

# V&V Reference Report

## L2 ASCDS Version : 10.3

Observation 15744 - L2 Version 1  
Chandra X-Ray Center

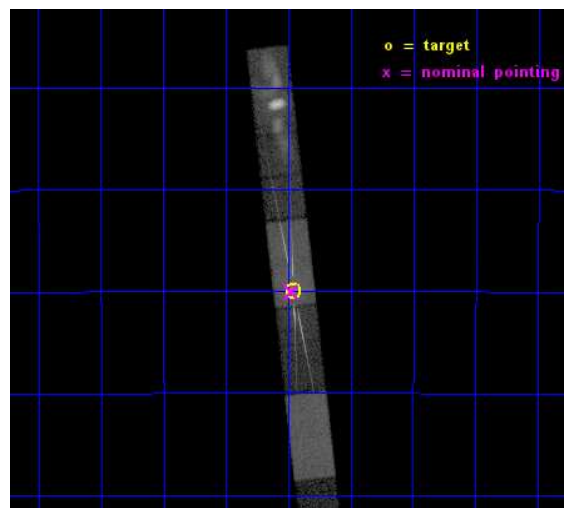
L2 Processing Date : Nov 3 2014

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# 1 Front

seq_num	401542	Sequence number
obs_id	15744	Observation id
title	INVESTIGATING NEW INTEGRAL SOURCES WITH Chandra	Proposal title
observer	Dr Adamantia Paizis	Principal investigator
object	IGR J17454-2919	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	266.366	Observer's specified target RA [deg]
dec_targ	-29.332	Observer's specified target Dec [deg]
ra_nom	266.36872905539	Nominal RA [deg]
dec_nom	-29.334004400477	Nominal Dec [deg]
roll_nom	263.1827750818	Nominal Roll [deg]
revision	1	Processing version of data
ontime	20046.399859488	Sum of GTIs [s]
livetime	19573.863760241	Livetime [s]
ontime4	20046.399859488	Sum of GTIs [s]
ontime5	20046.399859488	Sum of GTIs [s]
ontime6	20046.399859488	Sum of GTIs [s]
ontime7	20046.399859488	Sum of GTIs [s]
ontime8	20046.399859488	Sum of GTIs [s]
ontime9	20046.399859488	Sum of GTIs [s]
l2events	186117	Number of level 2 events

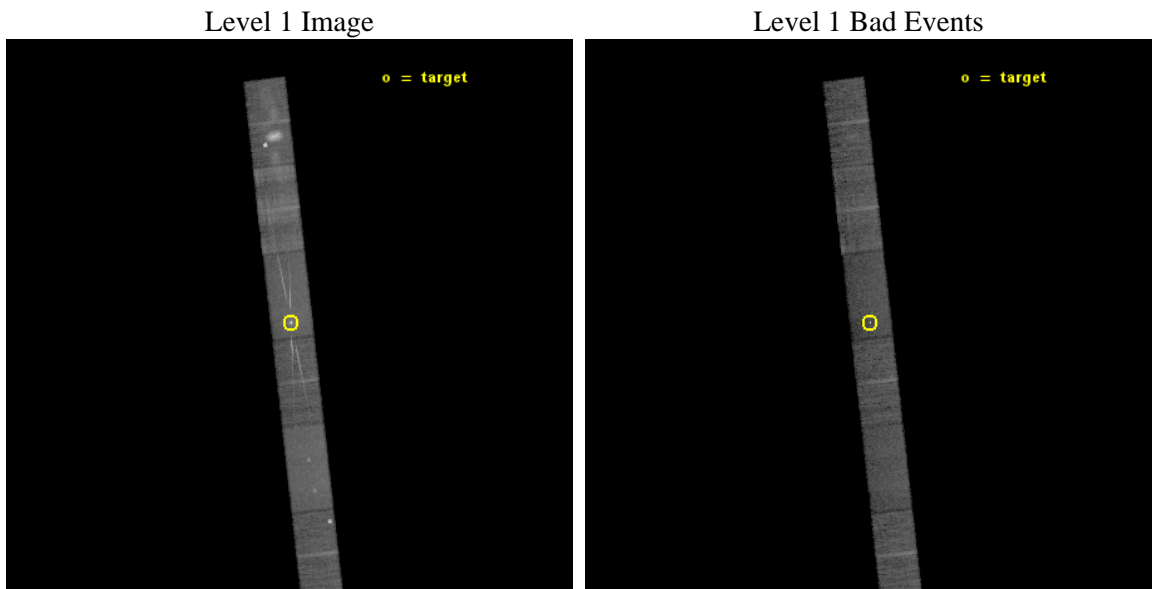




## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



### 2.1.2 Parameters

obi_num	0	Obi number	sched_exp_time	20000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	20046.399859488	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime4	20046.399859488	Sum of GTIs [s]
date	2014-11-03T14:44:59	Date and time of file creation	ontime5	20046.399859488	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	20046.399859488	Sum of GTIs [s]
			ontime7	20046.399859488	Sum of GTIs [s]
			ontime8	20046.399859488	Sum of GTIs [s]
			ontime9	20046.399859488	Sum of GTIs [s]
			l1events	535390	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			ra_pos	(4118.02, 4113.77)	Grade sky pixel position

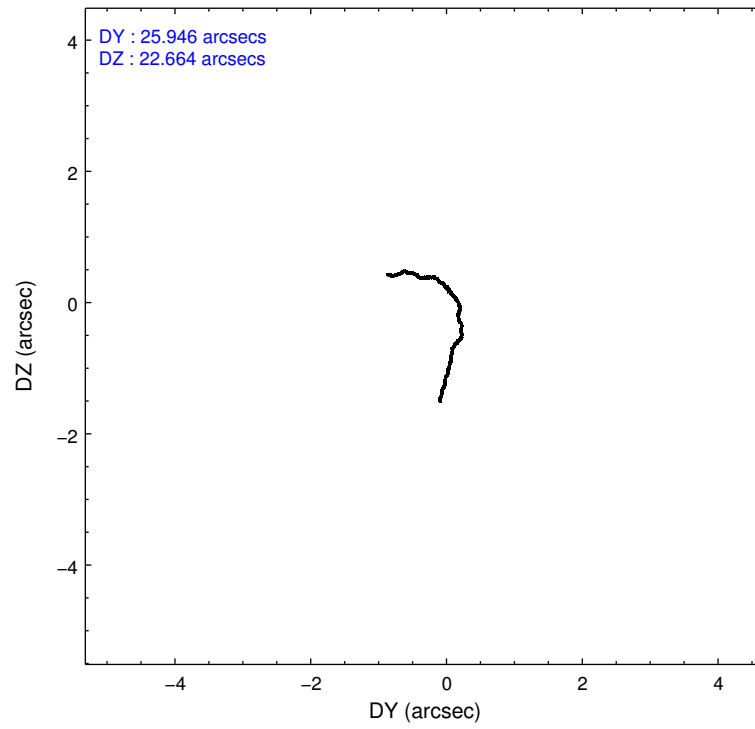
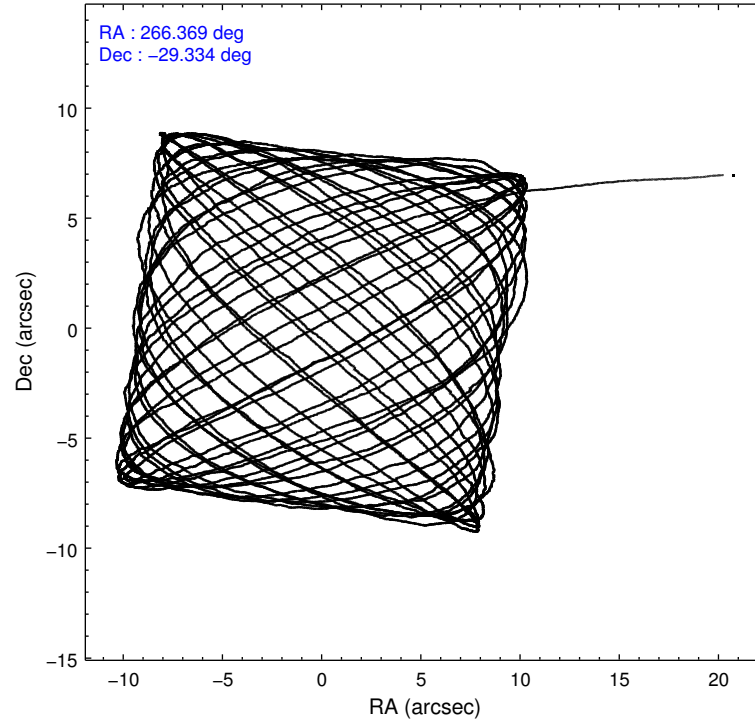
### 2.1.3 Events

