

# V&V Reference Report

## L2 ASCDS Version : 8.5.1.1

Observation 14032 - L2 Version 2  
Chandra X-Ray Center

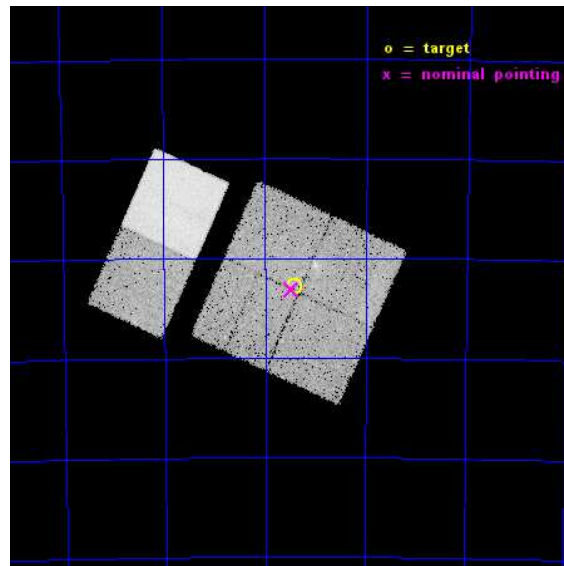
L2 Processing Date : Dec 1 2014

## 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	900998	Sequence number
obs_id	14032	Observation id
title	Probing the Nature and Role of X-ray Emission in HII Regions with Chandra	Proposal title
observer	Dr. Laura Lopez	Principal investigator
object	N113	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	78.354167	Observer's specified target RA [deg]
dec_targ	-69.379444	Observer's specified target Dec [deg]
ra_nom	78.369406337234	Nominal RA [deg]
dec_nom	-69.385467327579	Nominal Dec [deg]
roll_nom	294.40454225736	Nominal Roll [deg]
revision	2	Processing version of data
ontime	27961.449767411	Sum of GTIs [s]
livetime	27607.385054092	Livetime [s]
ontime0	27967.808637977	Sum of GTIs [s]
ontime1	27967.84967798	Sum of GTIs [s]
ontime2	27961.408727288	Sum of GTIs [s]
ontime3	27961.449767411	Sum of GTIs [s]
ontime6	27967.999895871	Sum of GTIs [s]
ontime7	27967.97279799	Sum of GTIs [s]
l2events	175852	Number of level 2 events

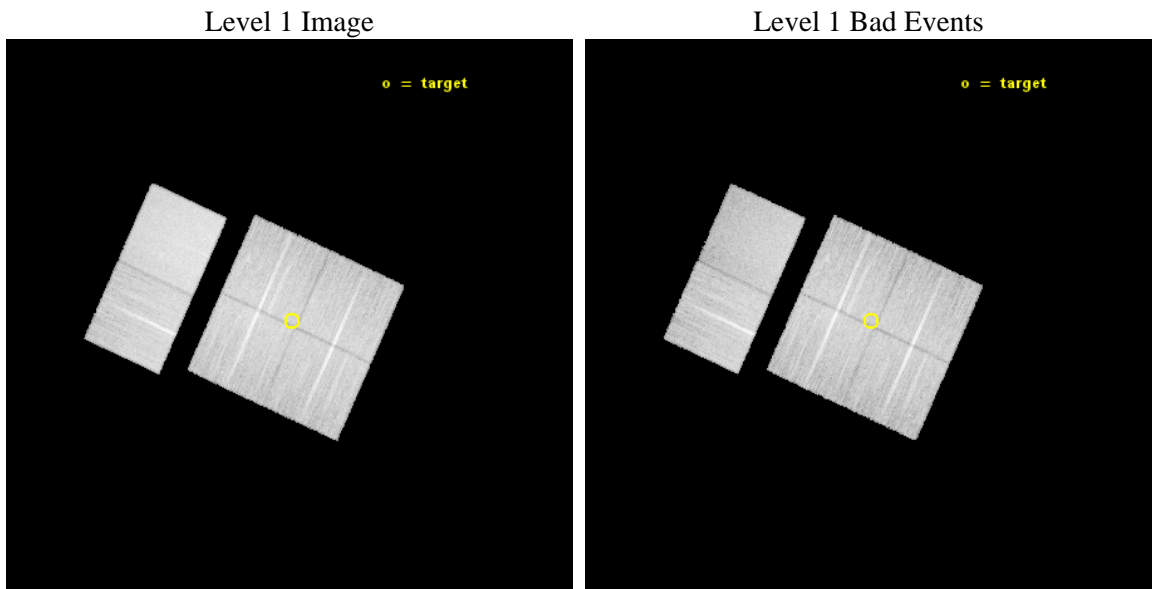




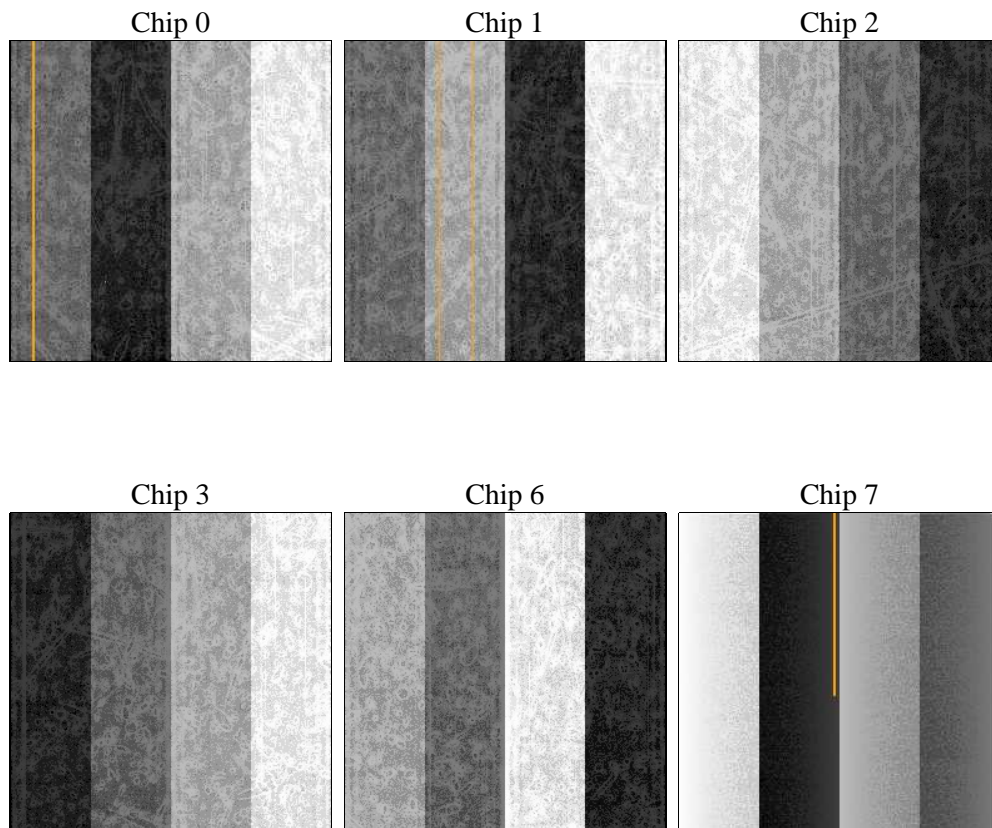
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	28000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	27961.449767411	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime0	27967.808637977	Sum of GTIs [s]
date	2014-12-01T11:37:26	Date and time of file creation	ontime1	27967.84967798	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	27961.408727288	Sum of GTIs [s]
			ontime3	27961.449767411	Sum of GTIs [s]
			ontime6	27967.999895871	Sum of GTIs [s]
			ontime7	27967.97279799	Sum of GTIs [s]
			l1events	949138	Number of level 1 events

