

V&V Reference Report

L2 ASCDS Version : 10.8.1

Observation 21709 - L2 Version 2
Chandra X-Ray Center

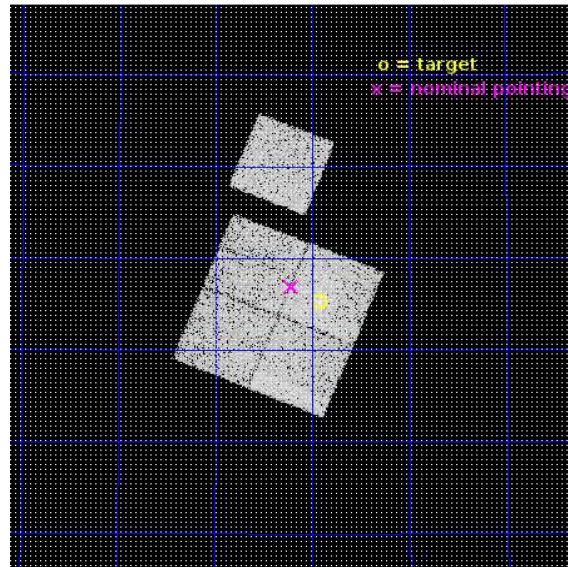
L2 Processing Date : Oct 3 2019

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 4	10
2.4.3	Slot 5	11
2.4.4	Slot 6	12
2.4.5	Slot 7	13
2.5	FID Slots	14
2.5.1	Slot 0	14
2.5.2	Slot 1	15
2.5.3	Slot 2	16
A	Summary	17
A.1	Status	17
A.2	Comments	17

1 Front

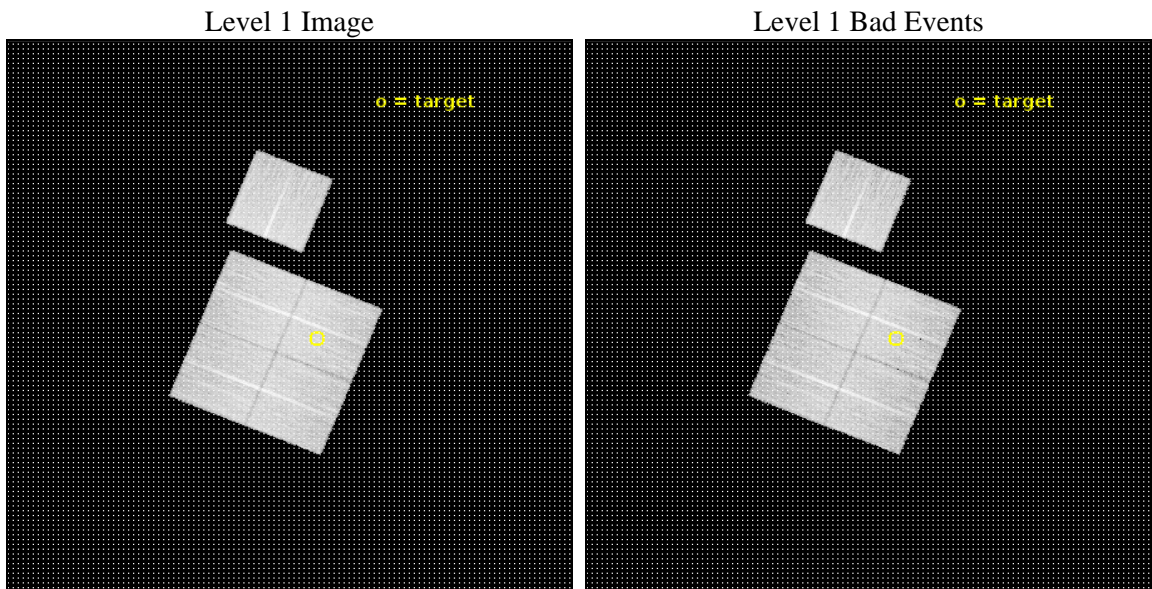
seq_num	801855	Sequence number
obs_id	21709	Observation id
title	Snapshot Survey of LOFAR-selected Galaxy Clusters	Proposal title
observer	Ralph Kraft	Principal investigator
object	Abell 1156	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	166.231667	Observer's specified target RA [deg]
dec_targ	47.420833	Observer's specified target Dec [deg]
ra_nom	166.30398873099	Nominal RA [deg]
dec_nom	47.448412686311	Nominal Dec [deg]
roll_nom	22.080802332444	Nominal Roll [deg]
revision	2	Processing version of data
ontime	15062.249753714	Sum of GTIs [s]
livetime	14865.450372014	Livetime [s]
ontime0	15065.267594218	Sum of GTIs [s]
ontime1	15065.308634162	Sum of GTIs [s]
ontime2	15065.349674225	Sum of GTIs [s]
ontime3	15062.249753714	Sum of GTIs [s]
ontime6	15065.226554155	Sum of GTIs [s]
l2events	57998	Number of level 2 events



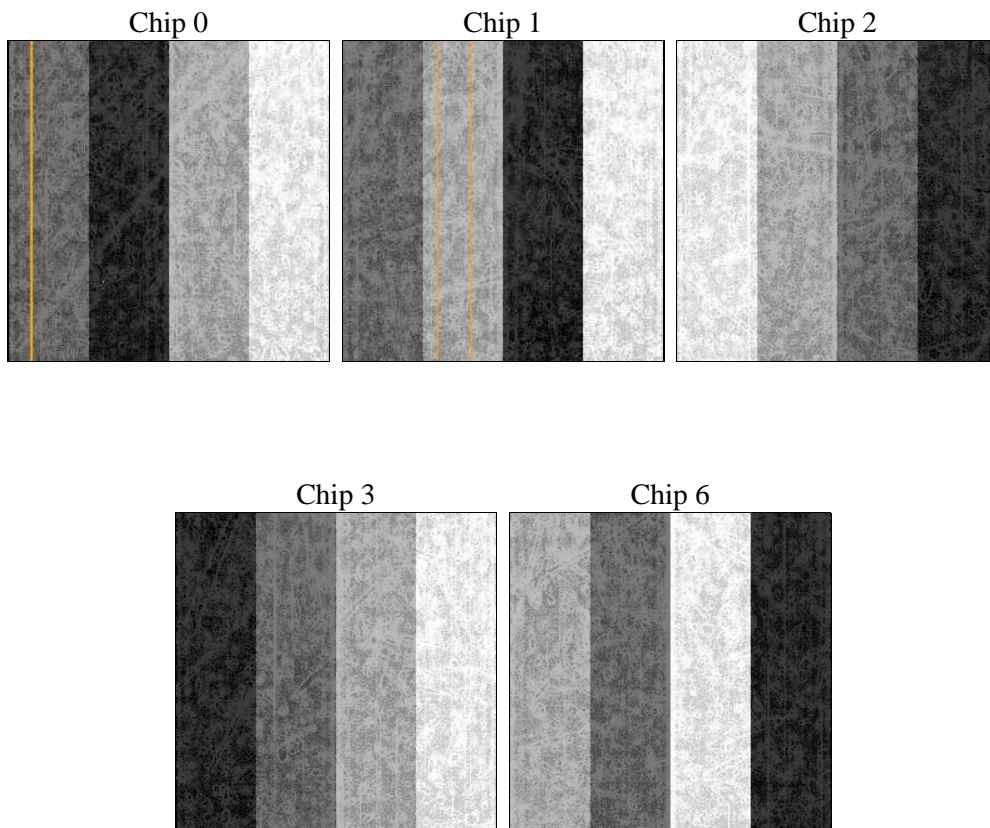
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	15000.000000	[s] Scheduled observation exposure time
ascdsver	10.8.1	Processing system revision	ontime	15062.249753714	Sum of GTIs [s]
caldbver	4.8.4.2	 	ontime0	15065.267594218	Sum of GTIs [s]
date	2019-10-03T14:06:22	Date and time of file creation	ontime1	15065.308634162	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	15065.349674225	Sum of GTIs [s]
			ontime3	15062.249753714	Sum of GTIs [s]
			ontime6	15065.226554155	Sum of GTIs [s]
			l1events	572965	Number of level 1 events

