

# V&V Reference Report

## L2 ASCDS Version : 8.5.1.1

Observation 13465 - L2 Version 2  
Chandra X-Ray Center

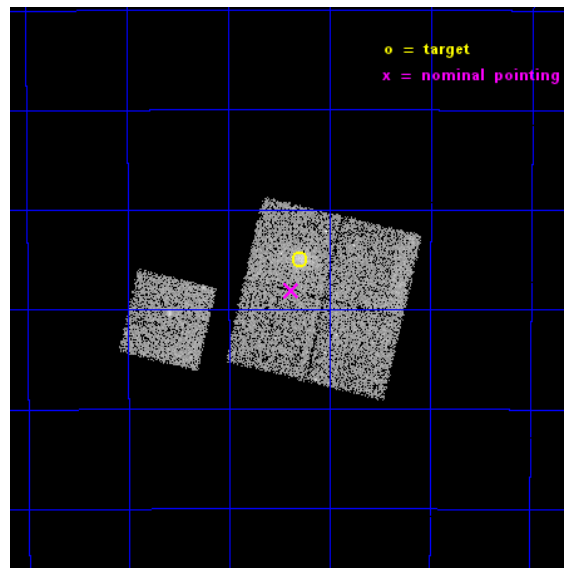
L2 Processing Date : Dec 1 2014

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# 1 Front

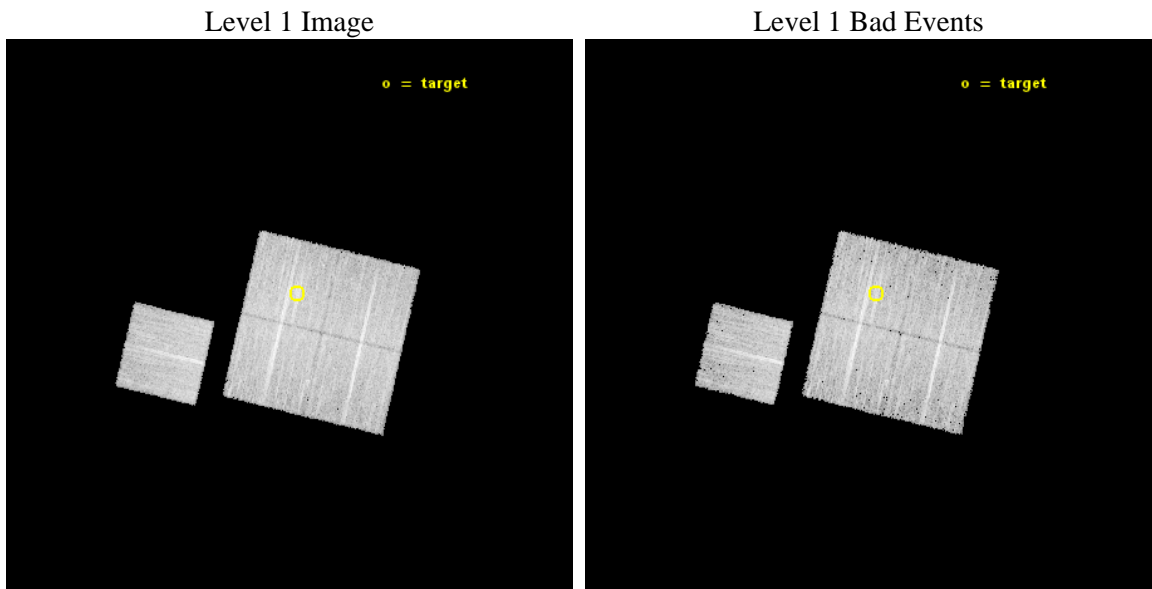
seq_num	801106	Sequence number
obs_id	13465	Observation id
title	Cosmology and Cluster Evolution from the 80 Most Massive Clusters in 2000 deg^2 from the South Pole Telescope Survey	Proposal title
observer	Dr. Bradford Benson	Principal investigator
object	SPT-CLJ0348-4514	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	57.07375	Observer's specified target RA [deg]
dec_targ	-45.249806	Observer's specified target Dec [deg]
ra_nom	57.094563079707	Nominal RA [deg]
dec_nom	-45.302269982205	Nominal Dec [deg]
roll_nom	283.2739296694	Nominal Roll [deg]
revision	2	Processing version of data
ontime	12958.000099659	Sum of GTIs [s]
livetime	12788.694288816	Livetime [s]
ontime0	12954.85912931	Sum of GTIs [s]
ontime1	12958.000099659	Sum of GTIs [s]
ontime2	12954.859109461	Sum of GTIs [s]
ontime3	12958.000099659	Sum of GTIs [s]
ontime6	12954.85912925	Sum of GTIs [s]
l2events	36620	Number of level 2 events



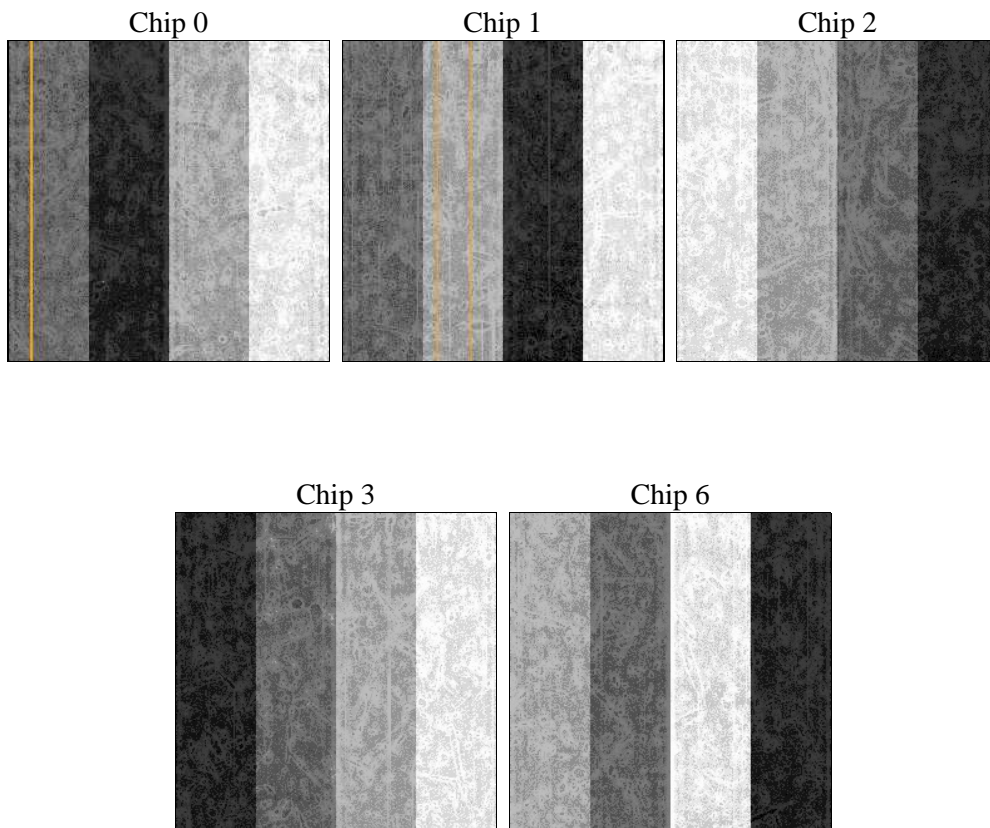
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	12875.891000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	12958.000099659	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime0	12954.85912931	Sum of GTIs [s]
date	2014-12-01T11:28:35	Date and time of file creation	ontime1	12958.000099659	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	12954.859109461	Sum of GTIs [s]
			ontime3	12958.000099659	Sum of GTIs [s]
			ontime6	12954.85912925	Sum of GTIs [s]
			l1events	340938	Number of level 1 events

### 2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	64467	64098	71558	72935	67880
rejected events	55975	55108	63276	63625	59364
rejected %	86%	85%	88%	87%	87%

