

V&V Reference Report

L2 ASCDS Version : 10.1.1

Observation 15679 - L2 Version 3
Chandra X-Ray Center

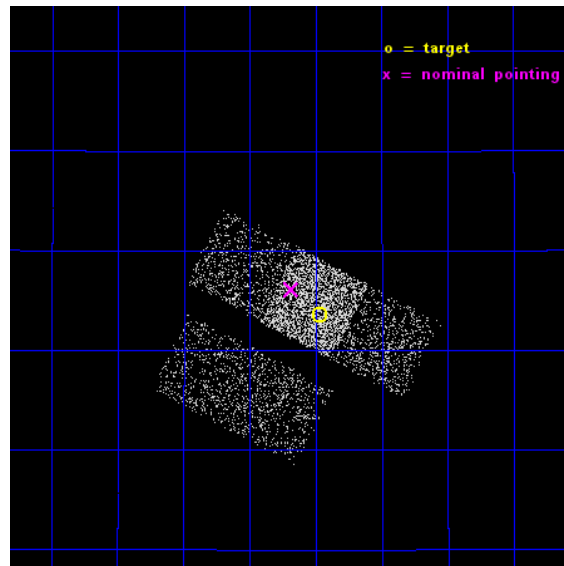
L2 Processing Date : Dec 8 2014

Contents

1	Front	2
2	OBI	3
2.1	OBI	3
2.1.1	Images	3
2.1.2	Bias	3
2.1.3	Parameters	4
2.1.4	Events	4
2.2	Compared Parameters	5
2.3	Aspect	6
2.4	Star Slots	9
2.4.1	Slot 3	9
2.4.2	Slot 5	10
2.4.3	Slot 6	11
2.4.4	Slot 7	12
2.5	FID Slots	13
2.5.1	Slot 0	13
2.5.2	Slot 1	14
2.5.3	Slot 2	15
A	Summary	16
A.1	Status	16
A.2	Comments	16

1 Front

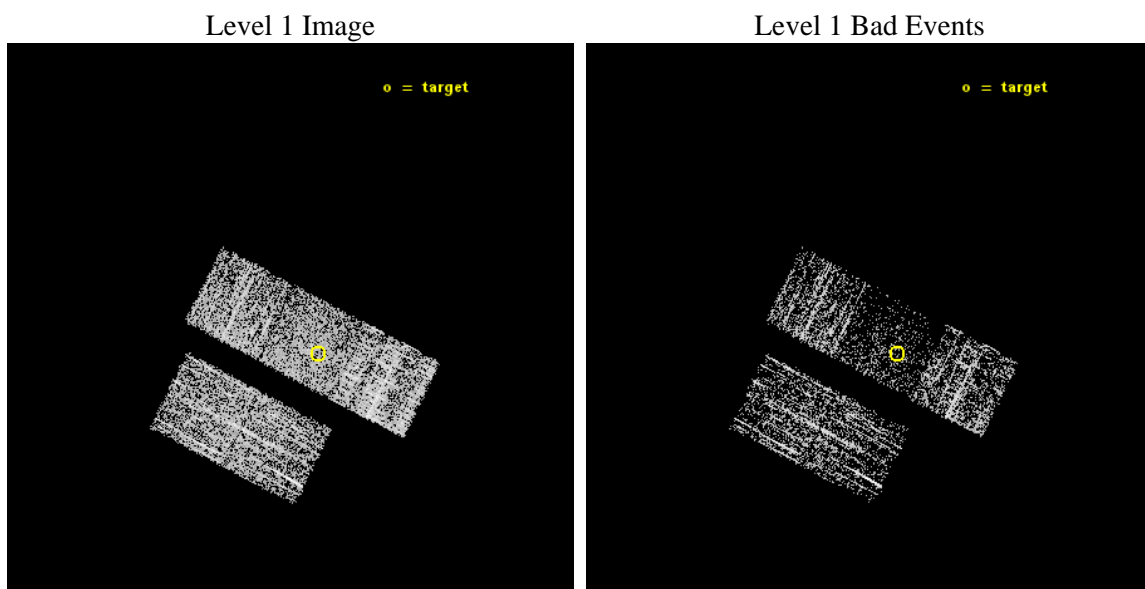
seq_num	100108	Sequence number
obs_id	15679	Observation id
title	Plumbing the Heights of the Solar Wind With Comet ISON	Proposal ti
observer	Dr. Carey Lisse	Principal investigator
object	Comet C/2012 S1 (ISON)	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	242.99306	Observer's specified target RA [deg]
dec_targ	22.89326	Observer's specified target Dec [deg]
ra_nom	243.04604906739	Nominal RA [deg]
dec_nom	22.935263250885	Nominal Dec [deg]
roll_nom	27.100028639693	Nominal Roll [deg]
revision	3	Processing version of data
ontime	2073.9000159502	Sum of GTIs [s]
livetime	2046.8029854588	Livetime [s]
ontime2	2073.9000159502	Sum of GTIs [s]
ontime3	2073.9000159502	Sum of GTIs [s]
ontime6	2073.9000159502	Sum of GTIs [s]
ontime7	2073.9000159502	Sum of GTIs [s]
ontime8	2073.9000159502	Sum of GTIs [s]
l2events	6048	Number of level 2 events



