

V&V Reference Report

L2 ASCDS Version : 10.4.3.1

Observation 17158 - L2 Version 2
Chandra X-Ray Center

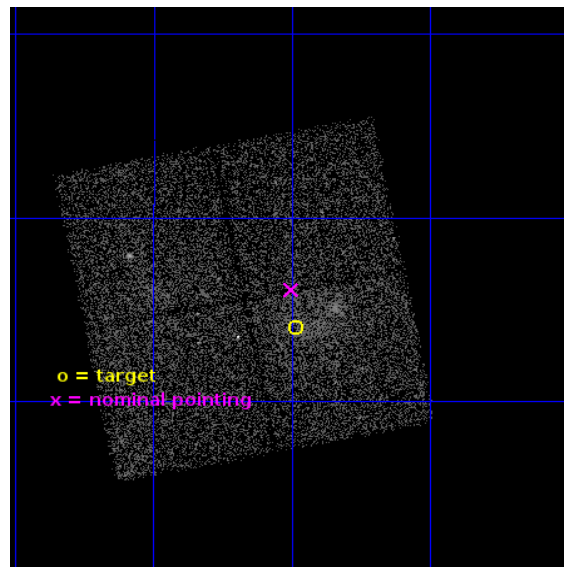
L2 Processing Date : Jan 28 2016

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1 Front

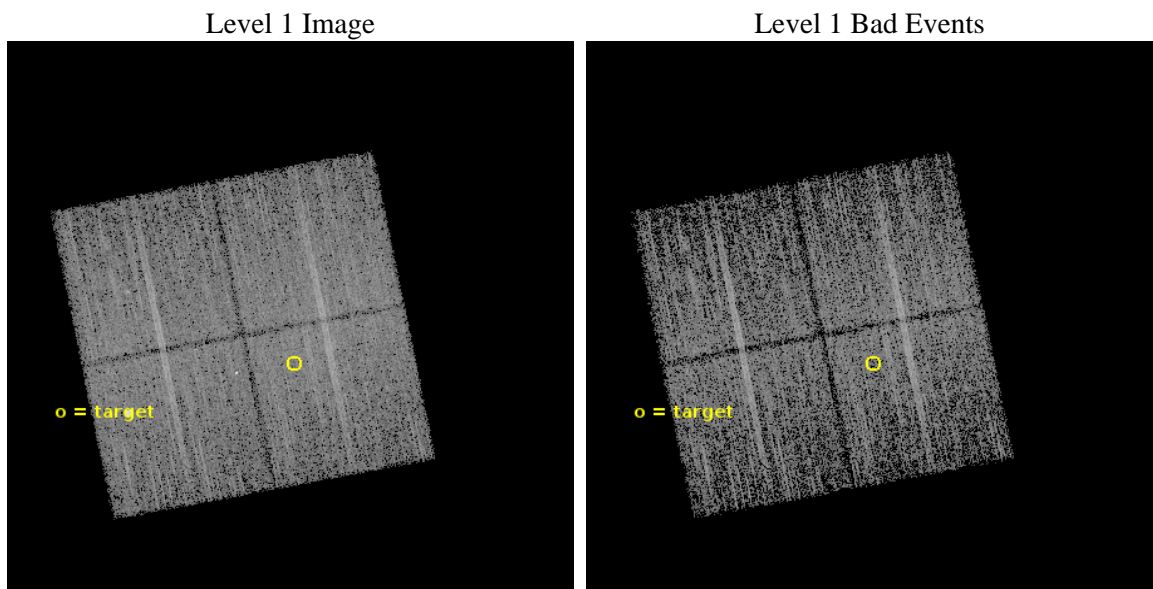
seq_num	801446	Sequence number
obs_id	17158	Observation id
title	Chandra Calibration of the Richness-Mass Relation of Galaxy Clusters: Enabling Cluster Cosmology with the DES	Proposal title
observer	Eduardo Rozo	Principal investigator
object	RM J104729.0+151402.1	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	161.870833	Observer's specified target RA [deg]
dec_targ	15.233917	Observer's specified target Dec [deg]
ra_nom	161.87531953975	Nominal RA [deg]
dec_nom	15.268205286543	Nominal Dec [deg]
roll_nom	78.903146007442	Nominal Roll [deg]
revision	2	Processing version of data
ontime	12387.279867053	Sum of GTIs [s]
livetime	12225.430936207	Livetime [s]
ontime0	12387.156717062	Sum of GTIs [s]
ontime1	12390.33884728	Sum of GTIs [s]
ontime2	12390.379887342	Sum of GTIs [s]
ontime3	12387.279867053	Sum of GTIs [s]
l2events	31629	Number of level 2 events



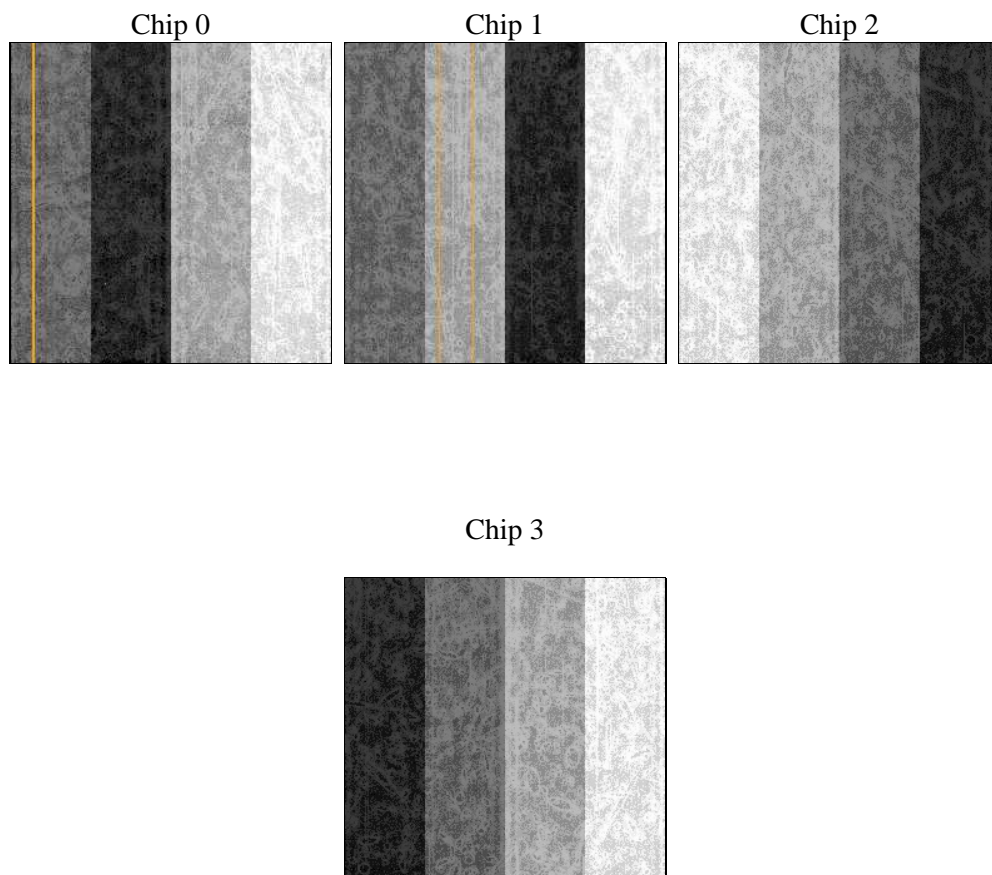
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	12600.000000	[s] Scheduled observation exposure time
ascdsver	10.4.3.1	Processing system revision	ontime	12387.279867053	Sum of GTIs [s]
caldsver	4.7.0	 	ontime0	12387.156717062	Sum of GTIs [s]
date	2016-01-28T19:21:32	Date and time of file creation	ontime1	12390.33884728	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	12390.379887342	Sum of GTIs [s]
			ontime3	12387.279867053	Sum of GTIs [s]
			l1events	305291	Number of level 1 events

