

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 12978 - L2 Version 2  
Chandra X-Ray Center

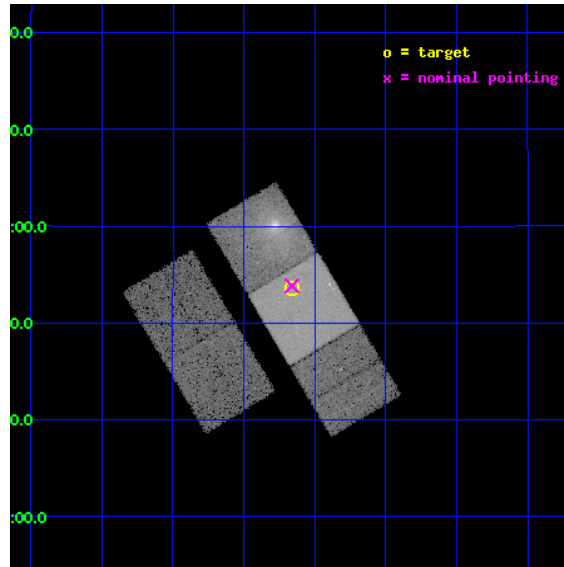
L2 Processing Date : Jul 7 2012

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# 1 Front

seq_num	600946	Sequence number
obs_id	12978	Observation id
title	Understanding the variability of the first globular cluster black hole	Proposal title
observer	Dr Thomas Maccarone	Principal investigator
object	RZ 2109	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	187.415417	Observer's specified target RA [deg]
dec_targ	7.8925	Observer's specified target Dec [deg]
ra_nom	187.41533480713	Nominal RA [deg]
dec_nom	7.8973731075092	Nominal Dec [deg]
roll_nom	59.230193579847	Nominal Roll [deg]
revision	2	Processing version of data
ontime	20041.264067471	Sum of GTIs [s]
livetime	19779.410198266	Livetime [s]
ontime2	20037.958937049	Sum of GTIs [s]
ontime3	20041.181987464	Sum of GTIs [s]
ontime6	20041.223027468	Sum of GTIs [s]
ontime7	20041.264067471	Sum of GTIs [s]
ontime8	20041.140947461	Sum of GTIs [s]
l2events	166541	Number of level 2 events

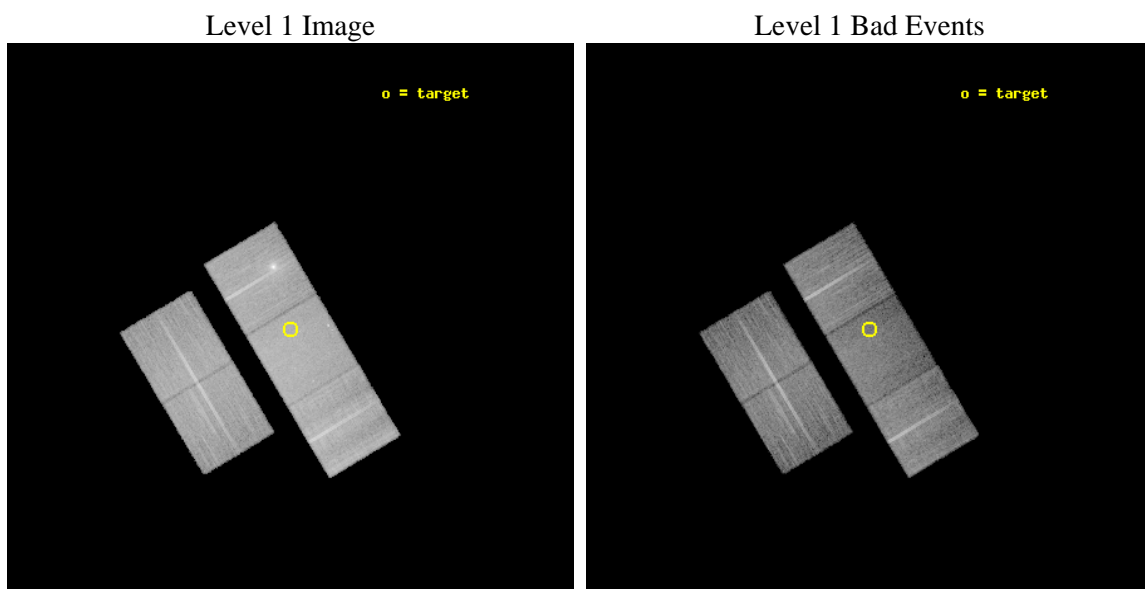




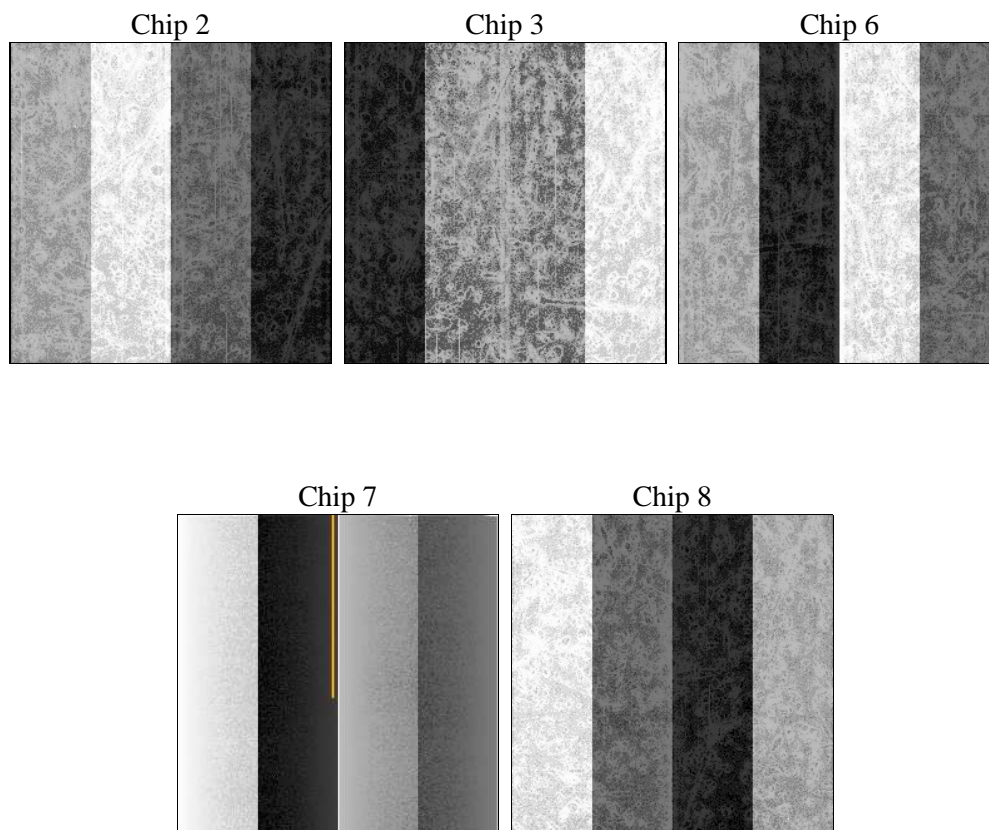
## 2 OBI

### 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	20041.264067471	Sum of GTIs [s]
caldsver	4.5.0	&#160	ontime2	20037.958937049	Sum of GTIs [s]
date	2012-07-07T03:57:32	Date and time of file creation	ontime3	20041.181987464	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	20041.223027468	Sum of GTIs [s]
			ontime7	20041.264067471	Sum of GTIs [s]
			ontime8	20041.140947461	Sum of GTIs [s]
			l1events	822504	Number of level 1 events

