

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 3708 - L2 Version 3  
Chandra X-Ray Center

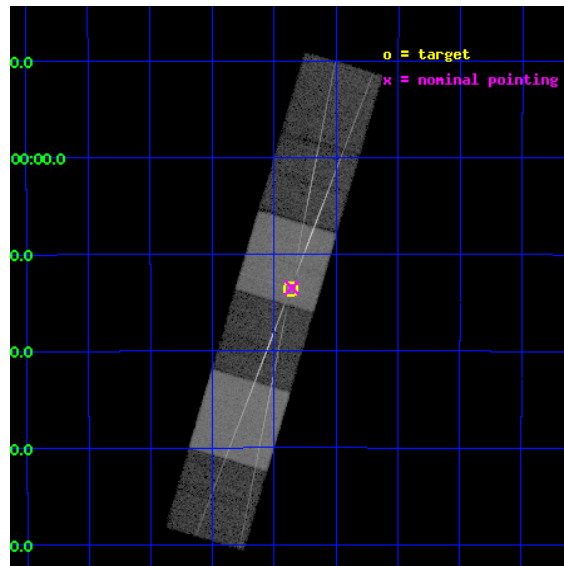
L2 Processing Date : Oct 18 2012

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# 1 Front

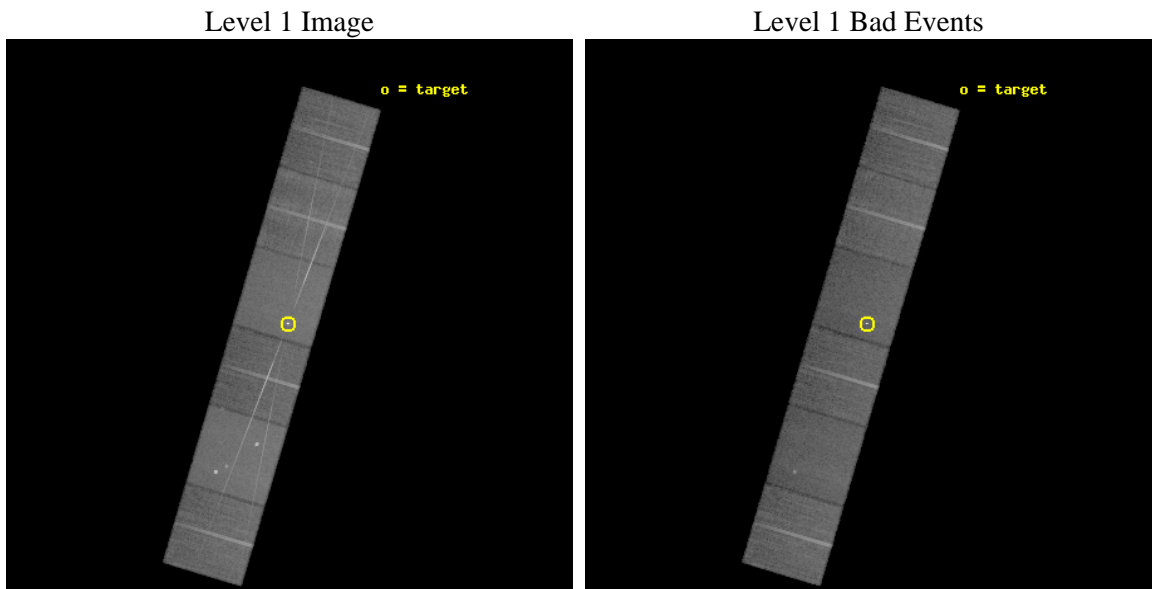
seq_num	790084	Sequence number
obs_id	3708	Observation id
title	AO4 CALIBRATION OBSERVATIONS OF PKS2155-304	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	PKS2155-304	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	329.716667	Observer's specified target RA [deg]
dec_targ	-30.225556	Observer's specified target Dec [deg]
ra_nom	329.71434517062	Nominal RA [deg]
dec_nom	-30.224636642961	Nominal Dec [deg]
roll_nom	286.49764577068	Nominal Roll [deg]
revision	3	Processing version of data
ontime	26959.999899566	Sum of GTIs [s]
livetime	26618.616147475	Livetime [s]
ontime4	26956.758909374	Sum of GTIs [s]
ontime5	26956.758959204	Sum of GTIs [s]
ontime6	26956.757099688	Sum of GTIs [s]
ontime7	26959.999899566	Sum of GTIs [s]
ontime8	26956.716159344	Sum of GTIs [s]
ontime9	26959.915980011	Sum of GTIs [s]
l2events	328045	Number of level 2 events



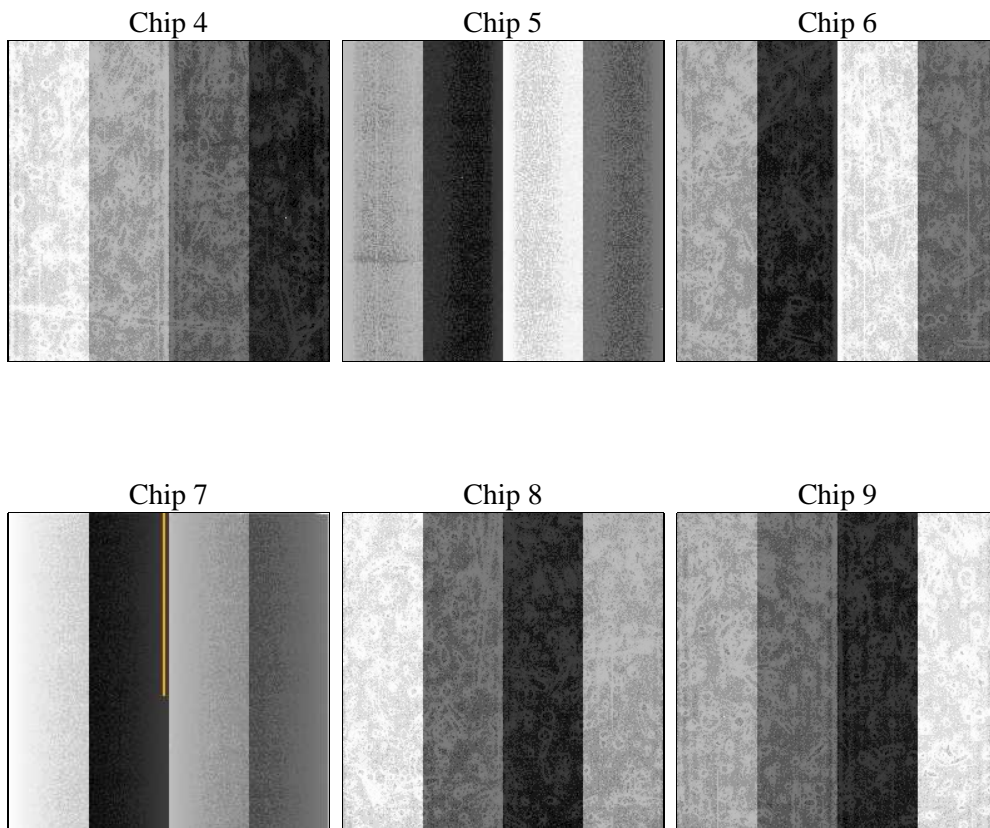
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	27000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	26959.999899566	Sum of GTIs [s]
caldbver	4.5.2	&#160	ontime4	26956.758909374	Sum of GTIs [s]
date	2012-10-18T11:41:25	Date and time of file creation	ontime5	26956.758959204	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	26956.757099688	Sum of GTIs [s]
			ontime7	26959.999899566	Sum of GTIs [s]
			ontime8	26956.716159344	Sum of GTIs [s]
			ontime9	26959.915980011	Sum of GTIs [s]
			l1events	1296524	Number of level 1 events

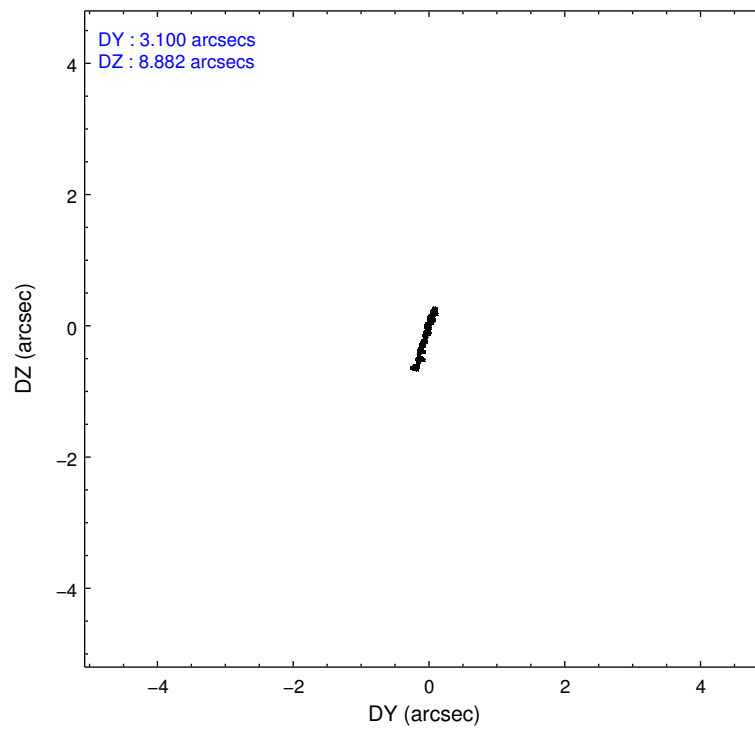
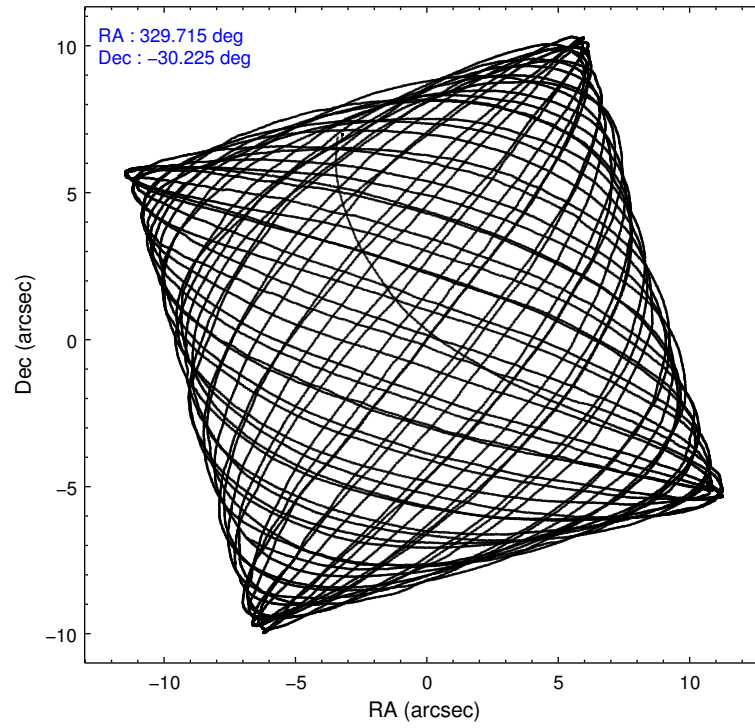
### 2.1.4 Events

