

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 13831 - L2 Version 2
Chandra X-Ray Center

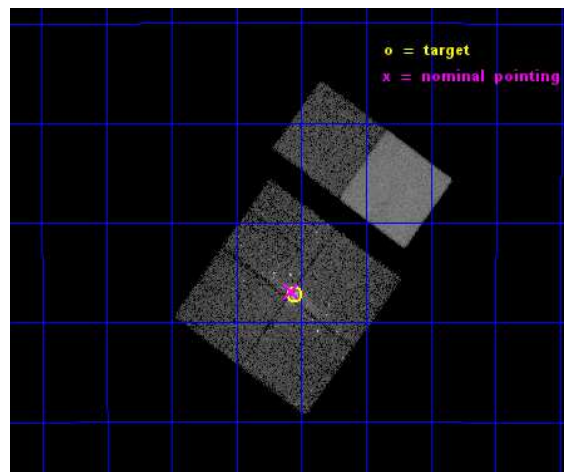
L2 Processing Date : Nov 27 2014

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1 Front

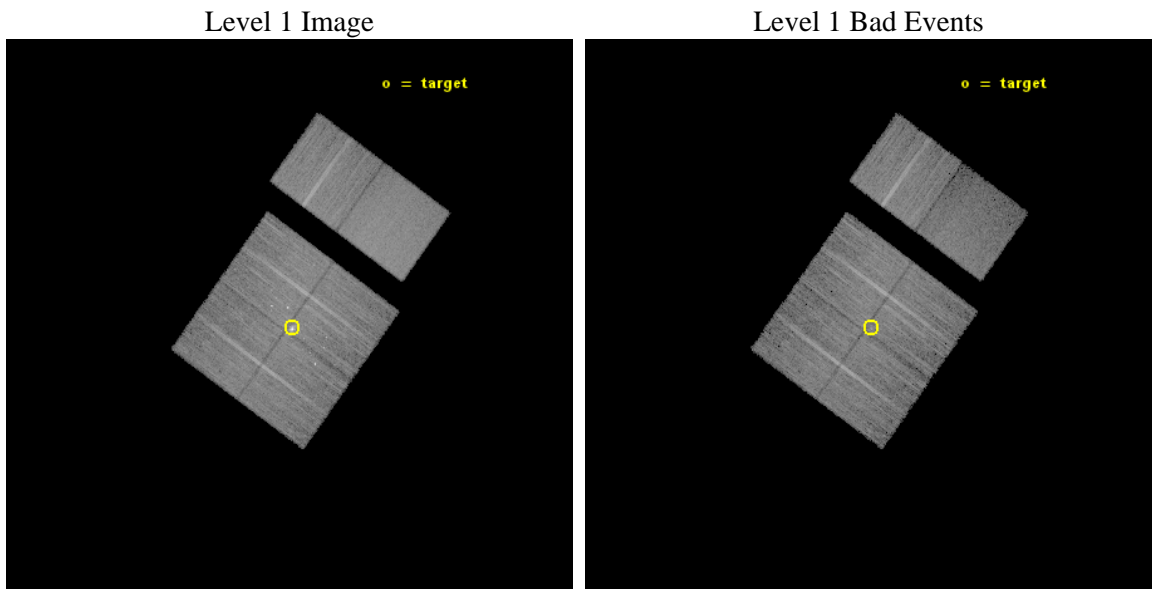
seq_num	601005	Sequence number
obs_id	13831	Observation id
title	Broad-band (0.5-30 keV) X-ray imaging of starburst galaxies with Chandra and NuSTAR	Proposal title
observer	Dr. Ann Hornschemeier	Principal investigator
object	NGC 253	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	11.88875	Observer's specified target RA [deg]
dec_targ	-25.288333	Observer's specified target Dec [deg]
ra_nom	11.89411121297	Nominal RA [deg]
dec_nom	-25.281847542471	Nominal Dec [deg]
roll_nom	36.045220919657	Nominal Roll [deg]
revision	2	Processing version of data
ontime	19967.999925673	Sum of GTIs [s]
livetime	19715.153087328	Livetime [s]
ontime0	19967.999925673	Sum of GTIs [s]
ontime1	19967.999925673	Sum of GTIs [s]
ontime2	19967.999925673	Sum of GTIs [s]
ontime3	19967.999925673	Sum of GTIs [s]
ontime6	19967.999925673	Sum of GTIs [s]
ontime7	19967.999925673	Sum of GTIs [s]
l2events	114506	Number of level 2 events



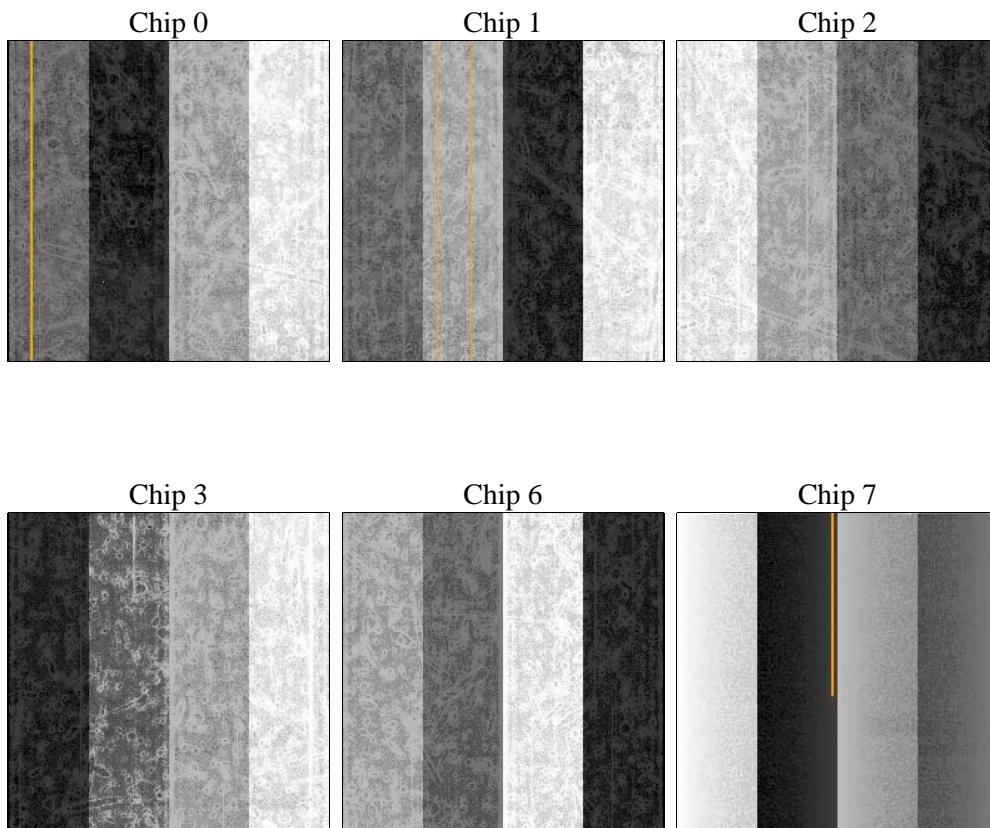
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	20000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	19967.999925673	Sum of GTIs [s]
caldsver	4.6.4	 	ontime0	19967.999925673	Sum of GTIs [s]
date	2014-11-27T04:48:37	Date and time of file creation	ontime1	19967.999925673	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	19967.999925673	Sum of GTIs [s]
			ontime3	19967.999925673	Sum of GTIs [s]
			ontime6	19967.999925673	Sum of GTIs [s]
			ontime7	19967.999925673	Sum of GTIs [s]
			l1events	599184	Number of level 1 events

