

V&V Reference Report

L2 ASCDS Version : 10.8

Observation 20751 - L2 Version 1
Chandra X-Ray Center

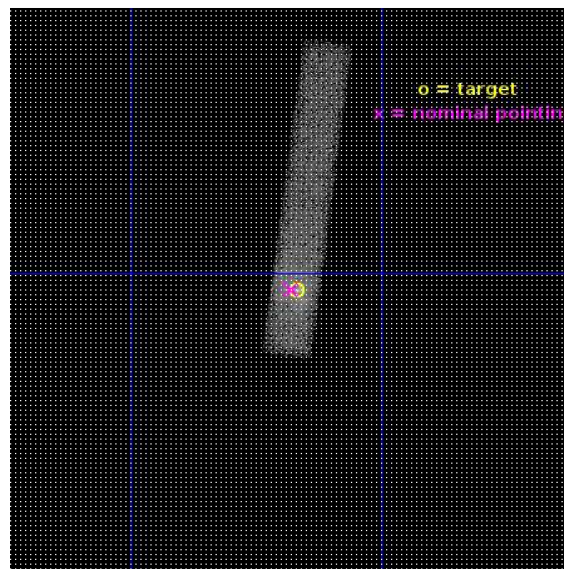
L2 Processing Date : Aug 20 2019

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1 Front

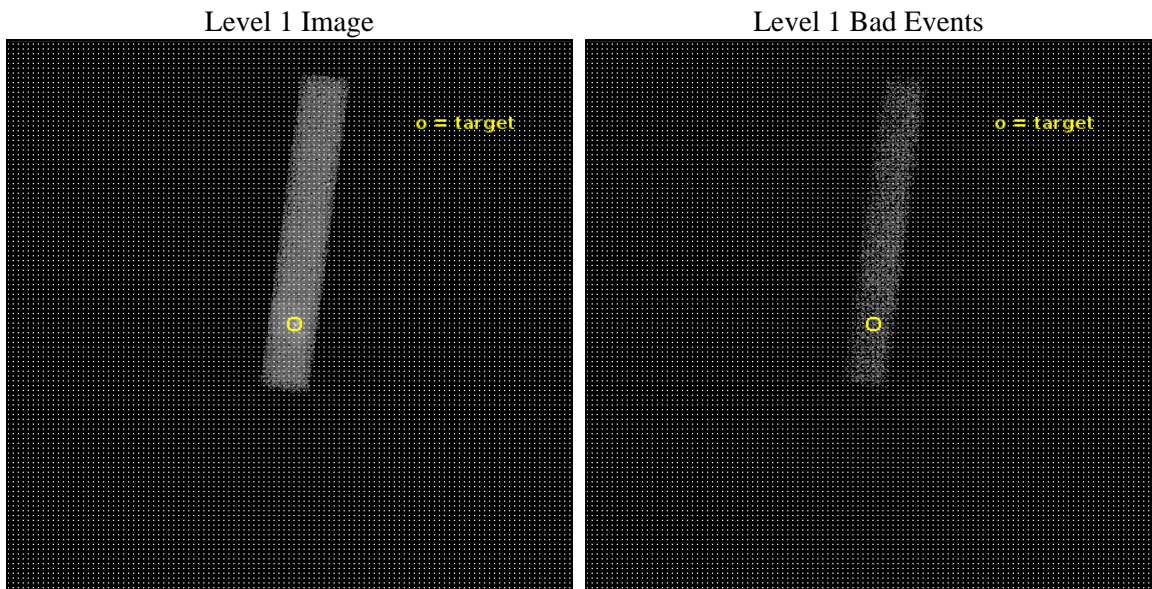
seq_num	601426	Sequence number
obs_id	20751	Observation id
title	Chandra/NuSTAR Monitoring of Sgr A*, SGR J1745-2900 and X-ray transients in the GC	Proposal title
observer	Gordon Garmire	Principal investigator
object	SgrA*	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	266.416667	Observer's specified target RA [deg]
dec_targ	-29.007833	Observer's specified target Dec [deg]
ra_nom	266.41986282199	Nominal RA [deg]
dec_nom	-29.007662574047	Nominal Dec [deg]
roll_nom	277.15819066825	Nominal Roll [deg]
revision	1	Processing version of data
ontime	26768.678172231	Sum of GTIs [s]
livetime	24277.778135526	Livetime [s]
ontime7	26768.678172231	Sum of GTIs [s]
l2events	29866	Number of level 2 events



2 OBI

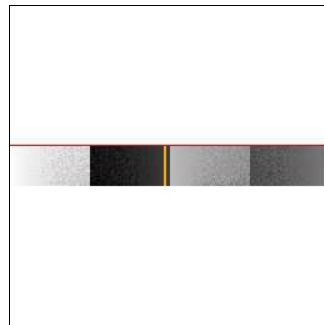
2.1 OBI

2.1.1 Images



2.1.2 Bias

Chip 7



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	26700.000000	[s] Scheduled observation exposure time
ascdsver	10.8	Processing system revision	ontime	26768.678172231	Sum of GTIs [s]
caldbver	4.8.3.1	 	ontime7	26768.678172231	Sum of GTIs [s]
date	2019-08-20T14:34:26	Date and time of file creation	l1events	49559	Number of level 1 events
revision	1	Processing version of data			

2.1.4 Events

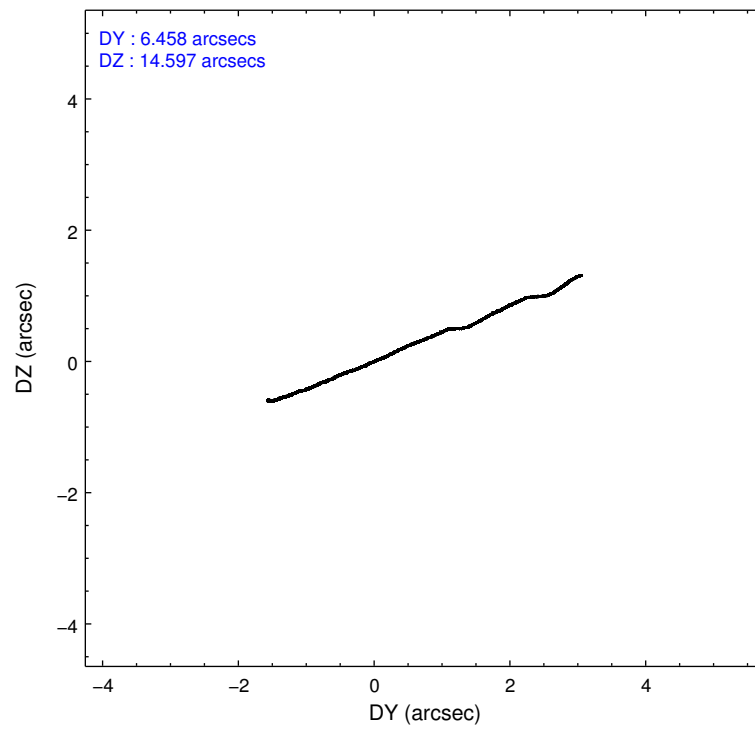
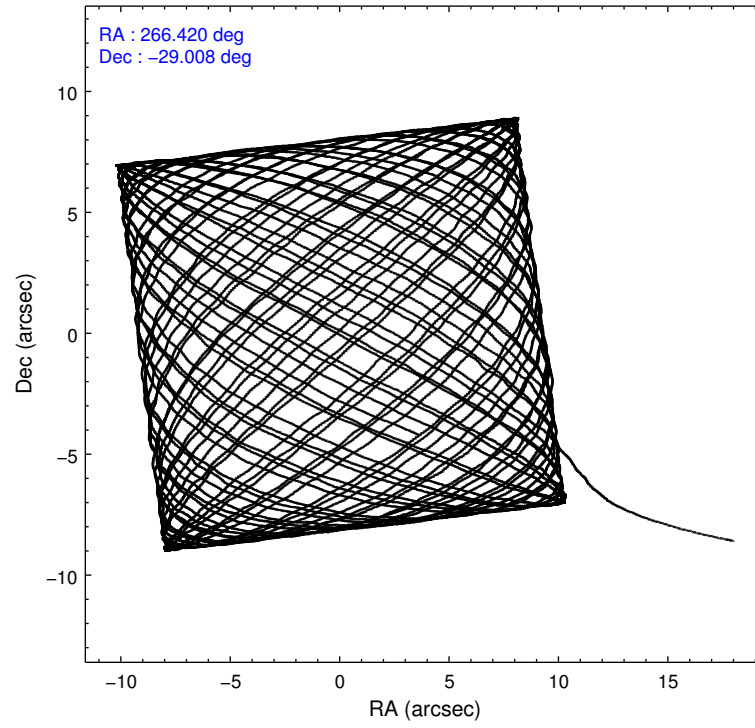
	ccd 7
level 1 events	49559
rejected events	18751
rejected %	37%