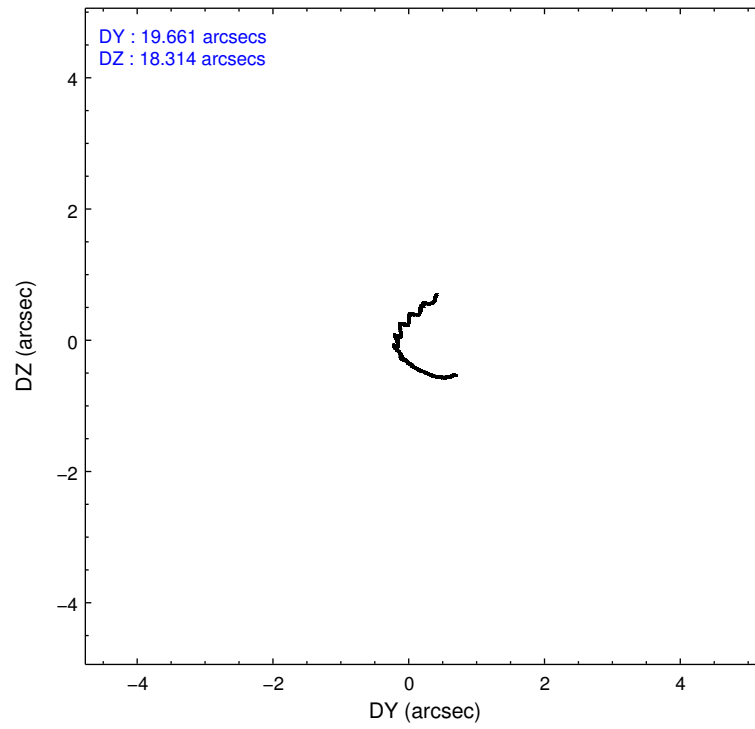
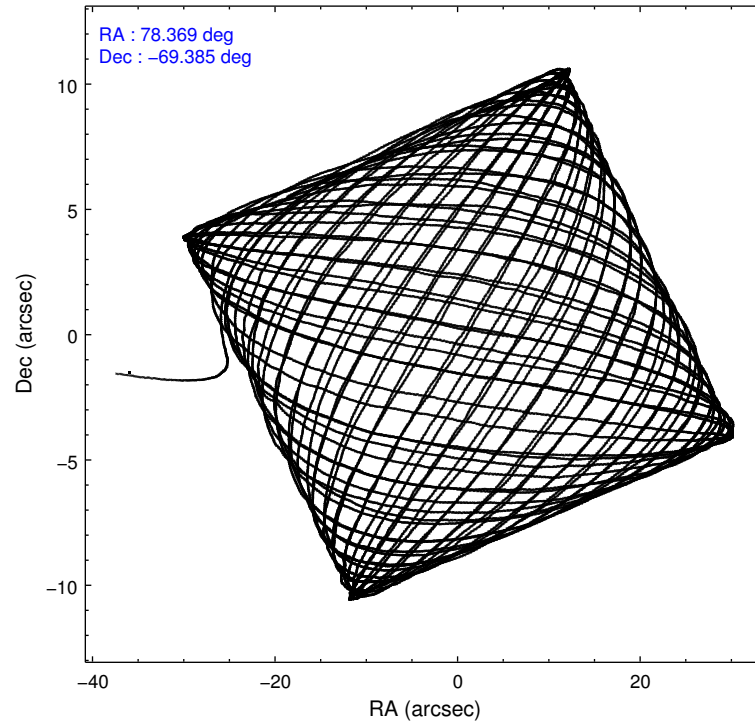
### 2.1.4 Events

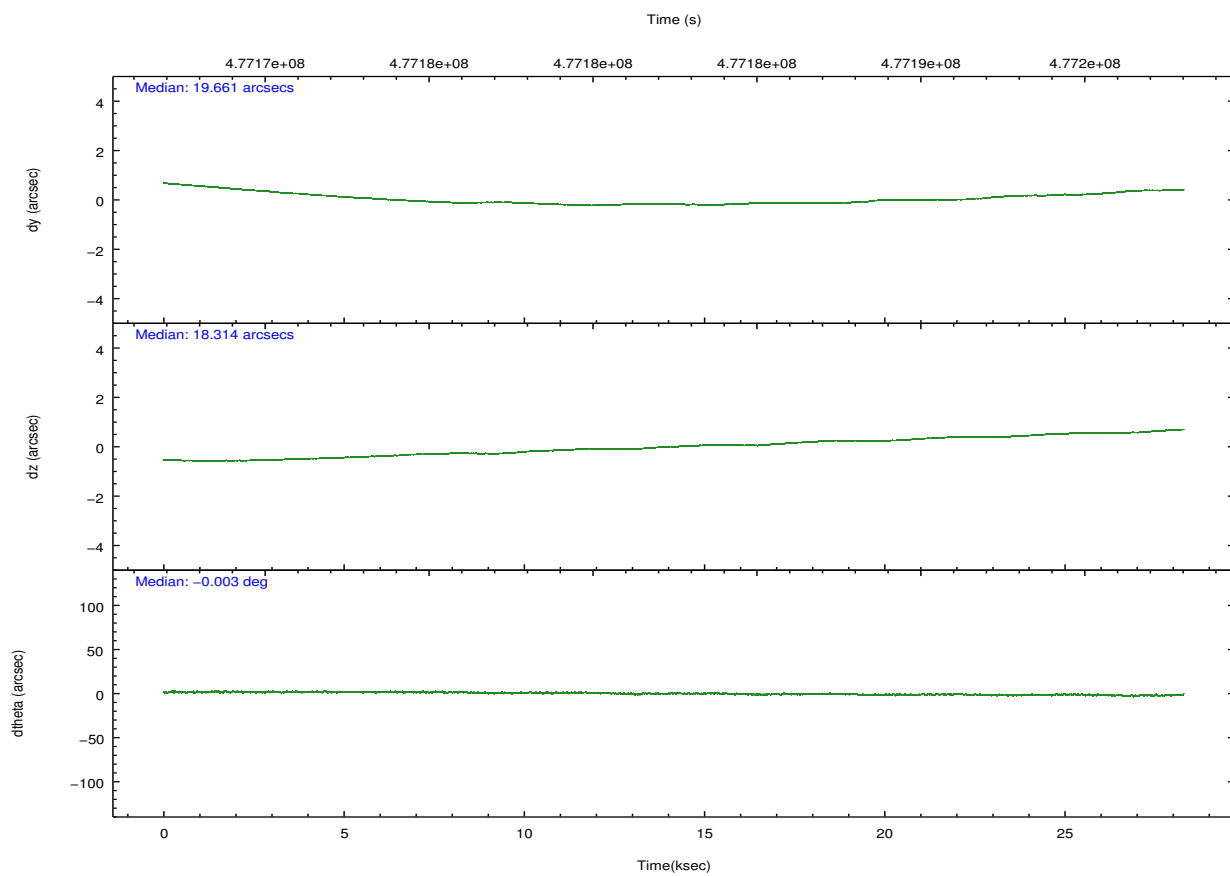
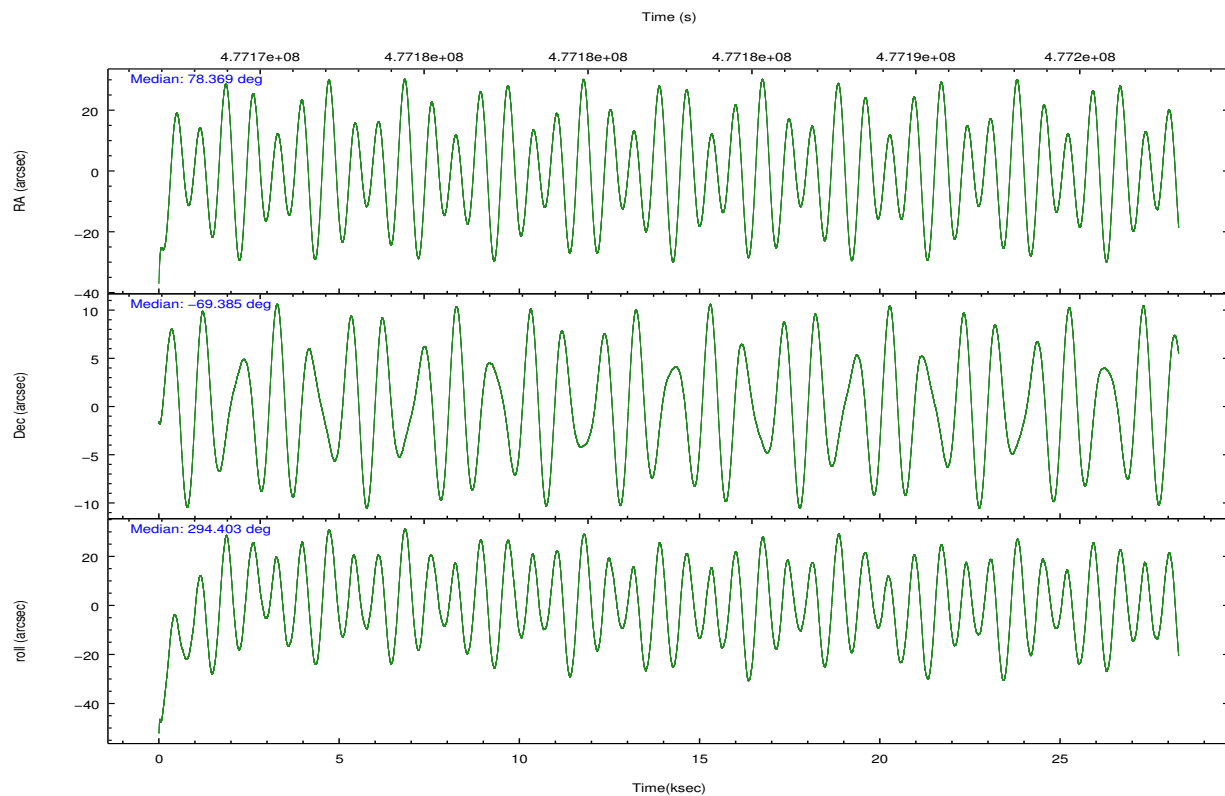
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7		ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	140631	142434	150618	147859	159405	208191	grade 0 events	7100	8267	7837	6934	8017	9041
rejected events	121711	121245	131506	129914	138935	113307		5%	5%	5%	4%	5%	4%
rejected %	86%	85%	87%	87%	87%	54%	grade 1 events	85	87	90	107	85	227
								0%	0%	0%	0%	0%	0%
							grade 2 events	4483	4884	4363	3774	4426	19579
								3%	3%	2%	2%	2%	9%
							grade 3 events	1848	1938	1694	1864	1925	8281
								1%	1%	1%	1%	1%	3%
							grade 4 events	1790	1946	1784	1835	1879	8175
								1%	1%	1%	1%	1%	3%
							grade 5 events	6896	7333	6539	7872	8039	21217
								4%	5%	4%	5%	5%	10%
							grade 6 events	3709	4157	3436	3542	4228	49826
								2%	2%	2%	2%	2%	23%
							grade 7 events	114720	113822	124875	121931	130806	91845
								81%	79%	82%	82%	82%	44%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-012367	ACIS-012367	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	Y	Y
Observation mode	POINTING	POINTING	CCD I1 on	Y	Y
[deg] Pointing RA	78.305785	78.36940633723358	CCD I2 on	Y	Y
[deg] Pointing Dec	-69.369563	-69.38546732757891	CCD I3 on	Y	Y
[deg] Pointing Roll	294.136304	294.4045422573569	CCD S0 on	N	N
[mm] SIM focus pos	-0.782348	-0.7809083437167272	CCD S1 on	N	N
[mm] SIM defocus	0	0.001439871863259334	CCD S2 on	O1	Y
[mm] SIM translation stage pos	-233.592463	-233.5874344608287	CCD S3 on	O2	Y
[mm] SIM translation stage offset	0	-0.005018542100998502	CCD S4 on	N	N
[s] Observation start time (MET)	477168611.184000	477167440.69533	CCD S5 on	N	N
Observation start date	2013-02-13T18:49:04	2013-02-13T18:30:40	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	477196611.184000	477197411.18445	On-chip summing requested	N	N
Observation end date	2013-02-14T02:35:44	2013-02-14T02:50:11	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



