

# V&V Reference Report

## L2 ASCDS Version : 8.5.1.1

Observation 14887 - L2 Version 2  
Chandra X-Ray Center

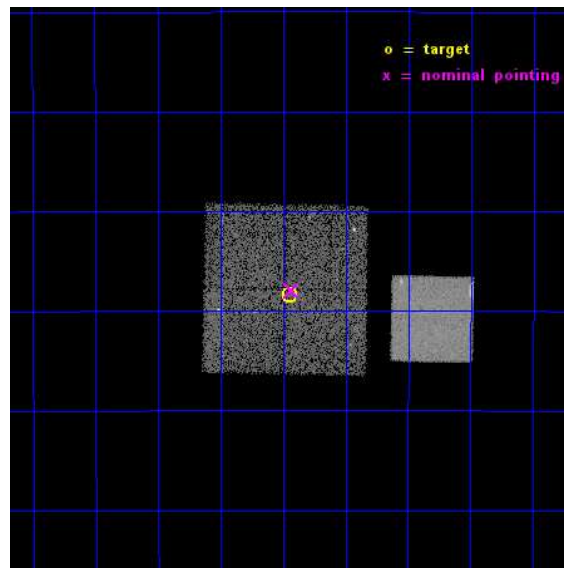
L2 Processing Date : Dec 1 2014

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# 1 Front

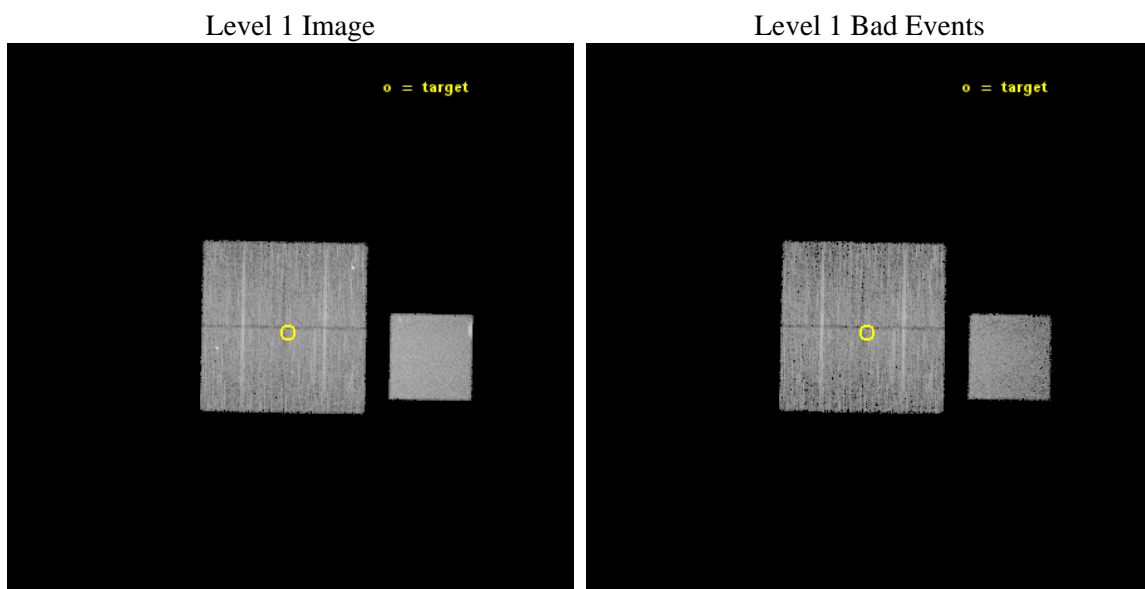
seq_num	502011	Sequence number
obs_id	14887	Observation id
title	Chandra observations of 4 Fermi-LAT-detected Supernova Remnants with pulsar-like gamma-ray emission	Proposal title
observer	Dr. Pablo Saz Parkinson	Principal investigator
object	G359.1+0.9	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	264.73625	Observer's specified target RA [deg]
dec_targ	-29.140194	Observer's specified target Dec [deg]
ra_nom	264.73335019707	Nominal RA [deg]
dec_nom	-29.132555069992	Nominal Dec [deg]
roll_nom	90.998630828485	Nominal Roll [deg]
revision	2	Processing version of data
ontime	11259.159116209	Sum of GTIs [s]
livetime	11112.049913483	Livetime [s]
ontime0	11262.300086617	Sum of GTIs [s]
ontime1	11262.300086617	Sum of GTIs [s]
ontime2	11262.300086617	Sum of GTIs [s]
ontime3	11259.159116209	Sum of GTIs [s]
ontime7	11262.300086617	Sum of GTIs [s]
l2events	69711	Number of level 2 events



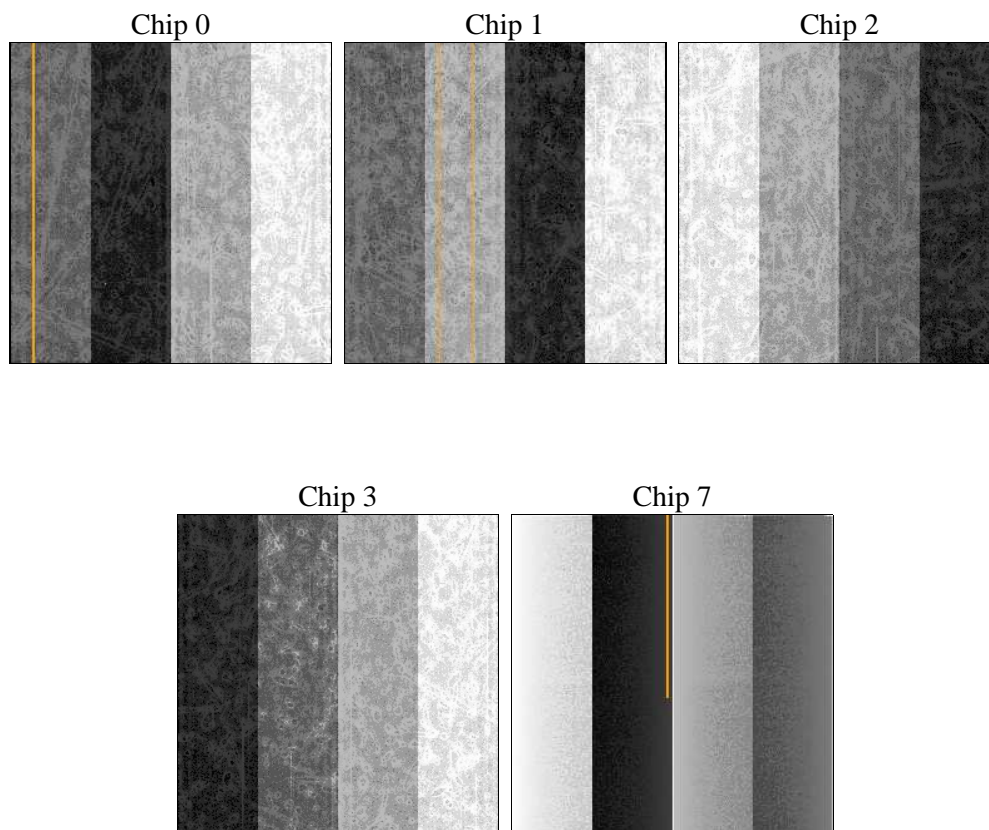
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	11000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	11259.159116209	Sum of GTIs [s]
caldbver	4.6.4	&#160	ontime0	11262.300086617	Sum of GTIs [s]
date	2014-12-01T13:34:54	Date and time of file creation	ontime1	11262.300086617	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	11262.300086617	Sum of GTIs [s]
			ontime3	11259.159116209	Sum of GTIs [s]
			ontime7	11262.300086617	Sum of GTIs [s]
			l1events	338352	Number of level 1 events

### 2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 7
level 1 events	58888	61750	64251	63823	89640
rejected events	50425	51702	55299	55831	49299
rejected %	85%	83%	86%	87%	54%

