

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 10821 - L2 Version 2  
Chandra X-Ray Center

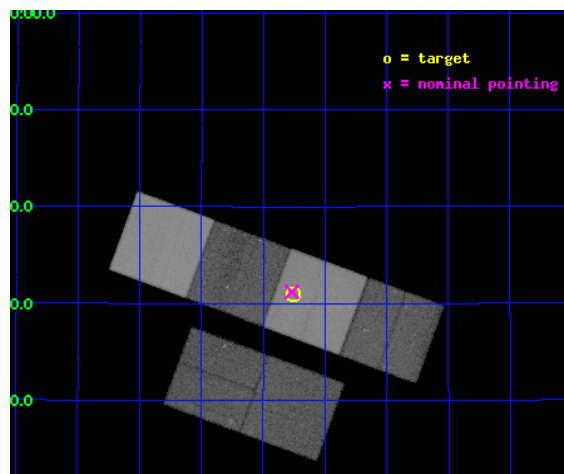
L2 Processing Date : May 30 2012

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# 1 Front

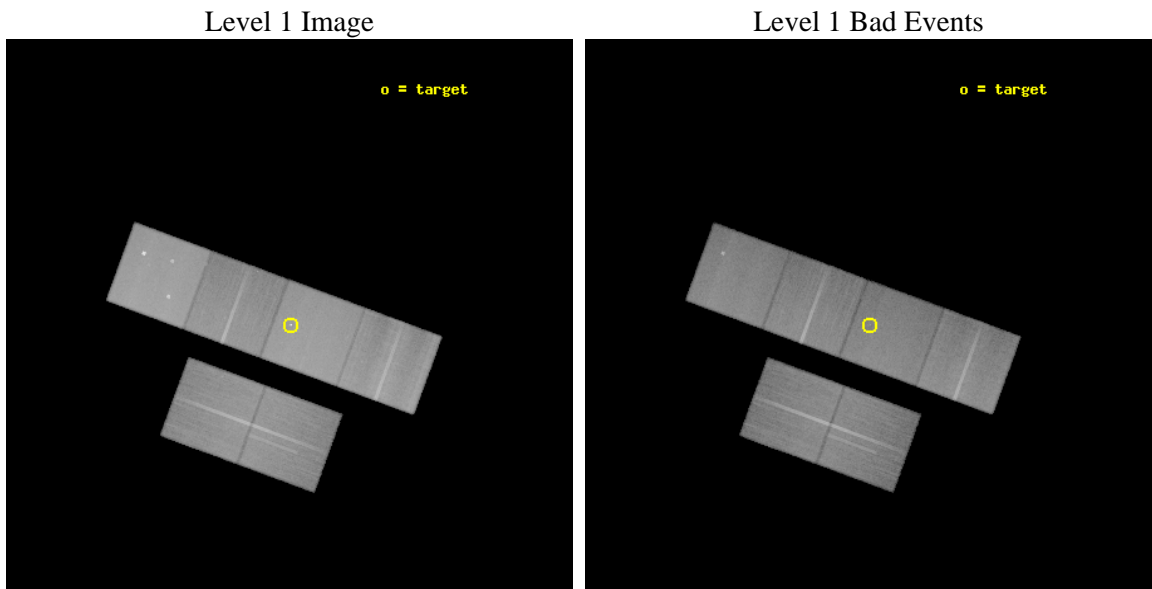
seq_num	200548	Sequence number
obs_id	10821	Observation id
title	Direct X-ray measurements of the expansion of planetary nebulae	Pr
observer	Young Sam Yu	Principal investigator
object	BD+303639	Source name
dtycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	293.688333	Observer's specified target RA [deg]
dec_targ	30.516361	Observer's specified target Dec [deg]
ra_nom	293.69181007649	Nominal RA [deg]
dec_nom	30.520168265758	Nominal Dec [deg]
roll_nom	20.154858028055	Nominal Roll [deg]
revision	2	Processing version of data
ontime	39123.199854314	Sum of GTIs [s]
livetime	38627.798340596	Livetime [s]
ontime2	39123.199854314	Sum of GTIs [s]
ontime3	39119.958884001	Sum of GTIs [s]
ontime5	39123.199854314	Sum of GTIs [s]
ontime6	39123.199854314	Sum of GTIs [s]
ontime7	39123.199854314	Sum of GTIs [s]
ontime8	39119.958903909	Sum of GTIs [s]
l2events	698985	Number of level 2 events



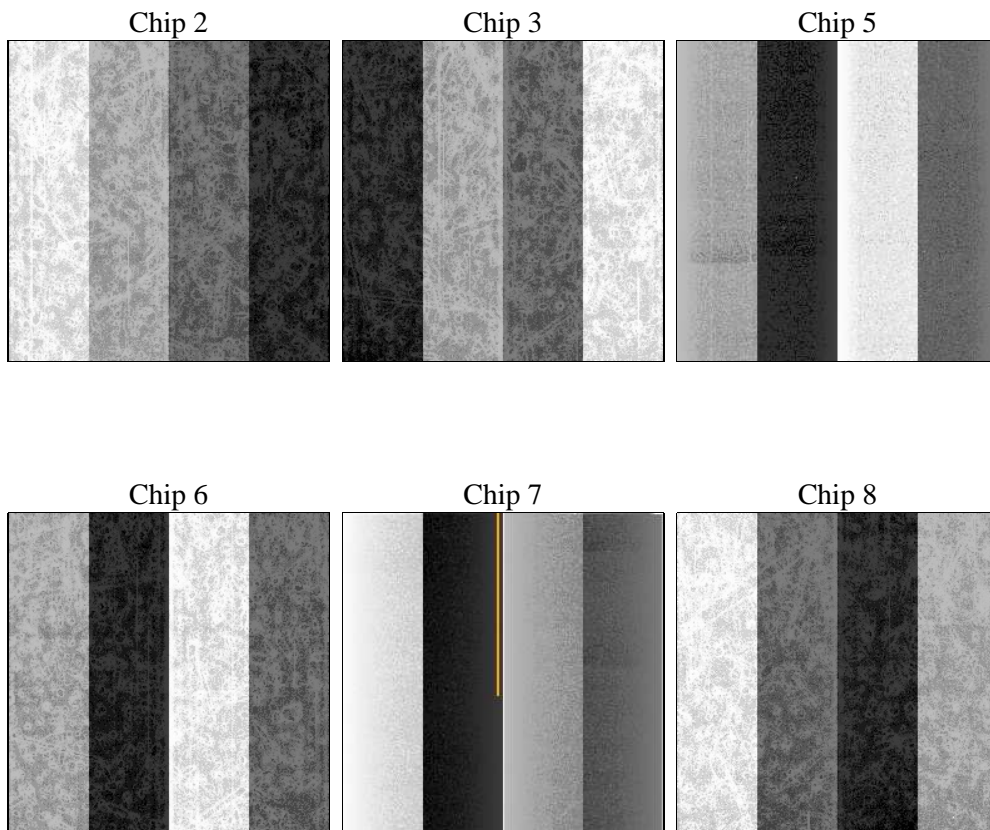
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	39000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	39123.199854314	Sum of GTIs [s]
caldbver	4.4.9	&#160	ontime2	39123.199854314	Sum of GTIs [s]
date	2012-05-30T07:06:33	Date and time of file creation	ontime3	39119.958884001	Sum of GTIs [s]
revision	2	Processing version of data	ontime5	39123.199854314	Sum of GTIs [s]
			ontime6	39123.199854314	Sum of GTIs [s]
			ontime7	39123.199854314	Sum of GTIs [s]
			ontime8	39119.958903909	Sum of GTIs [s]
			l1events	2985157	Number of level 1 events

