

# V&V Reference Report

## L2 ASCDS Version : 10.8

Observation 22845 - L2 Version 2  
Chandra X-Ray Center

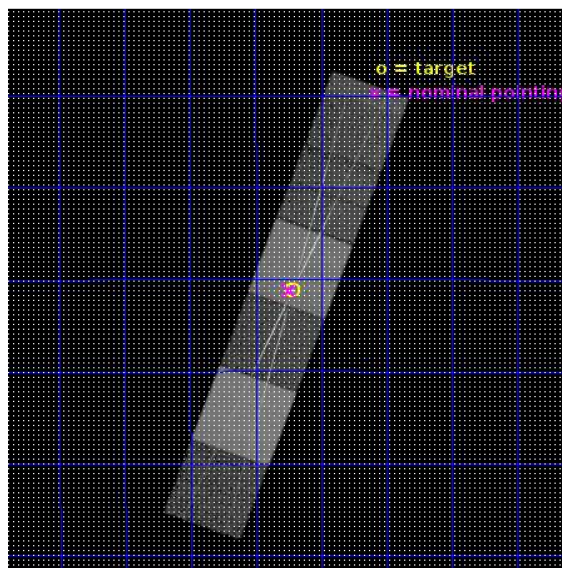
L2 Processing Date : Oct 1 2019

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# 1 Front

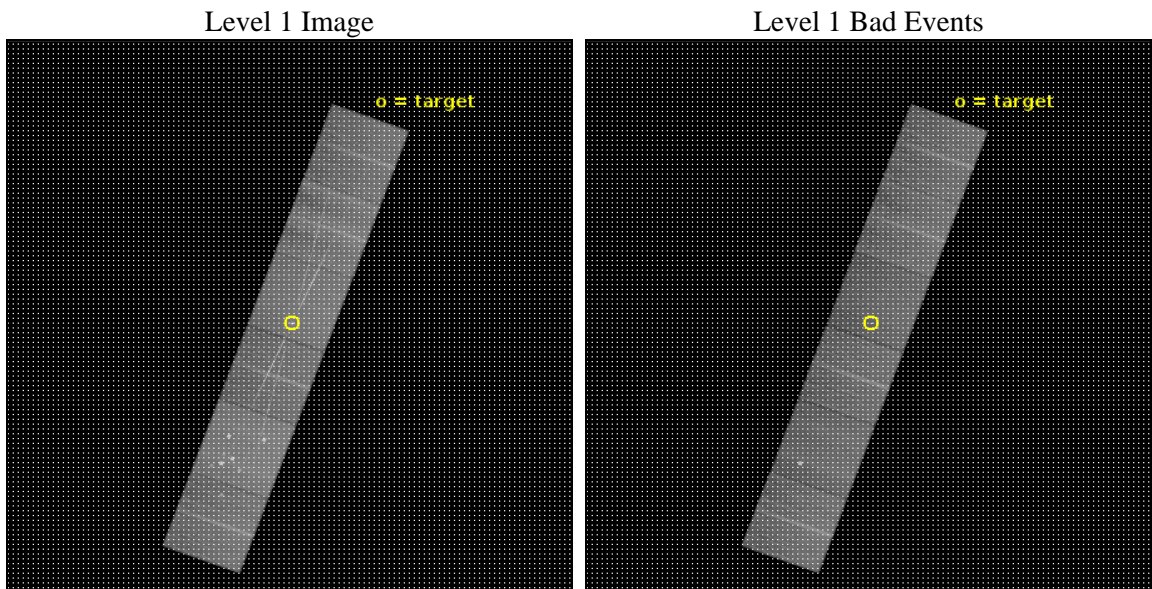
seq_num	300466	Sequence number
obs_id	22845	Observation id
title	The recurrent nova outburst of V3890 Sgr	Proposal title
observer	Marina Orio	Principal investigator
object	V3890 Sgr	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	277.680417	Observer's specified target RA [deg]
dec_targ	-24.019139	Observer's specified target Dec [deg]
ra_nom	277.68547897215	Nominal RA [deg]
dec_nom	-24.020262432734	Nominal Dec [deg]
roll_nom	290.15871326955	Nominal Roll [deg]
revision	2	Processing version of data
ontime	29948.800446272	Sum of GTIs [s]
livetime	29569.570702019	Livetime [s]
ontime4	29948.800446272	Sum of GTIs [s]
ontime5	29948.800446272	Sum of GTIs [s]
ontime6	29948.800446272	Sum of GTIs [s]
ontime7	29948.800446272	Sum of GTIs [s]
ontime8	29948.800446272	Sum of GTIs [s]
ontime9	29948.800446272	Sum of GTIs [s]
l2events	461354	Number of level 2 events



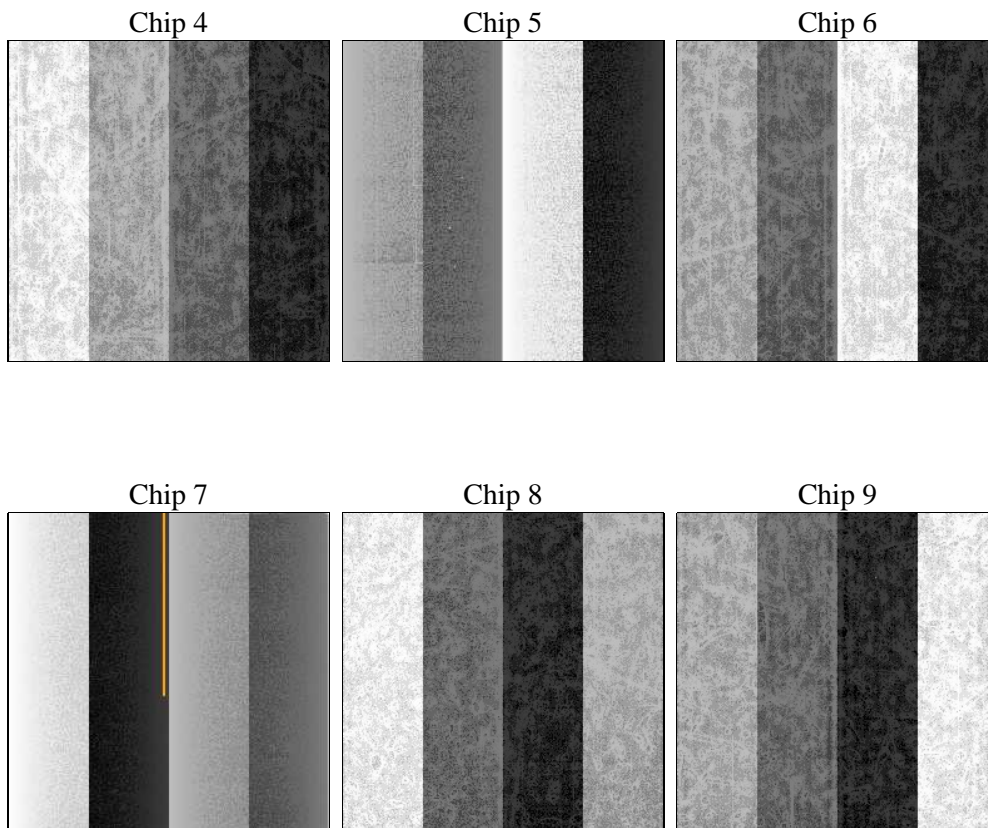
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	30000.000000	[s] Scheduled observation exposure time
ascdsver	10.8	Processing system revision	ontime	29948.800446272	Sum of GTIs [s]
caldbver	4.8.4.1	&#160	ontime4	29948.800446272	Sum of GTIs [s]
date	2019-10-01T15:47:00	Date and time of file creation	ontime5	29948.800446272	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	29948.800446272	Sum of GTIs [s]
			ontime7	29948.800446272	Sum of GTIs [s]
			ontime8	29948.800446272	Sum of GTIs [s]
			ontime9	29948.800446272	Sum of GTIs [s]
			l1events	1807474	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			z0_pos	(4130.70, 4104.63)	src1a sky pixel position

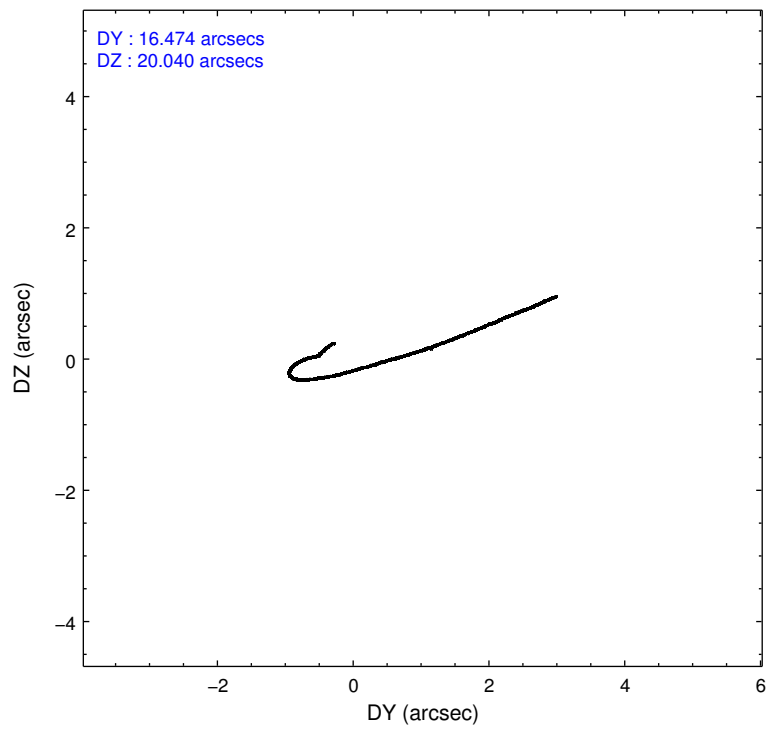
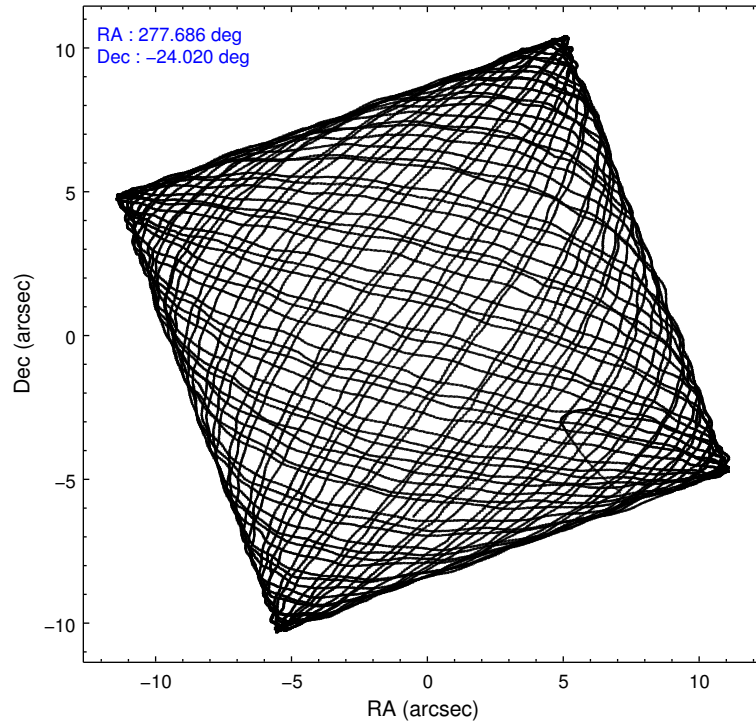
### 2.1.4 Events

