

# V&V Reference Report

## L2 ASCDS Version : 8.3.2.1

Observation 1102 - L2 Version 5  
Chandra X-Ray Center

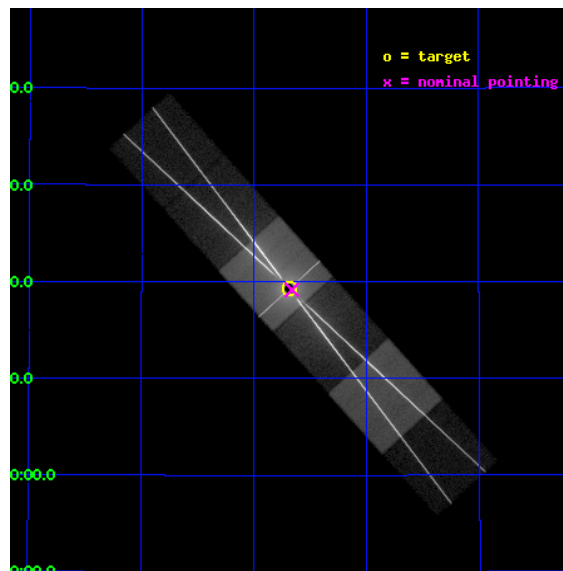
L2 Processing Date : Nov 4 2010

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# 1 Front

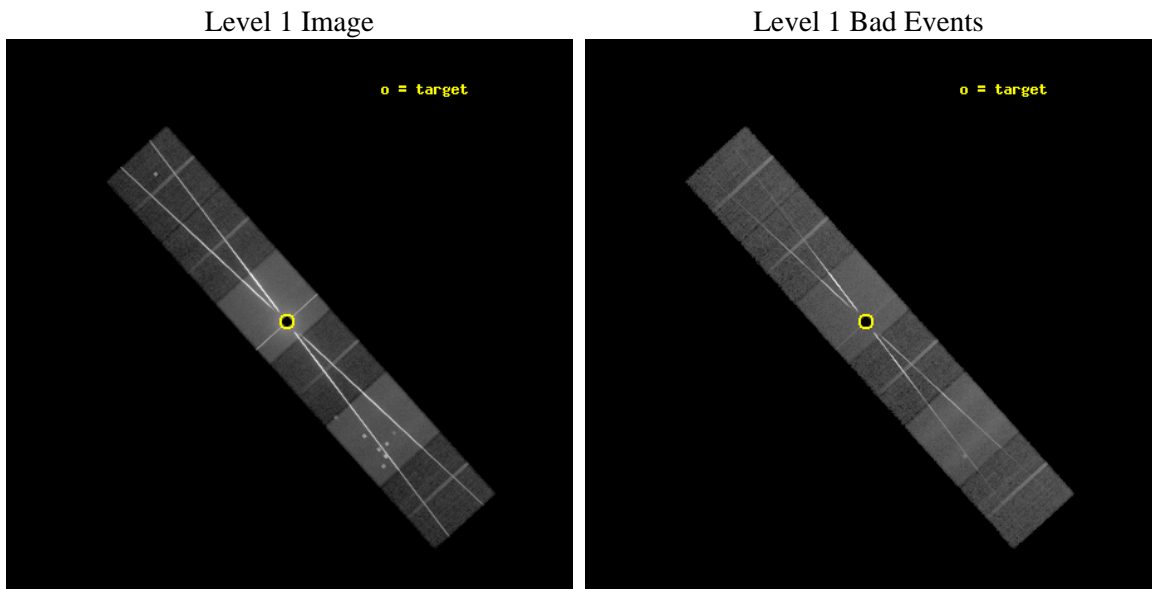
seq_num	480052	Sequence number
obs_id	1102	Observation id
title	&#160	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	CYG X-2	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	326.171667	Observer's specified target RA
dec_targ	38.321694	Observer's specified target Dec
ra_nom	326.16568913467	Nominal RA
dec_nom	38.319658645158	Nominal Dec
roll_nom	227.85227074448	Nominal Roll
revision	5	Processing version of data
ontime	28972.021882668	Sum of GTIs [s]
livetime	28605.160696733	Livetime [s]
ontime4	11453.043405049	Sum of GTIs [s]
ontime5	29033.60002704	Sum of GTIs [s]
ontime6	11260.10256777	Sum of GTIs [s]
ontime7	28972.021882668	Sum of GTIs [s]
ontime8	12253.618234597	Sum of GTIs [s]
ontime9	13703.819483265	Sum of GTIs [s]
l2events	3732321	Number of level 2 events



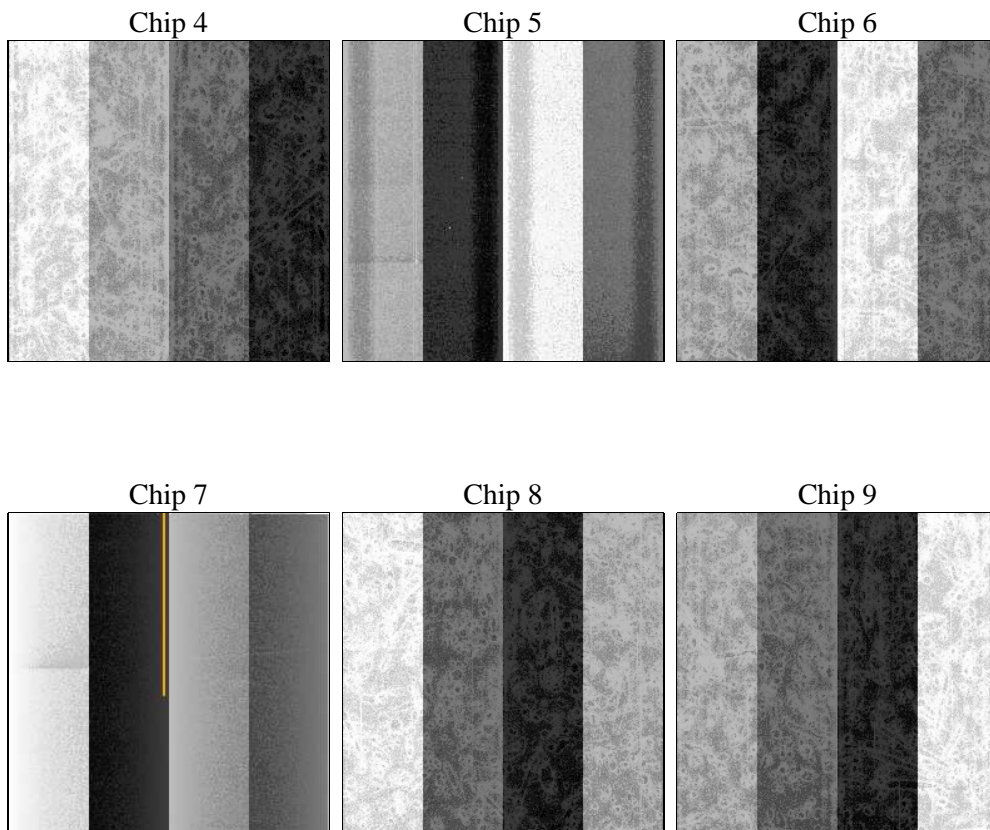
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	30000.000000	Scheduled observation exposure time
ascdsver	8.3.2.1	ASCDS version number	ontime	28972.021882668	Sum of GTIs [s]
caldbver	4.3.1	&#160	ontime4	11453.043405049	Sum of GTIs [s]
date	2010-09-28T10:01:52	Date and time of file creation	ontime5	29033.60002704	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	11260.10256777	Sum of GTIs [s]
			ontime7	28972.021882668	Sum of GTIs [s]
			ontime8	12253.618234597	Sum of GTIs [s]
			ontime9	13703.819483265	Sum of GTIs [s]
			l1events	5236198	Number of level 1 events

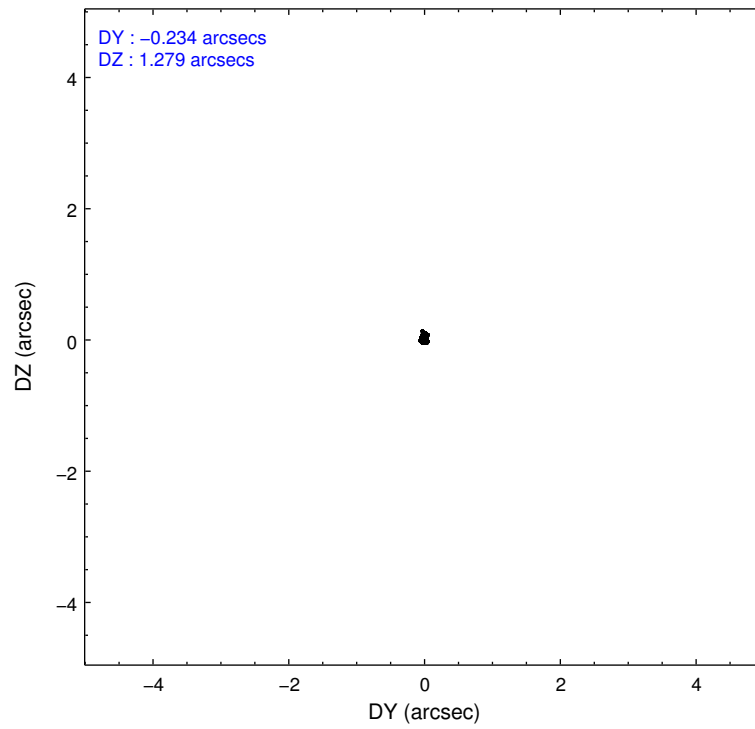
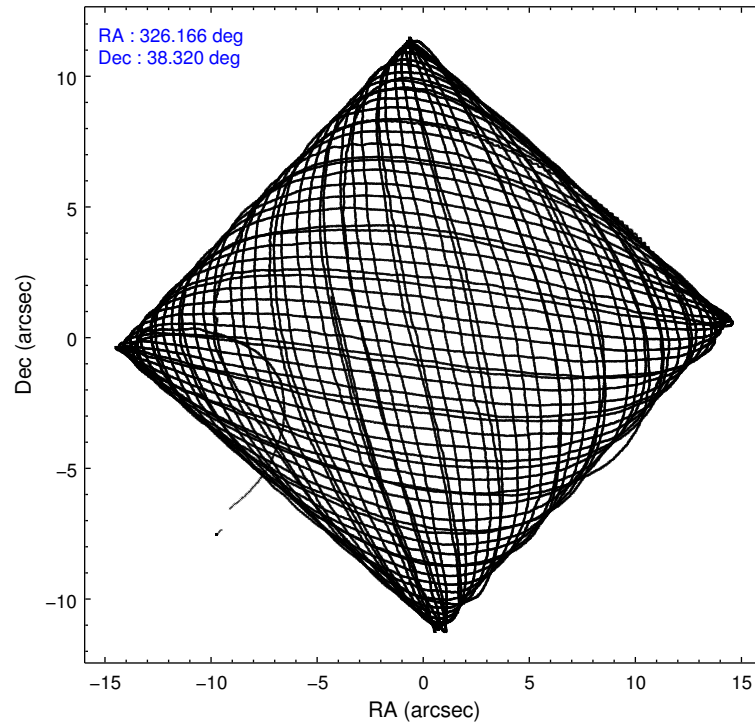
### 2.1.4 Events

