

# V&V Reference Report

## L2 ASCDS Version : 10.9.2

Observation 22340 - L2 Version 1  
Chandra X-Ray Center

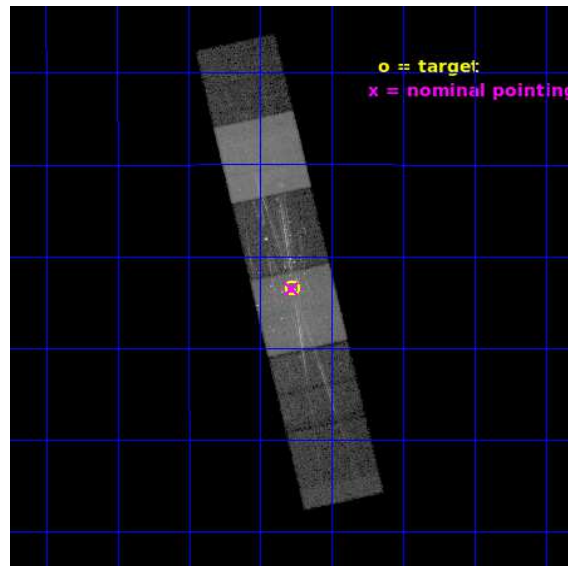
L2 Processing Date : Oct 15 2020

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# 1 Front

seq_num	201298	Sequence number
obs_id	22340	Observation id
title	THE TRUE NATURE OF X-RAYS FROM THE ORION TRAPEZIUM	Proposal title
observer	Norbert Schulz	Principal investigator
object	Orion Nebula Cluster	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.81875	Observer's specified target RA [deg]
dec_targ	-5.38975	Observer's specified target Dec [deg]
ra_nom	83.819834794172	Nominal RA [deg]
dec_nom	-5.3919122582891	Nominal Dec [deg]
roll_nom	77.149441331893	Nominal Roll [deg]
revision	1	Processing version of data
ontime	25947.690104008	Sum of GTIs [s]
livetime	25619.124828088	Livetime [s]
ontime4	25947.731143951	Sum of GTIs [s]
ontime5	25947.649063945	Sum of GTIs [s]
ontime6	25944.366963744	Sum of GTIs [s]
ontime7	25947.690104008	Sum of GTIs [s]
ontime8	25947.566983938	Sum of GTIs [s]
ontime9	25947.525943995	Sum of GTIs [s]
l2events	430702	Number of level 2 events

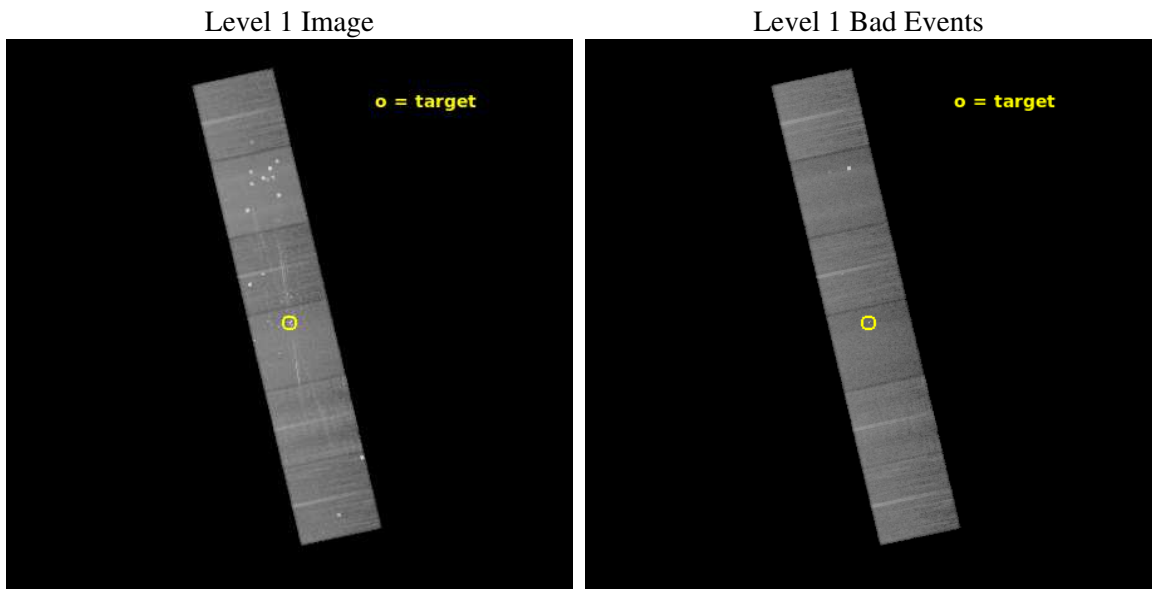




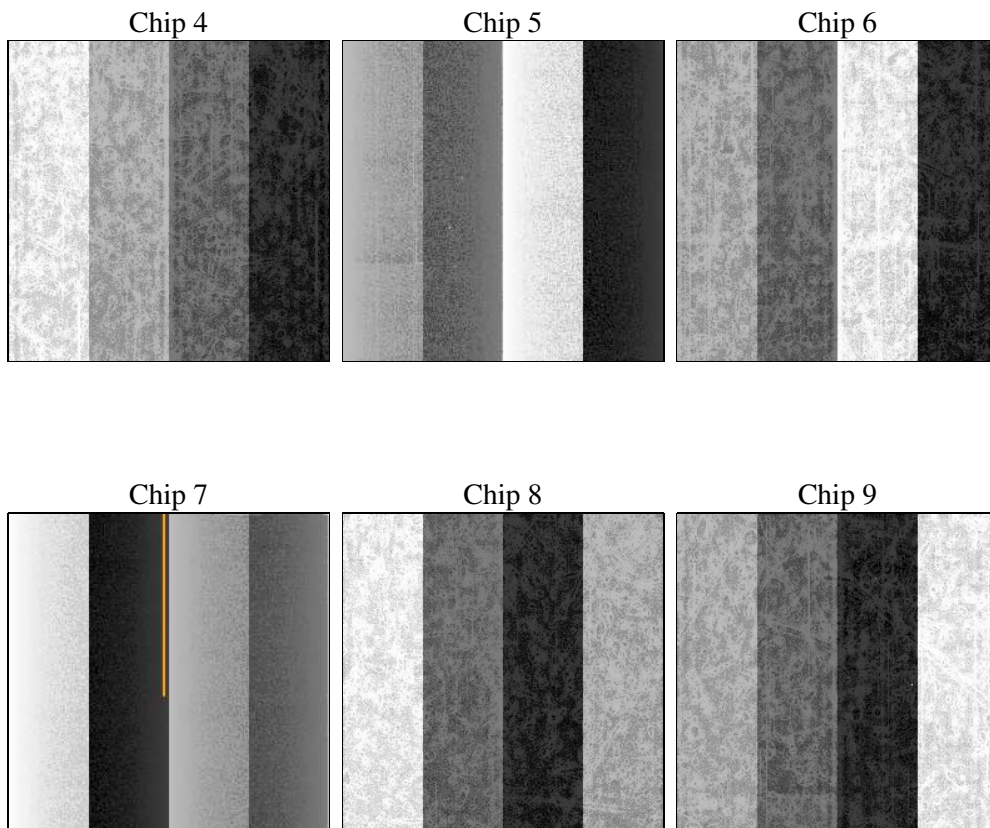
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	26000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.2	Processing system revision	ontime	25947.690104008	Sum of GTIs [s]
caldsver	4.9.3	&#160	ontime4	25947.731143951	Sum of GTIs [s]
date	2020-10-16T01:29:12	Date and time of file creation	ontime5	25947.649063945	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	25944.366963744	Sum of GTIs [s]
			ontime7	25947.690104008	Sum of GTIs [s]
			ontime8	25947.566983938	Sum of GTIs [s]
			ontime9	25947.525943995	Sum of GTIs [s]
			l1events	1673420	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			ra_pos	(4104.42, 4114.48)	src1a sky pixel position

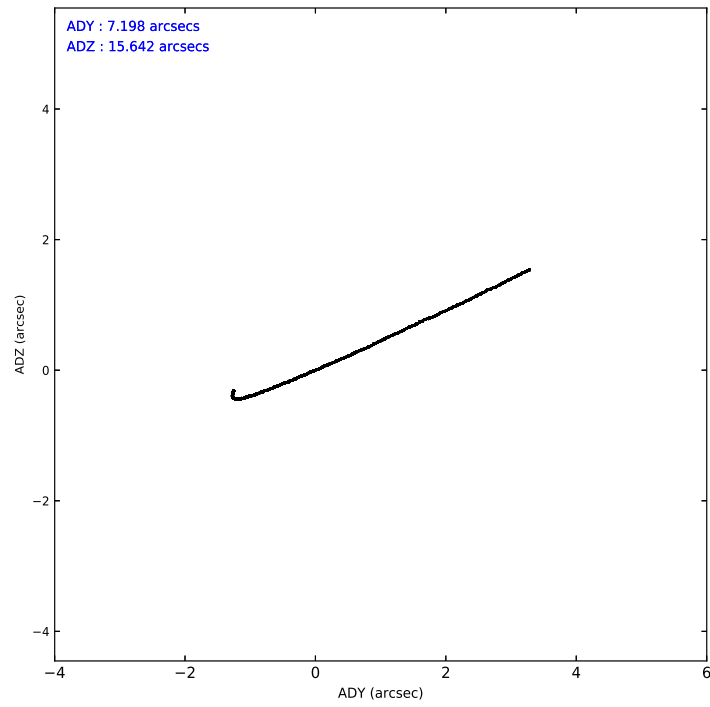
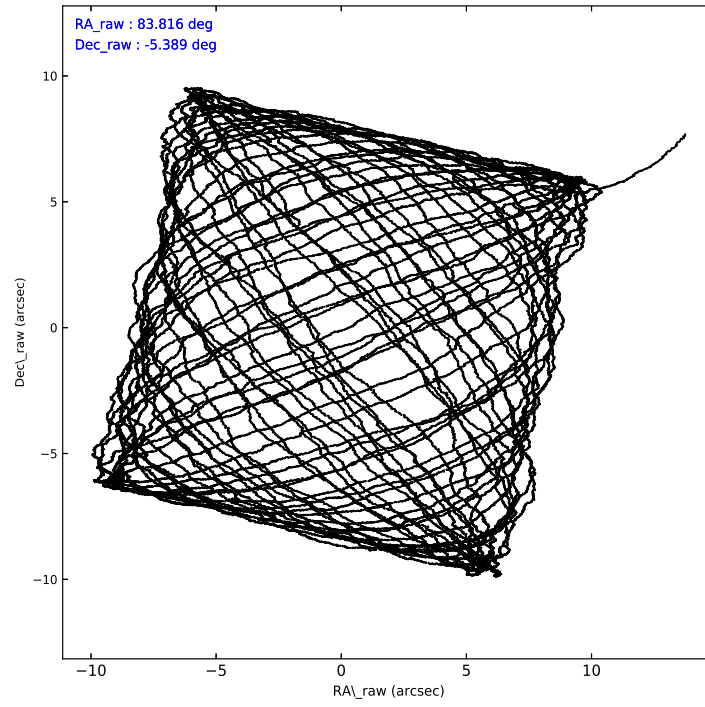
### 2.1.4 Events