2.1.4 Events

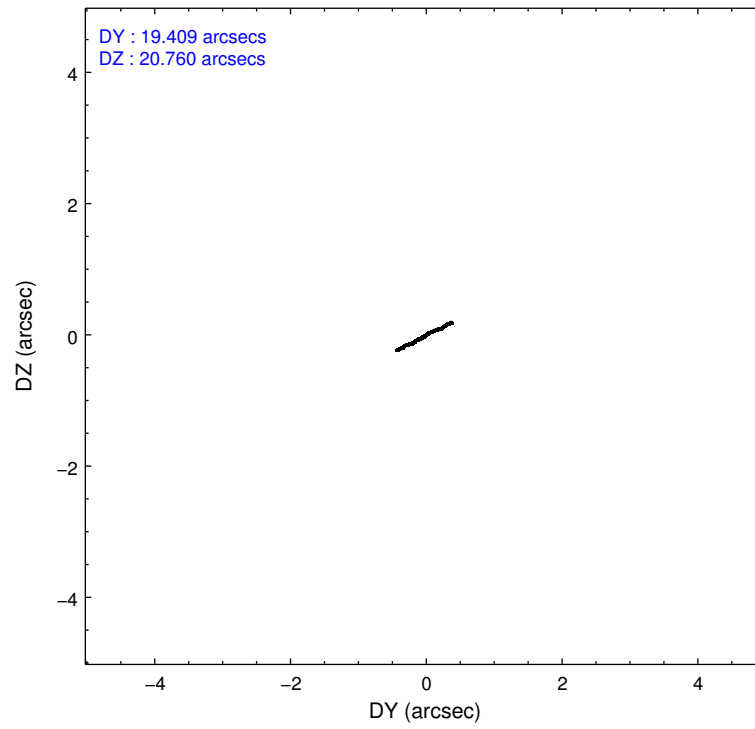
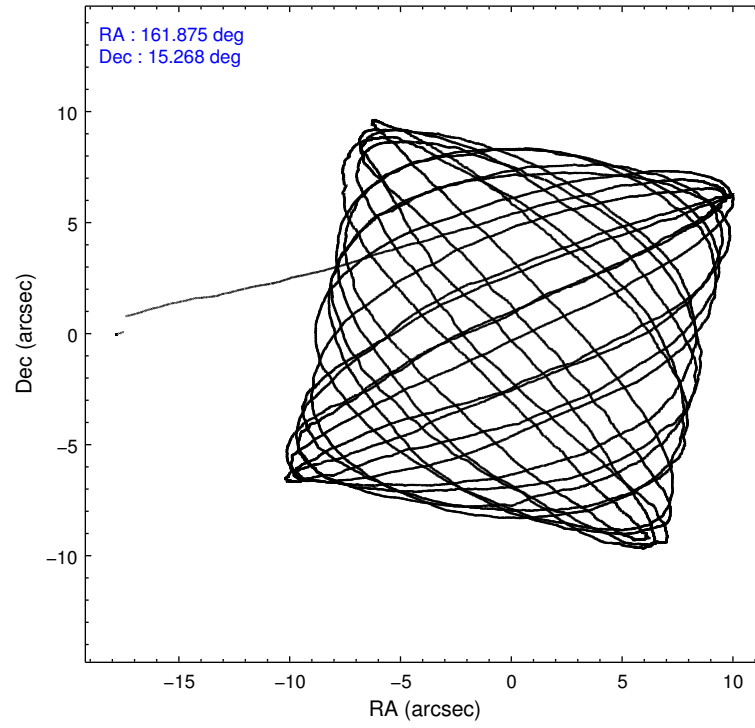
	ccd 0	ccd 1	ccd 2	ccd 3
level 1 events	72559	77507	78162	77063
rejected events	63437	63874	70011	67247
rejected %	87%	82%	89%	87%

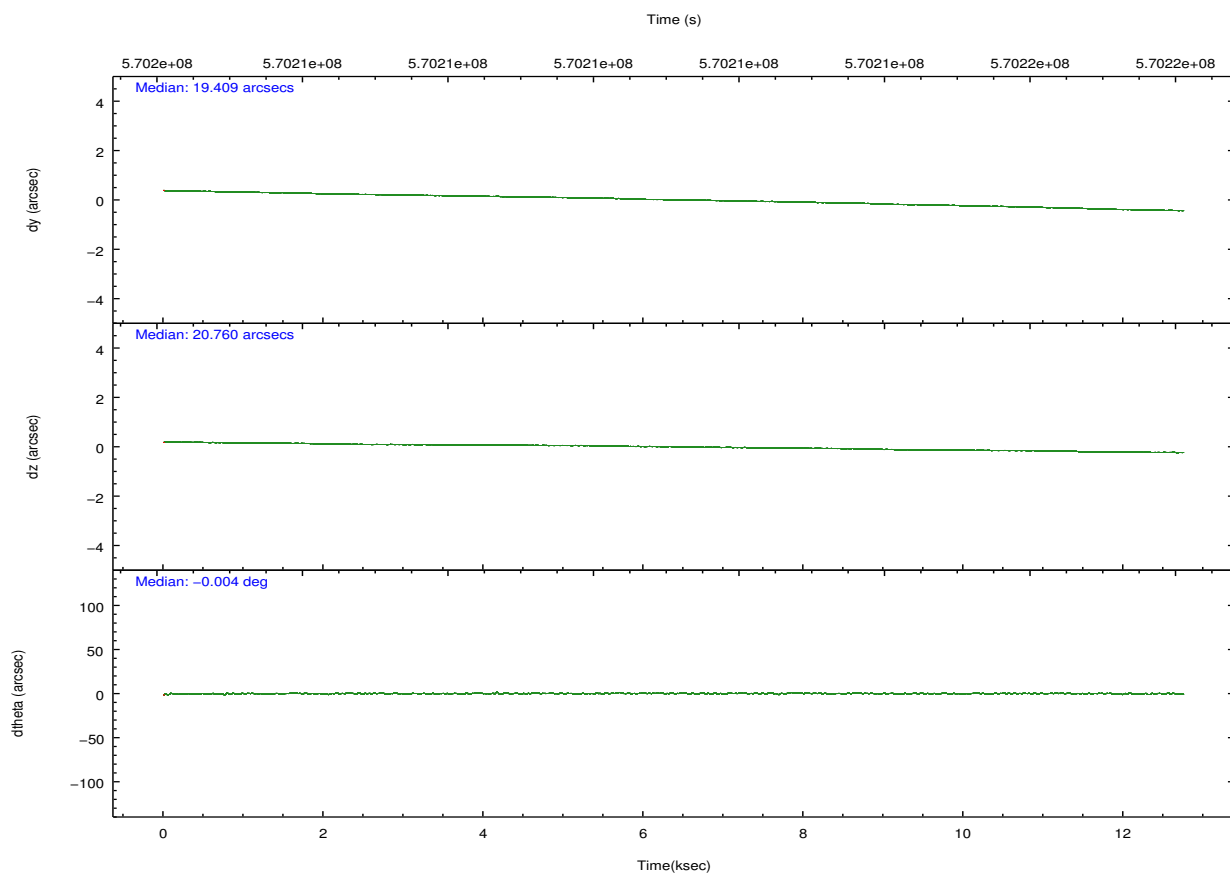
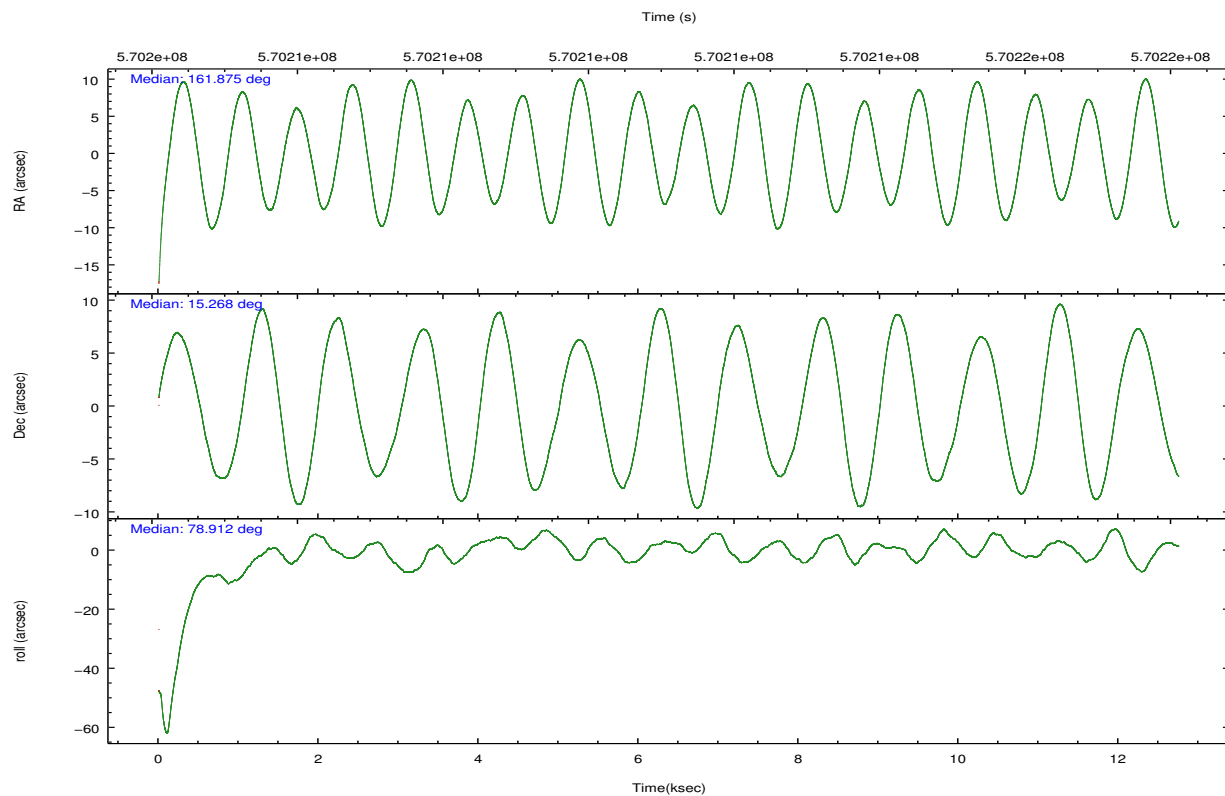
	ccd 0	ccd 1	ccd 2	ccd 3
grade 0 events	3392	7264	2853	4274
	4%	9%	3%	5%
grade 1 events	36	65	53	45
	0%	0%	0%	0%
grade 2 events	2084	2376	1896	1924
	2%	3%	2%	2%
grade 3 events	889	884	878	908
	1%	1%	1%	1%
grade 4 events	815	888	859	893
	1%	1%	1%	1%
grade 5 events	3210	3421	2998	3766
	4%	4%	3%	4%
grade 6 events	1942	2226	1667	1820
	2%	2%	2%	2%
grade 7 events	60191	60383	66958	63433
	82%	77%	85%	82%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-0123	ACIS-0123	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	Y	Y
Observation mode	POINTING	POINTING	CCD I1 on	Y	Y
[deg] Pointing RA	161.884698	161.8753195397544	CCD I2 on	Y	Y
[deg] Pointing Dec	15.242083	15.26820528654345	CCD I3 on	Y	Y
[deg] Pointing Roll	78.691977	78.90314600744203	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	N
[mm] SIM translation stage pos	-228.472463	-228.4783457680588	CCD S3 on	N	N
[mm] SIM translation stage offset	-5.12	-5.114107234870914	CCD S4 on	N	N
[s] Observation start time (MET)	570204898.184000	570204019.34035	CCD S5 on	N	N
Observation start date	2016-01-26T14:13:50	2016-01-26T14:00:19	Number of optional ACIS chips dropped	1	1
[s] Observation end time (MET)	570217498.184000	570218309.89117	On-chip summing requested	N	N
Observation end date	2016-01-26T17:43:50	2016-01-26T17:58:29	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



