

# V&V Reference Report

## L2 ASCDS Version : 8.5.1.1

Observation 15194 - L2 Version 2  
Chandra X-Ray Center

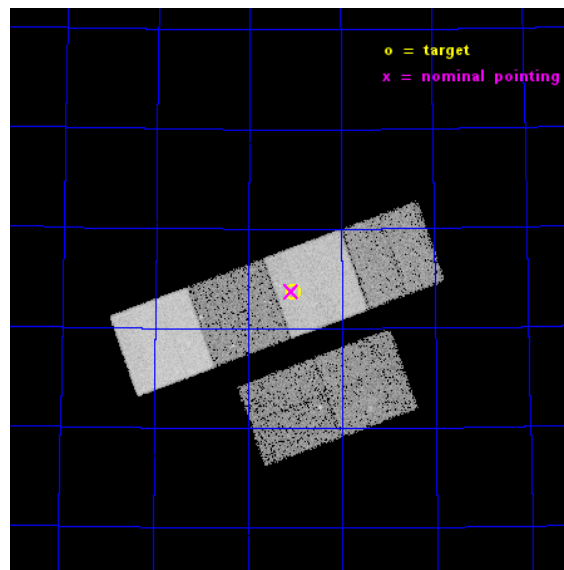
L2 Processing Date : Dec 2 2014

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# 1 Front

seq_num	901024	Sequence number
obs_id	15194	Observation id
title	A Chandra/HST survey of dark gamma-ray bursts and their hosts	Prop
observer	Dr Andrew Levan	Principal investigator
object	GRB 130502B	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	66.762042	Observer's specified target RA [deg]
dec_targ	71.060639	Observer's specified target Dec [deg]
ra_nom	66.769440530519	Nominal RA [deg]
dec_nom	71.06250316472	Nominal Dec [deg]
roll_nom	340.12583373254	Nominal Roll [deg]
revision	2	Processing version of data
ontime	14876.13749367	Sum of GTIs [s]
livetime	14687.766883391	Livetime [s]
ontime2	14869.696662664	Sum of GTIs [s]
ontime3	14876.01437366	Sum of GTIs [s]
ontime5	14876.096453667	Sum of GTIs [s]
ontime6	14876.055413663	Sum of GTIs [s]
ontime7	14876.13749367	Sum of GTIs [s]
ontime8	14875.973333657	Sum of GTIs [s]
l2events	150610	Number of level 2 events

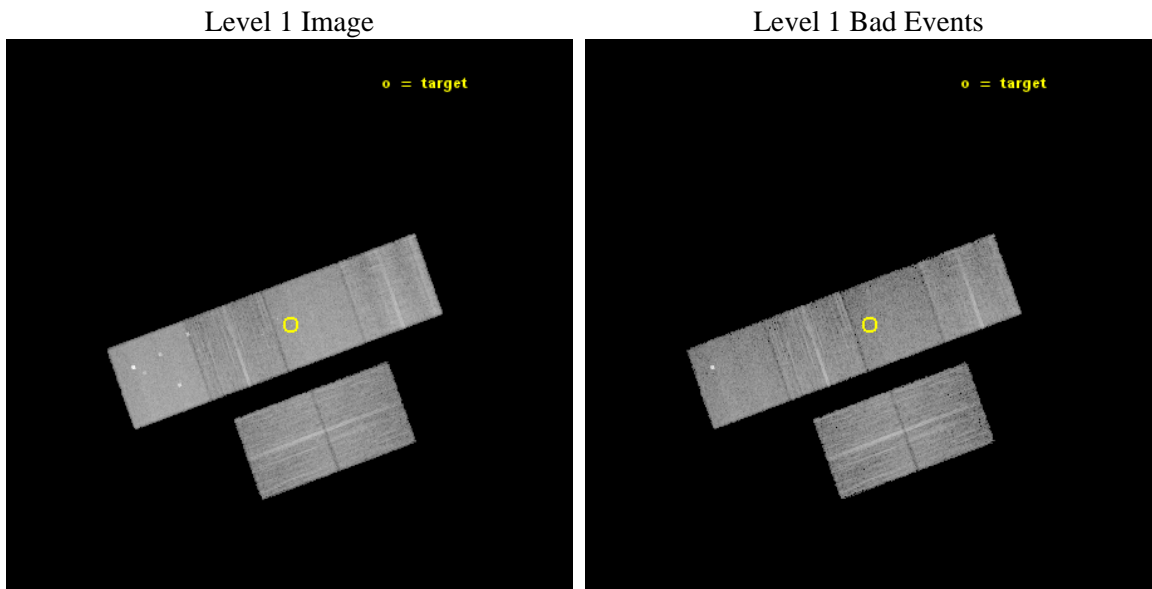




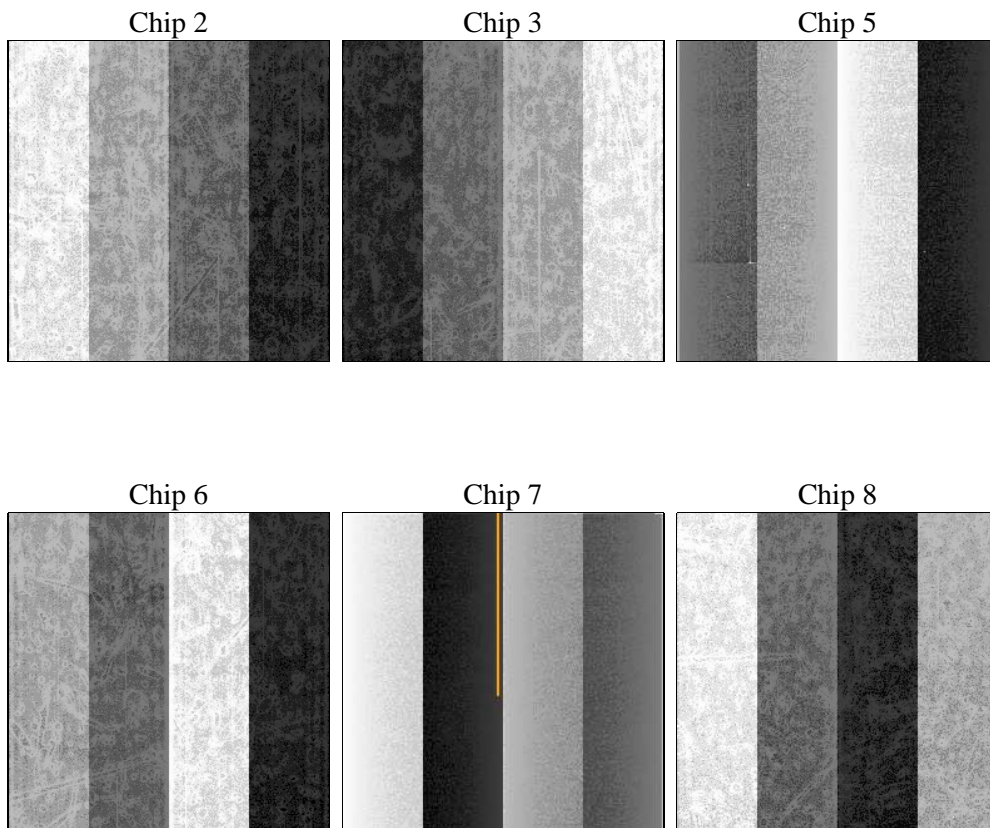
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	14908.649000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	14876.13749367	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime2	14869.696662664	Sum of GTIs [s]
date	2014-12-03T03:51:30	Date and time of file creation	ontime3	14876.01437366	Sum of GTIs [s]
revision	2	Processing version of data	ontime5	14876.096453667	Sum of GTIs [s]
			ontime6	14876.055413663	Sum of GTIs [s]
			ontime7	14876.13749367	Sum of GTIs [s]
			ontime8	14875.973333657	Sum of GTIs [s]
			l1events	588847	Number of level 1 events

