

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 774 - L2 Version 3  
Chandra X-Ray Center

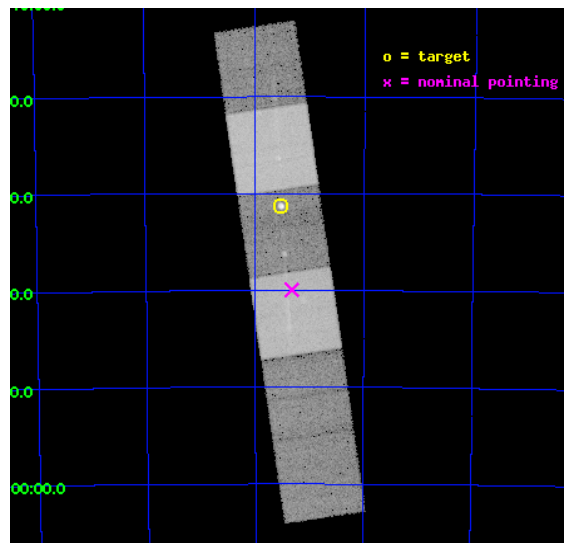
L2 Processing Date : Oct 11 2012

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# 1 Front

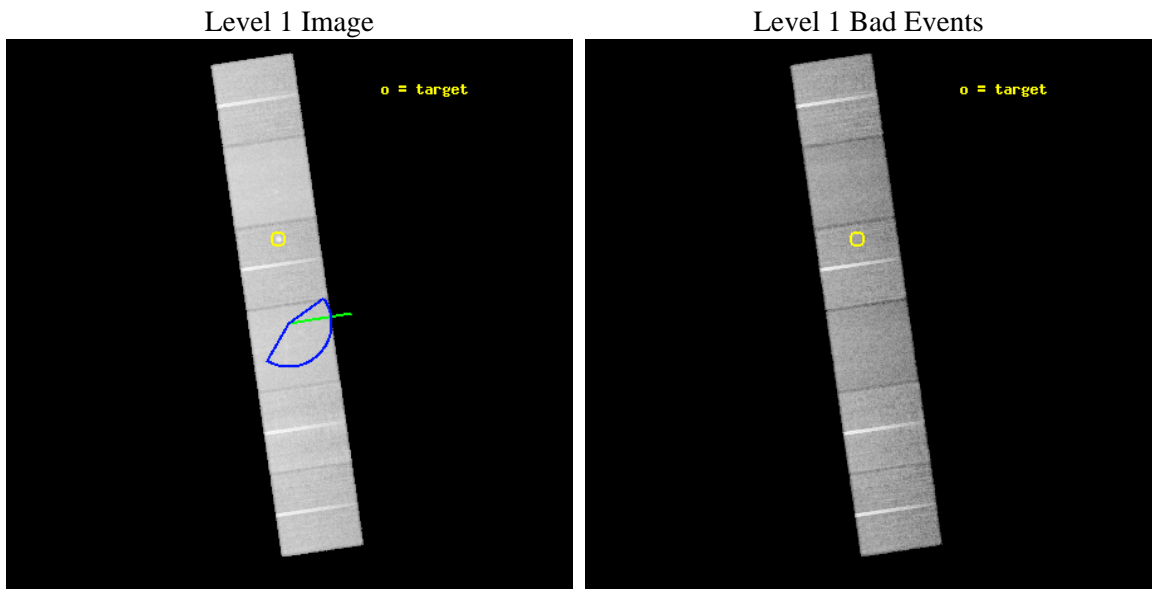
seq_num	500070	Sequence number
obs_id	774	Observation id
title	HIGH RESOLUTION LINE SPECTROSCOPY OF THREE YOUNG SUPERNOVA REMNANTS IN THE LARGE MAGELLANIC CLOUD	Proposal title
observer	PROF. STEVEN KAHN	Principal investigator
object	0509-67.5	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	77.382917	Observer's specified target RA [deg]
dec_targ	-67.521417	Observer's specified target Dec [deg]
ra_nom	77.331192275086	Nominal RA [deg]
dec_nom	-67.665837362896	Nominal Dec [deg]
roll_nom	81.663803823185	Nominal Roll [deg]
revision	3	Processing version of data
ontime	40019.159077018	Sum of GTIs [s]
livetime	39512.412388141	Livetime [s]
ontime4	40022.400037259	Sum of GTIs [s]
ontime5	40022.400037259	Sum of GTIs [s]
ontime6	40019.159077018	Sum of GTIs [s]
ontime7	40019.159077004	Sum of GTIs [s]
ontime8	40019.159206644	Sum of GTIs [s]
ontime9	40022.400037259	Sum of GTIs [s]
l2events	333247	Number of level 2 events



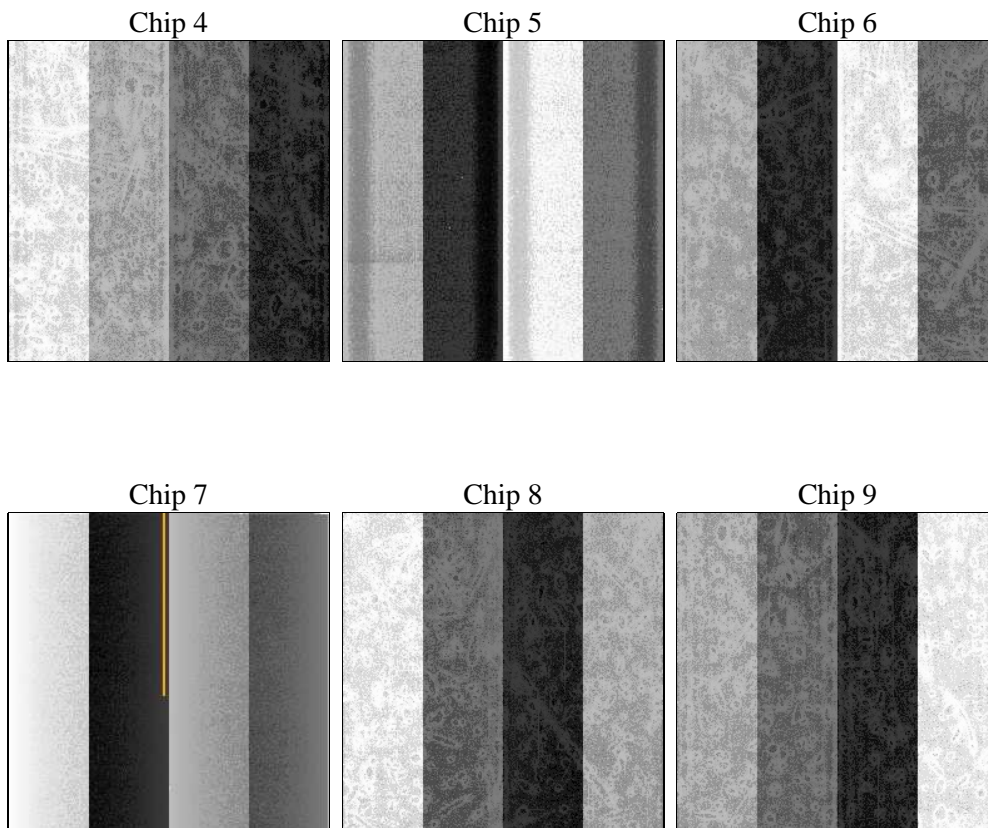
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	40000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	40019.159077018	Sum of GTIs [s]
caldbver	4.5.1.1	&#160	ontime4	40022.400037259	Sum of GTIs [s]
date	2012-09-01T19:18:30	Date and time of file creation	ontime5	40022.400037259	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	40019.159077018	Sum of GTIs [s]
			ontime7	40019.159077004	Sum of GTIs [s]
			ontime8	40019.159206644	Sum of GTIs [s]
			ontime9	40022.400037259	Sum of GTIs [s]
			l1events	1514188	Number of level 1 events

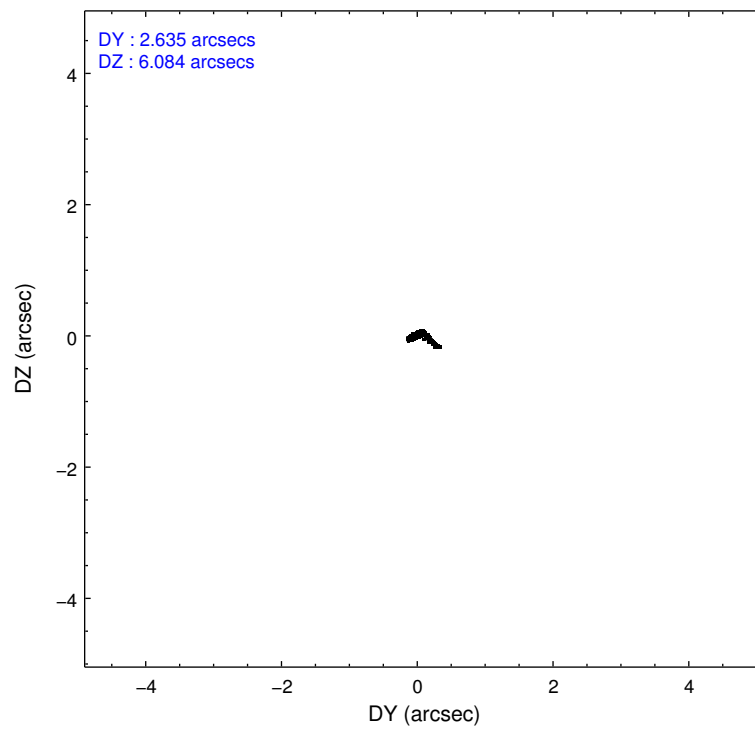
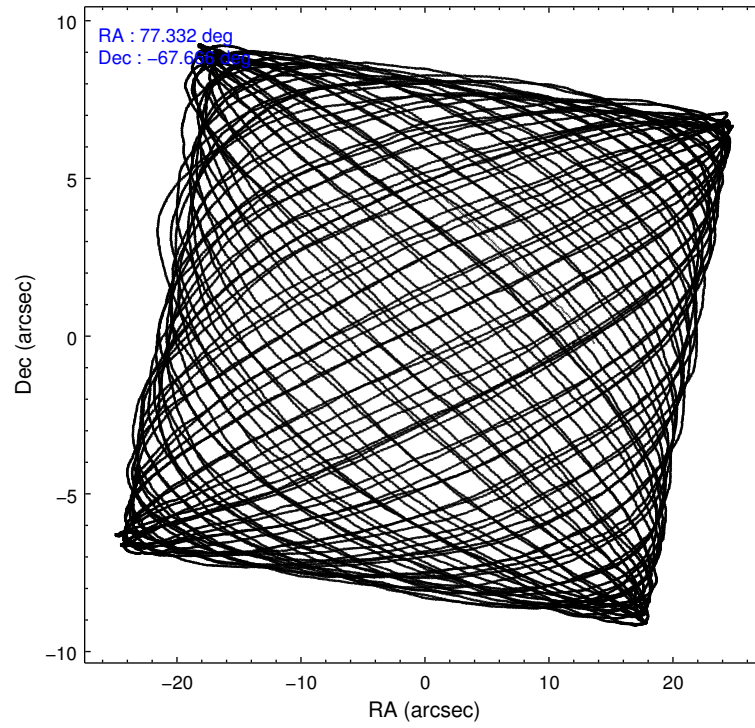
### 2.1.4 Events

