

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 10801 - L2 Version 2  
Chandra X-Ray Center

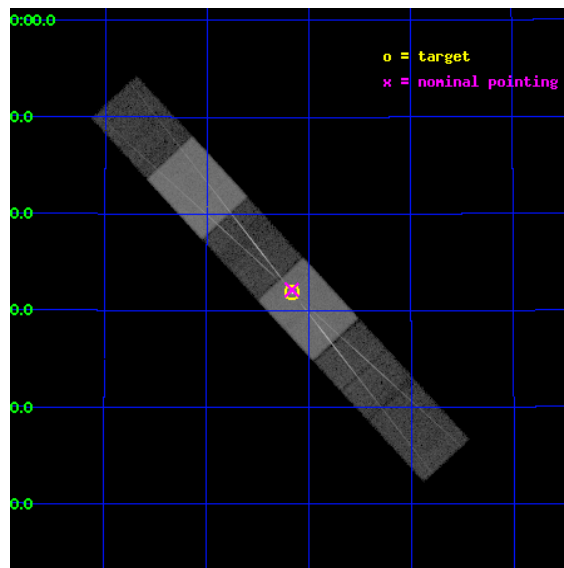
L2 Processing Date : May 24 2012

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# 1 Front

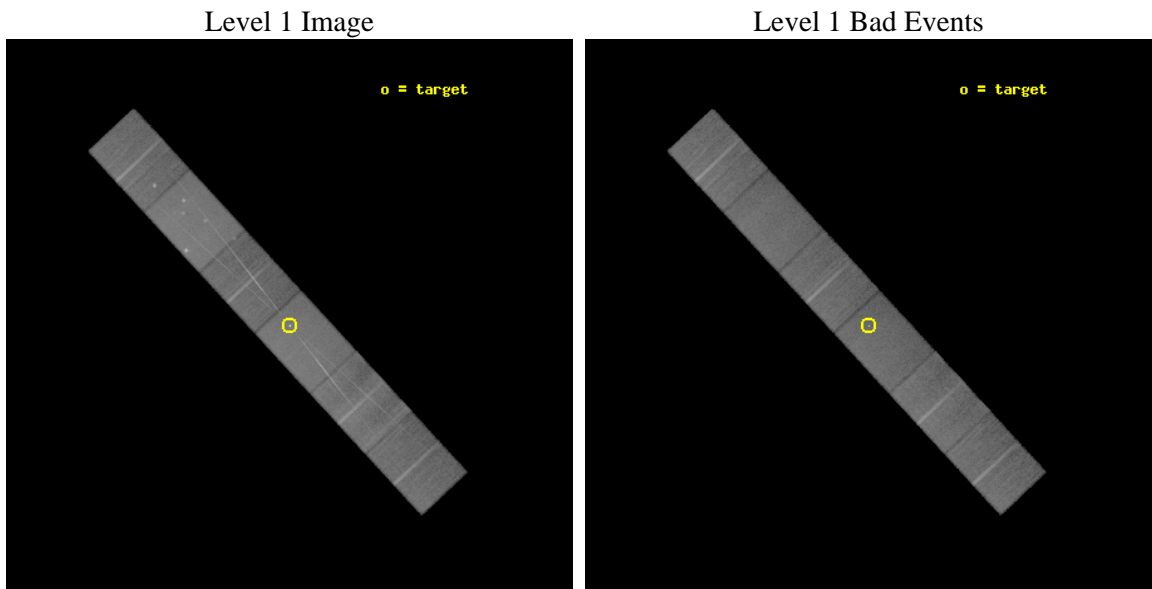
seq_num	701946	Sequence number
obs_id	10801	Observation id
title	Deconstructing AGN X-ray Spectra - Time for a Paradigm Shift?	Prop
observer	Dr Tracey Turner	Principal investigator
object	NGC 4051	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	180.79	Observer's specified target RA [deg]
dec_targ	44.531333	Observer's specified target Dec [deg]
ra_nom	180.79132958394	Nominal RA [deg]
dec_nom	44.536097043244	Nominal Dec [deg]
roll_nom	47.155723602058	Nominal Roll [deg]
revision	2	Processing version of data
ontime	26140.0	Sum of GTIs [s]
liveltime	25717.816327173	Livetime [s]
ontime4	26140.0	Sum of GTIs [s]
ontime5	26140.0	Sum of GTIs [s]
ontime6	26140.0	Sum of GTIs [s]
ontime7	26140.0	Sum of GTIs [s]
ontime8	26140.0	Sum of GTIs [s]
ontime9	26140.0	Sum of GTIs [s]
l2events	386695	Number of level 2 events



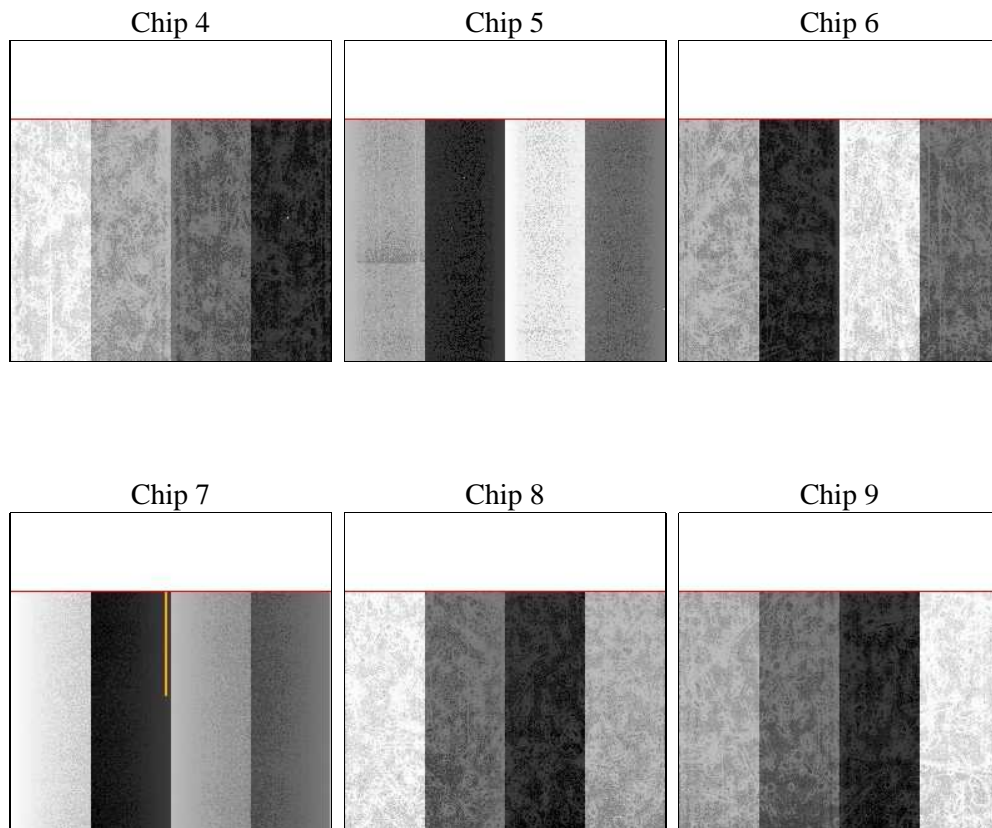
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	26000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	26140.0	Sum of GTIs [s]
caldbver	4.4.9	&#160	ontime4	26140.0	Sum of GTIs [s]
date	2012-05-24T03:01:48	Date and time of file creation	ontime5	26140.0	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	26140.0	Sum of GTIs [s]
			ontime7	26140.0	Sum of GTIs [s]
			ontime8	26140.0	Sum of GTIs [s]
			ontime9	26140.0	Sum of GTIs [s]
			l1events	1540621	Number of level 1 events

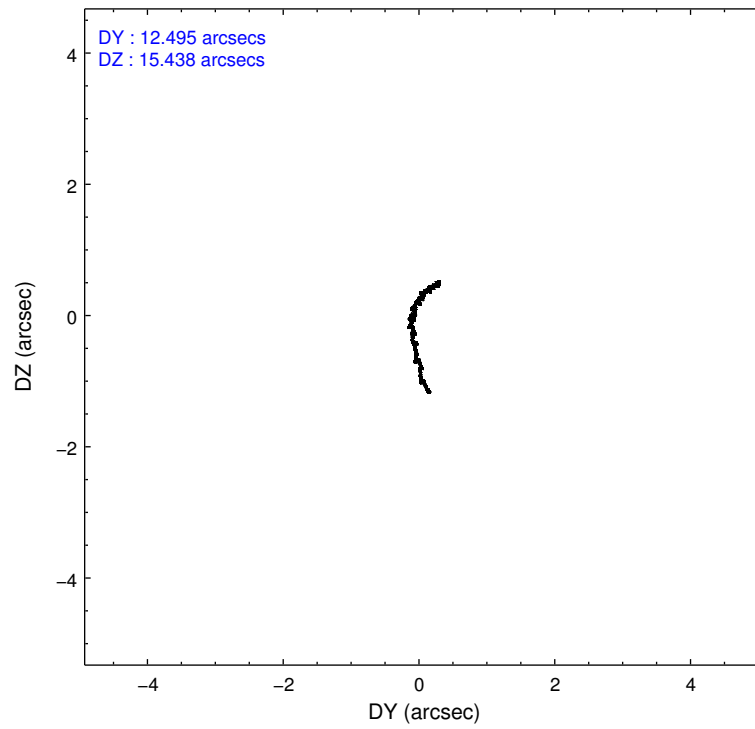
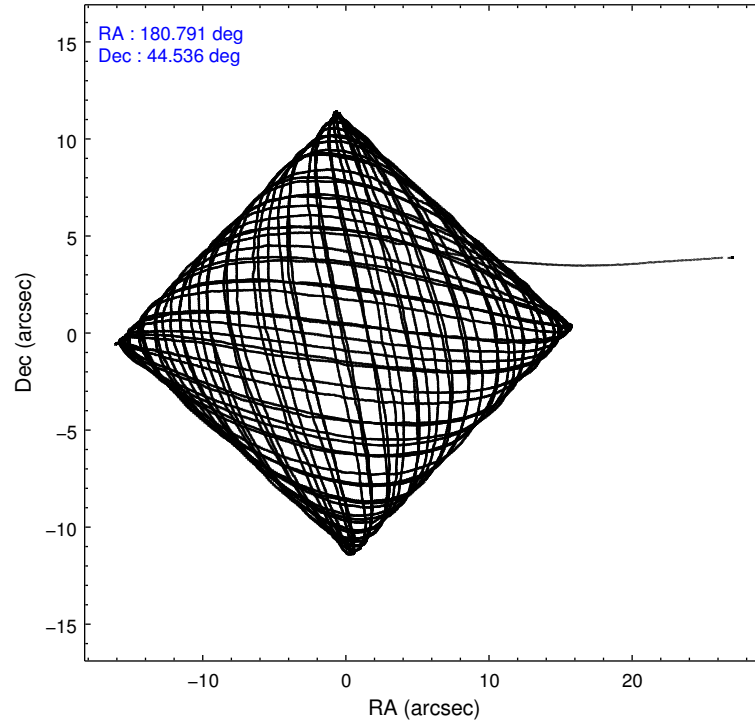
### 2.1.4 Events

