

V&V Reference Report

L2 ASCDS Version : 10.4.1

Observation 17154 - L2 Version 2
Chandra X-Ray Center

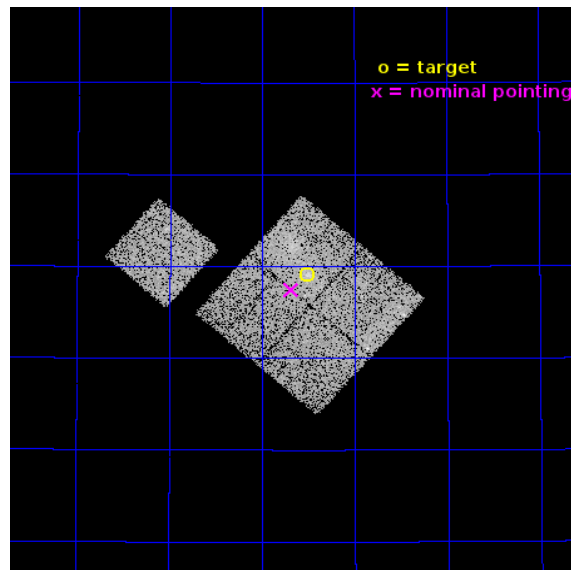
L2 Processing Date : Sep 1 2015

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1 Front

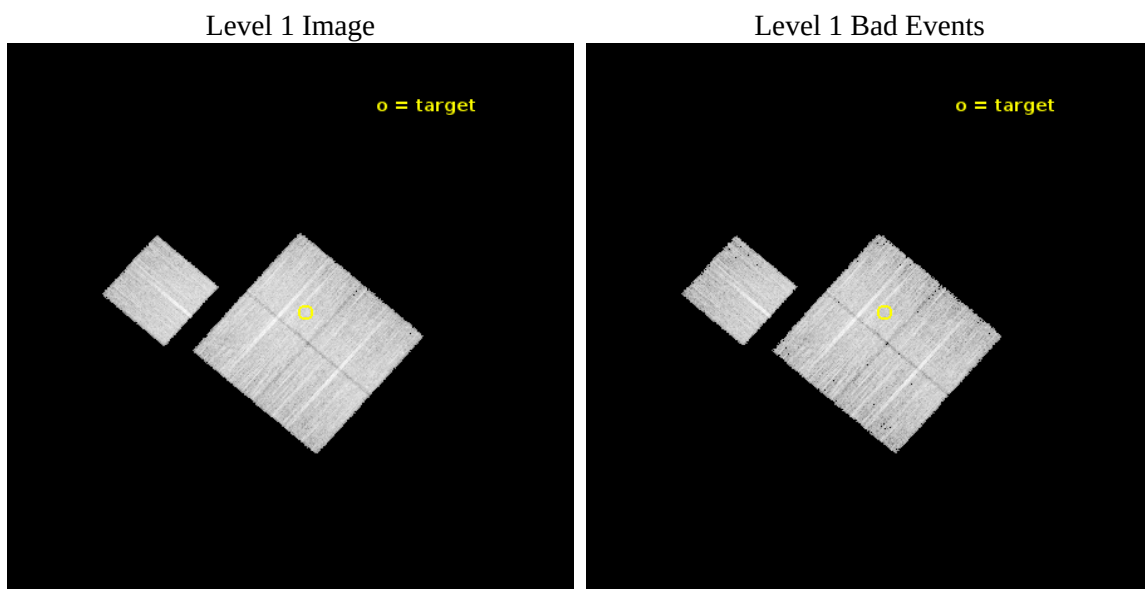
seq_num	801442	Sequence number
obs_id	17154	Observation id
title	Chandra Calibration of the Richness-Mass Relation of Galaxy Clusters: Enabling Cluster Cosmology with the DES	Proposal title
observer	Eduardo Rozo	Principal investigator
object	RM J124930.9+494902.3	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	192.37875	Observer's specified target RA [deg]
dec_targ	49.817306	Observer's specified target Dec [deg]
ra_nom	192.42097424031	Nominal RA [deg]
dec_nom	49.790919244828	Nominal Dec [deg]
roll_nom	311.11612658129	Nominal Roll [deg]
revision	2	Processing version of data
ontime	14079.239401698	Sum of GTIs [s]
livetime	13895.28377393	Livetime [s]
ontime0	14079.116281748	Sum of GTIs [s]
ontime1	14076.016251445	Sum of GTIs [s]
ontime2	14079.198361754	Sum of GTIs [s]
ontime3	14079.239401698	Sum of GTIs [s]
ontime6	14079.075241685	Sum of GTIs [s]
l2events	37786	Number of level 2 events



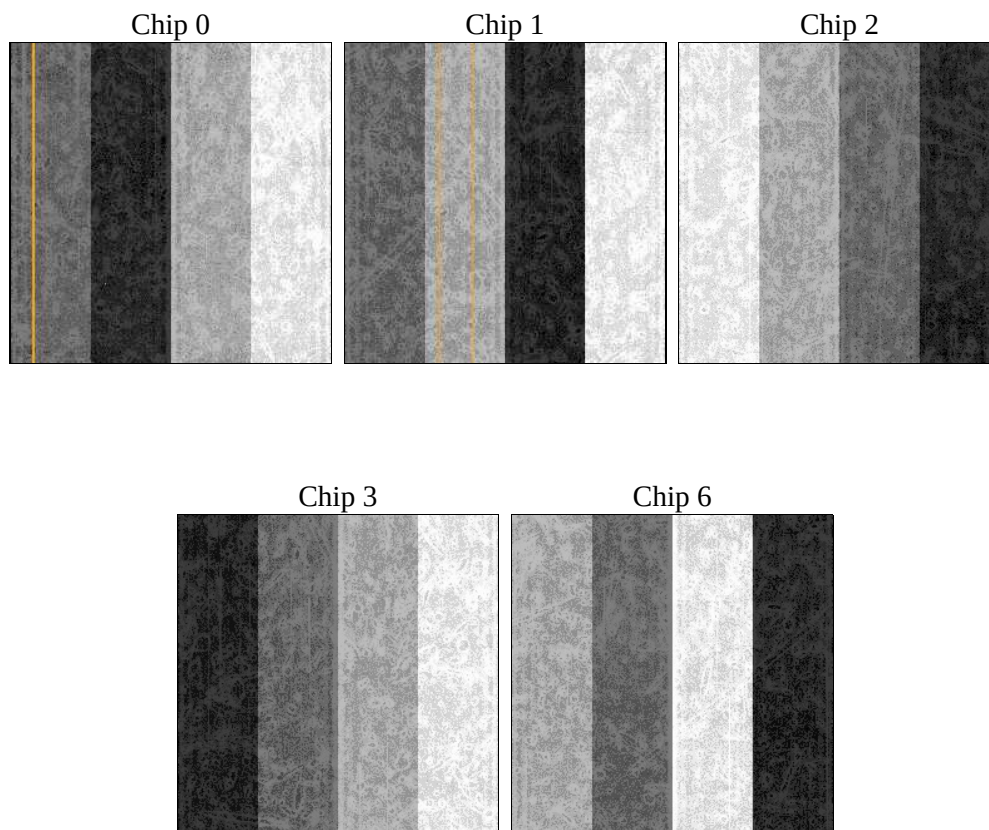
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	14000.000000	[s] Scheduled observation exposure time
ascdsver	10.4.1	Processing system revision	ontime	14079.239401698	Sum of GTIs [s]
caldsver	4.6.8	 	ontime0	14079.116281748	Sum of GTIs [s]
date	2015-09-01T21:41:09	Date and time of file creation	ontime1	14076.016251445	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	14079.198361754	Sum of GTIs [s]
			ontime3	14079.239401698	Sum of GTIs [s]
			ontime6	14079.075241685	Sum of GTIs [s]
			l1events	359577	Number of level 1 events

