

# V&V Reference Report

## L2 ASCDS Version : 10.7.1

Observation 22020 - L2 Version 2  
Chandra X-Ray Center

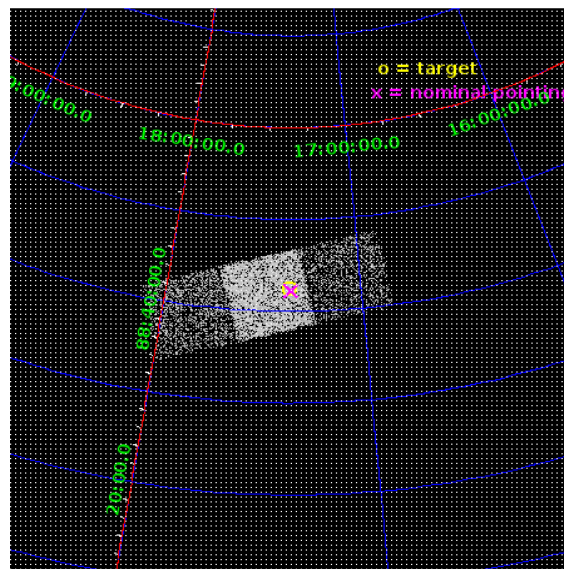
L2 Processing Date : Sep 27 2019

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# 1 Front

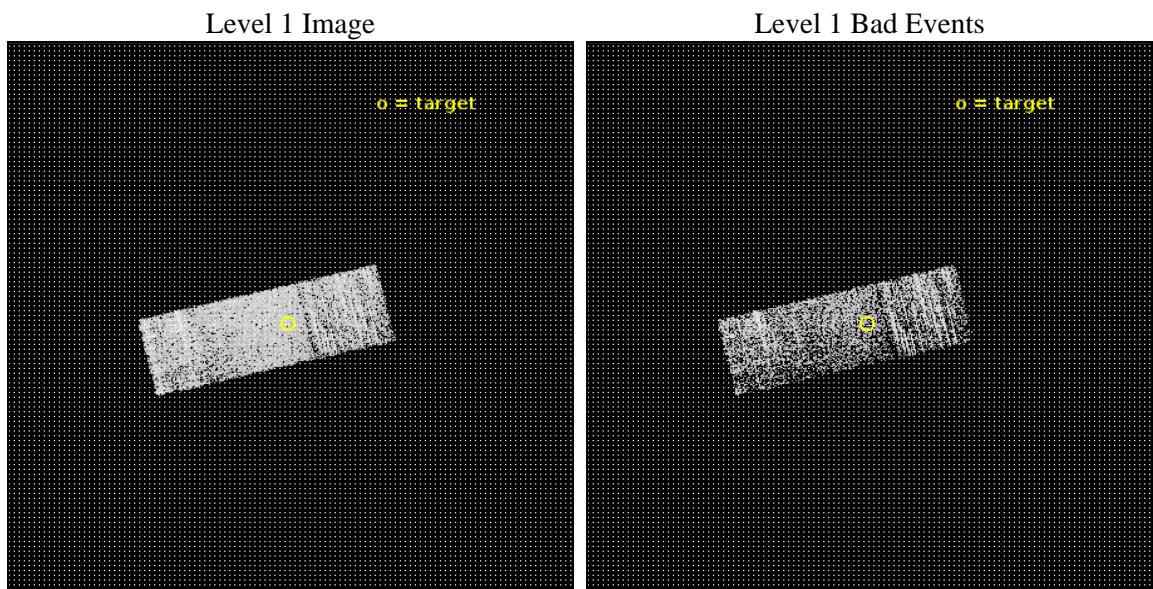
seq_num	703840	Sequence number
obs_id	22020	Observation id
title	Timely Assessment of the X-ray Flux of Newly Discovered Quadruply Lensed Quasars	Proposal title
observer	David Pooley	Principal investigator
object	GraL 1721+88	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	260.439167	Observer's specified target RA [deg]
dec_targ	88.706083	Observer's specified target Dec [deg]
ra_nom	260.33346701803	Nominal RA [deg]
dec_nom	88.703386852873	Nominal Dec [deg]
roll_nom	166.35785536901	Nominal Roll [deg]
revision	2	Processing version of data
ontime	1612.000012517	Sum of GTIs [s]
livetime	1590.9380456163	Livetime [s]
ontime6	1612.000012517	Sum of GTIs [s]
ontime7	1612.000012517	Sum of GTIs [s]
ontime8	1612.000012517	Sum of GTIs [s]
l2events	9478	Number of level 2 events



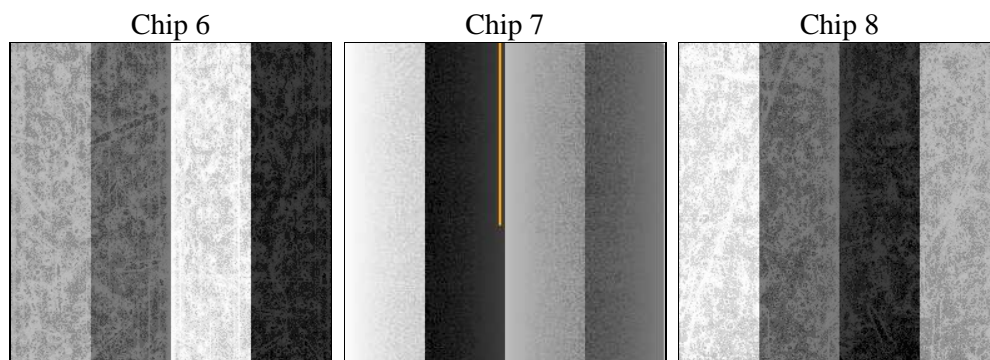
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	1500.000000	[s] Scheduled observation exposure time
ascdsver	10.8	Processing system revision	ontime	1612.000012517	Sum of GTIs [s]
caldsver	4.8.4.1	&#160	ontime6	1612.000012517	Sum of GTIs [s]
date	2019-09-27T17:40:07	Date and time of file creation	ontime7	1612.000012517	Sum of GTIs [s]
revision	2	Processing version of data	ontime8	1612.000012517	Sum of GTIs [s]
			l1events	43762	Number of level 1 events