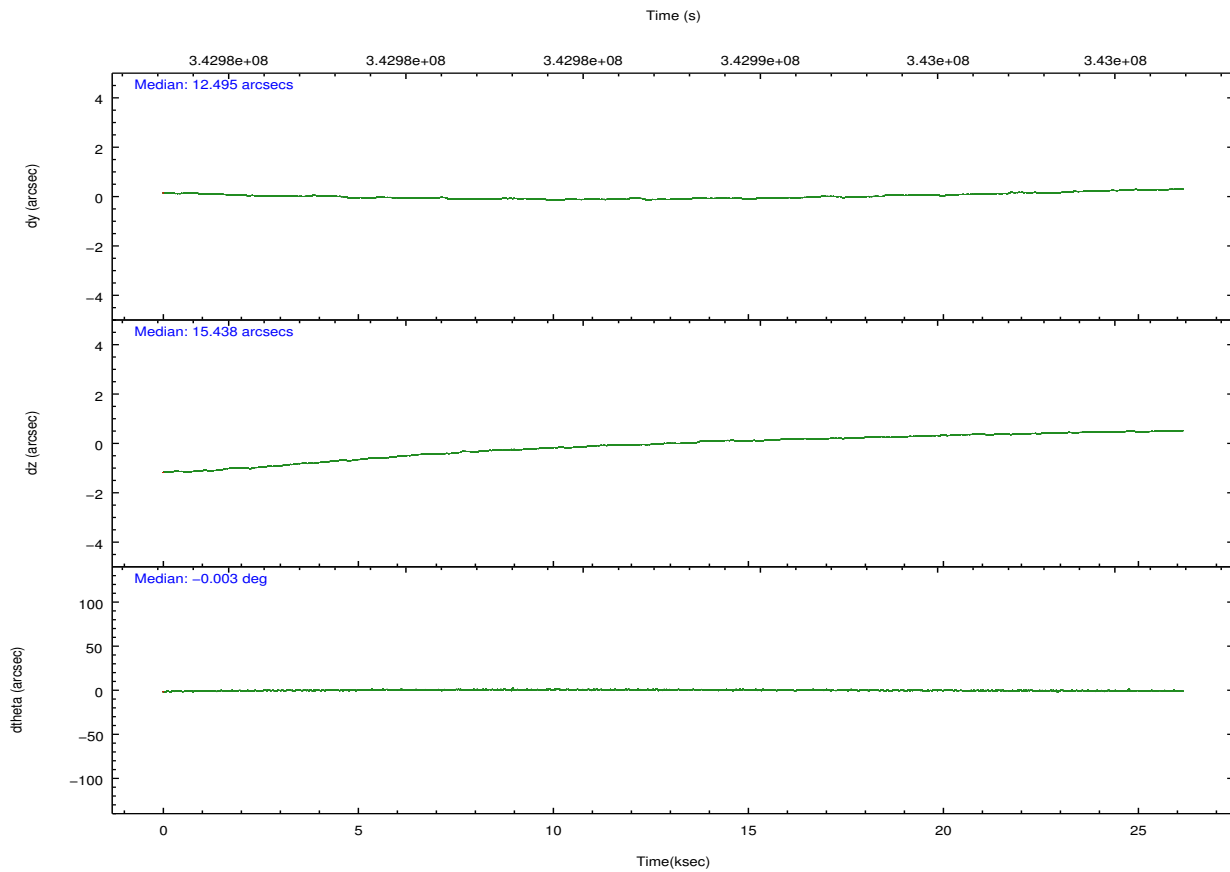
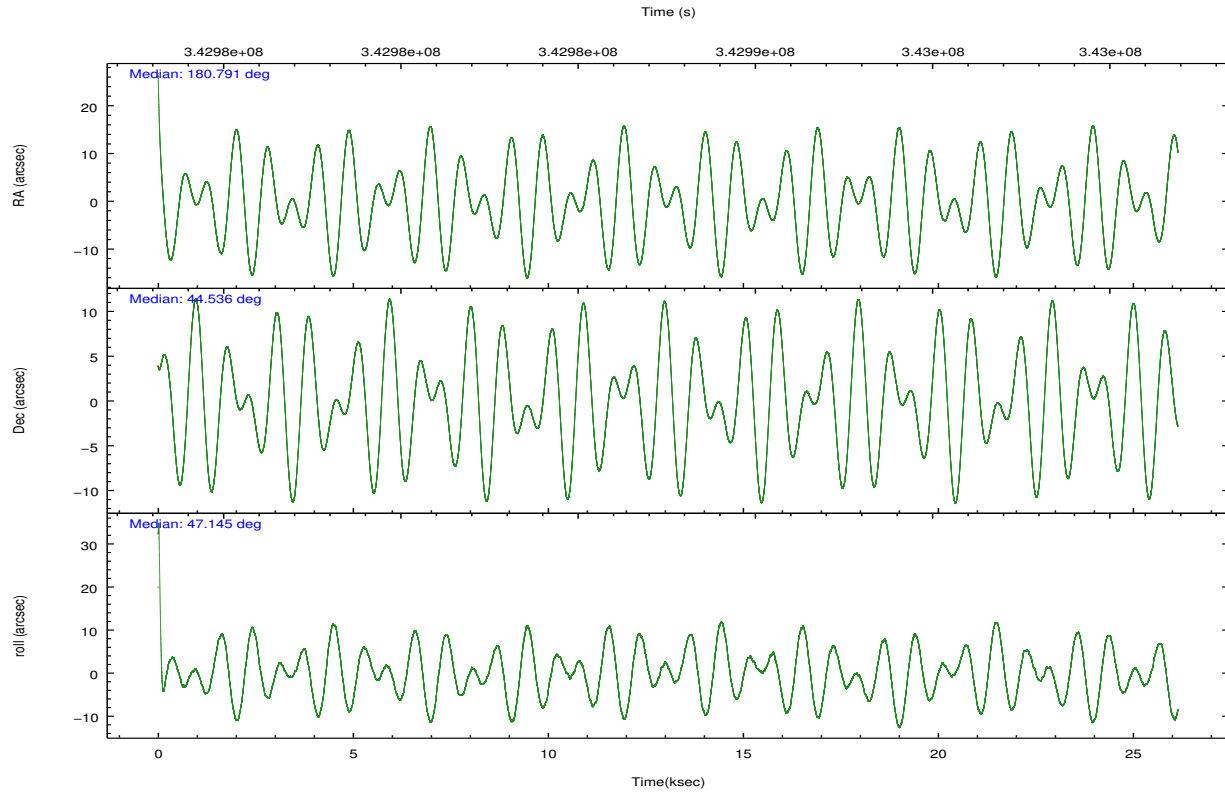
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	224478	323603	215533	304428	268649	203930	grade 0 events	14421	18633	20633	14284	25786	11758
rejected events	195228	172583	177051	168833	199650	176728		6%	5%	9%	4%	9%	5%
rejected %	86%	53%	82%	55%	74%	86%	grade 1 events	208	555	165	525	193	125
								0%	0%	0%	0%	0%	0%
							grade 2 events	5816	44900	6981	28690	14679	5359
								2%	13%	3%	9%	5%	2%
							grade 3 events	2674	6715	2936	12453	6770	2721
								1%	2%	1%	4%	2%	1%
							grade 4 events	2601	6460	2896	12181	6220	2665
								1%	1%	1%	4%	2%	1%
							grade 5 events	9177	23616	9581	27655	12794	10300
								4%	7%	4%	9%	4%	5%
							grade 6 events	4191	76509	5464	69679	16423	5096
								1%	23%	2%	22%	6%	2%
							grade 7 events	185390	146215	166877	138961	185784	165906
								82%	45%	77%	45%	69%	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	180.7913295839365	CCD I2 on	N	N
[deg] Pointing Dec	44.509353	44.53609704324421	CCD I3 on	N	N
[deg] Pointing Roll	47.004694	47.15572360205808	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	-187.1228876879999	CCD S3 on	Y	Y
[mm] SIM translation stage offset	-3	-3.009634895007935	CCD S4 on	Y	Y
[s] Observation start time (MET)	342974605.184000	342973471.36607	CCD S5 on	Y	Y
Observation start date	2008-11-13T14:42:20	2008-11-13T14:24:31	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	343000605.184000	343001468.21745	On-chip summing requested	N	N
Observation end date	2008-11-13T21:55:40	2008-11-13T22:11:08	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