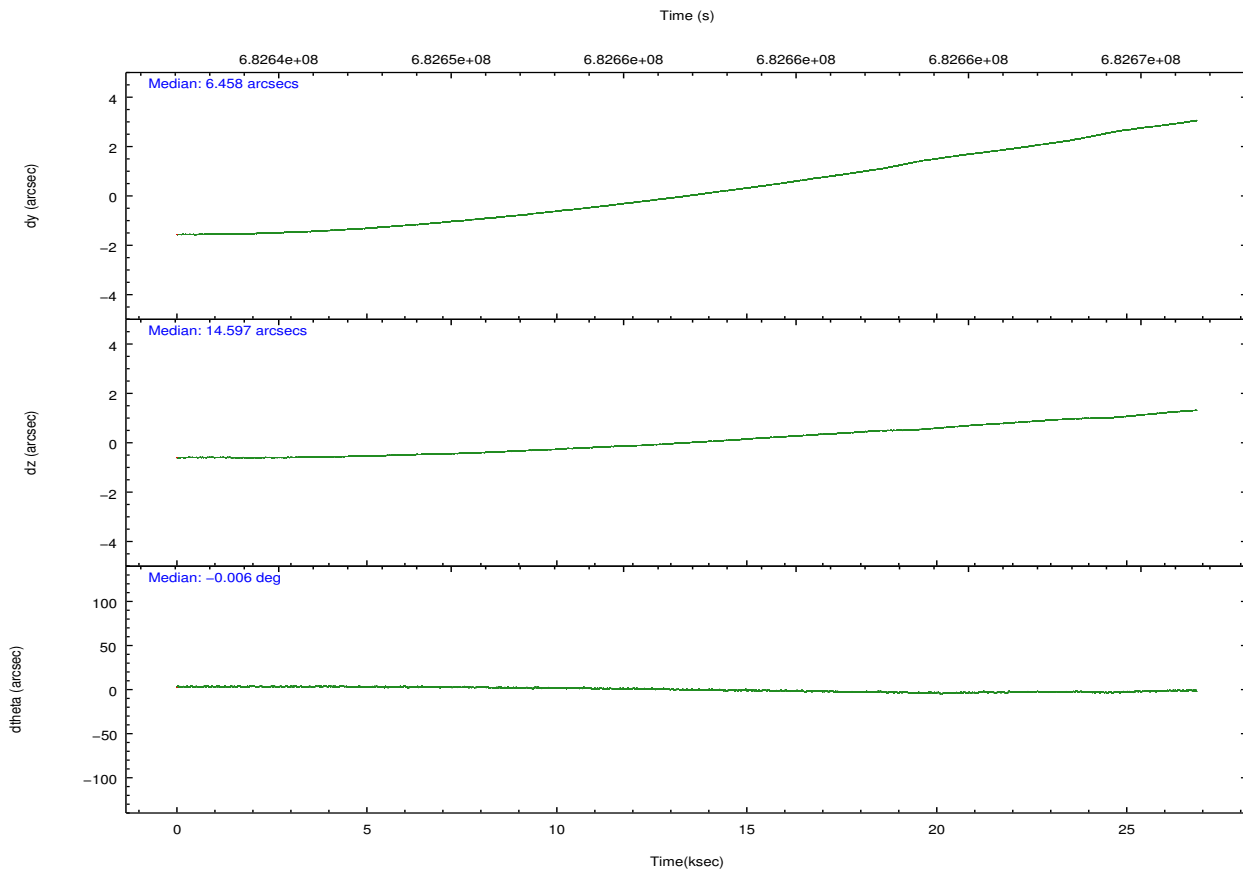
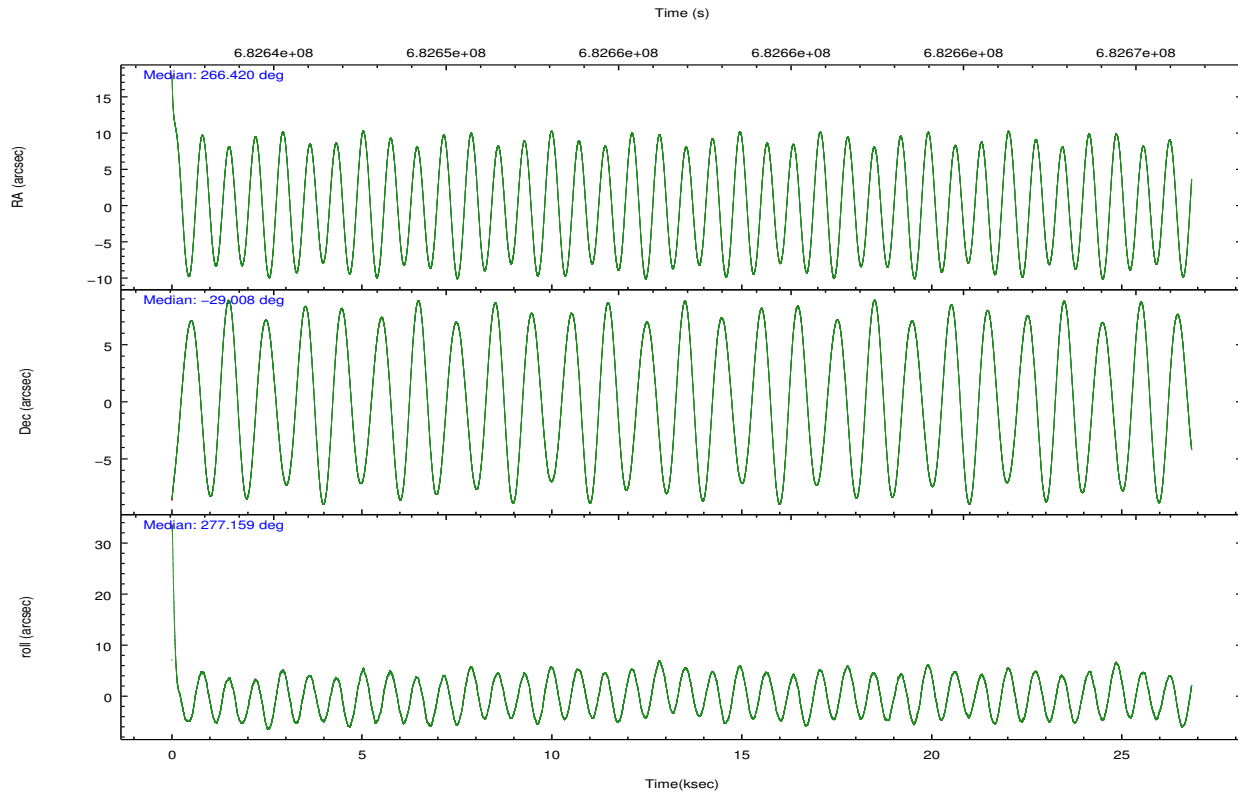
	ccd 7
grade 0 events	4317
	8%
grade 1 events	59
	0%
grade 2 events	6412
	12%
grade 3 events	3656
	7%
grade 4 events	3580
	7%
grade 5 events	3618
	7%
grade 6 events	12843
	25%
grade 7 events	15074
	30%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-7	ACIS-7	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	266.400583	266.4198628219871	Subarray requested	CUSTOM	1/8
[deg] Pointing Dec	-28.986018	-29.00766257404656	Subarray start row	449	449
[deg] Pointing Roll	276.992202	277.1581906682547	Subarray row count	128	128
[mm] SIM focus pos	-0.684267	-0.6828225247311905	Alternating exposures requested	N	N
[mm] SIM defocus	0	0.001444936568705701	[s] Primary exposure time	0.000000	0.4
[mm] SIM translation stage pos	-190.132523	-190.1425803651734			
[mm] SIM translation stage offset	0	0.01005778216563158			
[s] Observation start time (MET)	682643550.184000	682642024.14485			
Observation start date	2019-08-19T23:11:21	2019-08-19T22:47:04			
[s] Observation end time (MET)	682670250.184000	682671275.59661			
Observation end date	2019-08-20T06:36:21	2019-08-20T06:54:35			
Read mode	TIMED	TIMED			