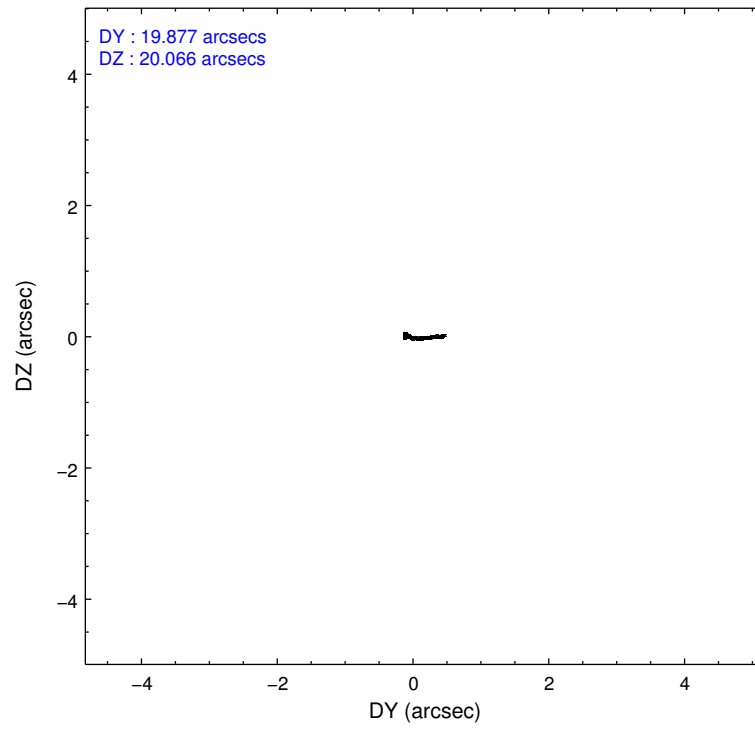
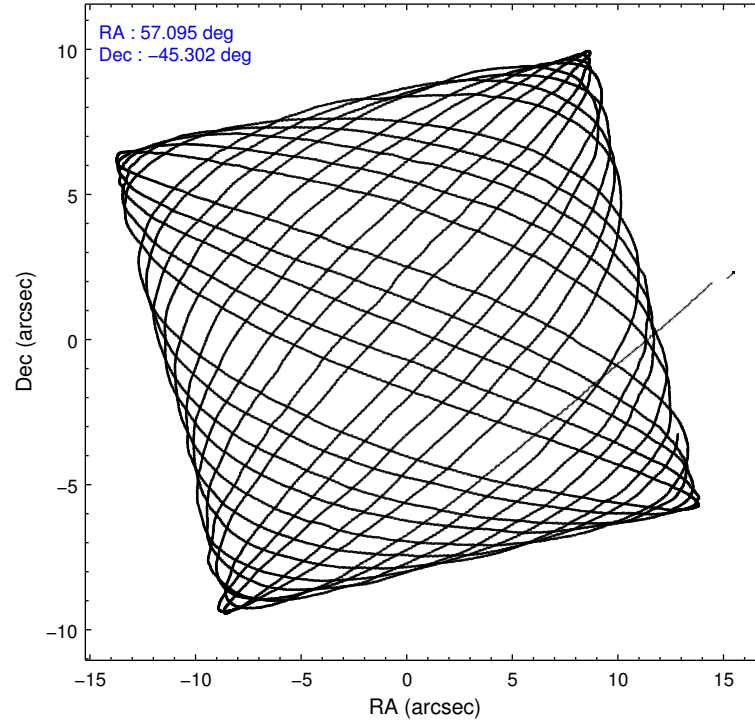
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	2940	3066	2895	3900	2990
	4%	4%	4%	5%	4%
grade 1 events	37	50	44	61	34
	0%	0%	0%	0%	0%
grade 2 events	2178	2171	2151	1991	1899
	3%	3%	3%	2%	2%
grade 3 events	907	918	806	832	924
	1%	1%	1%	1%	1%
grade 4 events	826	927	834	886	805
	1%	1%	1%	1%	1%
grade 5 events	3247	3452	3081	3640	3447
	5%	5%	4%	4%	5%
grade 6 events	1643	1909	1597	1704	1899
	2%	2%	2%	2%	2%
grade 7 events	52689	51605	60150	59921	55882
	81%	80%	84%	82%	82%

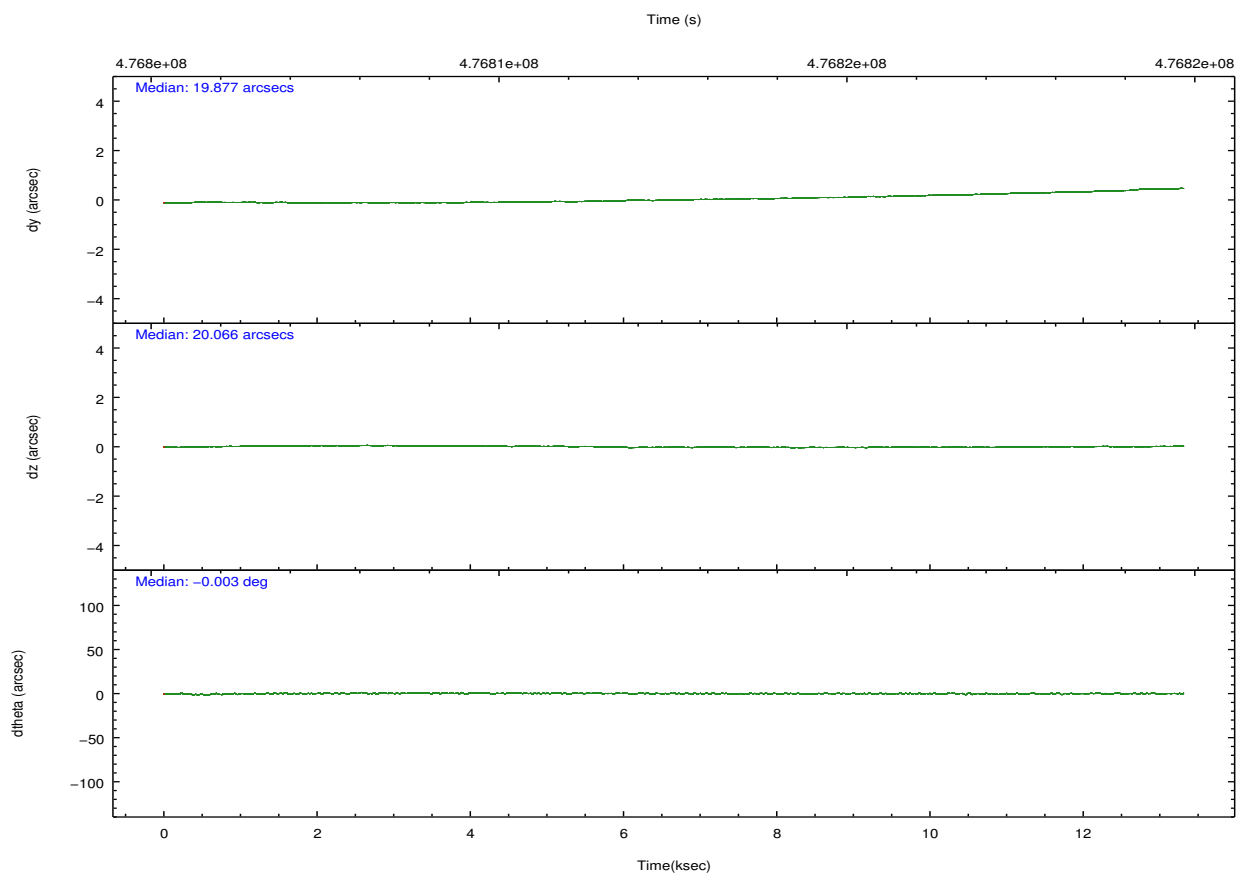
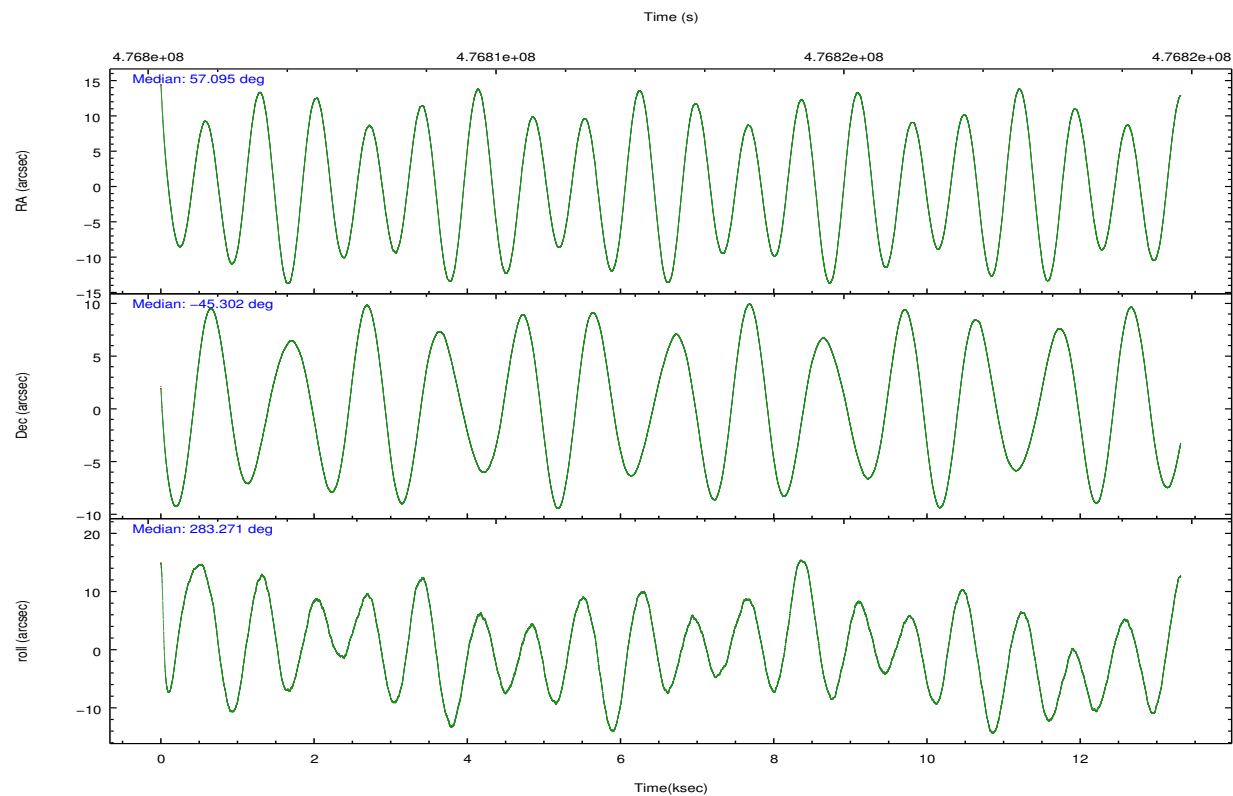