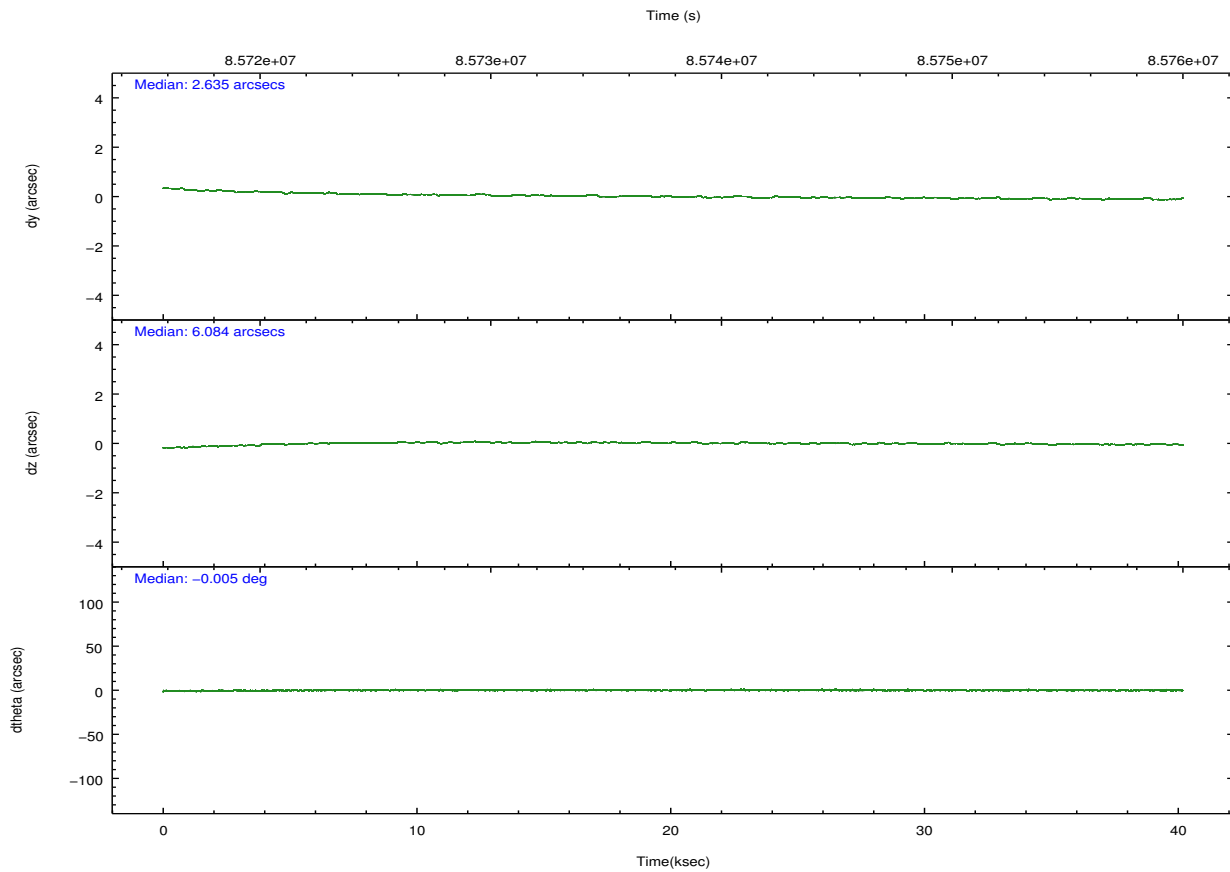
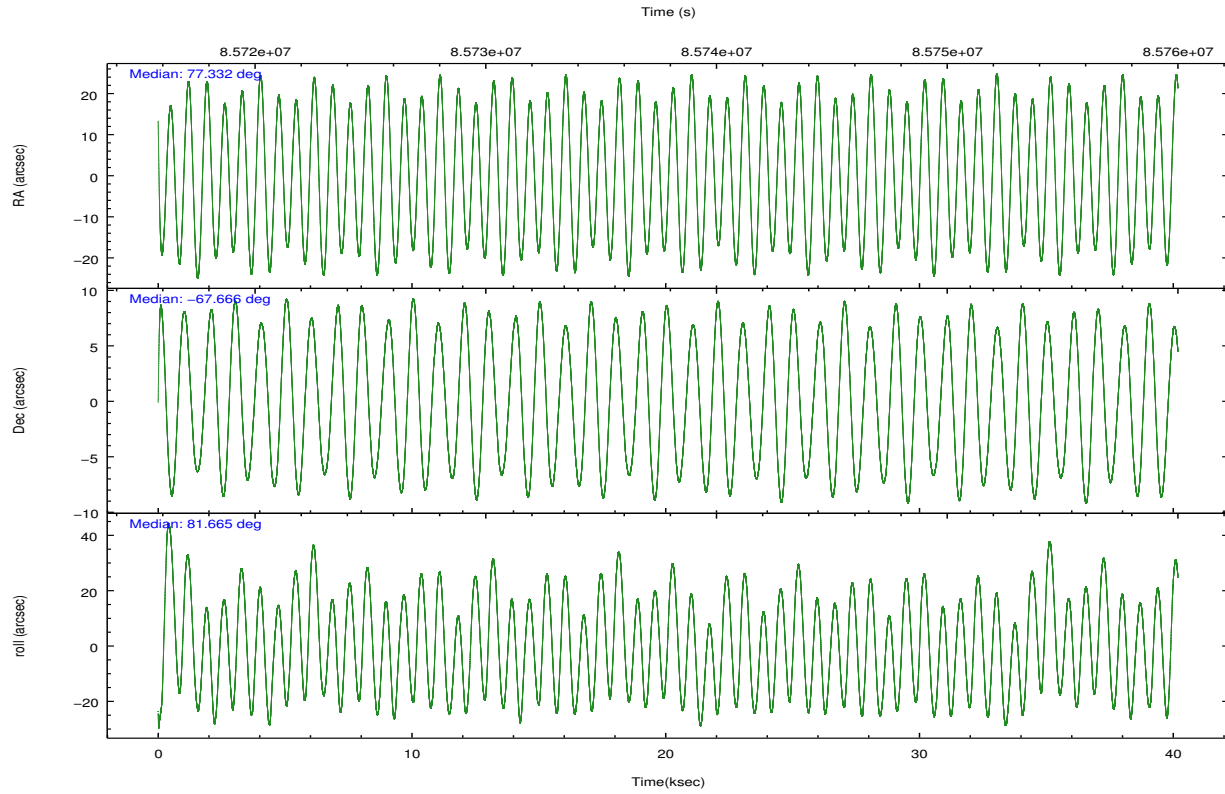
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	239884	289304	225089	267961	277613	214337	grade 0 events	11820	9443	12975	11057	18819	11086
rejected events	211999	158693	196199	155411	219825	187795		4%	3%	5%	4%	6%	5%
rejected %	88%	54%	87%	57%	79%	87%	grade 1 events	118	329	104	251	155	102
								0%	0%	0%	0%	0%	0%
							grade 2 events	6595	38458	5475	21954	11924	5171
								2%	13%	2%	8%	4%	2%
							grade 3 events	2453	6182	2676	10481	6563	2630
								1%	2%	1%	3%	2%	1%
							grade 4 events	2328	5933	2560	10355	6181	2549
								0%	2%	1%	3%	2%	1%
							grade 5 events	7526	22724	8873	25899	11206	8884
								3%	7%	3%	9%	4%	4%
							grade 6 events	4689	70600	5206	58710	14303	5107
								1%	24%	2%	21%	5%	2%
							grade 7 events	204355	135635	187220	129254	208462	178808
								85%	46%	83%	48%	75%	83%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-456789	ACIS-456789	Obspar file type	PREDICTED	ACTUAL
Grating	HETG	HETG	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	77.358232	77.33119227508553	Subarray requested	NONE	NONE
[deg] Pointing Dec	-67.691223	-67.66583736289638	Alternating exposures requested	N	N
[deg] Pointing Roll	81.532200	81.66380382318525	[s] Primary exposure time	0.000000	3.2
[deg] Roll angle	133.000000	133.000000			
[deg] Roll tolerance	78.000000	78.000000			
Roll constraint allows 180D rotation	N	N			
[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)	85717992.184000	85716999.385335			
Observation start date	2000-09-19T02:32:08	2000-09-19T02:16:39			
[s] Observation end time (MET)	85757992.184000	85758890.624411			
Observation end date	2000-09-19T13:38:48	2000-09-19T13:54:50			
Read mode	TIMED	TIMED			

