

V&V Reference Report

L2 ASCDS Version : 8.4.4

Observation 10130 - L2 Version 2
Chandra X-Ray Center

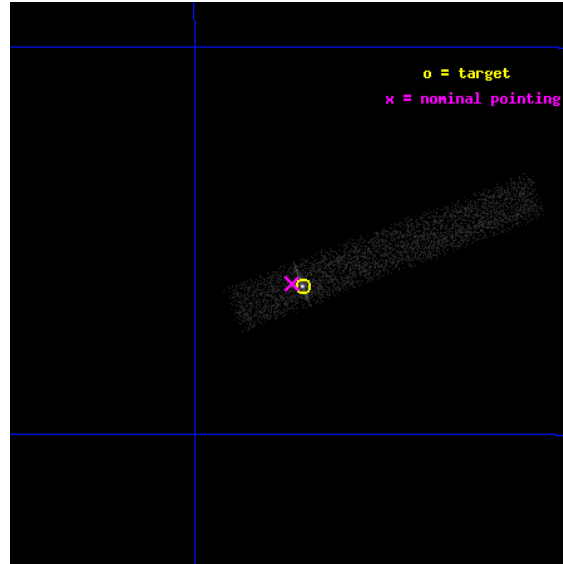
L2 Processing Date : May 28 2012

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1 Front

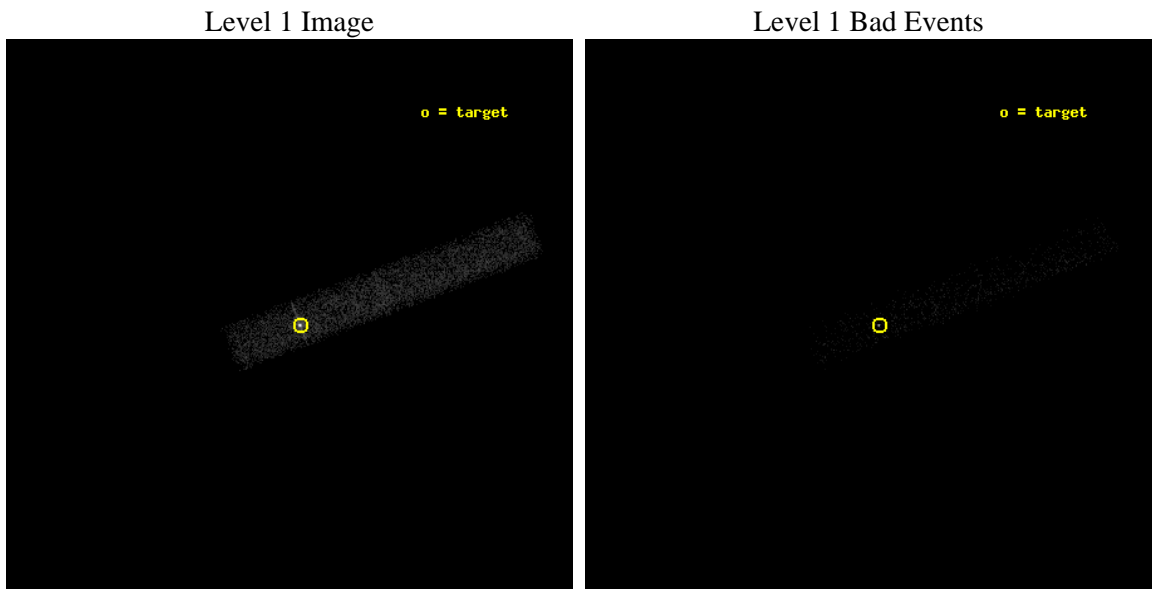
seq_num	501057	Sequence number
obs_id	10130	Observation id
title	Chandra Cycle 10 Spatial and Spectral Monitoring of SNR 1987A	Prop
observer	Prof. David Burrows	Principal investigator
object	SNR 1987A	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.866667	Observer's specified target RA [deg]
dec_targ	-69.26975	Observer's specified target Dec [deg]
ra_nom	83.880041121891	Nominal RA [deg]
dec_nom	-69.268823923497	Nominal Dec [deg]
roll_nom	339.35737747659	Nominal Roll [deg]
revision	2	Processing version of data
ontime	20183.5	Sum of GTIs [s]
livetime	6024.2060649475	Livetime [s]
ontime7	20183.5	Sum of GTIs [s]
l2events	14737	Number of level 2 events



2 OBI

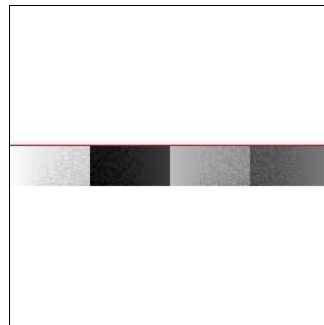
2.1 OBI

2.1.1 Images



2.1.2 Bias

Chip 7



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	20000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	20183.5	Sum of GTIs [s]
caldbver	4.4.9	 	ontime7	20183.5	Sum of GTIs [s]
date	2012-05-28T12:09:35	Date and time of file creation	l1events	20479	Number of level 1 events
revision	2	Processing version of data			

2.1.4 Events

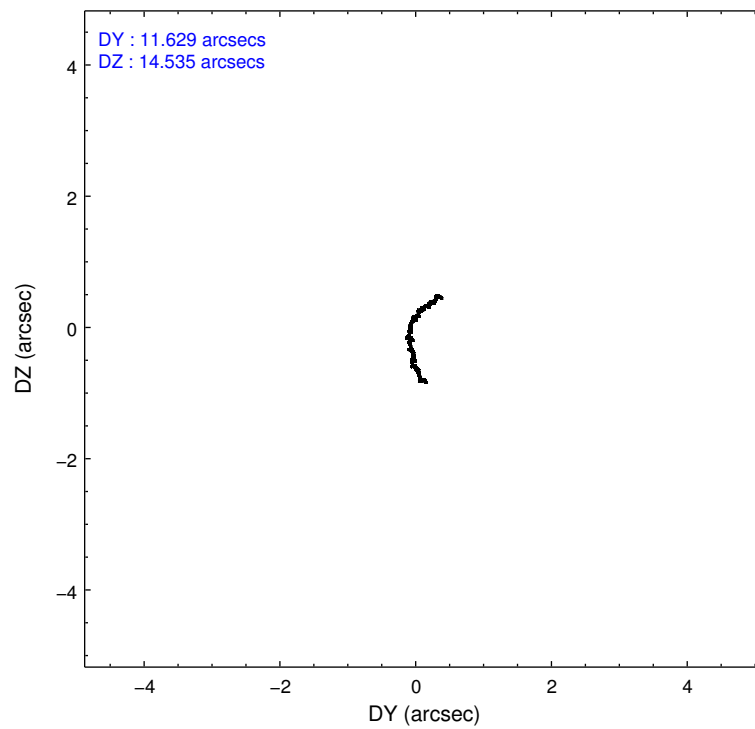
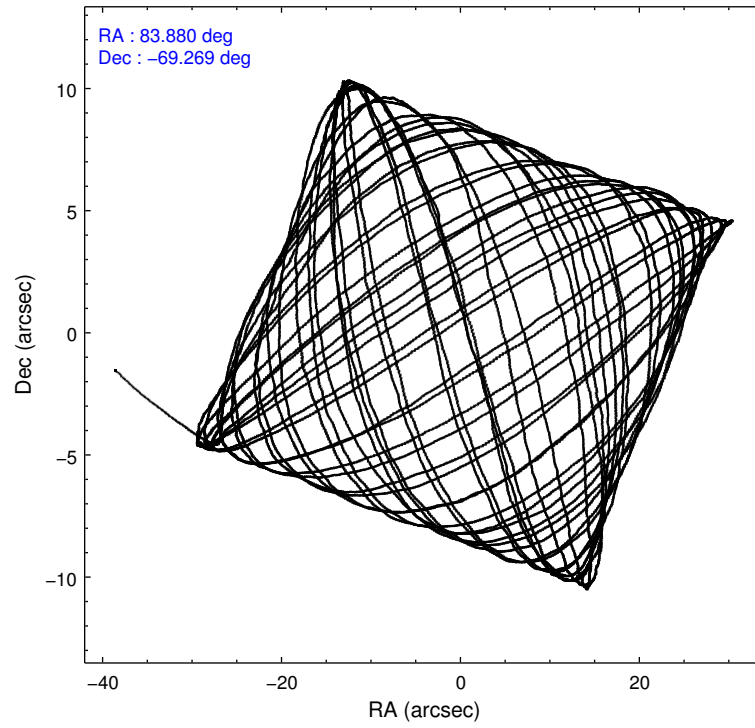
	ccd 7
level 1 events	20479
rejected events	5392
rejected %	26%

