

V&V Reference Report

L2 ASCDS Version : 10.7.1

Observation 21424 - L2 Version 1
Chandra X-Ray Center

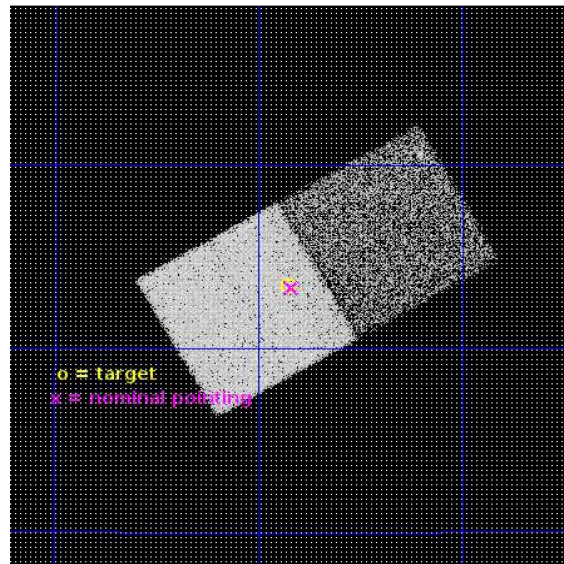
L2 Processing Date : Dec 30 2018

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1 Front

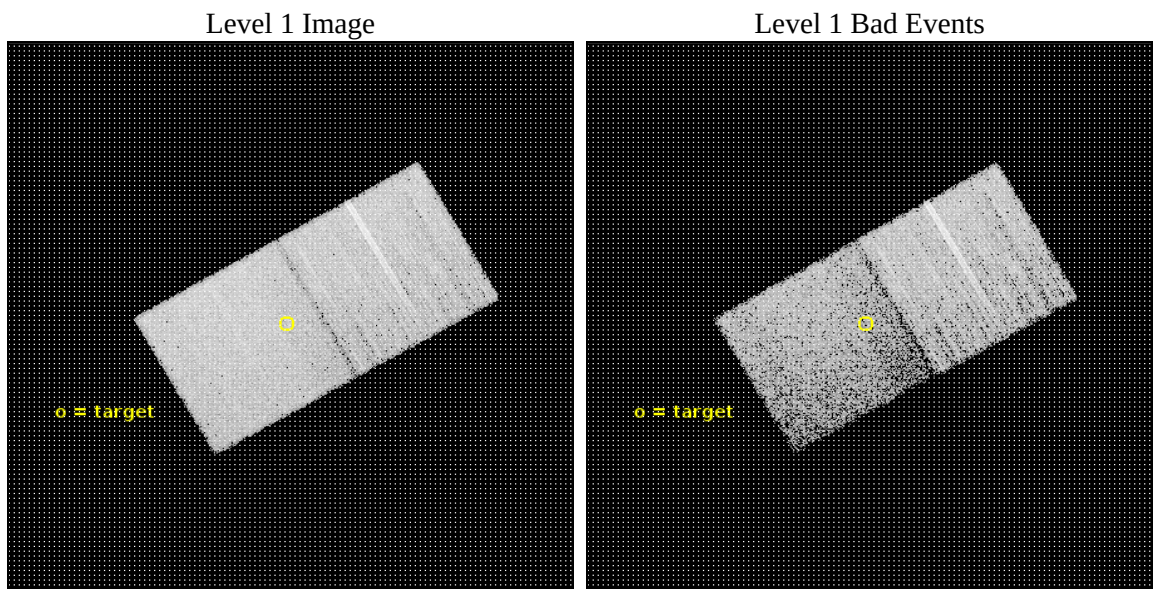
seq_num	703721	Sequence number
obs_id	21424	Observation id
title	The Nature of MaNGA Galaxies with Off-nuclear Seyfert Regions	Prop
observer	Julia Comerford	Principal investigator
object	SDSS J074351.36+444327.5	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	115.964167	Observer's specified target RA [deg]
dec_targ	44.724306	Observer's specified target Dec [deg]
ra_nom	115.95976195056	Nominal RA [deg]
dec_nom	44.722165311839	Nominal Dec [deg]
roll_nom	150.15970526118	Nominal Roll [deg]
revision	1	Processing version of data
ontime	17115.0	Sum of GTIs [s]
livetime	16884.026517244	Livetime [s]
ontime6	17115.0	Sum of GTIs [s]
ontime7	17115.0	Sum of GTIs [s]
l2events	70965	Number of level 2 events



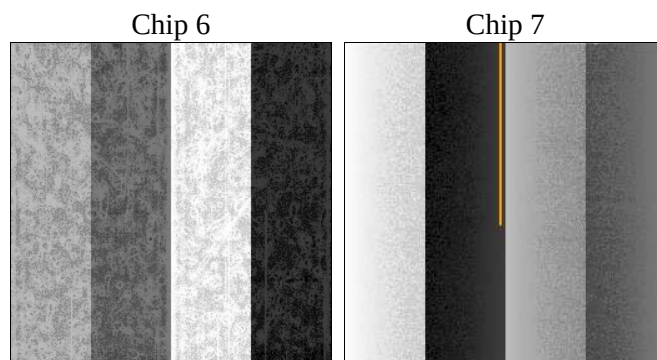
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	17011.428000	[s] Scheduled observation exposure time
ascdsver	10.7.1	Processing system revision	ontime	17115.0	Sum of GTIs [s]
caldsver	4.8.2	 	ontime6	17115.0	Sum of GTIs [s]
date	2018-12-30T21:44:37	Date and time of file creation	ontime7	17115.0	Sum of GTIs [s]
revision	1	Processing version of data	l1events	261651	Number of level 1 events

2.1.4 Events

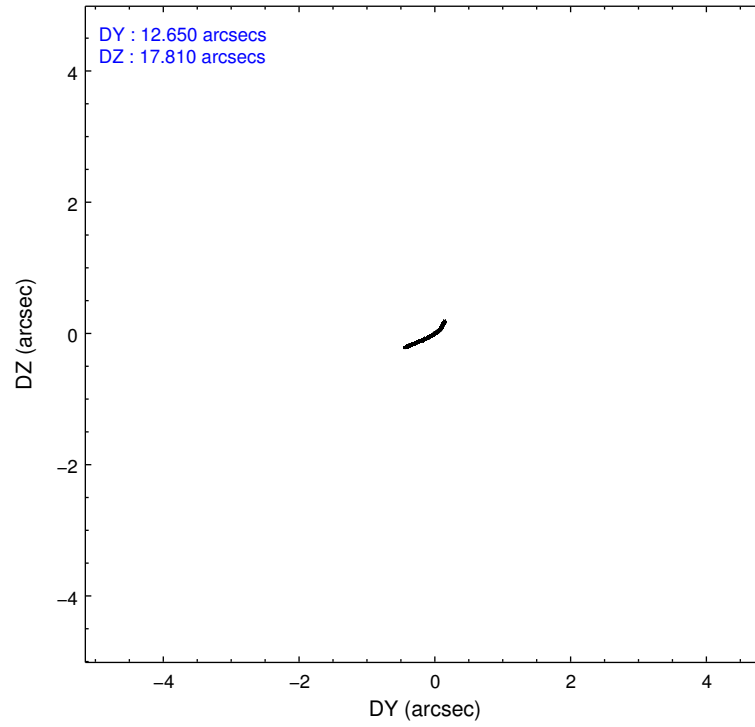
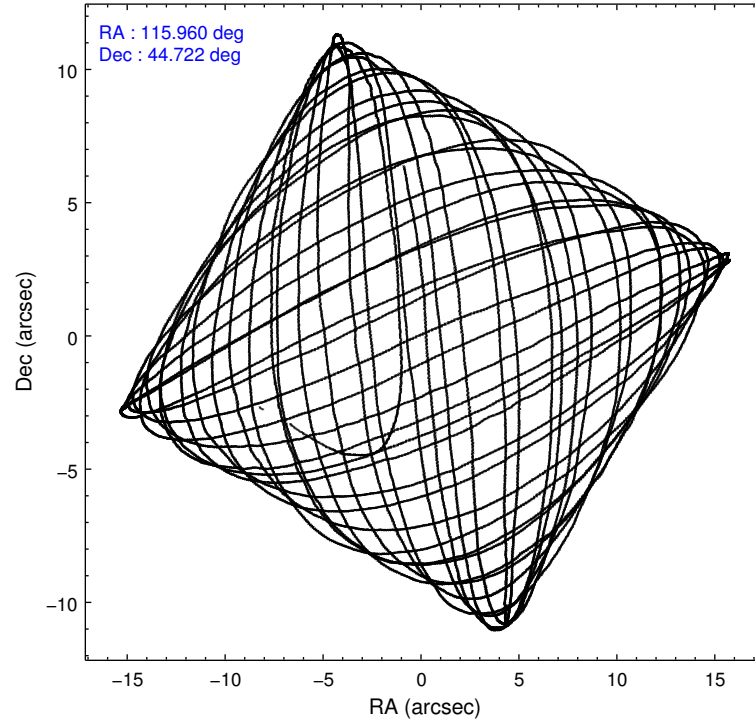
	ccd 6	ccd 7
level 1 events	130374	131277
rejected events	117122	70025
rejected %	89%	53%

