

# V&V Reference Report

## L2 ASCDS Version : 10.9.1

Observation 24651 - L2 Version 1  
Chandra X-Ray Center

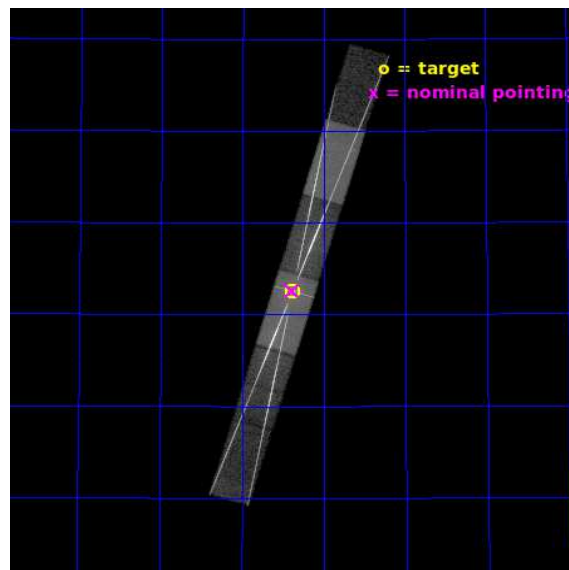
L2 Processing Date : Sep 21 2020

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# 1 Front

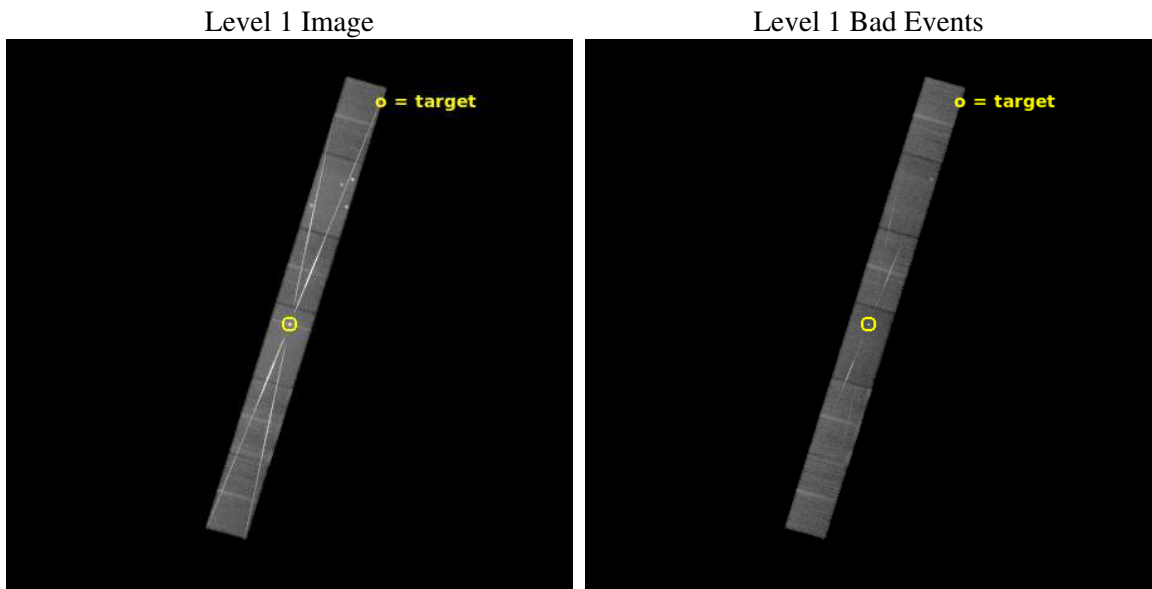
seq_num	402282	Sequence number
obs_id	24651	Observation id
title	Chandra observation of the mysterious X-ray transient AT2019wey/SRG	&#160
observer	Shri Kulkarni	Principal investigator
object	AT2019wey/SRG	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	68.84698	Observer's specified target RA [deg]
dec_targ	55.37619	Observer's specified target Dec [deg]
ra_nom	68.847871583569	Nominal RA [deg]
dec_nom	55.376899424465	Nominal Dec [deg]
roll_nom	106.62065584894	Nominal Roll [deg]
revision	1	Processing version of data
ontime	25070.399335861	Sum of GTIs [s]
livetime	24511.536308038	Livetime [s]
ontime4	25070.399335861	Sum of GTIs [s]
ontime5	25070.399335861	Sum of GTIs [s]
ontime6	25070.399335861	Sum of GTIs [s]
ontime7	25070.399335861	Sum of GTIs [s]
ontime8	25070.399335861	Sum of GTIs [s]
ontime9	25070.399335861	Sum of GTIs [s]
l2events	982084	Number of level 2 events



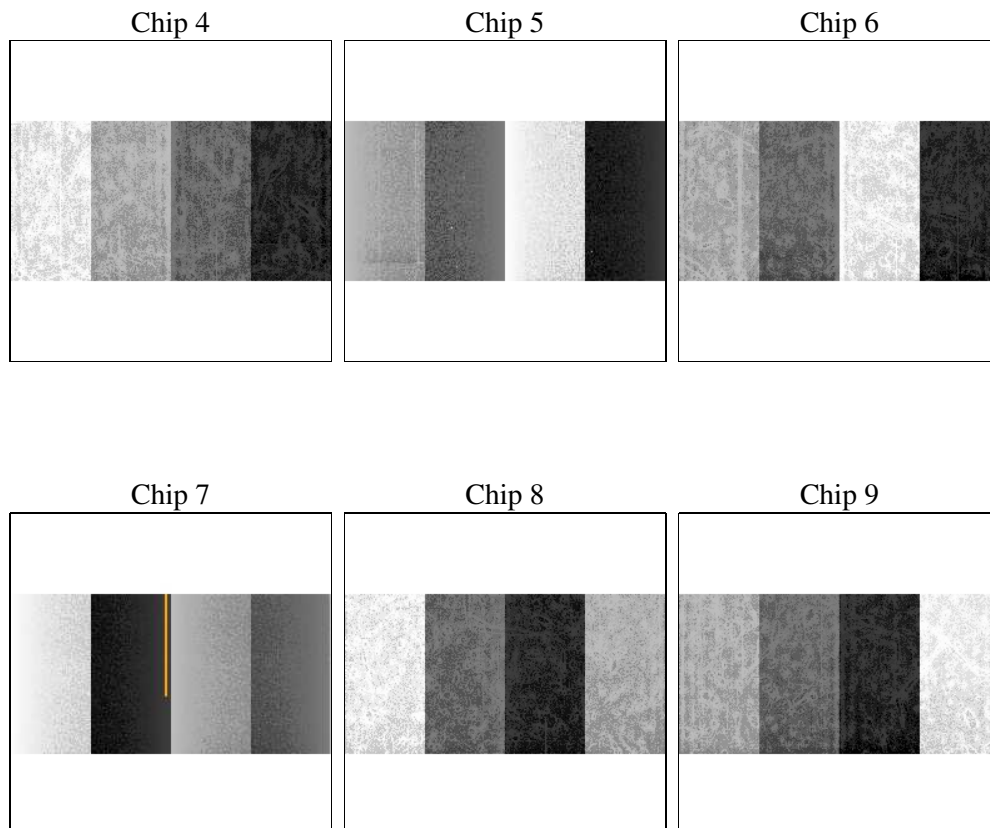
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	25000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	25070.399335861	Sum of GTIs [s]
caldbver	4.9.2	&#160	ontime4	25070.399335861	Sum of GTIs [s]
date	2020-09-21T12:05:48	Date and time of file creation	ontime5	25070.399335861	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	25070.399335861	Sum of GTIs [s]
			ontime7	25070.399335861	Sum of GTIs [s]
			ontime8	25070.399335861	Sum of GTIs [s]
			ontime9	25070.399335861	Sum of GTIs [s]
			l1events	1665438	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			z0_pos	(4000.80, 4002.08)	src1a sky pixel position

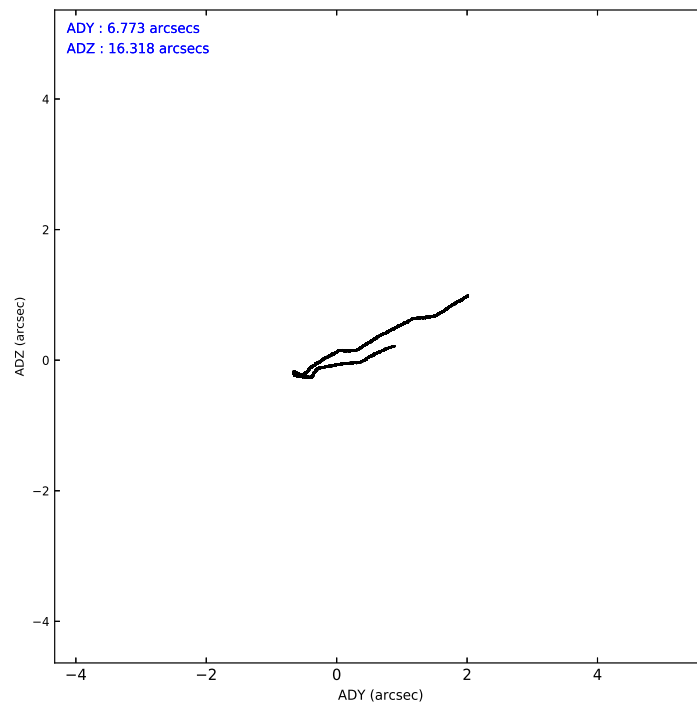
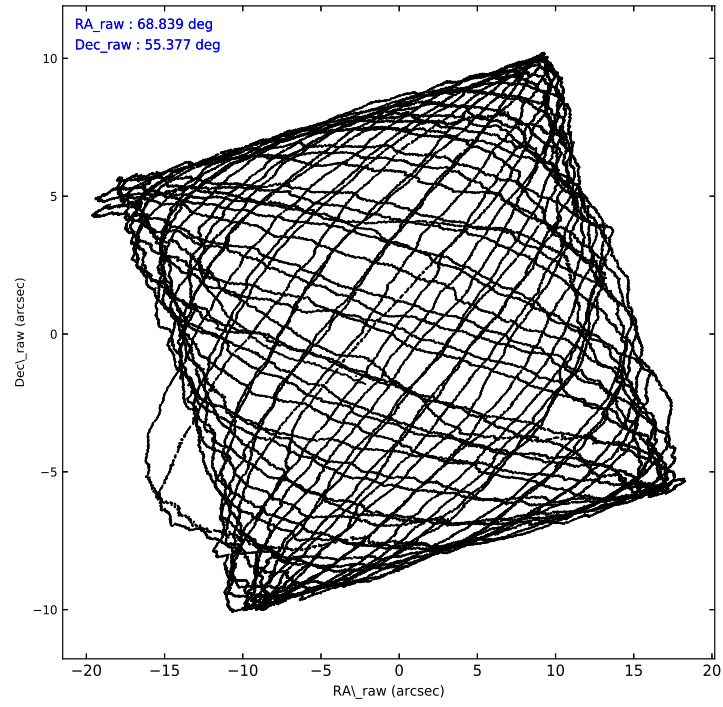
### 2.1.4 Events

