

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 14489 - L2 Version 2
Chandra X-Ray Center

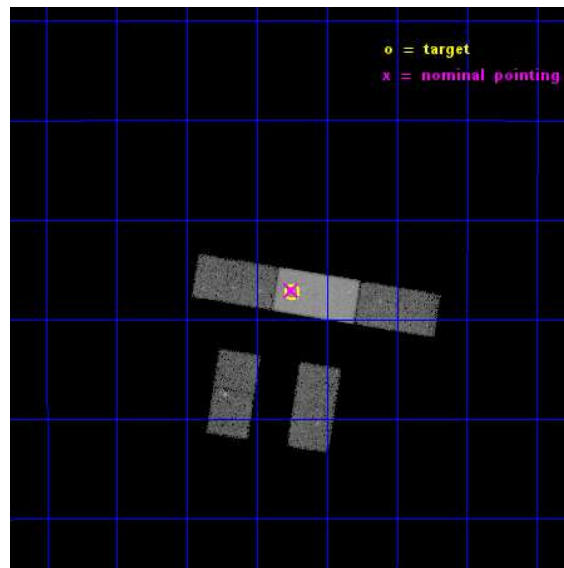
L2 Processing Date : Nov 29 2014

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

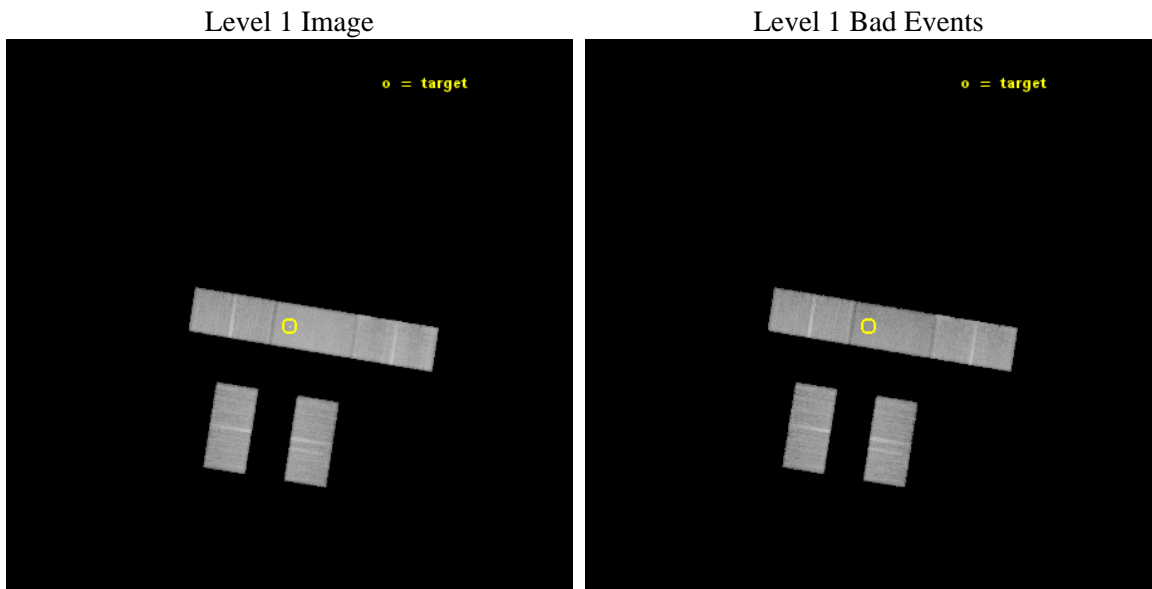
seq_num	702726	Sequence number
obs_id	14489	Observation id
title	ENERGY DEPENDENT X-RAY MICROLENSING AND THE STRUCTURE OF QUASARS	P
observer	Prof. Christopher Kochanek	Principal investigator
object	HE0435-1223	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	69.562083	Observer's specified target RA [deg]
dec_targ	-12.287333	Observer's specified target Dec [deg]
ra_nom	69.56329095081	Nominal RA [deg]
dec_nom	-12.28454473823	Nominal Dec [deg]
roll_nom	9.125382362889	Nominal Roll [deg]
revision	2	Processing version of data
ontime	38064.215349615	Sum of GTIs [s]
livetime	37166.961180872	Livetime [s]
ontime2	38064.051189601	Sum of GTIs [s]
ontime3	38064.133269608	Sum of GTIs [s]
ontime6	38062.433269441	Sum of GTIs [s]
ontime7	38064.215349615	Sum of GTIs [s]
ontime8	38064.092229605	Sum of GTIs [s]
l2events	100637	Number of level 2 events



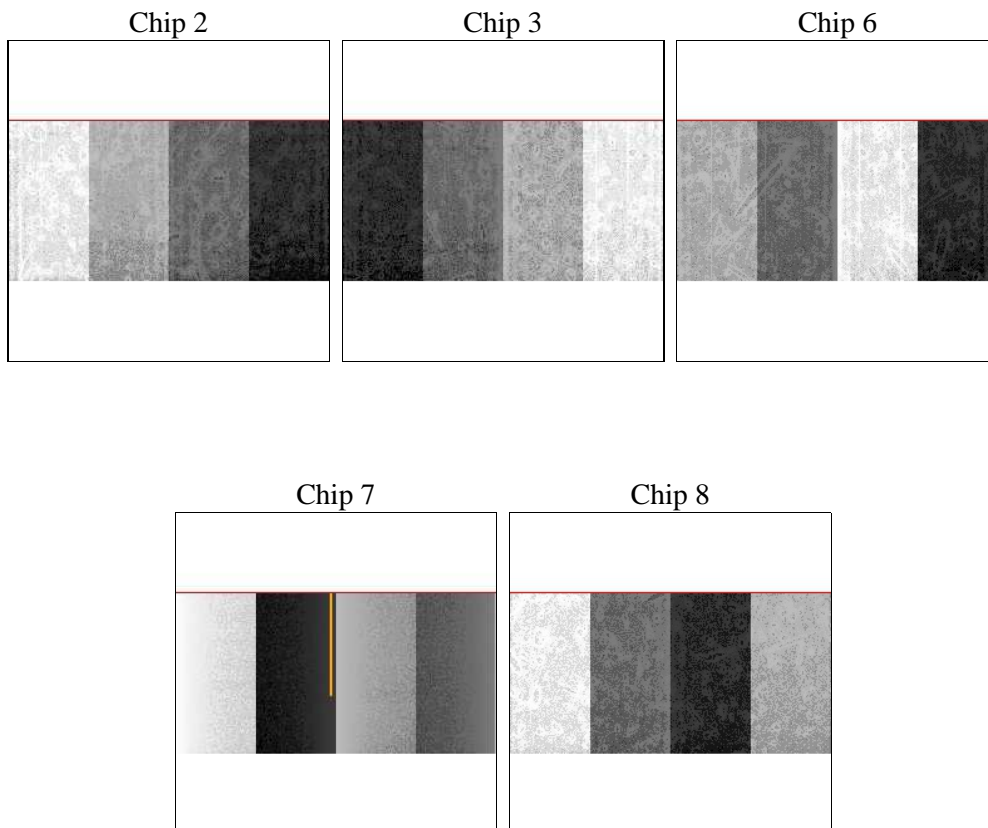
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	38000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	38064.215349615	Sum of GTIs [s]
caldbver	4.6.4	 	ontime2	38064.051189601	Sum of GTIs [s]
date	2014-11-30T00:40:54	Date and time of file creation	ontime3	38064.133269608	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	38062.433269441	Sum of GTIs [s]
			ontime7	38064.215349615	Sum of GTIs [s]
			ontime8	38064.092229605	Sum of GTIs [s]
			l1events	587016	Number of level 1 events