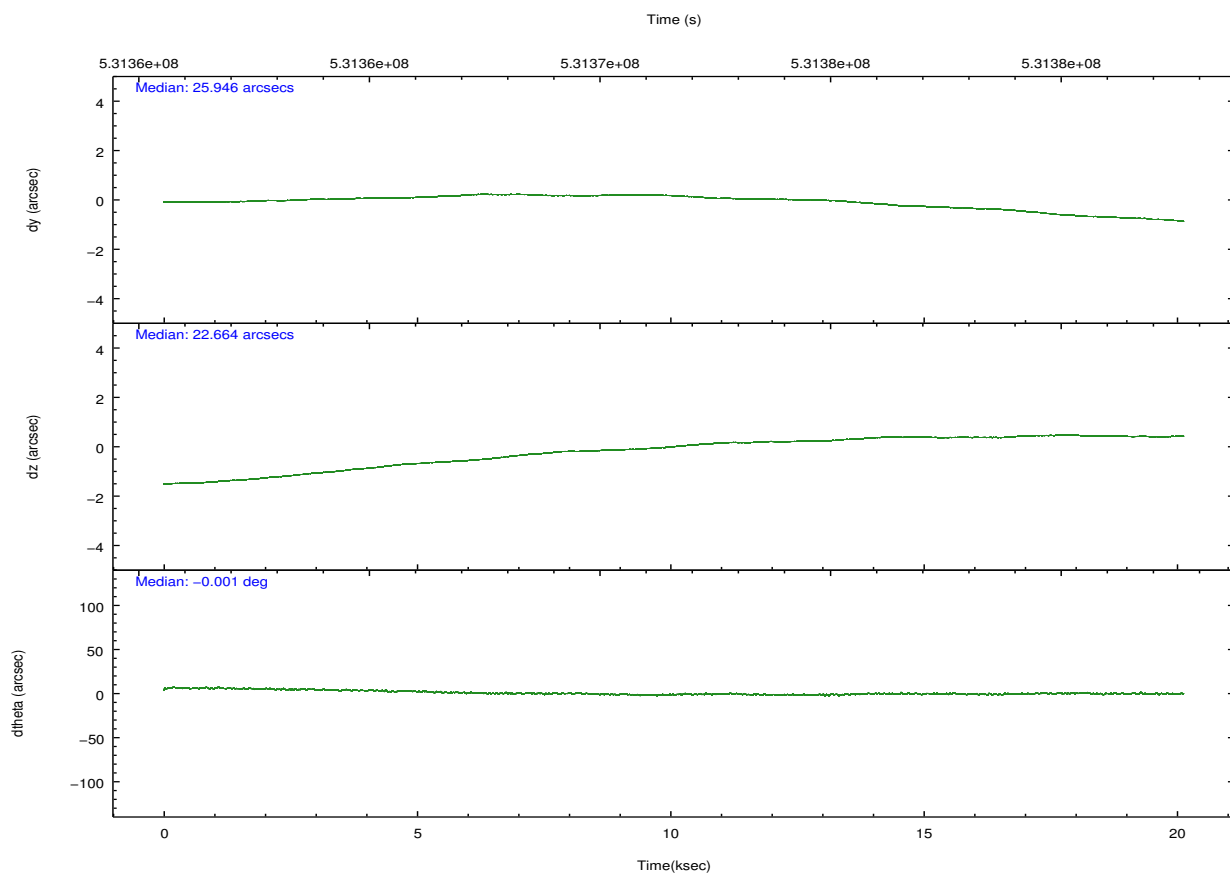
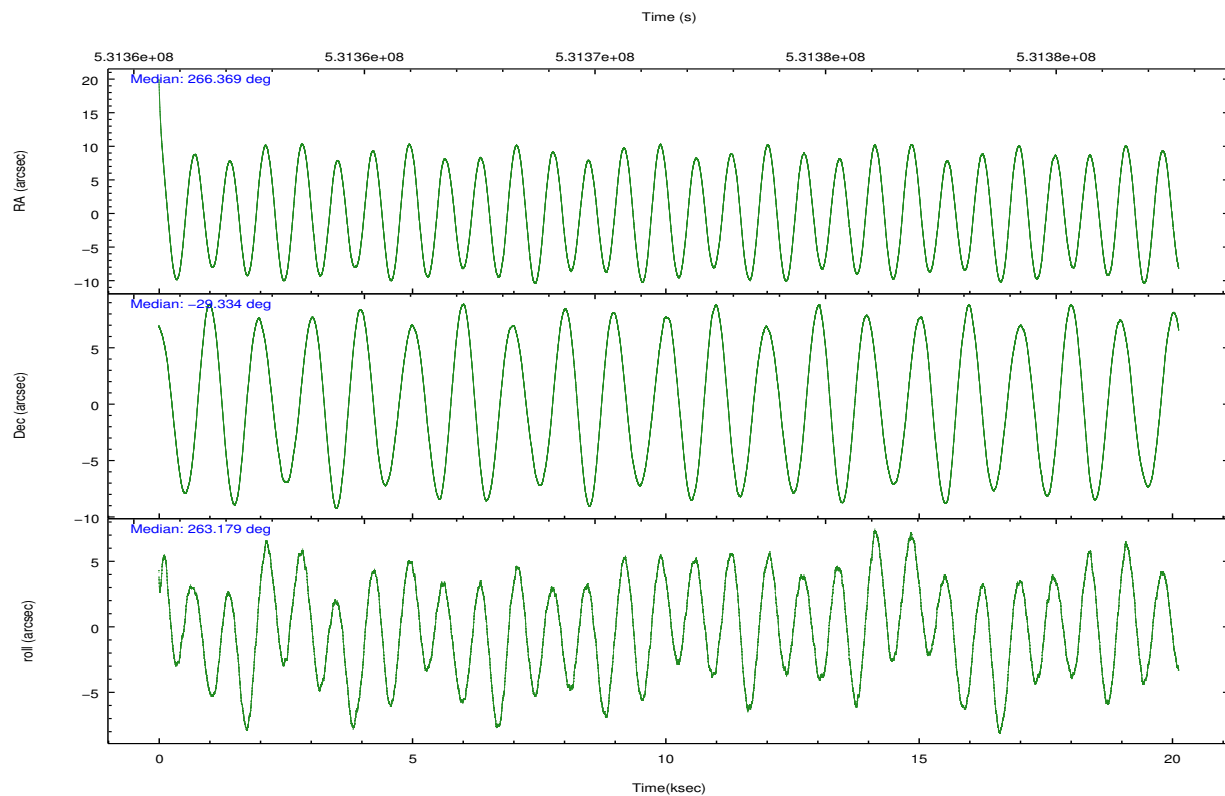
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	68137	85843	68881	101014	99909	111606	grade 0 events	8306	3770	10787	6000	15083	40395
rejected events	54078	44111	48482	43481	56678	46509		12%	4%	15%	5%	15%	36%
rejected %	79%	51%	70%	43%	56%	41%	grade 1 events	46	114	42	224	72	137
								0%	0%	0%	0%	0%	0%
							grade 2 events	2658	12462	3984	14755	7968	10849
								3%	14%	5%	14%	7%	9%
							grade 3 events	705	1449	1443	4105	5555	3234
								1%	1%	2%	4%	5%	2%
							grade 4 events	661	1339	1354	4130	5210	3213
								0%	1%	1%	4%	5%	2%
							grade 5 events	2008	4767	2354	6447	3677	2637
								2%	5%	3%	6%	3%	2%
							grade 6 events	1731	22718	2837	28547	9416	7418
								2%	26%	4%	28%	9%	6%
							grade 7 events	52022	39224	46080	36806	52928	43723
								76%	45%	66%	36%	52%	39%

## 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	GRADED	GRADED	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	266.355947	266.3687290553908	CCD I2 on	N	N
[deg] Pointing Dec	-29.308931	-29.33400440047729	CCD I3 on	N	N
[deg] Pointing Roll	263.019897	263.1827750818049	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	-183.9875365069546	CCD S3 on	Y	Y
[mm] SIM translation stage offset	-6.14	-6.144986076053243	CCD S4 on	Y	Y
[s] Observation start time (MET)	531361657.184000	531360305.79306	CCD S5 on	Y	Y
Observation start date	2014-11-03T00:26:30	2014-11-03T00:05:05	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	531381657.184000	531382627.7318	On-chip summing requested	N	N
Observation end date	2014-11-03T05:59:50	2014-11-03T06:17:07	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



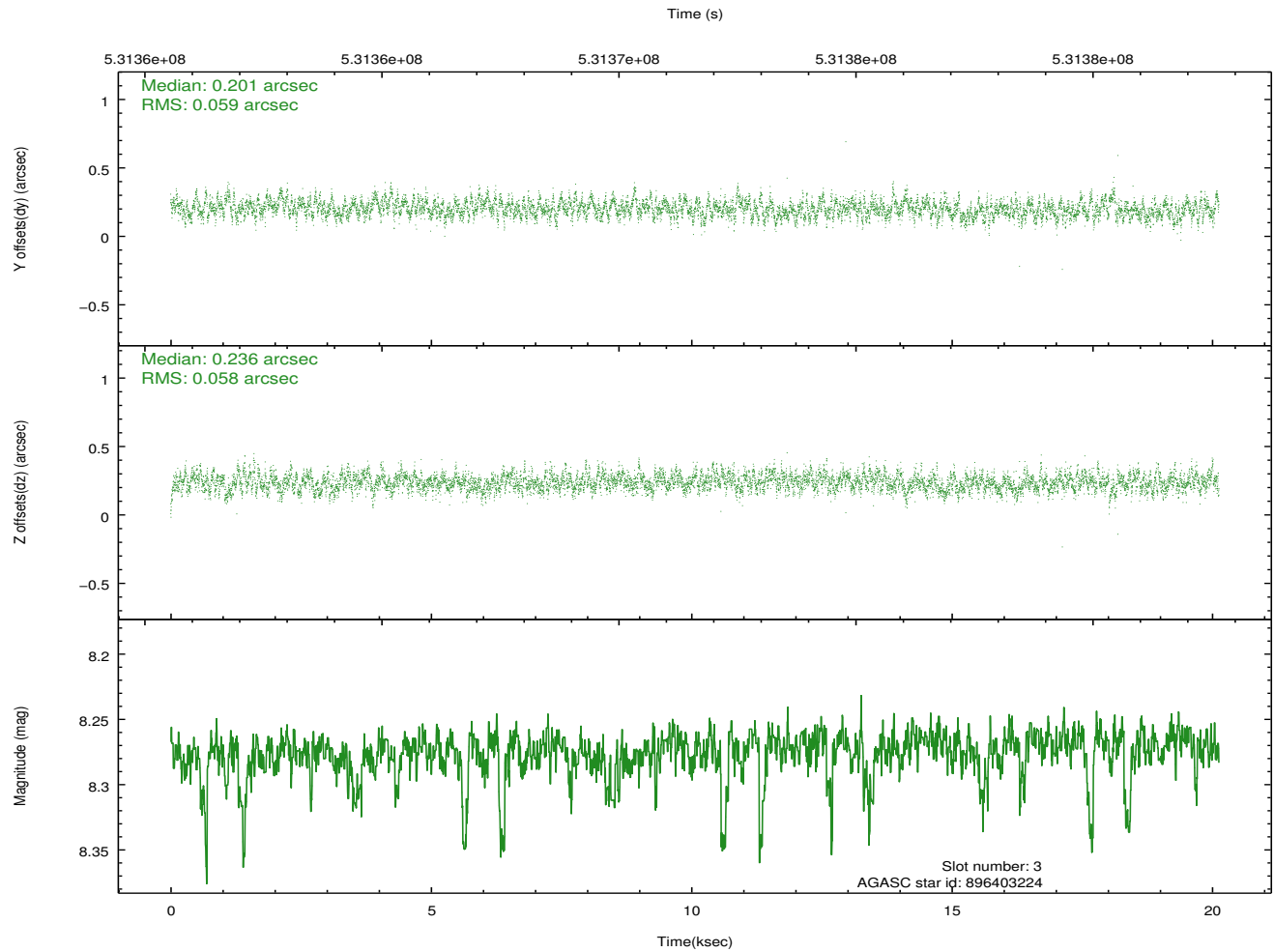
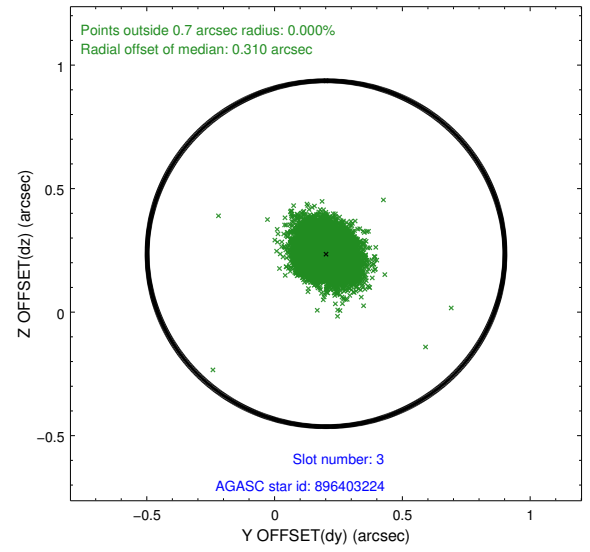
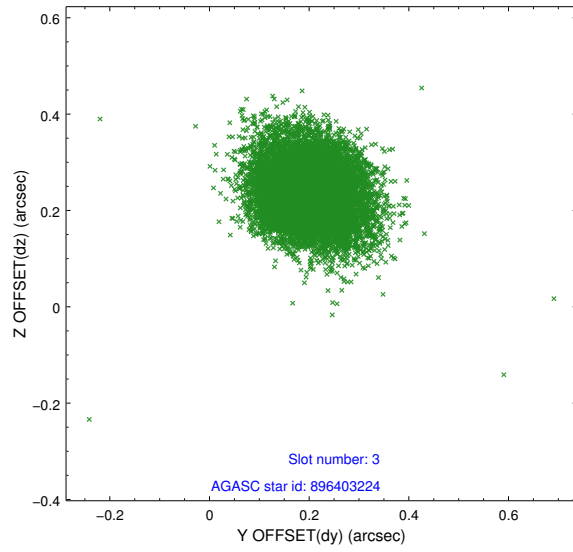


