

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 15062 - L2 Version 2  
Chandra X-Ray Center

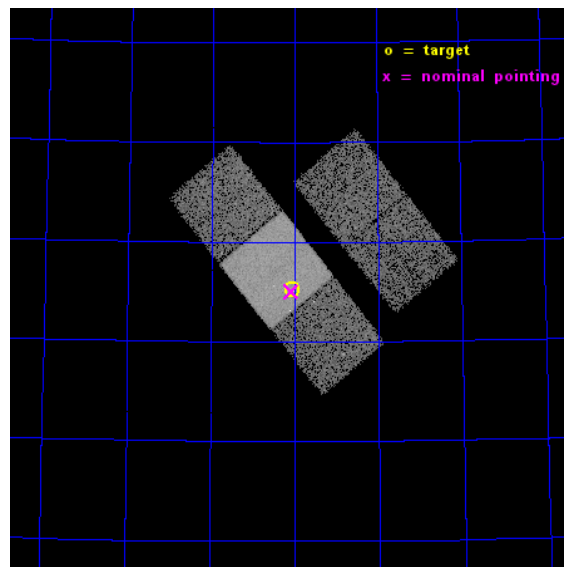
L2 Processing Date : Nov 29 2014

## 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	702869	Sequence number
obs_id	15062	Observation id
title	C-GOALS: The Chandra-RBGS Survey of a Complete Sample of Major-Merger LIRGs	Proposal title
observer	Professor David Sanders	Principal investigator
object	MCG+12-02-001	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	13.516667	Observer's specified target RA [deg]
dec_targ	73.086944	Observer's specified target Dec [deg]
ra_nom	13.51992623164	Nominal RA [deg]
dec_nom	73.084064771322	Nominal Dec [deg]
roll_nom	230.76717624282	Nominal Roll [deg]
revision	2	Processing version of data
ontime	14504.299704373	Sum of GTIs [s]
livetime	14314.790350825	Livetime [s]
ontime2	14504.13554436	Sum of GTIs [s]
ontime3	14501.076574087	Sum of GTIs [s]
ontime6	14501.117624044	Sum of GTIs [s]
ontime7	14504.299704373	Sum of GTIs [s]
ontime8	14501.035544038	Sum of GTIs [s]
l2events	75066	Number of level 2 events

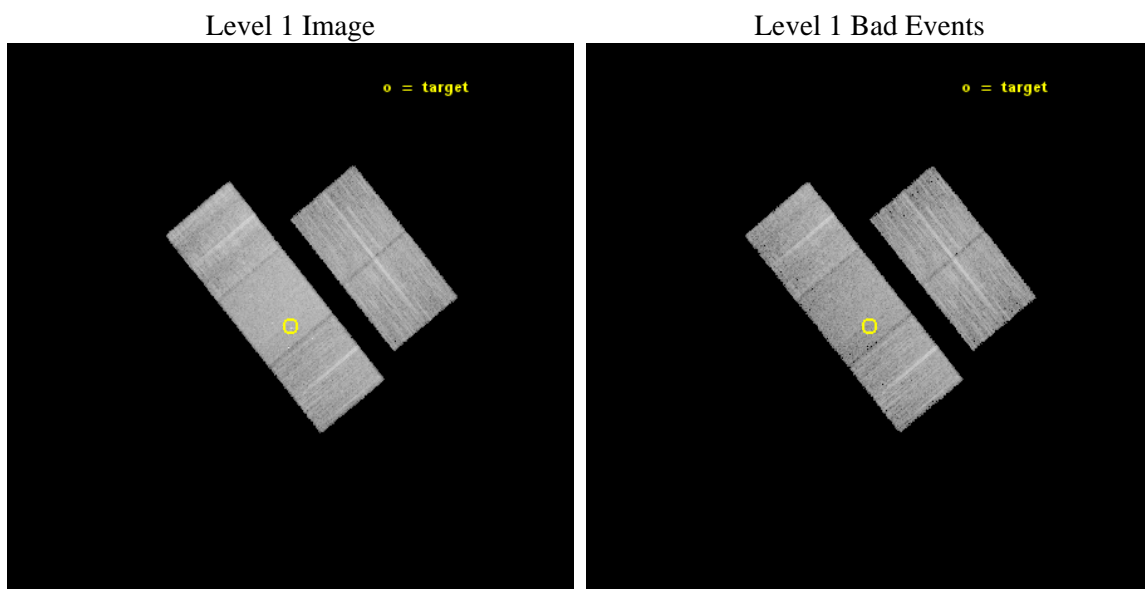




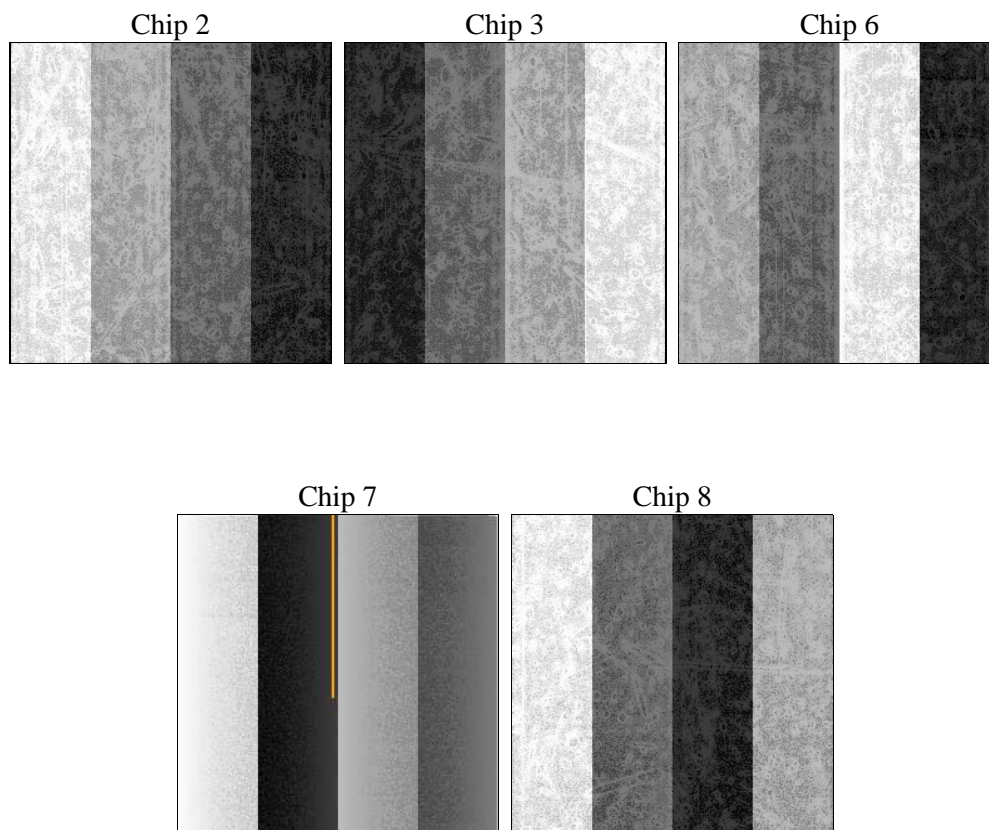
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	14435.408000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	14504.299704373	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime2	14504.13554436	Sum of GTIs [s]
date	2014-11-29T20:28:11	Date and time of file creation	ontime3	14501.076574087	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	14501.117624044	Sum of GTIs [s]
			ontime7	14504.299704373	Sum of GTIs [s]
			ontime8	14501.035544038	Sum of GTIs [s]
			l1events	427868	Number of level 1 events

