

V&V Reference Report

L2 ASCDS Version : 10.7.1

Observation 22046 - L2 Version 2
Chandra X-Ray Center

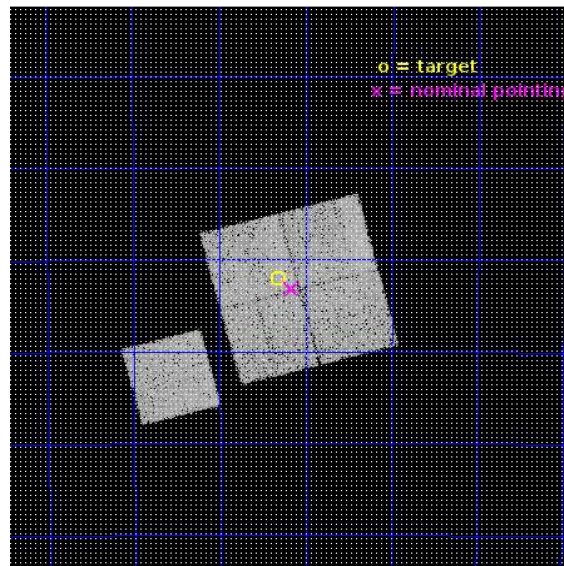
L2 Processing Date : Jan 9 2019

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1 Front

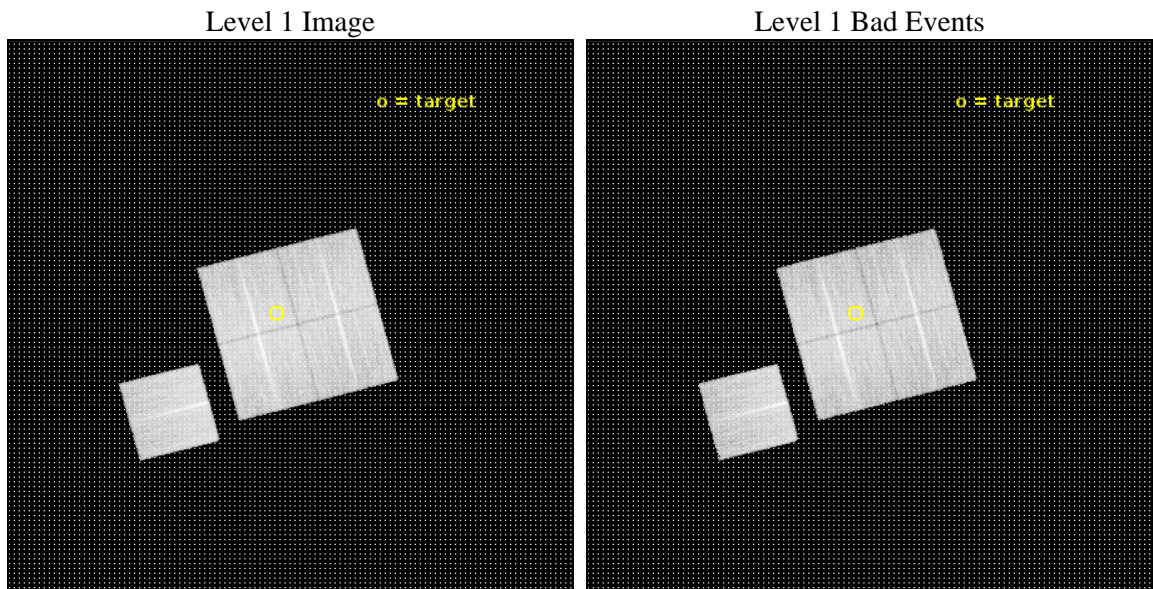
seq_num	801837	Sequence number
obs_id	22046	Observation id
title	Studying the Progenitors of Our Favorite Clusters at $z > 1$	Proposa
observer	Michael McDonald	Principal investigator
object	SPT-CLJ2259-5301	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	344.83	Observer's specified target RA [deg]
dec_targ	-53.033	Observer's specified target Dec [deg]
ra_nom	344.79156327121	Nominal RA [deg]
dec_nom	-53.052718450041	Nominal Dec [deg]
roll_nom	255.1779978779	Nominal Roll [deg]
revision	2	Processing version of data
ontime	20056.918223977	Sum of GTIs [s]
livetime	19794.859821692	Livetime [s]
ontime0	20063.200154424	Sum of GTIs [s]
ontime1	20063.200154424	Sum of GTIs [s]
ontime2	20060.059194207	Sum of GTIs [s]
ontime3	20056.918223977	Sum of GTIs [s]
ontime6	20063.200154424	Sum of GTIs [s]
l2events	71570	Number of level 2 events



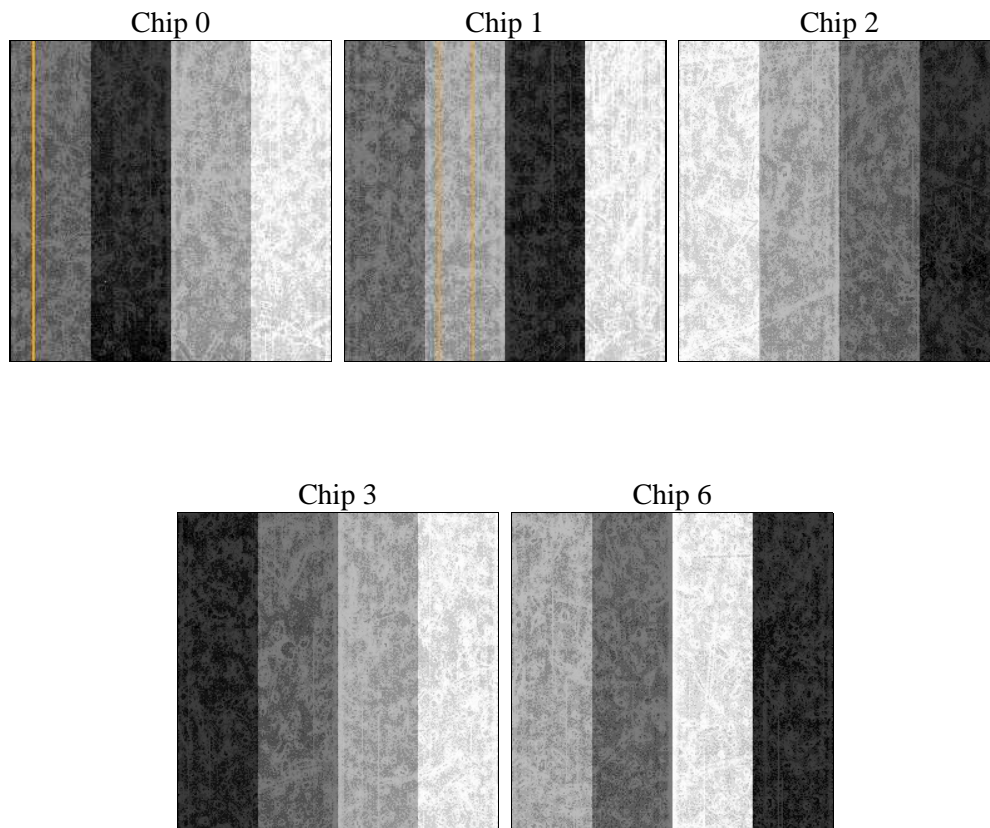
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	20000.000000	[s] Scheduled observation exposure time
ascdsver	10.7.1	Processing system revision	ontime	20056.918223977	Sum of GTIs [s]
caldbver	4.8.2	 	ontime0	20063.200154424	Sum of GTIs [s]
date	2019-01-09T19:39:55	Date and time of file creation	ontime1	20063.200154424	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	20060.059194207	Sum of GTIs [s]
			ontime3	20056.918223977	Sum of GTIs [s]
			ontime6	20063.200154424	Sum of GTIs [s]
			l1events	737530	Number of level 1 events