## 2.3 Aspect



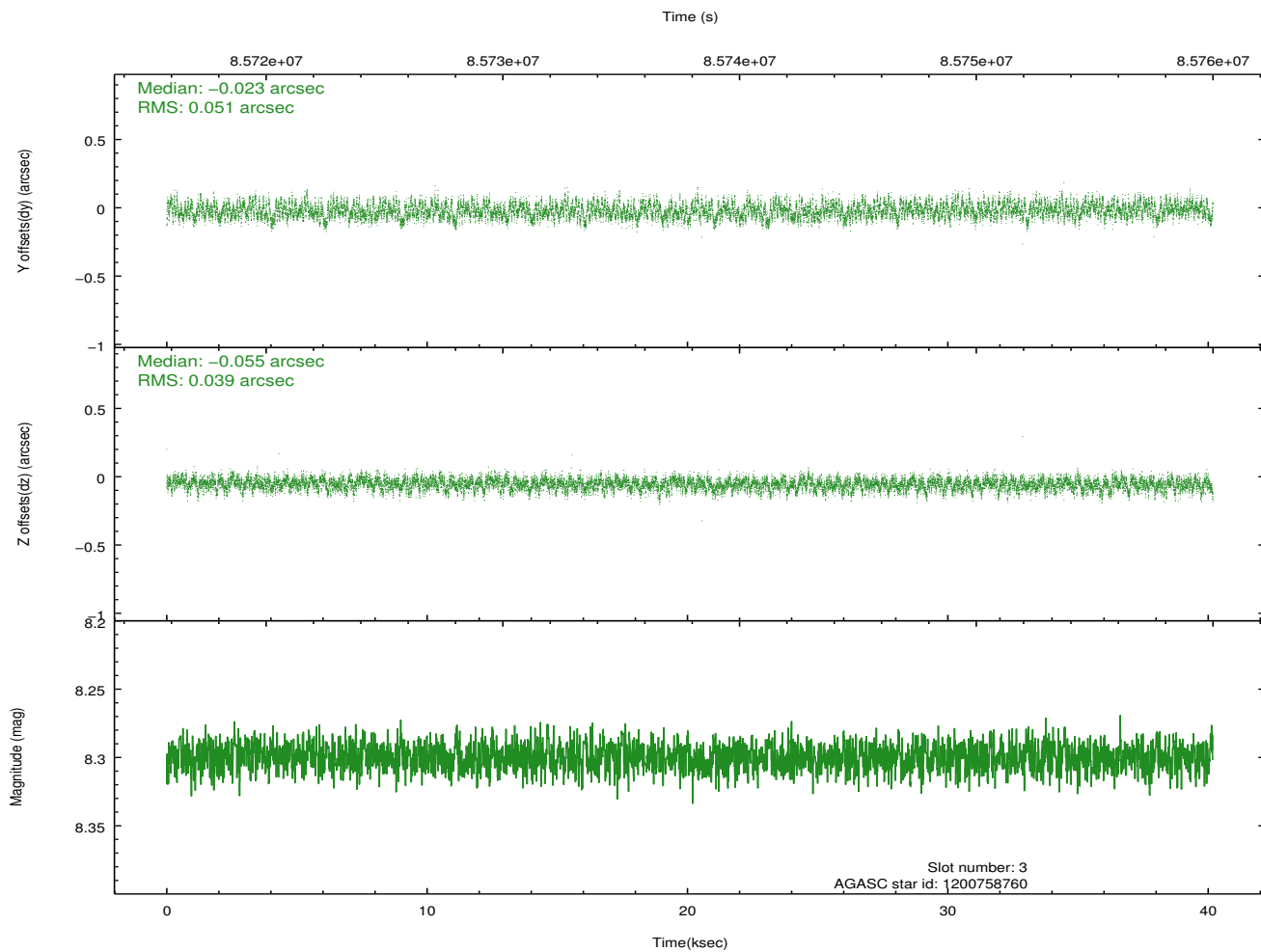
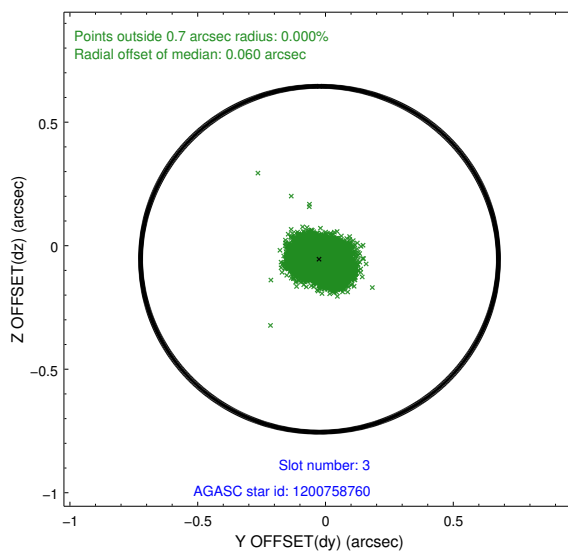
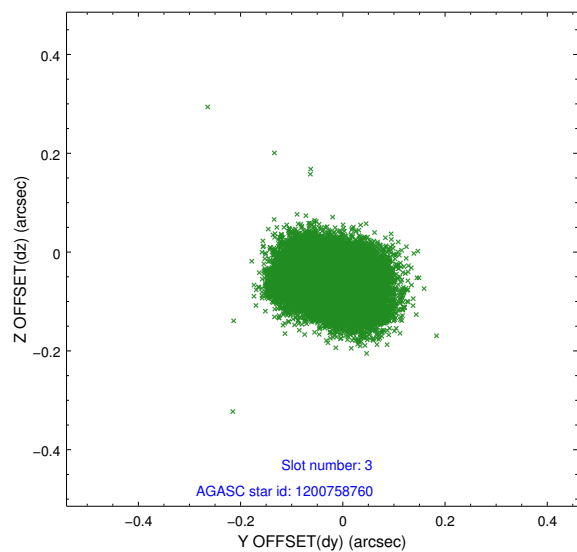


### Slot Statistics

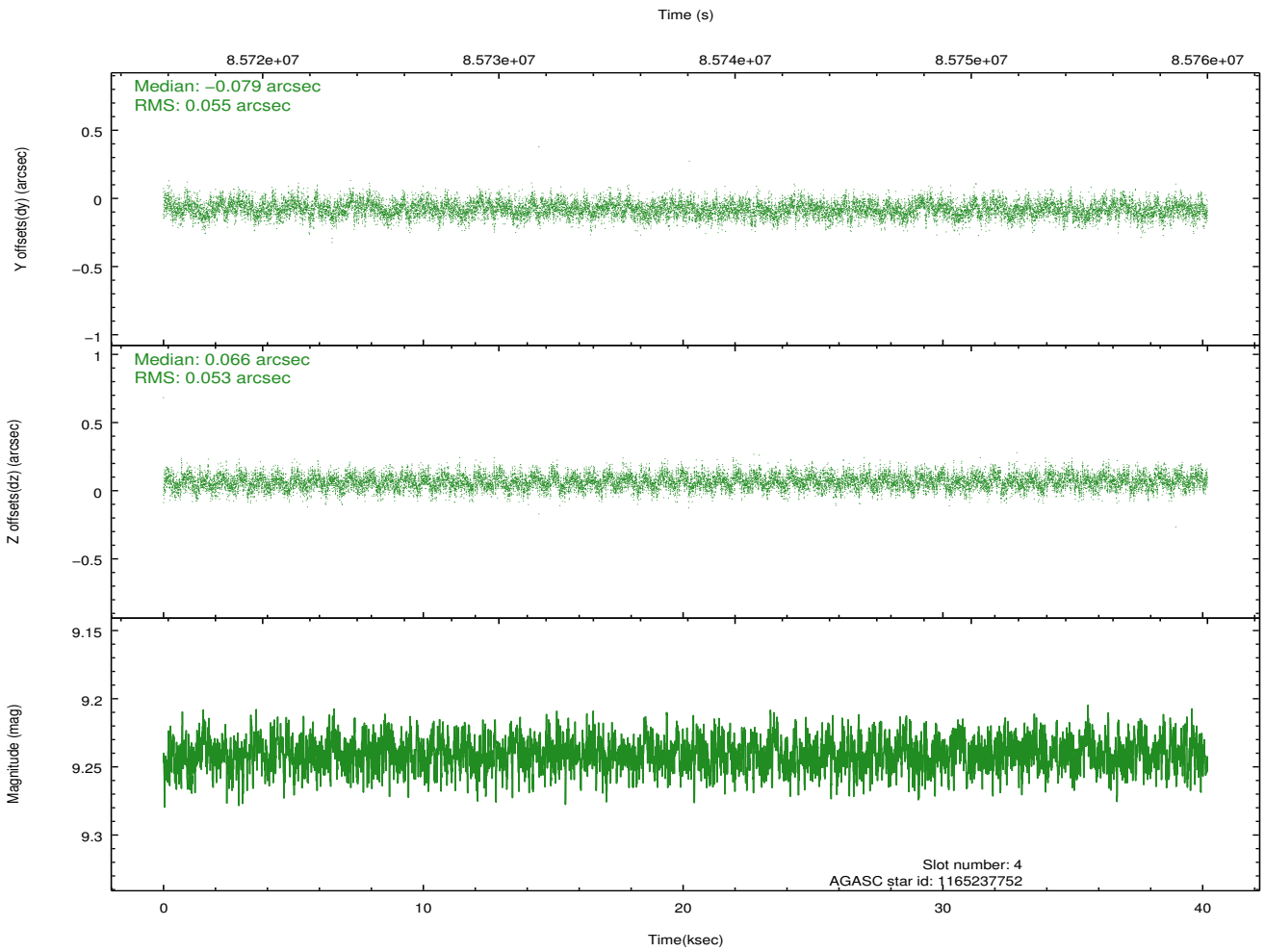
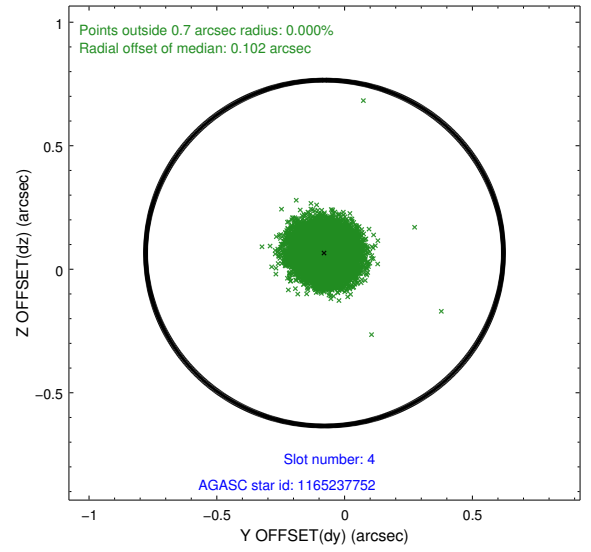
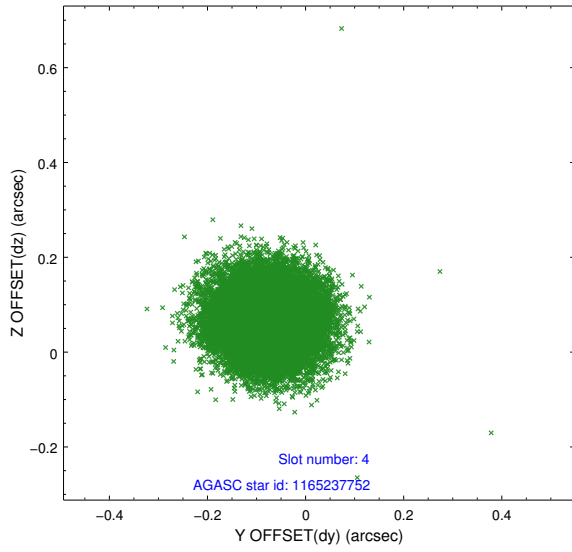
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.11	9802	-0.033	0.009	0.006	0.010	0.000000	0.000000	-755.30	-1727.21
1	FID	ACIS-S-4	7.20	9801	-0.018	0.013	0.007	0.015	0.000000	0.000000	2157.96	181.29
2	FID	ACIS-S-5	7.23	9801	0.020	-0.014	0.009	0.016	0.000000	0.000000	-1808.09	174.91
3	GUIDE	1200758760	8.30	19600	-0.023	-0.055	0.069	0.110	76.277764	-68.086435	-1634.08	1225.06
4	GUIDE	1165237752	9.24	19596	-0.079	0.066	0.082	0.131	78.075114	-67.094879	2264.95	-677.45
5	GUIDE	1200883632	9.14	19531	-0.055	0.028	0.088	0.147	79.186141	-67.543567	858.74	-2412.41
6	GUIDE	1165101864	10.36	19576	0.091	-0.010	0.145	0.240	76.577750	-67.383636	929.06	1231.31
7	GUIDE	1200759696	10.34	18977	0.062	-0.028	0.167	0.279	76.376940	-68.256077	-2214.88	994.38