2.1.4 Events

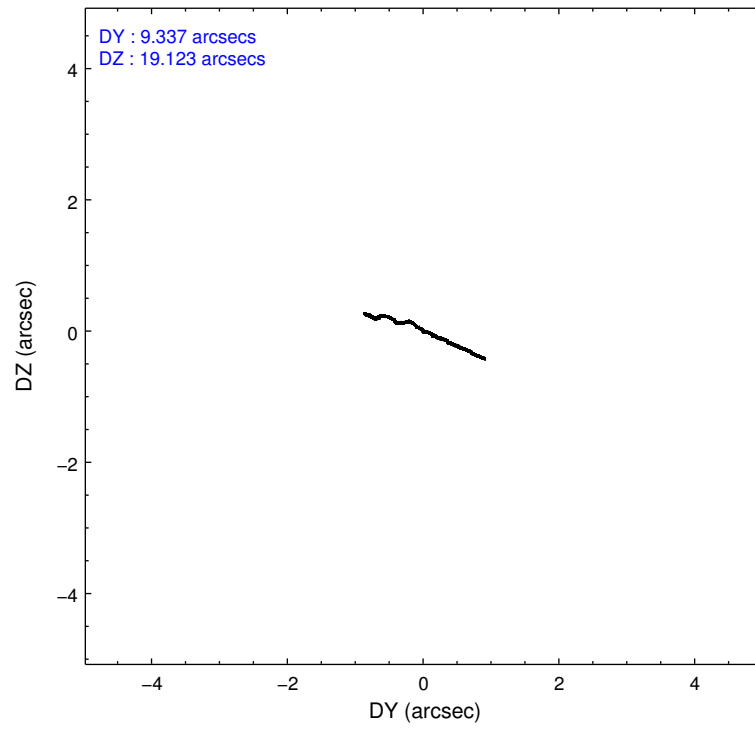
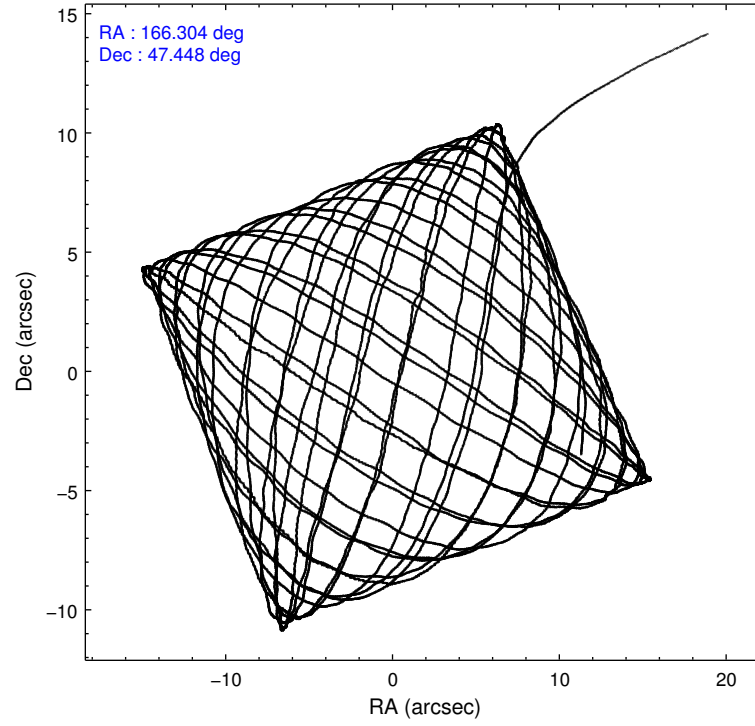
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	107588	110958	118553	117516	118350
rejected events	94574	95941	105686	103122	105198
rejected %	87%	86%	89%	87%	88%

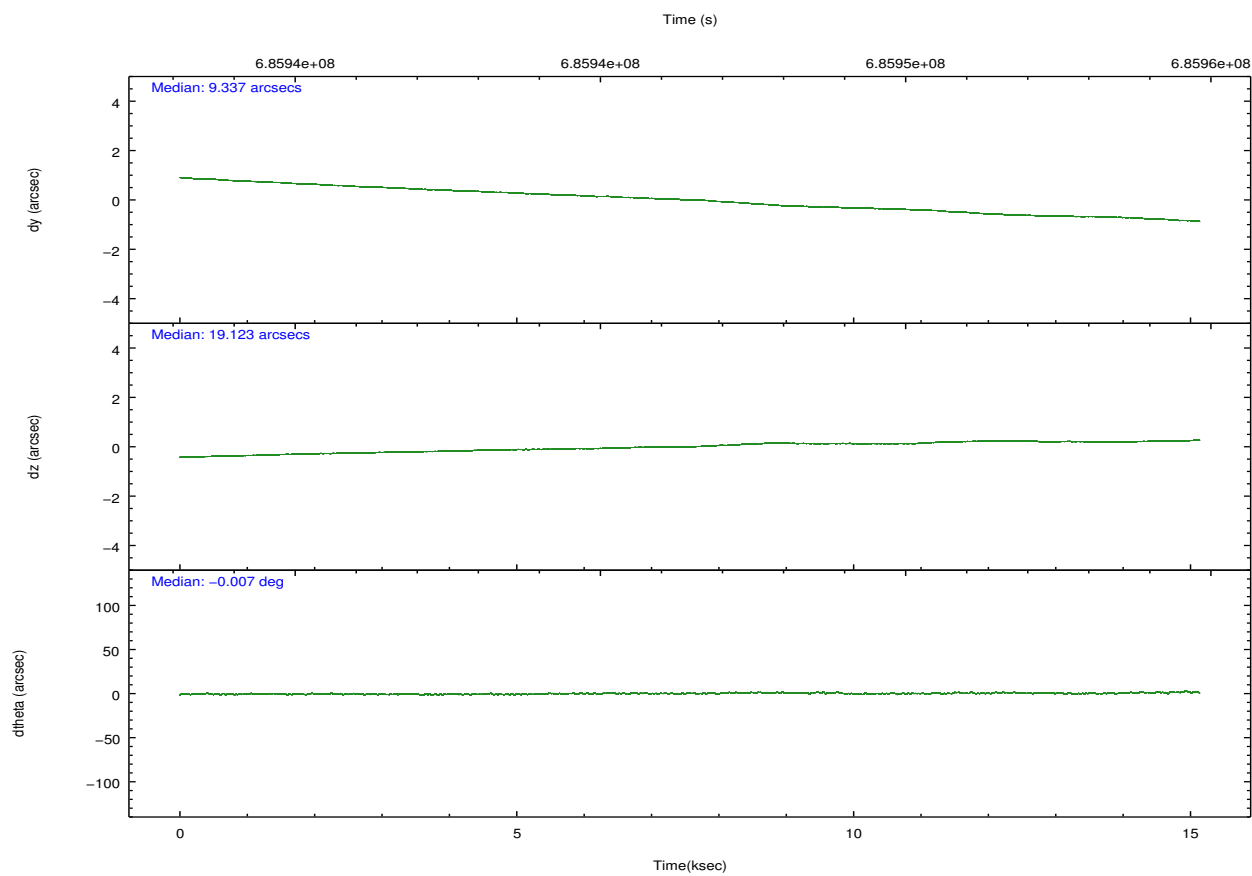
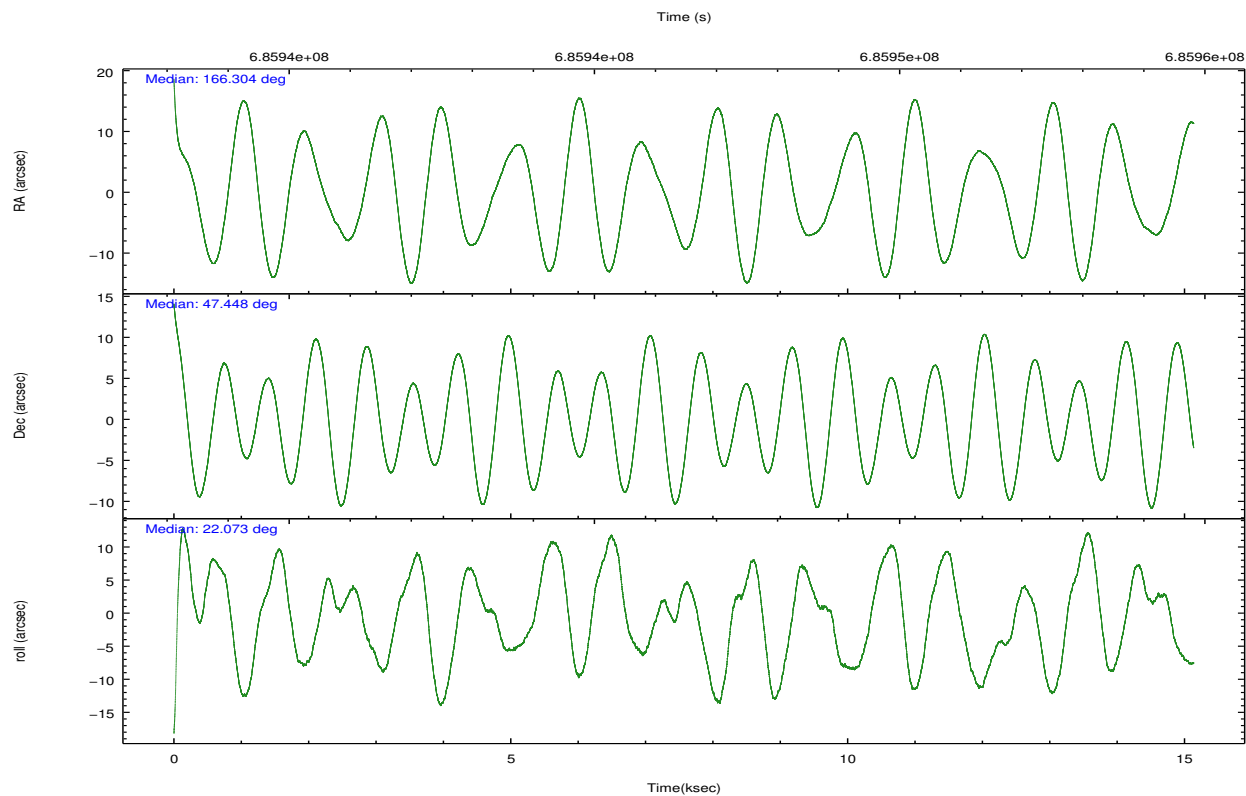
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	4306	5040	4534	6088	4152
	4%	4%	3%	5%	3%
grade 1 events	52	62	68	62	59
	0%	0%	0%	0%	0%
grade 2 events	3402	3972	3202	2926	3189
	3%	3%	2%	2%	2%
grade 3 events	1340	1357	1225	1348	1241
	1%	1%	1%	1%	1%
grade 4 events	1199	1315	1350	1387	1287
	1%	1%	1%	1%	1%
grade 5 events	4994	5197	4793	5630	5218
	4%	4%	4%	4%	4%
grade 6 events	2771	3340	2558	2650	3289
	2%	3%	2%	2%	2%
grade 7 events	89524	90675	100823	97425	99915
	83%	81%	85%	82%	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	166.279013	166.303988730994	CCD I2 on	Y	Y
[deg] Pointing Dec	47.426556	47.44841268631096	CCD I3 on	Y	Y
[deg] Pointing Roll	21.890536	22.08080233244415	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	-225.842463	-225.8433433320239	CCD S3 on	N	N
[mm] SIM translation stage offset	-7.75	-7.749109670905796	CCD S4 on	N	N
[s] Observation start time (MET)	685939035.184000	685937441.36814	CCD S5 on	N	N
Observation start date	2019-09-27T02:36:06	2019-09-27T02:10:41	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	685954035.184000	685955474.19423	On-chip summing requested	N	N
Observation end date	2019-09-27T06:46:06	2019-09-27T07:11:14	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



