

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 12381 - L2 Version 2  
Chandra X-Ray Center

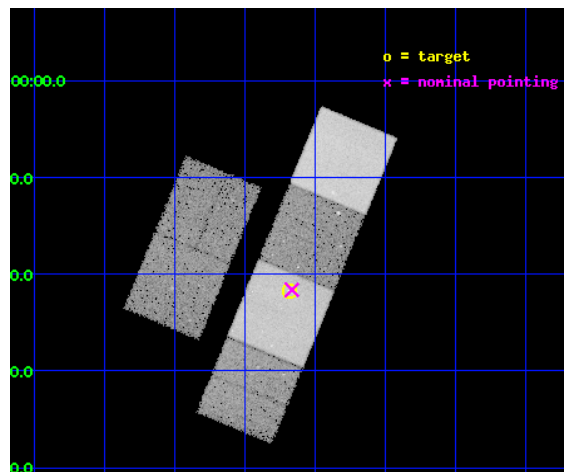
L2 Processing Date : Feb 13 2012

## 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

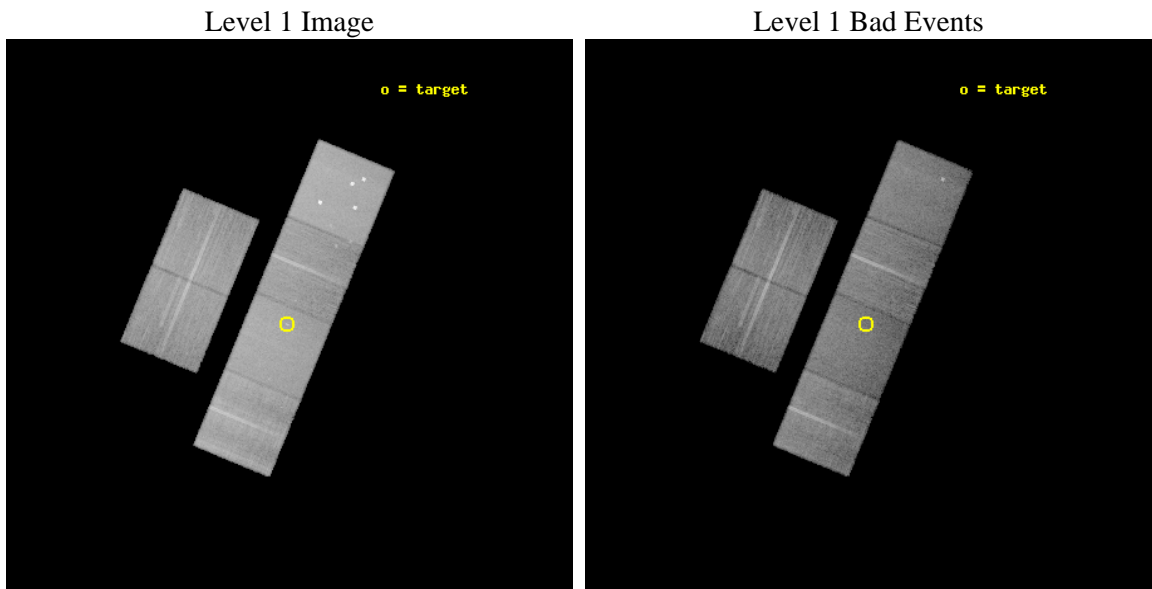
seq_num	200715	Sequence number
obs_id	12381	Observation id
title	X-rays from Planetary Nebulae: Unveiling Binarity, Magnetic Fields, and Wind Collisions	Proposal title
observer	Dr. Joel Kastner	Principal investigator
object	NGC 7009	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	316.045417	Observer's specified target RA [deg]
dec_targ	-11.363417	Observer's specified target Dec [deg]
ra_nom	316.0414024816	Nominal RA [deg]
dec_nom	-11.360574239456	Nominal Dec [deg]
roll_nom	112.50718413805	Nominal Roll [deg]
revision	2	Processing version of data
ontime	30044.799888134	Sum of GTIs [s]
livetime	29664.354541144	Livetime [s]
ontime2	30041.558897913	Sum of GTIs [s]
ontime3	30041.558877826	Sum of GTIs [s]
ontime5	30044.799888134	Sum of GTIs [s]
ontime6	30044.799888134	Sum of GTIs [s]
ontime7	30044.799888134	Sum of GTIs [s]
ontime8	30041.558847845	Sum of GTIs [s]
l2events	288652	Number of level 2 events



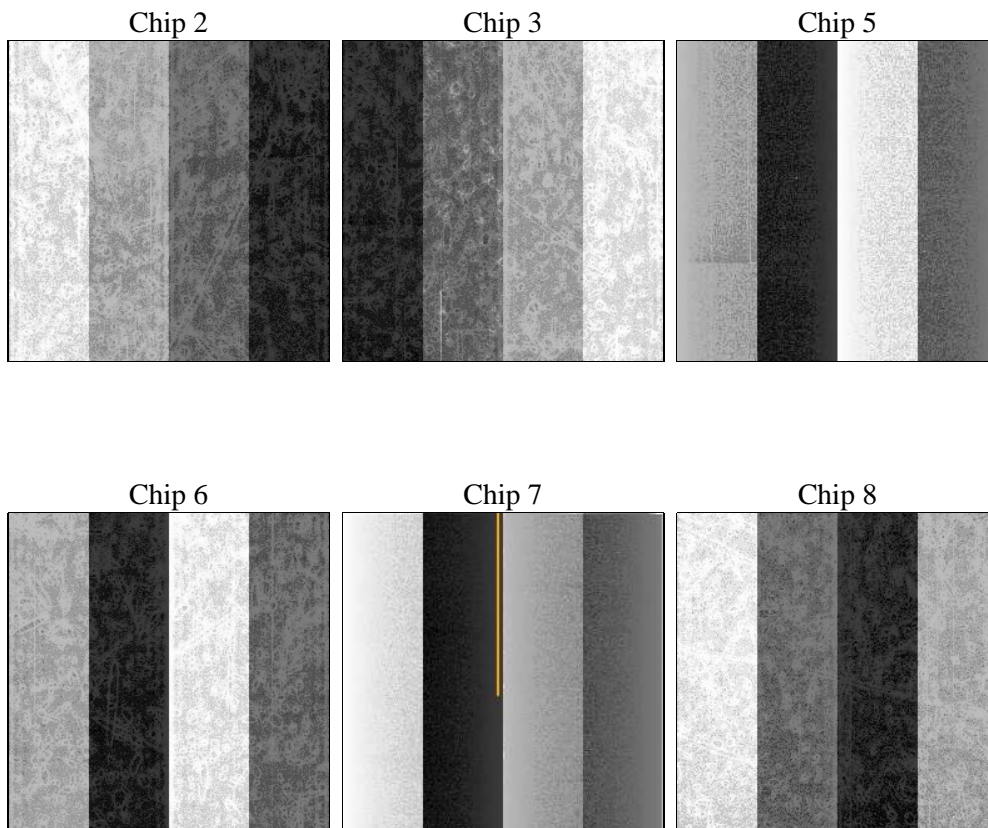
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	29989.864000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	30044.799888134	Sum of GTIs [s]
caldbver	4.4.7	&#160	ontime2	30041.558897913	Sum of GTIs [s]
date	2012-02-13T11:58:12	Date and time of file creation	ontime3	30041.558877826	Sum of GTIs [s]
revision	2	Processing version of data	ontime5	30044.799888134	Sum of GTIs [s]
			ontime6	30044.799888134	Sum of GTIs [s]
			ontime7	30044.799888134	Sum of GTIs [s]
			ontime8	30041.558847845	Sum of GTIs [s]
			l1events	1219435	Number of level 1 events