### Slot Statistics

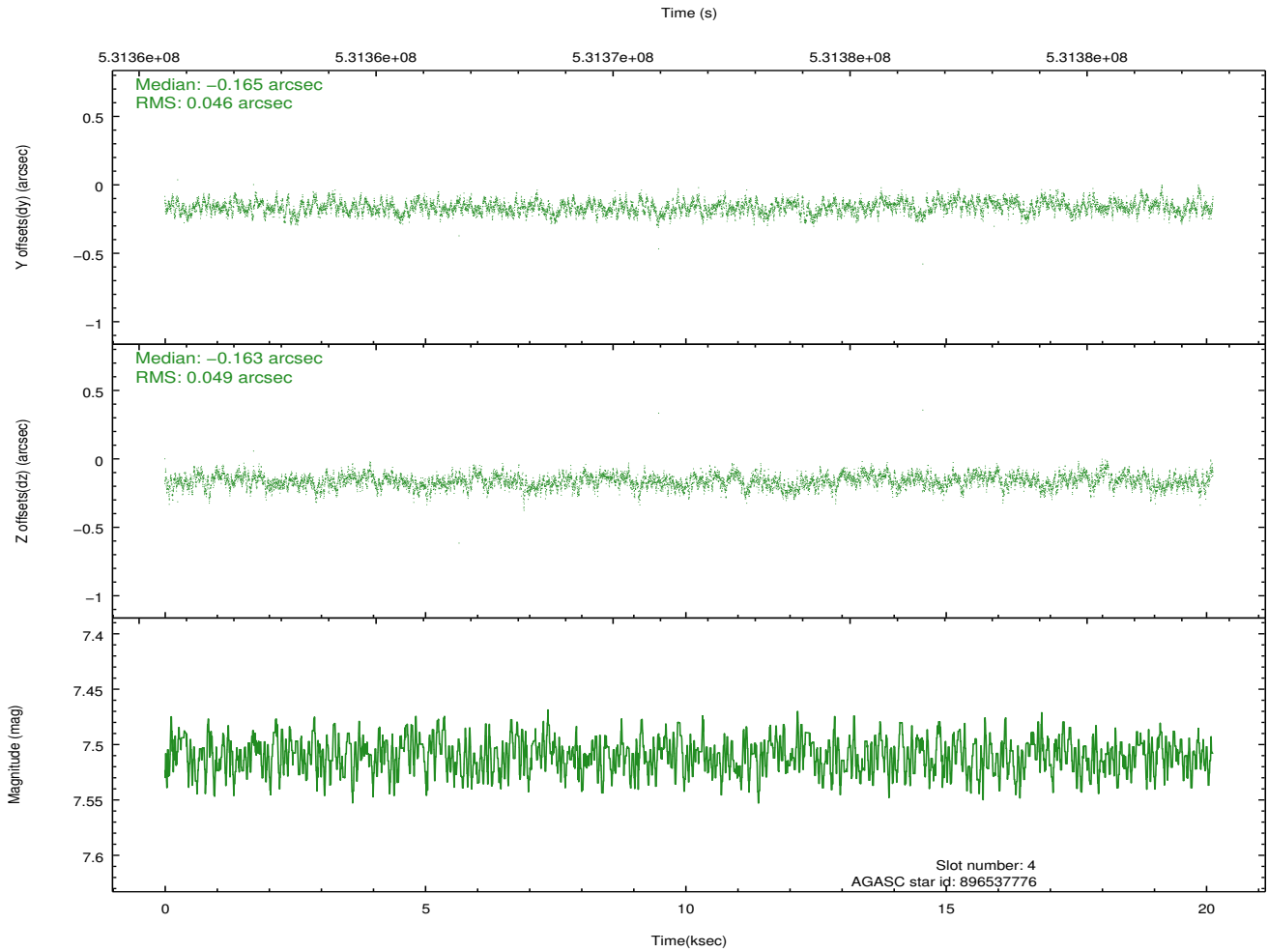
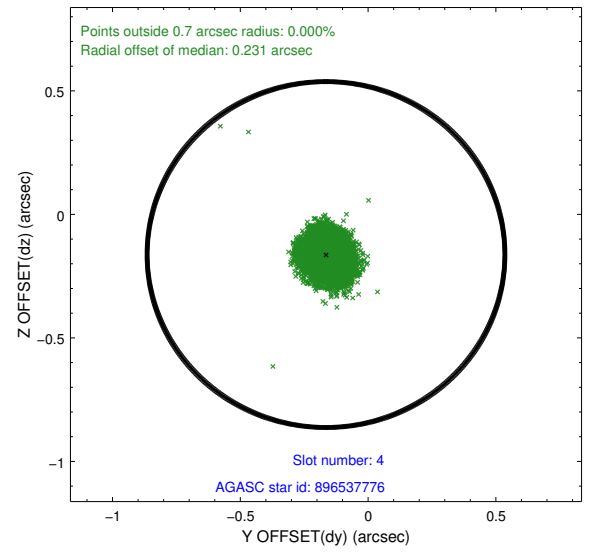
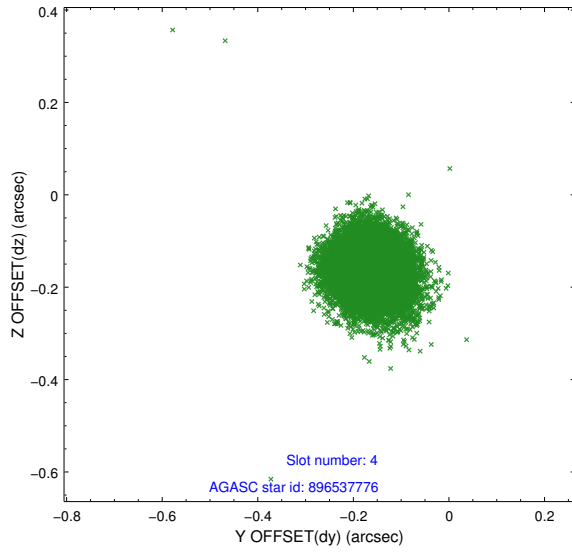
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.03	4910	-0.056	-0.040	0.018	0.064	0.000000	0.000000	-778.82	-1870.71
1	FID		ACIS-S-5	7.15	4909	-0.159	-0.072	0.022	0.063	0.000000	0.000000	-1832.03	31.08
2	FID		ACIS-S-6	7.33	4910	0.178	0.114	0.014	0.029	0.000000	0.000000	382.95	675.25
3	GUIDE	used	896403224	8.27	9818	0.201	0.236	0.086	0.141	265.612825	-29.438915	755.97	-2254.09
4	GUIDE	used	896537776	7.51	9820	-0.165	-0.163	0.072	0.113	266.655684	-29.665673	1162.20	1086.83
5	GUIDE	used	896541168	8.14	9818	0.048	-0.281	0.076	0.120	266.319970	-29.850801	1950.66	125.55
6	GUIDE	used	896537176	8.02	9757	0.131	0.086	0.081	0.130	266.498272	-28.678259	-2307.25	170.57
7	GUIDE	used	896541576	8.18	9815	-0.217	0.121	0.081	0.137	267.051055	-28.762912	-2211.56	1939.64

