

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 13830 - L2 Version 1  
Chandra X-Ray Center

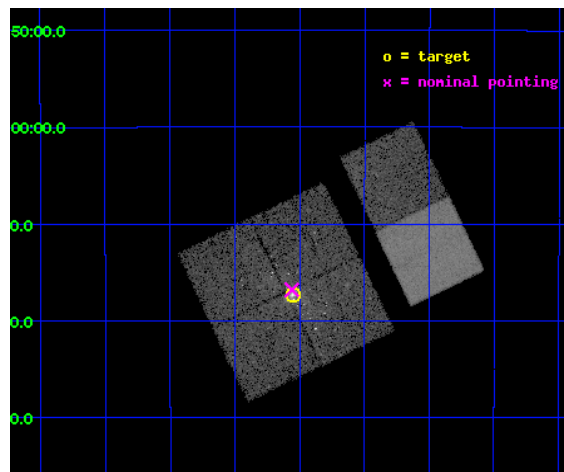
L2 Processing Date : Sep 2 2012

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# 1 Front

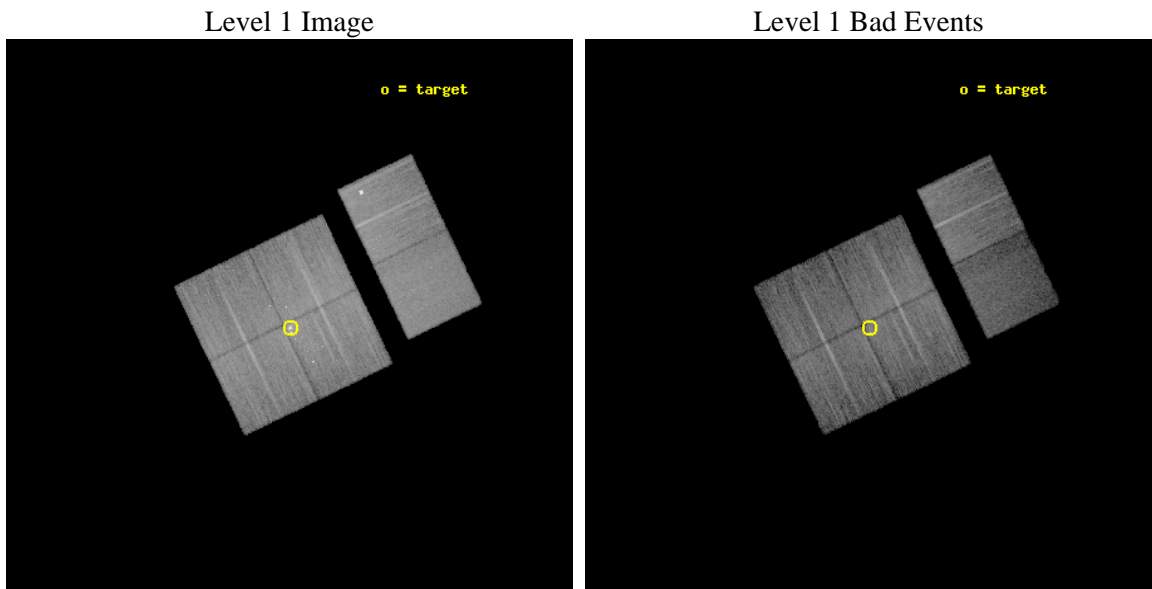
seq_num	601004	Sequence number
obs_id	13830	Observation id
title	Broad-band (0.5-30 keV) X-ray imaging of starburst galaxies with Chandra and NuSTAR	Proposal title
observer	Dr. Ann Hornschemeier	Principal investigator
object	NGC 253	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	11.88875	Observer's specified target RA [deg]
dec_targ	-25.288333	Observer's specified target Dec [deg]
ra_nom	11.890071600884	Nominal RA [deg]
dec_nom	-25.280338193312	Nominal Dec [deg]
roll_nom	64.307230385125	Nominal Roll [deg]
revision	1	Processing version of data
ontime	19970.723419845	Sum of GTIs [s]
livetime	19717.842094977	Livetime [s]
ontime0	19970.600299835	Sum of GTIs [s]
ontime1	19970.641339839	Sum of GTIs [s]
ontime2	19970.682379842	Sum of GTIs [s]
ontime3	19970.723419845	Sum of GTIs [s]
ontime6	19970.805499852	Sum of GTIs [s]
ontime7	19970.764459848	Sum of GTIs [s]
l2events	122517	Number of level 2 events



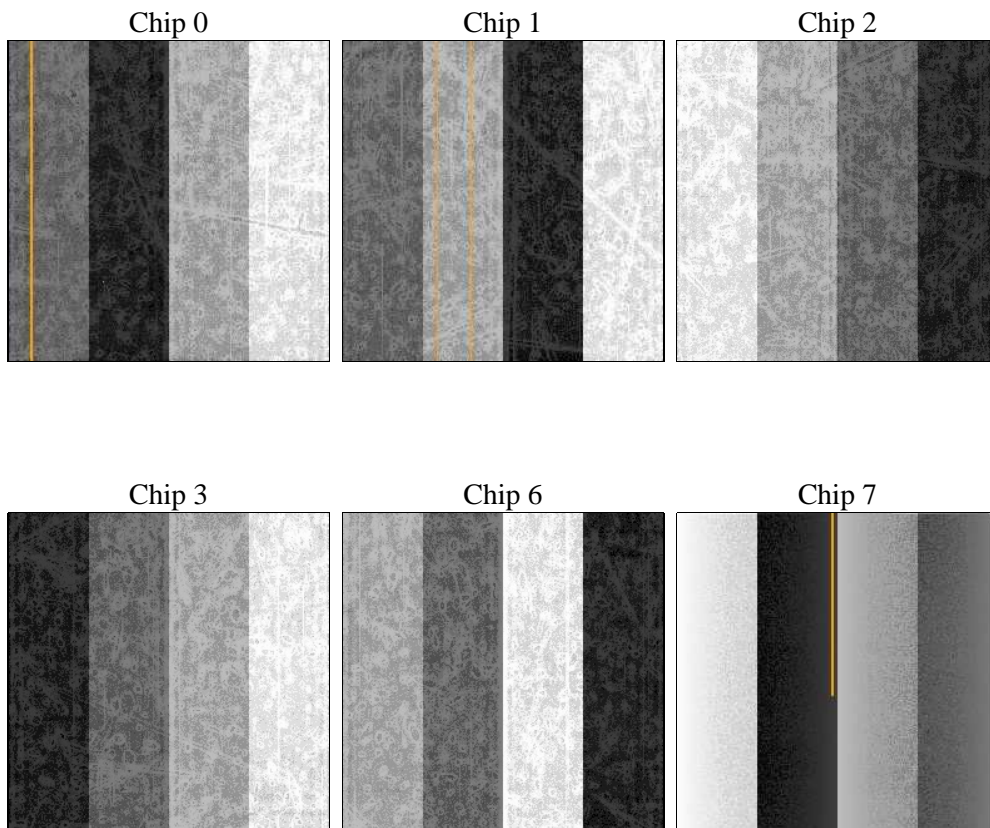
## 2 OBI

### 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	8.4.5	Processing system revision	ontime	19970.723419845	Sum of GTIs [s]
caldsver	4.5.1.1	&#160	ontime0	19970.600299835	Sum of GTIs [s]
date	2012-09-02T17:27:30	Date and time of file creation	ontime1	19970.641339839	Sum of GTIs [s]
revision	1	Processing version of data	ontime2	19970.682379842	Sum of GTIs [s]
			ontime3	19970.723419845	Sum of GTIs [s]
			ontime6	19970.805499852	Sum of GTIs [s]
			ontime7	19970.764459848	Sum of GTIs [s]
			l1events	746308	Number of level 1 events