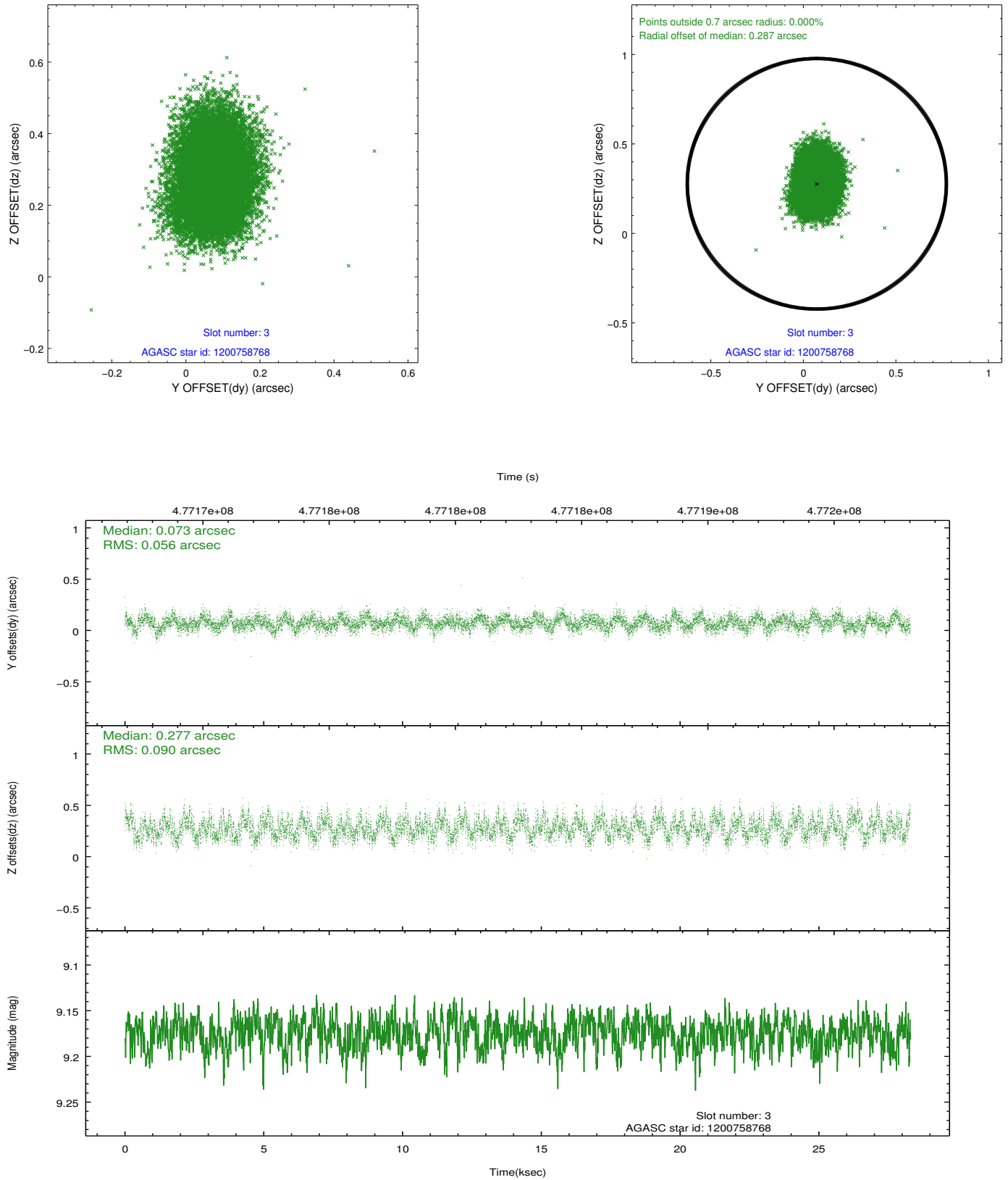


### Slot Statistics

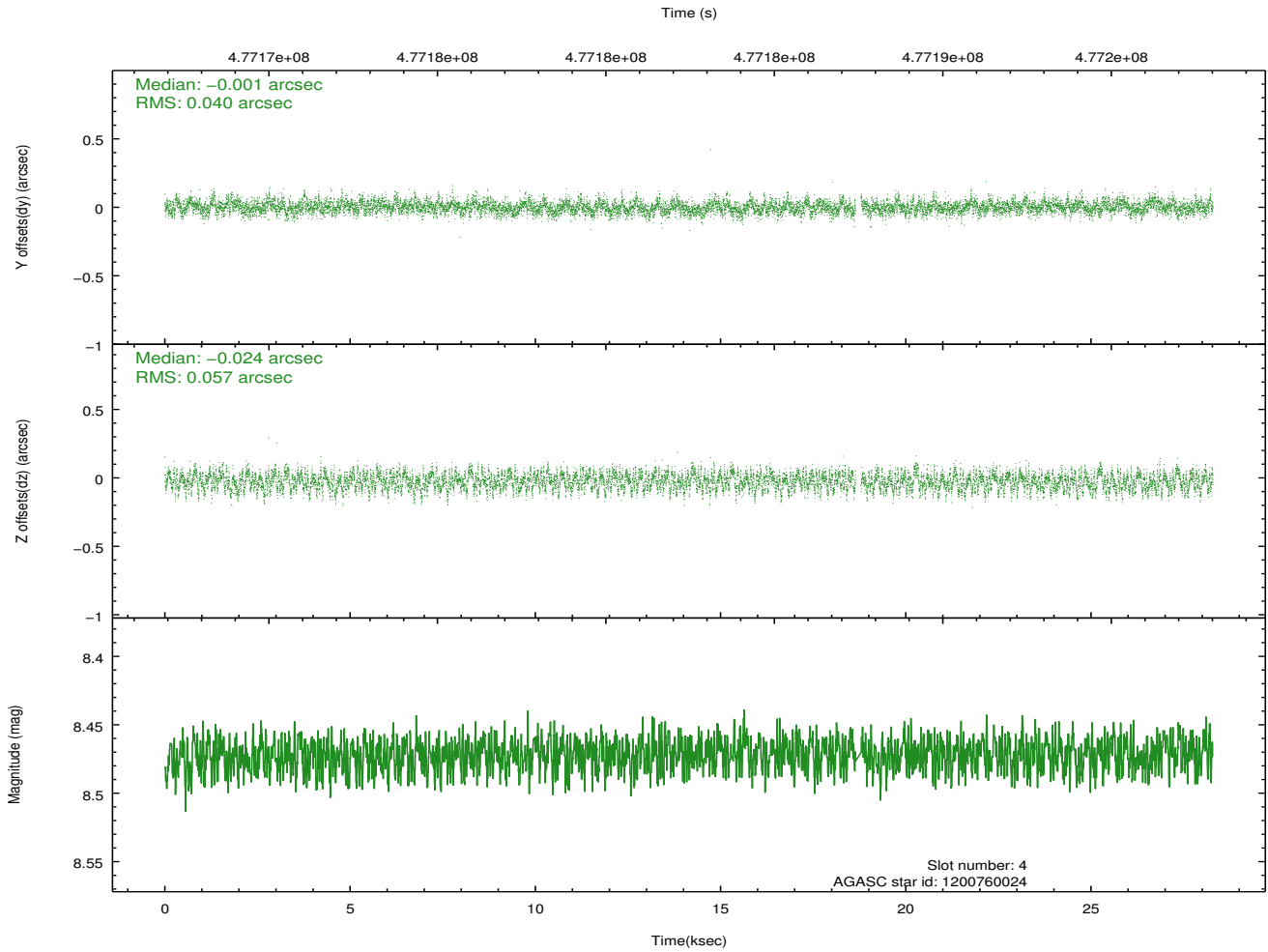
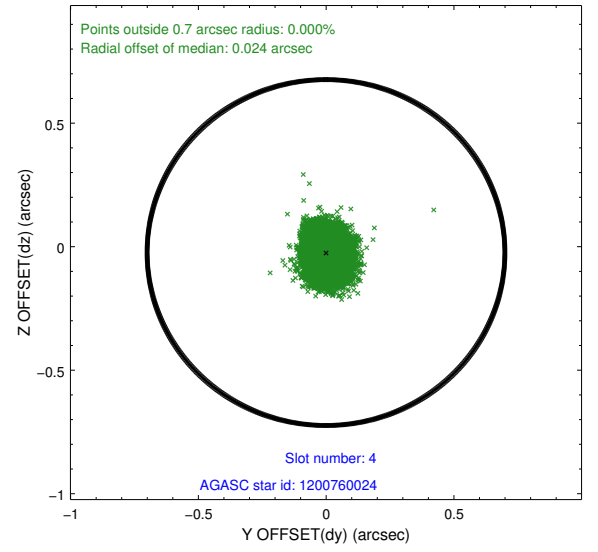
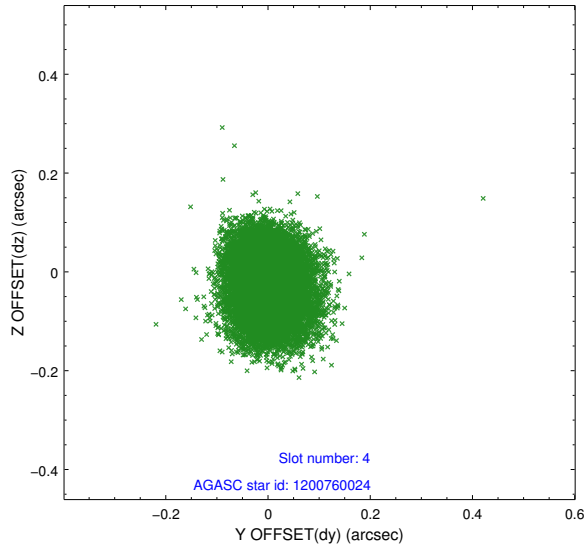
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.14	6900	0.048	0.030	0.014	0.026	0.000000	0.000000	919.67	-841.95
1	FID		ACIS-I-5	7.12	6900	-0.268	0.047	0.011	0.017	0.000000	0.000000	-1828.74	1055.46
2	FID		ACIS-I-6	7.13	6900	0.129	-0.005	0.009	0.014	0.000000	0.000000	385.15	1700.05
3	GUIDE	used	1200758768	9.17	13787	0.073	0.277	0.114	0.181	76.222937	-69.168878	-1707.48	-2155.47
4	GUIDE	used	1200760024	8.47	13717	-0.001	-0.024	0.074	0.119	77.625244	-69.320410	-510.22	-718.77
5	GUIDE	used	1200888464	9.47	13733	-0.226	-0.103	0.115	0.200	78.430687	-69.005633	-1129.36	682.87
6	GUIDE	used	1201280072	8.53	13800	-0.022	-0.011	0.090	0.143	77.357470	-69.714246	656.71	-1590.15
7	GUIDE	used	1201280984	7.02	13800	0.166	-0.145	0.072	0.109	77.867422	-69.546090	357.01	-763.83

