

# V&V Reference Report

## L2 ASCDS Version : 8.5.1

Observation 4688 - L2 Version 5  
Chandra X-Ray Center

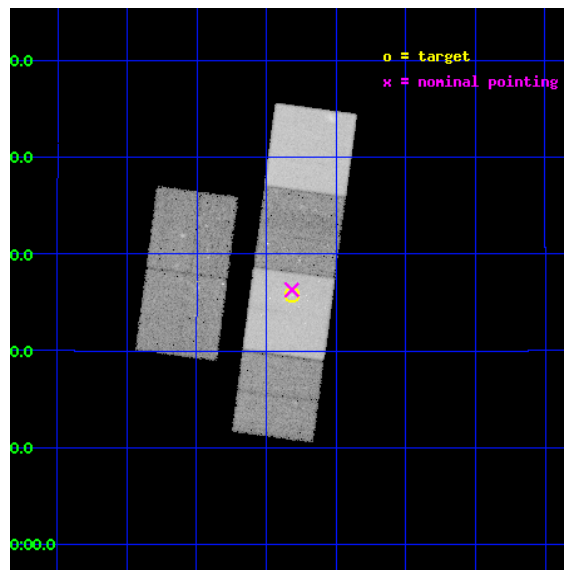
L2 Processing Date : Dec 17 2012

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# 1 Front

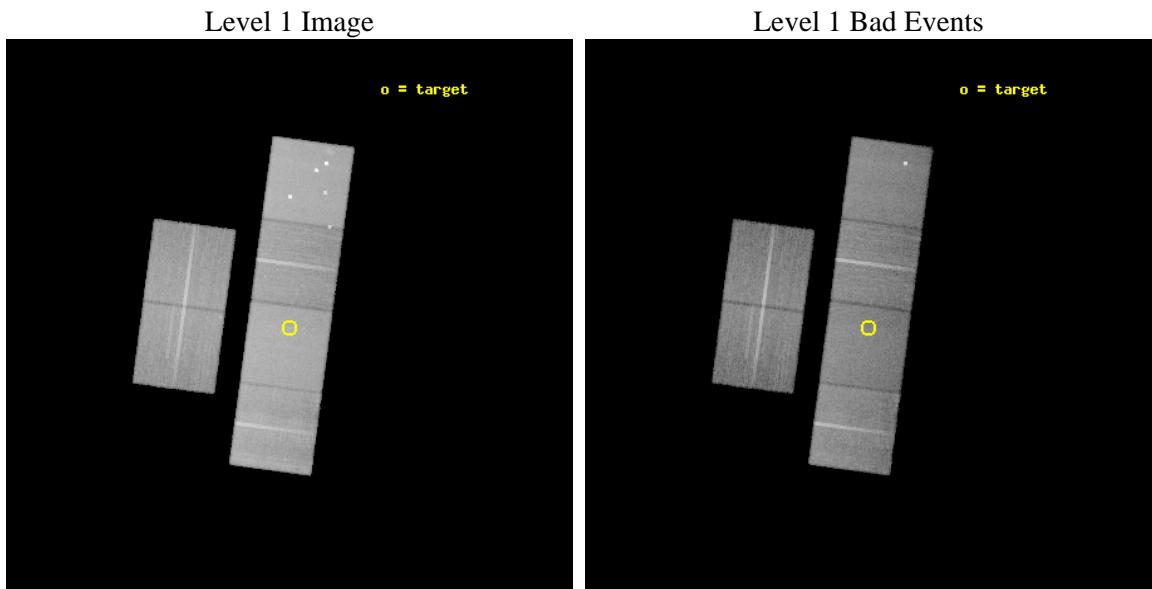
seq_num	600343	Sequence number
obs_id	4688	Observation id
title	X-ray Census of Supermassive Black Holes: I. New Observations	Prop
observer	Dr. Michael Loewenstein	Principal investigator
object	NGC 4473	Source name
dtycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	187.45375	Observer's specified target RA [deg]
dec_targ	13.429444	Observer's specified target Dec [deg]
ra_nom	187.45425113167	Nominal RA [deg]
dec_nom	13.438605518513	Nominal Dec [deg]
roll_nom	97.644857639872	Nominal Roll [deg]
revision	5	Processing version of data
ontime	29958.399888396	Sum of GTIs [s]
liveltime	29579.048590227	Livetime [s]
ontime2	29958.399888396	Sum of GTIs [s]
ontime3	29958.399888396	Sum of GTIs [s]
ontime5	29958.399888396	Sum of GTIs [s]
ontime6	29955.158918023	Sum of GTIs [s]
ontime7	29958.399888396	Sum of GTIs [s]
ontime8	29958.399888396	Sum of GTIs [s]
l2events	387715	Number of level 2 events



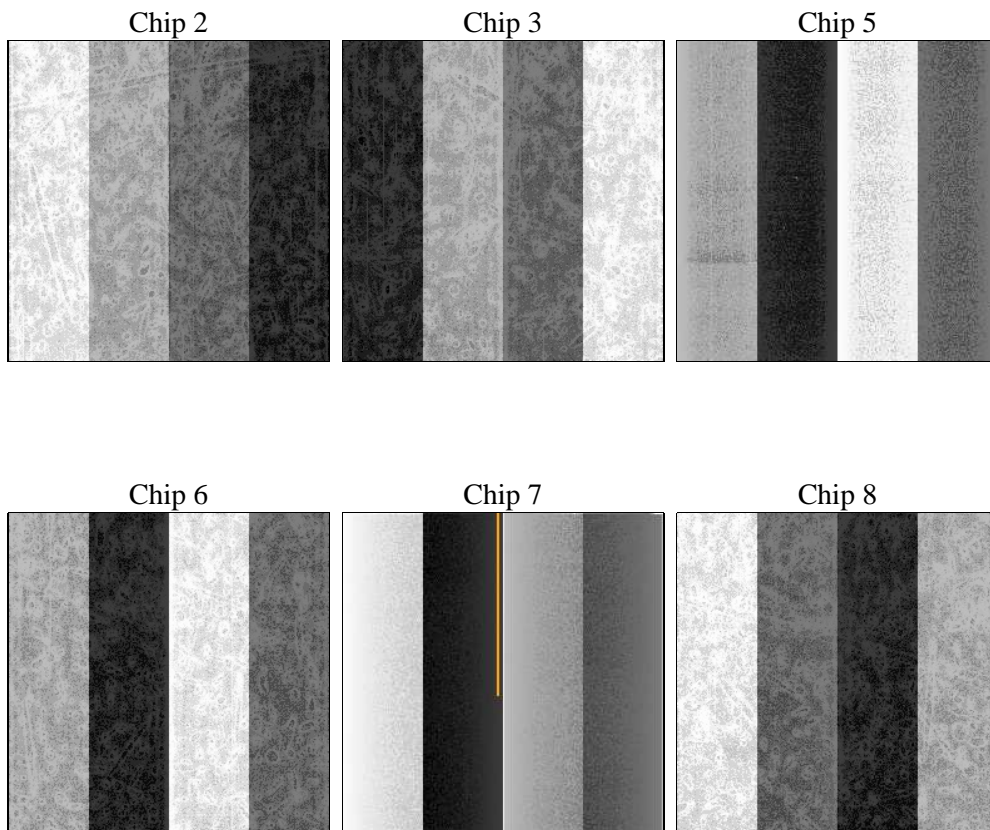
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	30000.000000	[s] Scheduled observation exposure time
ascdsver	8.5.1	Processing system revision	ontime	29958.399888396	Sum of GTIs [s]
caldbver	4.5.5	&#160	ontime2	29958.399888396	Sum of GTIs [s]
date	2012-12-17T20:43:10	Date and time of file creation	ontime3	29958.399888396	Sum of GTIs [s]
revision	5	Processing version of data	ontime5	29958.399888396	Sum of GTIs [s]
			ontime6	29955.158918023	Sum of GTIs [s]
			ontime7	29958.399888396	Sum of GTIs [s]
			ontime8	29958.399888396	Sum of GTIs [s]
			l1events	1627258	Number of level 1 events