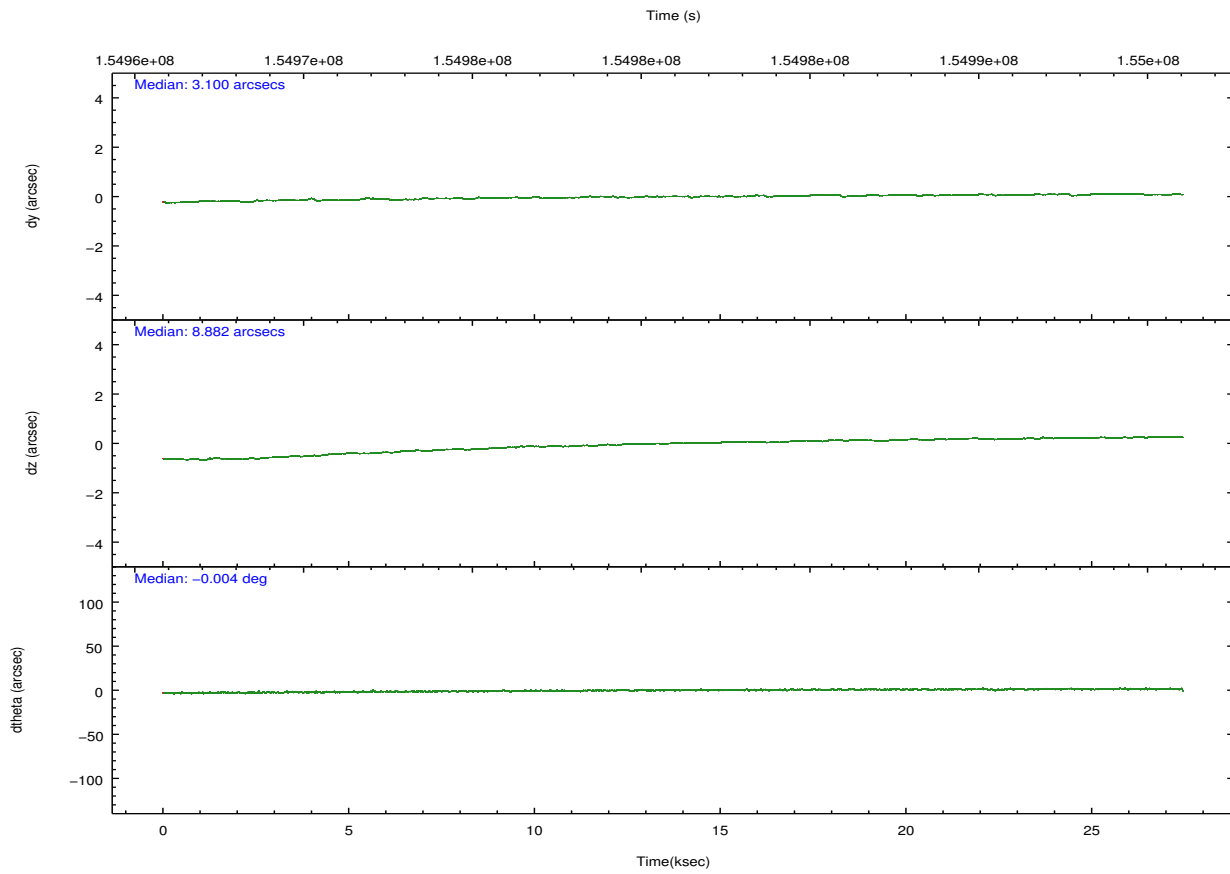
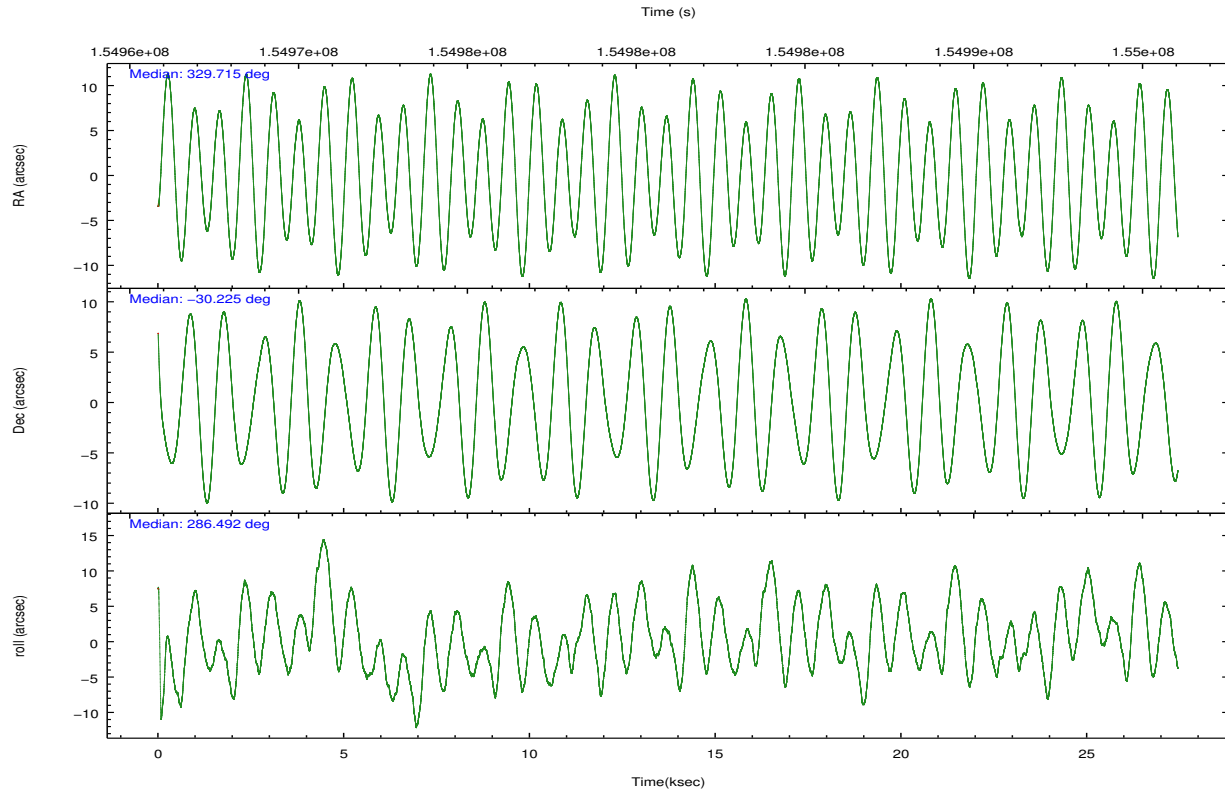
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	191106	262192	186779	249492	231406	175549	grade 0 events	10761	19921	23545	13307	25651	11076
rejected events	168391	134523	147964	138077	172618	152121		5%	7%	12%	5%	11%	6%
rejected %	88%	51%	79%	55%	74%	86%	grade 1 events	190	918	163	432	171	115
								0%	0%	0%	0%	0%	0%
							grade 2 events	4458	37150	5938	22777	10971	4153
								2%	14%	3%	9%	4%	2%
							grade 3 events	2183	5384	2534	10225	5208	2176
								1%	2%	1%	4%	2%	1%
							grade 4 events	2074	5380	2507	10191	4747	2039
								1%	2%	1%	4%	2%	1%
							grade 5 events	7207	17994	7633	22655	9889	7918
								3%	6%	4%	9%	4%	4%
							grade 6 events	3245	59862	4301	54944	12229	3989
								1%	22%	2%	22%	5%	2%
							grade 7 events	160988	115583	140158	114961	162540	144083
								84%	44%	75%	46%	70%	82%

## 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	329.691186	329.7143451706197	Subarray requested	NONE	NONE
[deg] Pointing Dec	-30.206133	-30.22463664296064	Alternating exposures requested	N	N
[deg] Pointing Roll	286.329353	286.4976457706837	[s] Primary exposure time	0.000000	3.2
[s] Window start time (MET)	152496064.184000	152496064.184000			
[s] Window stop time (MET)	155001664.184000	155001664.184000			
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-194.132523	-194.1227414875429			
[mm] SIM translation stage offset	4	3.990218904535112			
[s] Observation start time (MET)	154967674.184000	154966580.75043			
Observation start date	2002-11-29T14:33:30	2002-11-29T14:16:20			
[s] Observation end time (MET)	154994674.184000	154994807.7141			
Observation end date	2002-11-29T22:03:30	2002-11-29T22:06:47			
Read mode	TIMED	TIMED			

## 2.3 Aspect



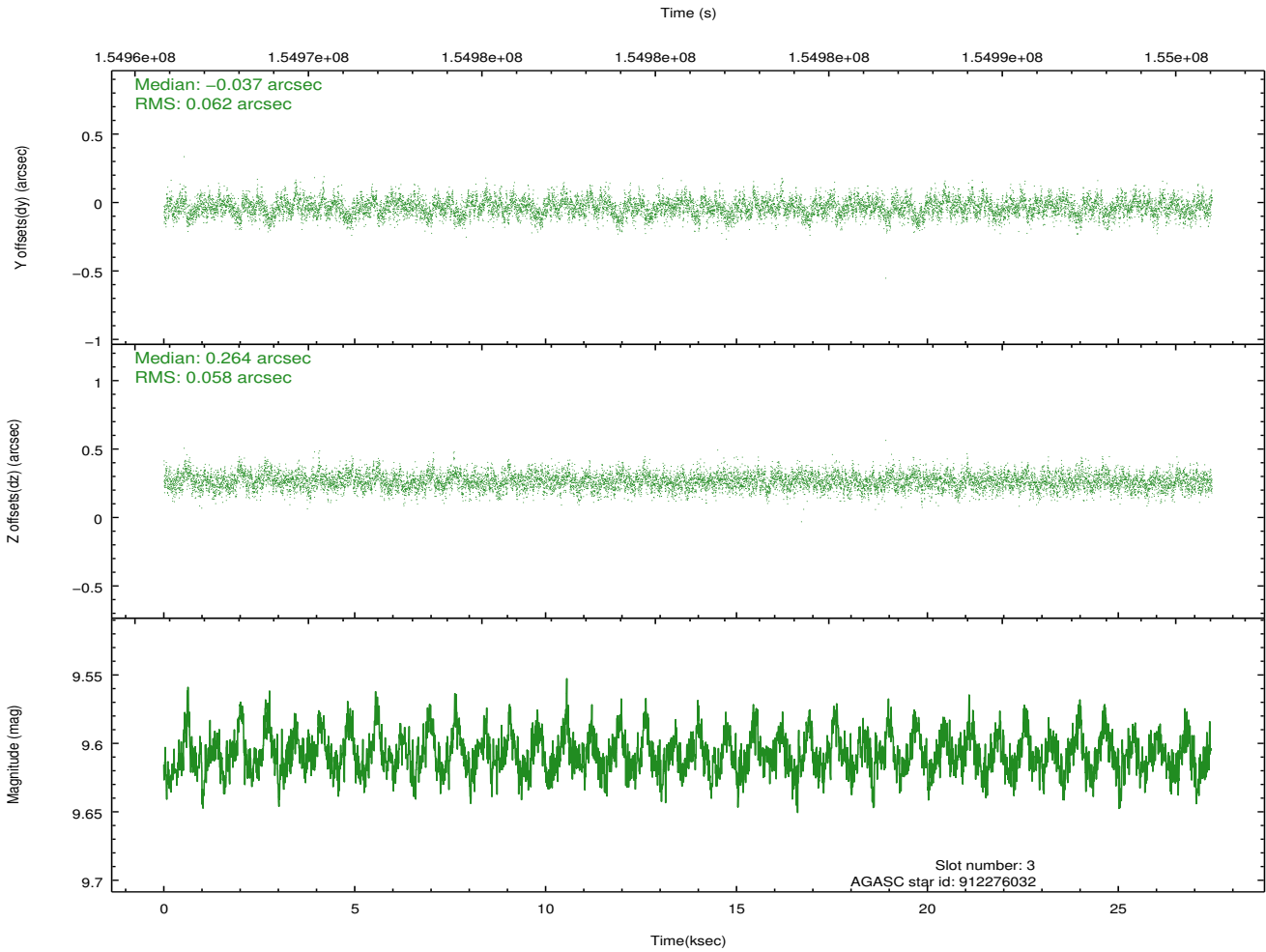
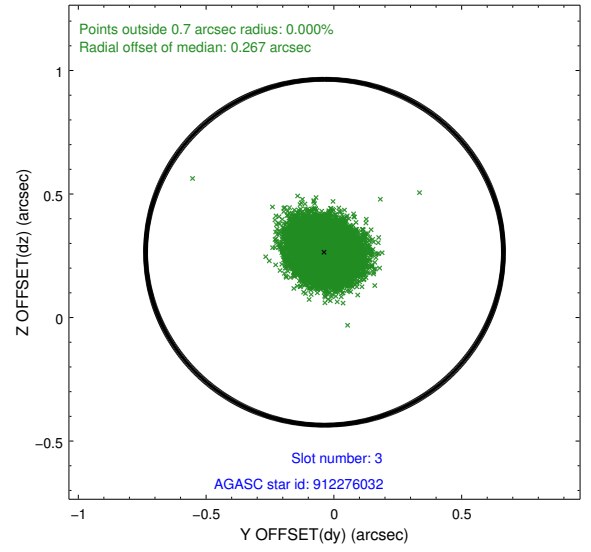
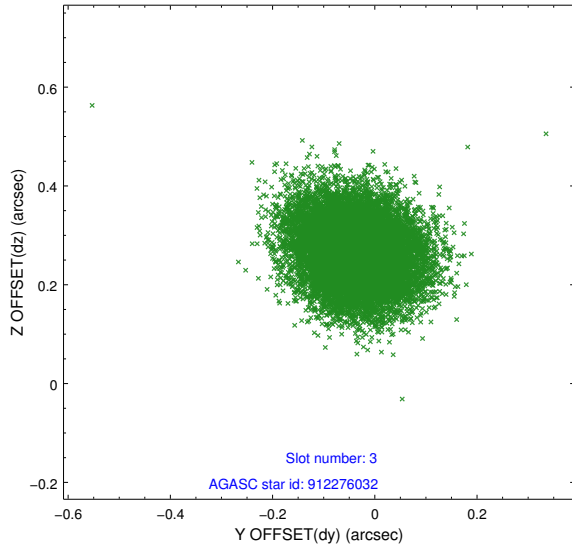