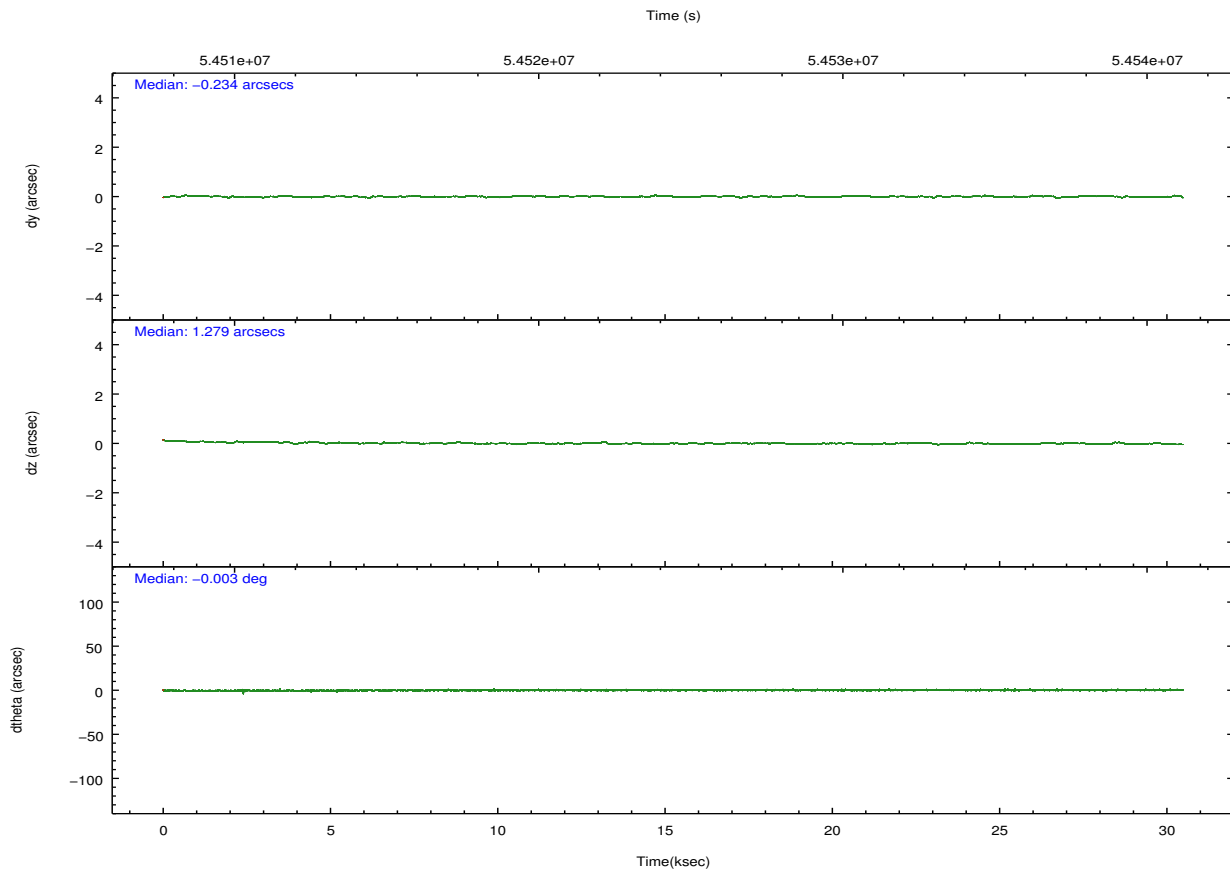
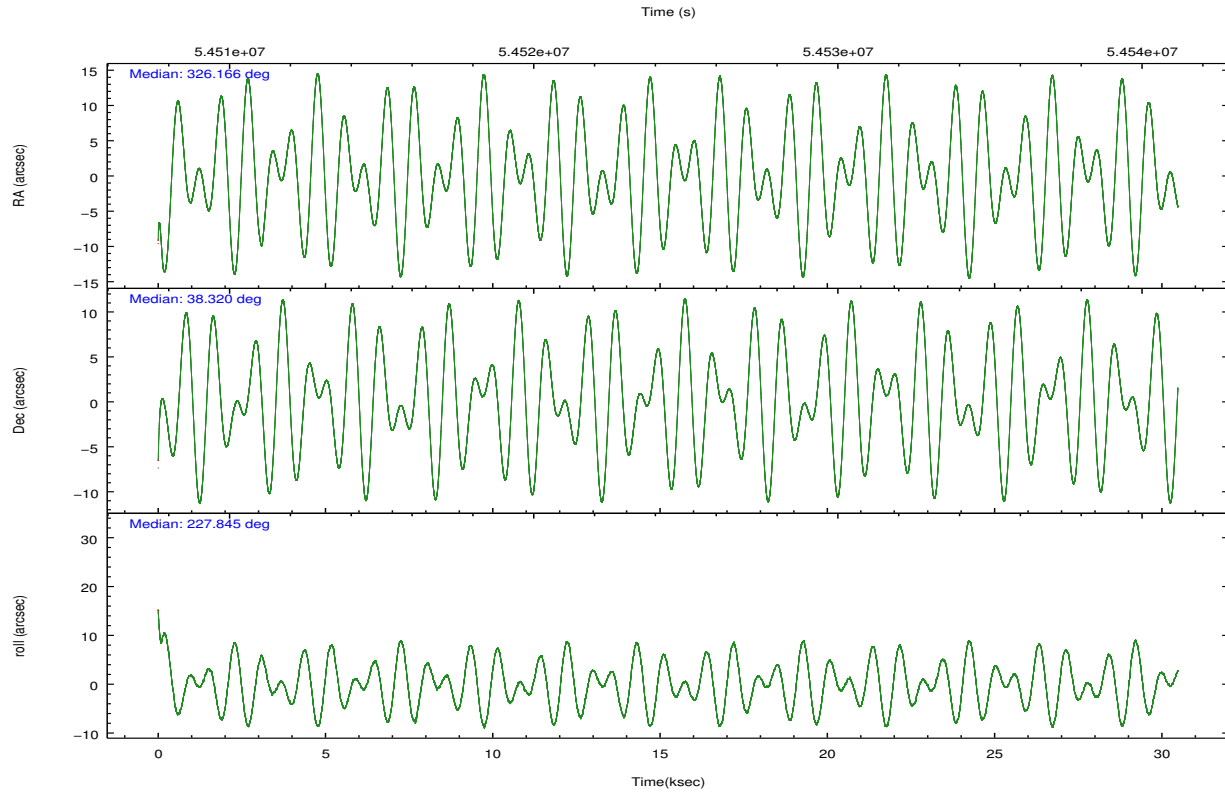
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	193430	1041525	937311	2158793	643718	261421	grade 0 events	39422	205764	360145	237568	349774	86956
rejected events	118558	243372	211153	546582	156701	123458		20%	19%	38%	11%	54%	33%
rejected %	61%	23%	22%	25%	24%	47%	grade 1 events	237	3740	30505	18446	16049	672
								0%	0%	3%	0%	2%	0%
							grade 2 events	27260	270477	256790	418375	82021	36854
								14%	25%	27%	19%	12%	14%
							grade 3 events	1869	53795	26260	147720	18197	3801
								0%	5%	2%	6%	2%	1%
							grade 4 events	1868	51810	25705	142754	18147	3819
								0%	4%	2%	6%	2%	1%
							grade 5 events	2246	30283	38062	117992	13272	3515
								1%	2%	4%	5%	2%	1%
							grade 6 events	4476	216485	57657	666133	19020	6603
								2%	20%	6%	30%	2%	2%
							grade 7 events	116052	209171	142187	409805	127238	119201
								59%	20%	15%	18%	19%	45%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	6	6
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
Pointing RA	326.173485	326.1656891346656	Subarray requested	NONE	NONE
Pointing Dec	38.346544	38.31965864515791	Alternating exposures requested	N	N
Pointing Roll	227.690799	227.8522707444782	Primary exposure time	0.000000	3.2
SIM focus pos (mm)	-0.684267	-0.6828225247311905			
SIM defocus (mm)	0	0.001444936568705701			
SIM translation stage pos (mm)	-190.132523	-190.145094680475			
SIM translation stage offset (mm)	0	0.01257209746719923			
Observation start time	54509655.184000	54508418.820794			
Observation start date	1999-09-23T21:33:11	1999-09-23T21:13:38			
Observation end time	54539655.184000	54540561.796948			
Observation end date	1999-09-24T05:53:11	1999-09-24T06:09:21			
Read mode	TIMED	TIMED			

## 2.3 Aspect



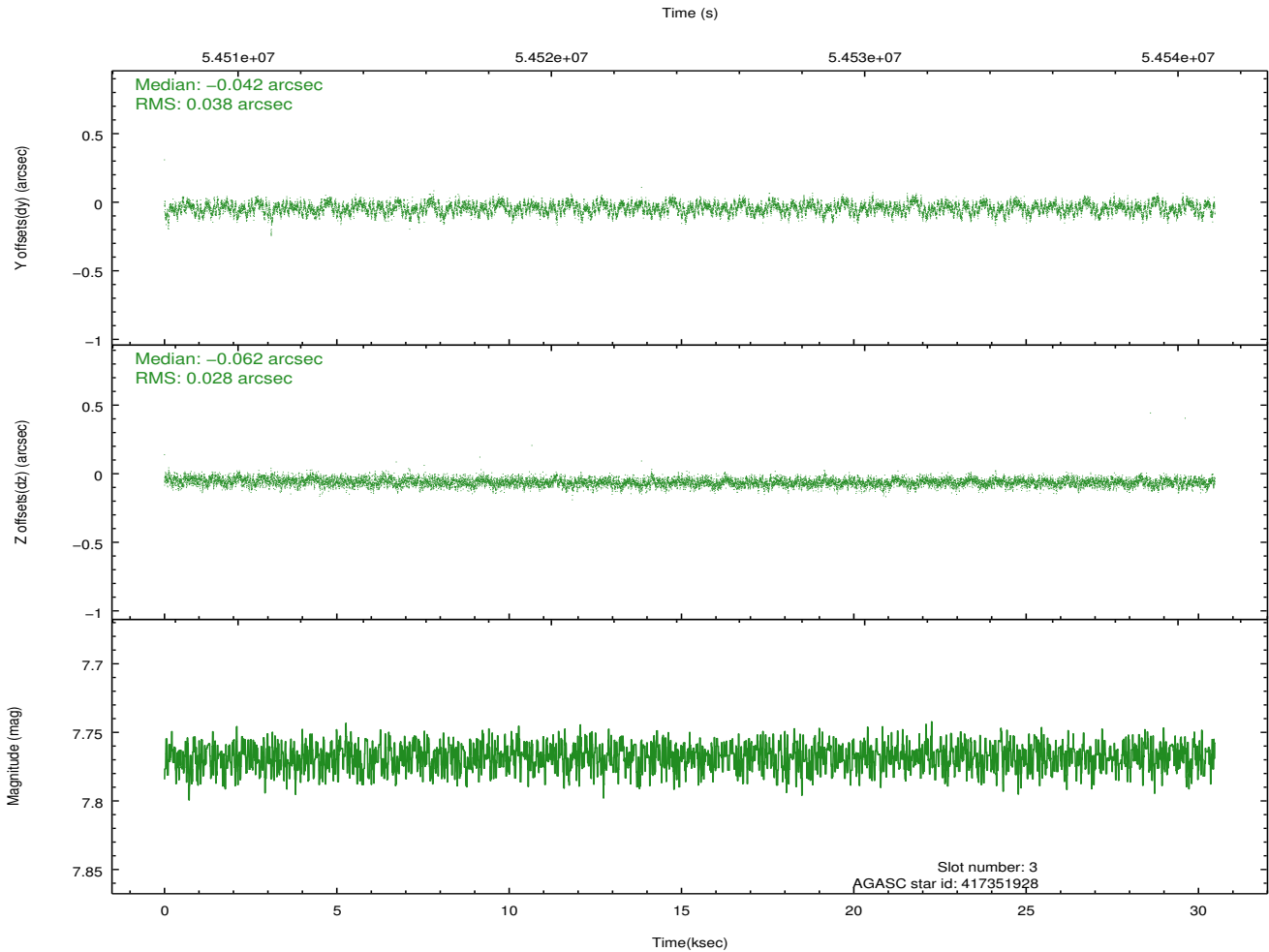
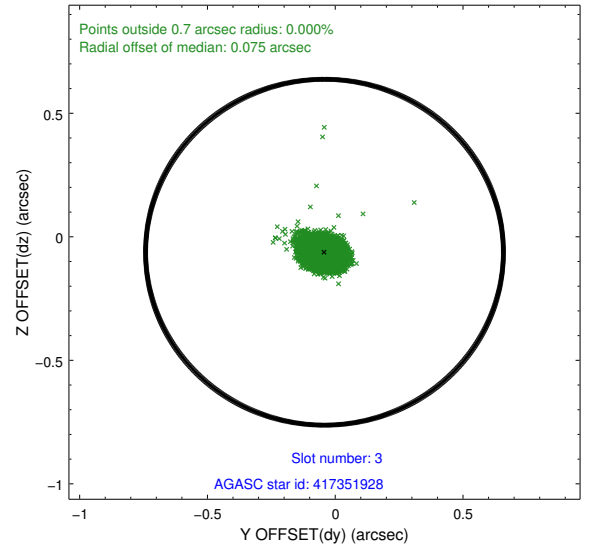
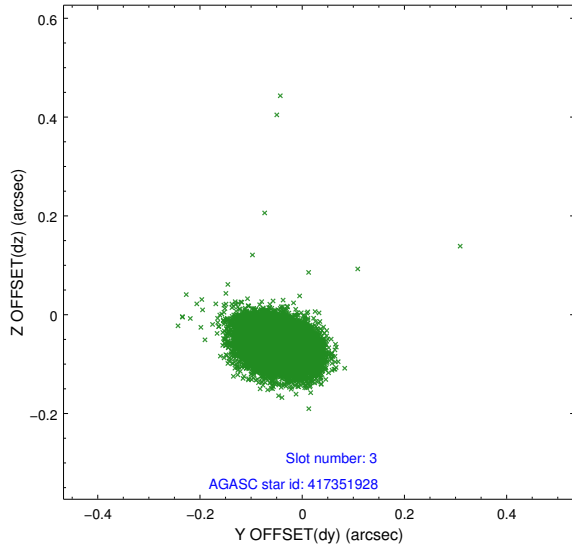


