

# V&V Reference Report

## L2 ASCDS Version : 10.7.1

Observation 21289 - L2 Version 1  
Chandra X-Ray Center

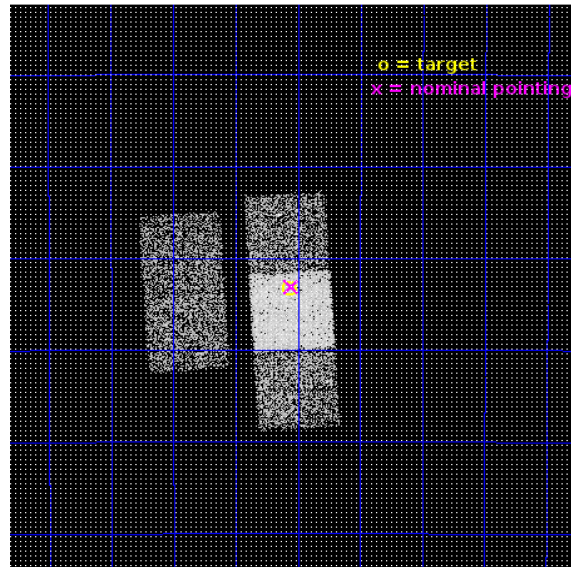
L2 Processing Date : Mar 8 2019

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# 1 Front

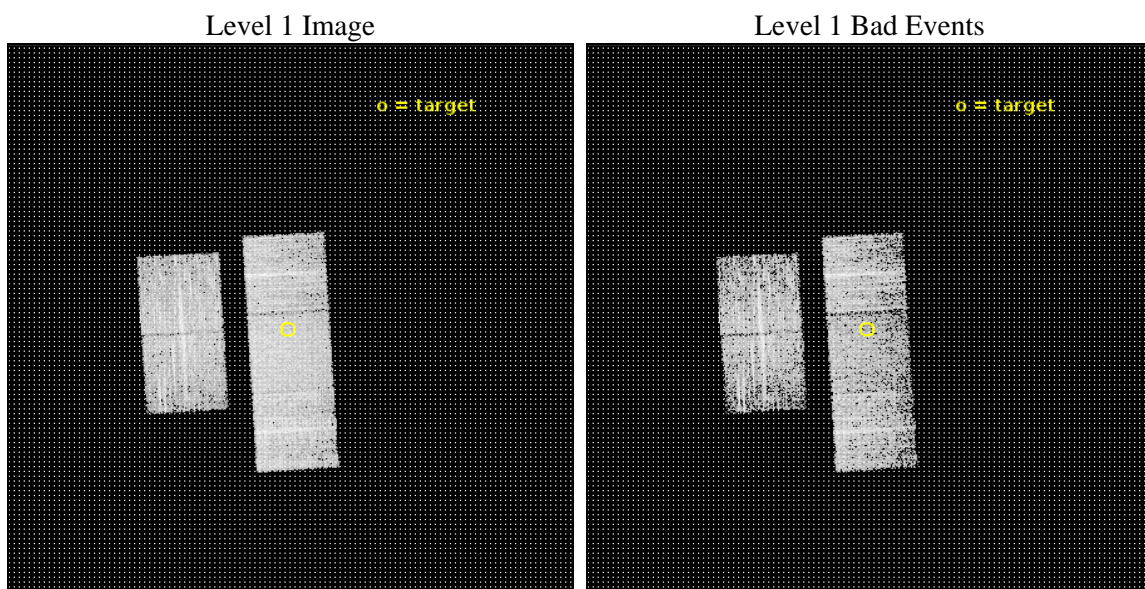
seq_num	503062	Sequence number
obs_id	21289	Observation id
title	Where Have All the Central Compact Objects Gone?	Proposal title
observer	Eric Gotthelf	Principal investigator
object	PSR J1720-2933	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	260.142083	Observer's specified target RA [deg]
dec_targ	-29.5545	Observer's specified target Dec [deg]
ra_nom	260.13796130259	Nominal RA [deg]
dec_nom	-29.551993670659	Nominal Dec [deg]
roll_nom	86.592017284023	Nominal Roll [deg]
revision	1	Processing version of data
ontime	3551.3678854704	Sum of GTIs [s]
livetime	3504.9666495677	Livetime [s]
ontime2	3551.2037254572	Sum of GTIs [s]
ontime3	3551.2858054638	Sum of GTIs [s]
ontime6	3551.3268455267	Sum of GTIs [s]
ontime7	3551.3678854704	Sum of GTIs [s]
ontime8	3551.2447655201	Sum of GTIs [s]
l2events	25805	Number of level 2 events



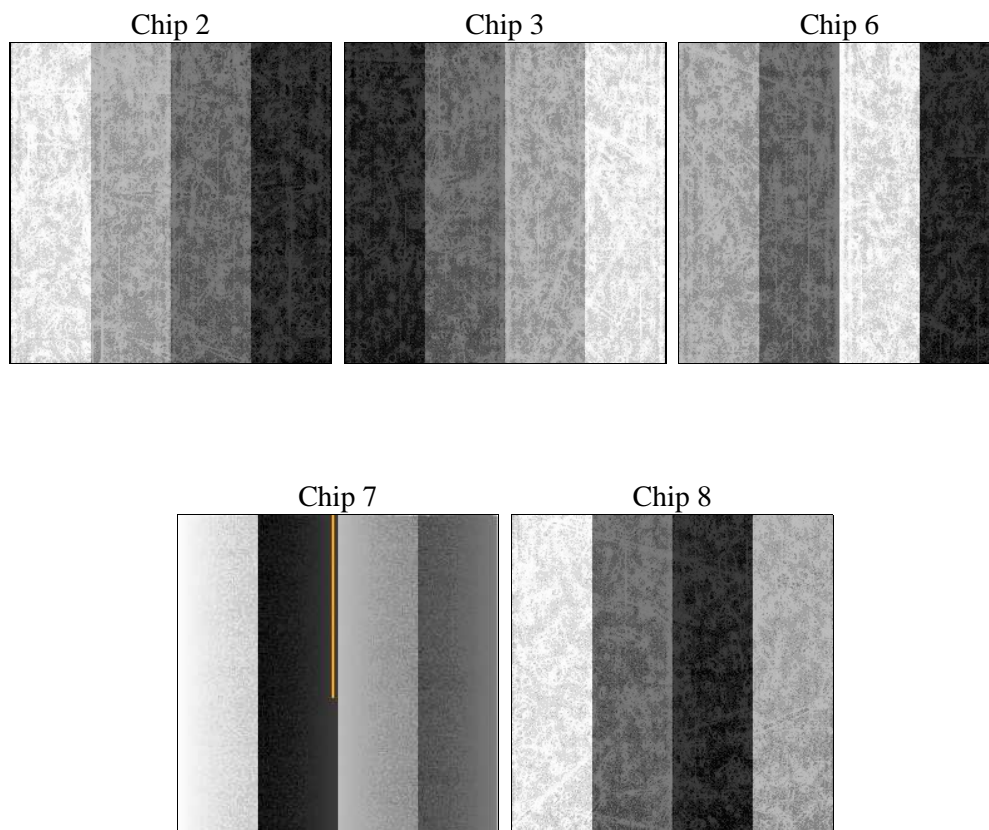
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	3500.000000	[s] Scheduled observation exposure time
ascdsver	10.7.1	Processing system revision	ontime	3551.3678854704	Sum of GTIs [s]
caldsver	4.8.2	&#160	ontime2	3551.2037254572	Sum of GTIs [s]
date	2019-03-09T02:34:40	Date and time of file creation	ontime3	3551.2858054638	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	3551.3268455267	Sum of GTIs [s]
			ontime7	3551.3678854704	Sum of GTIs [s]
			ontime8	3551.2447655201	Sum of GTIs [s]
			l1events	157441	Number of level 1 events