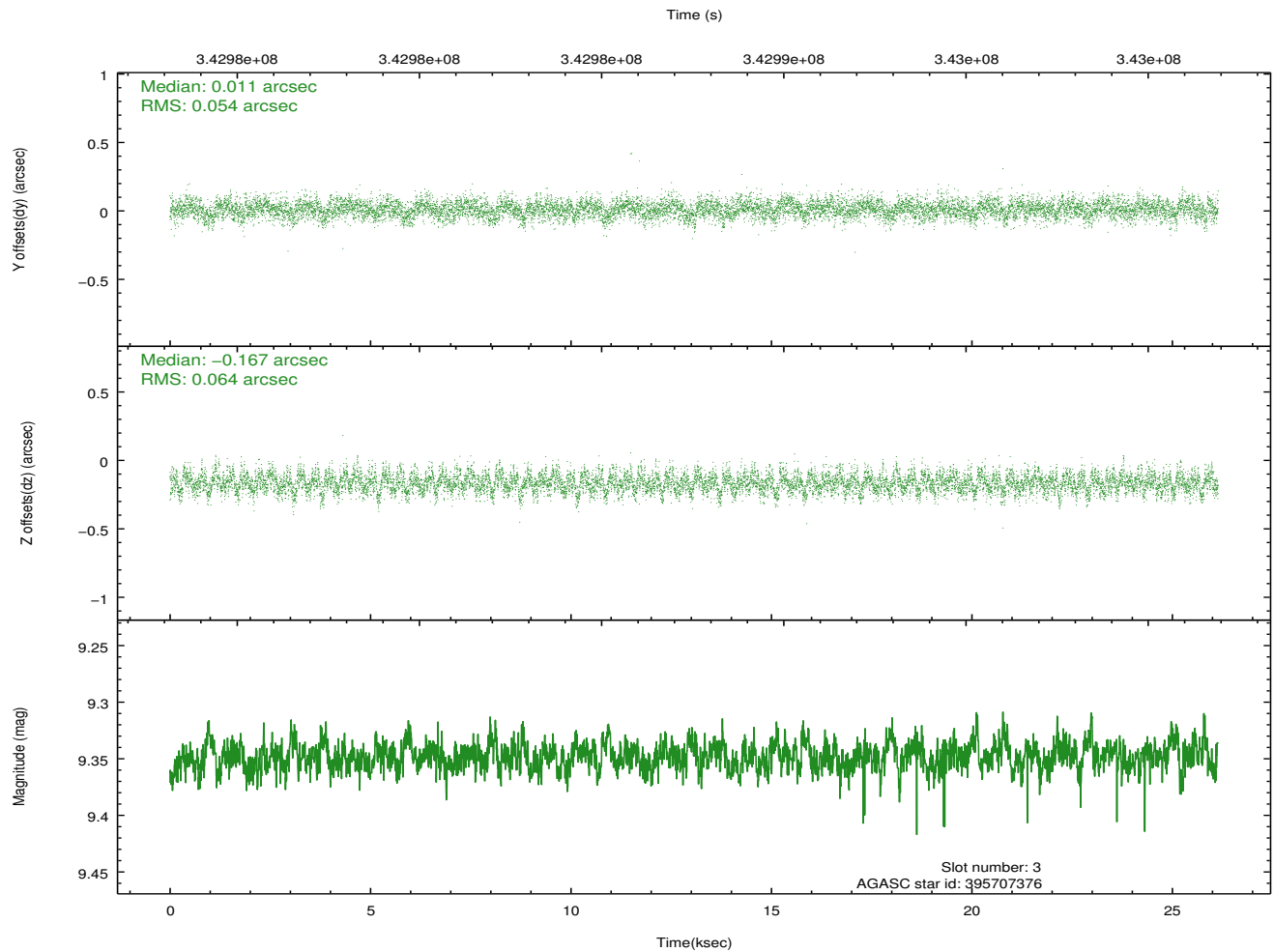
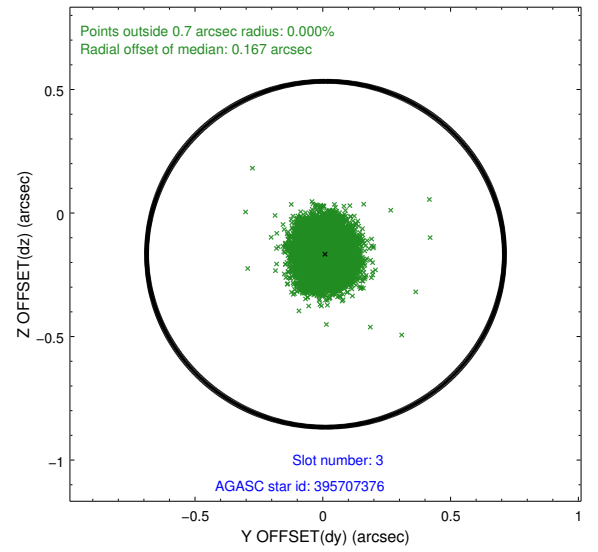
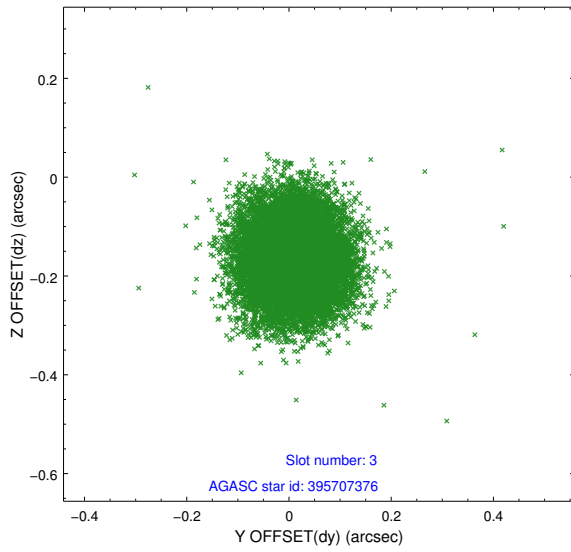


### Slot Statistics

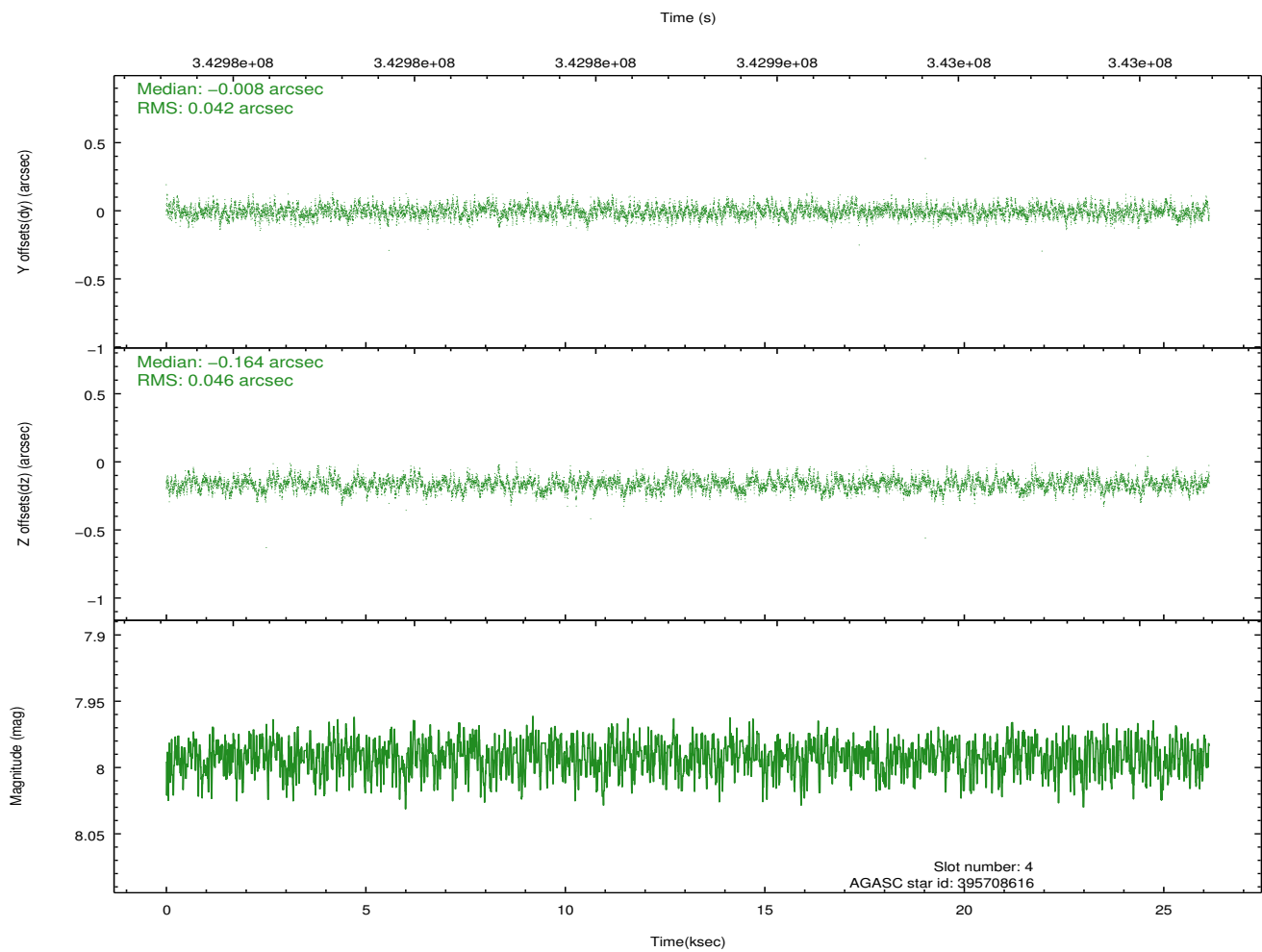
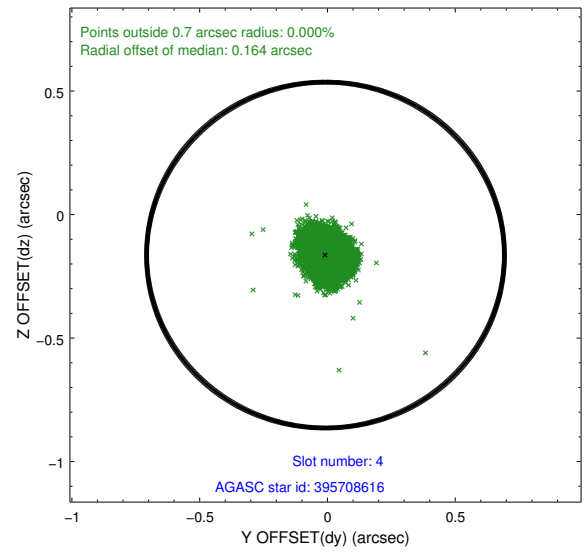
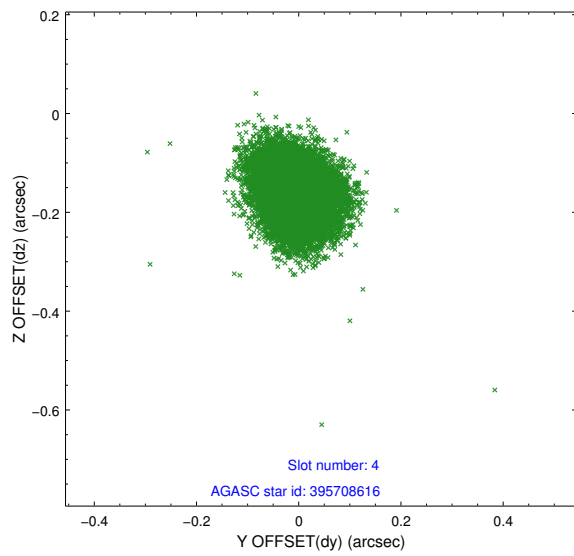
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.87	6378	-0.072	-0.085	0.009	0.024	0.000000	0.000000	-765.31	-1798.92
1	FID	ACIS-S-4	6.95	6378	0.156	0.057	0.008	0.017	0.000000	0.000000	2148.18	109.54
2	FID	ACIS-S-5	7.00	6378	-0.115	0.036	0.010	0.022	0.000000	0.000000	-1818.03	103.37
3	GUIDE	395707376	9.35	12743	0.011	-0.167	0.089	0.142	180.967983	44.858789	1241.66	513.61
4	GUIDE	395708616	7.99	12755	-0.008	-0.164	0.066	0.106	180.101872	44.630343	-866.52	1578.73
5	GUIDE	395708696	8.88	12745	0.010	0.077	0.078	0.124	180.383726	44.624291	-393.73	1032.99
6	GUIDE	395709608	8.35	12744	0.037	0.124	0.064	0.101	181.055130	44.450389	322.33	-654.47
7	GUIDE	395710032	8.79	12744	-0.052	0.134	0.077	0.123	181.512910	44.376001	935.79	-1694.38