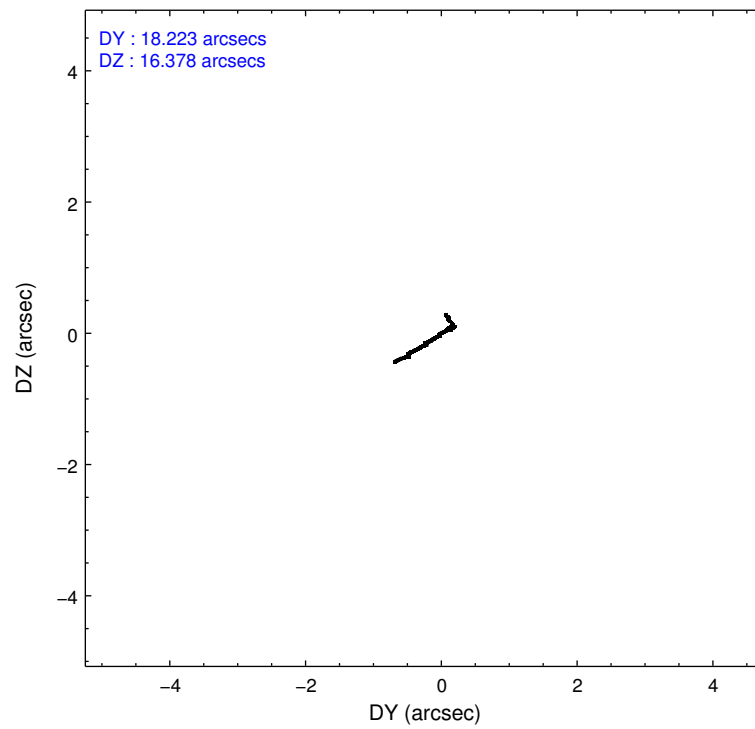
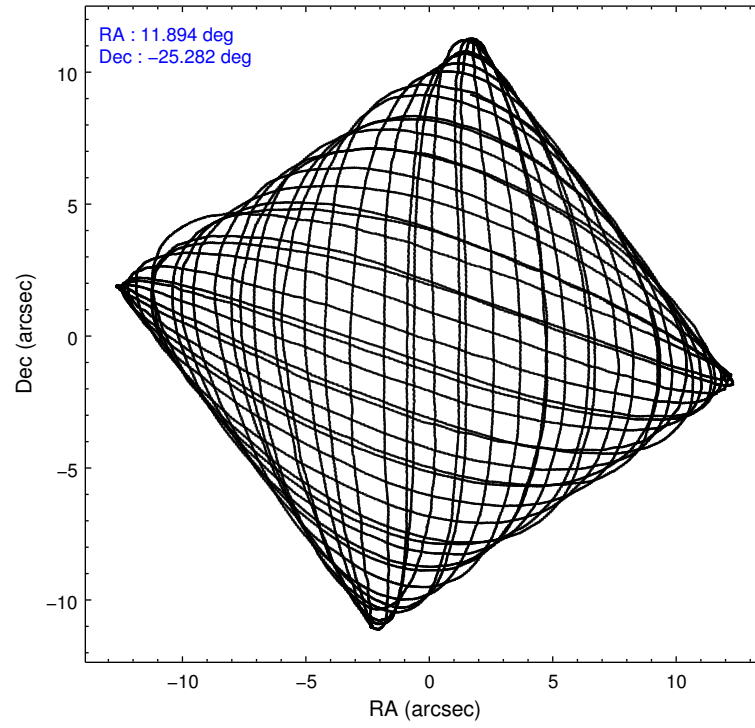
2.1.4 Events

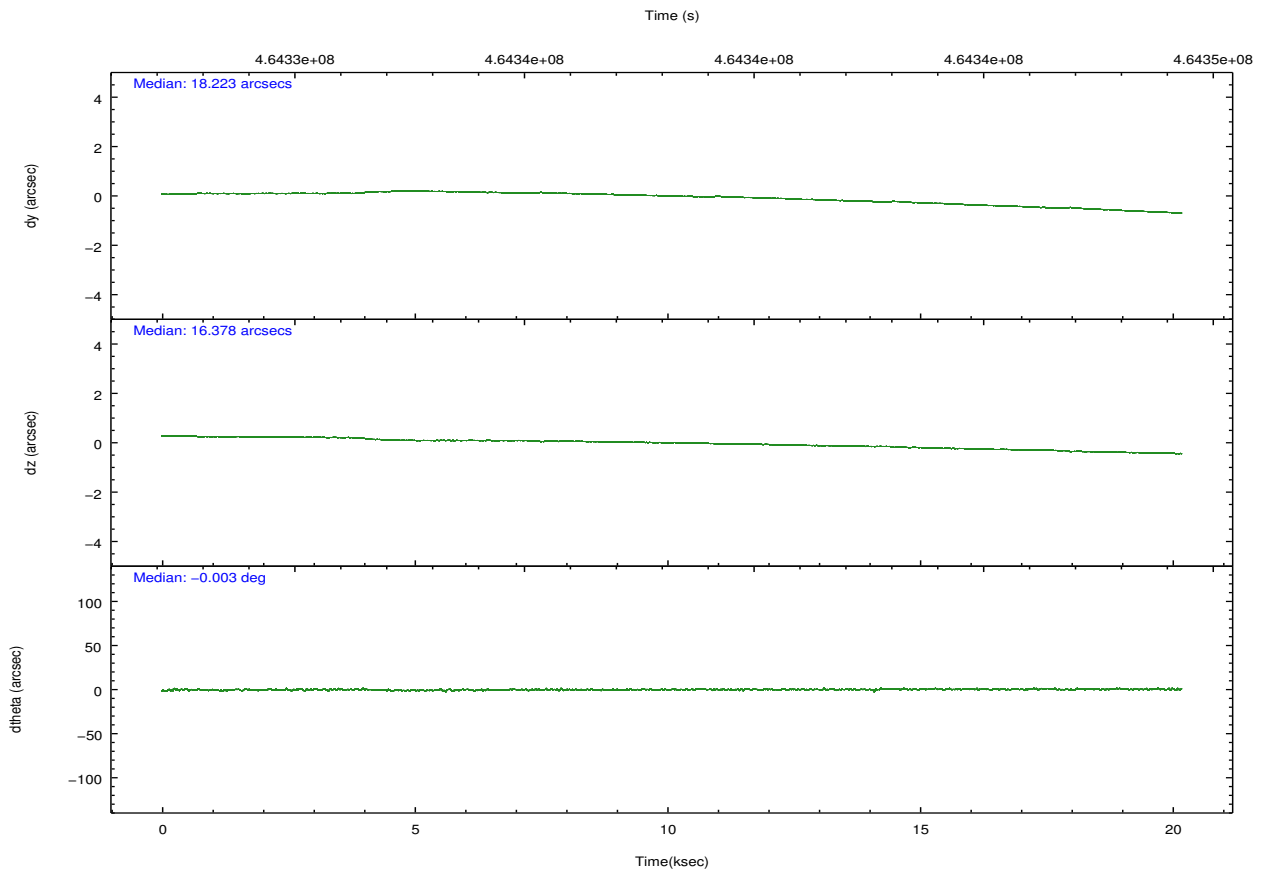
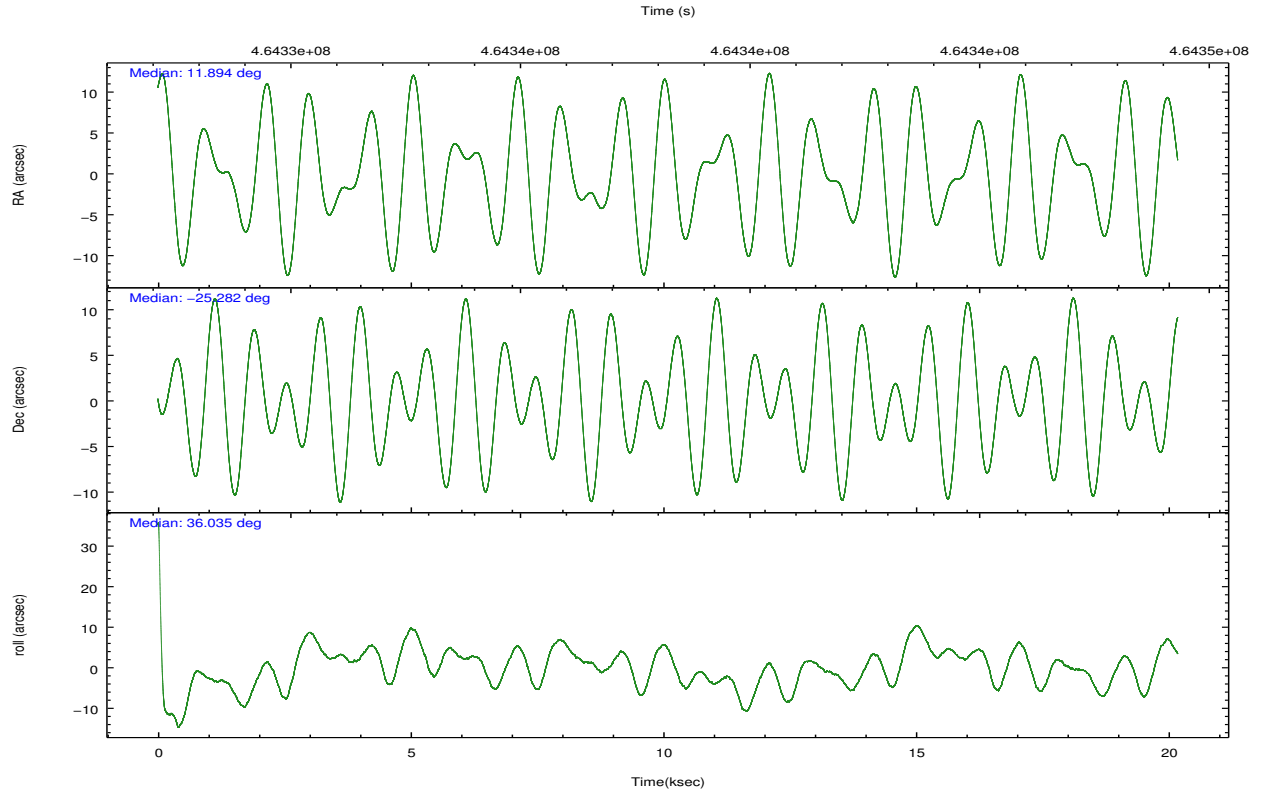
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7		ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	86987	90470	106000	101141	100879	113707	grade 0 events	4460	5465	6807	11128	4173	5296
rejected events	75143	76938	91458	81527	88995	59324		5%	6%	6%	11%	4%	4%
rejected %	86%	85%	86%	80%	88%	52%	grade 1 events	57	84	79	162	50	146
								0%	0%	0%	0%	0%	0%
							grade 2 events	2821	2908	3006	3255	2673	11602
								3%	3%	2%	3%	2%	10%
							grade 3 events	1252	1315	1213	1398	1291	4789
								1%	1%	1%	1%	1%	4%
							grade 4 events	1175	1277	1272	1378	1242	4830
								1%	1%	1%	1%	1%	4%
							grade 5 events	3827	4122	3639	4479	4384	11934
								4%	4%	3%	4%	4%	10%
							grade 6 events	2140	2576	2247	2459	2508	27888
								2%	2%	2%	2%	2%	24%
							grade 7 events	71255	72723	87737	76882	84558	47222
								81%	80%	82%	76%	83%	41%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-012367	ACIS-012367	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	CCD I0 on	Y	Y
Observation mode	POINTING	POINTING	CCD I1 on	Y	Y
[deg] Pointing RA	11.881853	11.89411121296951	CCD I2 on	Y	Y
[deg] Pointing Dec	-25.307019	-25.28184754247109	CCD I3 on	Y	Y
[deg] Pointing Roll	35.831293	36.04522091965668	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	O1	Y
[mm] SIM translation stage pos	-233.592463	-233.5874344608287	CCD S3 on	O2	Y
[mm] SIM translation stage offset	0	-0.005018542100998502	CCD S4 on	N	N
[s] Observation start time (MET)	464328295.184000	464326740.20427	CCD S5 on	N	N
Observation start date	2012-09-18T04:03:48	2012-09-18T03:39:00	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	464348295.184000	464349306.60547	On-chip summing requested	N	N
Observation end date	2012-09-18T09:37:08	2012-09-18T09:55:06	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

