

V&V Reference Report

L2 ASCDS Version : 8.5.1.1

Observation 14501 - L2 Version 2
Chandra X-Ray Center

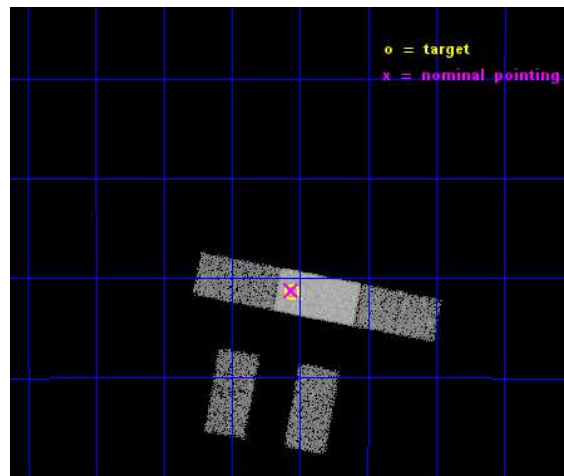
L2 Processing Date : Dec 1 2014

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1 Front

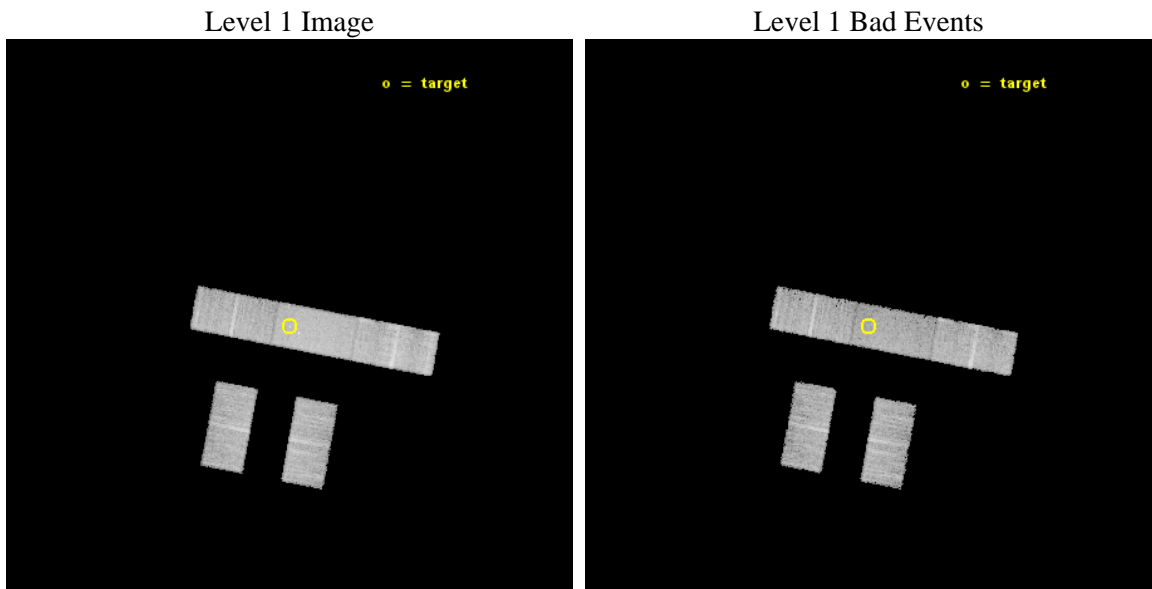
seq_num	702738	Sequence number
obs_id	14501	Observation id
title	ENERGY DEPENDENT X-RAY MICROLENSING AND THE STRUCTURE OF QUASARS	P
observer	Prof. Christopher Kochanek	Principal investigator
object	HE1104-1805	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	166.639583	Observer's specified target RA [deg]
dec_targ	-18.356722	Observer's specified target Dec [deg]
ra_nom	166.6407489262	Nominal RA [deg]
dec_nom	-18.353899711132	Nominal Dec [deg]
roll_nom	10.64599367351	Nominal Roll [deg]
revision	2	Processing version of data
ontime	14063.390102506	Sum of GTIs [s]
livetime	13731.886214136	Livetime [s]
ontime2	14061.484912395	Sum of GTIs [s]
ontime3	14063.308022499	Sum of GTIs [s]
ontime6	14061.608032346	Sum of GTIs [s]
ontime7	14063.390102506	Sum of GTIs [s]
ontime8	14063.266982496	Sum of GTIs [s]
l2events	42161	Number of level 2 events



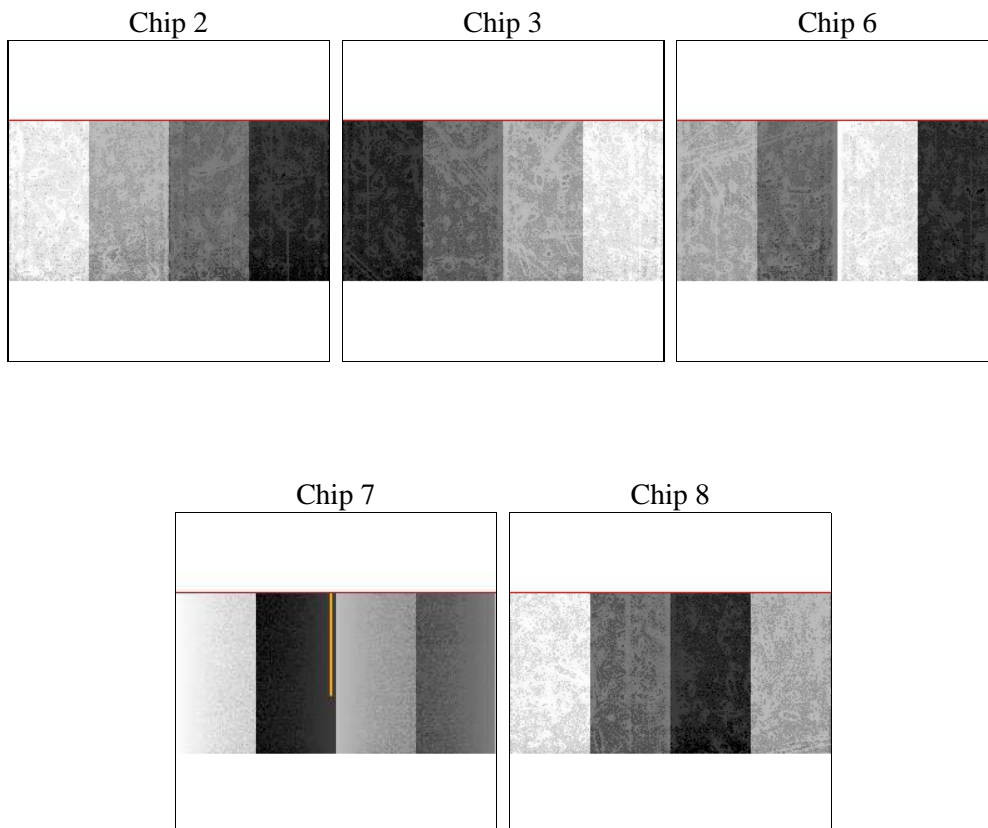
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	14000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	14063.390102506	Sum of GTIs [s]
caldbver	4.6.4	 	ontime2	14061.484912395	Sum of GTIs [s]
date	2014-12-01T22:04:01	Date and time of file creation	ontime3	14063.308022499	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	14061.608032346	Sum of GTIs [s]
			ontime7	14063.390102506	Sum of GTIs [s]
			ontime8	14063.266982496	Sum of GTIs [s]
			l1events	234932	Number of level 1 events

