

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 13512 - L2 Version 1  
Chandra X-Ray Center

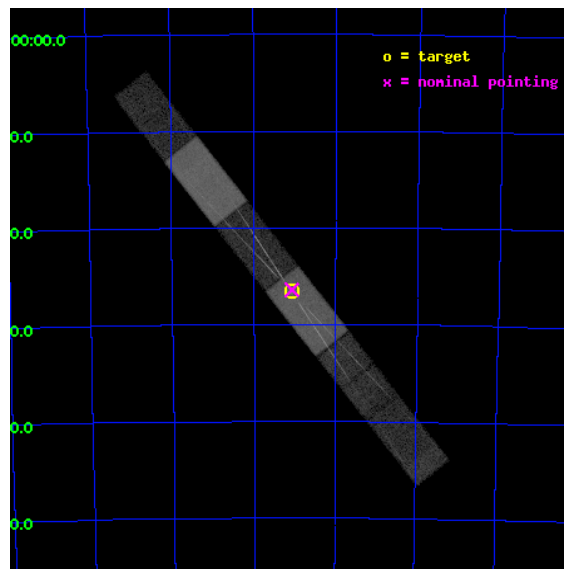
L2 Processing Date : Aug 23 2012

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# 1 Front

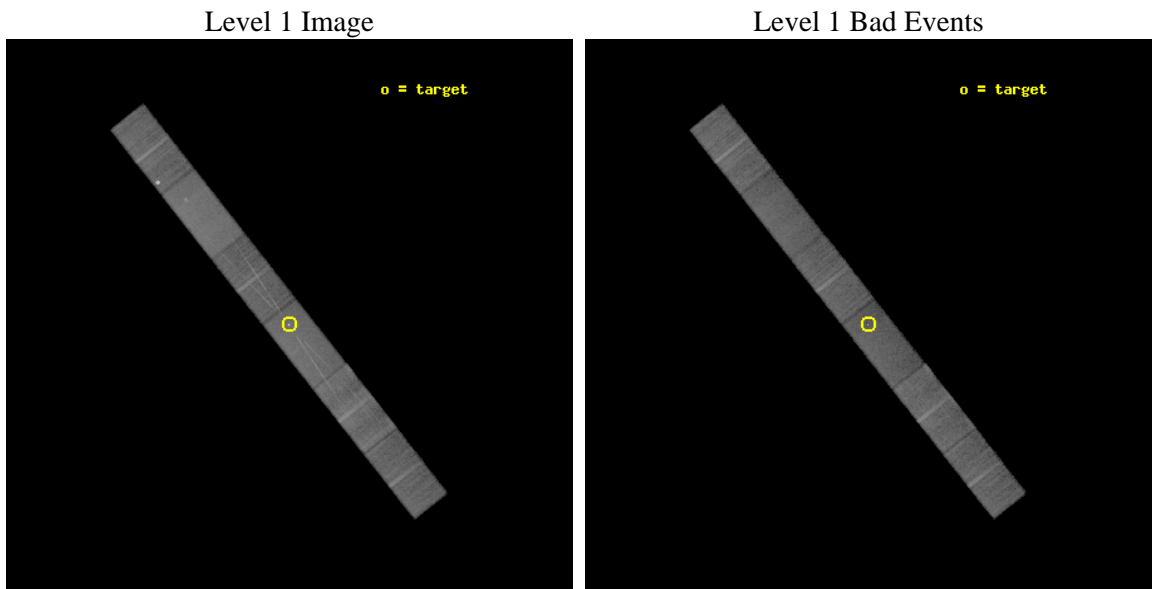
seq_num	401302	Sequence number
obs_id	13512	Observation id
title	The Wind and Warp of SMC X-1	Proposal title
observer	Prof Claude Canizares	Principal investigator
object	SMC X-1	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	19.271667	Observer's specified target RA [deg]
dec_targ	-73.442944	Observer's specified target Dec [deg]
ra_nom	19.268132417329	Nominal RA [deg]
dec_nom	-73.44009370822	Nominal Dec [deg]
roll_nom	51.653238345626	Nominal Roll [deg]
revision	1	Processing version of data
ontime	36049.67022109	Sum of GTIs [s]
livetime	35199.90314746	Livetime [s]
ontime4	36049.711261094	Sum of GTIs [s]
ontime5	36049.629181087	Sum of GTIs [s]
ontime6	36047.847101092	Sum of GTIs [s]
ontime7	36049.67022109	Sum of GTIs [s]
ontime8	36049.54710108	Sum of GTIs [s]
ontime9	36049.506061077	Sum of GTIs [s]
l2events	192439	Number of level 2 events



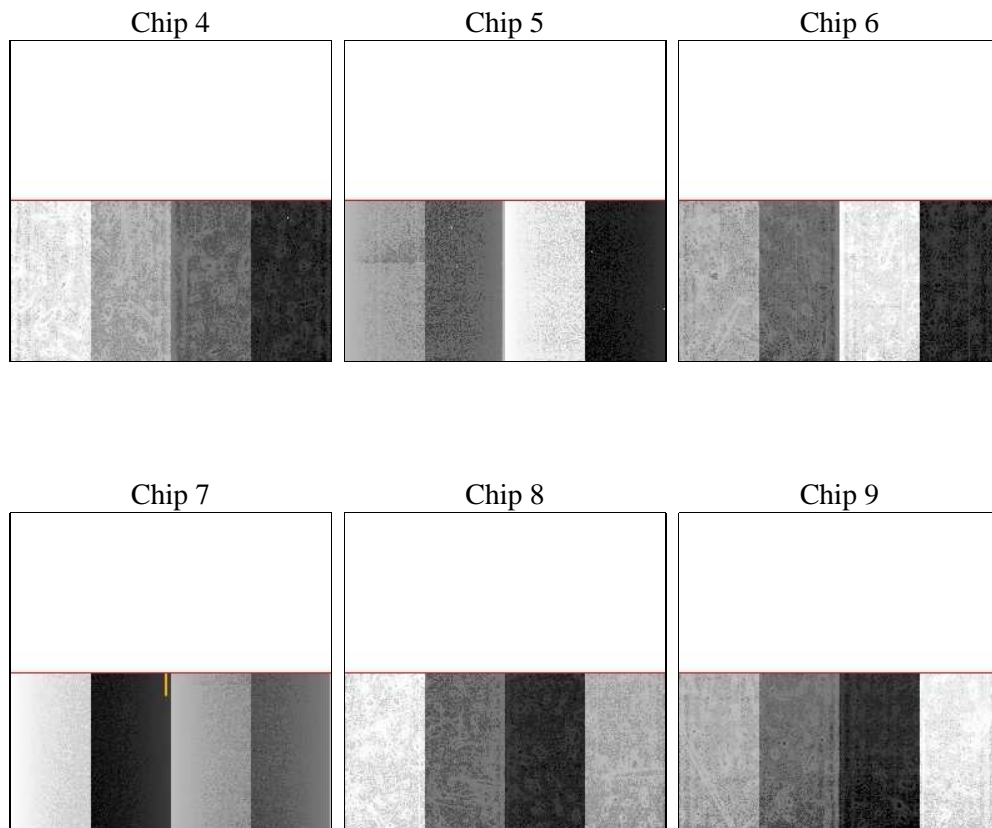
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	36000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	36049.67022109	Sum of GTIs [s]
caldbver	4.5.1.1	&#160	ontime4	36049.711261094	Sum of GTIs [s]
date	2012-08-23T04:19:07	Date and time of file creation	ontime5	36049.629181087	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	36047.847101092	Sum of GTIs [s]
			ontime7	36049.67022109	Sum of GTIs [s]
			ontime8	36049.54710108	Sum of GTIs [s]
			ontime9	36049.506061077	Sum of GTIs [s]
			l1events	743146	Number of level 1 events

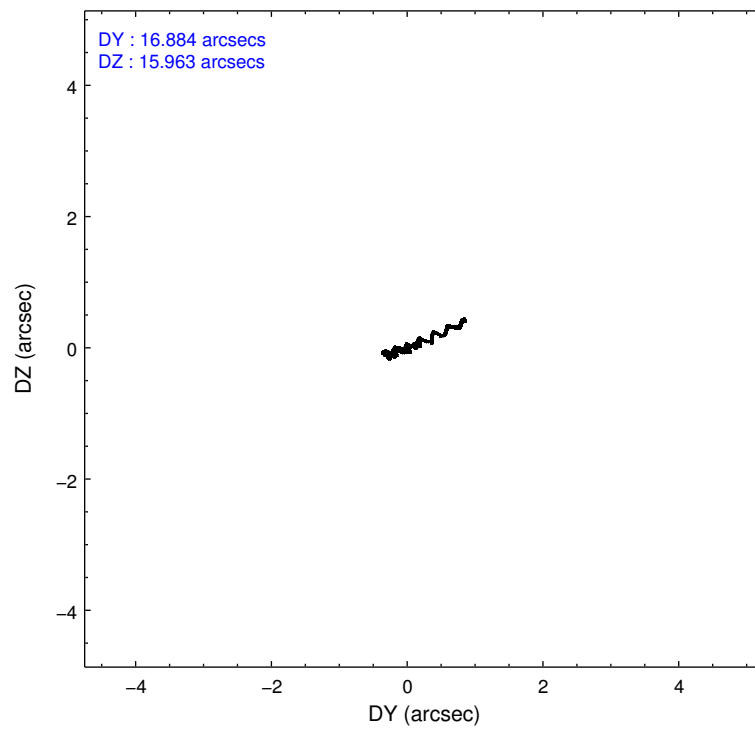
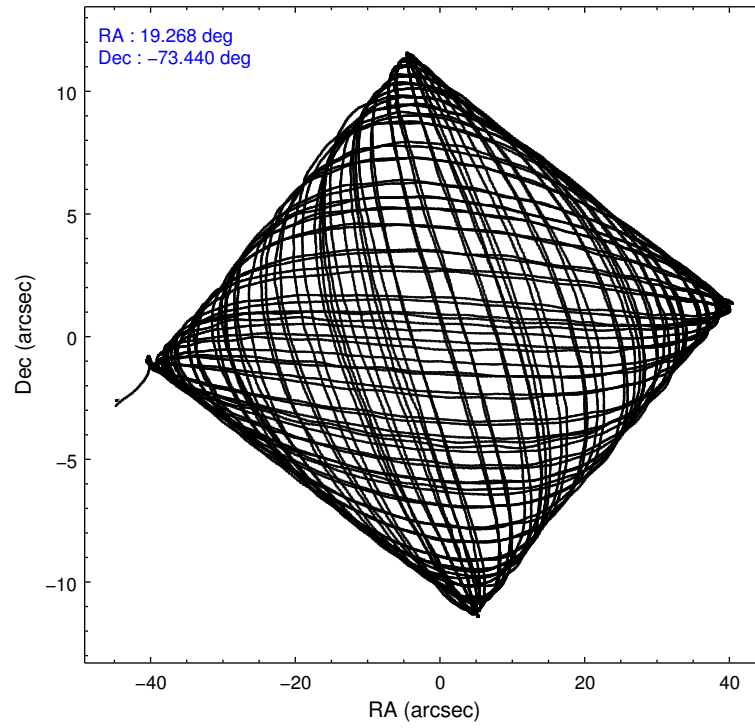
### 2.1.4 Events

