

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 9377 - L2 Version 2  
Chandra X-Ray Center

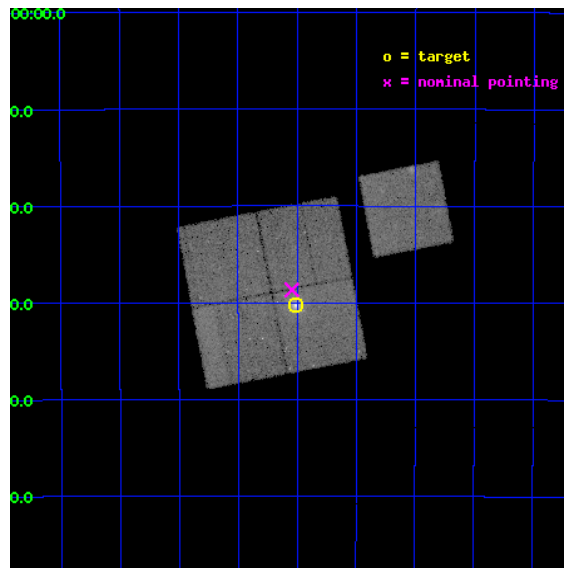
L2 Processing Date : May 17 2012

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# 1 Front

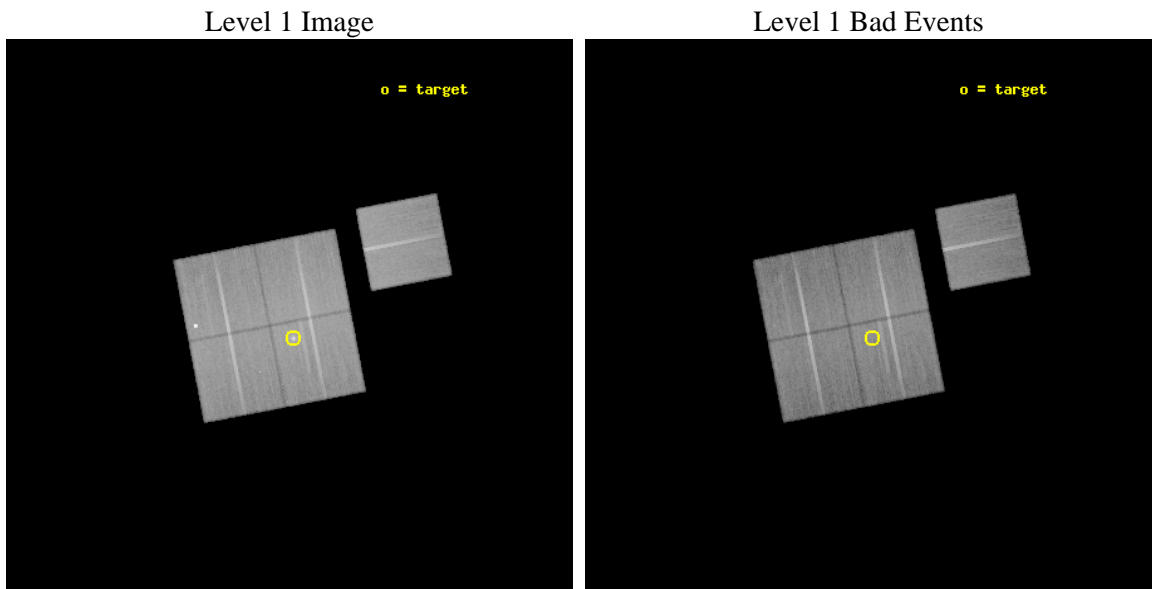
seq_num	800714	Sequence number
obs_id	9377	Observation id
title	Probing Dark Energy with Relaxed Galaxy Clusters	Proposal title
observer	Prof. Steven Allen	Principal investigator
object	MACS2046	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	311.5025	Observer's specified target RA [deg]
dec_targ	-34.504722	Observer's specified target Dec [deg]
ra_nom	311.51103466025	Nominal RA [deg]
dec_nom	-34.477865177236	Nominal Dec [deg]
roll_nom	79.102544655868	Nominal Roll [deg]
revision	2	Processing version of data
ontime	39754.154373765	Sum of GTIs [s]
livetime	39234.737080289	Livetime [s]
ontime0	39766.718315244	Sum of GTIs [s]
ontime1	39766.718315303	Sum of GTIs [s]
ontime2	39766.718315363	Sum of GTIs [s]
ontime3	39754.154373765	Sum of GTIs [s]
ontime6	39773.000305891	Sum of GTIs [s]
l2events	144227	Number of level 2 events



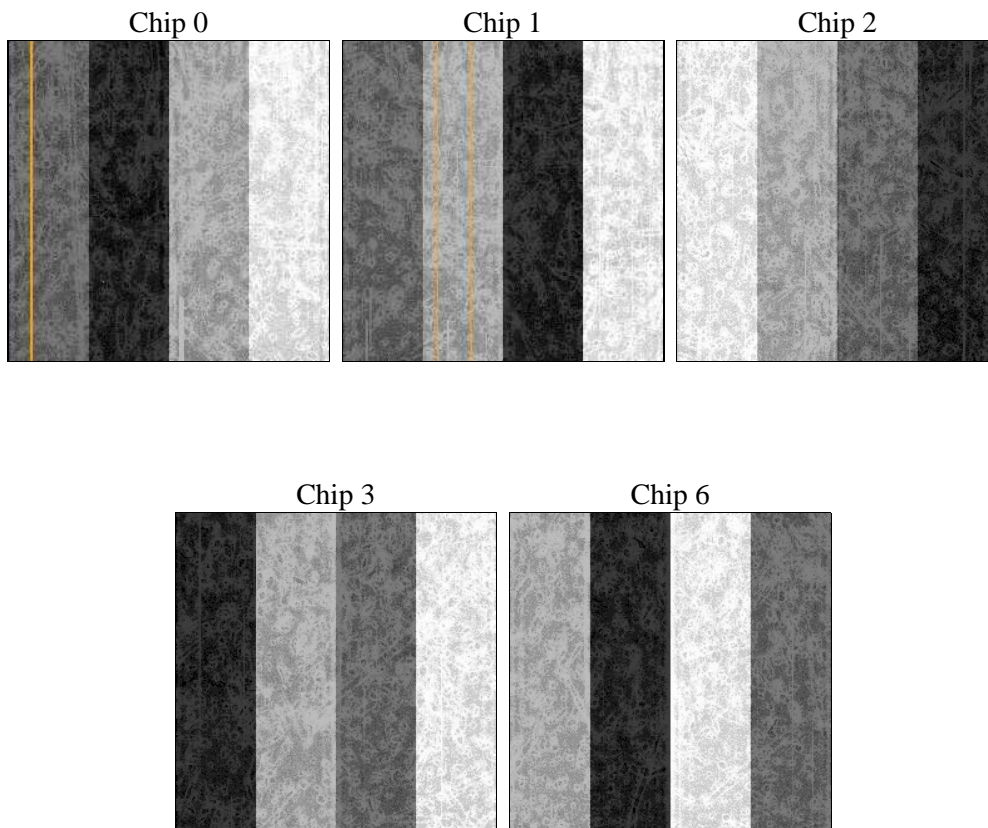
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	40000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	39754.154373765	Sum of GTIs [s]
caldbver	4.4.9	&#160	ontime0	39766.718315244	Sum of GTIs [s]
date	2012-05-17T04:04:29	Date and time of file creation	ontime1	39766.718315303	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	39766.718315363	Sum of GTIs [s]
			ontime3	39754.154373765	Sum of GTIs [s]
			ontime6	39773.000305891	Sum of GTIs [s]
			l1events	1554878	Number of level 1 events