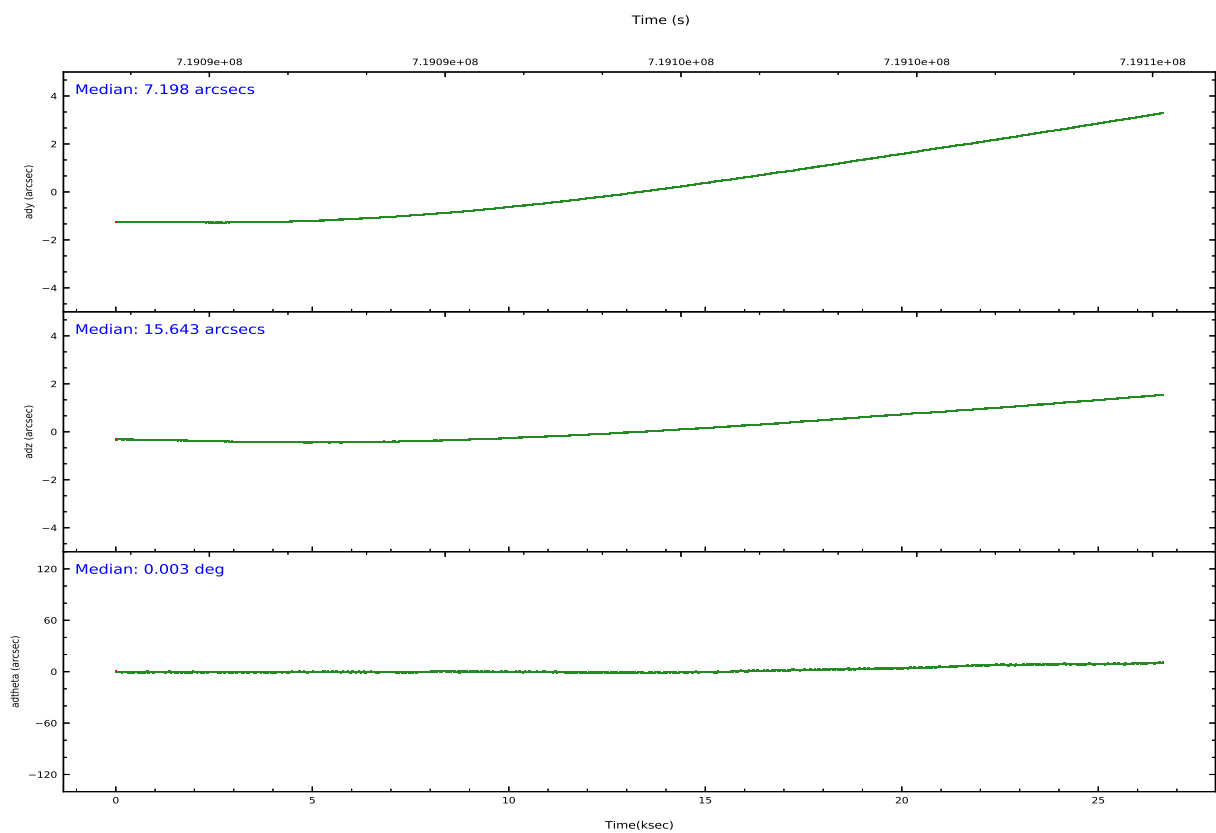
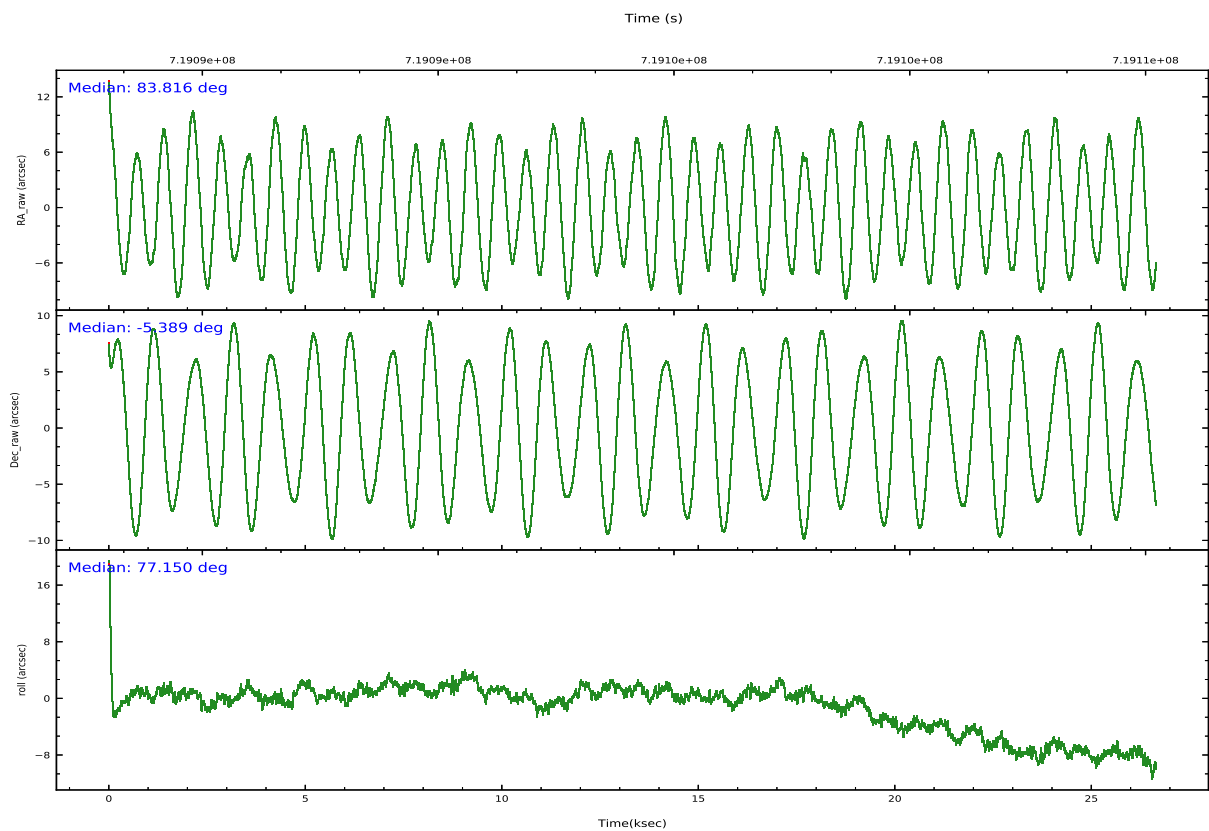
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	240435	384529	244917	308042	274973	220524	grade 0 events	11361	40068	36733	17962	25985	20227
rejected events	213606	182736	182755	153165	197975	183693		4%	10%	14%	5%	9%	9%
rejected %	88%	47%	74%	49%	71%	83%	grade 1 events	241	1013	285	551	262	139
								0%	0%	0%	0%	0%	0%
							grade 2 events	6001	62109	11579	35496	17596	6127
								2%	16%	4%	11%	6%	2%
							grade 3 events	2654	5074	3165	12940	7261	2457
								1%	1%	1%	4%	2%	1%
							grade 4 events	2590	4593	3066	12841	6992	2256
								1%	1%	1%	4%	2%	1%
							grade 5 events	9675	21170	8927	26007	14317	10284
								4%	5%	3%	8%	5%	4%
							grade 6 events	4225	89969	7629	75654	19170	5768
								1%	23%	3%	24%	6%	2%
							grade 7 events	203688	160533	173533	126591	183390	173266
								84%	41%	70%	41%	66%	78%

## 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	83.824382	83.819834794172	CCD I2 on	N	N
[deg] Pointing Dec	-5.414846	-5.3919122582891	CCD I3 on	N	N
[deg] Pointing Roll	77.000533	77.149441331893	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)	719084269.184000	719082928.62752	CCD S5 on	O2	Y
Observation start date	2020-10-14T17:36:40	2020-10-14T17:15:28	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	719110269.184000	719110899.34173	On-chip summing requested	N	N
Observation end date	2020-10-15T00:50:00	2020-10-15T01:01:39	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



