

# V&V Reference Report

## L2 ASCDS Version : 8.5

Observation 5156 - L2 Version 3  
Chandra X-Ray Center

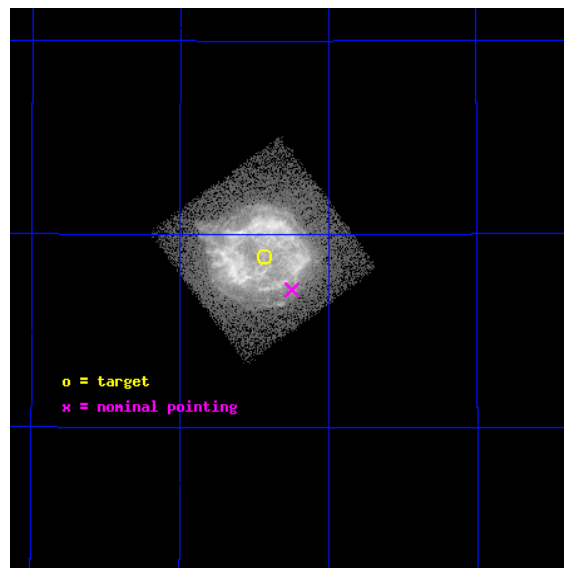
L2 Processing Date : Dec 10 2012

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# 1 Front

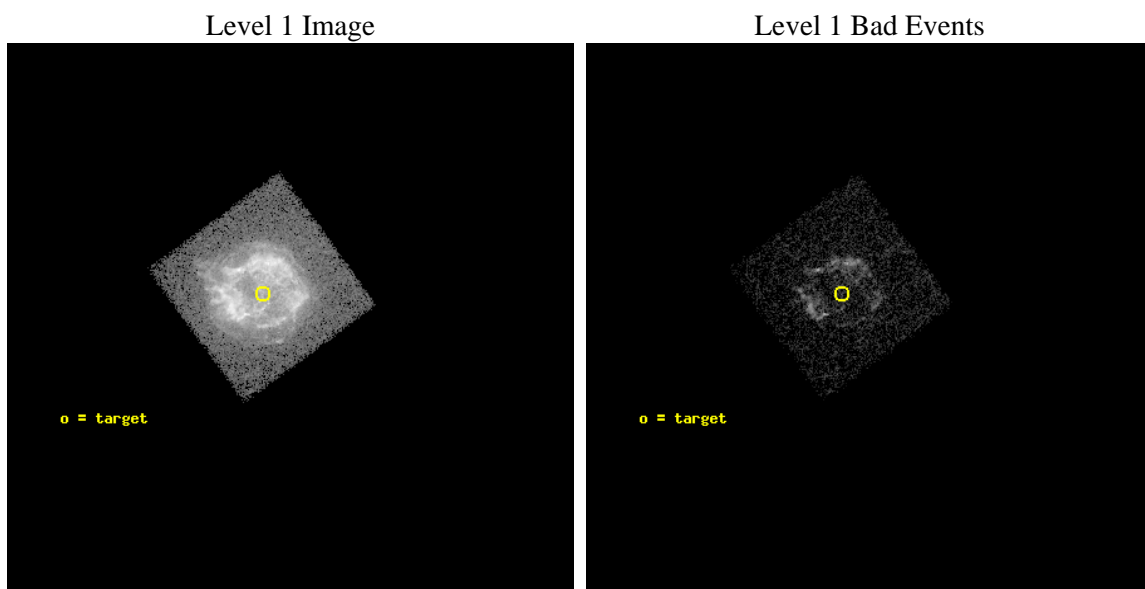
seq_num	590354	Sequence number
obs_id	5156	Observation id
title	AO5B Observations of the Standard Candles Cas A and G21.5-09	Propo
observer	Dr. CXC Calibration	Principal investigator
object	Cas A[S3,-120,-2.0,0,0]	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	350.8575	Observer's specified target RA [deg]
dec_targ	58.814833	Observer's specified target Dec [deg]
ra_nom	350.81177082277	Nominal RA [deg]
dec_nom	58.785666290784	Nominal Dec [deg]
roll_nom	233.73566285383	Nominal Roll [deg]
revision	3	Processing version of data
ontime	1093.8708495796	Sum of GTIs [s]
livetime	1080.0195982322	Livetime [s]
ontime4	1754.4230459929	Sum of GTIs [s]
ontime5	1942.399992764	Sum of GTIs [s]
ontime6	1935.9180221558	Sum of GTIs [s]
ontime7	1093.8708495796	Sum of GTIs [s]
ontime8	1942.399992764	Sum of GTIs [s]
ontime9	1897.0262186229	Sum of GTIs [s]
l2events	329869	Number of level 2 events



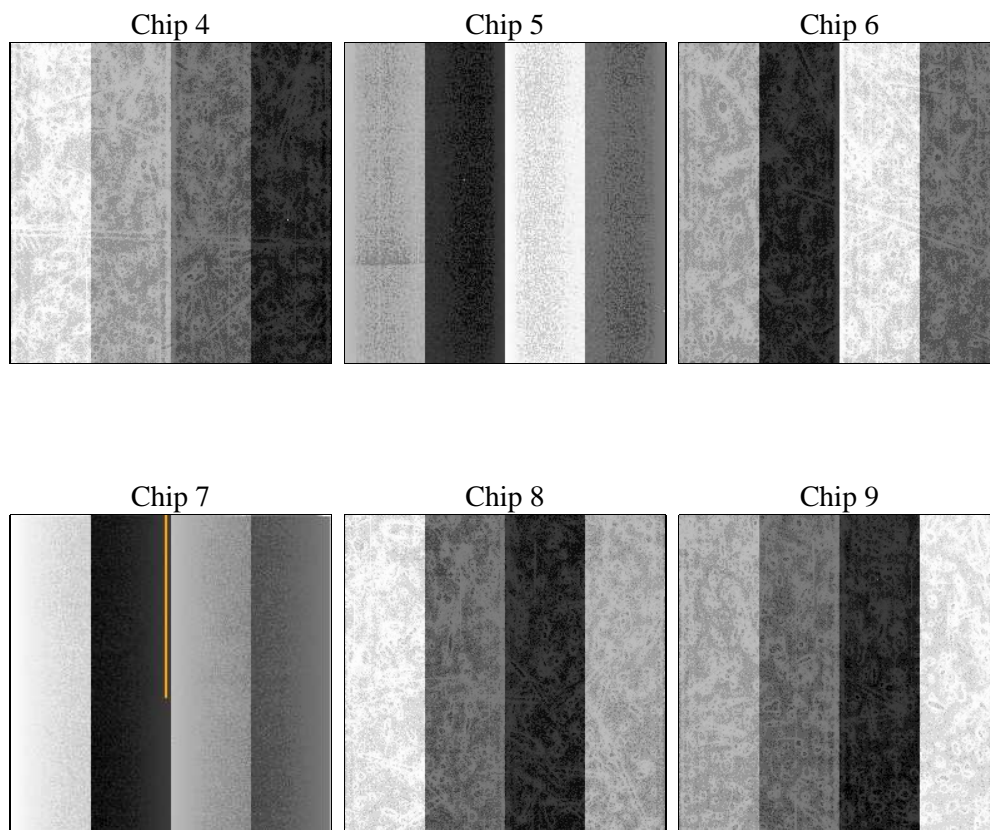
## 2 OBI

### 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	[s] Scheduled observation exposure time
ascdsver	8.5	Processing system revision	ontime	1093.8708495796	Sum of GTIs [s]
caldbver	4.5.4	&#160	ontime4	1754.4230459929	Sum of GTIs [s]
date	2012-12-10T11:51:13	Date and time of file creation	ontime5	1942.399992764	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	1935.9180221558	Sum of GTIs [s]
			ontime7	1093.8708495796	Sum of GTIs [s]
			ontime8	1942.399992764	Sum of GTIs [s]
			ontime9	1897.0262186229	Sum of GTIs [s]
			l1events	376347	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	376347	0	0
rejected events	0	0	0	42822	0	0
rejected %	0%	0%	0%	11%	0%	0%