2.1.4 Events

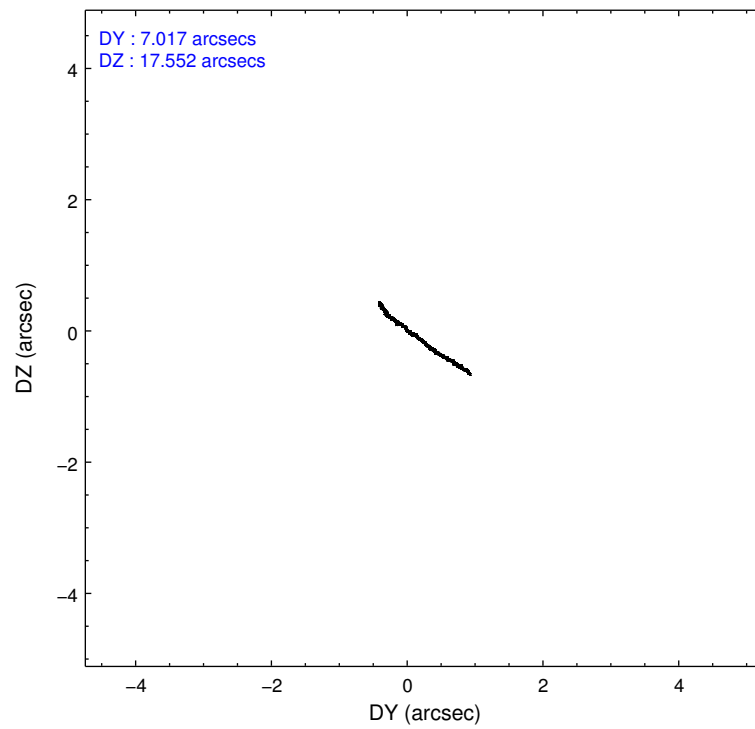
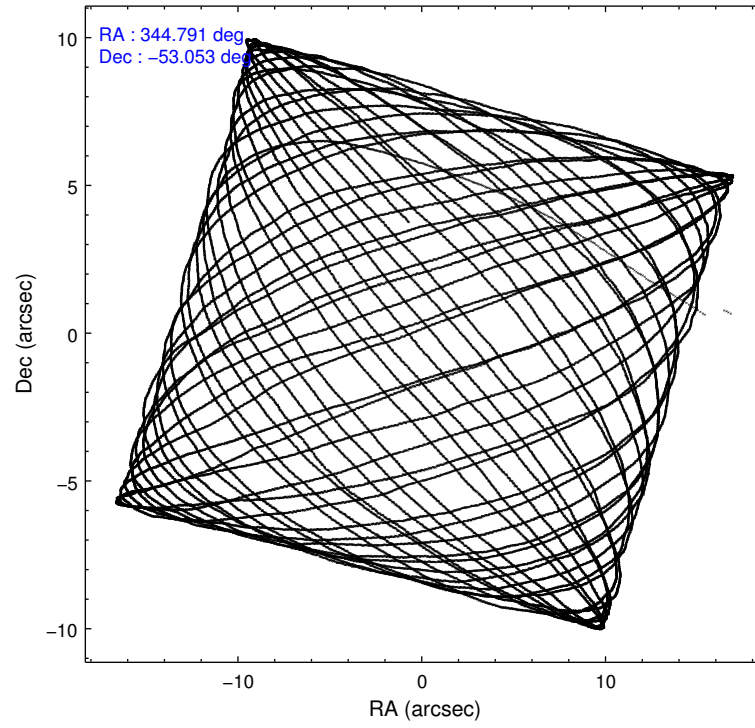
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	140554	141526	154420	147490	153540
rejected events	123888	123069	137800	131385	136483
rejected %	88%	86%	89%	89%	88%

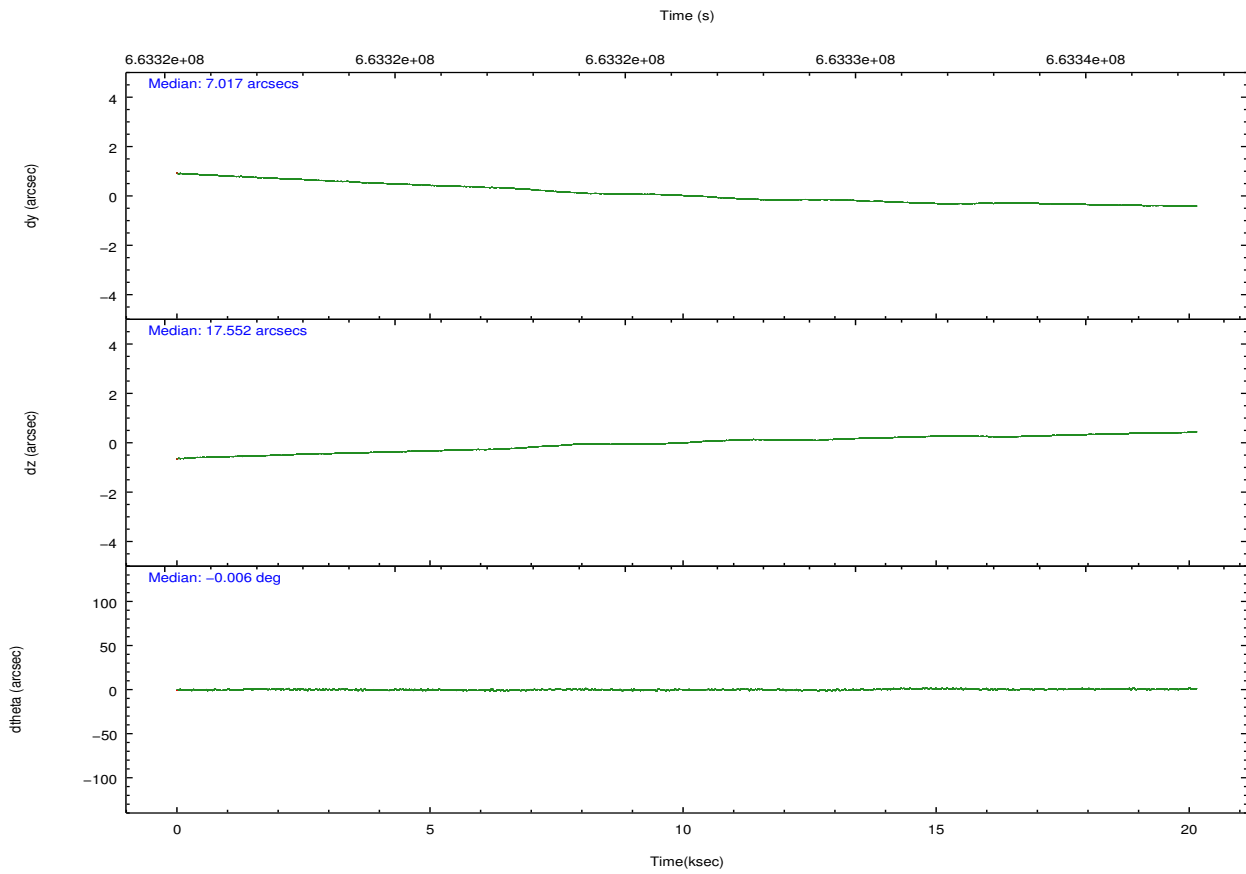
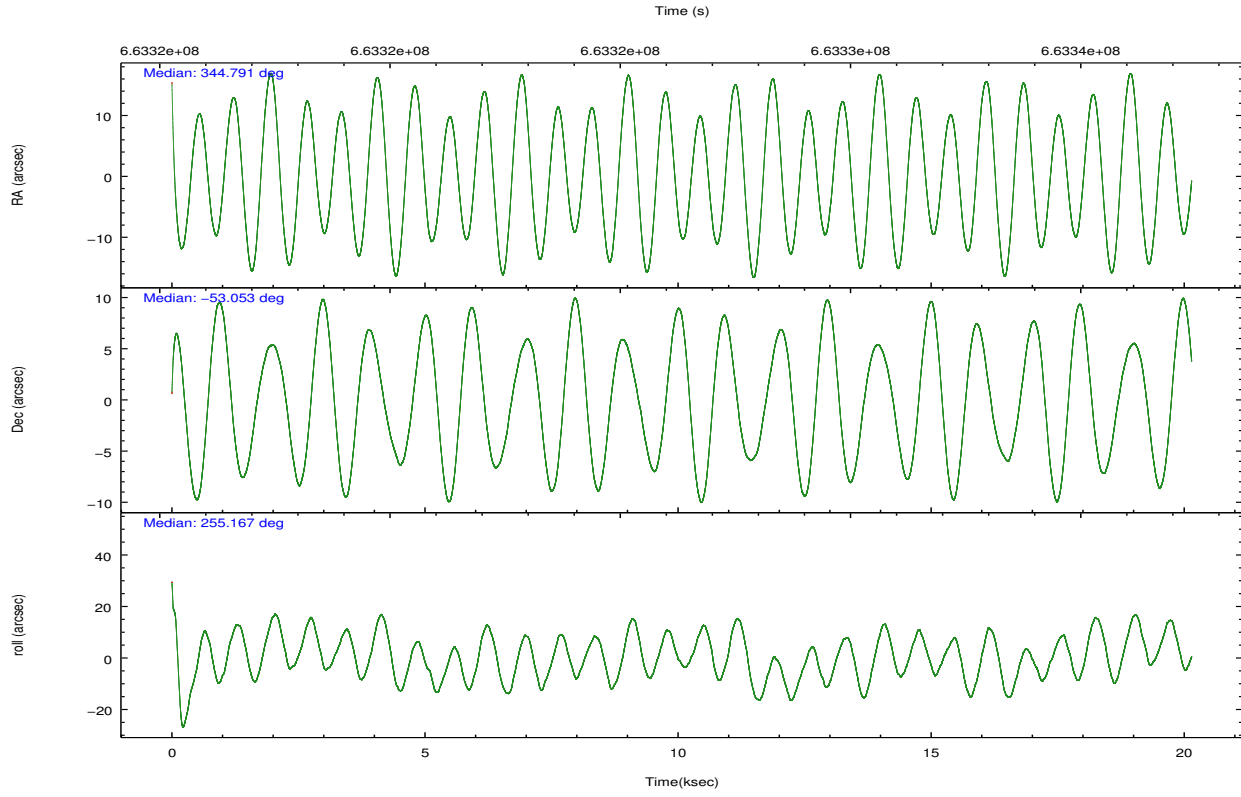
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	5592	6086	6077	6176	5710
	3%	4%	3%	4%	3%
grade 1 events	97	60	72	86	62
	0%	0%	0%	0%	0%
grade 2 events	4223	4837	4049	3393	4015
	3%	3%	2%	2%	2%
grade 3 events	1670	1715	1621	1616	1633
	1%	1%	1%	1%	1%
grade 4 events	1621	1659	1584	1620	1606
	1%	1%	1%	1%	1%
grade 5 events	6329	6610	5991	7061	6741
	4%	4%	3%	4%	4%
grade 6 events	3563	4165	3289	3301	4095
	2%	2%	2%	2%	2%
grade 7 events	117459	116394	131737	124237	129678
	83%	82%	85%	84%	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	344.779412	344.7915632712138	CCD I2 on	Y	Y
[deg] Pointing Dec	-53.026113	-53.05271845004059	CCD I3 on	Y	Y
[deg] Pointing Roll	254.959583	255.1779978779001	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	-233.592463	-233.5874344608287	CCD S3 on	N	N
[mm] SIM translation stage offset	0	-0.005018542100998502	CCD S4 on	N	N
[s] Observation start time (MET)	663316396.184000	663315367.1371	CCD S5 on	N	N
Observation start date	2019-01-08T06:32:07	2019-01-08T06:16:07	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	663336396.184000	663337615.78843	On-chip summing requested	N	N
Observation end date	2019-01-08T12:05:27	2019-01-08T12:26:55	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect





