

# V&V Reference Report

## L2 ASCDS Version : 10.8

Observation 22360 - L2 Version 1  
Chandra X-Ray Center

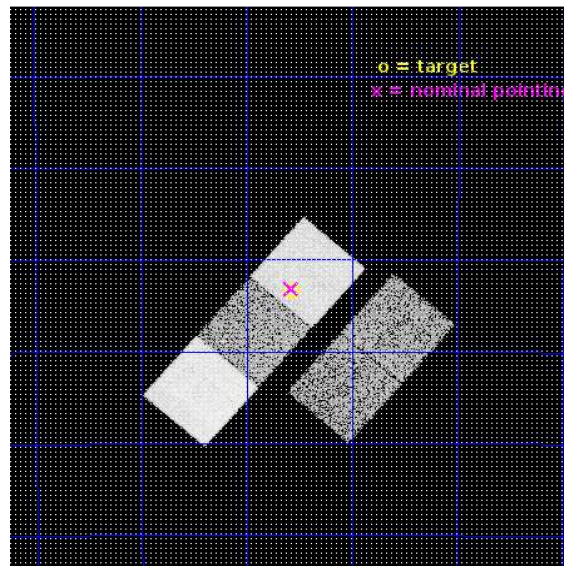
L2 Processing Date : Sep 1 2019

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# 1 Front

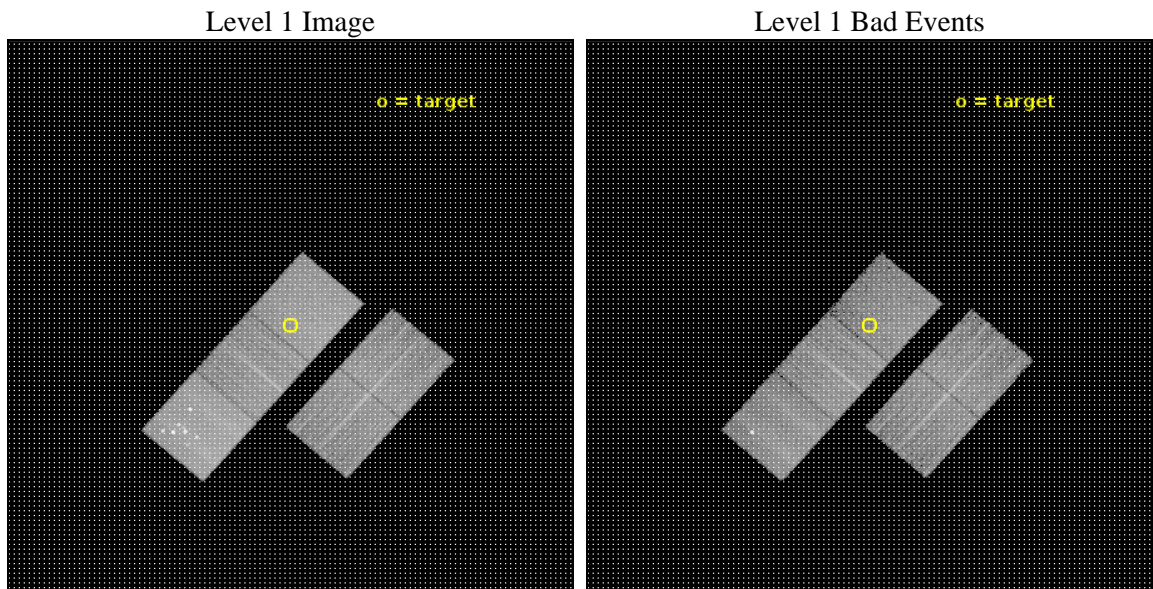
seq_num	402125	Sequence number
obs_id	22360	Observation id
title	Identifying two gamma-ray millisecond pulsars with Chandra	Proposa
observer	Kwan Lok Li	Principal investigator
object	4FGL J2029.5-4237	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	307.392542	Observer's specified target RA [deg]
dec_targ	-42.554894	Observer's specified target Dec [deg]
ra_nom	307.39401499555	Nominal RA [deg]
dec_nom	-42.552659992962	Nominal Dec [deg]
roll_nom	310.88733573532	Nominal Roll [deg]
revision	1	Processing version of data
ontime	10053.300077438	Sum of GTIs [s]
livetime	9921.9463107948	Livetime [s]
ontime2	10053.300077438	Sum of GTIs [s]
ontime3	10050.159007311	Sum of GTIs [s]
ontime5	10053.300077438	Sum of GTIs [s]
ontime6	10053.300077438	Sum of GTIs [s]
ontime7	10053.300077438	Sum of GTIs [s]
l2events	117131	Number of level 2 events



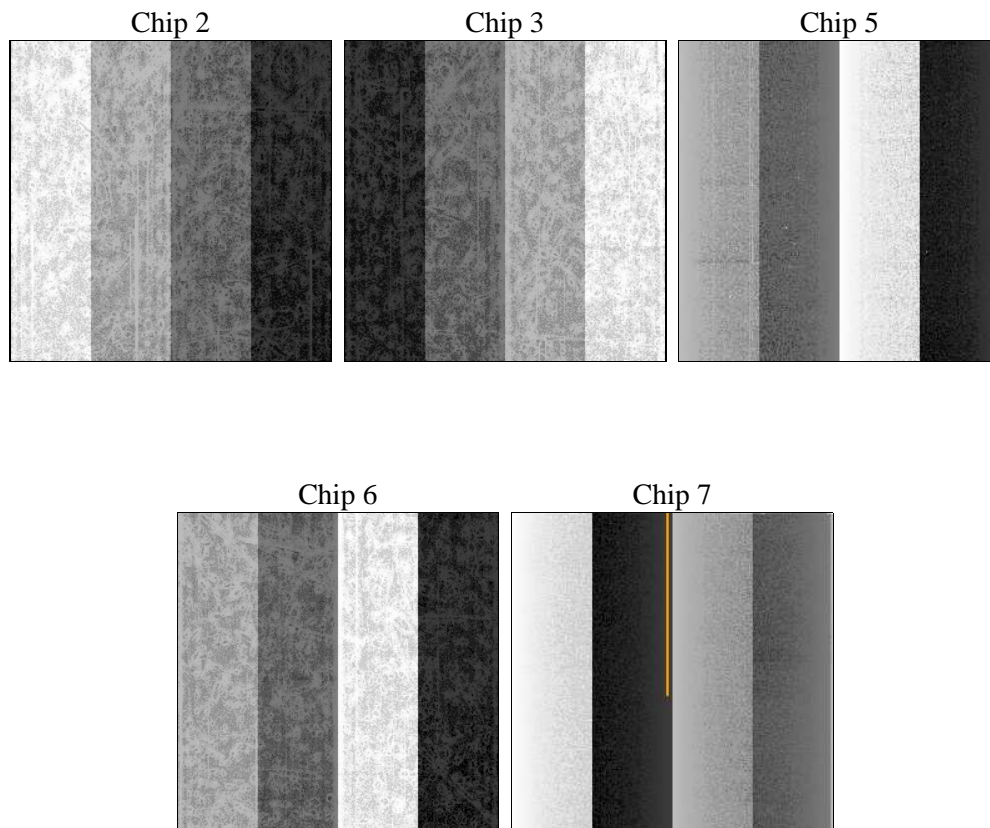
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	10000.000000	[s] Scheduled observation exposure time
ascdsver	10.8	Processing system revision	ontime	10053.300077438	Sum of GTIs [s]
caldbver	4.8.4	&#160	ontime2	10053.300077438	Sum of GTIs [s]
date	2019-09-01T13:20:54	Date and time of file creation	ontime3	10050.159007311	Sum of GTIs [s]
revision	1	Processing version of data	ontime5	10053.300077438	Sum of GTIs [s]
			ontime6	10053.300077438	Sum of GTIs [s]
			ontime7	10053.300077438	Sum of GTIs [s]
			l1events	476644	Number of level 1 events

