

# V&V Reference Report

## L2 ASCDS Version : 8.5.1.1

Observation 15639 - L2 Version 2  
Chandra X-Ray Center

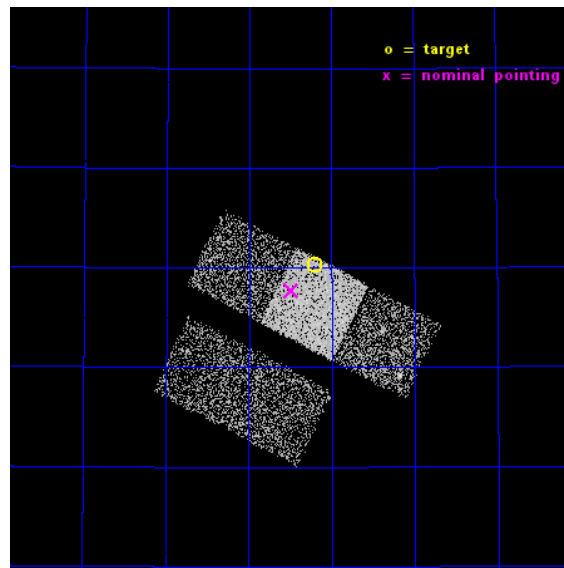
L2 Processing Date : Dec 2 2014

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# 1 Front

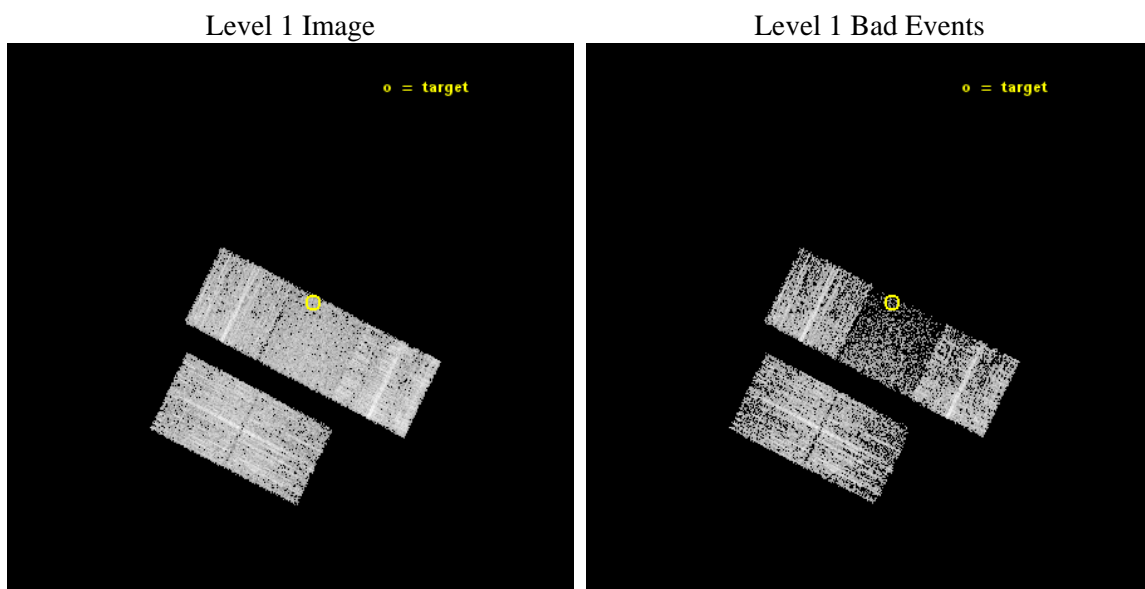
seq_num	100093	Sequence number
obs_id	15639	Observation id
title	High Latitude Charge Exchange X-rays from Comet PANSTARRS in the Cold Polar Solar Wind	Proposal title
observer	Dr. Carey Lisse	Principal investigator
object	Comet 2011 L4 (PANSTARRS)	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	5.8005	Observer's specified target RA [deg]
dec_targ	54.837722	Observer's specified target Dec [deg]
ra_nom	5.8714407374223	Nominal RA [deg]
dec_nom	54.795660588804	Nominal Dec [deg]
roll_nom	26.707563291071	Nominal Roll [deg]
revision	2	Processing version of data
ontime	5177.0000398159	Sum of GTIs [s]
livetime	5109.3587230437	Livetime [s]
ontime2	5177.0000398159	Sum of GTIs [s]
ontime3	5177.0000398159	Sum of GTIs [s]
ontime6	5177.0000398159	Sum of GTIs [s]
ontime7	5177.0000398159	Sum of GTIs [s]
ontime8	5177.0000398159	Sum of GTIs [s]
l2events	16763	Number of level 2 events



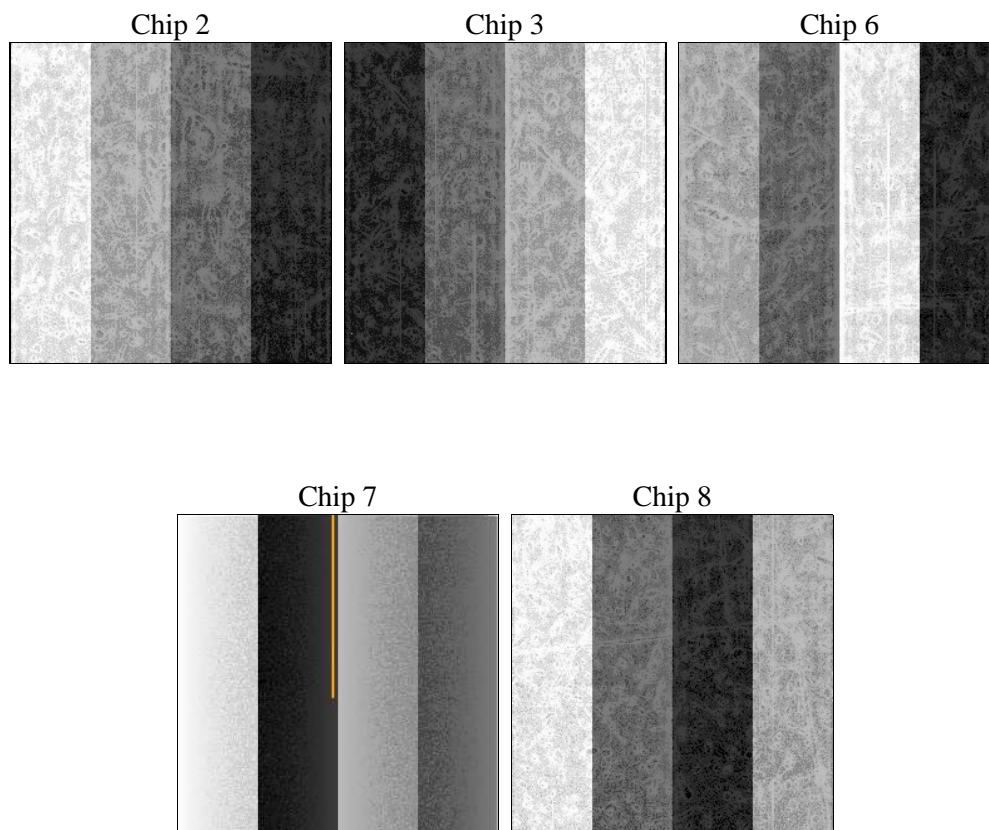
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	5000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	5177.0000398159	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime2	5177.0000398159	Sum of GTIs [s]
date	2014-12-02T17:39:23	Date and time of file creation	ontime3	5177.0000398159	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	5177.0000398159	Sum of GTIs [s]
			ontime7	5177.0000398159	Sum of GTIs [s]
			ontime8	5177.0000398159	Sum of GTIs [s]
			l1events	110449	Number of level 1 events