2.1.4 Events

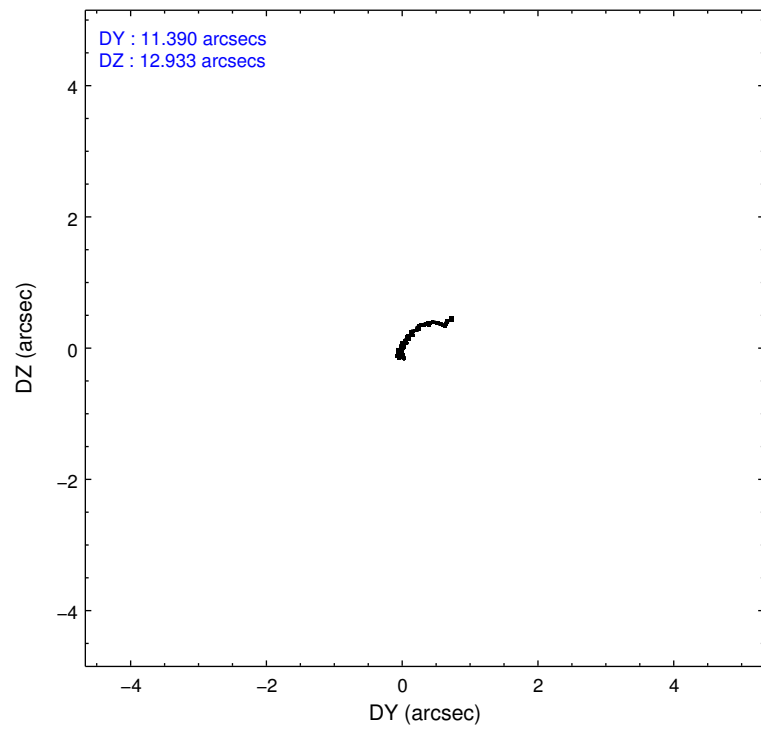
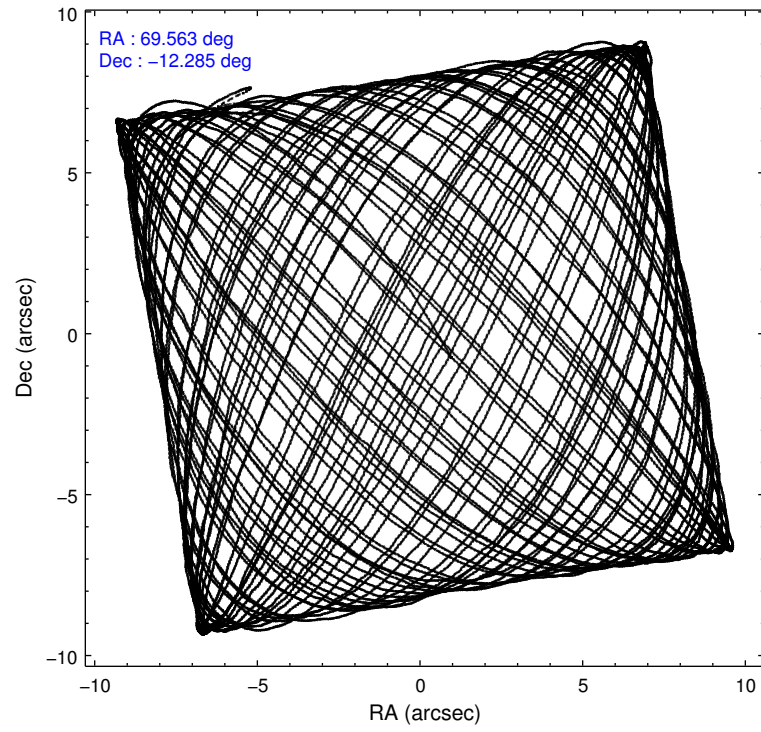
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
level 1 events	100811	100569	109801	136518	139317
rejected events	89345	89401	97108	75635	105440
rejected %	88%	88%	88%	55%	75%

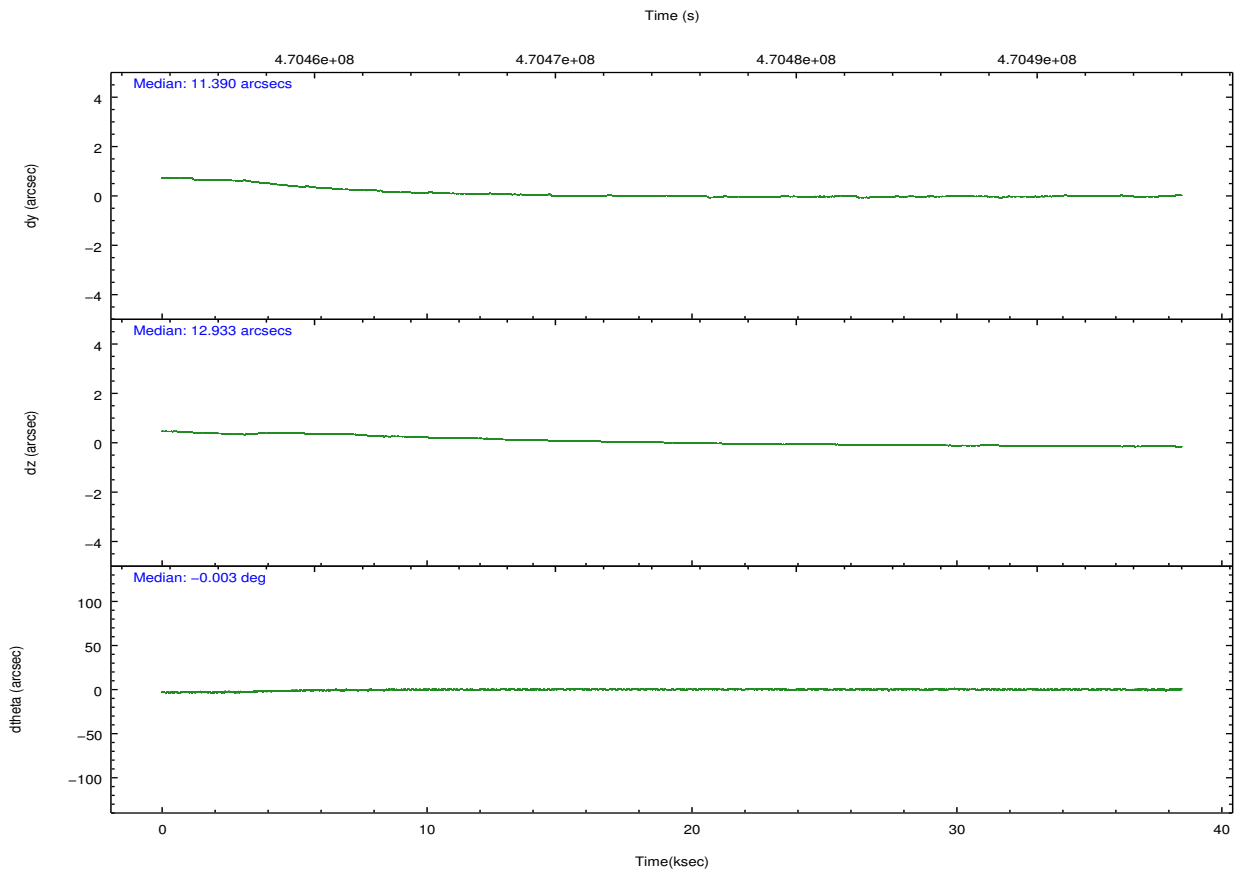
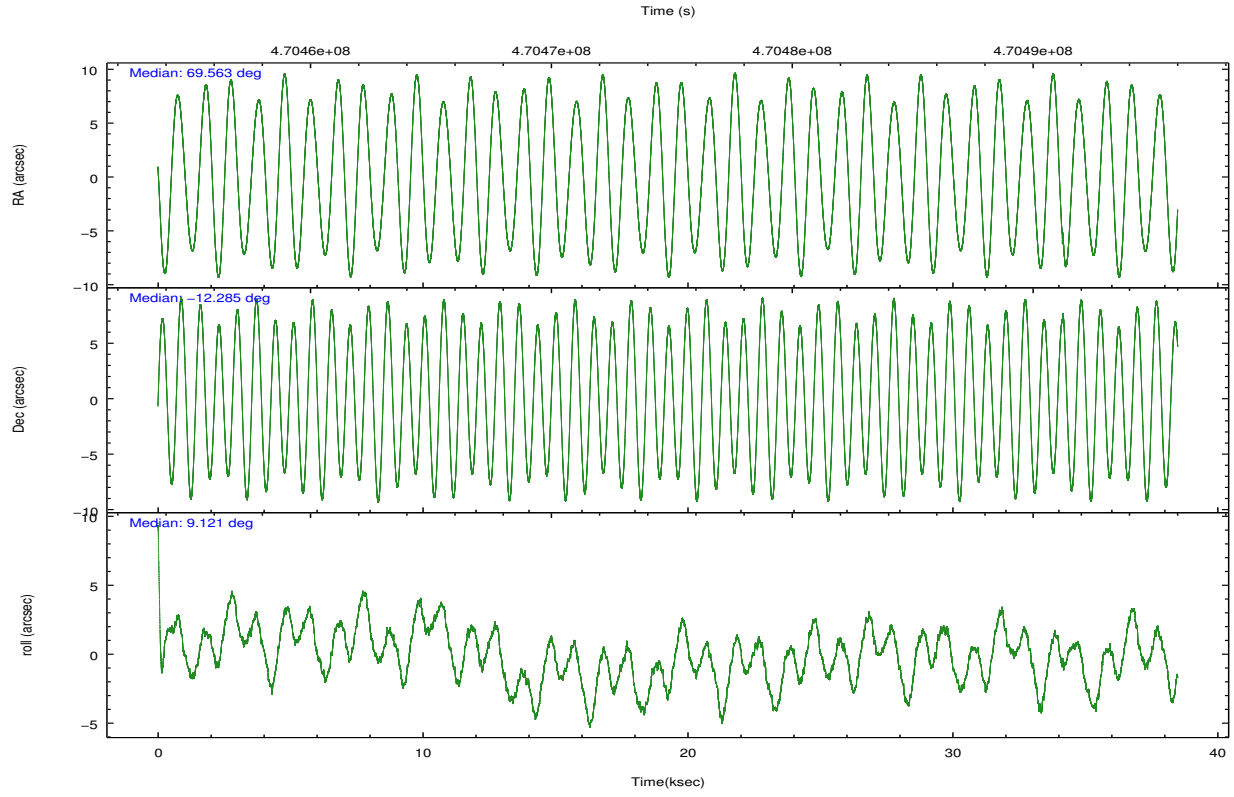
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
grade 0 events	3858	3618	4183	6095	9031
	3%	3%	3%	4%	6%
grade 1 events	48	50	42	149	75
	0%	0%	0%	0%	0%
grade 2 events	2469	2305	2654	12237	7880
	2%	2%	2%	8%	5%
grade 3 events	1458	1428	1495	5772	3756
	1%	1%	1%	4%	2%
grade 4 events	1445	1415	1489	5679	3644
	1%	1%	1%	4%	2%
grade 5 events	4079	5133	5201	14100	7236
	4%	5%	4%	10%	5%
grade 6 events	2236	2402	2872	31103	9577
	2%	2%	2%	22%	6%
grade 7 events	85218	84218	91865	61383	98118
	84%	83%	83%	44%	70%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-23678	ACIS-23678	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	69.541844	69.5632909508101	CCD I2 on	O4	Y
[deg] Pointing Dec	-12.302088	-12.28454473822993	CCD I3 on	O3	Y
[deg] Pointing Roll	8.964189	9.125382362888987	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	N	N
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	O1	Y
[mm] SIM translation stage pos	-190.132523	-190.1400660498719	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	CCD S4 on	O2	Y
[s] Observation start time (MET)	470456068.184000	470455036.67098	CCD S5 on	N	N
Observation start date	2012-11-28T02:13:21	2012-11-28T01:57:16	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	470494068.184000	470494723.13562	On-chip summing requested	N	N
Observation end date	2012-11-28T12:46:41	2012-11-28T12:58:43	Subarray requested	CUSTOM	1/2
Read mode	TIMED	TIMED	Subarray start row	257	257
			Subarray row count	512	512
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	1.7

