

# V&V Reference Report

## L2 ASCDS Version : 8.3.3.1

Observation 123 - L2 Version 3  
Chandra X-Ray Center

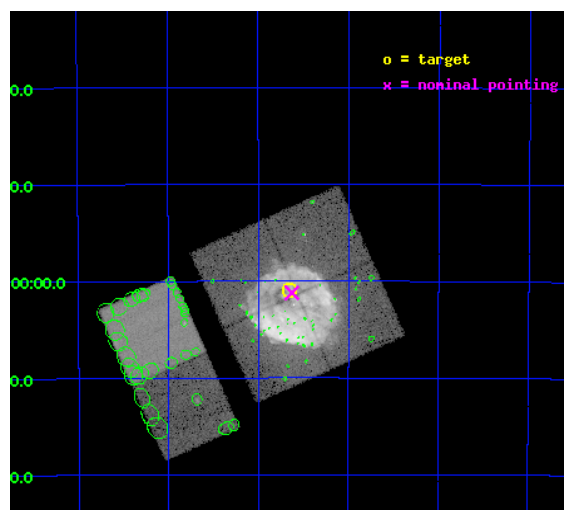
L2 Processing Date : Dec 17 2010

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# 1 Front

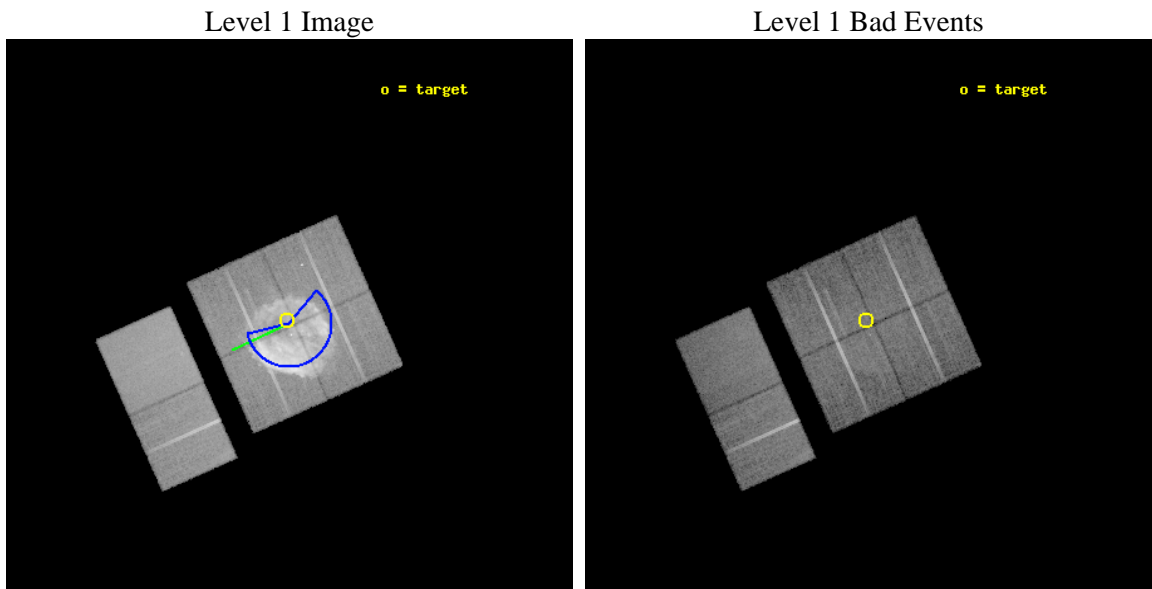
seq_num	500010	Sequence number
obs_id	123	Observation id
title	THE SUPERNOVA REMNANT AND NEUTRON STAR RCW 103	Proposal title
observer	Prof. Gordon Garmire	Principal investigator
object	RCW 103	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	244.413333	Observer's specified target RA
dec_targ	-51.016667	Observer's specified target Dec
ra_nom	244.40681340288	Nominal RA
dec_nom	-51.020272998635	Nominal Dec
roll_nom	245.31030037495	Nominal Roll
revision	3	Processing version of data
ontime	13527.034208246	Sum of GTIs [s]
livetime	13355.746756099	Livetime [s]
ontime0	13348.906781718	Sum of GTIs [s]
ontime1	13949.306297608	Sum of GTIs [s]
ontime2	11962.597632937	Sum of GTIs [s]
ontime3	13527.034208246	Sum of GTIs [s]
ontime6	15802.14584405	Sum of GTIs [s]
ontime7	19033.582649708	Sum of GTIs [s]
l2events	624403	Number of level 2 events



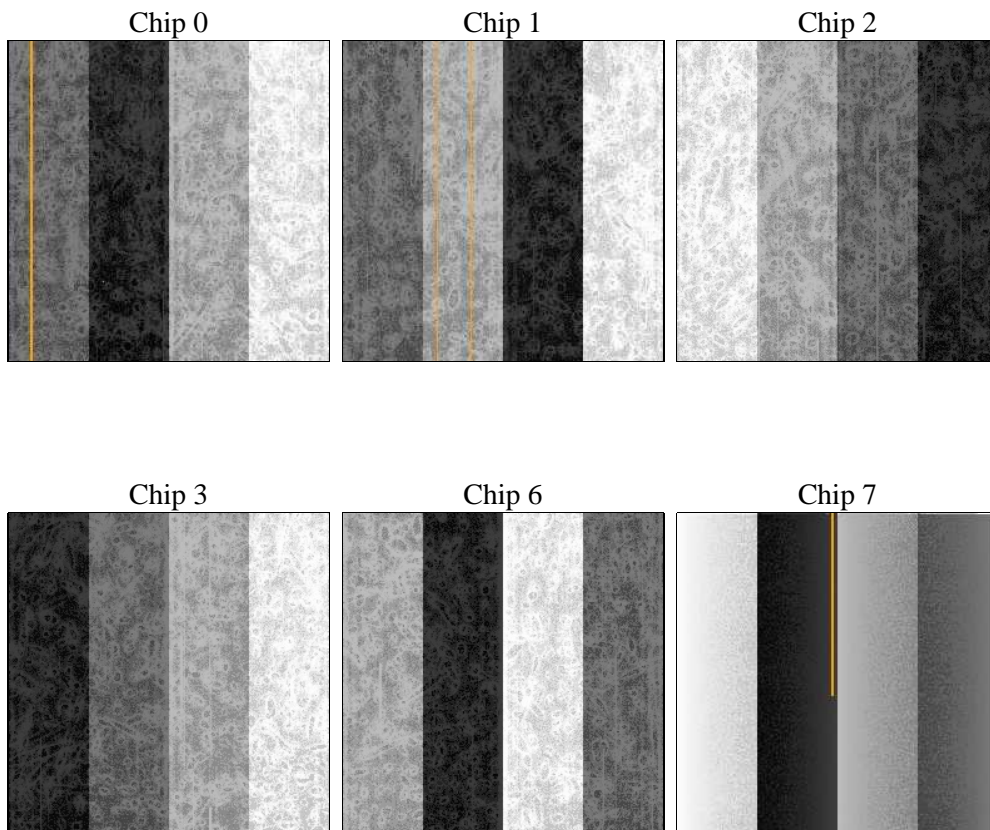
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	20000.000000	Scheduled observation exposure time
ascdsver	8.3.3.1	ASCDS version number	ontime	13527.034208246	Sum of GTIs [s]
caldbver	4.4.0	&#160	ontime0	13348.906781718	Sum of GTIs [s]
date	2010-12-17T21:50:06	Date and time of file creation	ontime1	13949.306297608	Sum of GTIs [s]
revision	4	Processing version of data	ontime2	11962.597632937	Sum of GTIs [s]
			ontime3	13527.034208246	Sum of GTIs [s]
			ontime6	15802.14584405	Sum of GTIs [s]
			ontime7	19033.582649708	Sum of GTIs [s]
			l1events	1365980	Number of level 1 events