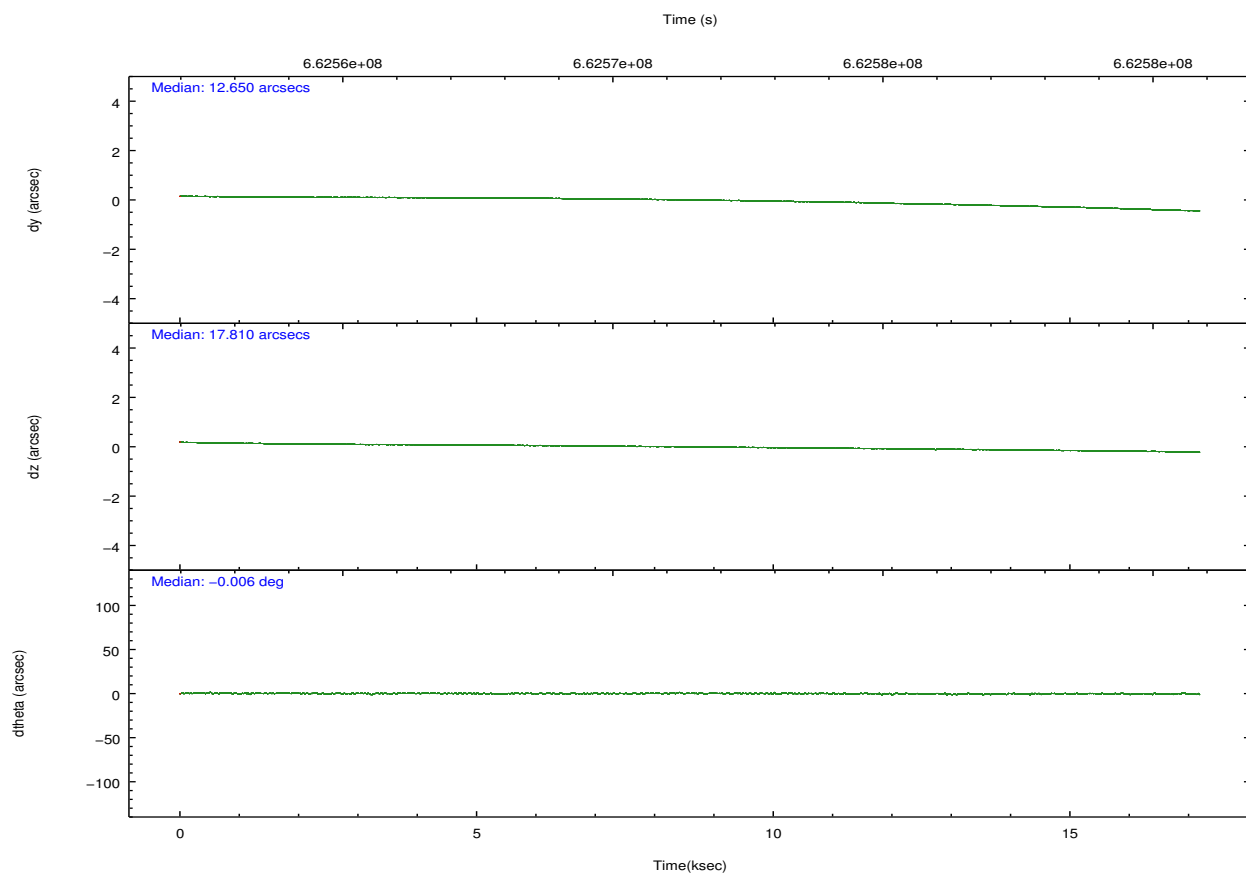
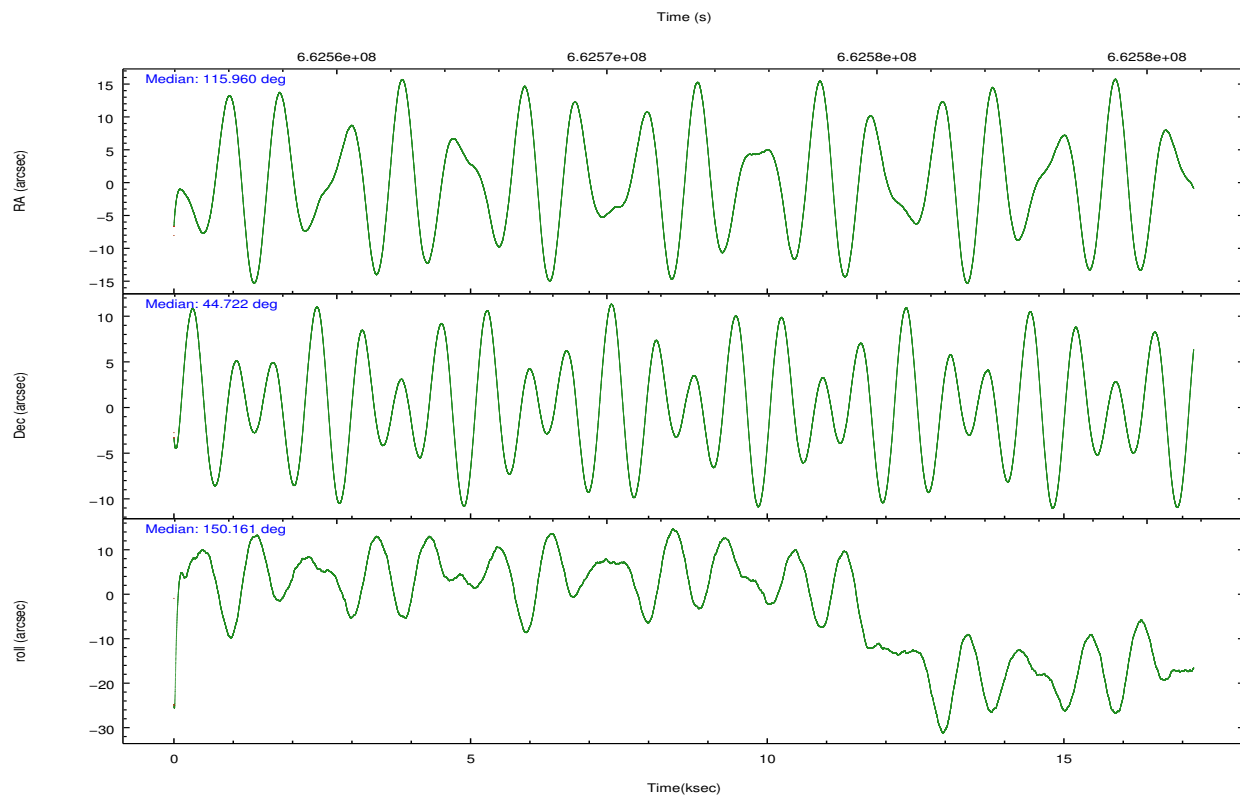
	ccd 6	ccd 7
grade 0 events	3710	5523
	2%	4%
grade 1 events	63	259
	0%	0%
grade 2 events	3919	13232
	3%	10%
grade 3 events	1030	5109
	0%	3%
grade 4 events	1063	4921
	0%	3%
grade 5 events	4068	12752
	3%	9%
grade 6 events	3530	32489
	2%	24%
grade 7 events	112991	56992
	86%	43%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-67	ACIS-67	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	115.998400	115.9597619505611	CCD I2 on	O1	N
[deg] Pointing Dec	44.722611	44.72216531183933	CCD I3 on	N	N
[deg] Pointing Roll	149.975910	150.1597052611775	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	O2	N
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	O4	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	O3	N
[s] Observation start time (MET)	662563022.184000	662561924.44213	CCD S5 on	N	N
Observation start date	2018-12-30T13:15:53	2018-12-30T12:58:44	Number of optional ACIS chips dropped	3	3
[s] Observation end time (MET)	662580033.184000	662580452.85574	On-chip summing requested	N	N
Observation end date	2018-12-30T17:59:24	2018-12-30T18:07:32	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3