## 2.4 Star Slots

### 2.4.1 Slot 3

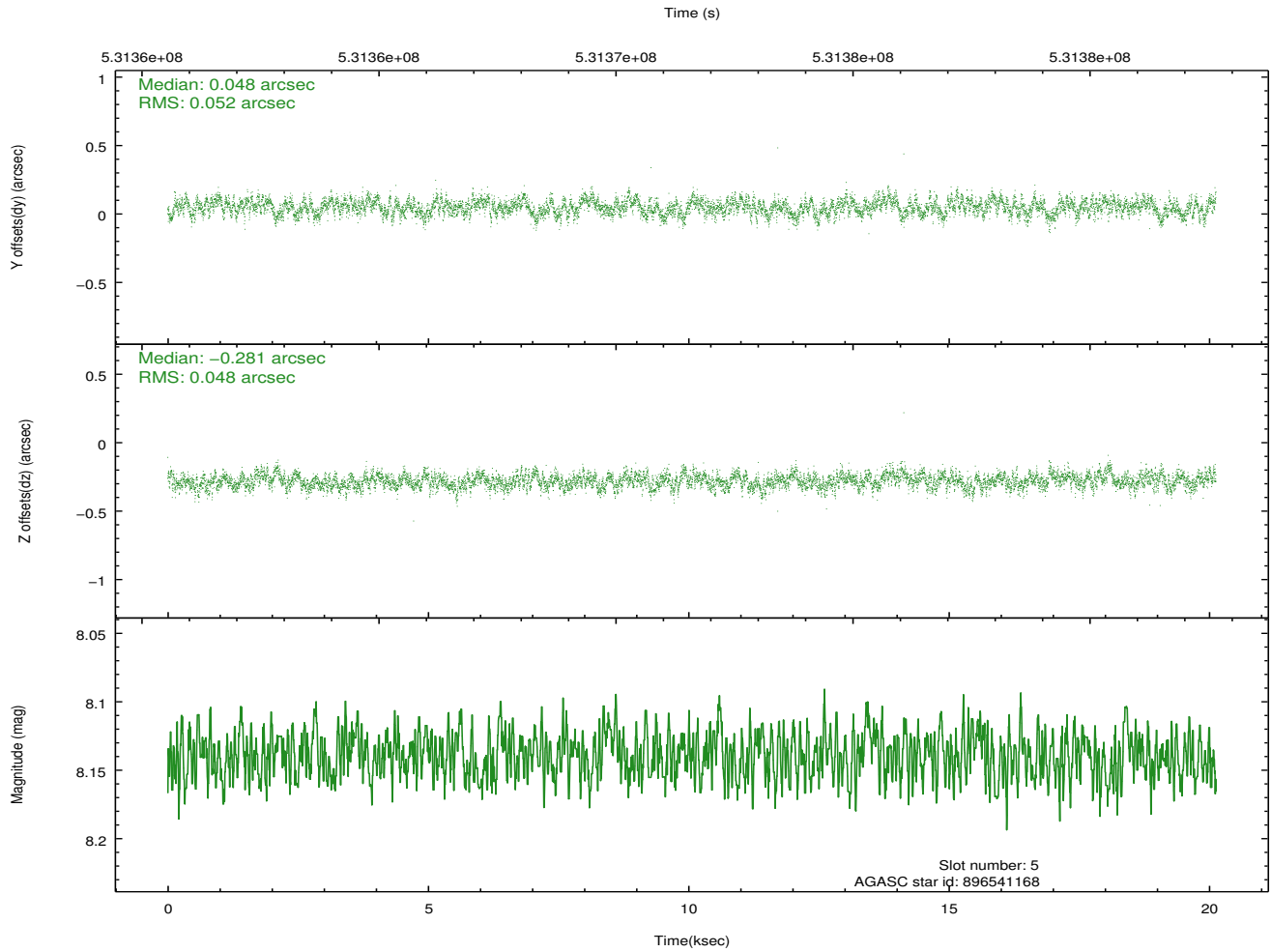
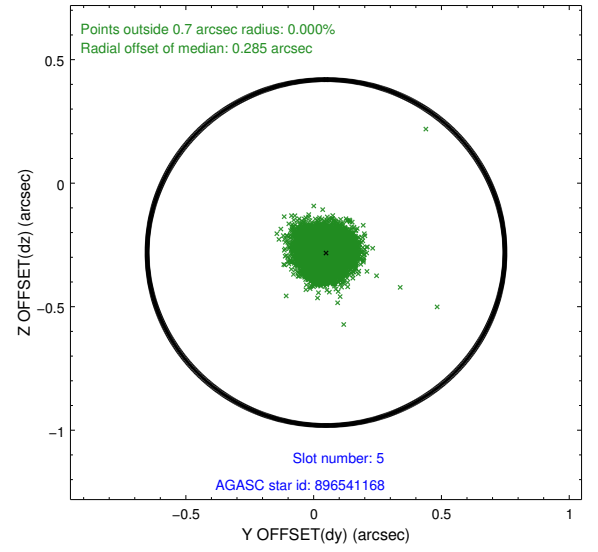
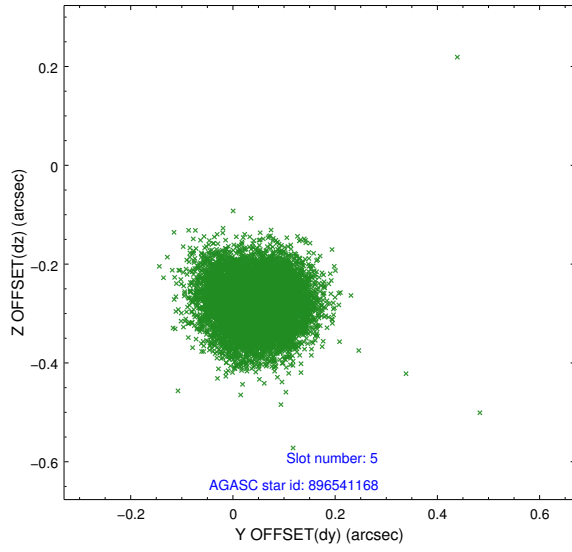


## 2.4.2 Slot 4

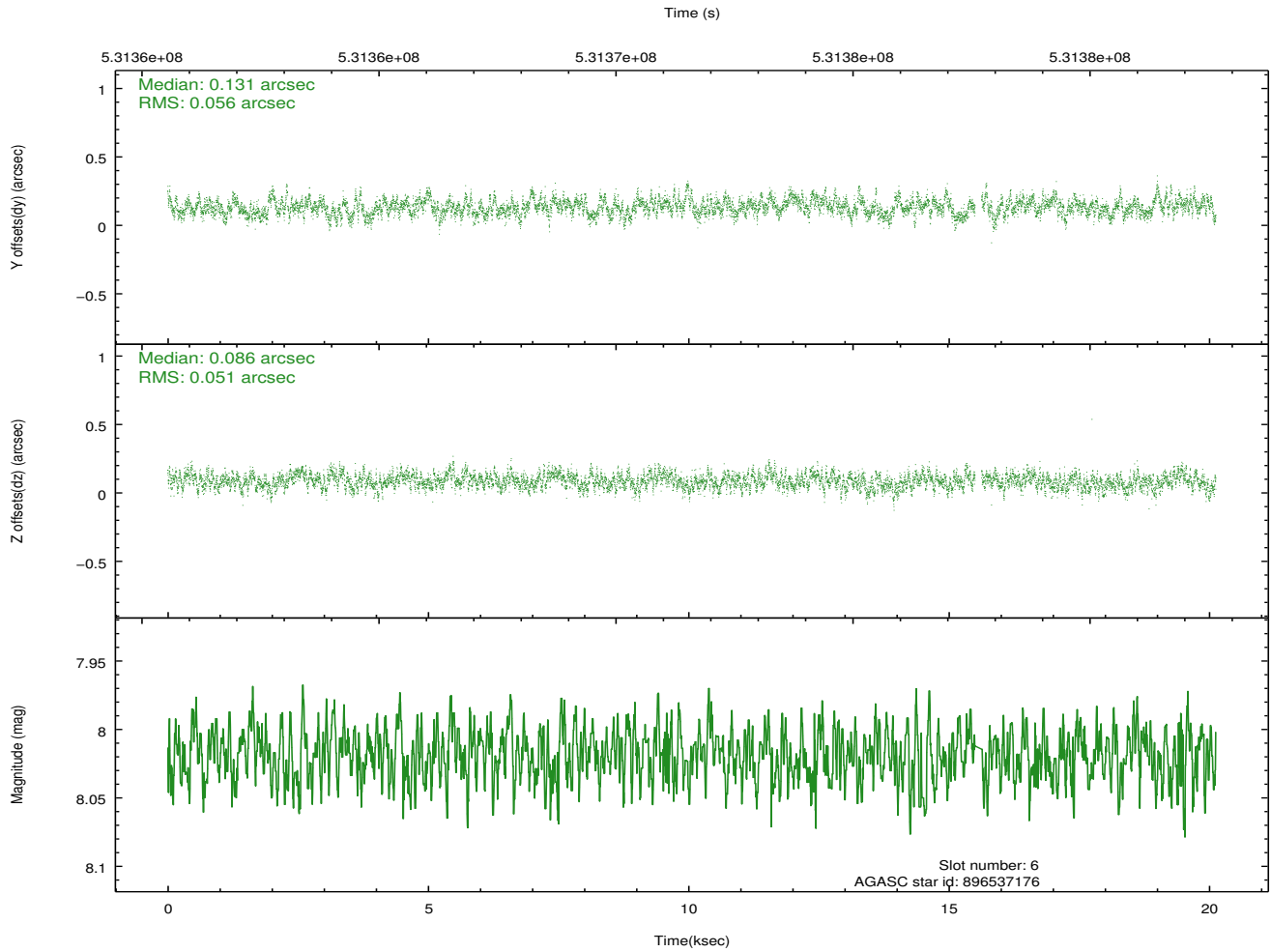
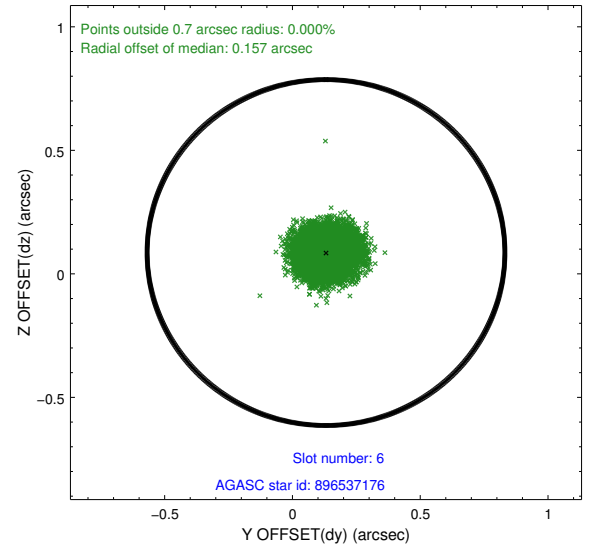
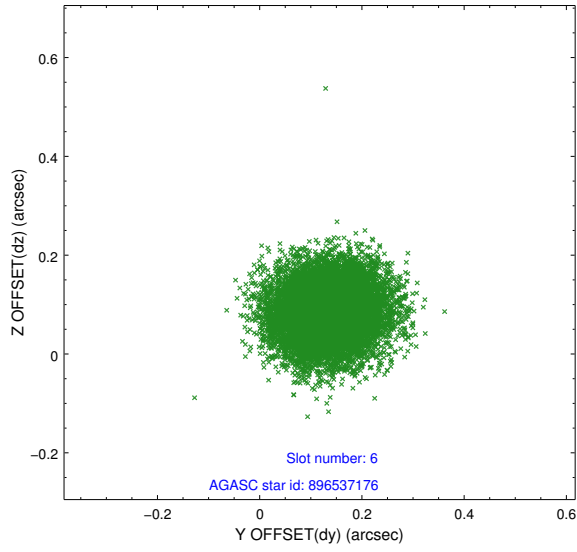




