

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 13138 - L2 Version 3
Chandra X-Ray Center

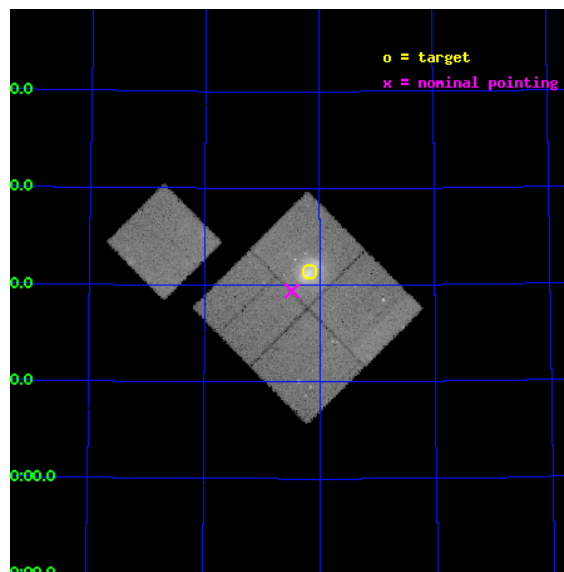
L2 Processing Date : Jul 5 2012

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1 Front

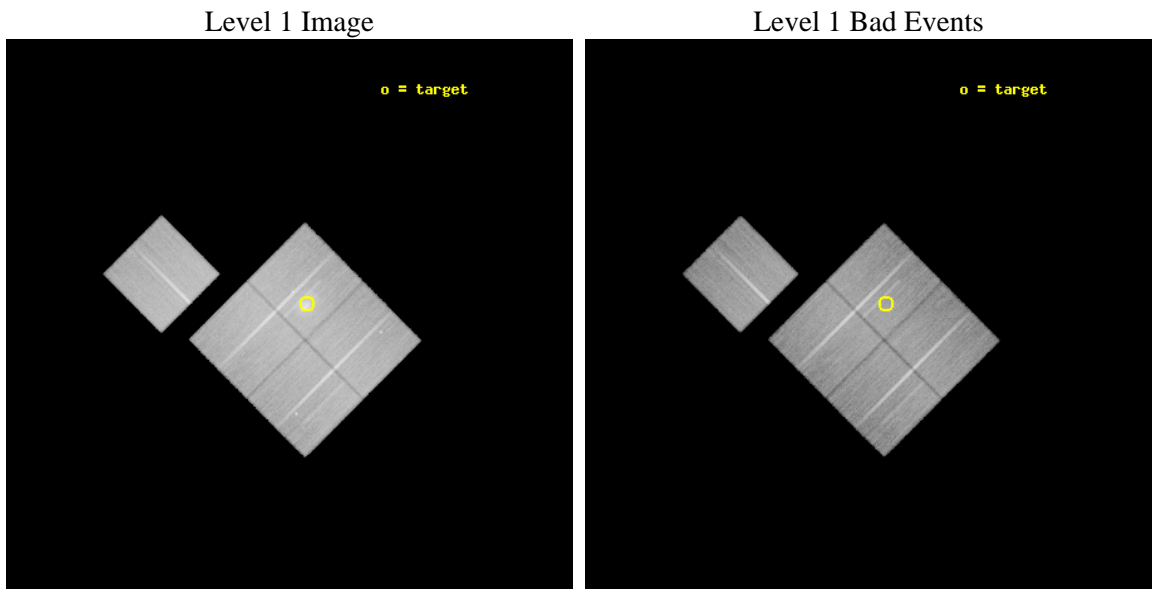
seq_num	801052	Sequence number
obs_id	13138	Observation id
title	Revealing the ICM transport processes with the bow shock, upstream shock and turbulent wake in Abell 2146	Proposal title
observer	Dr Helen Russell	Principal investigator
object	Abell 2146	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	239.04239	Observer's specified target RA [deg]
dec_targ	66.357434	Observer's specified target Dec [deg]
ra_nom	239.12039214065	Nominal RA [deg]
dec_nom	66.323630905779	Nominal Dec [deg]
roll_nom	315.13724649391	Nominal Roll [deg]
revision	3	Processing version of data
ontime	50043.218573749	Sum of GTIs [s]
livetime	49389.367081801	Livetime [s]
ontime0	50046.359374702	Sum of GTIs [s]
ontime1	50046.359494209	Sum of GTIs [s]
ontime2	50043.218553901	Sum of GTIs [s]
ontime3	50043.218573749	Sum of GTIs [s]
ontime6	50049.500384927	Sum of GTIs [s]
l2events	205630	Number of level 2 events



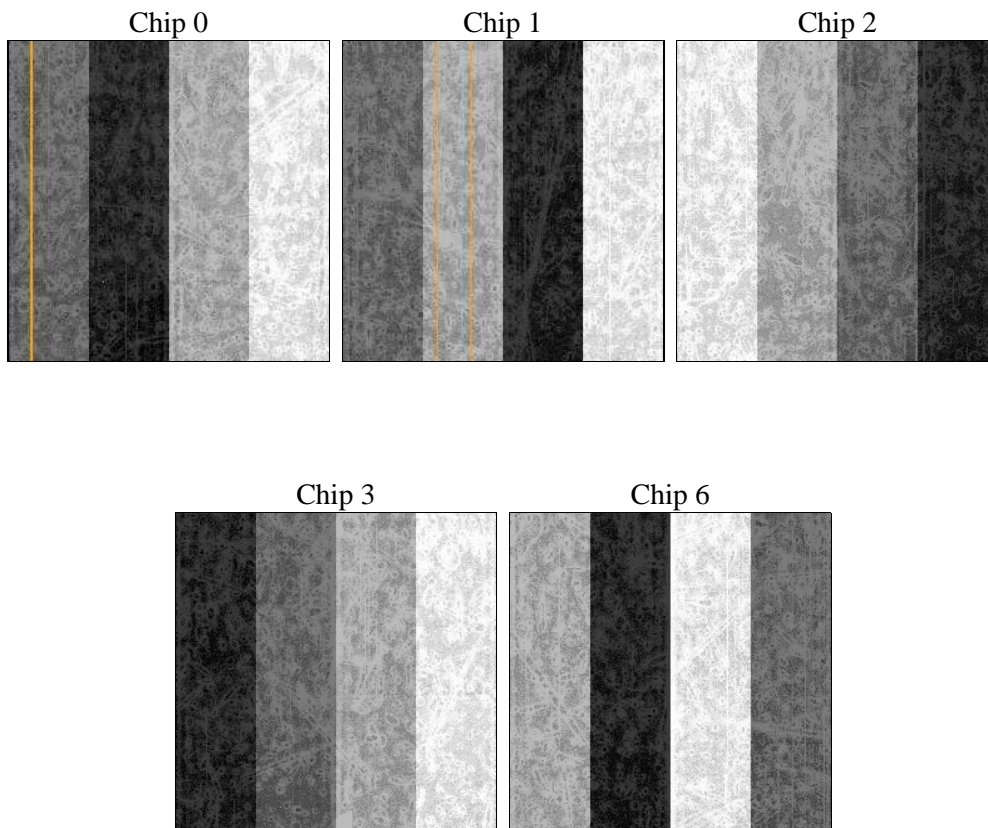
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	50000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	50043.218573749	Sum of GTIs [s]
caldbver	4.5.0	 	ontime0	50046.359374702	Sum of GTIs [s]
date	2012-07-05T19:15:56	Date and time of file creation	ontime1	50046.359494209	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	50043.218553901	Sum of GTIs [s]
			ontime3	50043.218573749	Sum of GTIs [s]
			ontime6	50049.500384927	Sum of GTIs [s]
			l1events	1846474	Number of level 1 events