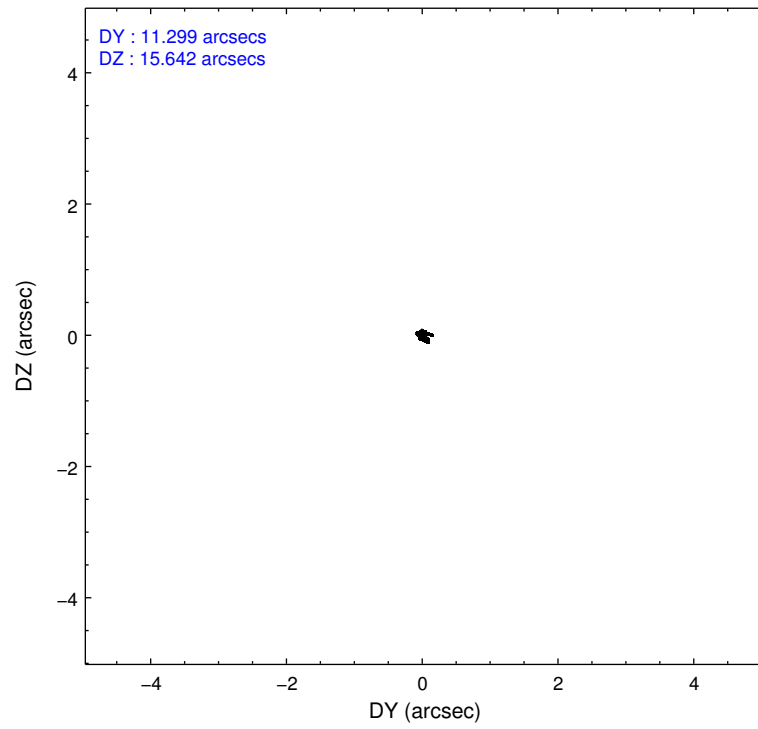
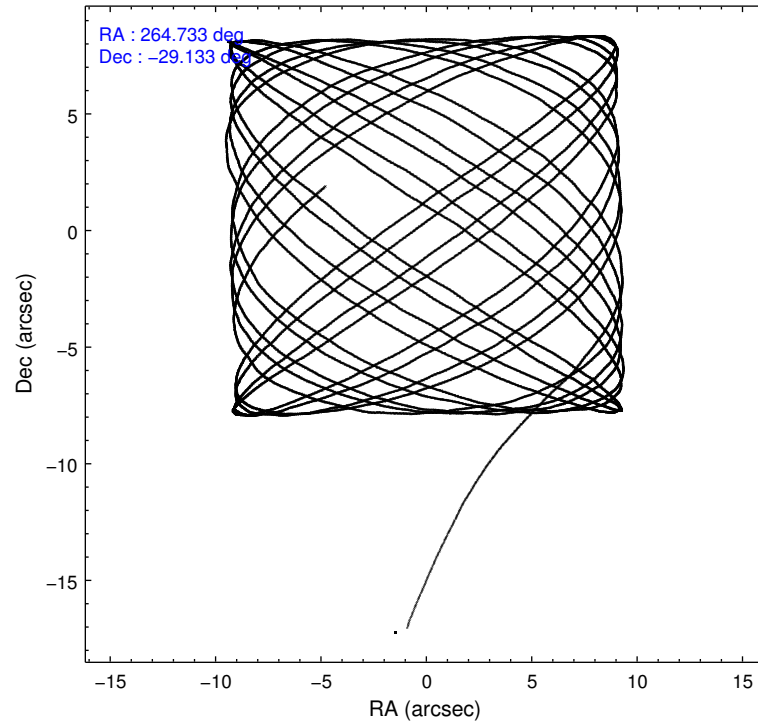
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 7
grade 0 events	3657	4597	4430	3911	4096
	6%	7%	6%	6%	4%
grade 1 events	49	42	75	99	109
	0%	0%	0%	0%	0%
grade 2 events	2067	2227	2037	1812	8741
	3%	3%	3%	2%	9%
grade 3 events	808	881	794	817	3772
	1%	1%	1%	1%	4%
grade 4 events	815	907	871	849	3668
	1%	1%	1%	1%	4%
grade 5 events	2830	3099	2760	3435	8909
	4%	5%	4%	5%	9%
grade 6 events	1584	1822	1504	1561	21305
	2%	2%	2%	2%	23%
grade 7 events	47078	48175	51780	51339	39040
	79%	78%	80%	80%	43%

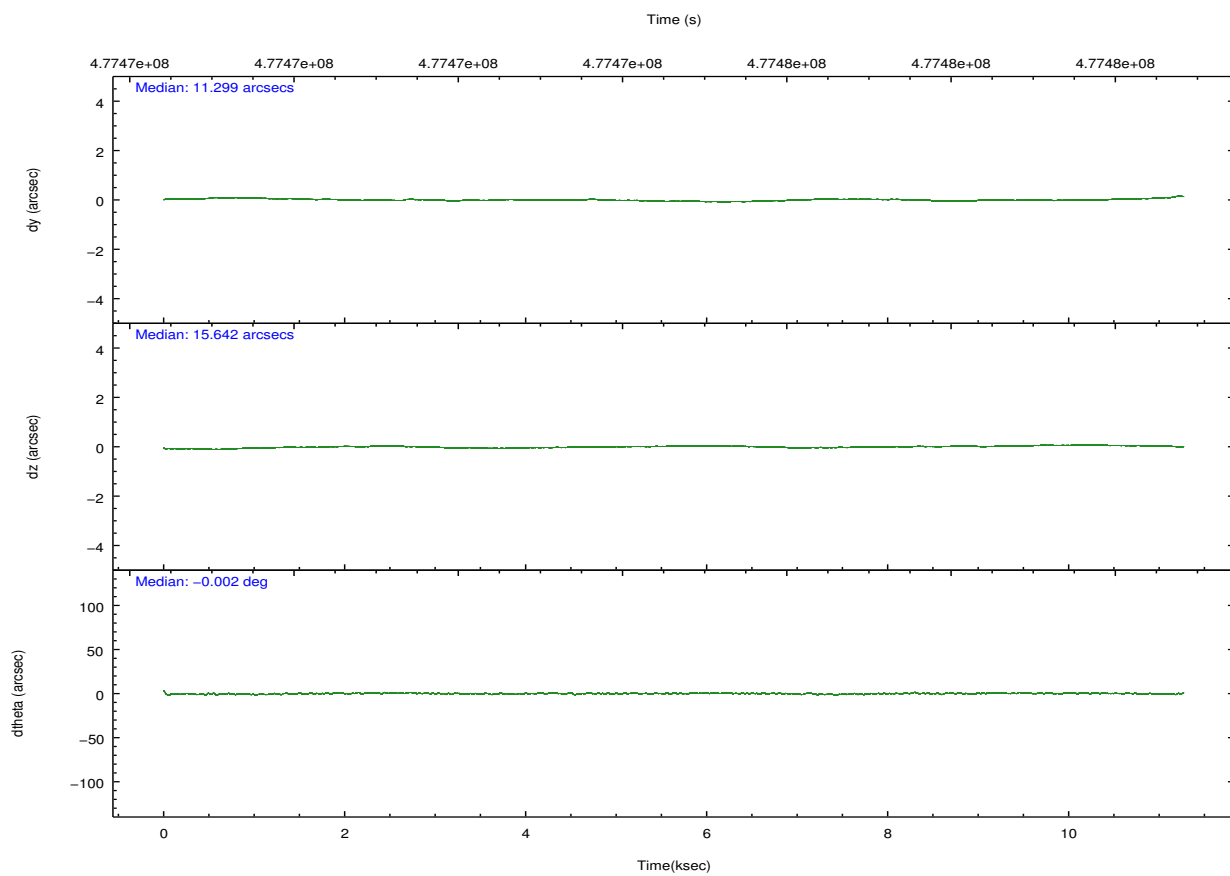
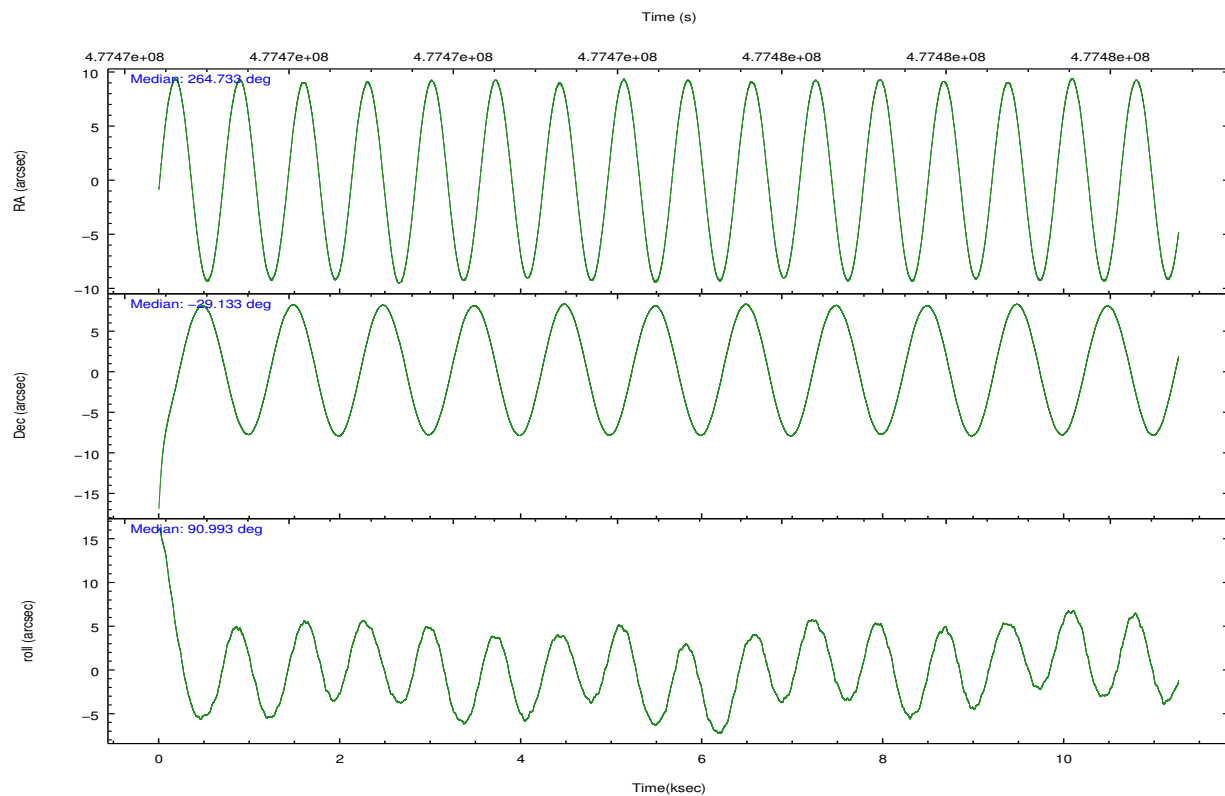