### 2.1.4 Events

	<b>ccd 2</b>	<b>ccd 3</b>	<b>ccd 6</b>	<b>ccd 7</b>	<b>ccd 8</b>
level 1 events	23023	20800	21129	16835	28662
rejected events	20807	18730	18725	7555	20199
rejected %	90%	90%	88%	44%	70%

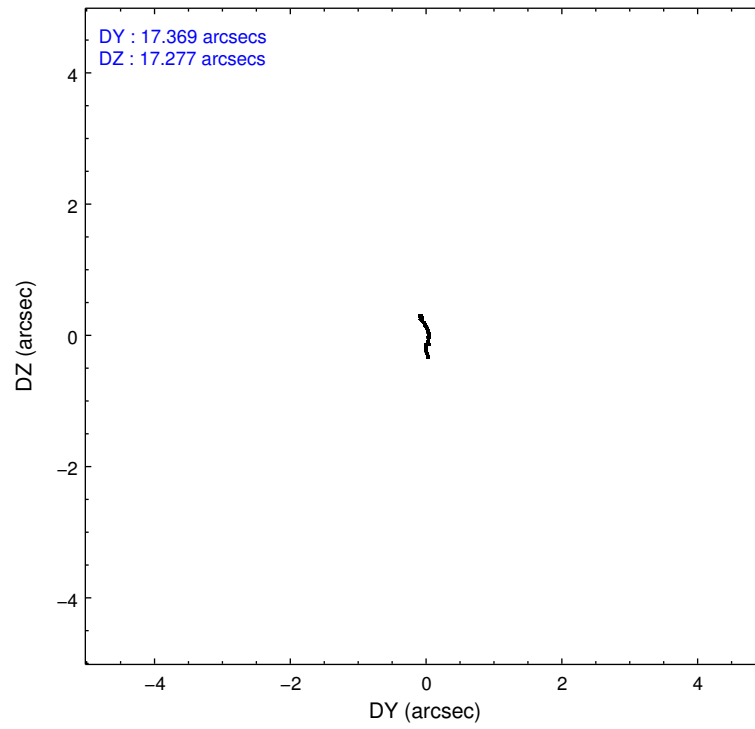
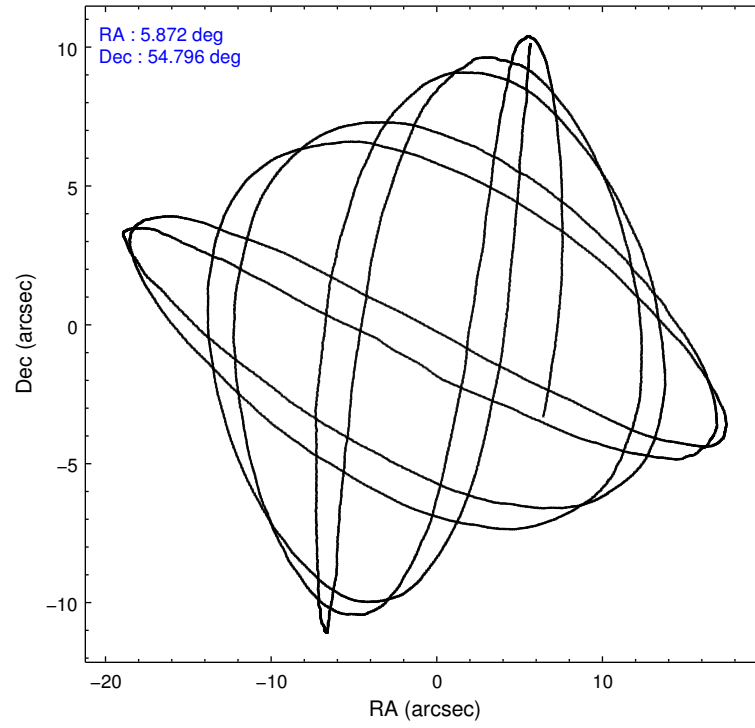
	<b>ccd 2</b>	<b>ccd 3</b>	<b>ccd 6</b>	<b>ccd 7</b>	<b>ccd 8</b>
grade 0 events	940	878	1021	1370	2420
	4%	4%	4%	8%	8%
grade 1 events	19	19	13	40	22
	0%	0%	0%	0%	0%
grade 2 events	578	490	572	2371	2168
	2%	2%	2%	14%	7%
grade 3 events	228	202	239	905	833
	0%	0%	1%	5%	2%
grade 4 events	228	219	255	853	793
	0%	1%	1%	5%	2%
grade 5 events	459	633	588	1722	1096
	1%	3%	2%	10%	3%
grade 6 events	319	356	423	4146	2533
	1%	1%	2%	24%	8%
grade 7 events	20252	18003	18018	5428	18797
	87%	86%	85%	32%	65%