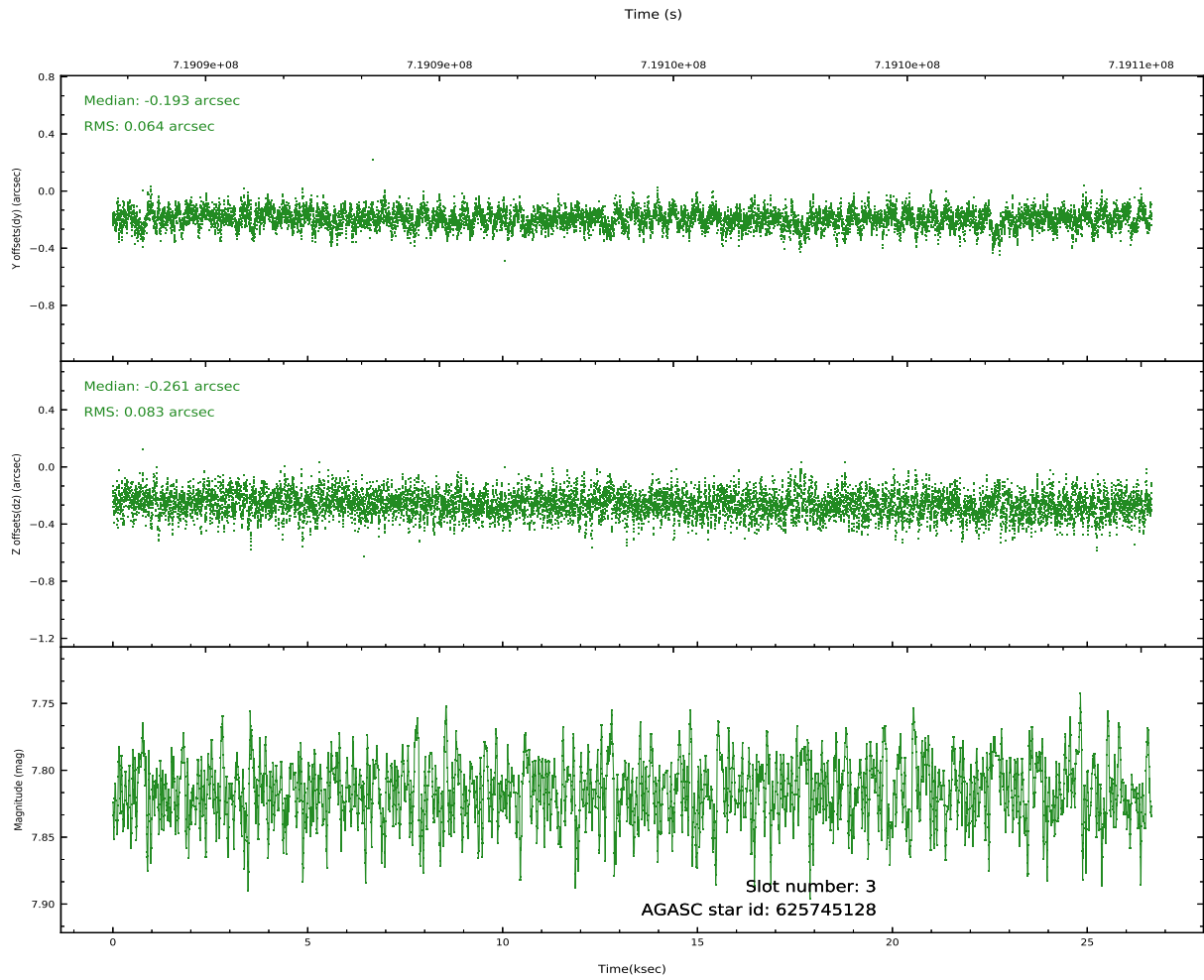
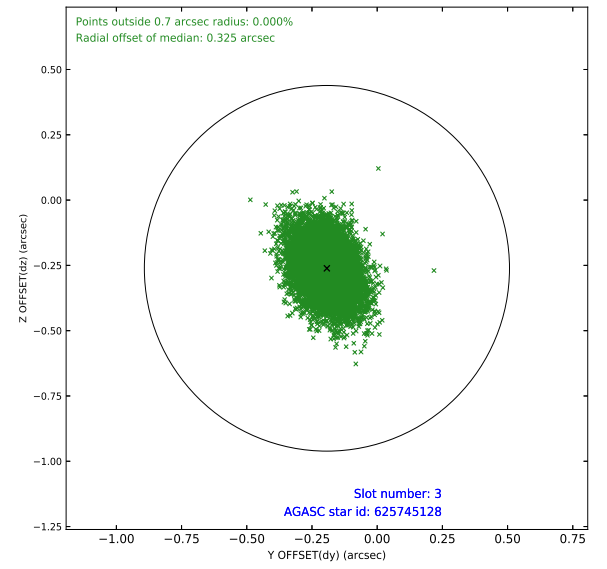
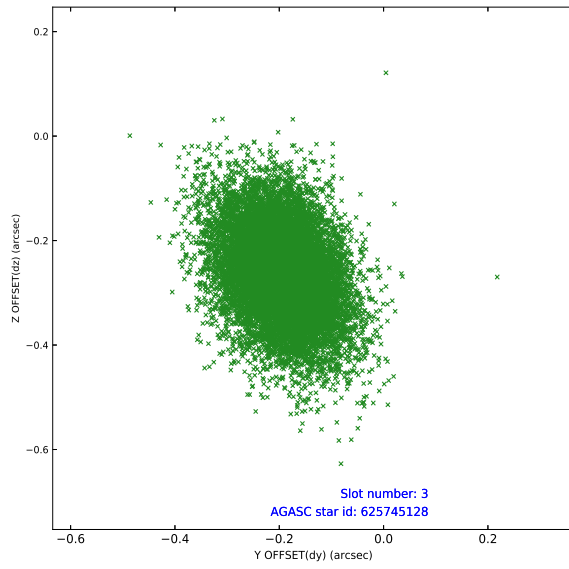


Slot Statistics

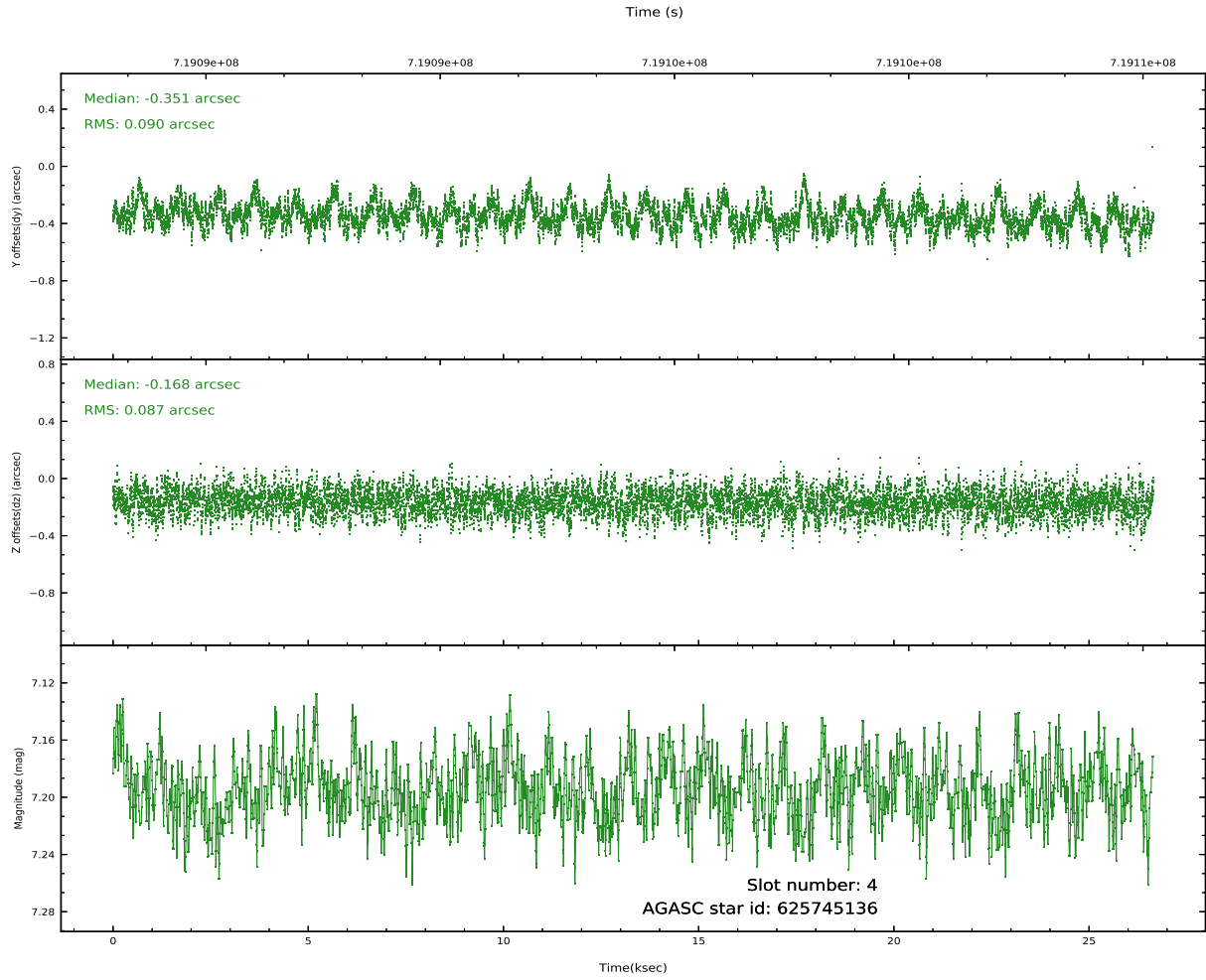
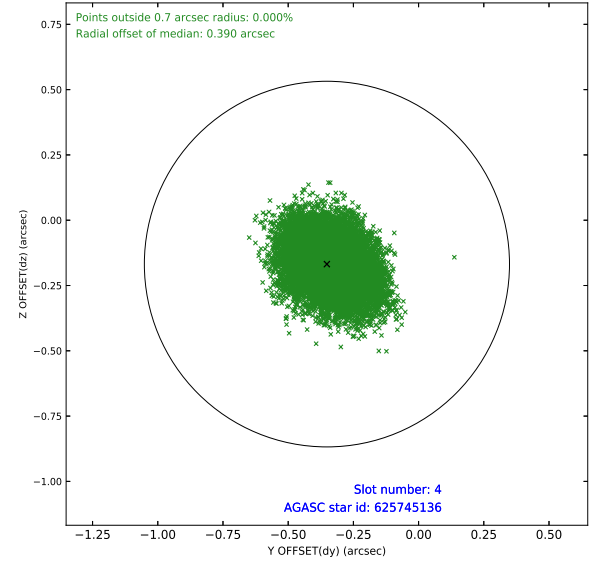
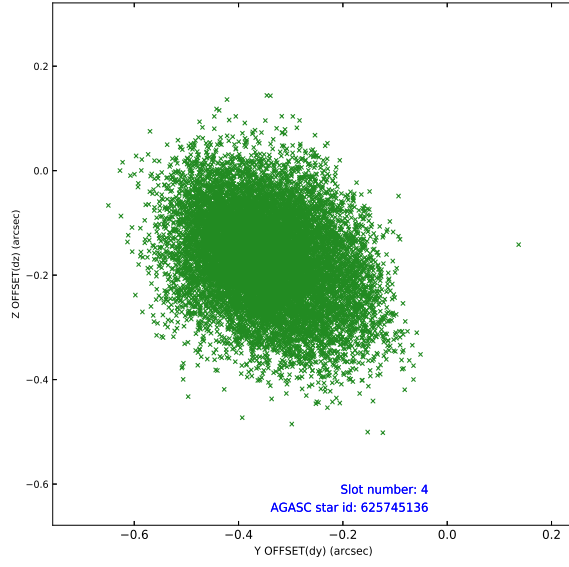
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.06	6501	1.000	0.124	-0.048	0.052	0.064	0.000000	0.000000	-760.42	-1737
1	FID		ACIS-S-4	7.20	6500	1.000	0.115	-0.047	0.028	0.048	0.000000	0.000000	2153.06	170
2	FID		ACIS-S-5	7.19	6500	1.000	-0.255	0.101	0.044	0.076	0.000000	0.000000	-1813.27	165
3	GUIDE	used	625745128	7.81	12998	1.000	-0.193	-0.261	0.109	0.184	83.769930	-4.731835	2351.95	743
4	GUIDE	used	625745136	7.19	12997	1.000	-0.351	-0.168	0.134	0.218	83.600341	-4.804339	1960.88	1277
5	GUIDE	used	625874672	7.70	12995	1.000	0.249	0.090	0.126	0.224	84.403143	-4.934124	2153.11	-1633
6	GUIDE	used	626272760	6.60	13001	1.000	0.163	0.093	0.136	0.213	84.363987	-5.938389	-1401.96	-2306
7	GUIDE	used	626272880	7.65	12998	1.000	0.125	0.251	0.126	0.201	83.815609	-6.032748	-2174.15	-469