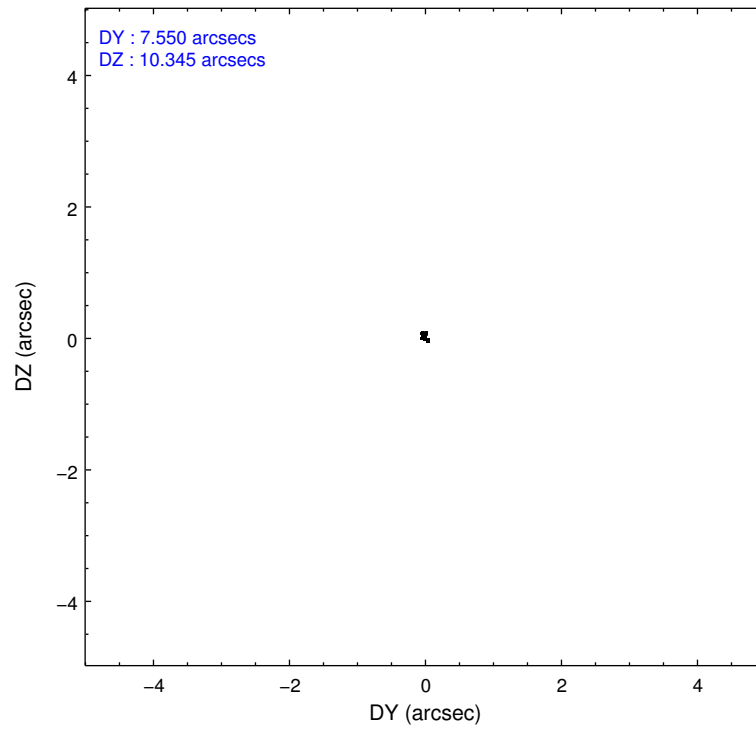
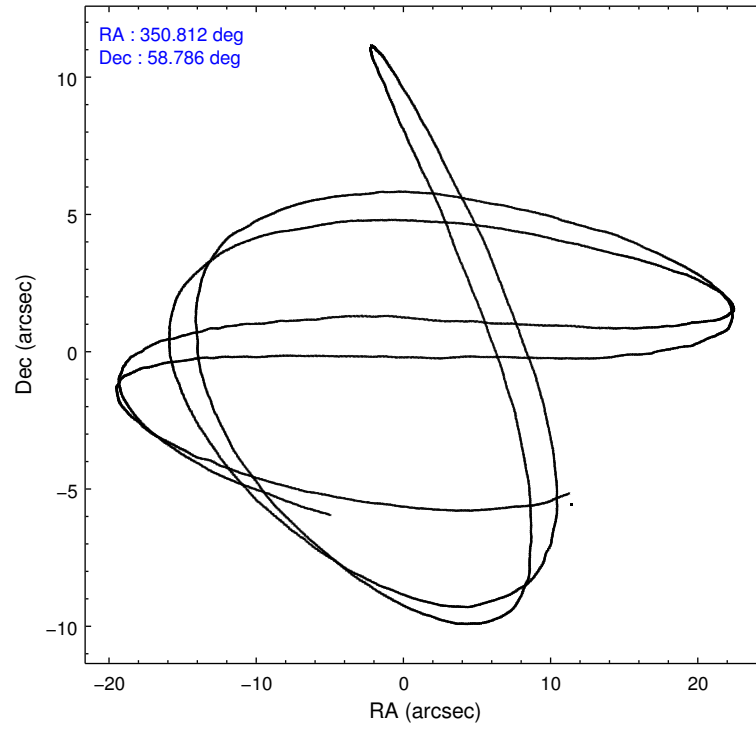
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	0	0	0	83900	0	0
	0%	0%	0%	22%	0%	0%
grade 1 events	0	0	0	1735	0	0
	0%	0%	0%	0%	0%	0%
grade 2 events	0	0	0	90078	0	0
	0%	0%	0%	23%	0%	0%
grade 3 events	0	0	0	38894	0	0
	0%	0%	0%	10%	0%	0%
grade 4 events	0	0	0	38456	0	0
	0%	0%	0%	10%	0%	0%
grade 5 events	0	0	0	7349	0	0
	0%	0%	0%	1%	0%	0%
grade 6 events	0	0	0	83168	0	0
	0%	0%	0%	22%	0%	0%
grade 7 events	0	0	0	32767	0	0
	0%	0%	0%	8%	0%	0%