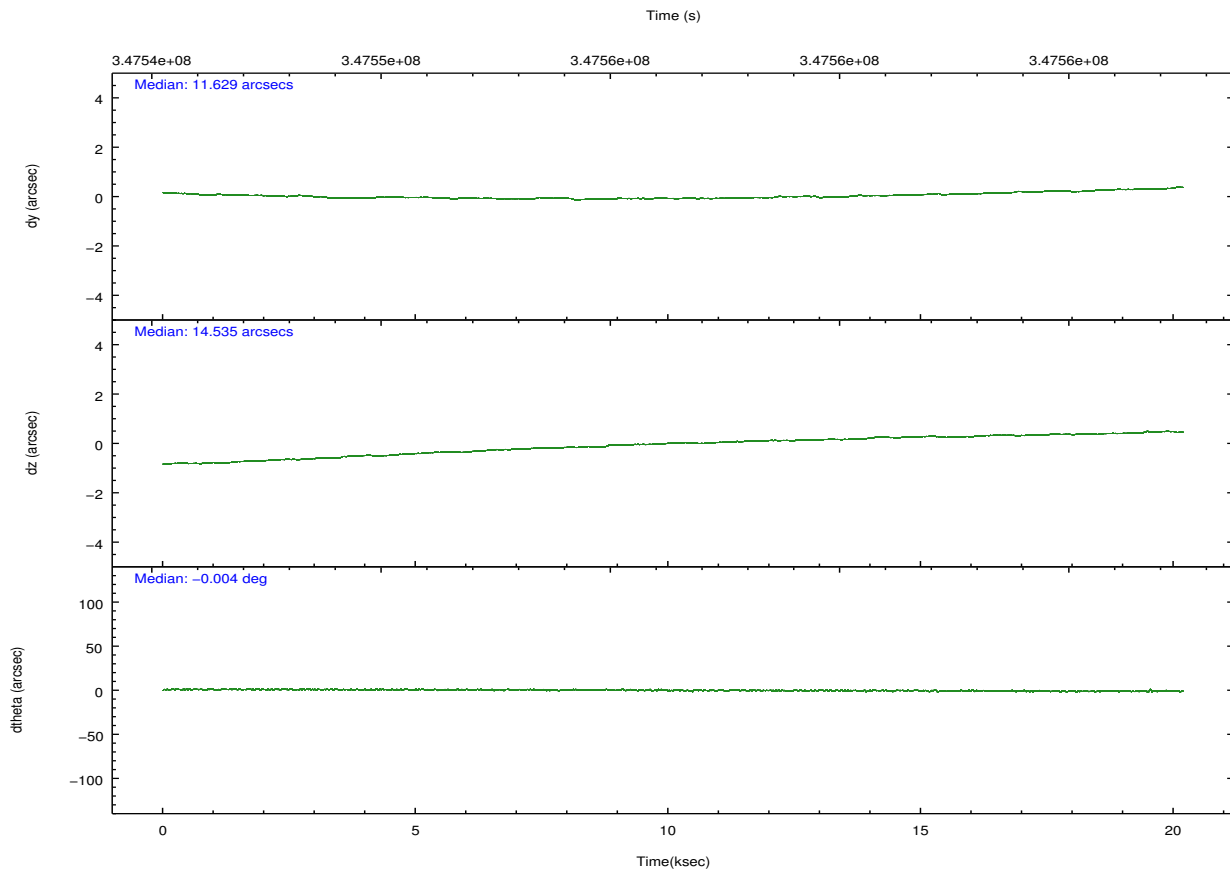
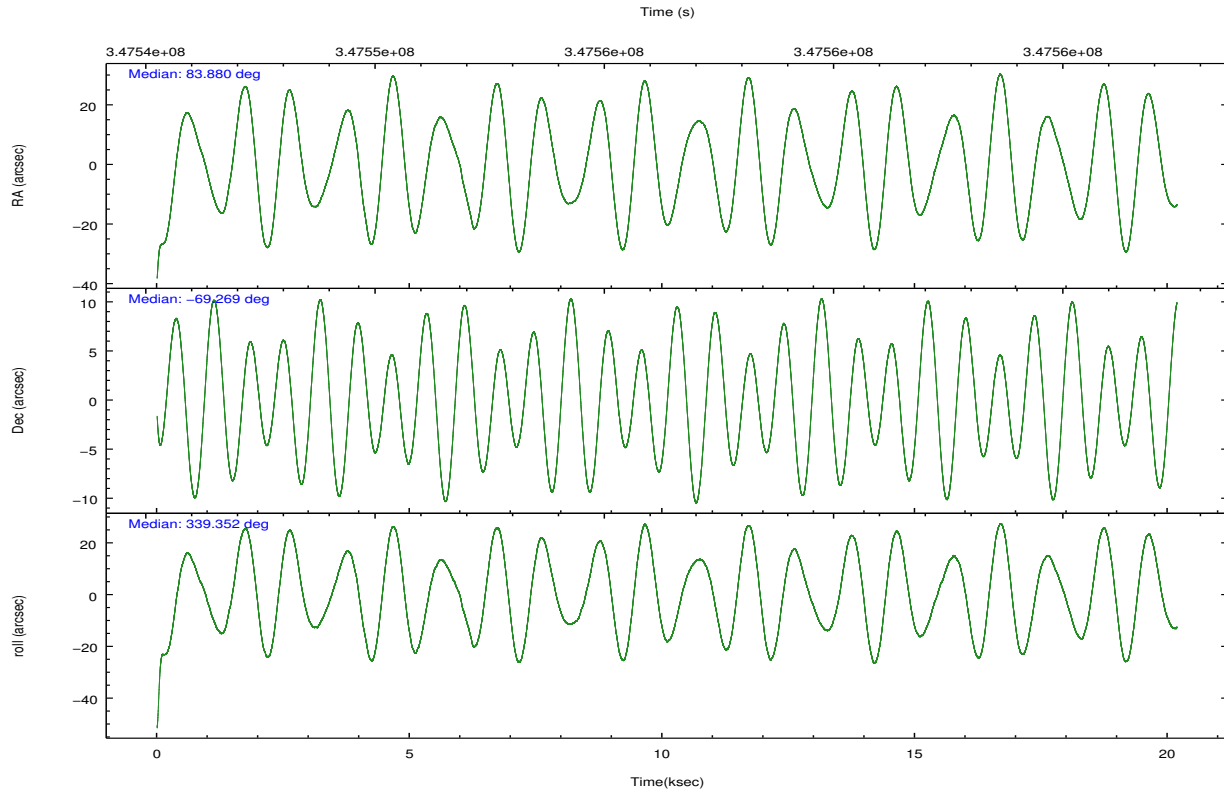
	ccd 7
grade 0 events	3667
	17%
grade 1 events	97
	0%
grade 2 events	3737
	18%
grade 3 events	2118
	10%
grade 4 events	2104
	10%
grade 5 events	1150
	5%
grade 6 events	3658
	17%
grade 7 events	3948
	19%

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	VFAINT	VFAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	83.804059	83.88004112189145	Subarray requested	CUSTOM	1/8
[deg] Pointing Dec	-69.273602	-69.26882392349701	Subarray start row	449	449
[deg] Pointing Roll	339.129700	339.3573774765883	Subarray row count	128	128
[s] Window start time (MET)	347155266.184000	347155266.184000	Alternating exposures requested	N	N
[s] Window stop time (MET)	349747266.184000	349747266.184000	[s] Primary exposure time	0.000000	0.2
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-190.132523	-190.1400660498719			
[mm] SIM translation stage offset	0	0.00754346686406393			
[s] Observation start time (MET)	347546469.184000	347545420.02948			
Observation start date	2009-01-05T12:40:03	2009-01-05T12:23:40			
[s] Observation end time (MET)	347566469.184000	347567215.11805			
Observation end date	2009-01-05T18:13:23	2009-01-05T18:26:55			
Read mode	TIMED	TIMED			