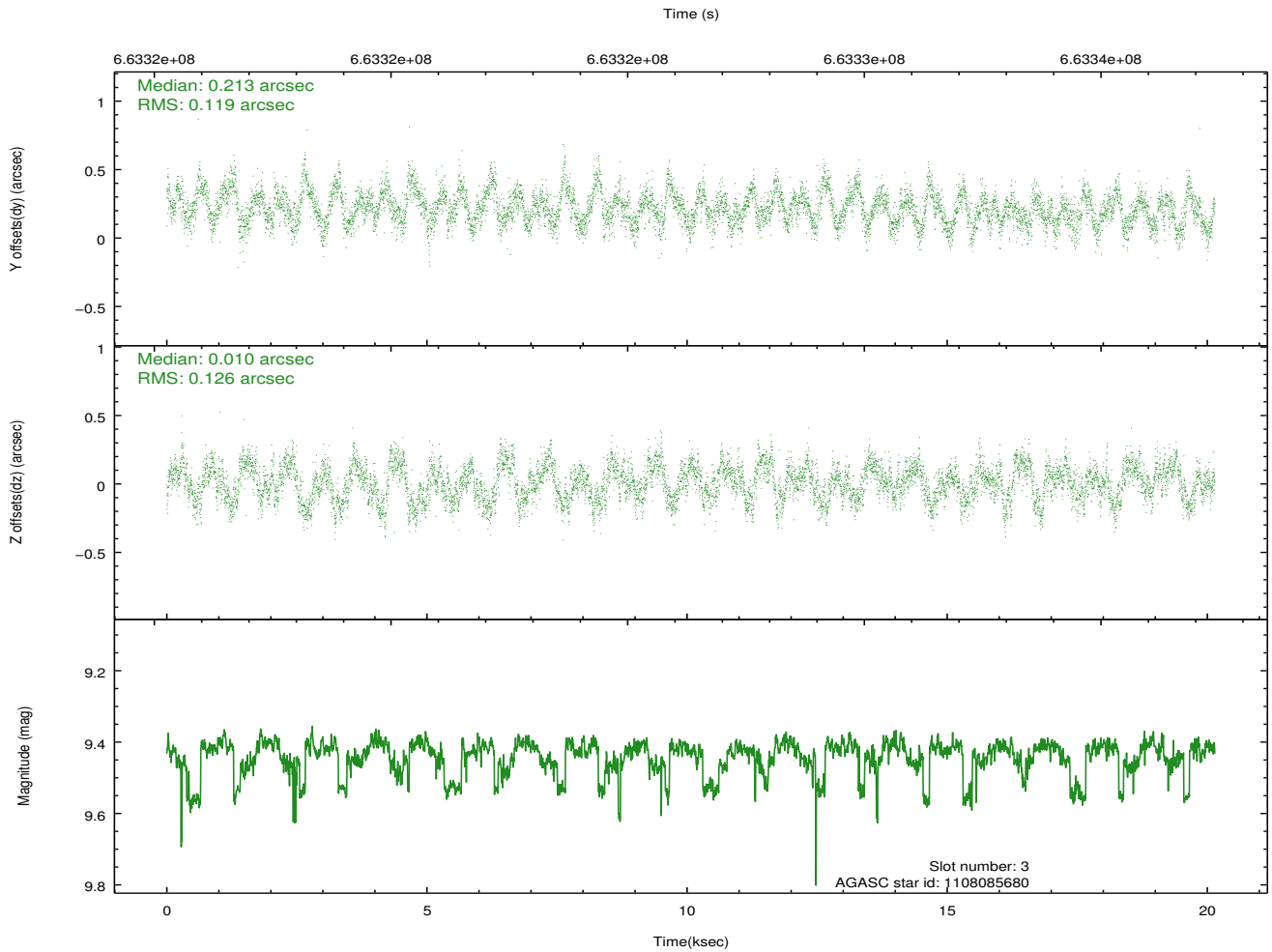
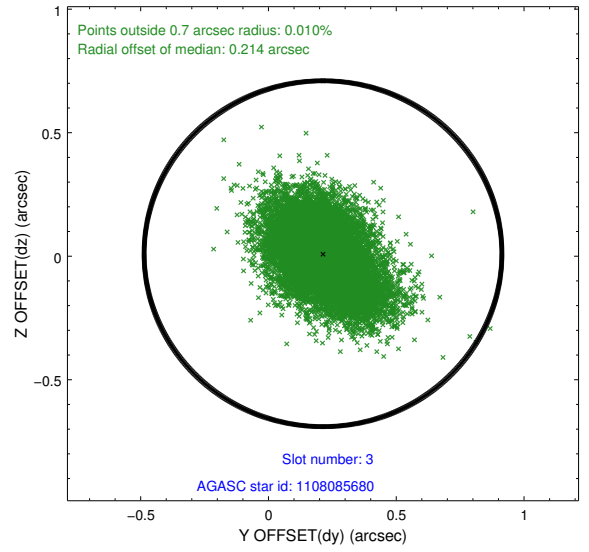
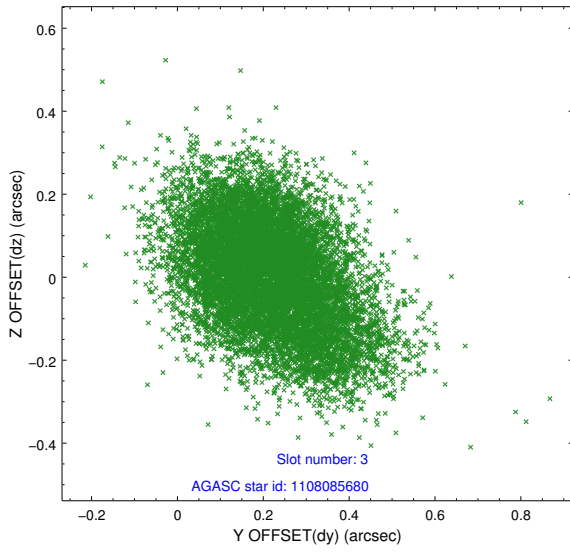
Slot Statistics

slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.14	4915	1.000	0.109	-0.068	0.023	0.045	0.000000	0.000000	932.74	-841
1	FID		ACIS-I-5	7.12	4914	1.000	-0.423	0.046	0.012	0.020	0.000000	0.000000	-1815.94	1056
2	FID		ACIS-I-6	7.11	4915	1.000	0.224	0.092	0.028	0.058	0.000000	0.000000	398.01	1701
3	GUIDE	used	1108085680	9.43	9791	1.000	0.213	0.010	0.183	0.300	345.144566	-52.439600	-2244.35	226
4	GUIDE	used	1156579688	9.27	9819	1.000	0.080	-0.392	0.205	0.333	344.832962	-53.359427	1129.06	423
5	GUIDE	used	1156580632	9.77	9806	1.000	0.002	0.315	0.235	0.383	344.592634	-53.121058	435.84	-299
6	GUIDE	used	1156580872	7.17	9827	1.000	-0.257	0.022	0.103	0.167	345.684447	-52.965335	-709.13	1843
7	GUIDE	used	1156581376	8.96	9812	1.000	-0.035	0.061	0.149	0.250	345.778087	-52.647374	-1868.72	1757