2.3 Aspect





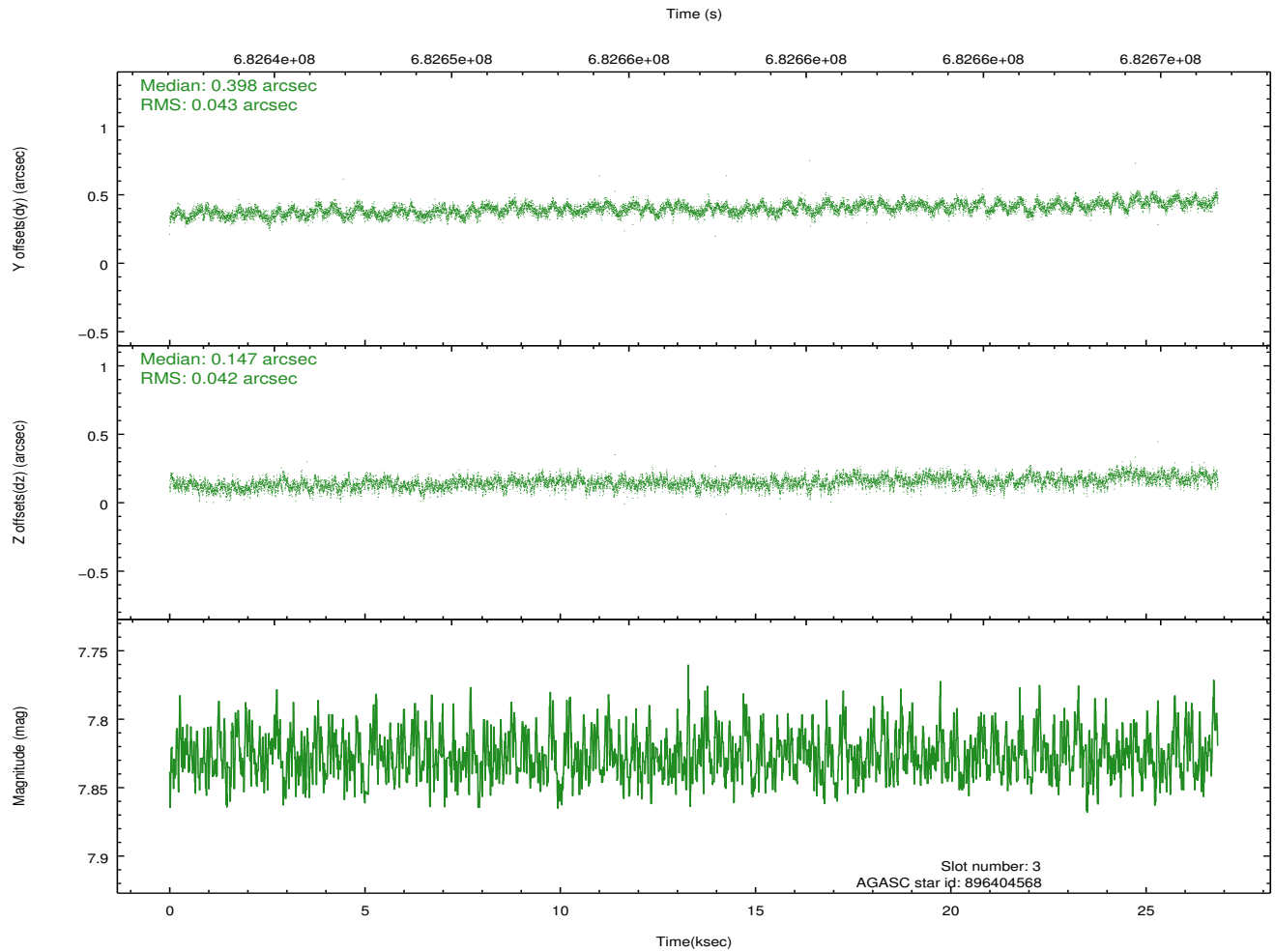
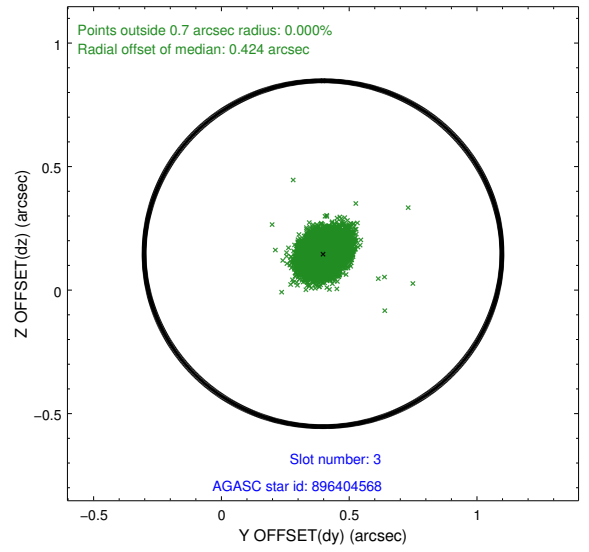
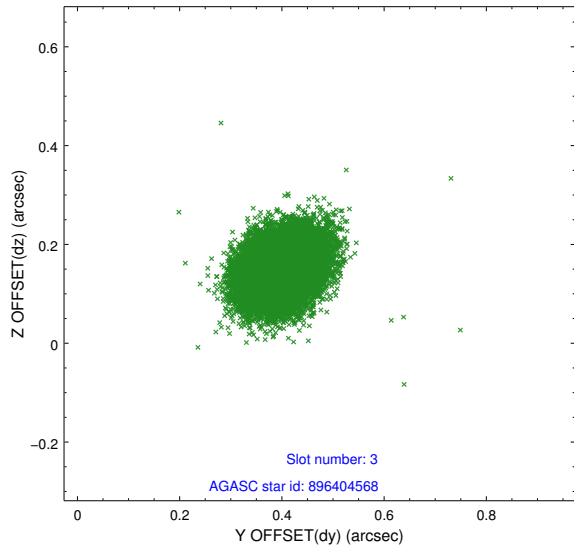
Slot Statistics

slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.15	6546	1.000	-0.255	-0.127	0.023	0.034	0.000000	0.000000	-759.66	-1736
1	FID		ACIS-S-4	7.29	6546	1.000	0.590	0.159	0.022	0.055	0.000000	0.000000	2154.37	172
2	FID		ACIS-S-5	7.28	6544	1.000	-0.359	-0.021	0.018	0.074	0.000000	0.000000	-1812.54	166
3	GUIDE	used	896404568	7.83	13089	1.000	0.398	0.147	0.064	0.103	265.687293	-28.431080	-2250.51	-1998
4	GUIDE	used	896537176	7.99	13087	1.000	-0.161	-0.107	0.064	0.110	266.498272	-28.678259	-1061.80	440
5	GUIDE	used	896533888	7.01	13094	1.000	-0.174	-0.183	0.098	0.144	266.666434	-29.392757	1556.01	649
6	GUIDE	used	896538696	6.81	13093	1.000	-0.010	0.197	0.087	0.128	266.298470	-28.325572	-2398.80	-31
7	GUIDE	used	896541360	7.70	13087	1.000	-0.051	-0.043	0.068	0.119	266.684478	-29.453744	1780.71	678