## 2.4 Star Slots

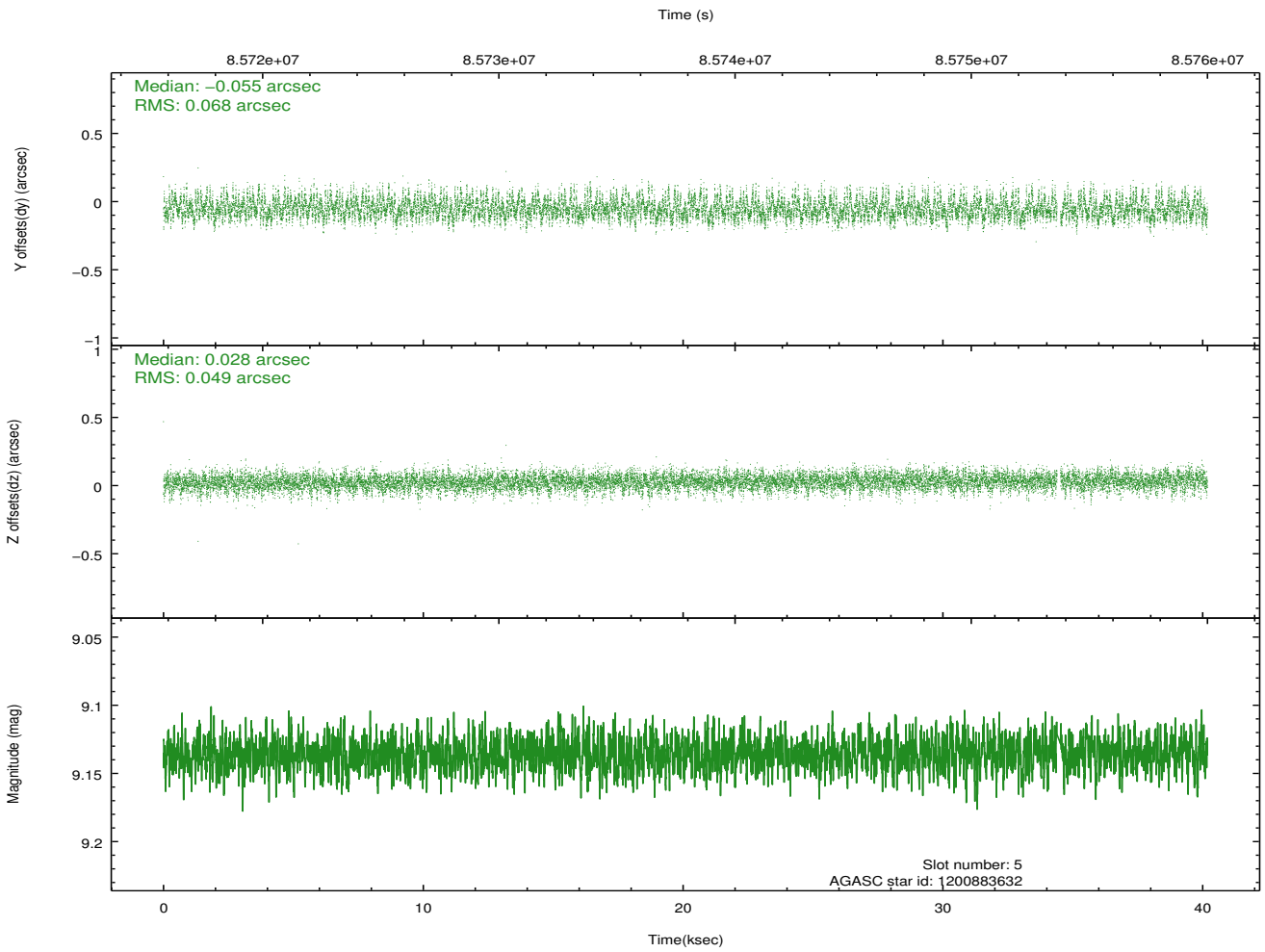
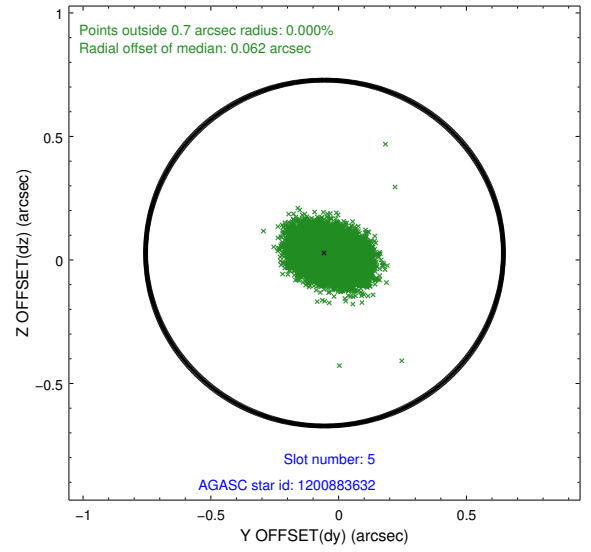
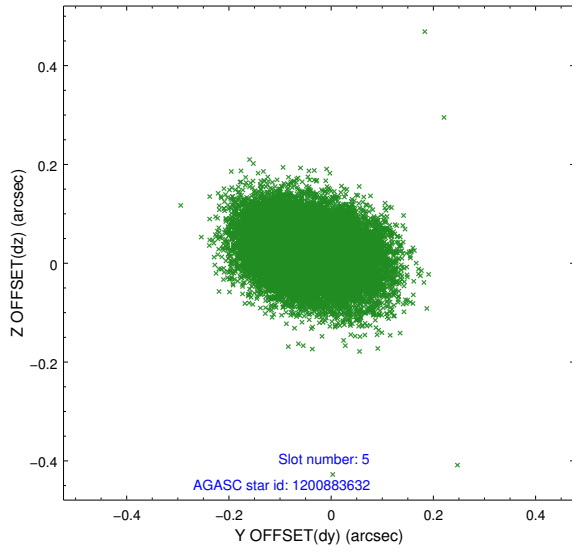
### 2.4.1 Slot 3