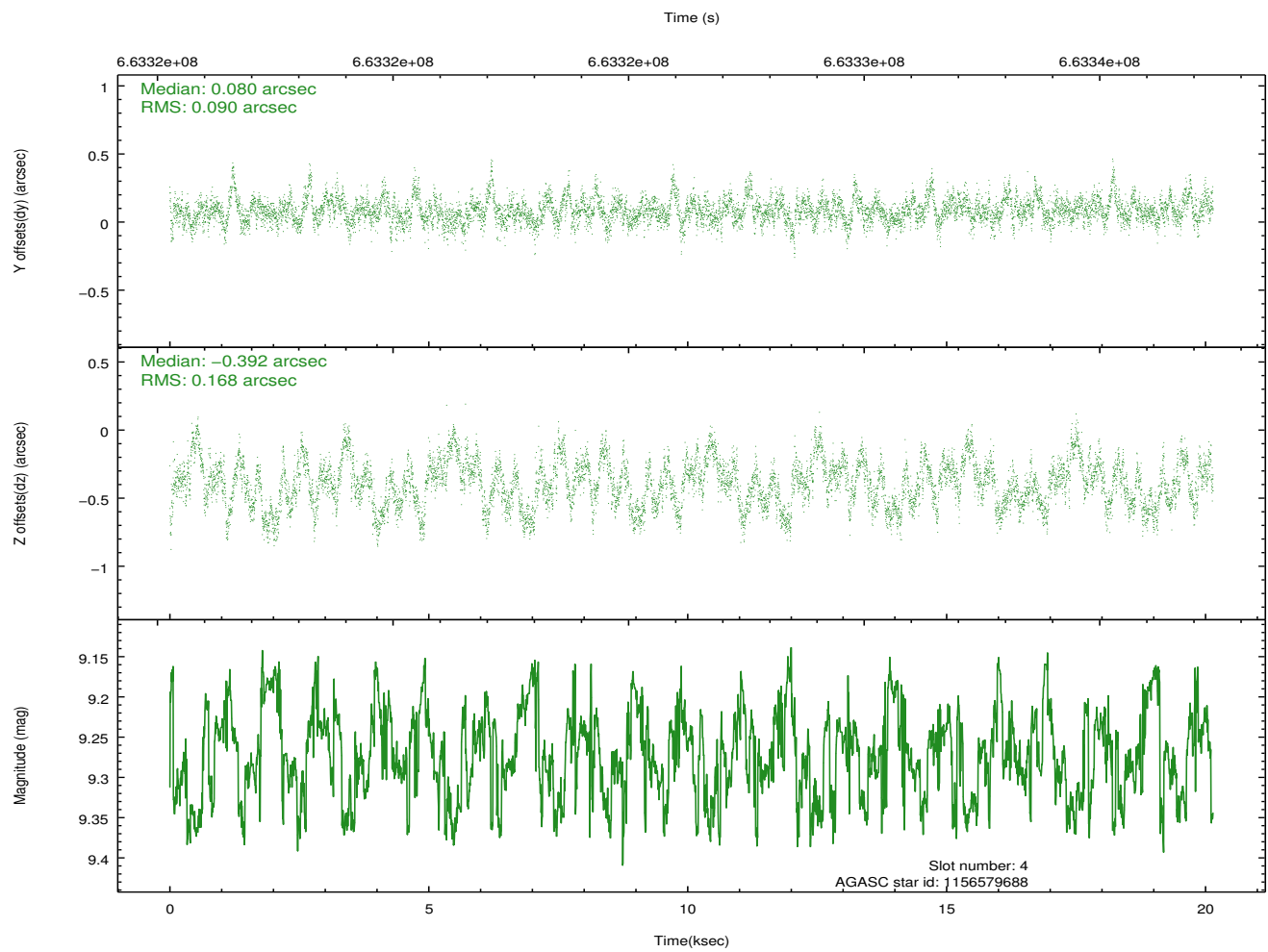
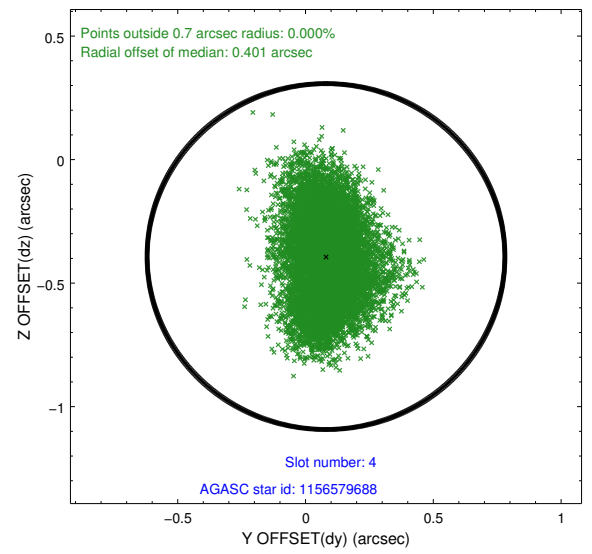
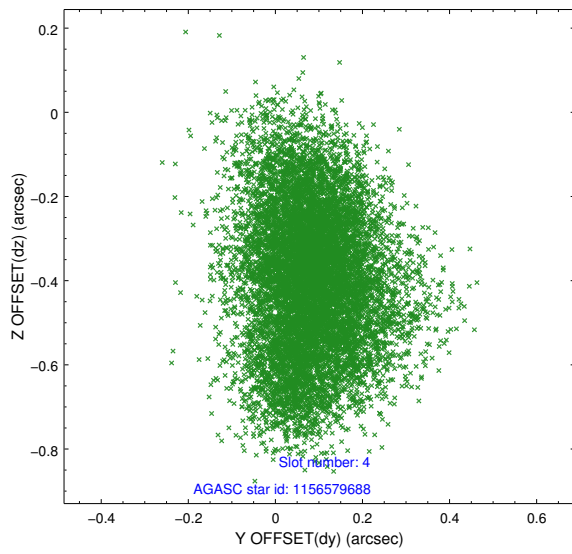
∞

2.4 Star Slots

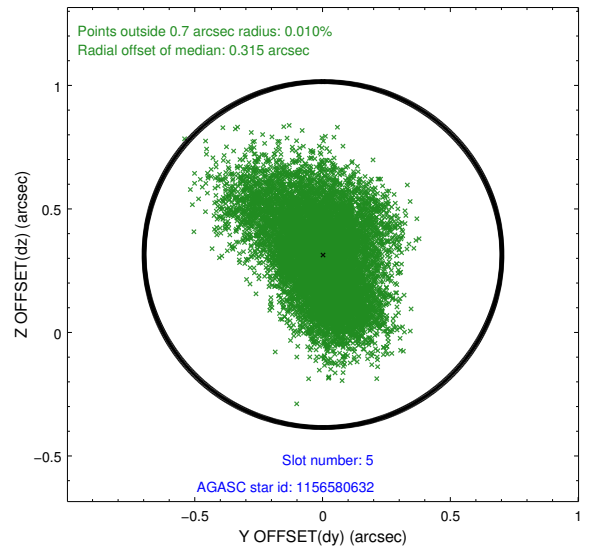
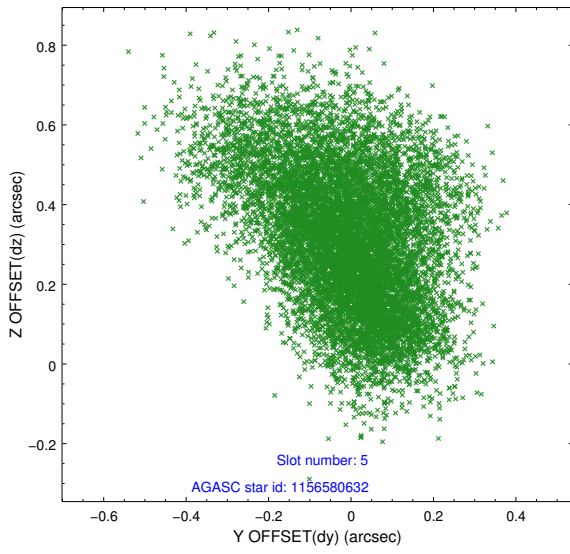
2.4.1 Slot 3