### 2.1.4 Events

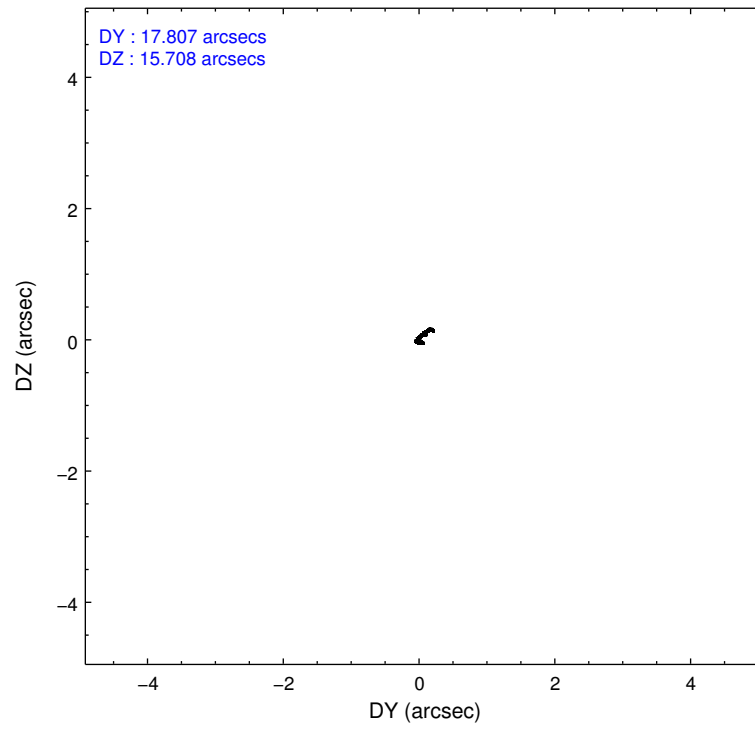
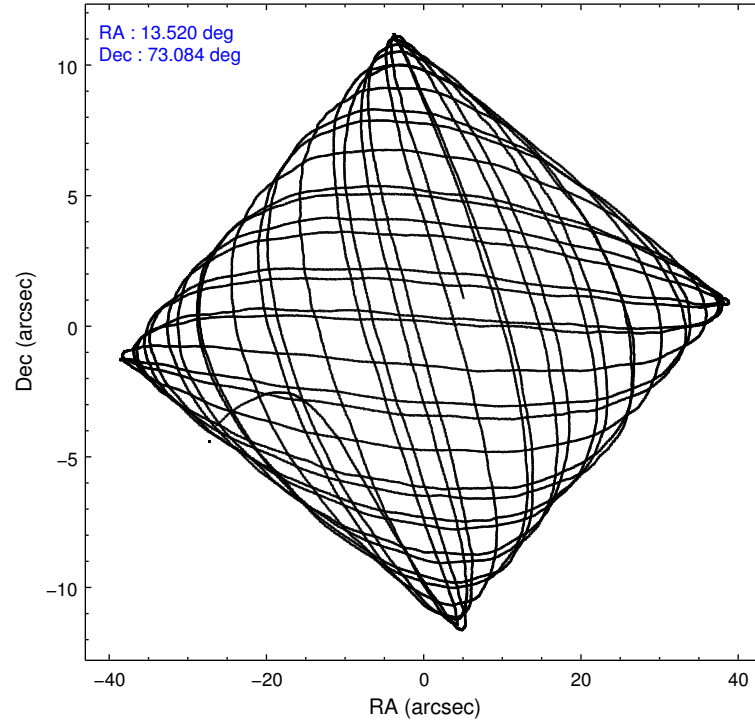
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
level 1 events	74105	73300	77293	103516	99654
rejected events	65784	65198	68073	58176	73113
rejected %	88%	88%	88%	56%	73%

