

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 12675 - L2 Version 2  
Chandra X-Ray Center

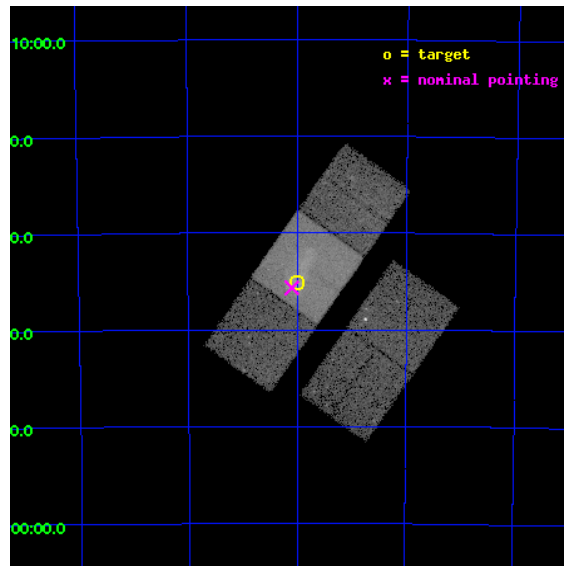
L2 Processing Date : Feb 3 2012

## Contents

<b>1</b>	<b>Front</b>	<b>2</b>
<b>2</b>	<b>OBI</b>	<b>3</b>
2.1	OBI . . . . .	3
2.1.1	Images . . . . .	3
2.1.2	Bias . . . . .	3
2.1.3	Parameters . . . . .	4
2.1.4	Events . . . . .	4
2.2	Compared Parameters . . . . .	5
2.3	Aspect . . . . .	6
2.4	Star Slots . . . . .	9
2.4.1	Slot 3 . . . . .	9
2.4.2	Slot 4 . . . . .	10
2.4.3	Slot 5 . . . . .	11
2.4.4	Slot 6 . . . . .	12
2.4.5	Slot 7 . . . . .	13
2.5	FID Slots . . . . .	14
2.5.1	Slot 0 . . . . .	14
2.5.2	Slot 1 . . . . .	15
2.5.3	Slot 2 . . . . .	16
<b>A</b>	<b>Summary</b>	<b>17</b>
A.1	Status . . . . .	17
A.2	Comments . . . . .	17

# 1 Front

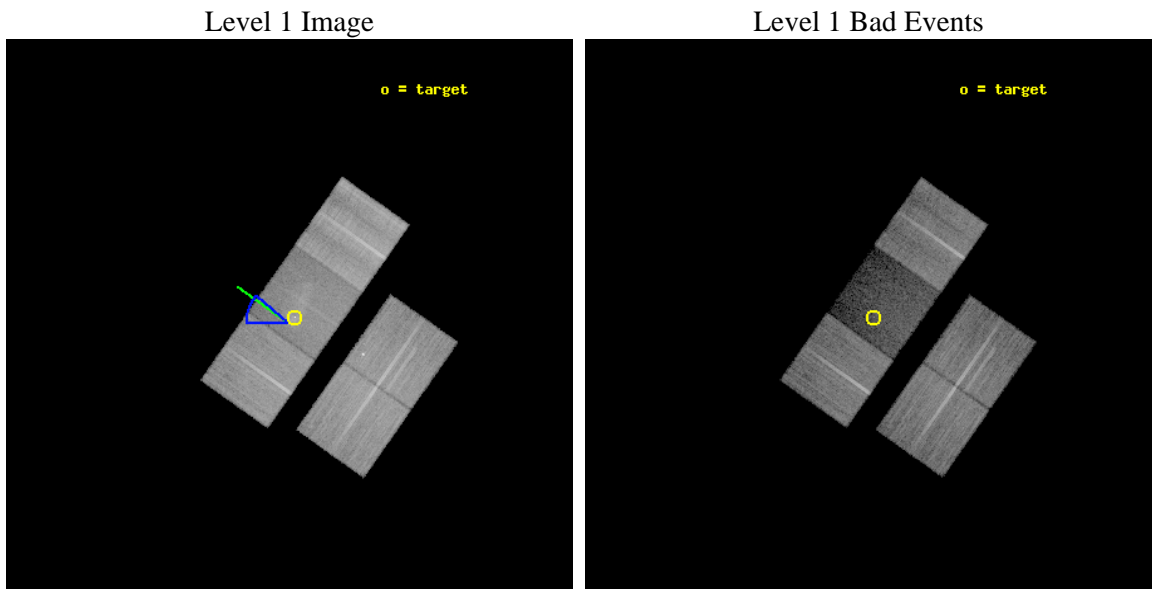
seq_num	501508	Sequence number
obs_id	12675	Observation id
title	The Pulsar Wind Nebula in DEM L241	Proposal title
observer	Frederick Seward	Principal investigator
object	DEM L241	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	84.0	Observer's specified target RA [deg]
dec_targ	-67.585833	Observer's specified target Dec [deg]
ra_nom	84.024196445842	Nominal RA [deg]
dec_nom	-67.594567283404	Nominal Dec [deg]
roll_nom	305.17901358725	Nominal Roll [deg]
revision	2	Processing version of data
ontime	24064.757811308	Sum of GTIs [s]
livetime	23750.334034286	Livetime [s]
ontime2	24064.593651295	Sum of GTIs [s]
ontime3	24061.534760952	Sum of GTIs [s]
ontime6	24064.716771305	Sum of GTIs [s]
ontime7	24064.757811308	Sum of GTIs [s]
ontime8	24064.634691298	Sum of GTIs [s]
l2events	112767	Number of level 2 events



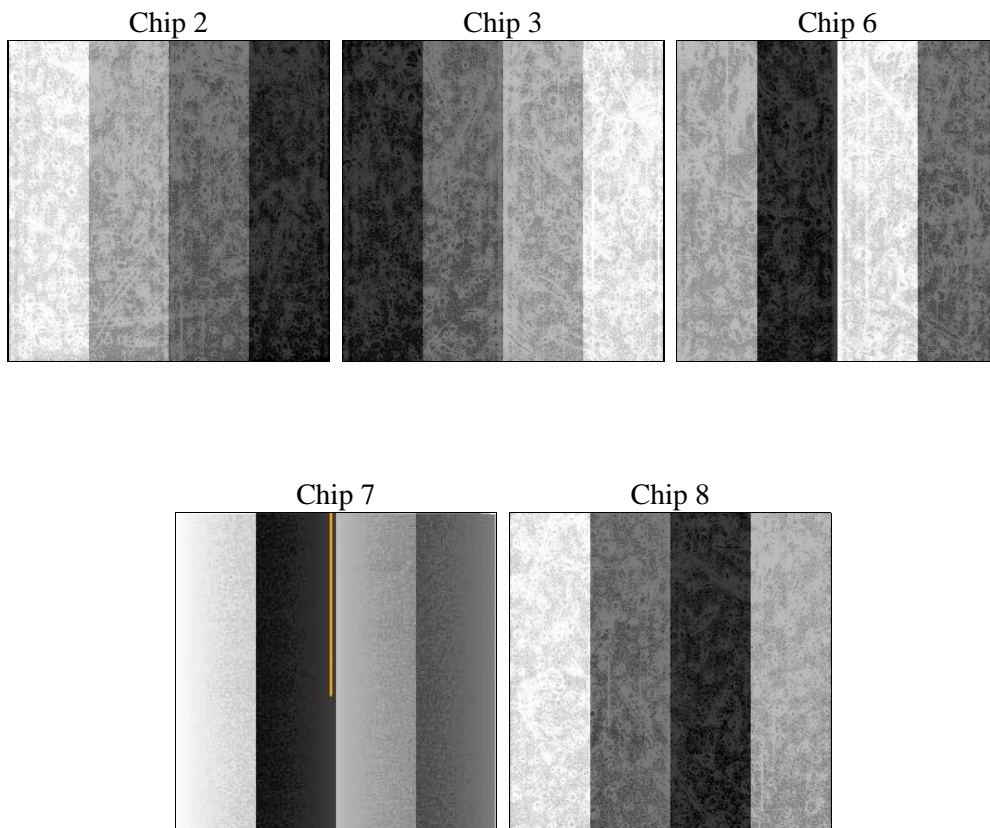
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	24027.751000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	24064.757811308	Sum of GTIs [s]
caldbver	4.4.7	&#160	ontime2	24064.593651295	Sum of GTIs [s]
date	2012-02-03T16:06:53	Date and time of file creation	ontime3	24061.534760952	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	24064.716771305	Sum of GTIs [s]
			ontime7	24064.757811308	Sum of GTIs [s]
			ontime8	24064.634691298	Sum of GTIs [s]
			l1events	717648	Number of level 1 events