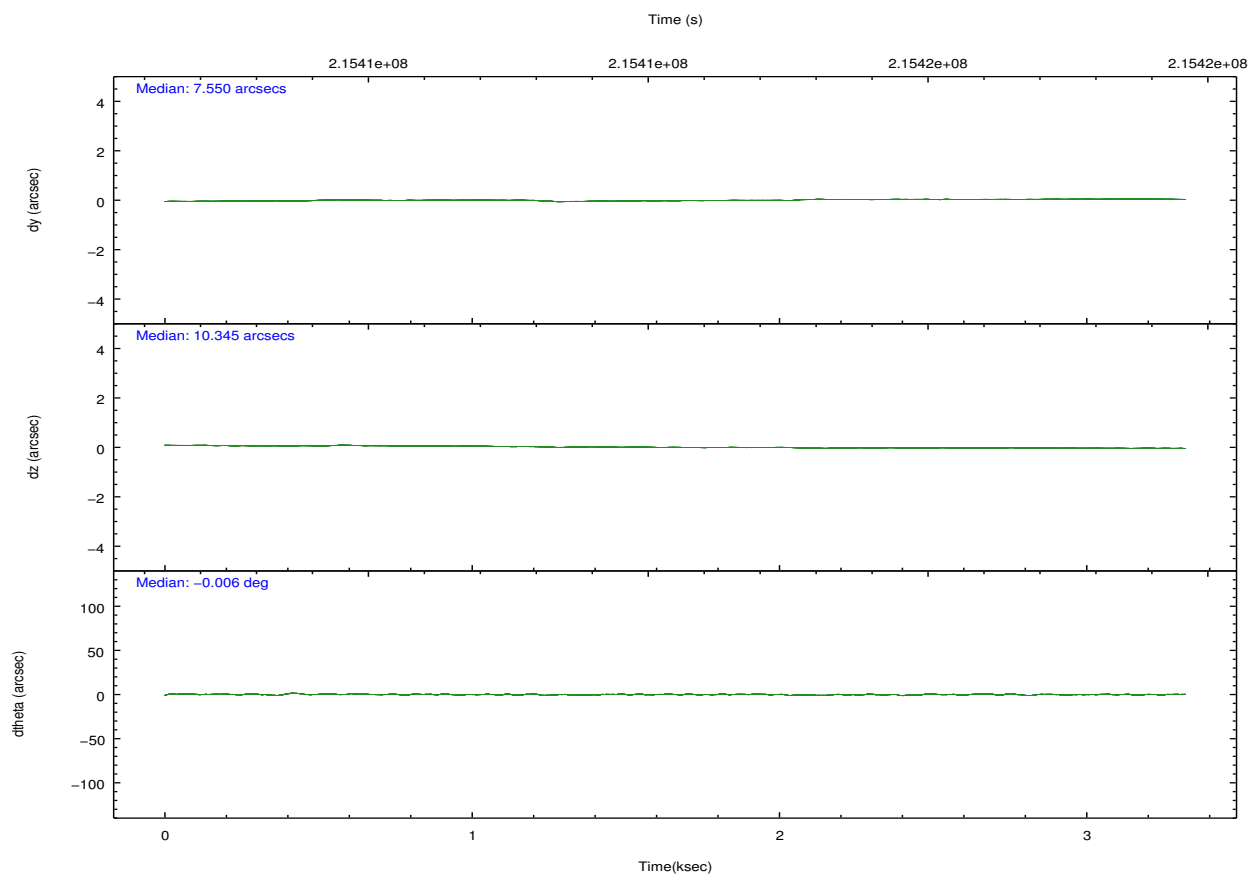
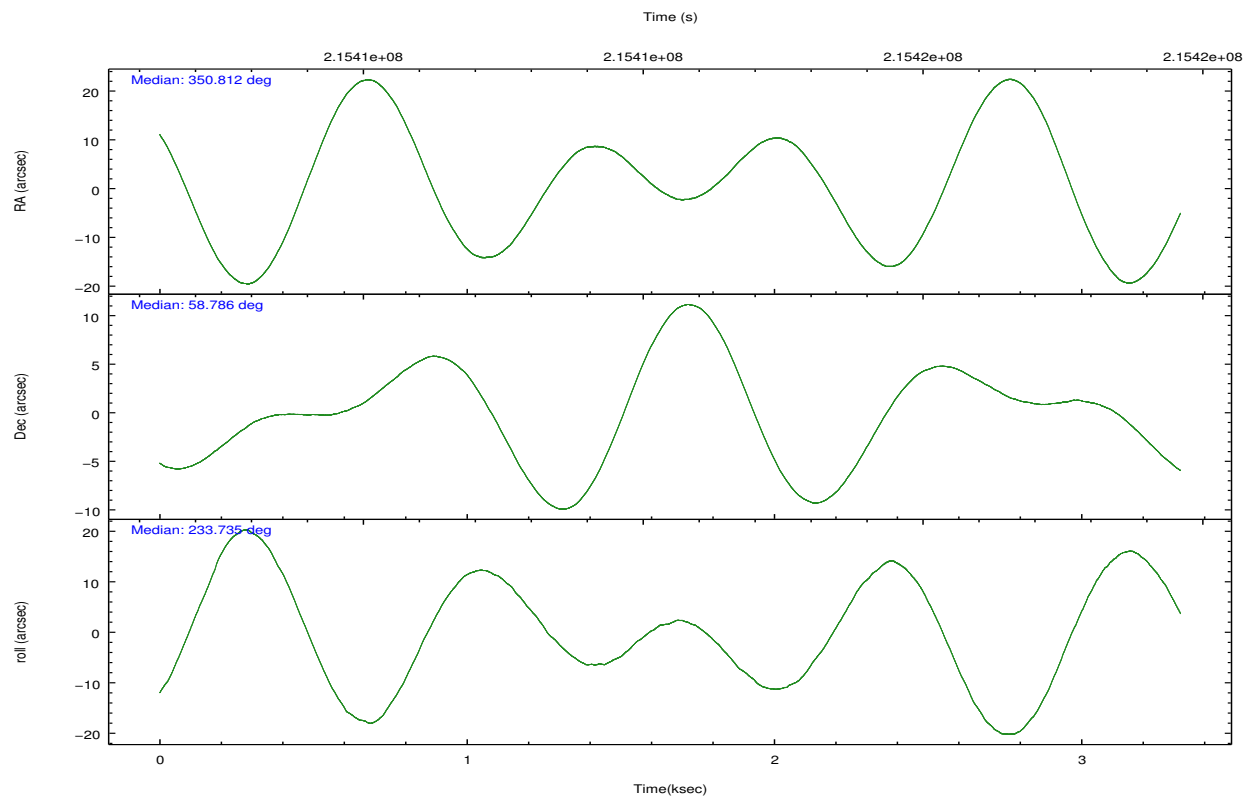


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-235678	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
[deg] Pointing RA	350.817096	350.8117708227738	CCD I2 on	Y	N
[deg] Pointing Dec	58.812877	58.78566629078401	CCD I3 on	Y	N
[deg] Pointing Roll	233.574479	233.7356628538284	CCD S0 on	N	Y
[s] Window start time (MET)	212976064.184000	212976064.184000	CCD S1 on	Y	Y
[s] Window stop time (MET)	215568064.184000	215568064.184000	CCD S2 on	Y	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S3 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S4 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1425803651734	CCD S5 on	N	Y
[mm] SIM translation stage offset	0	0.01005778216563158	Number of optional ACIS chips dropped	0	0
[s] Observation start time (MET)	215413754.184000	215412224.28926	On-chip summing requested	N	N
Observation start date	2004-10-29T05:08:10	2004-10-29T04:43:44	Subarray requested	NONE	NONE
[s] Observation end time (MET)	215415754.184000	215415949.13943	Alternating exposures requested	N	N
Observation end date	2004-10-29T05:41:30	2004-10-29T05:45:49	[s] Primary exposure time	0.000000	3.2
Read mode	TIMED	TIMED			