### 2.1.4 Events

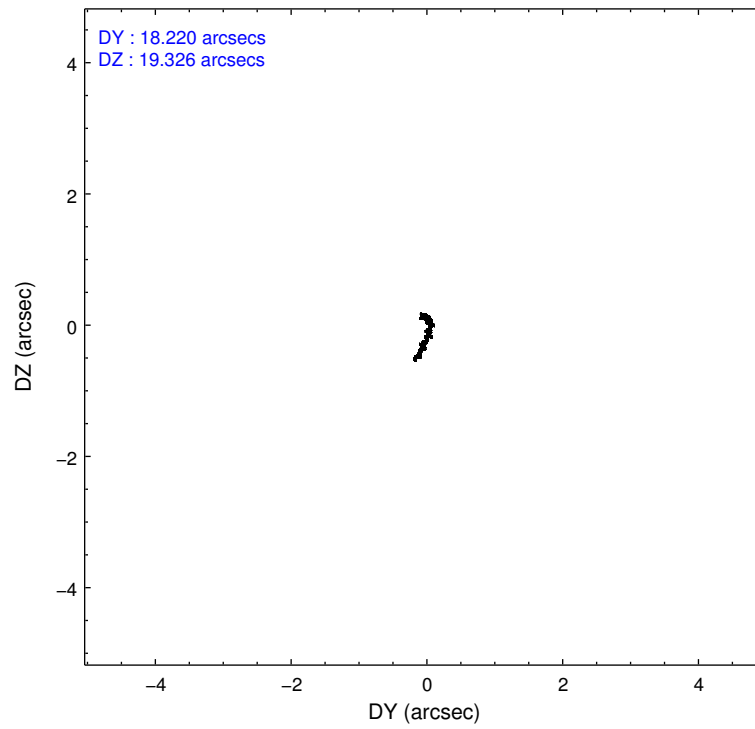
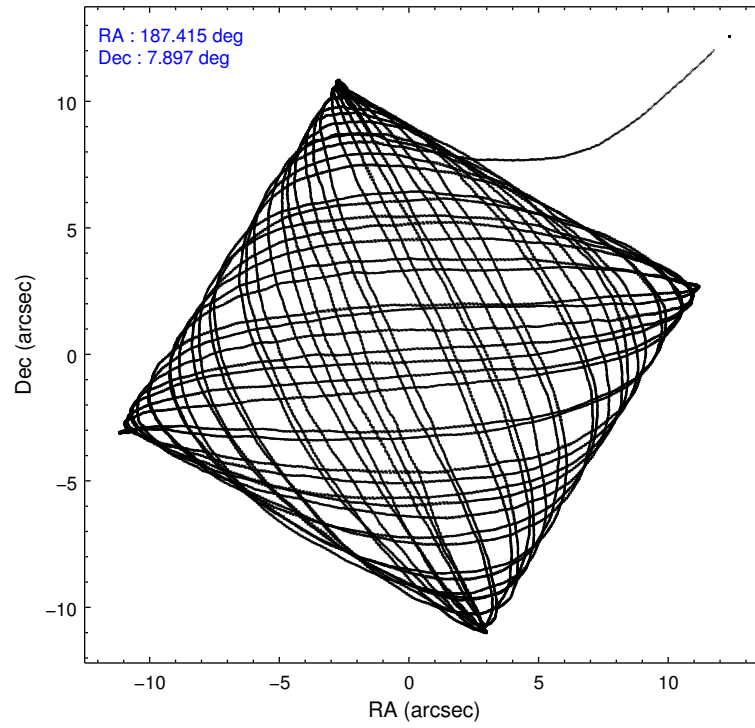
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
level 1 events	140644	138046	171002	183799	189013
rejected events	125050	122767	128972	97692	138255
rejected %	88%	88%	75%	53%	73%