### 2.1.4 Events

	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
level 1 events	28701	26423	30926	35670	35721
rejected events	25824	23574	27663	20492	26552
rejected %	89%	89%	89%	57%	74%

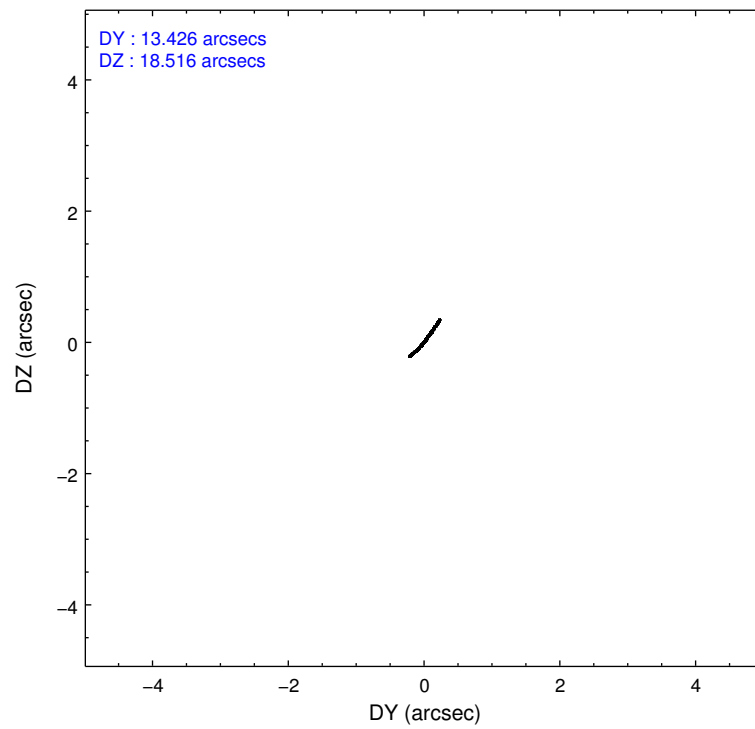
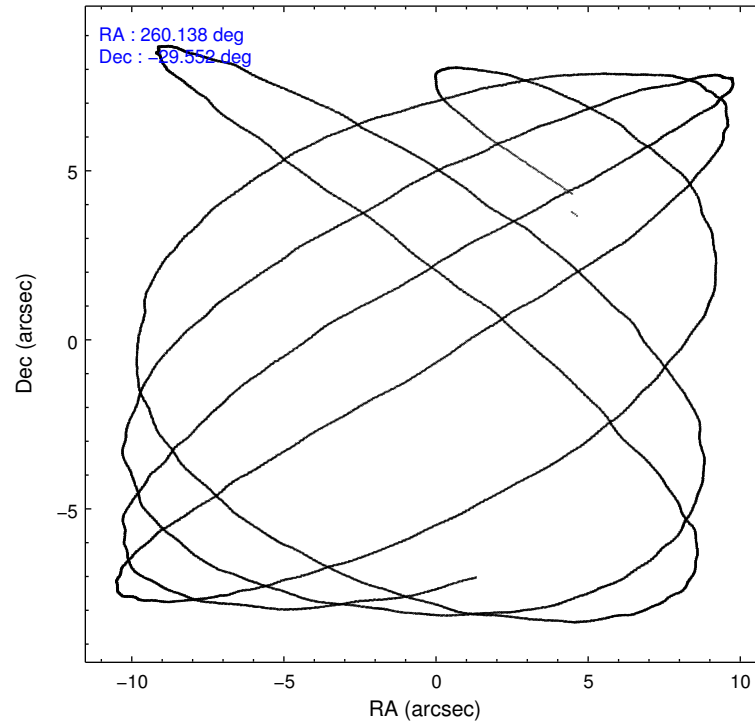
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
grade 0 events	1059	1039	1003	1358	2444
	3%	3%	3%	3%	6%
grade 1 events	12	11	15	51	22
	0%	0%	0%	0%	0%
grade 2 events	714	579	916	3149	2296
	2%	2%	2%	8%	6%
grade 3 events	263	282	264	1134	889
	0%	1%	0%	3%	2%
grade 4 events	274	303	229	1136	823
	0%	1%	0%	3%	2%
grade 5 events	1016	1233	1152	3340	1814
	3%	4%	3%	9%	5%
grade 6 events	569	648	854	8413	2722
	1%	2%	2%	23%	7%
grade 7 events	24794	22328	26493	17089	24711
	86%	84%	85%	47%	69%