### 2.1.4 Events

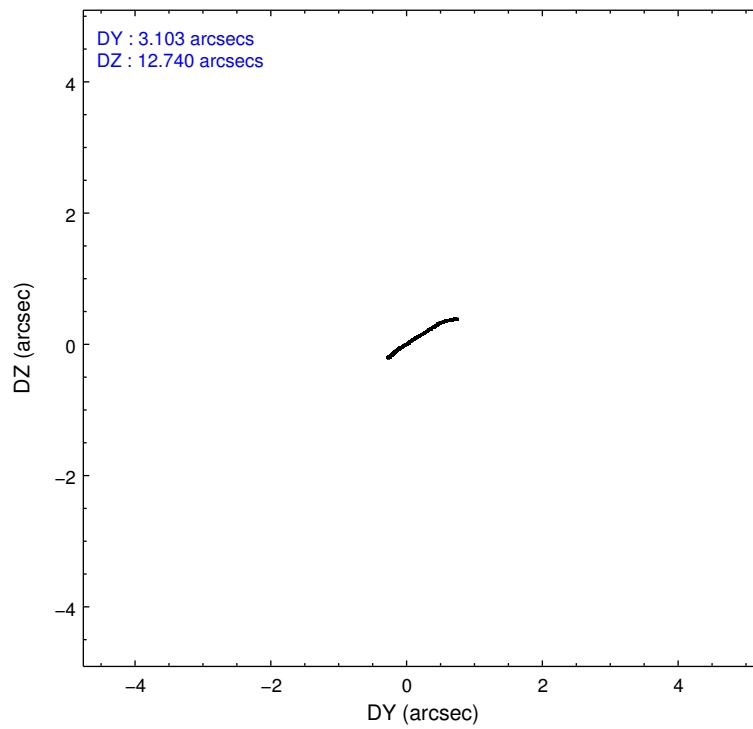
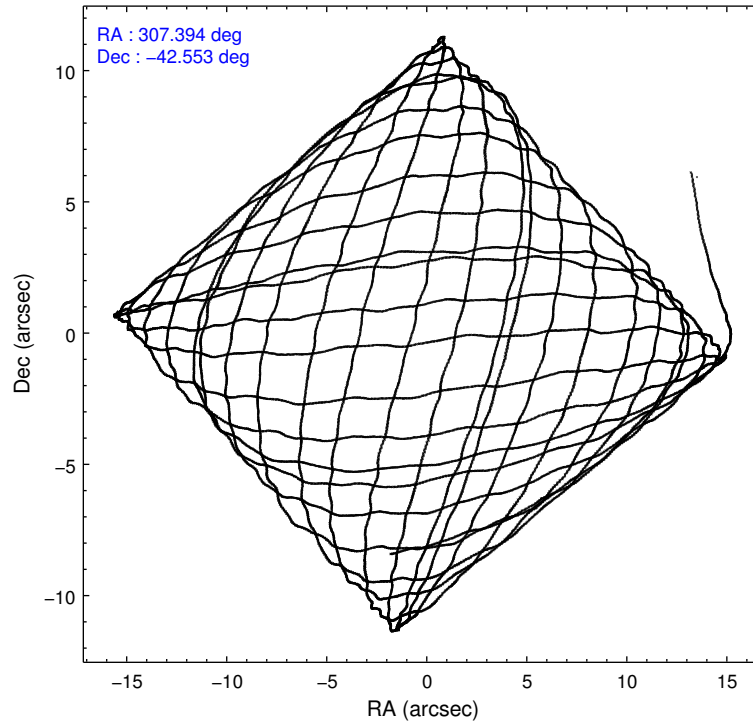
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7
level 1 events	76496	76108	140406	83201	100433
rejected events	68882	68467	70626	74635	58352
rejected %	90%	89%	50%	89%	58%

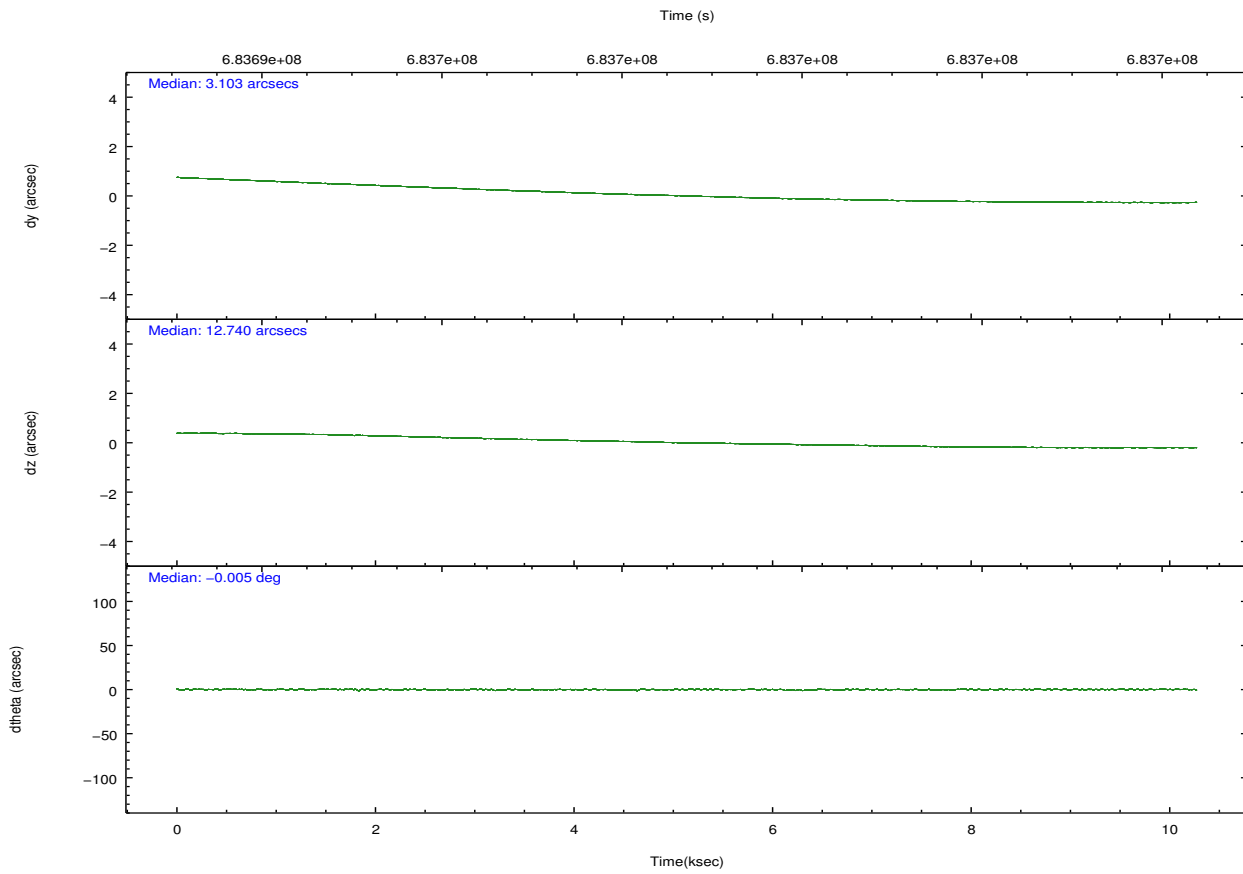
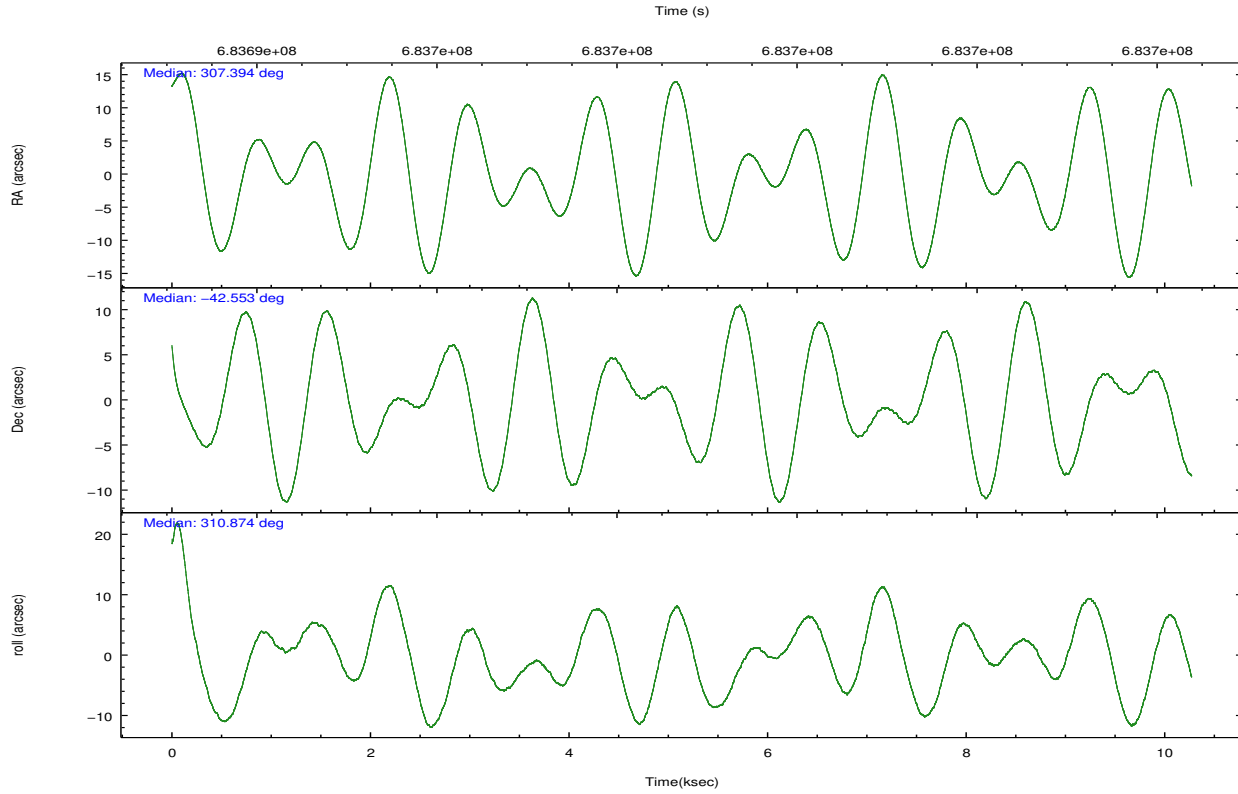
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7
grade 0 events	2541	2565	13174	2252	3353
	3%	3%	9%	2%	3%
grade 1 events	34	40	365	28	165
	0%	0%	0%	0%	0%
grade 2 events	1982	1744	19615	2501	8707
	2%	2%	13%	3%	8%
grade 3 events	685	753	1849	666	3123
	0%	0%	1%	0%	3%
grade 4 events	744	729	1614	649	3125
	0%	0%	1%	0%	3%
grade 5 events	2656	3250	7719	3006	9373
	3%	4%	5%	3%	9%
grade 6 events	1666	1851	33550	2503	23784
	2%	2%	23%	3%	23%
grade 7 events	66188	65176	62520	71596	48803
	86%	85%	44%	86%	48%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-23567	ACIS-23567	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	307.358560	307.394014995548	CCD I2 on	Y	Y
[deg] Pointing Dec	-42.544011	-42.55265999296206	CCD I3 on	O2	Y
[deg] Pointing Roll	310.706738	310.8873357353208	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1425803651734	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01005778216563158	CCD S4 on	O1	N
[s] Observation start time (MET)	683693853.184000	683692868.04555	CCD S5 on	N	N
Observation start date	2019-09-01T02:56:24	2019-09-01T02:41:08	Number of optional ACIS chips dropped	1	1
[s] Observation end time (MET)	683703853.184000	683704650.93376	On-chip summing requested	N	N
Observation end date	2019-09-01T05:43:04	2019-09-01T05:57:30	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect





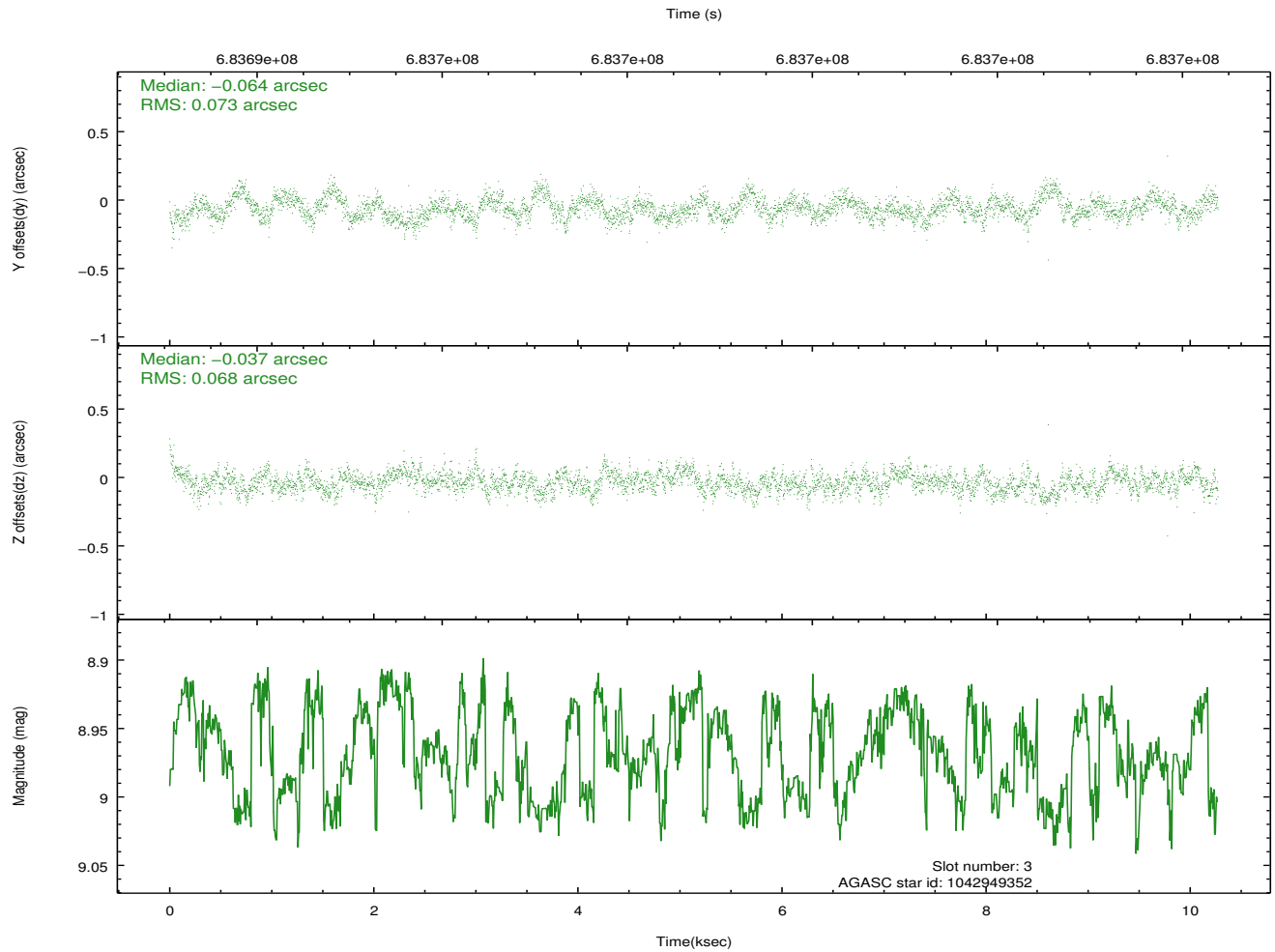
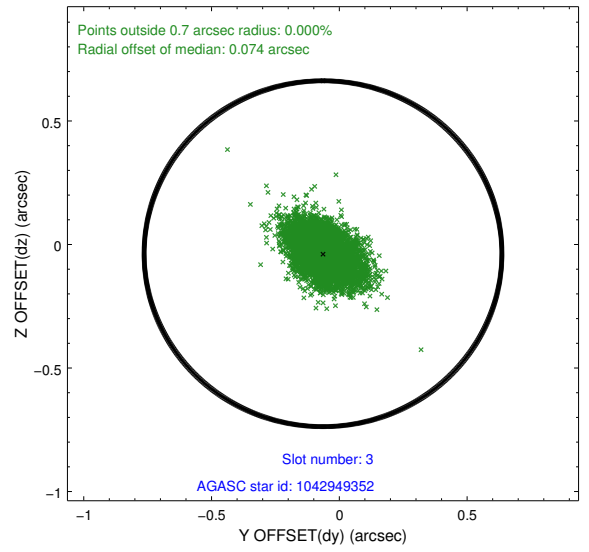
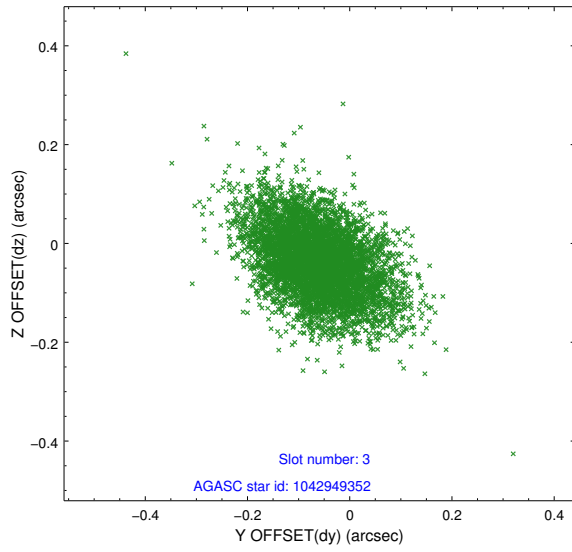
### Slot Statistics

slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_x
0	FID		ACIS-S-2	7.11	2506	1.000	-0.210	-0.132	0.011	0.021	0.000000	0.000000	-756.02	-1734
1	FID		ACIS-S-4	7.24	2506	1.000	0.518	0.136	0.013	0.034	0.000000	0.000000	2157.73	174
2	FID		ACIS-S-5	7.24	2506	1.000	-0.342	0.004	0.010	0.018	0.000000	0.000000	-1808.36	168
3	GUIDE	used	1042949352	8.97	5006	1.000	-0.064	-0.037	0.103	0.175	307.362762	-42.939758	1087.74	-920
4	GUIDE	used	1043075808	8.14	5011	1.000	-0.055	-0.017	0.100	0.151	307.901655	-42.015340	-491.70	2338
5	GUIDE	used	1043076320	9.20	5005	1.000	0.151	-0.245	0.148	0.231	307.722274	-42.820969	1383.87	77
6	GUIDE	used	1043076352	8.44	5009	1.000	-0.209	-0.098	0.085	0.138	307.998157	-42.409267	745.72	1600
7	GUIDE	used	1042947656	8.78	5005	1.000	0.182	0.392	0.111	0.179	306.995444	-42.650120	-334.87	-979