2.1.4 Events

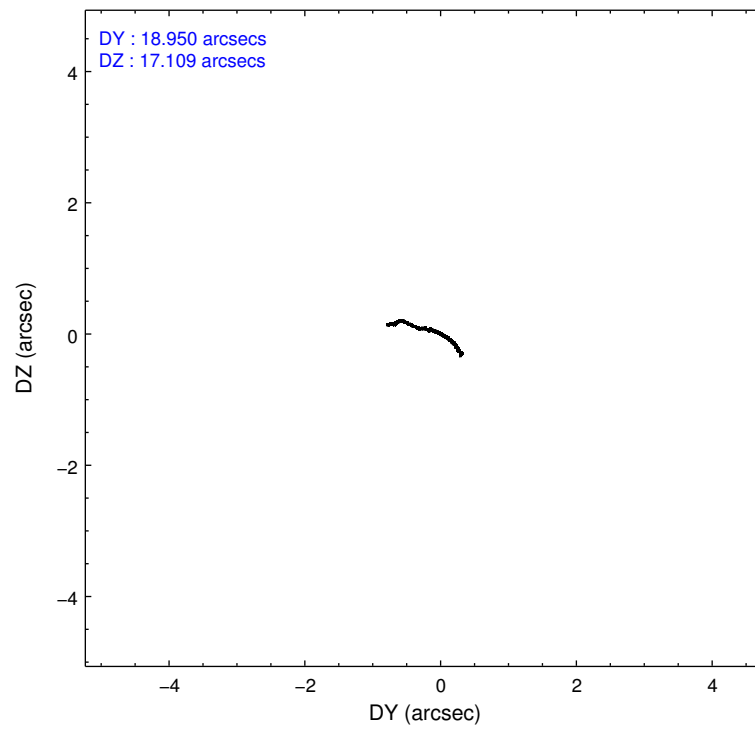
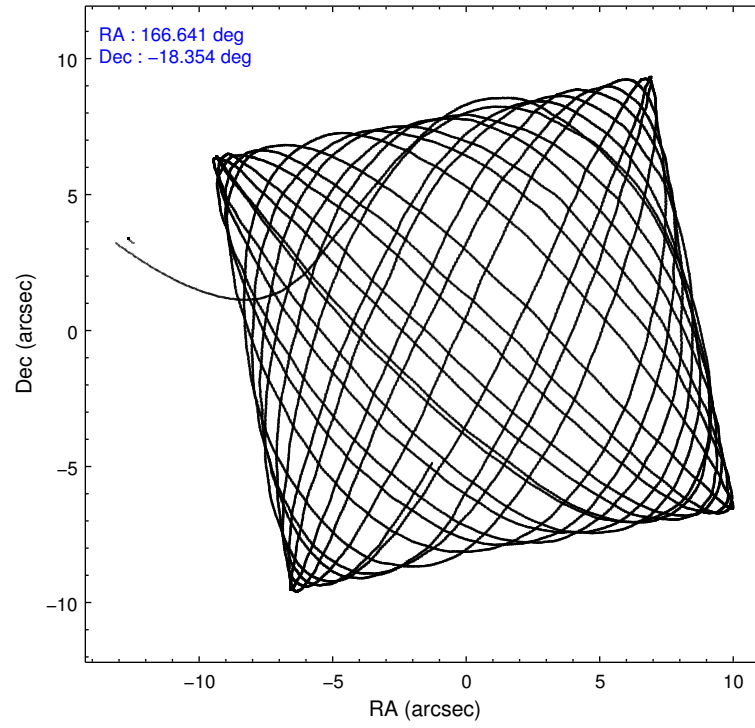
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
level 1 events	40170	40747	41950	54975	57090
rejected events	35386	36027	36802	29698	42282
rejected %	88%	88%	87%	54%	74%

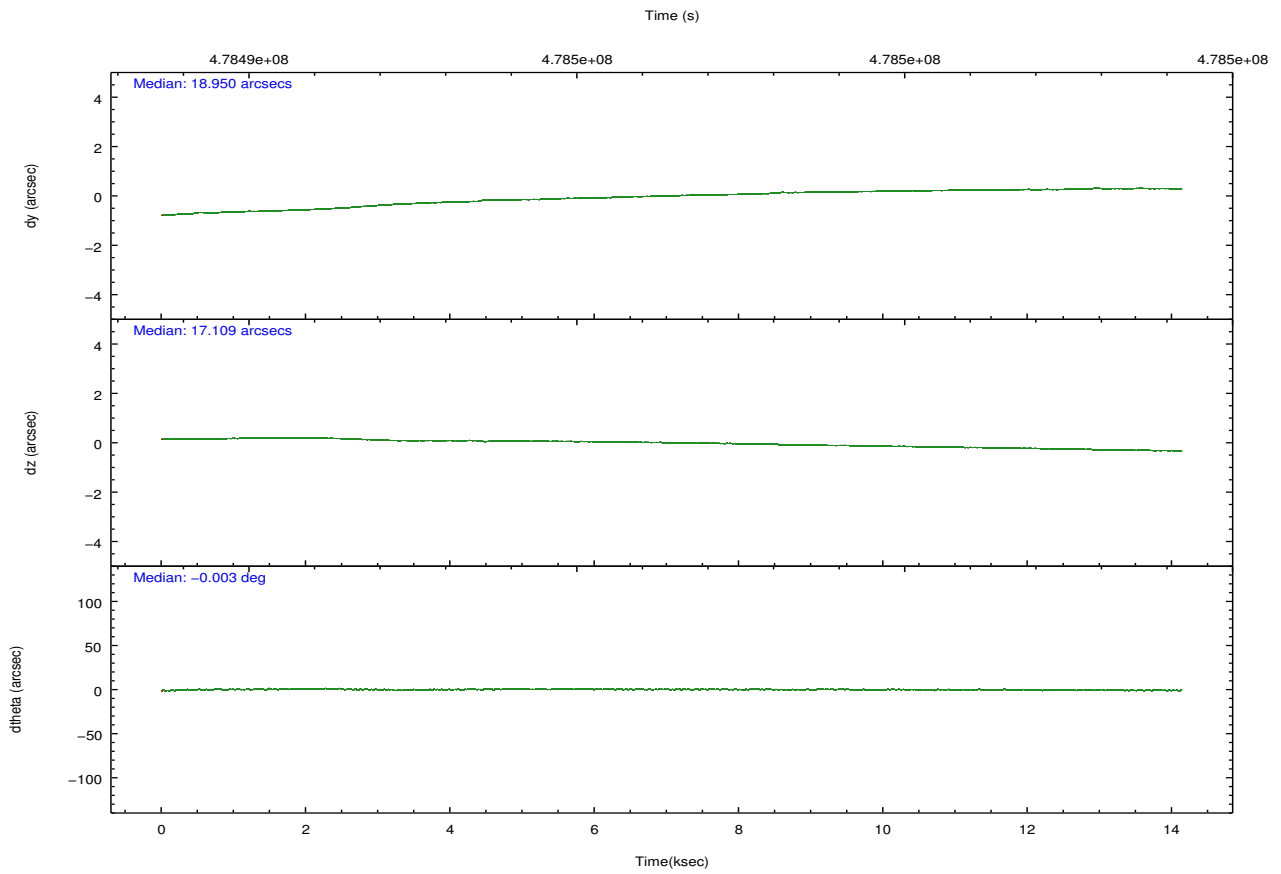
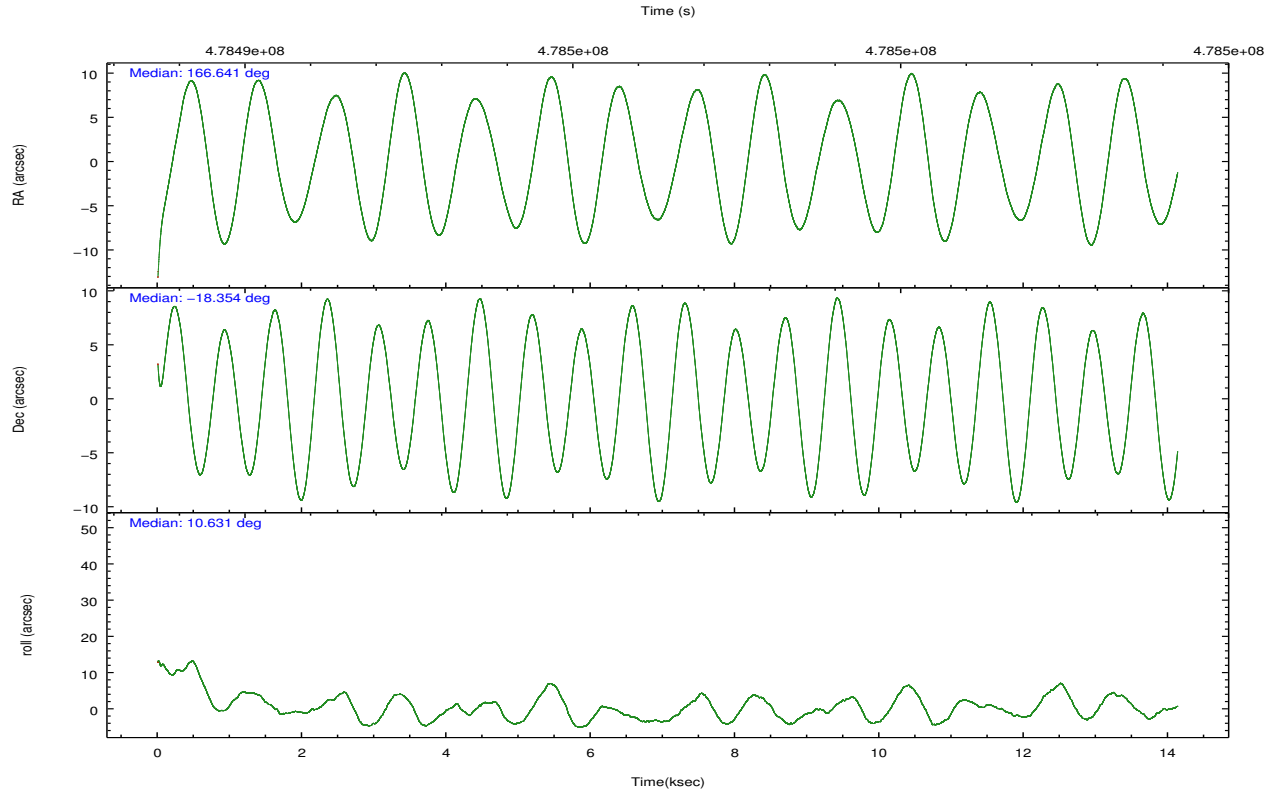
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
grade 0 events	1604	1548	1699	2550	4273
	3%	3%	4%	4%	7%
grade 1 events	18	24	28	73	42
	0%	0%	0%	0%	0%
grade 2 events	1104	1014	1113	5308	3533
	2%	2%	2%	9%	6%
grade 3 events	568	598	594	2441	1507
	1%	1%	1%	4%	2%
grade 4 events	597	608	623	2361	1377
	1%	1%	1%	4%	2%
grade 5 events	1676	2202	2155	5766	3034
	4%	5%	5%	10%	5%
grade 6 events	913	956	1119	12618	4120
	2%	2%	2%	22%	7%
grade 7 events	33690	33797	34619	23858	39204
	83%	82%	82%	43%	68%