### 2.1.4 Events

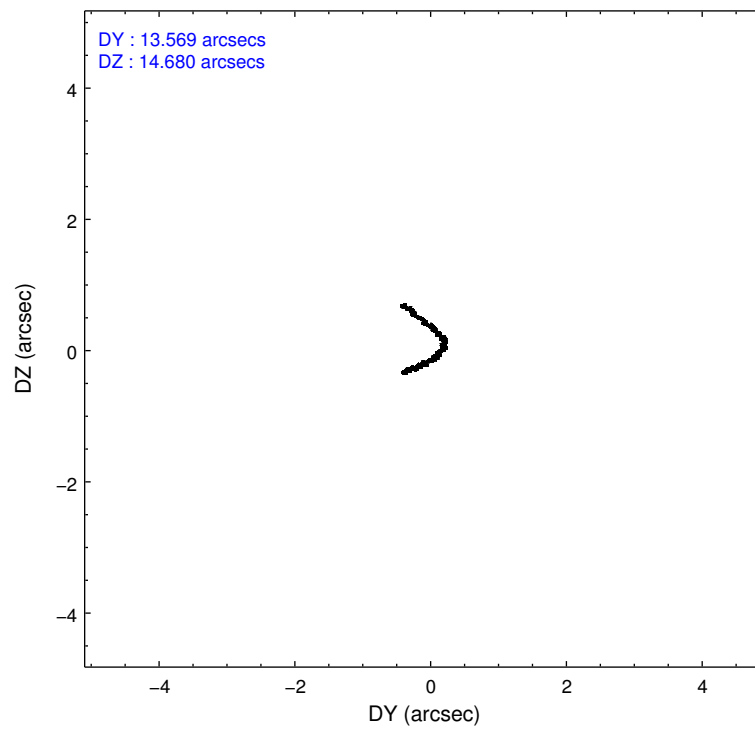
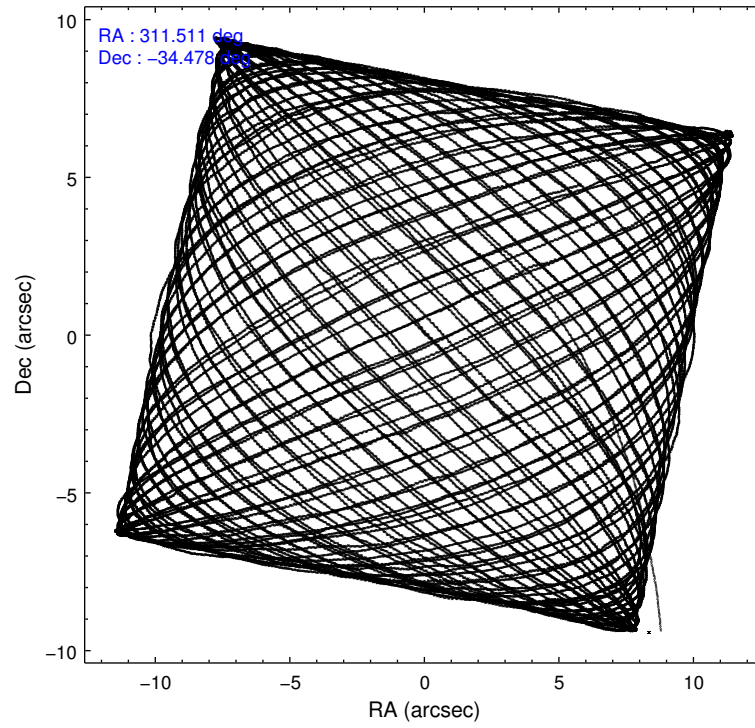
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	305451	292434	324661	320416	311916
rejected events	261223	256371	293279	281061	278950
rejected %	85%	87%	90%	87%	89%

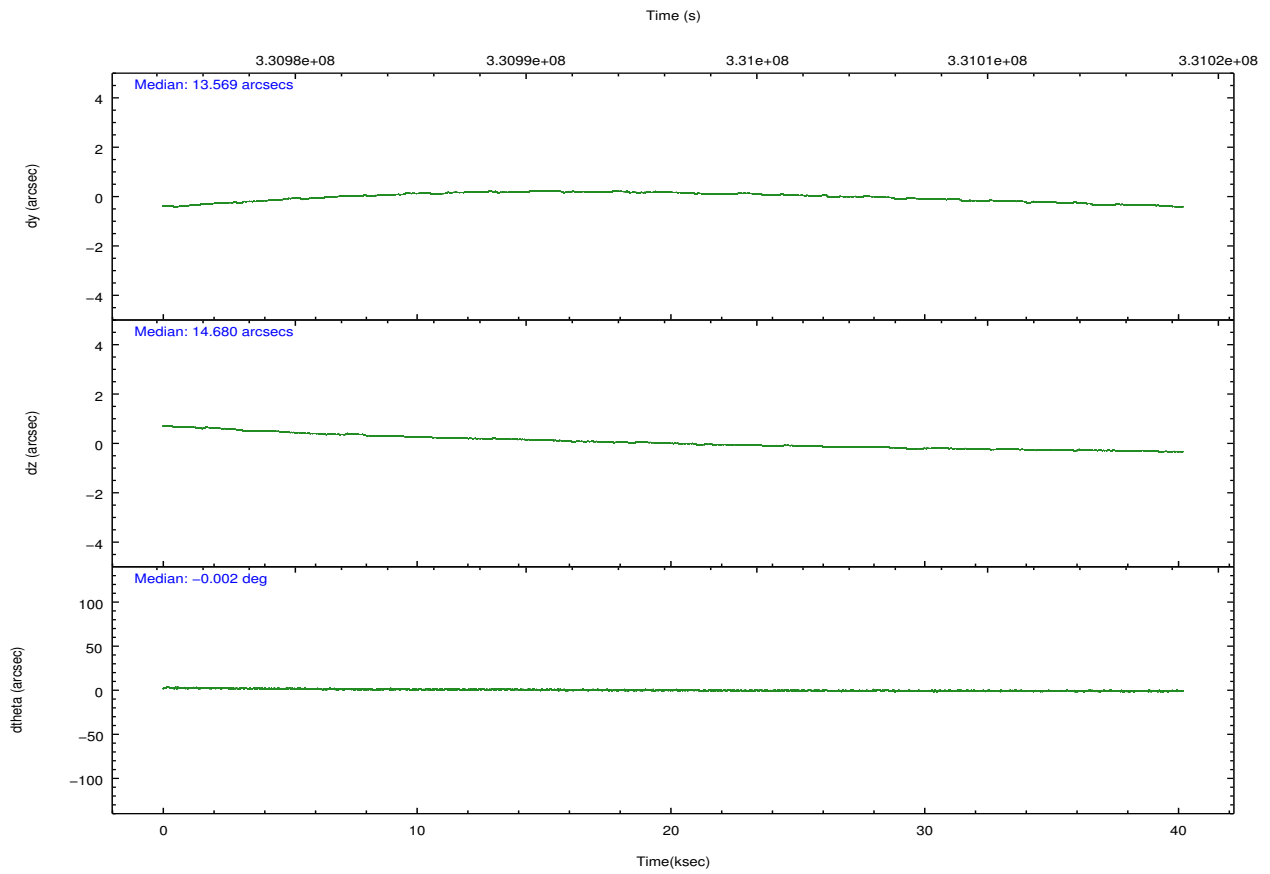
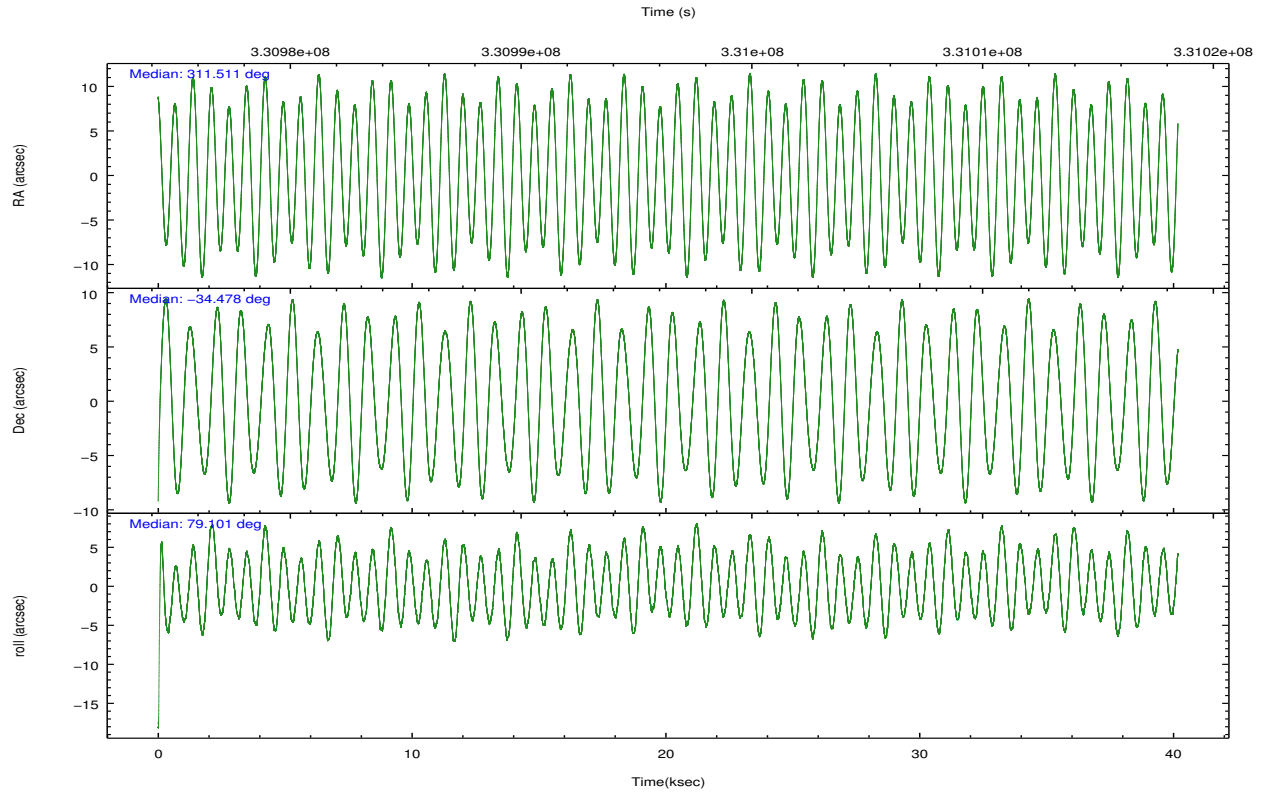
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	23362	13206	11484	18110	11757
	7%	4%	3%	5%	3%
grade 1 events	237	171	155	233	151
	0%	0%	0%	0%	0%
grade 2 events	7778	7978	7440	7578	7220
	2%	2%	2%	2%	2%
grade 3 events	3520	3841	3301	3681	3556
	1%	1%	1%	1%	1%
grade 4 events	3351	3804	3347	3620	3417
	1%	1%	1%	1%	1%
grade 5 events	11290	12348	10344	13143	12780
	3%	4%	3%	4%	4%
grade 6 events	6223	7236	5813	6368	7018
	2%	2%	1%	1%	2%
grade 7 events	249690	243850	282777	267683	266017
	81%	83%	87%	83%	85%