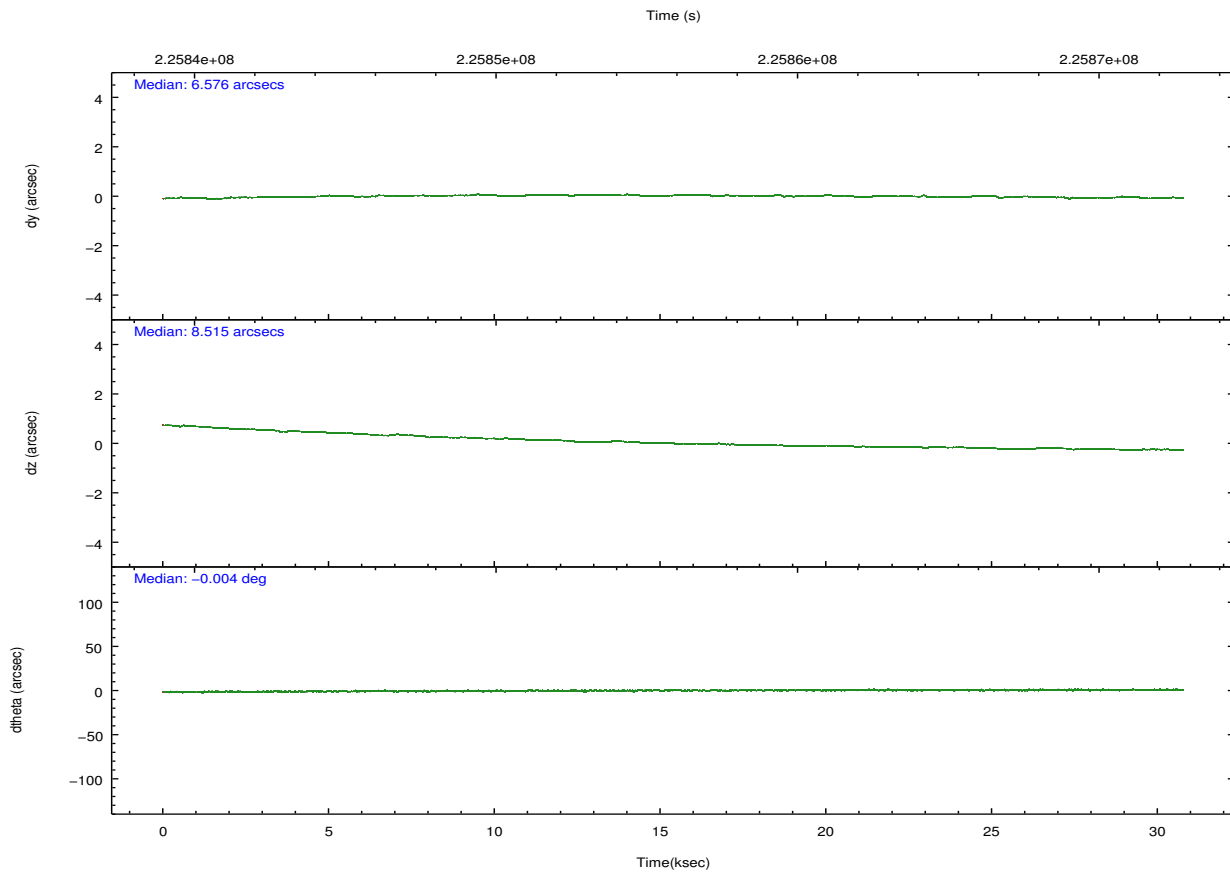
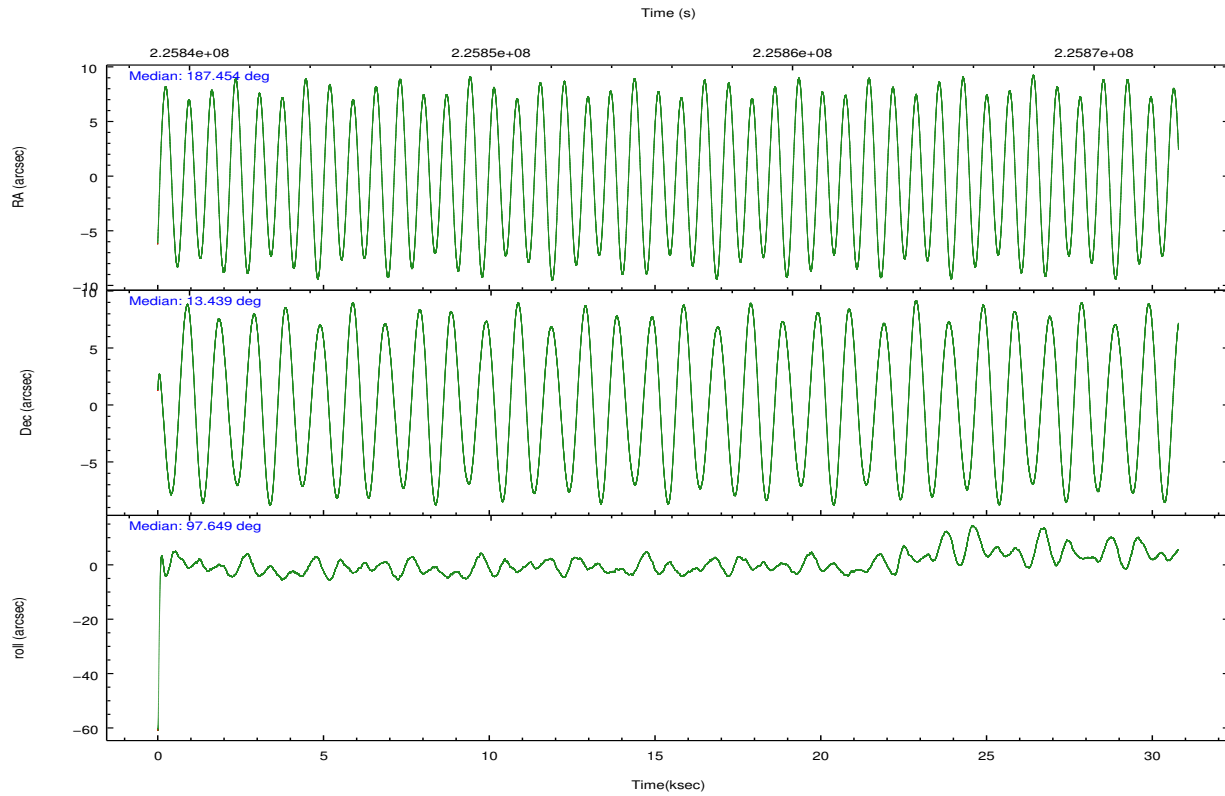
### 2.1.4 Events