## 2.3 Aspect



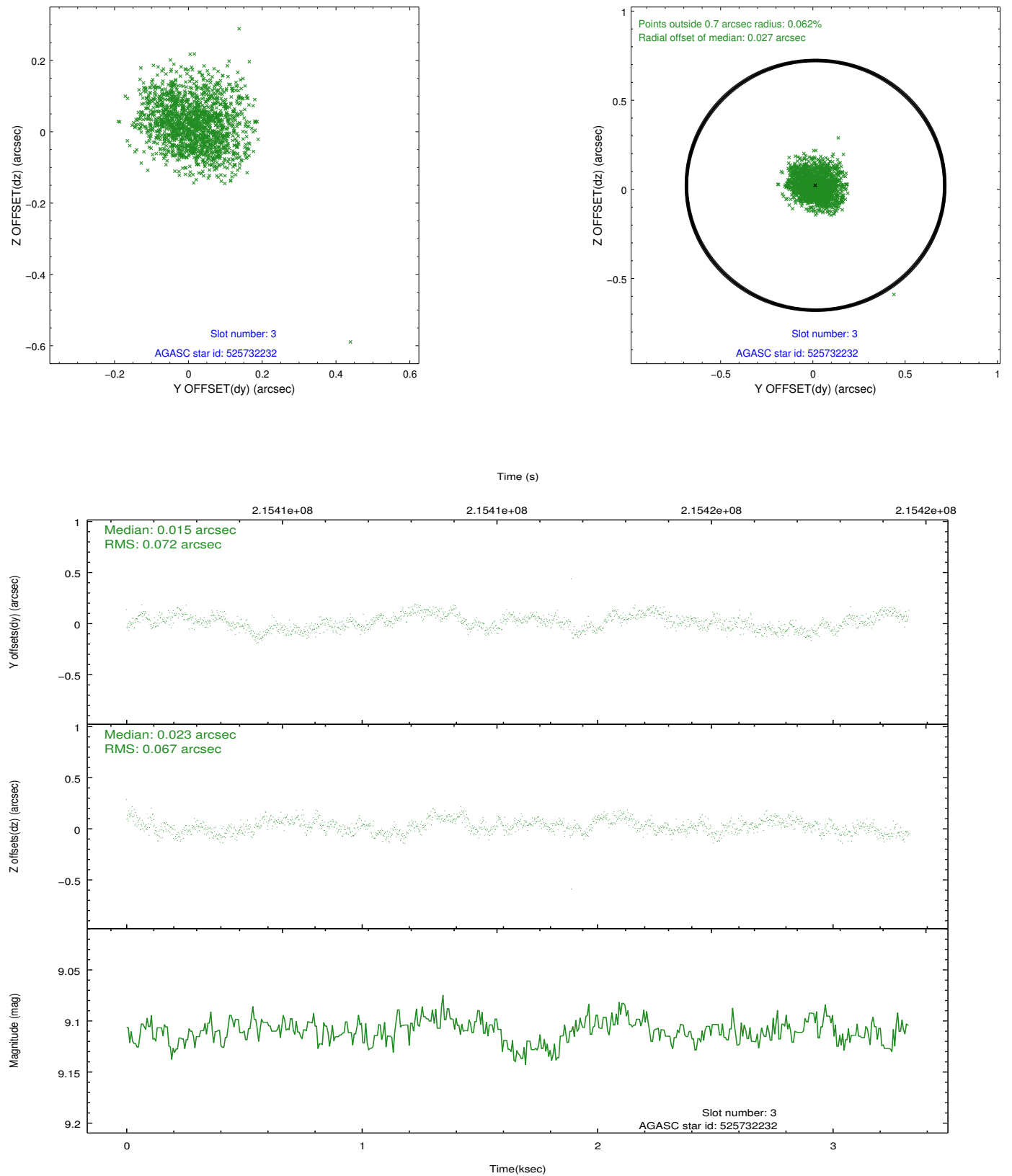


### Slot Statistics

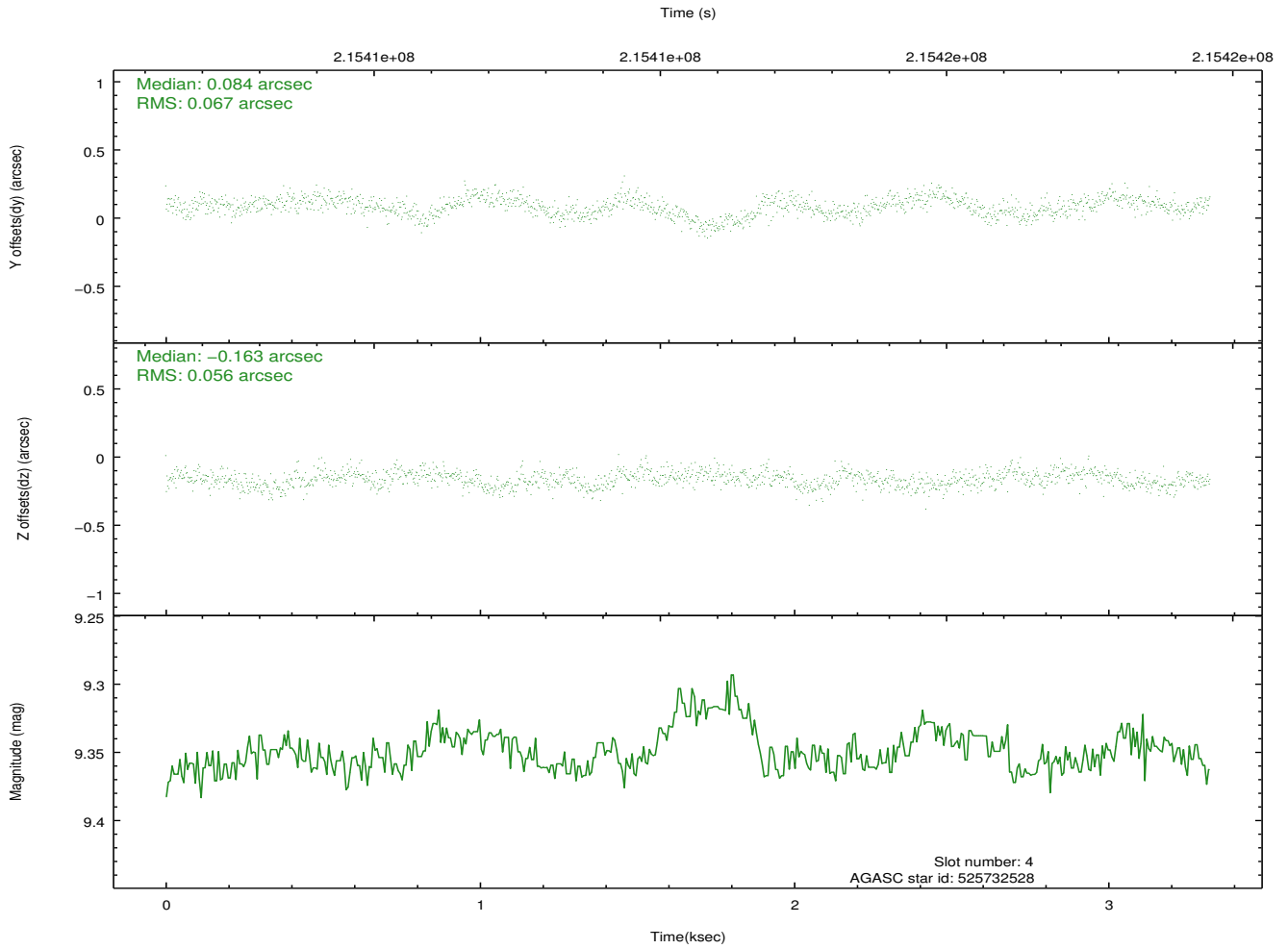
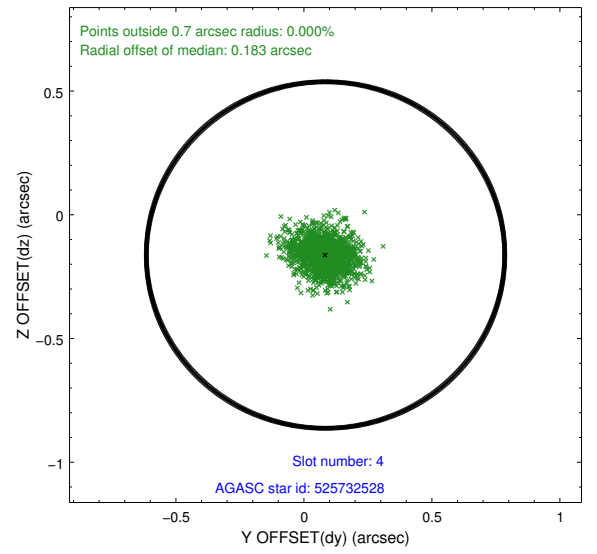
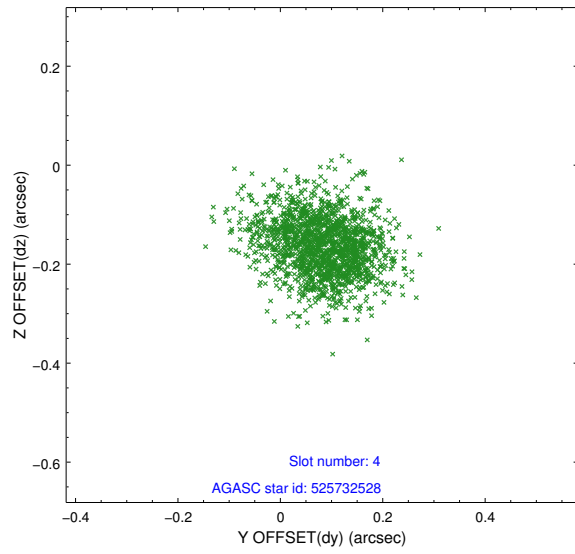
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	7.19	811	0.039	-0.056	0.006	0.011	0.000000	0.000000	935.77	-1727.24
1	FID	ACIS-S-5	7.24	811	-0.074	0.023	0.006	0.011	0.000000	0.000000	-1812.28	168.41
2	FID	ACIS-S-6	7.34	811	0.014	0.045	0.007	0.012	0.000000	0.000000	399.22	814.57
3	GUIDE	525732232	9.11	1618	0.015	0.023	0.106	0.162	351.669550	58.757012	-791.65	1395.41
4	GUIDE	525732528	9.35	1621	0.084	-0.163	0.091	0.152	351.607241	59.298932	-2277.84	125.59
5	GUIDE	525735976	8.85	1619	-0.014	-0.134	0.066	0.105	350.142956	58.277622	2301.33	114.04
6	GUIDE	525736400	9.08	1622	-0.084	0.150	0.068	0.117	350.974563	59.175145	-1221.04	-540.20
7	GUIDE	525732488	8.43	1621	-0.007	0.123	0.108	0.157	350.087090	58.516915	1665.13	-475.79