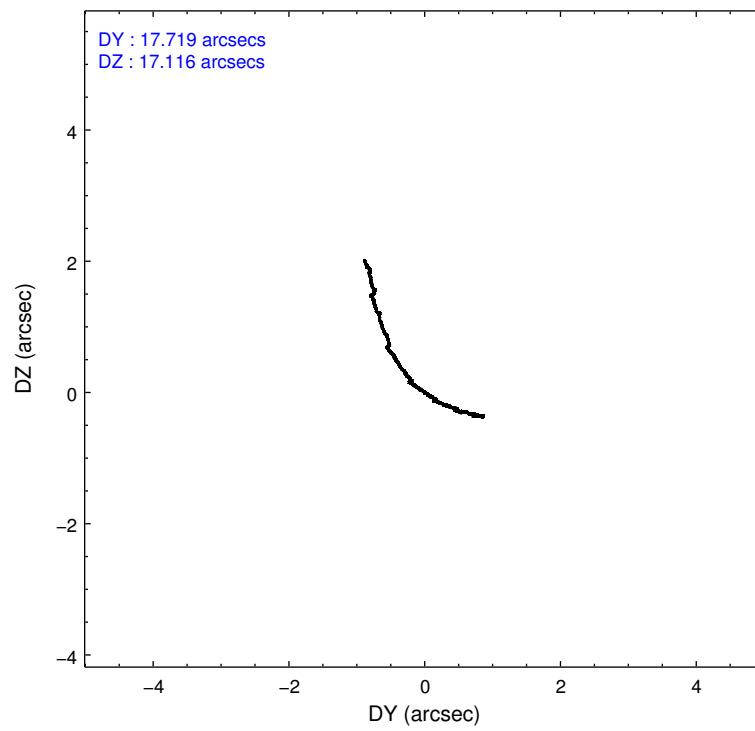
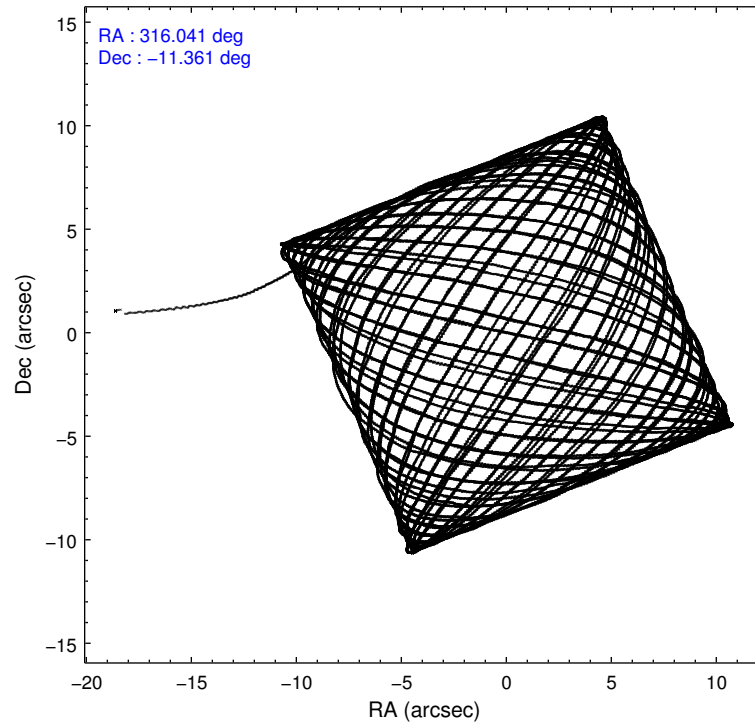
### 2.1.4 Events

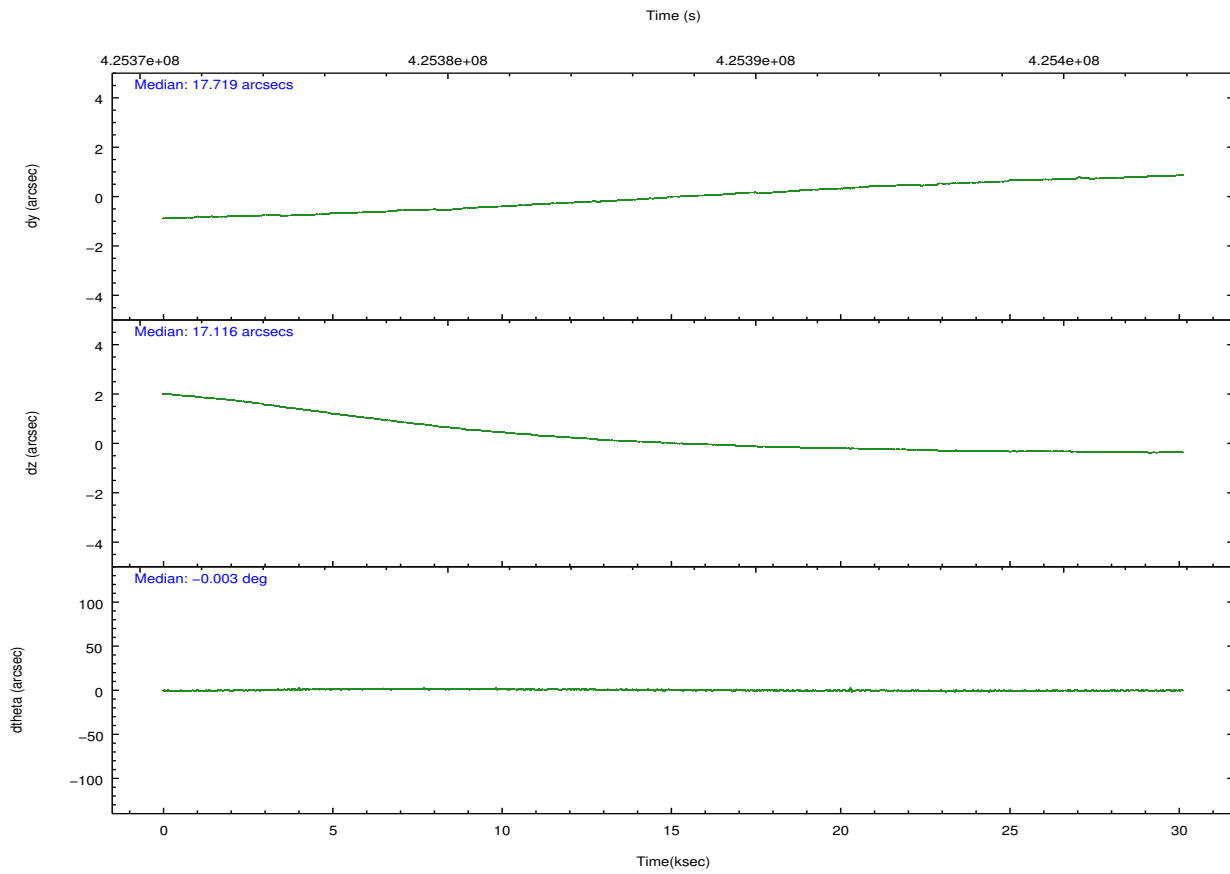
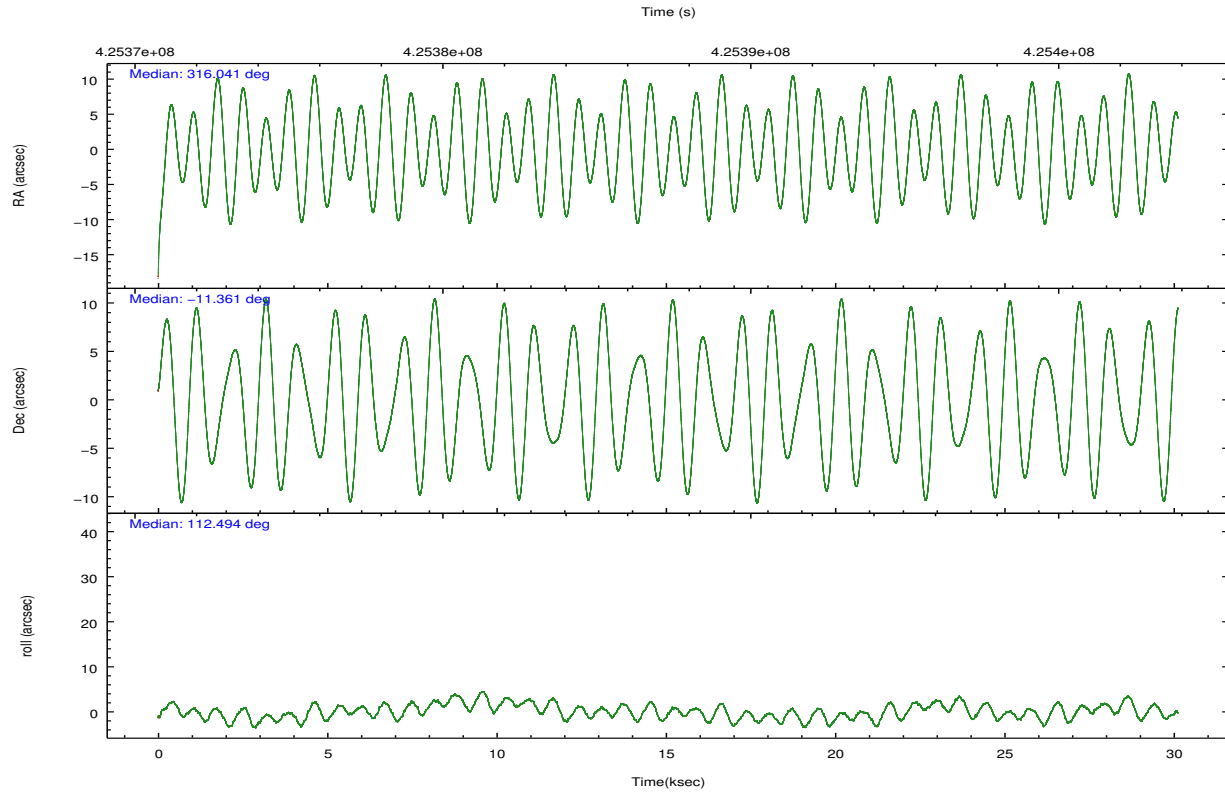
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	174741	156606	280815	168104	219420	219749	grade 0 events	6590	6473	24317	7352	9172	16794
rejected events	155897	138539	136746	147647	121361	161962		3%	4%	8%	4%	4%	7%
rejected %	89%	88%	48%	87%	55%	73%	grade 1 events	119	72	423	95	249	163
								0%	0%	0%	0%	0%	0%
							grade 2 events	4748	3905	40558	4511	19960	13560
								2%	2%	14%	2%	9%	6%
							grade 3 events	1926	1962	5100	2112	8442	6195
								1%	1%	1%	1%	3%	2%
							grade 4 events	1953	2017	4573	2098	8627	5730
								1%	1%	1%	1%	3%	2%
							grade 5 events	7034	8119	20525	8334	22739	11848
								4%	5%	7%	4%	10%	5%
							grade 6 events	3632	3712	69551	4388	51874	15515
								2%	2%	24%	2%	23%	7%
							grade 7 events	148739	130346	115768	139214	98357	149944
								85%	83%	41%	82%	44%	68%