2.3 Aspect





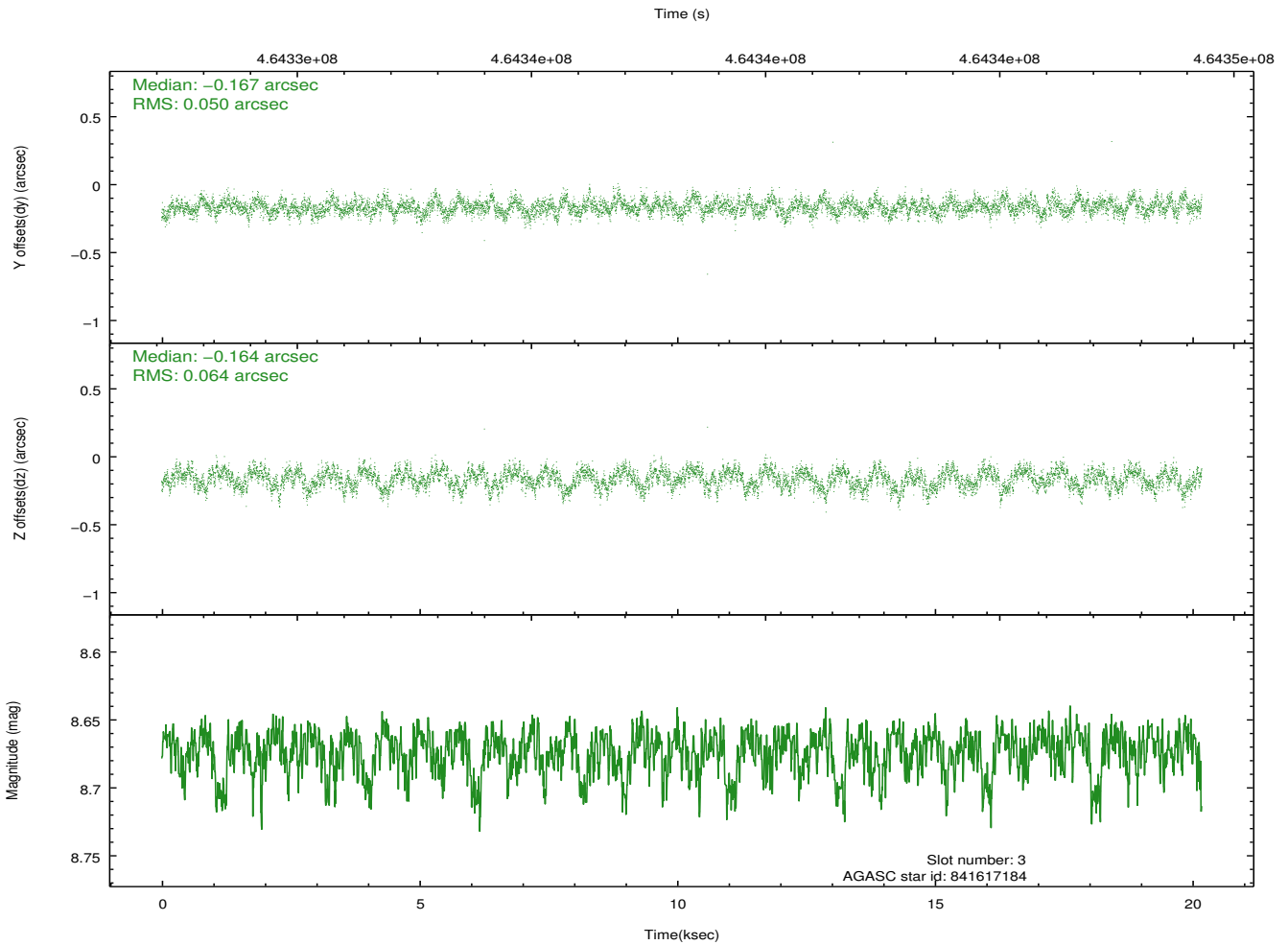
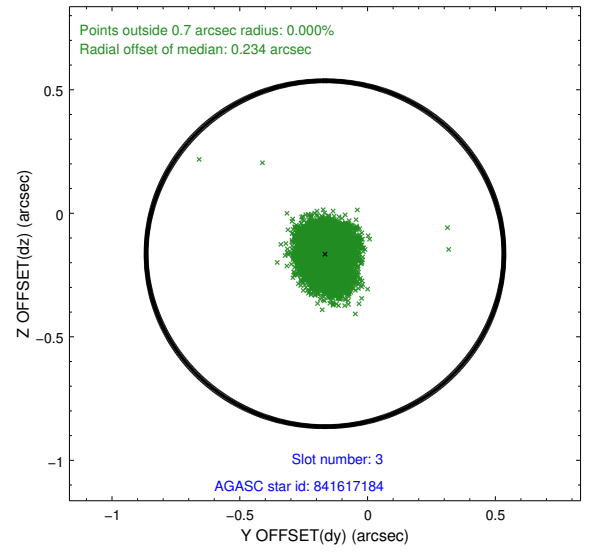
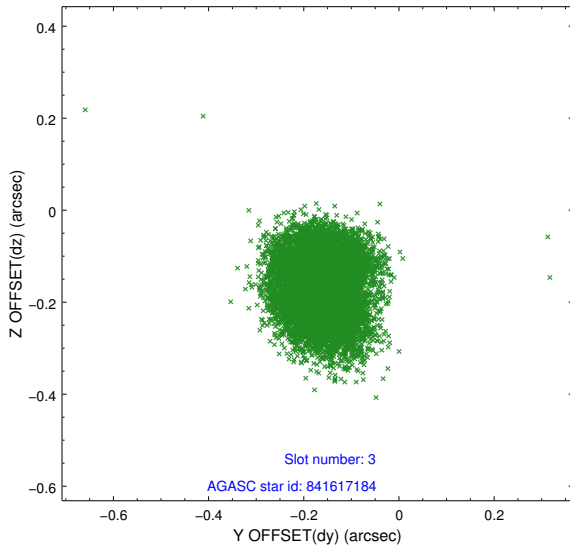
Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.07	4923	-0.019	-0.092	0.016	0.029	0.000000	0.000000	921.25	-840.04
1	FID		ACIS-I-4	6.99	4922	0.245	0.096	0.012	0.020	0.000000	0.000000	2141.62	1059.87
2	FID		ACIS-I-5	7.05	4922	-0.324	0.066	0.009	0.018	0.000000	0.000000	-1826.85	1057.84
3	GUIDE	used	841617184	8.67	9840	-0.167	-0.164	0.086	0.137	11.510229	-25.379642	-1133.69	494.16
4	GUIDE	used	841618568	8.87	9842	-0.072	-0.360	0.119	0.190	12.015403	-25.079155	834.68	408.28
5	GUIDE	used	841621872	9.28	9814	0.161	-0.065	0.118	0.189	12.339829	-25.439870	926.38	-1260.94
6	GUIDE	used	841630056	9.36	9775	0.113	0.351	0.155	0.244	11.834732	-25.380941	-279.57	-125.58
7	GUIDE	used	841627288	9.00	9843	-0.035	0.255	0.089	0.142	11.895050	-25.394961	-150.27	-281.27