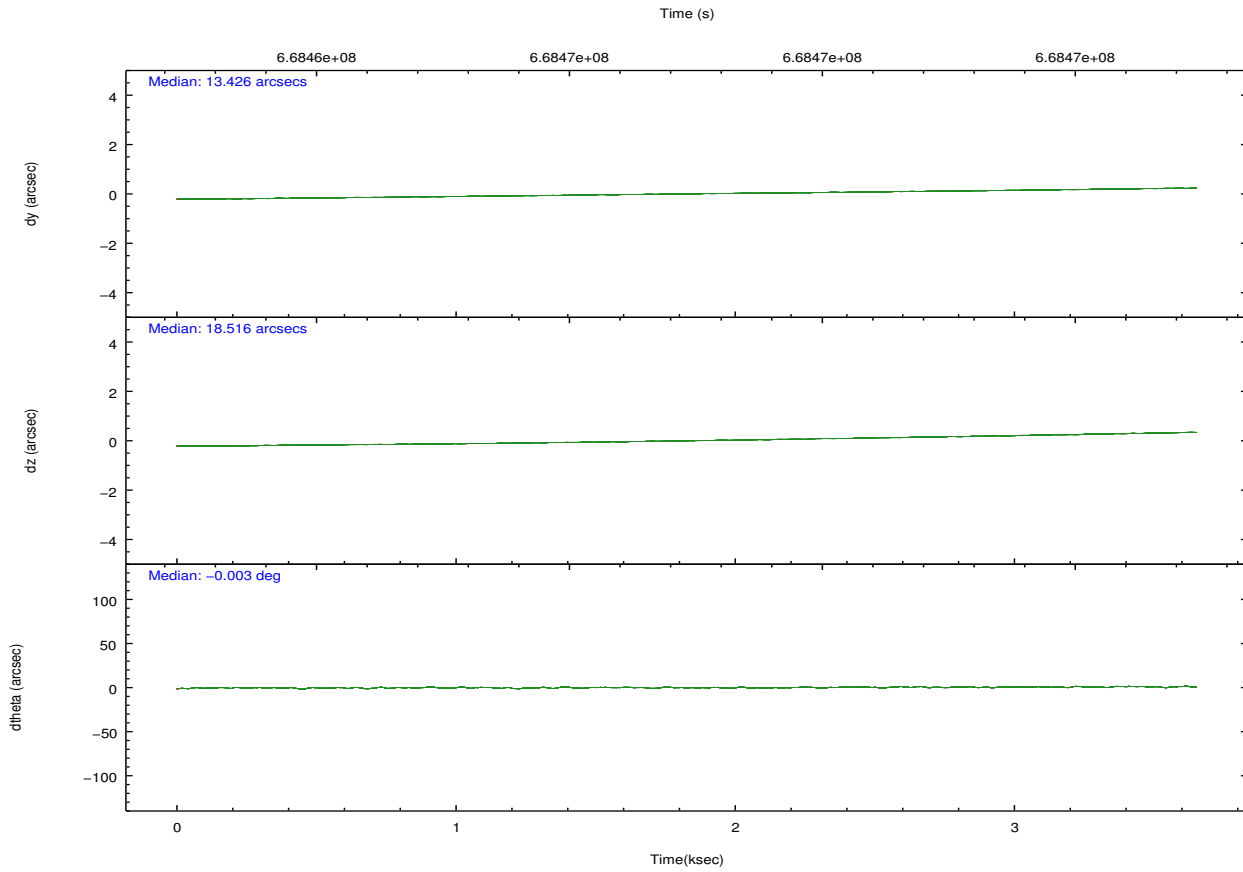
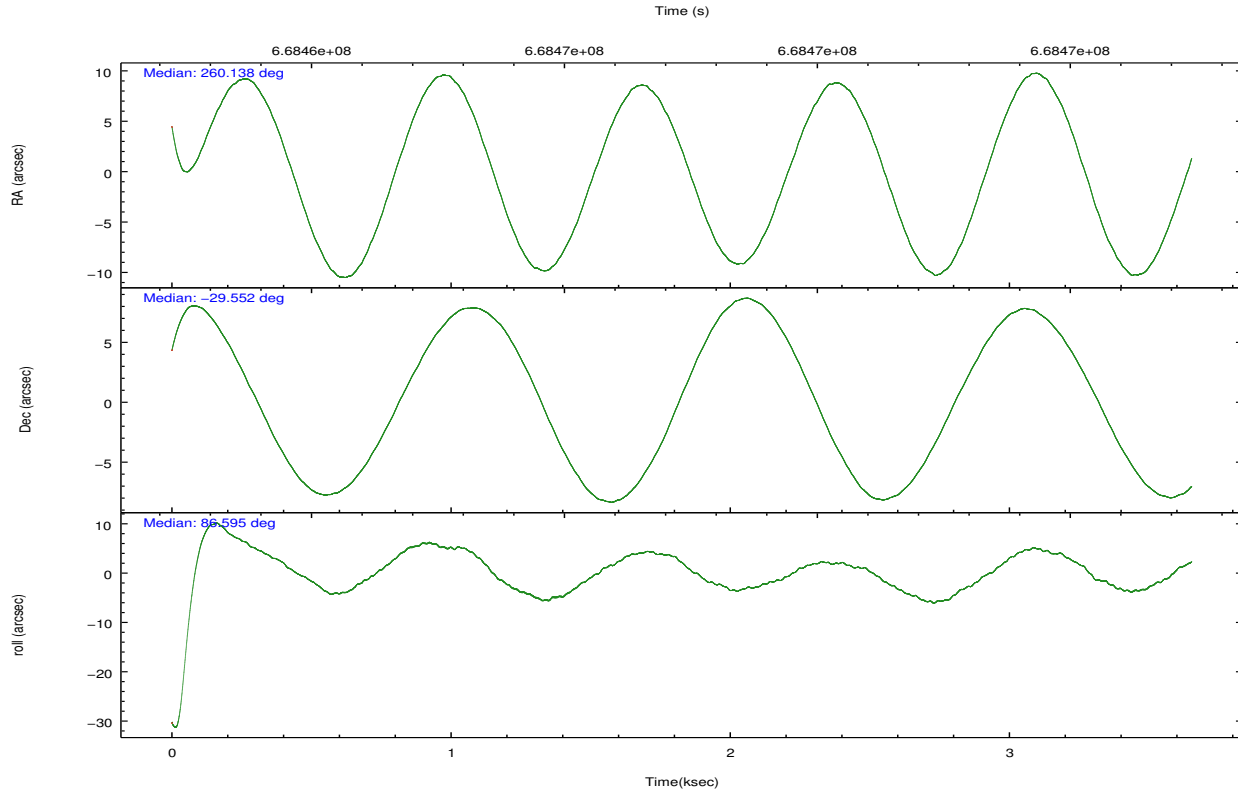


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-23678	ACIS-23678	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	260.152466	260.1379613025888	CCD I2 on	O1	Y
[deg] Pointing Dec	-29.576350	-29.55199367065917	CCD I3 on	O2	Y
[deg] Pointing Roll	86.442715	86.59201728402333	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	N	N
[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	Y	Y
[s] Observation start time (MET)	668464805.184000	668463541.66969	CCD S5 on	N	N
Observation start date	2019-03-08T20:38:56	2019-03-08T20:19:01	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	668468305.184000	668469326.25754	On-chip summing requested	N	N
Observation end date	2019-03-08T21:37:16	2019-03-08T21:55:26	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



