

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 2042 - L2 Version 5
Chandra X-Ray Center

L2 Processing Date : Nov 15 2012

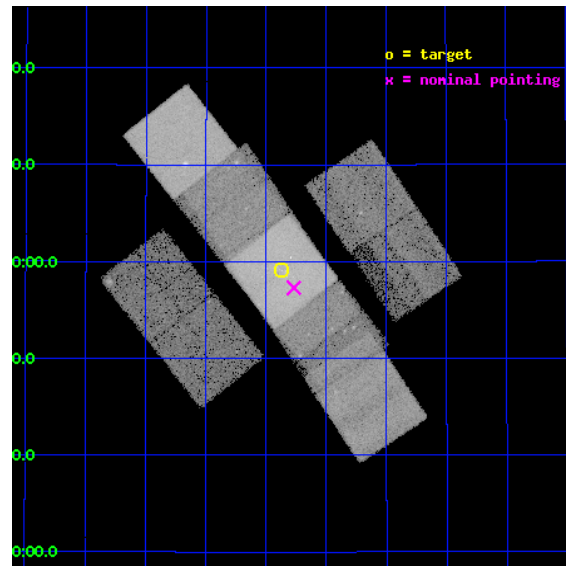
Contents

1	Front	3
2	OBI	4
2.1	OBI	4
2.1.1	Images	4
2.1.2	Bias	4
2.1.3	Parameters	5
2.1.4	Events	5
2.2	Compared Parameters	6
2.3	Aspect	7
2.4	Star Slots	10
2.4.1	Slot 3	10
2.4.2	Slot 4	11
2.4.3	Slot 5	12
2.4.4	Slot 6	13
2.4.5	Slot 7	14
2.5	FID Slots	15
2.5.1	Slot 0	15
2.5.2	Slot 1	16
2.5.3	Slot 2	17
3	OBI	18
3.1	OBI	18
3.1.1	Images	18
3.1.2	Bias	18
3.1.3	Parameters	19
3.1.4	Events	19
3.2	Compared Parameters	20
3.3	Aspect	21
3.4	Star Slots	24
3.4.1	Slot 3	24
3.4.2	Slot 4	25
3.4.3	Slot 5	26
3.4.4	Slot 6	27

3.4.5	Slot 7	28
3.5	FID Slots	29
3.5.1	Slot 0	29
3.5.2	Slot 1	30
3.5.3	Slot 2	31
A	Summary	32
A.1	Status	32
A.2	Comments	32

1 Front

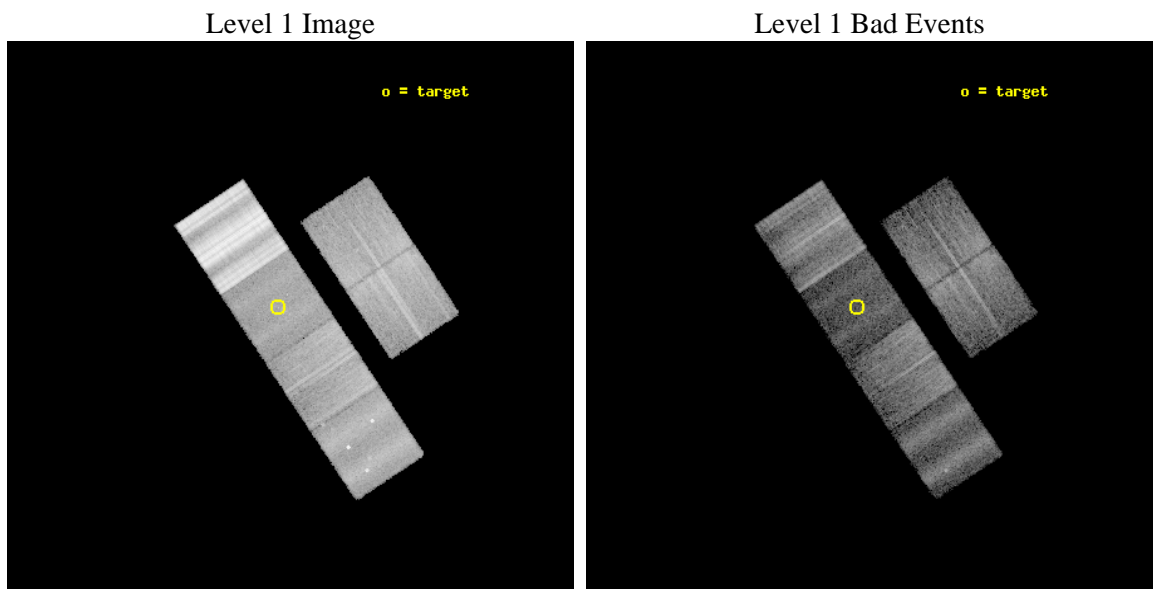
seq_num	600176	Sequence number
obs_id	2042	Observation id
title	THE EVOLUTION OF GAS EJECTION FROM MERGING GALAXIES	Proposal title
observer	Dr. Andrew Read	Principal investigator
object	ARP 270	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	162.46875	Observer's specified target RA [deg]
dec_targ	32.985	Observer's specified target Dec [deg]
ra_nom	162.44210956459	Nominal RA [deg]
dec_nom	32.954888095161	Nominal Dec [deg]
roll_nom	236.24484739163	Nominal Roll [deg]
revision	5	Processing version of data
ontime	19621.613626257	Sum of GTIs [s]
livetime	19373.152939804	Livetime [s]
ontime2	18809.716392979	Sum of GTIs [s]
ontime3	18881.017897472	Sum of GTIs [s]
ontime5	19618.331625998	Sum of GTIs [s]
ontime6	18803.23383458	Sum of GTIs [s]
ontime7	19621.613626257	Sum of GTIs [s]
ontime8	18952.319581106	Sum of GTIs [s]
l2events	346593	Number of level 2 events



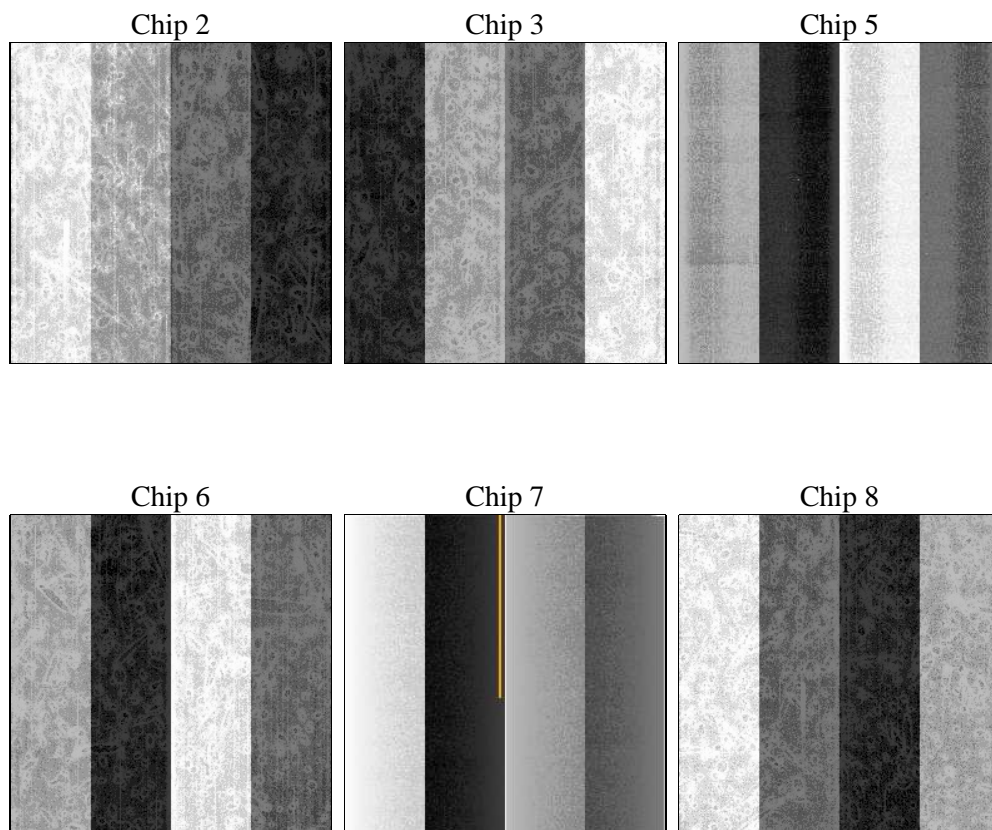
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	18500.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	5971.2000055462	Sum of GTIs [s]
caldbver	4.5.2	 	ontime2	5162.5026426911	Sum of GTIs [s]
date	2012-11-15T16:26:04	Date and time of file creation	ontime3	5237.2092873454	Sum of GTIs [s]
revision	5	Processing version of data	ontime5	5971.2000055462	Sum of GTIs [s]
			ontime6	5152.9022639394	Sum of GTIs [s]
			ontime7	5971.2000055462	Sum of GTIs [s]
			ontime8	5305.3111803234	Sum of GTIs [s]
			l1events	820371	Number of level 1 events

2.1.4 Events

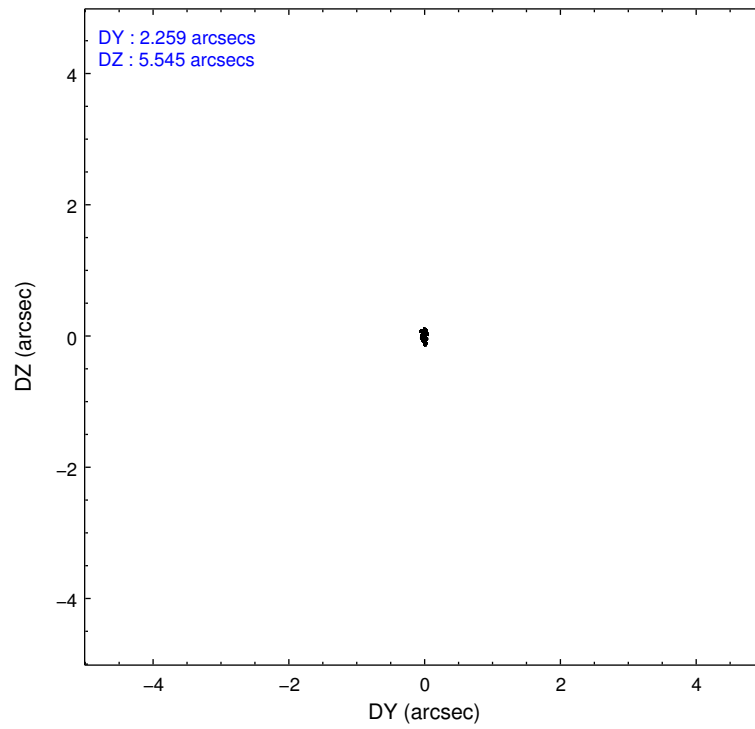
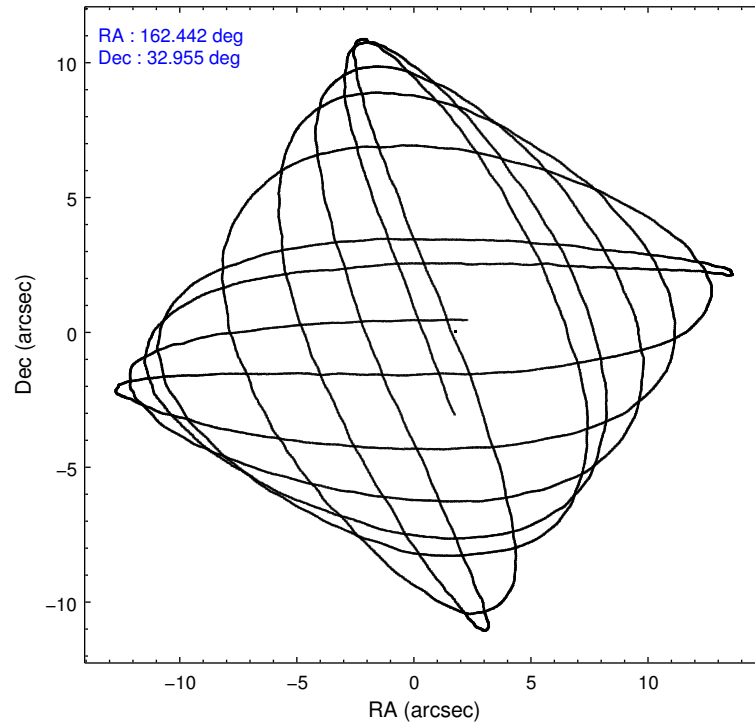
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	99349	91154	99055	97321	70223	363269	grade 0 events	9566	5423	7778	7946	3926	89974
rejected events	77138	73192	55179	77317	37416	98745		9%	5%	7%	8%	5%	24%
rejected %	77%	80%	55%	79%	53%	27%	grade 1 events	94	40	377	78	209	840
								0%	0%	0%	0%	0%	0%
							grade 2 events	6333	6175	13507	6718	8781	28977
								6%	6%	13%	6%	12%	7%
							grade 3 events	461	464	3812	571	3360	55080
								0%	0%	3%	0%	4%	15%
							grade 4 events	1431	720	3722	622	3357	48417
								1%	0%	3%	0%	4%	13%
							grade 5 events	1354	1420	6327	1479	6122	4687
								1%	1%	6%	1%	8%	1%
							grade 6 events	4533	5287	15725	4249	13882	44470
								4%	5%	15%	4%	19%	12%
							grade 7 events	75577	71625	47807	75658	30586	90824
								76%	78%	48%	77%	43%	25%