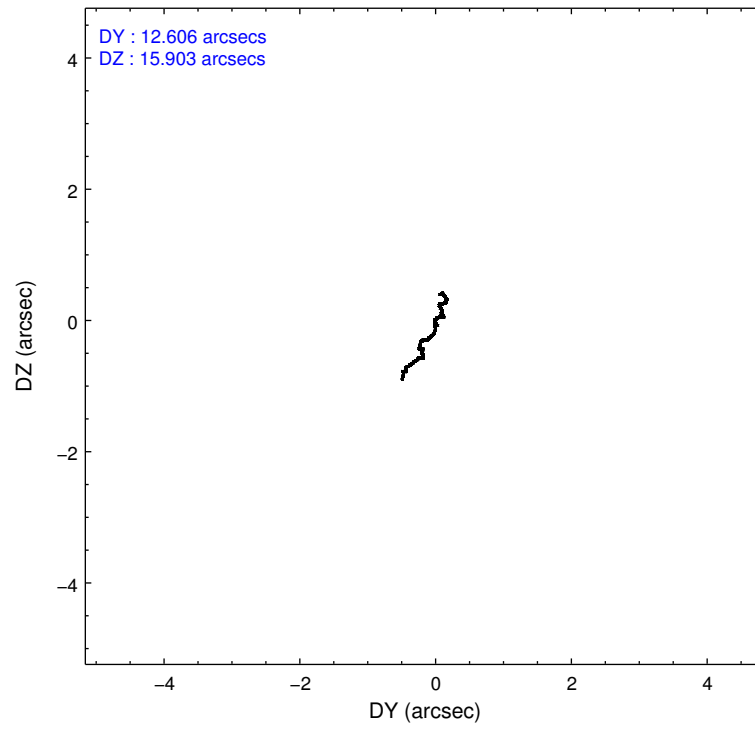
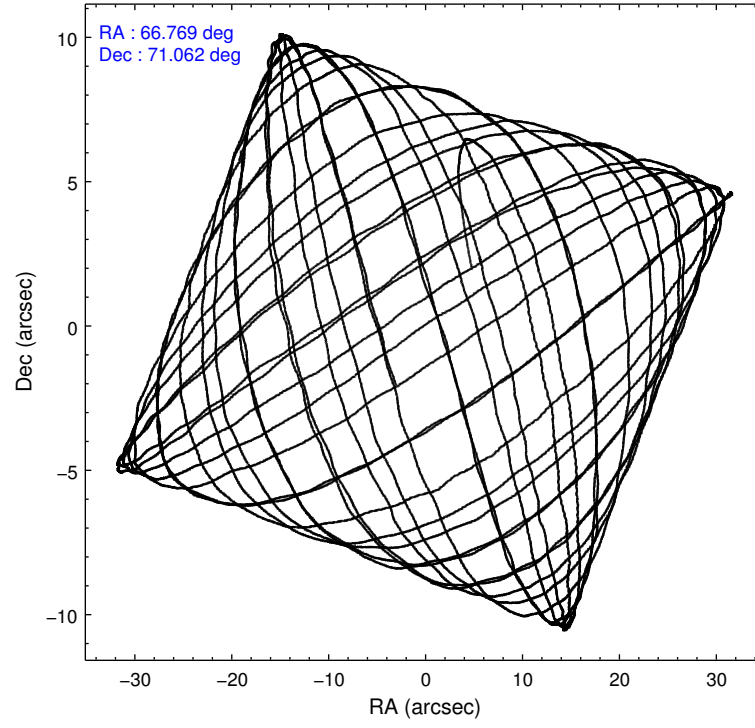
### 2.1.4 Events

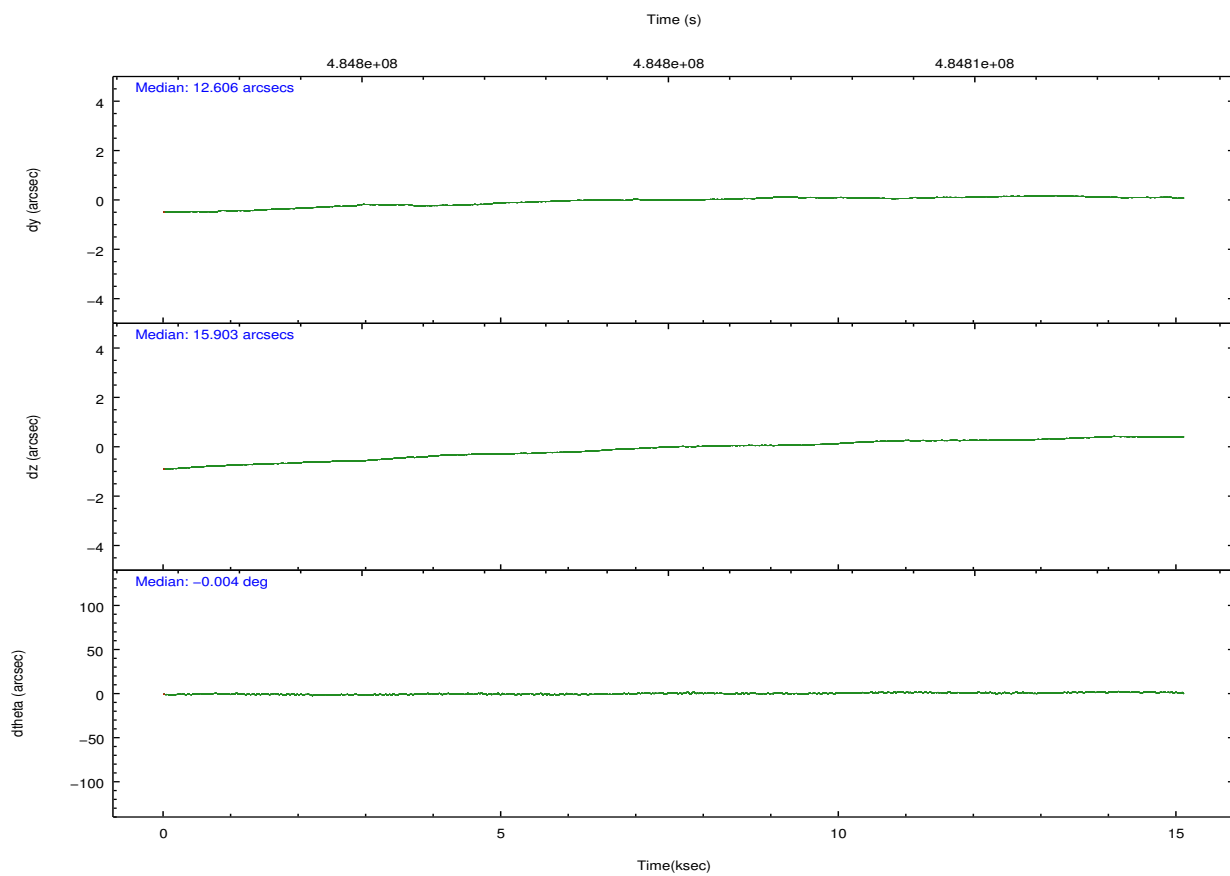
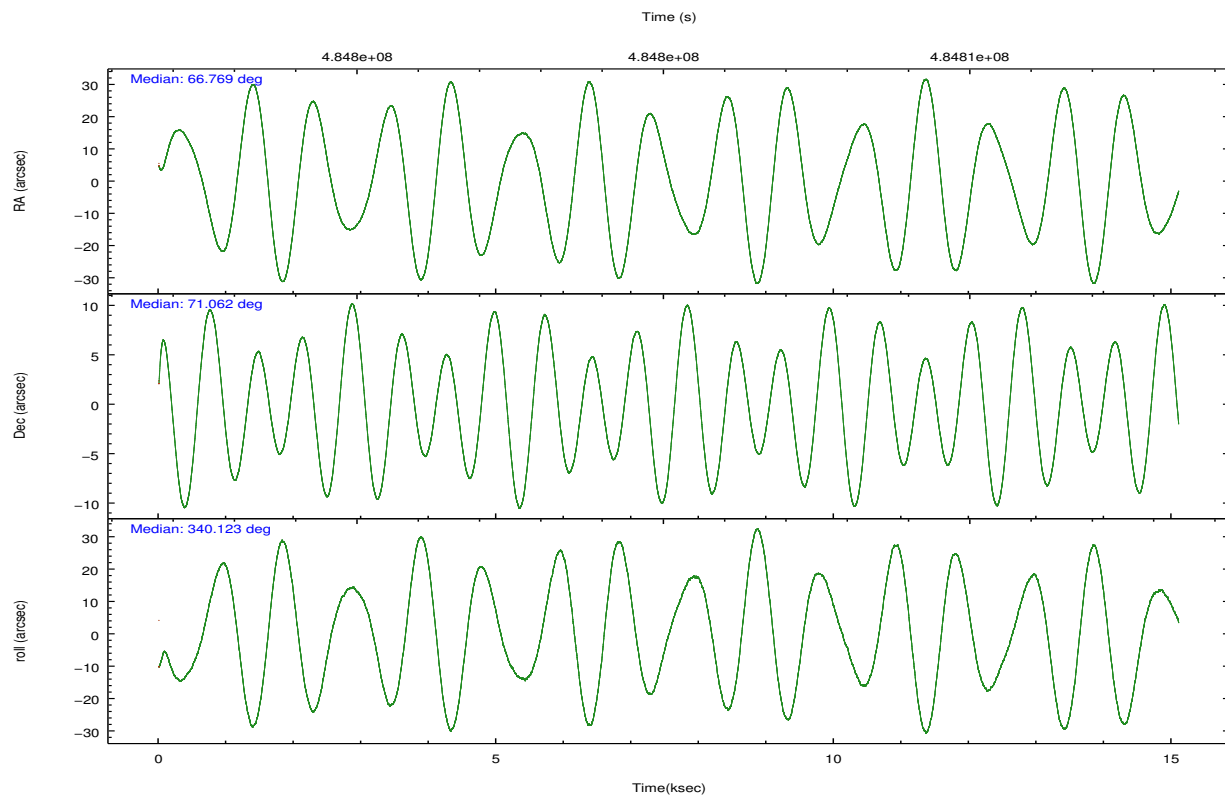
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	82472	73914	132343	84589	106054	109475	grade 0 events	4035	4030	7190	4195	4607	9848
rejected events	71120	62493	67020	71988	57998	76375		4%	5%	5%	4%	4%	8%
rejected %	86%	84%	50%	85%	54%	69%	grade 1 events	48	48	930	50	127	97
								0%	0%	0%	0%	0%	0%
							grade 2 events	2524	2326	20393	2620	9928	7297
								3%	3%	15%	3%	9%	6%
							grade 3 events	1070	1139	2306	1144	4008	3367
								1%	1%	1%	1%	3%	3%
							grade 4 events	1057	1118	2070	1145	4041	3353
								1%	1%	1%	1%	3%	3%
							grade 5 events	3378	3917	9921	3830	10659	5758
								4%	5%	7%	4%	10%	5%
							grade 6 events	2666	2809	33372	3500	25484	9281
								3%	3%	25%	4%	24%	8%
							grade 7 events	67694	58527	56161	68105	47200	70474
								82%	79%	42%	80%	44%	64%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-235678	ACIS-235678	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	66.686725	66.76944053051915	CCD I2 on	O3	Y
[deg] Pointing Dec	71.057289	71.06250316472045	CCD I3 on	O2	Y
[deg] Pointing Roll	340.047459	340.1258337325423	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	O1	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	O4	Y
[s] Observation start time (MET)	484797744.184000	484796779.53321	CCD S5 on	N	N
Observation start date	2013-05-13T02:01:17	2013-05-13T01:46:19	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	484812652.184000	484812879.72159	On-chip summing requested	N	N
Observation end date	2013-05-13T06:09:45	2013-05-13T06:14:39	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