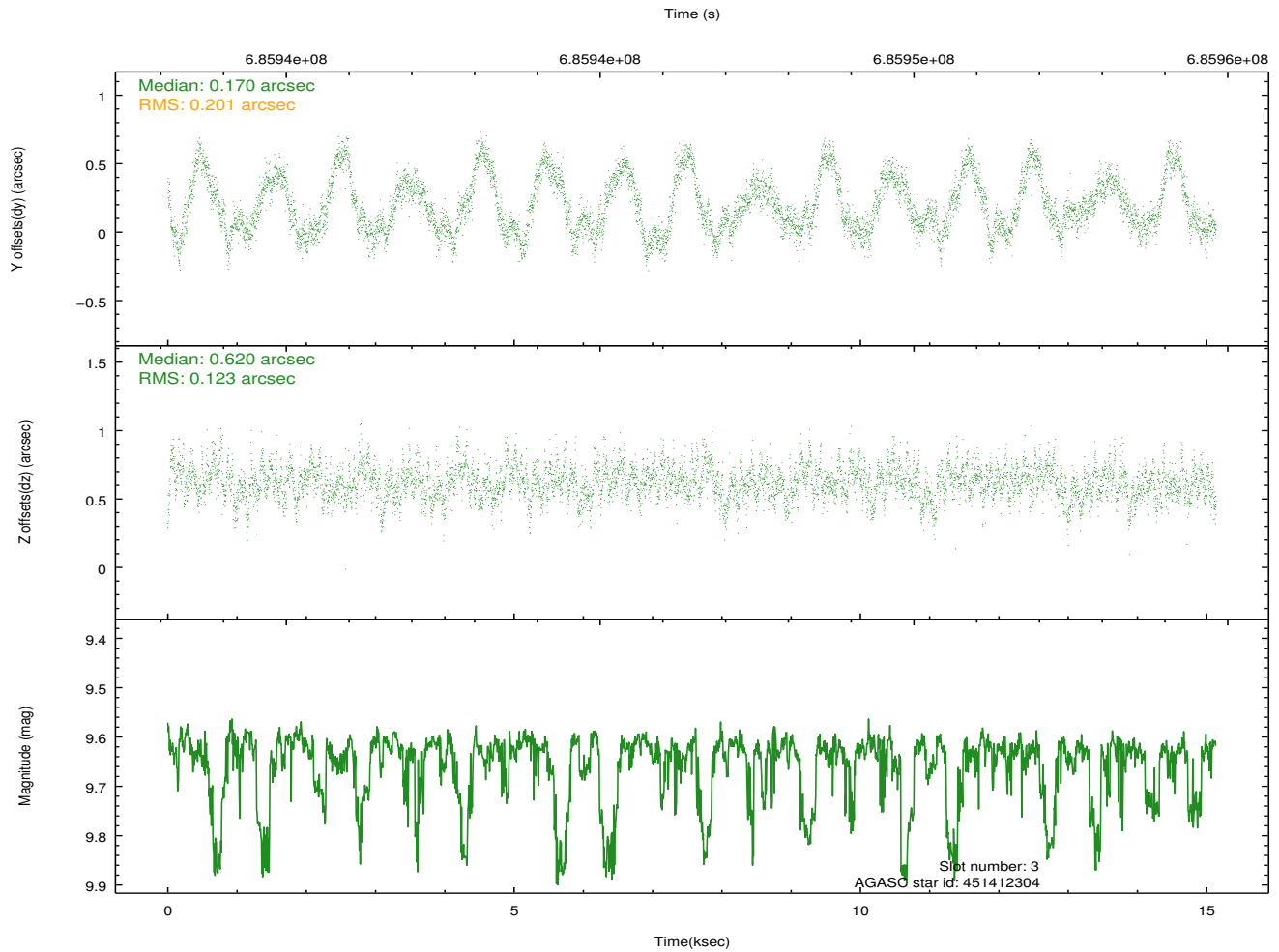
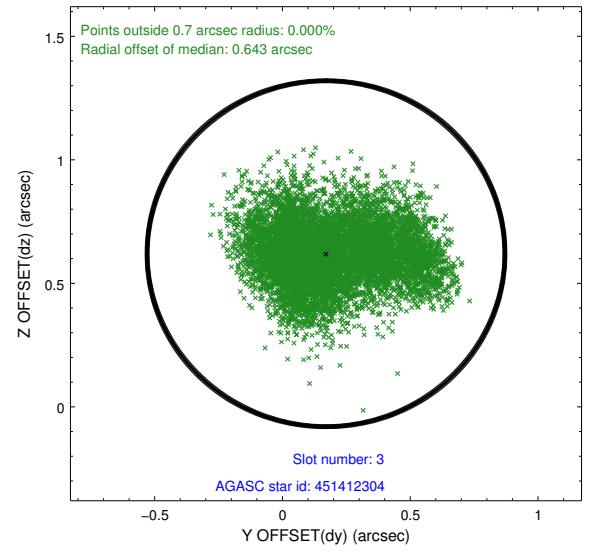
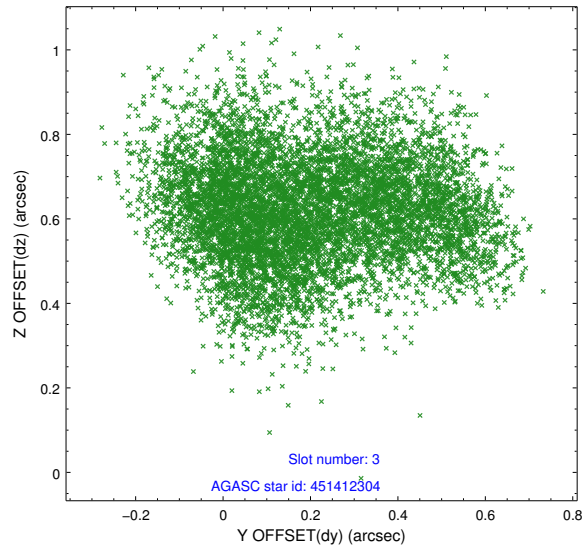


