

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 10404 - L2 Version 2  
Chandra X-Ray Center

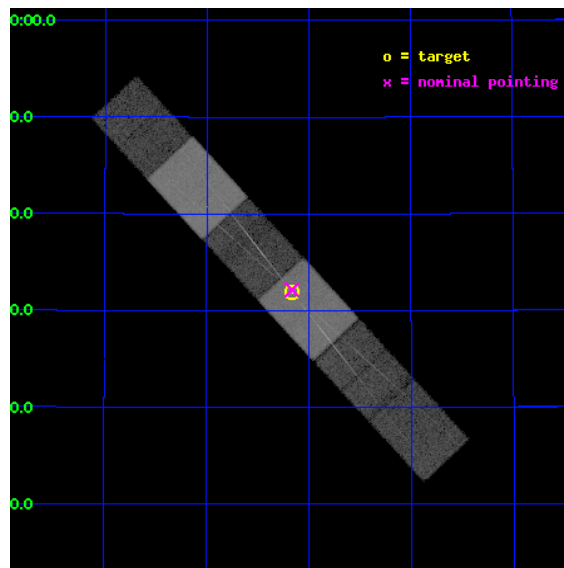
L2 Processing Date : May 24 2012

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# 1 Front

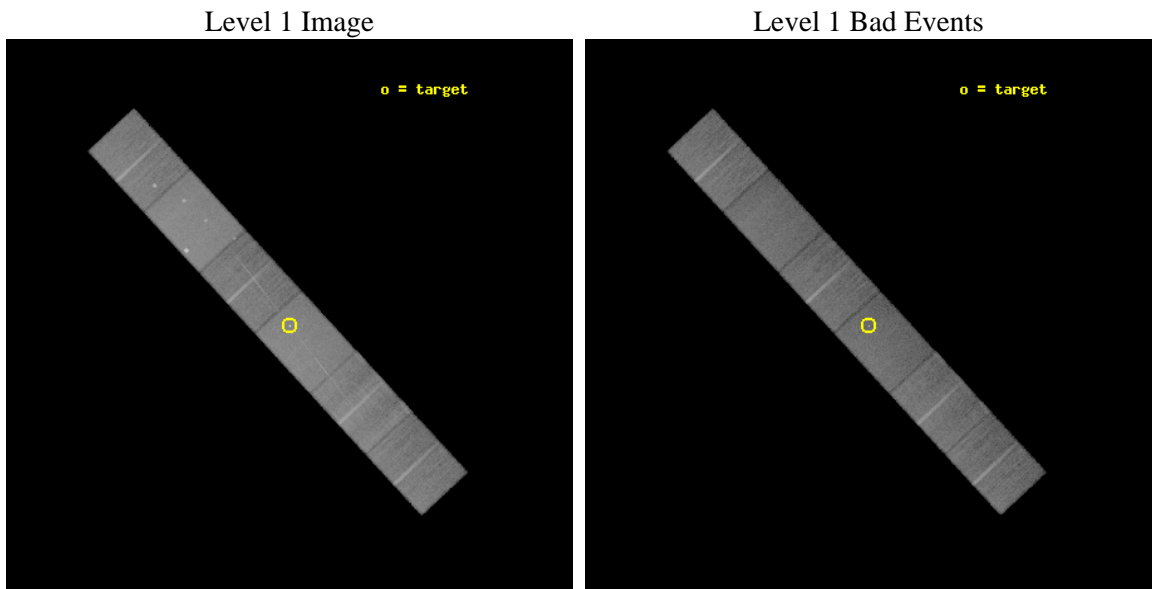
seq_num	701946	Sequence number
obs_id	10404	Observation id
title	Deconstructing AGN X-ray Spectra - Time for a Paradigm Shift?	Prop
observer	Dr Tracey Turner	Principal investigator
object	NGC 4051	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	180.79	Observer's specified target RA [deg]
dec_targ	44.531333	Observer's specified target Dec [deg]
ra_nom	180.79133858428	Nominal RA [deg]
dec_nom	44.536085746199	Nominal Dec [deg]
roll_nom	47.155732461915	Nominal Roll [deg]
revision	2	Processing version of data
ontime	20085.0	Sum of GTIs [s]
liveltime	19760.609829046	Livetime [s]
ontime4	20085.0	Sum of GTIs [s]
ontime5	20085.0	Sum of GTIs [s]
ontime6	20085.0	Sum of GTIs [s]
ontime7	20085.0	Sum of GTIs [s]
ontime8	20085.0	Sum of GTIs [s]
ontime9	20085.0	Sum of GTIs [s]
l2events	275219	Number of level 2 events



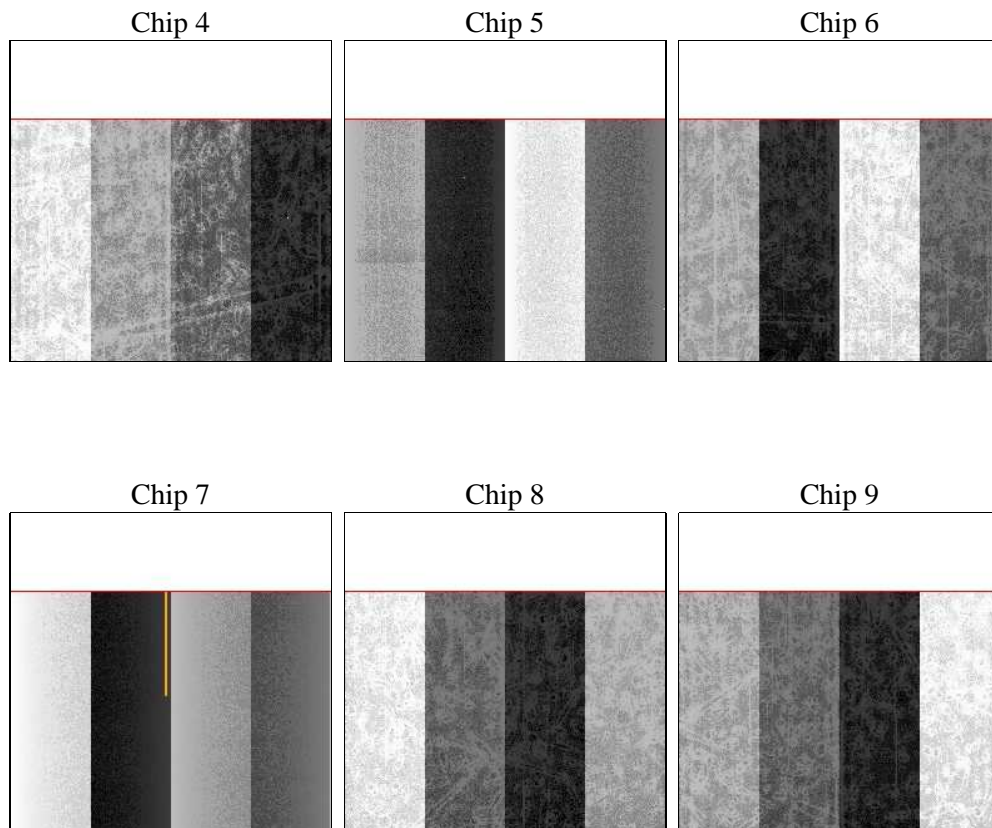
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	19938.099000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	20085.0	Sum of GTIs [s]
caldbver	4.4.9	&#160	ontime4	20085.0	Sum of GTIs [s]
date	2012-05-24T02:28:30	Date and time of file creation	ontime5	20085.0	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	20085.0	Sum of GTIs [s]
			ontime7	20085.0	Sum of GTIs [s]
			ontime8	20085.0	Sum of GTIs [s]
			ontime9	20085.0	Sum of GTIs [s]
			l1events	1165577	Number of level 1 events

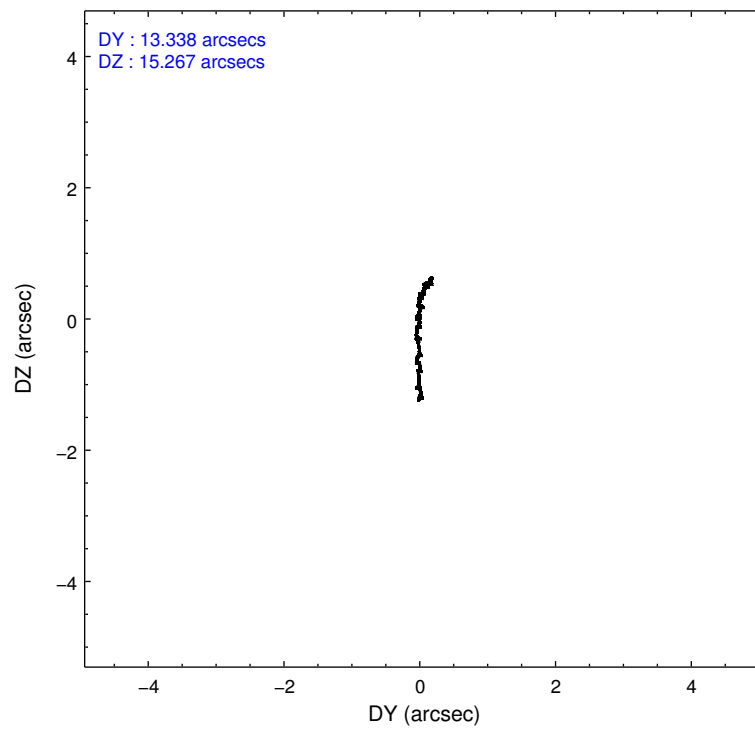
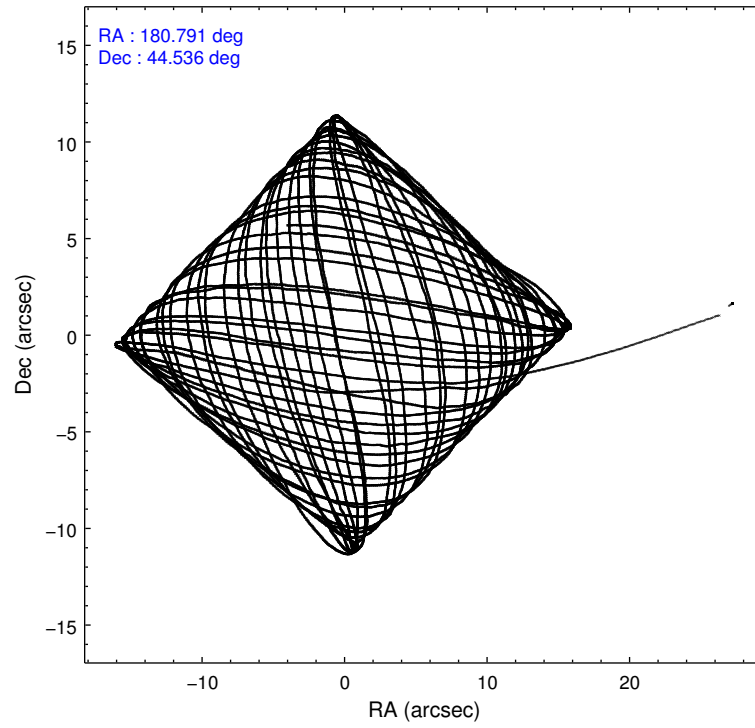
### 2.1.4 Events