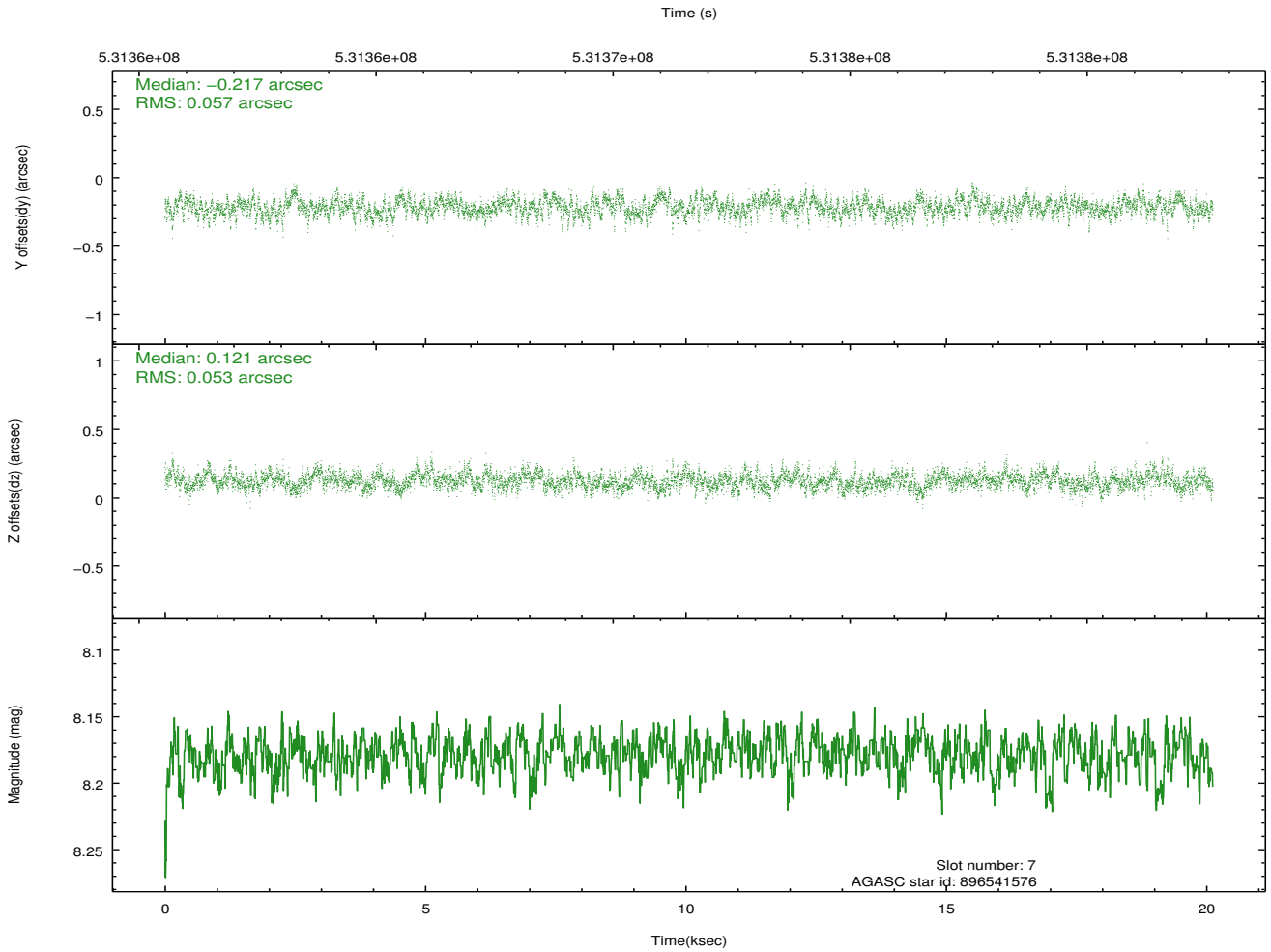
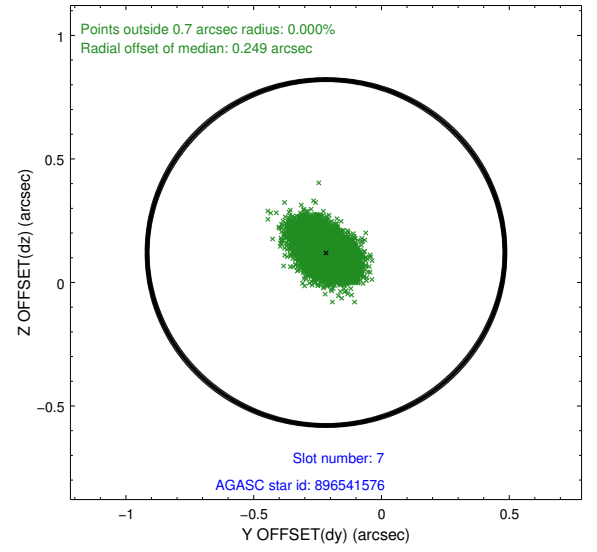
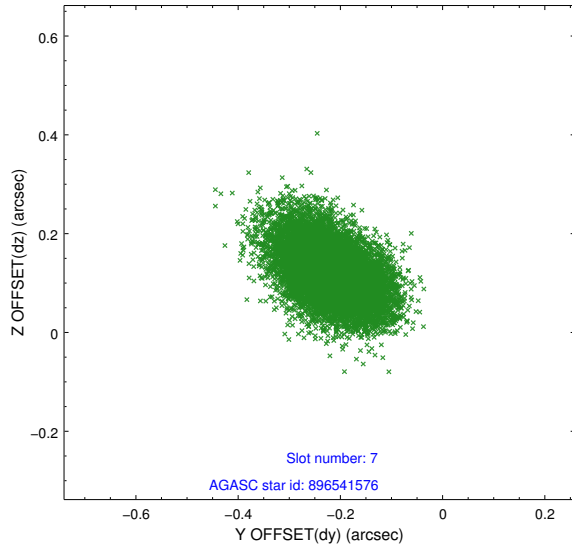
### 2.4.3 Slot 5