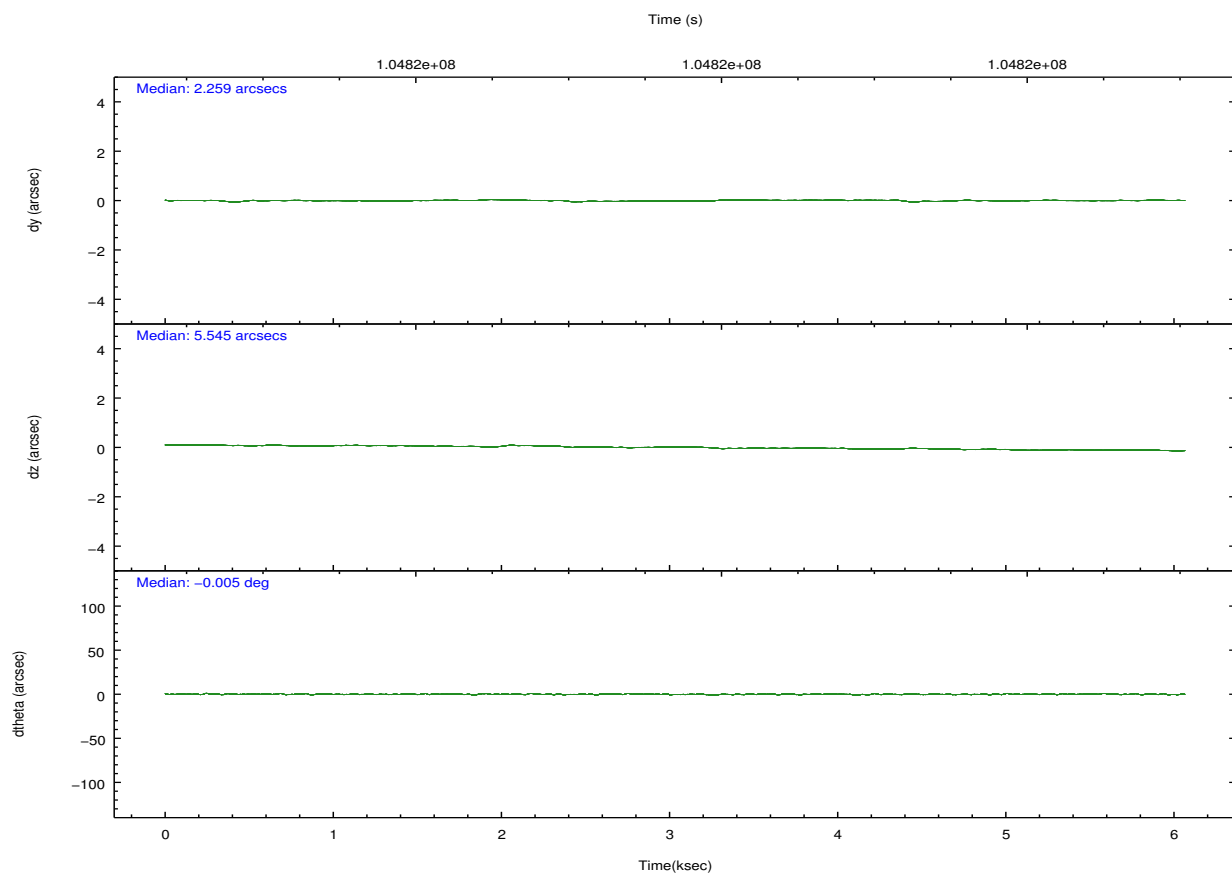
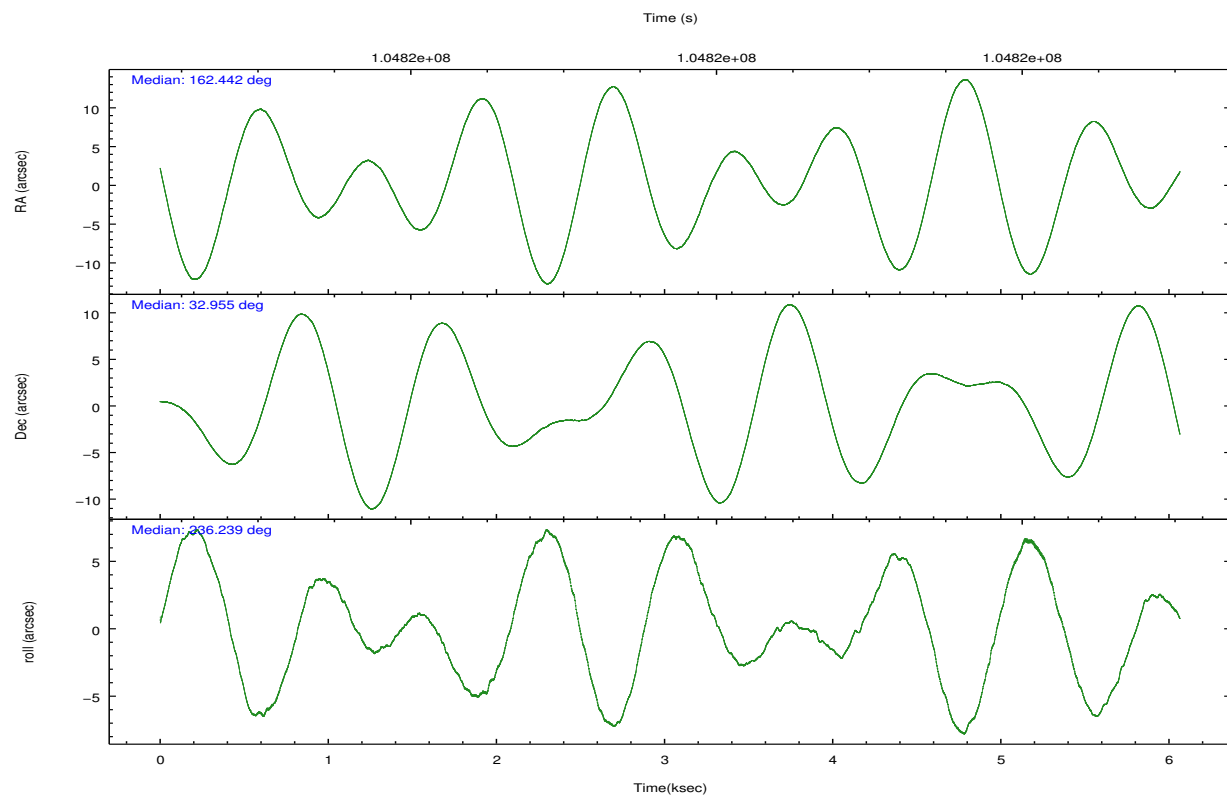
2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-235678	ACIS-235678
Grating	NONE	NONE
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	162.443941	162.4421095645852
[deg] Pointing Dec	32.982126	32.95488809516075
[deg] Pointing Roll	236.087248	236.2448473916321
[mm] SIM focus pos	-0.6828225247311905	-0.6828225247311905
[mm] SIM defocus	0.001444942264670179	0.001444942264670179
[mm] SIM translation stage pos	-190.1425803651734	-190.1425803651734
[mm] SIM translation stage offset	0.01005726120618533	0.01005726120618533
[s] Observation start time (MET)	104814663.184000	104814663.184
Observation start date	2001-04-28T03:09:59	2001-04-28T03:11:03
[s] Observation end time (MET)	104820731.000000	104820731
Observation end date	2001-04-28T04:52:11	2001-04-28T04:52:10
Read mode	TIMED	TIMED

Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	OVERRIDE	OVERRIDE
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	3.2	3.2

2.3 Aspect



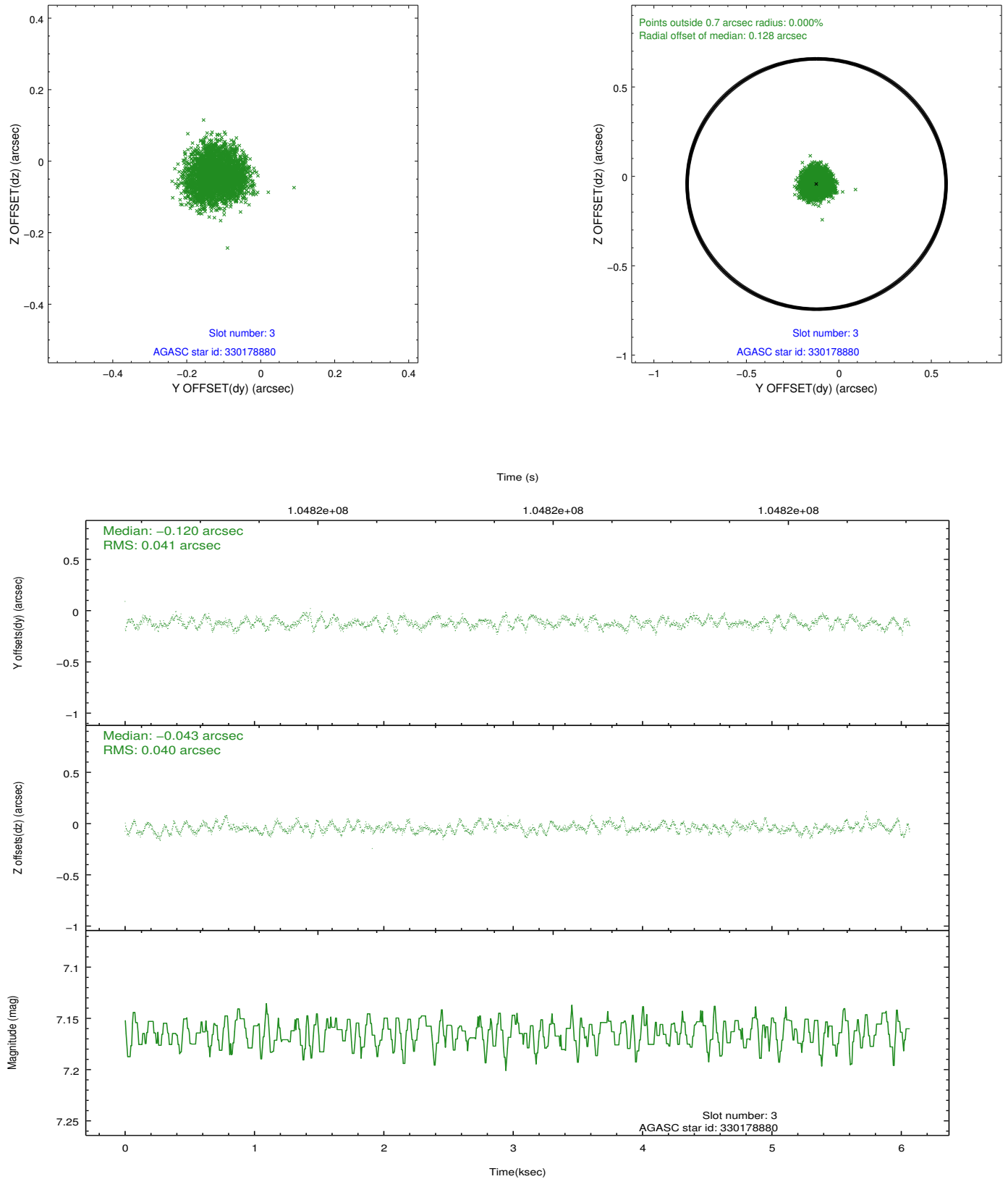


Slot Statistics

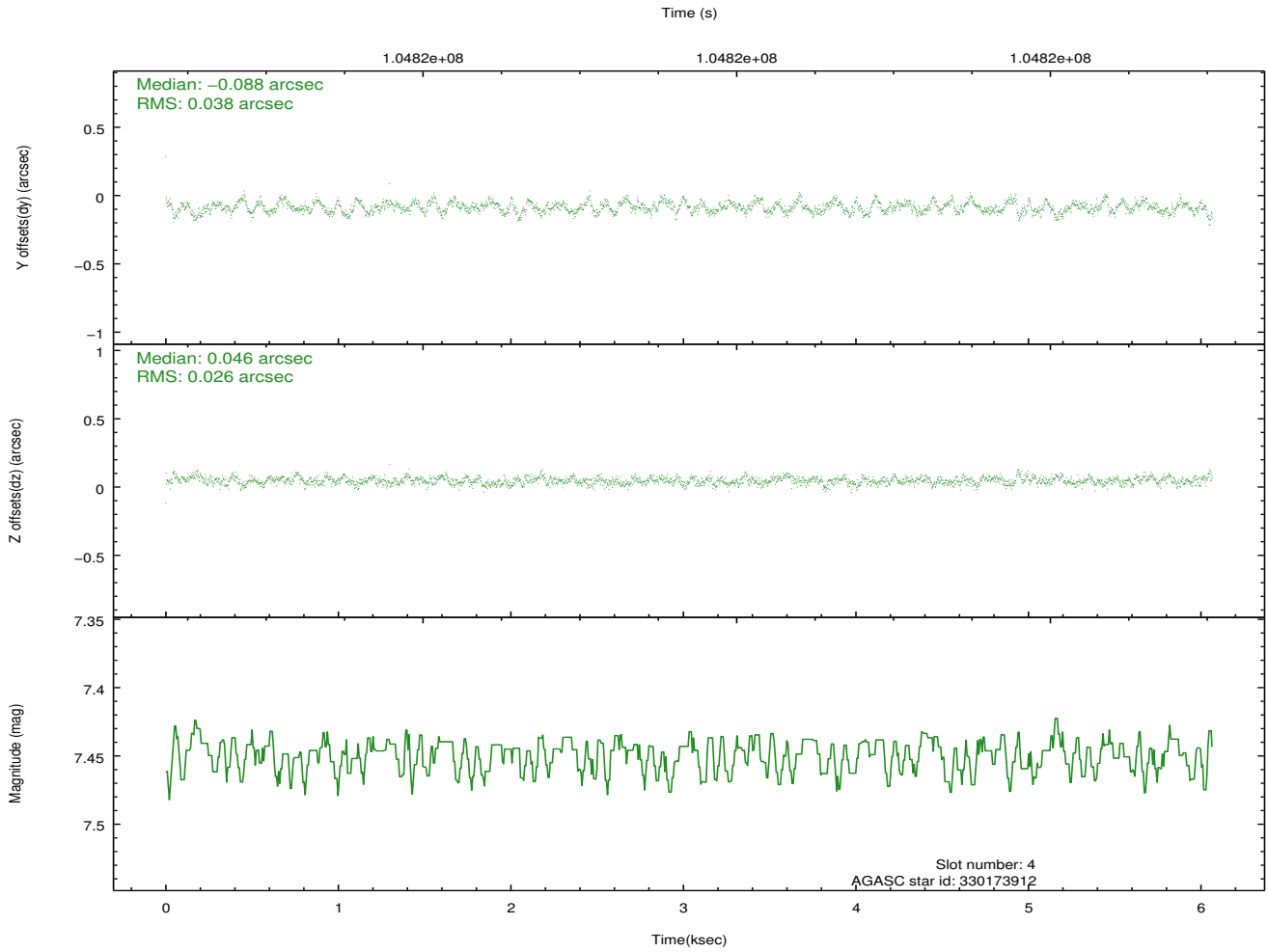
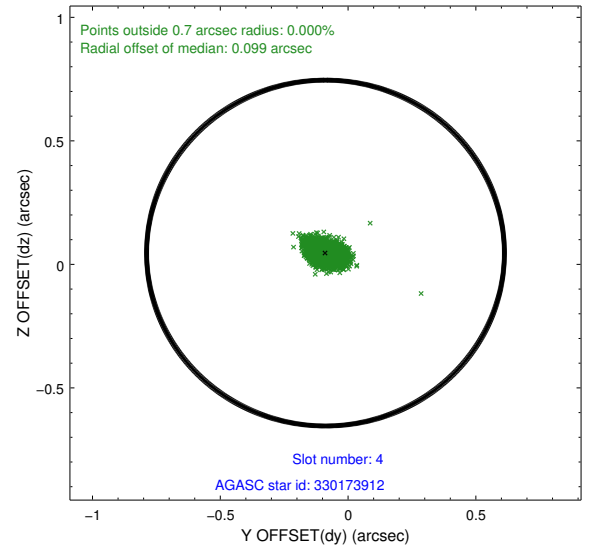
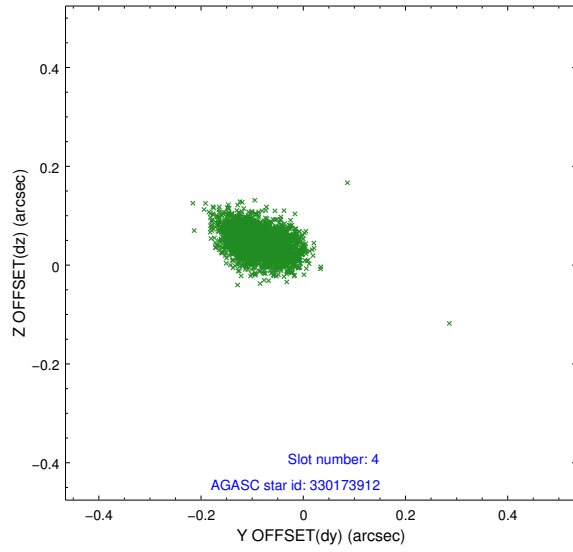
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.11	1480	-0.035	0.001	0.006	0.010	0.000000	0.000000	-754.87	-1726.63
1	FID	ACIS-S-4	7.20	1479	-0.032	0.017	0.005	0.009	0.000000	0.000000	2157.92	180.94
2	FID	ACIS-S-5	7.24	1479	0.036	-0.009	0.006	0.011	0.000000	0.000000	-1806.43	175.59
3	GUIDE	330178880	7.16	2959	-0.120	-0.043	0.064	0.094	163.017321	32.628628	82.68	2150.05
4	GUIDE	330173912	7.45	2960	-0.088	0.046	0.048	0.082	163.171265	32.988753	-1250.93	1805.80
5	GUIDE	330178712	8.22	2960	0.117	-0.069	0.046	0.077	162.236513	32.407638	2067.92	631.14
6	GUIDE	330176384	8.85	2957	-0.036	0.163	0.069	0.115	163.009586	33.043924	-1139.45	1290.17
7	GUIDE	330174856	8.87	2958	0.125	-0.098	0.063	0.104	162.081845	32.889185	887.38	-722.38