## 2.4 Star Slots

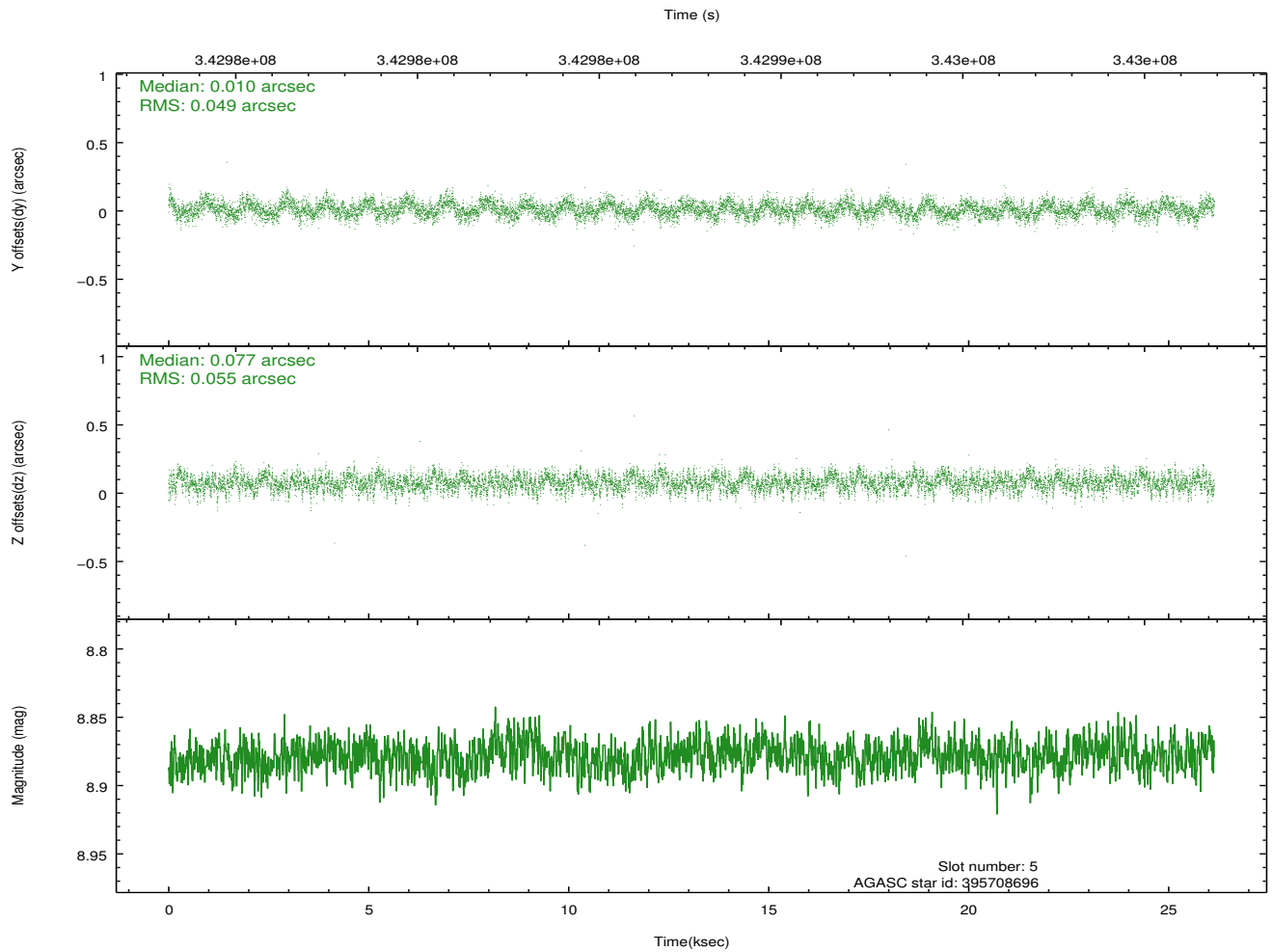
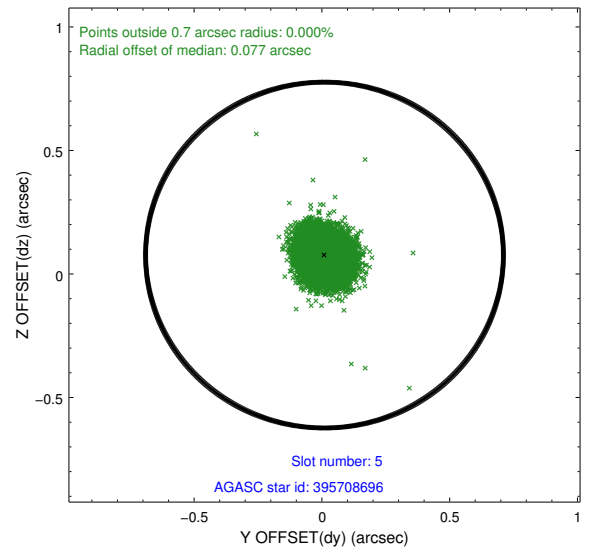
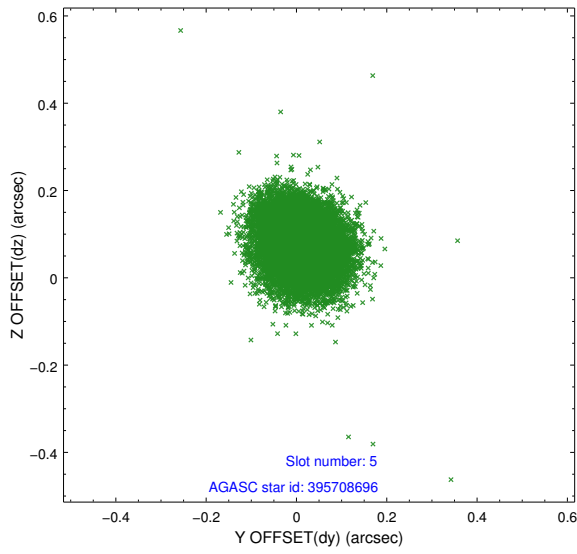
### 2.4.1 Slot 3



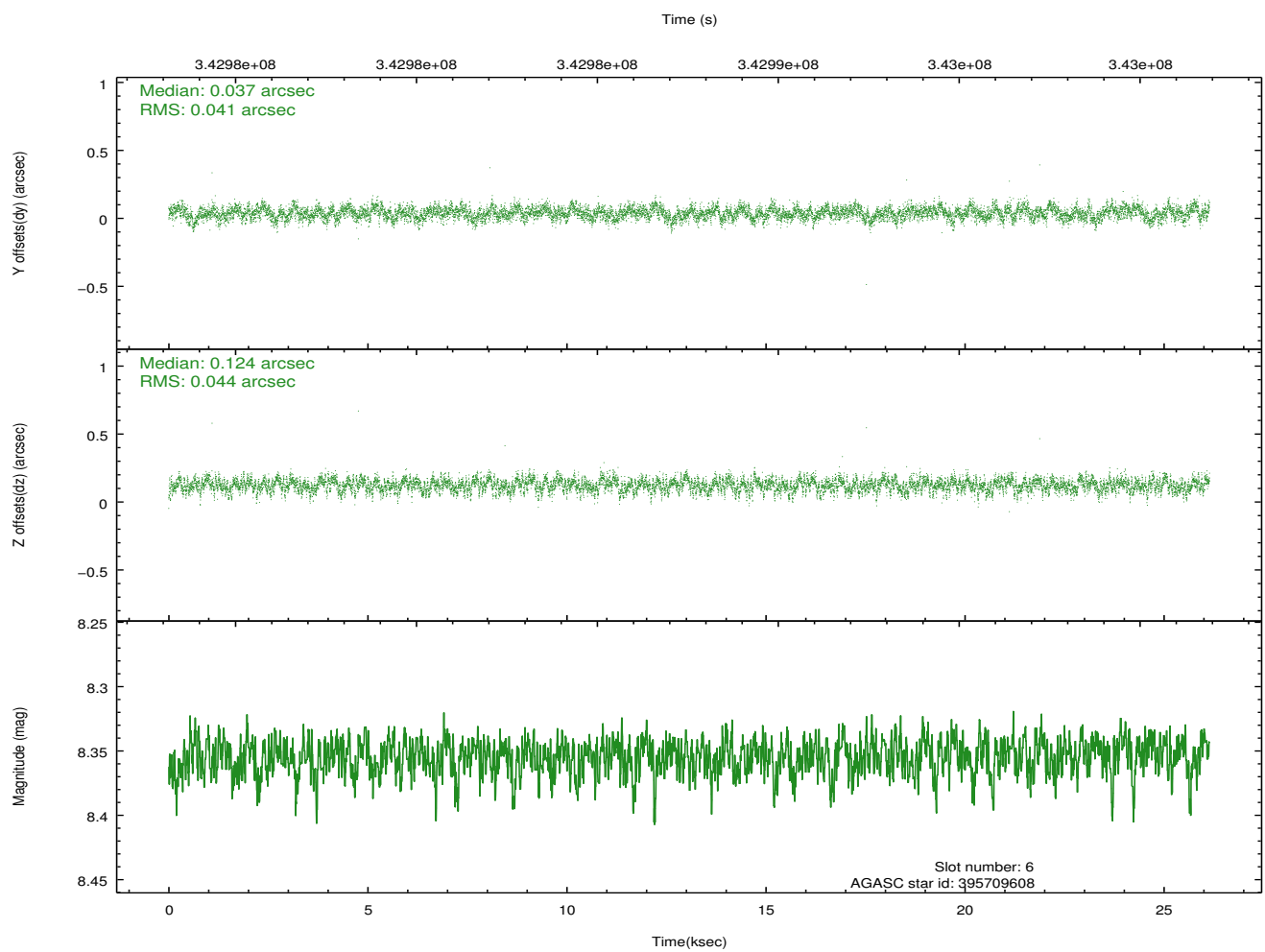
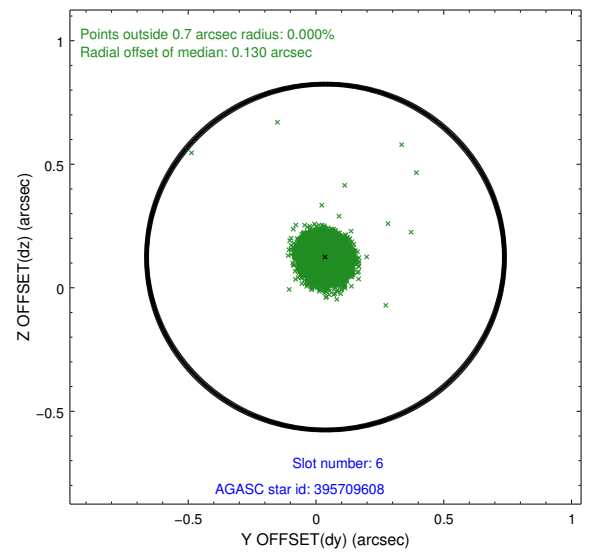
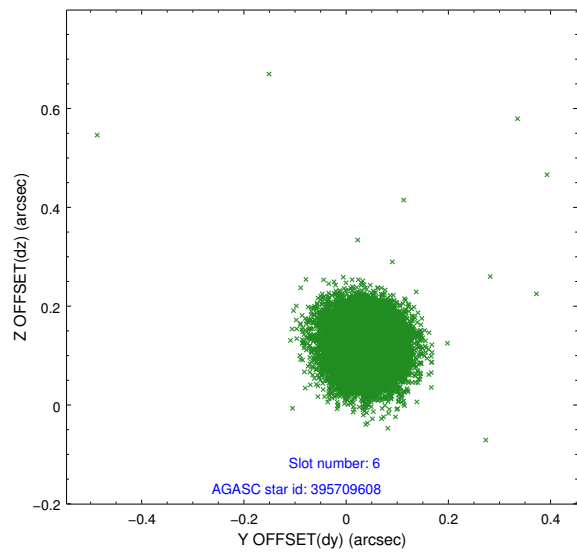
## 2.4.2 Slot 4