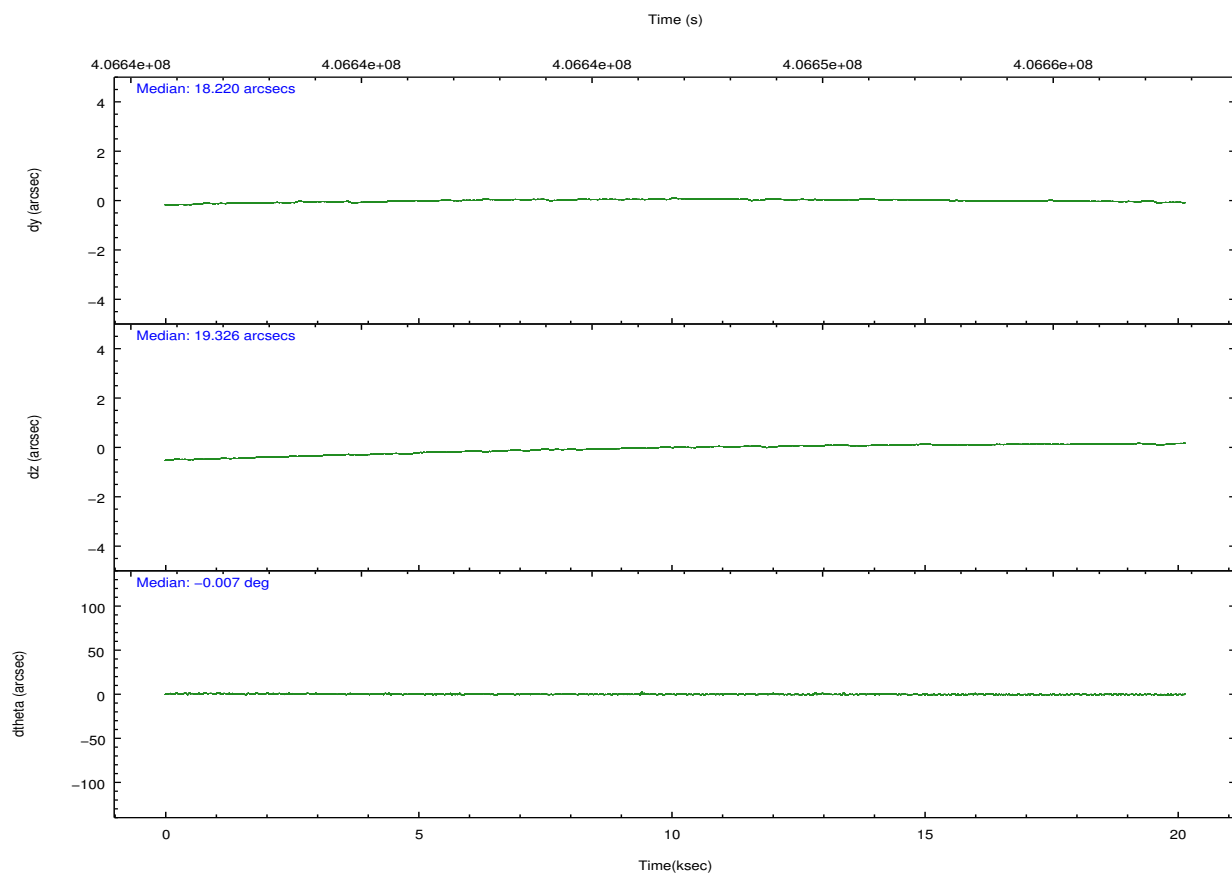
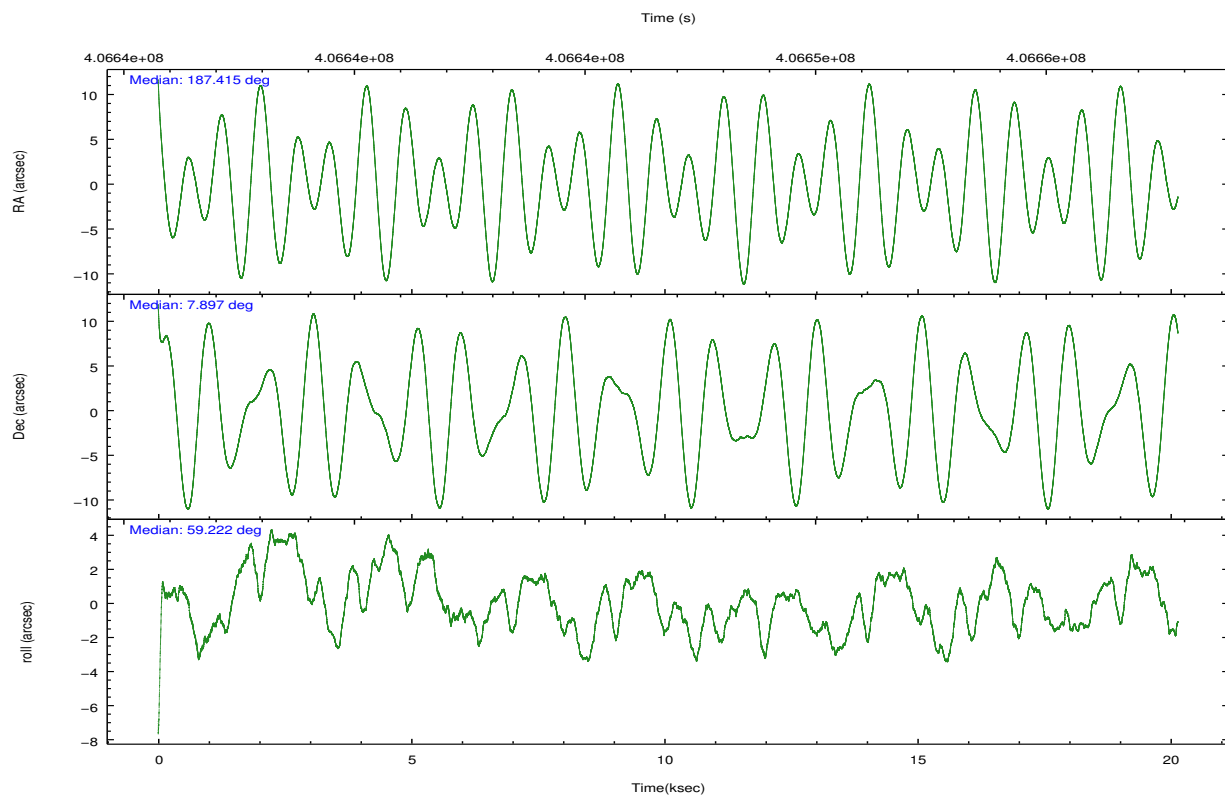
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
grade 0 events	5872	5727	27855	9349	16128
	4%	4%	16%	5%	8%
grade 1 events	83	106	164	244	166
	0%	0%	0%	0%	0%
grade 2 events	3642	3347	5902	17942	11634
	2%	2%	3%	9%	6%
grade 3 events	1547	1604	2226	7765	5252
	1%	1%	1%	4%	2%
grade 4 events	1610	1631	2204	7911	4819
	1%	1%	1%	4%	2%
grade 5 events	5632	6426	6734	18265	9513
	4%	4%	3%	9%	5%
grade 6 events	2926	2976	3853	43156	12933
	2%	2%	2%	23%	6%
grade 7 events	119332	116229	122064	79167	128568
	84%	84%	71%	43%	68%

## 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	FAINT	FAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	187.415348	187.4153348071252	CCD I2 on	O4	Y
[deg] Pointing Dec	7.870009	7.897373107509192	CCD I3 on	O3	Y
[deg] Pointing Roll	59.073565	59.2301935798473	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)	406636869.184000	406635289.2623	CCD S5 on	N	N
Observation start date	2010-11-20T10:40:03	2010-11-20T10:14:49	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	406656869.184000	406657075.12592	On-chip summing requested	N	N
Observation end date	2010-11-20T16:13:23	2010-11-20T16:17:55	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