2.4 Star Slots

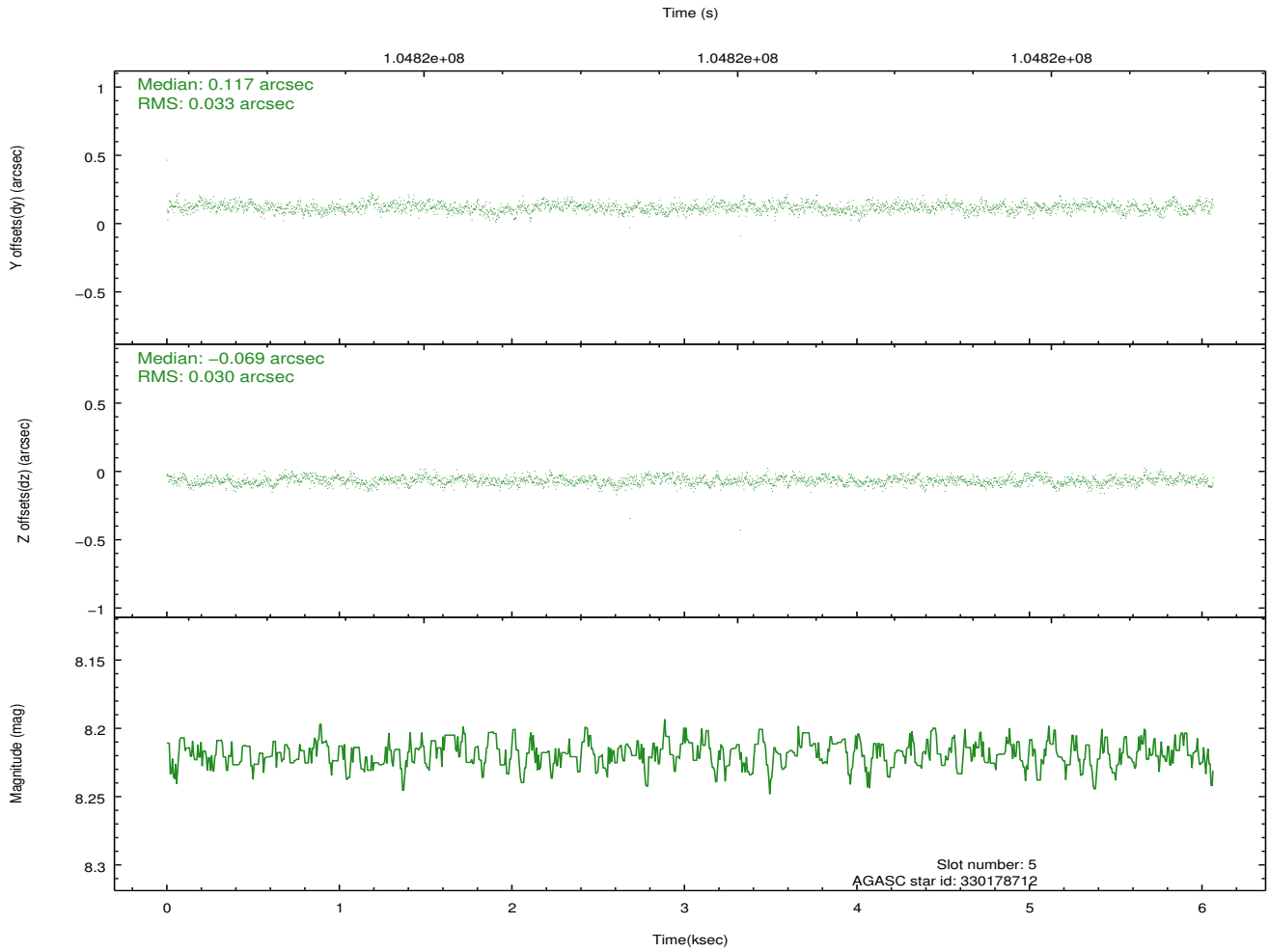
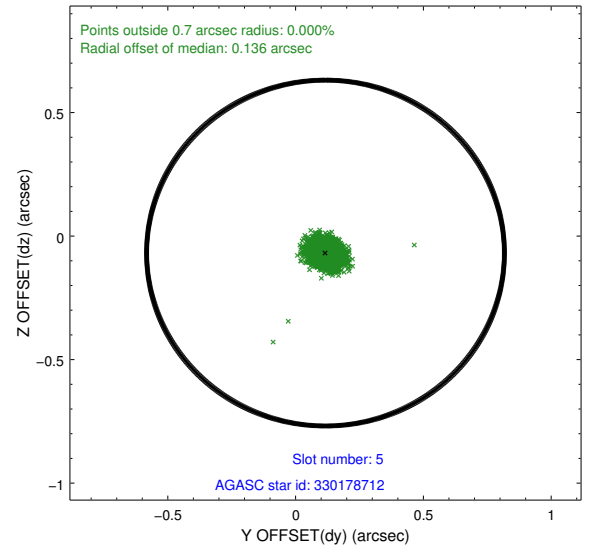
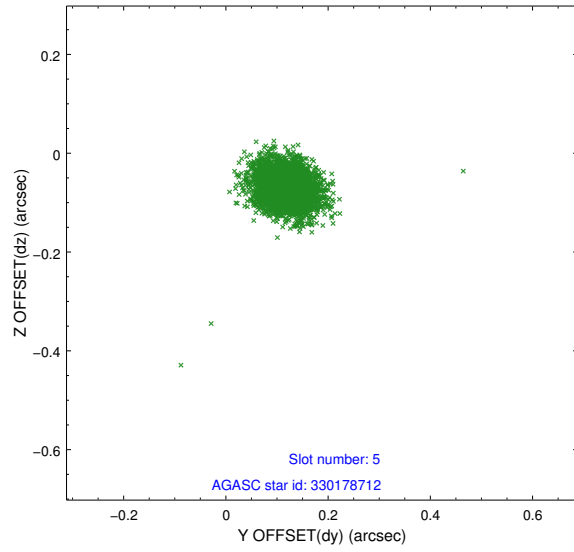
2.4.1 Slot 3



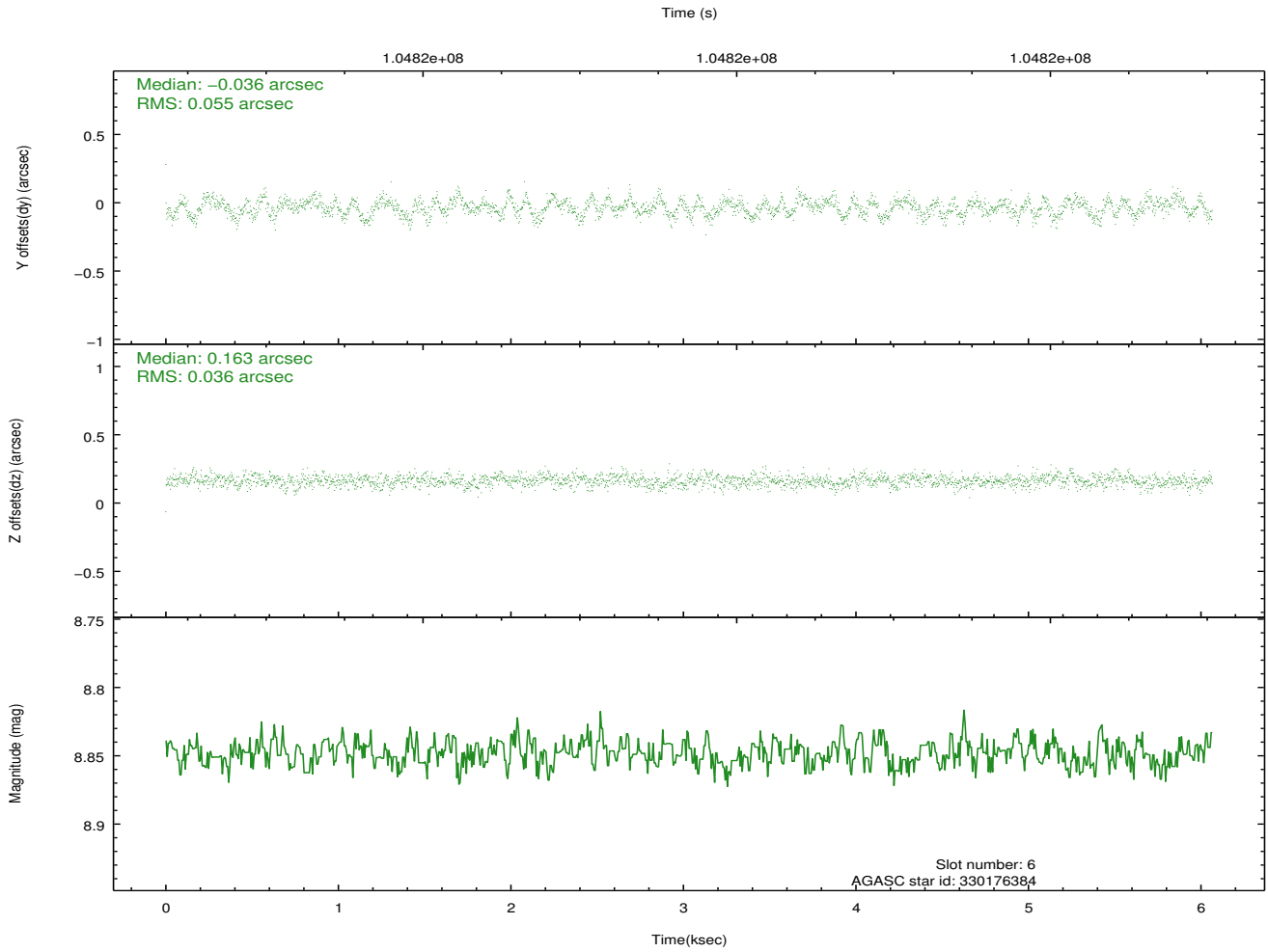
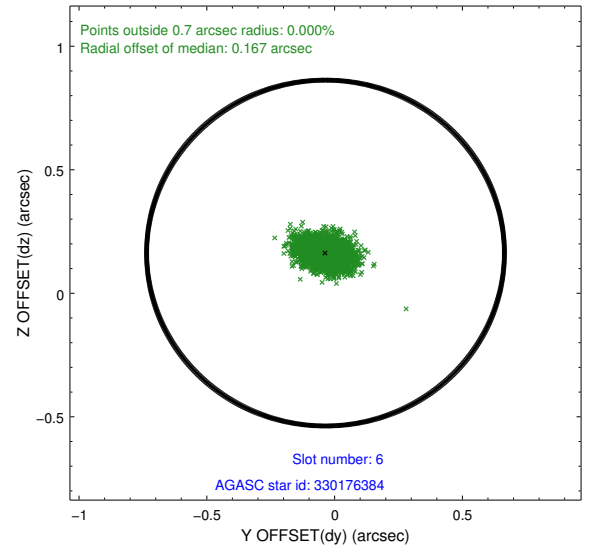
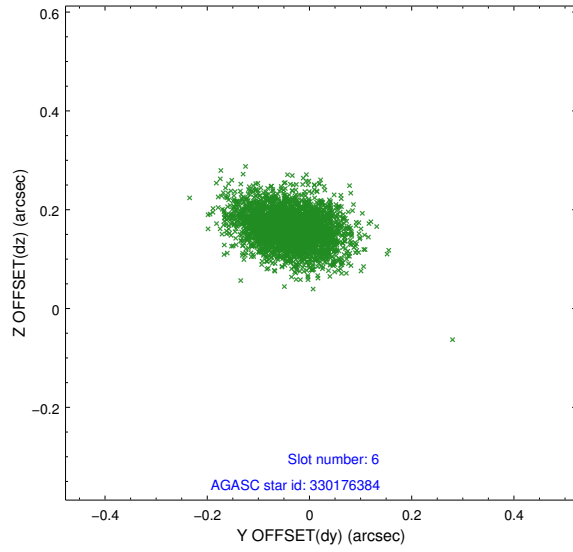
2.4.2 Slot 4



