

# V&V Reference Report

## L2 ASCDS Version : 10.1.1

Observation 15711 - L2 Version 2  
Chandra X-Ray Center

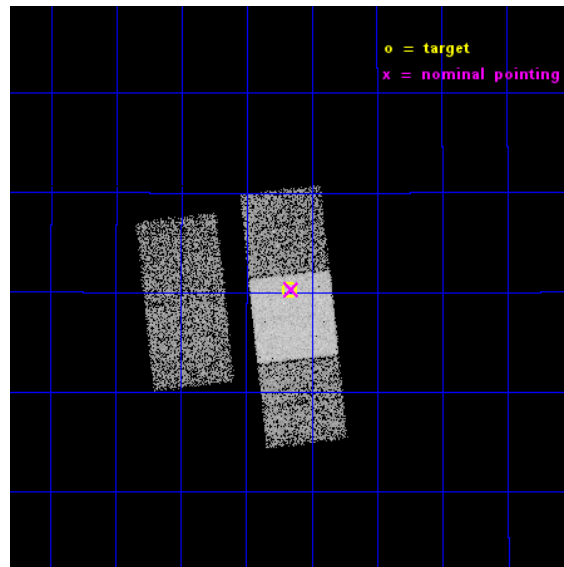
L2 Processing Date : Dec 8 2014

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# 1 Front

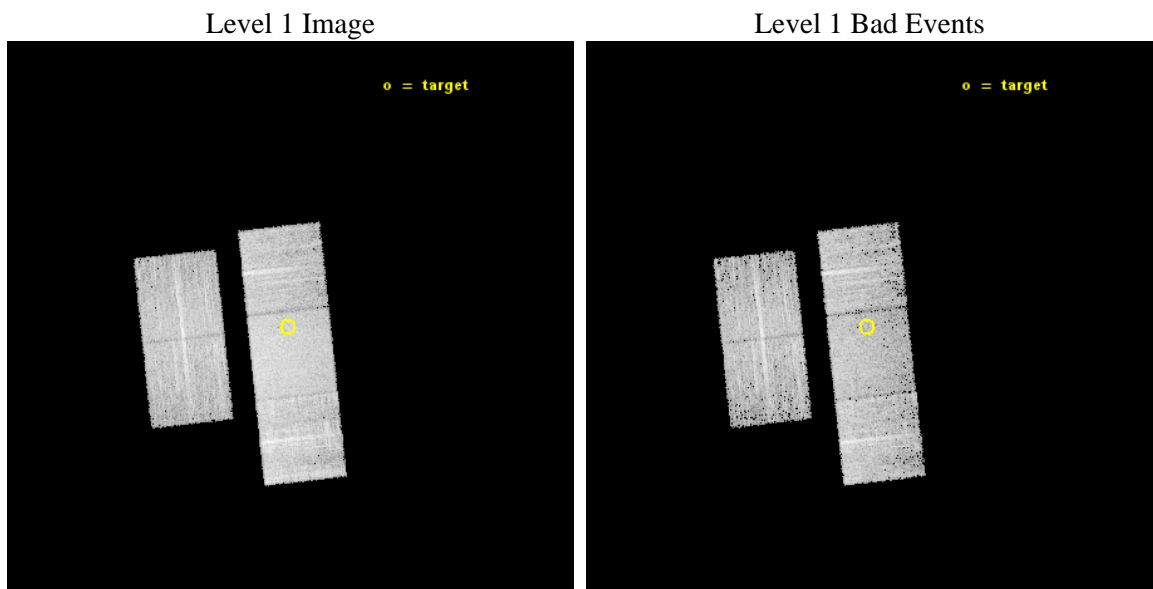
seq_num	200924	Sequence number
obs_id	15711	Observation id
title	X-ray irradiation of planets with atmospheres amenable to comprehensive follow-up	Proposal title
observer	Mr. Michael Salz	Principal investigator
object	Hat-P-20	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	111.91625	Observer's specified target RA [deg]
dec_targ	24.3365	Observer's specified target Dec [deg]
ra_nom	111.91365442113	Nominal RA [deg]
dec_nom	24.338378893013	Nominal Dec [deg]
roll_nom	83.754799651744	Nominal Roll [deg]
revision	2	Processing version of data
ontime	10068.005932689	Sum of GTIs [s]
livetime	9936.46002322	Livetime [s]
ontime2	10064.700752318	Sum of GTIs [s]
ontime3	10067.923852682	Sum of GTIs [s]
ontime6	10067.964892685	Sum of GTIs [s]
ontime7	10068.005932689	Sum of GTIs [s]
ontime8	10067.882812679	Sum of GTIs [s]
l2events	48732	Number of level 2 events



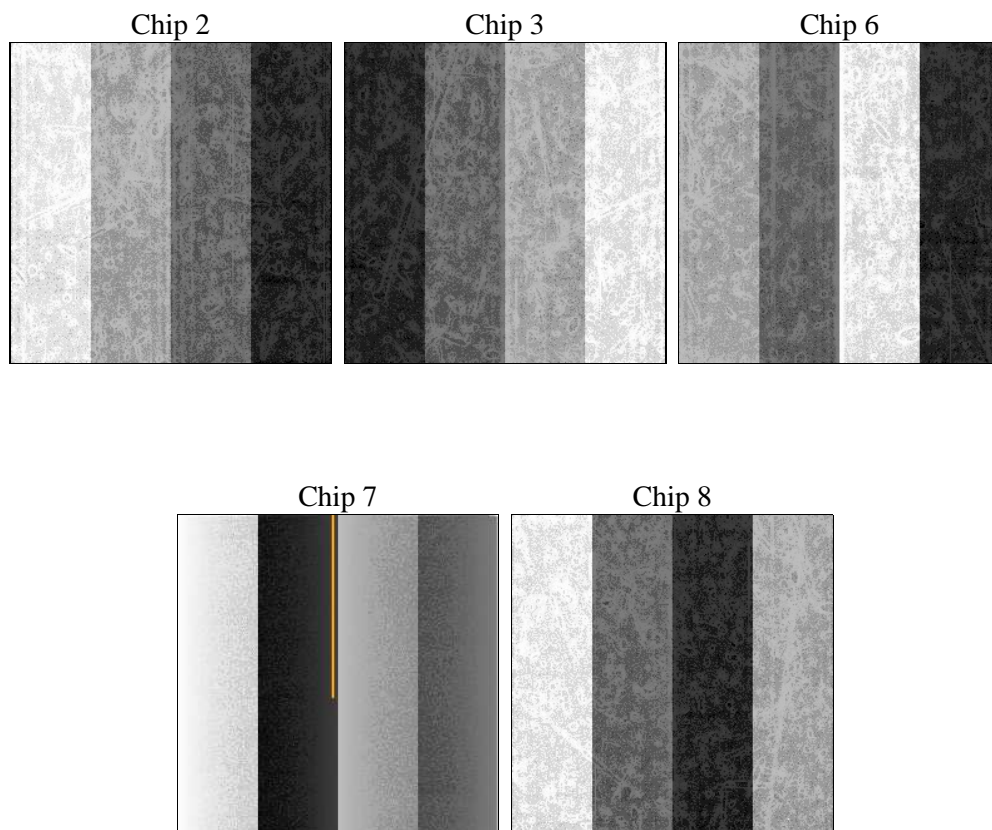
## 2 OBI

### 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	10.3.1	Processing system revision	ontime	10068.005932689	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime2	10064.700752318	Sum of GTIs [s]
date	2014-12-08T05:39:02	Date and time of file creation	ontime3	10067.923852682	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	10067.964892685	Sum of GTIs [s]
			ontime7	10068.005932689	Sum of GTIs [s]
			ontime8	10067.882812679	Sum of GTIs [s]
			l1events	270709	Number of level 1 events