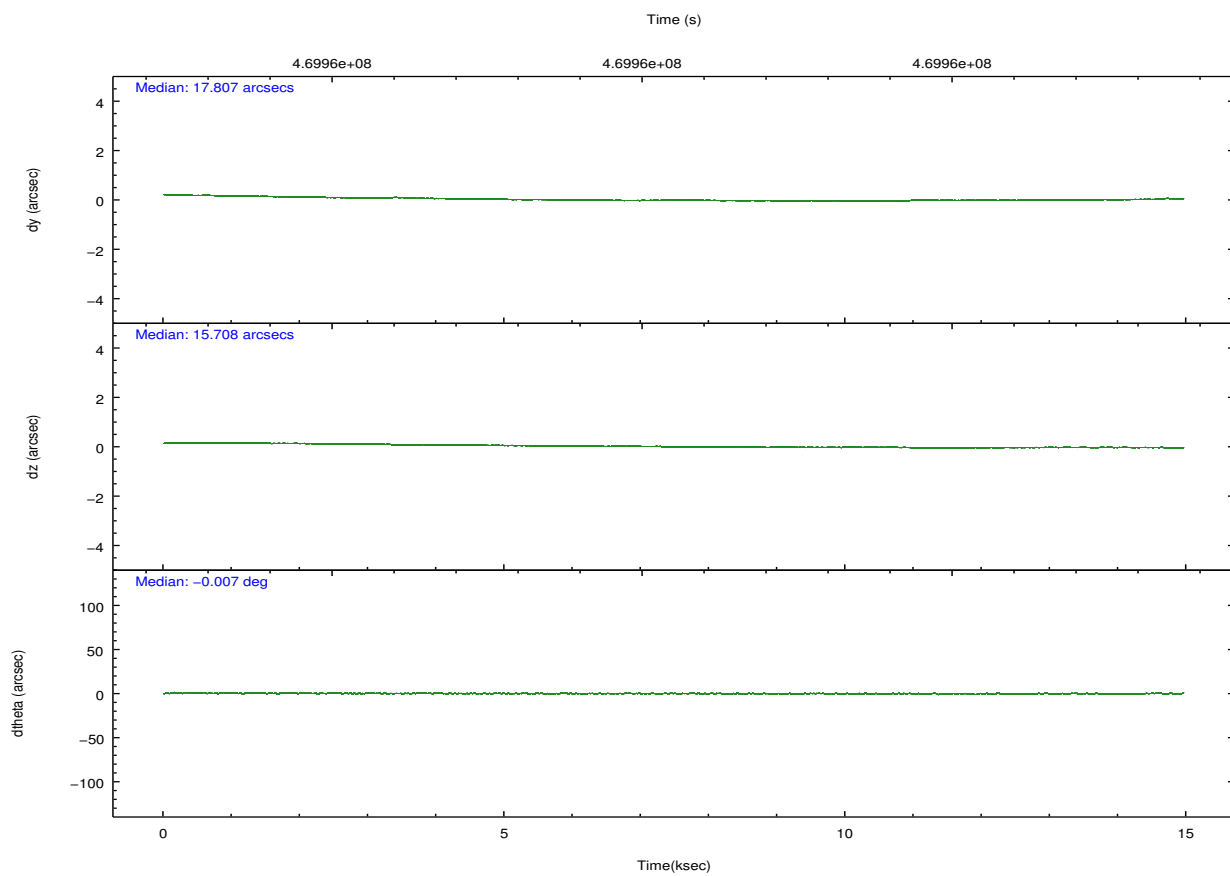
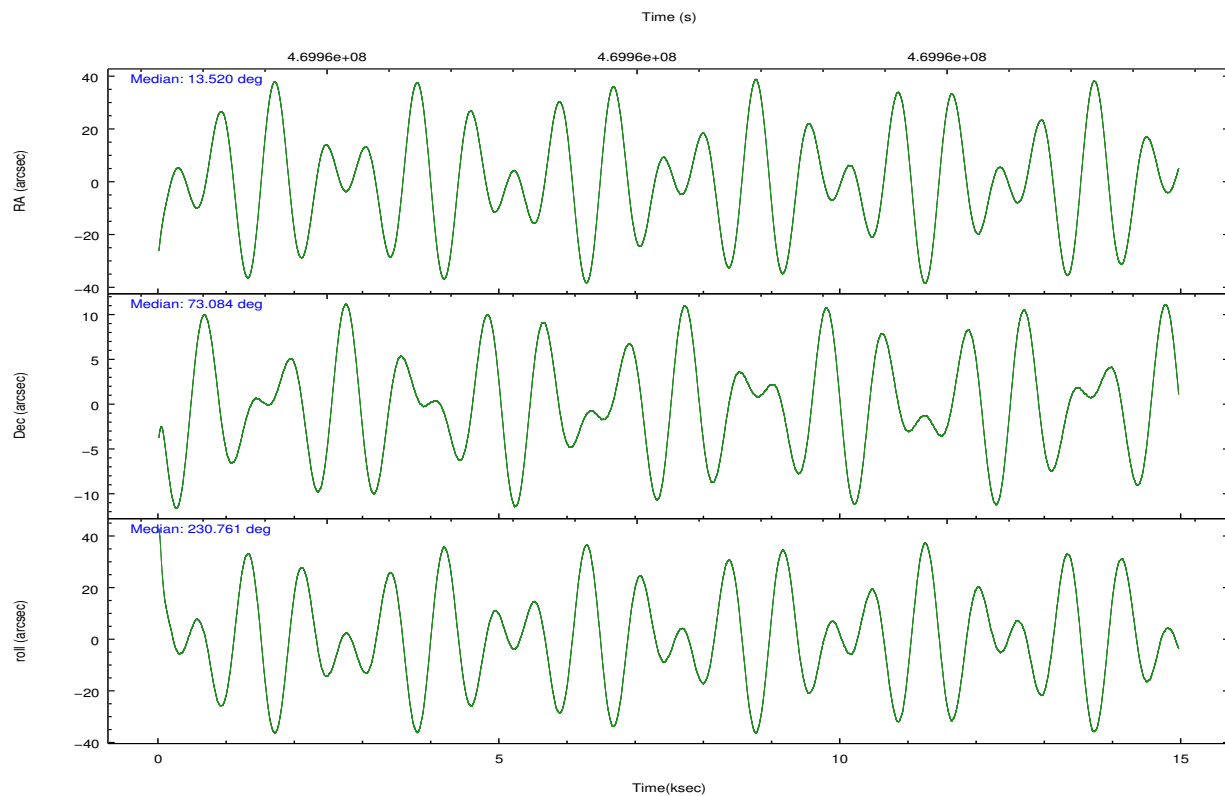
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
grade 0 events	3019	2783	3147	4069	7467
	4%	3%	4%	3%	7%
grade 1 events	43	42	44	107	76
	0%	0%	0%	0%	0%
grade 2 events	1917	1827	2094	9333	6252
	2%	2%	2%	9%	6%
grade 3 events	863	884	937	3909	2900
	1%	1%	1%	3%	2%
grade 4 events	894	863	903	3792	2792
	1%	1%	1%	3%	2%
grade 5 events	3346	3866	3876	10714	5616
	4%	5%	5%	10%	5%
grade 6 events	1629	1746	2141	24255	7131
	2%	2%	2%	23%	7%
grade 7 events	62394	61289	64151	47337	67420
	84%	83%	82%	45%	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	13.533760	13.51992623163996	CCD I2 on	O2	Y
[deg] Pointing Dec	73.111110	73.08406477132154	CCD I3 on	Y	Y
[deg] Pointing Roll	230.597303	230.7671762428195	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	O1	N
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1425803651734	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01005778216563158	CCD S4 on	Y	Y
[s] Observation start time (MET)	469953560.184000	469952451.98146	CCD S5 on	N	N
Observation start date	2012-11-22T06:38:13	2012-11-22T06:20:51	Number of optional ACIS chips dropped	1	1
[s] Observation end time (MET)	469967995.184000	469968221.09481	On-chip summing requested	N	N
Observation end date	2012-11-22T10:38:48	2012-11-22T10:43:41	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