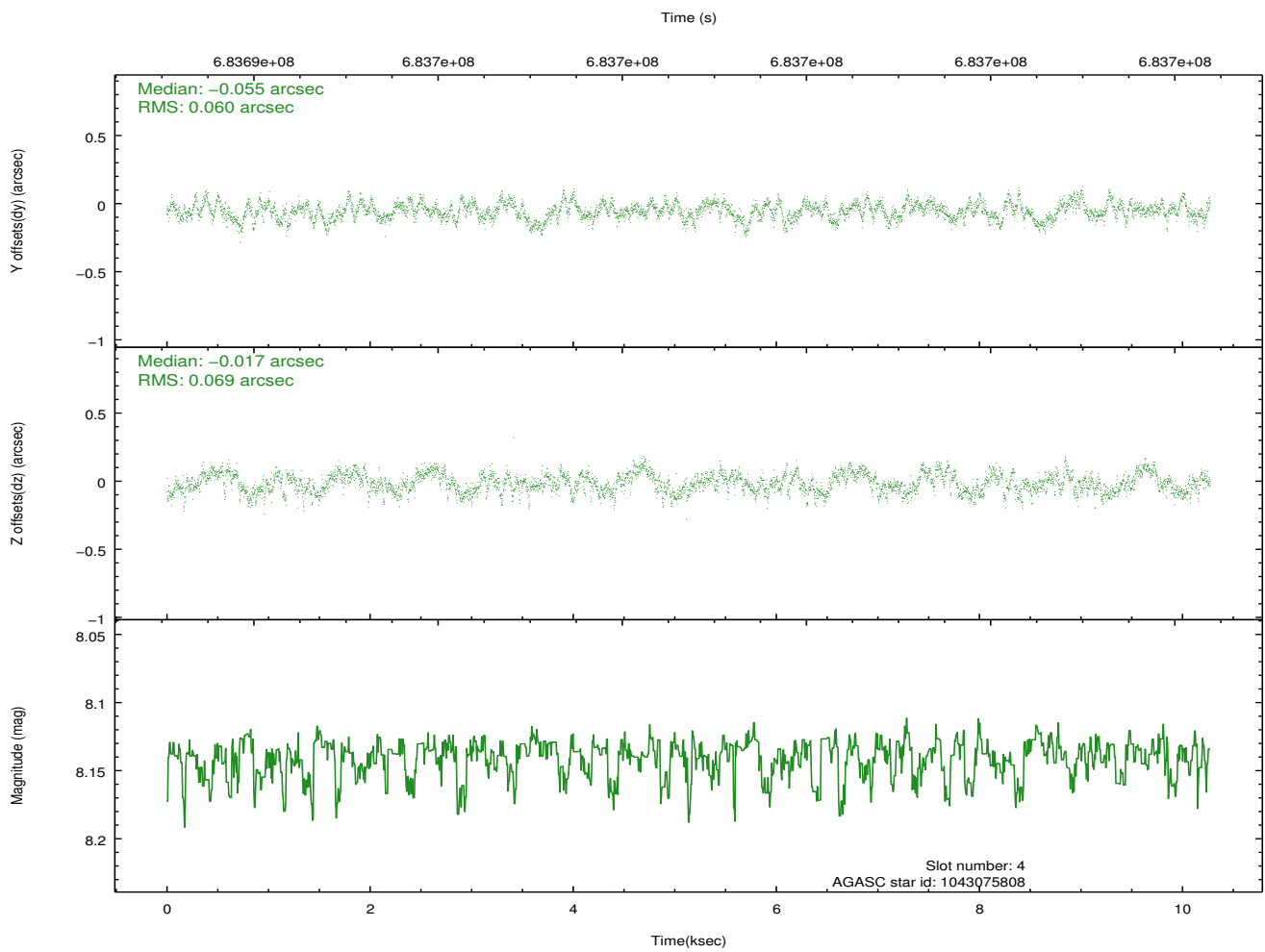
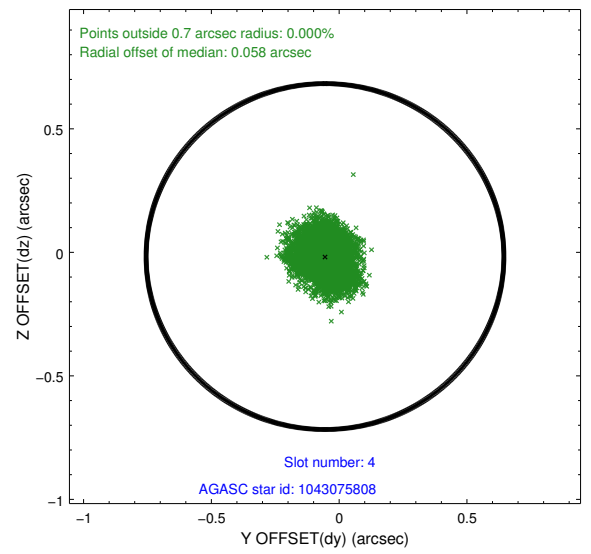
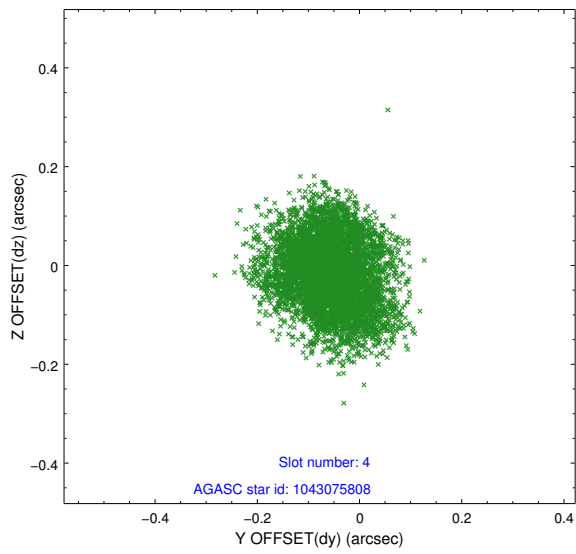
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## 2.4 Star Slots

