

# V&V Reference Report

## L2 ASCDS Version : 8.1.2

Observation 221 - L2 Version 3

Chandra X-Ray Center

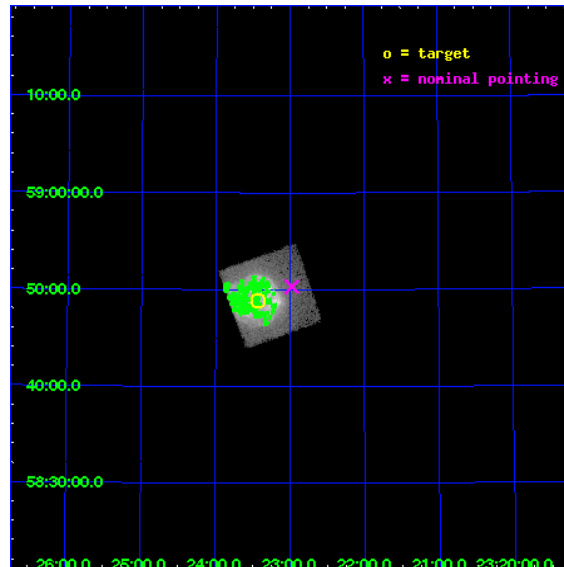
L2 Processing Date : Dec 16 2009

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# 1 Front

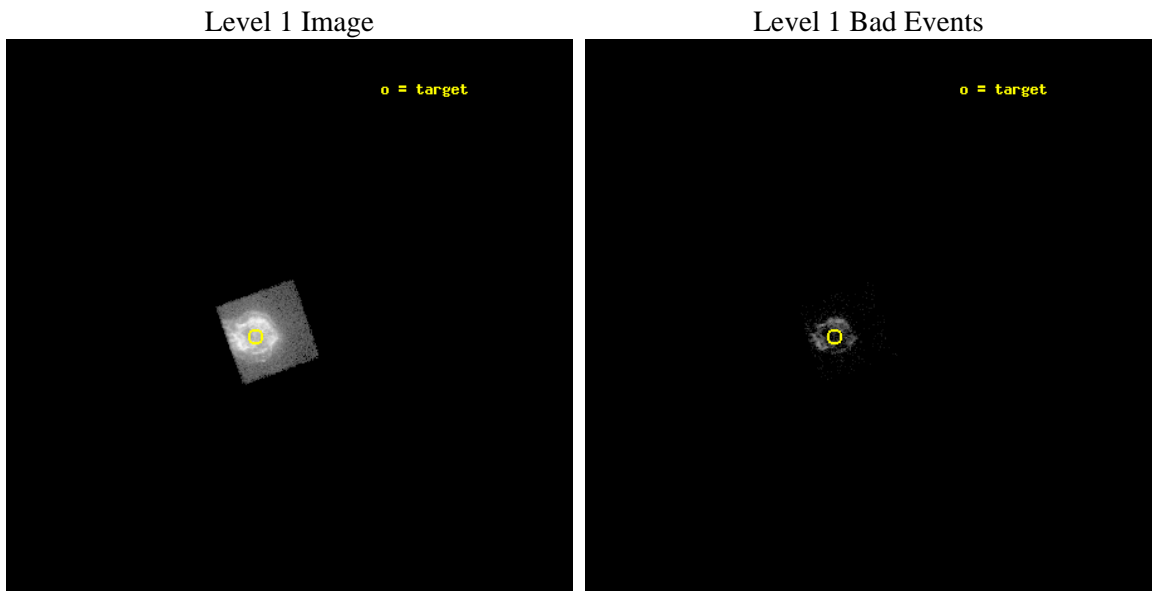
seq_num	590089	Sequence number
obs_id	221	Observation id
title	ACIS CHIP RESPONSE TO CAS A, JAN. 99	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	CAS A [Chip S3, T=100, Offsets=-.3,0,0 Std Candle]	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	350.8575	Observer's specified target RA
dec_targ	58.814833	Observer's specified target Dec
ra_nom	350.74368088036	Nominal RA
dec_nom	58.838372826793	Nominal Dec
roll_nom	160.39211489153	Nominal Roll
revision	3	Processing version of data
ontime	1059.217237018	Sum of GTIs [s]
livetime	1045.8047905789	Livetime [s]
ontime4	1280.4612397552	Sum of GTIs [s]
ontime5	1750.4000016302	Sum of GTIs [s]
ontime6	1536.49681703	Sum of GTIs [s]
ontime7	1059.217237018	Sum of GTIs [s]
ontime8	1478.1595432758	Sum of GTIs [s]
ontime9	1507.3283149227	Sum of GTIs [s]
l2events	332413	Number of level 2 events



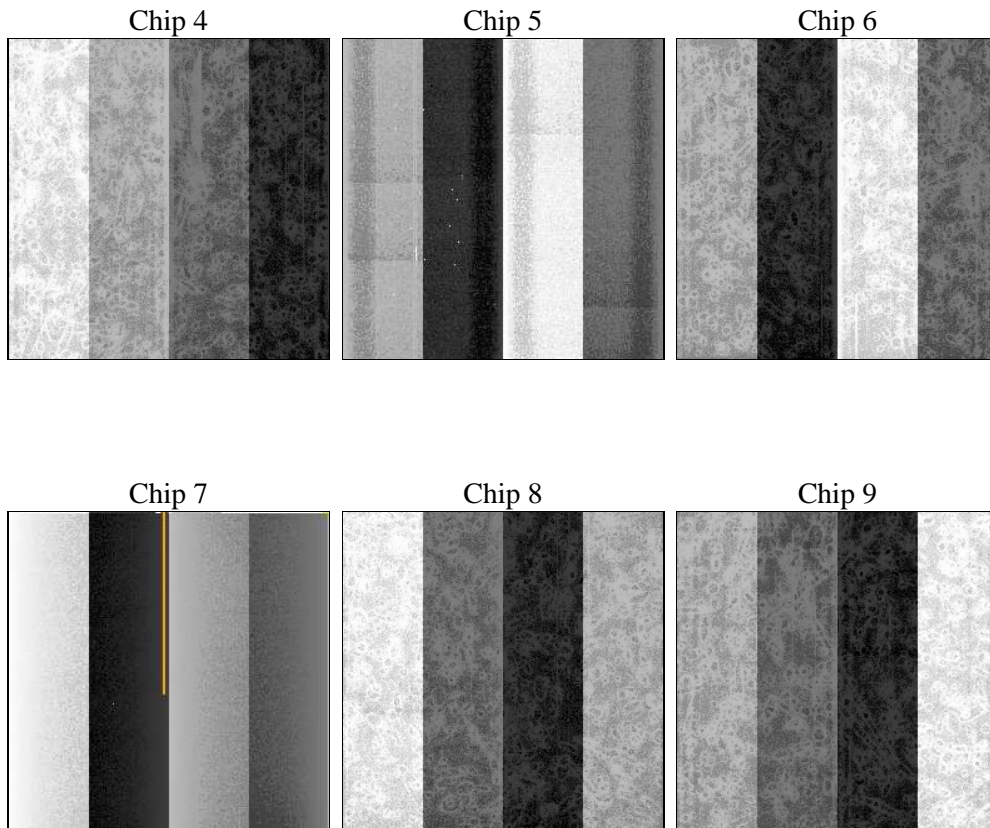
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	2000.000000	Scheduled observation exposure time
ascdsver	8.1.2	ASCDS version number	ontime	1059.217237018	Sum of GTIs [s]
caldbver	4.1.4	&#160	ontime4	1280.4612397552	Sum of GTIs [s]
date	2009-12-16T08:10:08	Date and time of file creation	ontime5	1750.4000016302	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	1536.49681703	Sum of GTIs [s]
			ontime7	1059.217237018	Sum of GTIs [s]
			ontime8	1478.1595432758	Sum of GTIs [s]
			ontime9	1507.3283149227	Sum of GTIs [s]
			l1events	345106	Number of level 1 events