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	VFAINT	VFAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	166.619170	166.6407489261998	CCD I2 on	O4	Y
[deg] Pointing Dec	-18.372000	-18.35389971113232	CCD I3 on	O3	Y
[deg] Pointing Roll	10.482565	10.64599367351035	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	O1	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	O2	Y
[s] Observation start time (MET)	478489518.184000	478488460.25423	CCD S5 on	N	N
Observation start date	2013-03-01T01:44:11	2013-03-01T01:27:40	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	478503518.184000	478505020.66762	On-chip summing requested	N	N
Observation end date	2013-03-01T05:37:31	2013-03-01T06:03:40	Subarray requested	CUSTOM	1/2
Read mode	TIMED	TIMED	Subarray start row	257	257
			Subarray row count	512	512
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	1.7

2.3 Aspect



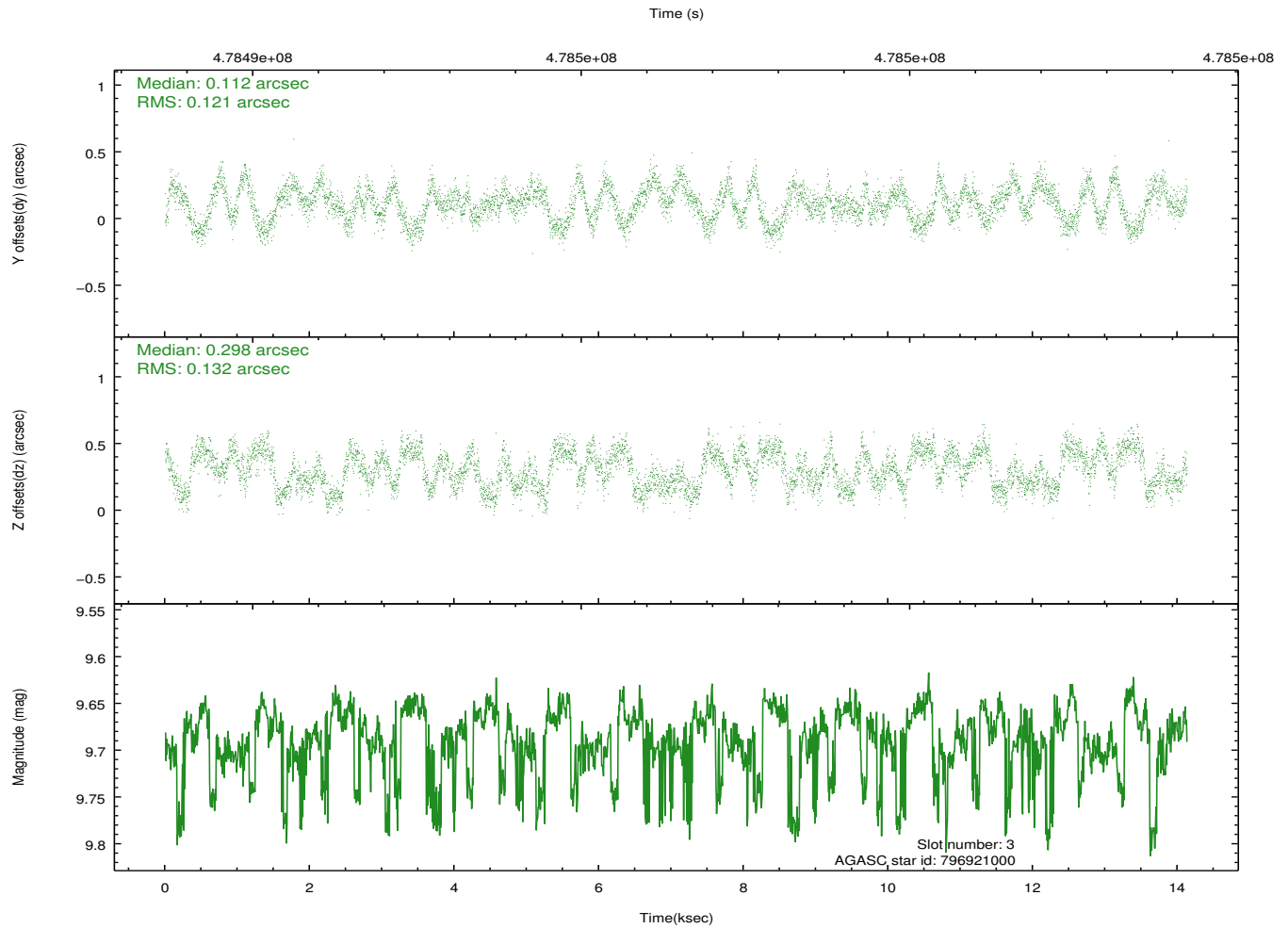
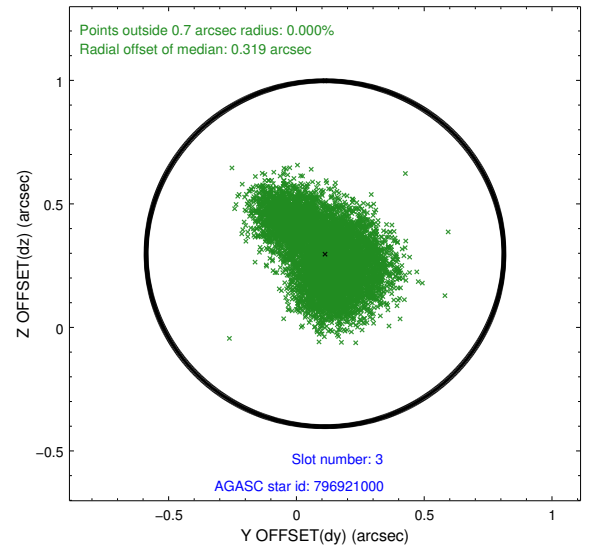
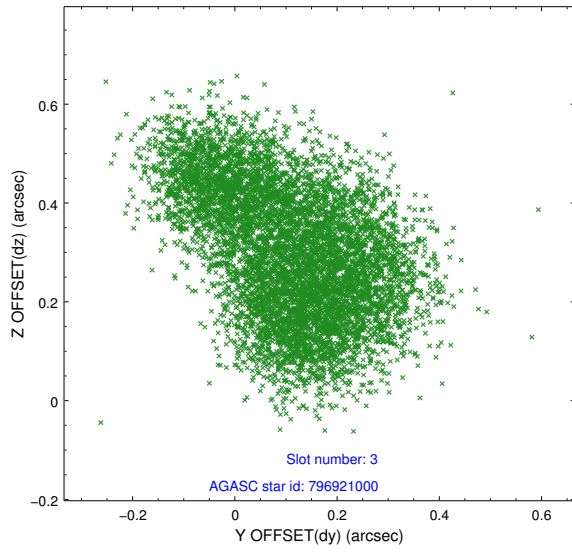