### 2.1.4 Events

	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
level 1 events	46594	45344	47951	67566	63254
rejected events	41172	39907	42118	38465	46338
rejected %	88%	88%	87%	56%	73%

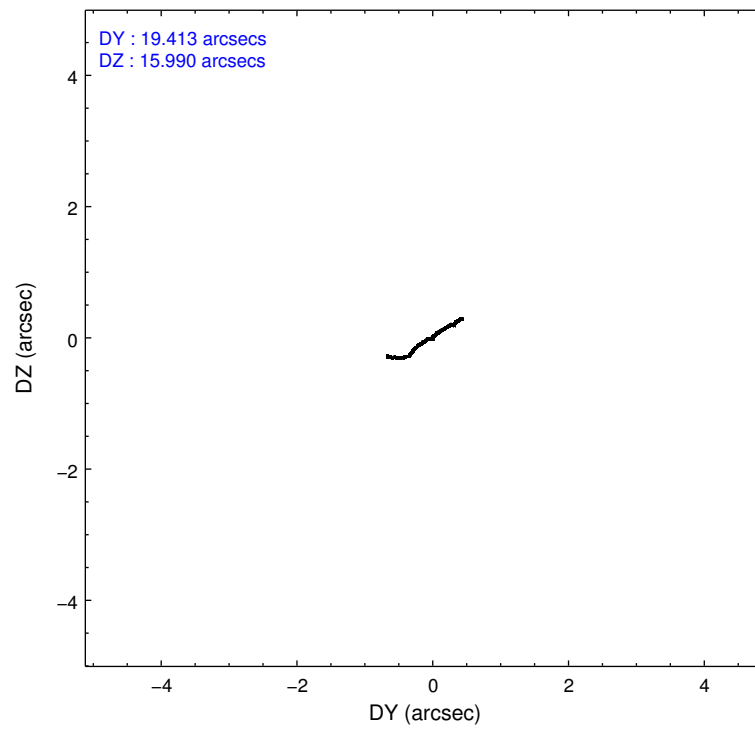
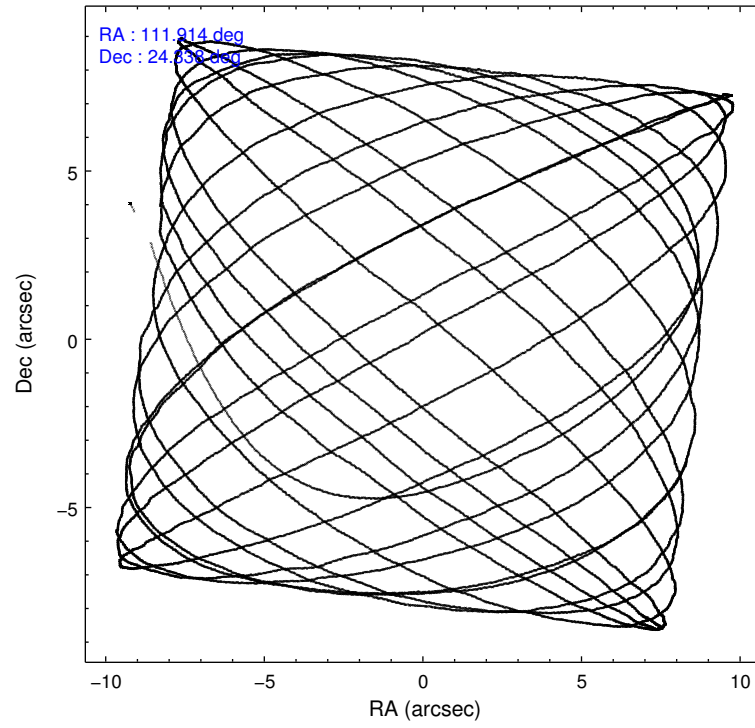
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
grade 0 events	1874	1882	1903	2564	4845
	4%	4%	3%	3%	7%
grade 1 events	28	33	22	83	43
	0%	0%	0%	0%	0%
grade 2 events	1416	1213	1327	5832	4044
	3%	2%	2%	8%	6%
grade 3 events	498	565	658	2550	1798
	1%	1%	1%	3%	2%
grade 4 events	559	596	581	2494	1685
	1%	1%	1%	3%	2%
grade 5 events	2075	2638	2600	6861	3834
	4%	5%	5%	10%	6%
grade 6 events	1080	1191	1369	15678	4574
	2%	2%	2%	23%	7%
grade 7 events	39064	37226	39491	31504	42431
	83%	82%	82%	46%	67%

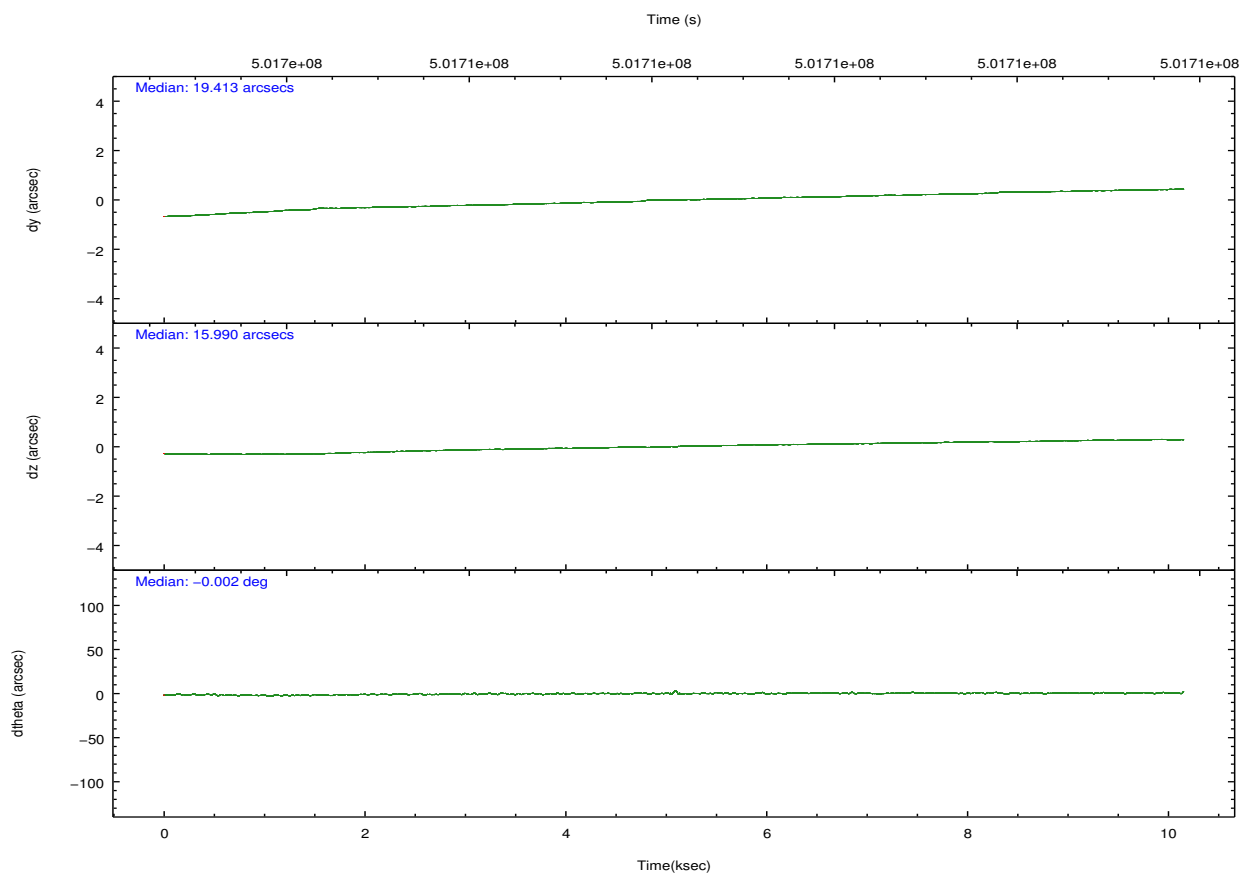
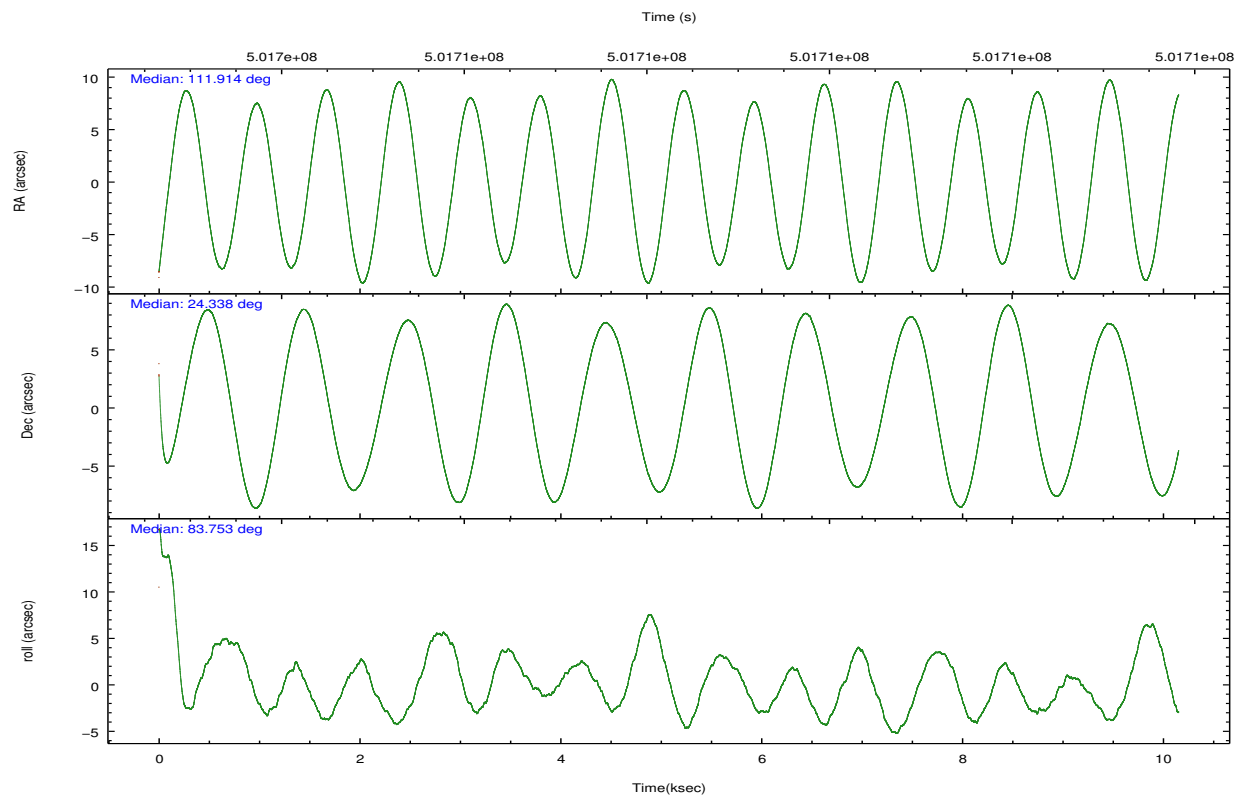


