

# V&V Reference Report

## L2 ASCDS Version : 8.5

Observation 4816 - L2 Version 4  
Chandra X-Ray Center

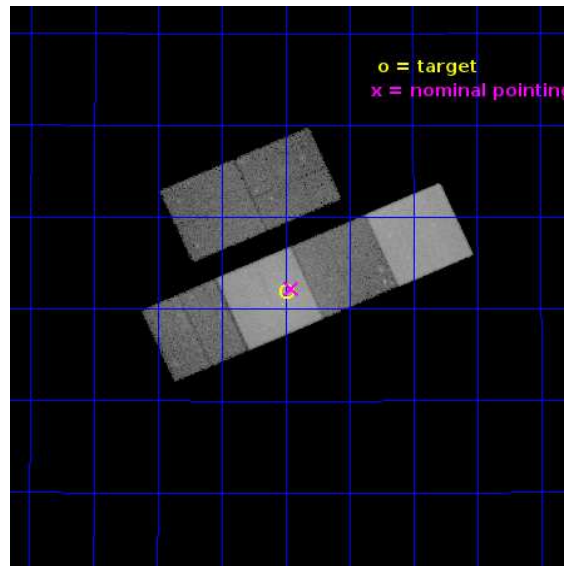
L2 Processing Date : Jul 9 2015

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# 1 Front

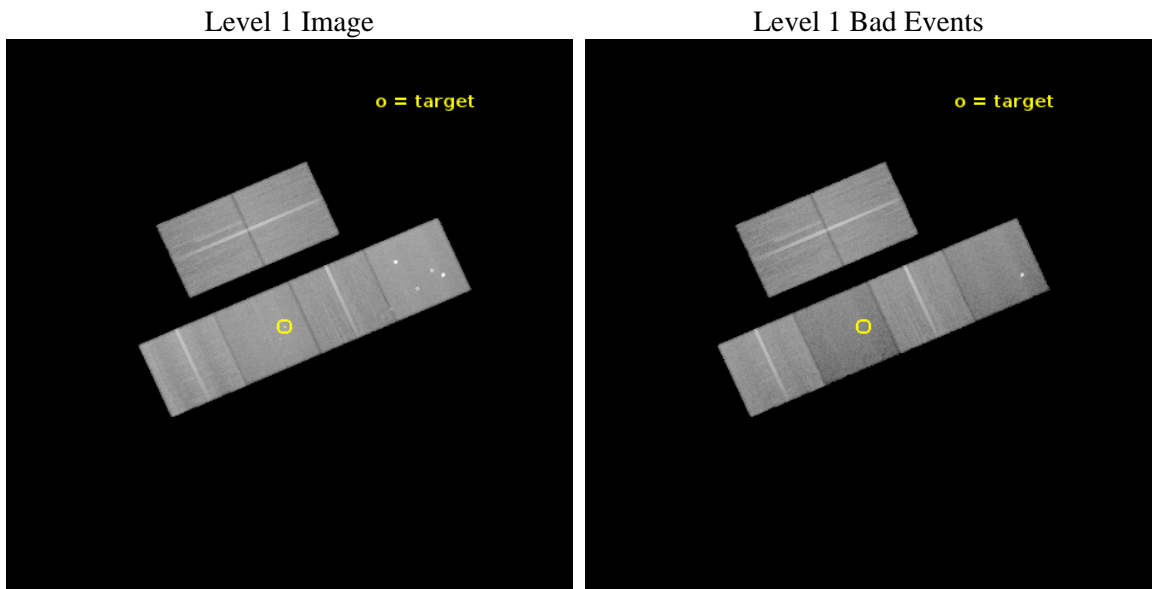
seq_num	700899	Sequence number
obs_id	4816	Observation id
title	Testing jet models: the inner jet in the wide-angle tail radio galaxy 3C465	Proposal title
observer	Dr Martin Hardcastle	Principal investigator
object	3C465	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	354.6225	Observer's specified target RA [deg]
dec_targ	27.031417	Observer's specified target Dec [deg]
ra_nom	354.61348628116	Nominal RA [deg]
dec_nom	27.036838625647	Nominal Dec [deg]
roll_nom	156.04205495927	Nominal Roll [deg]
revision	4	Processing version of data
ontime	50162.643507898	Sum of GTIs [s]
liveltime	49527.453911483	Livetime [s]
ontime2	50062.172442257	Sum of GTIs [s]
ontime3	50162.643507898	Sum of GTIs [s]
ontime5	50162.643507898	Sum of GTIs [s]
ontime6	50162.643507898	Sum of GTIs [s]
ontime7	50162.643507898	Sum of GTIs [s]
ontime8	50159.40252763	Sum of GTIs [s]
l2events	498072	Number of level 2 events



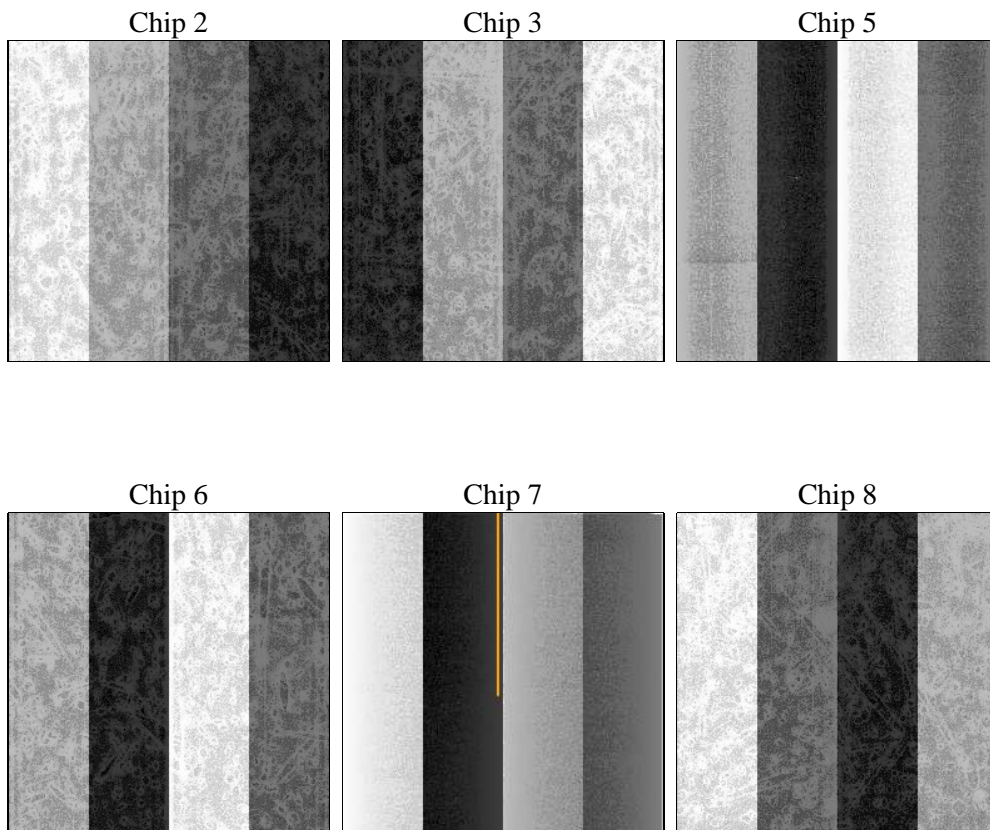
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	50000.000000	[s] Scheduled observation exposure time
ascdsver	10.4.1	Processing system revision	ontime	50162.643507898	Sum of GTIs [s]
caldbver	4.6.8	&#160	ontime2	50062.172442257	Sum of GTIs [s]
date	2015-07-09T19:56:56	Date and time of file creation	ontime3	50162.643507898	Sum of GTIs [s]
revision	4	Processing version of data	ontime5	50162.643507898	Sum of GTIs [s]
			ontime6	50162.643507898	Sum of GTIs [s]
			ontime7	50162.643507898	Sum of GTIs [s]
			ontime8	50159.40252763	Sum of GTIs [s]
			l1events	2030468	Number of level 1 events