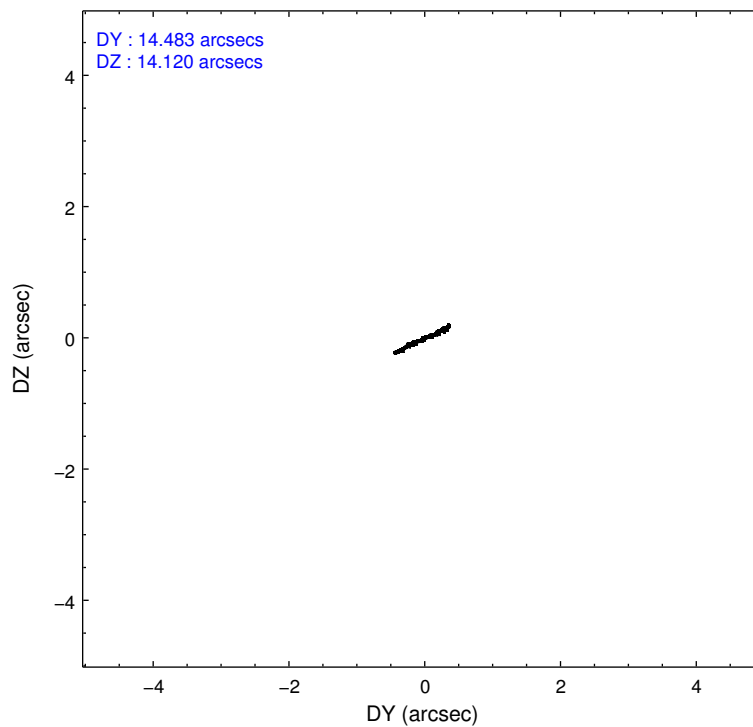
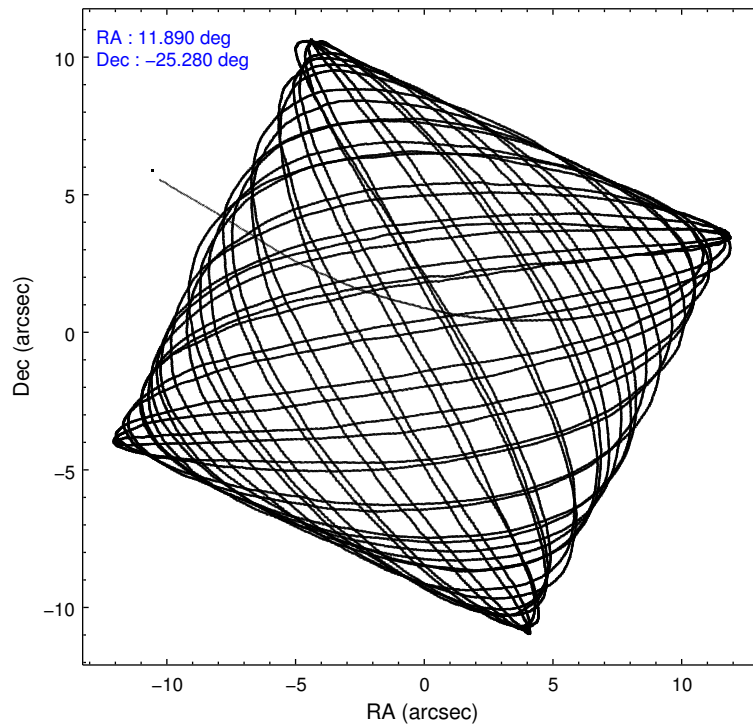
### 2.1.4 Events

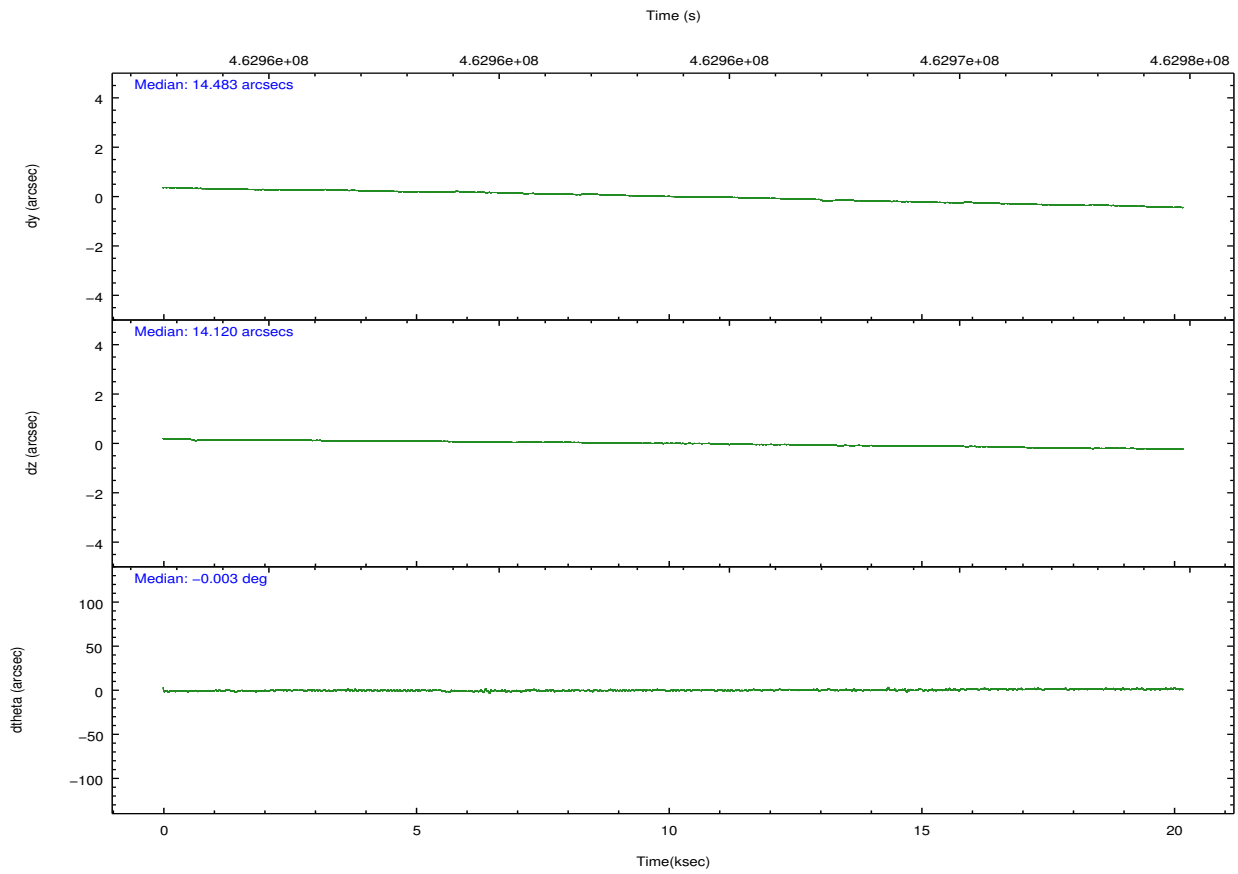
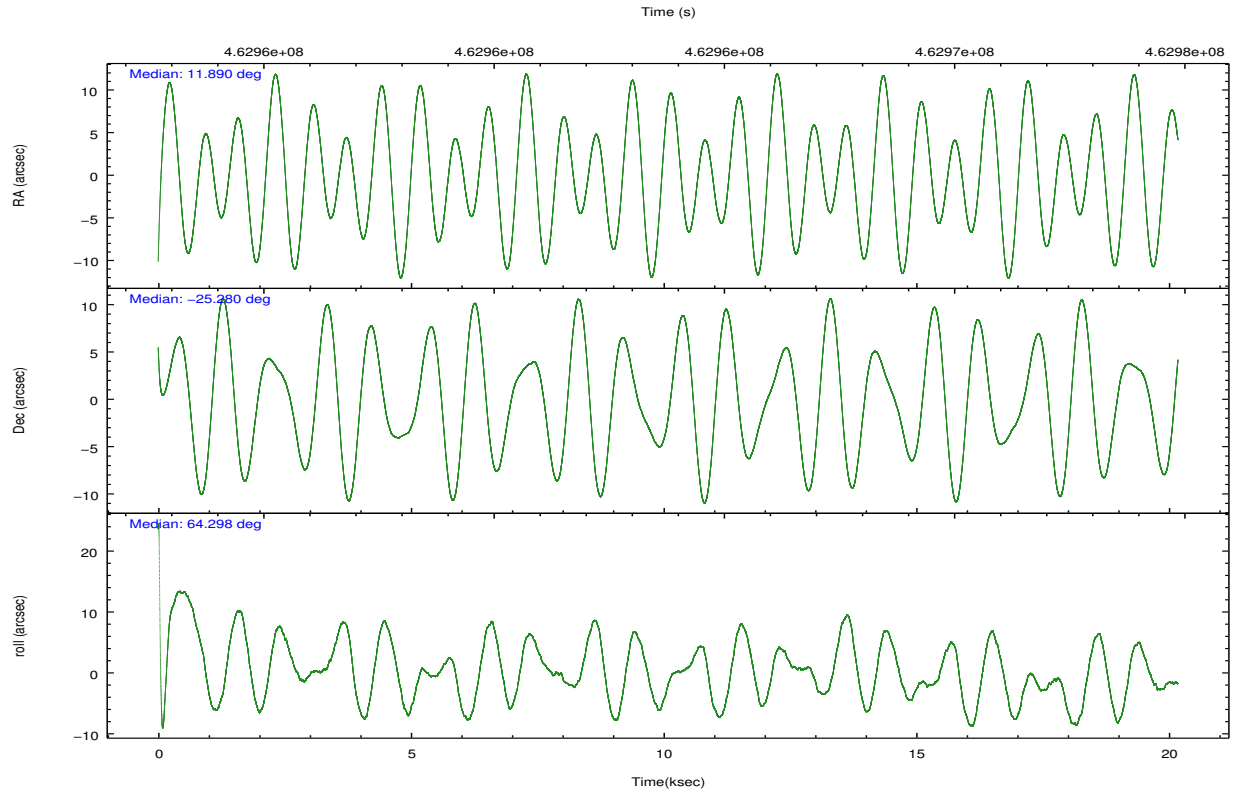
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7		ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	108501	113291	132099	134195	137510	120712	grade 0 events	7038	5129	7632	13036	11234	5862
rejected events	91843	99440	114547	111767	116856	62962		6%	4%	5%	9%	8%	4%
rejected %	84%	87%	86%	83%	84%	52%	grade 1 events	75	64	85	179	98	209
								0%	0%	0%	0%	0%	0%
							grade 2 events	4759	3440	4834	3903	4193	13356
								4%	3%	3%	2%	3%	11%
							grade 3 events	1232	1319	1167	1525	1178	5171
								1%	1%	0%	1%	0%	4%
							grade 4 events	1164	1294	1536	1451	1251	4937
								1%	1%	1%	1%	0%	4%
							grade 5 events	3832	4061	3716	4432	4457	12106
								3%	3%	2%	3%	3%	10%
							grade 6 events	2472	2670	2385	2513	2803	28437
								2%	2%	1%	1%	2%	23%
							grade 7 events	87929	95314	110744	107156	112296	50634
								81%	84%	83%	79%	81%	41%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-012367	ACIS-012367	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	CCD I0 on	Y	Y
Observation mode	POINTING	POINTING	CCD I1 on	Y	Y
[deg] Pointing RA	11.892460	11.89007160088363	CCD I2 on	Y	Y
[deg] Pointing Dec	-25.307753	-25.28033819331167	CCD I3 on	Y	Y
[deg] Pointing Roll	64.099529	64.30723038512488	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	O2	Y
[mm] SIM translation stage offset	0	-0.005018542100998502	CCD S4 on	N	N
[s] Observation start time (MET)	462953862.184000	462952859.3433	CCD S5 on	N	N
Observation start date	2012-09-02T06:16:35	2012-09-02T06:00:59	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	462973862.184000	462974090.16944	On-chip summing requested	N	N
Observation end date	2012-09-02T11:49:55	2012-09-02T11:54:50	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