Slot Statistics

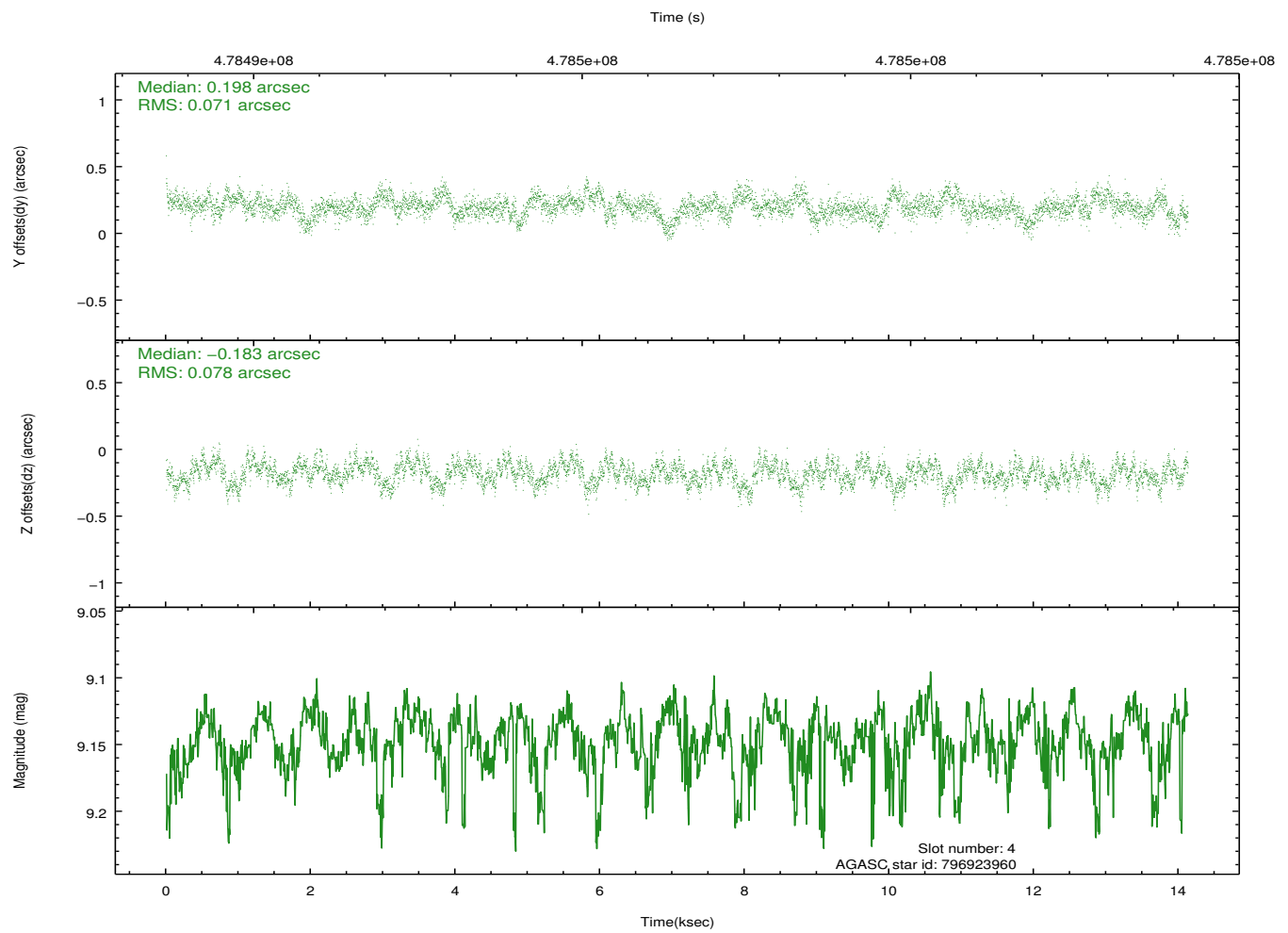
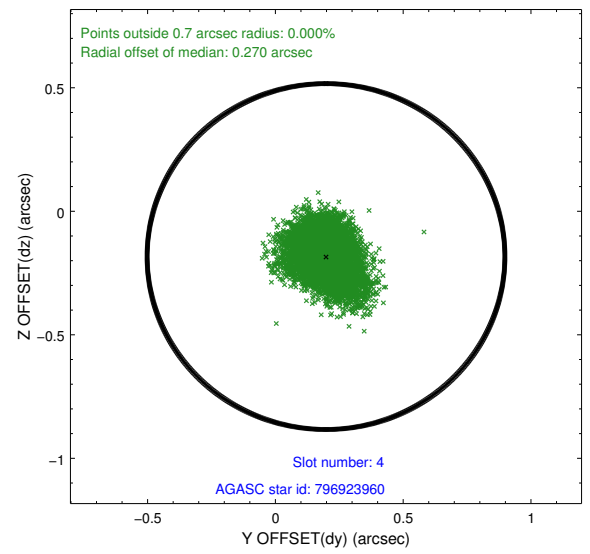
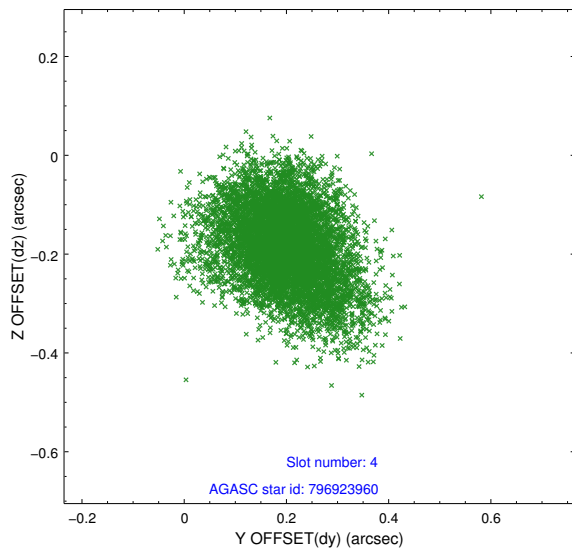
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.93	3447	-0.097	-0.027	0.015	0.022	0.000000	0.000000	-772.08	-1738.47
1	FID		ACIS-S-4	7.01	3447	0.266	0.054	0.012	0.022	0.000000	0.000000	2141.44	169.69
2	FID		ACIS-S-5	7.03	3446	-0.200	-0.019	0.013	0.019	0.000000	0.000000	-1824.57	163.74
3	GUIDE	used	796921000	9.69	6820	0.112	0.298	0.196	0.293	166.658084	-18.401963	111.68	-130.18
4	GUIDE	used	796923960	9.15	6873	0.198	-0.183	0.111	0.183	167.114946	-18.113690	1837.01	603.73
5	GUIDE	used	796928024	9.08	6870	-0.063	0.177	0.294	0.467	167.293410	-18.855839	1942.20	-2134.30
6	GUIDE	used	796928784	8.40	6889	-0.206	-0.167	0.082	0.131	166.853792	-17.800971	1164.75	1874.18
7	GUIDE	used	796930872	10.14	6882	-0.071	-0.112	0.206	0.351	166.504684	-19.082395	-847.17	-2444.32