### 2.1.4 Events

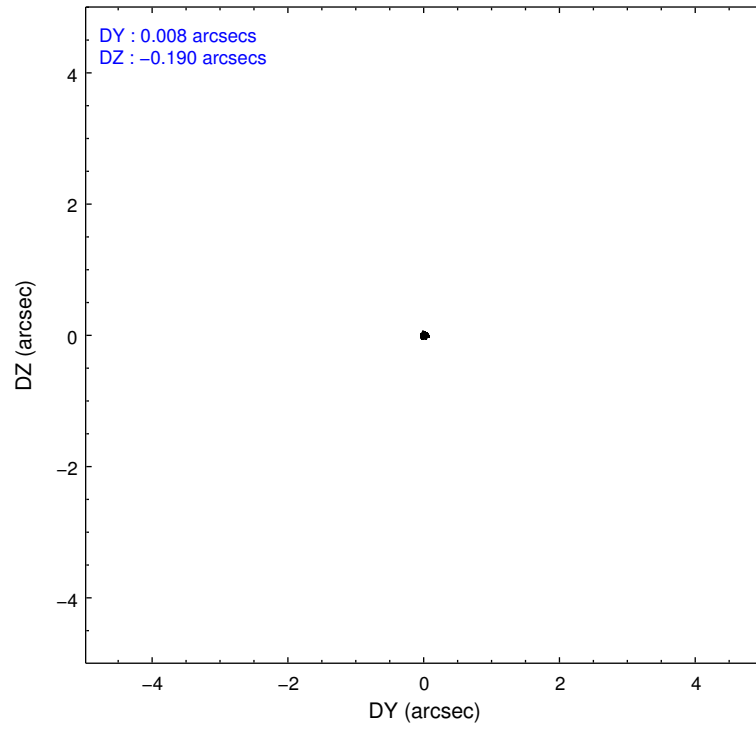
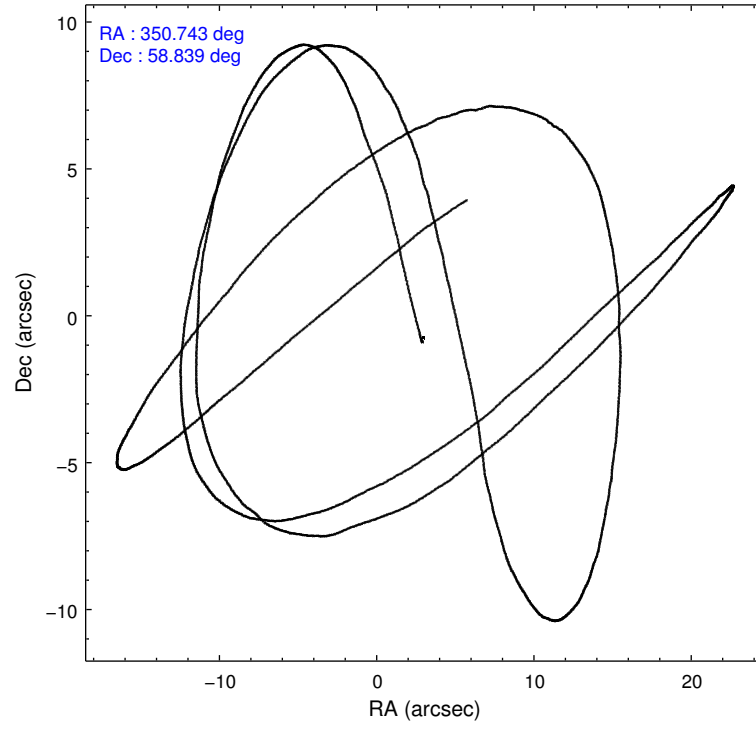
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	0	0	0	345106	0	0
rejected events	0	0	0	9191	0	0
rejected %	0%	0%	0%	2%	0%	0%