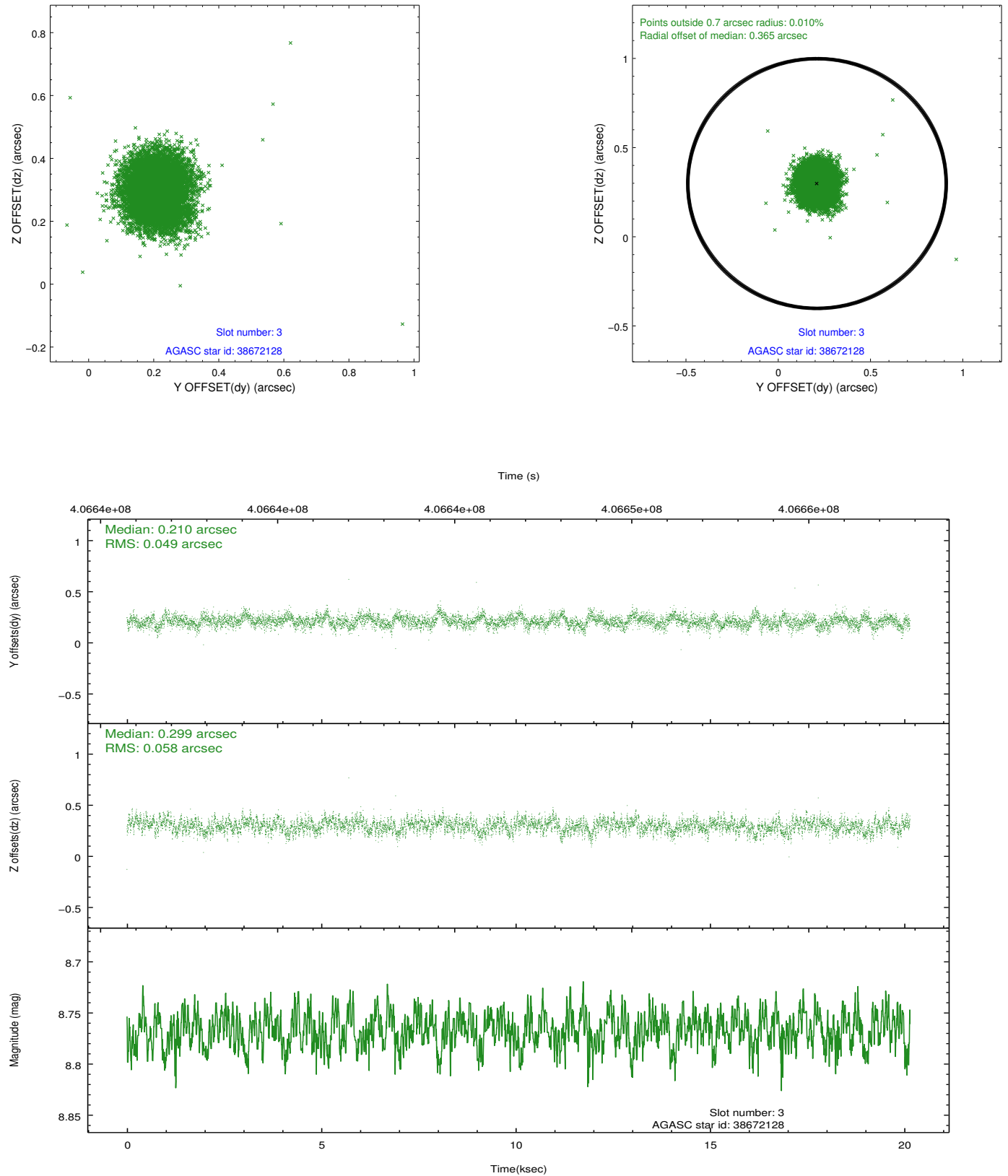


### Slot Statistics

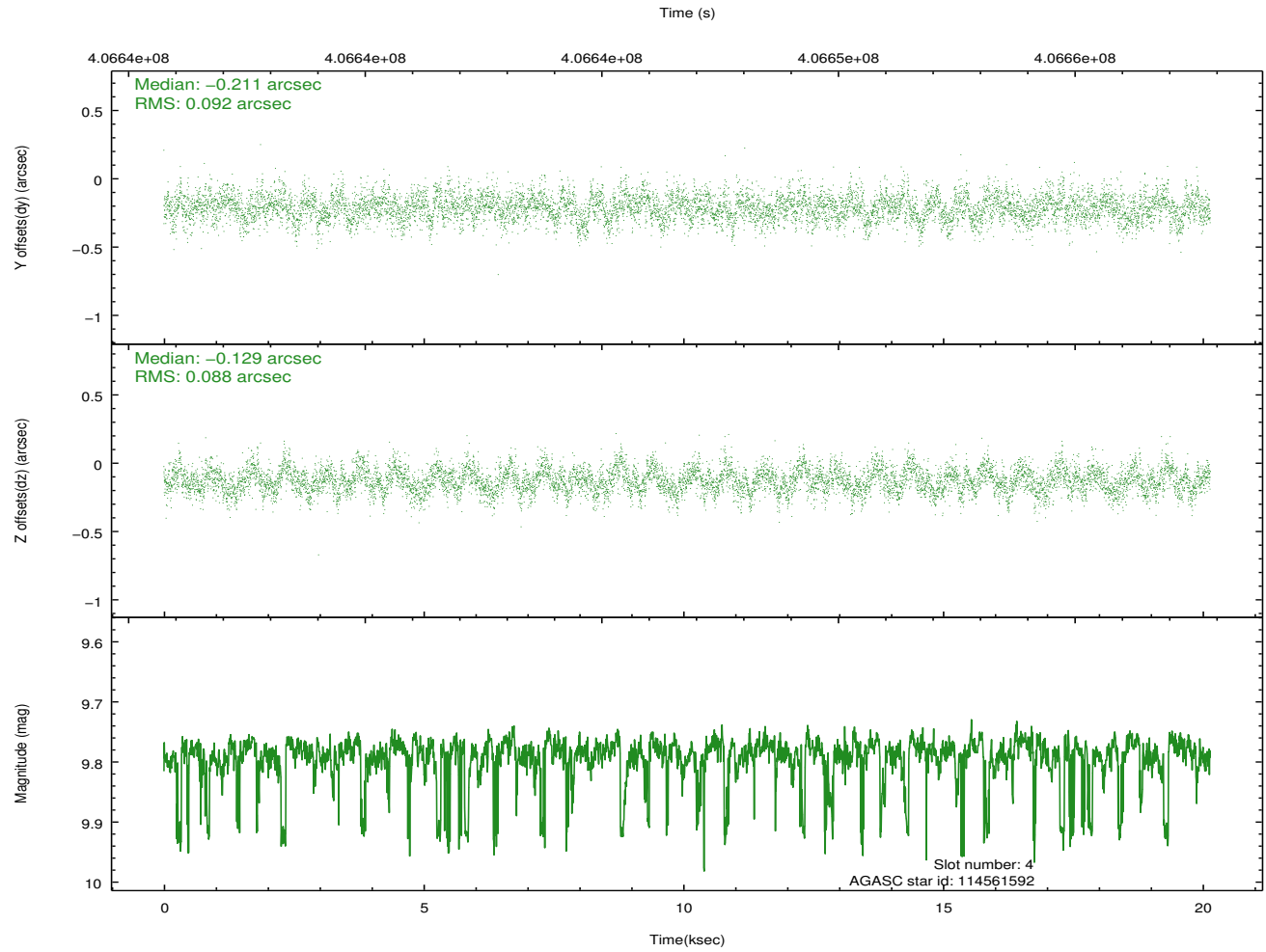
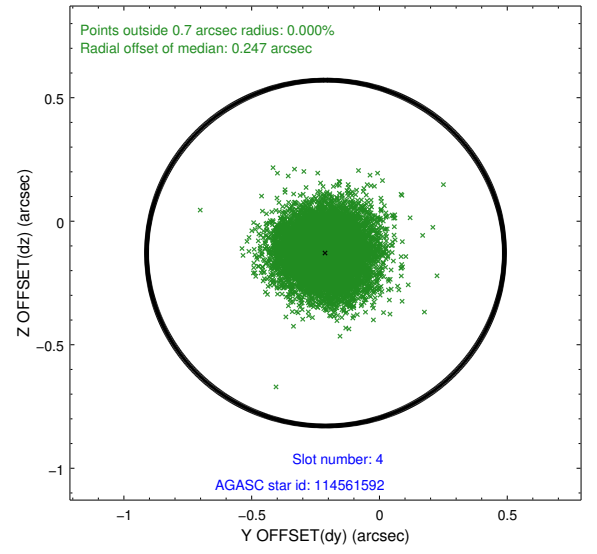
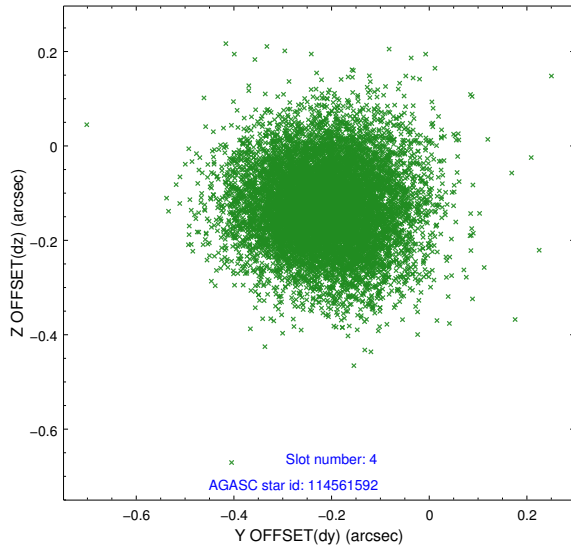
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	6.98	4913	0.096	-0.039	0.008	0.013	0.000000	0.000000	924.90	-1736.35
1	FID	ACIS-S-5	7.02	4914	-0.161	0.066	0.008	0.014	0.000000	0.000000	-1824.29	161.07
2	FID	ACIS-S-6	7.12	4914	0.044	-0.015	0.011	0.021	0.000000	0.000000	390.15	805.20
3	GUIDE	38672128	8.77	9820	0.210	0.299	0.080	0.132	187.663685	7.121505	-1854.76	-2145.46
4	GUIDE	114561592	9.79	9721	-0.211	-0.129	0.134	0.220	187.709505	8.445382	2315.26	166.24
5	GUIDE	114563056	9.87	9787	-0.017	0.350	0.207	0.373	188.043188	7.639178	440.06	-2347.29
6	GUIDE	114563576	7.88	9827	-0.068	-0.394	0.062	0.102	186.867039	8.012388	-564.48	1940.73
7	GUIDE	114563648	9.80	9813	0.100	-0.139	0.164	0.255	187.009208	7.938475	-532.09	1369.49

