

# V&V Reference Report

## L2 ASCDS Version : 10.8.1

Observation 21323 - L2 Version 1  
Chandra X-Ray Center

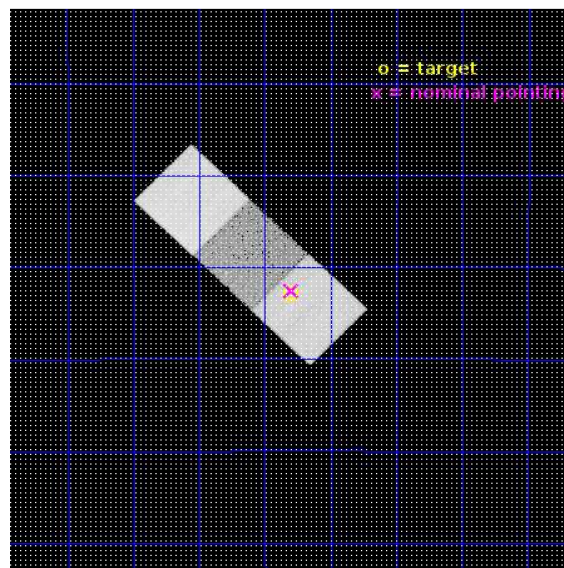
L2 Processing Date : Mar 10 2020

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# 1 Front

seq_num	503095	Sequence number
obs_id	21323	Observation id
title	Late-time monitoring of GW170817 across the electromagnetic spectrum	&#160
observer	RAFFAELLA MARGUTTI	Principal investigator
object	GW170817	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	197.450417	Observer's specified target RA [deg]
dec_targ	-23.381472	Observer's specified target Dec [deg]
ra_nom	197.44979286308	Nominal RA [deg]
dec_nom	-23.375906635435	Nominal Dec [deg]
roll_nom	44.156340148247	Nominal Roll [deg]
revision	1	Processing version of data
ontime	24607.800189376	Sum of GTIs [s]
livetime	24286.281163903	Livetime [s]
ontime5	24607.800189376	Sum of GTIs [s]
ontime6	24607.800189376	Sum of GTIs [s]
ontime7	24607.800189376	Sum of GTIs [s]
l2events	261255	Number of level 2 events

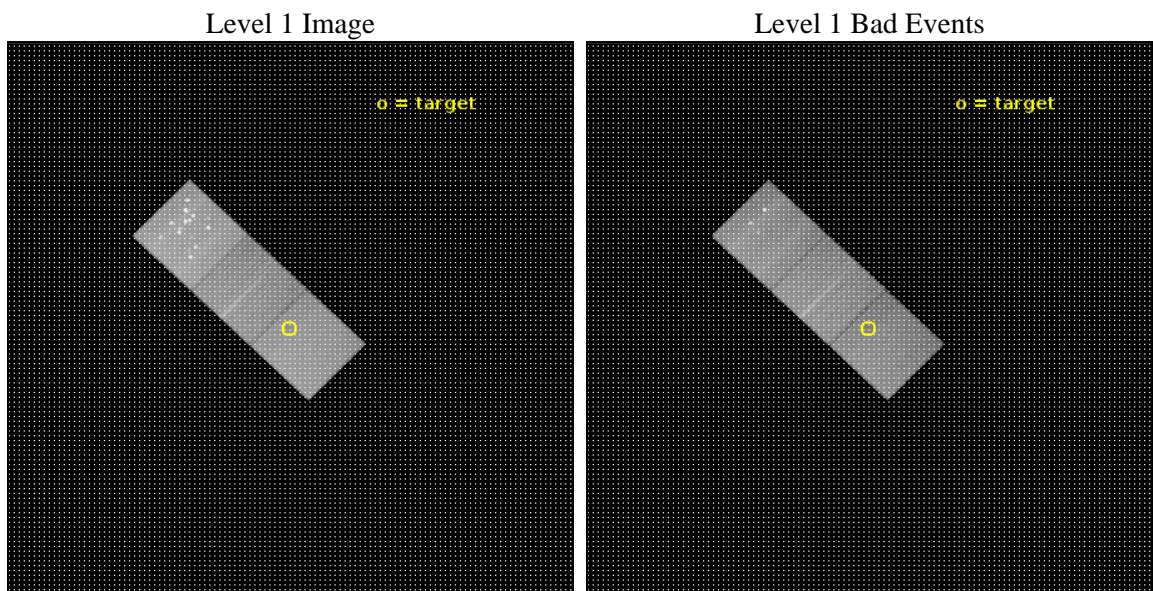




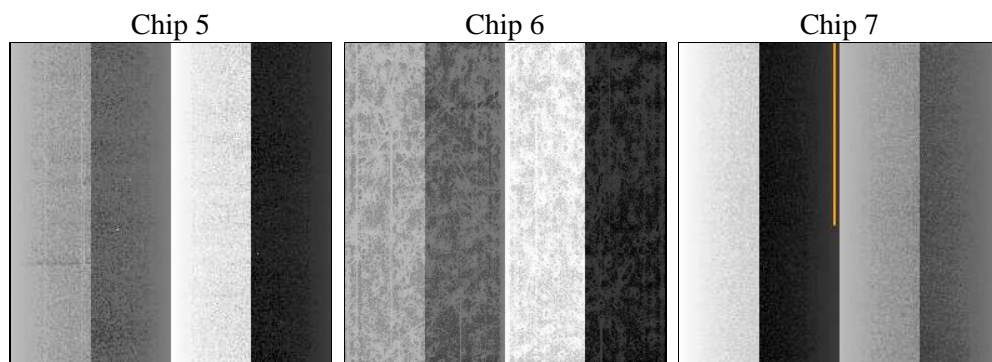
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	24500.000000	[s] Scheduled observation exposure time
ascdsver	10.8.1	Processing system revision	ontime	24607.800189376	Sum of GTIs [s]
caldbver	4.8.4.2	&#160	ontime5	24607.800189376	Sum of GTIs [s]
date	2020-03-10T16:30:41	Date and time of file creation	ontime6	24607.800189376	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	24607.800189376	Sum of GTIs [s]
			l1events	836545	Number of level 1 events