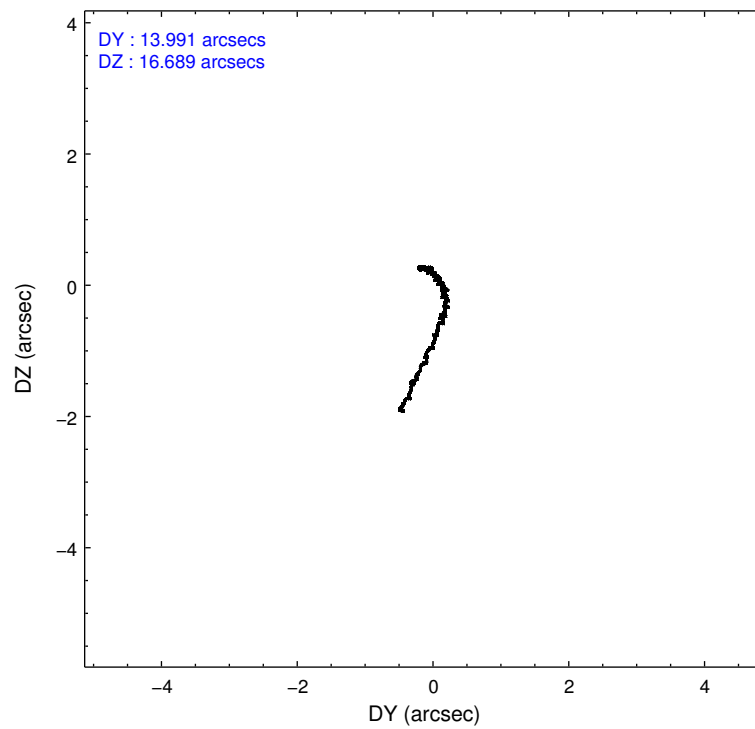
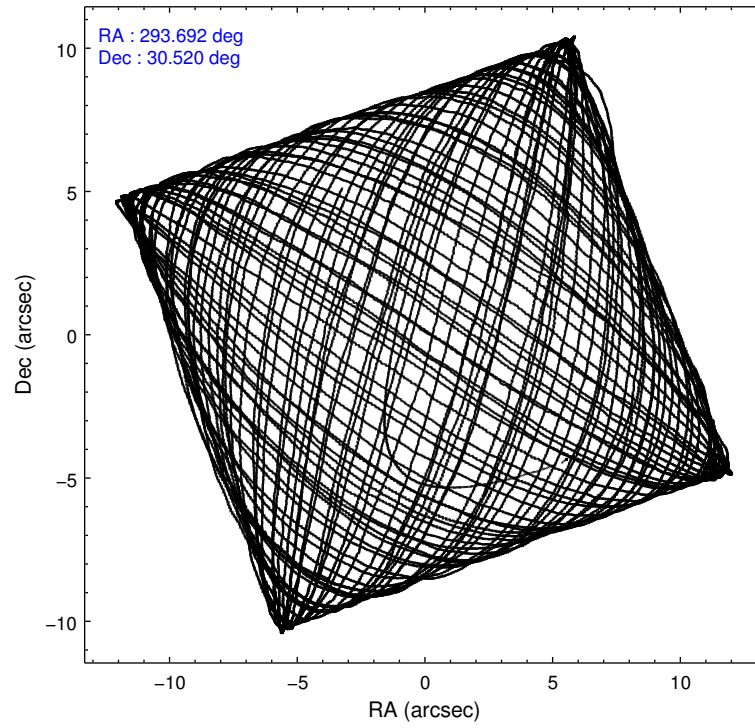
### 2.1.4 Events

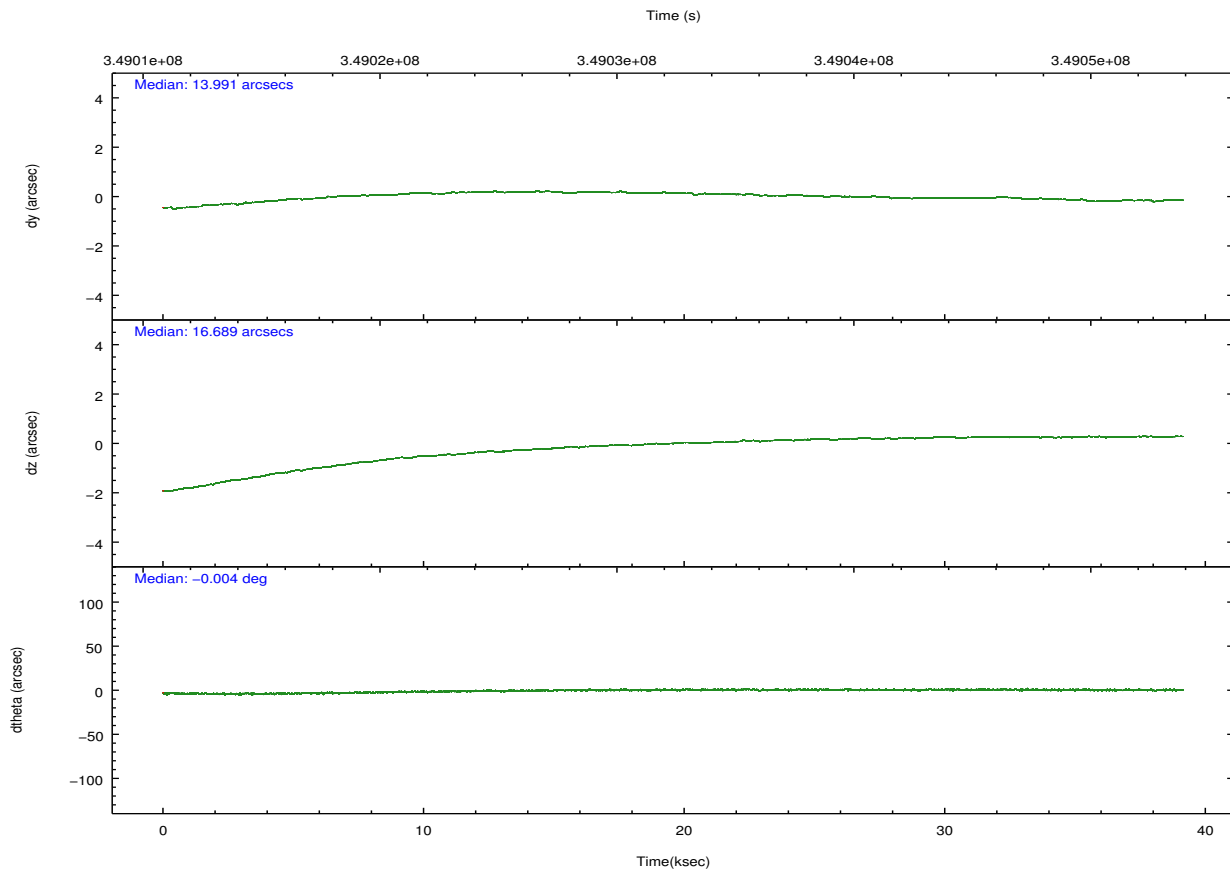
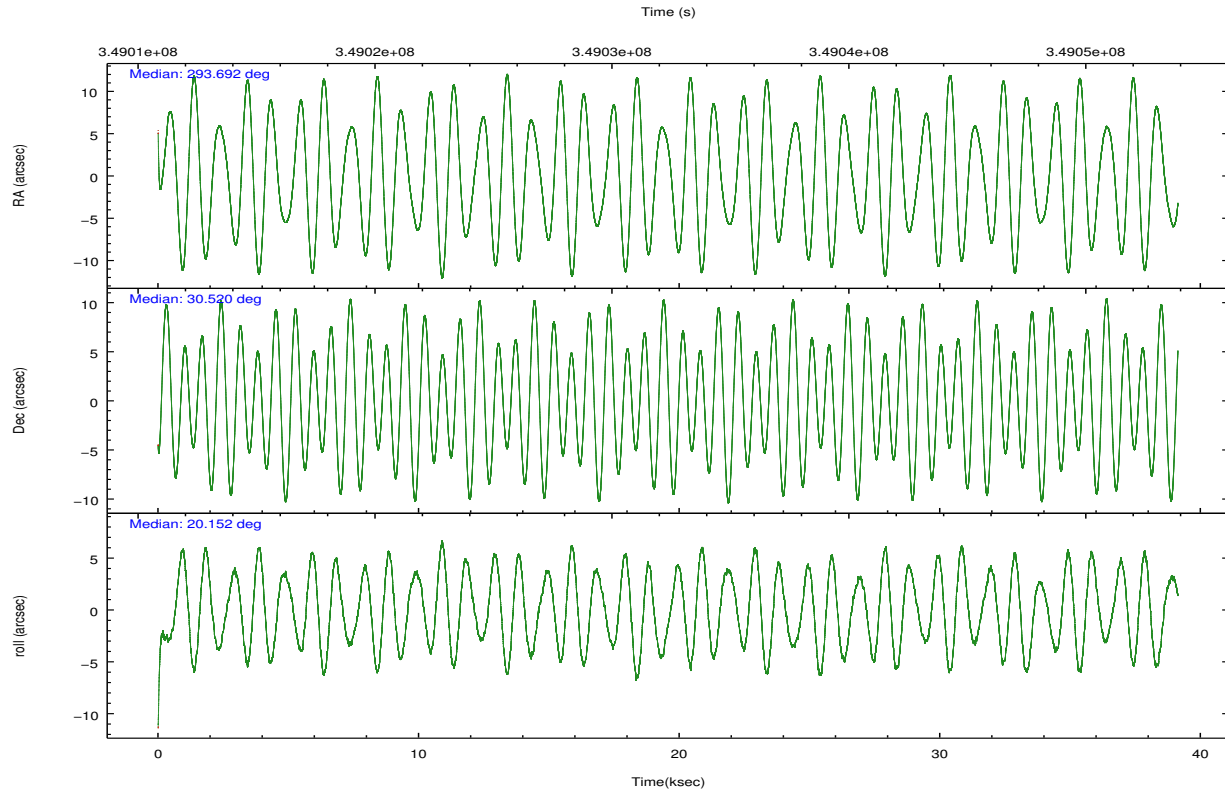
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	415275	396260	651791	416514	582565	522752	grade 0 events	24158	22960	28982	22361	24166	40658
rejected events	363808	346615	355696	364815	340115	401779		5%	5%	4%	5%	4%	7%
rejected %	87%	87%	54%	87%	58%	76%	grade 1 events	301	307	897	254	627	383
								0%	0%	0%	0%	0%	0%
							grade 2 events	10967	9825	96402	11325	51857	27804
								2%	2%	14%	2%	8%	5%
							grade 3 events	4510	4663	10849	4569	21323	12549
								1%	1%	1%	1%	3%	2%
							grade 4 events	4738	4672	10439	4728	21081	11781
								1%	1%	1%	1%	3%	2%
							grade 5 events	16984	18683	45231	19405	54149	26278
								4%	4%	6%	4%	9%	5%
							grade 6 events	8477	8965	158160	10210	130613	31508
								2%	2%	24%	2%	22%	6%
							grade 7 events	345140	326185	300831	343662	278749	371791
								83%	82%	46%	82%	47%	71%