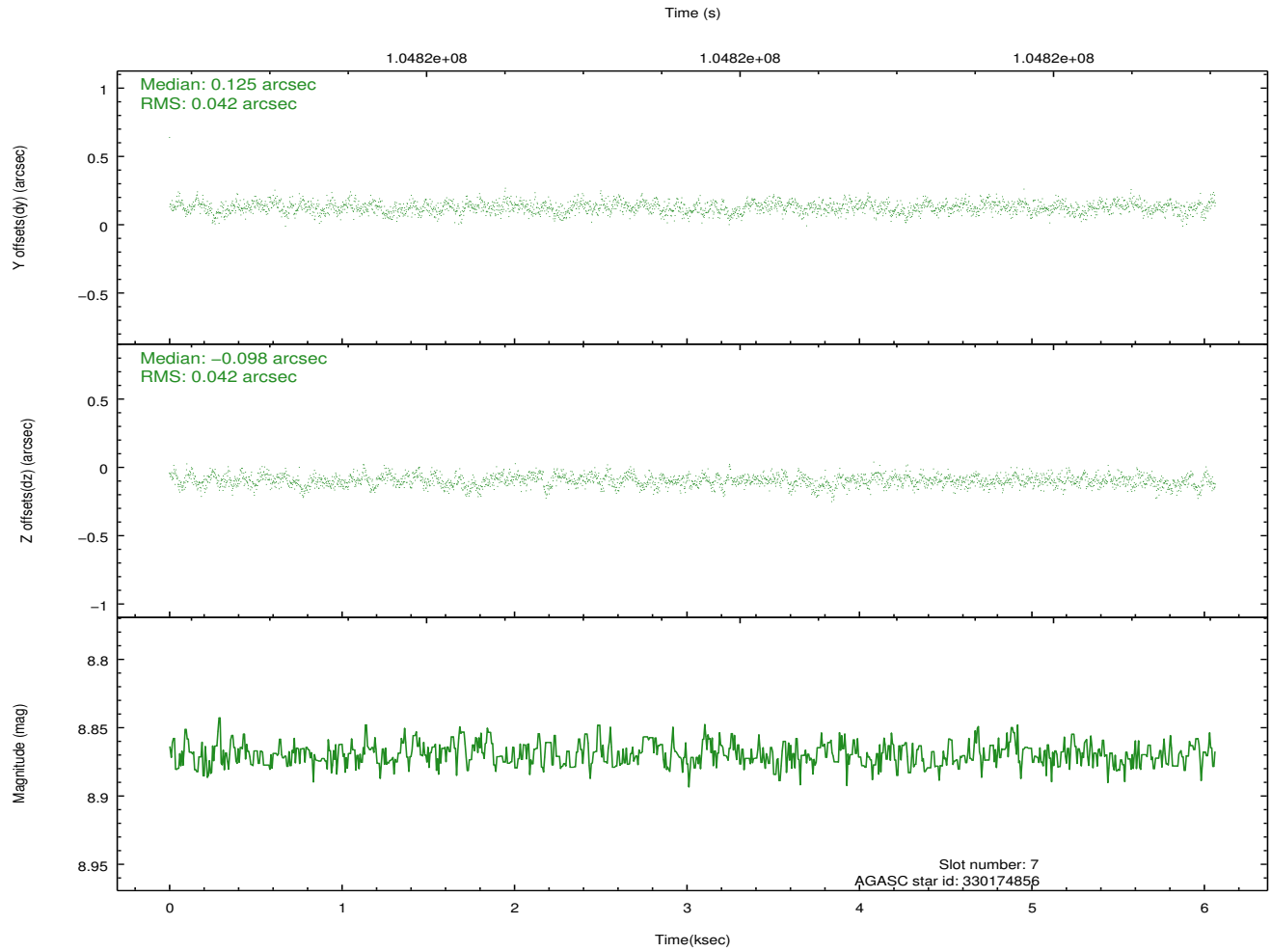
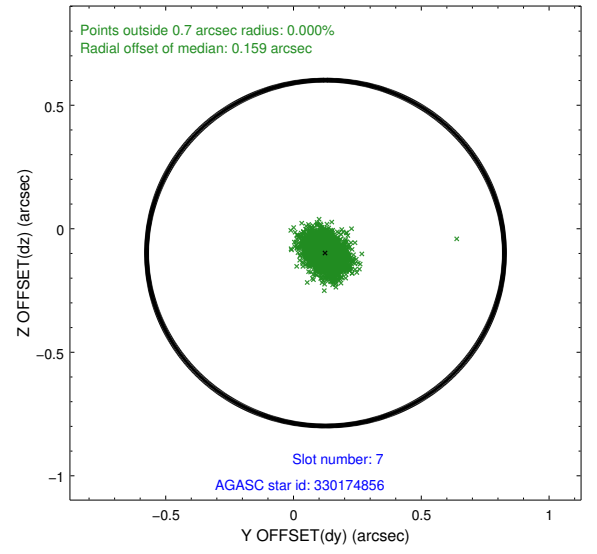
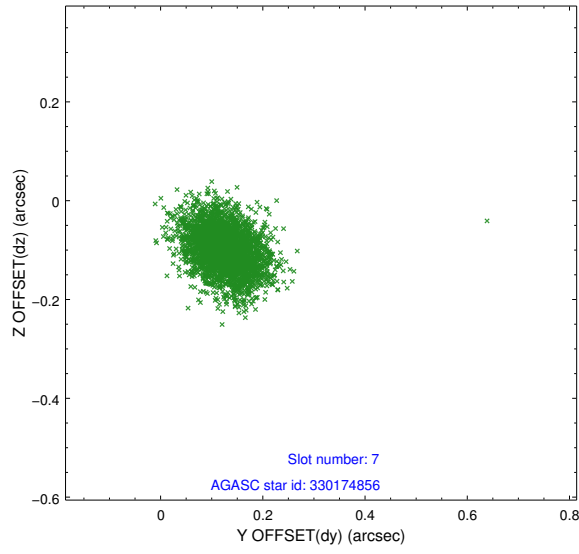
2.4.3 Slot 5