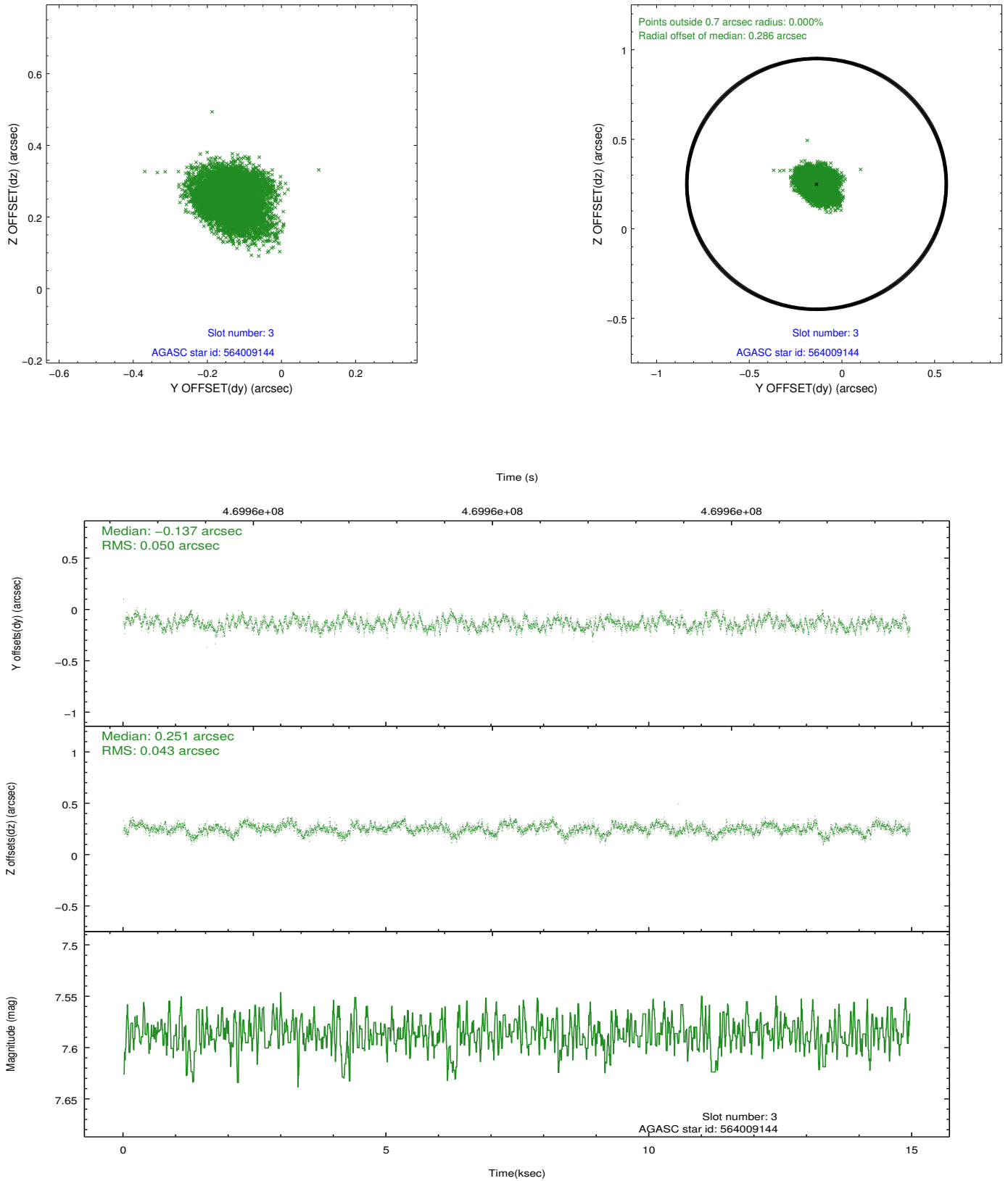


### Slot Statistics

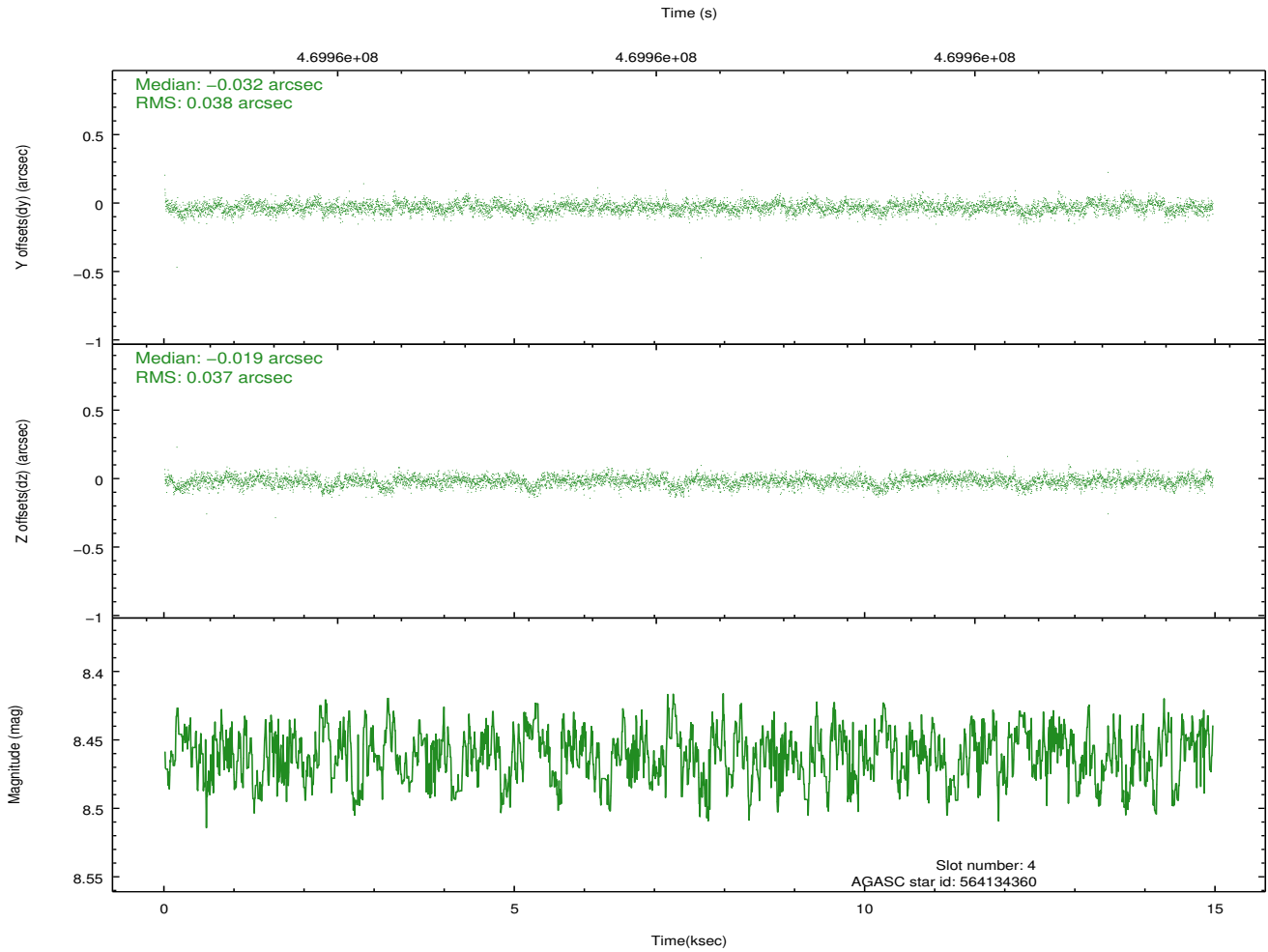
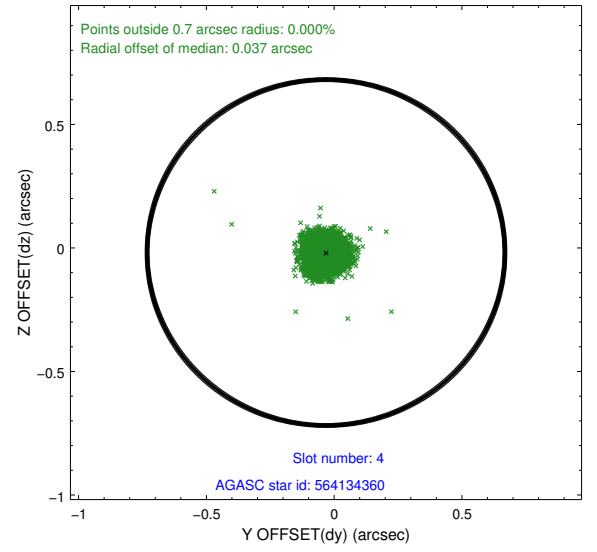
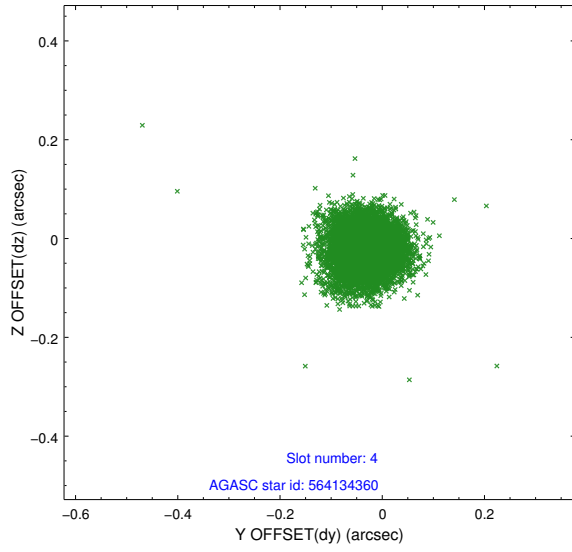
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-1	7.10	3648	0.054	-0.069	0.007	0.012	0.000000	0.000000	925.24	-1732.76
1	FID		ACIS-S-4	7.10	3648	0.194	0.027	0.006	0.011	0.000000	0.000000	2142.91	171.20
2	FID		ACIS-S-5	7.13	3648	-0.275	0.055	0.007	0.013	0.000000	0.000000	-1823.62	165.07
3	GUIDE	used	564009144	7.59	7296	-0.137	0.251	0.071	0.113	11.760810	73.088278	1221.16	-1399.19
4	GUIDE	used	564134360	8.46	7284	-0.032	-0.019	0.055	0.091	12.170152	72.964881	1307.62	-787.29
5	GUIDE	used	564661016	8.14	7296	-0.005	0.168	0.057	0.091	13.178469	73.753007	-1558.47	-1743.98
6	GUIDE	used	564664560	8.33	7296	0.072	-0.105	0.067	0.115	15.798557	73.357103	-2200.24	1213.66
7	GUIDE	used	564668400	8.37	7295	0.099	-0.296	0.093	0.146	13.870786	73.140187	-305.63	205.46