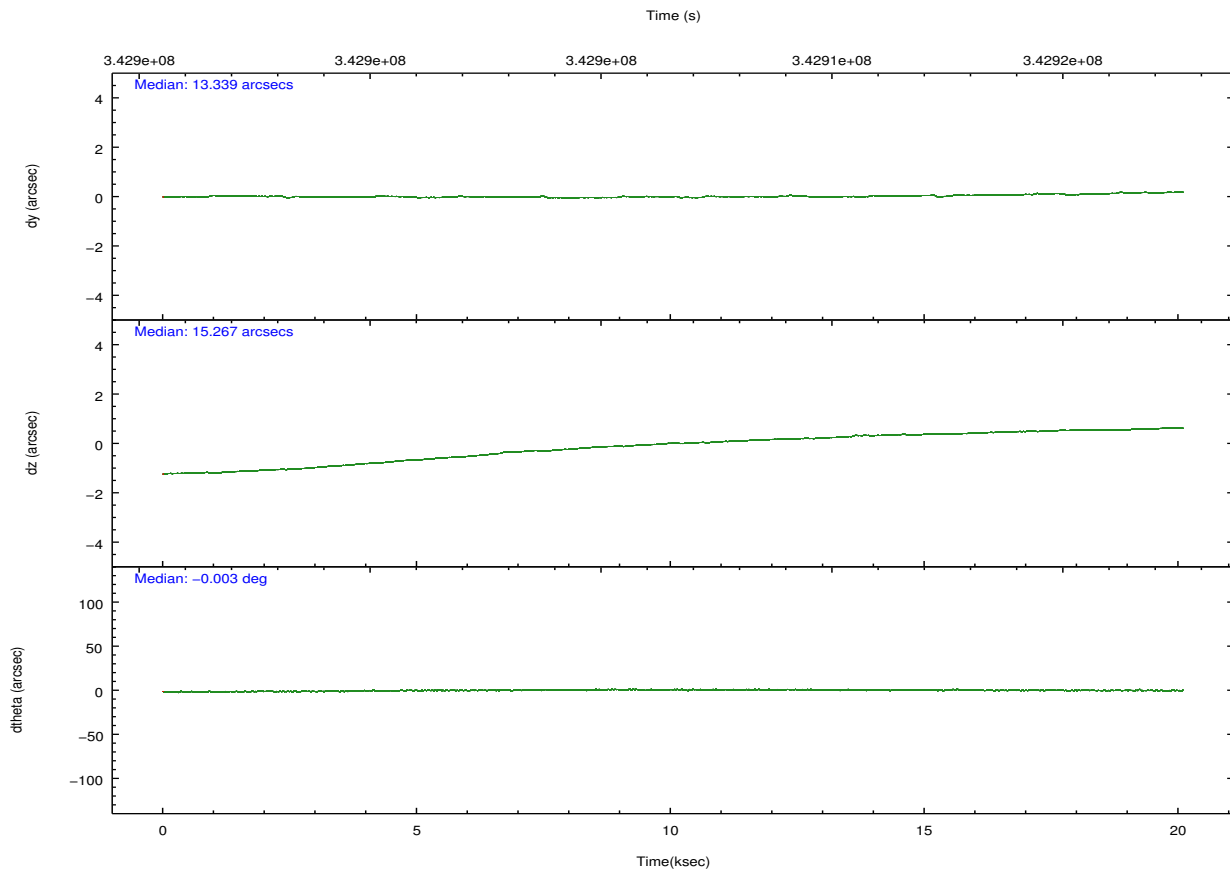
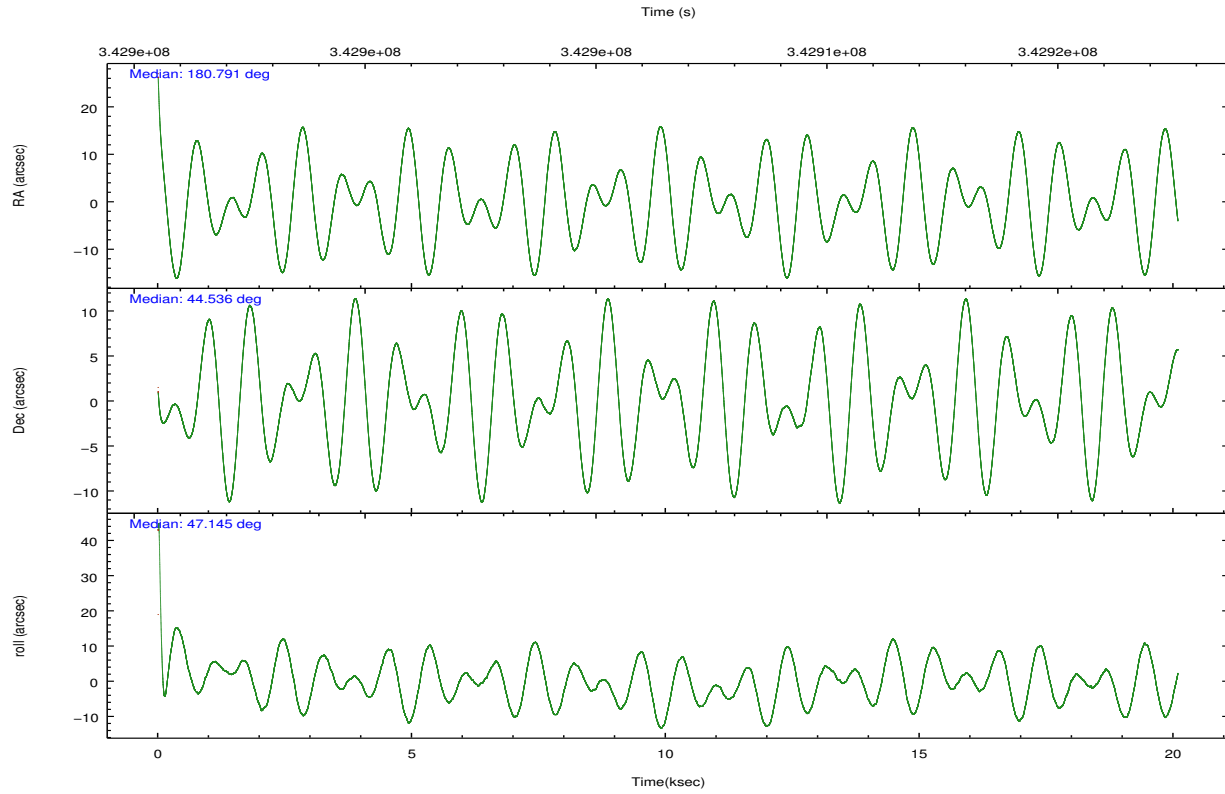
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	177355	244445	159203	225837	203168	155569	grade 0 events	10700	13858	10038	9552	16088	8517
rejected events	154885	130244	136870	127920	154463	135219		6%	5%	6%	4%	7%	5%
rejected %	87%	53%	85%	56%	76%	86%	grade 1 events	146	437	98	305	148	93
								0%	0%	0%	0%	0%	0%
							grade 2 events	4687	34039	4513	20698	10839	4232
								2%	13%	2%	9%	5%	2%
							grade 3 events	2106	4848	2049	8812	5061	2032
								1%	1%	1%	3%	2%	1%
							grade 4 events	1911	4754	1985	8644	4639	1944
								1%	1%	1%	3%	2%	1%
							grade 5 events	7091	17765	7404	20662	9923	7976
								3%	7%	4%	9%	4%	5%
							grade 6 events	3318	58110	3989	51345	12570	3839
								1%	23%	2%	22%	6%	2%
							grade 7 events	147396	110634	129127	105819	143900	126936
								83%	45%	81%	46%	70%	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	180.783309	180.7913385842845	CCD I2 on	N	N
[deg] Pointing Dec	44.509353	44.53608574619908	CCD I3 on	N	N
[deg] Pointing Roll	47.004694	47.15573246191483	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	-187.132523	-187.1254020033014	CCD S3 on	Y	Y
[mm] SIM translation stage offset	-3	-3.007120579706367	CCD S4 on	Y	Y
[s] Observation start time (MET)	342896673.184000	342895546.24972	CCD S5 on	Y	Y
Observation start date	2008-11-12T17:03:28	2008-11-12T16:45:46	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	342916611.184000	342916834.47577	On-chip summing requested	N	N
Observation end date	2008-11-12T22:35:46	2008-11-12T22:40:34	Subarray requested	CUSTOM	CUSTOM
Read mode	TIMED	TIMED	Subarray start row	1	1
			Subarray row count	774	774
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	2.5