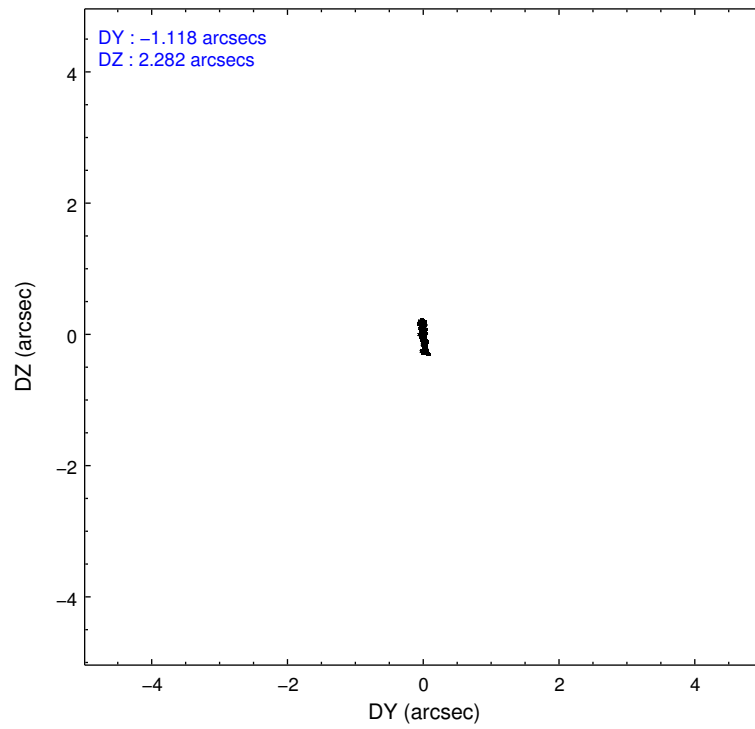
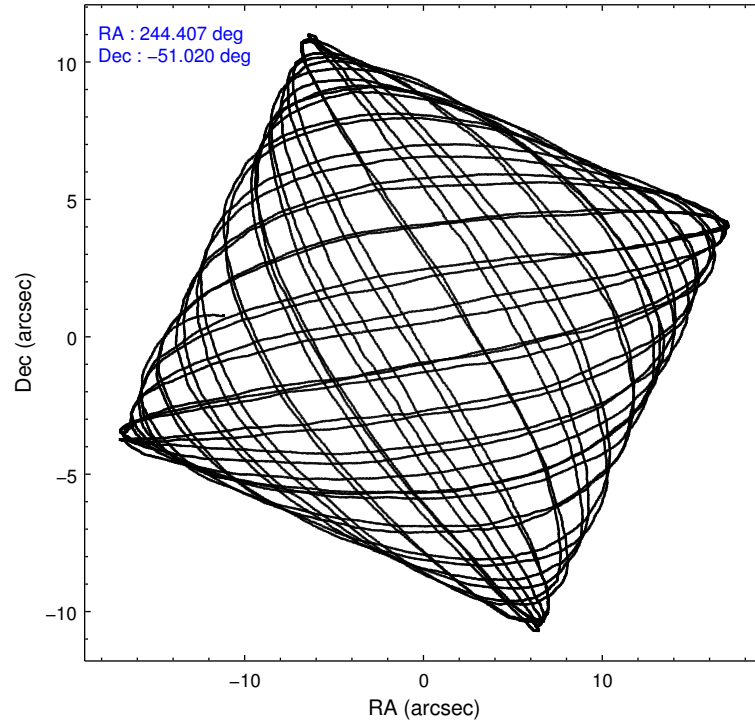
### 2.1.4 Events

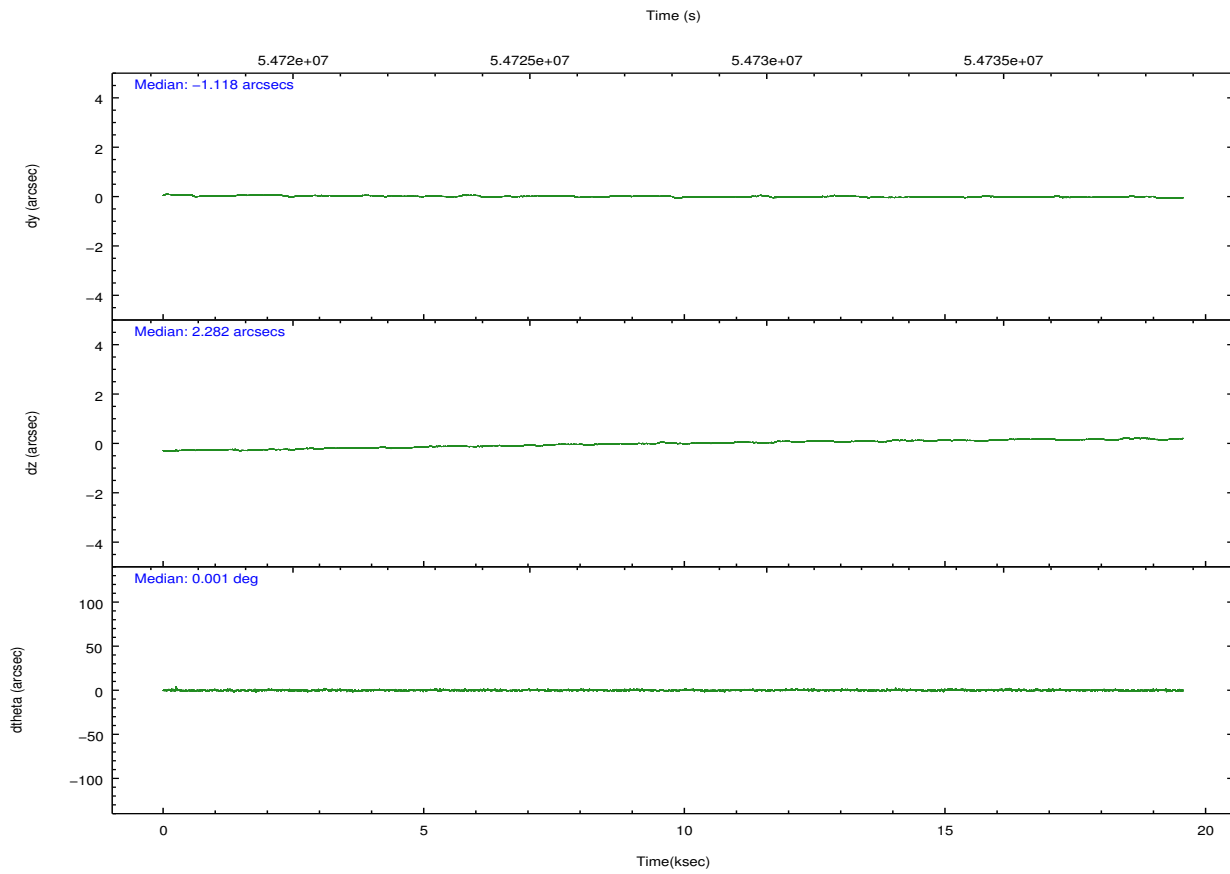
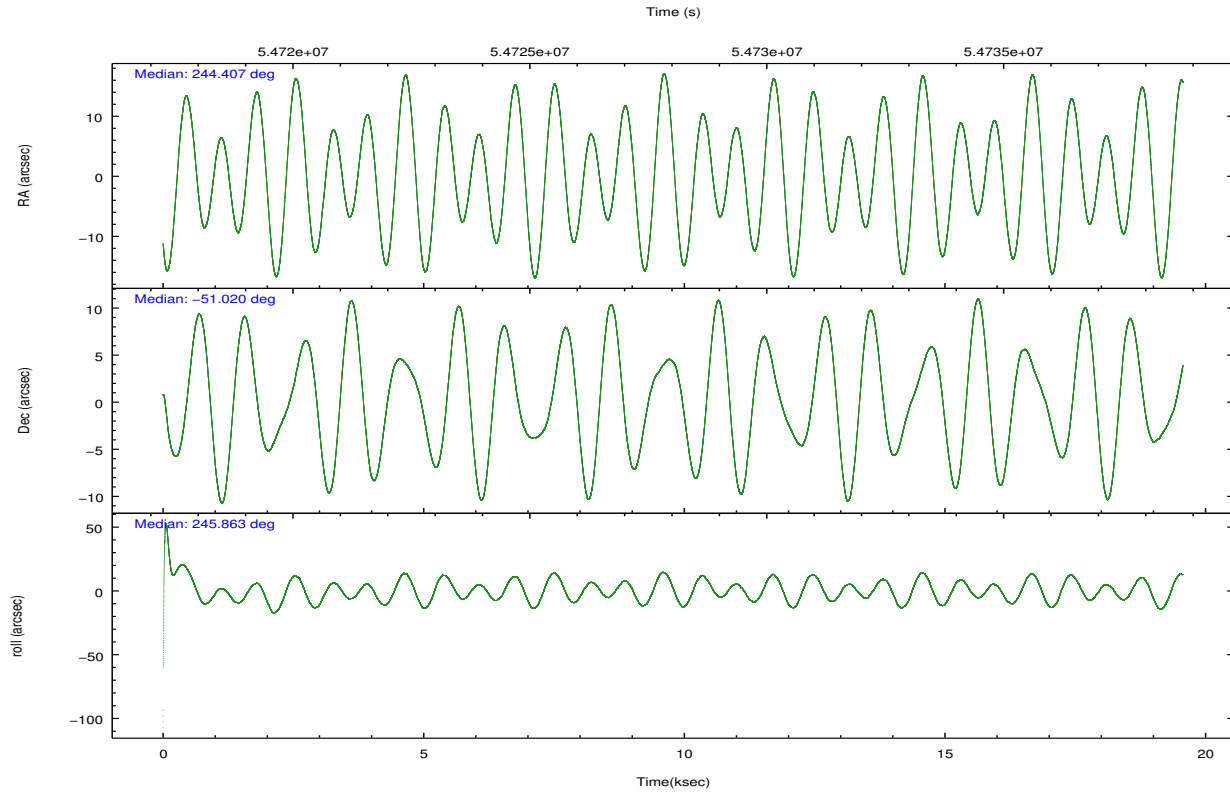
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7		ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	235366	168489	421520	185545	156929	198131	grade 0 events	89718	32814	219958	42198	4646	5597
rejected events	114431	116348	120064	117957	139958	119125		38%	19%	52%	22%	2%	2%
rejected %	48%	69%	28%	63%	89%	60%	grade 1 events	290	104	681	96	32	105
								0%	0%	0%	0%	0%	0%
							grade 2 events	21573	11899	65938	18497	6275	17201
								9%	7%	15%	9%	3%	8%
							grade 3 events	2796	1861	4774	1617	1039	5005
								1%	1%	1%	0%	0%	2%
							grade 4 events	2751	1690	4873	1561	1004	4521
								1%	1%	1%	0%	0%	2%
							grade 5 events	3027	2917	3239	2668	3083	12040
								1%	1%	0%	1%	1%	6%
							grade 6 events	4175	3918	6071	3730	4011	46735
								1%	2%	1%	2%	2%	23%
							grade 7 events	111036	113286	115986	115178	136839	106927
								47%	67%	27%	62%	87%	53%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	6	6
Detector	ACIS-012367	ACIS-012367	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	OVERRIDE	OVERRIDE
Data mode	VFAINT	VFAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
Pointing RA	244.4068178934306	244.4068134028845	Subarray requested	NONE	NONE
Pointing Dec	-51.02027459391857	-51.02027299863519	Alternating exposures requested	N	N
Pointing Roll	245.3088194983855	245.3103003749545	Primary exposure time	3.2	3.2
Roll angle	148.000000	148.000000			
Roll tolerance	108.000000	108.000000			
Roll constraint allows 180D rotation	N	N			
Window start time	53481664.184000	53481664.184000			
Window stop time	58838464.184000	58838464.184000			
SIM focus pos (mm)	-0.7809083437167272	-0.7809083437167272			
SIM defocus (mm)	0.001439854621705816	0.001439854621705816			
SIM translation stage pos (mm)	-233.5874344608287	-233.5874344608287			
SIM translation stage offset (mm)	-0.005028630603106876	-0.005028630603106876			
Observation start time	54718240.4283242524	54718240.42832425			
Observation start date	1999-09-26T07:22:22	1999-09-26T07:30:40			
Observation end time	54737806.184000	54737806.184			
Observation end date	1999-09-26T12:55:42	1999-09-26T12:56:46			
Read mode	TIMED	TIMED			