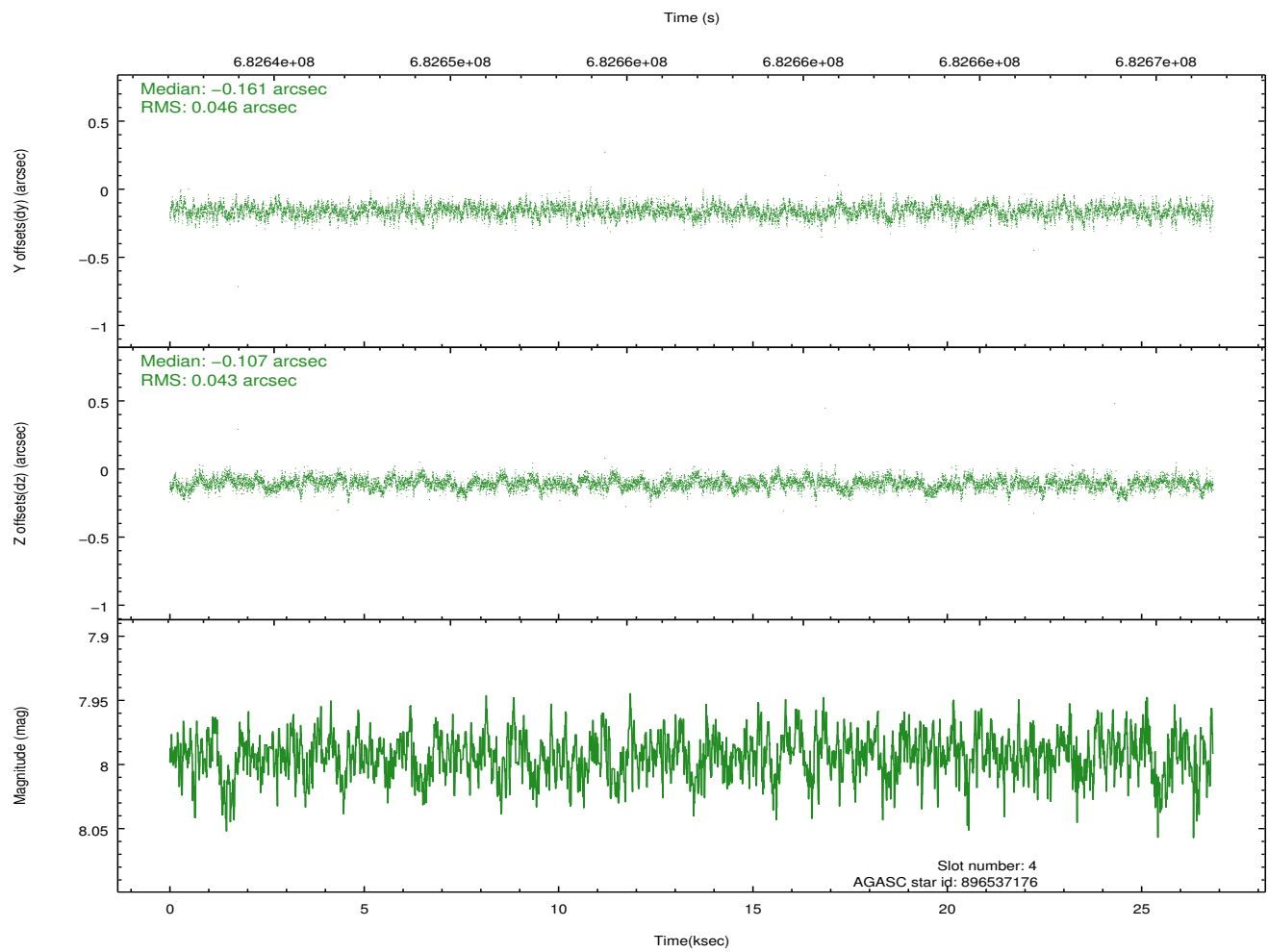
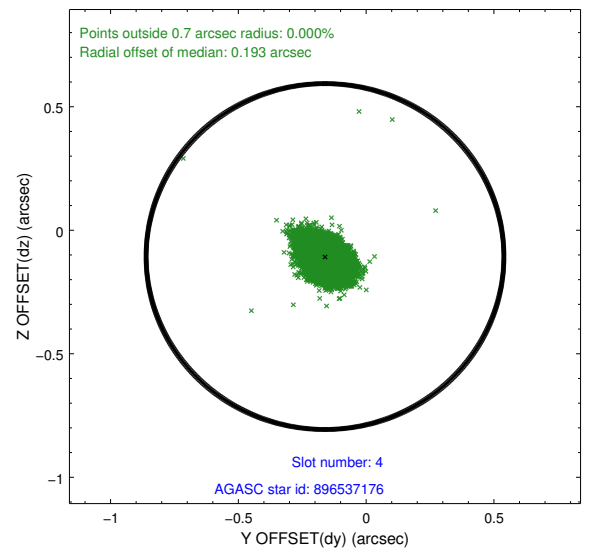
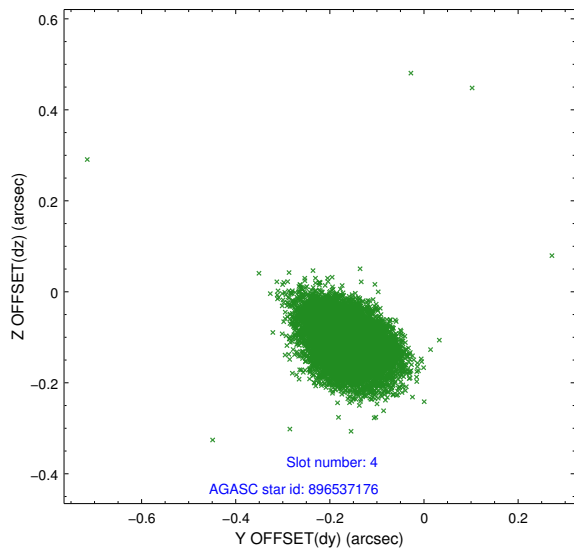
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2.4 Star Slots