## 2.3 Aspect



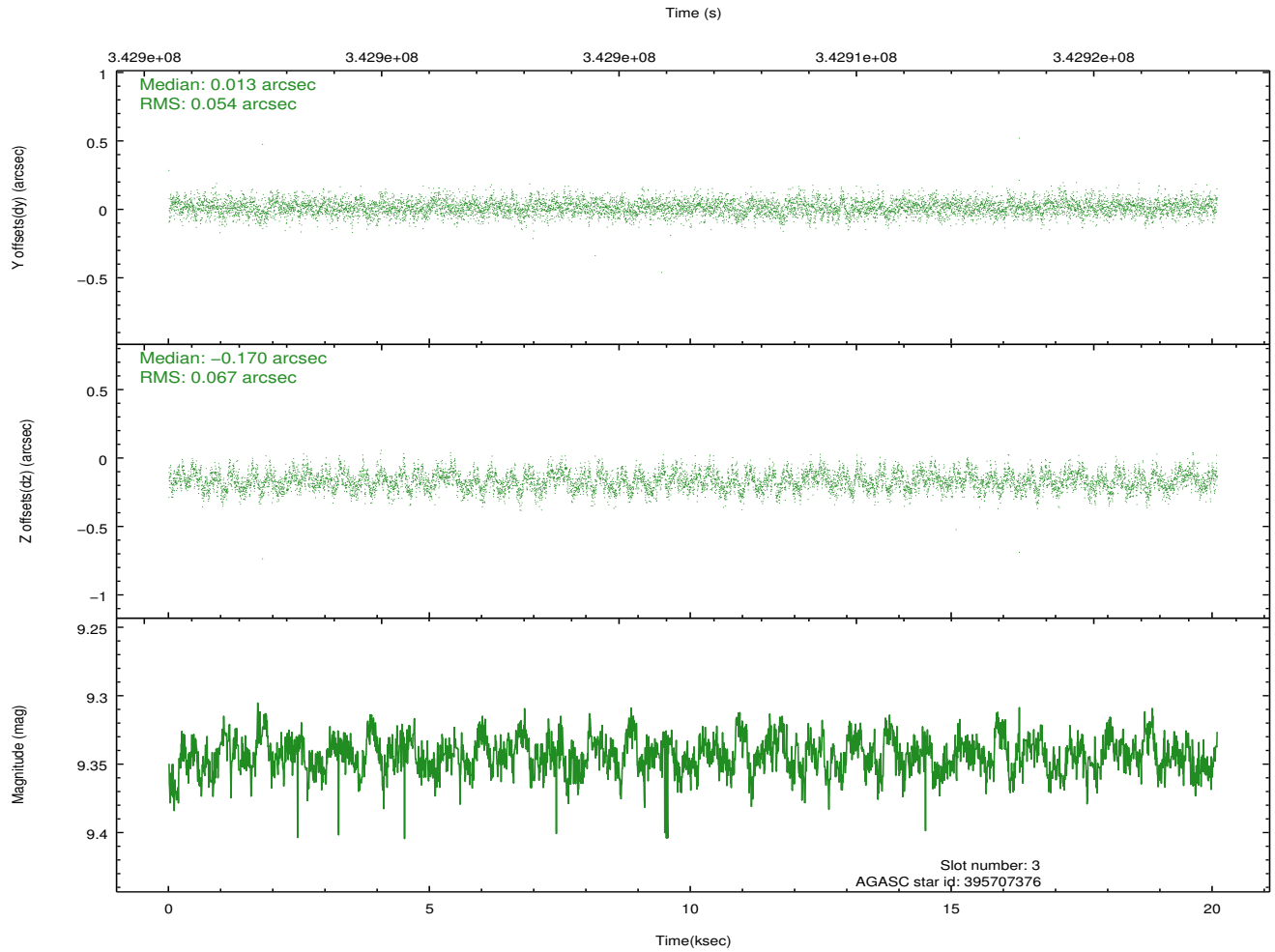
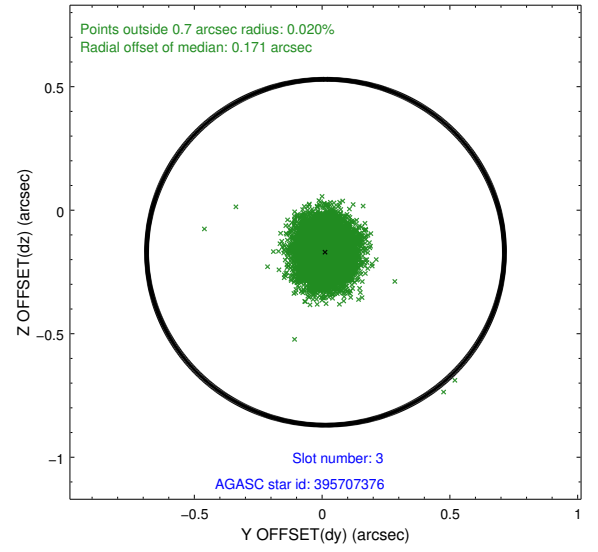
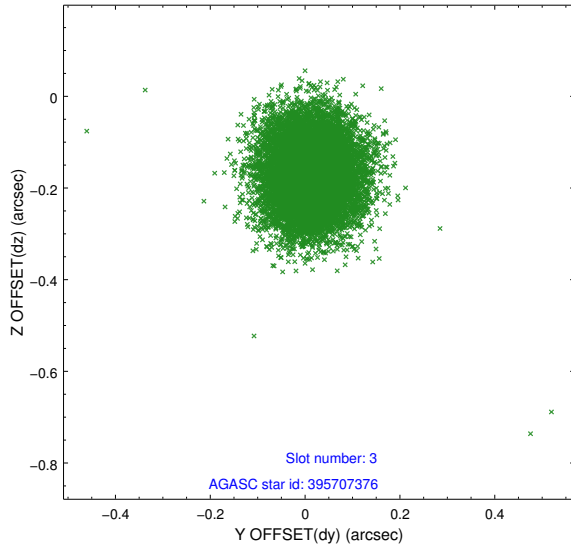


### Slot Statistics

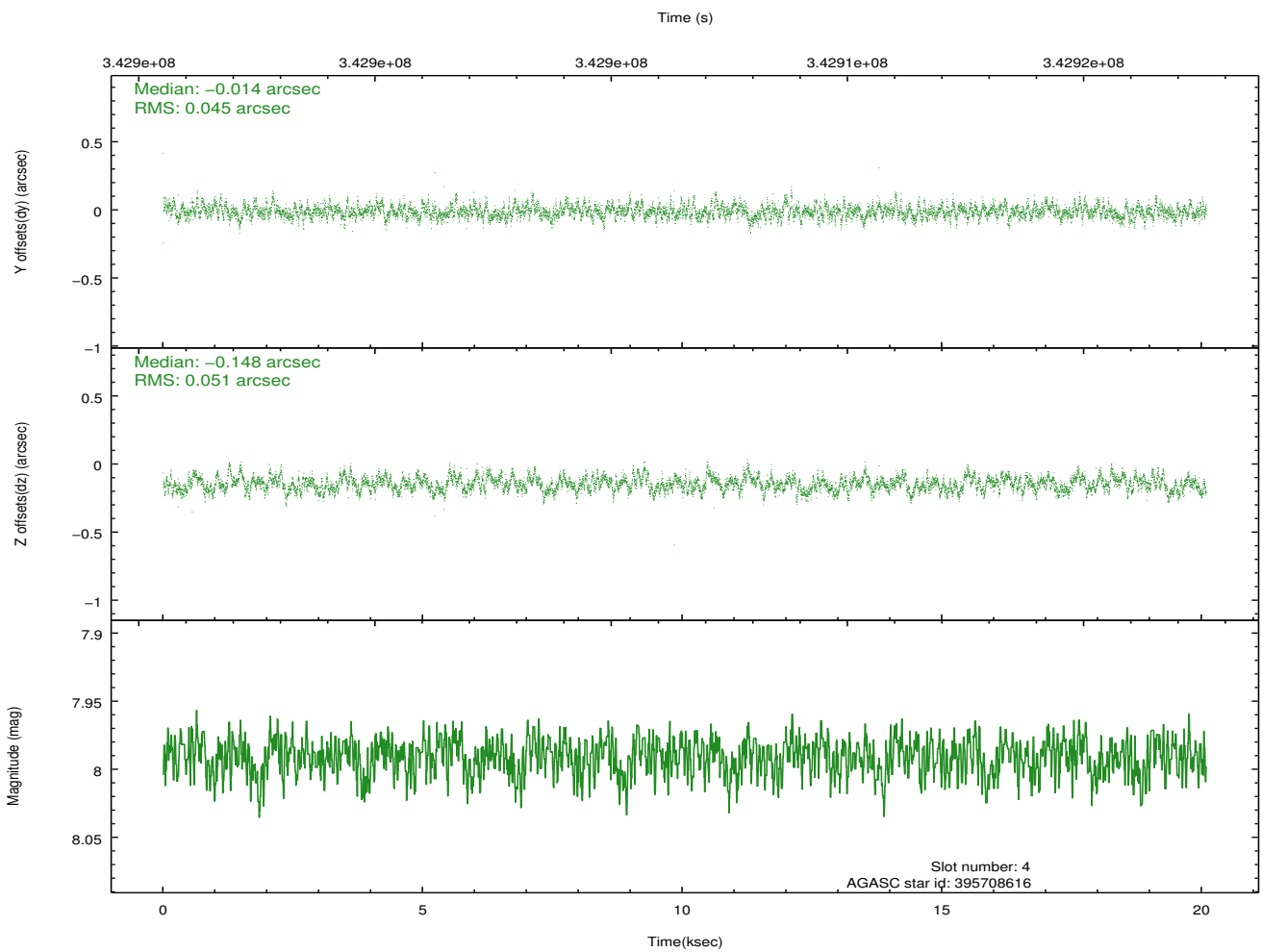
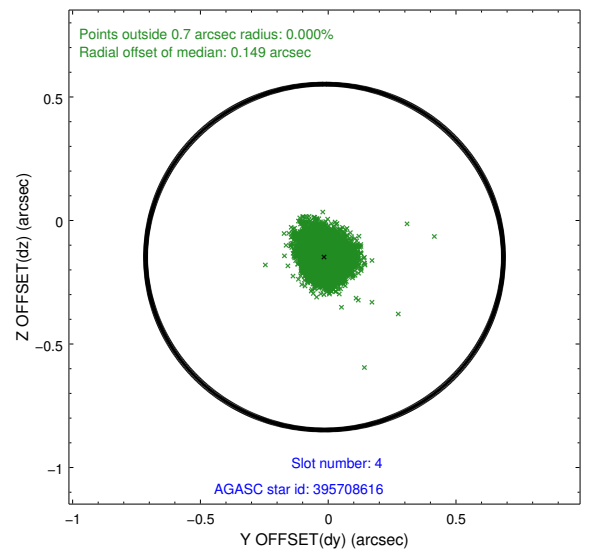
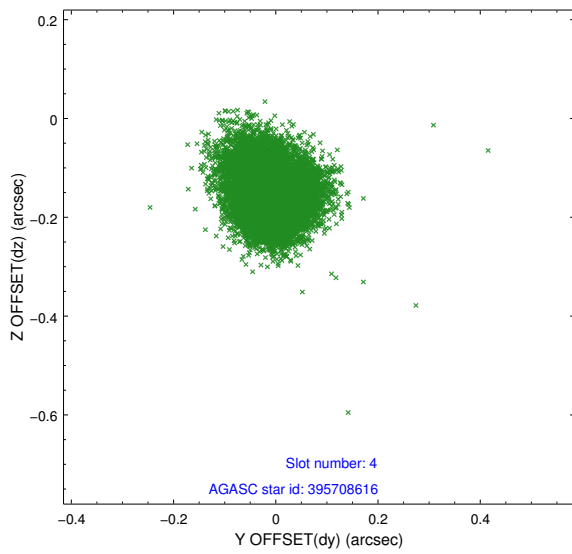
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.95	4900	-0.070	-0.094	0.015	0.039	0.000000	0.000000	-766.17	-1798.66
1	FID	ACIS-S-4	7.03	4900	0.185	0.058	0.008	0.015	0.000000	0.000000	2147.30	109.72
2	FID	ACIS-S-5	7.08	4899	-0.145	0.044	0.013	0.034	0.000000	0.000000	-1818.82	103.63
3	GUIDE	395707376	9.34	9789	0.013	-0.170	0.092	0.146	180.967983	44.858789	1241.68	513.65
4	GUIDE	395708616	7.99	9791	-0.014	-0.148	0.073	0.114	180.101872	44.630343	-866.47	1578.80
5	GUIDE	395708696	8.88	9790	0.003	0.077	0.081	0.129	180.383726	44.624291	-393.73	1033.07
6	GUIDE	395709608	8.35	9795	0.041	0.114	0.069	0.110	181.055130	44.450389	322.34	-654.41
7	GUIDE	395710032	8.79	9793	-0.047	0.127	0.080	0.125	181.512910	44.376001	935.82	-1694.36