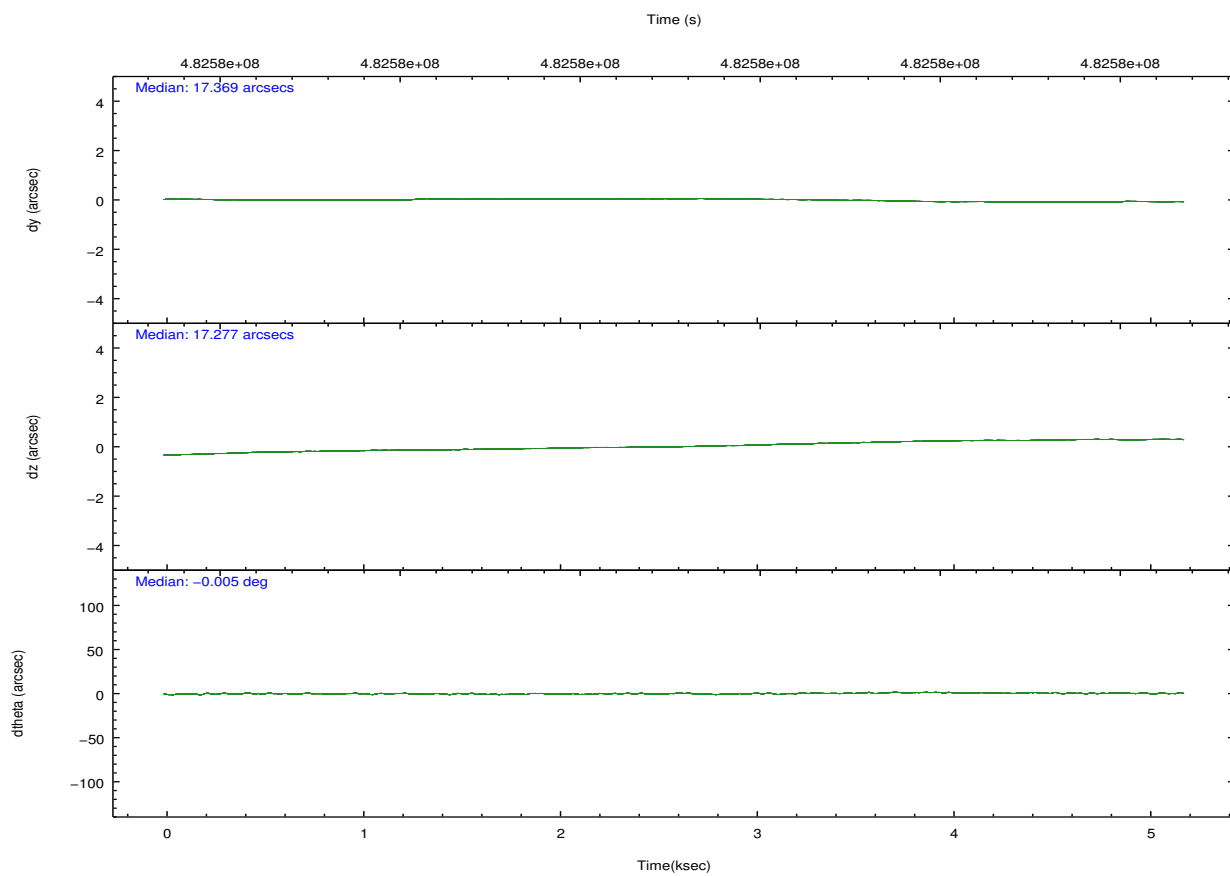
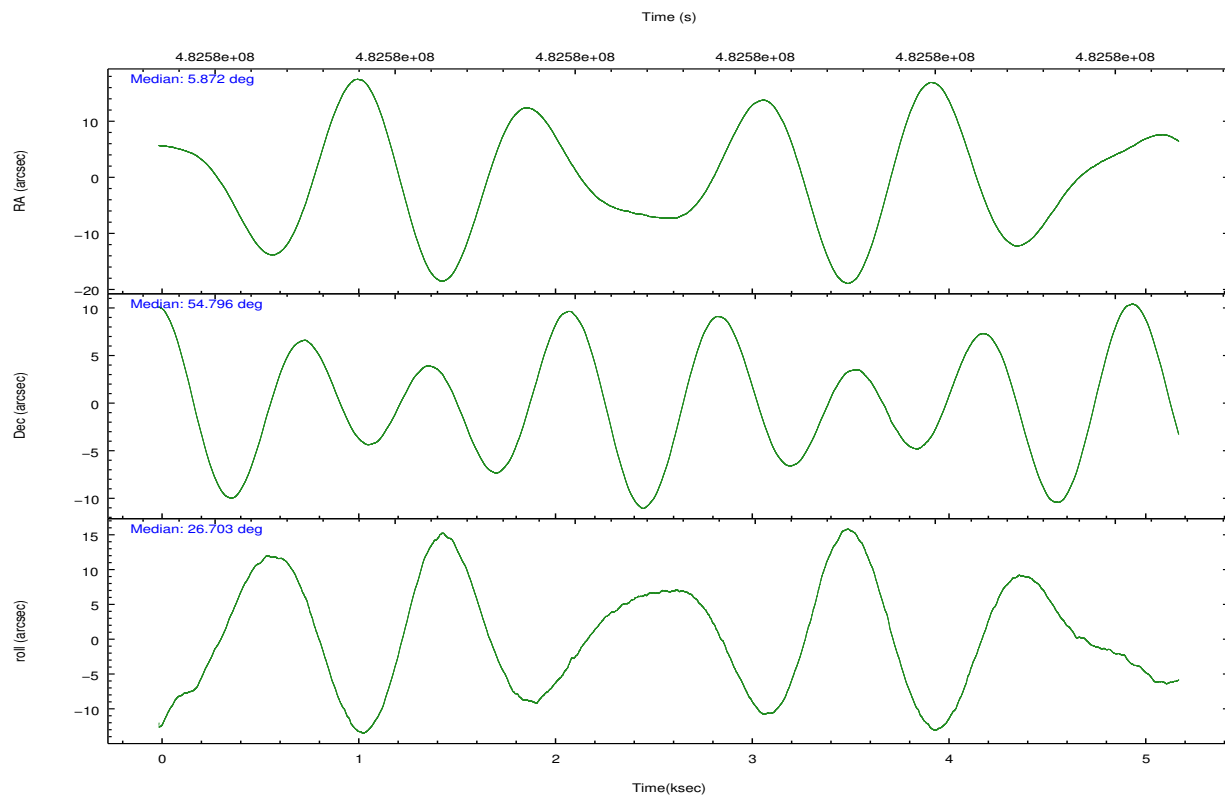


## 2.2 Compared Parameters

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	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	5.845908	5.871440737422259	Subarray requested	NONE	NONE
[deg] Pointing Dec	54.772542	54.79566058880449	Alternating exposures requested	N	N
[deg] Pointing Roll	26.571802	26.70756329107057	[s] Primary exposure time	0.000000	3.1
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-190.132523	-190.1400660498719			
[mm] SIM translation stage offset	0	0.00754346686406393			
[s] Observation start time (MET)	482579111.184000	482578735.27551			
Observation start date	2013-04-17T09:44:04	2013-04-17T09:38:55			
[s] Observation end time (MET)	482584111.184000	482584300.51331			
Observation end date	2013-04-17T11:07:24	2013-04-17T11:11:40			
Read mode	TIMED	TIMED			

