

V&V Reference Report

L2 ASCDS Version : 8.5.1.1

Observation 2010 - L2 Version 4
Chandra X-Ray Center

L2 Processing Date : Jan 3 2013

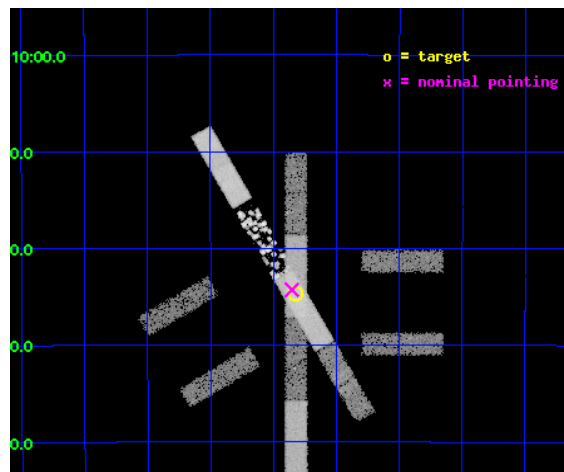
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1 Front

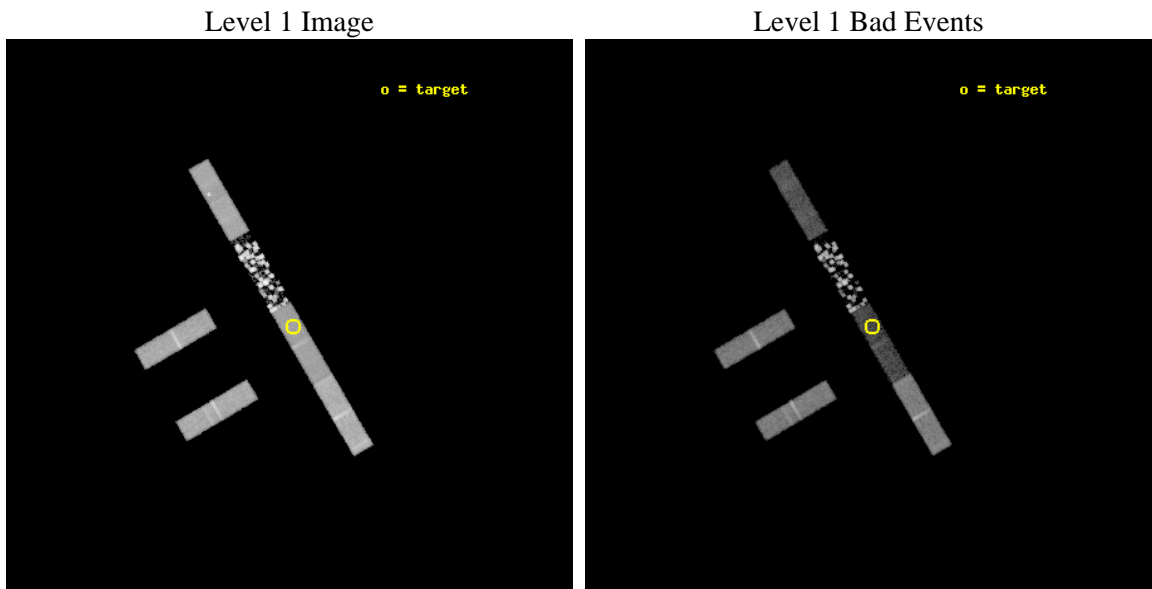
seq_num	500187	Sequence number
obs_id	2010	Observation id
title	LET US EXAMINE SOME NEW ISOLATED NEUTRON STARS WITH CHANDRA	Propos
observer	Hakki Ogelman	Principal investigator
object	PSR0628-28	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	97.70625	Observer's specified target RA [deg]
dec_targ	-28.578778	Observer's specified target Dec [deg]
ra_nom	97.71335061924	Nominal RA [deg]
dec_nom	-28.571403959133	Nominal Dec [deg]
roll_nom	59.653085969403	Nominal Roll [deg]
revision	4	Processing version of data
ontime	19277.499895543	Sum of GTIs [s]
livetime	18584.142435933	Livetime [s]
ontime2	18169.752314463	Sum of GTIs [s]
ontime3	18342.211331755	Sum of GTIs [s]
ontime5	19277.499895543	Sum of GTIs [s]
ontime6	18498.188028246	Sum of GTIs [s]
ontime7	19277.499895543	Sum of GTIs [s]
ontime8	18504.277230307	Sum of GTIs [s]
l2events	125097	Number of level 2 events



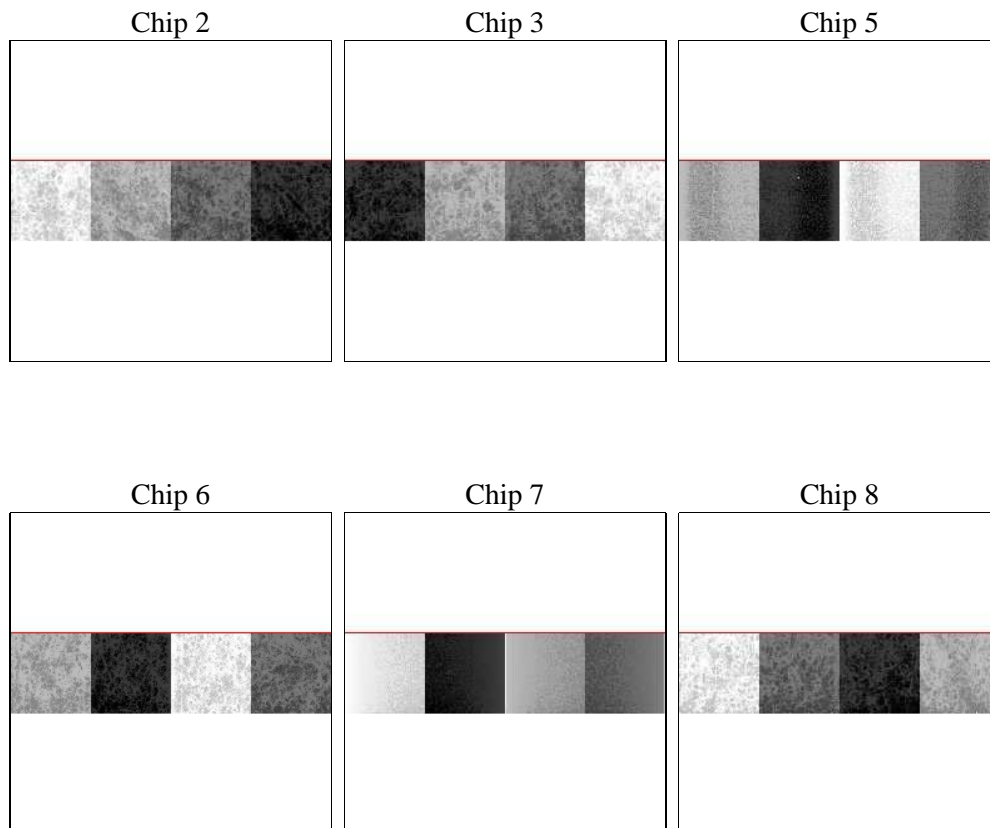
2 OBI

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	8.5.1.1	Processing system revision	ontime	2141.699988395	Sum of GTIs [s]
caldbver	4.5.5	 	ontime2	1035.0934174061	Sum of GTIs [s]
date	2013-01-03T21:10:15	Date and time of file creation	ontime3	1206.411424607	Sum of GTIs [s]
revision	3	Processing version of data	ontime5	2141.699988395	Sum of GTIs [s]
			ontime6	1362.3881210983	Sum of GTIs [s]
			ontime7	2141.699988395	Sum of GTIs [s]
			ontime8	1368.4773231596	Sum of GTIs [s]
			l1events	350738	Number of level 1 events

2.1.4 Events

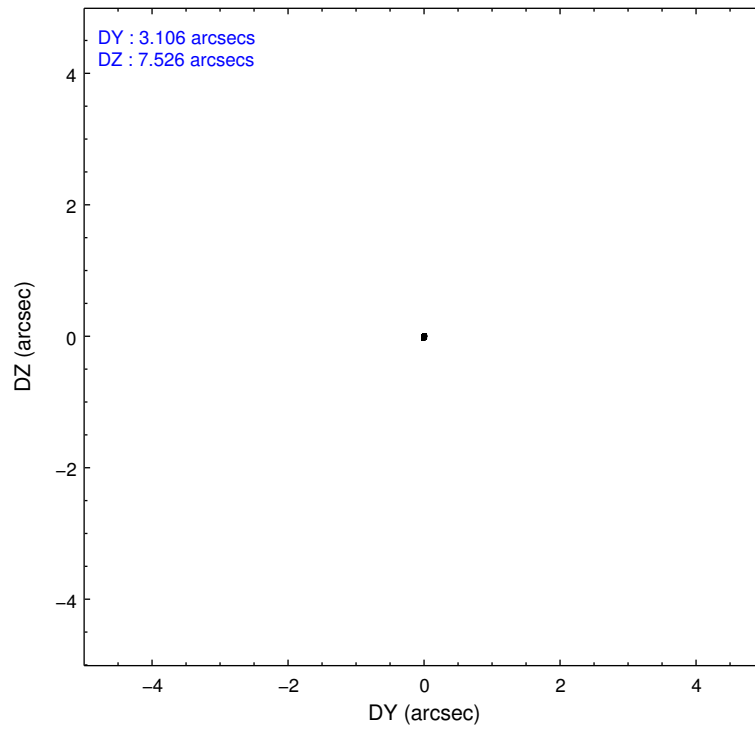
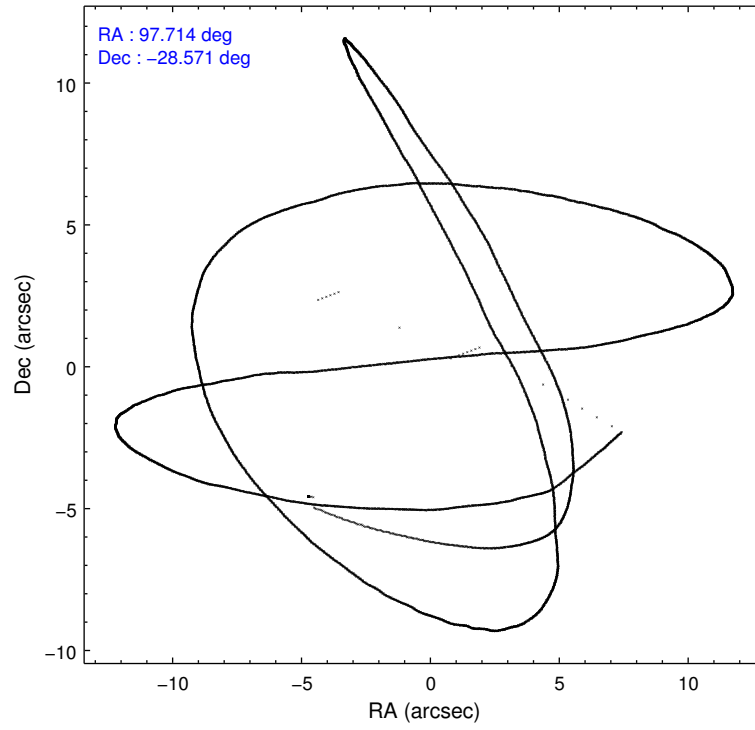
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	53686	57474	48979	82238	37730	70631
rejected events	50872	54345	15774	63290	11180	59605
rejected %	94%	94%	32%	76%	29%	84%

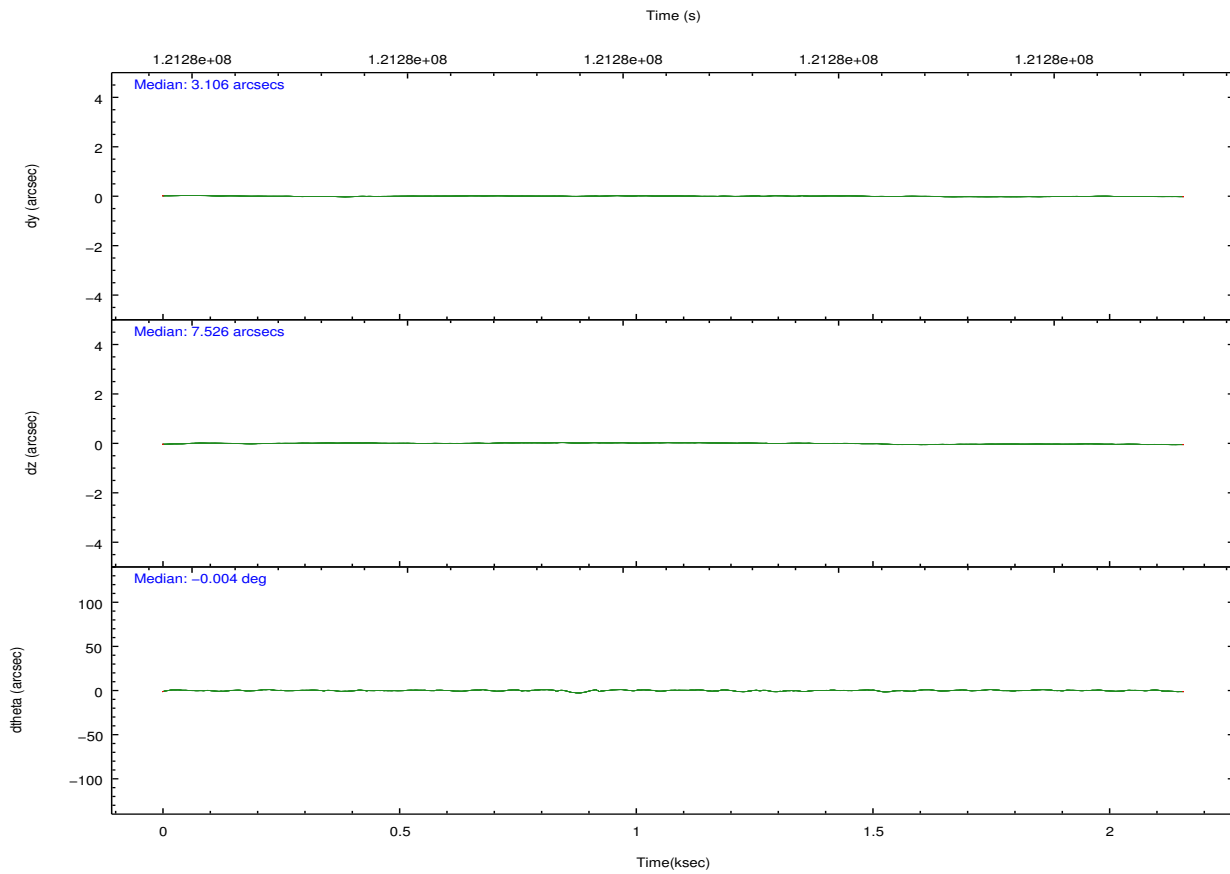
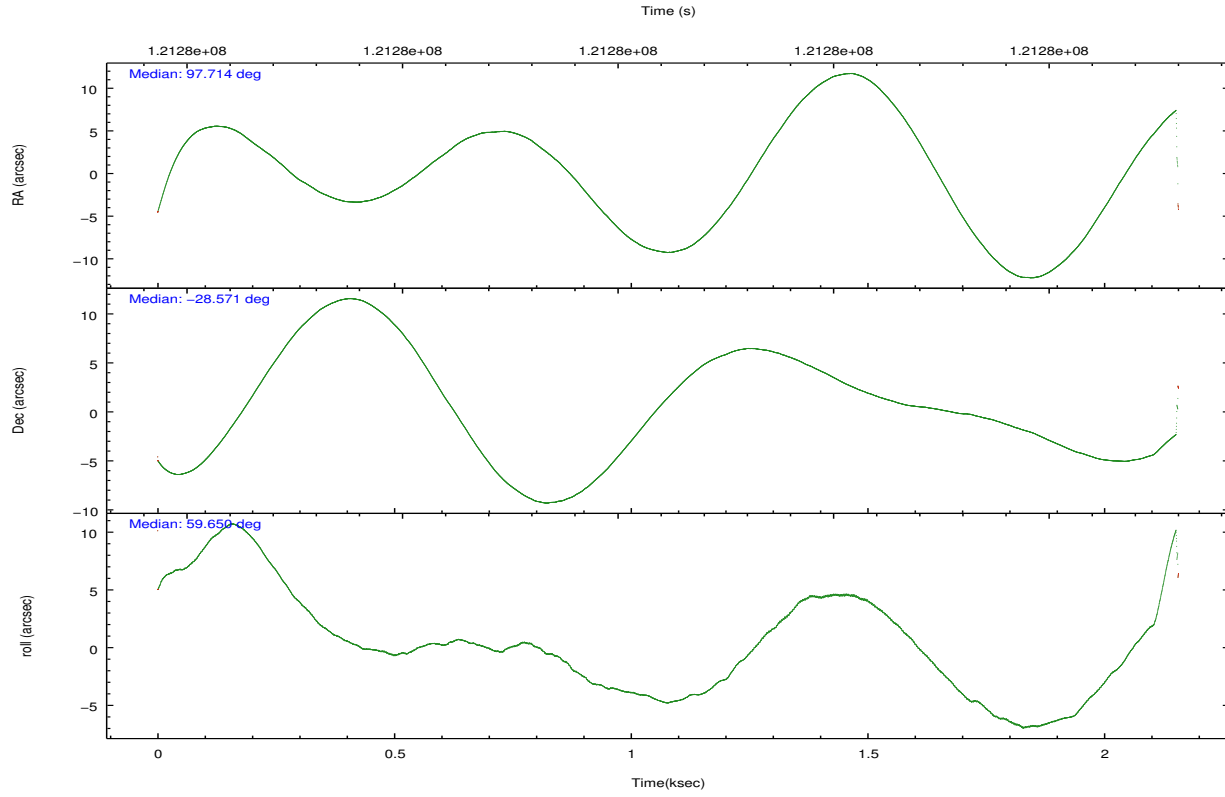
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	1404	1519	4947	2322	3463	3723
	2%	2%	10%	2%	9%	5%
grade 1 events	53	65	302	3846	132	135
	0%	0%	0%	4%	0%	0%
grade 2 events	405	398	13650	5268	7336	2414
	0%	0%	27%	6%	19%	3%
grade 3 events	389	526	2582	4334	3149	1466
	0%	0%	5%	5%	8%	2%
grade 4 events	448	480	2440	3186	2839	1360
	0%	0%	4%	3%	7%	1%
grade 5 events	162	221	2774	9078	1847	553
	0%	0%	5%	11%	4%	0%
grade 6 events	289	337	10412	4129	10360	2363
	0%	0%	21%	5%	27%	3%
grade 7 events	50536	53928	11872	50075	8604	58617
	94%	93%	24%	60%	22%	82%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-235678	ACIS-235678	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	97.713627	97.71335061923986	Subarray requested	CUSTOM	1/4
[deg] Pointing Dec	-28.598654	-28.57140395913322	Subarray start row	385	385
[deg] Pointing Roll	59.496546	59.65308596940258	Subarray row count	256	256
[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	1.1
[mm] SIM translation stage pos	-190.132523	-190.1425803651734			
[mm] SIM translation stage offset	0	0.01005778216563158			
[s] Observation start time (MET)	121281154.184000	121279983.07625			
Observation start date	2001-11-04T17:11:30	2001-11-04T16:53:03			
[s] Observation end time (MET)	121301154.184000	121282704.45135			
Observation end date	2001-11-04T22:44:50	2001-11-04T17:38:24			
Read mode	TIMED	TIMED			