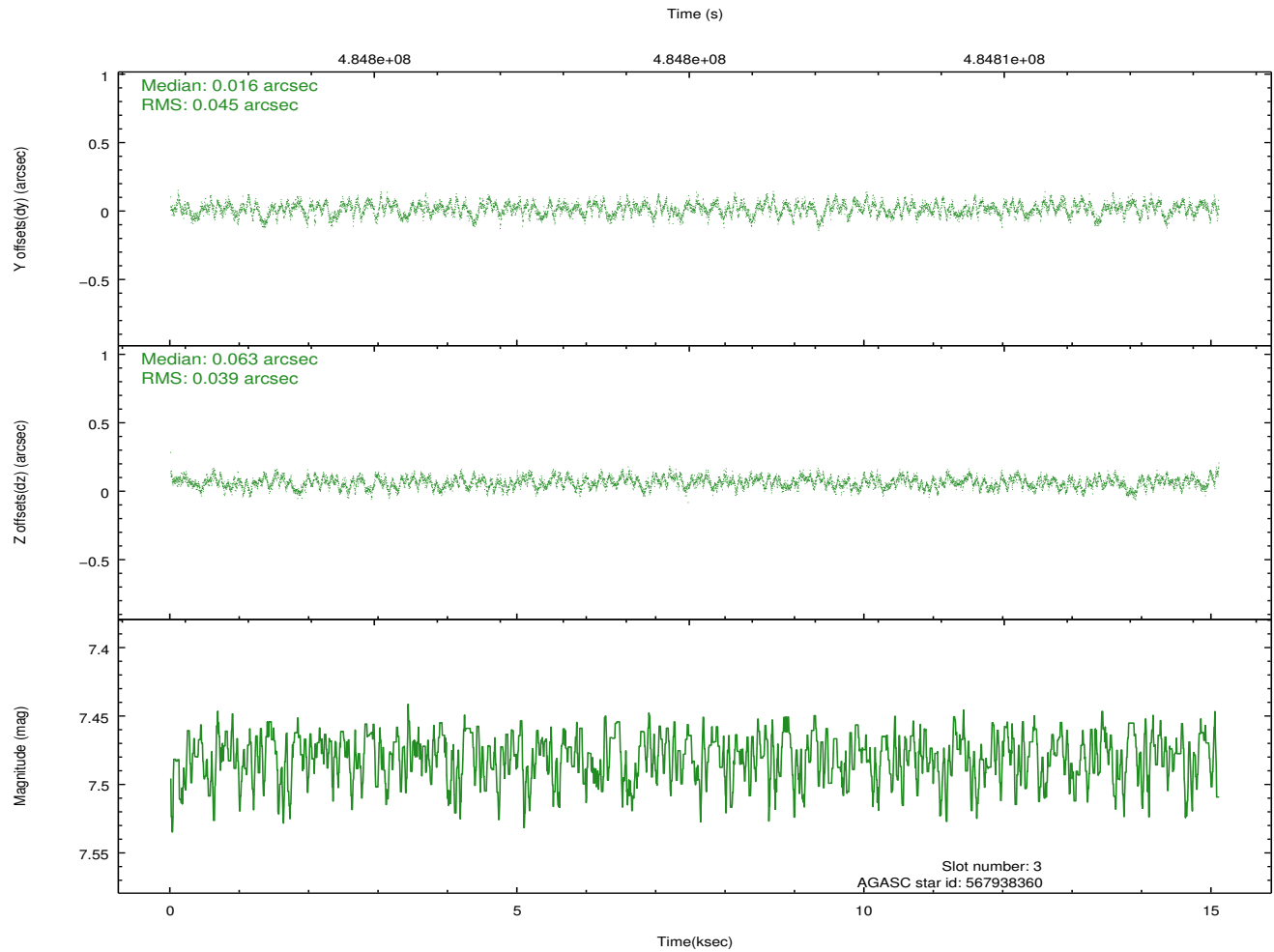
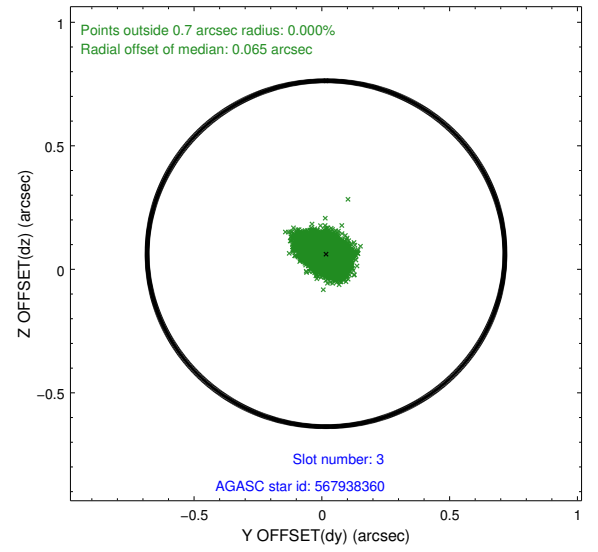
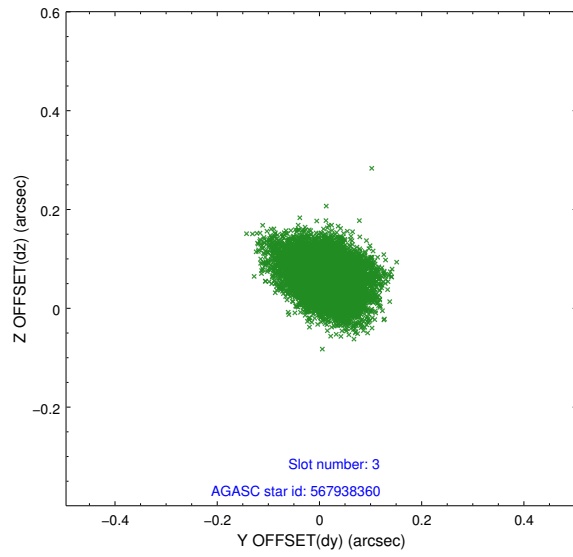