2.1.4 Events

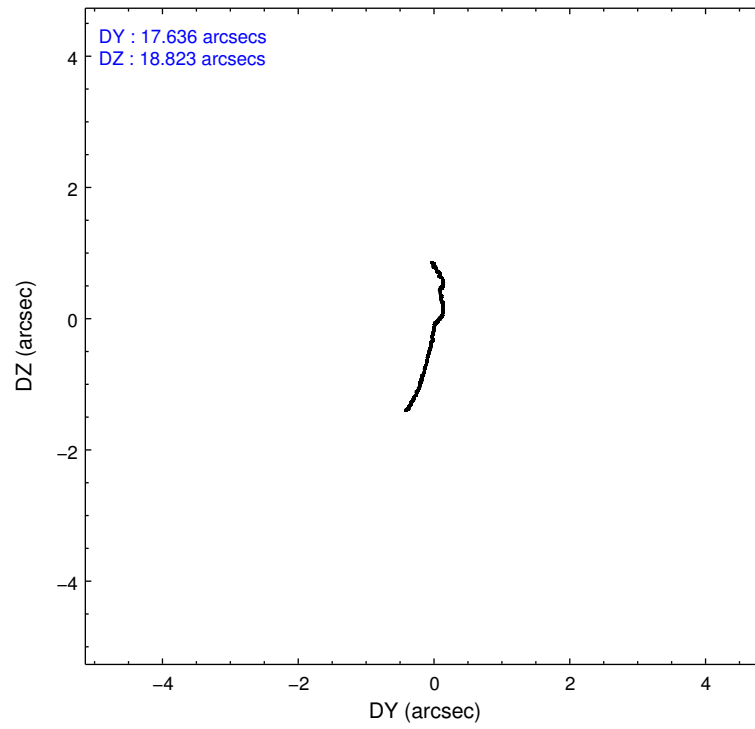
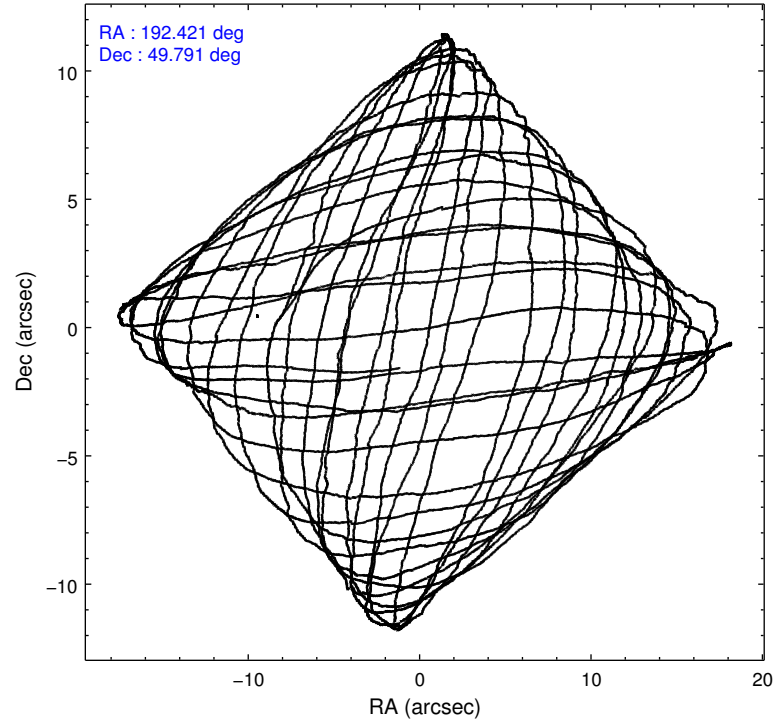
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	67486	68624	74821	76932	71714
rejected events	59239	59193	66626	67185	63061
rejected %	87%	86%	89%	87%	87%

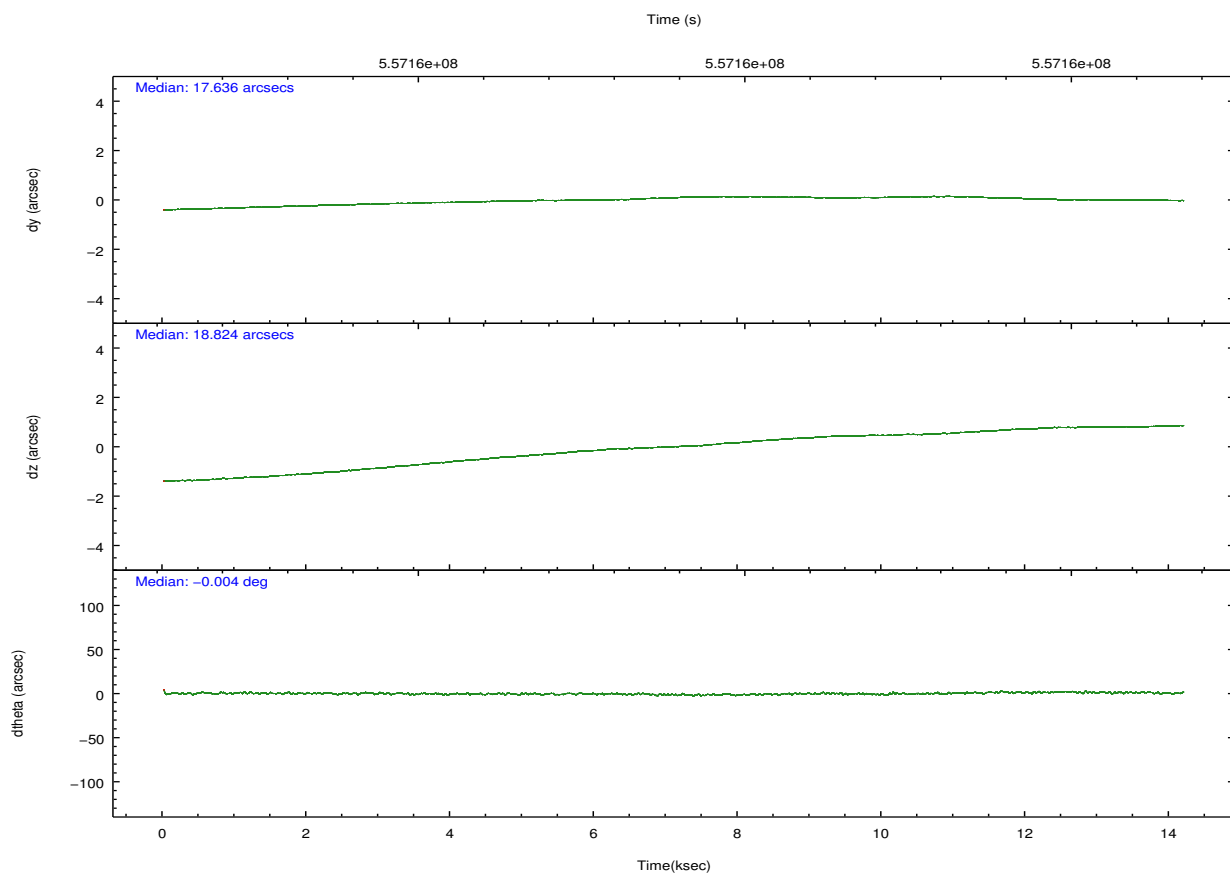
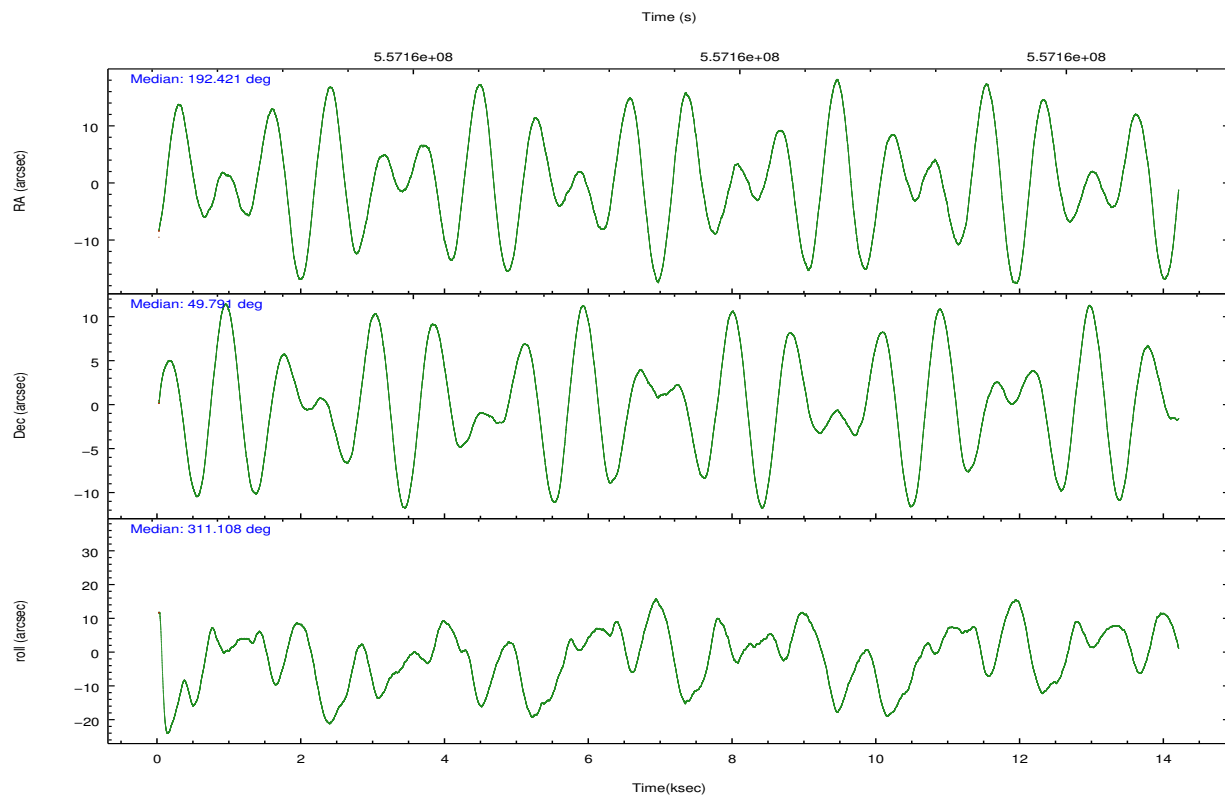
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	2802	3296	2890	4166	2898
	4%	4%	3%	5%	4%
grade 1 events	33	30	44	67	28
	0%	0%	0%	0%	0%
grade 2 events	1996	2293	2026	1963	1977
	2%	3%	2%	2%	2%
grade 3 events	879	918	812	888	816
	1%	1%	1%	1%	1%
grade 4 events	801	861	821	877	814
	1%	1%	1%	1%	1%
grade 5 events	3280	3385	3089	3781	3399
	4%	4%	4%	4%	4%
grade 6 events	1773	2068	1654	1861	2149
	2%	3%	2%	2%	2%
grade 7 events	55922	55773	63485	63329	59633
	82%	81%	84%	82%	83%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-01236	ACIS-01236	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	192.380482	192.4209742403074	CCD I2 on	Y	Y
[deg] Pointing Dec	49.799734	49.79091924482777	CCD I3 on	Y	Y
[deg] Pointing Roll	310.938334	311.1161265812913	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	-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)	557152022.184000	557150830.89977	CCD S5 on	N	N
Observation start date	2015-08-28T12:25:54	2015-08-28T12:07:10	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	557166022.184000	557166590.78816	On-chip summing requested	N	N
Observation end date	2015-08-28T16:19:14	2015-08-28T16:29:50	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