2.1.4 Events

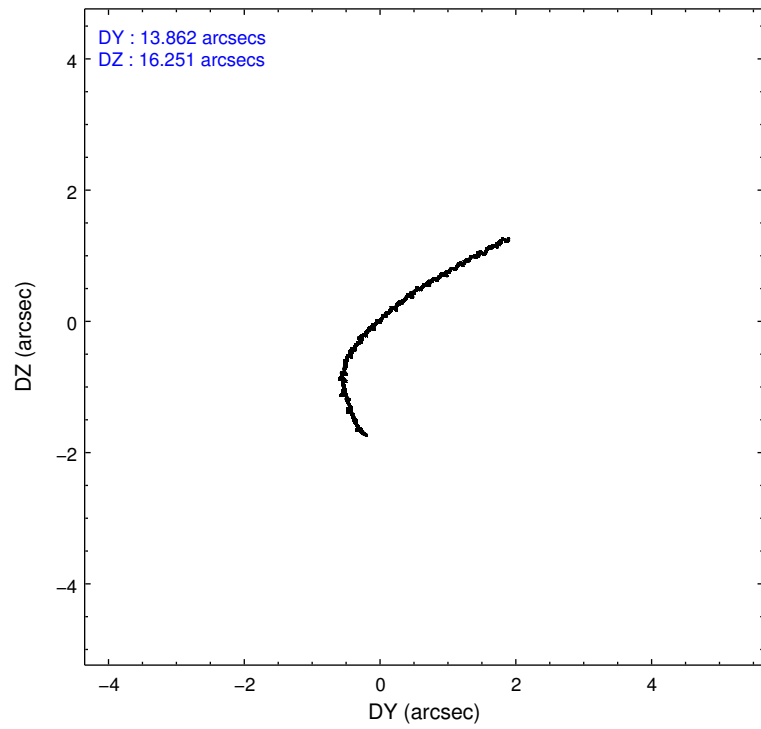
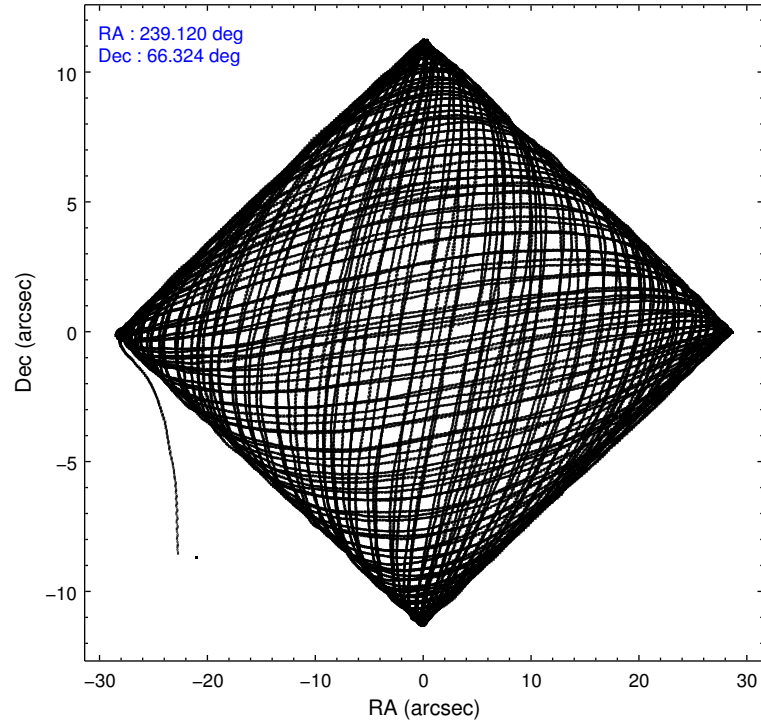
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	347082	347437	381489	400731	369735
rejected events	305623	301241	341812	329264	328658
rejected %	88%	86%	89%	82%	88%

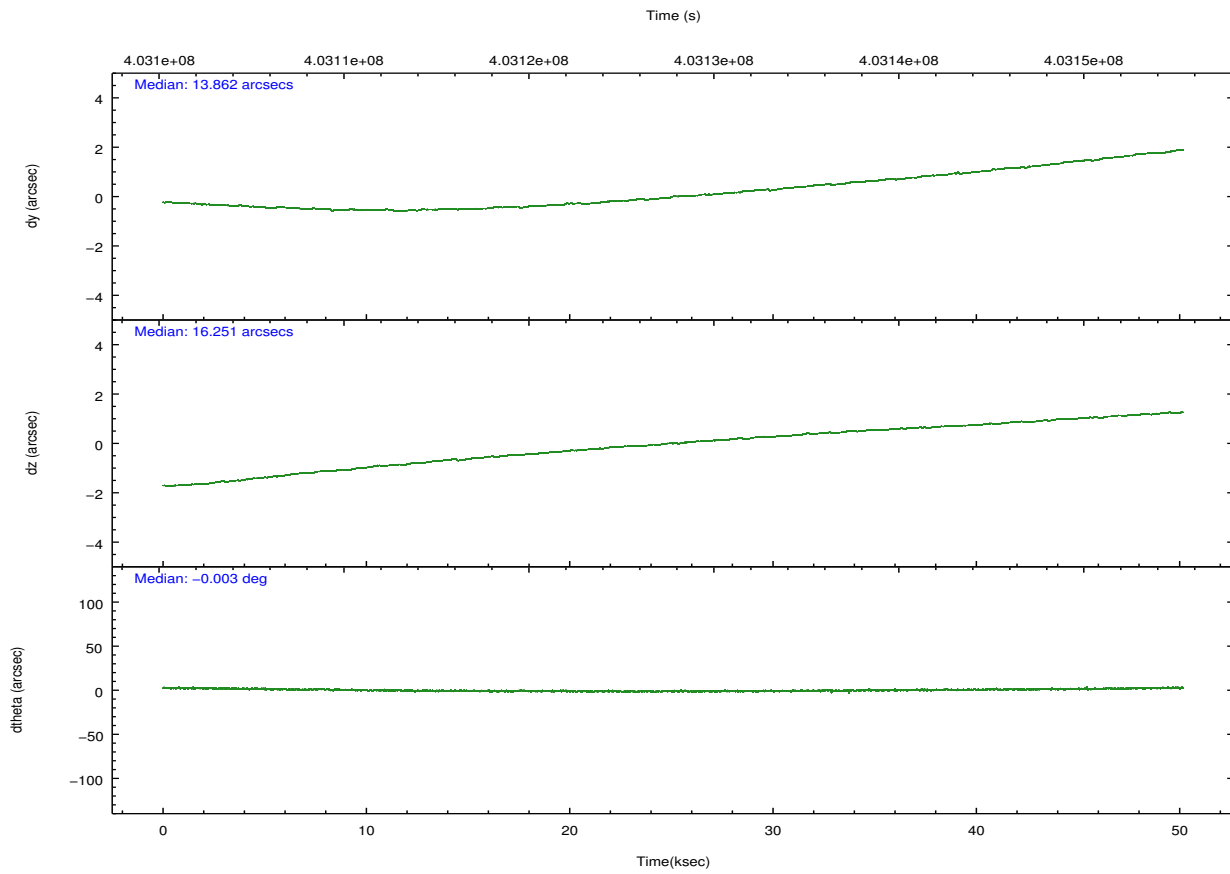
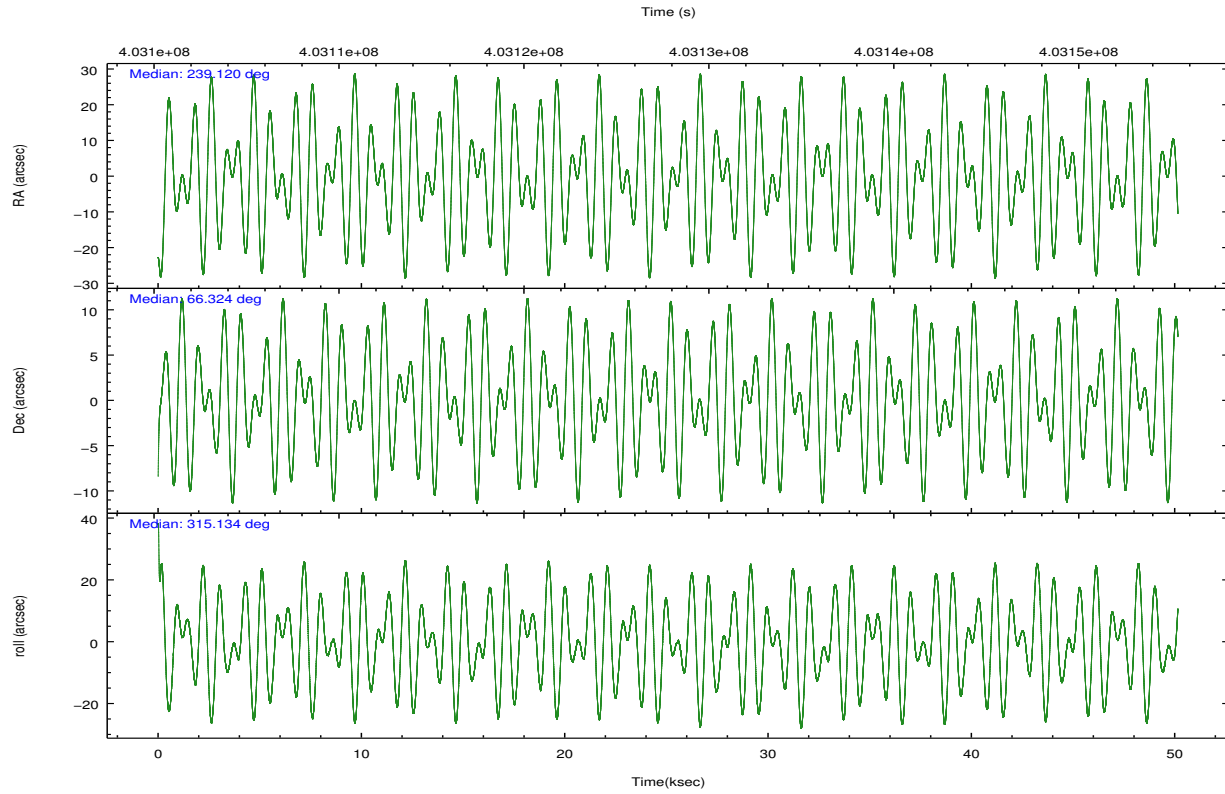
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	14600	16788	14122	40730	14375
	4%	4%	3%	10%	3%
grade 1 events	207	182	218	374	192
	0%	0%	0%	0%	0%
grade 2 events	10177	10680	9748	11720	9085
	2%	3%	2%	2%	2%
grade 3 events	4358	4716	4032	5060	4483
	1%	1%	1%	1%	1%
grade 4 events	4163	4612	4091	5233	4227
	1%	1%	1%	1%	1%
grade 5 events	15239	16384	14500	17283	16719
	4%	4%	3%	4%	4%
grade 6 events	8161	9401	7688	8730	8909
	2%	2%	2%	2%	2%
grade 7 events	290177	284674	327090	311601	311745
	83%	81%	85%	77%	84%