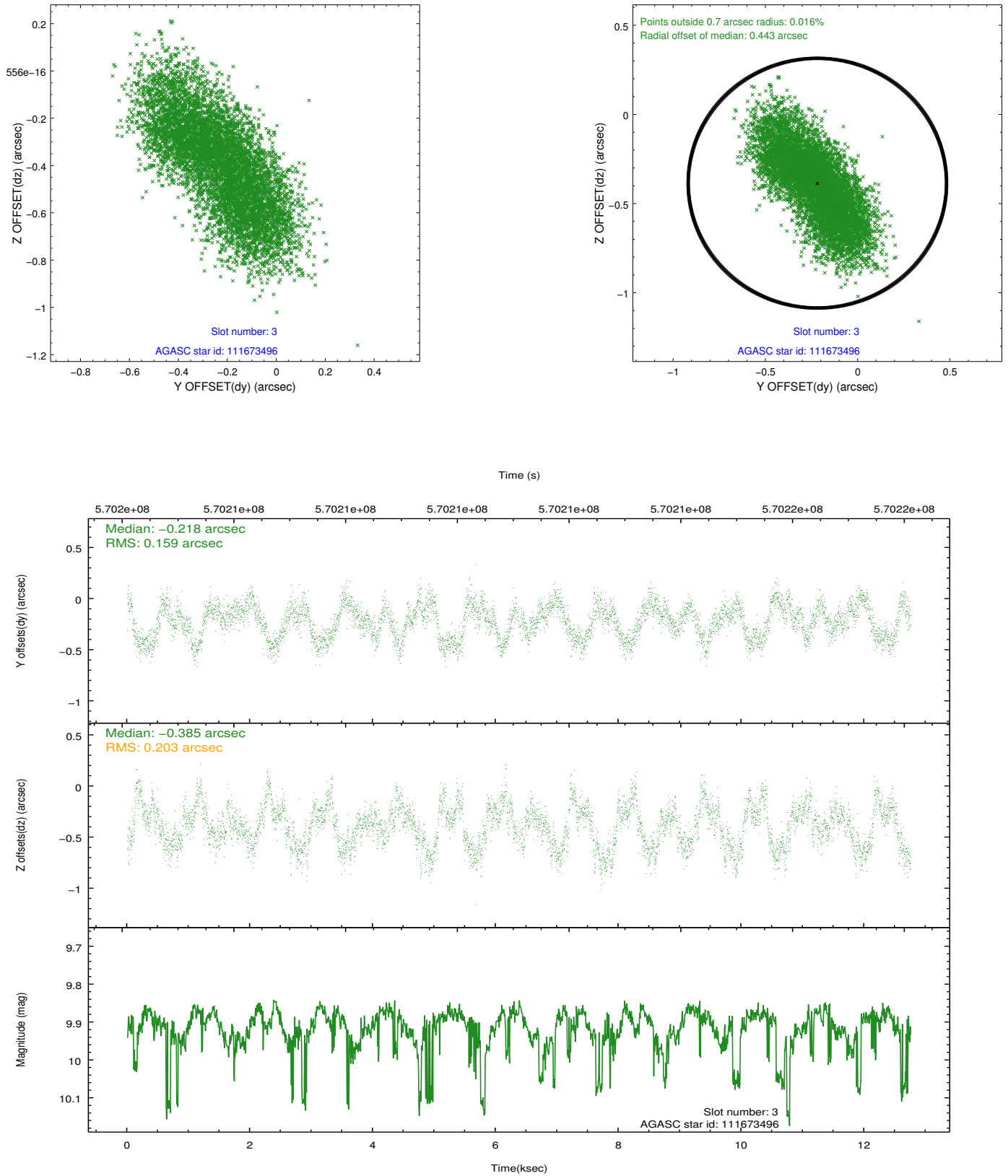


Slot Statistics

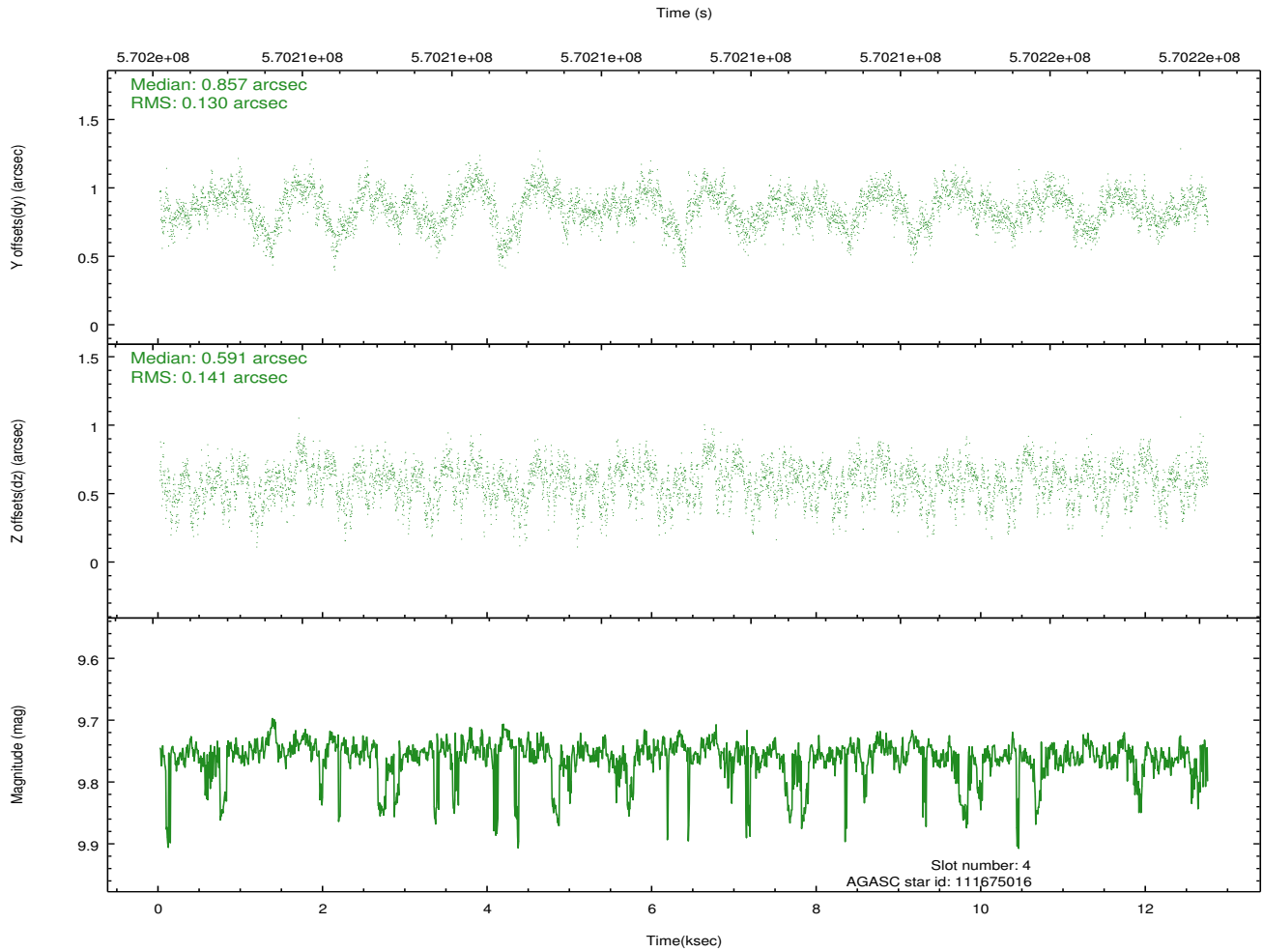
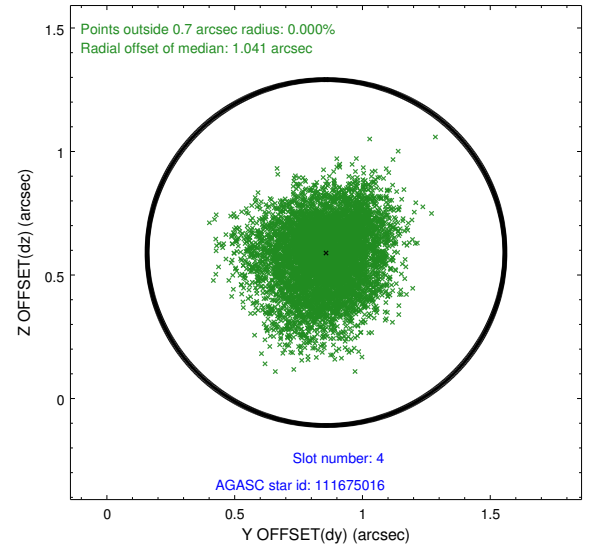
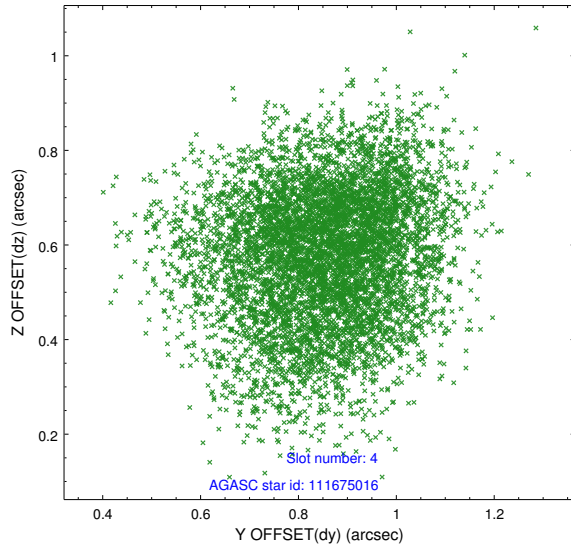
lot	status	used	id	mag	n_pts	med_dy	med_dz	drl	dr2	ra	dec	mean_y	mean_x
0	FID		ACIS-I-1	7.29	3110	0.169	-0.161	0.008	0.012	0.000000	0.000000	920.05	-949.57
1	FID		ACIS-I-5	7.28	3110	-0.451	0.086	0.008	0.014	0.000000	0.000000	-1828.55	947.83
2	FID		ACIS-I-6	7.28	3110	0.191	0.145	0.008	0.014	0.000000	0.000000	385.09	1592.92
3	GUIDE	used	111673496	9.91	6127	-0.218	-0.385	0.278	0.443	161.377773	14.968426	-1309.43	1536.58
4	GUIDE	used	111675016	9.76	6202	0.857	0.591	0.208	0.329	162.281404	14.701610	-1635.20	-1734.66
5	GUIDE	used	187177256	9.51	6213	0.096	0.563	0.168	0.268	162.148025	15.670944	1693.48	-591.99
6	BAD	used	187178280	9.91	5834	-0.627	-0.714	0.238	0.375	162.620098	15.527820	1513.50	-2298.09
7	GUIDE	used	187182040	9.21	6210	-0.149	-0.080	0.168	0.275	161.871866	15.472058	802.85	207.28