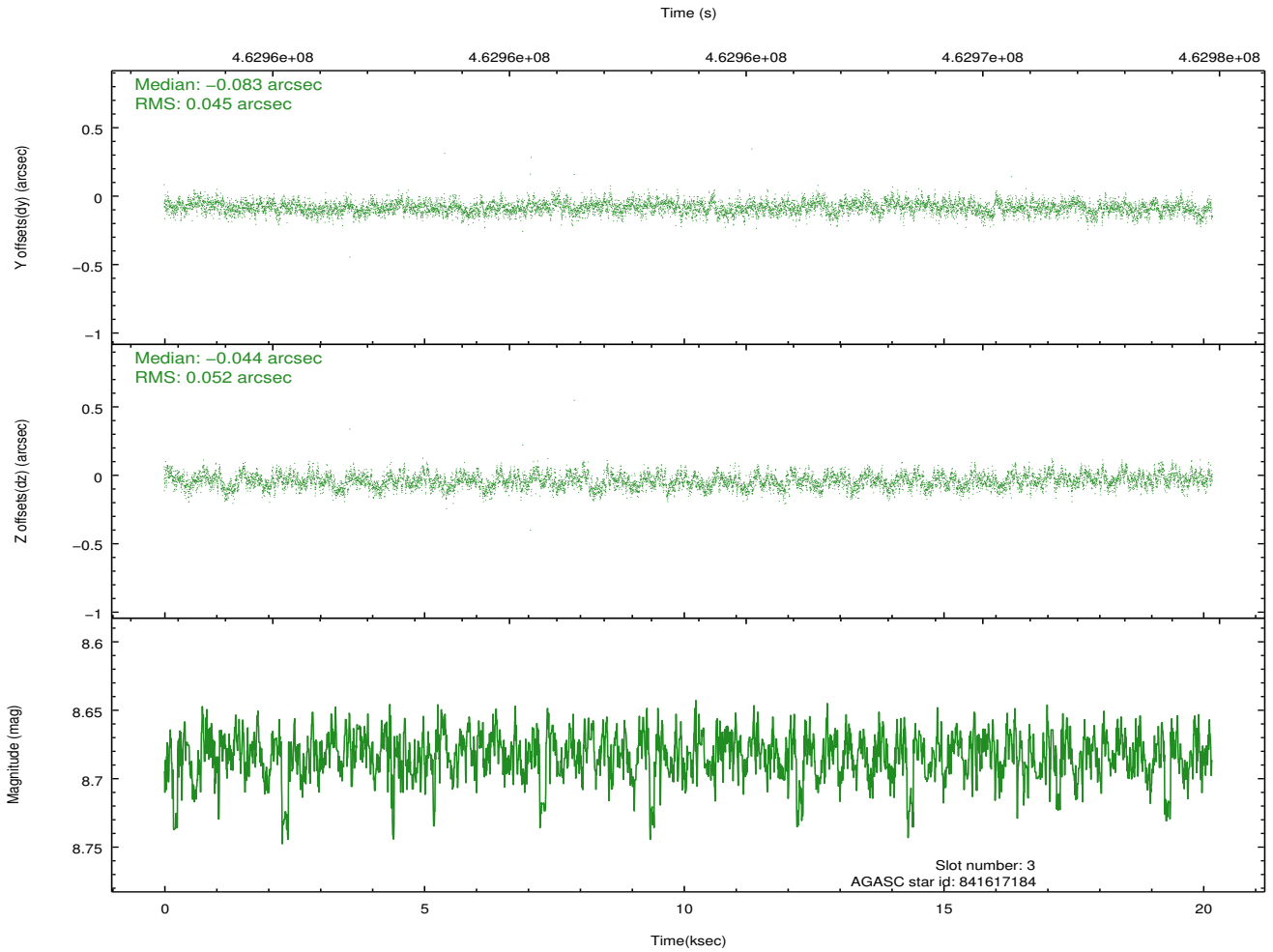
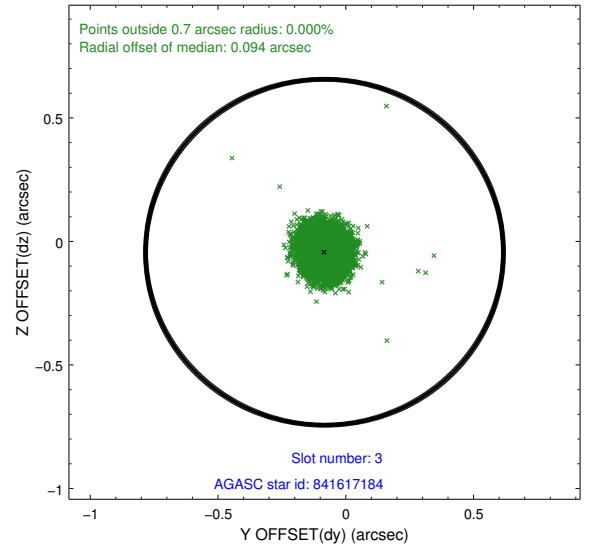
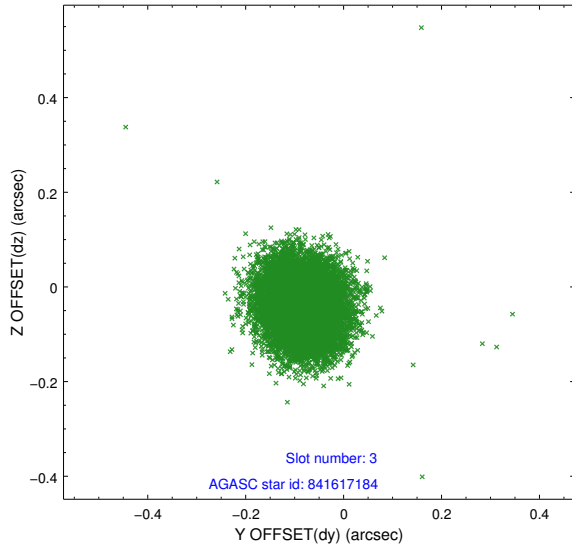