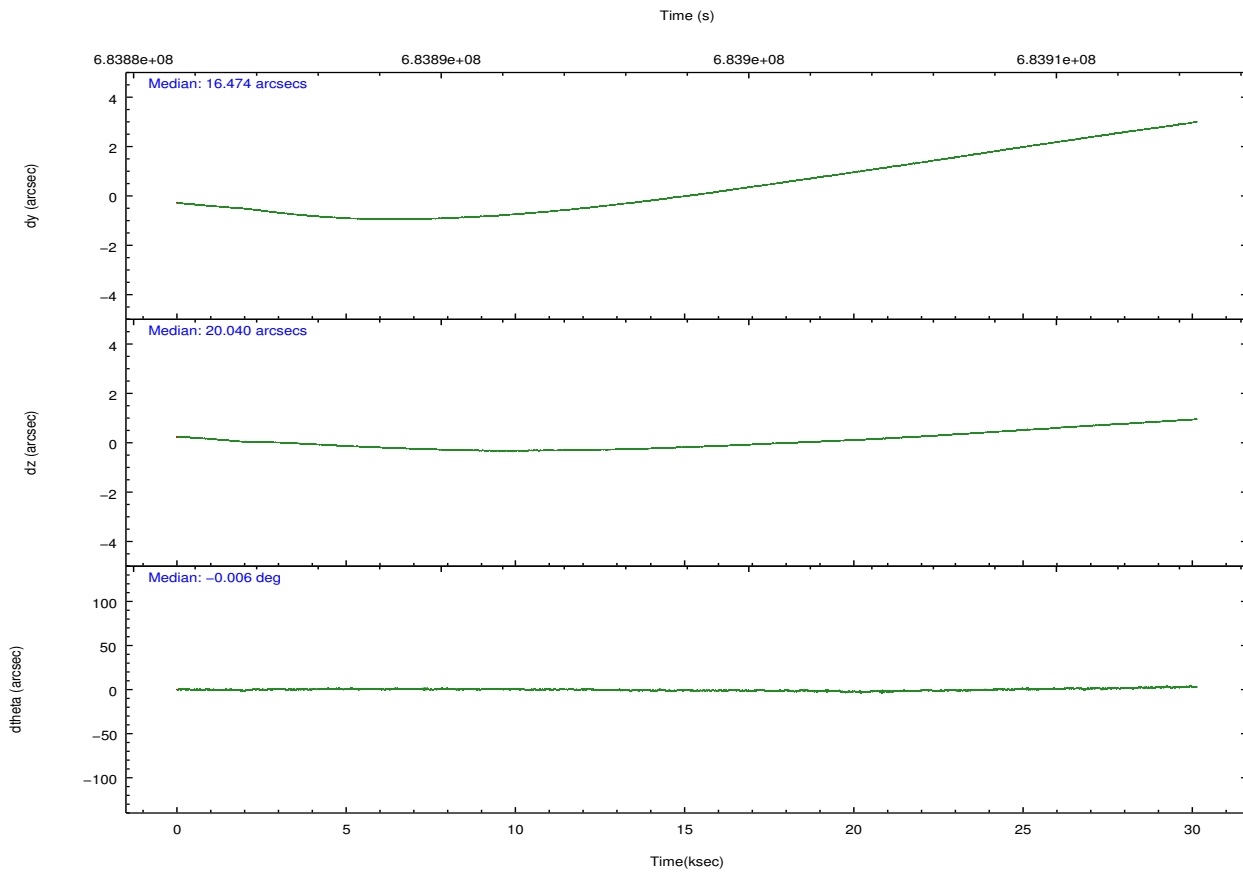
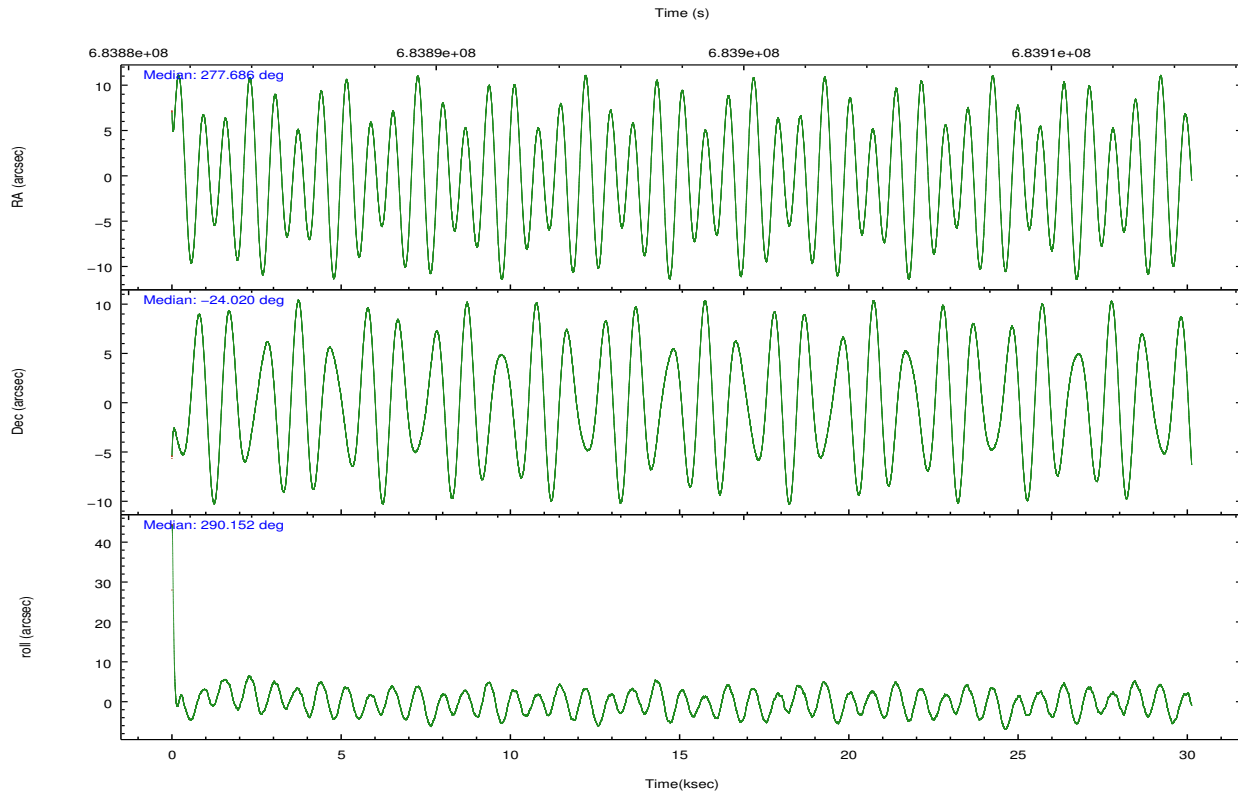
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	266829	404687	256698	331978	309066	238216	grade 0 events	12891	39945	28035	17189	32251	15103
rejected events	236764	195507	205482	173256	218529	203481		4%	9%	10%	5%	10%	6%
rejected %	88%	48%	80%	52%	70%	85%	grade 1 events	248	924	200	682	252	161
								0%	0%	0%	0%	0%	0%
							grade 2 events	6648	61061	9497	35474	19950	7097
								2%	15%	3%	10%	6%	2%
							grade 3 events	2905	5660	3246	13022	8310	3079
								1%	1%	1%	3%	2%	1%
							grade 4 events	2862	5162	3351	12802	7896	2890
								1%	1%	1%	3%	2%	1%
							grade 5 events	11009	24010	10254	29951	15946	11855
								4%	5%	3%	9%	5%	4%
							grade 6 events	4762	97376	7092	80247	22140	6567
								1%	24%	2%	24%	7%	2%
							grade 7 events	225504	170549	195023	142611	202321	191464
								84%	42%	75%	42%	65%	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	277.662135	277.6854789721544	CCD I2 on	N	N
[deg] Pointing Dec	-24.002957	-24.0202624327339	CCD I3 on	N	N
[deg] Pointing Roll	289.992556	290.158713269552	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	-190.132523	-190.1400660498719	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	CCD S4 on	Y	Y
[s] Observation start time (MET)	683883058.184000	683881894.45692	CCD S5 on	O2	Y
Observation start date	2019-09-03T07:29:49	2019-09-03T07:11:34	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	683913058.184000	683914098.9338599	On-chip summing requested	N	N
Observation end date	2019-09-03T15:49:49	2019-09-03T16:08:18	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect





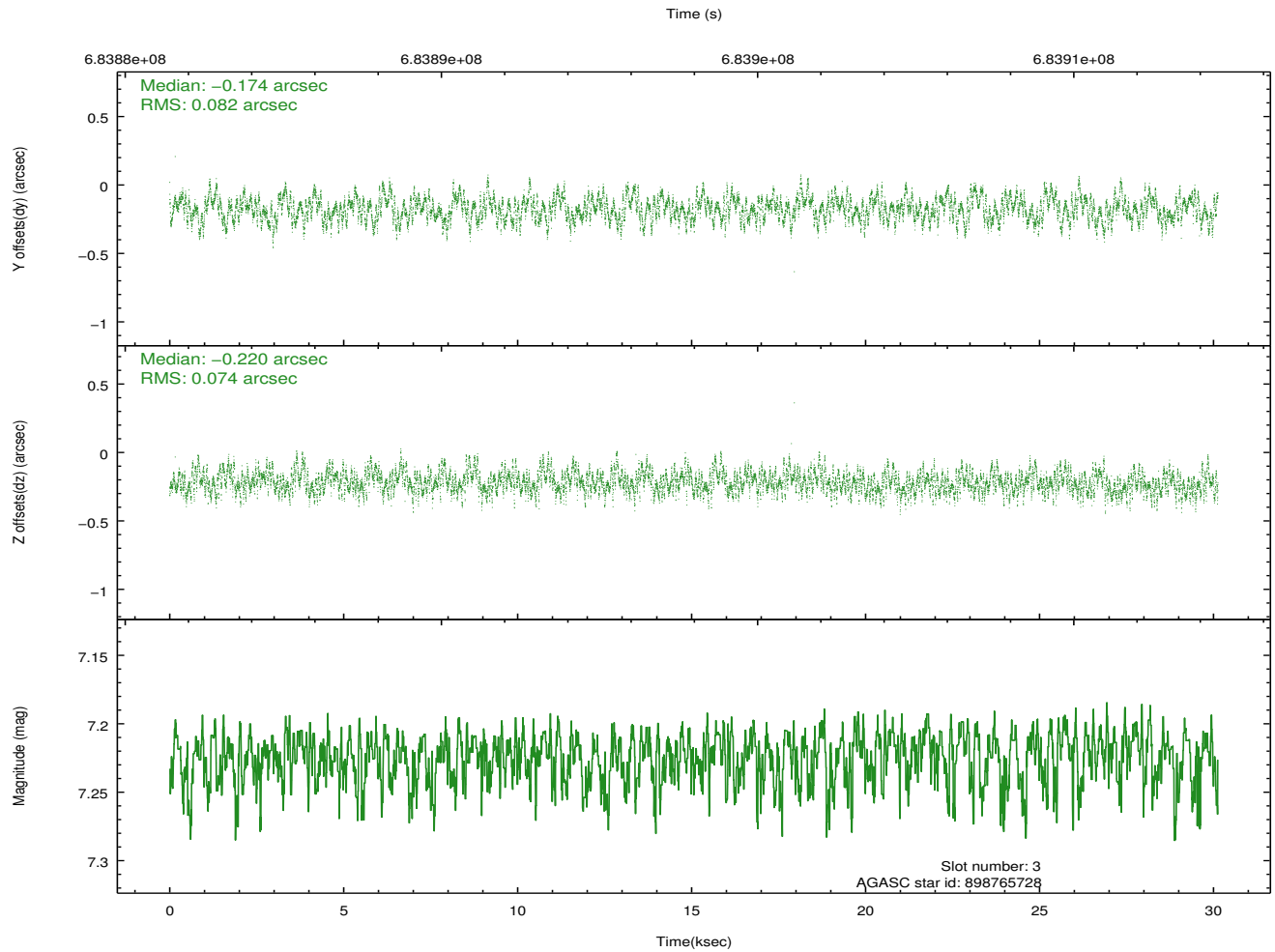
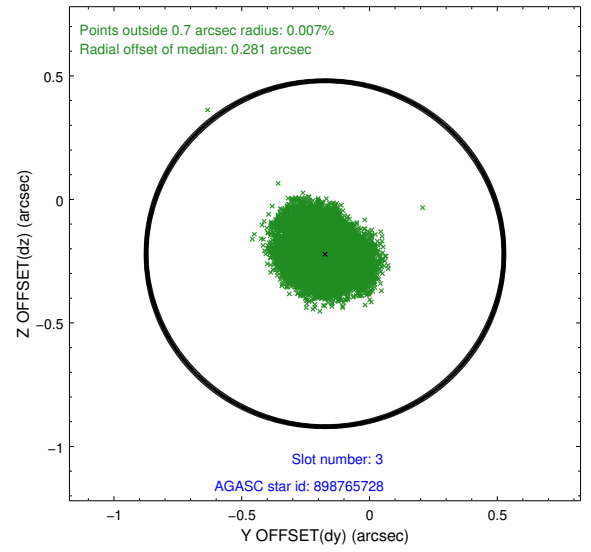
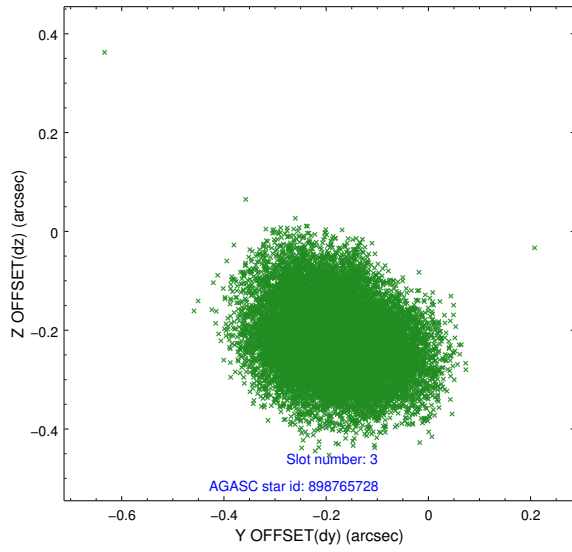
### Slot Statistics

slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.02	7349	1.000	-0.316	-0.207	0.031	0.060	0.000000	0.000000	-770.16	-1741
1	FID		ACIS-S-4	7.15	7349	1.000	0.779	0.208	0.021	0.030	0.000000	0.000000	2144.10	167
2	FID		ACIS-S-5	7.10	7349	1.000	-0.503	0.012	0.026	0.046	0.000000	0.000000	-1823.18	160
3	GUIDE	used	898765728	7.22	14695	1.000	-0.174	-0.220	0.120	0.187	278.310034	-24.109543	1092.92	1867
4	GUIDE	used	898772960	8.41	14687	1.000	0.075	0.060	0.119	0.196	277.658586	-23.887765	-393.22	130
5	GUIDE	used	898777560	7.87	14686	1.000	0.192	0.371	0.086	0.138	277.314145	-23.856338	-885.96	-896
6	GUIDE	used	899300320	7.61	14638	1.000	0.044	0.128	0.158	0.222	277.317988	-24.453684	1140.76	-1615
7	GUIDE	used	898894496	7.90	14691	1.000	-0.140	-0.333	0.091	0.142	278.448294	-24.123316	1296.97	2275

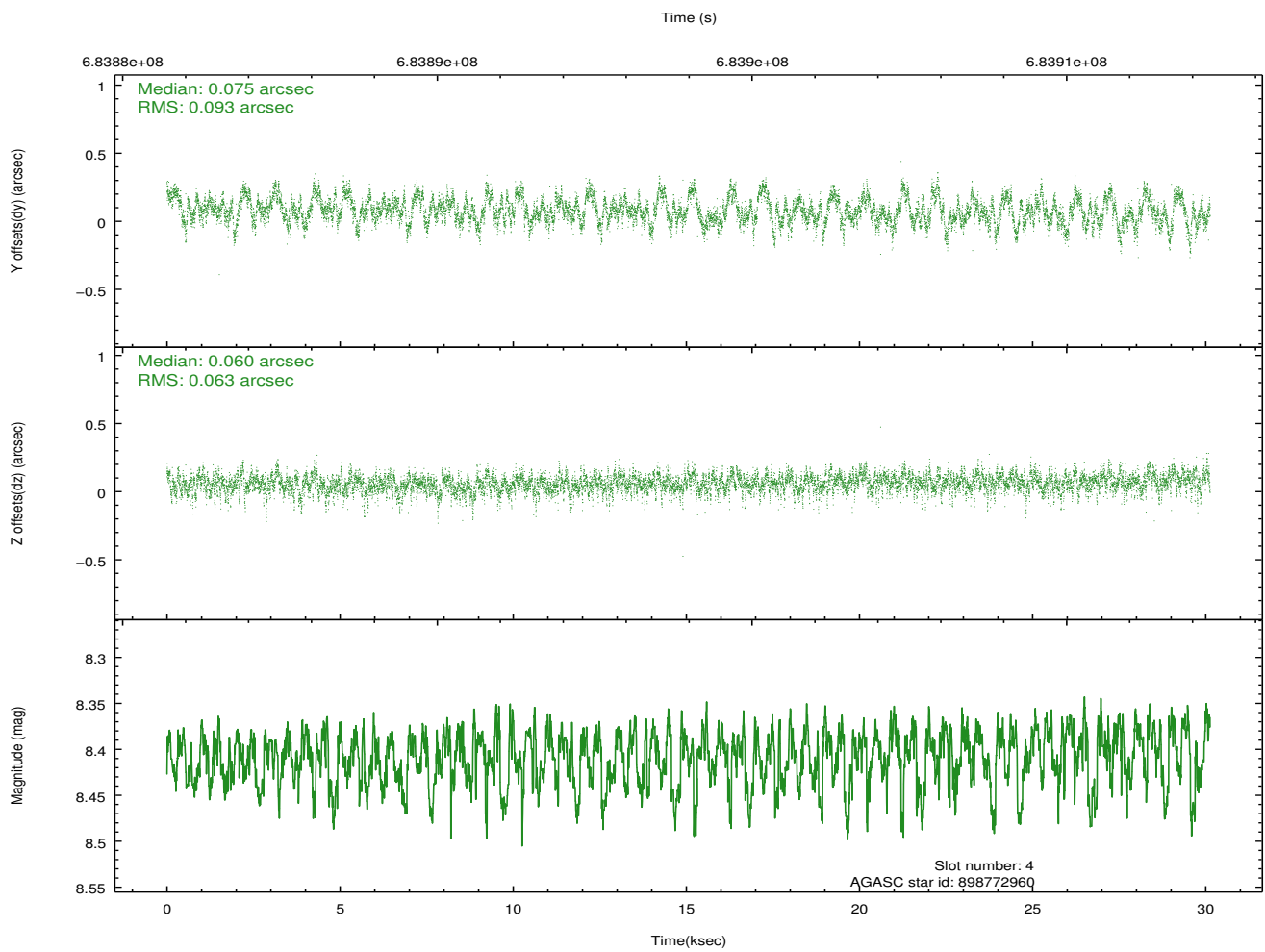
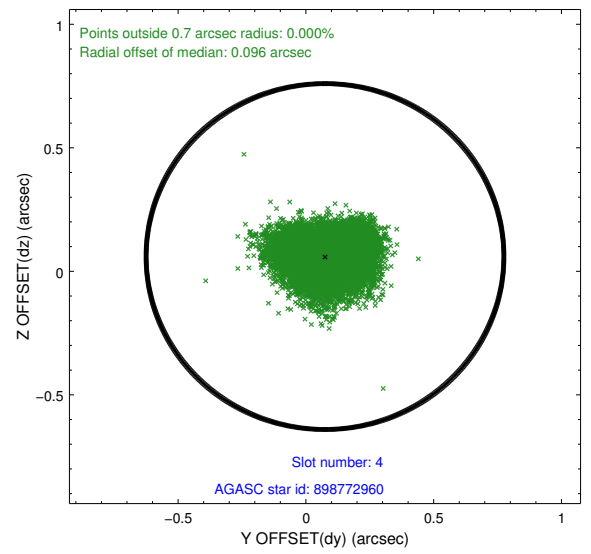
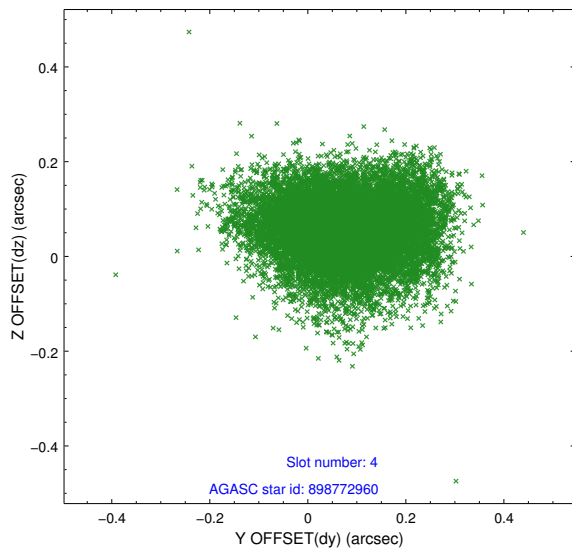
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## 2.4 Star Slots