## 2.4.4 Slot 6

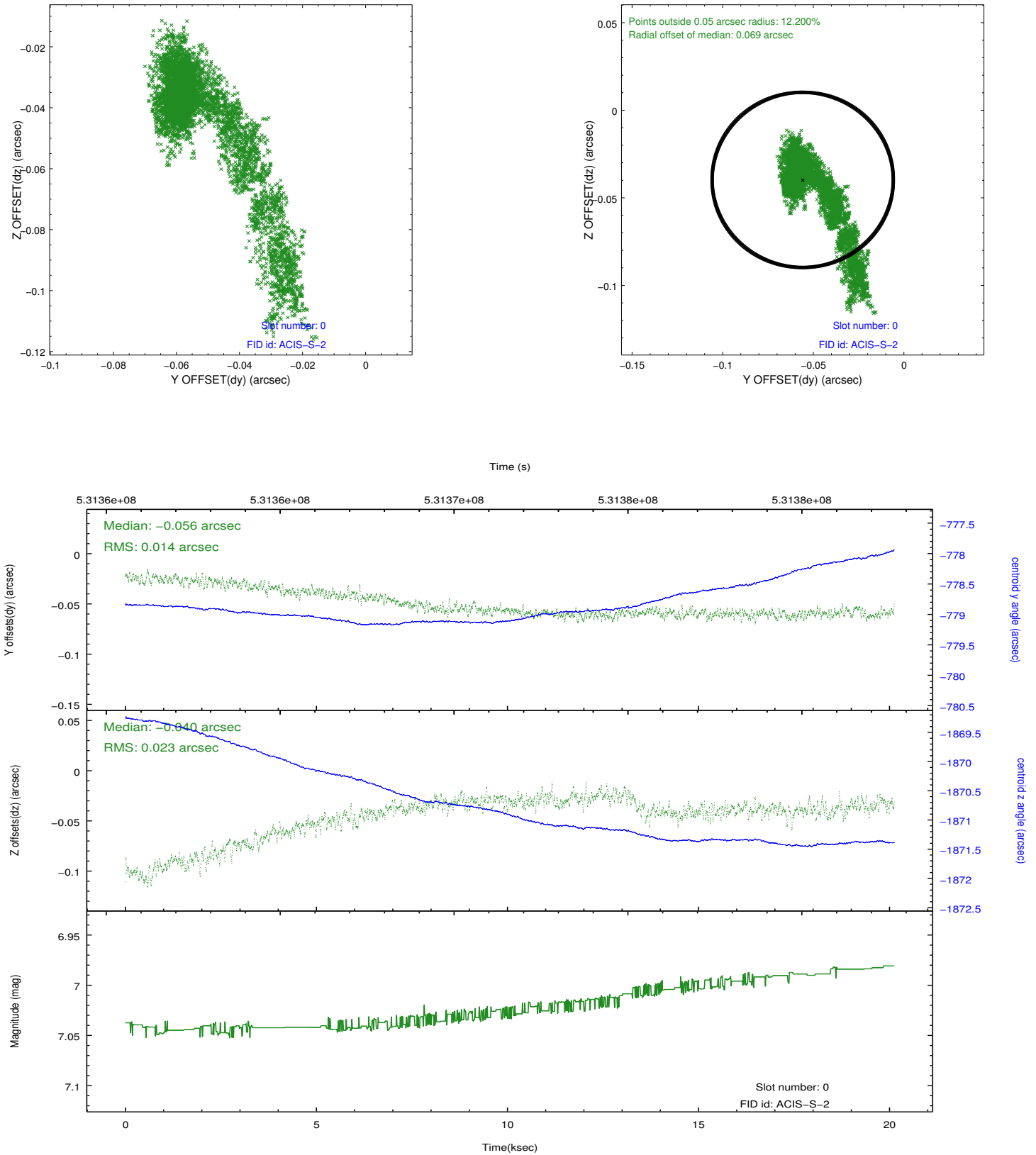


## 2.4.5 Slot 7

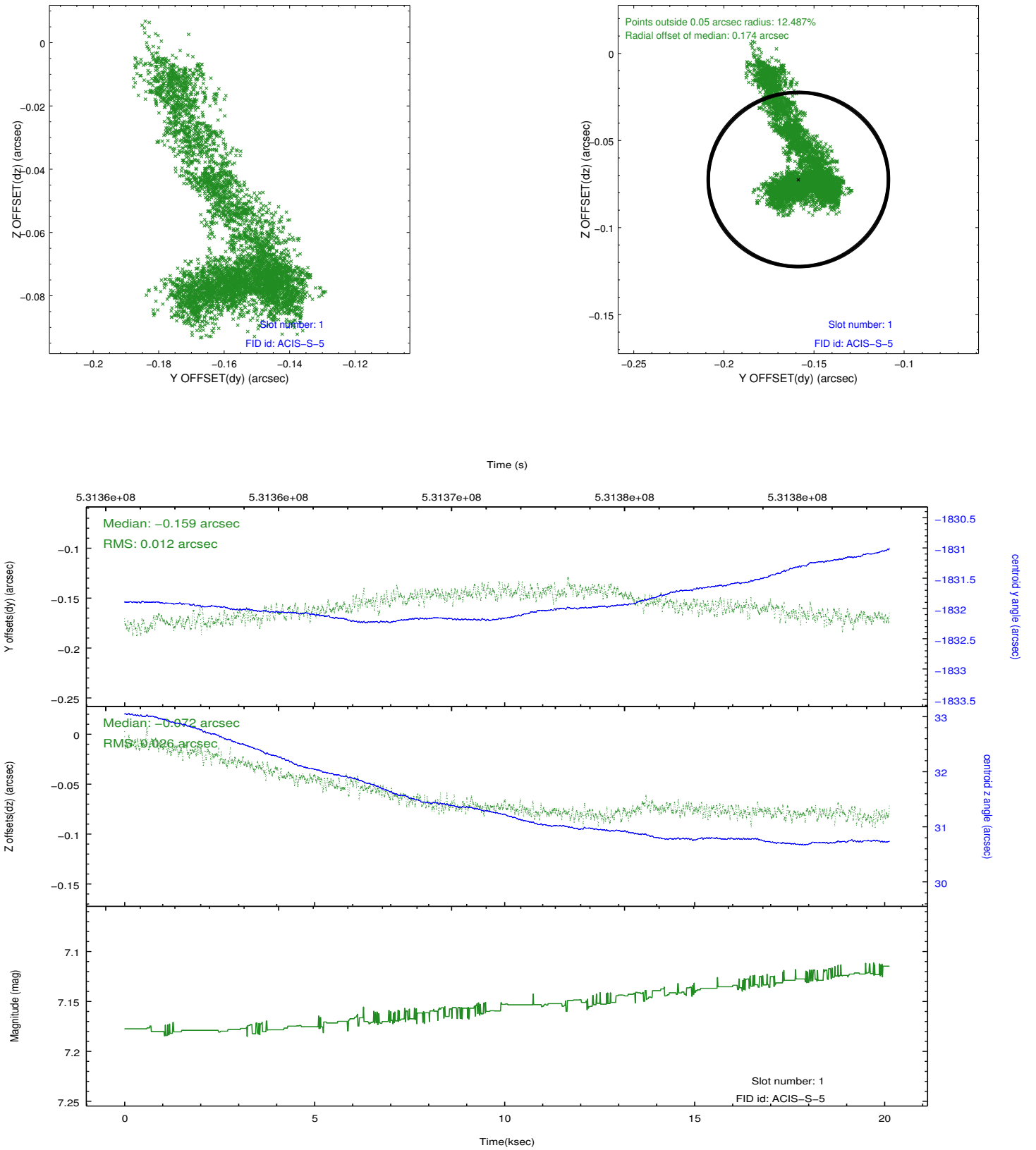


## 2.5 FID Slots

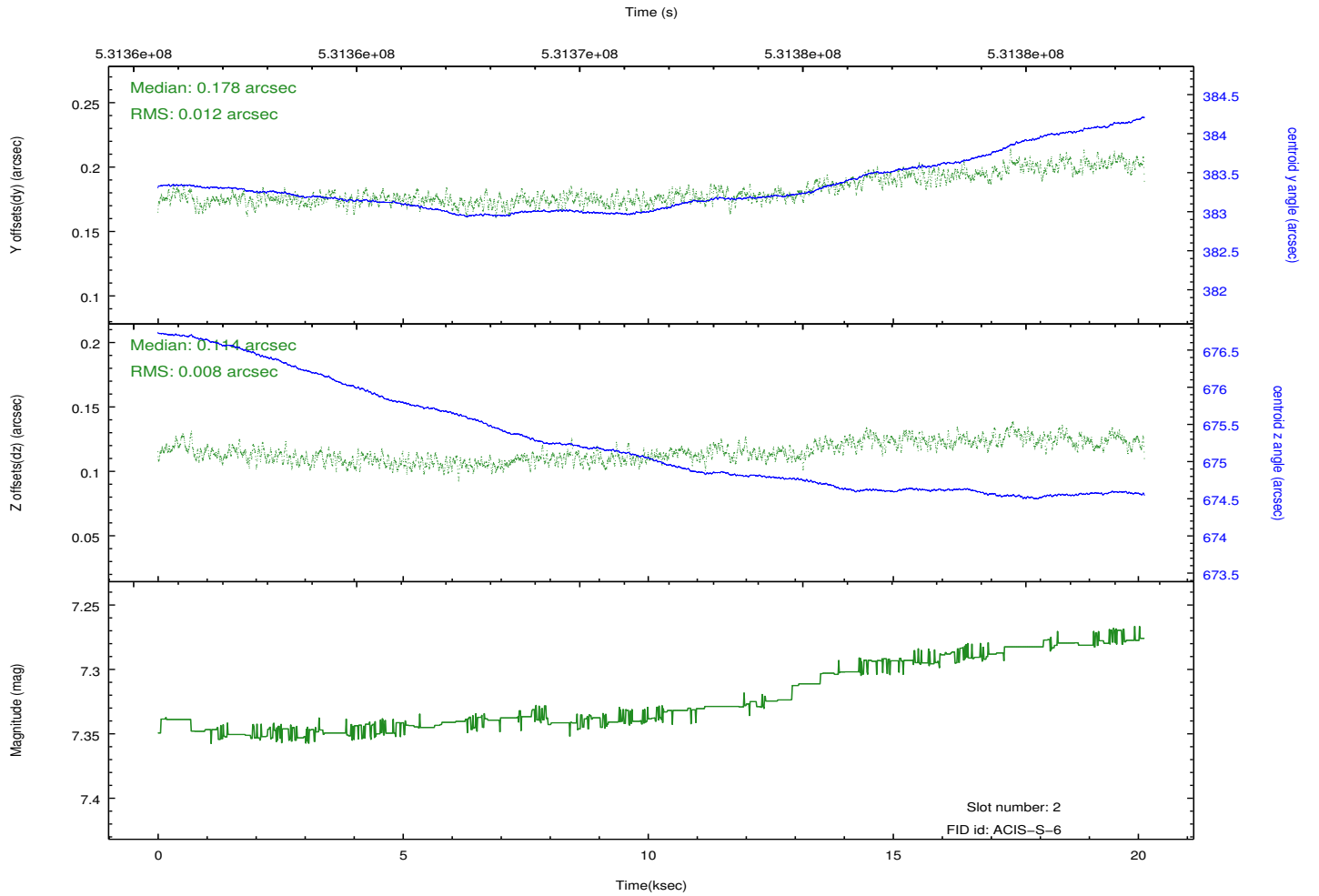
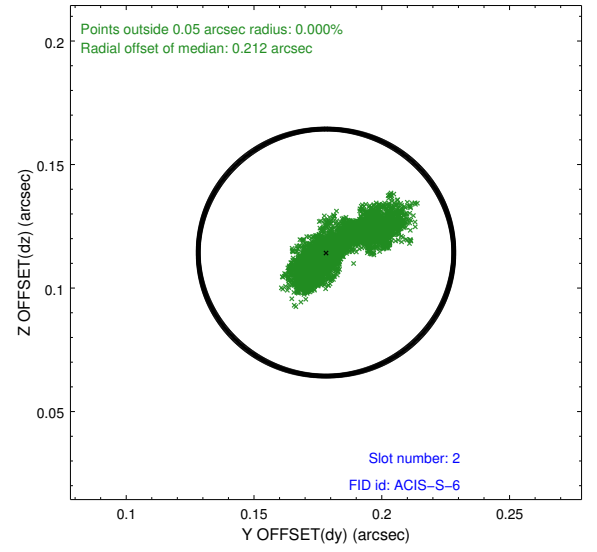
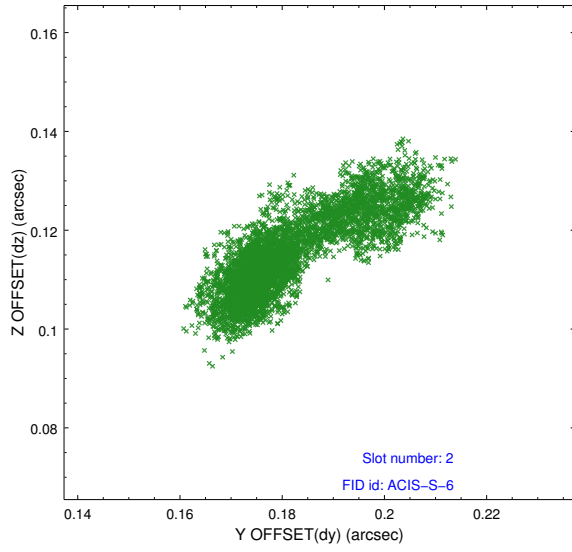
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2