Slot Statistics

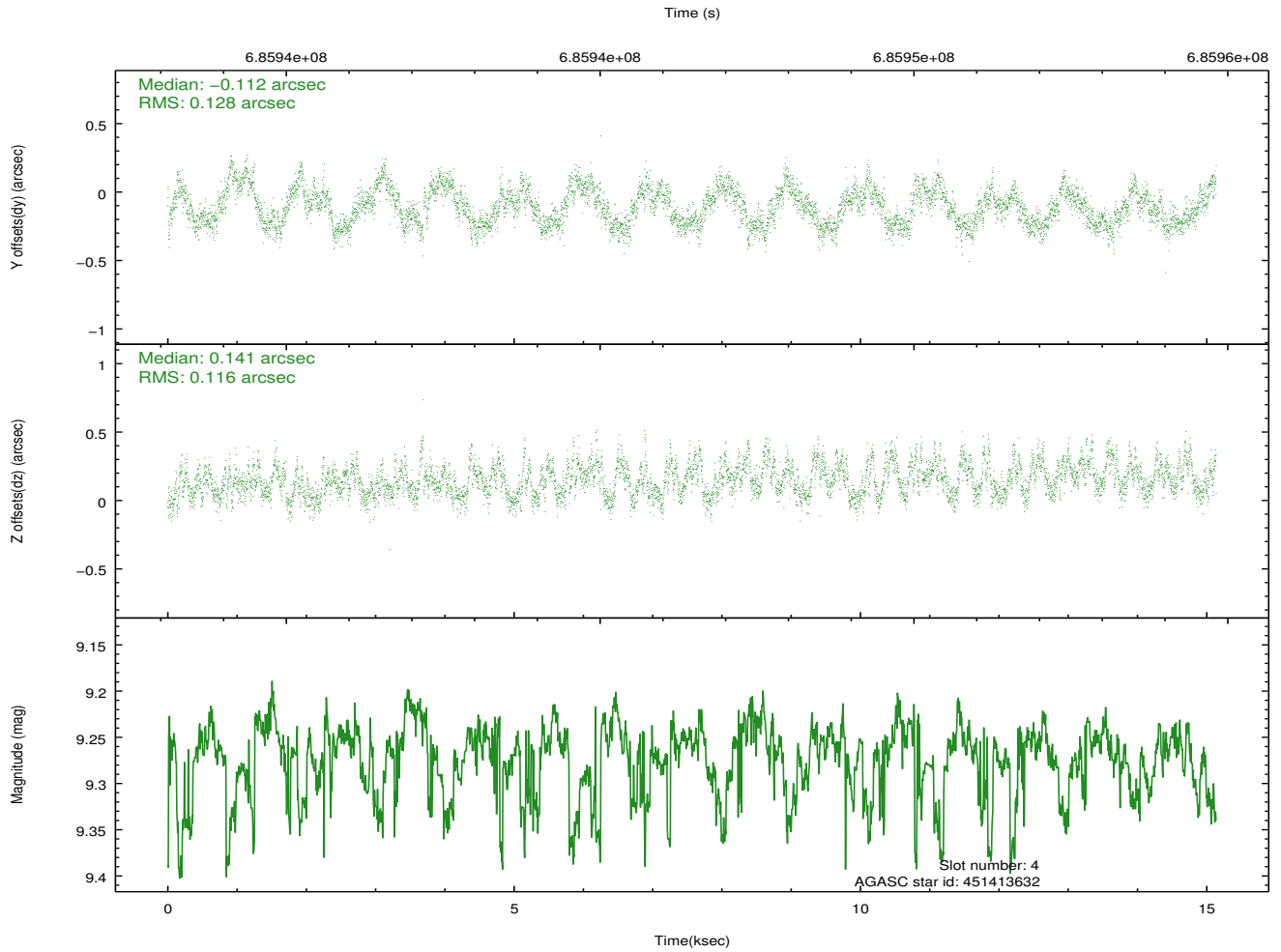
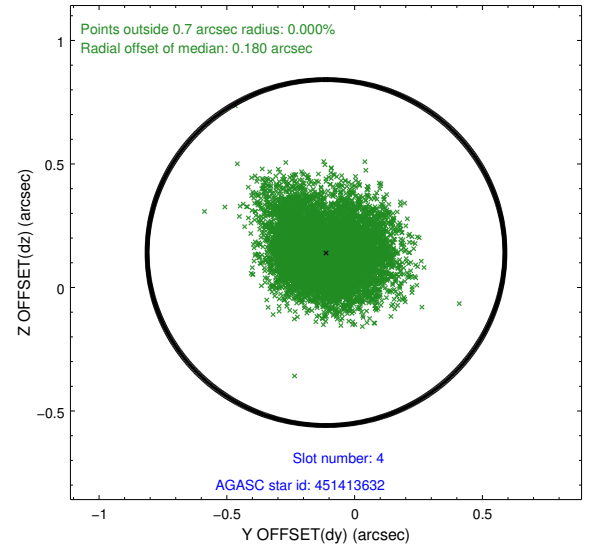
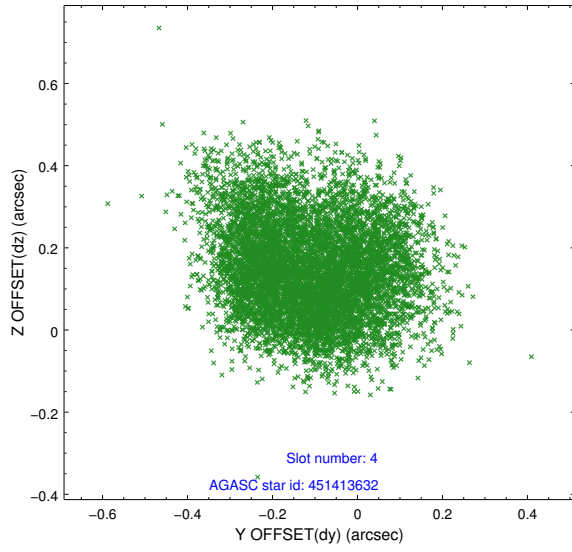
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.13	3691	1.000	0.150	-0.157	0.025	0.037	0.000000	0.000000	930.39	-1001
1	FID		ACIS-I-5	7.10	3691	1.000	-0.458	0.064	0.011	0.017	0.000000	0.000000	-1818.33	895
2	FID		ACIS-I-6	7.14	3691	1.000	0.217	0.163	0.020	0.030	0.000000	0.000000	395.45	1540
3	GUIDE	used	451412304	9.64	7366	1.000	0.170	0.620	0.252	0.401	166.484432	46.930108	-197.10	-1845
4	GUIDE	used	451413632	9.27	7370	1.000	-0.112	0.141	0.186	0.287	166.702247	47.421181	949.99	-399
5	GUIDE	used	451806336	7.74	7382	1.000	0.101	-0.237	0.139	0.247	165.268848	47.850812	-1689.39	2340
6	GUIDE	used	451809304	7.33	7383	1.000	0.086	0.072	0.117	0.208	165.264187	47.682296	-1934.49	1786
7	GUIDE	used	451811424	9.39	7365	1.000	-0.271	-0.588	0.204	0.374	166.448172	48.056863	1223.02	1953

