

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 4572 - L2 Version 4  
Chandra X-Ray Center

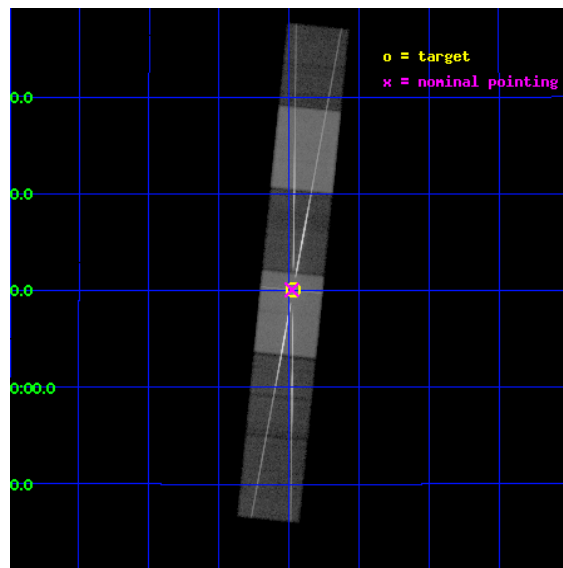
L2 Processing Date : Feb 23 2013

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# 1 Front

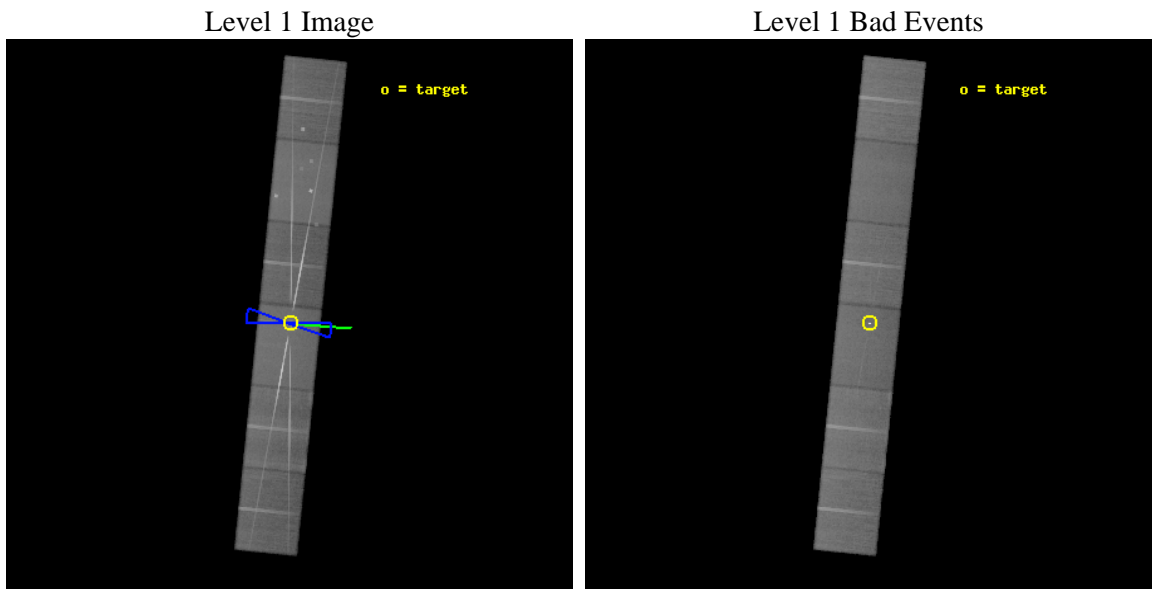
seq_num	400355	Sequence number
obs_id	4572	Observation id
title	A High Resolution X-ray Spectroscopic Investigation of AC211	Propo
observer	Dr Nicholas White	Principal investigator
object	AC211	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	322.492917	Observer's specified target RA [deg]
dec_targ	12.169167	Observer's specified target Dec [deg]
ra_nom	322.494764659	Nominal RA [deg]
dec_nom	12.167879910878	Nominal Dec [deg]
roll_nom	95.840780807268	Nominal Roll [deg]
revision	4	Processing version of data
ontime	60137.5	Sum of GTIs [s]
liveltime	59166.227214054	Livetime [s]
ontime4	60137.5	Sum of GTIs [s]
ontime5	60137.5	Sum of GTIs [s]
ontime6	60137.5	Sum of GTIs [s]
ontime7	60137.5	Sum of GTIs [s]
ontime8	60137.5	Sum of GTIs [s]
ontime9	60137.5	Sum of GTIs [s]
l2events	1025584	Number of level 2 events



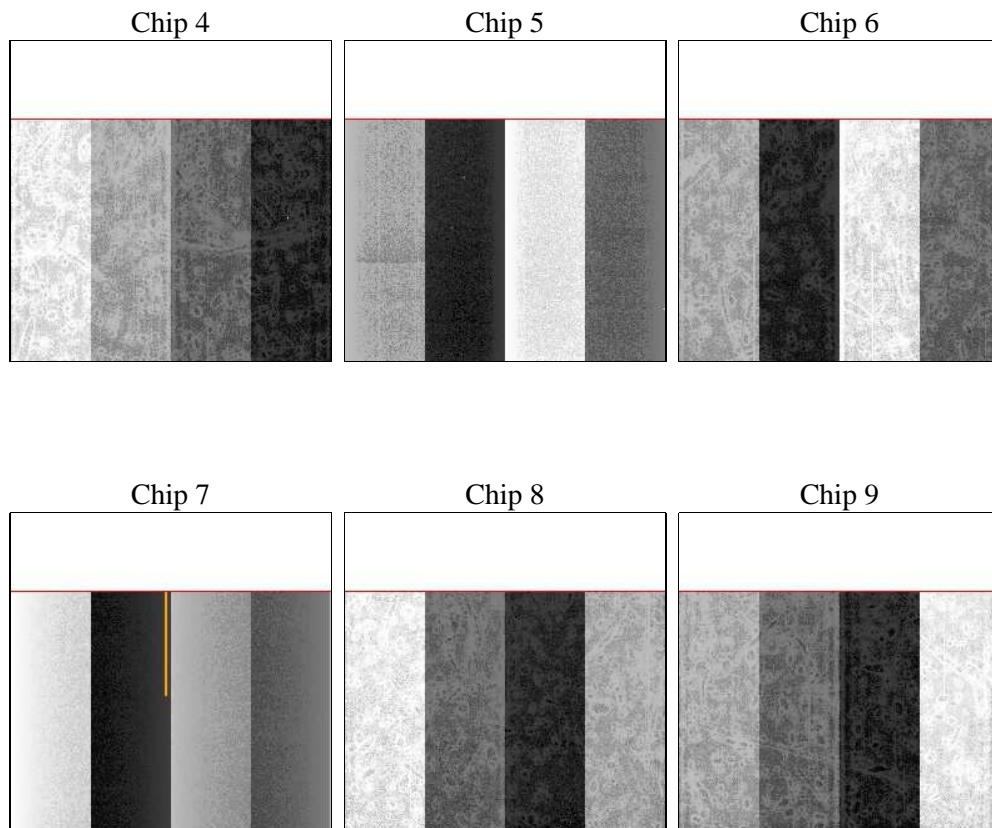
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	60000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	60137.5	Sum of GTIs [s]
caldbver	4.5.2	&#160	ontime4	60137.5	Sum of GTIs [s]
date	2012-11-30T18:24:02	Date and time of file creation	ontime5	60137.5	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	60137.5	Sum of GTIs [s]
			ontime7	60137.5	Sum of GTIs [s]
			ontime8	60137.5	Sum of GTIs [s]
			ontime9	60137.5	Sum of GTIs [s]
			l1events	2964655	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	391166	544464	513030	670961	496415	348619	grade 0 events	31905	51395	152006	60153	86733	28627
rejected events	333509	267641	298113	288020	335825	293447		8%	9%	29%	8%	17%	8%
rejected %	85%	49%	58%	42%	67%	84%	grade 1 events	331	657	793	1482	464	185
								0%	0%	0%	0%	0%	0%
							grade 2 events	10010	75648	28671	85654	26657	9310
								2%	13%	5%	12%	5%	2%
							grade 3 events	4727	14939	10640	38242	11734	4780
								1%	2%	2%	5%	2%	1%
							grade 4 events	4615	14551	10520	38731	11009	4674
								1%	2%	2%	5%	2%	1%
							grade 5 events	14241	39133	15761	48846	19763	15779
								3%	7%	3%	7%	3%	4%
							grade 6 events	6710	122386	13607	162171	25163	8034
								1%	22%	2%	24%	5%	2%
							grade 7 events	318627	225755	281032	235682	314892	277230
								81%	41%	54%	35%	63%	79%

## 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	FAINT	FAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	322.511376	322.4947646590011	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	12.146011	12.16787991087796	Subarray start row	1	1
[deg] Pointing Roll	95.680654	95.84078080726817	Subarray row count	774	774
[deg] Roll angle	280.000000	280.000000	Alternating exposures requested	N	N
[deg] Roll tolerance	10.000000	10.000000	[s] Primary exposure time	0.000000	2.5
Roll constraint allows 180D rotation	Y	Y			
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-187.132523	-187.1228876879999			
[mm] SIM translation stage offset	-3	-3.009634895007935			
[s] Observation start time (MET)	198588624.184000	198587436.89196			
Observation start date	2004-04-17T11:29:20	2004-04-17T11:10:36			
[s] Observation end time (MET)	198648624.184000	198649643.6322			
Observation end date	2004-04-18T04:09:20	2004-04-18T04:27:23			
Read mode	TIMED	TIMED			