### Slot Statistics

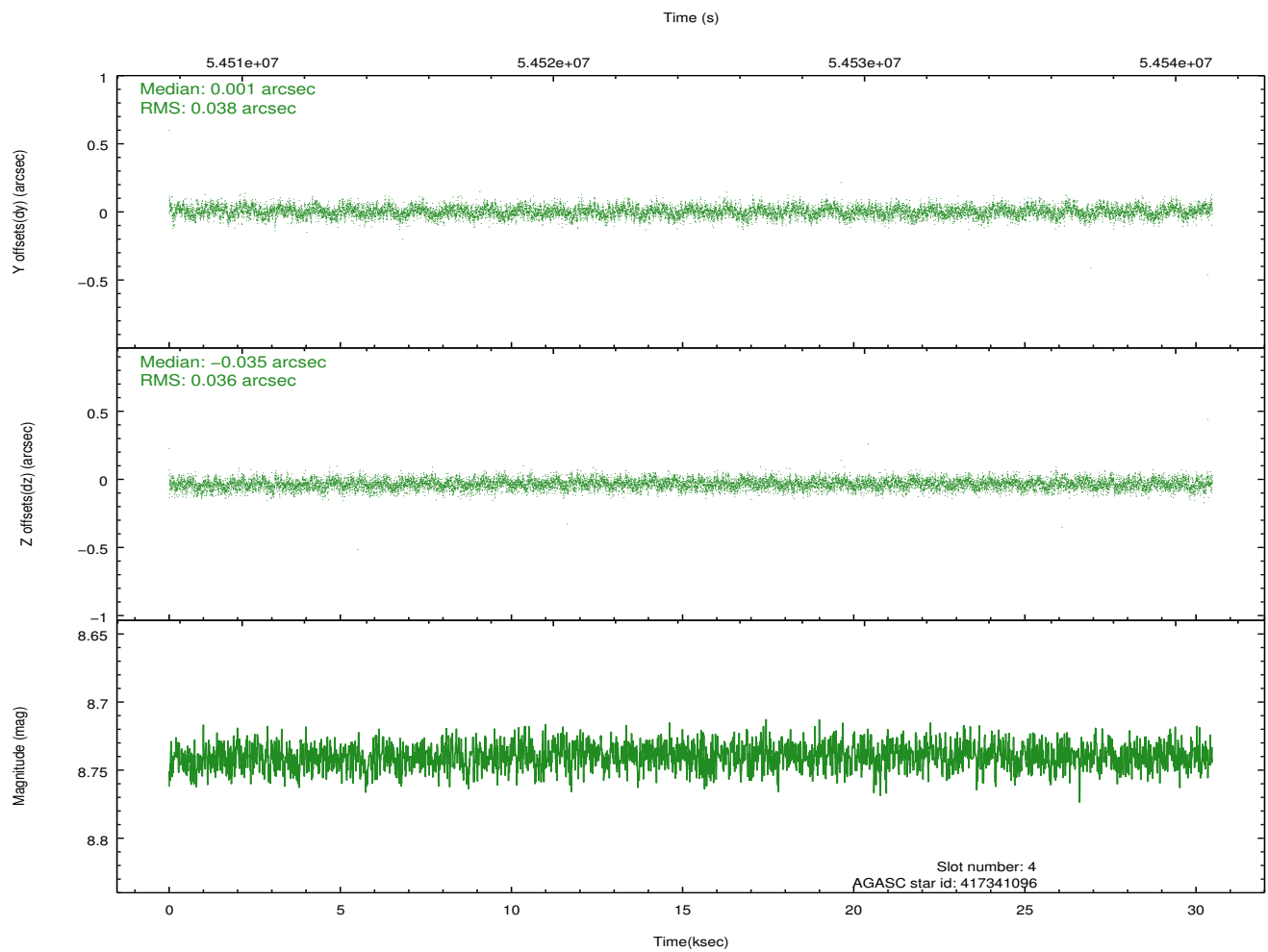
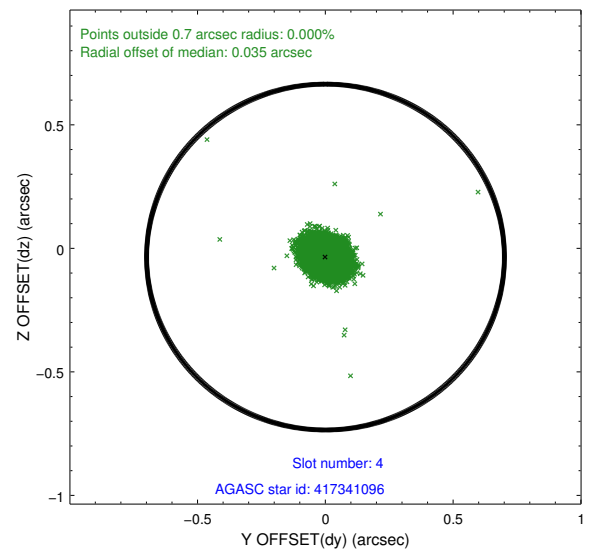
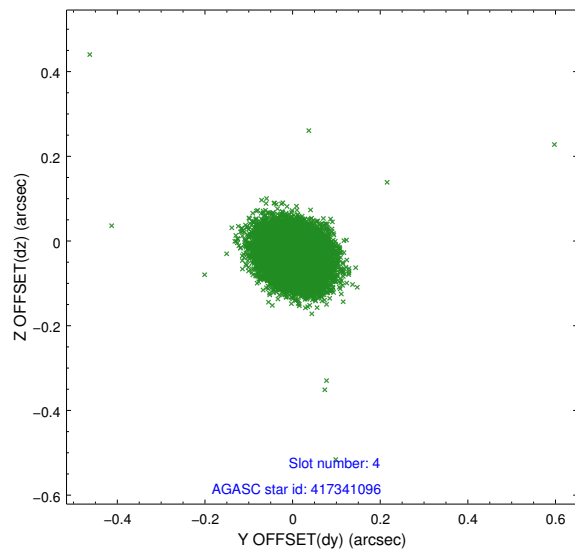
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-3	7.35	14869	-0.037	-0.012	0.009	0.021	0.000000	0.000000	60.81	-1851.27
1	FID	ACIS-S-4	7.22	14868	0.085	0.026	0.010	0.032	0.000000	0.000000	2161.12	186.31
2	FID	ACIS-S-5	7.24	14869	-0.077	-0.004	0.009	0.028	0.000000	0.000000	-1805.29	179.99
3	GUIDE	417351928	7.77	14866	-0.042	-0.062	0.050	0.081	326.969486	38.210974	-1162.18	1987.61
4	GUIDE	417341096	8.74	14866	0.001	-0.035	0.055	0.089	325.689531	38.411650	743.05	-1168.86
5	GUIDE	417343768	8.77	14858	0.078	0.053	0.062	0.102	326.238283	37.530188	2048.74	2116.04
6	GUIDE	417342368	9.59	14792	-0.002	0.019	0.077	0.126	325.863665	38.726048	-425.36	-1563.34
7	GUIDE	417334592	9.93	14856	-0.032	0.026	0.090	0.147	326.078924	38.883627	-1251.46	-1497.12