## 2.2 Compared Parameters

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	111.926117	111.9136544211321	CCD I2 on	O1	Y
[deg] Pointing Dec	24.313518	24.33837889301264	CCD I3 on	O2	Y
[deg] Pointing Roll	83.593031	83.75479965174418	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	-190.1425803651734	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01005778216563158	CCD S4 on	Y	Y
[s] Observation start time (MET)	501703320.184000	501701686.74233	CCD S5 on	N	N
Observation start date	2013-11-24T18:00:53	2013-11-24T17:34:46	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	501713320.184000	501713876.043	On-chip summing requested	N	N
Observation end date	2013-11-24T20:47:33	2013-11-24T20:57:56	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



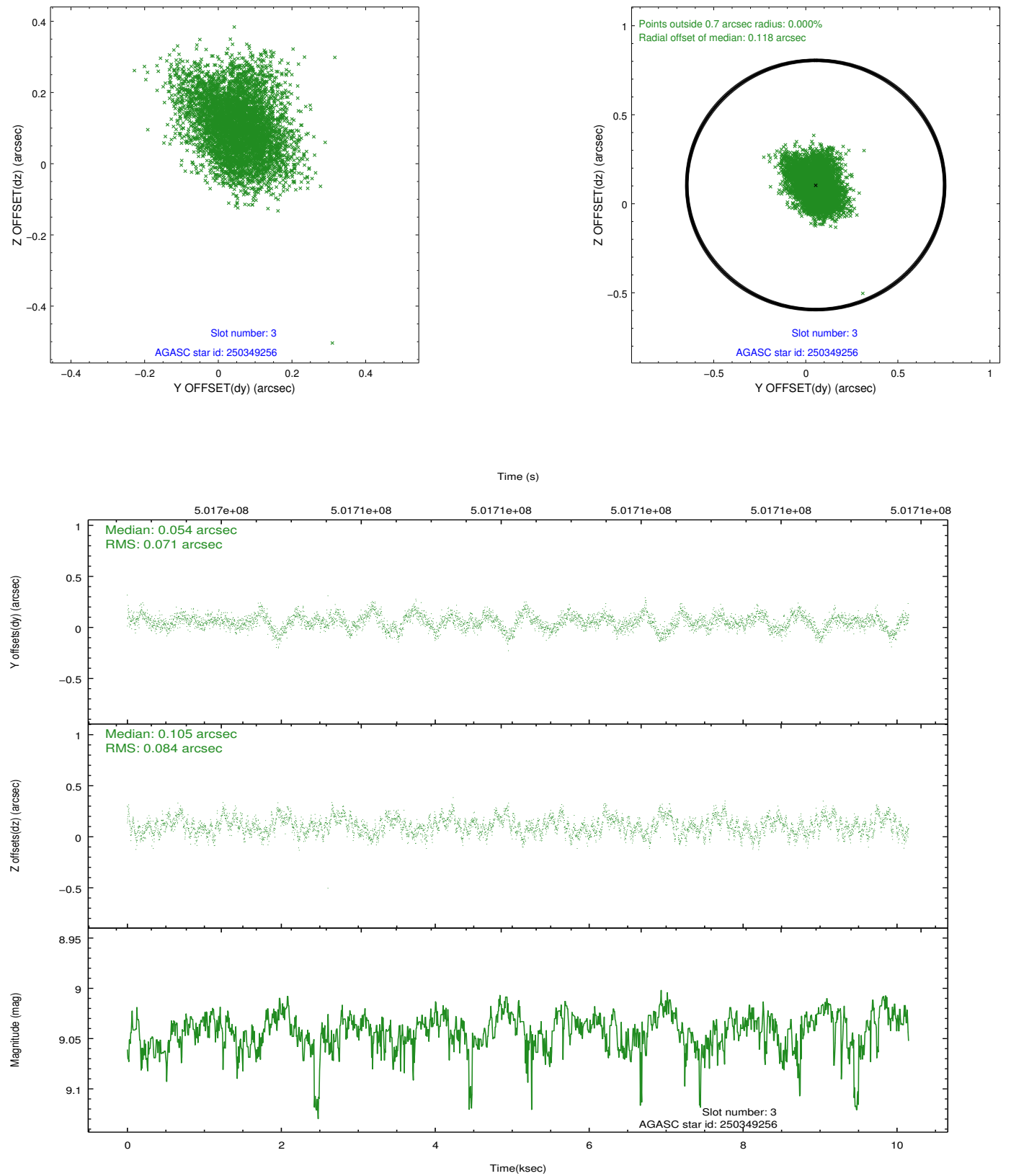


### Slot Statistics

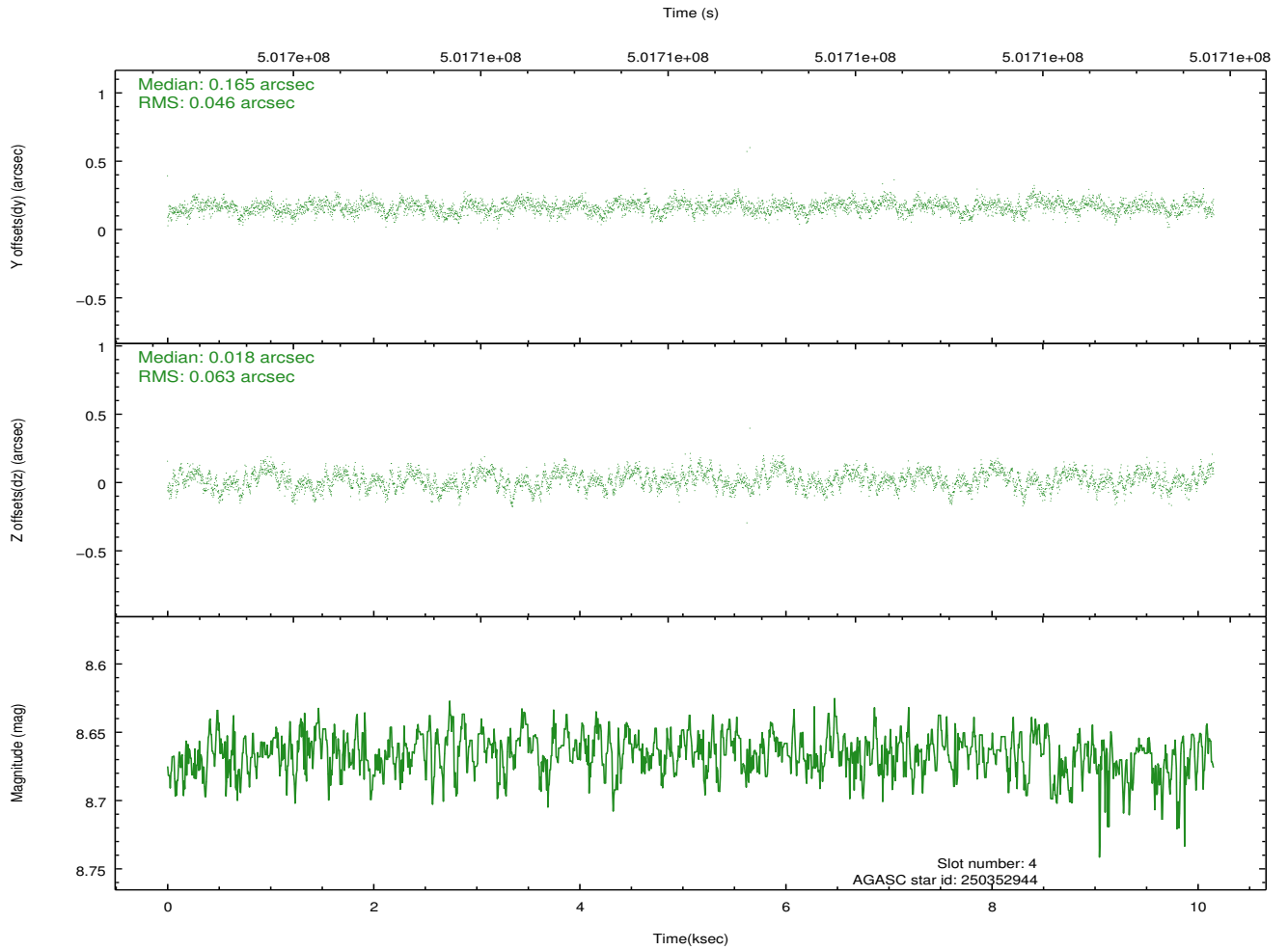
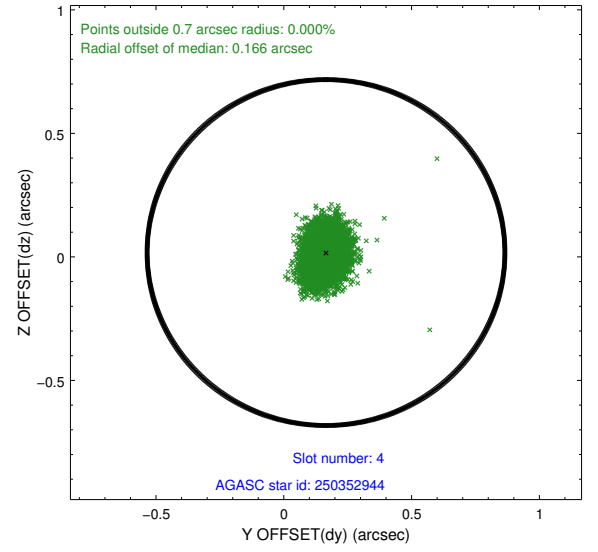
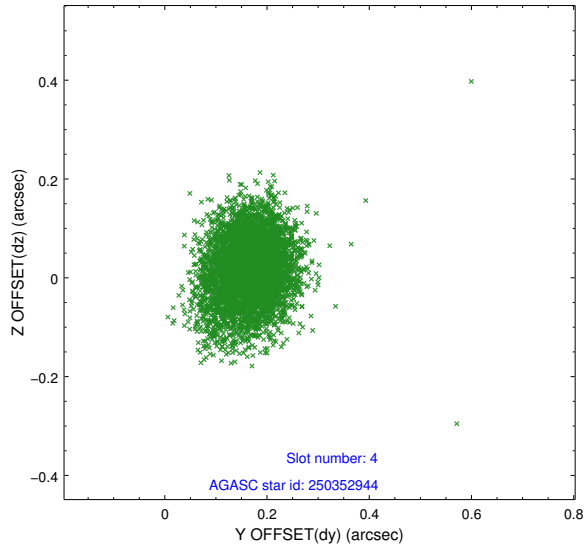
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.99	2477	-0.167	-0.116	0.006	0.012	0.000000	0.000000	-772.69	-1737.42
1	FID		ACIS-S-4	7.08	2477	0.198	0.081	0.006	0.011	0.000000	0.000000	2140.77	170.61
2	FID		ACIS-S-6	7.21	2477	-0.059	0.043	0.007	0.013	0.000000	0.000000	390.15	808.62
3	GUIDE	used	250349256	9.04	4950	0.054	0.105	0.118	0.191	112.000078	23.985405	-1146.16	-373.28
4	GUIDE	used	250352944	8.67	4951	0.165	0.018	0.083	0.136	112.272634	23.801554	-1702.53	-1339.63
5	GUIDE	used	250354840	8.61	4951	0.115	0.081	0.090	0.144	112.180509	24.280397	-24.39	-842.79
6	GUIDE	used	250877048	8.49	4953	-0.358	0.001	0.067	0.108	112.346153	24.424800	553.90	-1323.20
7	GUIDE	used	250353768	9.24	4948	0.027	-0.207	0.121	0.204	111.742891	23.927685	-1446.76	444.06