## 2.3 Aspect

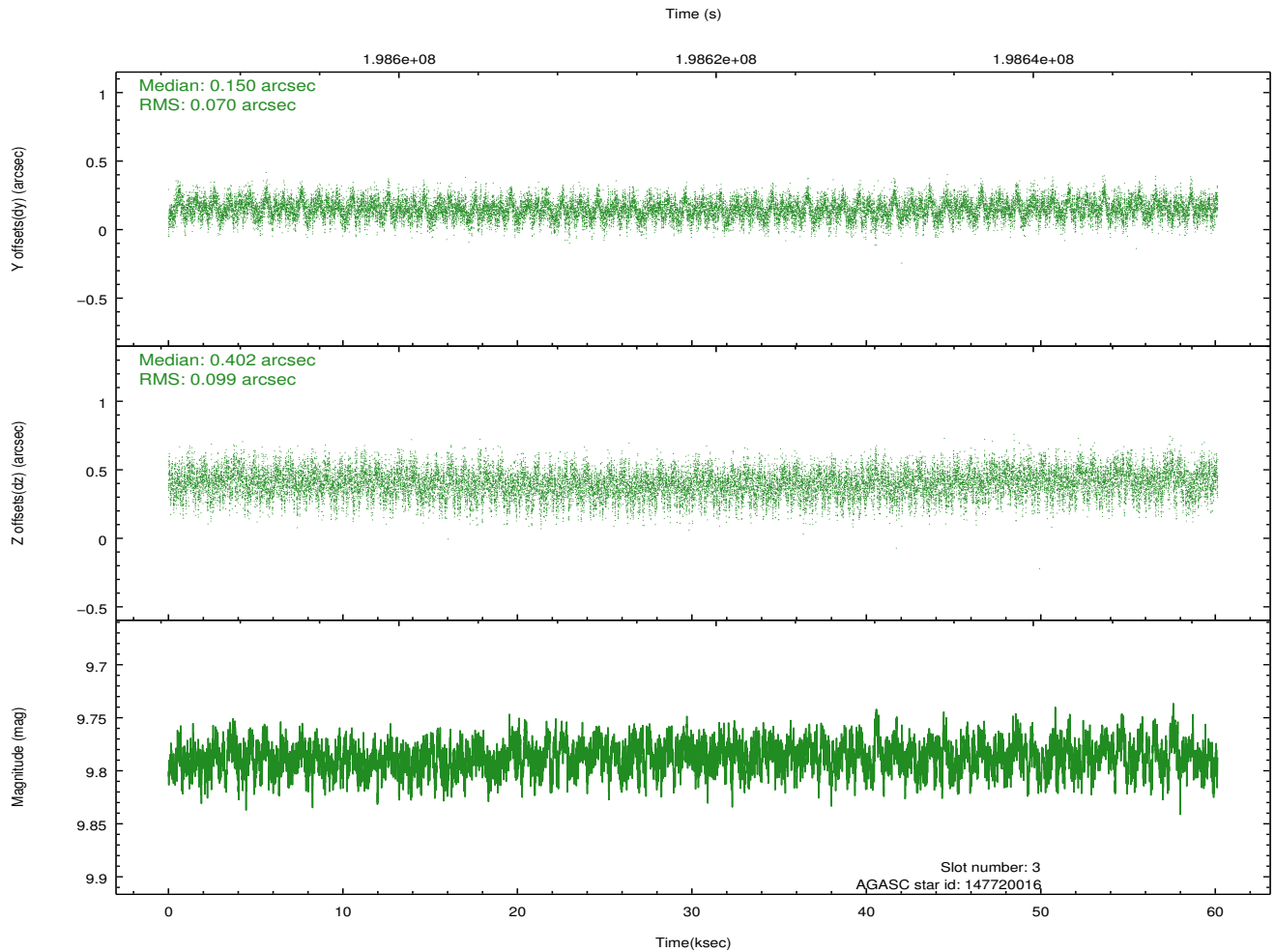
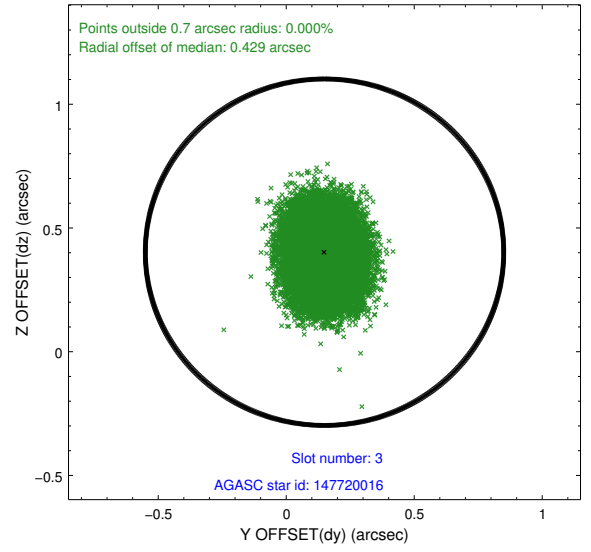
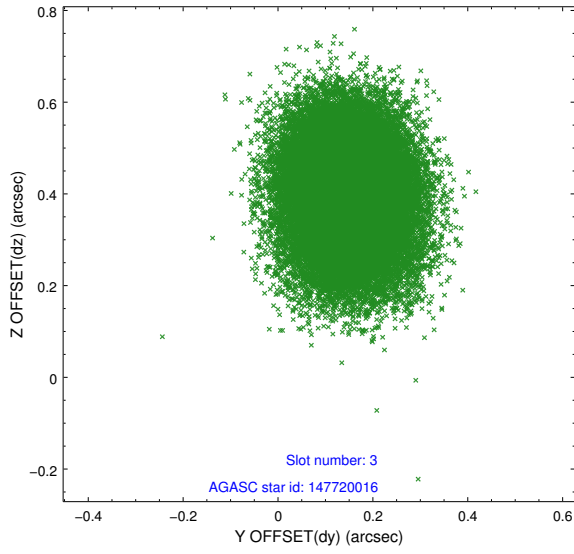


### Slot Statistics

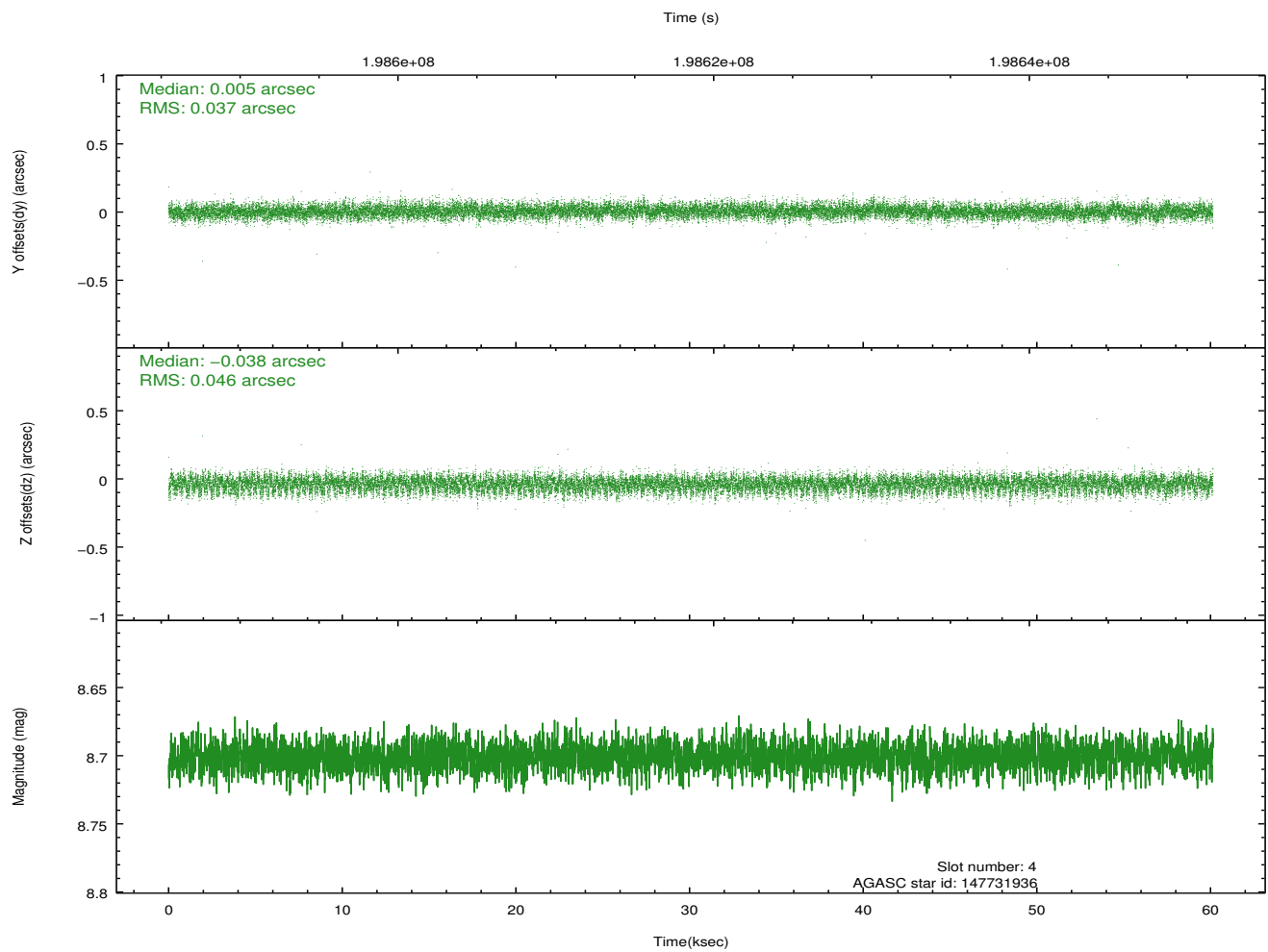
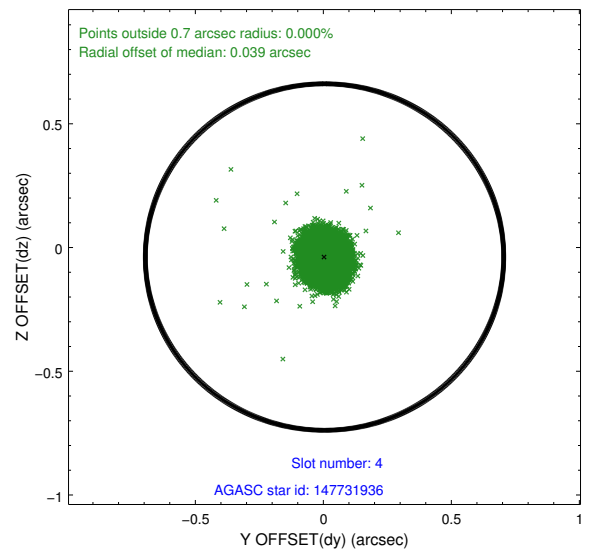
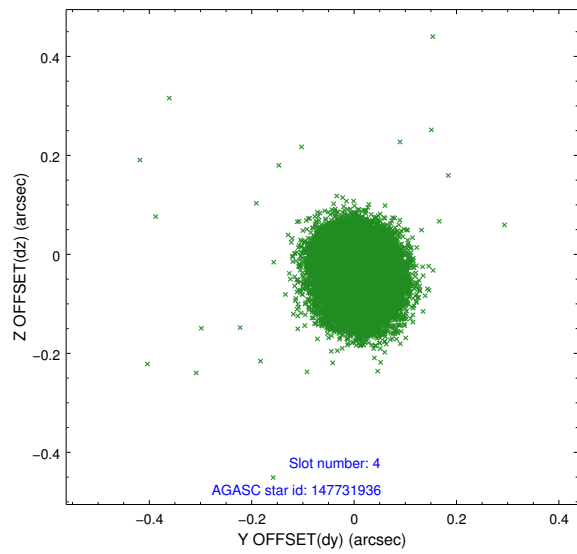
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.09	14668	-0.061	-0.084	0.016	0.025	0.000000	0.000000	-759.66	-1795.01
1	FID	ACIS-S-4	7.19	14667	0.090	0.051	0.020	0.028	0.000000	0.000000	2153.79	113.64
2	FID	ACIS-S-5	7.23	14668	-0.064	0.041	0.014	0.022	0.000000	0.000000	-1812.56	107.25
3	GUIDE	147720016	9.79	29305	0.150	0.402	0.128	0.210	323.177446	11.961153	-891.08	-2268.30
4	GUIDE	147731936	8.70	29329	0.005	-0.038	0.062	0.100	322.421133	12.450297	1121.59	207.34
5	GUIDE	147733624	9.07	29321	-0.120	-0.071	0.084	0.135	321.878010	12.639099	1989.07	2038.34
6	GUIDE	147735992	6.97	29337	-0.003	-0.021	0.050	0.080	322.299566	11.952911	-617.78	810.96
7	GUIDE	147735328	8.66	29329	-0.029	-0.272	0.103	0.156	321.823462	12.214663	488.41	2383.68