## 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	FAINT	FAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	293.671811	293.6918100764867	CCD I2 on	O1	Y
[deg] Pointing Dec	30.498940	30.52016826575793	CCD I3 on	O2	Y
[deg] Pointing Roll	20.008387	20.15485802805549	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	O3	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	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	O4	Y
[s] Observation start time (MET)	349012942.184000	349011342.81449	CCD S5 on	N	N
Observation start date	2009-01-22T12:01:16	2009-01-22T11:35:42	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	349051942.184000	349053011.11655	On-chip summing requested	N	N
Observation end date	2009-01-22T22:51:16	2009-01-22T23:10:11	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



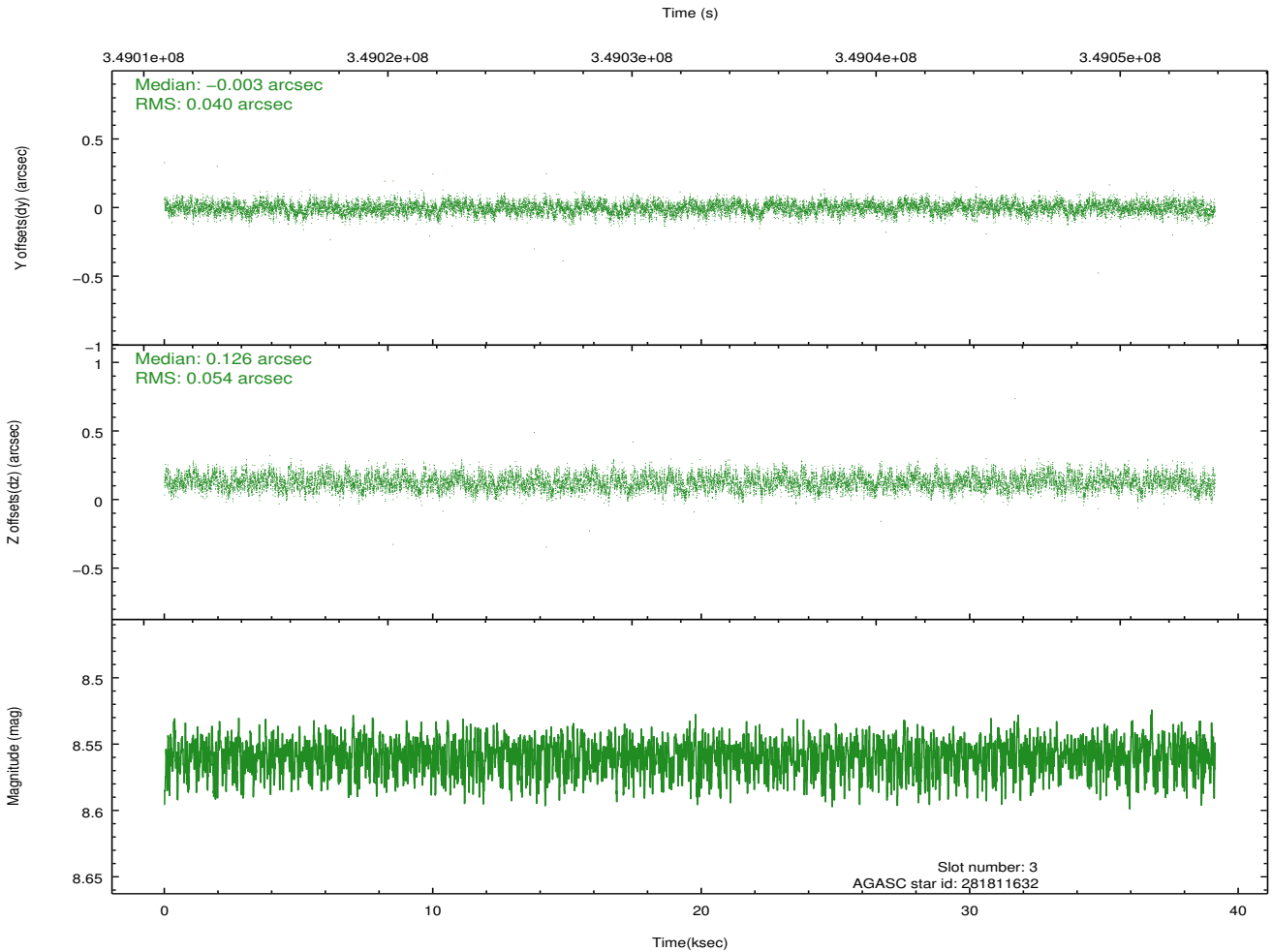
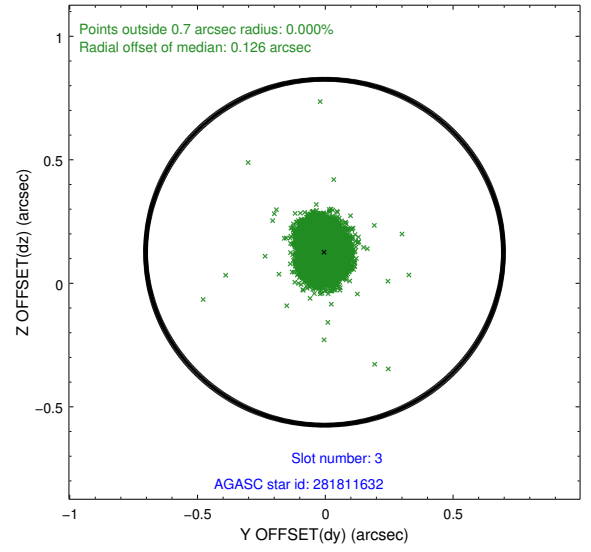
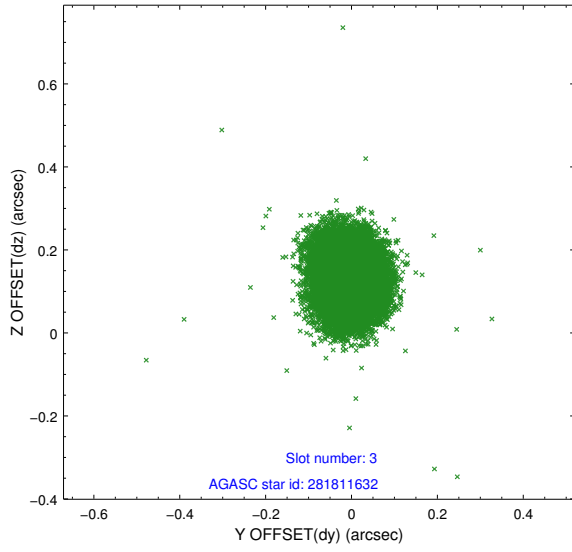