## 2.4 Star Slots

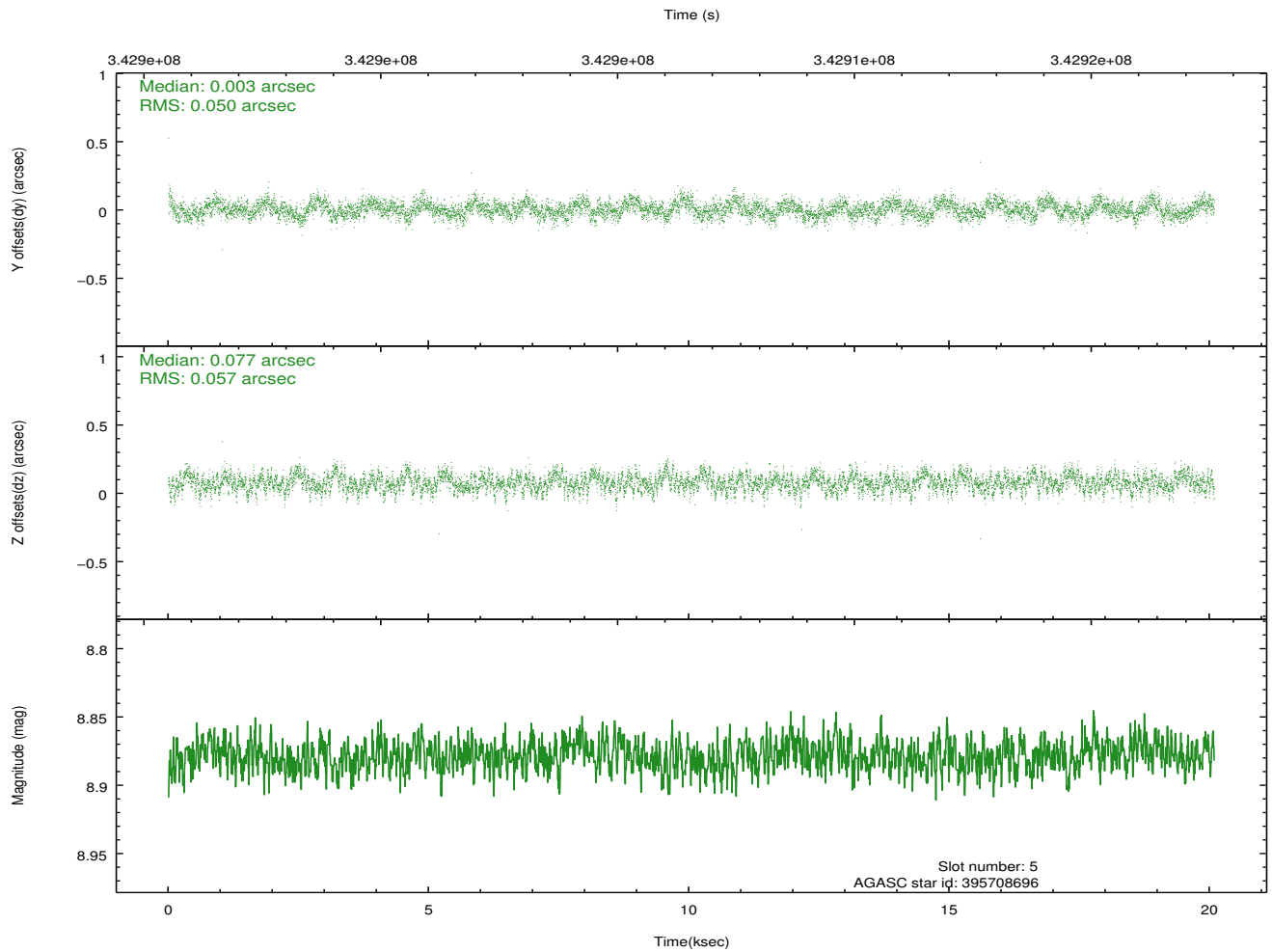
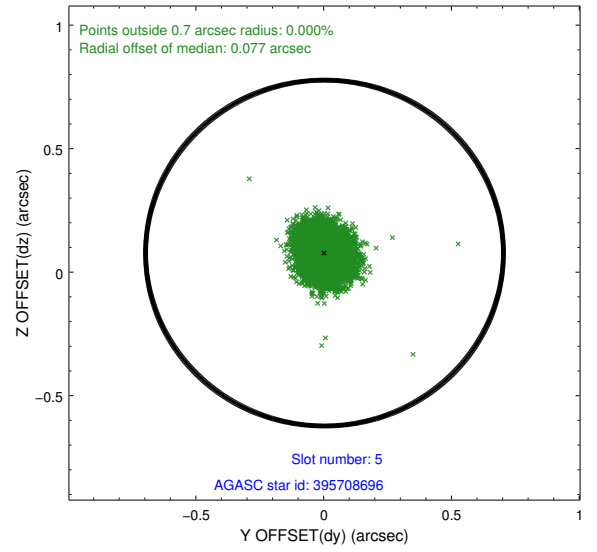
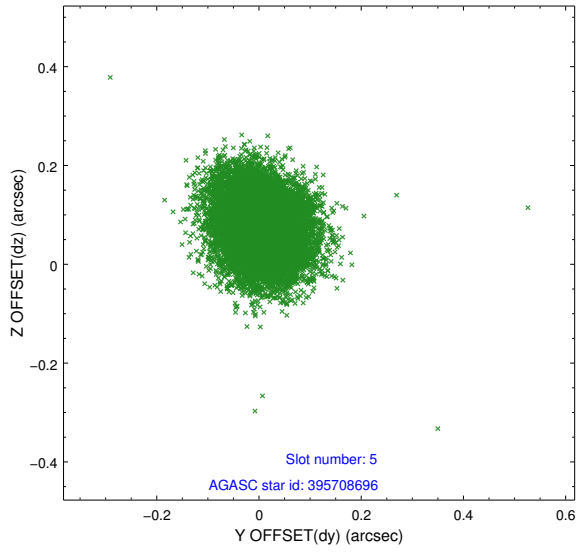
### 2.4.1 Slot 3



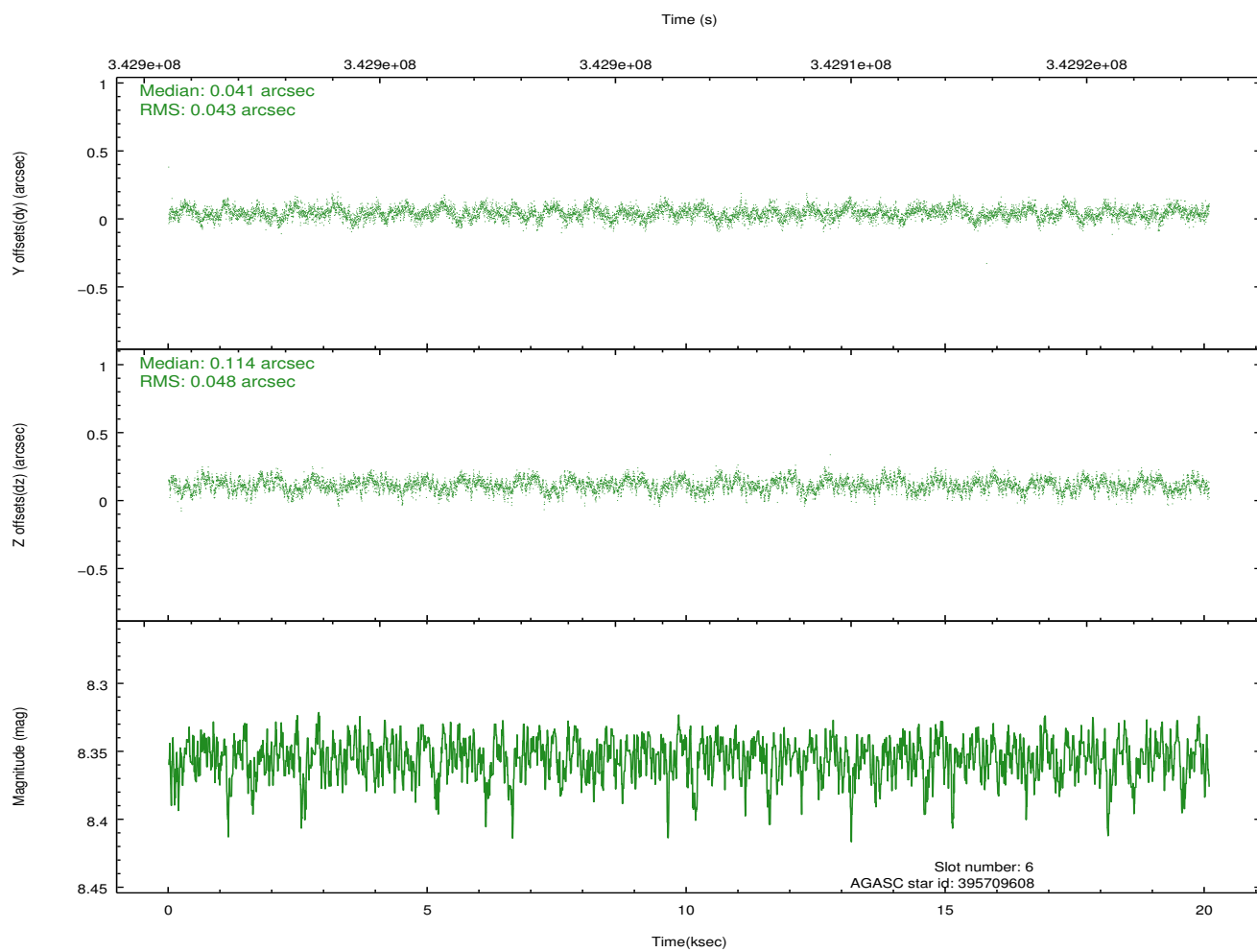
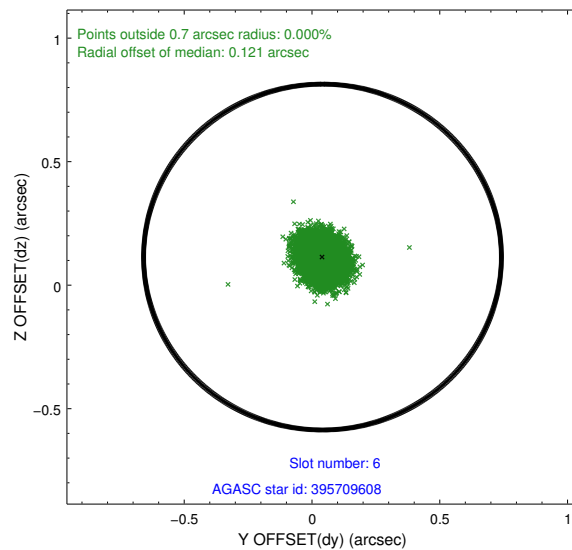
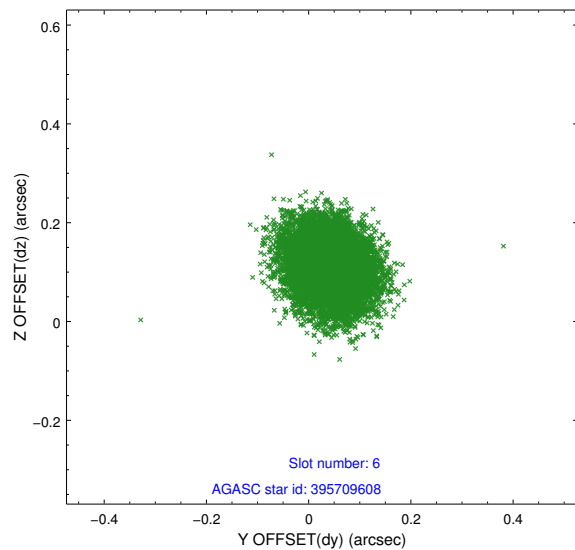
## 2.4.2 Slot 4