2.3 Aspect



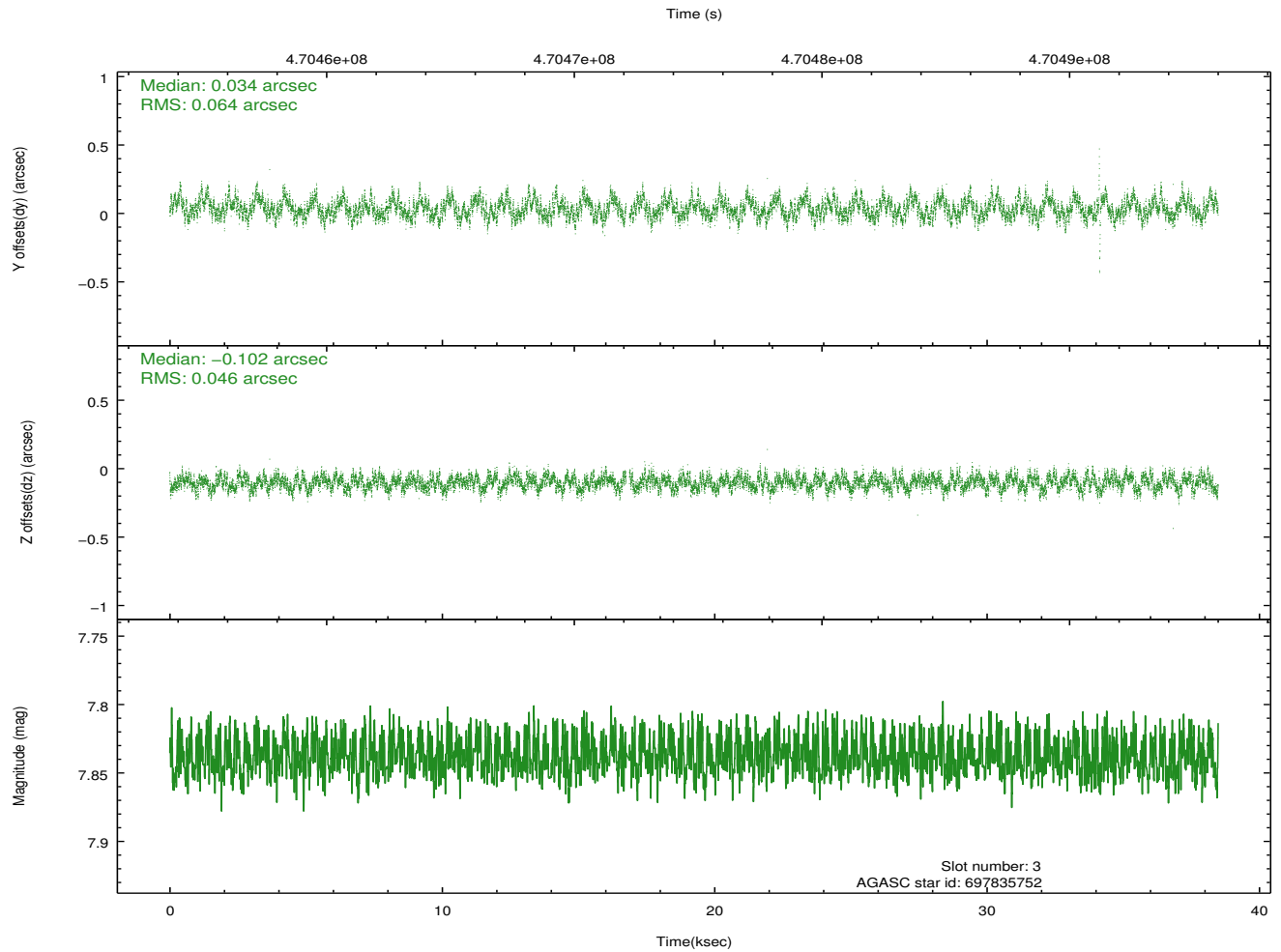
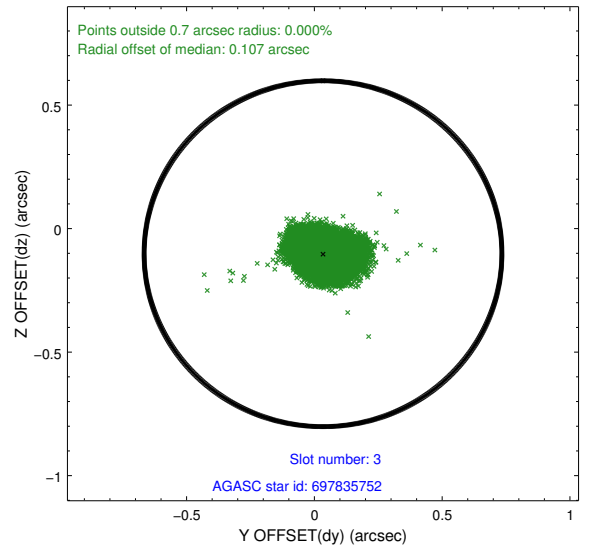
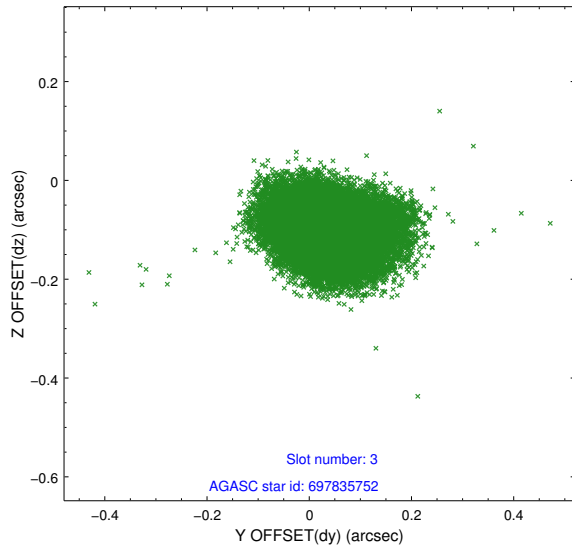