## 2.4 Star Slots

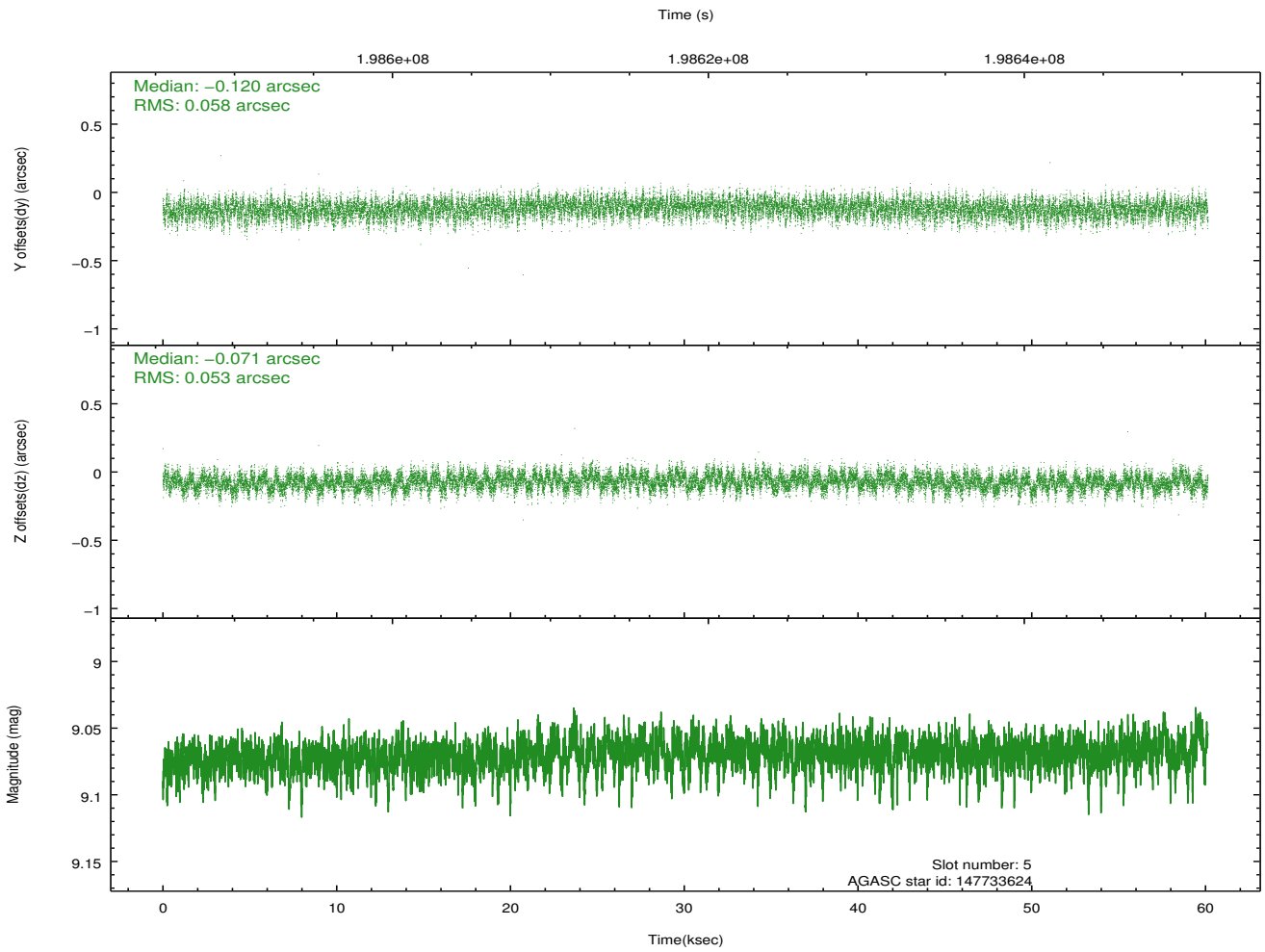
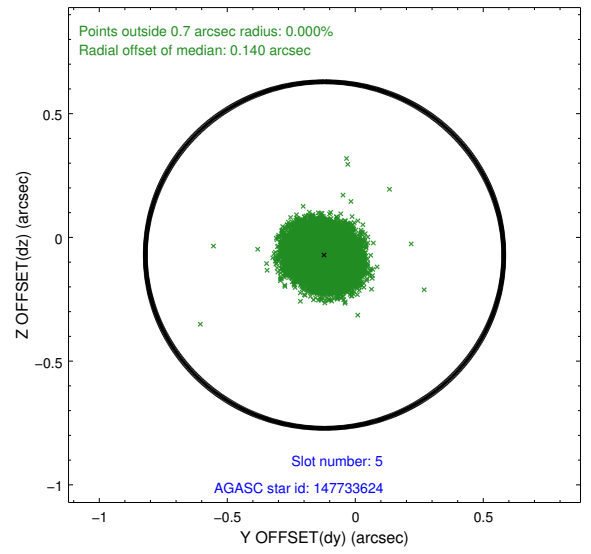
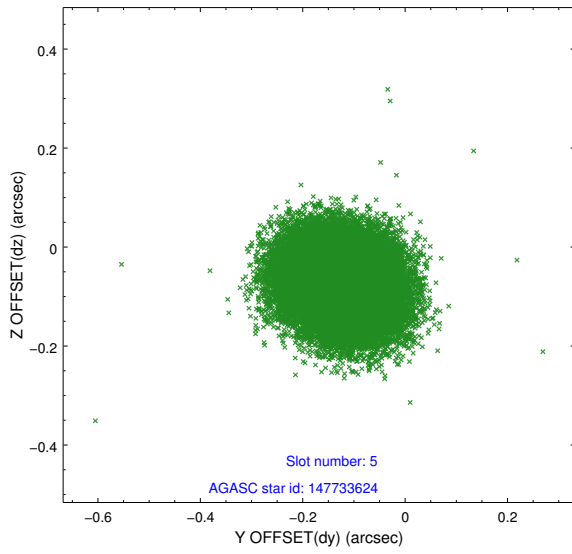
### 2.4.1 Slot 3