## 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	316.063768	316.0414024815993	CCD I2 on	O4	Y
[deg] Pointing Dec	-11.376926	-11.36057423945573	CCD I3 on	O5	Y
[deg] Pointing Roll	112.354966	112.5071841380542	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	O3	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	O1	Y
[mm] SIM translation stage pos	-190.132523	-190.145094680475	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01257209746719923	CCD S4 on	O2	Y
[s] Observation start time (MET)	425372376.184000	425371288.80772	CCD S5 on	N	N
Observation start date	2011-06-25T06:58:30	2011-06-25T06:41:28	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	425402365.184000	425402592.30935	On-chip summing requested	N	N
Observation end date	2011-06-25T15:18:19	2011-06-25T15:23:12	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



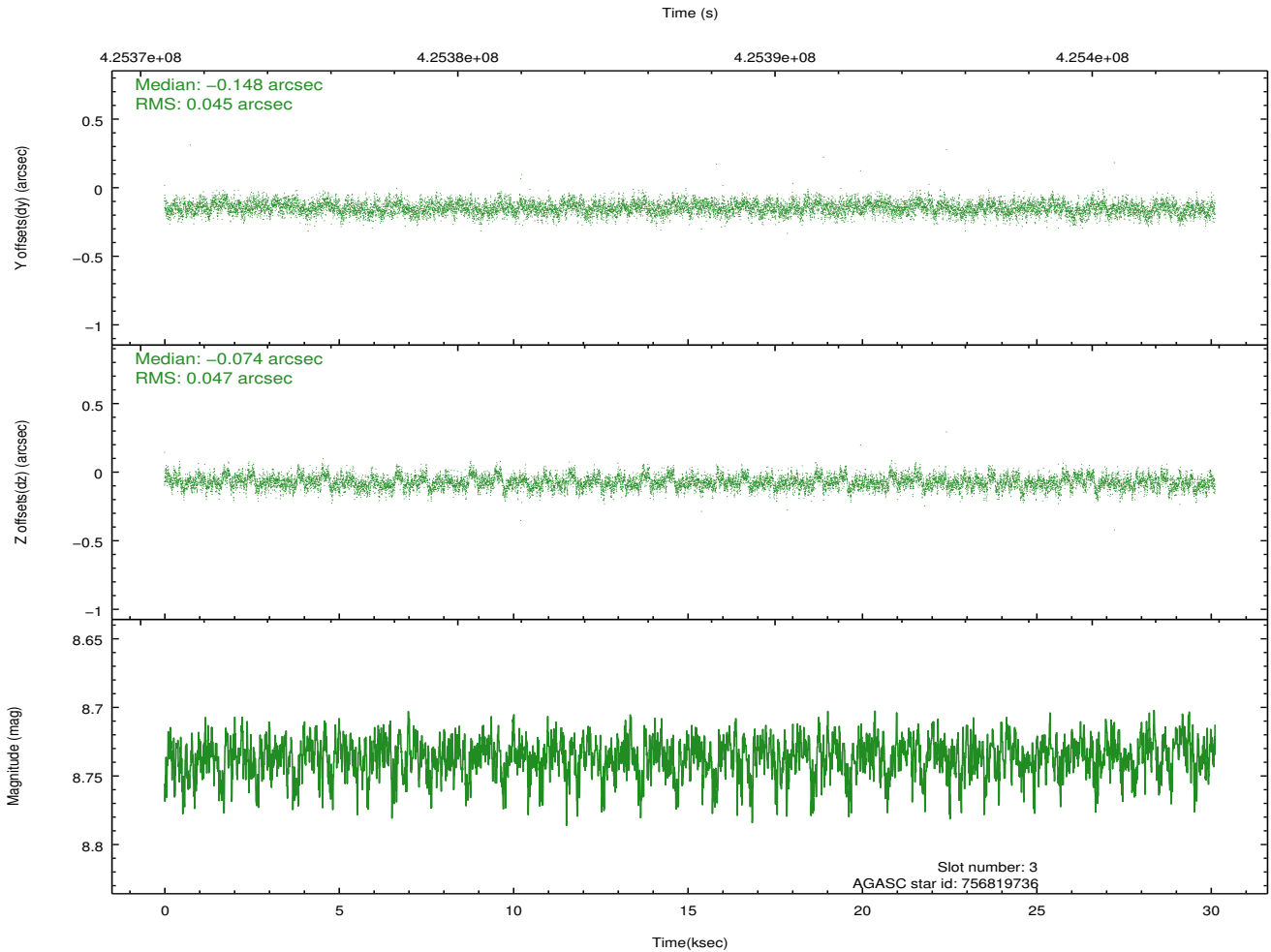
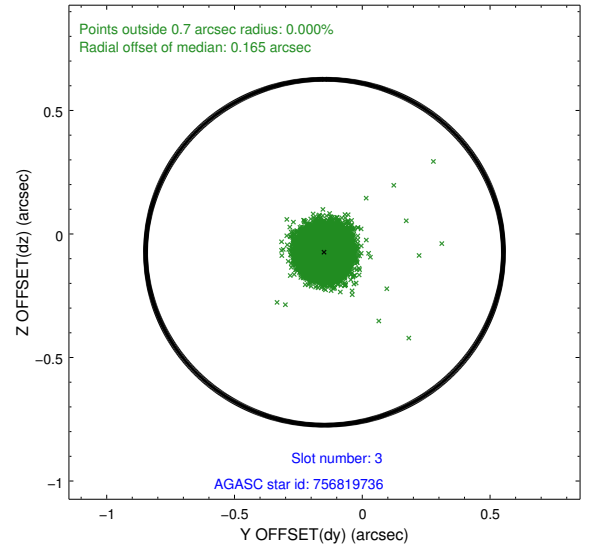
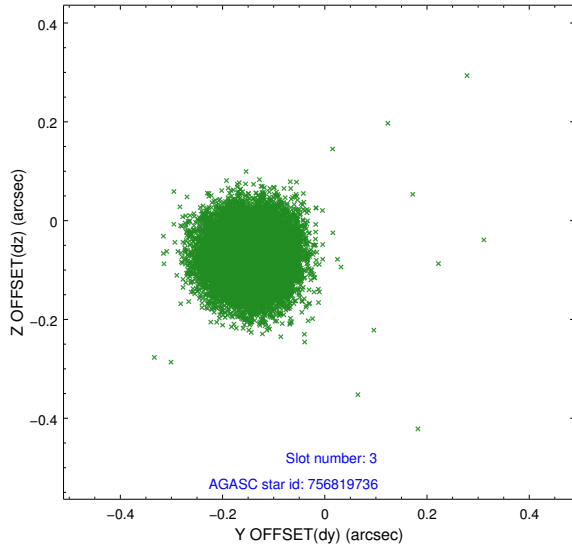