2.4.4 Slot 6

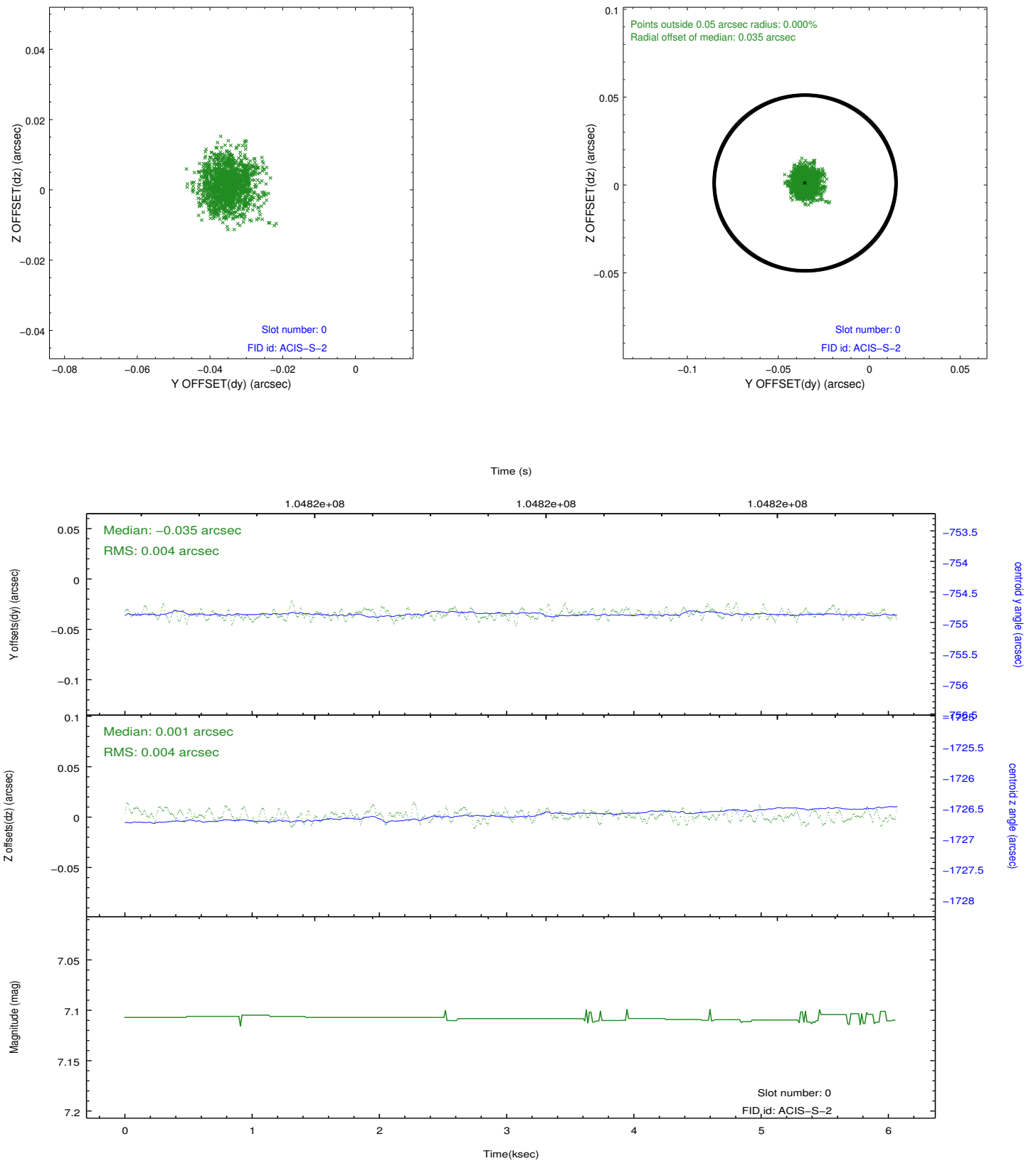


2.4.5 Slot 7

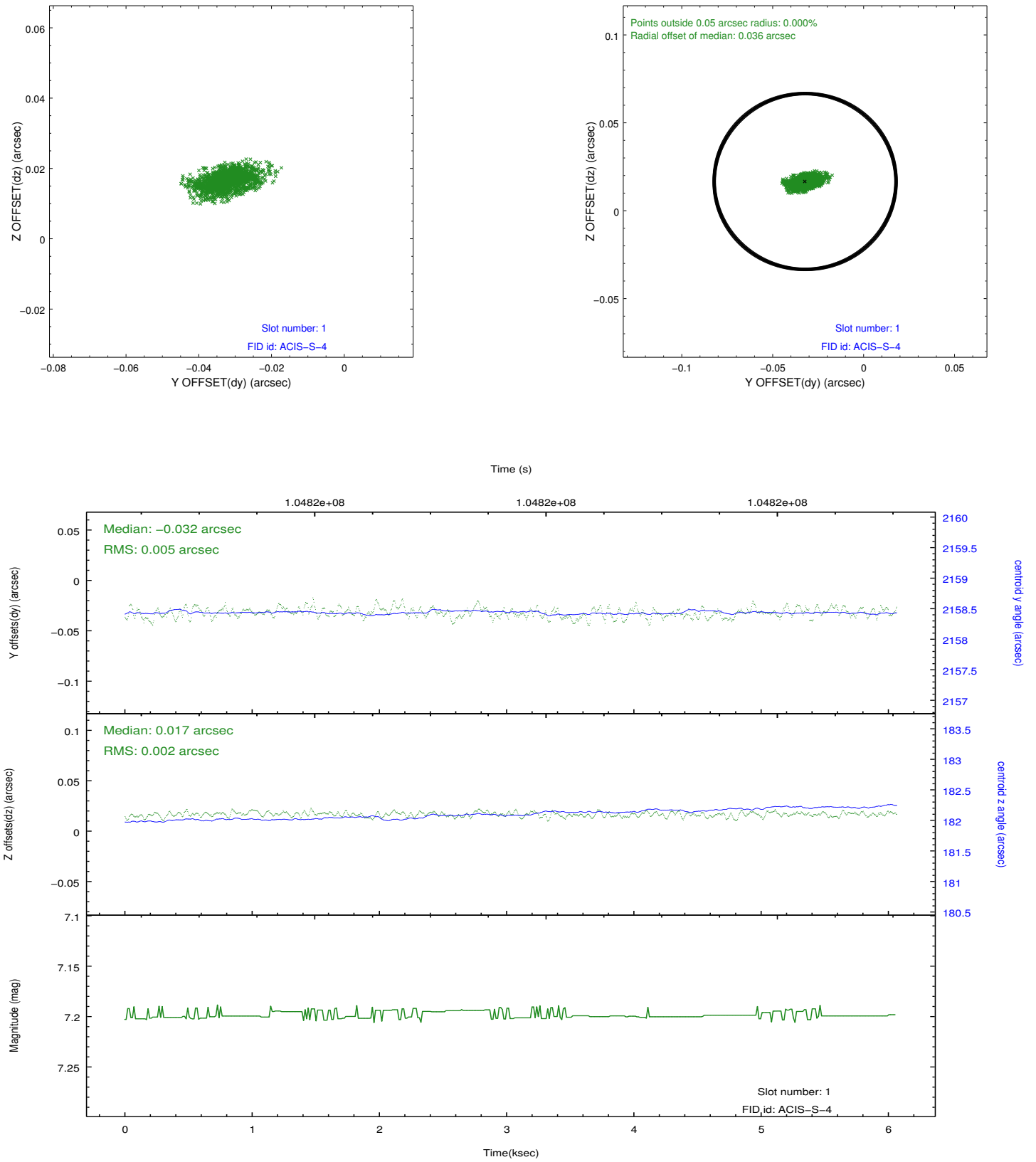


2.5 FID Slots

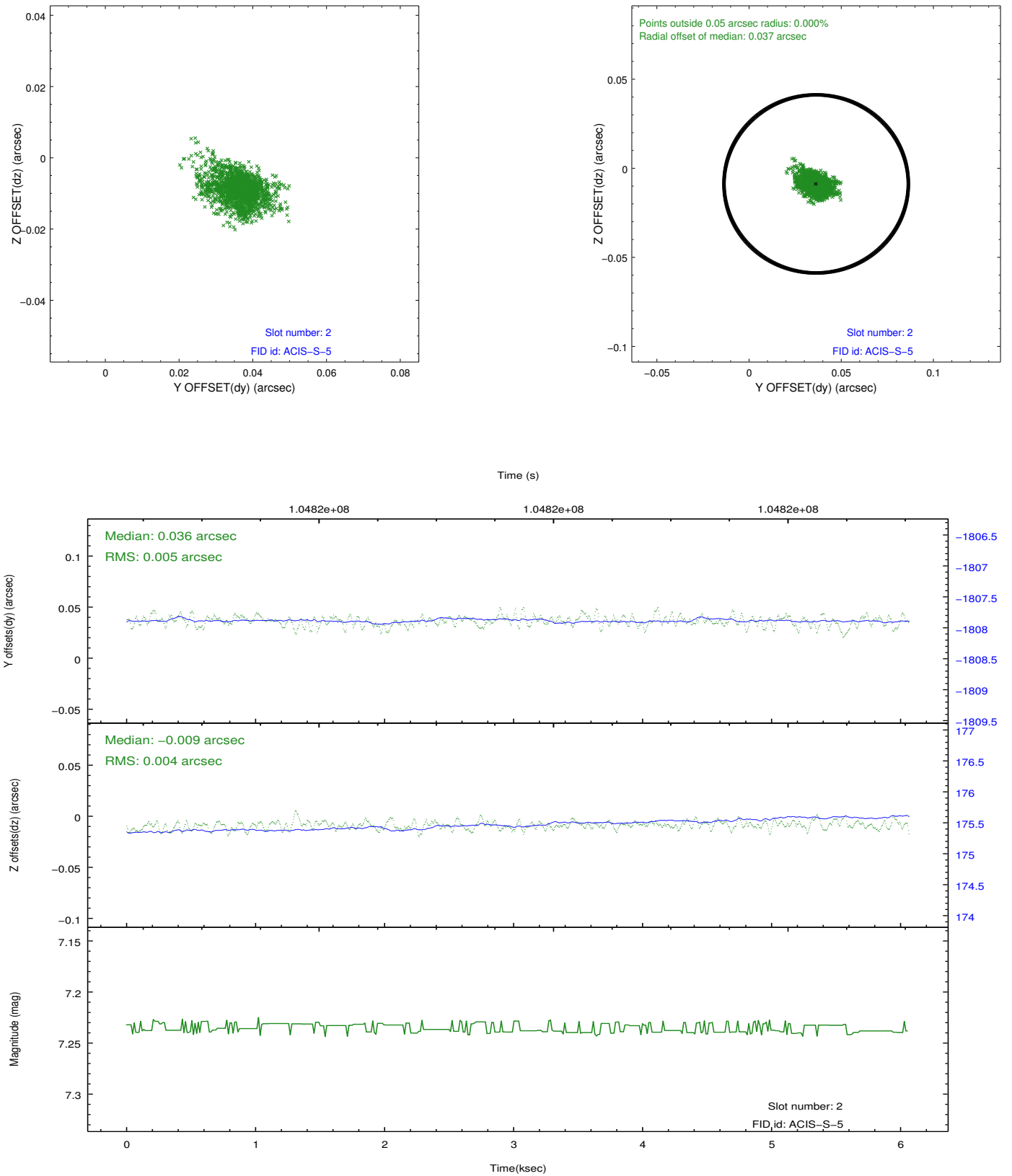
2.5.1 Slot 0



2.5.2 Slot 1



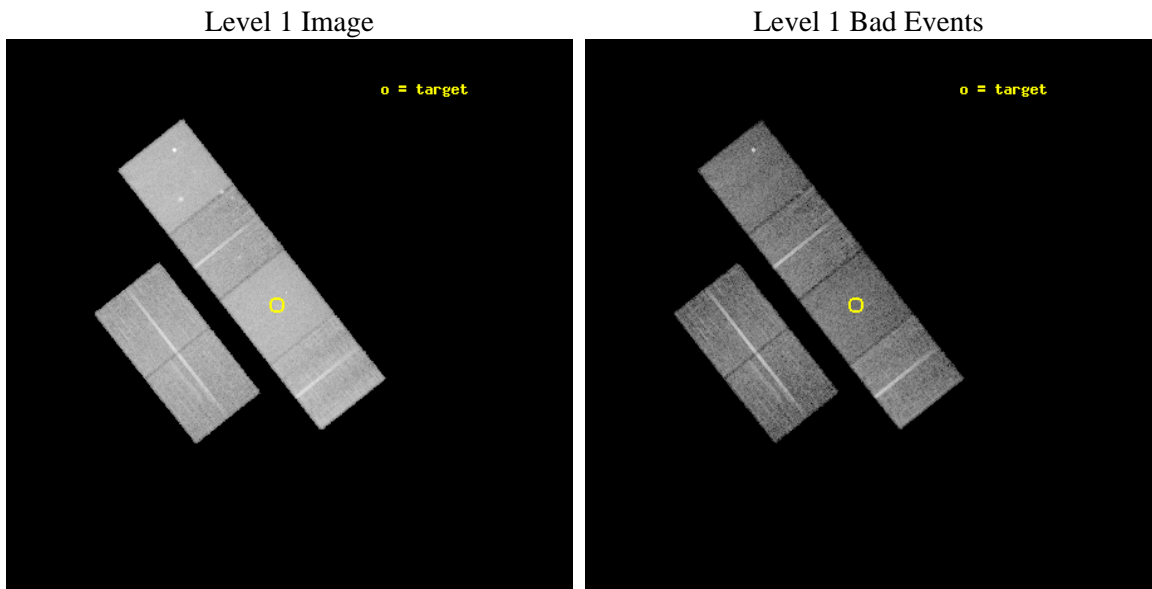
2.5.3 Slot 2



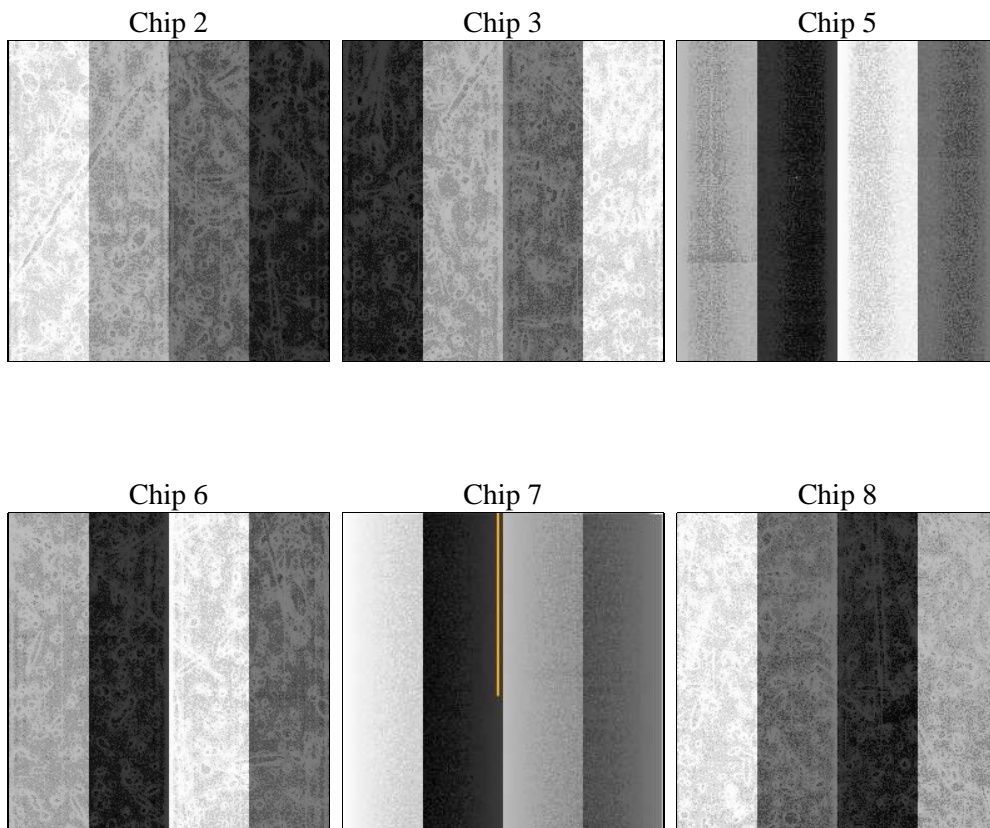
3 OBI

3.1 OBI

3.1.1 Images



3.1.2 Bias



3.1.3 Parameters

obi_num	2	Obi number	sched_exp_time	13891.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	13650.41362071	Sum of GTIs [s]
caldsver	4.5.2	 	ontime2	13647.213750288	Sum of GTIs [s]
date	2012-11-15T16:32:57	Date and time of file creation	ontime3	13643.808610126	Sum of GTIs [s]
revision	5	Processing version of data	ontime5	13647.131620452	Sum of GTIs [s]
			ontime6	13650.33157064	Sum of GTIs [s]
			ontime7	13650.41362071	Sum of GTIs [s]
			ontime8	13647.008400783	Sum of GTIs [s]
			l1events	743644	Number of level 1 events

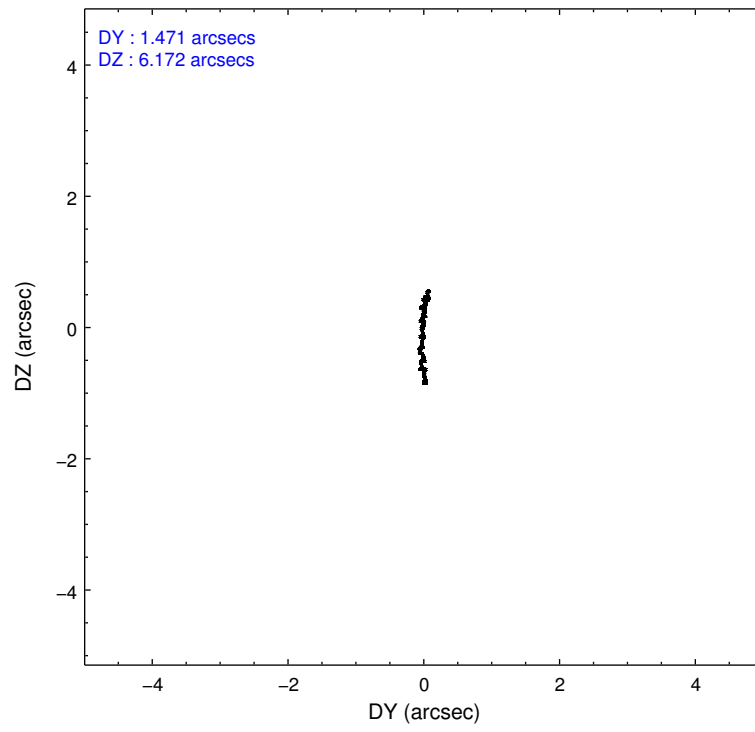
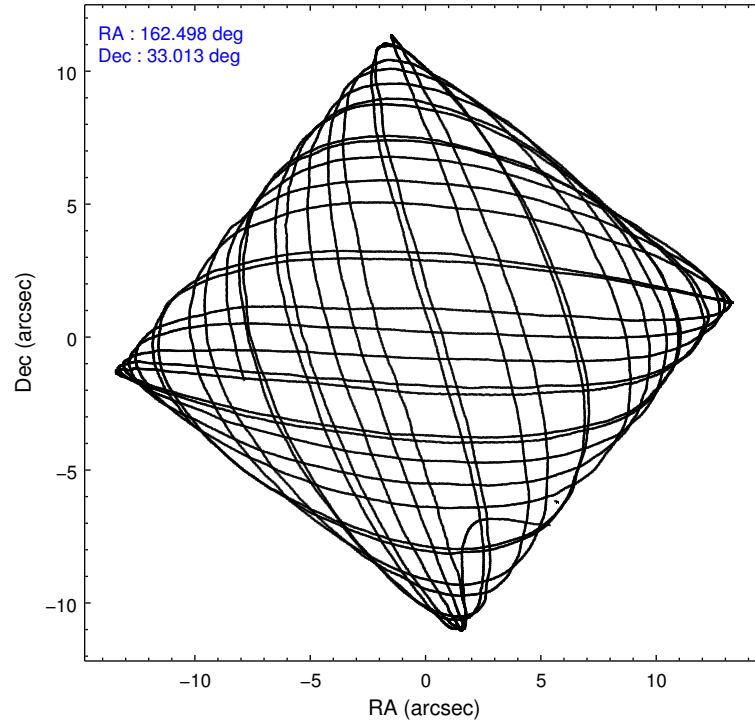
3.1.4 Events

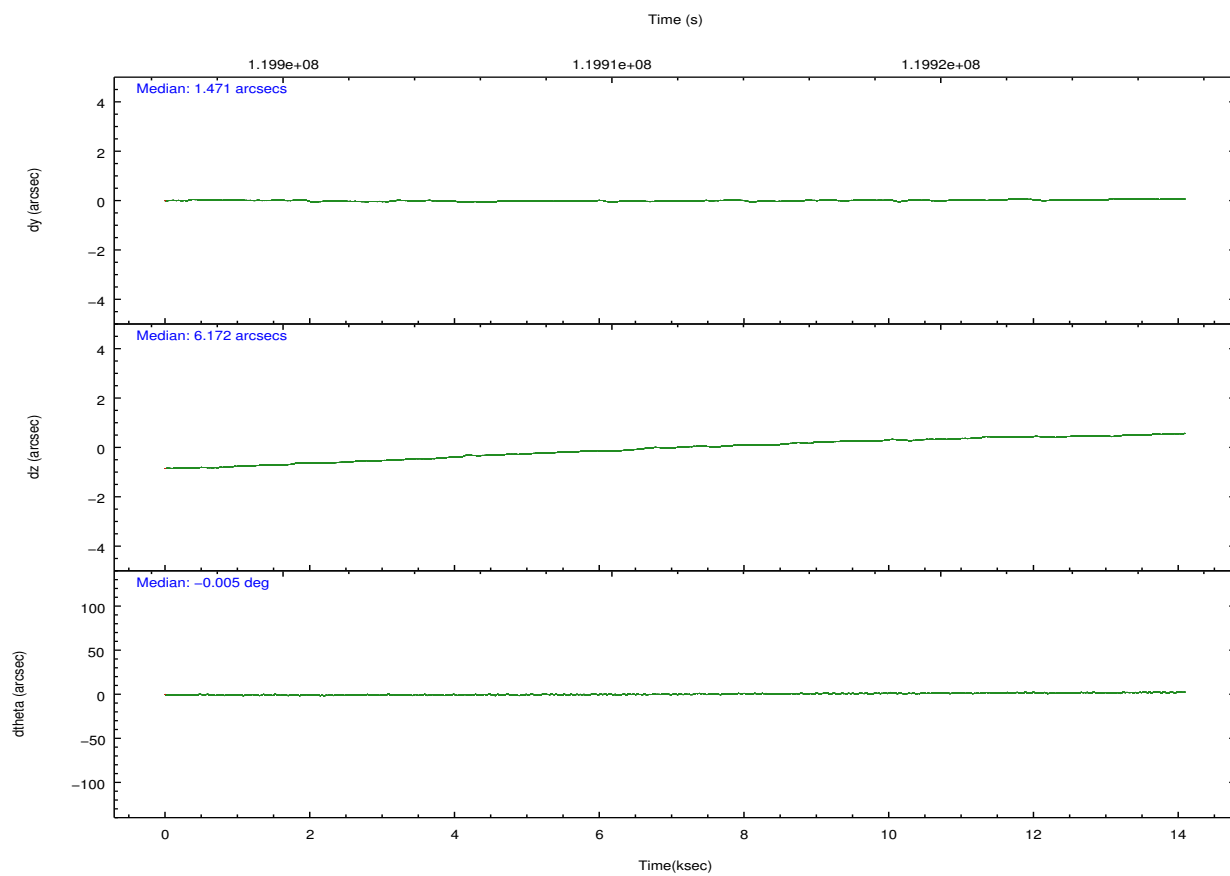
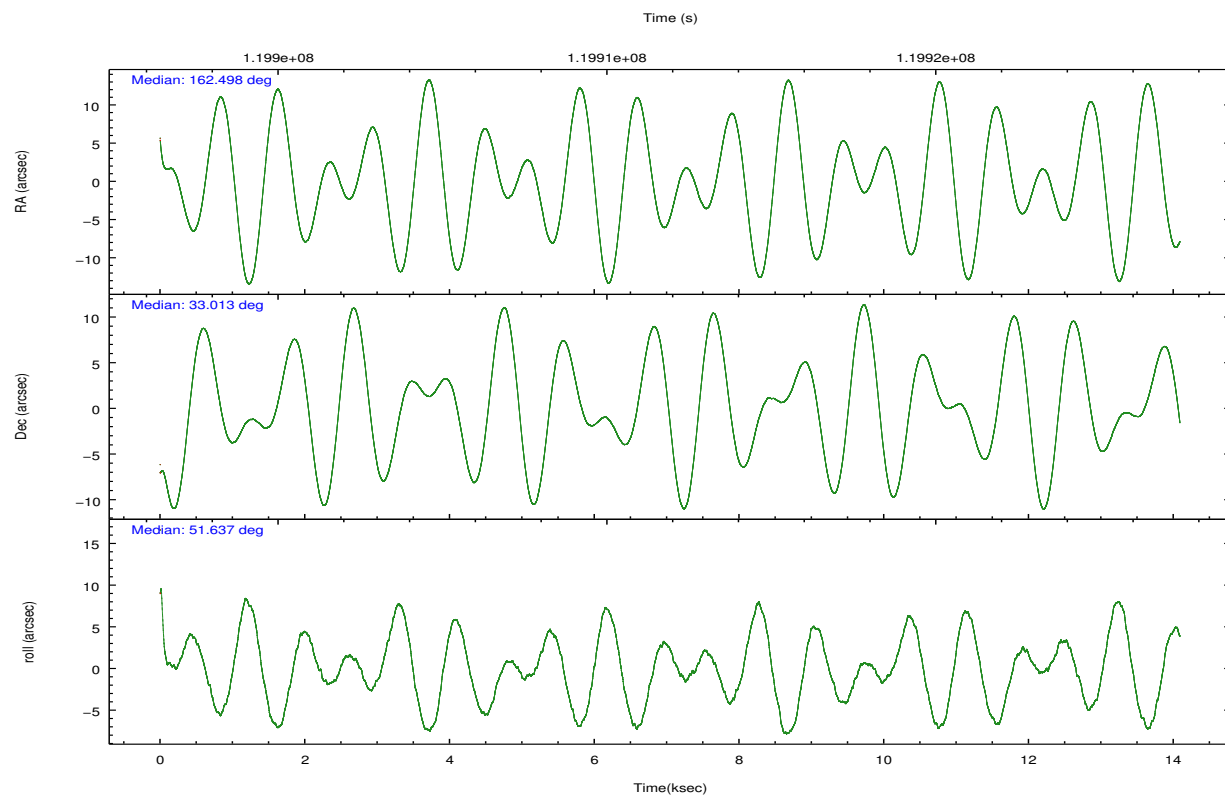
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	103984	96514	158204	100525	147839	136578	grade 0 events	7657	7201	10398	8854	8621	14554
rejected events	89439	82643	71262	84207	67924	98639		7%	7%	6%	8%	5%	10%
rejected %	86%	85%	45%	83%	45%	72%	grade 1 events	62	66	221	66	119	104
								0%	0%	0%	0%	0%	0%
							grade 2 events	2831	2551	25580	2875	15256	6942
								2%	2%	16%	2%	10%	5%
							grade 3 events	1035	1100	4999	1171	6707	4536
								0%	1%	3%	1%	4%	3%
							grade 4 events	1086	1136	4352	1156	6698	4083
								1%	1%	2%	1%	4%	2%
							grade 5 events	3042	3373	10513	3757	11196	4678
								2%	3%	6%	3%	7%	3%
							grade 6 events	1941	1889	41634	2266	42673	7829
								1%	1%	26%	2%	28%	5%
							grade 7 events	86330	79198	60507	80380	56569	93852
								83%	82%	38%	79%	38%	68%