2.3 Aspect



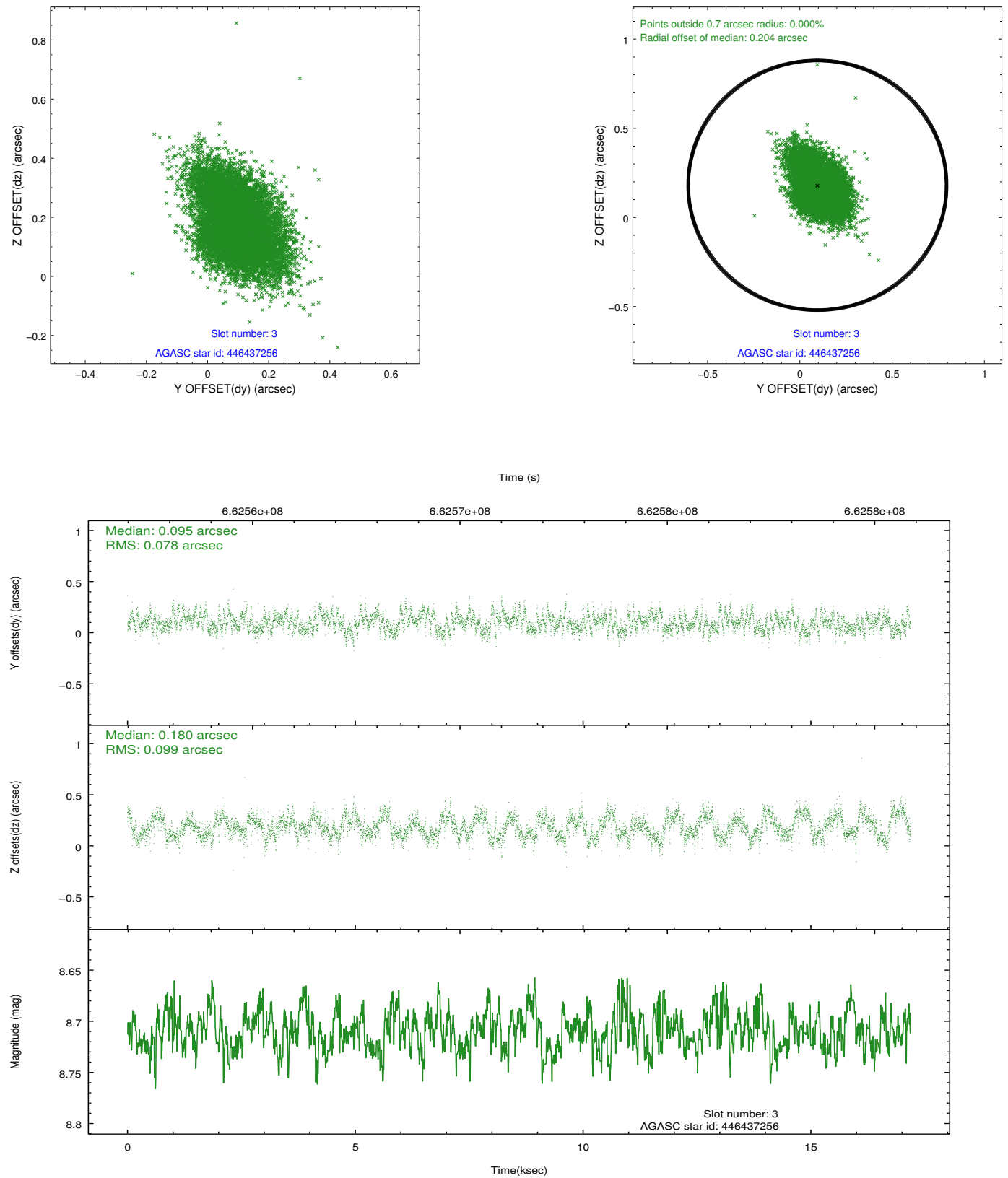


Slot Statistics

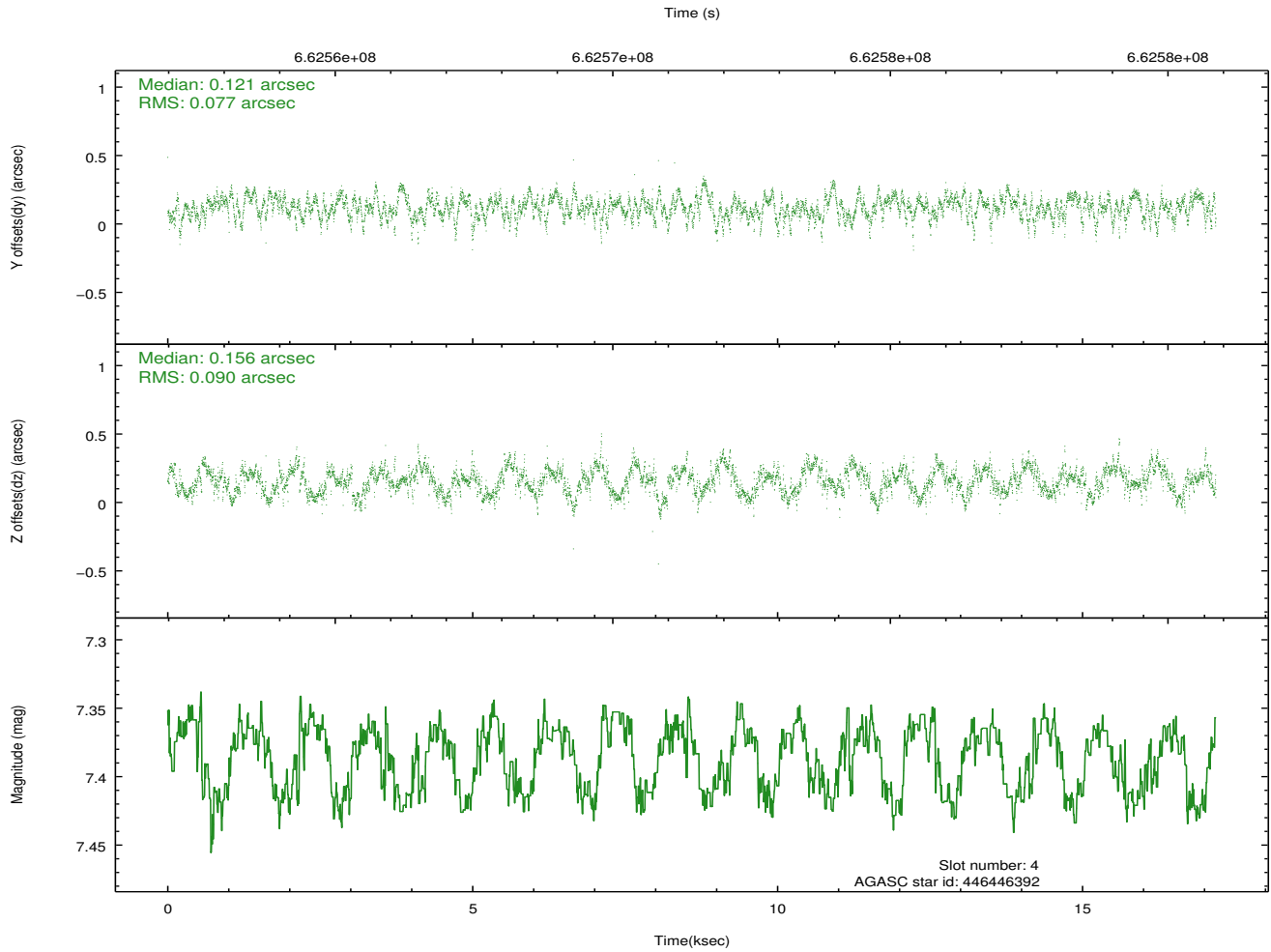
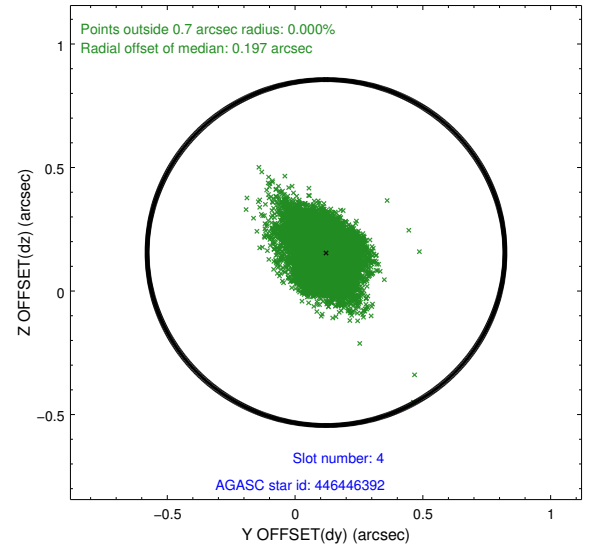
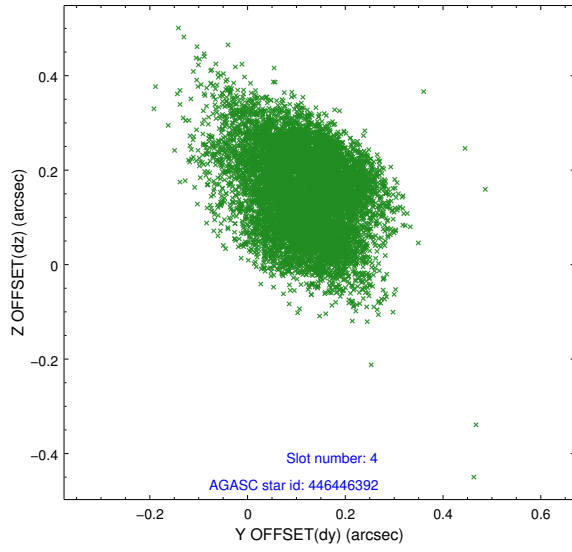
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.17	4193	1.000	-0.251	-0.228	0.008	0.014	0.000000	0.000000	-765.69	-1739
1	FID		ACIS-S-4	7.30	4193	1.000	0.744	0.182	0.008	0.019	0.000000	0.000000	2148.40	169
2	FID		ACIS-S-5	7.28	4192	1.000	-0.524	0.054	0.009	0.017	0.000000	0.000000	-1818.56	162
3	GUIDE	used	446437256	8.71	8377	1.000	0.095	0.180	0.134	0.216	115.979718	45.360441	1190.43	-1963
