

# V&V Reference Report

## L2 ASCDS Version : 8.5.1.1

Observation 15078 - L2 Version 2  
Chandra X-Ray Center

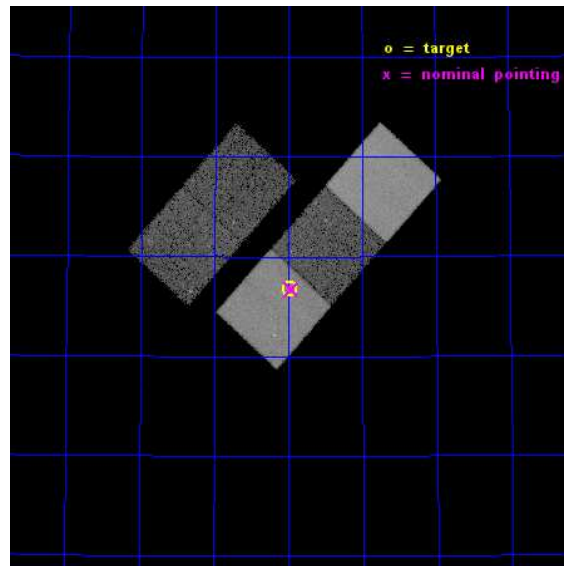
L2 Processing Date : Dec 1 2014

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# 1 Front

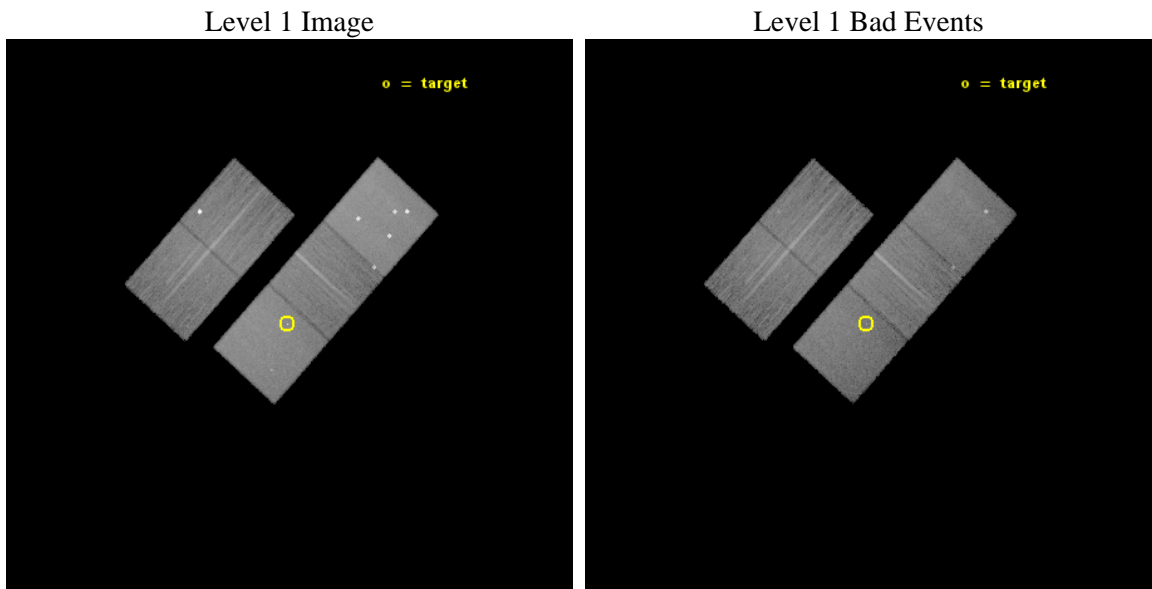
seq_num	702884	Sequence number
obs_id	15078	Observation id
title	CGCG~298-021: X-ray counterpart to an Ultra High Energy Cosmic Ray source?	Proposal title
observer	Prof. Glennys Farrar	Principal investigator
object	CGCG 291-028	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	166.495833	Observer's specified target RA [deg]
dec_targ	58.946	Observer's specified target Dec [deg]
ra_nom	166.49004809264	Nominal RA [deg]
dec_nom	58.94547789171	Nominal Dec [deg]
roll_nom	132.02707077153	Nominal Roll [deg]
revision	2	Processing version of data
ontime	25063.461483955	Sum of GTIs [s]
liveltime	24735.988908216	Livetime [s]
ontime2	25063.297323942	Sum of GTIs [s]
ontime3	25057.056253254	Sum of GTIs [s]
ontime5	25063.420443952	Sum of GTIs [s]
ontime6	25063.379403949	Sum of GTIs [s]
ontime7	25063.461483955	Sum of GTIs [s]
l2events	219438	Number of level 2 events



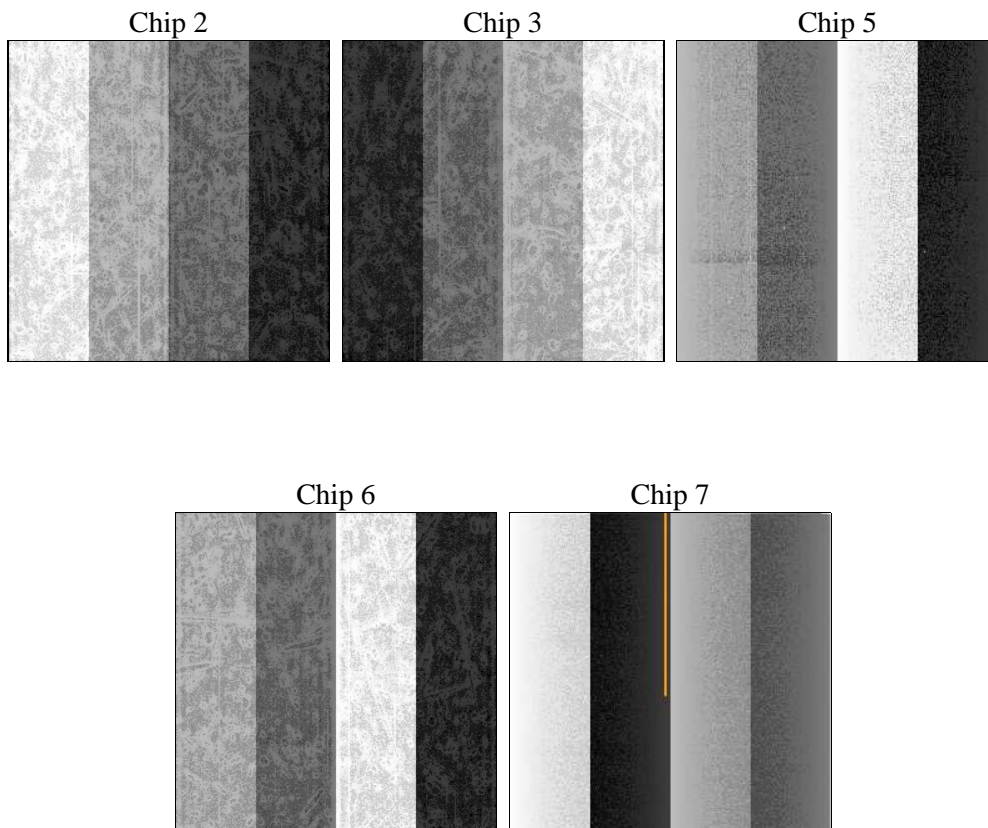
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	25000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	25063.461483955	Sum of GTIs [s]
caldbver	4.6.4	&#160	ontime2	25063.297323942	Sum of GTIs [s]
date	2014-12-01T07:02:42	Date and time of file creation	ontime3	25057.056253254	Sum of GTIs [s]
revision	2	Processing version of data	ontime5	25063.420443952	Sum of GTIs [s]
			ontime6	25063.379403949	Sum of GTIs [s]
			ontime7	25063.461483955	Sum of GTIs [s]
			l1events	860172	Number of level 1 events