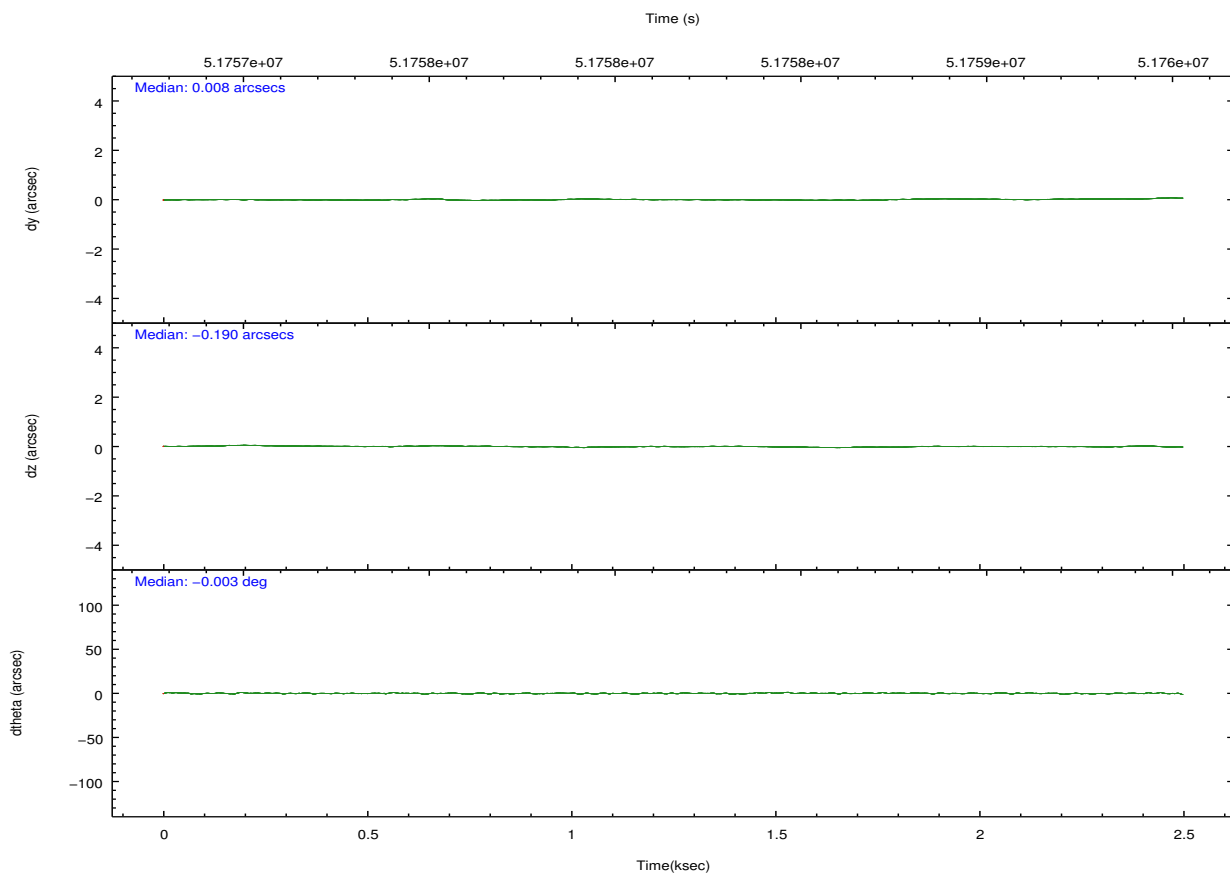
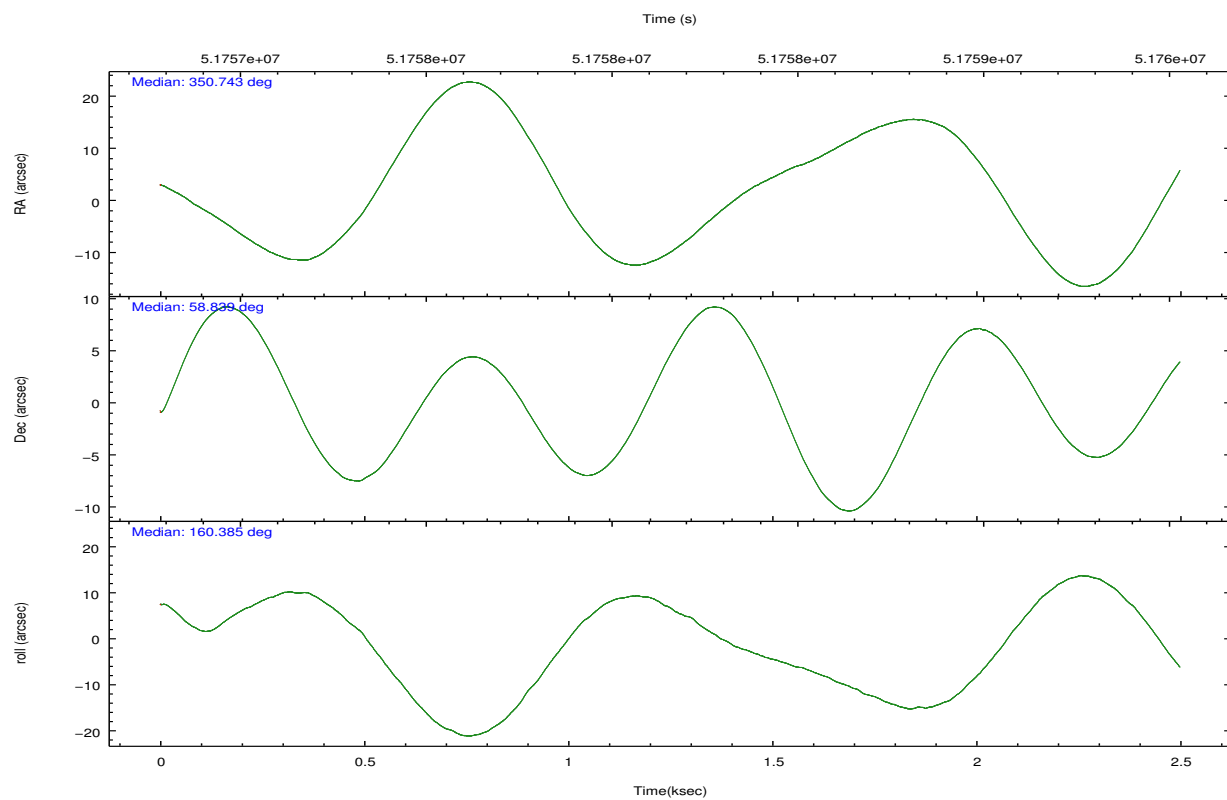
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	0	0	0	76004	0	0
	0%	0%	0%	22%	0%	0%
grade 1 events	0	0	0	1452	0	0
	0%	0%	0%	0%	0%	0%
grade 2 events	0	0	0	83266	0	0
	0%	0%	0%	24%	0%	0%
grade 3 events	0	0	0	43390	0	0
	0%	0%	0%	12%	0%	0%
grade 4 events	0	0	0	41490	0	0
	0%	0%	0%	12%	0%	0%
grade 5 events	0	0	0	6741	0	0
	0%	0%	0%	1%	0%	0%
grade 6 events	0	0	0	92763	0	0
	0%	0%	0%	26%	0%	0%
grade 7 events	0	0	0	0	0	0
	0%	0%	0%	0%	0%	0%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	6	6
Detector	ACIS-7	ACIS-456789	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
Pointing RA	350.796887	350.7436808803574	CCD I2 on	N	N
Pointing Dec	58.842803	58.83837282679332	CCD I3 on	N	N
Pointing Roll	160.189936	160.3921148915293	CCD S0 on	N	Y
Window start time	49852864.184000	49852864.184000	CCD S1 on	N	Y
Window stop time	55036864.184000	55036864.184000	CCD S2 on	N	Y
SIM focus pos (mm)	-0.684267	-0.865731118321573	CCD S3 on	Y	Y
SIM defocus (mm)	0	-0.1814636570216768	CCD S4 on	N	Y
SIM translation stage pos (mm)	-190.132523	-190.1199515274594	CCD S5 on	N	Y
SIM translation stage offset (mm)	0	-0.012571055548392	Number of optional ACIS chips dropped	0	0
Observation start time	51757405.184000	51756731.909482	On-chip summing requested	N	N
Observation start date	1999-08-23T01:02:21	1999-08-23T00:52:11	Subarray requested	NONE	NONE
Observation end time	51759405.184000	51759532.209582	Alternating exposures requested	N	N
Observation end date	1999-08-23T01:35:41	1999-08-23T01:38:52	Primary exposure time	0.000000	3.2
Read mode	TIMED	TIMED			