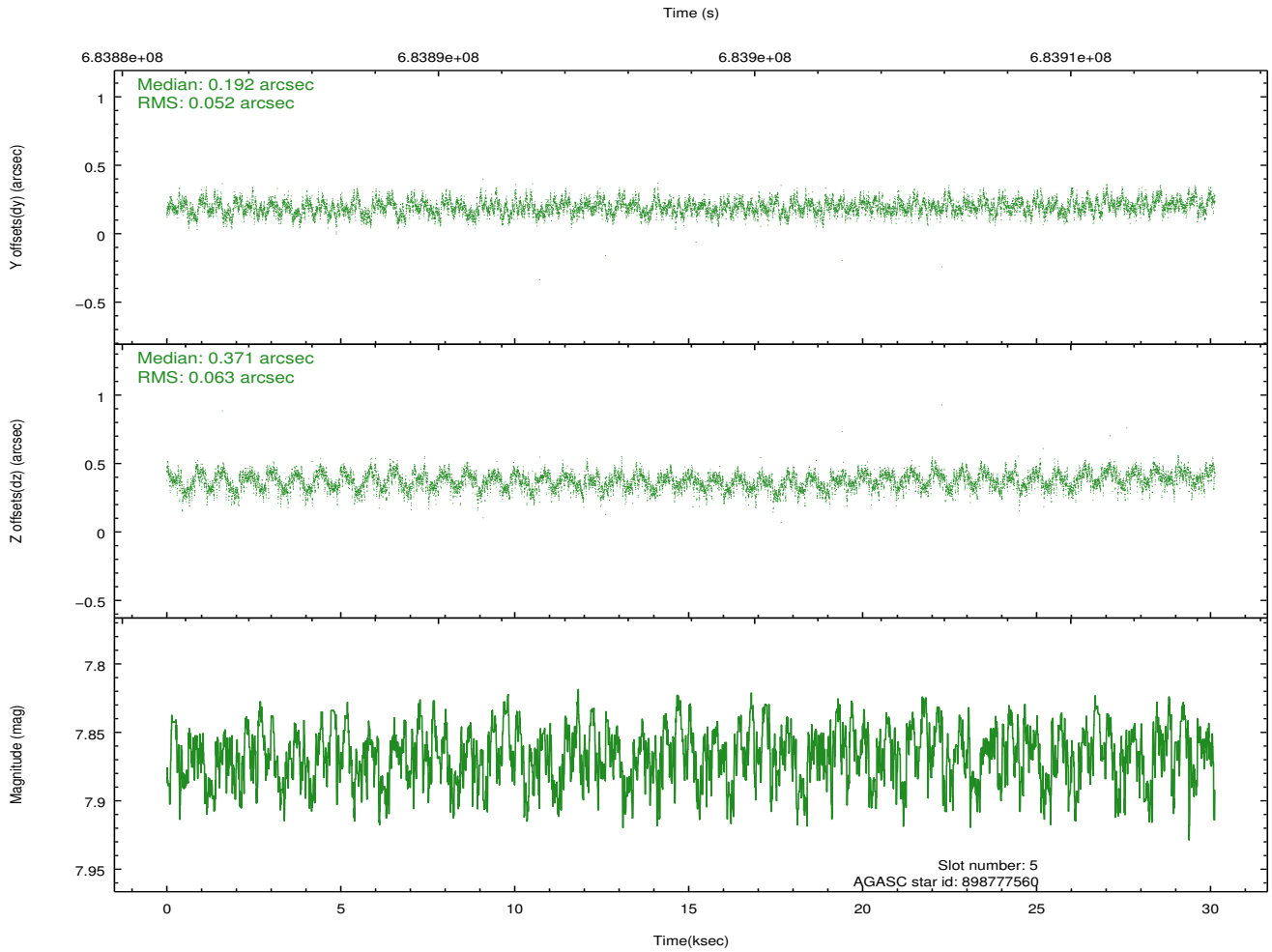
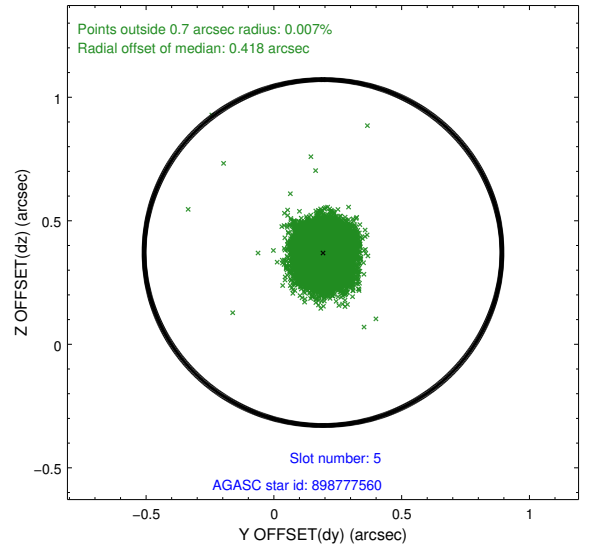
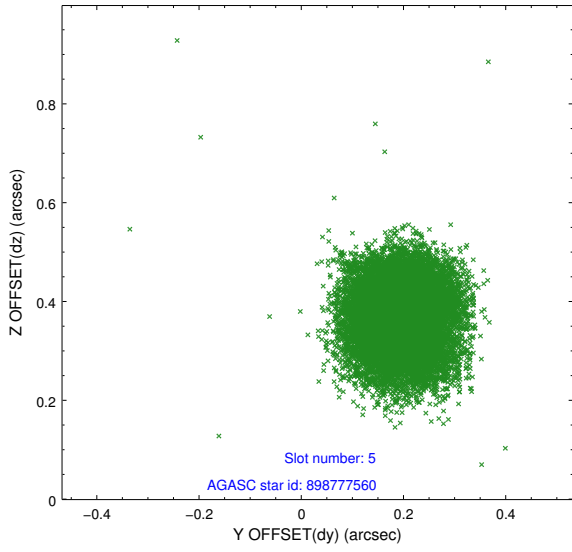
### 2.4.1 Slot 3



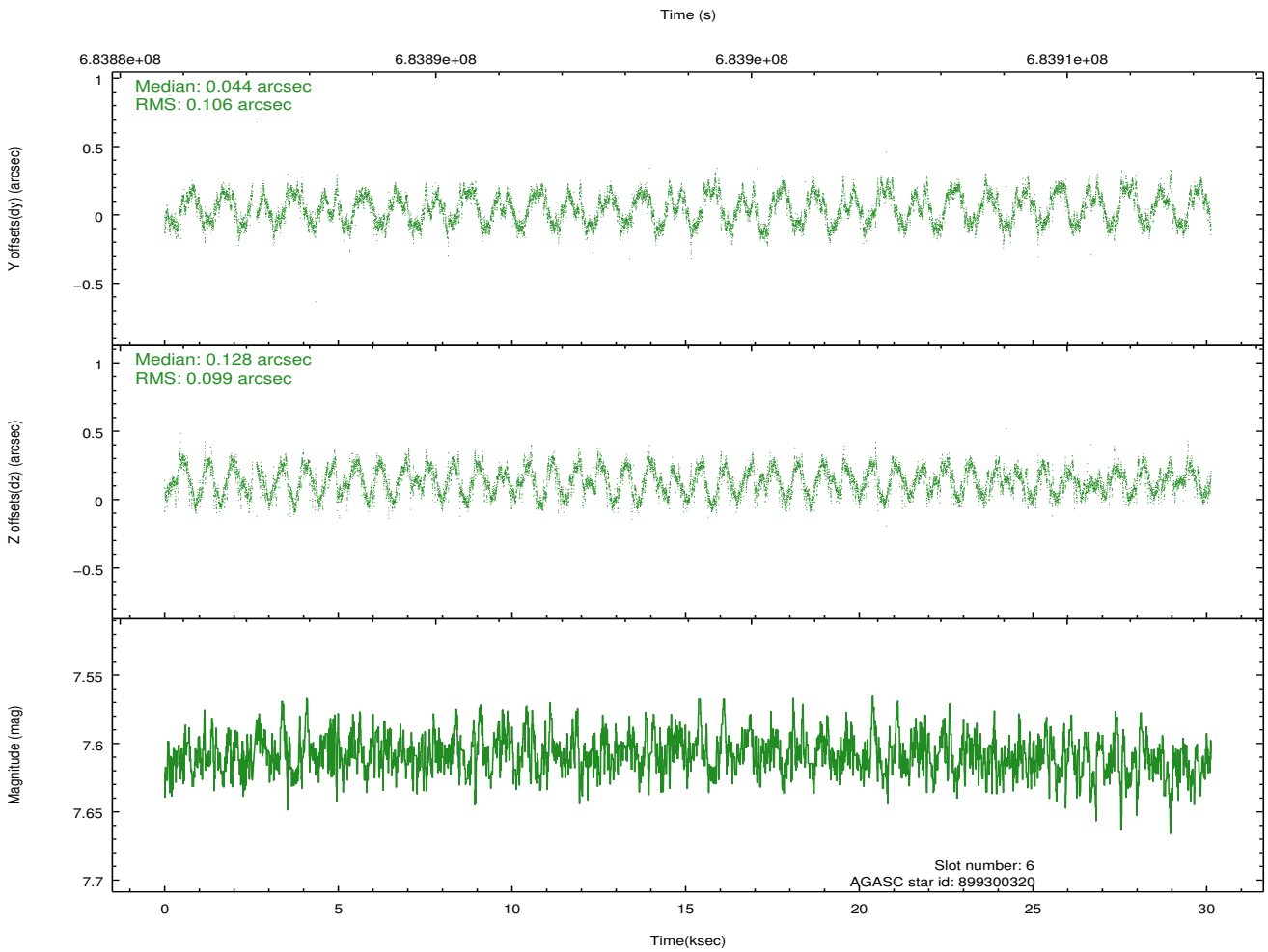
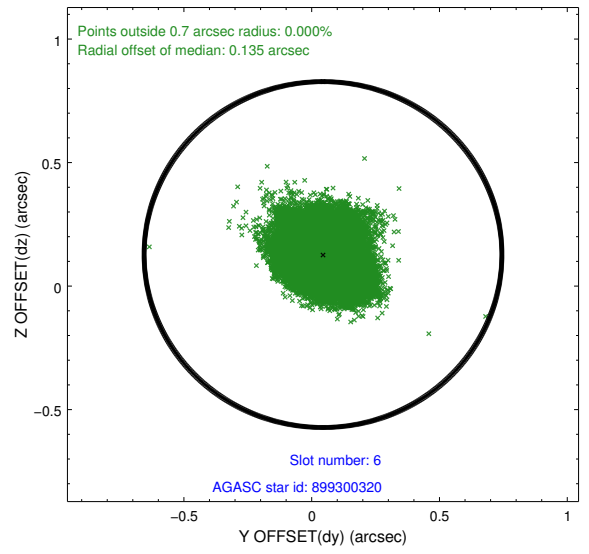
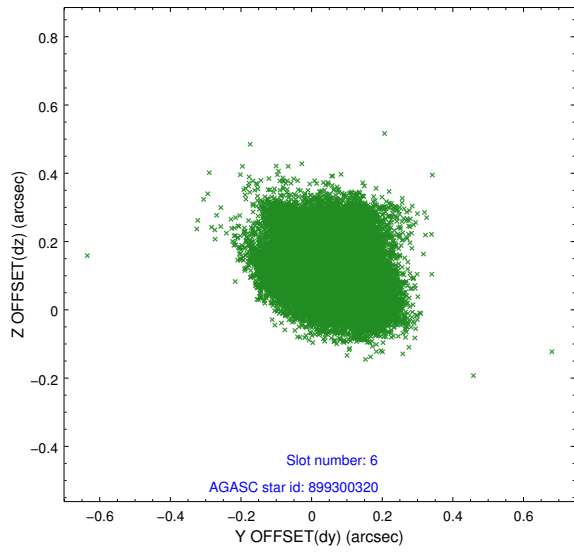
## 2.4.2 Slot 4