	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	217511	216854	361907	227017	314138	289831	grade 0 events	14209	14190	31466	14252	14007	23445
rejected events	188227	187712	186967	195913	180351	223622		6%	6%	8%	6%	4%	8%
rejected %	86%	86%	51%	86%	57%	77%	grade 1 events	173	148	495	125	297	226
								0%	0%	0%	0%	0%	0%
							grade 2 events	5538	5182	49584	5931	27035	14129
								2%	2%	13%	2%	8%	4%
							grade 3 events	2460	2558	6158	2783	11815	6558
								1%	1%	1%	1%	3%	2%
							grade 4 events	2543	2671	5942	2592	12076	6250
								1%	1%	1%	1%	3%	2%
							grade 5 events	8728	10024	23996	10137	29135	13731
								4%	4%	6%	4%	9%	4%
							grade 6 events	4536	4541	81809	5547	68877	15828
								2%	2%	22%	2%	21%	5%
							grade 7 events	179324	177540	162457	185650	150896	209664
								82%	81%	44%	81%	48%	72%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-235678	ACIS-235678	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	187.471632	187.4542511316675	Subarray requested	NONE	NONE
[deg] Pointing Dec	13.417273	13.43860551851343	Alternating exposures requested	N	N
[deg] Pointing Roll	97.484226	97.64485763987217	[s] Primary exposure time	0.000000	3.2
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-190.132523	-190.1400660498719			
[mm] SIM translation stage offset	0	0.00754346686406393			
[s] Observation start time (MET)	225841270.184000	225840007.42155			
Observation start date	2005-02-26T21:40:06	2005-02-26T21:20:07			
[s] Observation end time (MET)	225871270.184000	225872764.88554			
Observation end date	2005-02-27T06:00:06	2005-02-27T06:26:04			
Read mode	TIMED	TIMED			

## 2.3 Aspect

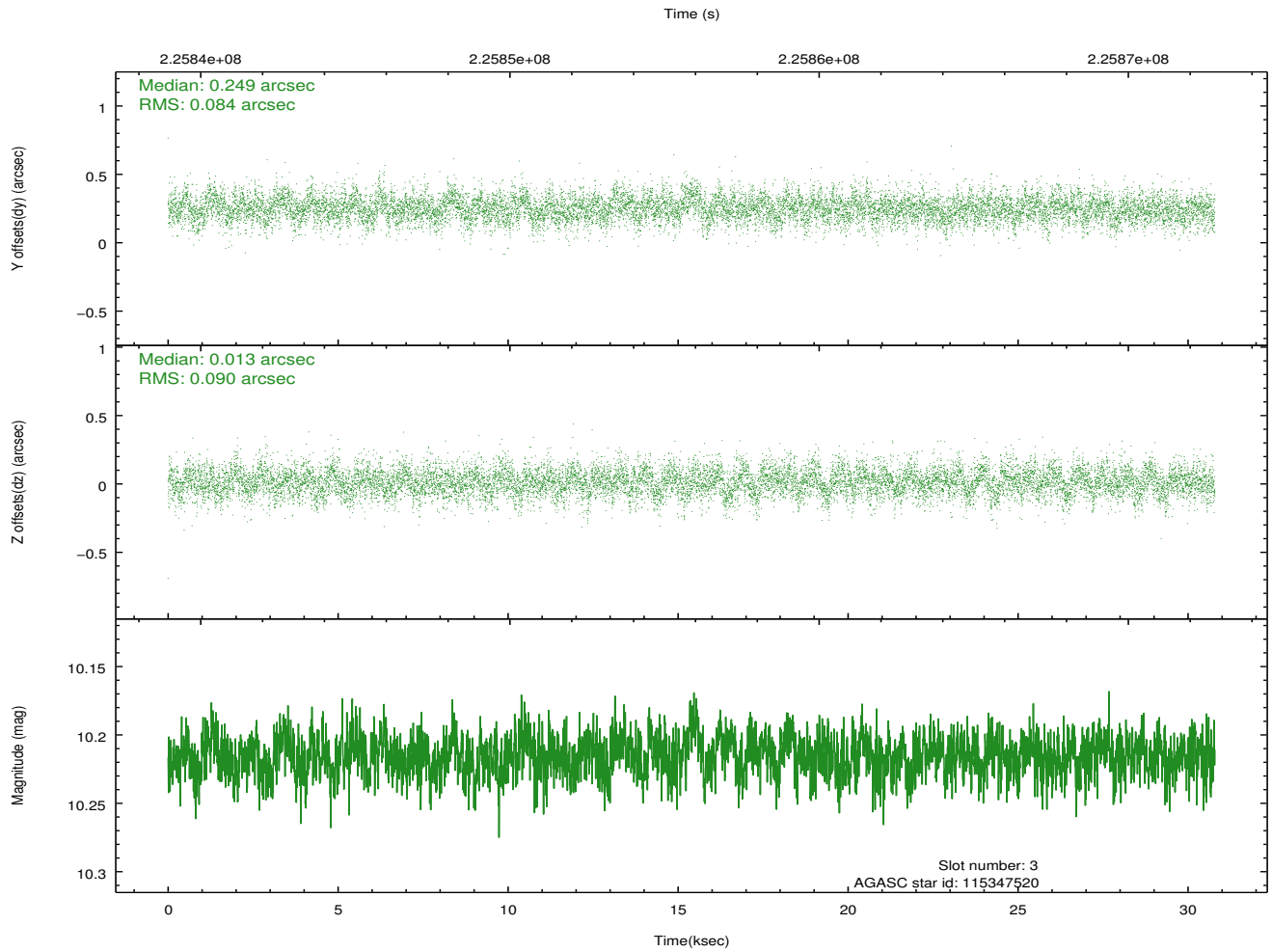
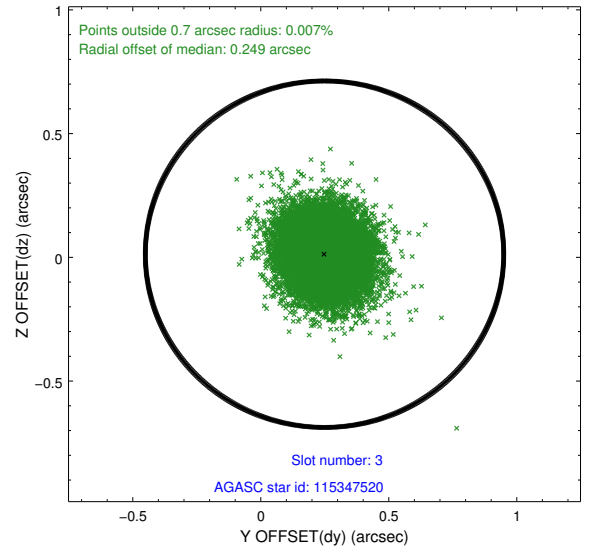
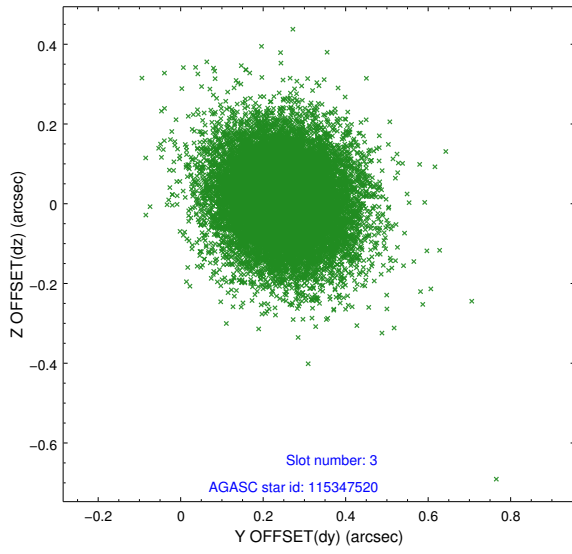