## 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	311.522094	311.5110346602543	CCD I2 on	Y	Y
[deg] Pointing Dec	-34.503809	-34.47786517723588	CCD I3 on	Y	Y
[deg] Pointing Roll	78.900129	79.10254465586775	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	-229.442463	-229.4463571591594	CCD S3 on	N	N
[mm] SIM translation stage offset	-4.15	-4.146095843770325	CCD S4 on	N	N
[s] Observation start time (MET)	330976461.184000	330974866.61675	CCD S5 on	N	N
Observation start date	2008-06-27T17:53:16	2008-06-27T17:27:46	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	331016461.184000	331017819.24385	On-chip summing requested	N	N
Observation end date	2008-06-28T04:59:56	2008-06-28T05:23:39	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



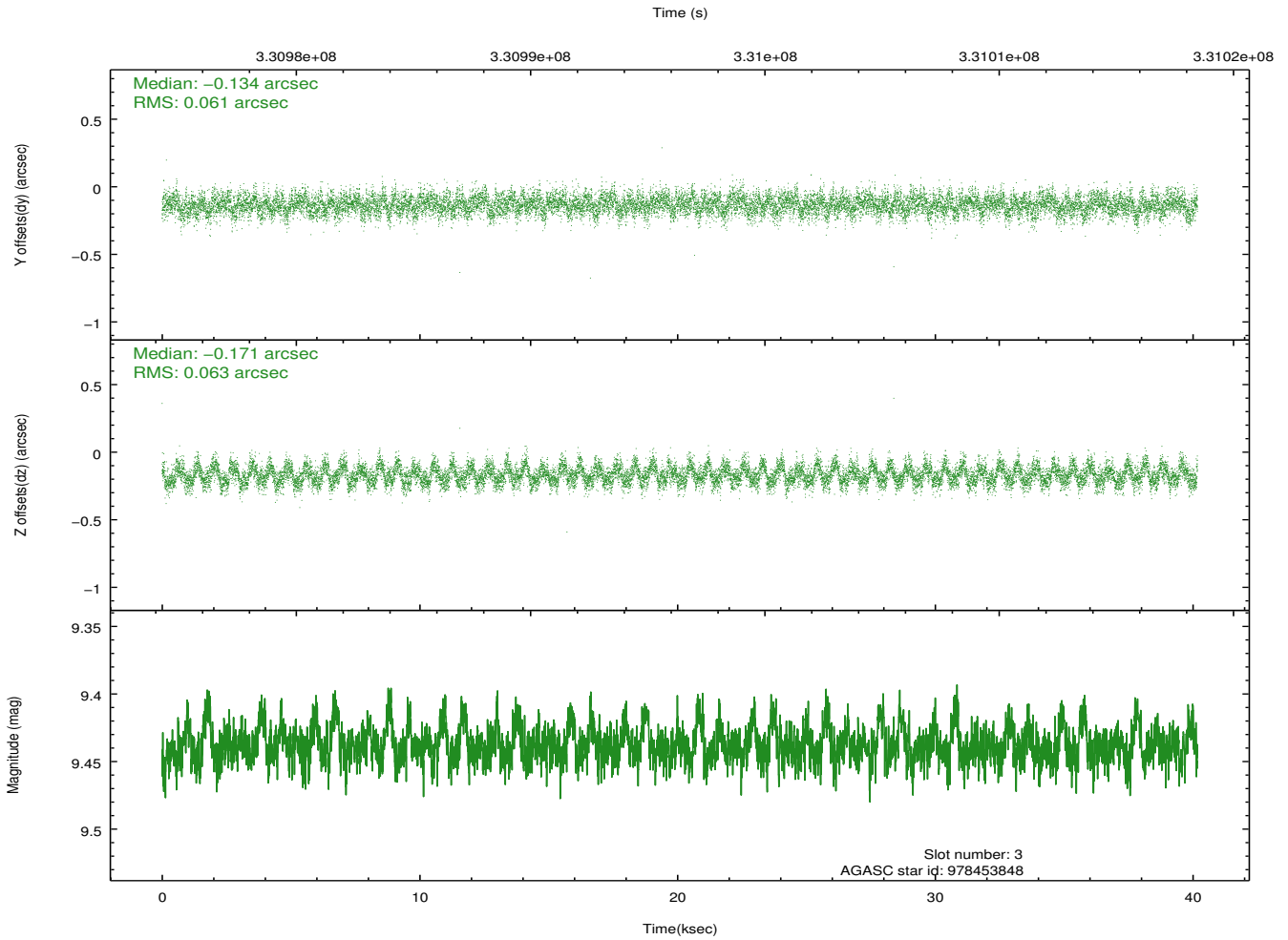
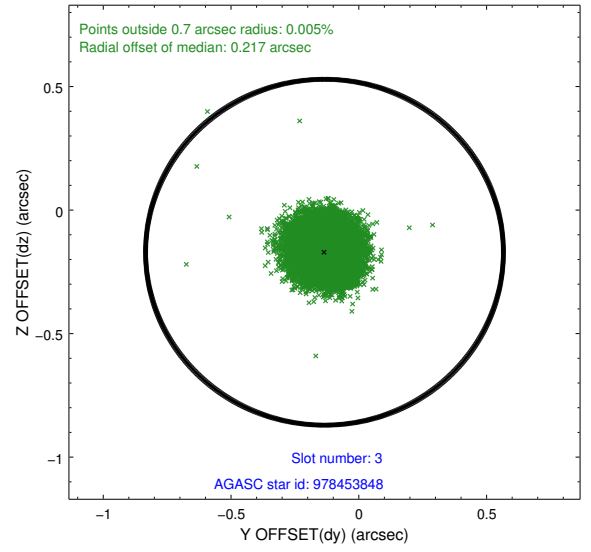
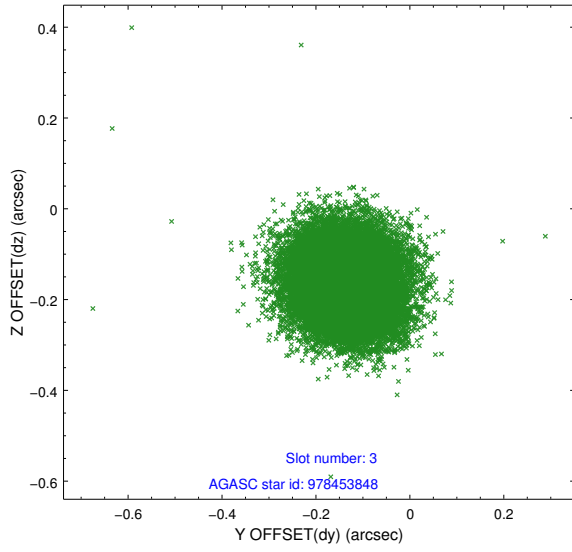