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-01236	ACIS-01236	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	57.067678	57.09456307970738	CCD I2 on	Y	Y
[deg] Pointing Dec	-45.282275	-45.30226998220478	CCD I3 on	Y	Y
[deg] Pointing Roll	283.046133	283.2739296694011	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	-225.842463	-225.8433433320239	CCD S3 on	N	N
[mm] SIM translation stage offset	-7.75	-7.749109670905796	CCD S4 on	N	N
[s] Observation start time (MET)	476806292.184000	476805224.63826	CCD S5 on	N	N
Observation start date	2013-02-09T14:10:25	2013-02-09T13:53:44	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	476819168.184000	476819402.43902	On-chip summing requested	N	N
Observation end date	2013-02-09T17:45:01	2013-02-09T17:50:02	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



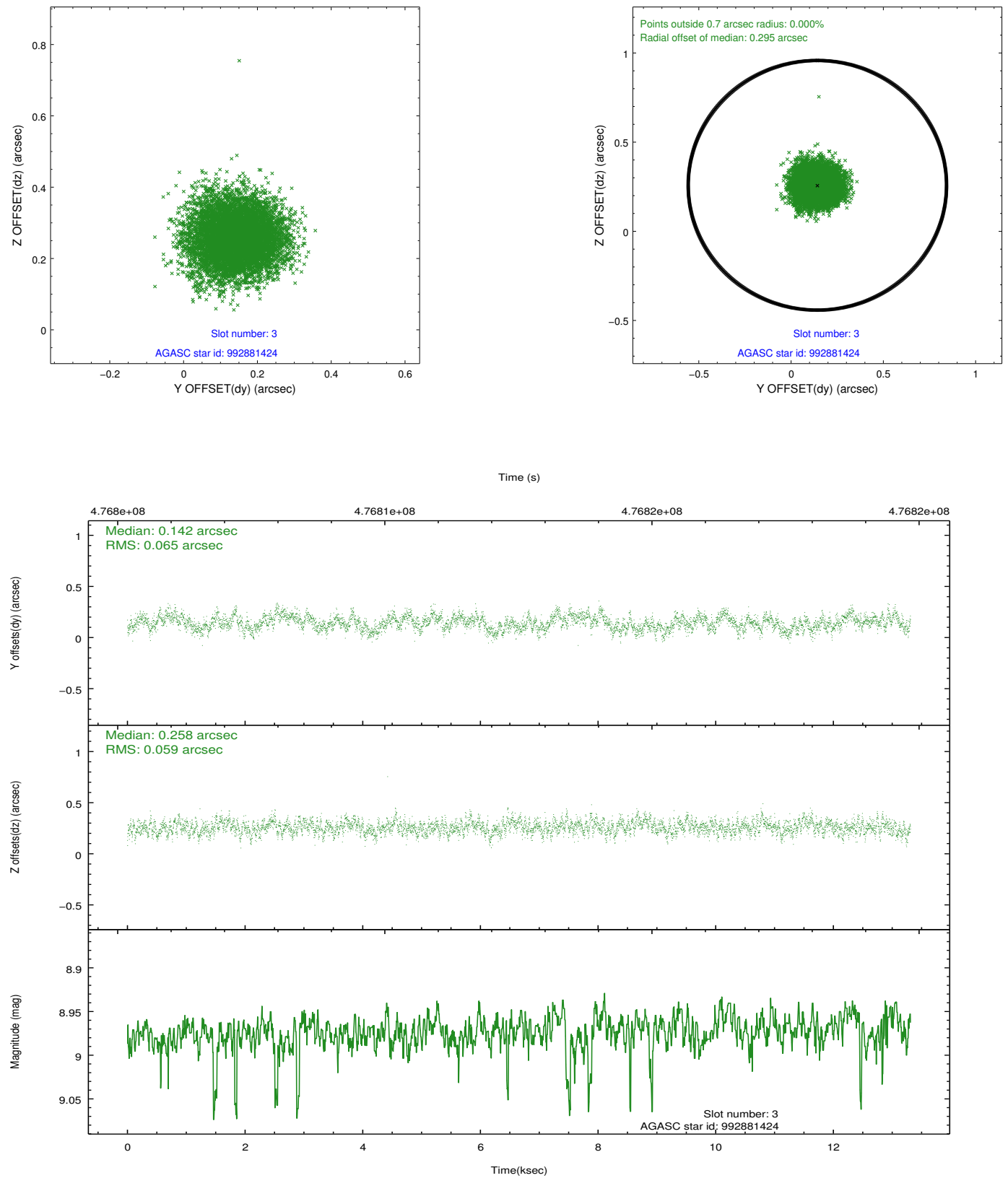