### Slot Statistics

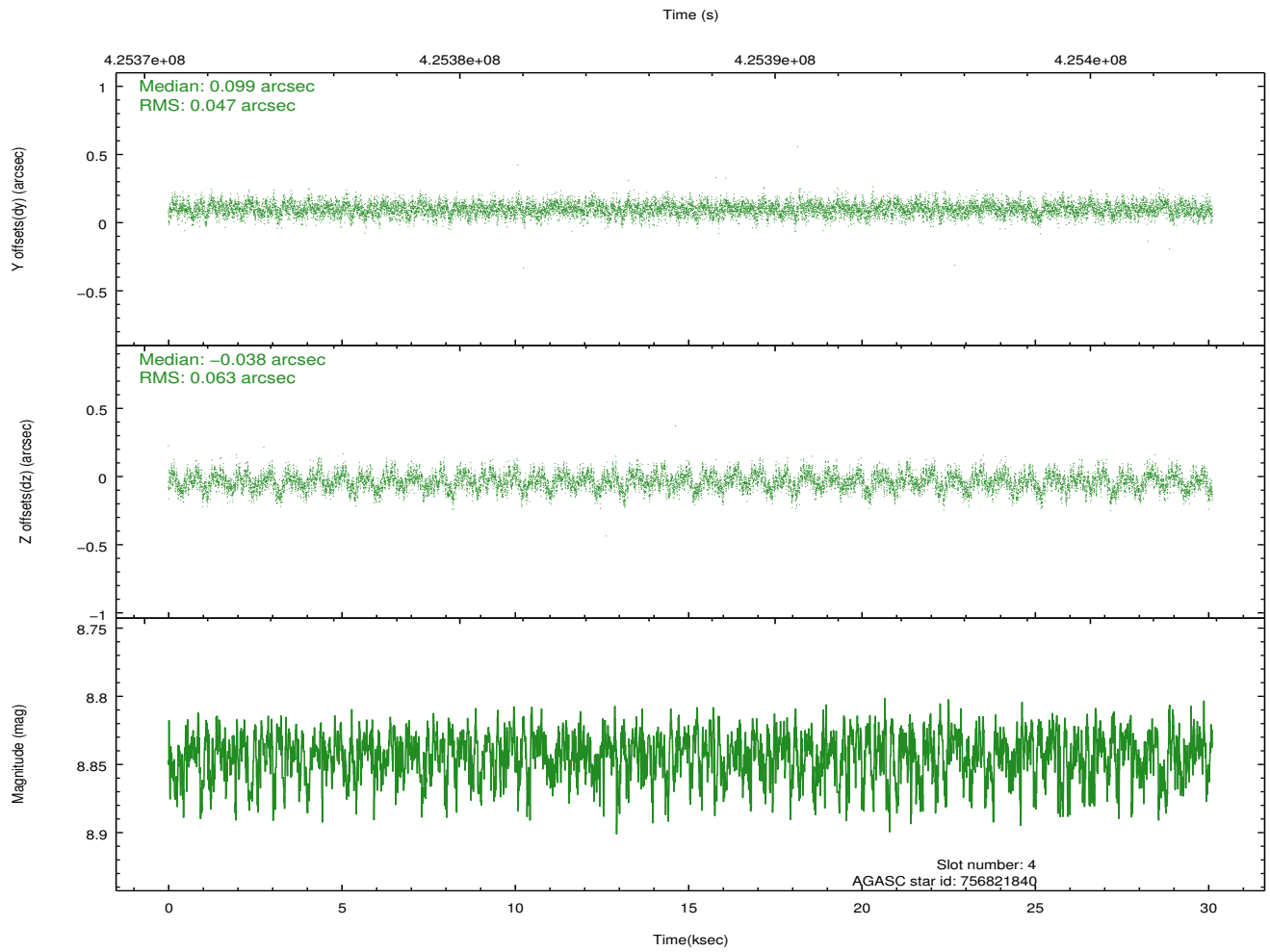
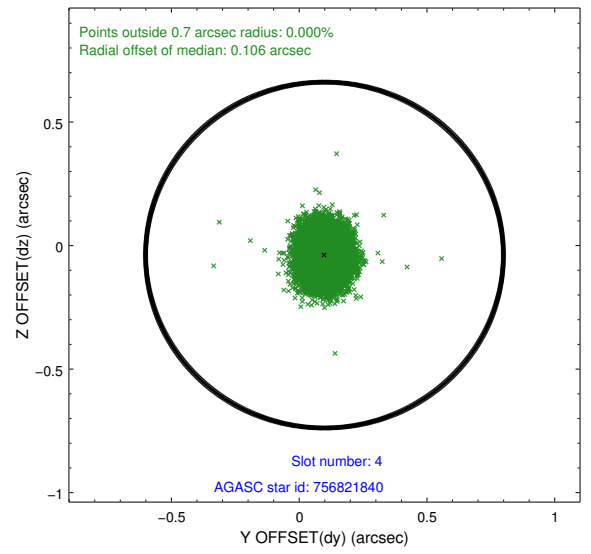
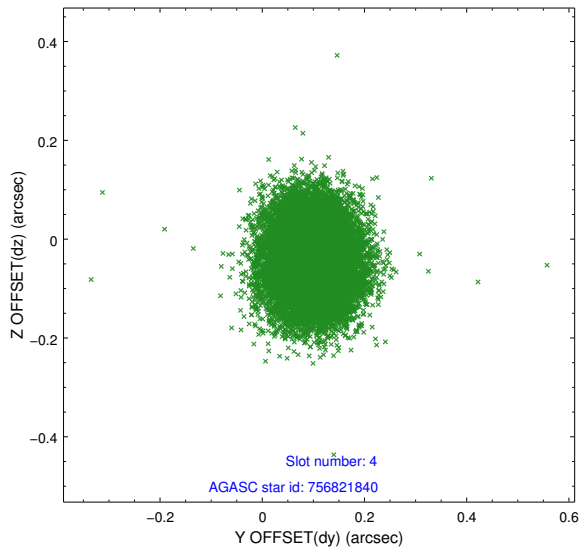
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.93	7346	-0.061	-0.025	0.017	0.028	0.000000	0.000000	-770.82	-1738.79
1	FID	ACIS-S-4	7.01	7347	0.175	0.036	0.020	0.029	0.000000	0.000000	2142.68	169.64
2	FID	ACIS-S-5	7.04	7346	-0.145	-0.000	0.019	0.026	0.000000	0.000000	-1823.63	163.40
3	GUIDE	756819736	8.74	14682	-0.148	-0.074	0.069	0.112	315.719830	-10.902168	2042.30	475.14
4	GUIDE	756821840	8.84	14684	0.099	-0.038	0.084	0.134	315.785756	-11.048259	1467.75	458.81
5	GUIDE	756942192	8.70	14684	-0.068	0.343	0.107	0.171	316.465554	-10.611757	2006.67	-2361.95
6	GUIDE	756945264	9.10	14677	0.007	-0.146	0.087	0.139	315.960505	-11.171243	823.89	55.44
7	GUIDE	757348432	7.23	14691	0.109	-0.089	0.089	0.135	315.499307	-11.696271	-308.51	2278.40

## 2.4 Star Slots

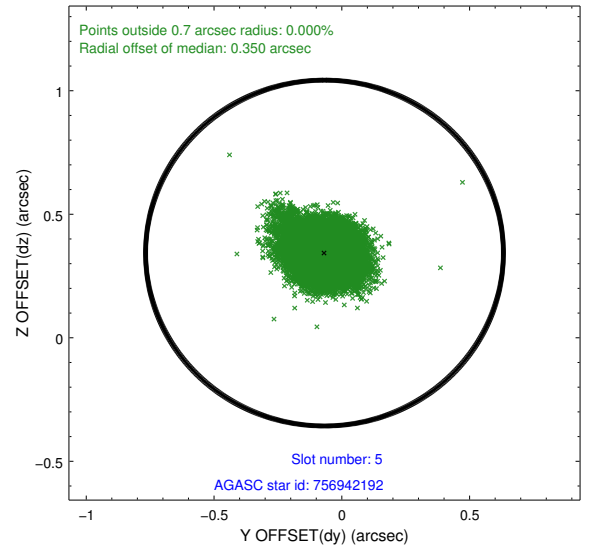
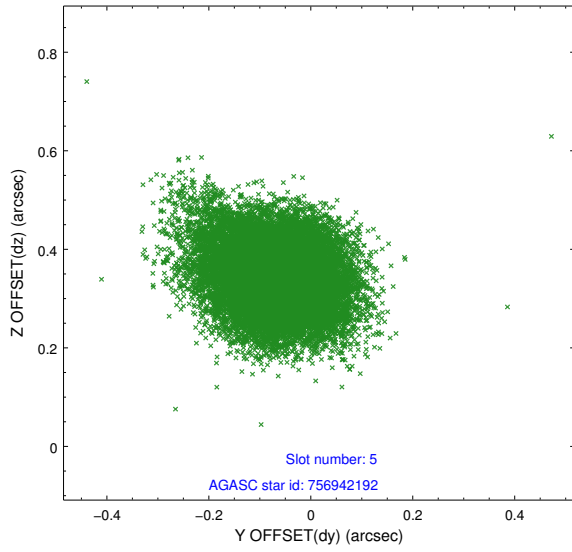
### 2.4.1 Slot 3



