

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 11 - L2 Version 3  
Chandra X-Ray Center

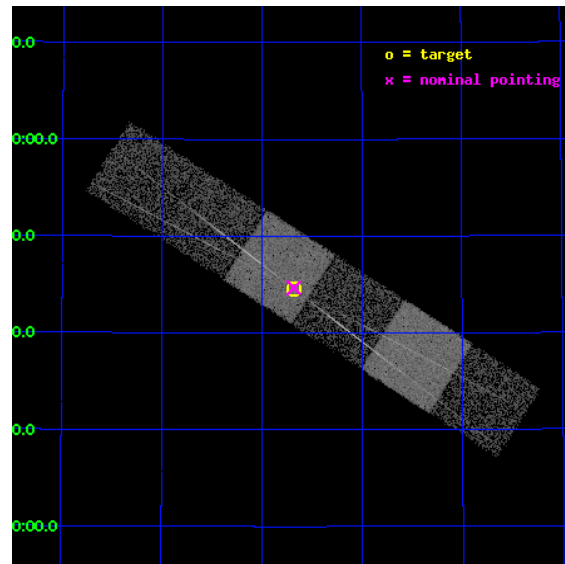
L2 Processing Date : Sep 1 2012

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# 1 Front

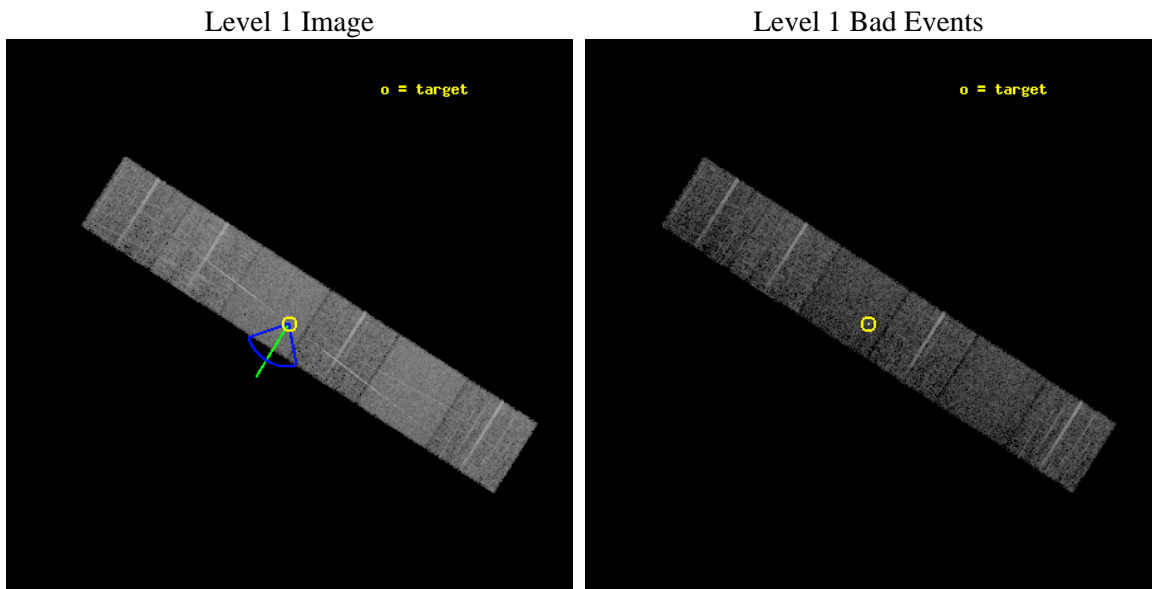
seq_num	200009	Sequence number
obs_id	11	Observation id
title	STELLAR CORONAL SPECTROSCOPY OF COOL STARS	Proposal title
observer	Prof Claude Canizares	Principal investigator
object	AR LAC-6 LAST QUAD (2)	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	332.17	Observer's specified target RA [deg]
dec_targ	45.742222	Observer's specified target Dec [deg]
ra_nom	332.1702436991	Nominal RA [deg]
dec_nom	45.744365440087	Nominal Dec [deg]
roll_nom	212.59854155446	Nominal Roll [deg]
revision	3	Processing version of data
ontime	7251.1590664089	Sum of GTIs [s]
livetime	7159.3405241862	Livetime [s]
ontime4	7251.1590465009	Sum of GTIs [s]
ontime5	7251.1590664089	Sum of GTIs [s]
ontime6	7254.4000067413	Sum of GTIs [s]
ontime7	7251.1590664089	Sum of GTIs [s]
ontime8	7251.1590465009	Sum of GTIs [s]
ontime9	7254.4000067413	Sum of GTIs [s]
l2events	67978	Number of level 2 events



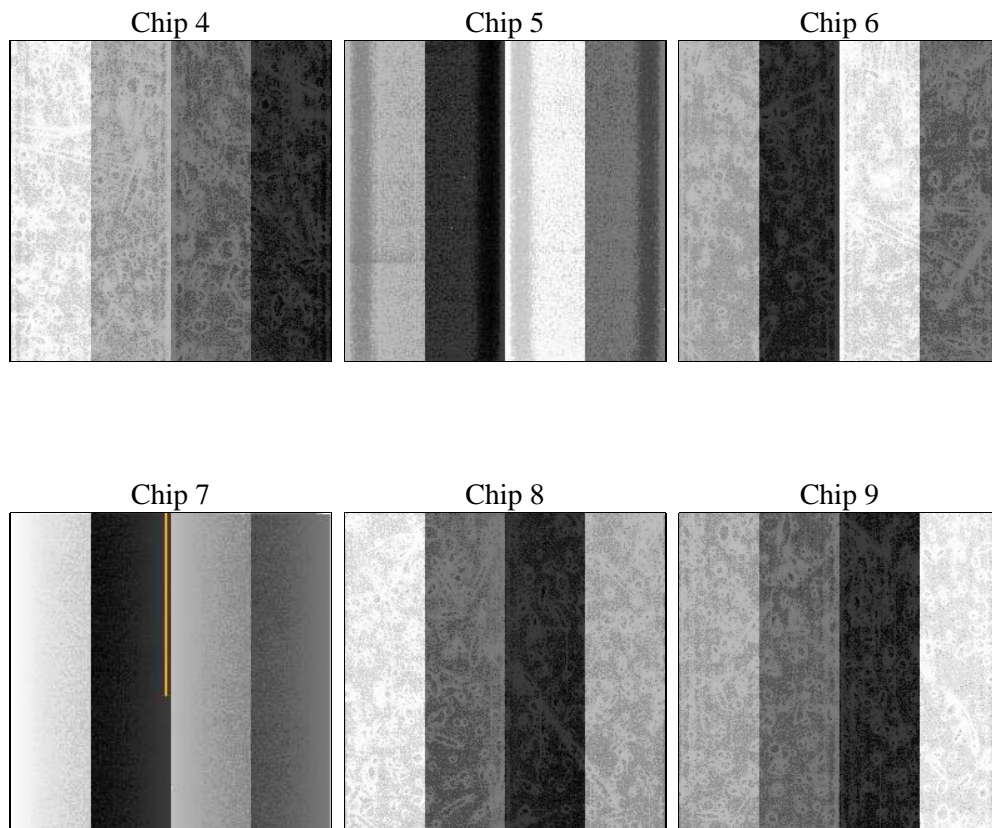
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	7500.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	7251.1590664089	Sum of GTIs [s]
caldsver	4.5.1.1	&#160	ontime4	7251.1590465009	Sum of GTIs [s]
date	2012-09-01T17:32:56	Date and time of file creation	ontime5	7251.1590664089	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	7254.4000067413	Sum of GTIs [s]
			ontime7	7251.1590664089	Sum of GTIs [s]
			ontime8	7251.1590465009	Sum of GTIs [s]
			ontime9	7254.4000067413	Sum of GTIs [s]
			l1events	286864	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	44376	53587	41738	53180	54815	39168	grade 0 events	2217	2083	4150	2536	4905	2231
rejected events	39293	29217	34409	29739	42323	34159		4%	3%	9%	4%	8%	5%
rejected %	88%	54%	82%	55%	77%	87%	grade 1 events	18	69	26	94	38	26
								0%	0%	0%	0%	0%	0%
							grade 2 events	1174	7182	1170	4788	2353	978
								2%	13%	2%	9%	4%	2%
							grade 3 events	481	1206	559	2109	1241	458
								1%	2%	1%	3%	2%	1%
							grade 4 events	439	1145	519	2141	1163	458
								0%	2%	1%	4%	2%	1%
							grade 5 events	1370	4208	1578	5022	2011	1627
								3%	7%	3%	9%	3%	4%
							grade 6 events	777	12779	942	11888	2833	889
								1%	23%	2%	22%	5%	2%
							grade 7 events	37900	24915	32794	24602	40271	32501
								85%	46%	78%	46%	73%	82%