## 2.4 Star Slots

### 2.4.1 Slot 3

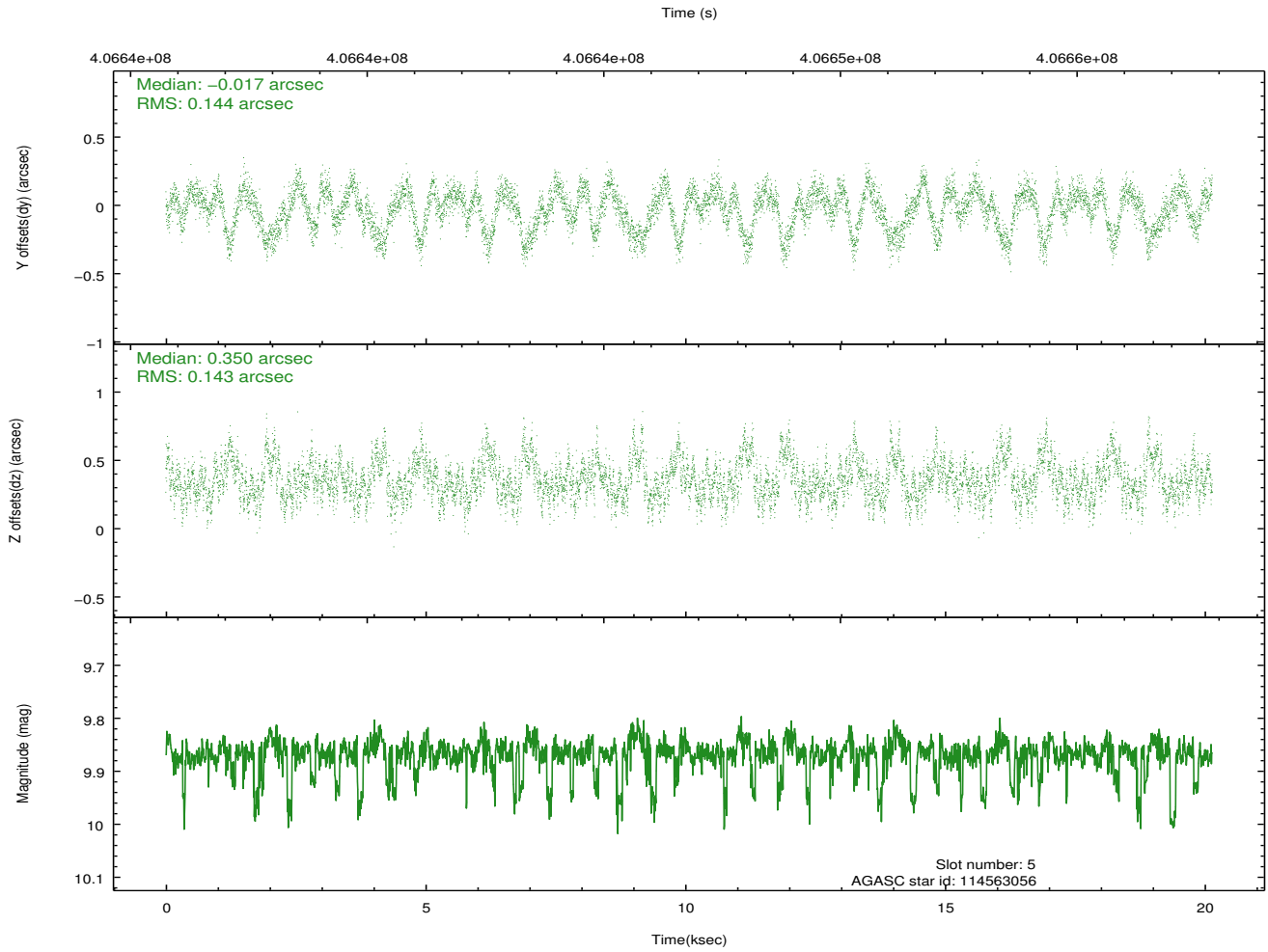
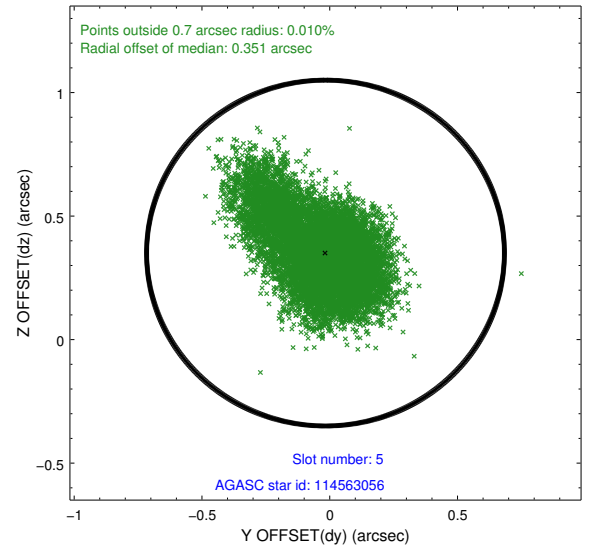
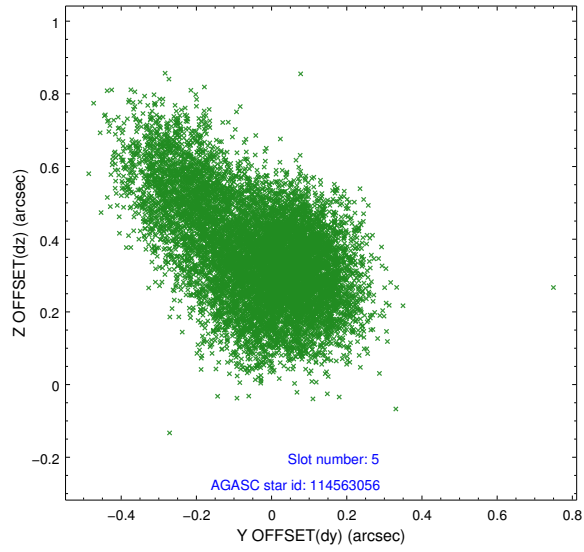