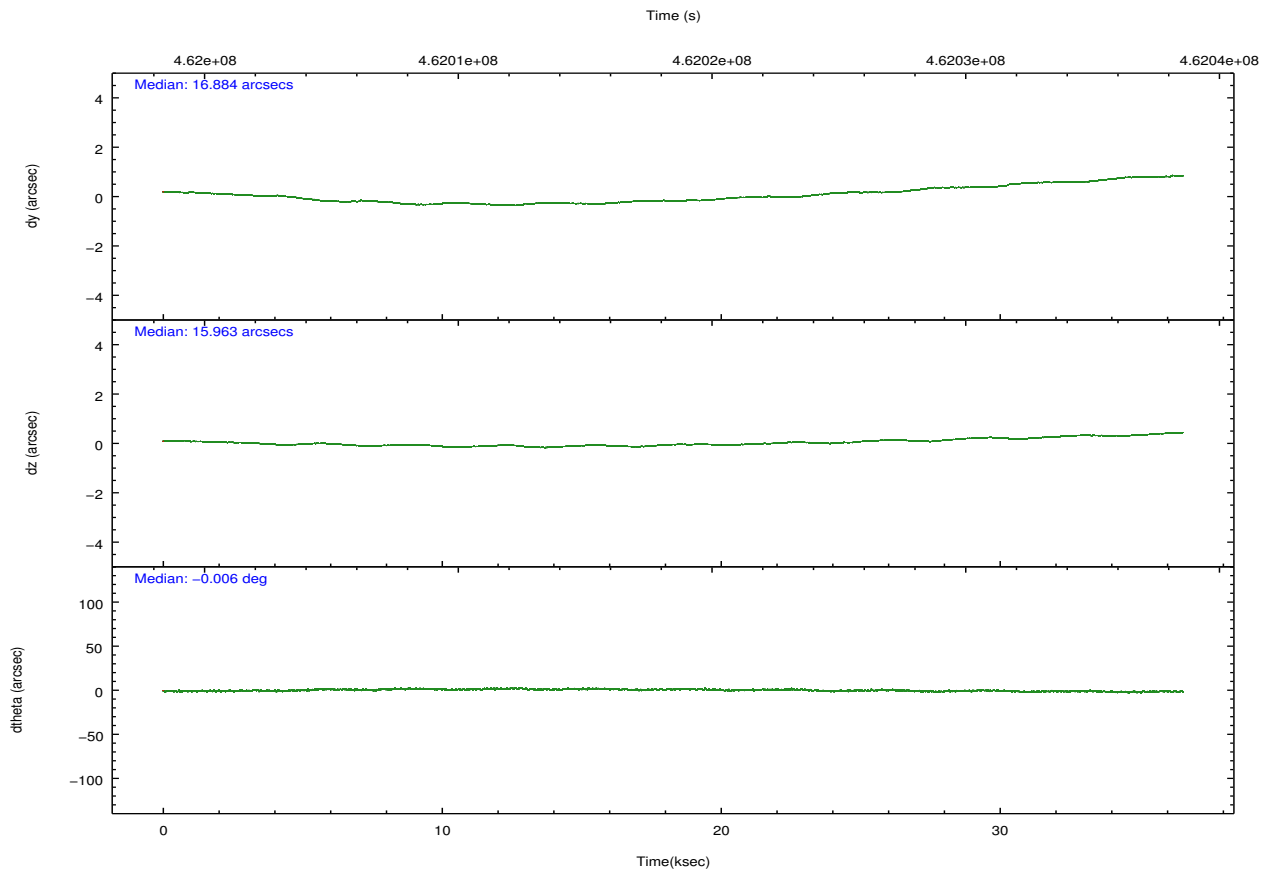
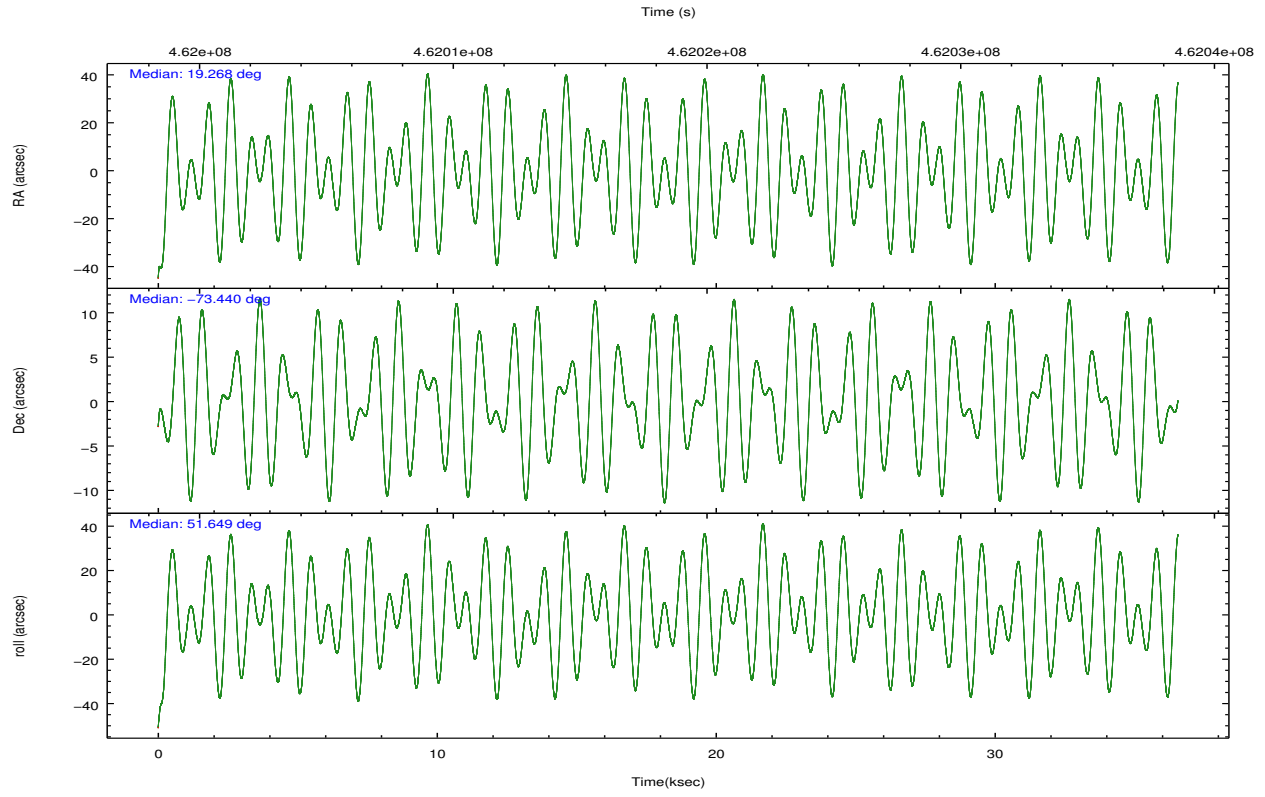
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	117459	151427	103457	142142	133676	94985	grade 0 events	12713	6377	8282	8388	11073	4457
rejected events	96490	77237	85439	69499	97196	82202		10%	4%	8%	5%	8%	4%
rejected %	82%	51%	82%	48%	72%	86%	grade 1 events	109	245	48	260	81	46
								0%	0%	0%	0%	0%	0%
							grade 2 events	3065	21272	3398	15299	8189	2704
								2%	14%	3%	10%	6%	2%
							grade 3 events	1469	4039	1741	7047	3769	1535
								1%	2%	1%	4%	2%	1%
							grade 4 events	1406	3974	1648	7021	3585	1559
								1%	2%	1%	4%	2%	1%
							grade 5 events	4348	12818	4658	13582	6541	4891
								3%	8%	4%	9%	4%	5%
							grade 6 events	2317	38533	2949	34894	9866	2528
								1%	25%	2%	24%	7%	2%
							grade 7 events	92032	64169	80733	55651	90572	77265
								78%	42%	78%	39%	67%	81%

## 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	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	19.255545	19.26813241732879	CCD I2 on	N	N
[deg] Pointing Dec	-73.467182	-73.44009370821959	CCD I3 on	N	N
[deg] Pointing Roll	51.484541	51.65323834562626	CCD S0 on	O1	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-183.992523	-183.985022191653	CCD S3 on	Y	Y
[mm] SIM translation stage offset	-6.14	-6.147500391354811	CCD S4 on	Y	Y
[s] Observation start time (MET)	462000743.184000	461999494.49224	CCD S5 on	Y	Y
Observation start date	2012-08-22T05:31:16	2012-08-22T05:11:34	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	462036743.184000	462037329.80677	On-chip summing requested	N	N
Observation end date	2012-08-22T15:31:16	2012-08-22T15:42:09	Subarray requested	CUSTOM	1/2
Read mode	TIMED	TIMED	Subarray start row	1	1
			Subarray row count	512	512
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	1.7