## 2.3 Aspect



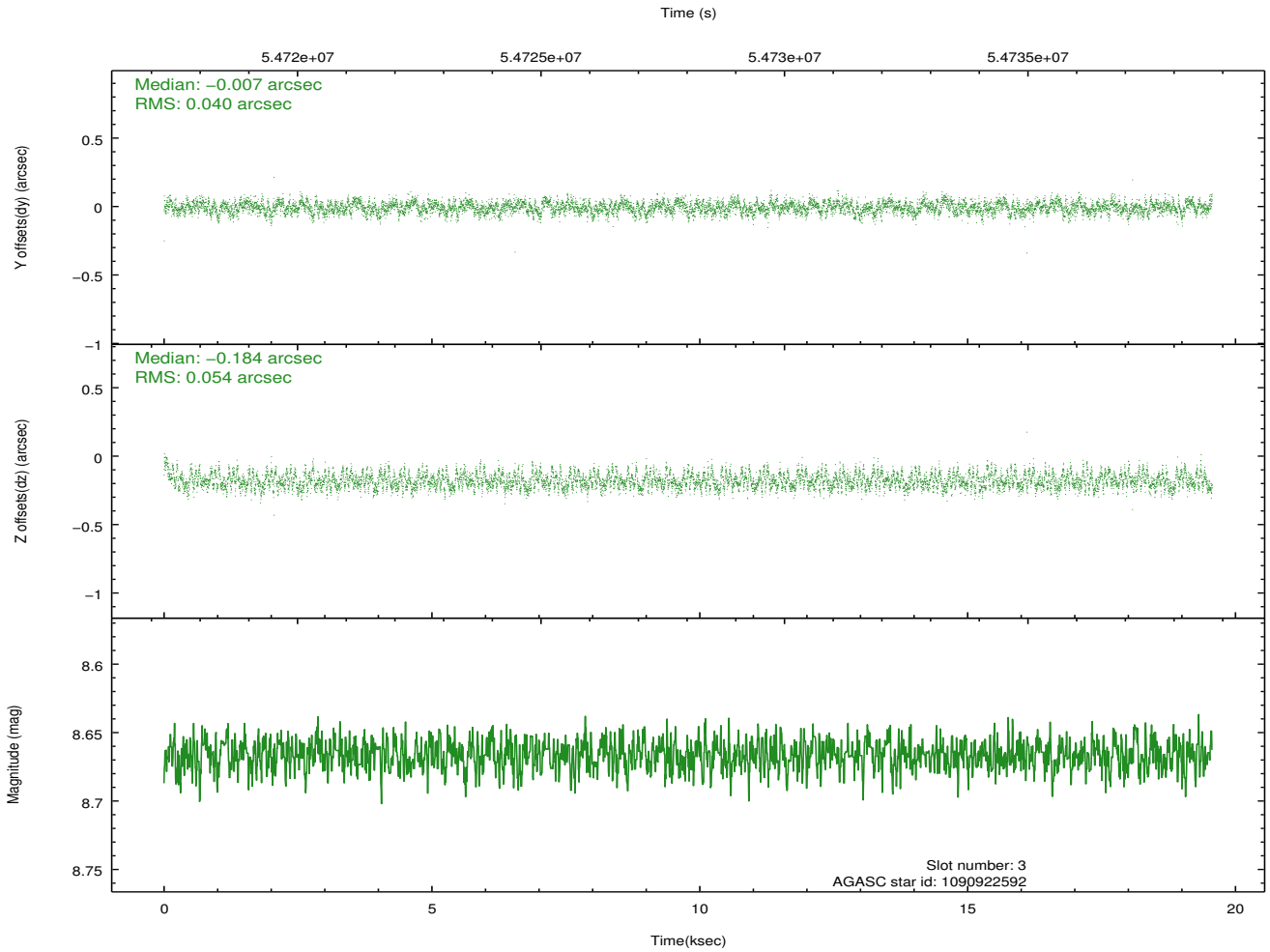
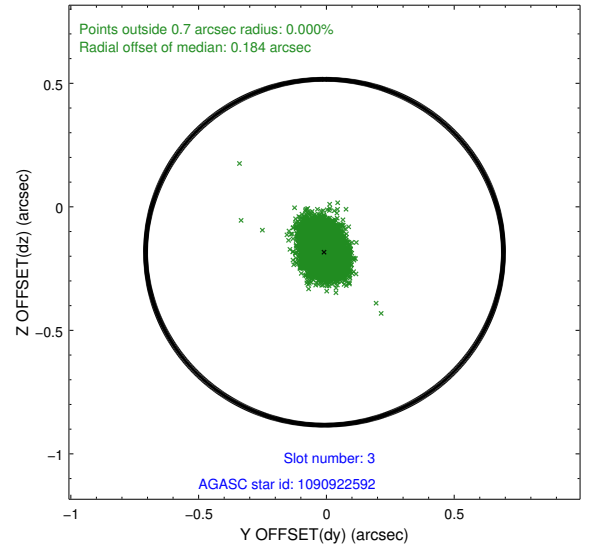
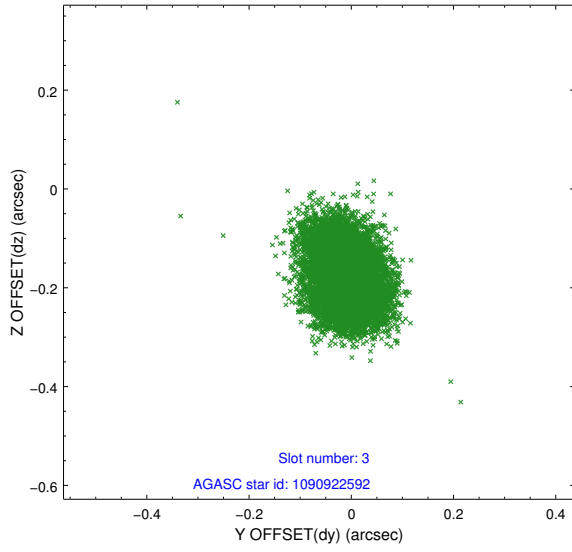