### Slot Statistics

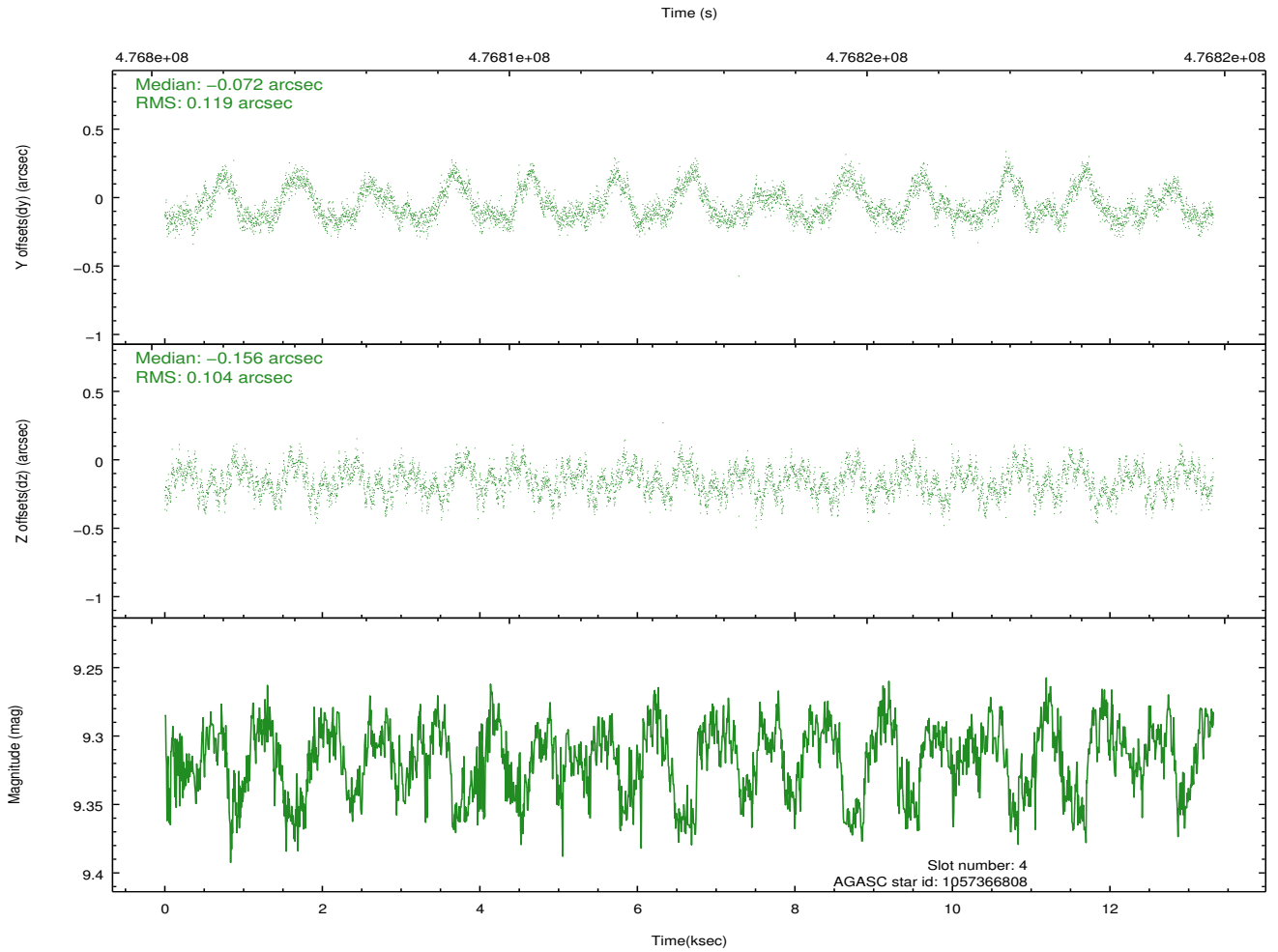
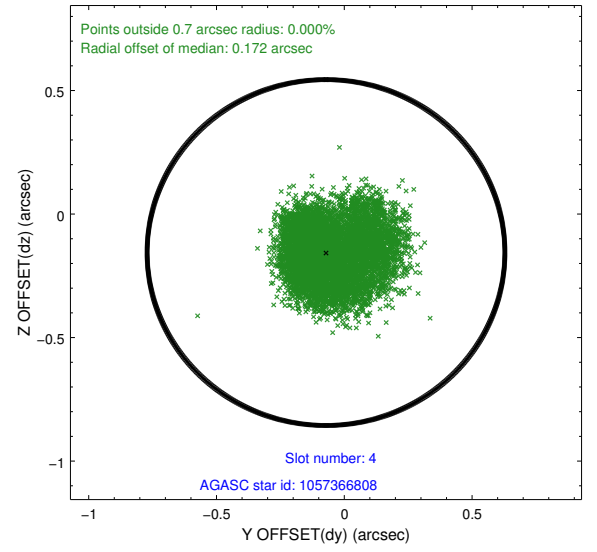
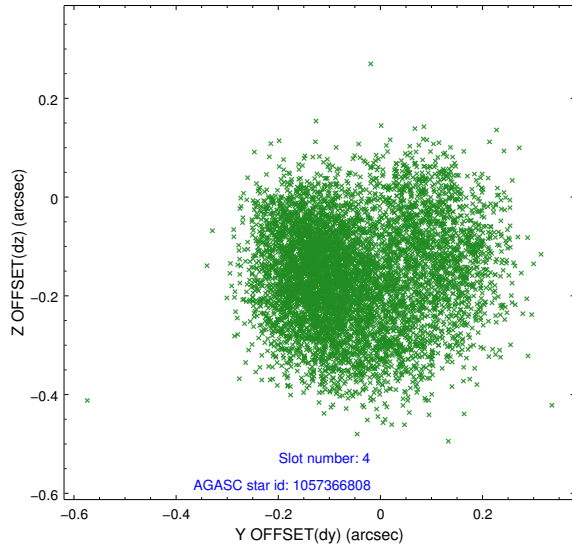
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.06	3247	0.122	-0.086	0.007	0.013	0.000000	0.000000	919.40	-1002.94
1	FID		ACIS-I-5	7.05	3247	-0.300	0.094	0.006	0.010	0.000000	0.000000	-1828.99	894.42
2	FID		ACIS-I-6	7.07	3247	0.087	0.063	0.007	0.011	0.000000	0.000000	384.44	1539.37
3	GUIDE	used	992881424	8.97	6469	0.142	0.258	0.095	0.150	56.082811	-44.836730	-2114.83	-2090.28
4	GUIDE	used	1057366808	9.31	6487	-0.072	-0.156	0.172	0.270	57.555335	-45.176426	-88.48	1290.57
5	GUIDE	used	1057372592	9.72	6465	0.038	-0.072	0.238	0.347	57.553560	-45.821817	2171.07	749.26
6	GUIDE	used	1057372648	6.88	6493	-0.315	-0.156	0.109	0.169	57.510851	-45.385382	617.70	1007.40
7	GUIDE	used	992873840	9.33	6490	0.198	0.118	0.146	0.236	56.116576	-44.772513	-2322.46	-1956.62