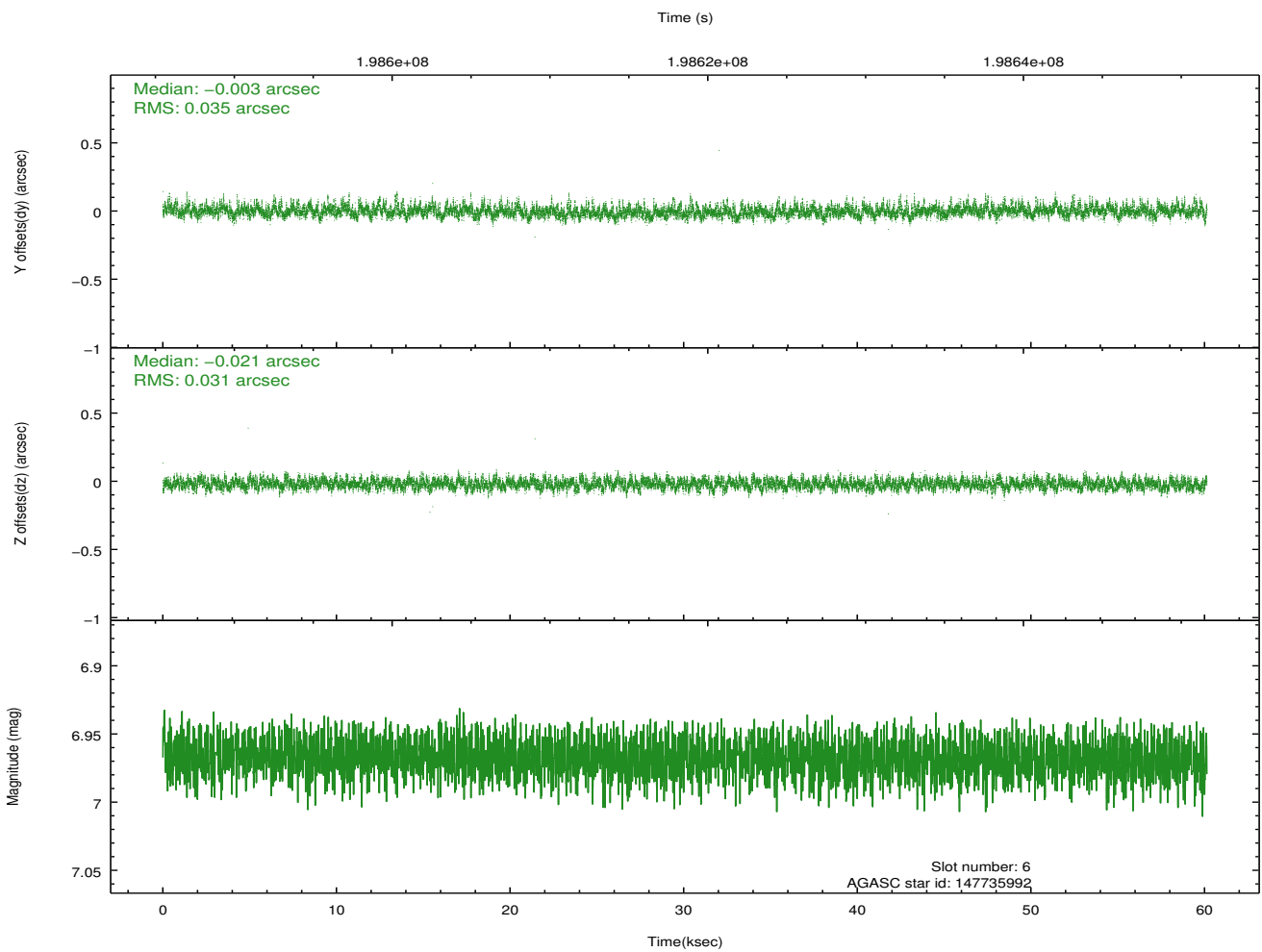
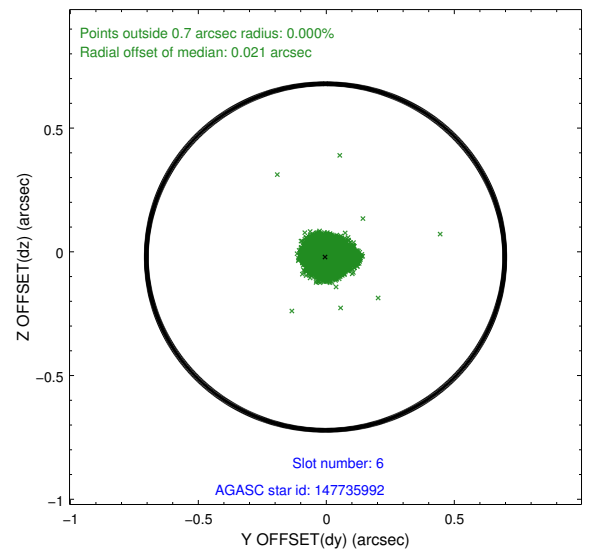
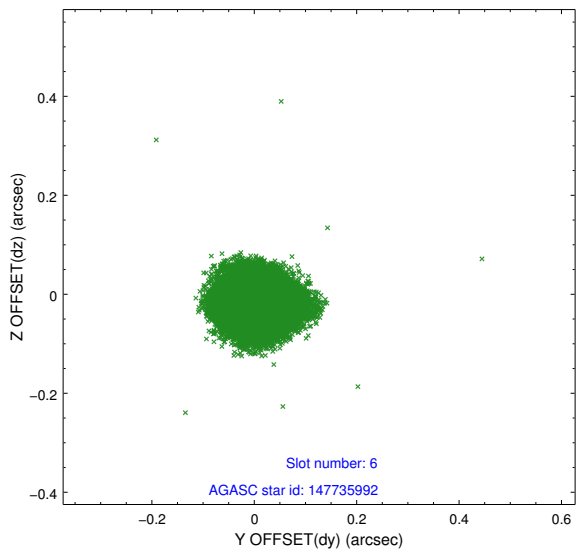
## 2.4.2 Slot 4



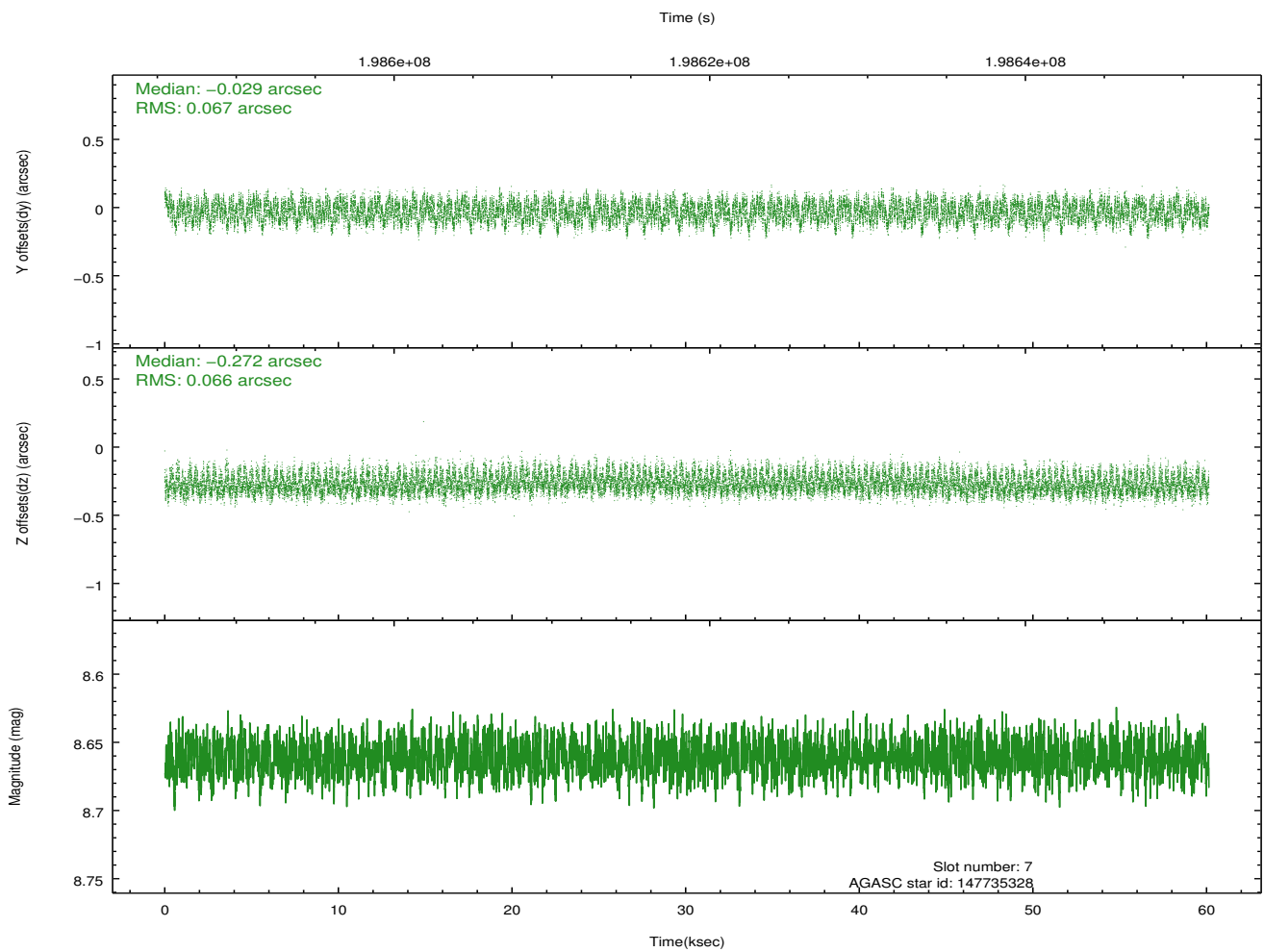
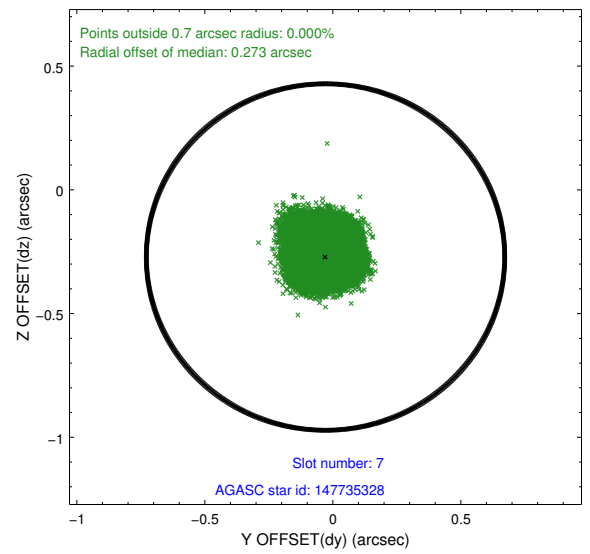
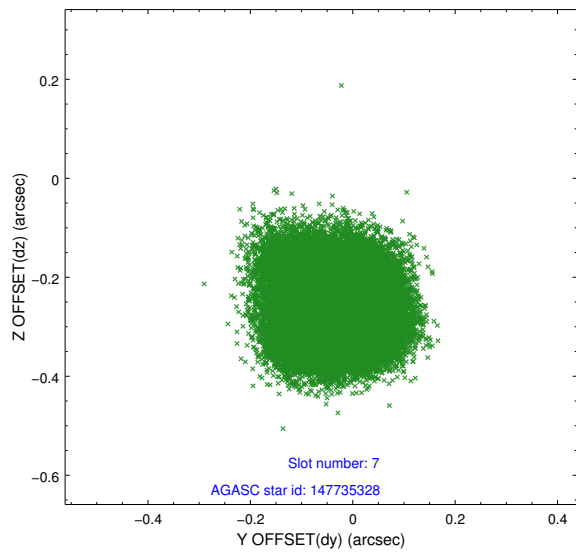
### 2.4.3 Slot 5