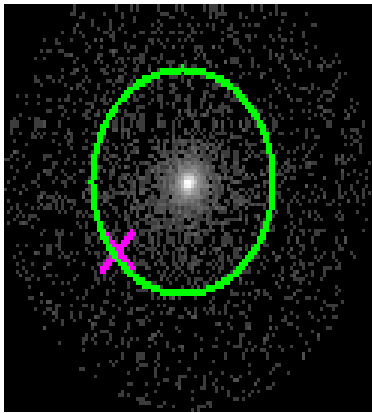


# 3 Gratings

## 3.1 HEG Arm



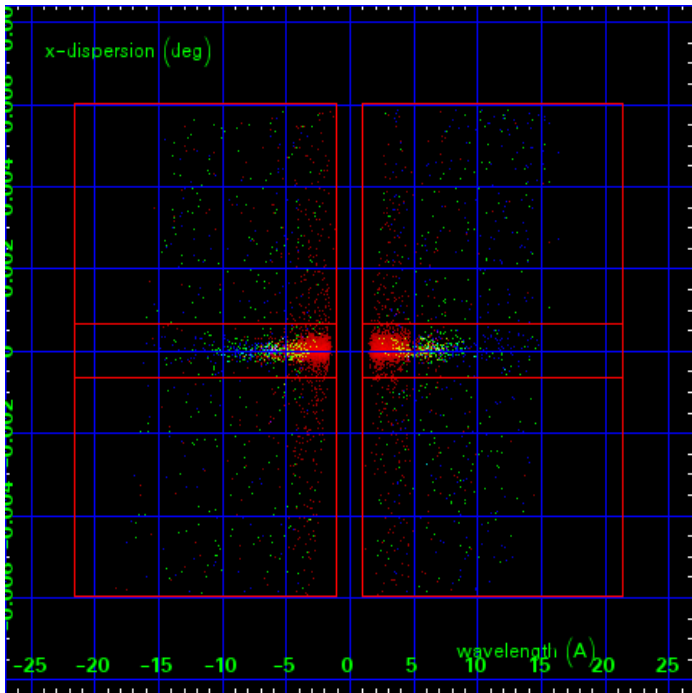
HEG Order Sort 123



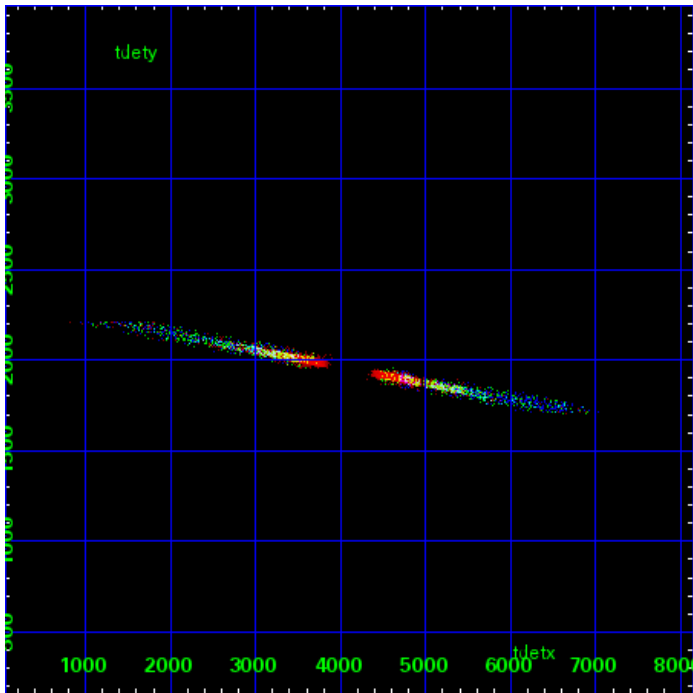
HEG Zero Order



HEG Order Sort ALL

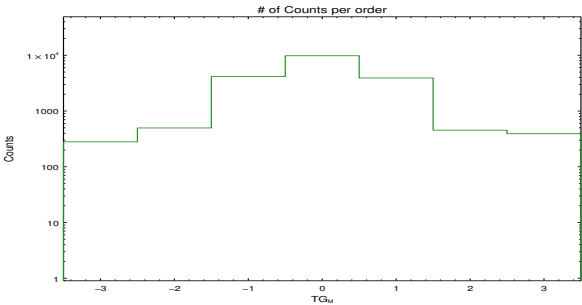


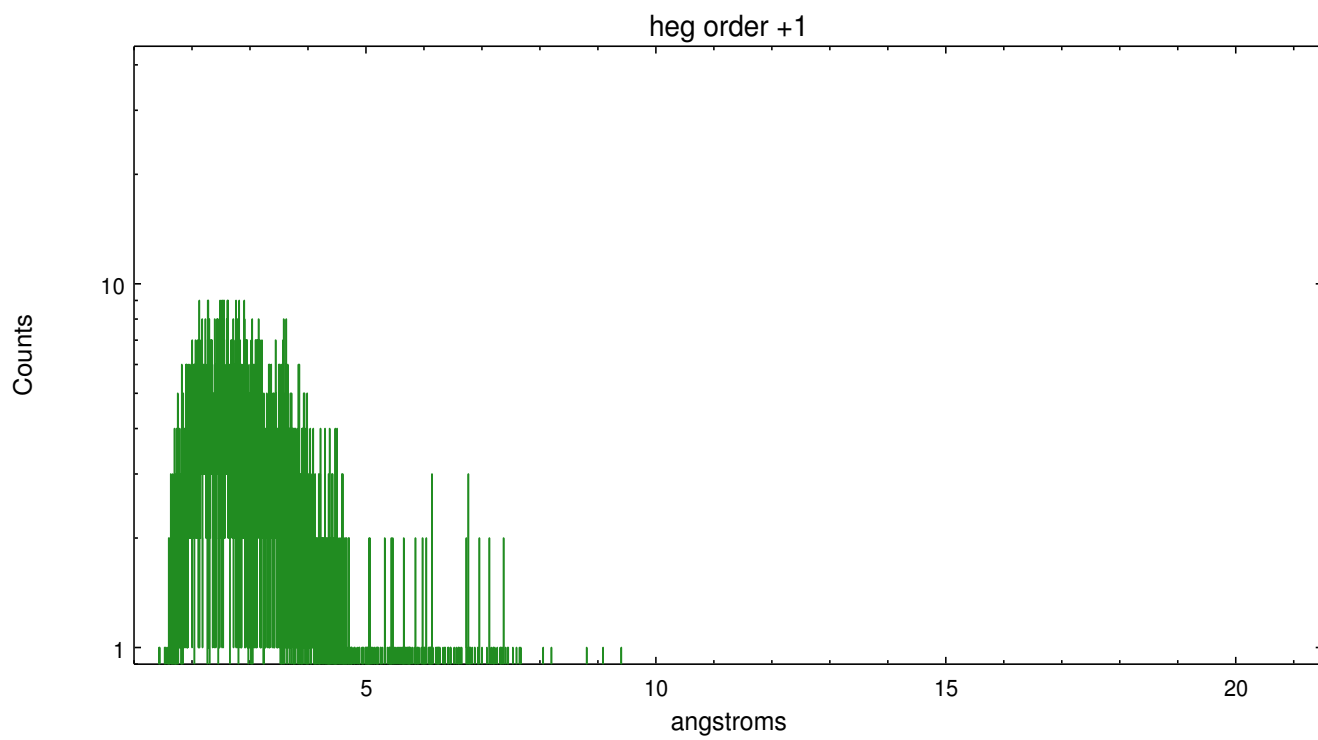
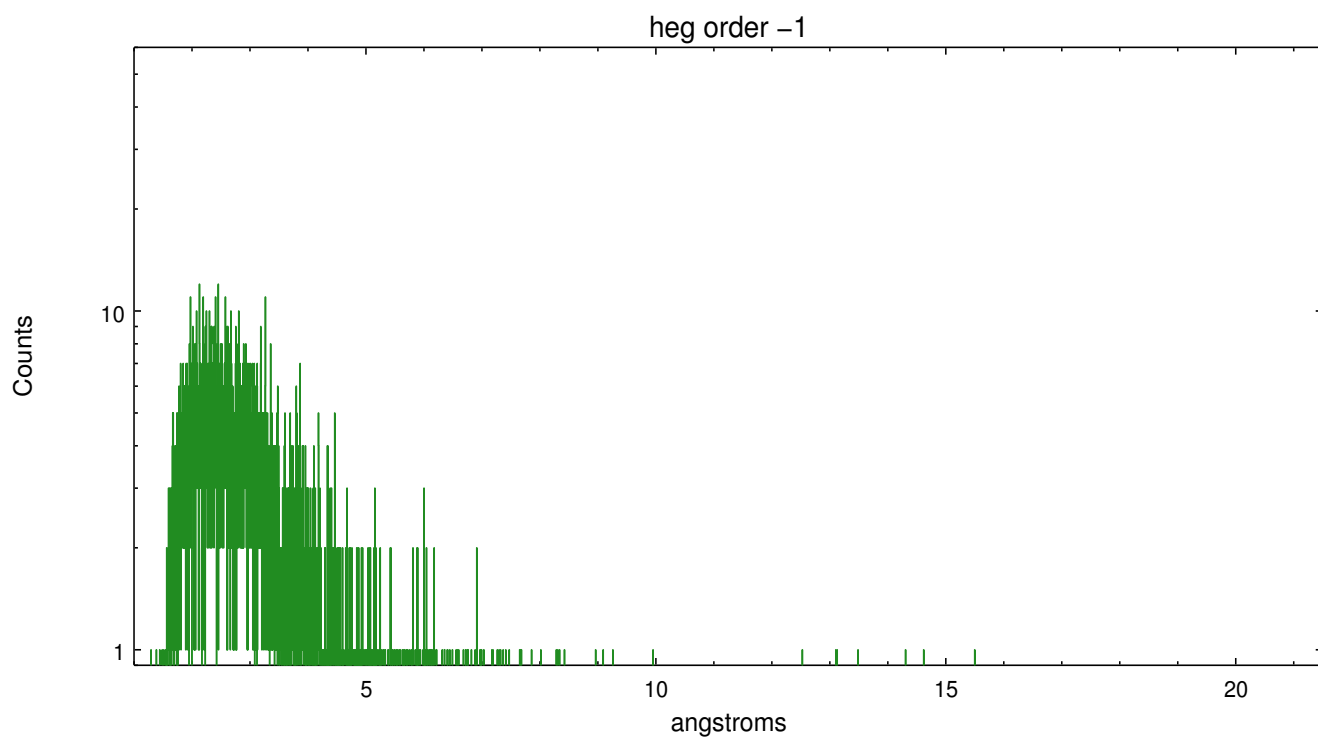
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	280	497	4157	9821	3920	453	392