2.4 Star Slots

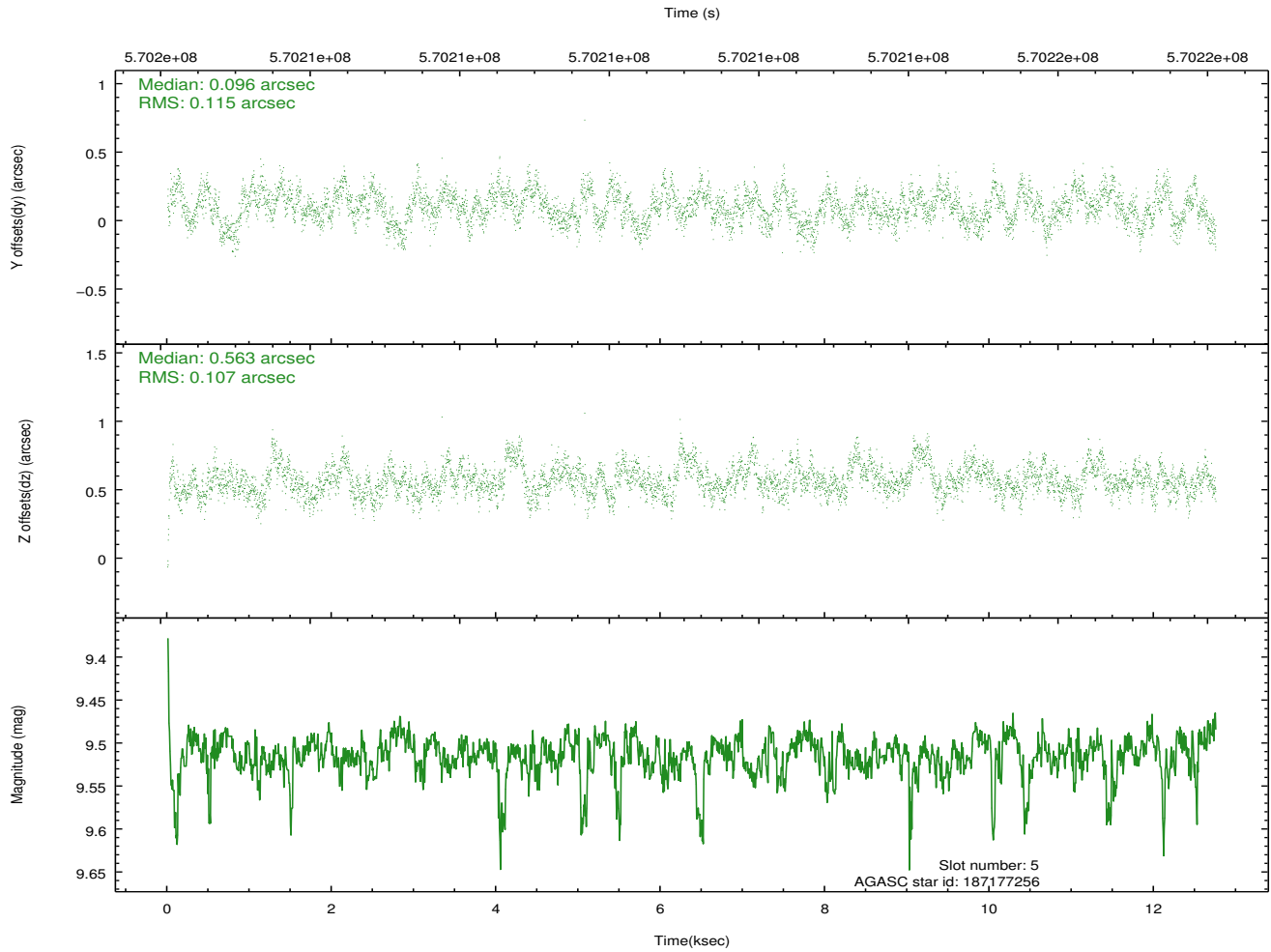
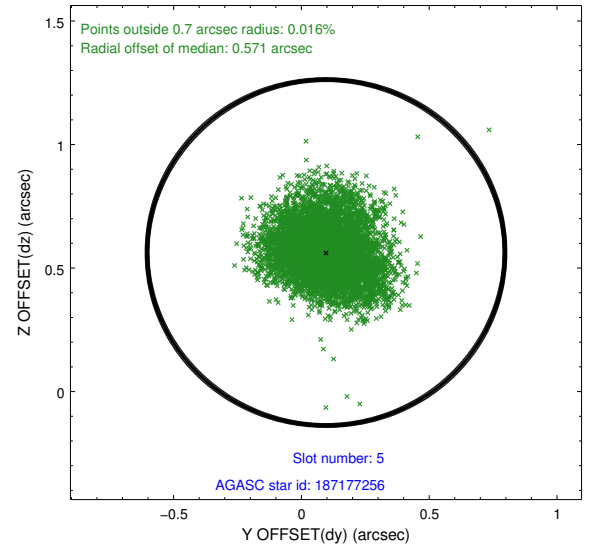
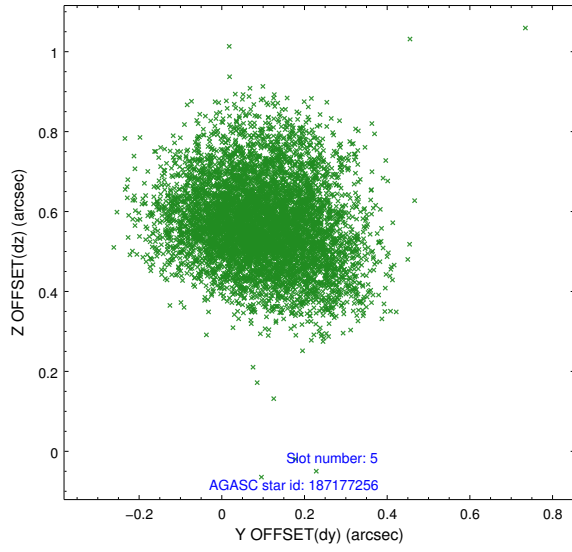
2.4.1 Slot 3