## 2.3 Aspect



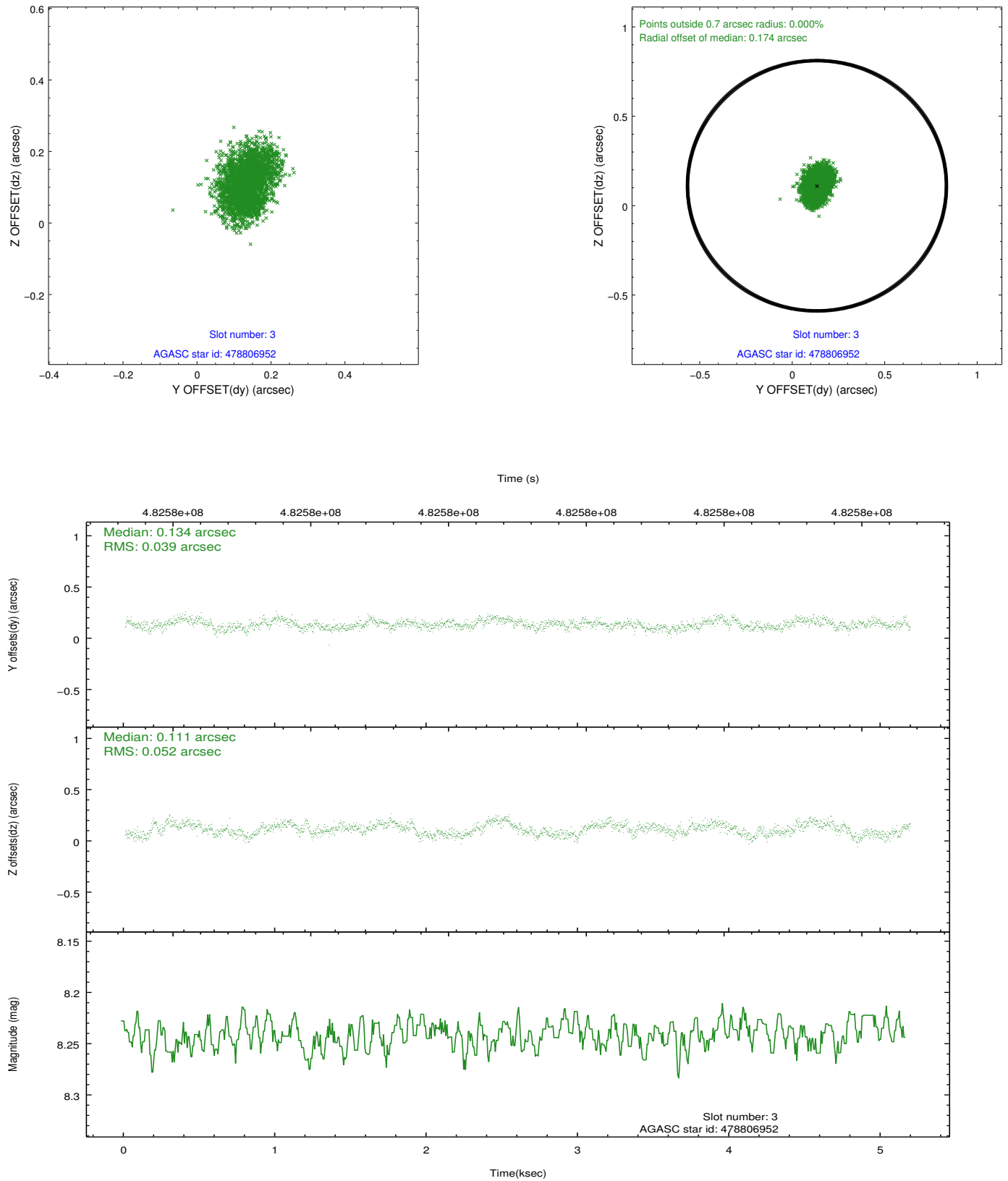


Slot Statistics

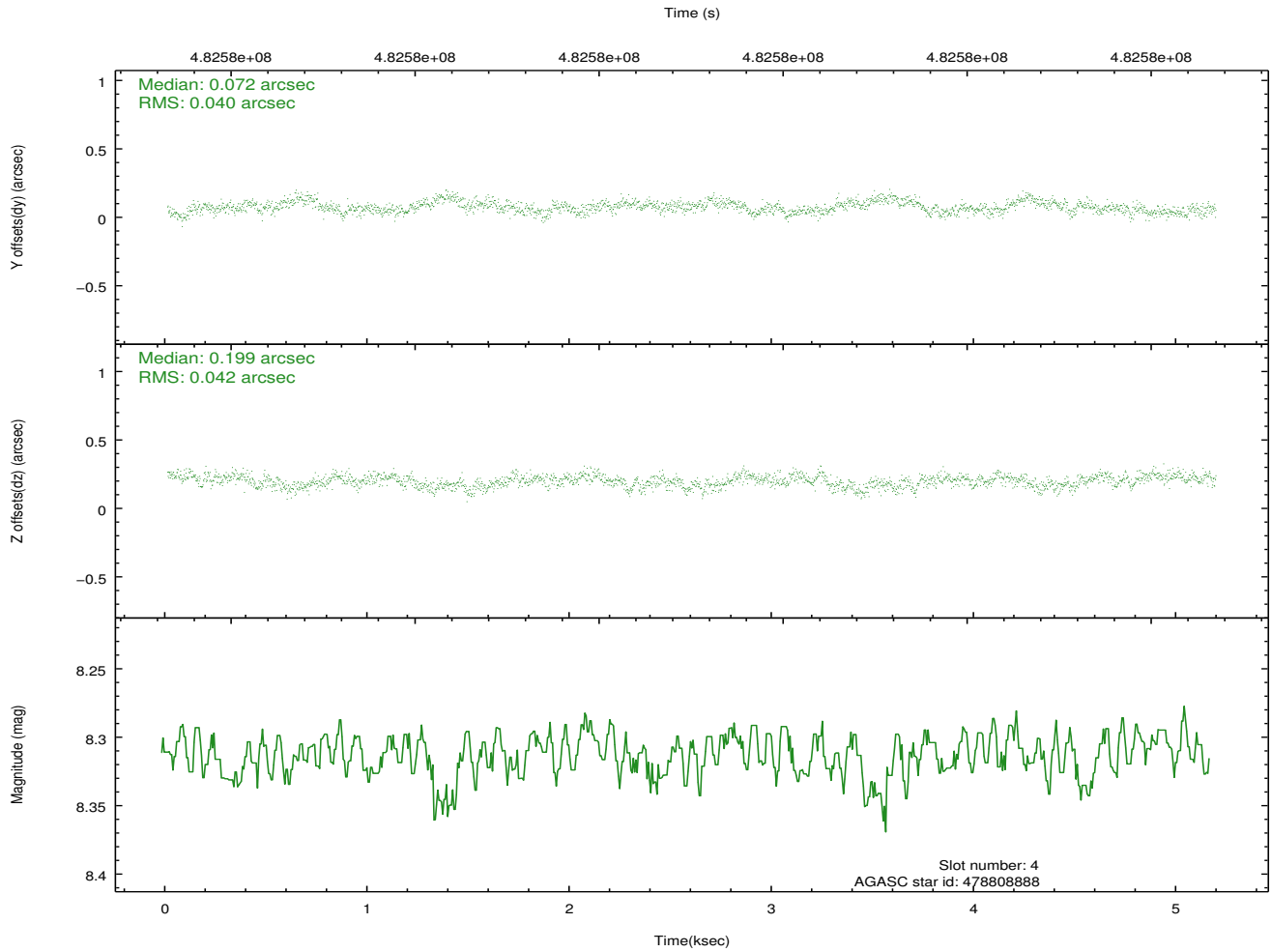
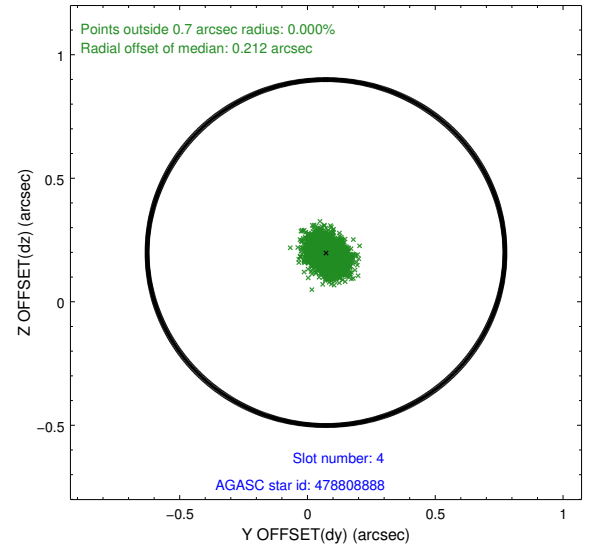
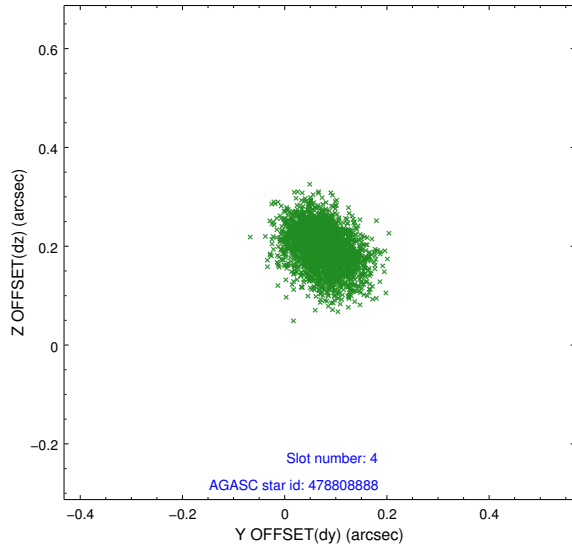
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-1	7.06	1265	0.092	-0.061	0.014	0.022	0.000000	0.000000	925.72	-1734.44
1	FID		ACIS-S-4	7.06	1265	0.146	0.002	0.011	0.018	0.000000	0.000000	2143.83	168.57
2	FID		ACIS-S-5	7.09	1265	-0.266	0.071	0.007	0.012	0.000000	0.000000	-1822.01	163.57
3	GUIDE	used	478806952	8.24	2530	0.134	0.111	0.070	0.112	6.145274	54.293971	-207.21	-1820.98
4	GUIDE	used	478808888	8.31	2529	0.072	0.199	0.062	0.100	5.972847	54.160339	-746.28	-2091.24
5	GUIDE	used	479341192	8.71	2528	-0.036	-0.128	0.085	0.131	5.913490	55.389722	1116.95	1924.50
6	GUIDE	used	479343904	7.14	2530	0.108	0.081	0.075	0.126	5.699100	54.645438	-477.66	-271.36
7	GUIDE	used	479333496	6.87	2529	-0.280	-0.266	0.070	0.104	6.526511	55.490931	2400.89	1697.97