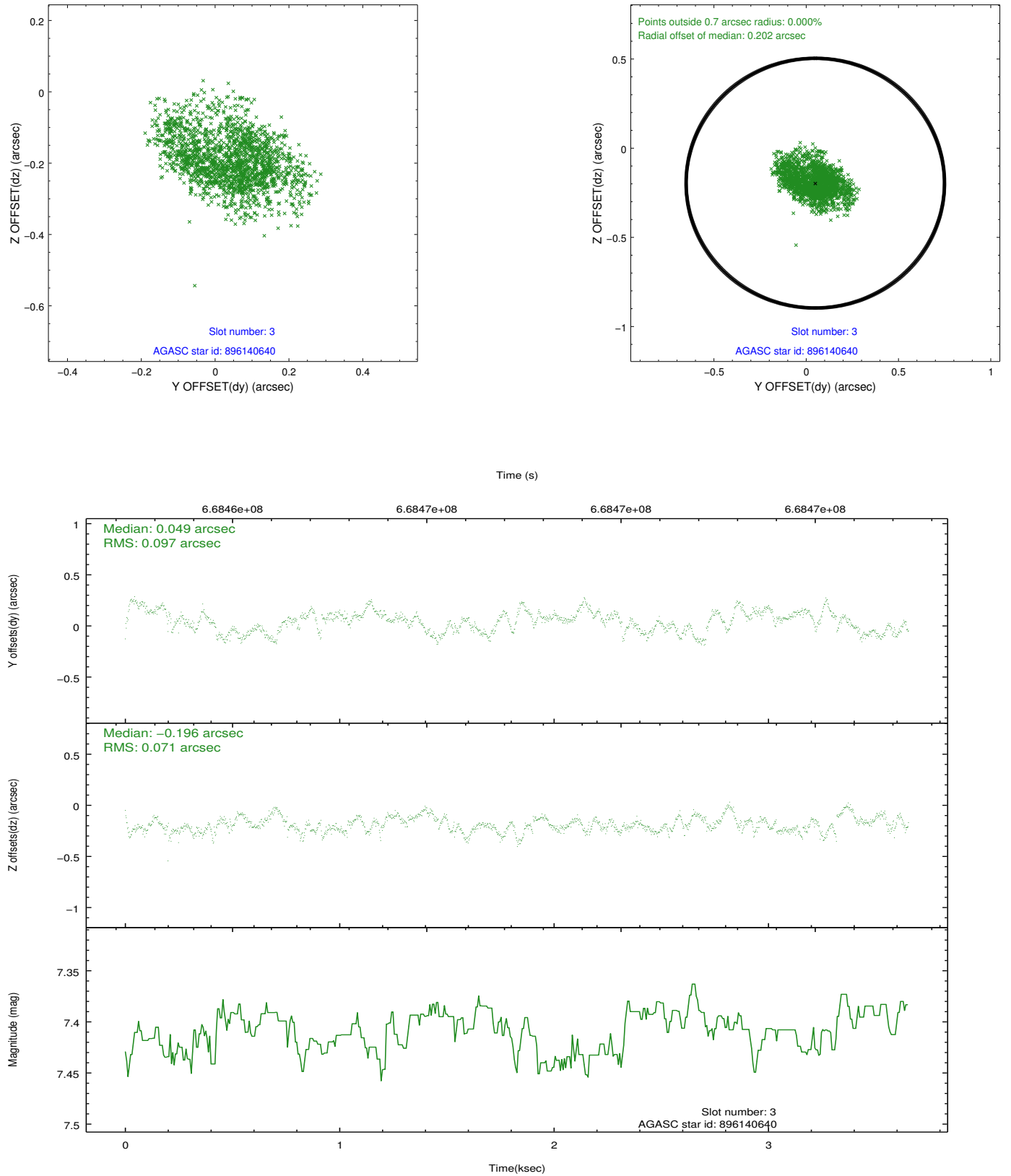


Slot Statistics

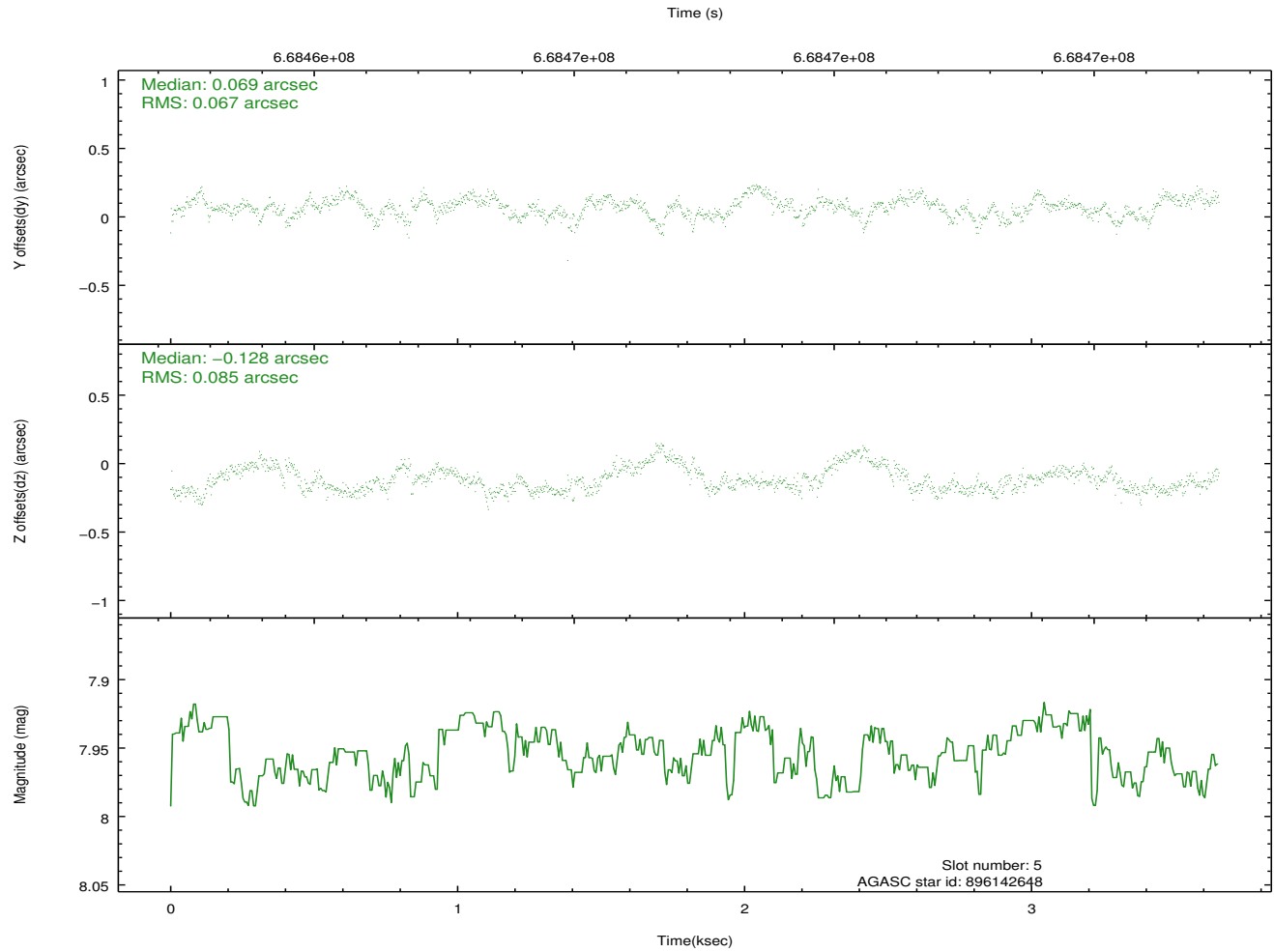
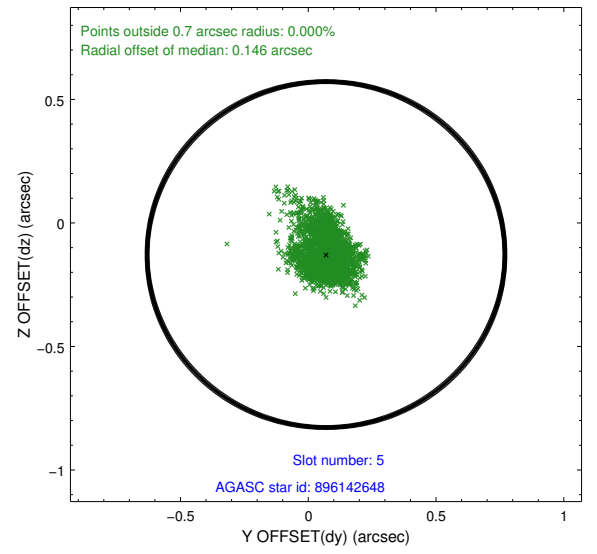
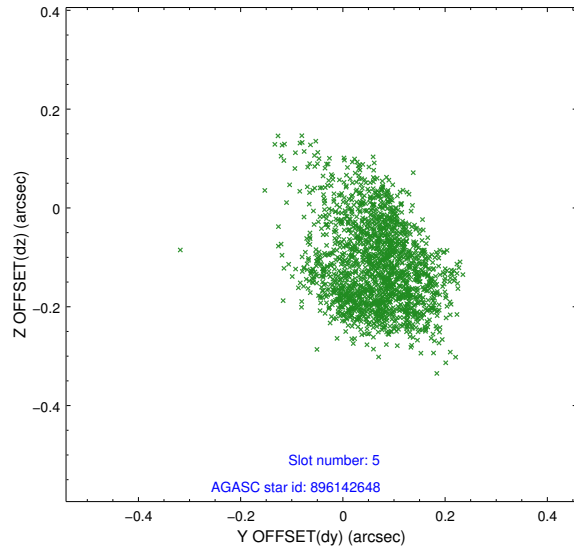
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.14	892	1.000	-0.469	-0.321	0.011	0.019	0.000000	0.000000	-766.85	-1740
1	FID		ACIS-S-4	7.27	892	1.000	0.492	0.278	0.013	0.019	0.000000	0.000000	2146.63	166
2	FID		ACIS-S-6	7.40	892	1.000	-0.051	0.050	0.012	0.019	0.000000	0.000000	397.80	806
3	GUIDE	used	896140640	7.41	1783	1.000	0.049	-0.196	0.127	0.206	260.115019	-29.365019	751.50	164
4	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0
5	GUIDE	used	896142648	7.95	1783	1.000	0.069	-0.128	0.111	0.186	259.617266	-29.966424	-1508.87	1577
6	GUIDE	used	896144560	8.61	1782	1.000	-0.001	-0.089	0.113	0.204	260.134818	-29.285034	1042.46	120
7	GUIDE	used	896143264	8.51	1782	1.000	-0.105	0.403	0.088	0.147	260.215218	-29.446299	479.93	-167