### 2.1.4 Events

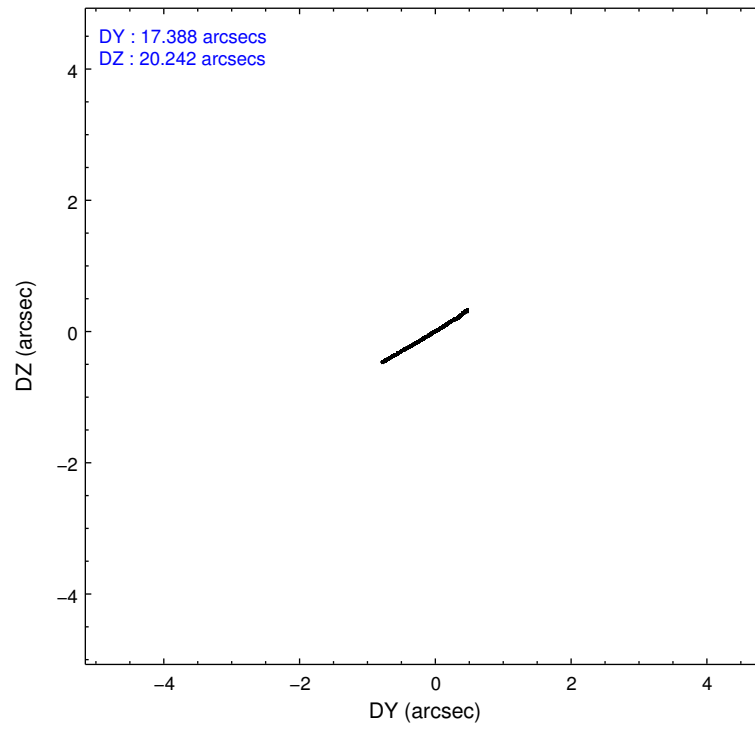
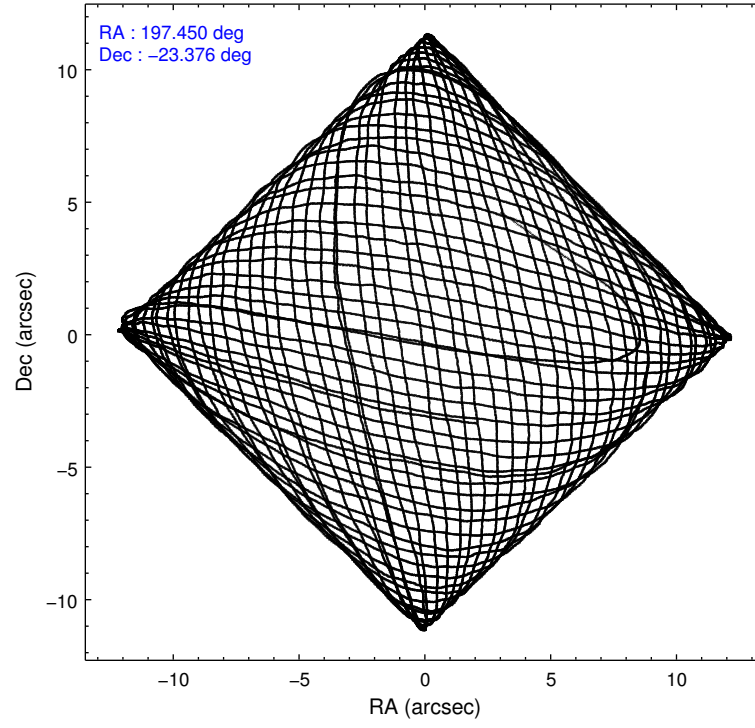
	<b>ccd 5</b>	<b>ccd 6</b>	<b>ccd 7</b>
level 1 events	387116	200494	248935
rejected events	176791	179200	142804
rejected %	45%	89%	57%