## 2.4 Star Slots

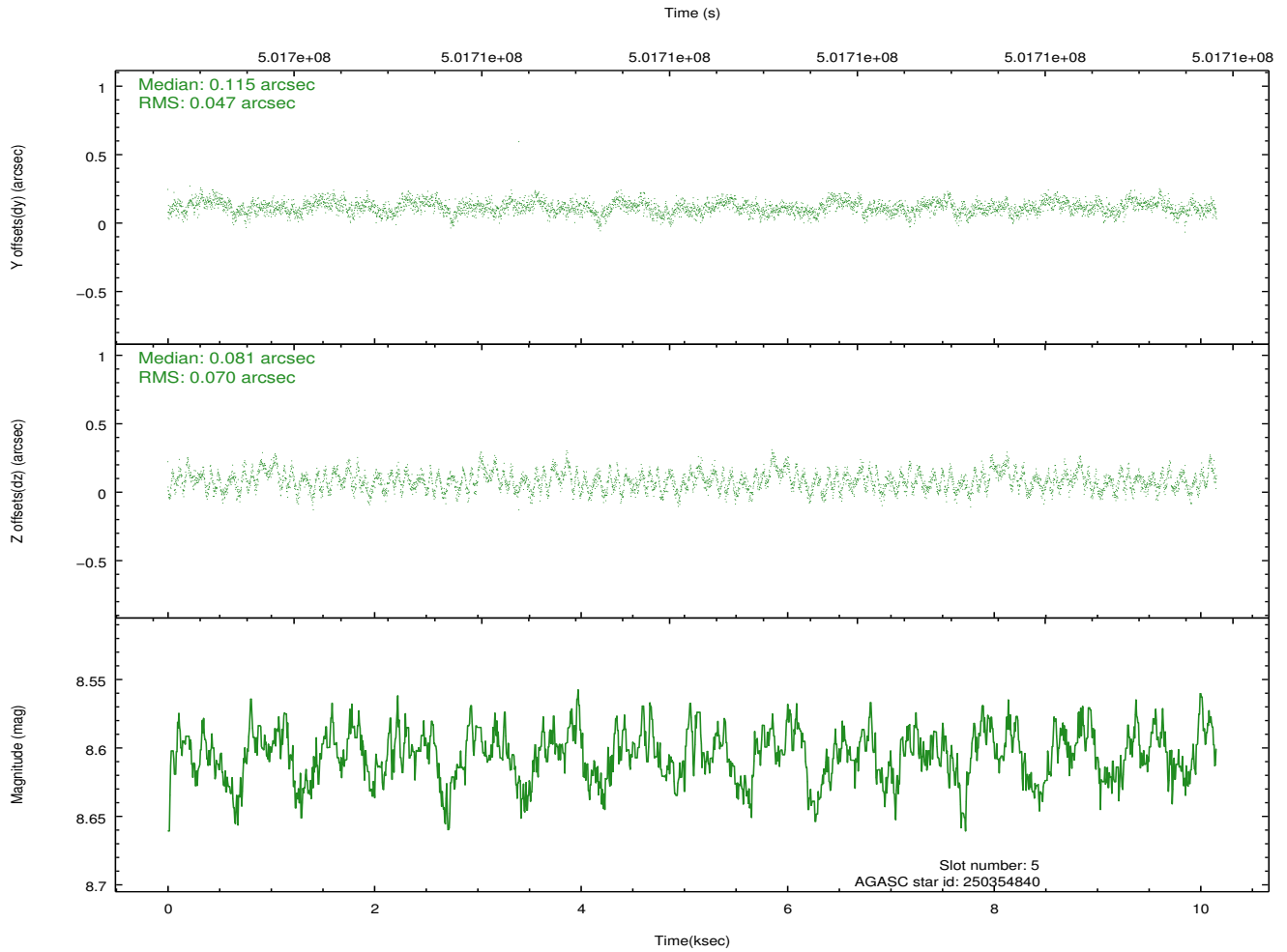
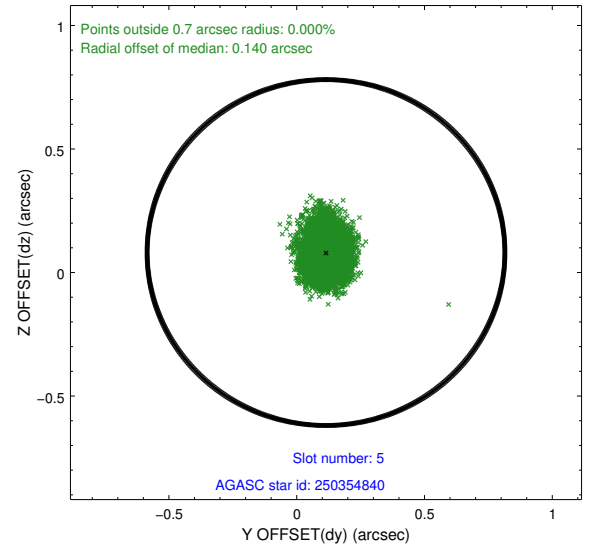
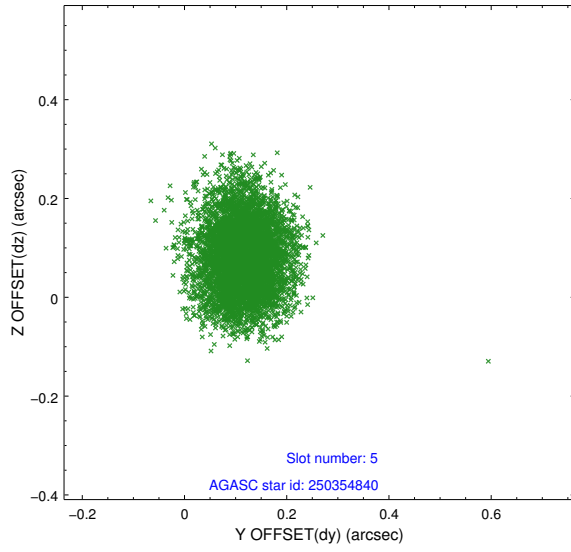
### 2.4.1 Slot 3