### Slot Statistics

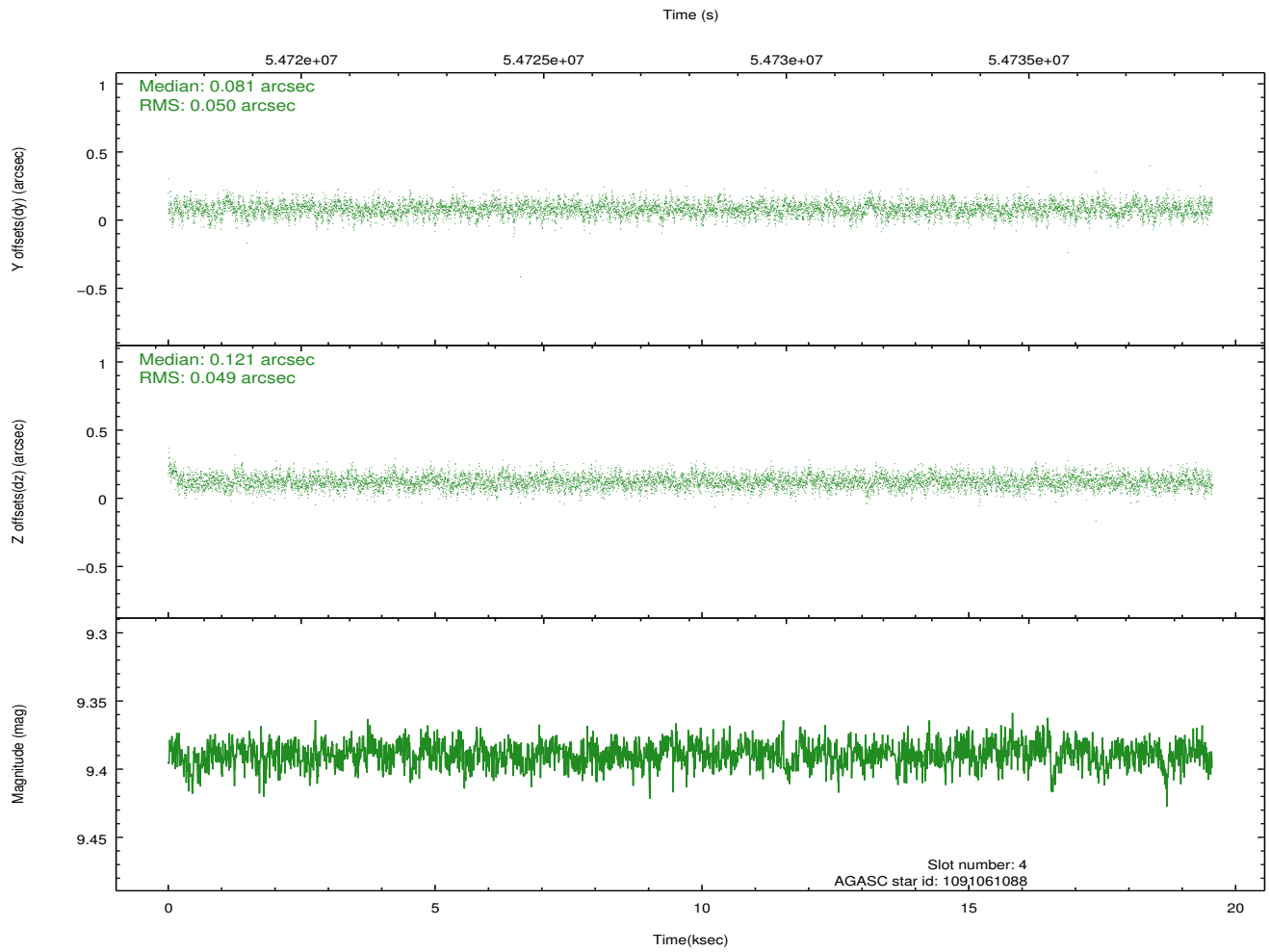
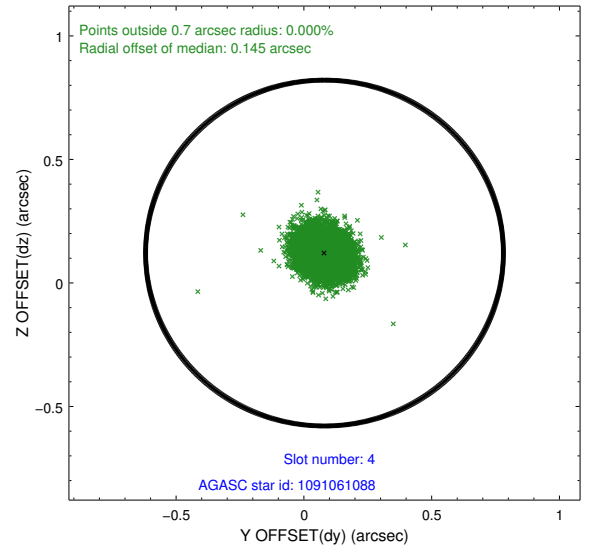
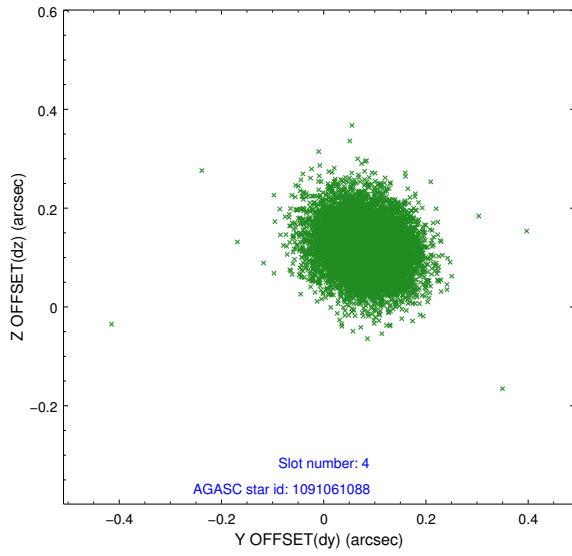
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-3	7.43	9545	0.032	0.097	0.009	0.017	0.000000	0.000000	58.43	-958.66
1	FID	ACIS-I-4	7.23	9544	0.082	-0.046	0.008	0.013	0.000000	0.000000	2161.12	1074.11
2	FID	ACIS-I-5	7.23	9545	-0.213	0.018	0.008	0.014	0.000000	0.000000	-1807.11	1072.25
3	GUIDE	1090922592	8.67	9540	-0.007	-0.184	0.071	0.115	243.541382	-50.784876	137.93	-2090.44
4	GUIDE	1091061088	9.39	9538	0.081	0.121	0.074	0.121	244.721043	-51.407800	1069.25	1267.46
5	GUIDE	1090523792	10.22	9536	-0.068	-0.044	0.151	0.241	245.121825	-50.587791	-1997.32	899.41
6	GUIDE	1090926272	9.74	9539	-0.070	-0.024	0.097	0.157	243.578476	-50.690586	-205.61	-2157.01
7	GUIDE	1091058128	9.69	9543	0.061	0.130	0.096	0.154	245.002128	-51.461141	988.15	1921.88