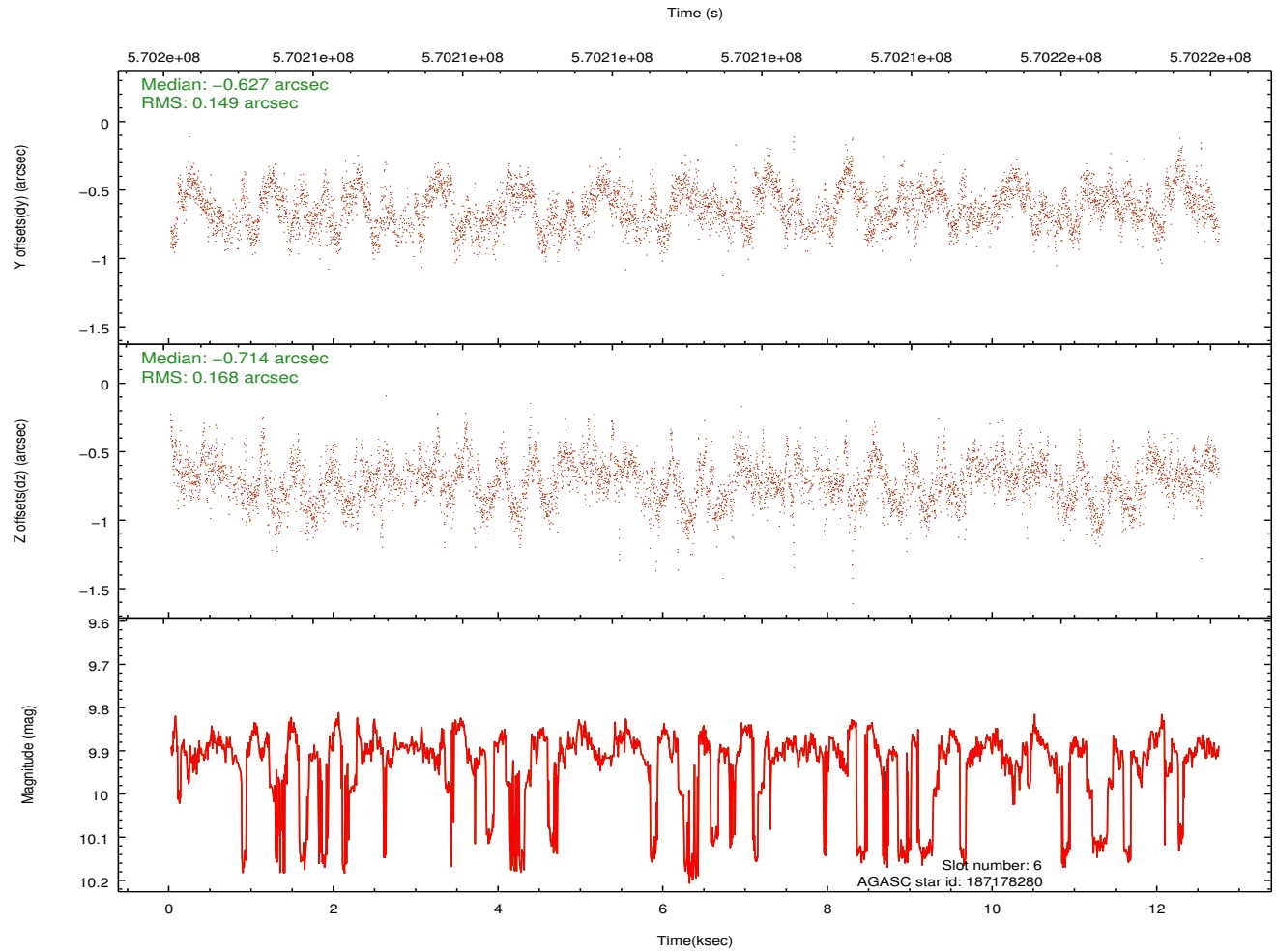
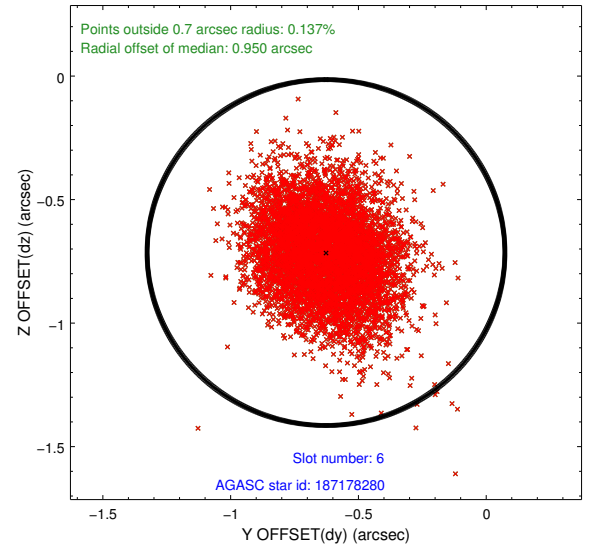
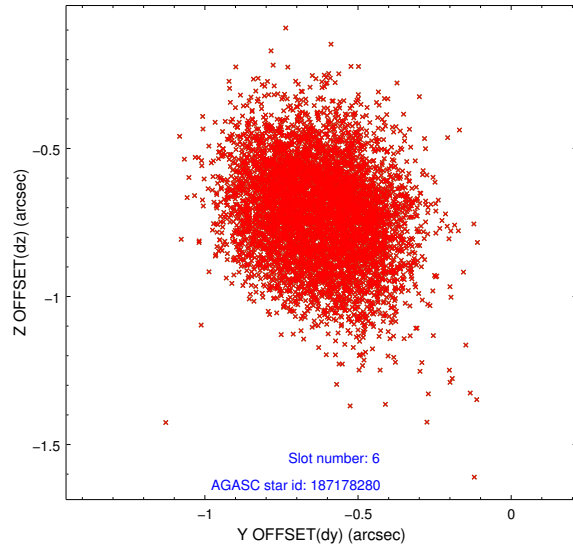
2.4.2 Slot 4