### 2.1.4 Events

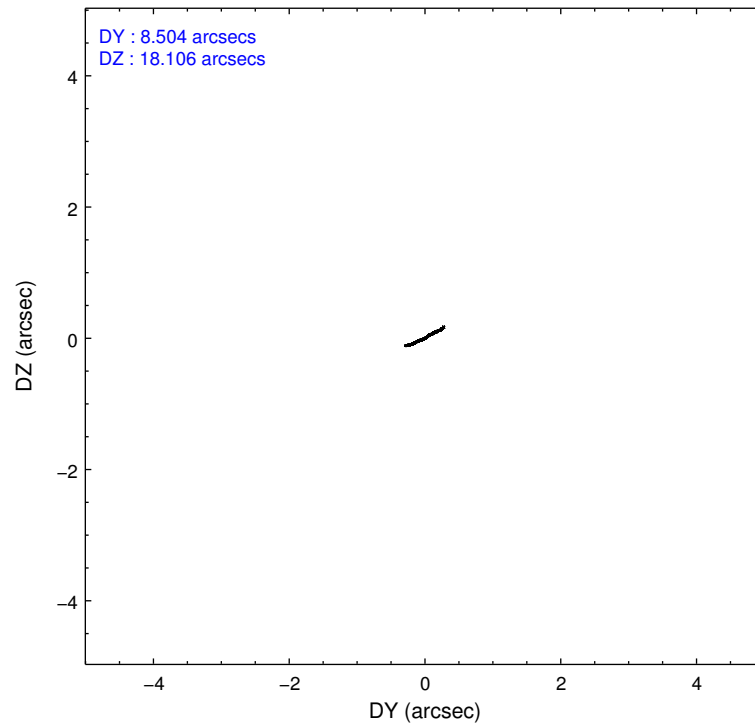
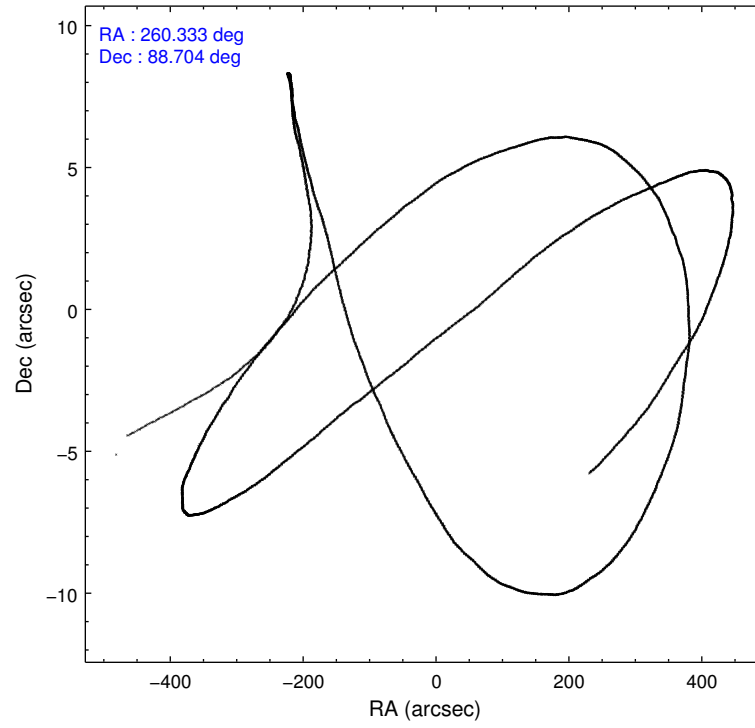
	ccd 6	ccd 7	ccd 8
level 1 events	12901	15818	15043
rejected events	11539	8916	10498
rejected %	89%	56%	69%

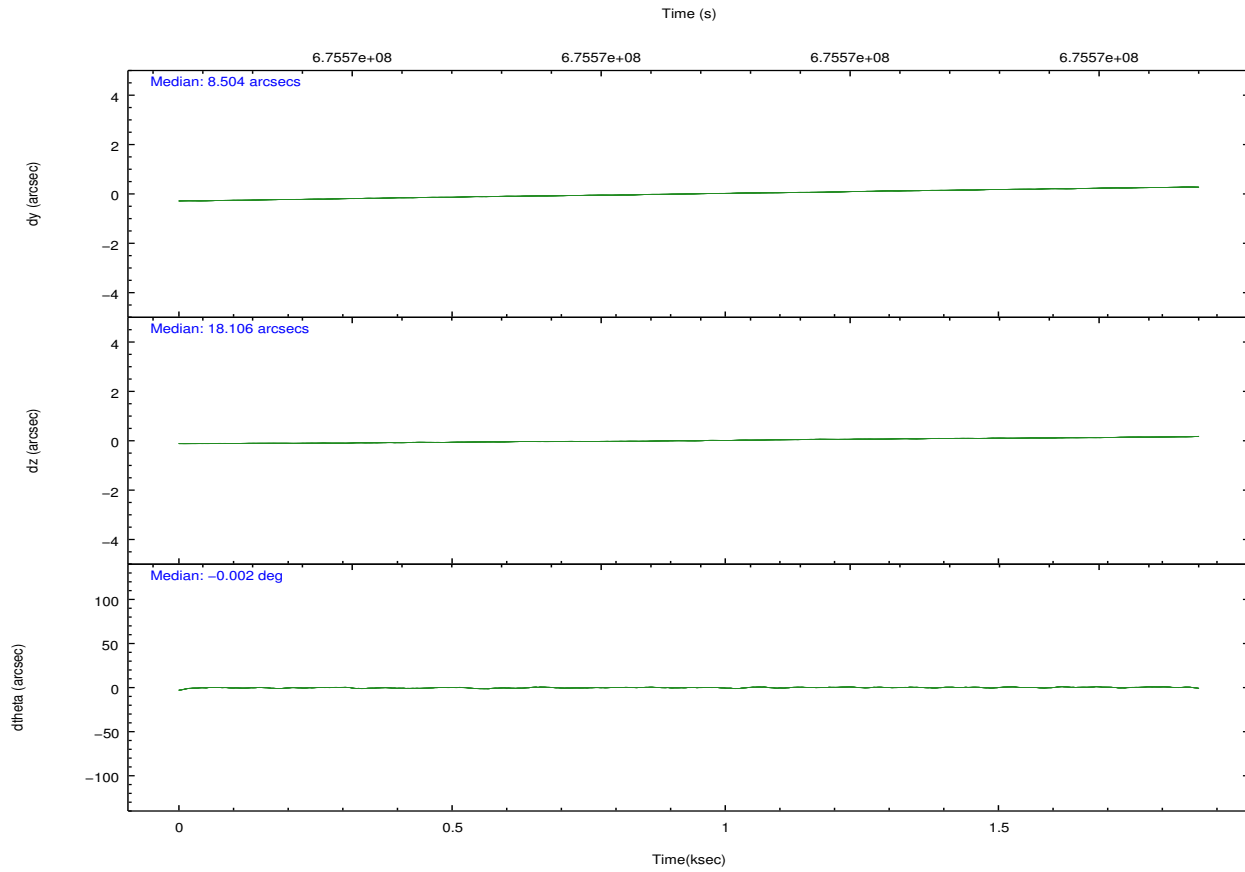
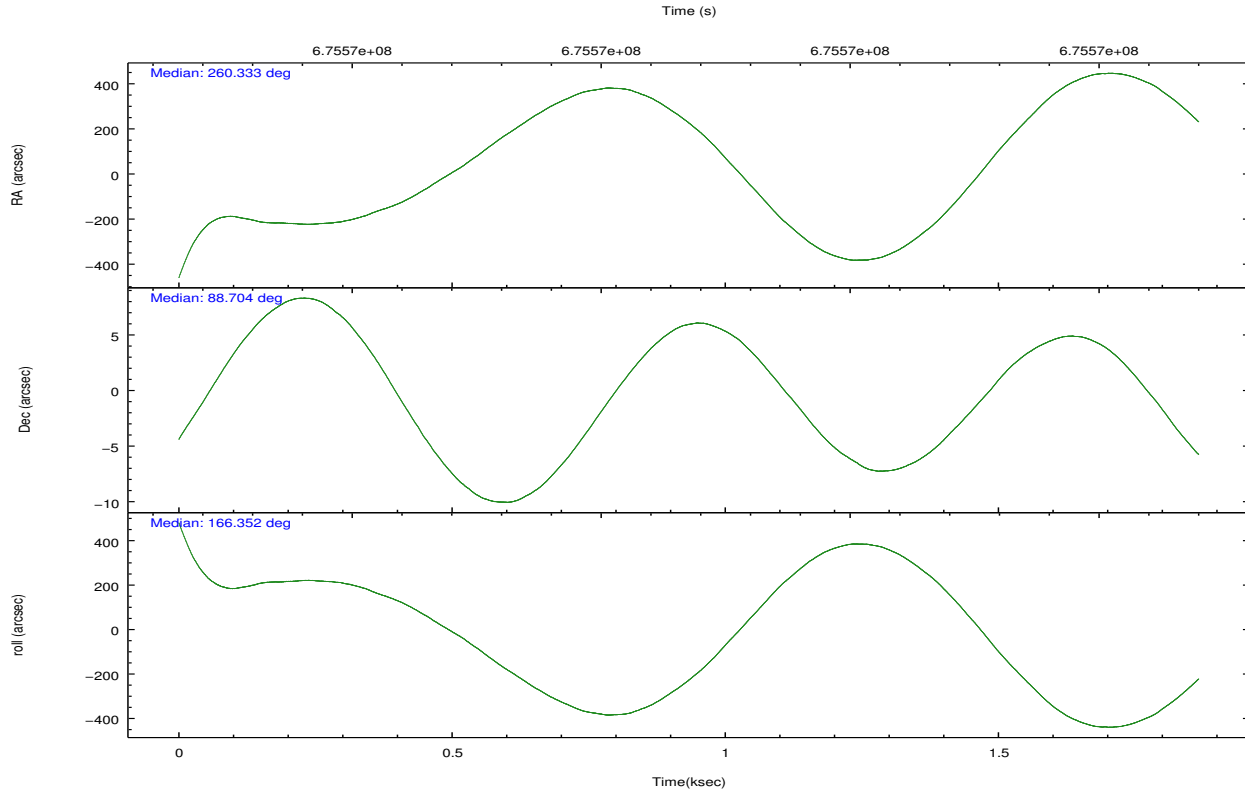
	ccd 6	ccd 7	ccd 8
grade 0 events	504	579	1307
	3%	3%	8%
grade 1 events	4	24	18
	0%	0%	0%
grade 2 events	305	1522	1136
	2%	9%	7%
grade 3 events	117	531	461
	0%	3%	3%
grade 4 events	125	557	410
	0%	3%	2%
grade 5 events	580	1589	835
	4%	10%	5%
grade 6 events	316	3749	1241
	2%	23%	8%
grade 7 events	10950	7267	9635
	84%	45%	64%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-678	ACIS-678	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	261.501441	260.3334670180316	CCD I2 on	N	N
[deg] Pointing Dec	88.710968	88.70338685287329	CCD I3 on	N	N
[deg] Pointing Roll	165.033401	166.3578553690112	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	O2	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	Y
[s] Observation start time (MET)	675569634.184000	675568703.20758	CCD S5 on	N	N
Observation start date	2019-05-30T02:12:45	2019-05-30T01:58:23	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	675571134.184000	675571887.37027	On-chip summing requested	N	N
Observation end date	2019-05-30T02:37:45	2019-05-30T02:51:27	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect





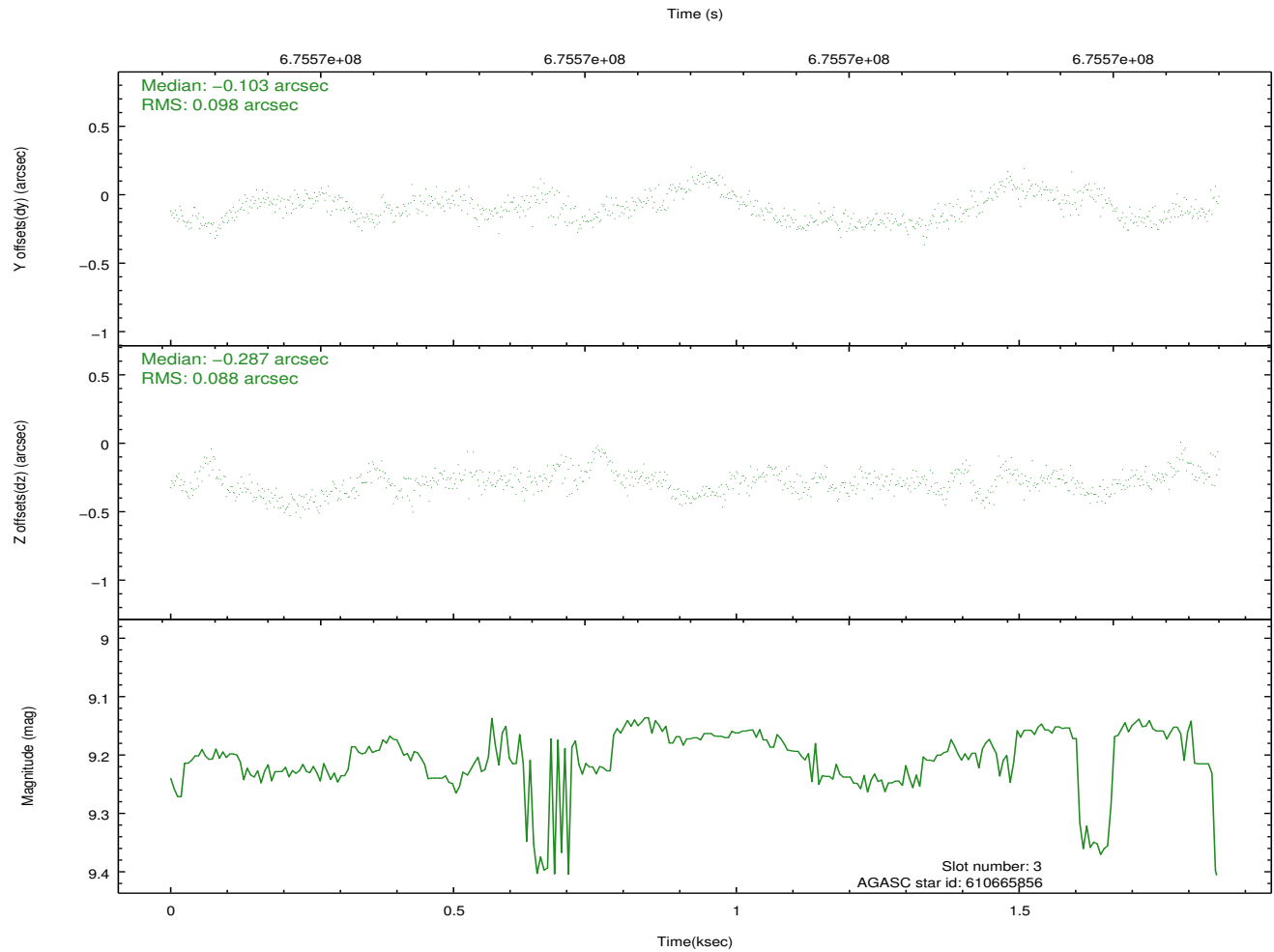
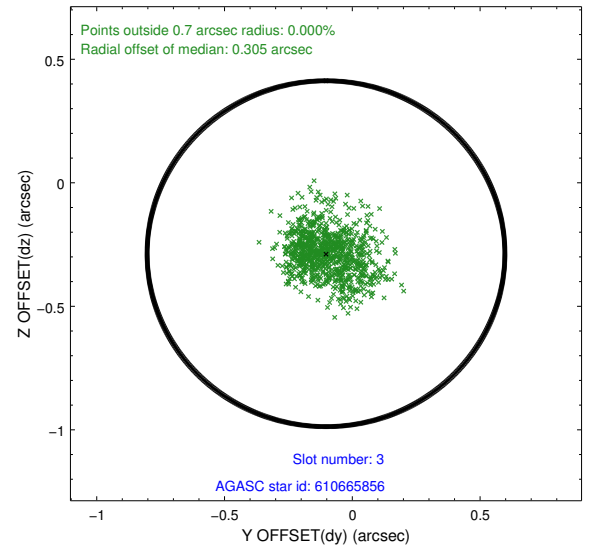
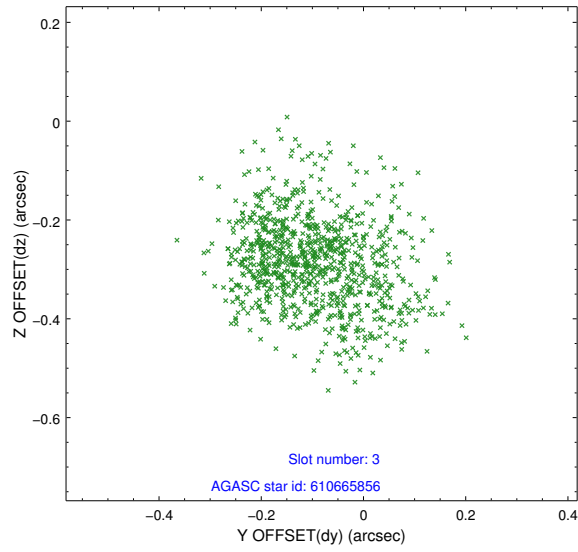
Slot Statistics