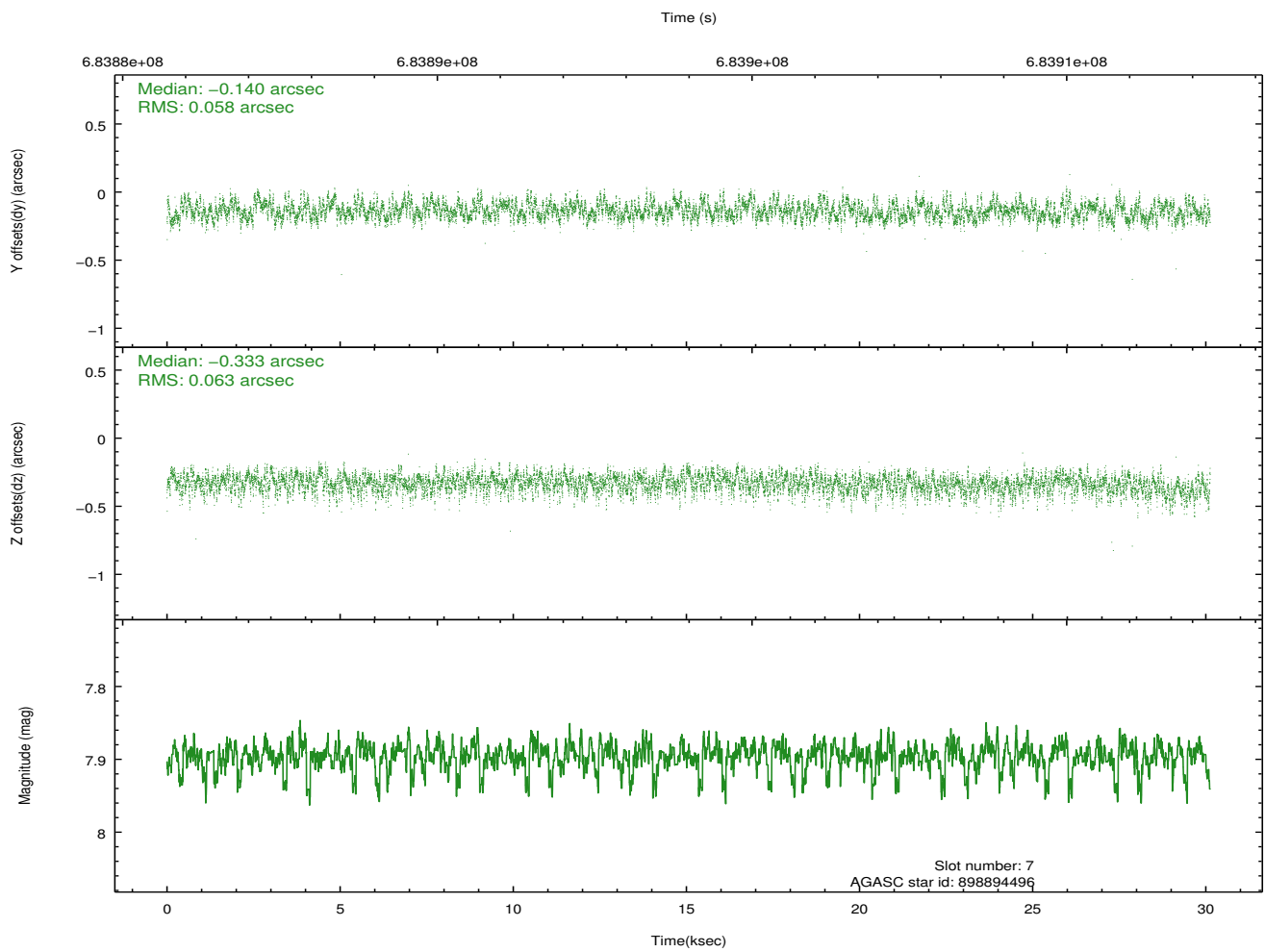
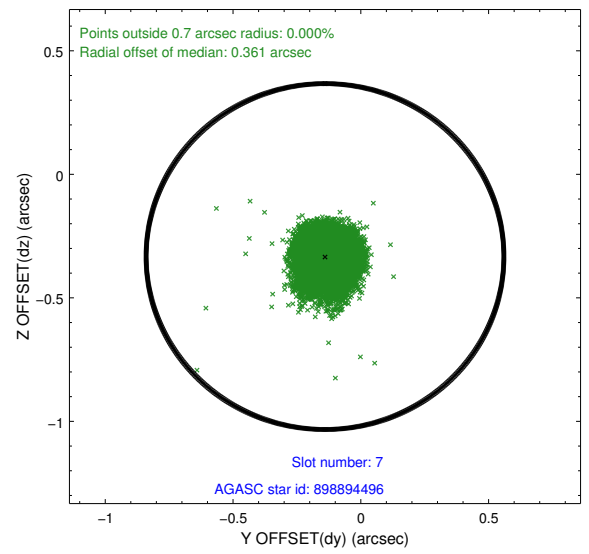
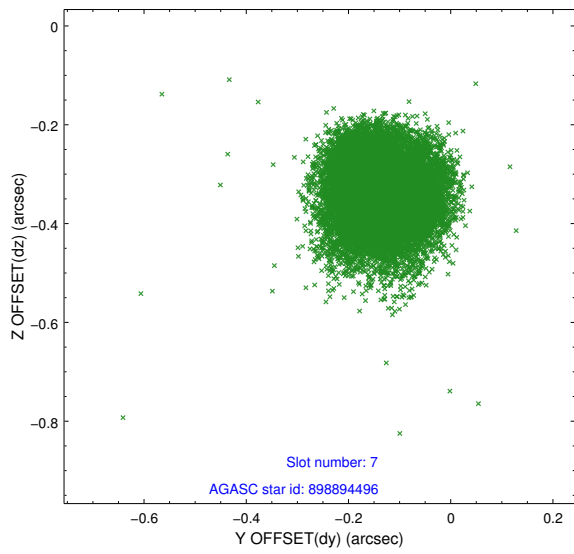
### 2.4.3 Slot 5



### 2.4.4 Slot 6

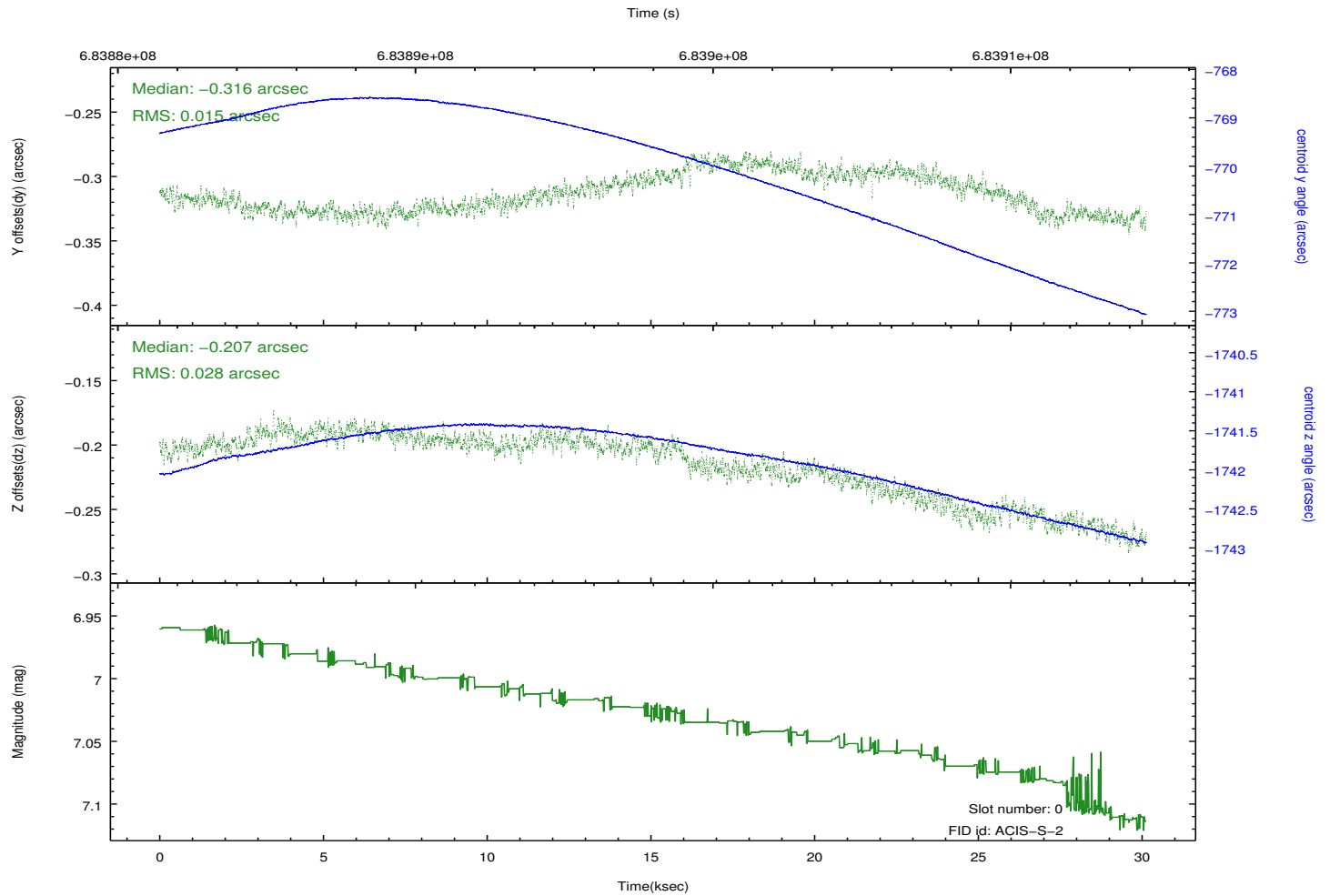
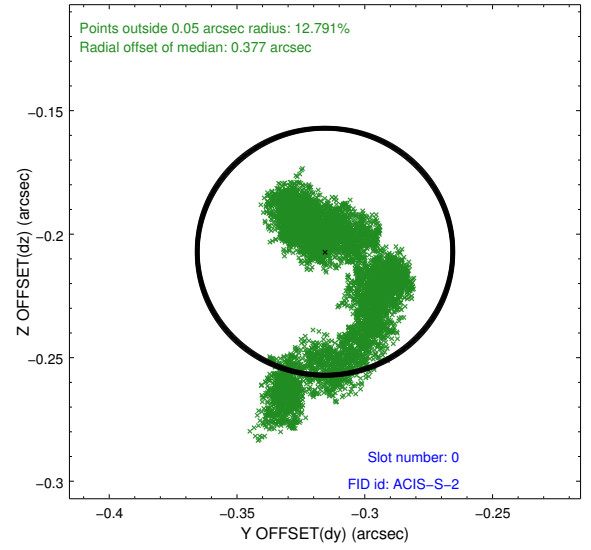
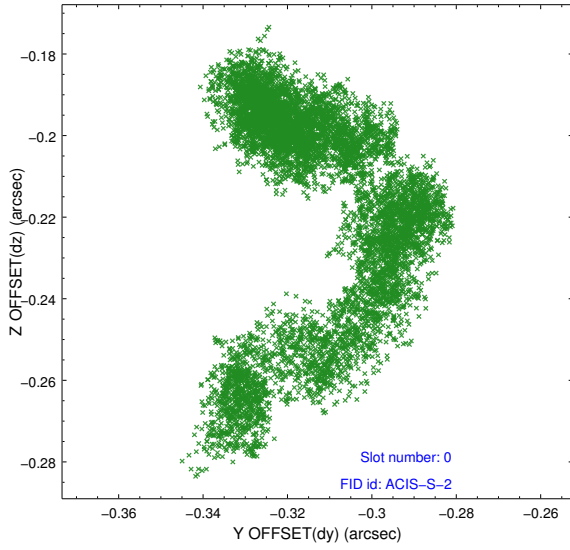