### 2.1.4 Events

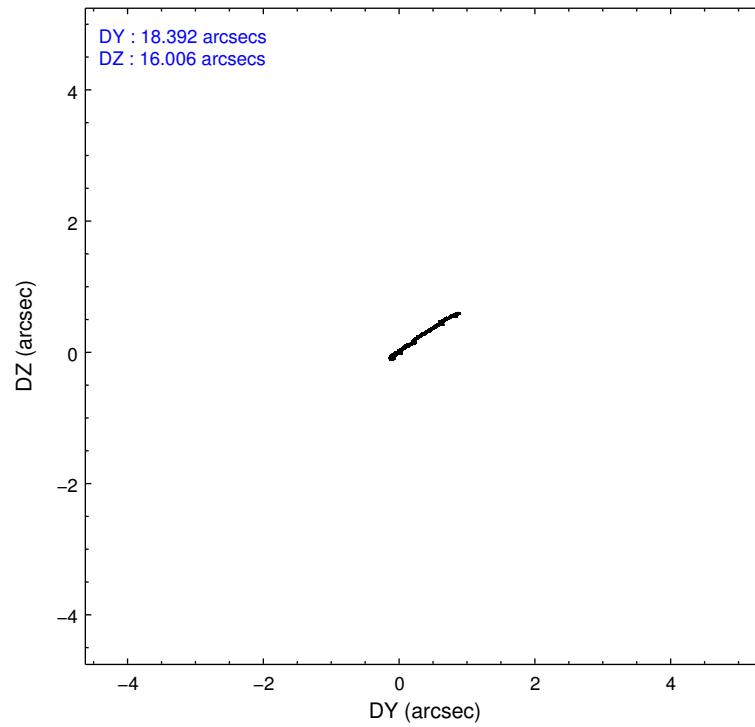
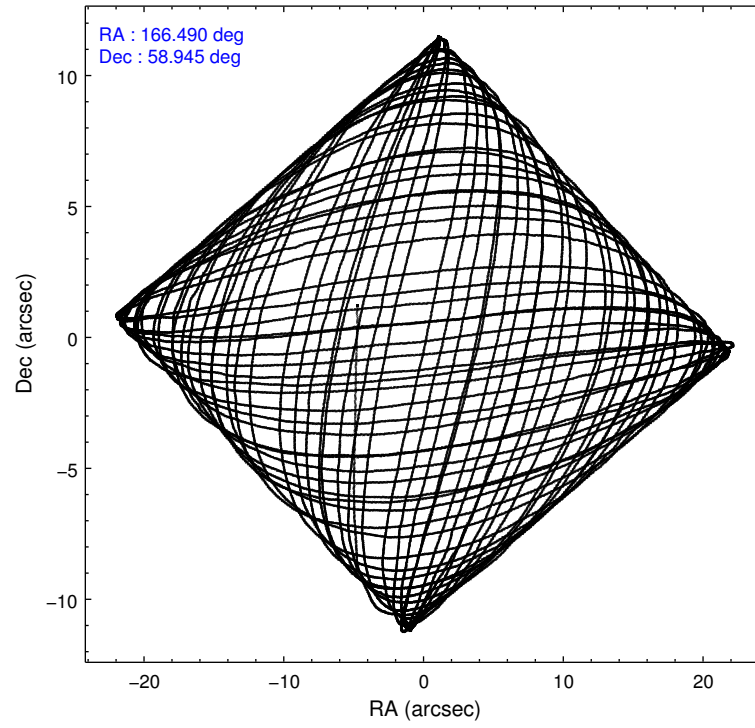
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7
level 1 events	153660	129667	251785	139299	185761
rejected events	123585	114627	118971	122961	104406
rejected %	80%	88%	47%	88%	56%

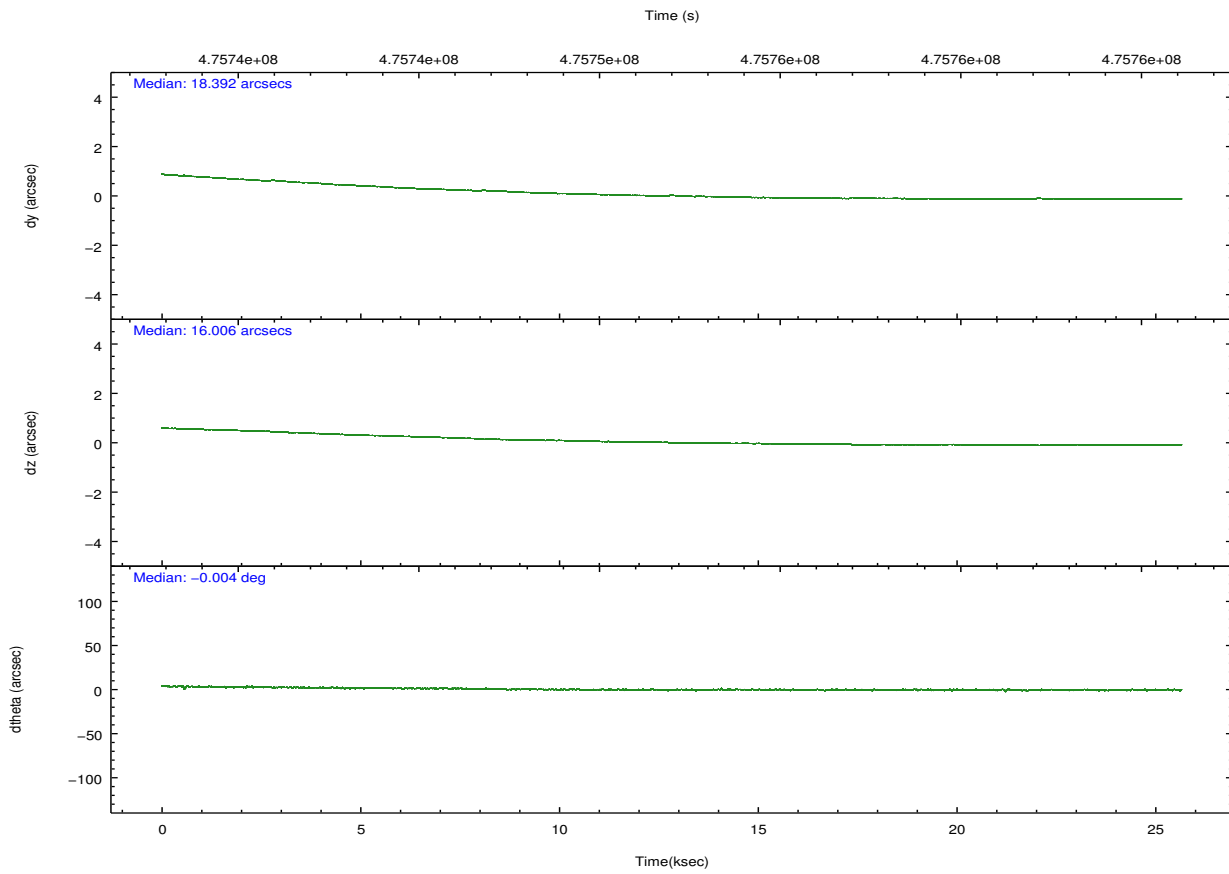
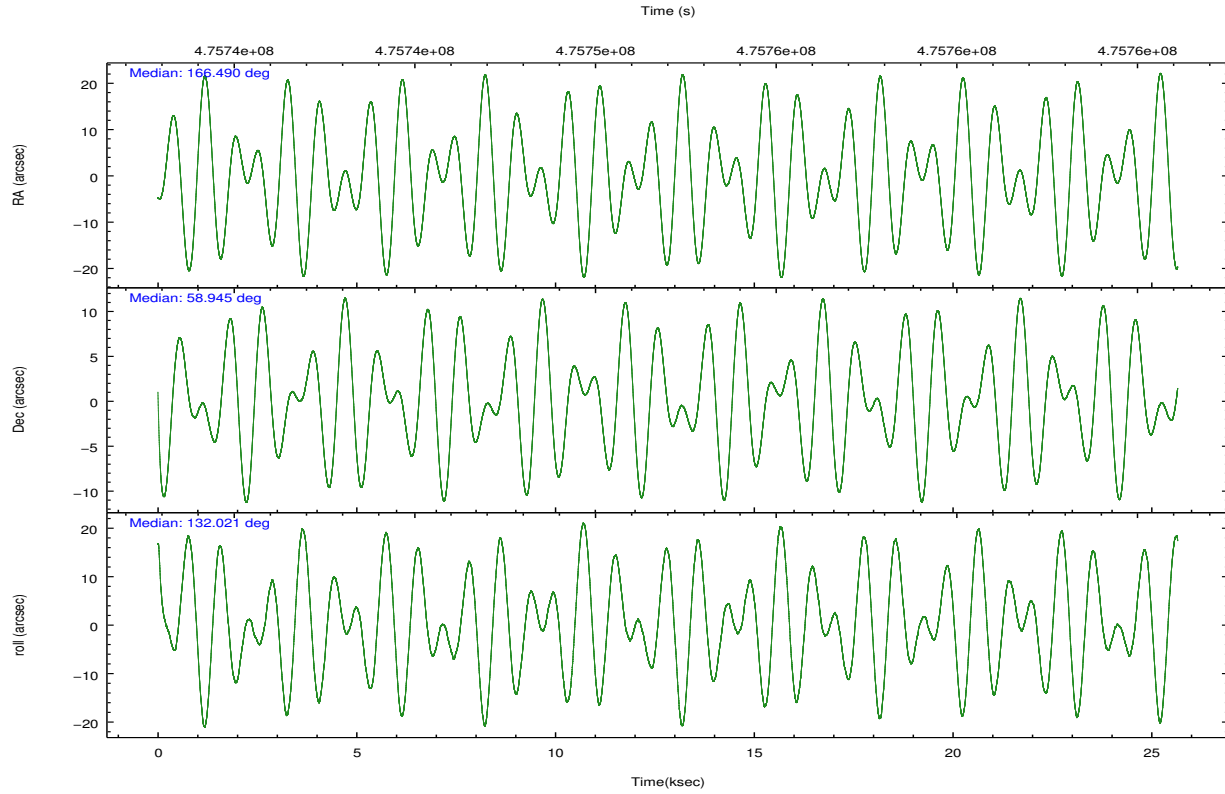
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7
grade 0 events	12853	5363	27414	5511	7446
	8%	4%	10%	3%	4%
grade 1 events	110	64	1025	65	206
	0%	0%	0%	0%	0%
grade 2 events	11193	3215	39351	3666	16653
	7%	2%	15%	2%	8%
grade 3 events	1549	1580	4240	1656	6864
	1%	1%	1%	1%	3%
grade 4 events	1543	1667	3471	1705	6792
	1%	1%	1%	1%	3%
grade 5 events	5769	6859	16134	7092	19004
	3%	5%	6%	5%	10%
grade 6 events	2944	3220	58374	3802	43619
	1%	2%	23%	2%	23%
grade 7 events	117699	107699	101776	115802	85177
	76%	83%	40%	83%	45%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-23567	ACIS-23567	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	CCD I0 on	O1	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	166.540670	166.490048092641	CCD I2 on	Y	Y
[deg] Pointing Dec	58.937409	58.94547789171011	CCD I3 on	Y	Y
[deg] Pointing Roll	131.827075	132.0270707715272	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	-190.1400660498719	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	CCD S4 on	N	N
[s] Observation start time (MET)	475739819.184000	475738643.40569	CCD S5 on	N	N
Observation start date	2013-01-28T05:55:52	2013-01-28T05:37:23	Number of optional ACIS chips dropped	1	1
[s] Observation end time (MET)	475764819.184000	475765876.63216	On-chip summing requested	N	N
Observation end date	2013-01-28T12:52:32	2013-01-28T13:11:16	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect





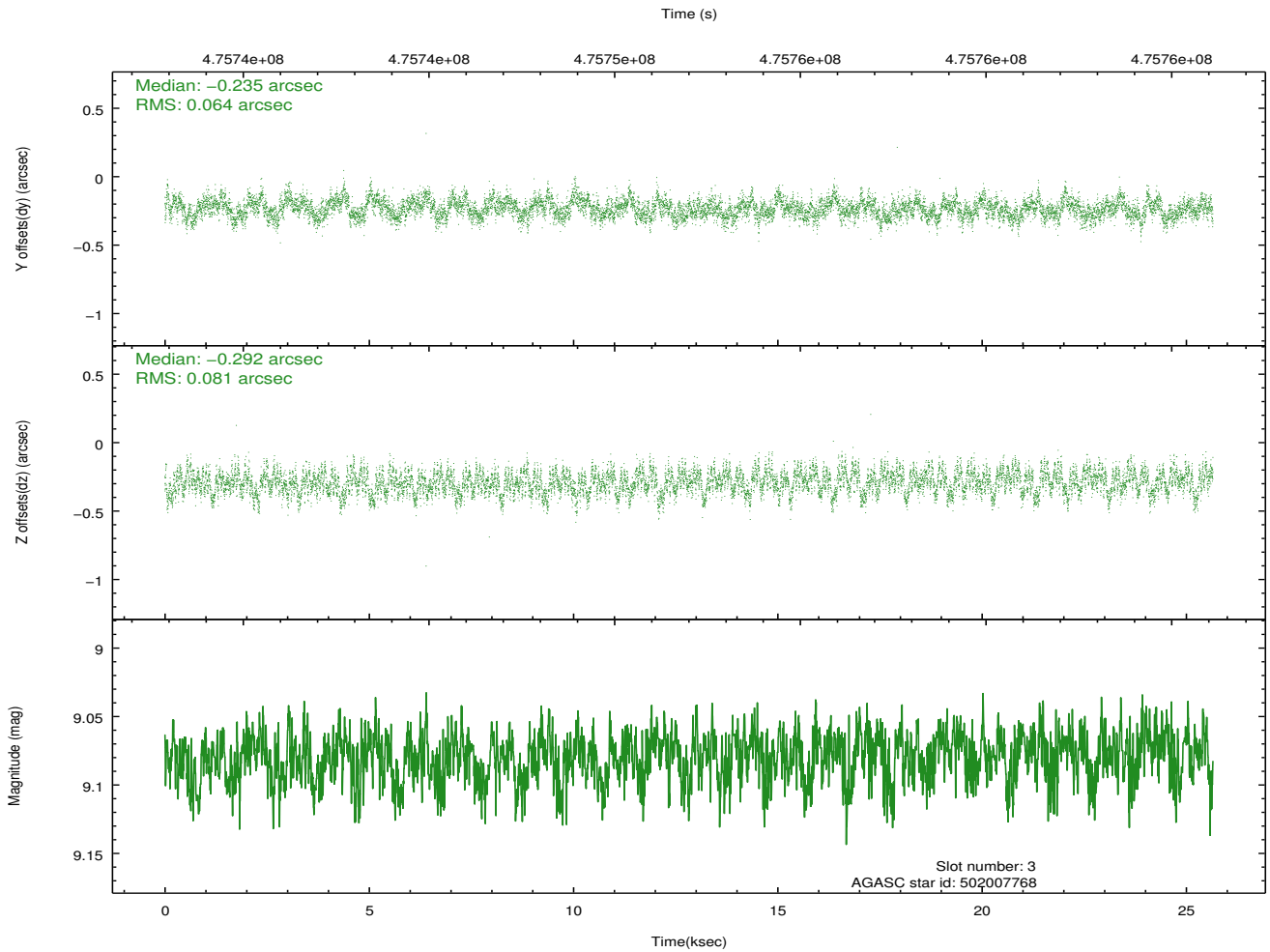
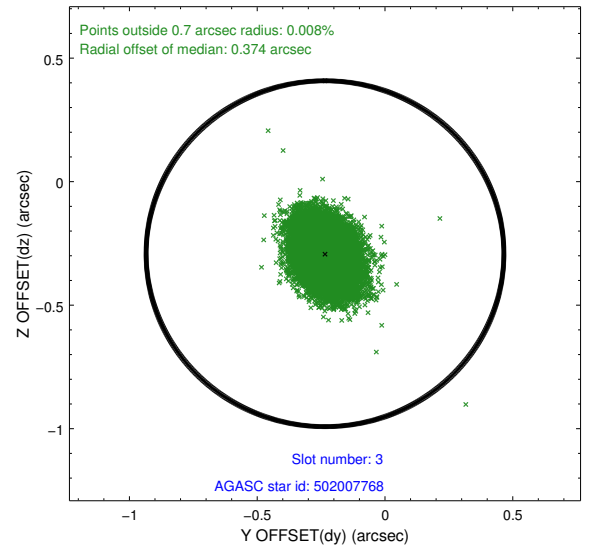
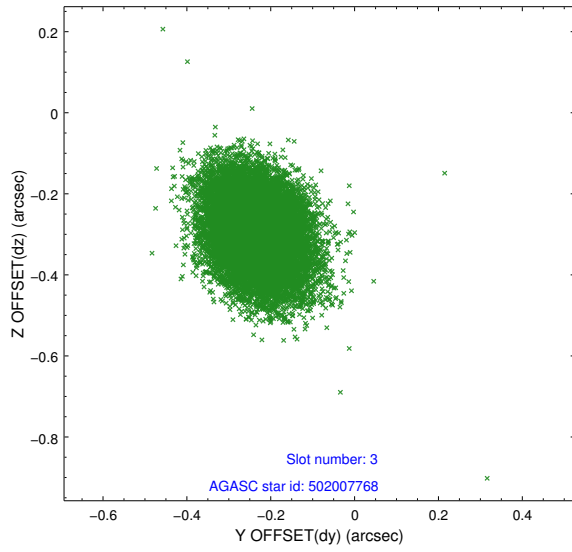
### Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.04	6257	-0.126	-0.031	0.010	0.016	0.000000	0.000000	-771.71	-1737.54
1	FID		ACIS-S-4	7.13	6257	0.317	0.069	0.007	0.012	0.000000	0.000000	2141.96	170.93
2	FID		ACIS-S-5	7.16	6257	-0.222	-0.029	0.008	0.014	0.000000	0.000000	-1824.51	164.62
3	GUIDE	used	502007768	9.08	12510	-0.235	-0.292	0.109	0.177	166.140434	58.903876	408.51	634.18
4	GUIDE	used	502007864	7.46	12515	-0.135	0.018	0.064	0.099	167.931379	58.899797	-1804.22	-1854.21
5	GUIDE	used	502008744	9.31	12402	0.084	0.276	0.114	0.178	165.761491	59.433559	2288.66	-133.37
6	GUIDE	used	502009968	7.07	12485	0.141	0.145	0.069	0.114	167.239797	59.215292	-107.80	-1631.32
7	GUIDE	used	502009392	9.38	12495	0.146	-0.134	0.113	0.194	164.922244	59.074466	2391.61	1877.90