Slot Statistics

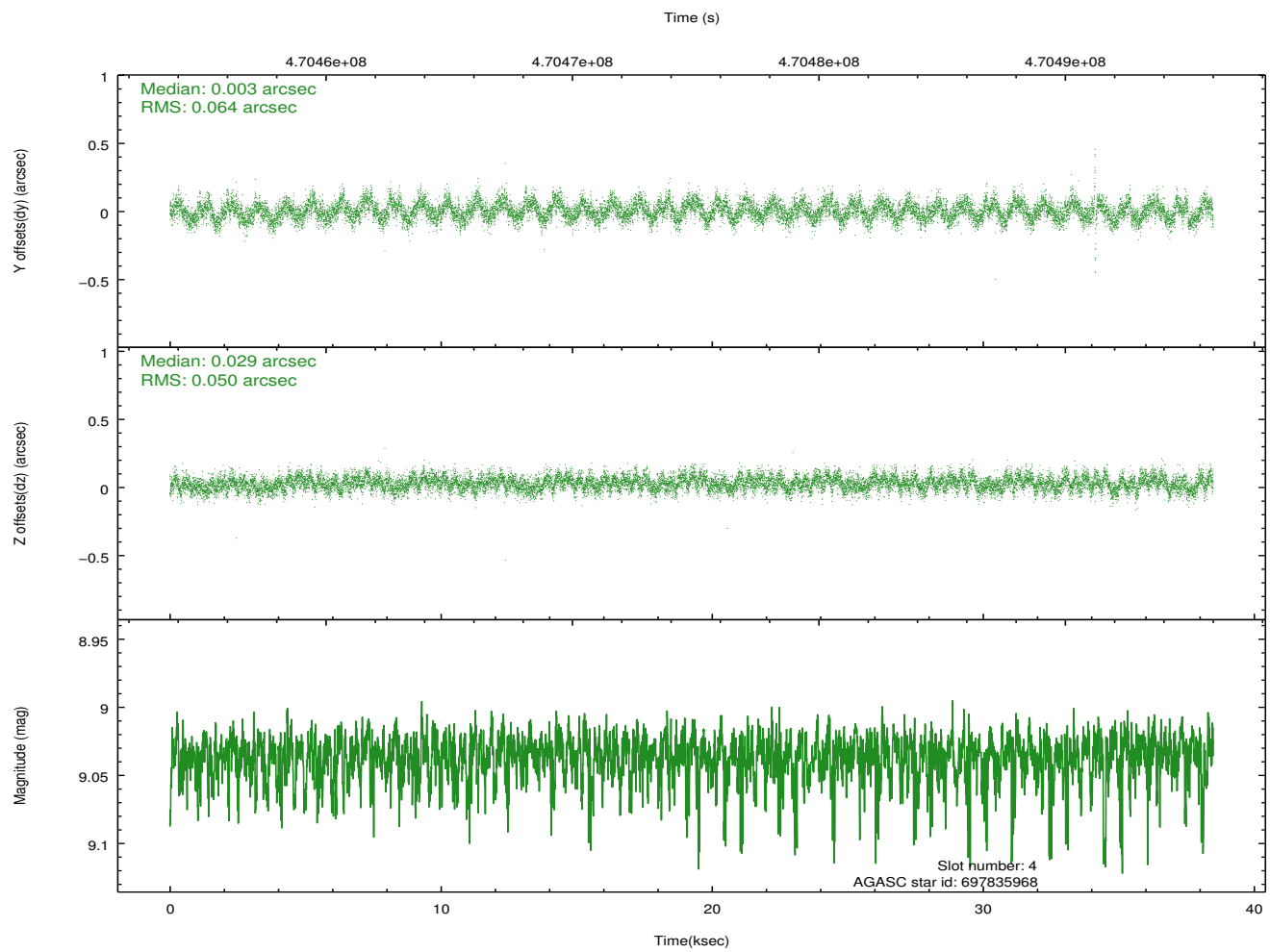
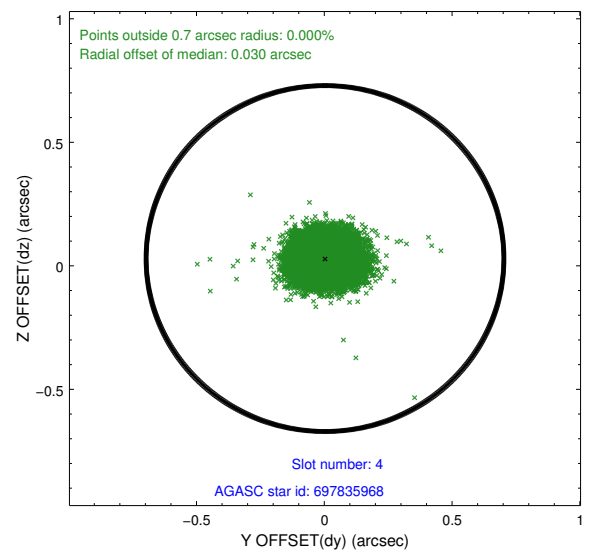
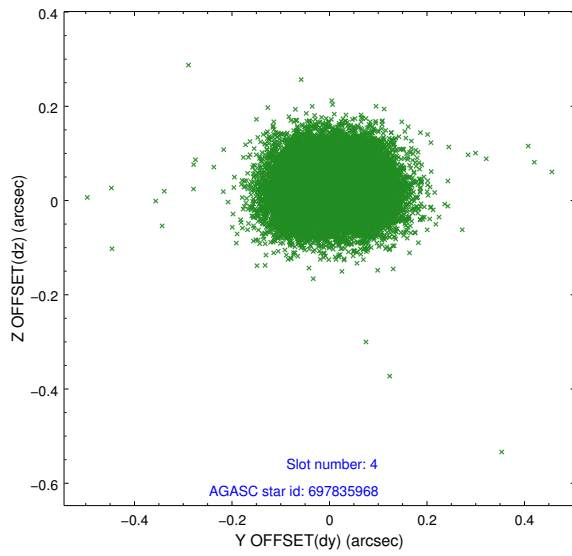
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.04	9389	-0.056	-0.062	0.008	0.013	0.000000	0.000000	-764.45	-1734.38
1	FID		ACIS-S-4	7.14	9389	0.190	0.044	0.007	0.013	0.000000	0.000000	2149.09	174.15
2	FID		ACIS-S-5	7.17	9389	-0.165	0.027	0.008	0.014	0.000000	0.000000	-1817.35	167.88
3	GUIDE	used	697835752	7.84	18716	0.034	-0.102	0.083	0.134	69.312835	-12.164170	-717.73	615.56
4	GUIDE	used	697835968	9.04	18759	0.003	0.029	0.086	0.138	70.113917	-11.772123	2289.05	1568.53
5	GUIDE	used	697837912	9.32	18763	0.064	-0.013	0.168	0.253	70.091872	-12.106315	2022.49	392.82
6	GUIDE	used	698220616	7.53	18778	-0.066	0.038	0.056	0.090	69.313891	-12.560296	-935.58	-793.71
7	GUIDE	used	698221568	8.62	18770	-0.020	0.052	0.073	0.121	69.849031	-12.529974	938.04	-979.12