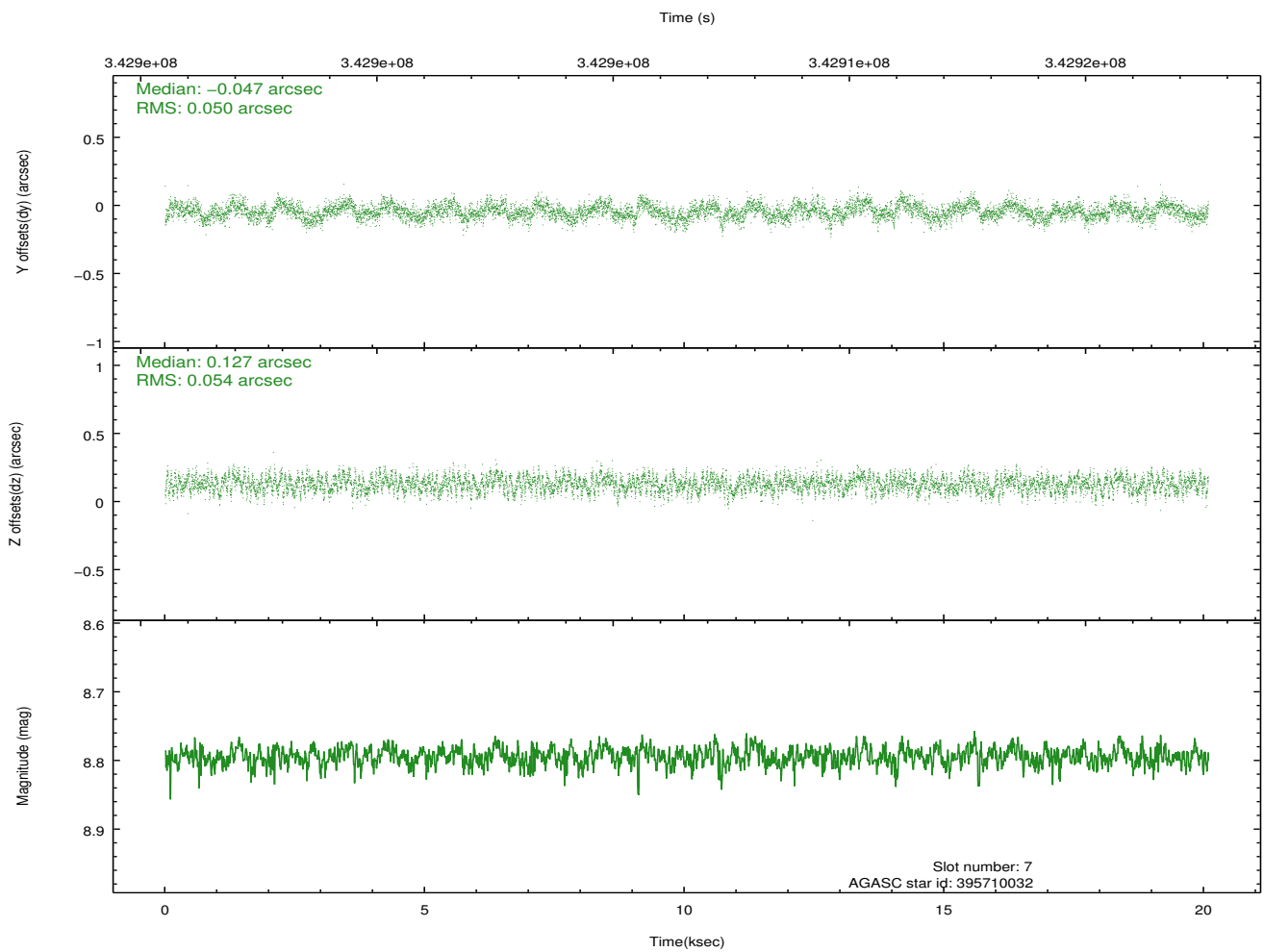
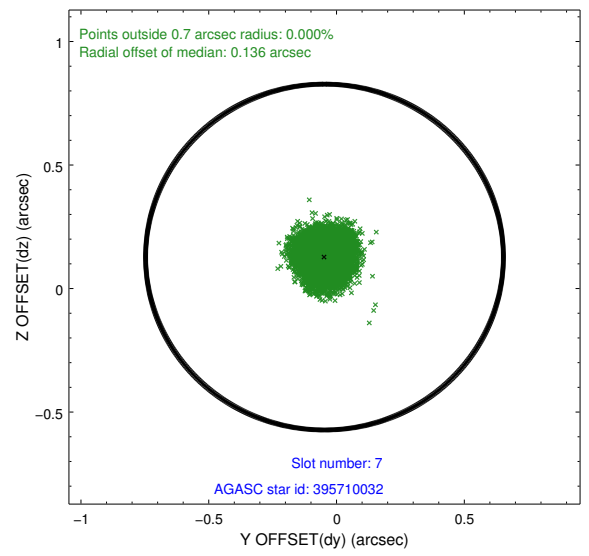
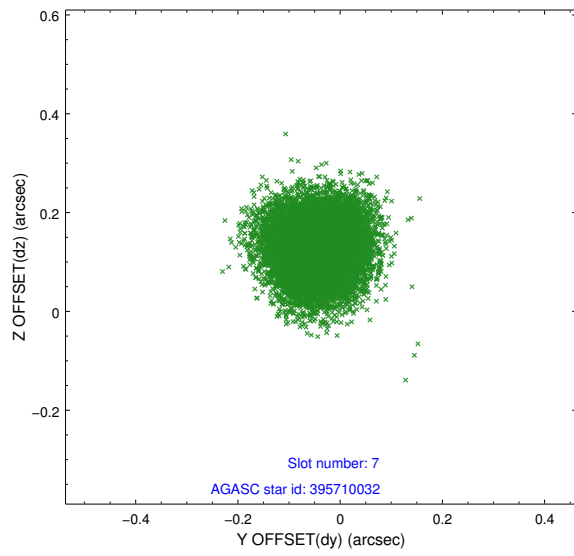
### 2.4.3 Slot 5



## 2.4.4 Slot 6

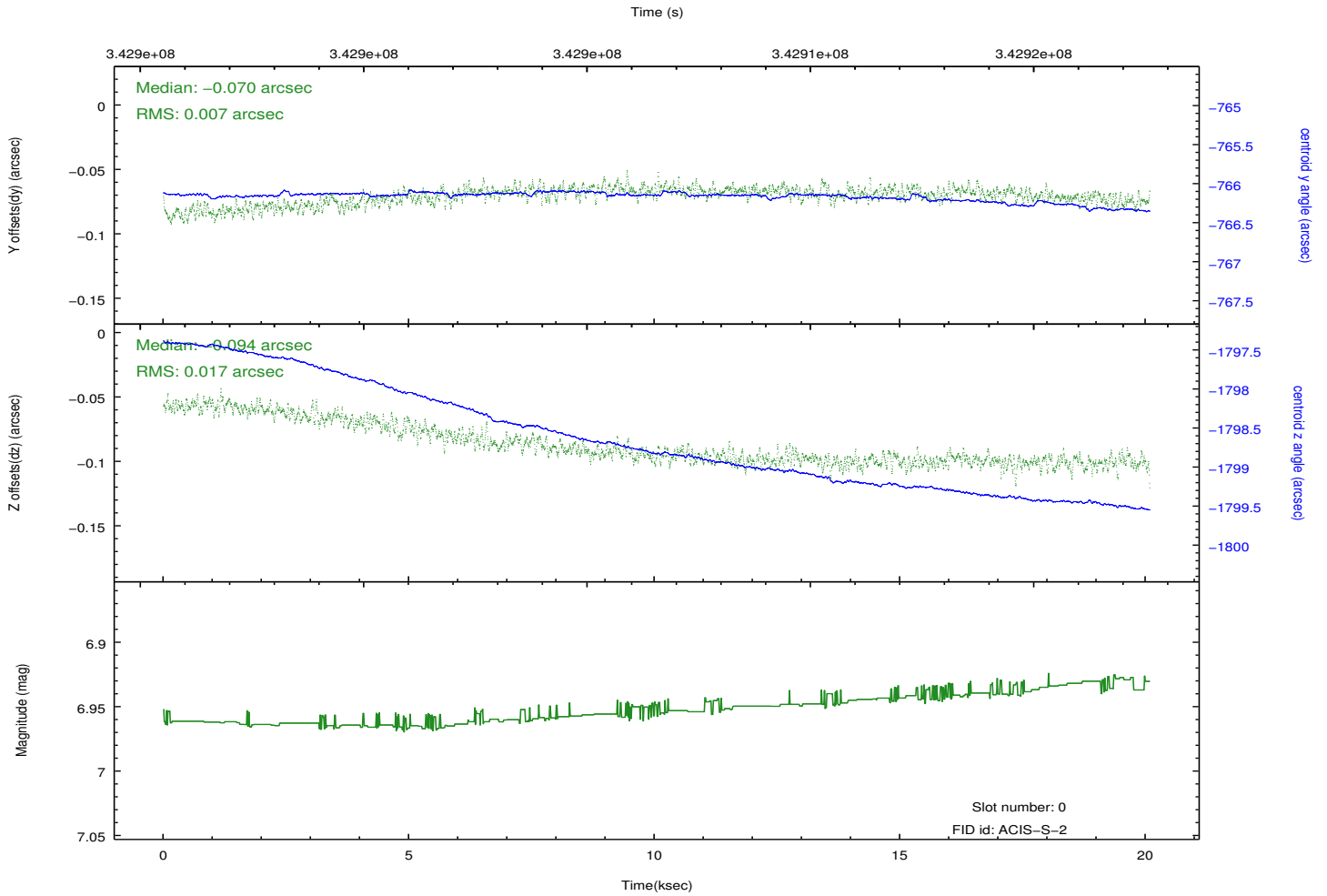
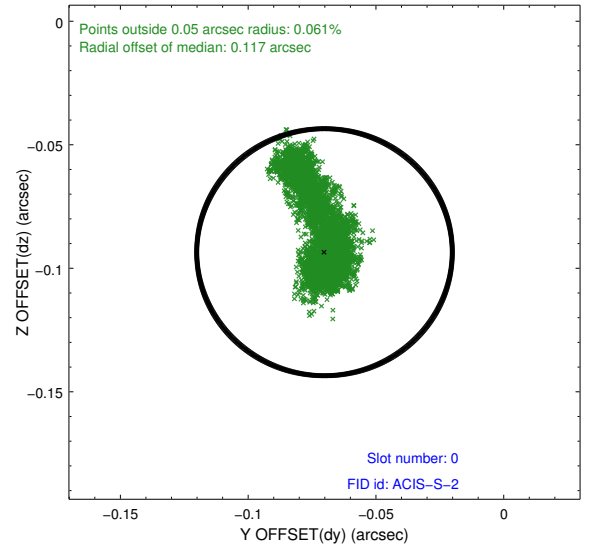
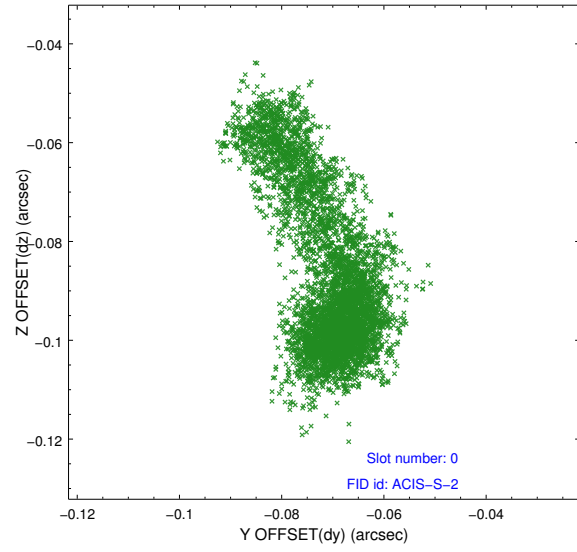