2.4 Star Slots

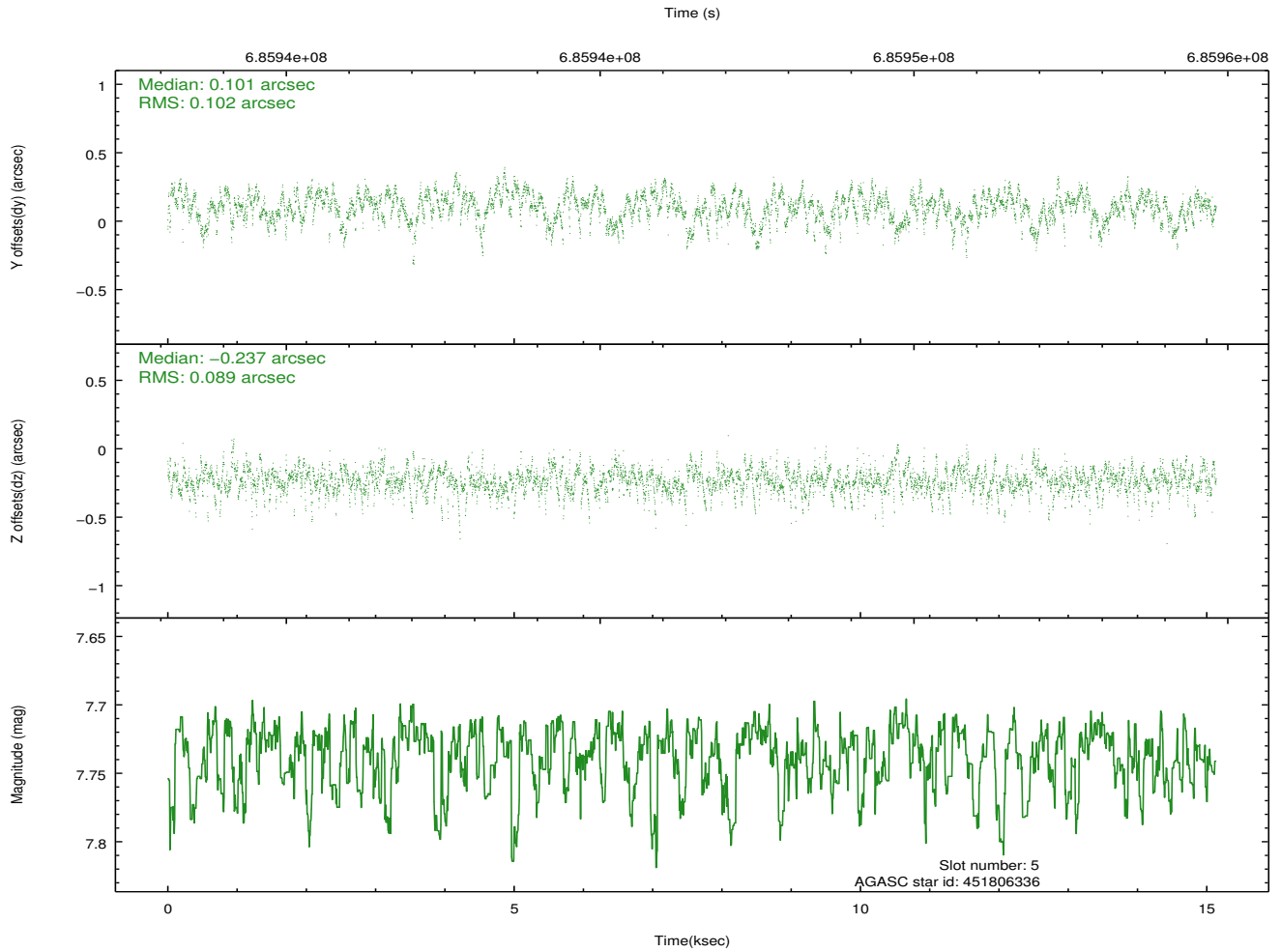
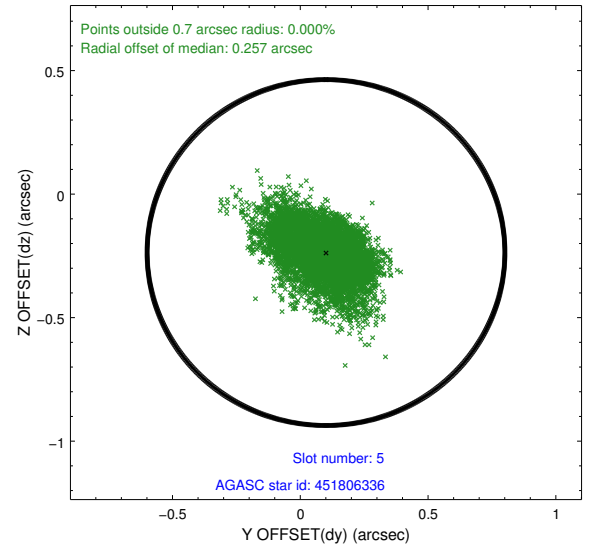
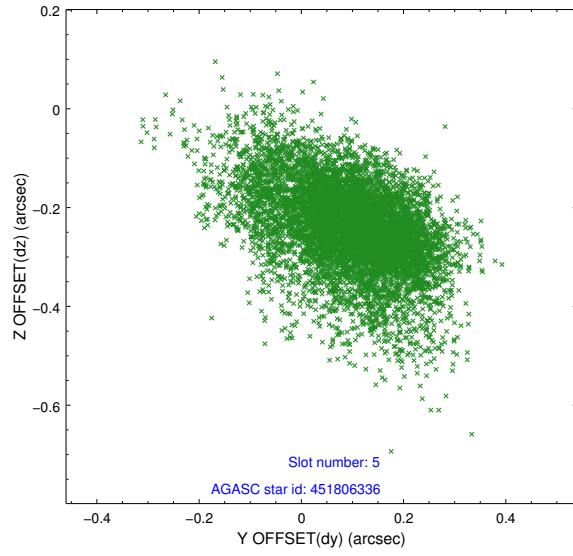
2.4.1 Slot 3