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	162.493756	162.4981161490792	Subarray requested	NONE	NONE
[deg] Pointing Dec	32.986199	33.01321195031318	Alternating exposures requested	N	N
[deg] Pointing Roll	51.488692	51.64294723186244	[s] Primary exposure time	0.000000	3.2
[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)	119904114.184000	119903355.74655			
Observation start date	2001-10-19T18:40:50	2001-10-19T18:29:15			
[s] Observation end time (MET)	119918005.184000	119918445.79715			
Observation end date	2001-10-19T22:32:21	2001-10-19T22:40:45			
Read mode	TIMED	TIMED			

3.3 Aspect



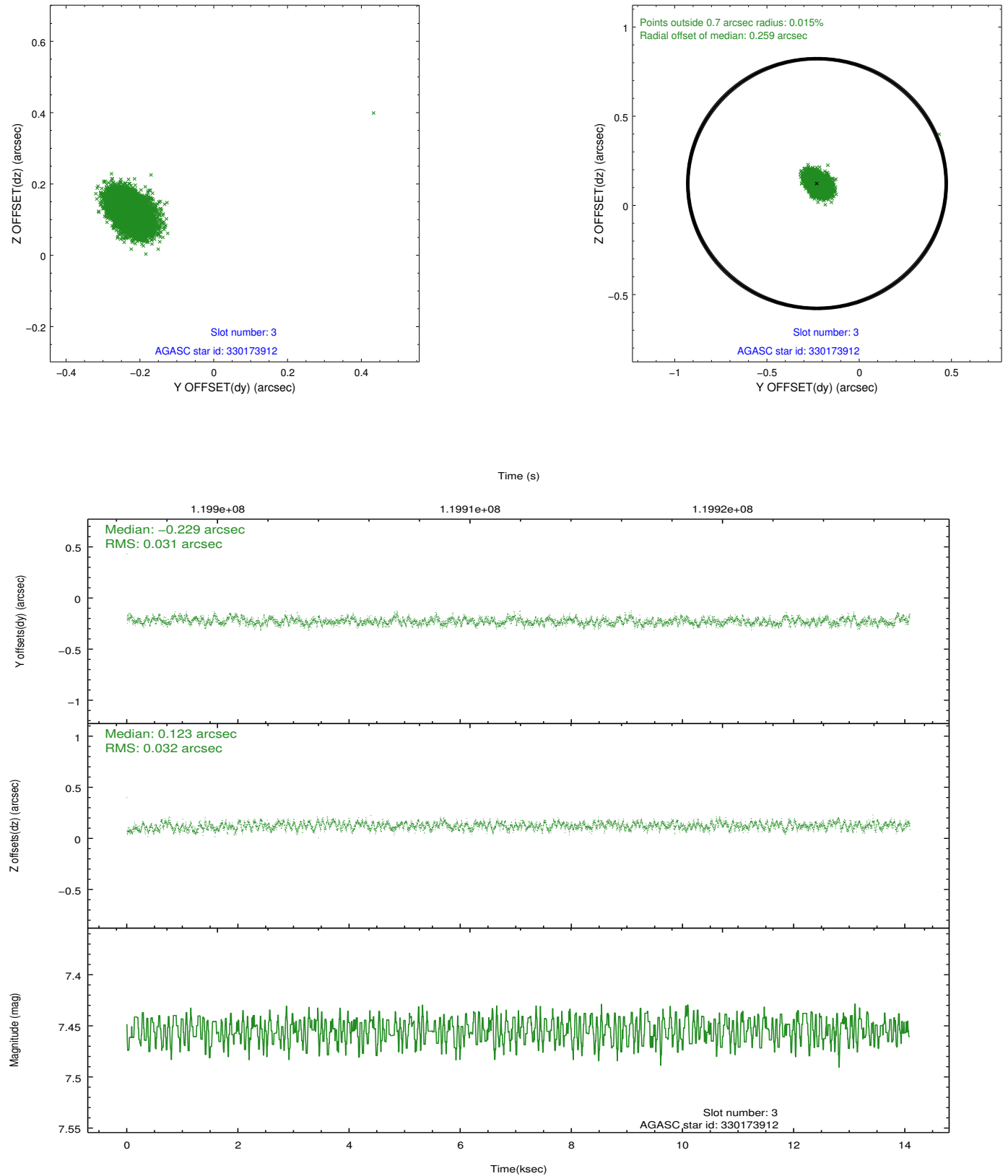


Slot Statistics

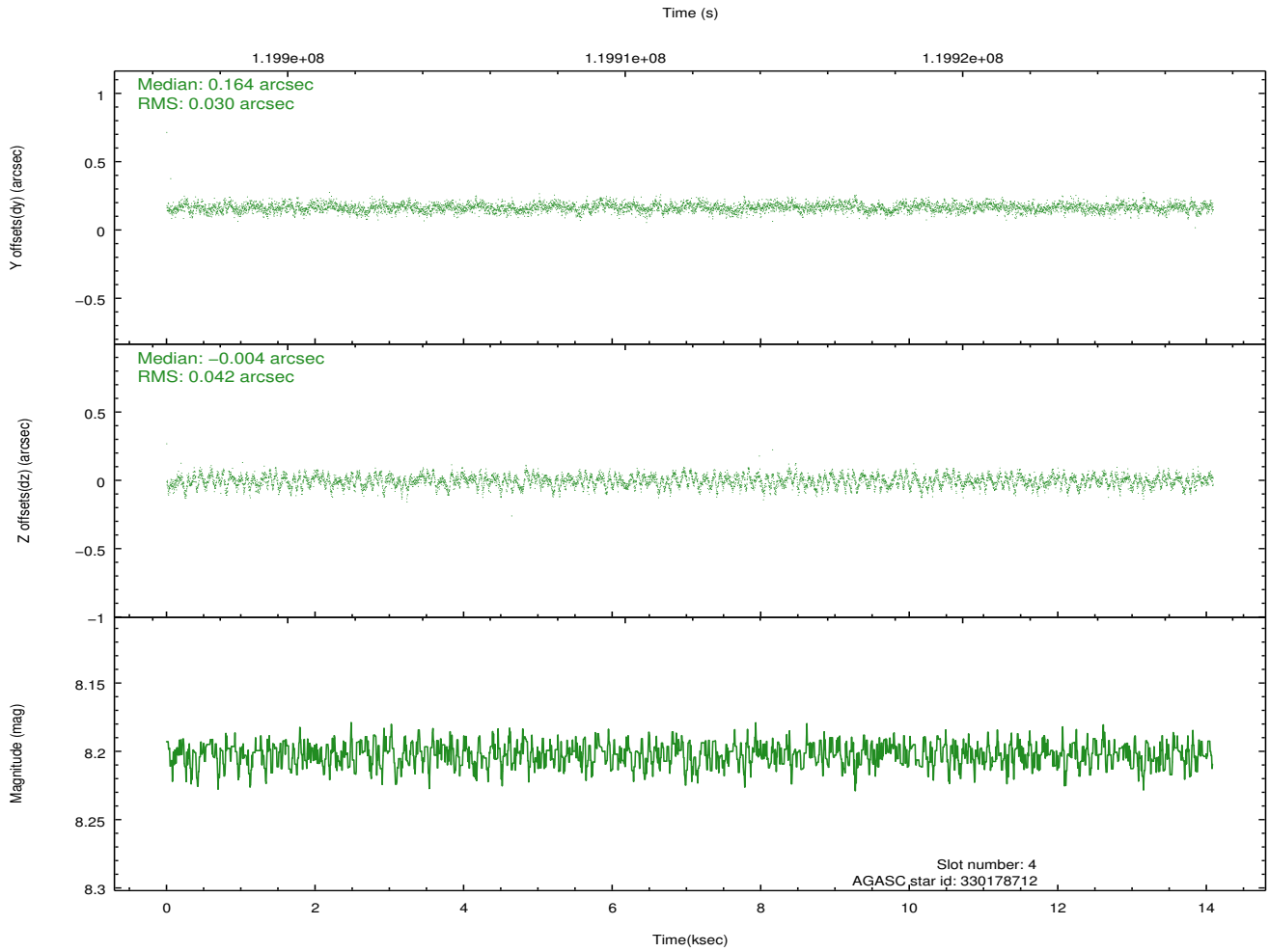
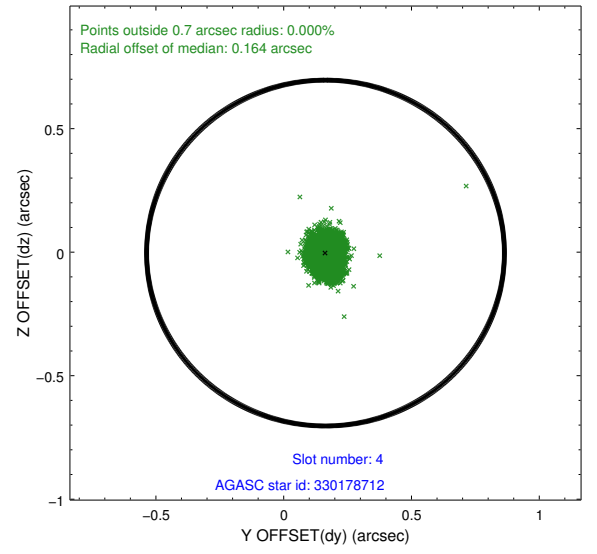
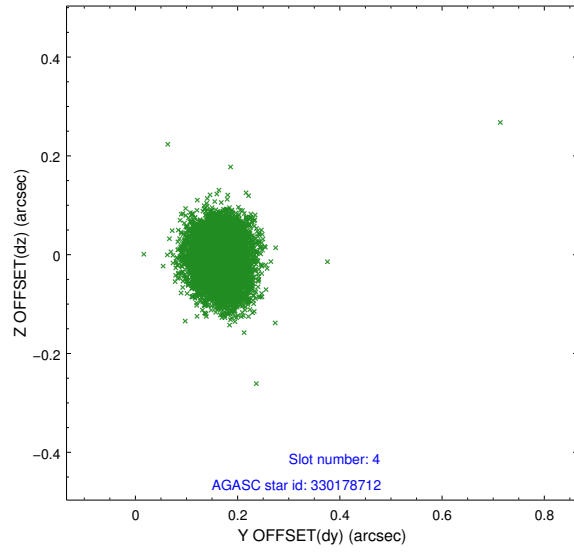
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.11	1480	-0.035	0.001	0.006	0.010	0.000000	0.000000	-754.87	-1726.63
1	FID	ACIS-S-4	7.20	1479	-0.032	0.017	0.005	0.009	0.000000	0.000000	2157.92	180.94
2	FID	ACIS-S-5	7.24	1479	0.036	-0.009	0.006	0.011	0.000000	0.000000	-1806.43	175.59
3	GUIDE	330178880	7.16	2959	-0.120	-0.043	0.064	0.094	163.017321	32.628628	82.68	2150.05
4	GUIDE	330173912	7.45	2960	-0.088	0.046	0.048	0.082	163.171265	32.988753	-1250.93	1805.80
5	GUIDE	330178712	8.22	2960	0.117	-0.069	0.046	0.077	162.236513	32.407638	2067.92	631.14
6	GUIDE	330176384	8.85	2957	-0.036	0.163	0.069	0.115	163.009586	33.043924	-1139.45	1290.17
7	GUIDE	330174856	8.87	2958	0.125	-0.098	0.063	0.104	162.081845	32.889185	887.38	-722.38