## 2.4 Star Slots

### 2.4.1 Slot 3

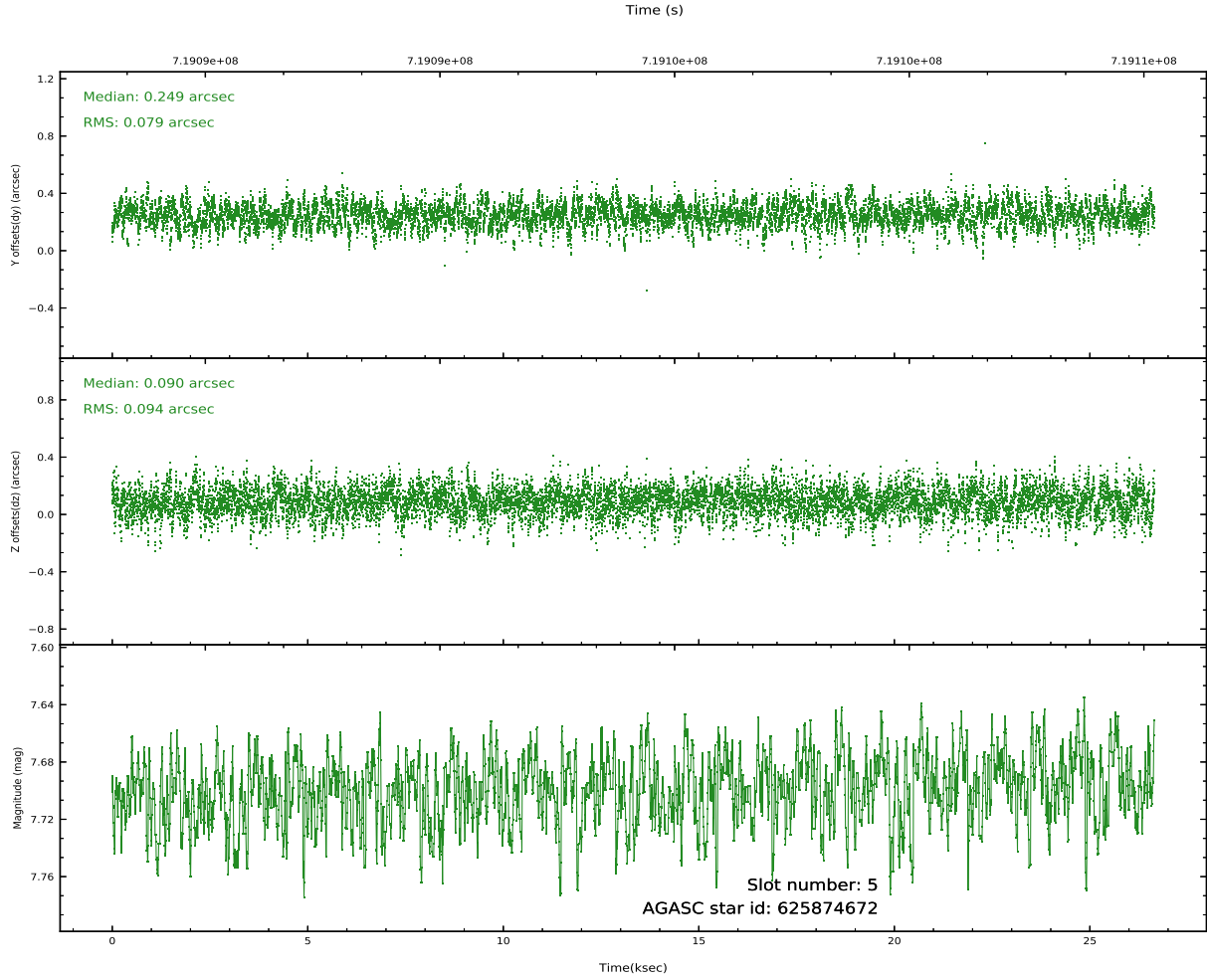
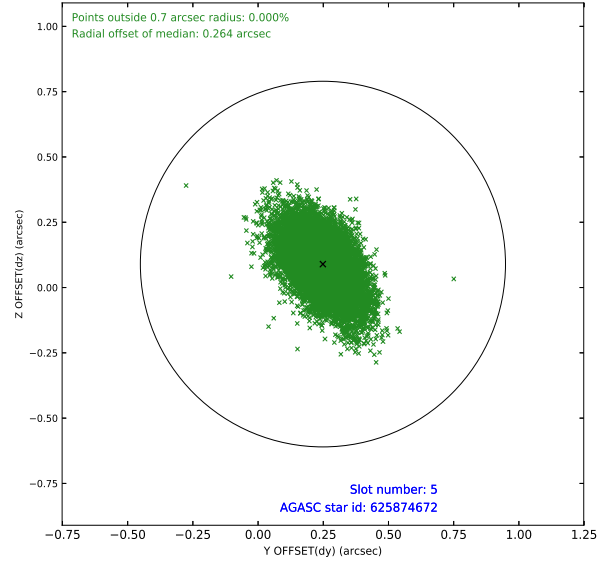
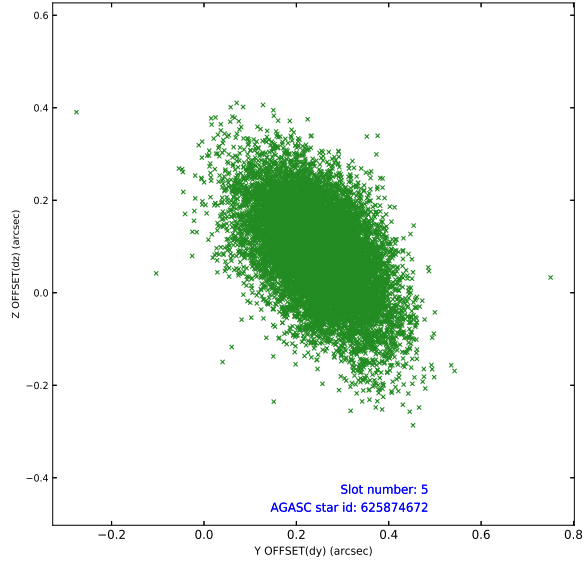


## 2.4.2 Slot 4

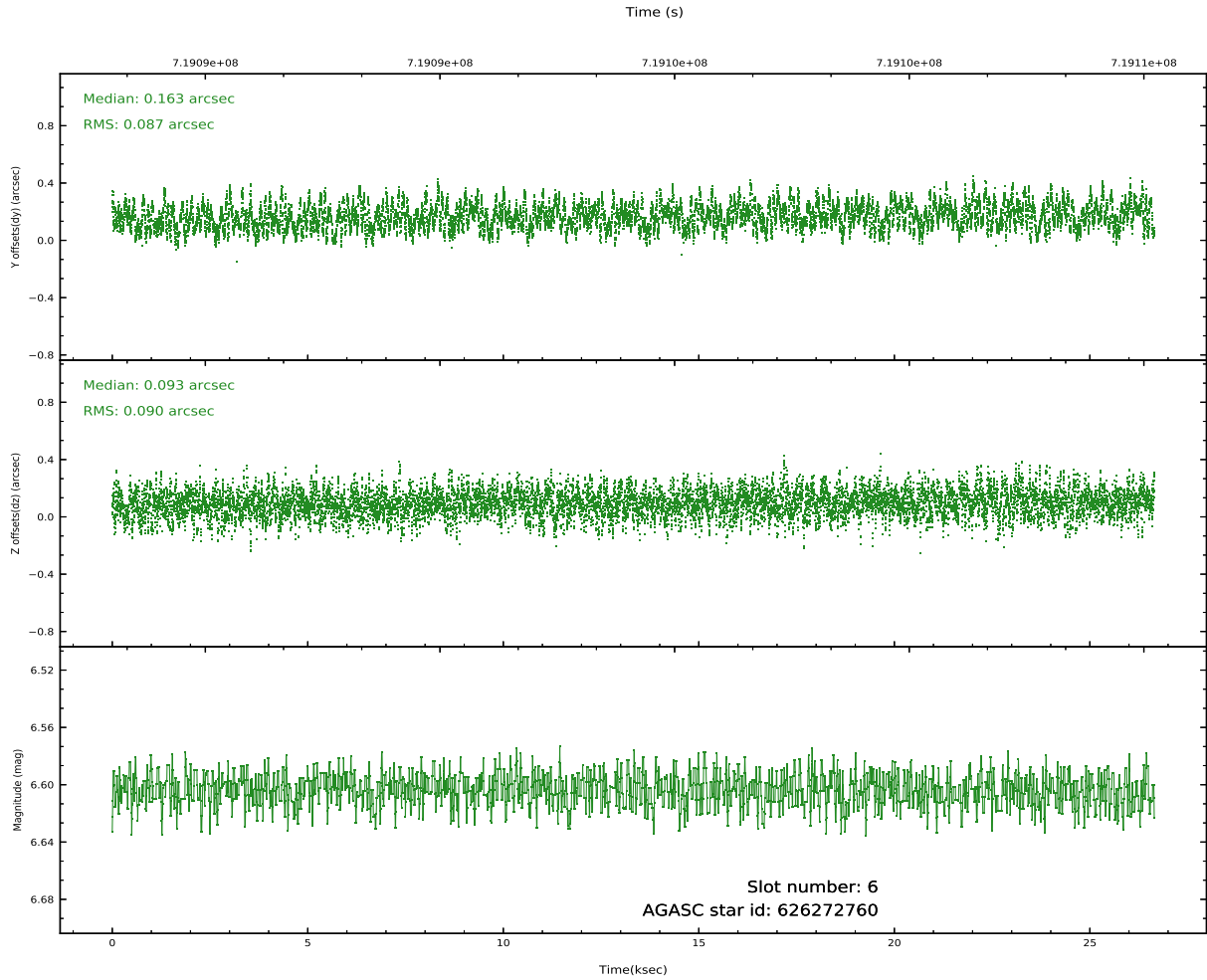
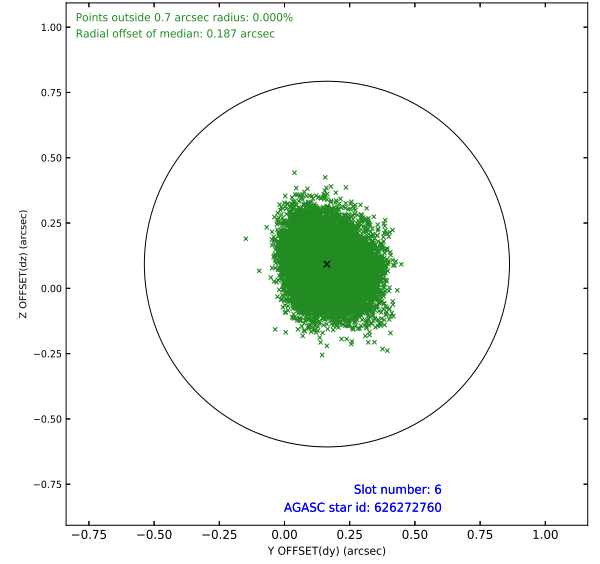
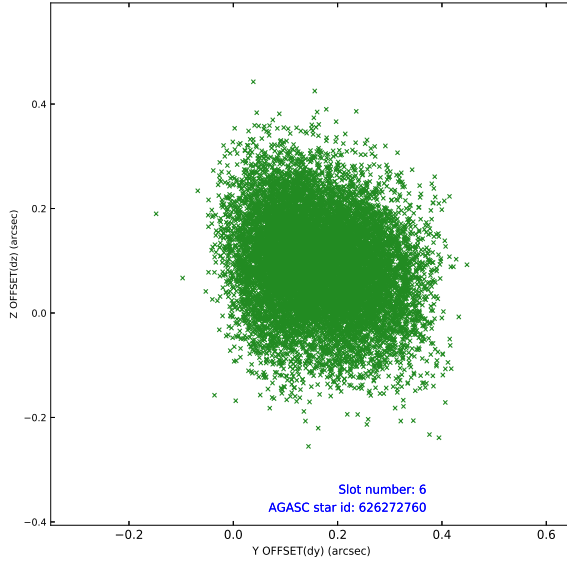