## 2.4 Star Slots

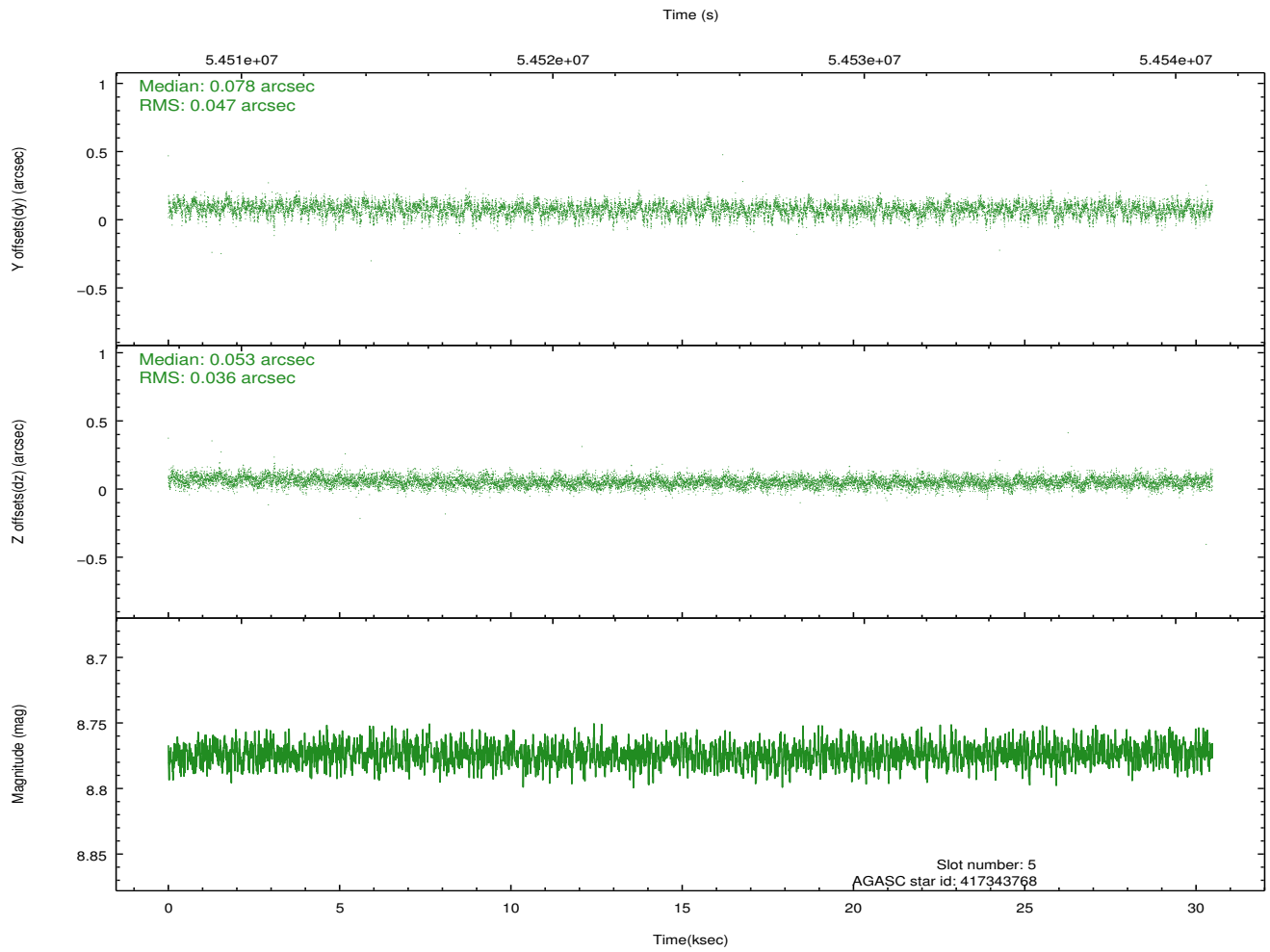
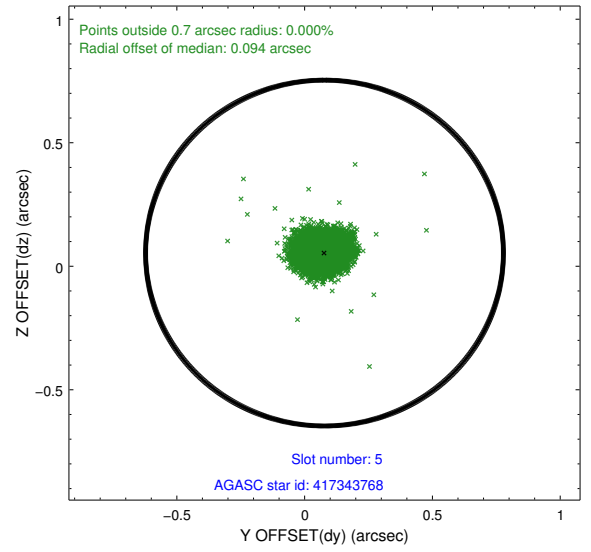
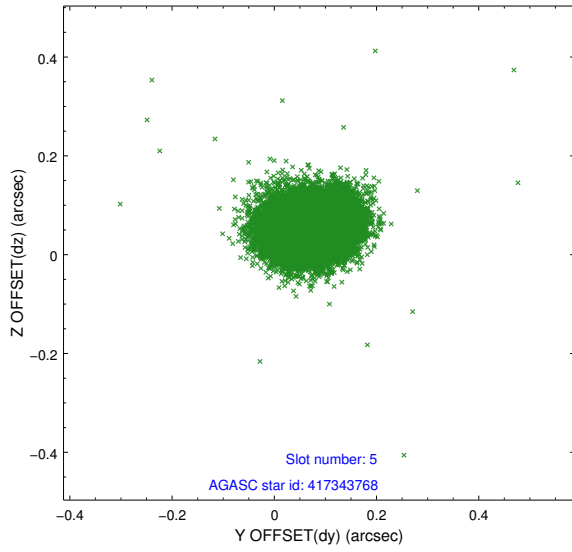
### 2.4.1 Slot 3



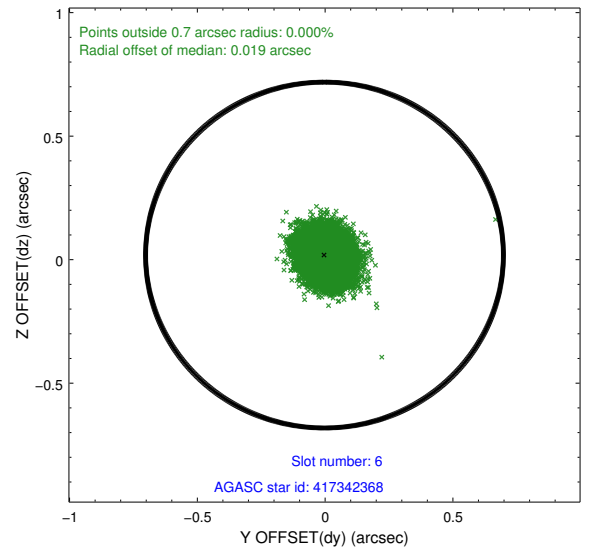
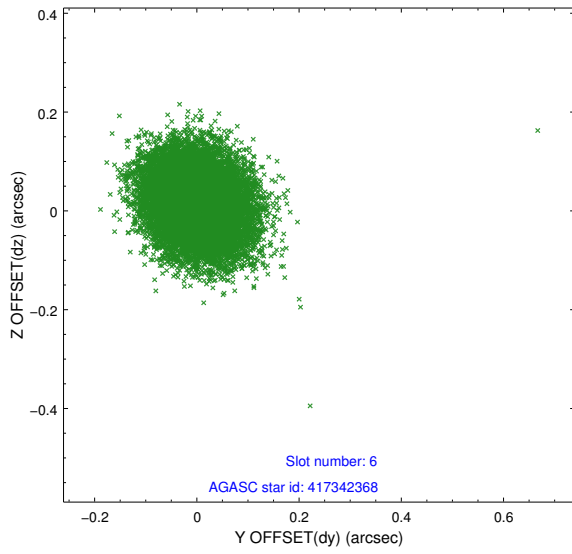
## 2.4.2 Slot 4