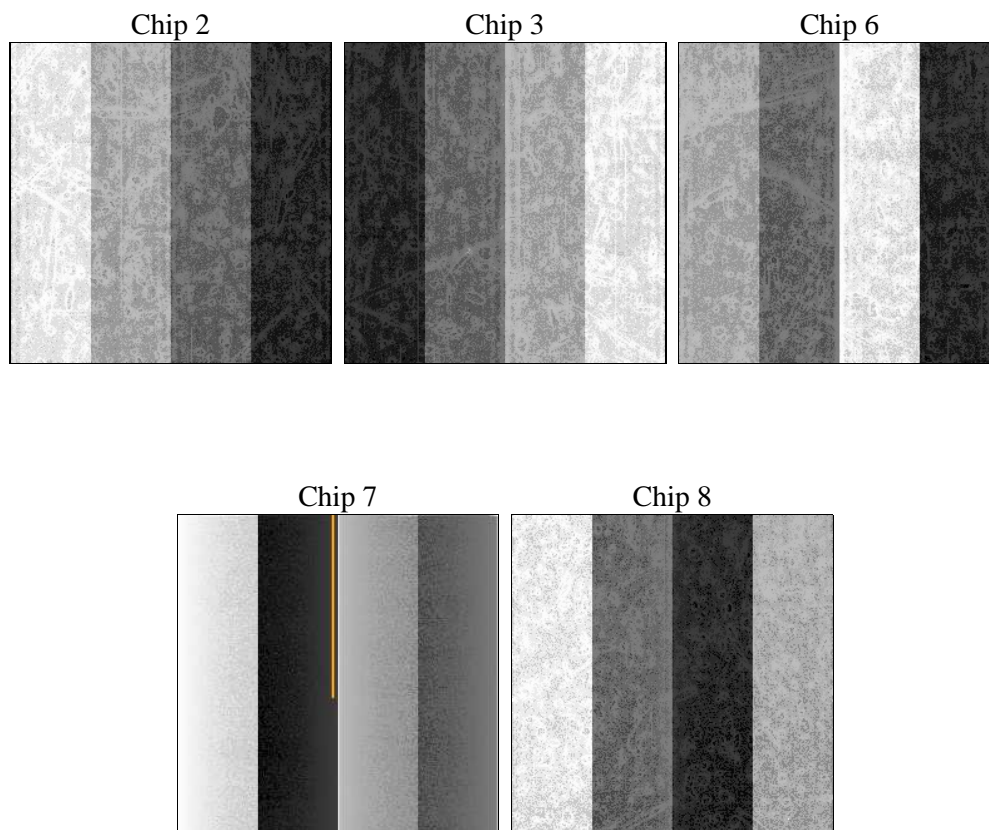
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	2000.000000	[s] Scheduled observation exposure time
ascdsver	10.3.1	Processing system revision	ontime	2073.9000159502	Sum of GTIs [s]
caldsver	4.6.4	 	ontime2	2073.9000159502	Sum of GTIs [s]
date	2014-12-08T17:16:54	Date and time of file creation	ontime3	2073.9000159502	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	2073.9000159502	Sum of GTIs [s]
			ontime7	2073.9000159502	Sum of GTIs [s]
			ontime8	2073.9000159502	Sum of GTIs [s]
			l1events	39962	Number of level 1 events

2.1.4 Events

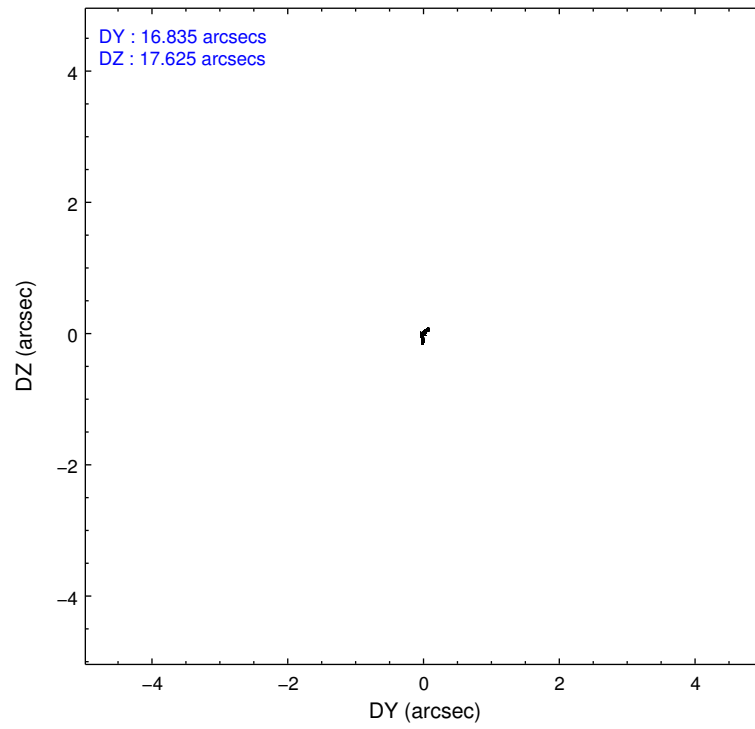
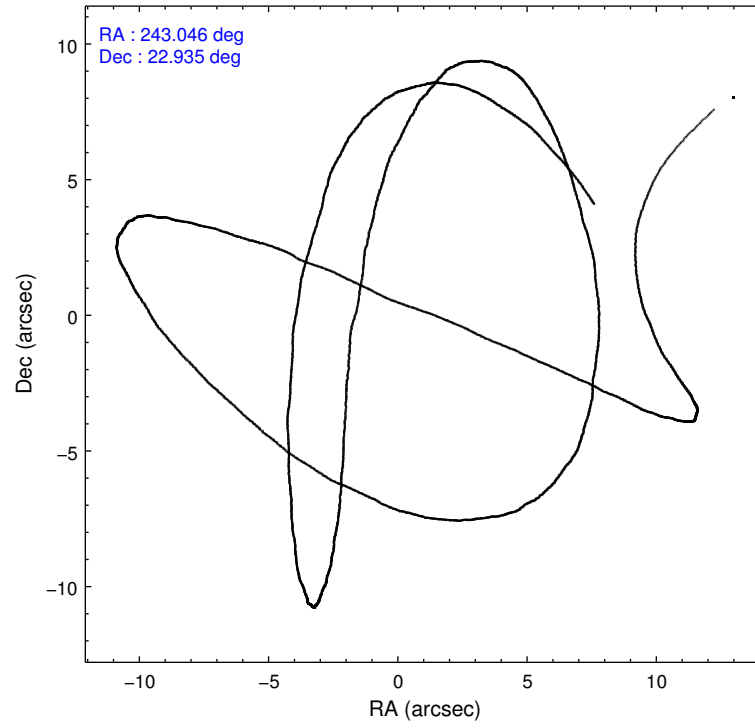
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
level 1 events	8069	7449	7374	6182	10888
rejected events	7221	6664	6507	2960	7634
rejected %	89%	89%	88%	47%	70%