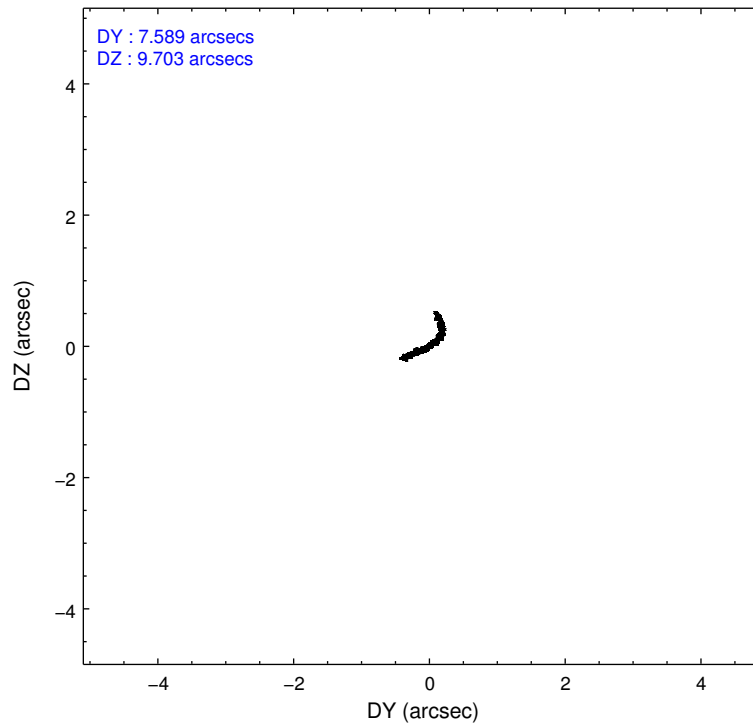
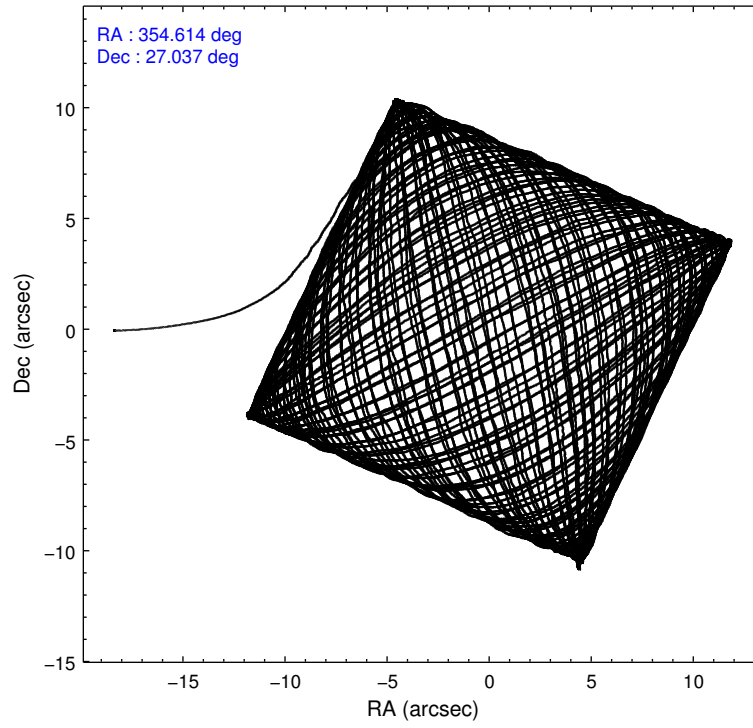
### 2.1.4 Events

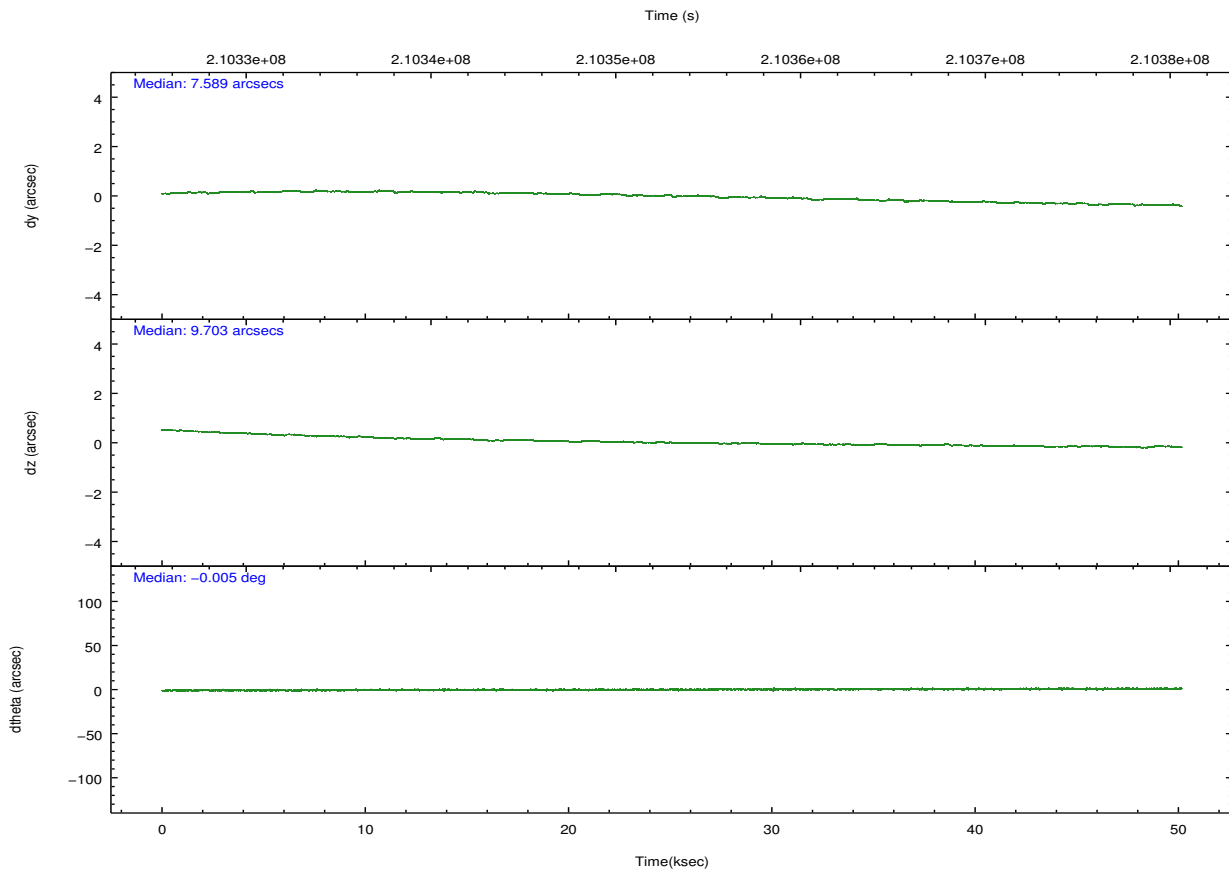
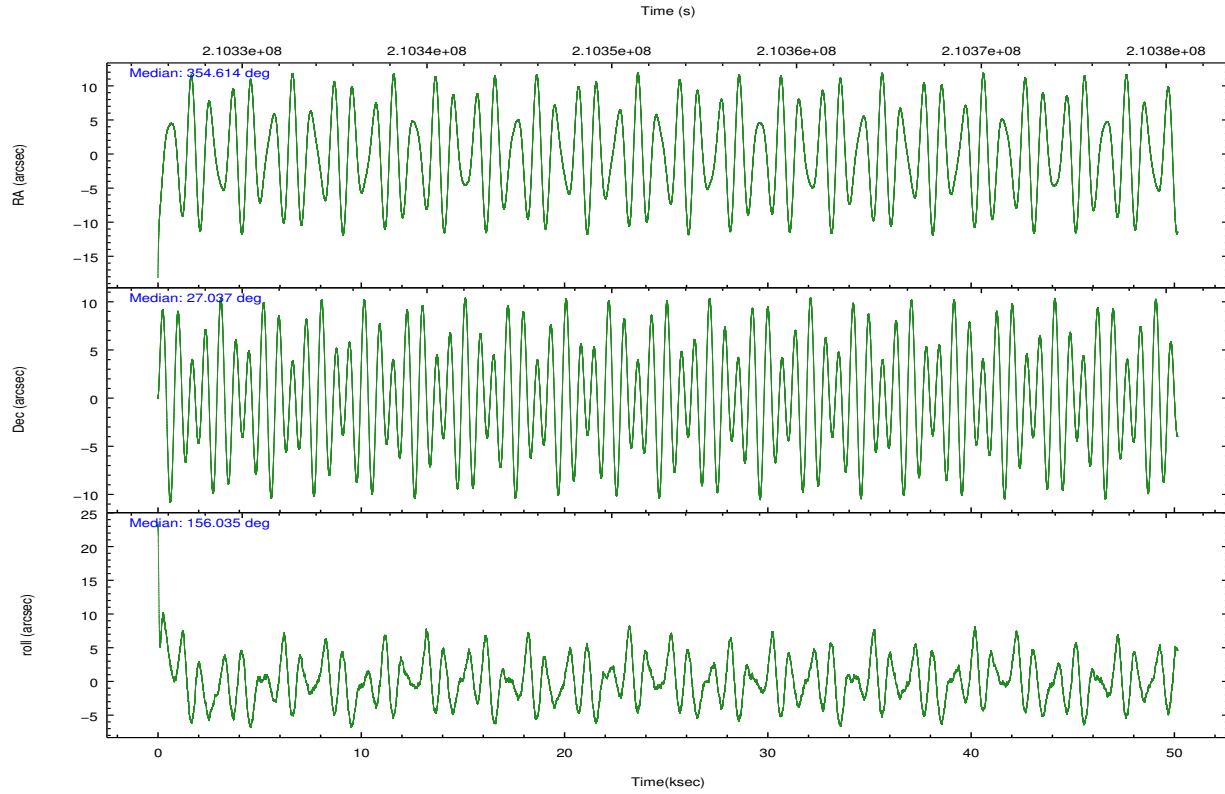
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	325243	294099	389888	319073	329306	372859	grade 0 events	16121	15430	39551	25714	28629	28137
rejected events	290256	261040	175744	271764	141670	282546		4%	5%	10%	8%	8%	7%
rejected %	89%	88%	45%	85%	43%	75%	grade 1 events	168	158	5687	226	271	273
								0%	0%	1%	0%	0%	0%
							grade 2 events	7496	6202	62016	7991	43006	20690
								2%	2%	15%	2%	13%	5%
							grade 3 events	3306	3394	9745	3918	19570	9420
								1%	1%	2%	1%	5%	2%
							grade 4 events	3370	3269	9604	3862	19367	9026
								1%	1%	2%	1%	5%	2%
							grade 5 events	8497	9640	30032	10040	30303	14855
								2%	3%	7%	3%	9%	3%
							grade 6 events	5116	5063	95575	6259	78739	23864
								1%	1%	24%	1%	23%	6%
							grade 7 events	281169	250943	137678	261063	109421	266594
								86%	85%	35%	81%	33%	71%