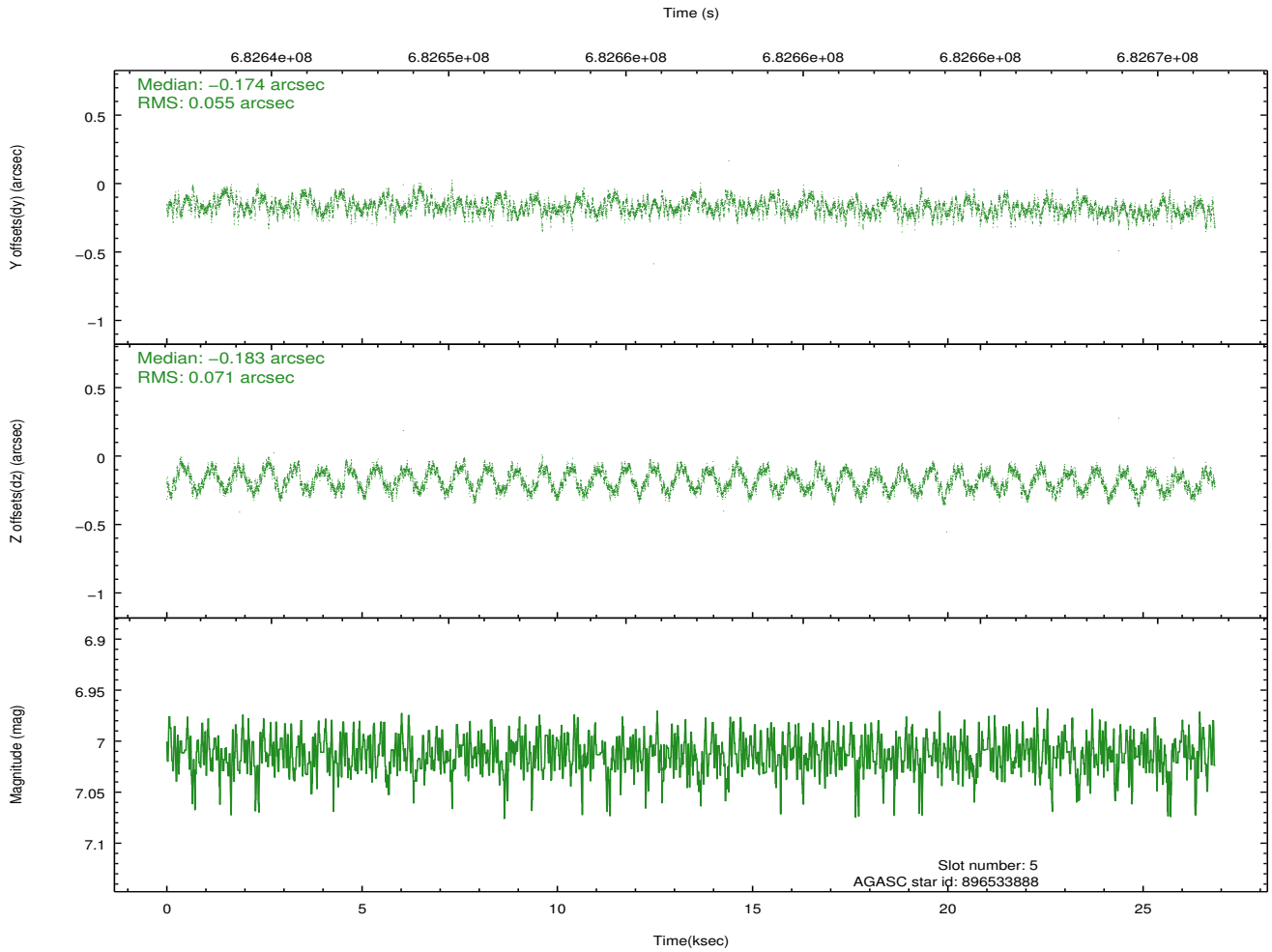
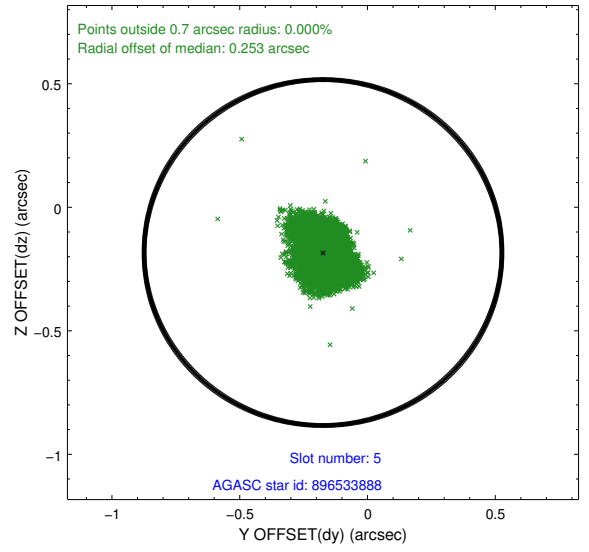
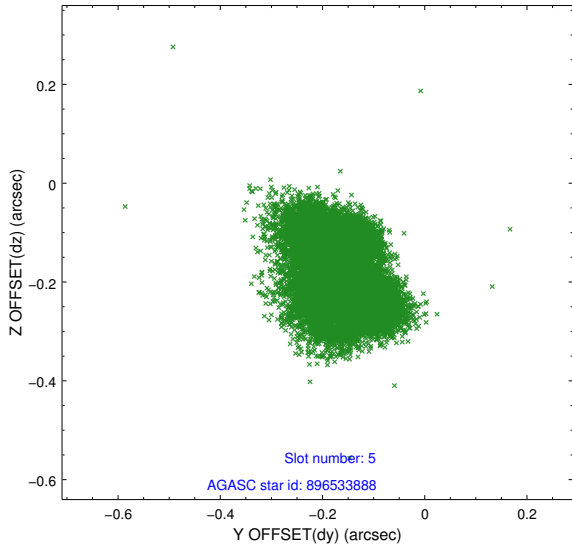
2.4.1 Slot 3



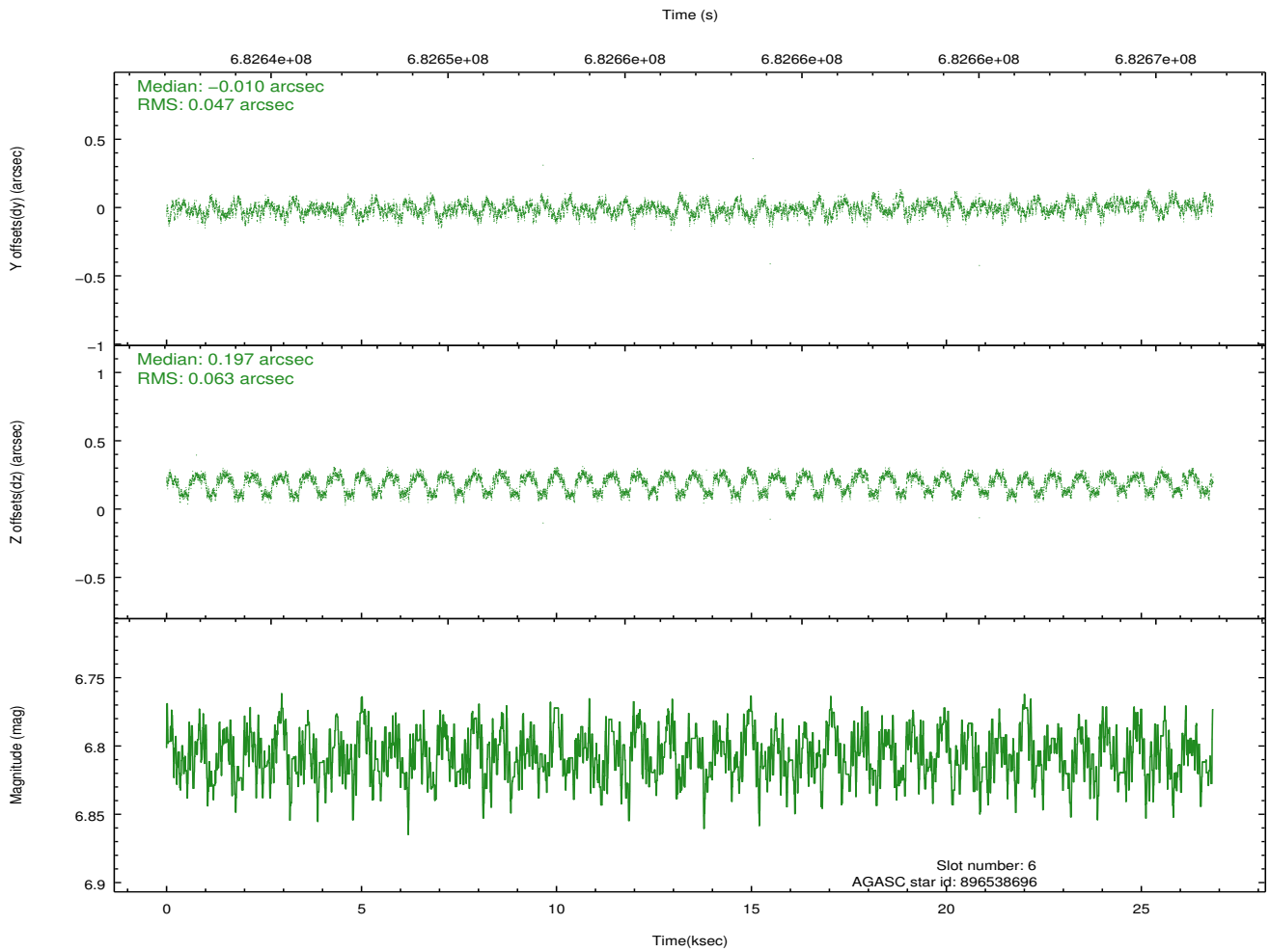
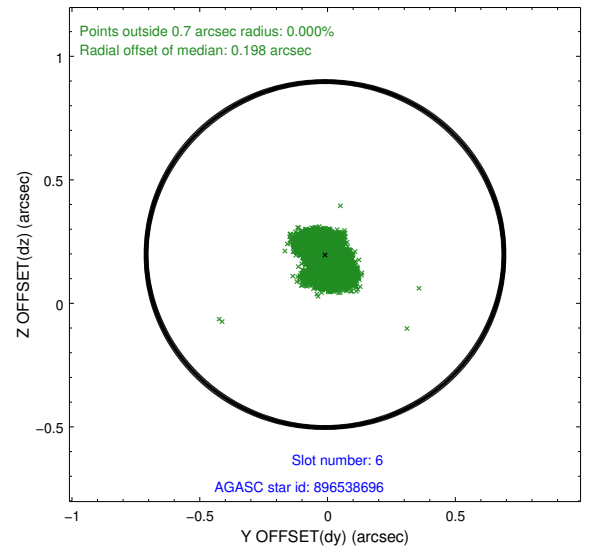
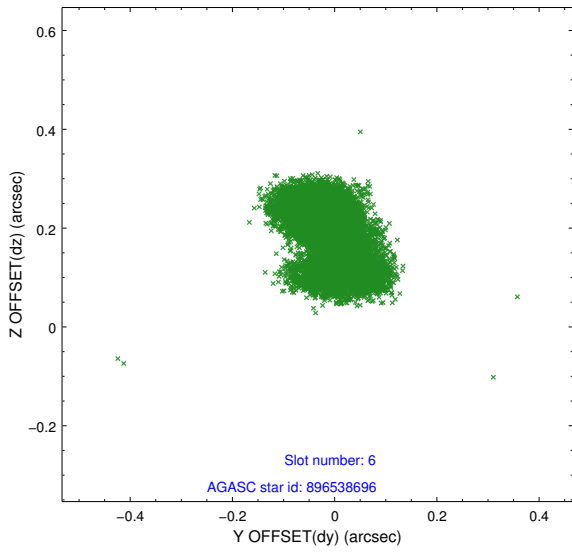
2.4.2 Slot 4