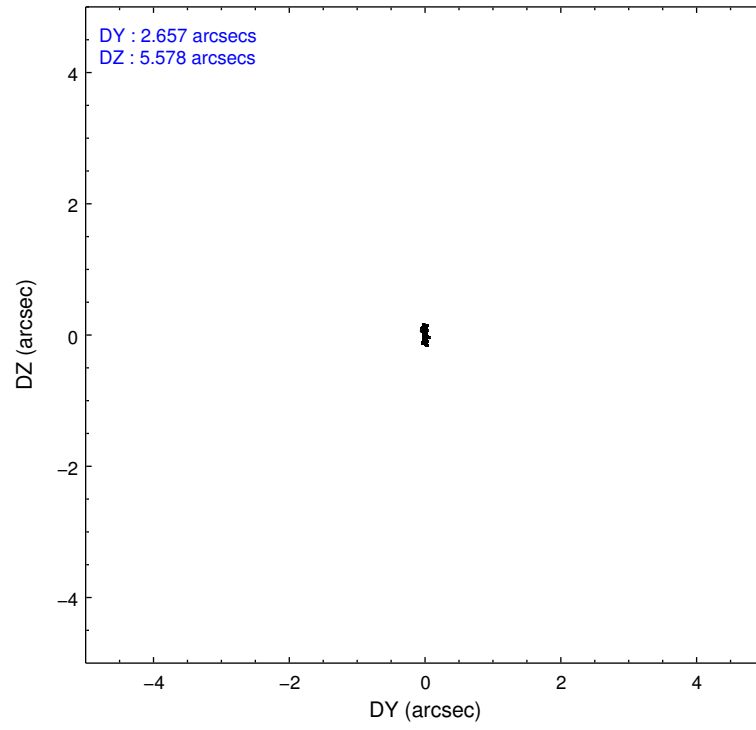
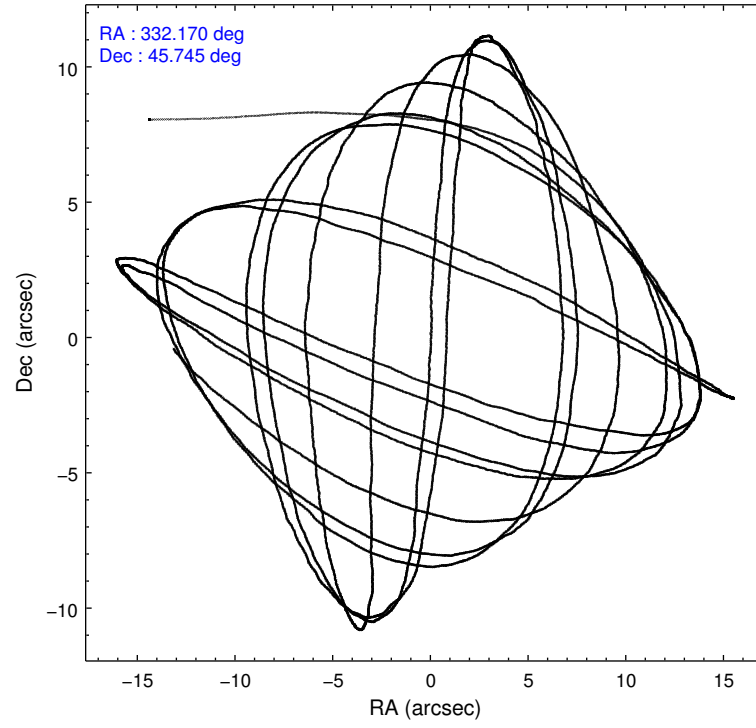


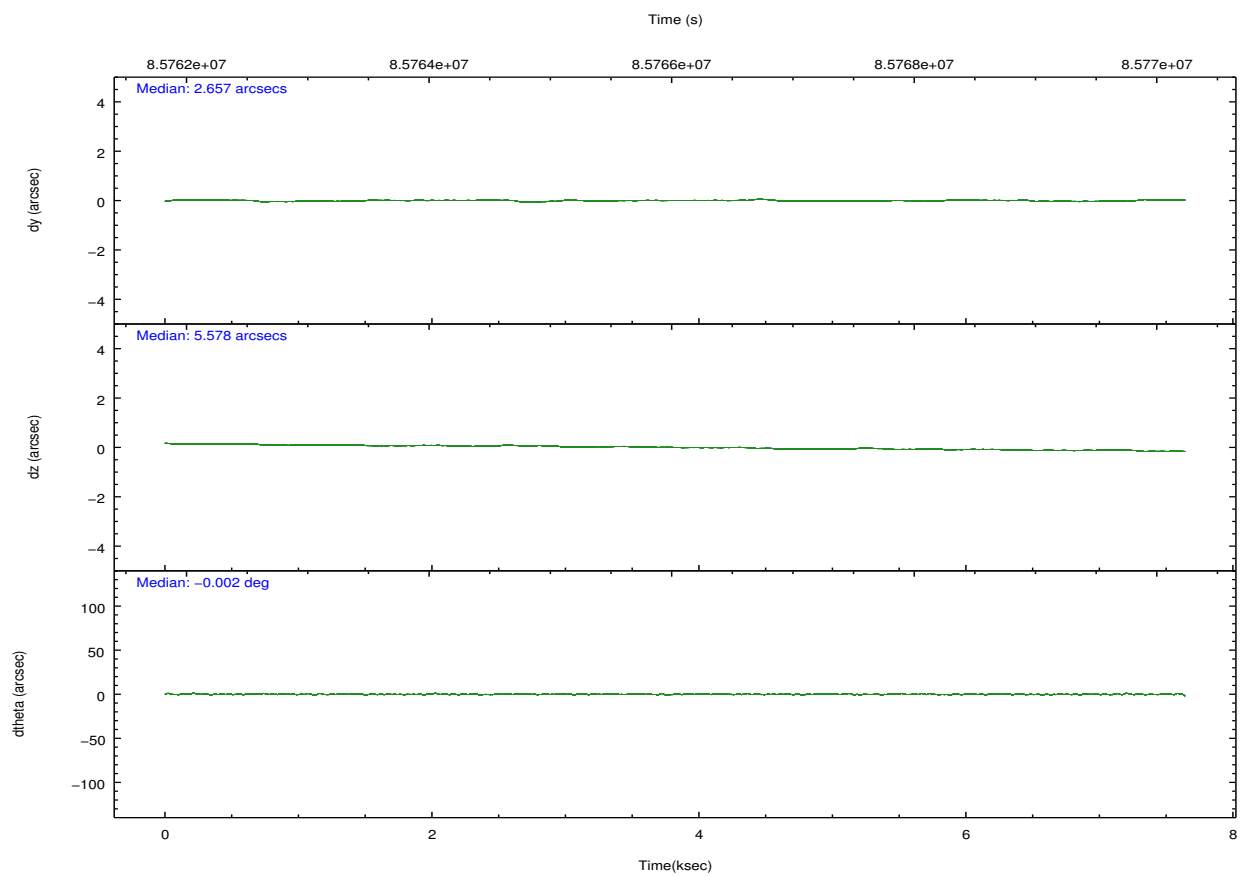
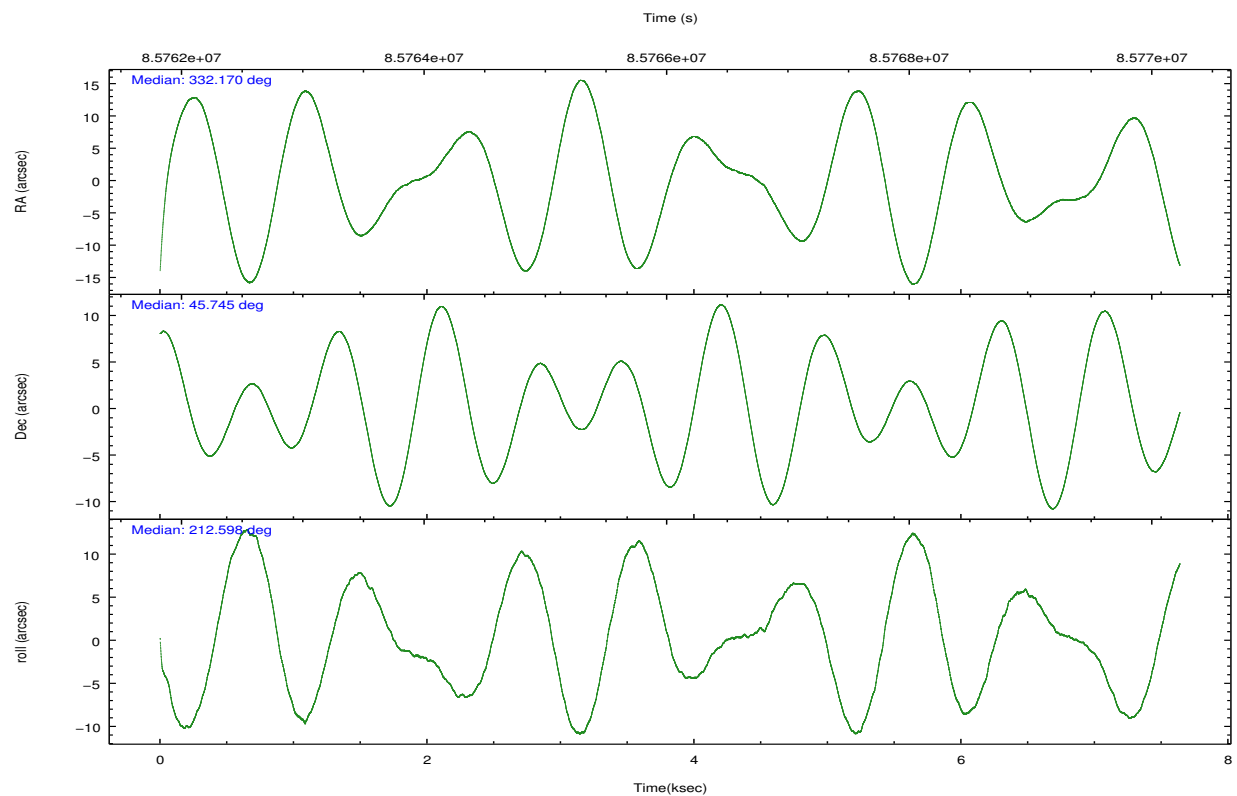
## 2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-456789	ACIS-456789
Grating	HETG	HETG
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	332.187994	332.1702436991011
[deg] Pointing Dec	45.768763	45.74436544008663
[deg] Pointing Roll	212.429203	212.5985415544595
[deg] Roll angle	210.000000	210.000000
[deg] Roll tolerance	40.000000	40.000000
Roll constraint allows 180D rotation	N	N
[s] Window start time (MET)	50061664.184000	50061664.184000
[s] Window stop time (MET)	93754864.184000	93754864.184000
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-187.132523	-187.1254020033014
[mm] SIM translation stage offset	-3	-3.007120579706367
Phase constraints	Y	Y
[d] Phase period	1.983180	1.983180
[d] Phase epoch (MJD)	48501.123200	48501.123200
Phase start	0.728000	0.728000
Phase end	0.772000	0.772000
Phase start error	0.080000	0.080000
Phase end error	0.080000	0.080000
[s] Observation start time (MET)	85762349.184000	85761074.38699301

Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



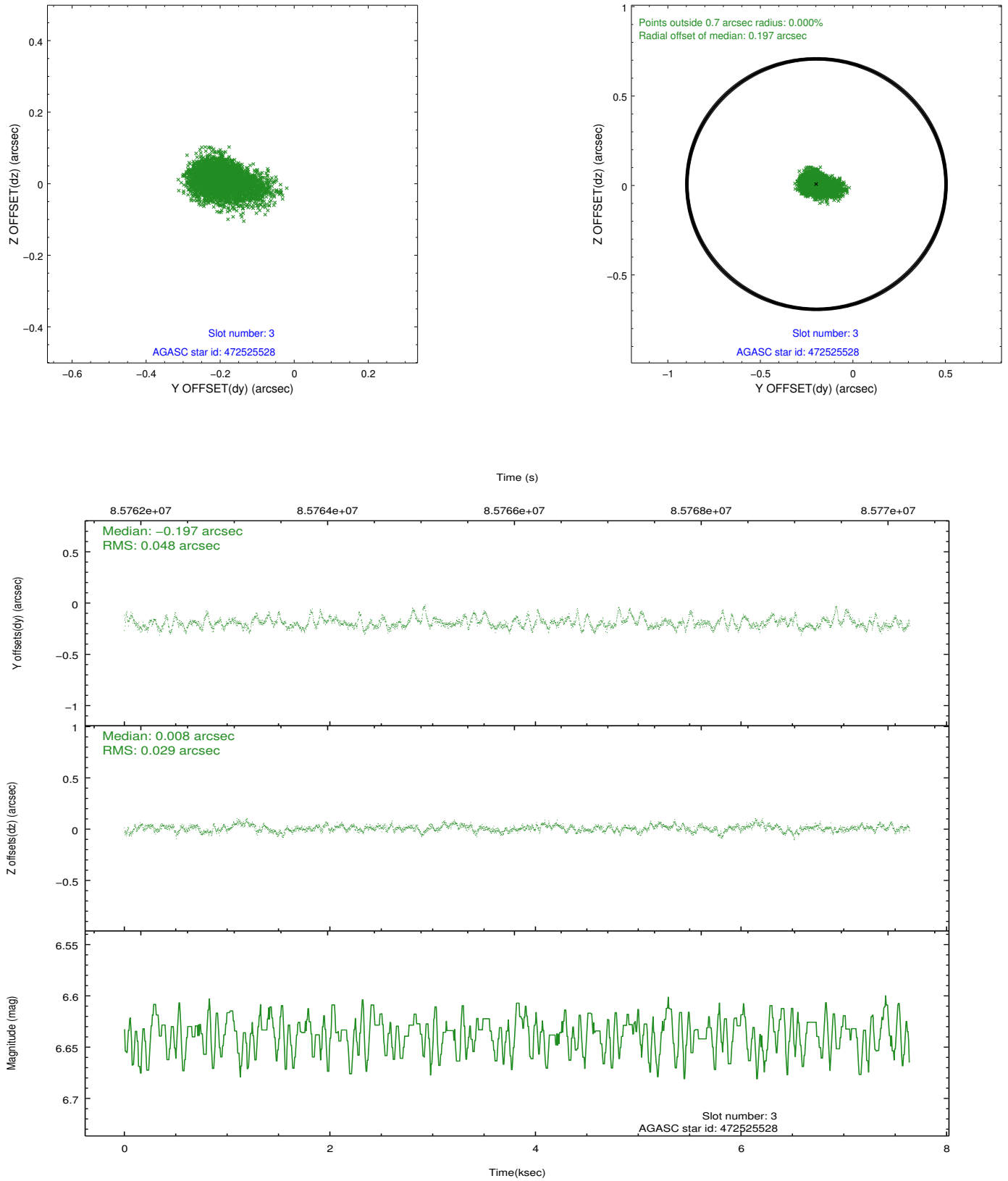


### Slot Statistics

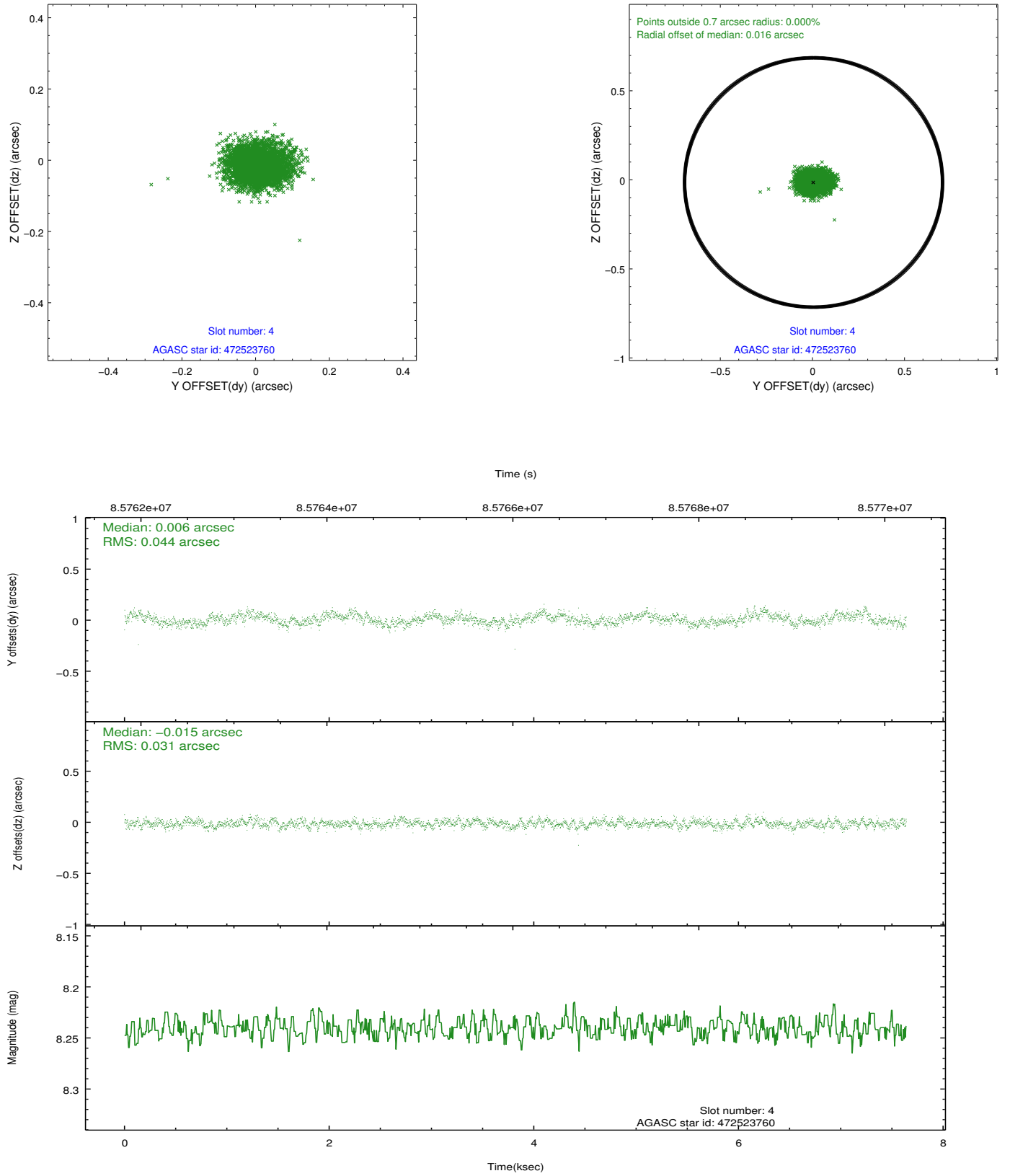
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-3	7.36	1864	-0.061	-0.057	0.008	0.013	0.000000	0.000000	58.00	-1917.91
1	FID	ACIS-S-4	7.19	1864	0.016	0.059	0.006	0.011	0.000000	0.000000	2158.32	118.82
2	FID	ACIS-S-5	7.23	1864	0.017	0.007	0.006	0.011	0.000000	0.000000	-1806.94	113.47
3	GUIDE	472525528	6.64	3727	-0.197	0.008	0.057	0.104	331.551102	45.248694	2363.64	709.51
4	GUIDE	472523760	8.24	3727	0.006	-0.015	0.057	0.093	331.645363	45.403260	1862.21	371.61
5	GUIDE	472665256	8.99	3726	0.098	0.021	0.064	0.104	332.808125	46.195041	-2129.14	-471.32
6	GUIDE	472659832	9.45	3725	0.015	0.126	0.080	0.128	332.780399	46.098139	-1886.81	-212.21
7	GUIDE	472655152	9.42	3726	0.072	-0.140	0.083	0.133	332.504239	45.862991	-851.59	137.55