4	GUIDE	used	446446392	7.38	8385	1.000	0.121	0.156	0.124	0.202	116.085566	45.368470	972.97	-2123
5	GUIDE	used	389284608	8.73	8380	1.000	-0.620	-0.706	0.138	0.221	114.782481	44.462155	2247.24	2354
6	GUIDE	used	389422168	8.76	8372	1.000	0.128	-0.157	0.141	0.228	116.329594	44.574758	-1000.54	35
7	GUIDE	used	389424048	9.06	8370	1.000	0.285	0.509	0.202	0.318	116.832615	44.657361	-1961.67	-870

2.4 Star Slots

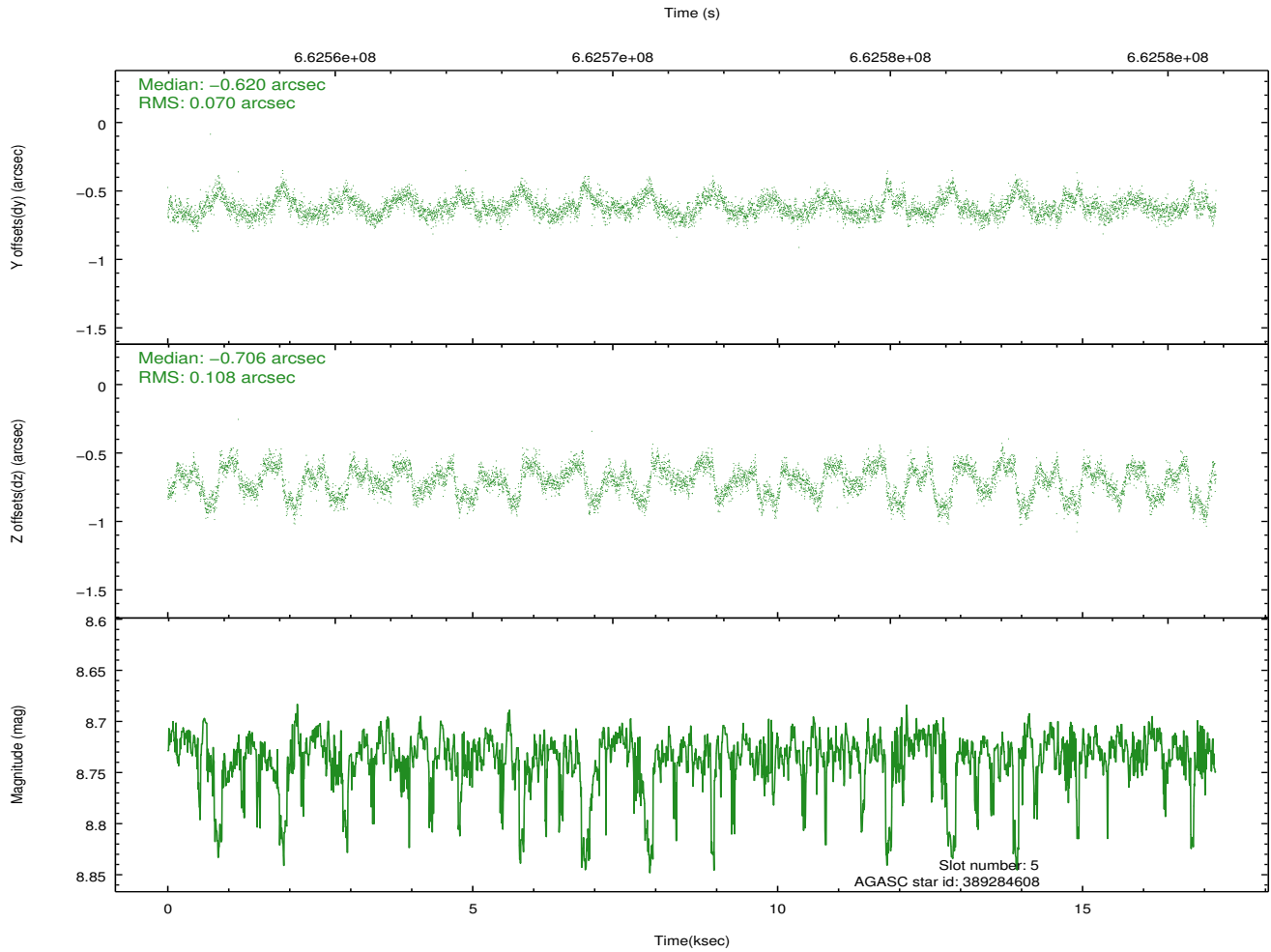
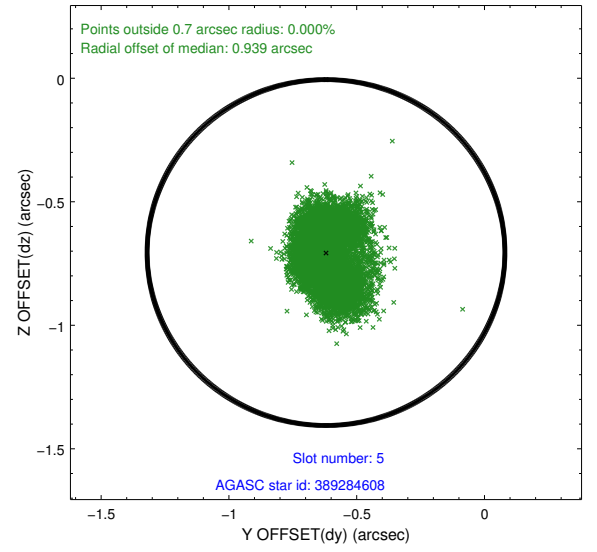
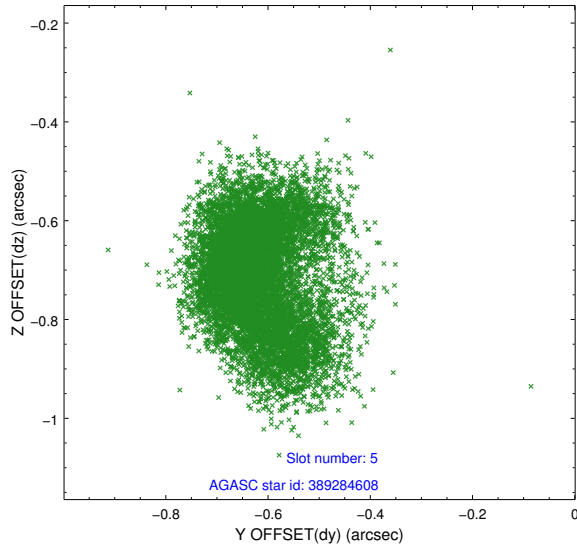
2.4.1 Slot 3