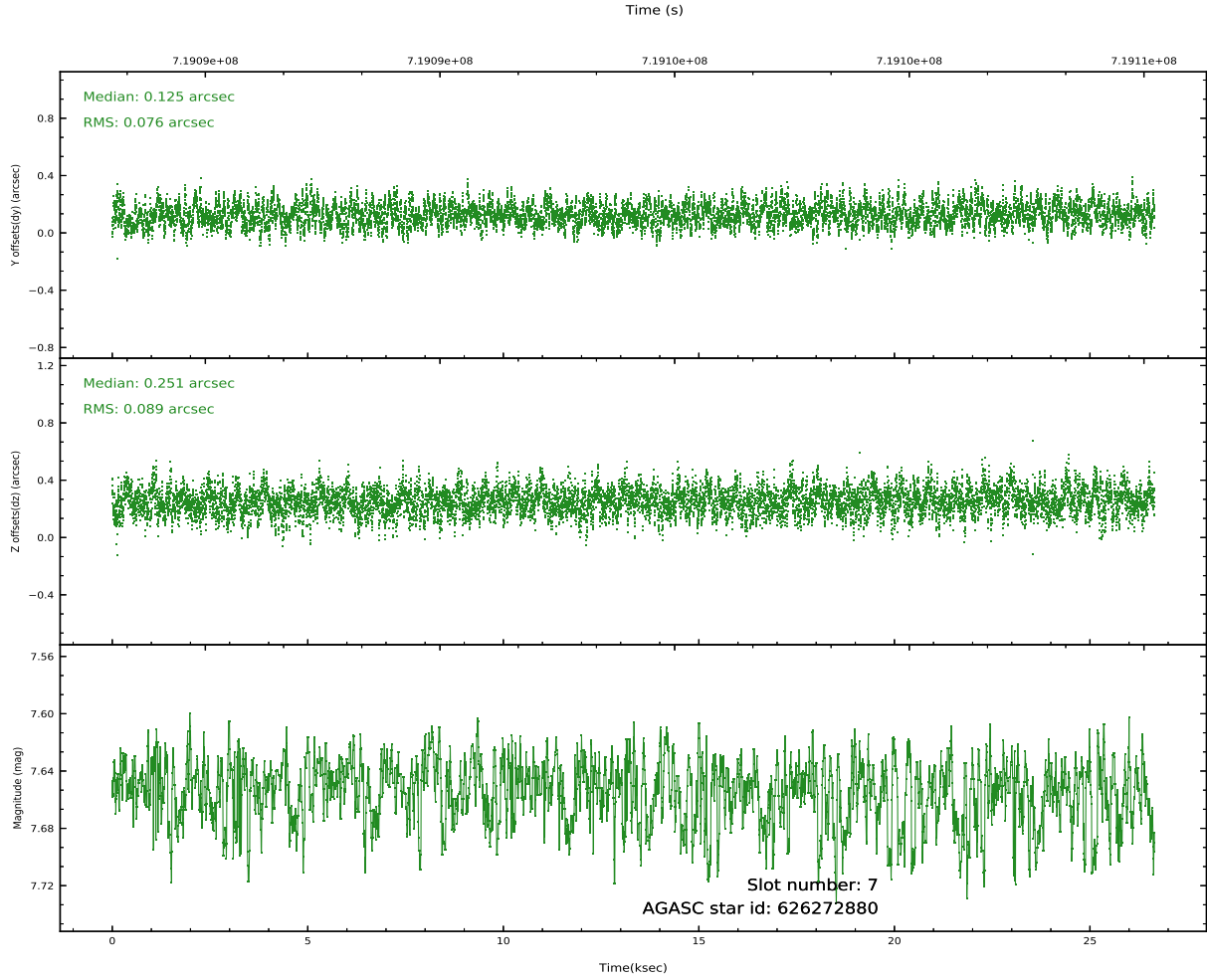
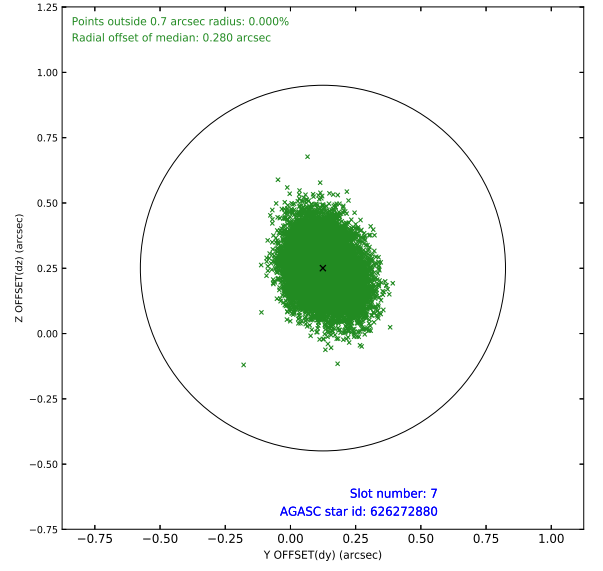
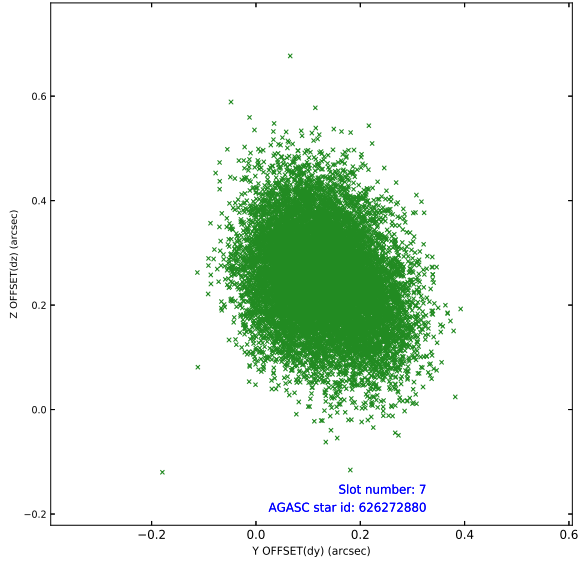
### 2.4.3 Slot 5



## 2.4.4 Slot 6

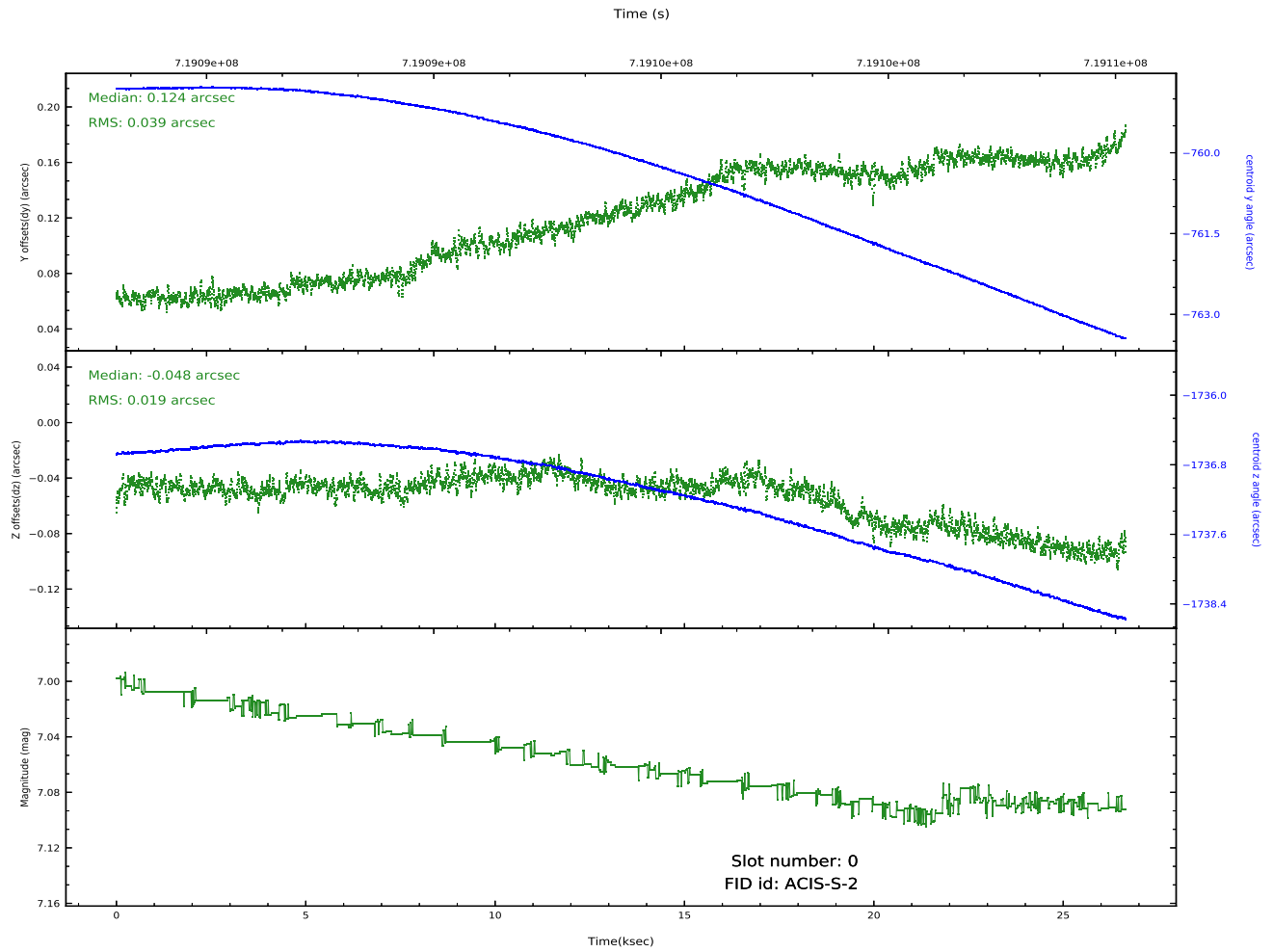
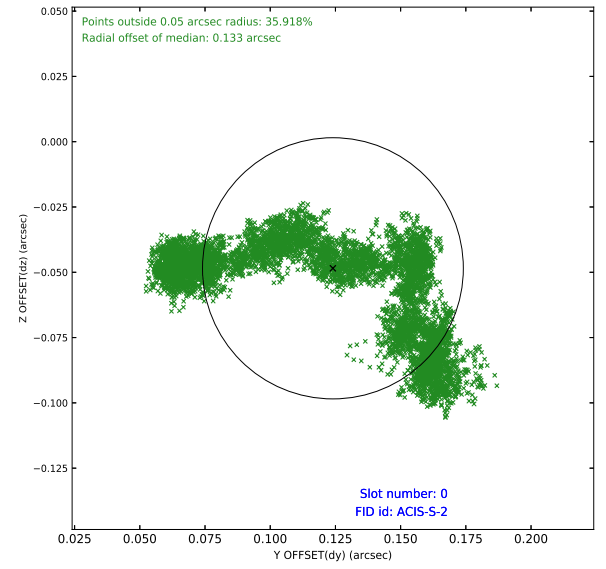
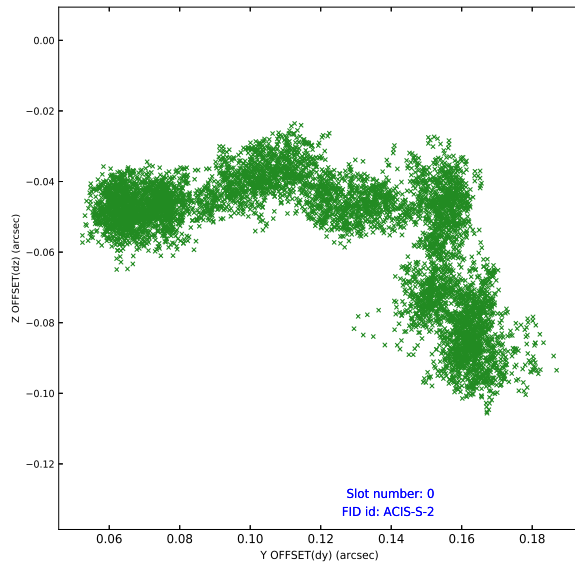