## 2.4 Star Slots

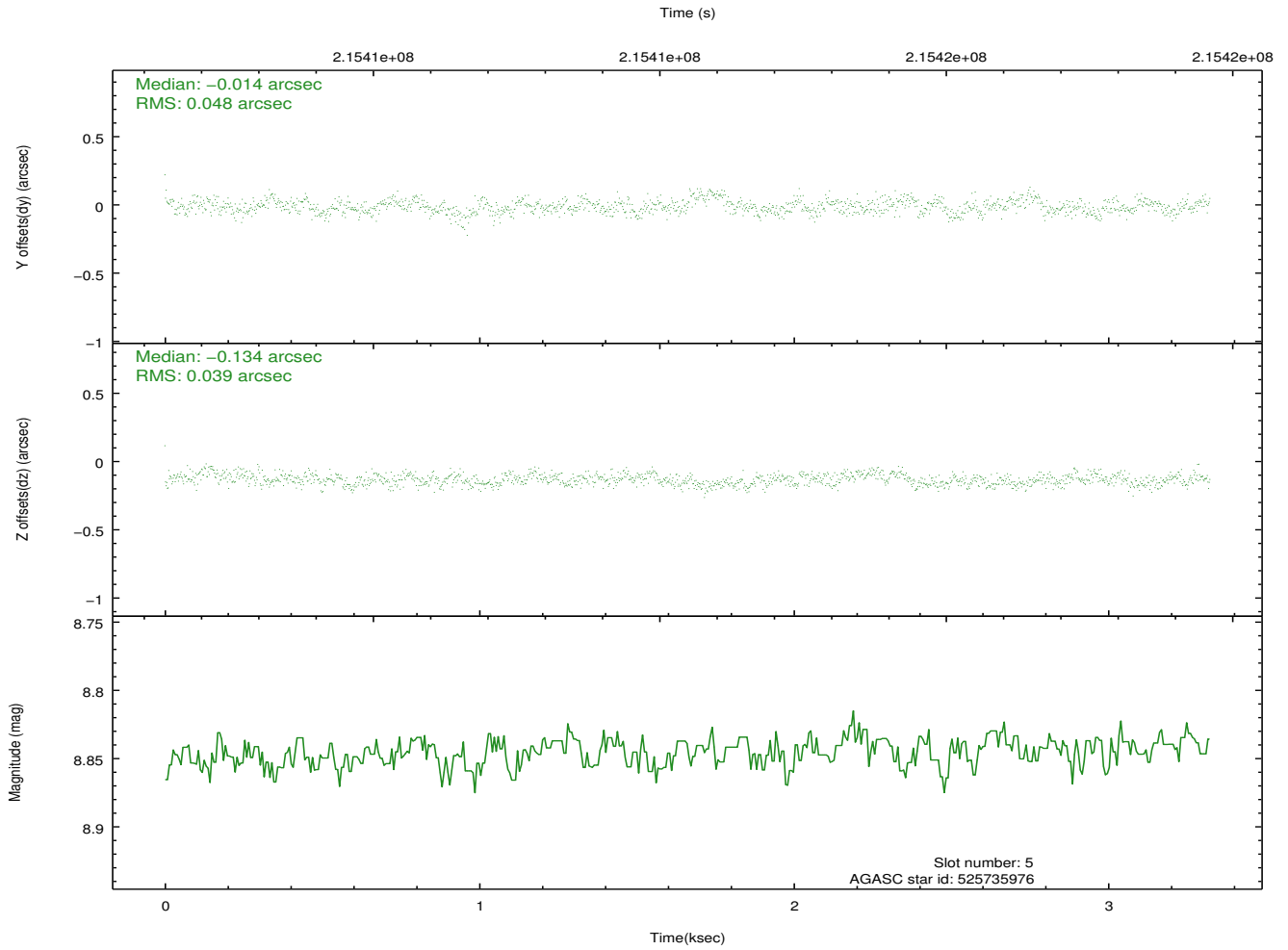
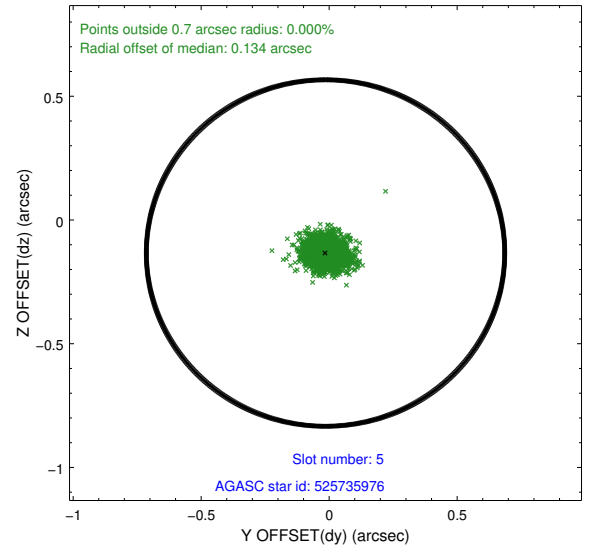
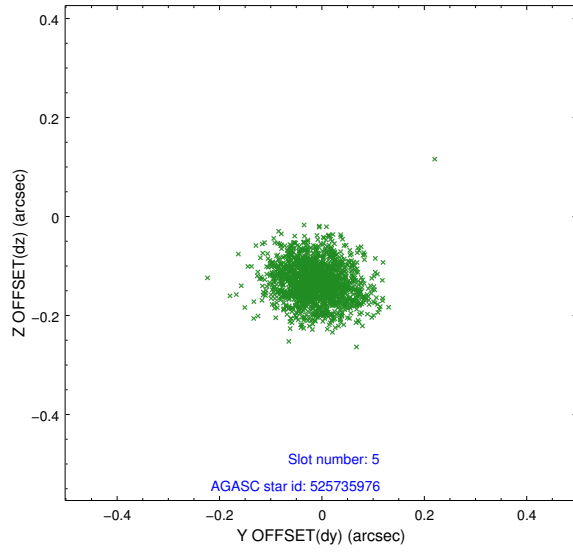
### 2.4.1 Slot 3