## 2.4 Star Slots

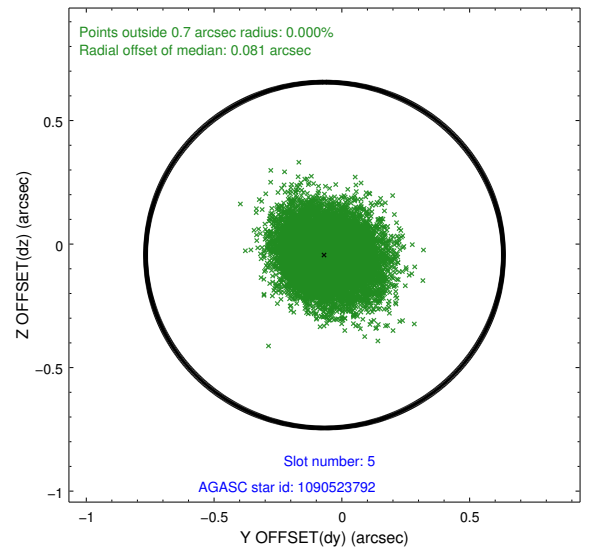
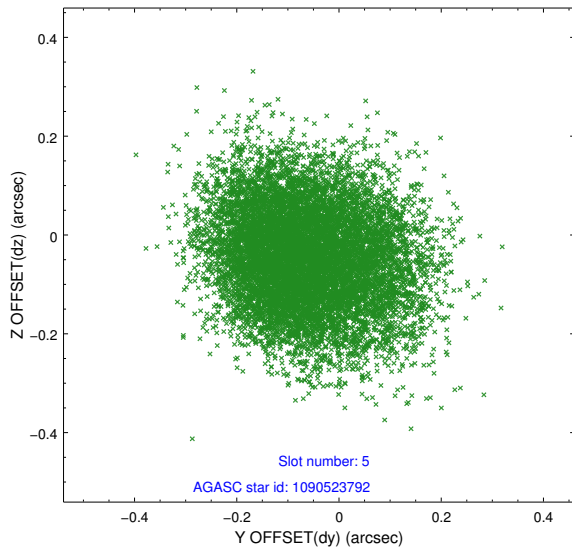
### 2.4.1 Slot 3



