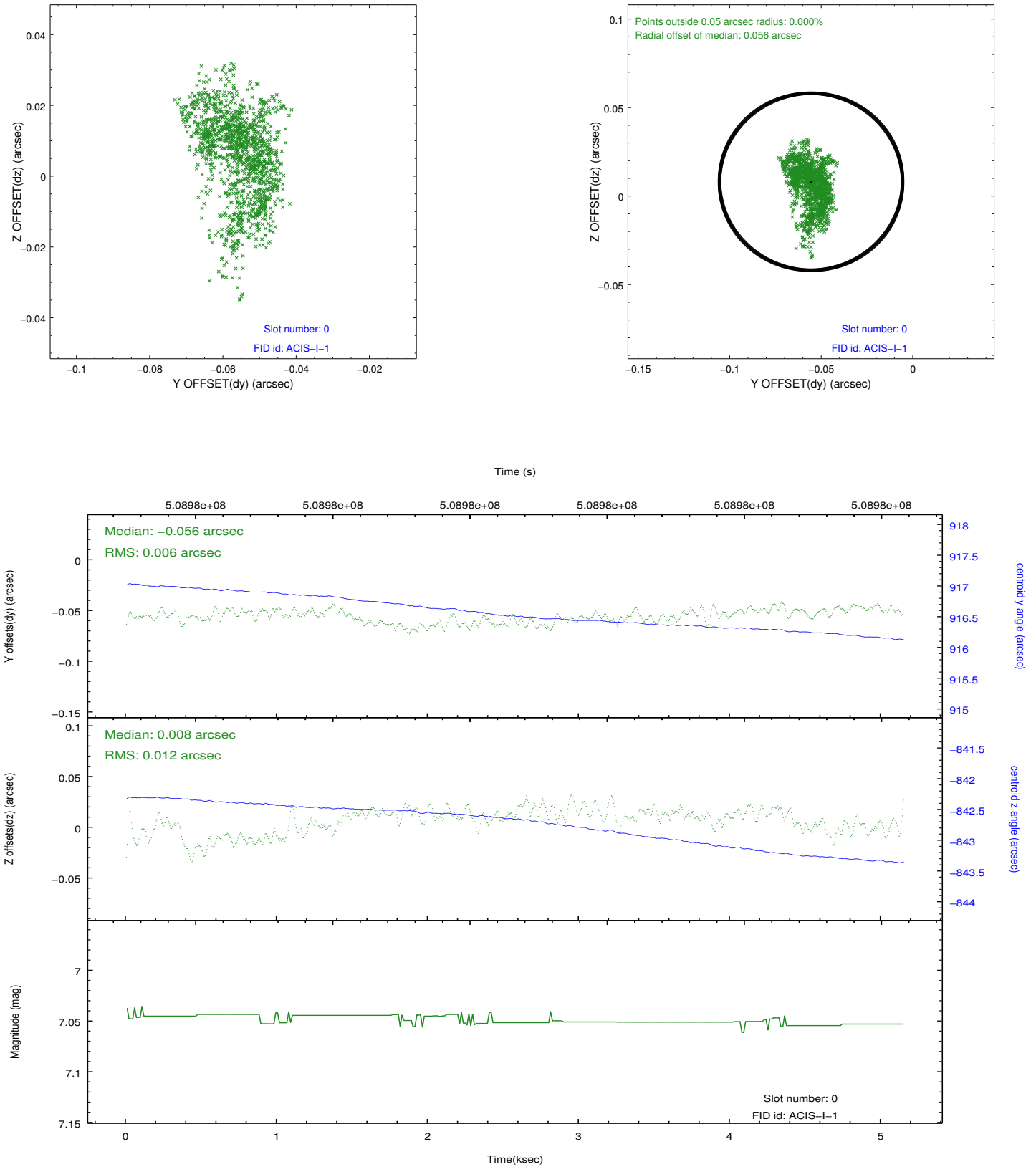


## 2.4.5 Slot 7

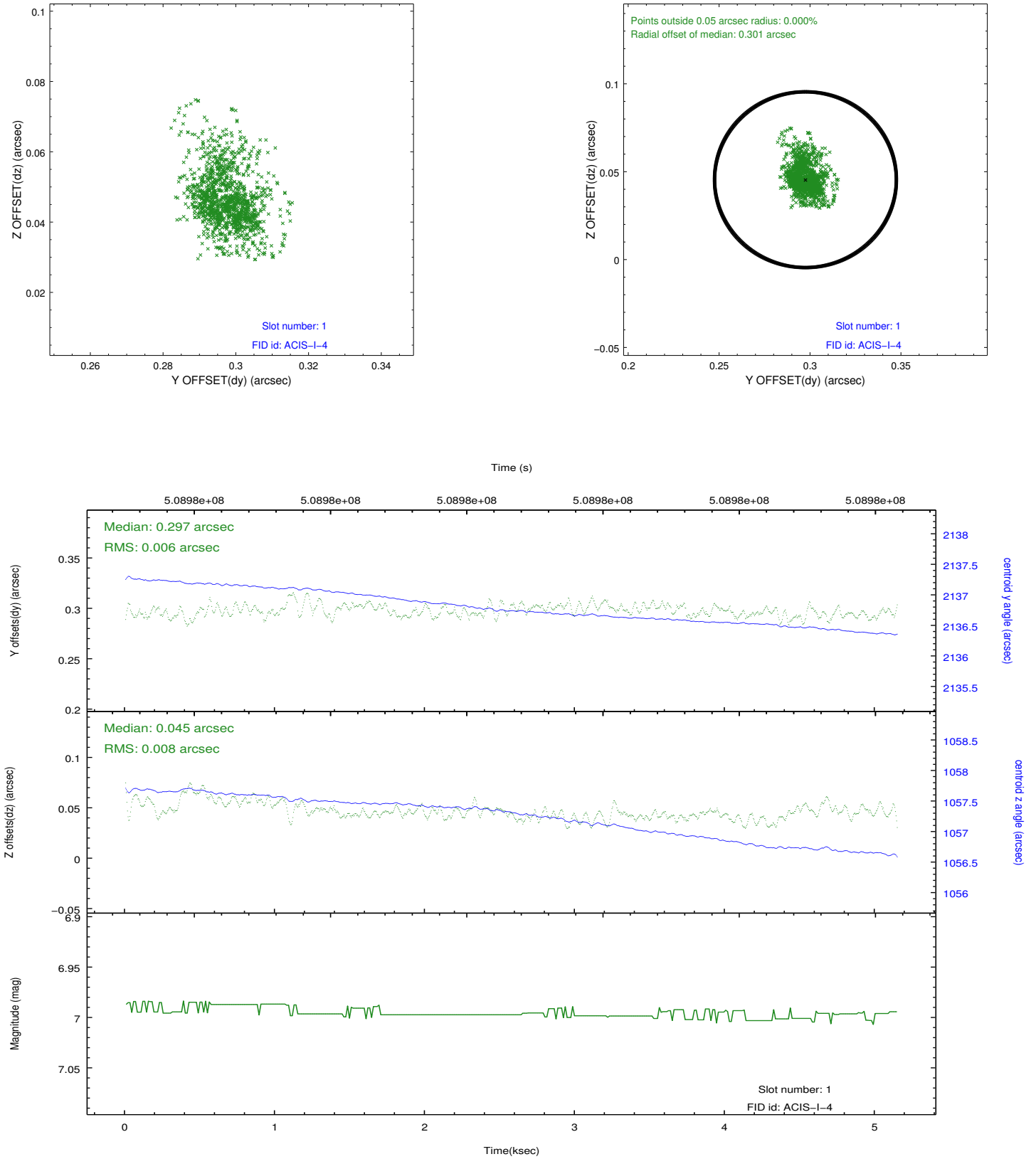


## 2.5 FID Slots