## 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	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	354.643869	354.6134862811622	Subarray requested	NONE	NONE
[deg] Pointing Dec	27.040064	27.03683862564689	Alternating exposures requested	N	N
[deg] Pointing Roll	155.871612	156.0420549592696	[s] Primary exposure time	0.000000	3.2
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-190.132523	-190.1400660498719			
[mm] SIM translation stage offset	0	0.00754346686406393			
[s] Observation start time (MET)	210328115.184000	210326785.98701			
Observation start date	2004-08-31T08:27:31	2004-08-31T08:06:25			
[s] Observation end time (MET)	210378115.184000	210379663.68937			
Observation end date	2004-08-31T22:20:51	2004-08-31T22:47:43			
Read mode	TIMED	TIMED			

## 2.3 Aspect





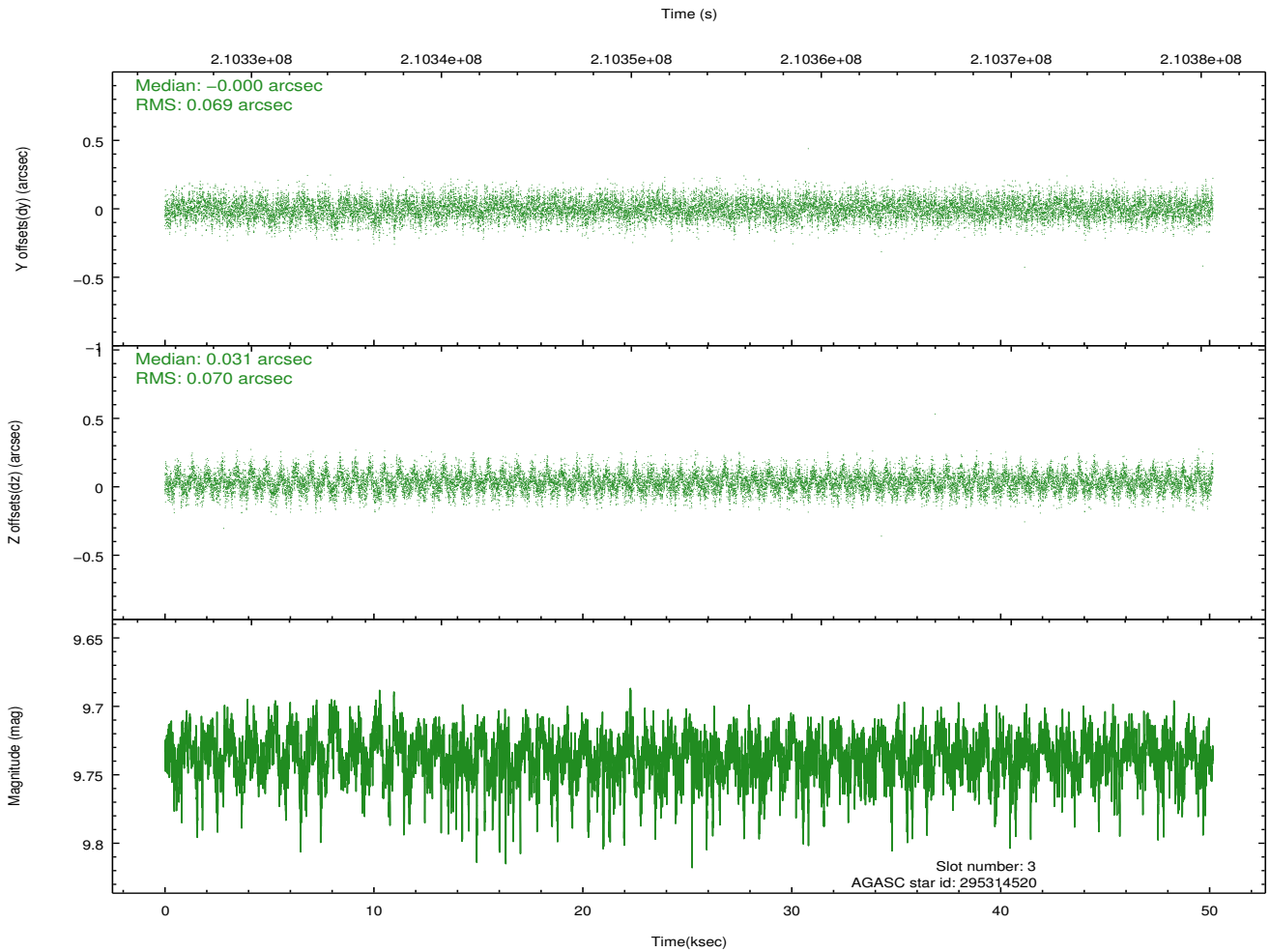
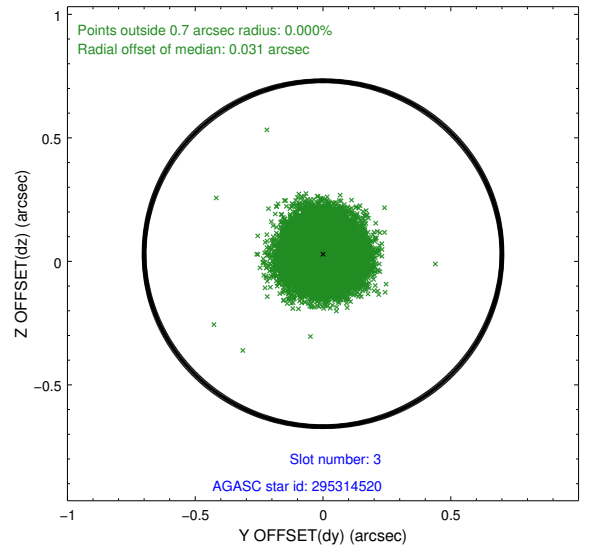
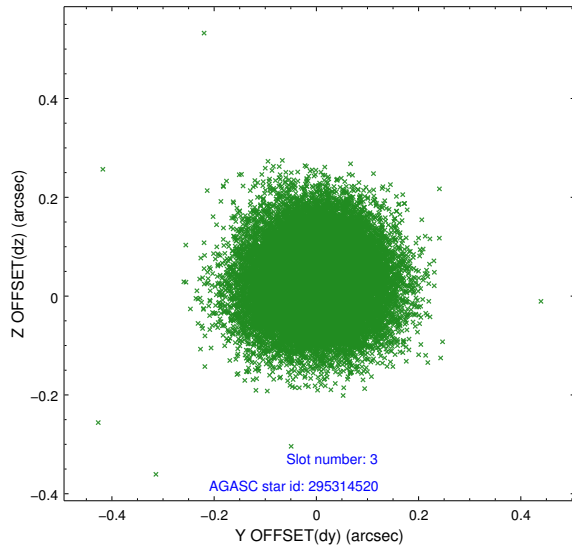
### Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.10	12235	-0.047	-0.035	0.007	0.012	0.000000	0.000000	-760.33	-1731.04
1	FID		ACIS-S-4	7.21	12236	0.104	0.032	0.008	0.015	0.000000	0.000000	2153.07	177.58
2	FID		ACIS-S-5	7.24	12235	-0.088	0.011	0.009	0.015	0.000000	0.000000	-1813.27	171.13
3	GUIDE	used	295314520	9.74	24454	-0.000	0.031	0.105	0.168	353.926770	27.159779	2275.31	540.07
4	GUIDE	used	295447720	8.82	24460	0.057	-0.087	0.074	0.117	354.659000	27.493243	623.44	-1508.54
5	GUIDE	used	295837160	8.53	24468	-0.119	0.060	0.061	0.097	354.536687	27.587656	1118.45	-1659.14
6	GUIDE	used	295851160	6.56	24473	0.032	-0.007	0.060	0.097	355.004557	27.514971	-351.06	-2032.76
7	GUIDE	used	295311360	9.82	24448	0.025	0.004	0.124	0.204	353.703214	26.766818	2361.83	2123.92