### Slot Statistics

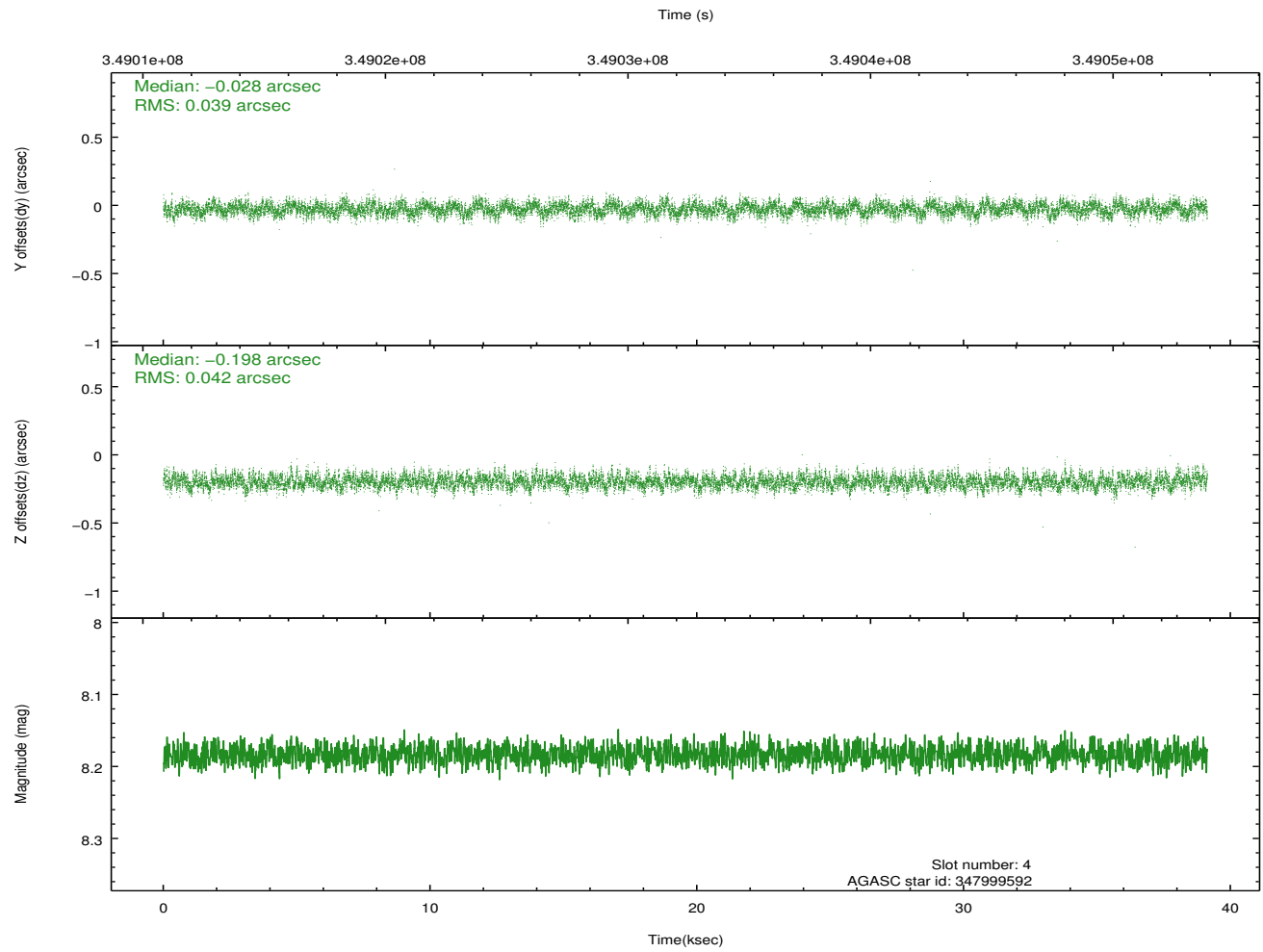
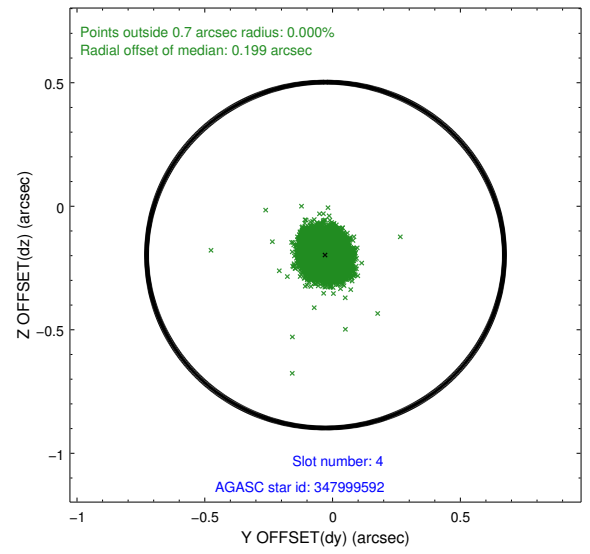
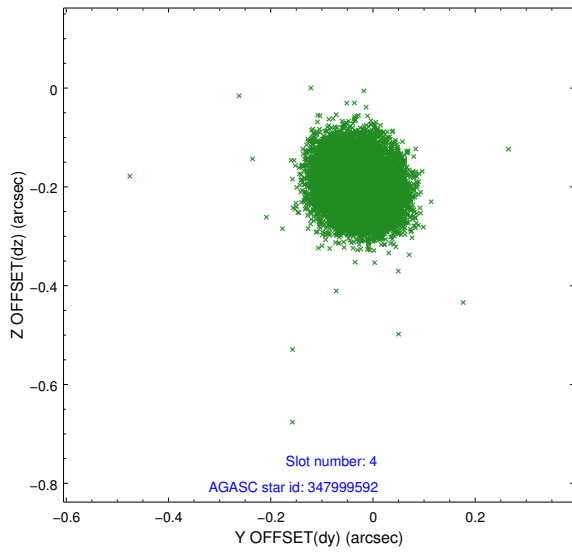
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.90	9545	0.006	-0.020	0.013	0.021	0.000000	0.000000	-766.91	-1737.87
1	FID	ACIS-S-5	7.02	9545	-0.105	0.005	0.015	0.025	0.000000	0.000000	-1820.14	164.11
2	FID	ACIS-S-6	7.11	9545	0.074	0.024	0.013	0.020	0.000000	0.000000	394.75	808.05
3	GUIDE	281811632	8.56	19080	-0.003	0.126	0.072	0.115	293.312173	29.710666	-2026.96	-2280.09
4	GUIDE	347999592	8.18	19078	-0.028	-0.198	0.061	0.098	293.288831	30.972058	-527.58	2006.49
5	GUIDE	348020560	8.40	19087	0.068	0.149	0.059	0.100	294.143676	31.236009	2273.80	1999.68
6	GUIDE	281816456	8.18	19086	-0.023	-0.009	0.056	0.091	293.134806	29.851343	-2371.73	-1613.27
7	GUIDE	348017712	7.99	19087	-0.014	-0.069	0.074	0.117	293.883379	31.276651	1569.73	2408.66