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-01237	ACIS-01237	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	264.749679	264.7333501970659	CCD I2 on	Y	Y
[deg] Pointing Dec	-29.156032	-29.13255506999174	CCD I3 on	Y	Y
[deg] Pointing Roll	90.797893	90.99863082848451	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	N	N
[mm] SIM translation stage pos	-233.592463	-233.5874344608287	CCD S3 on	O1	Y
[mm] SIM translation stage offset	0	-0.005018542100998502	CCD S4 on	N	N
[s] Observation start time (MET)	477469263.184000	477468270.52409	CCD S5 on	N	N
Observation start date	2013-02-17T06:19:56	2013-02-17T06:04:30	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	477480263.184000	477480915.43727	On-chip summing requested	N	N
Observation end date	2013-02-17T09:23:16	2013-02-17T09:35:15	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



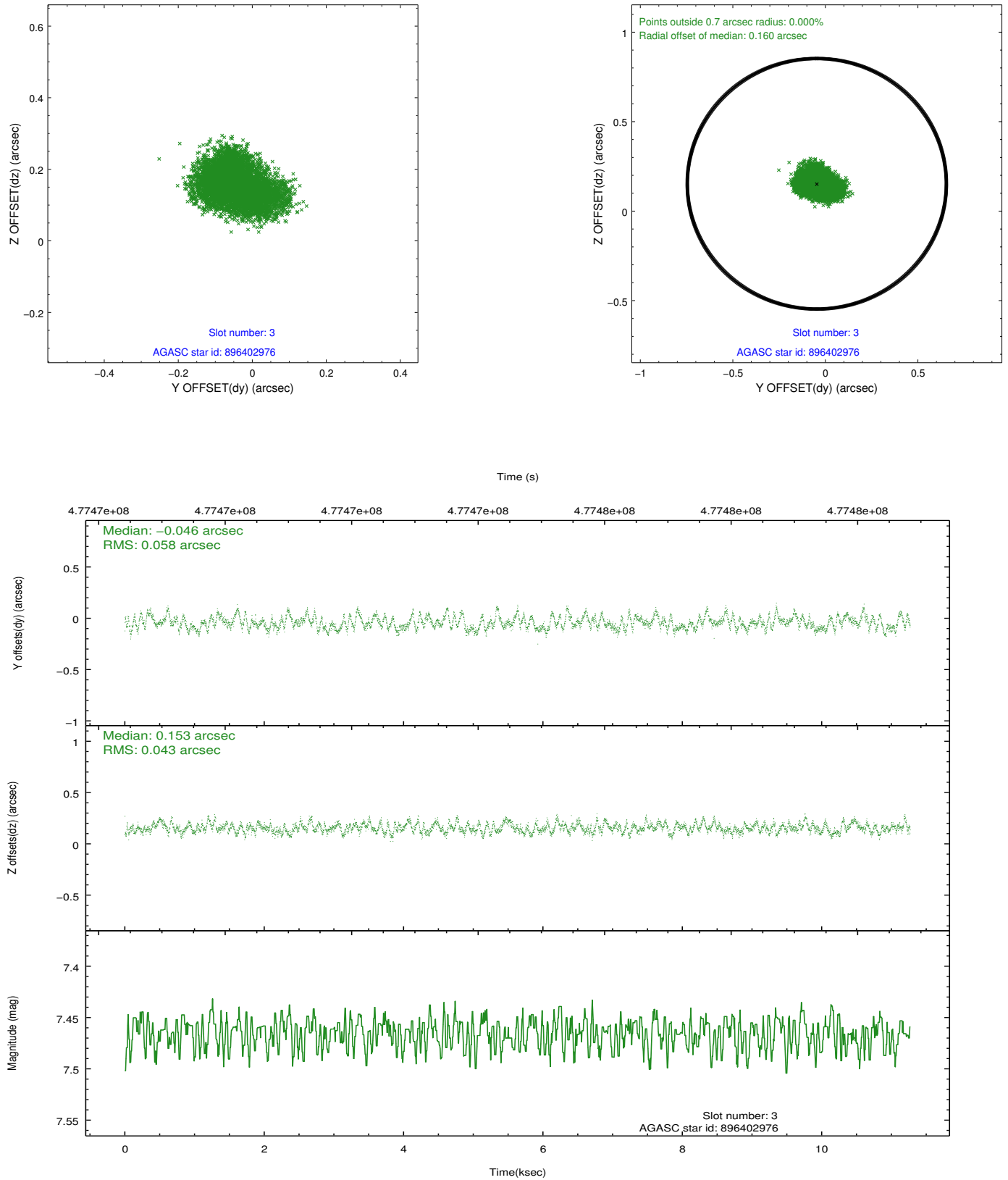


### Slot Statistics

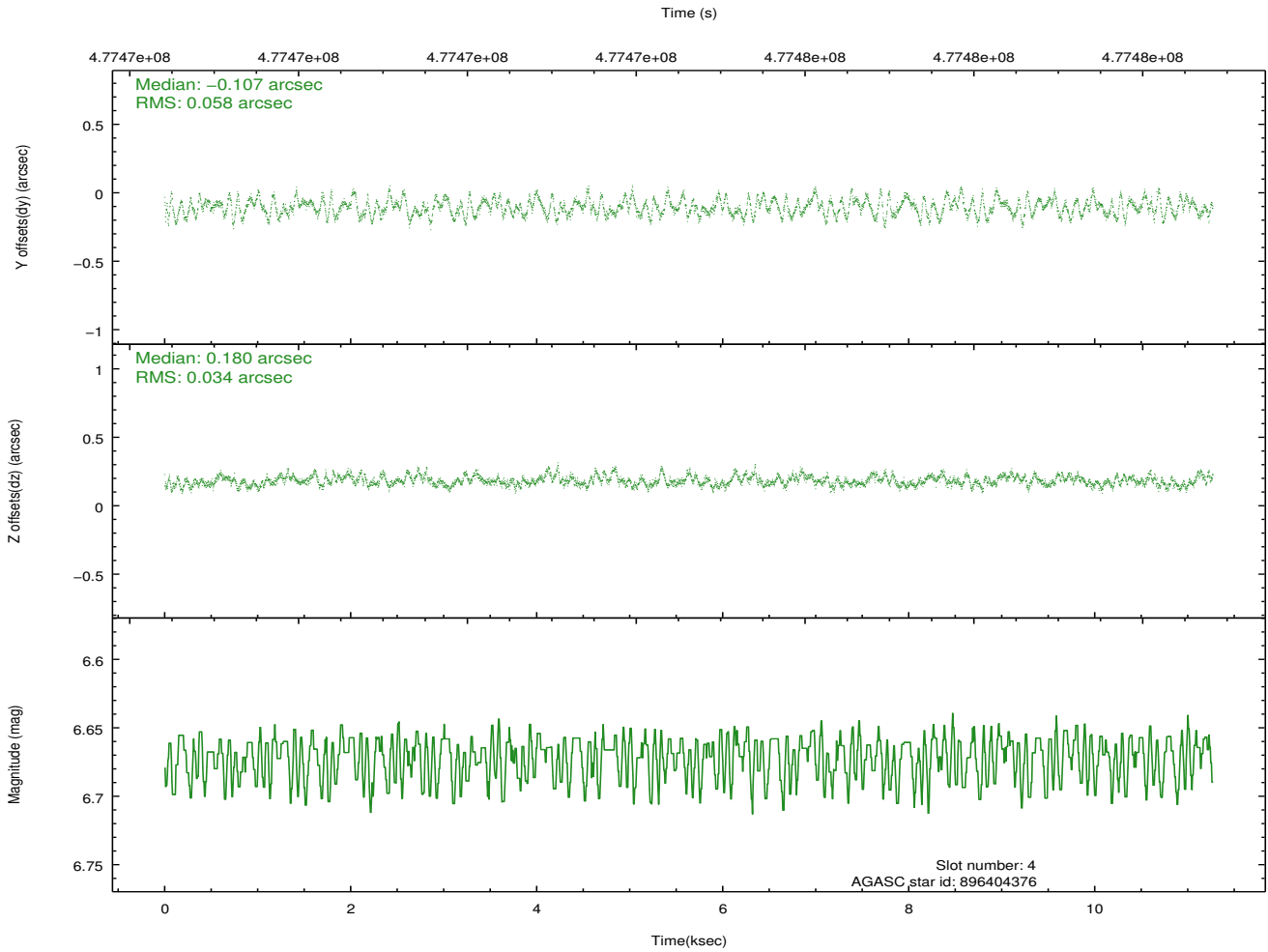
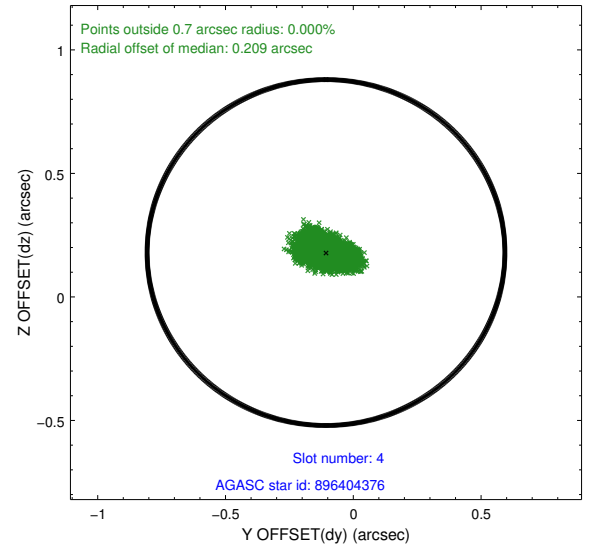
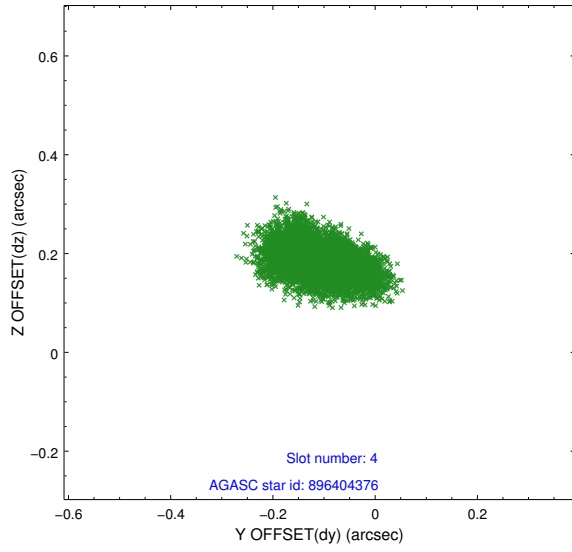
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.08	2749	0.008	-0.050	0.008	0.014	0.000000	0.000000	928.26	-839.30
1	FID		ACIS-I-4	7.00	2749	0.090	0.055	0.007	0.012	0.000000	0.000000	2148.64	1060.38
2	FID		ACIS-I-5	7.06	2749	-0.196	0.066	0.006	0.011	0.000000	0.000000	-1819.35	1058.76
3	GUIDE	used	896402976	7.47	5498	-0.046	0.153	0.078	0.122	265.099474	-28.923203	821.48	-1113.36
4	GUIDE	used	896404376	6.67	5497	-0.107	0.180	0.073	0.115	264.835179	-29.530972	-1353.12	-248.98
5	GUIDE	used	896405480	8.24	5497	0.273	0.006	0.070	0.111	265.220460	-29.599691	-1620.07	-1451.28
6	GUIDE	used	896405976	9.11	5493	-0.202	-0.212	0.093	0.146	264.638127	-28.604395	1990.22	324.77
7	GUIDE	used	896406904	8.99	5495	0.083	-0.136	0.076	0.126	264.311862	-29.742267	-2093.16	1397.76