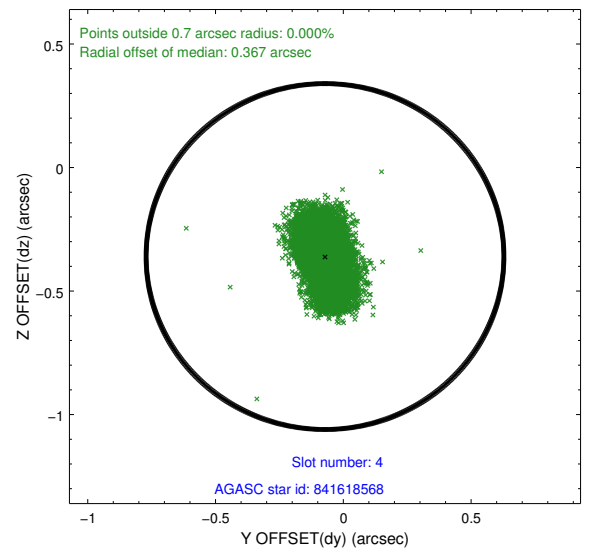
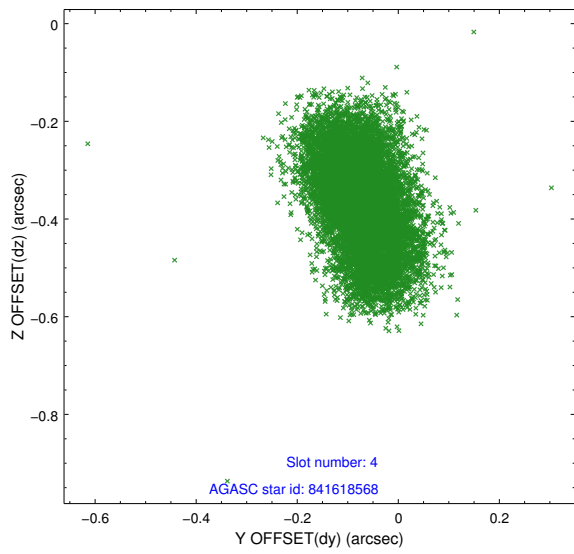
∞