### Slot Statistics

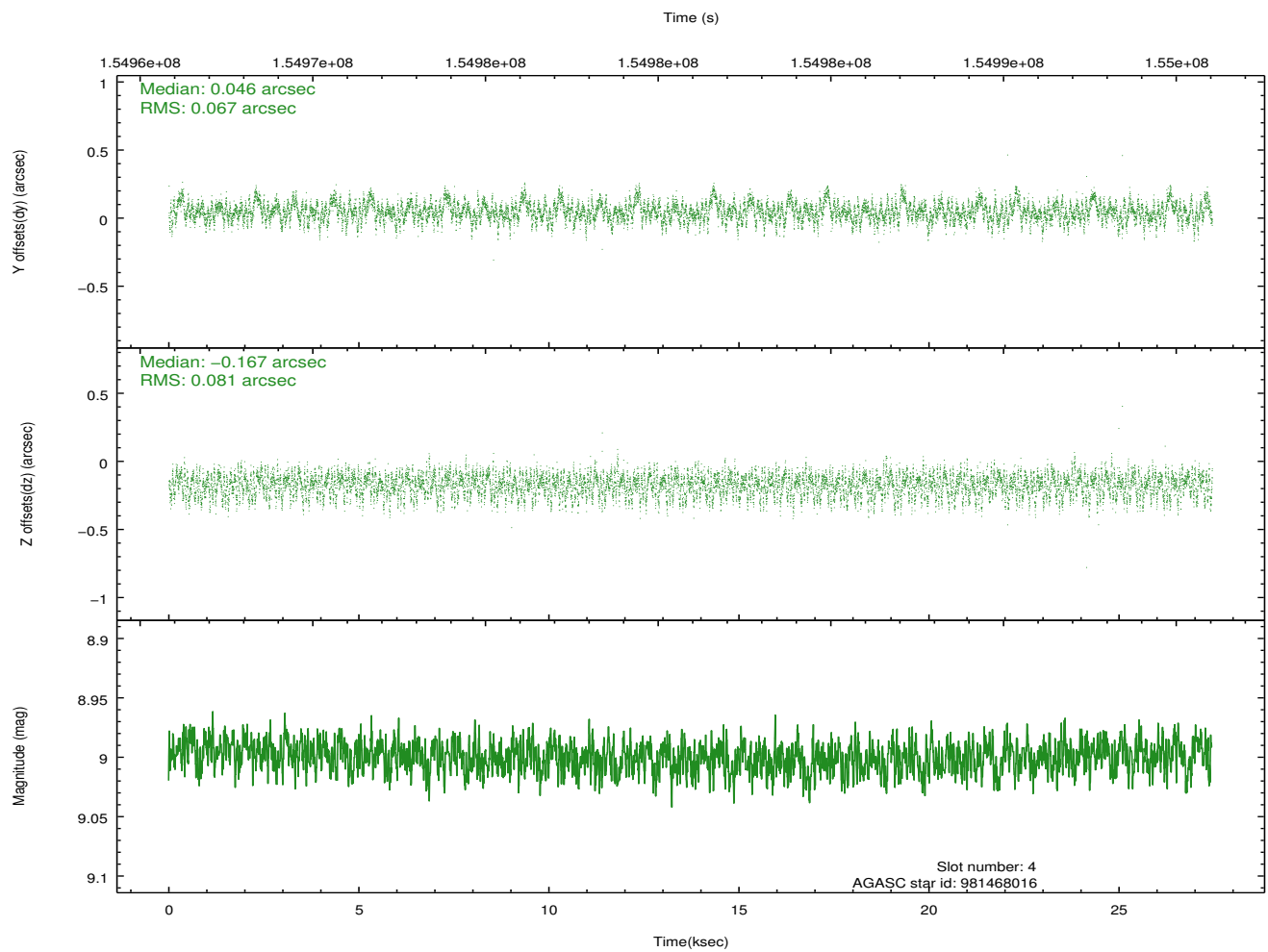
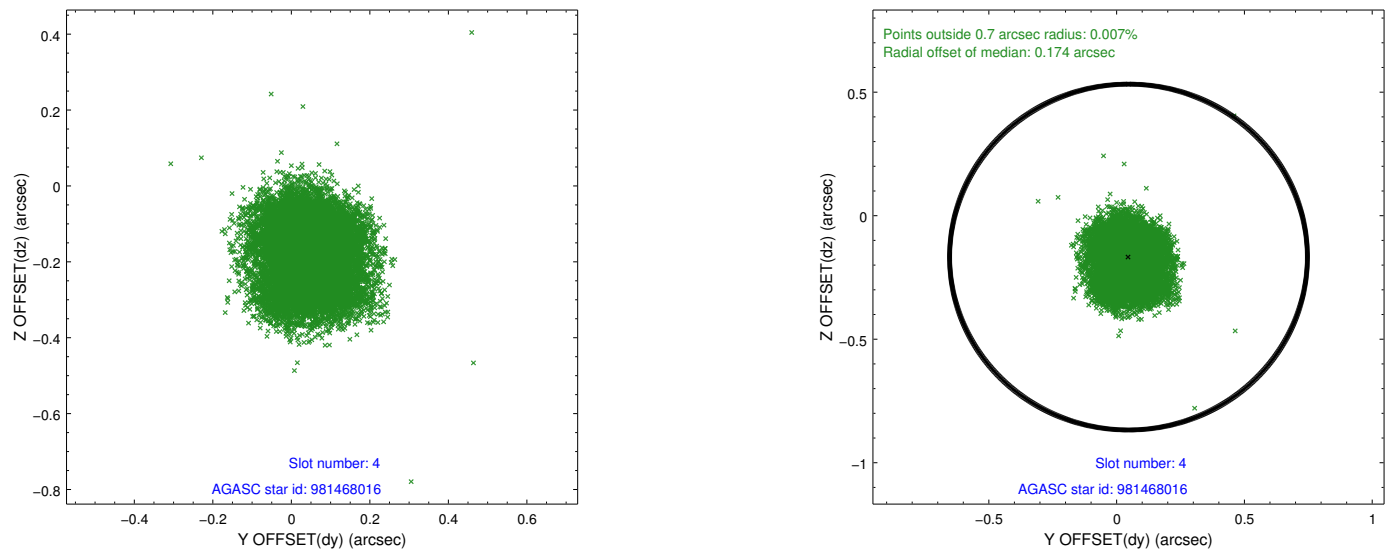
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	7.21	6694	0.032	-0.088	0.013	0.028	0.000000	0.000000	940.05	-1643.64
1	FID	ACIS-S-5	7.25	6693	-0.010	0.026	0.010	0.018	0.000000	0.000000	-1808.89	254.01
2	FID	ACIS-S-6	7.33	6694	-0.043	0.073	0.008	0.013	0.000000	0.000000	405.49	898.07
3	GUIDE	912276032	9.61	13369	-0.037	0.264	0.090	0.147	329.395967	-29.803466	-1649.83	-478.17
4	GUIDE	981468016	9.00	13372	0.046	-0.167	0.113	0.180	328.842457	-30.034984	-1325.98	-2368.79
5	GUIDE	981468128	9.36	13379	0.073	-0.062	0.102	0.181	329.756350	-30.158334	-108.59	242.34
6	GUIDE	981478152	9.42	13113	-0.015	0.073	0.078	0.130	329.415589	-30.057192	-755.53	-674.19
7	GUIDE	912275088	9.05	13387	-0.073	-0.098	0.073	0.118	329.619228	-29.738698	-1678.77	256.46