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	239.054145	239.1203921406529	CCD I2 on	Y	Y
[deg] Pointing Dec	66.330574	66.32363090577861	CCD I3 on	Y	Y
[deg] Pointing Roll	314.989228	315.1372464939143	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	-228.592463	-228.5990329025337	CCD S3 on	N	N
[mm] SIM translation stage offset	-5	-4.993420100396037	CCD S4 on	N	N
[s] Observation start time (MET)	403102880.184000	403101714.84292	CCD S5 on	N	N
Observation start date	2010-10-10T13:00:14	2010-10-10T12:41:54	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	403152880.184000	403154109.77061	On-chip summing requested	N	N
Observation end date	2010-10-11T02:53:34	2010-10-11T03:15:09	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



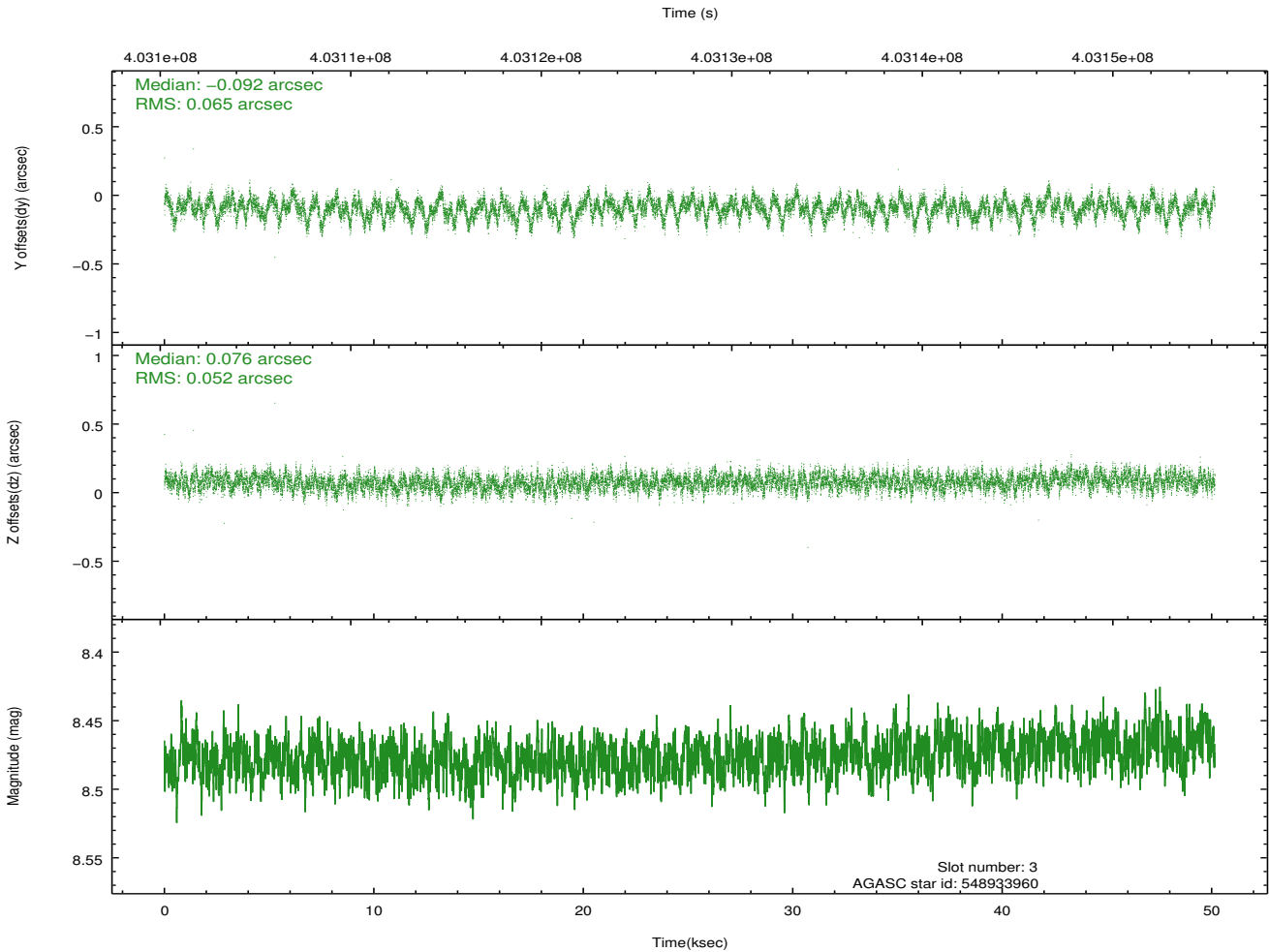
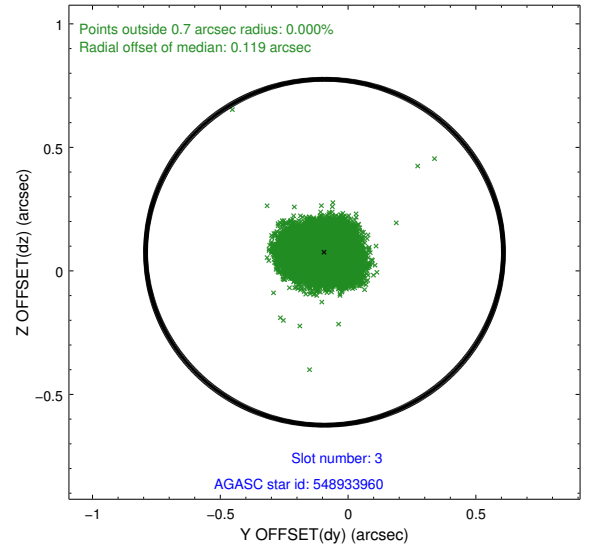
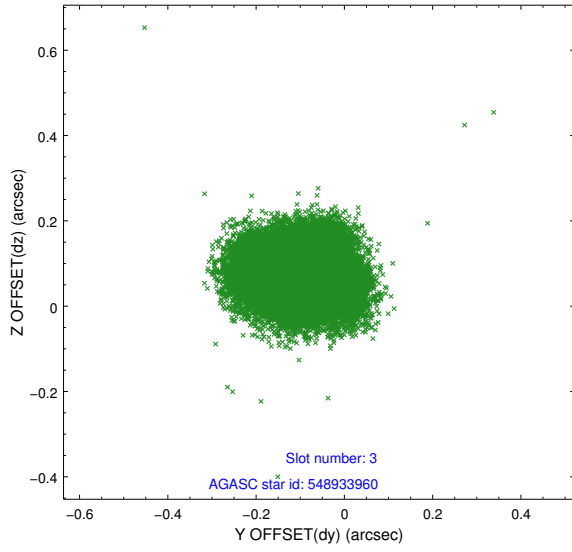