### Slot Statistics

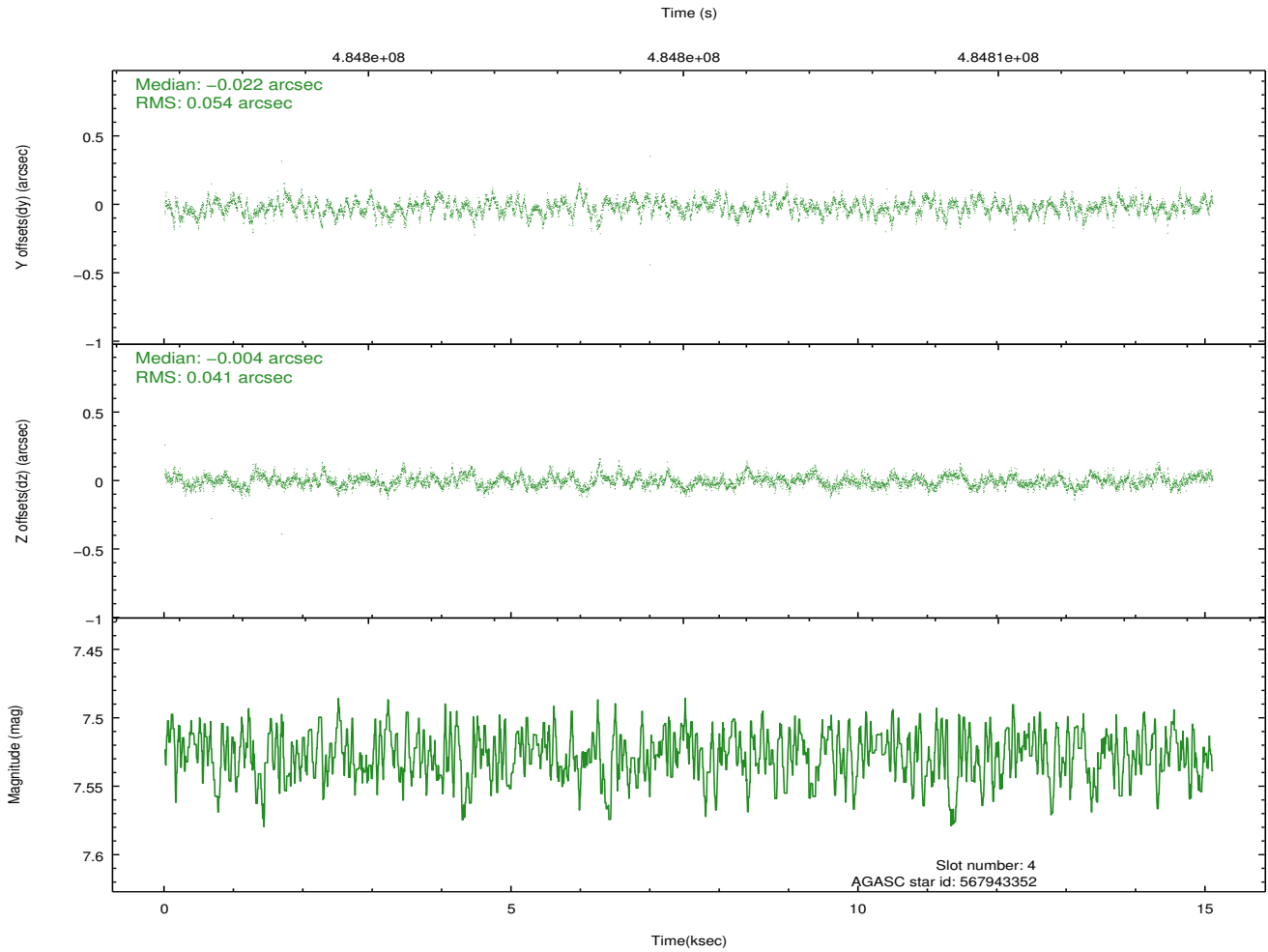
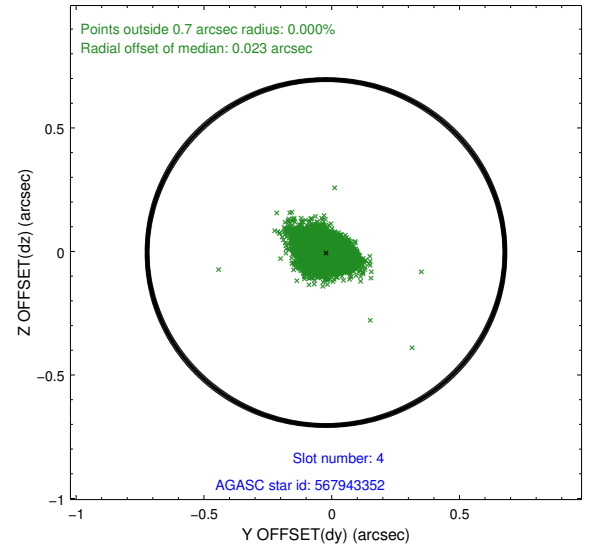
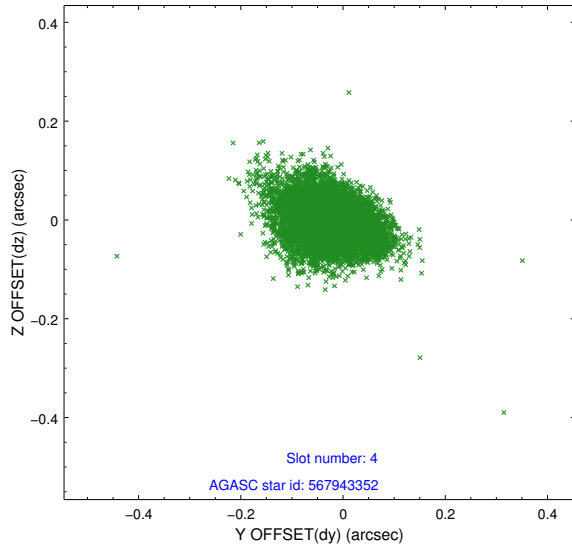
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.96	3684	-0.075	-0.046	0.006	0.010	0.000000	0.000000	-765.52	-1737.19
1	FID		ACIS-S-4	7.05	3684	0.139	0.017	0.009	0.014	0.000000	0.000000	2147.83	171.04
2	FID		ACIS-S-6	7.18	3684	-0.092	0.037	0.011	0.020	0.000000	0.000000	396.83	808.80
3	GUIDE	used	567938360	7.48	7368	0.016	0.063	0.064	0.102	67.987629	70.575746	2050.73	-1082.40
4	GUIDE	used	567943352	7.53	7362	-0.022	-0.004	0.070	0.116	67.781776	70.339028	2125.75	-1966.62
5	GUIDE	used	568346000	8.49	7367	-0.082	-0.107	0.085	0.134	65.450464	71.307250	-1652.03	372.42
6	GUIDE	used	568465584	8.98	7329	0.089	-0.074	0.112	0.189	66.449909	71.293969	-547.89	708.38
7	GUIDE	used	567811648	8.62	7363	0.003	0.126	0.077	0.123	64.243918	70.684839	-2295.61	-2197.38