### Slot Statistics

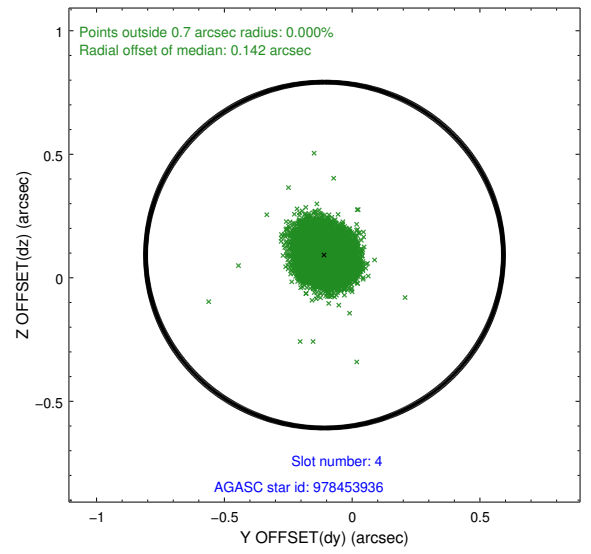
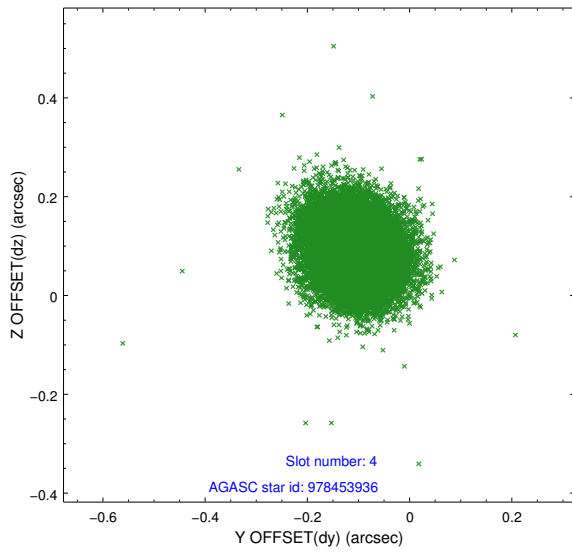
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.01	9799	0.074	-0.015	0.016	0.028	0.000000	0.000000	925.97	-923.40
1	FID	ACIS-I-5	7.00	9799	-0.241	0.072	0.013	0.023	0.000000	0.000000	-1822.45	974.14
2	FID	ACIS-I-6	7.01	9800	0.078	0.013	0.010	0.023	0.000000	0.000000	391.49	1618.62
3	GUIDE	978453848	9.44	19577	-0.134	-0.171	0.094	0.149	311.653333	-33.911133	2168.77	26.11
4	GUIDE	978453936	9.19	19580	-0.108	0.092	0.073	0.120	311.802976	-34.260845	1018.29	-651.59
5	GUIDE	978455424	8.30	19594	-0.139	-0.118	0.062	0.099	311.088053	-34.518926	-303.90	1252.40
6	GUIDE	978456752	9.40	19579	0.228	0.166	0.096	0.157	311.555579	-34.579139	-246.74	-149.26
7	GUIDE	978462280	8.25	19590	0.152	0.030	0.063	0.099	311.819254	-35.154089	-2130.18	-1310.53

## 2.4 Star Slots

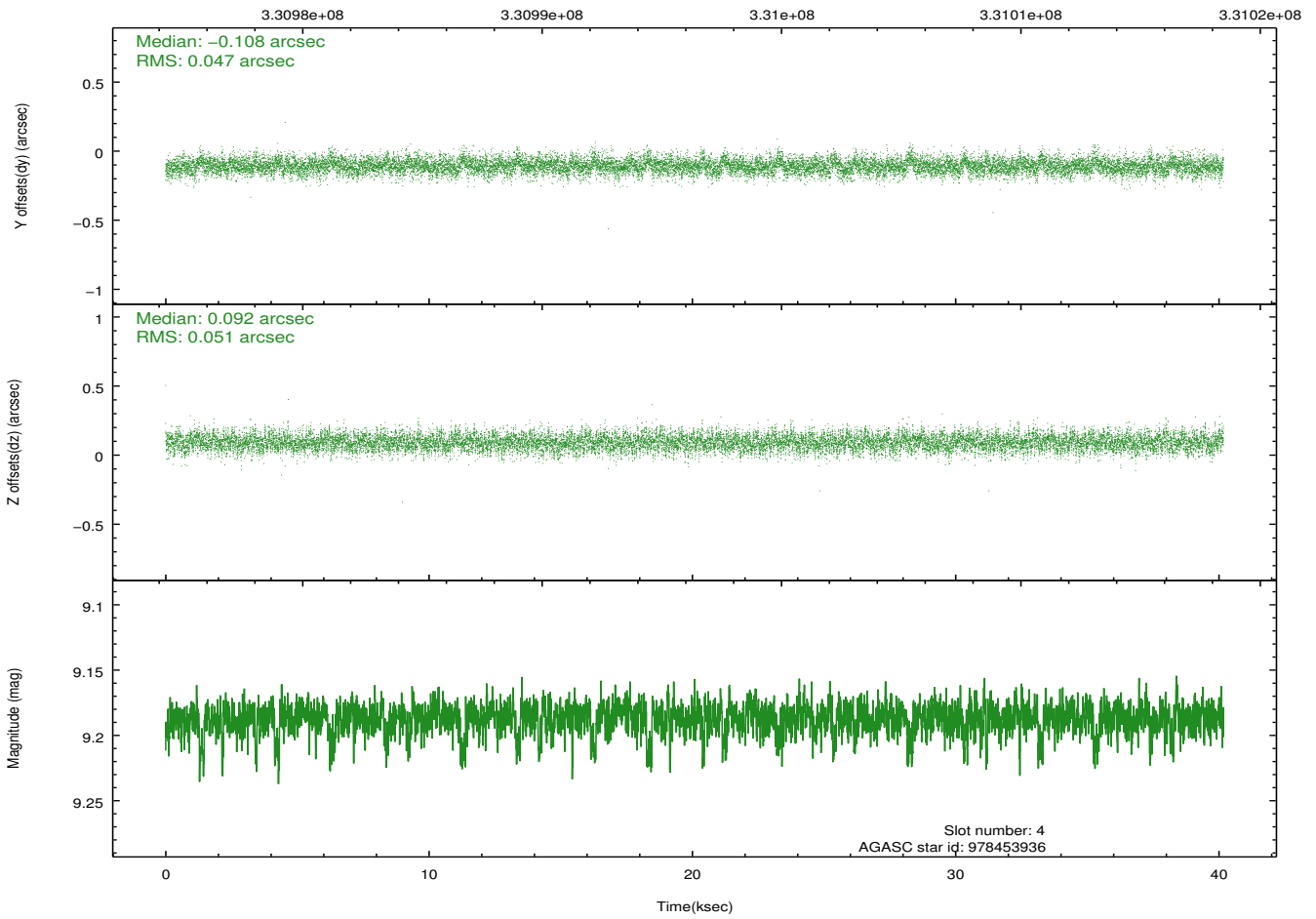
### 2.4.1 Slot 3



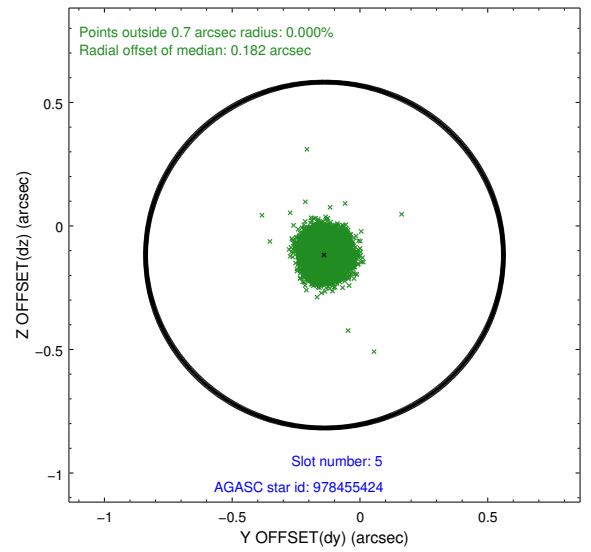
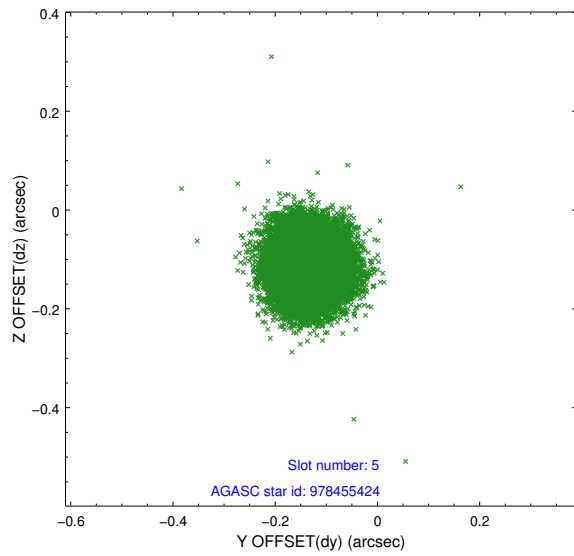
## 2.4.2 Slot 4