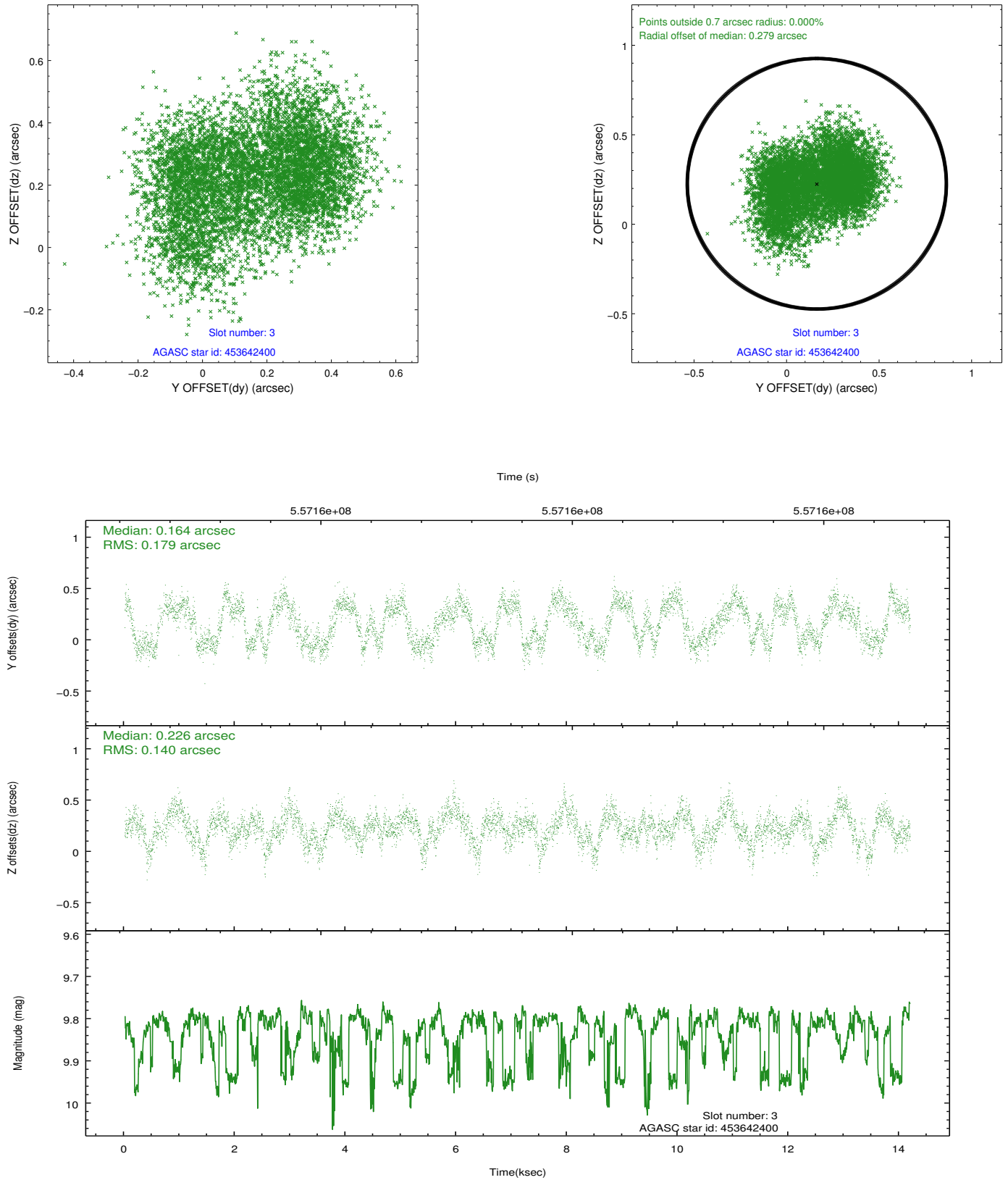


Slot Statistics

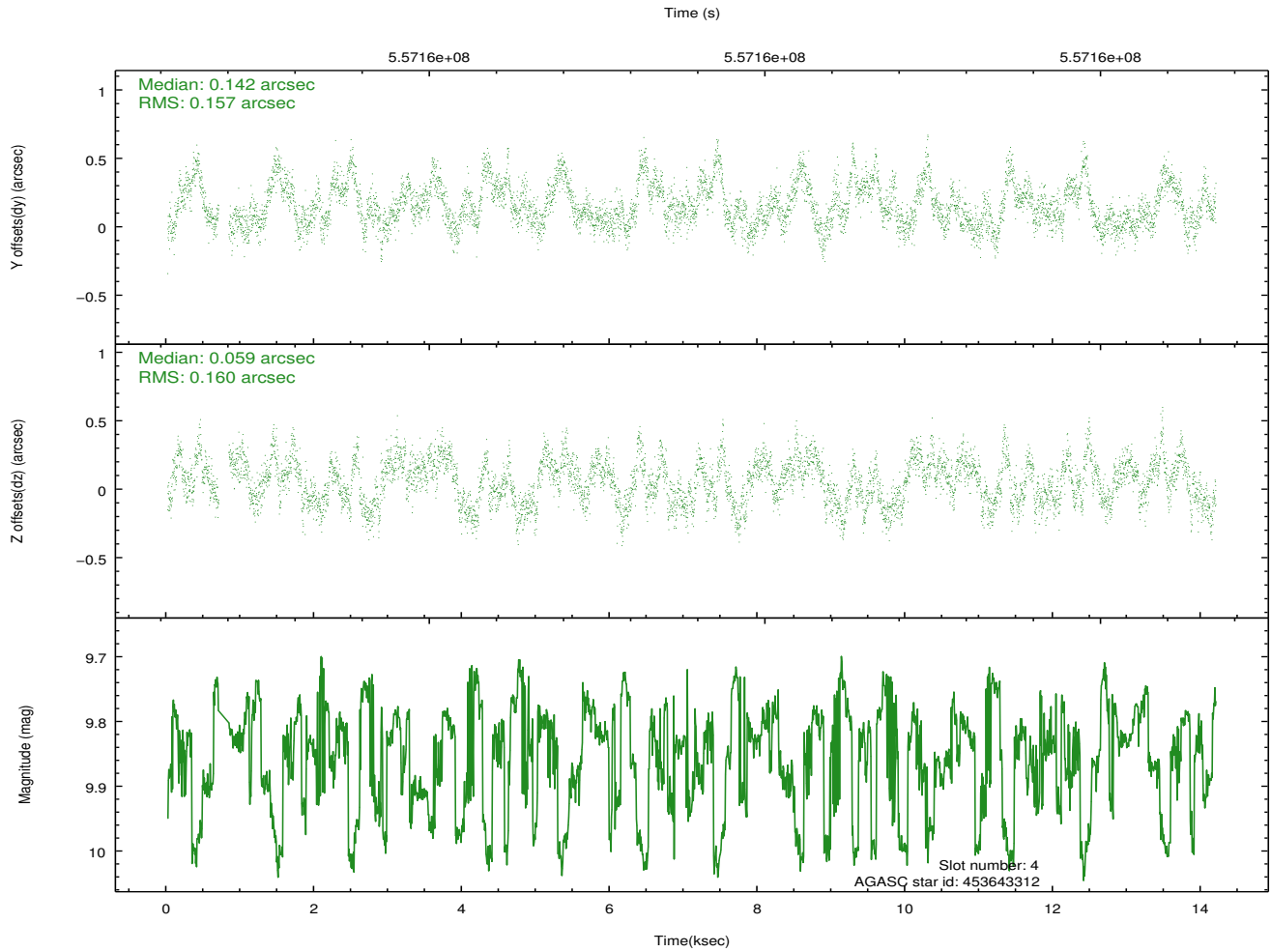
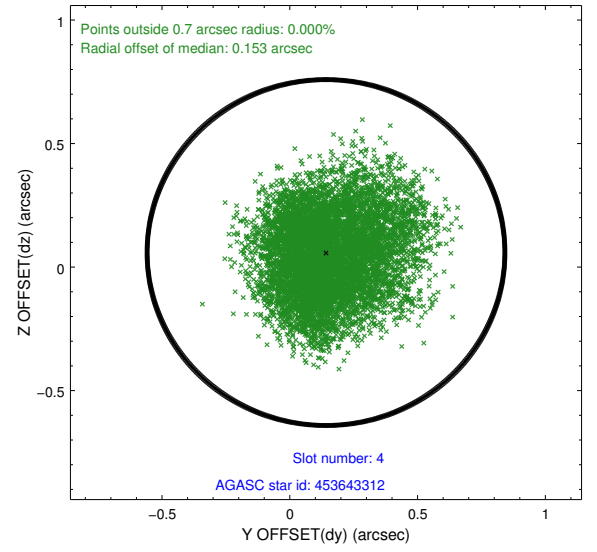
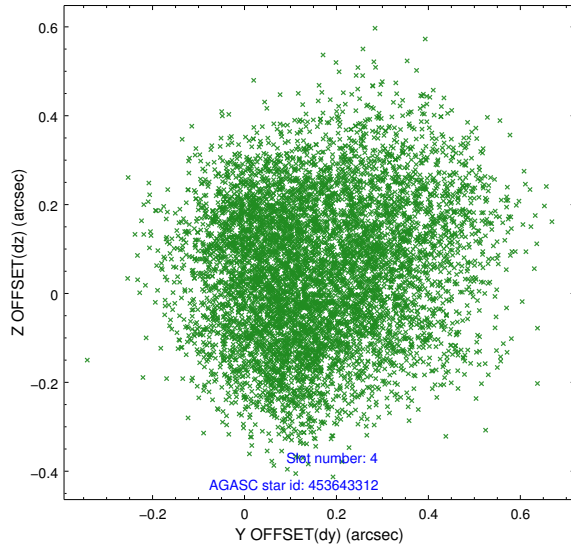
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-2	7.19	3461	-0.178	-0.057	0.017	0.032	0.000000	0.000000	-772.90	-953.14
1	FID		ACIS-I-4	7.16	3461	0.351	0.113	0.011	0.019	0.000000	0.000000	2141.46	953.05
2	FID		ACIS-I-5	7.24	3460	-0.273	0.012	0.014	0.028	0.000000	0.000000	-1826.19	950.42
3	GUIDE	used	453642400	9.83	6821	0.164	0.226	0.251	0.364	192.054577	49.925123	-836.73	-273.77
4	GUIDE	used	453643312	9.85	6843	0.142	0.059	0.241	0.375	192.240990	50.091539	-1004.80	444.49
5	GUIDE	used	453643600	10.11	6712	-0.115	-0.017	0.329	0.523	192.345829	49.415481	992.11	-967.49
6	GUIDE	used	453643672	10.29	6830	-0.125	0.034	0.337	0.556	192.313386	49.355136	1107.17	-1167.59
7	GUIDE	used	453652816	9.91	6912	-0.081	-0.279	0.228	0.390	192.734834	50.498331	-1368.21	2261.75