## 2.4 Star Slots

### 2.4.1 Slot 3

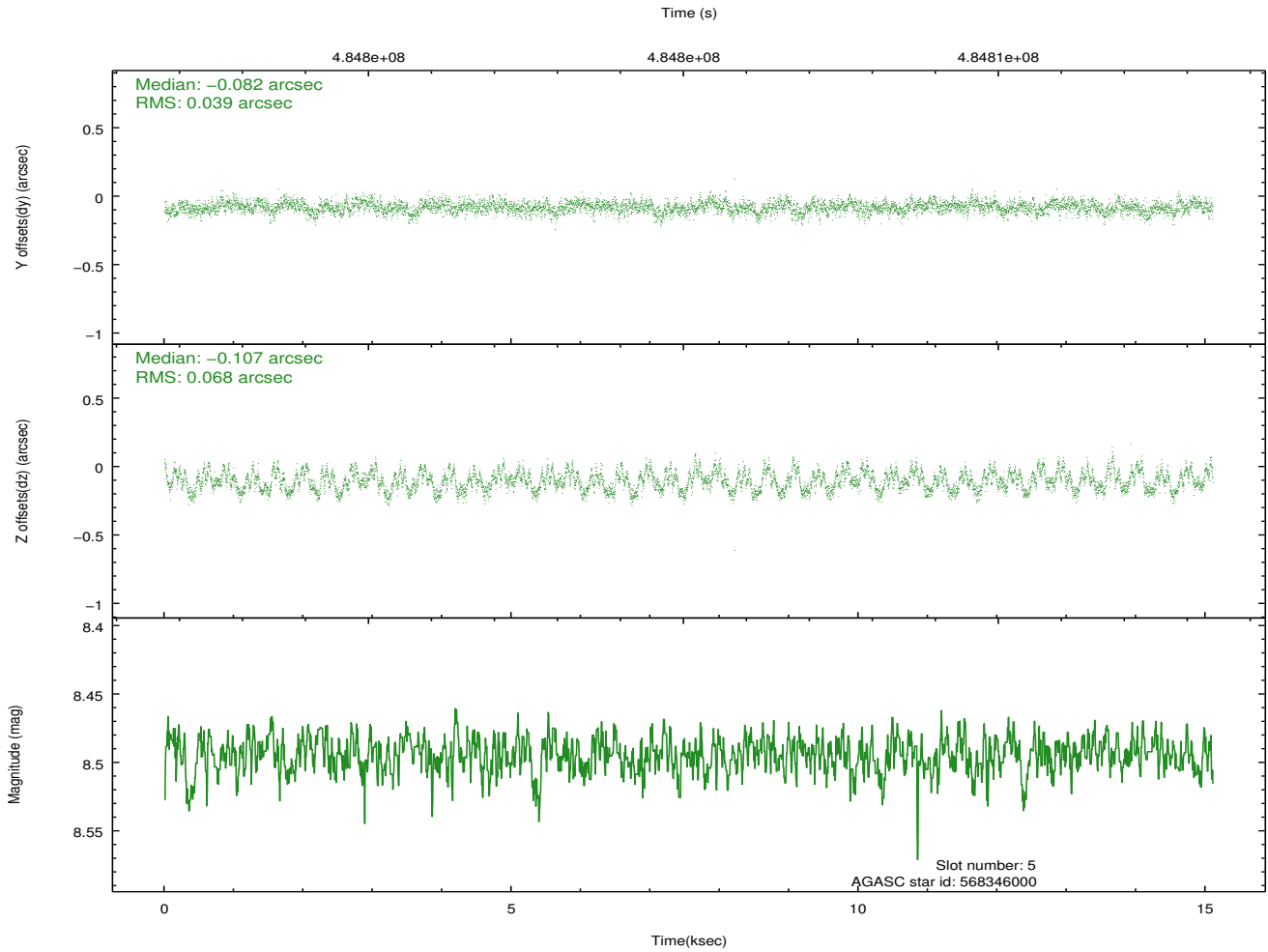
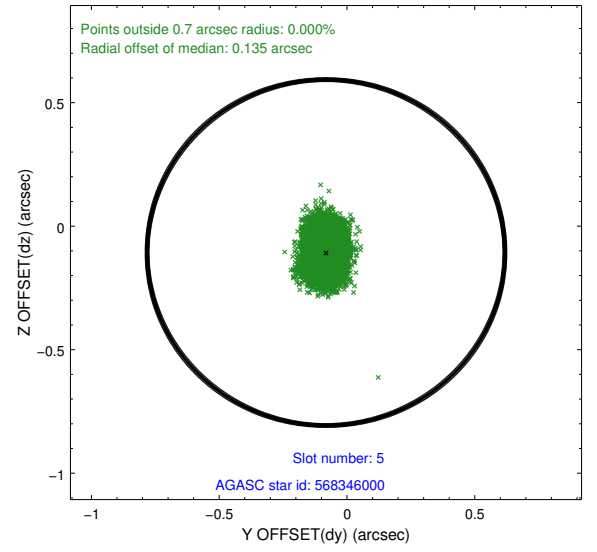
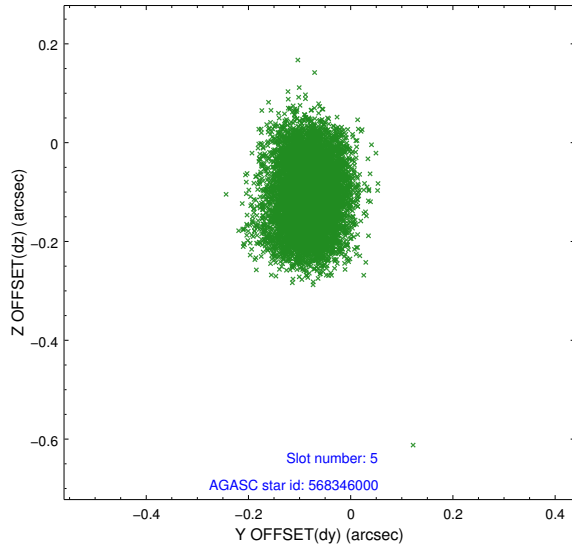


