

# V&V Reference Report

## L2 ASCDS Version : 10.6.4

Observation 20173 - L2 Version 1  
Chandra X-Ray Center

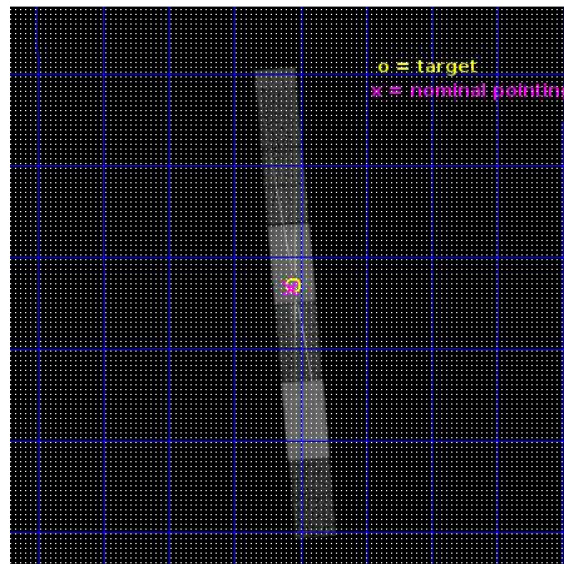
L2 Processing Date : Aug 24 2018

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# 1 Front

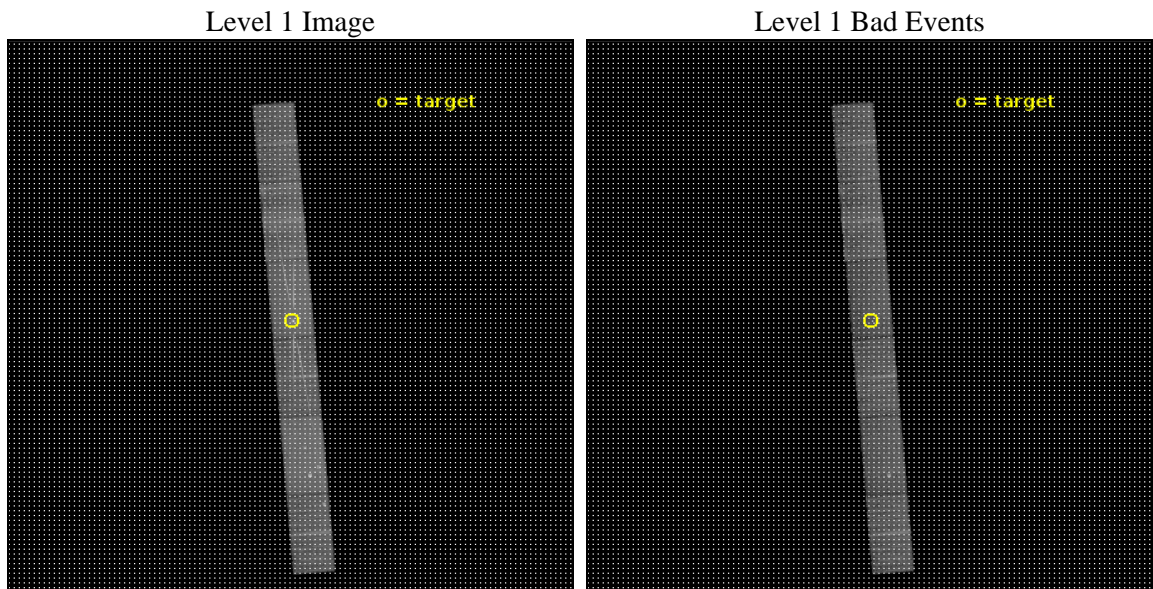
seq_num	401900	Sequence number
obs_id	20173	Observation id
title	INVESTIGATING NEW INTEGRAL SOURCES WITH CHANDRA	Proposal title
observer	Ada Paizis	Principal investigator
object	IGRJ17591-2342	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	269.7622	Observer's specified target RA [deg]
dec_targ	-23.7195	Observer's specified target Dec [deg]
ra_nom	269.76695499967	Nominal RA [deg]
dec_nom	-23.724399265419	Nominal Dec [deg]
roll_nom	265.15855968611	Nominal Roll [deg]
revision	1	Processing version of data
ontime	20044.544875979	Sum of GTIs [s]
livetime	19572.052502622	Livetime [s]
ontime4	20044.585915923	Sum of GTIs [s]
ontime5	20044.503835917	Sum of GTIs [s]
ontime6	20044.462795973	Sum of GTIs [s]
ontime7	20044.544875979	Sum of GTIs [s]
ontime8	20042.680715919	Sum of GTIs [s]
ontime9	20044.380715966	Sum of GTIs [s]
l2events	191151	Number of level 2 events



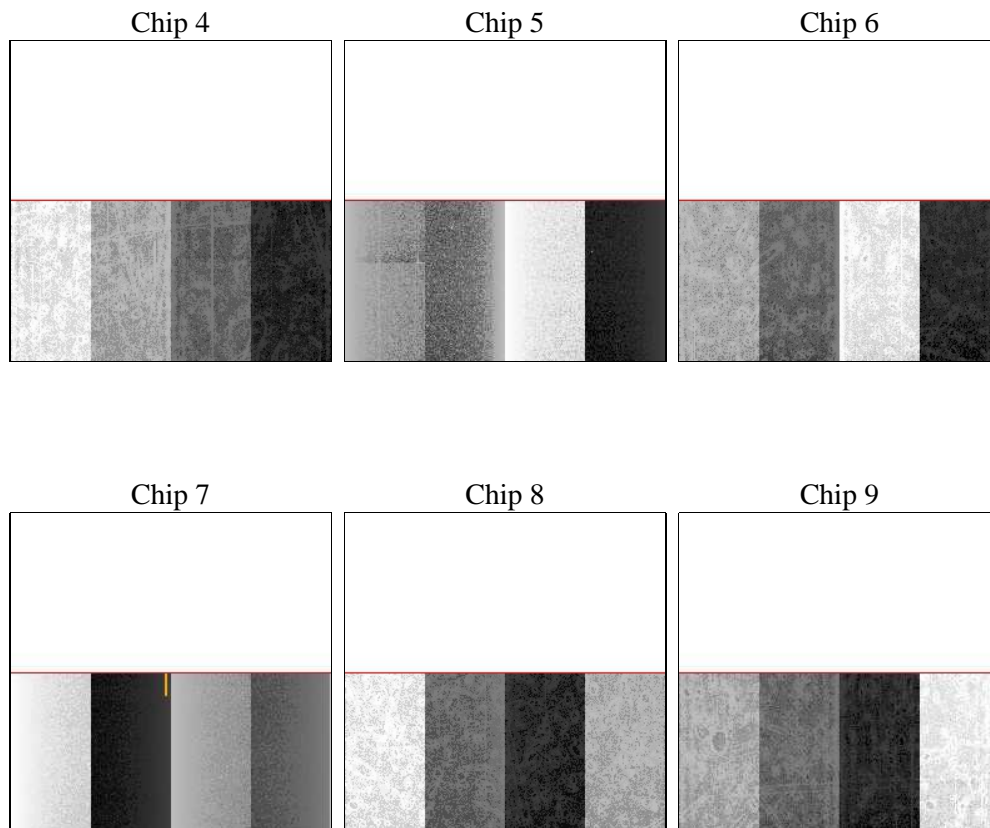
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	20000.000000	[s] Scheduled observation exposure time
ascdsver	10.6.4	Processing system revision	ontime	20044.544875979	Sum of GTIs [s]
caldbver	4.7.8	&#160	ontime4	20044.585915923	Sum of GTIs [s]
date	2018-08-24T06:38:08	Date and time of file creation	ontime5	20044.503835917	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	20044.462795973	Sum of GTIs [s]
			ontime7	20044.544875979	Sum of GTIs [s]
			ontime8	20042.680715919	Sum of GTIs [s]
			ontime9	20044.380715966	Sum of GTIs [s]
			l1events	629397	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			z0_pos	(4131.06, 4136.73)	src1a sky pixel position

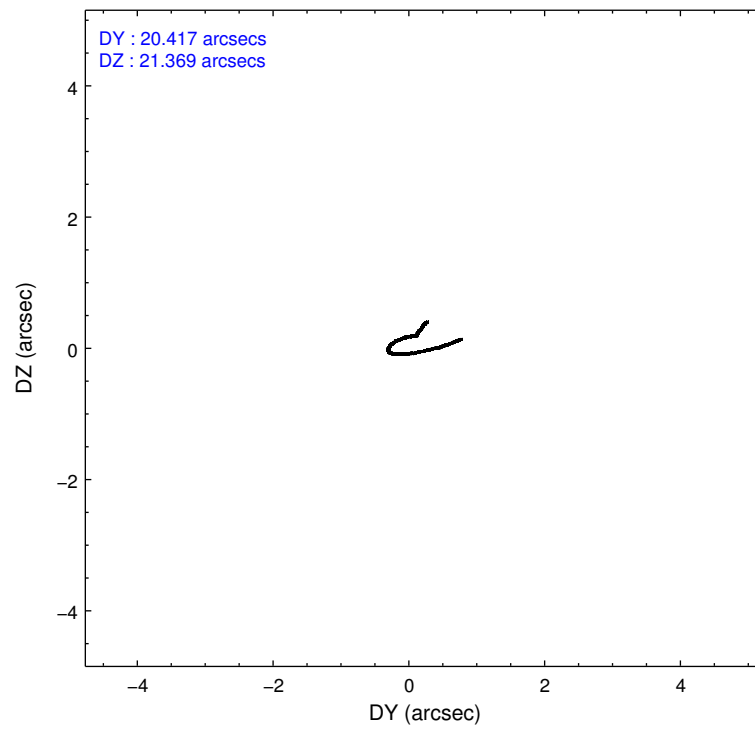
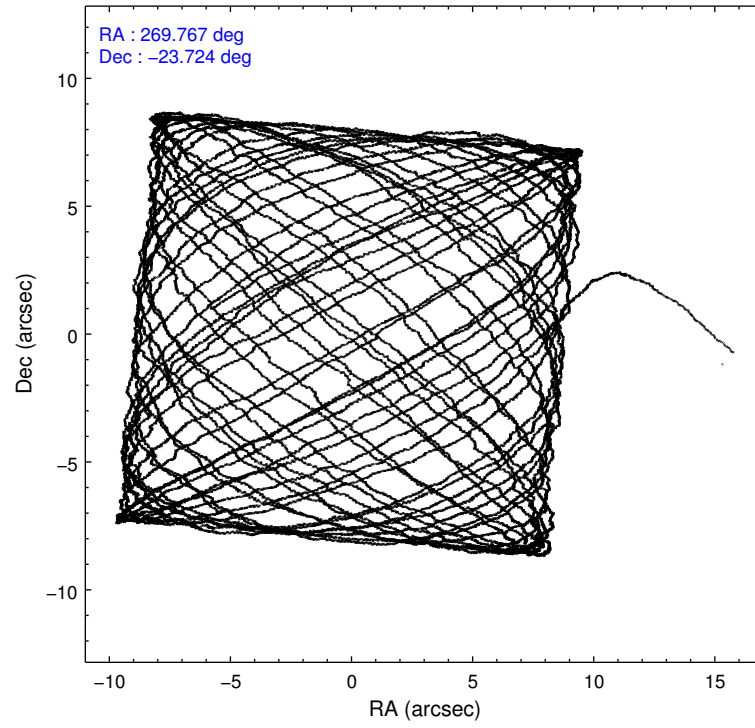
### 2.1.4 Events