2.3 Aspect



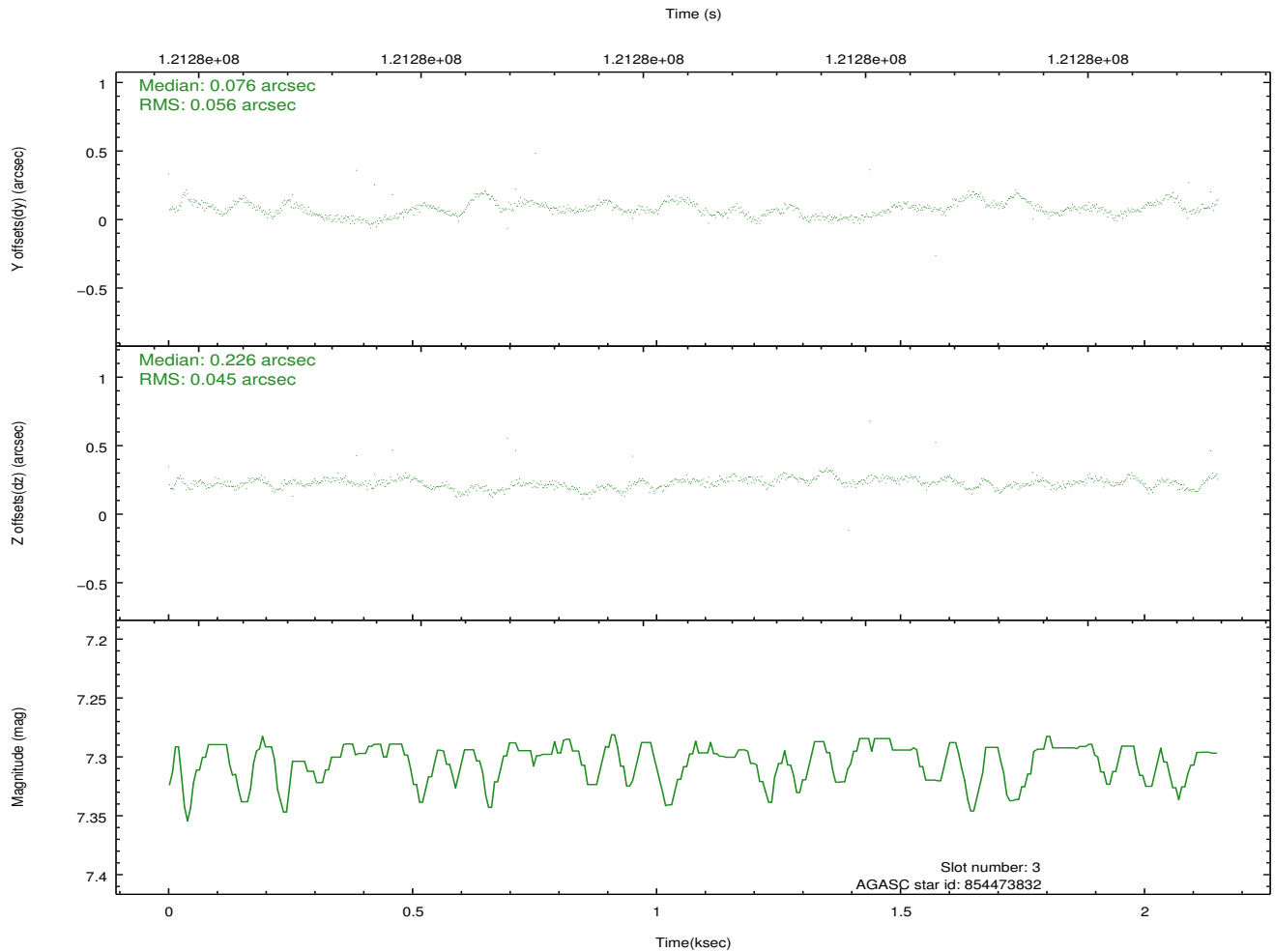
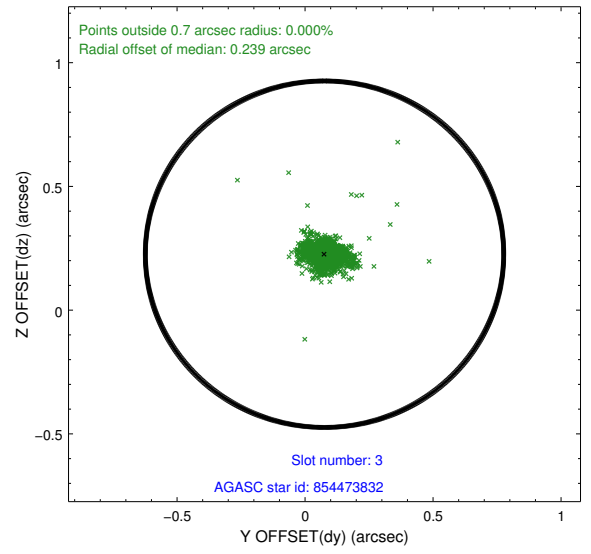
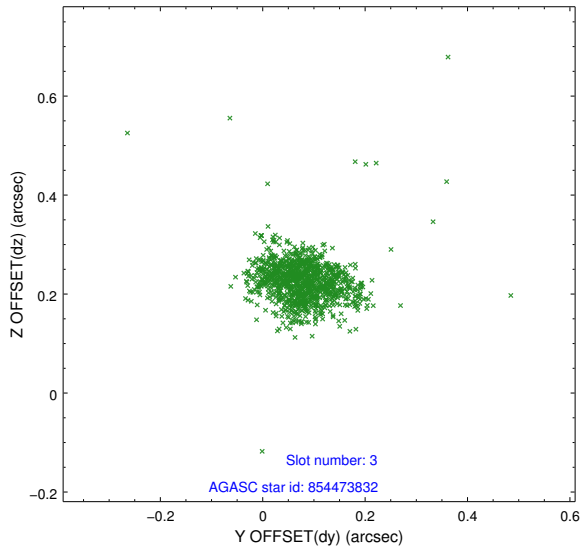


Slot Statistics

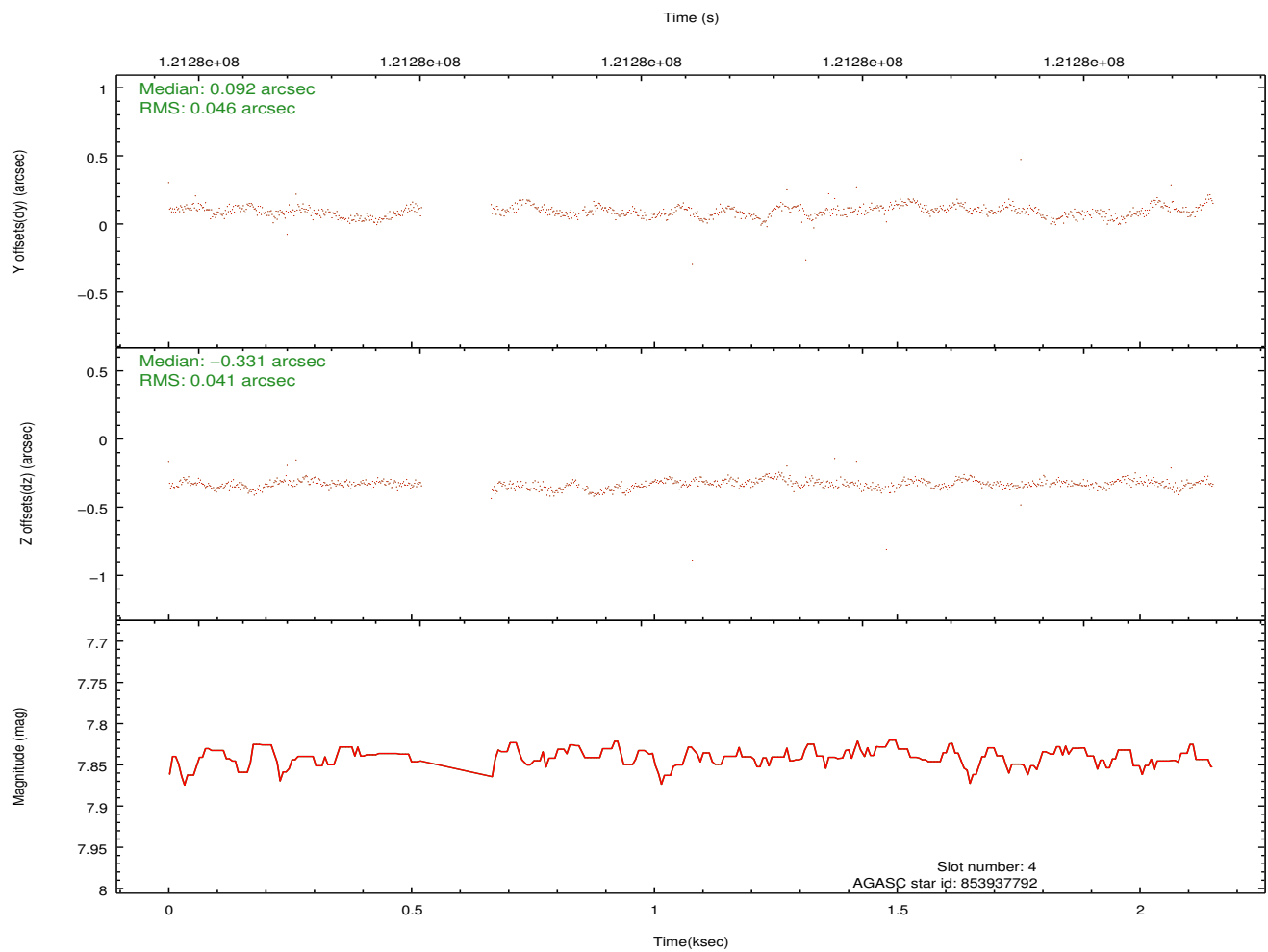
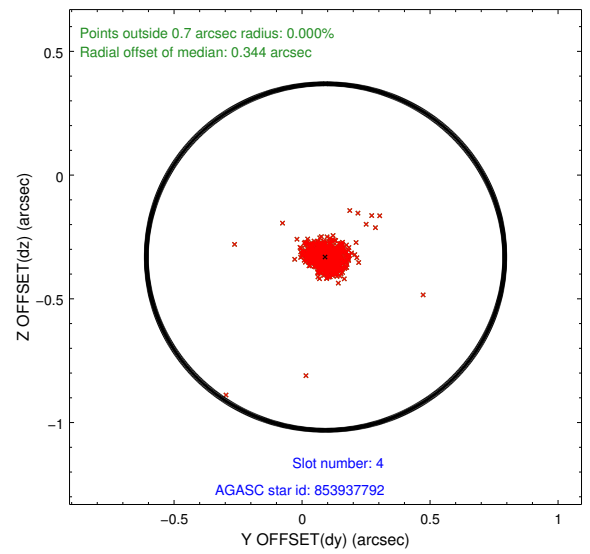
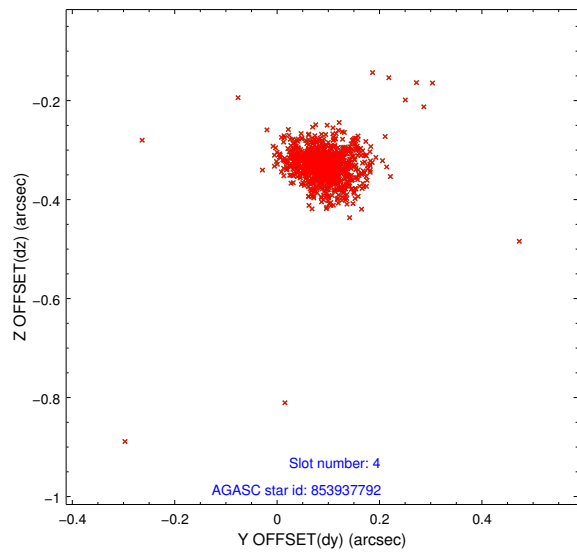
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	7.19	525	0.033	-0.044	0.009	0.015	0.000000	0.000000	940.28	-1724.34
1	FID	ACIS-S-5	7.24	524	-0.009	0.038	0.007	0.015	0.000000	0.000000	-1807.01	170.24
2	FID	ACIS-S-6	7.35	523	-0.046	0.016	0.008	0.016	0.000000	0.000000	402.53	817.56
3	GUIDE	854473832	7.30	1046	0.076	0.226	0.066	0.114	97.984344	-29.309659	-1774.61	-2031.87
4	BAD	853937792	7.84	964	0.092	-0.331	0.054	0.090	98.001643	-28.031039	2222.30	246.20
5	GUIDE	854464176	8.65	1025	-0.288	-0.103	0.115	0.173	97.178346	-28.237486	257.10	2120.98
6	GUIDE	854468048	9.39	1028	0.022	-0.110	0.112	0.186	96.778209	-28.827020	-2215.70	2120.60
7	GUIDE	854467712	9.99	1007	0.103	0.300	0.132	0.211	98.306328	-28.977117	-232.39	-2299.78