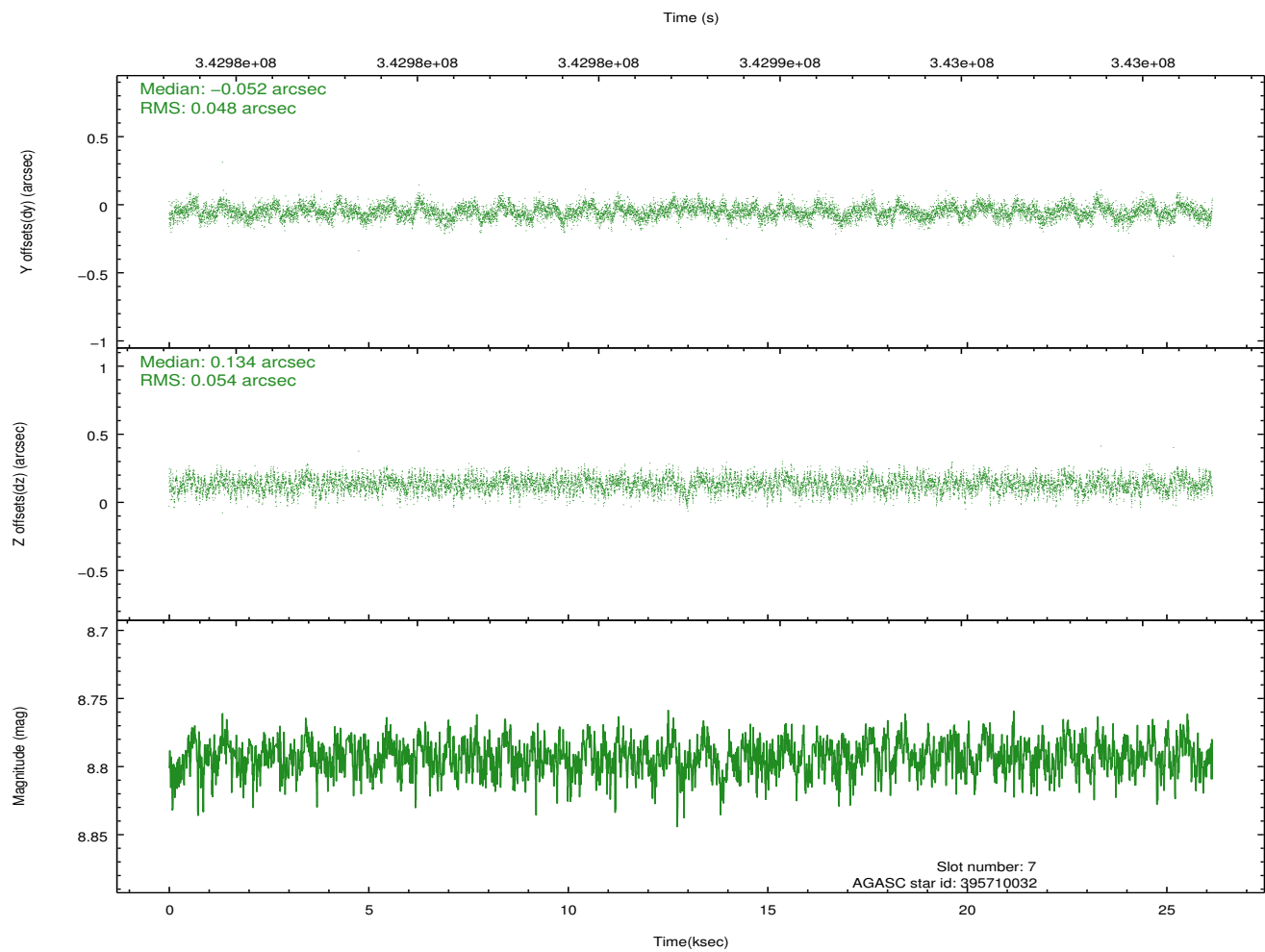
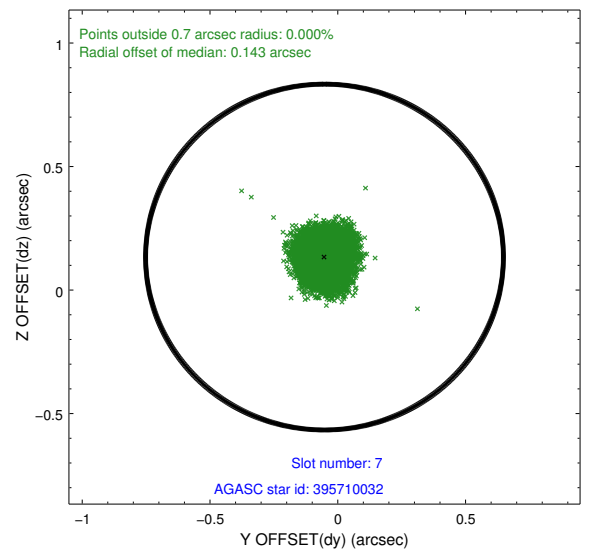
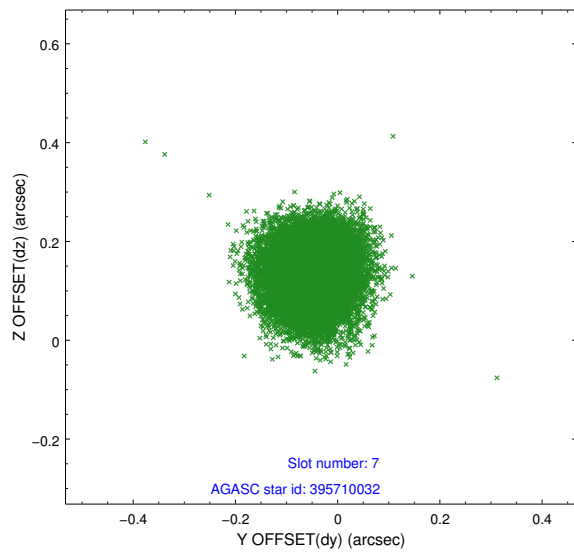
### 2.4.3 Slot 5