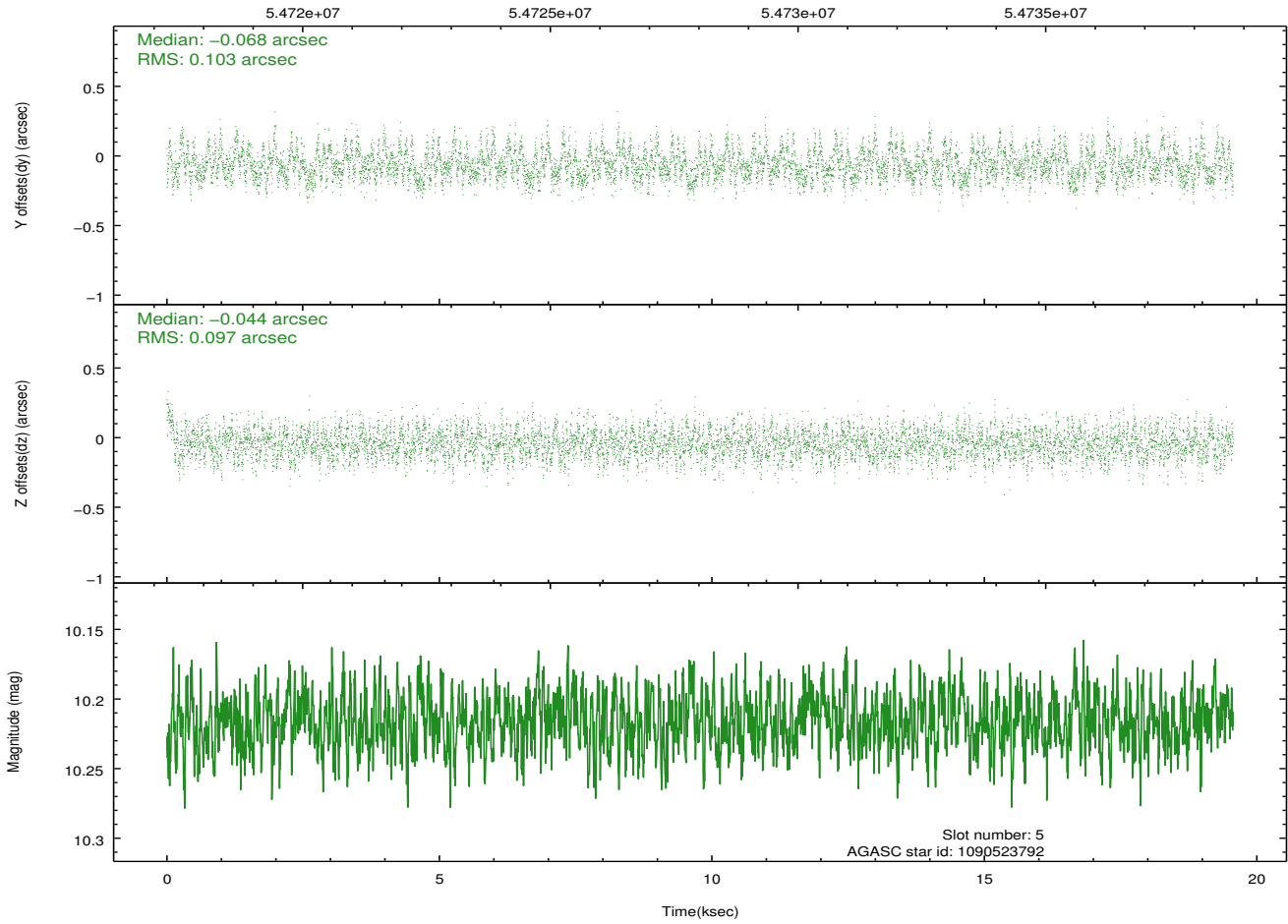
## 2.4.2 Slot 4



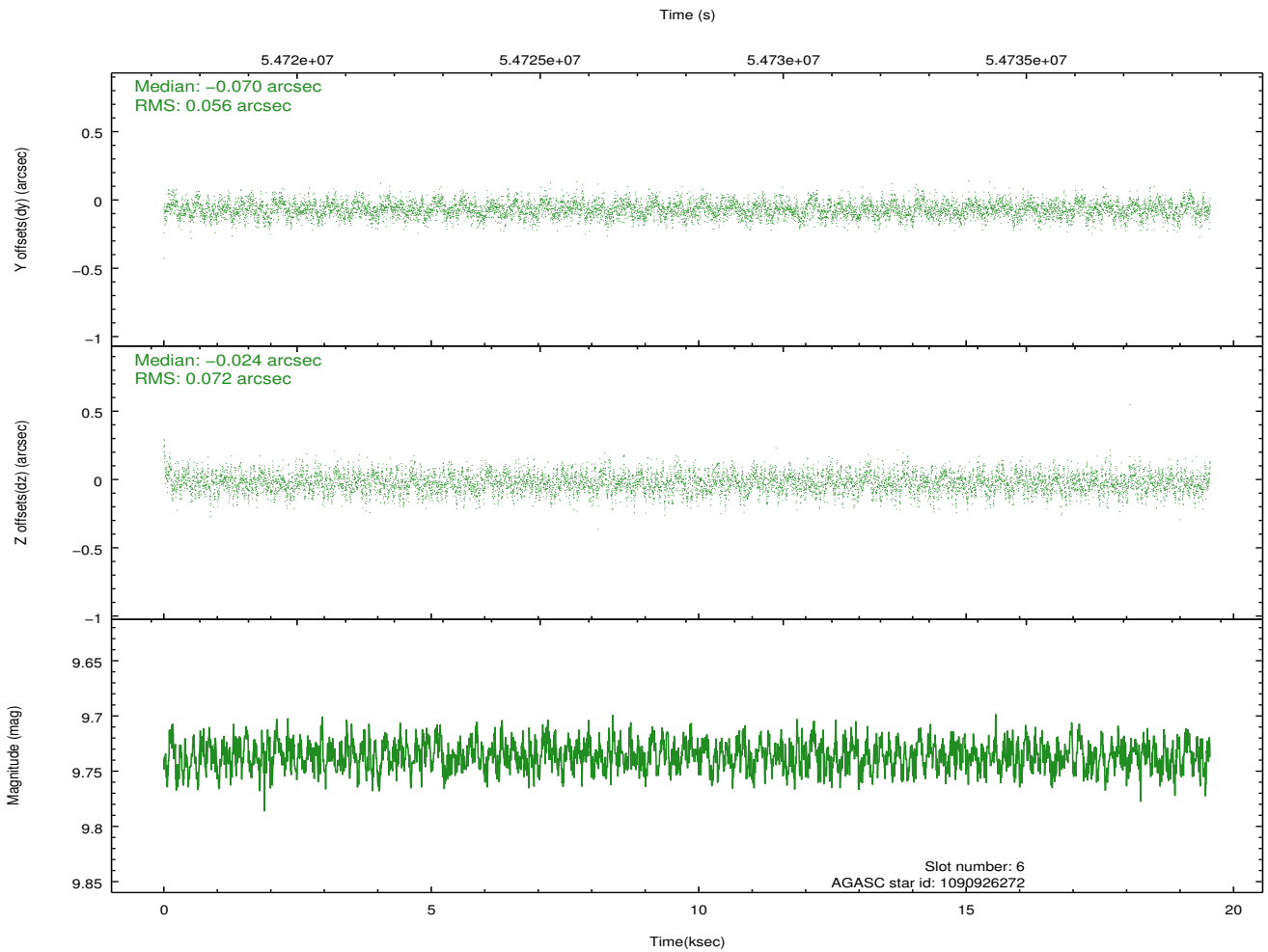
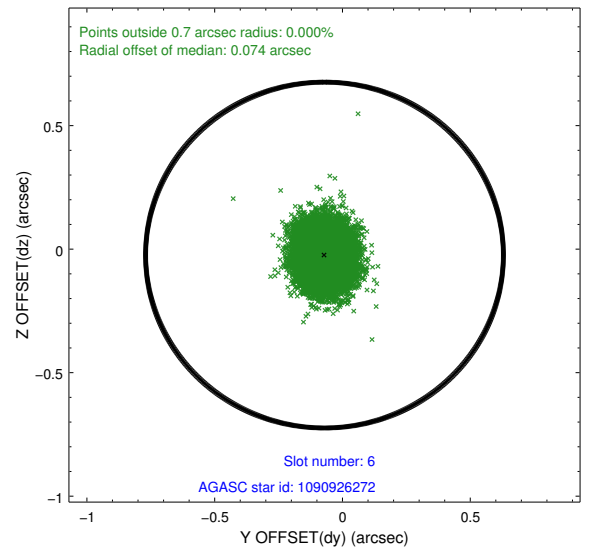
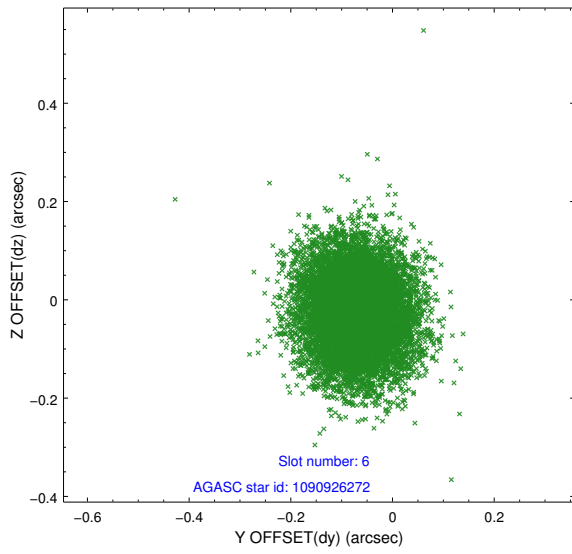
### 2.4.3 Slot 5



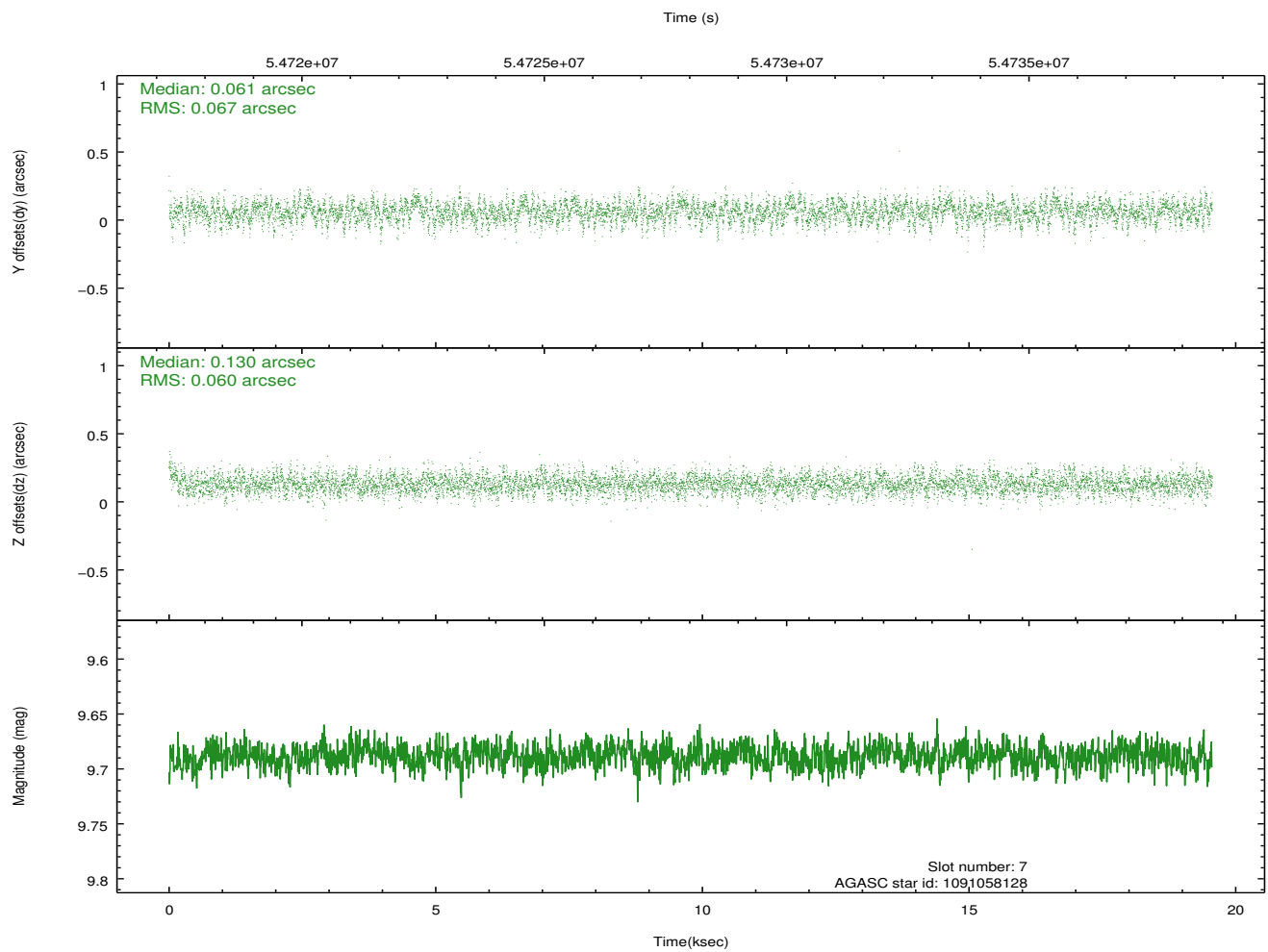
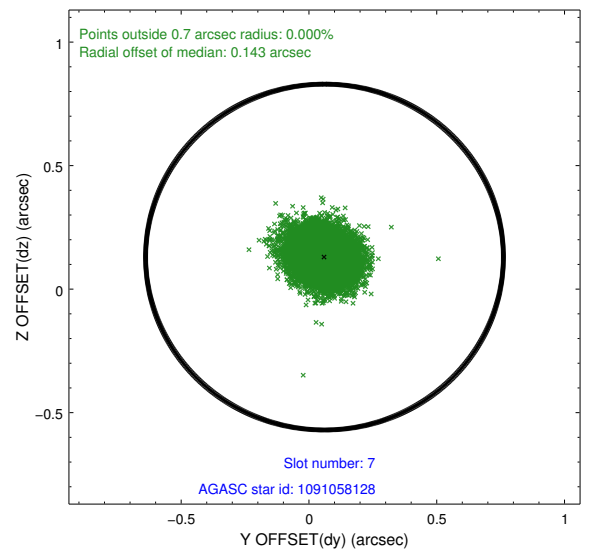
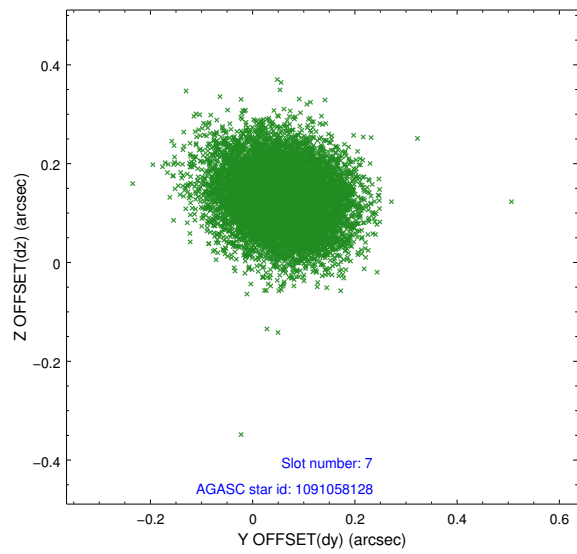
Time (s)