Slot Statistics

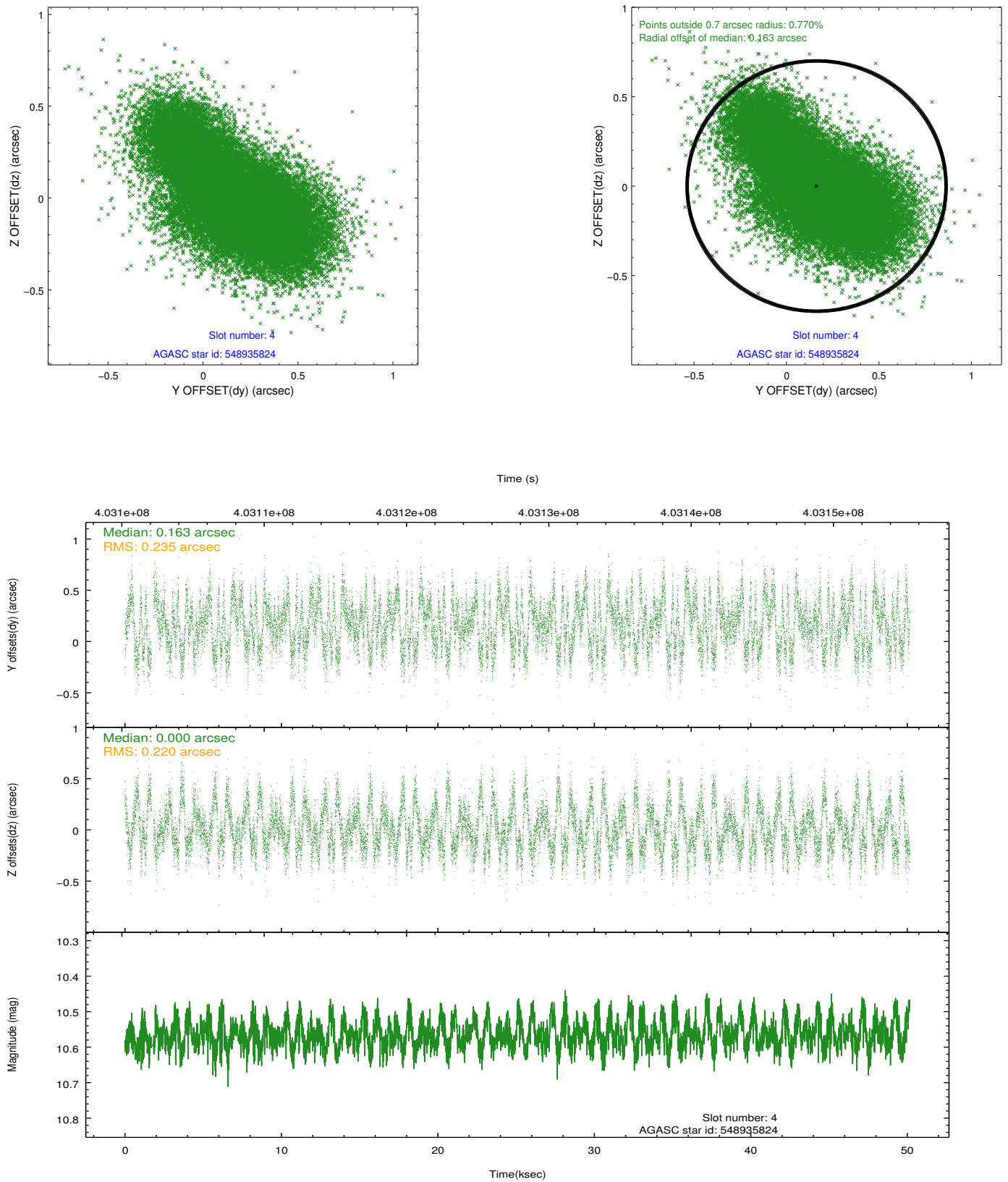
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.06	12233	0.087	-0.025	0.014	0.025	0.000000	0.000000	925.40	-942.27
1	FID	ACIS-I-5	7.04	12233	-0.246	0.084	0.015	0.022	0.000000	0.000000	-1823.10	955.27
2	FID	ACIS-I-6	7.04	12231	0.070	0.011	0.017	0.029	0.000000	0.000000	390.88	1599.73
3	GUIDE	548933960	8.48	24457	-0.092	0.076	0.089	0.145	237.671184	66.428675	-1672.01	-1143.13
4	GUIDE	548935824	10.57	24299	0.163	0.000	0.345	0.558	239.901957	65.838846	2129.18	-361.76
5	GUIDE	548937184	9.85	24416	0.199	-0.052	0.235	0.346	238.771821	66.565432	-883.77	312.57
6	GUIDE	548939872	10.31	24420	-0.094	0.083	0.272	0.409	238.964867	66.978384	-1738.18	1560.13
7	GUIDE	549850840	9.33	24433	-0.164	-0.131	0.131	0.205	241.038865	66.468628	1633.48	2400.77