### 2.1.4 Events

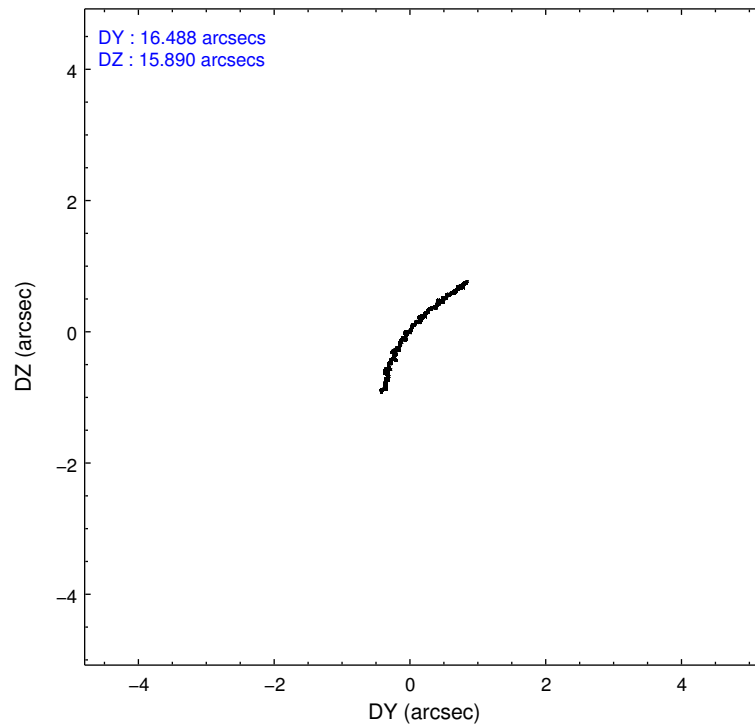
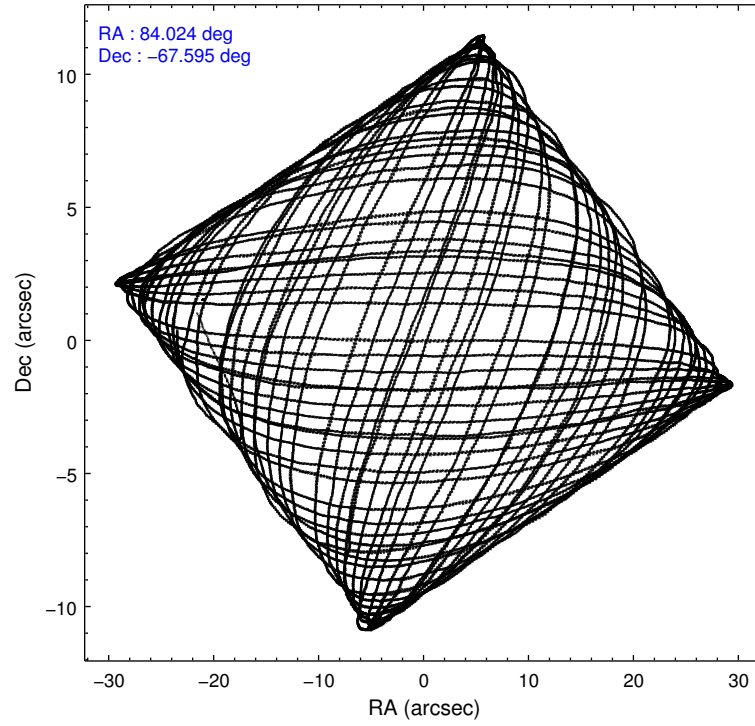
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
level 1 events	150250	140593	139939	104068	182798
rejected events	135826	125401	124914	41481	129087
rejected %	90%	89%	89%	39%	70%

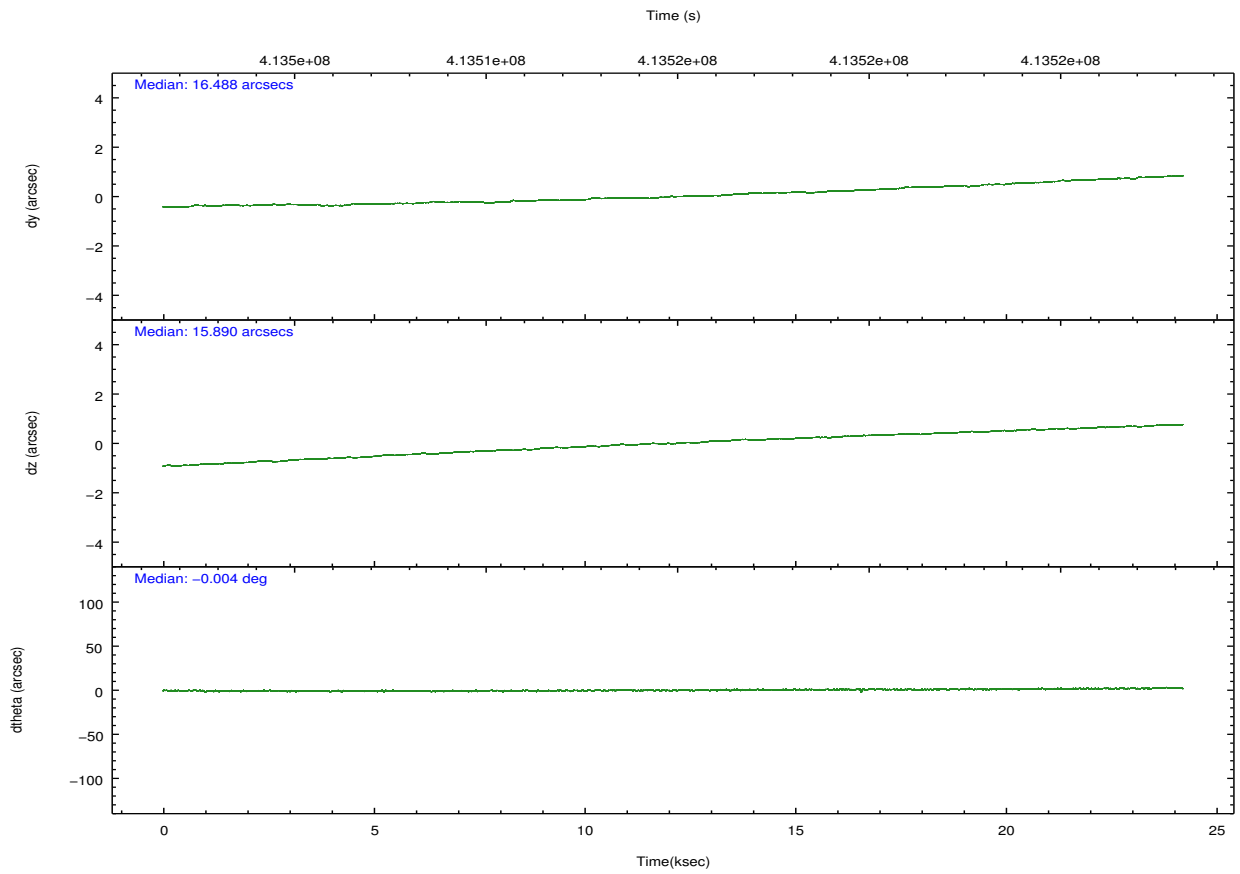
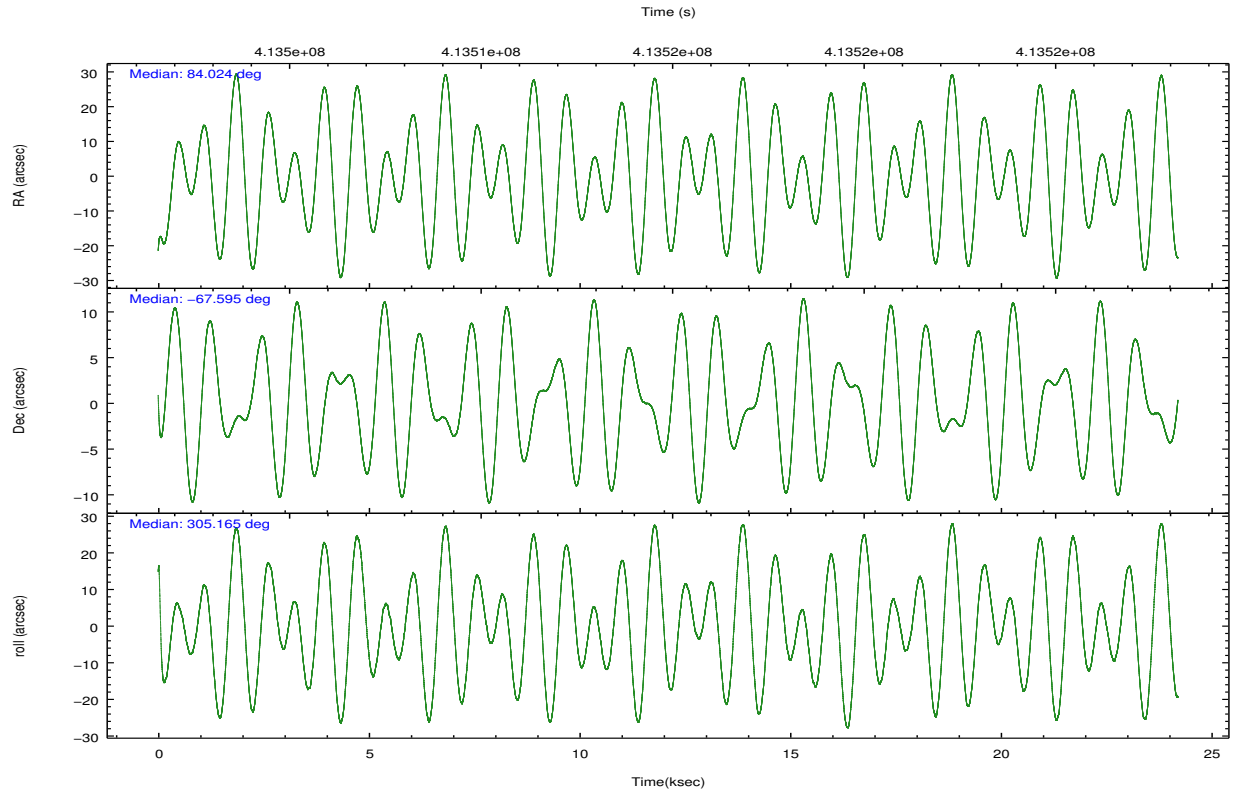
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
grade 0 events	6223	7207	6450	9858	15550
	4%	5%	4%	9%	8%
grade 1 events	93	108	91	244	173
	0%	0%	0%	0%	0%
grade 2 events	3417	3040	3197	15273	12766
	2%	2%	2%	14%	6%
grade 3 events	1327	1462	1482	6421	5833
	0%	1%	1%	6%	3%
grade 4 events	1341	1383	1495	6277	5455
	0%	0%	1%	6%	2%
grade 5 events	2676	3459	3369	9982	5762
	1%	2%	2%	9%	3%
grade 6 events	2118	2104	2403	24775	14114
	1%	1%	1%	23%	7%
grade 7 events	133055	121830	121452	31238	123145
	88%	86%	86%	30%	67%