## 2.4 Star Slots

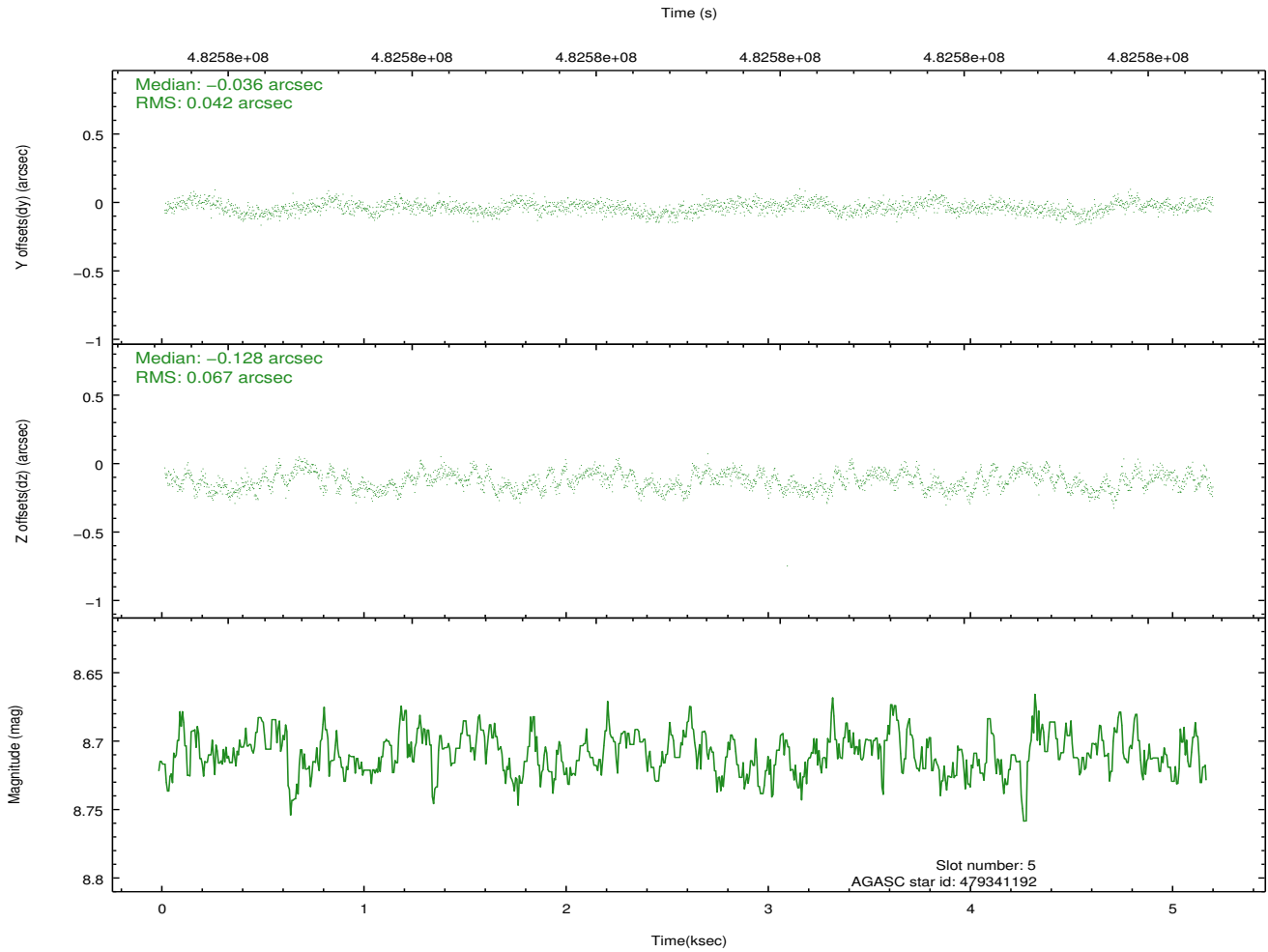
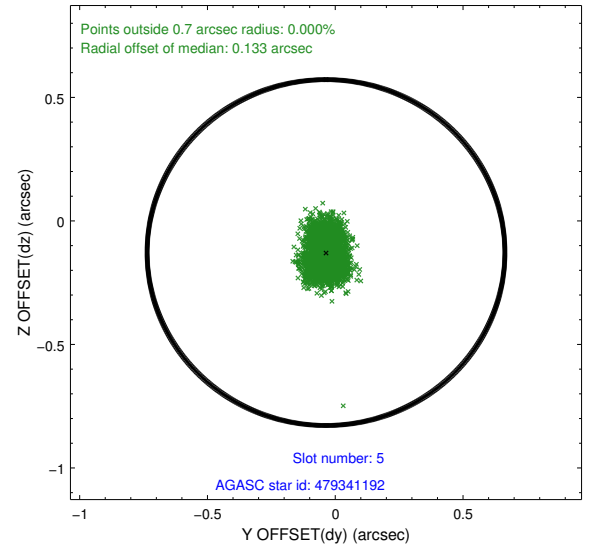
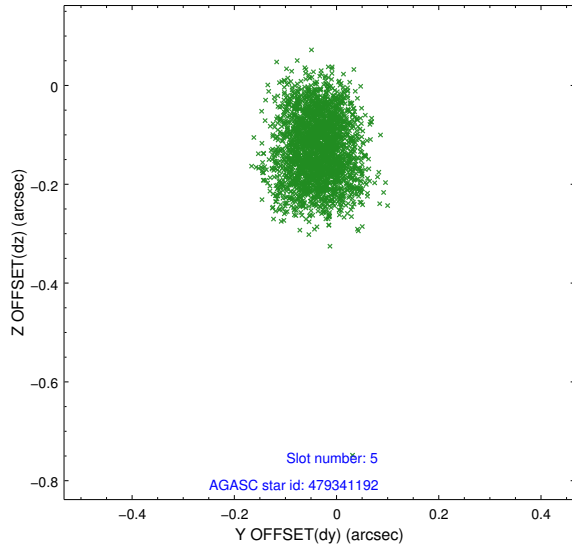
### 2.4.1 Slot 3