## 2.4.5 Slot 7

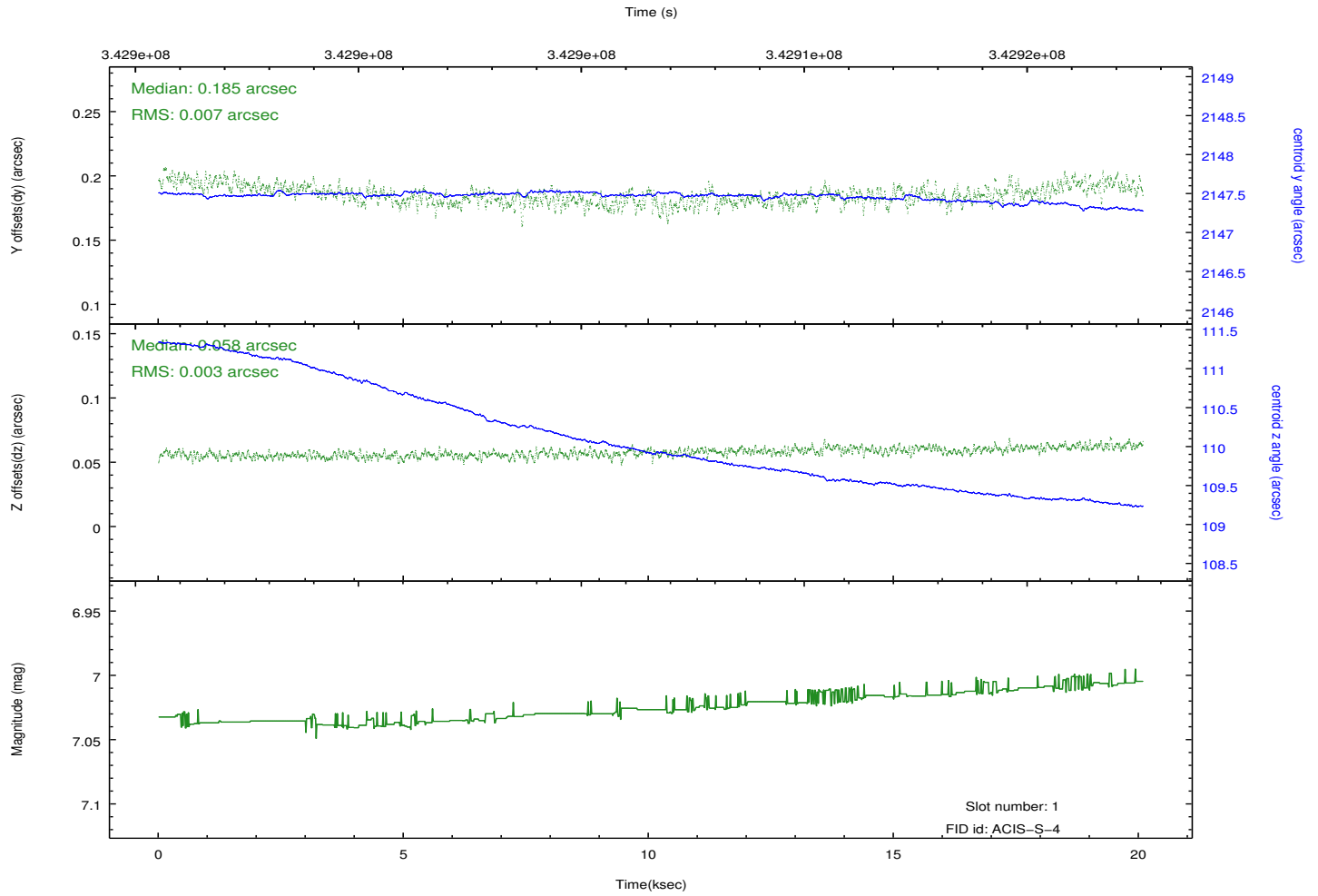
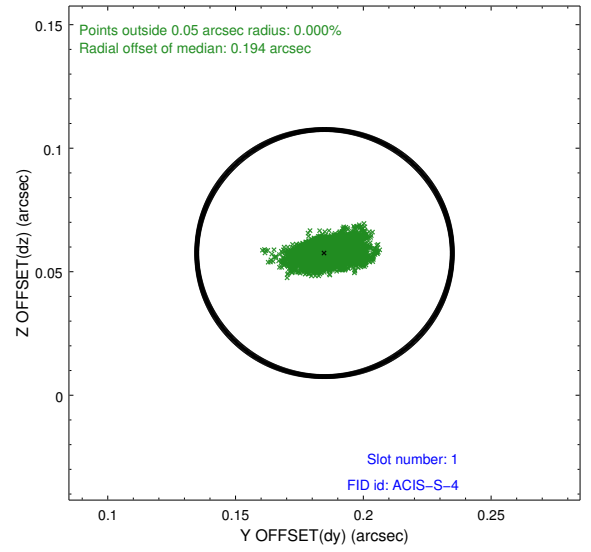
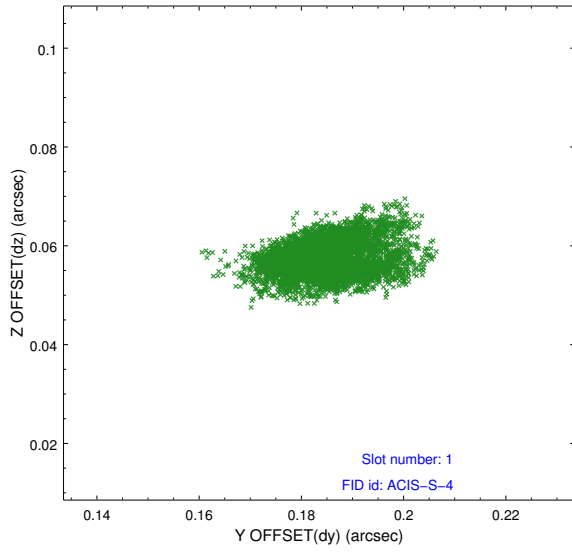


## 2.5 FID Slots

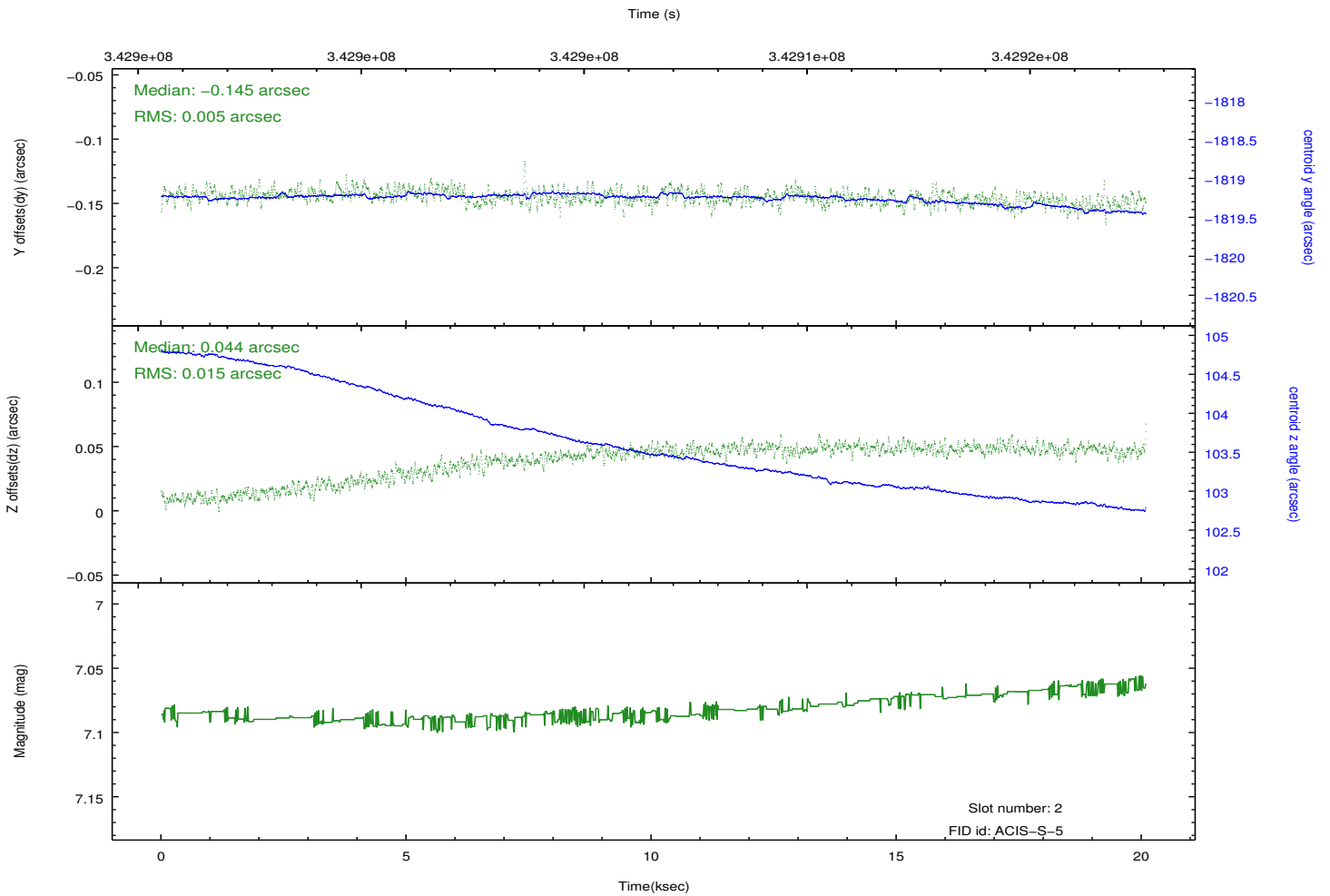
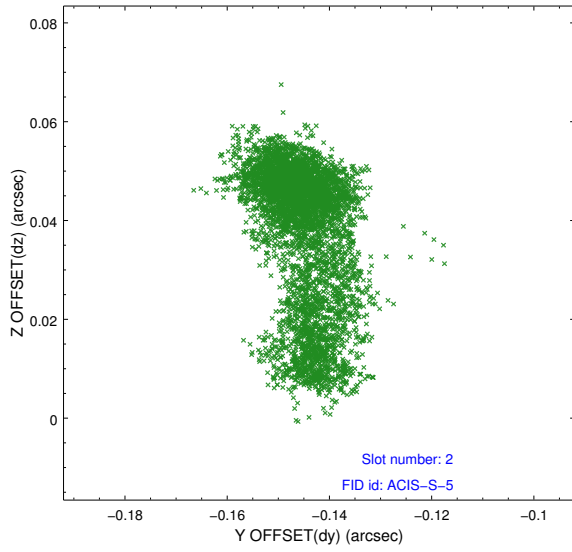
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2