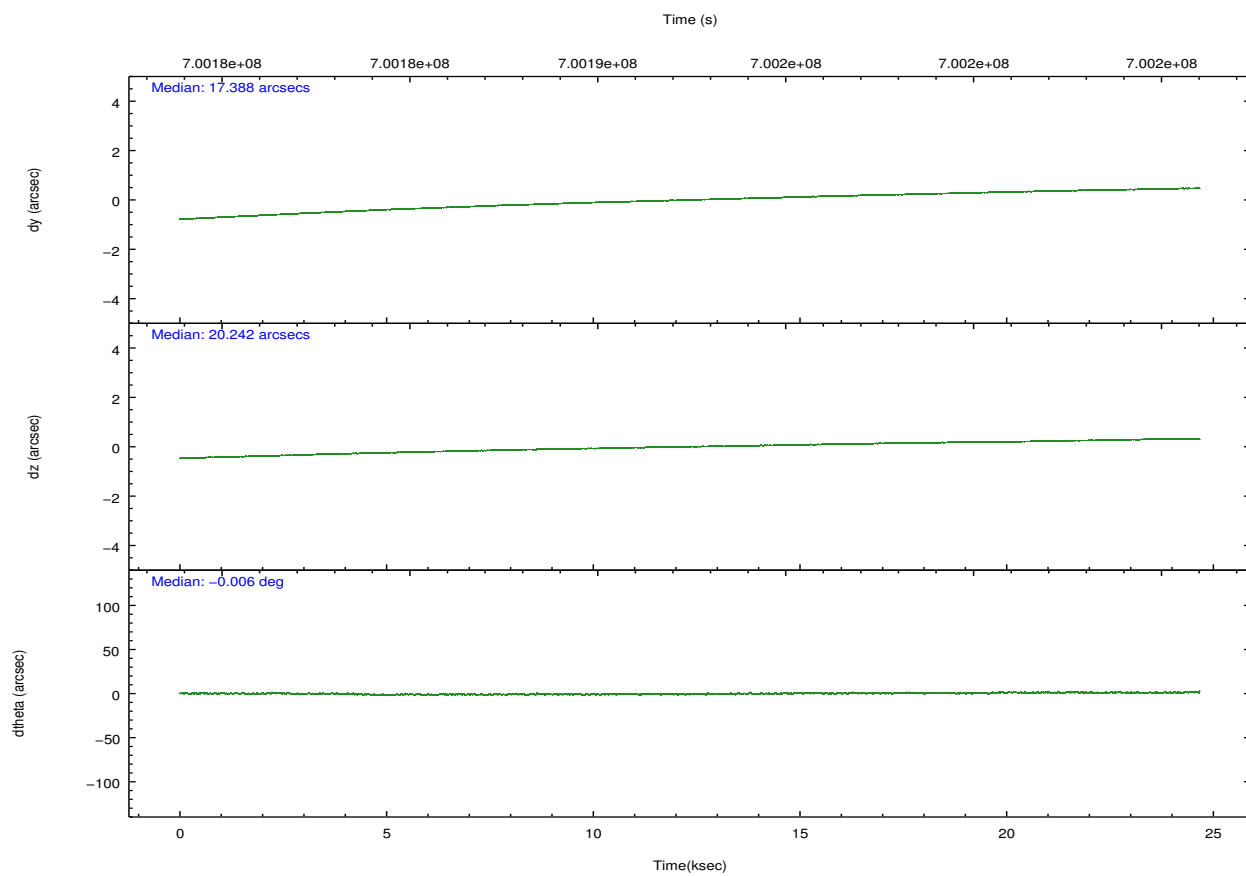
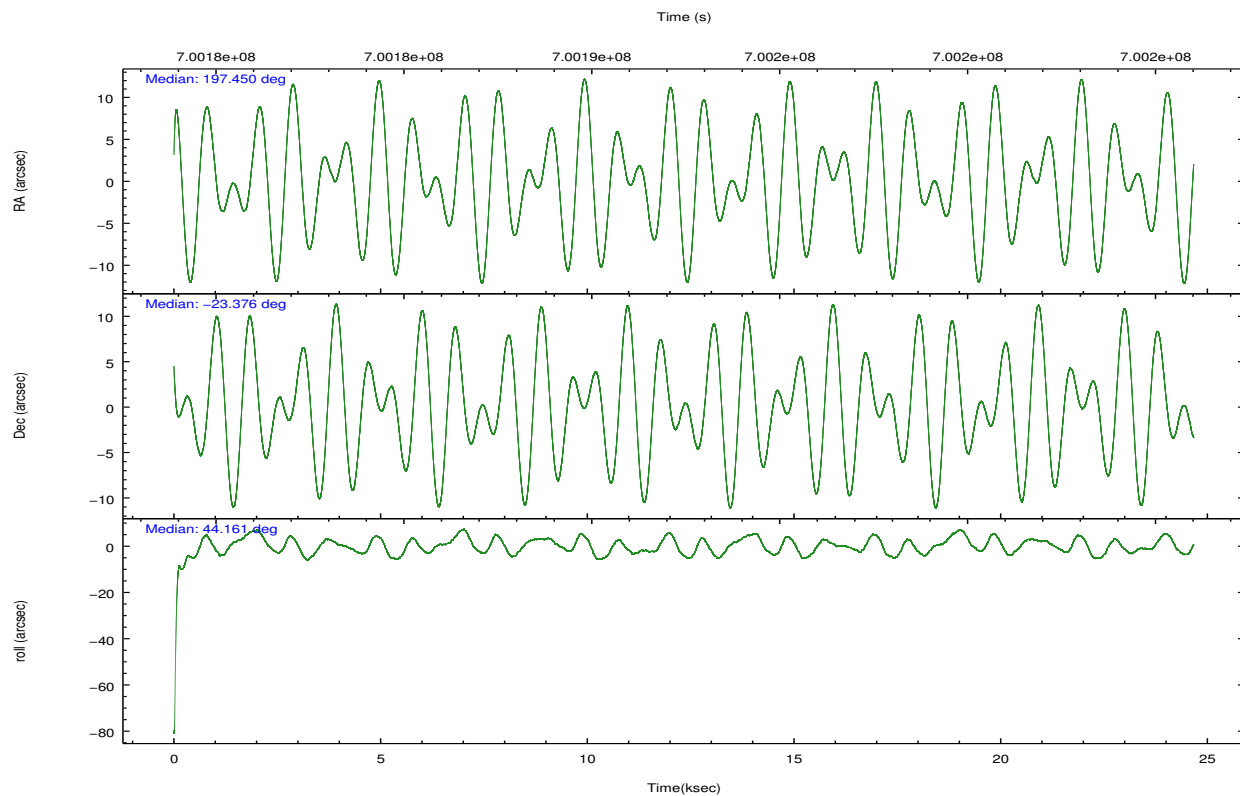
	<b>ccd 5</b>	<b>ccd 6</b>	<b>ccd 7</b>
grade 0 events	57811	5714	8774
	14%	2%	3%
grade 1 events	910	84	343
	0%	0%	0%
grade 2 events	59618	6118	22280
	15%	3%	8%
grade 3 events	4800	1613	7880
	1%	0%	3%
grade 4 events	4244	1657	7725
	1%	0%	3%
grade 5 events	21437	7783	23432
	5%	3%	9%
grade 6 events	83909	6196	59496
	21%	3%	23%
grade 7 events	154387	171329	119005
	39%	85%	47%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-567	ACIS-567	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	197.442034	197.4497928630812	CCD I2 on	N	N
[deg] Pointing Dec	-23.402398	-23.37590663543506	CCD I3 on	N	N
[deg] Pointing Roll	43.996676	44.15634014824749	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)	700180267.184000	700178757.37846	CCD S5 on	N	N
Observation start date	2020-03-09T22:29:58	2020-03-09T22:05:57	Number of optional ACIS chips dropped	1	1
[s] Observation end time (MET)	700204767.184000	700205683.10509	On-chip summing requested	N	N
Observation end date	2020-03-10T05:18:18	2020-03-10T05:34:43	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