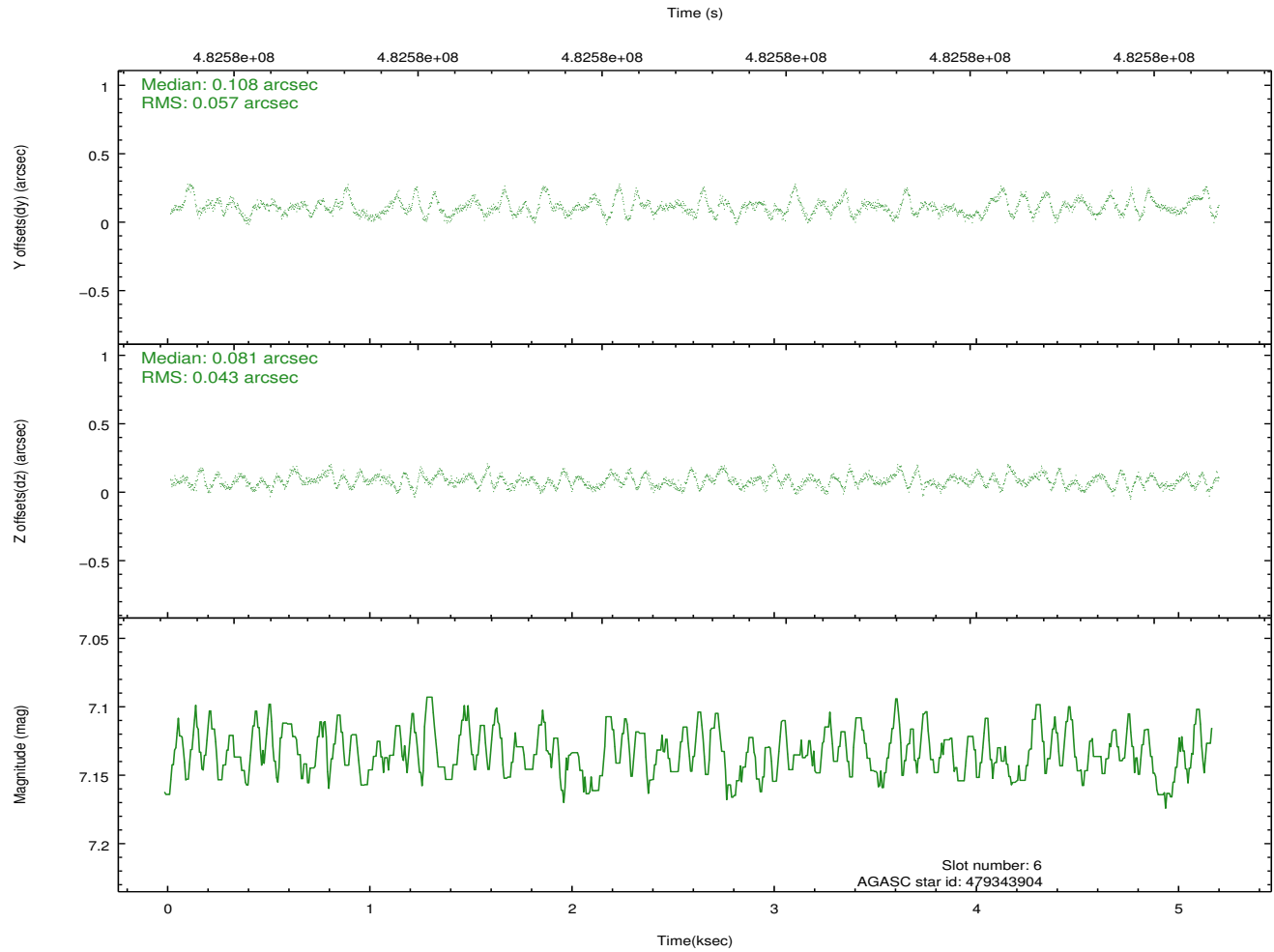
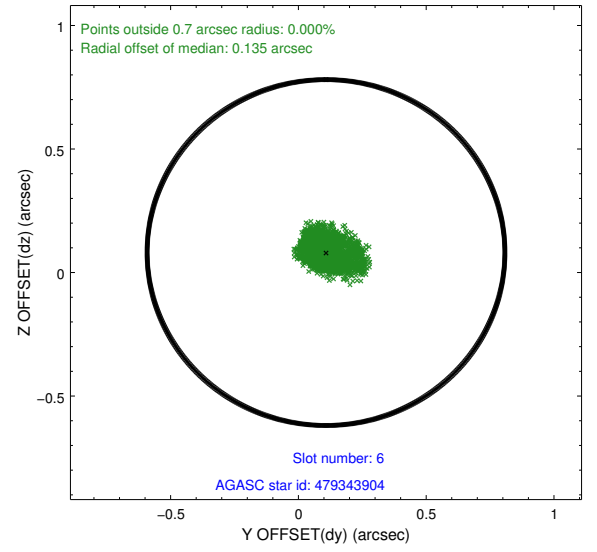
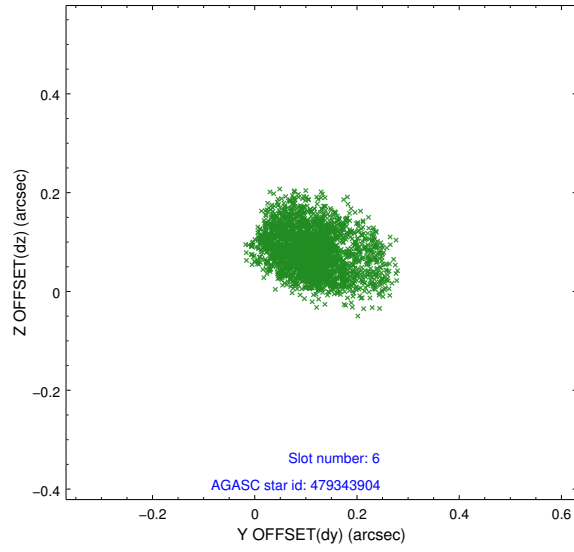
## 2.4.2 Slot 4