2.4 Star Slots

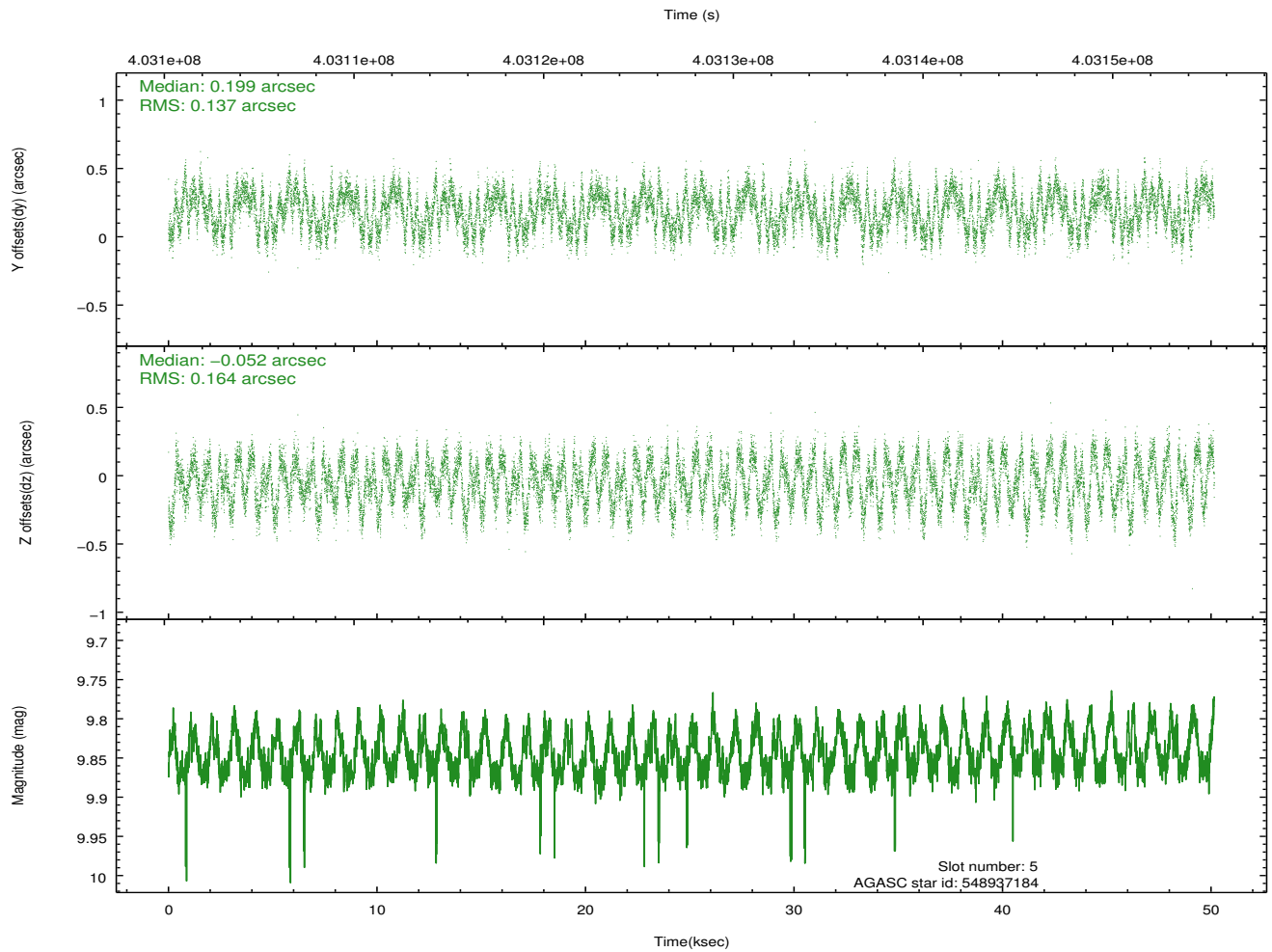
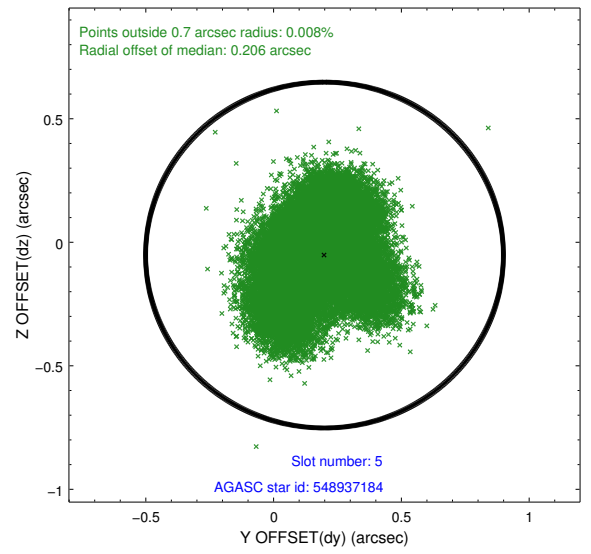
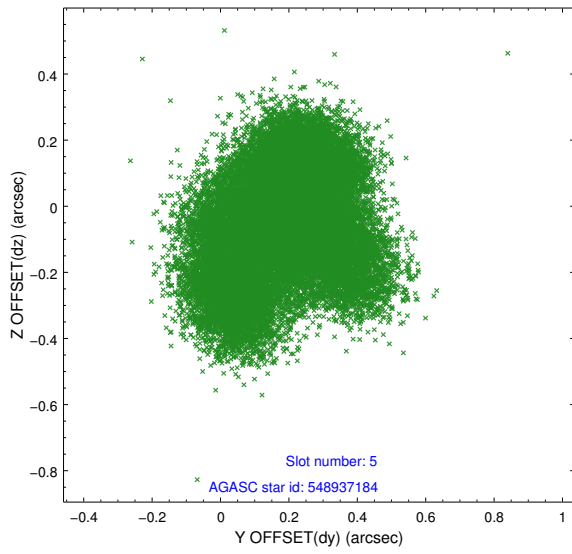
2.4.1 Slot 3



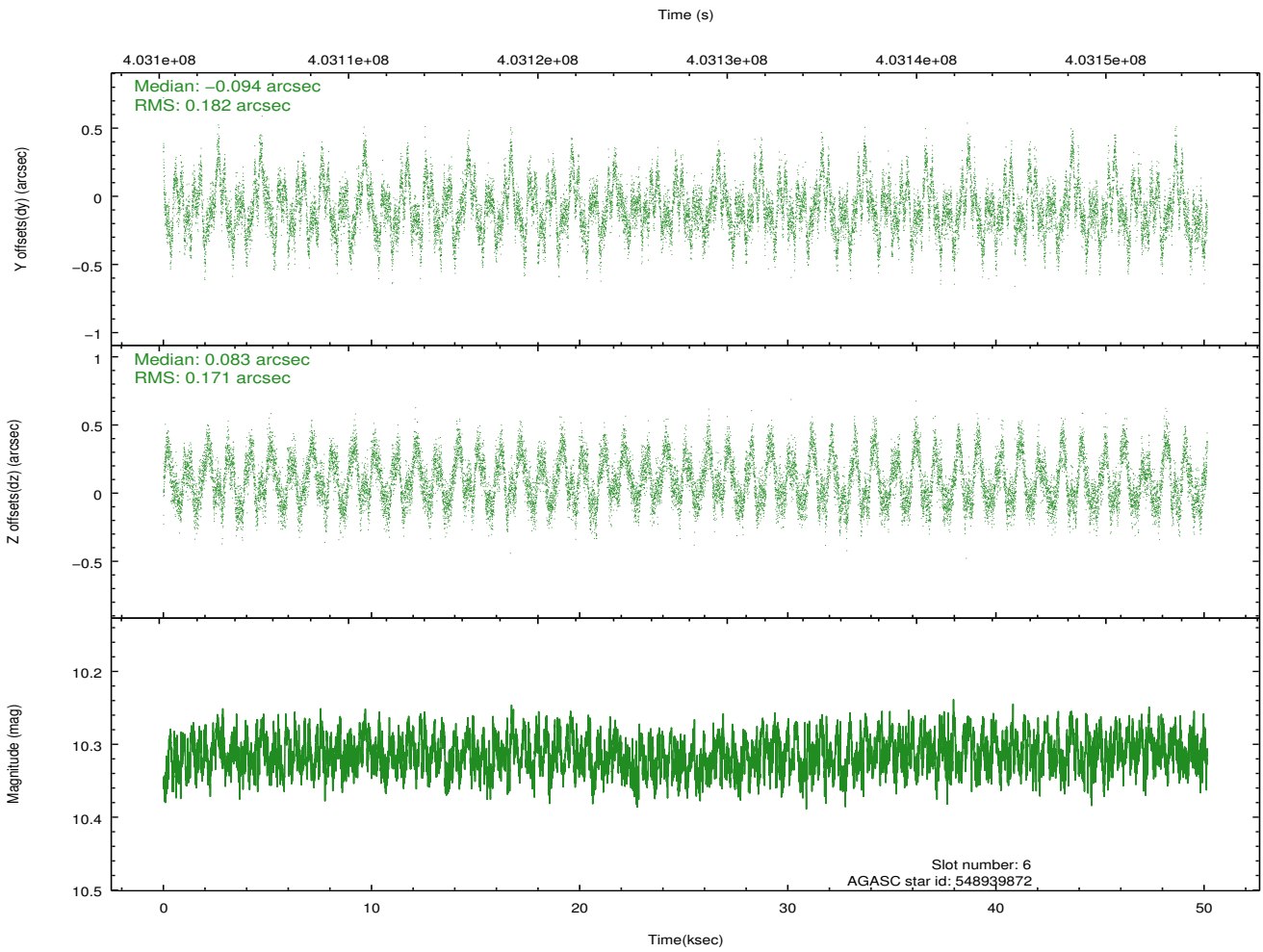
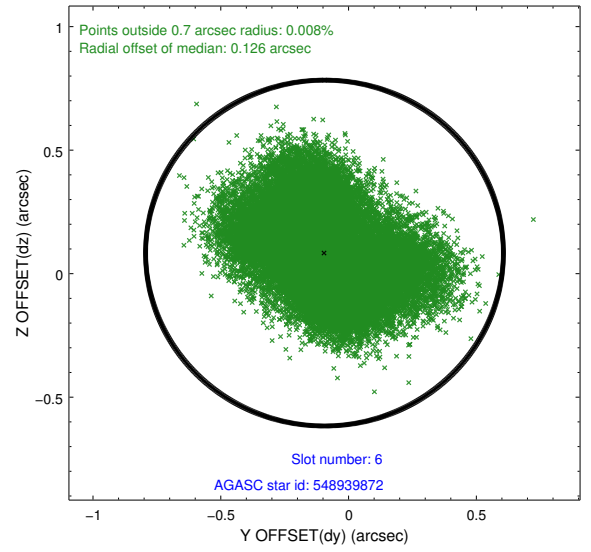
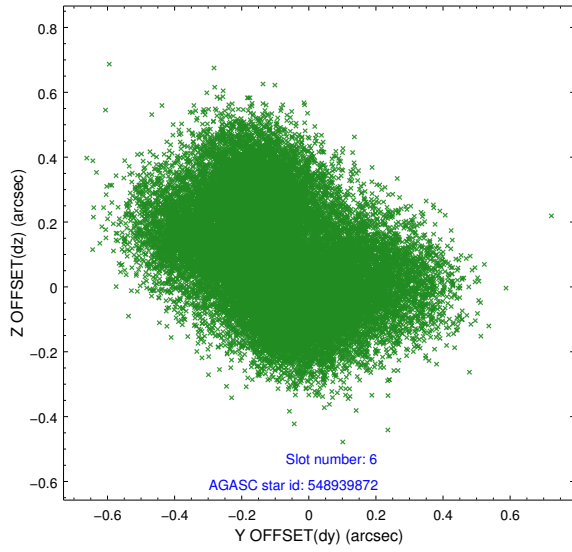
2.4.2 Slot 4