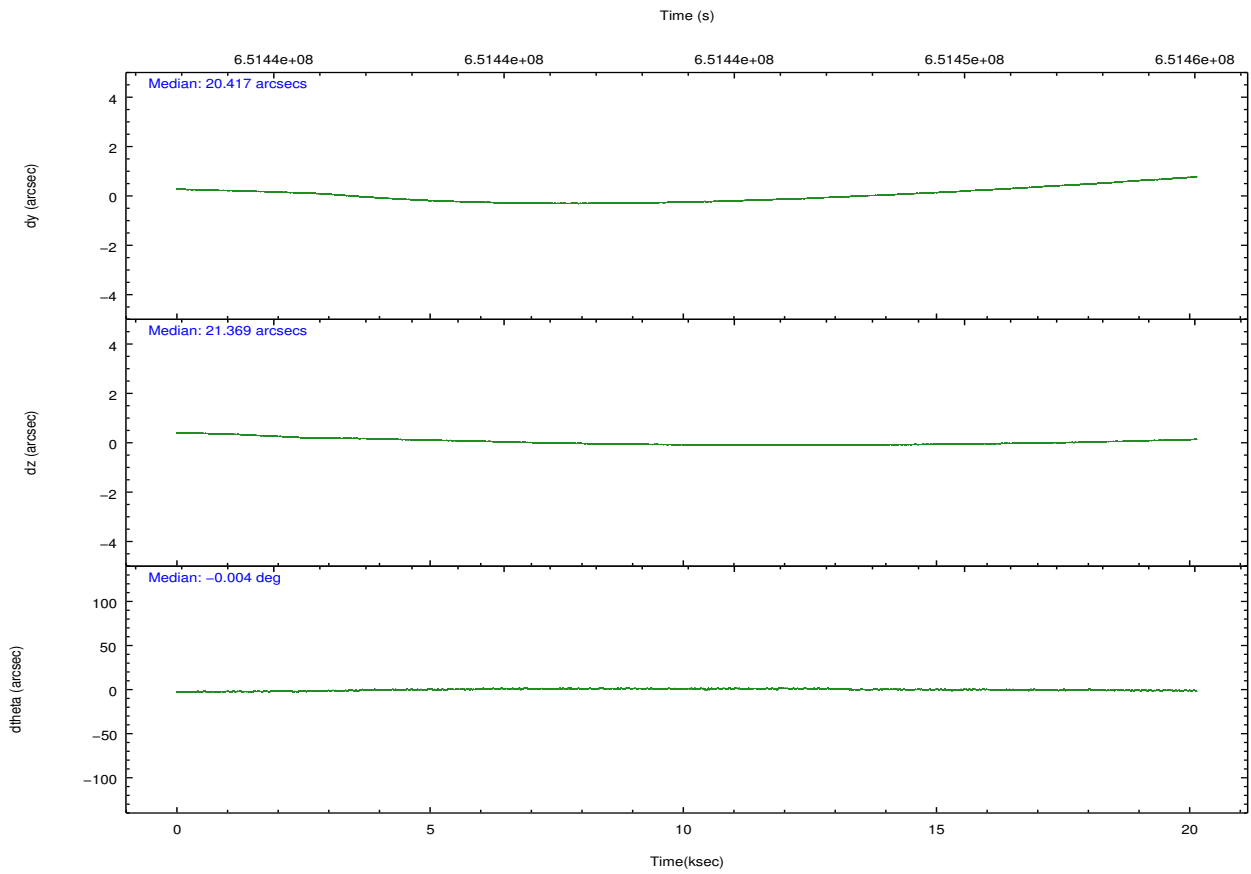
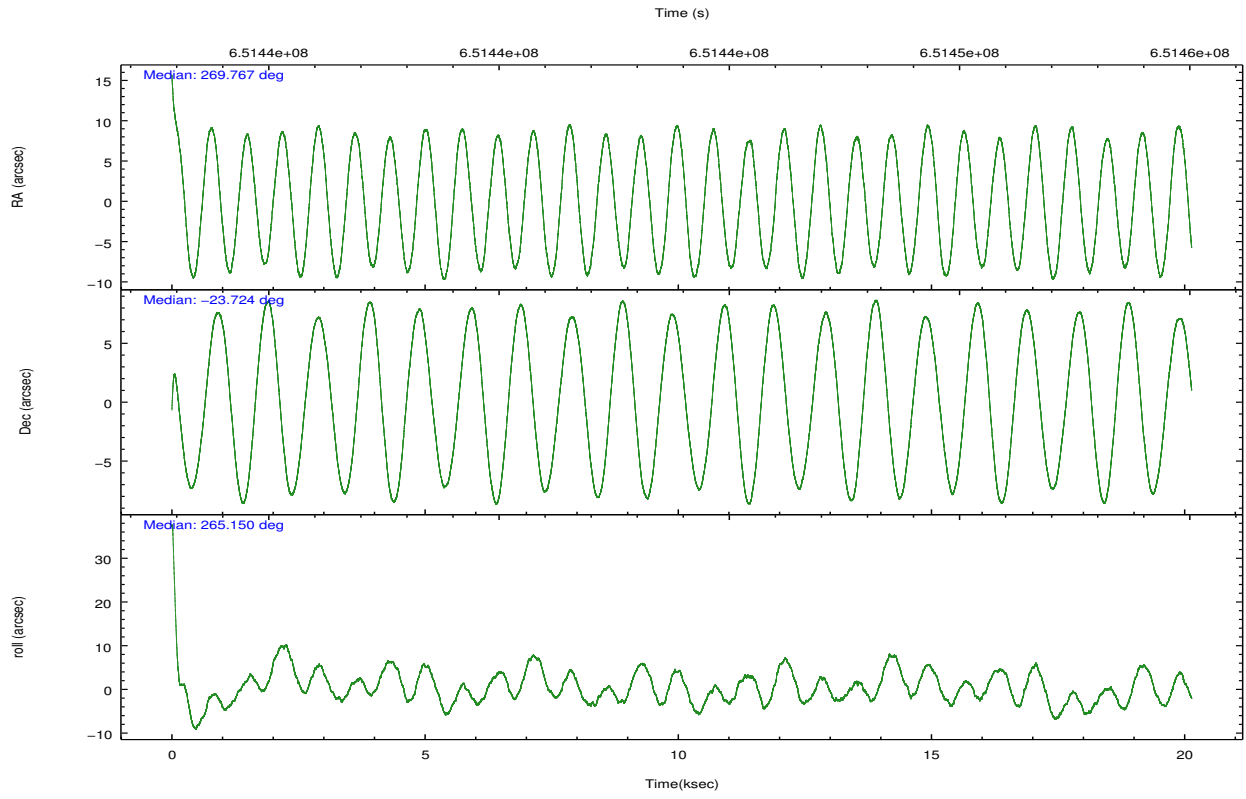
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	84441	129536	95003	137048	106181	77188	grade 0 events	5438	7929	15319	10105	11553	4408
rejected events	72245	63405	68458	59281	73084	65959		6%	6%	16%	7%	10%	5%
rejected %	85%	48%	72%	43%	68%	85%	grade 1 events	72	232	71	368	70	41
								0%	0%	0%	0%	0%	0%
							grade 2 events	2734	19696	4528	17141	7226	2463
								3%	15%	4%	12%	6%	3%
							grade 3 events	1159	3723	1847	7478	3425	1147
								1%	2%	1%	5%	3%	1%
							grade 4 events	1106	3066	1905	7472	3110	1155
								1%	2%	2%	5%	2%	1%
							grade 5 events	3547	10463	3590	11690	5202	3964
								4%	8%	3%	8%	4%	5%
							grade 6 events	1760	31722	2948	35577	7784	2056
								2%	24%	3%	25%	7%	2%
							grade 7 events	68625	52705	64795	47217	67811	61954
								81%	40%	68%	34%	63%	80%

## 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	269.753824	269.7669549996706	CCD I2 on	N	N
[deg] Pointing Dec	-23.699716	-23.72439926541913	CCD I3 on	N	N
[deg] Pointing Roll	264.996630	265.1585596861094	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)	651434053.184000	651433205.55005	CCD S5 on	O2	Y
Observation start date	2018-08-23T17:53:04	2018-08-23T17:40:05	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	651454053.184000	651454302.6138	On-chip summing requested	N	N
Observation end date	2018-08-23T23:26:24	2018-08-23T23:31:42	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