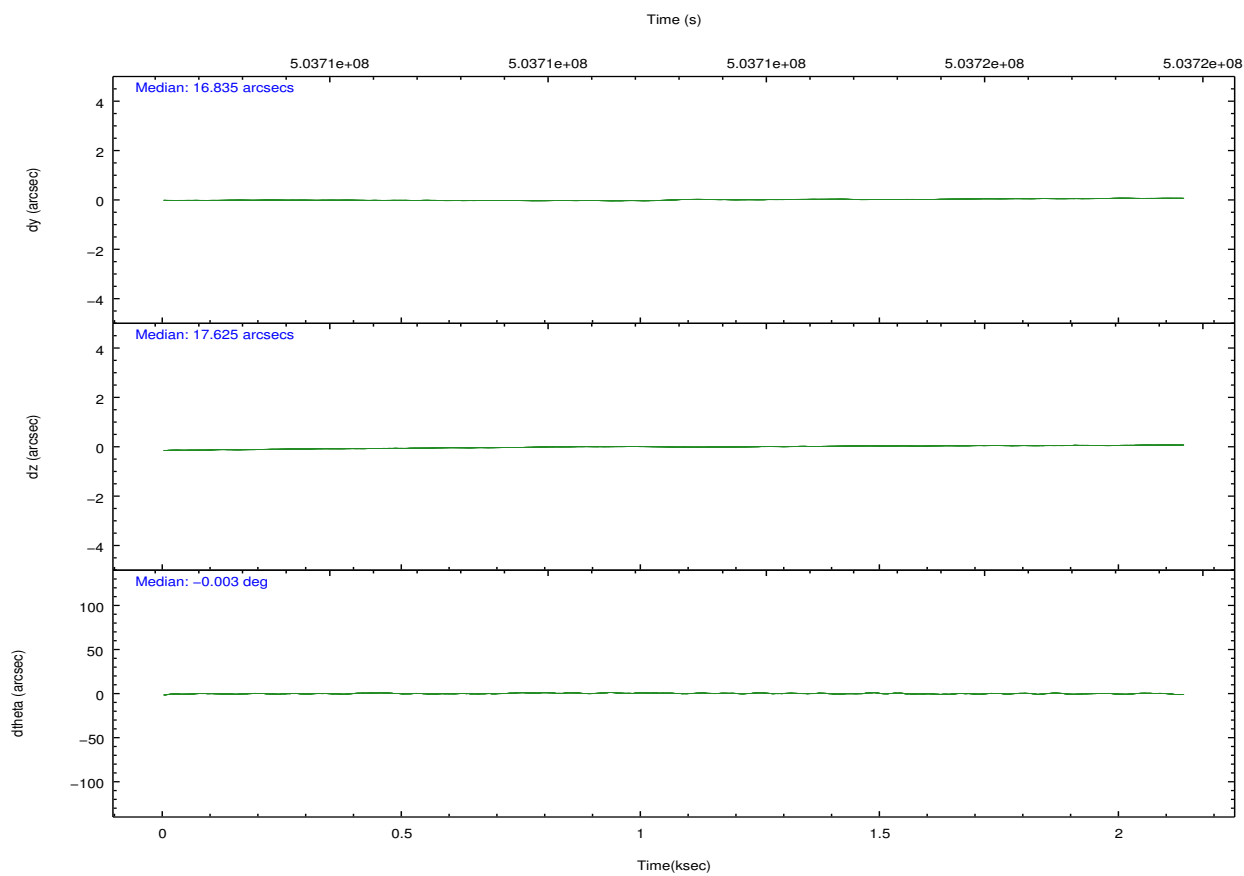
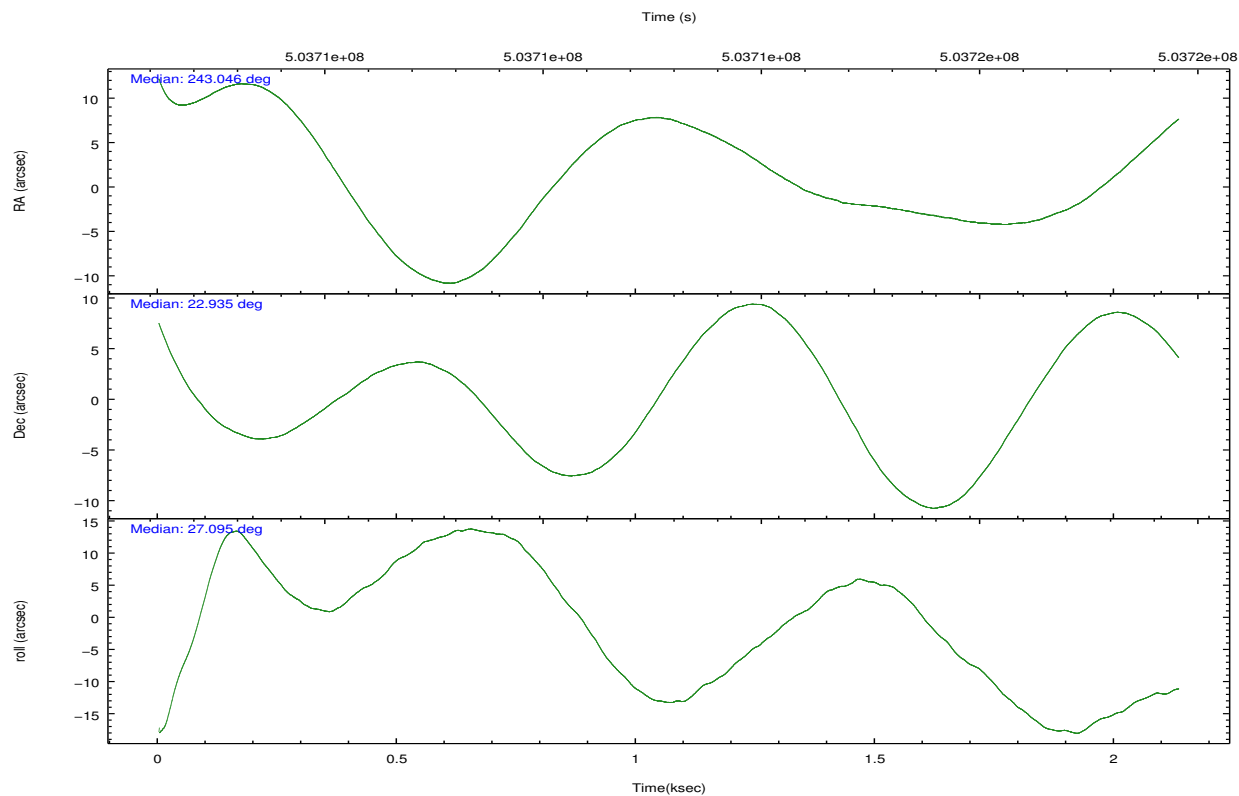
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
grade 0 events	390	356	392	441	972
	4%	4%	5%	7%	8%
grade 1 events	4	3	3	17	8
	0%	0%	0%	0%	0%
grade 2 events	198	180	213	842	913
	2%	2%	2%	13%	8%
grade 3 events	81	97	74	340	365
	1%	1%	1%	5%	3%
grade 4 events	86	76	78	295	340
	1%	1%	1%	4%	3%
grade 5 events	195	247	208	663	424
	2%	3%	2%	10%	3%
grade 6 events	143	137	170	1493	1008
	1%	1%	2%	24%	9%
grade 7 events	6972	6353	6236	2091	6858
	86%	85%	84%	33%	62%