## 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	VFAINT	VFAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	83.958769	84.02419644584212	CCD I2 on	O1	Y
[deg] Pointing Dec	-67.583415	-67.5945672834043	CCD I3 on	O2	Y
[deg] Pointing Roll	304.961890	305.1790135872549	CCD S0 on	N	N
[deg] Roll angle	290.000000	290.000000	CCD S1 on	N	N
[deg] Roll tolerance	20.000000	20.000000	CCD S2 on	Y	Y
Roll constraint allows 180D rotation	N	N	CCD S3 on	Y	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S4 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S5 on	N	N
[mm] SIM translation stage pos	-190.132523	-190.1425803651734	Number of optional ACIS chips dropped	0	0
[mm] SIM translation stage offset	0	0.01005778216563158	On-chip summing requested	N	N
[s] Observation start time (MET)	413502944.184000	413501438.66687	Subarray requested	NONE	NONE
Observation start date	2011-02-07T21:54:38	2011-02-07T21:30:38	Alternating exposures requested	N	N
[s] Observation end time (MET)	413526972.184000	413527198.9682	[s] Primary exposure time	0.000000	3.1
Observation end date	2011-02-08T04:35:06	2011-02-08T04:39:58			
Read mode	TIMED	TIMED			

## 2.3 Aspect



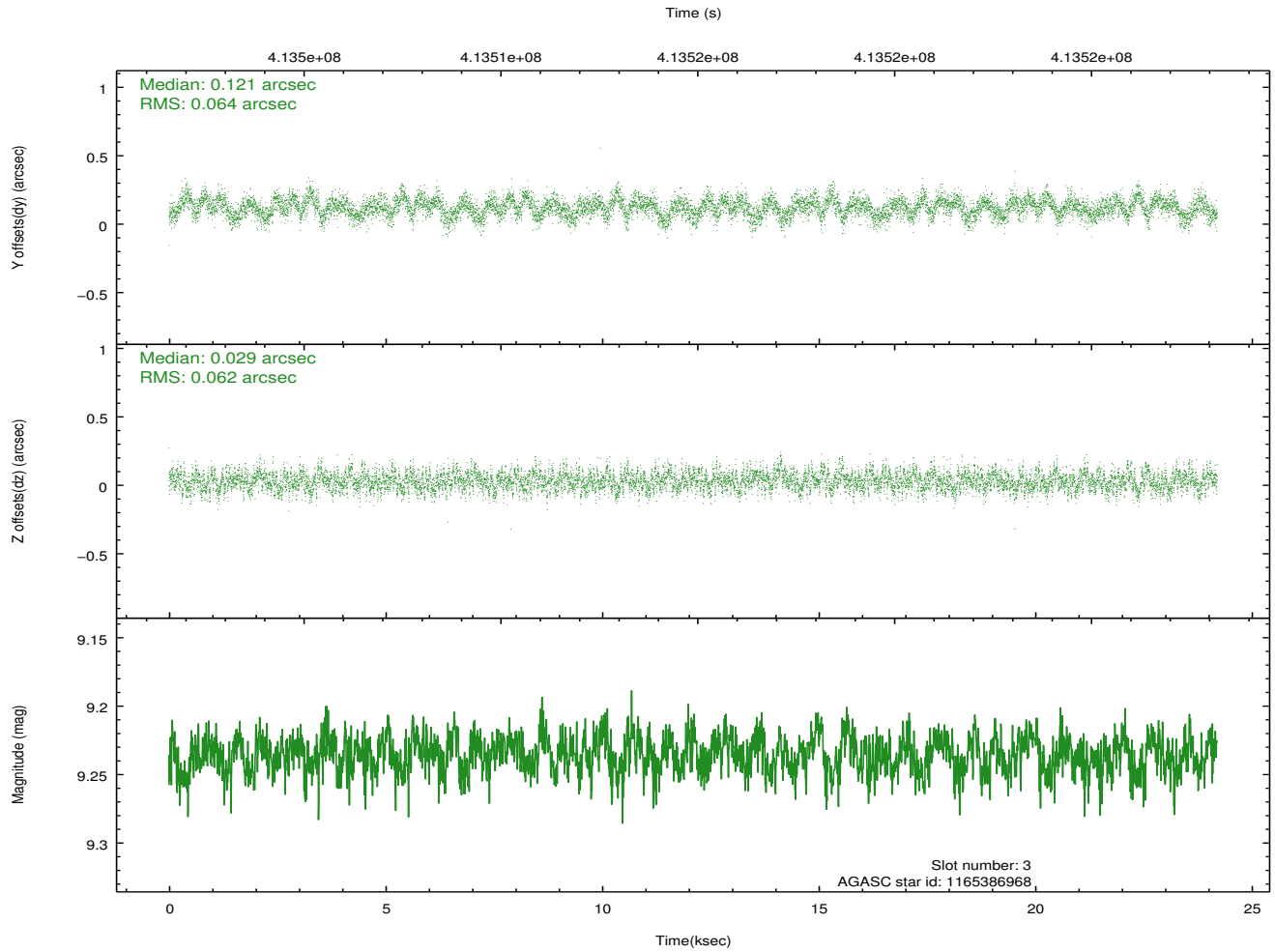
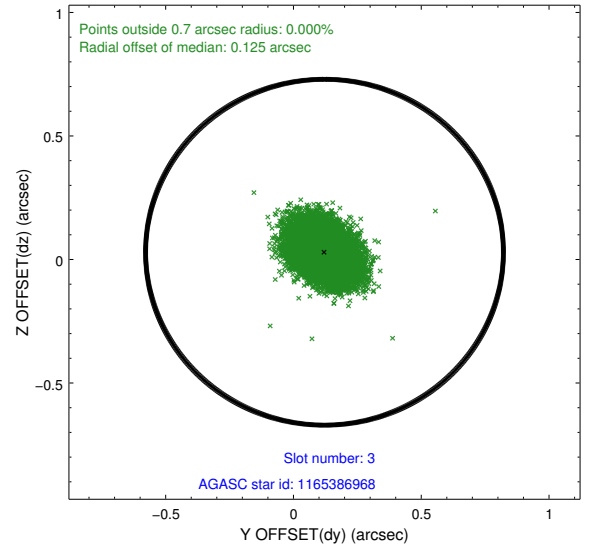
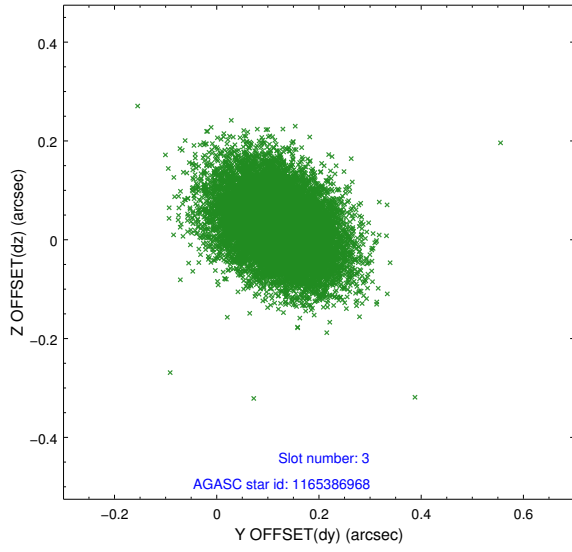