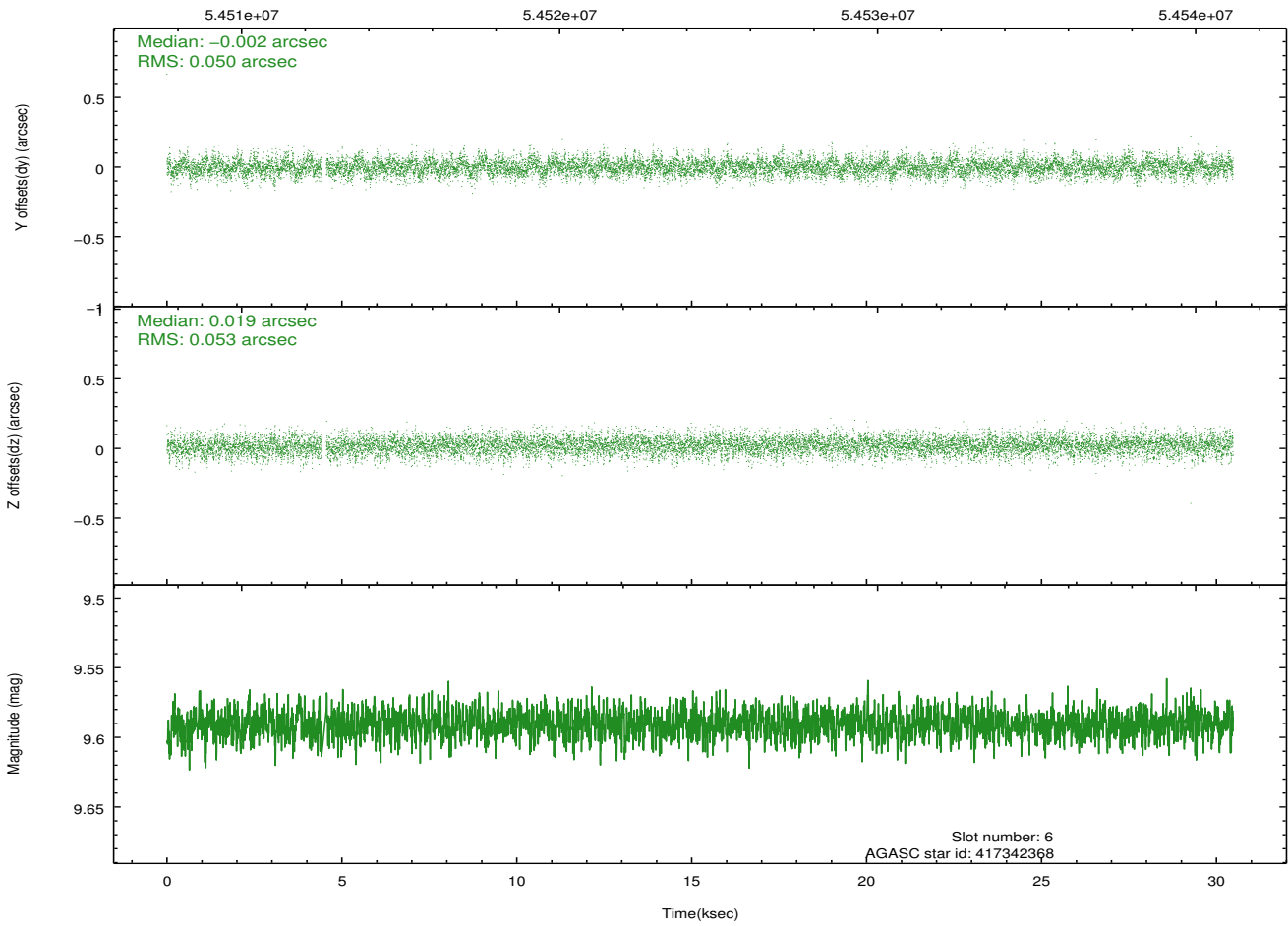
### 2.4.3 Slot 5



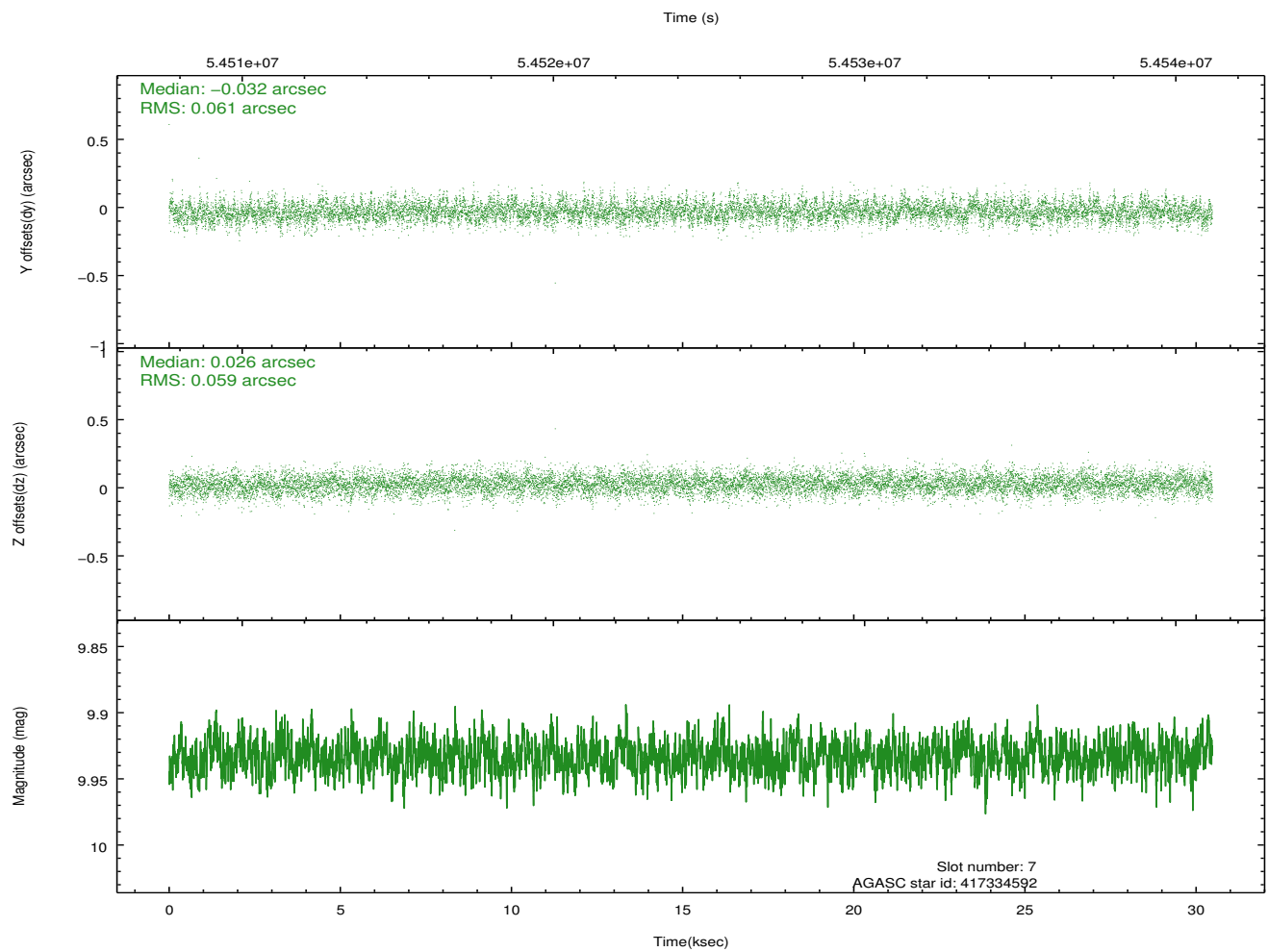
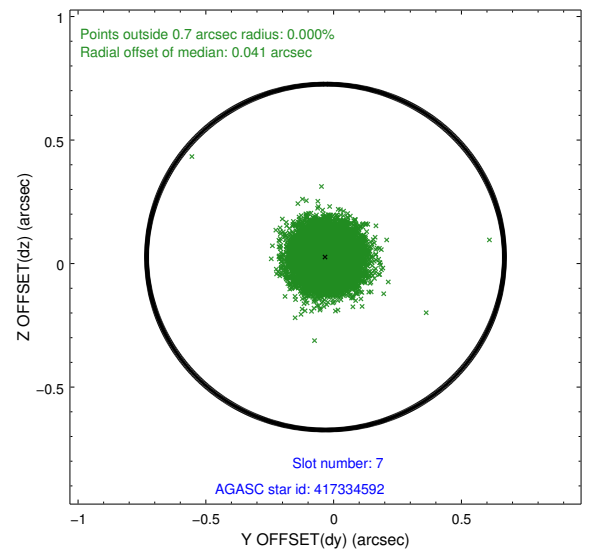
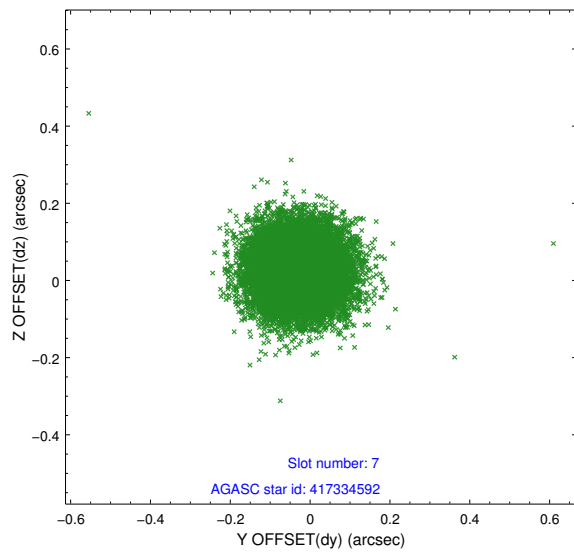
## 2.4.4 Slot 6



Time (s)

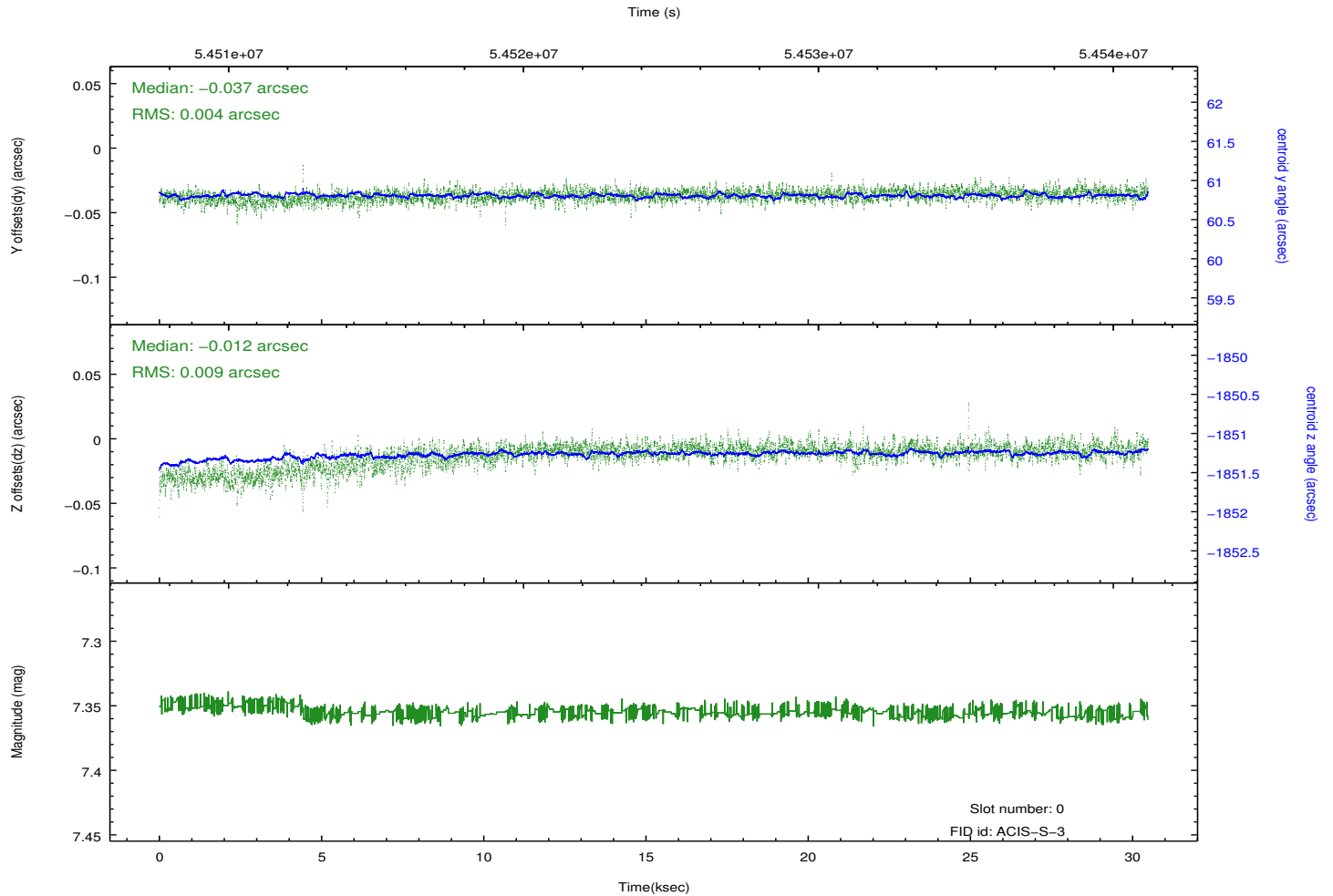
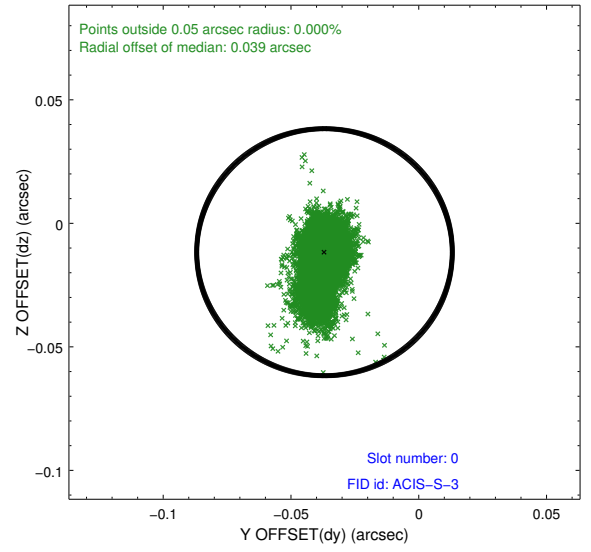
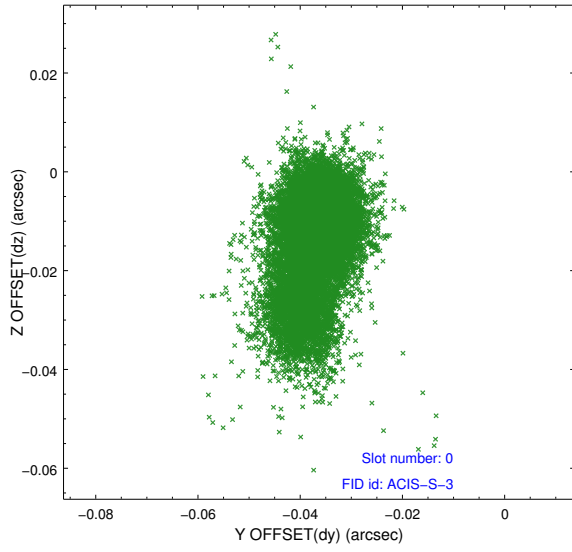