## 2.4 Star Slots

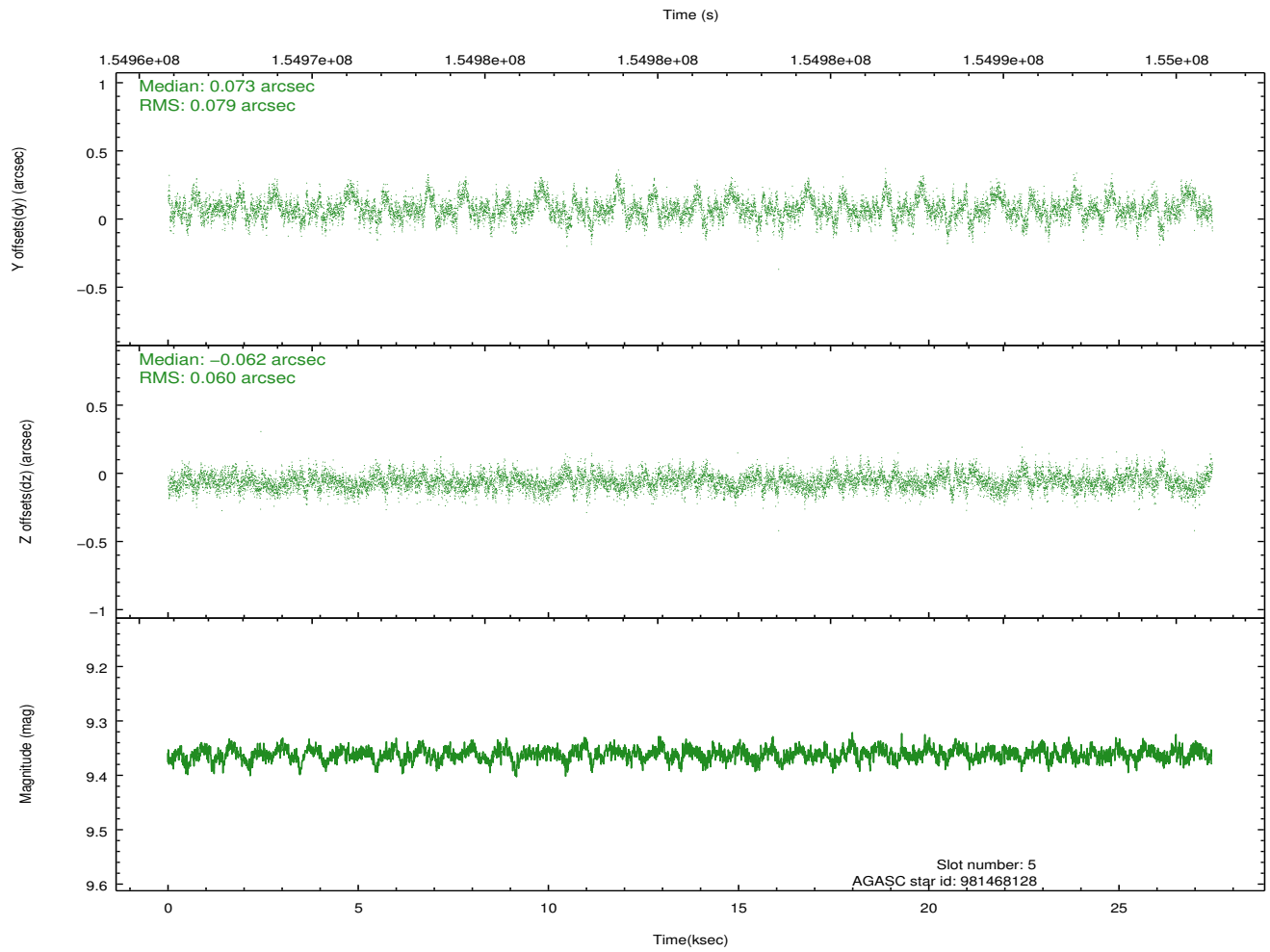
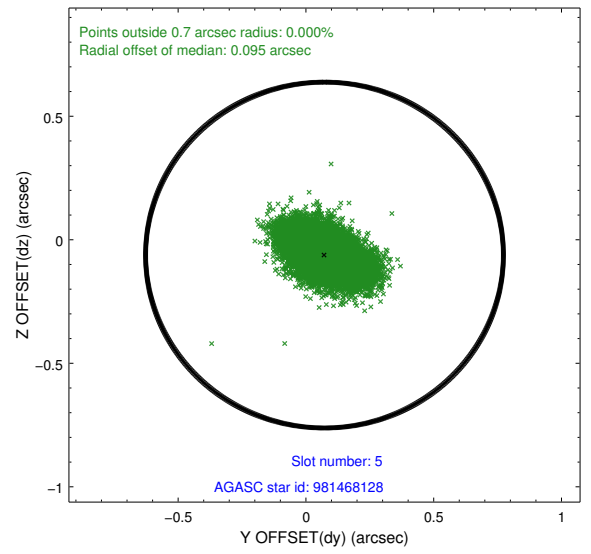
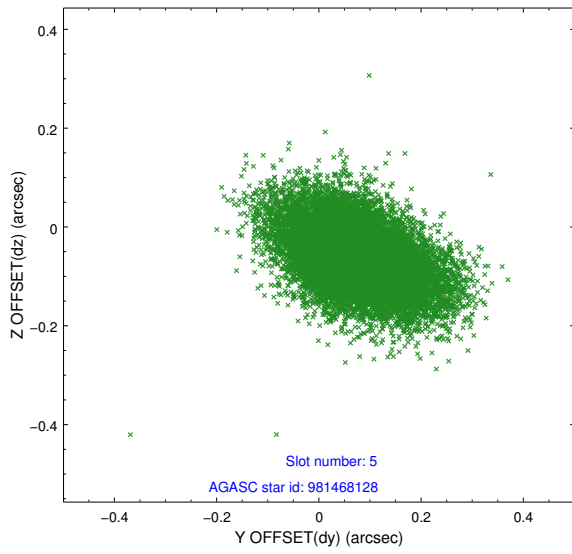
### 2.4.1 Slot 3



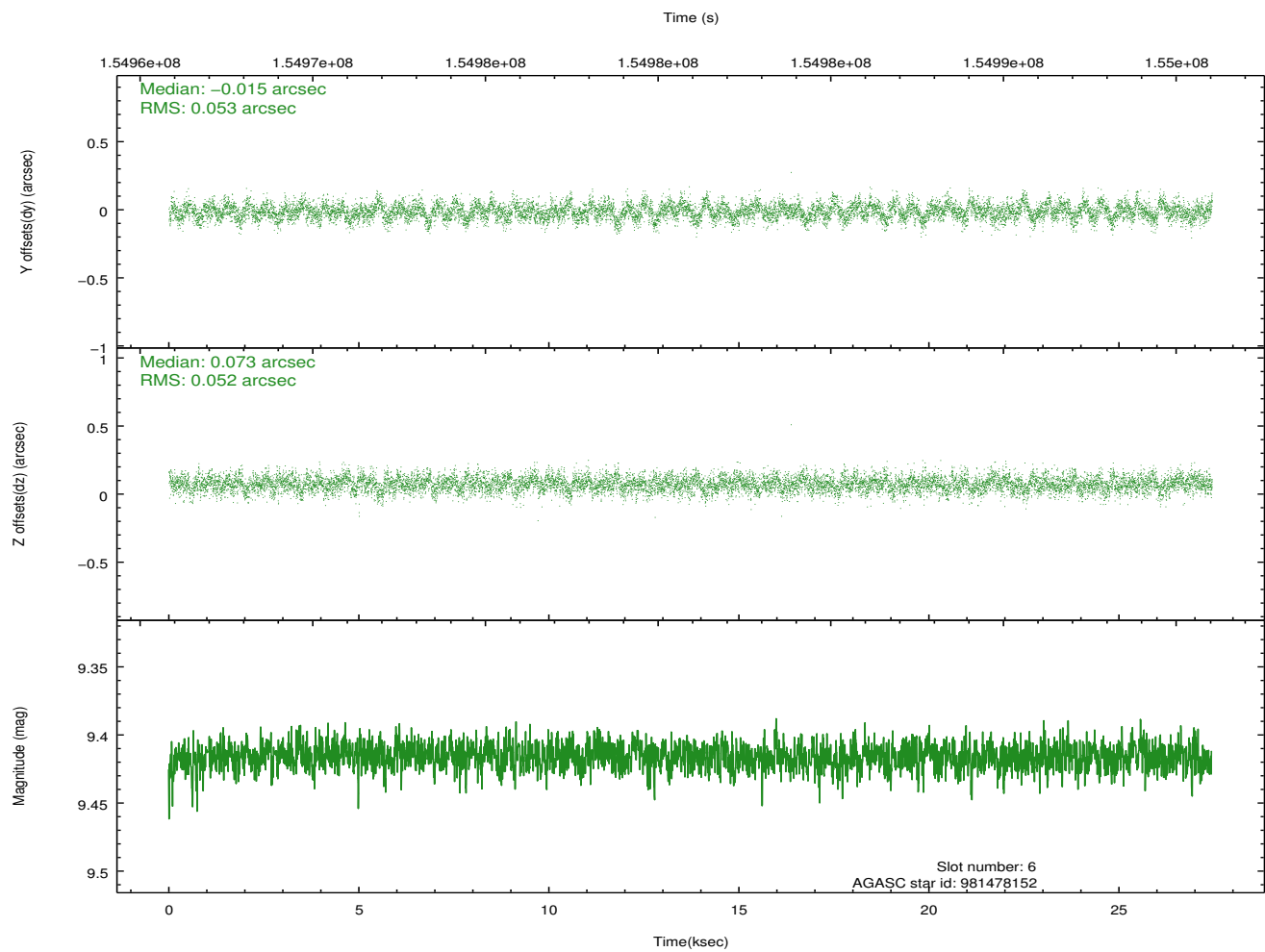
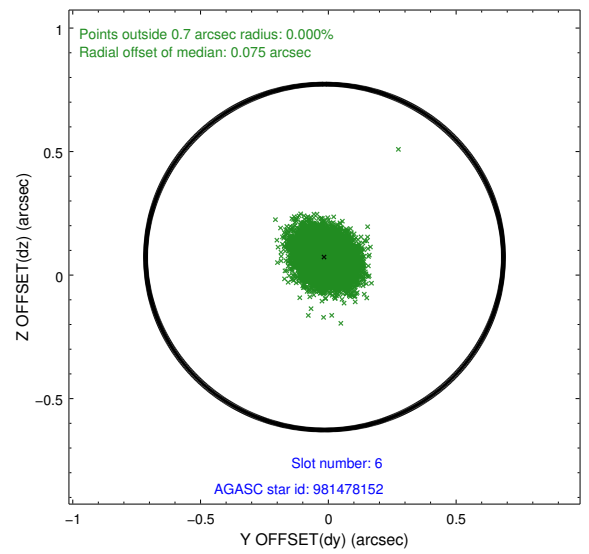
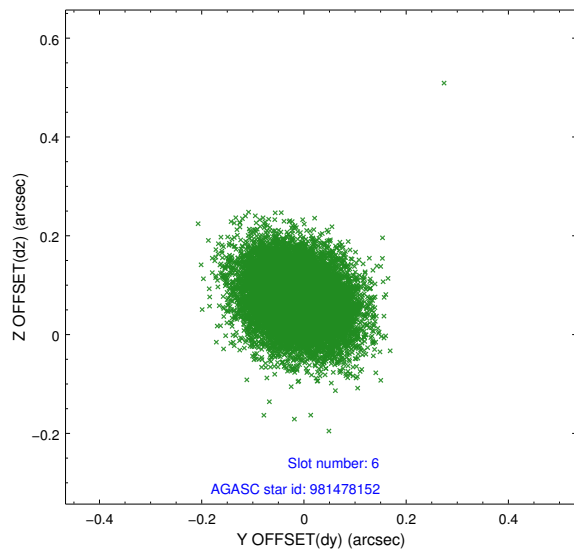
## 2.4.2 Slot 4