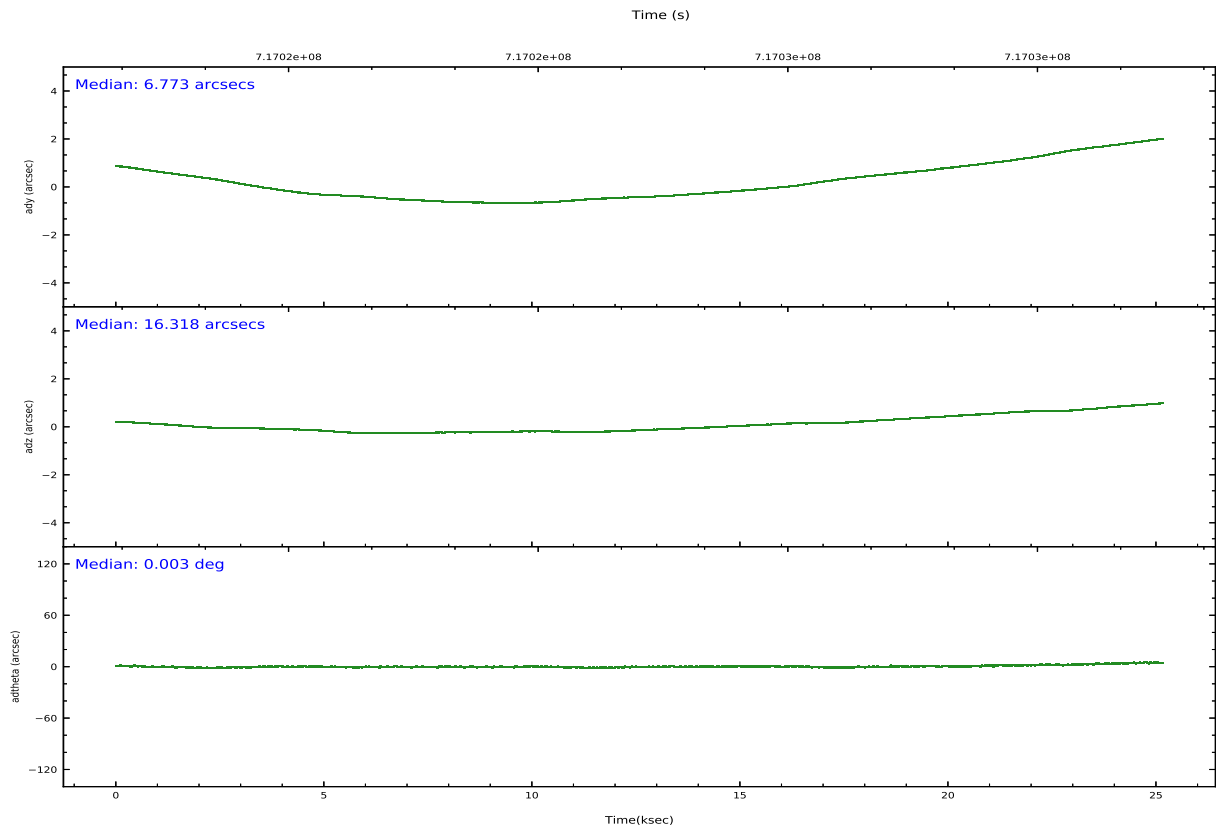
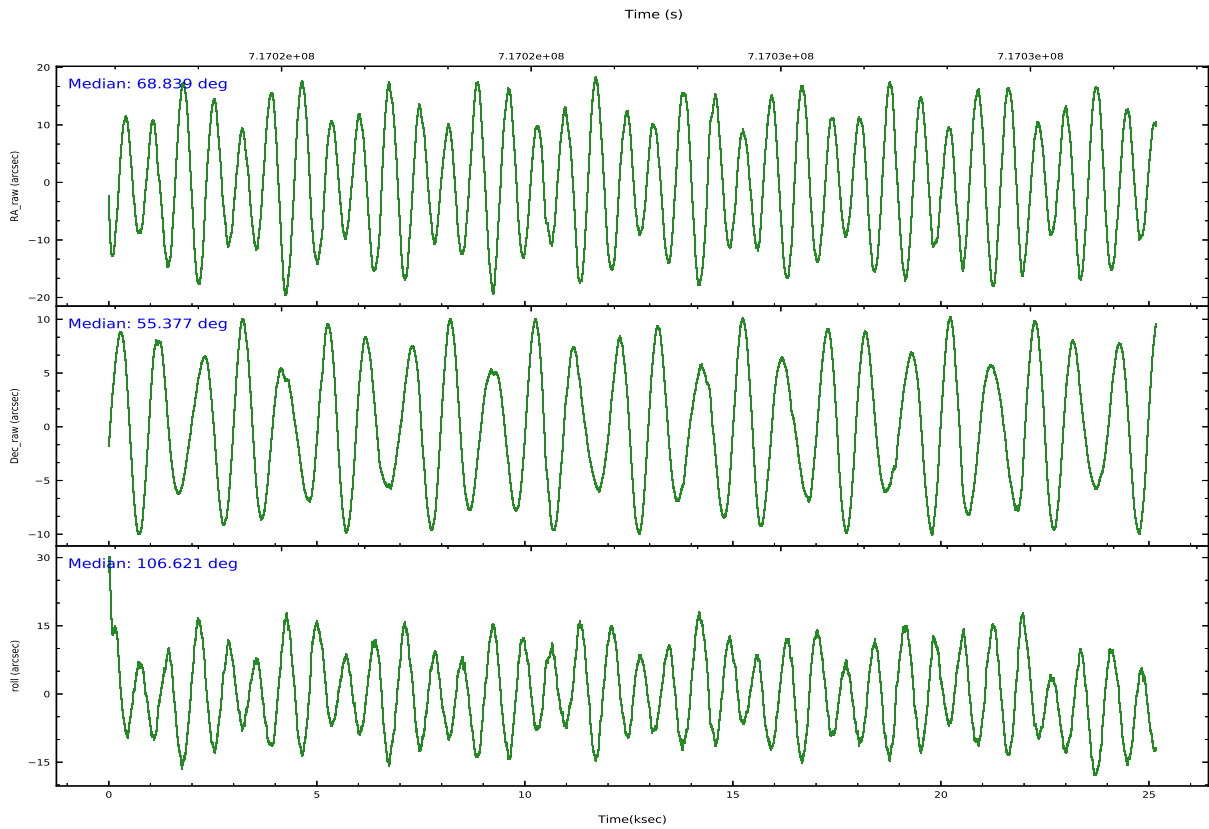
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	135957	268974	410817	412346	298823	138521	grade 0 events	16402	46176	237914	74558	141031	28889
rejected events	109220	88553	102922	89184	105068	95806		12%	17%	57%	18%	47%	20%
rejected %	80%	32%	25%	21%	35%	69%	grade 1 events	130	1245	3248	2028	982	111
								0%	0%	0%	0%	0%	0%
							grade 2 events	4223	59105	38633	80877	24019	5908
								3%	21%	9%	19%	8%	4%
							grade 3 events	1873	9193	11015	35320	8094	2369
								1%	3%	2%	8%	2%	1%
							grade 4 events	1846	8992	10854	35005	7931	2223
								1%	3%	2%	8%	2%	1%
							grade 5 events	5164	12169	6552	19910	7615	5359
								3%	4%	1%	4%	2%	3%
							grade 6 events	2395	56969	9501	97426	12693	3327
								1%	21%	2%	23%	4%	2%
							grade 7 events	103924	75125	93100	67222	96458	90335
								76%	27%	22%	16%	32%	65%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
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	68.874466	68.847871583569	CCD I2 on	N	N
[deg] Pointing Dec	55.358928	55.376899424465	CCD I3 on	N	N
[deg] Pointing Roll	106.441464	106.62065584894	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)	717012020.184000	717010992.9881901	CCD S5 on	O2	Y
Observation start date	2020-09-20T17:59:11	2020-09-20T17:43:12	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	717037020.184000	717037936.13983	On-chip summing requested	N	N
Observation end date	2020-09-21T00:55:51	2020-09-21T01:12:16	Subarray requested	CUSTOM	1/2
Read mode	TIMED	TIMED	Subarray start row	257	257
			Subarray row count	512	512
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	1.8

## 2.3 Aspect





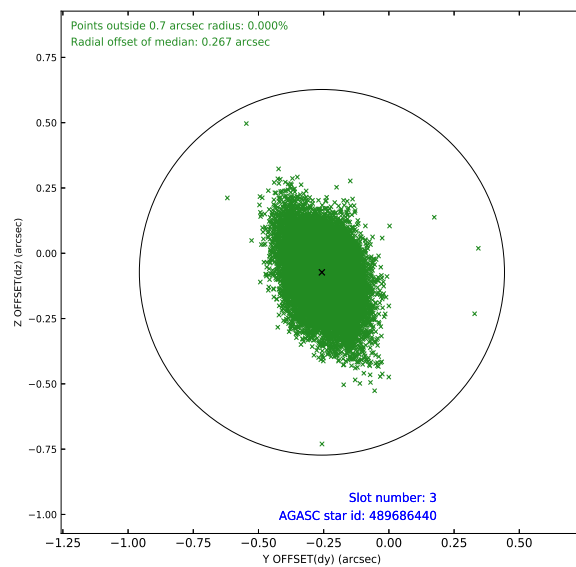
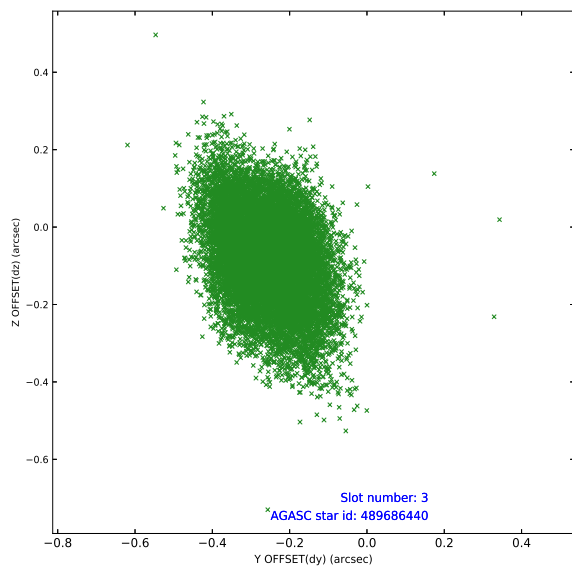
### Slot Statistics

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	6139	1.000	0.097	-0.052	0.035	0.074	0.000000	0.000000	-759.86	-1737
1	FID		ACIS-S-4	7.16	6139	1.000	0.109	-0.034	0.016	0.023	0.000000	0.000000	2153.62	170
2	FID		ACIS-S-5	7.15	6140	1.000	-0.233	0.094	0.034	0.091	0.000000	0.000000	-1812.65	164
3	GUIDE	used	489686440	8.57	12270	1.000	-0.257	-0.073	0.155	0.255	67.922874	55.885349	2373.59	1303
4	GUIDE	used	489689608	7.84	12274	1.000	-0.302	-0.231	0.137	0.215	68.316672	55.462127	680.88	986
5	GUIDE	used	489689672	8.68	12274	1.000	0.290	0.186	0.117	0.199	69.076108	55.026634	-1263.60	-60
6	GUIDE	used	489689704	7.08	12278	1.000	0.004	-0.054	0.116	0.198	69.002279	55.512082	454.31	-405
7	GUIDE	used	489691448	8.18	12270	1.000	0.265	0.183	0.112	0.190	69.851617	54.843075	-2340.28	-1421