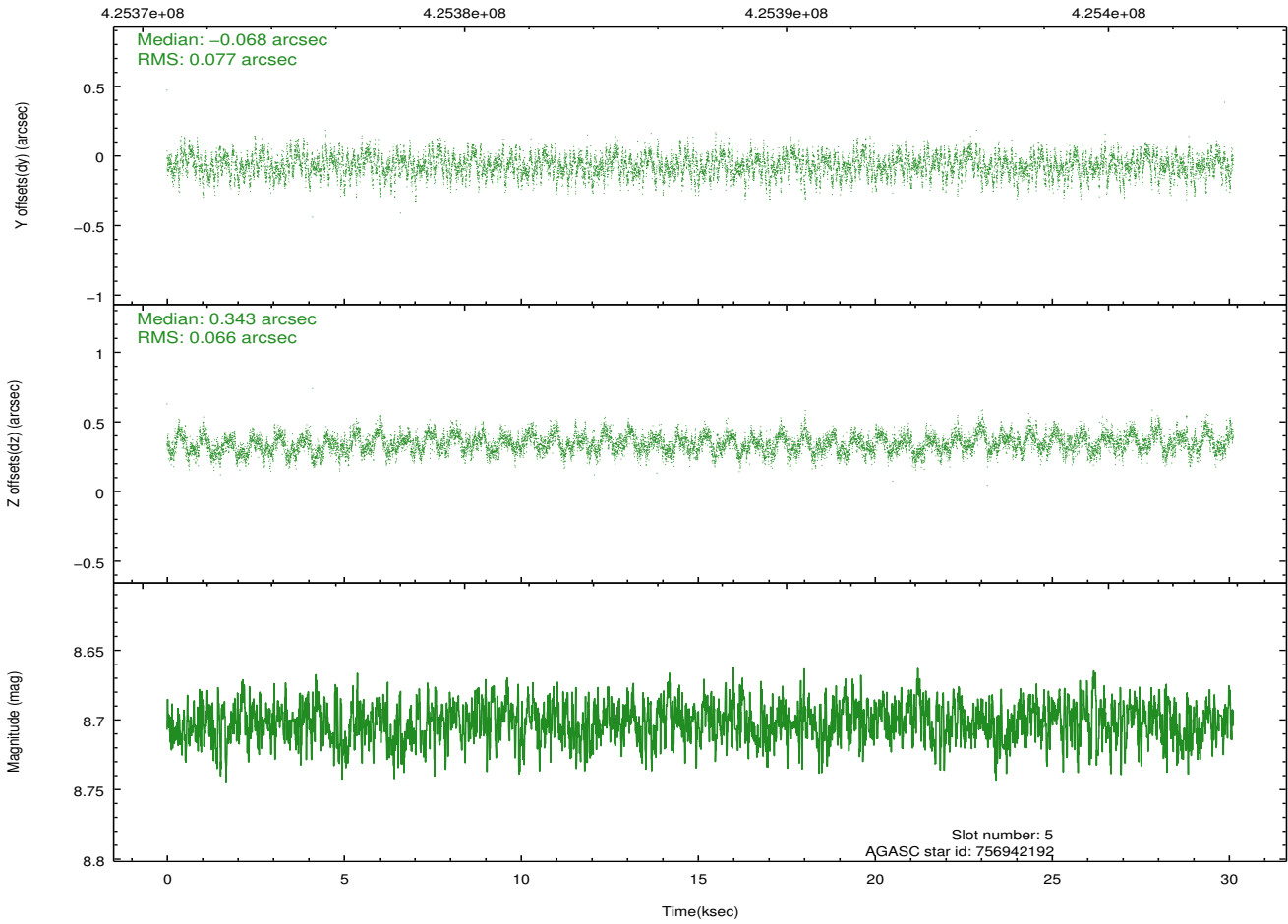
## 2.4.2 Slot 4



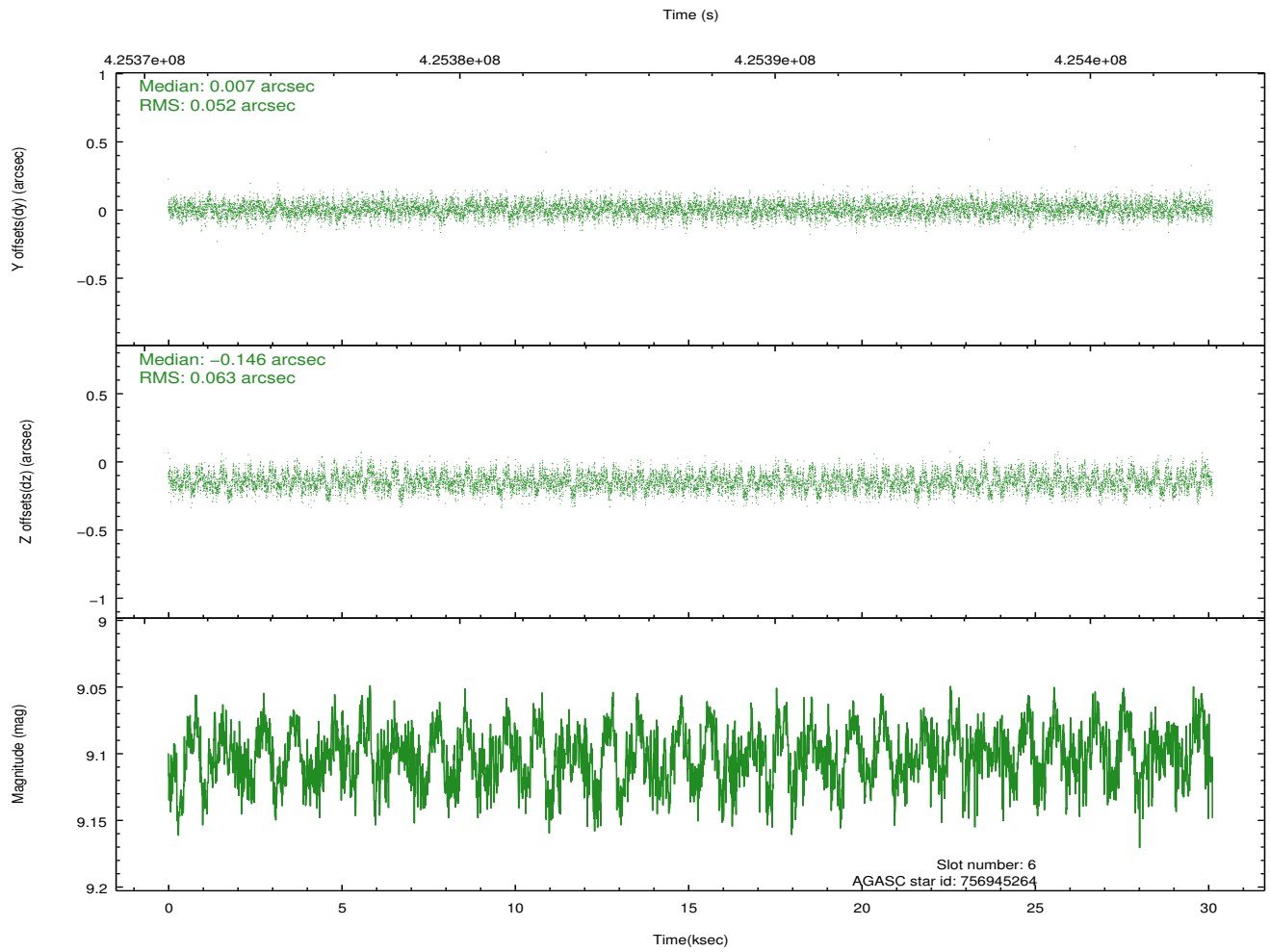
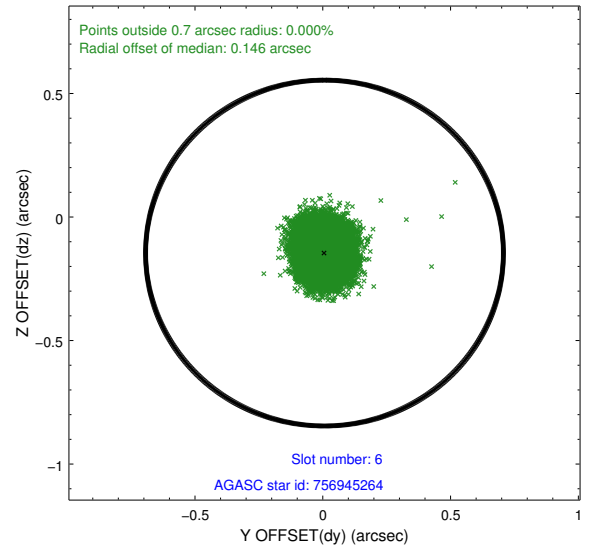
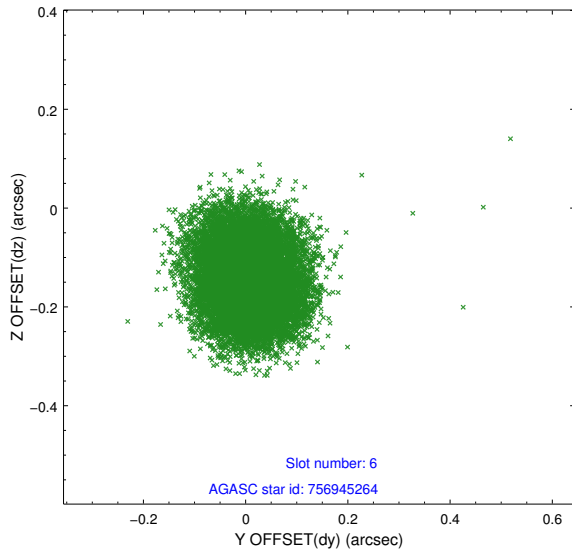
### 2.4.3 Slot 5