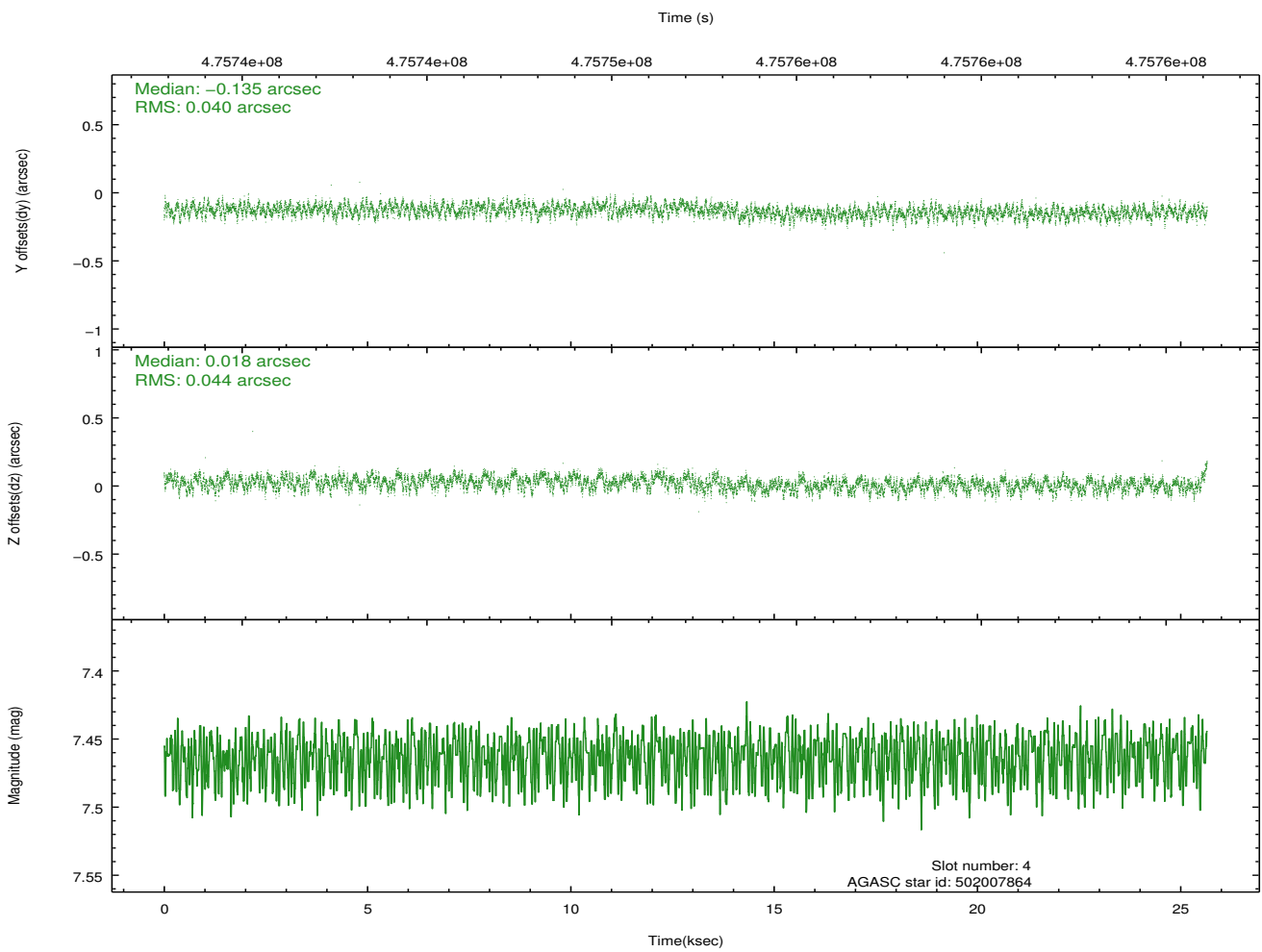
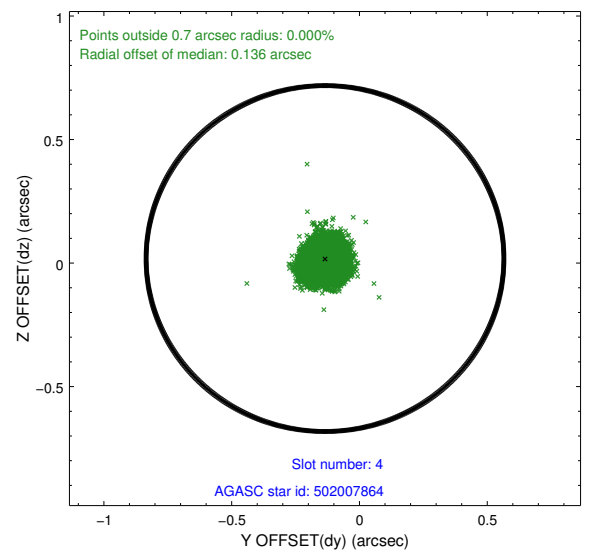
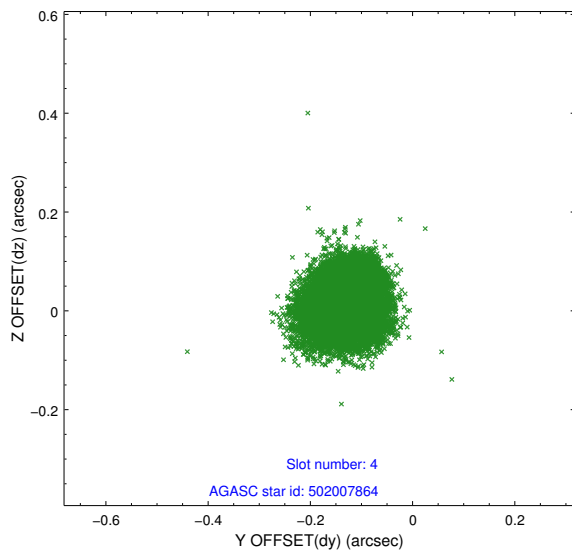
∞