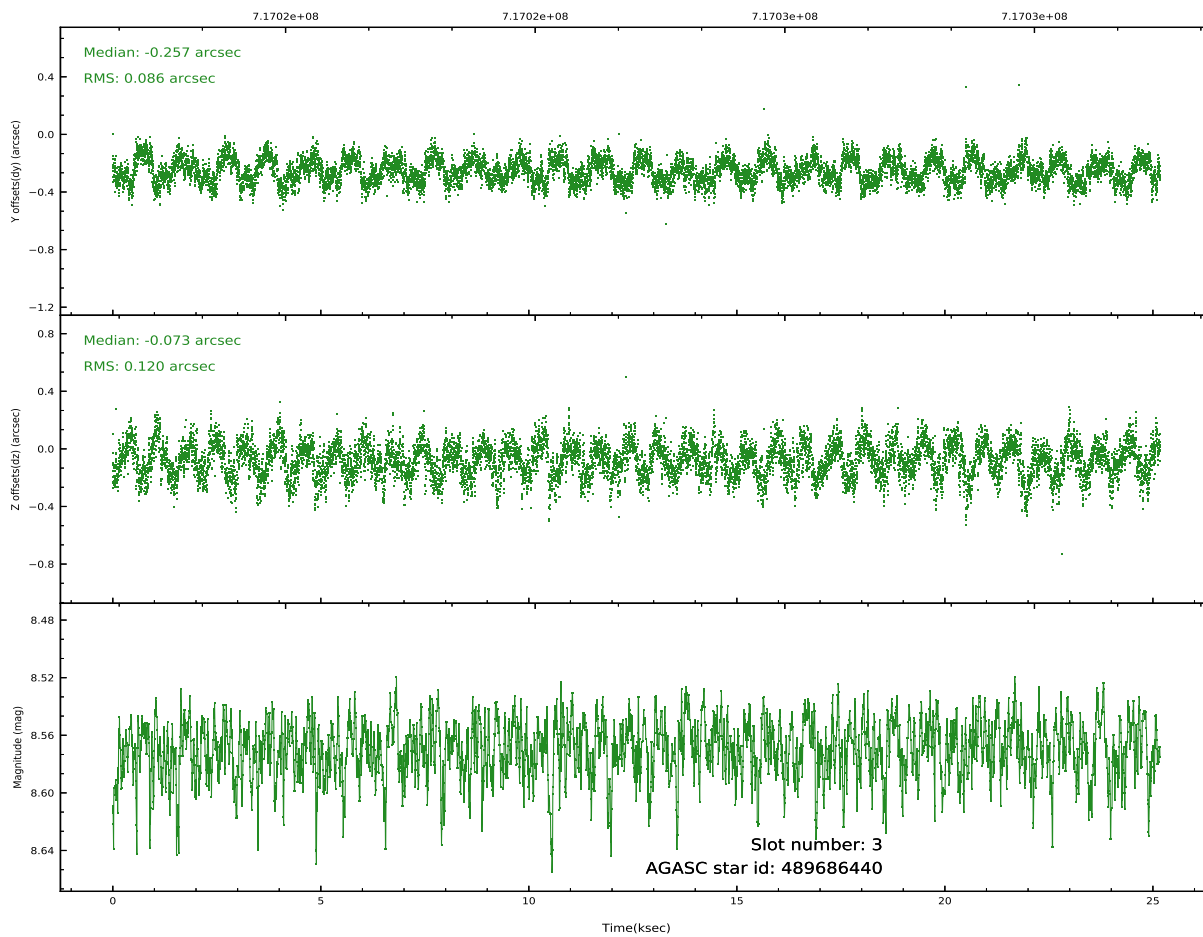
∞

## 2.4 Star Slots

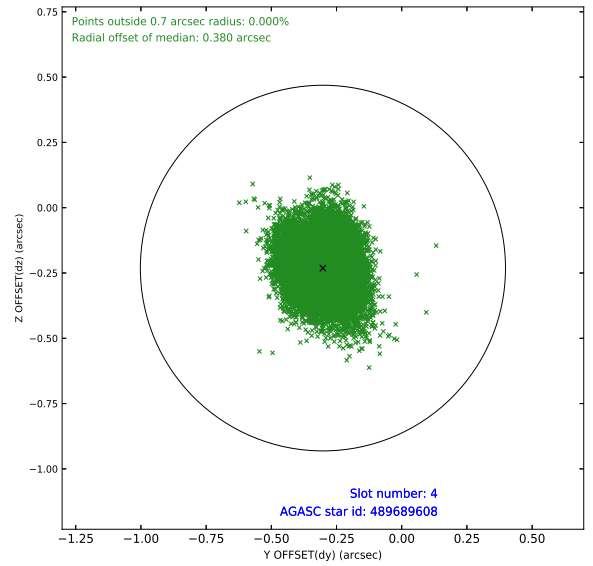
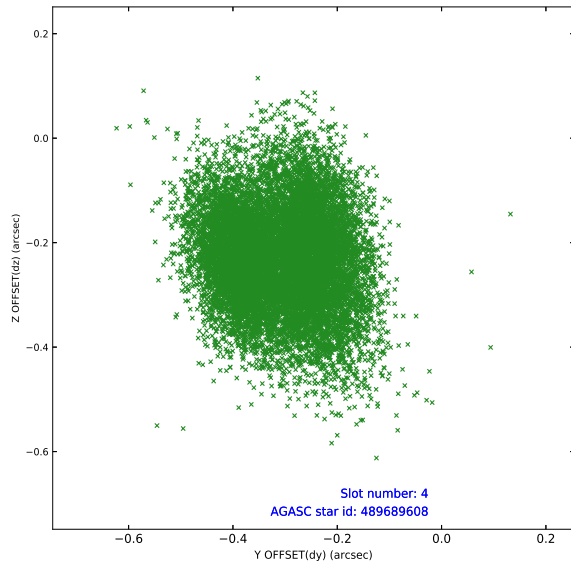
### 2.4.1 Slot 3



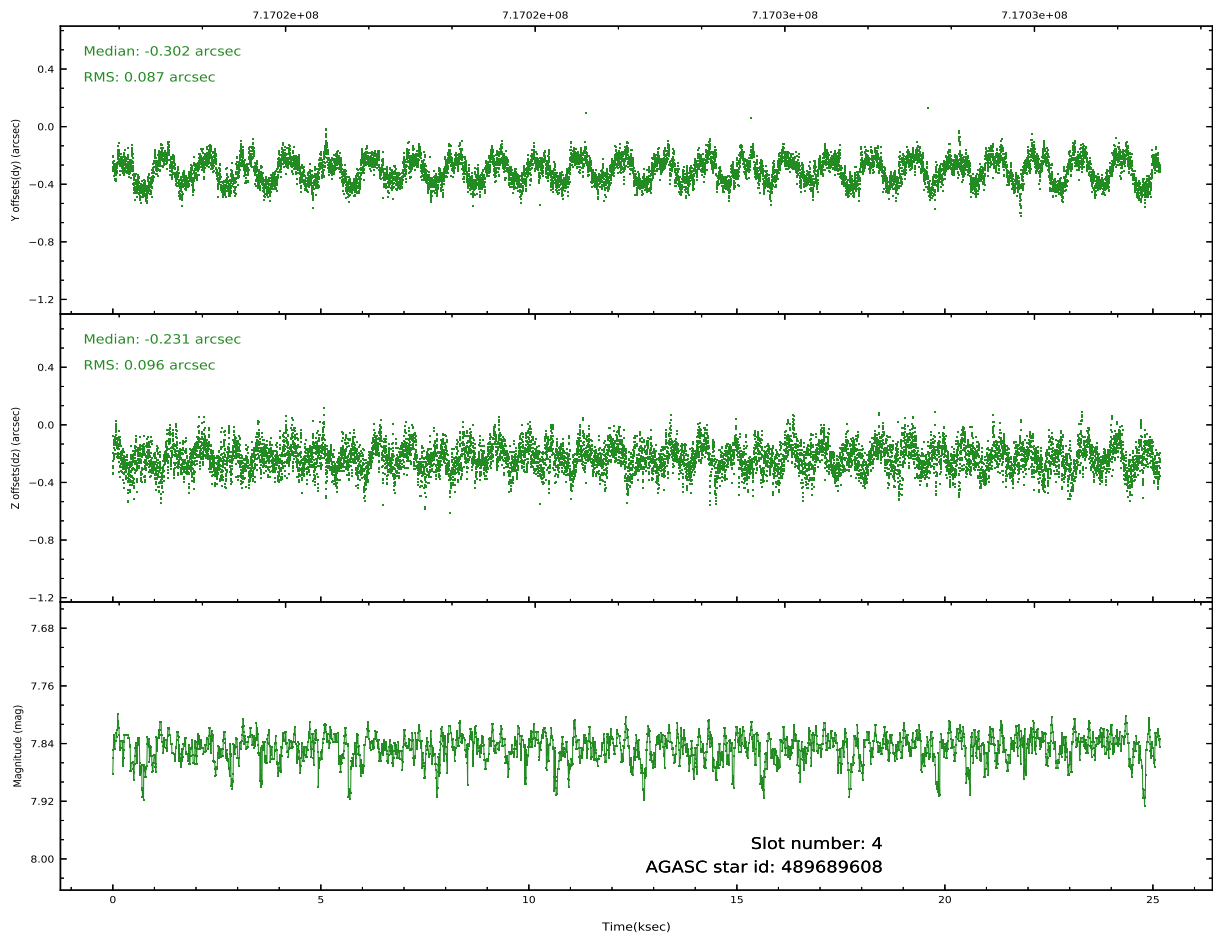
Time (s)



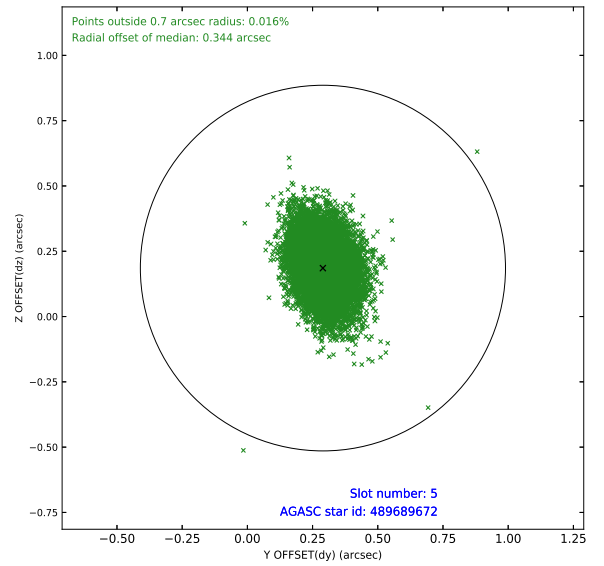
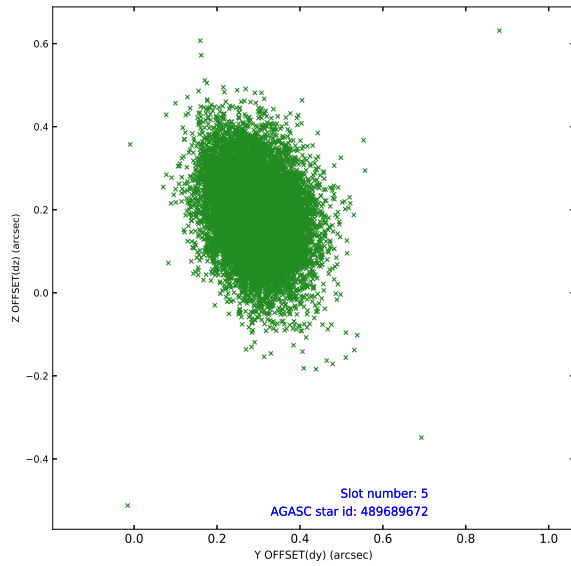
## 2.4.2 Slot 4