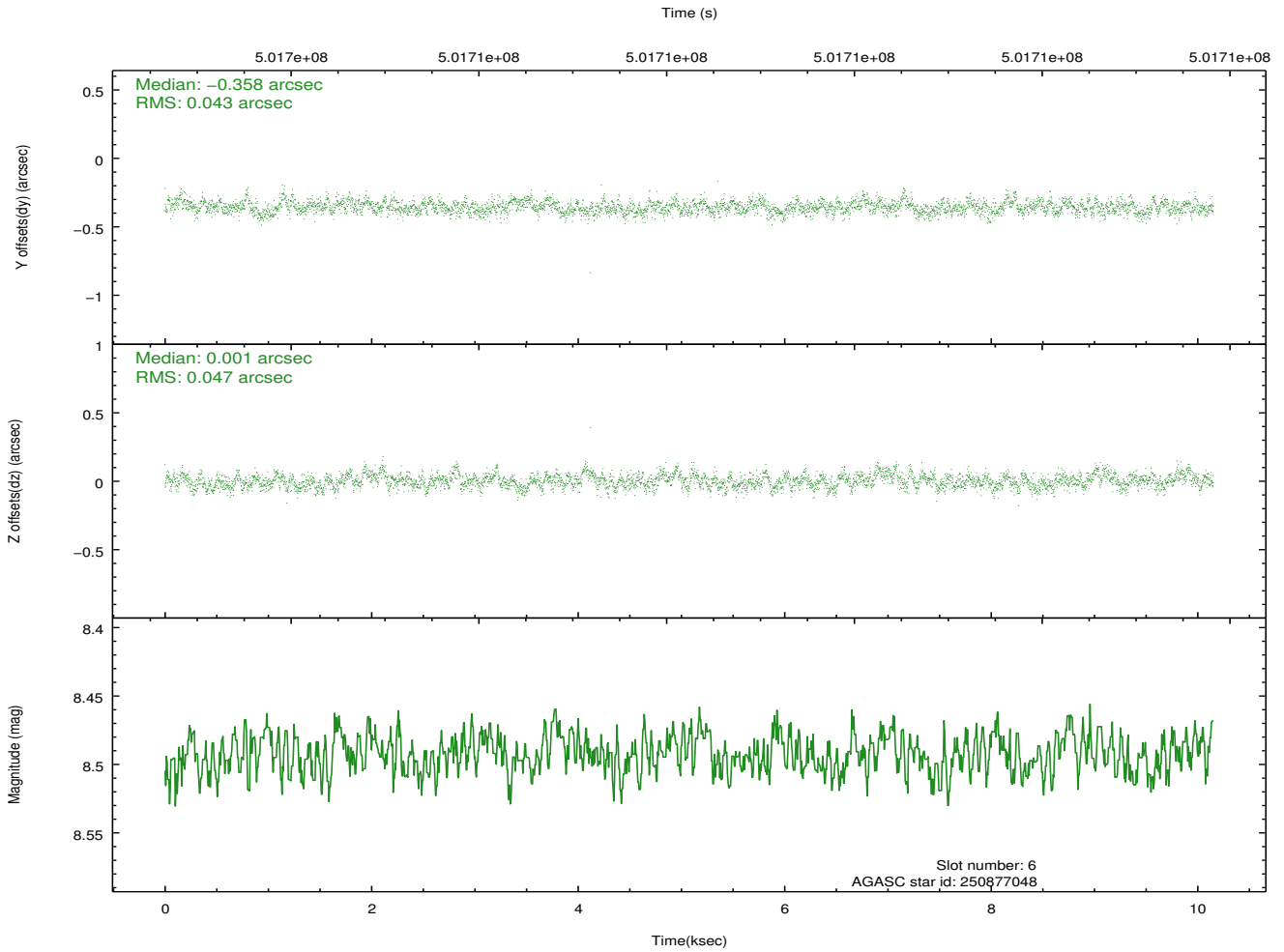
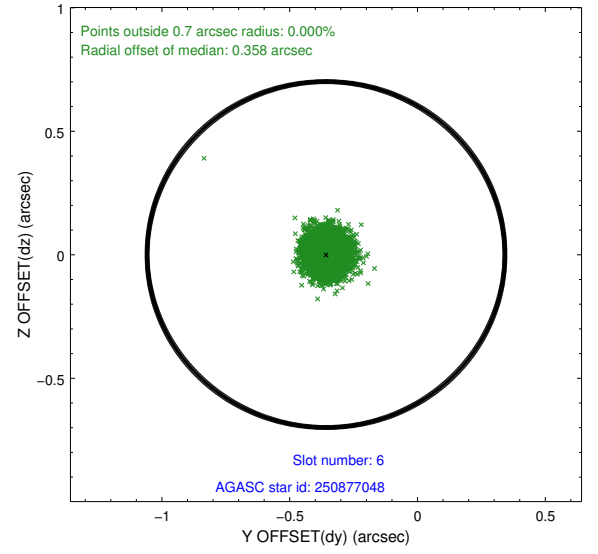
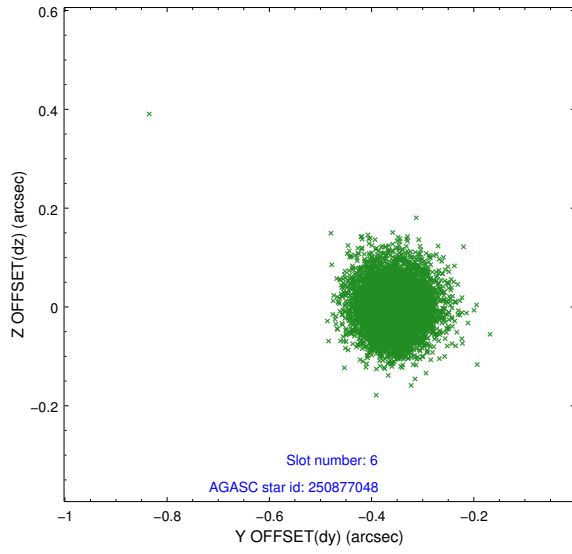