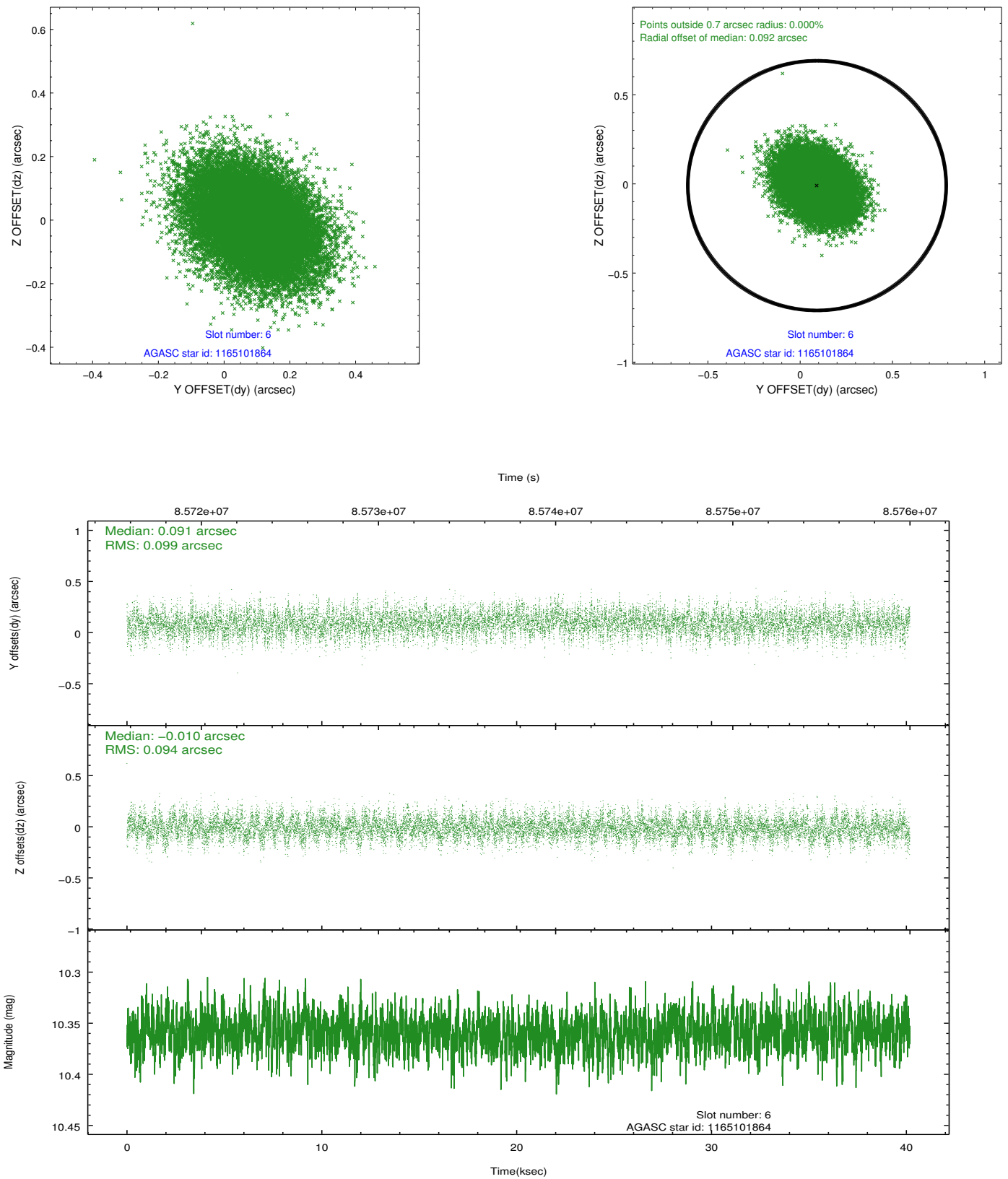
## 2.4.2 Slot 4



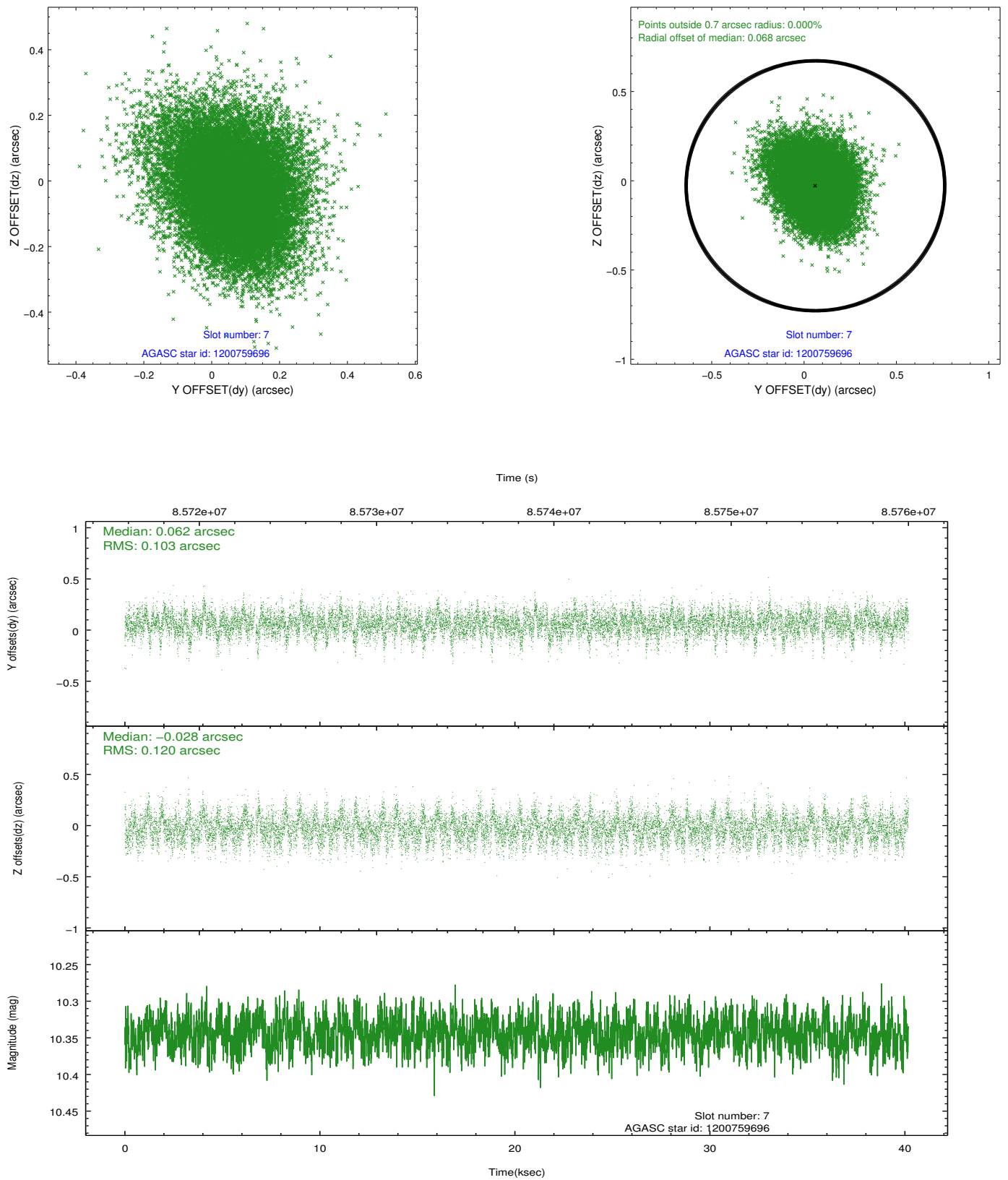
### 2.4.3 Slot 5



## 2.4.4 Slot 6

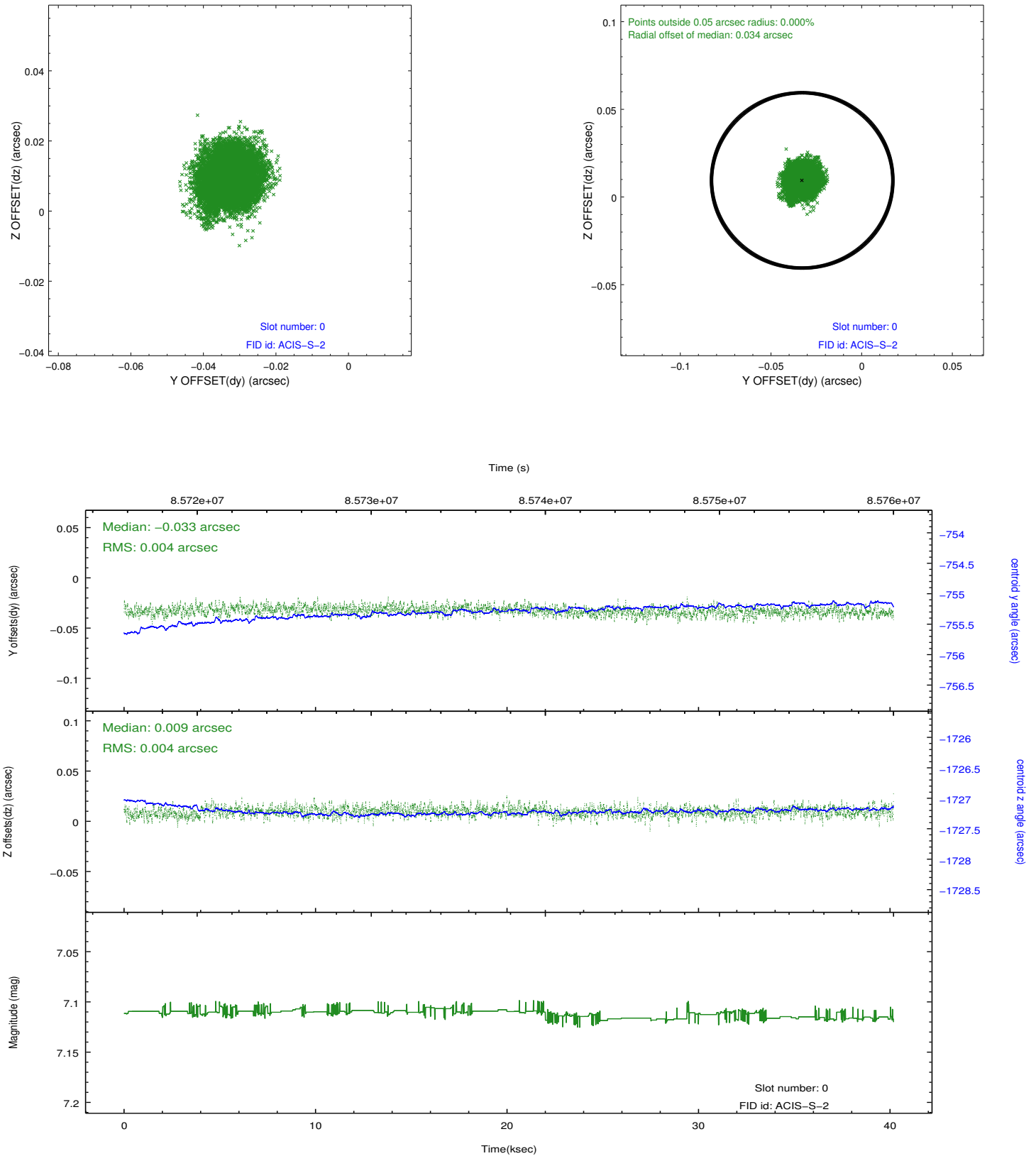


## 2.4.5 Slot 7

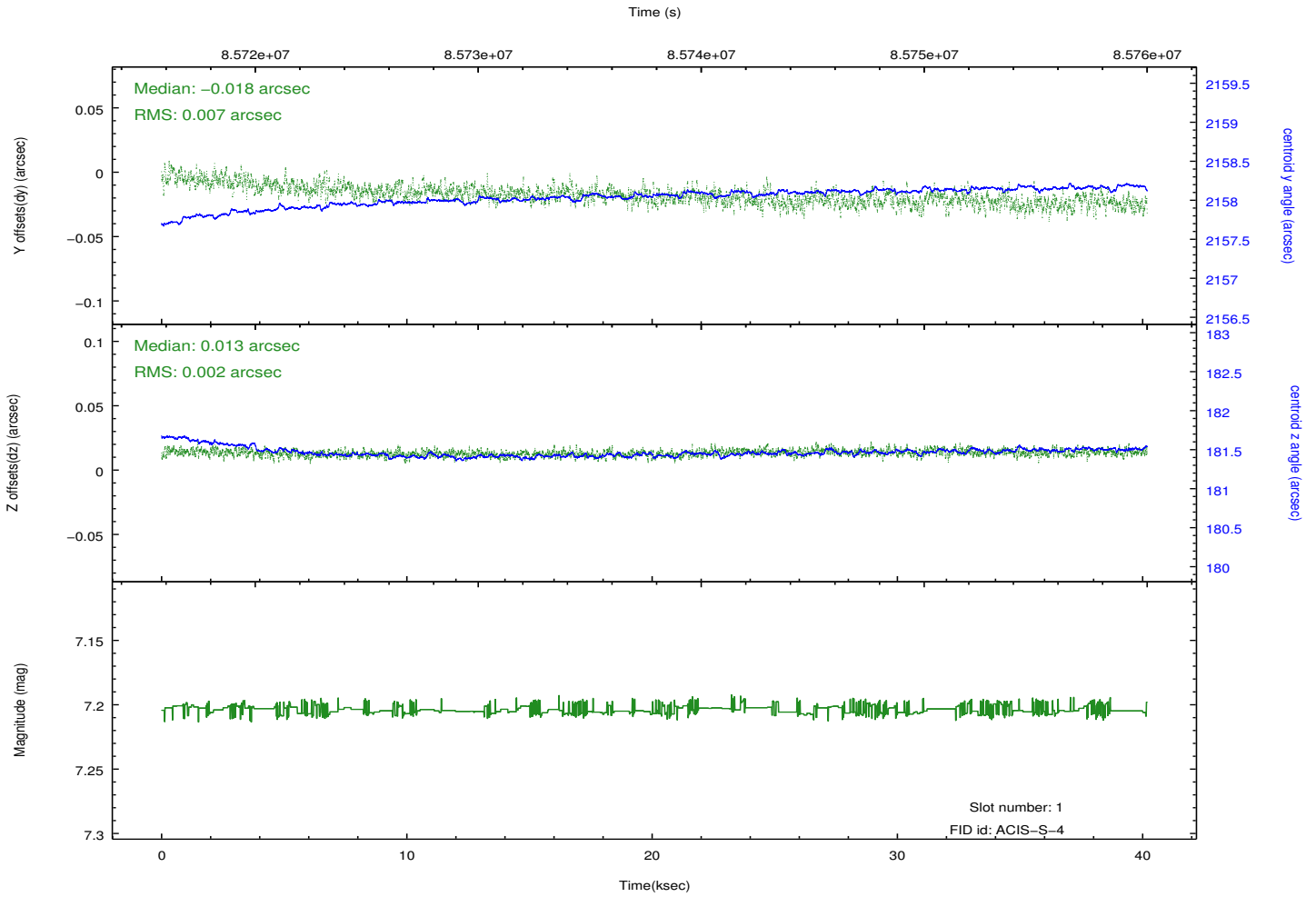
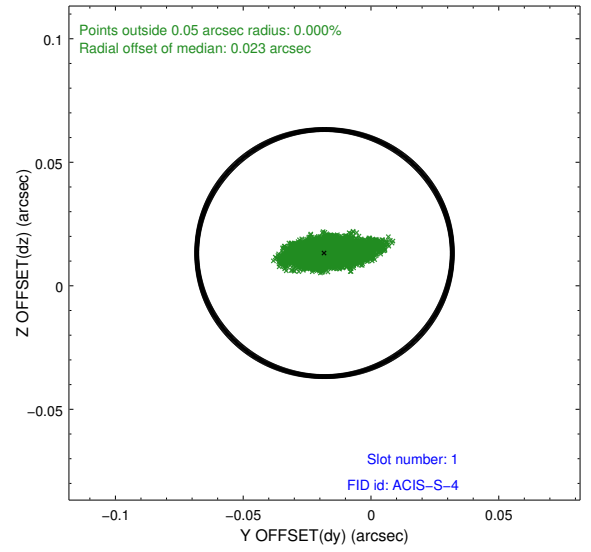
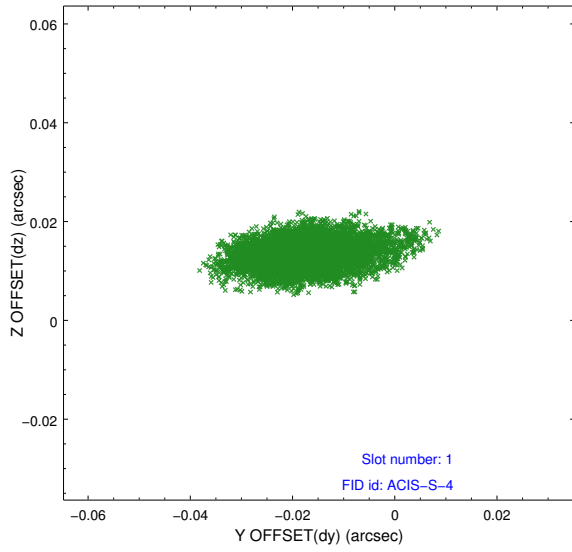