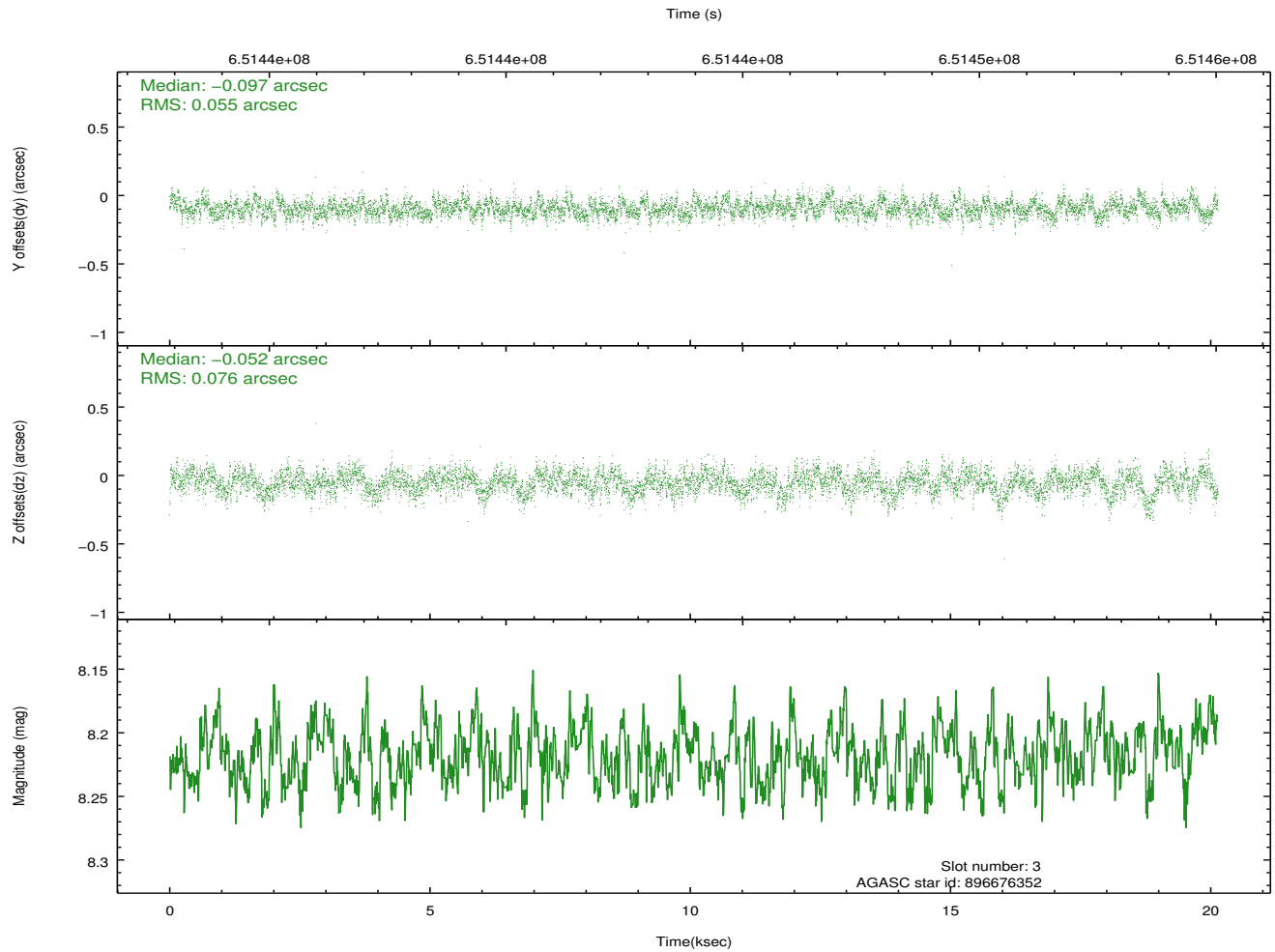
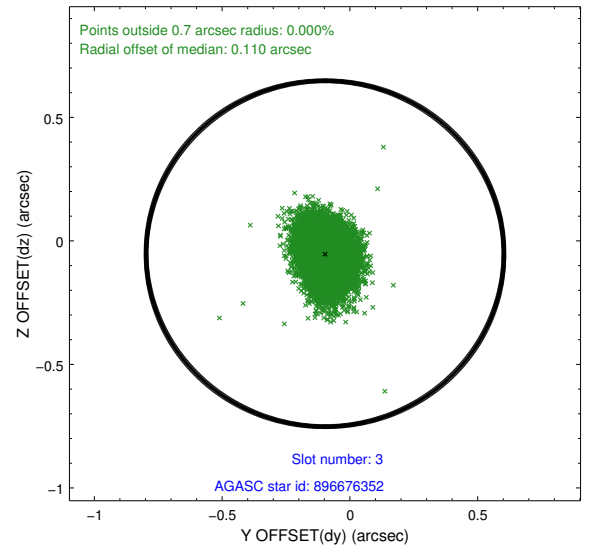
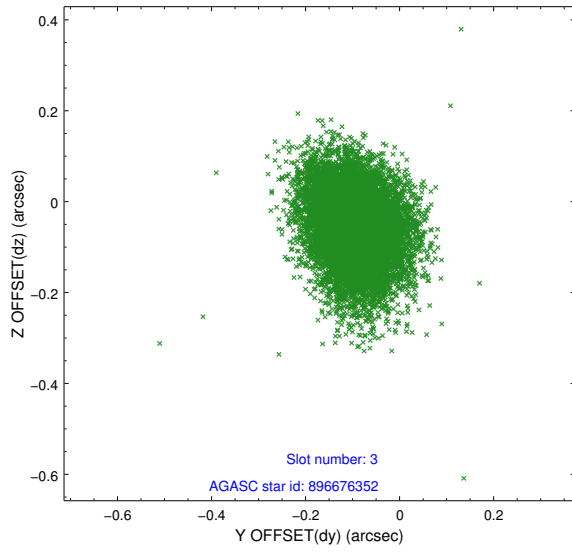
### Slot Statistics

slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_x
0	FID		ACIS-S-2	6.93	4912	1.000	-0.272	-0.122	0.015	0.022	0.000000	0.000000	-773.41	-1869
1	FID		ACIS-S-4	7.05	4912	1.000	0.577	0.164	0.009	0.015	0.000000	0.000000	2140.62	38
2	FID		ACIS-S-5	7.06	4911	1.000	-0.336	-0.035	0.013	0.021	0.000000	0.000000	-1826.09	32
3	GUIDE	used	896676352	8.22	9818	1.000	-0.097	-0.052	0.098	0.162	269.311516	-24.143163	1719.76	-1307
4	GUIDE	used	896677312	7.73	9821	1.000	0.264	0.383	0.102	0.170	269.123406	-23.389939	-923.67	-2171
5	GUIDE	used	896804304	8.62	9820	1.000	-0.036	-0.008	0.133	0.214	270.293027	-23.554357	-673.02	1726
6	GUIDE	used	896804608	8.39	9818	1.000	-0.106	-0.049	0.124	0.200	270.403829	-23.337435	-1481.94	2027
7	GUIDE	used	896809544	8.90	9813	1.000	-0.031	-0.273	0.170	0.253	270.254038	-24.153966	1488.60	1779

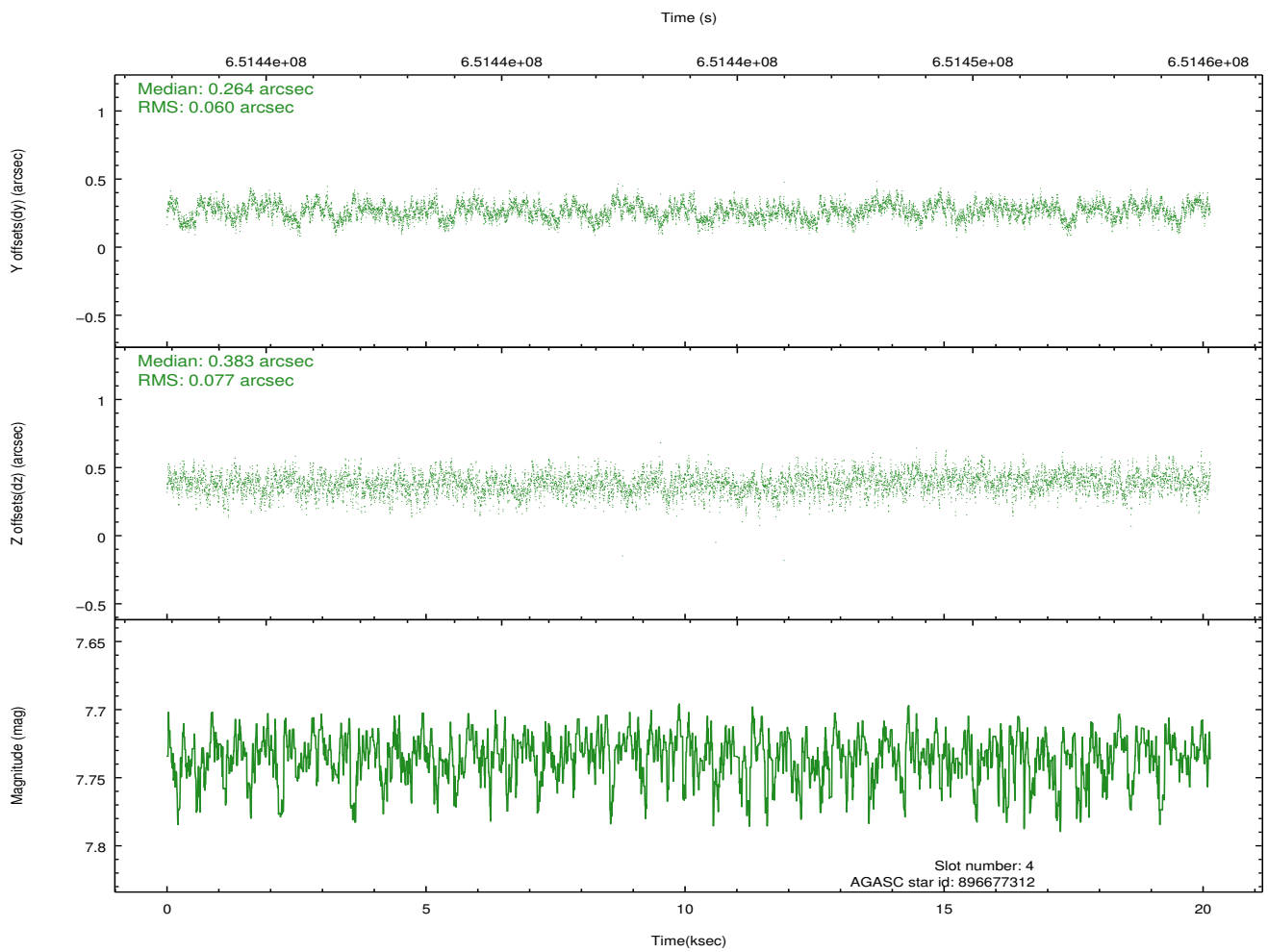
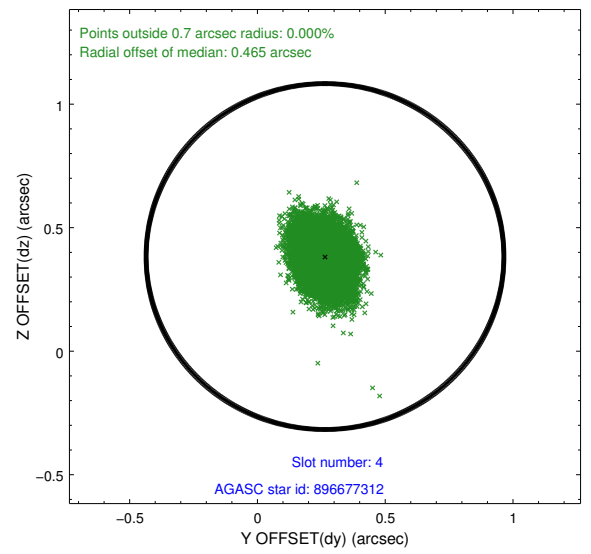
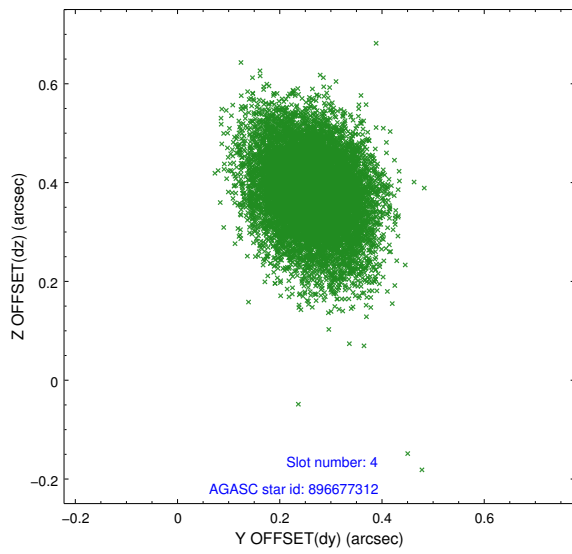
∞