### 2.4.3 Slot 5

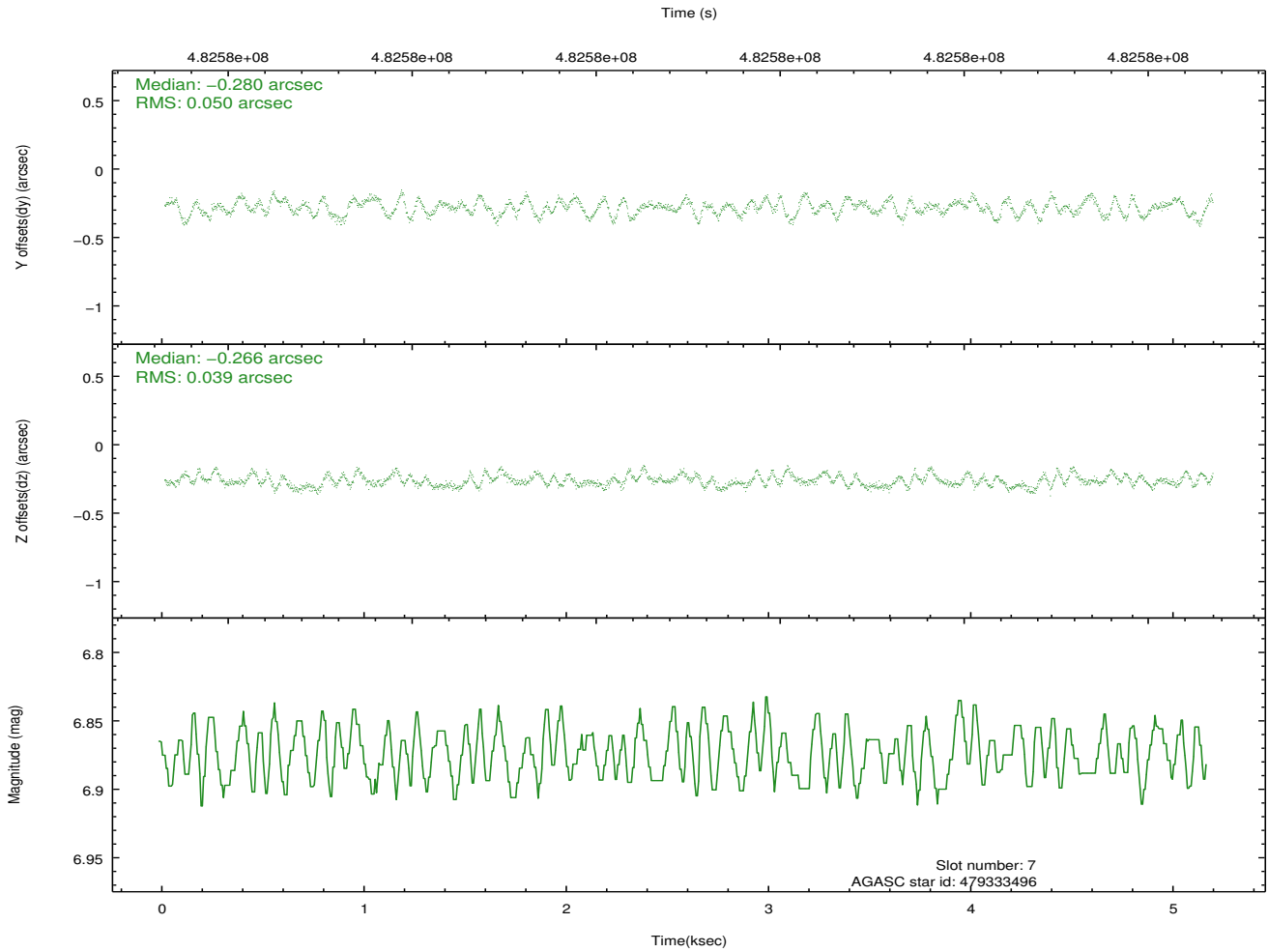
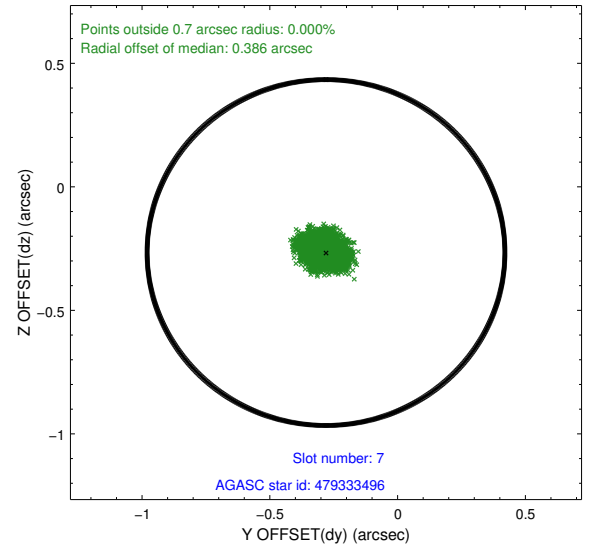
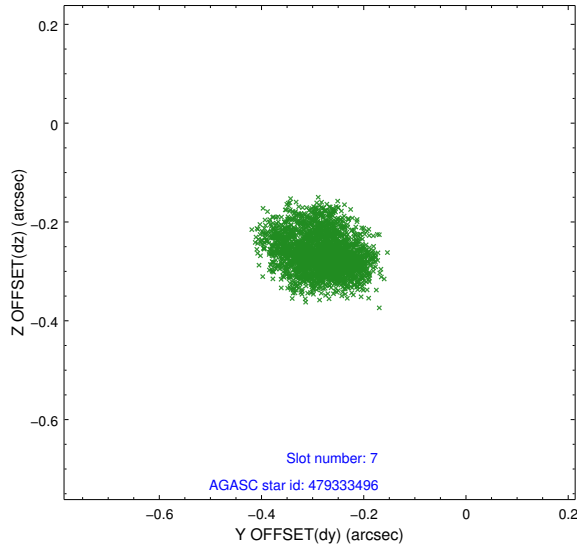