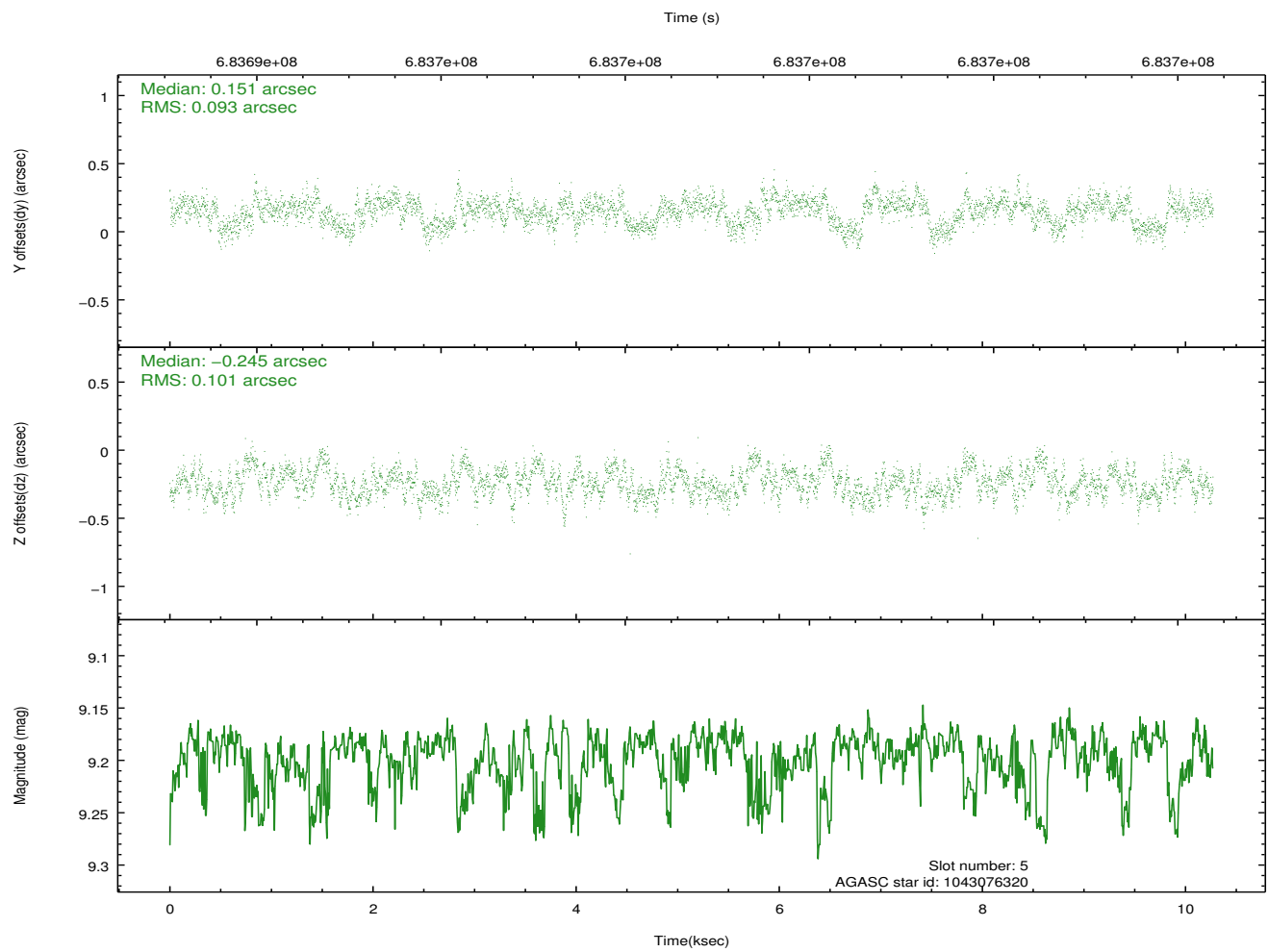
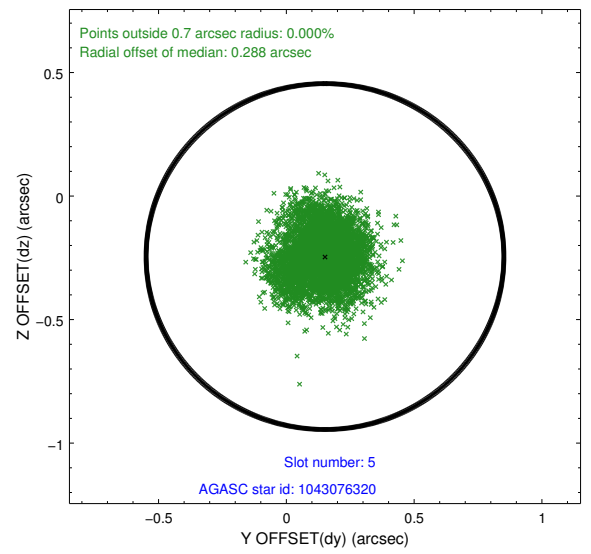
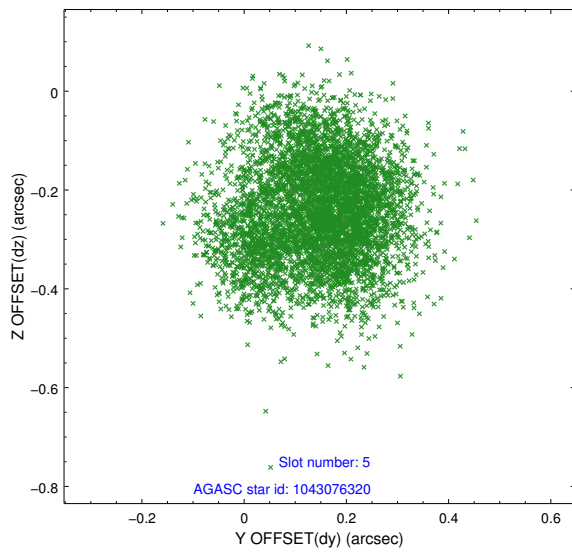
### 2.4.1 Slot 3



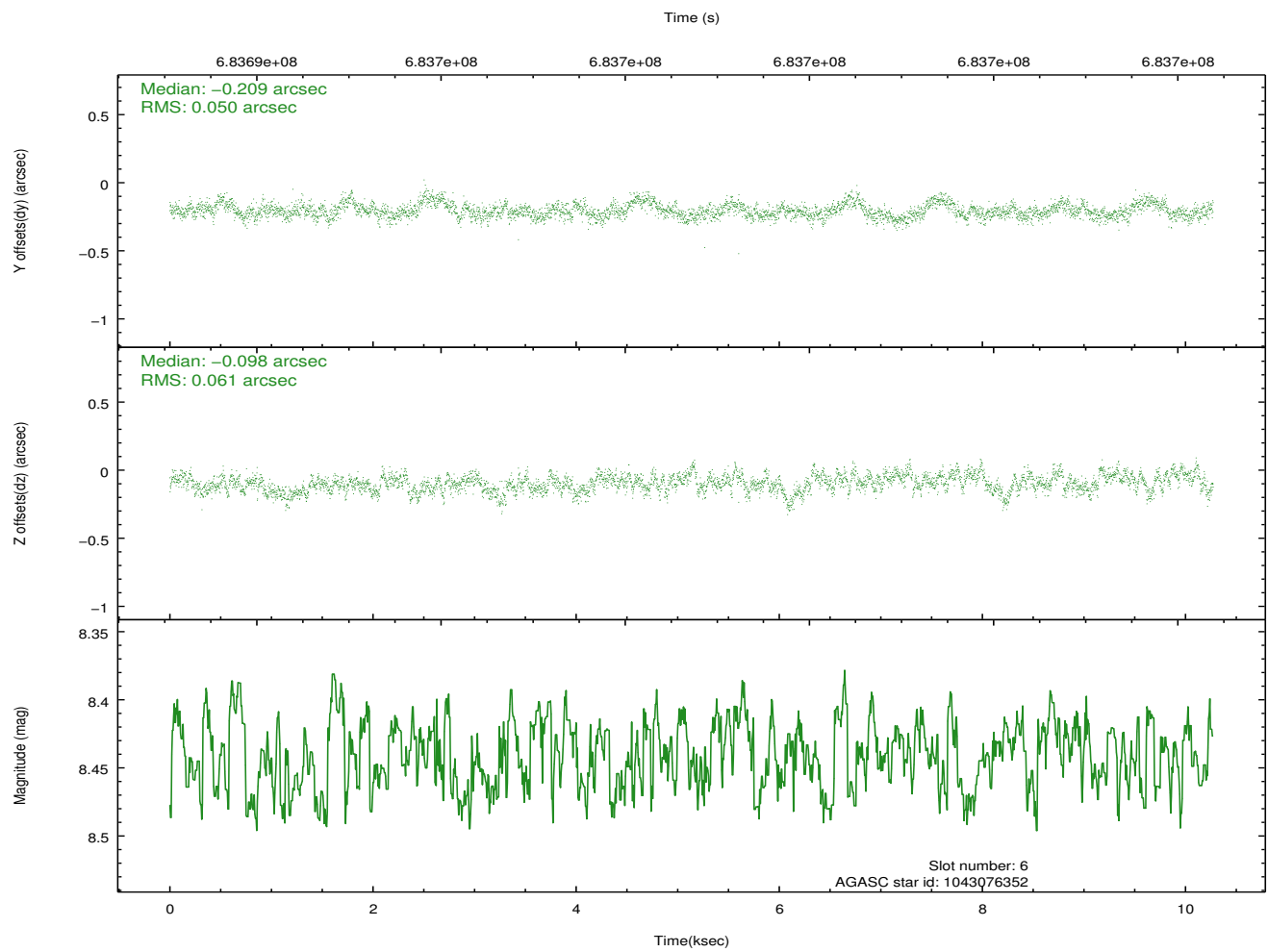
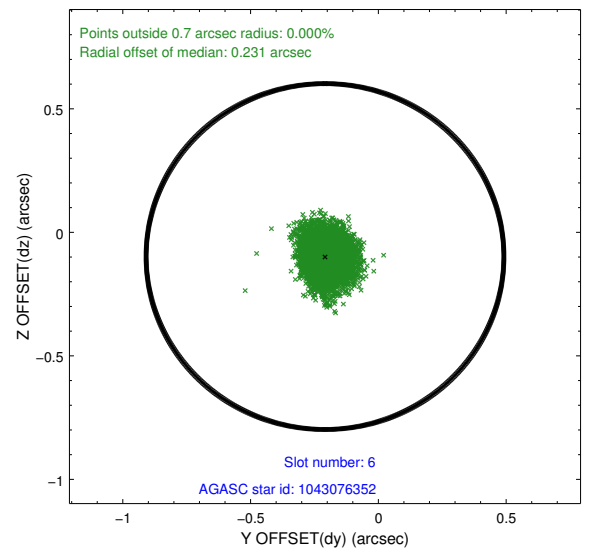
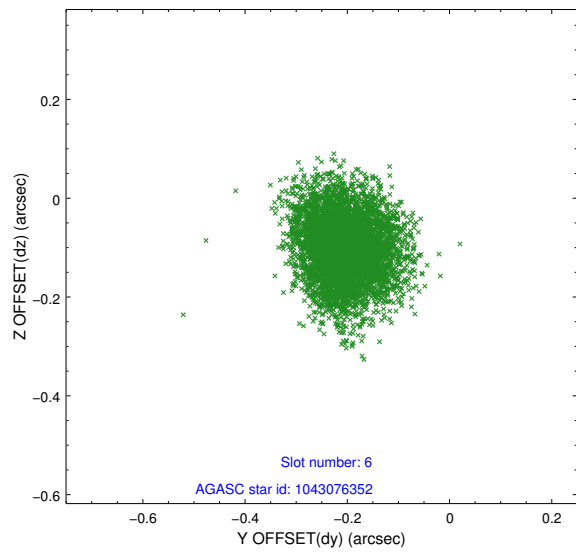
## 2.4.2 Slot 4