## 2.4 Star Slots

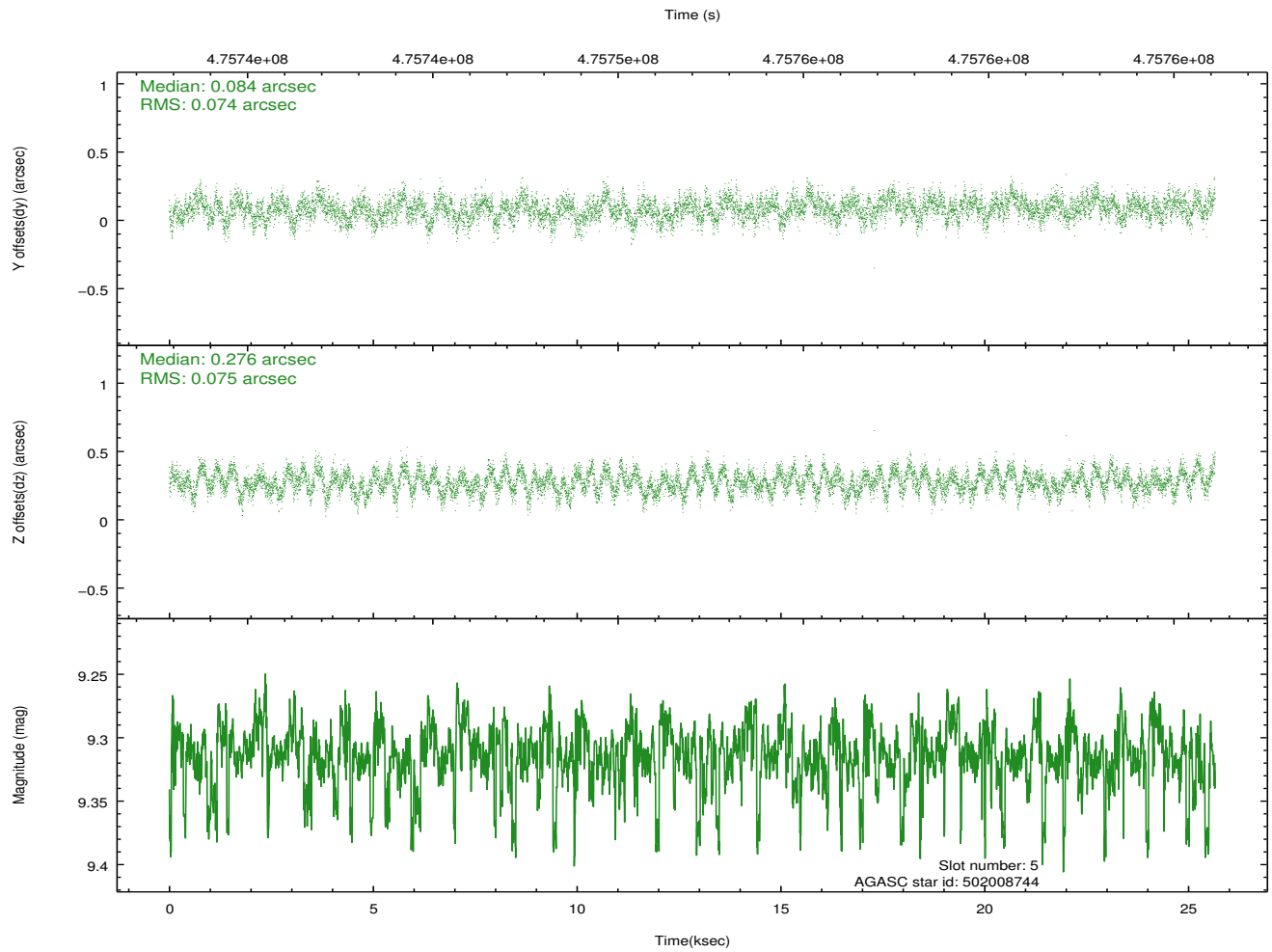
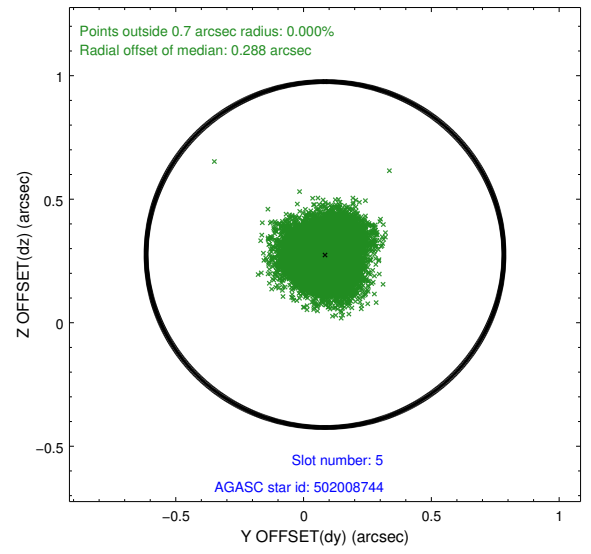
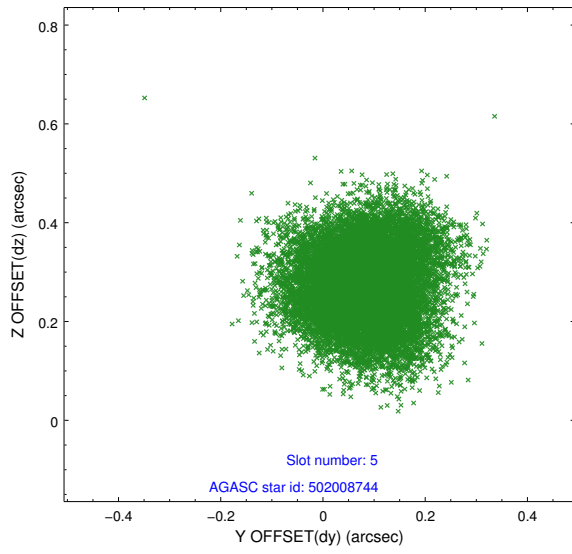
### 2.4.1 Slot 3



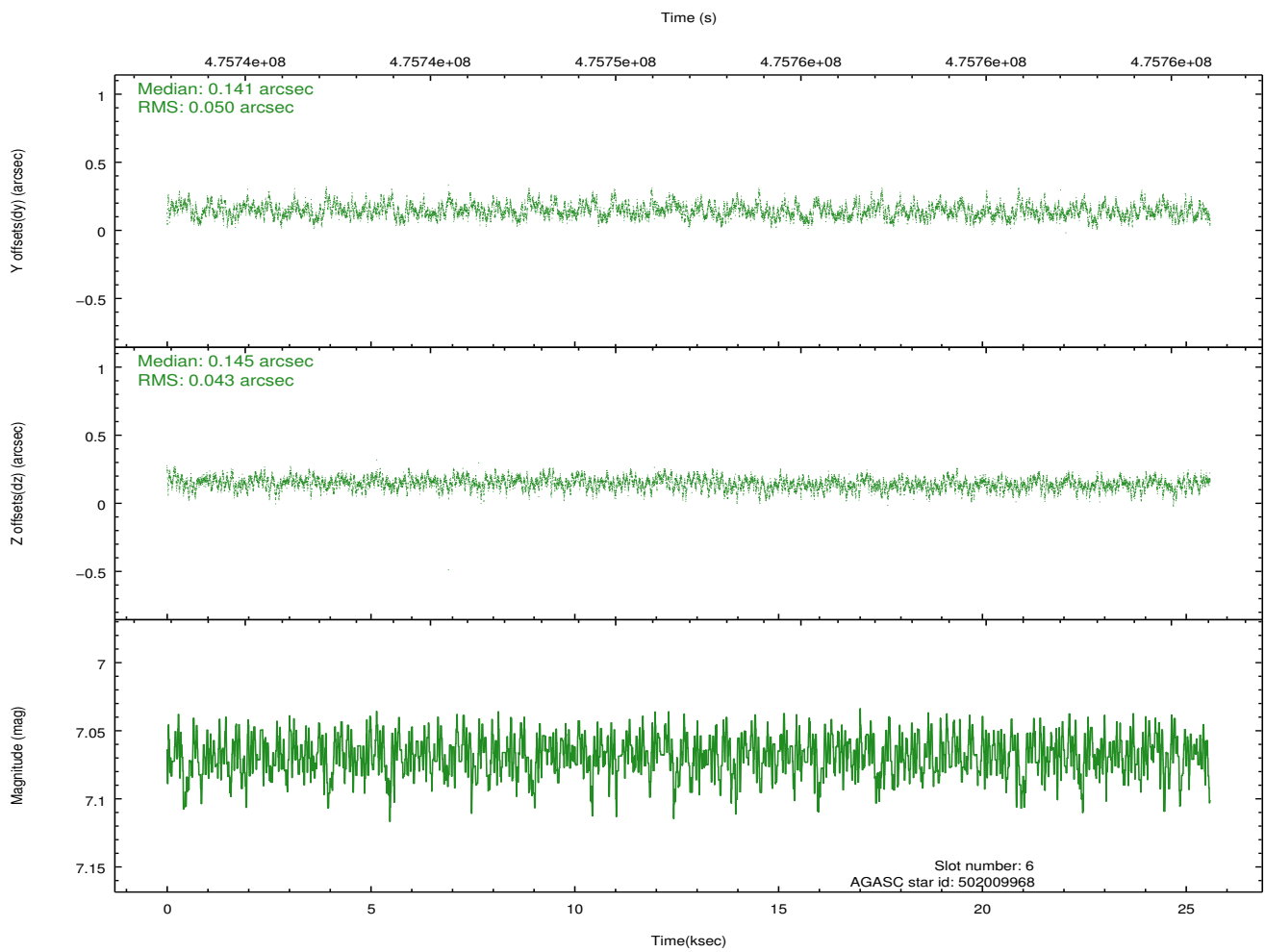
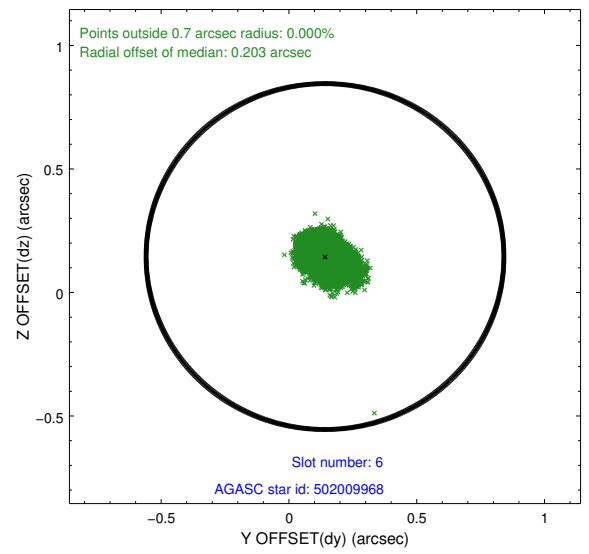
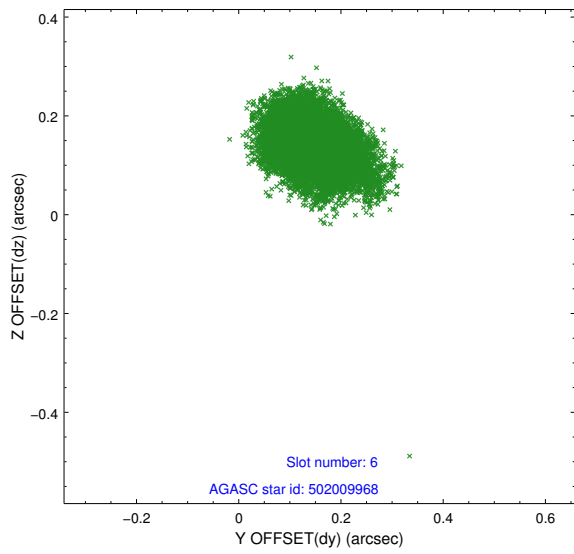
## 2.4.2 Slot 4