2.4 Star Slots

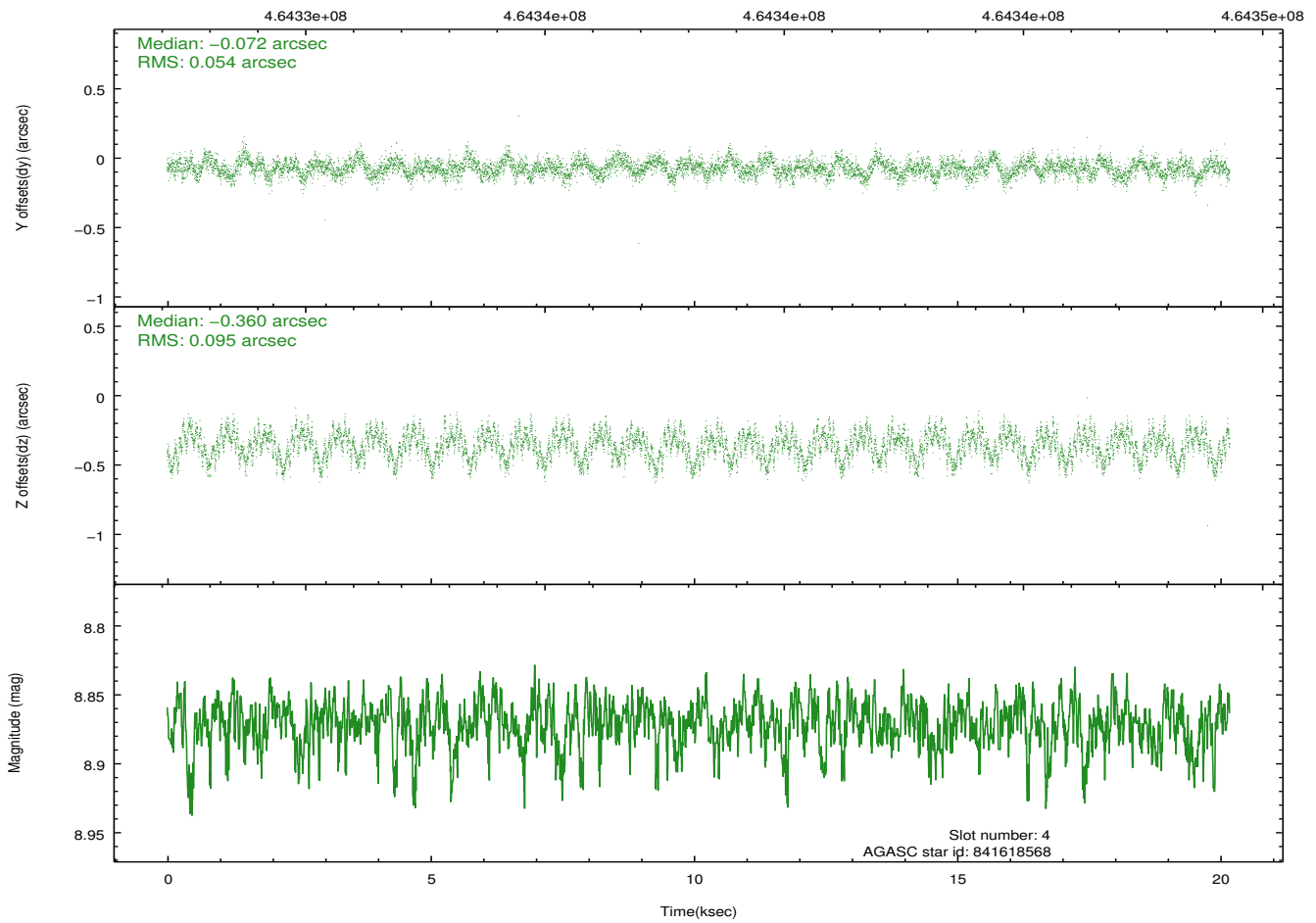
2.4.1 Slot 3



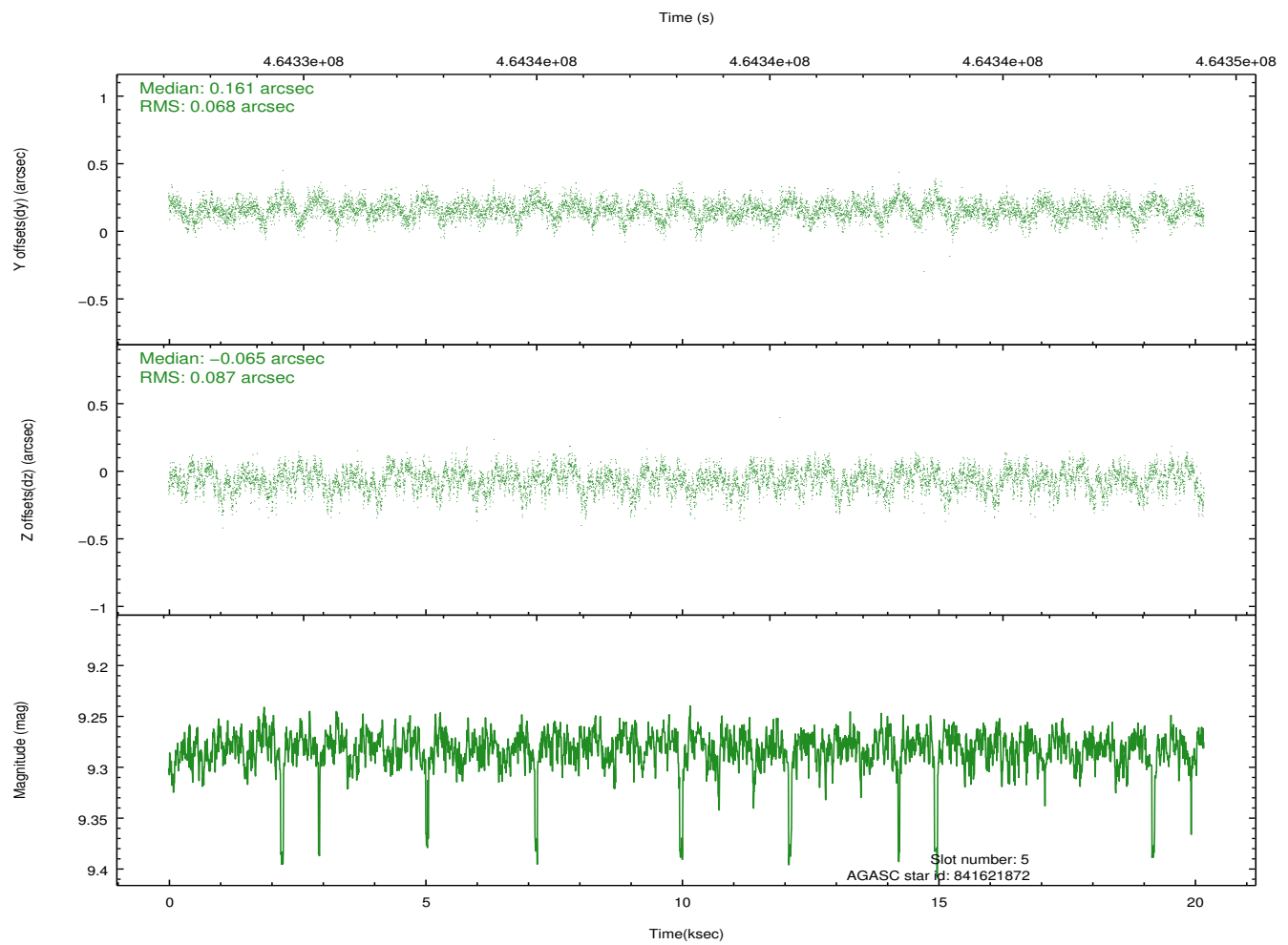
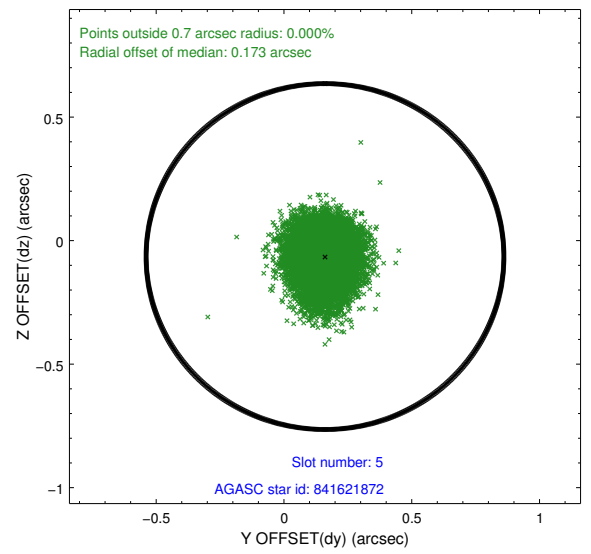
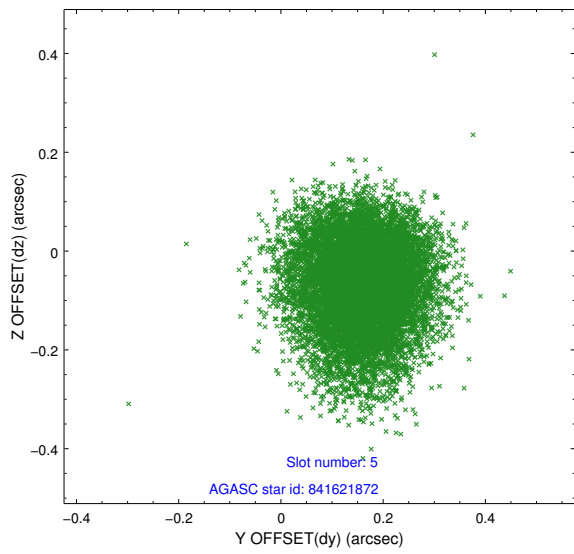
2.4.2 Slot 4



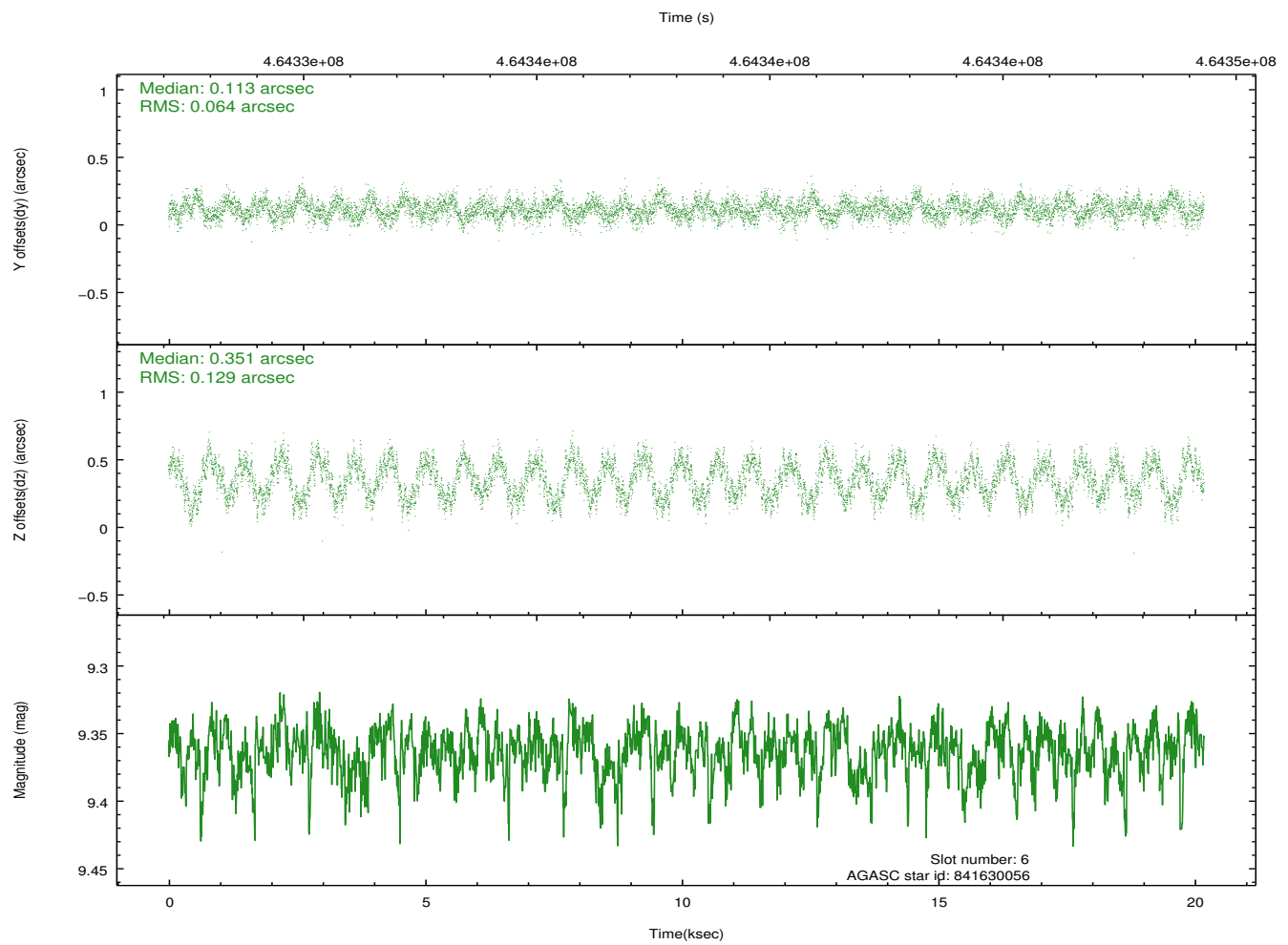
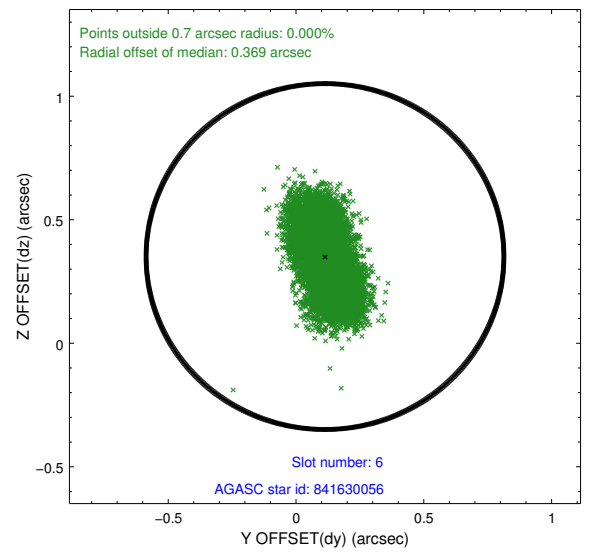
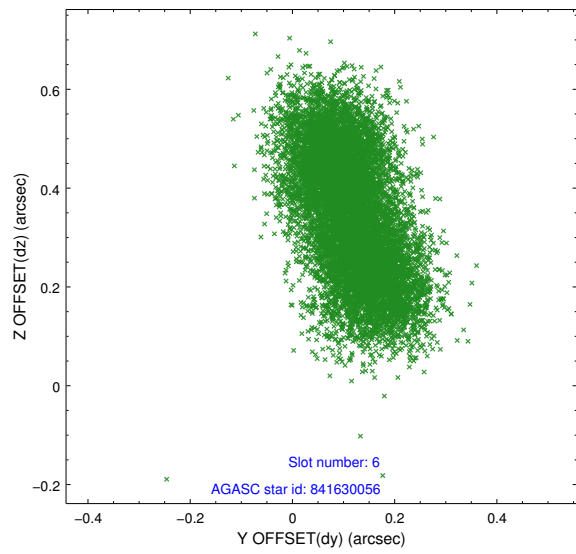
Time (s)