2.4 Star Slots

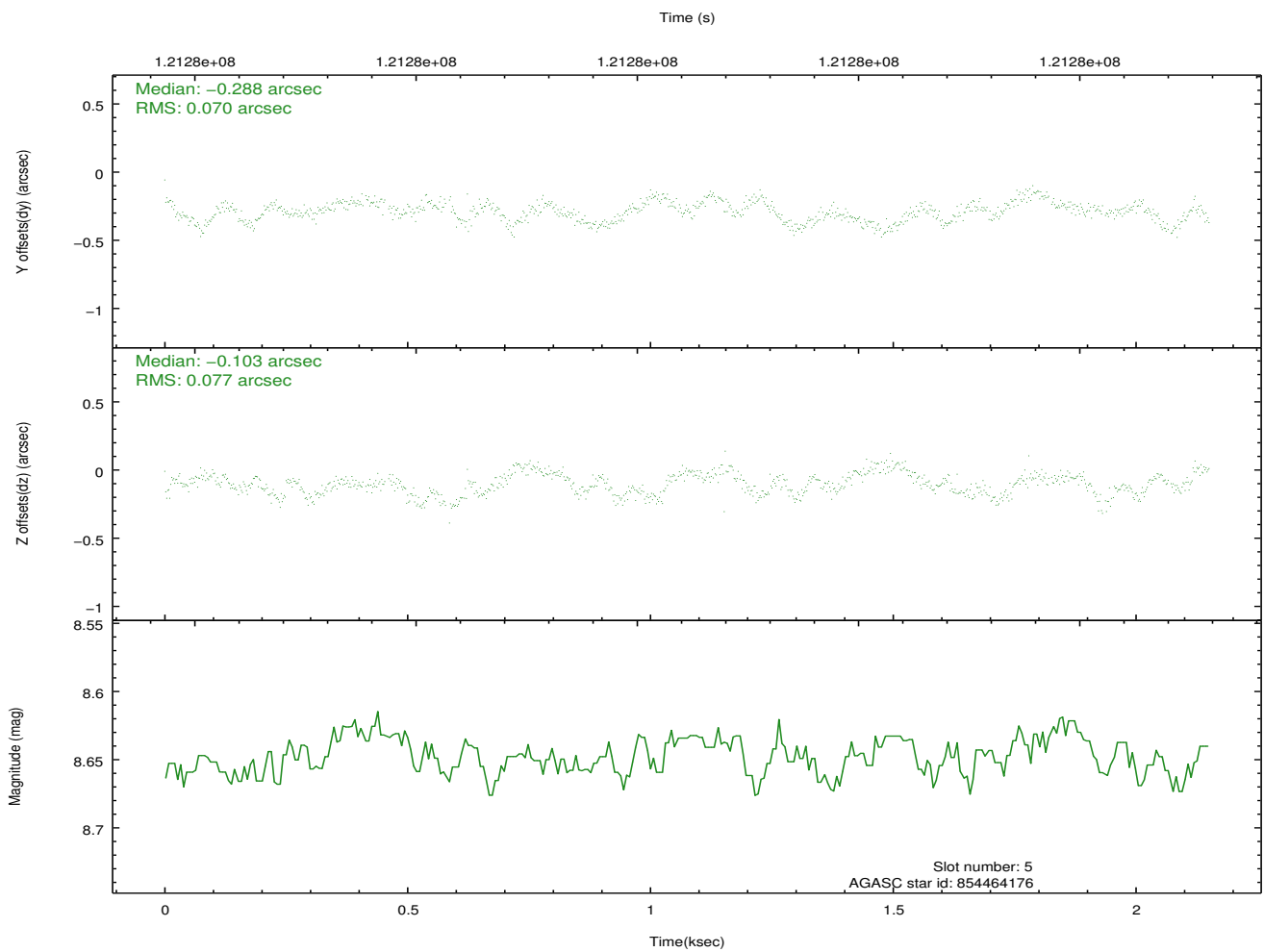
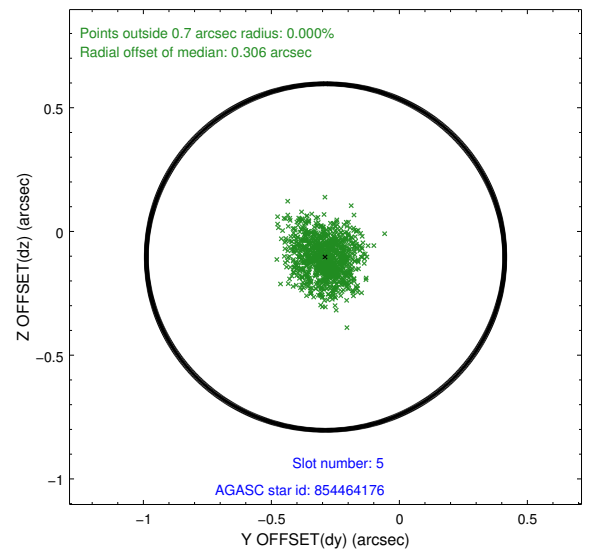
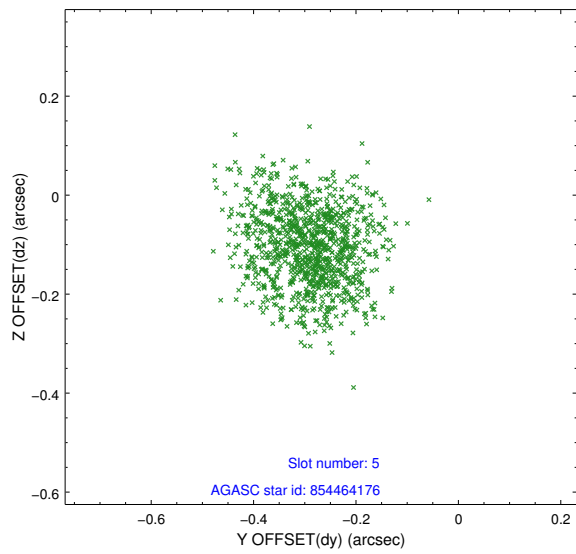
2.4.1 Slot 3



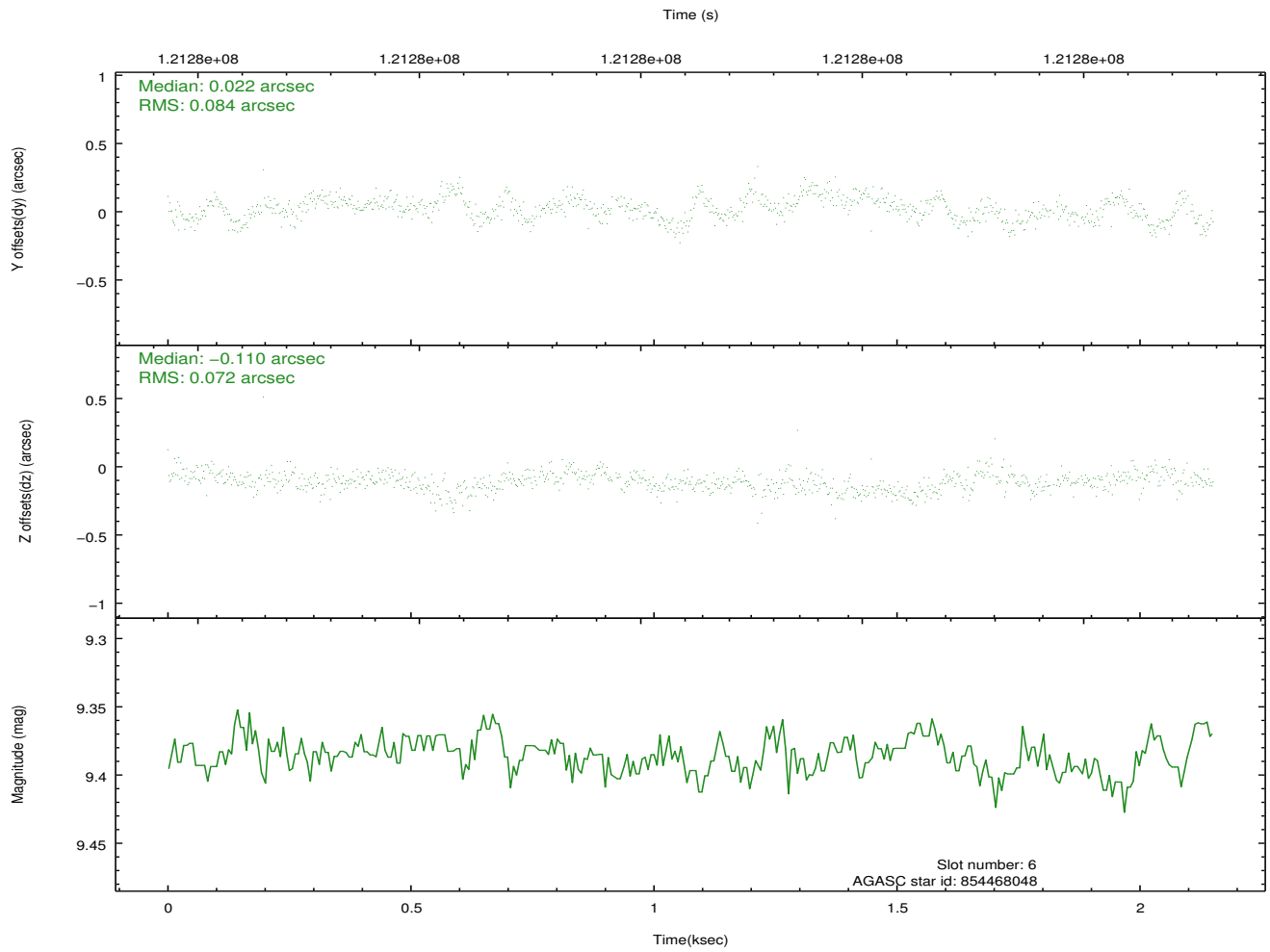
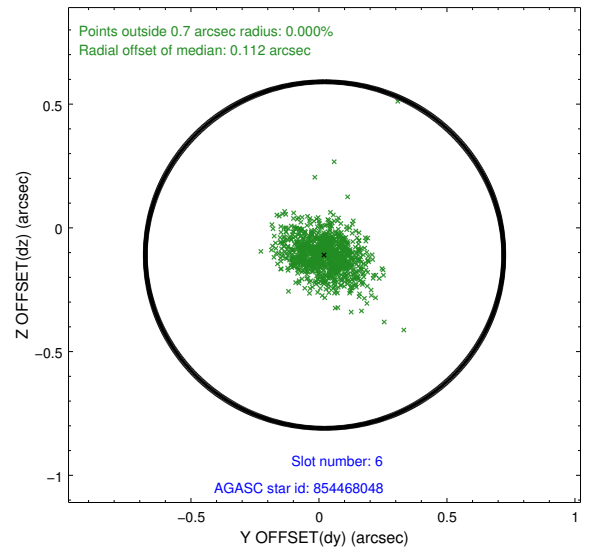
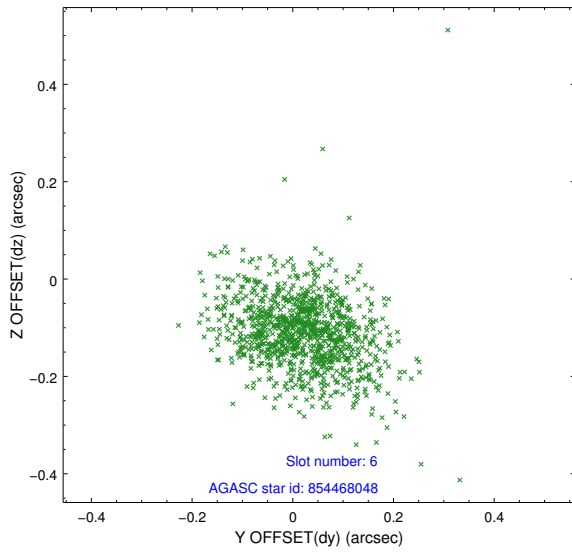
2.4.2 Slot 4



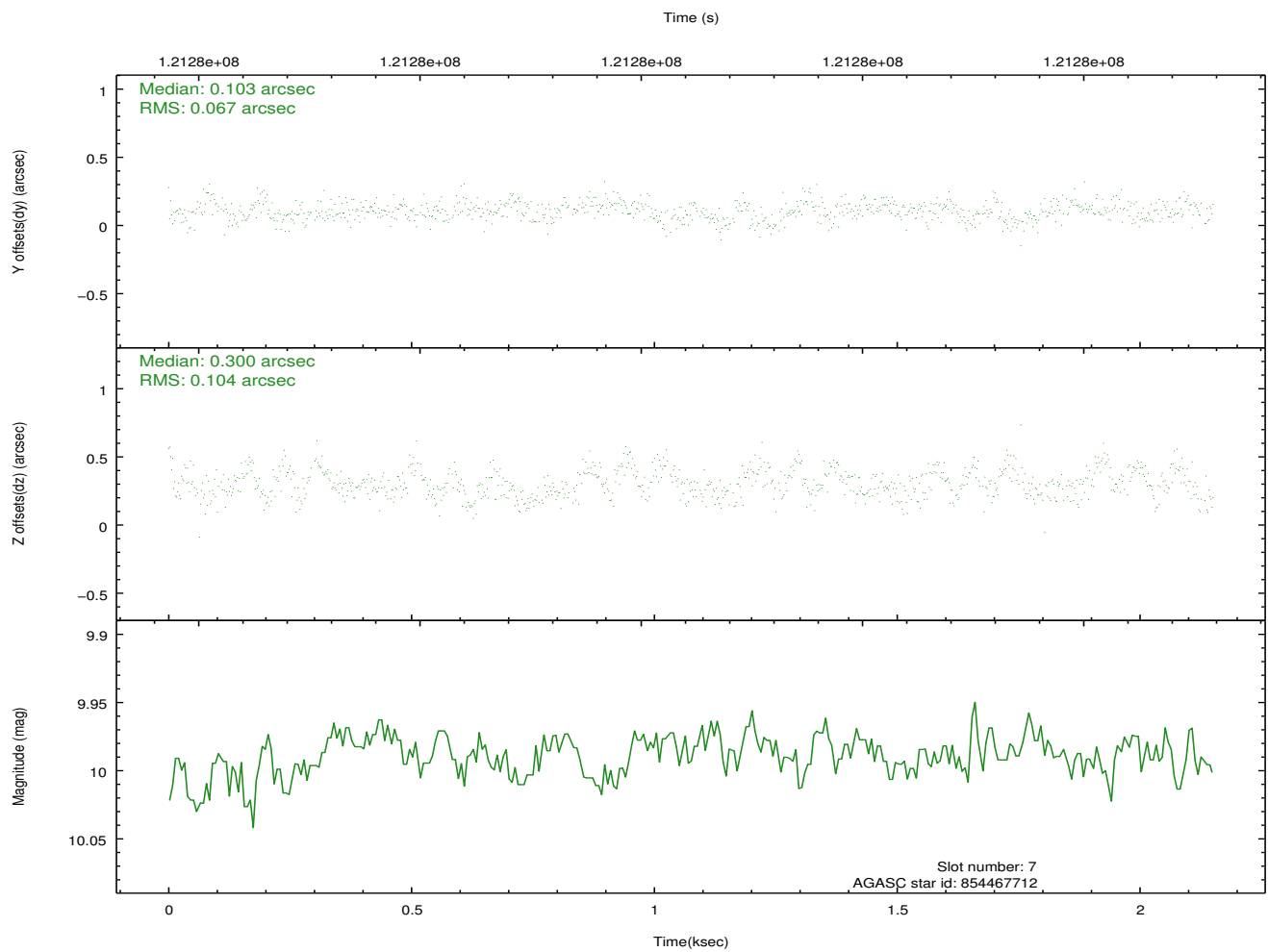
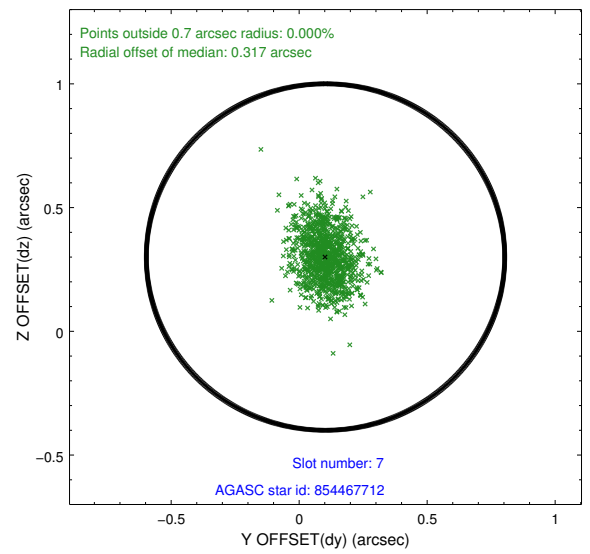
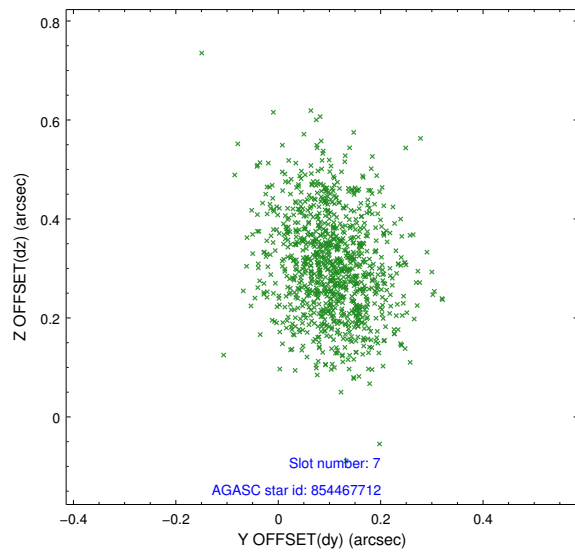
2.4.3 Slot 5