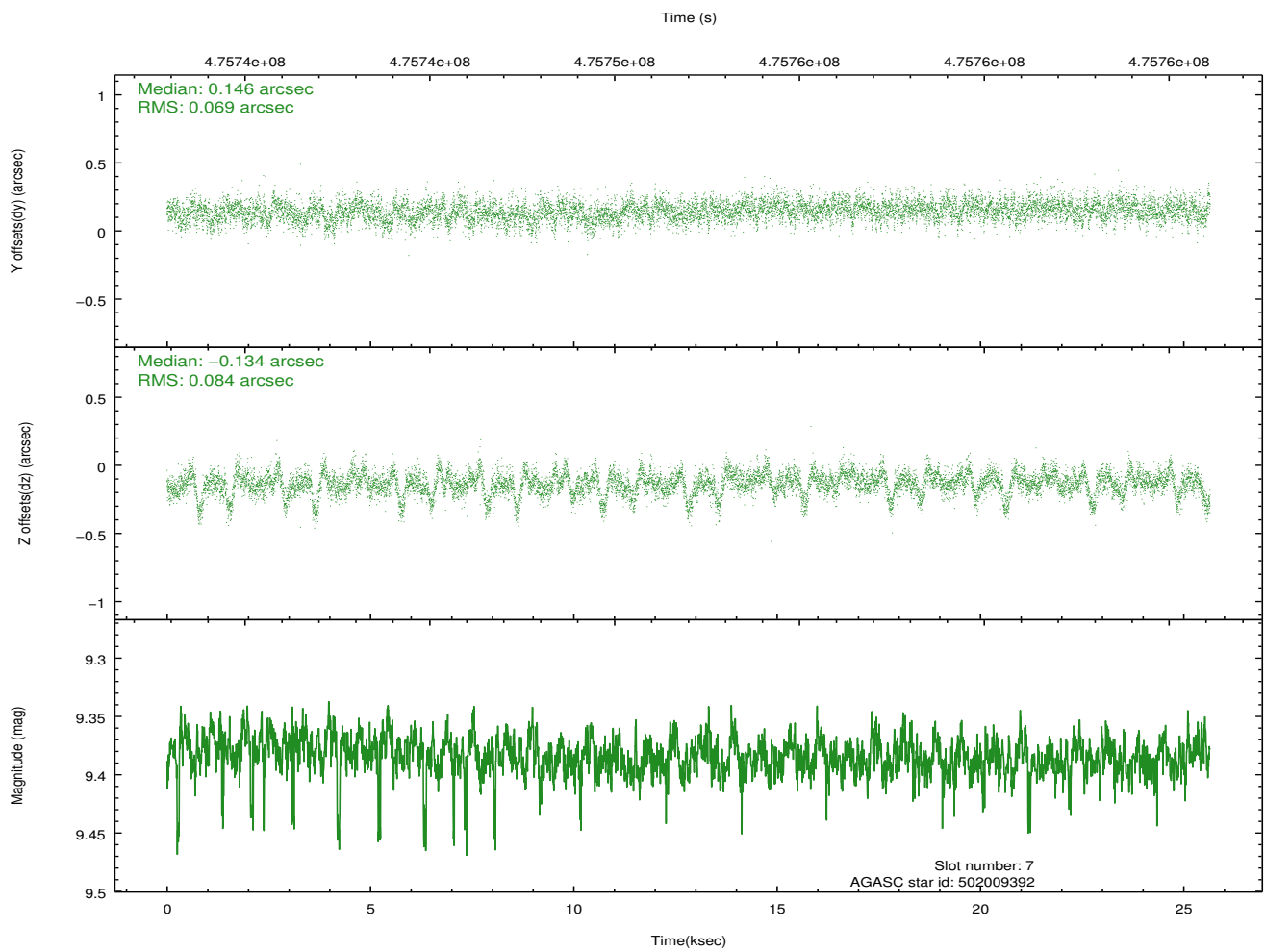
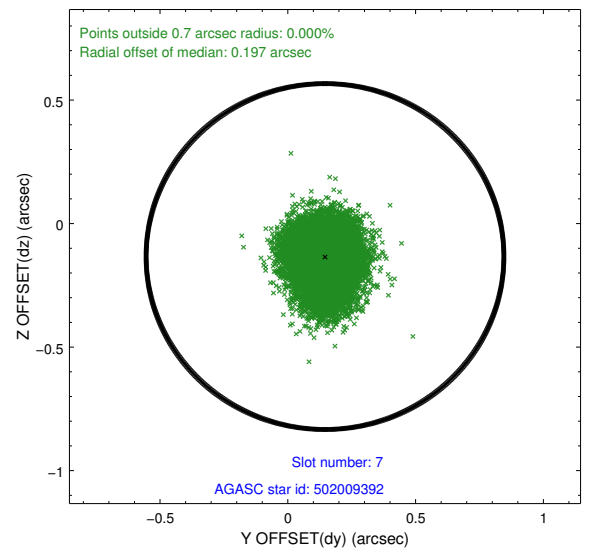
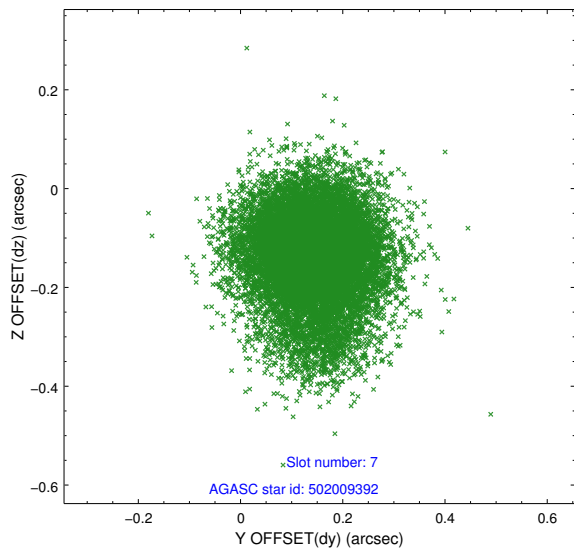
### 2.4.3 Slot 5