## 2.4.4 Slot 6

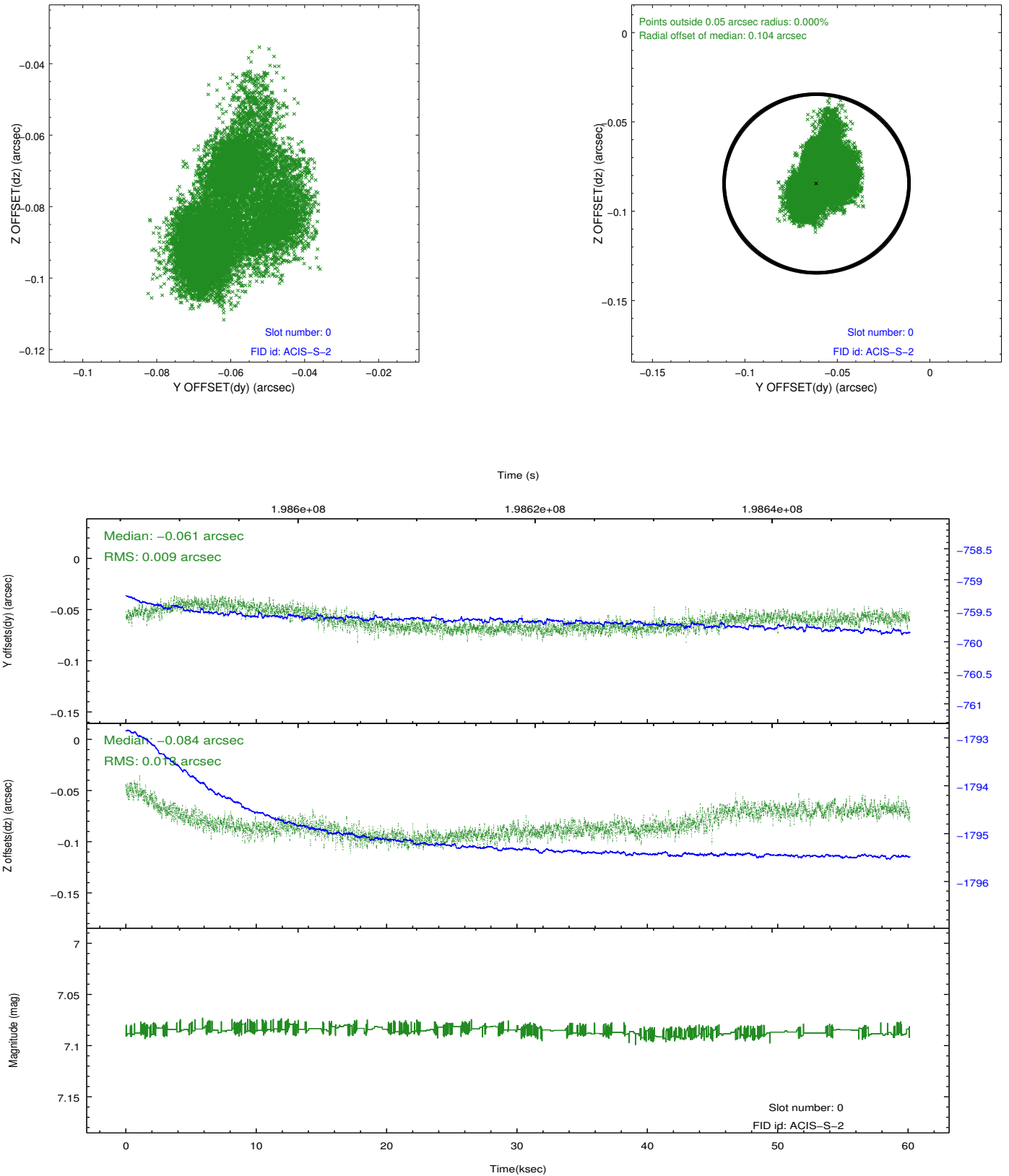


## 2.4.5 Slot 7

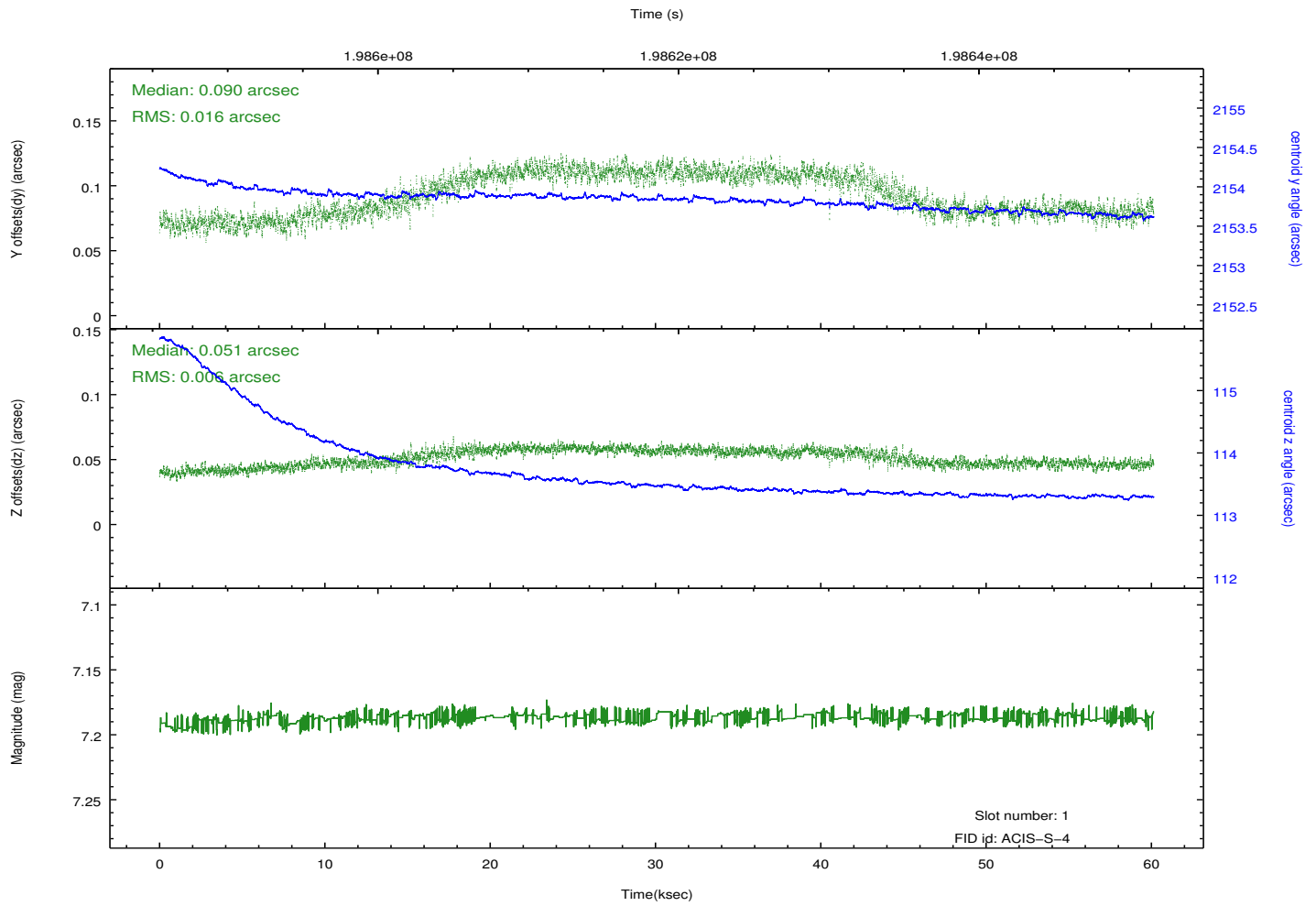
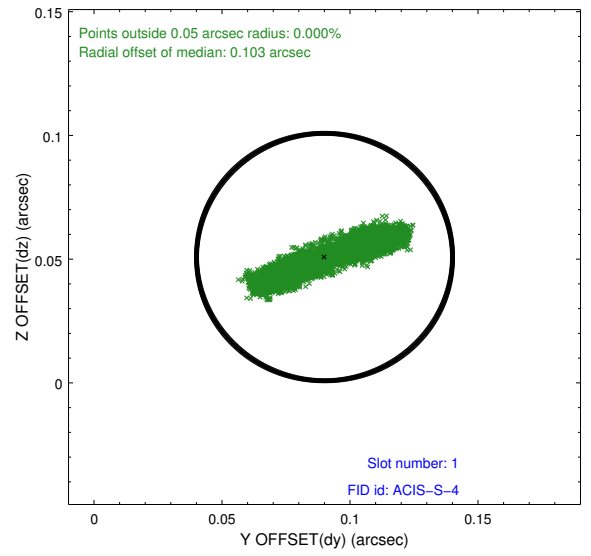
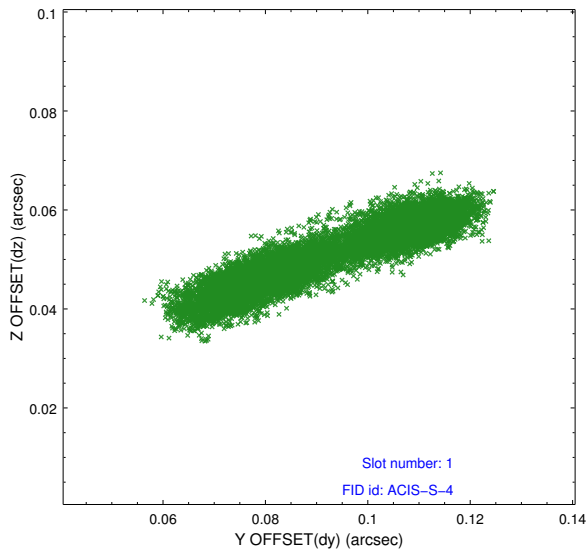