## 2.4 Star Slots

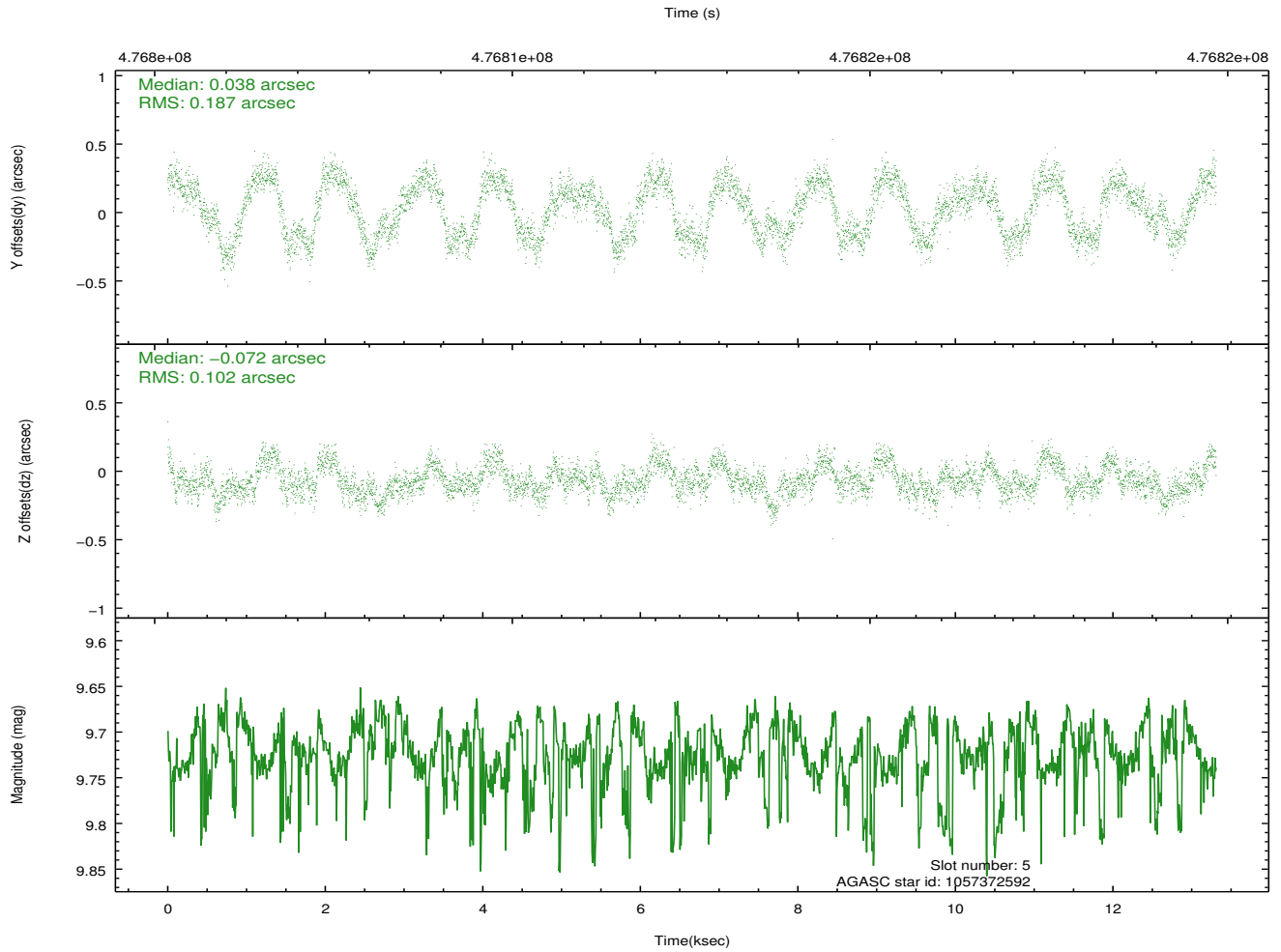
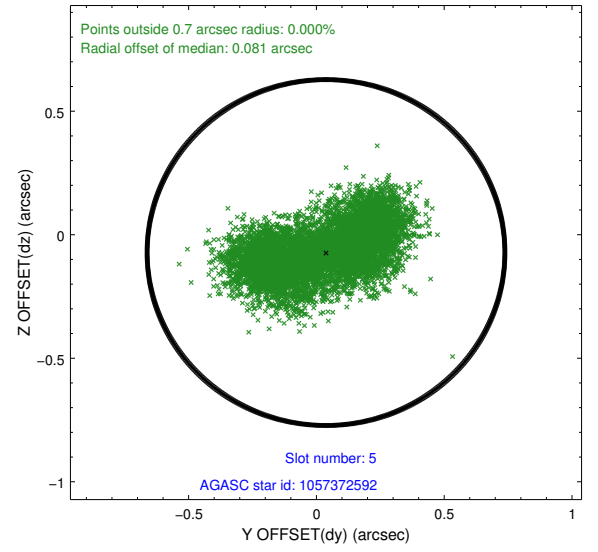
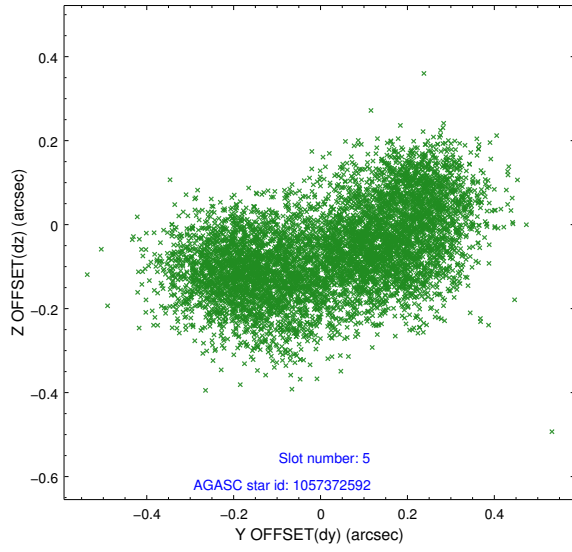
### 2.4.1 Slot 3



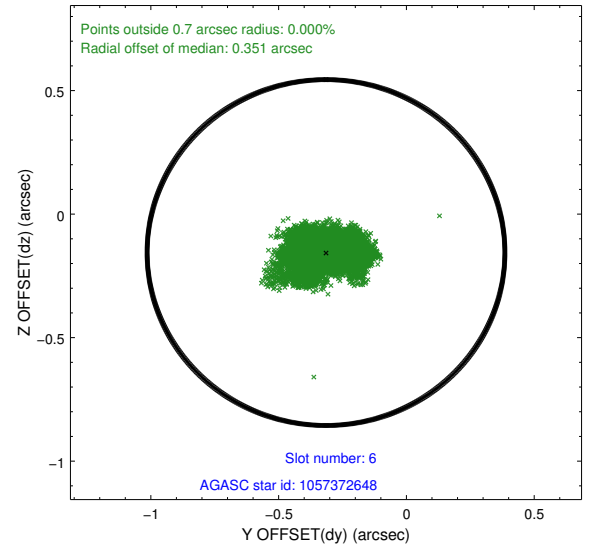
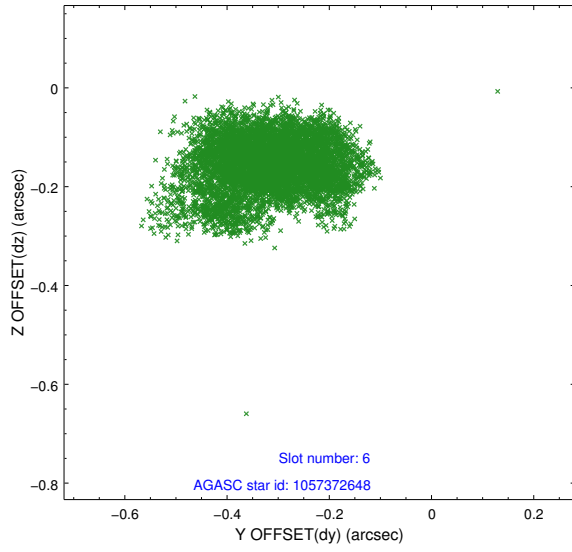
## 2.4.2 Slot 4