2.4 Star Slots

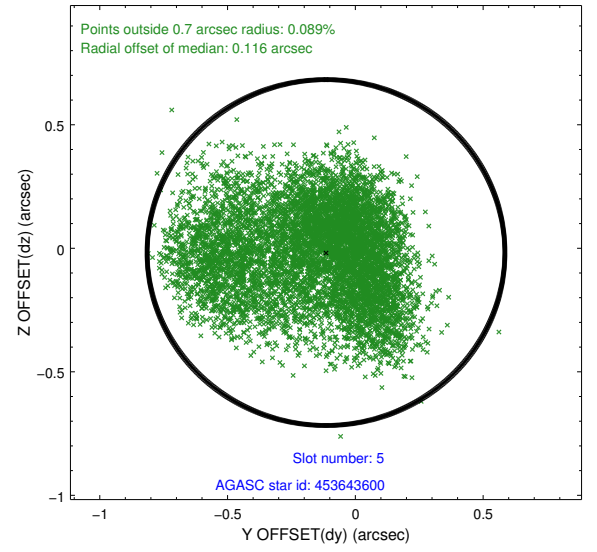
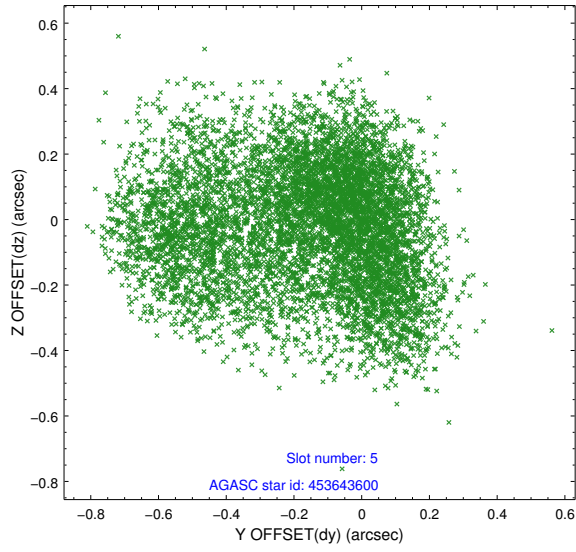
2.4.1 Slot 3