## 2.5 FID Slots

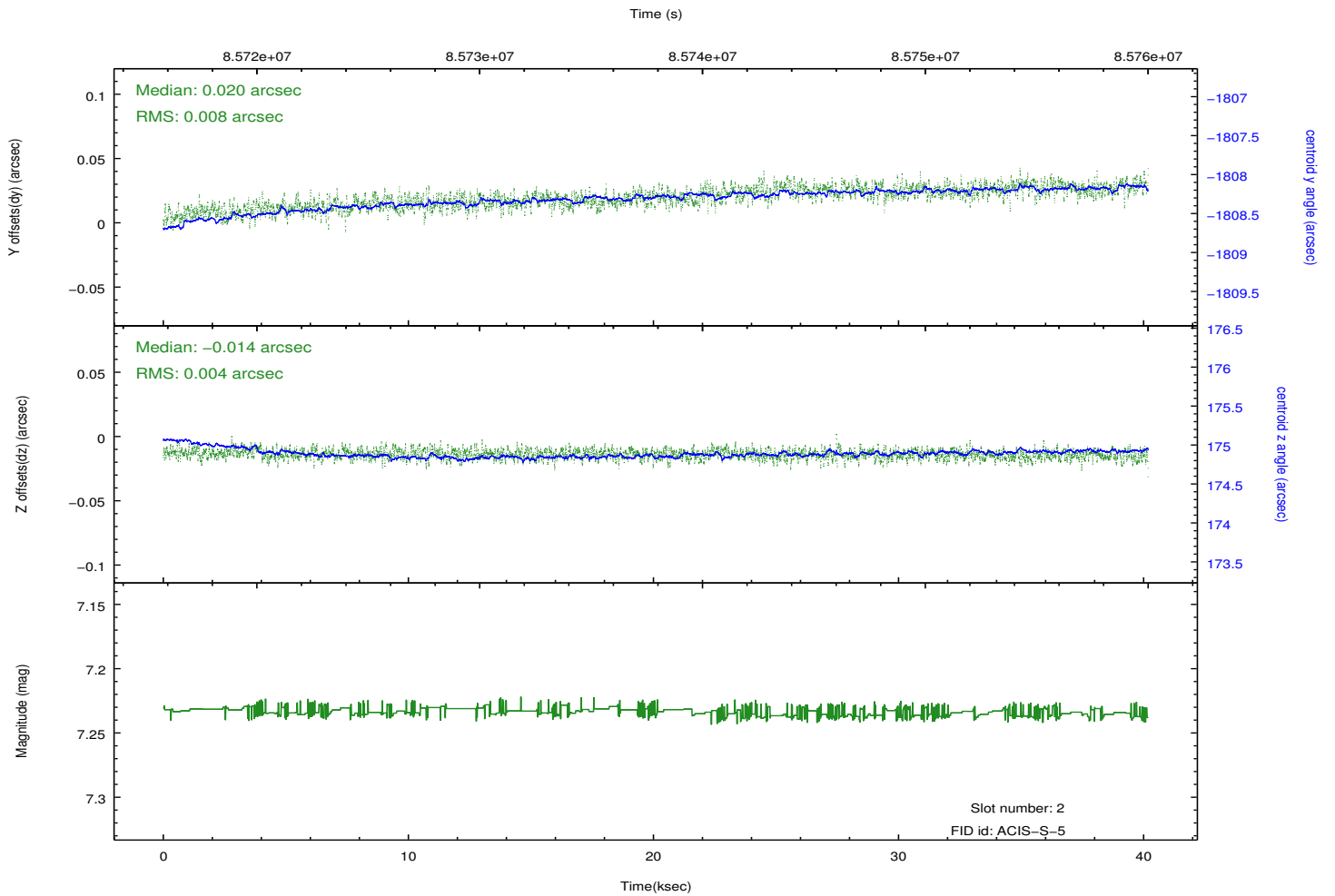
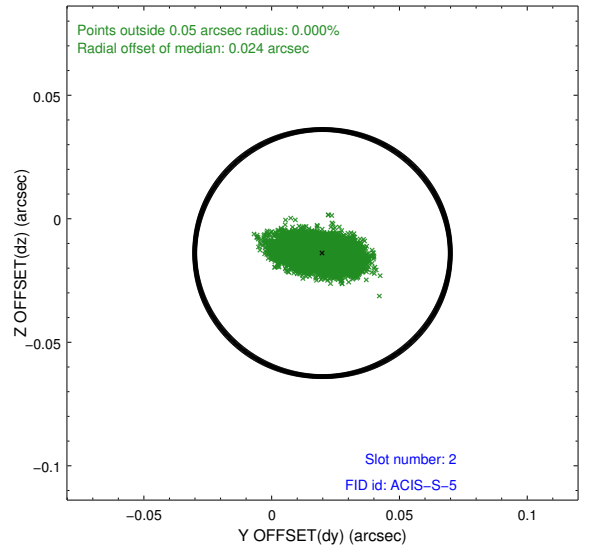
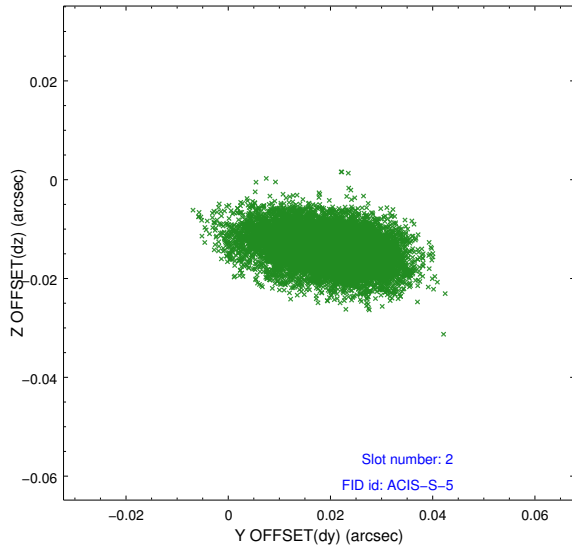
### 2.5.1 Slot 0