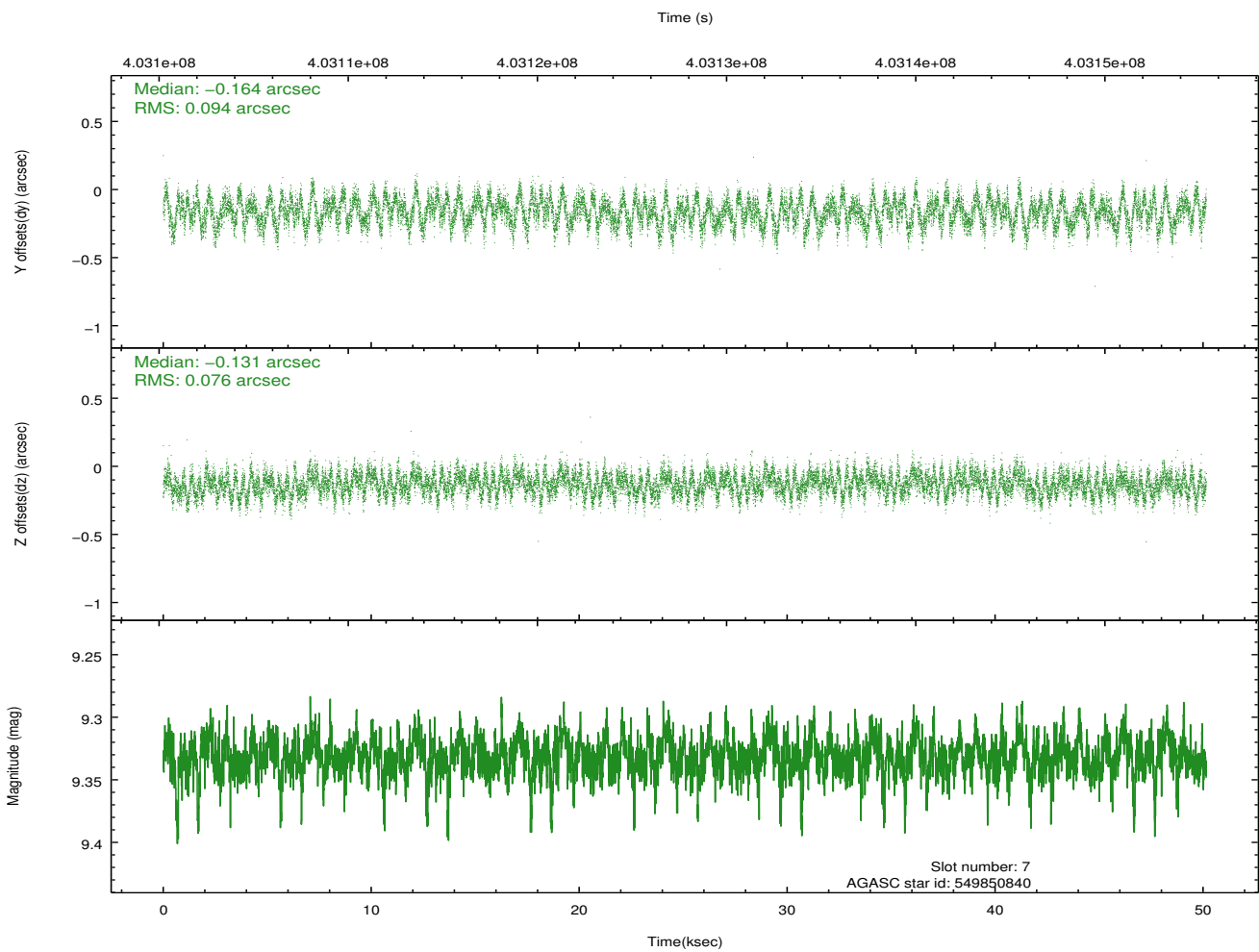
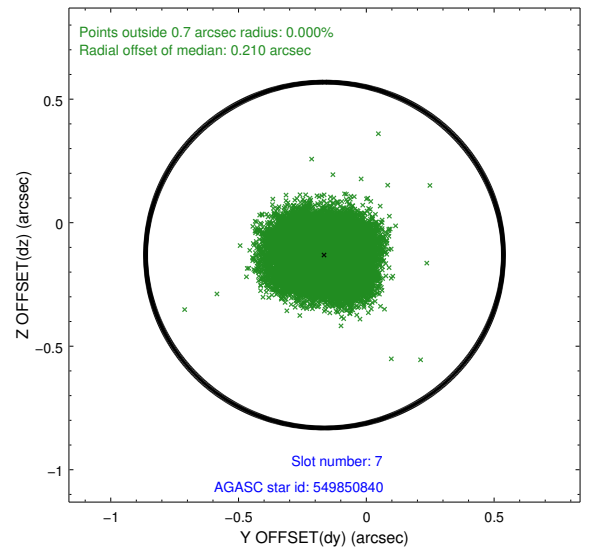
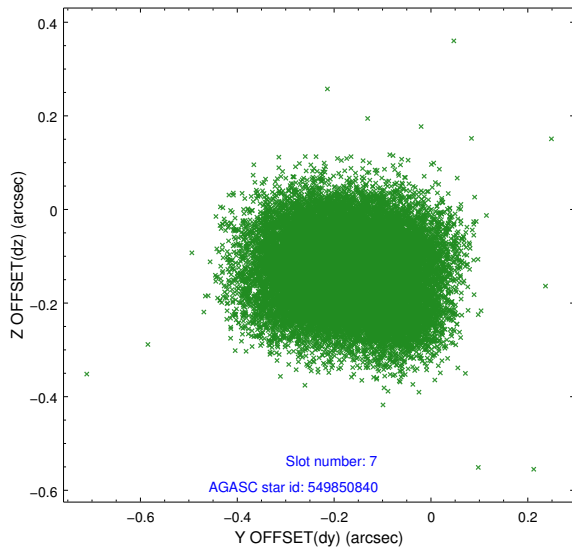
2.4.3 Slot 5