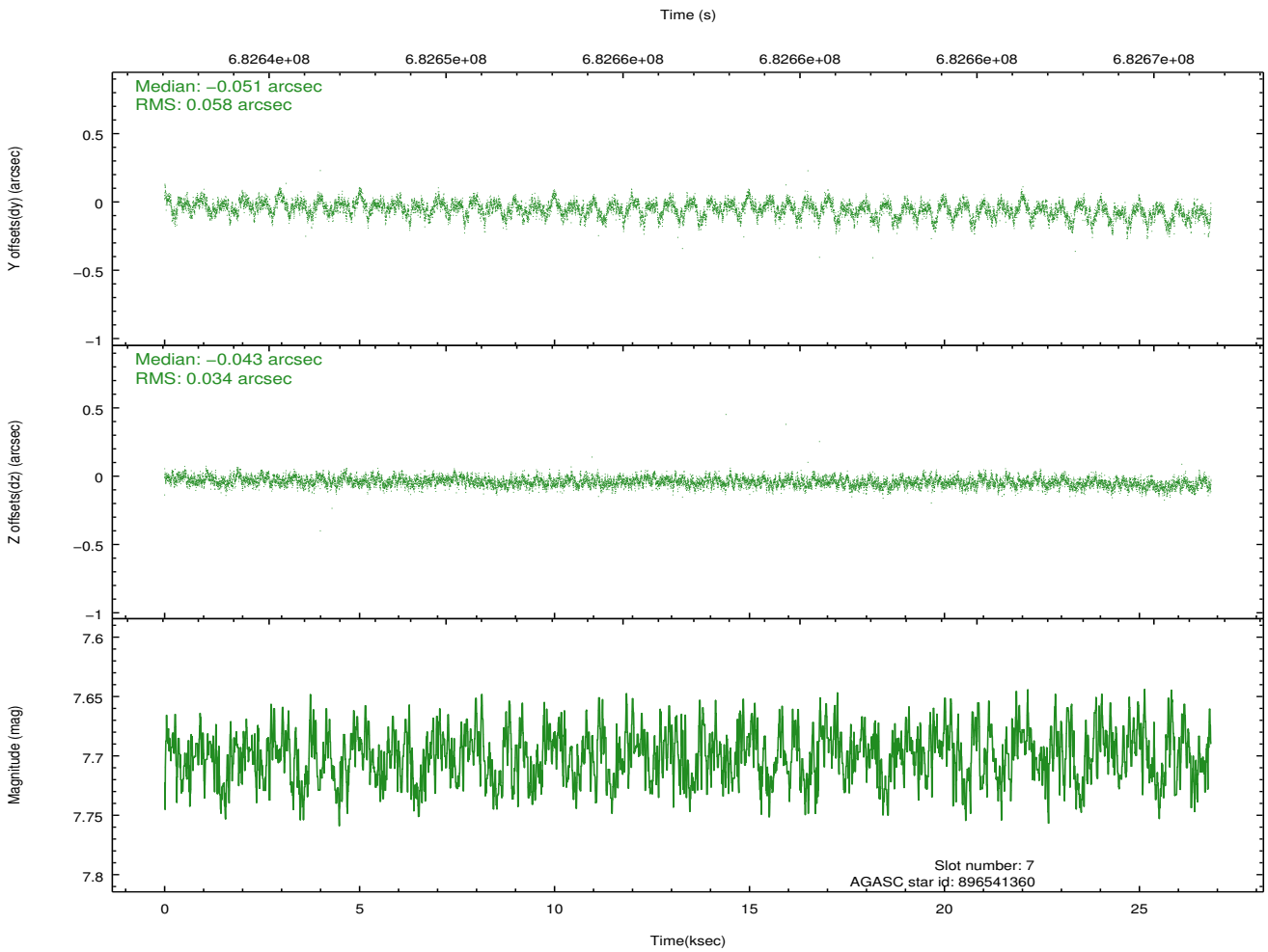
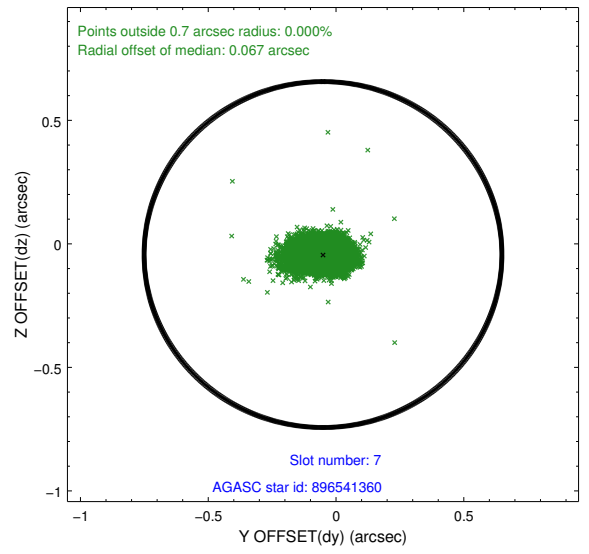
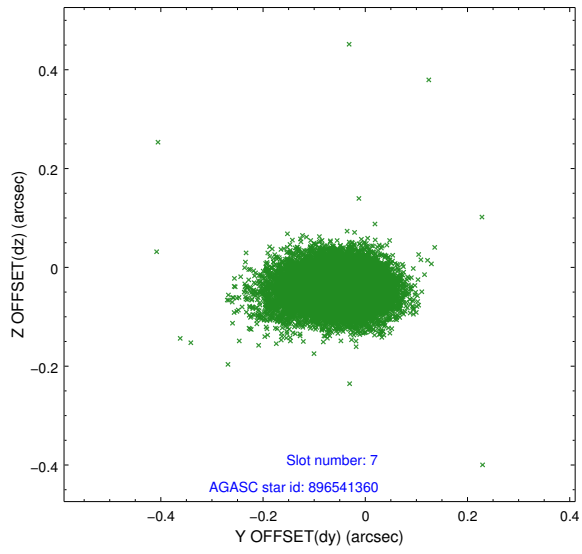
2.4.3 Slot 5