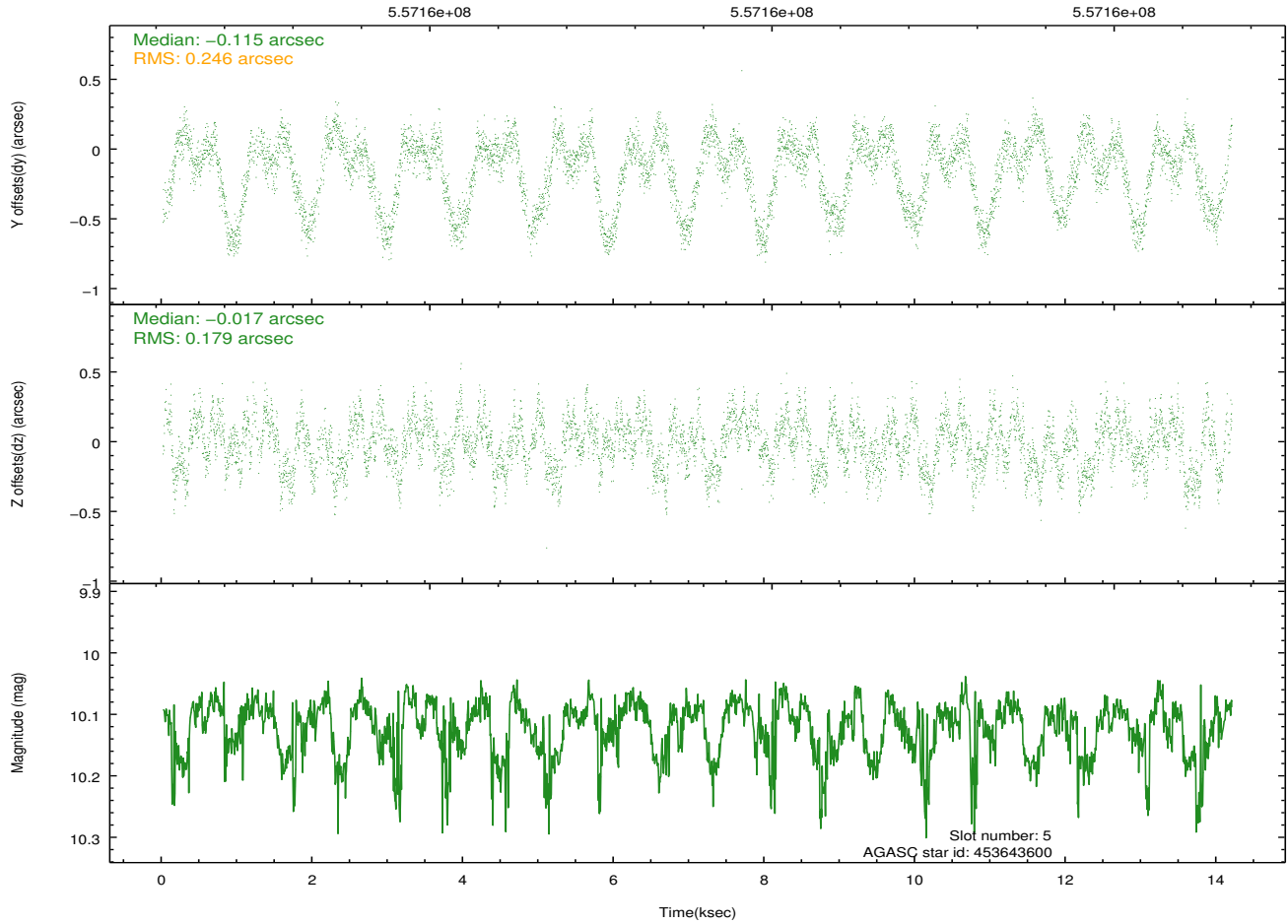
2.4.2 Slot 4



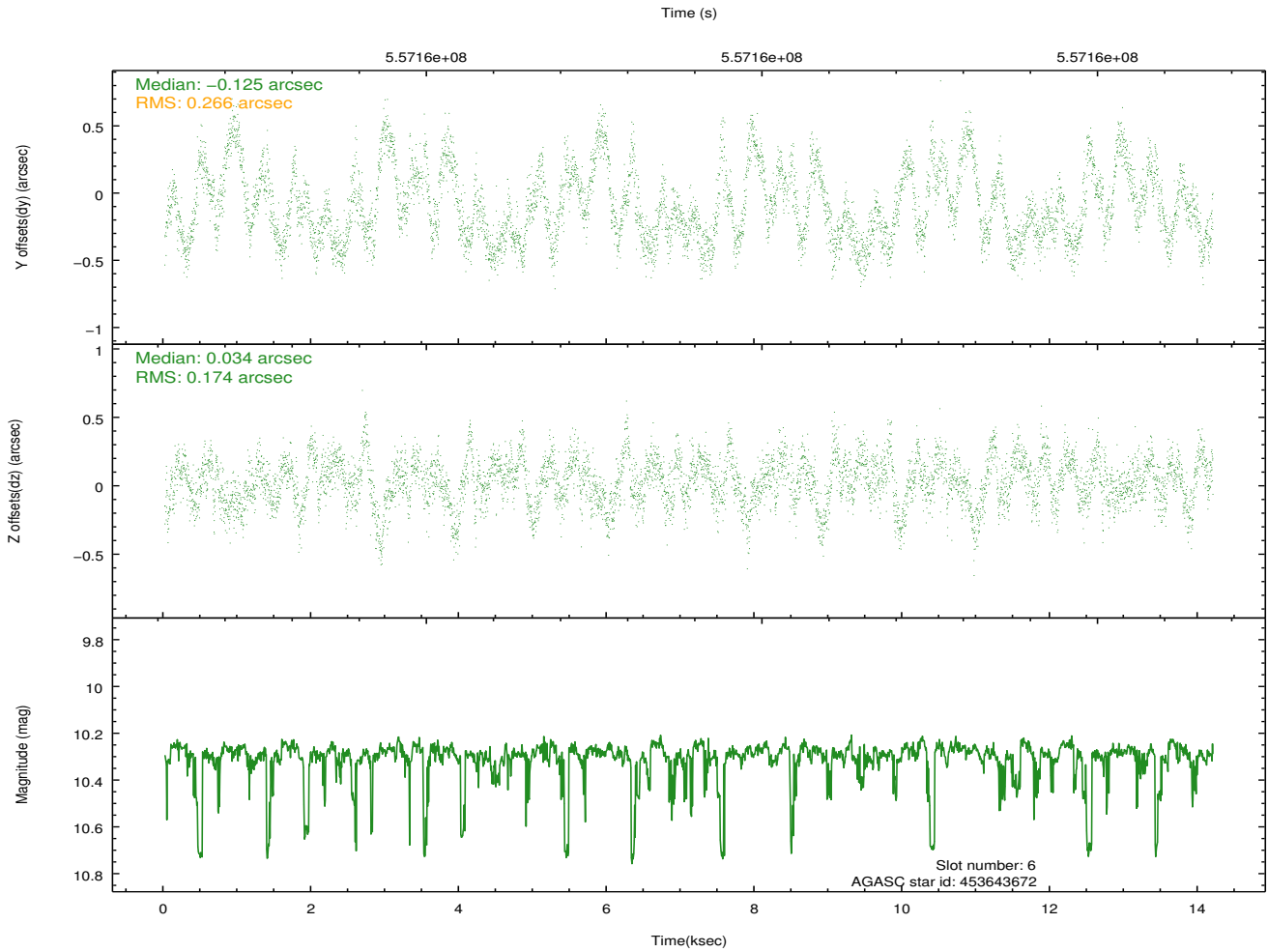
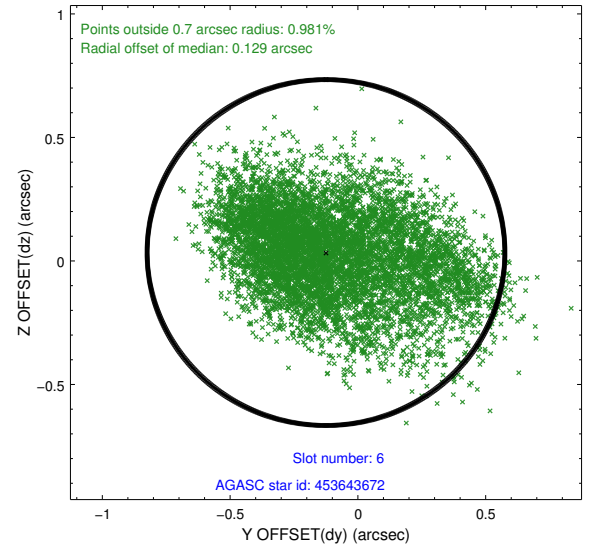
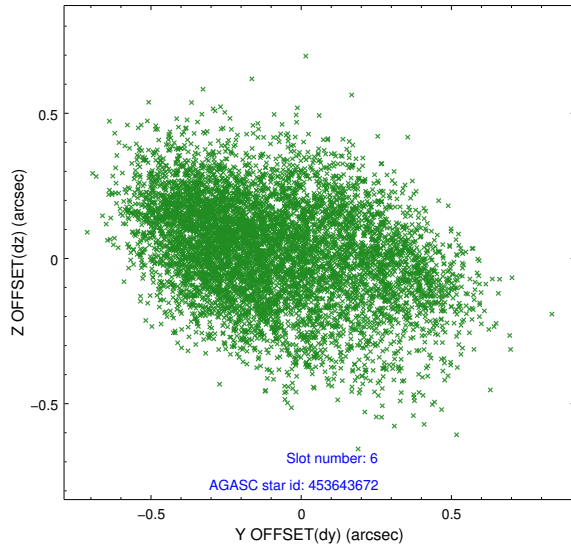