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	7.00	456	1.000	-0.338	-0.205	0.009	0.015	0.000000	0.000000	-761.71	-1739
1	FID		ACIS-S-4	7.12	456	1.000	0.365	0.210	0.008	0.014	0.000000	0.000000	2150.75	165
2	FID		ACIS-S-6	7.27	456	1.000	-0.055	0.001	0.006	0.010	0.000000	0.000000	405.18	806
3	GUIDE	used	610665856	9.20	904	1.000	-0.103	-0.287	0.140	0.230	259.765270	88.647940	84.72	255
4	GUIDE	used	610666248	8.28	912	1.000	-0.373	-0.535	0.159	0.251	252.180325	88.156231	545.07	2122
5	GUIDE	used	610795824	8.55	912	1.000	0.177	0.120	0.096	0.155	272.830122	88.990253	-410.54	-1223
6	GUIDE	used	610797008	8.05	912	1.000	0.022	0.207	0.110	0.172	272.049131	88.822795	-626.76	-658
7	GUIDE	used	610796648	9.18	910	1.000	0.257	0.497	0.173	0.283	293.369464	88.857607	-1801.14	-1669

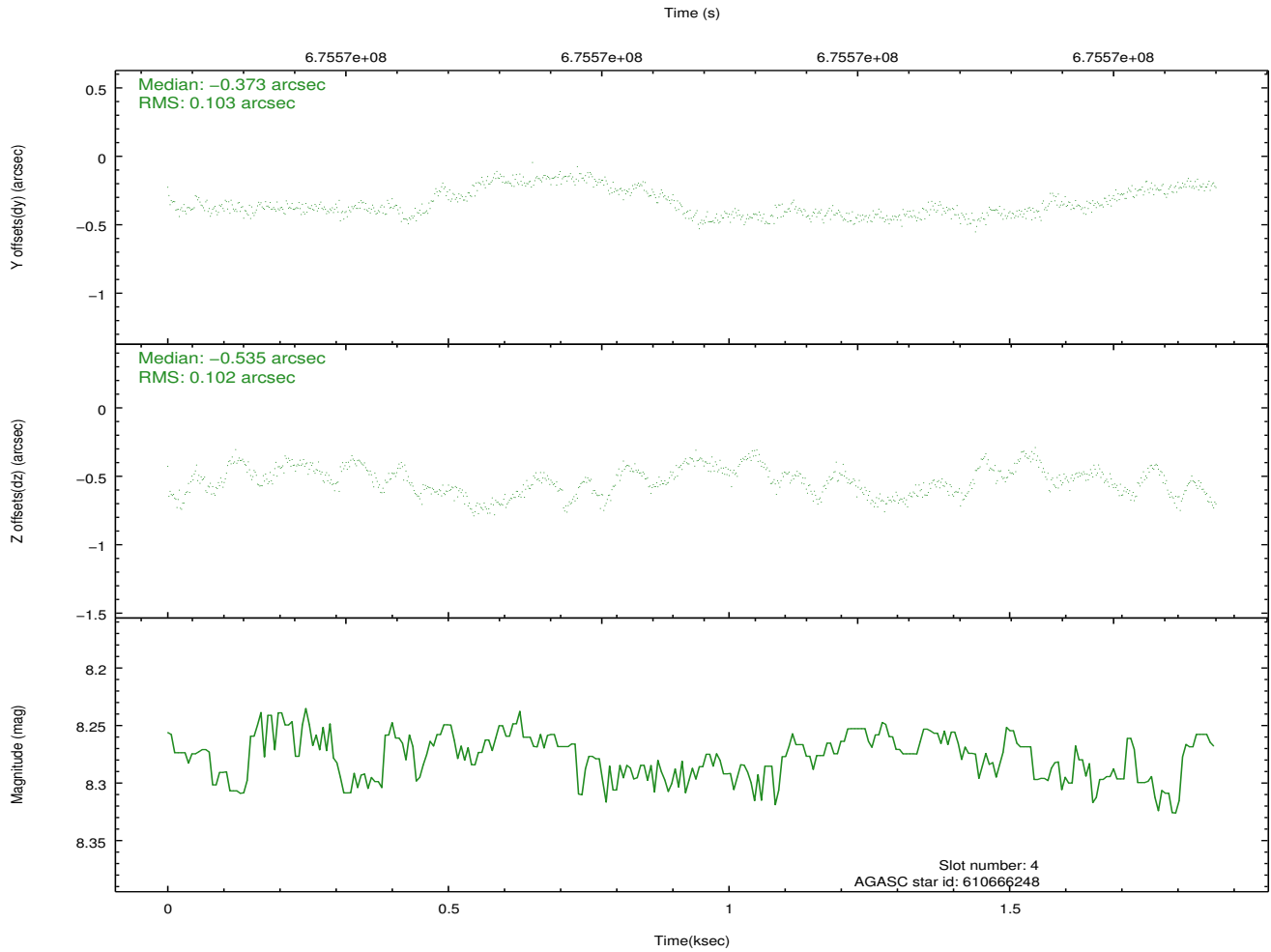
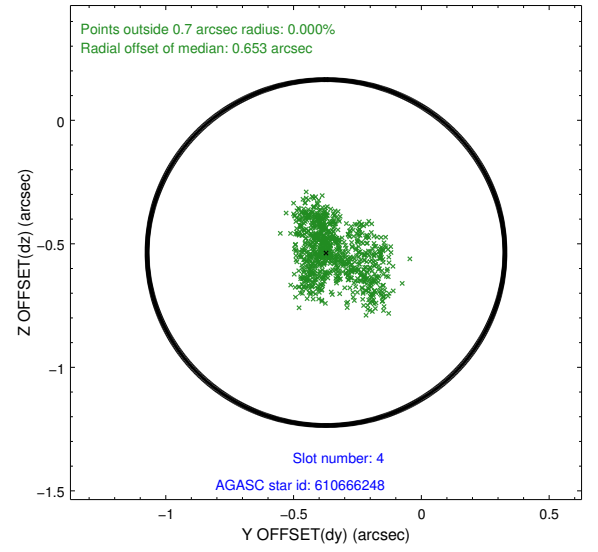
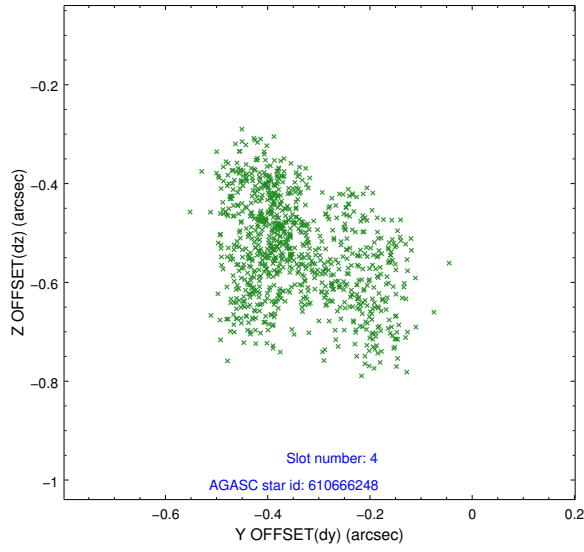