### Slot Statistics

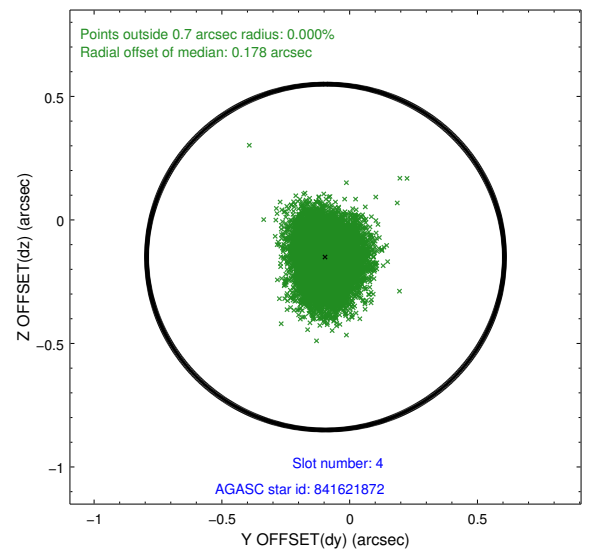
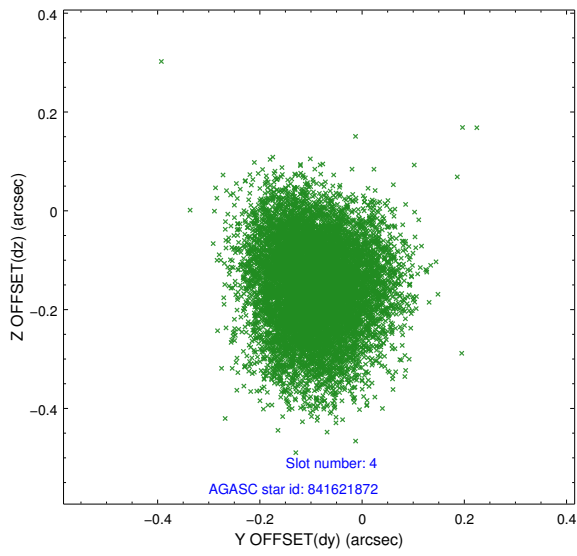
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.15	4921	-0.006	0.019	0.010	0.016	0.000000	0.000000	925.01	-837.64
1	FID	ACIS-I-4	7.06	4922	0.187	0.013	0.015	0.024	0.000000	0.000000	2145.32	1062.08
2	FID	ACIS-I-5	7.14	4922	-0.278	0.038	0.012	0.026	0.000000	0.000000	-1823.05	1060.11
3	GUIDE	841617184	8.68	9812	-0.083	-0.044	0.072	0.117	11.510229	-25.379642	-777.20	1004.44
4	GUIDE	841621872	9.29	9840	-0.095	-0.150	0.120	0.193	12.339829	-25.439870	205.57	-1516.86
5	GUIDE	841627288	9.01	9837	0.036	0.345	0.085	0.141	11.895050	-25.394961	-278.40	-144.31
6	GUIDE	841628160	9.32	9829	0.005	-0.120	0.111	0.186	11.565969	-25.537708	-1209.07	590.84
7	GUIDE	841630056	9.35	9837	0.135	-0.025	0.113	0.181	11.834732	-25.380941	-318.81	54.04