## 2.4 Star Slots

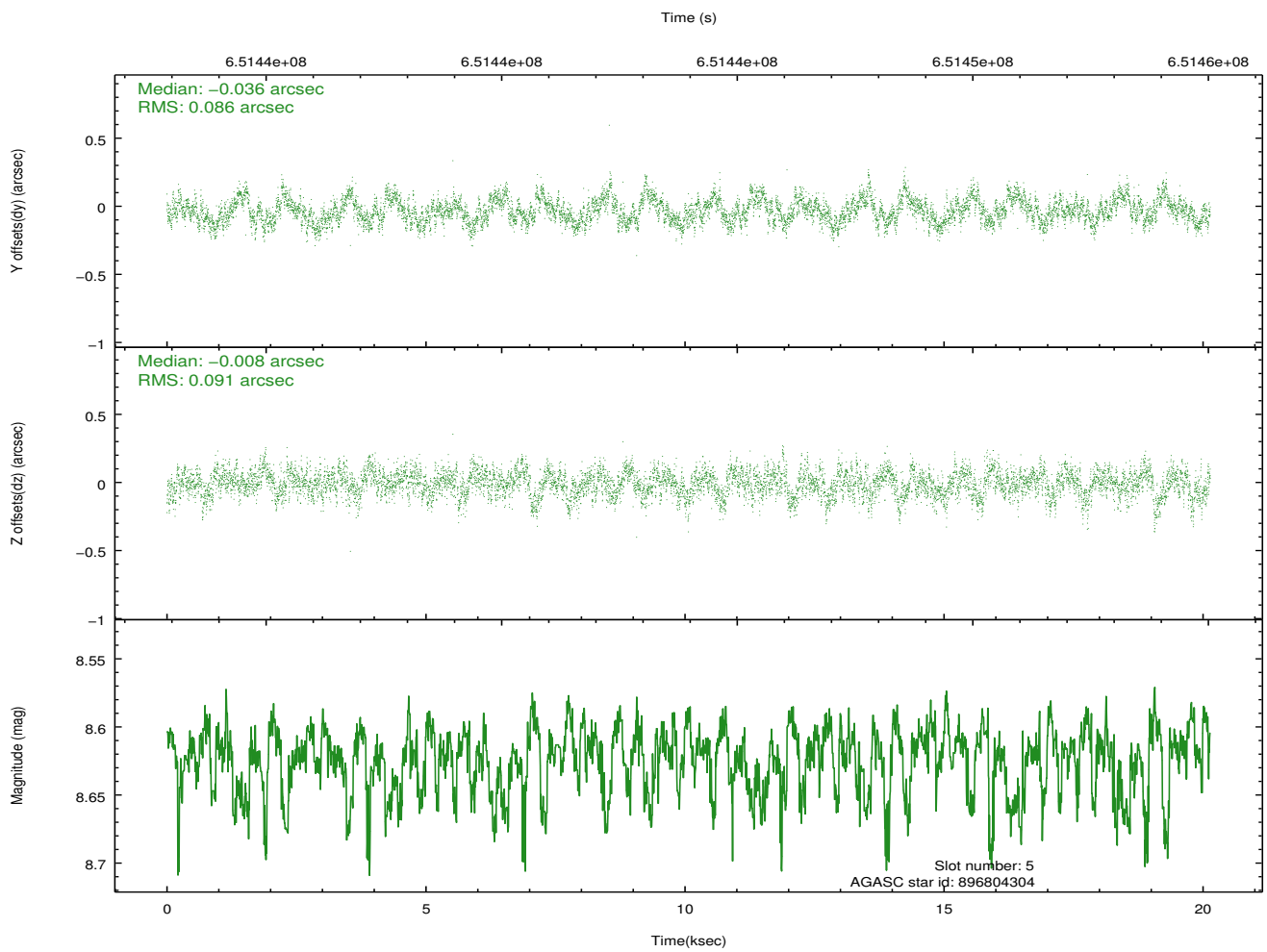
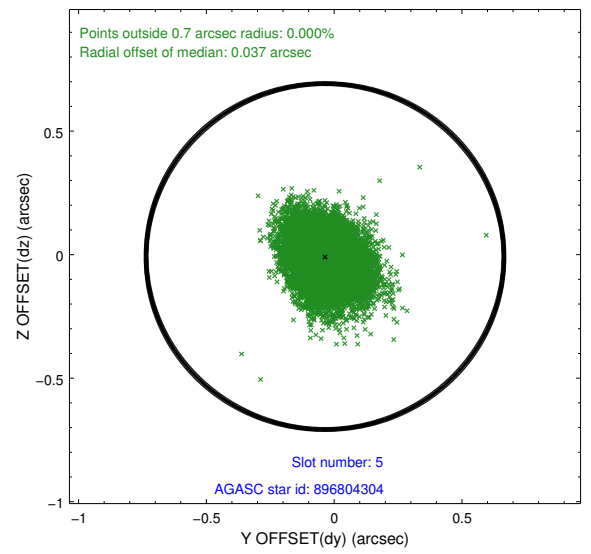
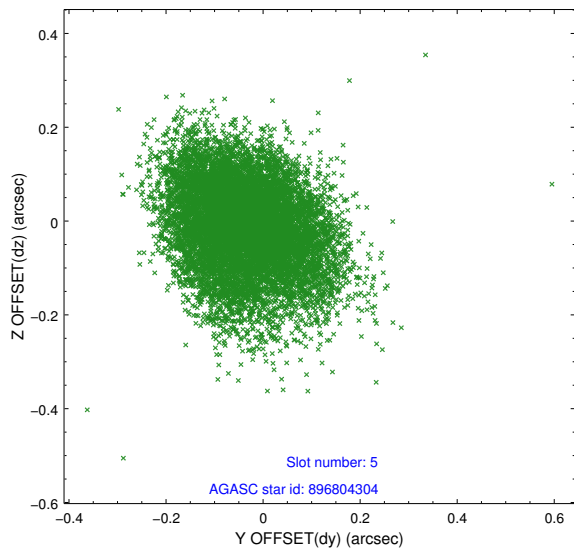
### 2.4.1 Slot 3



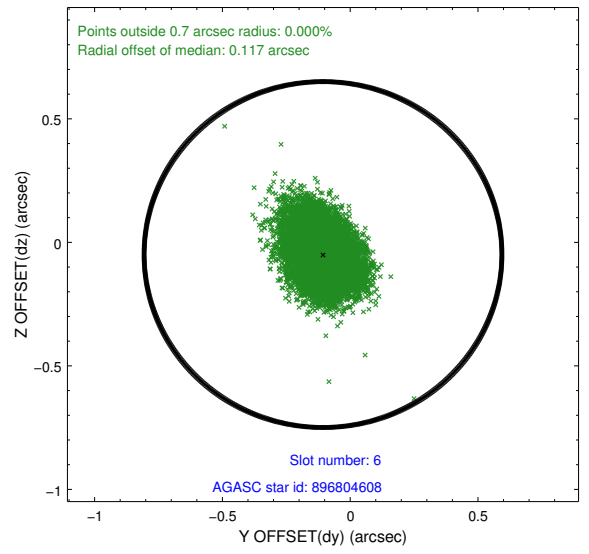
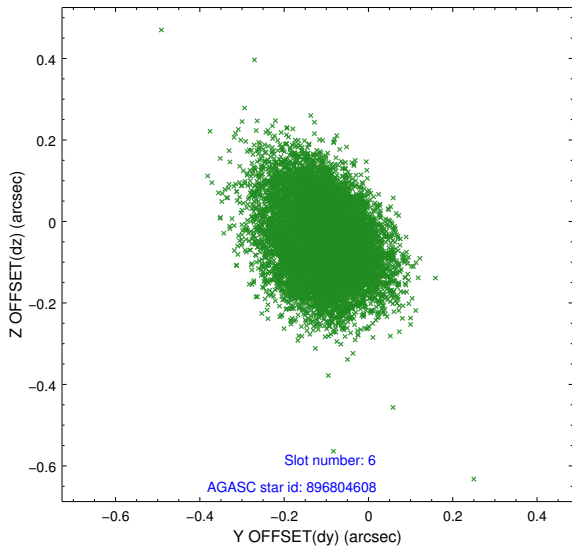
## 2.4.2 Slot 4