## 2.3 Aspect





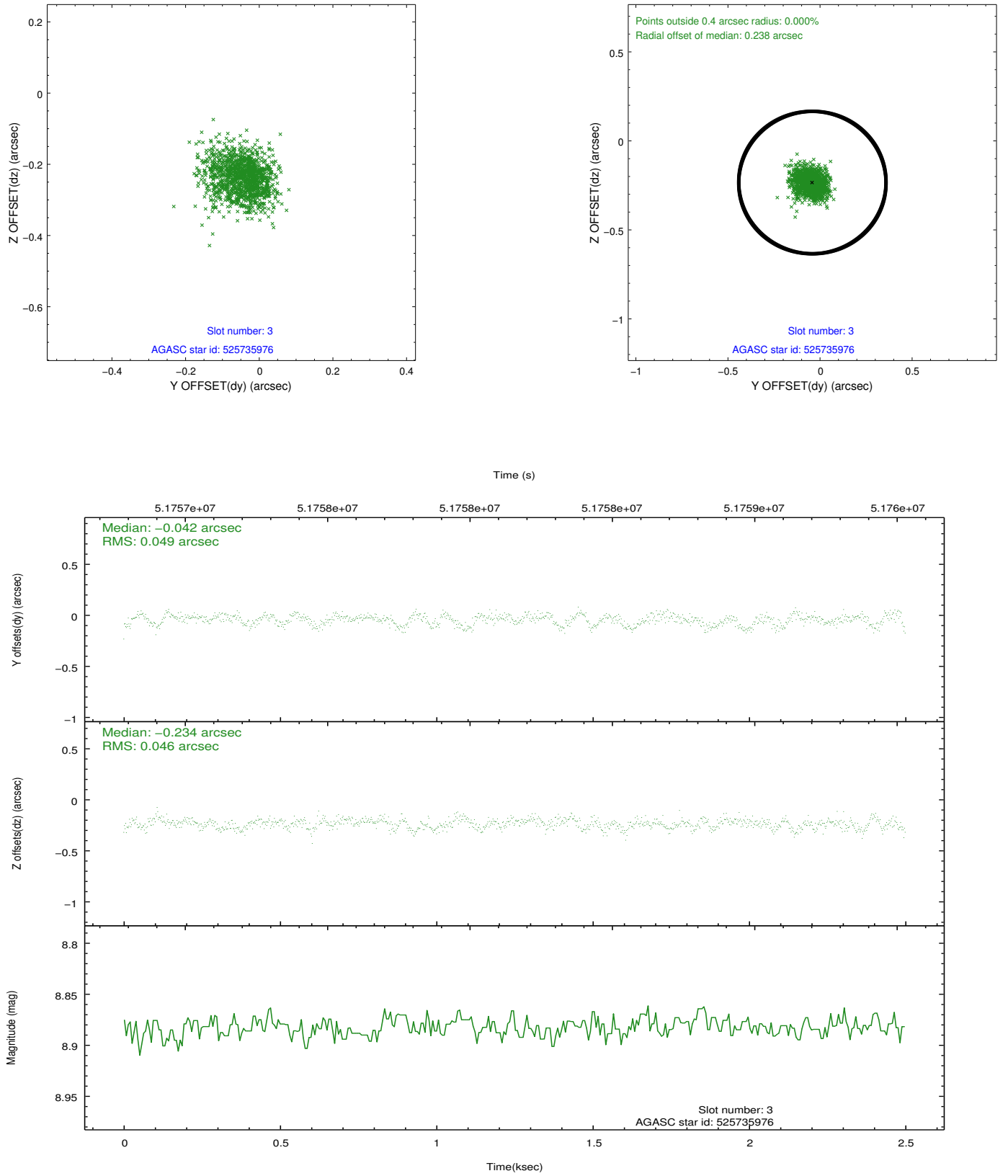
Slot Statistics

slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.12	1220	-0.029	-0.027	0.006	0.010	0.000000	0.000000	-752.62	-1721.17
1	FID	ACIS-S-4	7.22	1220	0.135	0.022	0.006	0.012	0.000000	0.000000	2160.26	186.02
2	FID	ACIS-S-5	7.25	1220	-0.136	0.014	0.007	0.012	0.000000	0.000000	-1803.94	181.14
3	GUIDE	525735976	8.88	1219	-0.042	-0.234	0.071	0.117	350.142956	58.277622	475.62	2328.30
4	GUIDE	525731480	9.52	1220	0.078	0.106	0.104	0.172	351.647209	58.687294	-1683.67	-19.76
5	GUIDE	525732528	9.36	1211	0.067	0.047	0.094	0.147	351.607241	59.298932	-843.92	-2057.84
6	GUIDE	525737208	9.36	1220	-0.025	0.105	0.099	0.150	351.154109	59.407897	72.74	-2138.58
7	GUIDE	525606576	9.45	1218	-0.077	-0.007	0.087	0.135	349.543555	58.678895	2012.75	1328.28

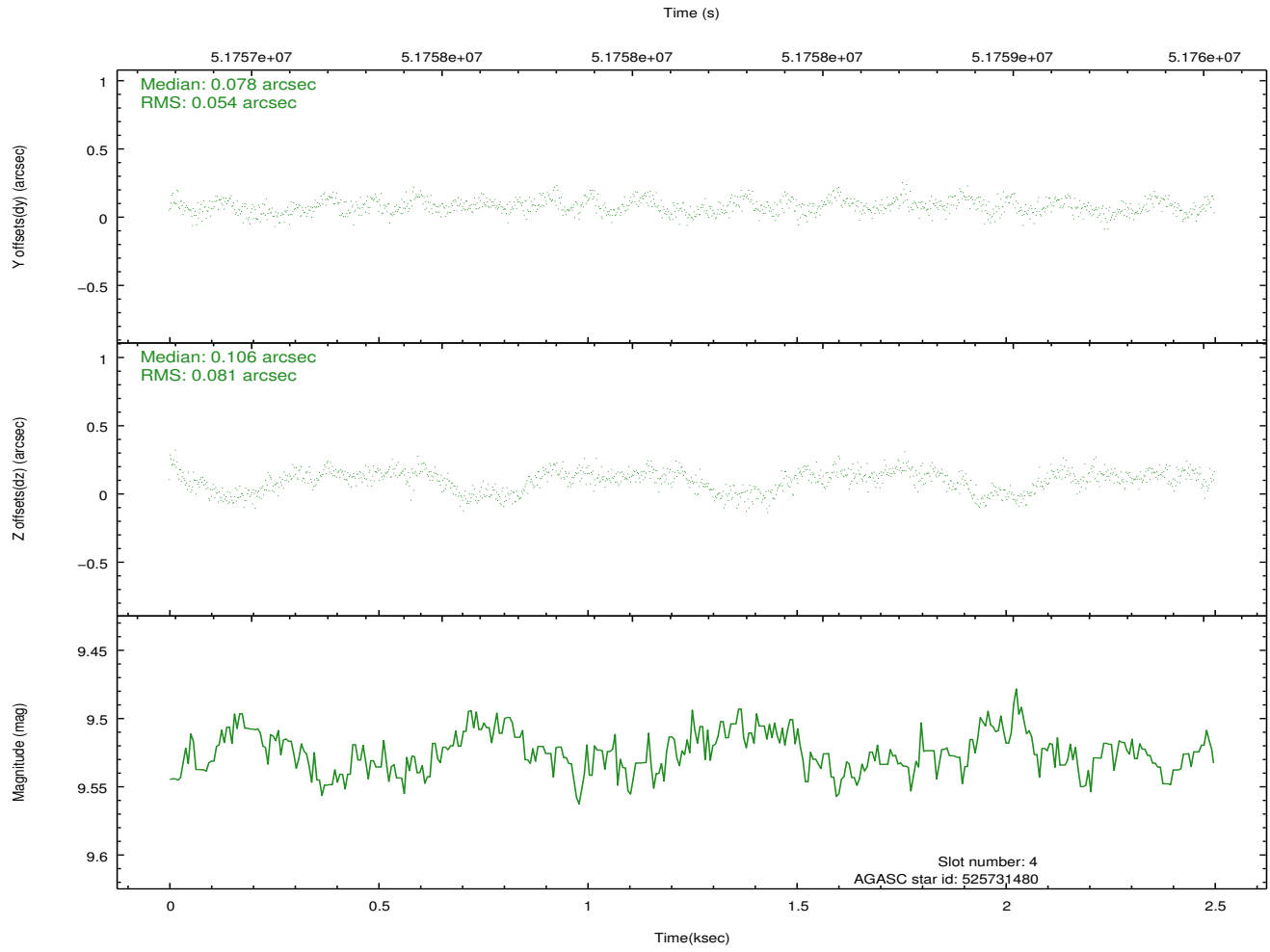
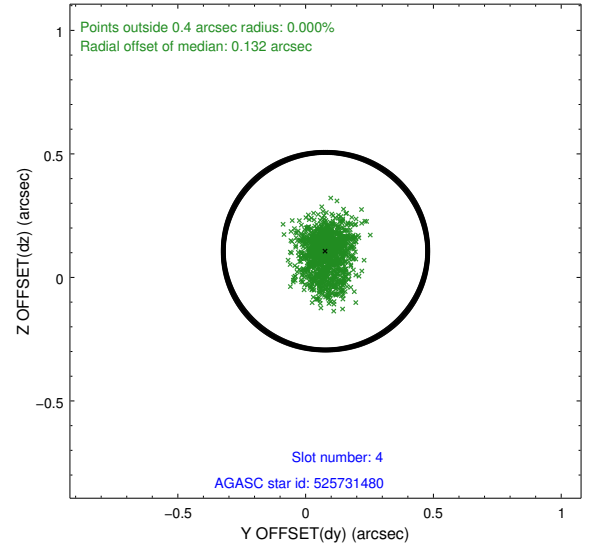
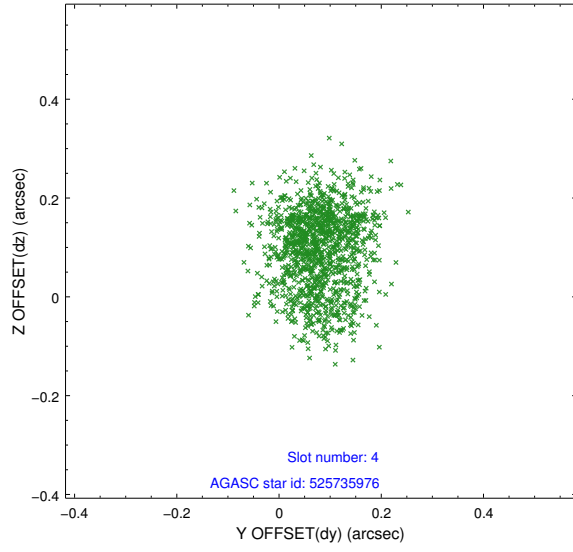