2.4.3 Slot 5



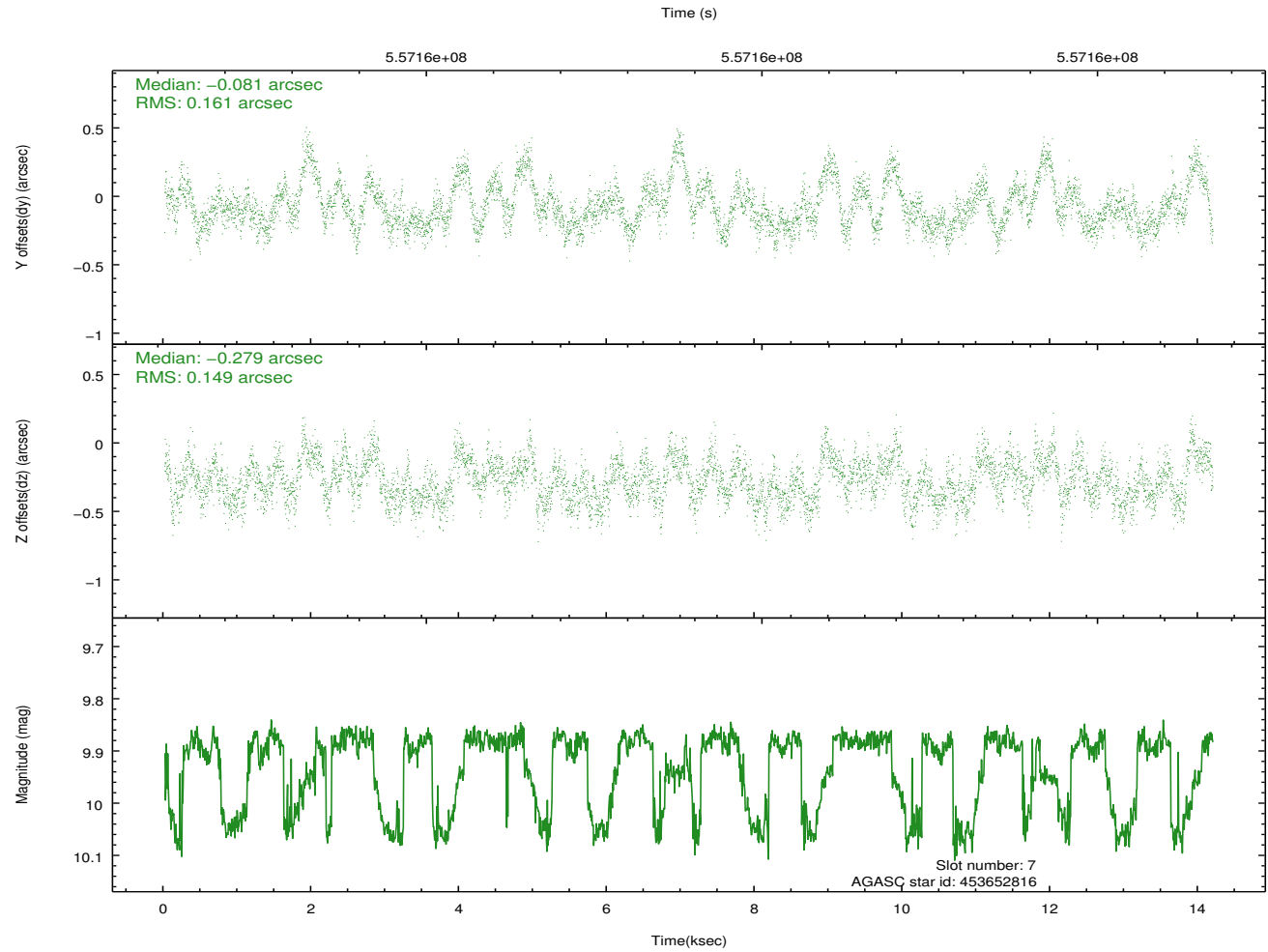
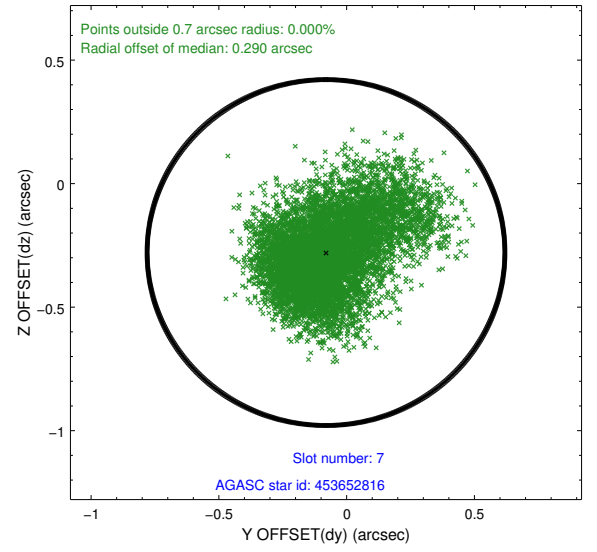
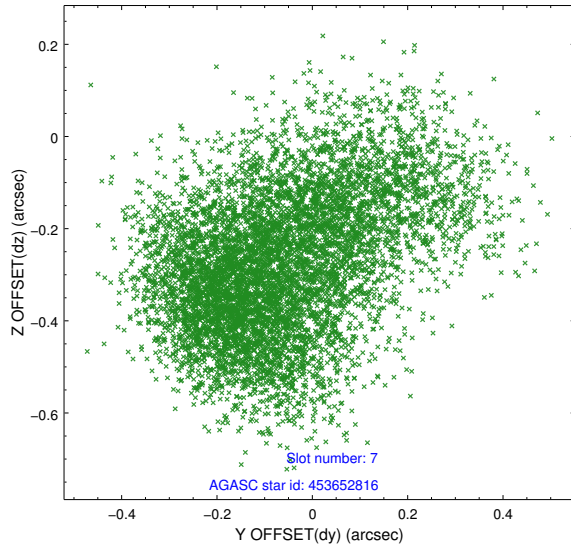
Time (s)