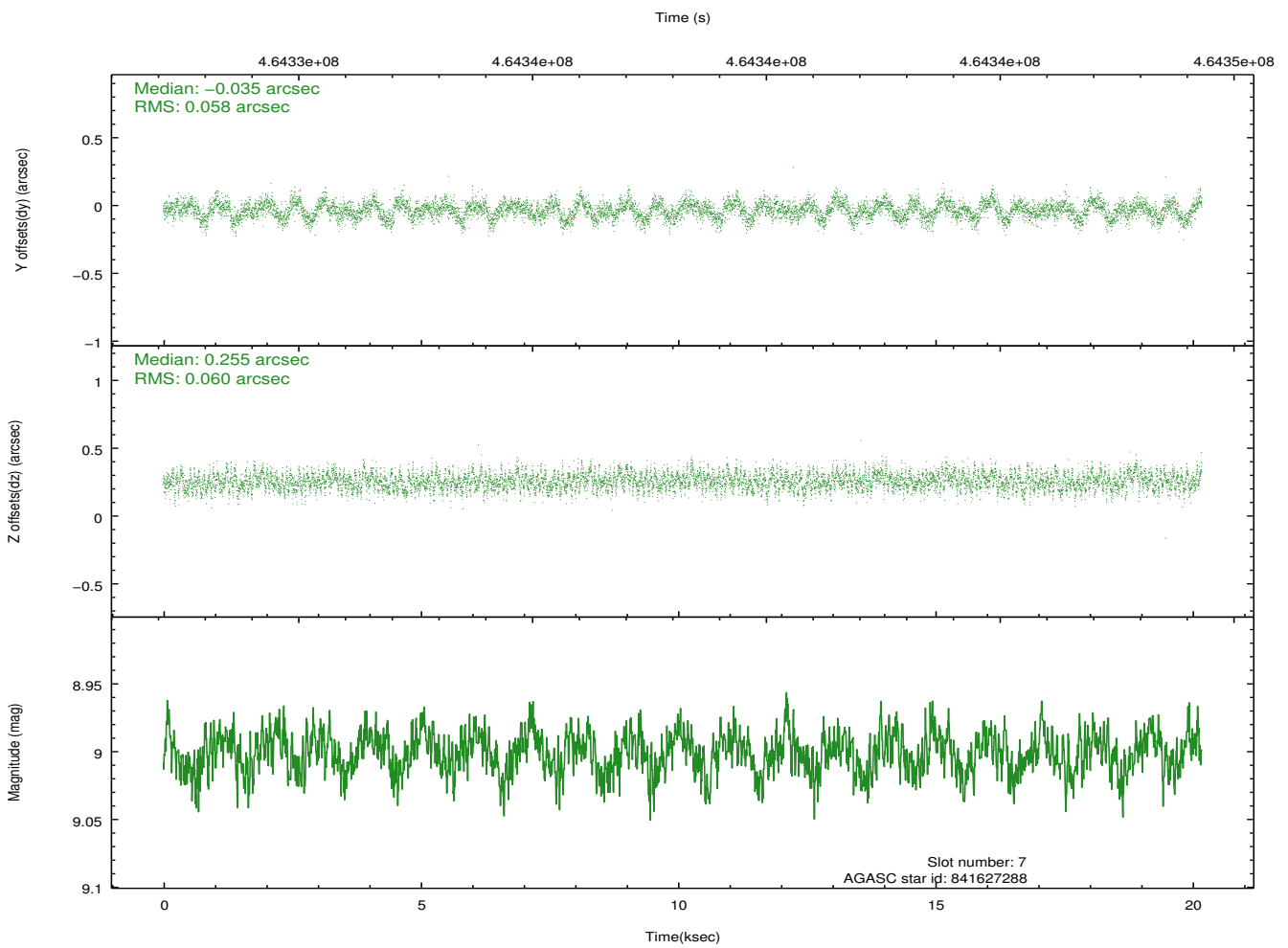
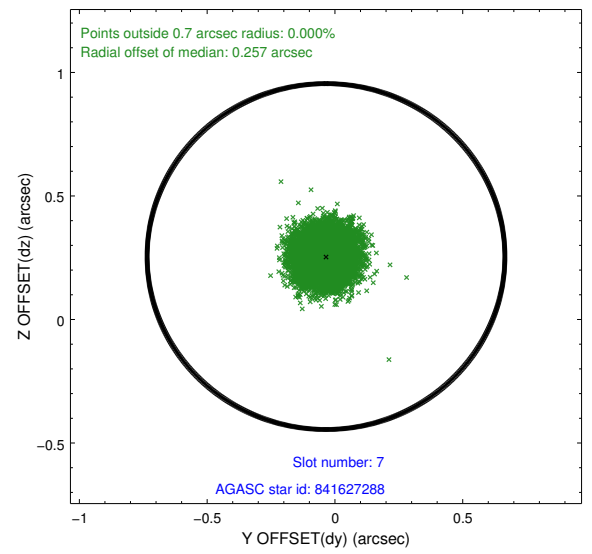
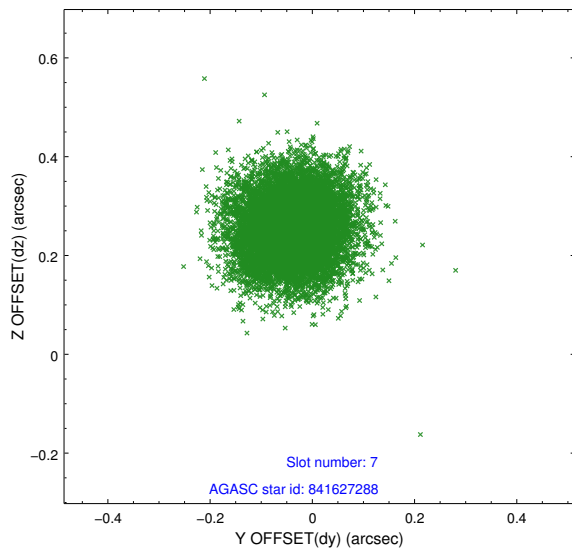
2.4.3 Slot 5