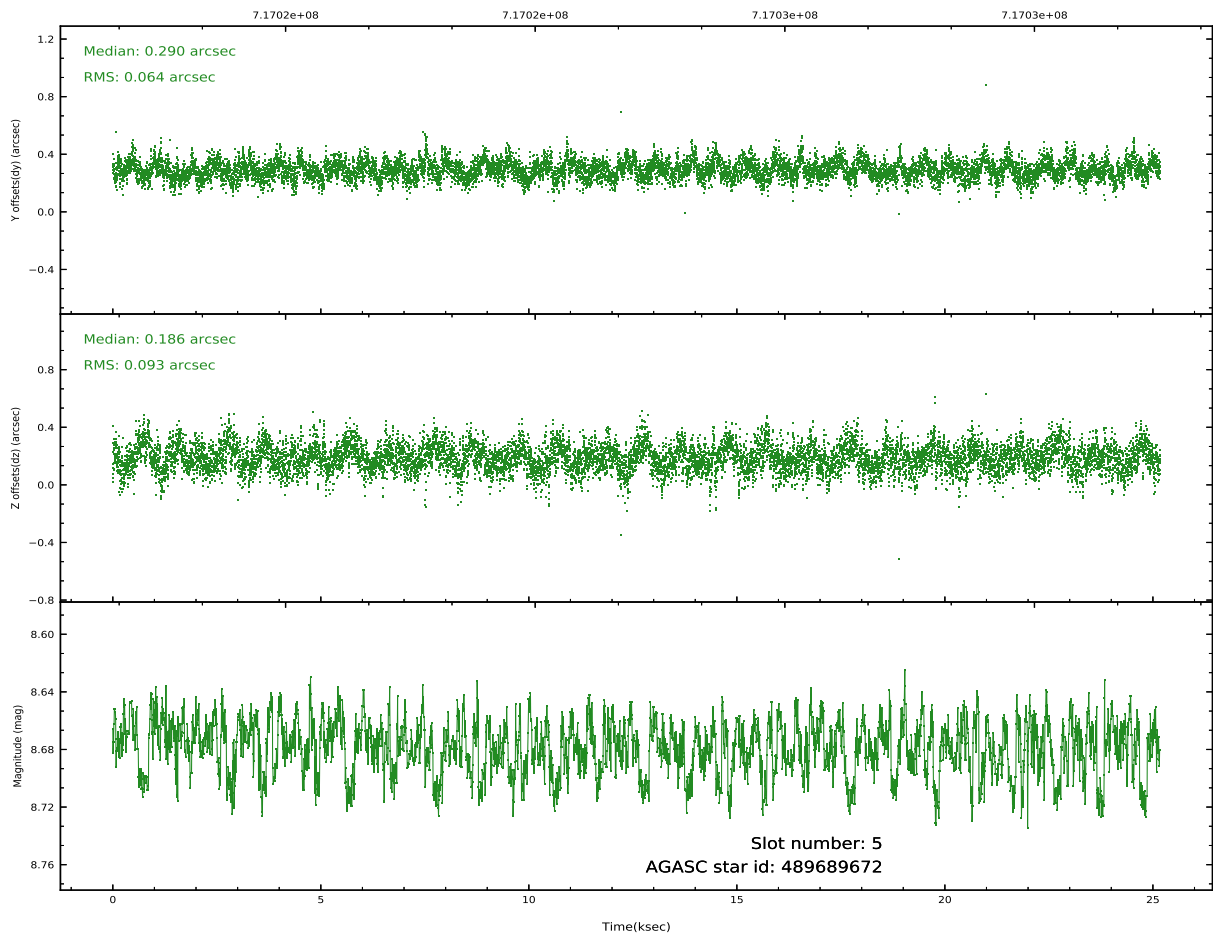
Time (s)



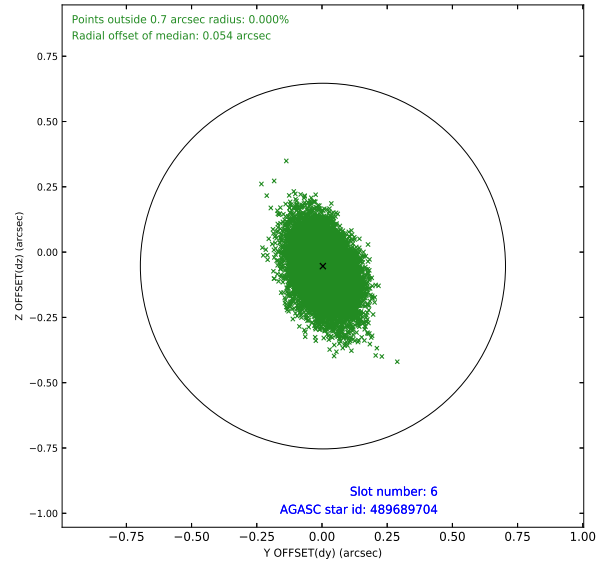
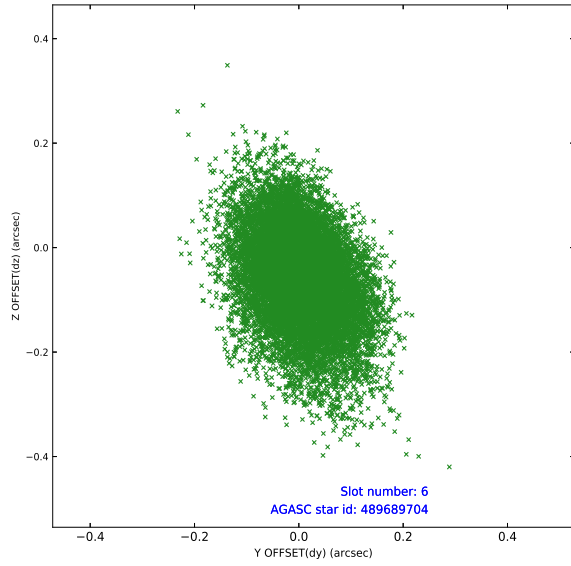
### 2.4.3 Slot 5



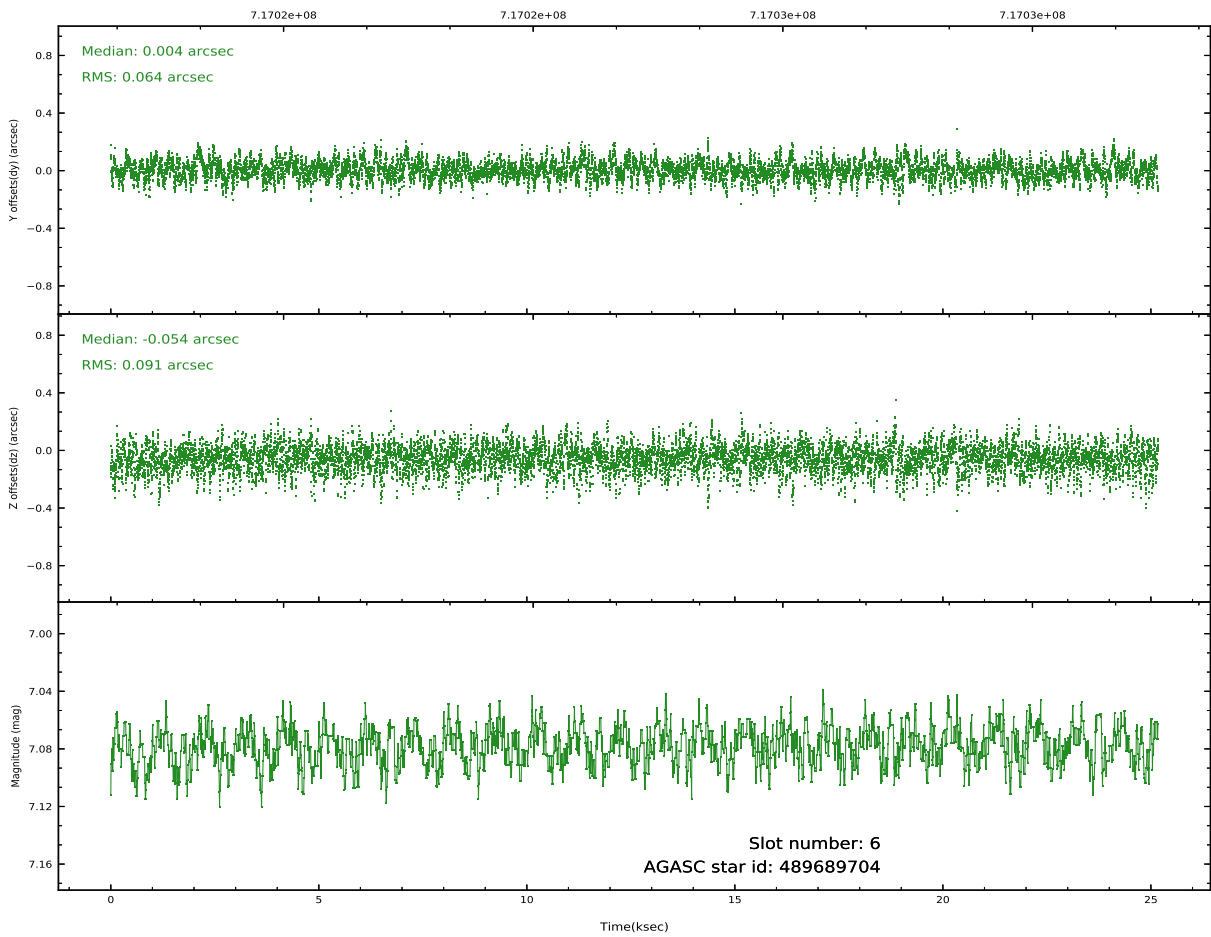
Time (s)



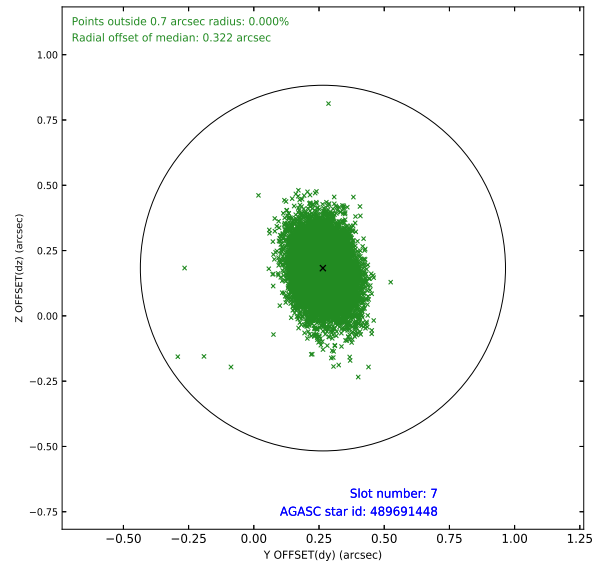
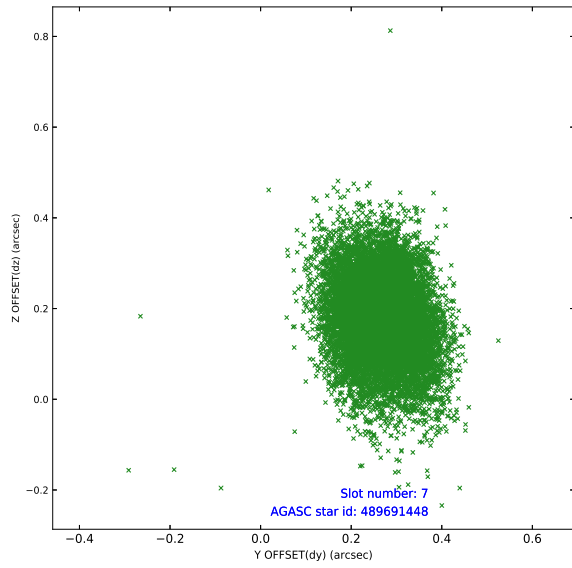
## 2.4.4 Slot 6