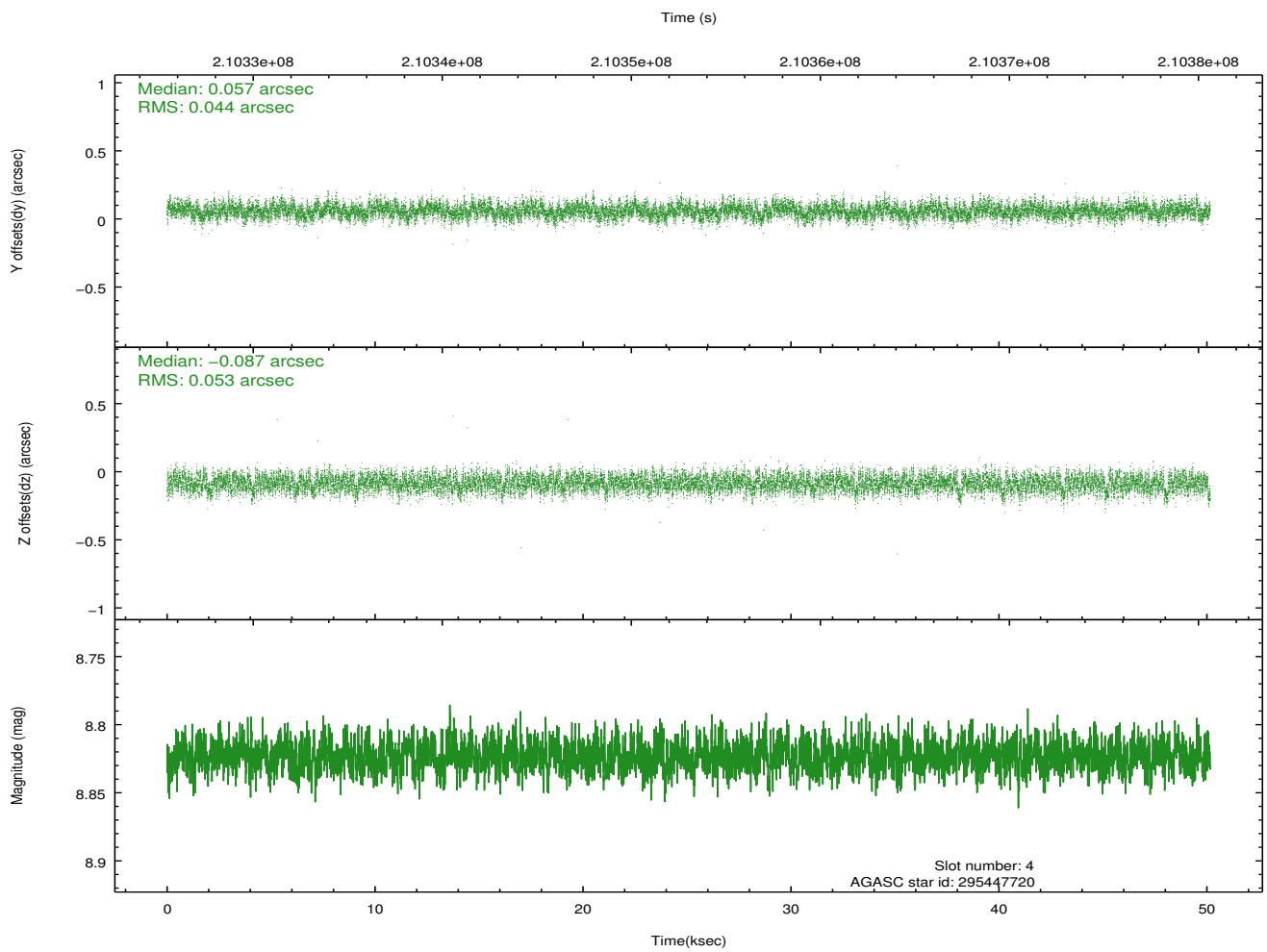
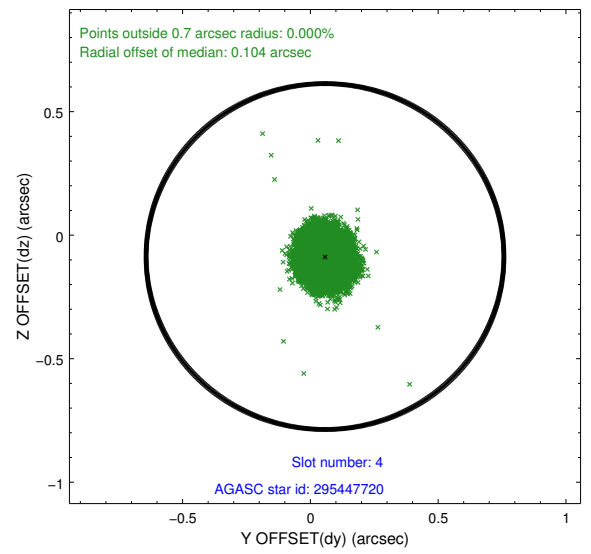
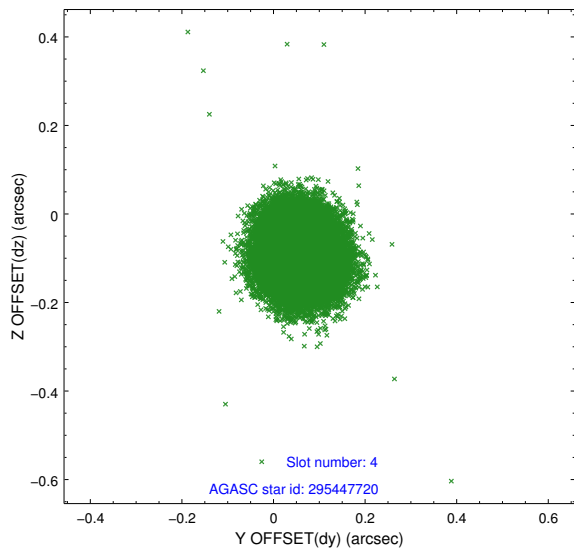
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## 2.4 Star Slots