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	243.030111	243.0460490673888	CCD I2 on	Y	Y
[deg] Pointing Dec	22.912027	22.93526325088519	CCD I3 on	Y	Y
[deg] Pointing Roll	26.949836	27.10002863969319	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	Y	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	O1	Y
[s] Observation start time (MET)	503713354.184000	503712108.01508	CCD S5 on	N	N
Observation start date	2013-12-18T00:21:27	2013-12-18T00:01:48	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	503715354.184000	503715487.44027	On-chip summing requested	N	N
Observation end date	2013-12-18T00:54:47	2013-12-18T00:58:07	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



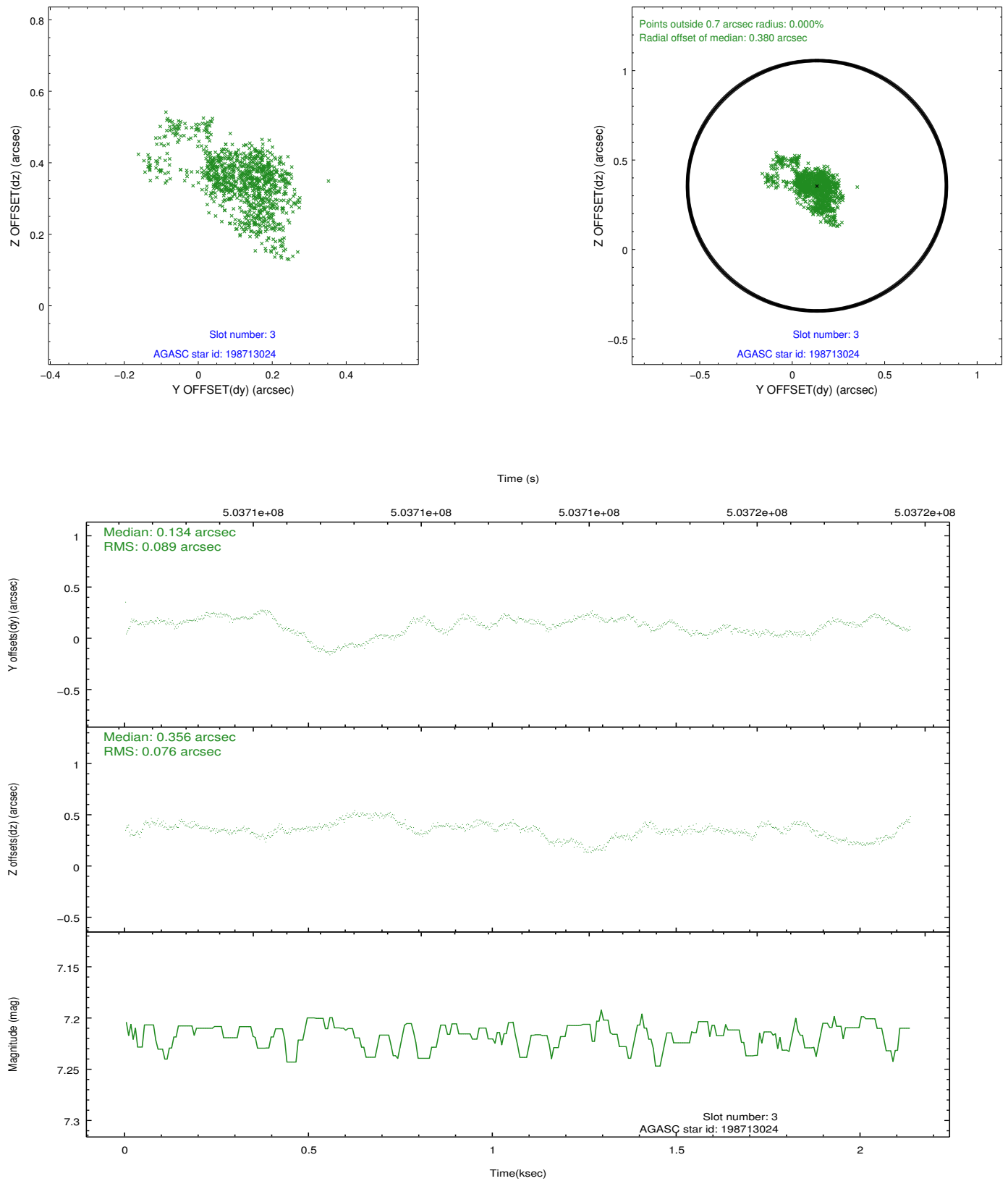


Slot Statistics

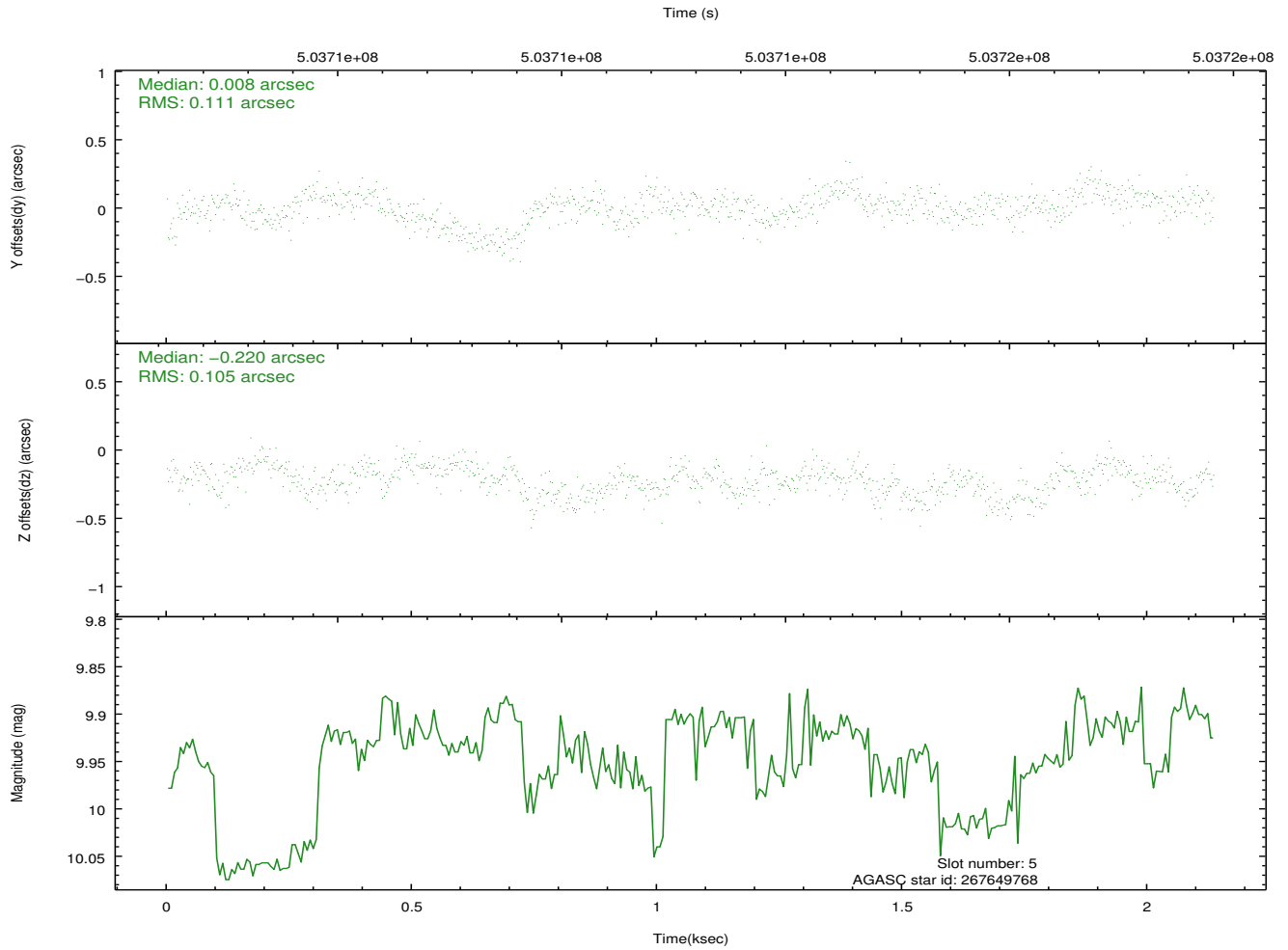