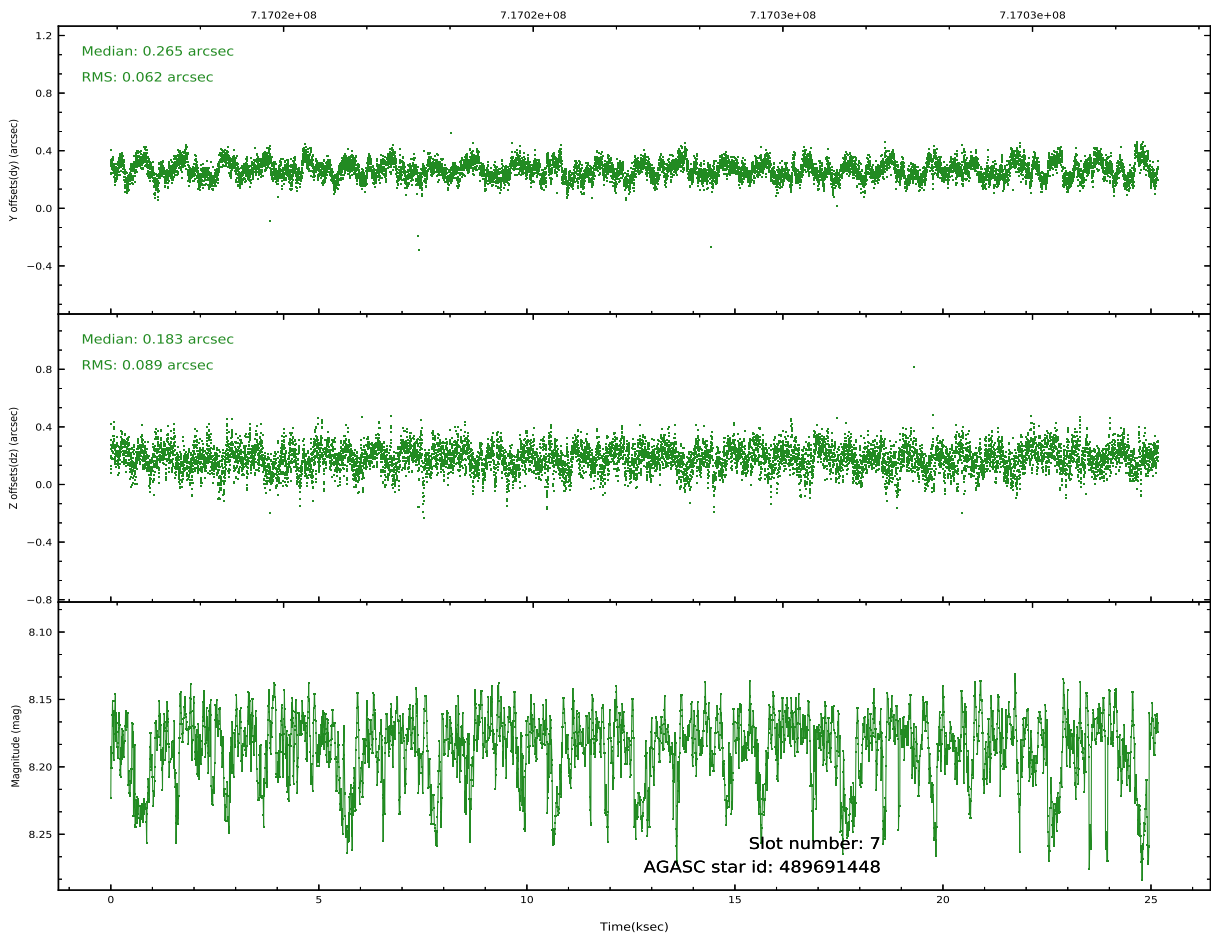
Time (s)



## 2.4.5 Slot 7

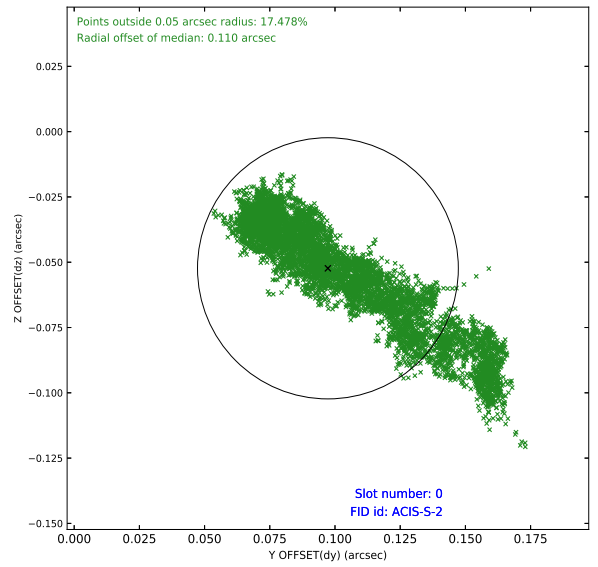
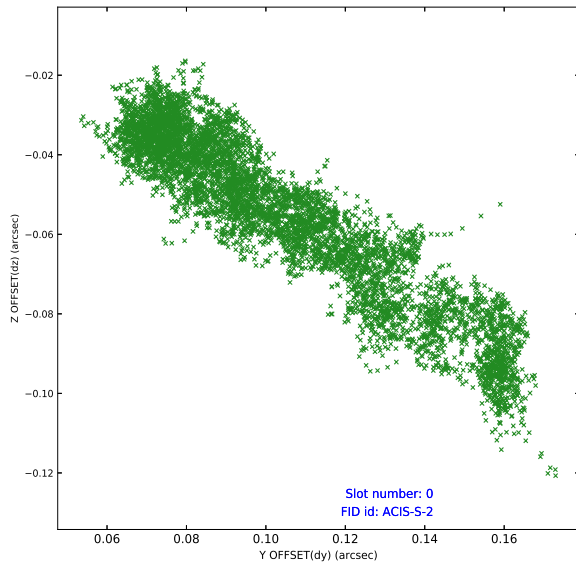


Time (s)