## 2.4.2 Slot 4

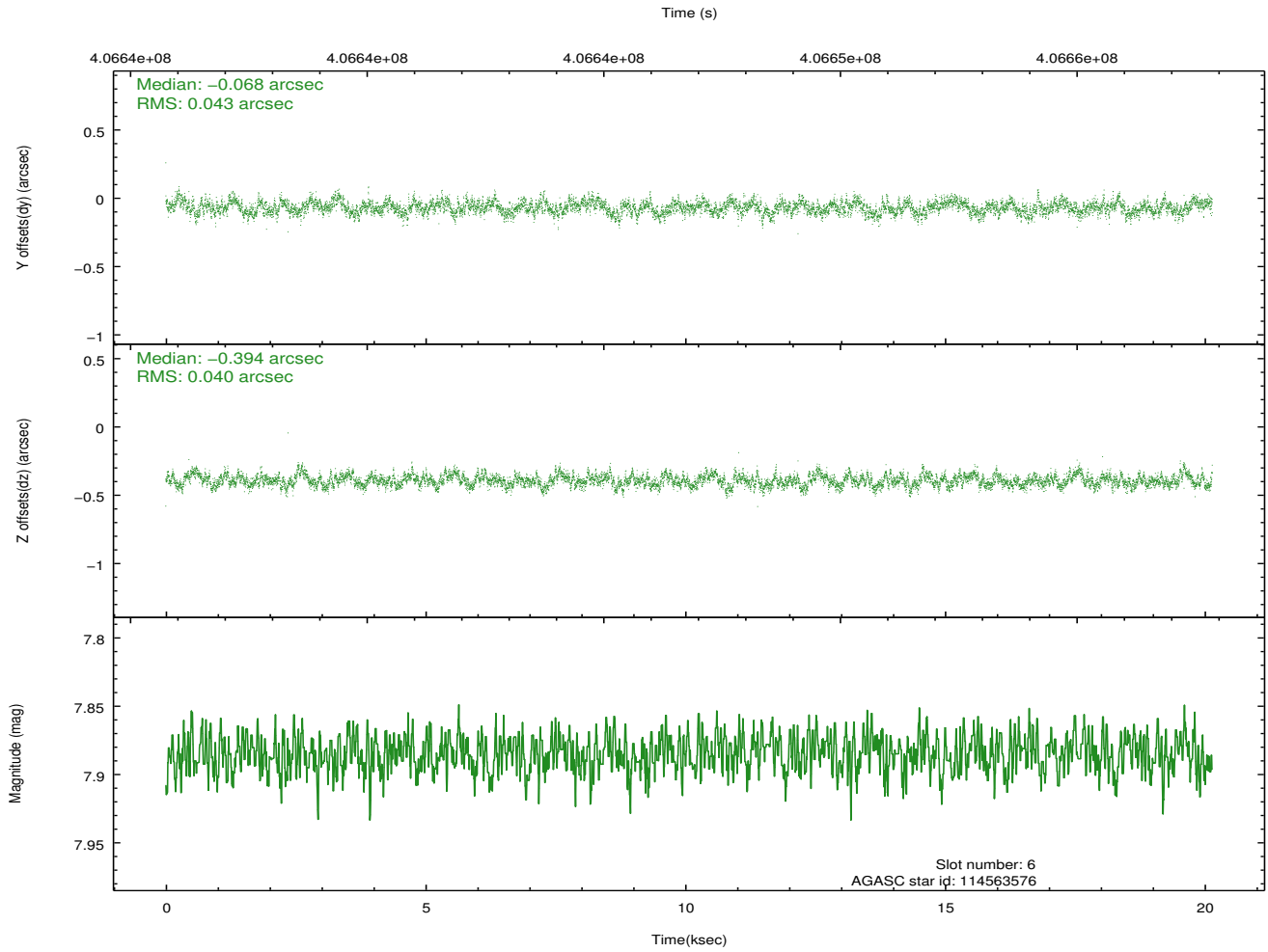
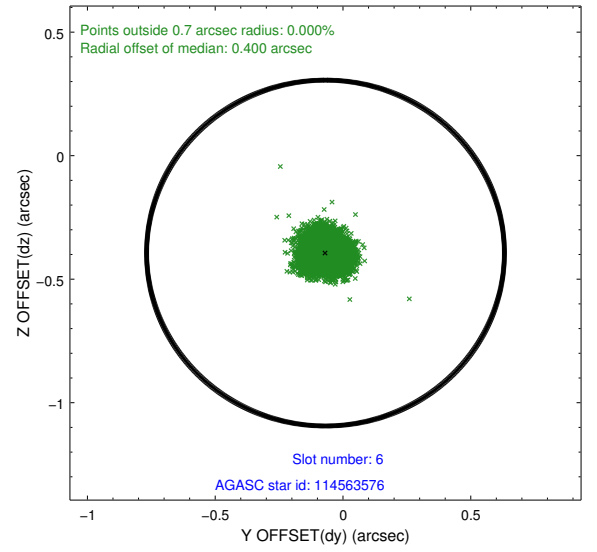
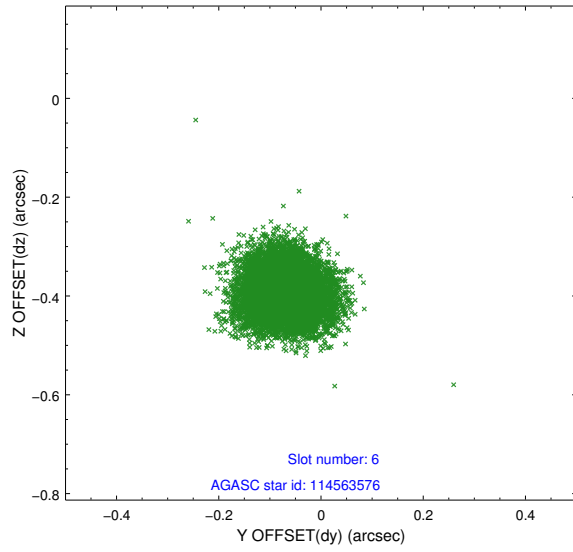