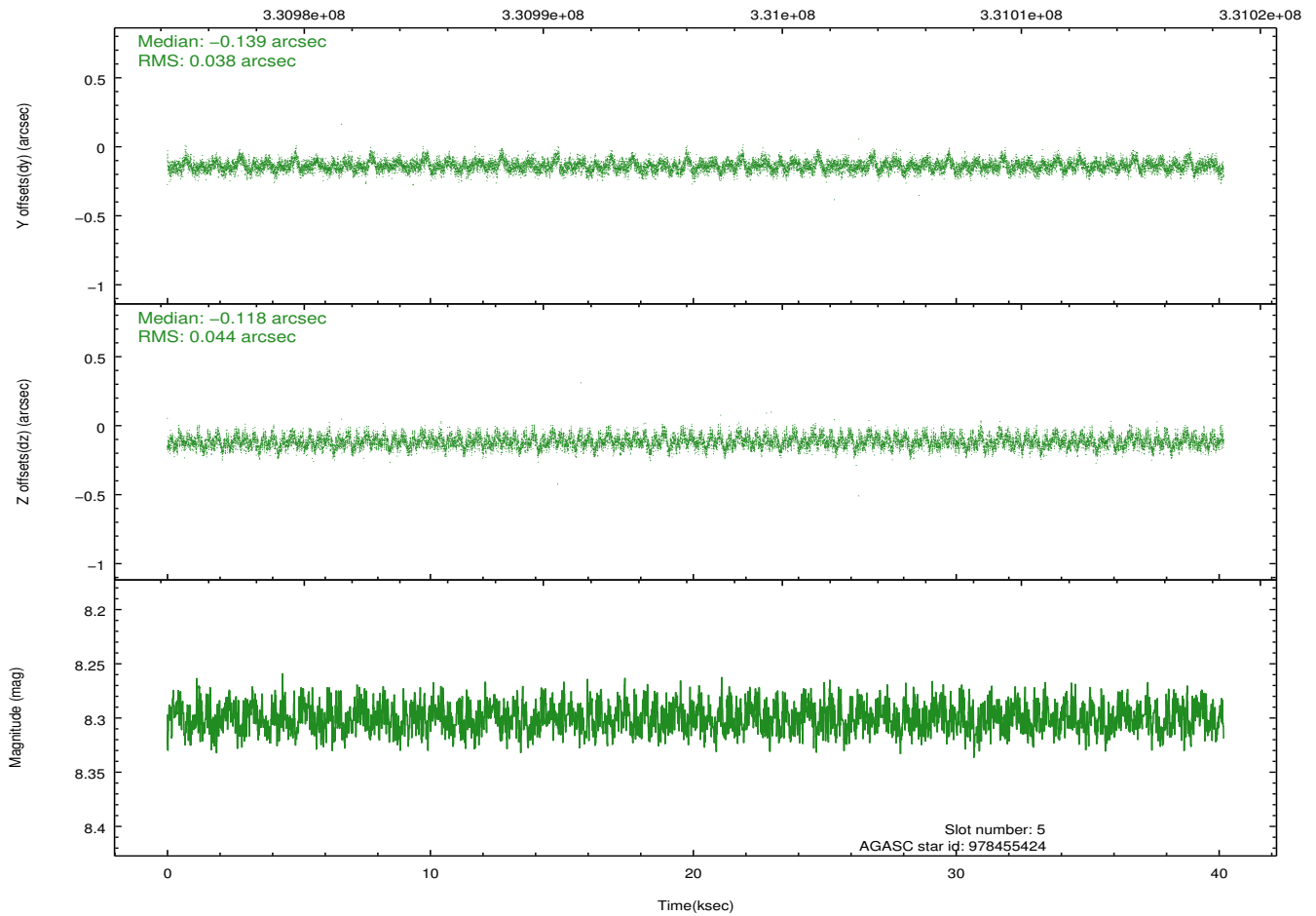
Time (s)



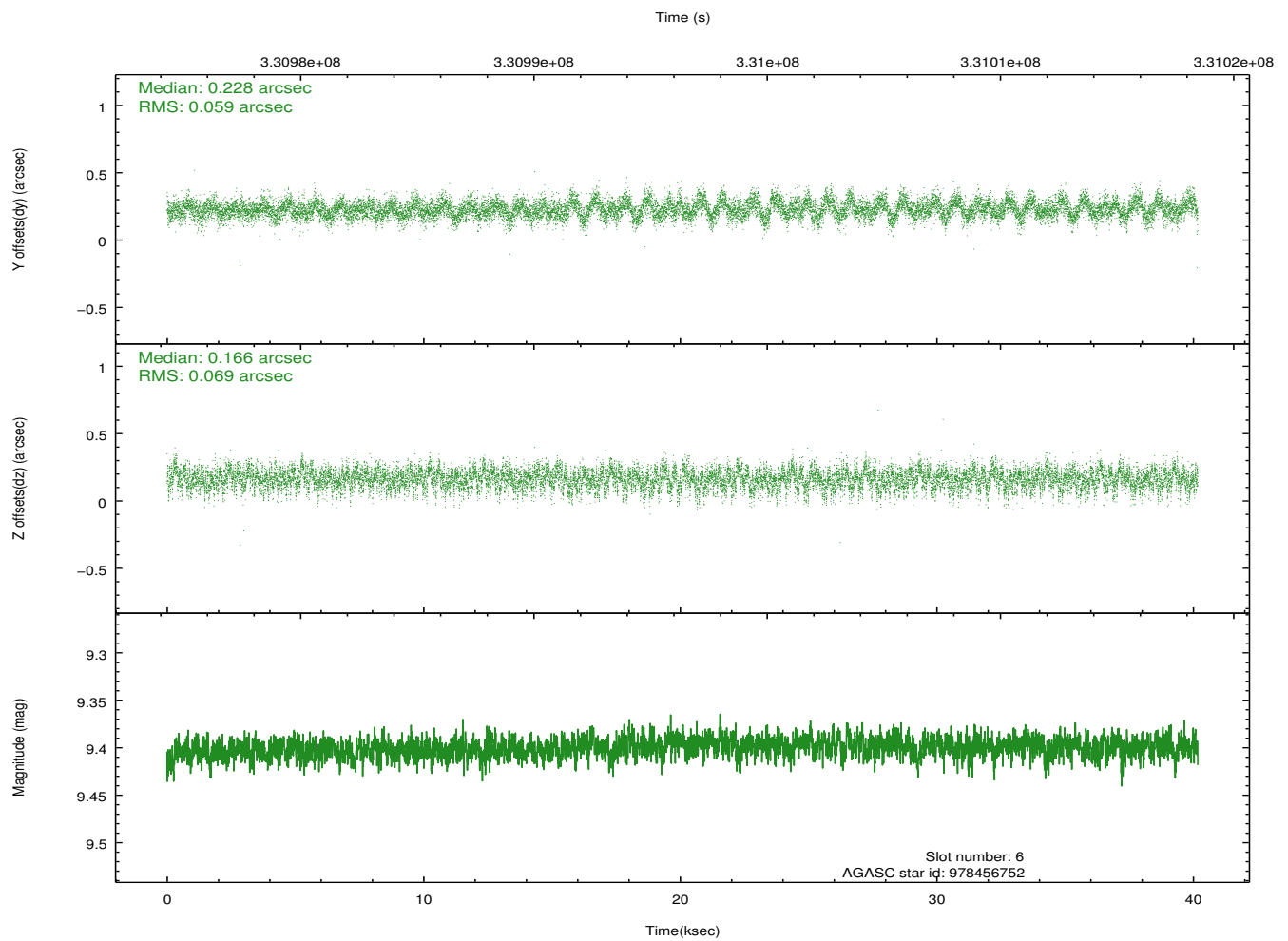
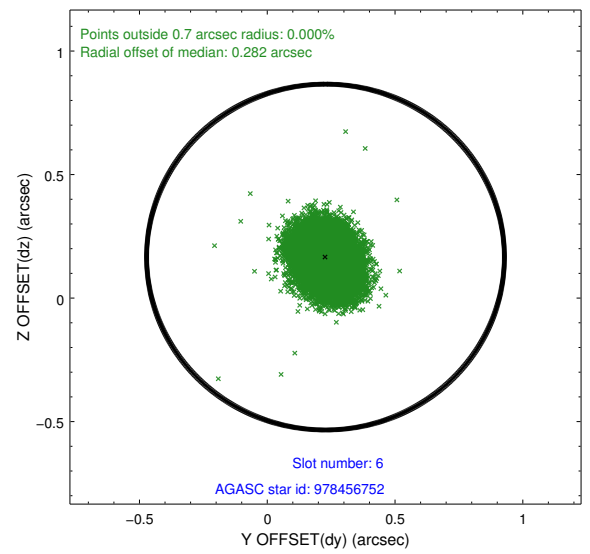
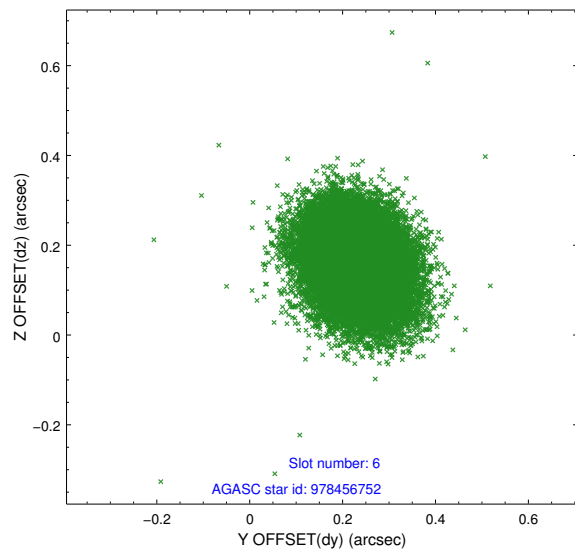
### 2.4.3 Slot 5