## 2.4.4 Slot 6

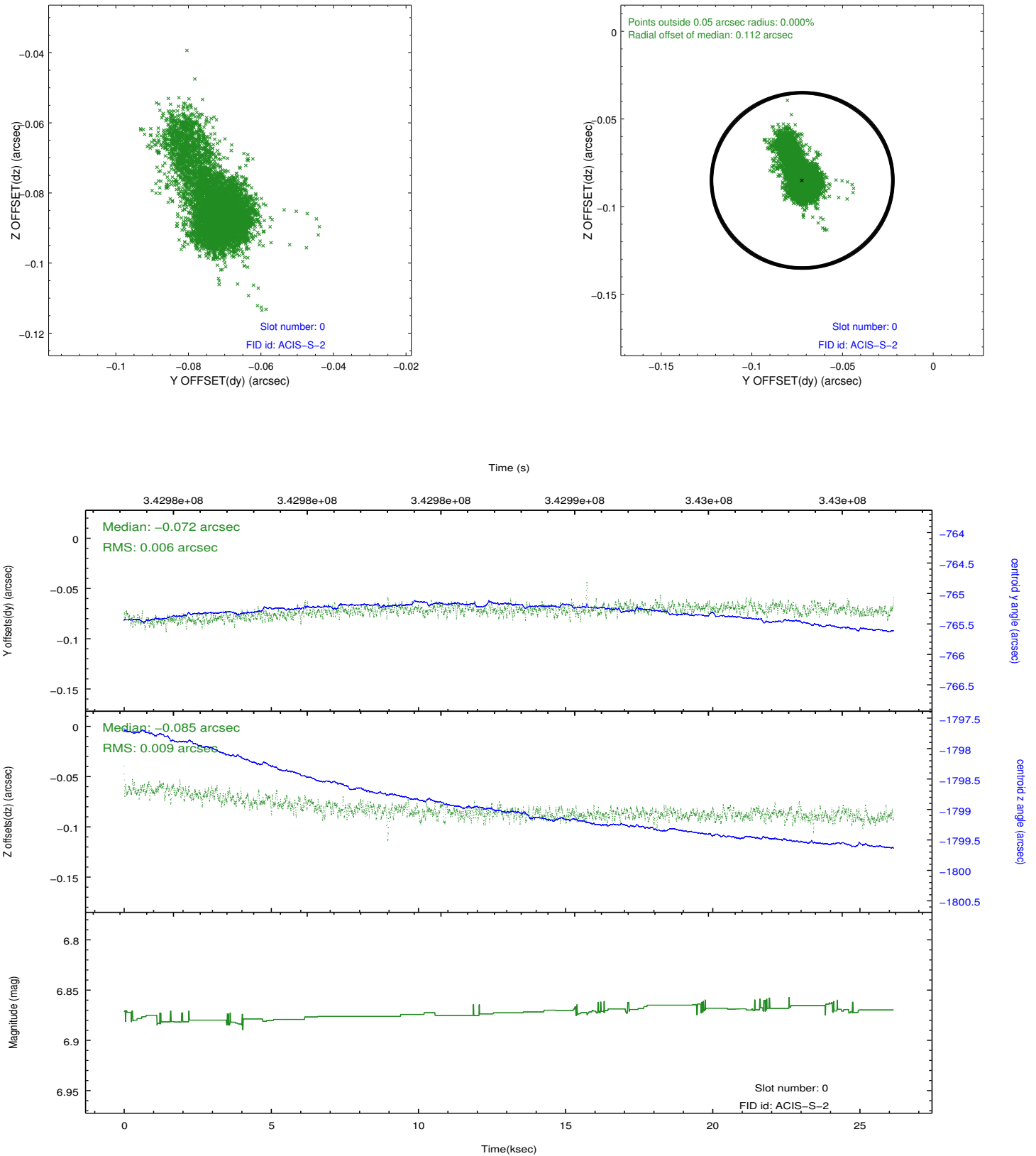


## 2.4.5 Slot 7

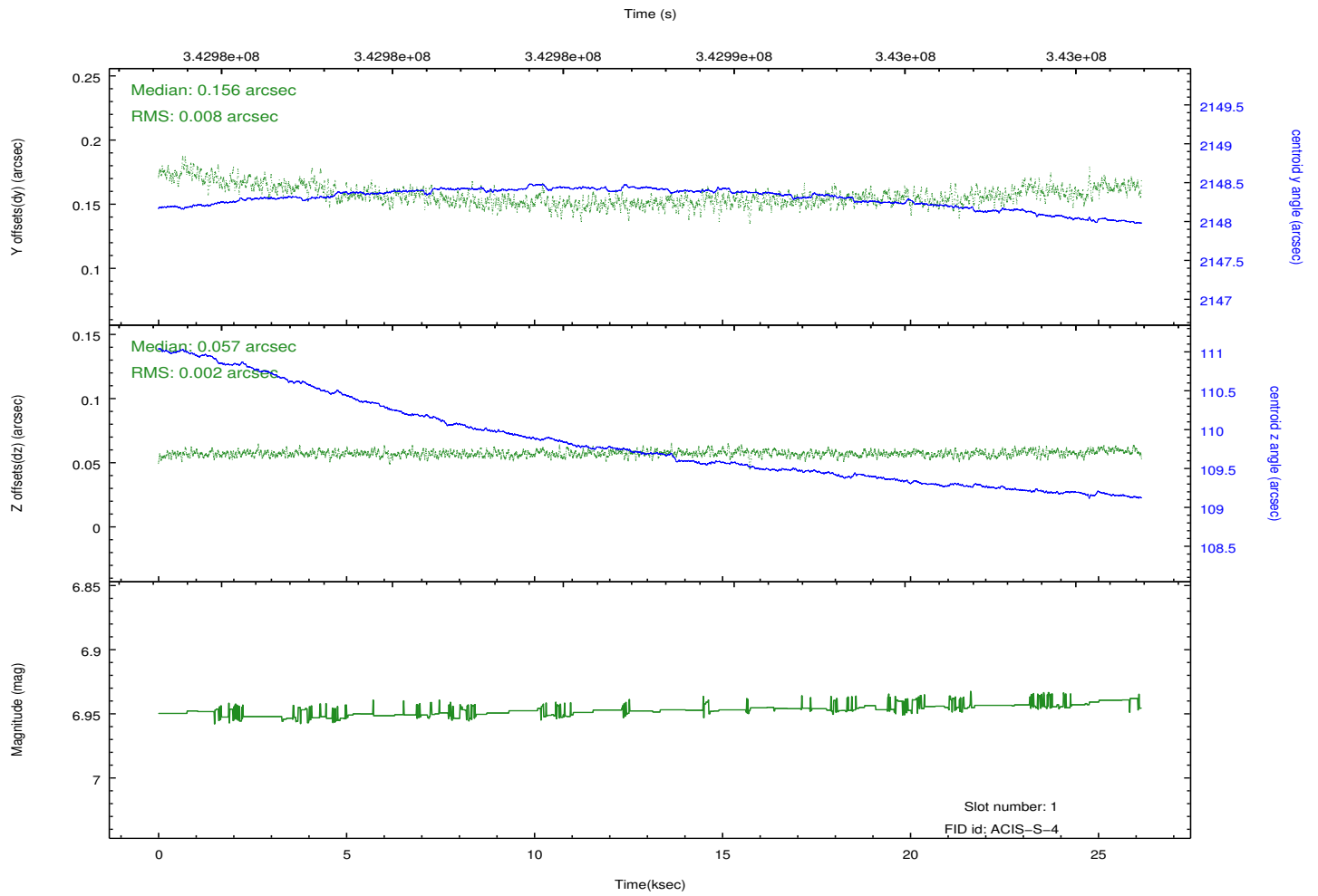
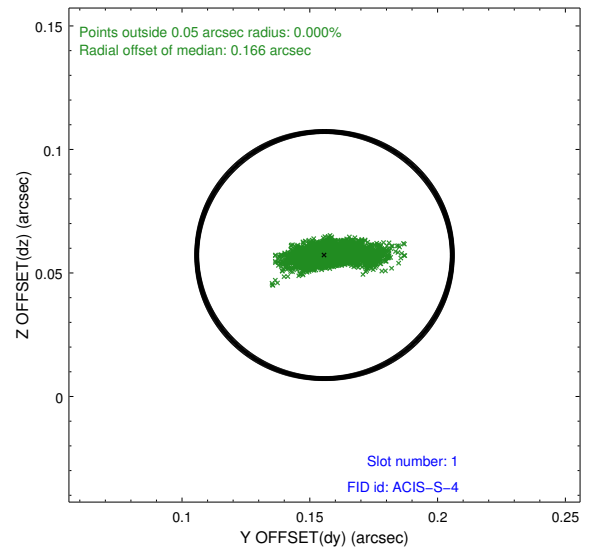
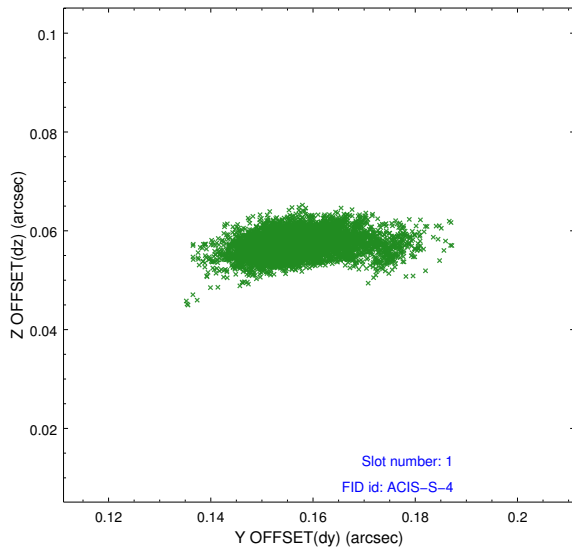


## 2.5 FID Slots

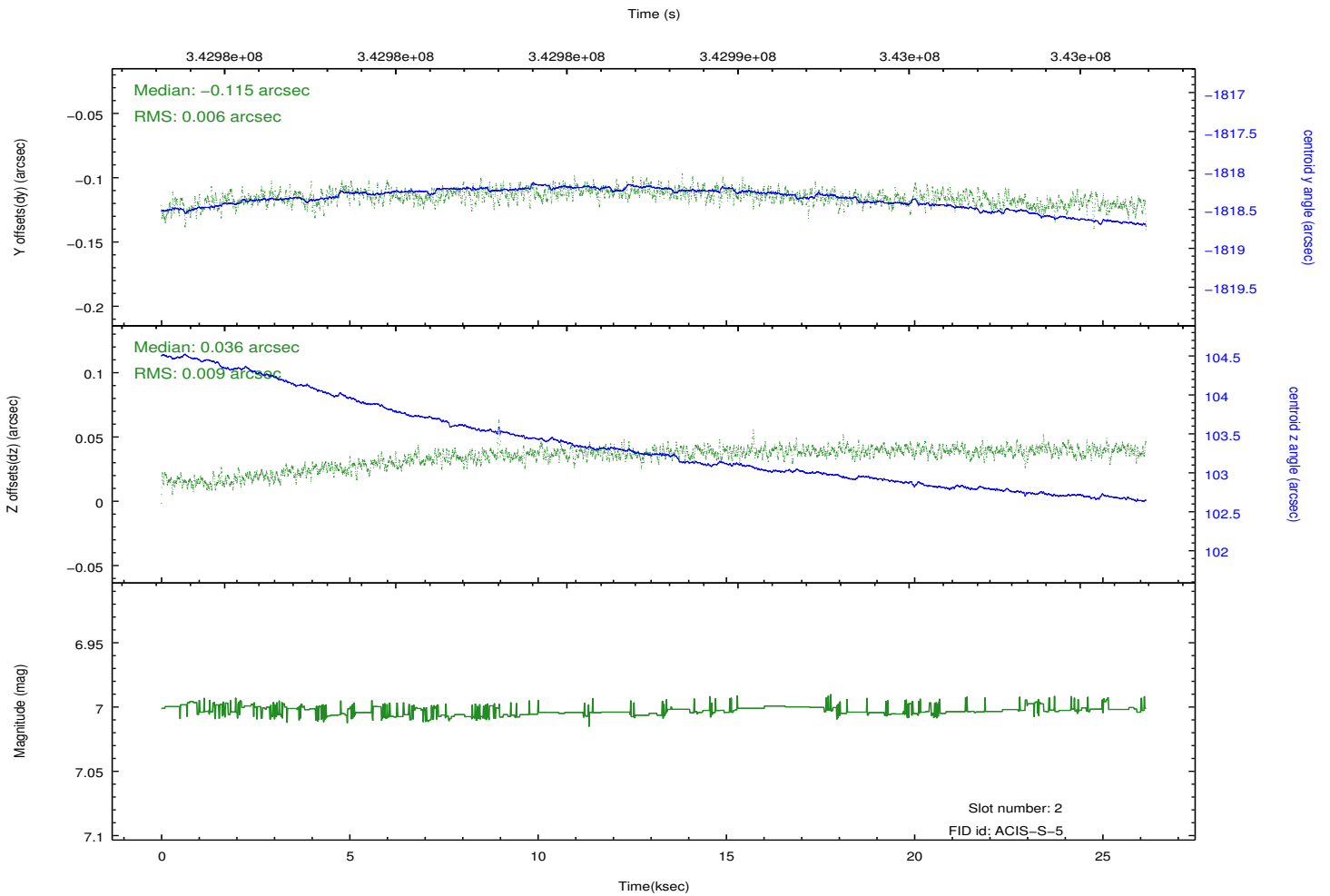
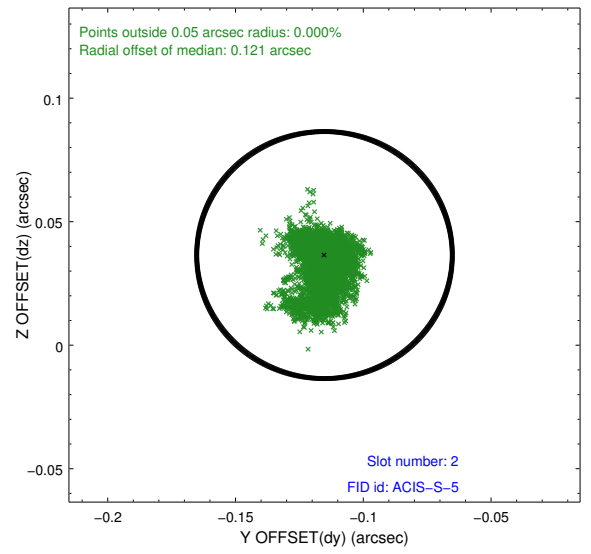
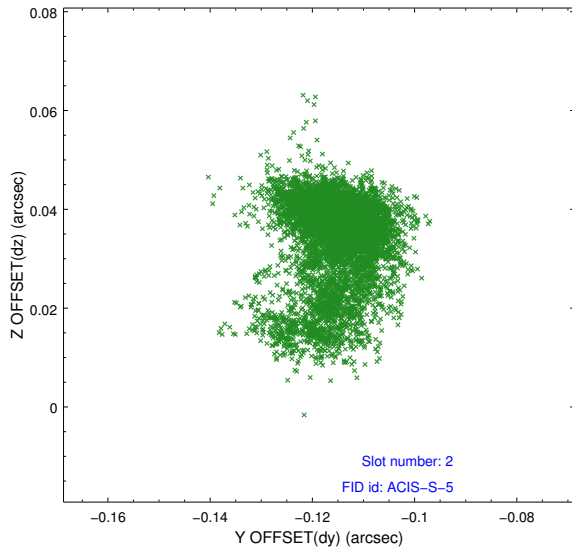
### 2.5.1 Slot 0