## 2.4 Star Slots

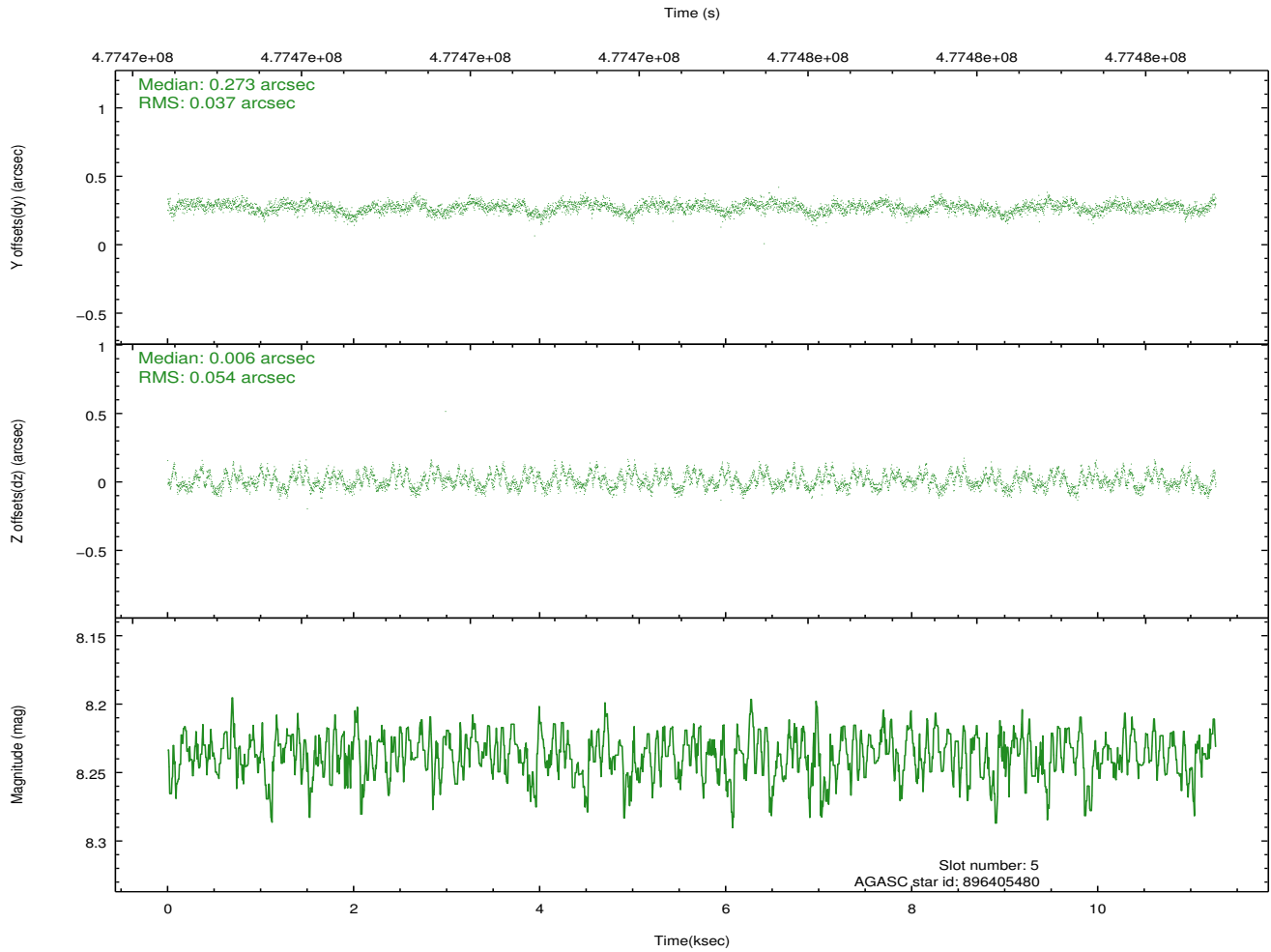
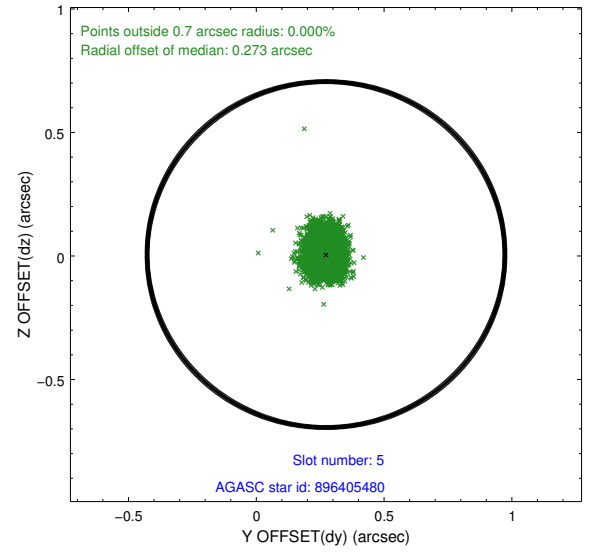
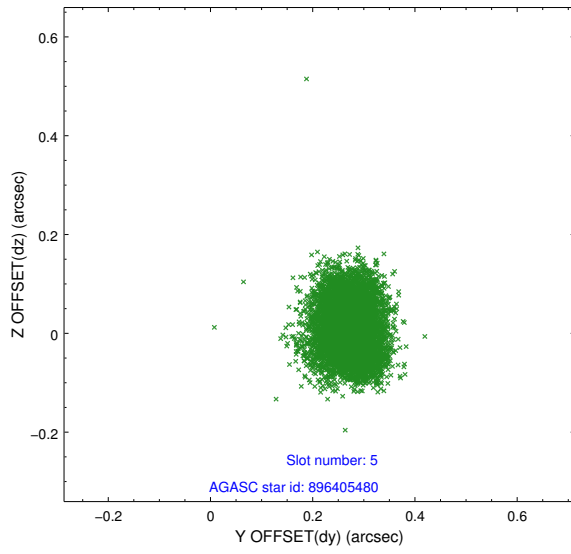
### 2.4.1 Slot 3