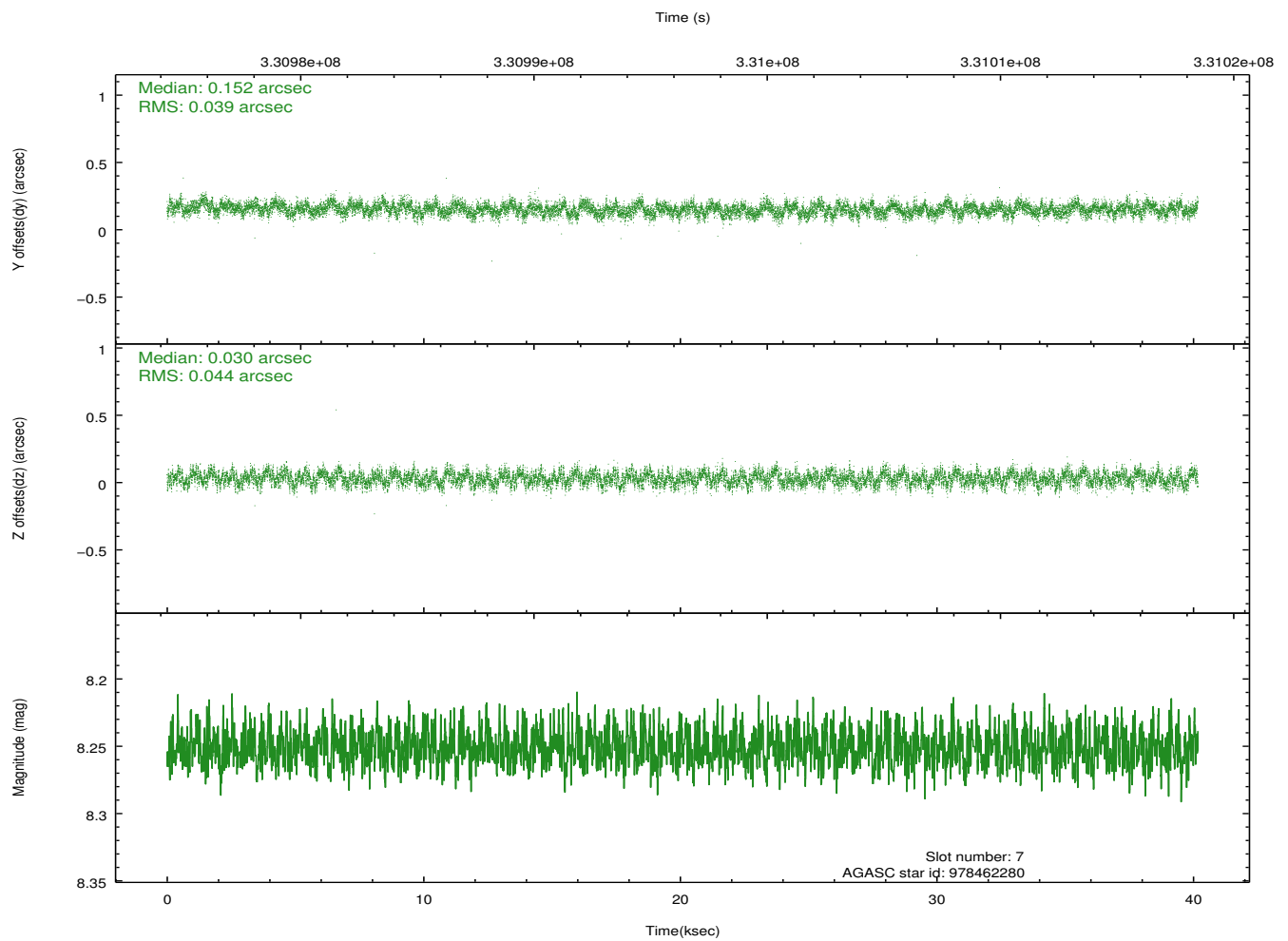
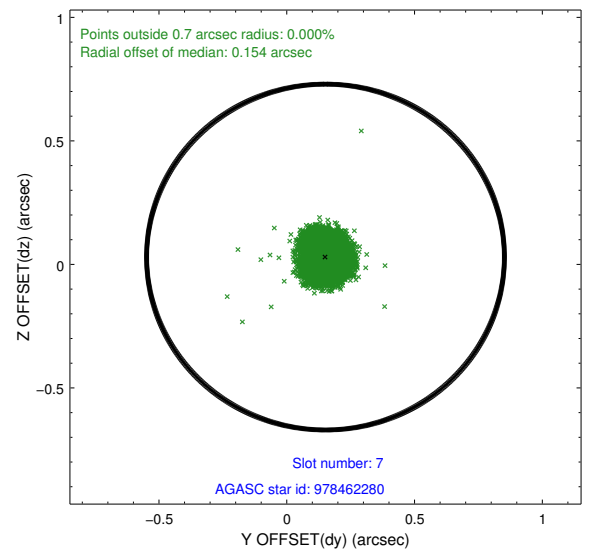
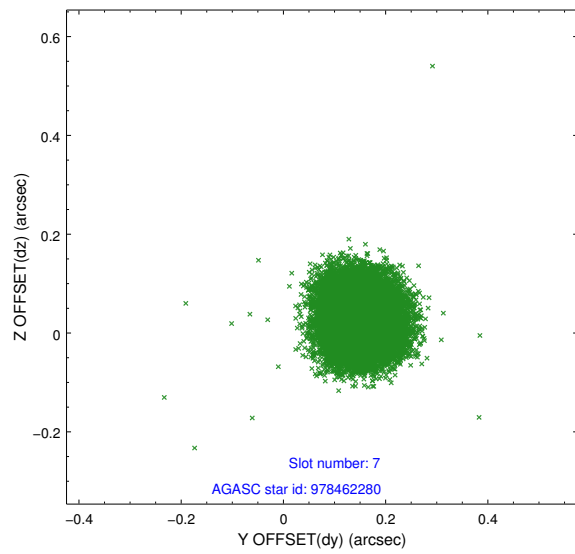
Time (s)