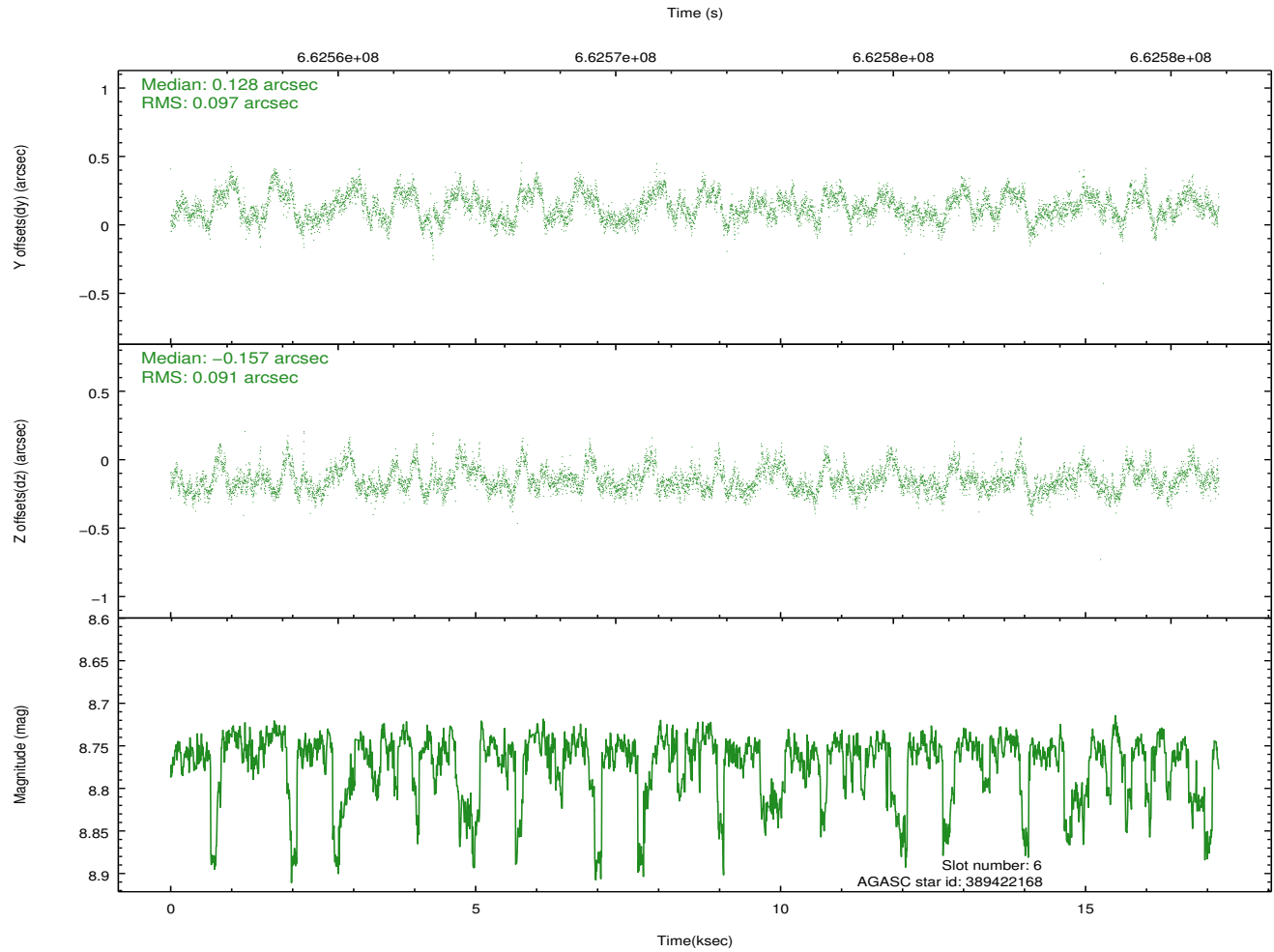
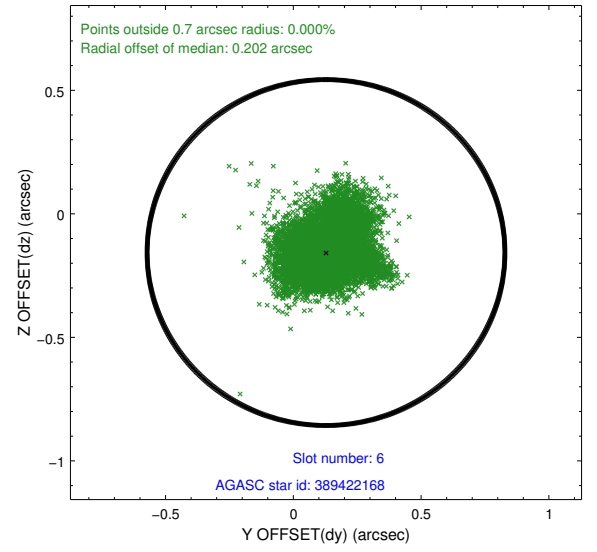
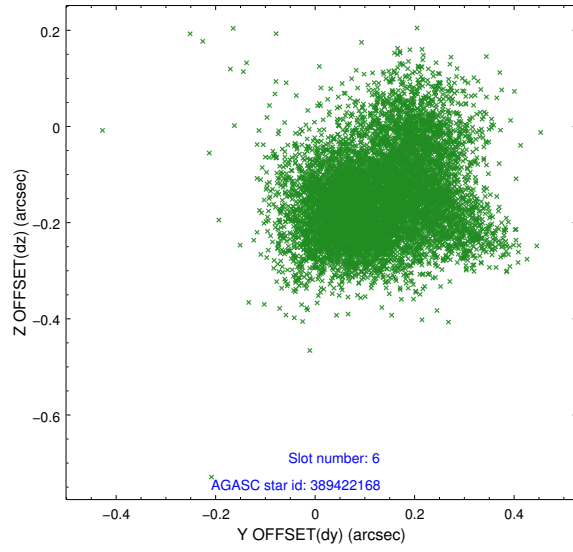
2.4.2 Slot 4