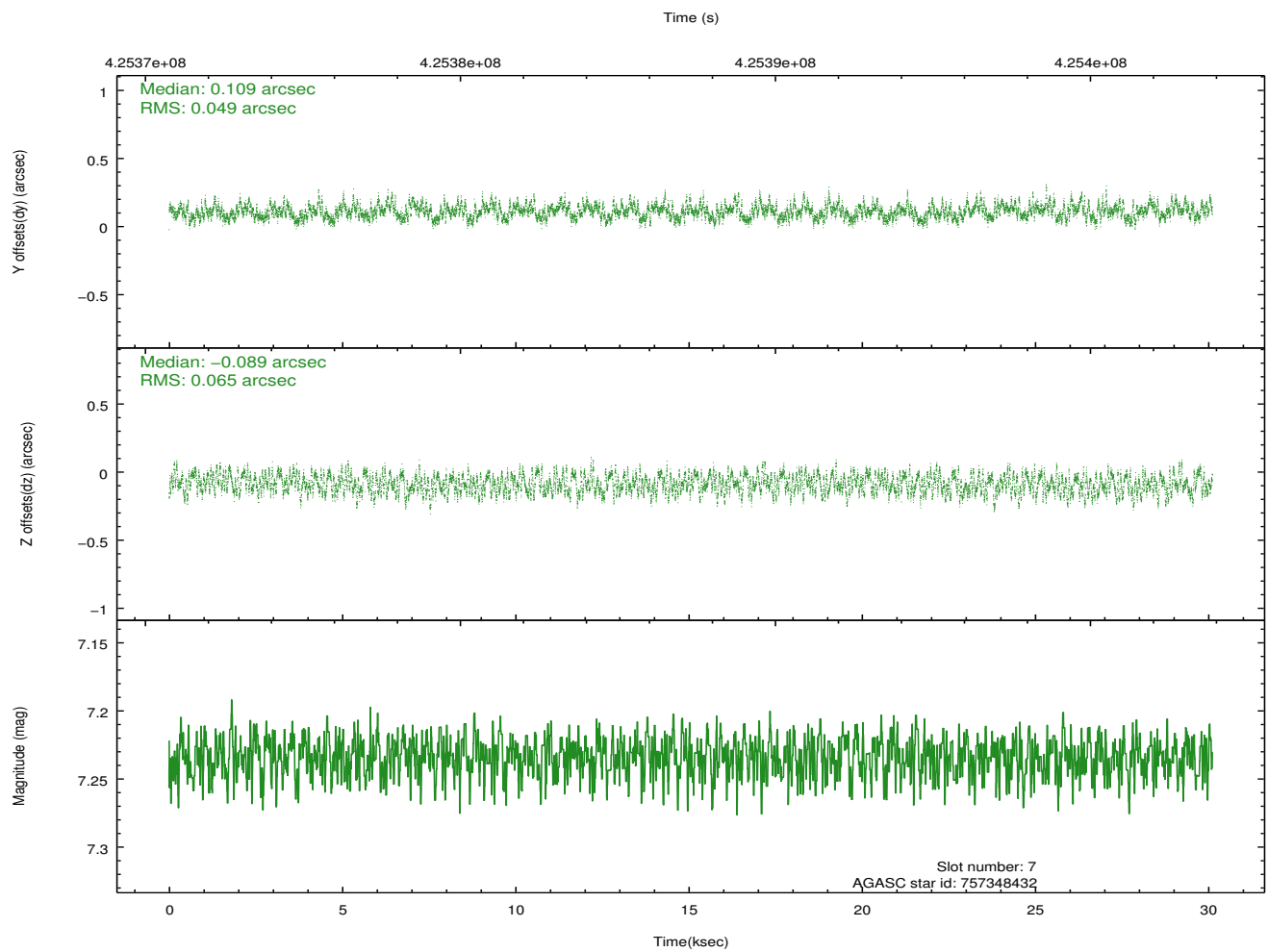
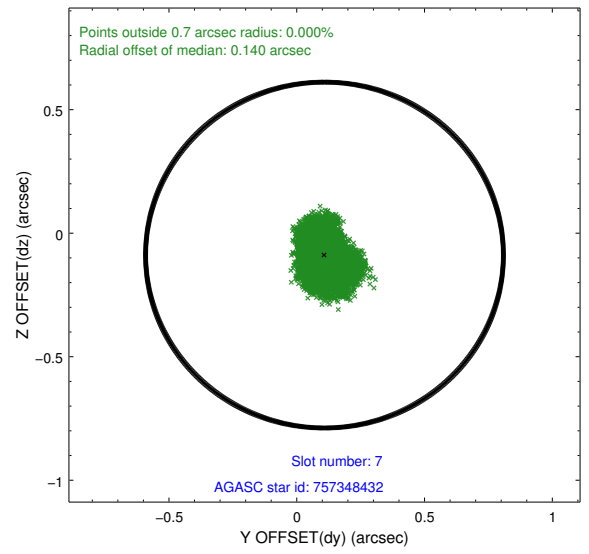
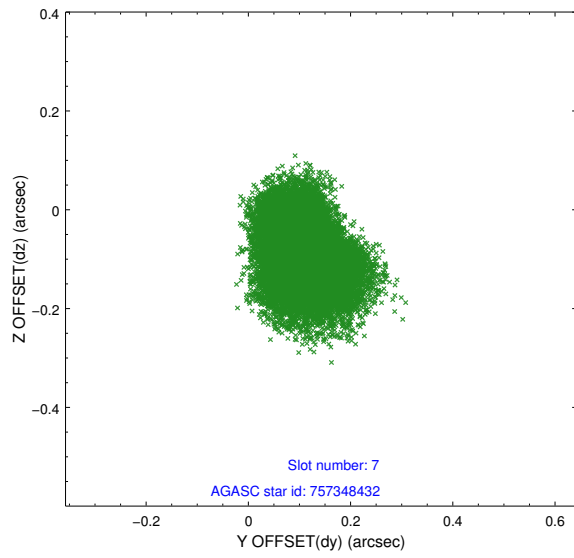
Time (s)