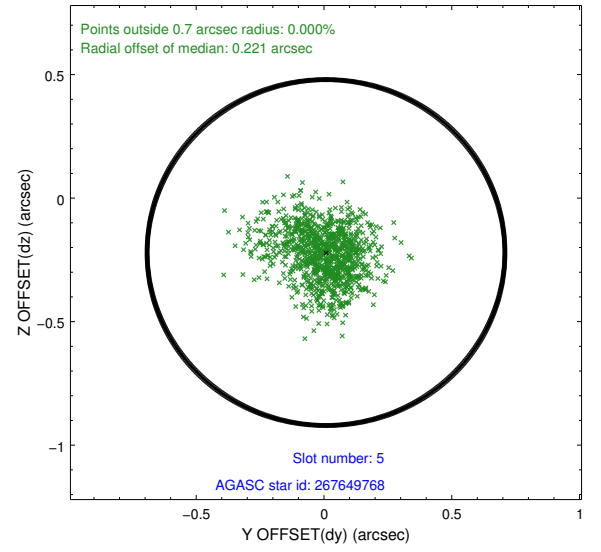
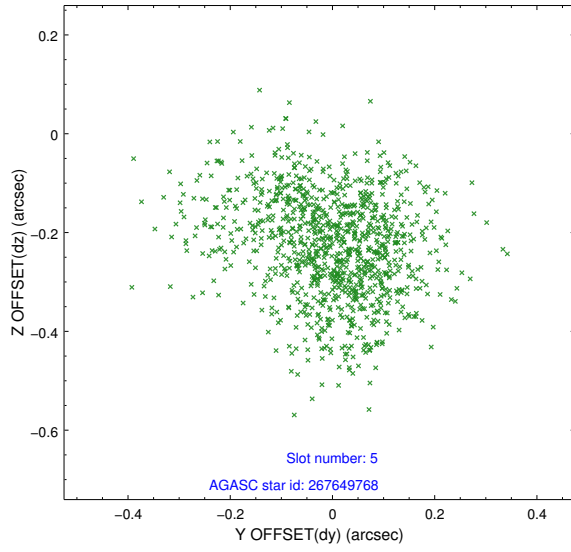
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.96	521	-0.079	-0.031	0.007	0.011	0.000000	0.000000	-769.97	-1739.03
1	FID		ACIS-S-4	7.05	521	0.195	0.047	0.005	0.011	0.000000	0.000000	2142.21	166.31
2	FID		ACIS-S-5	7.07	521	-0.148	-0.006	0.006	0.012	0.000000	0.000000	-1818.94	163.47
3	GUIDE	used	198713024	7.22	1042	0.134	0.356	0.109	0.239	243.197983	22.266414	-554.51	-2324.30
4	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00
5	GUIDE	used	267649768	9.94	1040	0.008	-0.220	0.160	0.275	243.326466	23.109856	1197.17	189.07
6	GUIDE	used	267655280	10.05	1040	-0.112	-0.262	0.176	0.293	243.102418	23.133706	575.73	603.55
7	GUIDE	used	267656872	10.24	1040	-0.041	0.140	0.255	0.471	243.827570	22.802744	2184.36	-1542.40