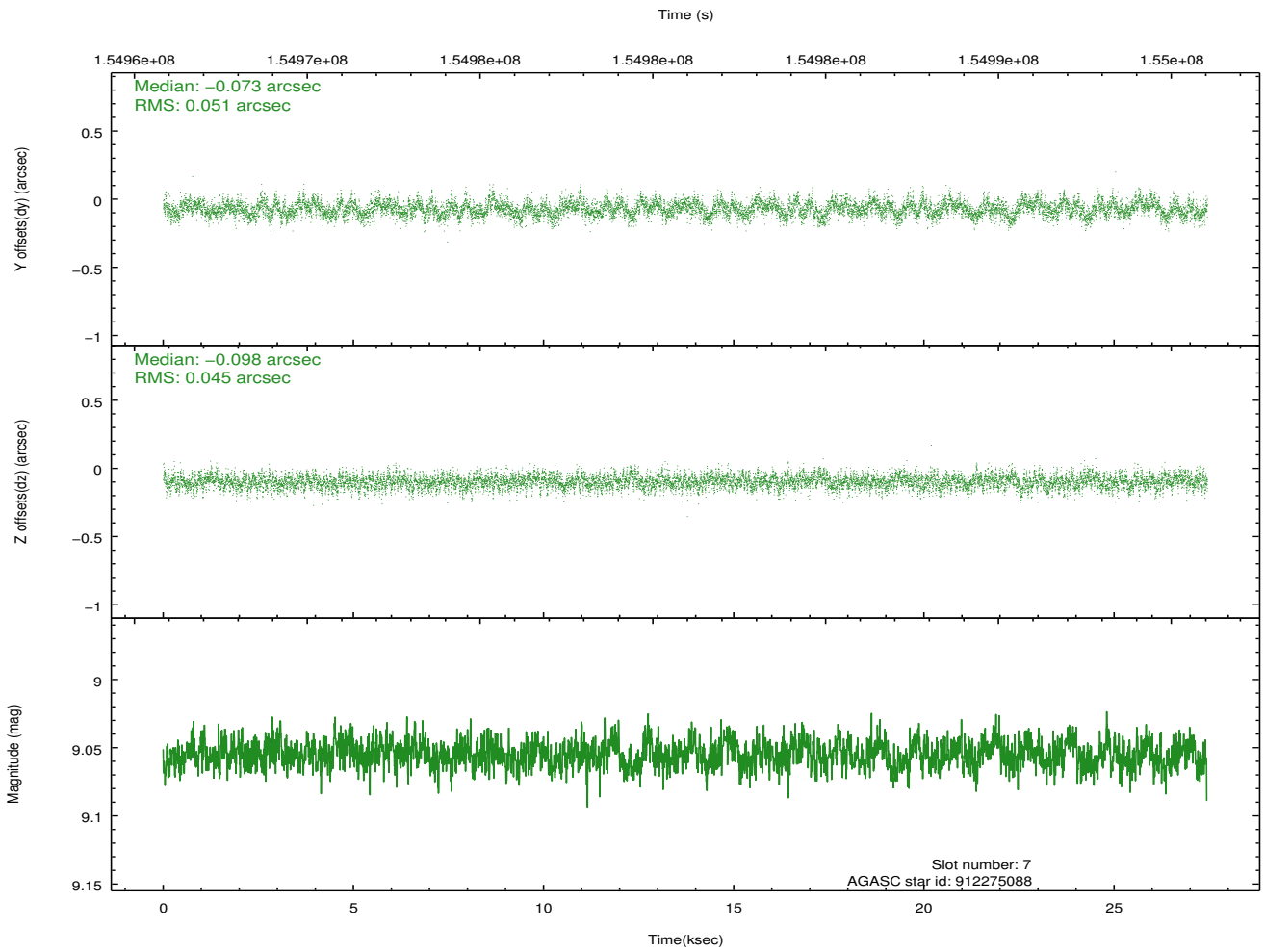
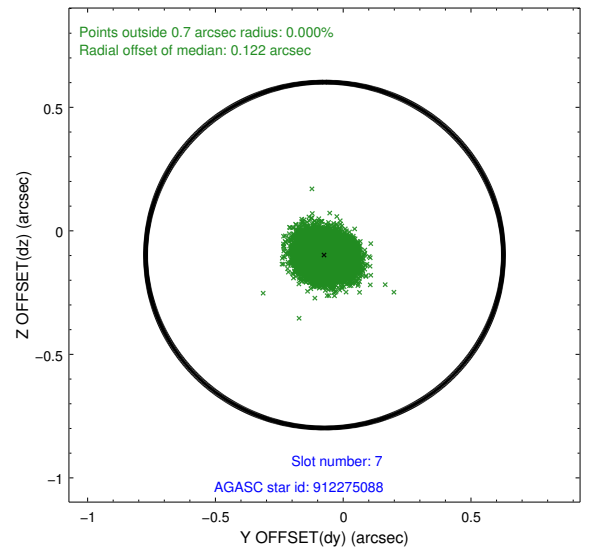
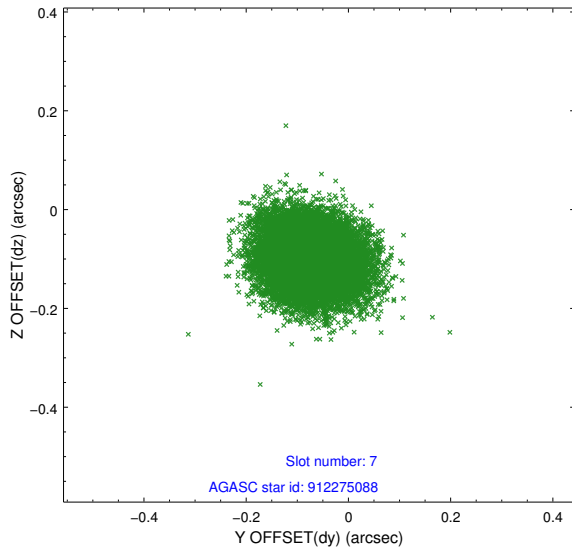
### 2.4.3 Slot 5