2.4.4 Slot 6

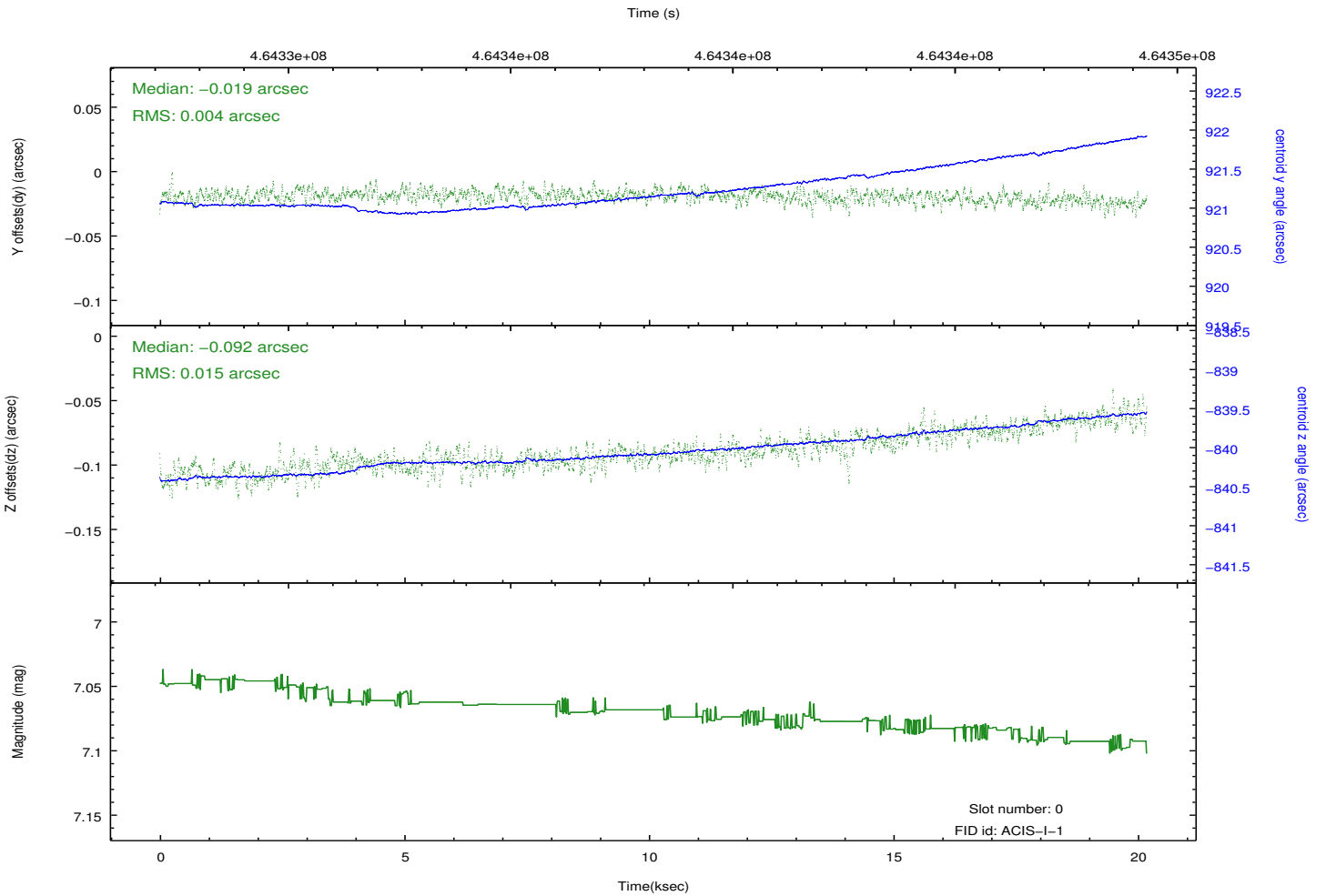
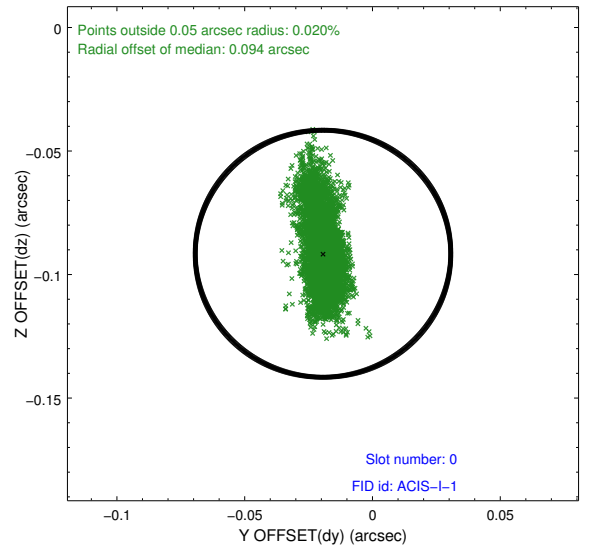
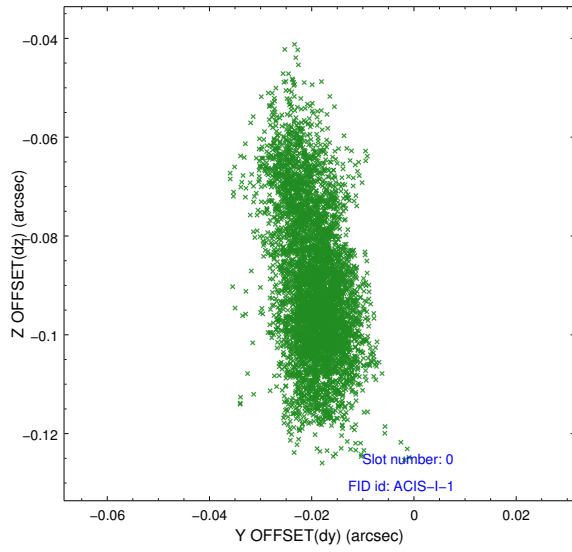


2.4.5 Slot 7

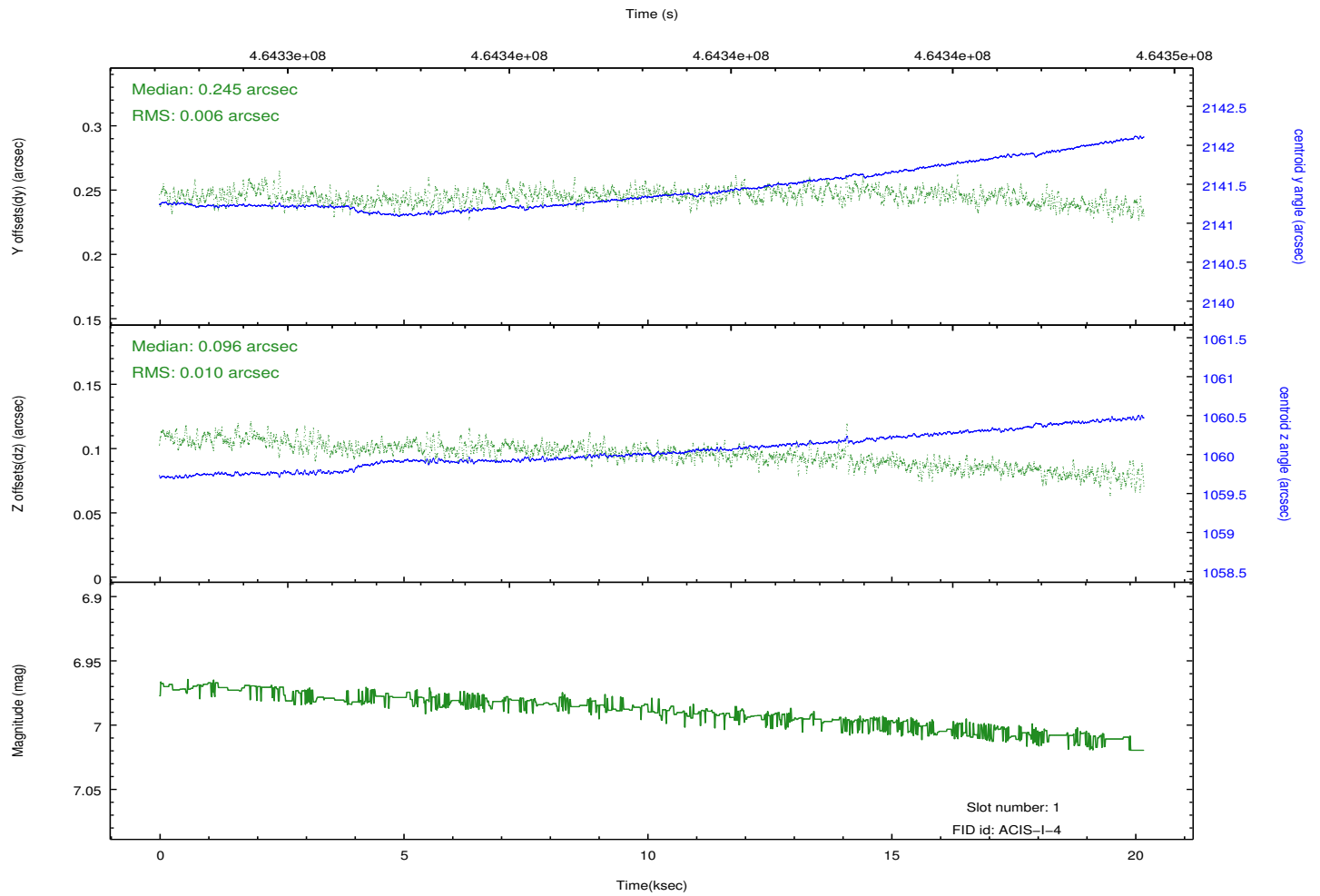
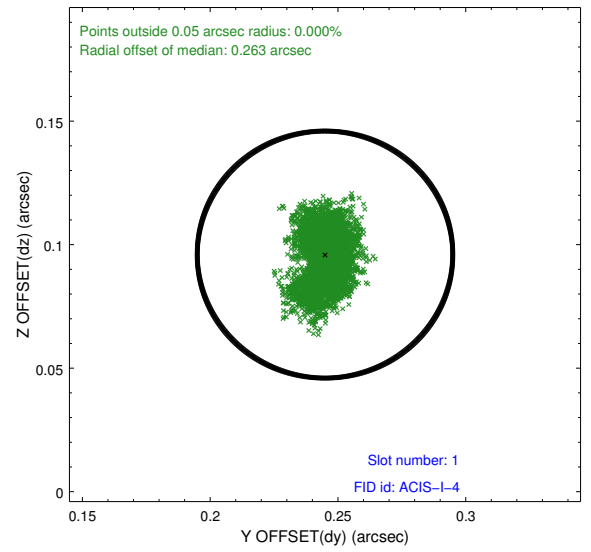
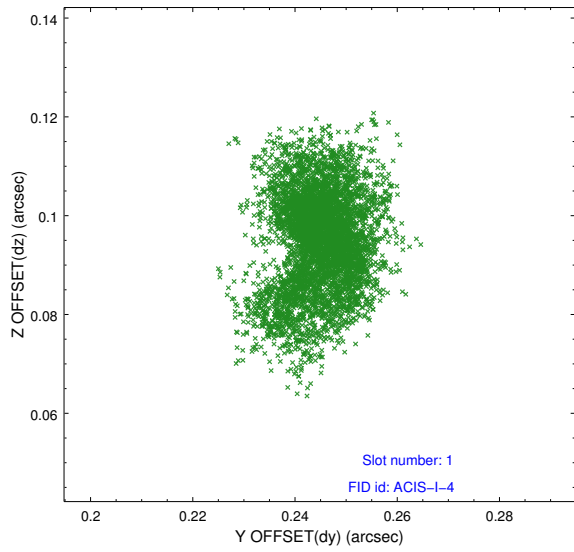