### Slot Statistics

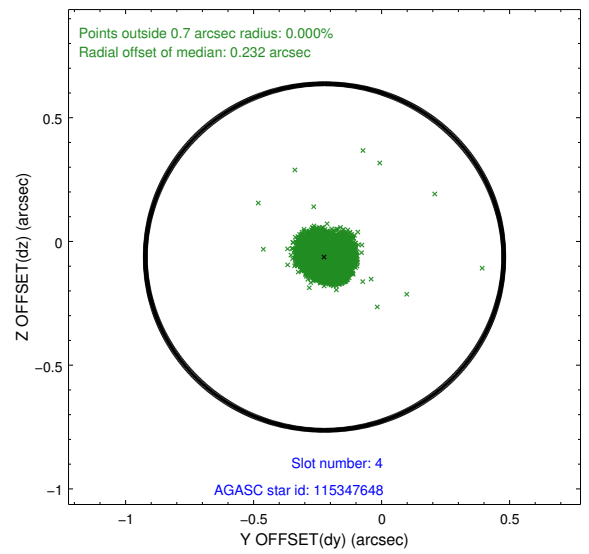
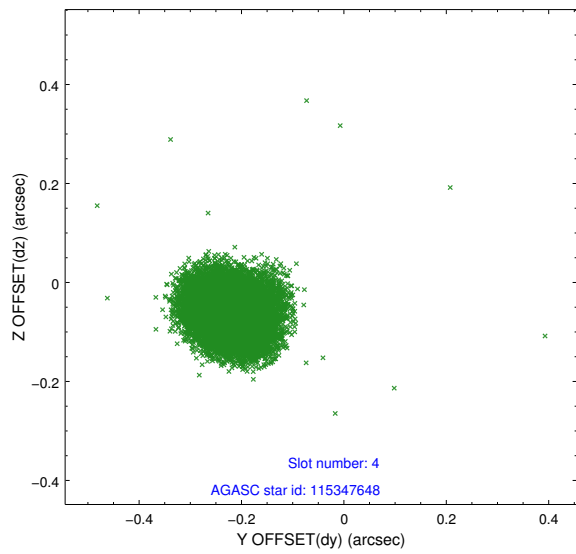
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	7511	-0.033	-0.043	0.008	0.015	0.000000	0.000000	-759.35	-1729.84
1	FID	ACIS-S-4	7.21	7511	0.070	0.028	0.006	0.011	0.000000	0.000000	2154.01	178.63
2	FID	ACIS-S-5	7.23	7510	-0.068	0.025	0.008	0.014	0.000000	0.000000	-1812.13	172.39
3	GUIDE	115347520	10.22	15001	0.249	0.013	0.129	0.215	187.517505	12.810279	-2187.22	125.46
4	GUIDE	115347648	8.01	15020	-0.223	-0.063	0.062	0.097	187.273687	13.950334	1992.74	435.94
5	GUIDE	115348424	9.51	15010	0.193	-0.000	0.093	0.152	187.199498	13.087929	-1050.45	1100.98
6	GUIDE	115350296	9.10	15013	-0.217	0.045	0.085	0.135	187.140806	13.950701	2055.12	896.17
7	OMITTED		0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00