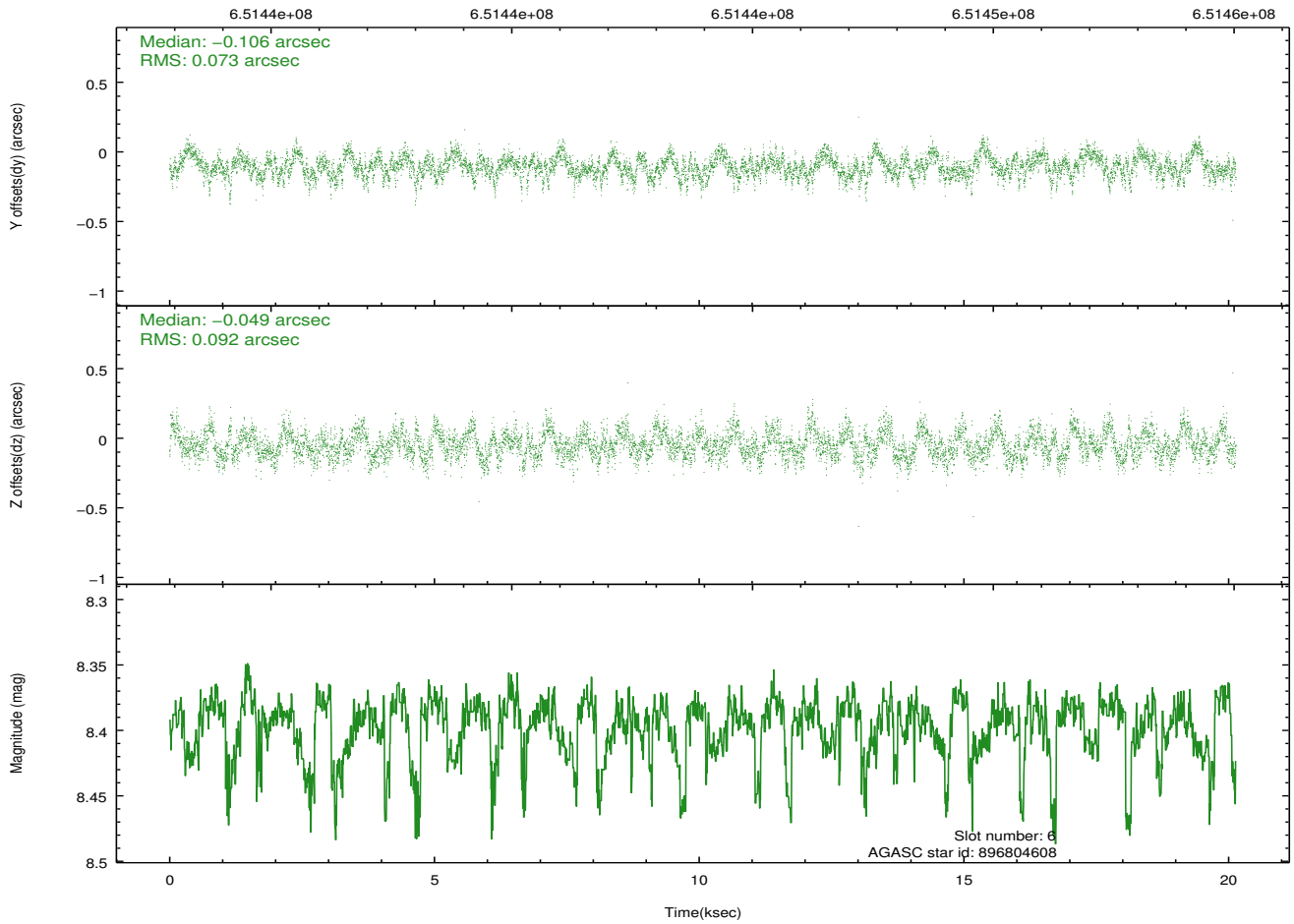
### 2.4.3 Slot 5



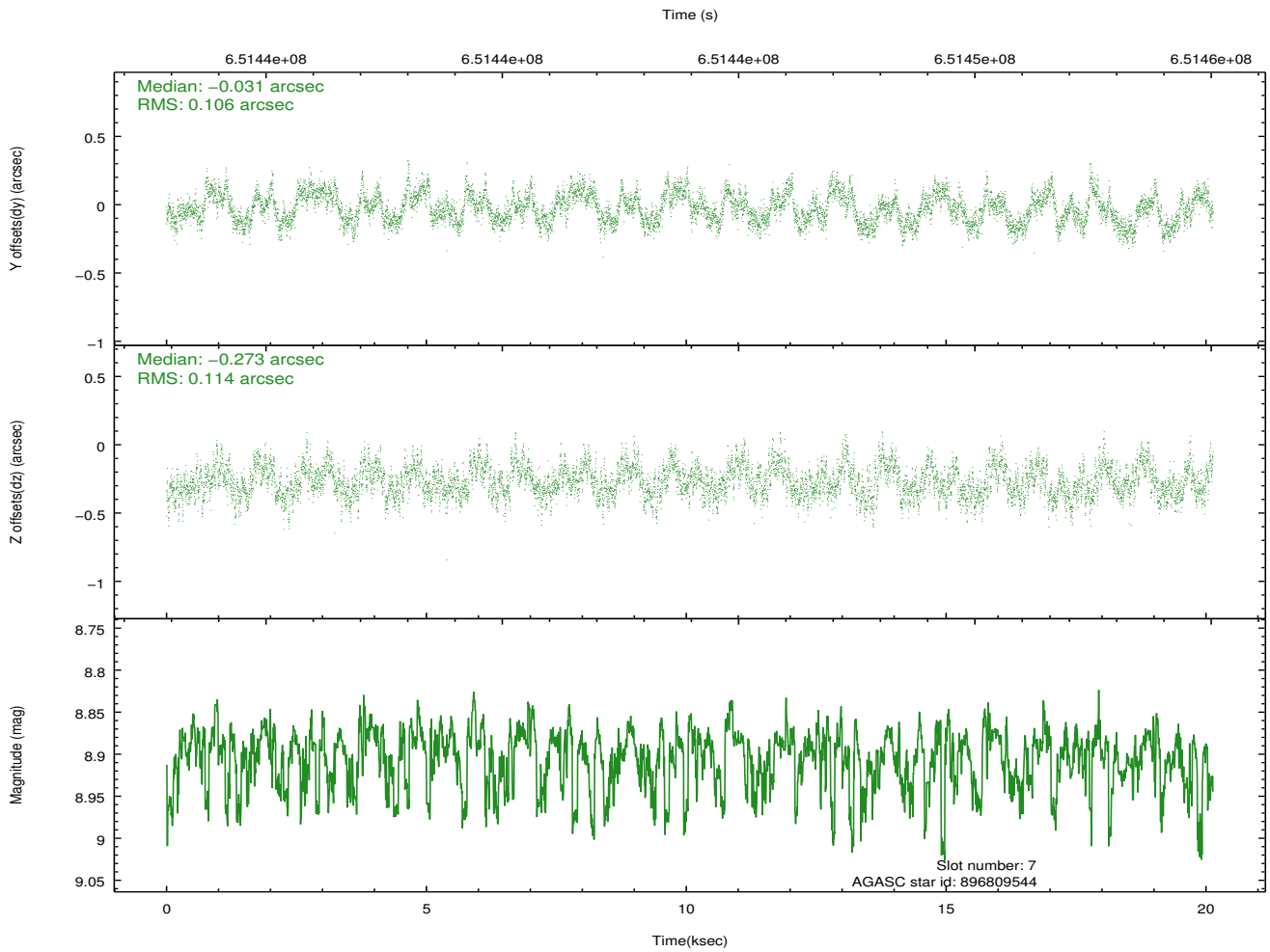
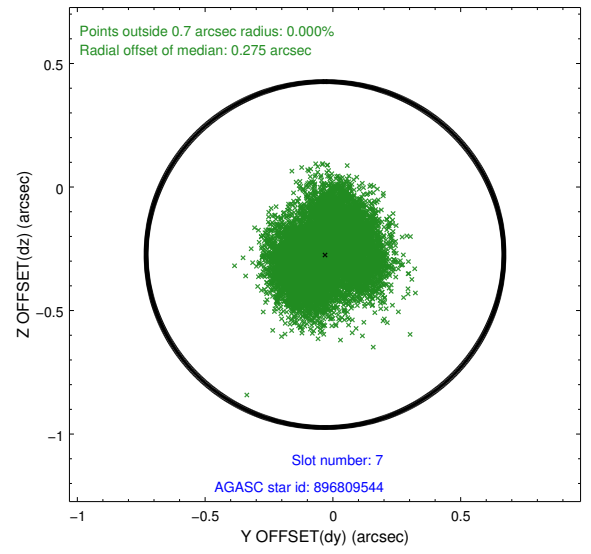
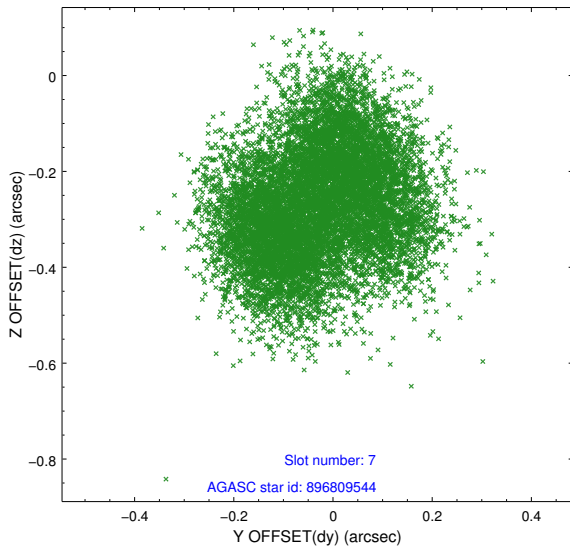
## 2.4.4 Slot 6



Time (s)