## 2.5 FID Slots

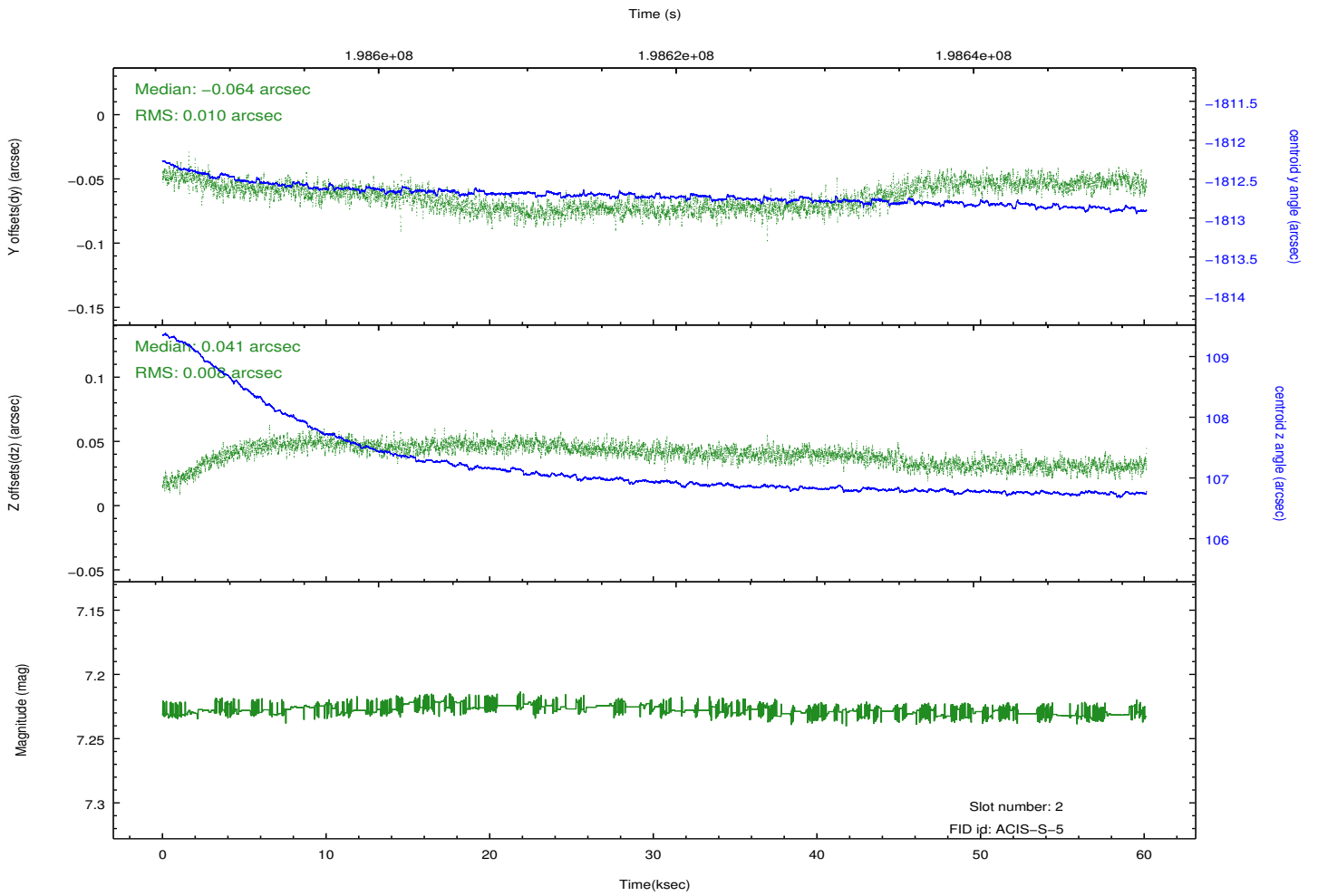
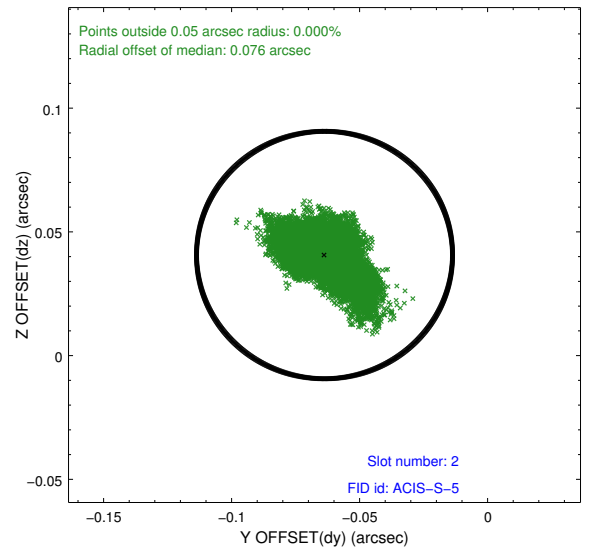
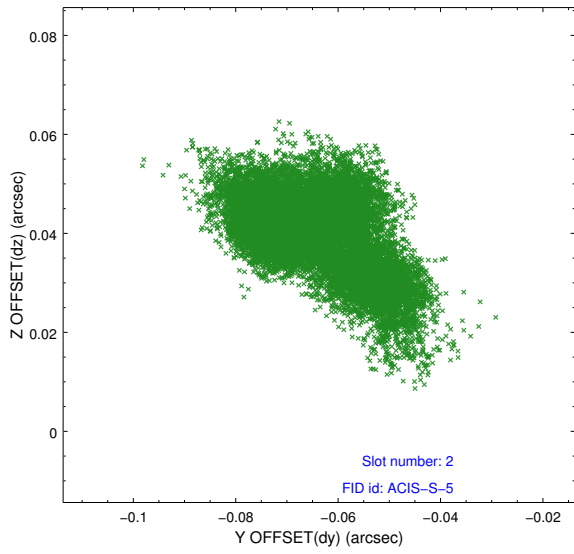
### 2.5.1 Slot 0