2.4 Star Slots

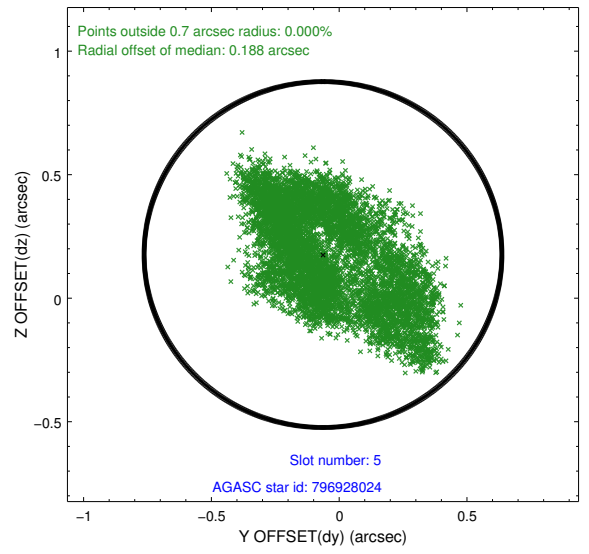
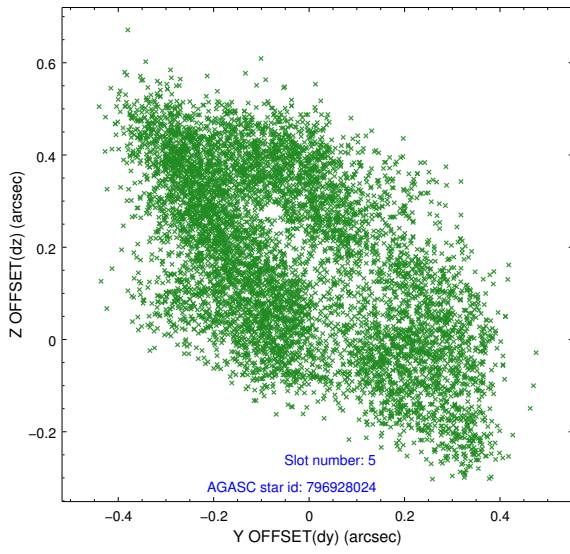
2.4.1 Slot 3