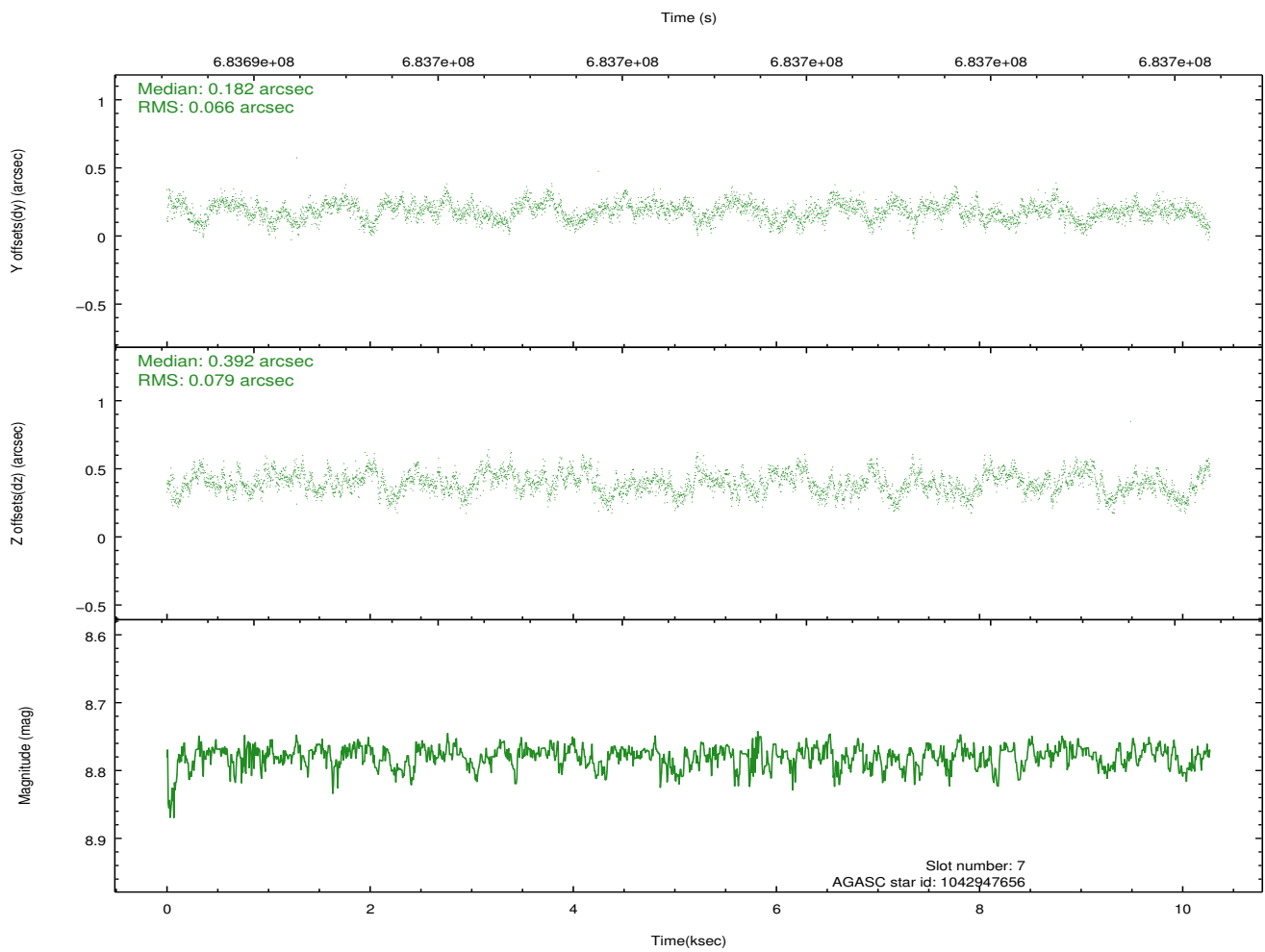
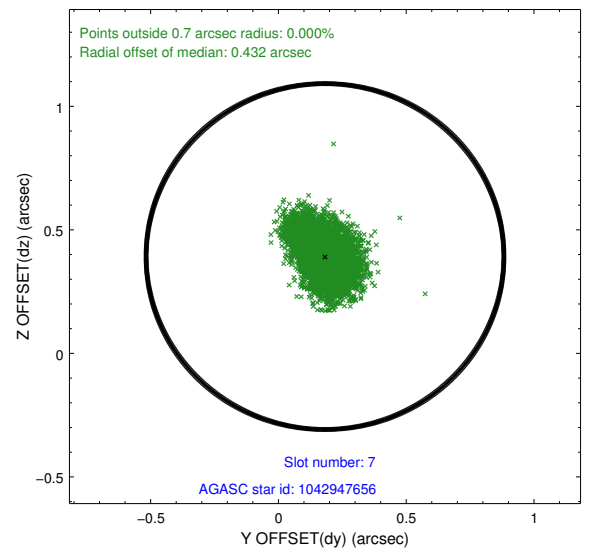
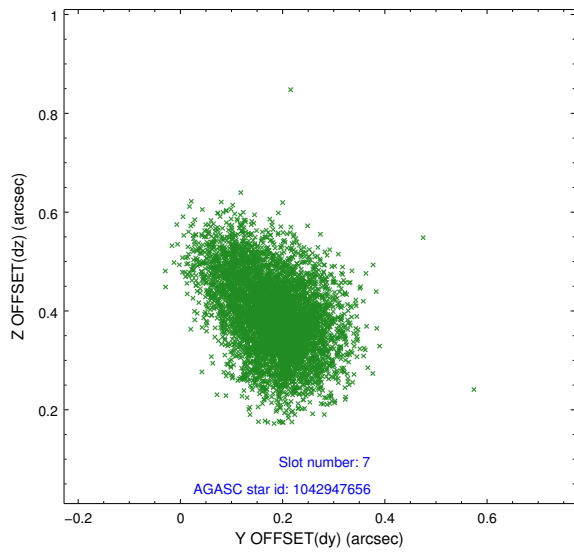
### 2.4.3 Slot 5