## 2.4 Star Slots

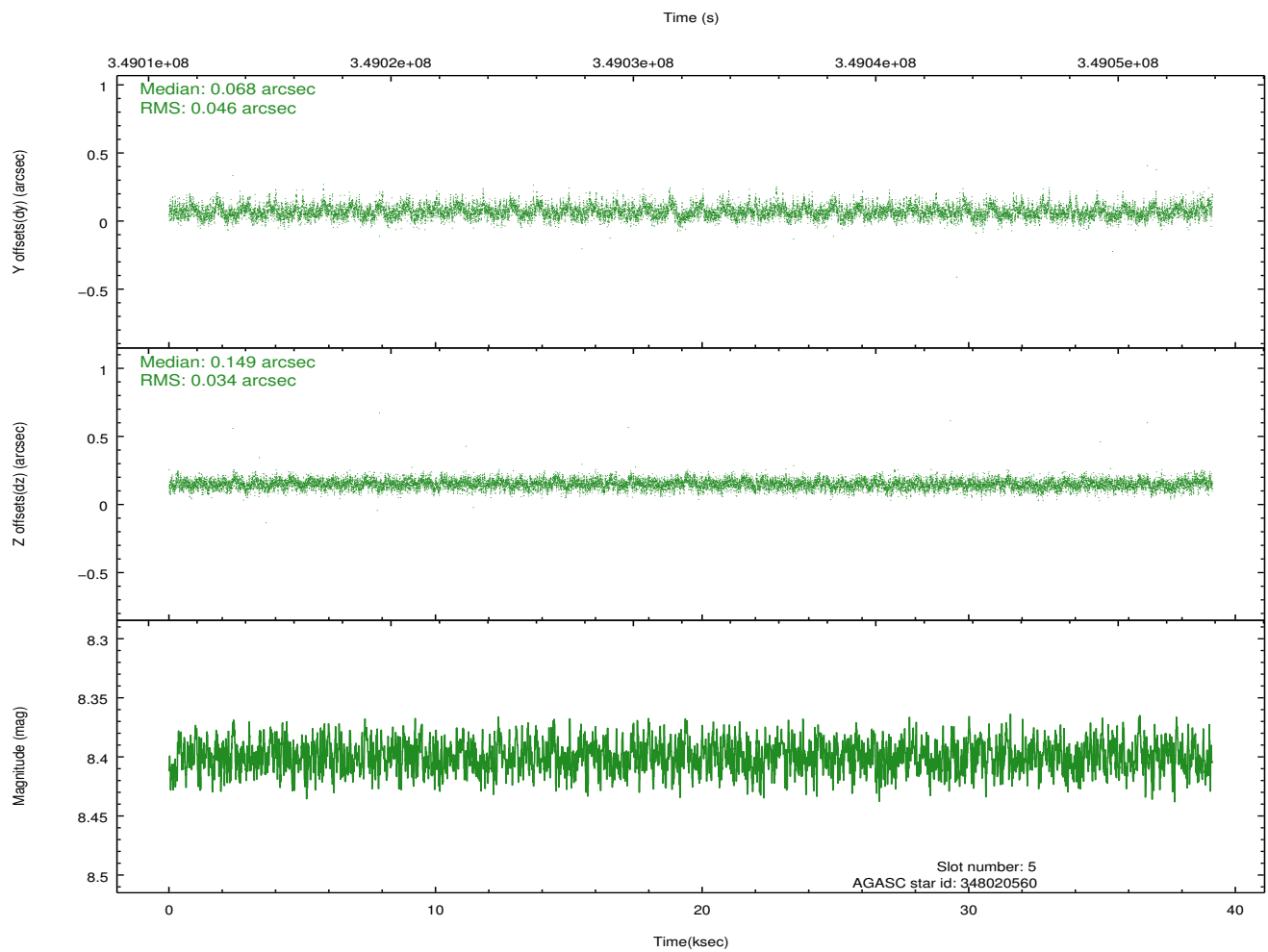
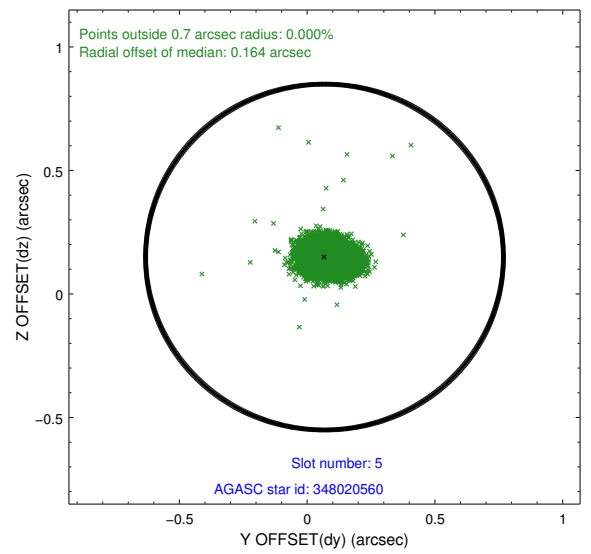
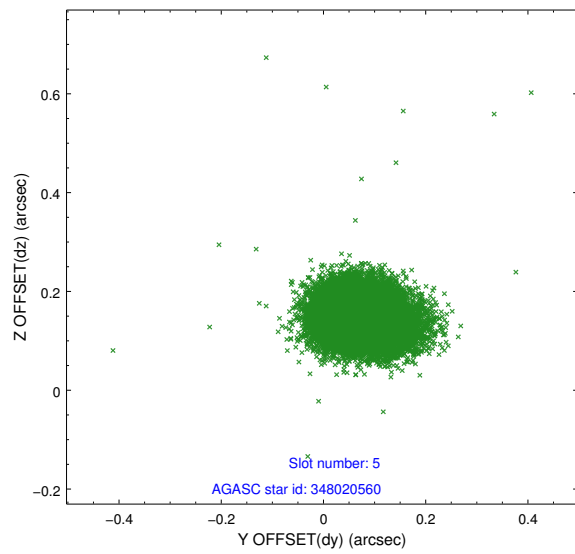
### 2.4.1 Slot 3



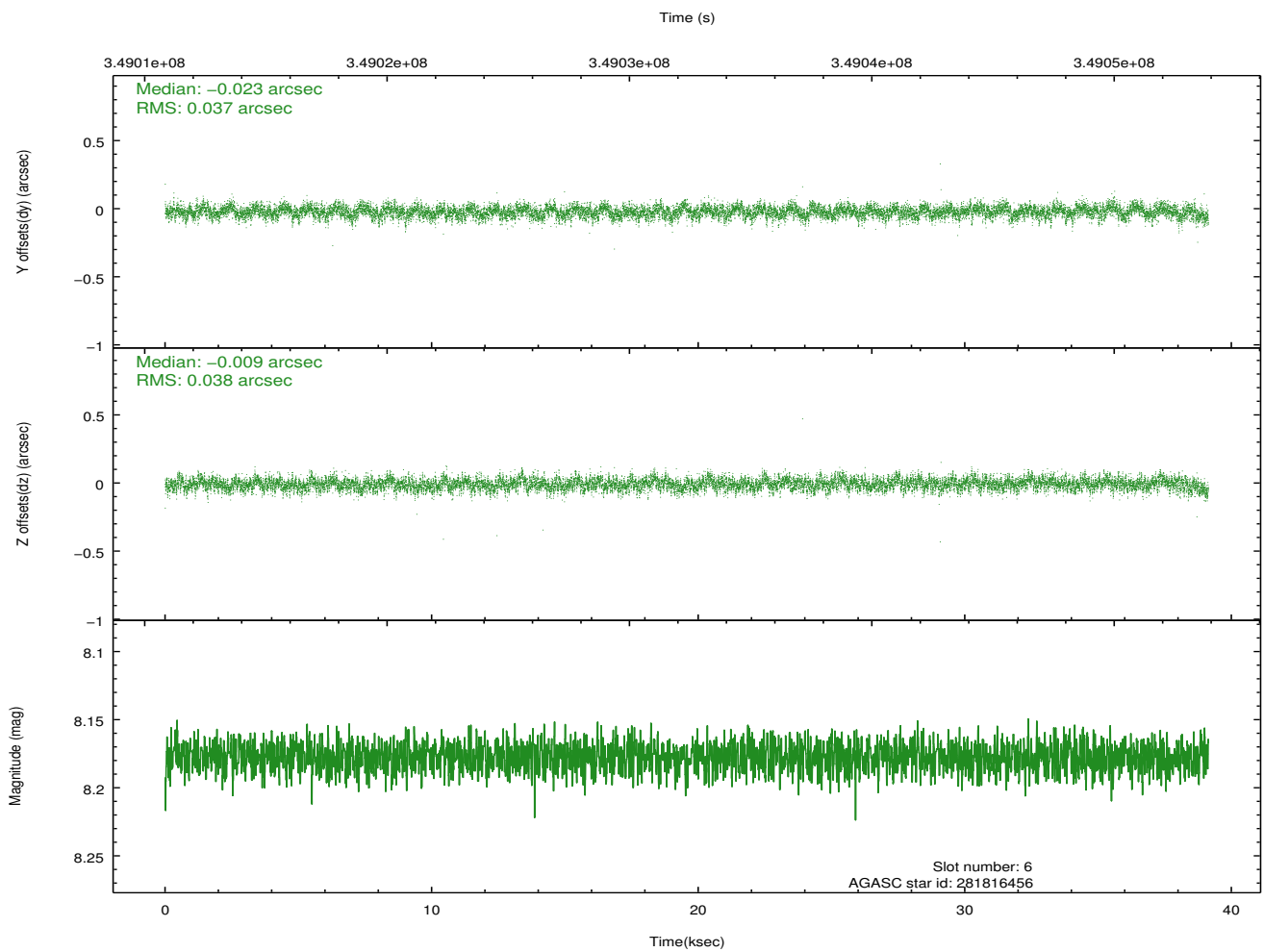
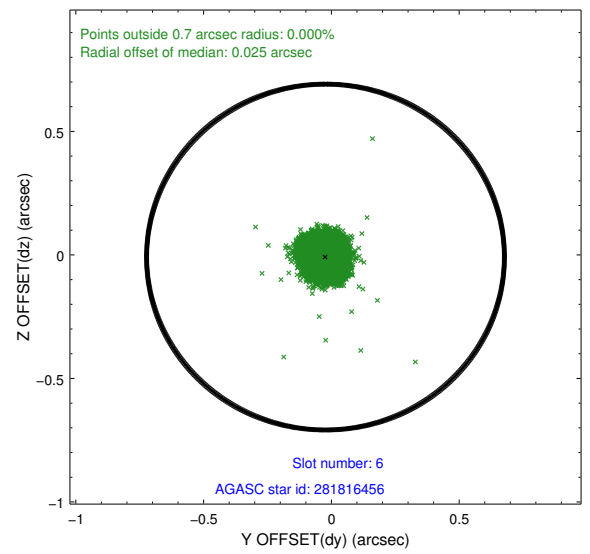
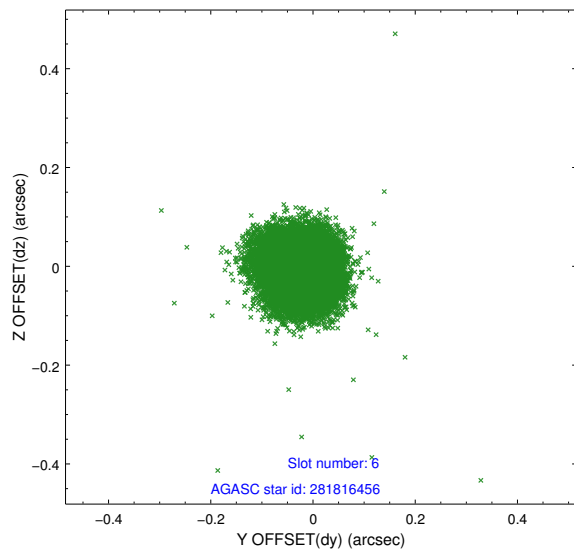
## 2.4.2 Slot 4