## 2.4.4 Slot 6

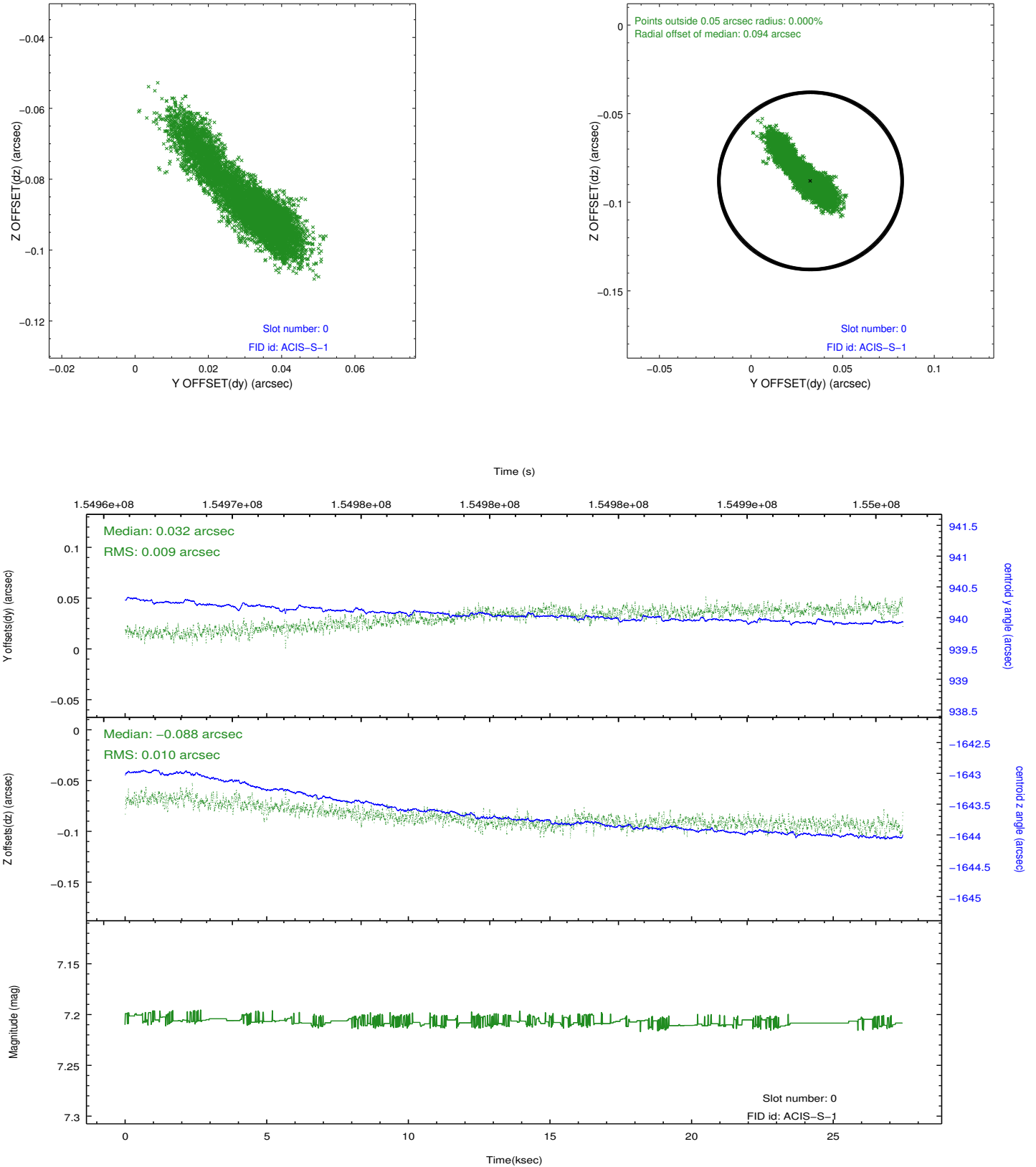


### 2.4.5 Slot 7

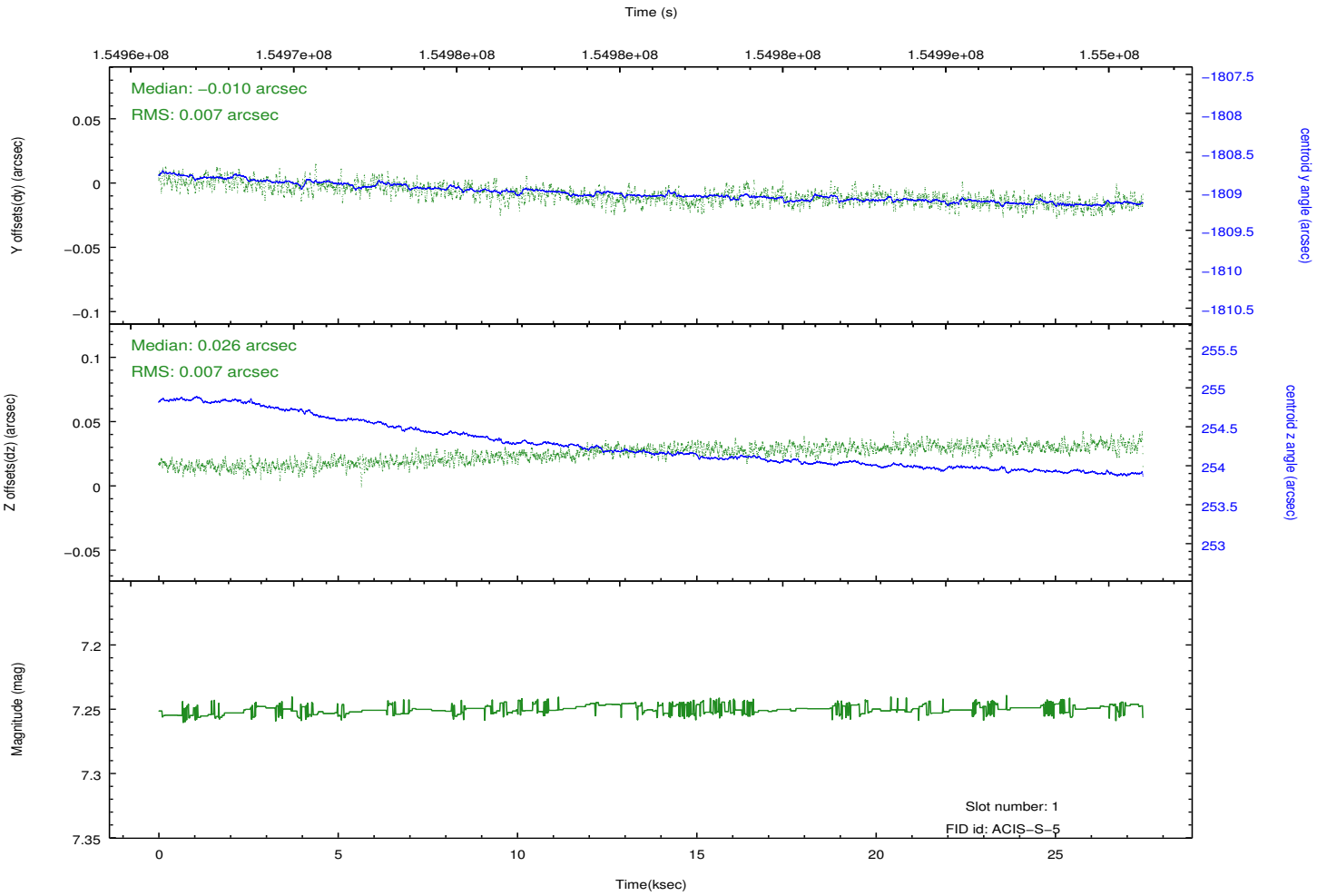
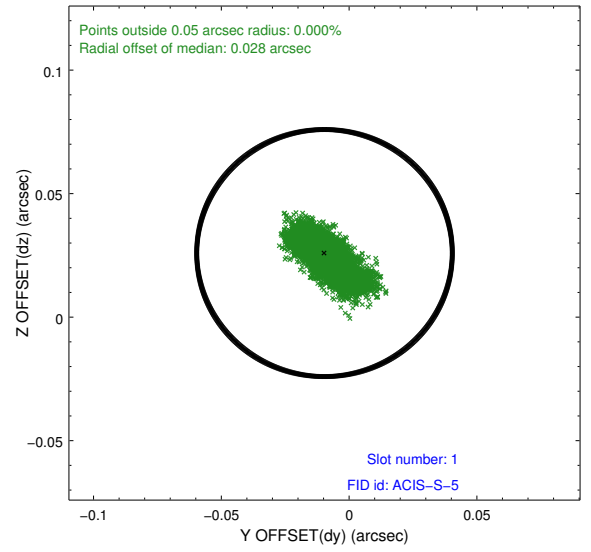
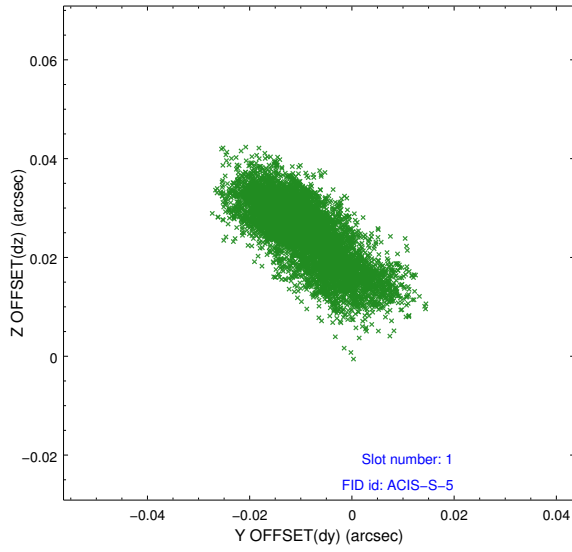


## 2.5 FID Slots

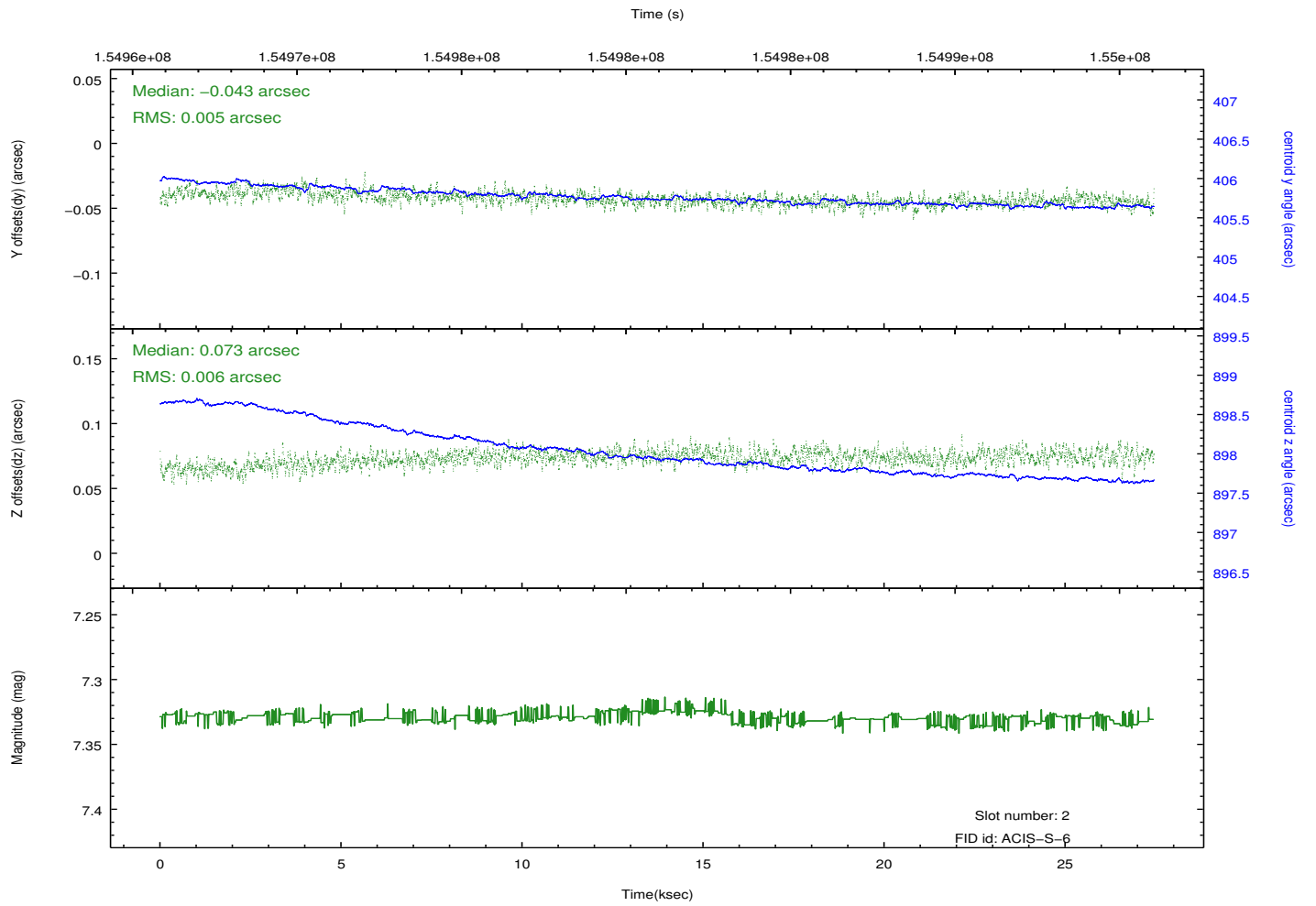
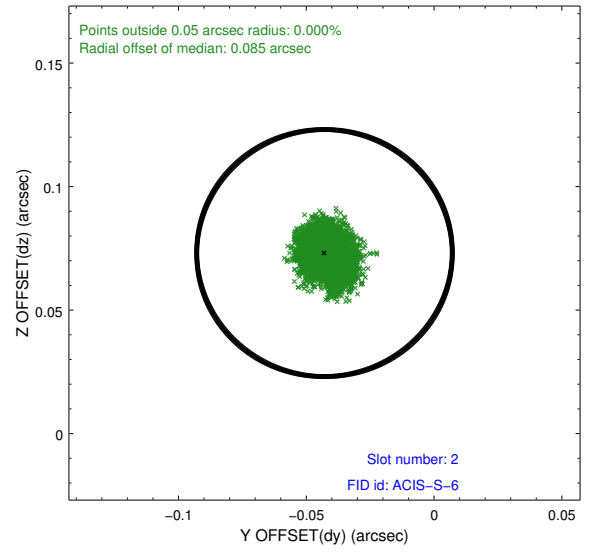
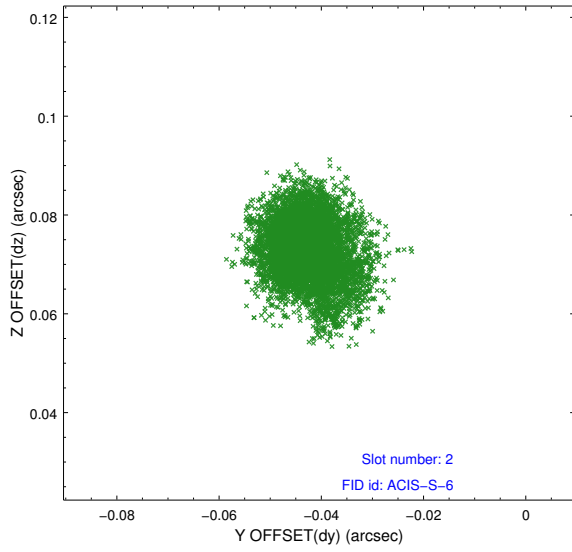
### 2.5.1 Slot 0