## 2.4 Star Slots

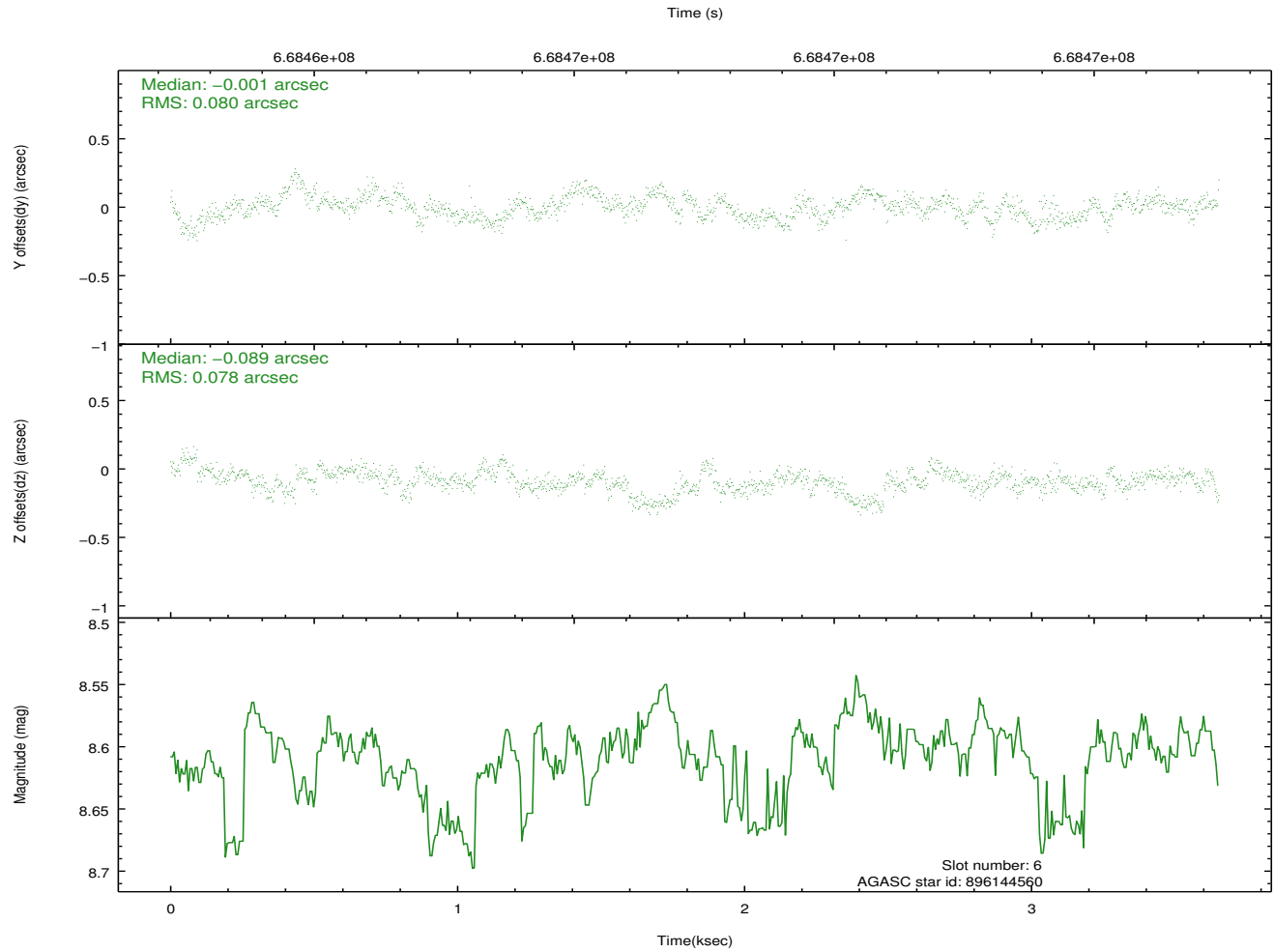
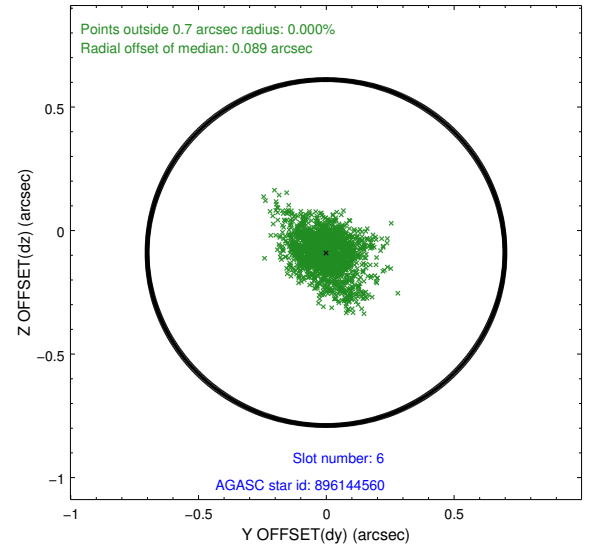
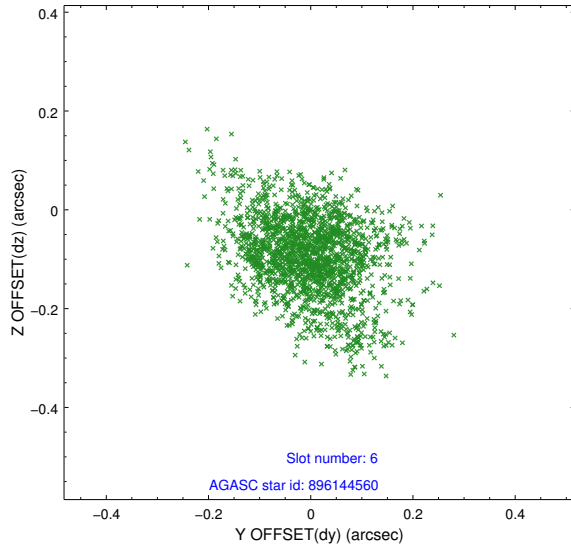
### 2.4.1 Slot 3