## 2.4 Star Slots

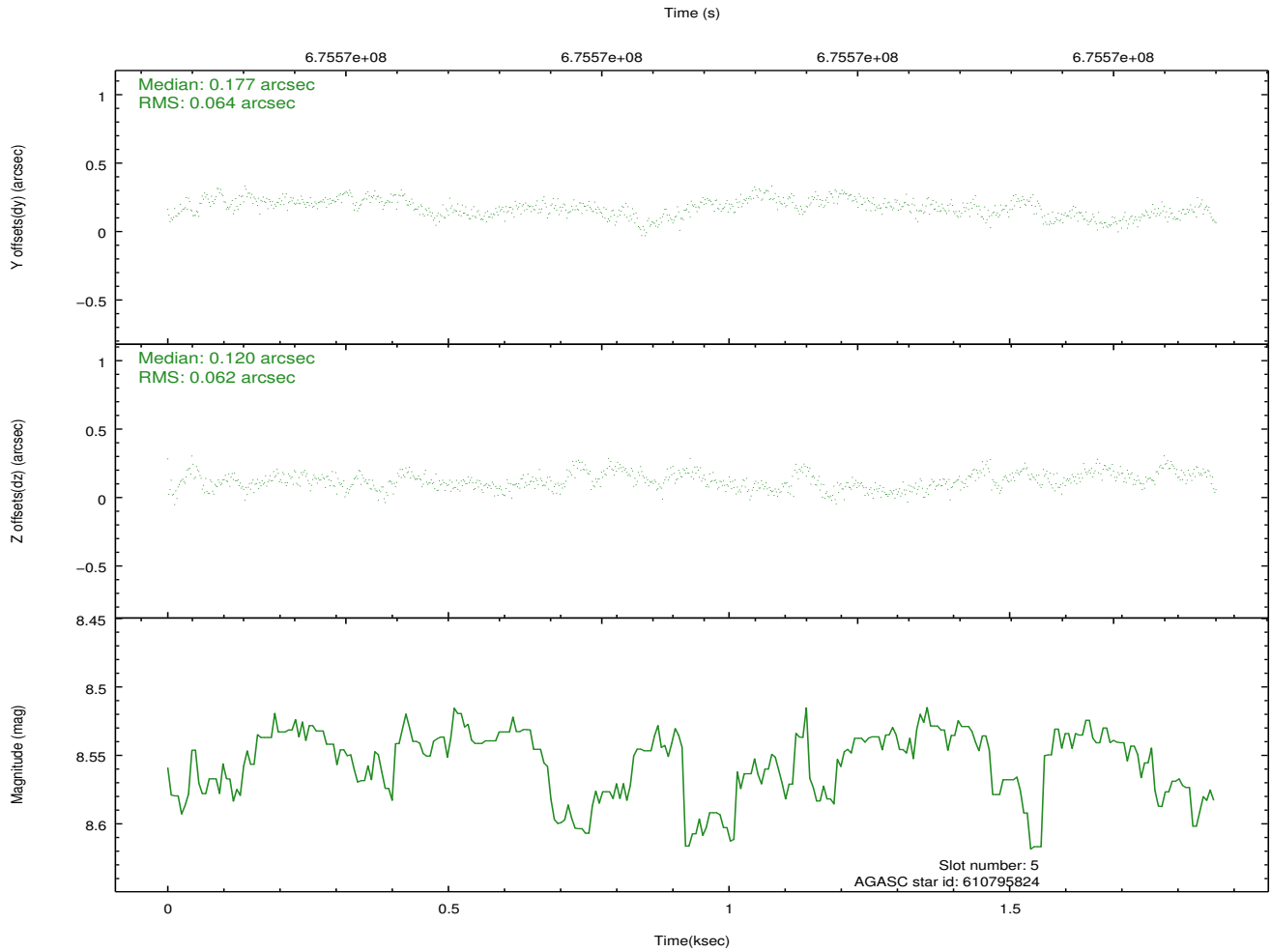
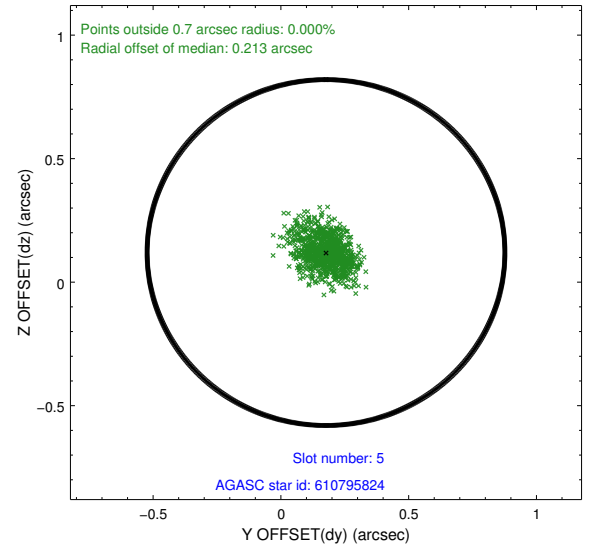
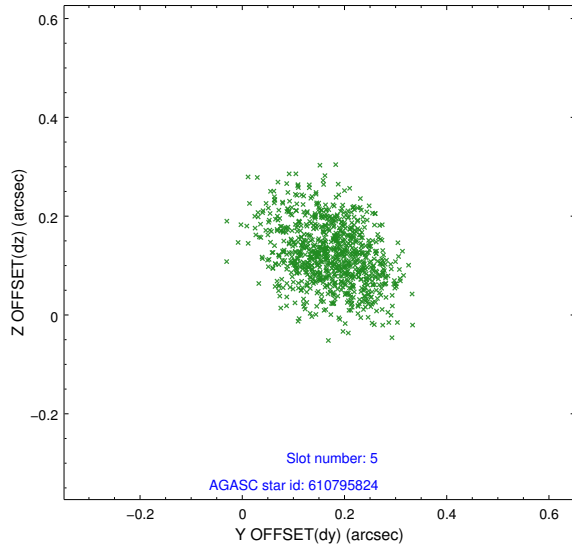
### 2.4.1 Slot 3