## 2.4.4 Slot 6



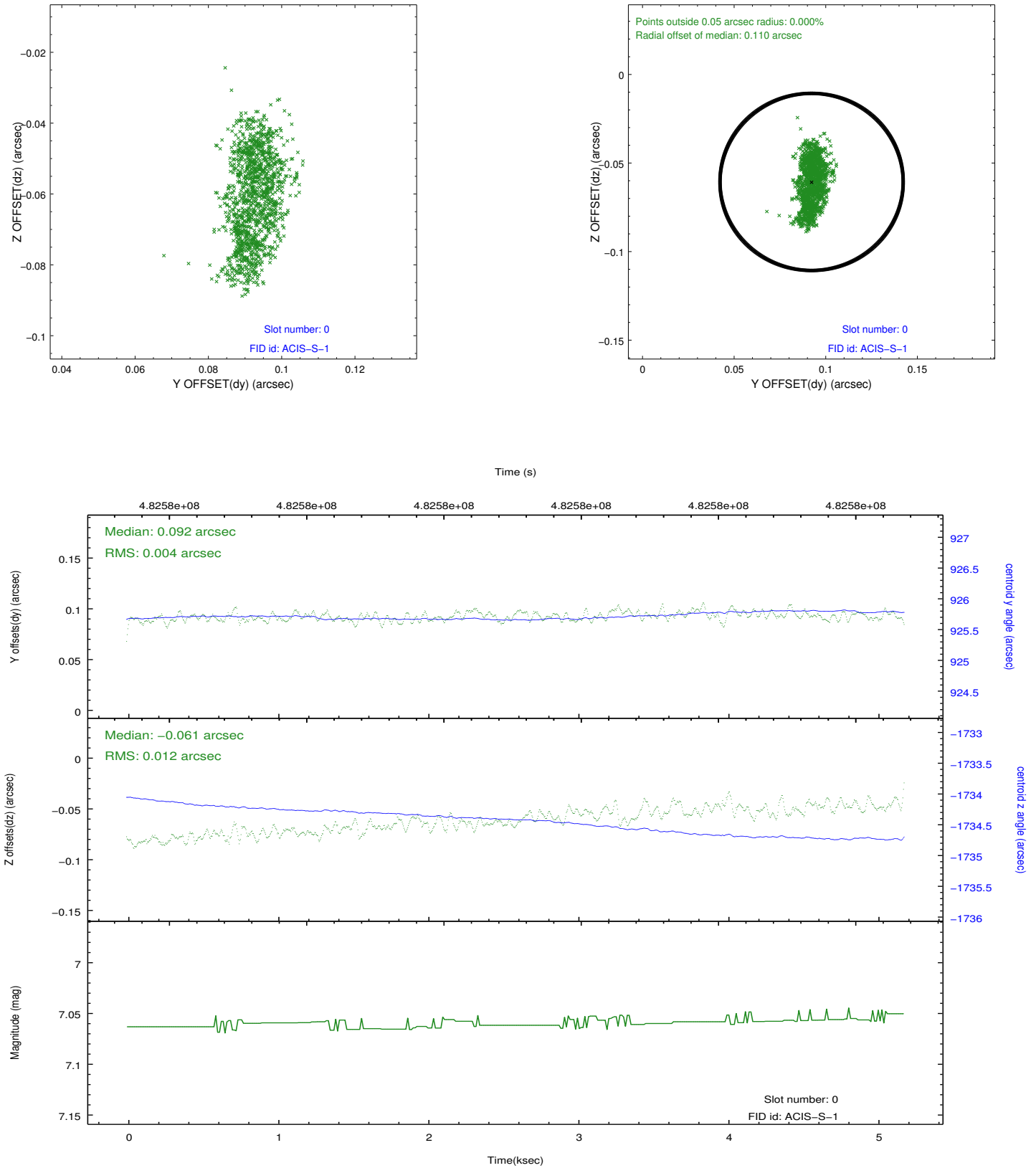


## 2.4.5 Slot 7

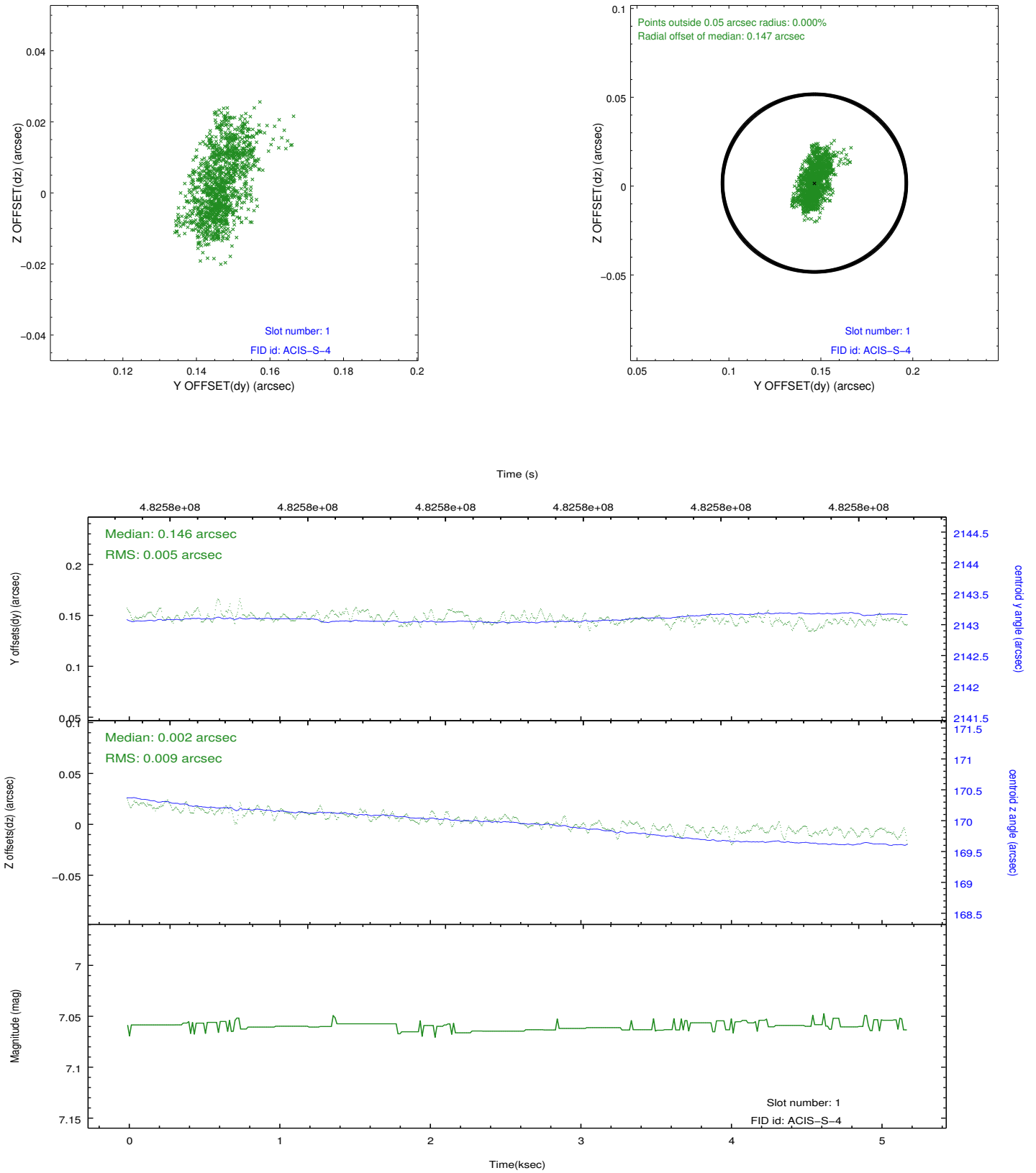


## 2.5 FID Slots

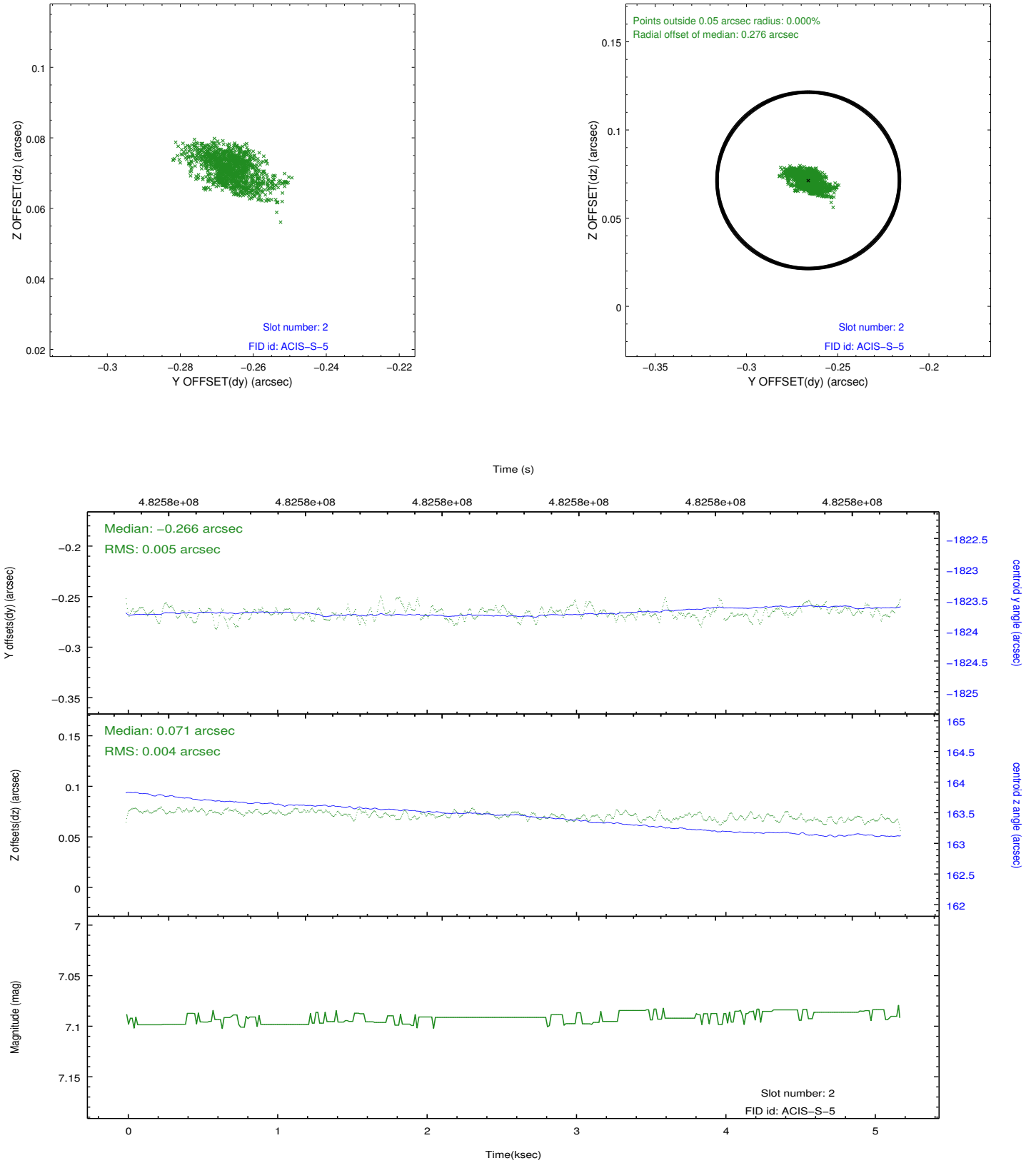
### 2.5.1 Slot 0



## 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)	2014.12.10
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.17700003

## A.2 Comments

This is an observation of a moving target. Users will need to run `sso_freeze` or similar software to position the events in the reference frame of the target.

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.