## 2.4.2 Slot 4



### 2.4.3 Slot 5

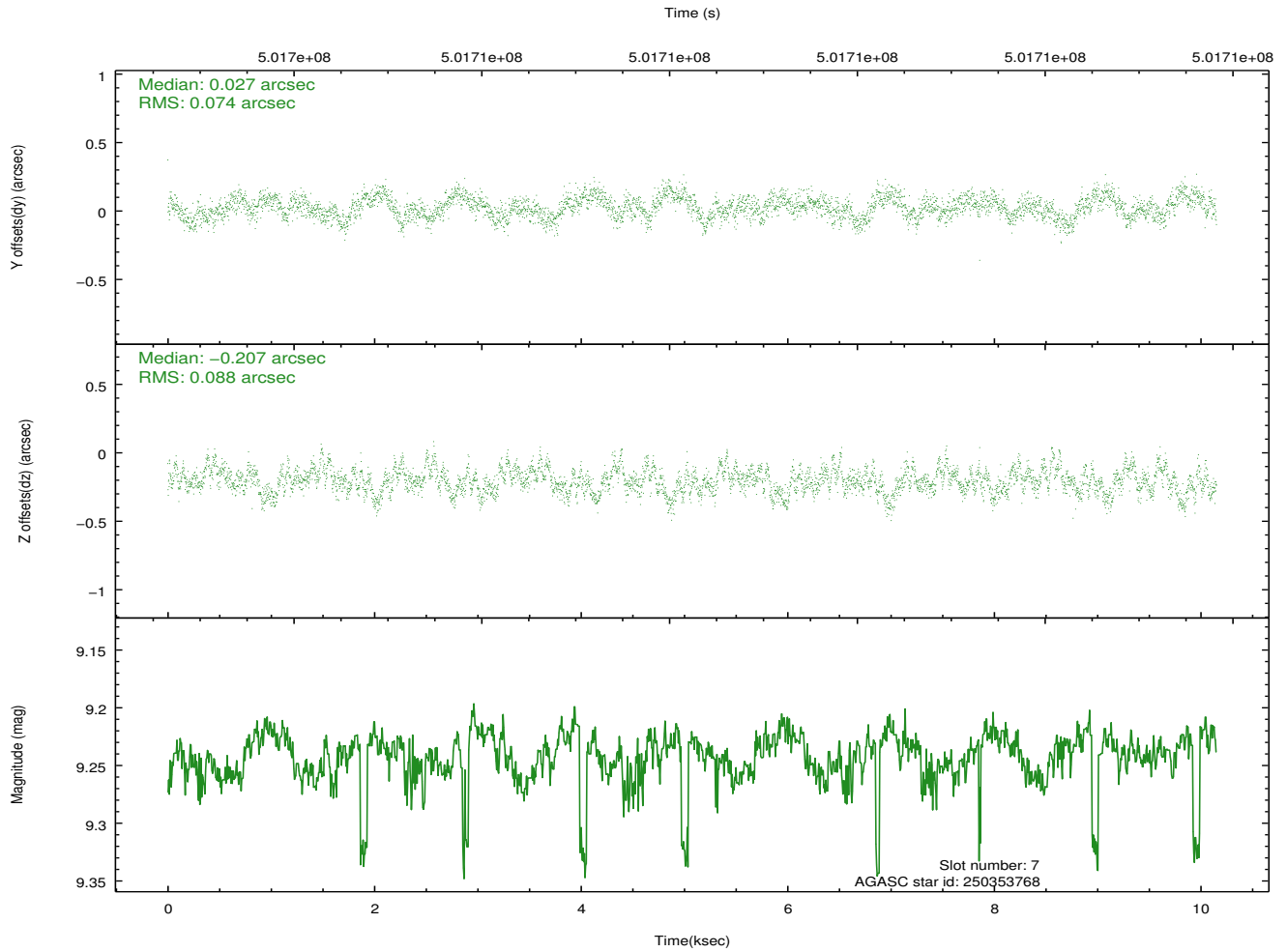
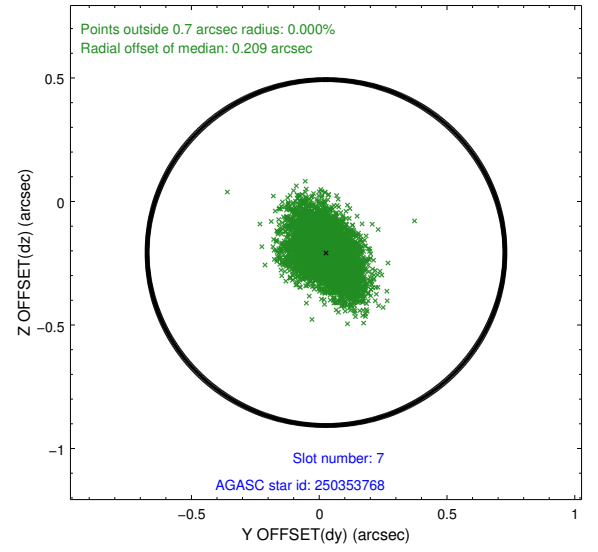
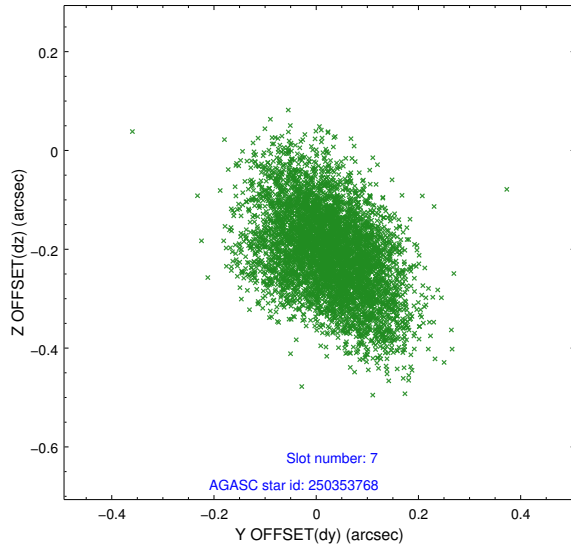