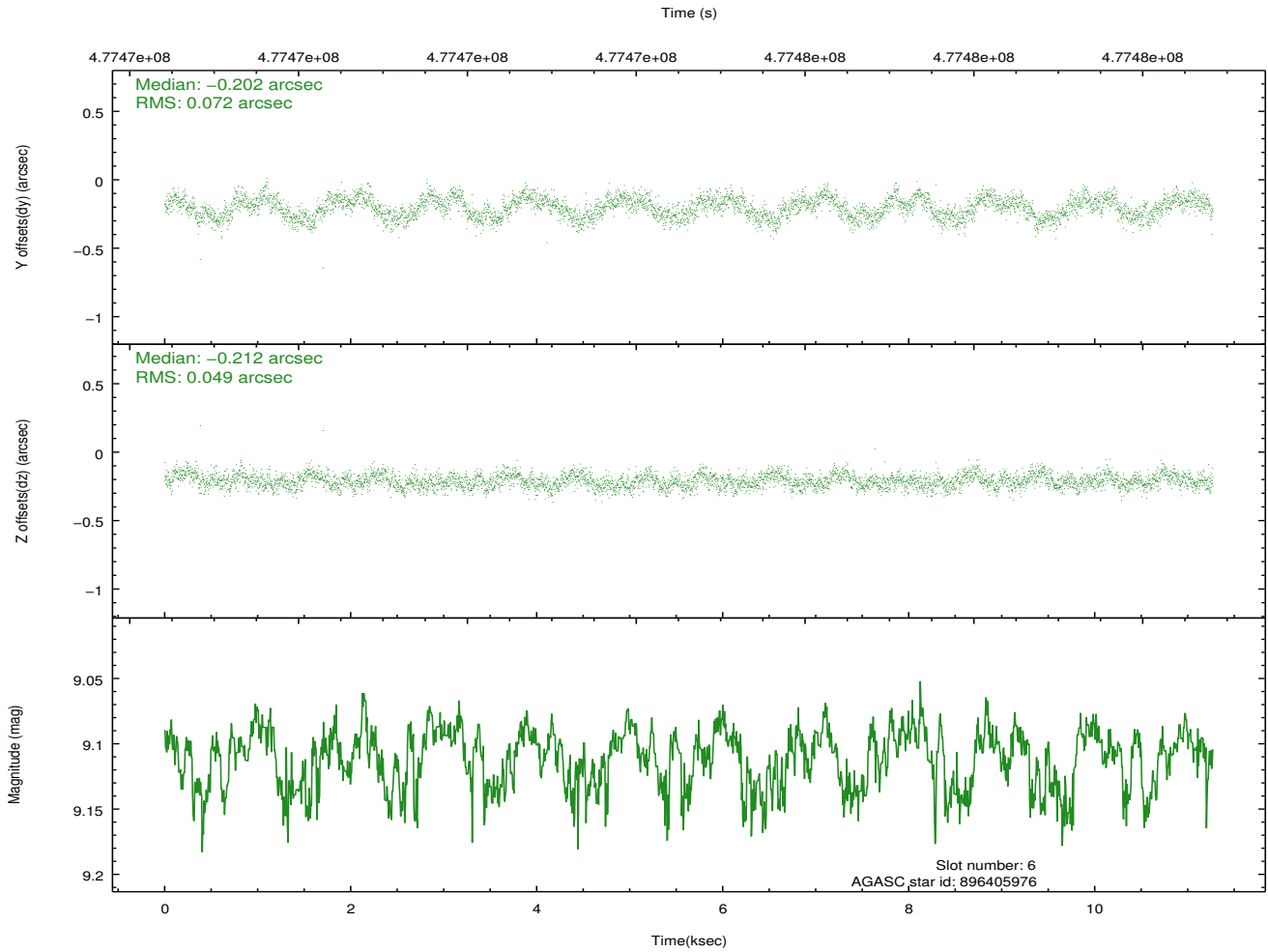
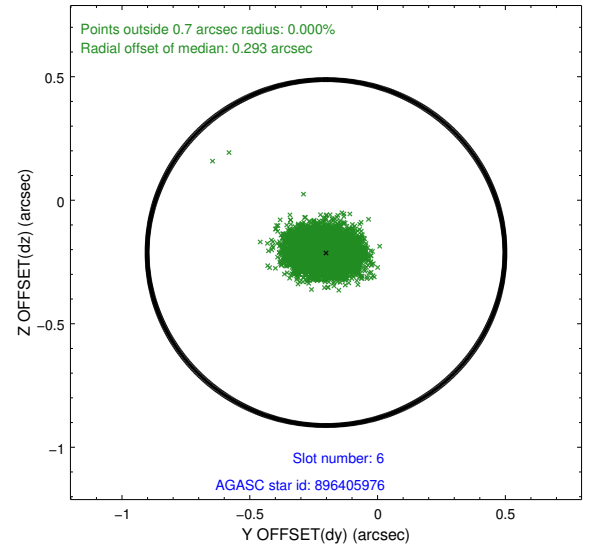
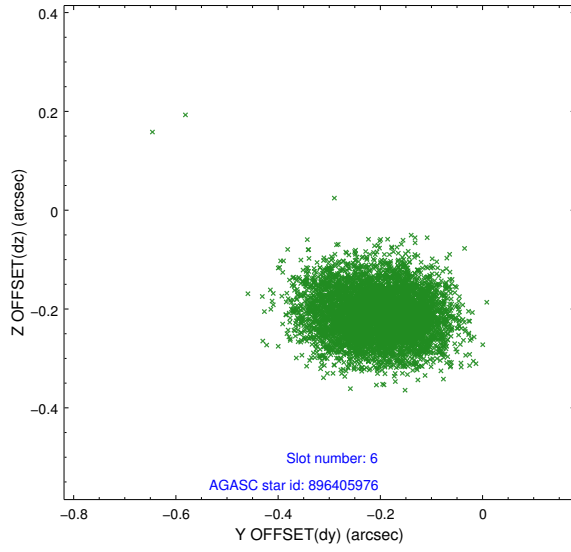