## 2.4.4 Slot 6

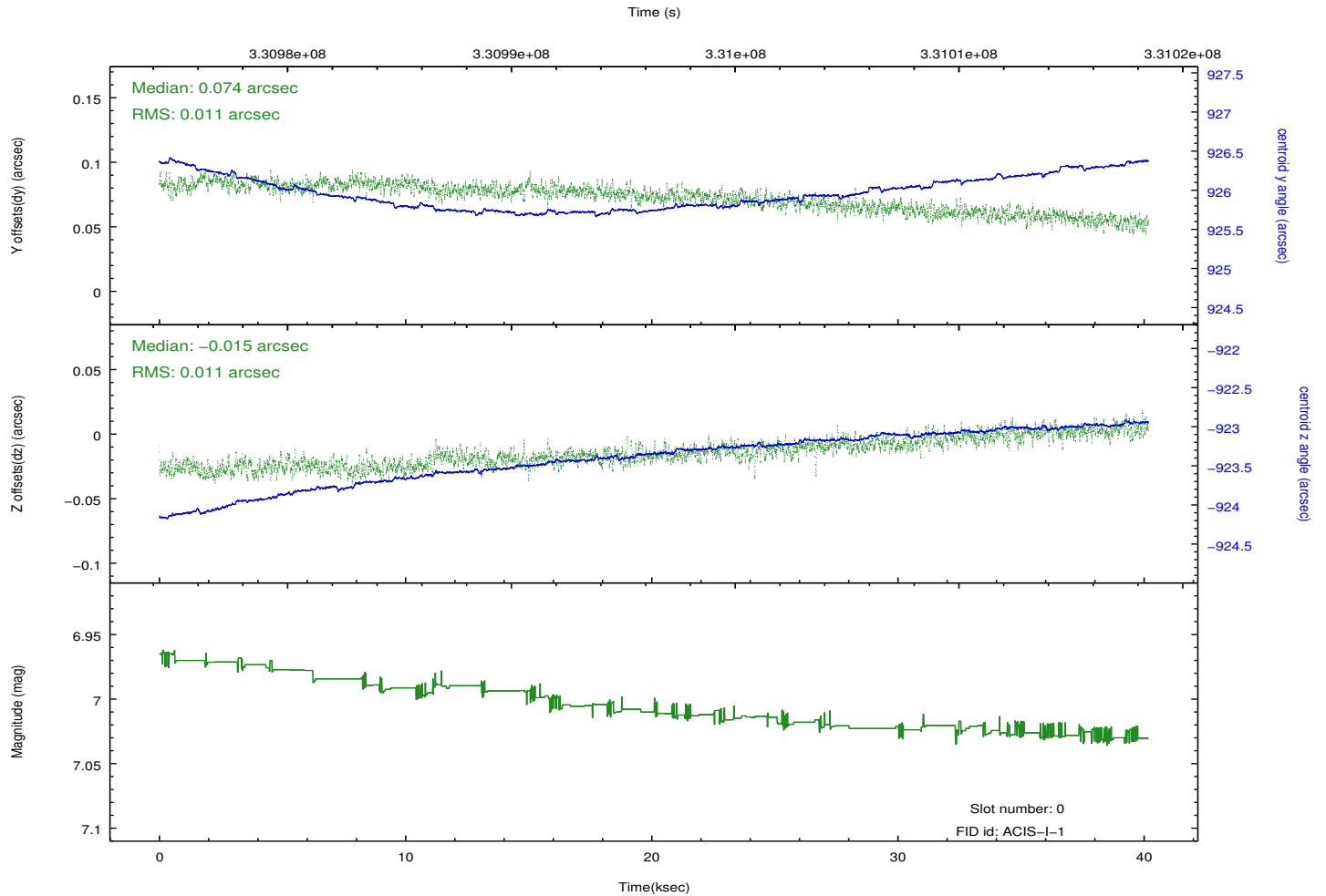
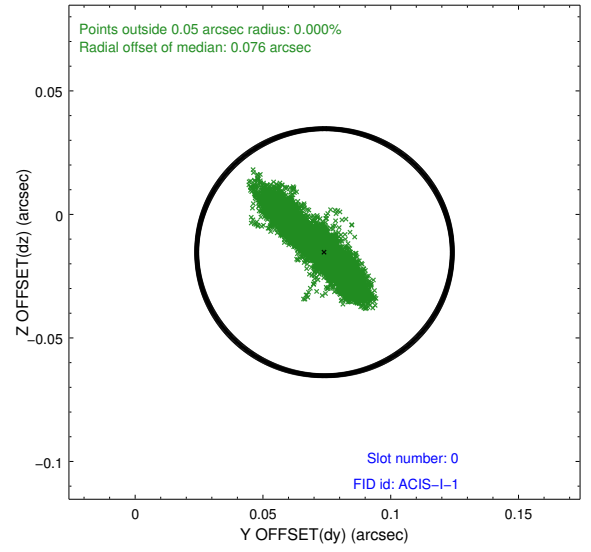
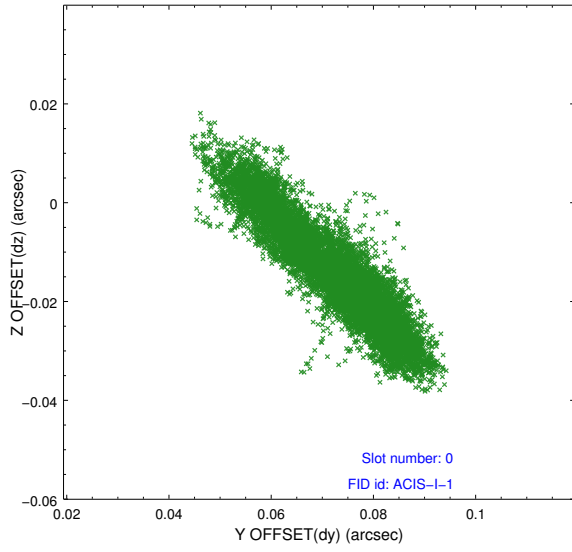


## 2.4.5 Slot 7

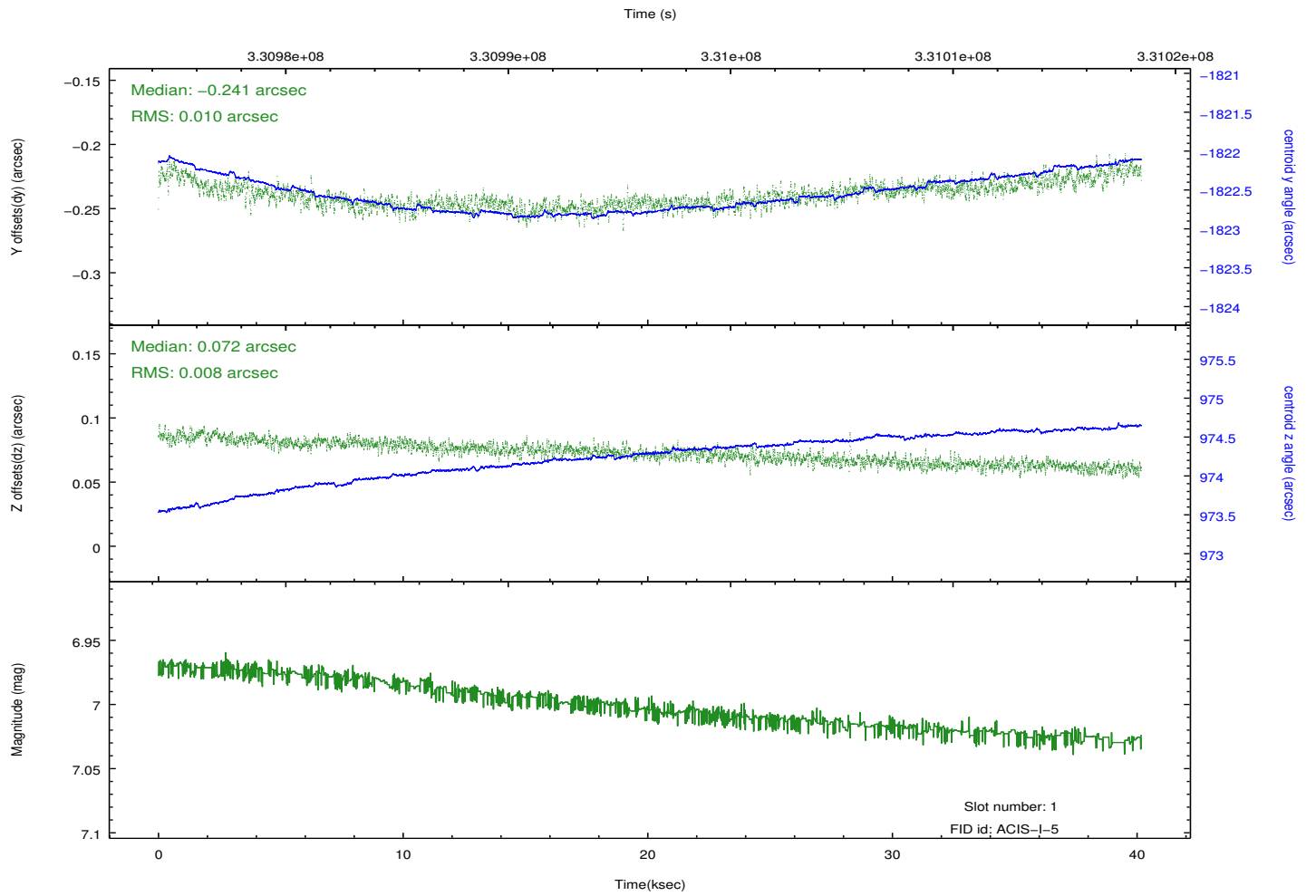
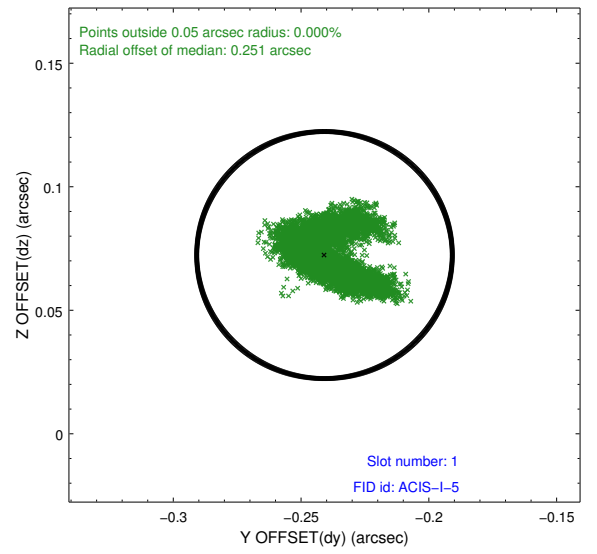
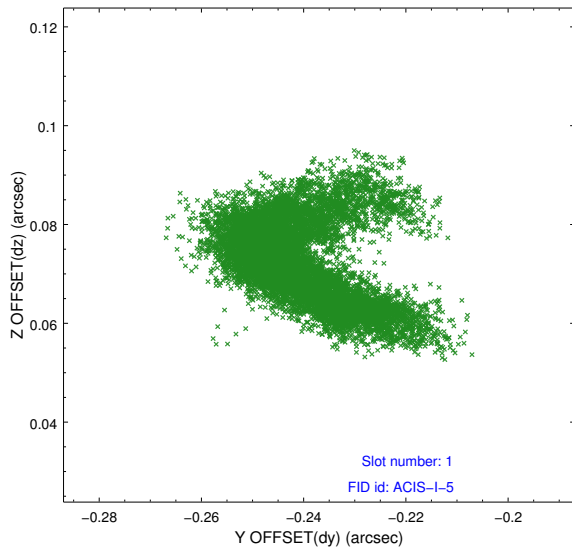