## 2.4.4 Slot 6

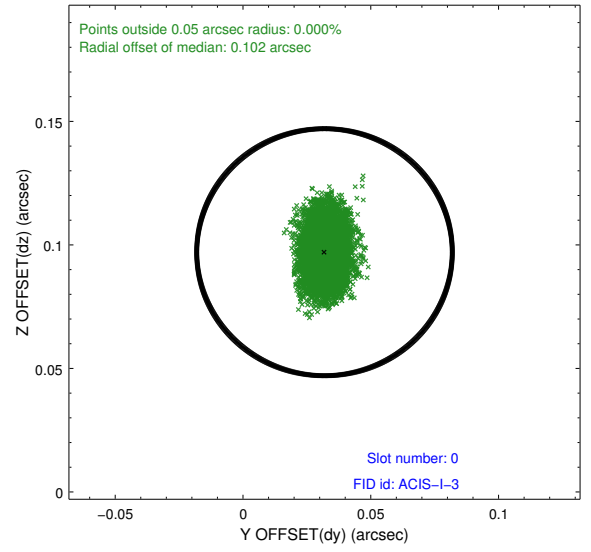
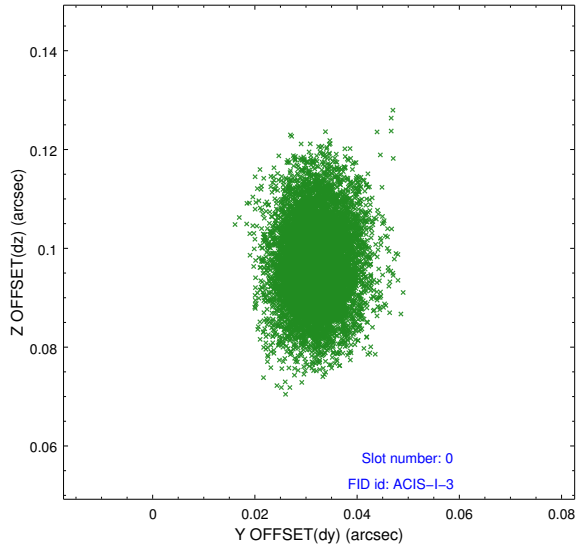


## 2.4.5 Slot 7

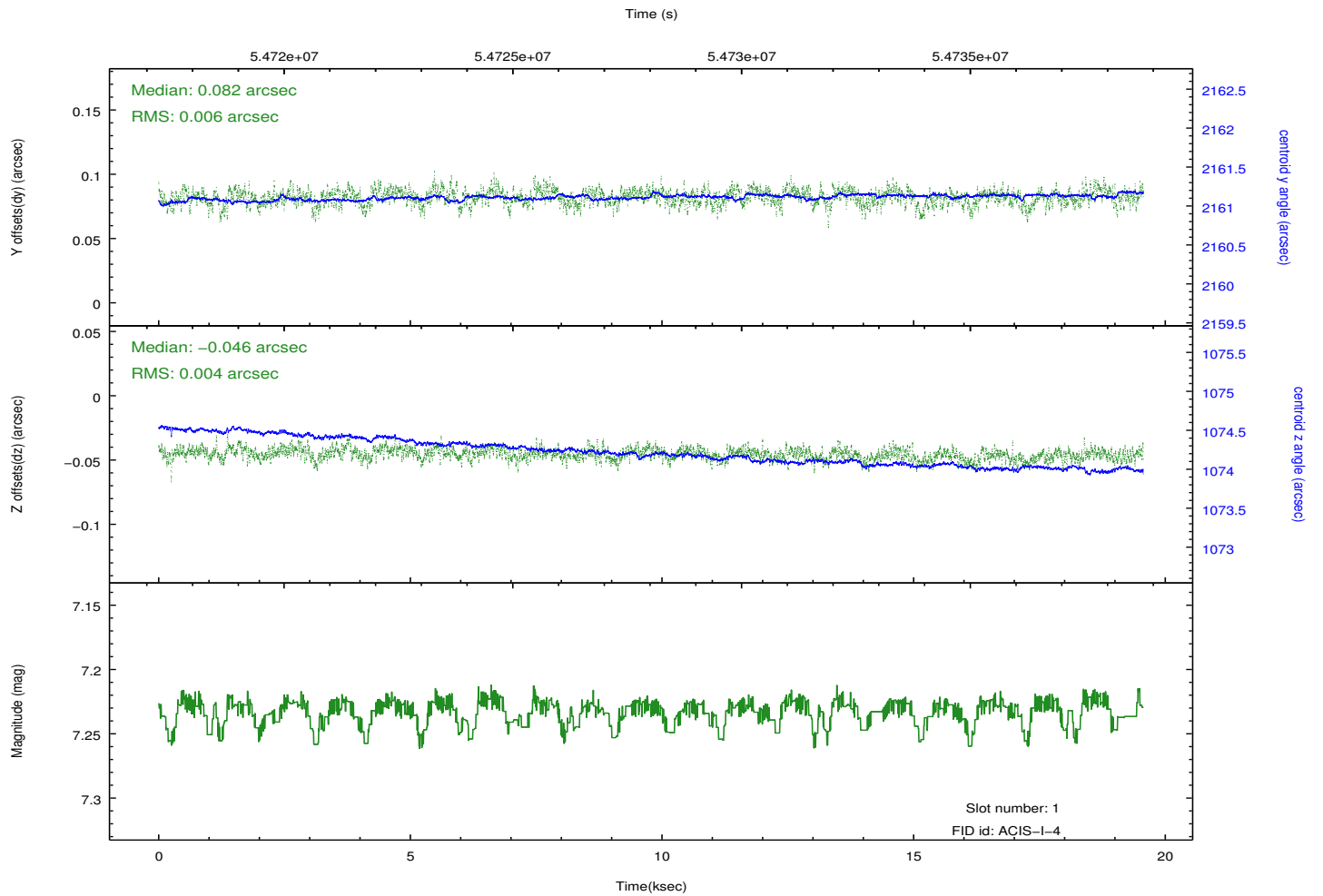
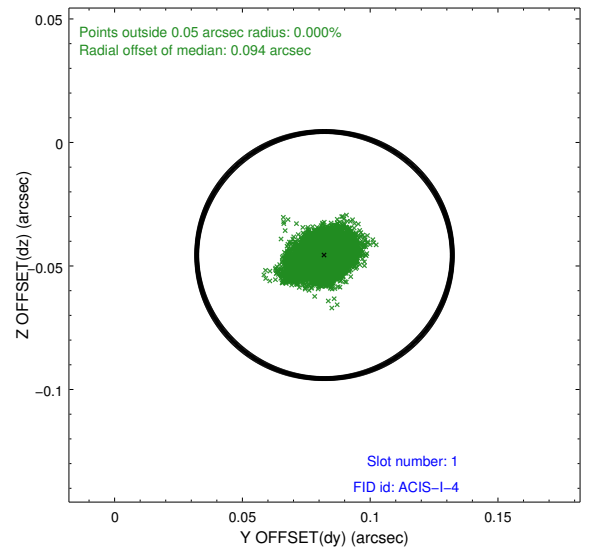
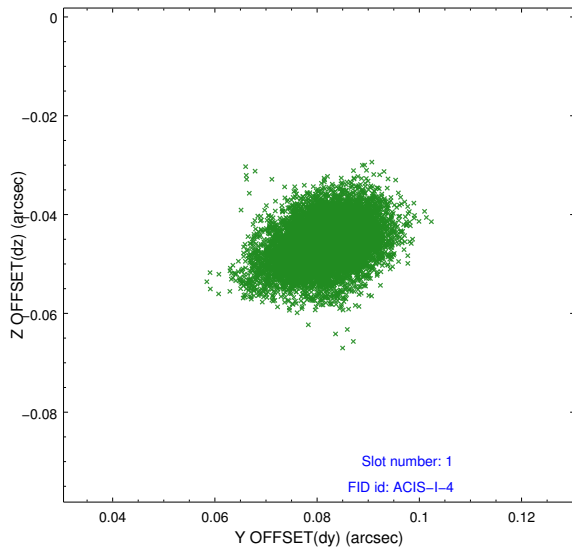