## 2.4 Star Slots

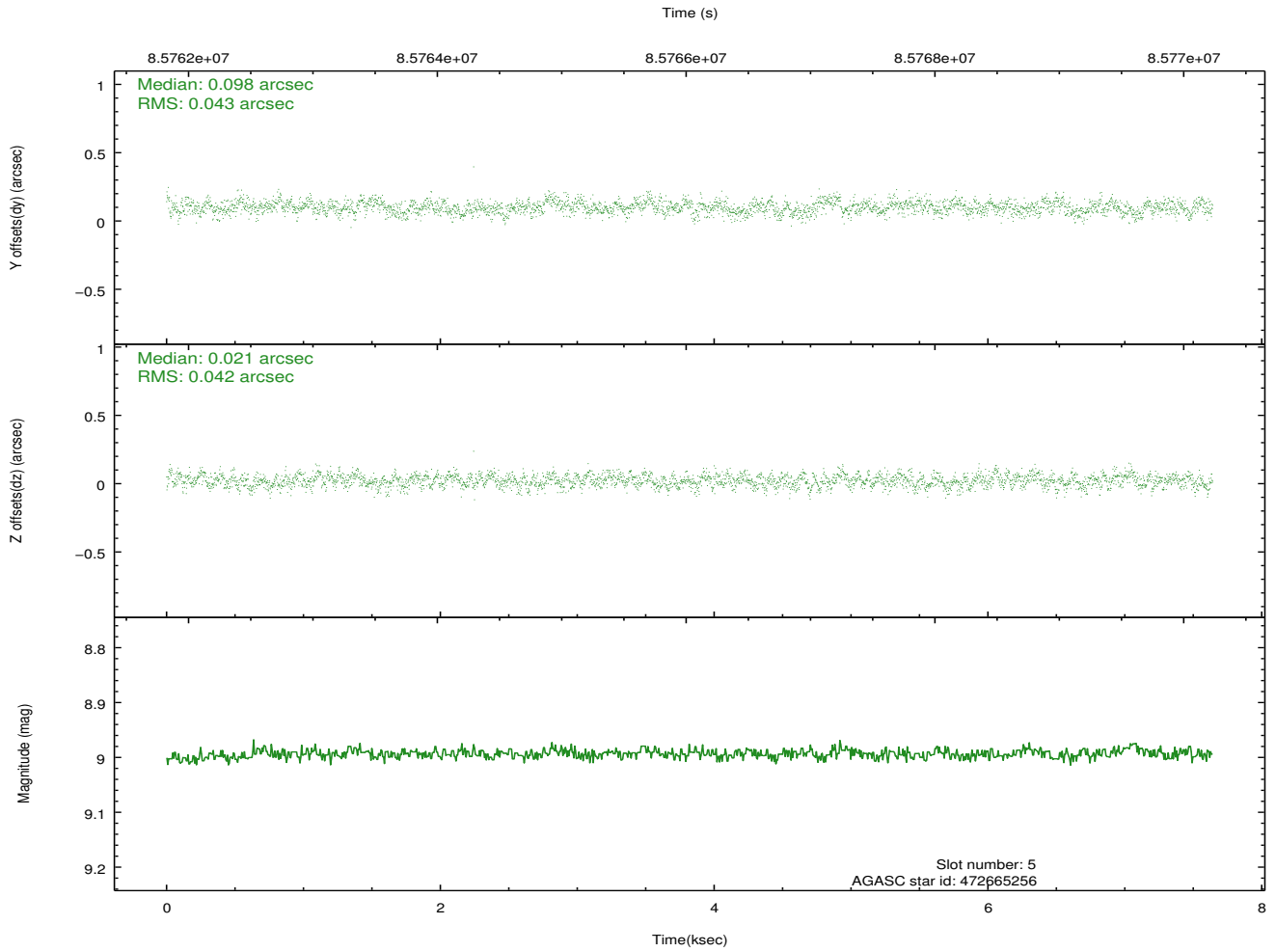
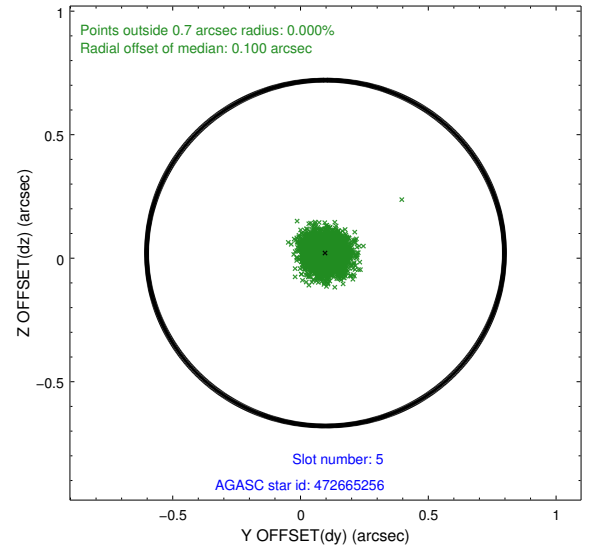
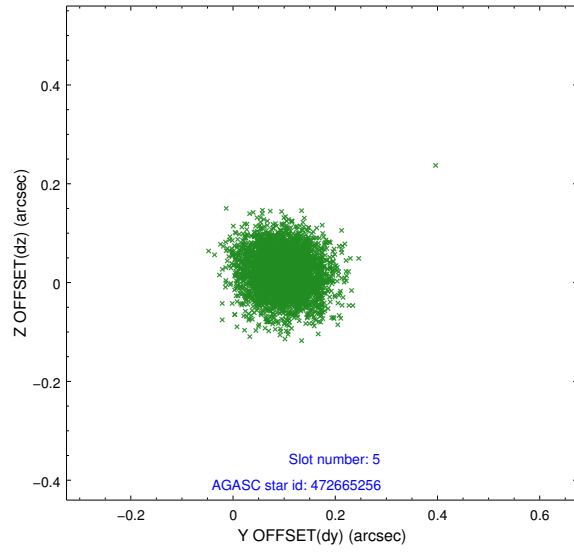
### 2.4.1 Slot 3



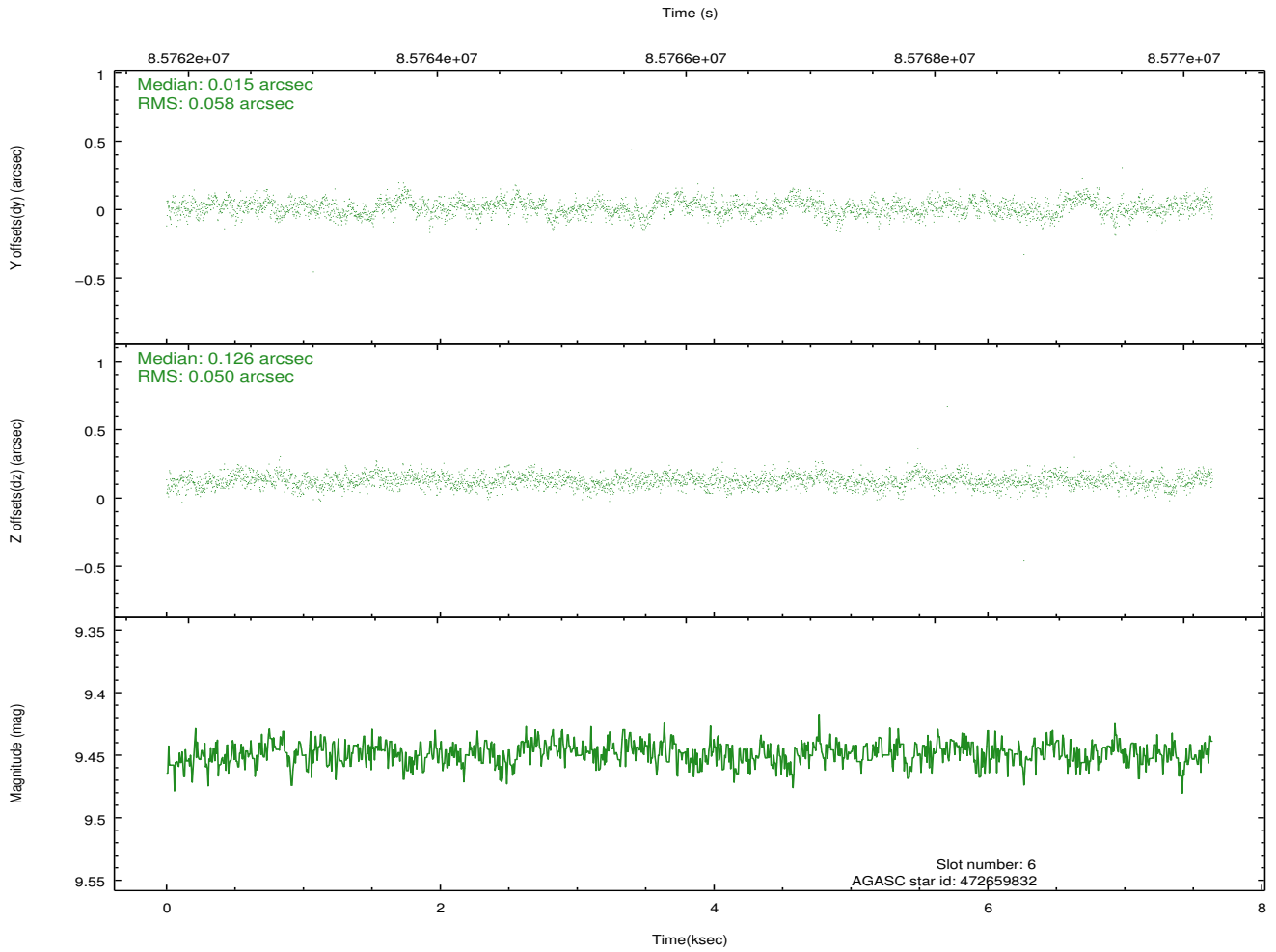
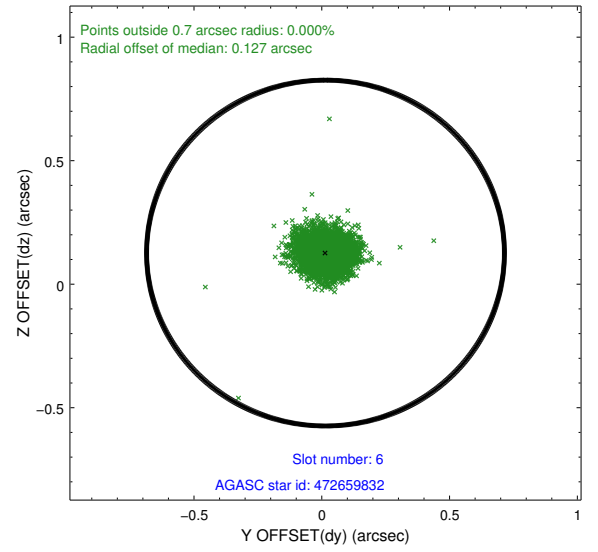
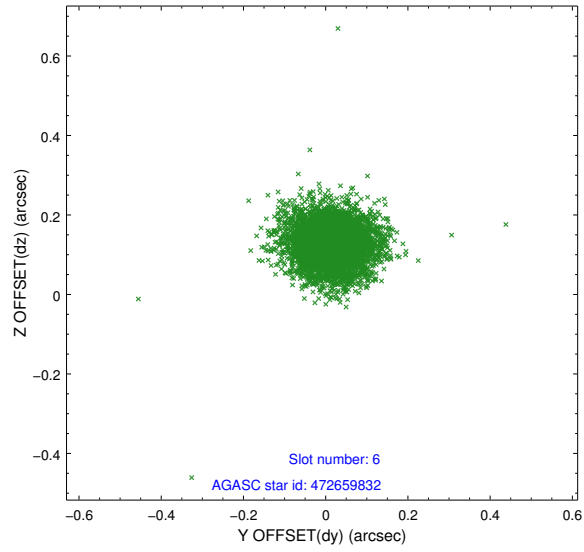
## 2.4.2 Slot 4