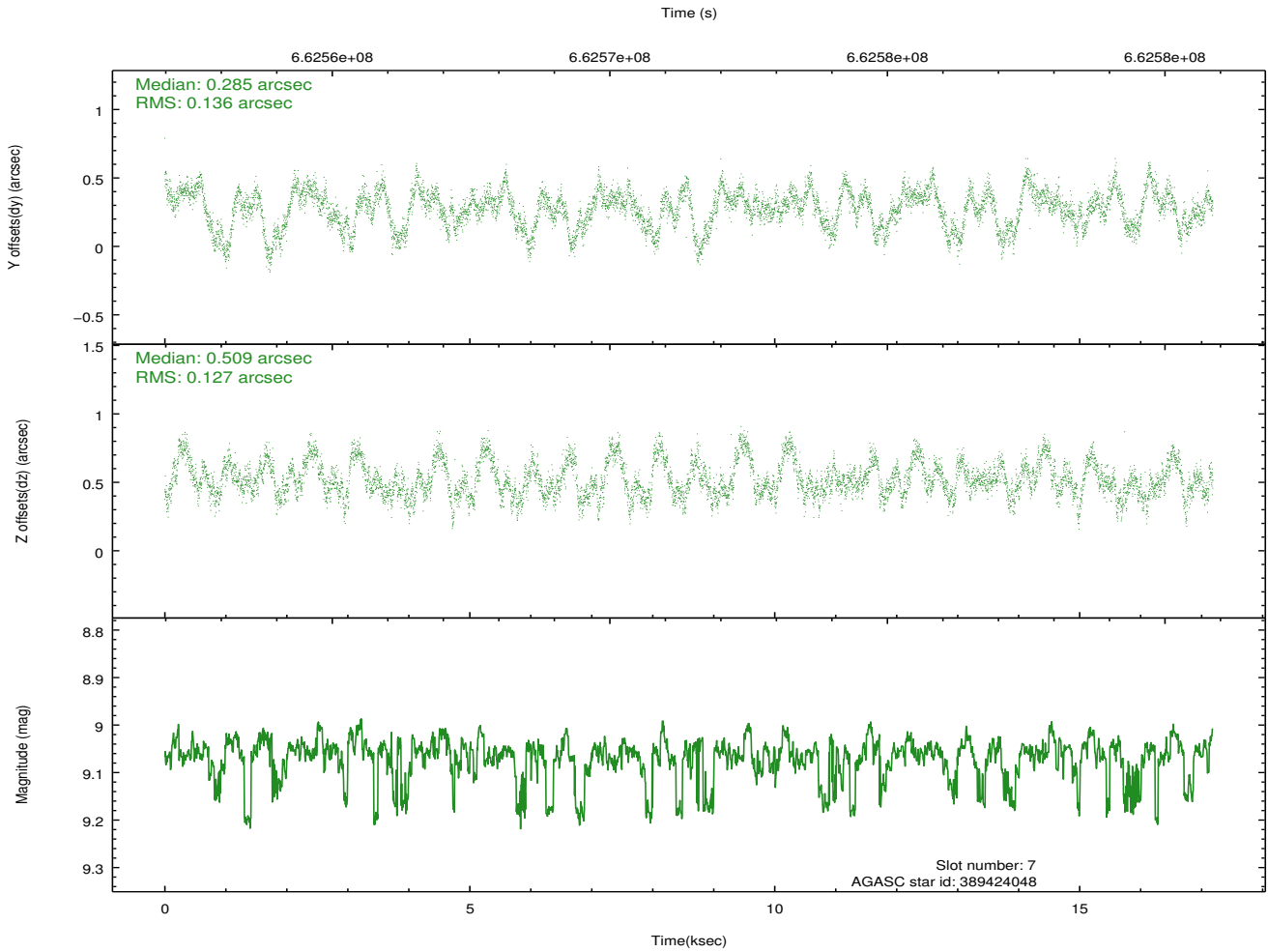
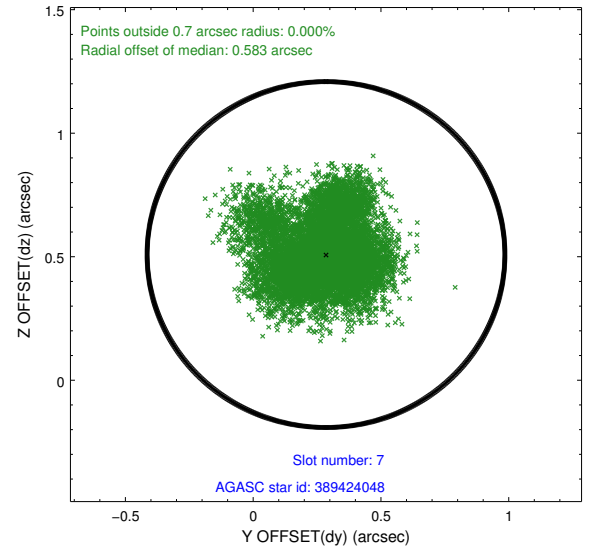
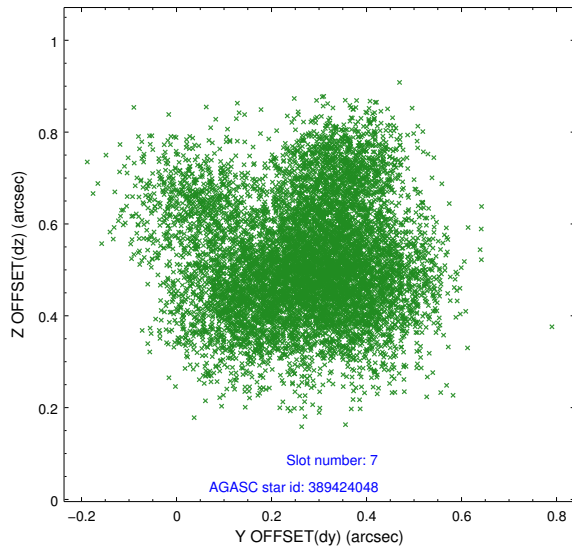
2.4.3 Slot 5