2.4.4 Slot 6

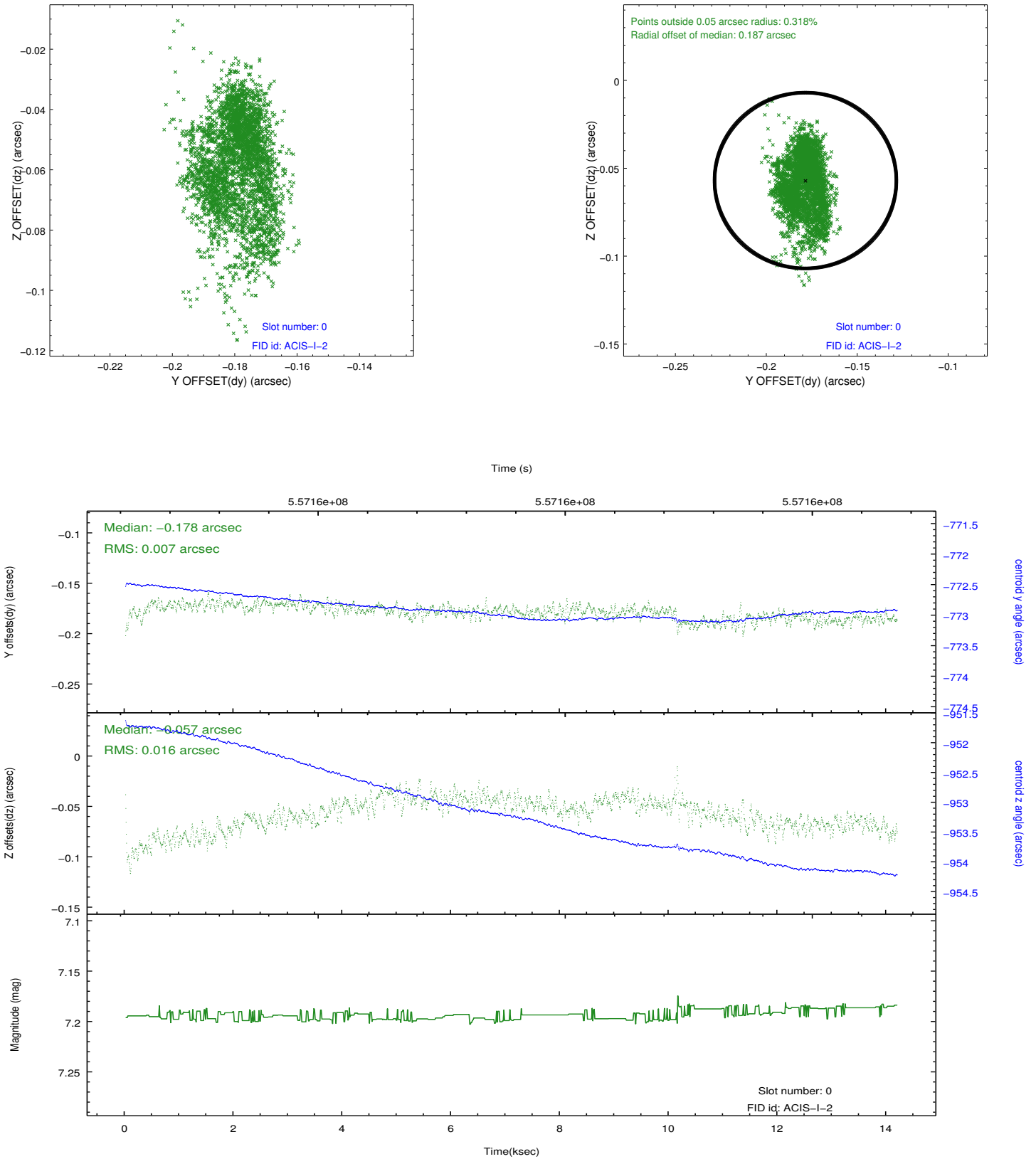


2.4.5 Slot 7

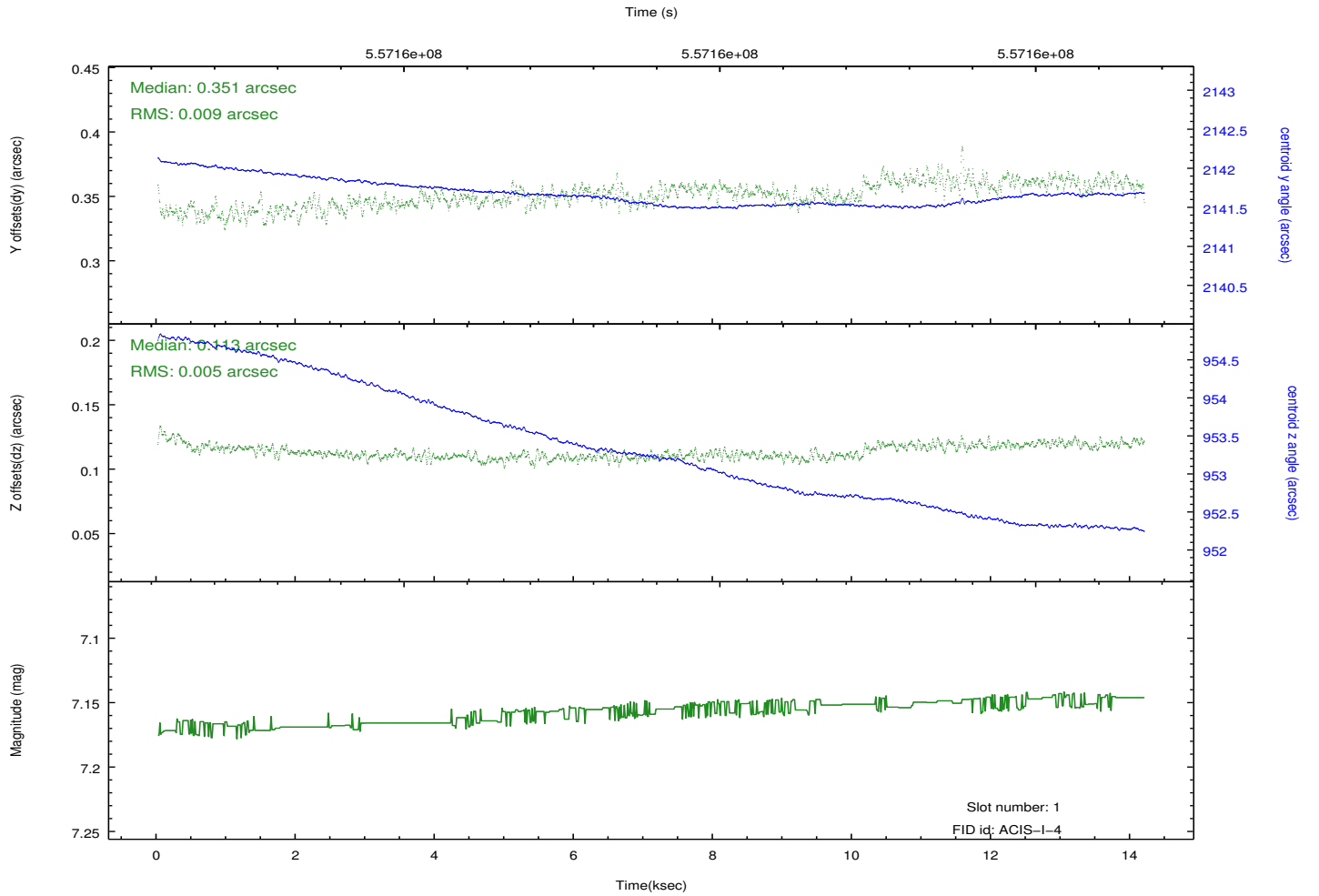
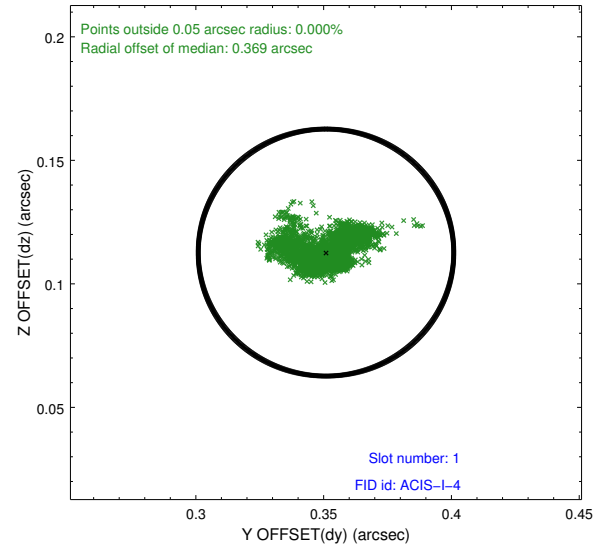
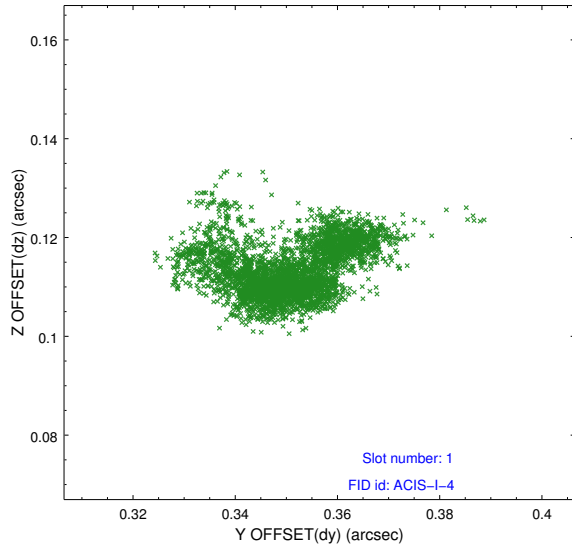


2.5 FID Slots

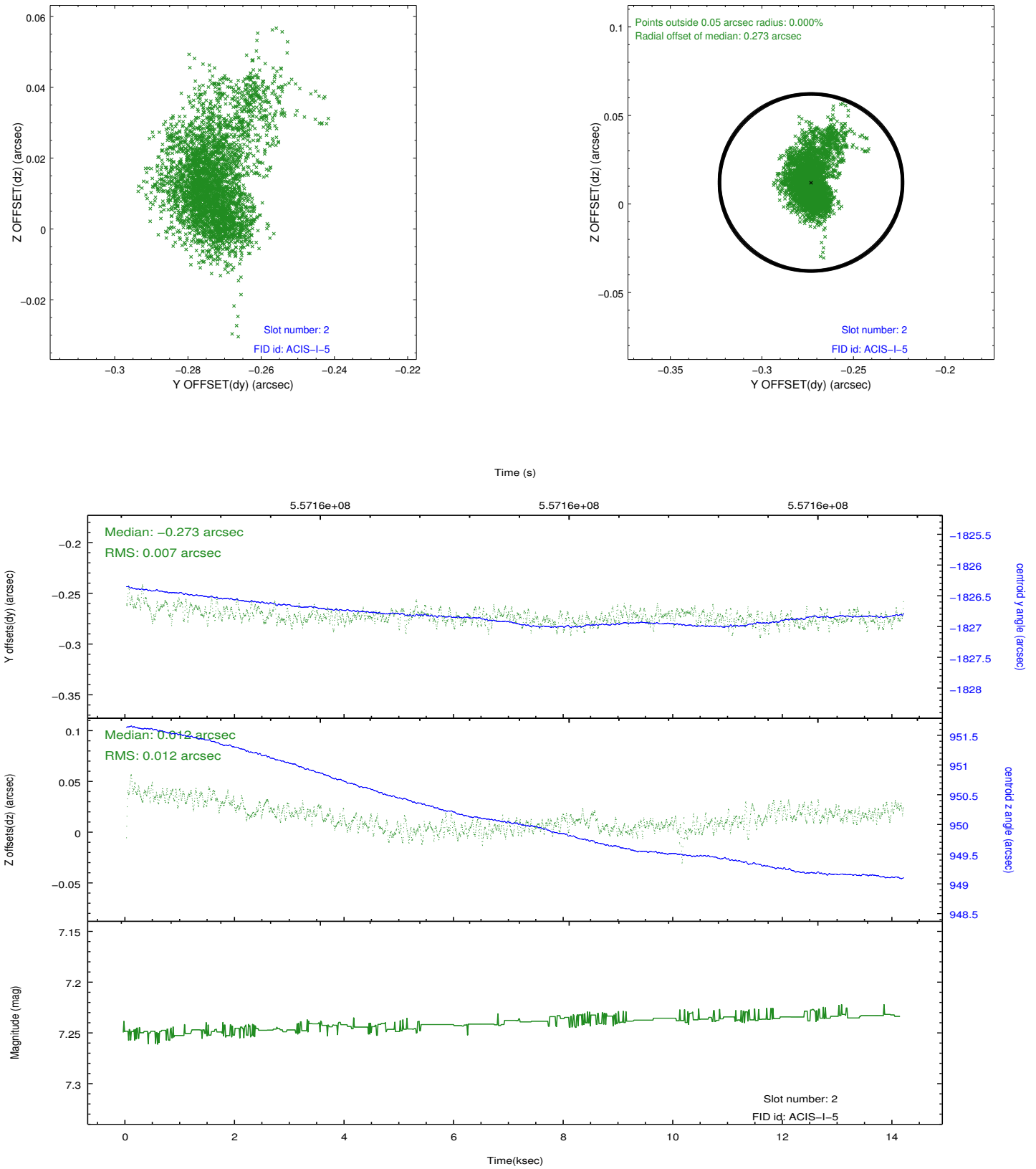
2.5.1 Slot 0



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)	2015.09.02
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	14.079239401698

A.2 Comments

A spatial region of the original bias map for CCD = 3 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 map for CCD = 3 has been reconstructed for this processing to remove this anomaly using scaled data from a comparable bias map from another observation. The pixels affected by the anomaly are bounded by sky coords: (192.35921, 49.85037), (192.35490, 49.84795), (192.42636, 49.79519), (192.43066, 49.79760).