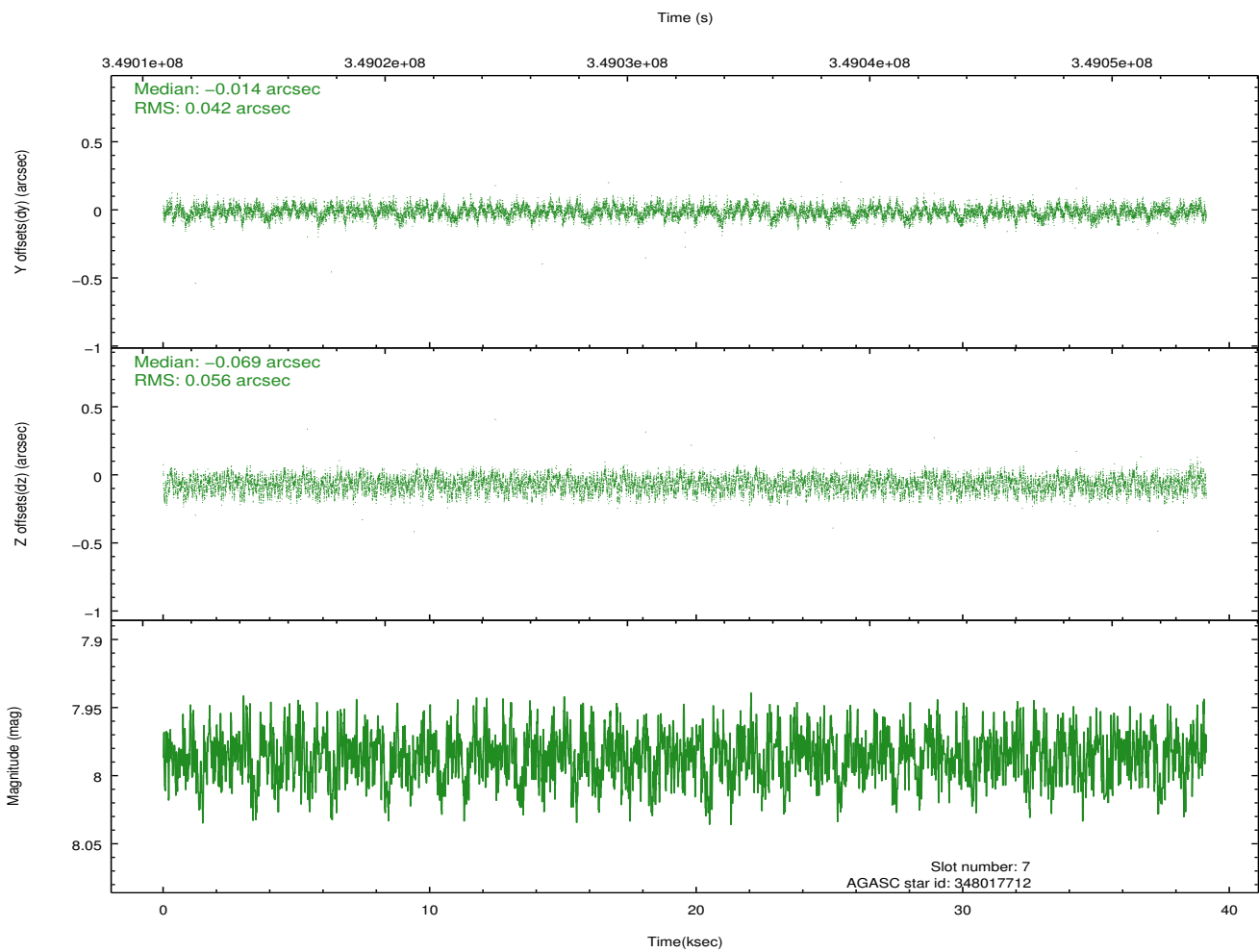
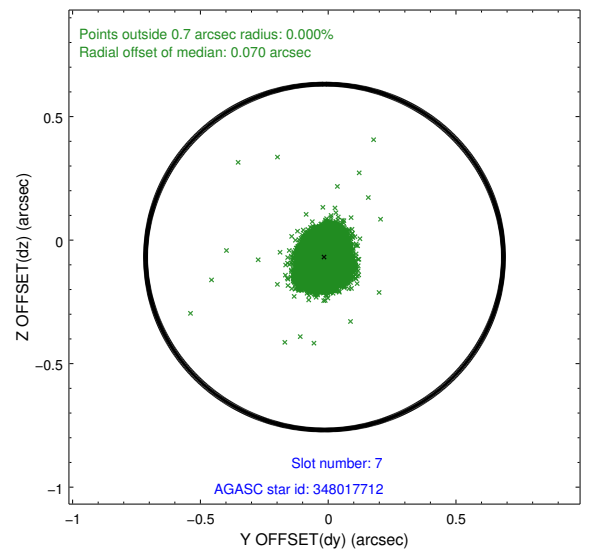
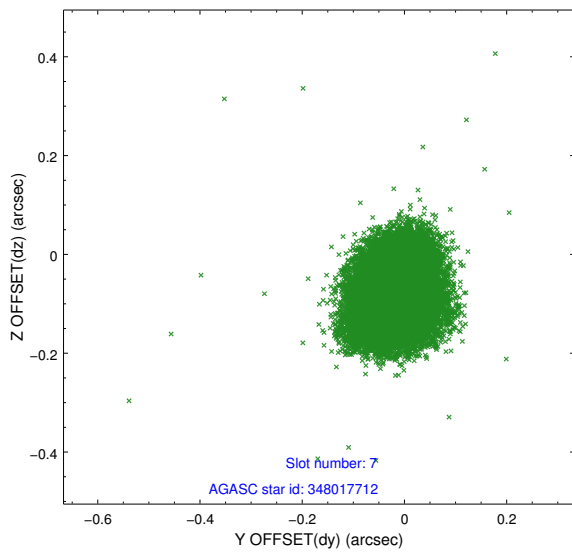
### 2.4.3 Slot 5