2.4.4 Slot 6

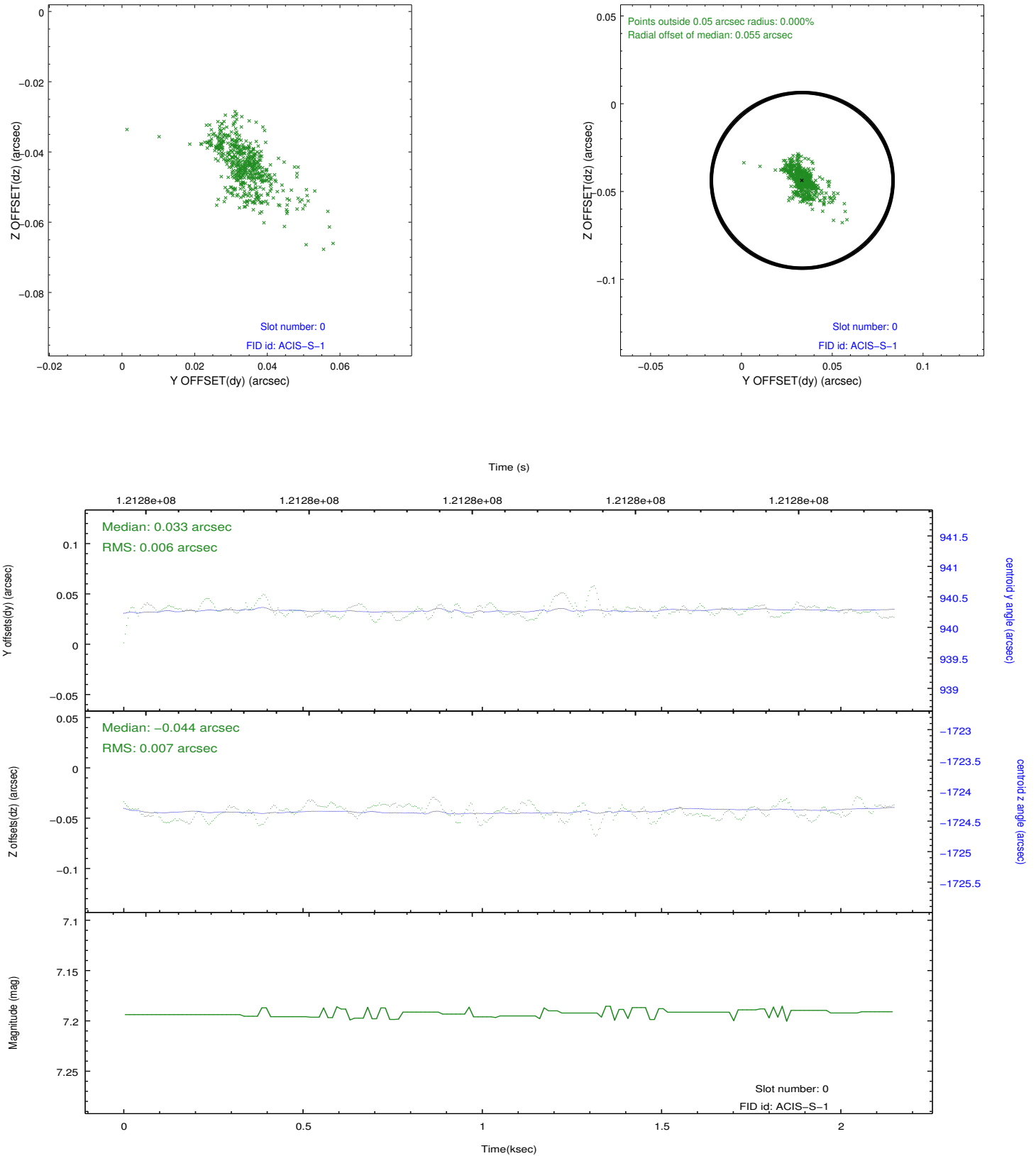


2.4.5 Slot 7

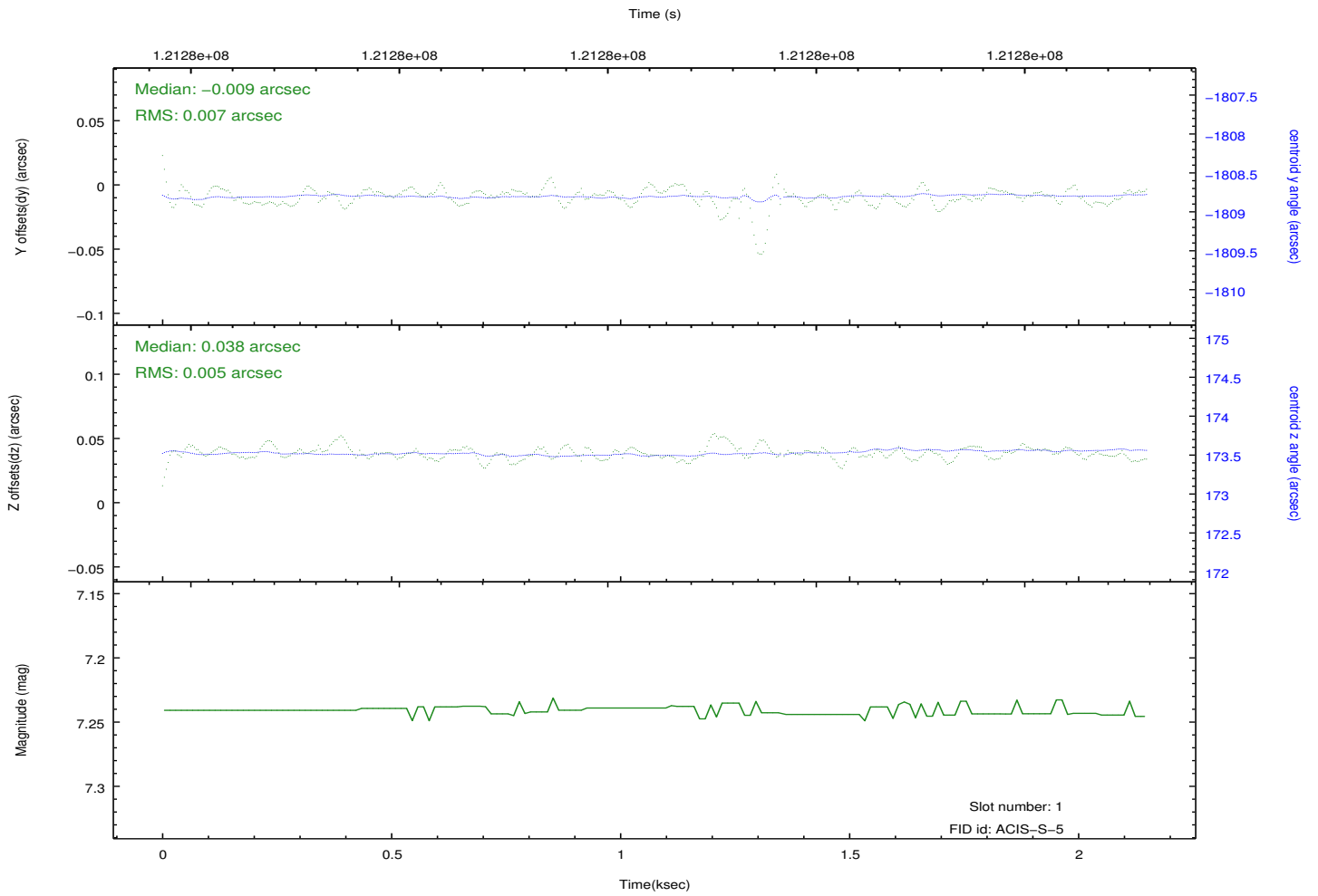
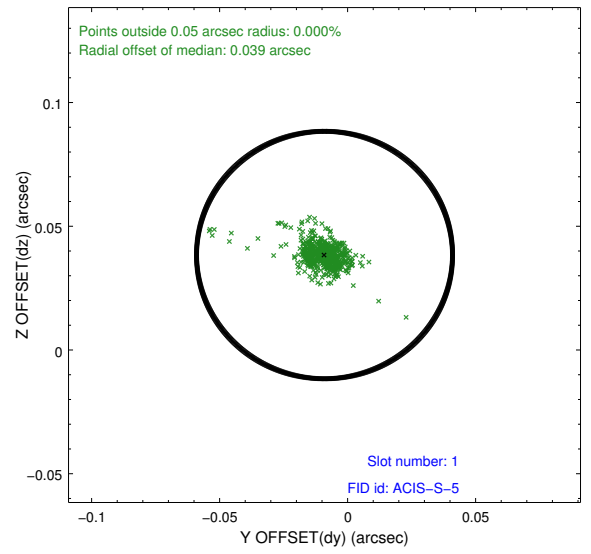
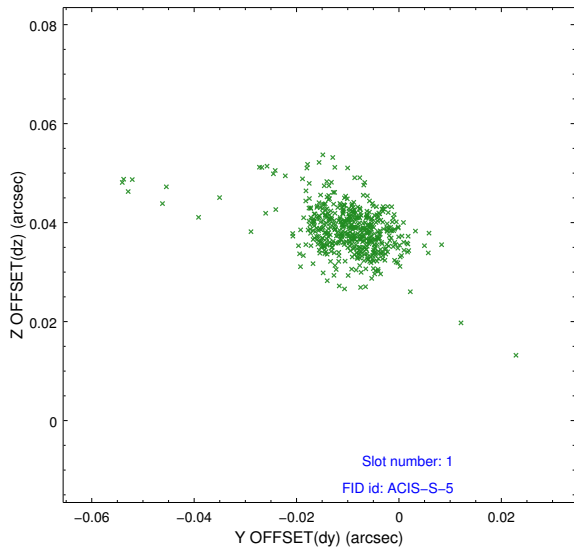


2.5 FID Slots

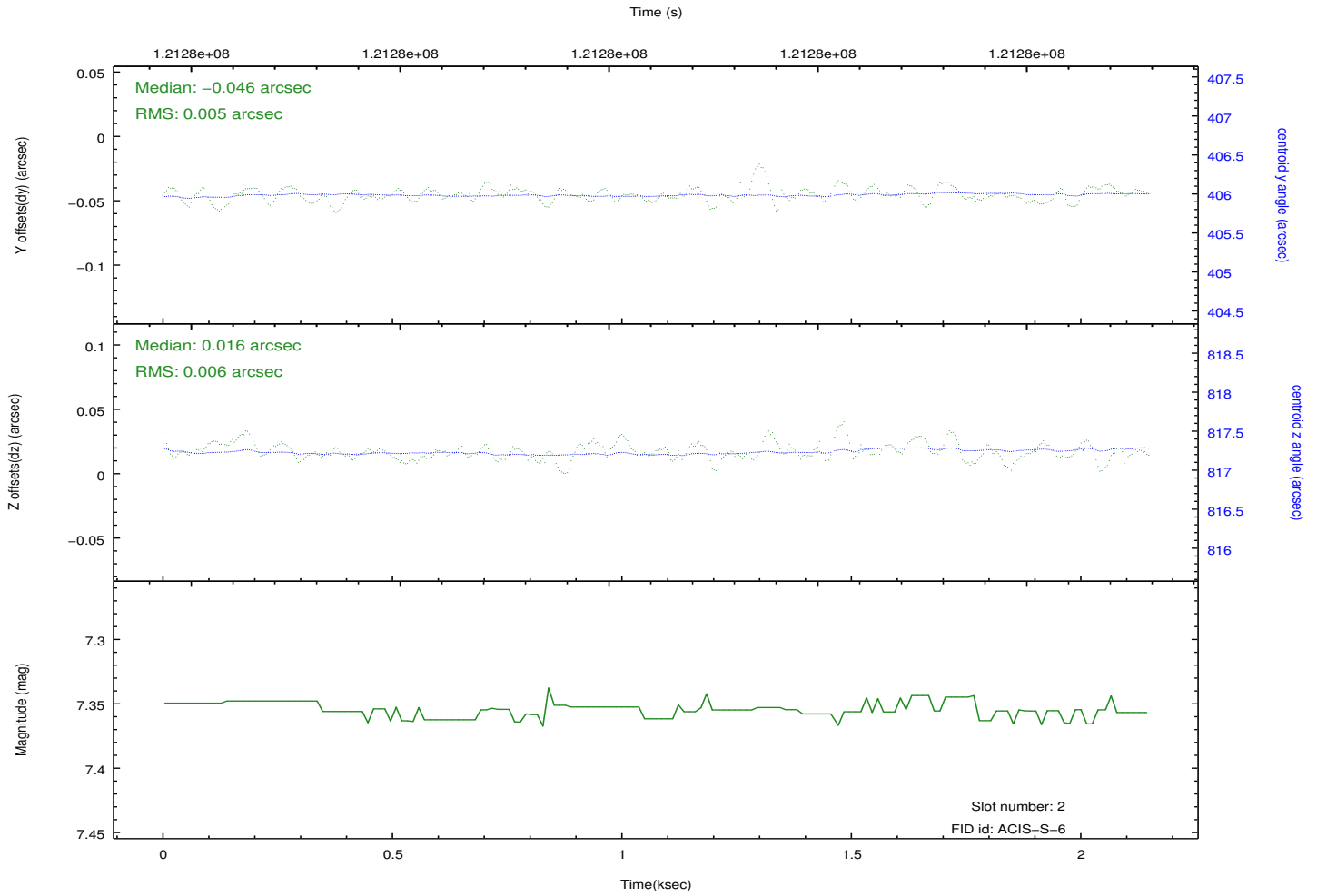
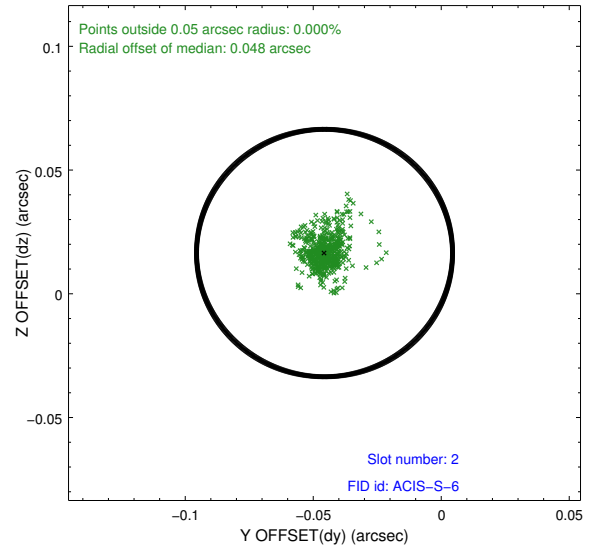
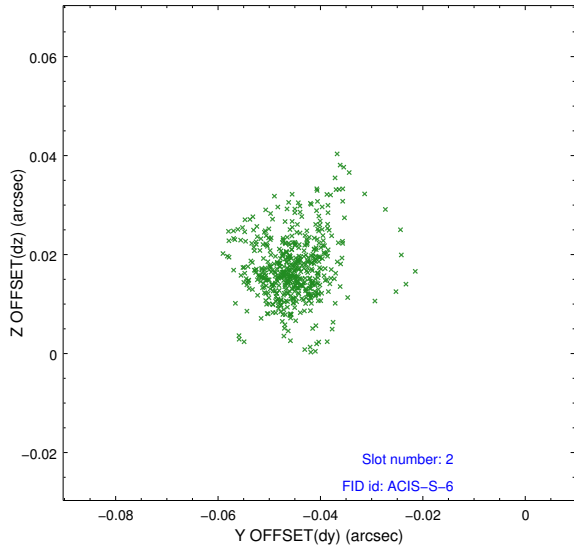
2.5.1 Slot 0