## 2.5.2 Slot 1

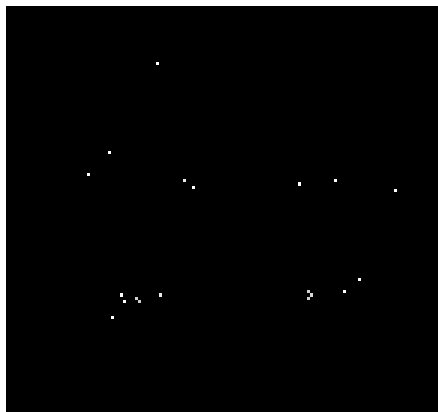


### 2.5.3 Slot 2

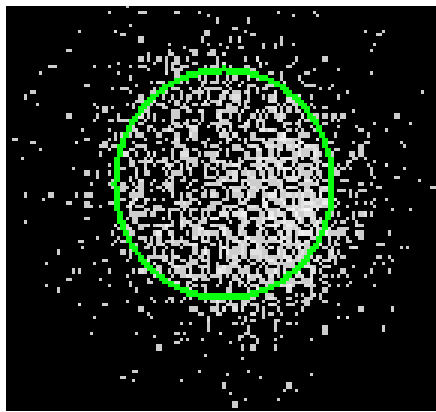


### 3 Gratings

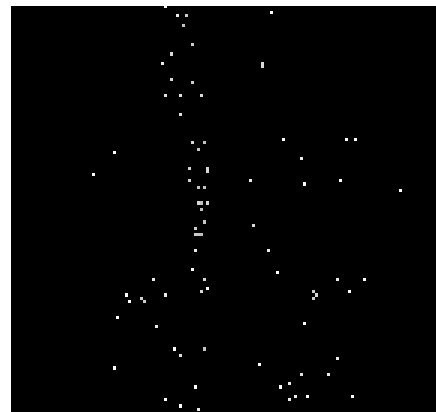
#### 3.1 HEG Arm



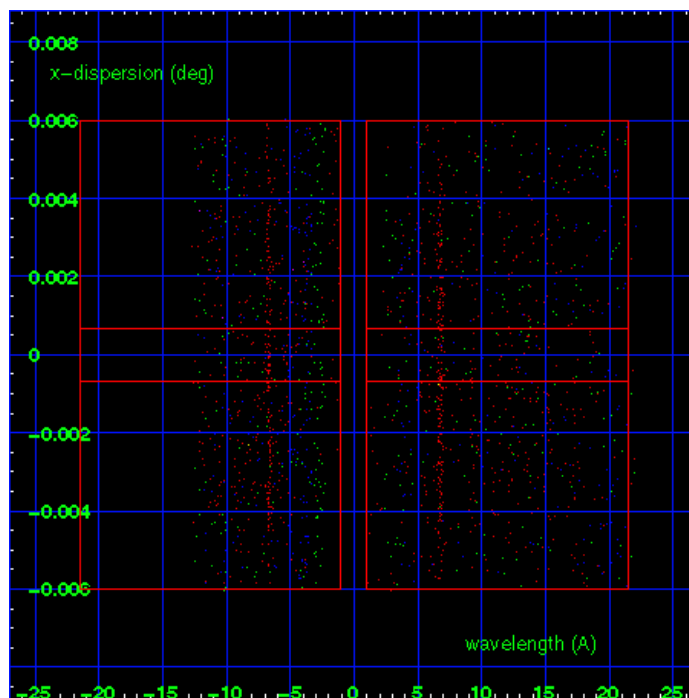
HEG Order Sort 123



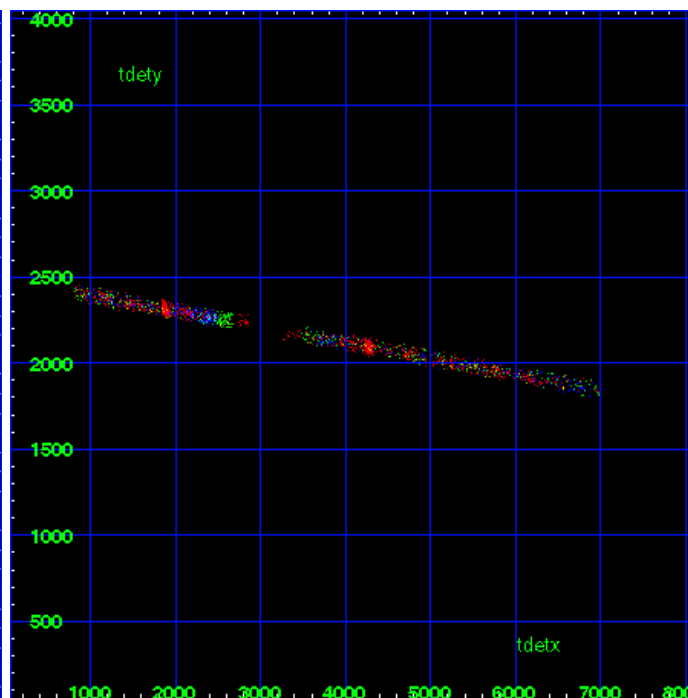
HEG Zero Order



HEG Order Sort ALL

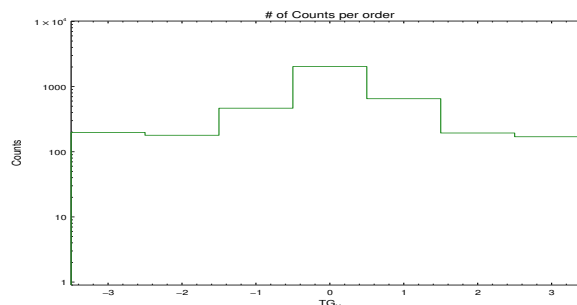


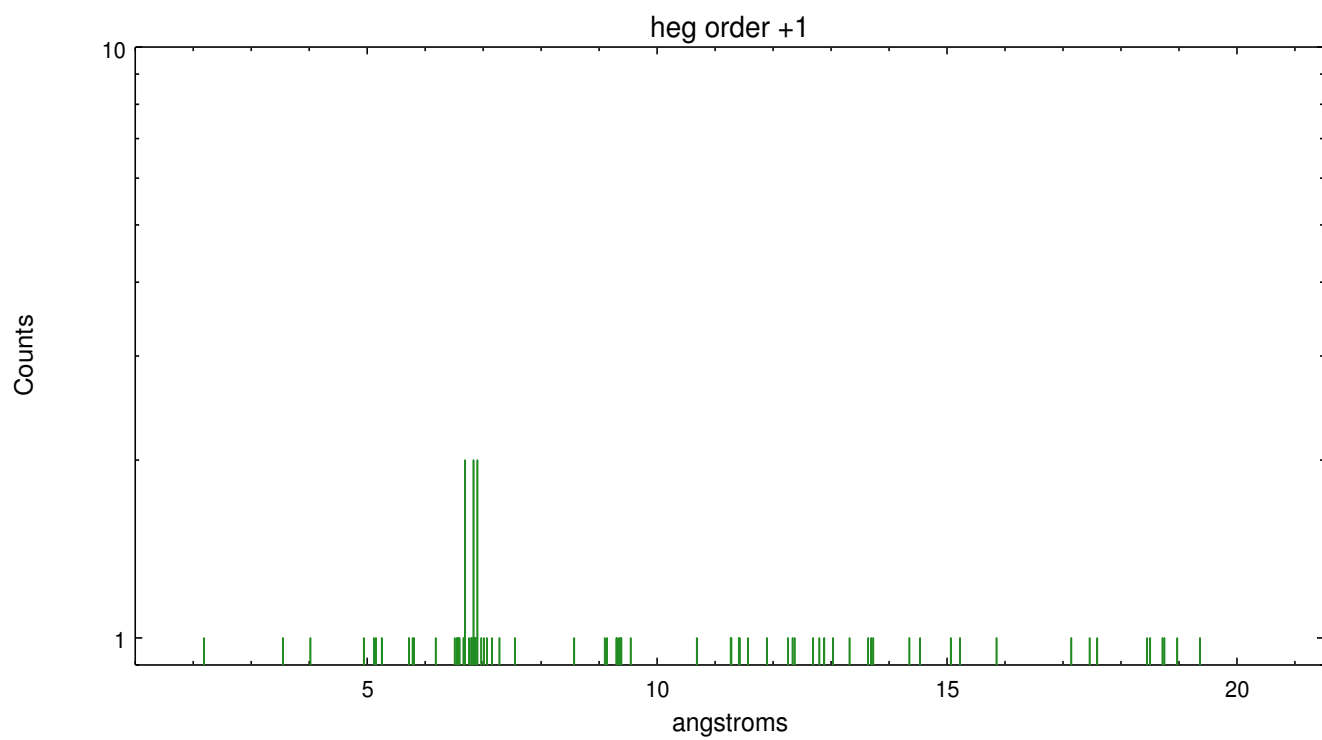
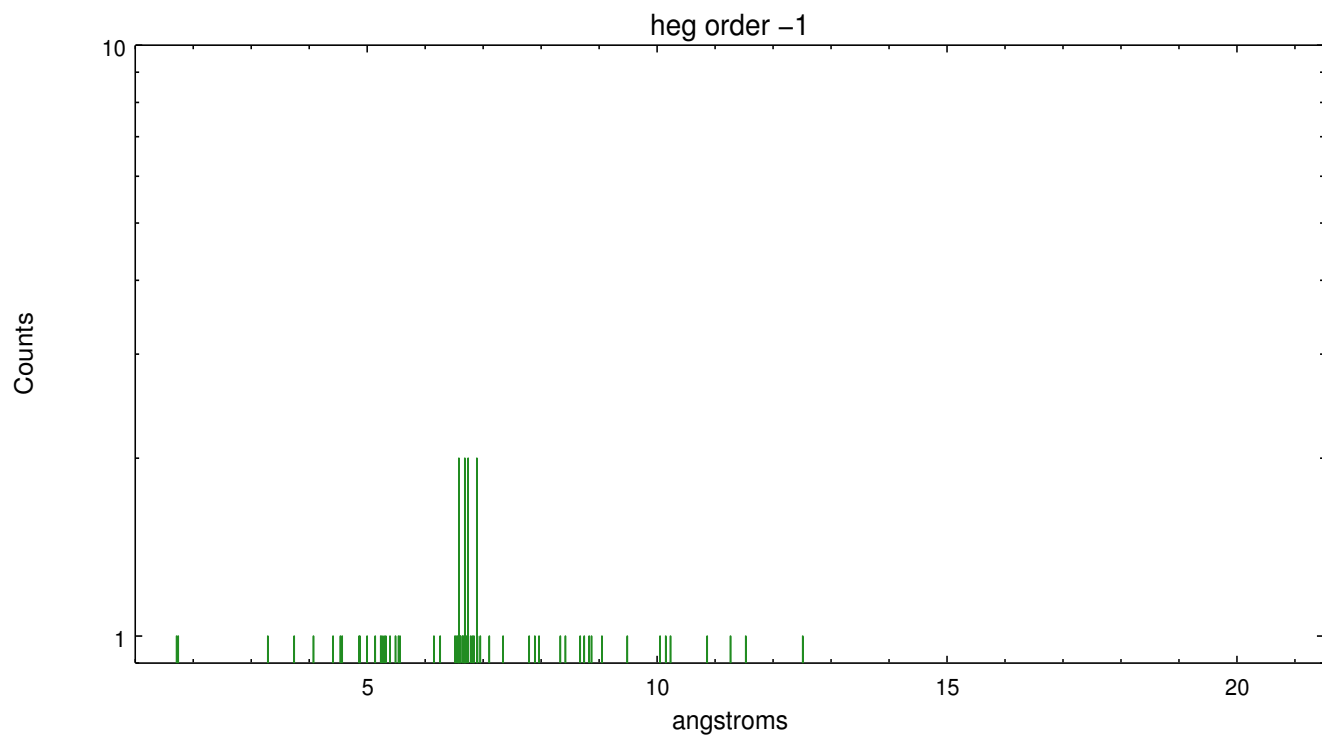
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	198	179	466	2028	652	194	170