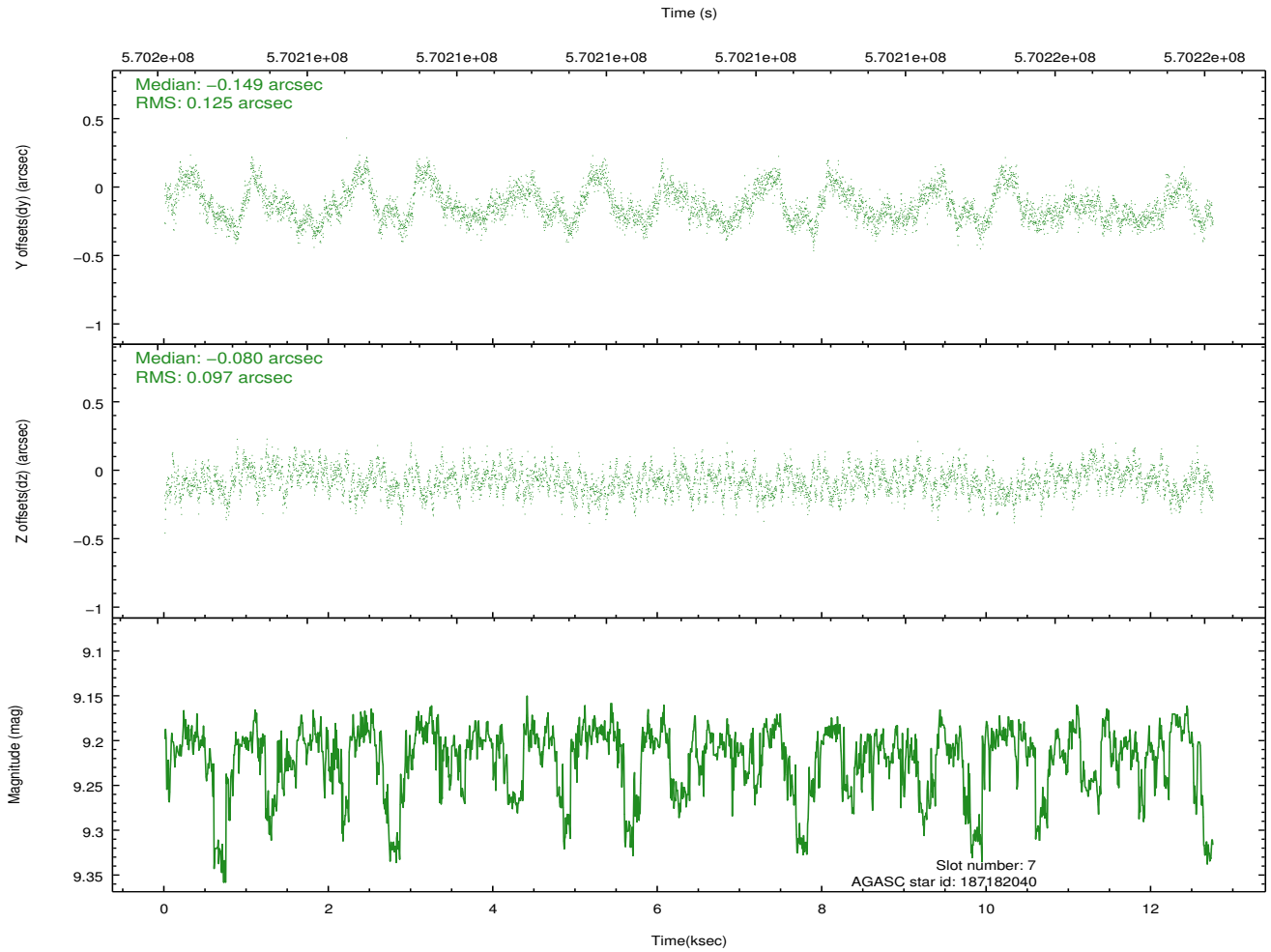
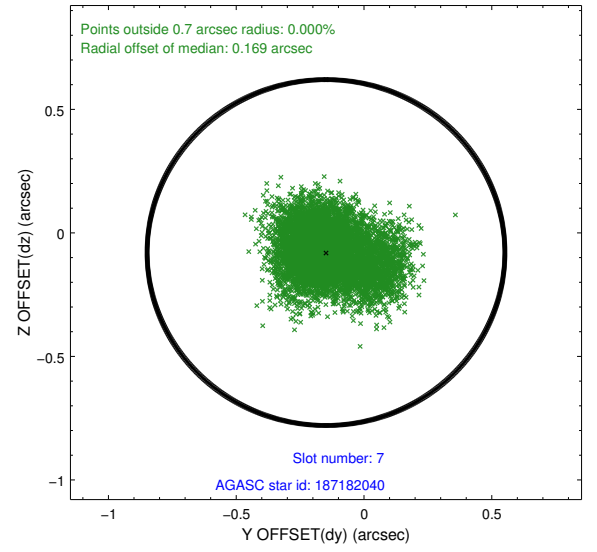
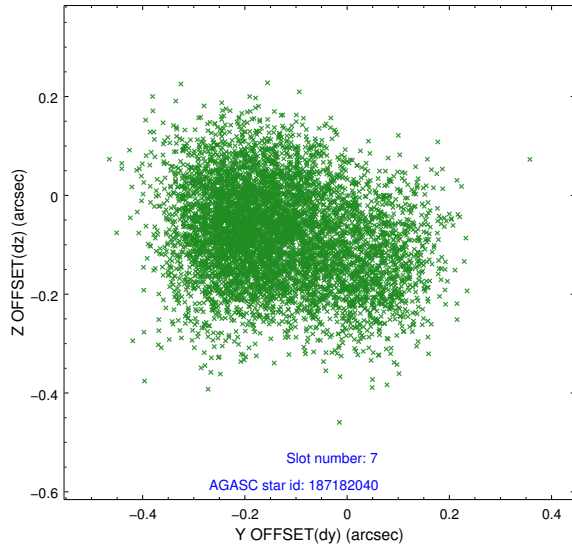
2.4.3 Slot 5