## 2.4 Star Slots

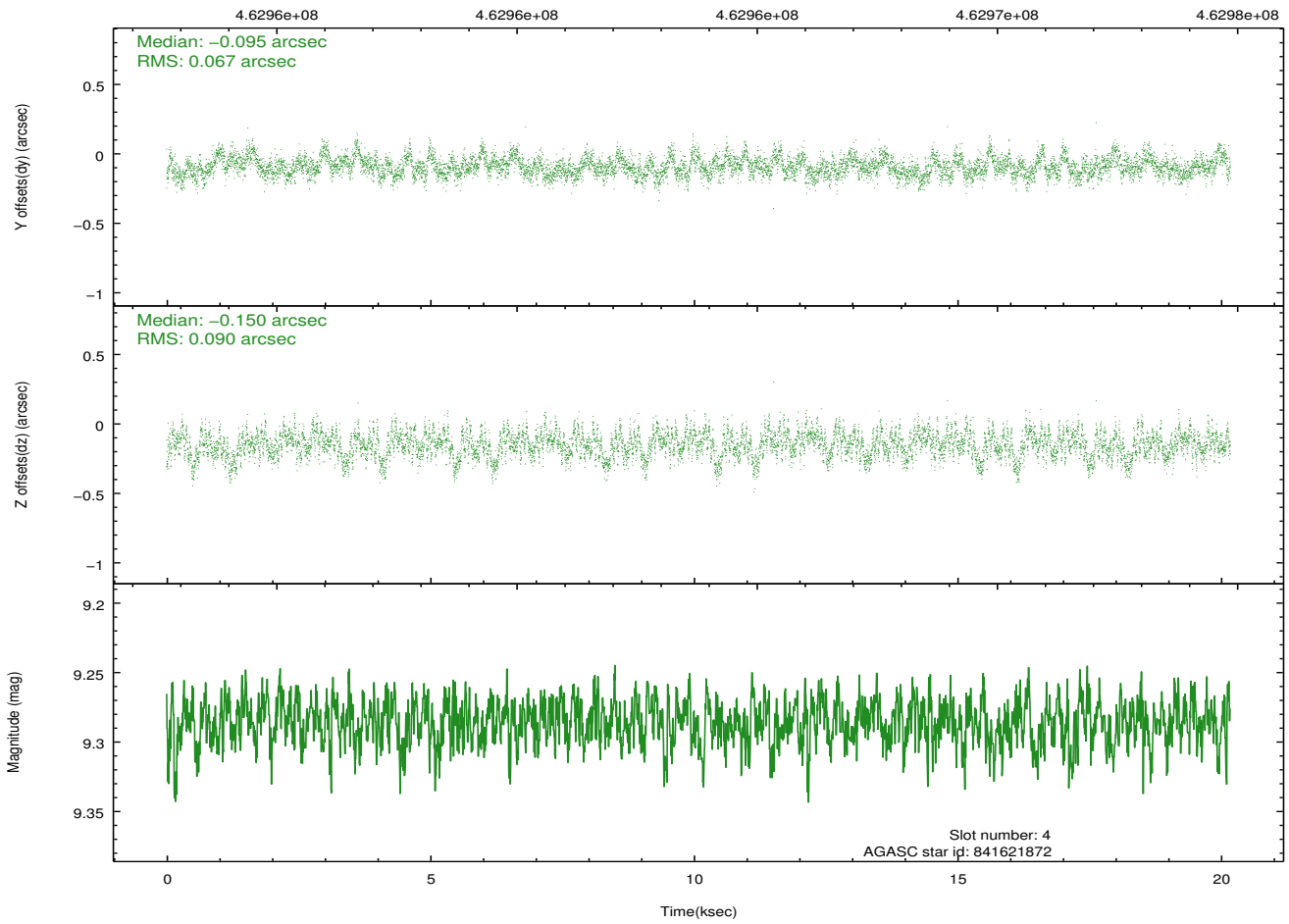
### 2.4.1 Slot 3



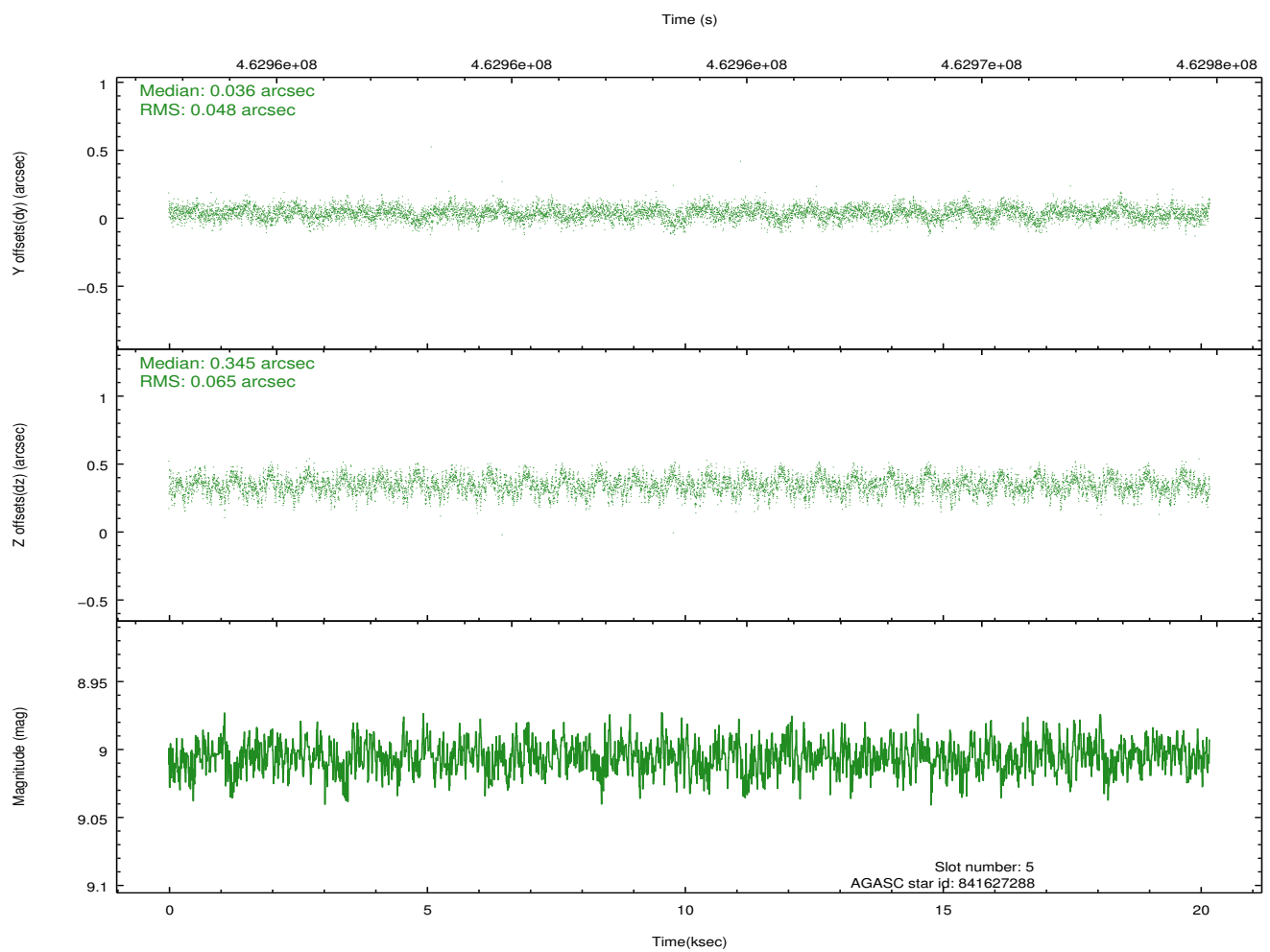
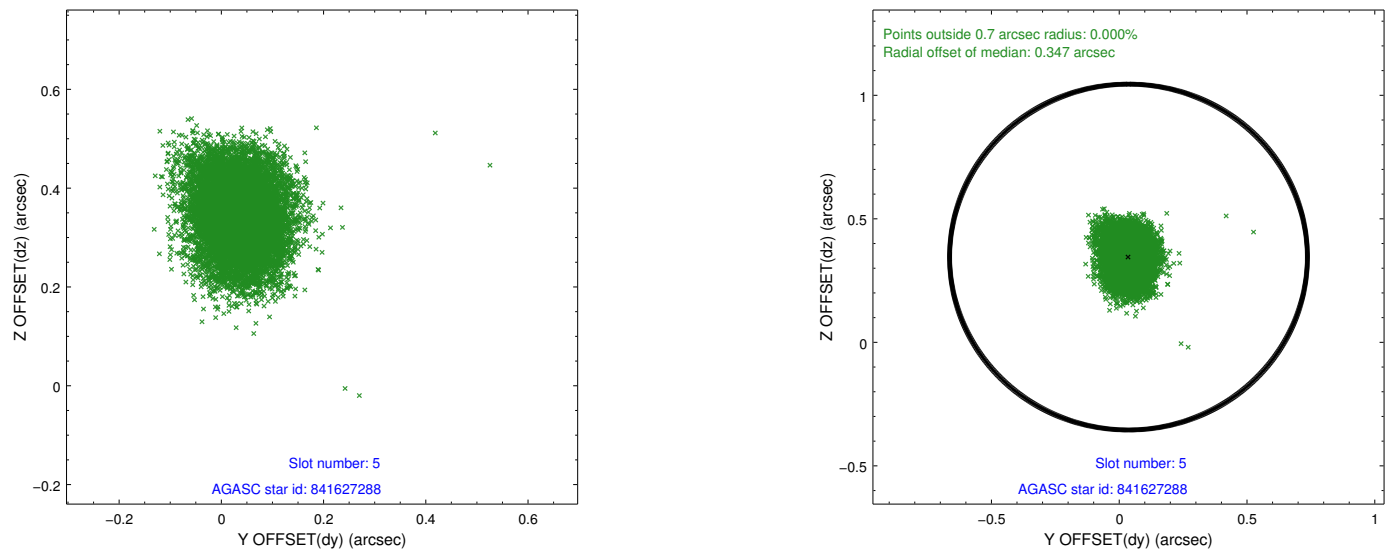
## 2.4.2 Slot 4