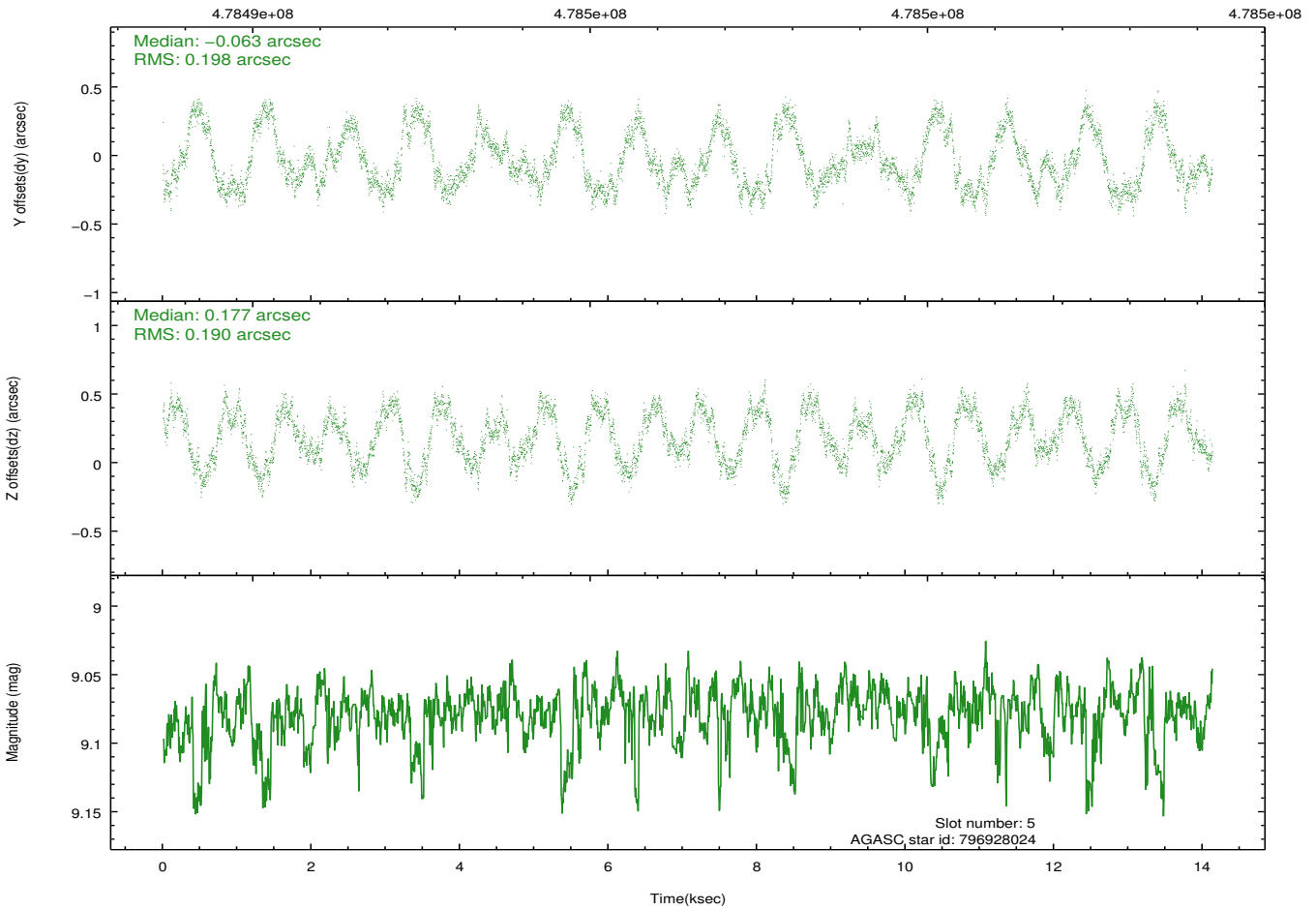
2.4.2 Slot 4



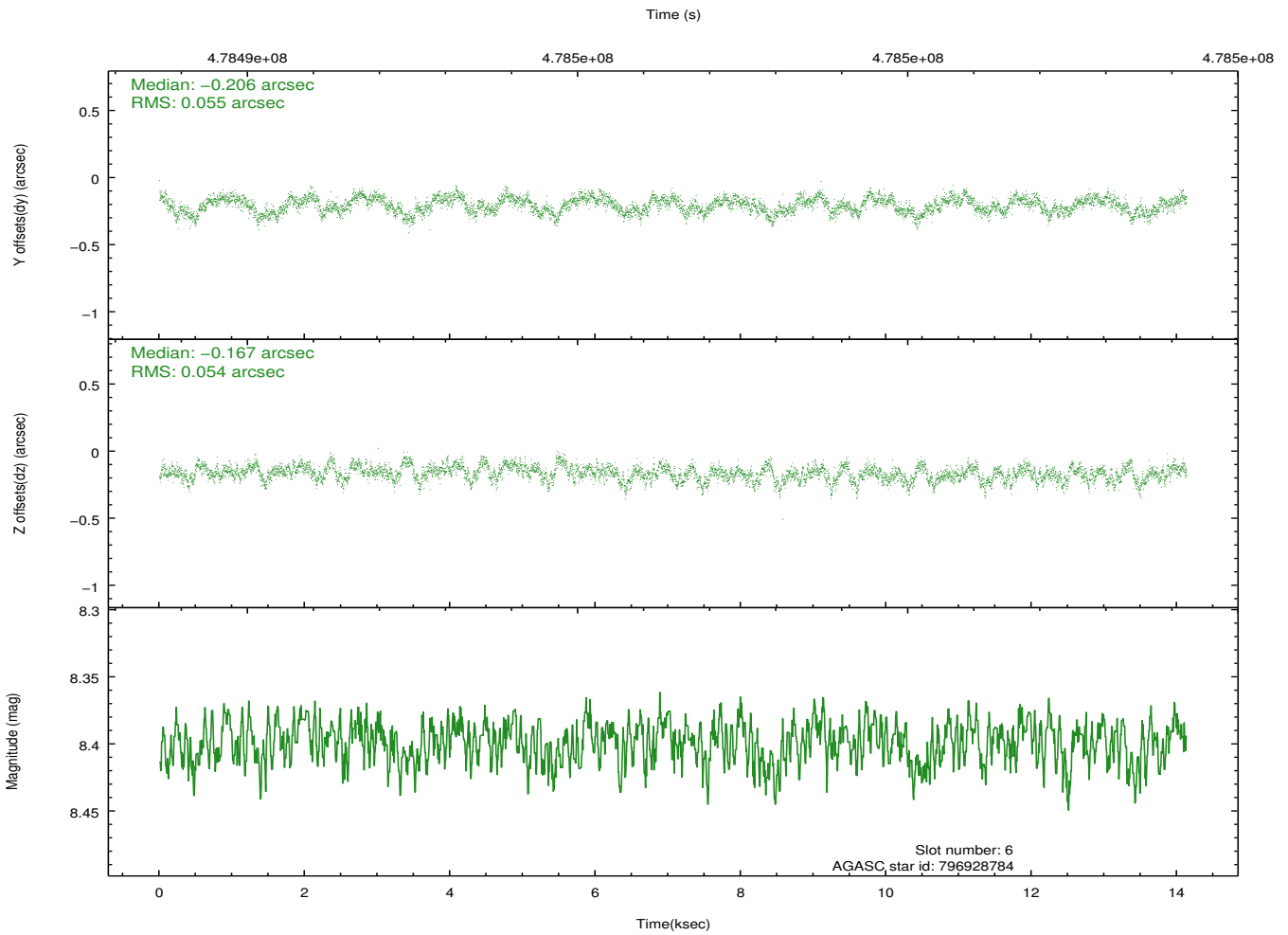
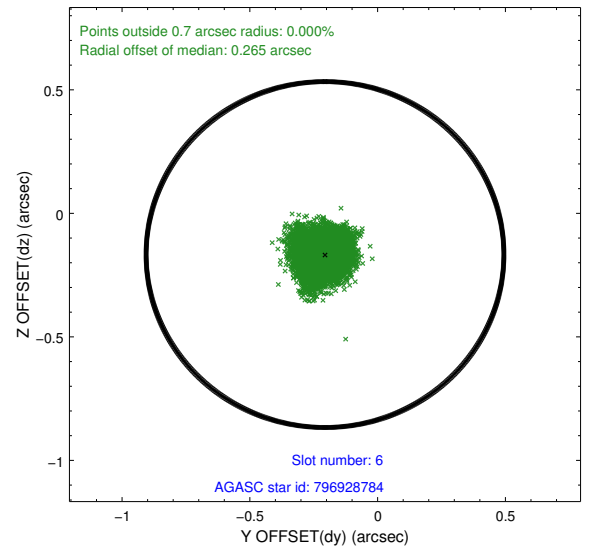
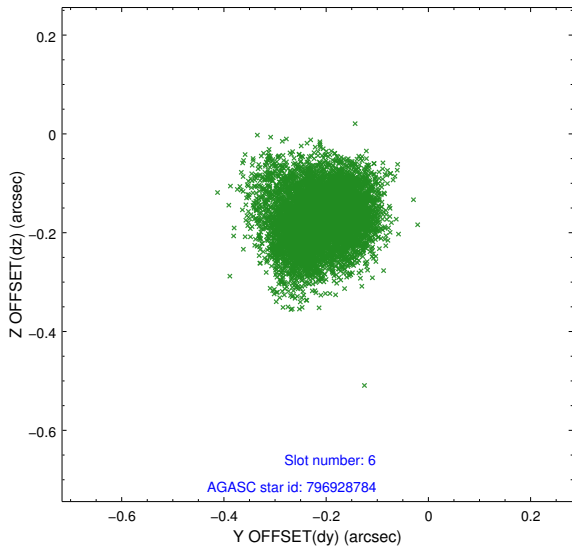
2.4.3 Slot 5



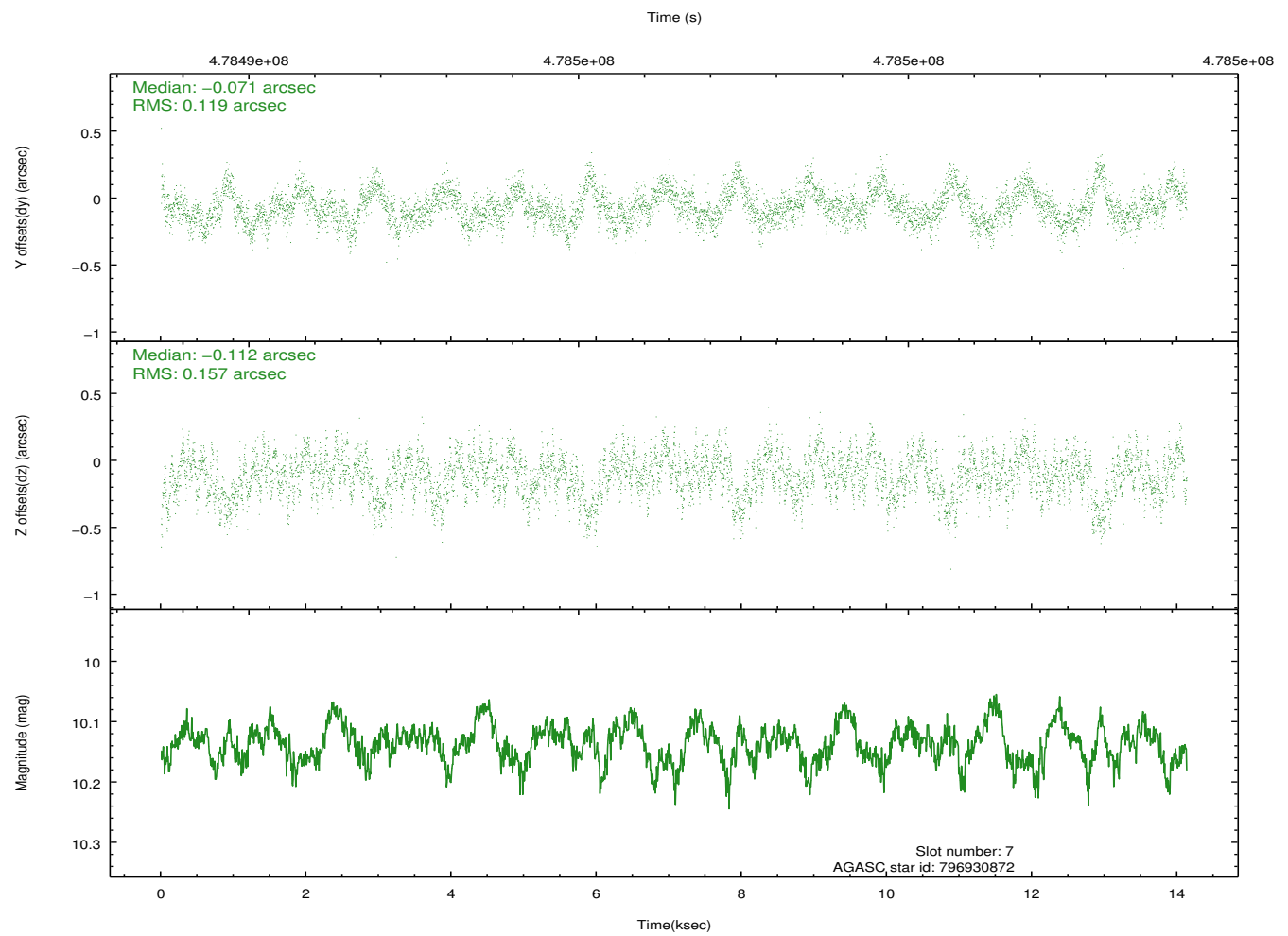
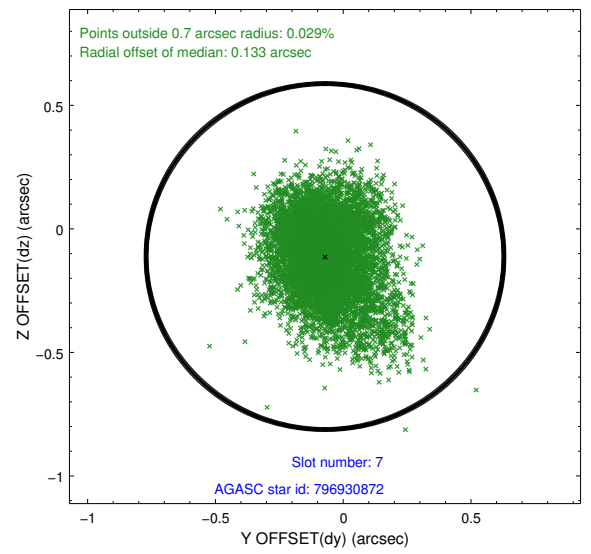
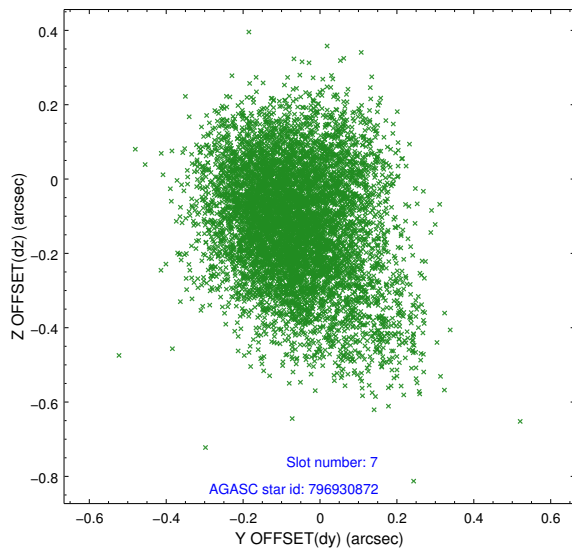
Time (s)