## 2.4.5 Slot 7

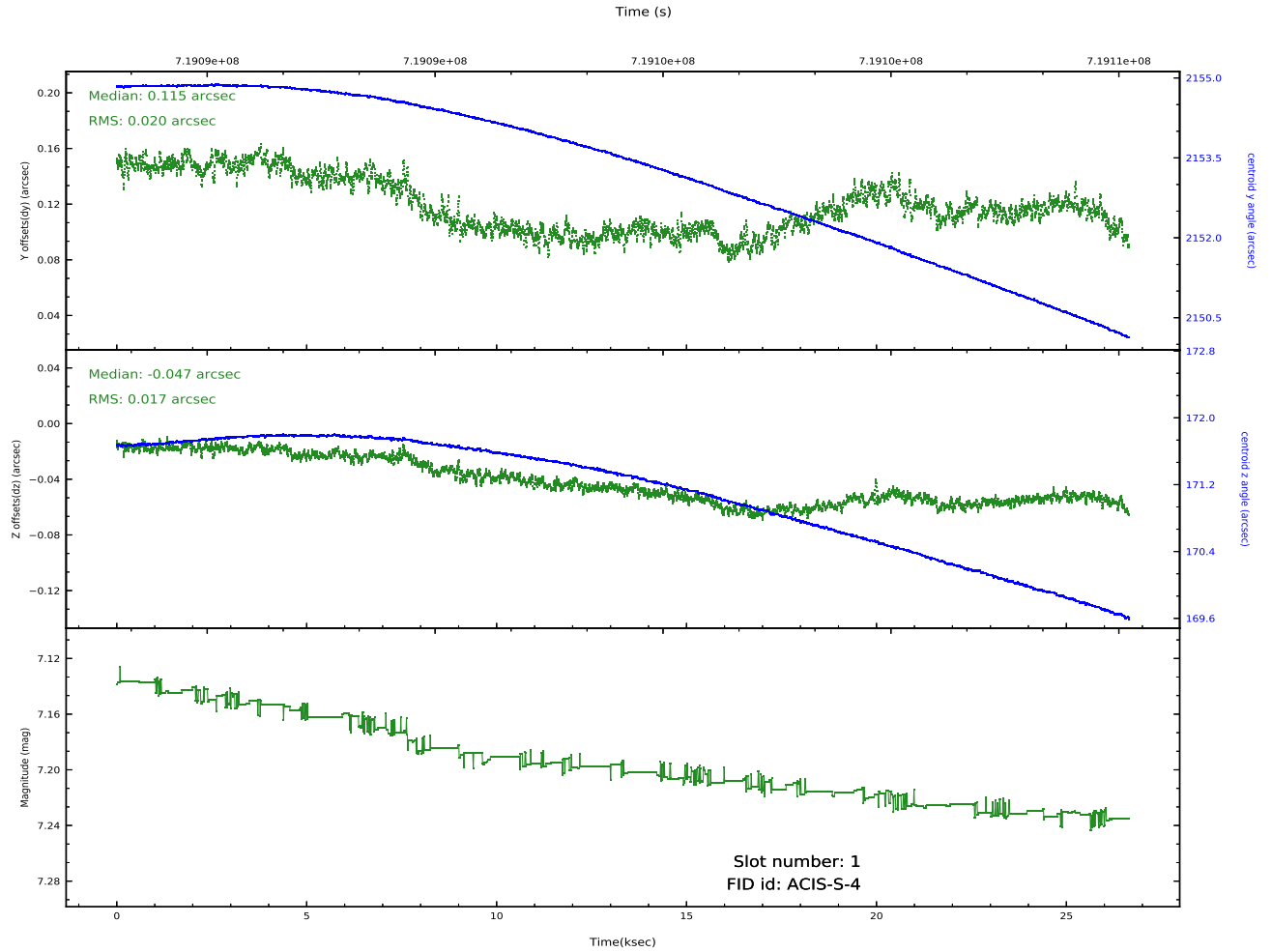
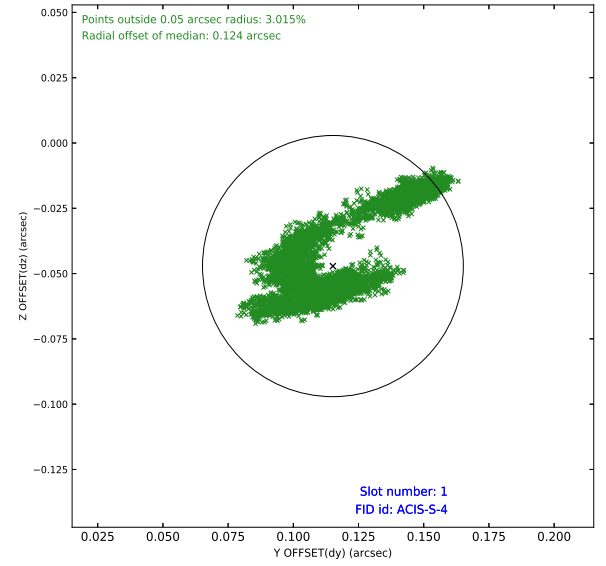
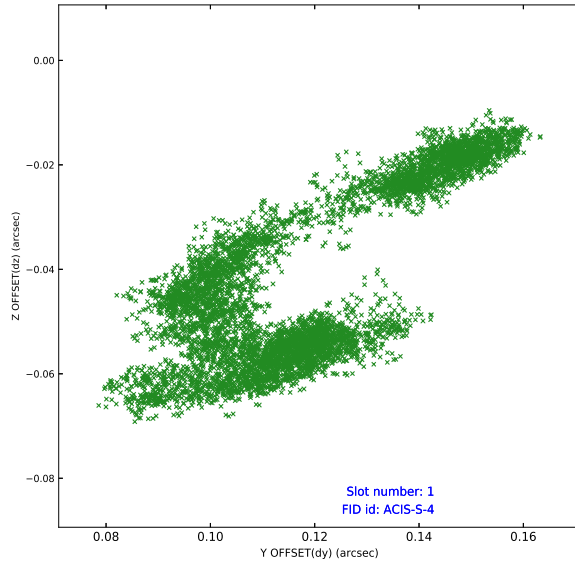