### 2.4.3 Slot 5

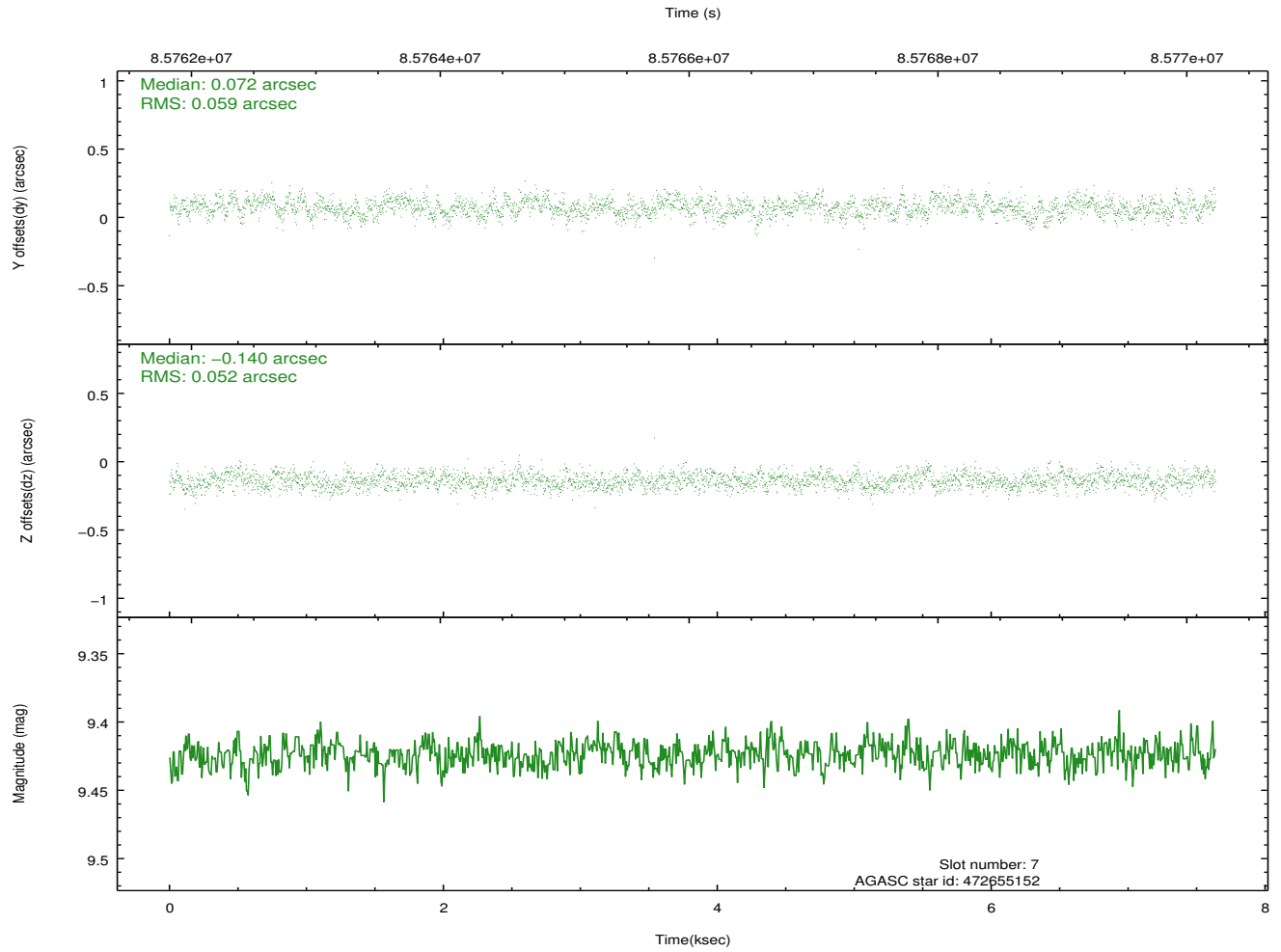
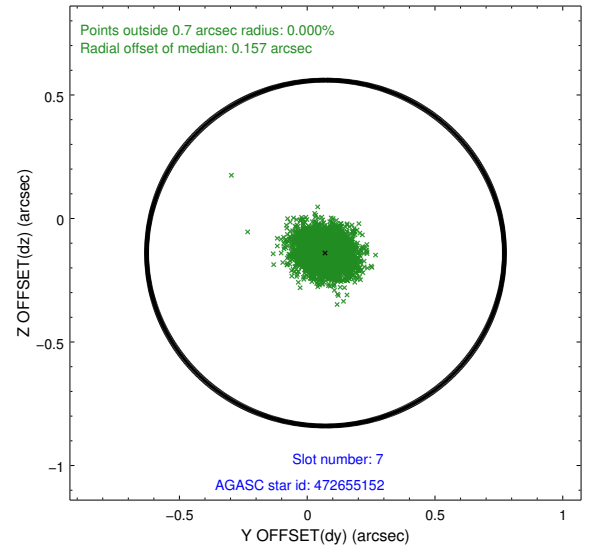
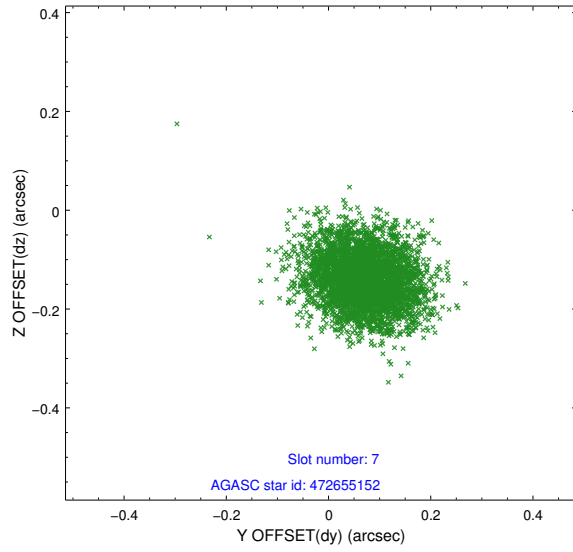