2.4.4 Slot 6

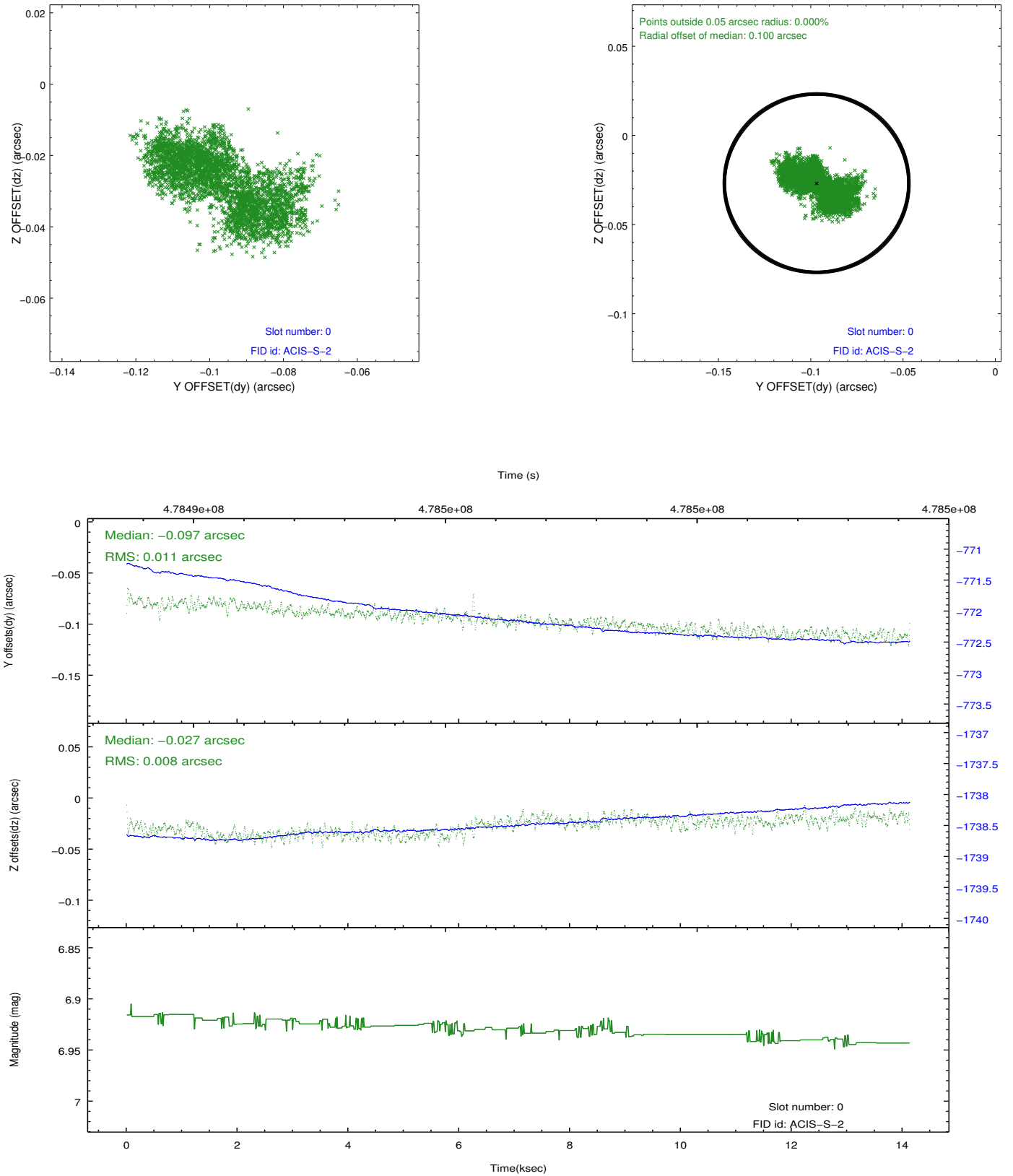


2.4.5 Slot 7

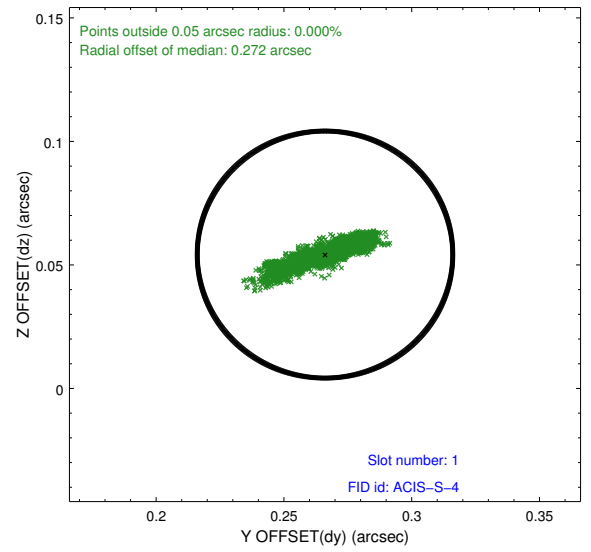
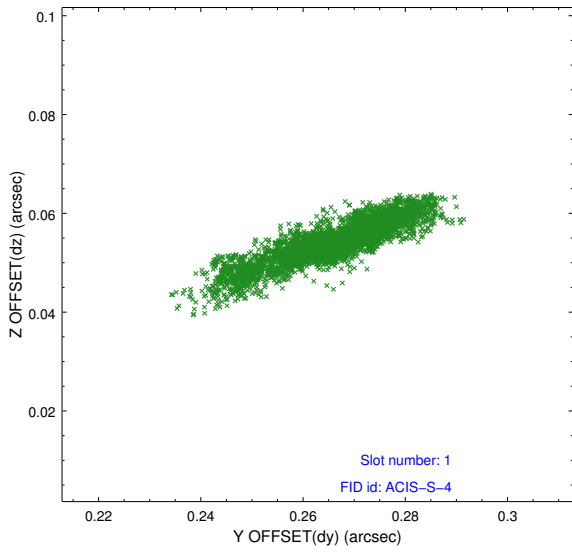