## 2.4 Star Slots

### 2.4.1 Slot 3

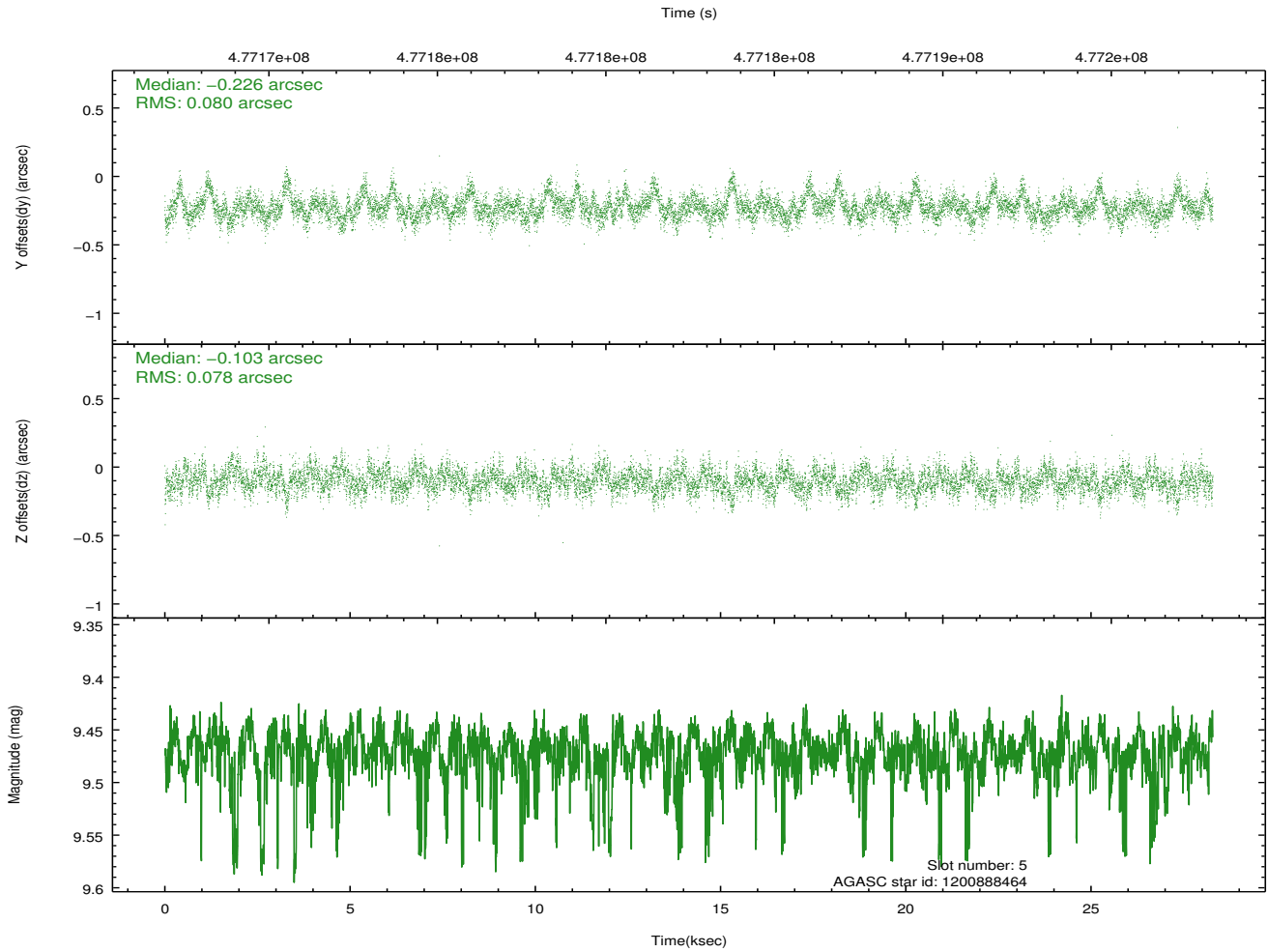
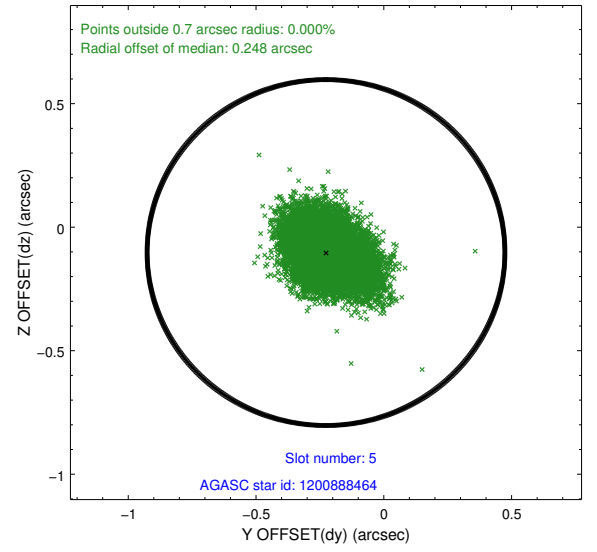
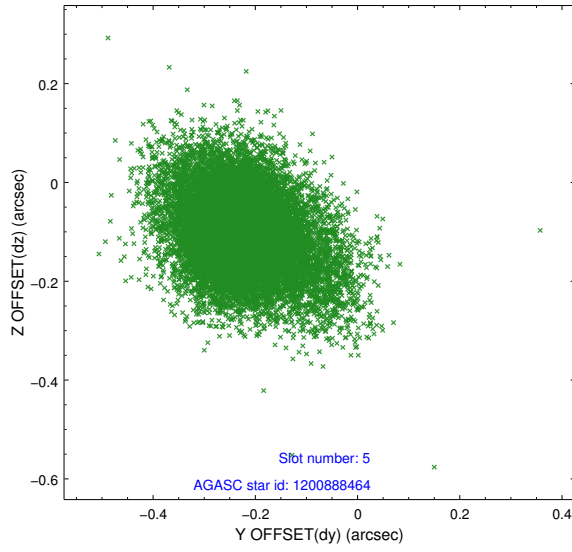