## 2.4 Star Slots

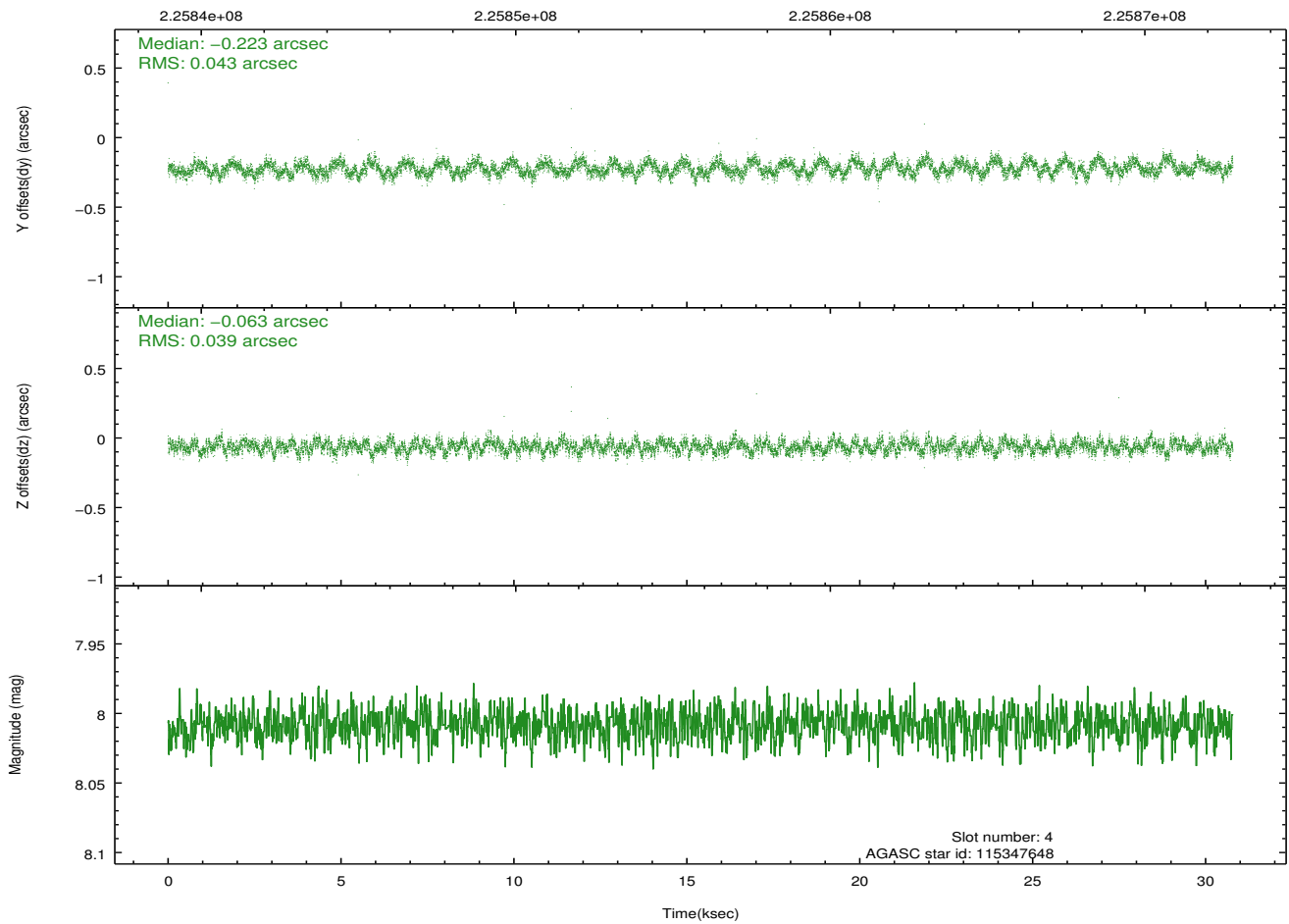
### 2.4.1 Slot 3



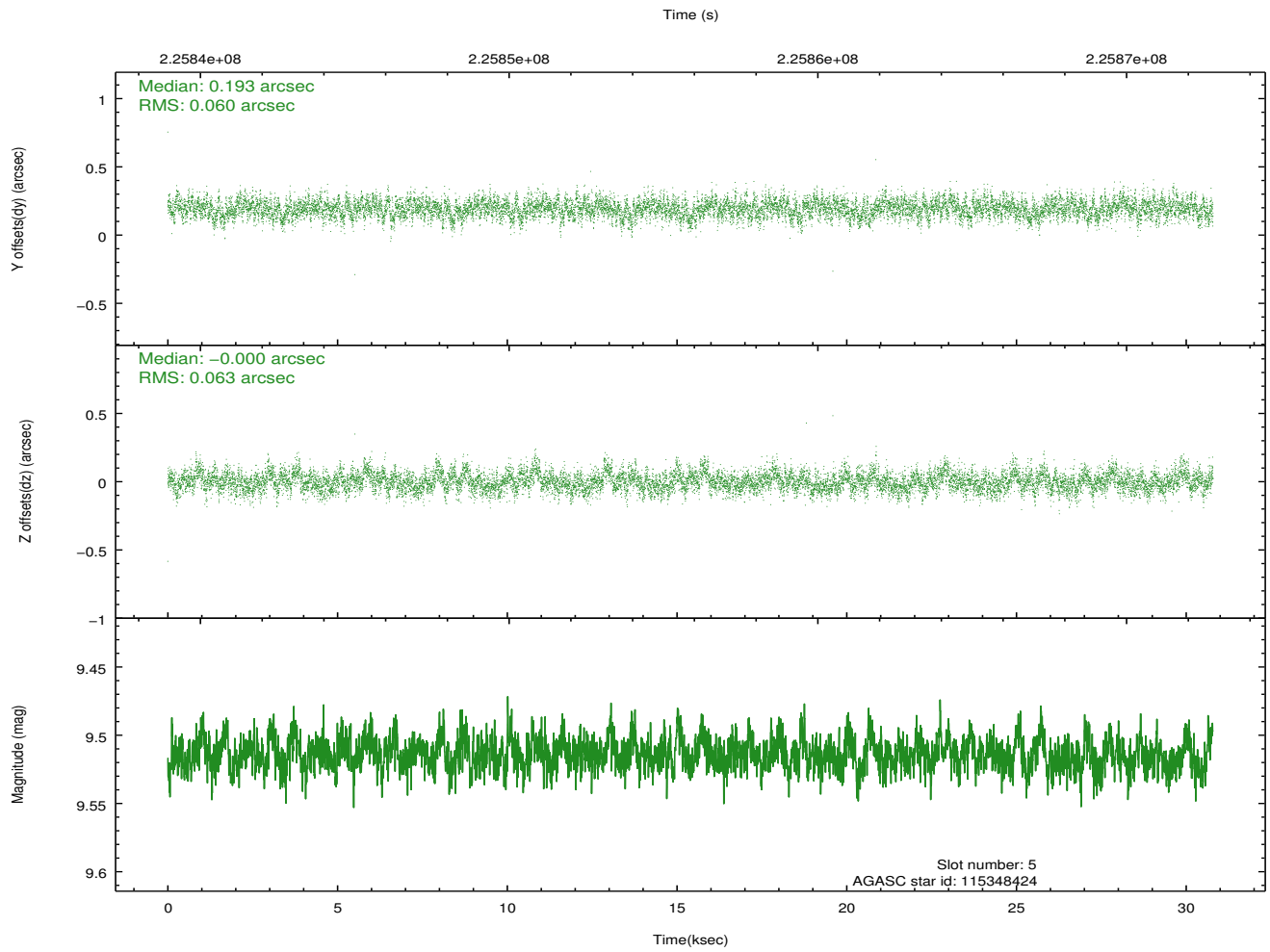
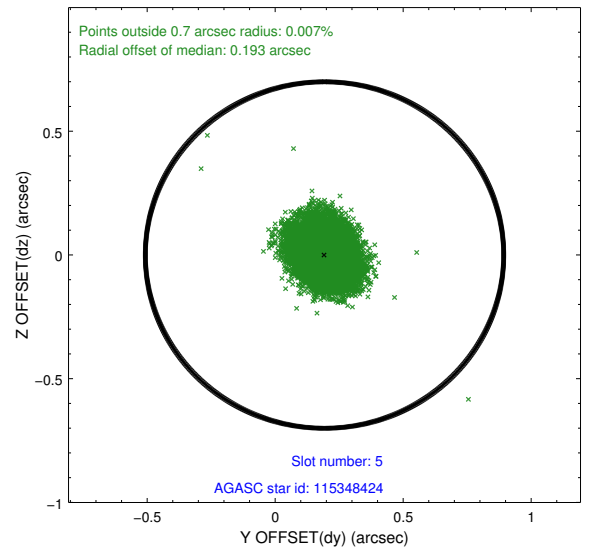
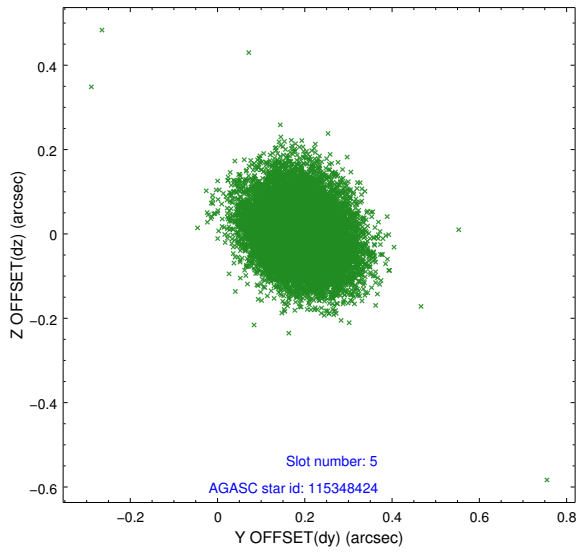
## 2.4.2 Slot 4



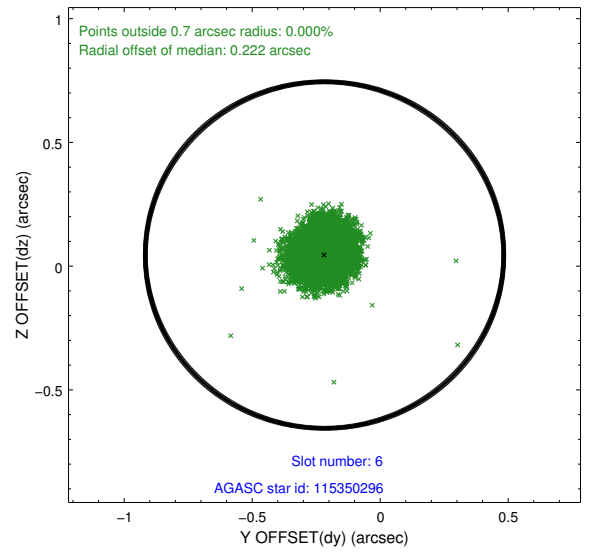
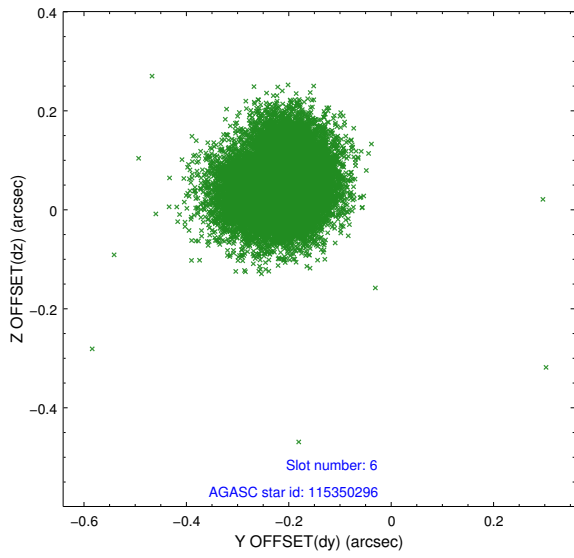
Time (s)