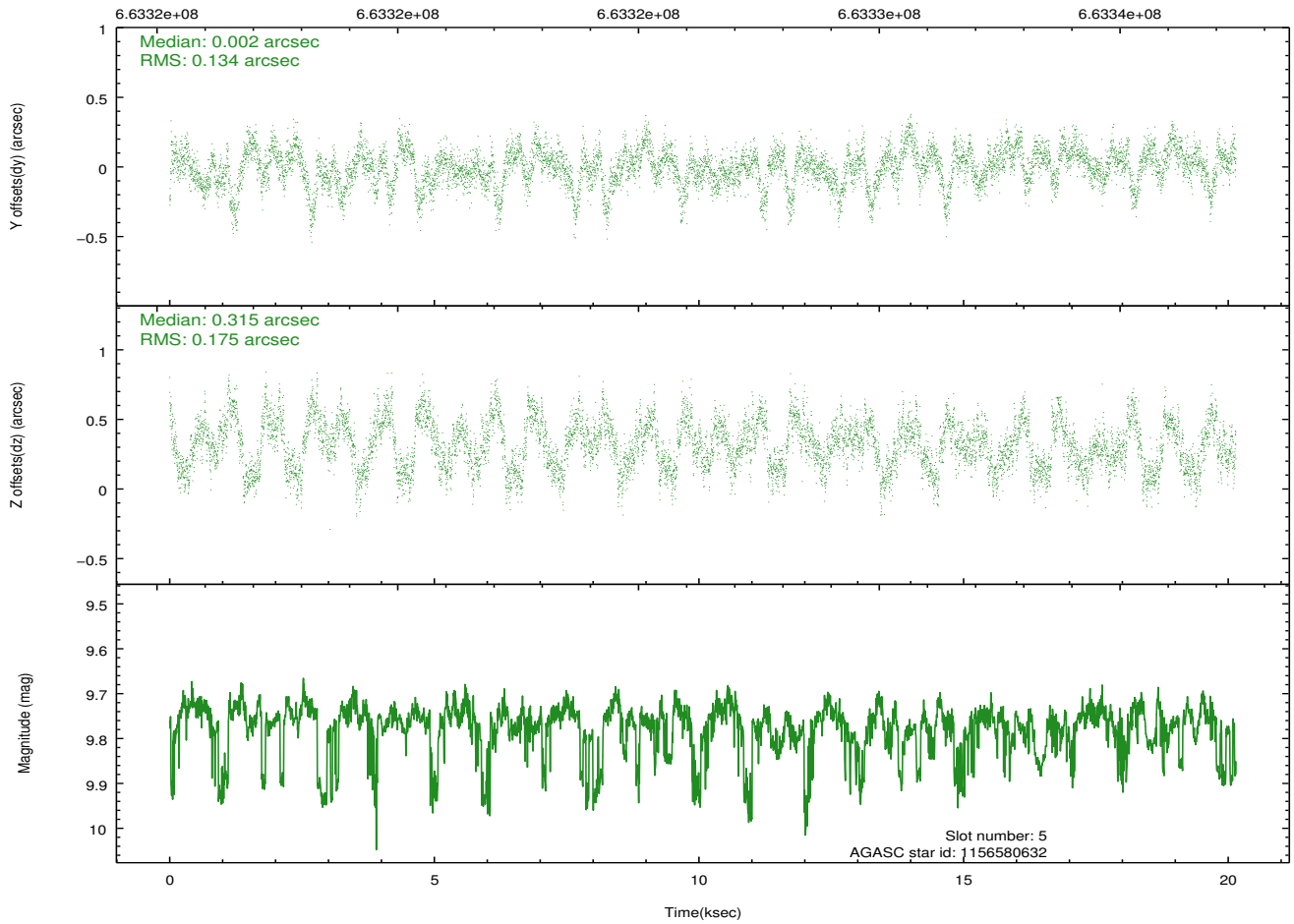
2.4.2 Slot 4



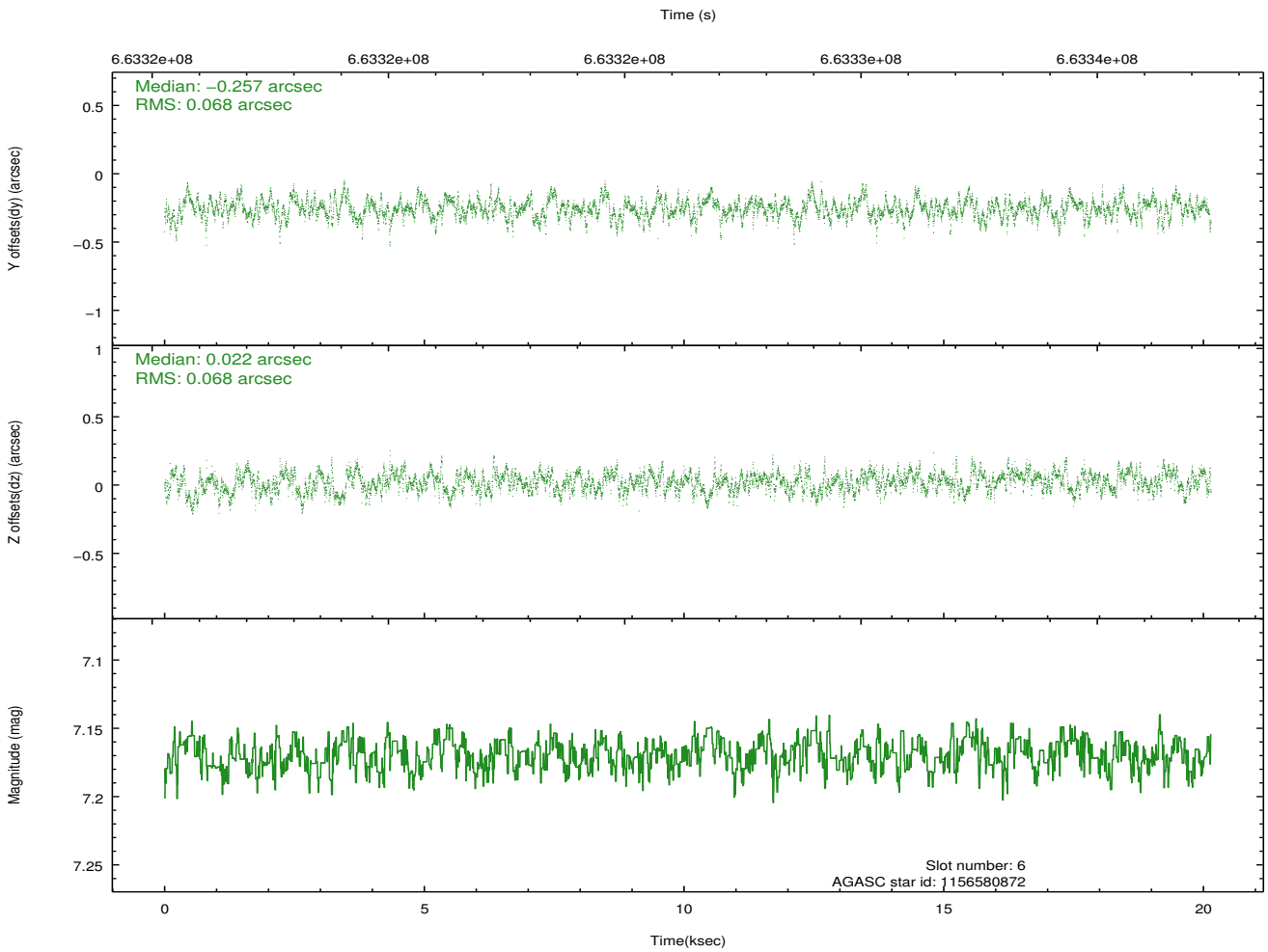
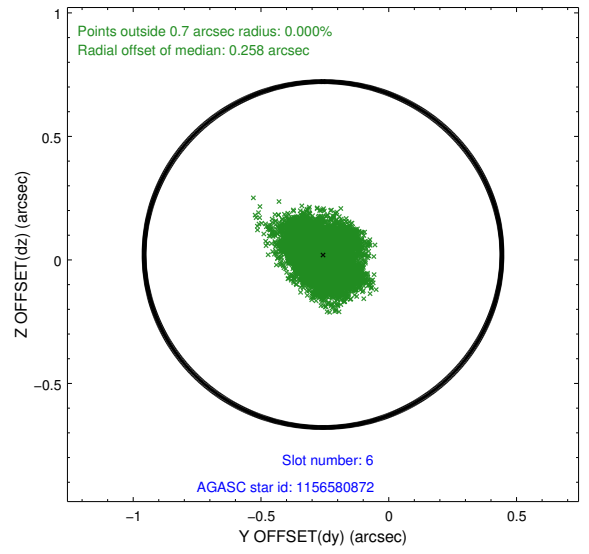
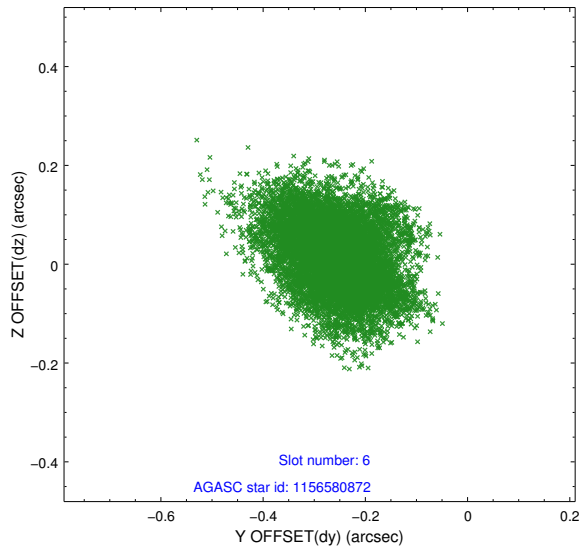
2.4.3 Slot 5