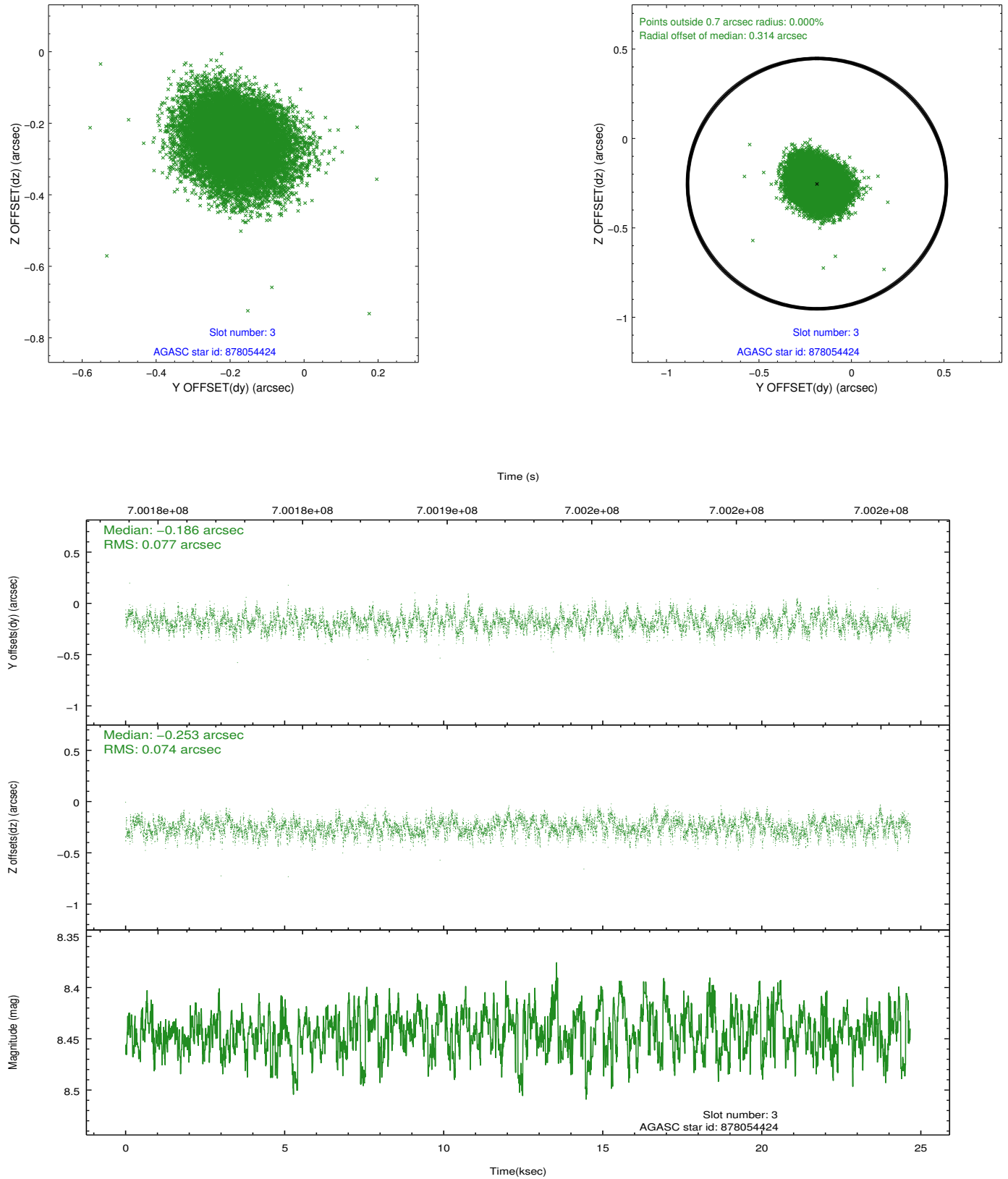


Slot Statistics

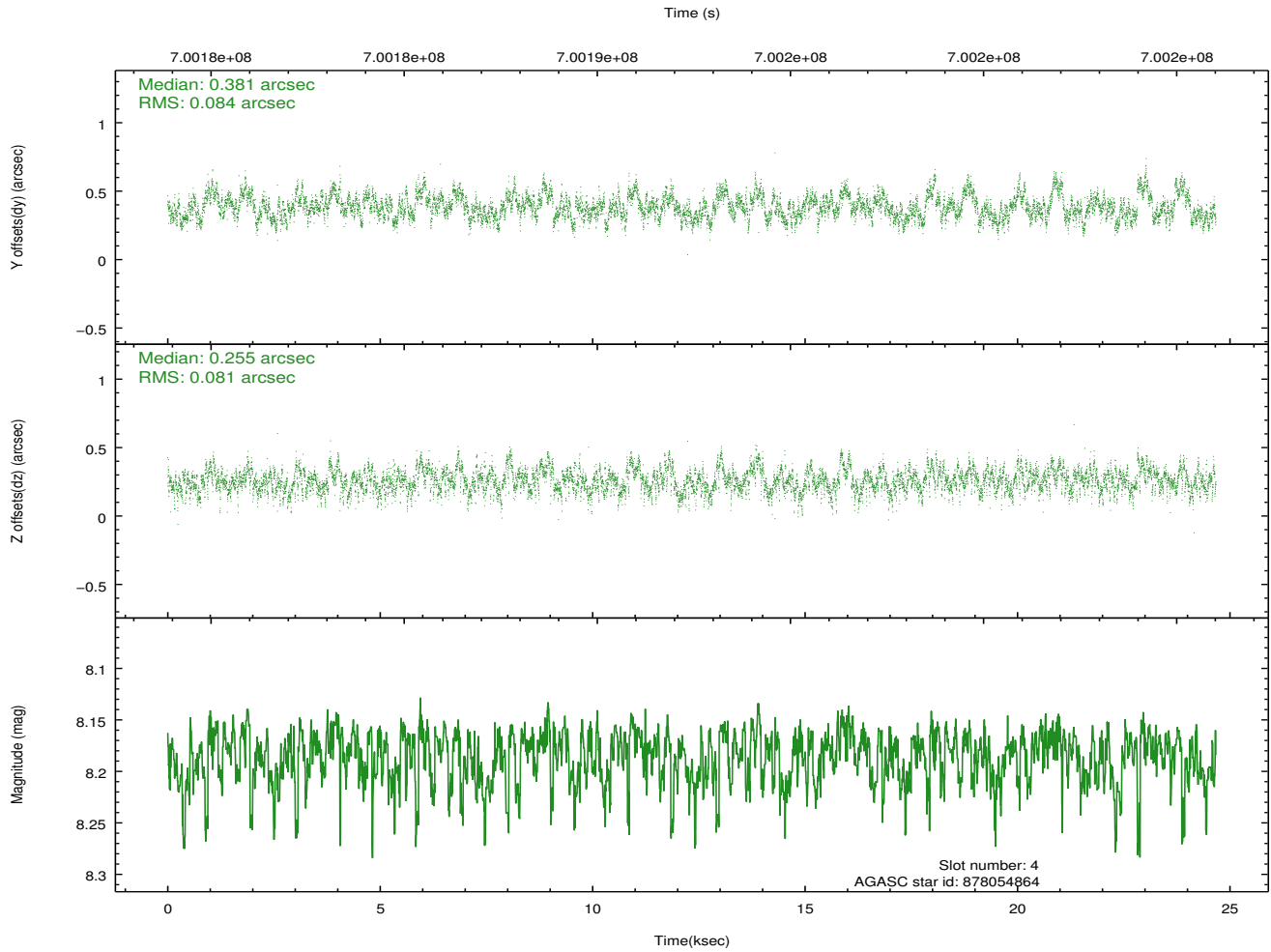
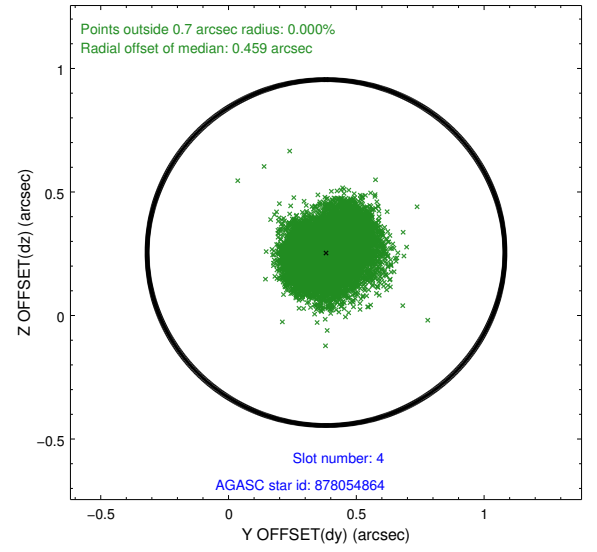
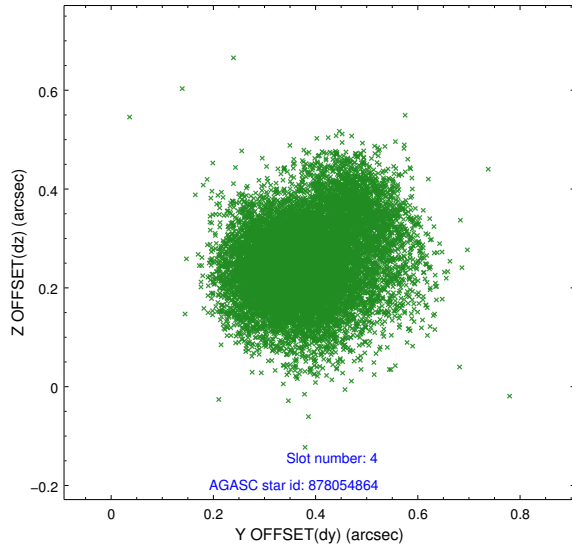
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.14	6017	1.000	-0.329	-0.233	0.028	0.040	0.000000	0.000000	-770.63	-1741
1	FID		ACIS-S-4	7.28	6016	1.000	0.843	0.222	0.013	0.021	0.000000	0.000000	2143.68	166
2	FID		ACIS-S-5	7.22	6017	1.000	-0.546	0.020	0.020	0.031	0.000000	0.000000	-1823.61	160
3	GUIDE	used	878054424	8.44	12027	1.000	-0.186	-0.253	0.115	0.177	197.311680	-23.210058	170.85	796
4	GUIDE	used	878054864	8.18	12026	1.000	0.381	0.255	0.126	0.200	197.588589	-23.624647	-207.06	-911
5	GUIDE	used	878055920	7.73	12027	1.000	0.439	0.574	0.102	0.159	197.166113	-23.822063	-1704.46	-453
6	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0
7	GUIDE	used	878061480	7.98	12030	1.000	-0.642	-0.569	0.075	0.122	197.360027	-22.852260	1178.88	1613