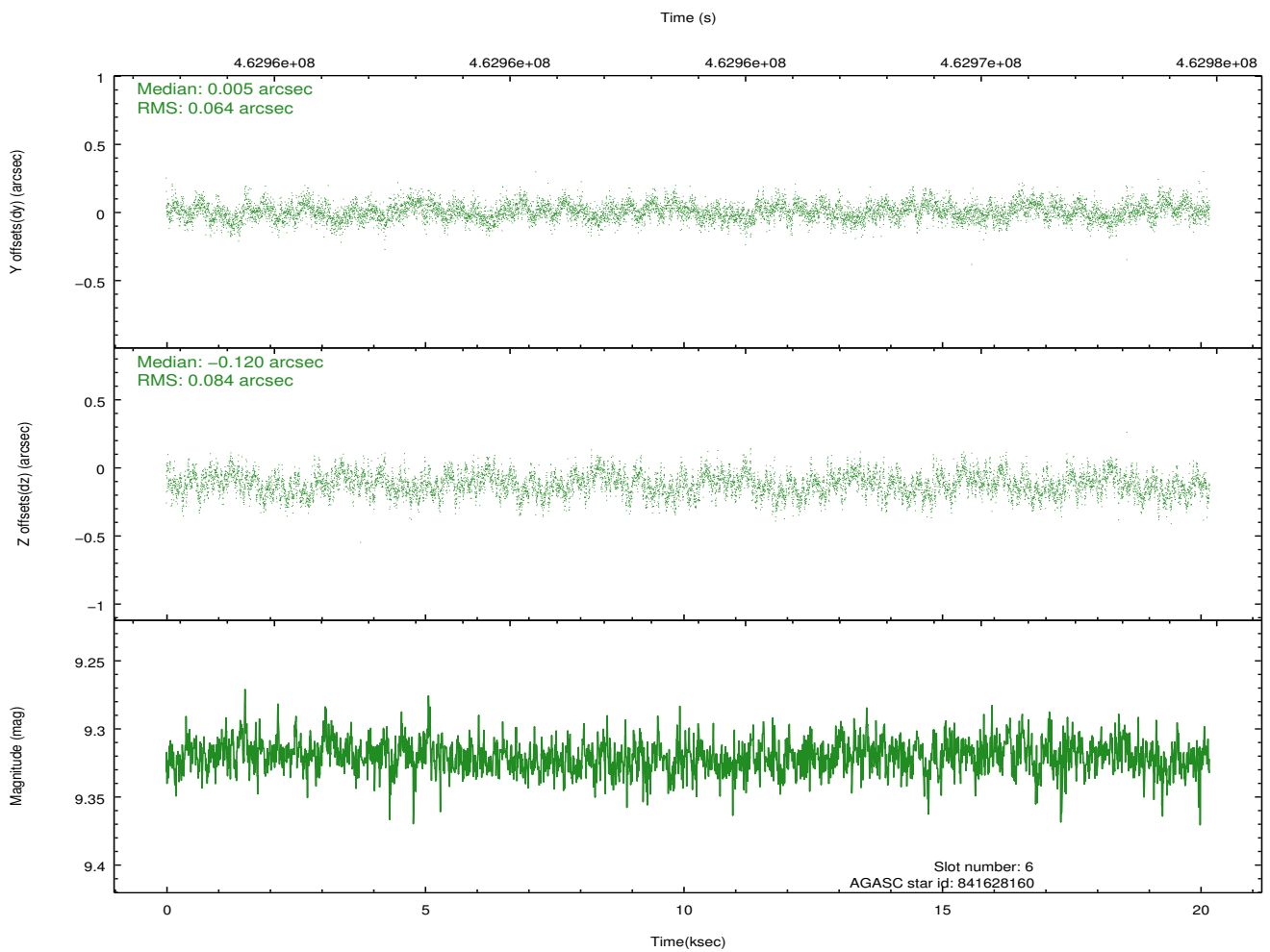
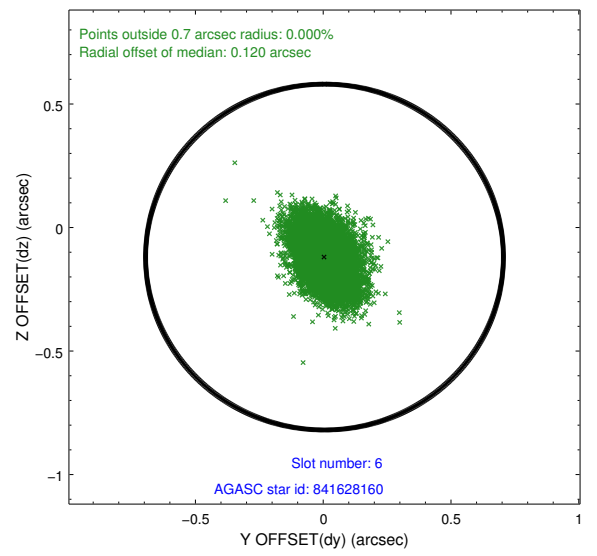
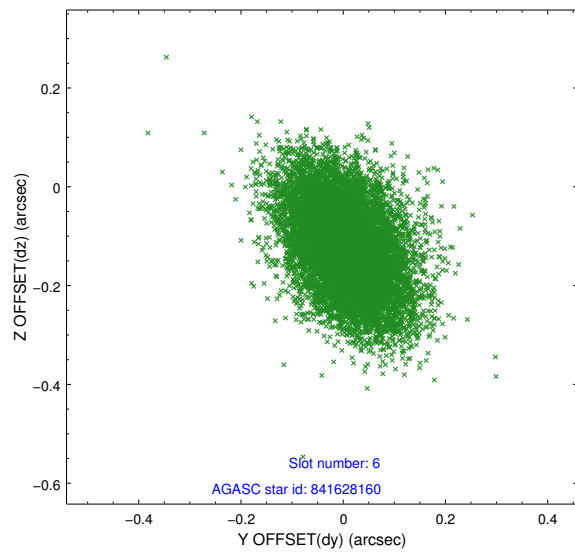
Time (s)



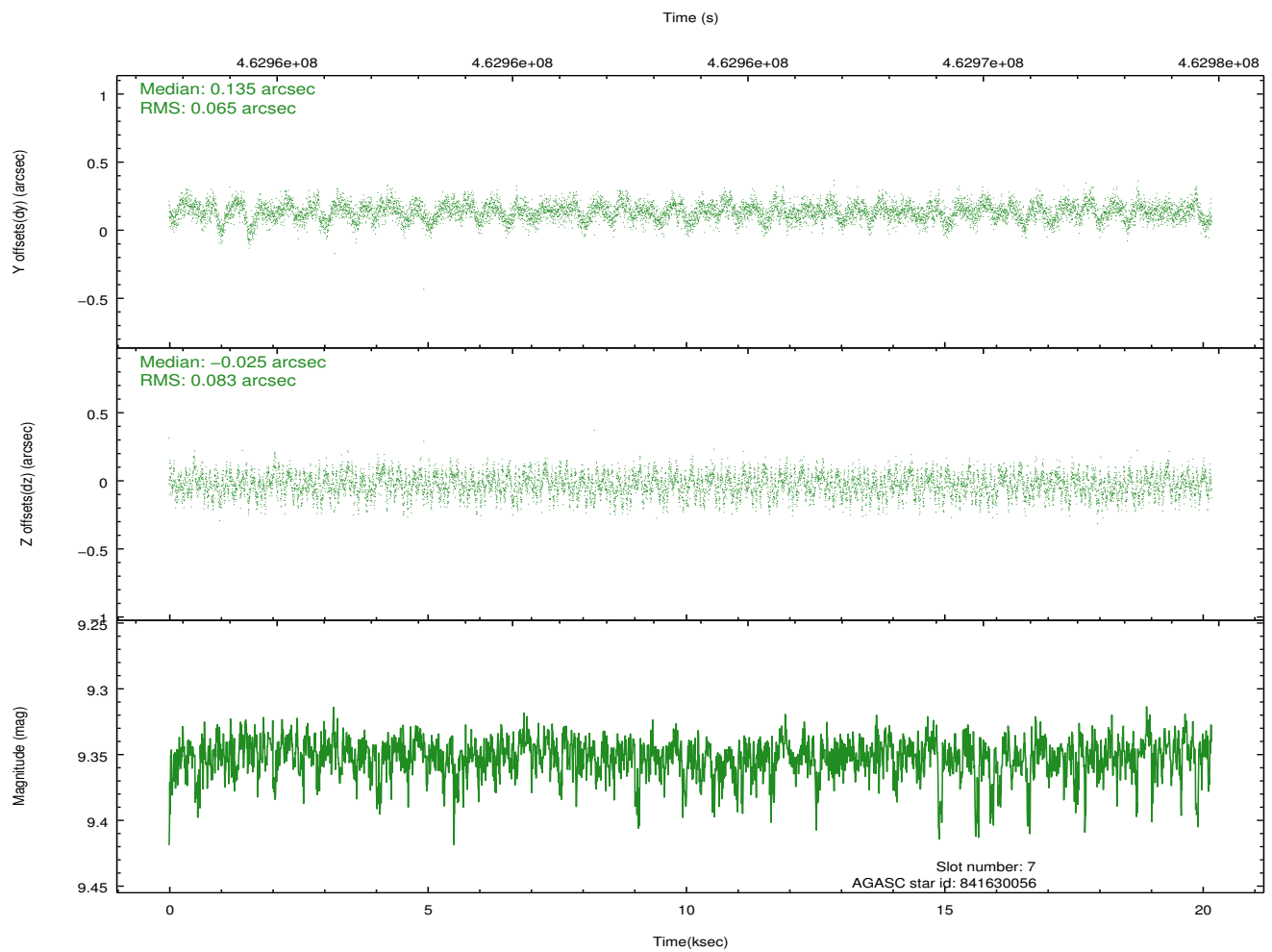
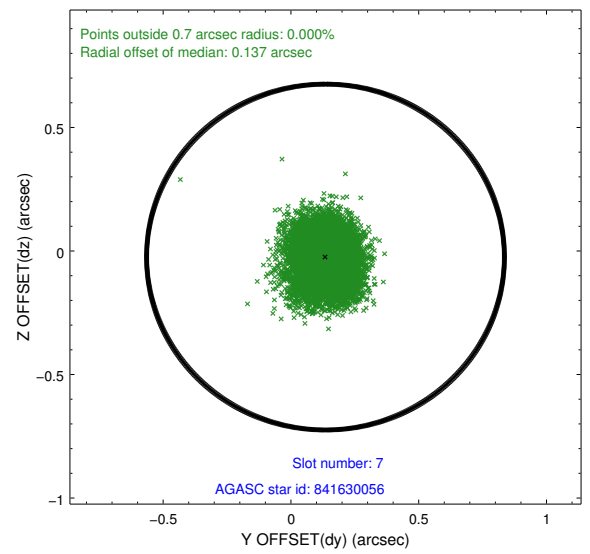
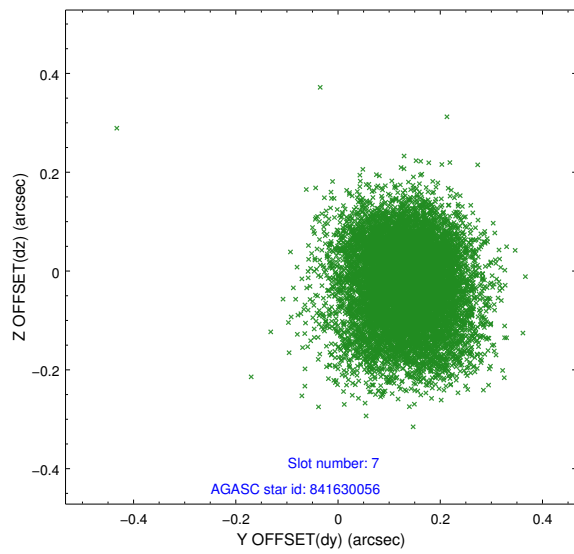
### 2.4.3 Slot 5