## 2.4 Star Slots

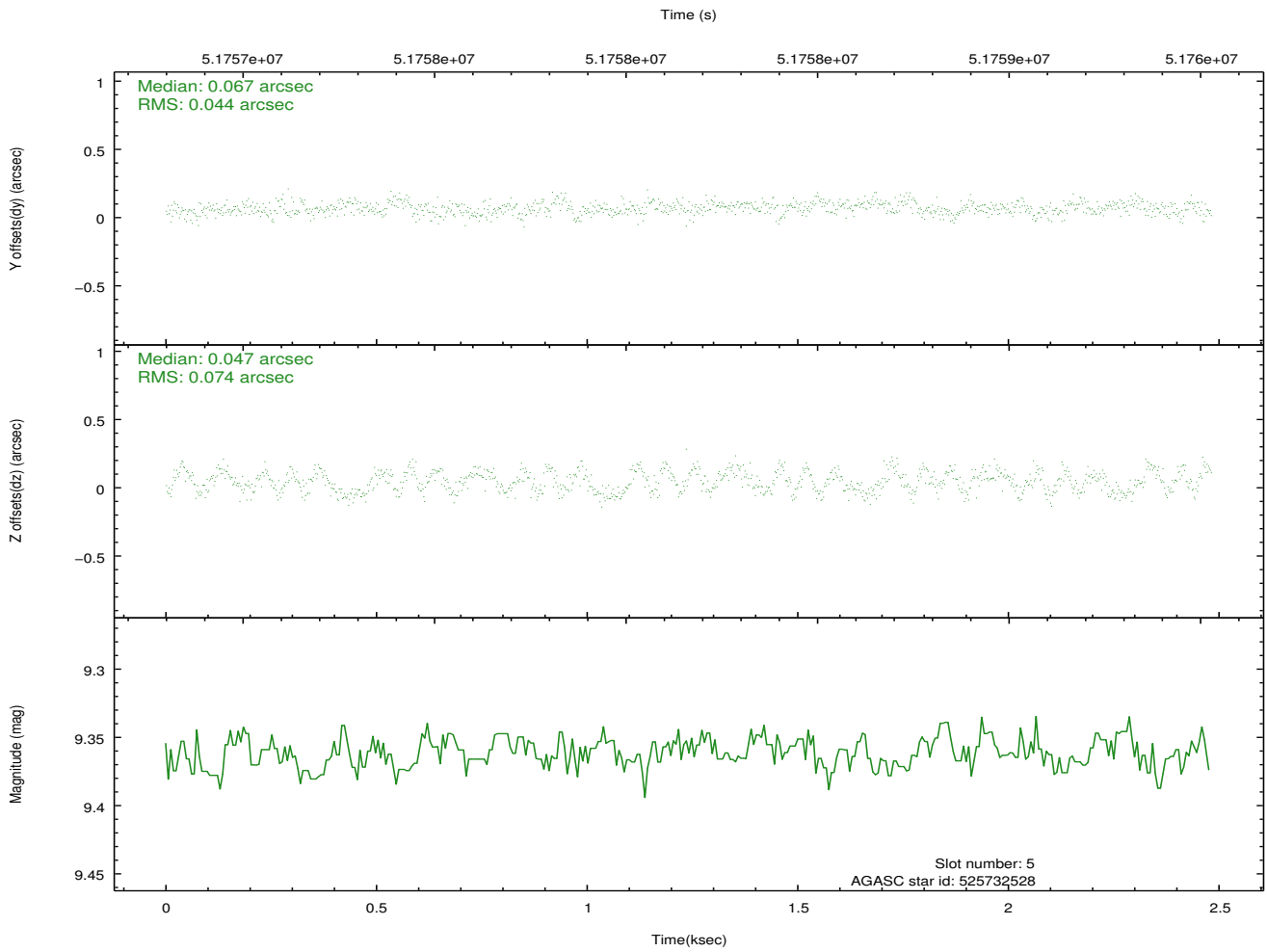
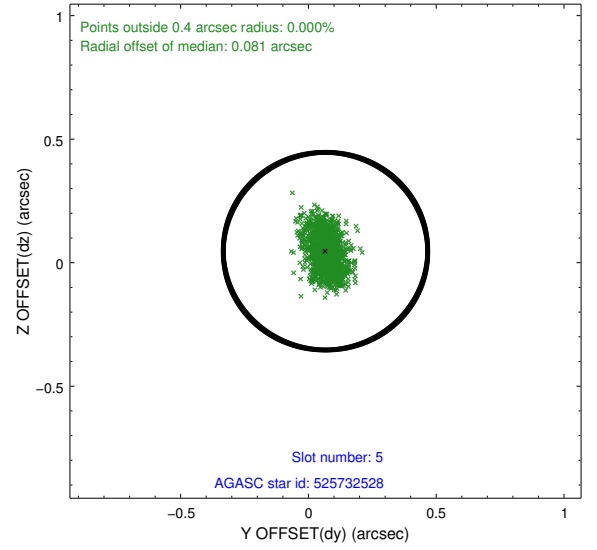
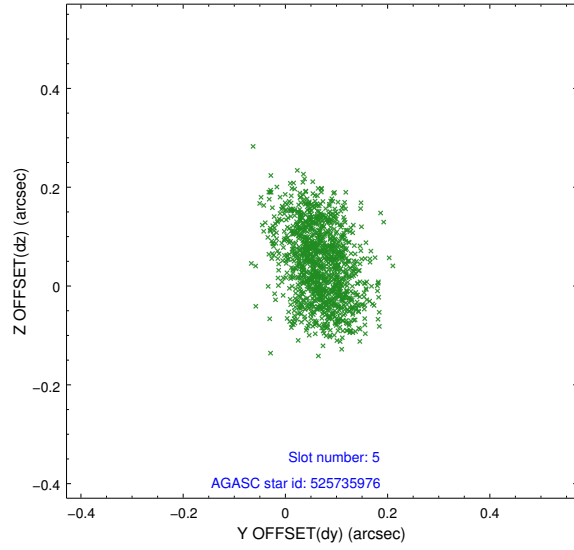
### 2.4.1 Slot 3