2.3 Aspect



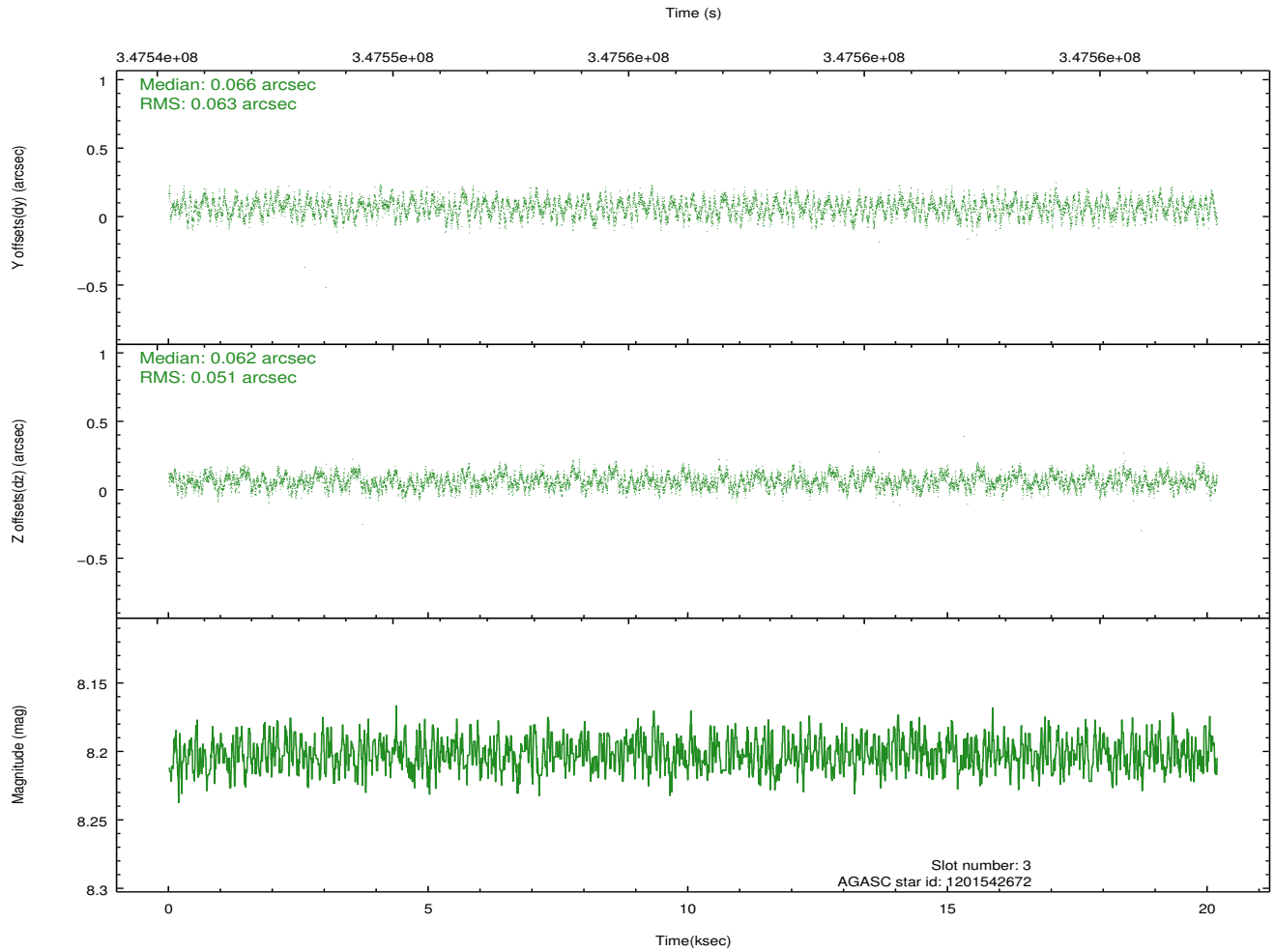
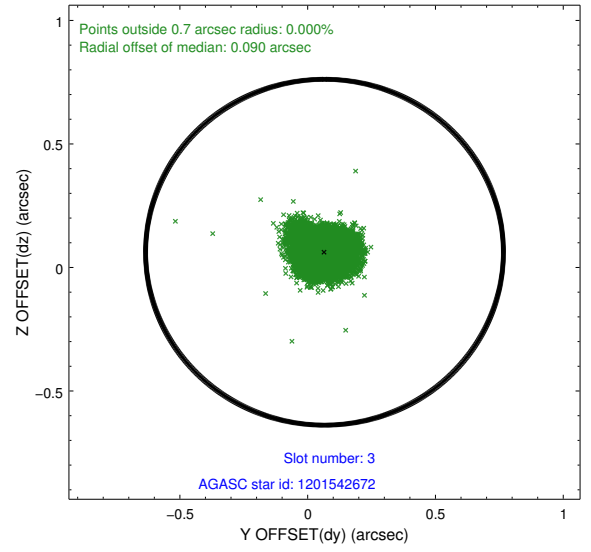
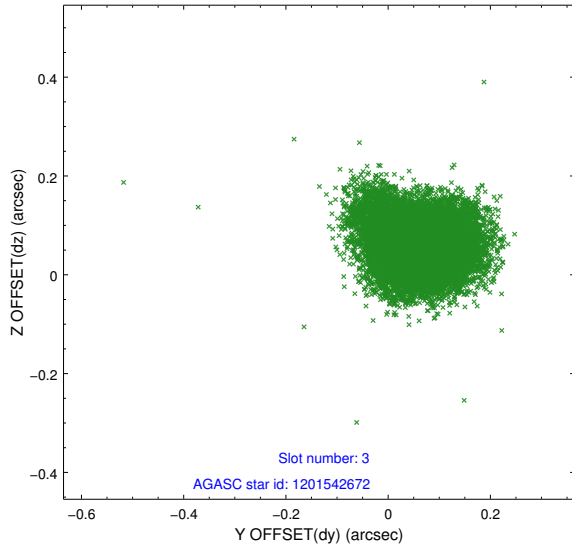