## 2.4.4 Slot 6

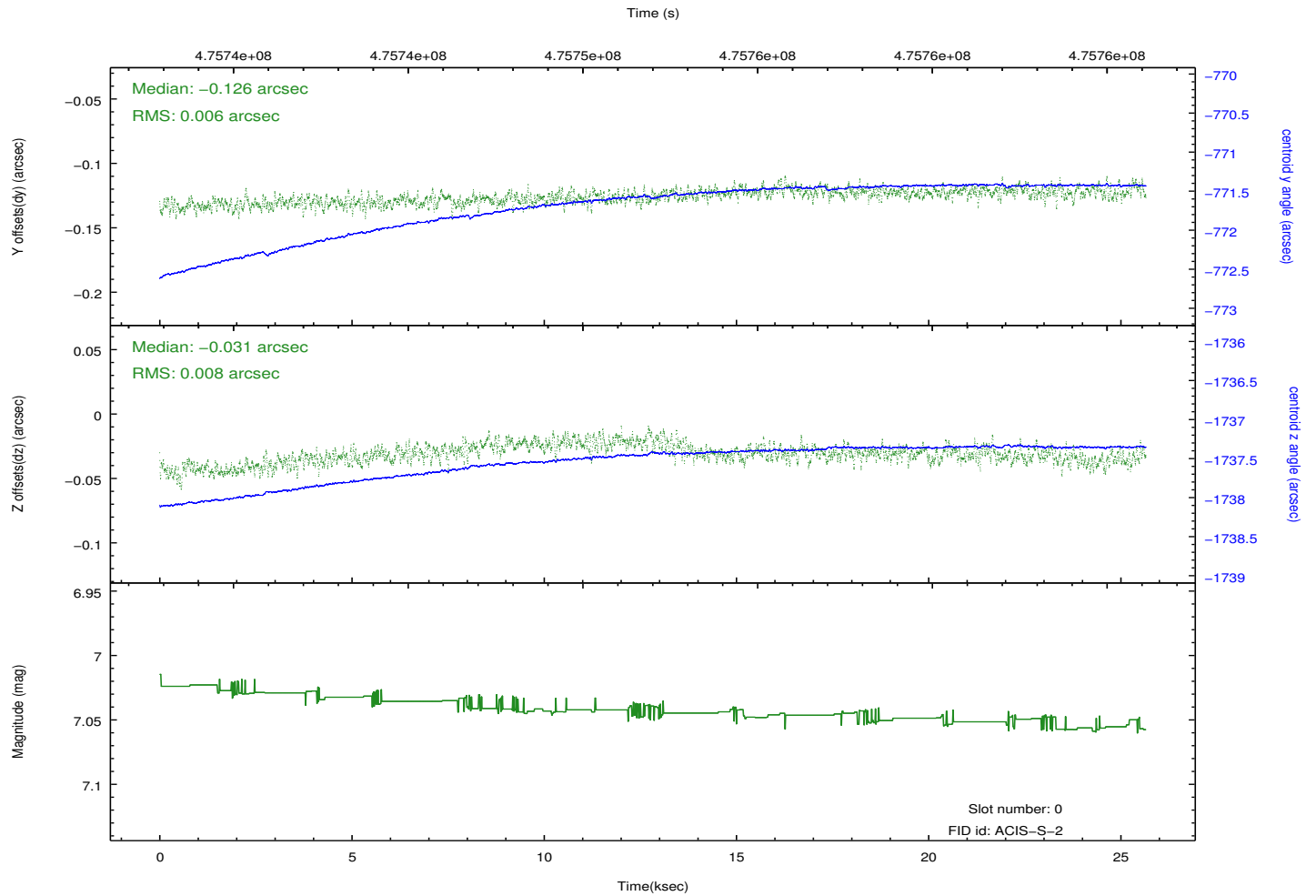
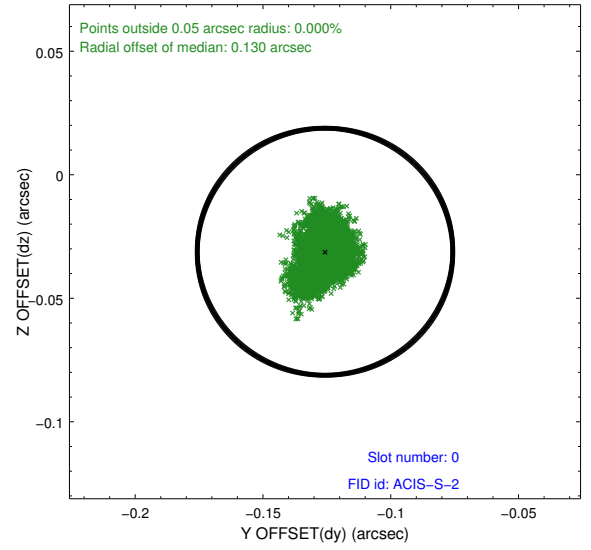
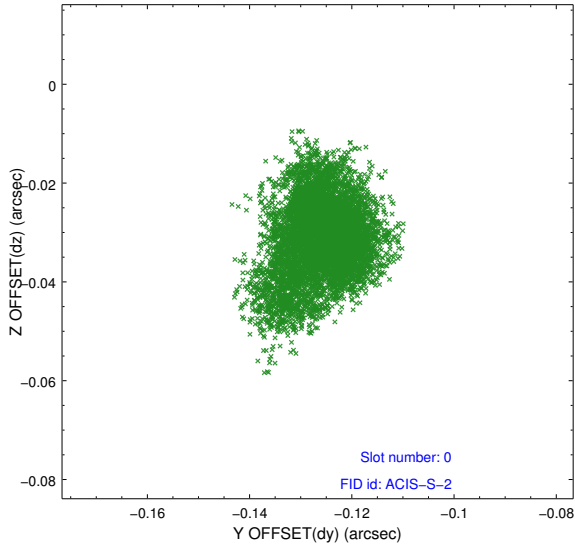


## 2.4.5 Slot 7

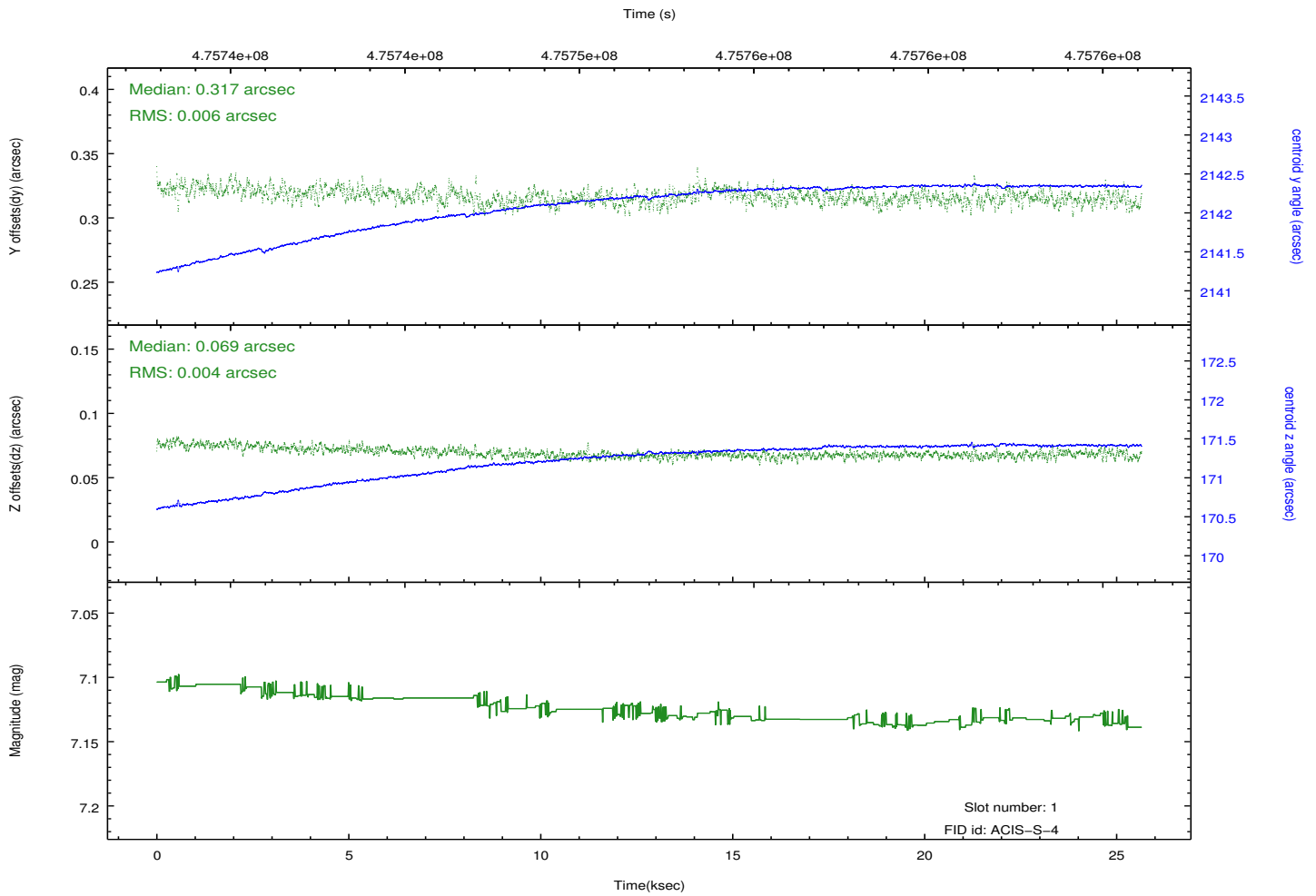
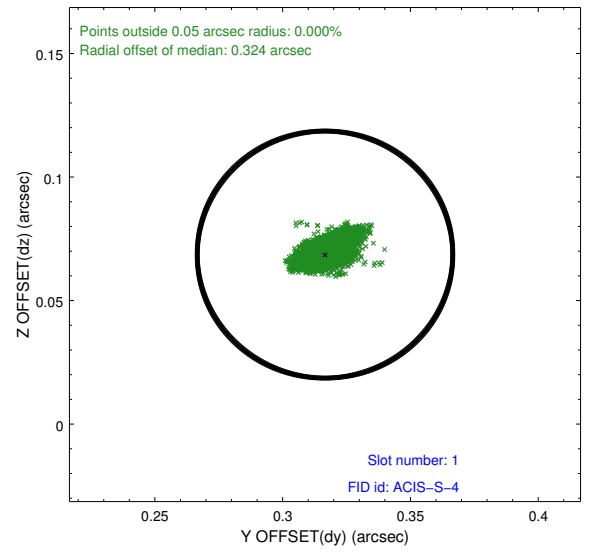
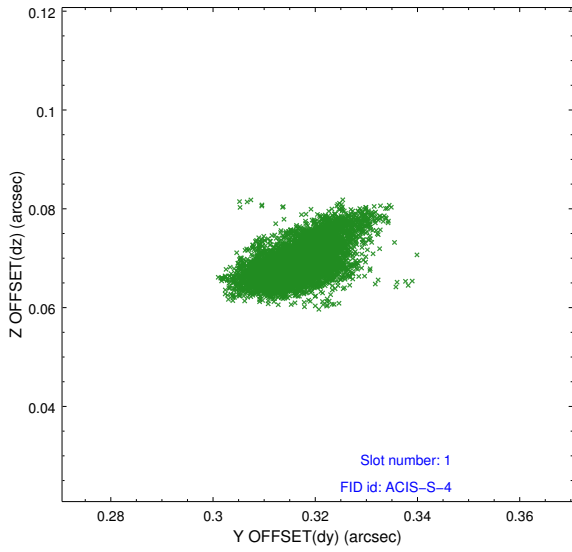