## 2.4.2 Slot 4

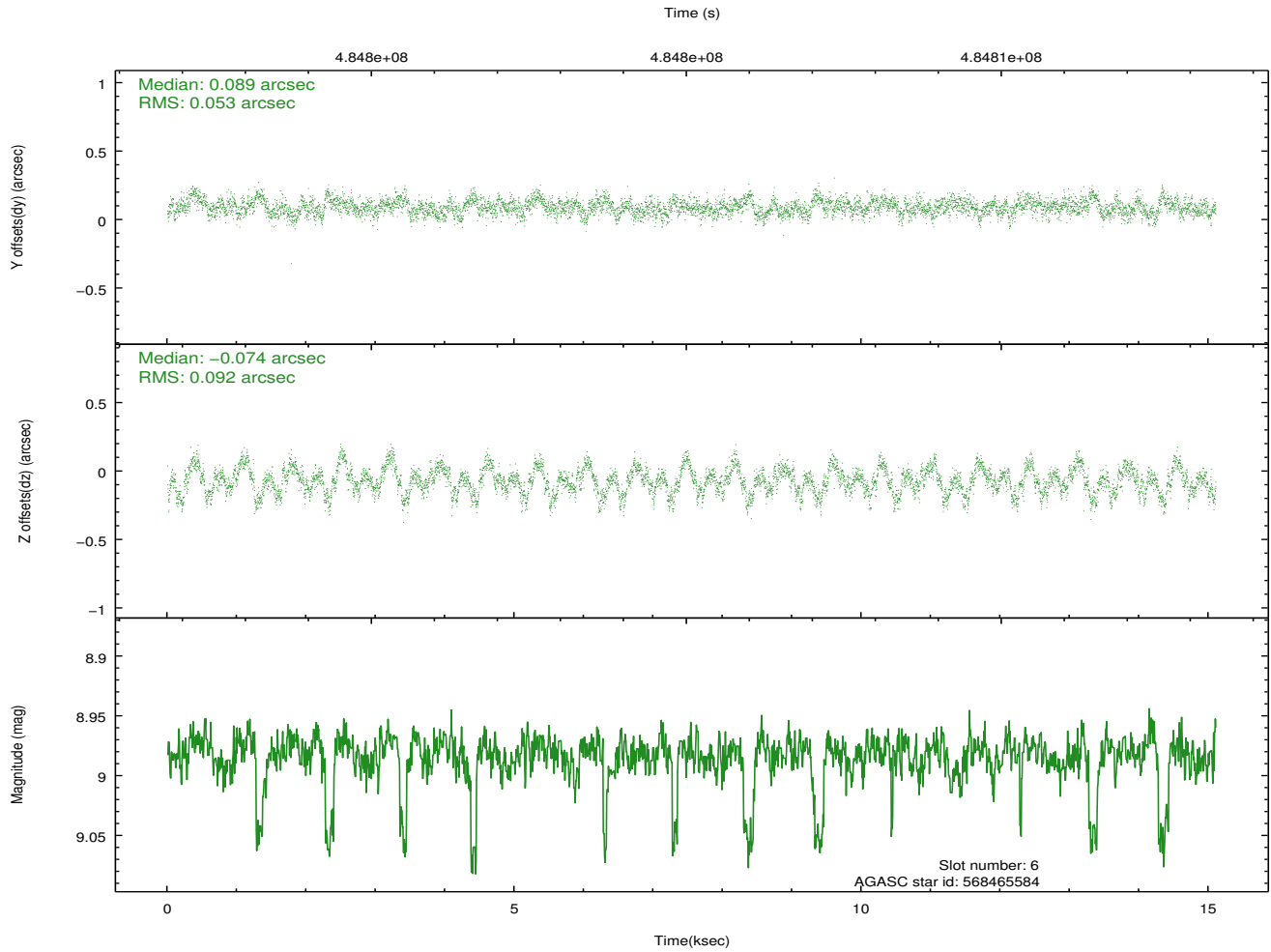
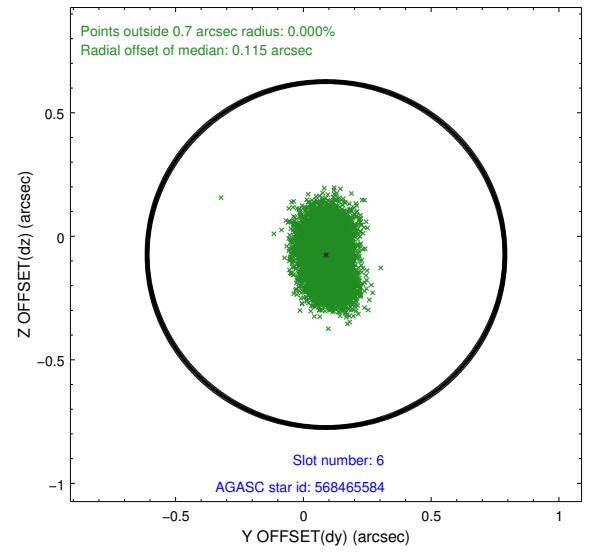
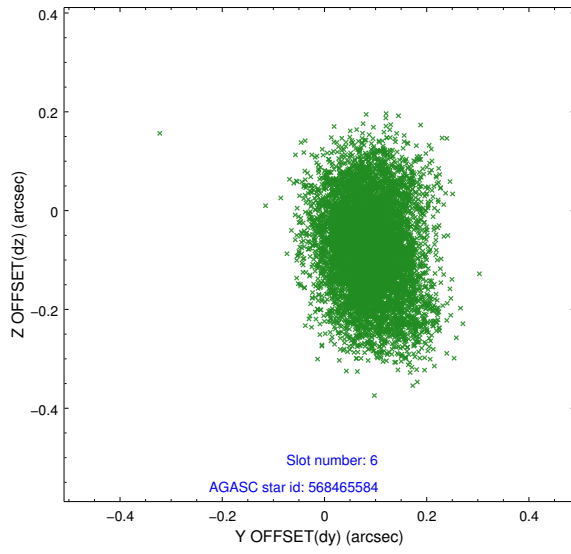