## 2.4.4 Slot 6

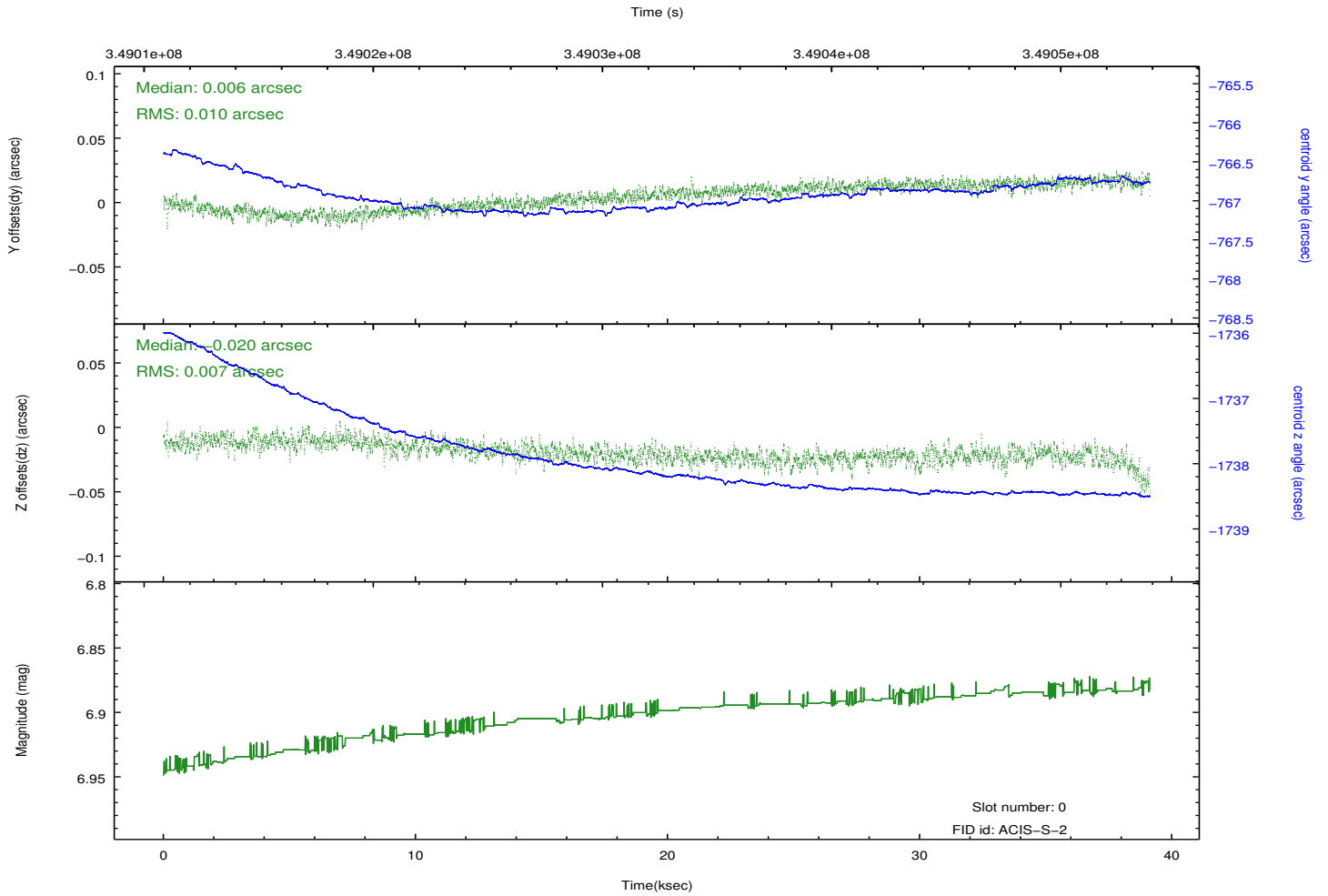
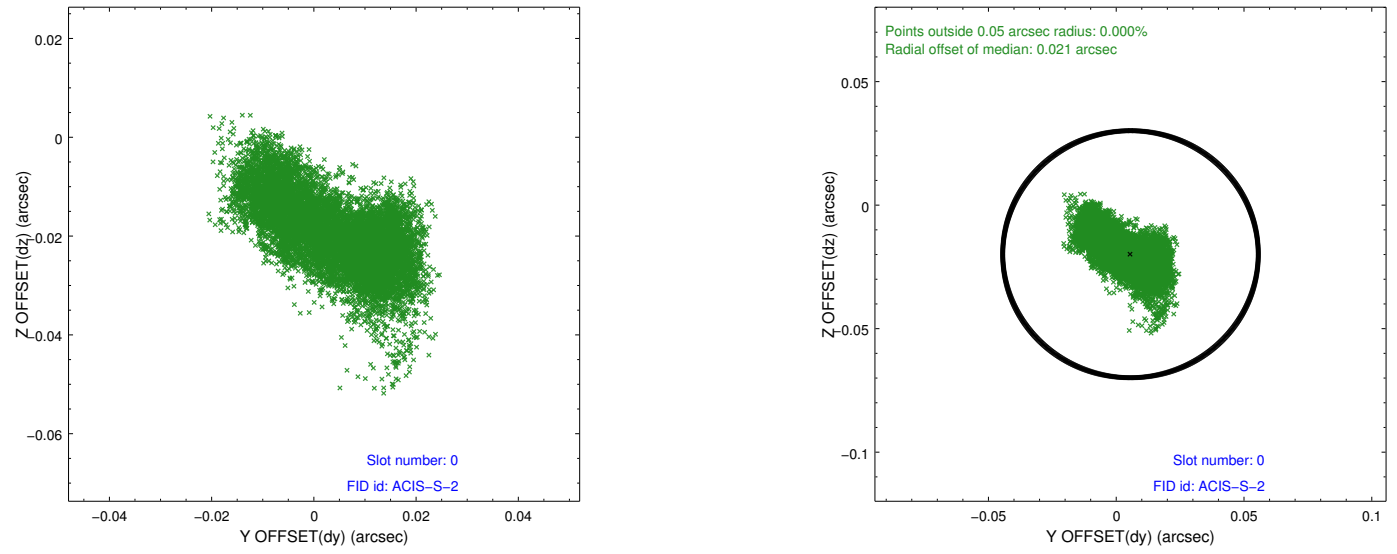