## 2.4.4 Slot 6

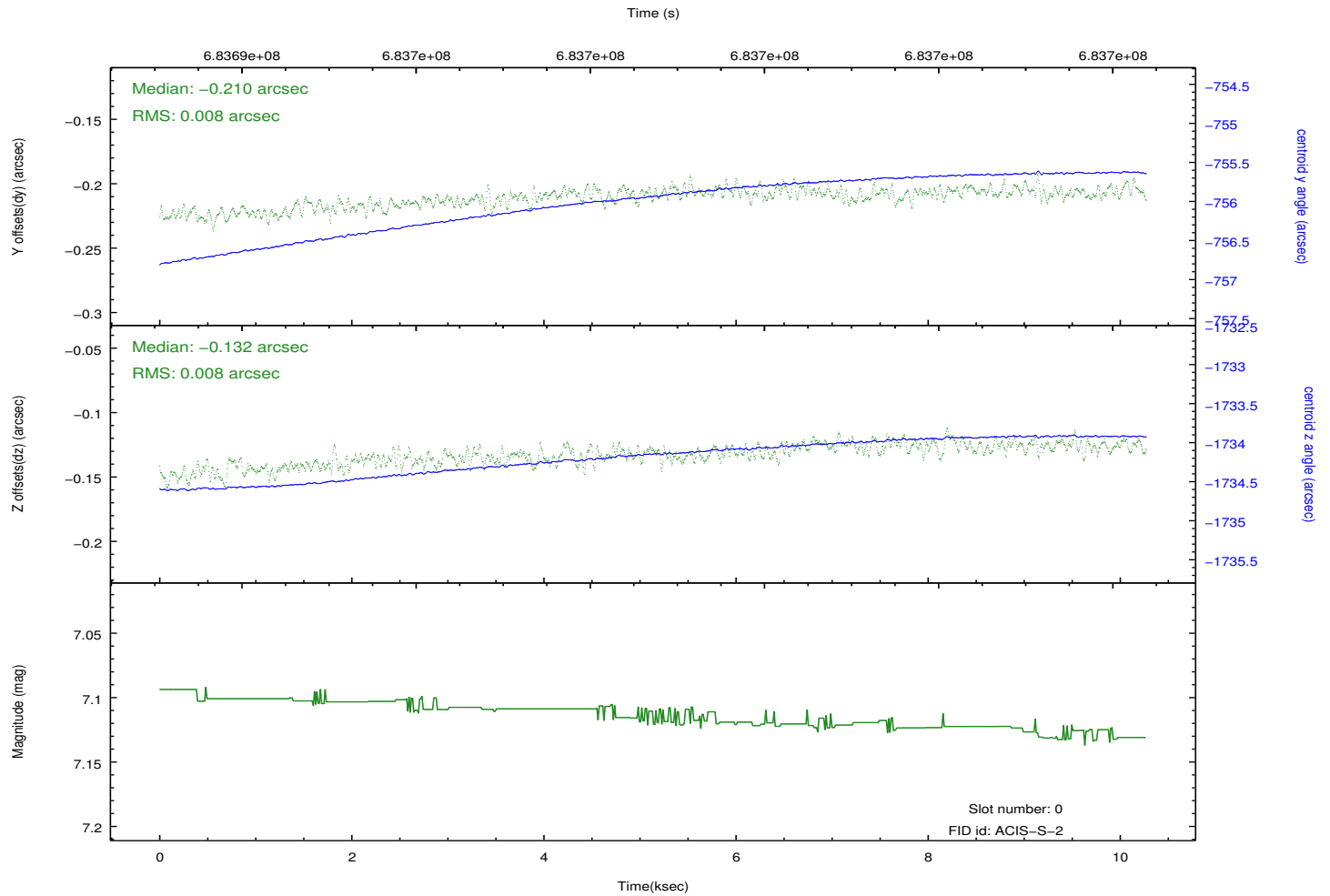
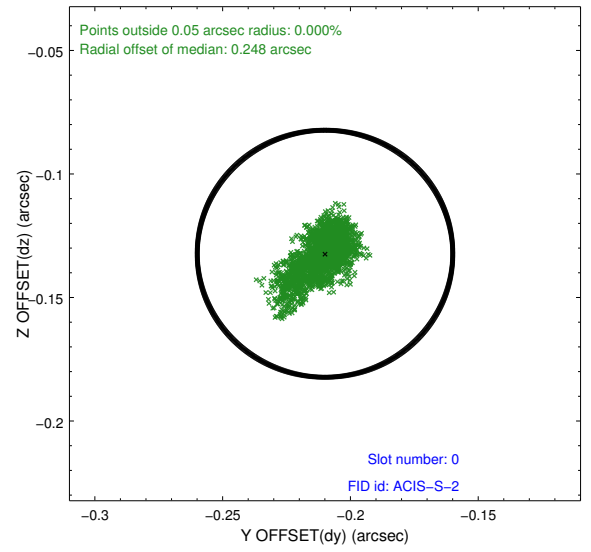
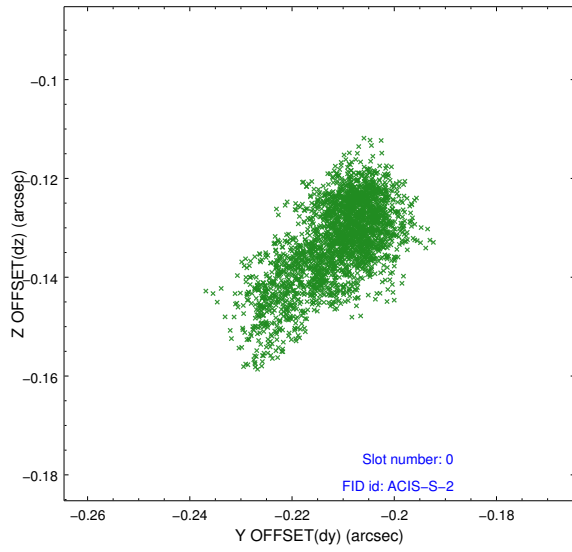


## 2.4.5 Slot 7

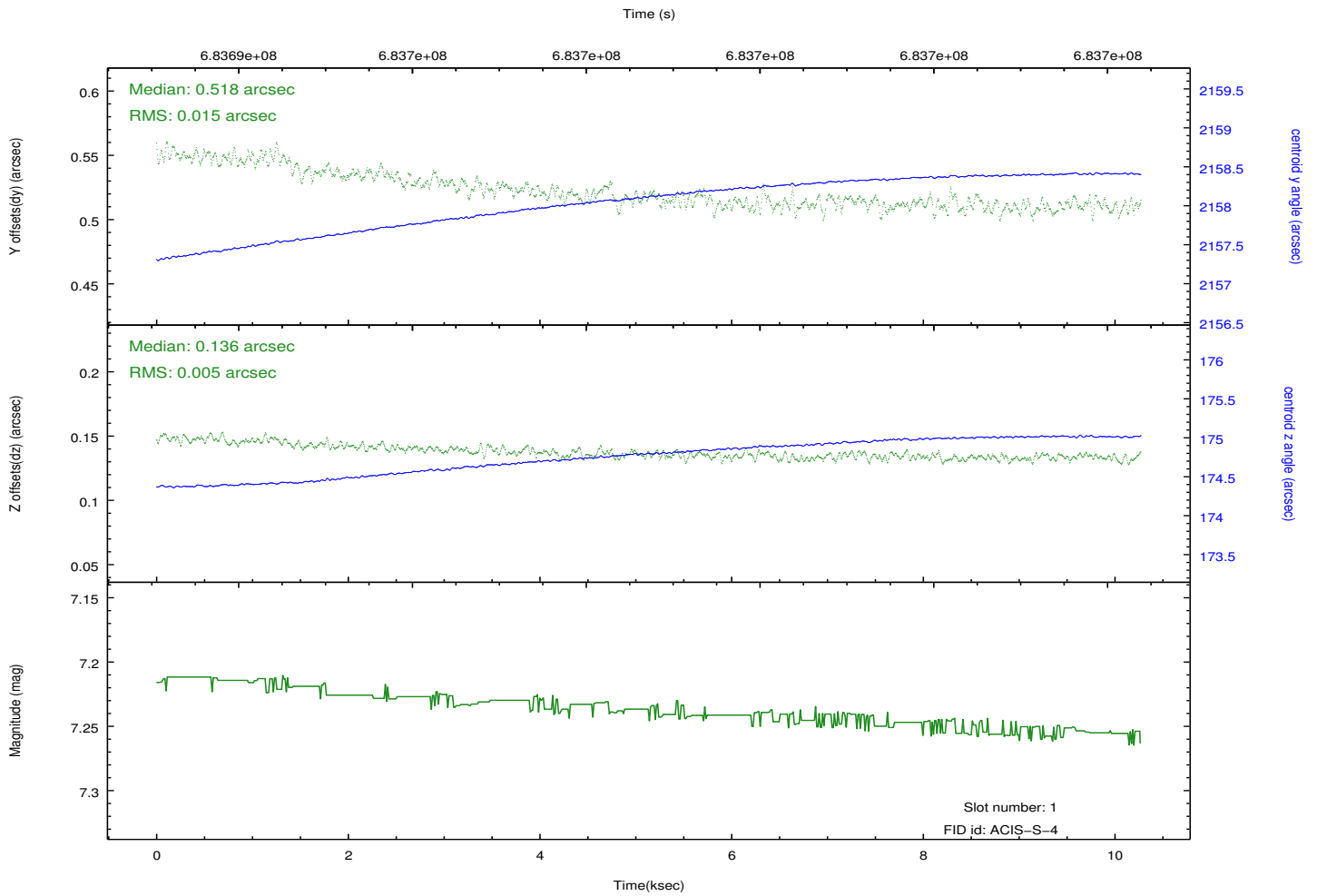
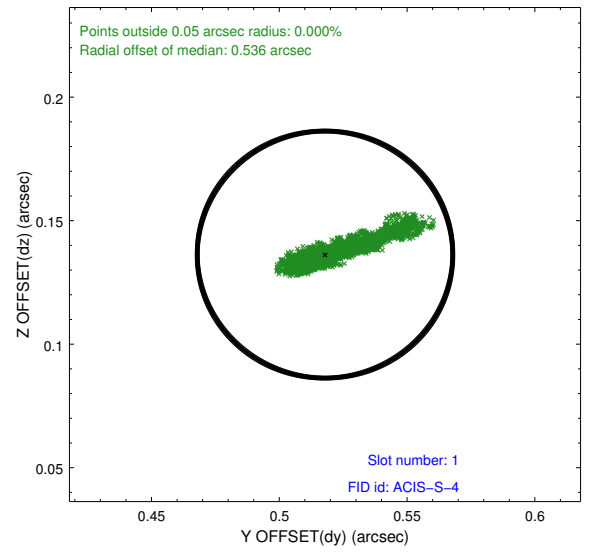
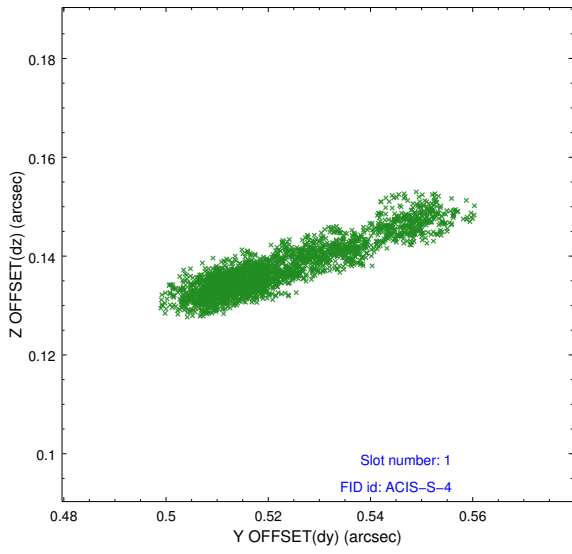