### Slot Statistics

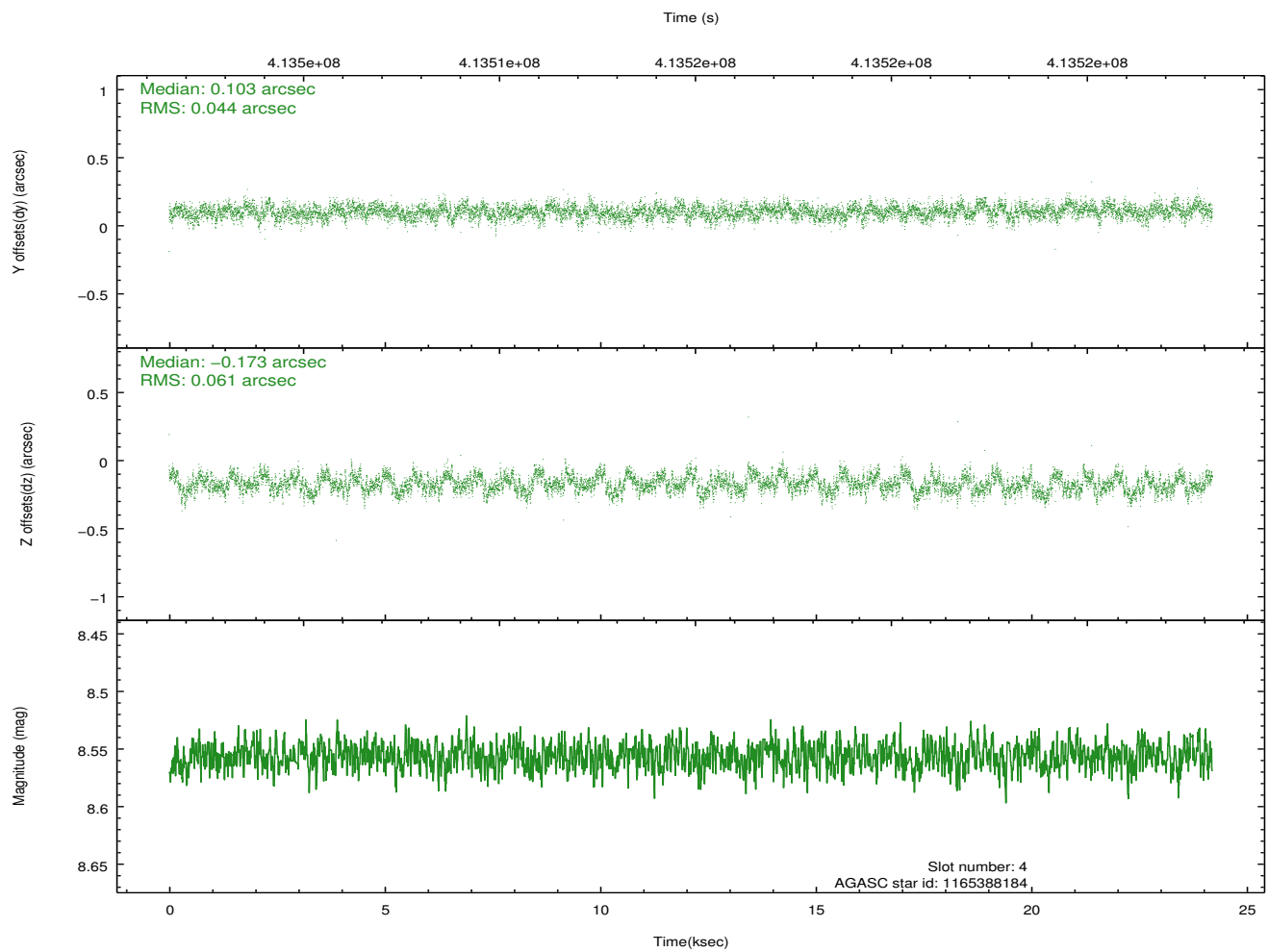
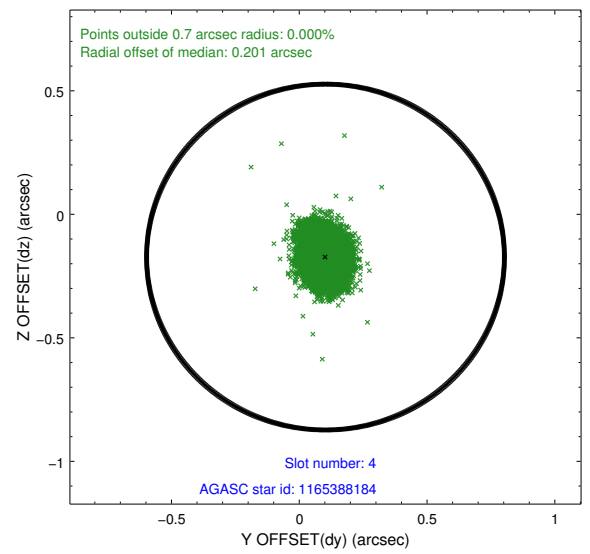
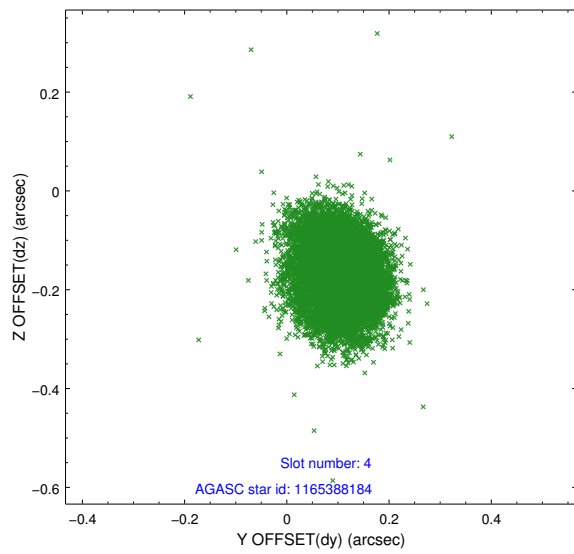
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.98	5903	-0.096	-0.027	0.013	0.023	0.000000	0.000000	-769.66	-1737.25
1	FID	ACIS-S-4	7.06	5903	0.193	0.054	0.009	0.016	0.000000	0.000000	2143.84	171.20
2	FID	ACIS-S-5	7.10	5903	-0.128	-0.017	0.011	0.023	0.000000	0.000000	-1822.38	164.92
3	GUIDE	1165386968	9.24	11795	0.121	0.029	0.095	0.154	84.607334	-67.184987	-653.58	1562.02
4	GUIDE	1165388184	8.56	11805	0.103	-0.173	0.080	0.128	84.898446	-67.041721	-833.85	2193.05
5	GUIDE	1165389208	7.49	11804	-0.089	-0.040	0.076	0.122	85.428232	-67.402764	651.21	2025.09
6	GUIDE	1200882176	7.68	11801	-0.336	0.320	0.070	0.115	83.665480	-68.205126	1610.86	-1603.31
7	GUIDE	1200885088	8.98	11789	0.199	-0.133	0.092	0.151	83.463398	-67.939320	669.42	-1284.58