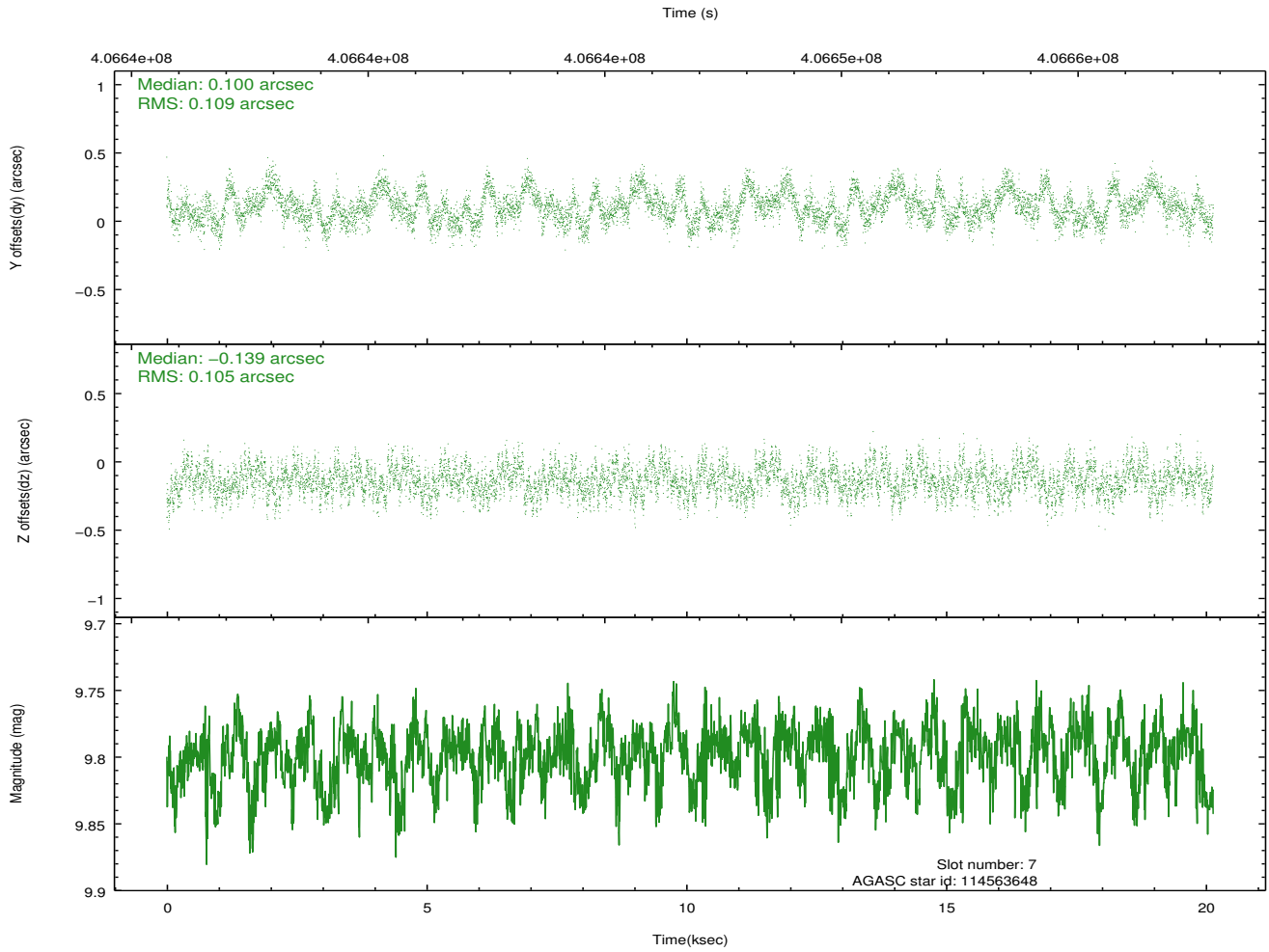
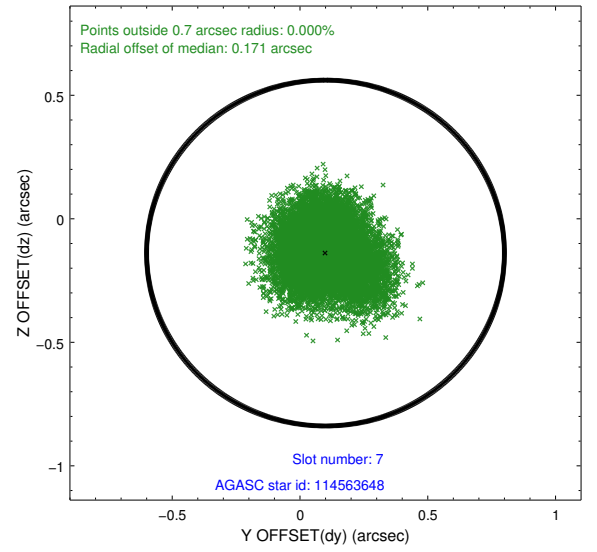
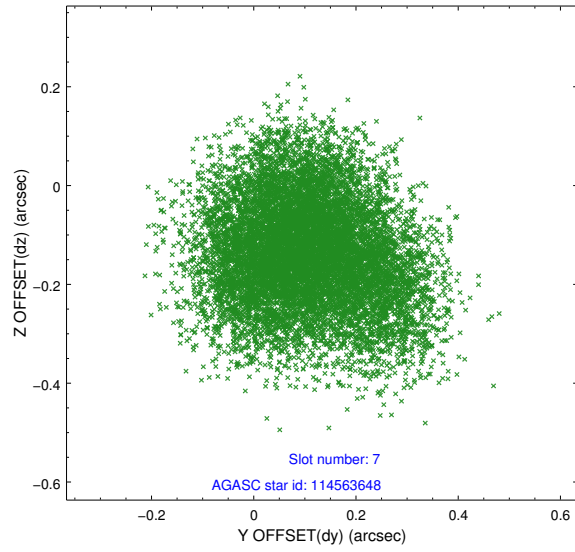
### 2.4.3 Slot 5