## 2.5 FID Slots

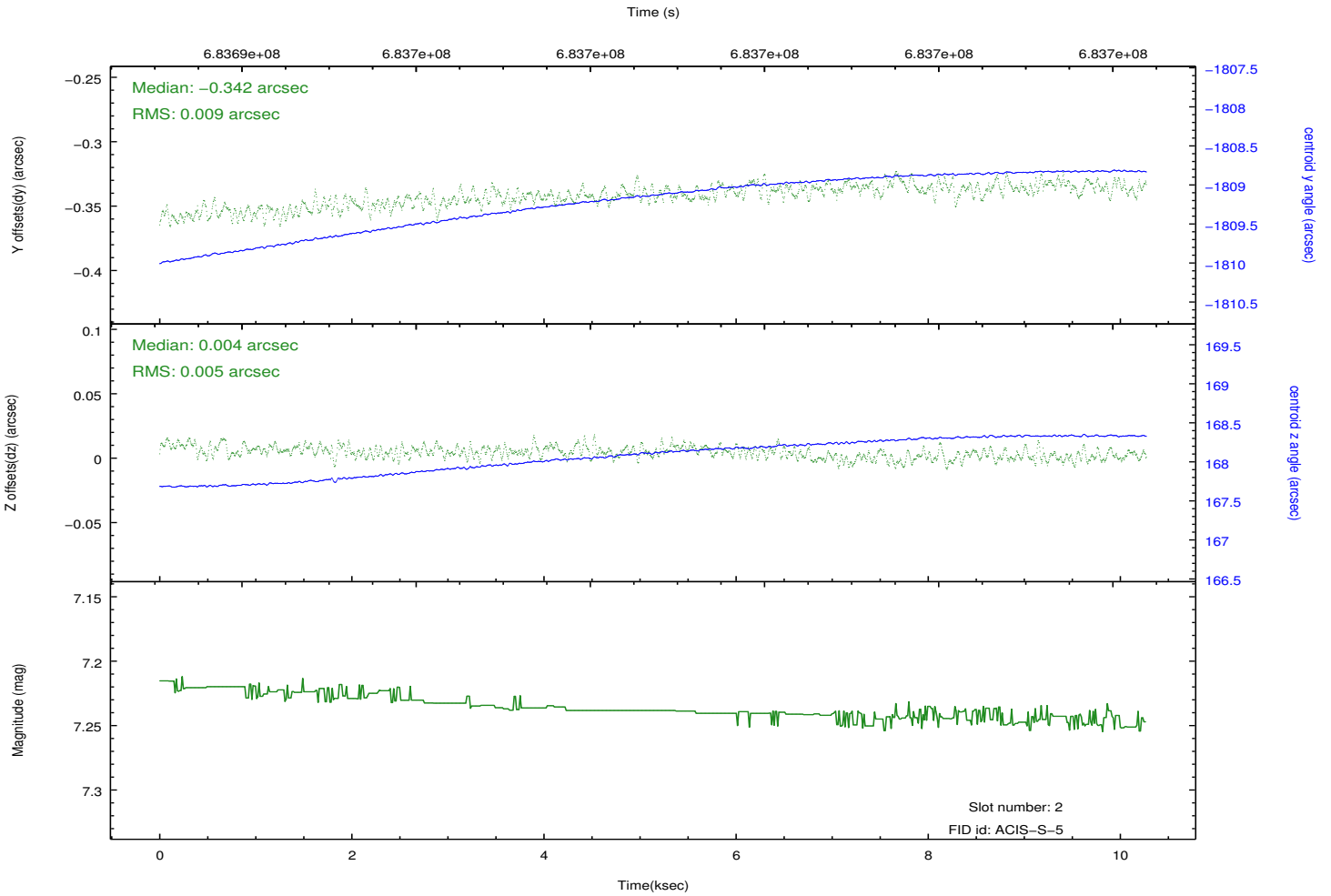
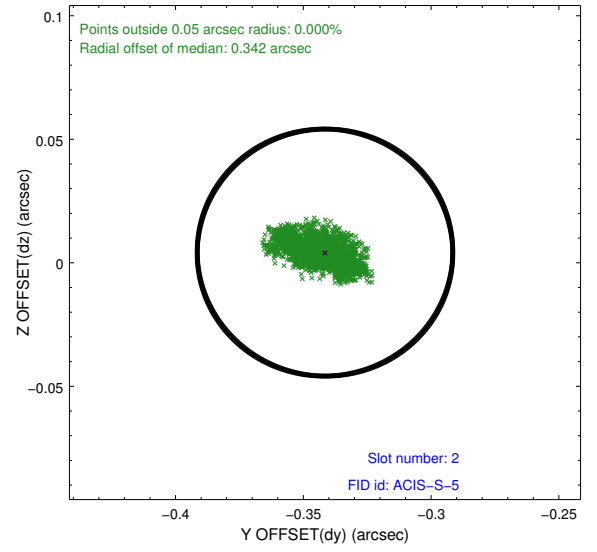
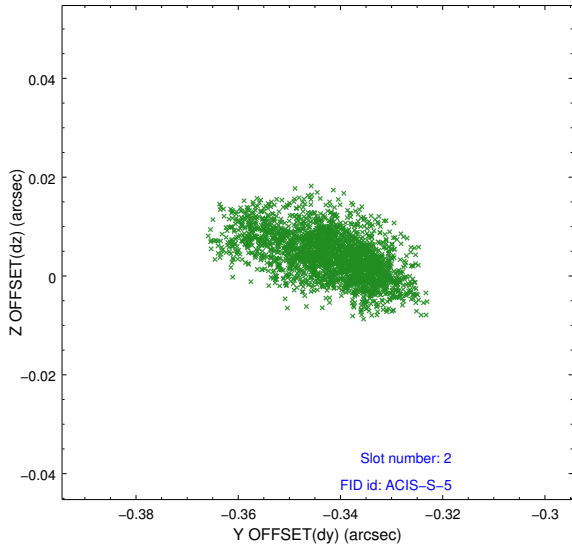
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2019.09.01
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.053300077438

## A.2 Comments

One optional chip was dropped.