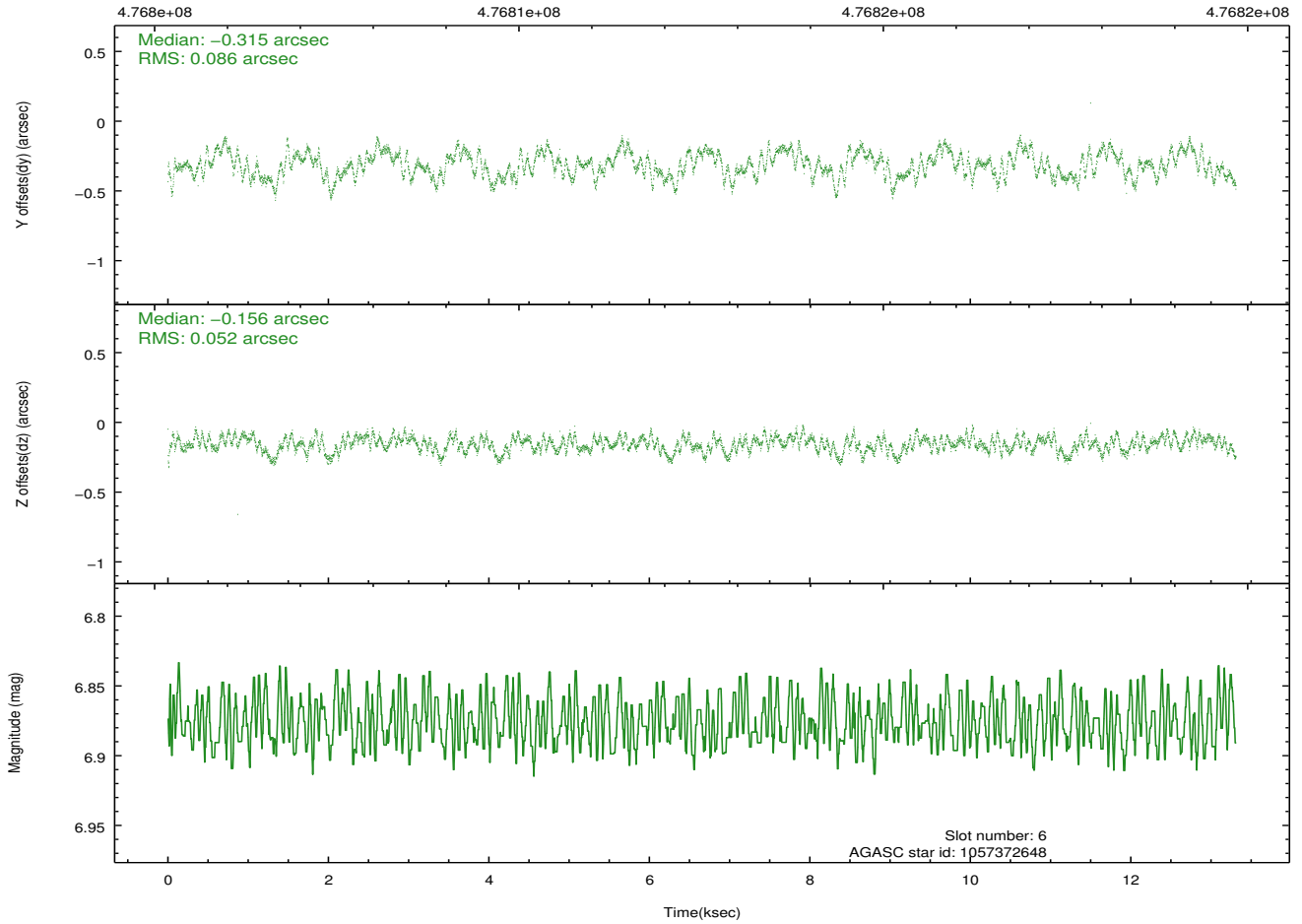
### 2.4.3 Slot 5



## 2.4.4 Slot 6

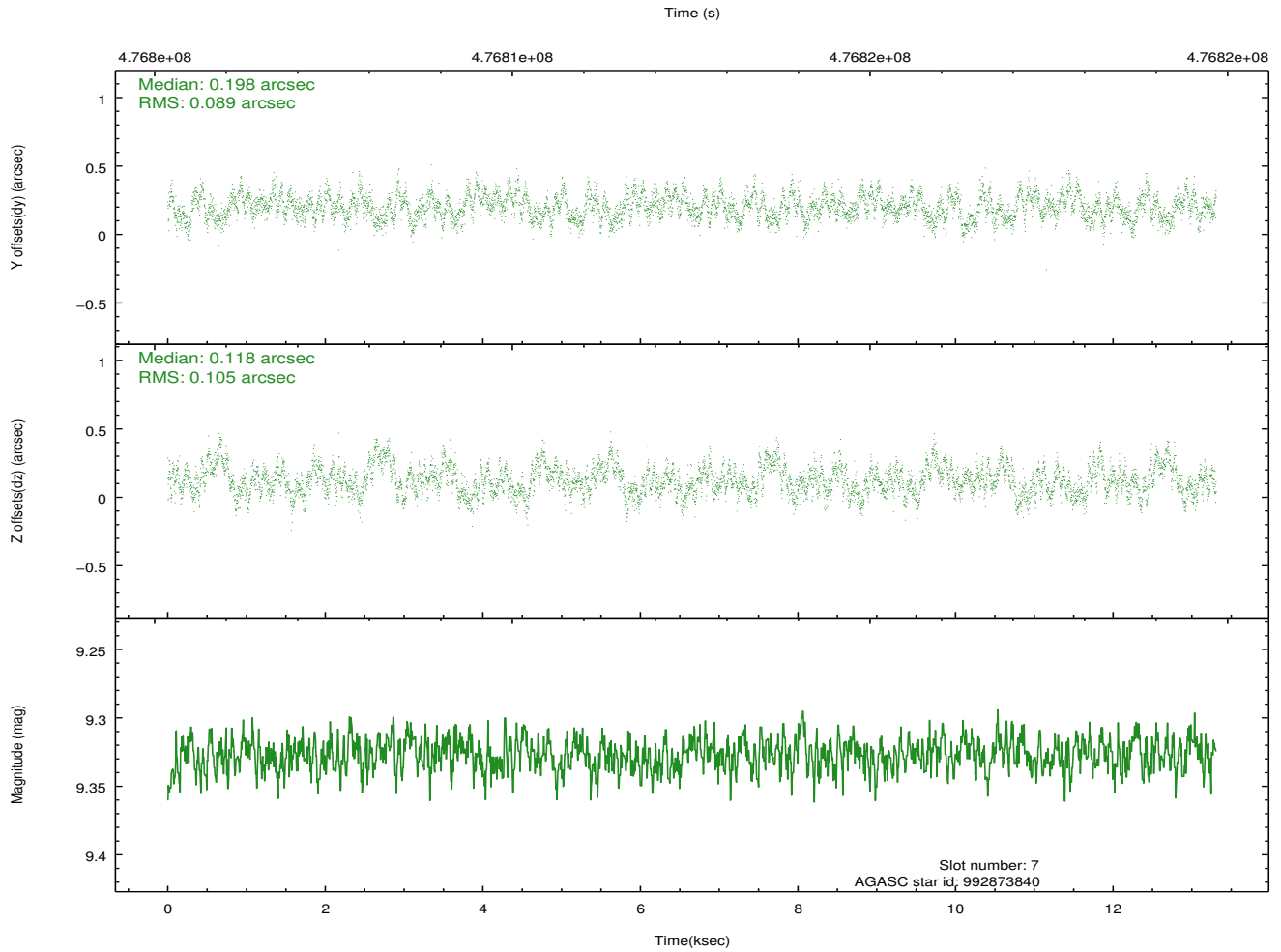
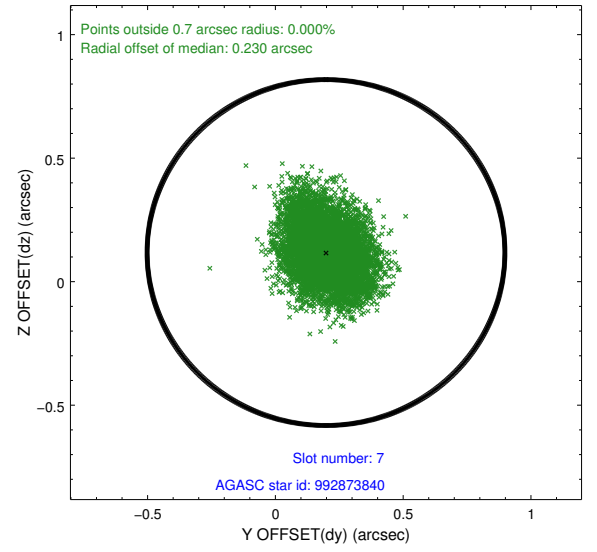
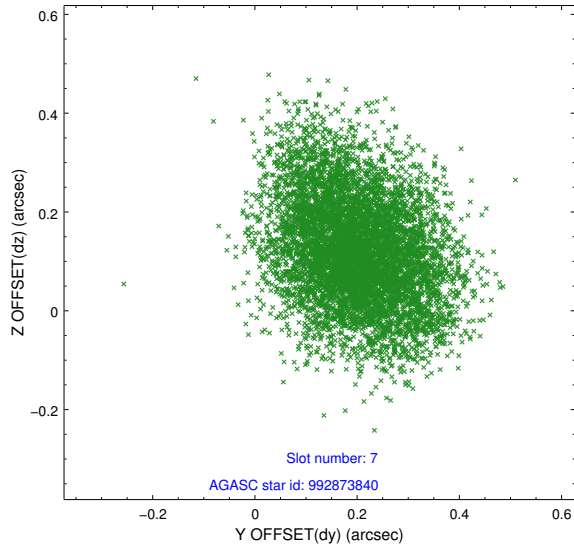