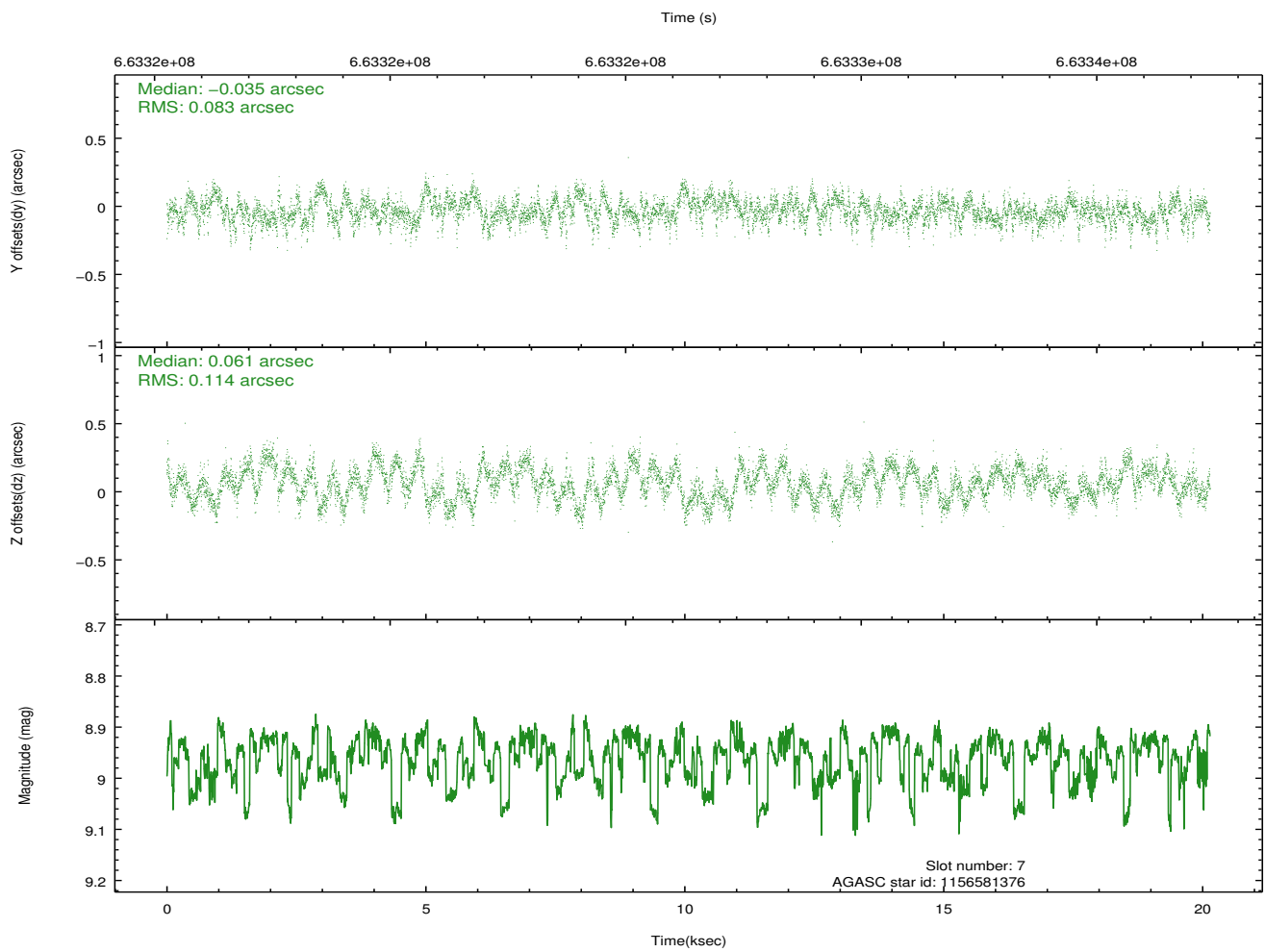
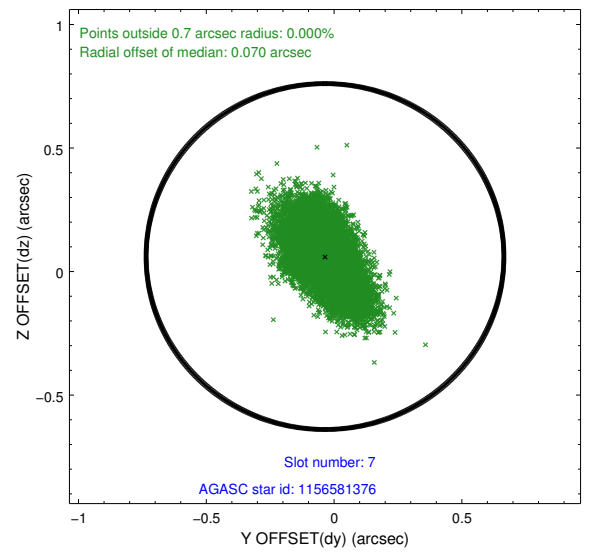
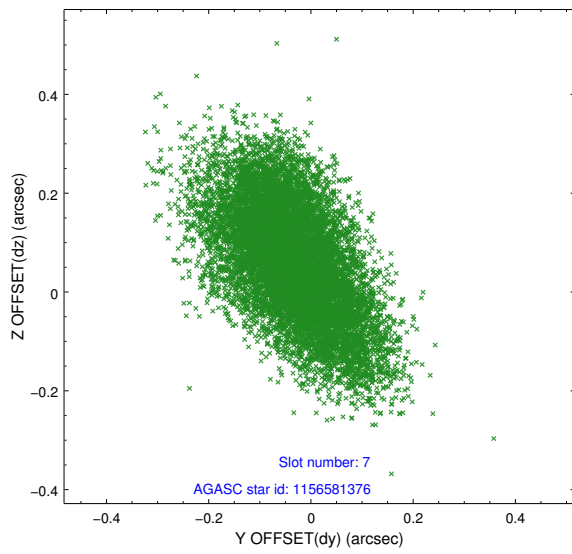
Time (s)