## 2.4 Star Slots

### 2.4.1 Slot 3

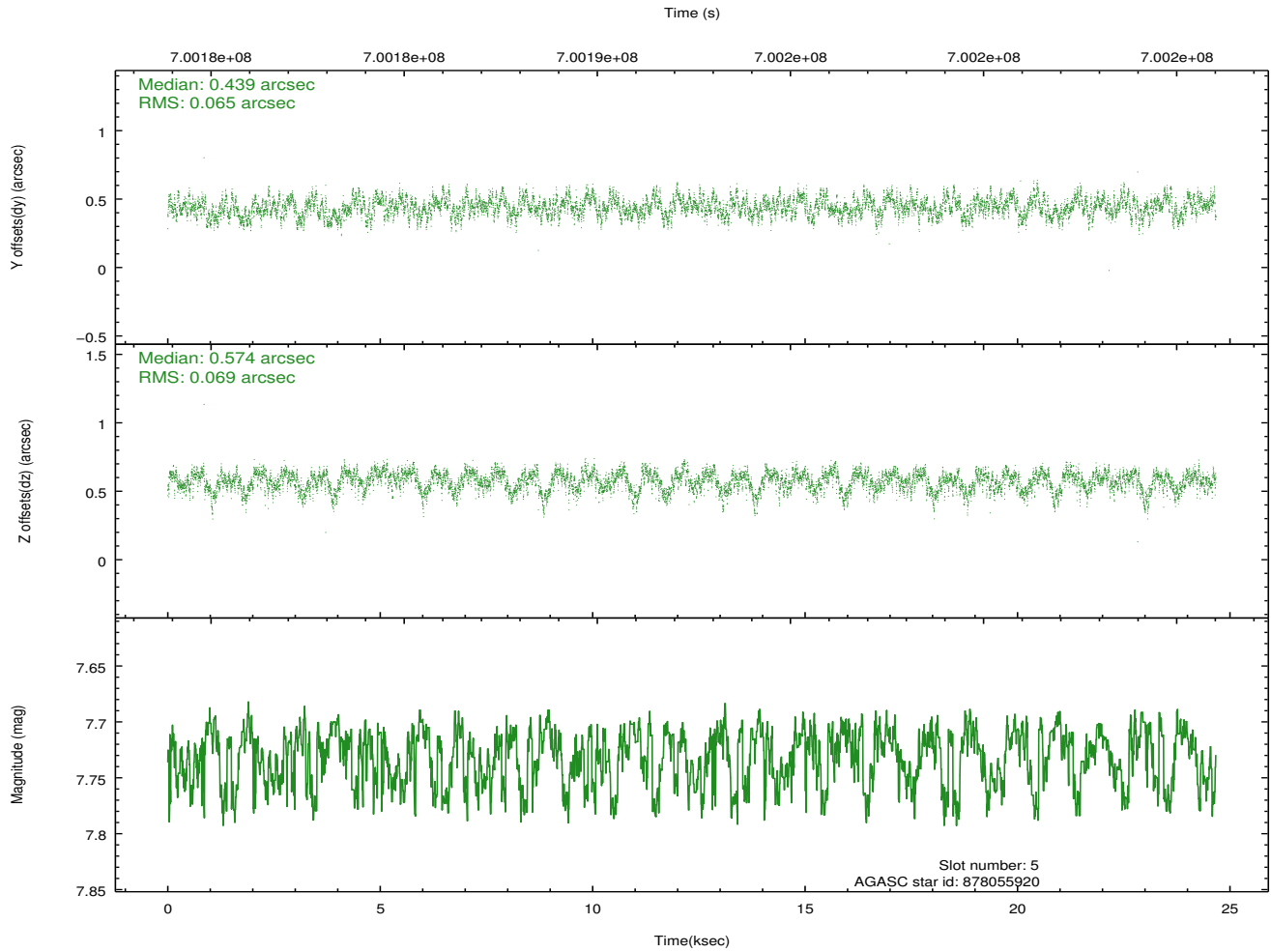
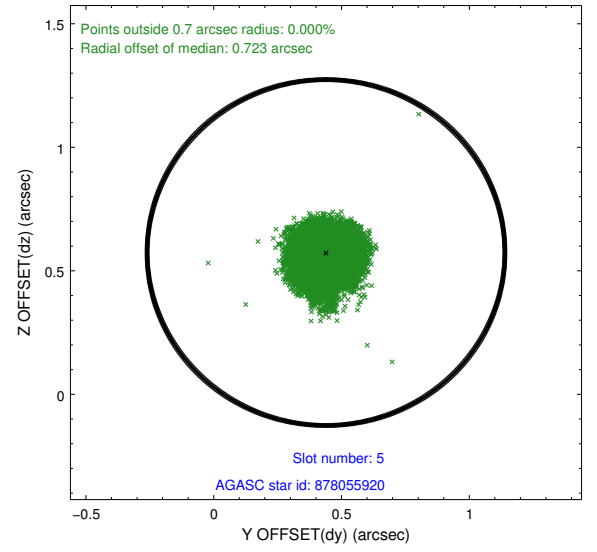
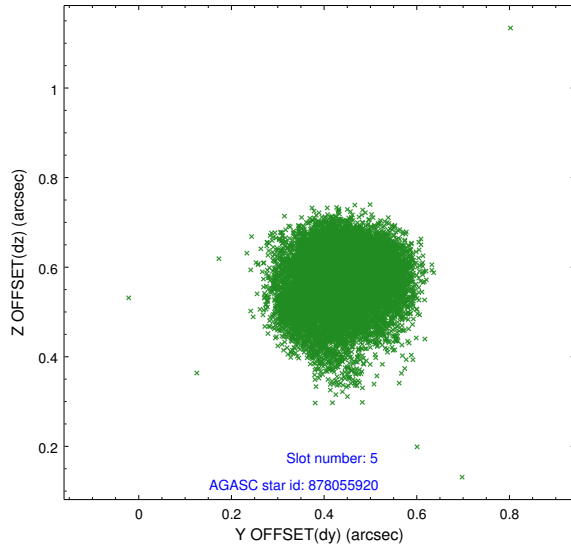