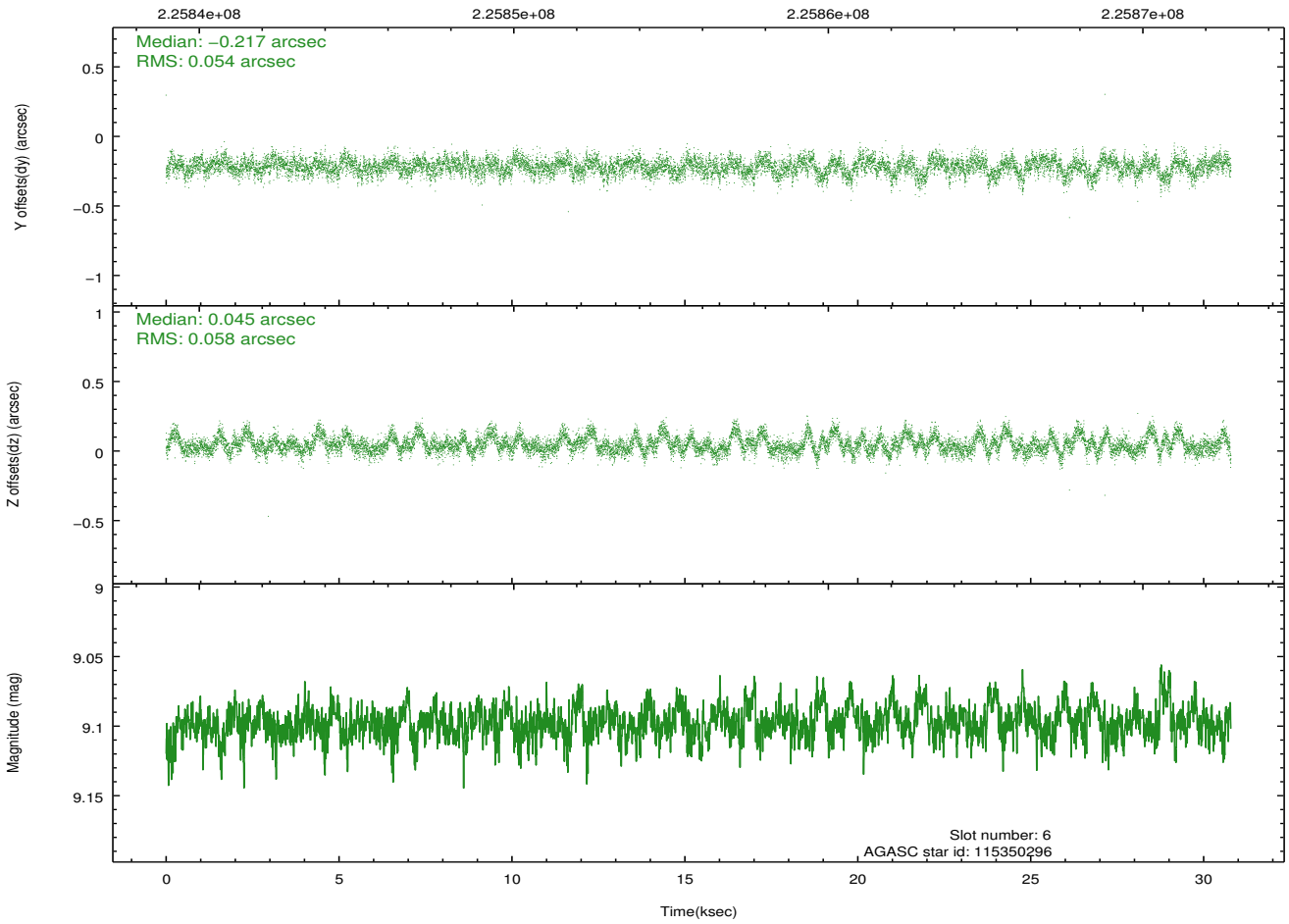
### 2.4.3 Slot 5



### 2.4.4 Slot 6

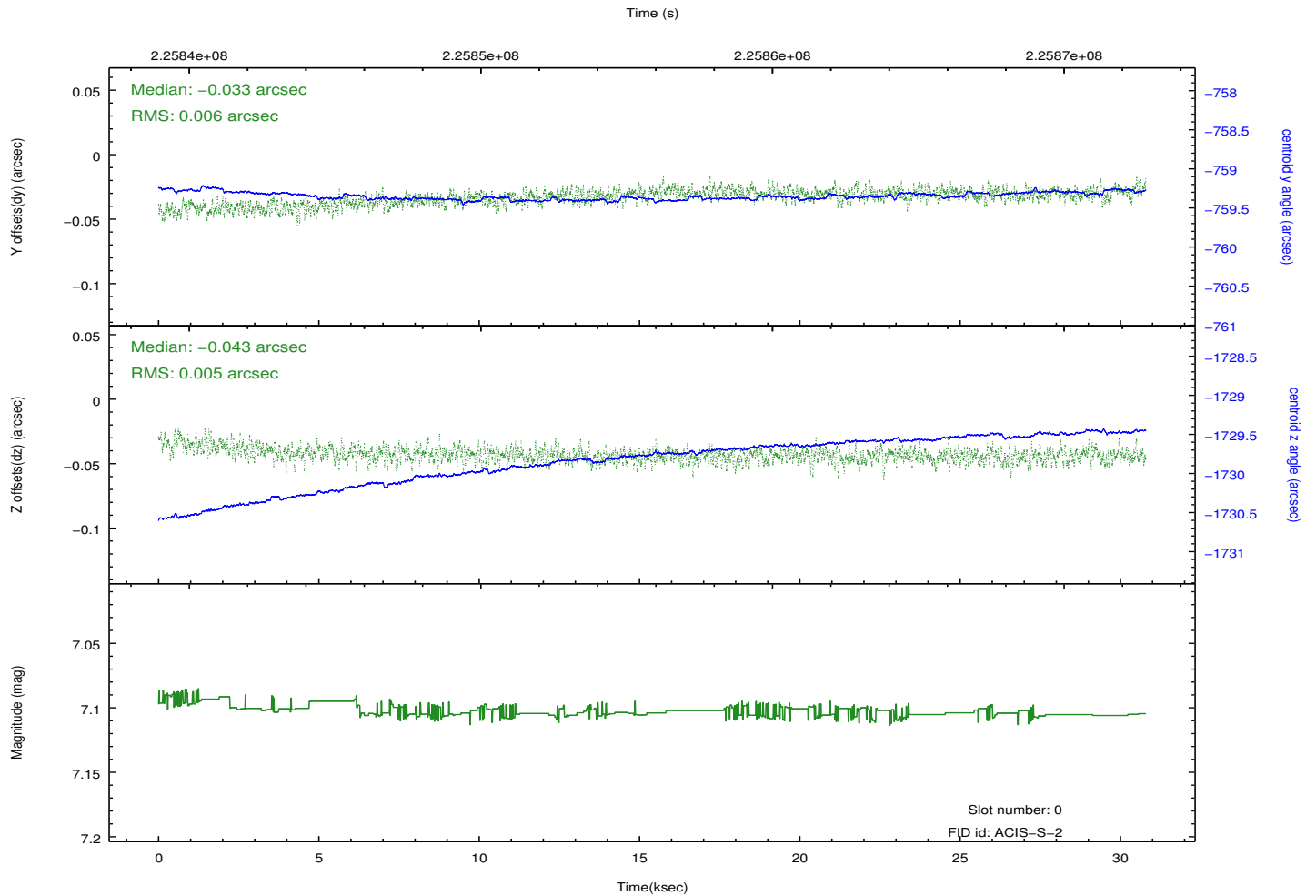
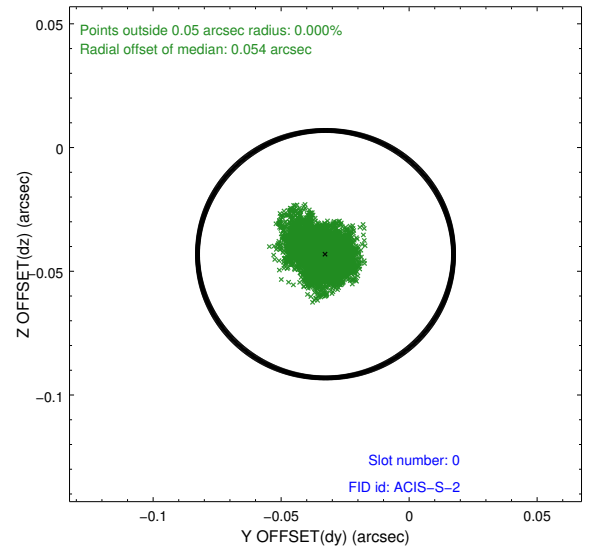
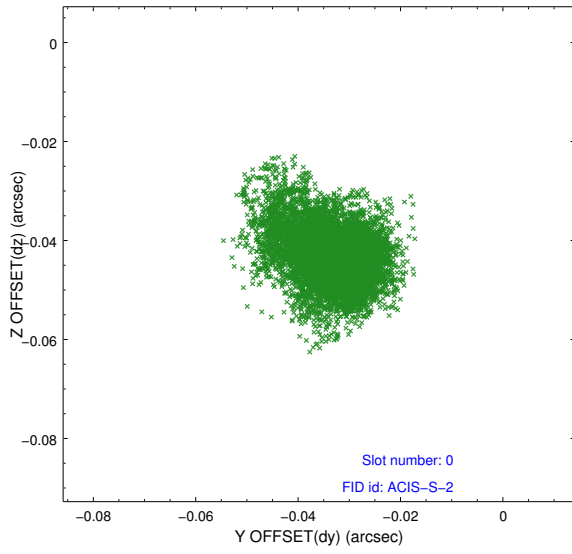