## 2.4.5 Slot 7

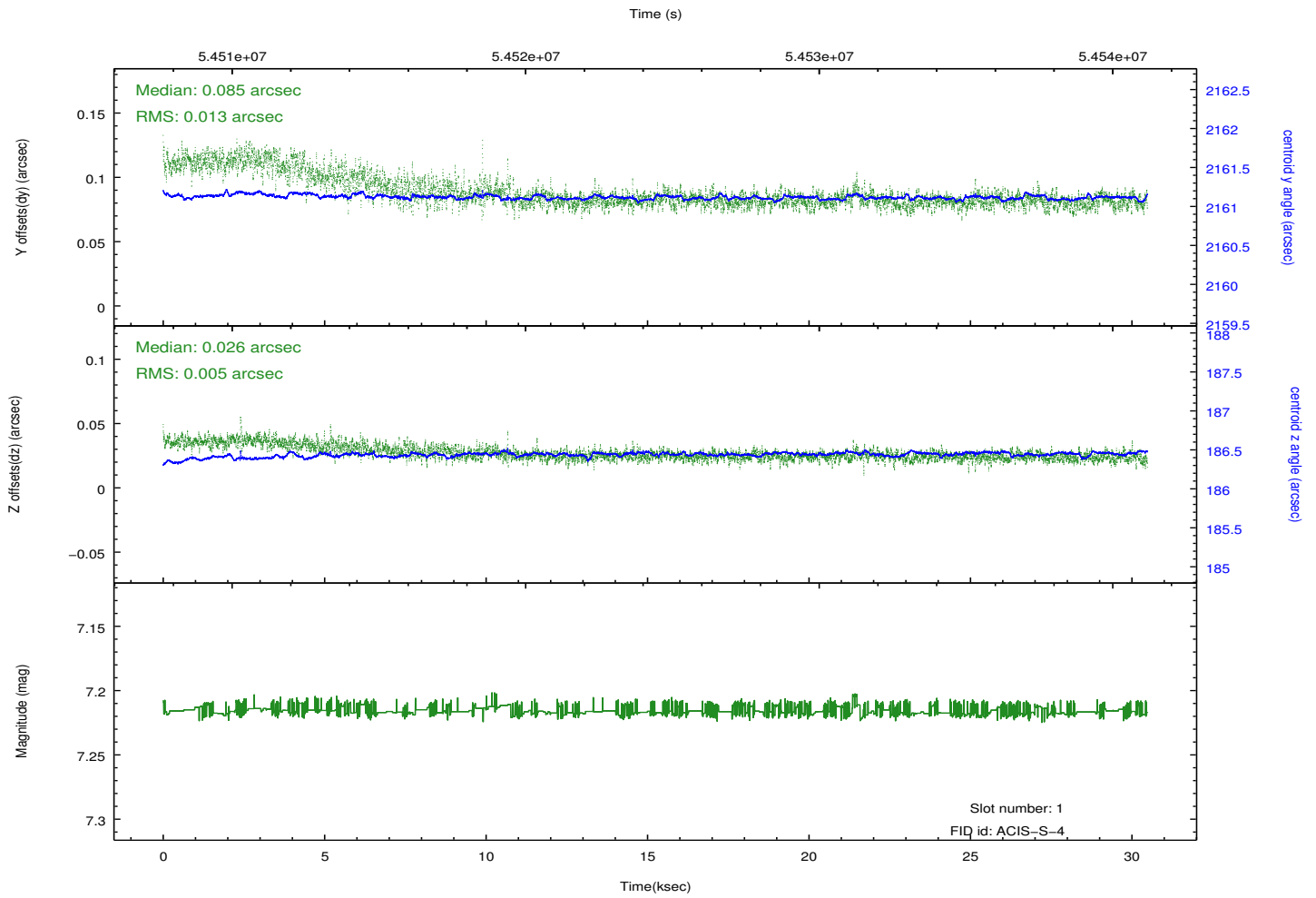
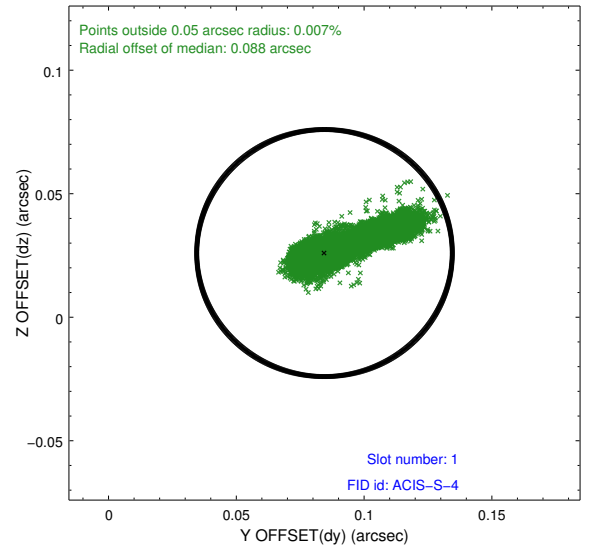
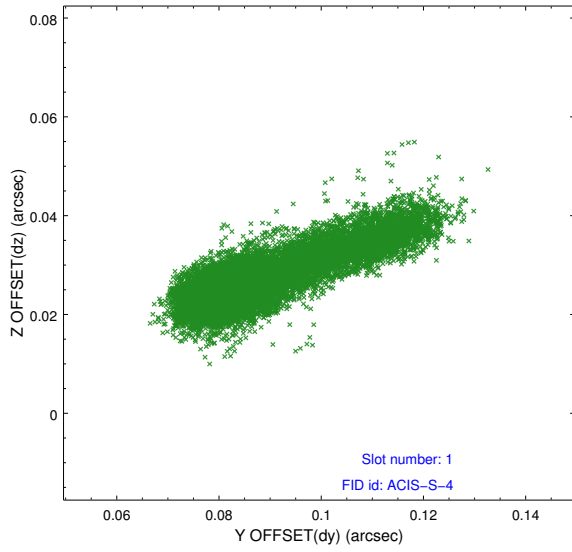


## 2.5 FID Slots

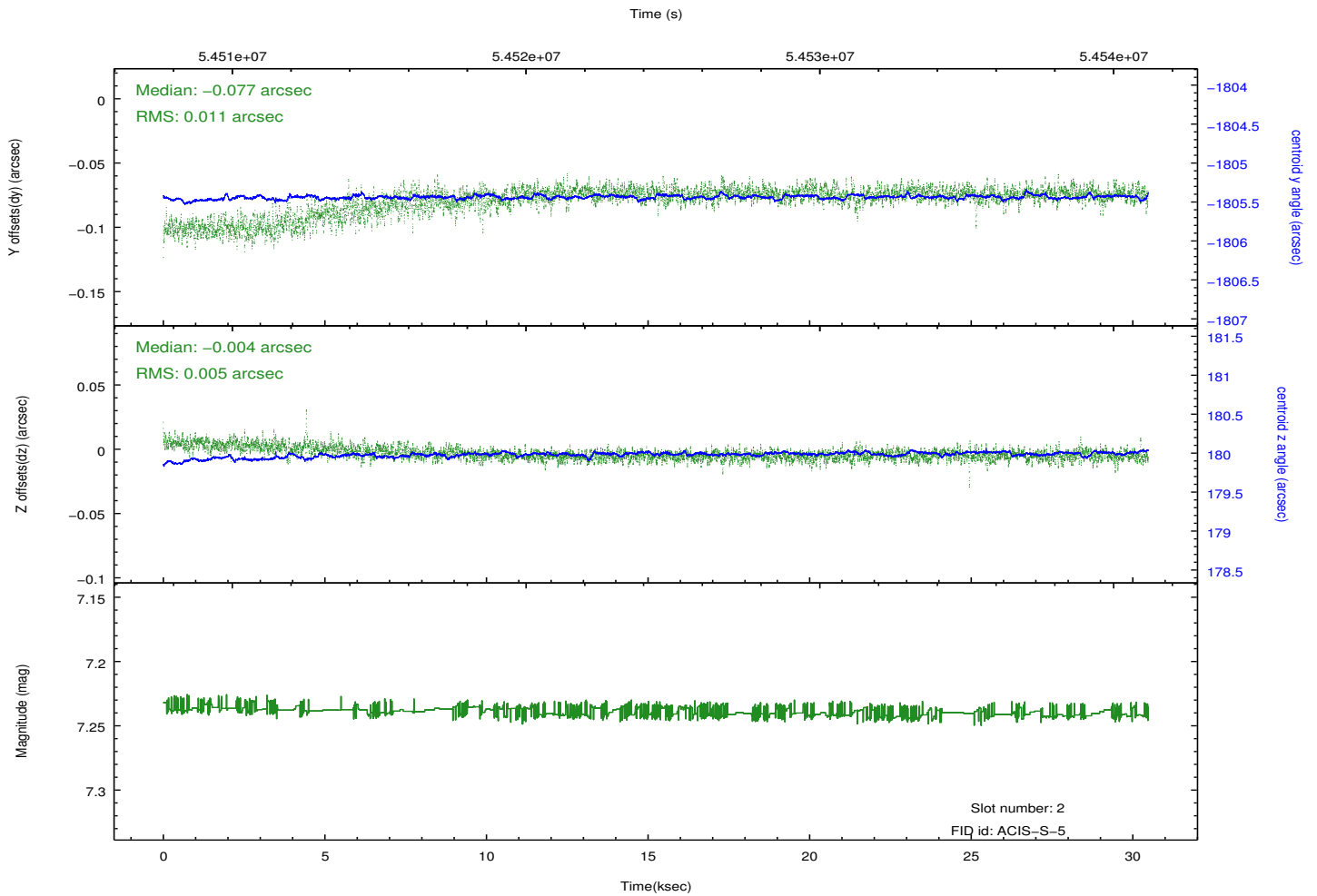
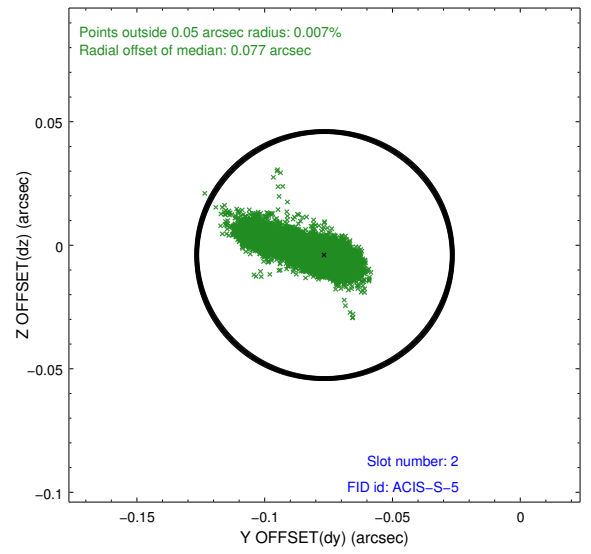
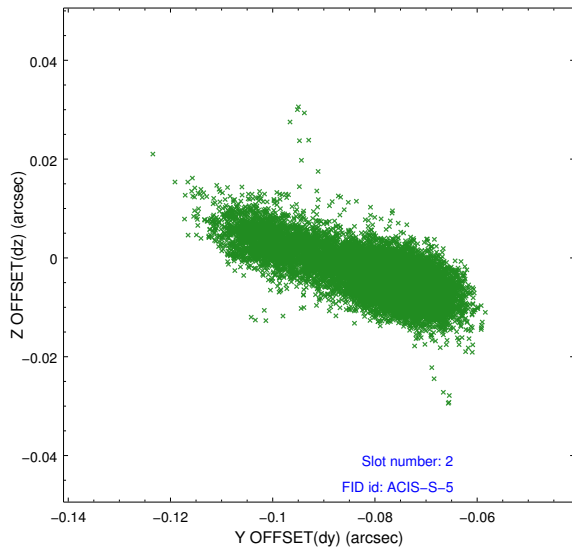
### 2.5.1 Slot 0