## 2.4.5 Slot 7

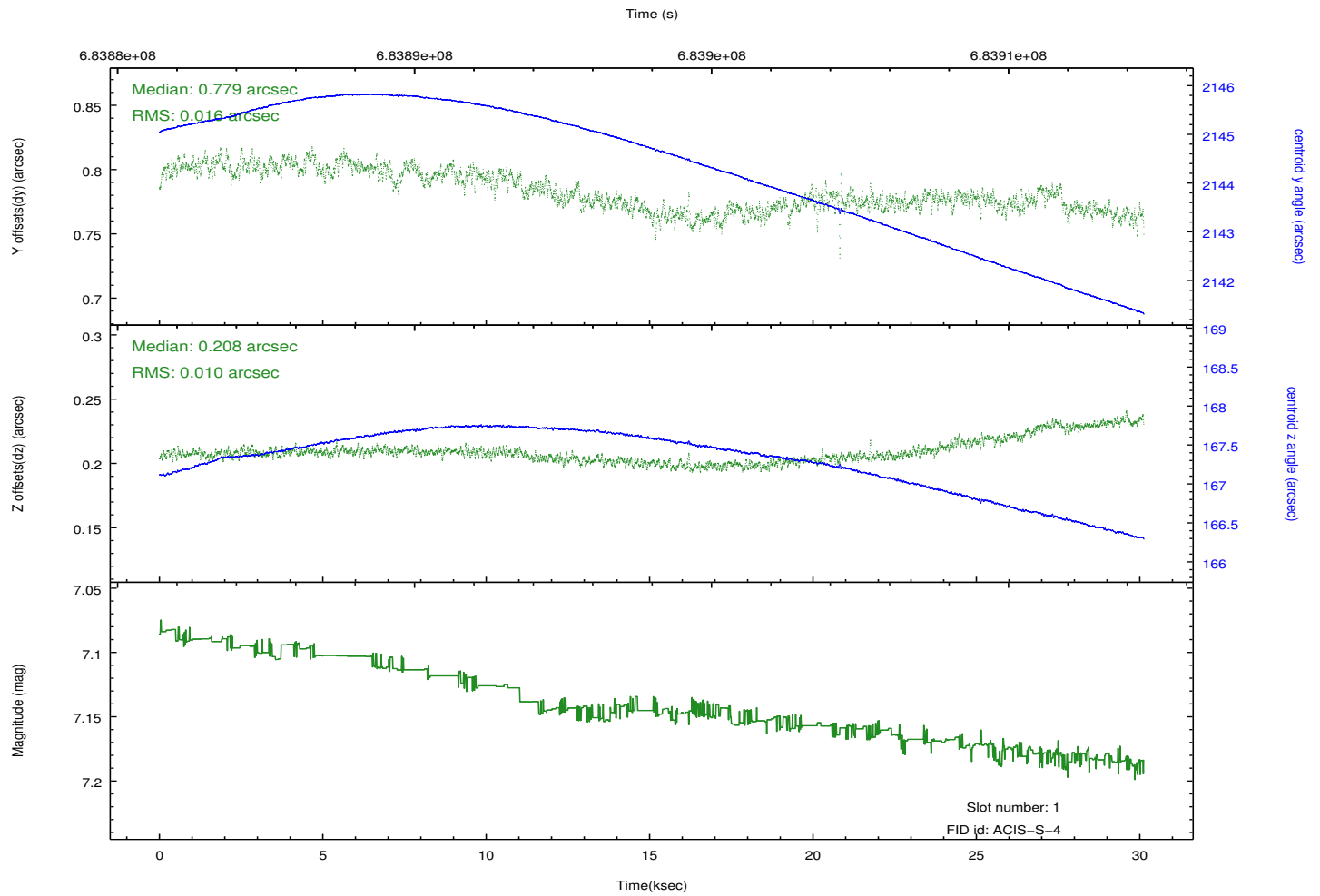
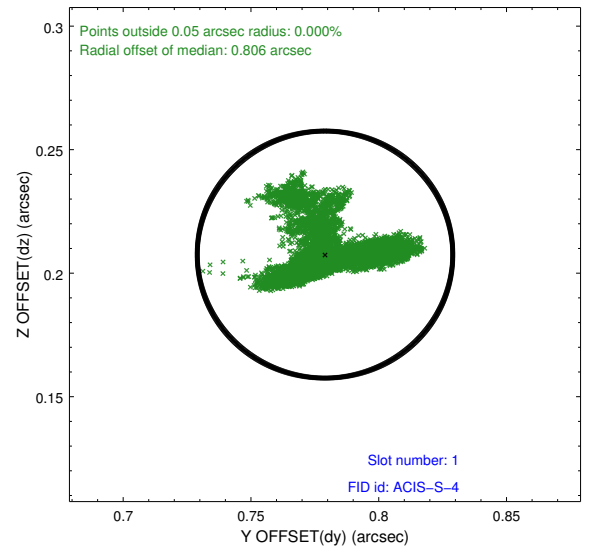
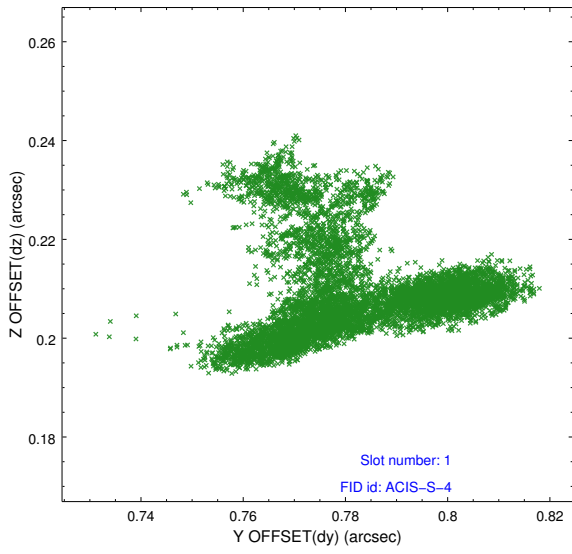


## 2.5 FID Slots

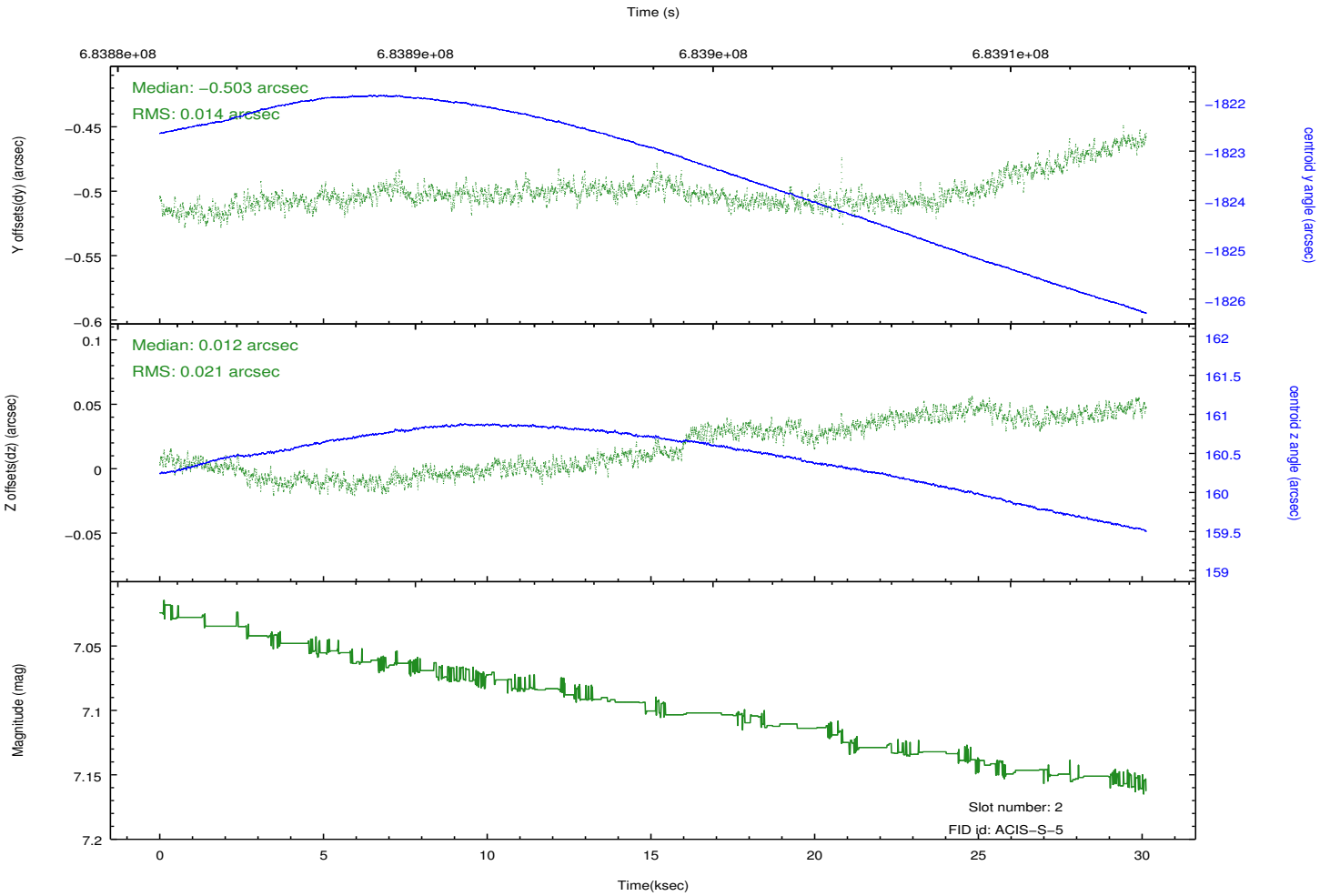
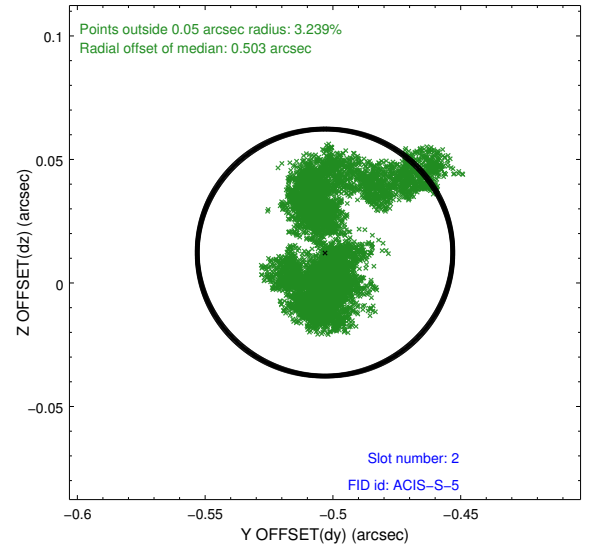
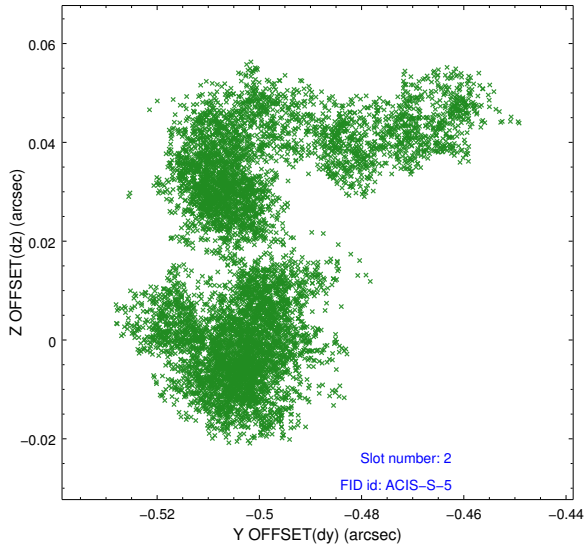
### 2.5.1 Slot 0