3.4 Star Slots

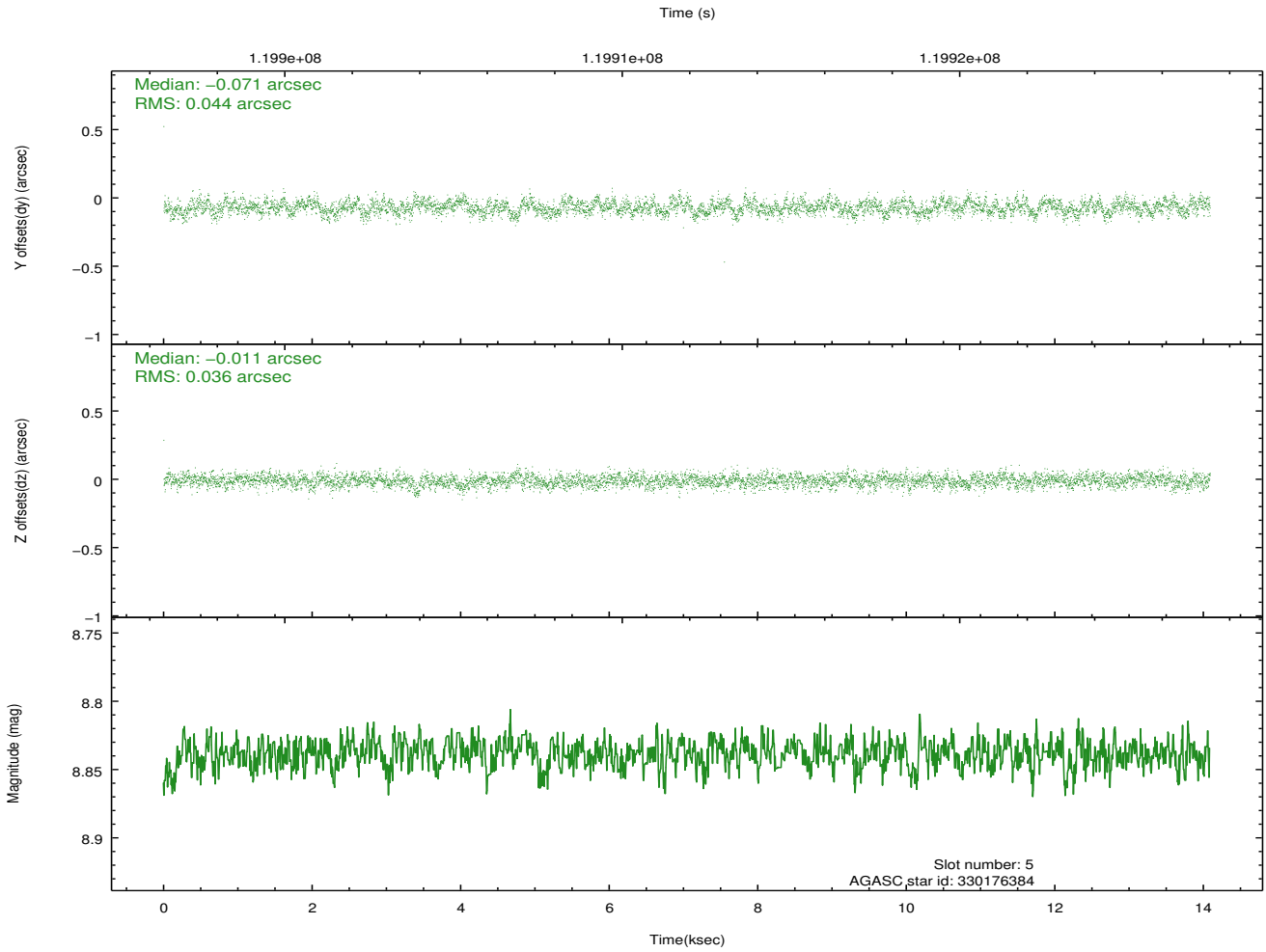
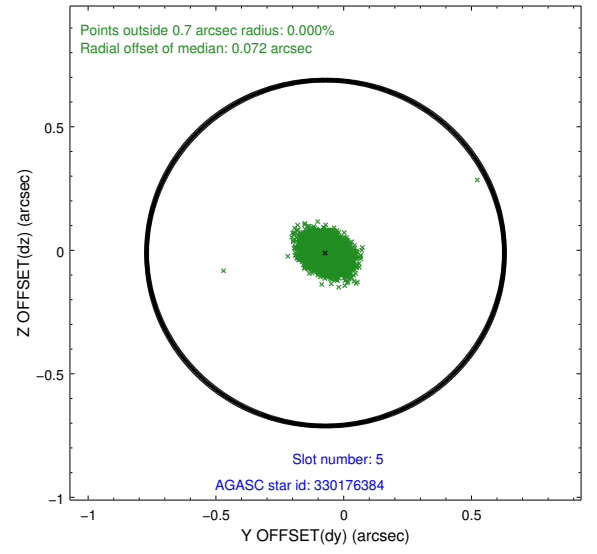
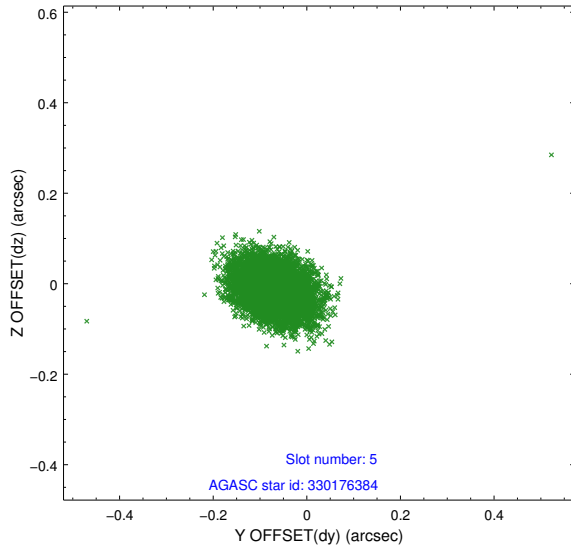
3.4.1 Slot 3



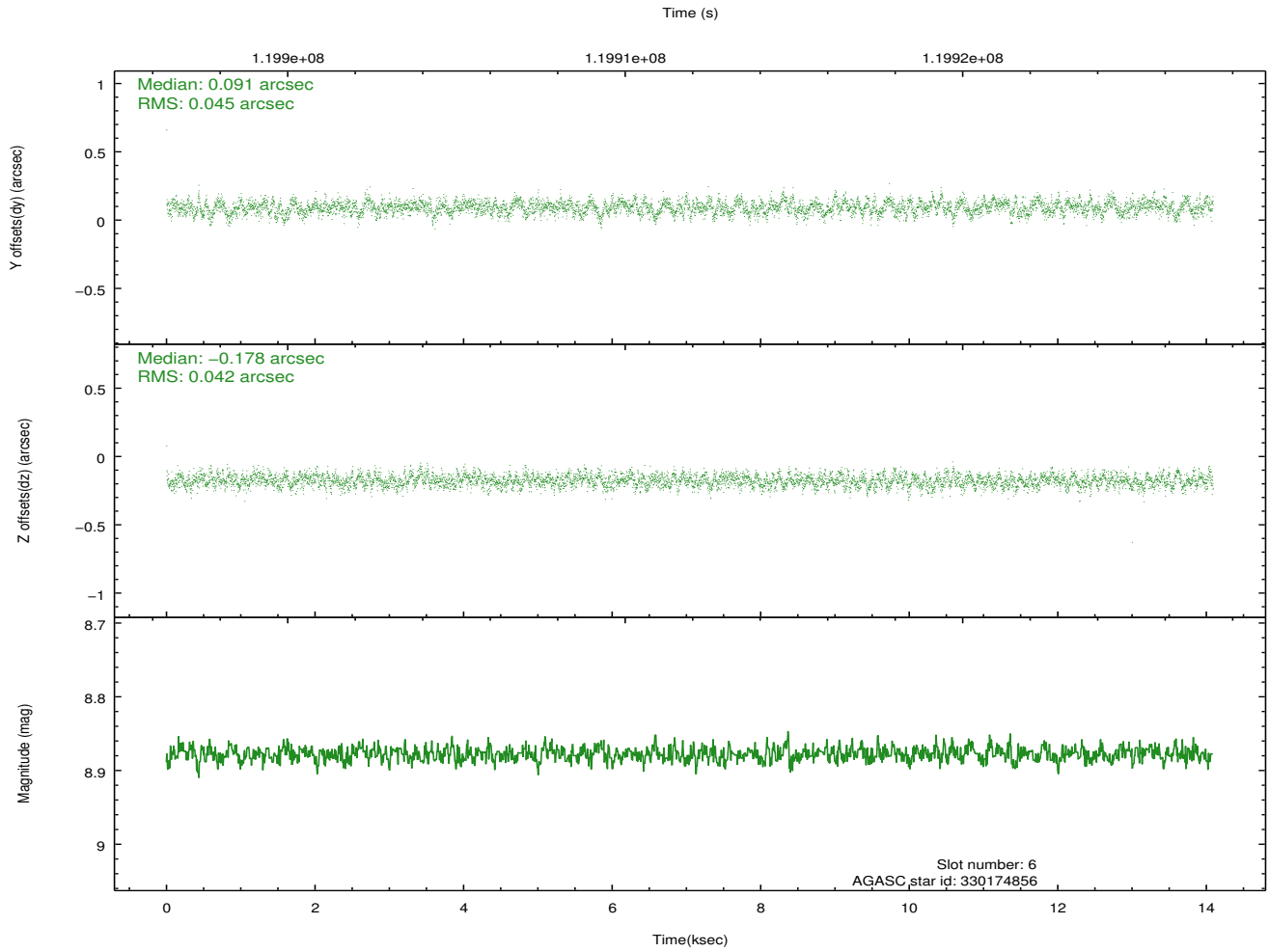
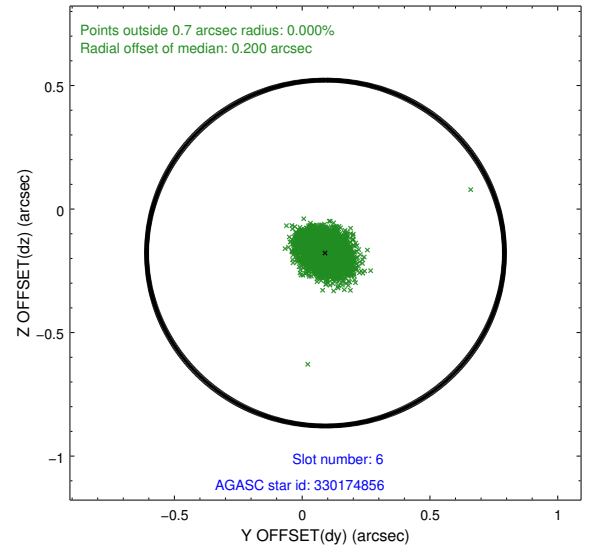
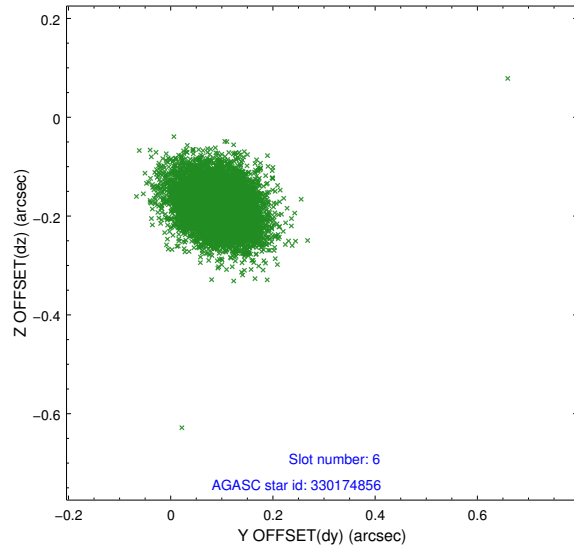
3.4.2 Slot 4



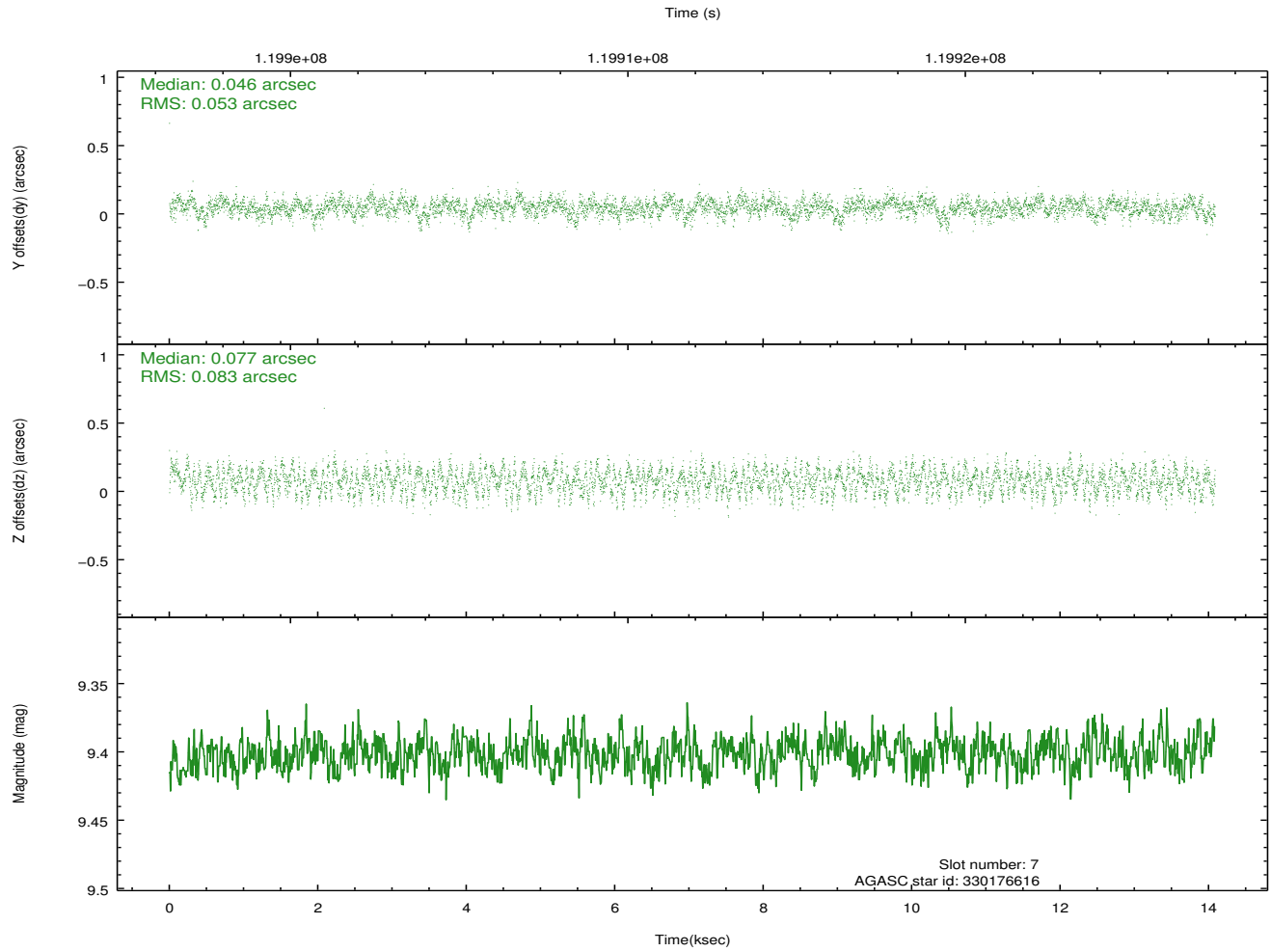
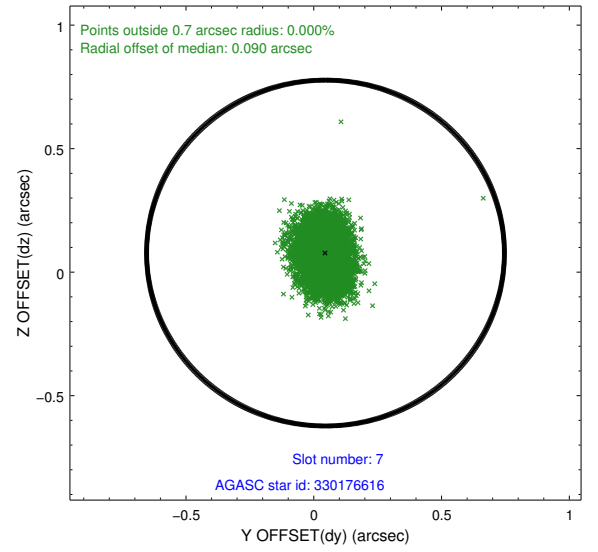
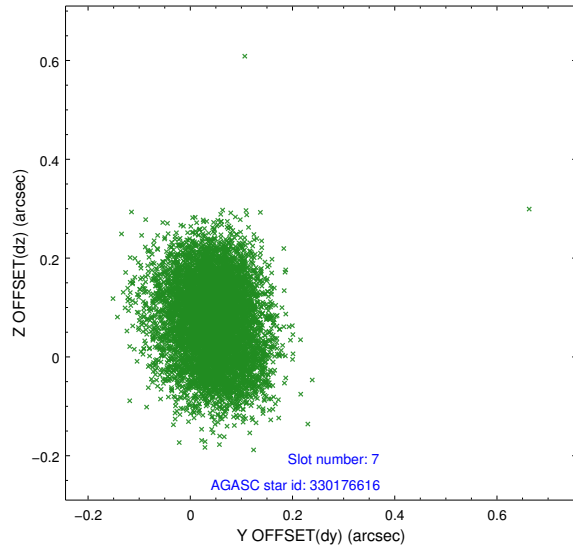
3.4.3 Slot 5