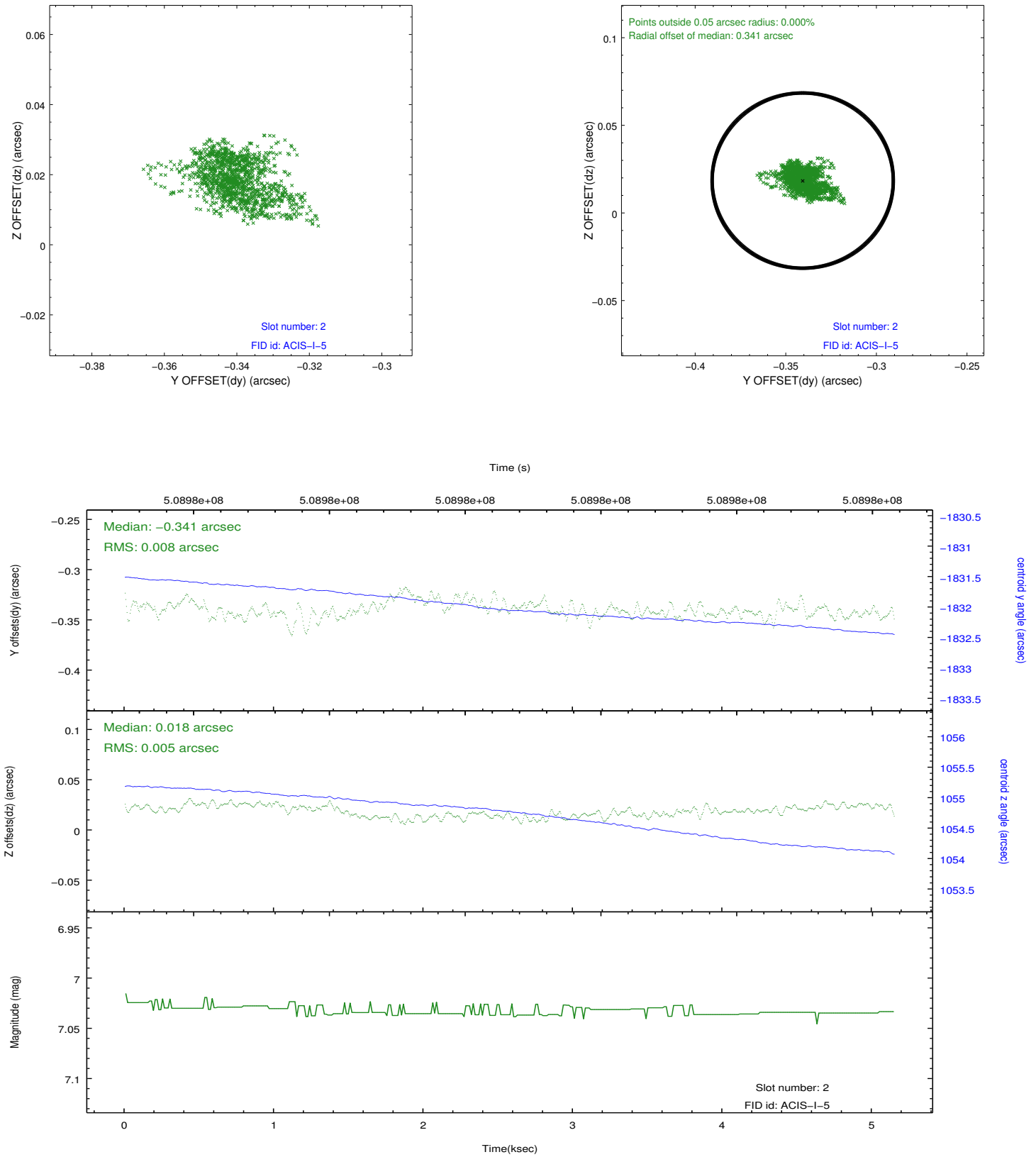
### 2.5.1 Slot 0



## 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)	2014.12.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	4.9753959341645

## 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.