## 2.4.2 Slot 4

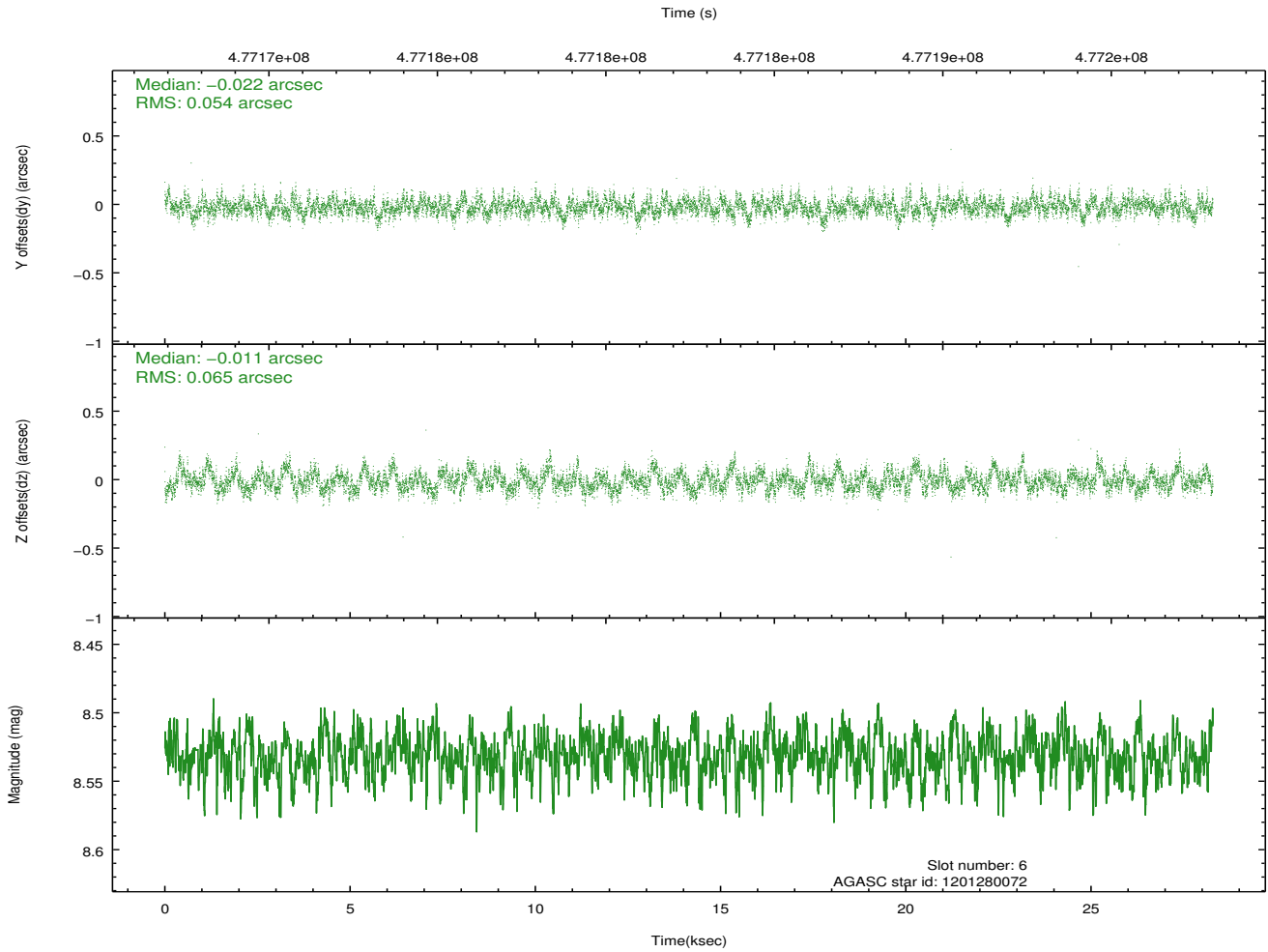
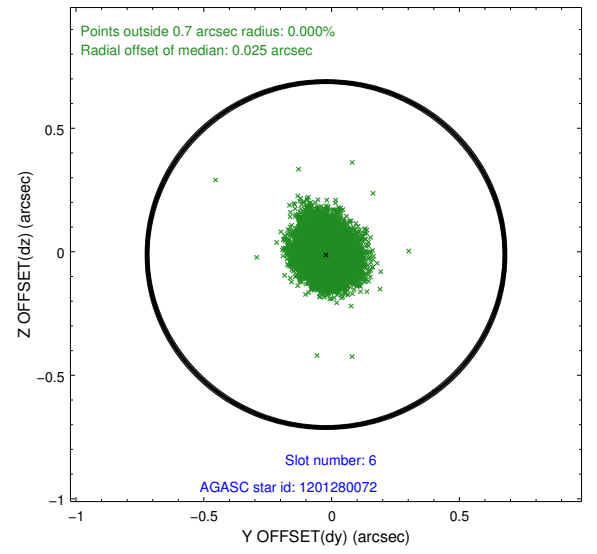
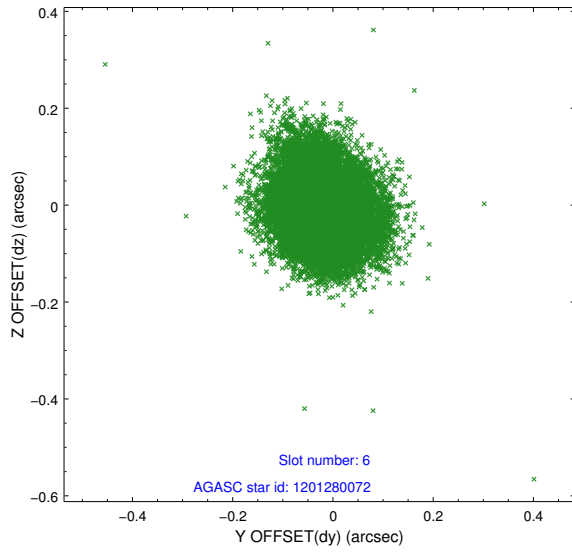




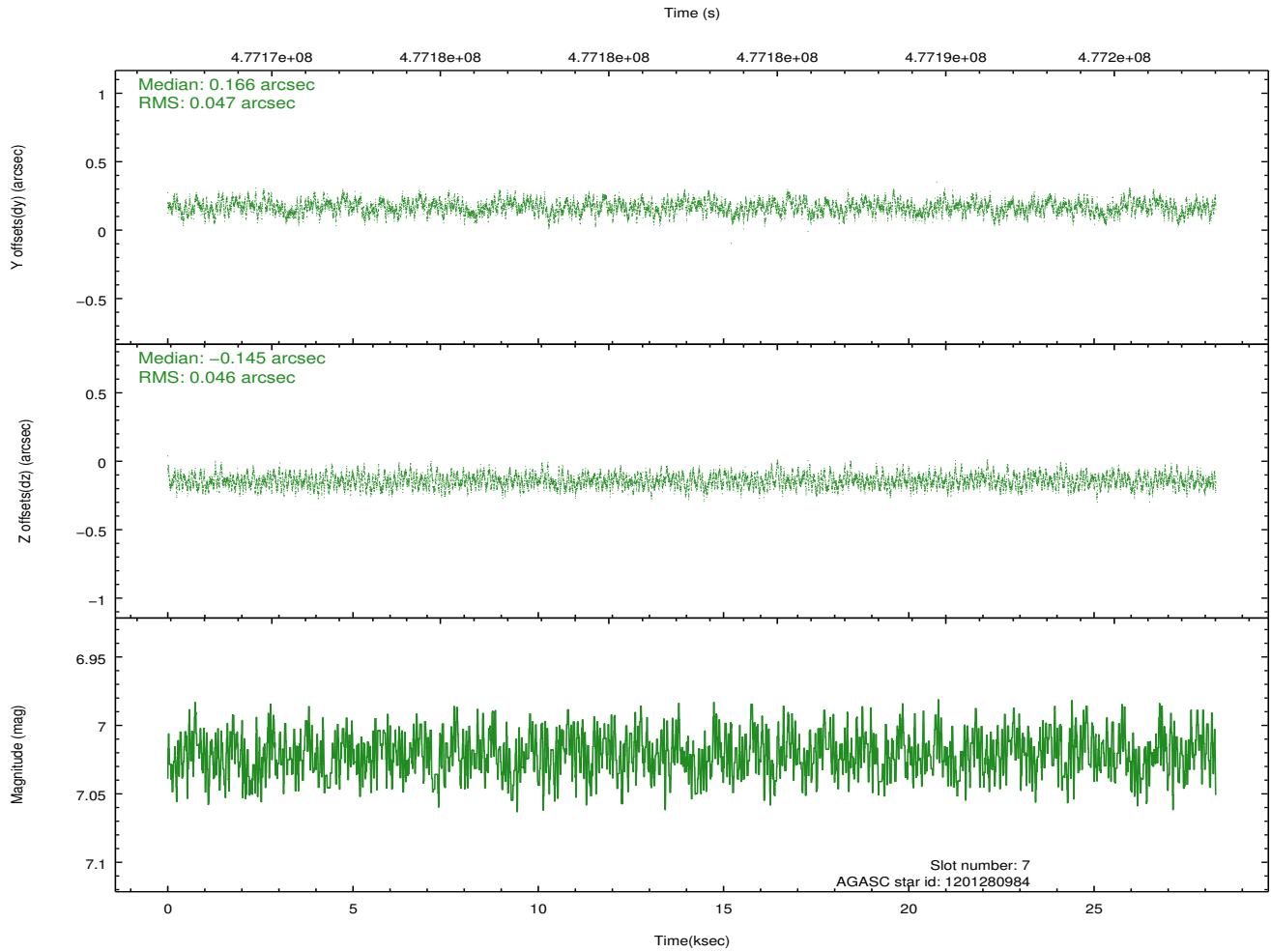
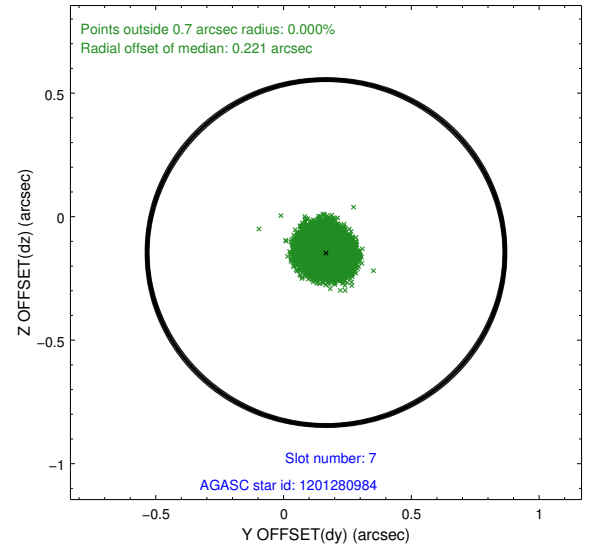
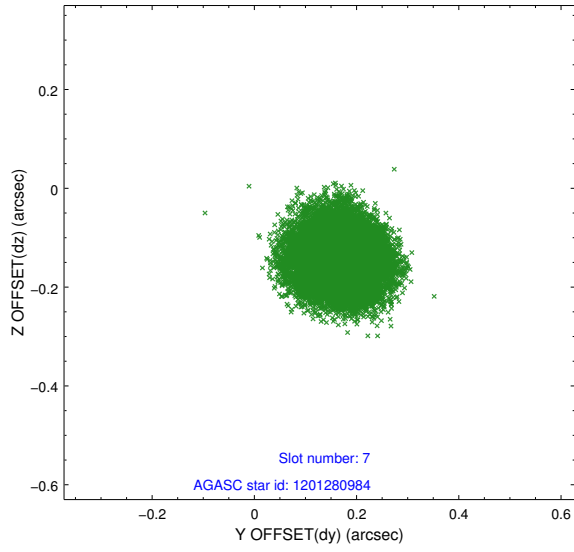
### 2.4.3 Slot 5