## 2.4 Star Slots

### 2.4.1 Slot 3

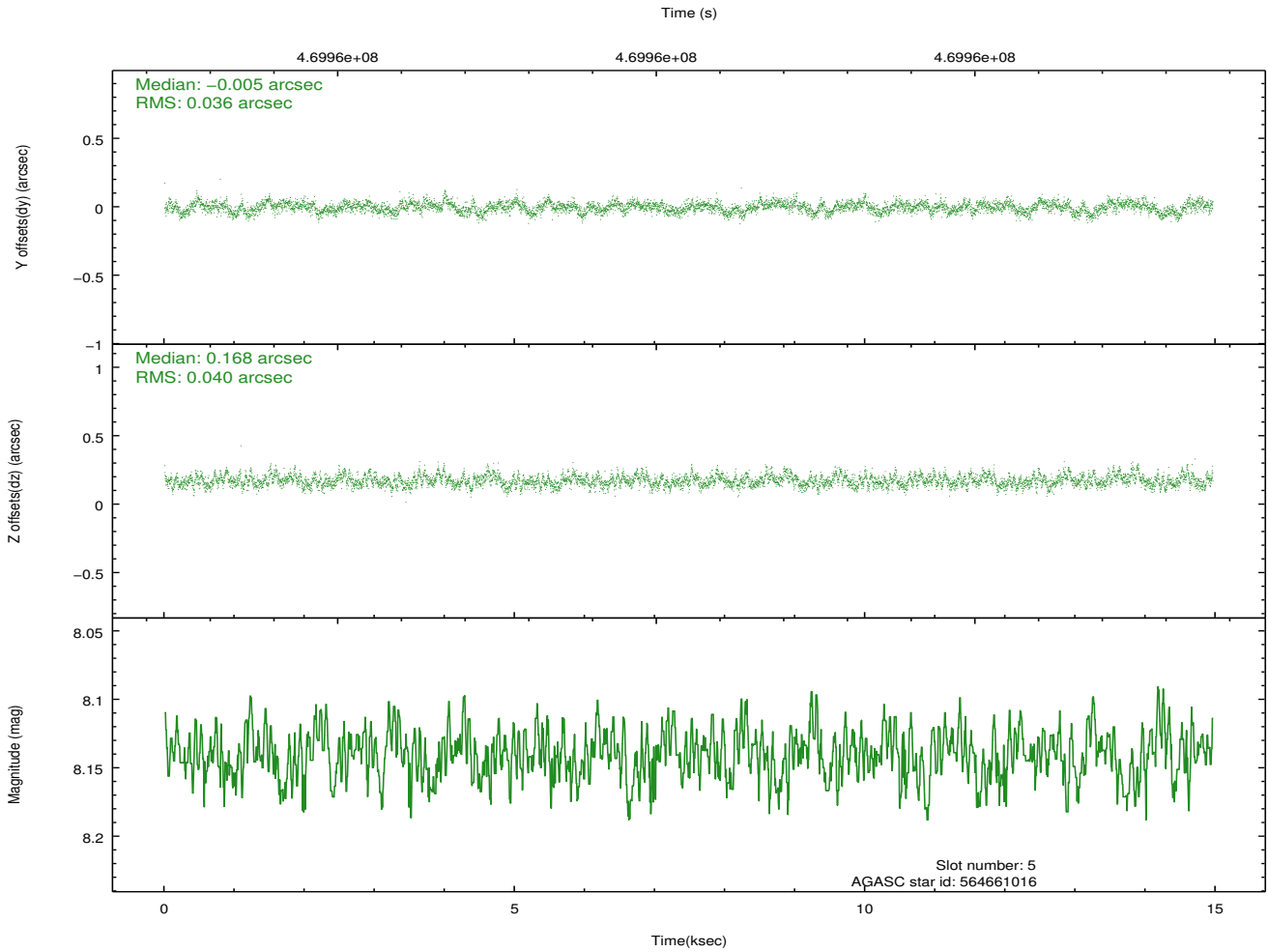
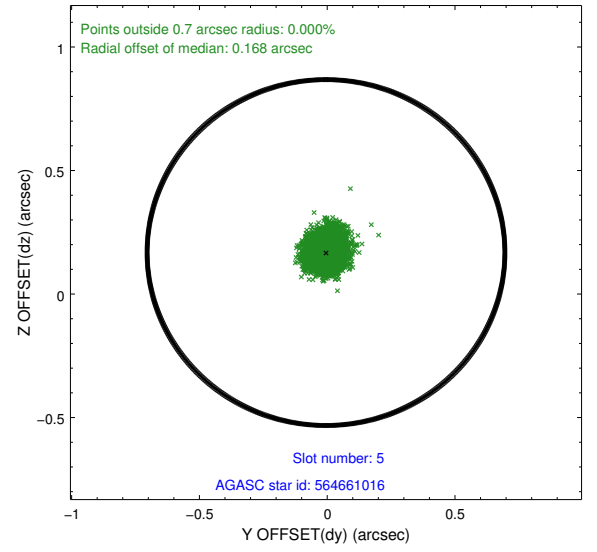
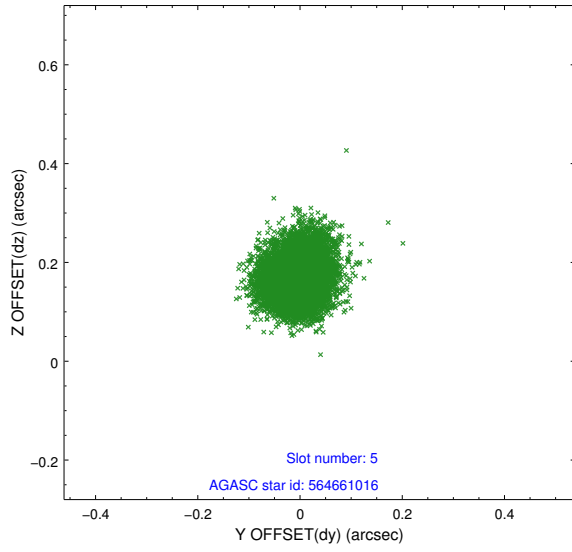