## 2.5.2 Slot 1

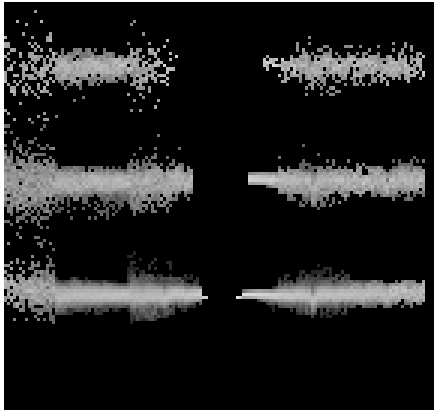


### 2.5.3 Slot 2

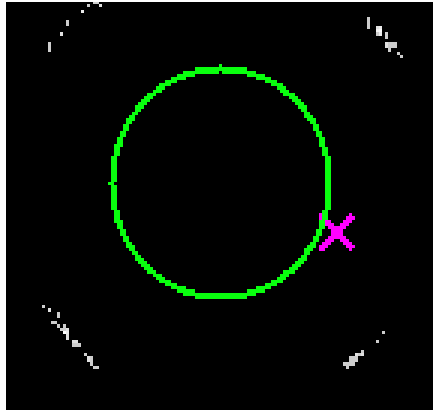


# 3 Gratings

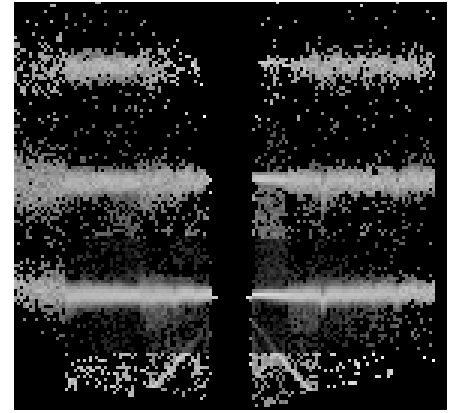
## 3.1 HEG Arm



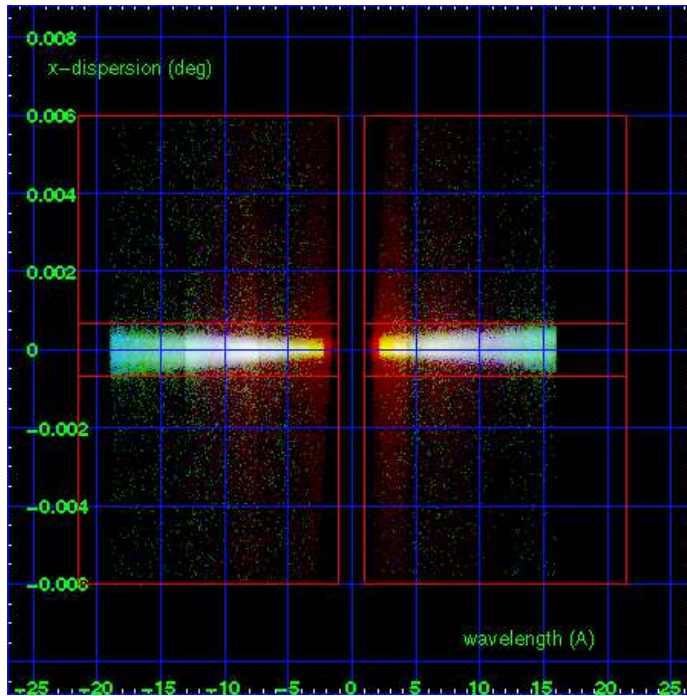
HEG Order Sort 123



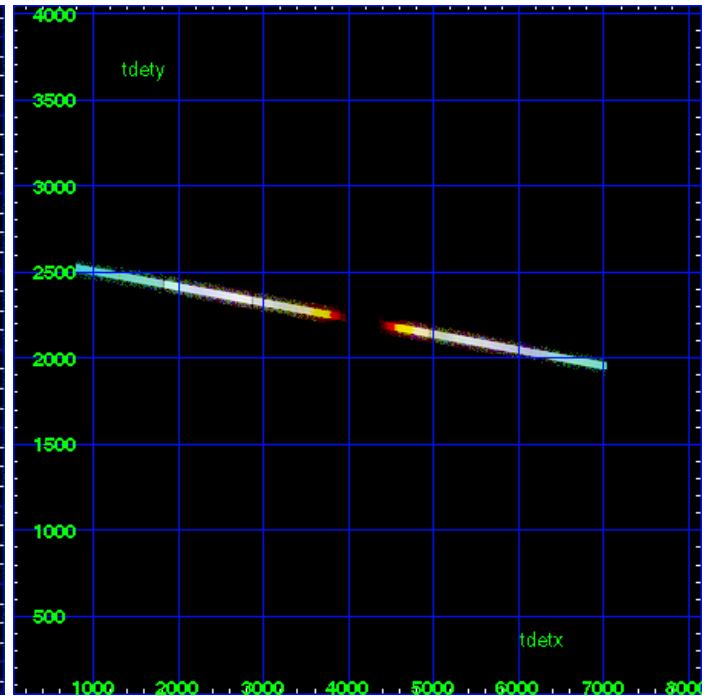
HEG Zero Order



HEG Order Sort ALL

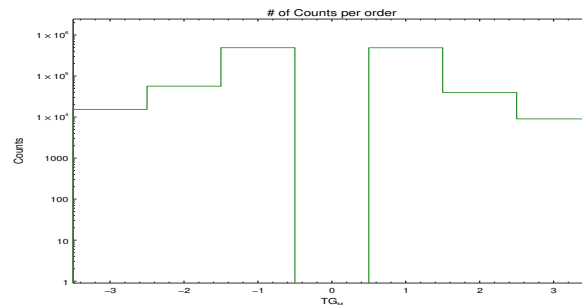


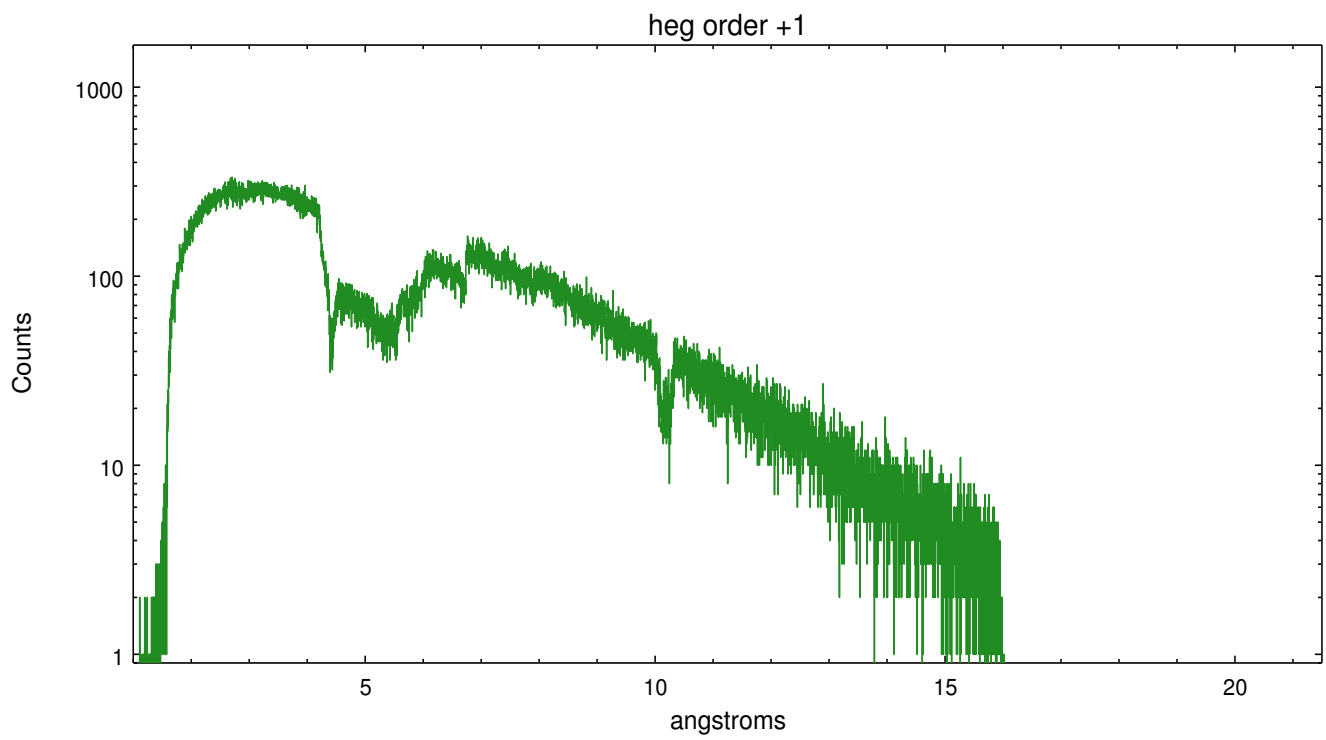
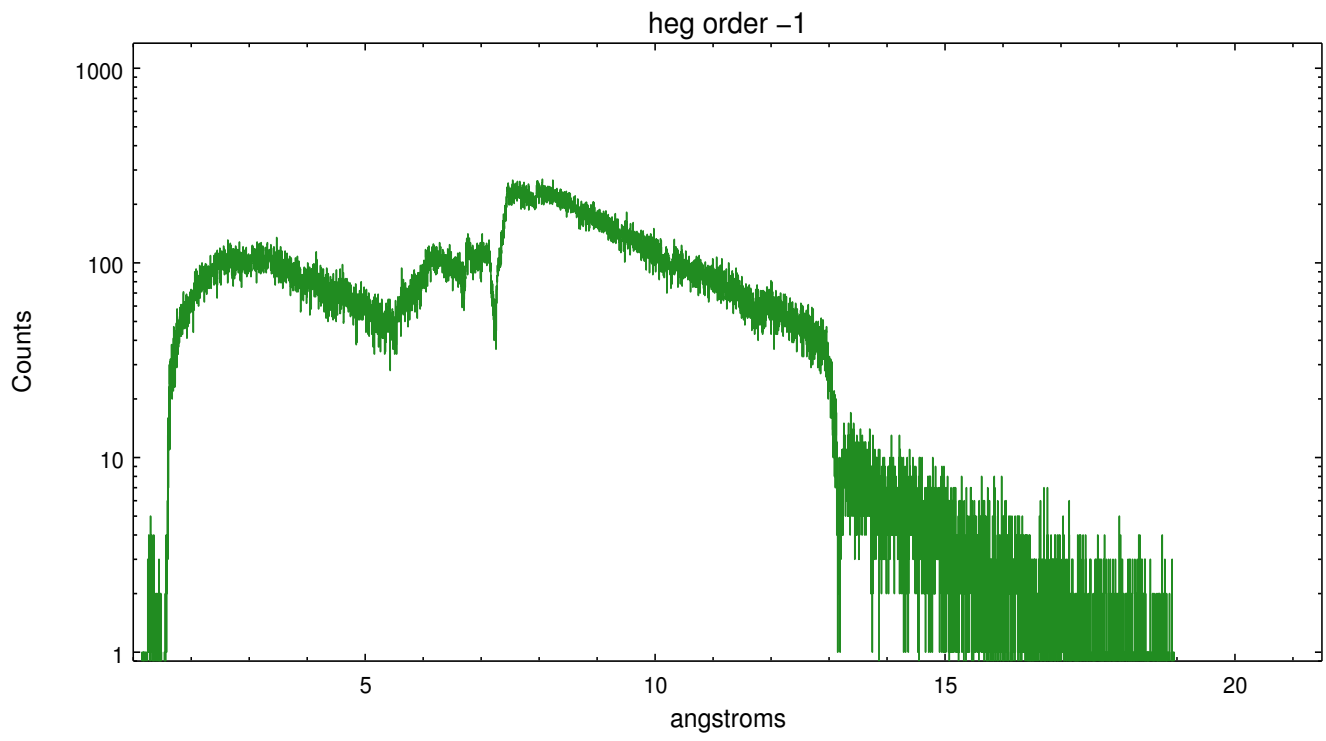
Spot Image HEG



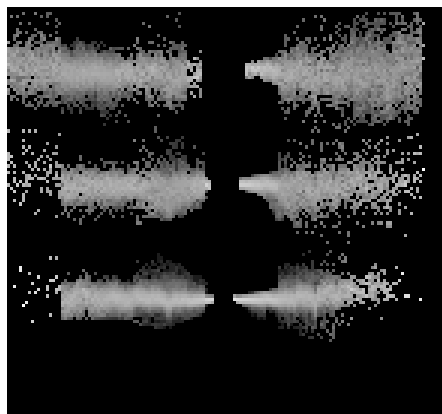
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	15393	56586	489784	0	488208	39661	9022