## 2.4 Star Slots

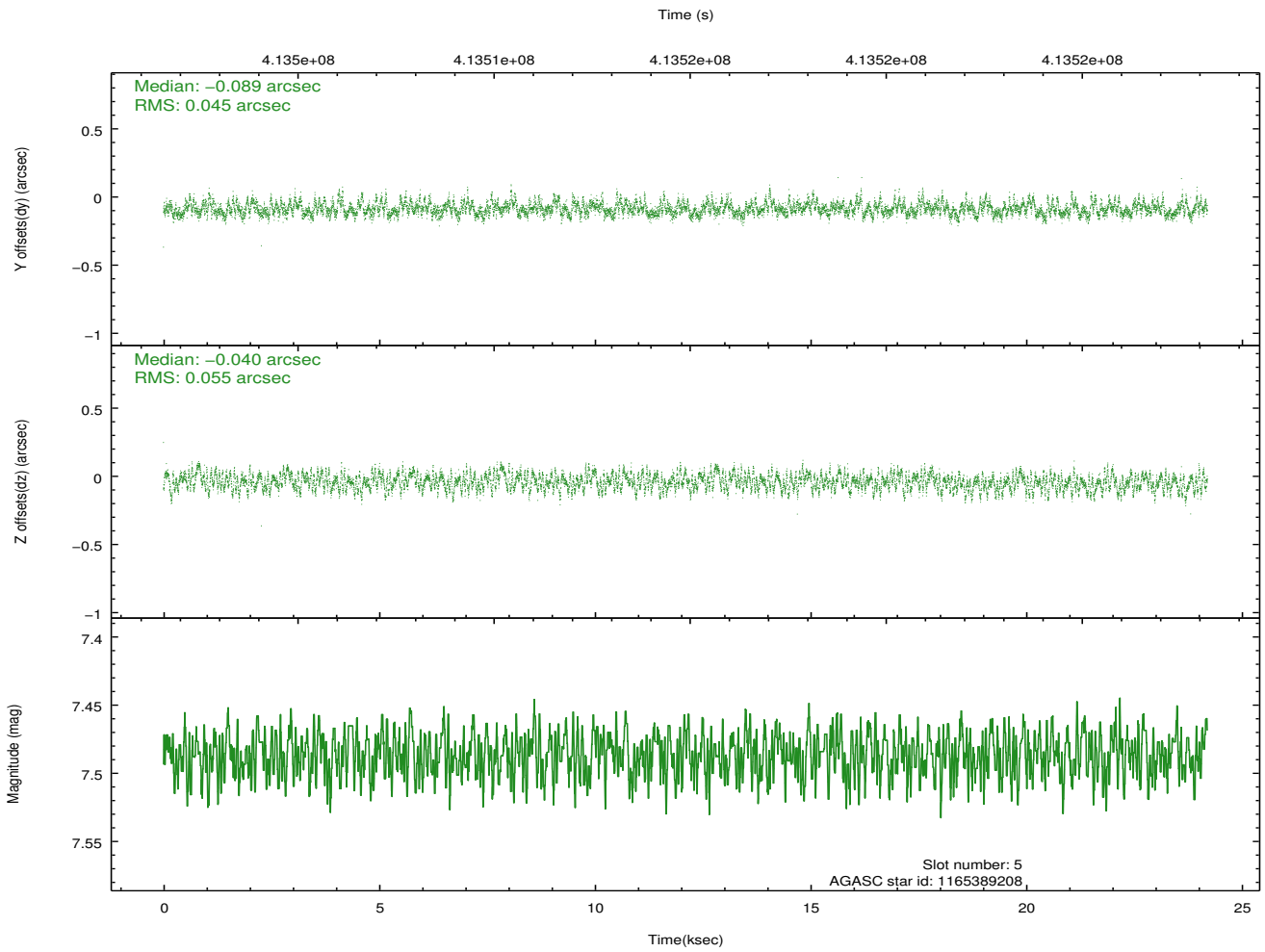
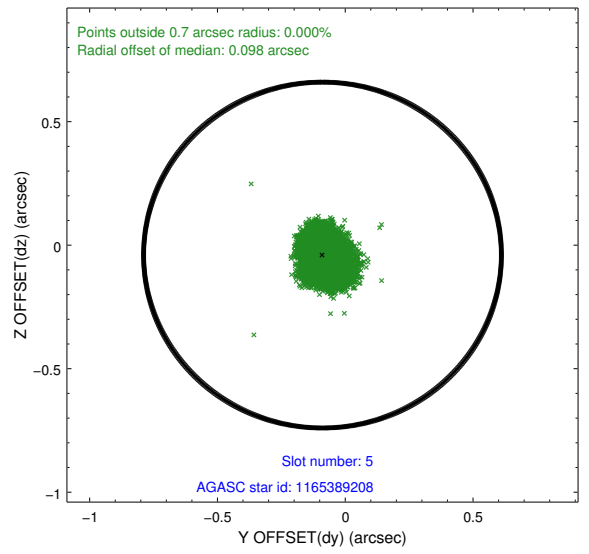
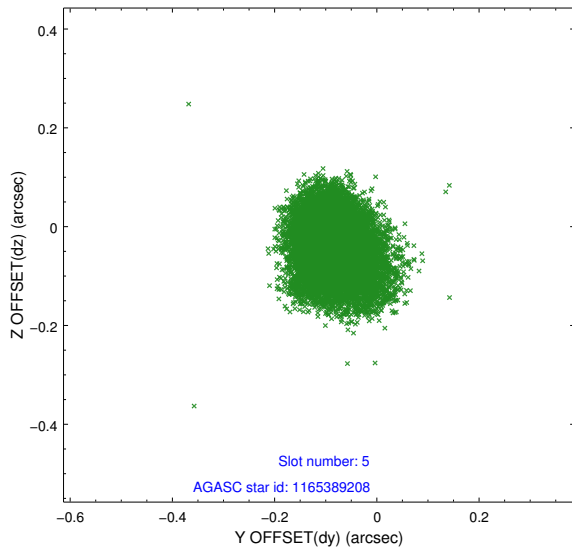
### 2.4.1 Slot 3



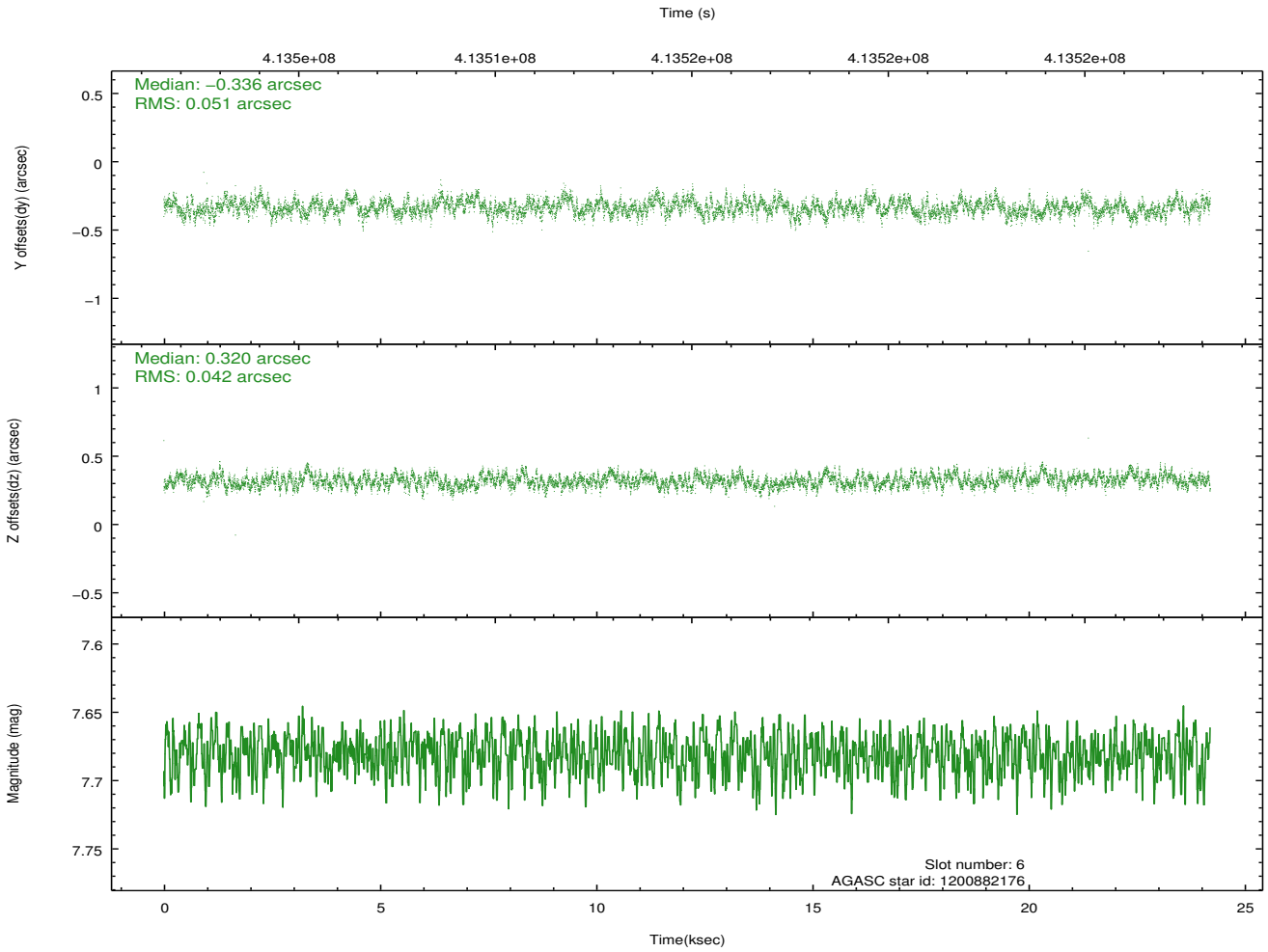
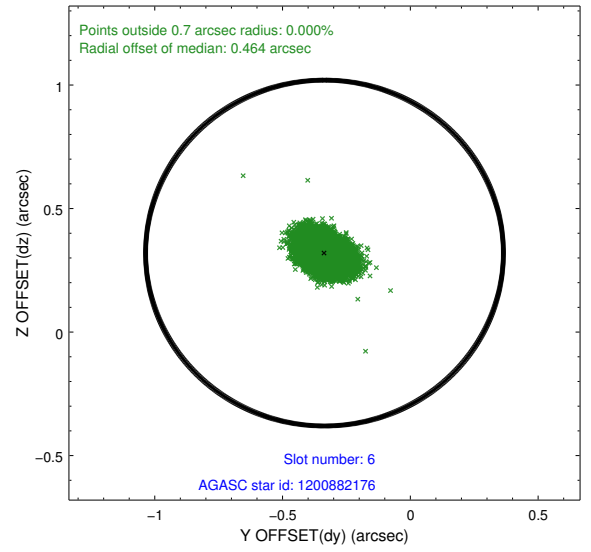
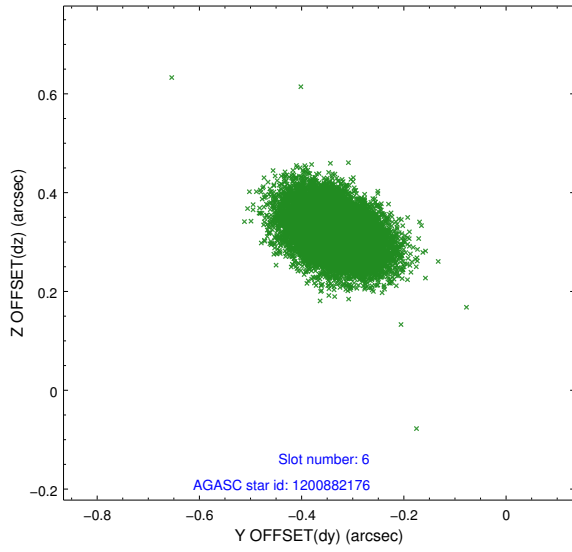
## 2.4.2 Slot 4