3.4.4 Slot 6

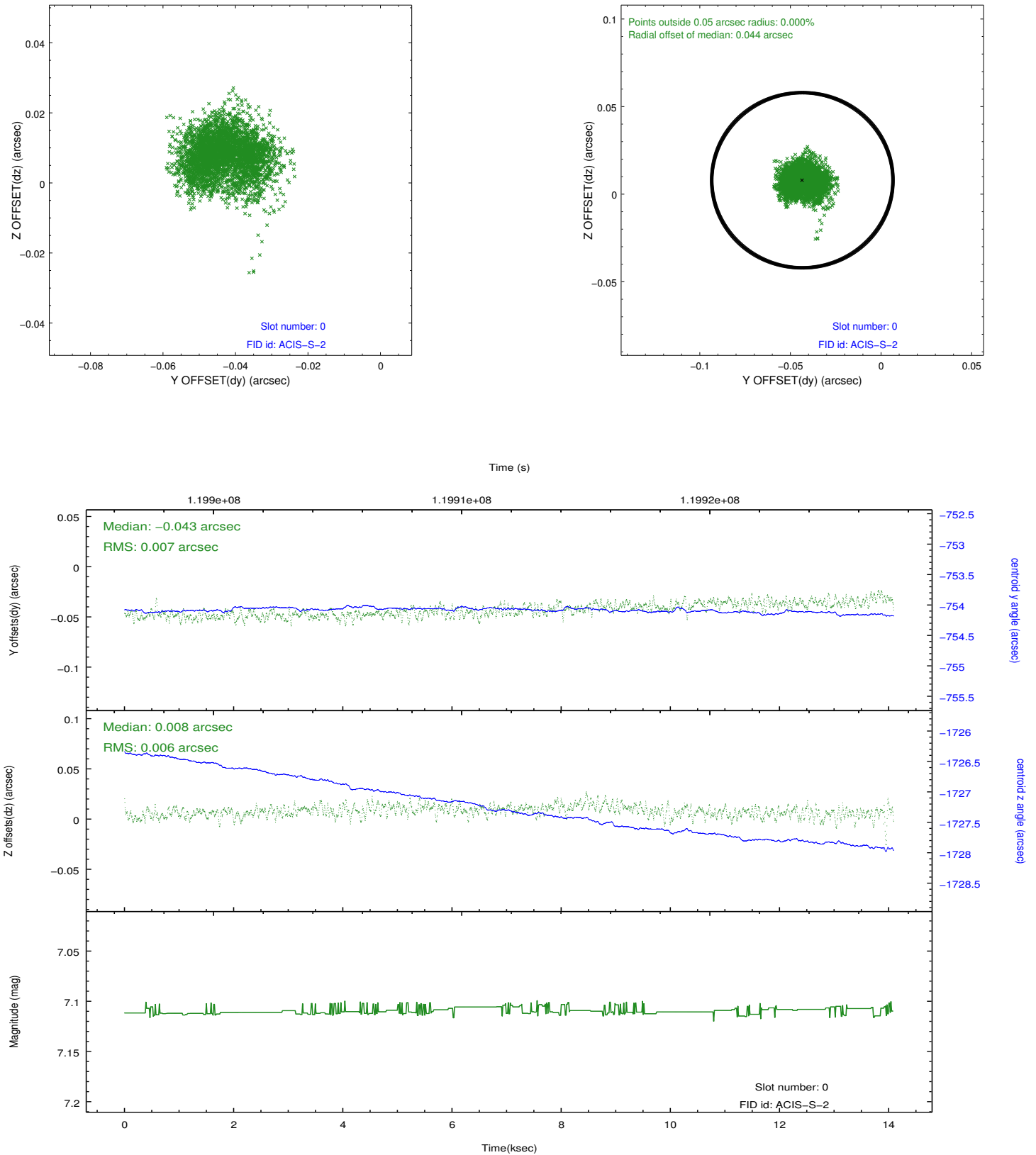


3.4.5 Slot 7

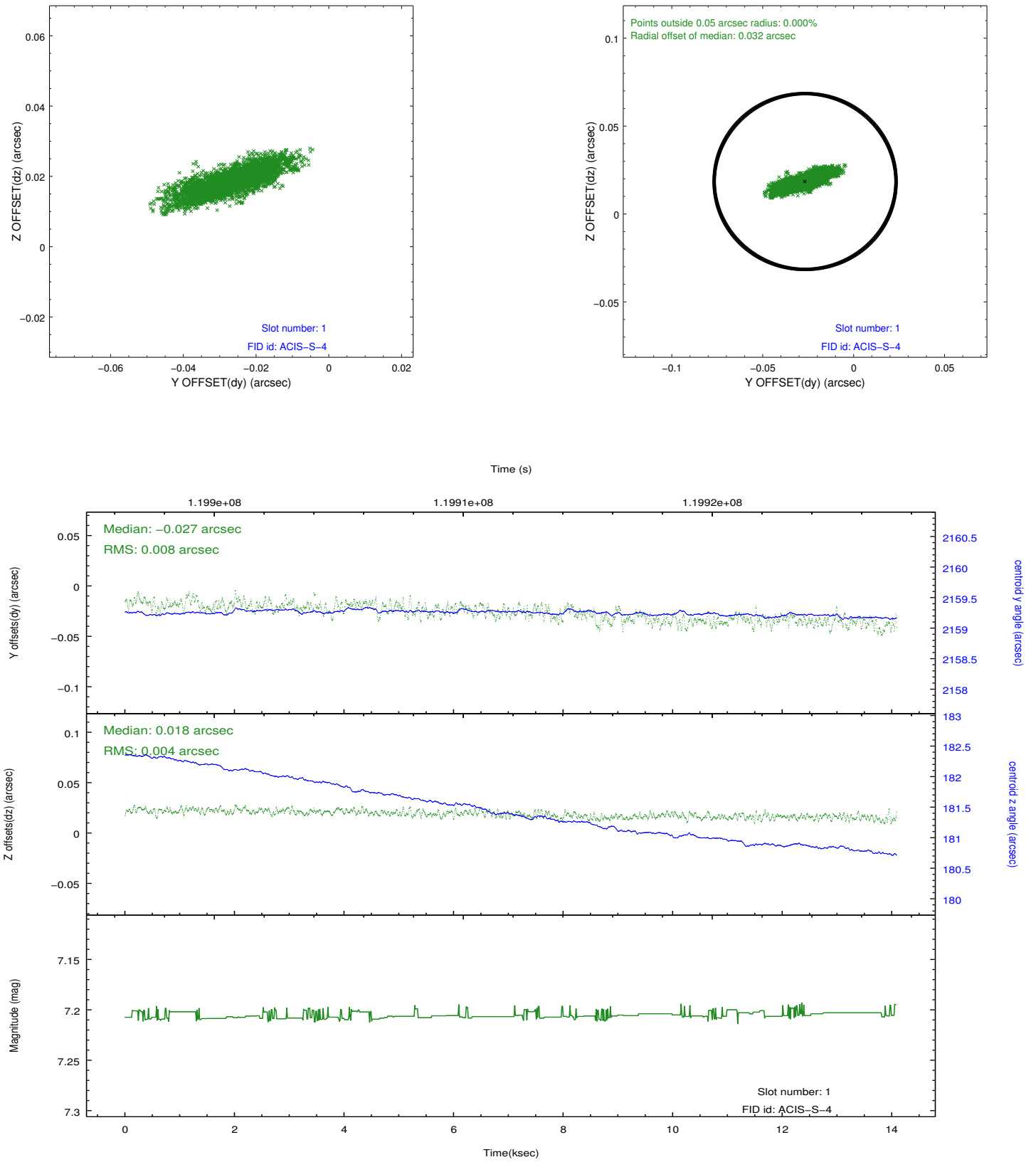


3.5 FID Slots

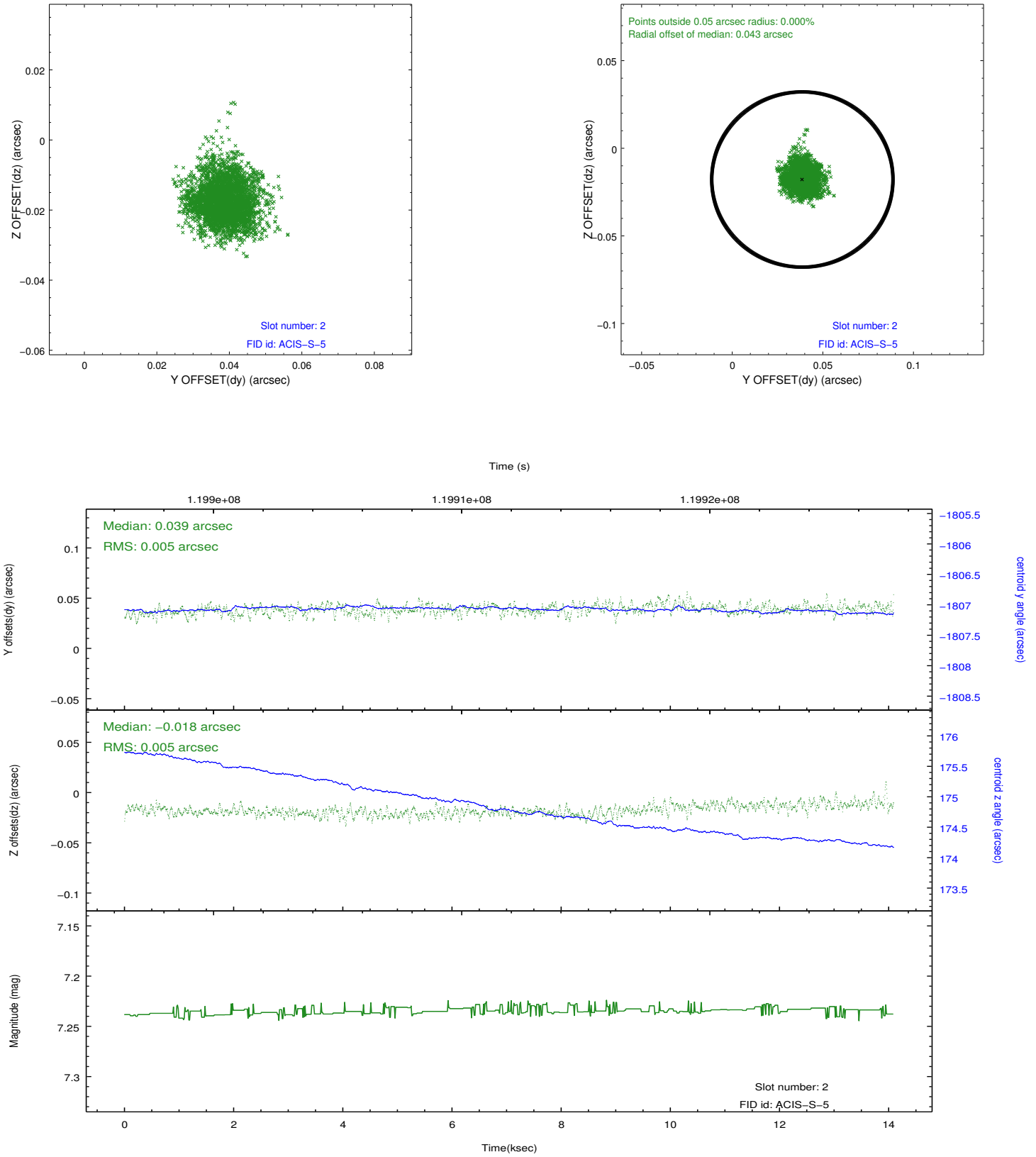
3.5.1 Slot 0



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)	2012.12.12
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	19.76

A.2 Comments

Charge time for this ObsId remains at original value of 19.76 ks, although with the current processing the charge time would have been 19.73 ksec.

===

High radiation levels resulted in a decision to safe the ACIS instrument at day 118/04:52 (Apr 28 12:52am). This safing terminated obi=1. The count rate increases starting about 4 ksec into this obi=1 observation and continues to increase until the safing action. This rise in the count rate is due to the high radiation environment. It might be wise to ignore the data between 4 ksec and the end of the observation for obi=1. This observation has been reprocessed so that the aspect solution correctly handles the instrument safing and maneuver activities at the end of the obi=1.