2.4.4 Slot 6

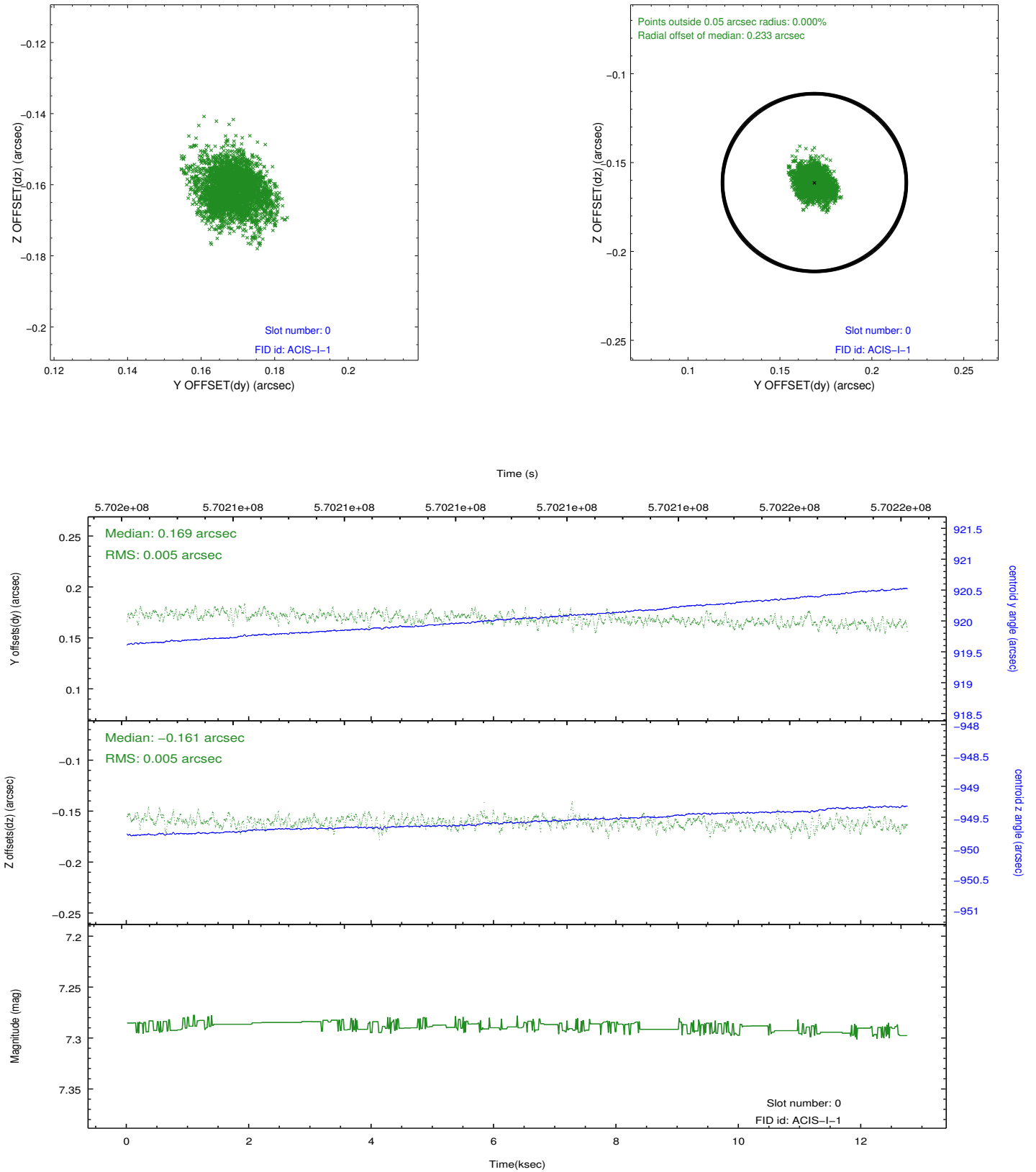


2.4.5 Slot 7

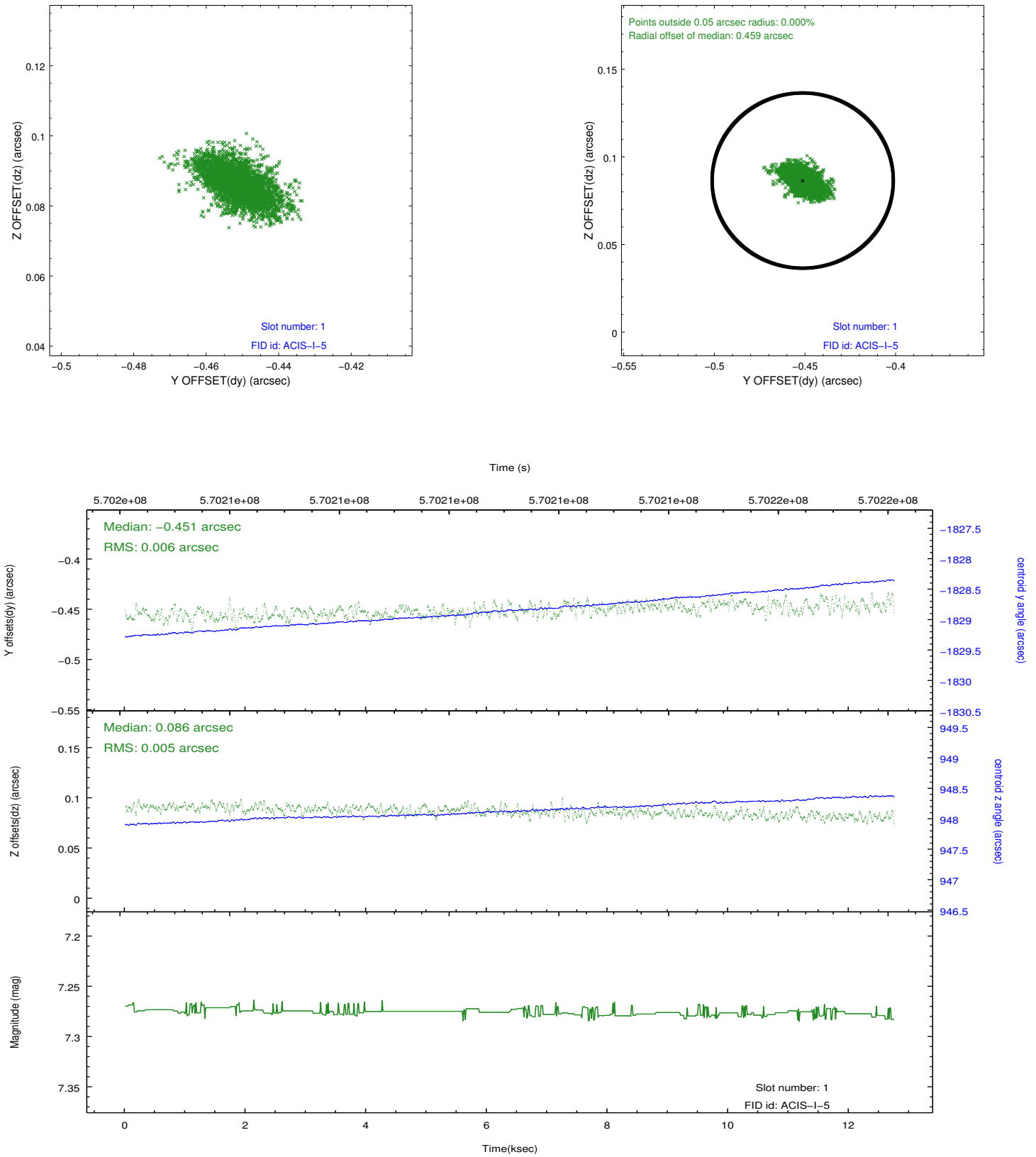


2.5 FID Slots

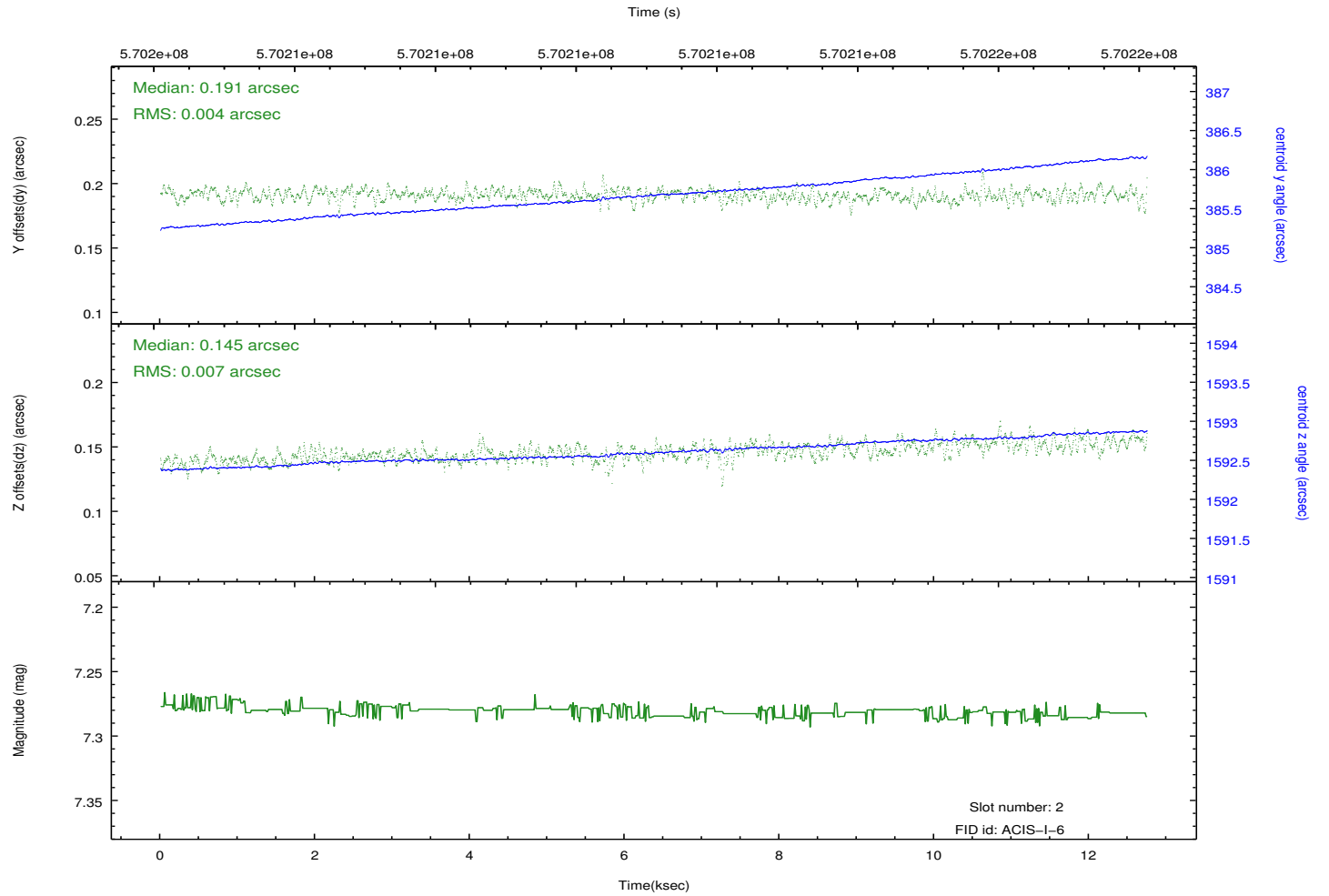
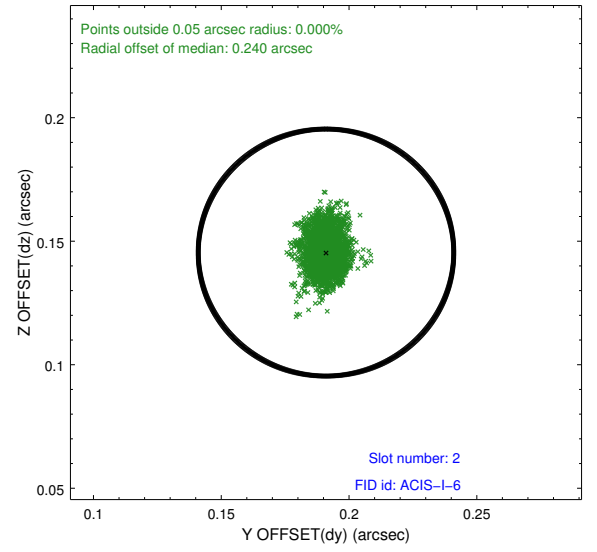
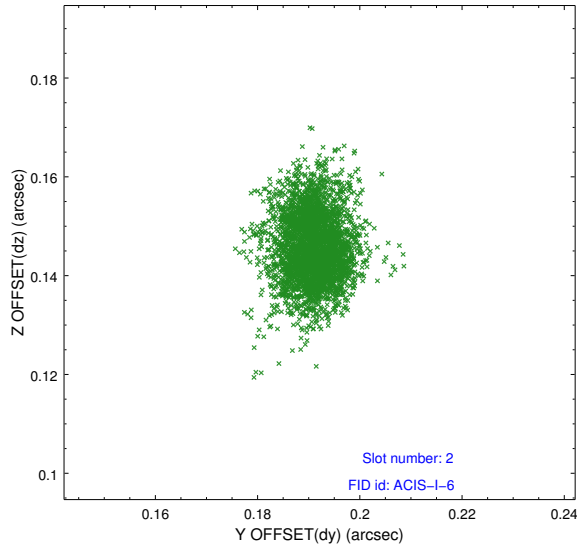
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2



A Summary

A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2016.01.29
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	12.387279867053

A.2 Comments

Optional chip S2 was dropped.

A spatial region of the original bias maps for CCD = 0 and CCD = 2 suffered from anomalously high data values. Pixels in the event data that were bias-corrected by one of the original affected bias pixels may have an apparent energy shift. While the change in energy is expected to be small (~ 20 eV), it depends on many parameters that have not yet been fully explored for this bias anomaly. The bias maps for CCD = 0 and CCD = 2 have been reconstructed for this processing to remove this anomaly using scaled data from comparable bias maps from other observations.

The pixels on CCD = 0 affected by the anomaly are bounded by sky coords: (162.07369, 15.37420), (162.07064, 15.37479), (162.05902, 15.31793), (162.06168, 15.31547).

The affected pixels on CCD = 2 are bounded by sky coords: (161.89043, 15.36969), (161.88682, 15.37037), (161.86672, 15.27150), (161.87033, 15.27083).