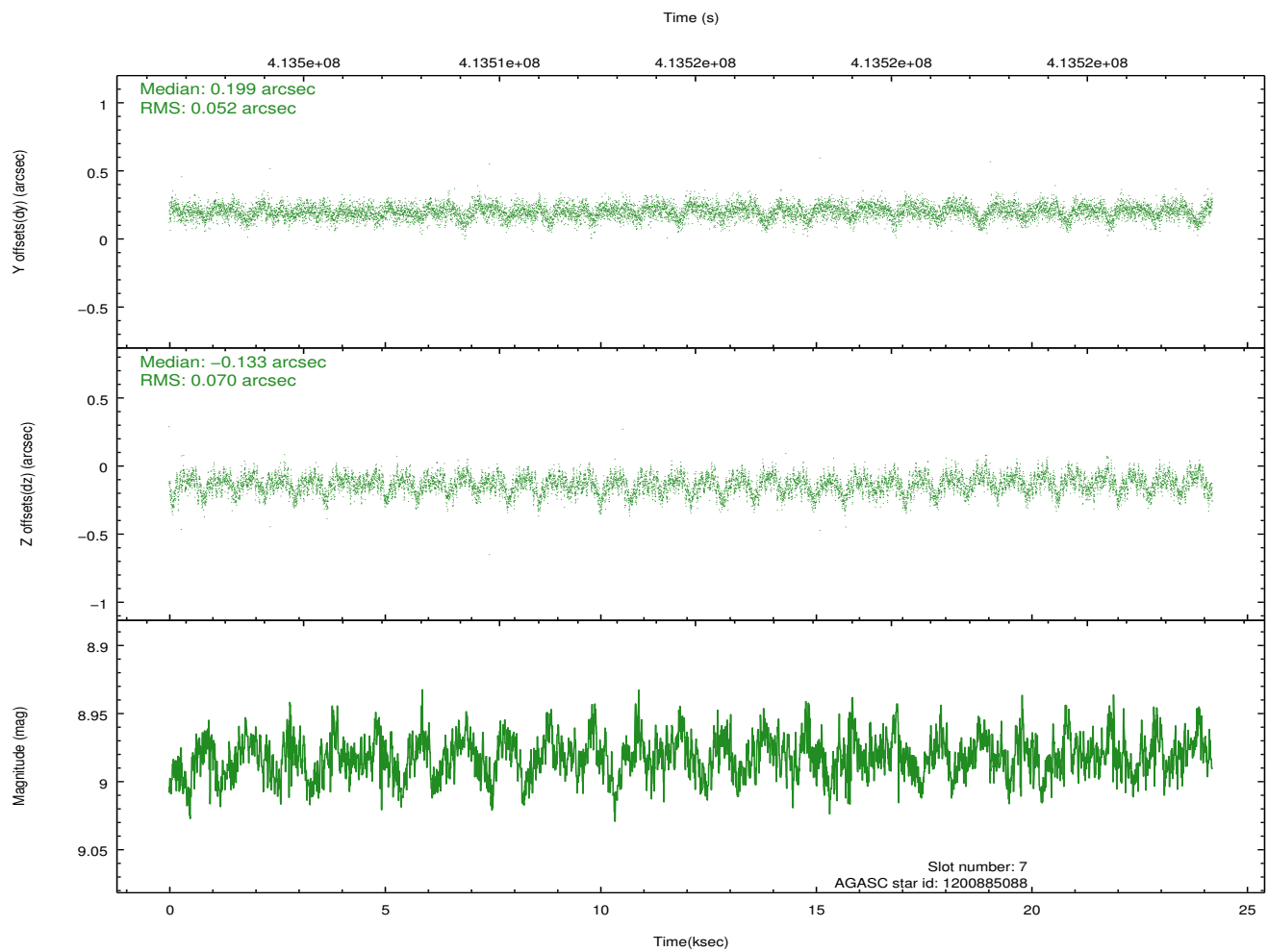
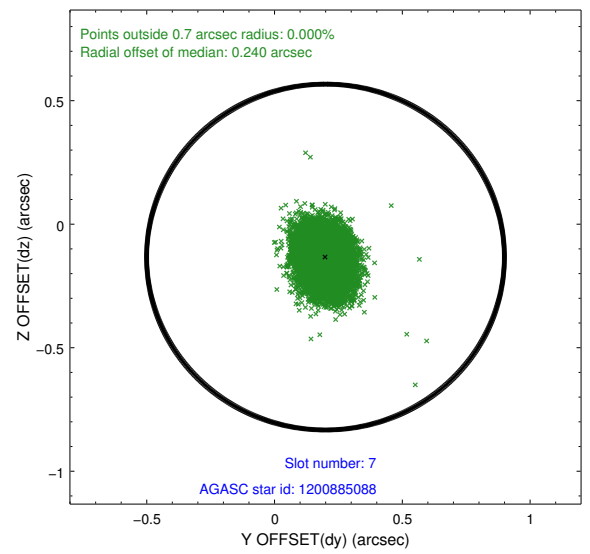
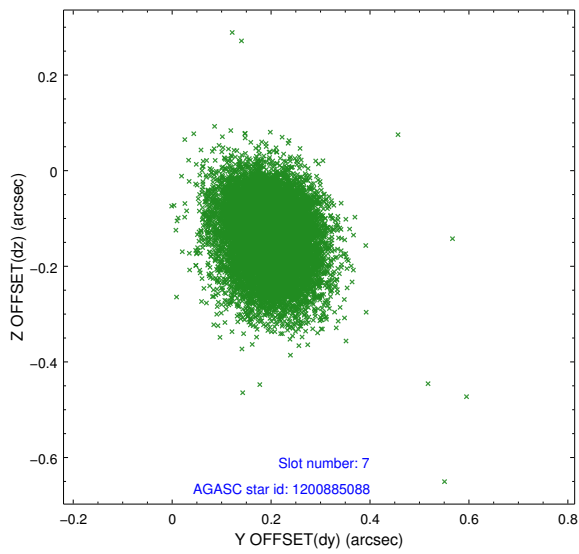
### 2.4.3 Slot 5