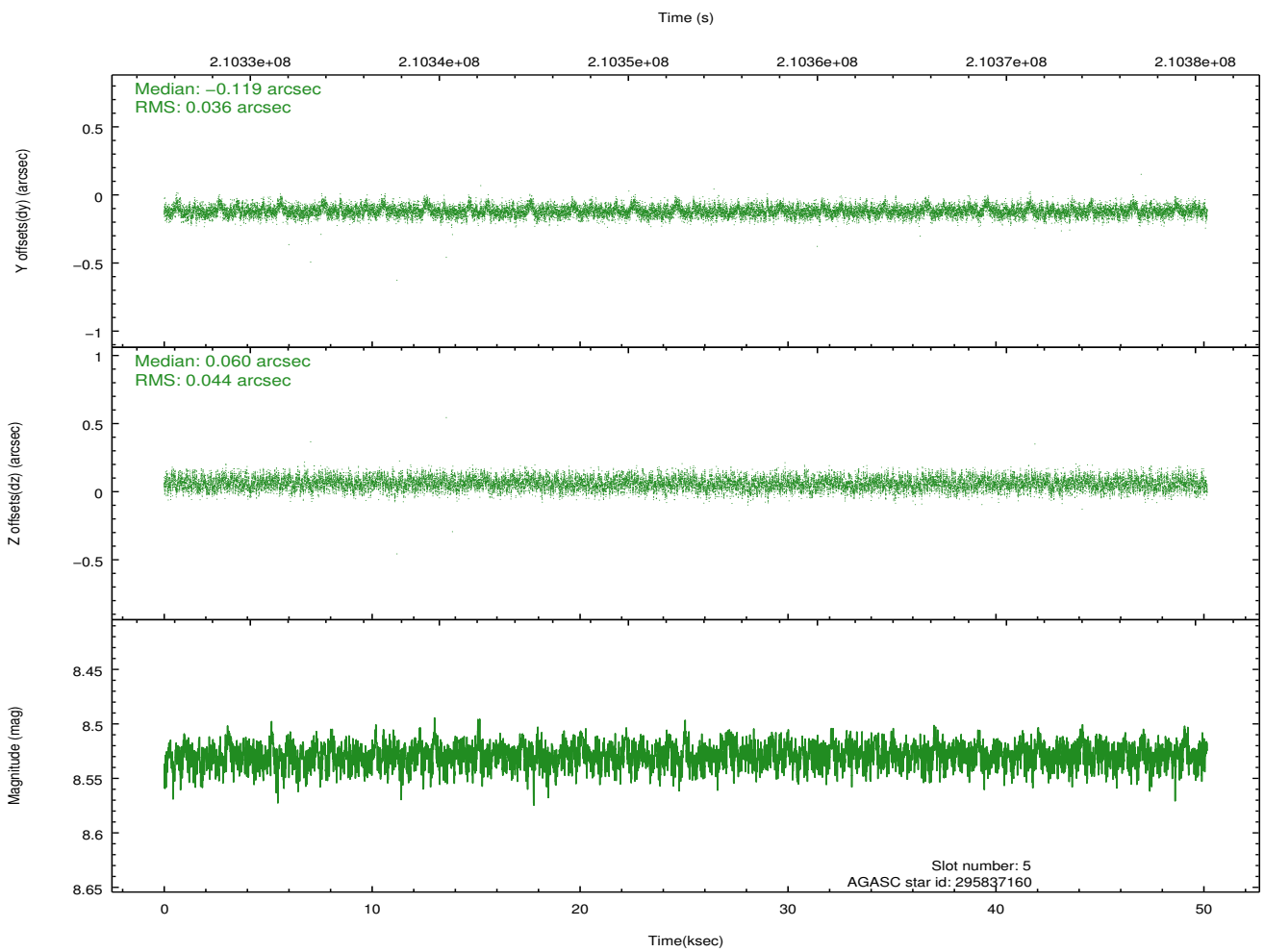
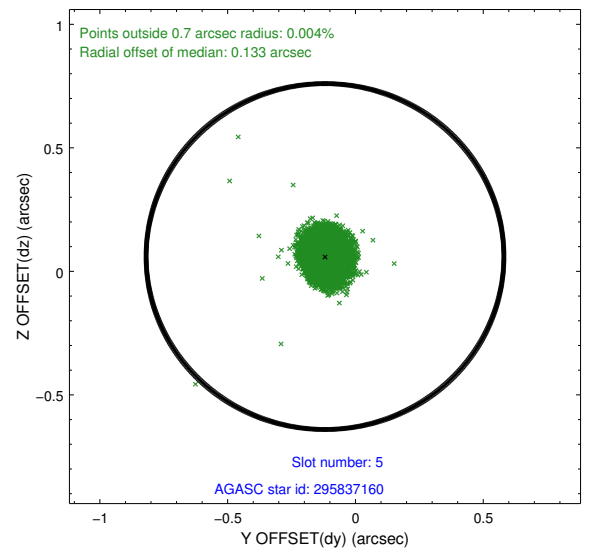
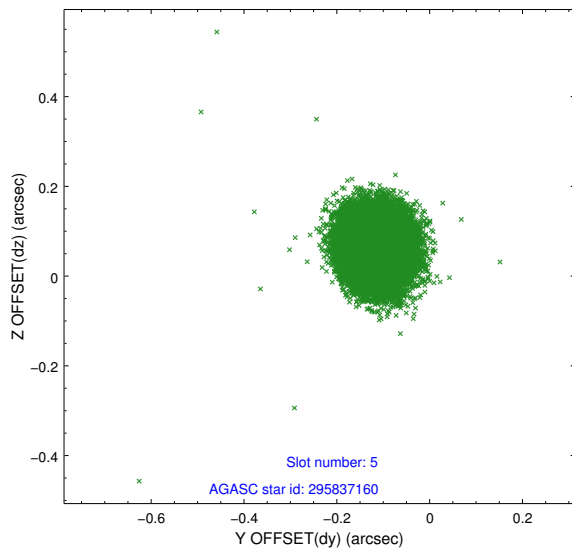
### 2.4.1 Slot 3



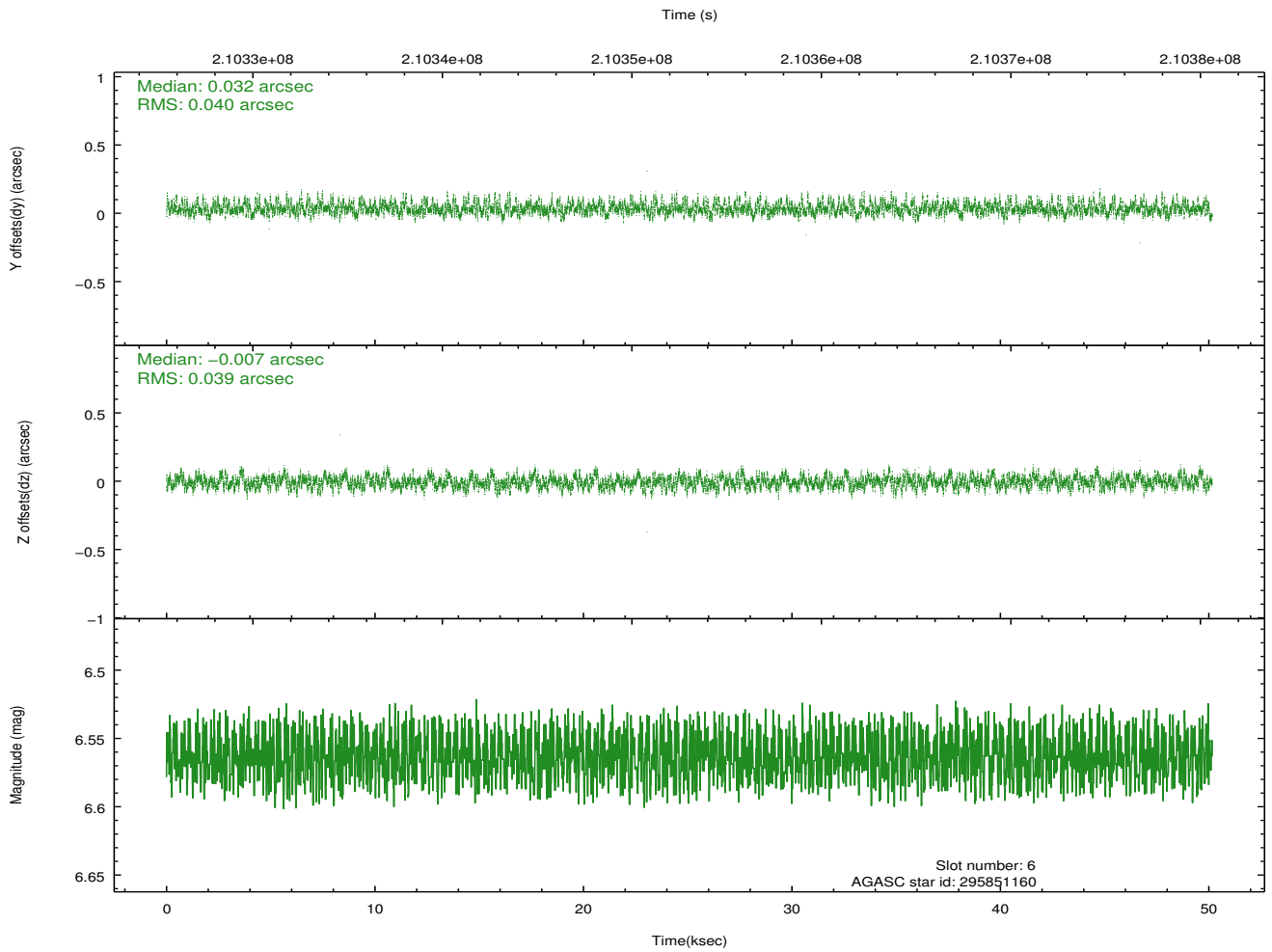
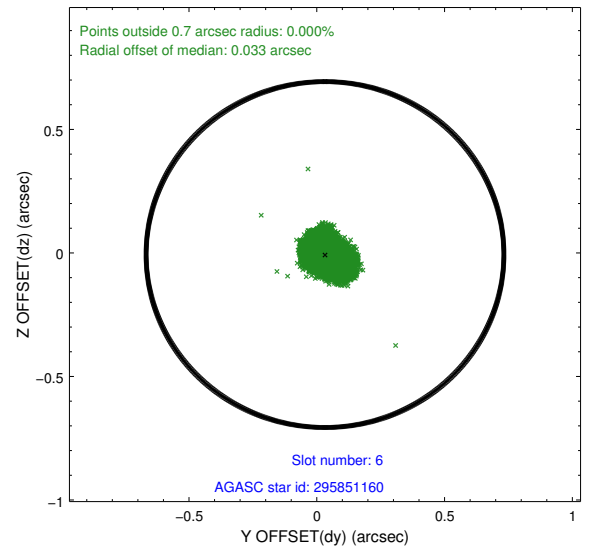
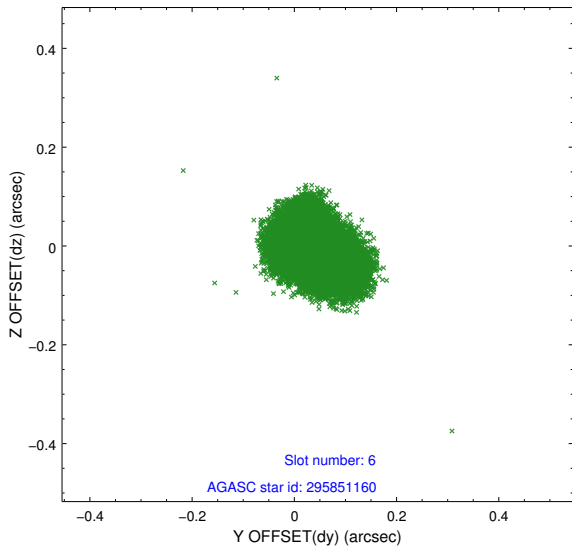
## 2.4.2 Slot 4