## 2.4.2 Slot 4



### 2.4.3 Slot 5

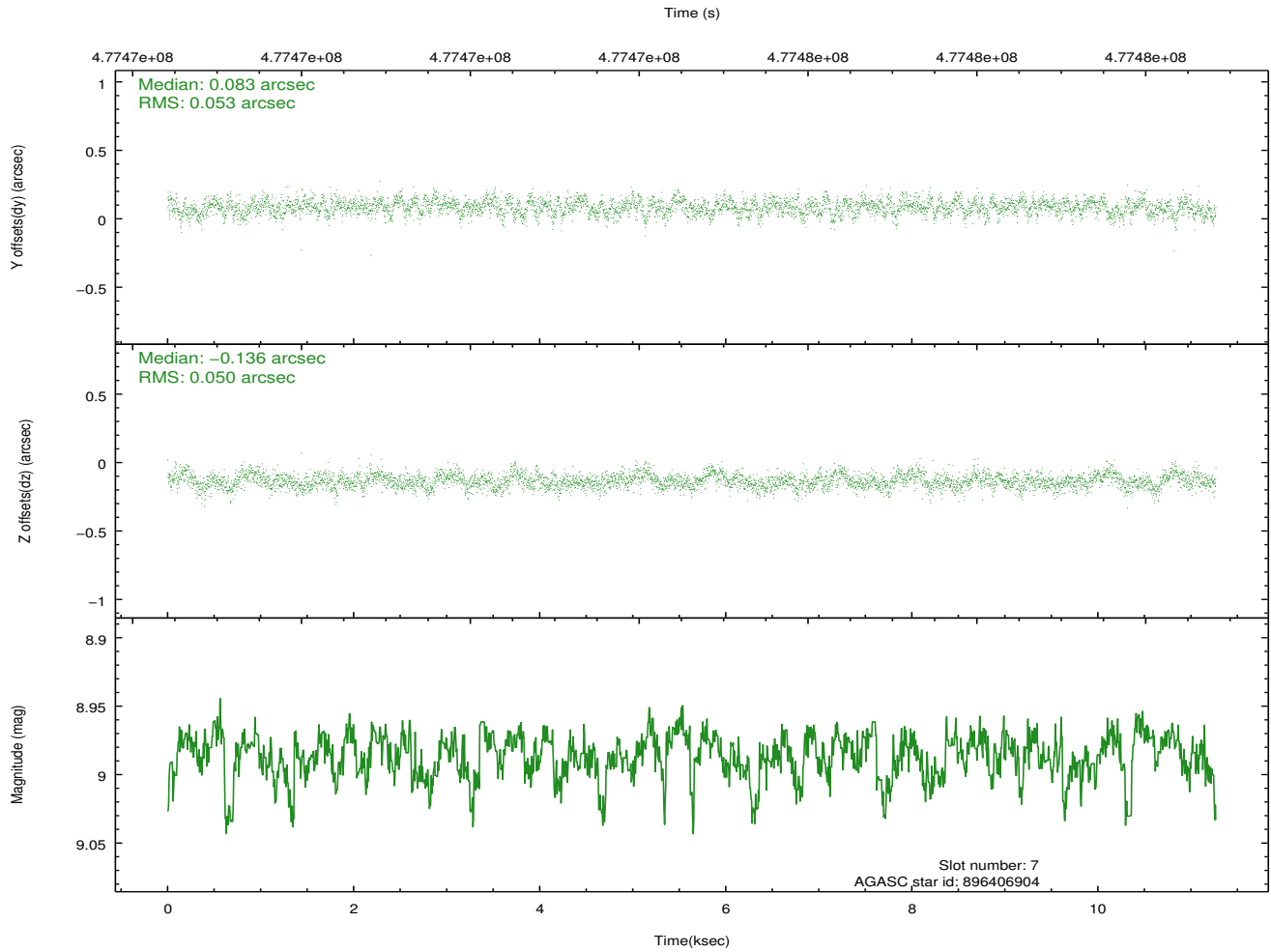
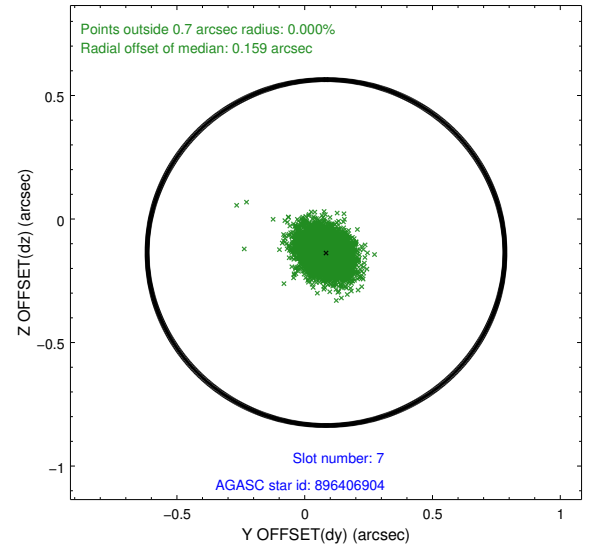
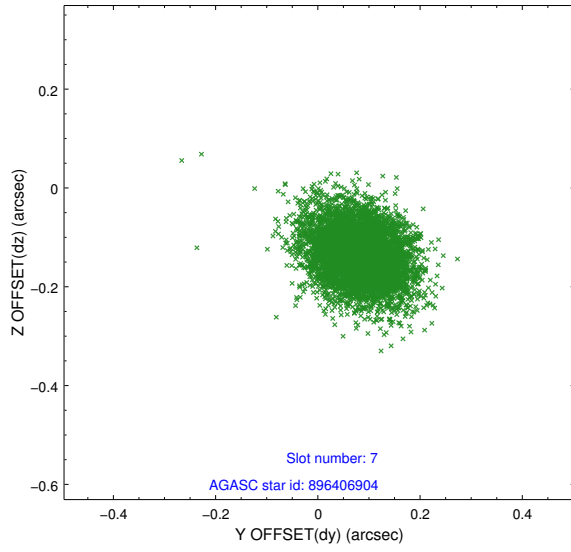