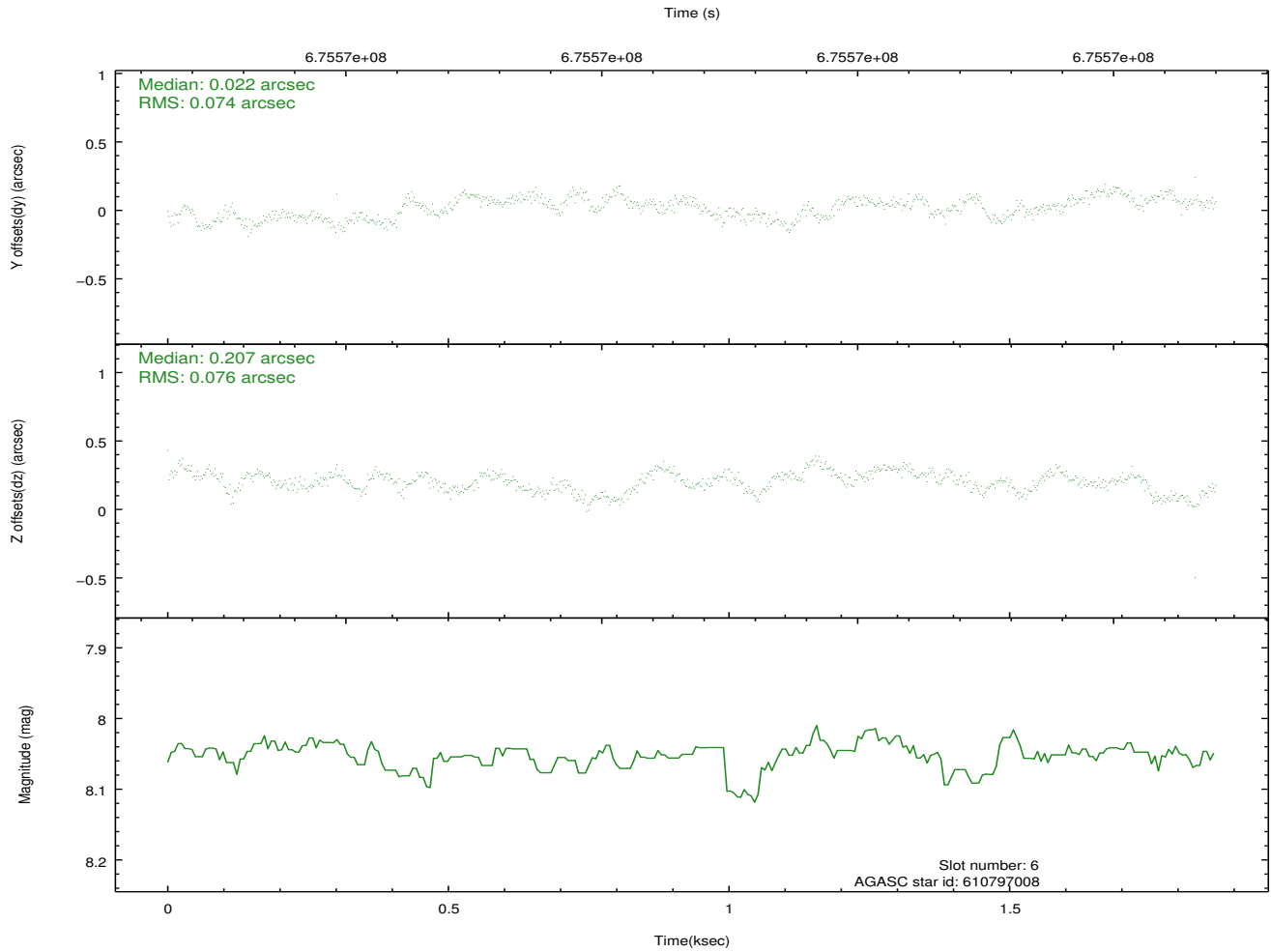
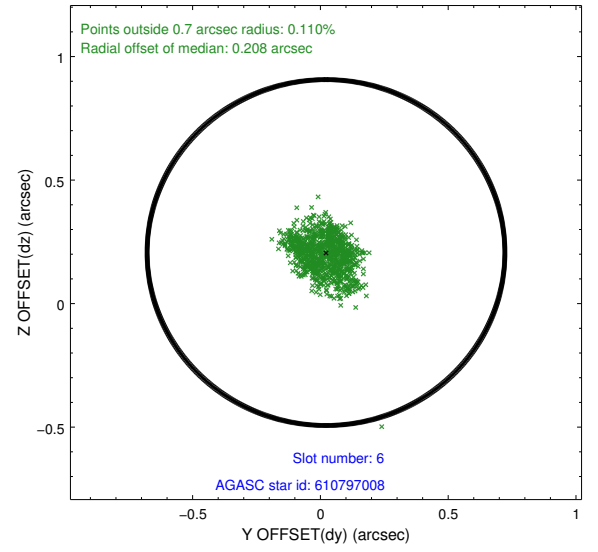
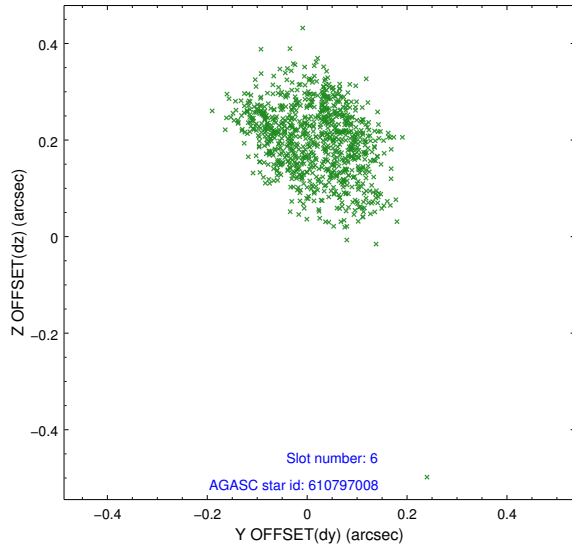
## 2.4.2 Slot 4



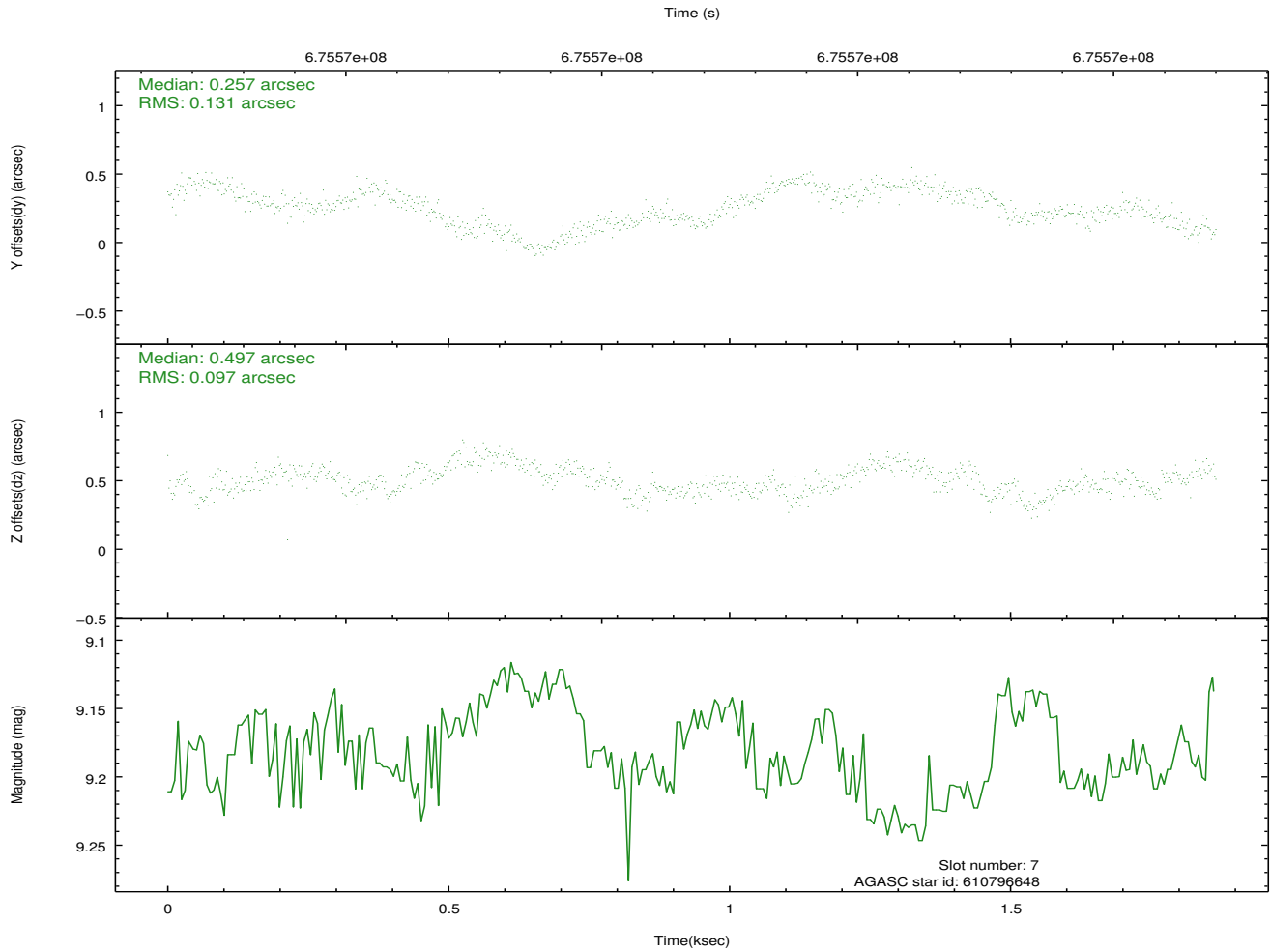
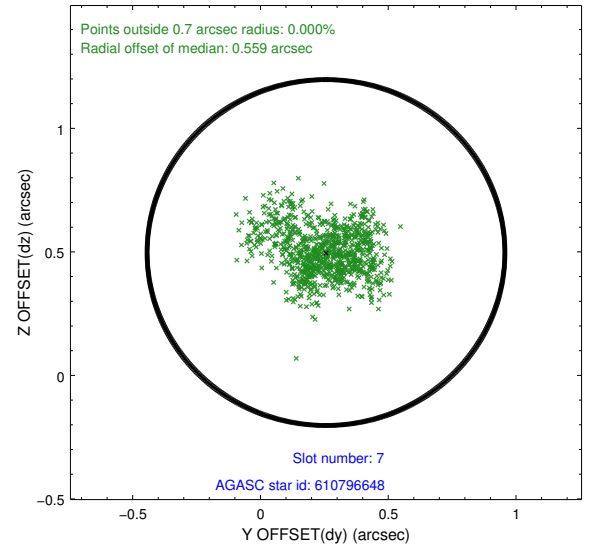
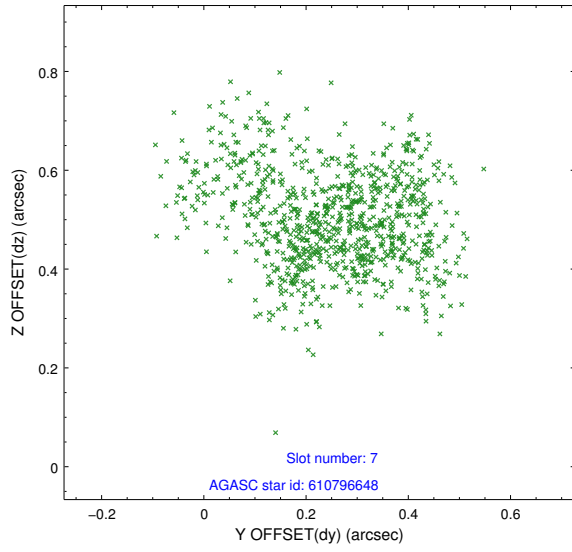
### 2.4.3 Slot 5