2.4.4 Slot 6

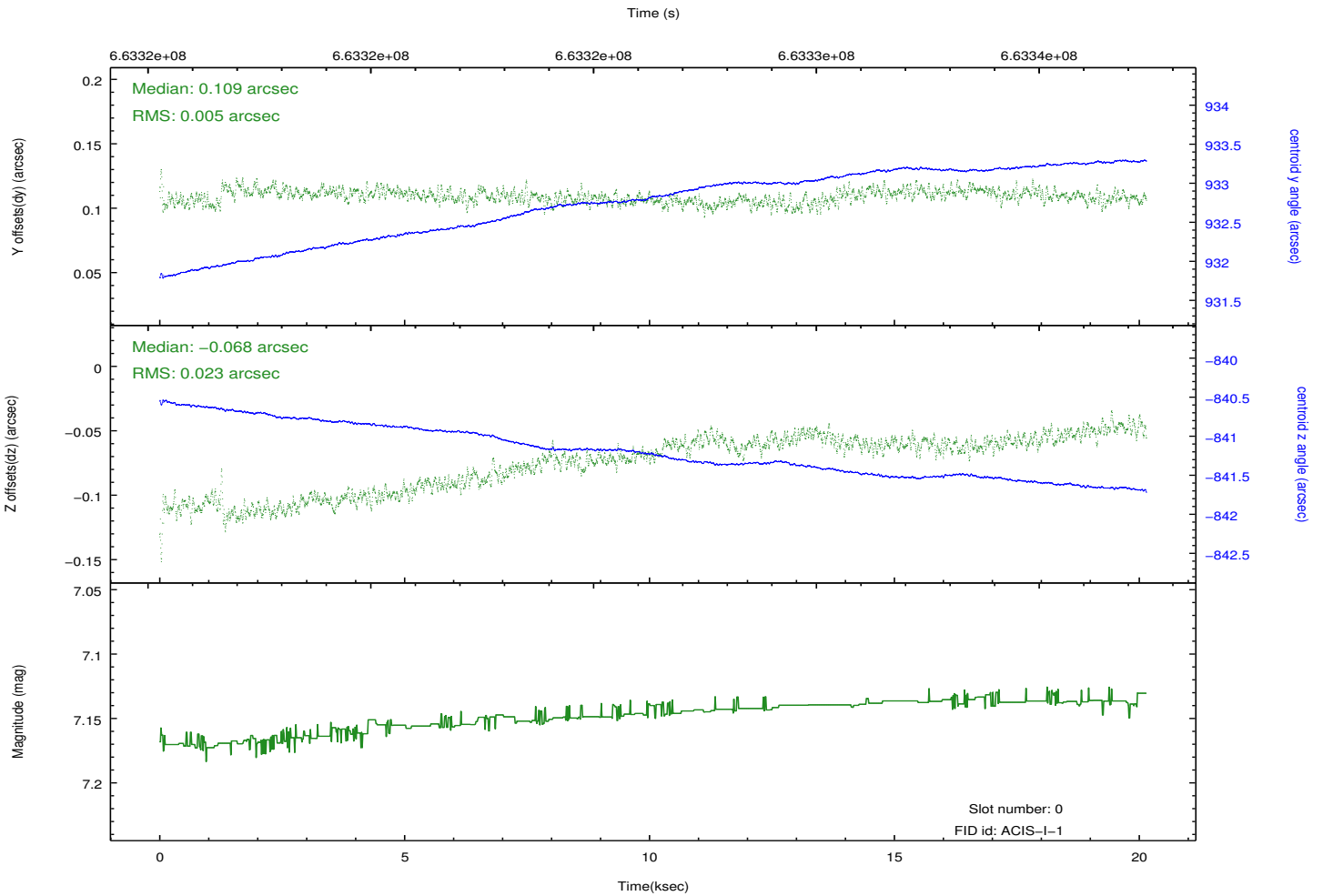
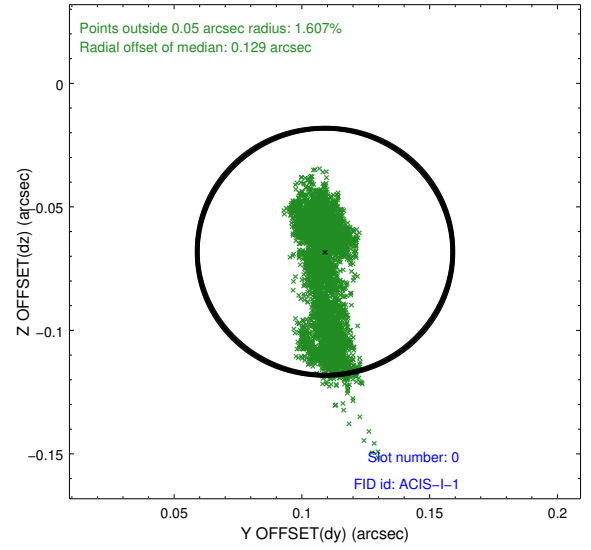
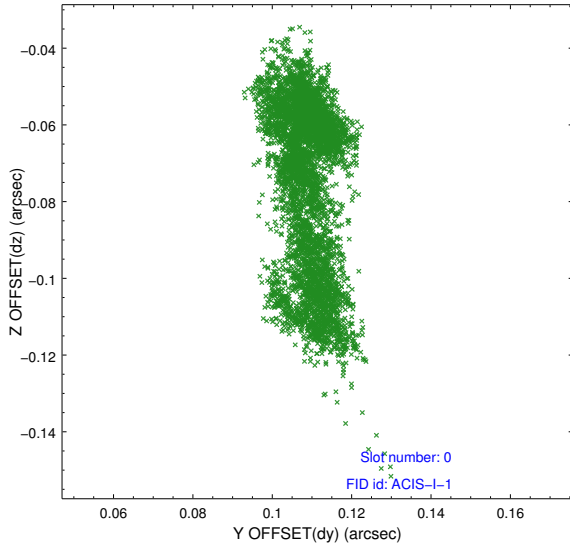


2.4.5 Slot 7

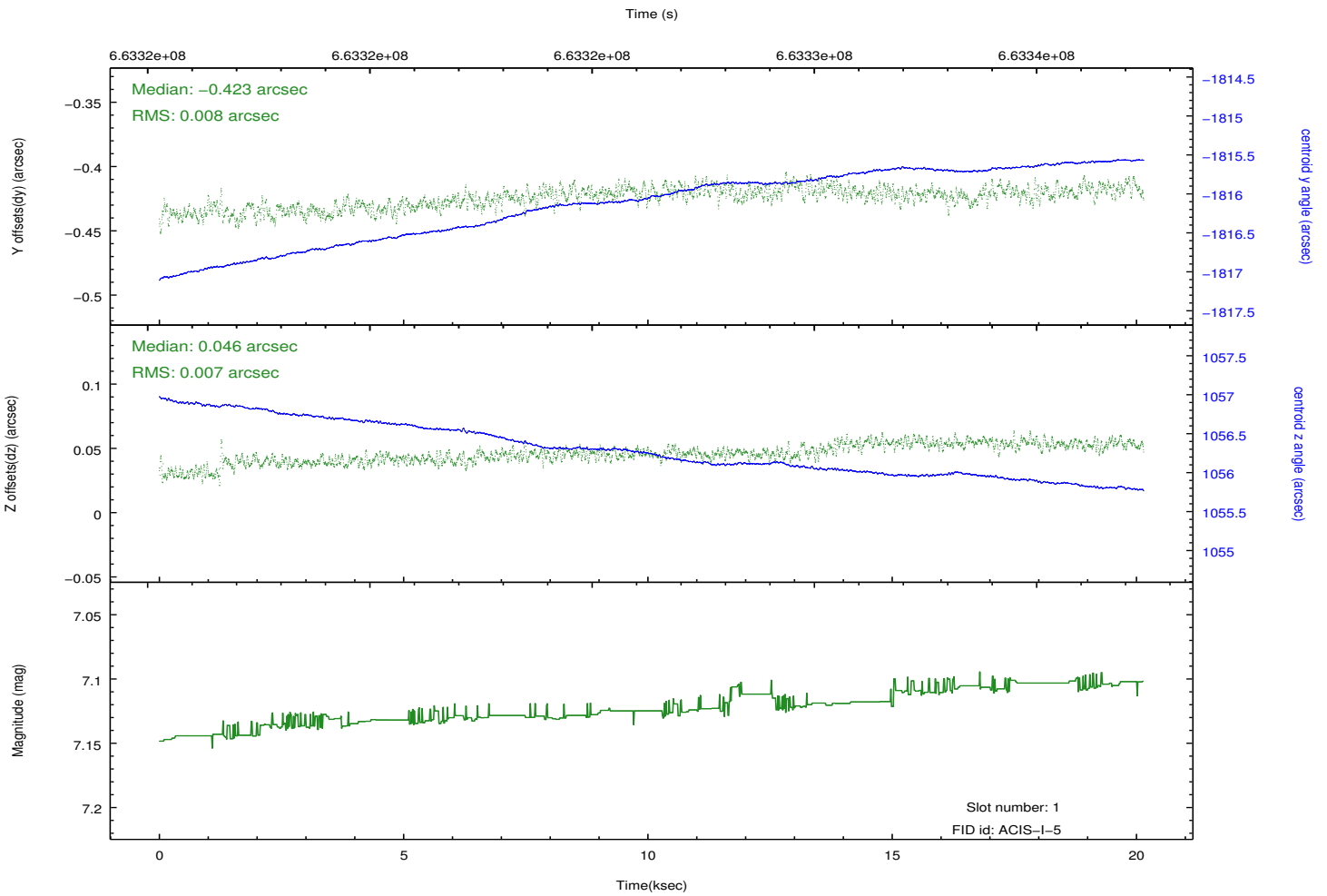
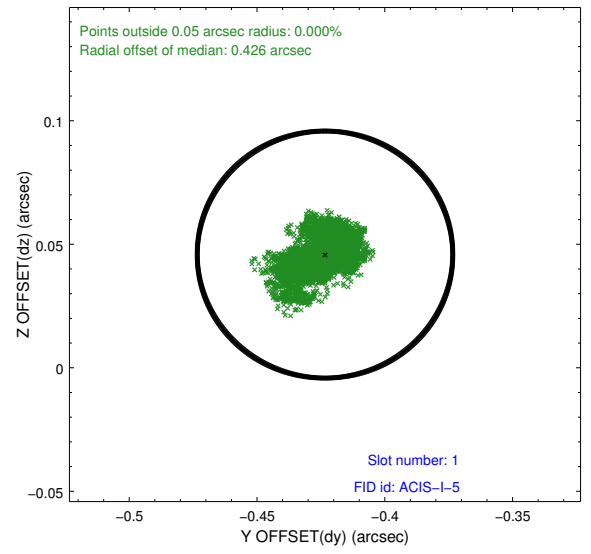
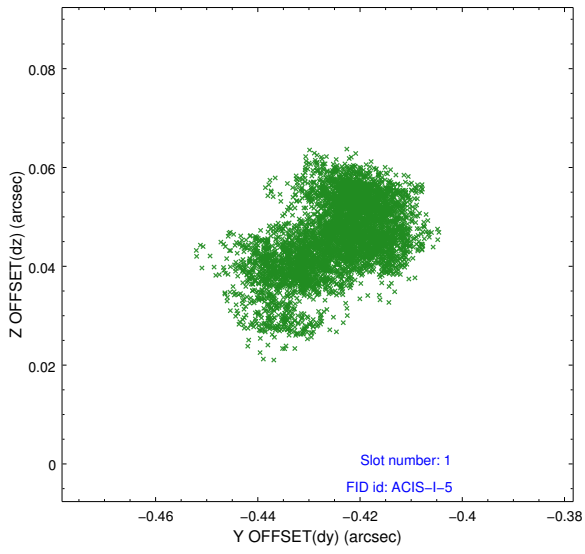