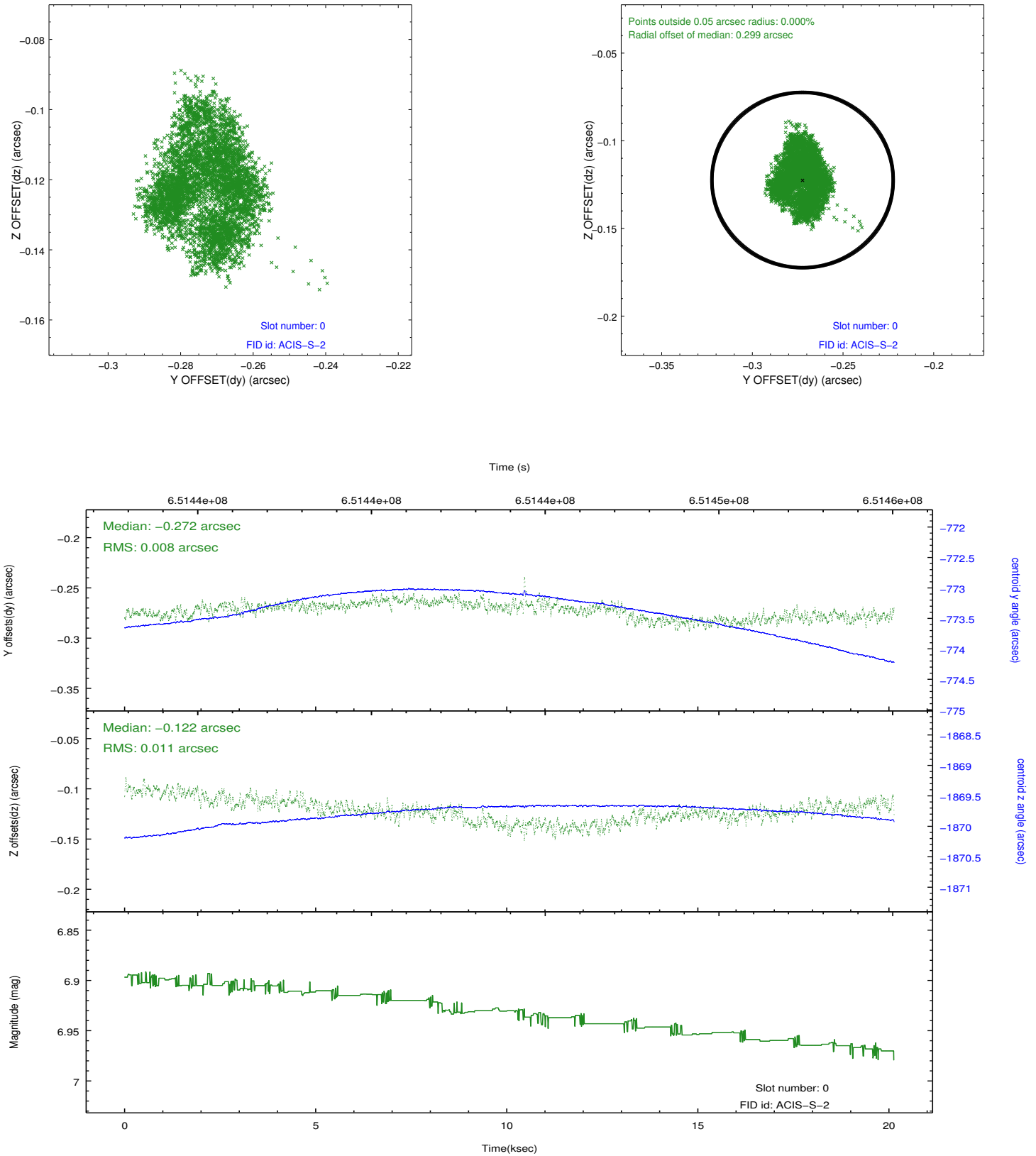


## 2.4.5 Slot 7

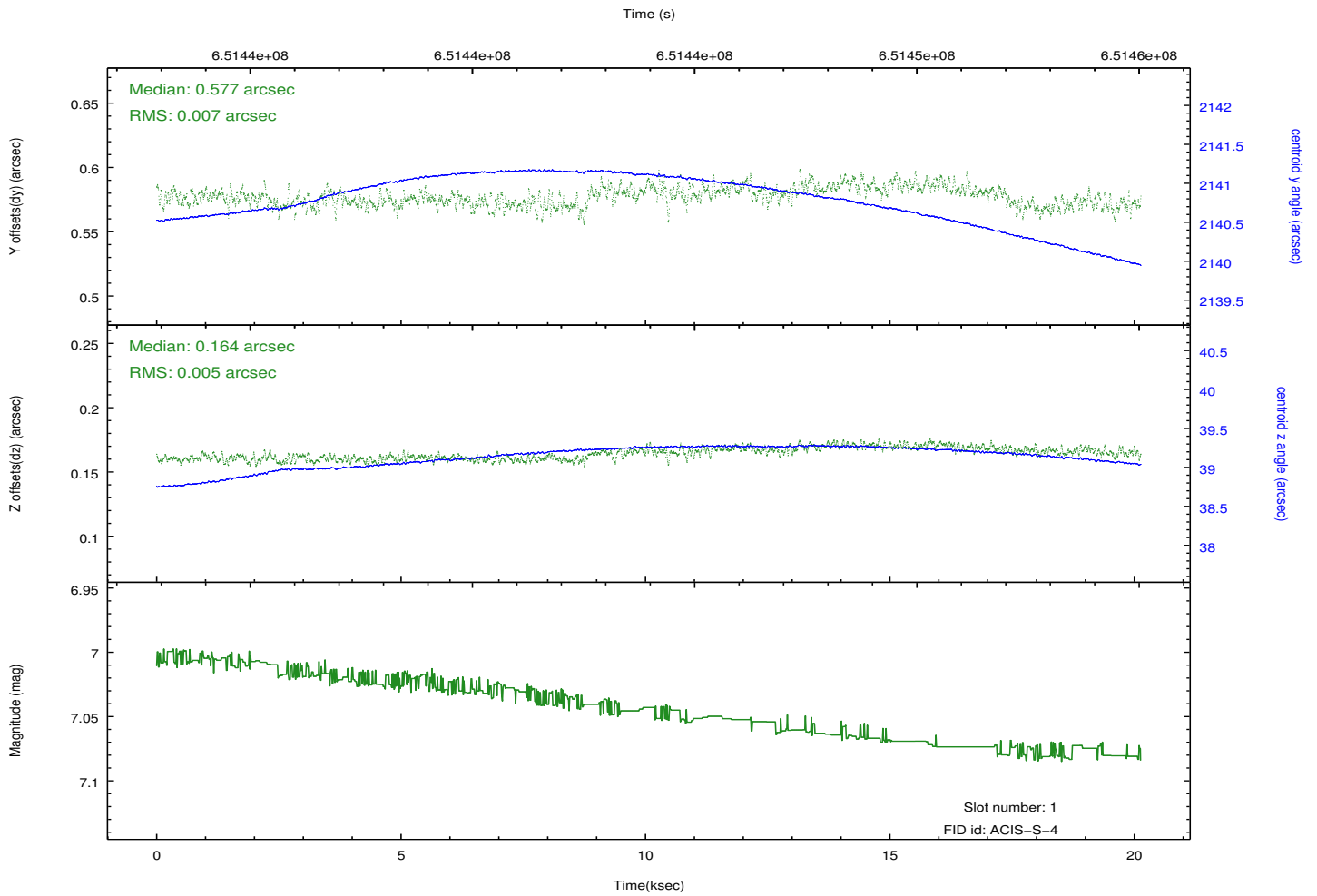
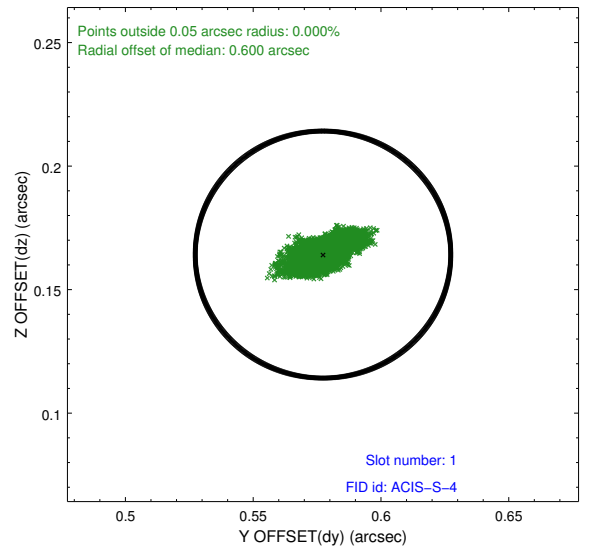
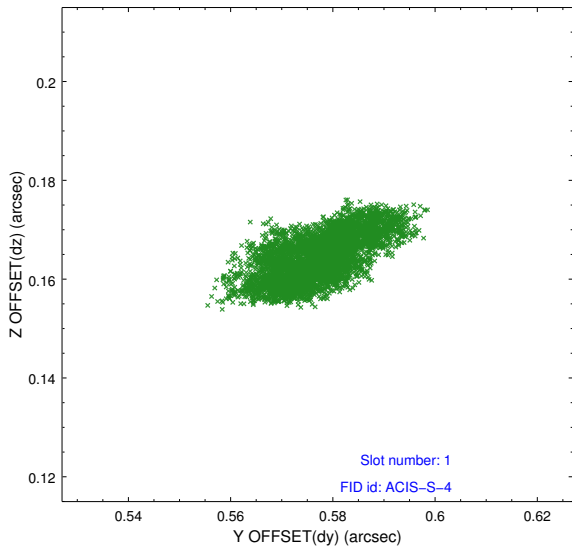


## 2.5 FID Slots

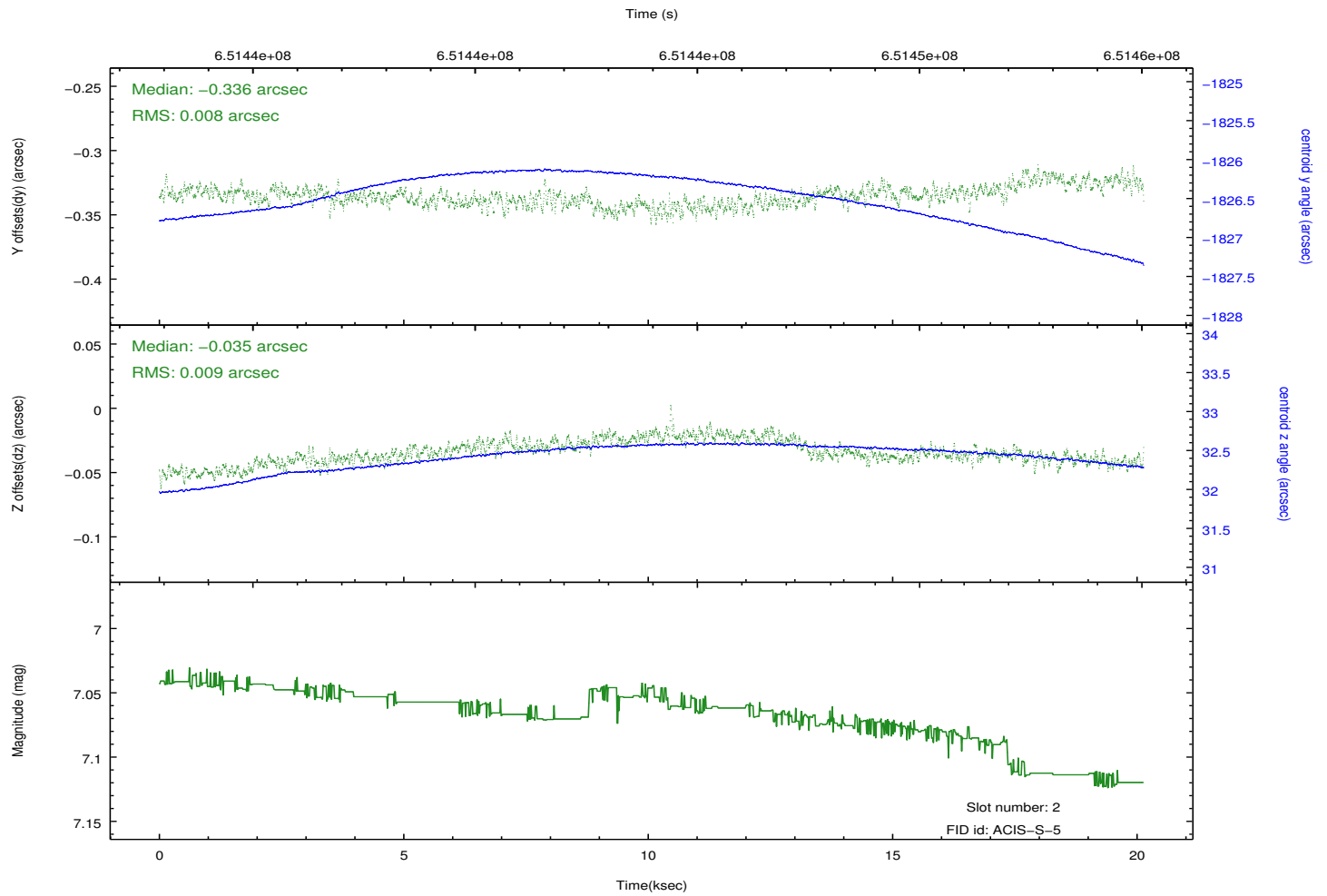
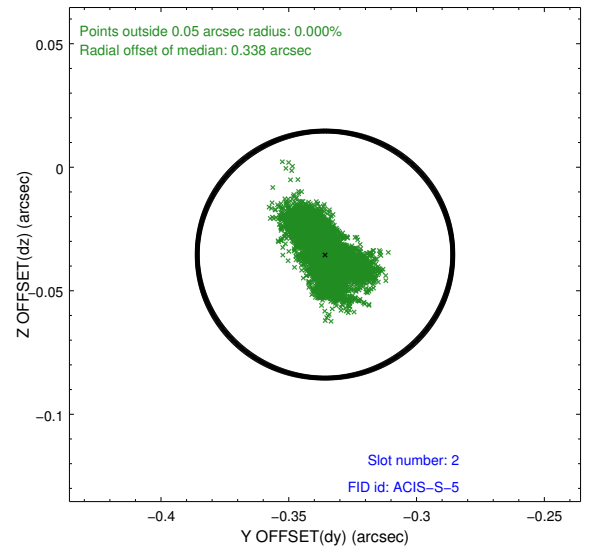
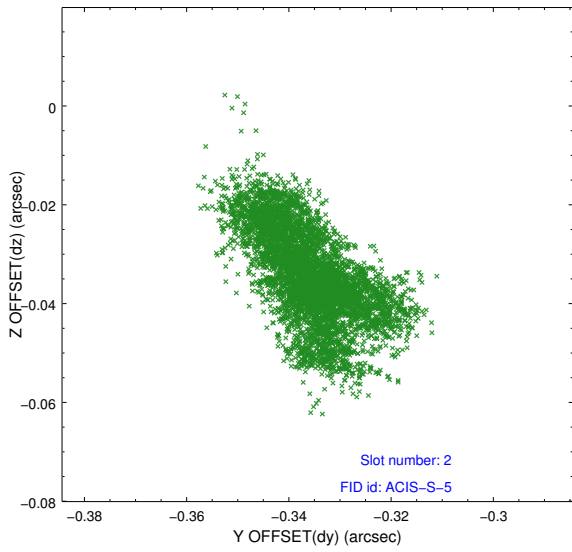
### 2.5.1 Slot 0