## 2.5 FID Slots

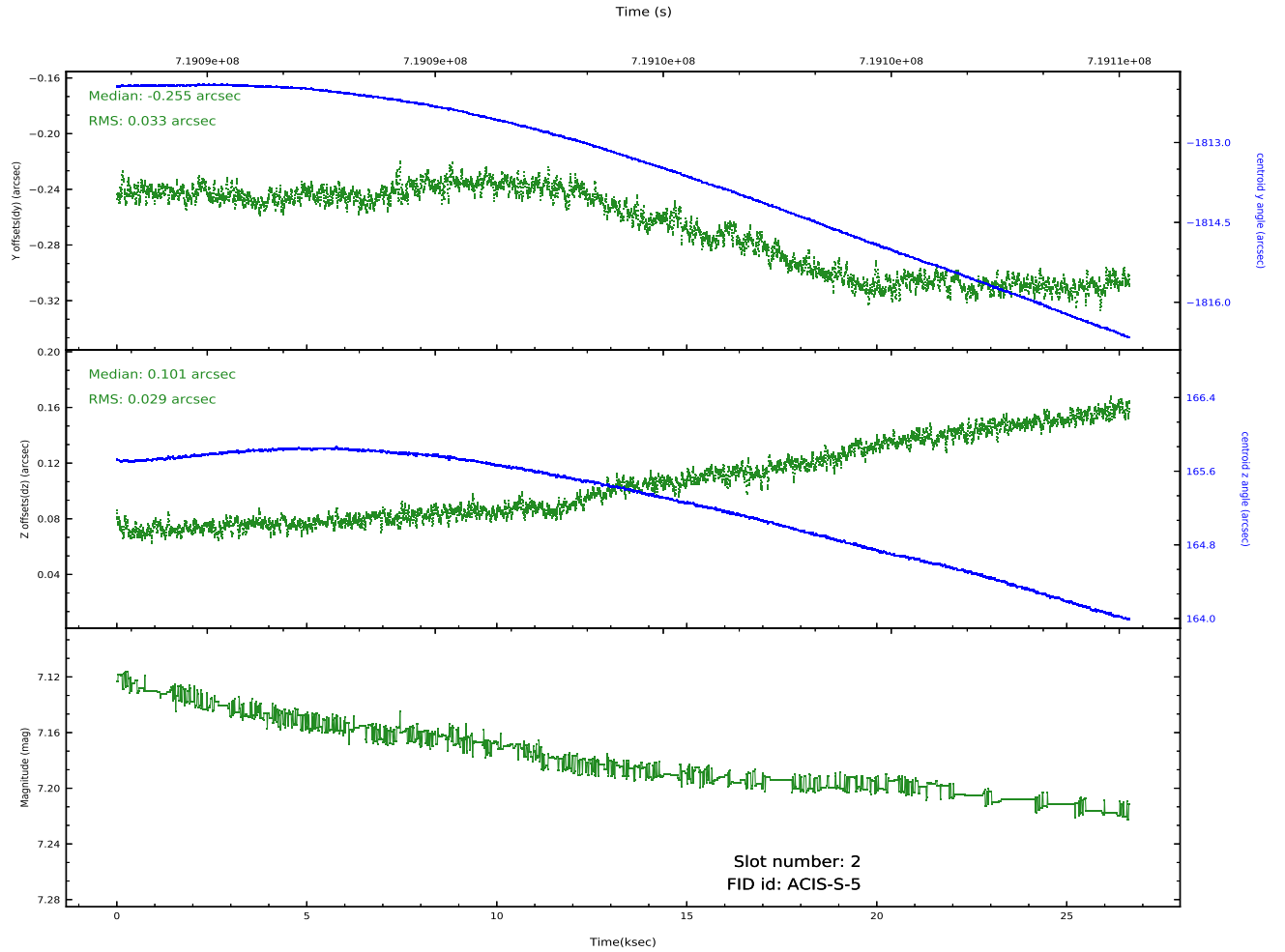
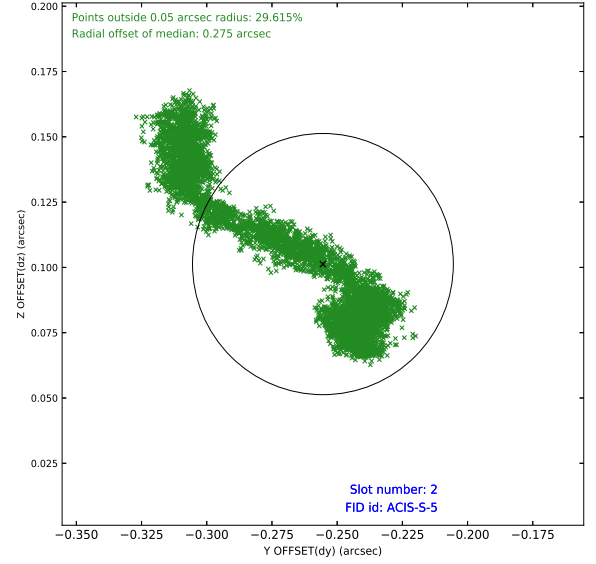
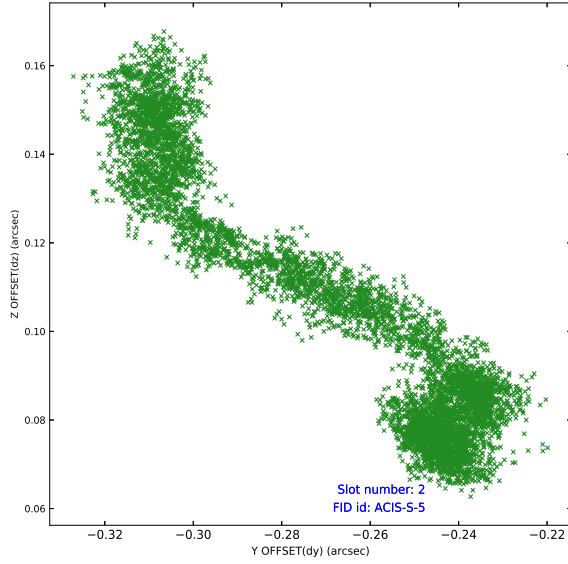
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2