## 2.4.2 Slot 4

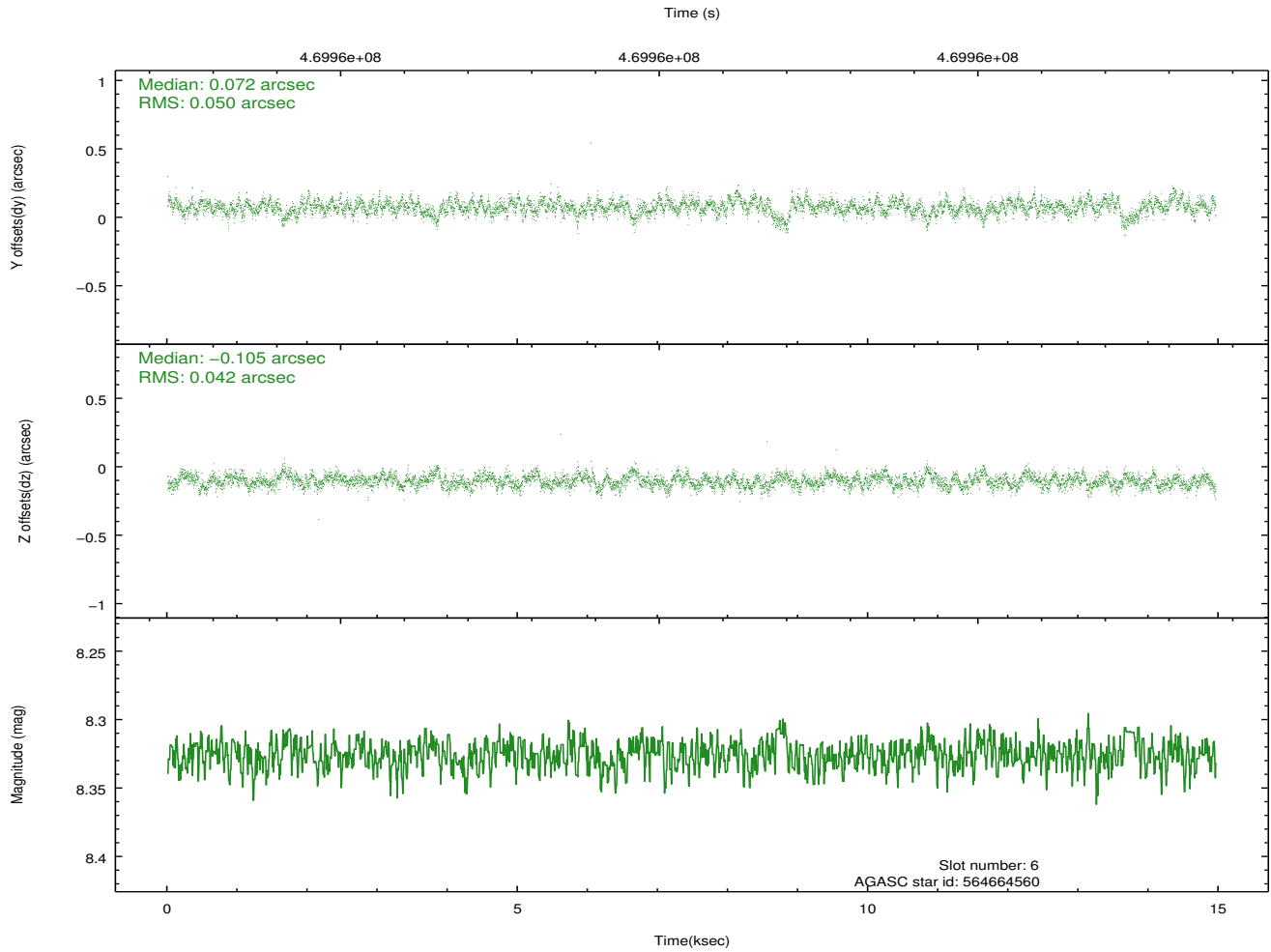
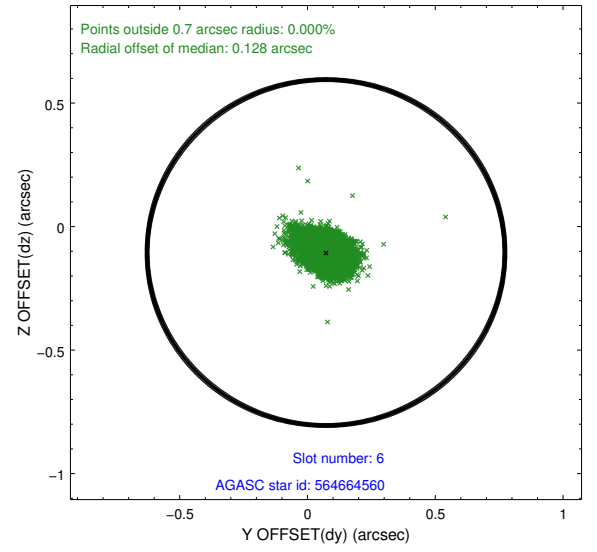
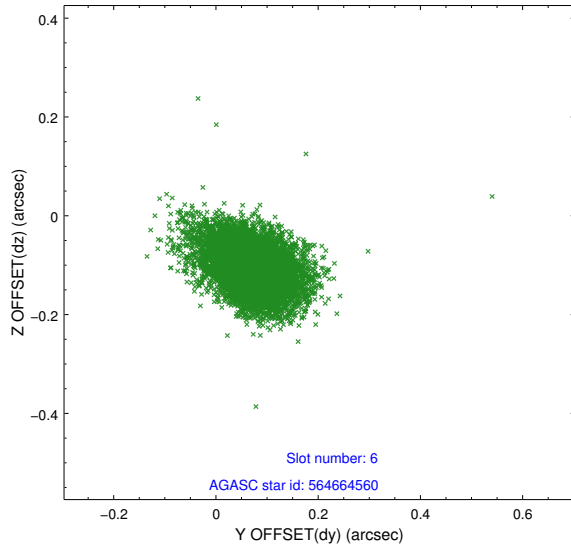