## 2.5.2 Slot 1

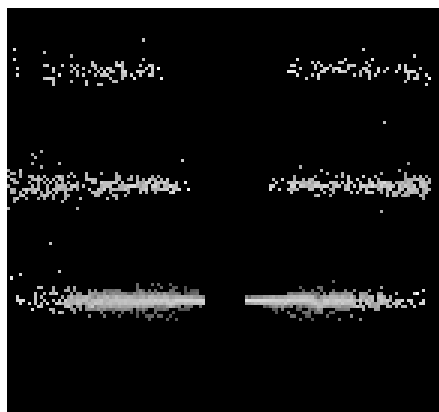


### 2.5.3 Slot 2

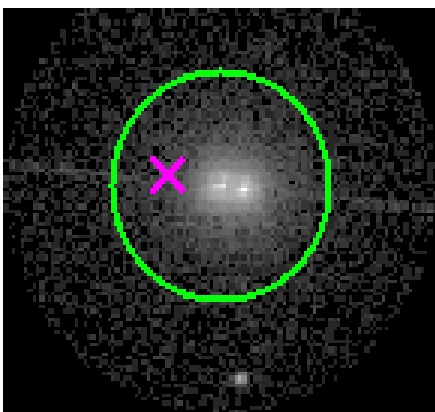


### 3 Gratings

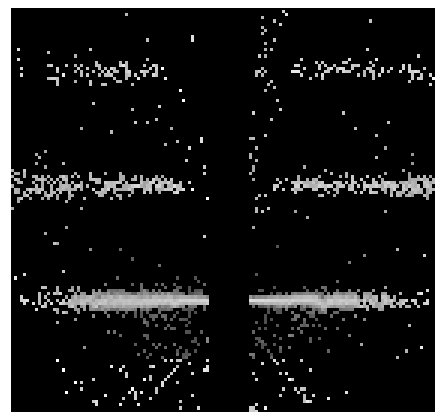
#### 3.1 HEG Arm



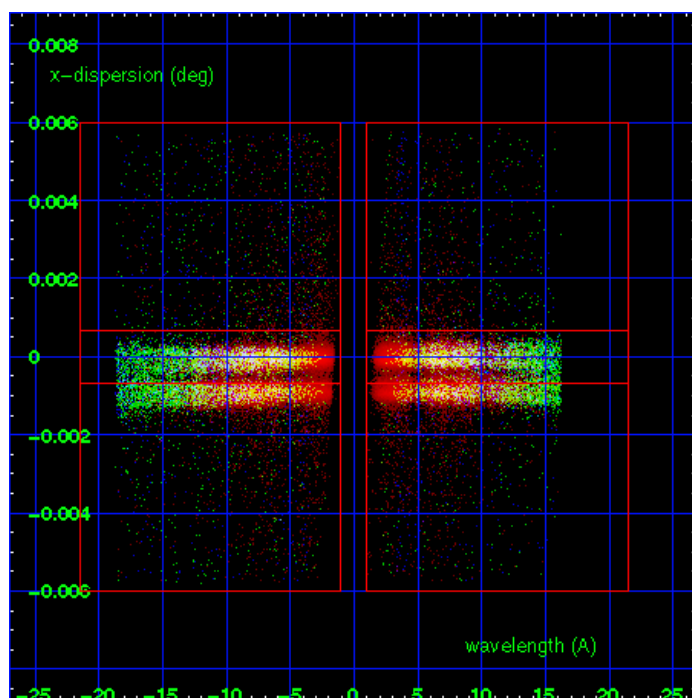
HEG Order Sort 123



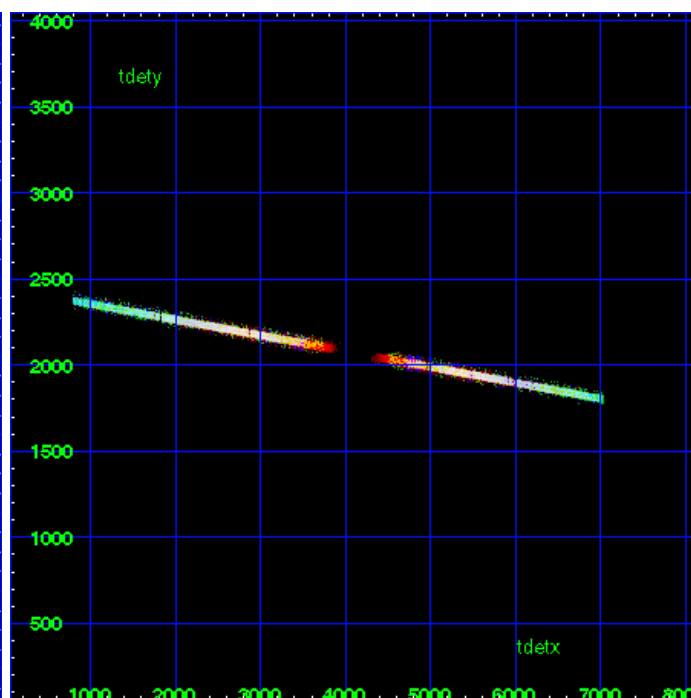
HEG Zero Order



HEG Order Sort ALL

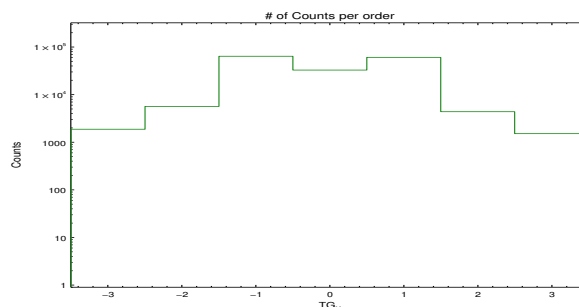


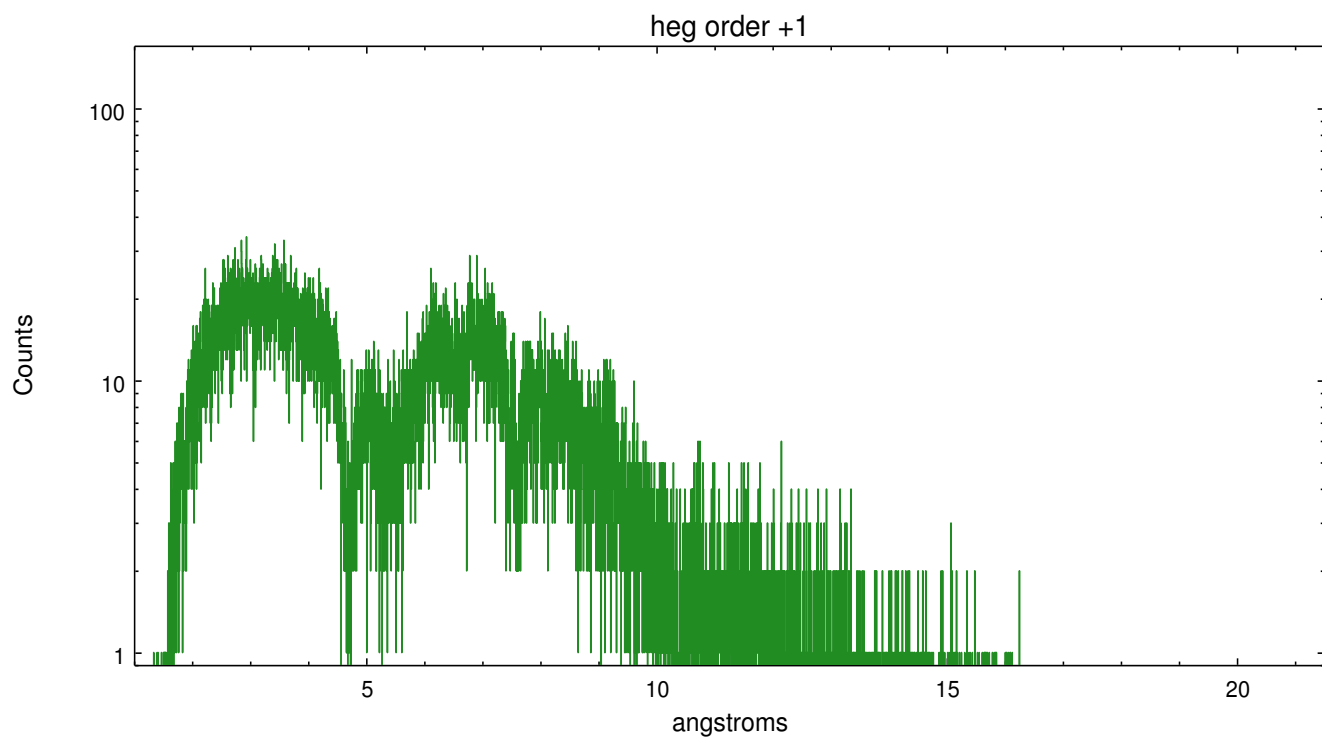
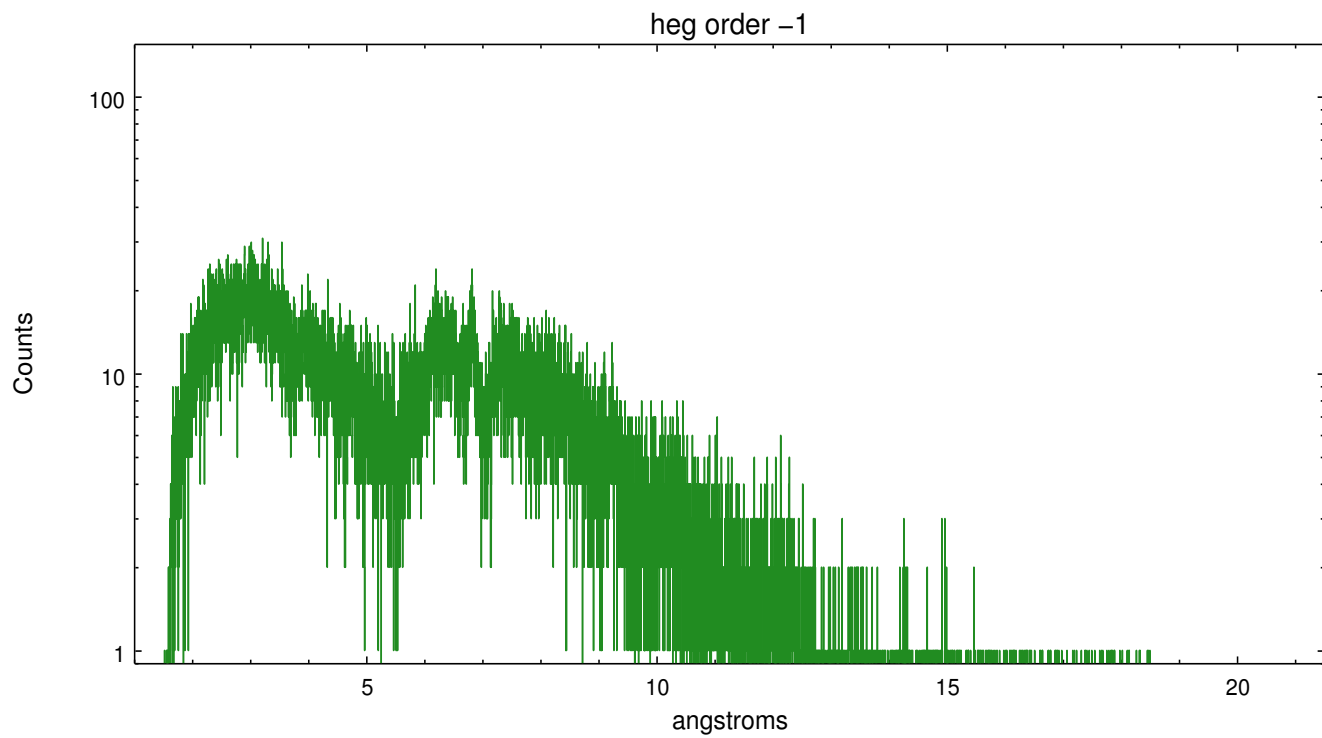
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1880	5689	64510	33038	61158	4402	1520