## 2.4.4 Slot 6

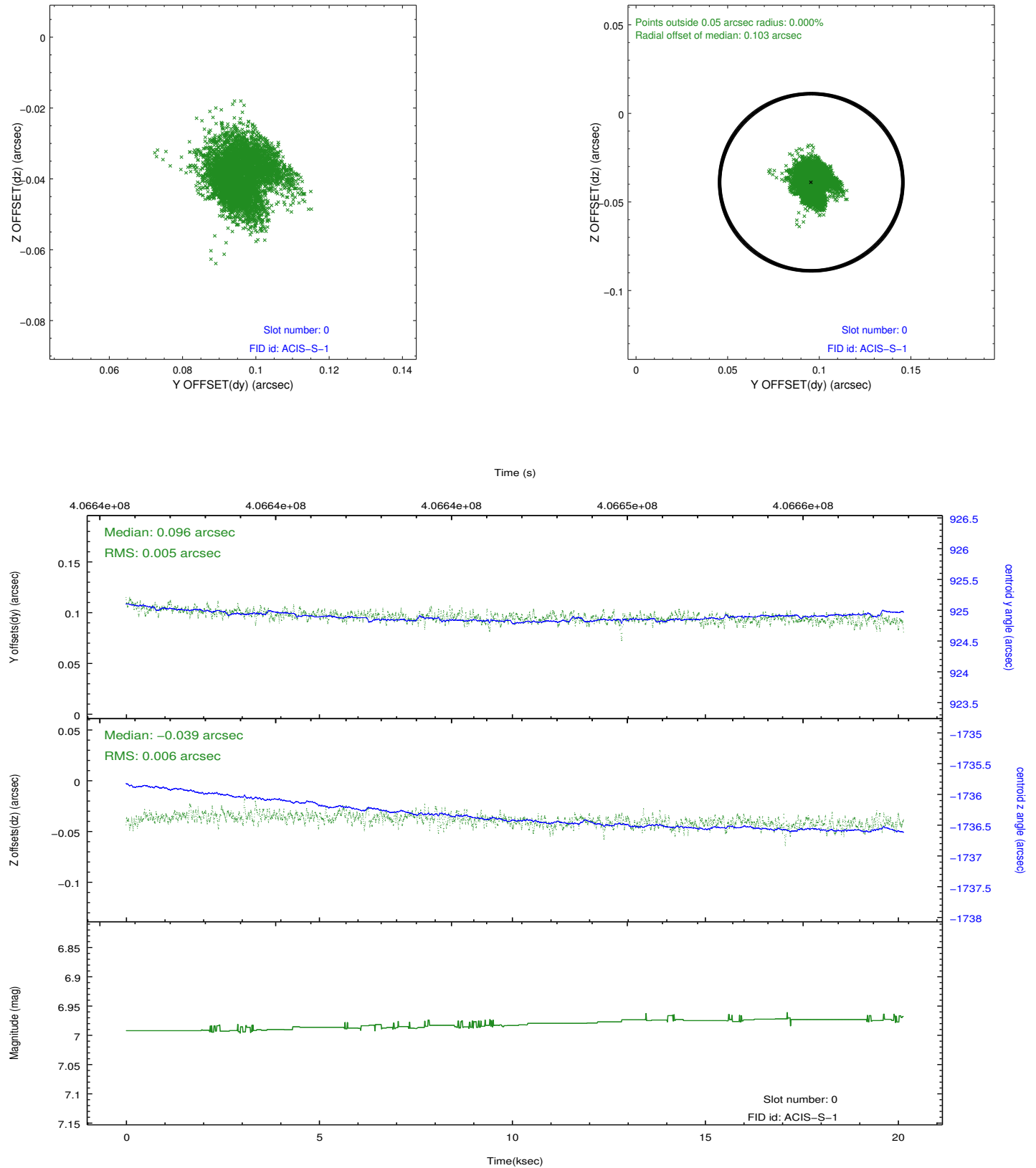


## 2.4.5 Slot 7

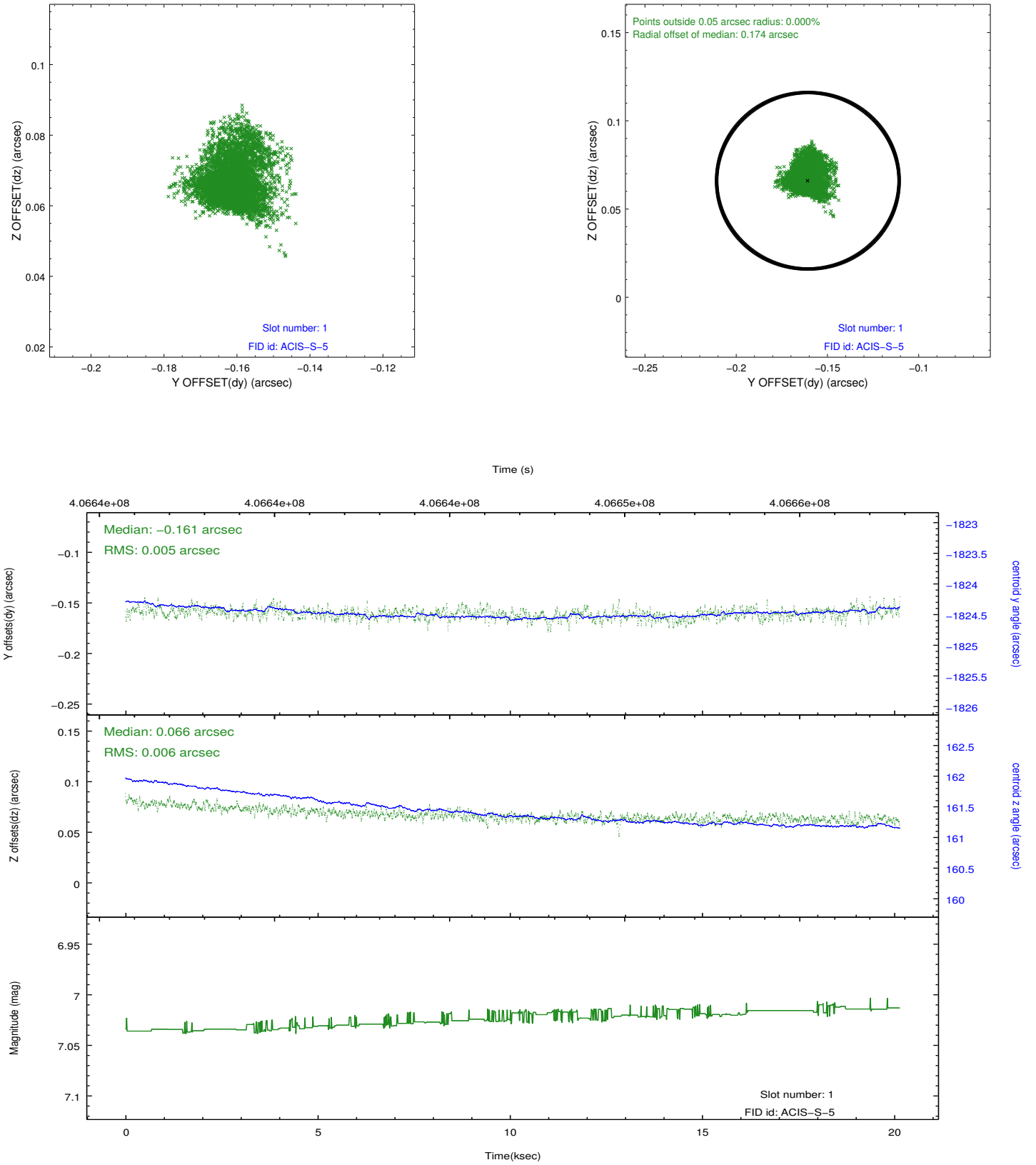


## 2.5 FID Slots

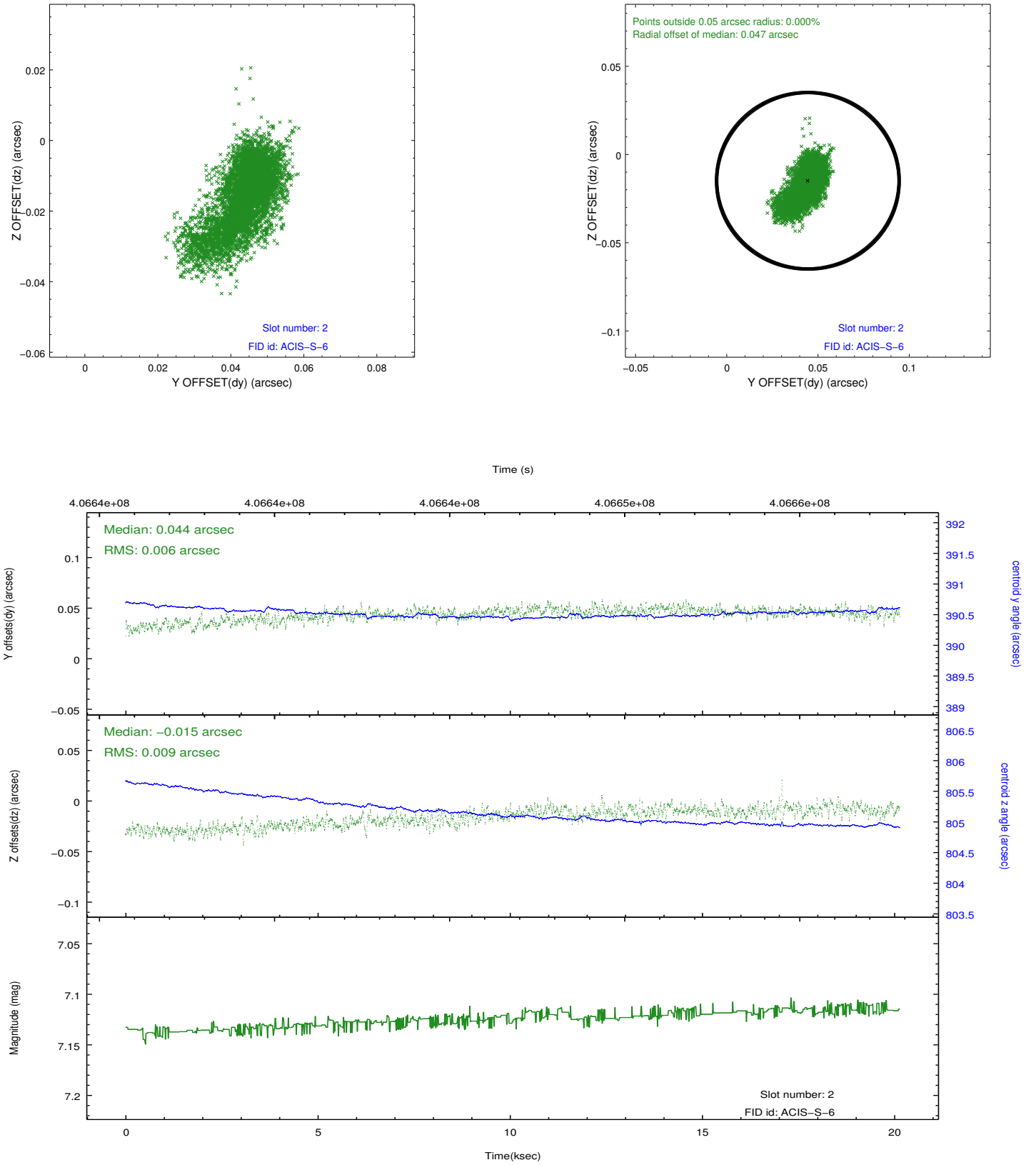
### 2.5.1 Slot 0



## 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)	2012.07.17
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.041264070868

### A.2 Comments

Joint proposal with NOAO.