## 2.4.4 Slot 6

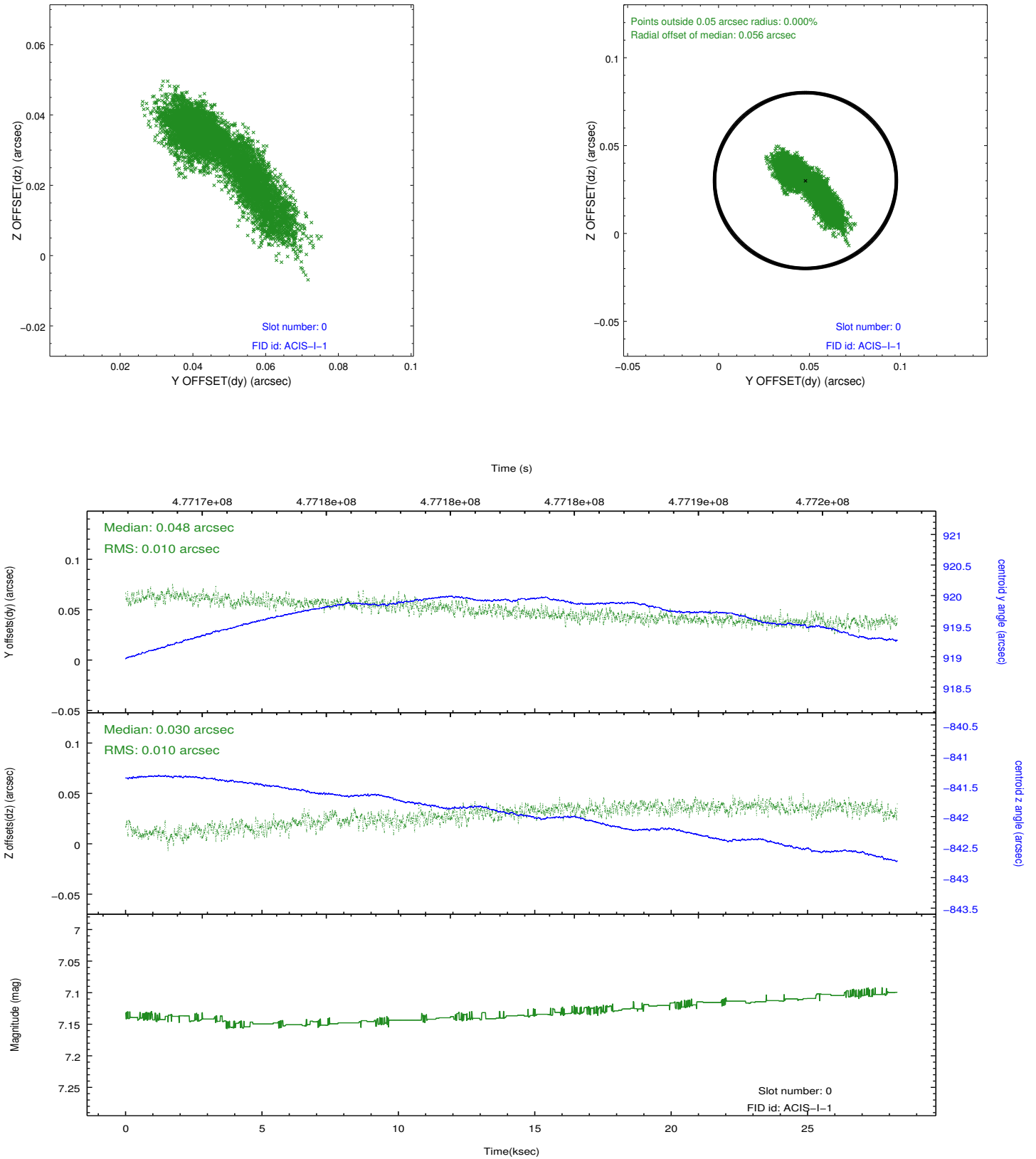


## 2.4.5 Slot 7

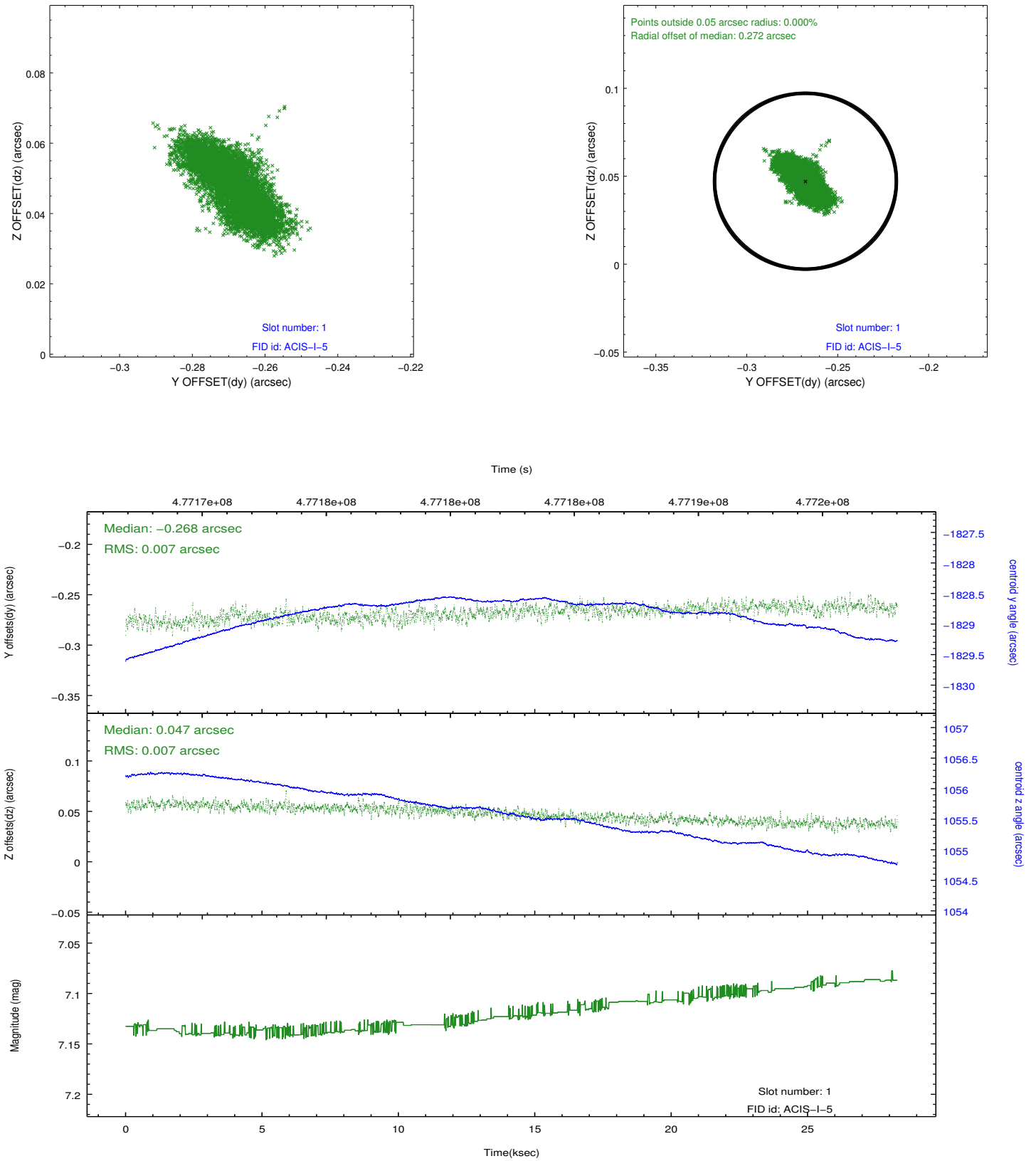


## 2.5 FID Slots

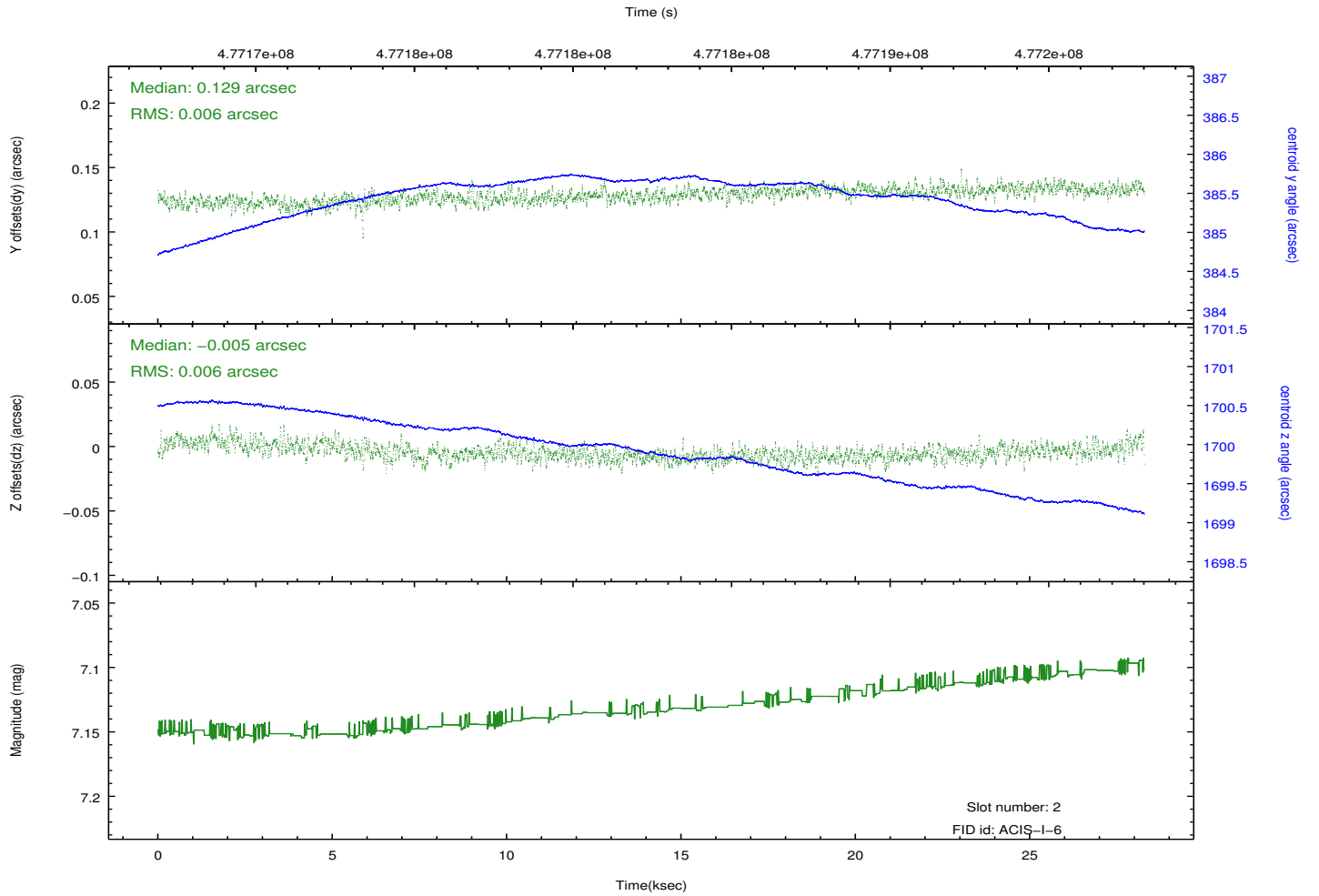
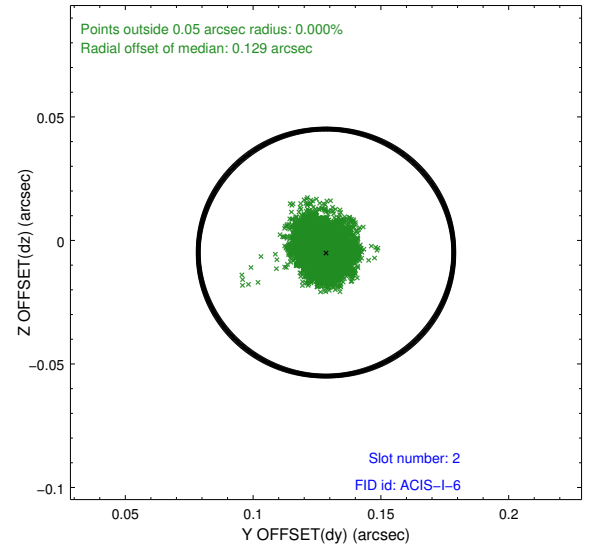
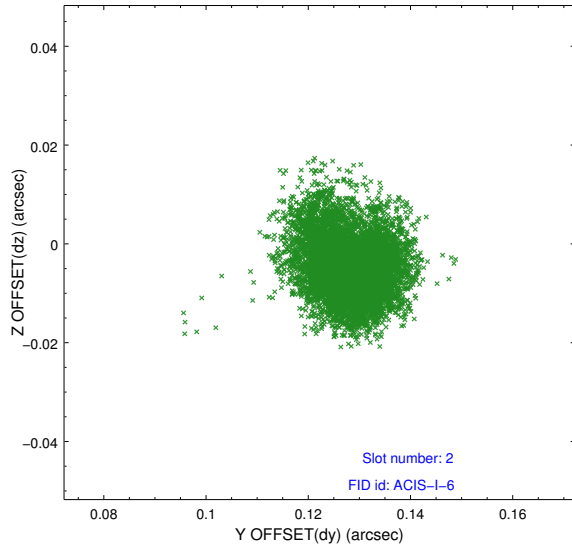
### 2.5.1 Slot 0



## 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)	2014.12.09
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	27.961449767411

## 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.