## 2.4.4 Slot 6

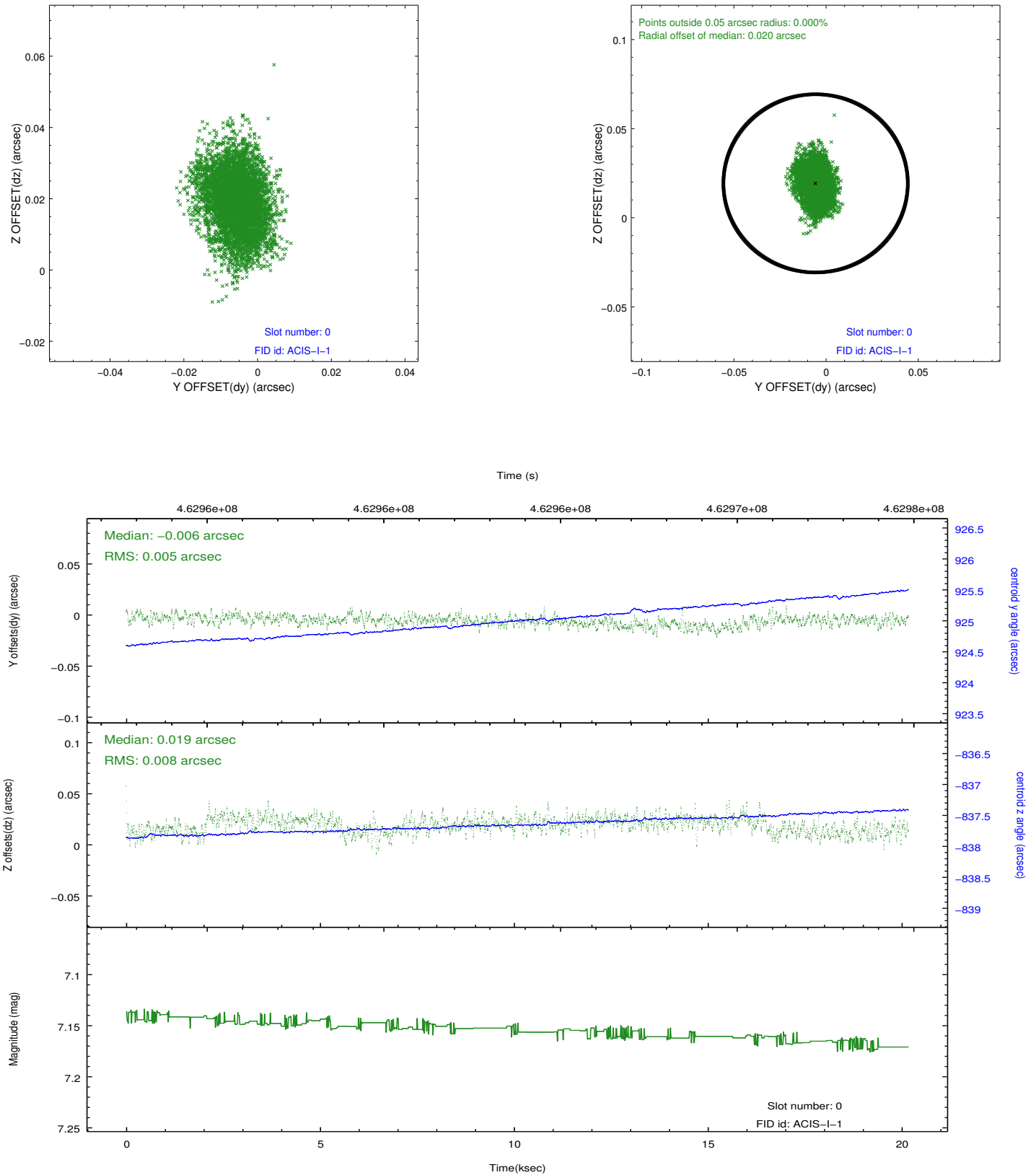


## 2.4.5 Slot 7

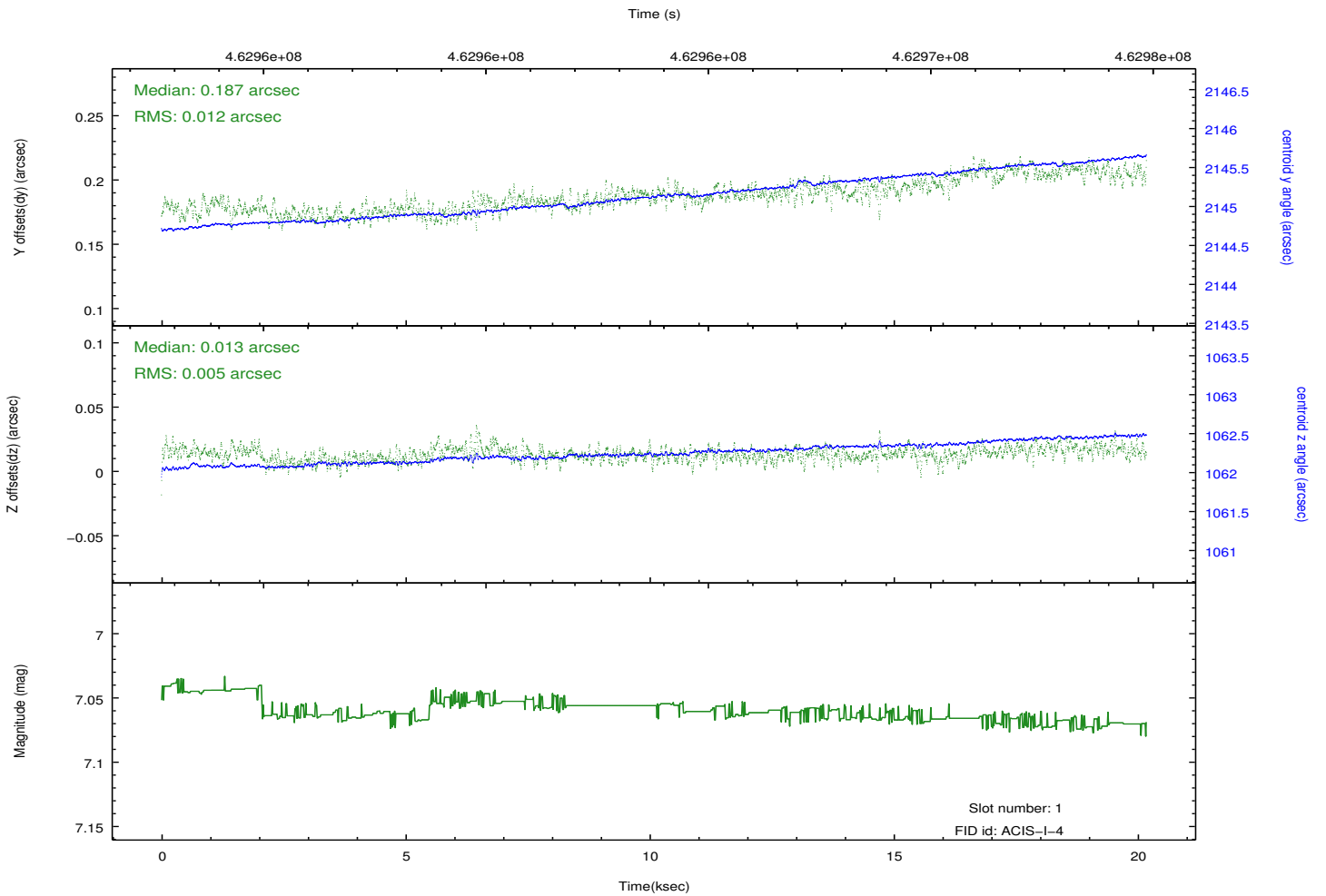
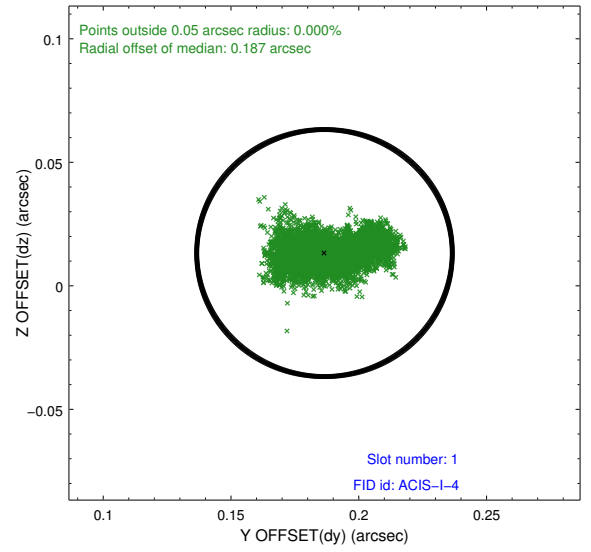
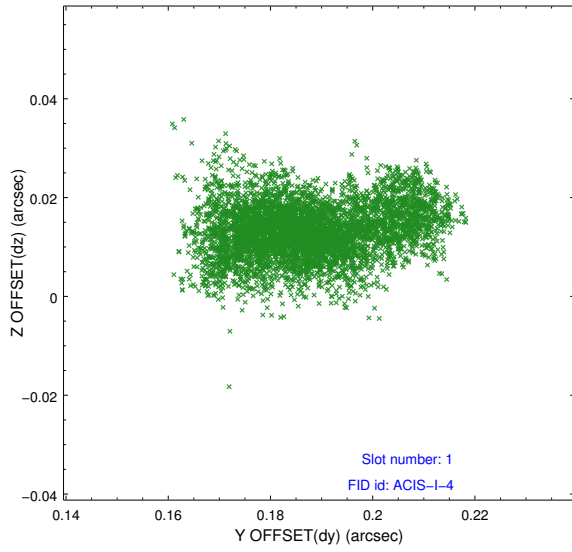