### 2.4.4 Slot 6

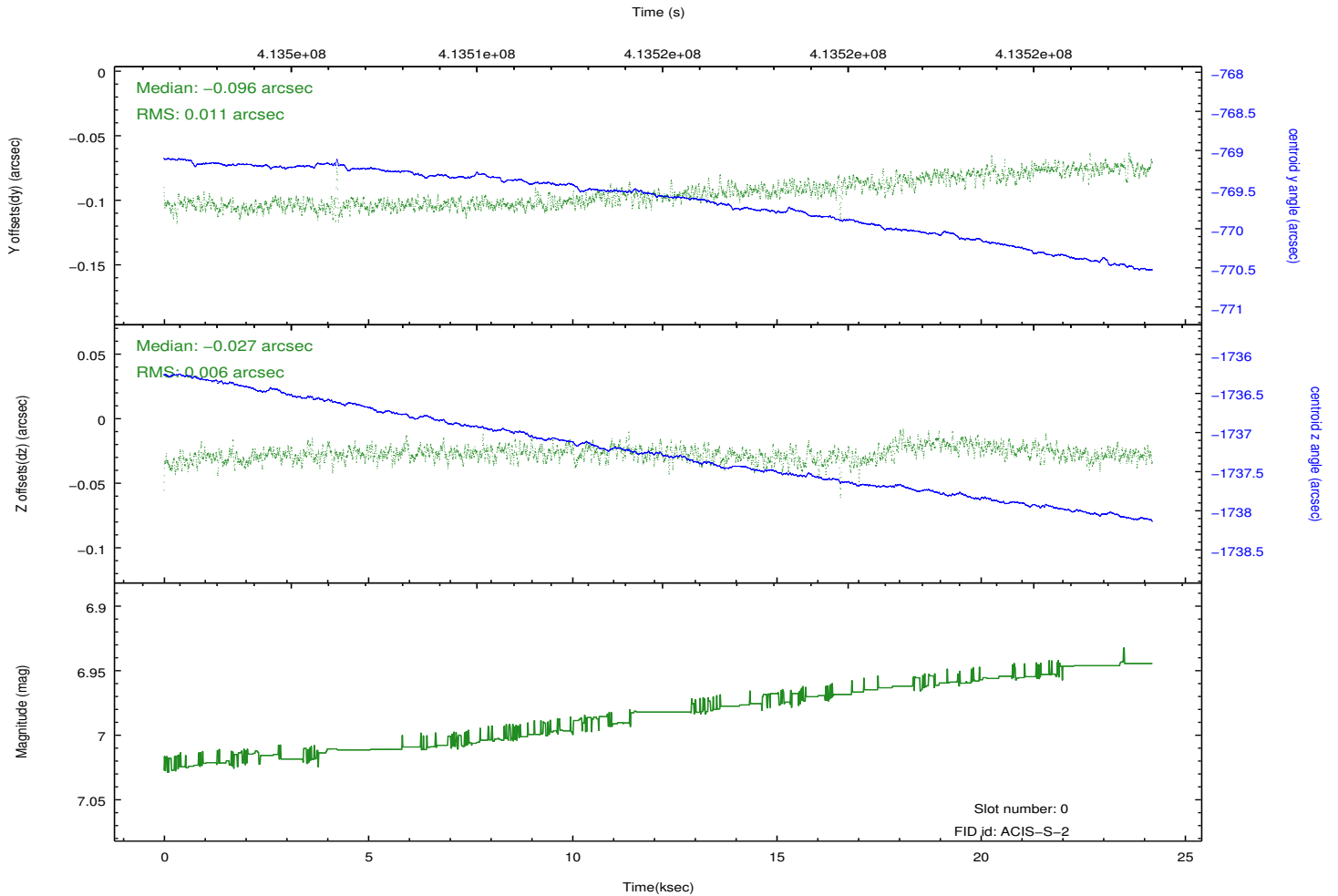
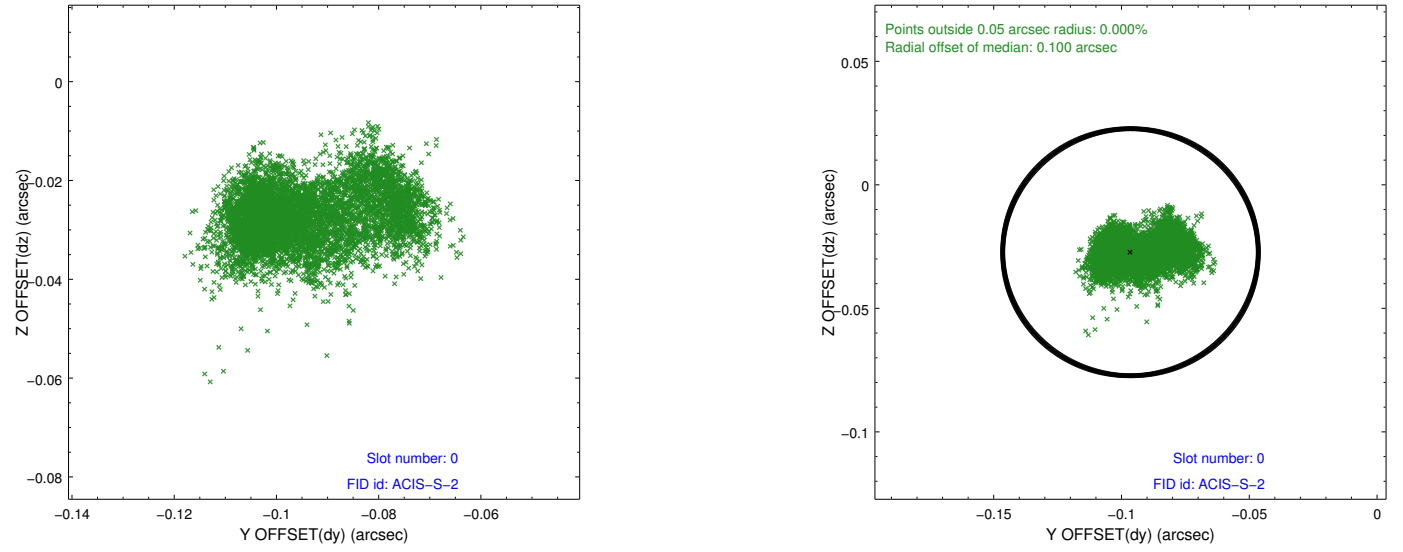


## 2.4.5 Slot 7

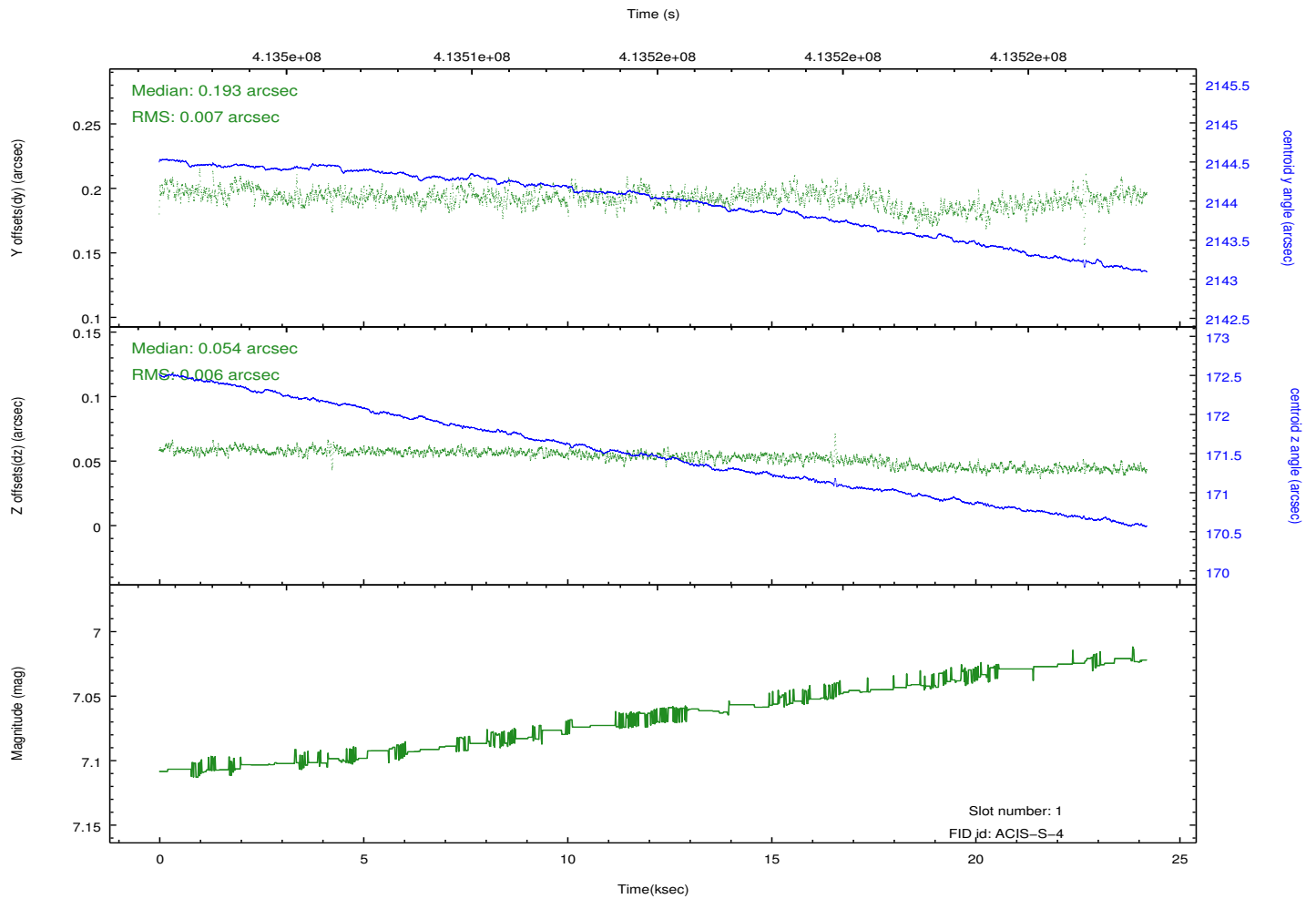
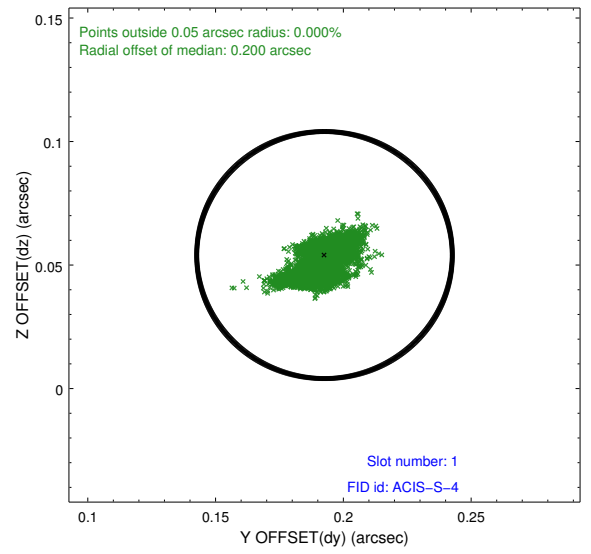