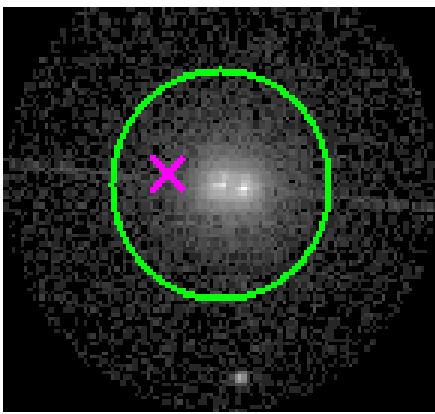




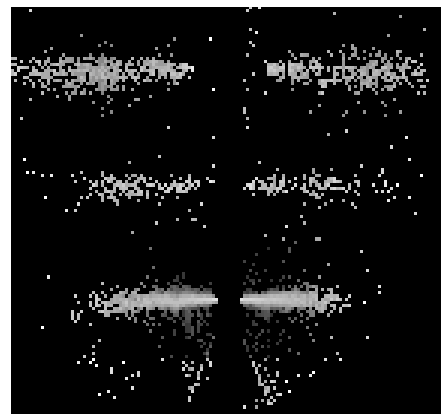
### 3.2 MEG Arm



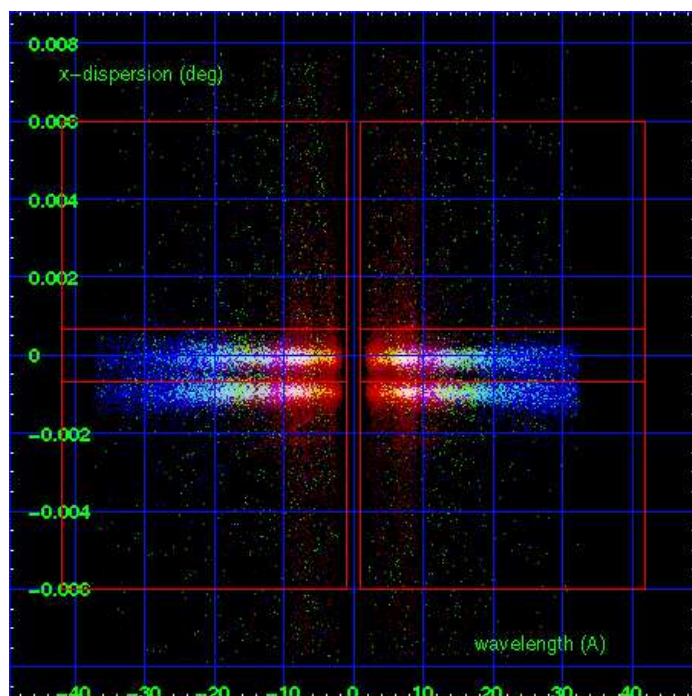
MEG Order Sort 123



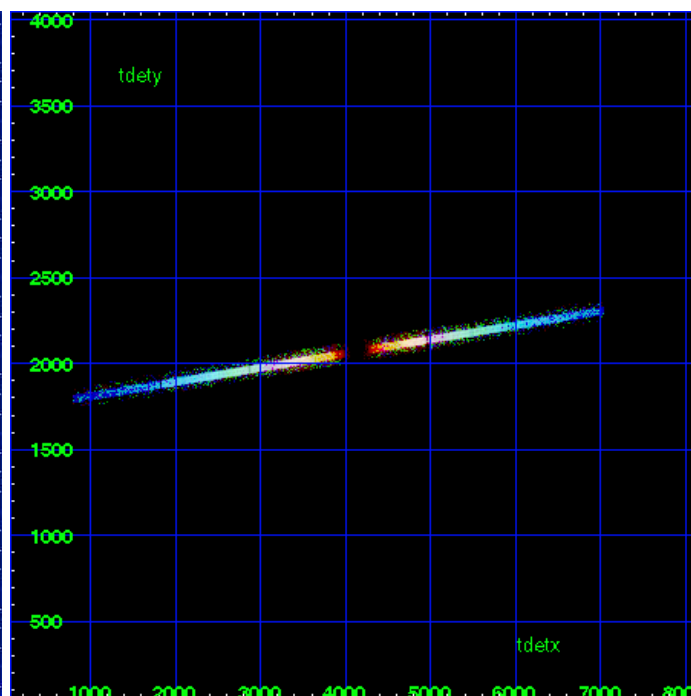
MEG Zero Order



MEG Order Sort ALL

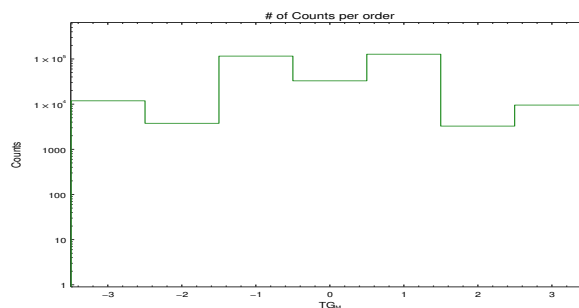


Spot Image MEG

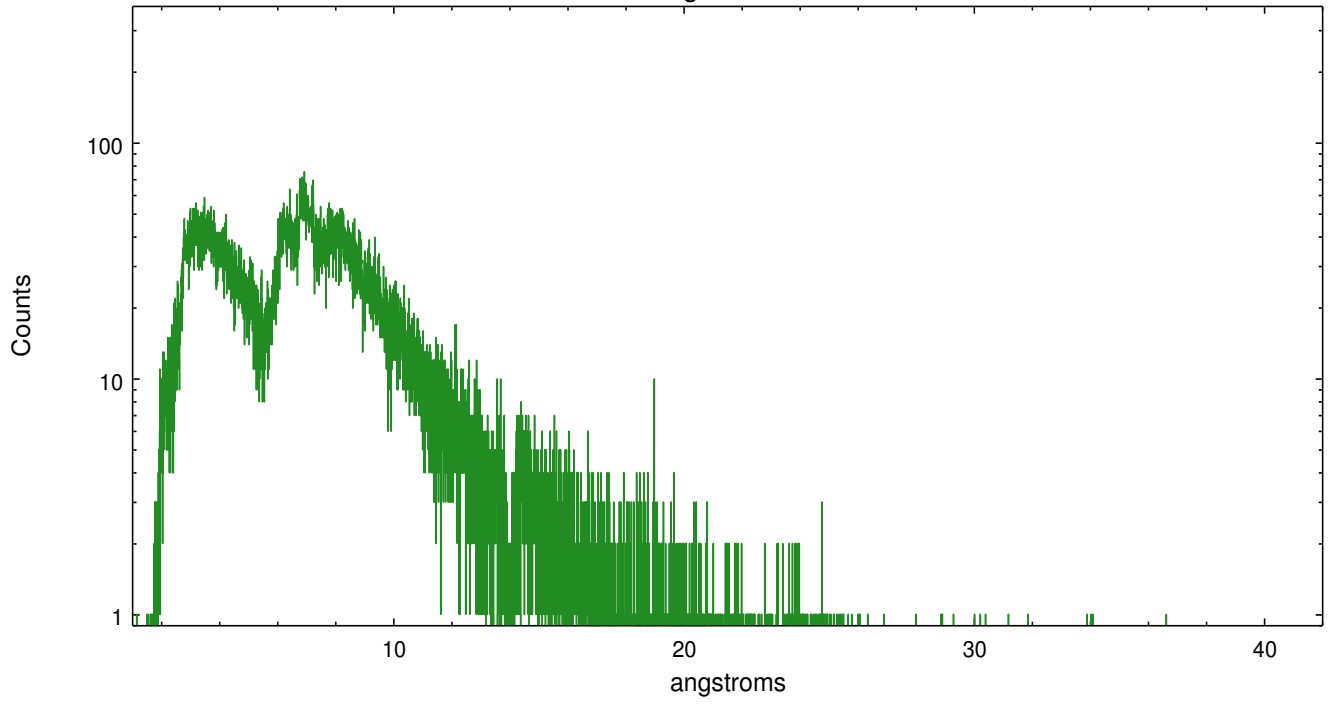


Full Detector MEG

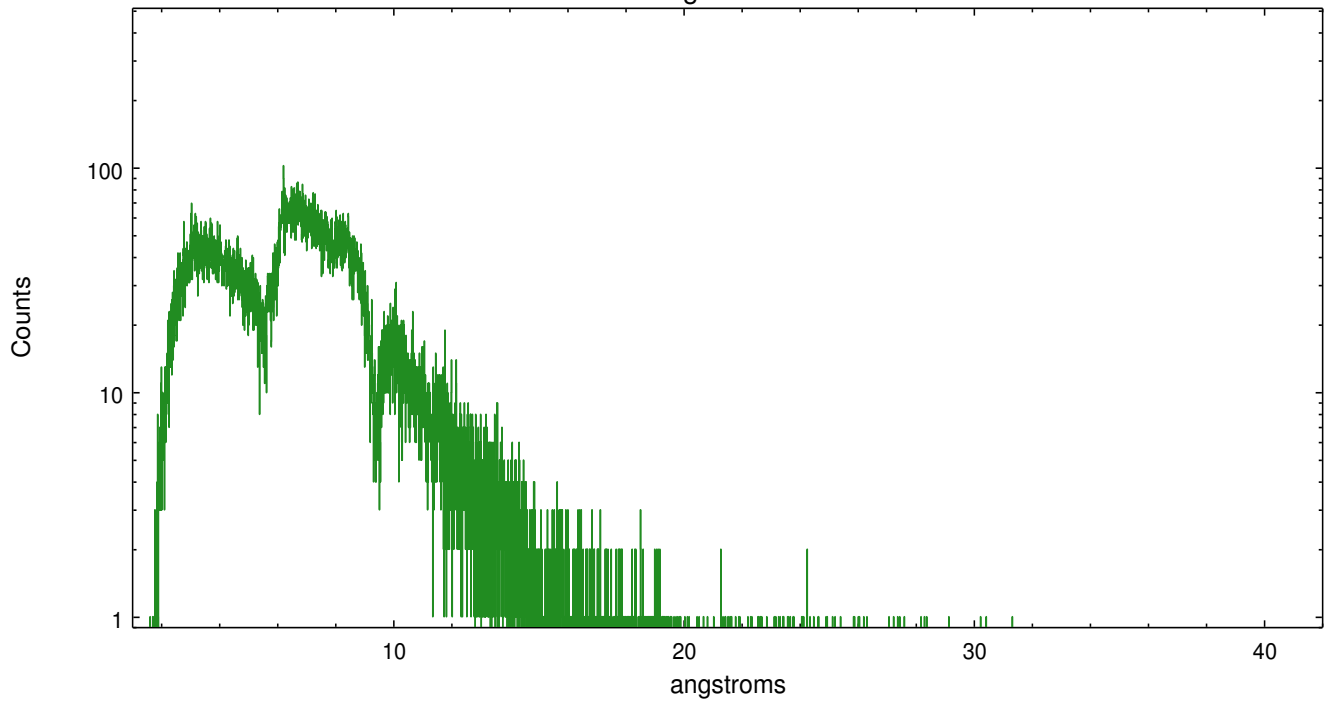
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	11913	3777	116774	33038	128681	3274	9582



meg order -1



meg order +1



# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2013.03.06
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	60.137

## A.2 Comments

Double source with separation about 2.5 arcsec in RA. Requested source is 4U 2129+12=AC211, so spectral extraction was manually centered on that object, at sky coordinates  $x=4109.32$ ,  $y=4093.52$ . Coordinates from user are wrong for the requested target. Dispersed spectra of both sources can be extracted and analyzed, using care to separate the spectra and use uncontaminated background regions.