## 2.4.4 Slot 6



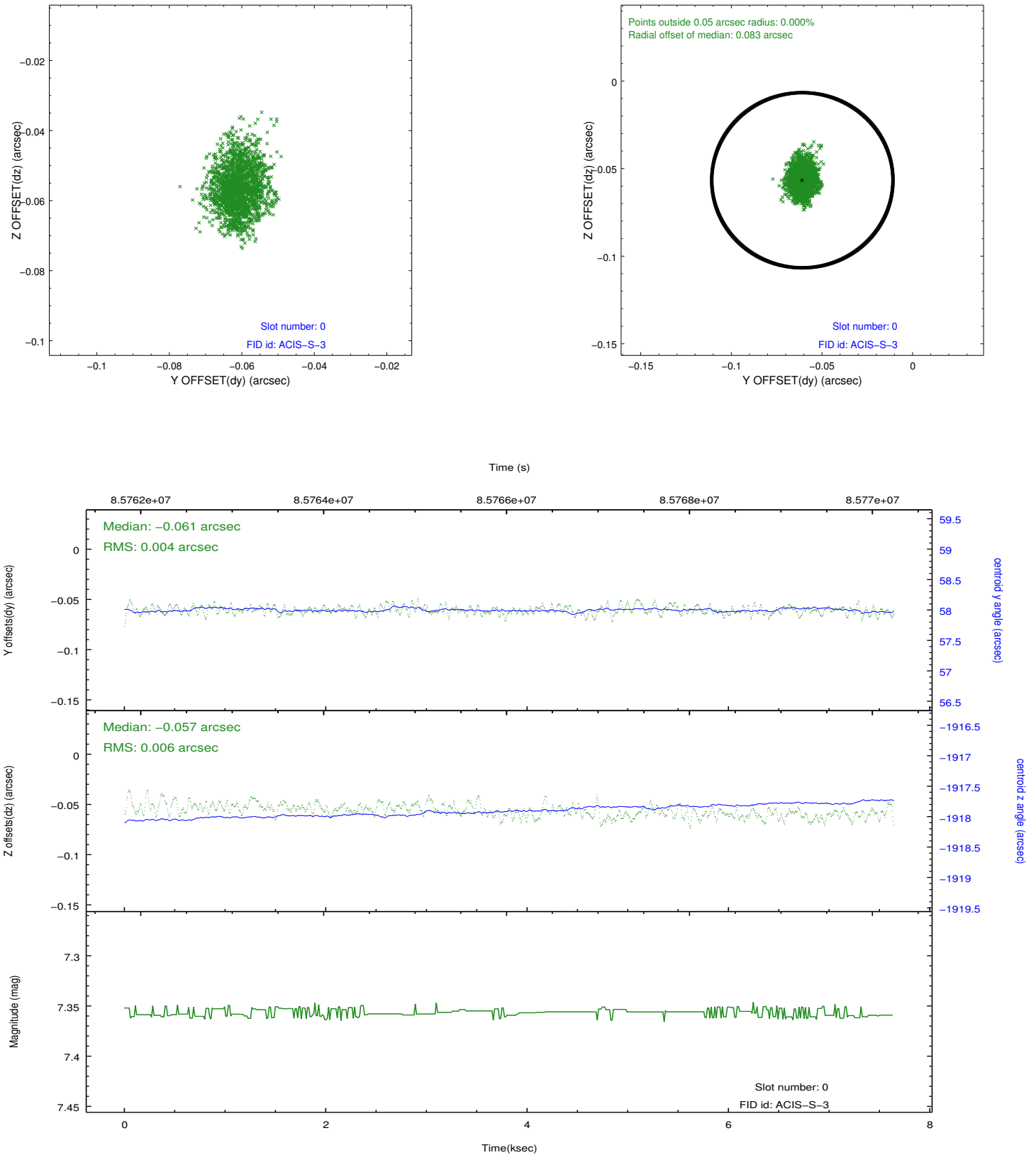


## 2.4.5 Slot 7

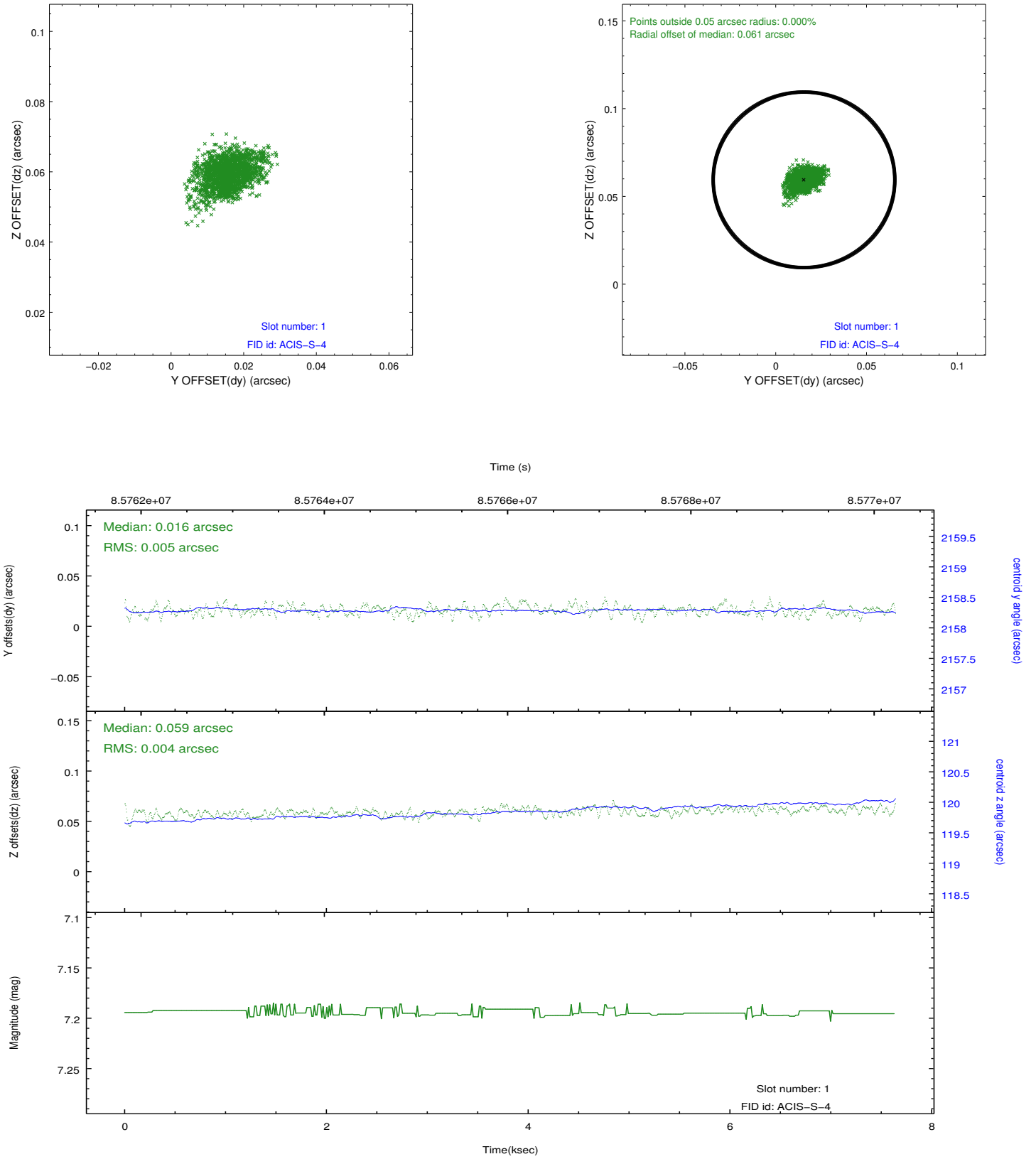


## 2.5 FID Slots

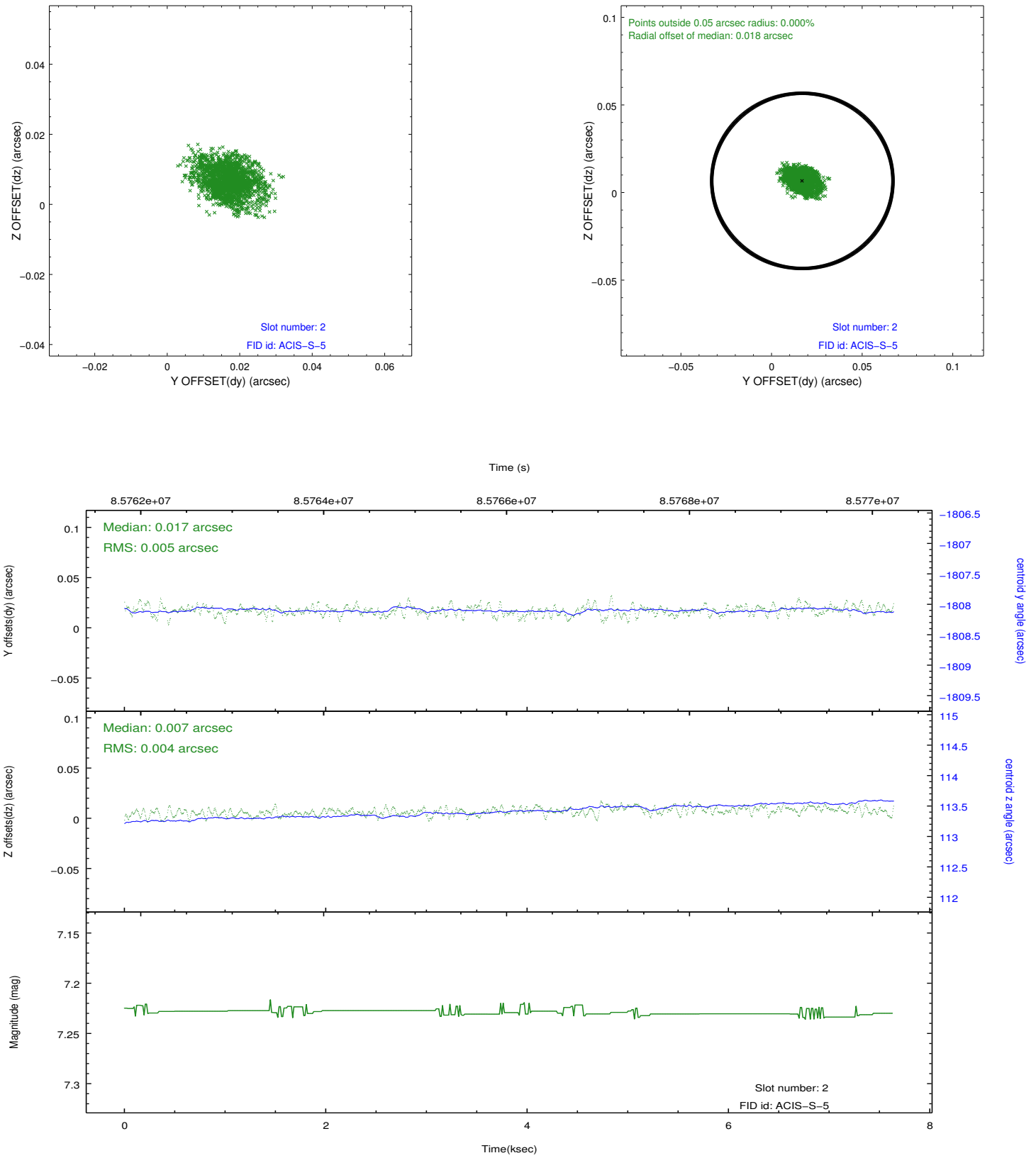
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2