2.4 Star Slots

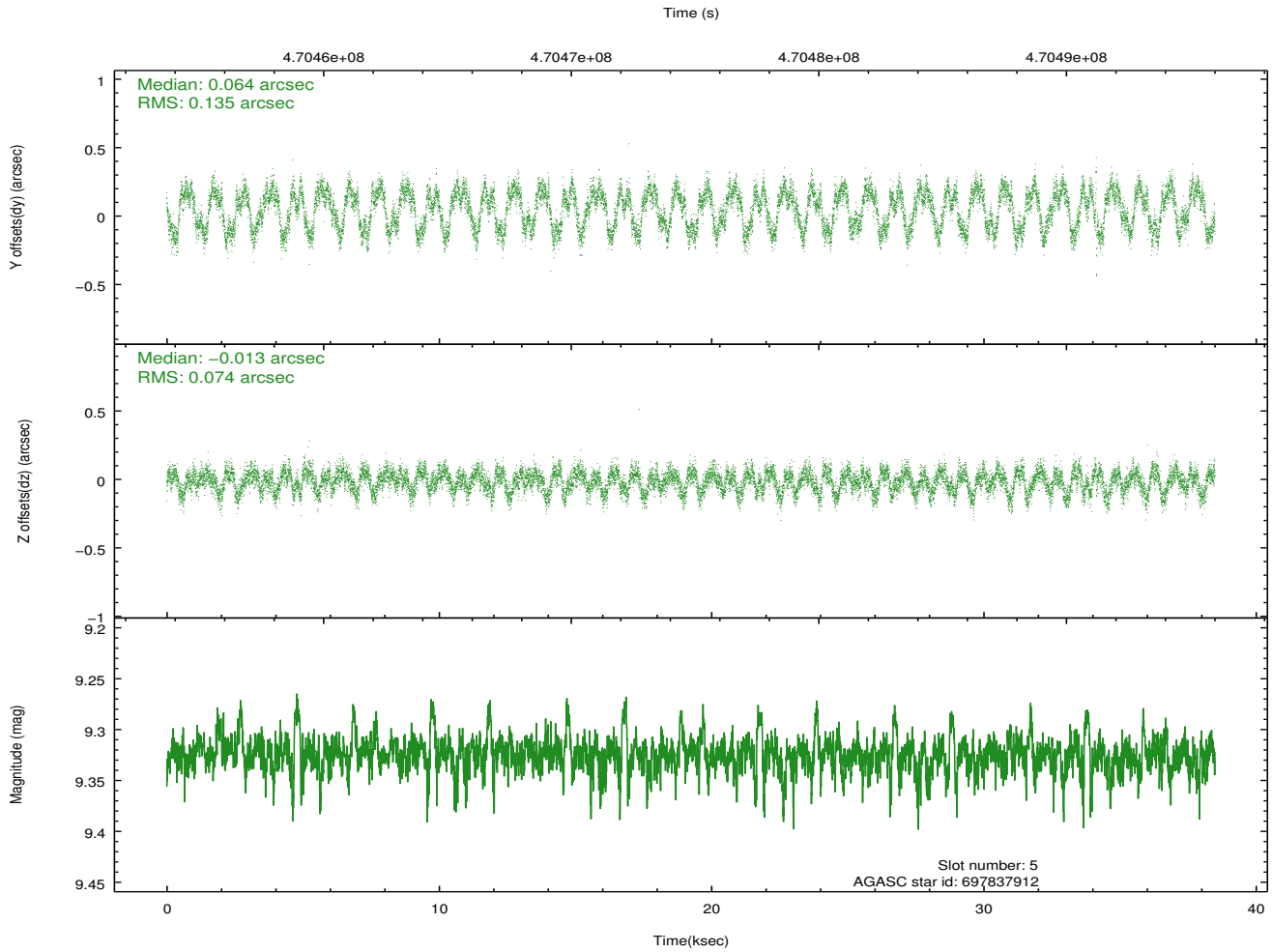
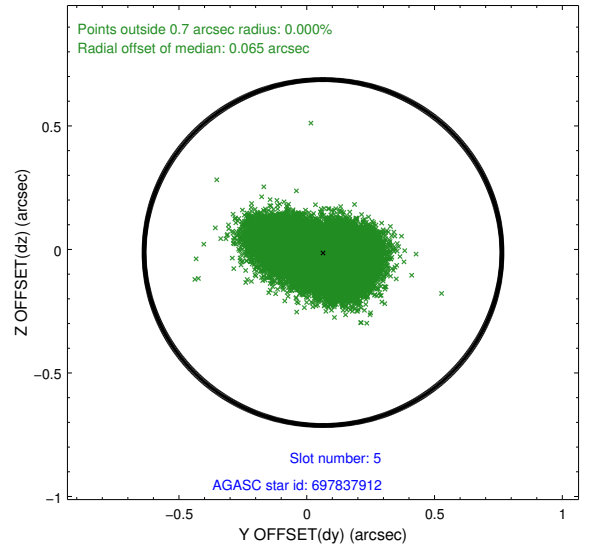
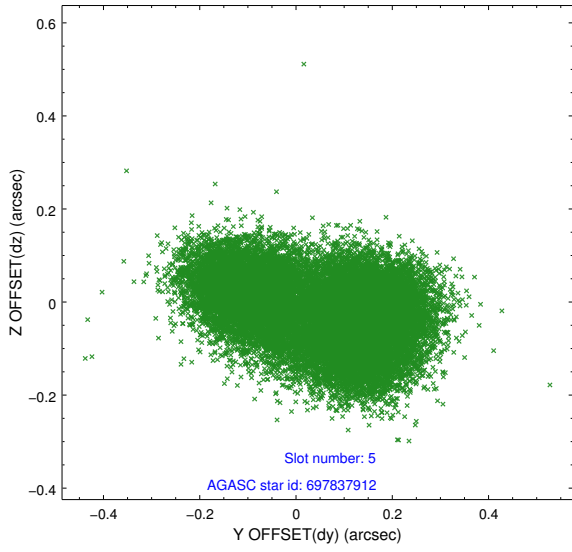
2.4.1 Slot 3



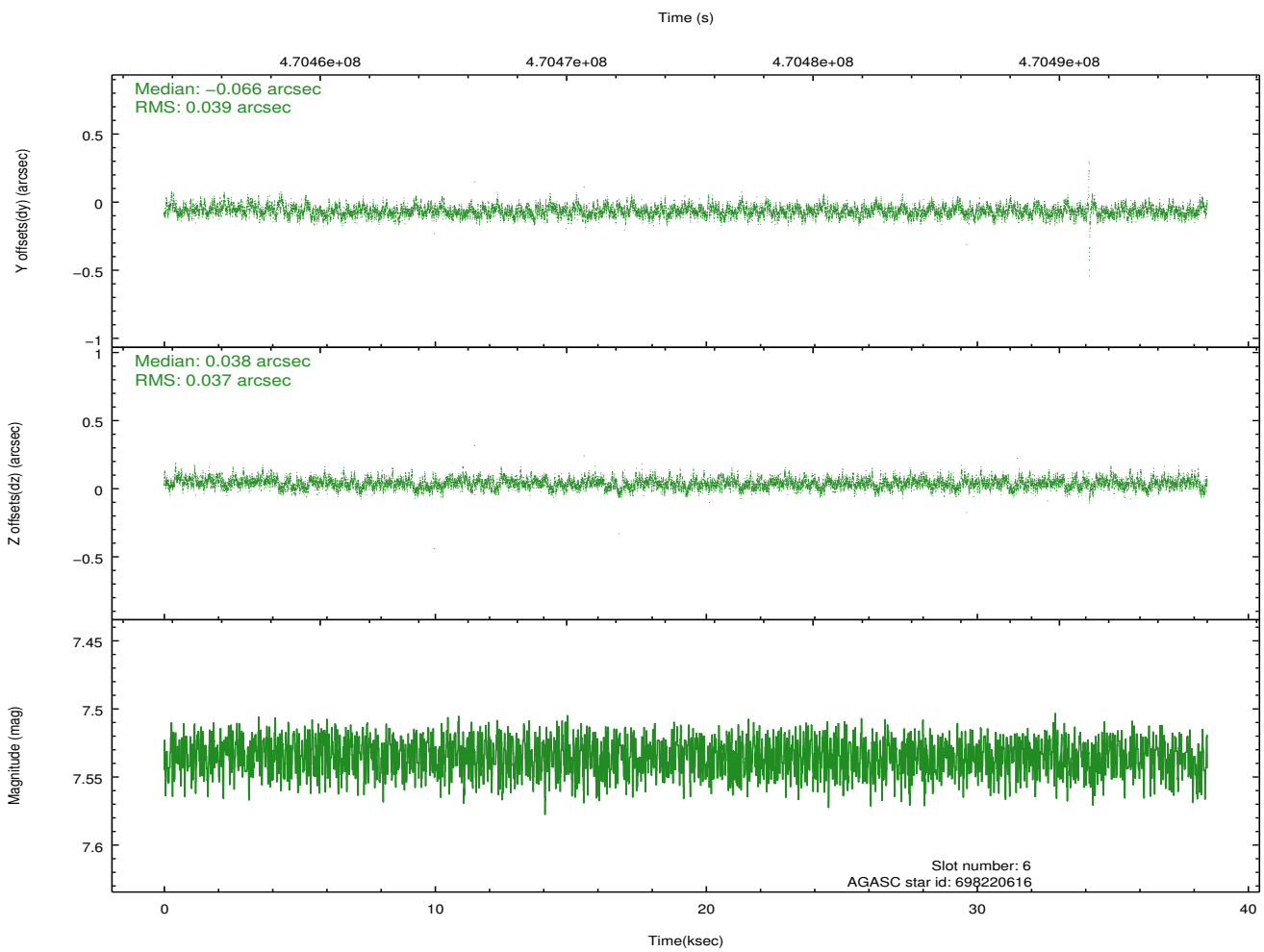
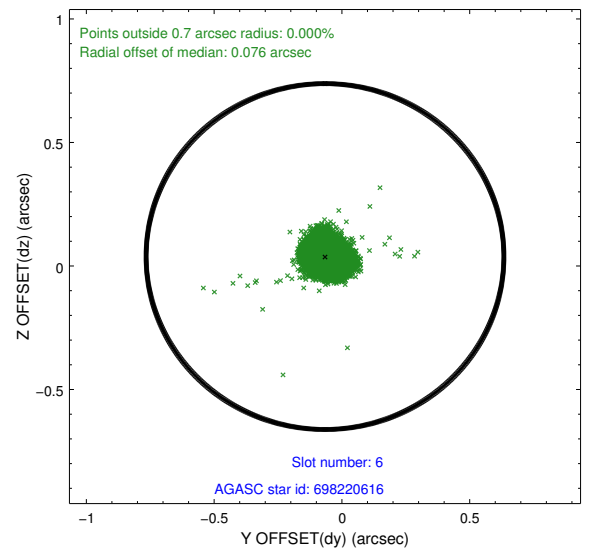
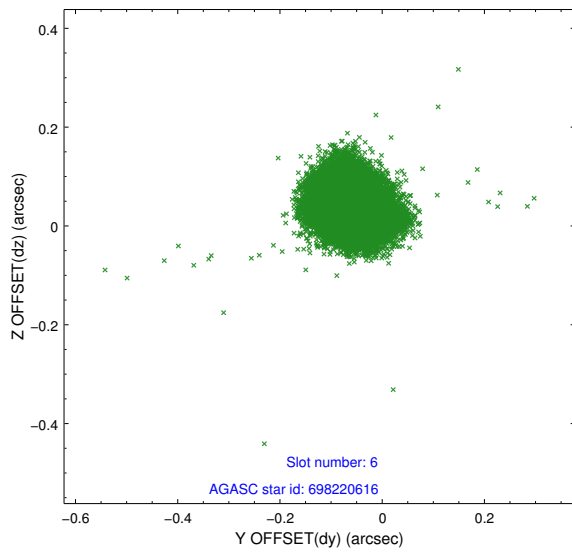
2.4.2 Slot 4