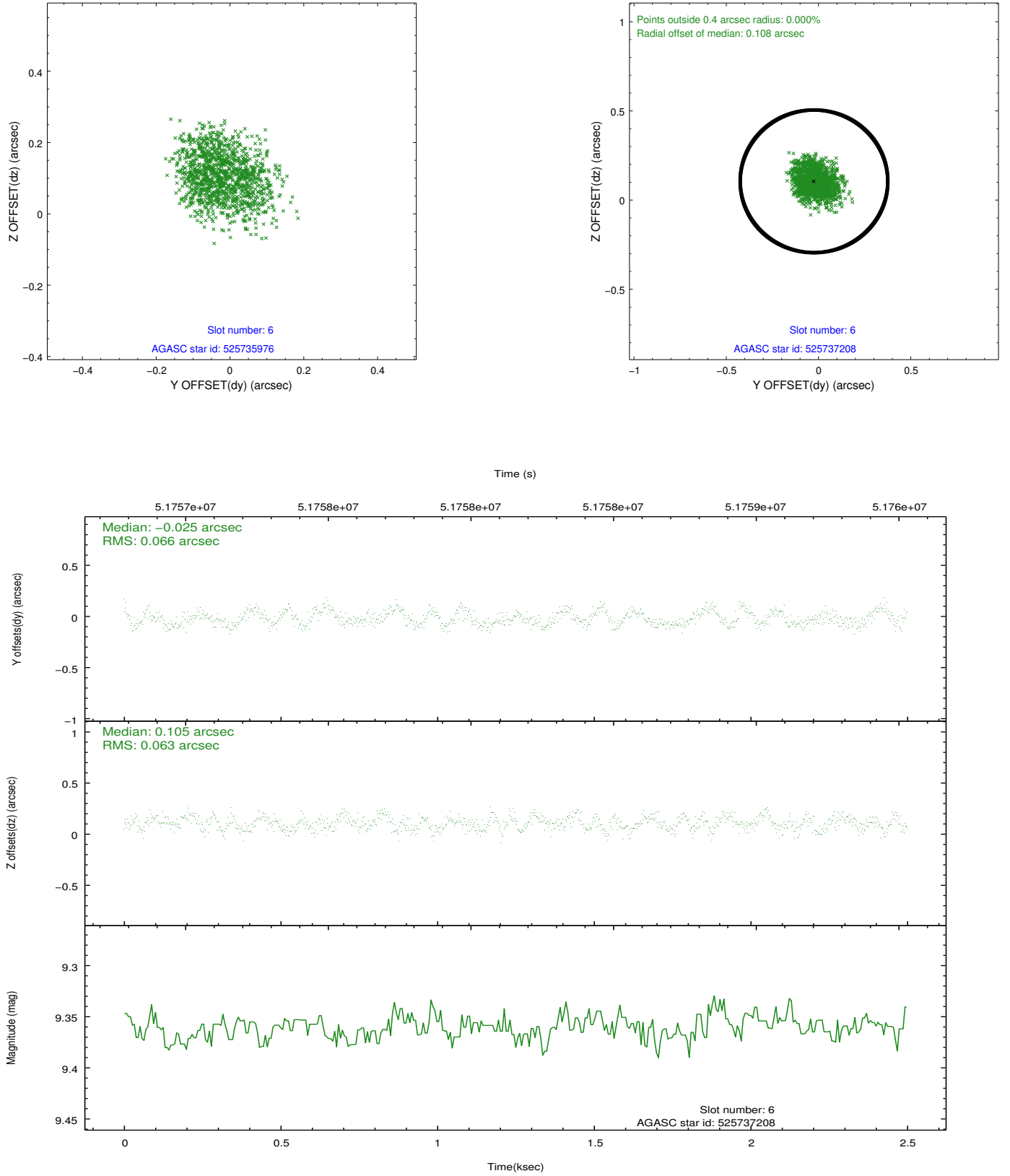
## 2.4.2 Slot 4



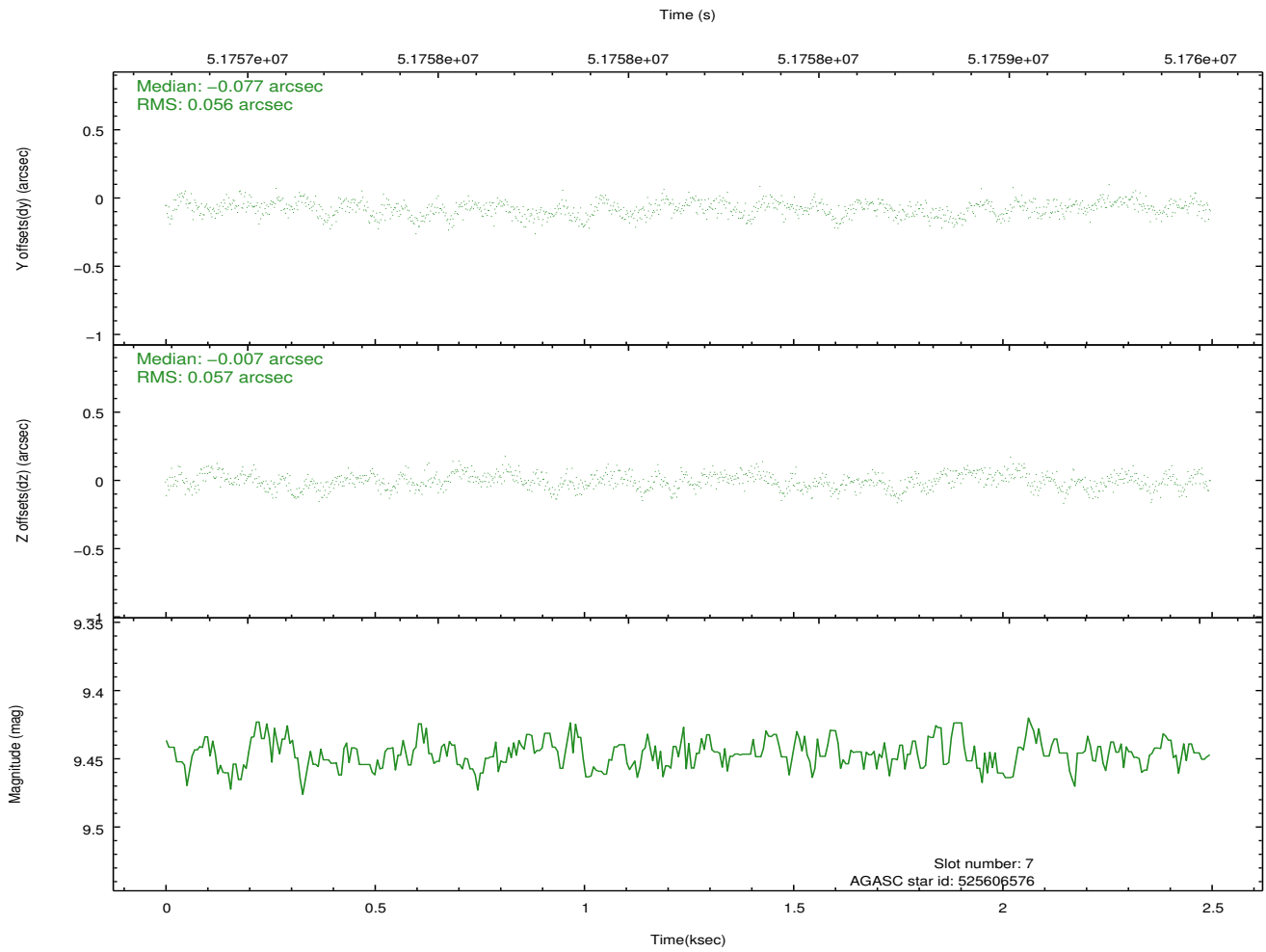
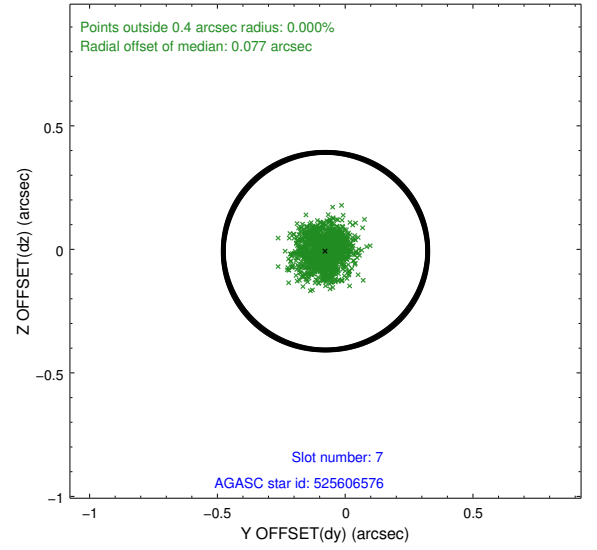
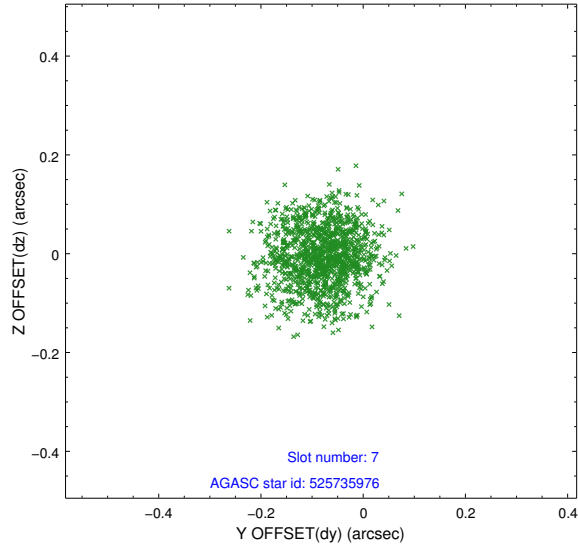
### 2.4.3 Slot 5