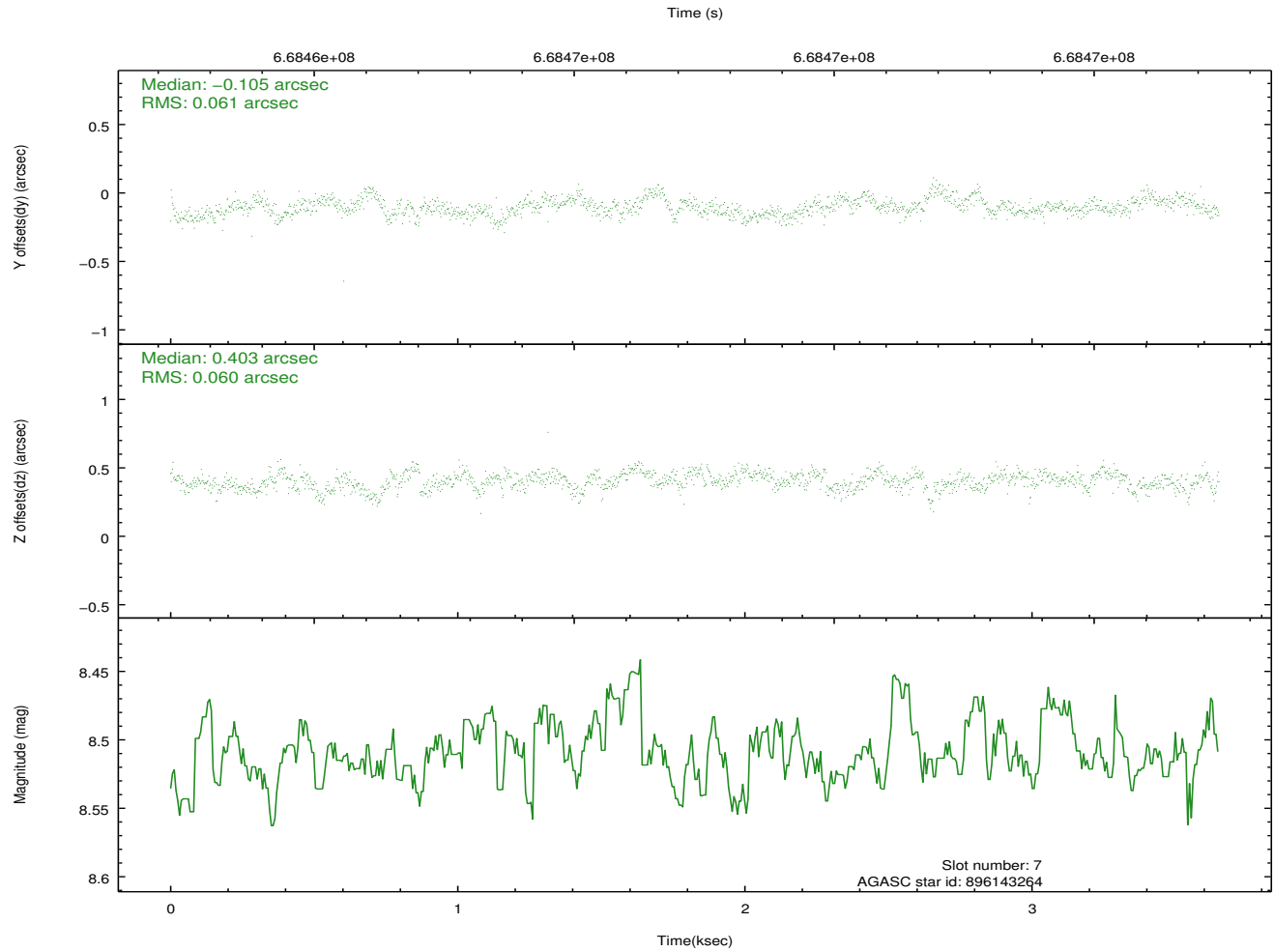
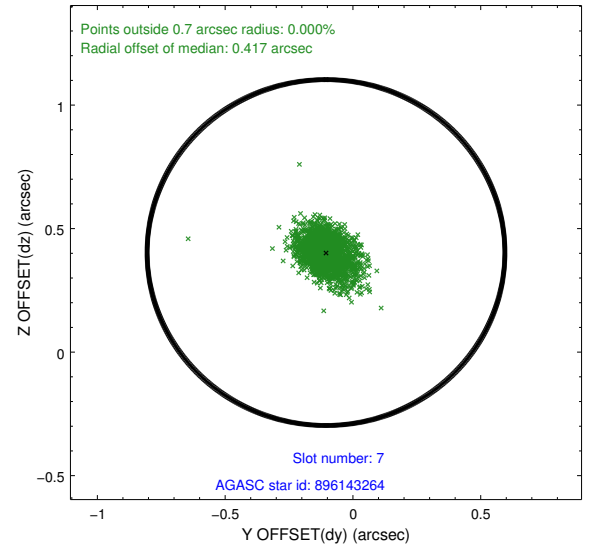
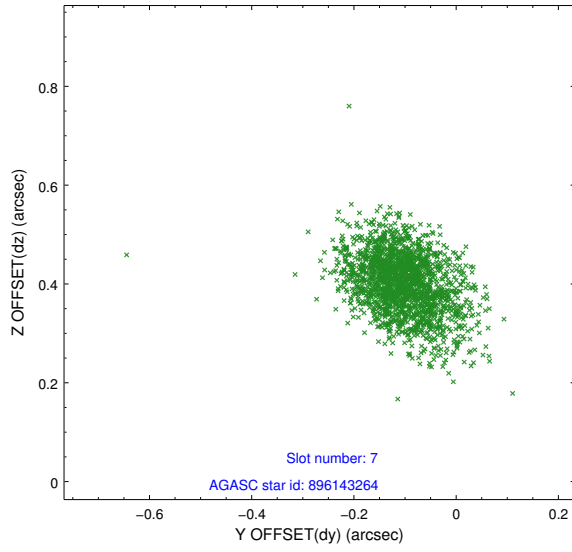
## 2.4.2 Slot 5