### 2.4.4 Slot 6

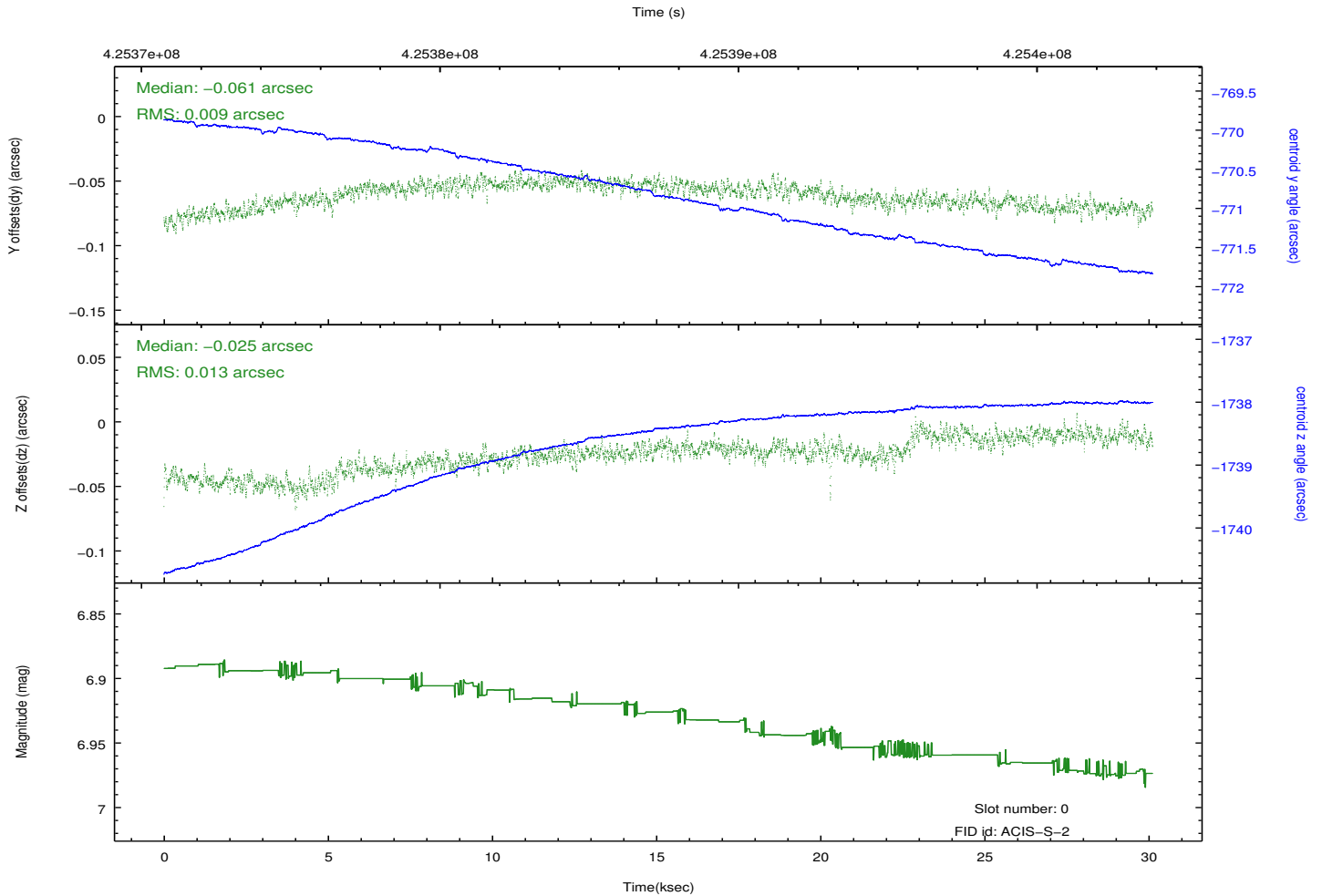
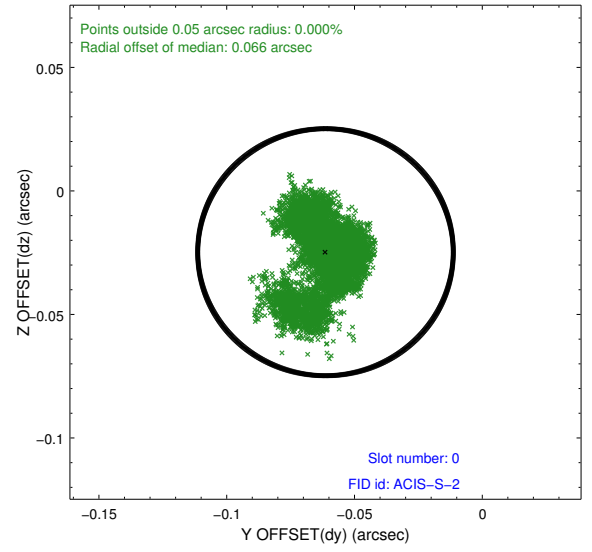
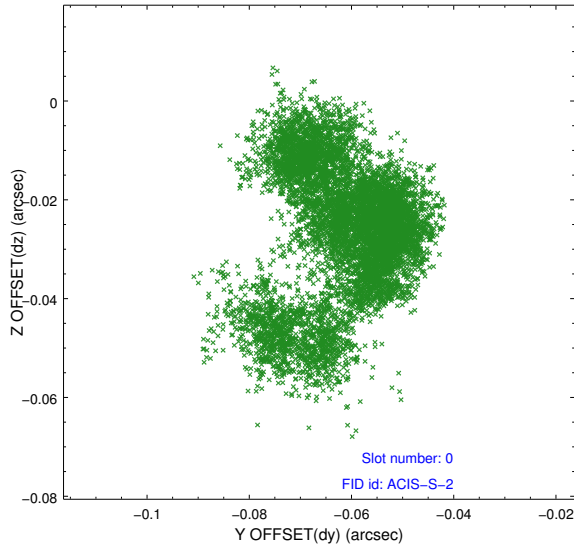


## 2.4.5 Slot 7

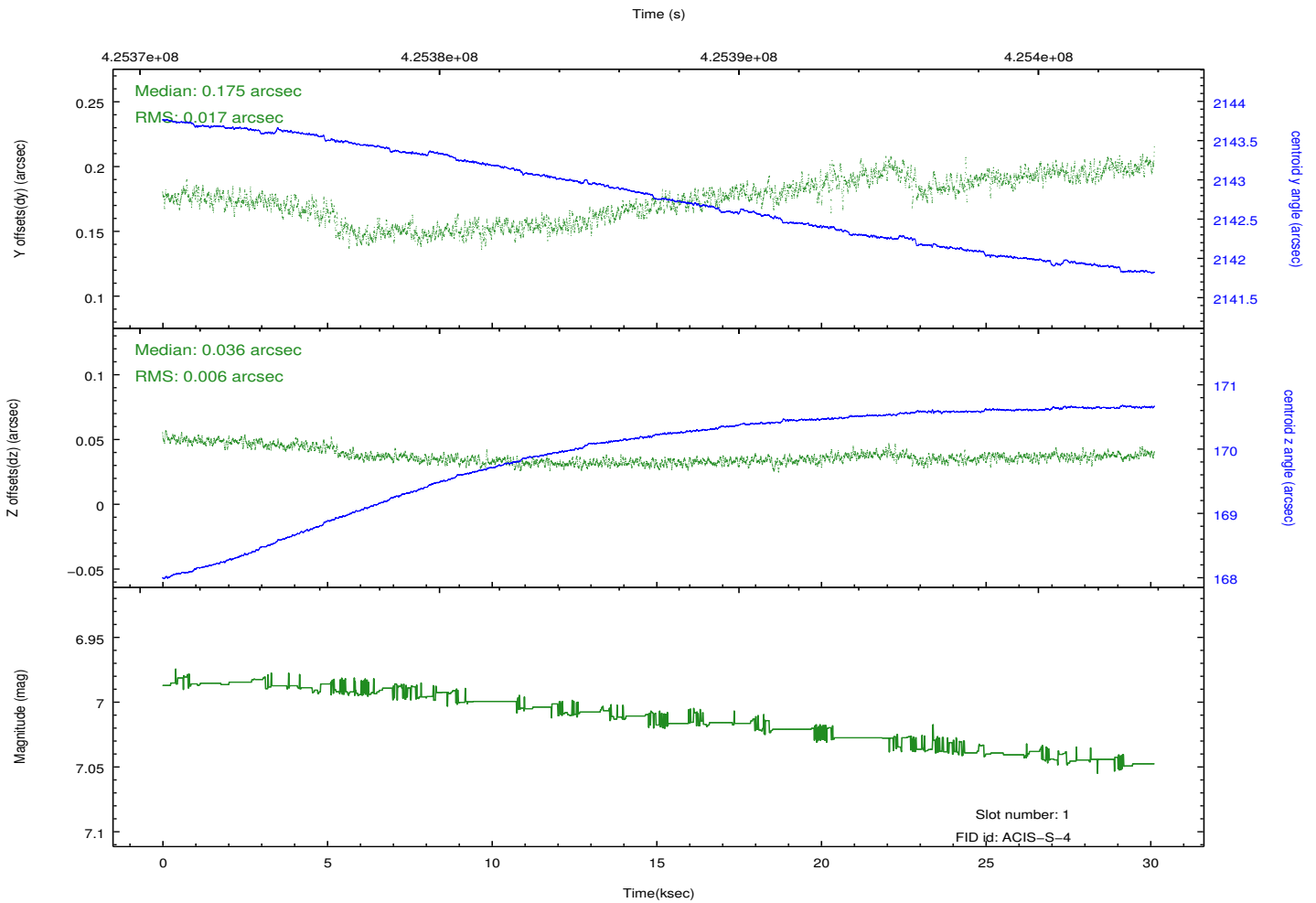
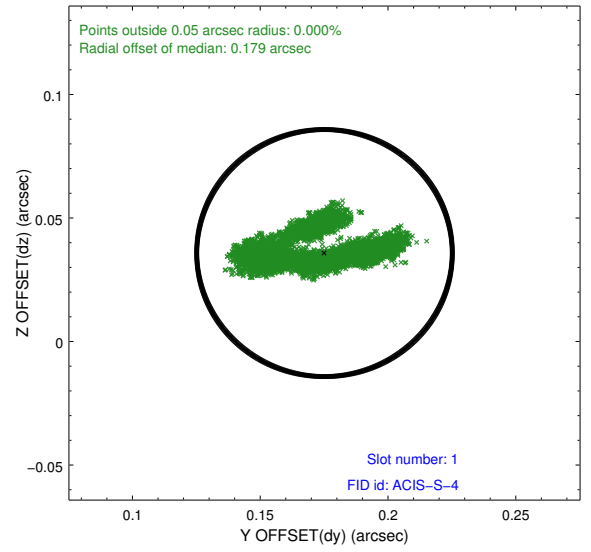
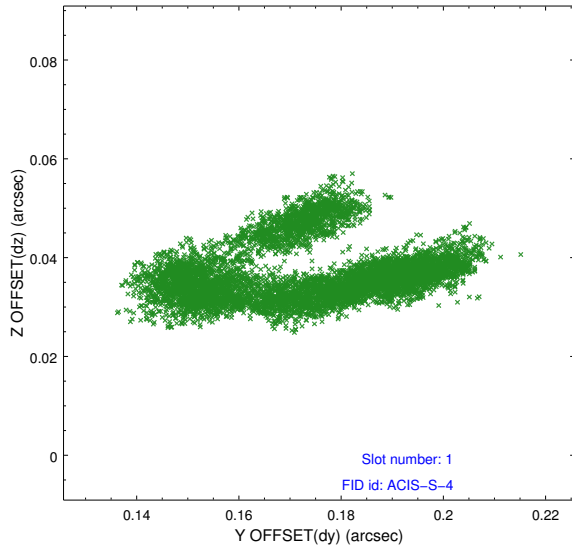