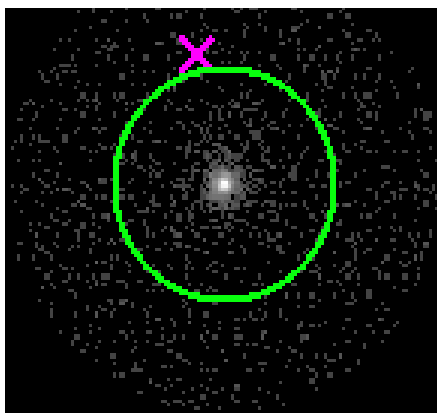


### 3 Gratings

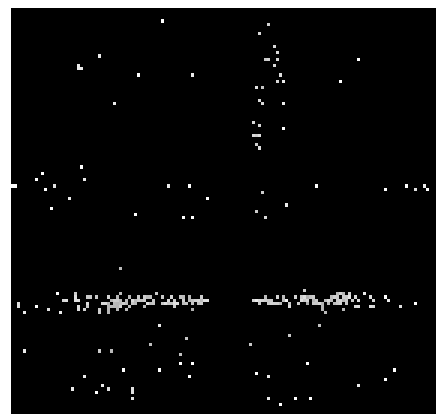
#### 3.1 HEG Arm



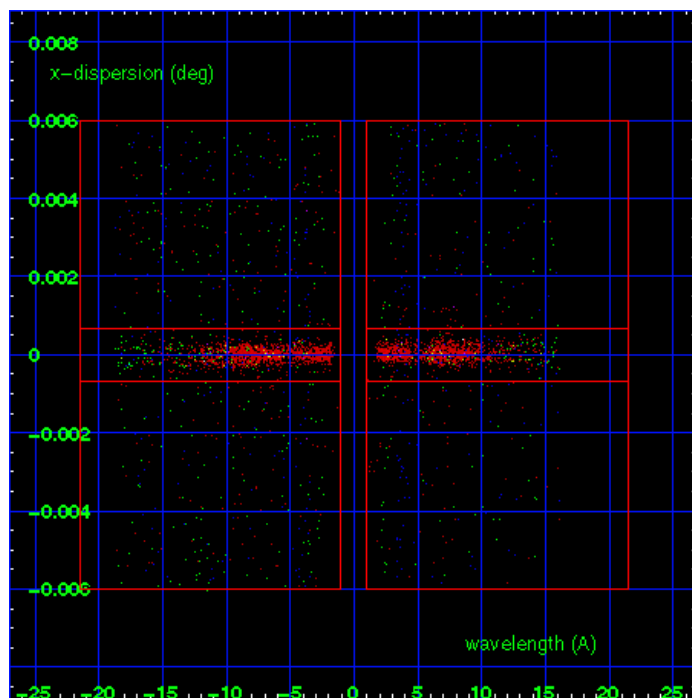
HEG Order Sort 123



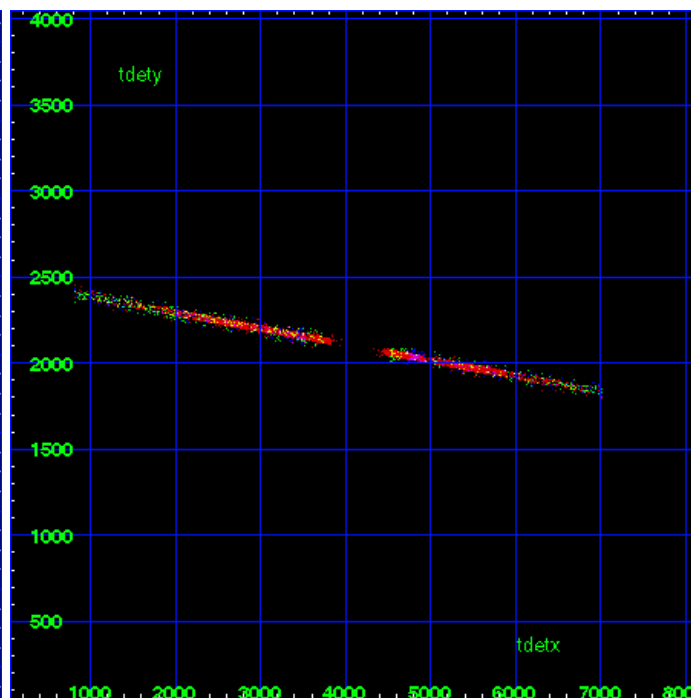
HEG Zero Order



HEG Order Sort ALL

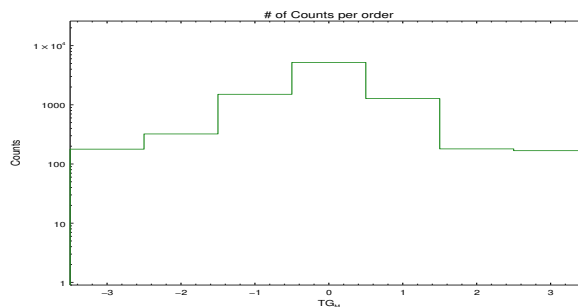


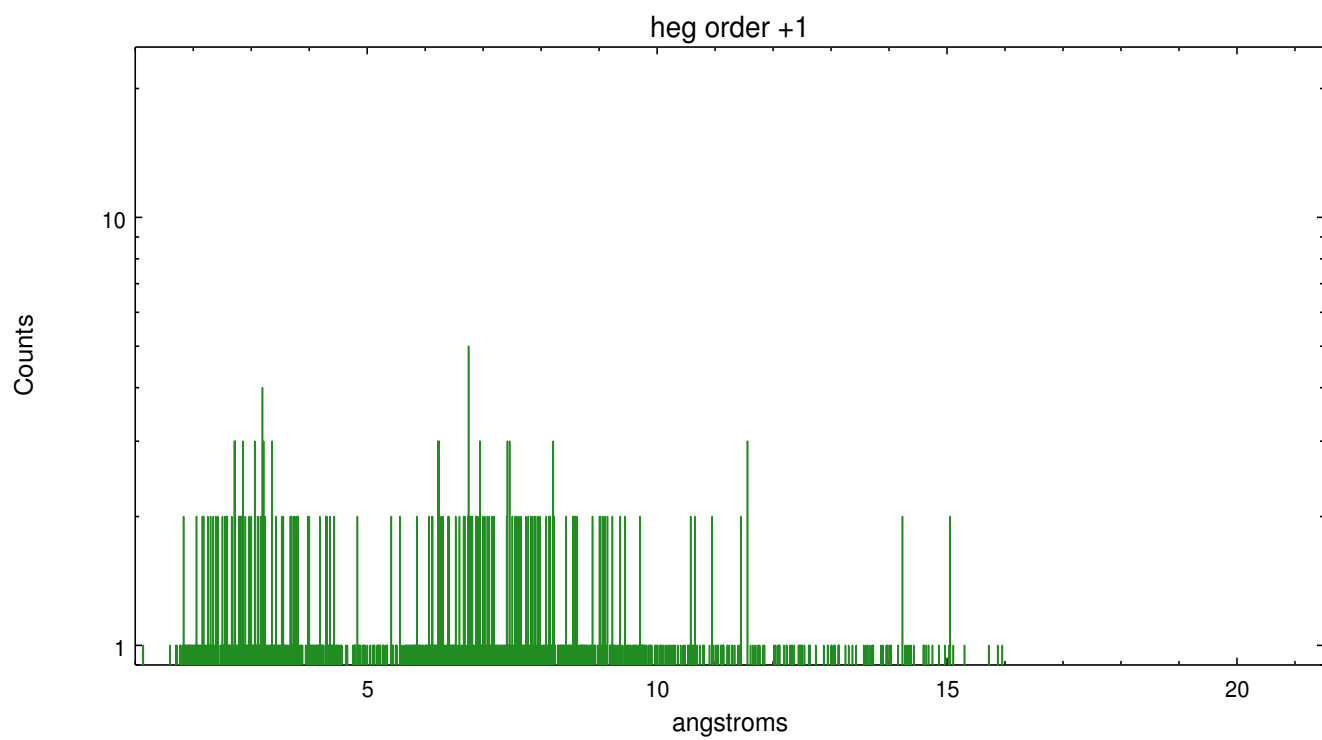
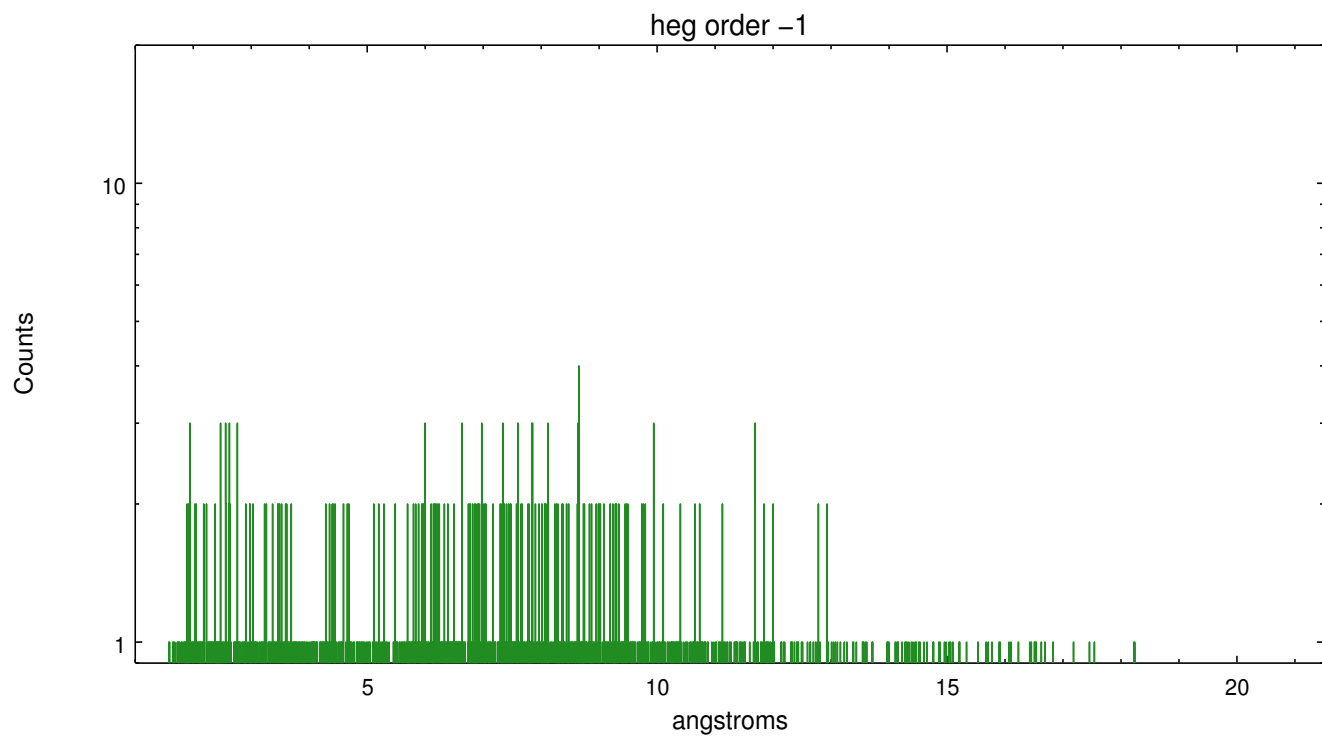
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	178	322	1505	5208	1275	180	168