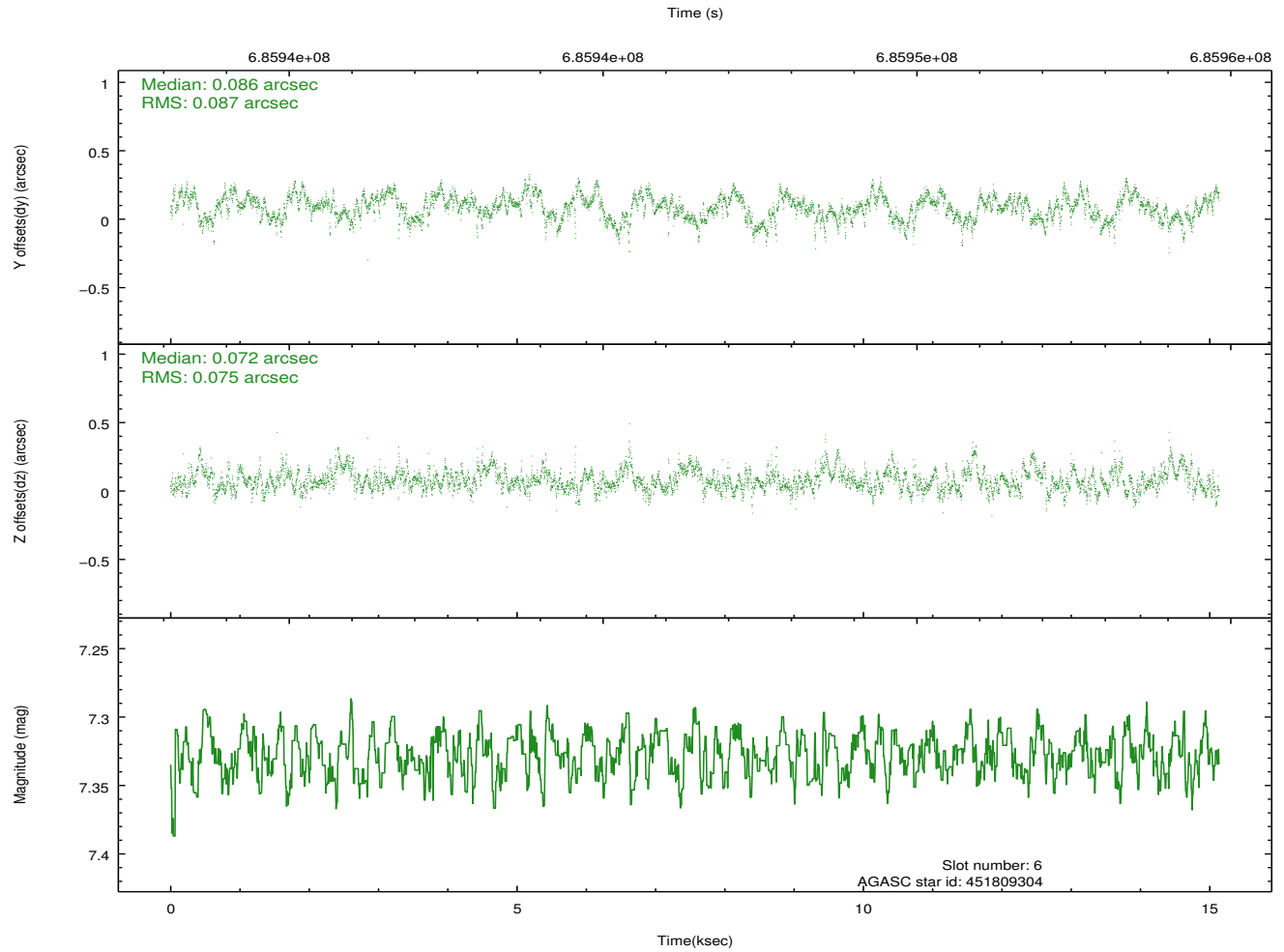
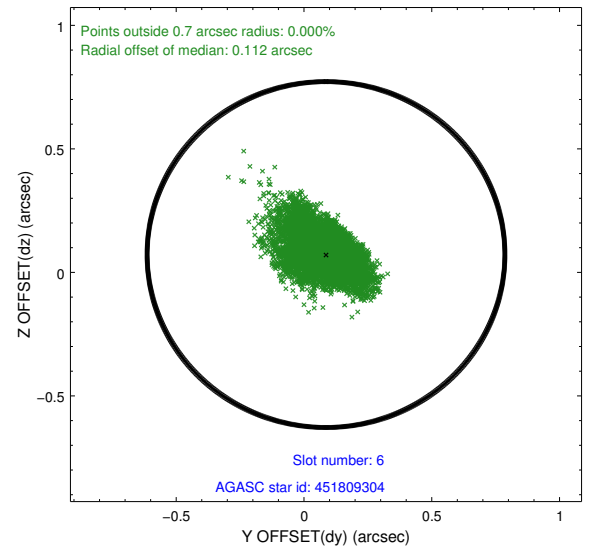
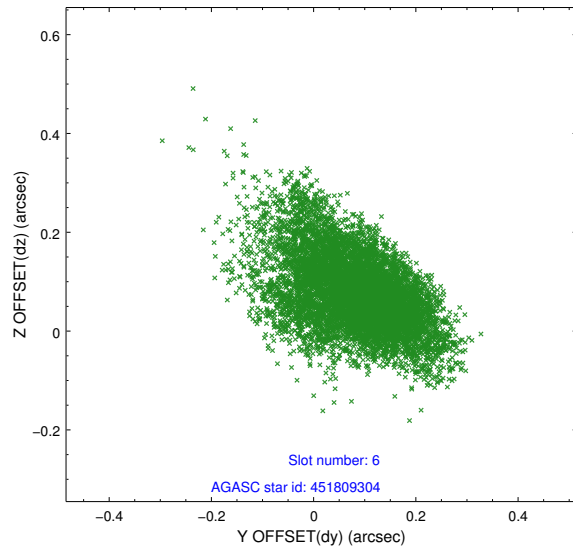
2.4.2 Slot 4



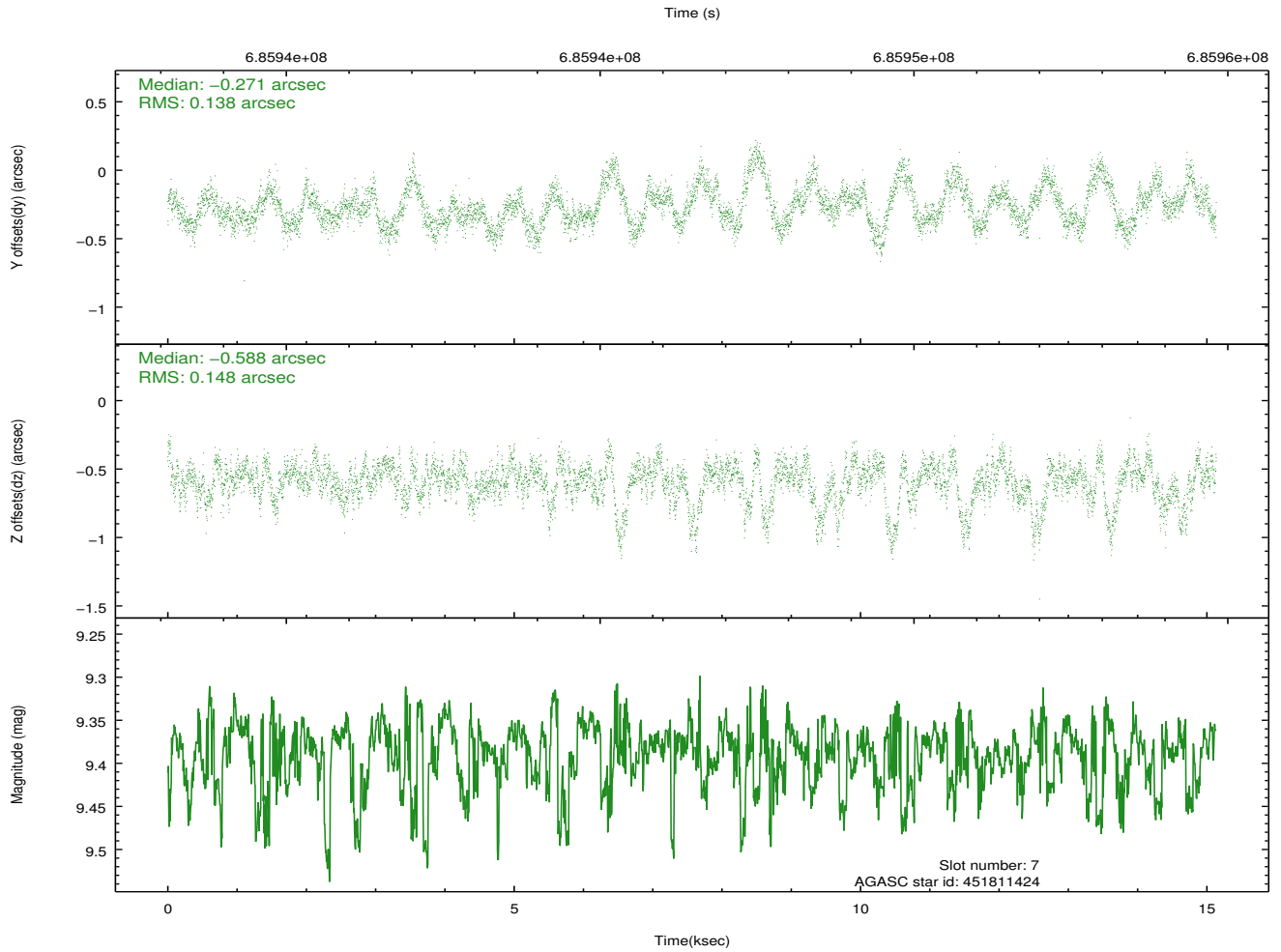
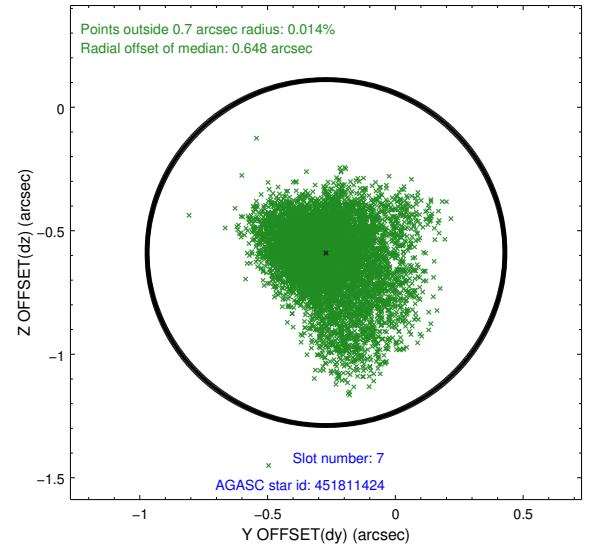
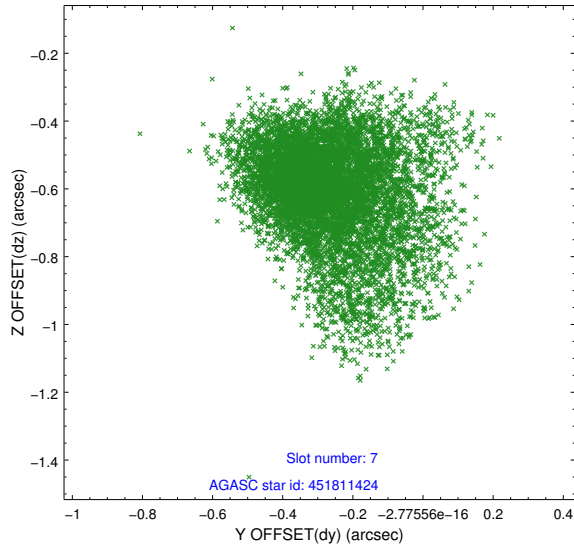
2.4.3 Slot 5