2.4.4 Slot 6

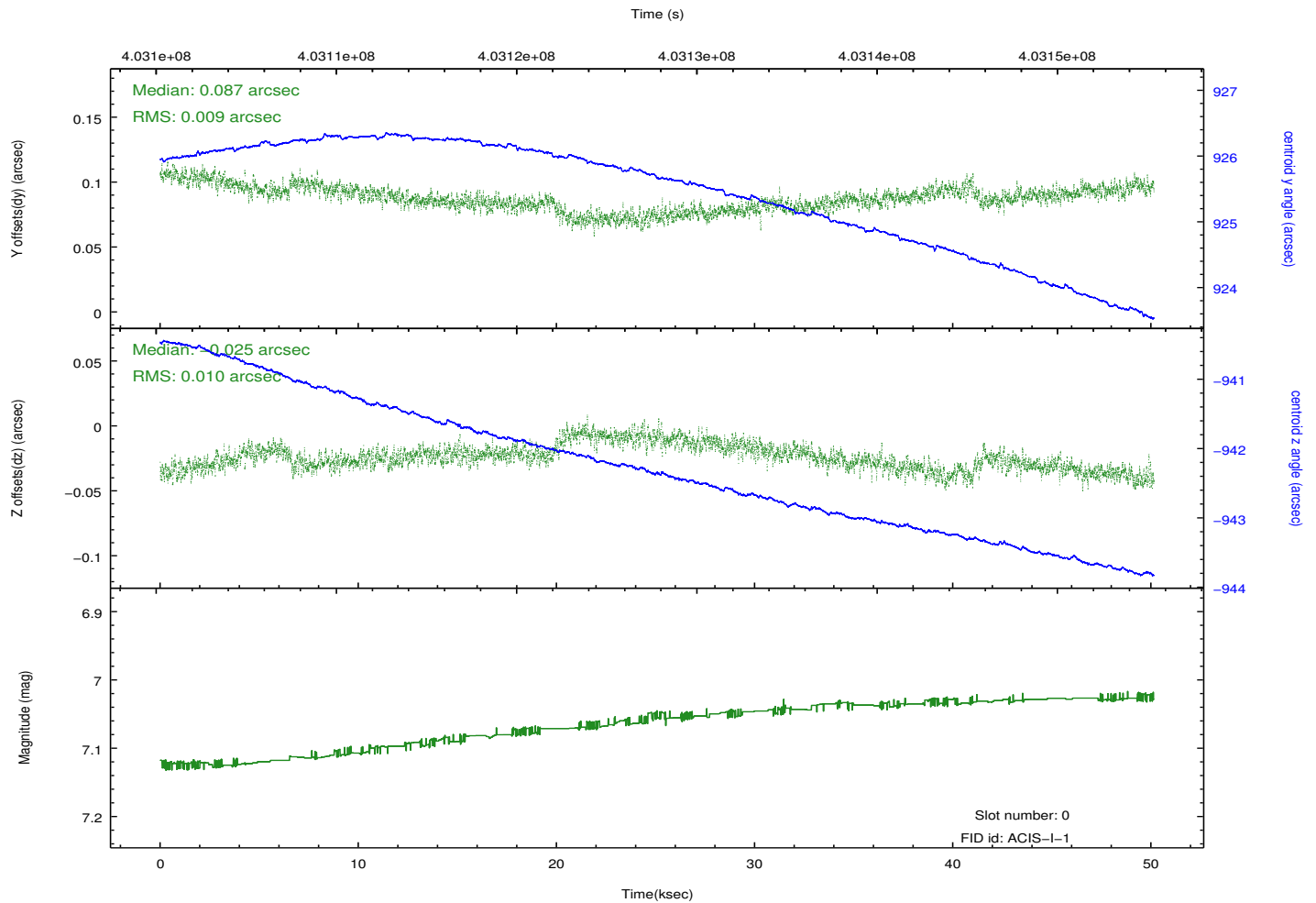
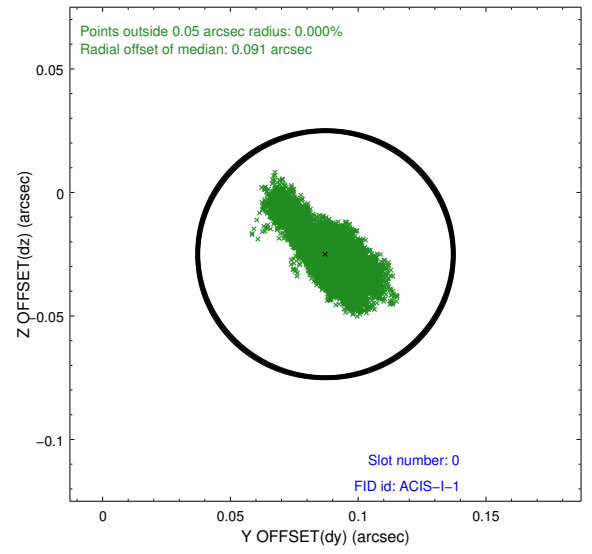
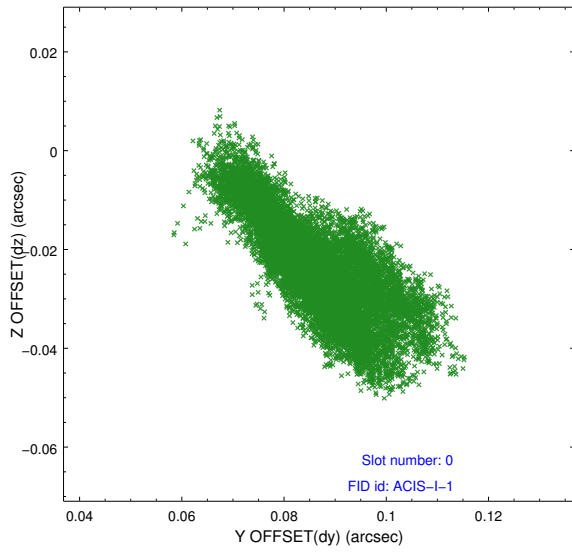


2.4.5 Slot 7

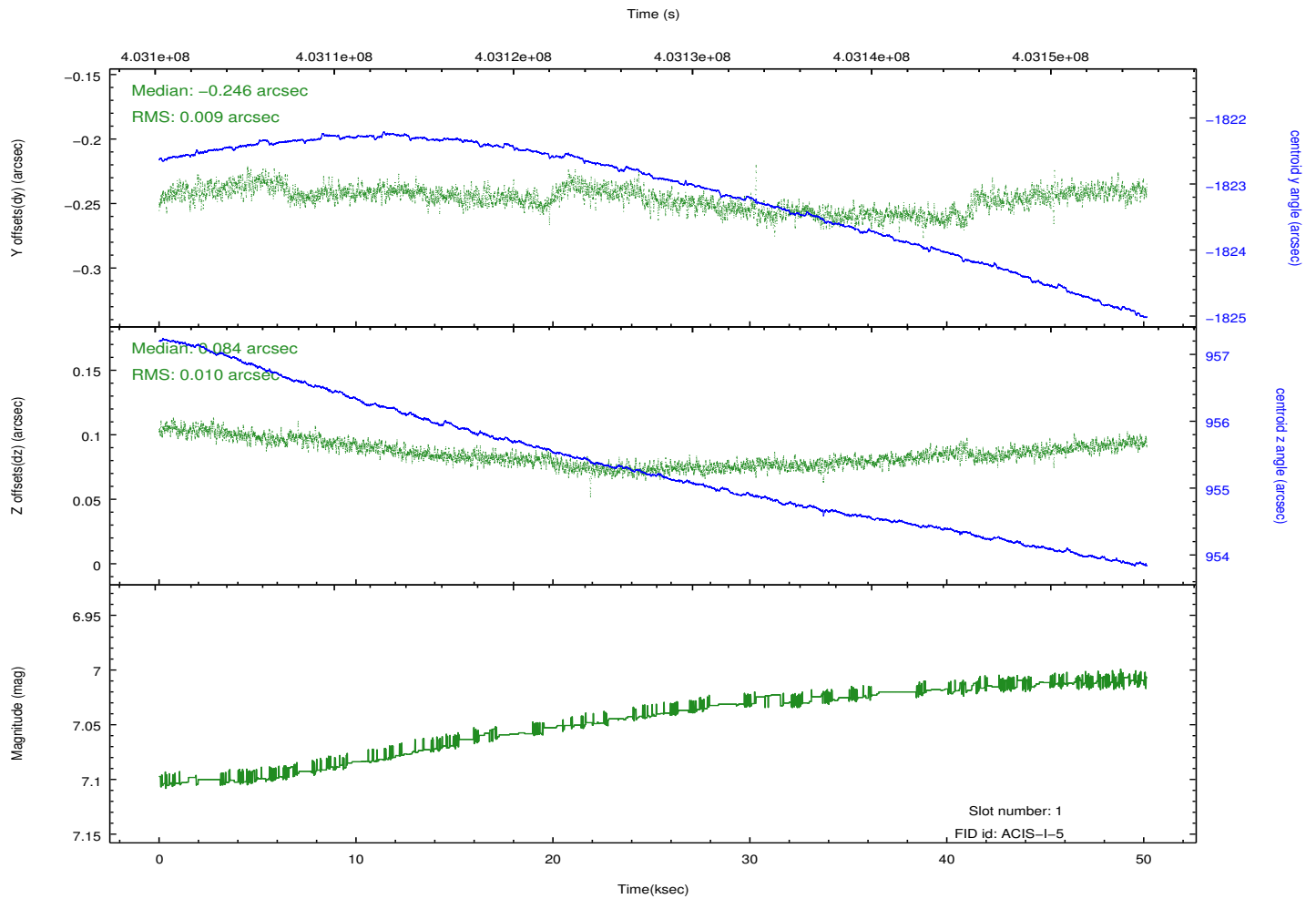
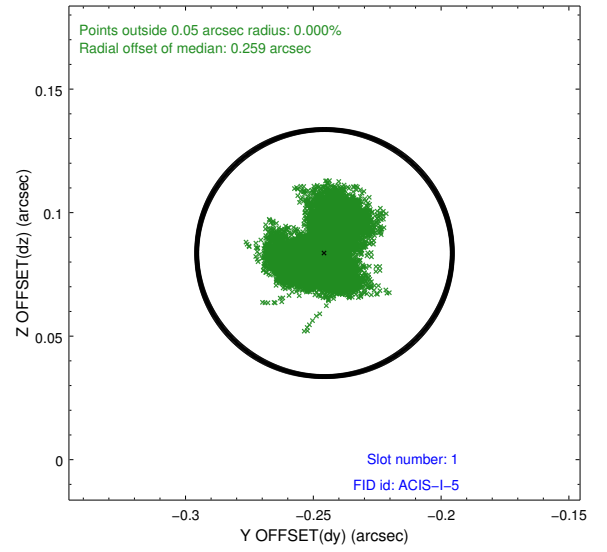
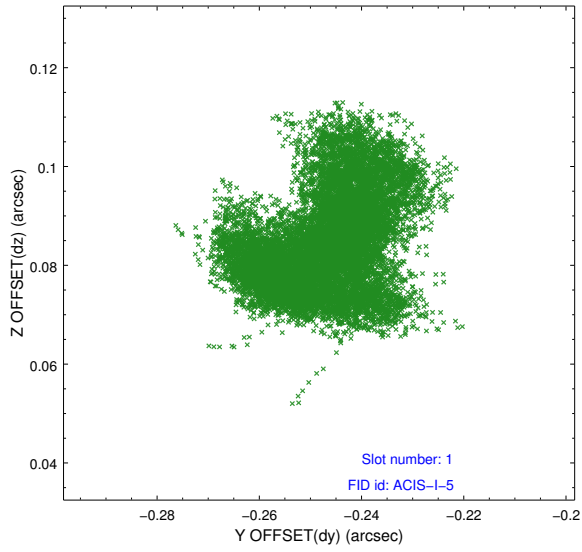