2.4.4 Slot 6

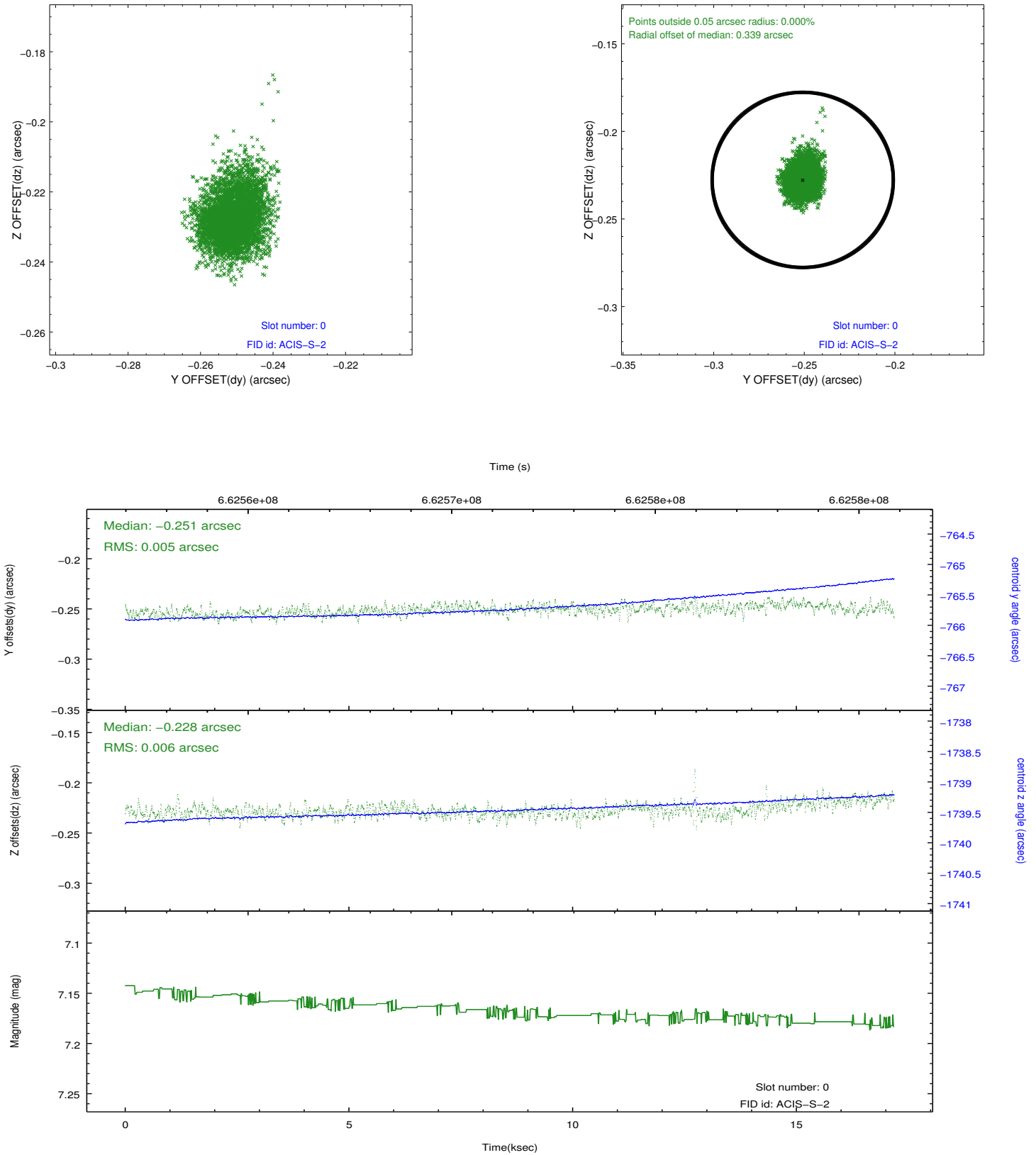


2.4.5 Slot 7

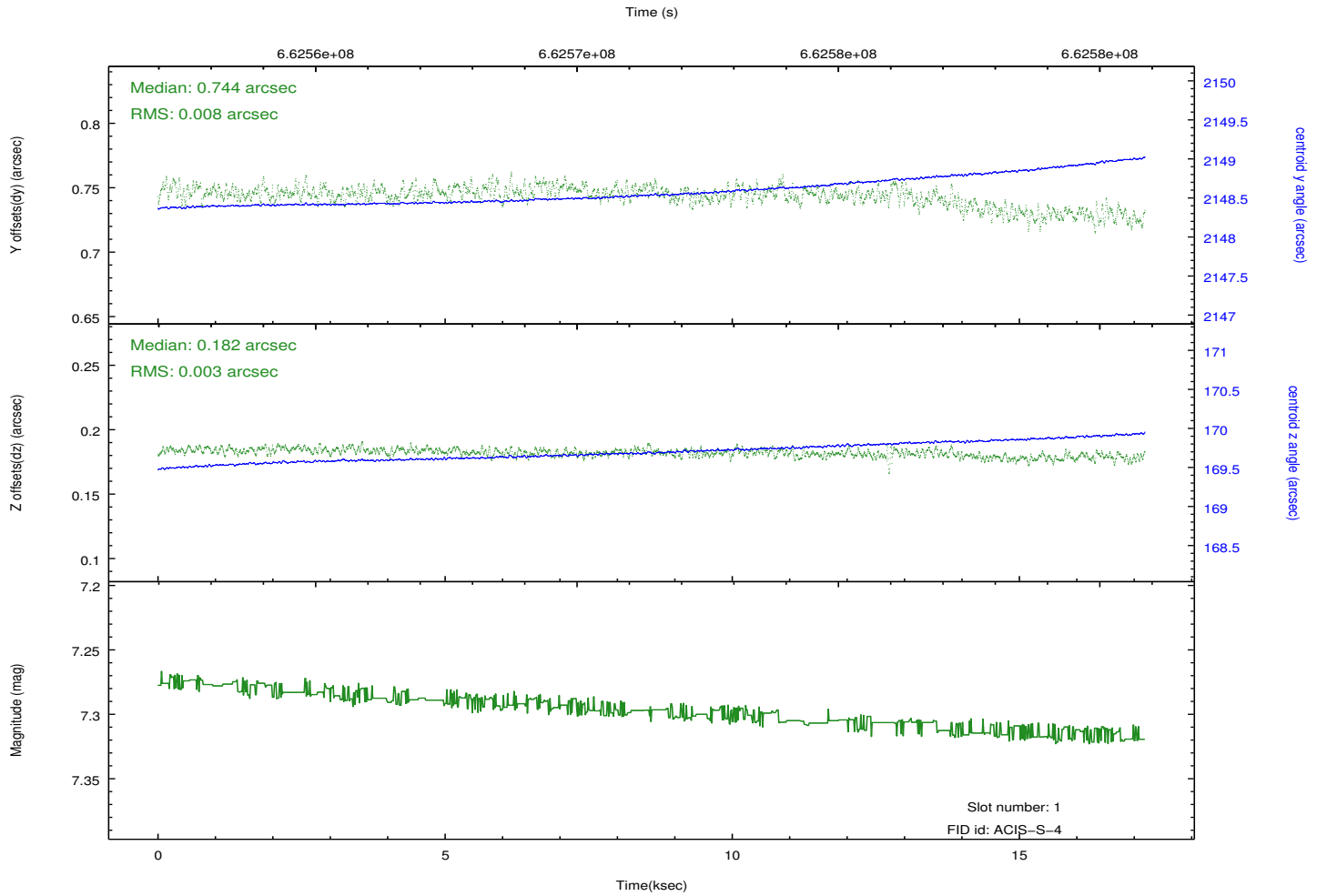
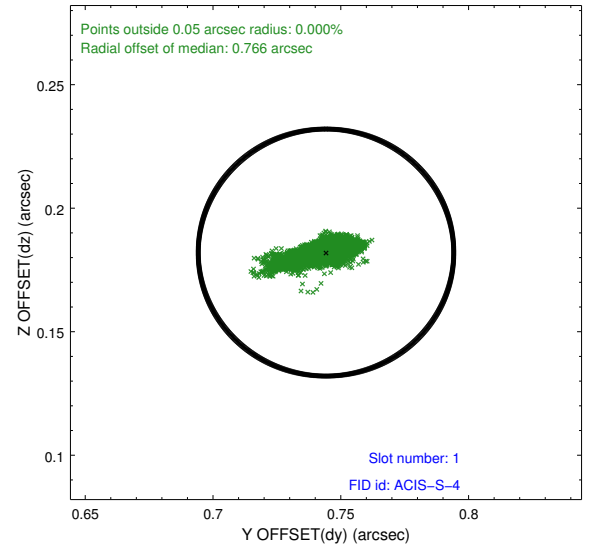
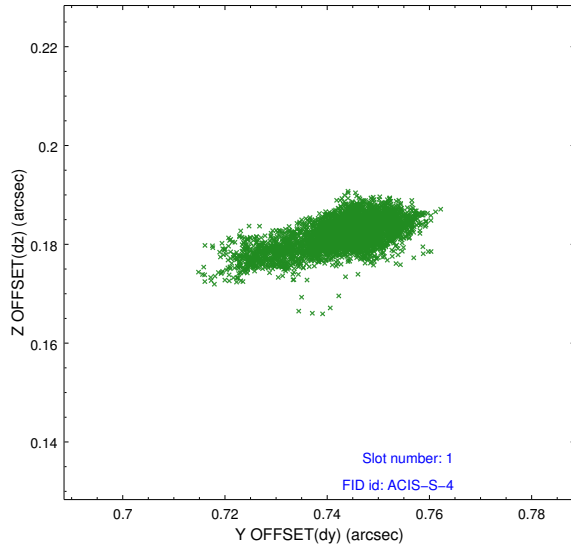