Slot Statistics

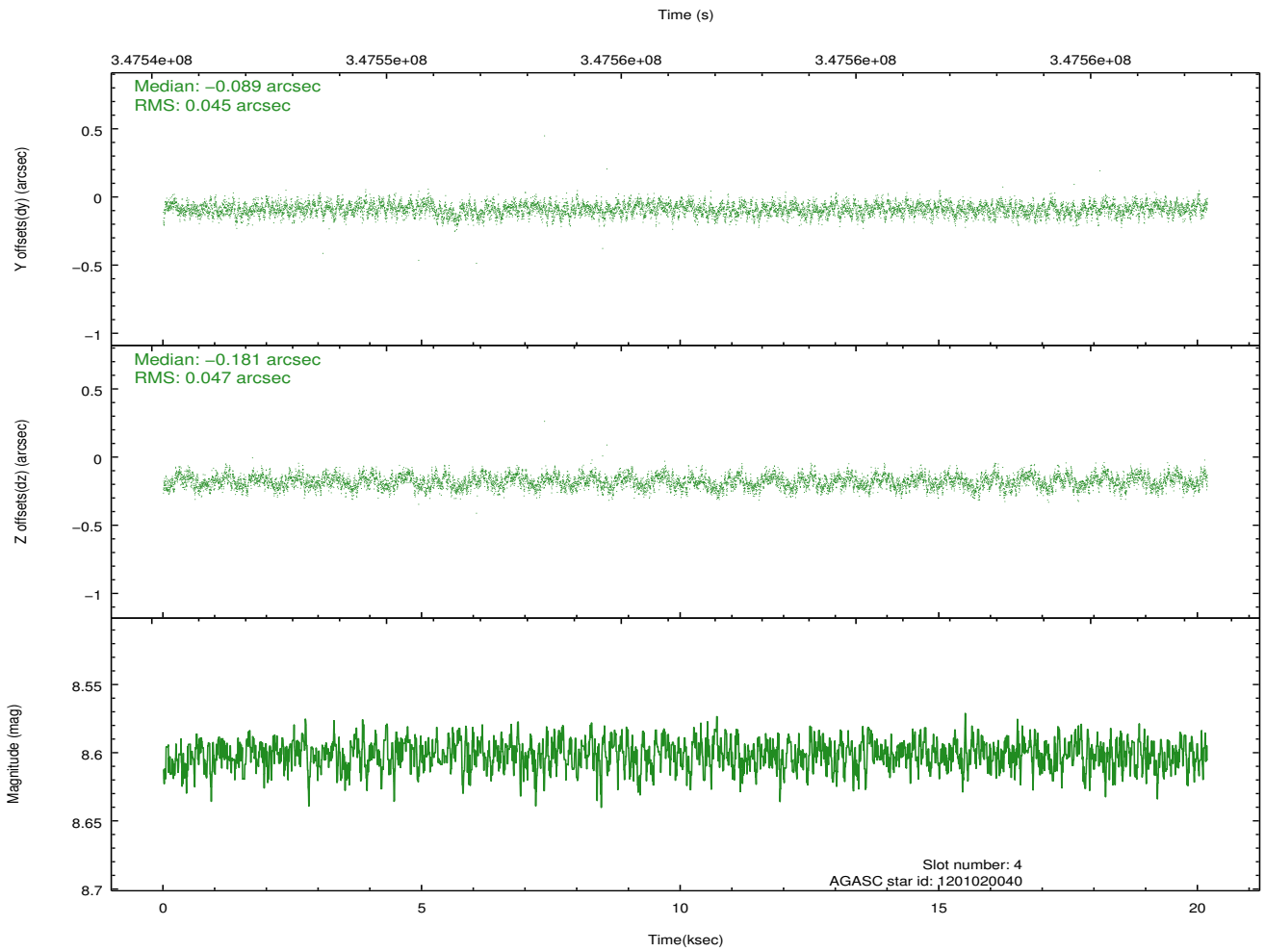
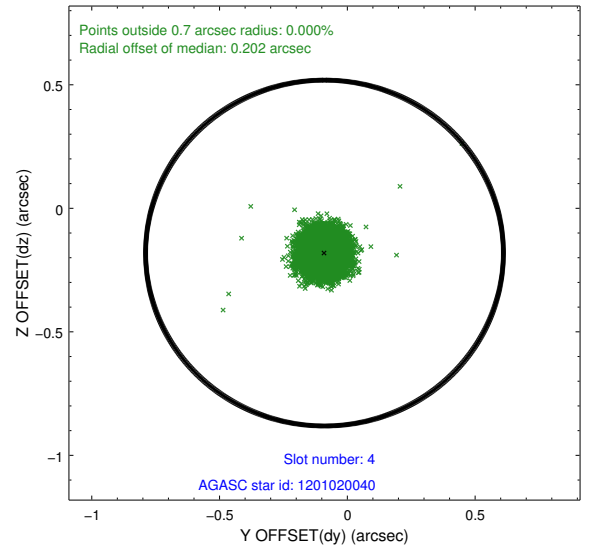
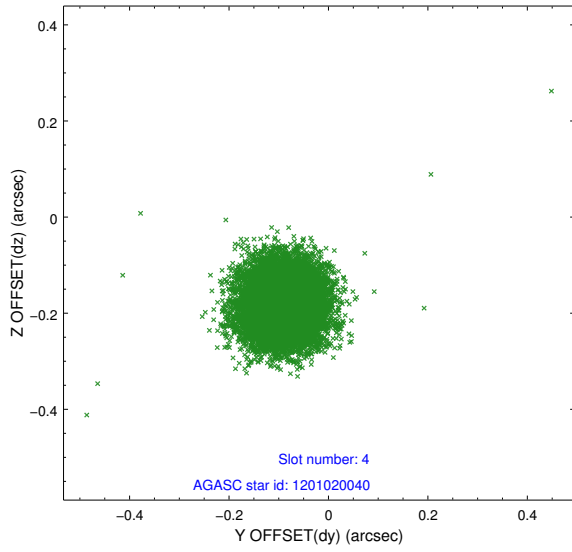
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.88	4923	-0.072	-0.037	0.008	0.016	0.000000	0.000000	-764.61	-1735.85
1	FID	ACIS-S-4	6.97	4923	0.100	0.033	0.007	0.011	0.000000	0.000000	2148.75	172.52
2	FID	ACIS-S-6	7.11	4923	-0.056	0.010	0.010	0.017	0.000000	0.000000	397.62	810.09
3	GUIDE	1201542672	8.20	9843	0.066	0.062	0.087	0.134	84.492488	-69.957531	1673.01	-2000.46
4	GUIDE	1201020040	8.60	9843	-0.089	-0.181	0.069	0.109	85.379163	-68.879396	1413.00	2029.37
5	GUIDE	1201411288	9.24	9833	-0.007	0.077	0.108	0.167	81.410076	-69.595403	-2373.04	-2206.95
6	GUIDE	1201410616	9.31	9834	0.120	0.233	0.146	0.221	82.516808	-69.784406	-834.72	-2304.23
7	GUIDE	1201019672	6.81	9846	-0.085	-0.187	0.079	0.125	85.312192	-68.770187	1199.80	2371.10