## 2.5.2 Slot 1

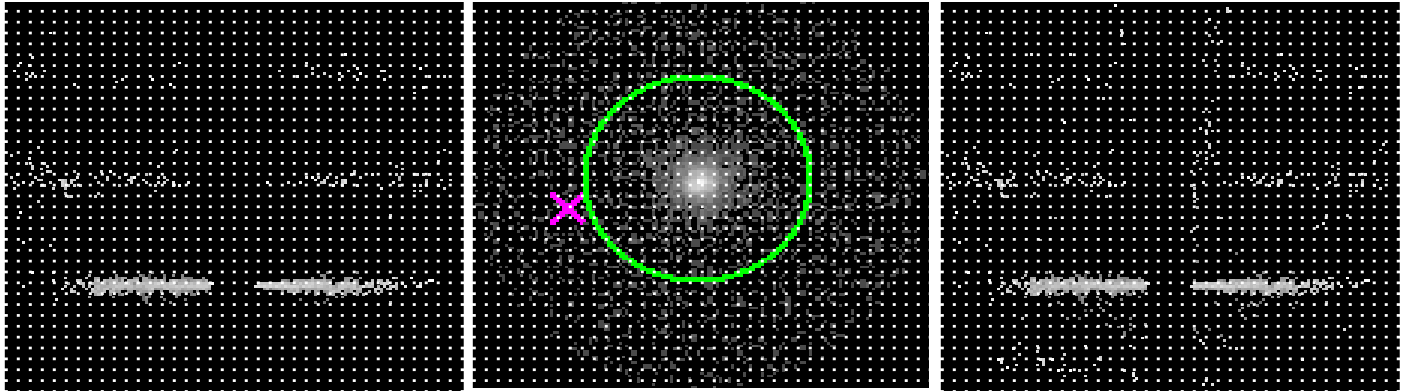


### 2.5.3 Slot 2



### 3 Gratings

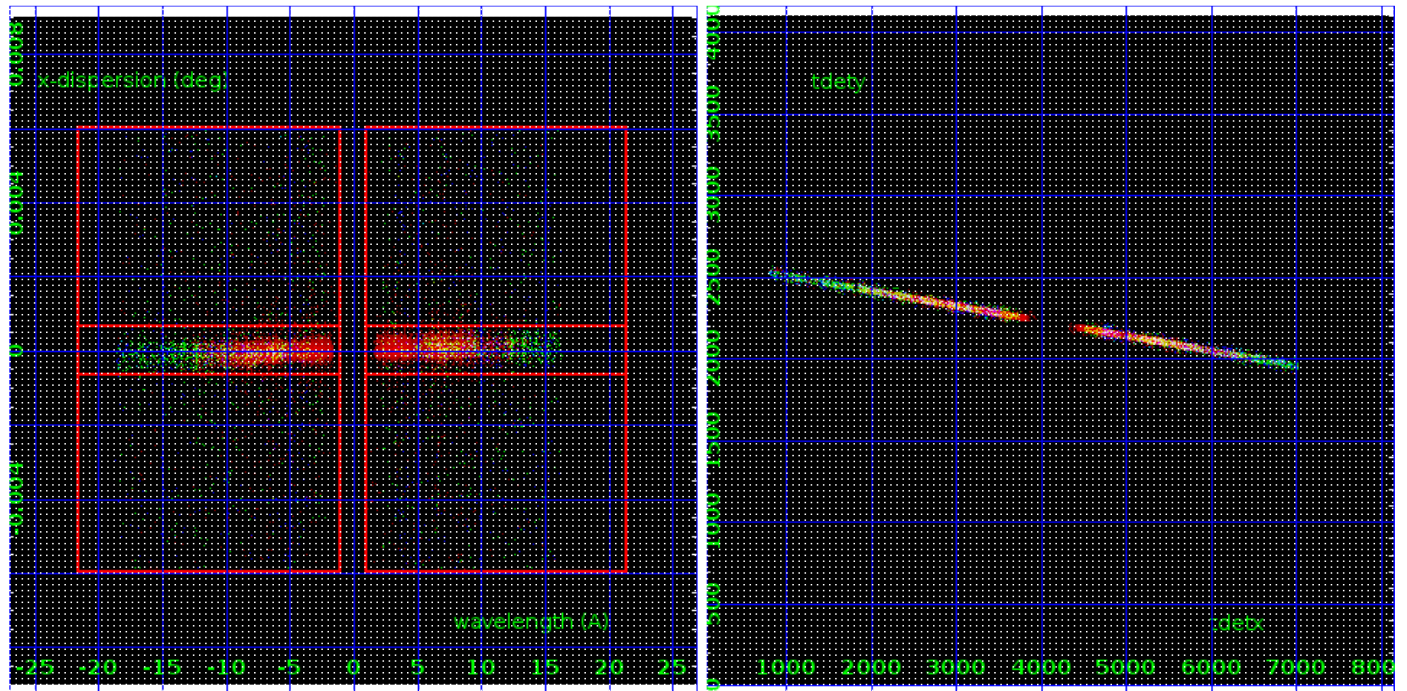
#### 3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

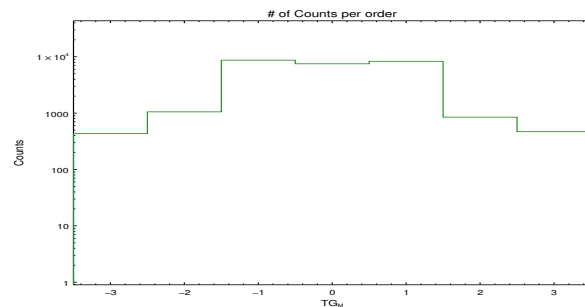
HEG Order Sort ALL

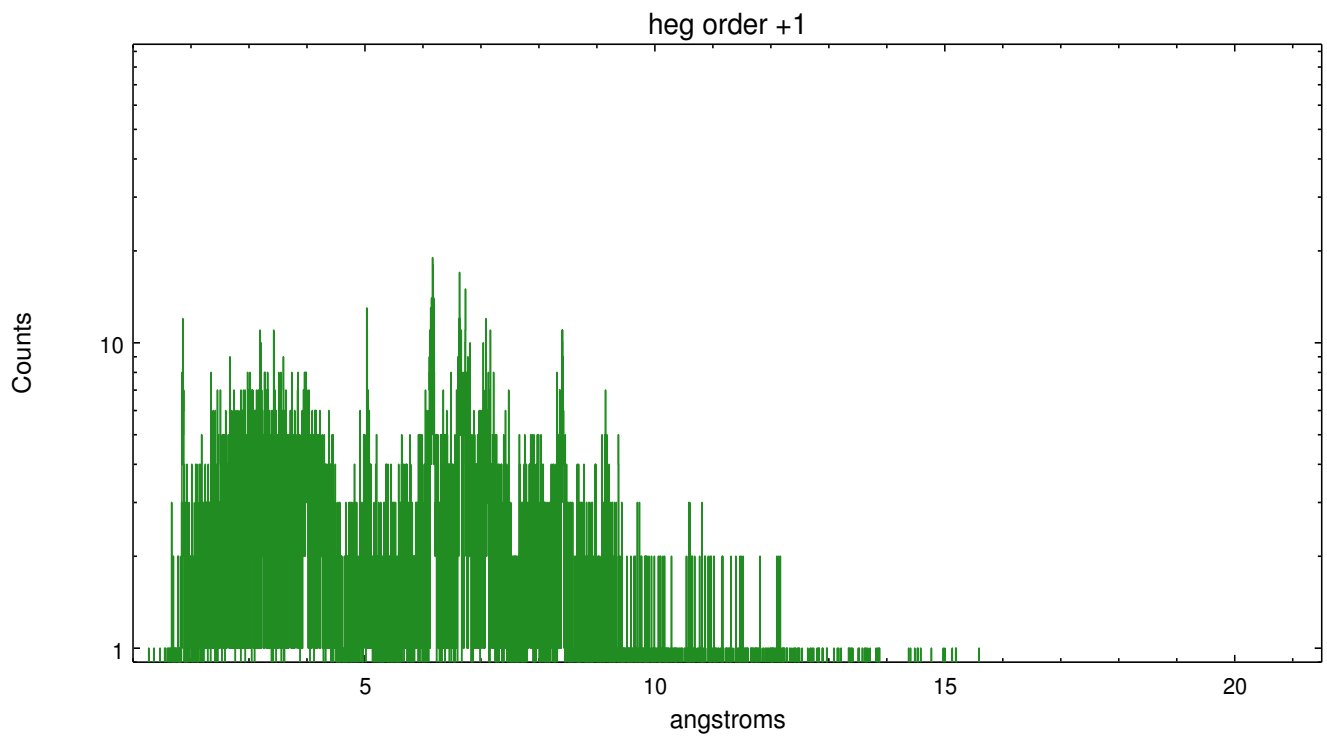
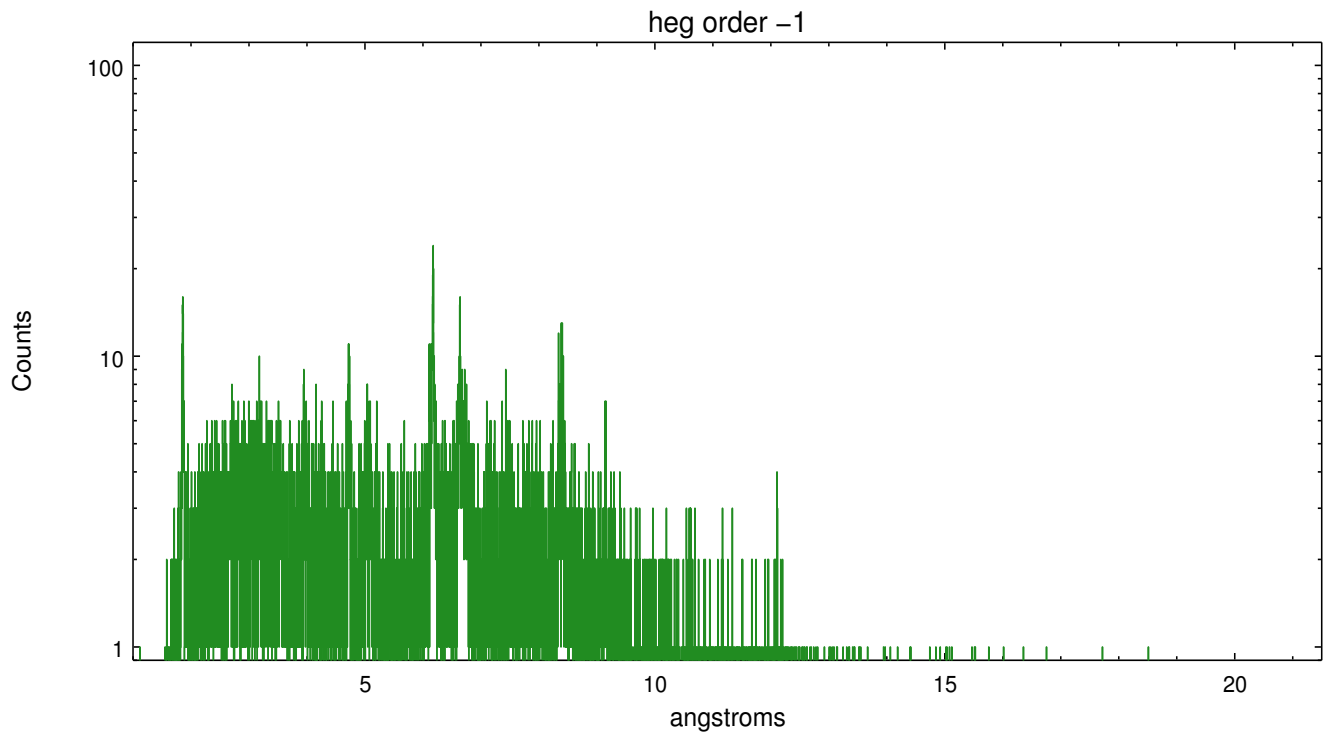


Spot Image HEG

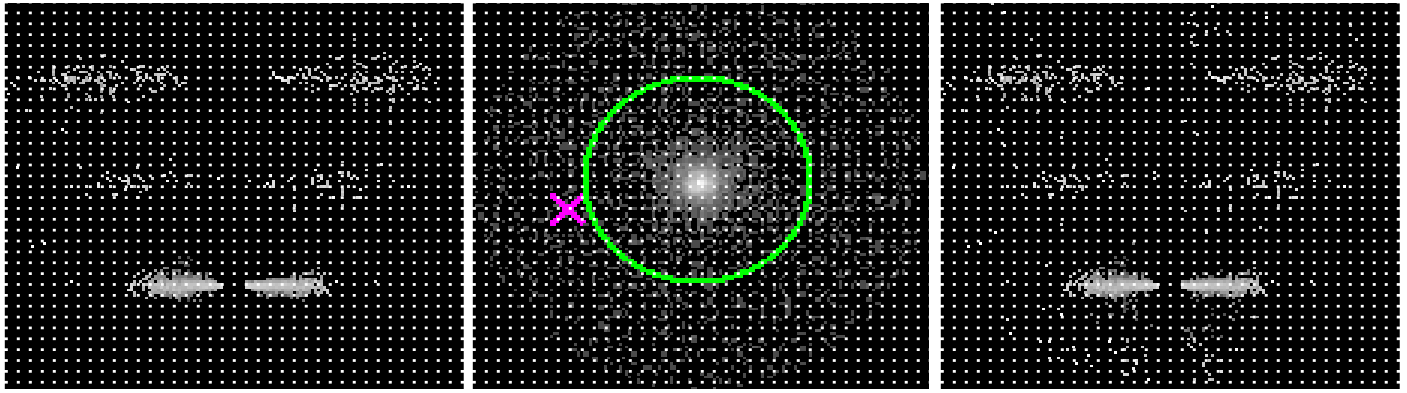
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	433	1054	8703	7511	8307	848	469