2.4.4 Slot 6

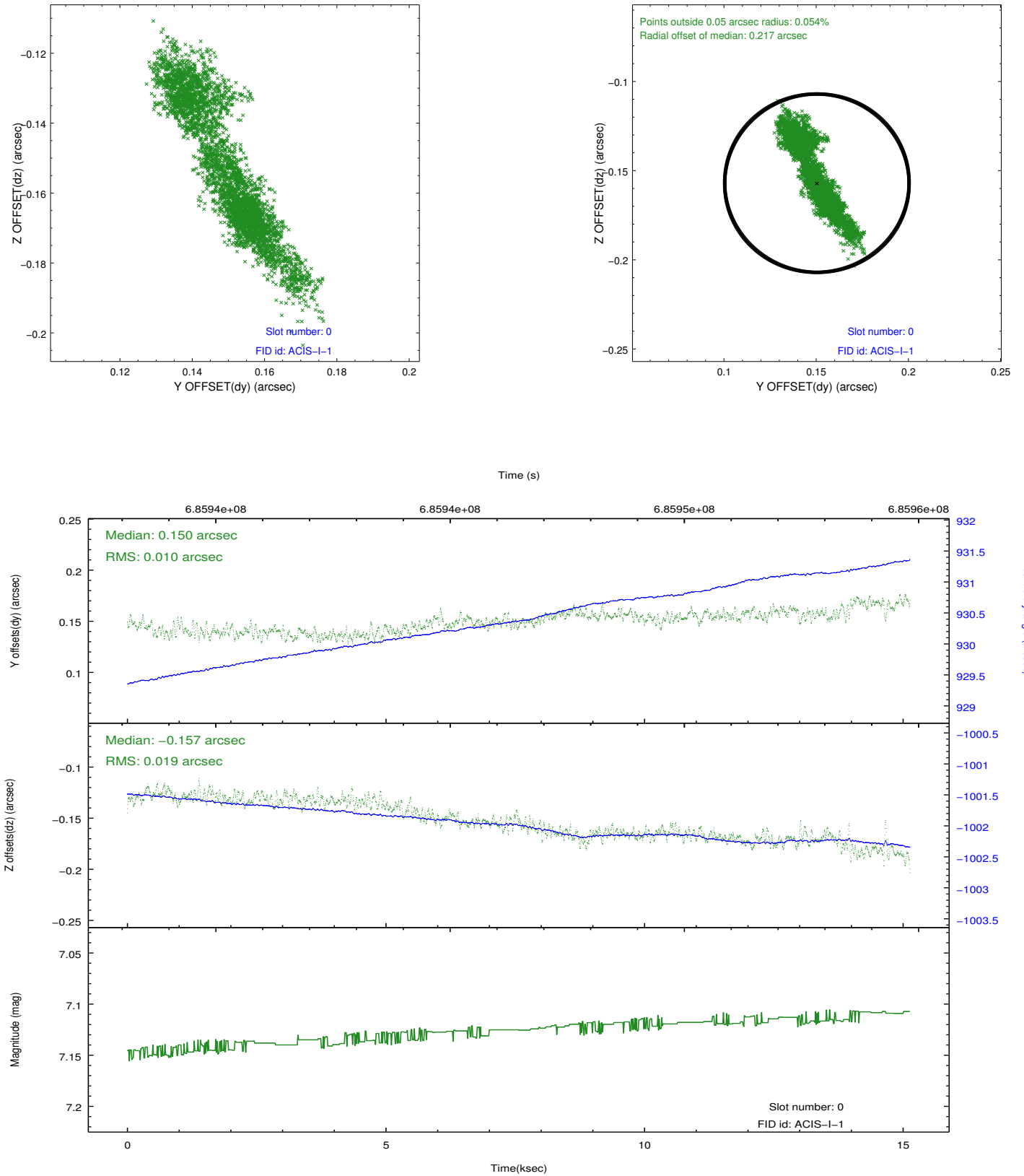


2.4.5 Slot 7

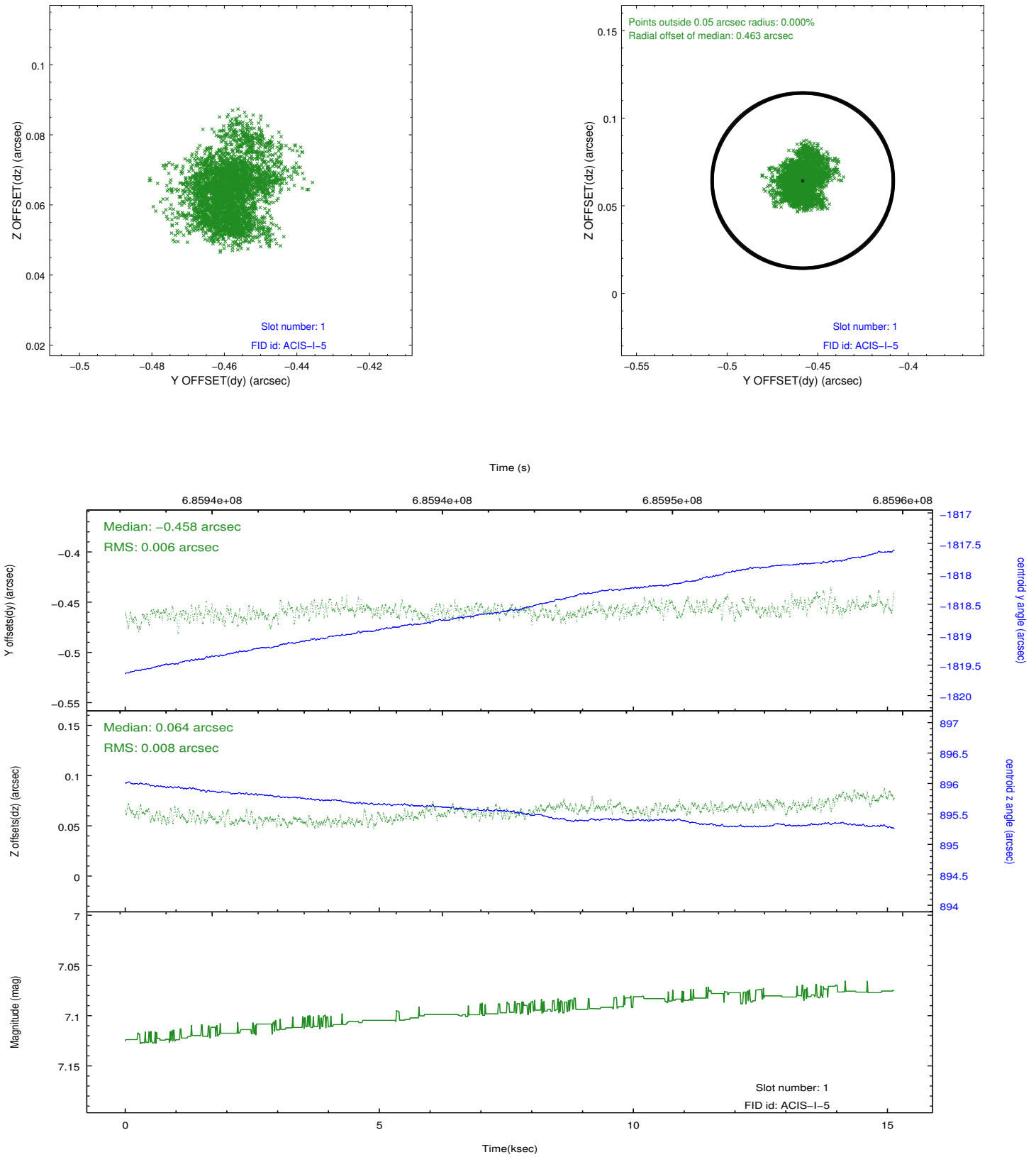


2.5 FID Slots

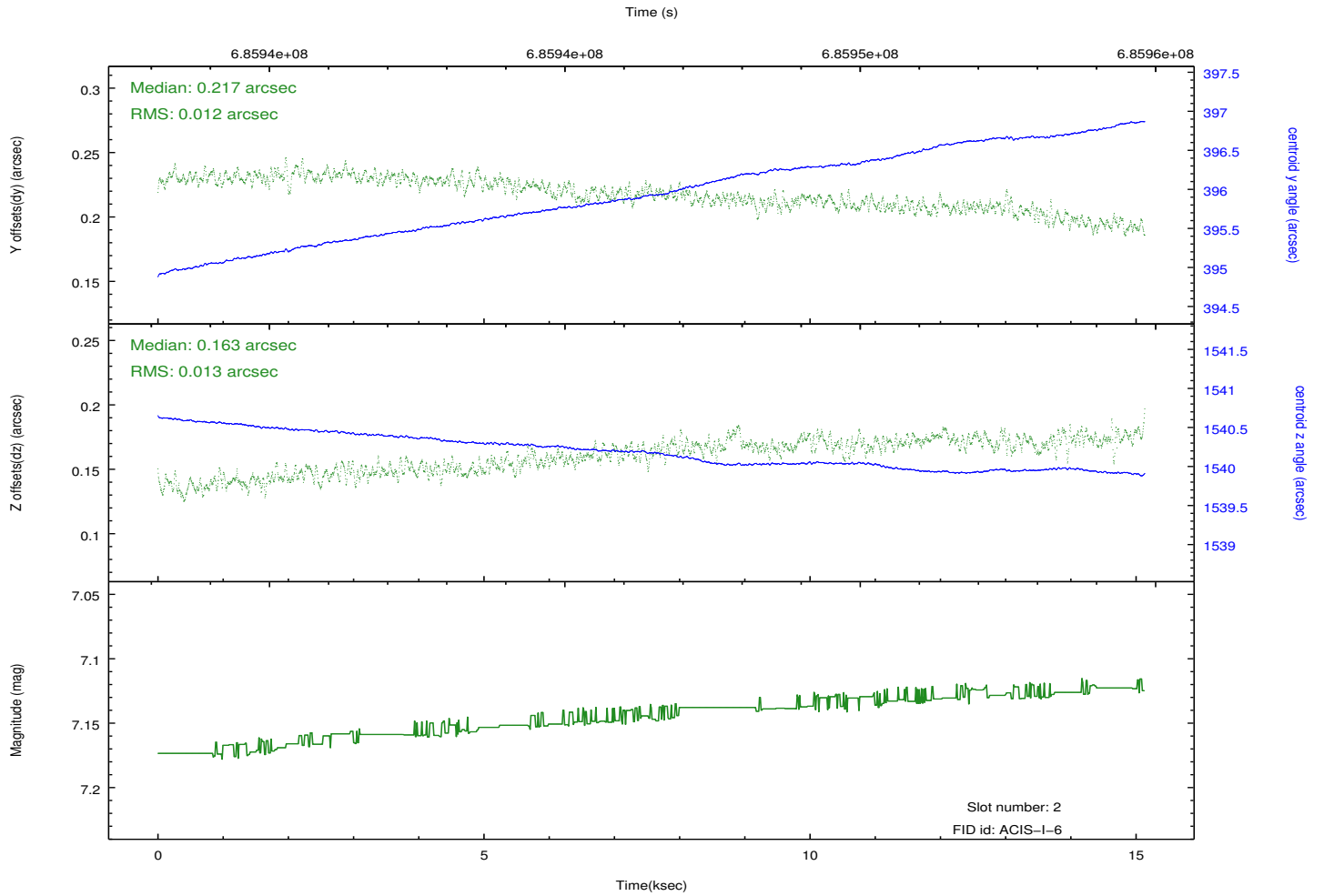
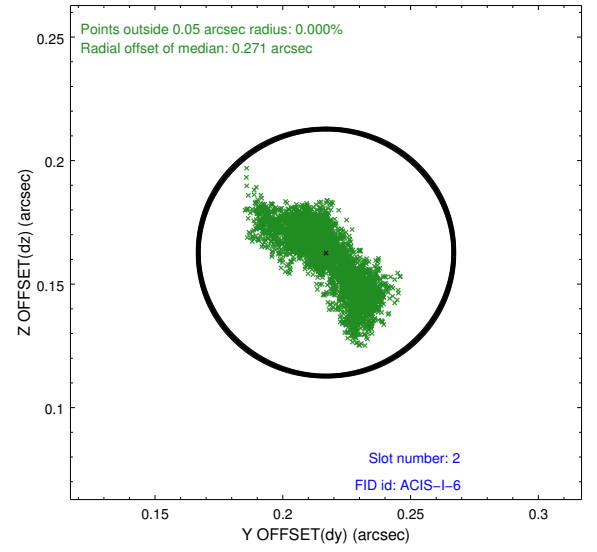
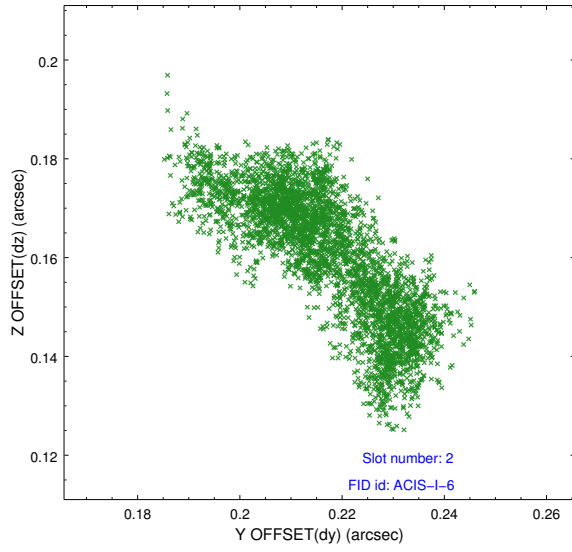
2.5.1 Slot 0



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)	2019.10.03
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	15.062249753714

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: (166.50556,47.49552), (166.50374,47.49856), (166.41356,47.47397), (166.41370,47.47048).