## 2.4.2 Slot 4

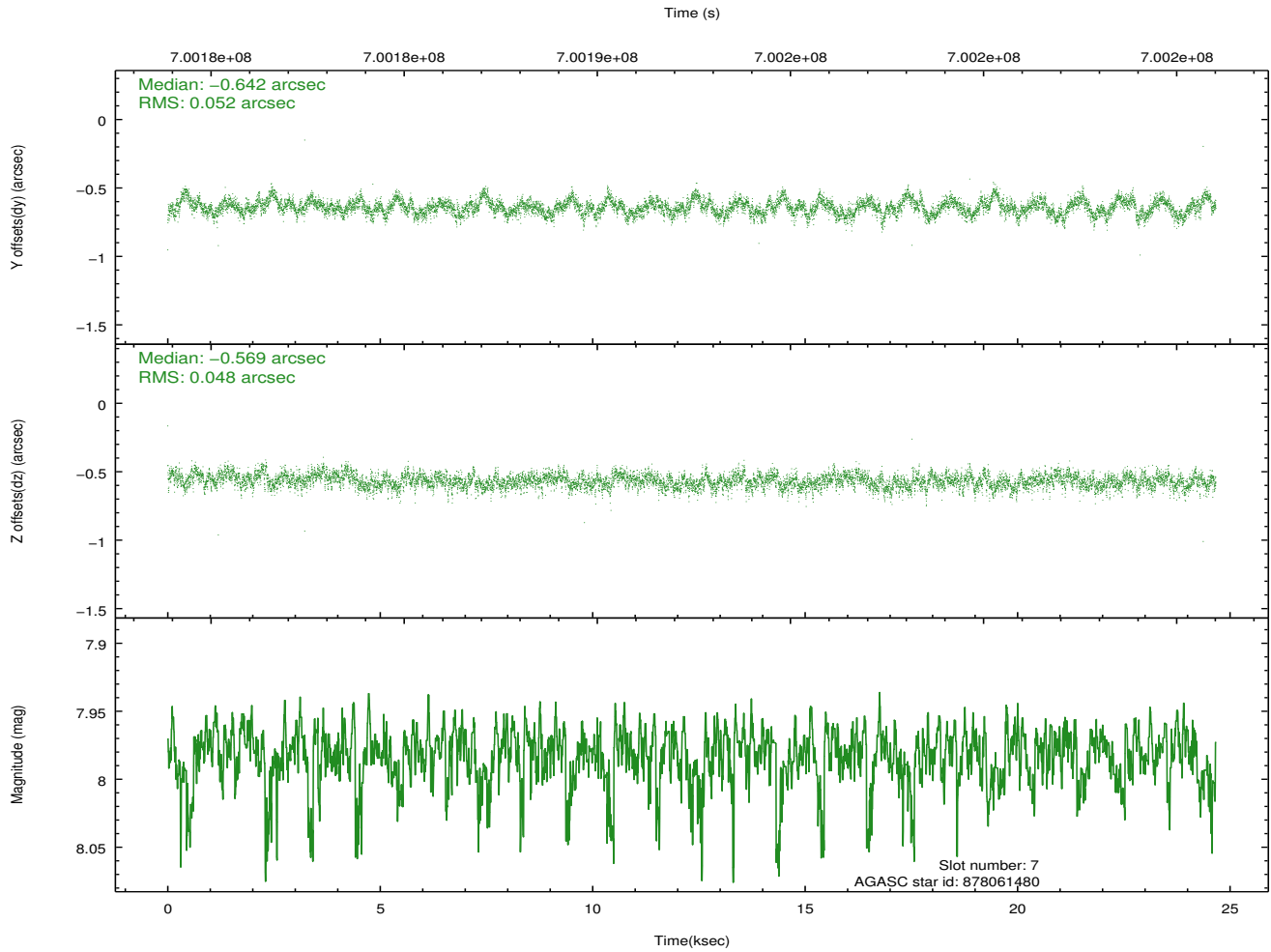
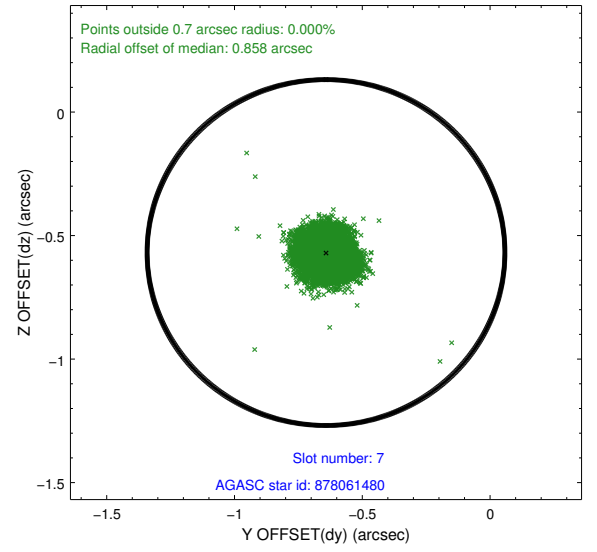
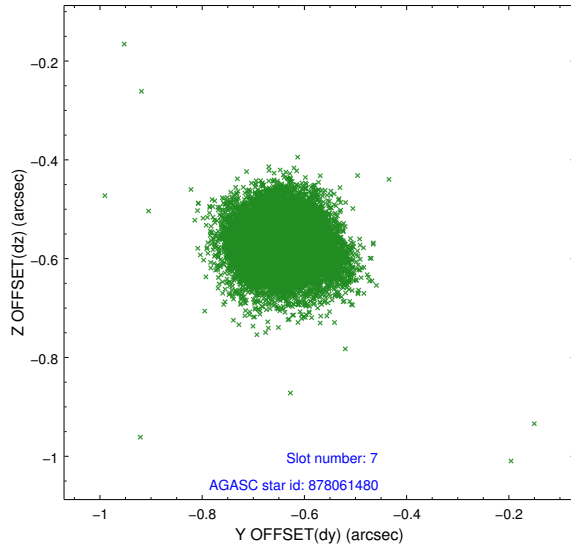