## 2.3 Aspect



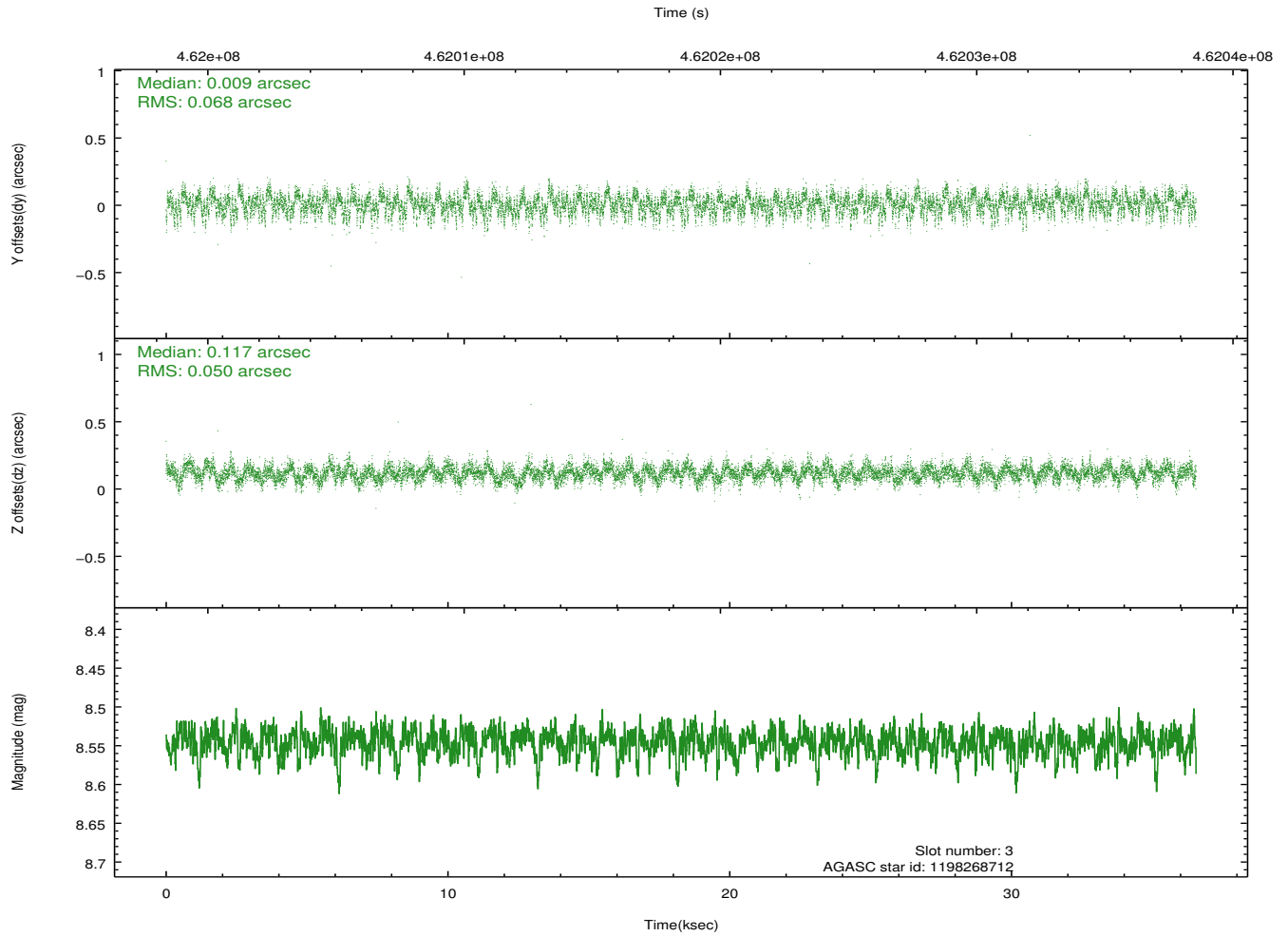
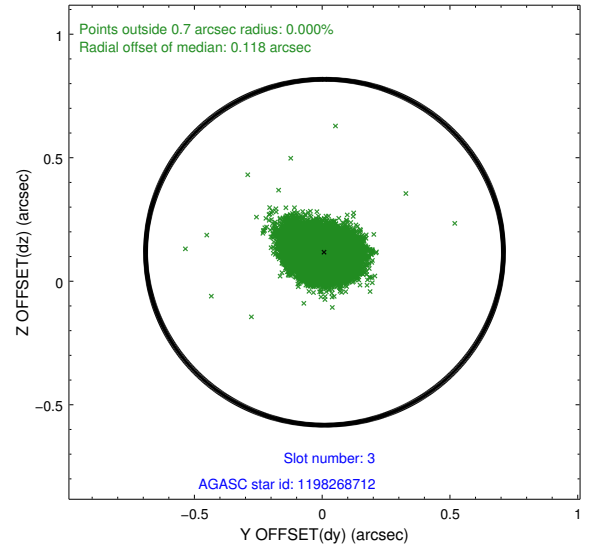
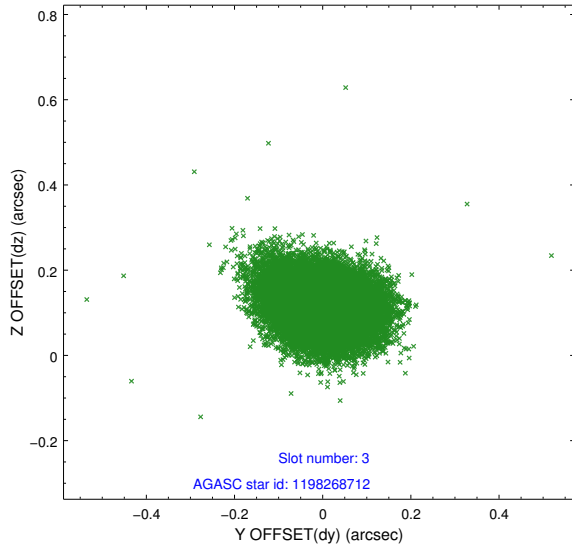


### Slot Statistics

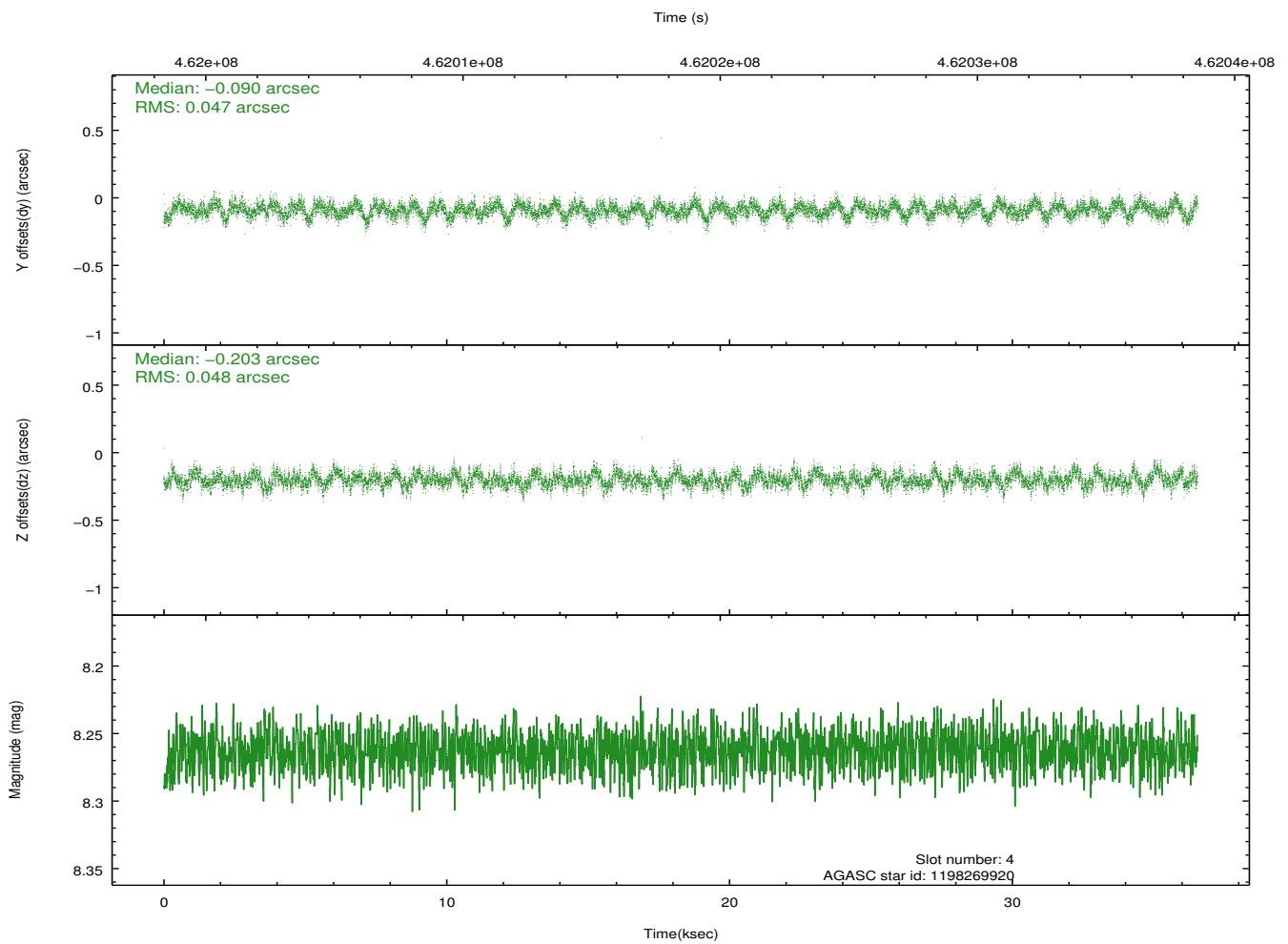
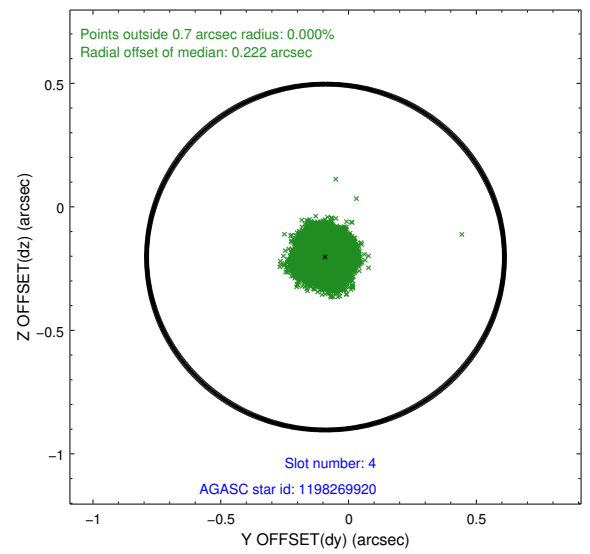
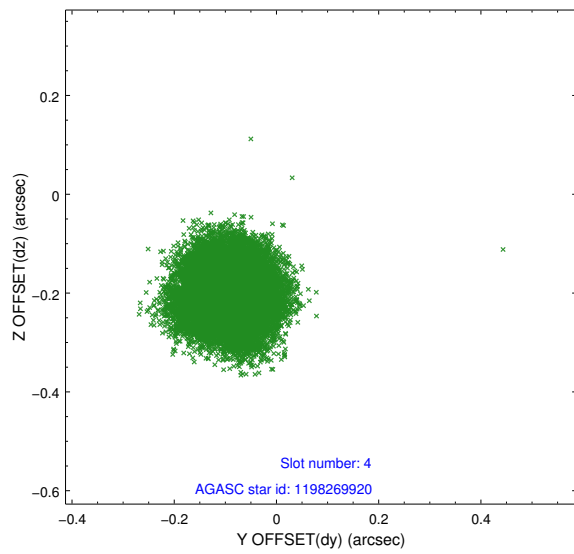
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	7.03	8917	0.080	0.187	0.009	0.019	0.000000	0.000000	926.58	-1859.56
1	FID	ACIS-S-2	6.94	8917	-0.191	-0.133	0.008	0.014	0.000000	0.000000	-769.58	-1864.49
2	FID	ACIS-S-6	7.23	8917	0.092	-0.050	0.007	0.013	0.000000	0.000000	392.22	681.48
3	GUIDE	1198268712	8.55	17825	0.009	0.117	0.089	0.146	21.961983	-73.269598	2253.84	-1790.23
4	GUIDE	1198269920	8.26	17828	-0.090	-0.203	0.072	0.114	20.316466	-73.033728	1907.89	93.46
5	GUIDE	1198272400	9.17	17794	0.012	-0.008	0.114	0.183	20.411923	-73.620598	290.55	-1269.20
6	GUIDE	1198273408	9.31	17818	-0.042	0.010	0.095	0.154	17.532323	-73.621495	-1543.10	1006.87
7	GUIDE	1198276744	8.60	17824	0.124	0.083	0.081	0.127	19.489008	-74.153493	-1790.12	-1718.21