## 2.5.2 Slot 1

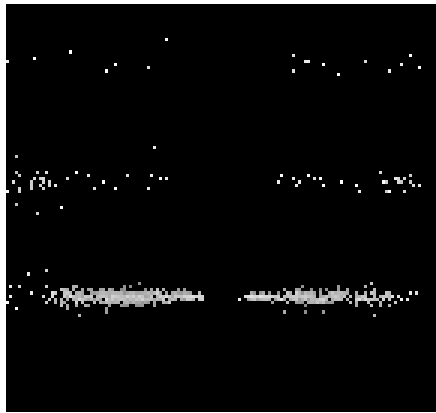


### 2.5.3 Slot 2

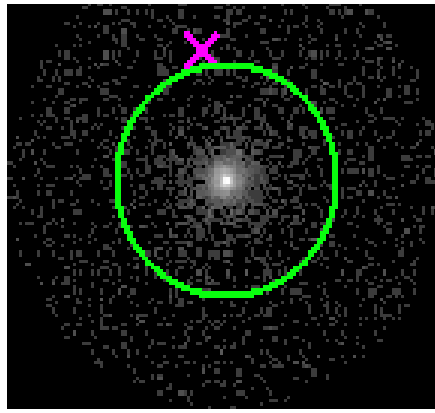


# 3 Gratings

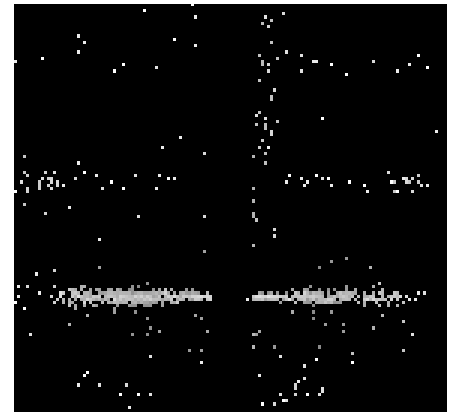
## 3.1 HEG Arm



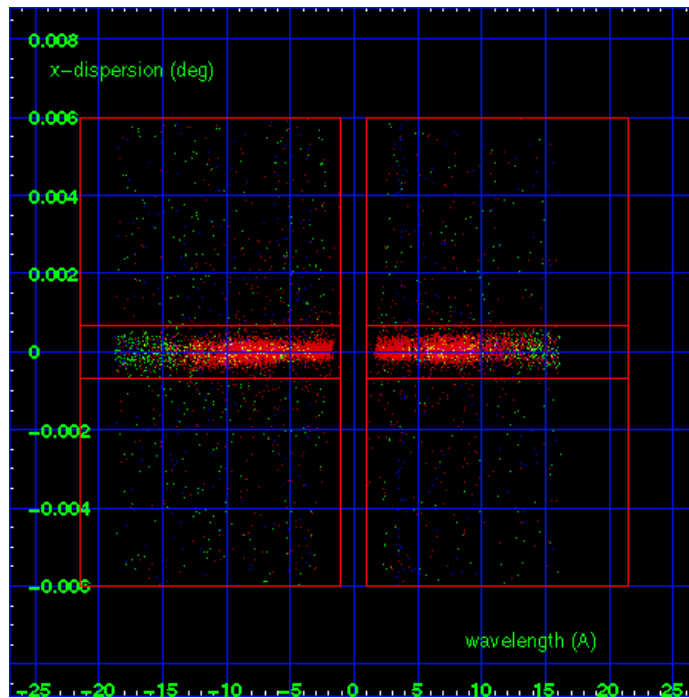
HEG Order Sort 123



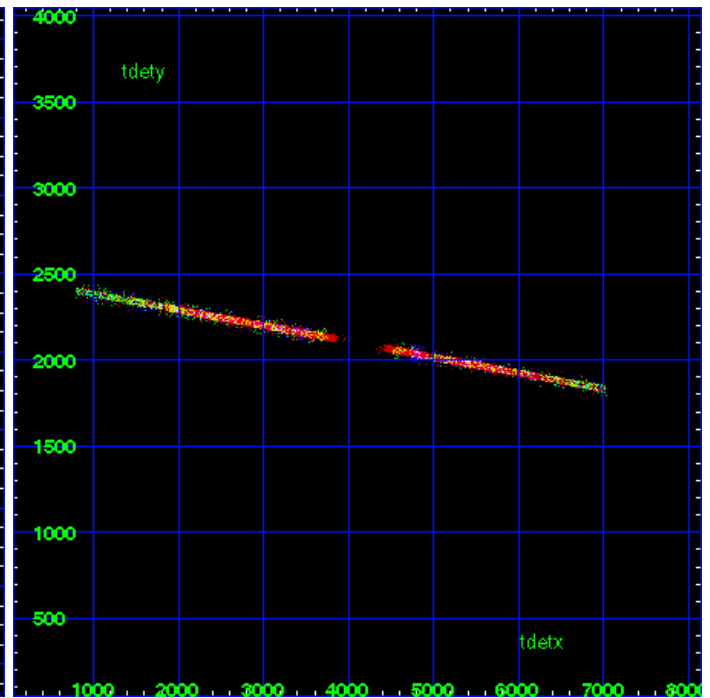
HEG Zero Order



HEG Order Sort ALL

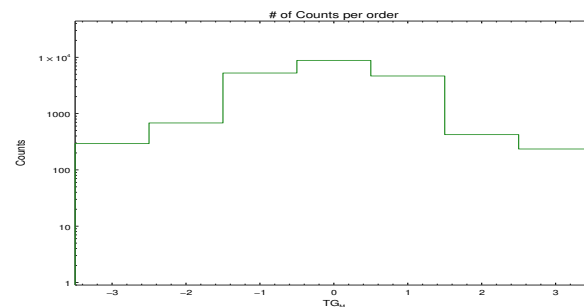


Spot Image HEG

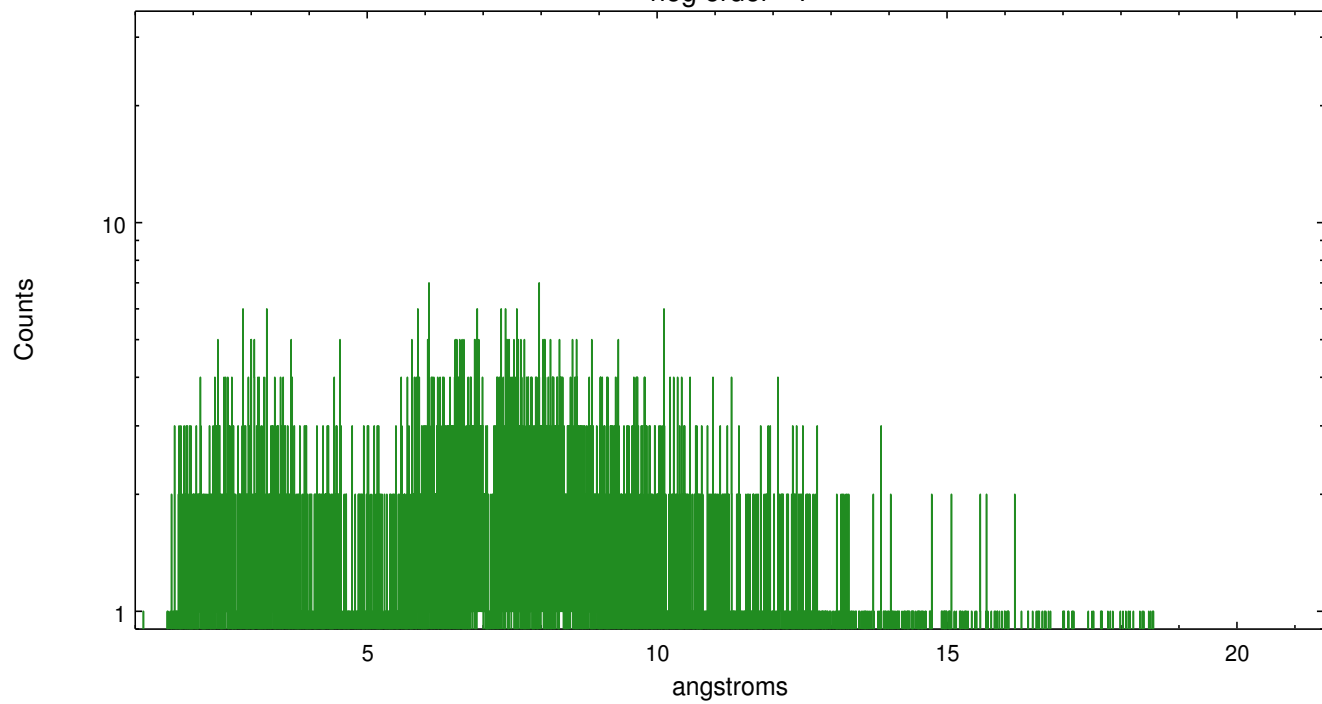


Full Detector HEG

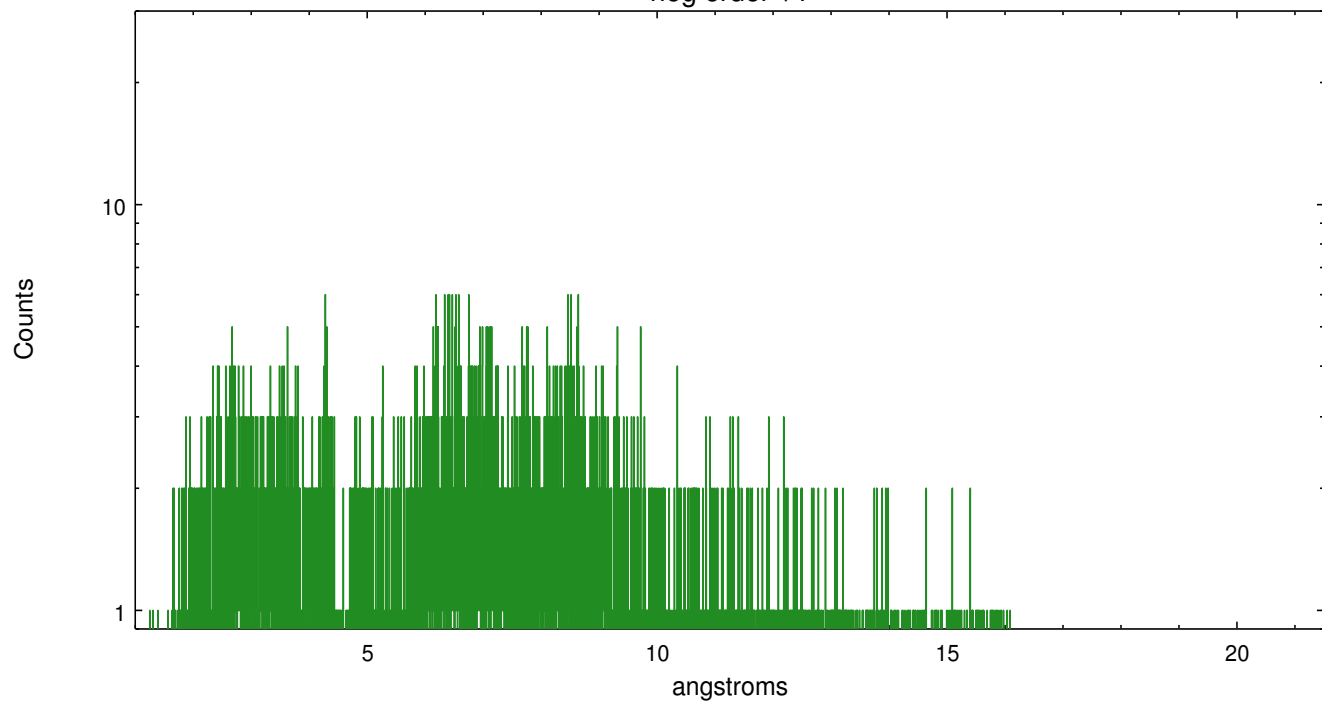
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	293	682	5256	8812	4657	423	235