Time (s)



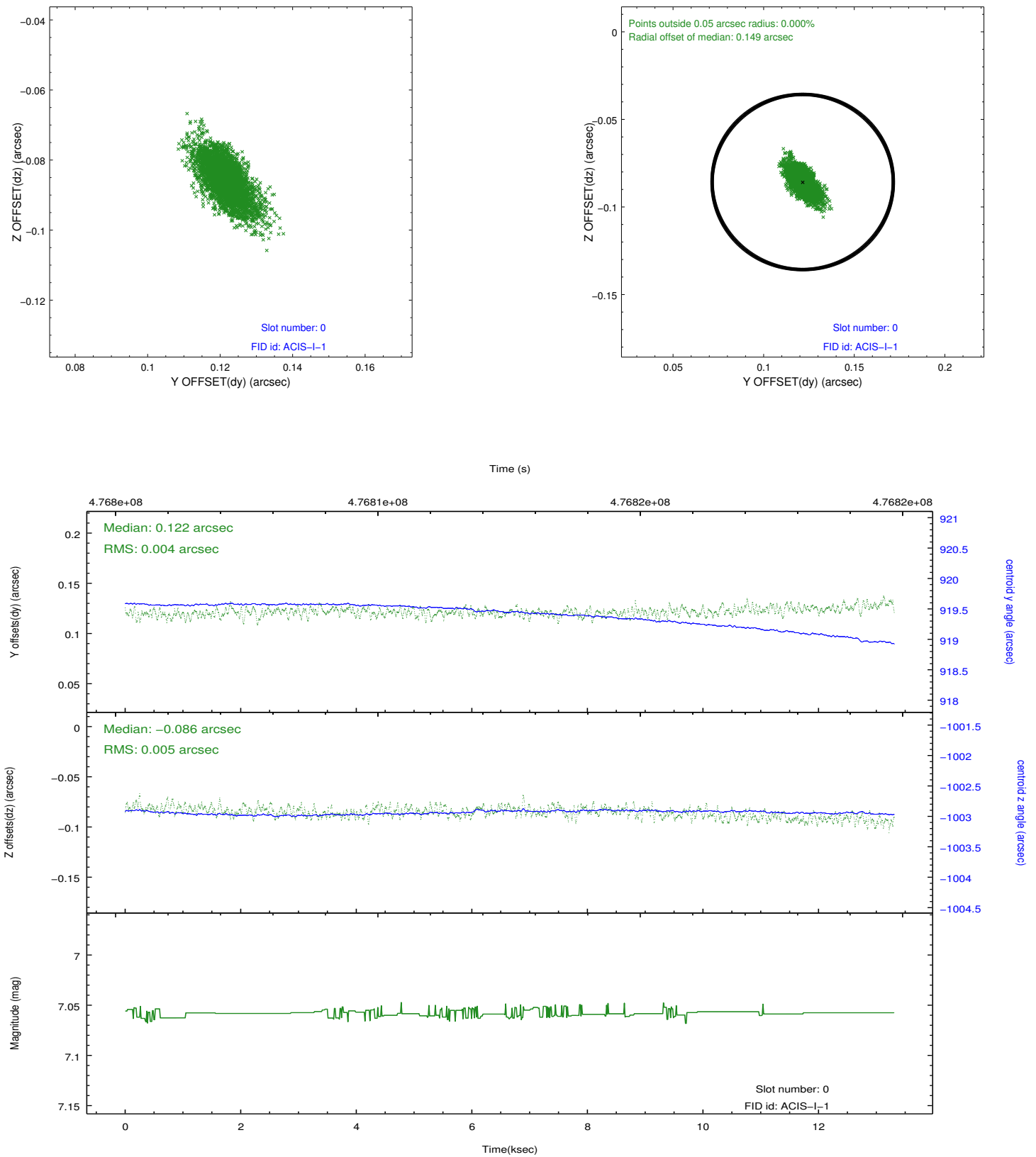


## 2.4.5 Slot 7

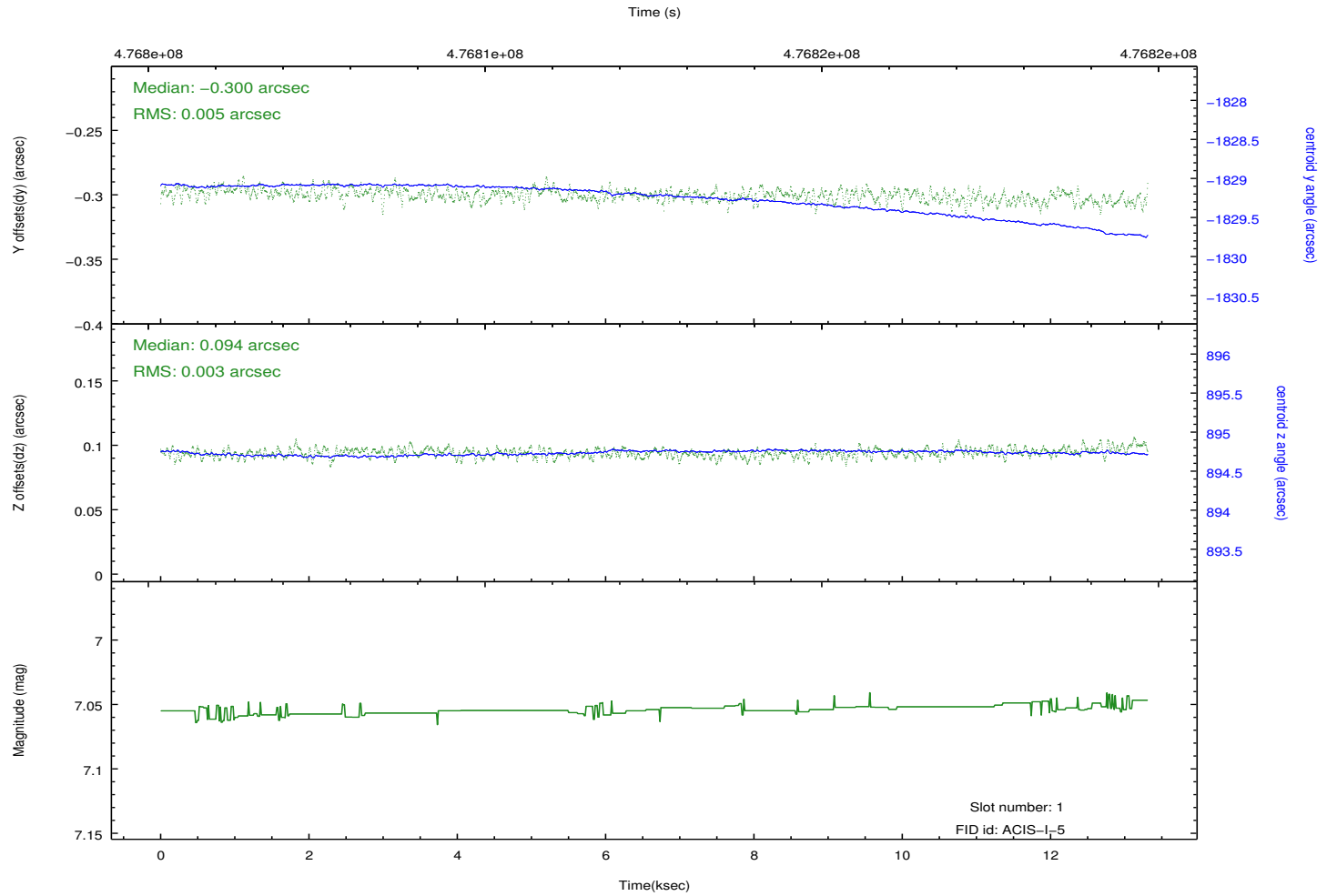
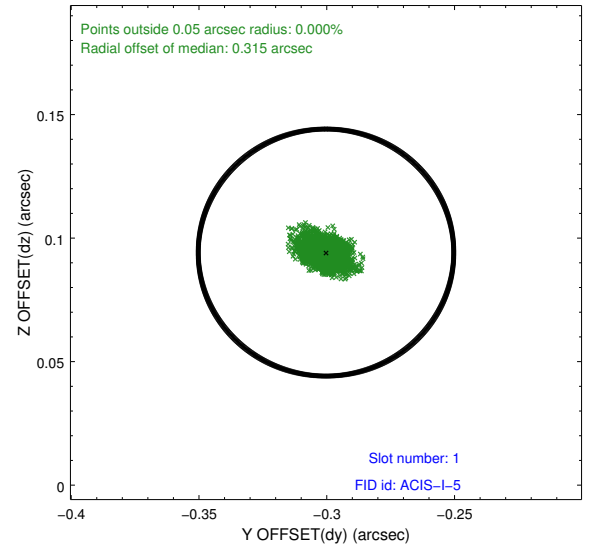
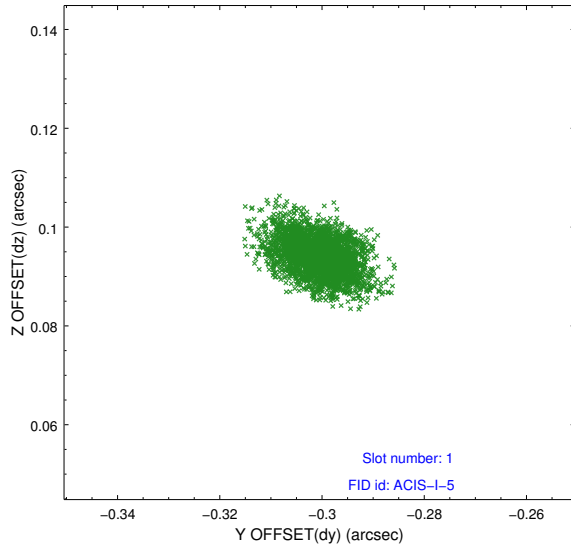