## 2.5 FID Slots

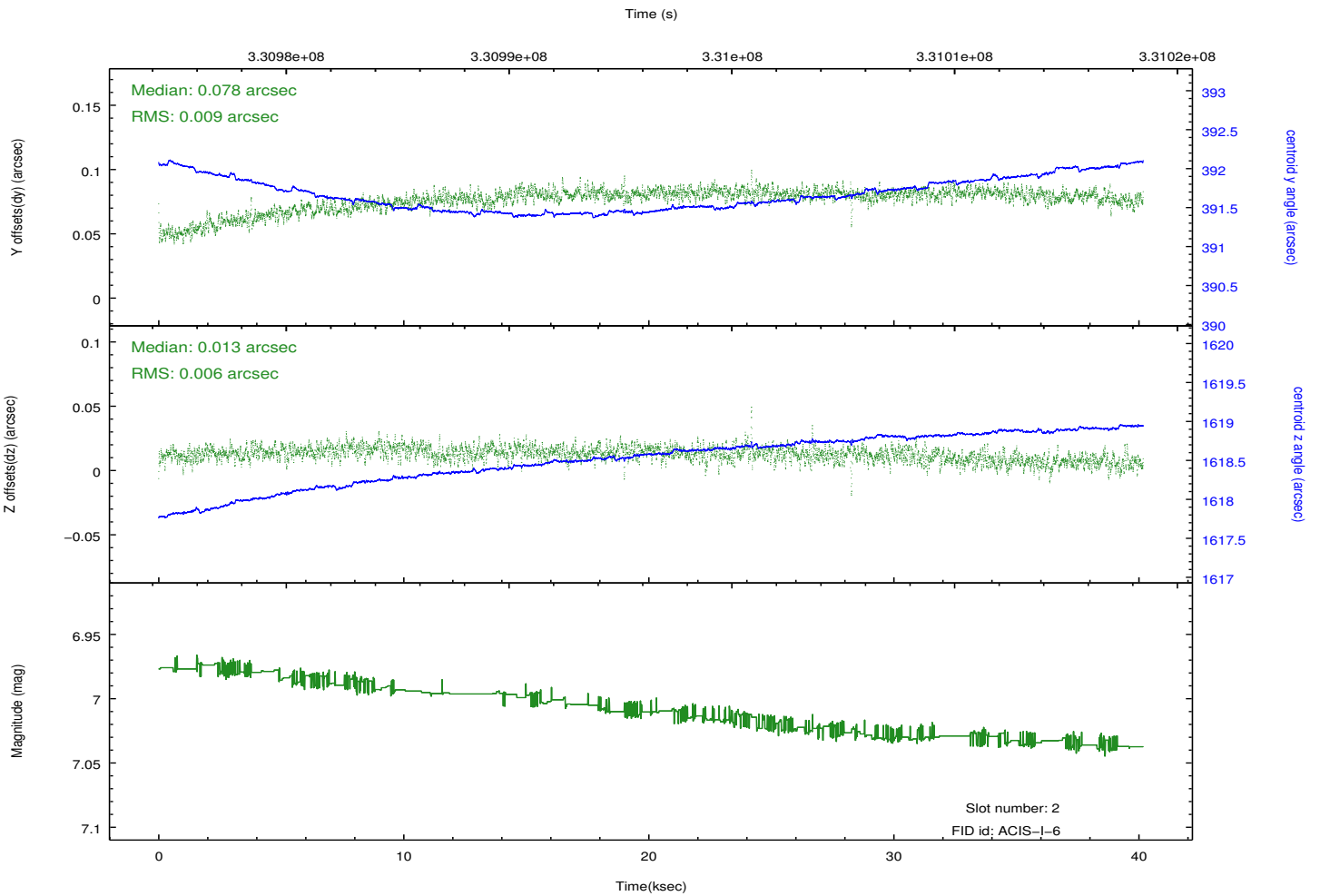
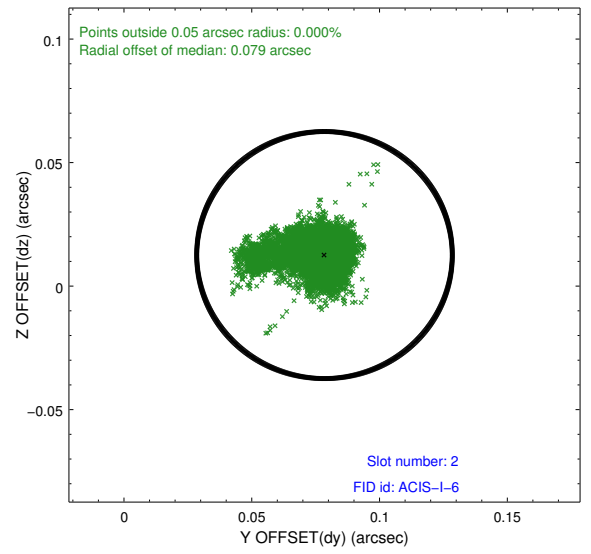
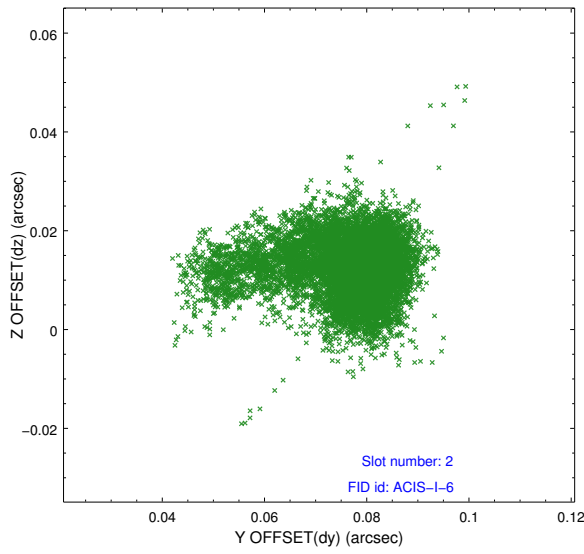
### 2.5.1 Slot 0



## 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)	2012.05.23
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	39.7541543

## A.2 Comments