2.4 Star Slots

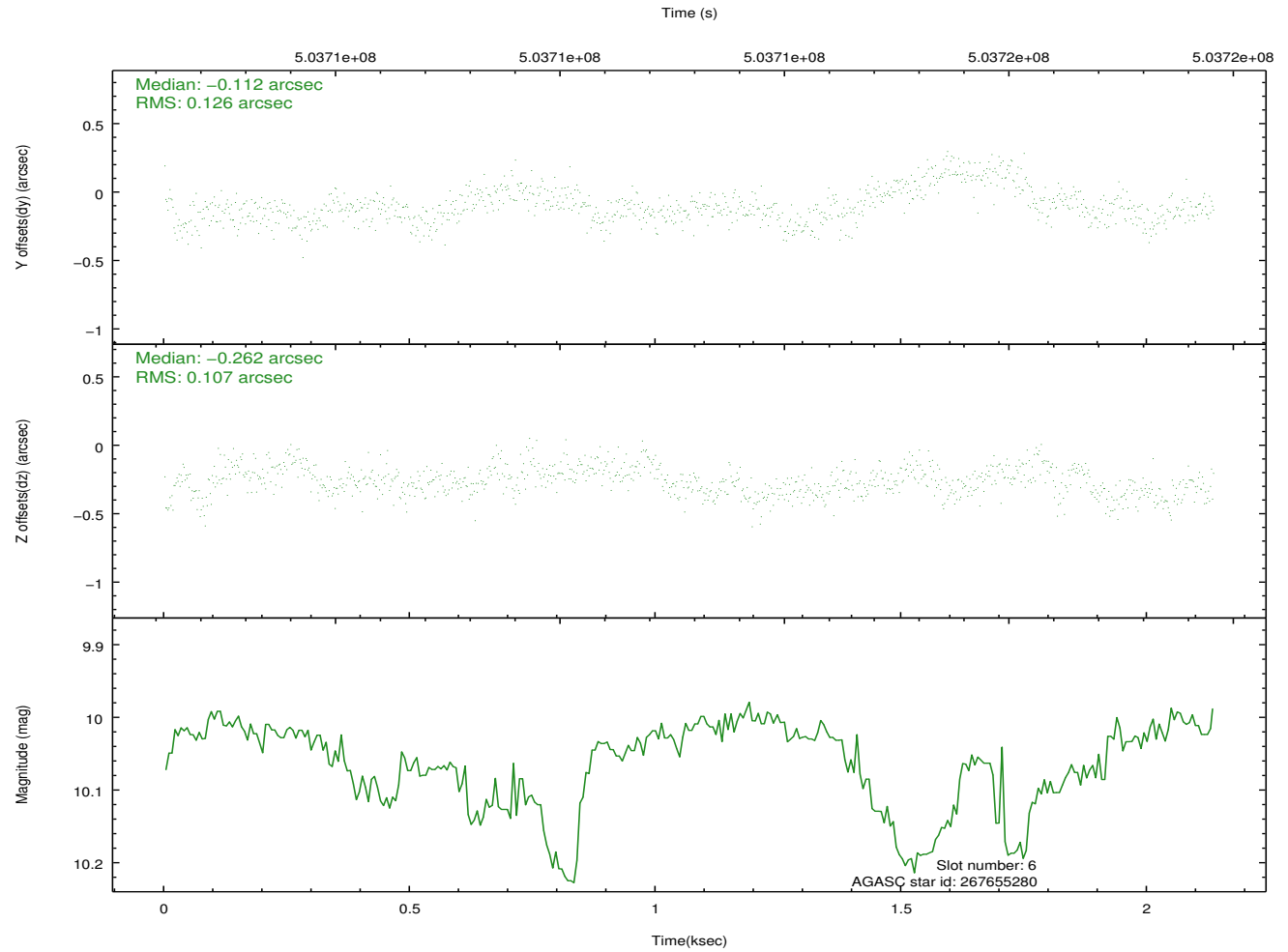
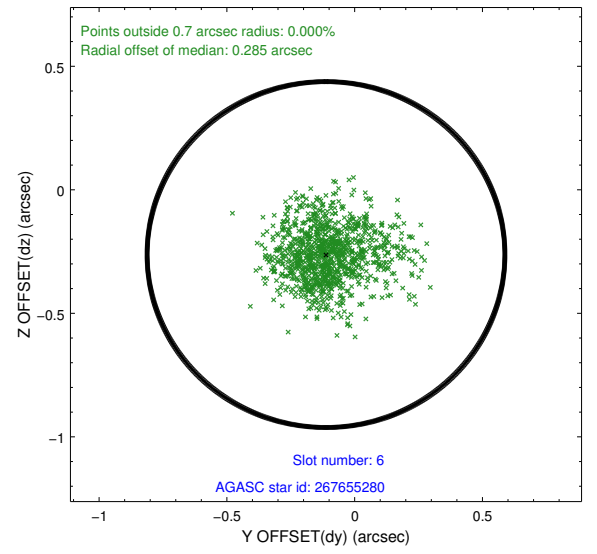
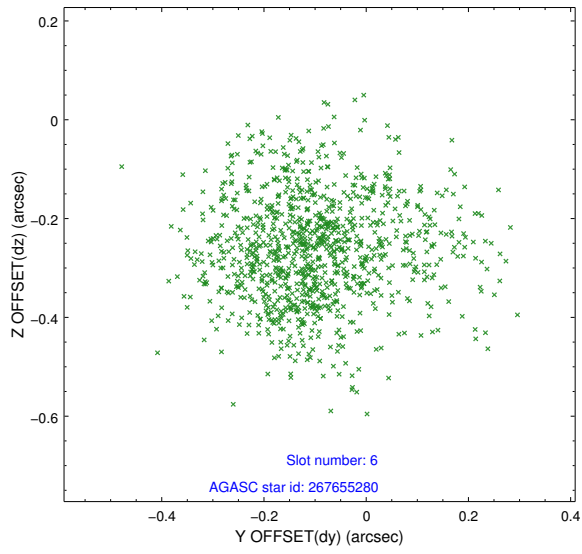
2.4.1 Slot 3



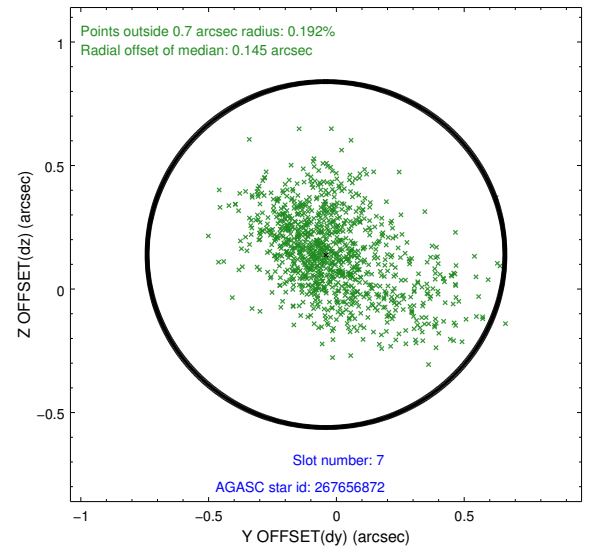
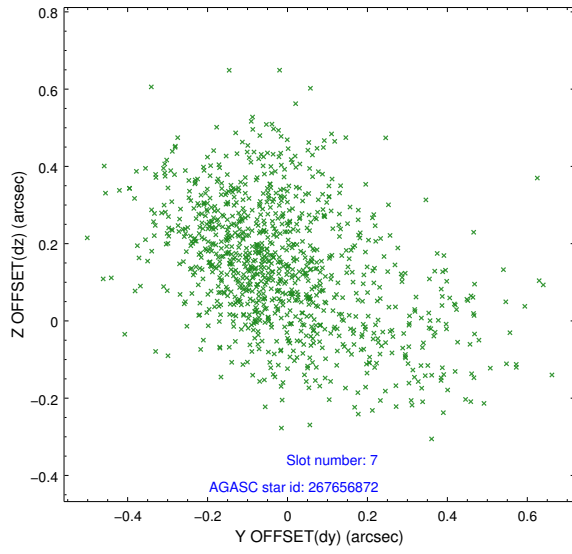
2.4.2 Slot 5