## 2.4.4 Slot 6

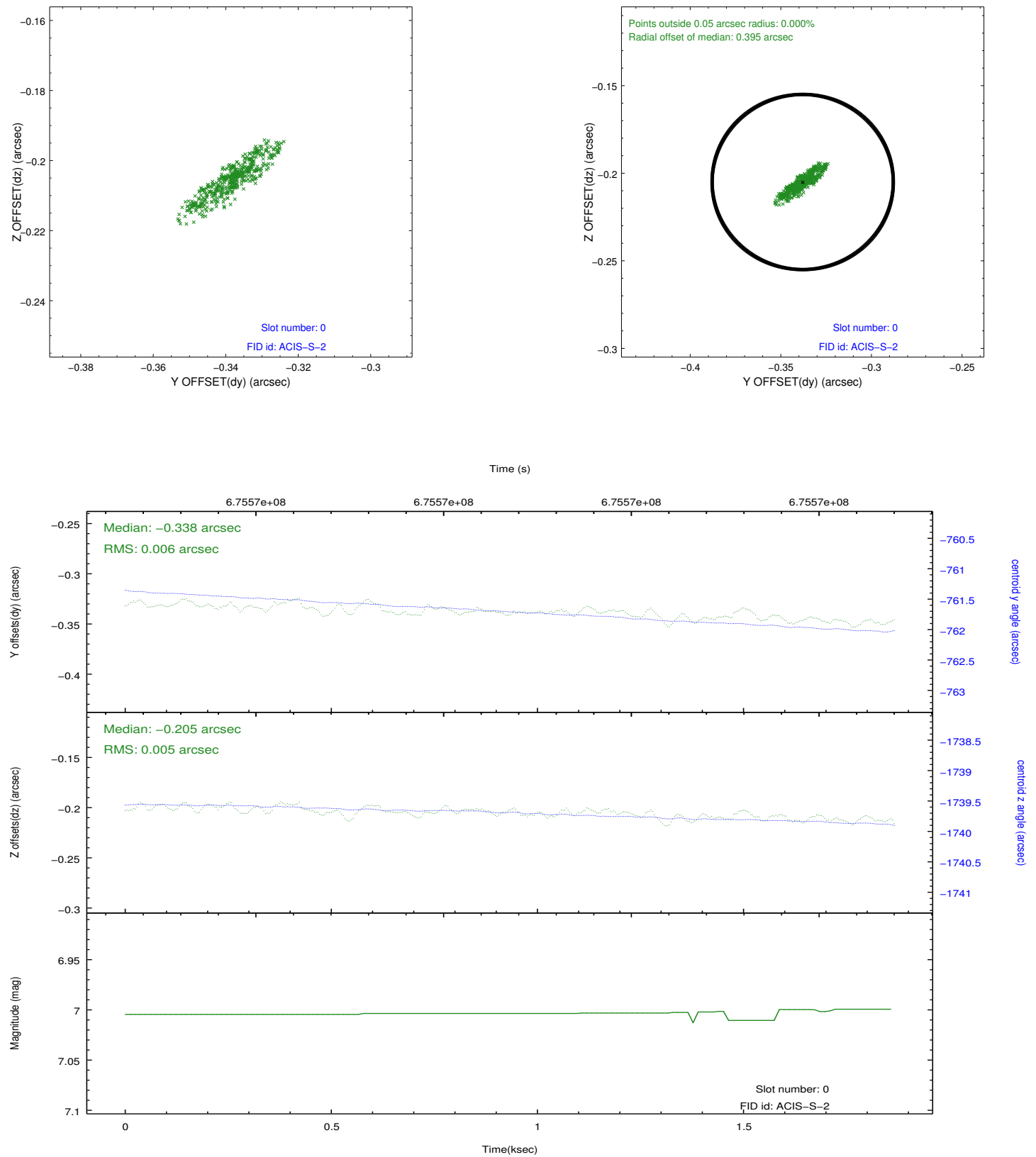


## 2.4.5 Slot 7

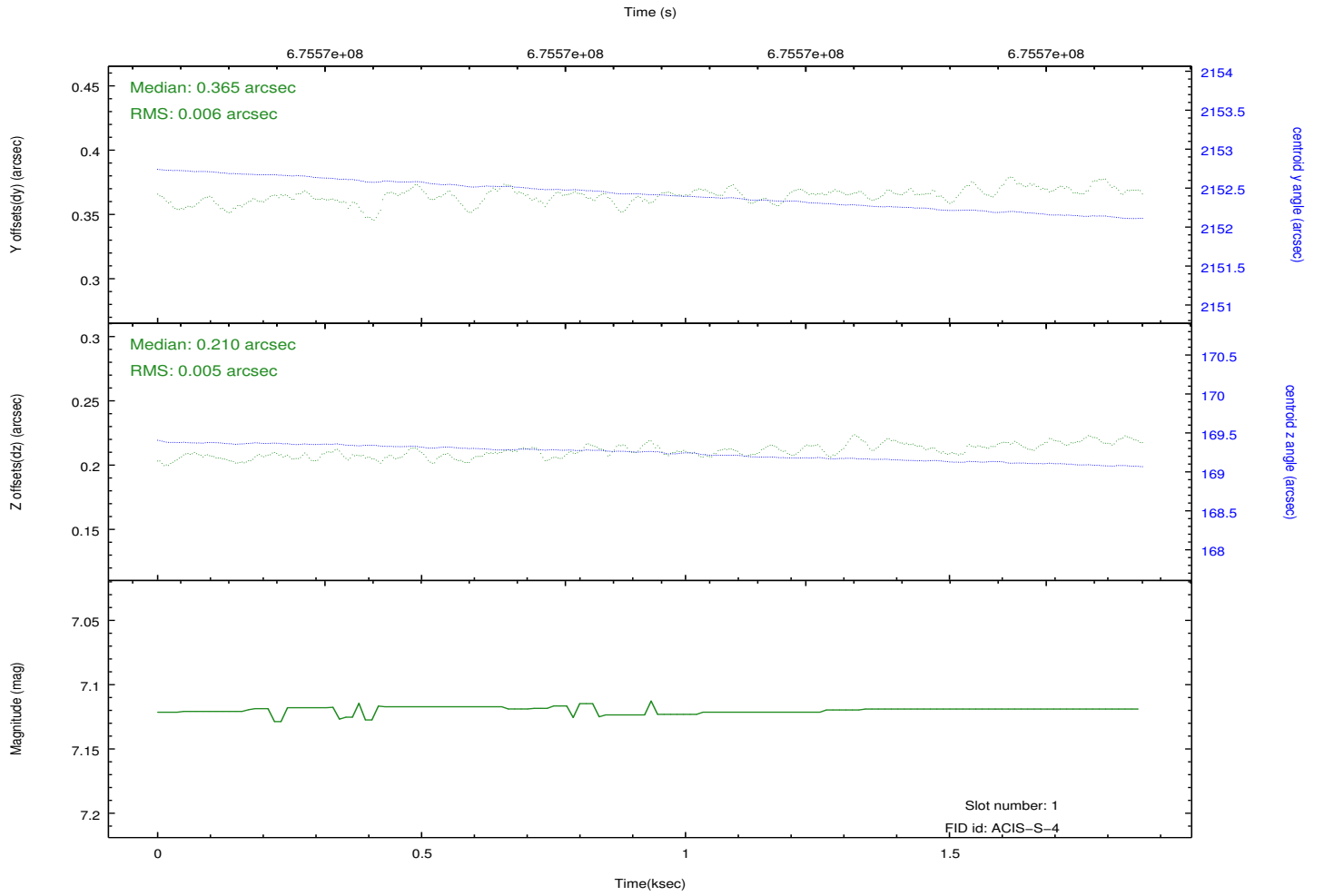
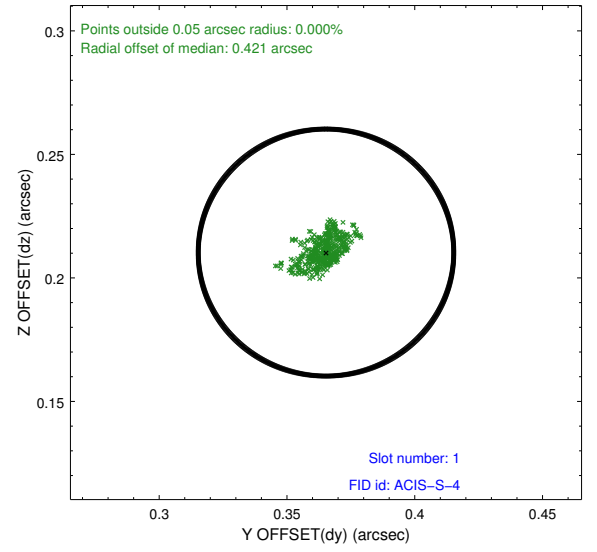
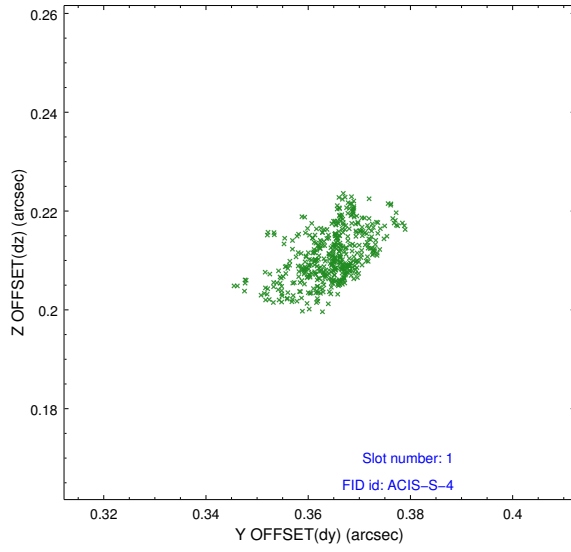


## 2.5 FID Slots

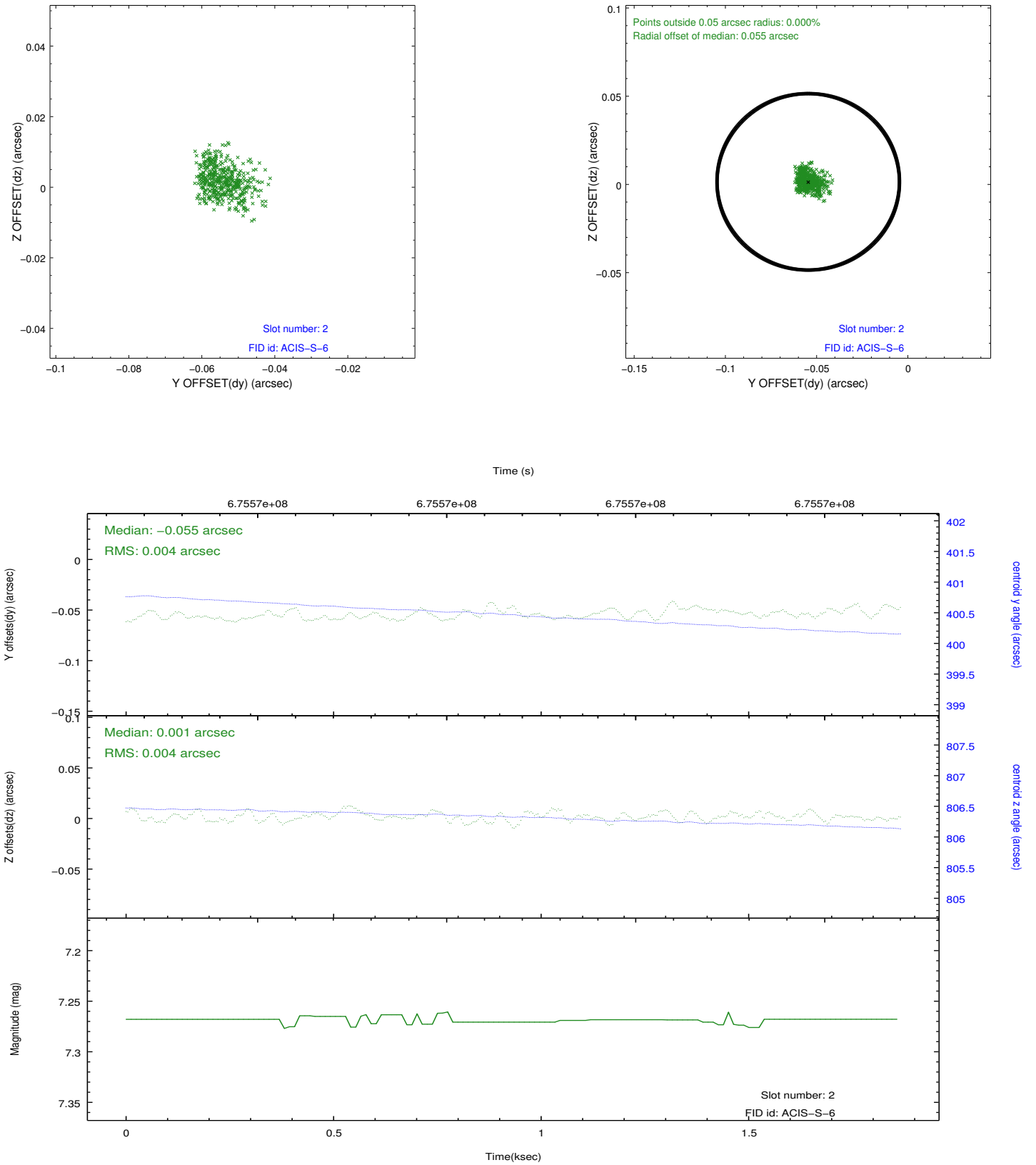
### 2.5.1 Slot 0



## 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)	2019.09.28
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	1.612000012517

## A.2 Comments

ACIS T\_GAIN files released in CalDB 4.8.3 (23 May 2019) and CalDB 4.8.4 (03 September 2019) have errors in the T\_GAIN corrections for ACIS-I chips 0, 1, 2, and 3, and ACIS-S chip 6 (S2). All ACIS OBS\_IDs including those chips, which were processed (or reprocessed) in SDP between 2019-05-24T01:06:00 and 2019-09-06T17:31:43 with CalDB 4.8.3, 4.8.3.1, or 4.8.4, were affected. The errors in the T\_GAINs, which produce a 1%-2% reduction in the PHA and hence the ENERGY column values for dithered observations, result from alternating real value and zero value columns in CHIPX space across FI chips ACIS-0, 1, 2, 3, and 6. The error has been corrected in this version of the data products.