## 2.4 Star Slots

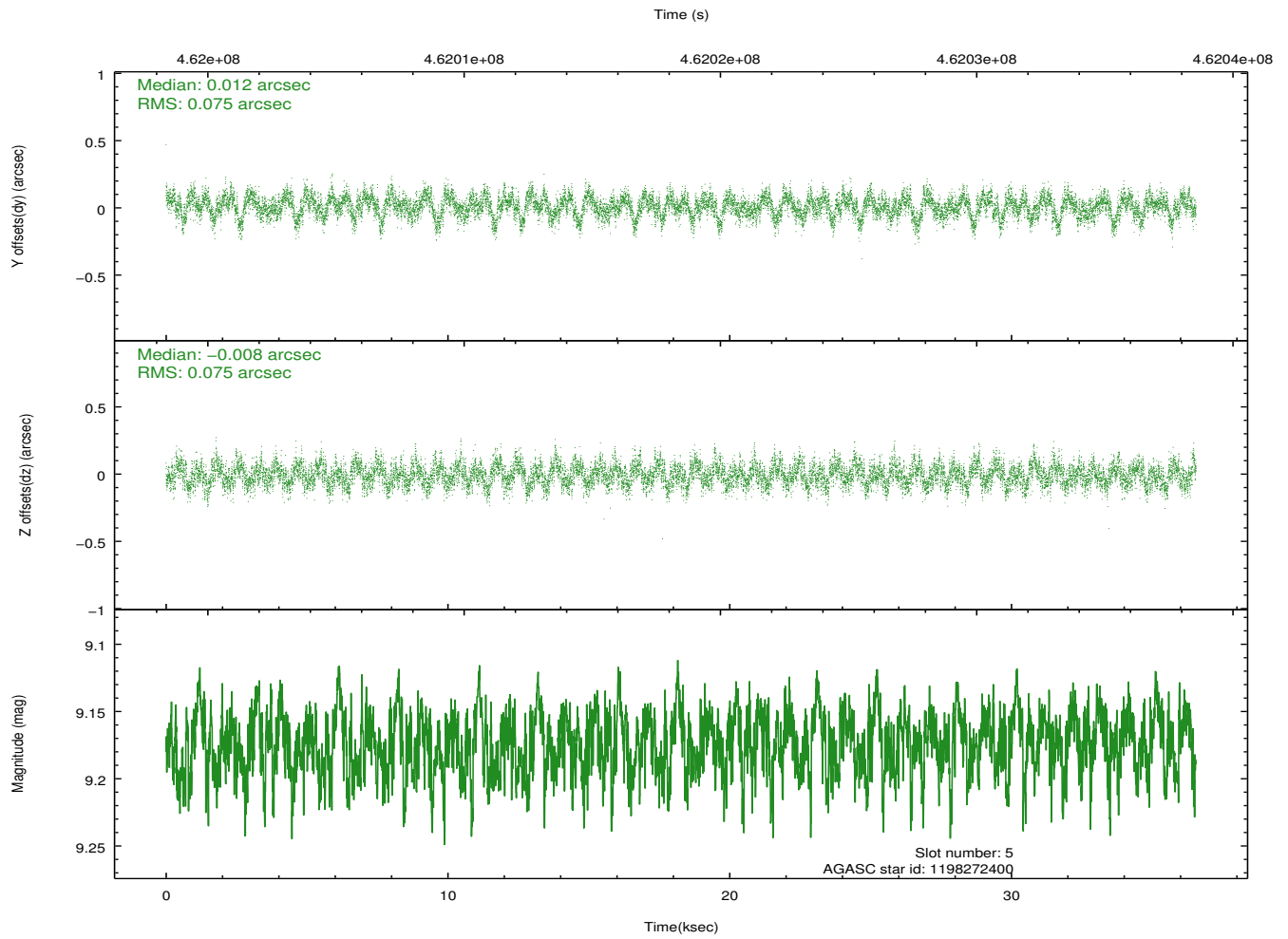
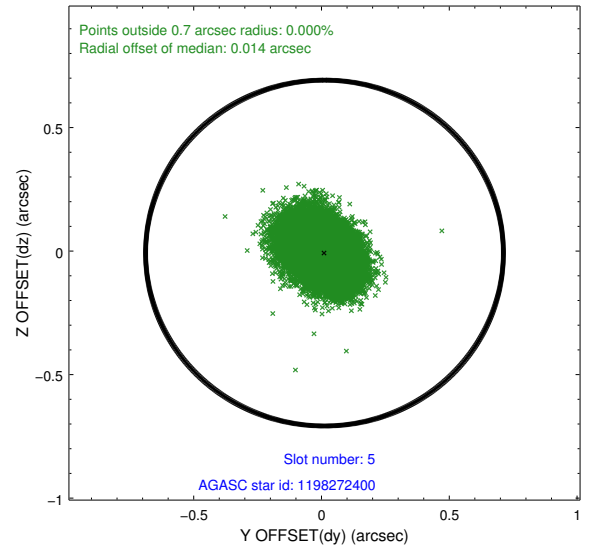
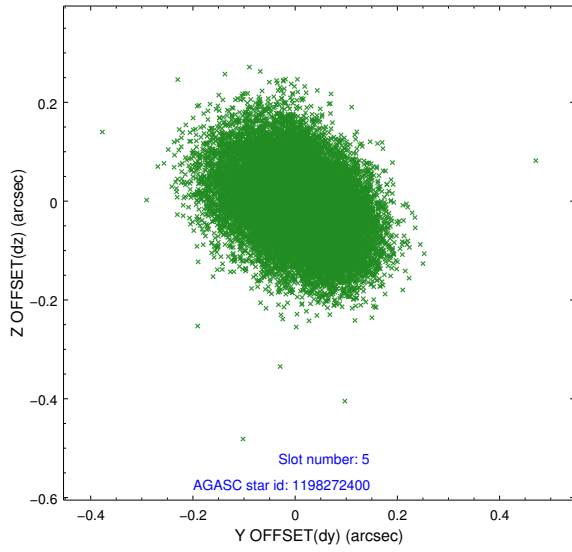
### 2.4.1 Slot 3



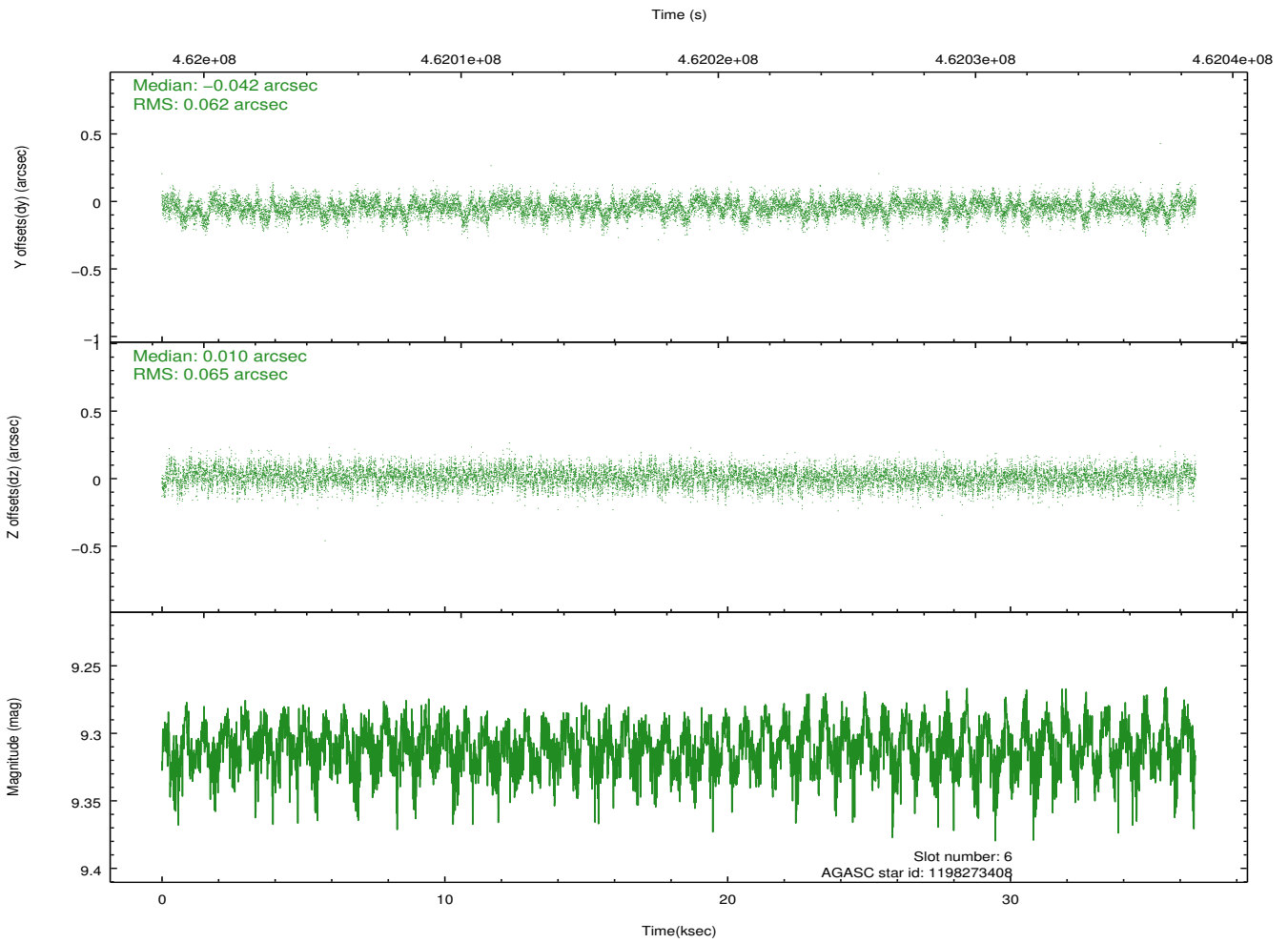
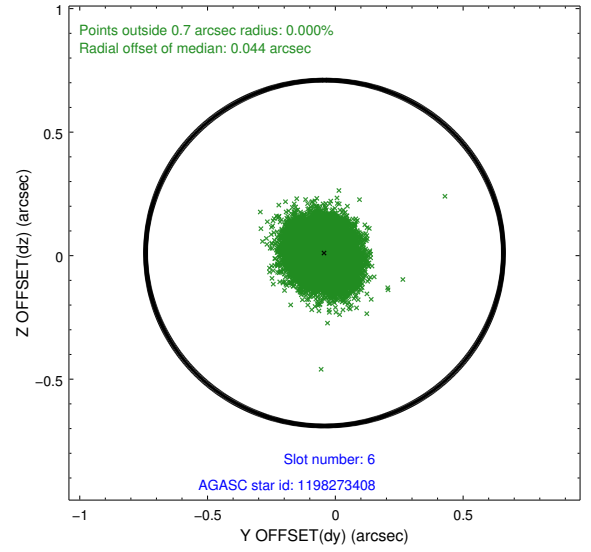
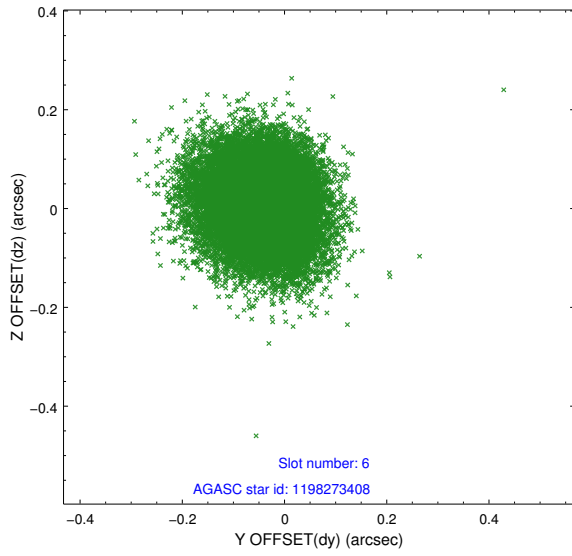
## 2.4.2 Slot 4