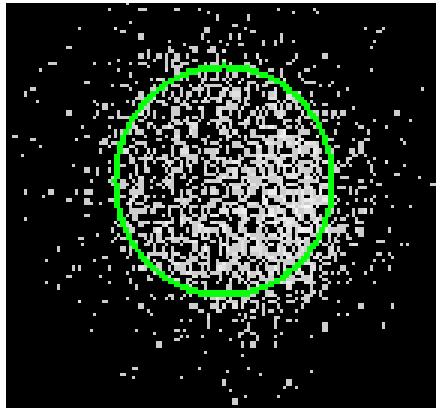




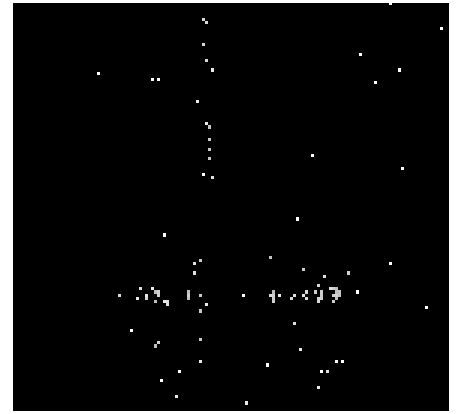
### 3.2 MEG Arm



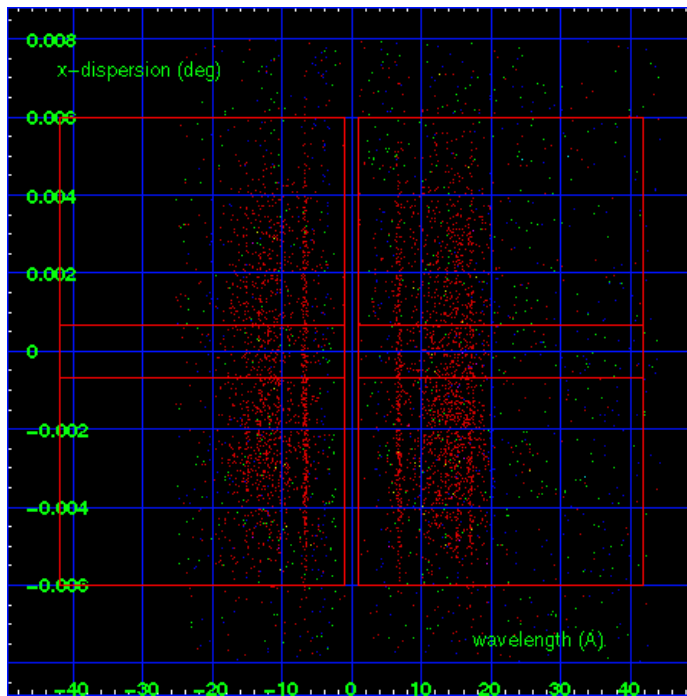
MEG Order Sort 123



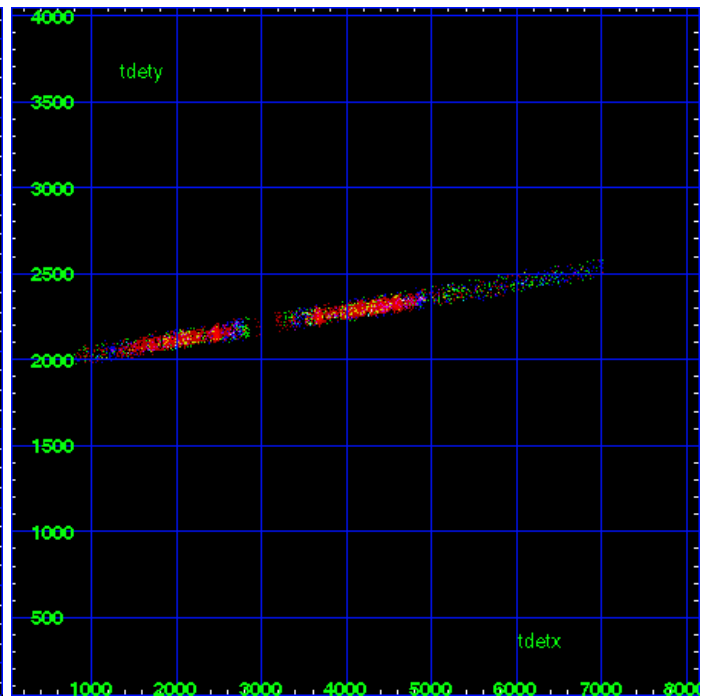
MEG Zero Order



MEG Order Sort ALL

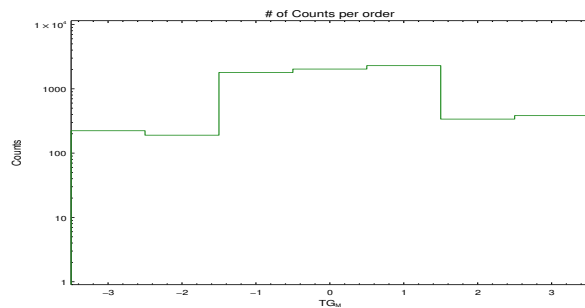


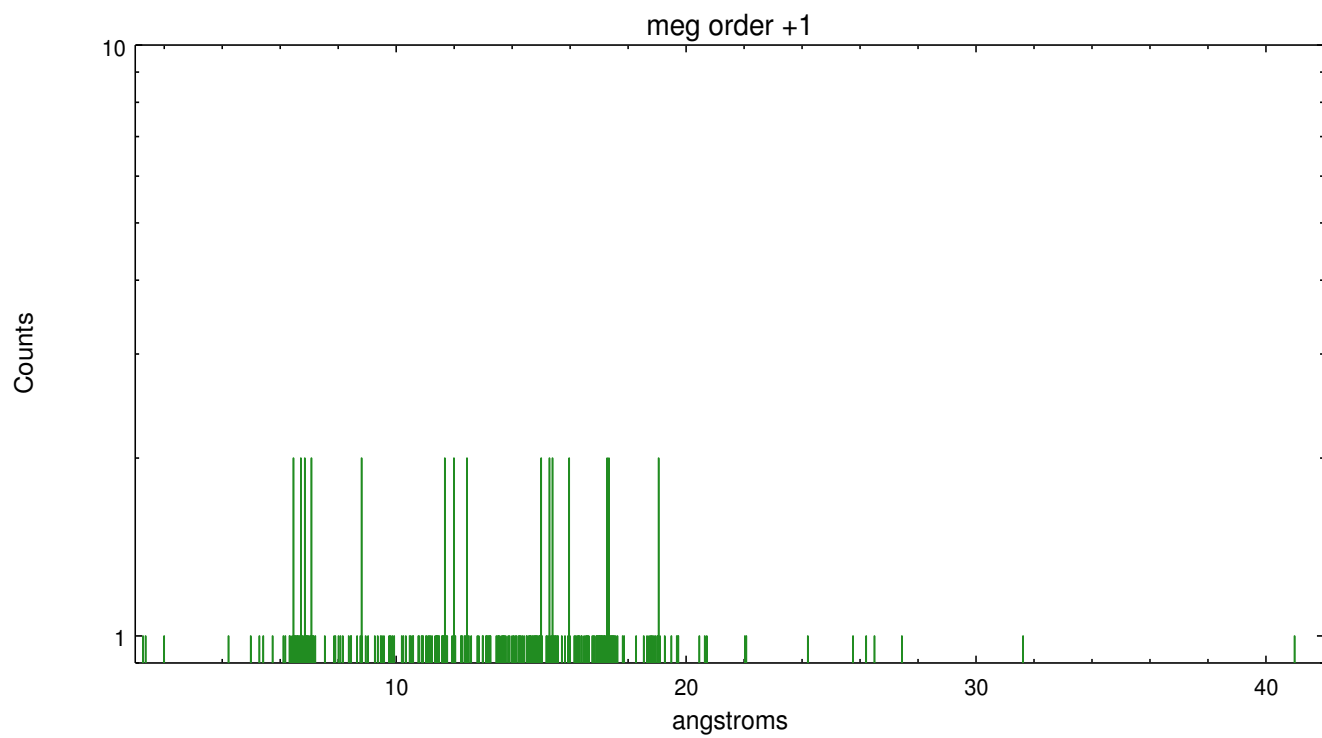
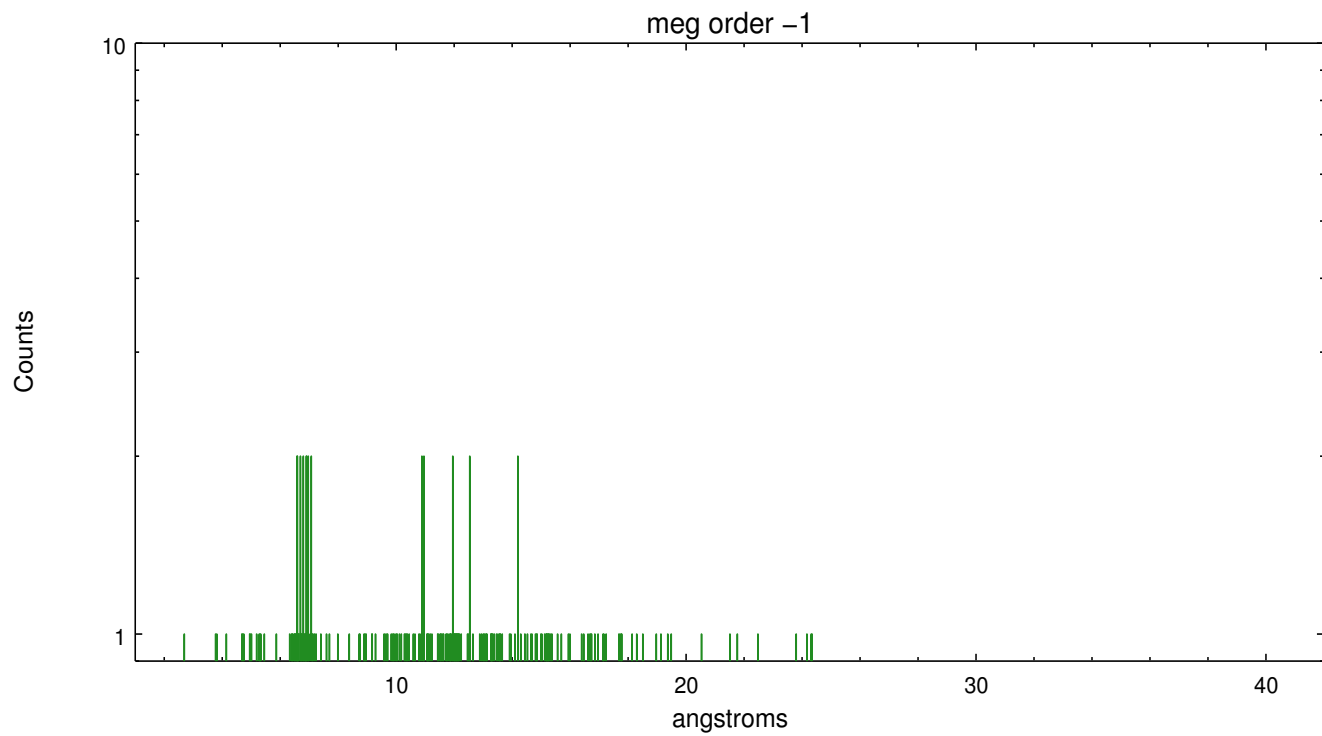
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	223	190	1795	2028	2293	338	383





# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.10.12
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	39.913

## A.2 Comments

Zeroth order position chosen to match the zeroth order position in TGCat (x=3958.00, y=5154.06). The zeroth order position is approximately centered in the SNR, but due to the asymmetry of the X-ray emission, the zeroth order is not at the location of the brightest X-ray emission. Note that the SNR is not uniformly bright and this can lead to apparent line shifts between plus and minus orders.

===

The user will need to select a region or source of interest, then use software tools such as CIAO to specify the coordinates of the zeroth order source of interest before running the tools to resolve the dispersed events. The spectral data supplied in this processing are only energy-calibrated for the particular zeroth order position selected. Warning: The spectral lines are spatially-broadened and the rmfs are not valid.

===

In addition, the source is off-axis by about 9 arcmin. This was done deliberately to place the dispersed spectral data of interest on the back-illuminated chip at the aim point for maximum sensitivity and resolution.

The zeroth order image will have a broader PSF in the off-axis position.

===

Charge time for this ObsId remains at previous value of 39.913 ks, although with the current processing the charge time would be 40.019 ks.