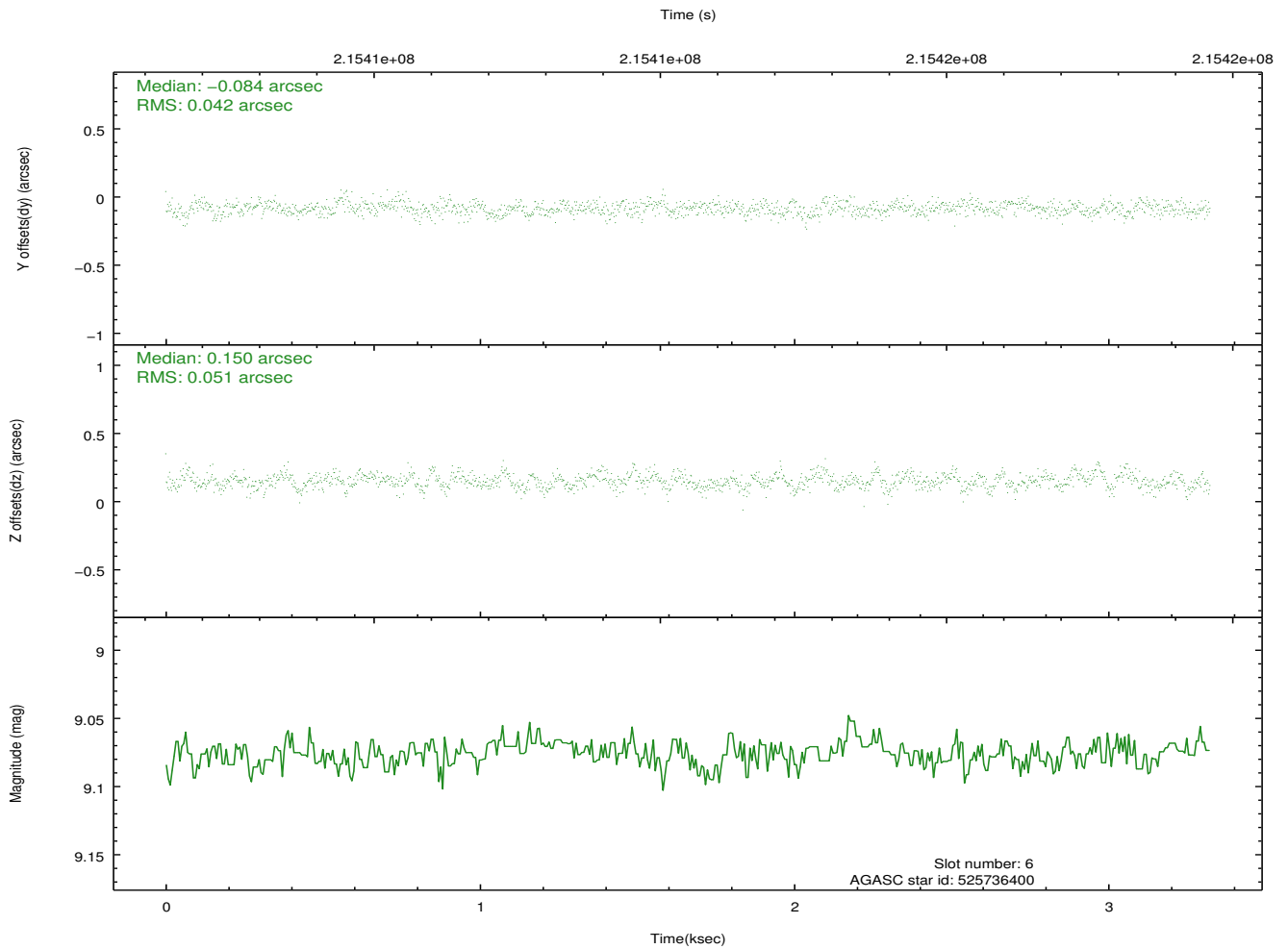
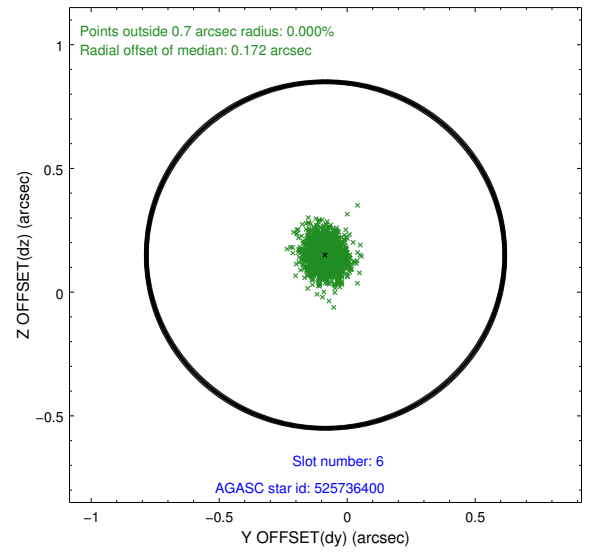
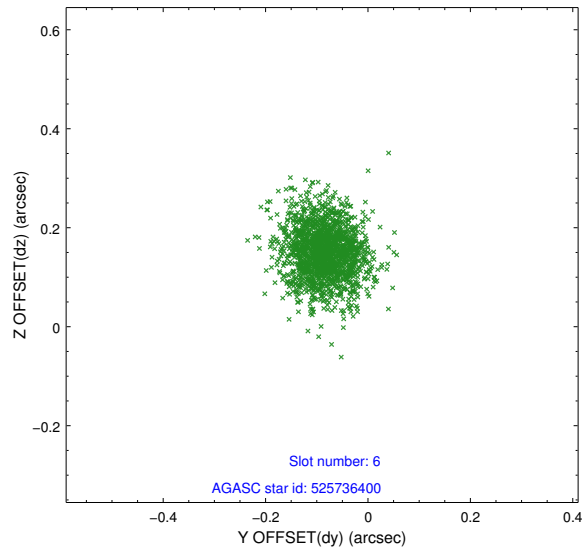
## 2.4.2 Slot 4