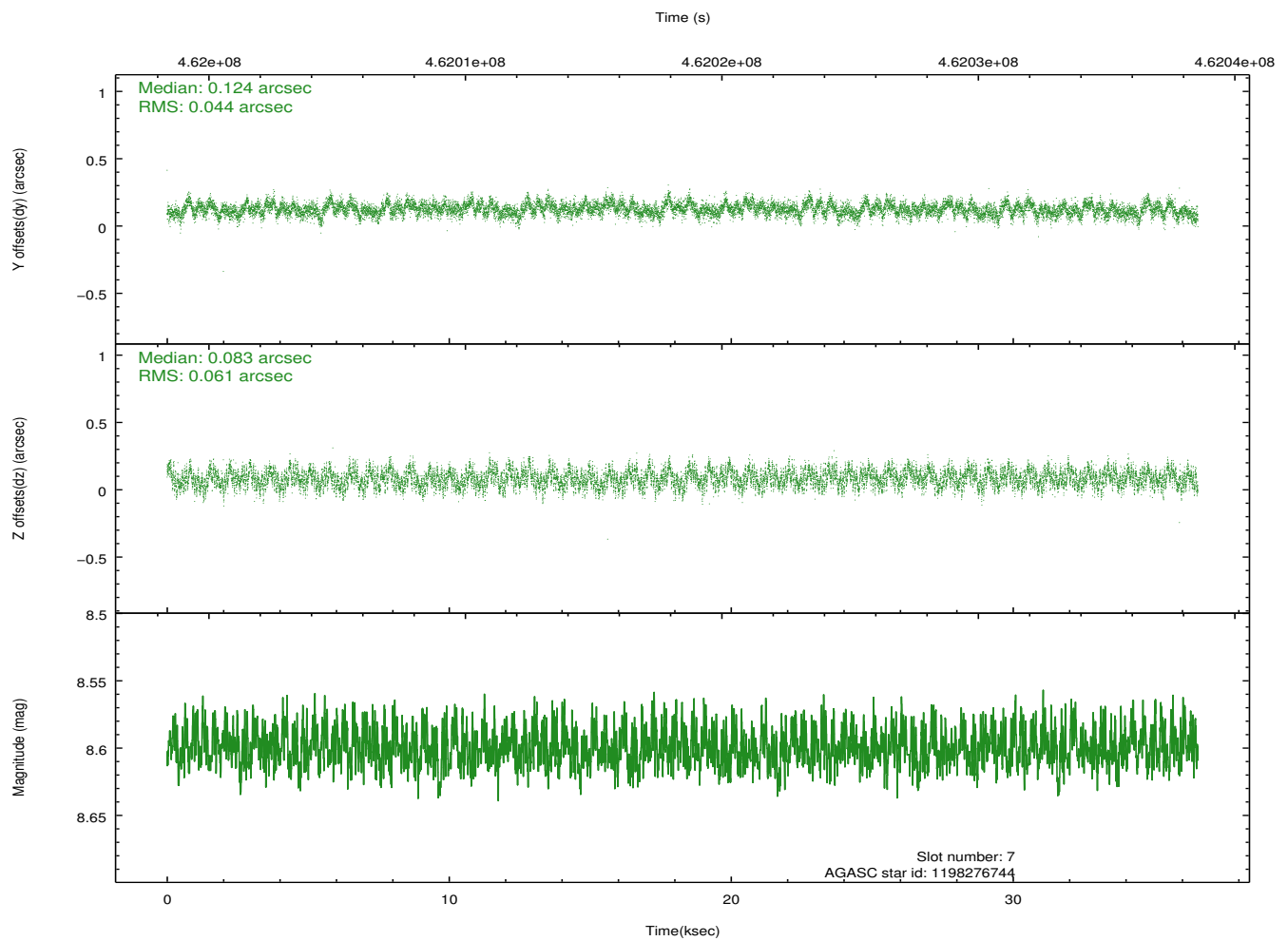
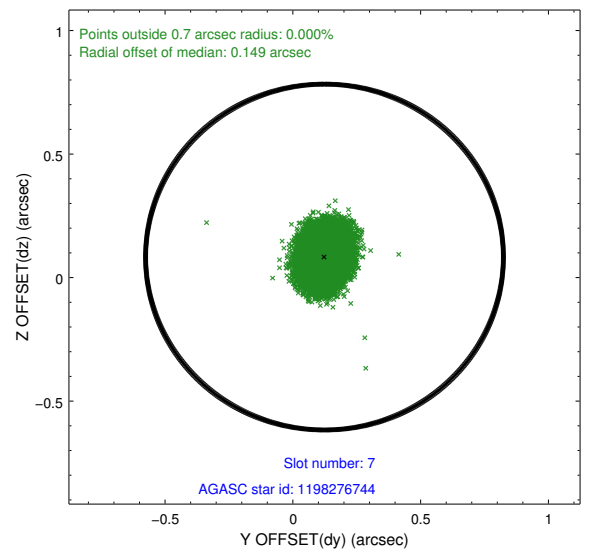
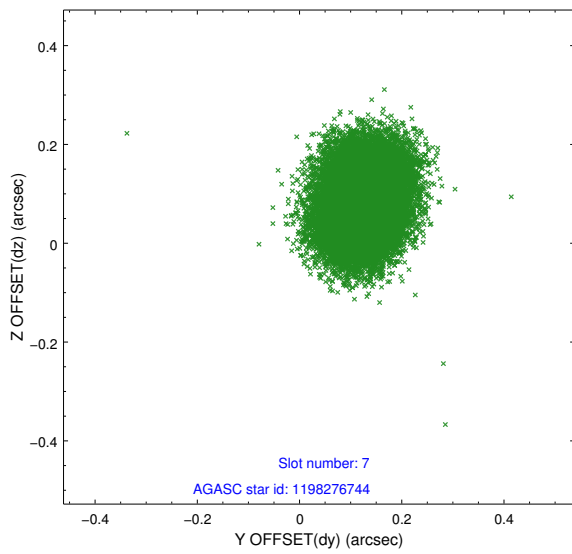
### 2.4.3 Slot 5



### 2.4.4 Slot 6

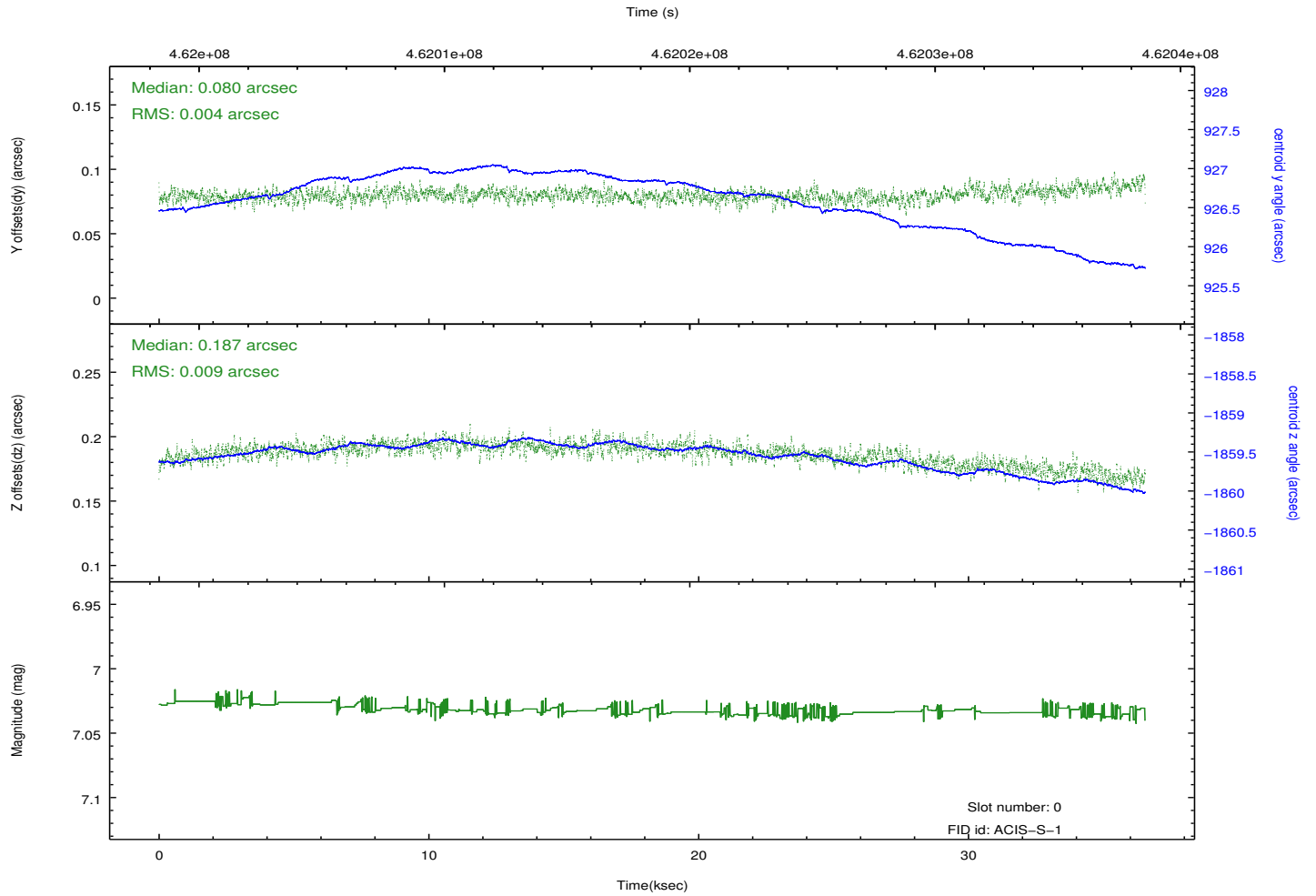
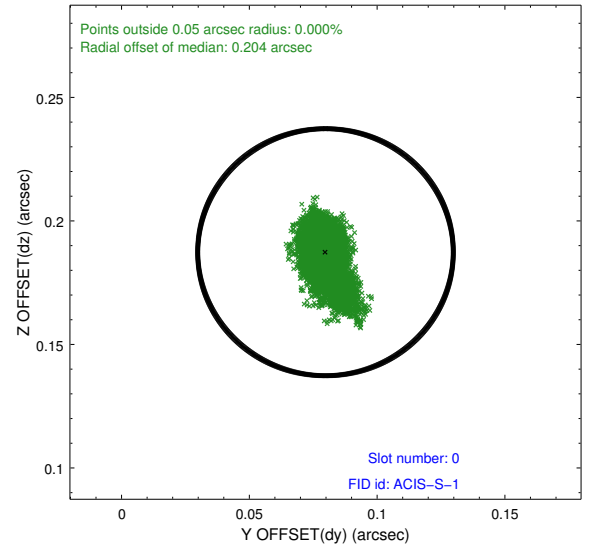
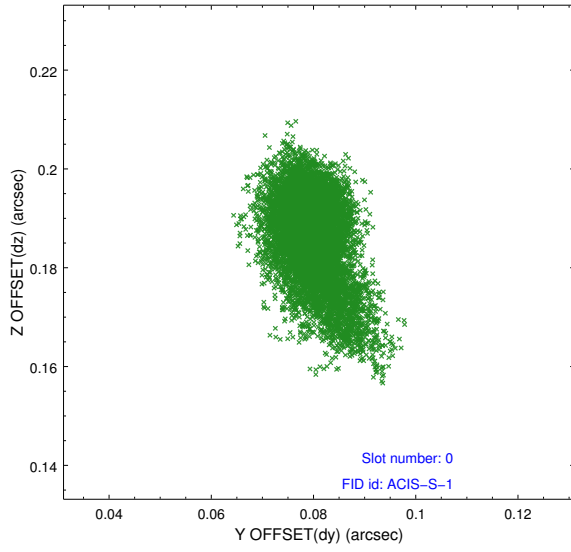