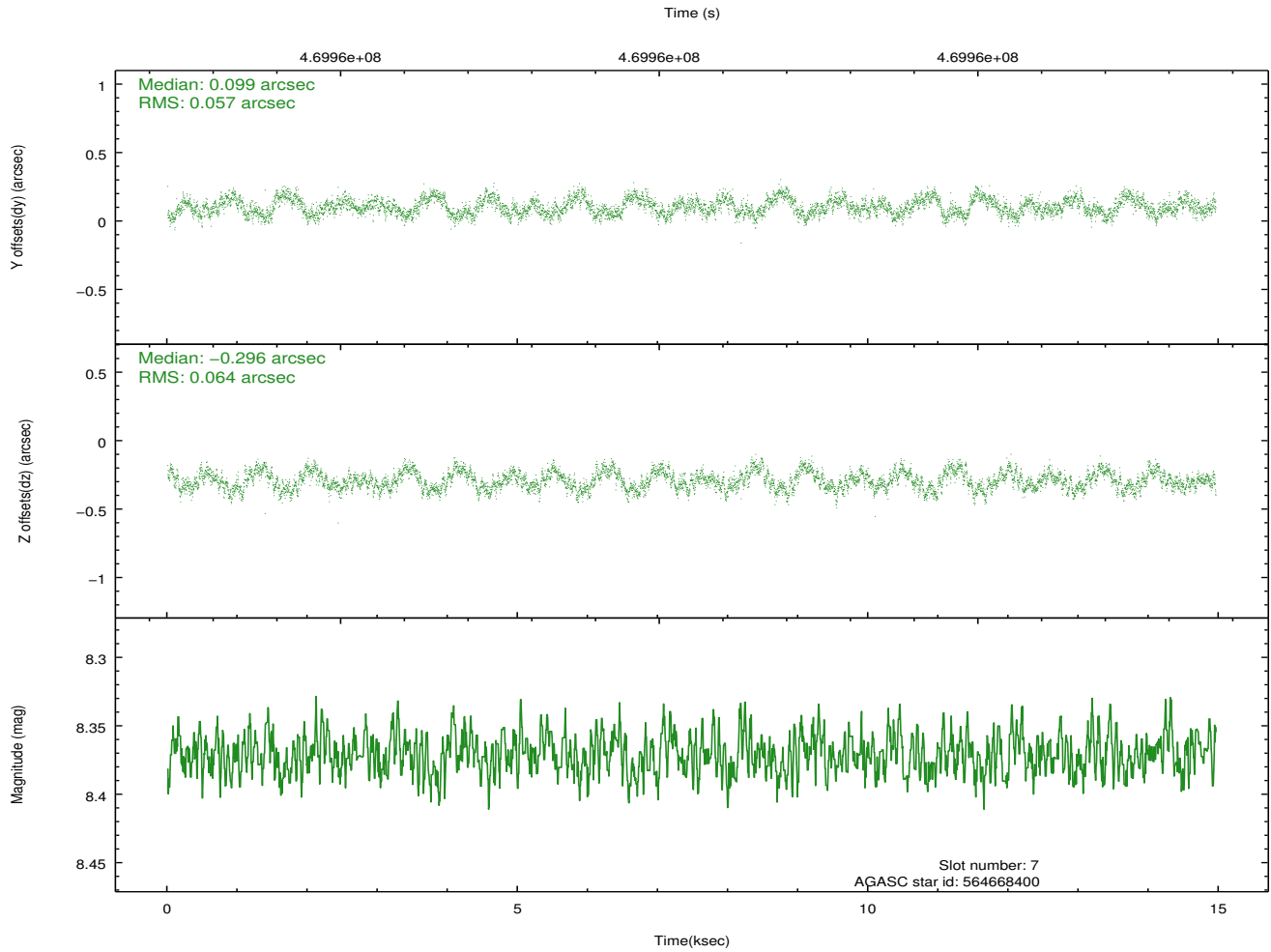
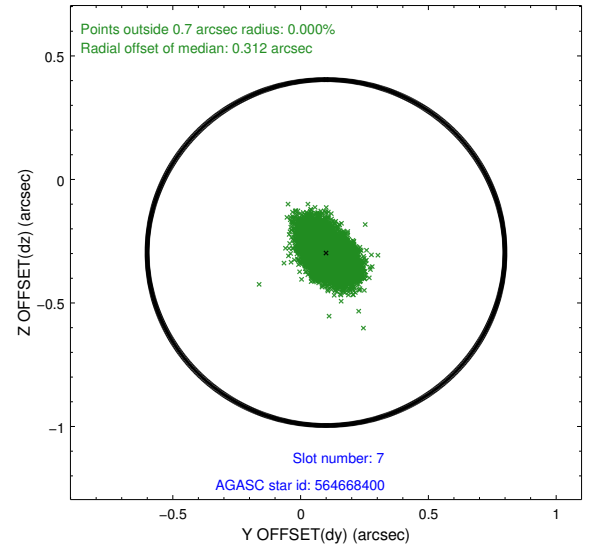
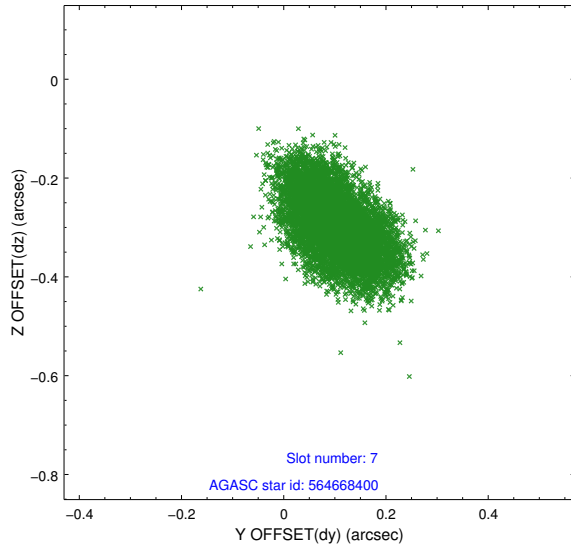
### 2.4.3 Slot 5