Time (s)

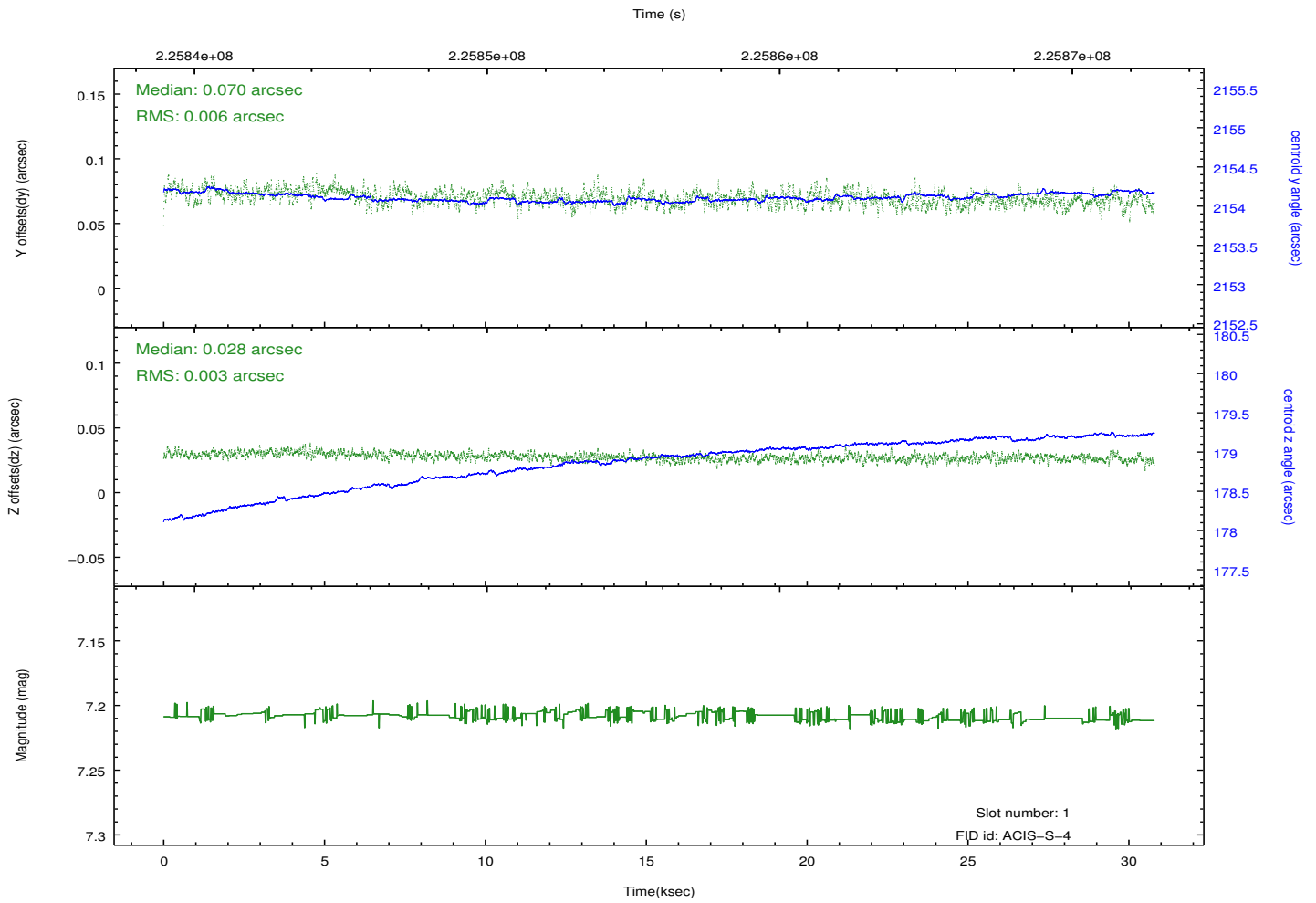
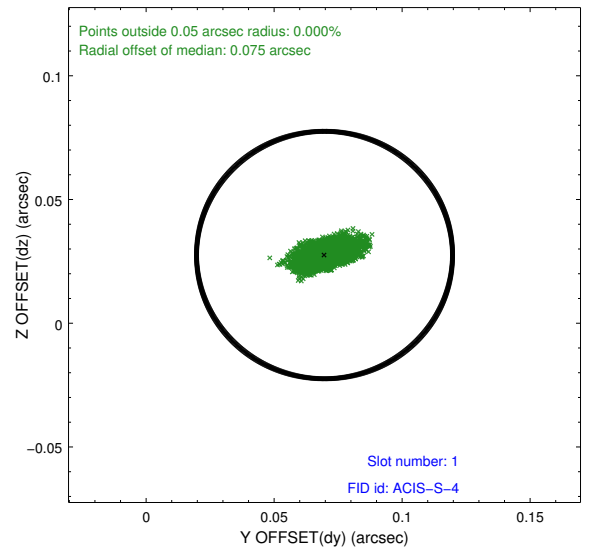
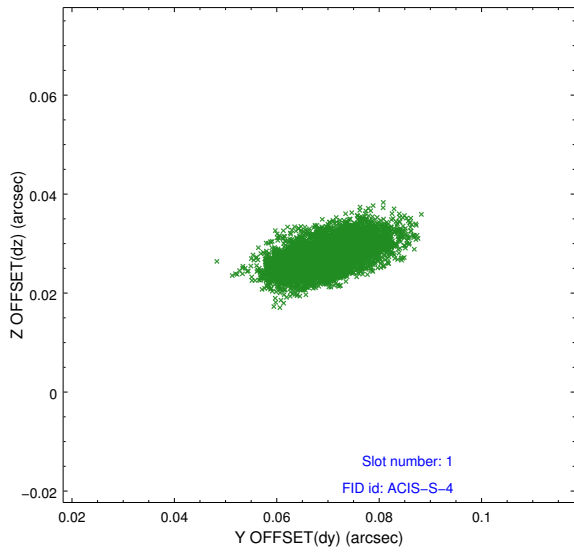