### 2.4.3 Slot 6



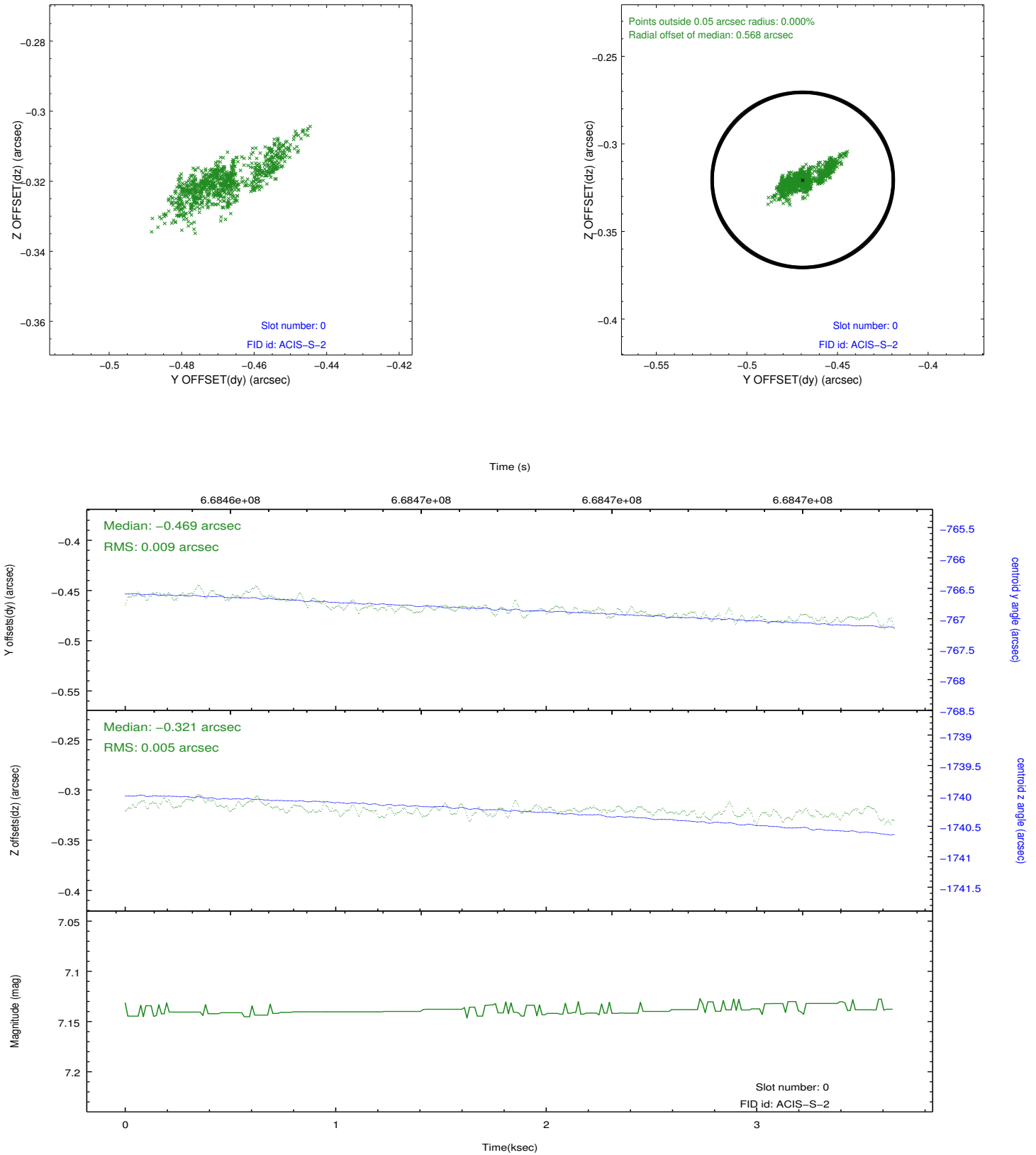
## 2.4.4 Slot 7



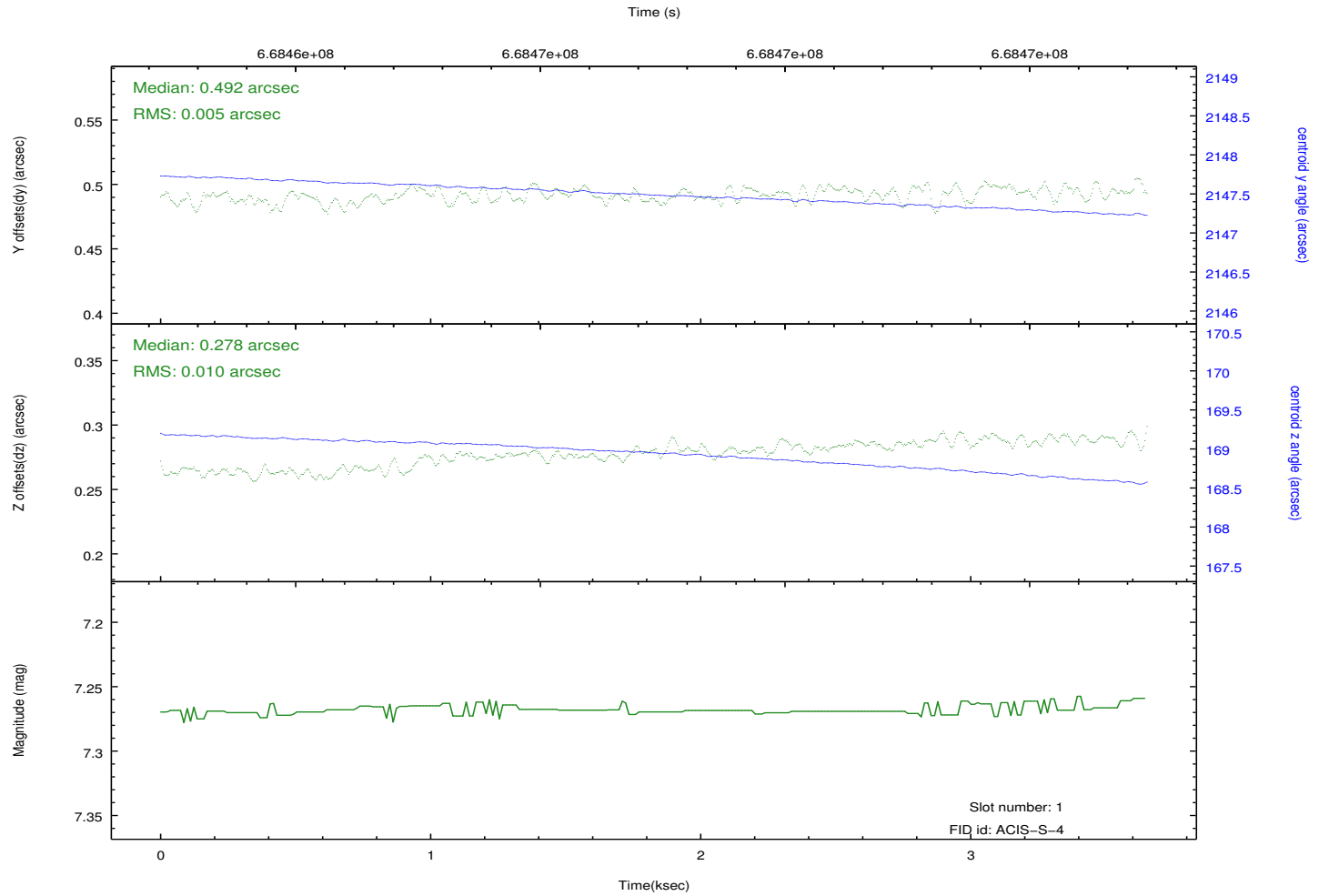
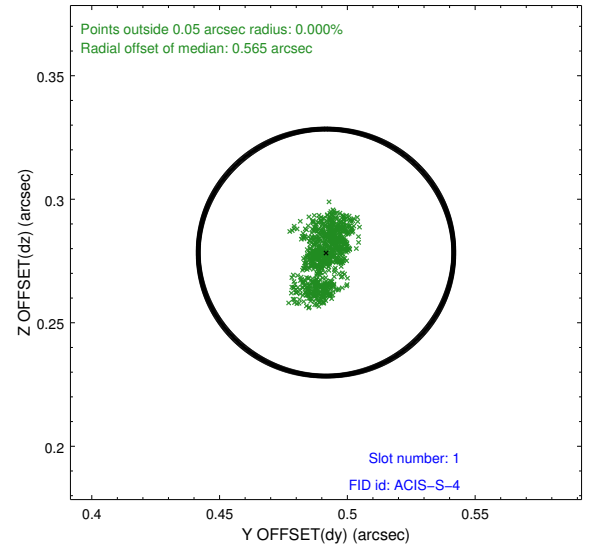
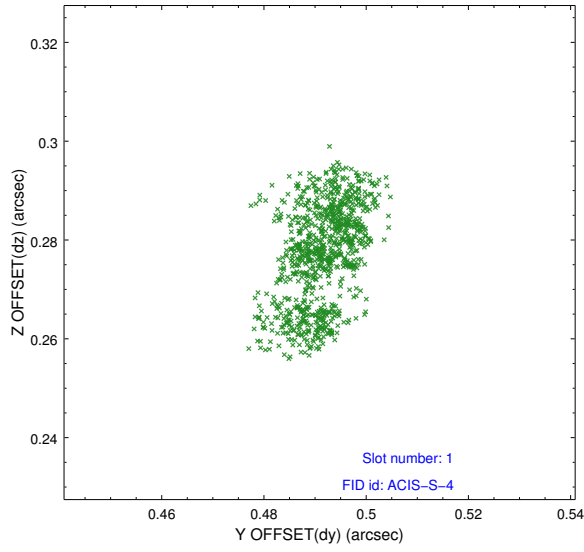


## 2.5 FID Slots

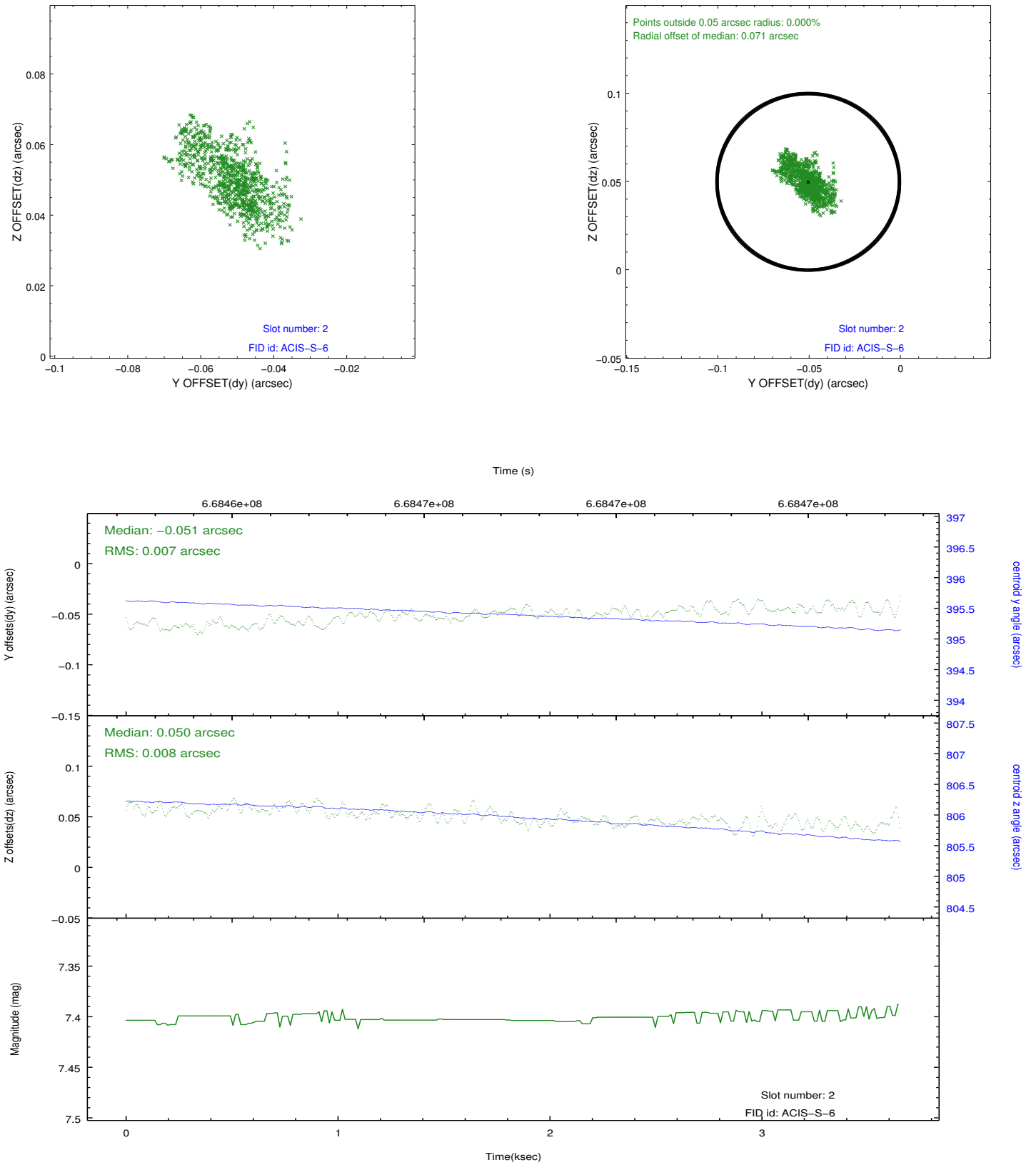
### 2.5.1 Slot 0



## 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)	2019.03.09
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	3.5513678854704

### A.2 Comments

The guide star in slot 4 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.