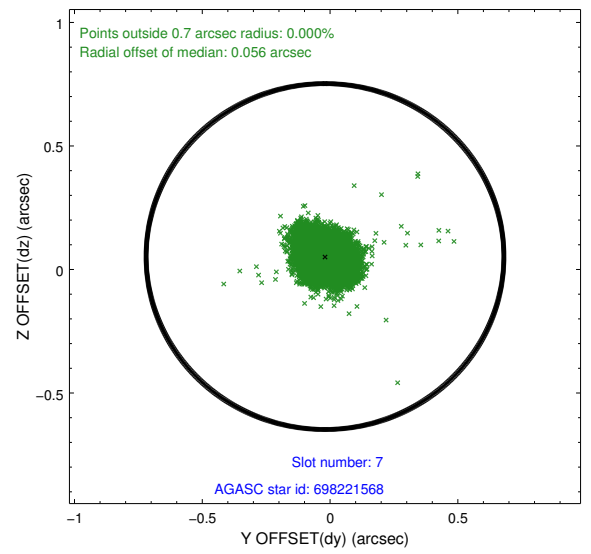
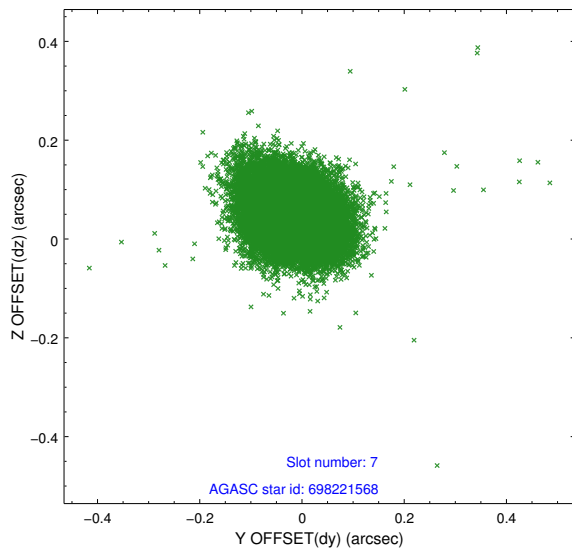
2.4.3 Slot 5