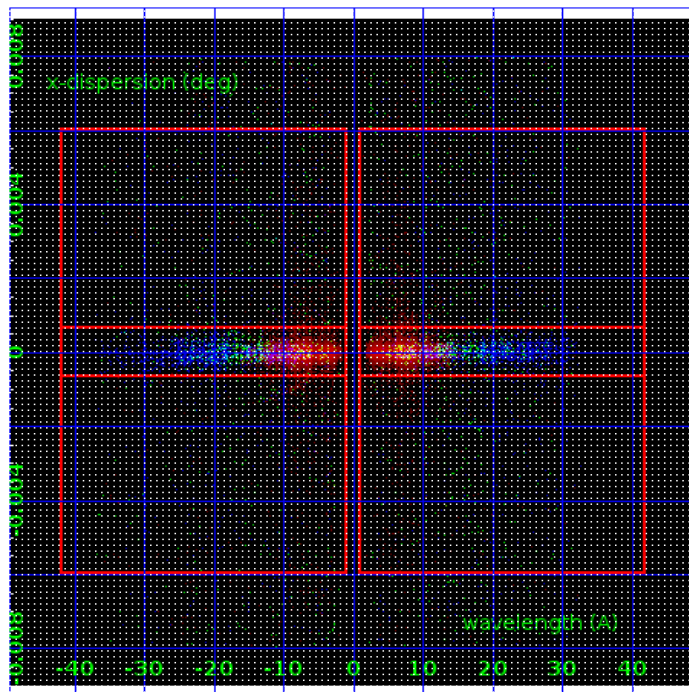
### 3.2 MEG Arm



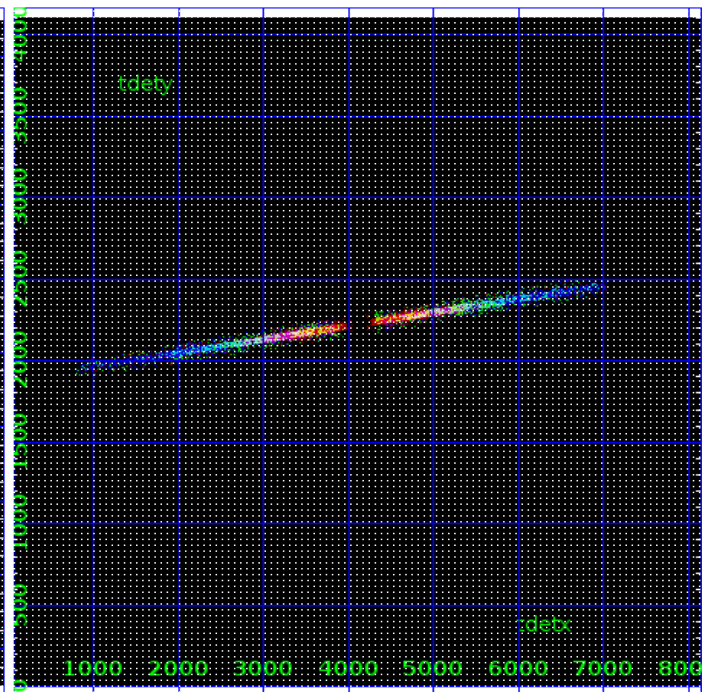
MEG Order Sort 123

MEG Zero Order

MEG Order Sort ALL

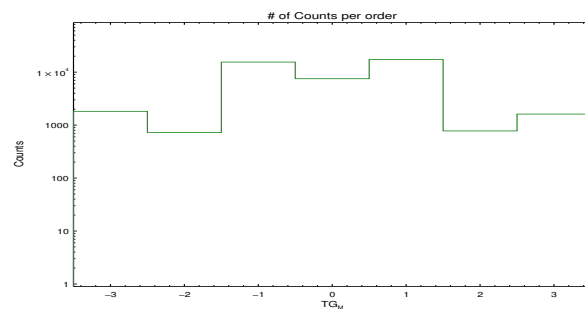


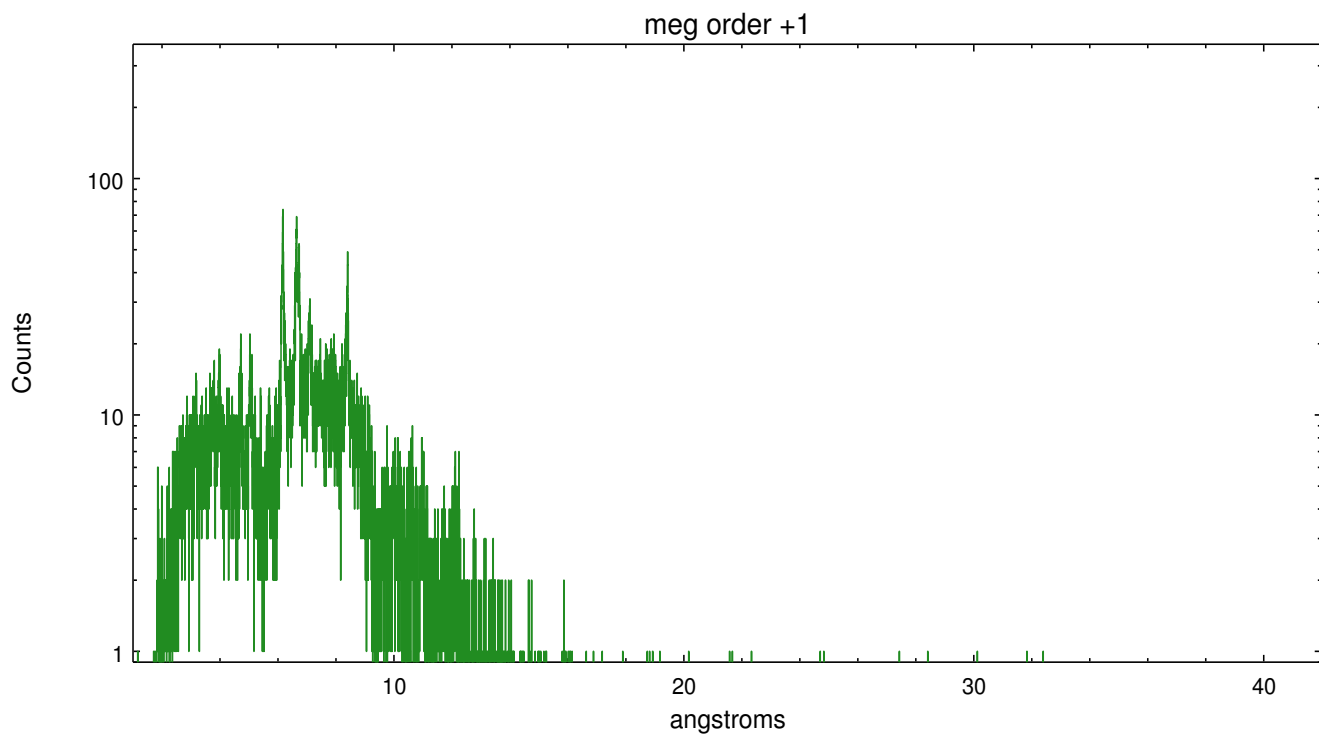
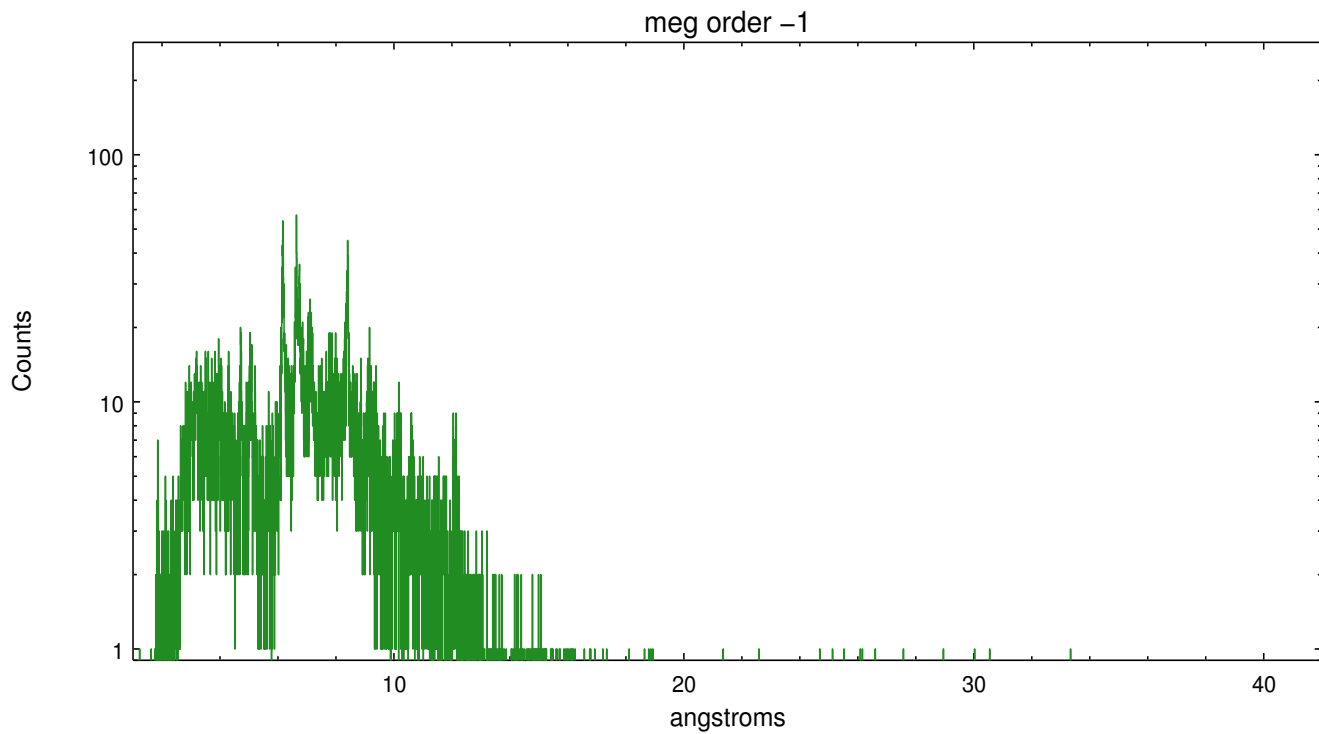
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1817	723	15490	7511	17357	776	1615





# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2019.10.01
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	29.948800446272

## A.2 Comments

ACIS T\_GAIN files released in CalDB 4.8.3 (23 May 2019) and CalDB 4.8.4 (03 September 2019) have errors in the T\_GAIN corrections for ACIS-I chips 0, 1, 2, and 3, and ACIS-S chip 6 (S2). All ACIS OBS\_IDs including those chips, which were processed (or reprocessed) in SDP between 2019-05-24T01:06:00 and 2019-09-06T17:31:43 with CalDB 4.8.3, 4.8.3.1, or 4.8.4, were affected. The errors in the T\_GAINs, which produce a 1%-2% reduction in the PHA and hence the ENERGY column values for dithered observations, result from alternating real value and zero value columns in CHIPX space across FI chips ACIS-0, 1, 2, 3, and 6. The error has been corrected in this version of the data products.