2.4 Star Slots

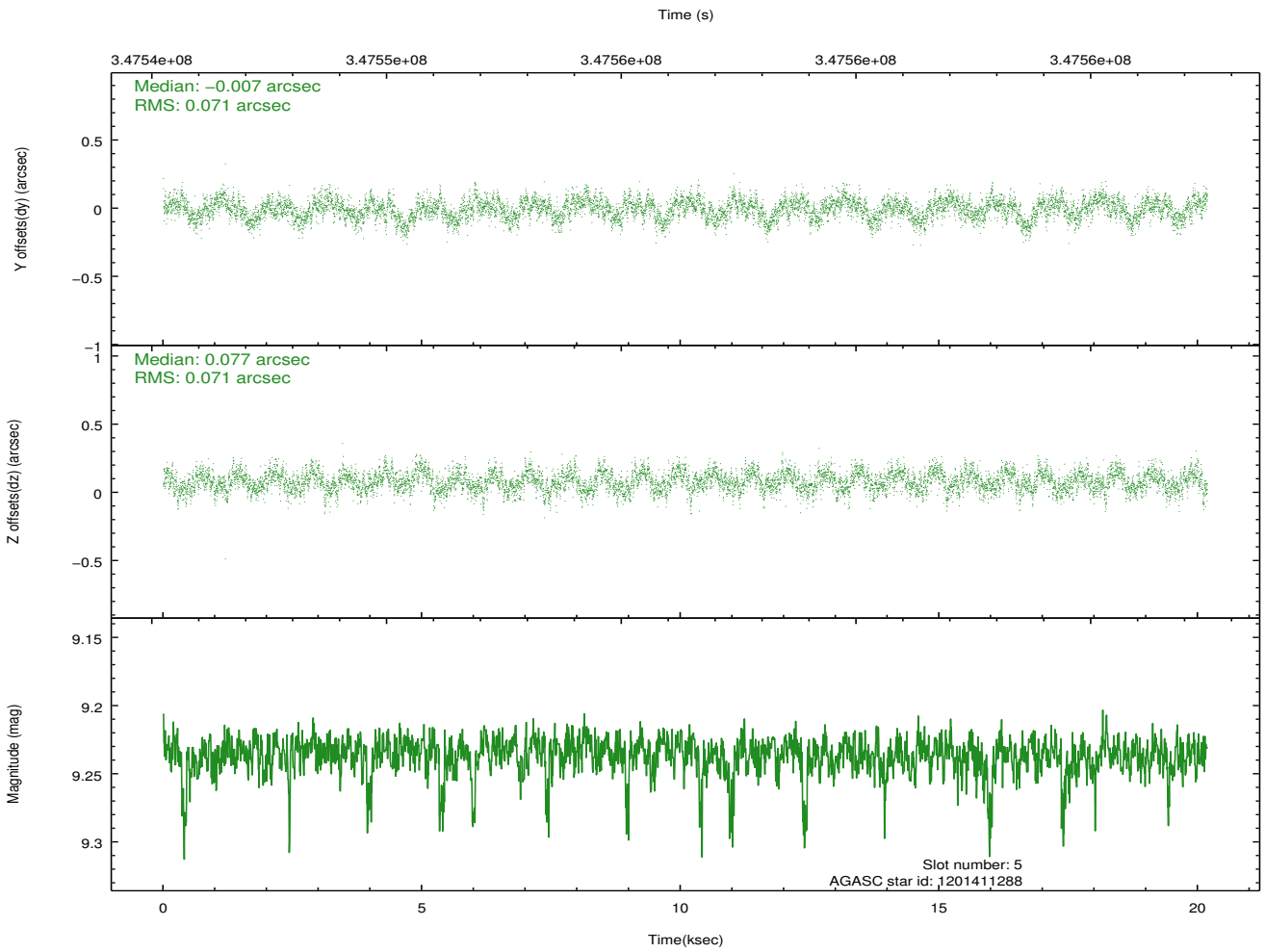
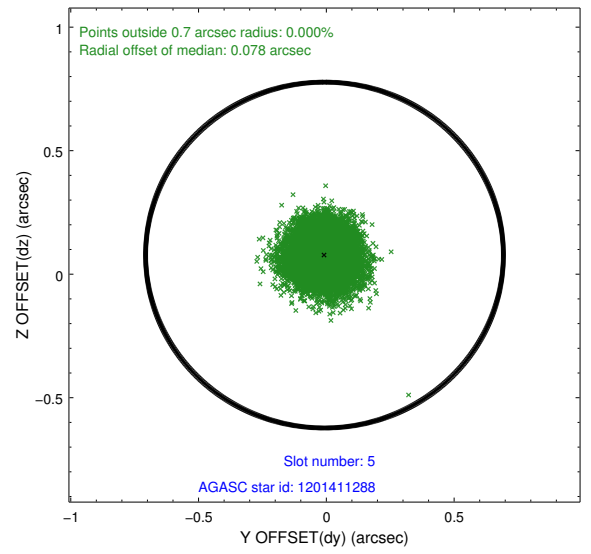
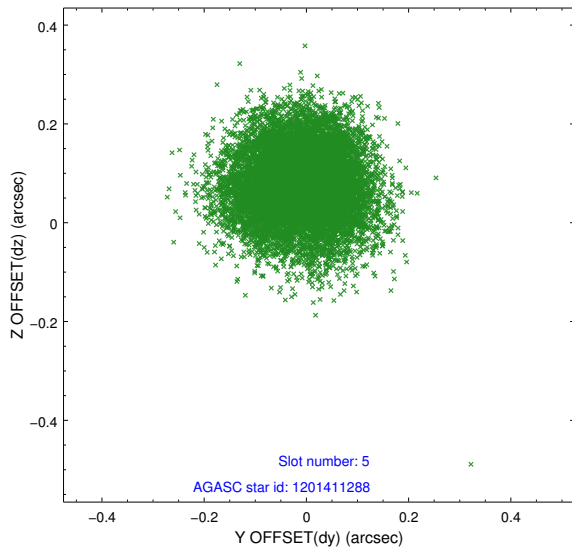
2.4.1 Slot 3



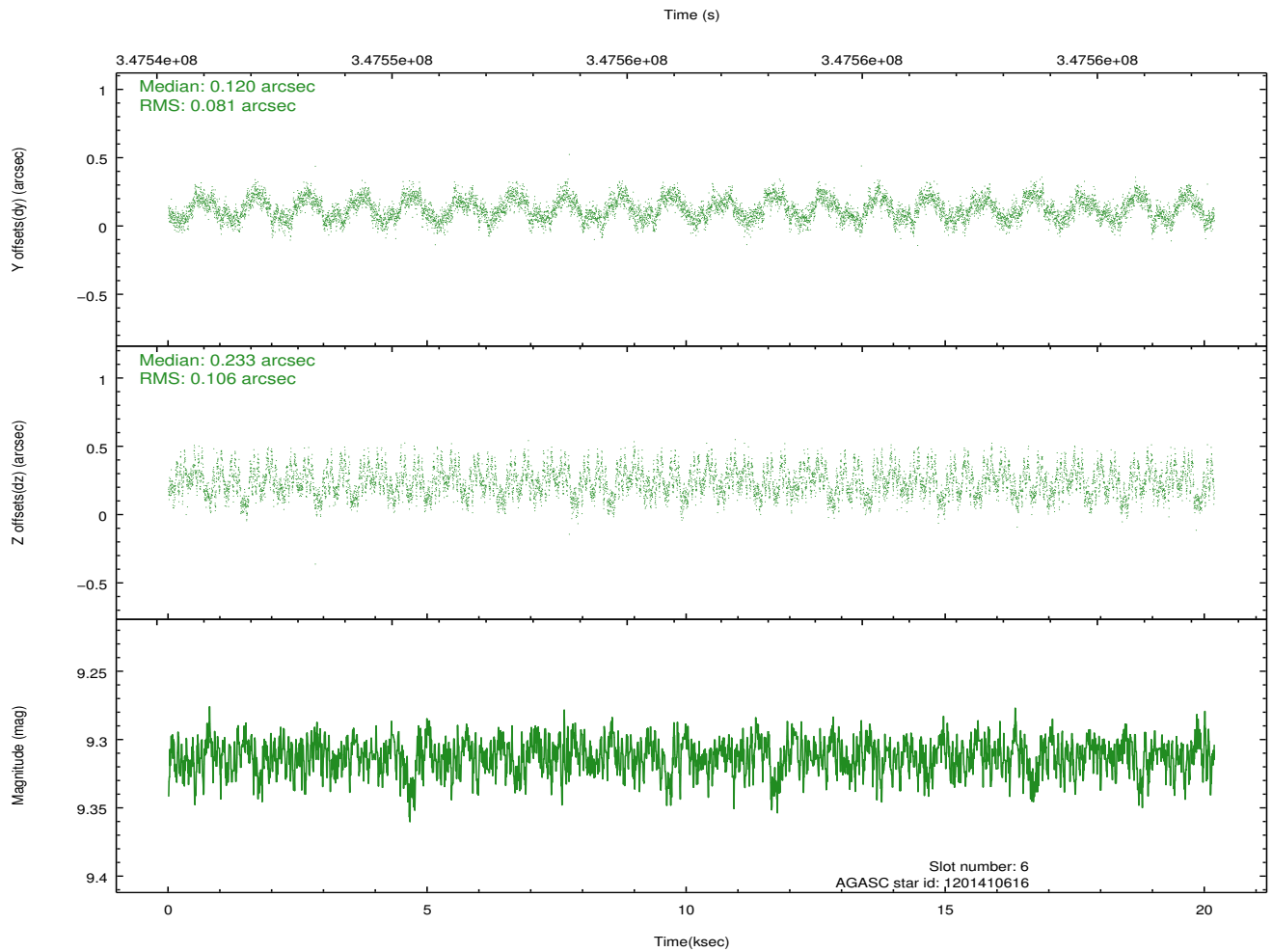
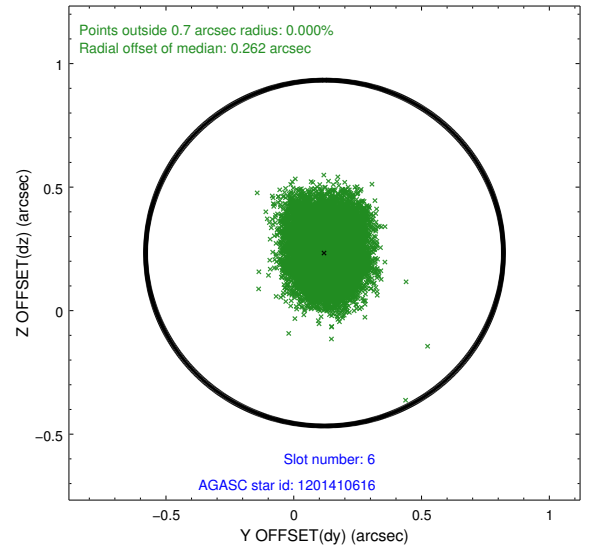
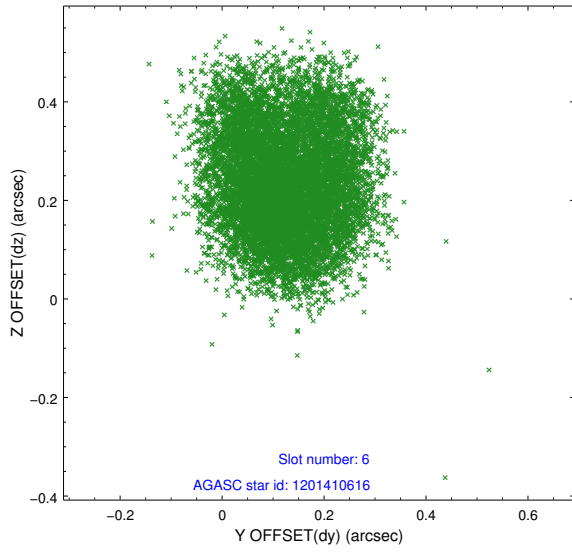
2.4.2 Slot 4