## 2.5.2 Slot 1

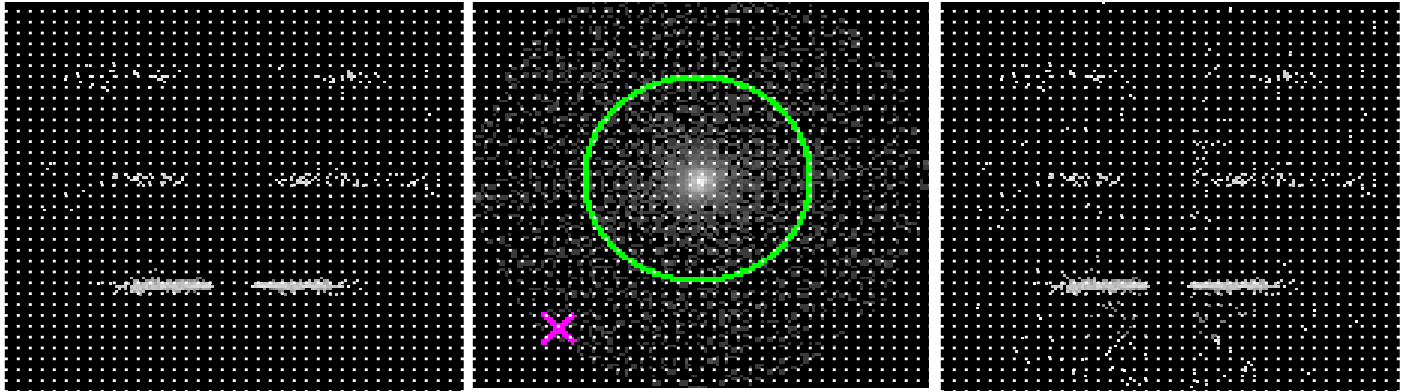


### 2.5.3 Slot 2



# 3 Gratings

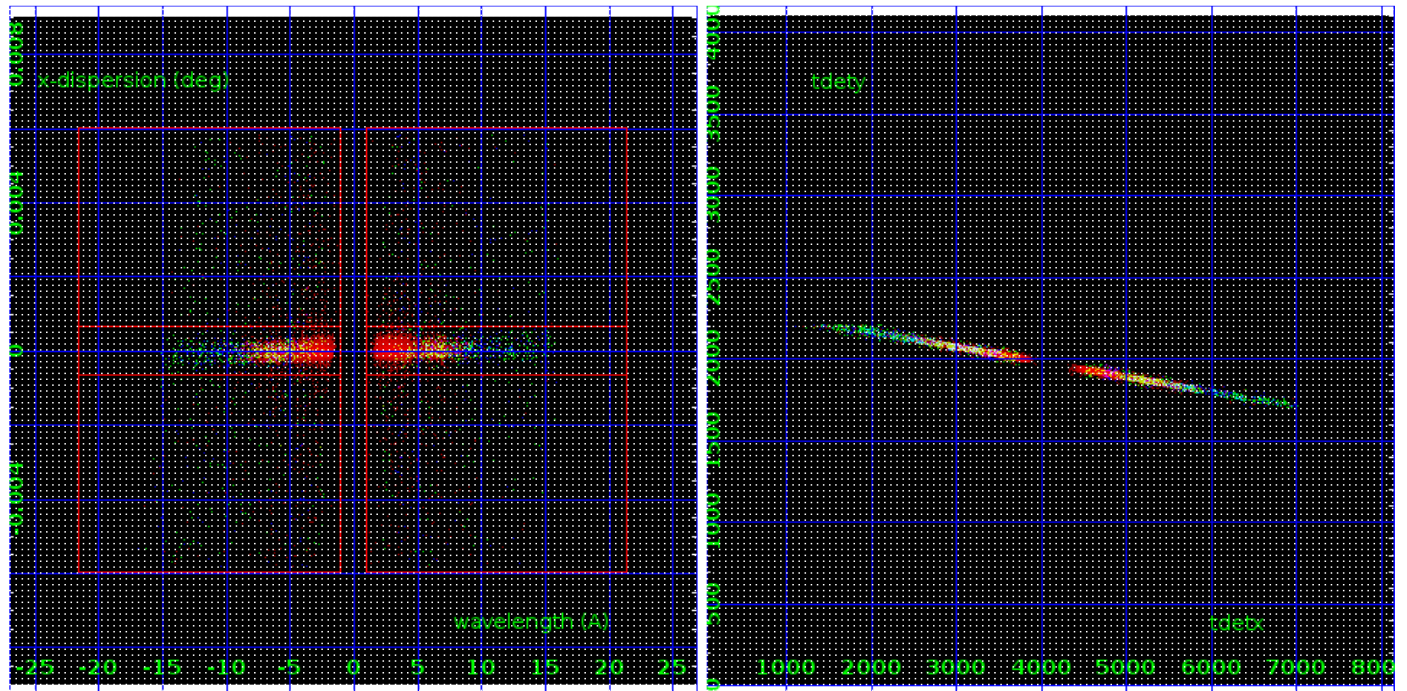
## 3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

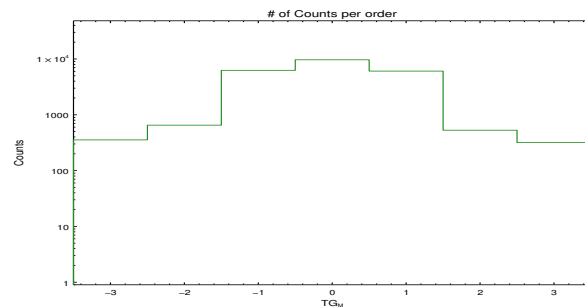
HEG Order Sort ALL



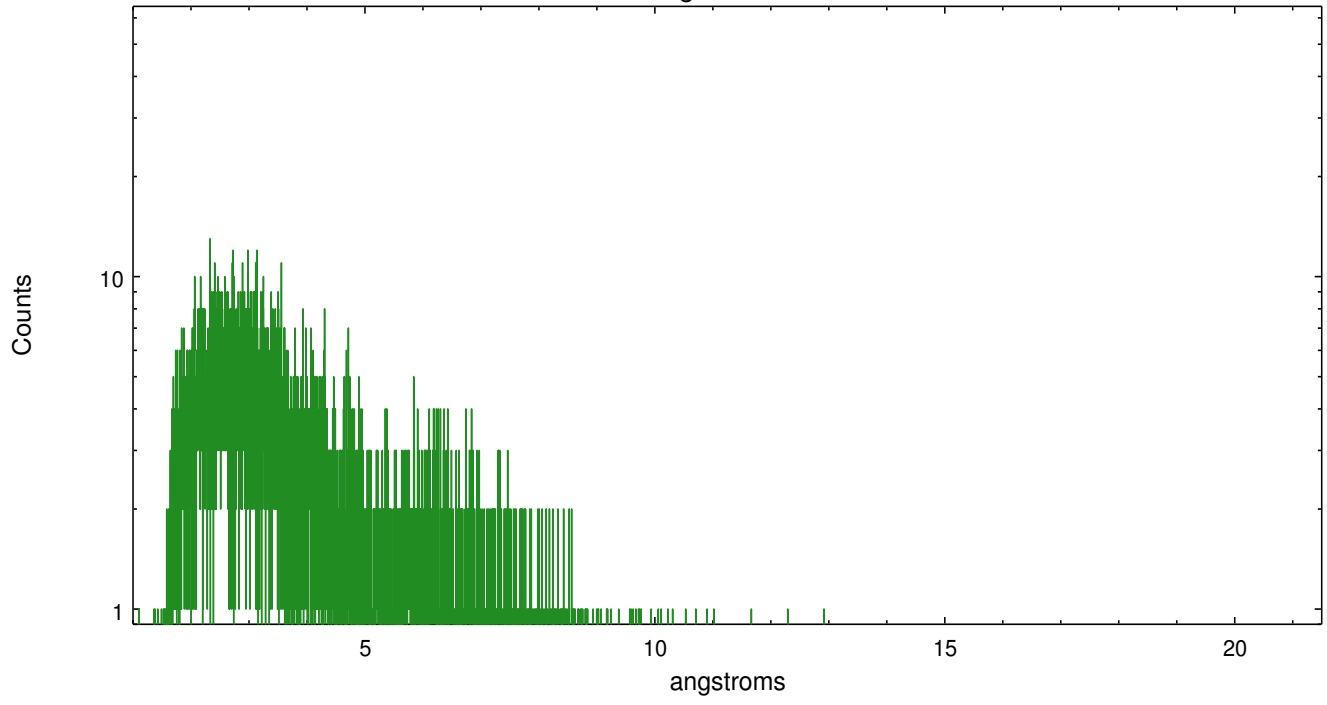
Spot Image HEG

Full Detector HEG

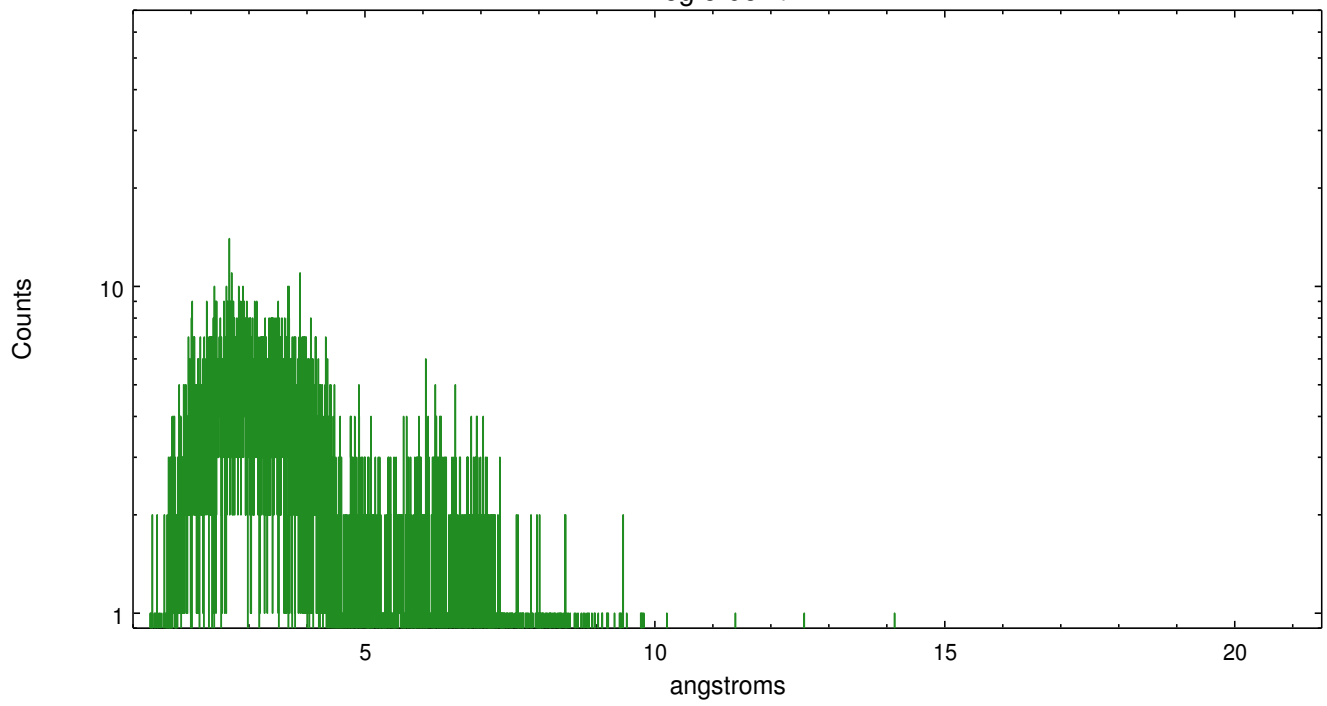
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	355	652	6256	9665	6064	529	318