## 2.5 FID Slots

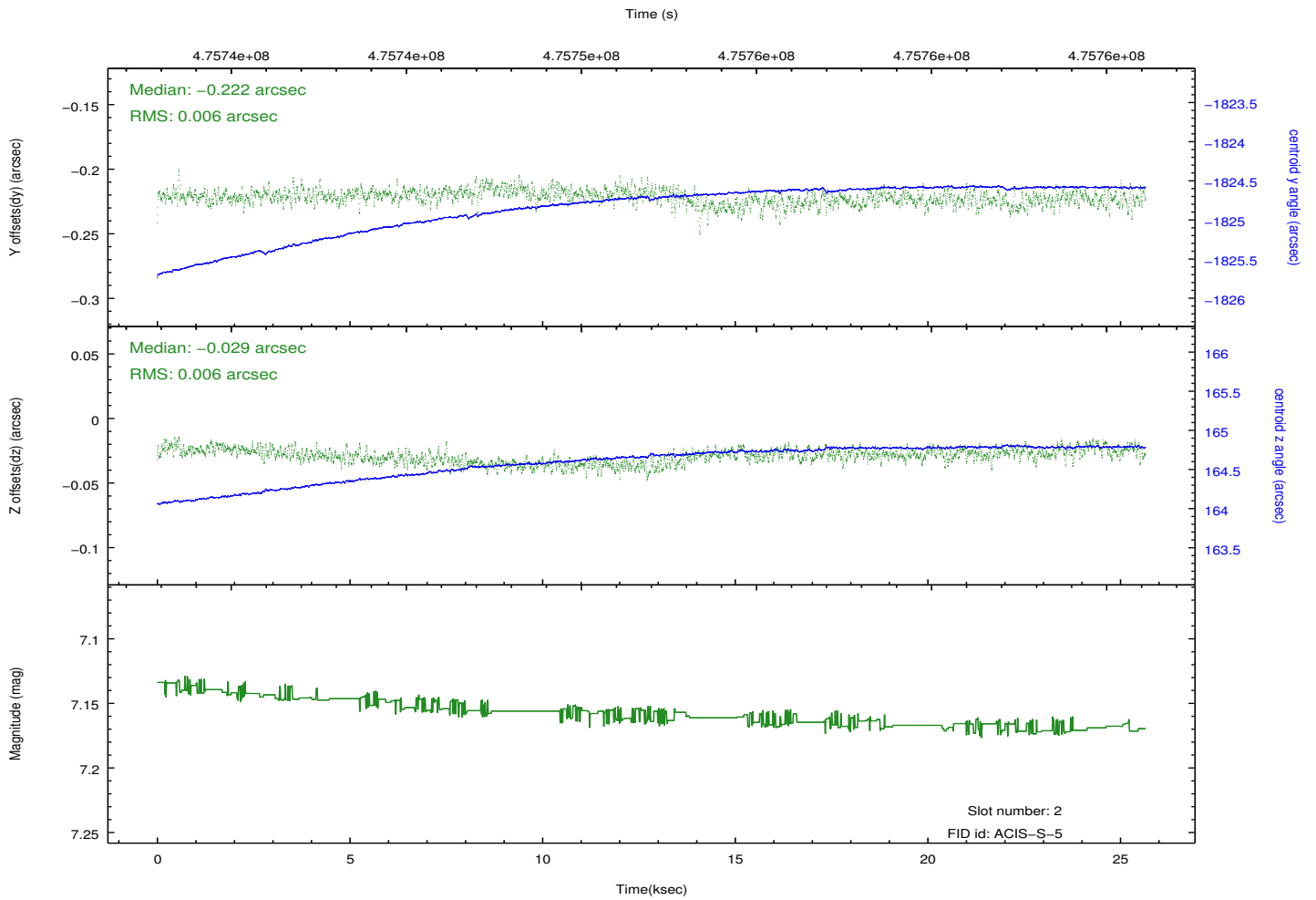
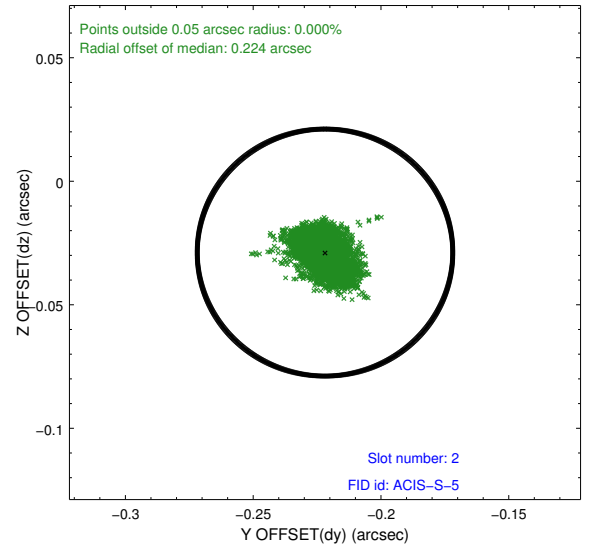
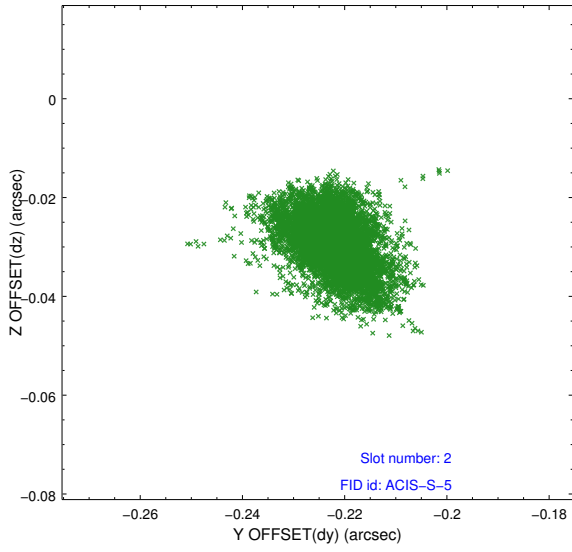
### 2.5.1 Slot 0



## 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)	2014.12.08
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	25.063461483955

## A.2 Comments

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.