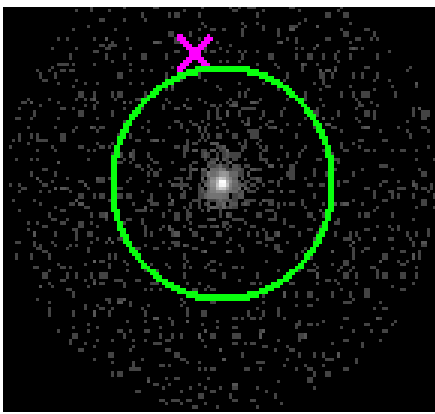




### 3.2 MEG Arm



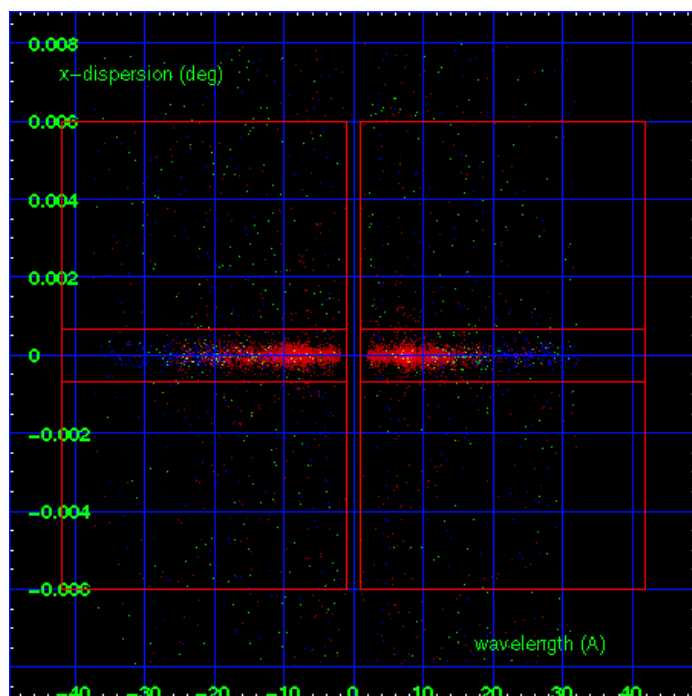
MEG Order Sort 123



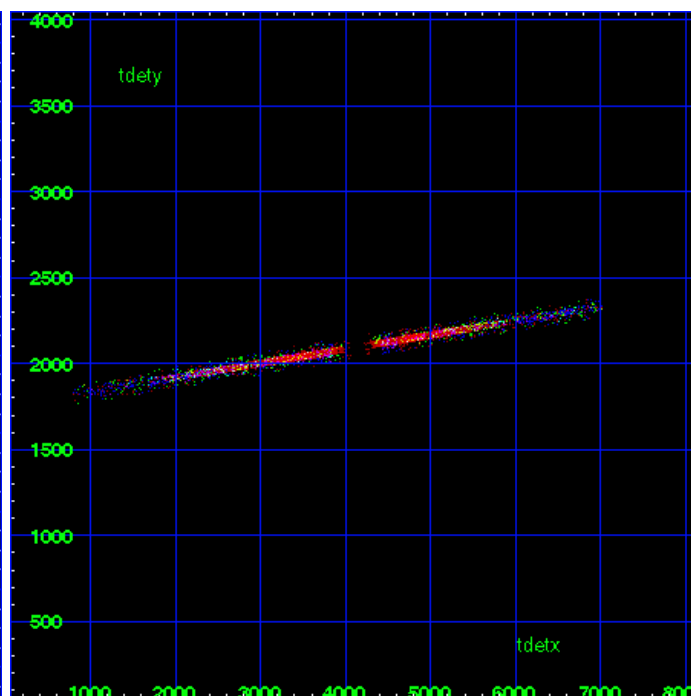
MEG Zero Order



MEG Order Sort ALL

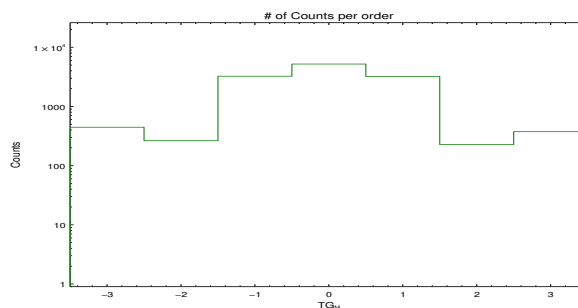


Spot Image MEG

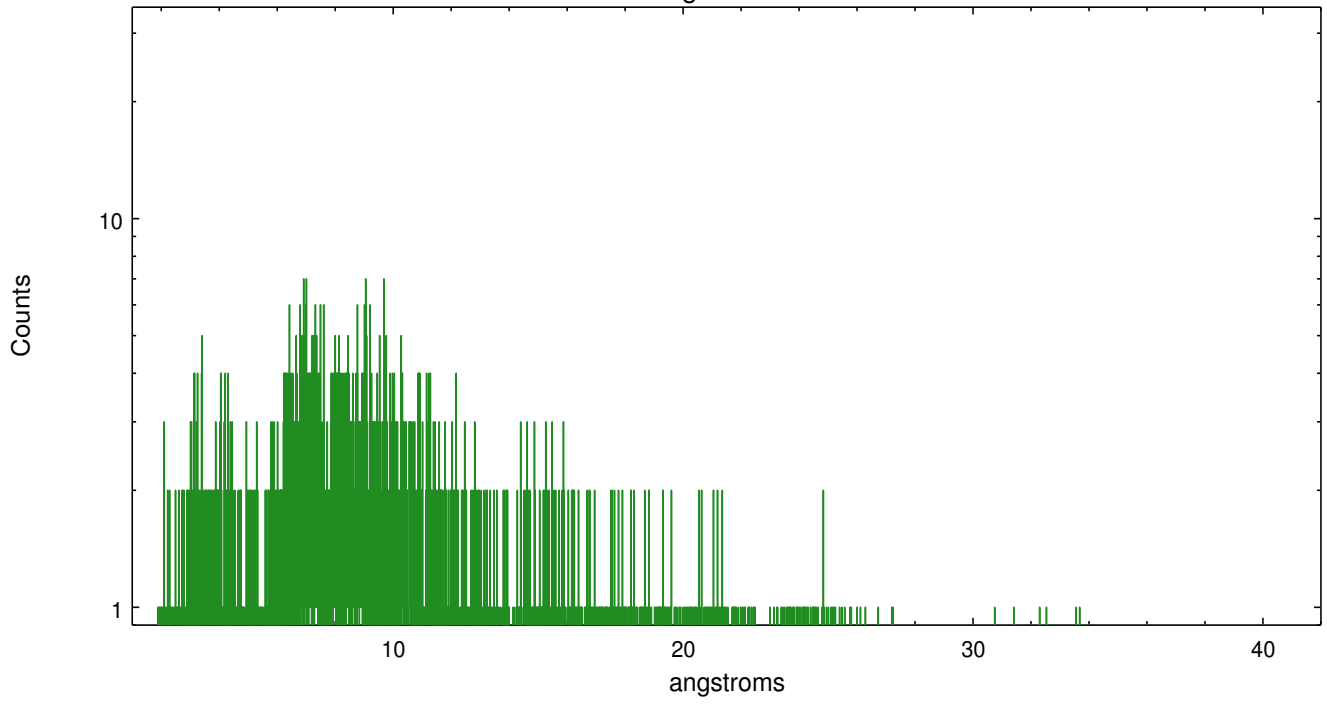


Full Detector MEG

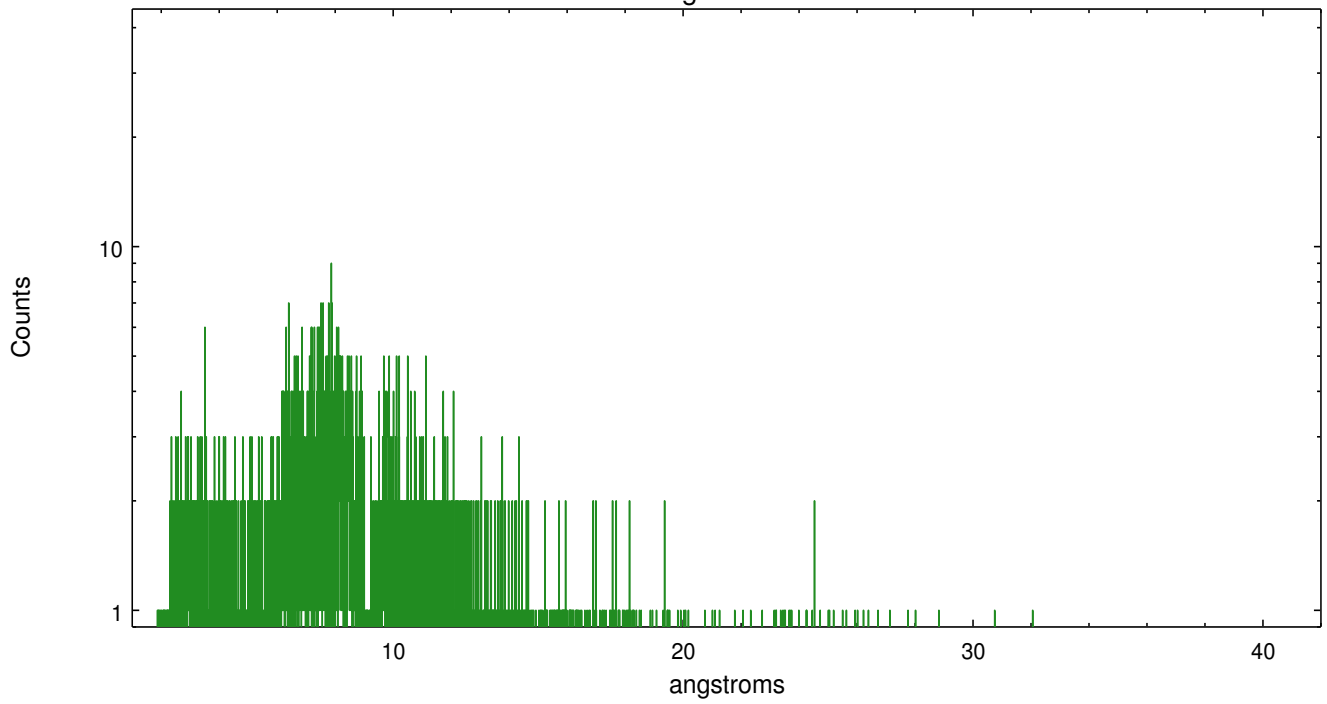
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	445	264	3244	5208	3195	227	375



meg order -1



meg order +1



# A Summary

## A.1 Status

V&V Scientist	Mike Nowak
V&V Date (YYYY-MM-DD)	2012.05.25
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.085

## A.2 Comments