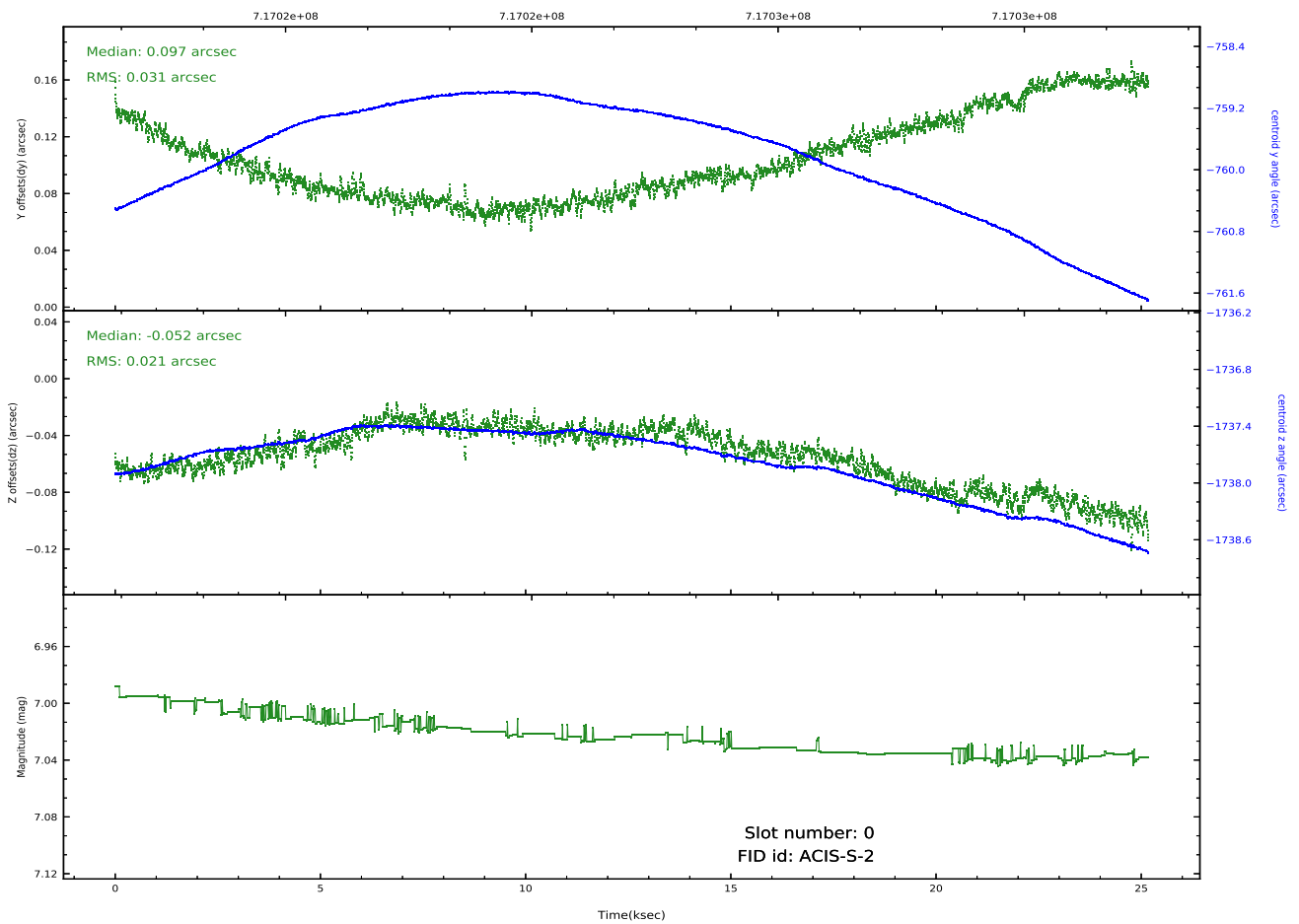


## 2.5 FID Slots

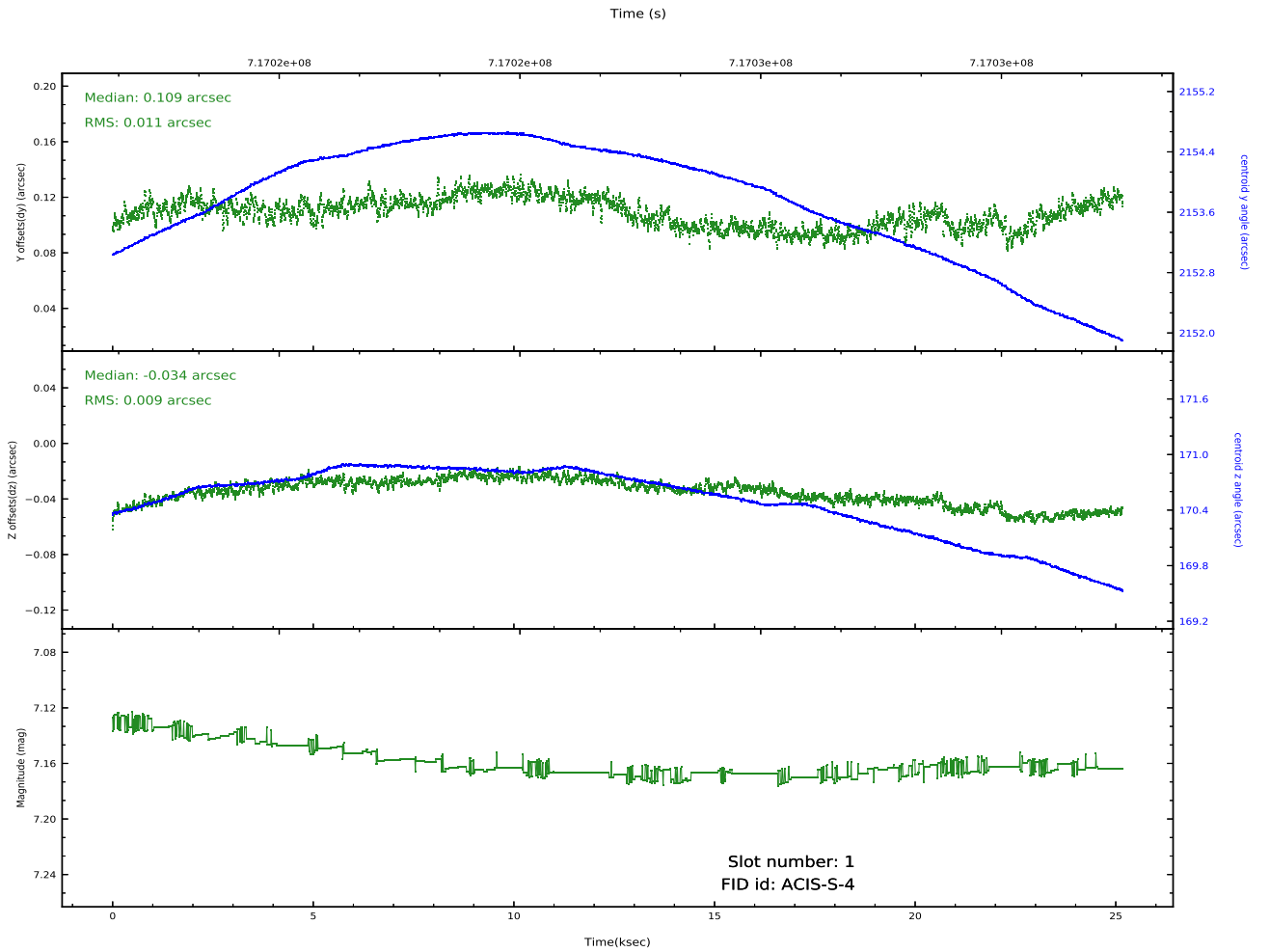
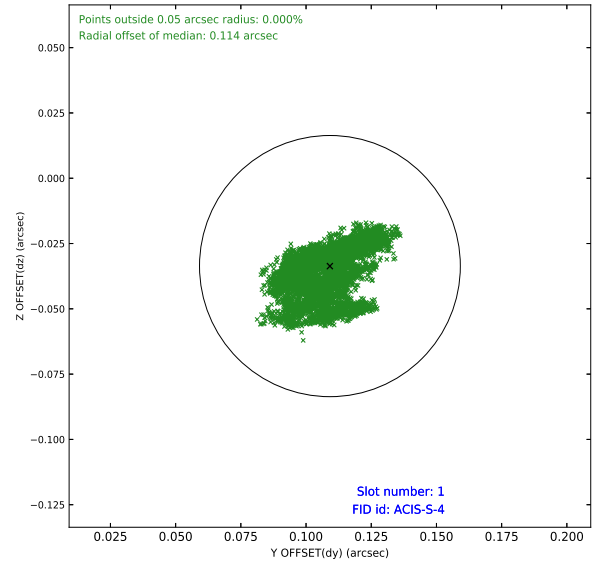
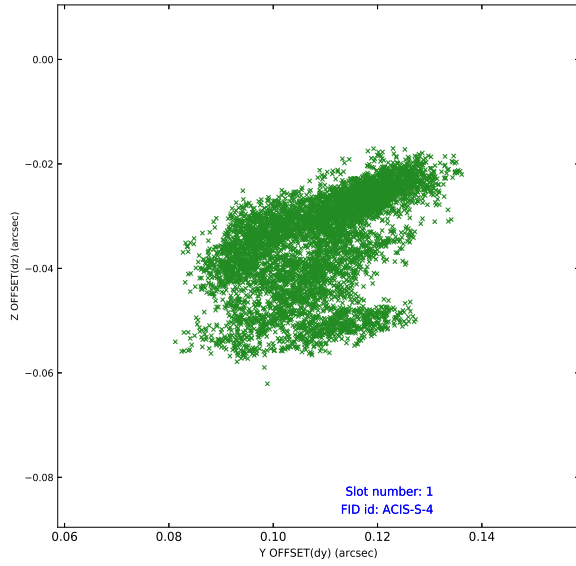
### 2.5.1 Slot 0



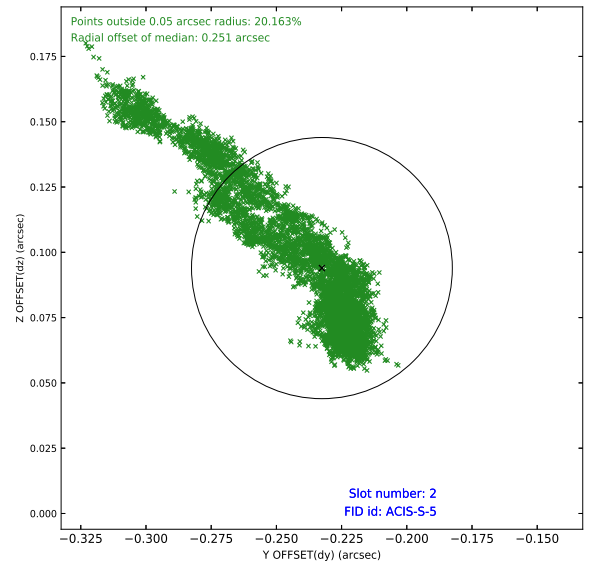
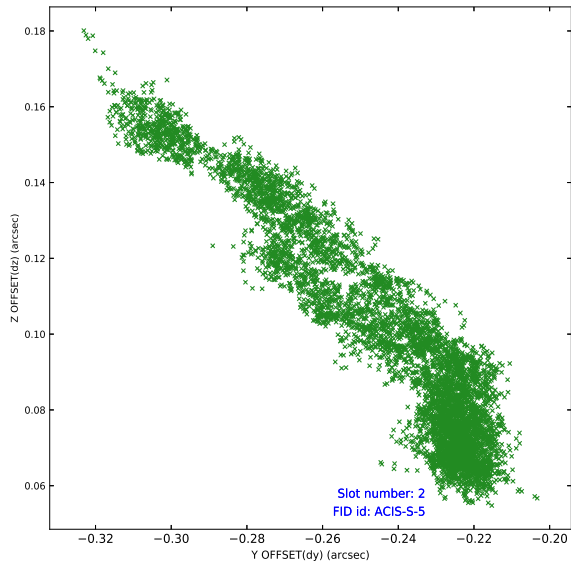
Time (s)



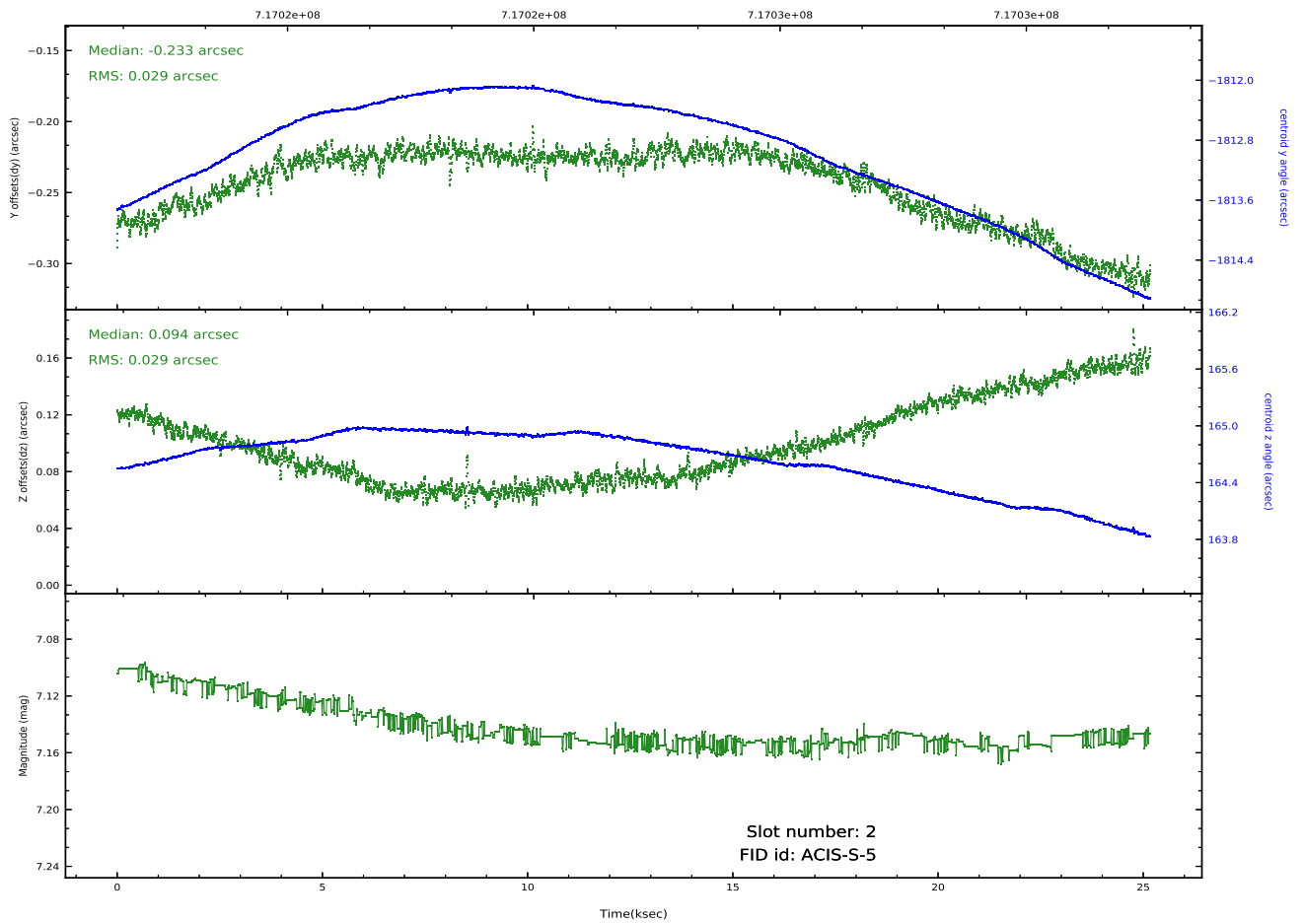
## 2.5.2 Slot 1



### 2.5.3 Slot 2

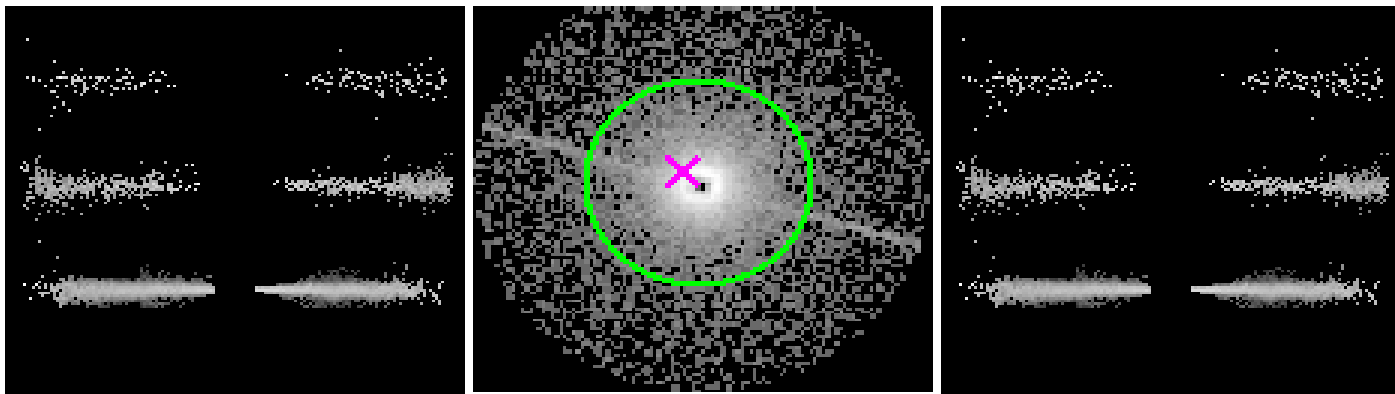


Time (s)