2.5 FID Slots

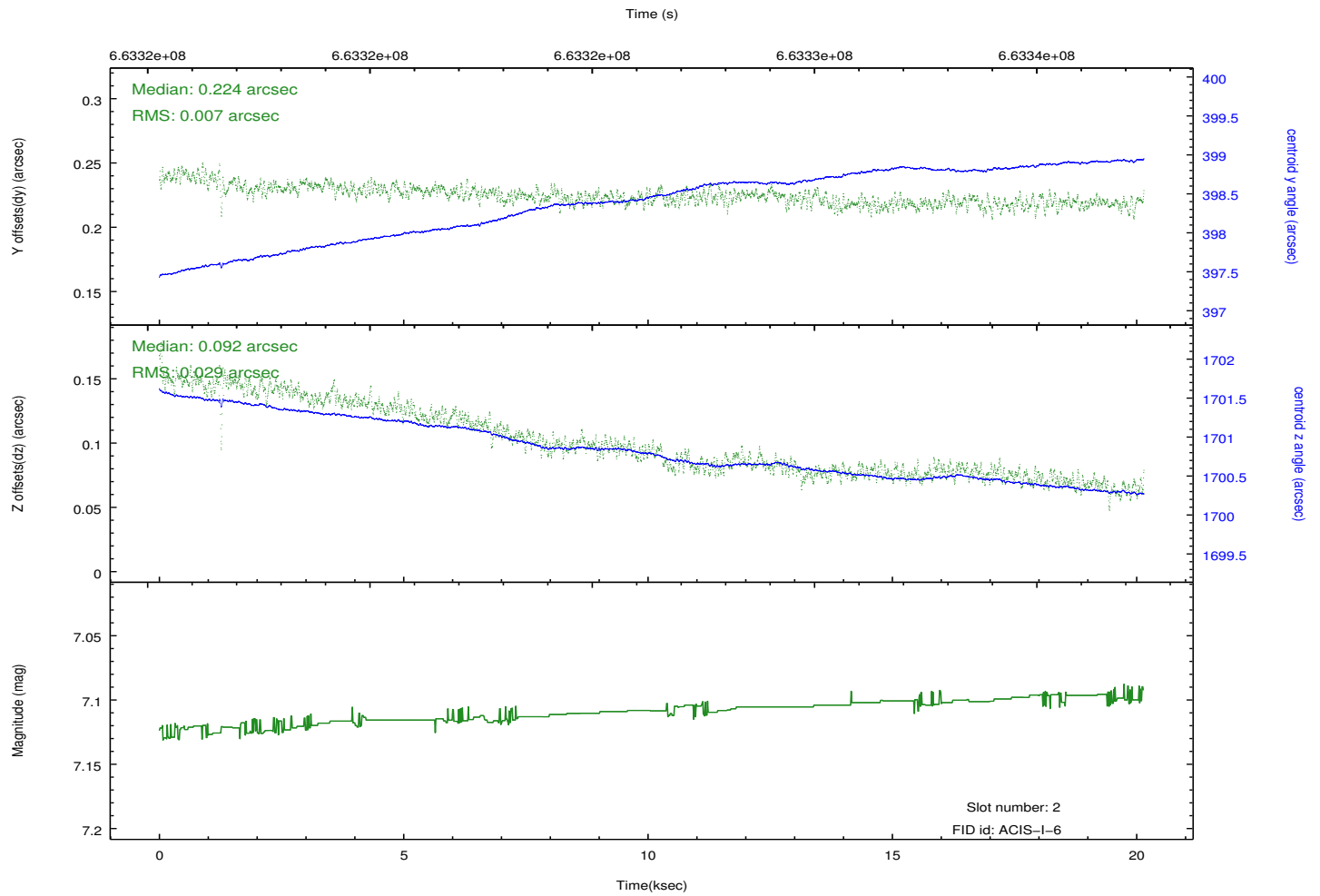
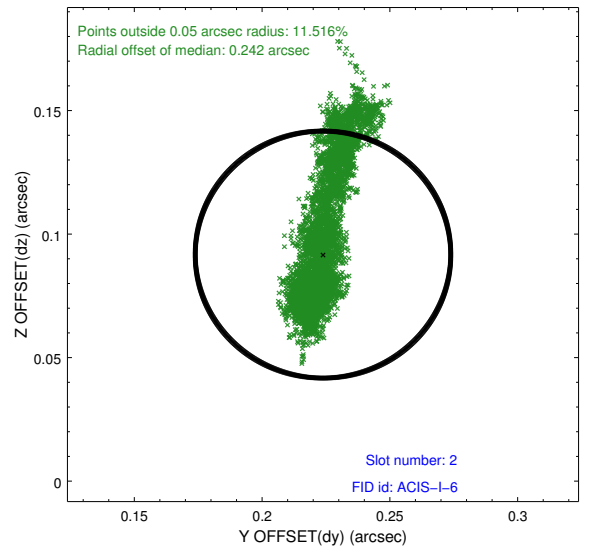
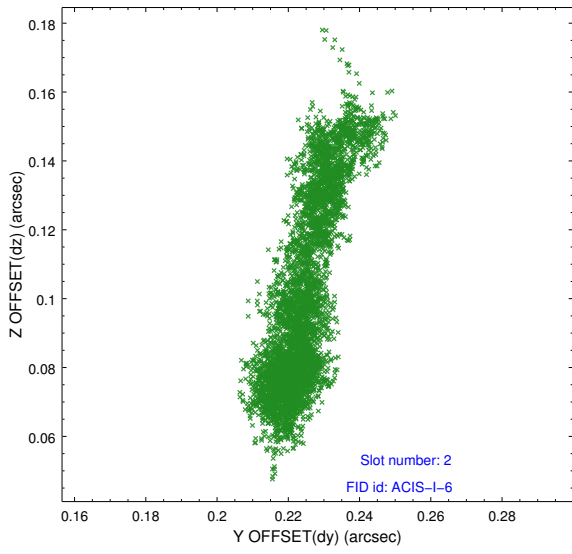
2.5.1 Slot 0



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)	2019.01.09
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.056918223977

A.2 Comments

A spatial region of the original bias map for CCD = 0 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 = 0 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:

(344.55582, -53.16454), (344.56131, -53.16543), (344.62135, -53.03070),
(344.61588, -53.02981).