## 2.5 FID Slots

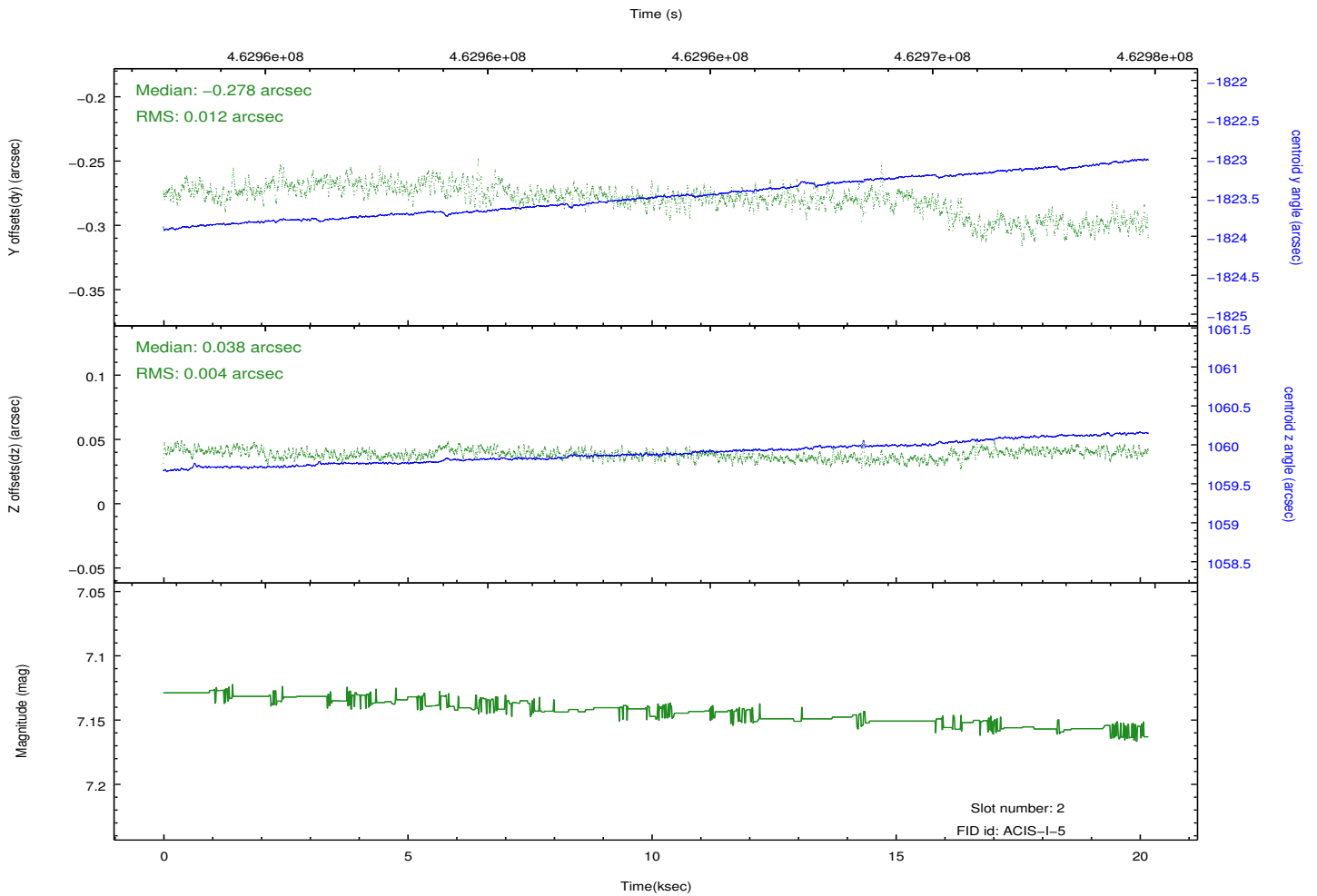
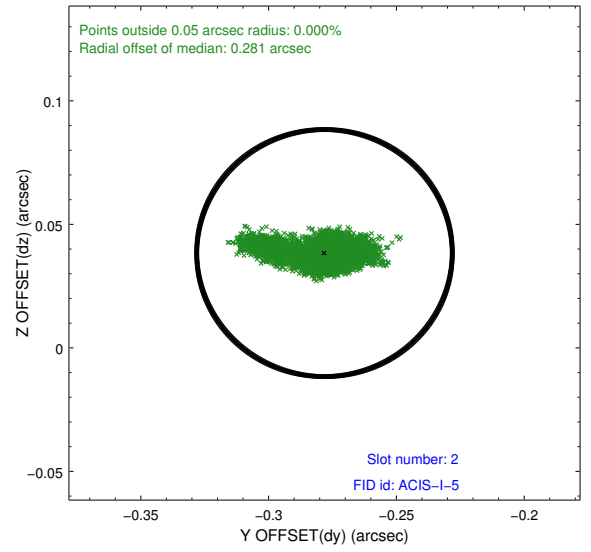
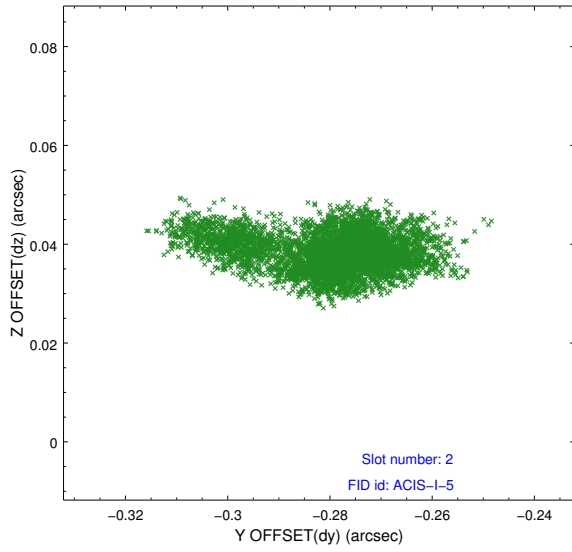
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



## A Summary

### A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.09.02
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	19.970723419845

### A.2 Comments