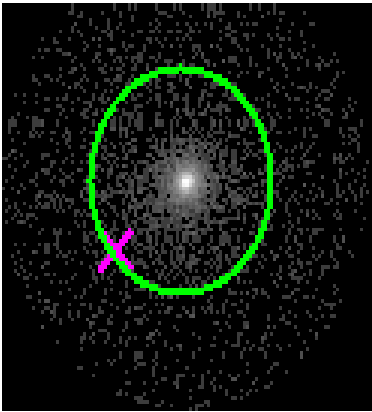




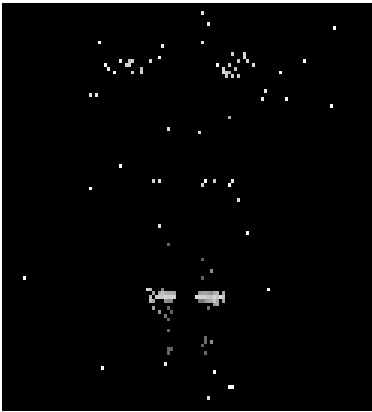
3.2 MEG Arm



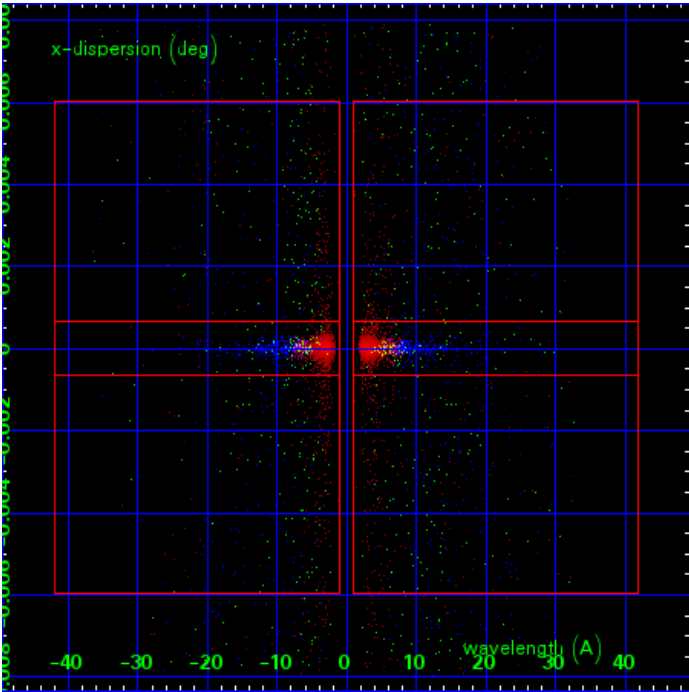
MEG Order Sort 123



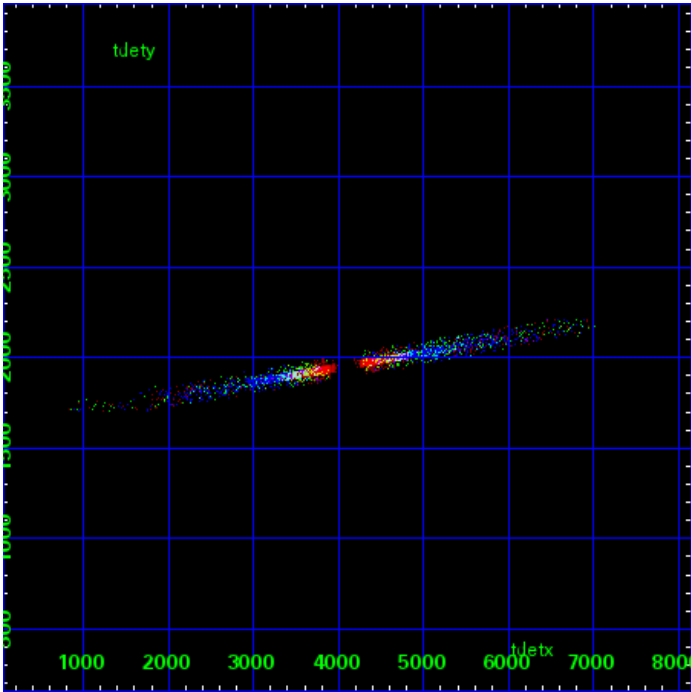
MEG Zero Order



MEG Order Sort ALL

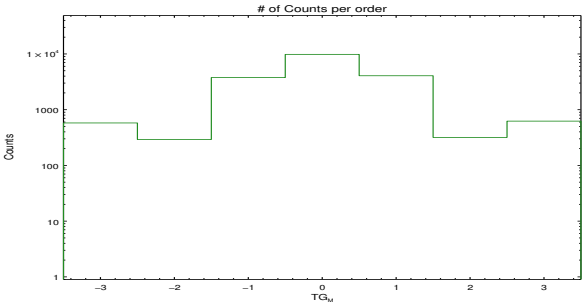


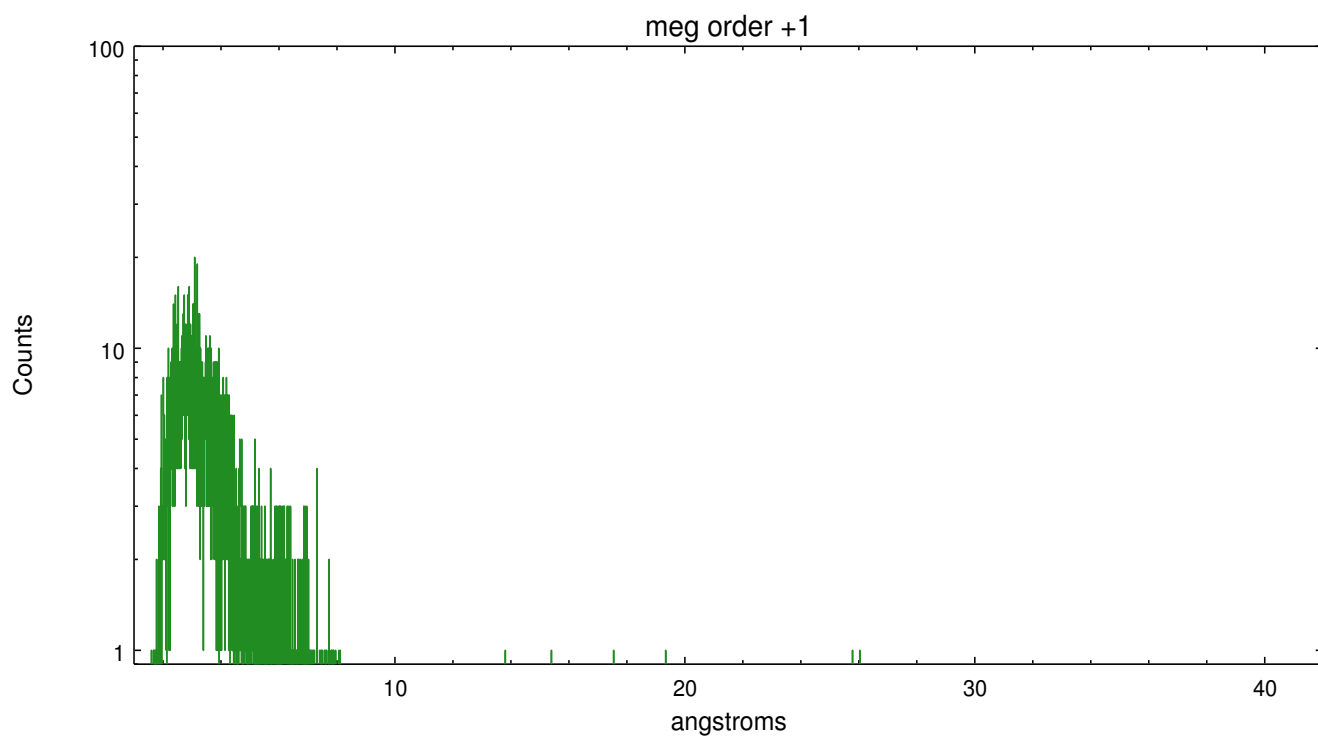
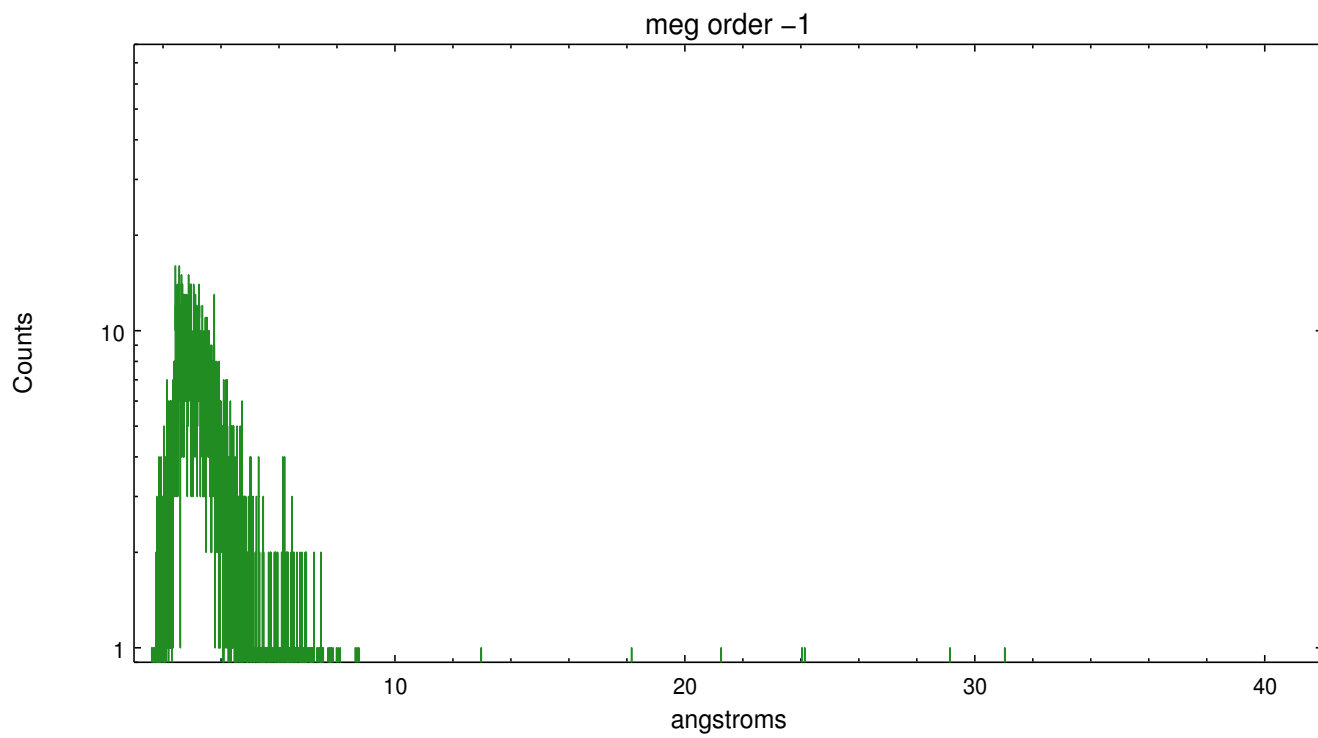
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	578	292	3768	9821	4065	318	623





# A Summary

## A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2014.11.03
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.046399859488

## A.2 Comments

Zeroth order moderately 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 dispersed spectral arm, rather than using a centroid position of the source. The findzero results are more accurate than source centroid in this case.

There is a bright, far-off-axis (18 arcmin) source on the positive order side, prominent in an image, but which seems to have no effect on the extracted spectrum. It's HEG spectrum overlaps the on-axis source's MEG region at long wavelengths.