## 2.4.4 Slot 6

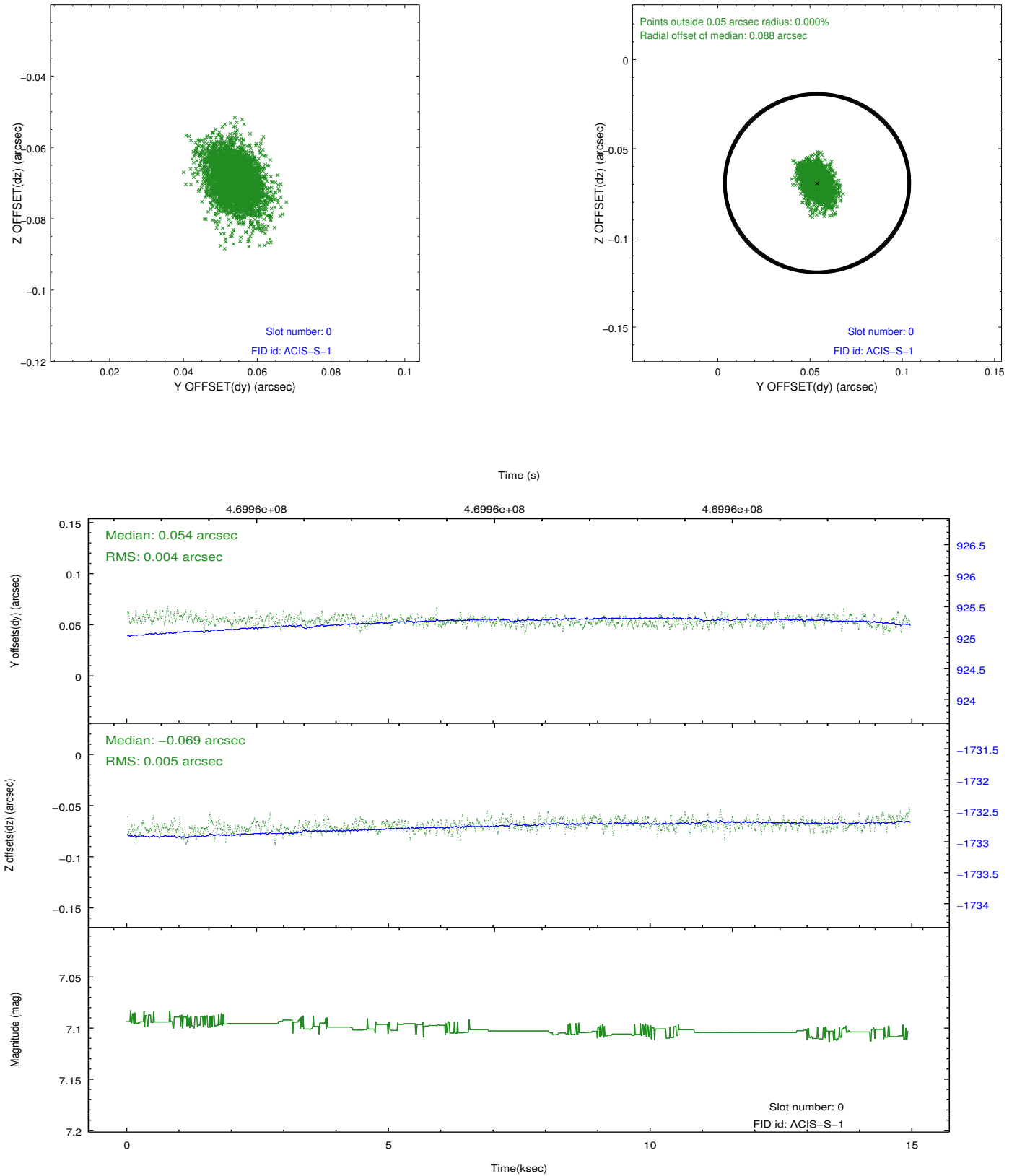


## 2.4.5 Slot 7

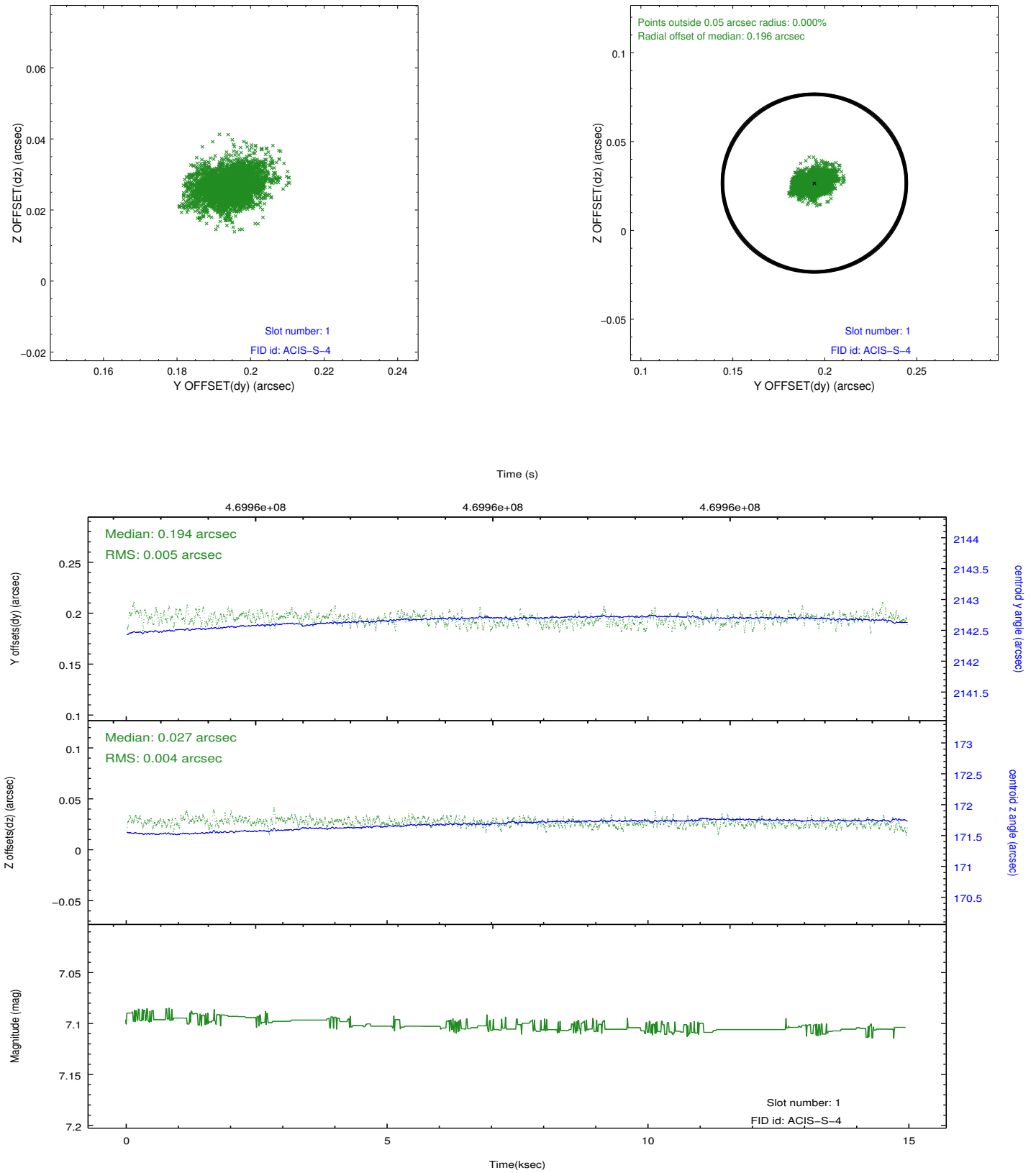


## 2.5 FID Slots

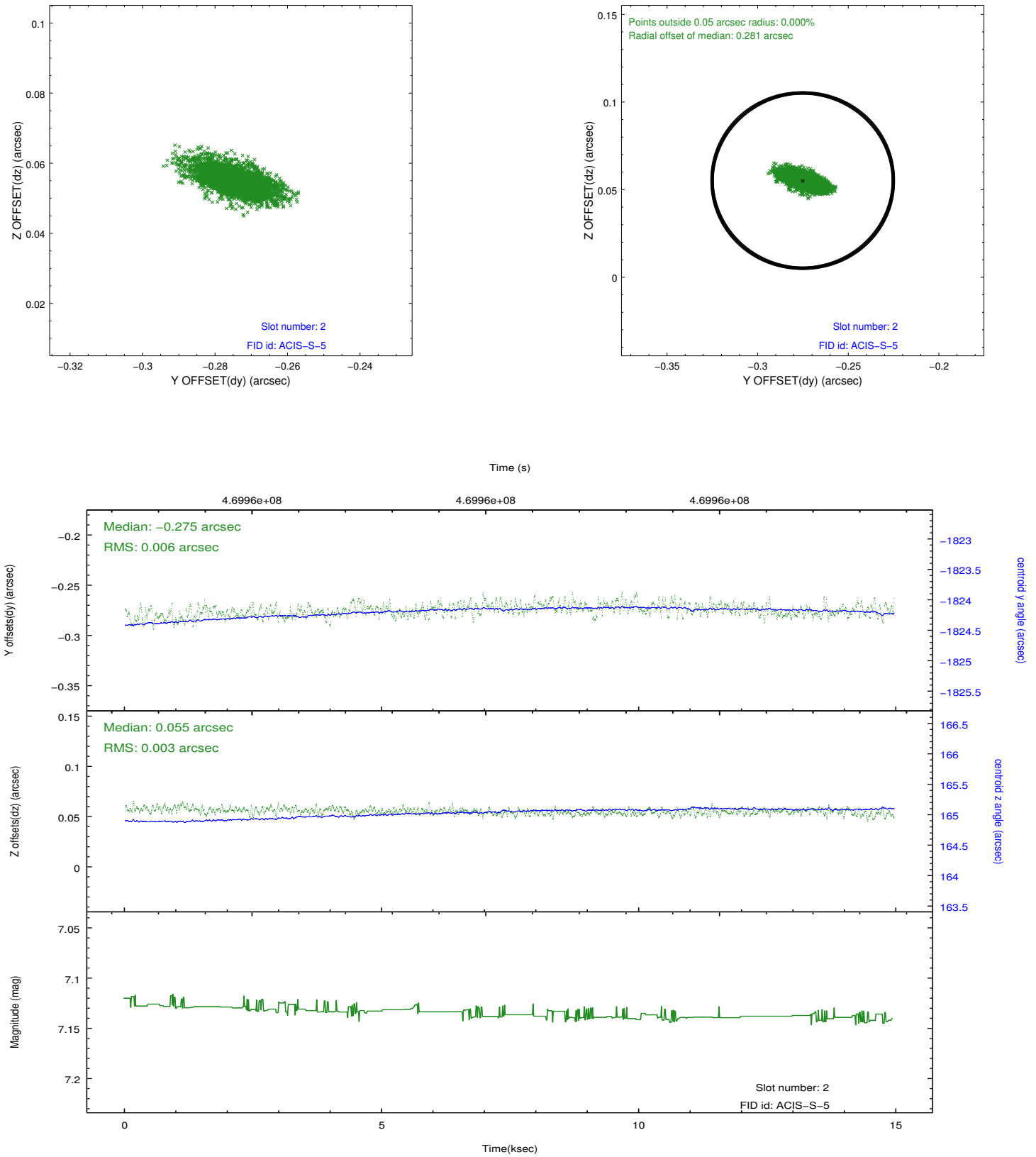
### 2.5.1 Slot 0



## 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)	2014.12.03
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	14.504299704373

## 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.