## 2.4.5 Slot 7

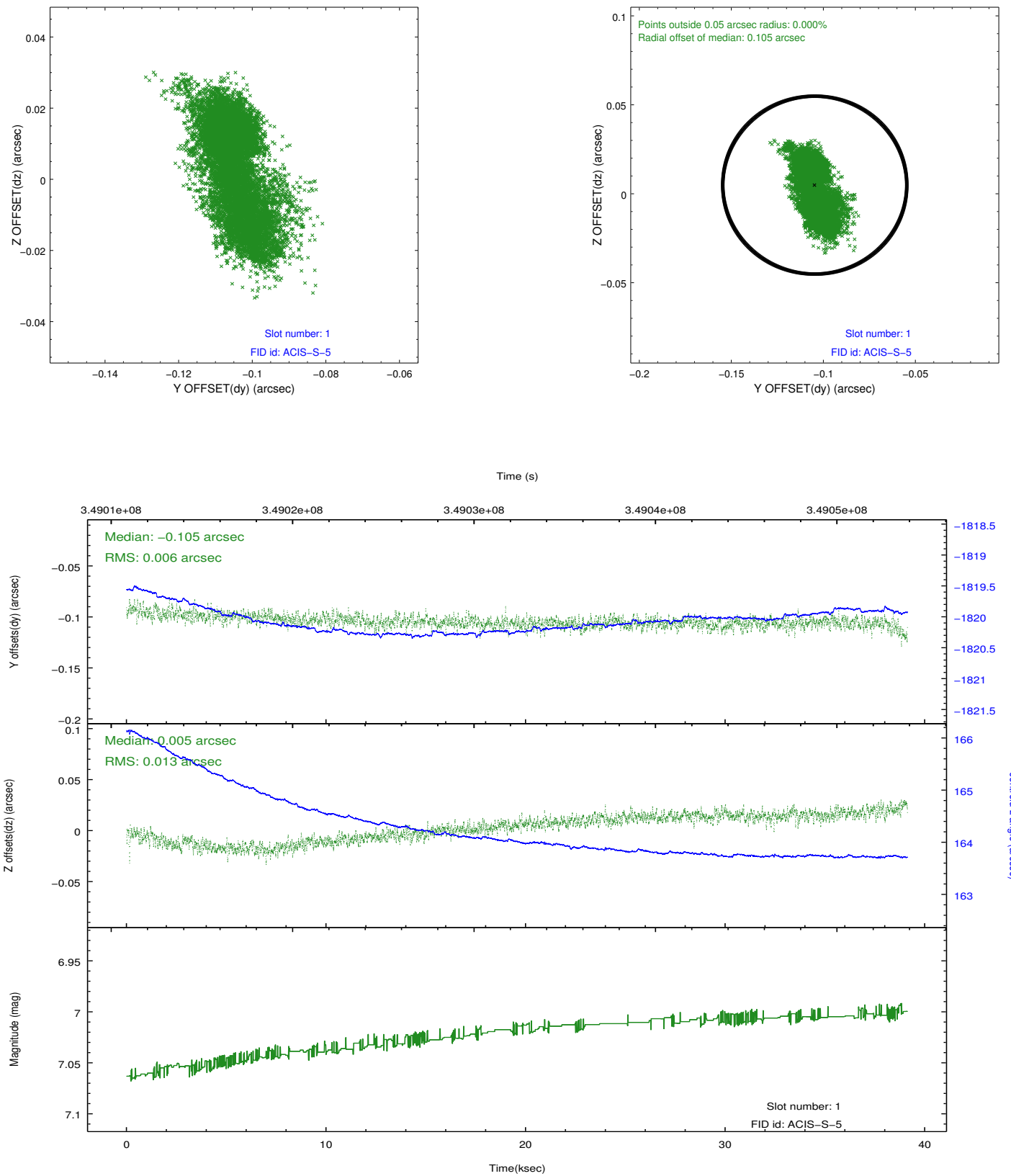


## 2.5 FID Slots

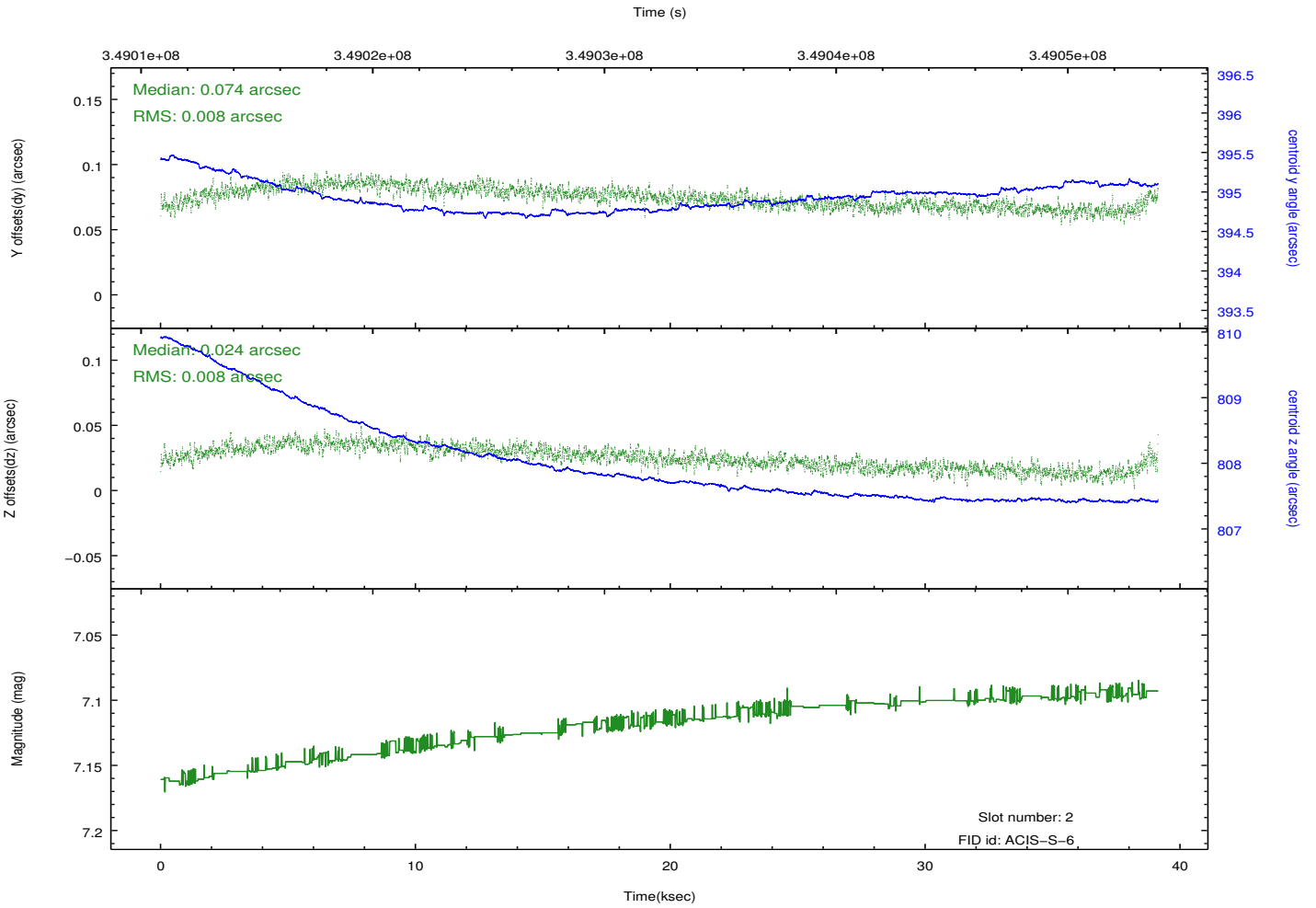
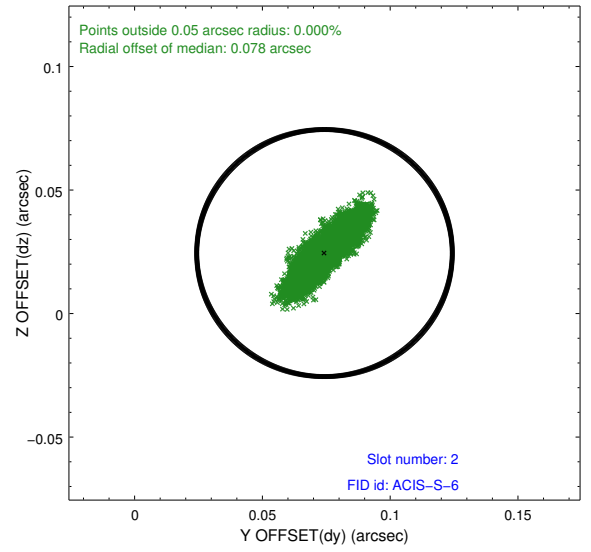
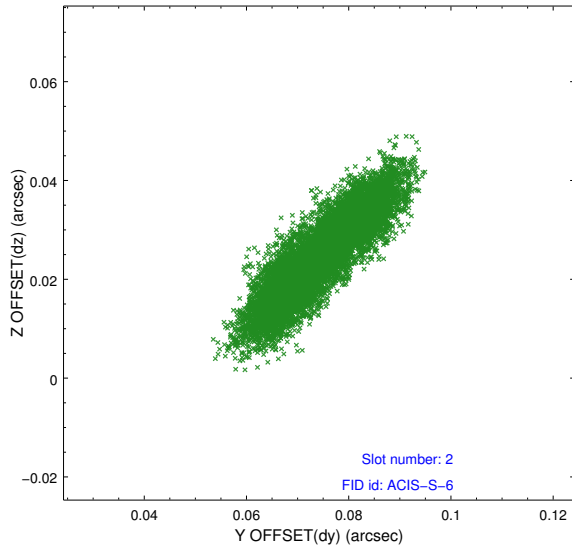
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2012.06.04
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	39.1231998

## A.2 Comments