2.4.4 Slot 6

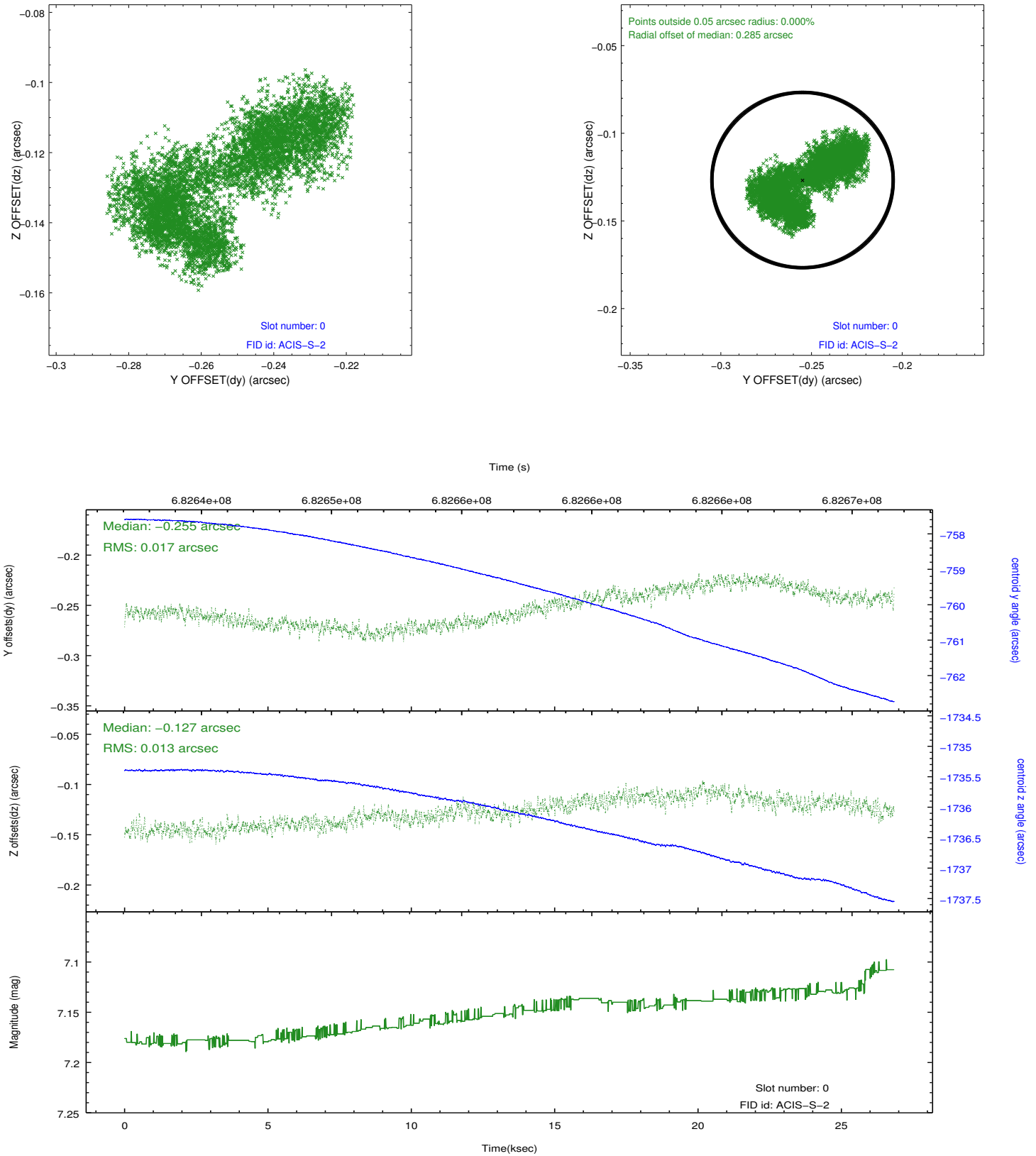


2.4.5 Slot 7

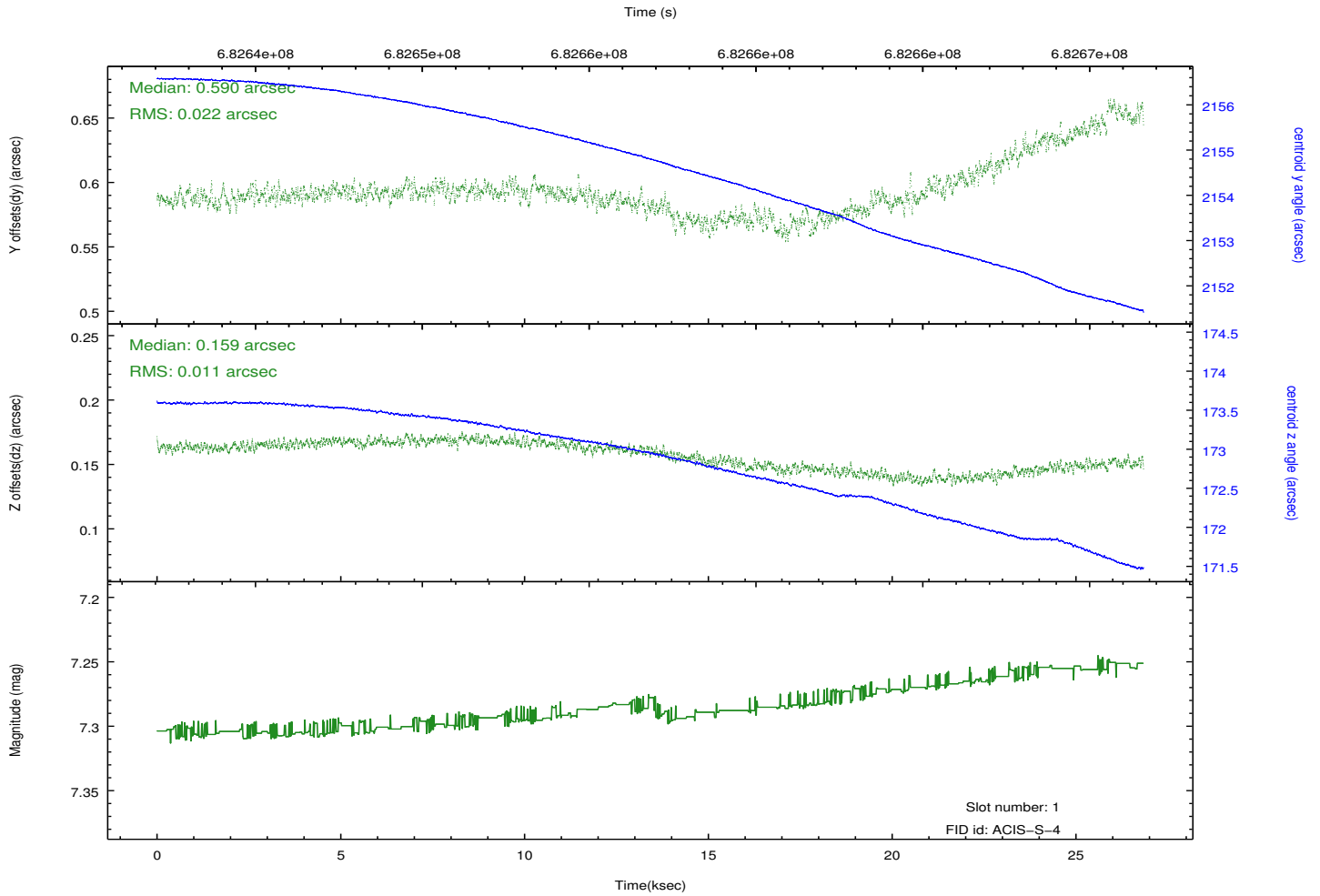
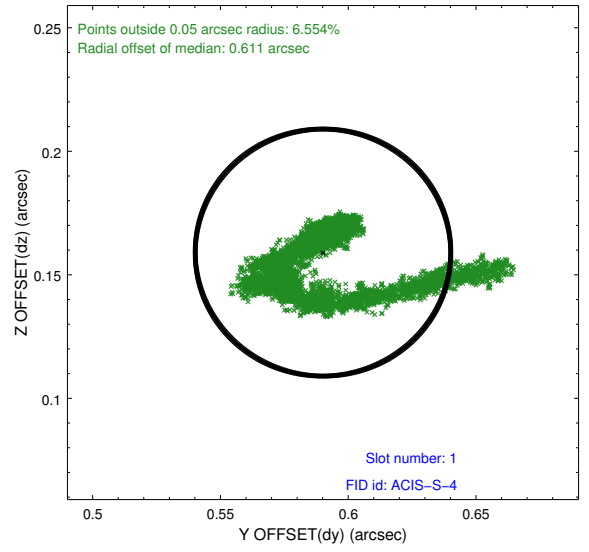
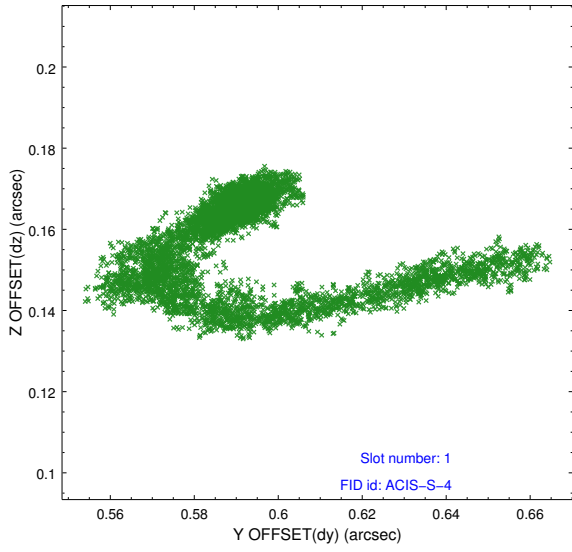