## 2.5 FID Slots

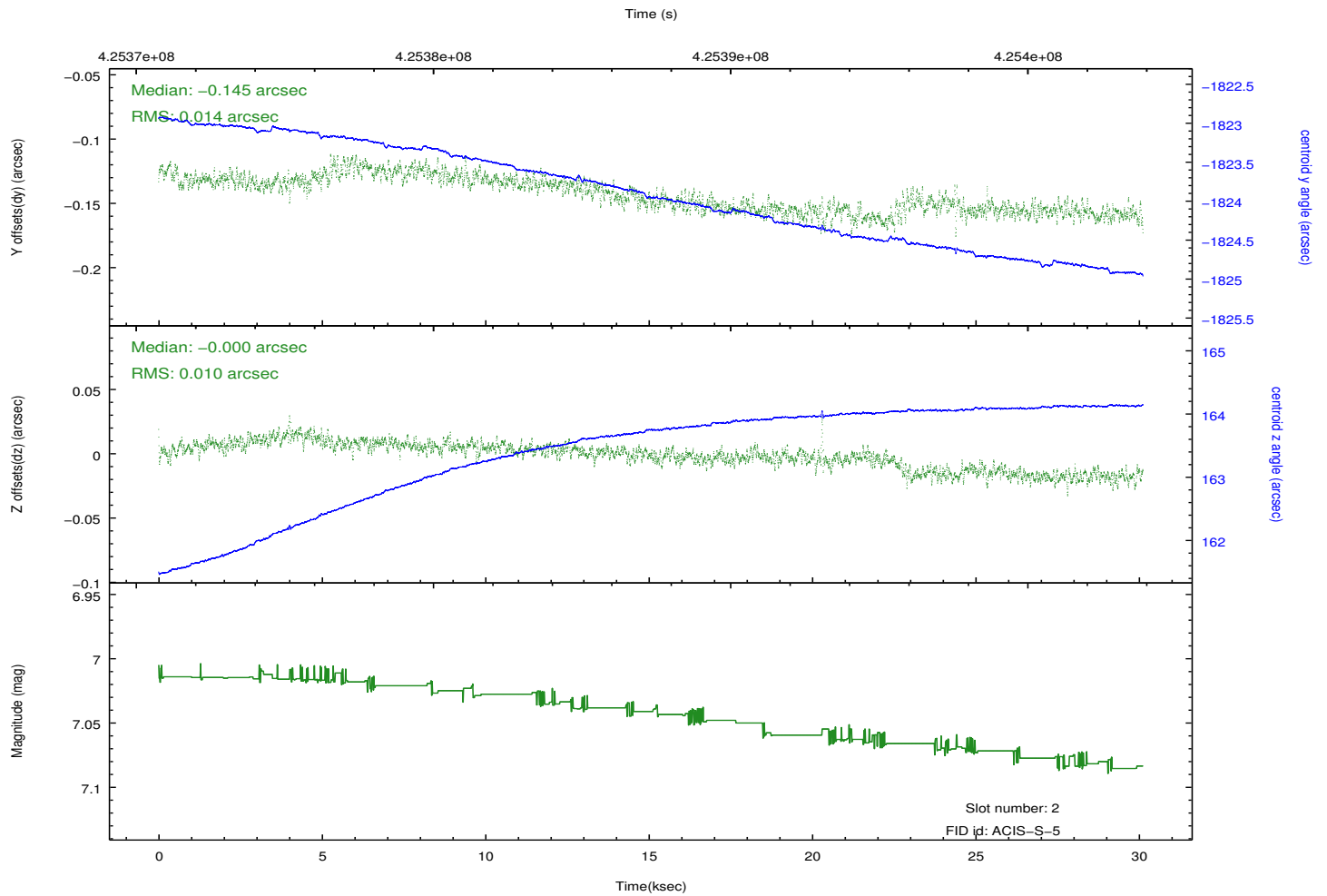
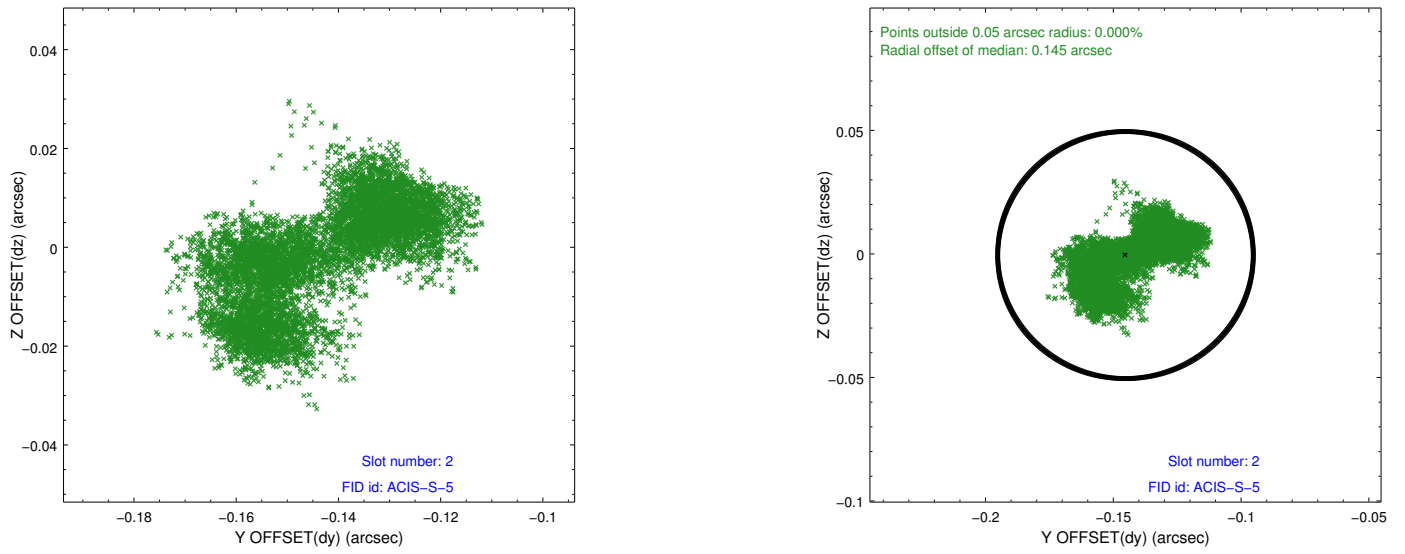
### 2.5.1 Slot 0



## 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)	2012.02.14
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.044799888134

## A.2 Comments