### 2.4.3 Slot 5

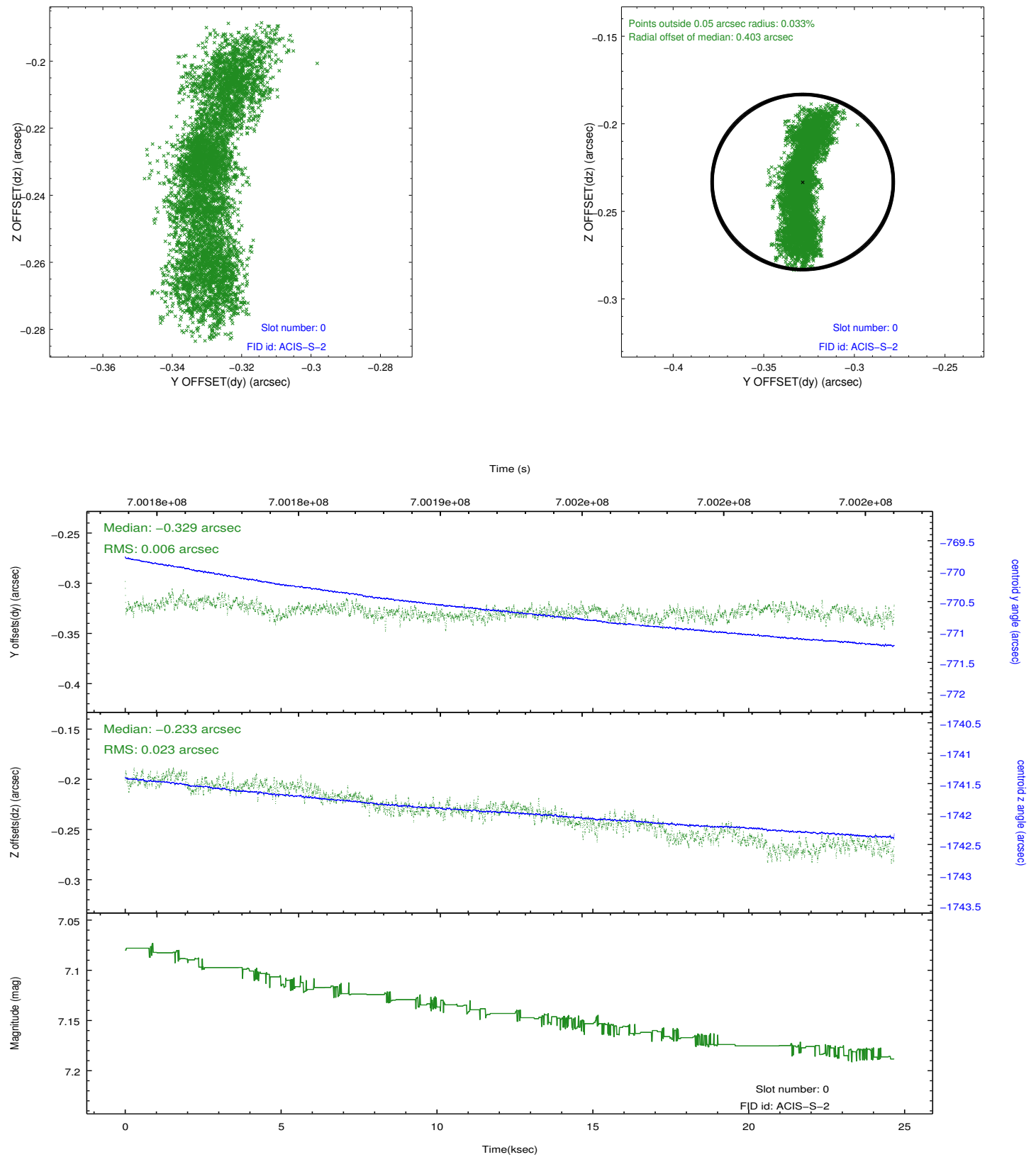


## 2.4.4 Slot 7

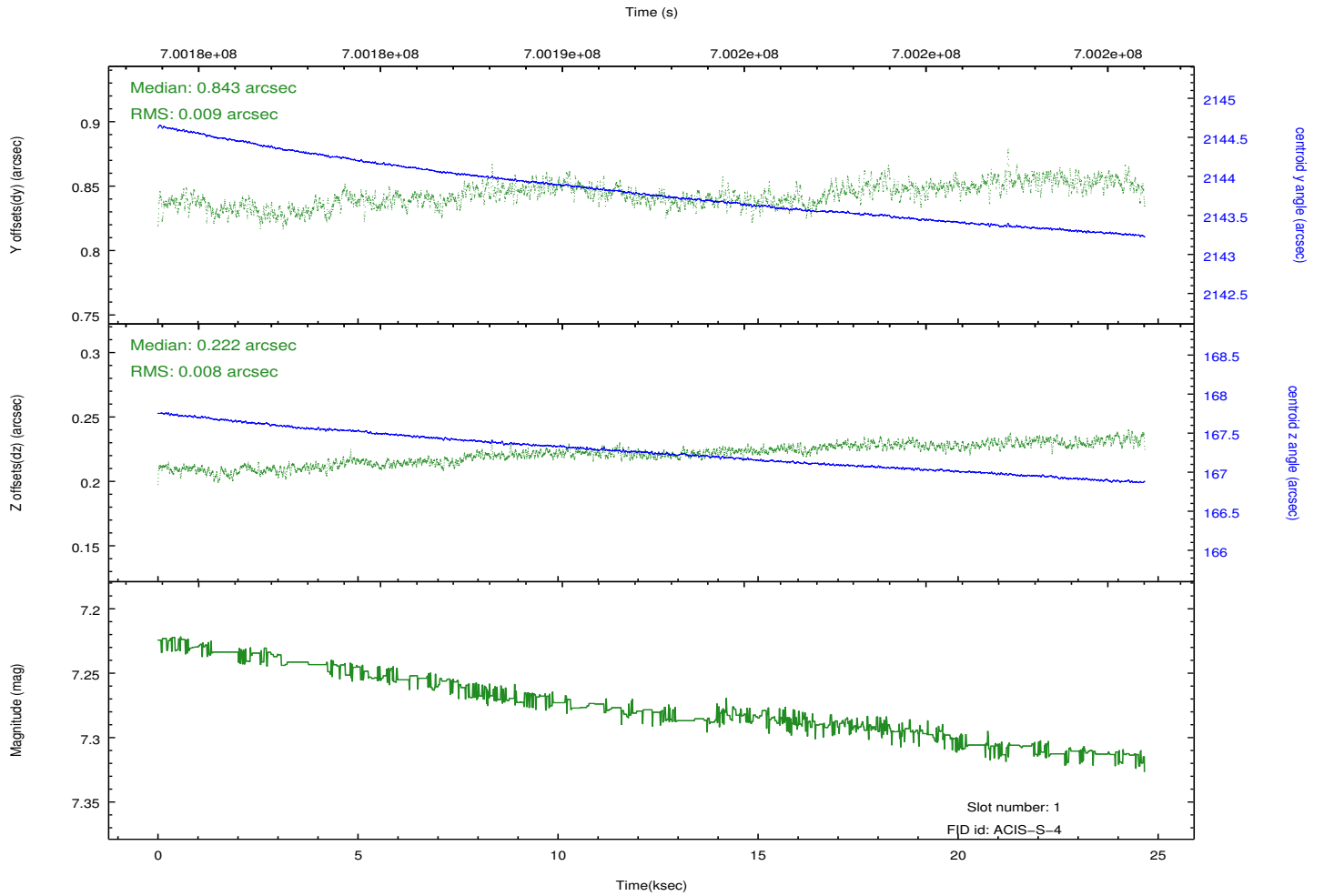
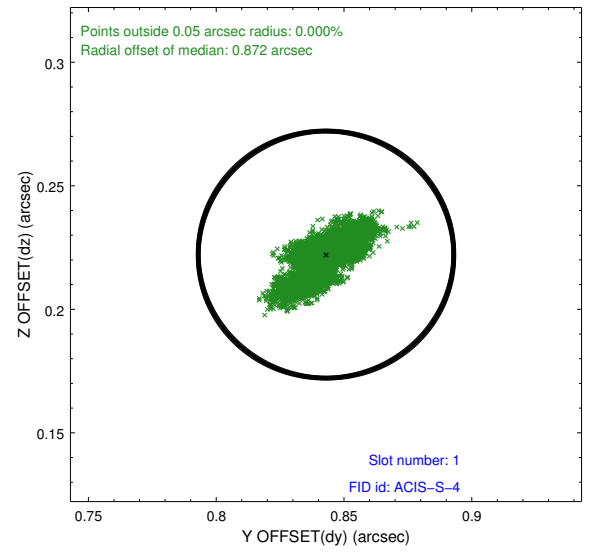
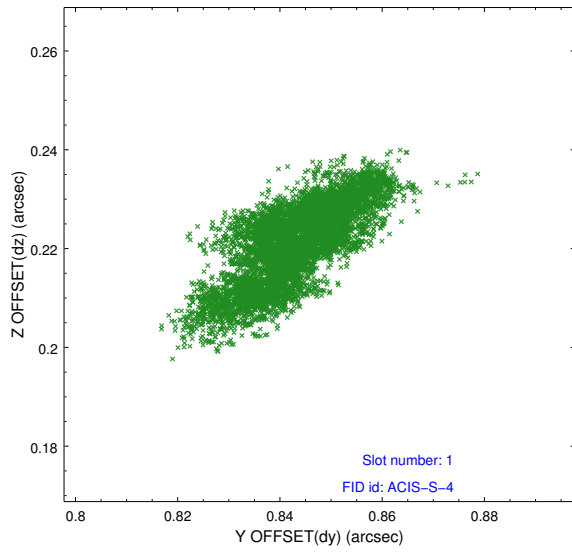