### 3 Gratings

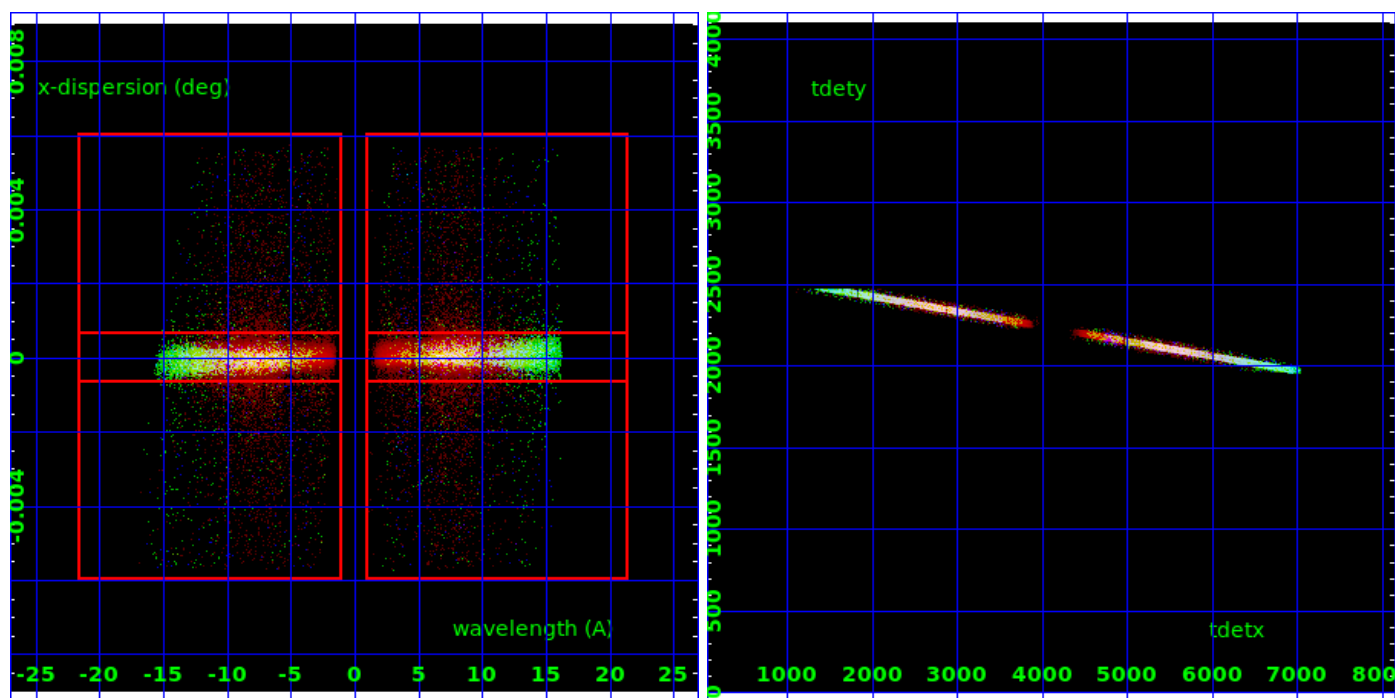
#### 3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

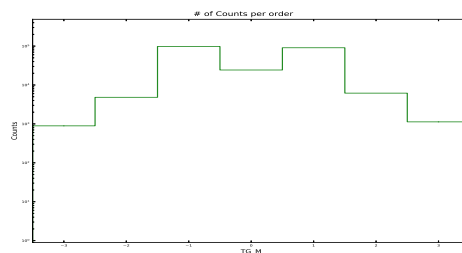
HEG Order Sort ALL

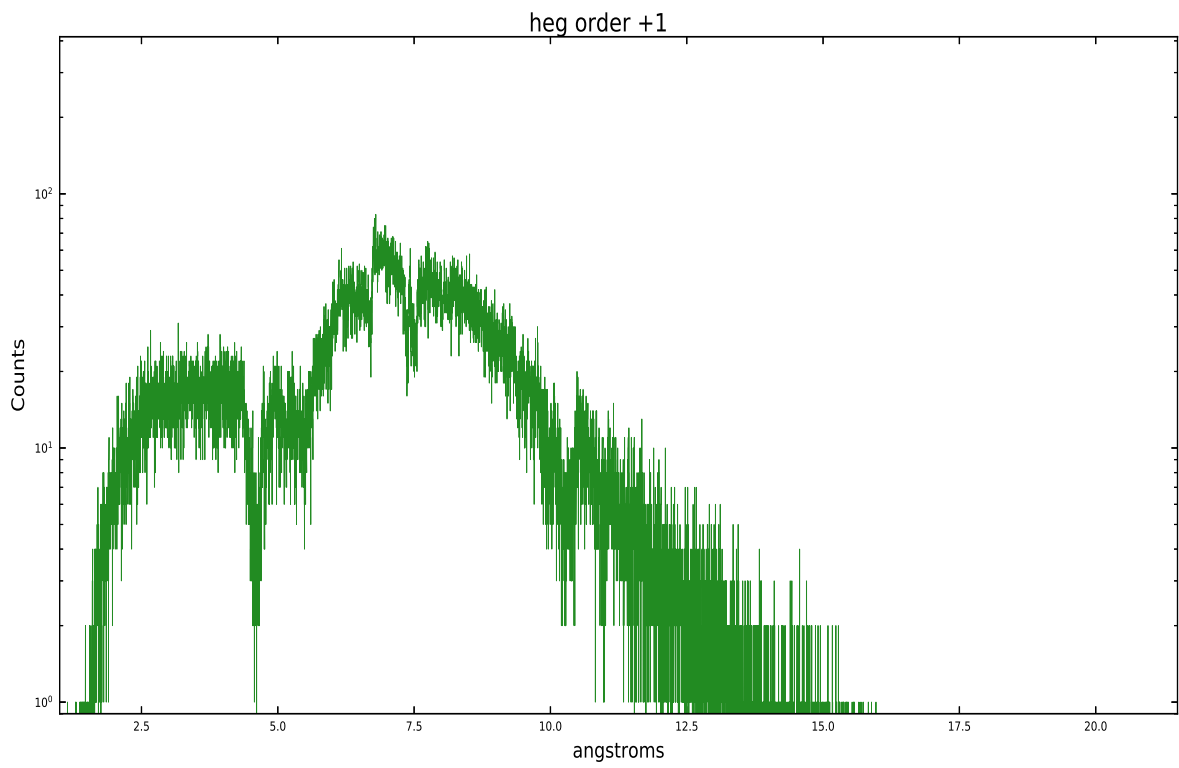
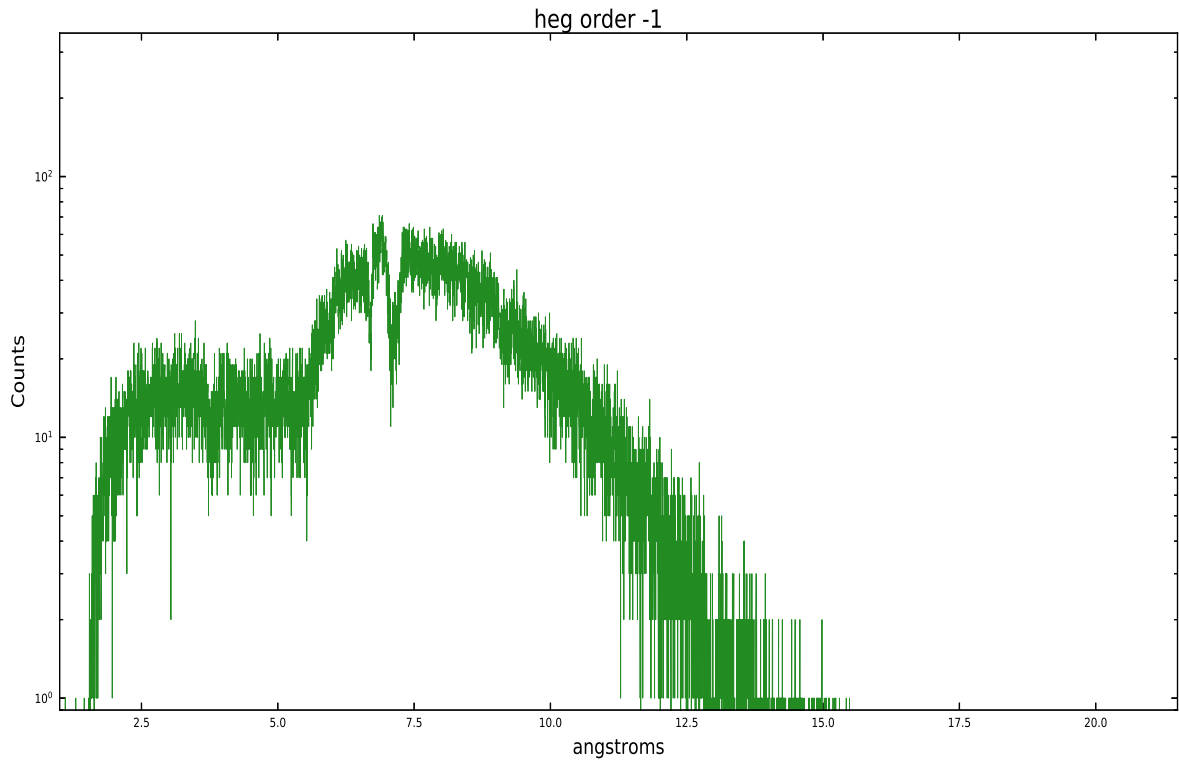