2.5.2 Slot 1



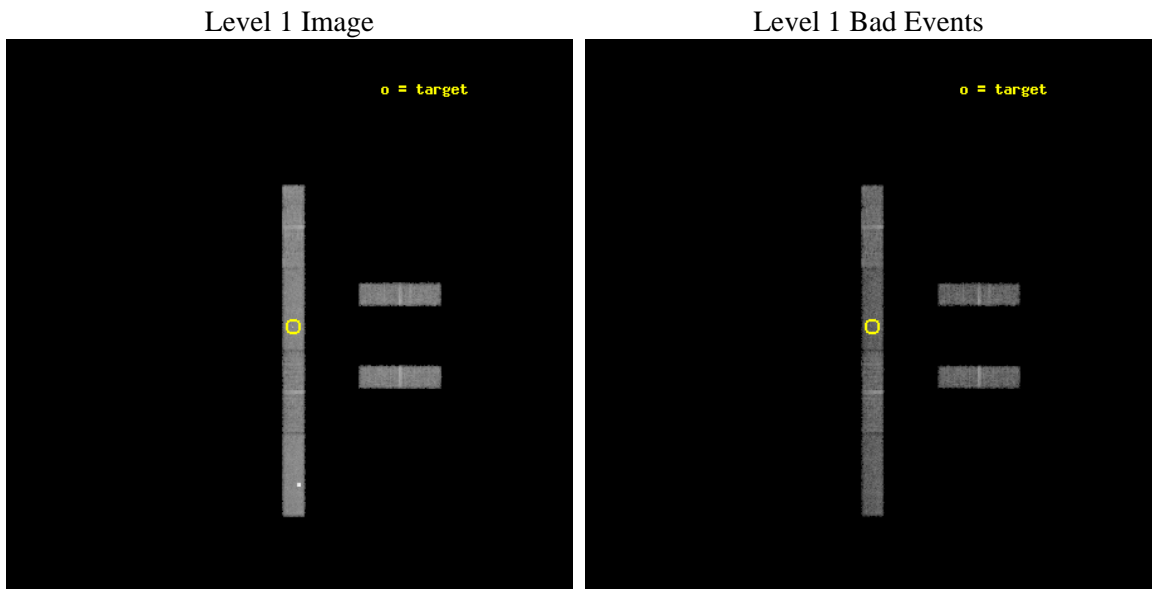
2.5.3 Slot 2



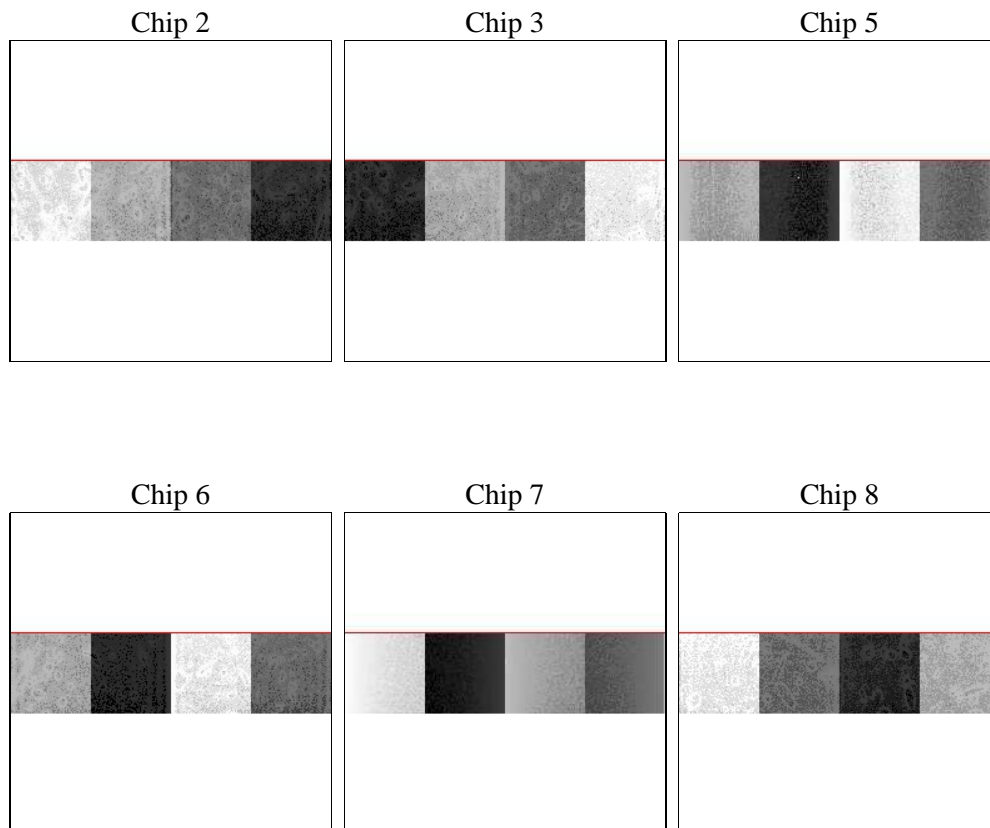
3 OBI

3.1 OBI

3.1.1 Images



3.1.2 Bias



3.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	17000.000000	[s] Scheduled observation exposure time
ascdsver	8.5.1.1	Processing system revision	ontime	17135.799907148	Sum of GTIs [s]
caldbver	4.5.5	 	ontime2	17134.658897057	Sum of GTIs [s]
date	2013-01-03T21:40:05	Date and time of file creation	ontime3	17135.799907148	Sum of GTIs [s]
revision	3	Processing version of data	ontime5	17135.799907148	Sum of GTIs [s]
			ontime6	17135.799907148	Sum of GTIs [s]
			ontime7	17135.799907148	Sum of GTIs [s]
			ontime8	17135.799907148	Sum of GTIs [s]
			l1events	228296	Number of level 1 events

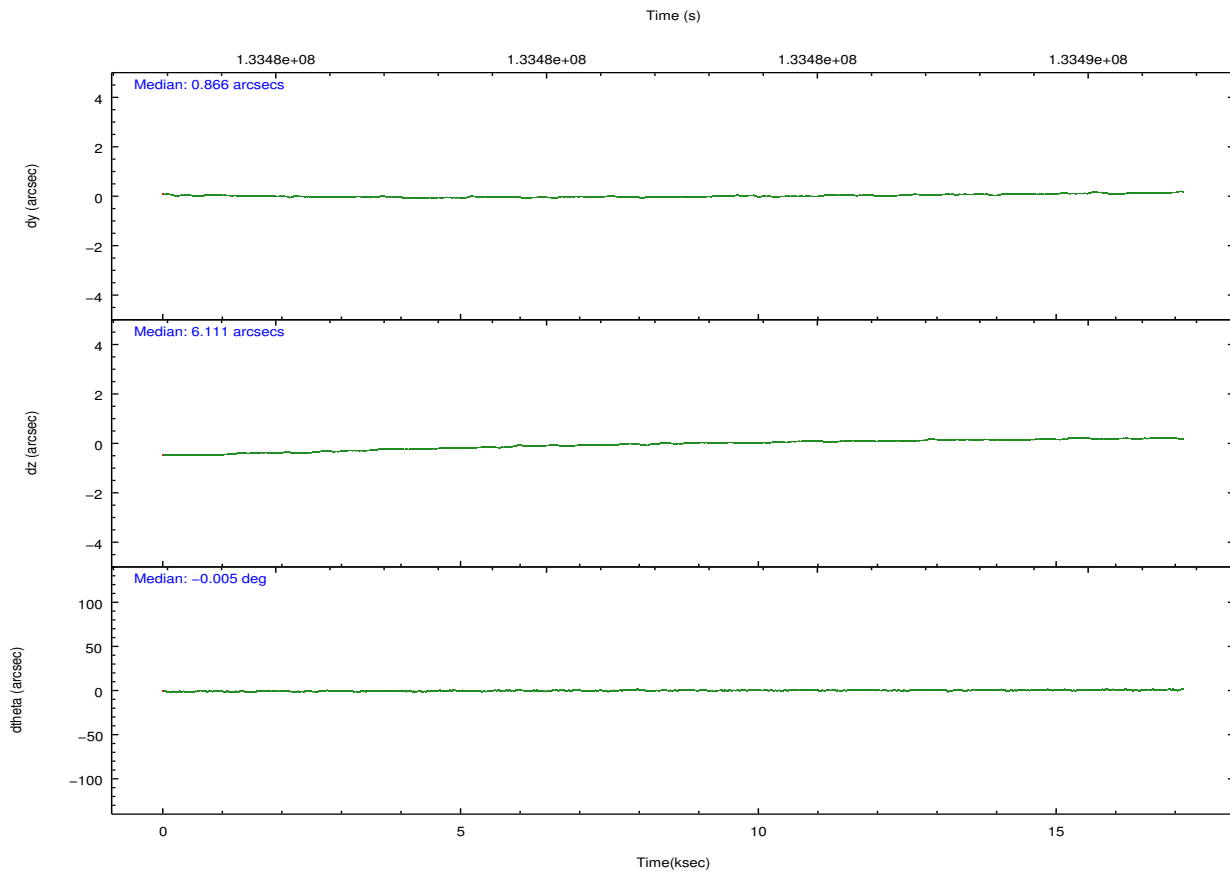
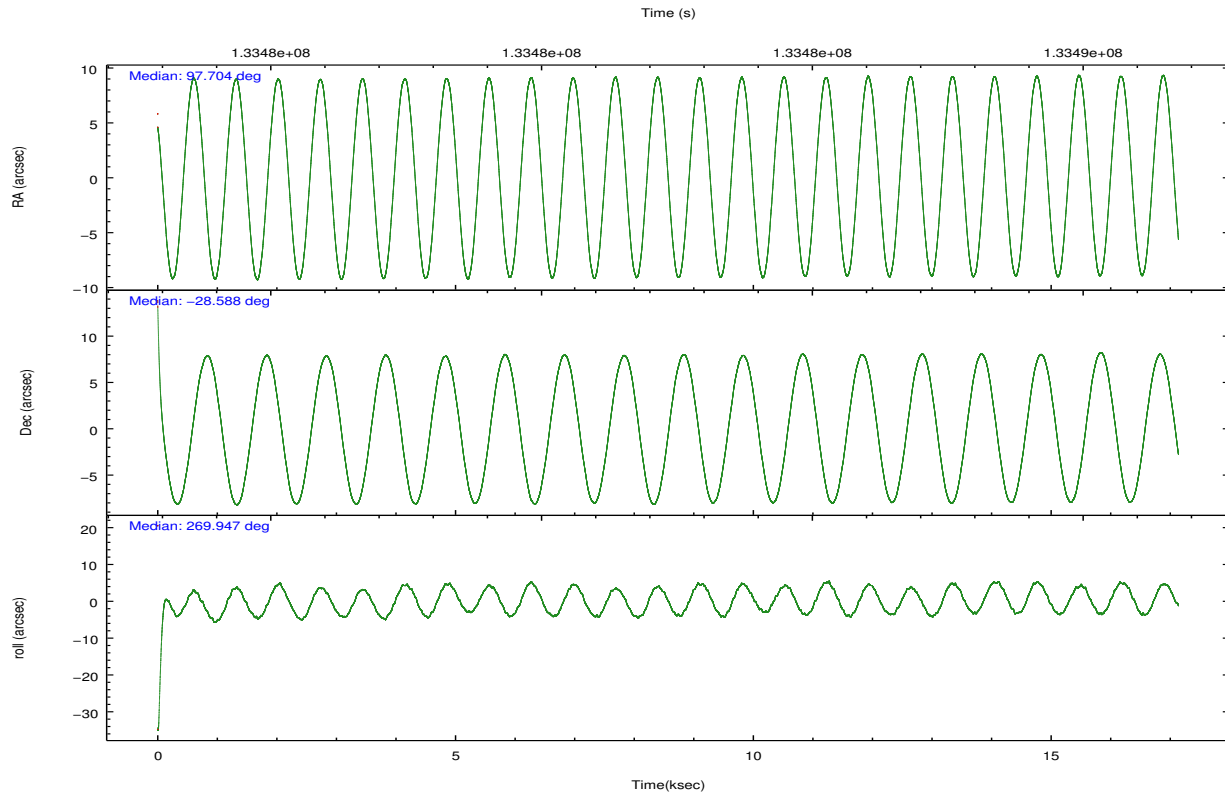
3.1.4 Events

	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	33263	30618	52872	32373	36656	42514	grade 0 events	1467	1389	11817	1333	1675	2783
rejected events	29485	27152	22007	28733	21497	33779		4%	4%	22%	4%	4%	6%
rejected %	88%	88%	41%	88%	58%	79%	grade 1 events	14	14	57	7	40	8
								0%	0%	0%	0%	0%	0%
							grade 2 events	806	647	8945	727	3161	1664
								2%	2%	16%	2%	8%	3%
							grade 3 events	510	458	1178	515	1691	1192
								1%	1%	2%	1%	4%	2%
							grade 4 events	497	494	1084	524	1675	1117
								1%	1%	2%	1%	4%	2%
							grade 5 events	1037	1023	3209	1171	3420	1510
								3%	3%	6%	3%	9%	3%
							grade 6 events	648	599	8925	661	7524	2324
								1%	1%	16%	2%	20%	5%
							grade 7 events	28284	25994	17657	27435	17470	31916
								85%	84%	33%	84%	47%	75%

3.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-235678	ACIS-235678	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	97.688470	97.70429067044546	Subarray requested	CUSTOM	1/4
[deg] Pointing Dec	-28.564895	-28.58832441603754	Subarray start row	385	385
[deg] Pointing Roll	269.787746	269.9519093541105	Subarray row count	256	256
[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	1.1
[mm] SIM translation stage pos	-190.132523	-190.1400660498719			
[mm] SIM translation stage offset	0	0.00754346686406393			
[s] Observation start time (MET)	133473906.184000	133472852.10411			
Observation start date	2002-03-25T20:04:02	2002-03-25T19:47:32			
[s] Observation end time (MET)	133490906.184000	133491572.19237			
Observation end date	2002-03-26T00:47:22	2002-03-26T00:59:32			
Read mode	TIMED	TIMED			