## 2.5 FID Slots

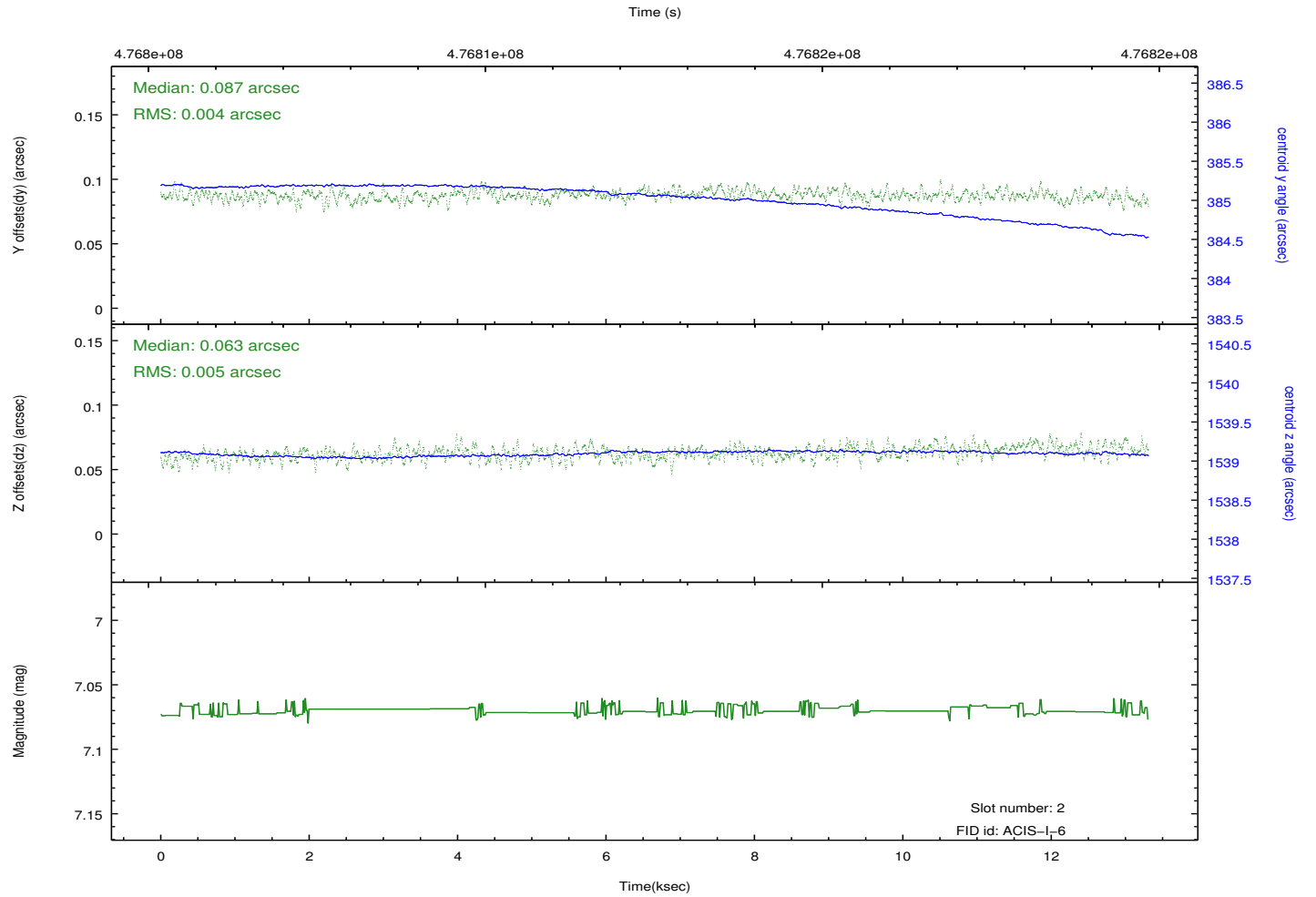
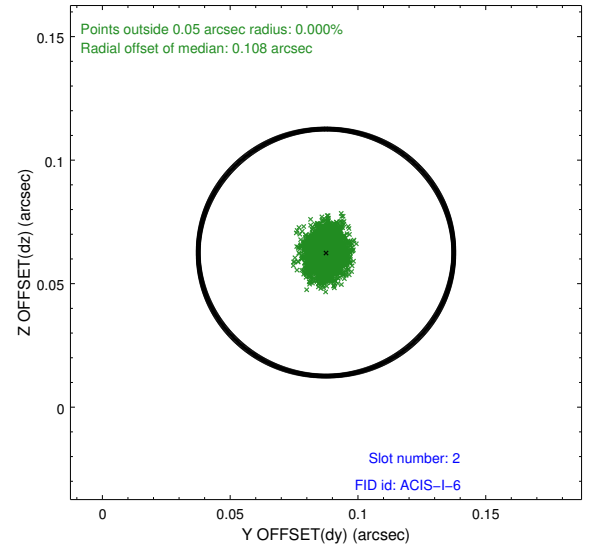
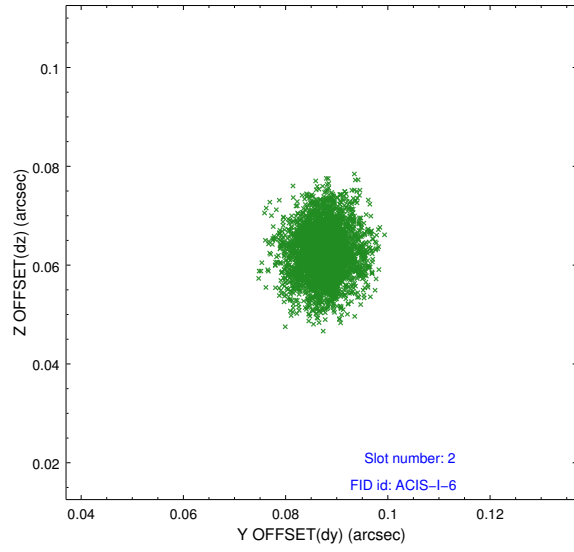
### 2.5.1 Slot 0



## 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)	2014.12.04
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	12.958000099659

## 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.