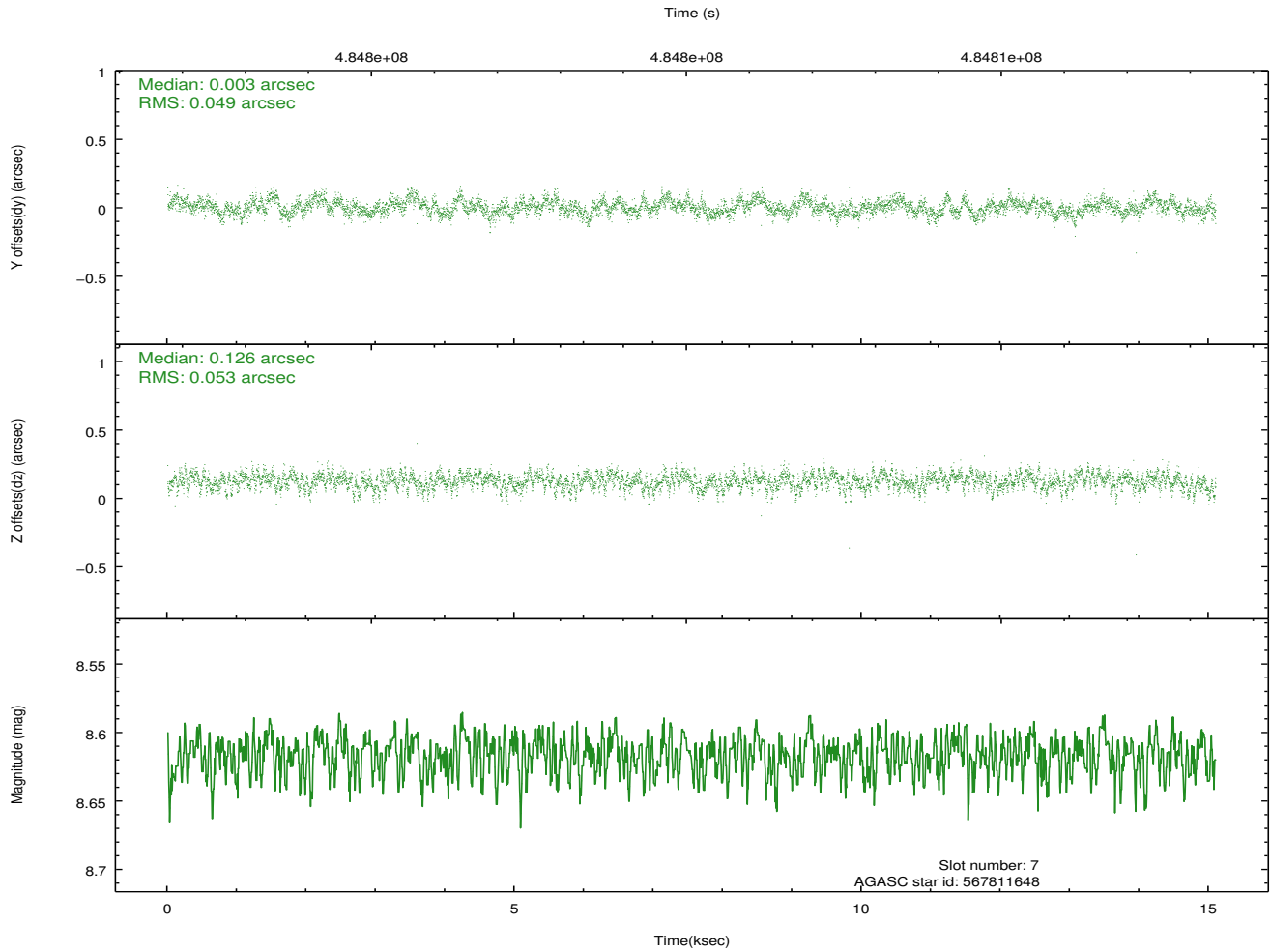
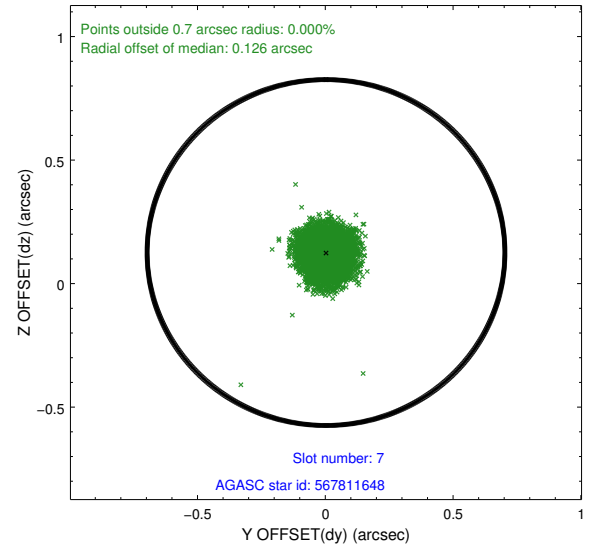
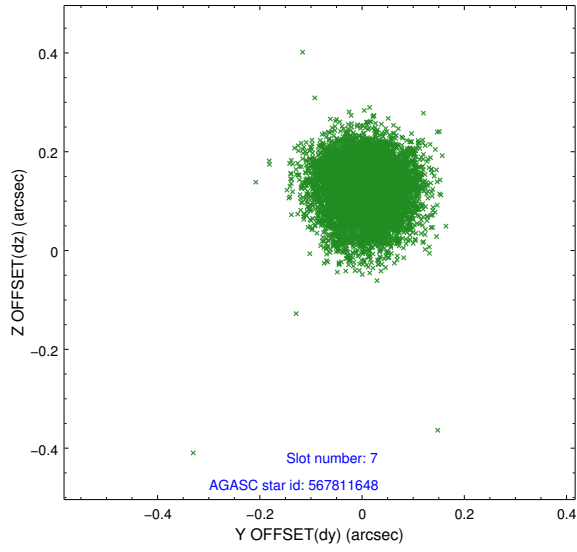
### 2.4.3 Slot 5