## 2.5.2 Slot 1

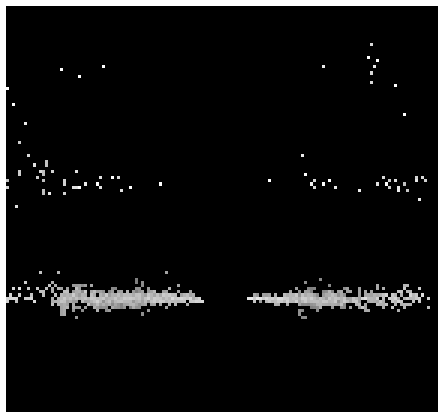


### 2.5.3 Slot 2

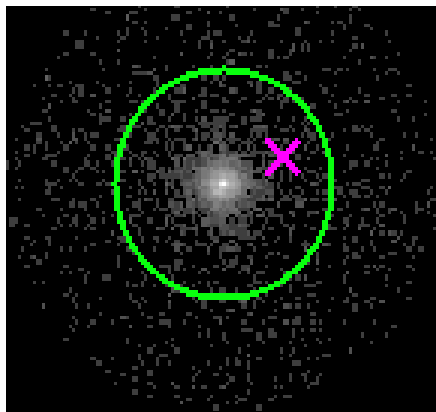


### 3 Gratings

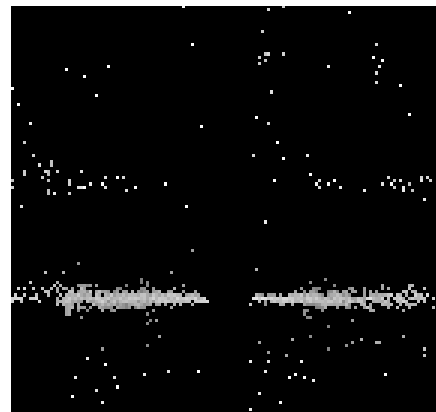
#### 3.1 HEG Arm



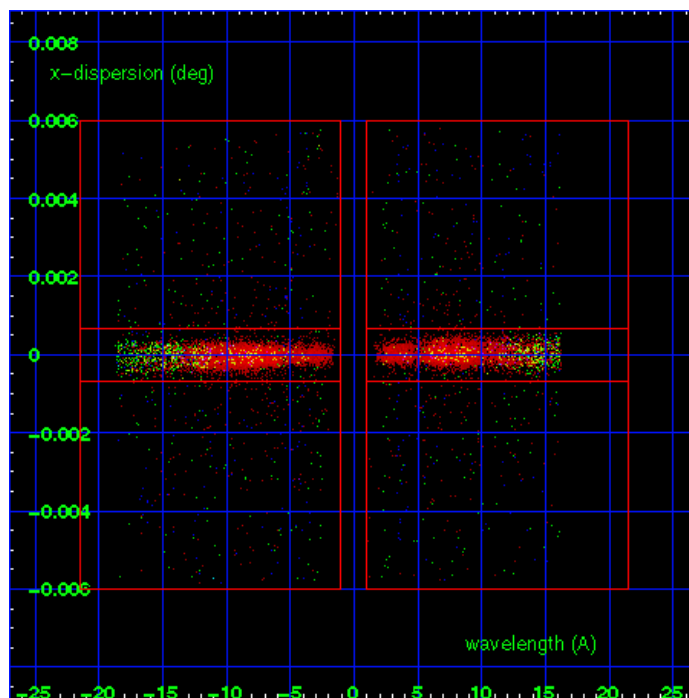
HEG Order Sort 123



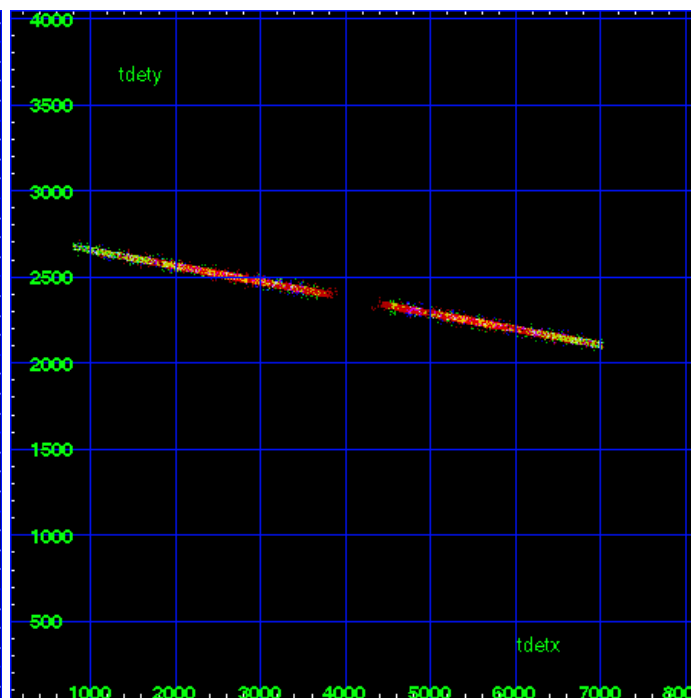
HEG Zero Order



HEG Order Sort ALL

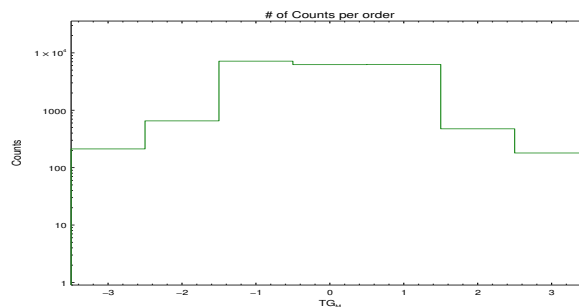


Spot Image HEG

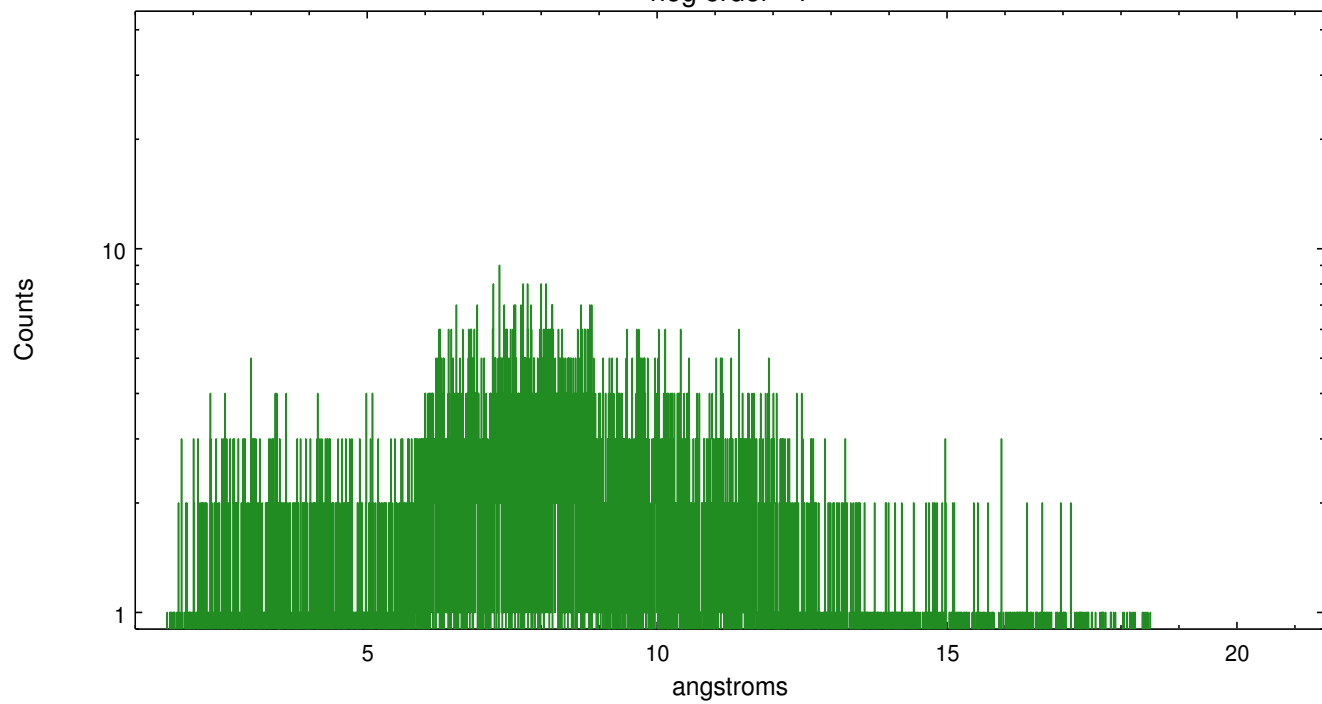


Full Detector HEG

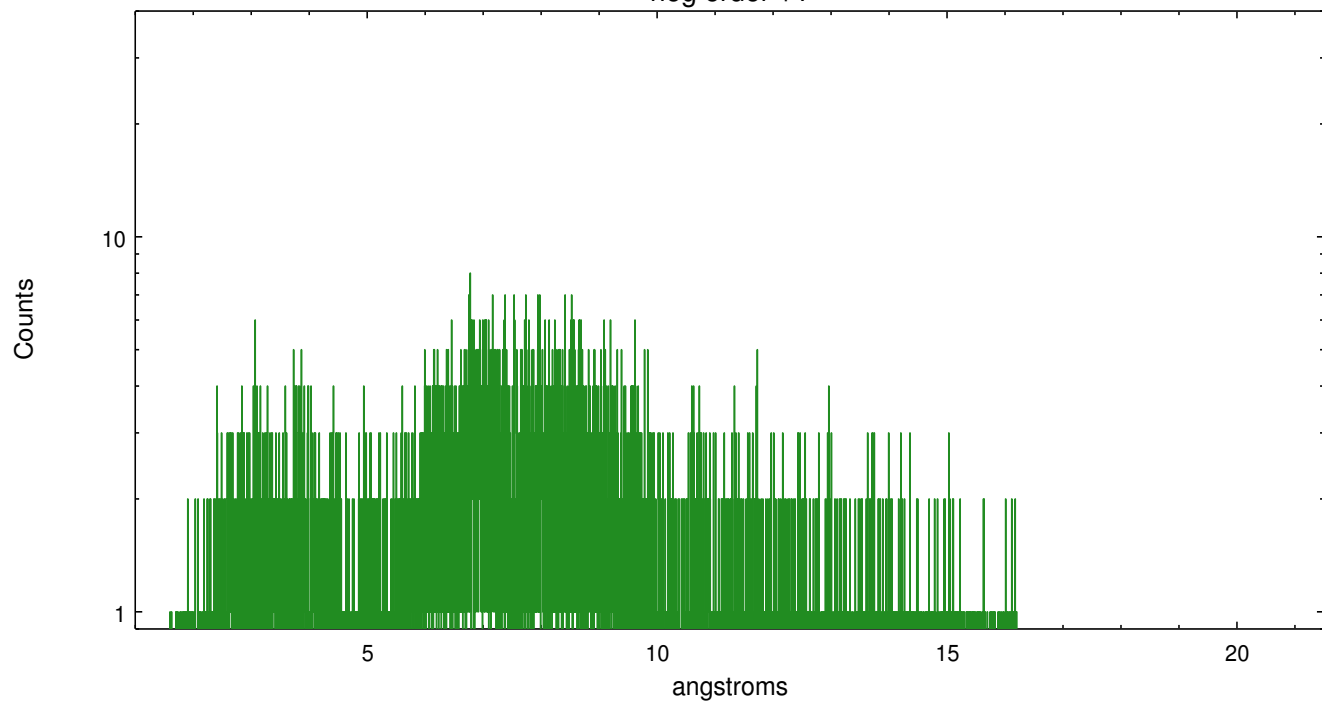
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	212	653	7168	6236	6295	475	180