2.5 FID Slots

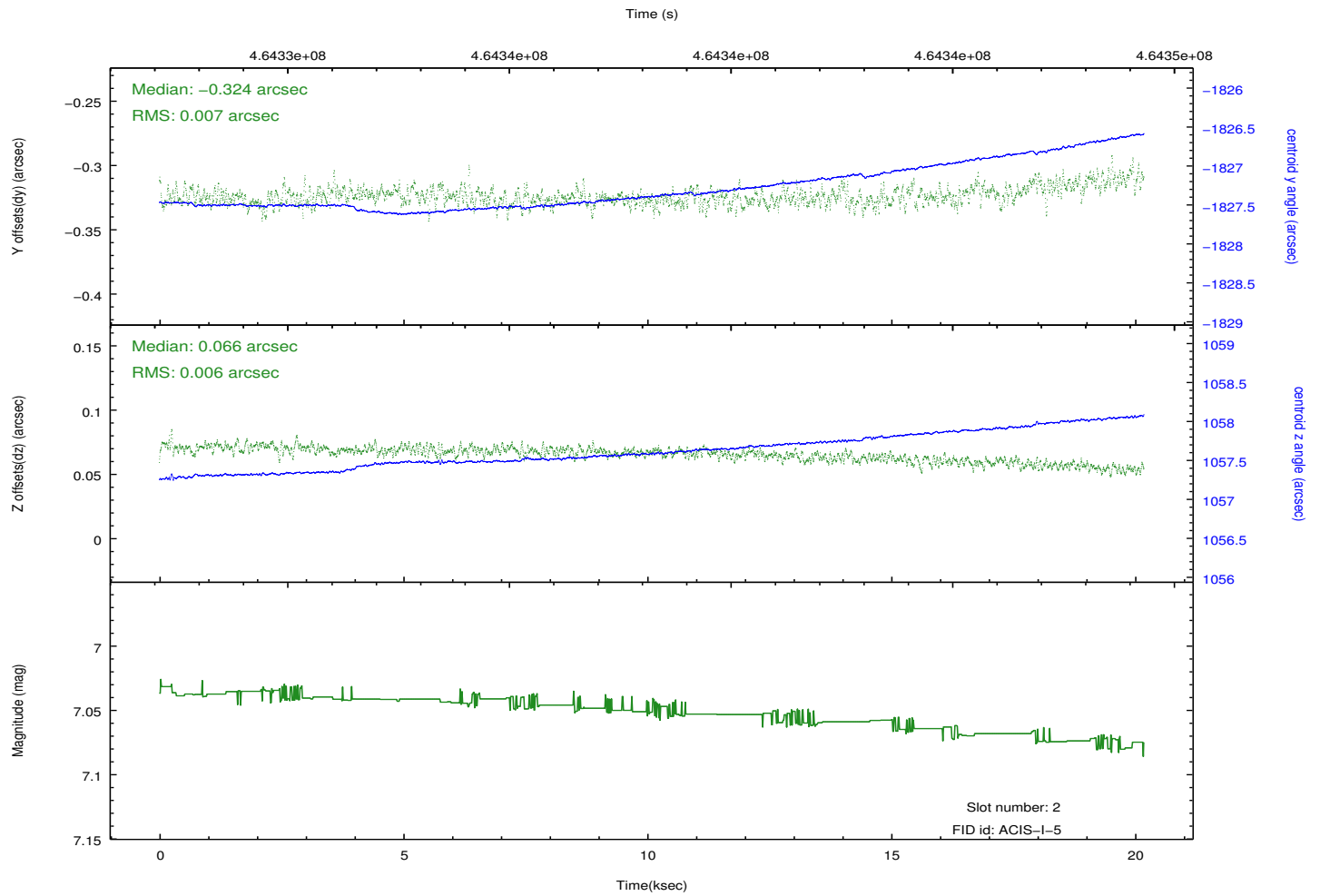
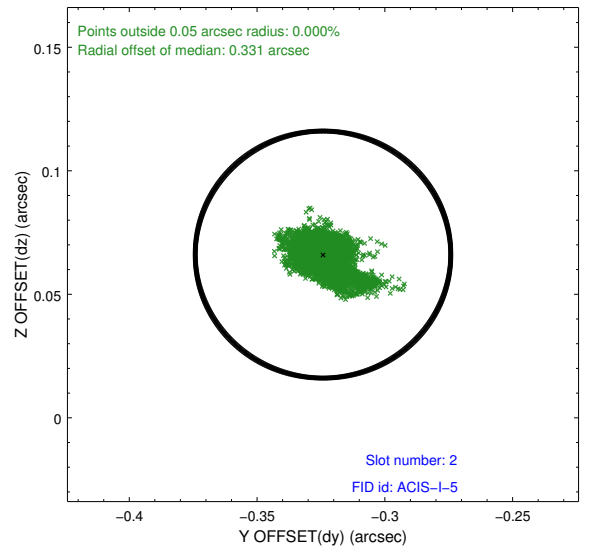
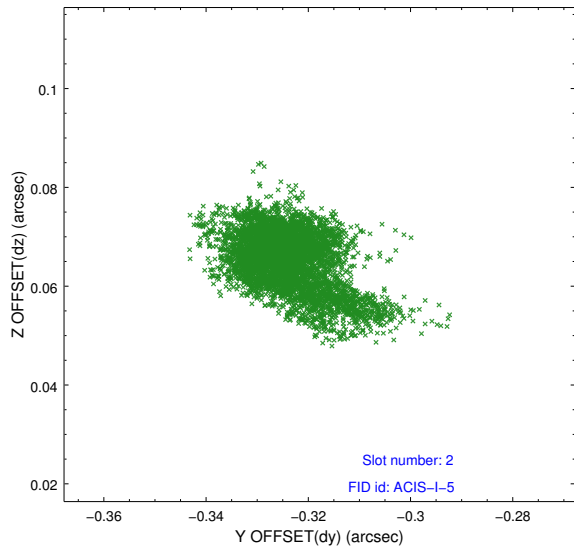
2.5.1 Slot 0



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)	2014.12.02
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	19.967999925673

A.2 Comments

Joint proposal with NRAO.

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.