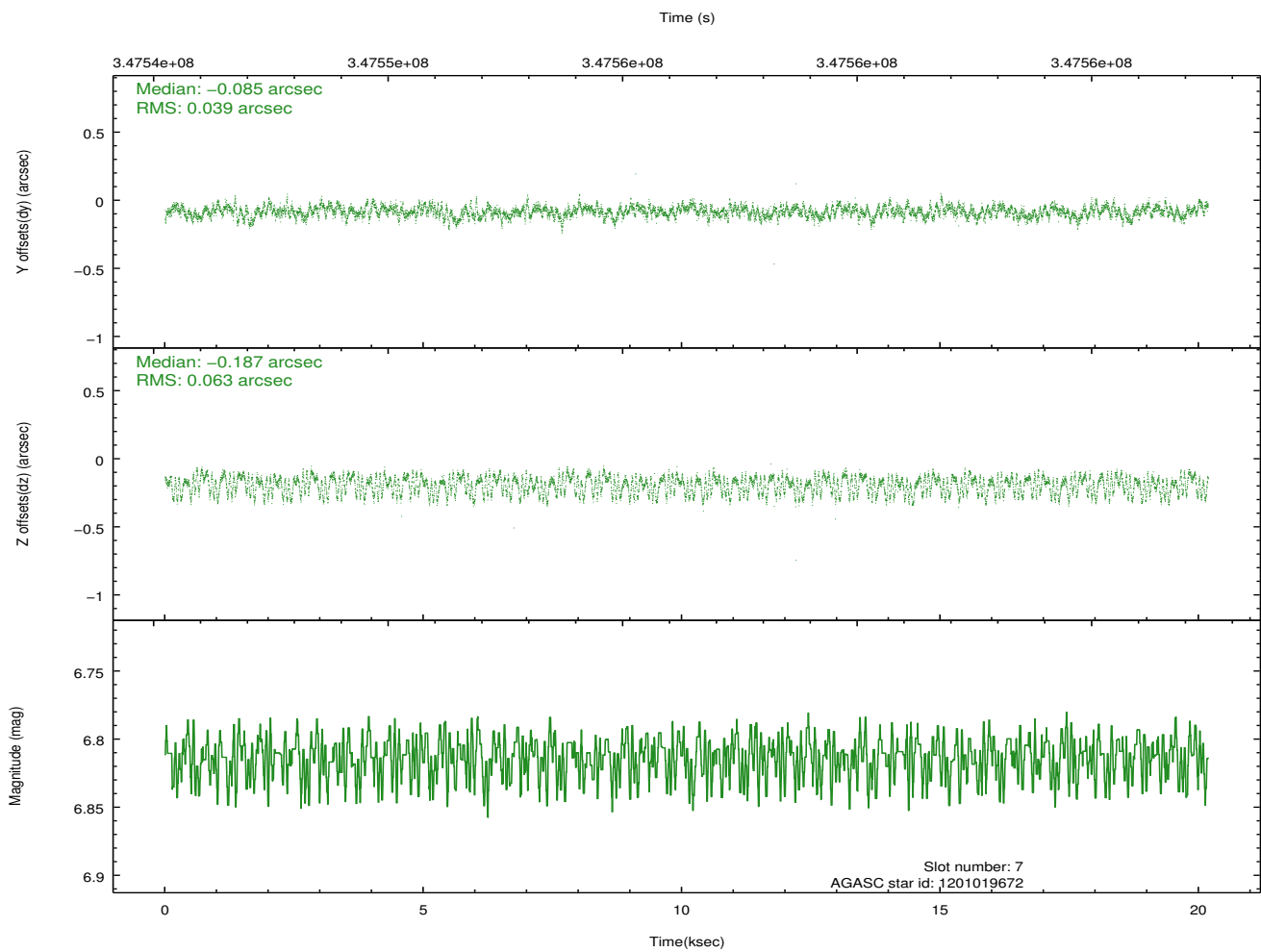
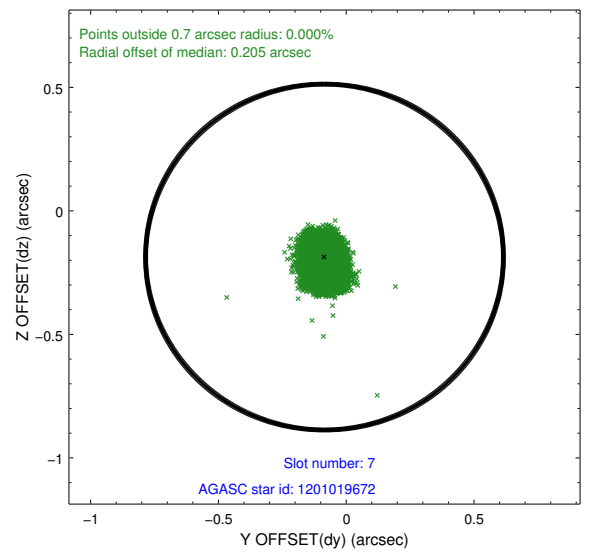
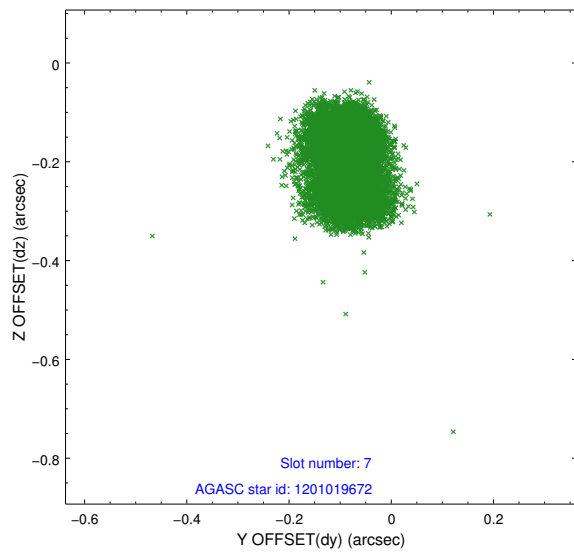
2.4.3 Slot 5