## 2.5 FID Slots

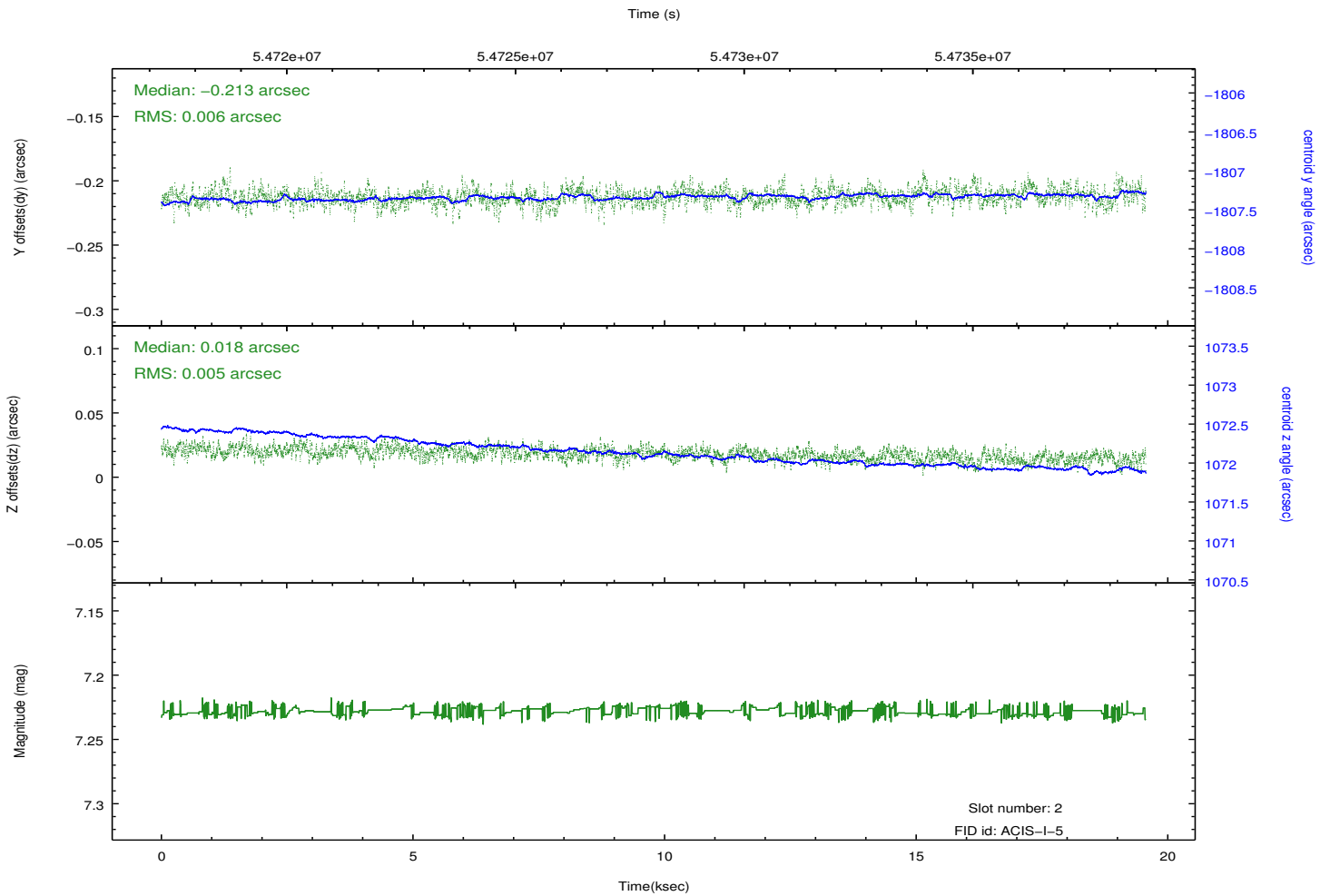
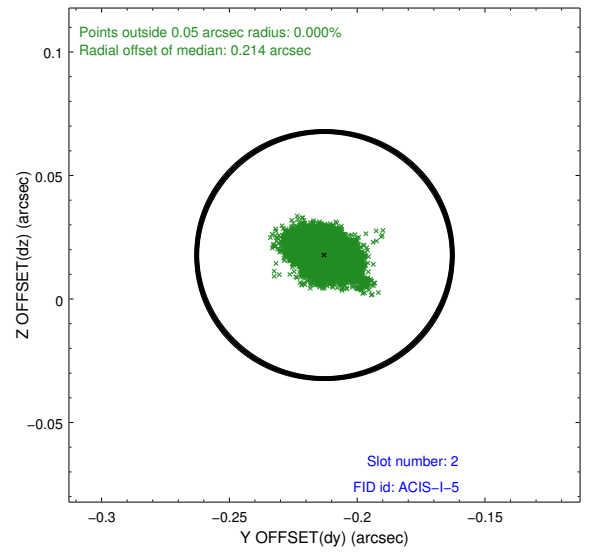
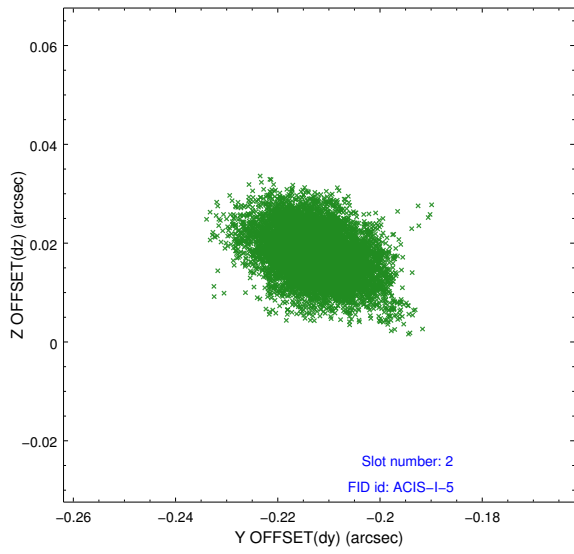
### 2.5.1 Slot 0



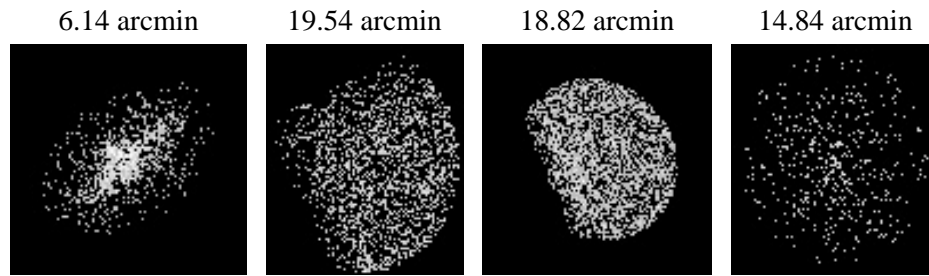
## 2.5.2 Slot 1



### 2.5.3 Slot 2



### 3 Point Sources



# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2011.01.14
V&V Edition	2
V&V Disposition and Status	OK
V&V Charge Time	13.6

## A.2 Comments

Satellite entered bright star hold about 6 hours into the observation. There was 1 science run during the maneuver to obsid 123 which should be ignored.

Due to the bad quaternion we never went into Kalman lock for this first science run. The second science run is also obsid 123, which is good.

===

Charge time for this ObsId remains at original value of 13.6 ks, although with the current processing the charge time would have been 13.527 ksec.

===Roll constraint met.

===

The high count rate resulted in telemetry saturation to varying degrees on all chips except chip 7 and a large number of dropped exposures. The ONTIME value reflects the lost exposure time.

===

The focal plane temperature is approximately -110 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.