## 2.4.4 Slot 6

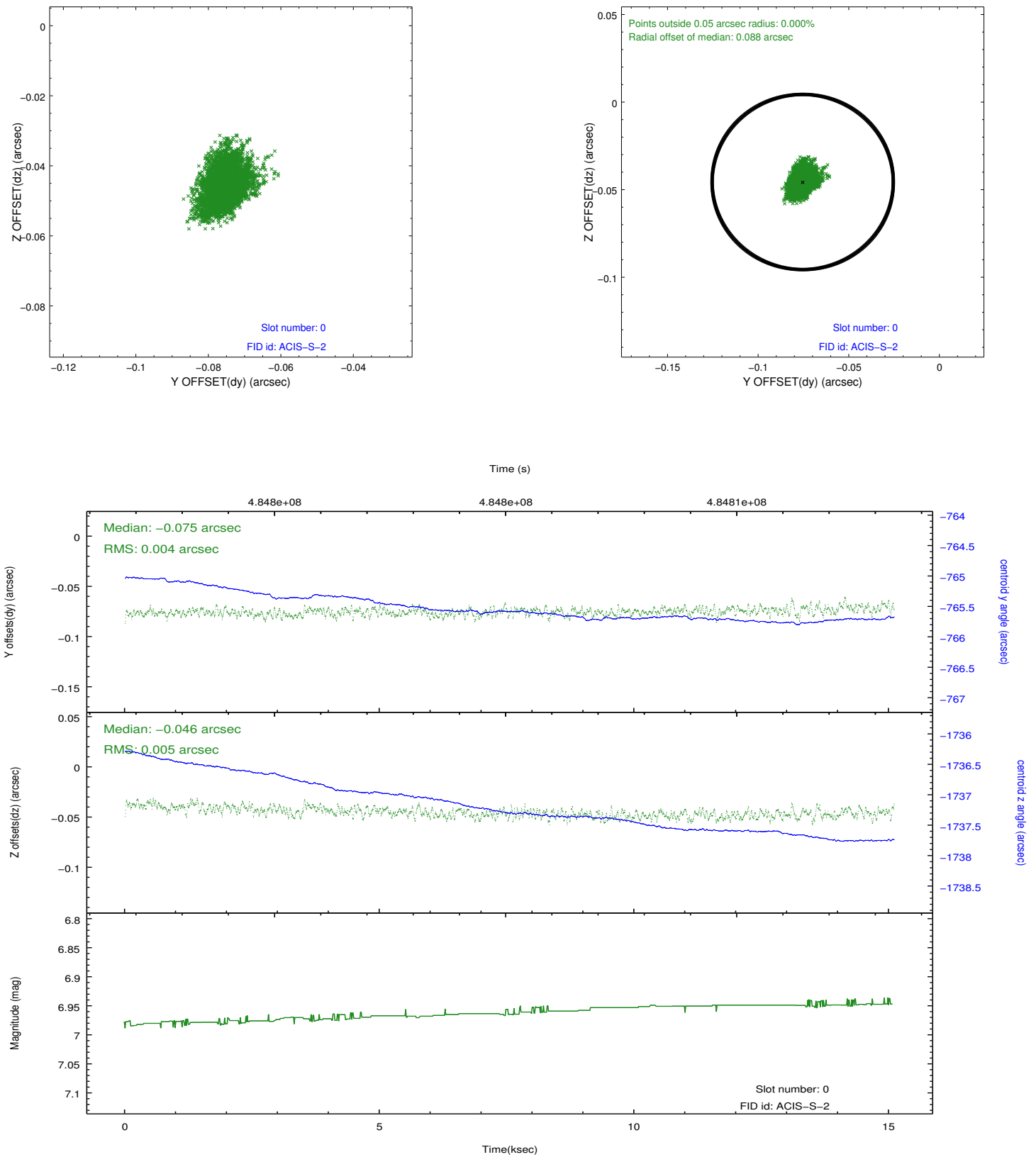


## 2.4.5 Slot 7

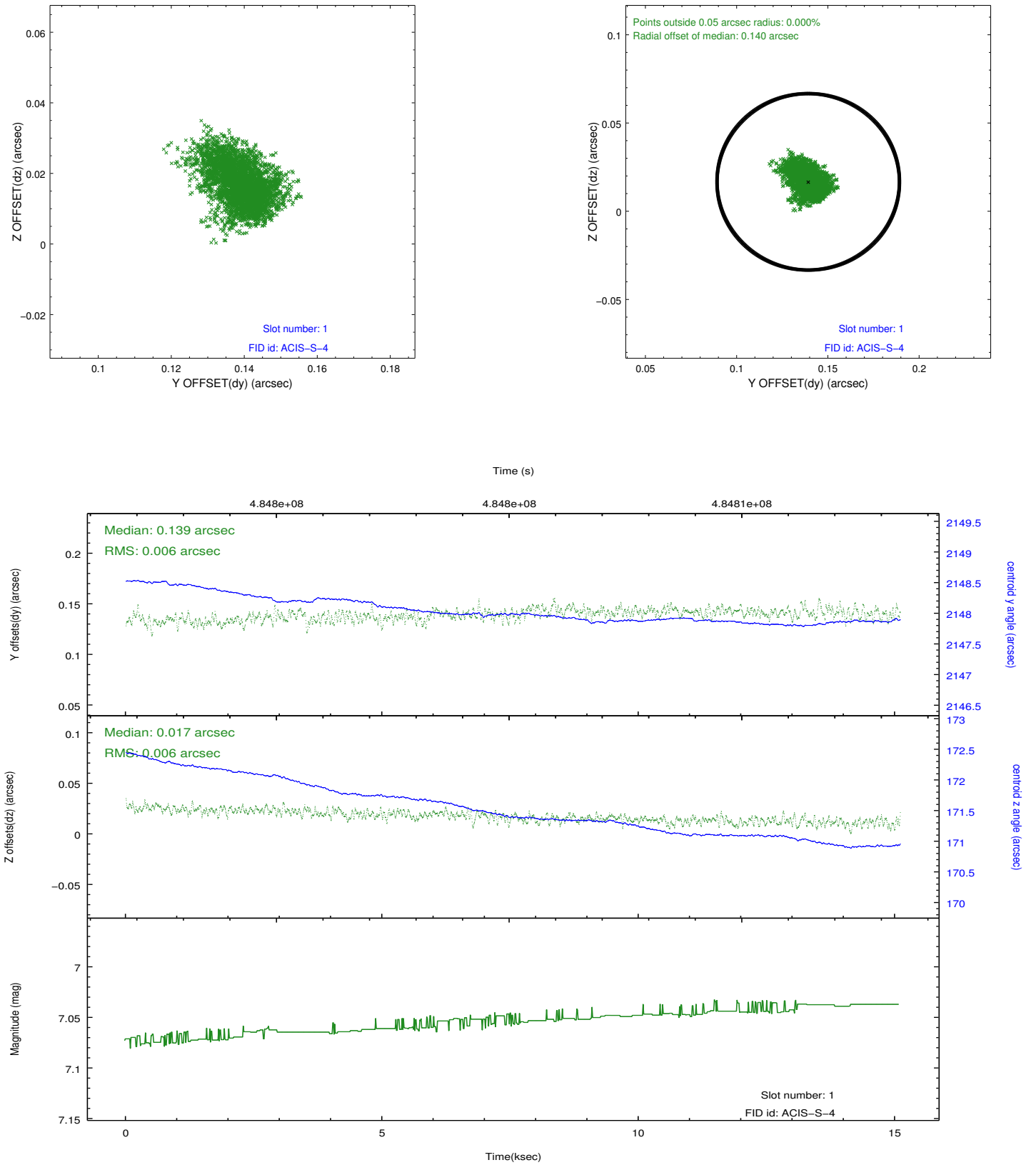


## 2.5 FID Slots

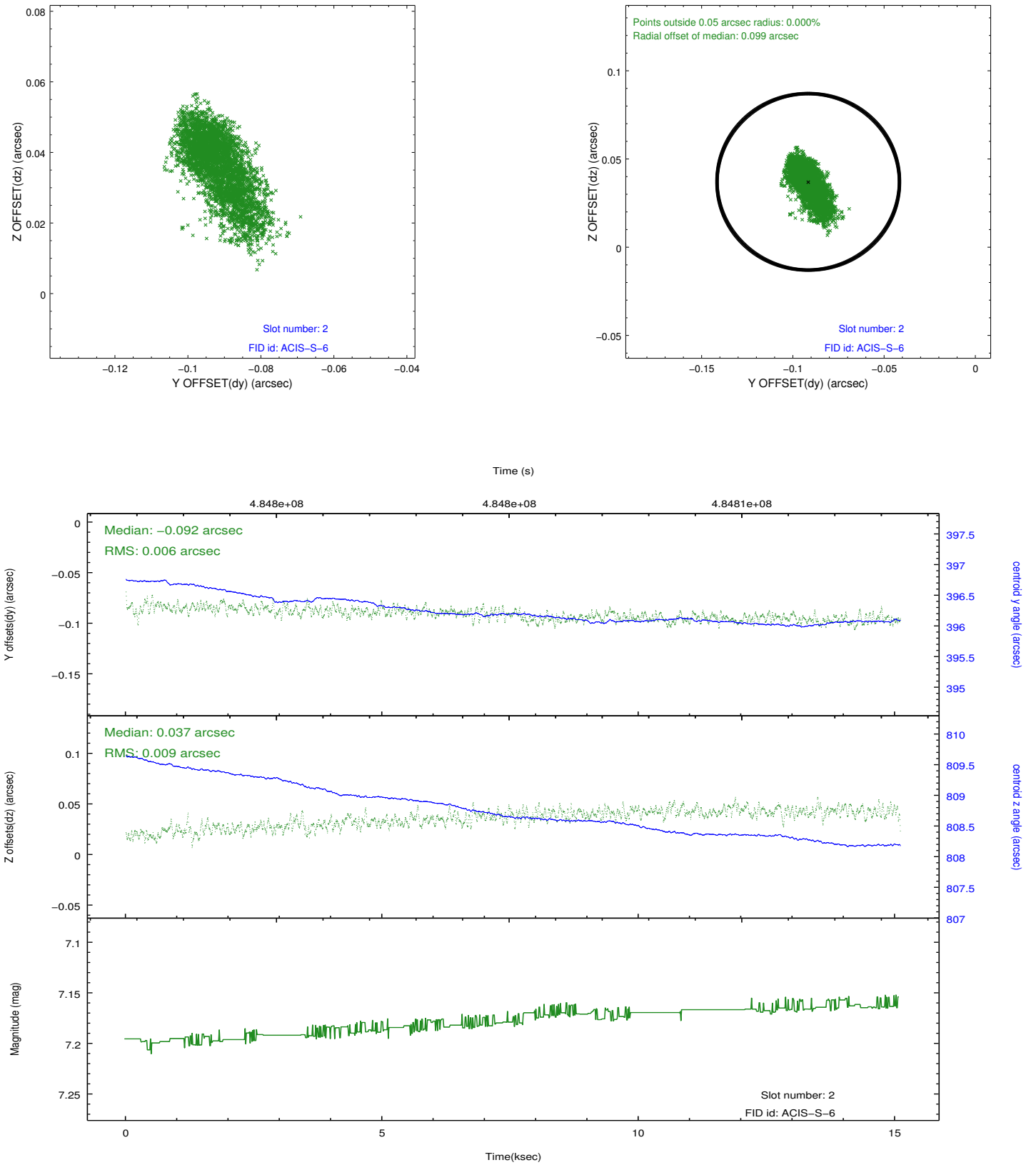
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2014.12.10
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	14.87613749367

## A.2 Comments

Joint Proposal: HST

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These data have been reprocessed with new aspect alignment calibration files that correct small mean offsets (up to 0.4 arcsecs) and improve overall astrometric accuracy. The new calibration was determined using data from the time period being reprocessed and was performed using cross-correlation of X-ray sources with radio and optical counterparts.