2.4.4 Slot 6

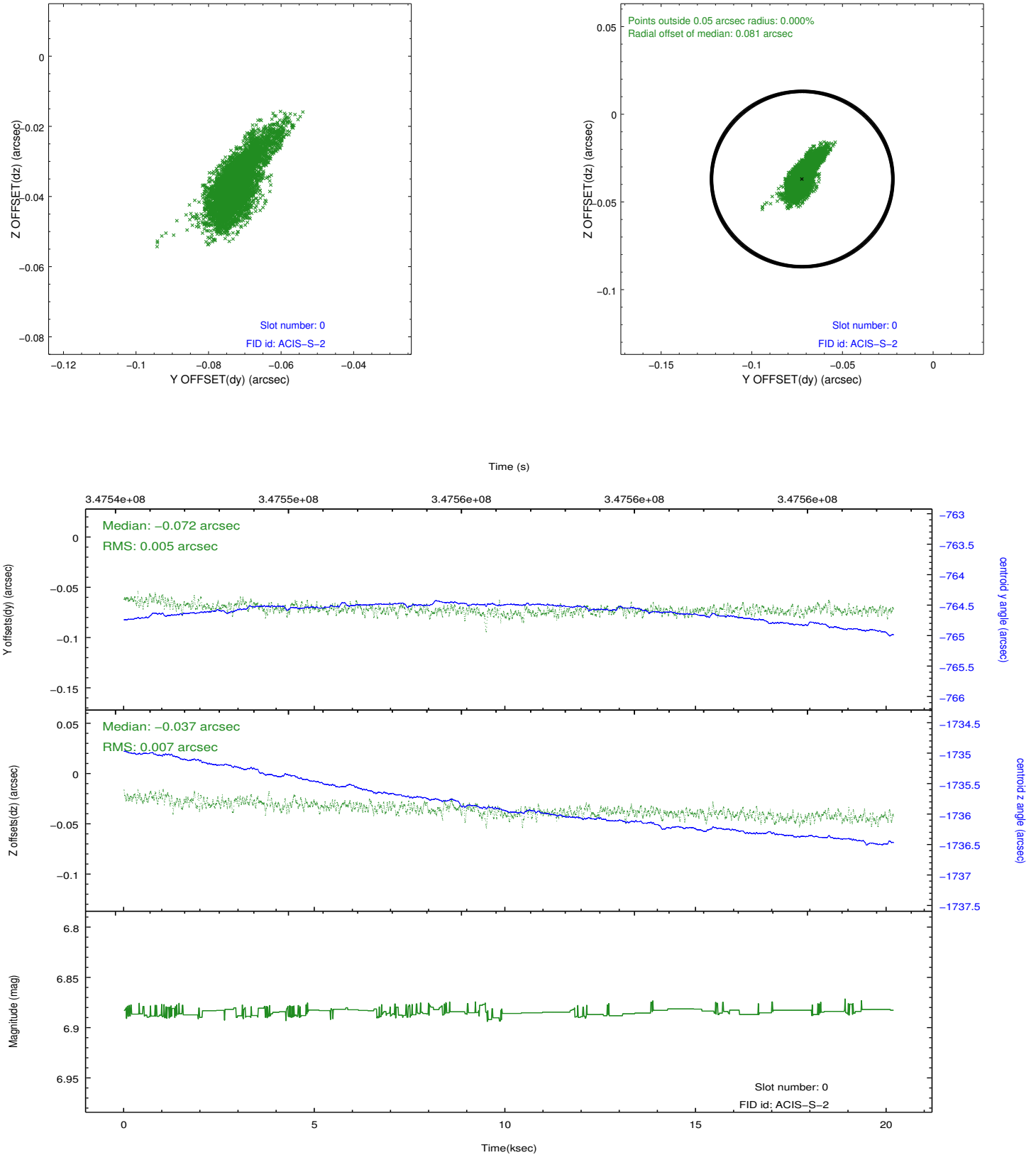


2.4.5 Slot 7

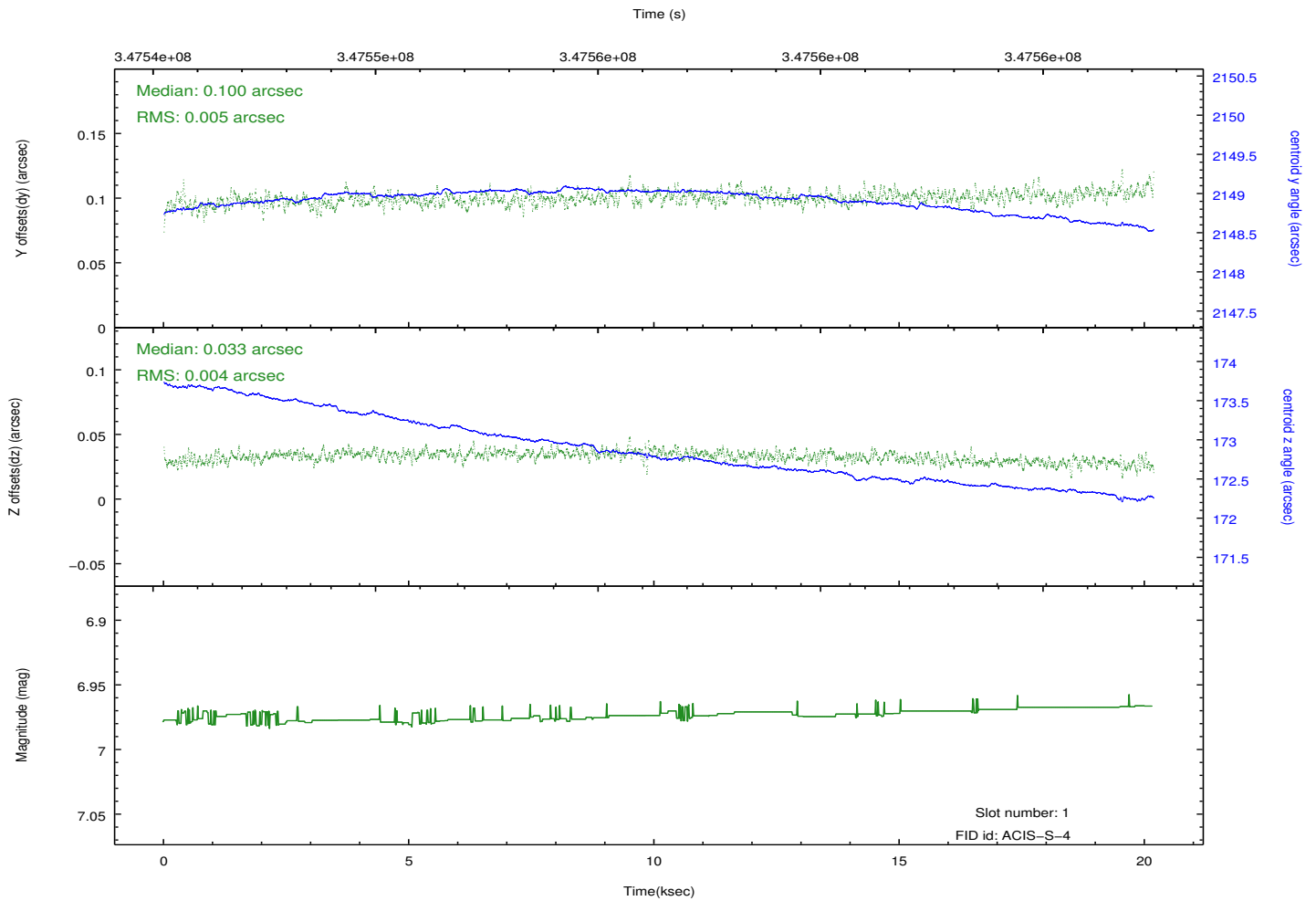
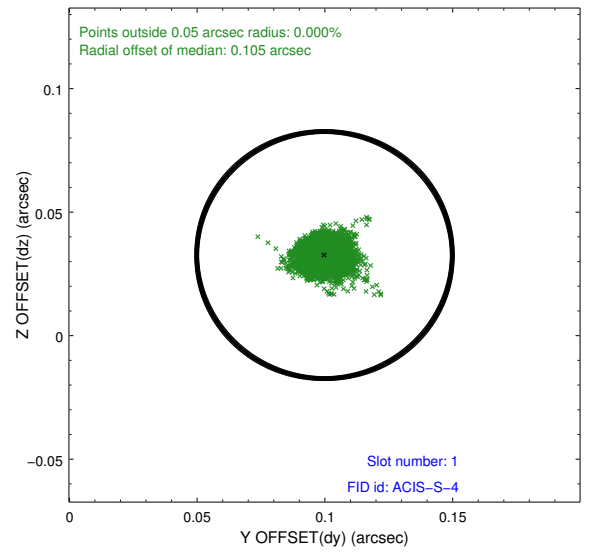
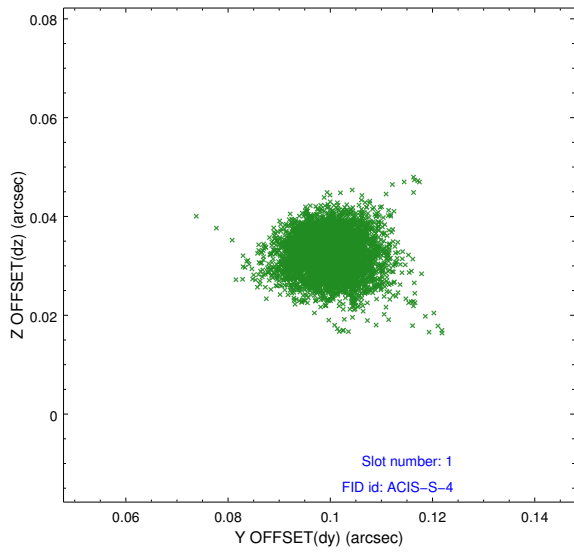