2.5 FID Slots

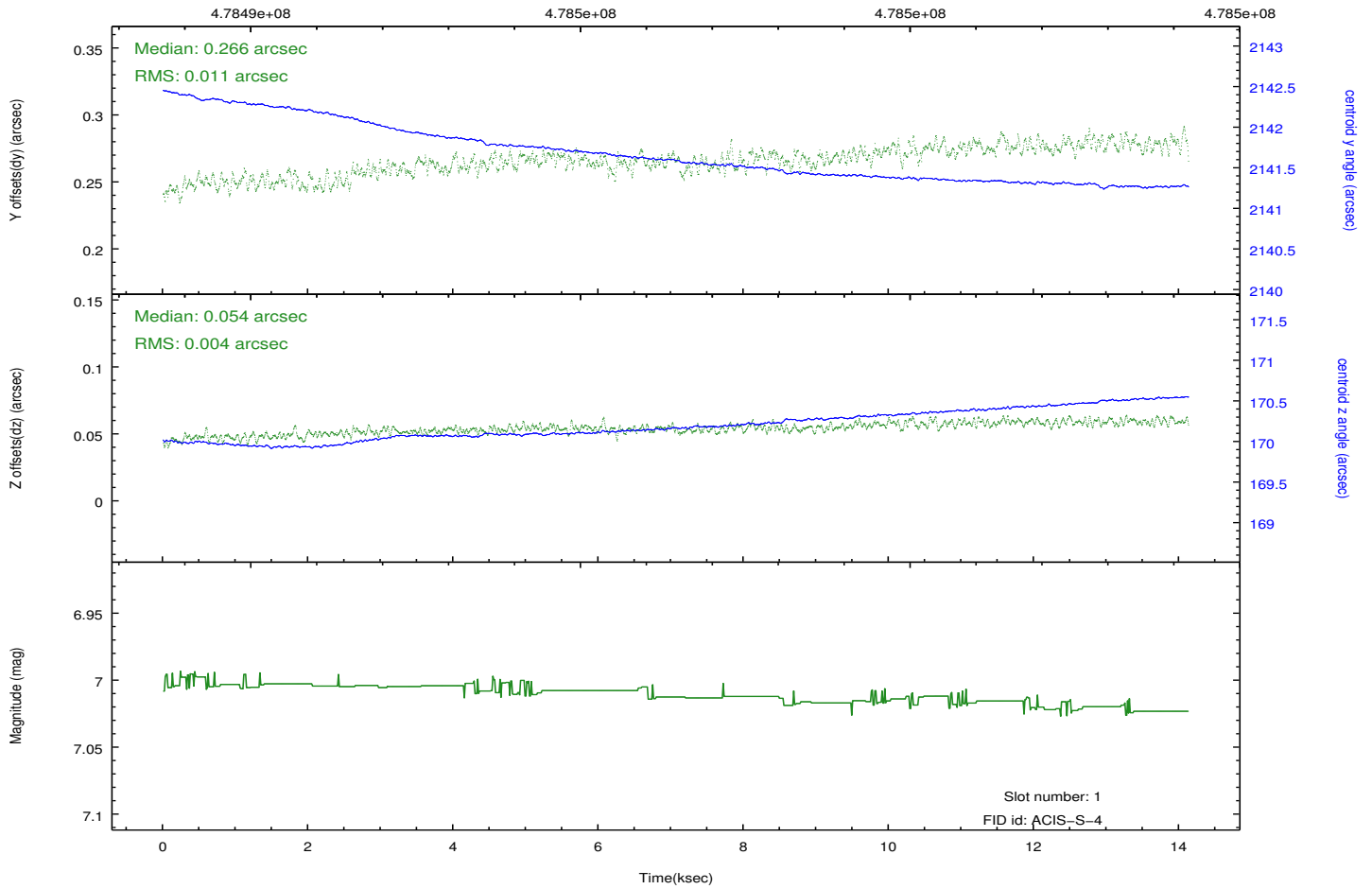
2.5.1 Slot 0



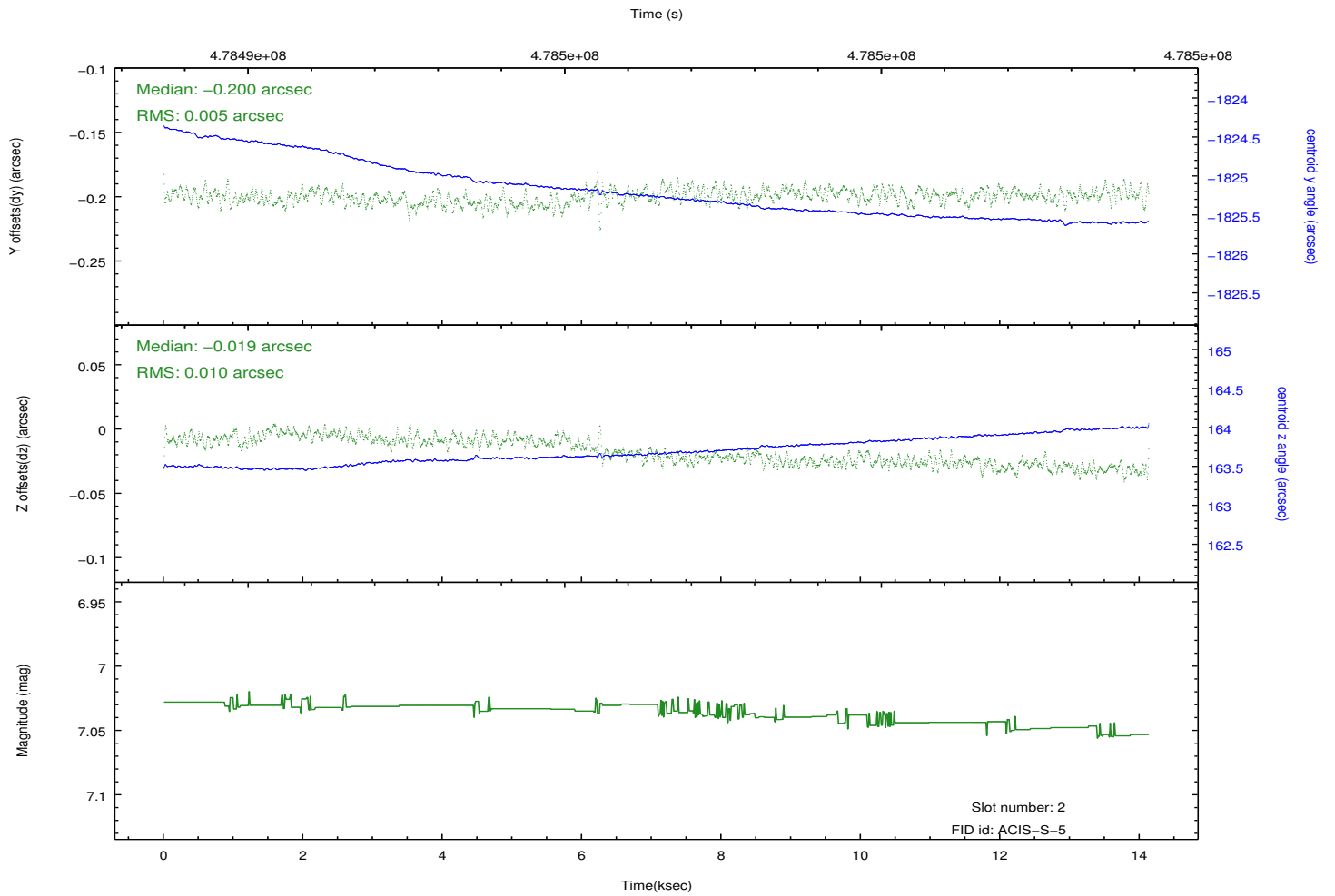
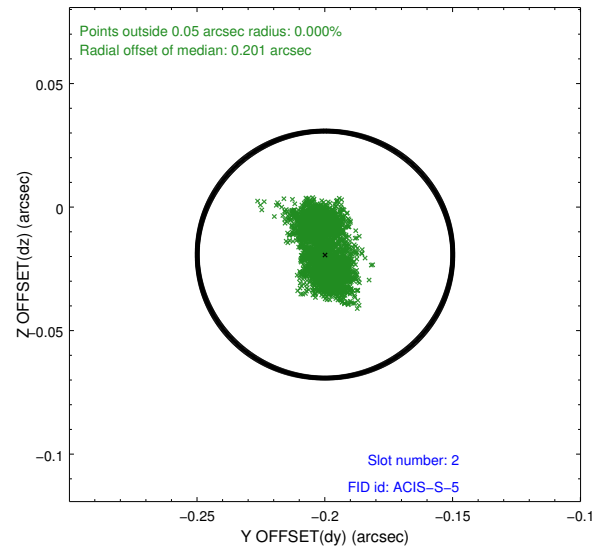
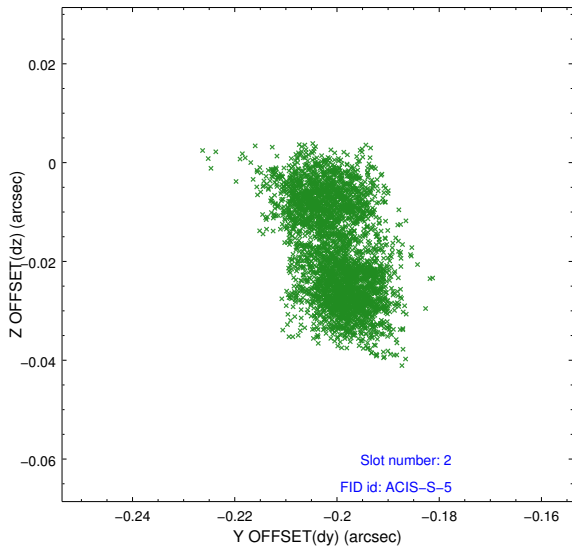
2.5.2 Slot 1



Time (s)



2.5.3 Slot 2



A Summary

A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2014.12.09
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	14.063390102506

A.2 Comments

Joint proposal with HST.

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.