2.5 FID Slots

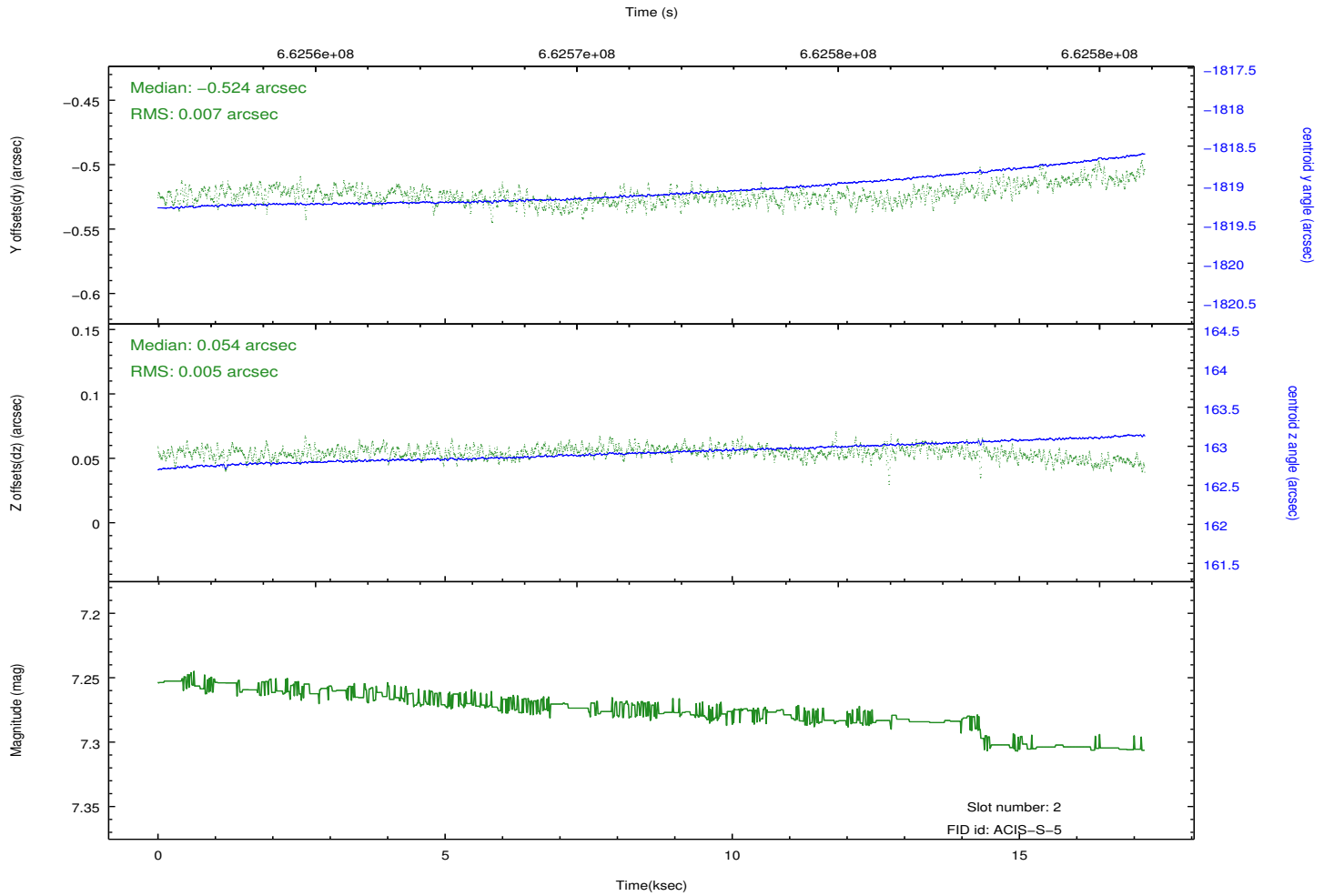
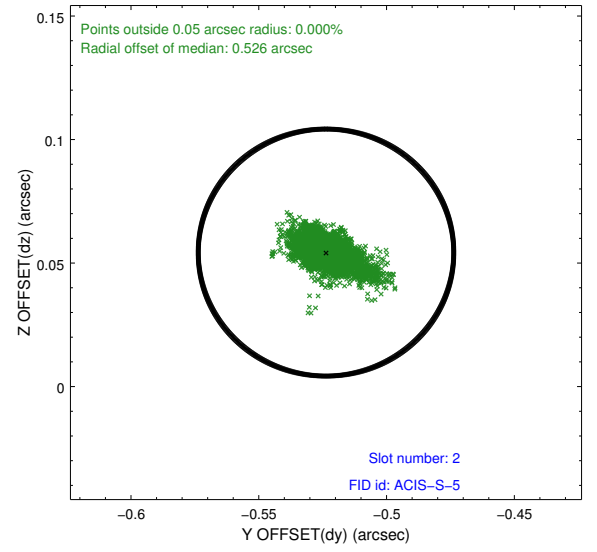
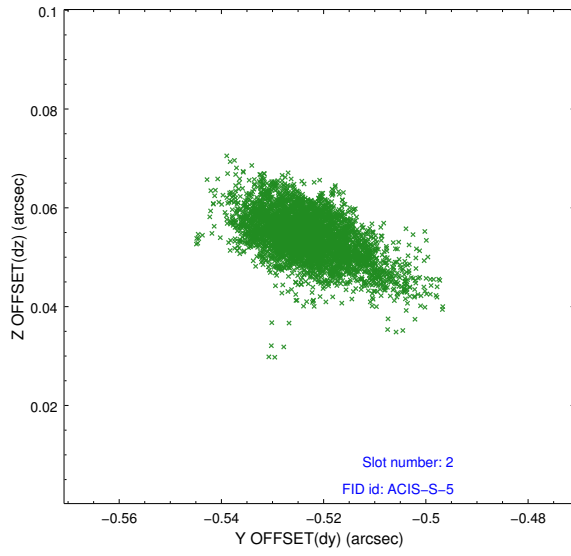
2.5.1 Slot 0



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)	2018.12.30
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	17.115

A.2 Comments

Three optional chips were dropped.

The focal plane temperature during part of this observation was warmer than the upper limit for optimum calibration of the ACIS gain and spectral resolution (i.e., -114.0 C for ACIS-I and -112.0 C for ACIS-S).

The Chandra calibration team calibrates the ACIS gain and spectral resolution using data from the external calibration source (ECS). ECS data show that the frontside-illuminated (FI) CCDs are more temperature sensitive than the backside-illuminated (BI) CCDs.

A summary of the current calibration status of the ACIS gain and spectral resolution can be found at:

http://asc.harvard.edu/cal/Acis/Cal_prods/Gain_and_Spectral_Resolution/ACIS_response_summary.html

The main points are:

- 1) The gain on BI chips remains within 0.3% (i.e., the systematic uncertainty in the ACIS gain quoted on the Chandra Calibration Status Summary web page) at all measured temperatures.
 - 2) The gain on FI chips remains within 0.3% below row 600 at all measured temperatures.
 - 3) The gain on FI chips above row 600 can be underestimated by as much as 1% for focal plane temperatures exceeding -116 C.
 - 4) The spectral resolution (i.e., FWHM) on BI chips is insensitive to the focal plane temperature.
 - 5) Warmer focal plane temperatures increase the FWHM on FI chips by up to 30 eV near row 512 and by up to 70 eV near the top of the chips.
- In summary, the user should be cautious in the spectral analysis of high S/N emission lines detected on the top half of FI chips in this observation. Default processing with the current version of the CALDB will underestimate photon energies by up to 1% and broaden emission lines by up to 70 eV.