## 2.4.4 Slot 6



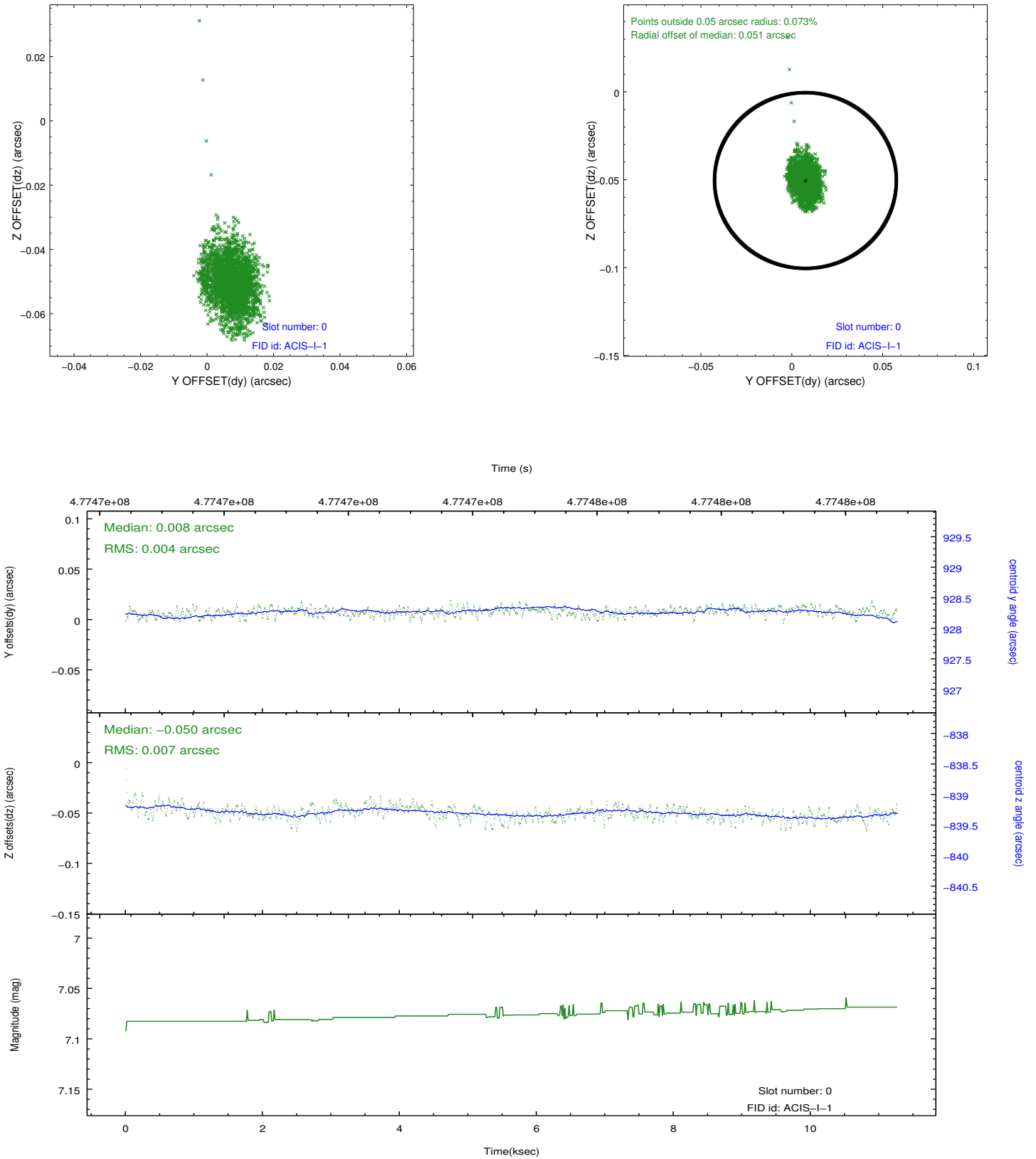


## 2.4.5 Slot 7

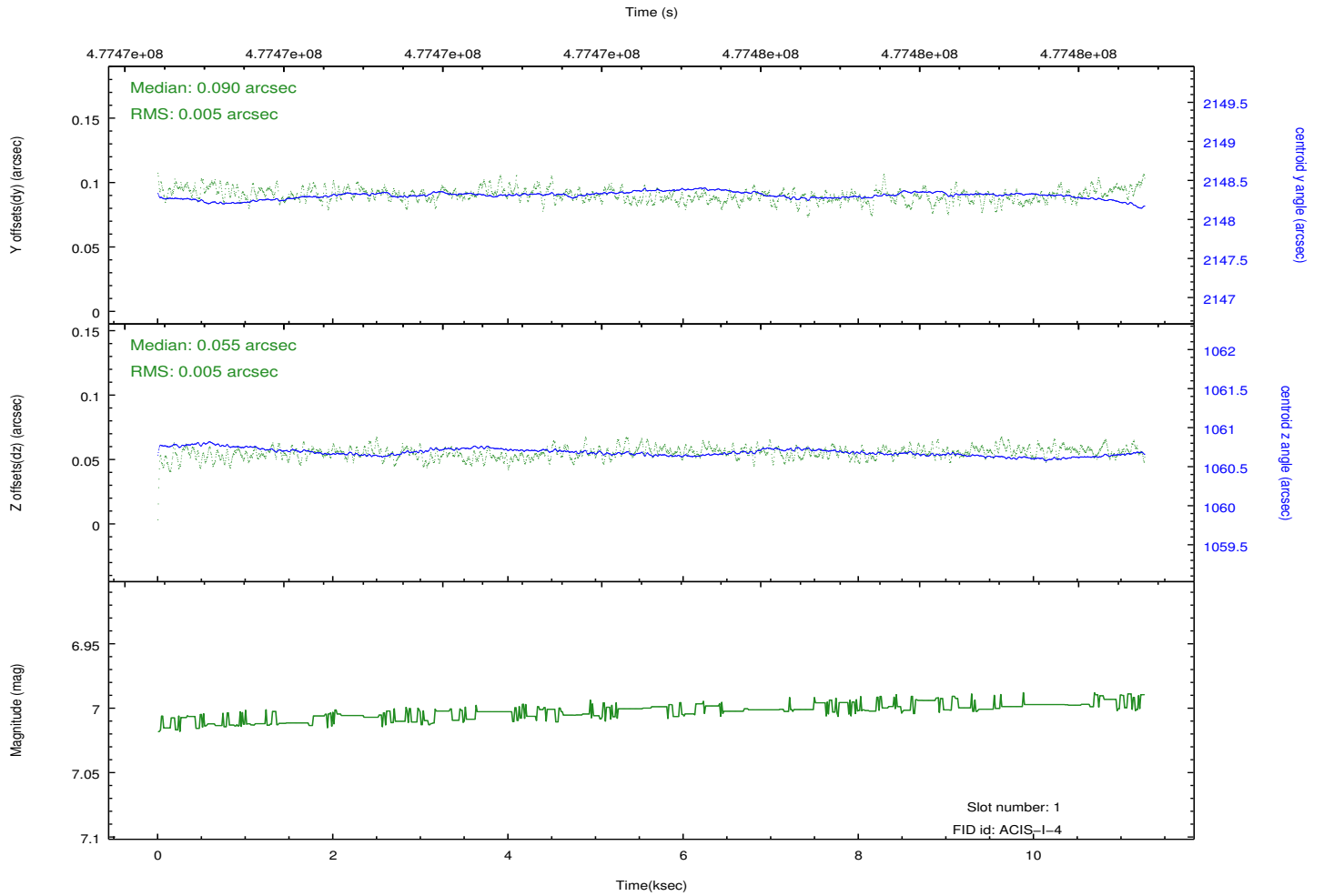
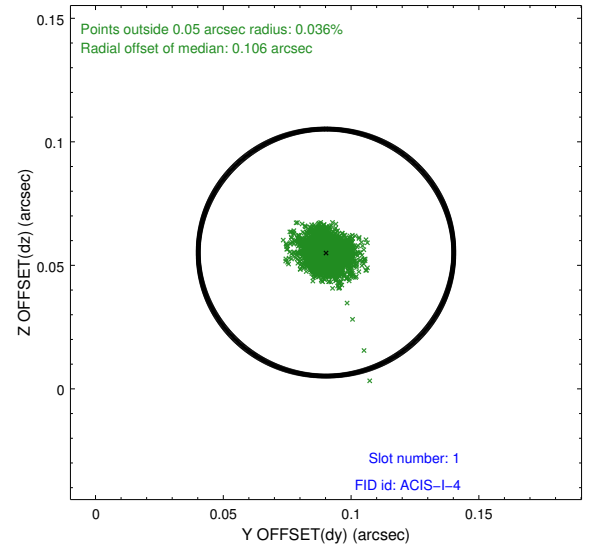
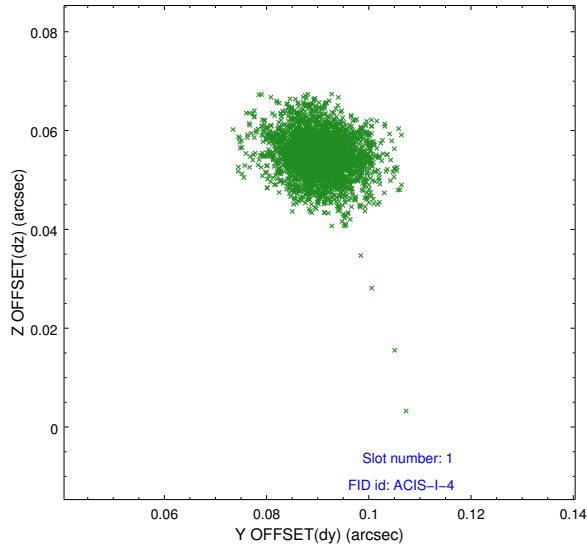


## 2.5 FID Slots

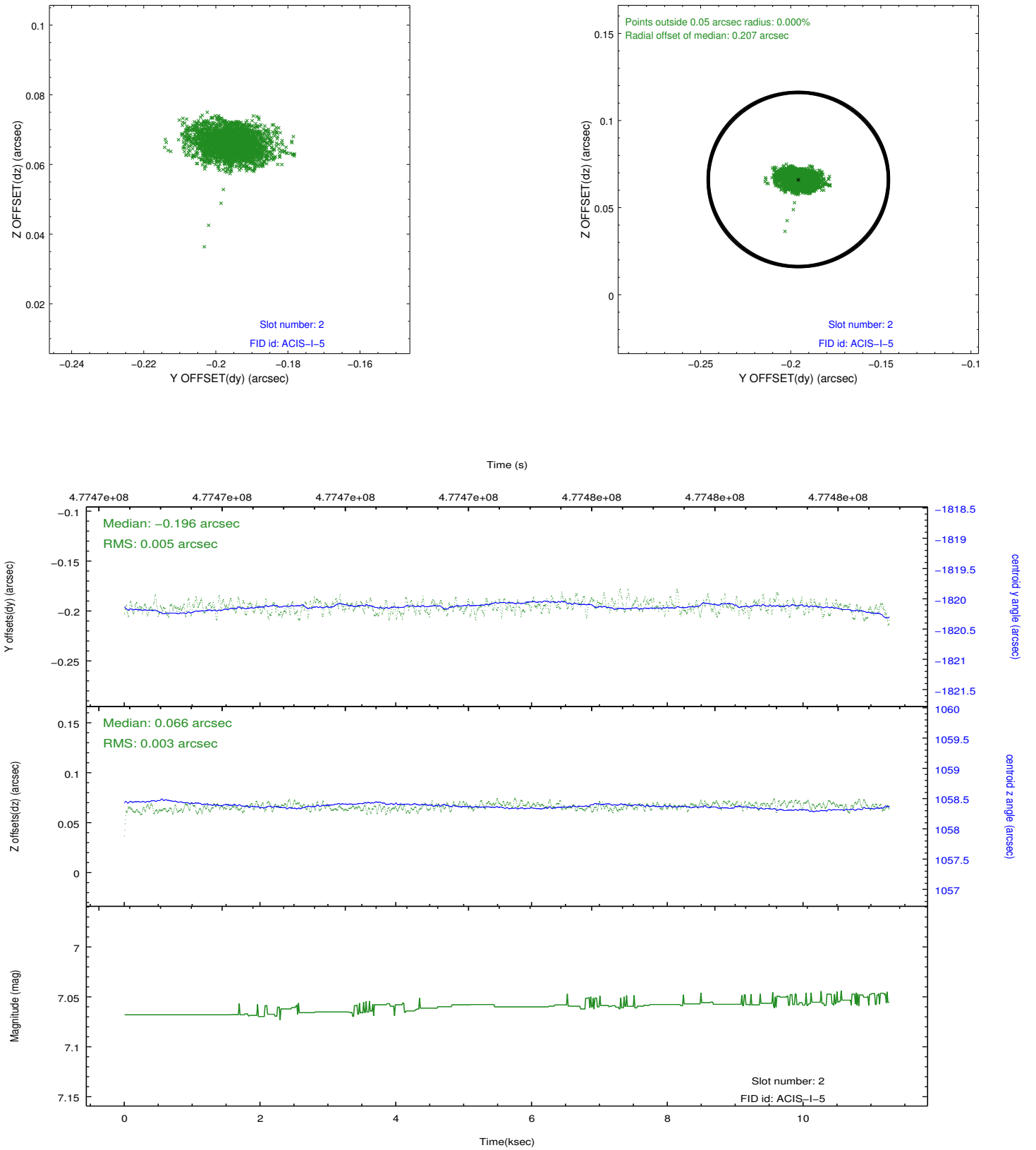
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2014.12.31
V&V Edition	2
V&V Disposition and Status	OK
V&V Charge Time	11.259159116209

## 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.

=====

Because of an onboard ACIS glitch of unknown cause, the bias maps for CCD chips 0, 1, 2, and 3 were not included in the telemetry stream for transmission to the ground. In addition, only part of the bias map for CCD chip 7 was included in the telemetry stream. There was no problem in the acquisition and onboard processing of the event data. The bias maps were available to ACIS throughout the observation and were used for event thresholding. There is no negative impact on the science quality of the data. ===== The bias maps that were not available in telemetry have been replaced using scaled data from similar bias maps taken near in time and at similar focal plane temperature. Initial overclock values for each chip were not available in telemetry; they were calculated using the PHA values of the outer 16 pixels of each event island as a measure of the scaling factor required. These calculations were made by the ACIS Team. ===== The portion of the bias map for CCD 7 that was included in telemetry was used, but the missing portion was replaced according to established procedure with a partial bias map is received. The procedure finds a bias map taken near in time and temperature, then scales the bias values to match the median of the affected node.