## 2.4.4 Slot 6

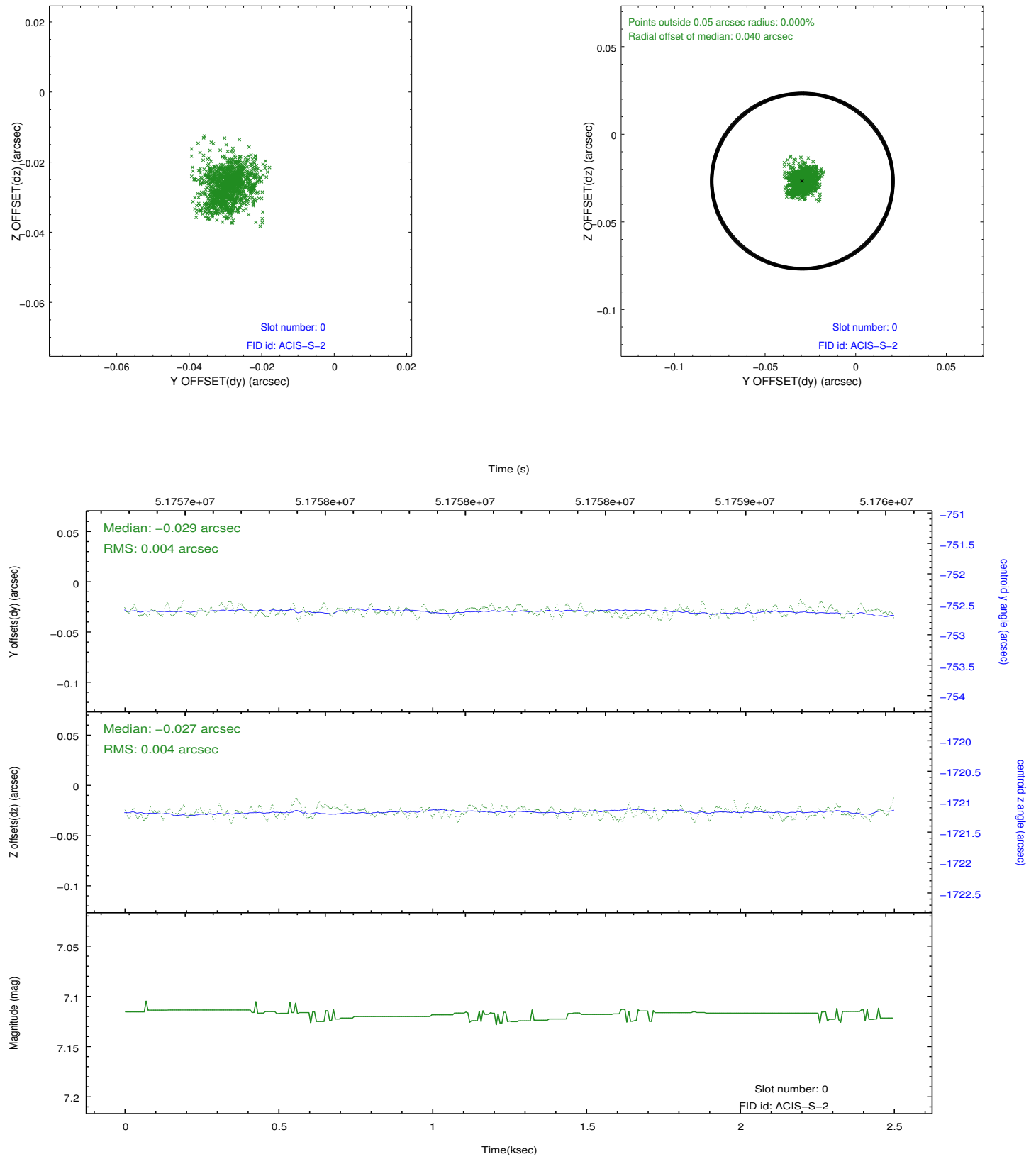


## 2.4.5 Slot 7

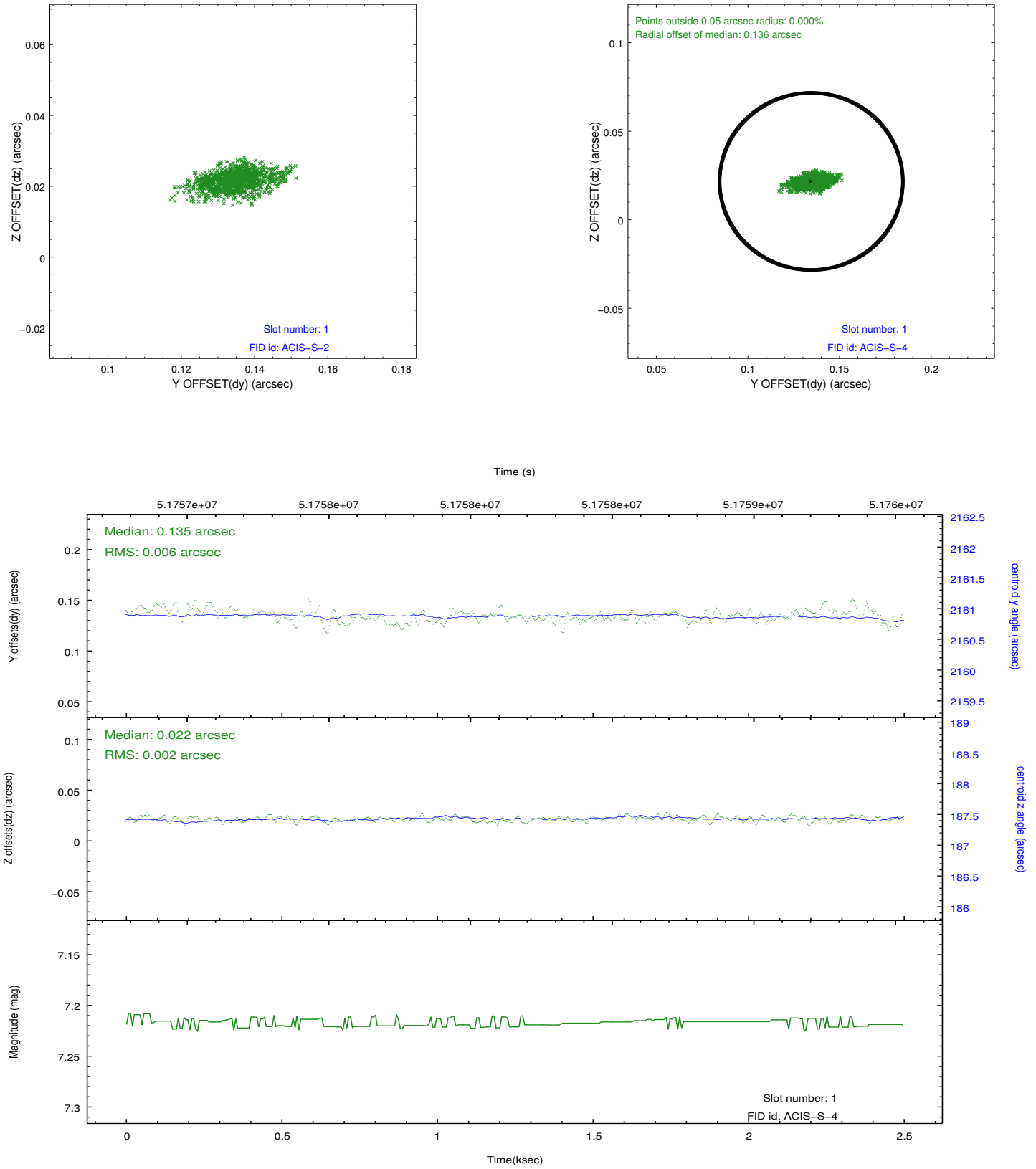


## 2.5 FID Slots

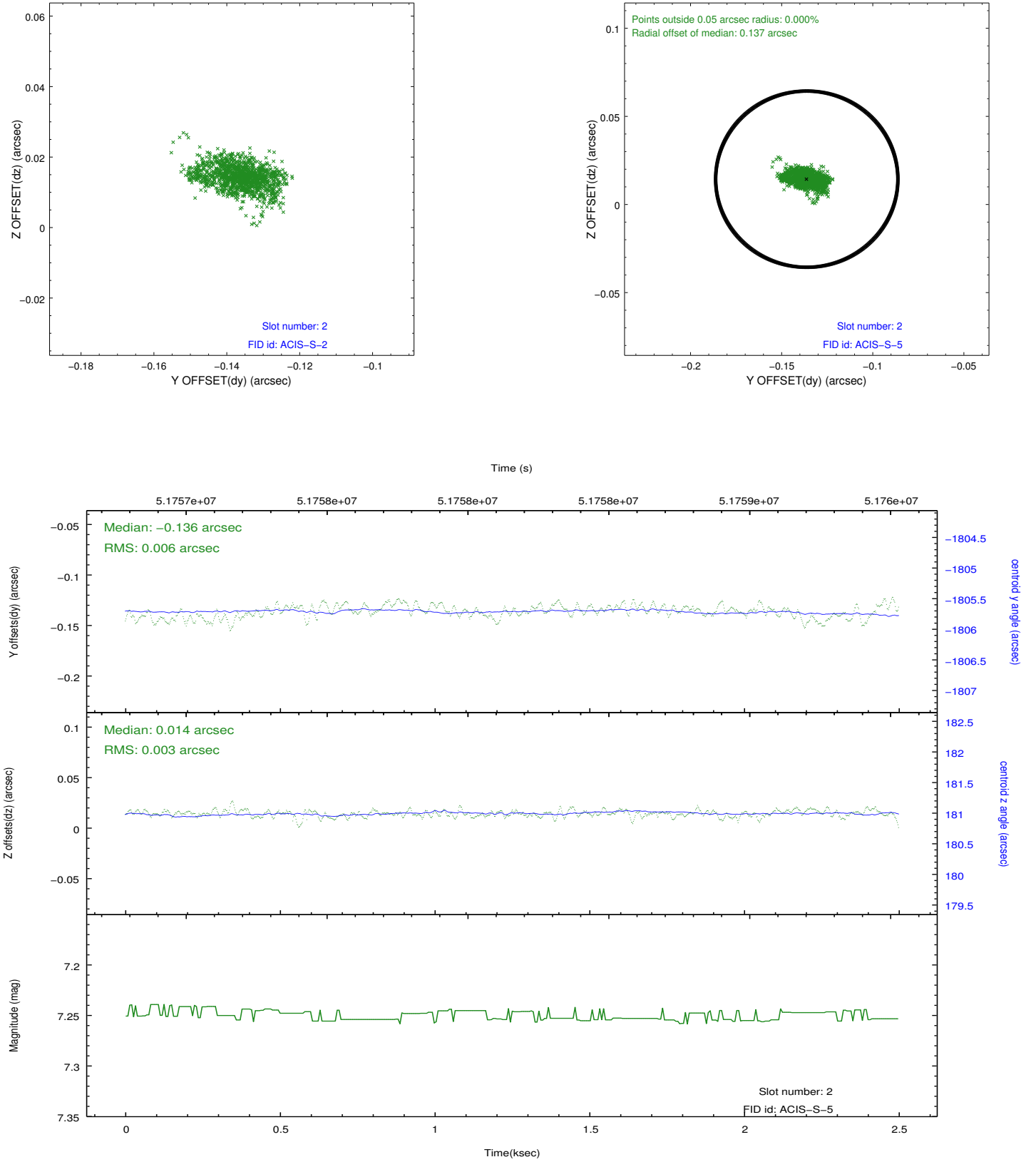
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2





### 3 Point Sources

# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2010.04.01
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	1.071

## A.2 Comments

Off-axis ACIS effective area measurement using Cas A on chip S3. Only events from chip S3 were telemetered.

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Charge time for this ObsId remains at previous value of 1.071 ksec, although with the current processing the charge time would have been 1.059 ksec.

===

Pileup throughout most of the observation.

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The focal plane temperature is approximately -100 C during this observation. This reprocessing of the data applies no CTI correction because none is available for this temperature at present.

The ACIS CTI correction has not been calibrated at this temperature, because it was early in the mission, and ACIS had not yet been lowered to the standard -119.7 C. Both front and back illuminated chips are affected. However a T\_GAIN correction has been applied to the BI chips (ACIS-5 and ACIS-7) data included here.

The ACIS spectral response calibration is less accurate at these warmer temperatures than it is at -119.7 C. Users whose science objectives depend on the most accurate spectral response (ie: fitting line-rich spectra) may notice an effect. Users whose science objectives do not depend on the most accurate spectral response should not notice an effect.