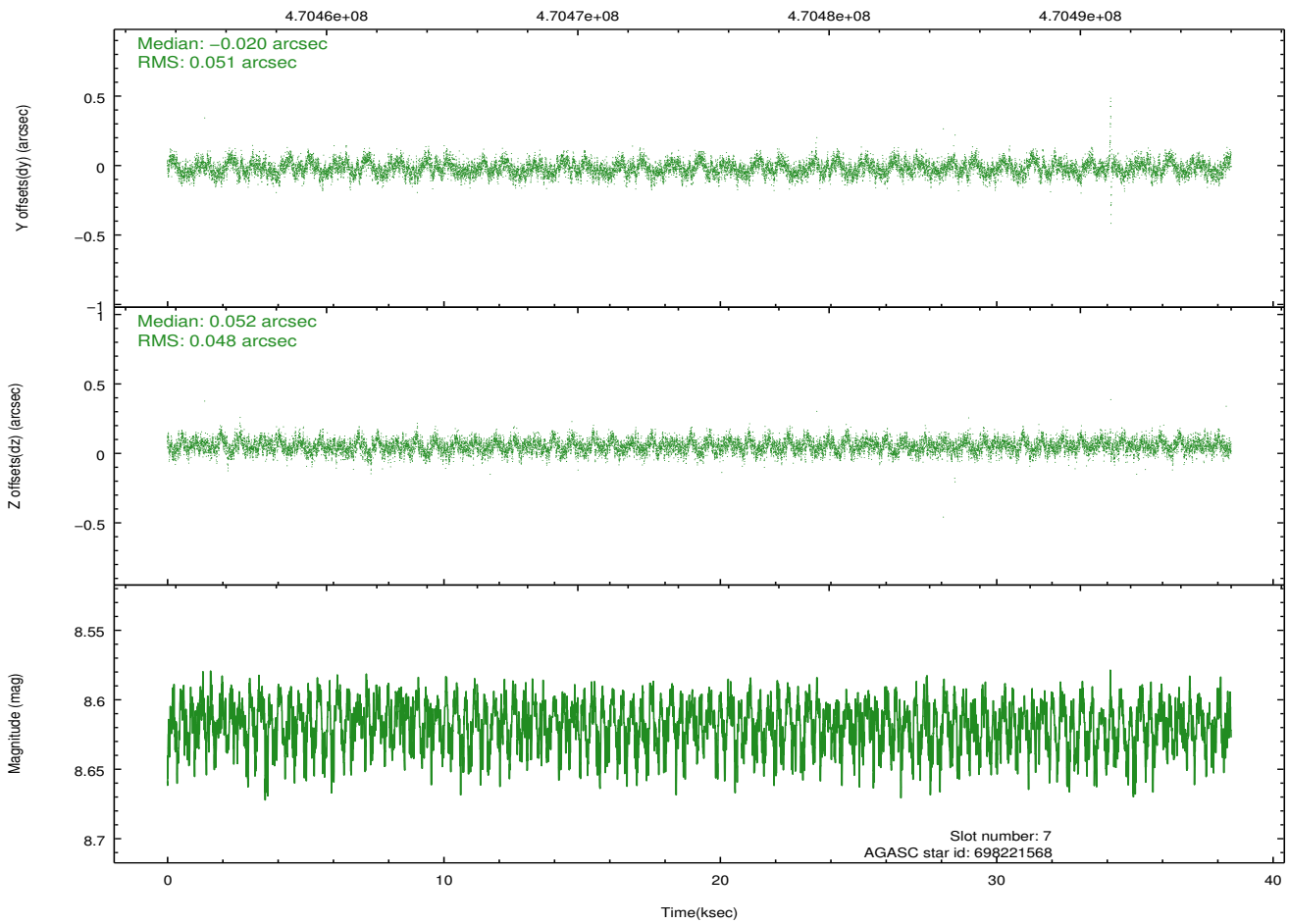
2.4.4 Slot 6



2.4.5 Slot 7

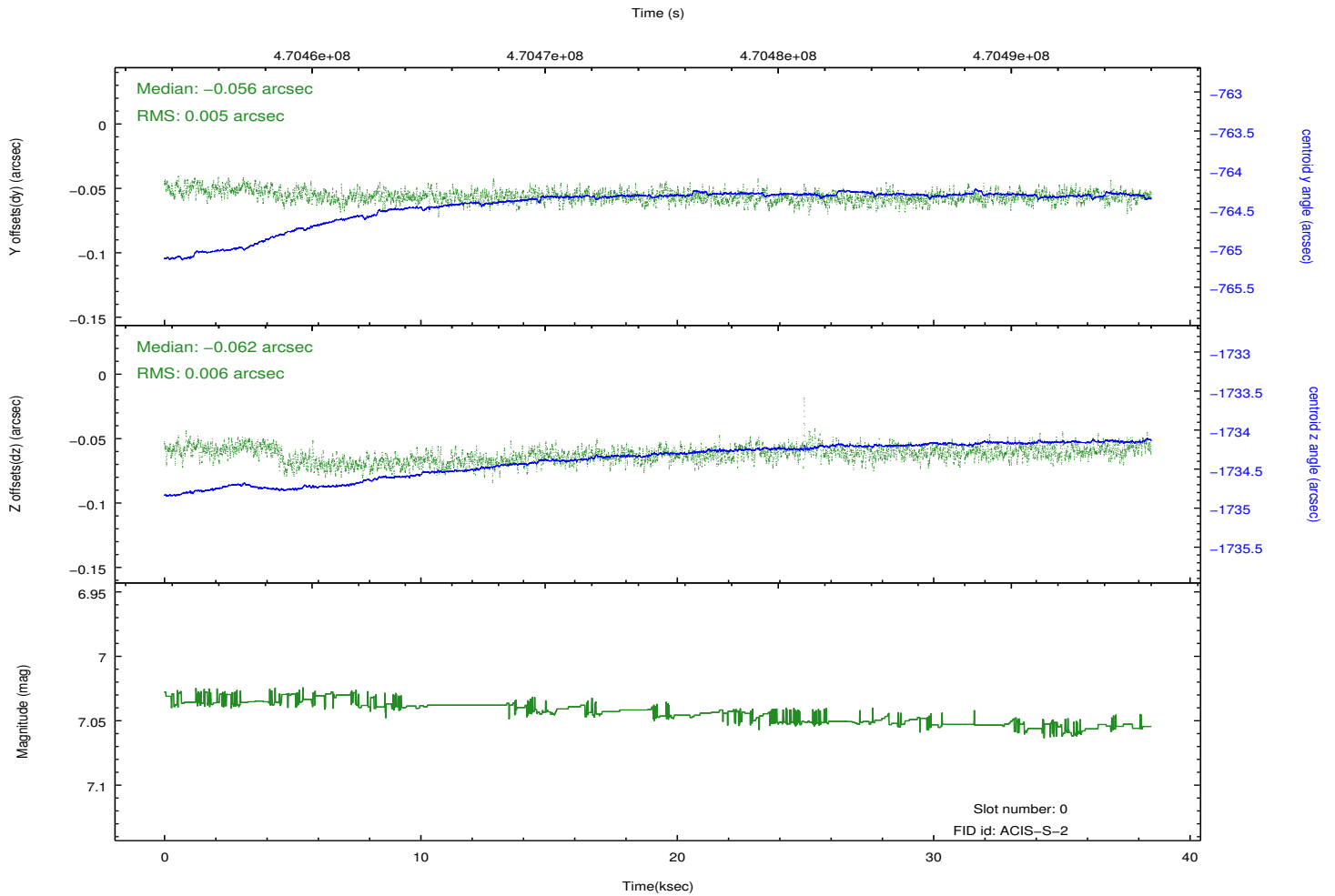
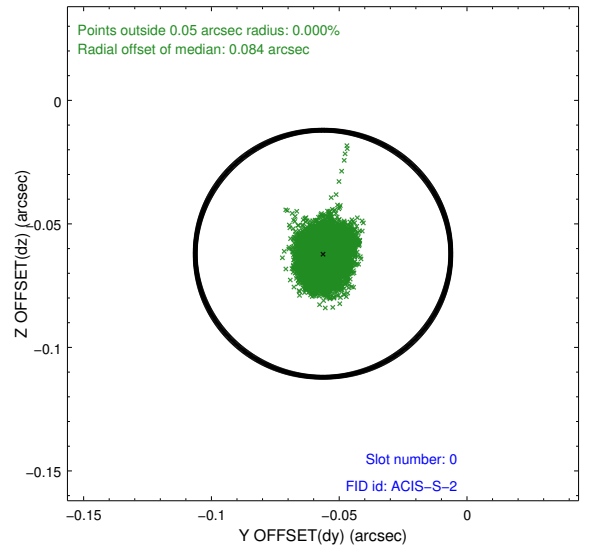
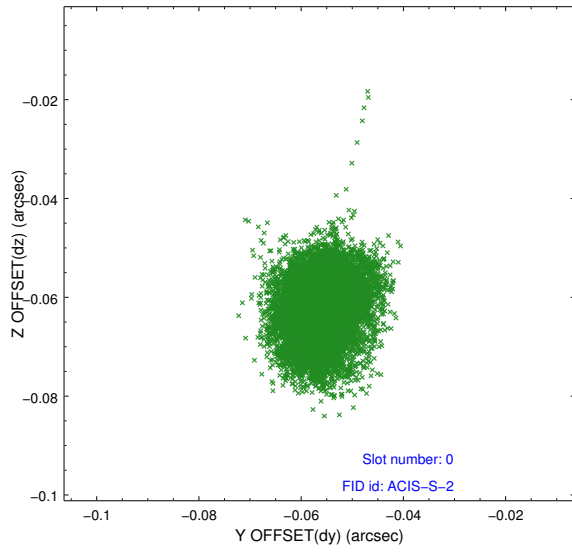


Time (s)

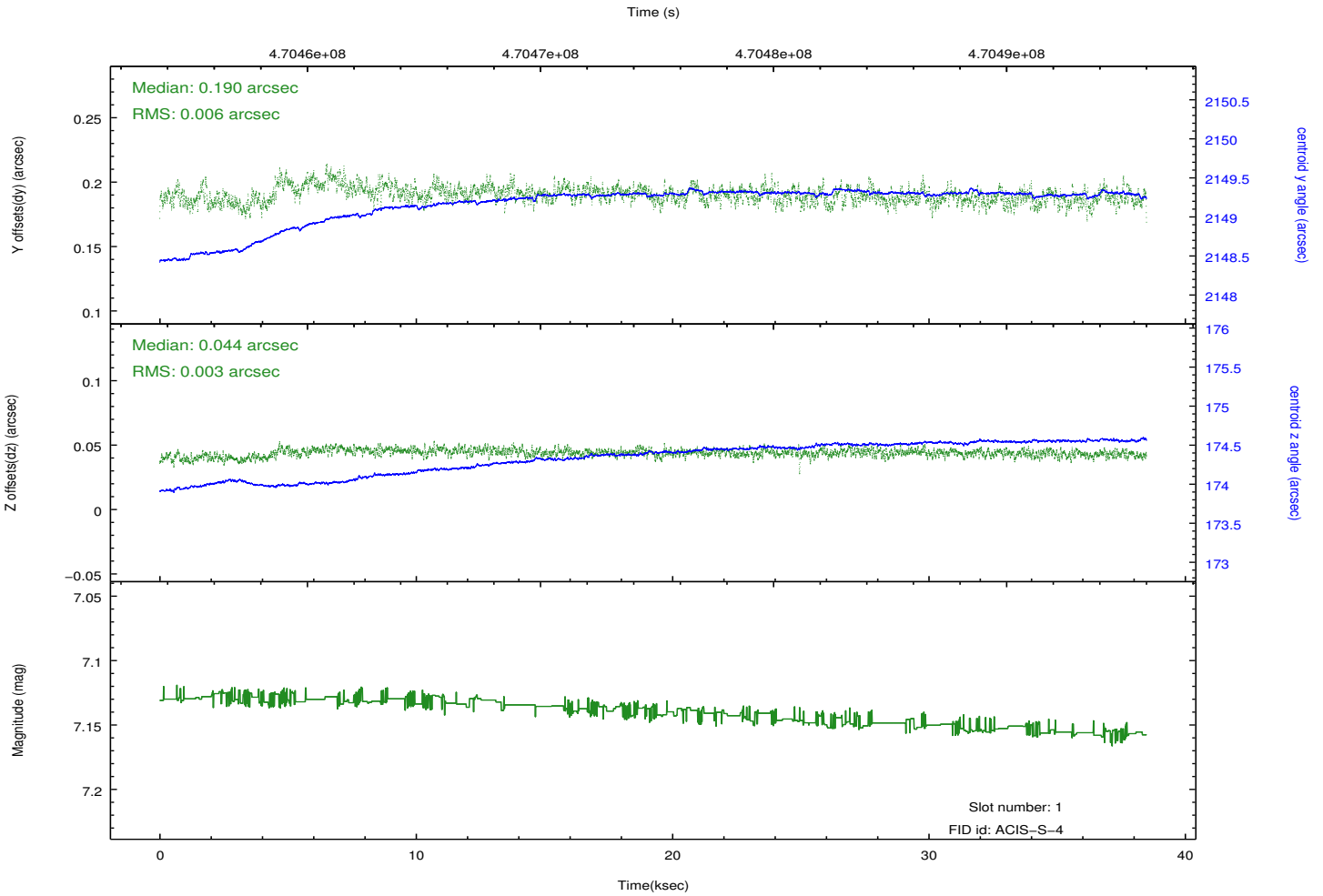
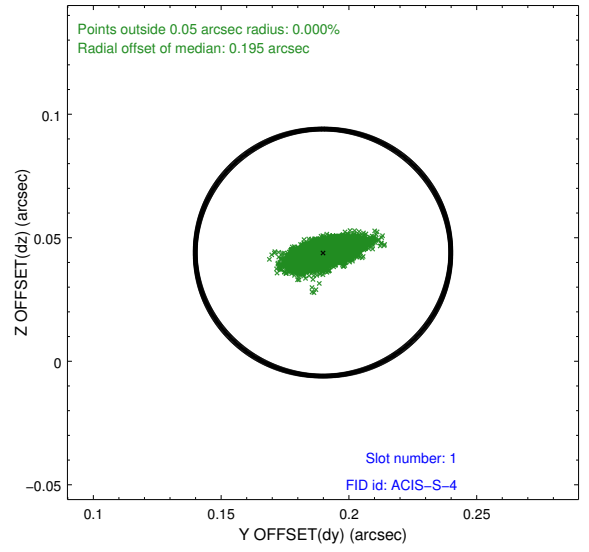
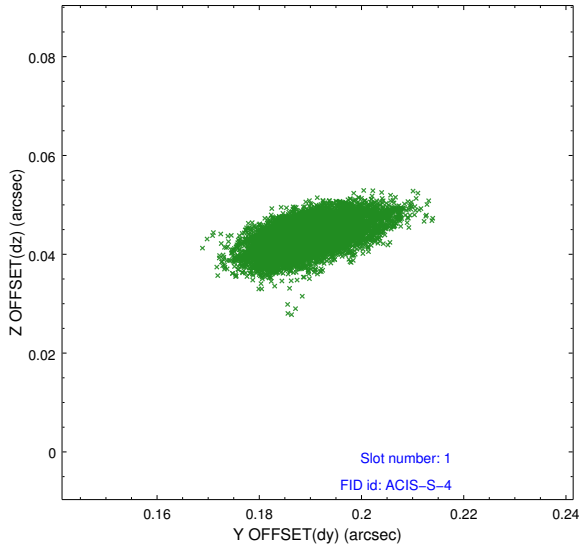