## 2.4.5 Slot 7

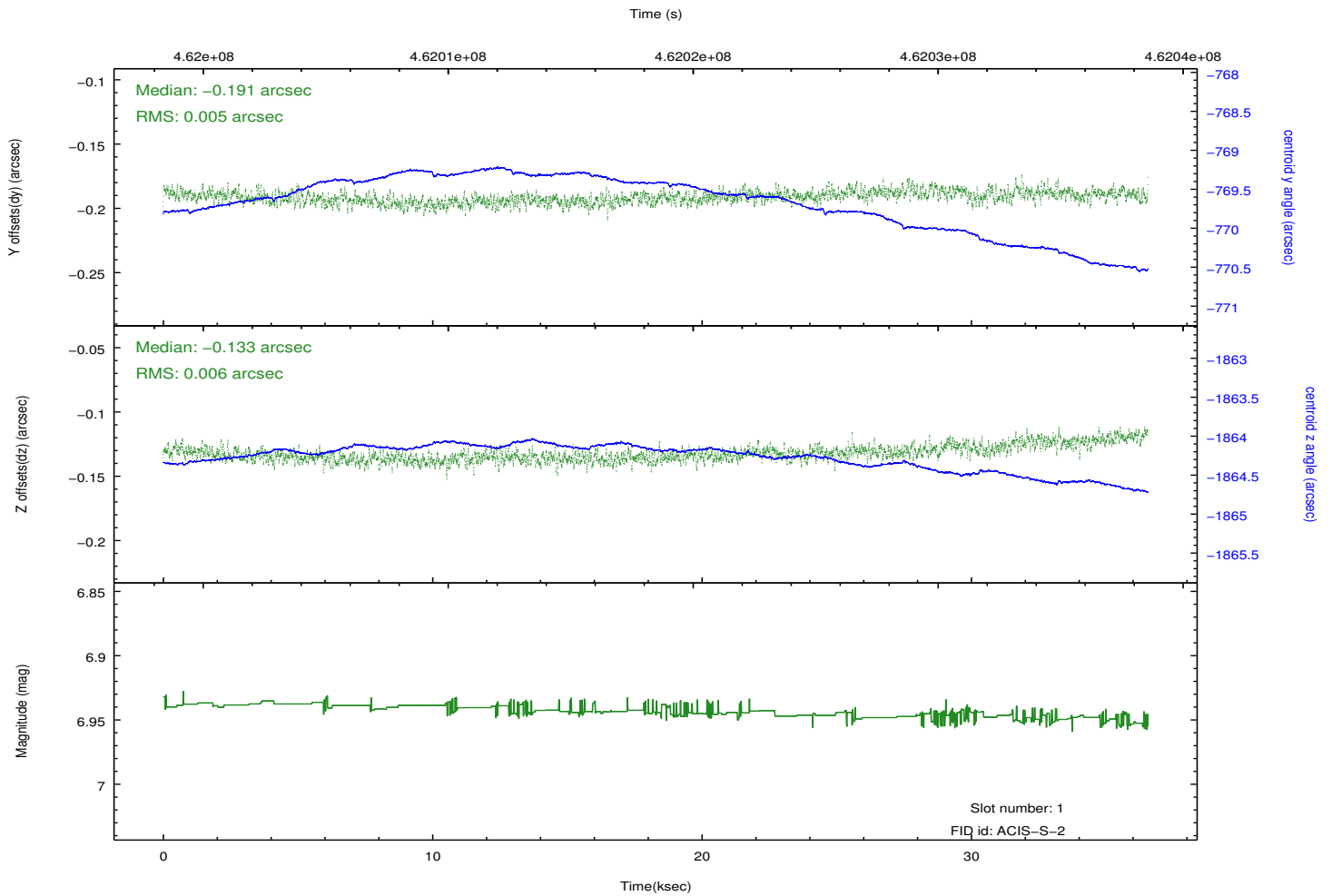
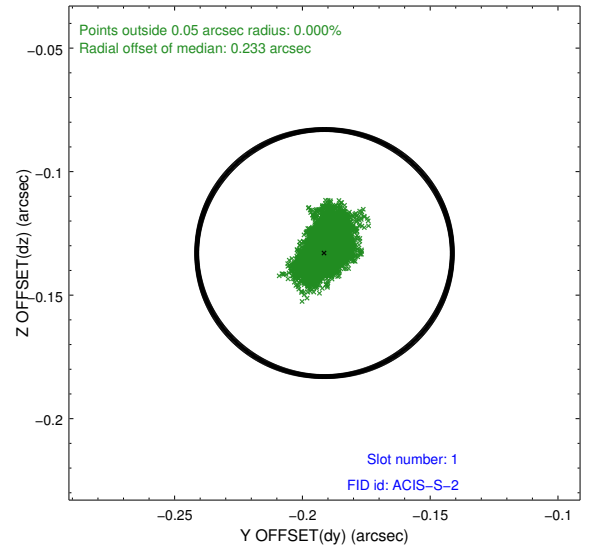
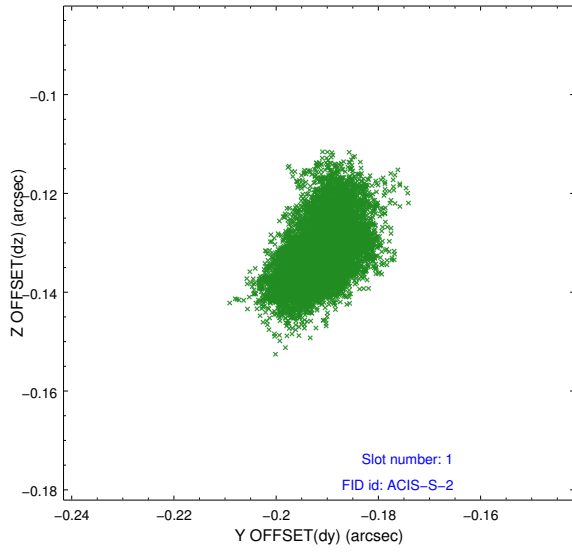


## 2.5 FID Slots

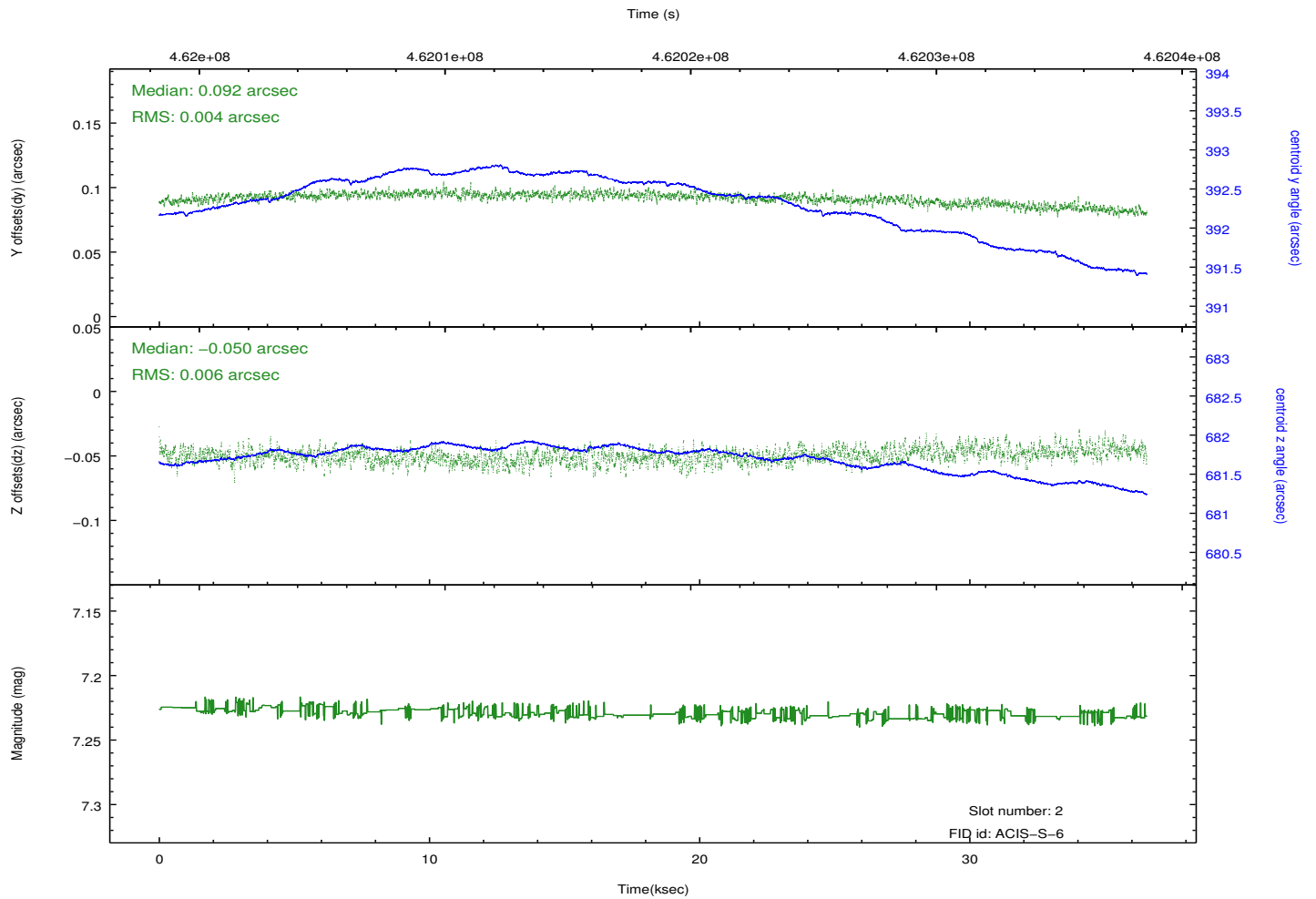
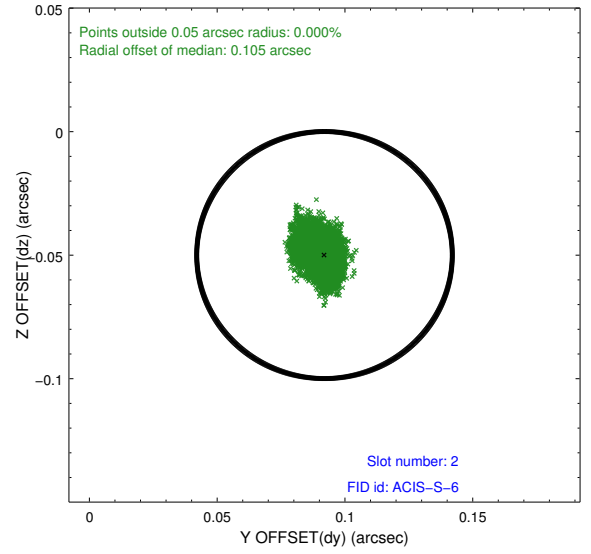
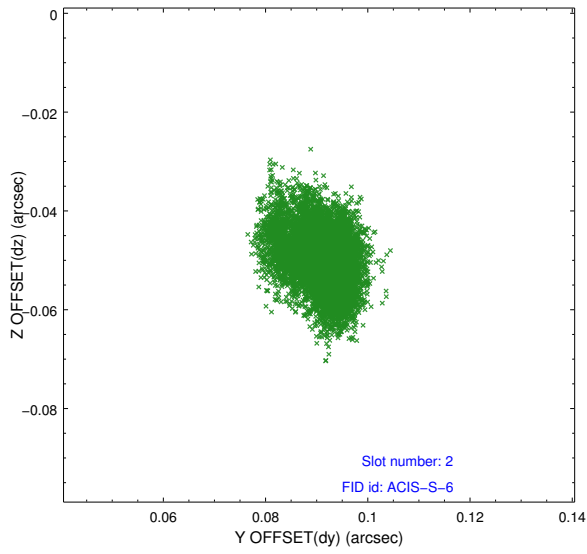
### 2.5.1 Slot 0