### 2.4.3 Slot 5

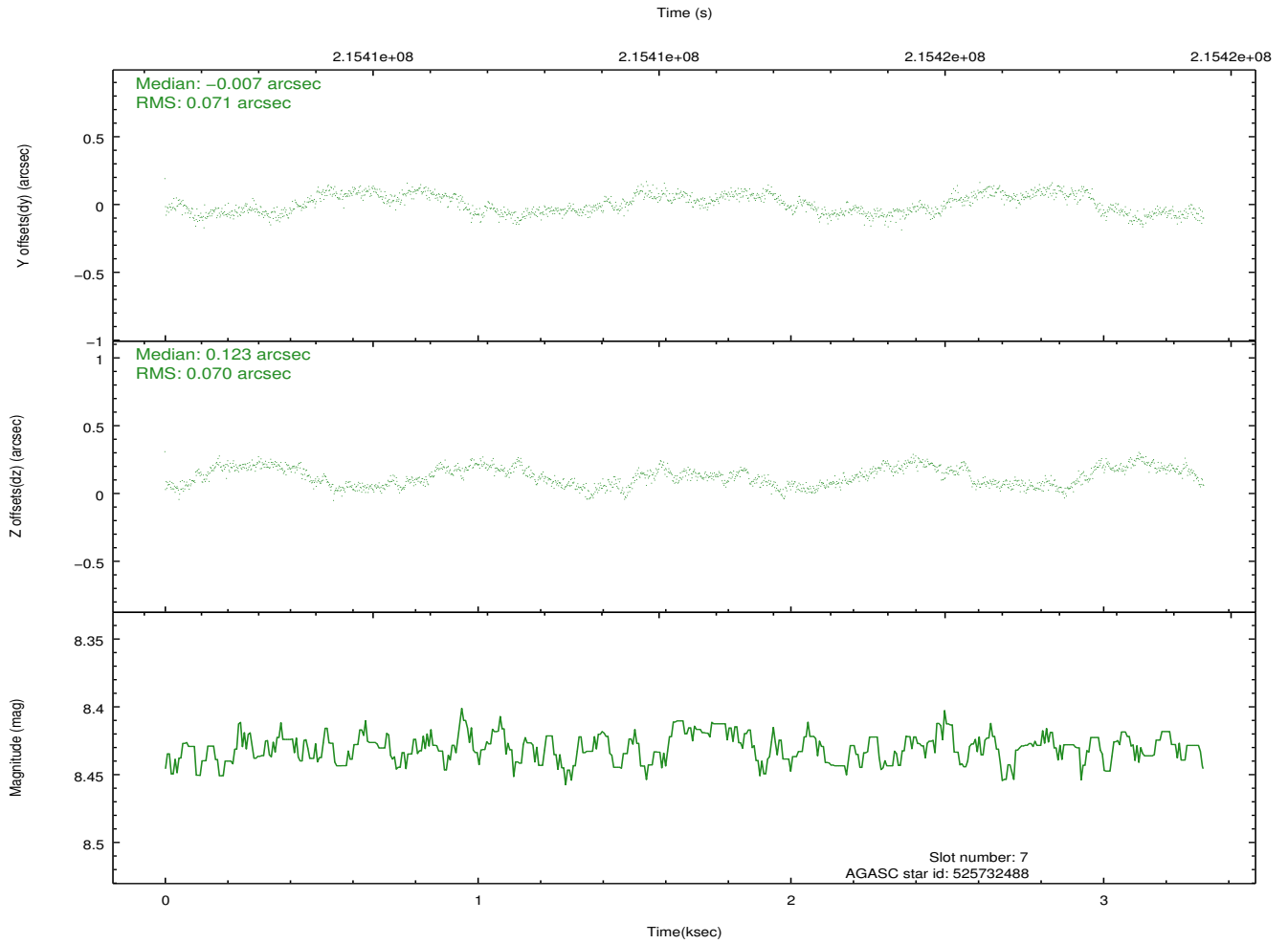
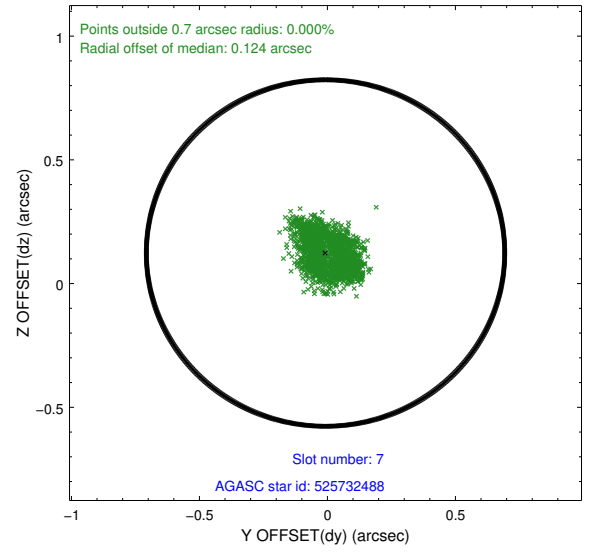
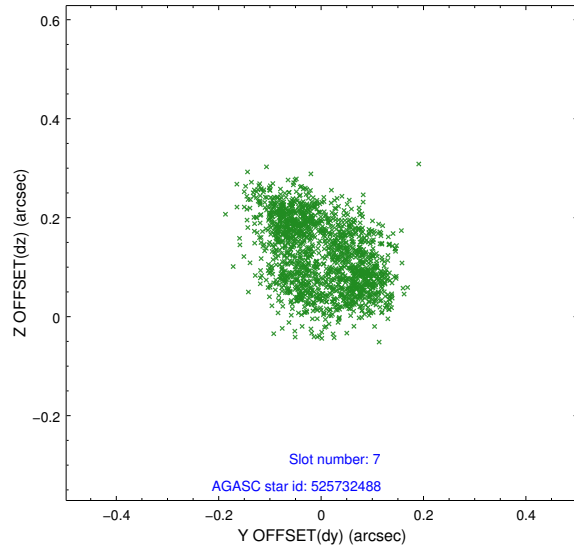