2.5 FID Slots

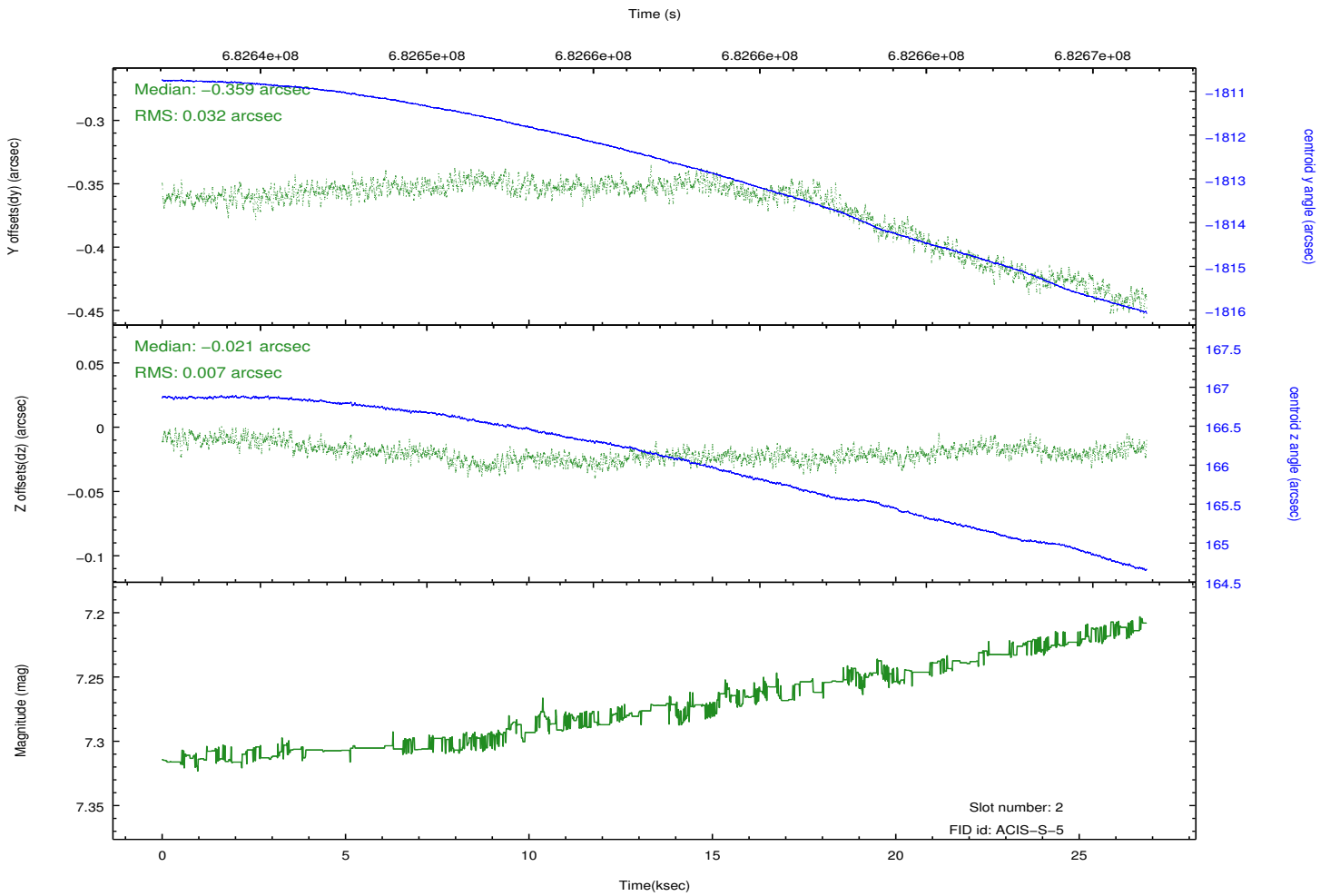
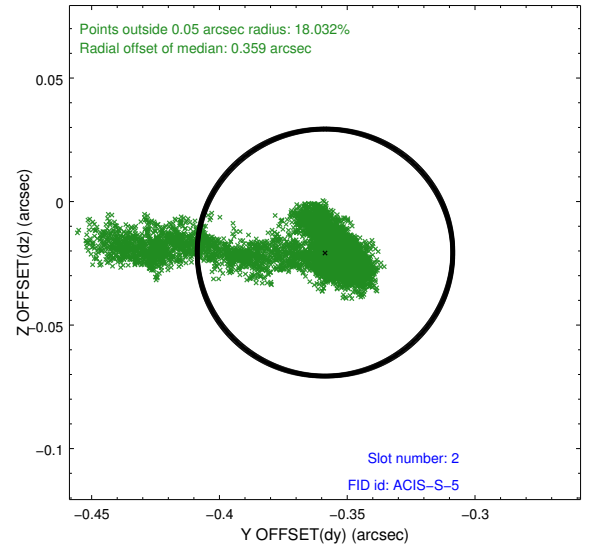
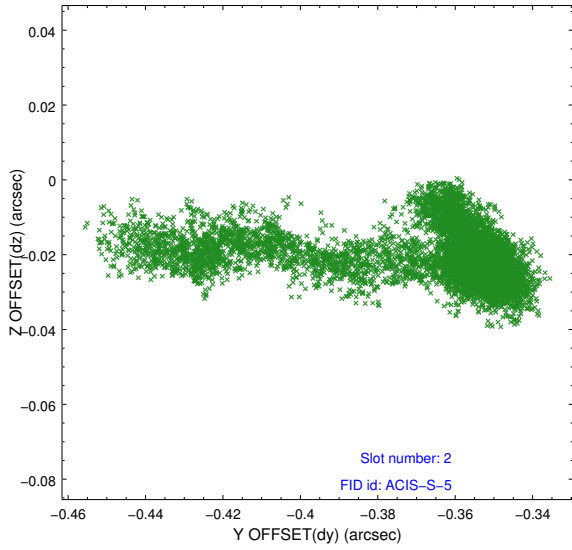
2.5.1 Slot 0



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)	2019.08.20
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	26.768678172231

A.2 Comments

Observation coordinated with NuSTAR.

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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., -111.0 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

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.