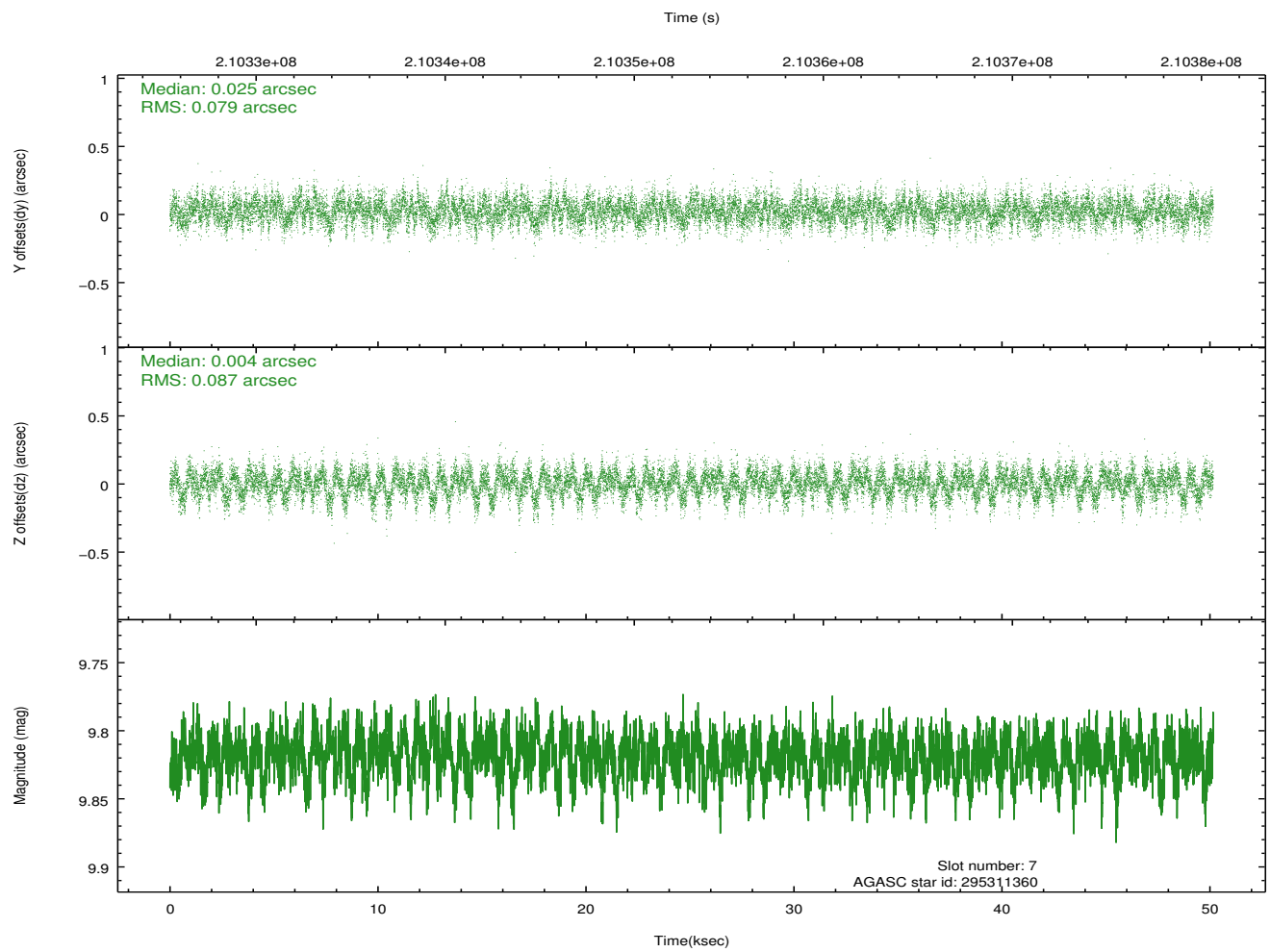
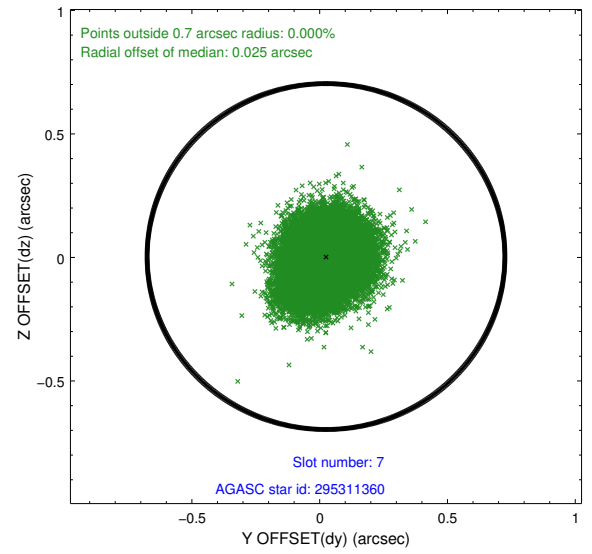
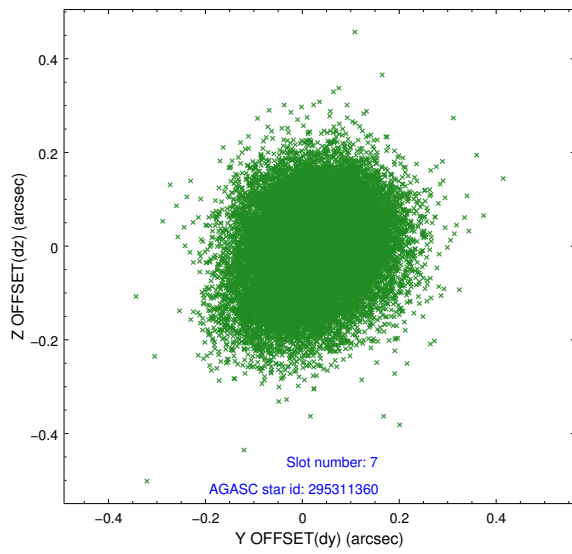
### 2.4.3 Slot 5