## 2.5 FID Slots

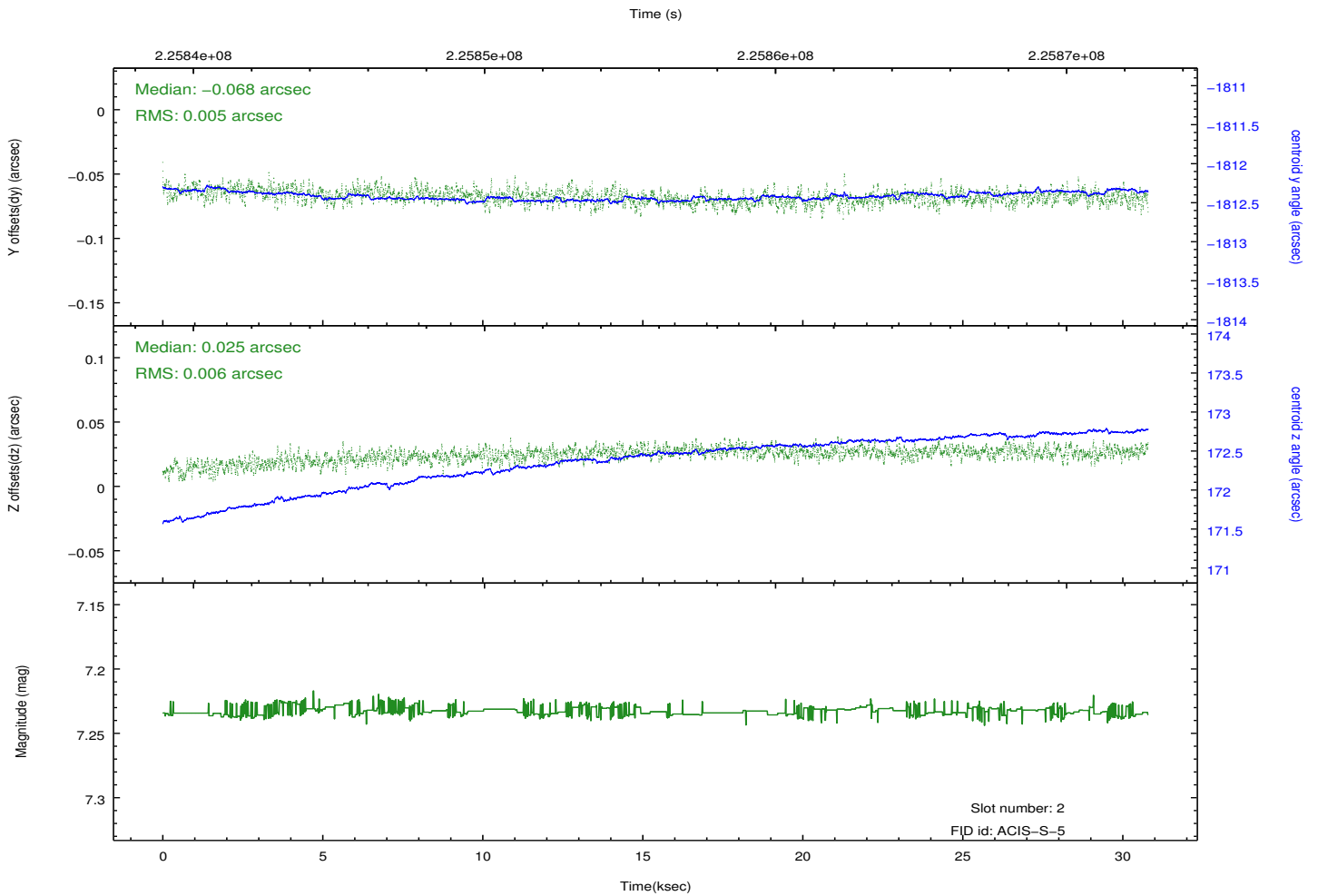
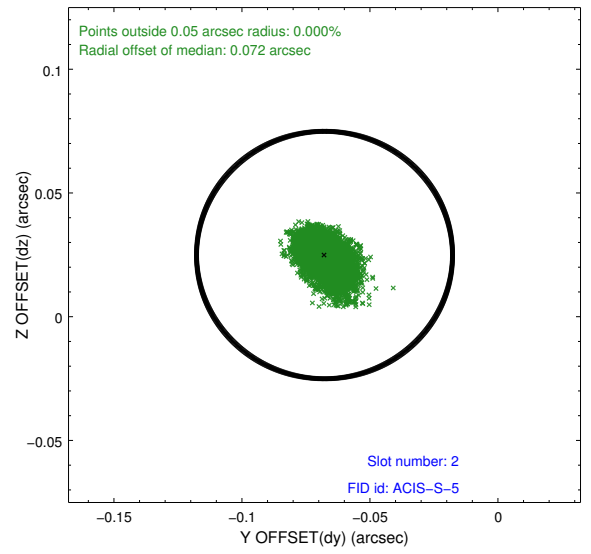
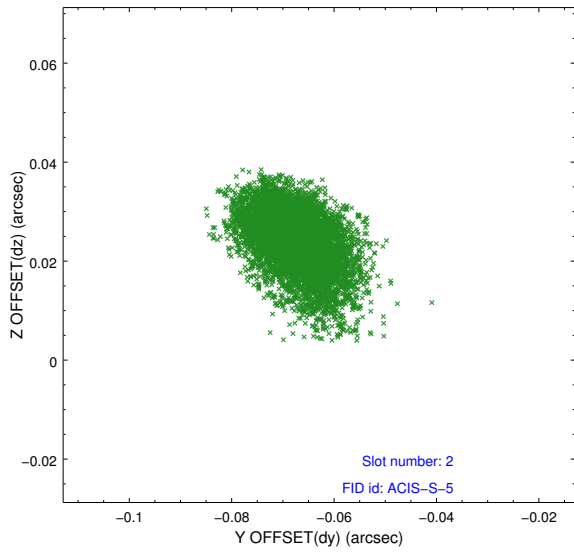
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2013.01.10
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	29.95839

## A.2 Comments

The guide star in slot 7 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this guide star from the solution.