Spot Image HEG

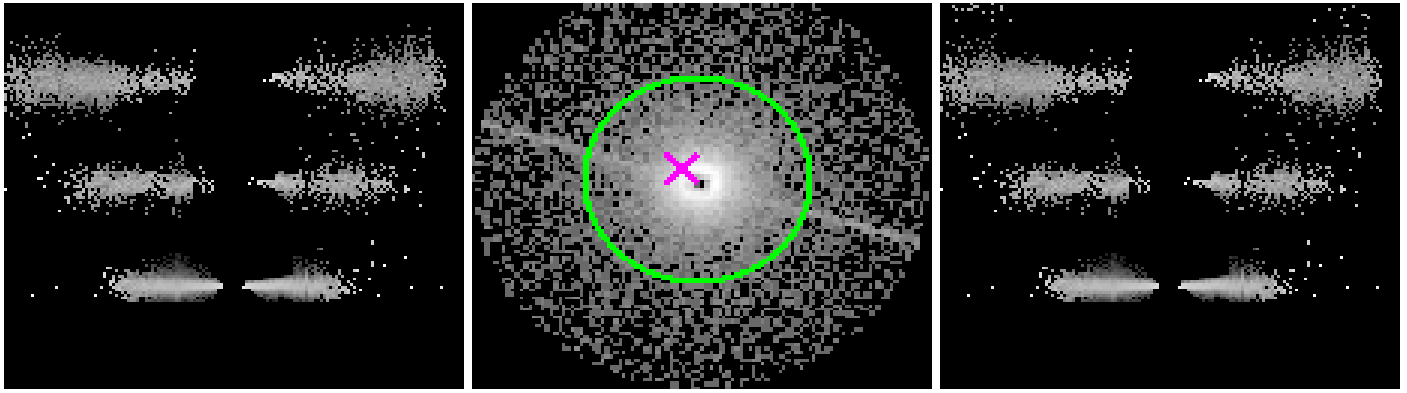
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	892	4824	97741	24301	90731	6176	1129





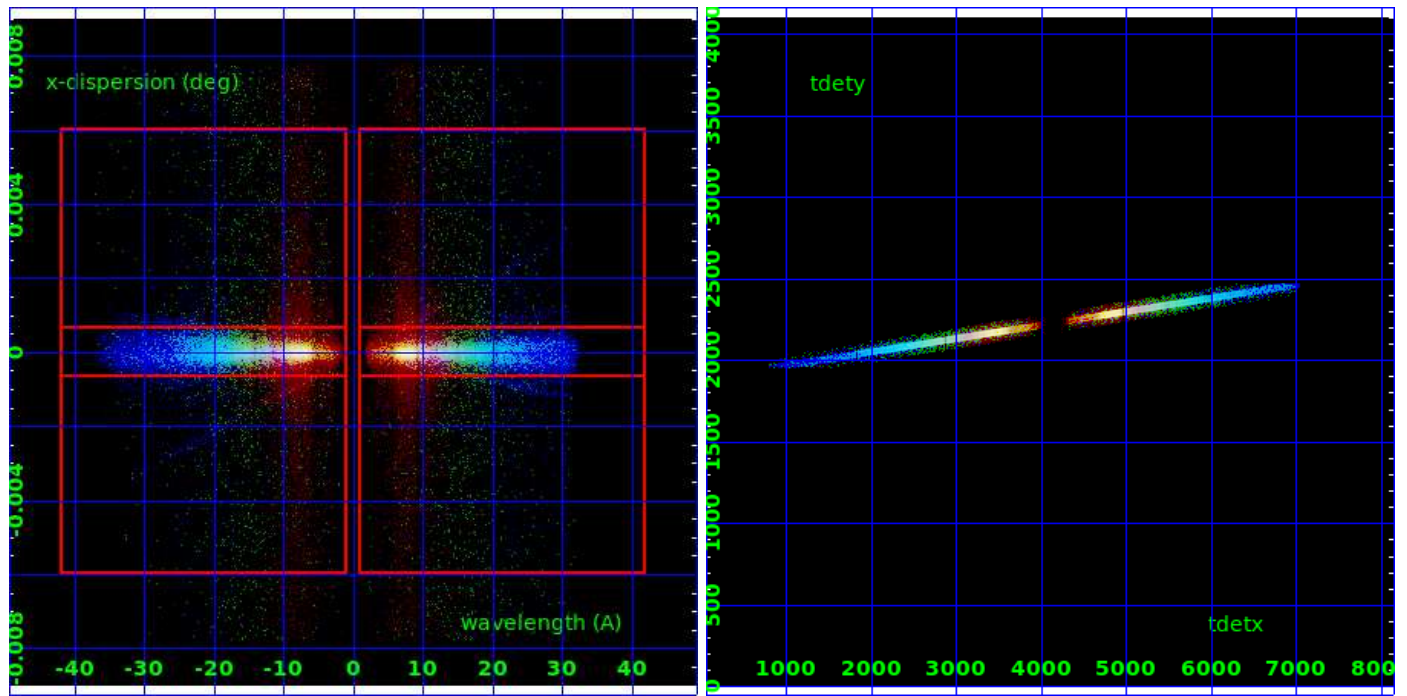
### 3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

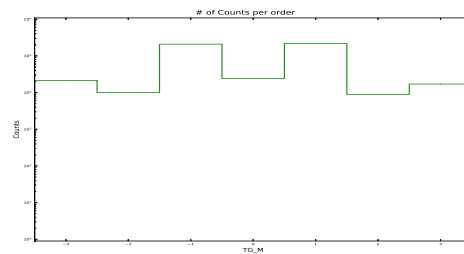
MEG Order Sort ALL

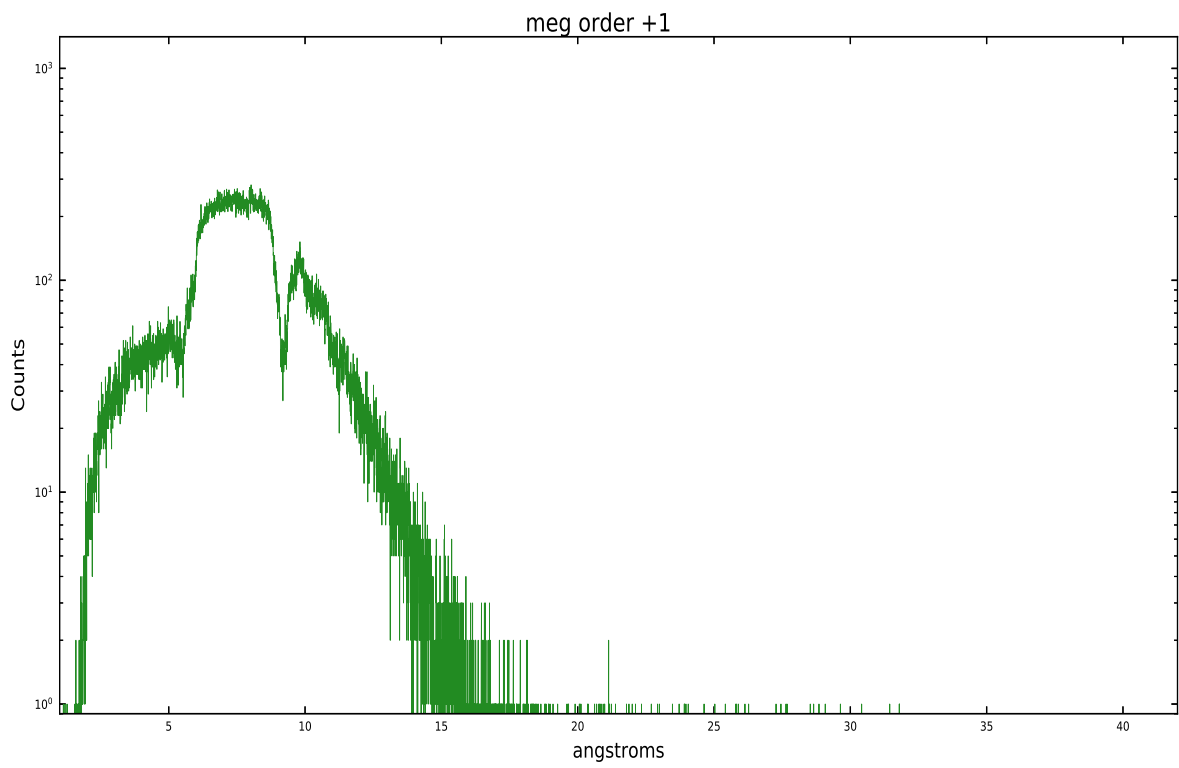
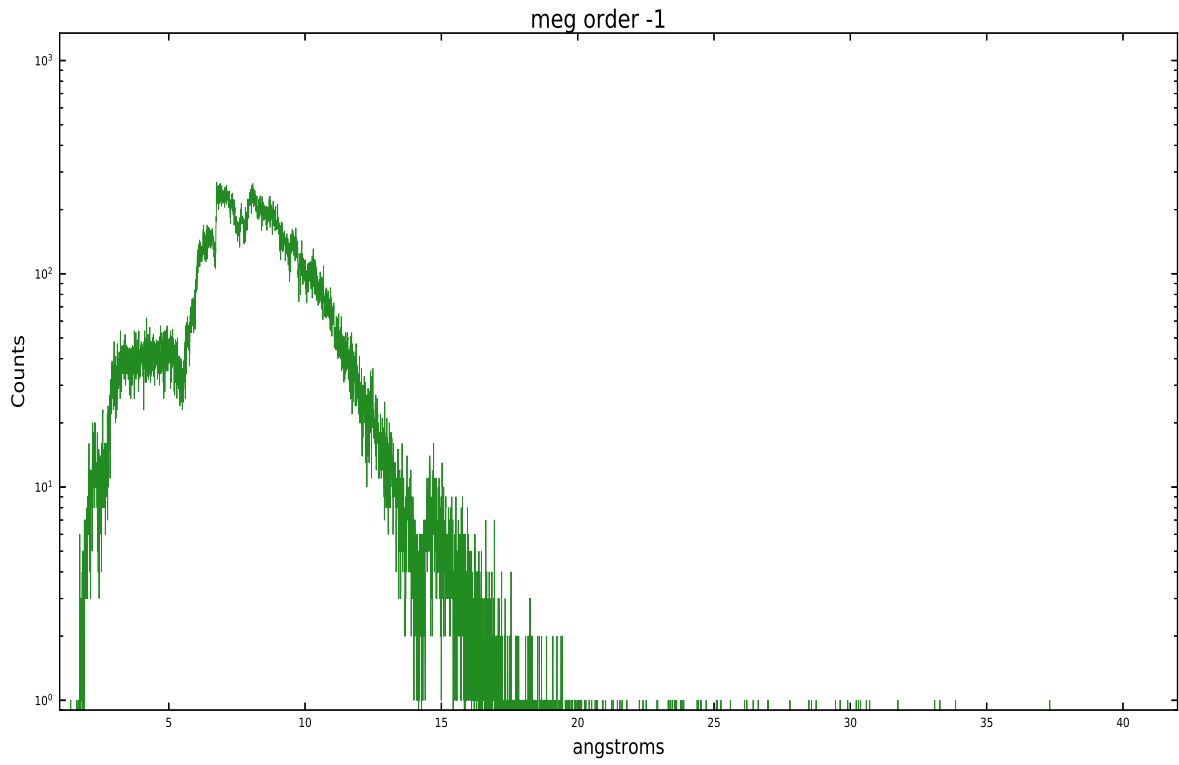


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	21505	10055	209122	24301	217354	8949	17071





# A Summary

## A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2020.09.21
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	25.070399335861

## A.2 Comments

Note: the grating spectra show in the level 1 bad events image, meaning that the dispersed spectra could have CCD pileup.