### 2.4.4 Slot 6

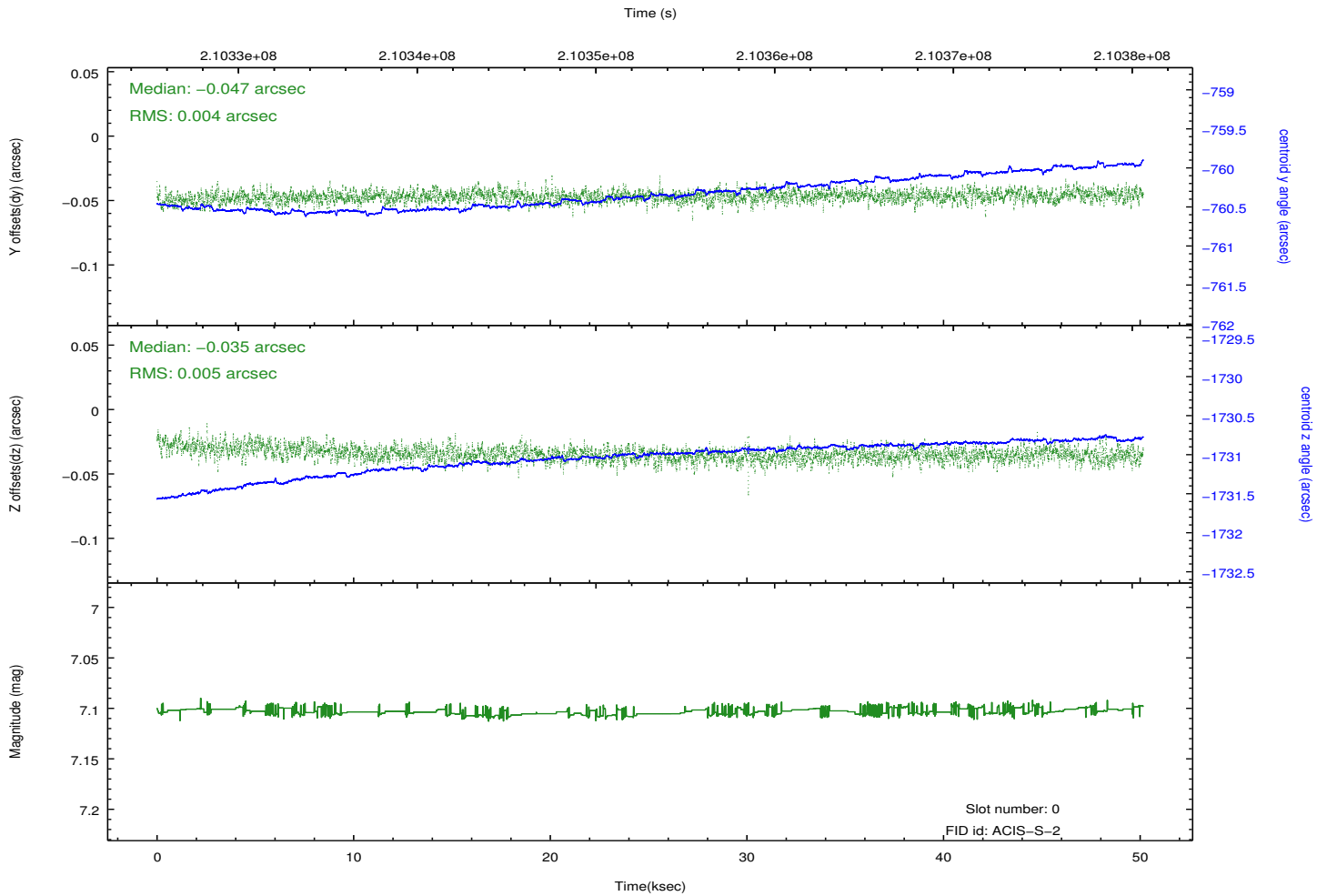
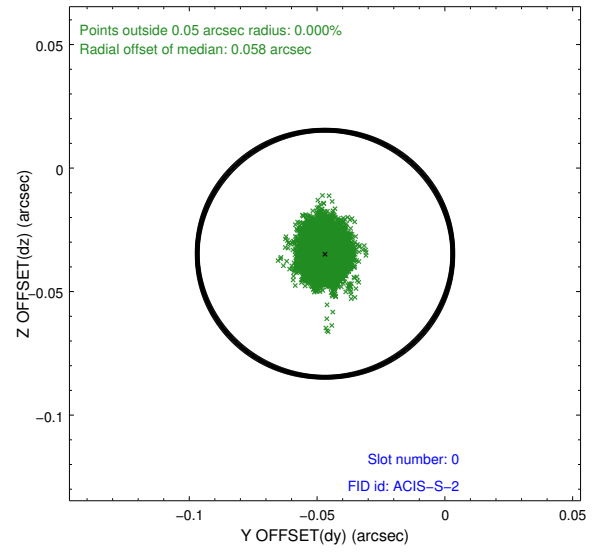
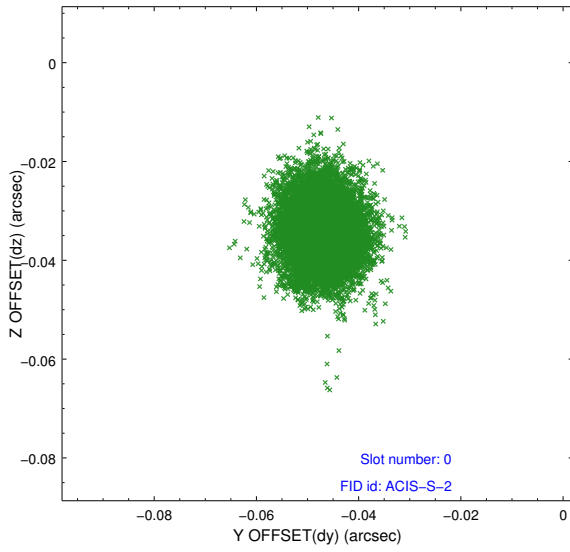


## 2.4.5 Slot 7

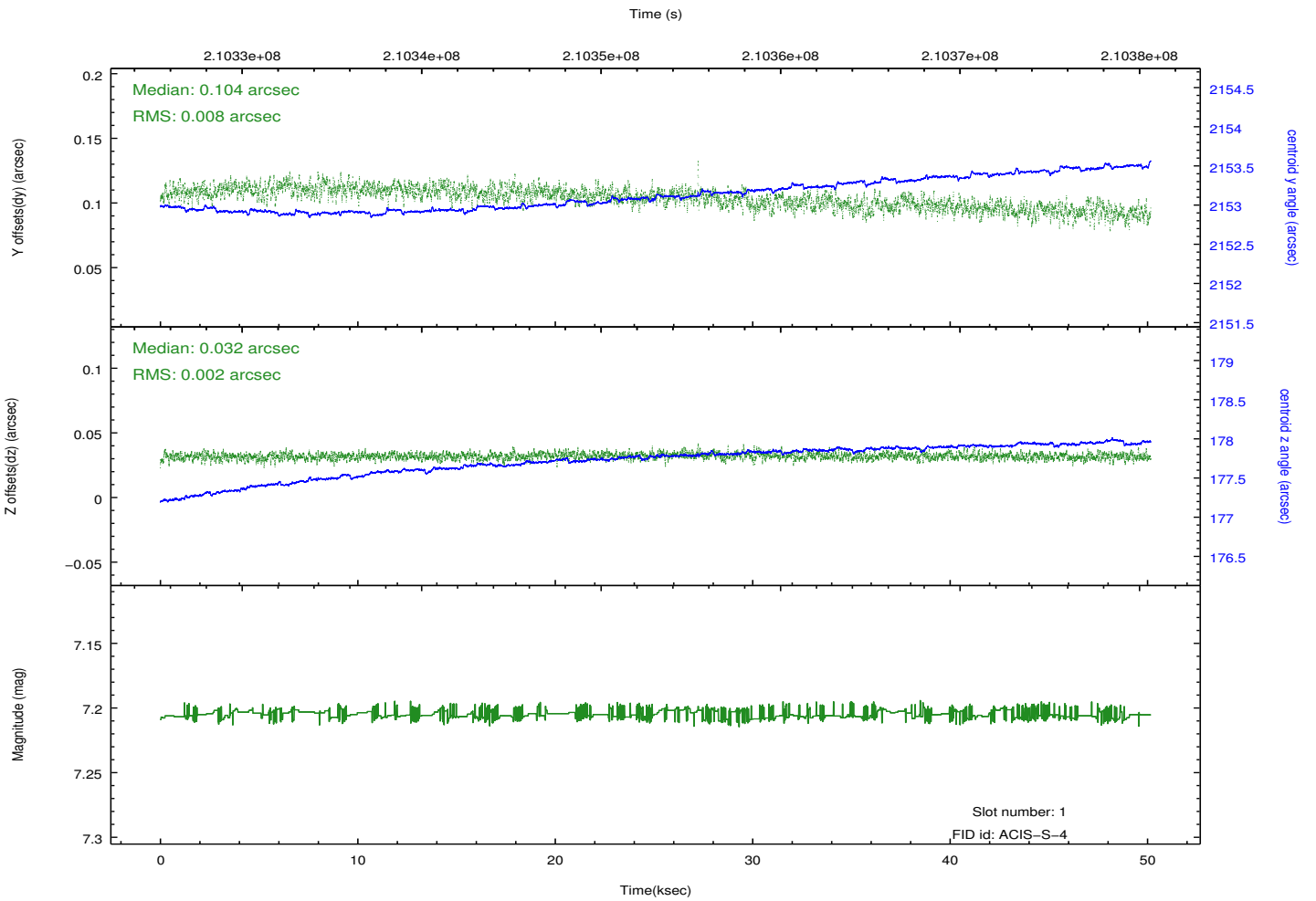
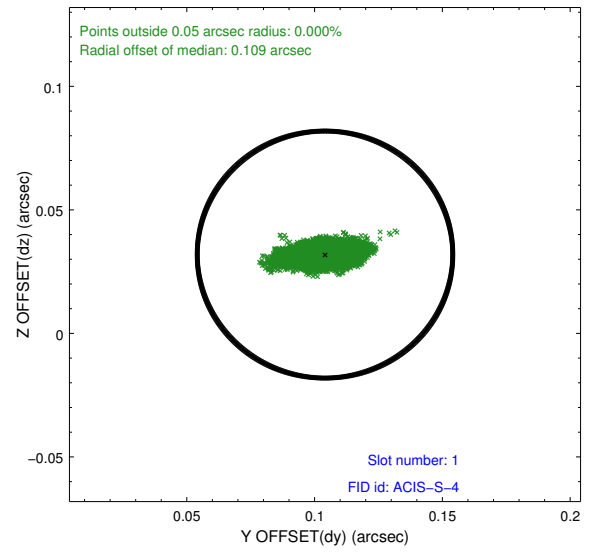
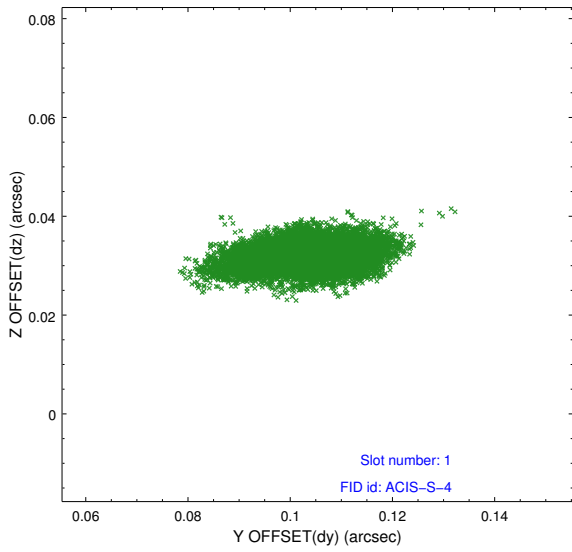