## 2.5.2 Slot 1

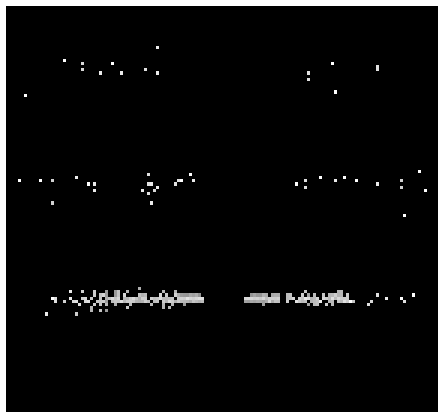


### 2.5.3 Slot 2

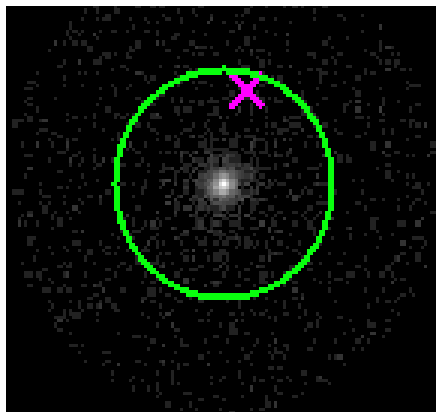


### 3 Gratings

#### 3.1 HEG Arm



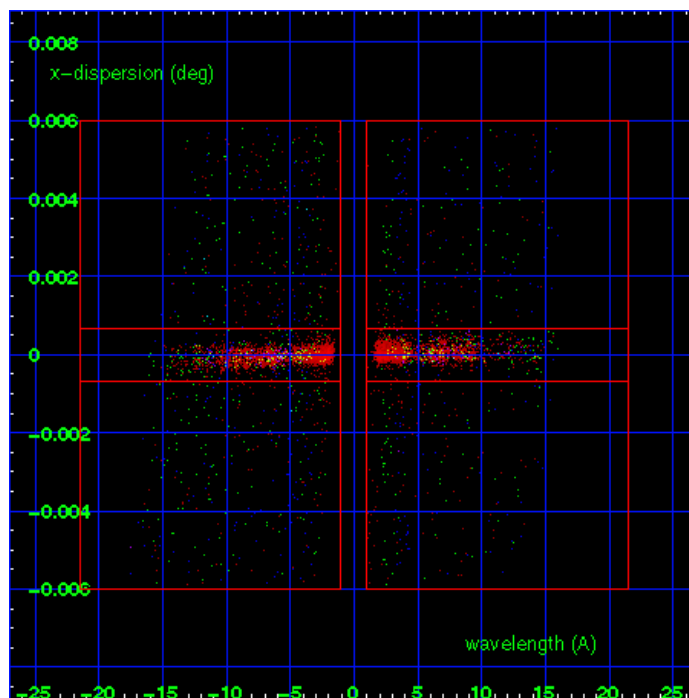
HEG Order Sort 123



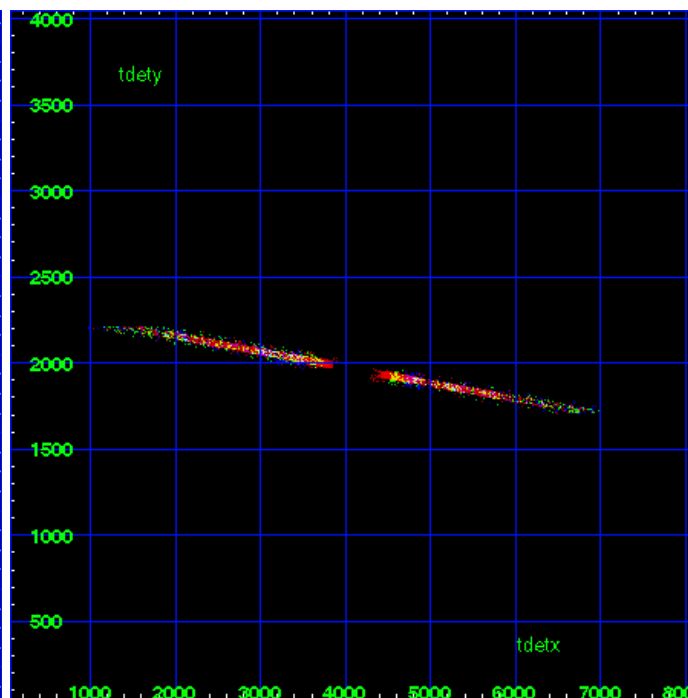
HEG Zero Order



HEG Order Sort ALL

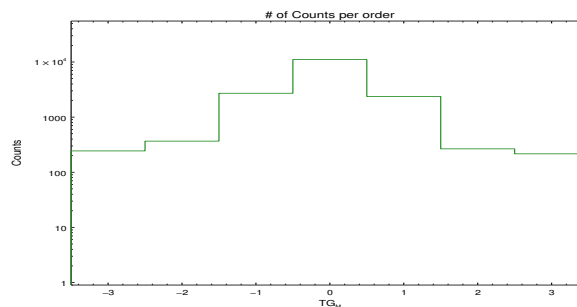


Spot Image HEG

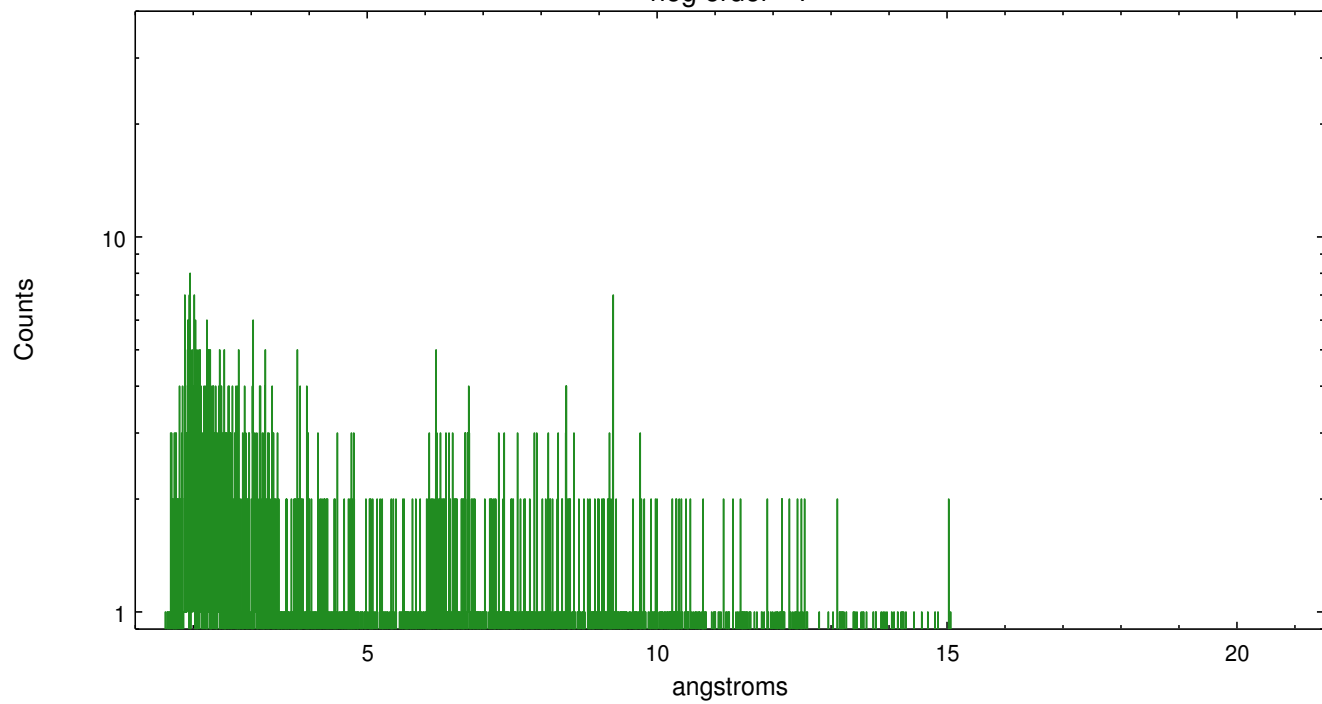


Full Detector HEG

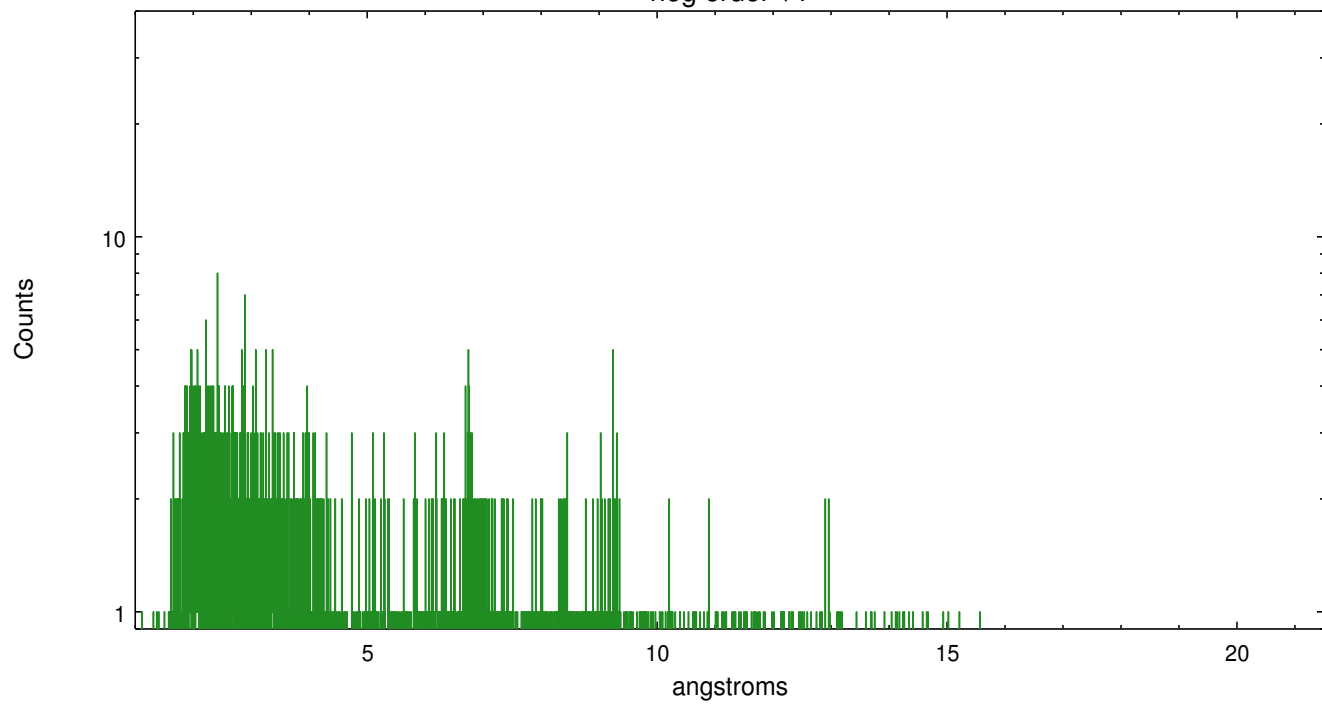
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	244	367	2710	11066	2367	266	216