## 2.4.4 Slot 6



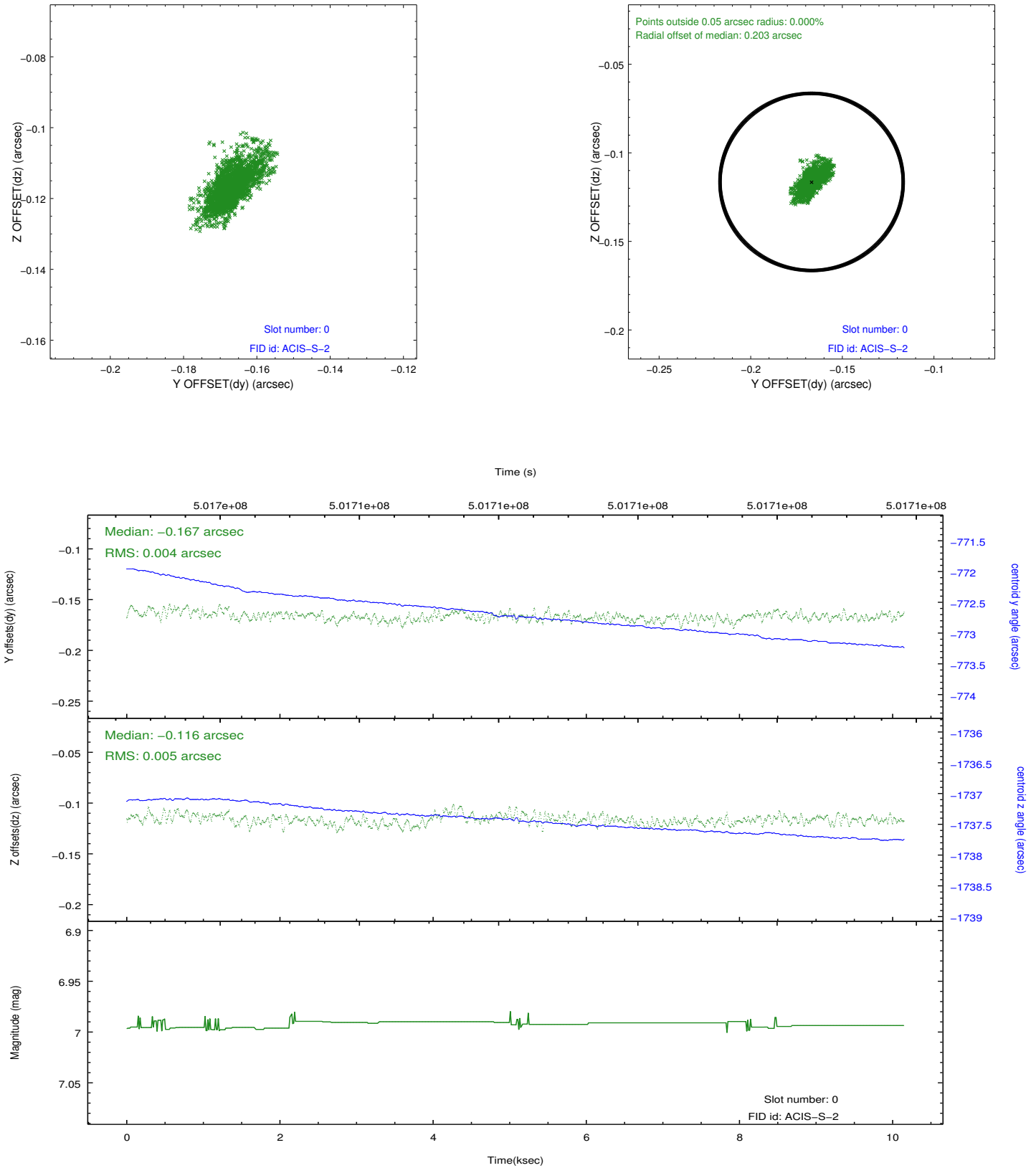


## 2.4.5 Slot 7

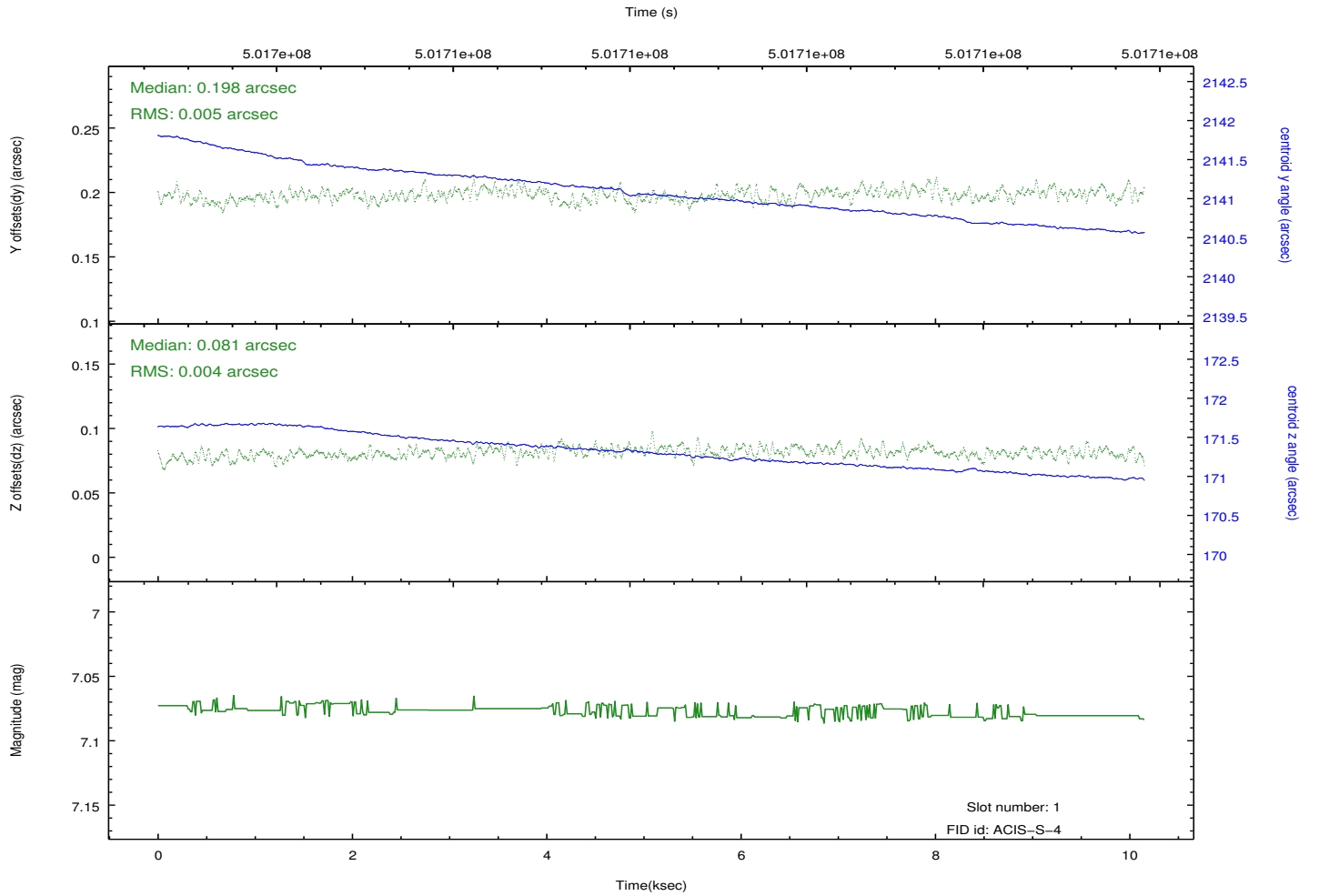
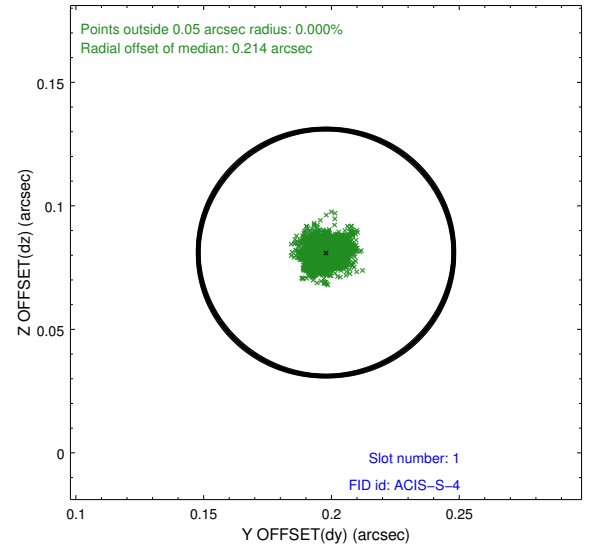
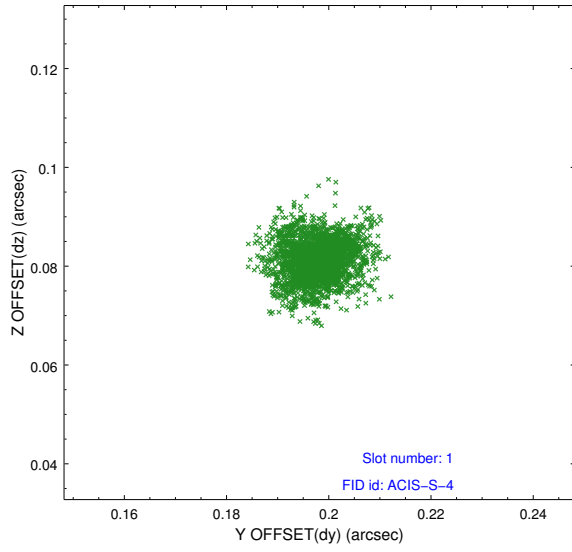