## 2.5 FID Slots

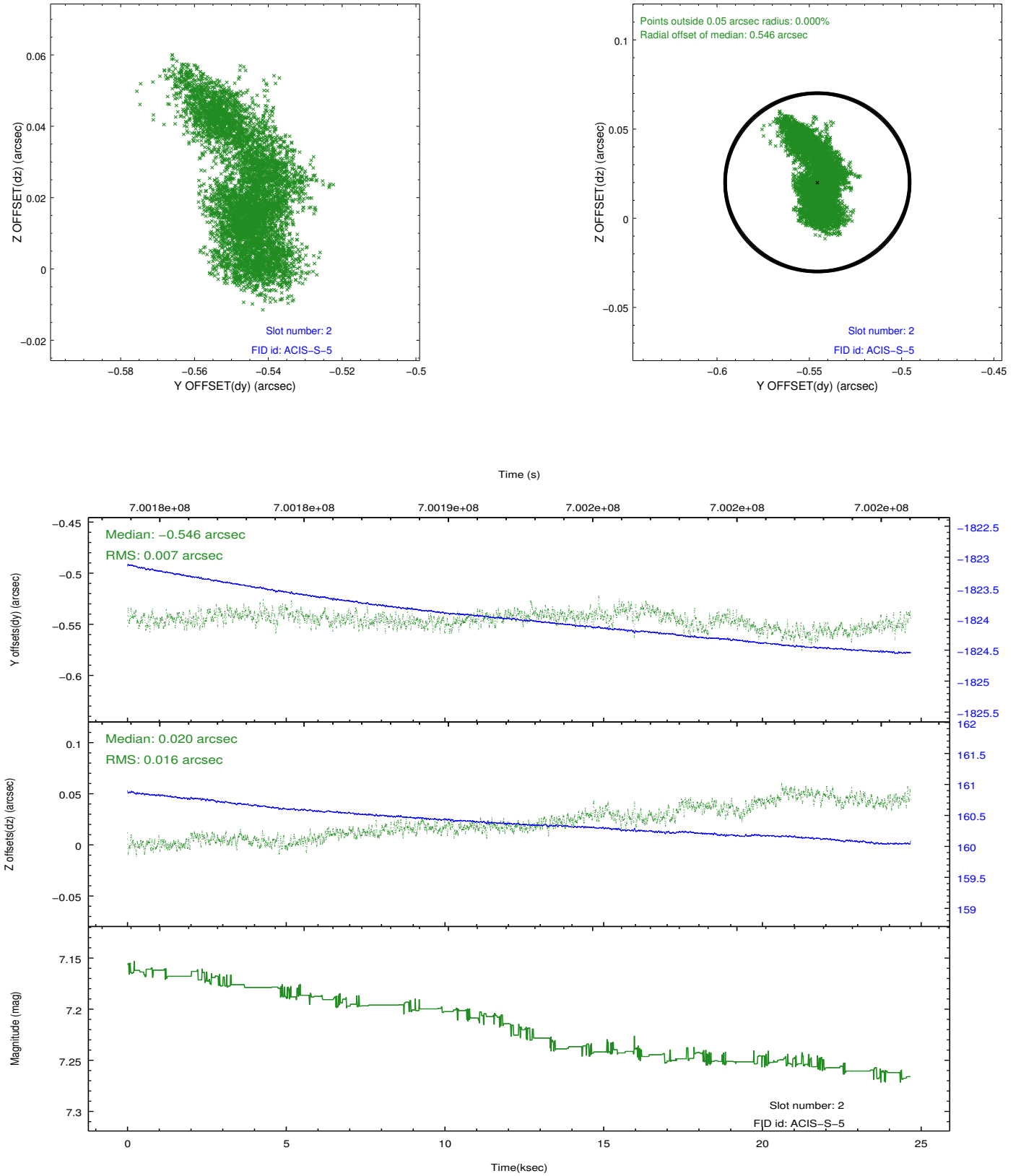
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2020.03.10
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	24.607800189376

## A.2 Comments

Joint proposal with HST and NRAO.

One optional chip was dropped.

The guide star in slot 6 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this slot from the solution.