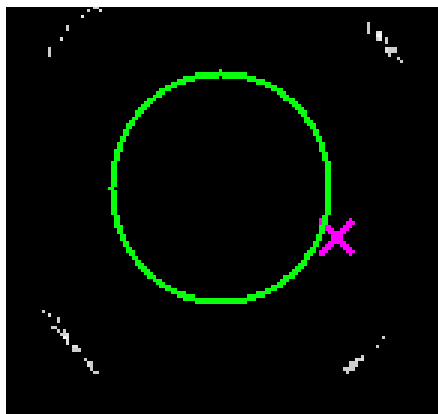




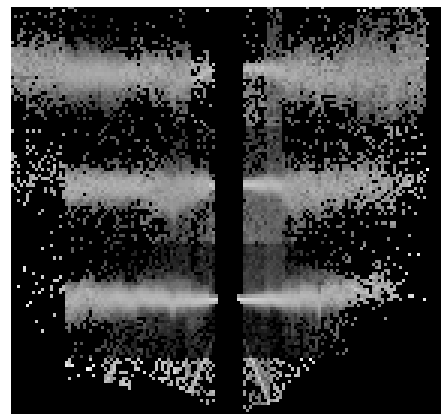
### 3.2 MEG Arm



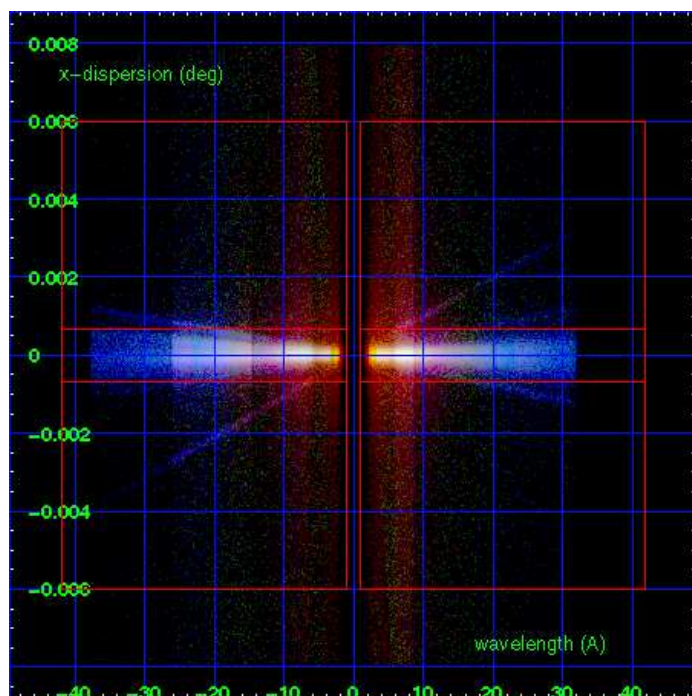
MEG Order Sort 123



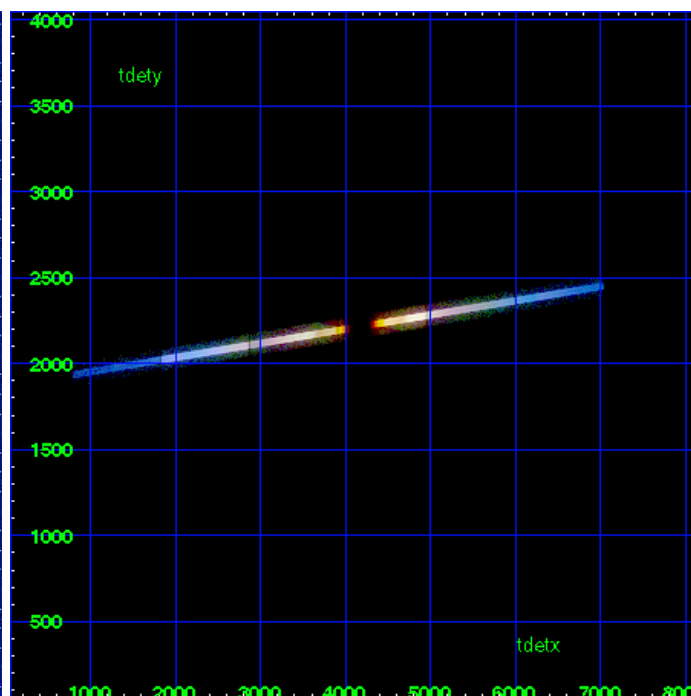
MEG Zero Order



MEG Order Sort ALL

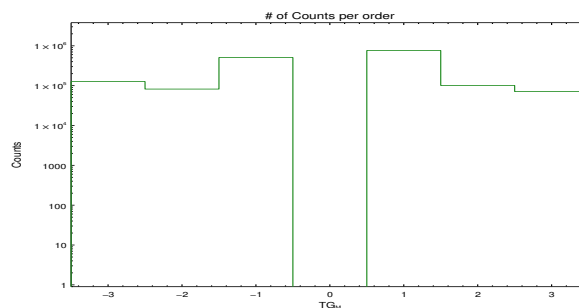


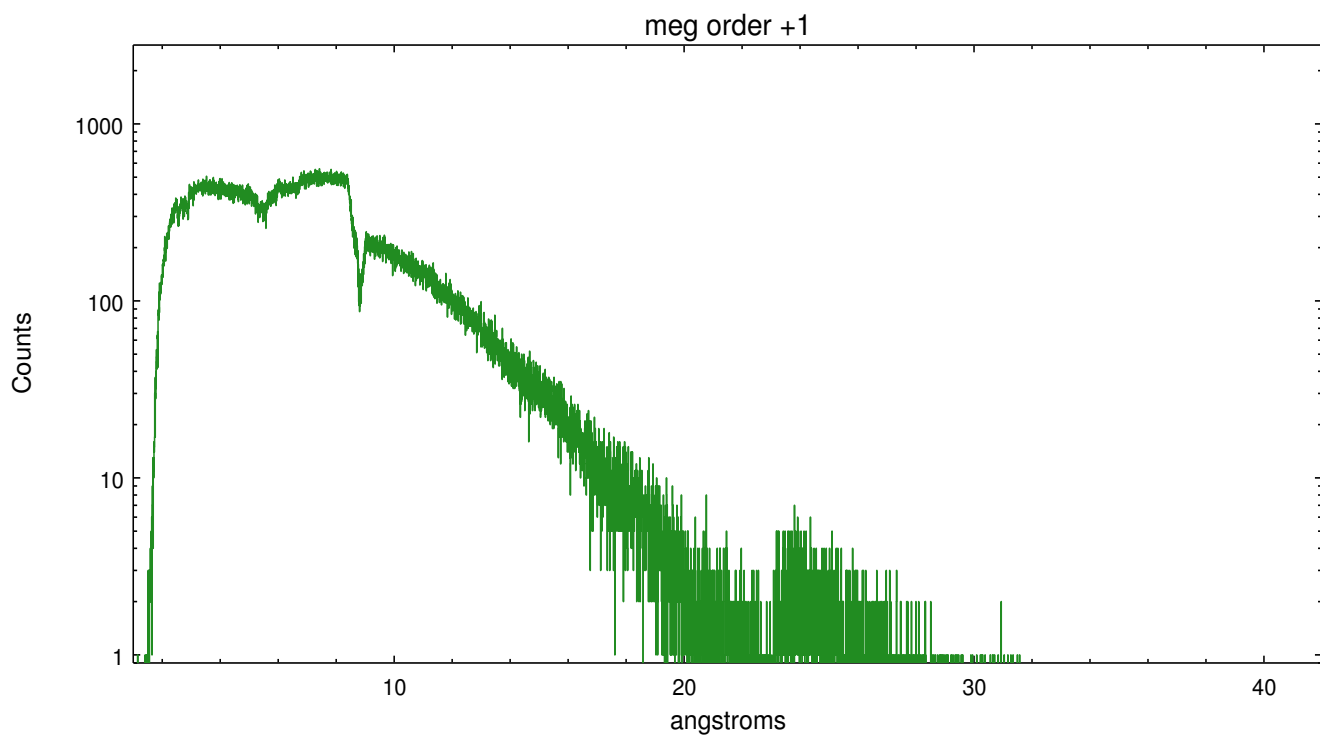
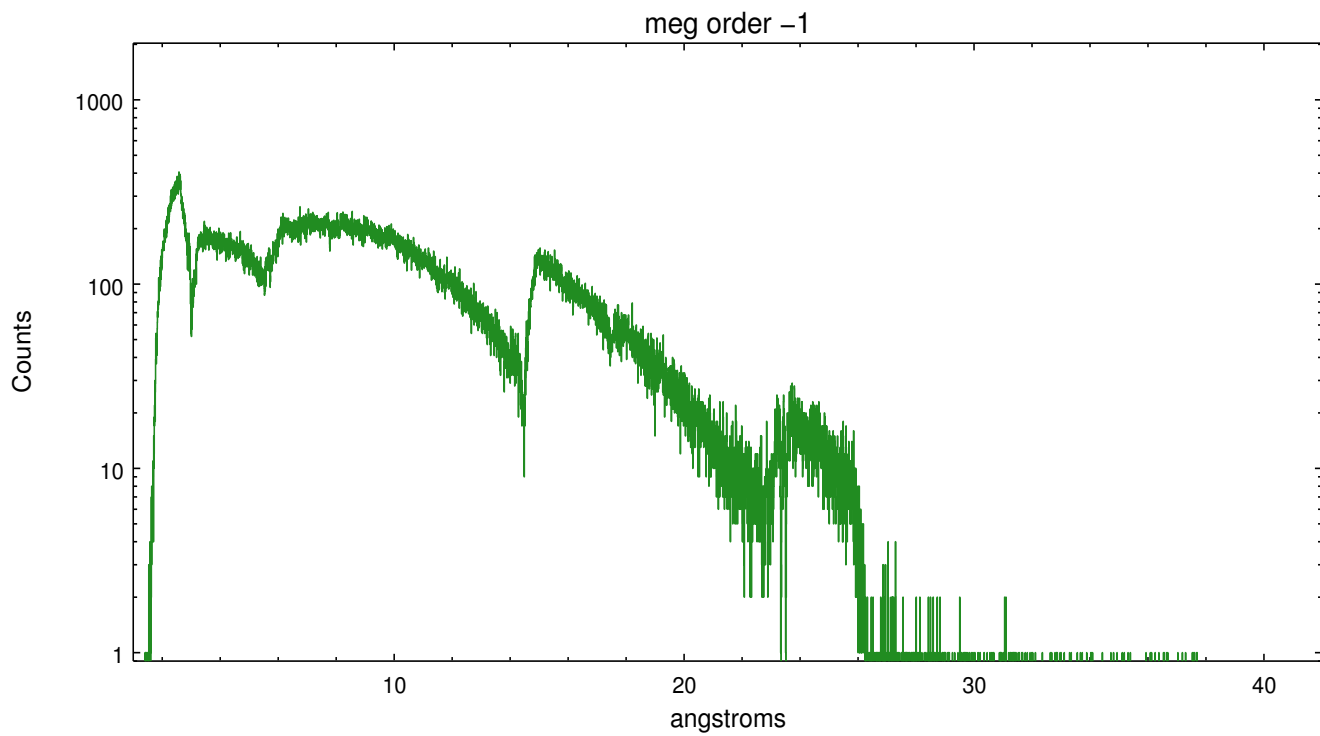
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	126596	82022	507148	0	761079	101116	71212





# A Summary

## A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2010.11.08
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	28.976

## A.2 Comments

Note: the dispersed spectra are visible in a bad-events image, which means that they are probably significantly piled.