## 2.5 FID Slots

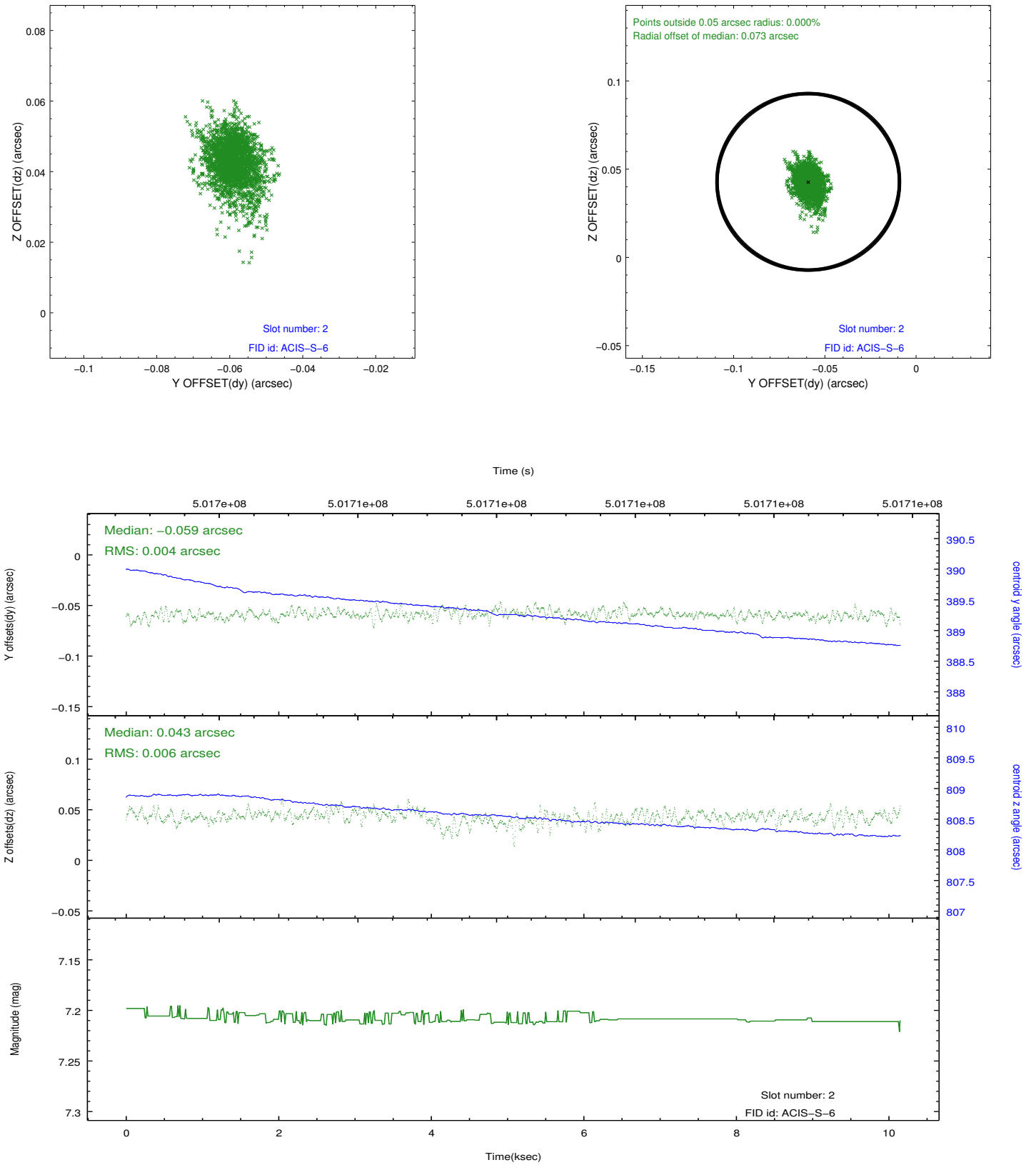
### 2.5.1 Slot 0



## 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	10.068005932689

## 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.