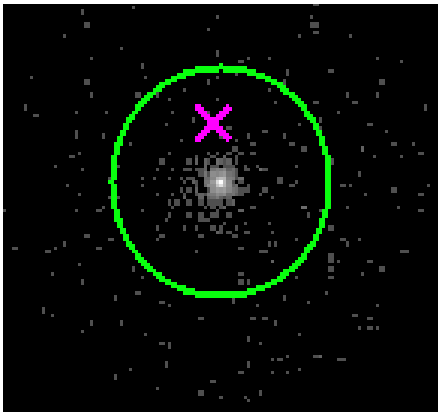


# 3 Gratings

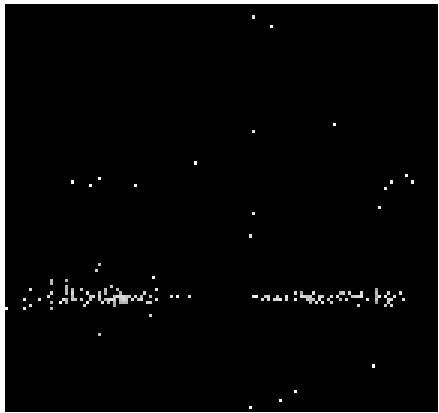
## 3.1 HEG Arm



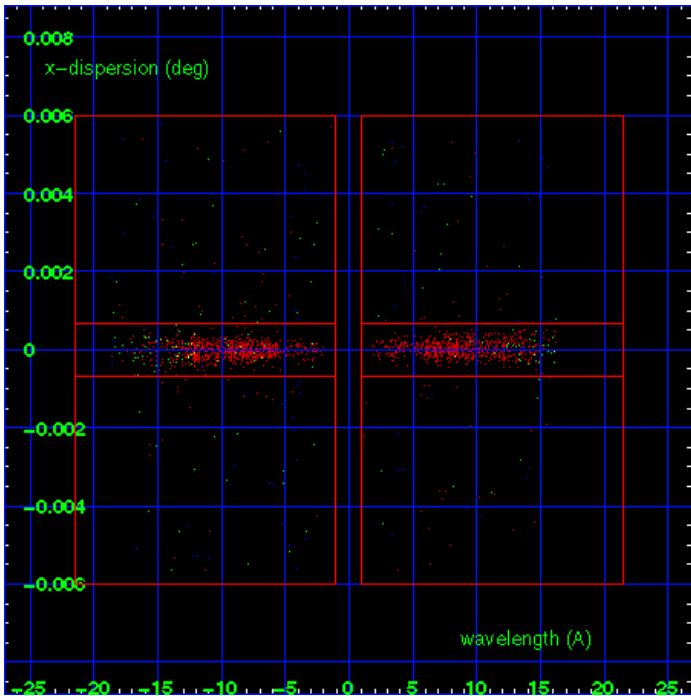
HEG Order Sort 123



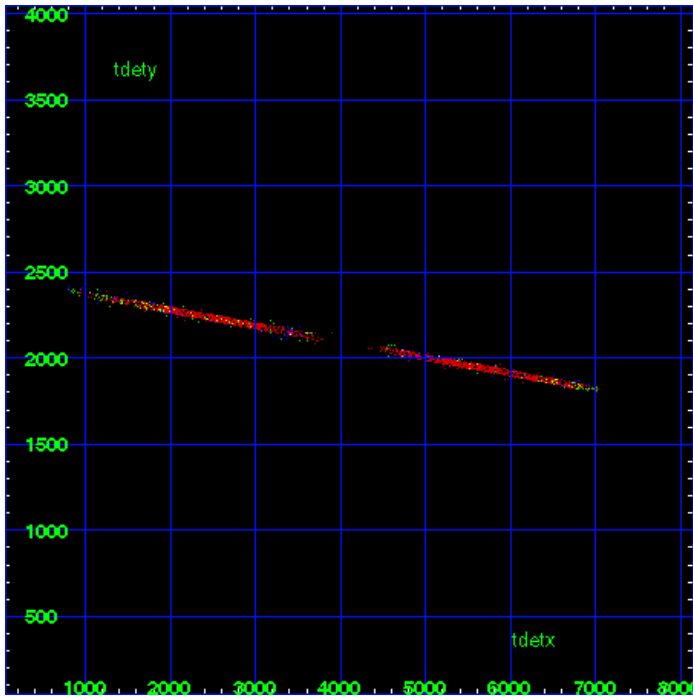
HEG Zero Order



HEG Order Sort ALL

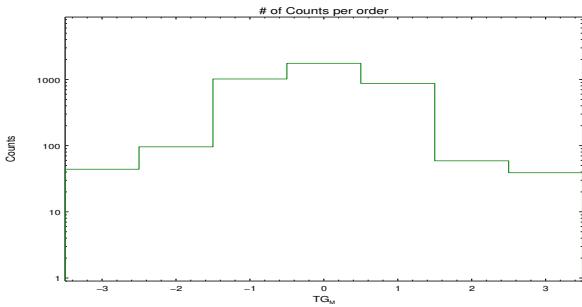


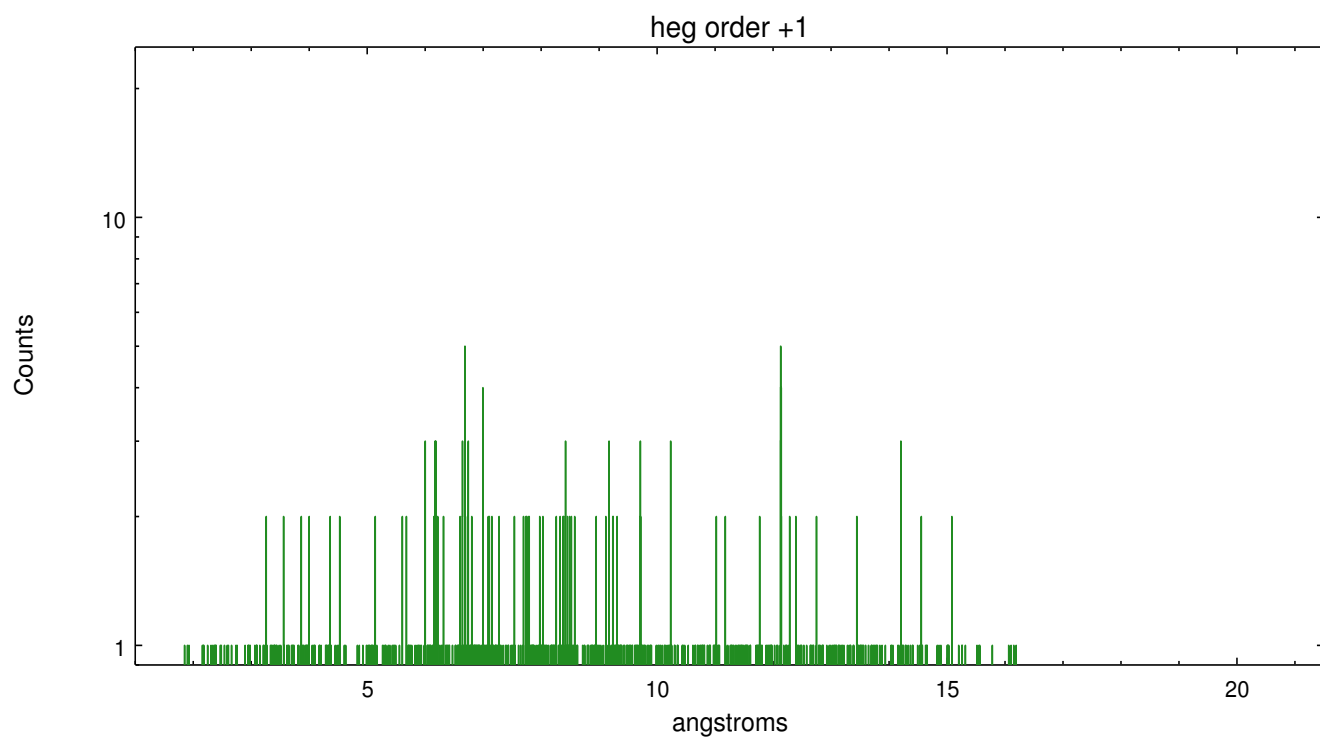
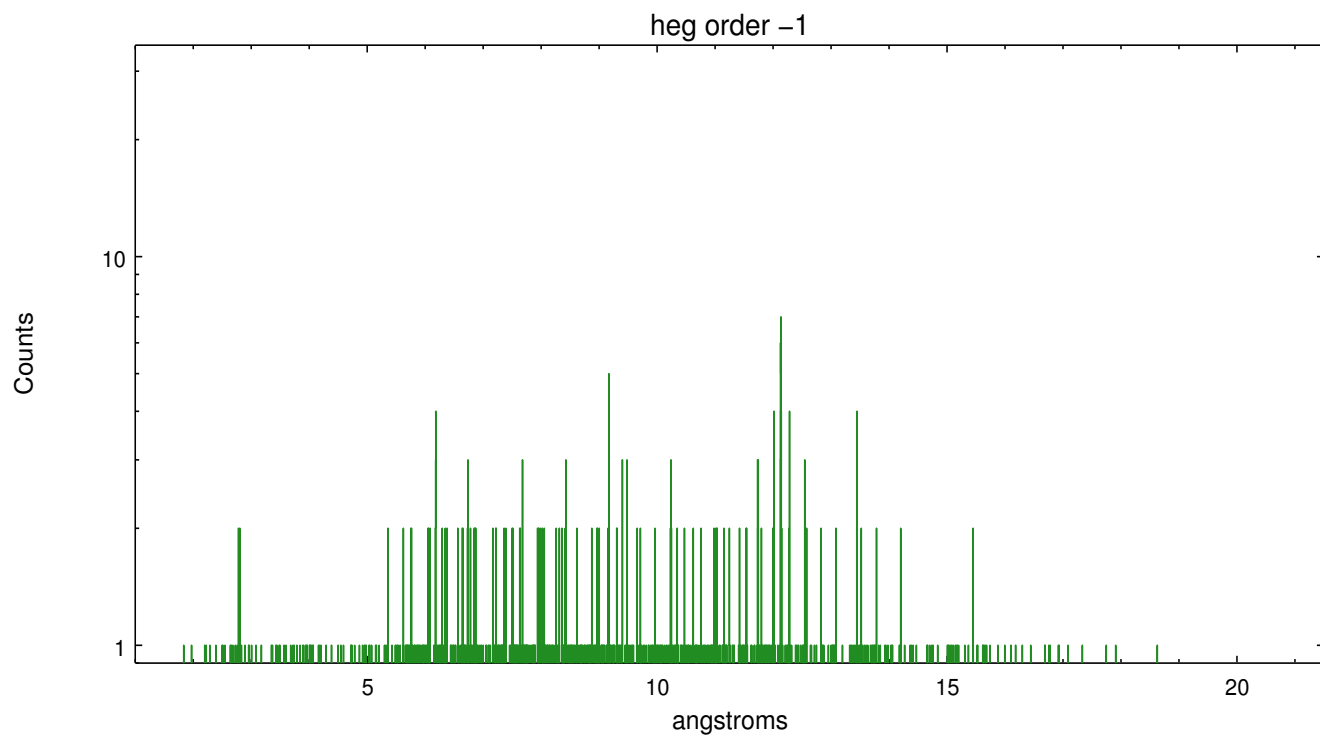
Spot Image HEG



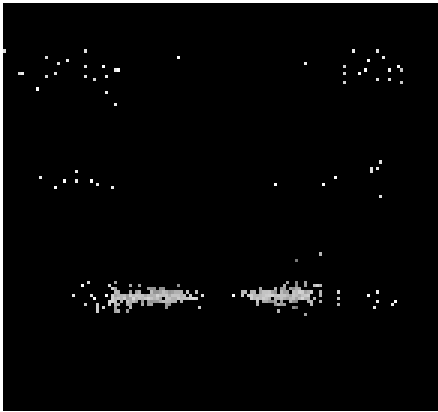
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	44	96	1017	1754	872	59	39