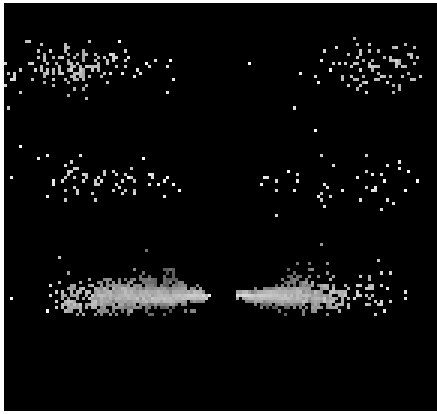
heg order -1



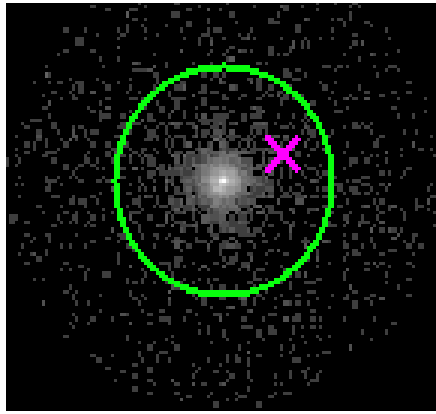
heg order +1



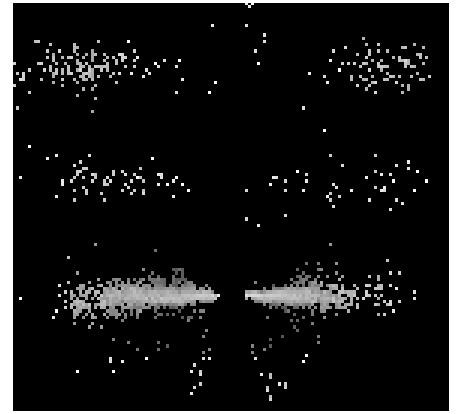
### 3.2 MEG Arm



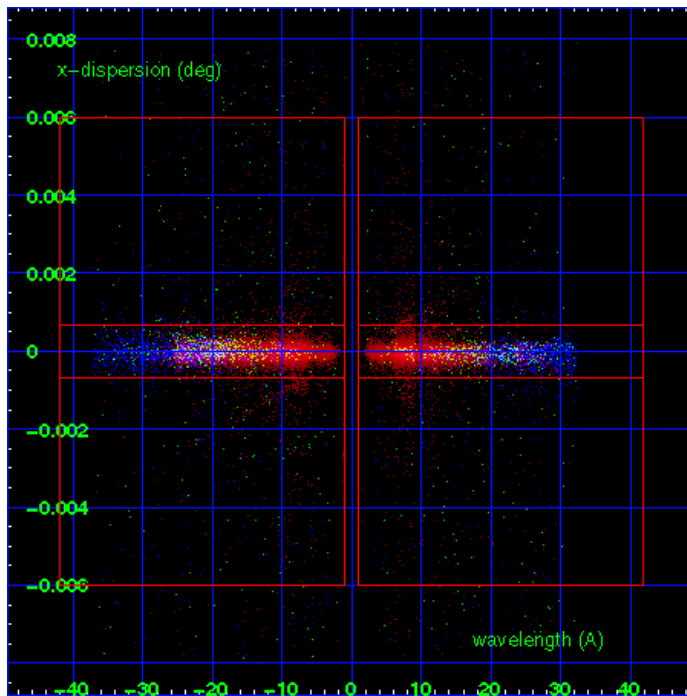
MEG Order Sort 123



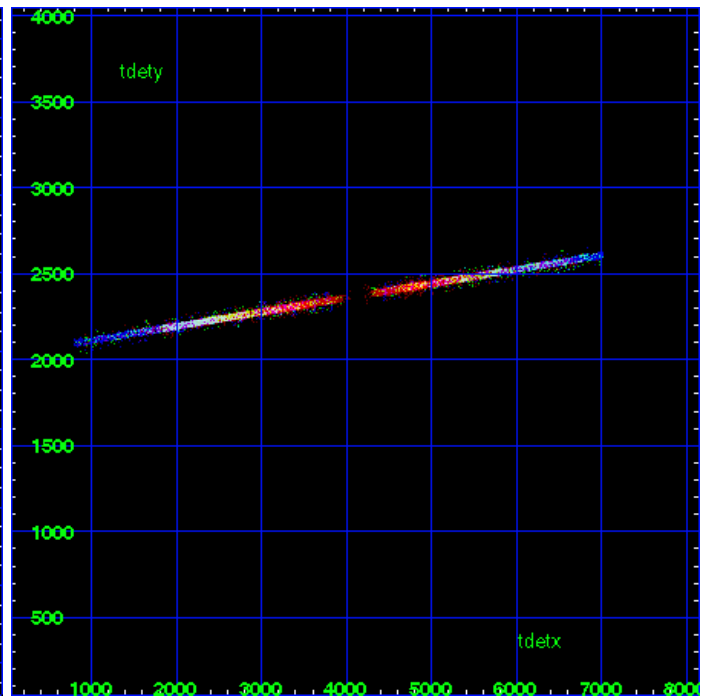
MEG Zero Order



MEG Order Sort ALL

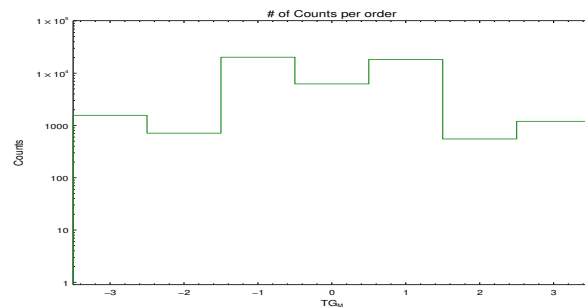


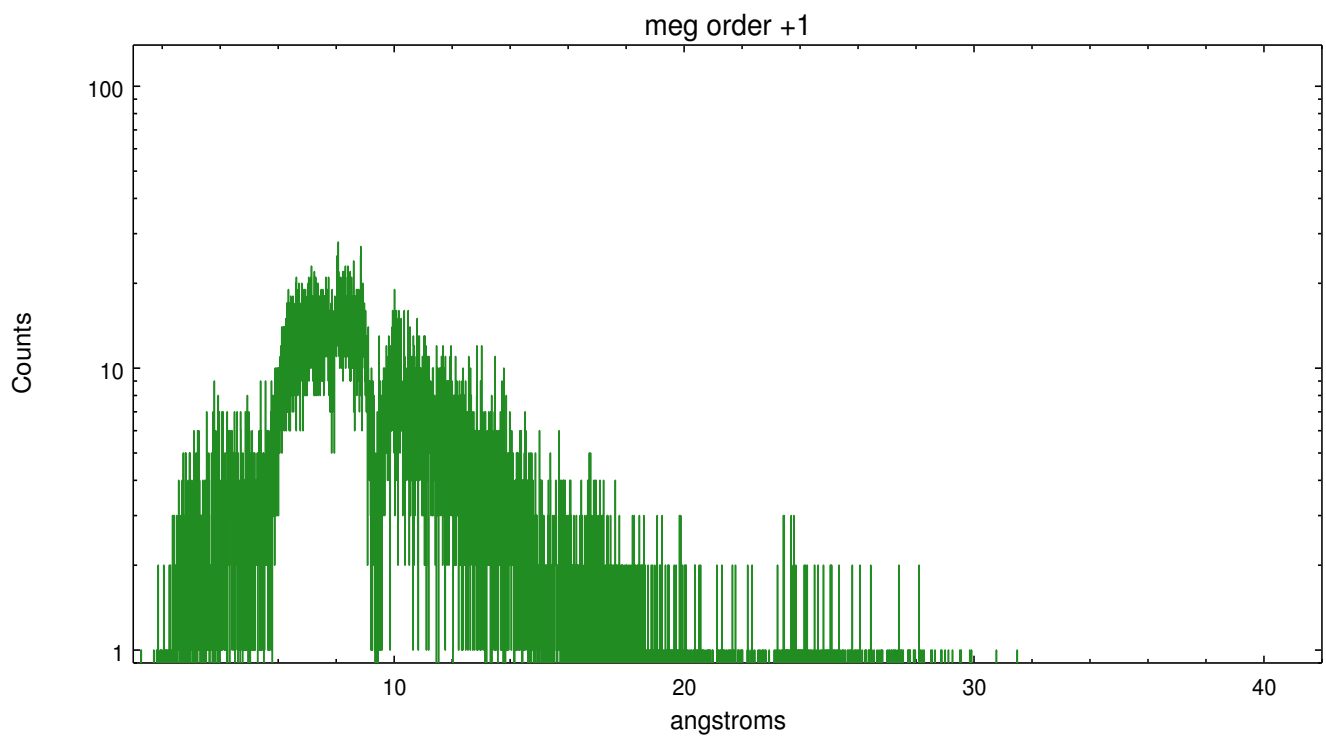
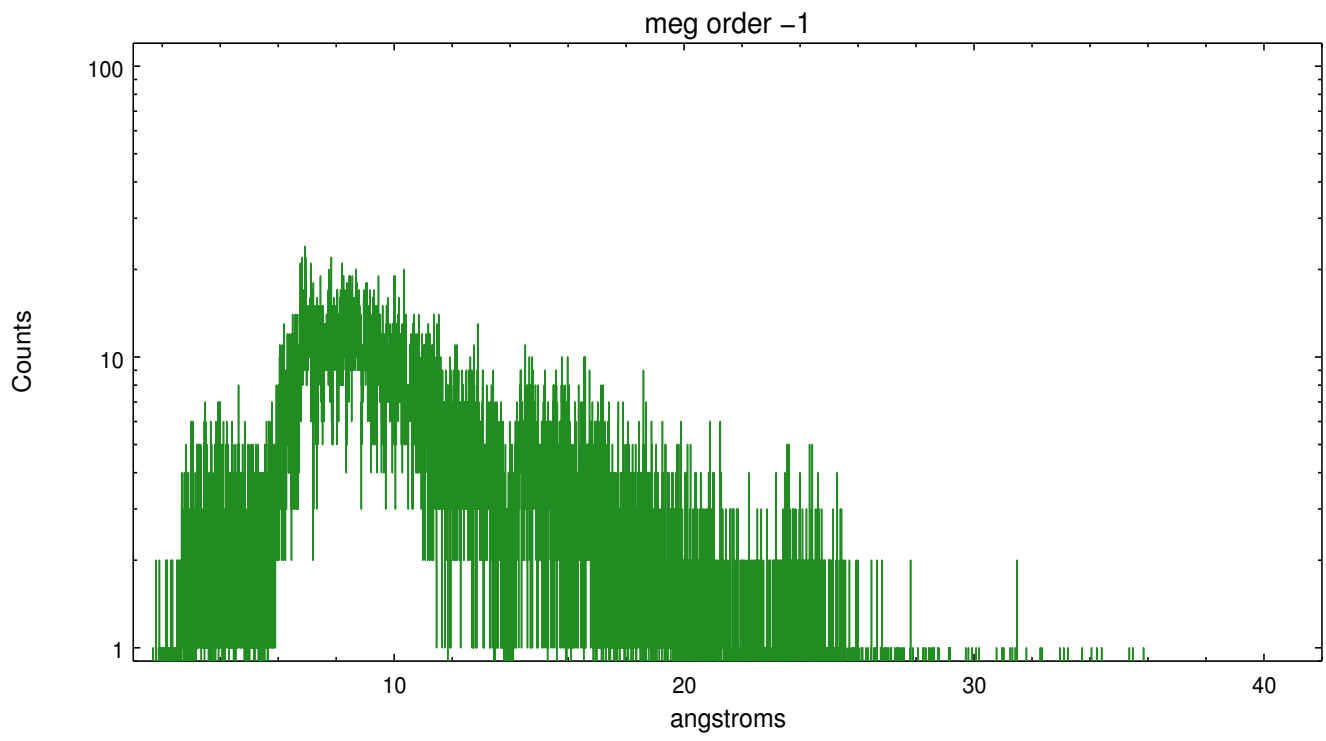
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1563	712	20207	6236	18270	552	1200





# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.11.08
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	26.963

## A.2 Comments