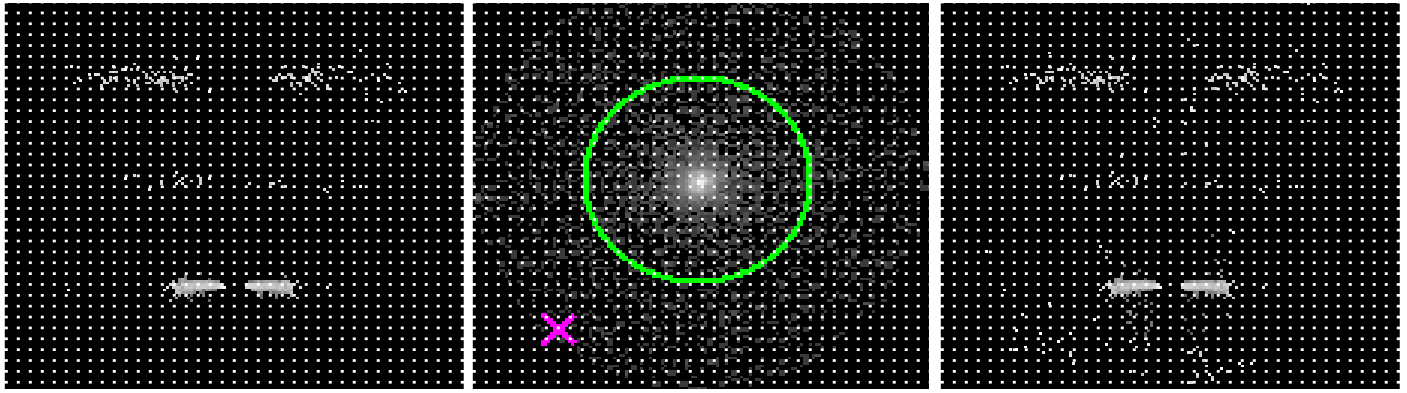
heg order -1



heg order +1



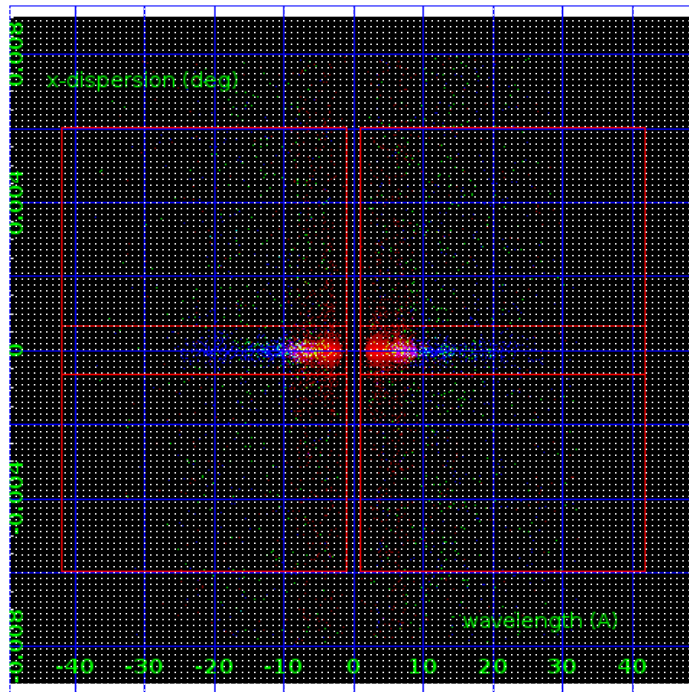
### 3.2 MEG Arm



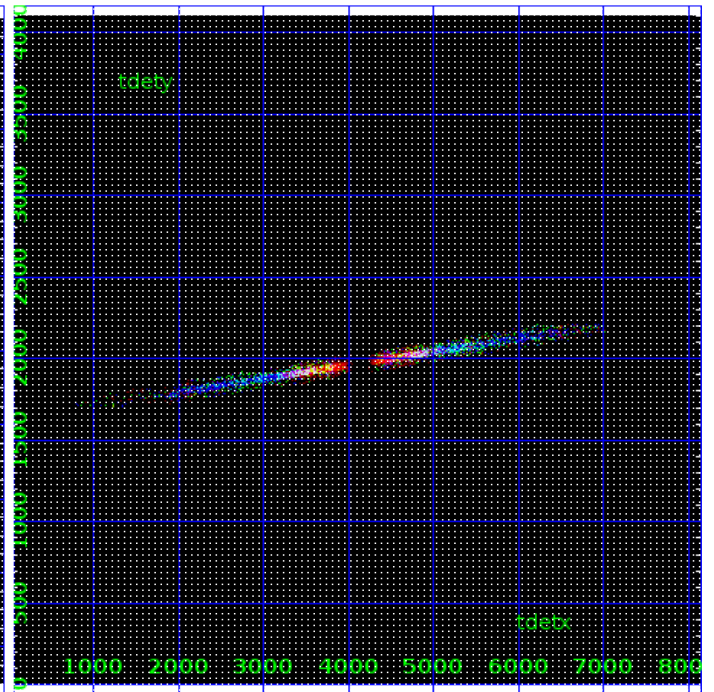
MEG Order Sort 123

MEG Zero Order

MEG Order Sort ALL

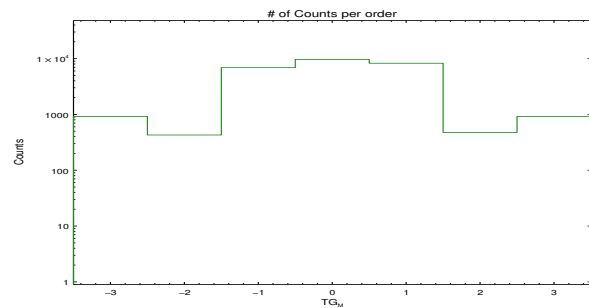


Spot Image MEG

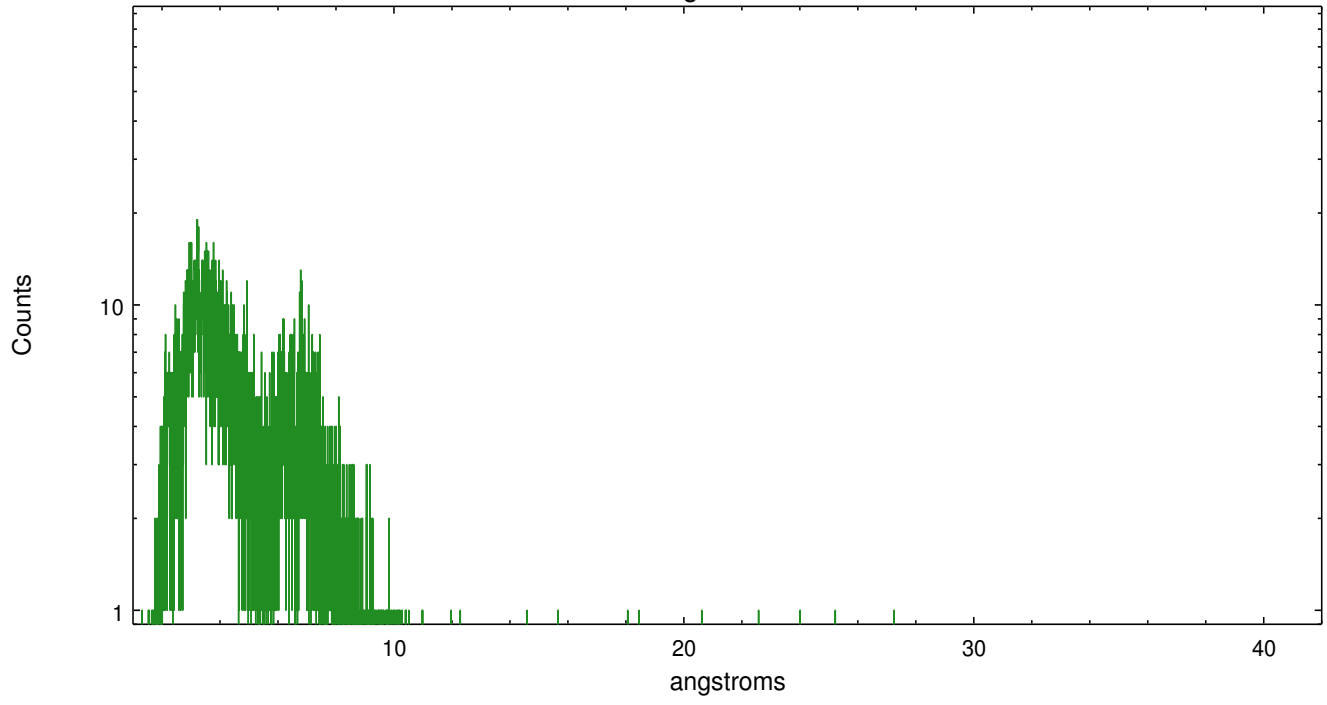


Full Detector MEG

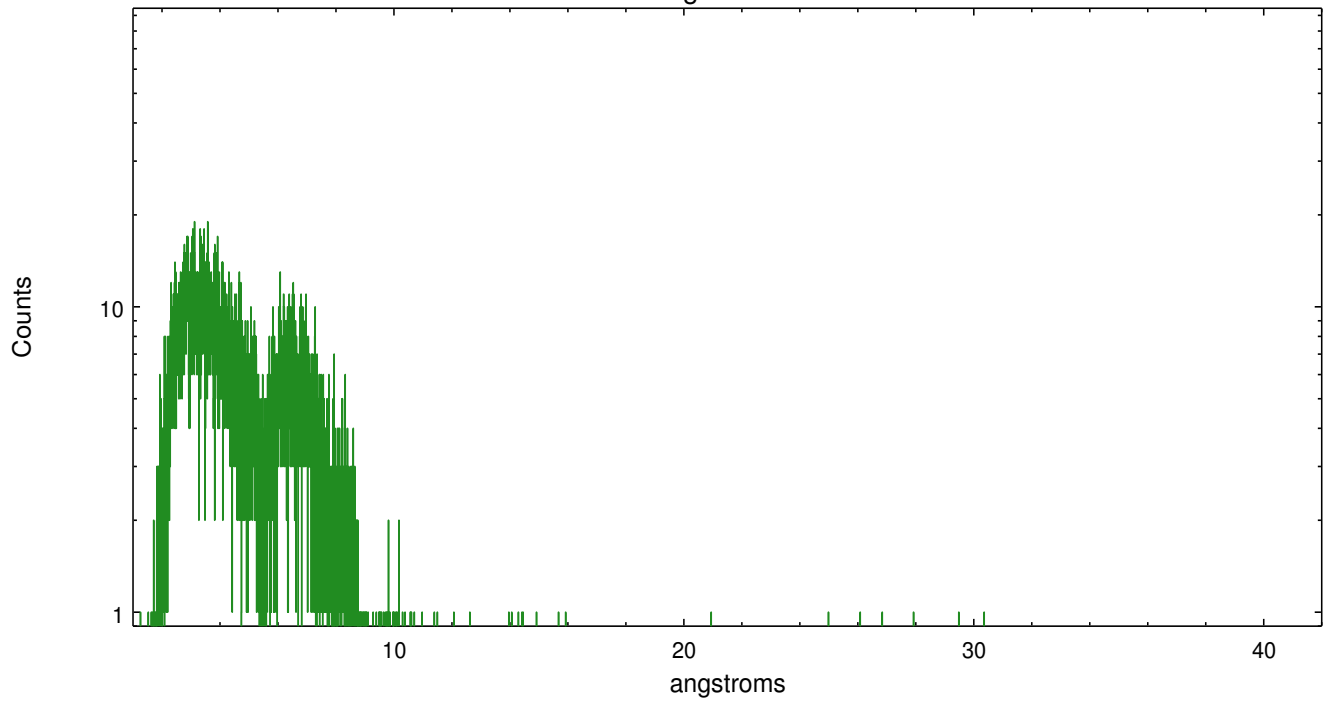
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	919	428	6889	9665	8256	476	921



meg order -1



meg order +1



# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2018.08.24
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.044544875979

## A.2 Comments

Zeroth order piled up. The zeroth order sky position was determined using a software tool developed by CXC called findzero, which is available in CIAO as part of the tgdetect2 tool. The tool calculates the point of intersection of the readout streak on the ACIS CCD and the meg or leg dispersed spectral arm, rather than using a centroid position of the source. The findzero results are more accurate than source centroid in this case.