2.4.3 Slot 6

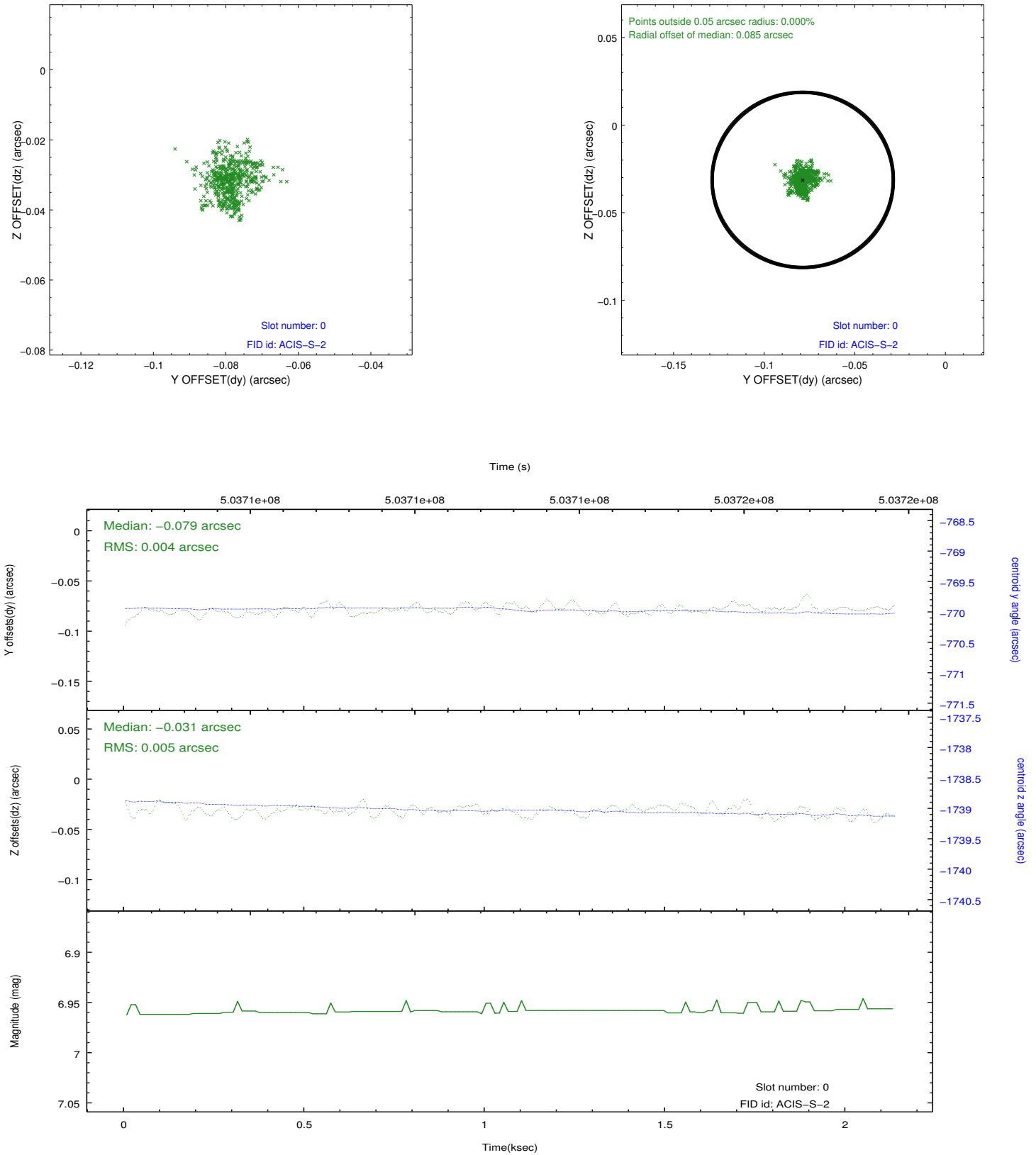


2.4.4 Slot 7

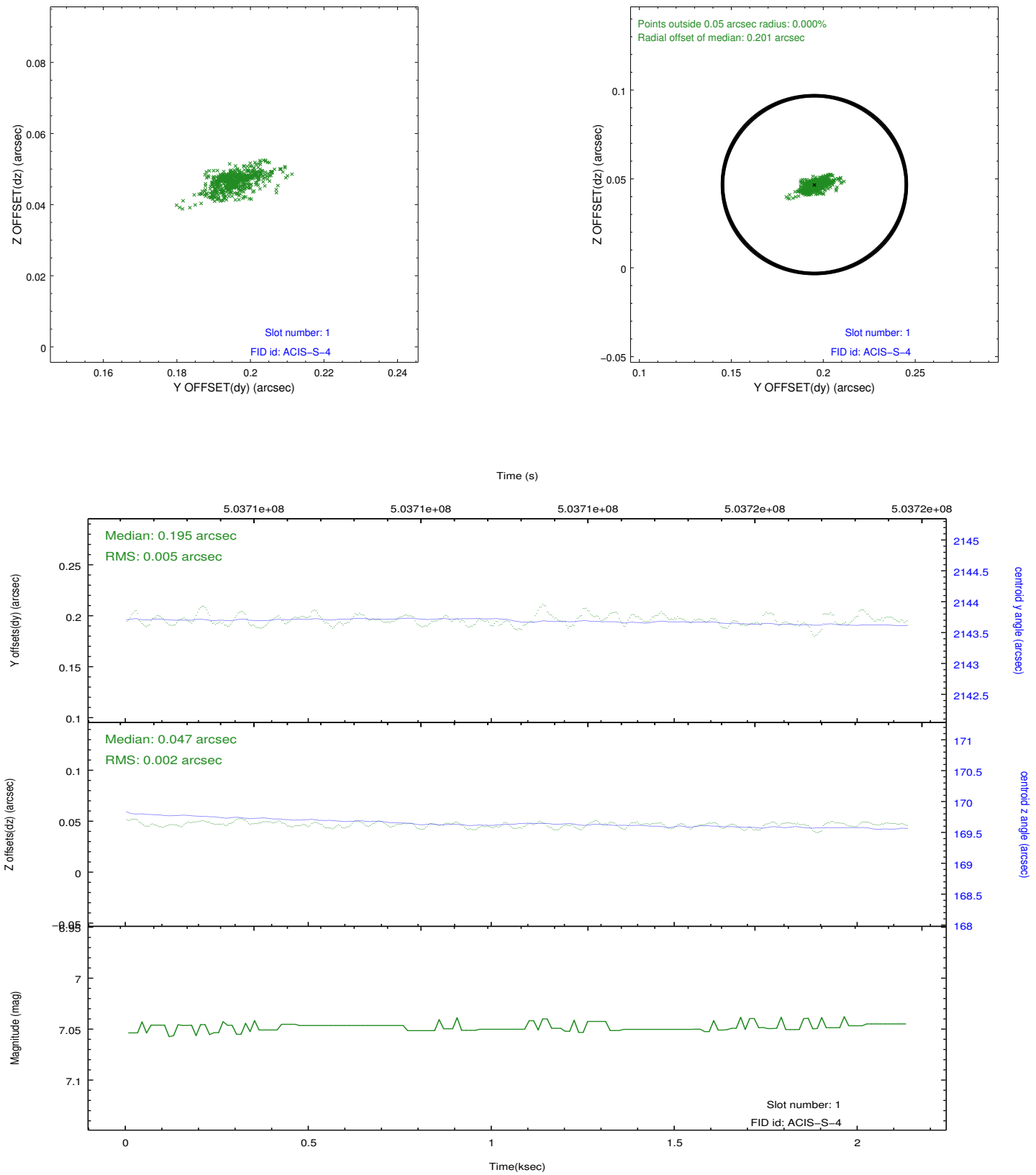


2.5 FID Slots

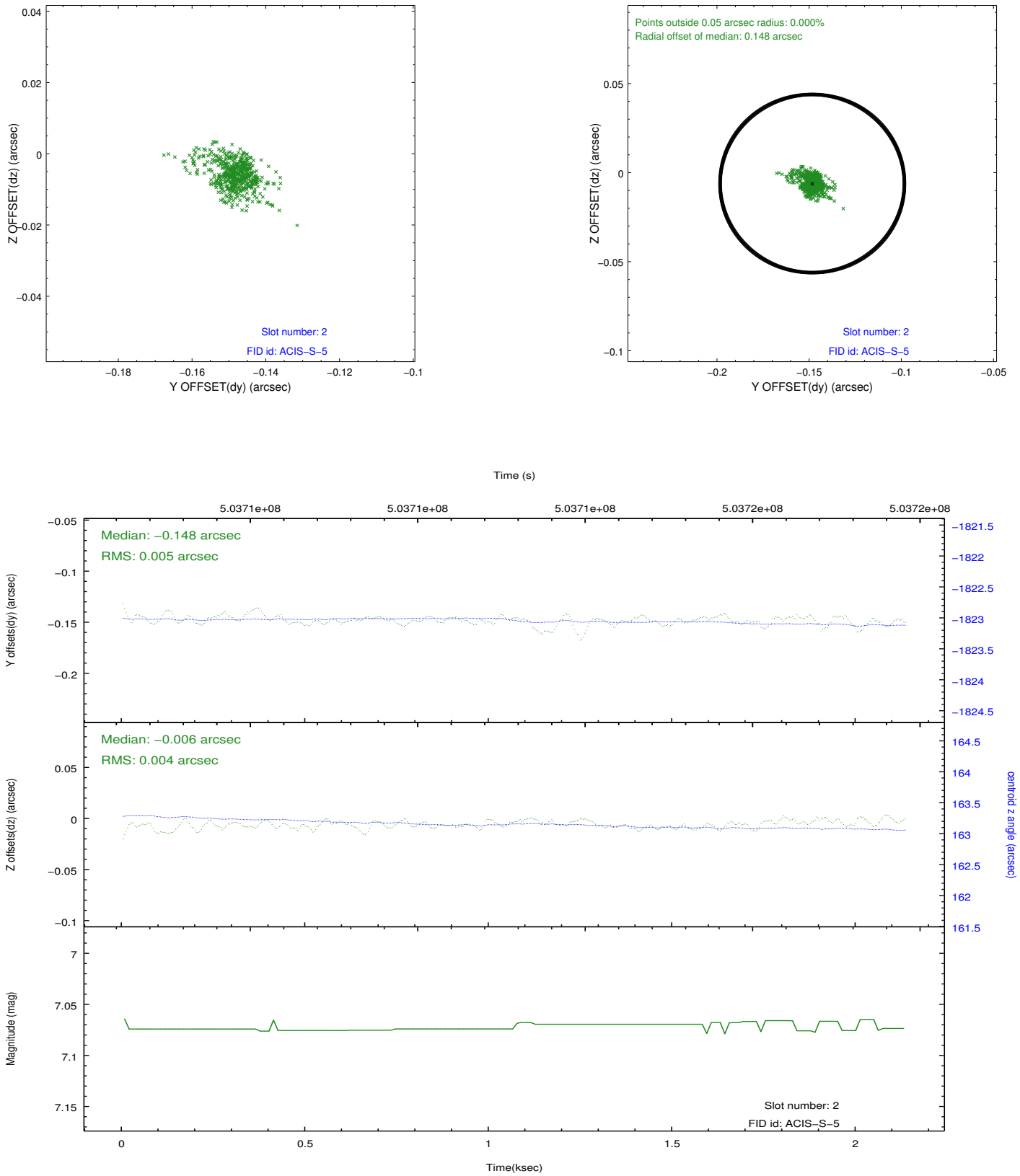
2.5.1 Slot 0



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)	2014.12.12
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	2.0739000159502

A.2 Comments

The guide star in slot 4 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this star from the solution.

This is an observation of a moving target. Users will need to run `sso_freeze` or similar software to position the events in the reference frame of the target.

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.