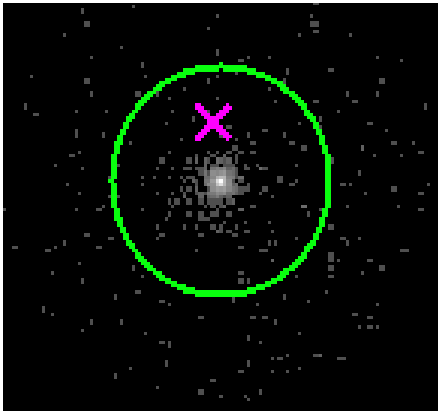




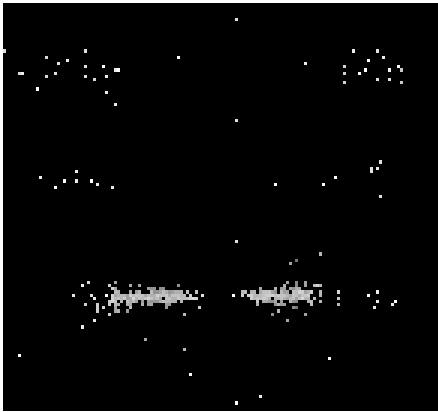
3.2 MEG Arm



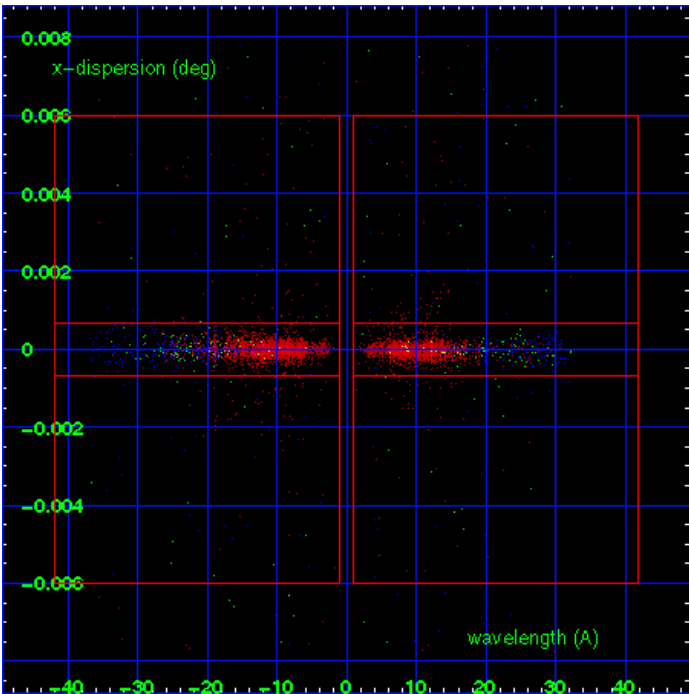
MEG Order Sort 123



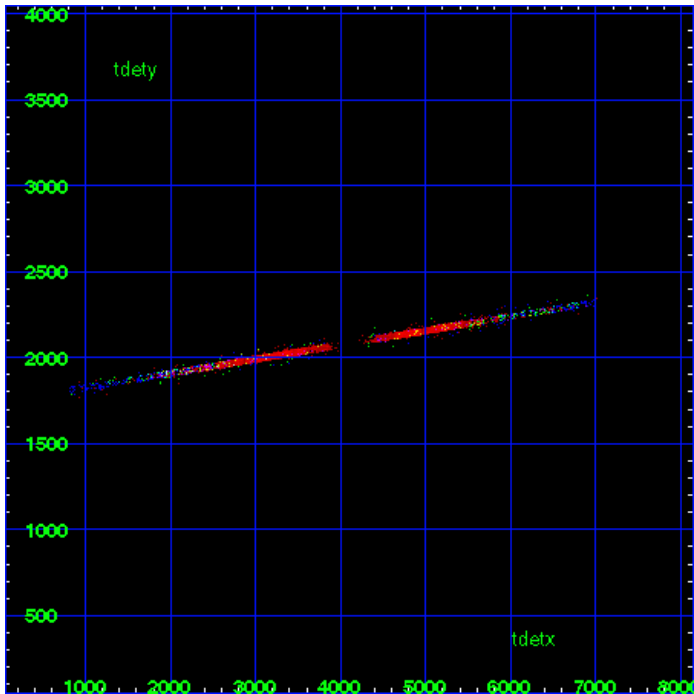
MEG Zero Order



MEG Order Sort ALL

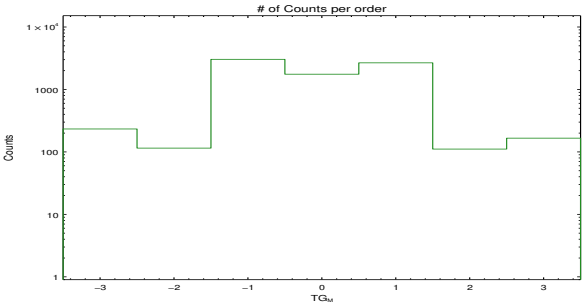


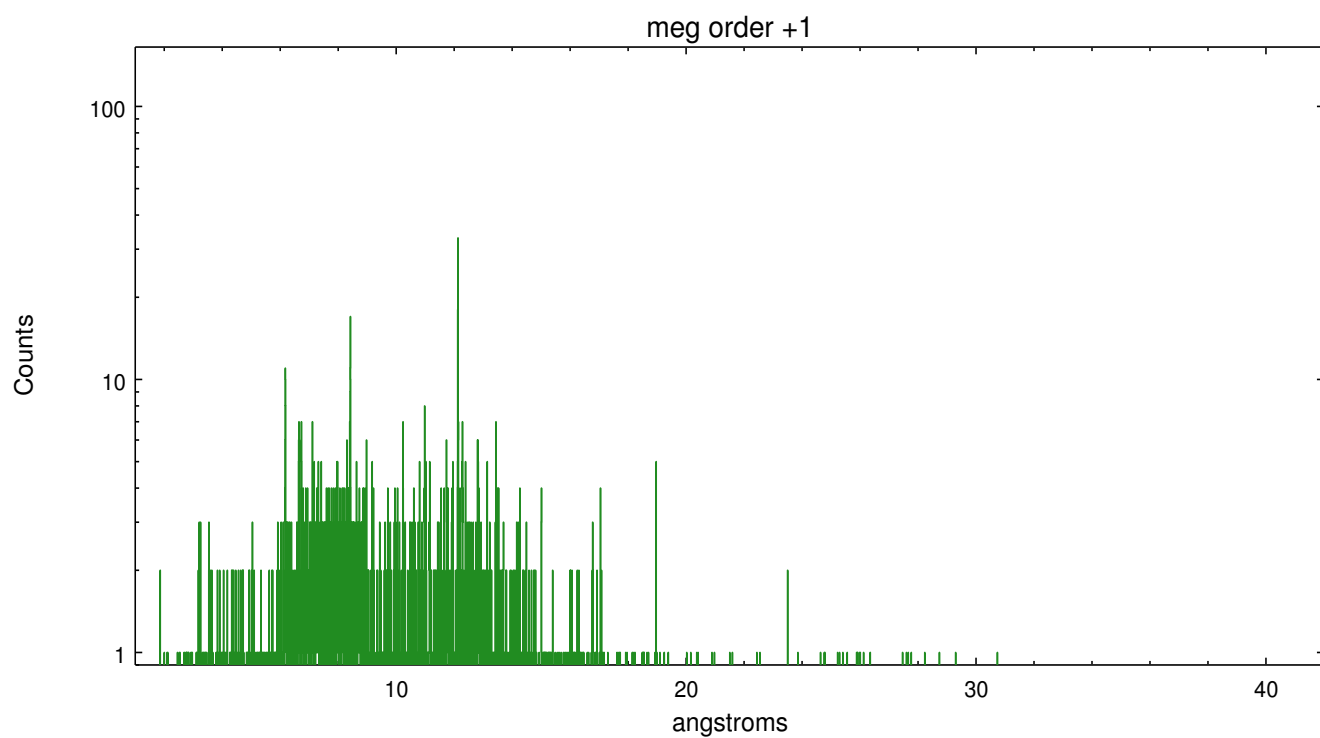
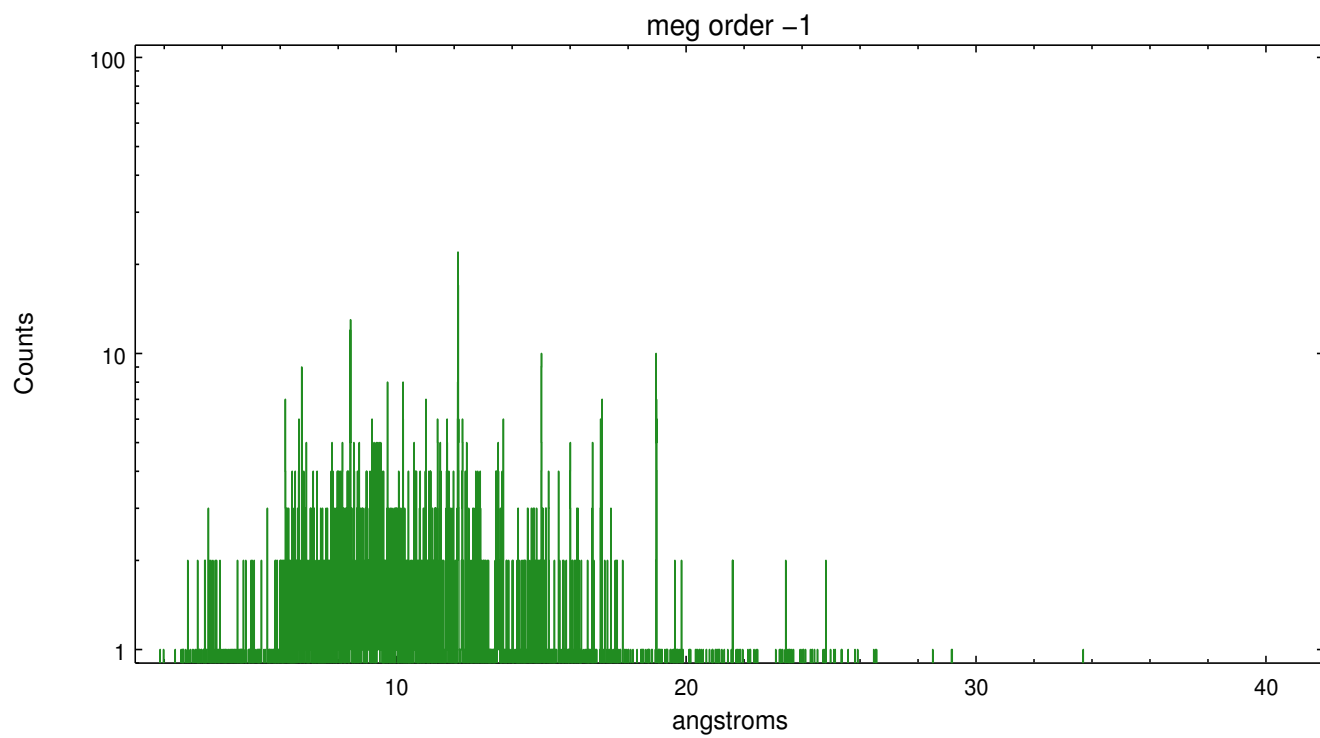
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	233	115	3035	1754	2669	111	166







# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.09.05
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	7.254

## A.2 Comments

Roll constraint met. Caveat: due to an 0.5 day observer error on the ephemeris, comments on the phase in the header 'OBJECT' are wrong.