2.5 FID Slots

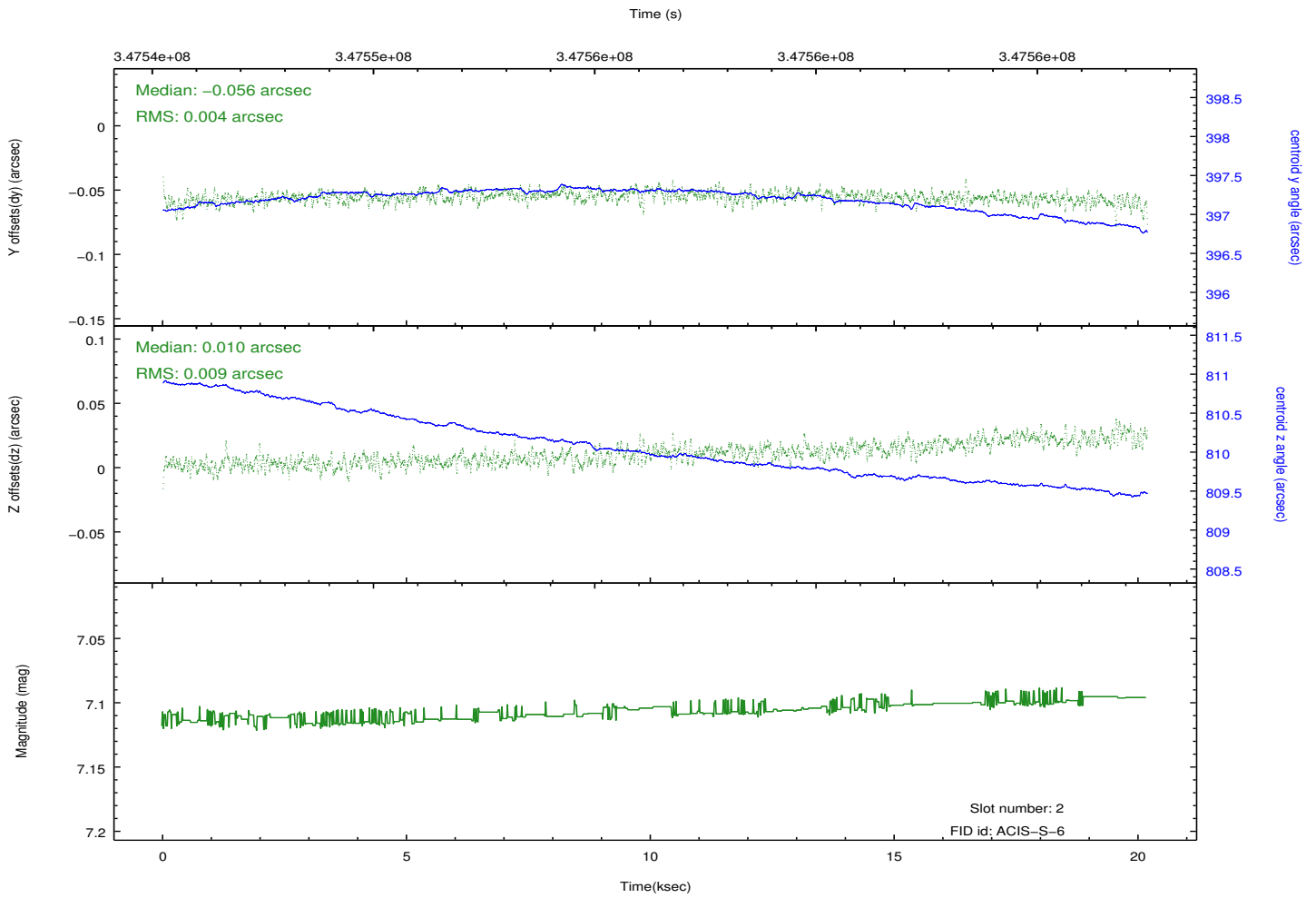
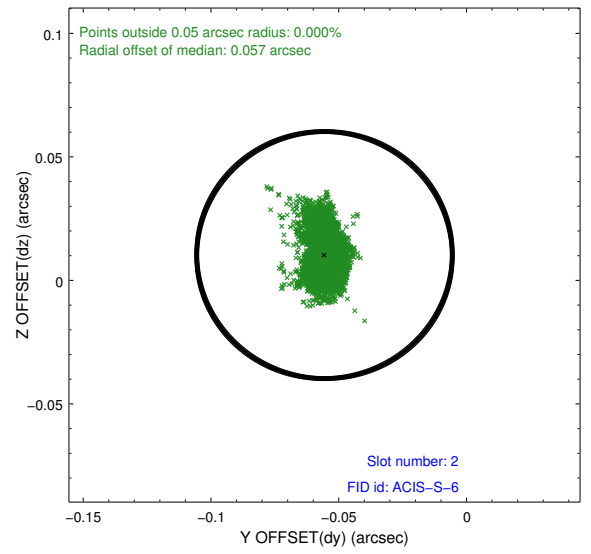
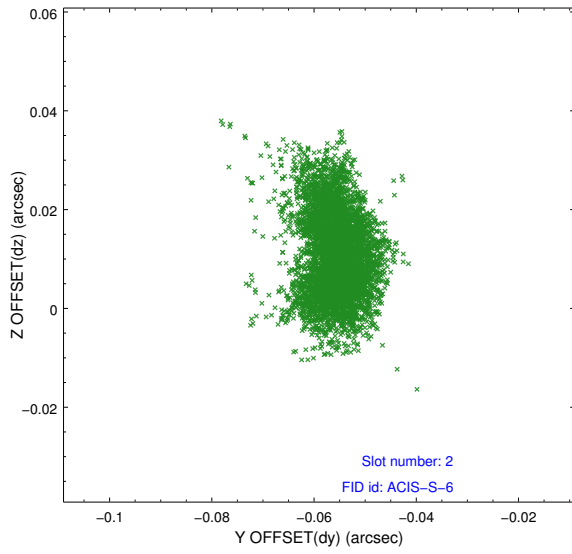
2.5.1 Slot 0



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)	2012.06.08
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.1835

A.2 Comments

Window constraint met.

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The livetime for the CCD chip is about 6 ks instead of 20 ks because the use of a 0.4 s frame time, based on the selection of the number of rows in the subarray format used during the observation, is shorter than the time it takes to read out one frame of data. The formula in section 6.12.1 of the POG:

http://asc.harvard.edu/proposer/POG/html/chap6.html#tth_sEc6.12.1

indicates that the frame time must be at least 0.7 s to avoid 'flushing' the detector before each frame of data is collected. The time required to flush the detector is specified on p. 120 of the ACIS Science Instrument Software User's Guide:

<http://acis.mit.edu/swuserA/swuser.pdf>

Events that occur during such a flush are discarded onboard. The flush time is effectively 'dead time.' For this reason, most of the 20 ks of the observation was spent flushing the detectors instead of collecting data. Had the frame time been 0.7 s or longer, there would have been about 20 ks of exposure instead of only about 6 ks.