## 2.5 FID Slots

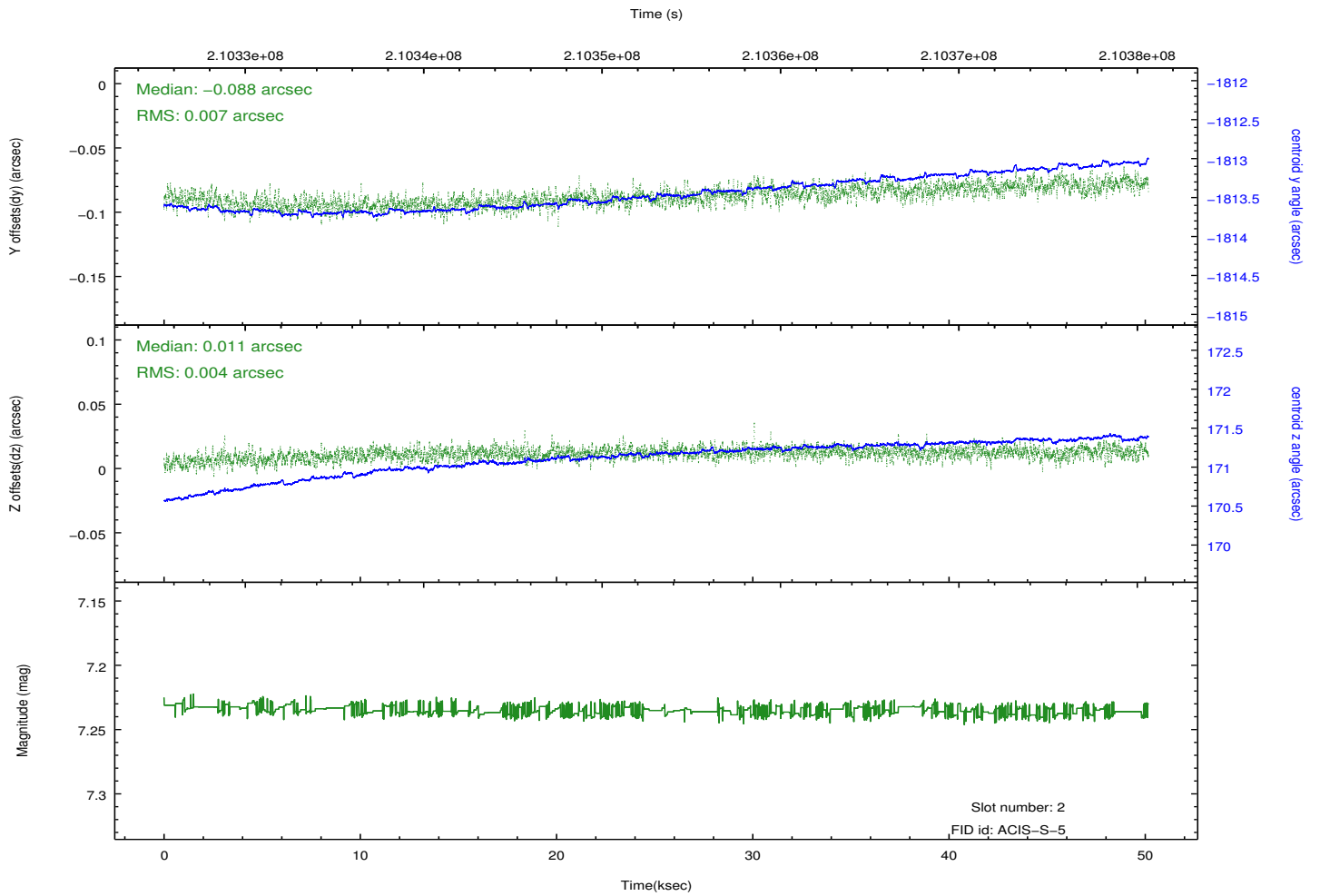
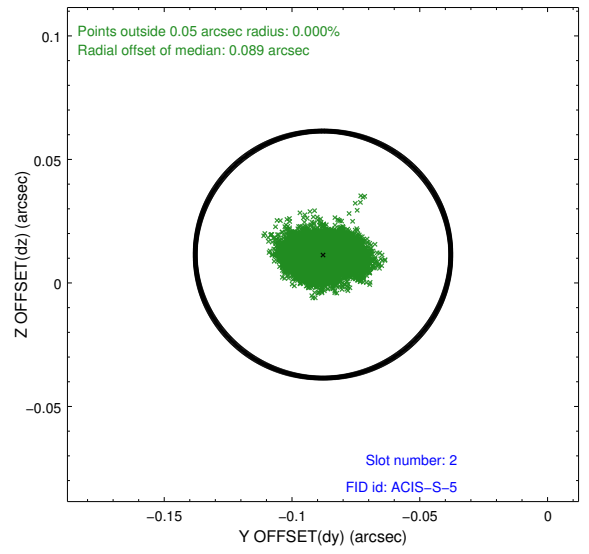
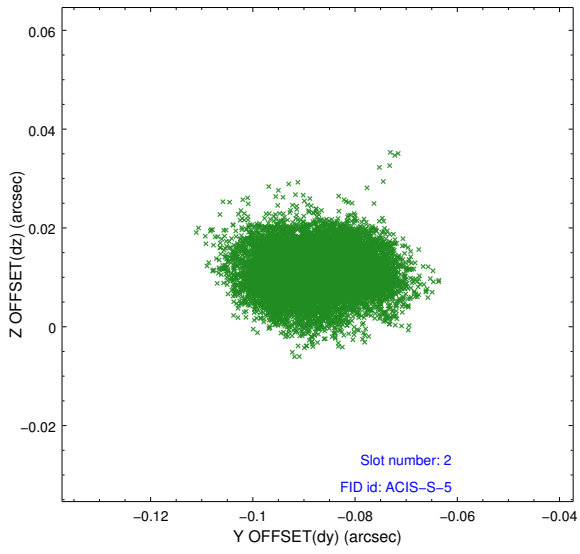
### 2.5.1 Slot 0



## 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)	2015.07.10
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	50.163

## A.2 Comments

Because an aspect solution is determined in a finite time interval, a small number of events registered within the delta time before the first aspect solution do not have proper sky coordinates. We apply a manual workaround to exclude those events with incorrect sky positions until the complete s/w resolution is obtained.

=====

A warning from the software indicates out-of-sequence exposure records. This appears to be due to a duplication of ACIS packets in the raw telemetry. The duplicate data is filtered out in Level 2 data. There is no problem with Level 2 data. The duplicate data could be removed by special processing, removing major/minor frames 37653:119 - 37654:0 from raw telemetry. Also, the ACIS team reported a BEP anomaly during this observation with a missing BEP packet.