heg order -1



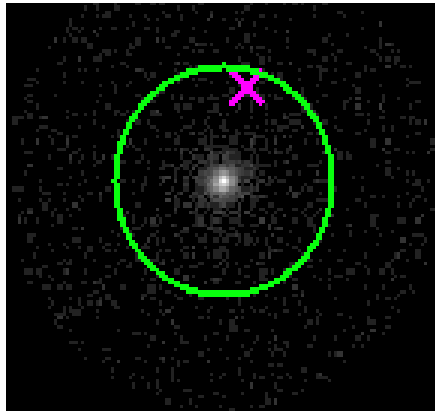
heg order +1



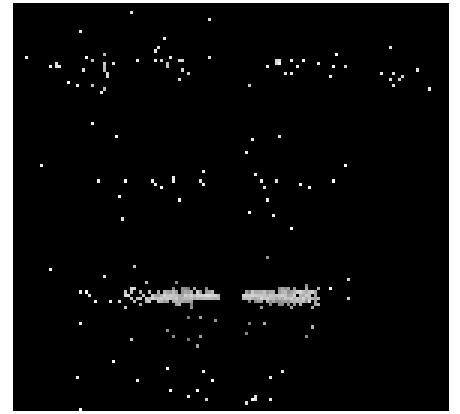
### 3.2 MEG Arm



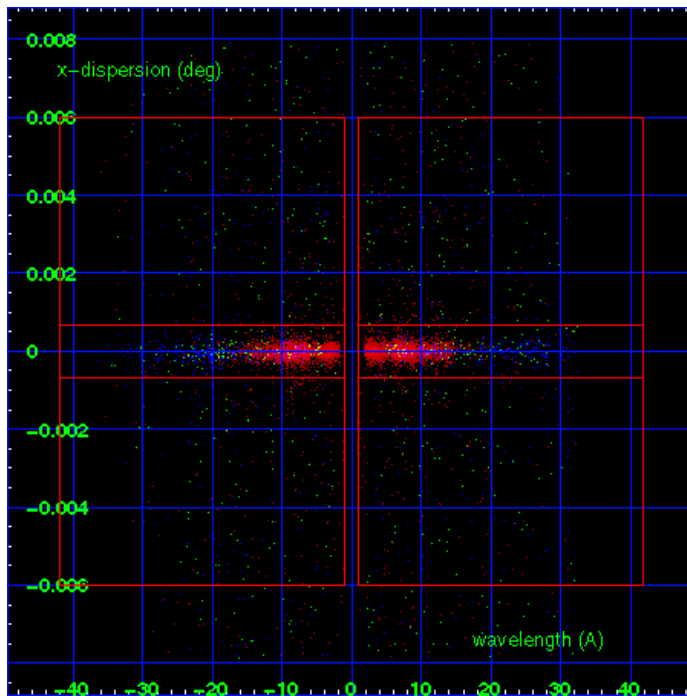
MEG Order Sort 123



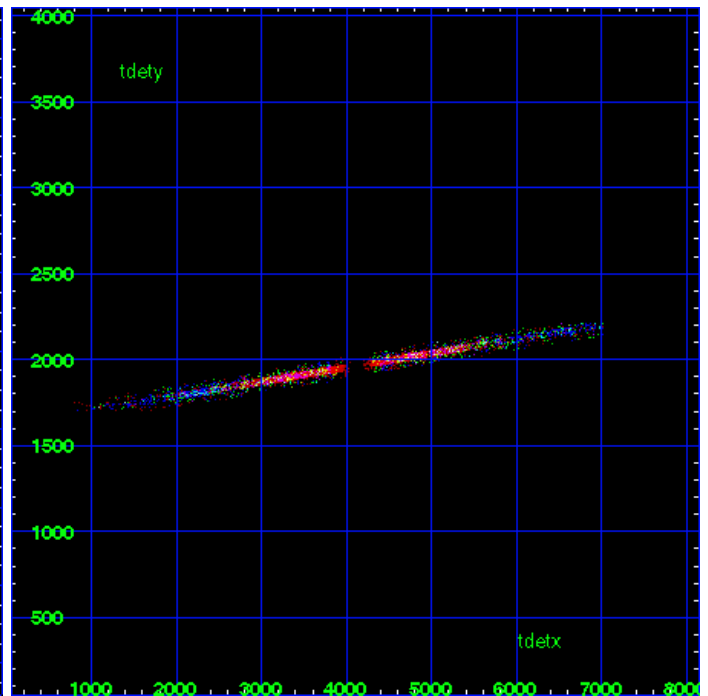
MEG Zero Order



MEG Order Sort ALL

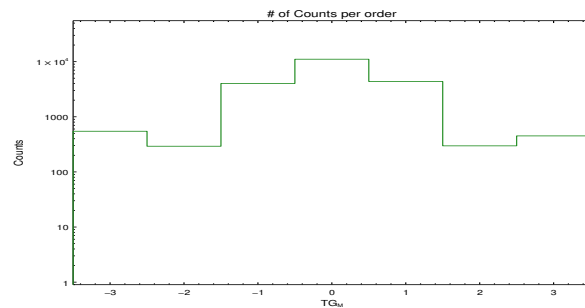


Spot Image MEG

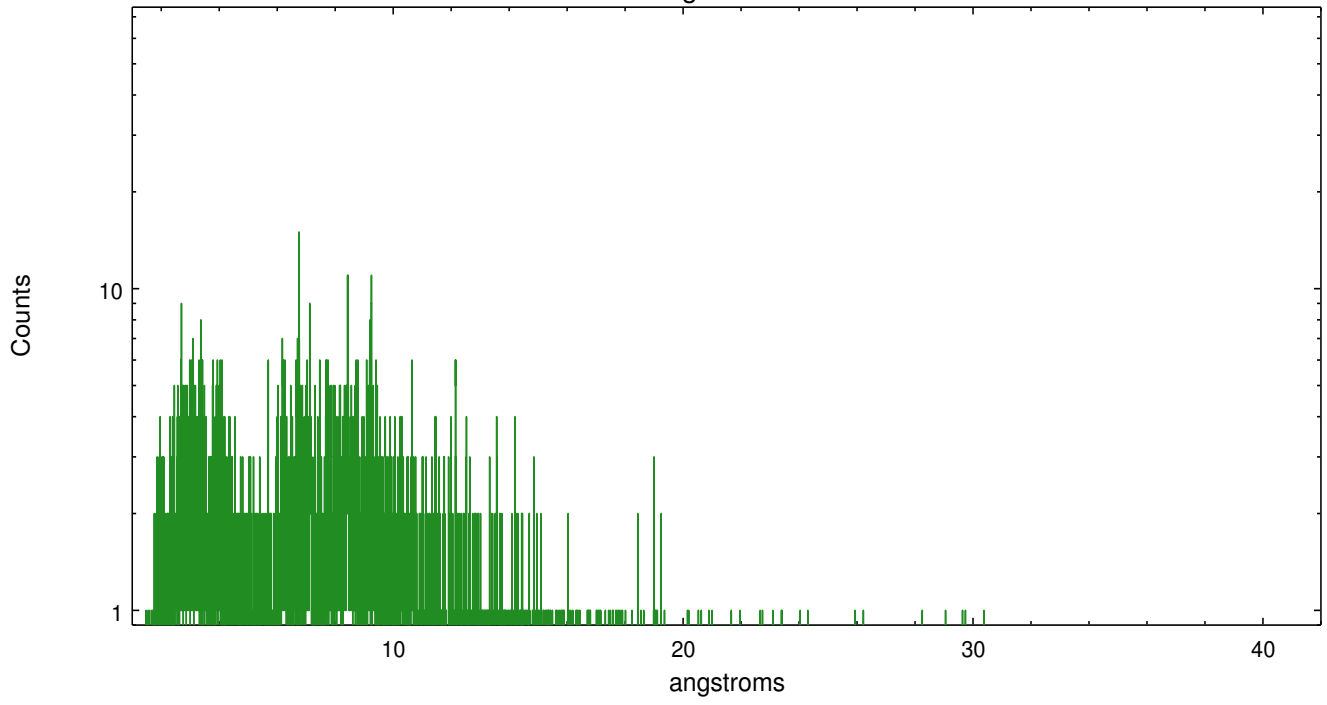


Full Detector MEG

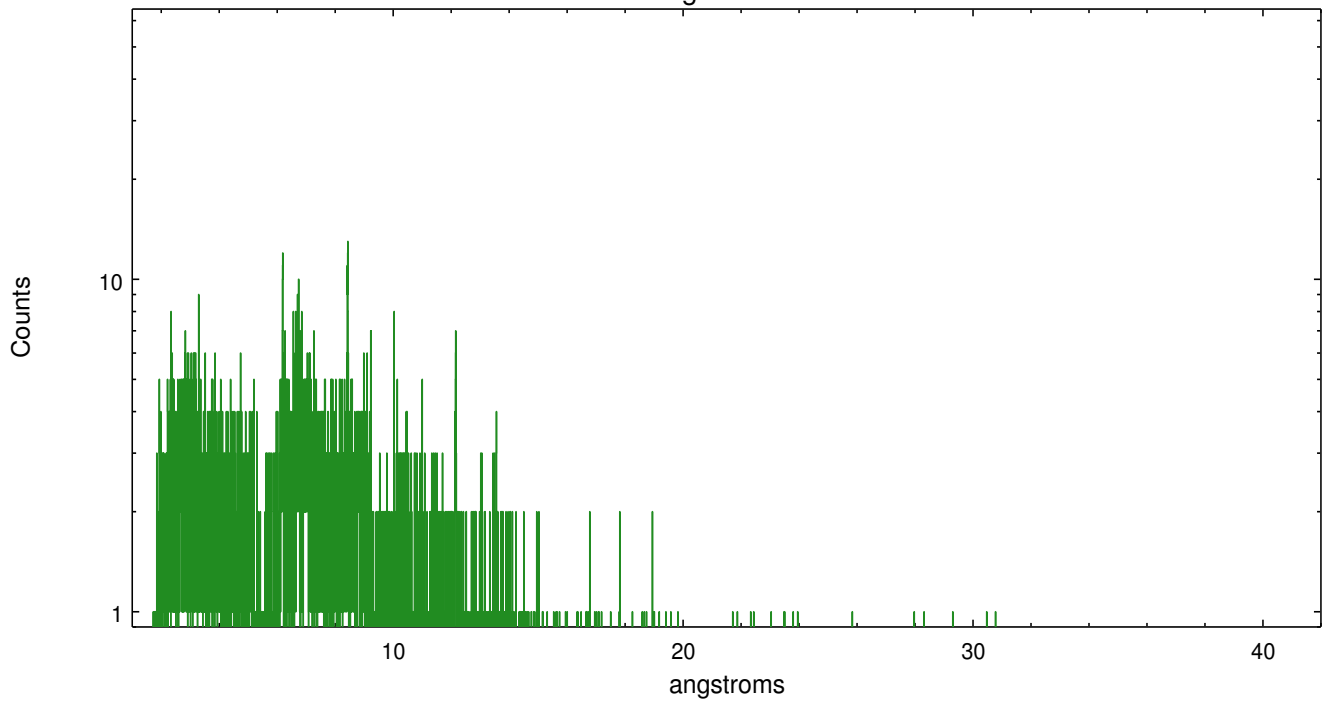
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	546	292	4019	11066	4364	297	450



meg order -1



meg order +1



## A Summary

### A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.08.23
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	36.04967022109

### A.2 Comments