heg order -1



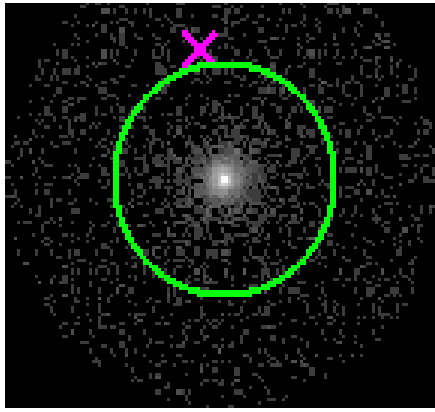
heg order +1



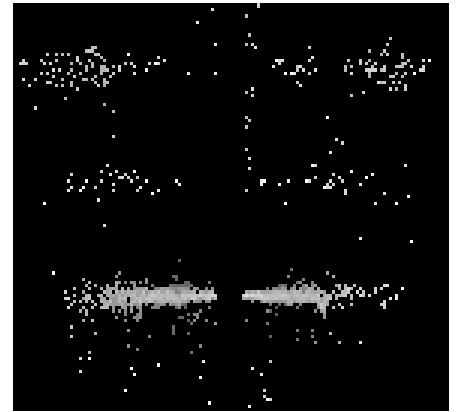
### 3.2 MEG Arm



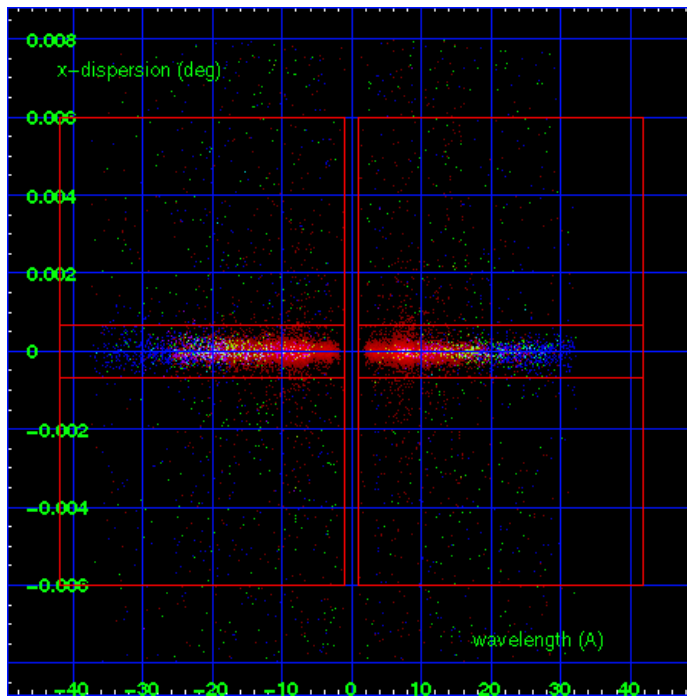
MEG Order Sort 123



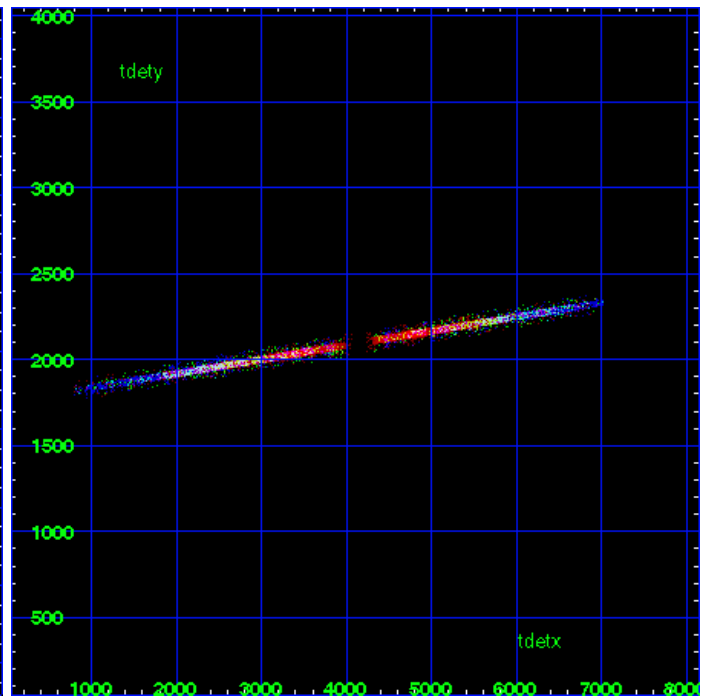
MEG Zero Order



MEG Order Sort ALL

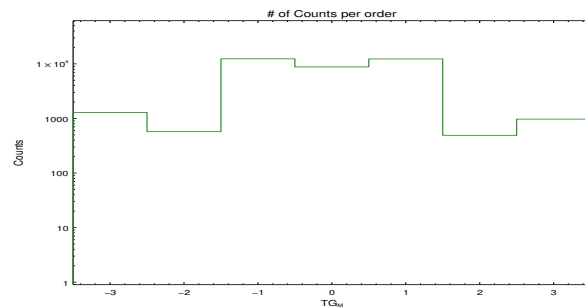


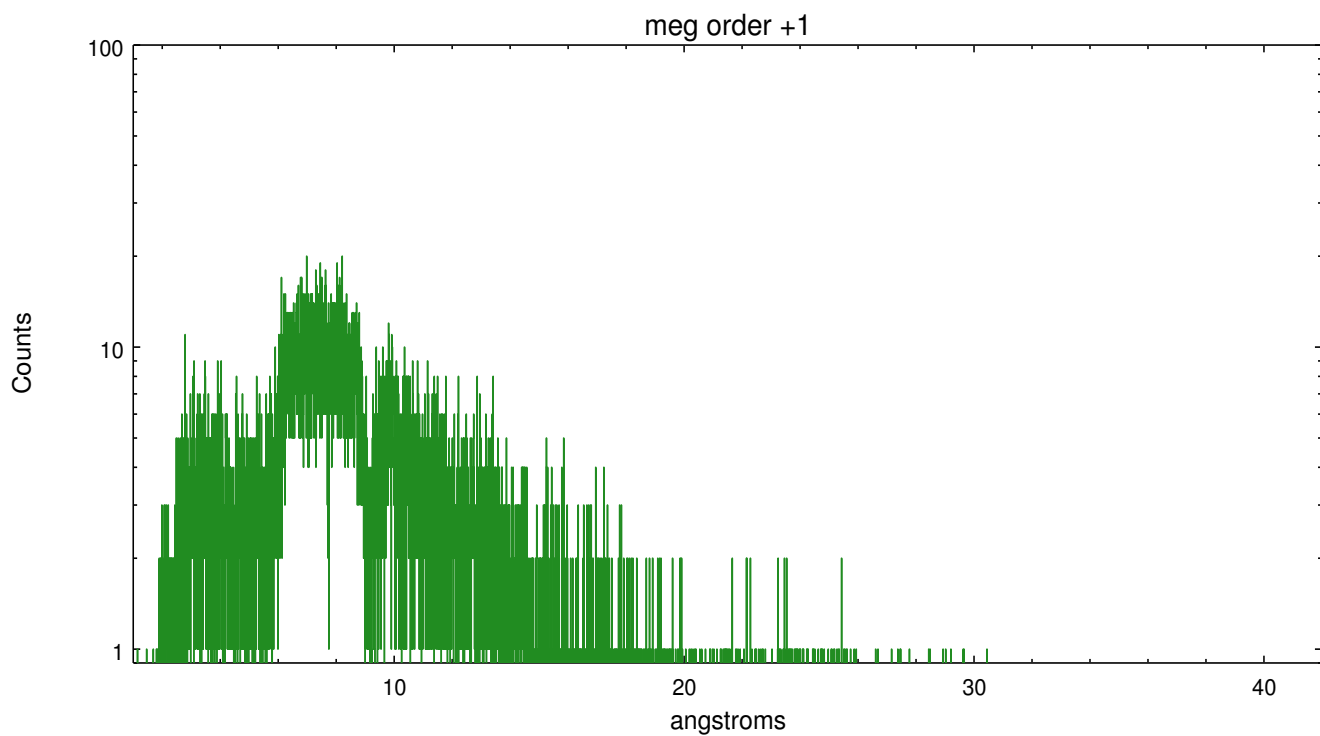
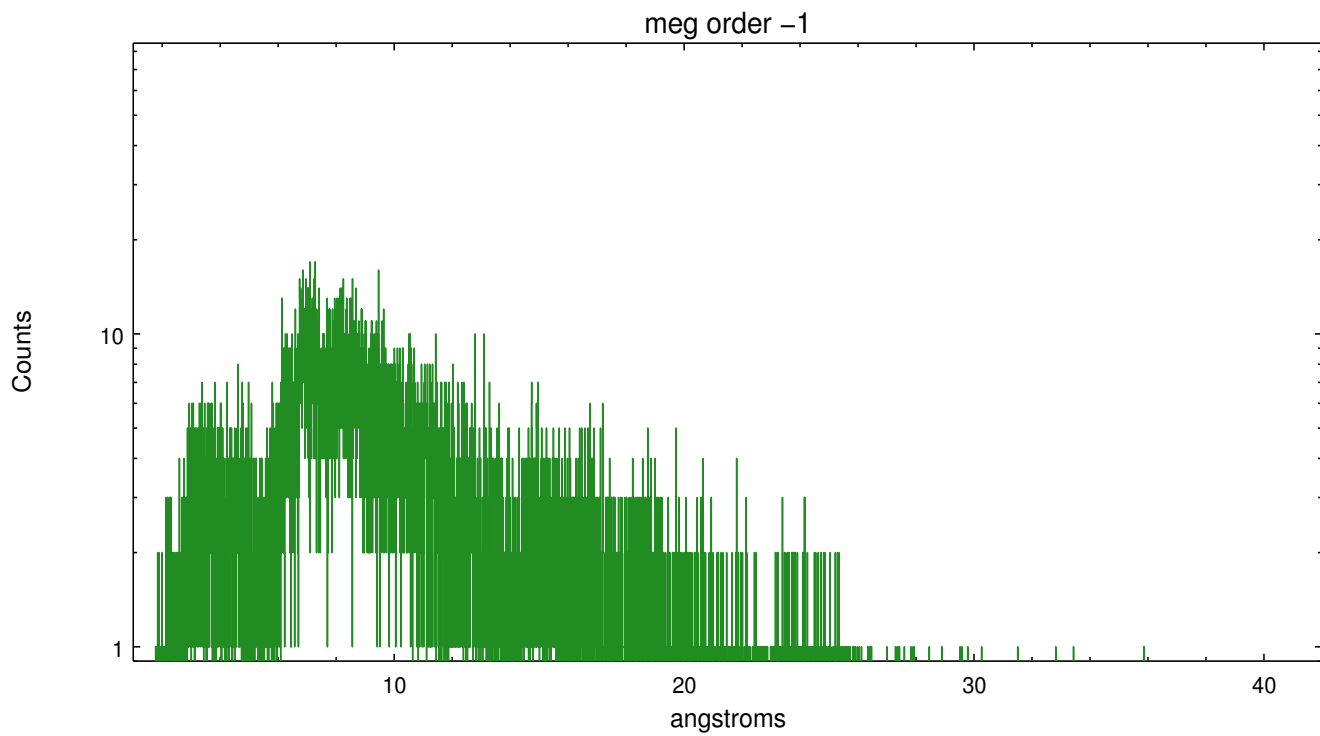
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1285	573	12375	8812	12323	491	973





## **A Summary**

### **A.1 Status**

V&V Scientist	John Houck
V&V Date (YYYY-MM-DD)	2012.05.24
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	26.14

### **A.2 Comments**