3.3 Aspect

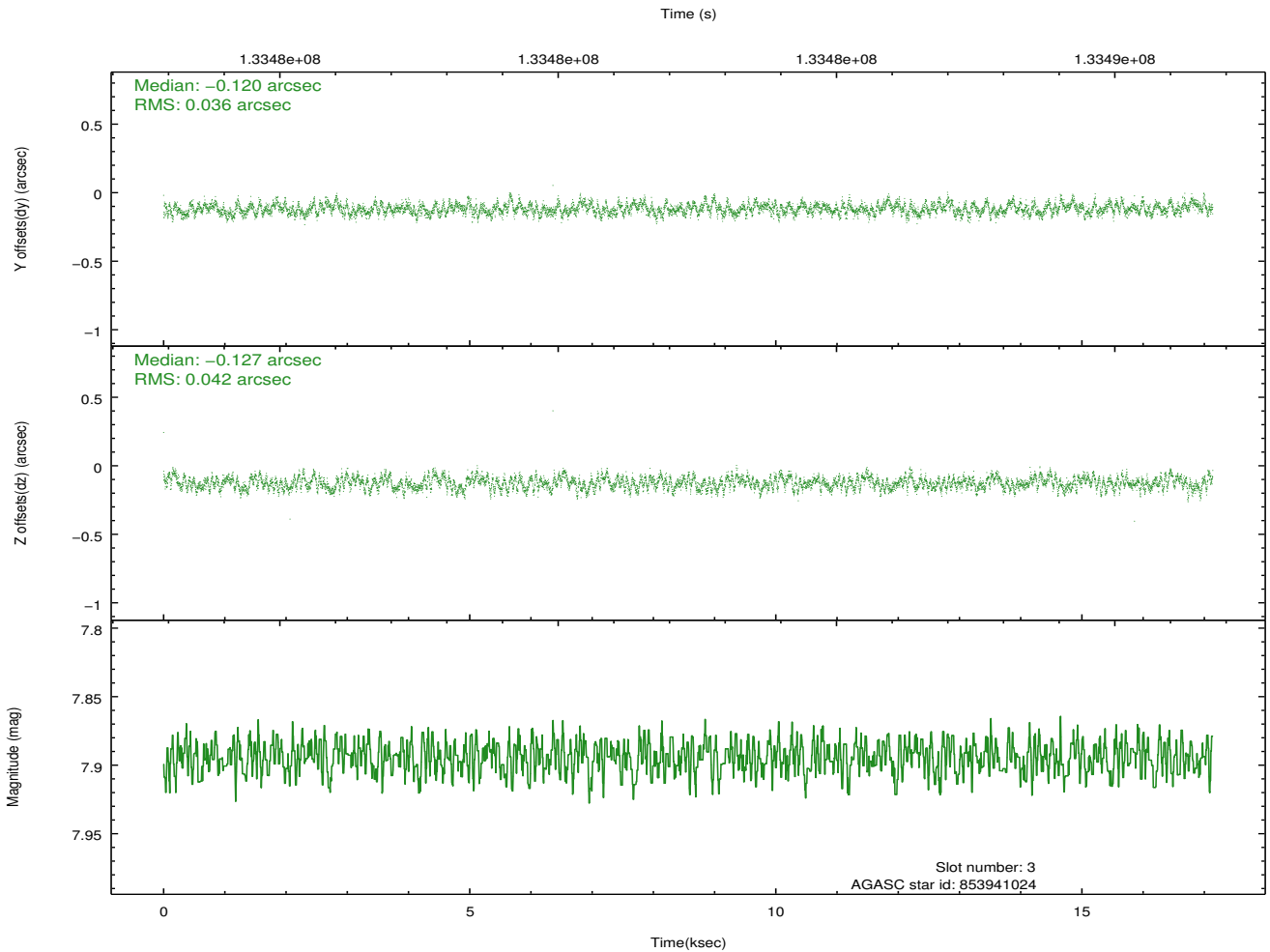
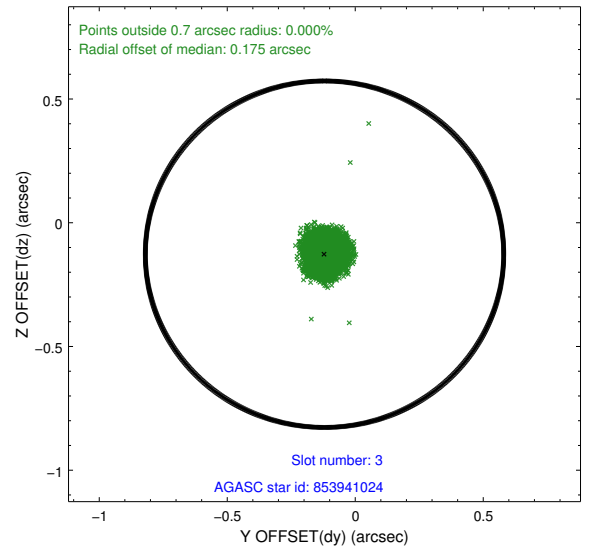
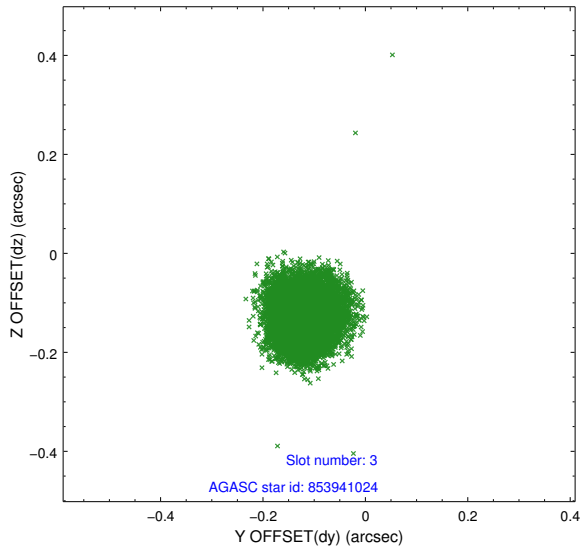


Slot Statistics

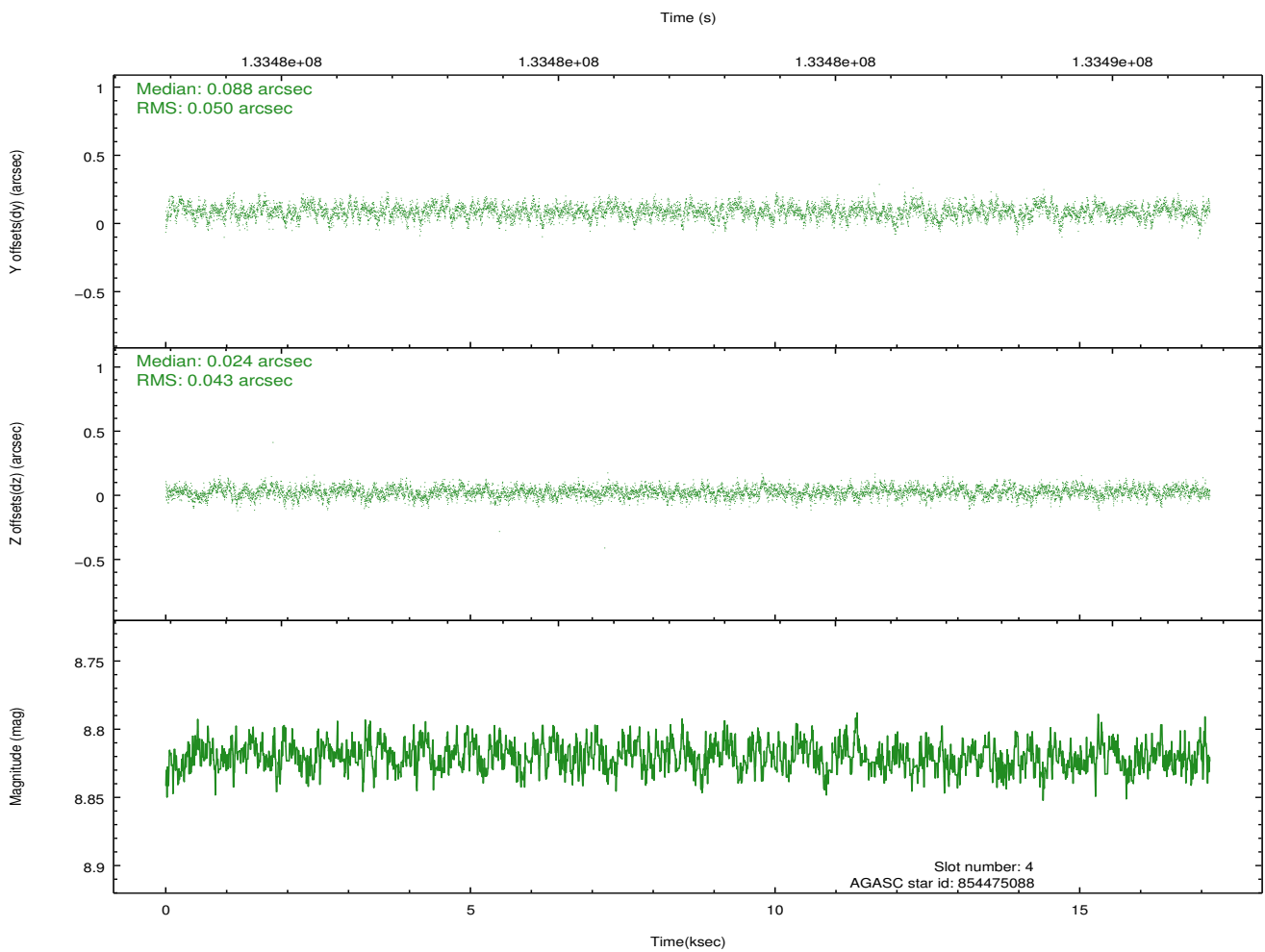
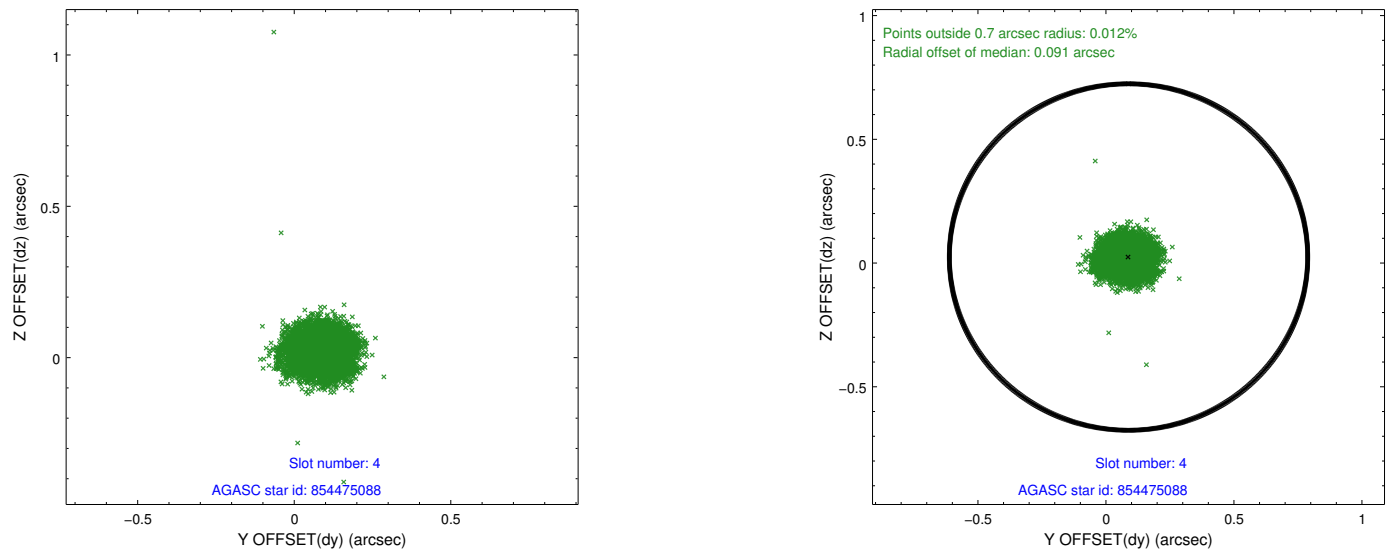
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	7.19	525	0.033	-0.044	0.009	0.015	0.000000	0.000000	940.28	-1724.34
1	FID	ACIS-S-5	7.24	524	-0.009	0.038	0.007	0.015	0.000000	0.000000	-1807.01	170.24
2	FID	ACIS-S-6	7.35	523	-0.046	0.016	0.008	0.016	0.000000	0.000000	402.53	817.56
3	GUIDE	854473832	7.30	1046	0.076	0.226	0.066	0.114	97.984344	-29.309659	-1774.61	-2031.87
4	BAD	853937792	7.84	964	0.092	-0.331	0.054	0.090	98.001643	-28.031039	2222.30	246.20
5	GUIDE	854464176	8.65	1025	-0.288	-0.103	0.115	0.173	97.178346	-28.237486	257.10	2120.98
6	GUIDE	854468048	9.39	1028	0.022	-0.110	0.112	0.186	96.778209	-28.827020	-2215.70	2120.60
7	GUIDE	854467712	9.99	1007	0.103	0.300	0.132	0.211	98.306328	-28.977117	-232.39	-2299.78

3.4 Star Slots

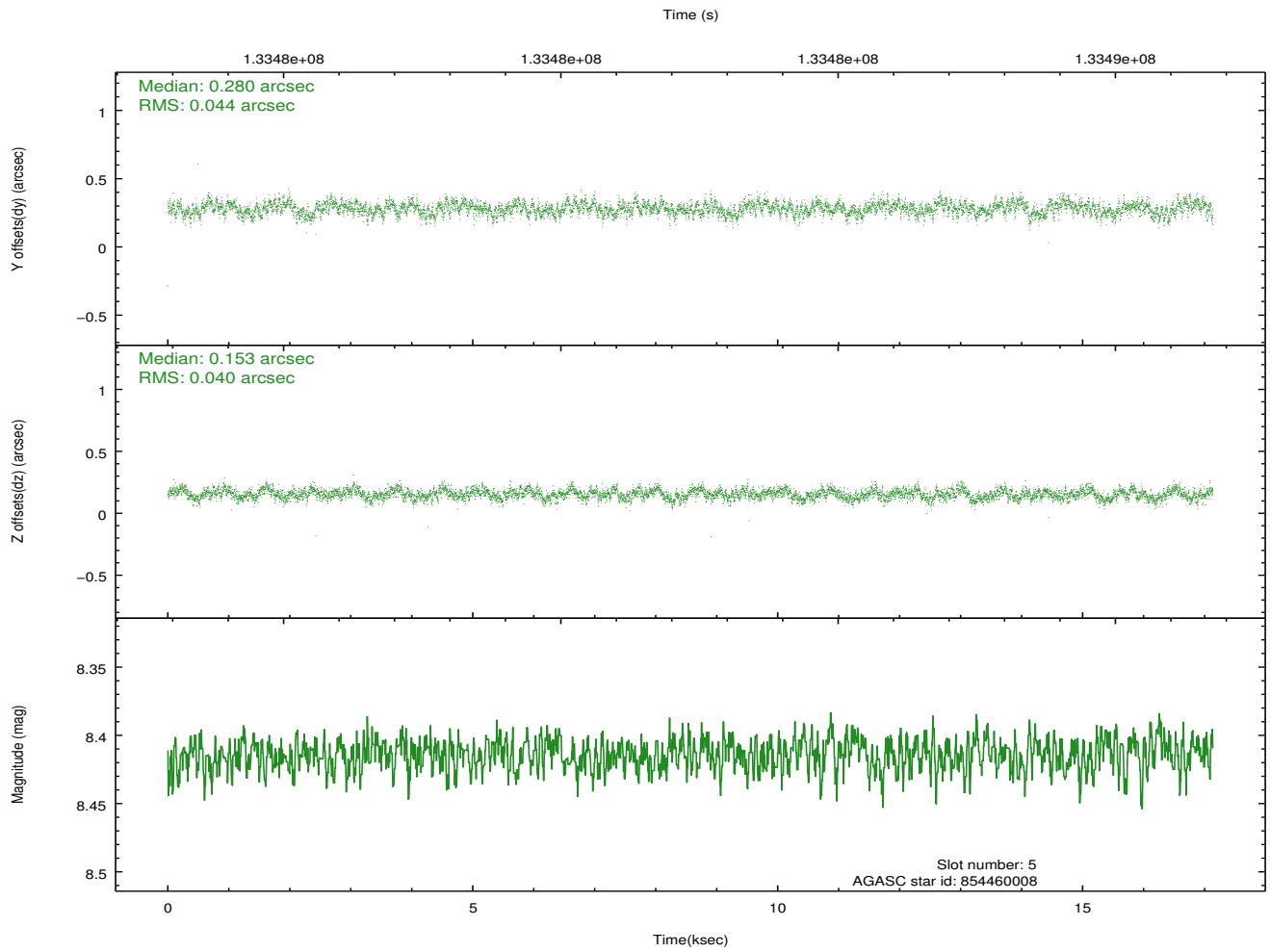
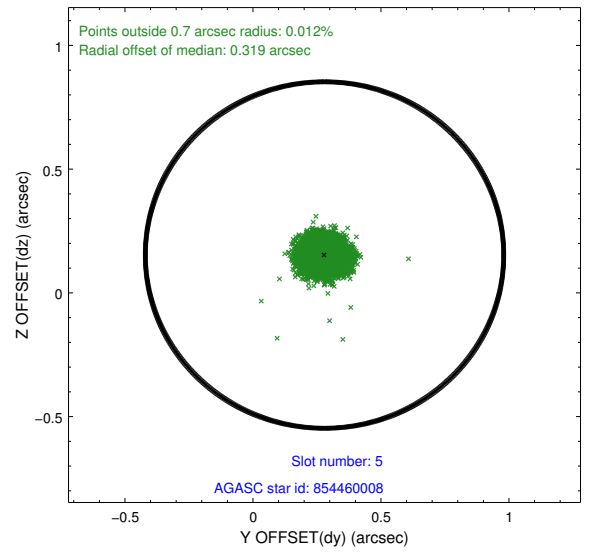
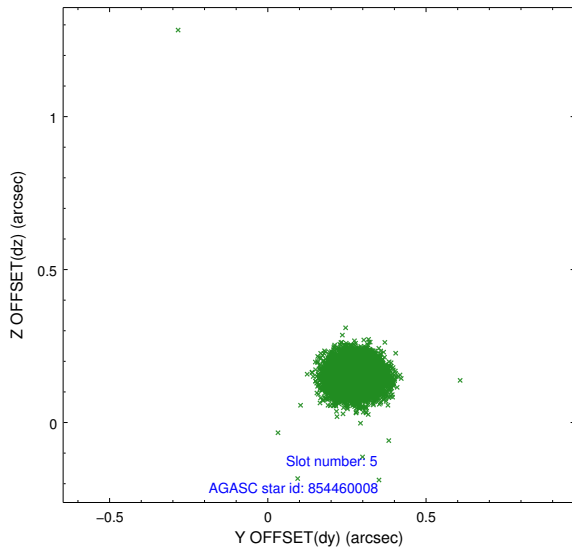
3.4.1 Slot 3