2.5 FID Slots

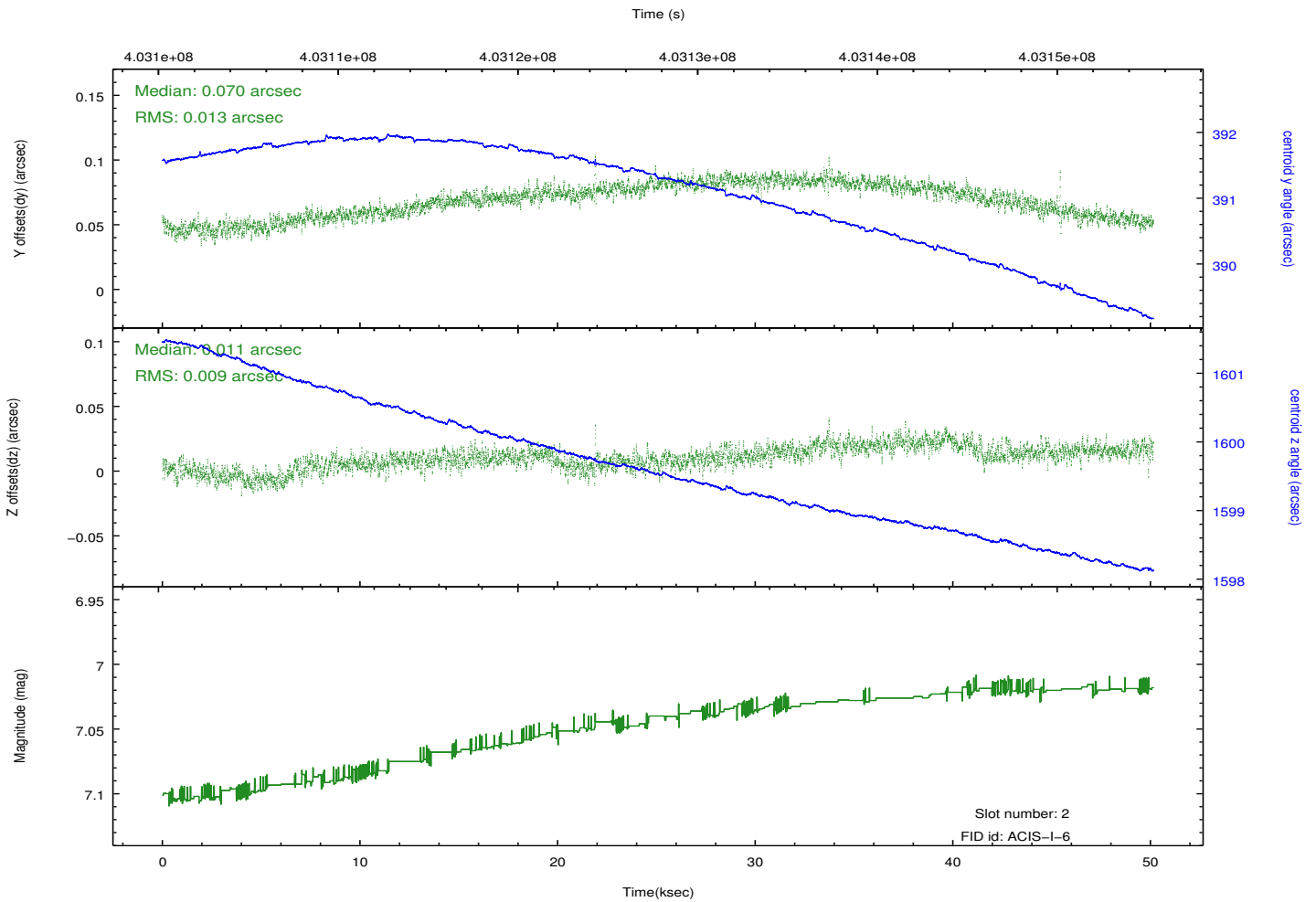
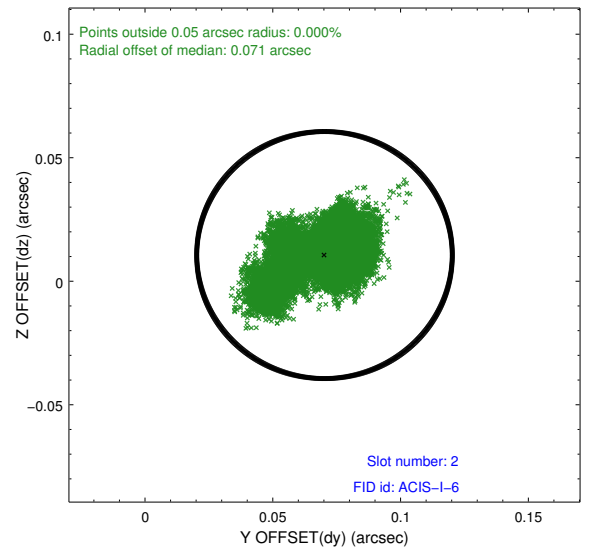
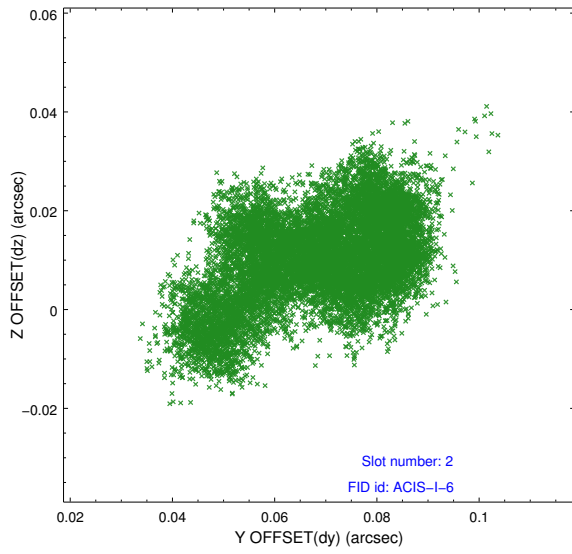
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2



A Summary

A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2012.07.16
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	50.043218573689

A.2 Comments

A spatial region of the original bias map for 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 map for CCD = 2 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:
(239.47813,66.26590), (239.48556,66.26889), (239.24036,66.36764), (239.23293,66.36465)