## 2.4.4 Slot 6



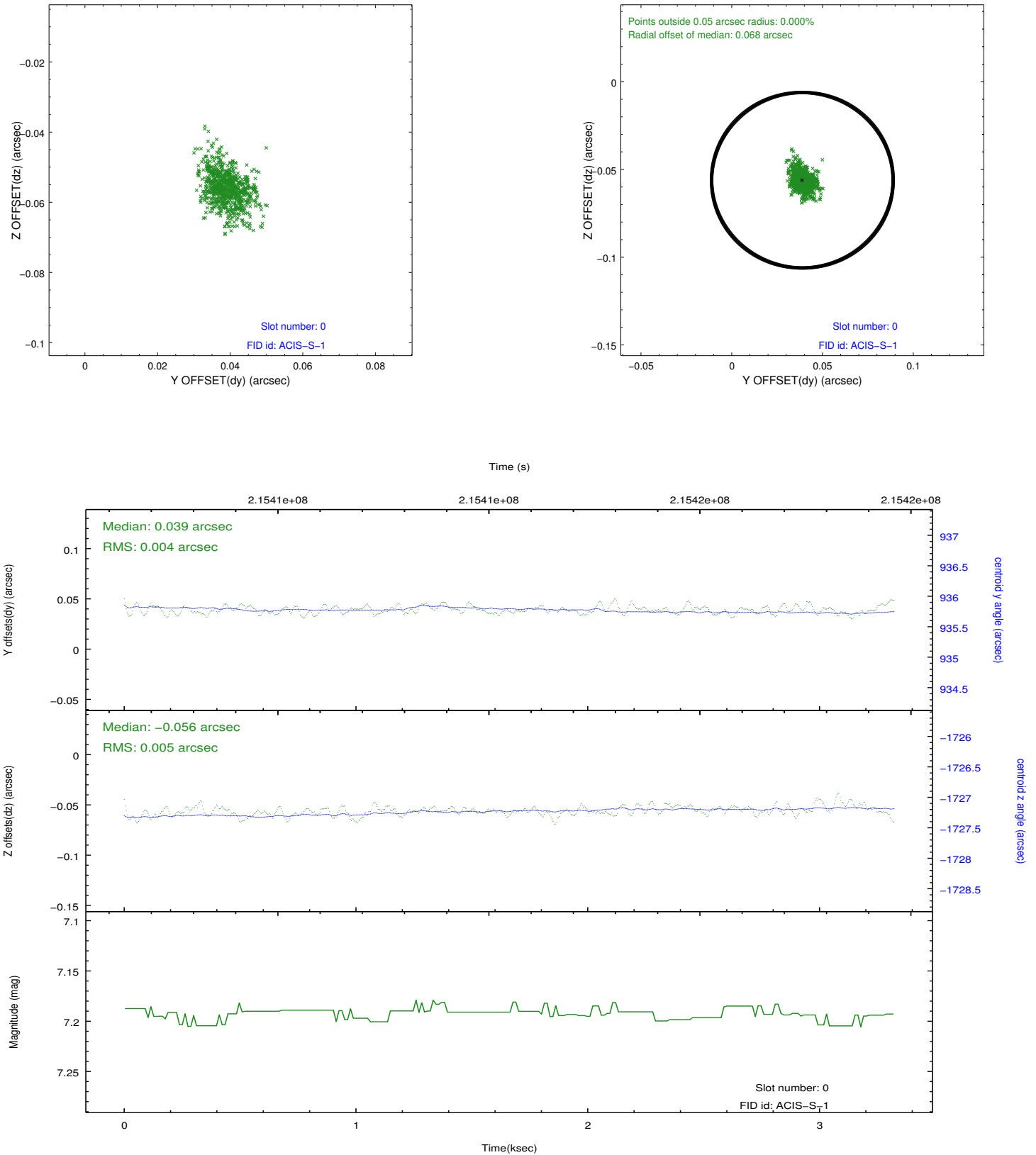


## 2.4.5 Slot 7

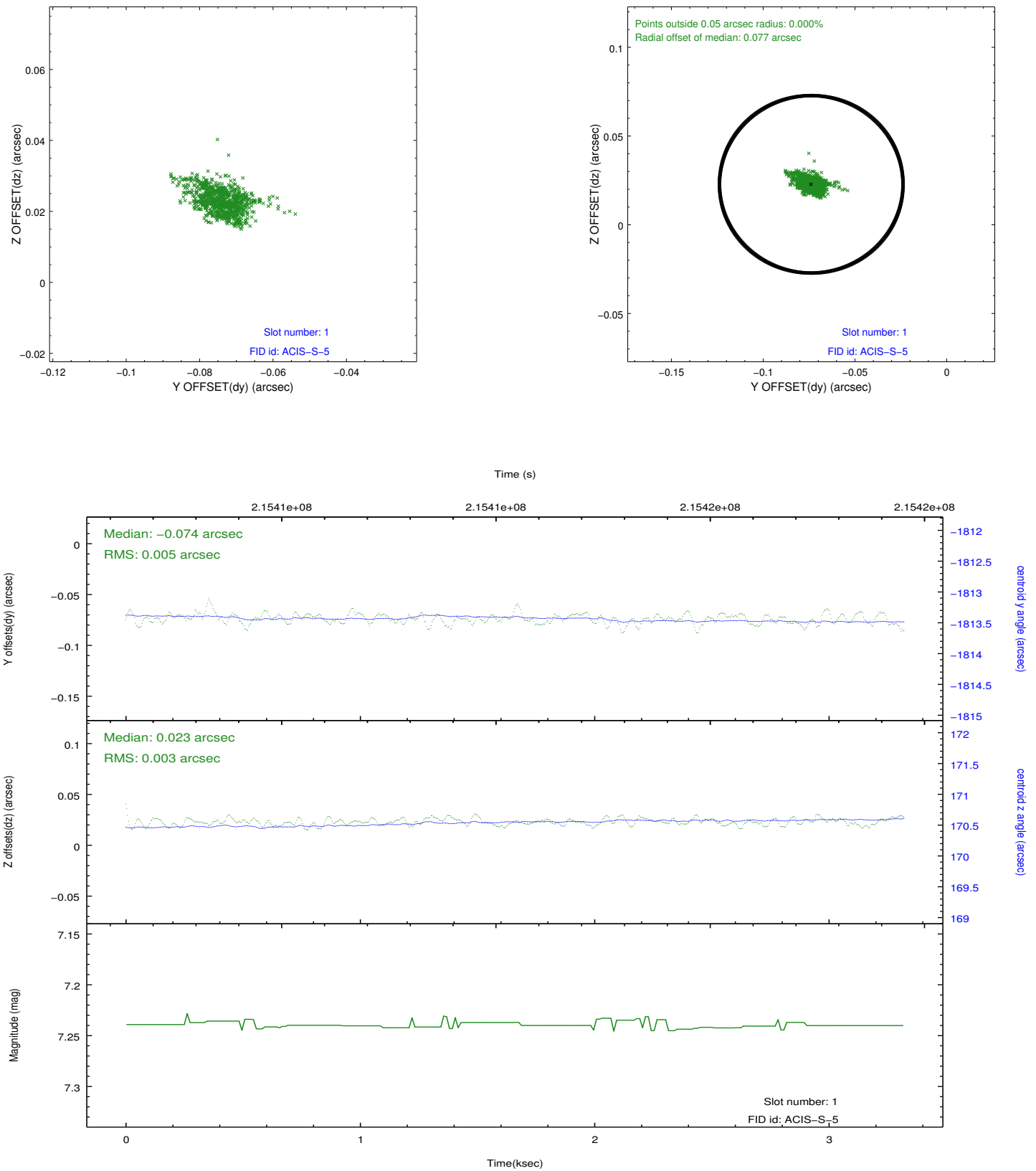


## 2.5 FID Slots

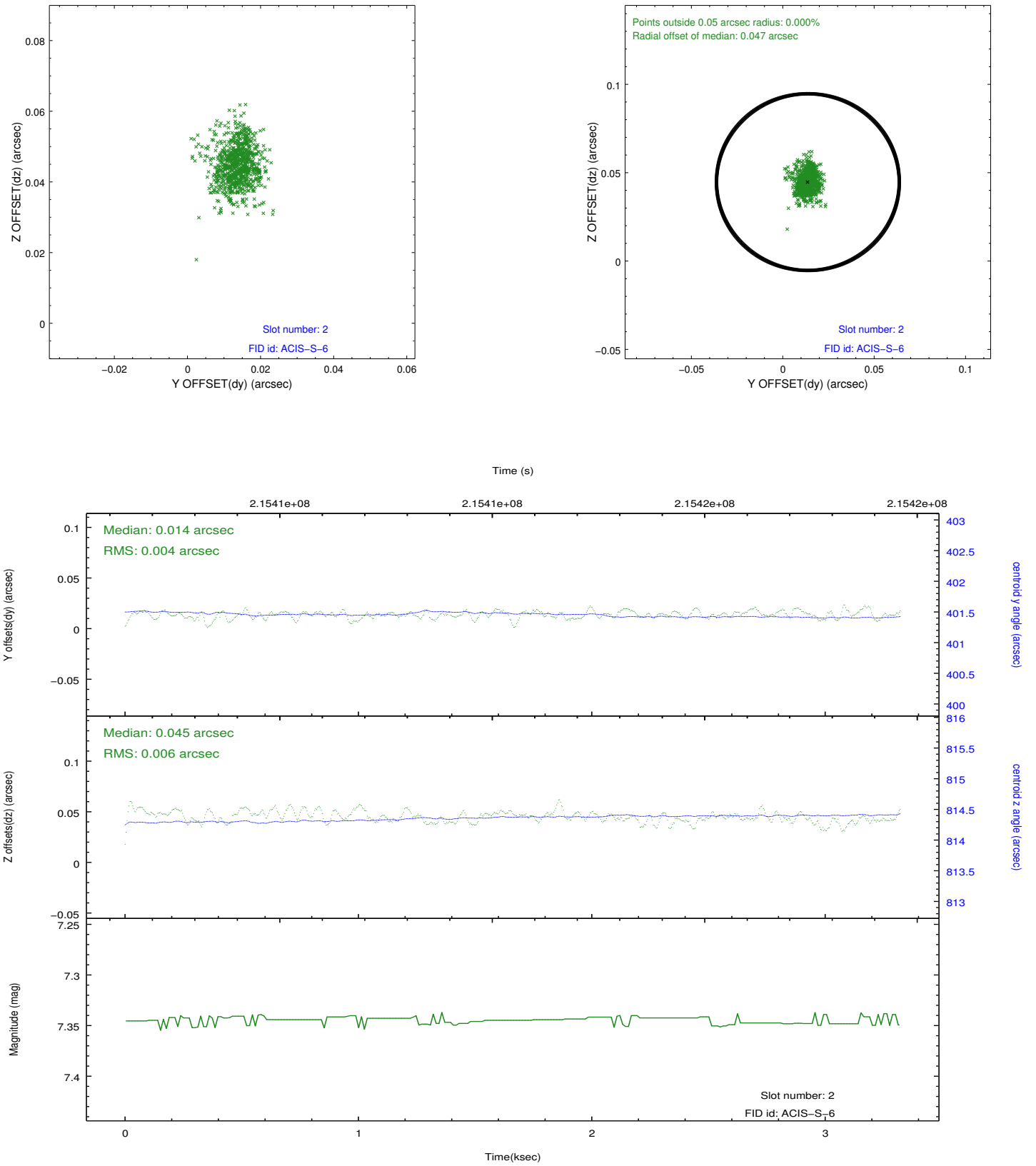
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2013.01.03
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	1.093

## A.2 Comments

Window constraint met. There is a difference in planned vs. actual chips used in ACIS; however, since all chips but S3, which is in both the planned and actual configurations, were excluded from the observation by a spatial exclusion window, this has no impact.