2.5 FID Slots

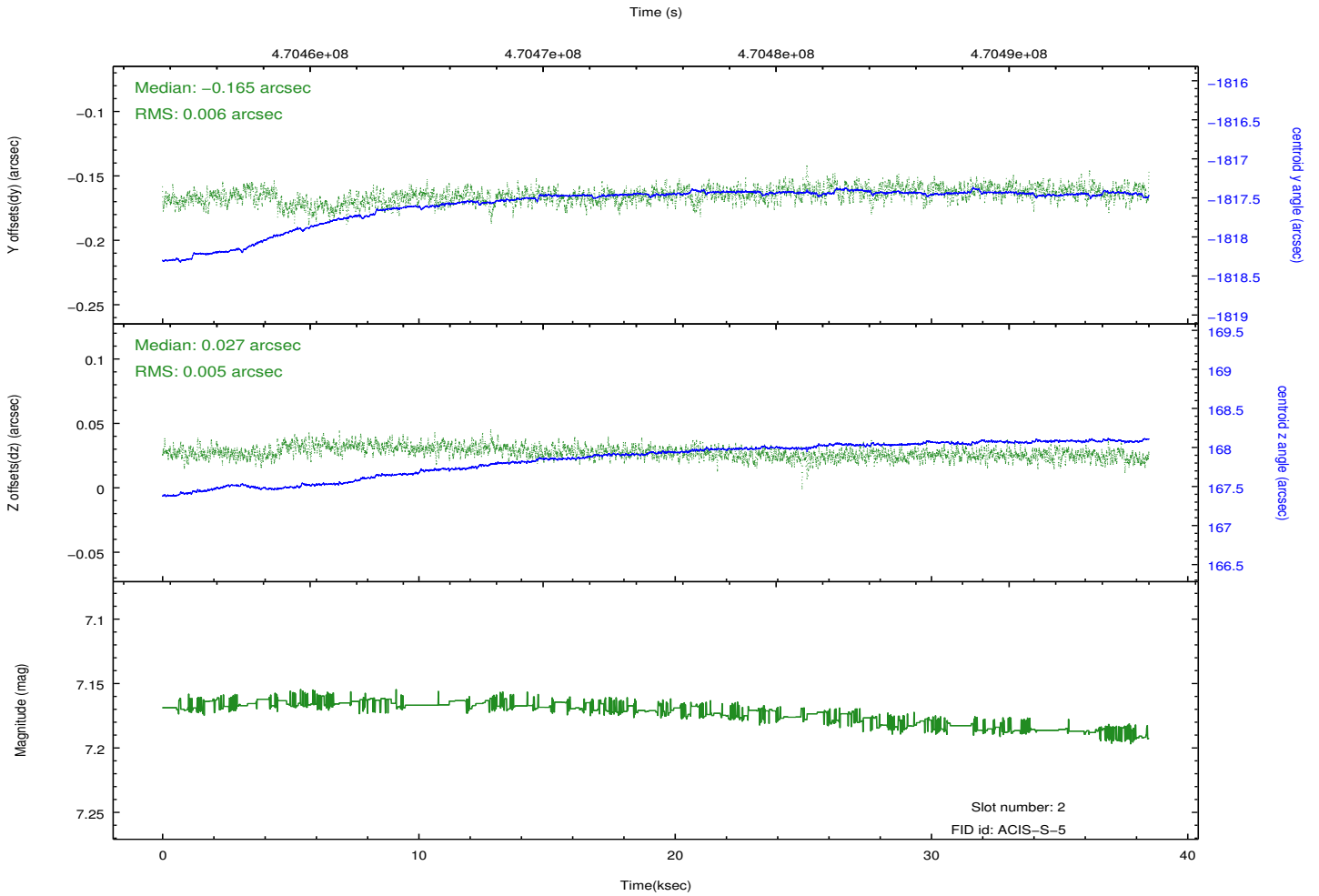
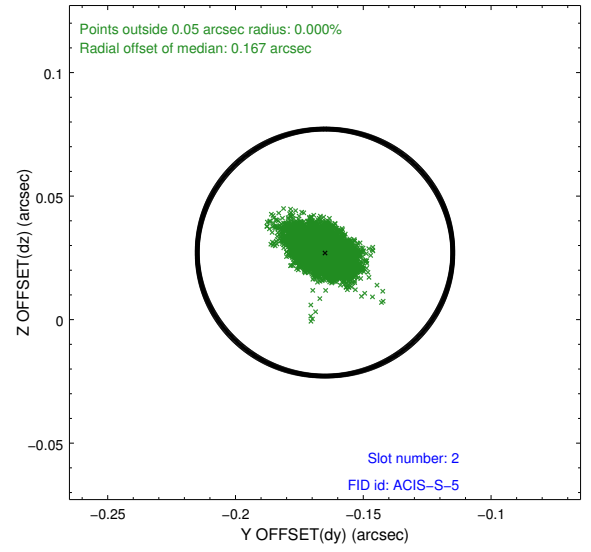
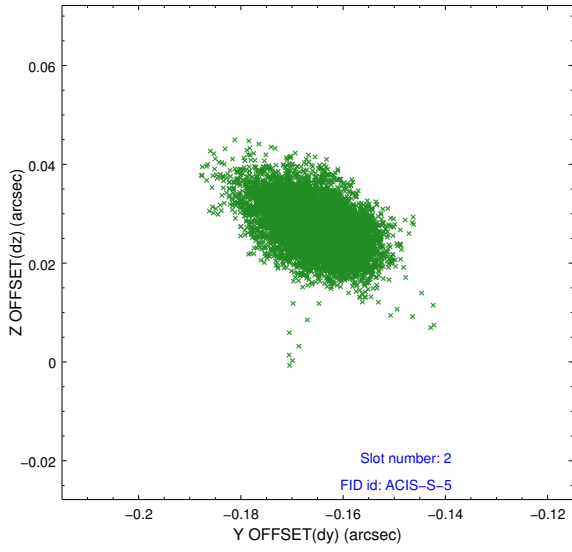
2.5.1 Slot 0



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)	2014.12.03
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	38.064215349615

A.2 Comments

Joint proposal with HST.

These data have been reprocessed with new aspect alignment calibration files that correct small mean offsets (up to 0.4 arcsecs) and improve overall astrometric accuracy. The new calibration was determined using data from the time period being reprocessed and was performed using cross-correlation of X-ray sources with radio and optical counterparts.