## 2.5 FID Slots

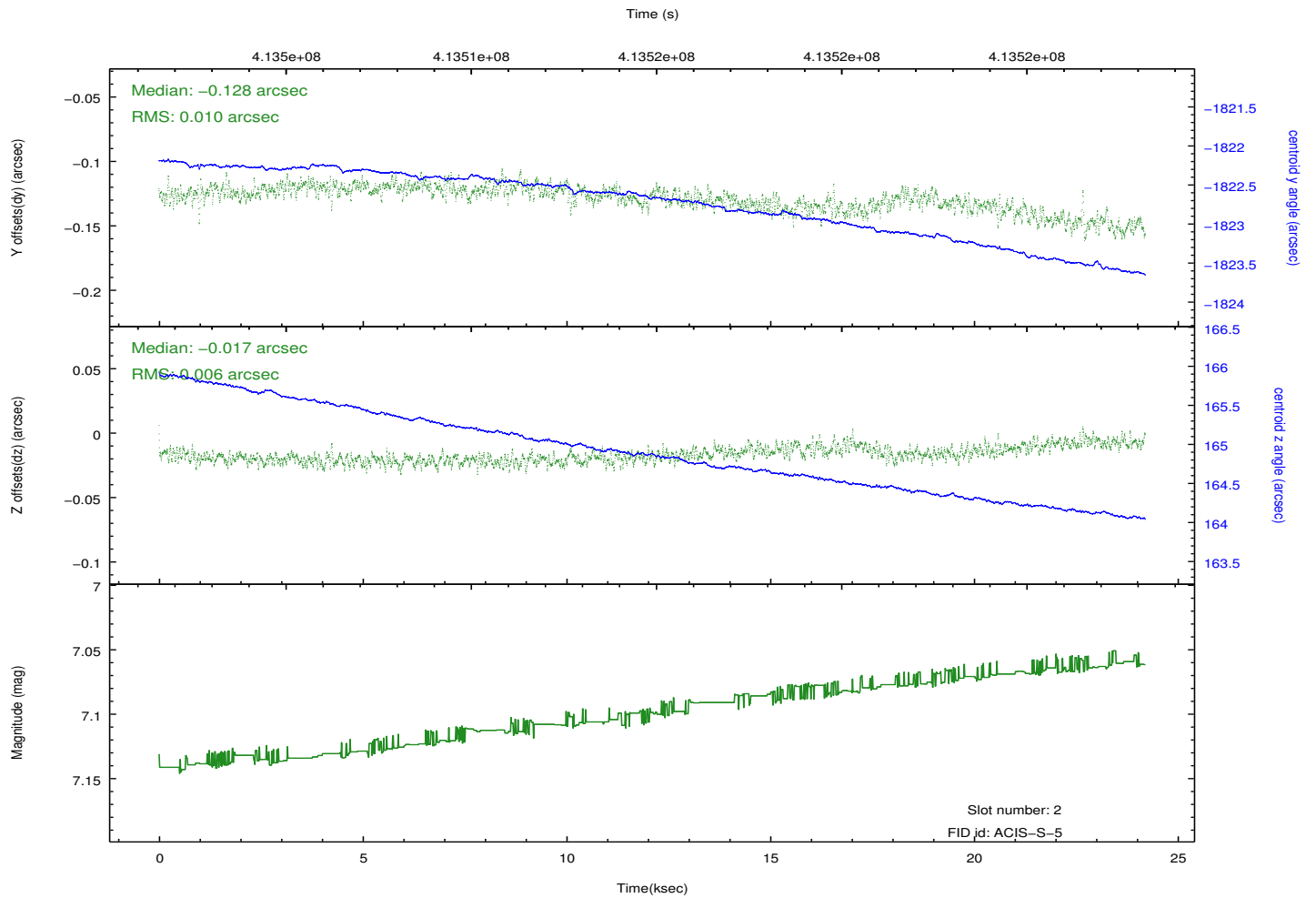
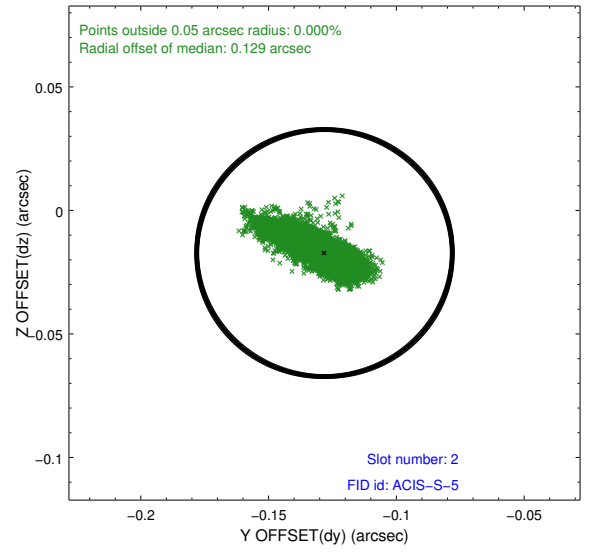
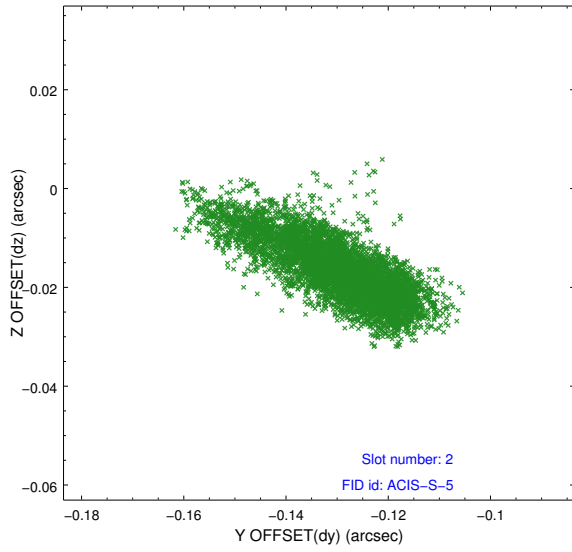
### 2.5.1 Slot 0



## 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)	2012.02.06
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	24.064757813156

## A.2 Comments

The data for this observation have been processed using the 'EDSER' sub-pixel event-repositioning algorithm of Li et al. (2004, ApJ, 610, 1204). Small-scale features should become sharper for sources near the aim point. The improvement will be less noticeable for off-axis sources where the size of the point-spread function is comparable to or larger than the size of an ACIS pixel. To take full advantage of the improvement, images should be binned on spatial scales smaller than the size of an ACIS pixel. Note that, at present, the point-spread function has not been calibrated for data to which the EDSER algorithm has been applied. If dither was disabled for the observation, then the algorithm can introduce artificial aliasing effects on spatial scales smaller than a pixel. If you would prefer to use no sub-pixel adjustment or to apply a coordinate randomization, then use `acis_process_events` to reprocess the data with the parameter `pix_adj=NONE` or `RANDOMIZE`, respectively.

=====

Roll constraint met.