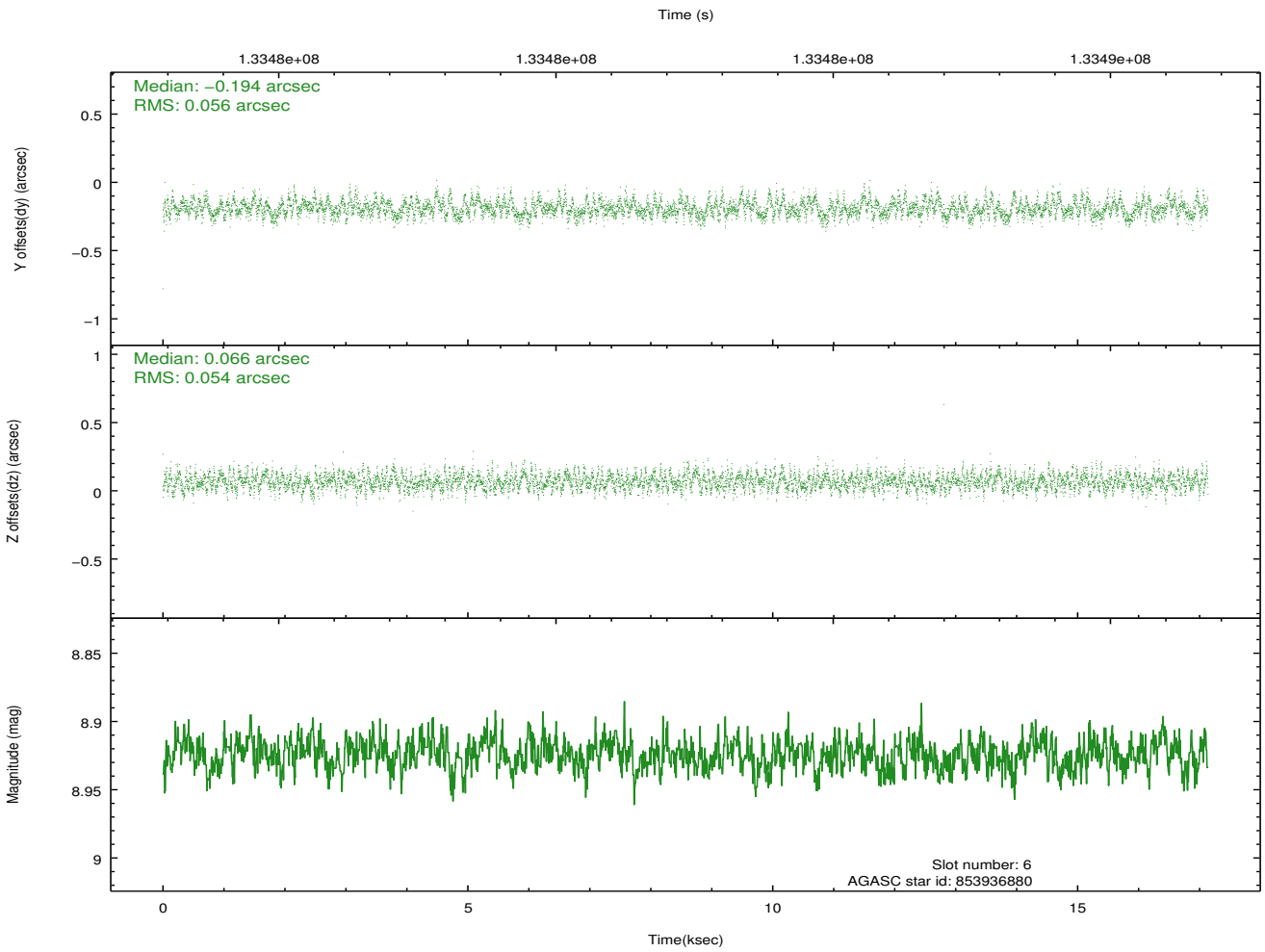
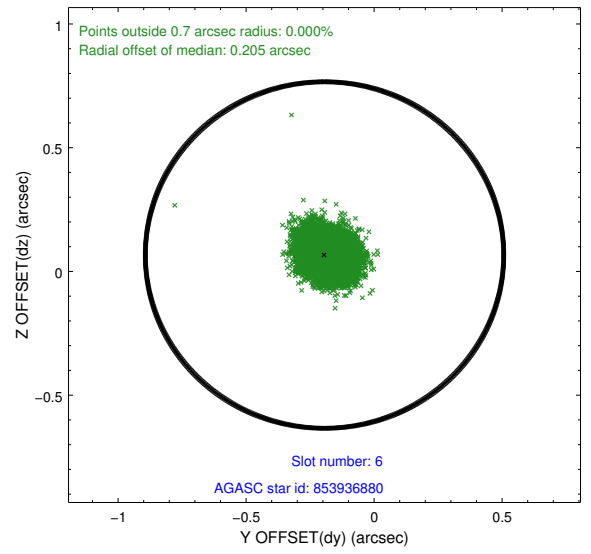
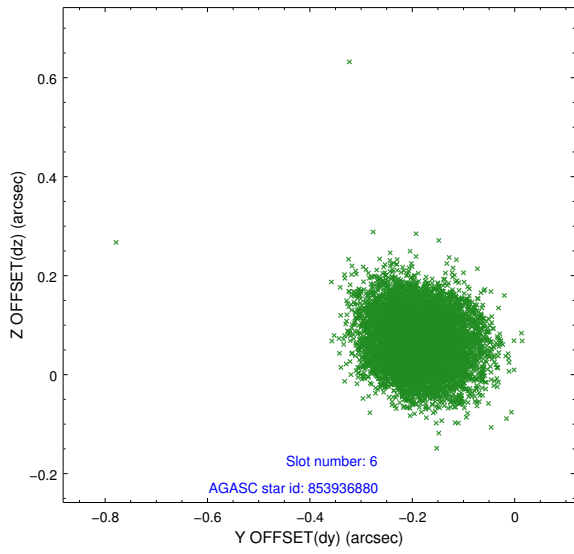
3.4.2 Slot 4



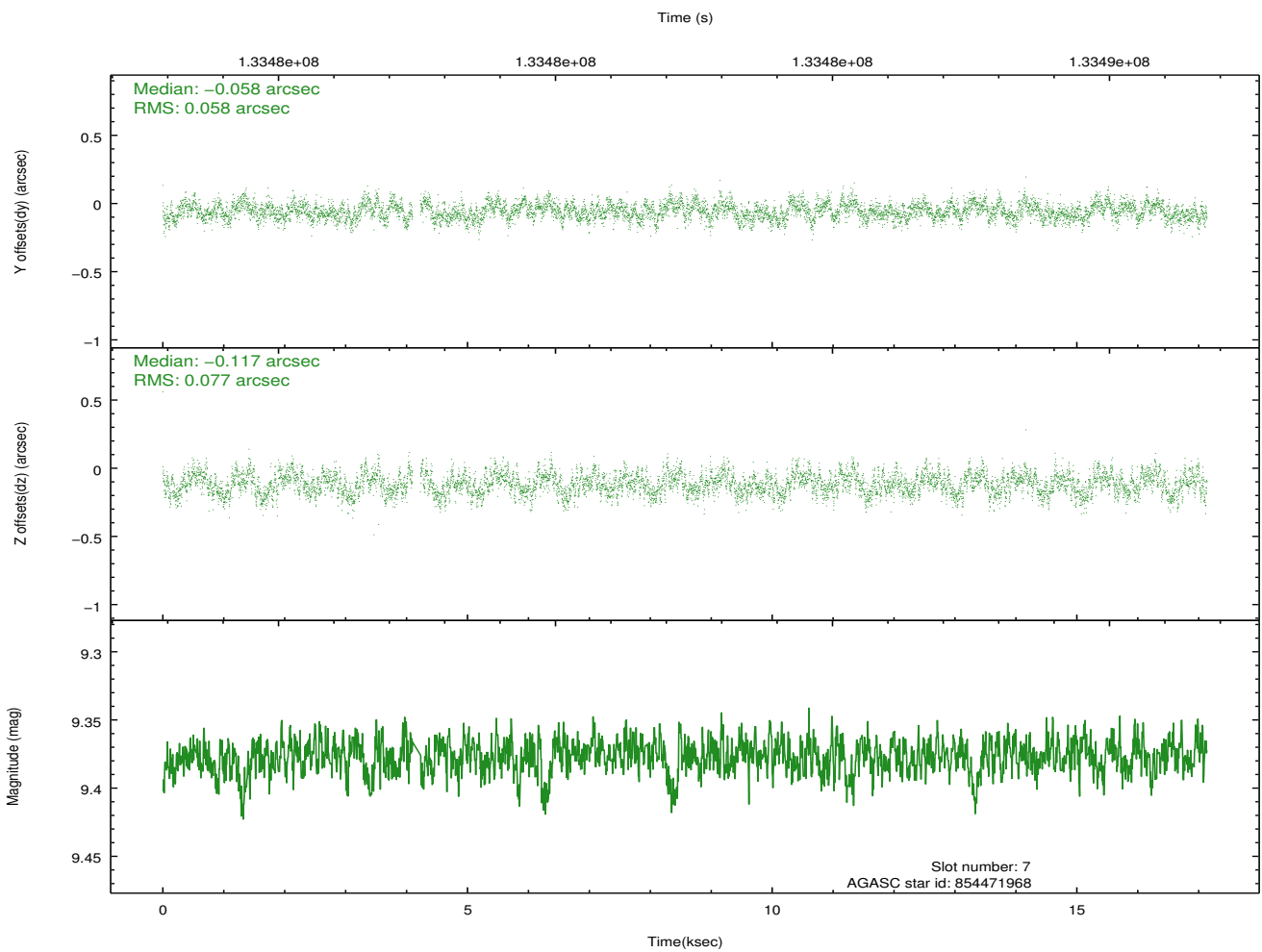
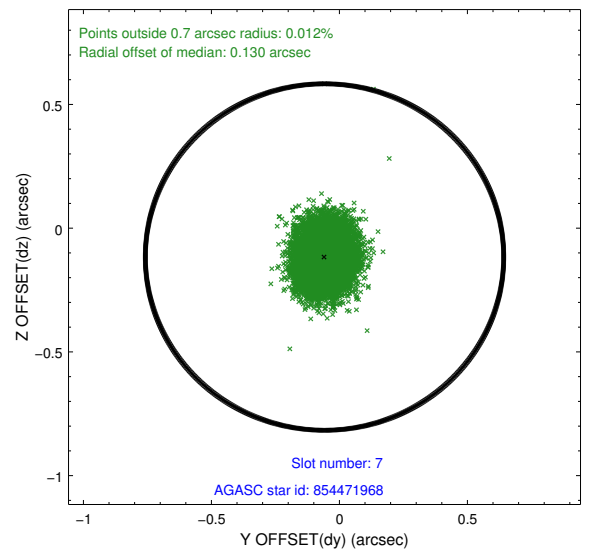
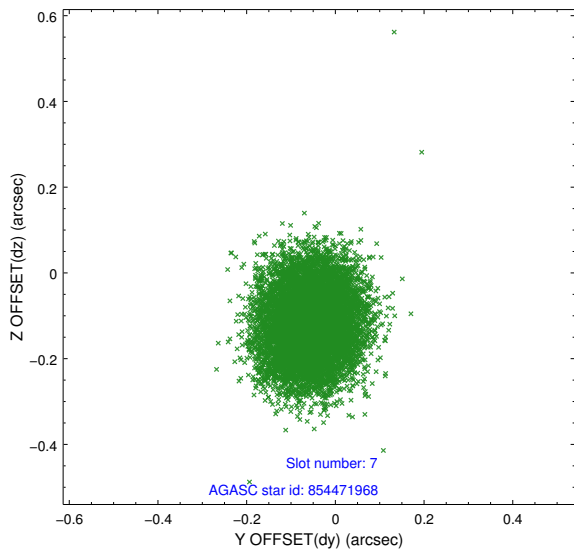
3.4.3 Slot 5



3.4.4 Slot 6

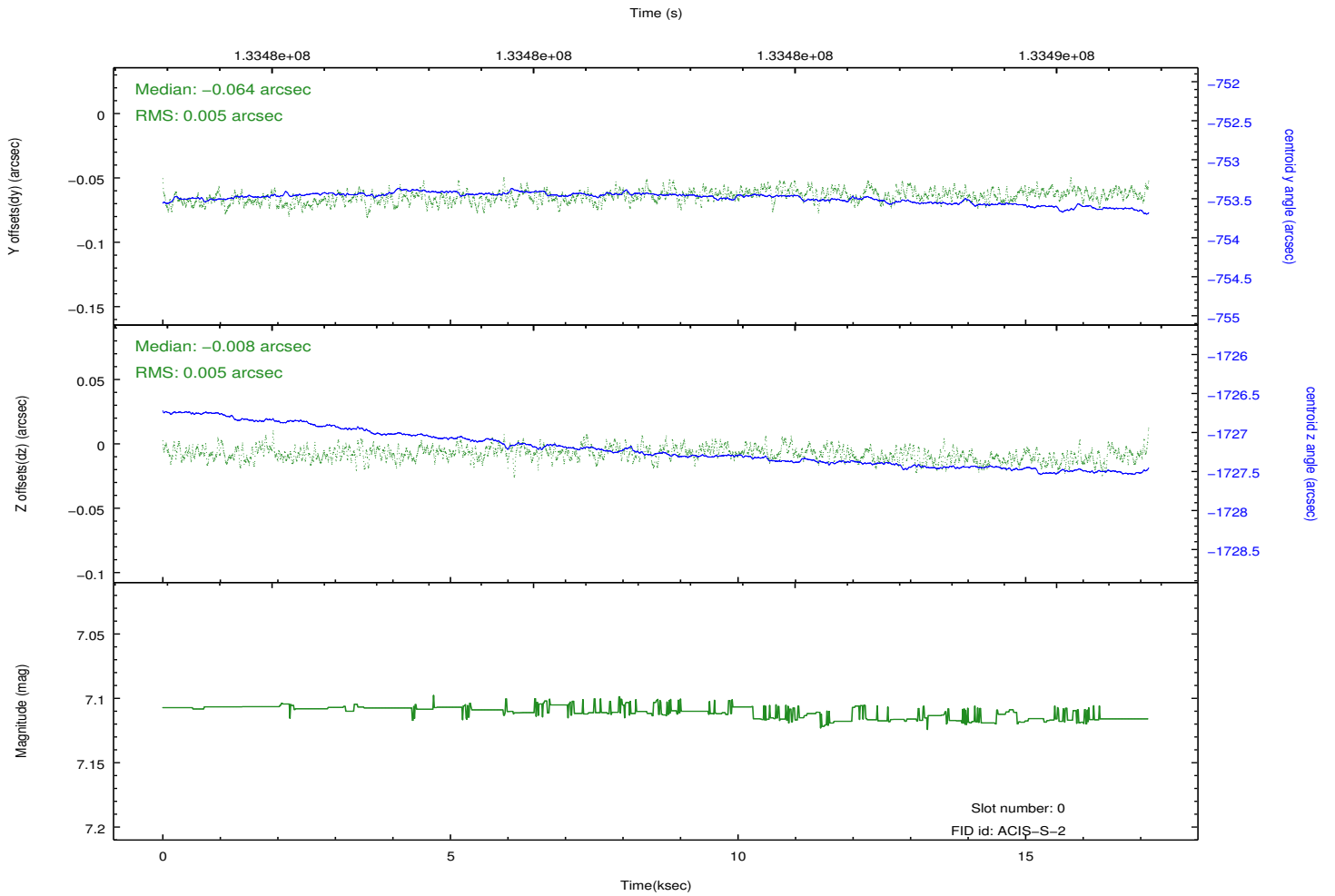
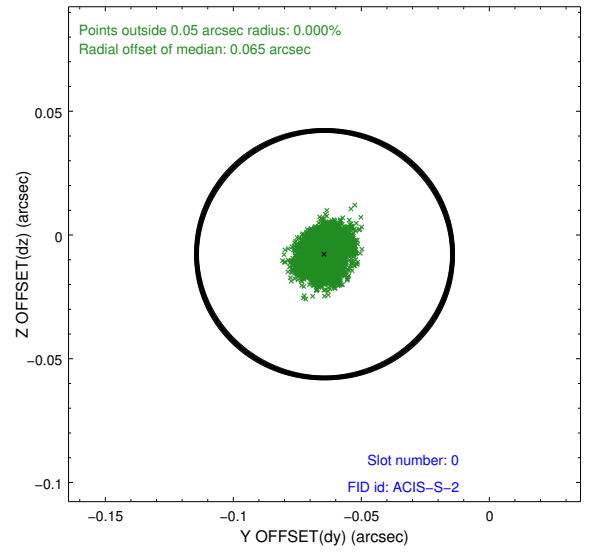
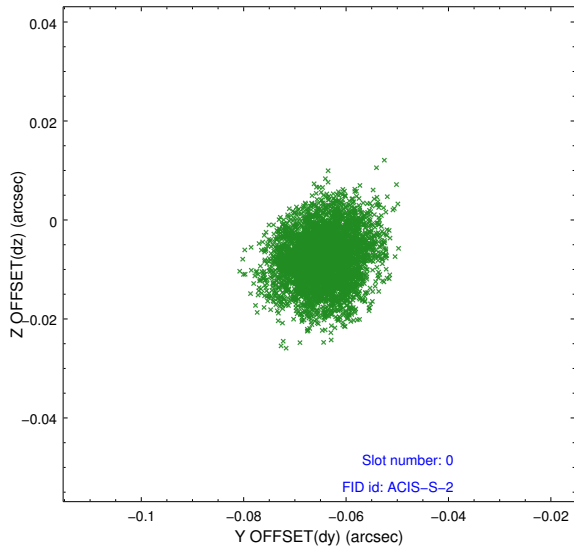


3.4.5 Slot 7

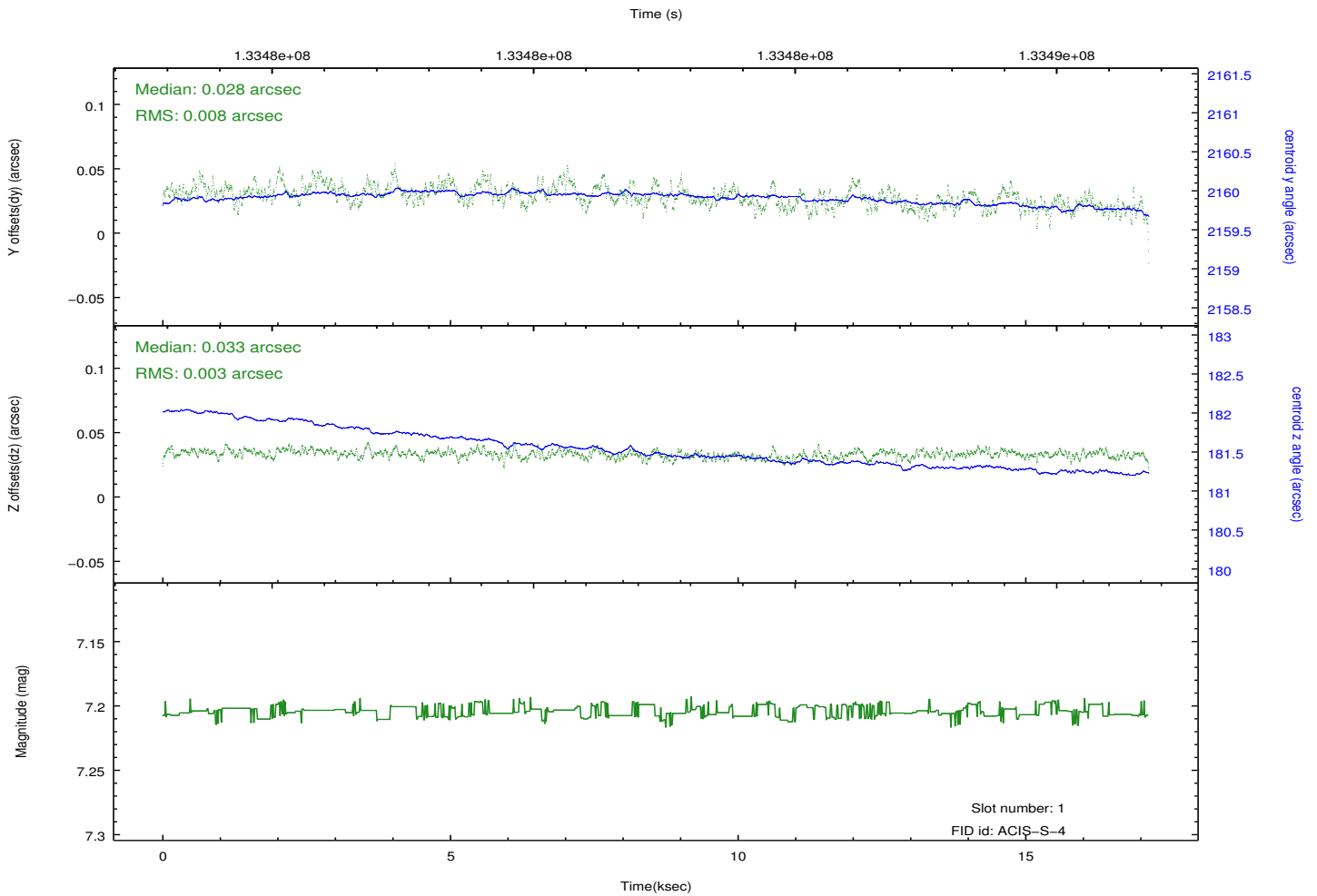
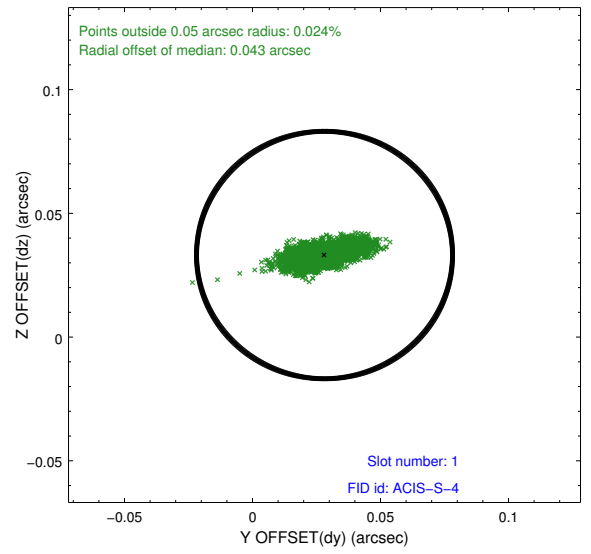
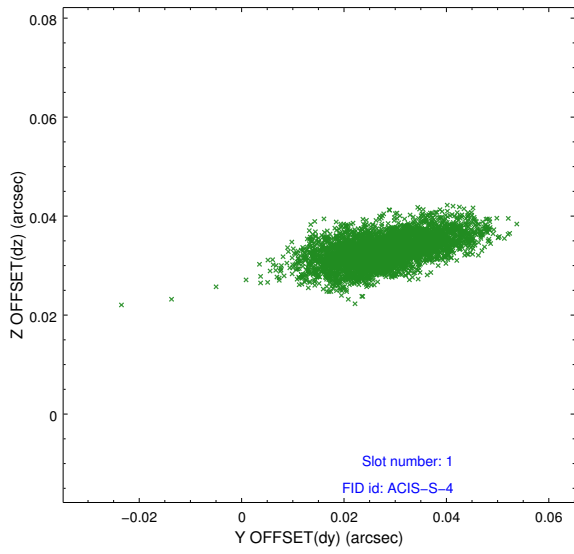


3.5 FID Slots

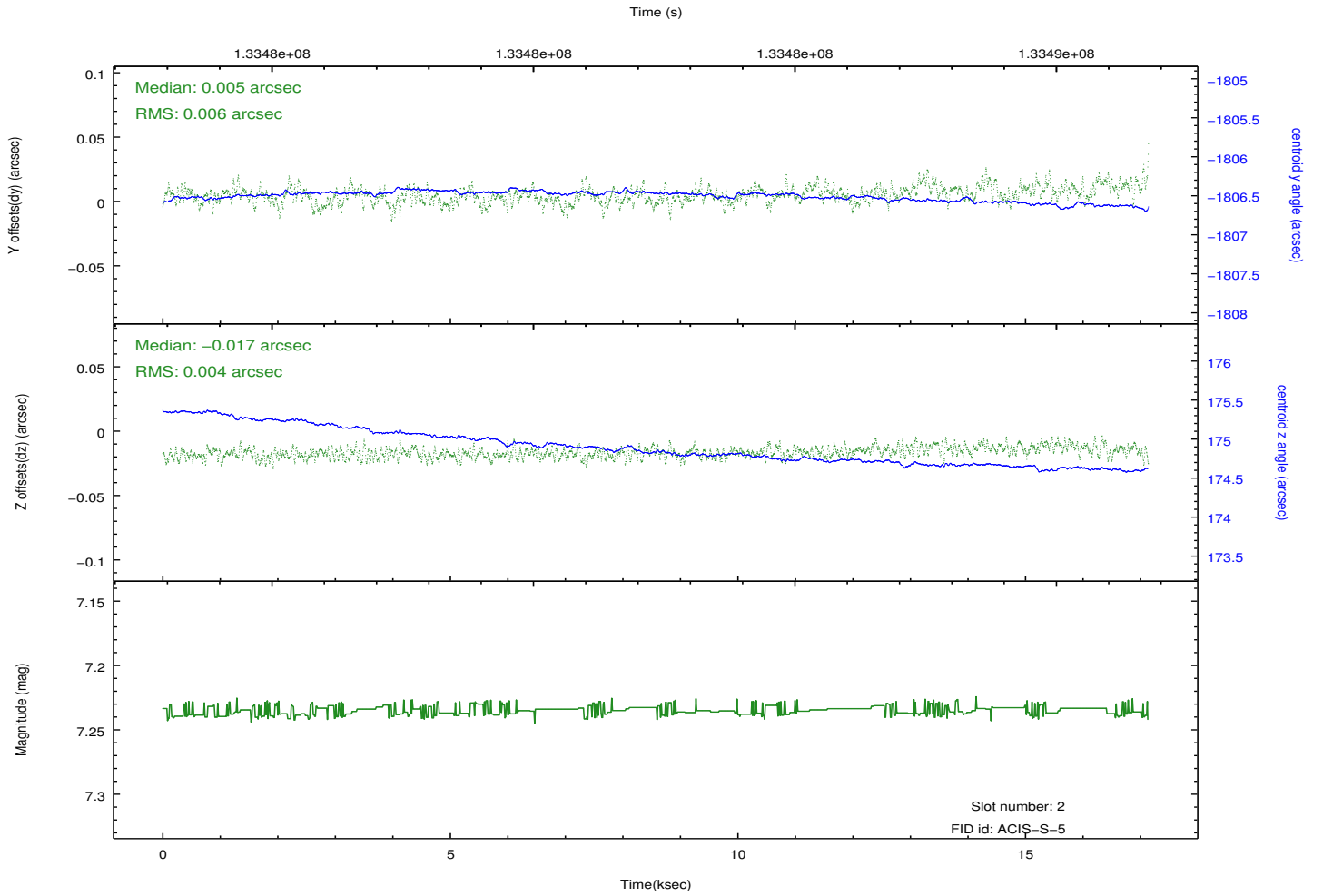
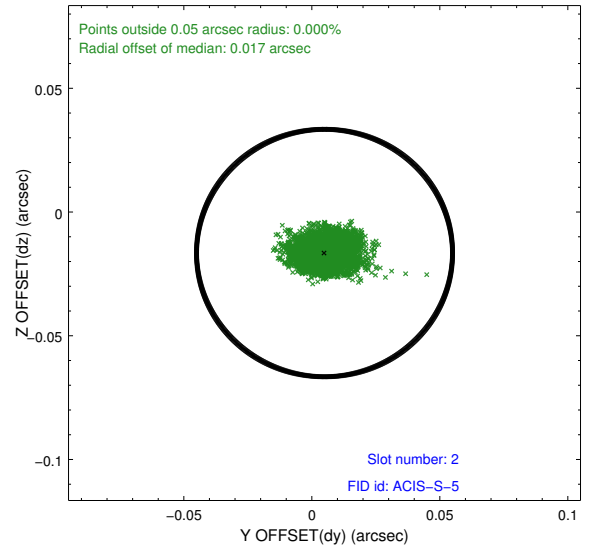
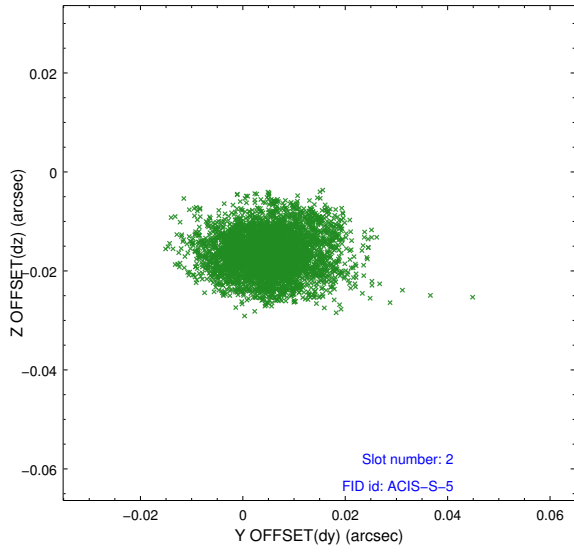
3.5.1 Slot 0



3.5.2 Slot 1



3.5.3 Slot 2



A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2013.01.25
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	19.276

A.2 Comments

During obi=0, an ACIS Threshold-Plane Anomaly occurred for CCD chip 6. The flight s/w is intended to delay 'start events' until after 'end bias dump'. For some unknown reason, it occasionally fails to do so, and if the overlap lasts for more than a minute or so, one or more FEPs experience a firmware latch-up that renders them useless until they are power cycled. No event data were recorded for chip 6; the bright pixels on this chip is due to previously known hot pixels with the applied dither correction. In addition to chip 6, other FI chips were affected to varying degrees. CCD 6 was reporting a large number of bogus events. This caused massive telemetry saturation, which eliminated many of the events from other FI chips. In the case of telemetry saturation, the BI CCDs will always get more of their frames into the telemetry stream than the FI CCDs. === Level 2 events from both obi observations have been combined in this processing. However, the level2 combined events for all chips except chip 7 should not be used because the obi=0 data are corrupted by the T-plane anomaly. Obi=1 data should be analyzed alone, starting with the Level 1 data. Note that the target is on chip 7, which is unaffected by the anomaly.