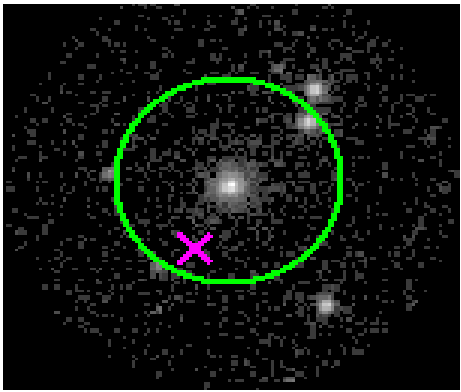


# 3 Gratings

## 3.1 HEG Arm



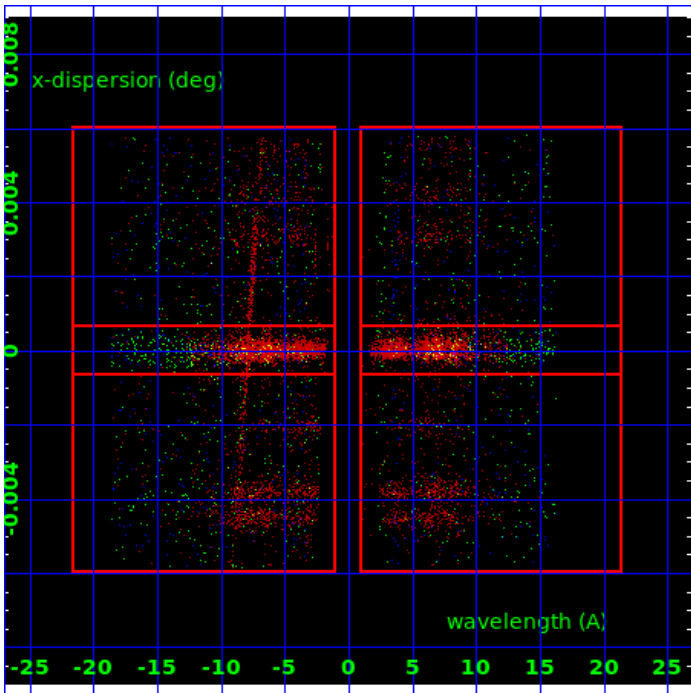
HEG Order Sort 123



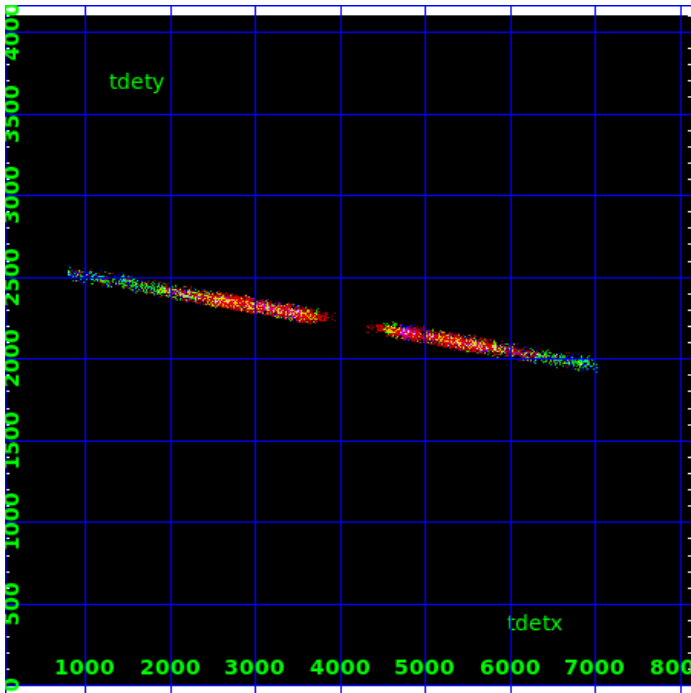
HEG Zero Order



HEG Order Sort ALL

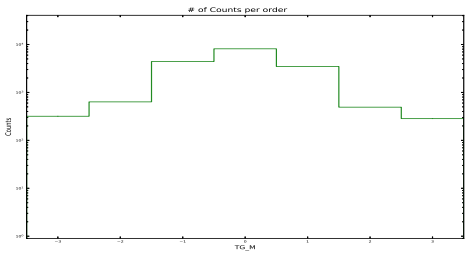


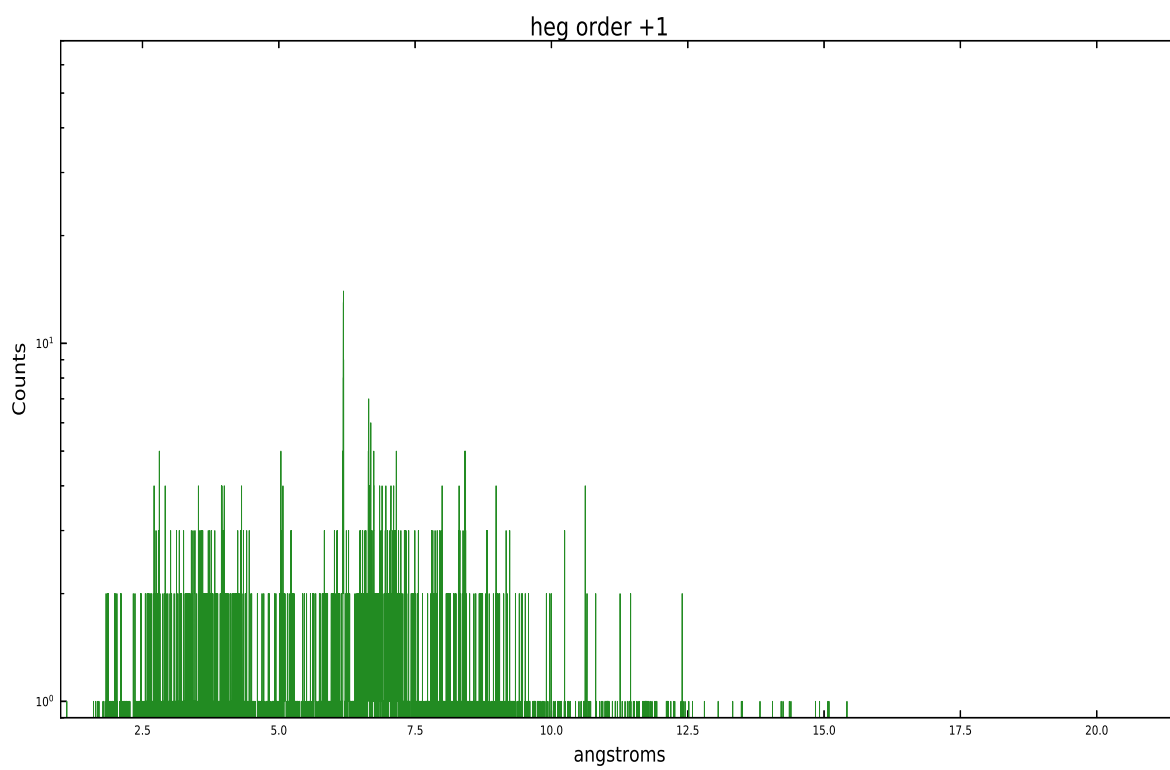
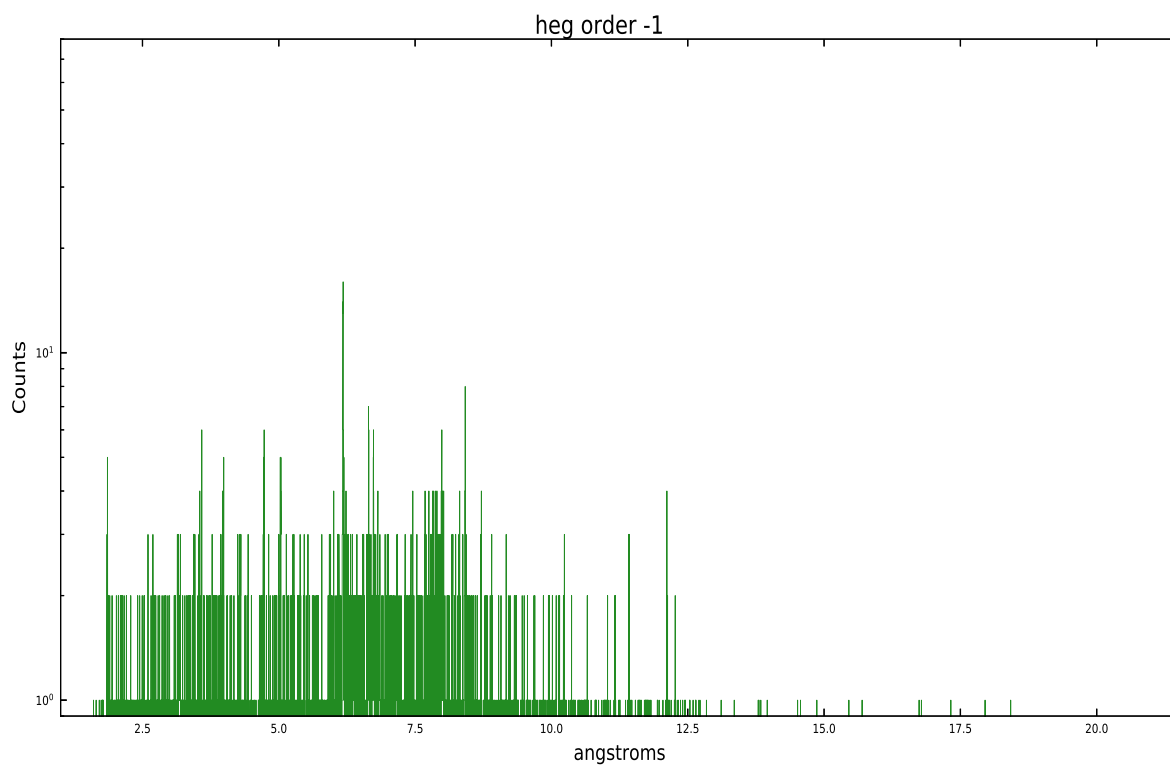
Spot Image HEG



Full Detector HEG

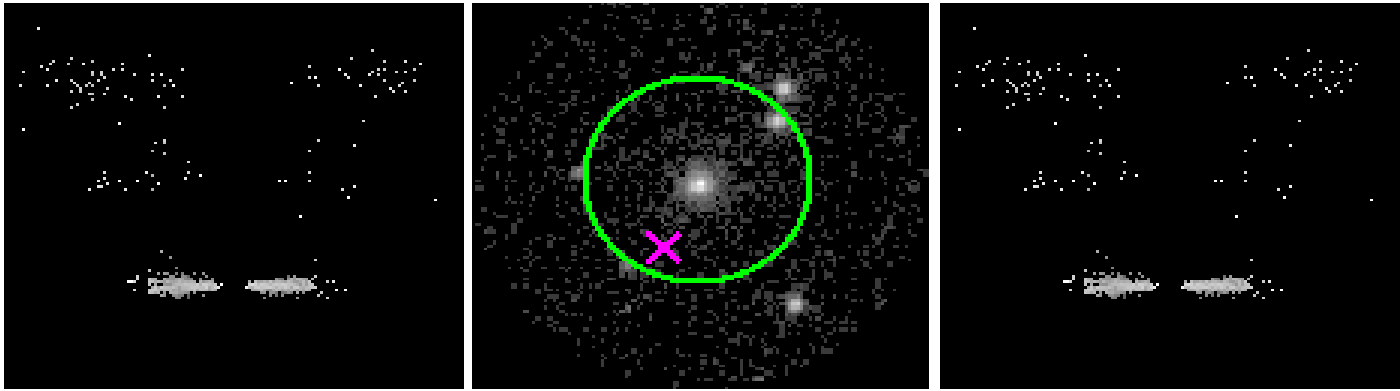
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	318	635	4407	8130	3476	492	284







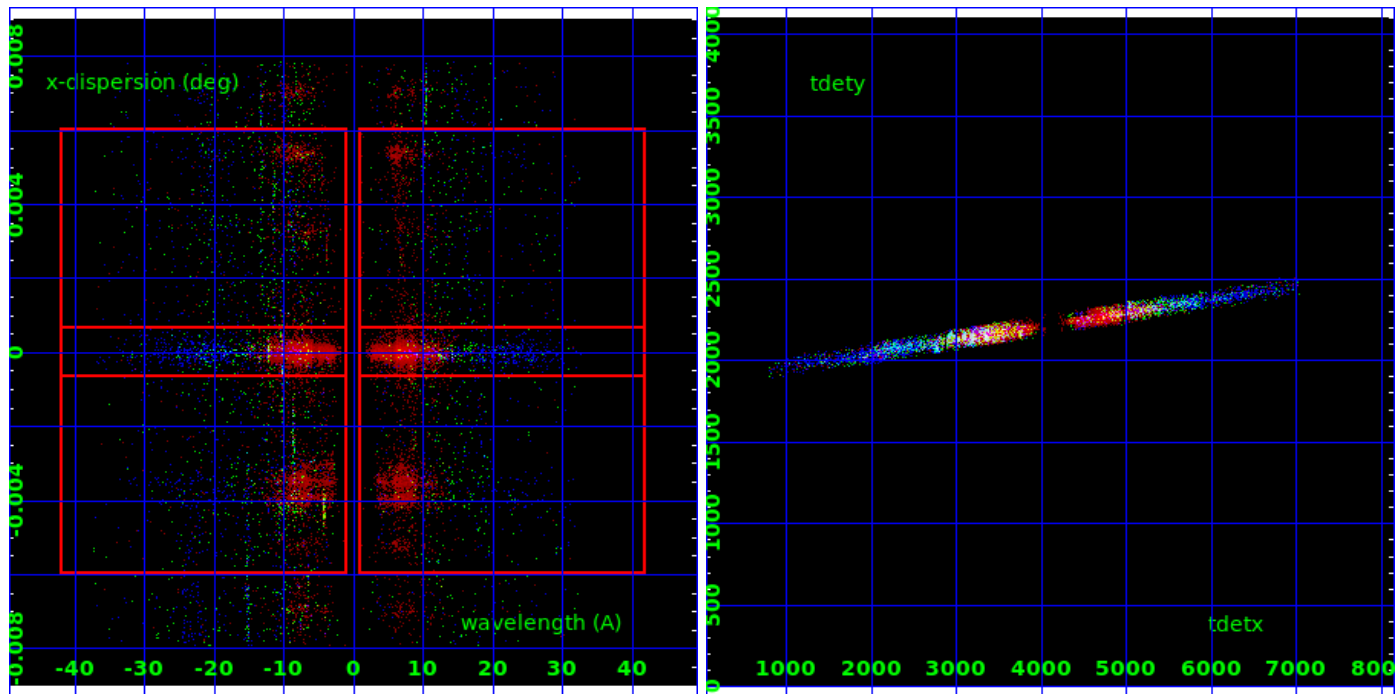
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

MEG Order Sort ALL

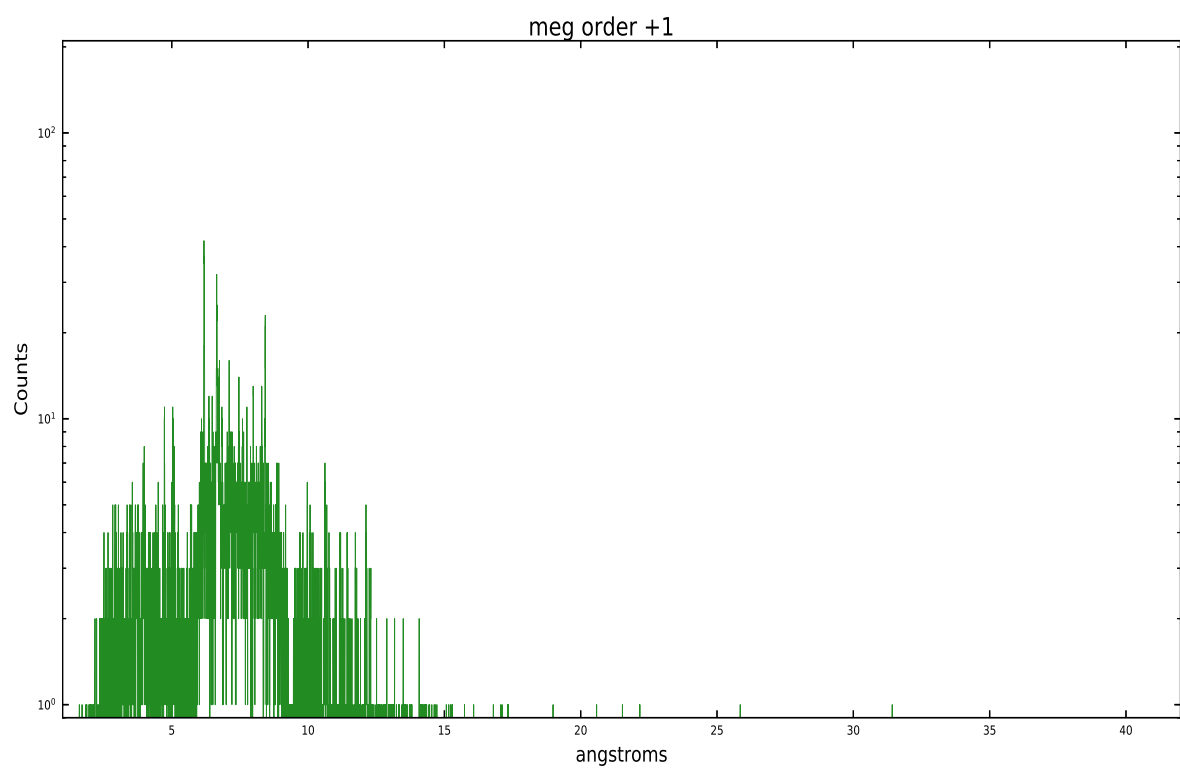
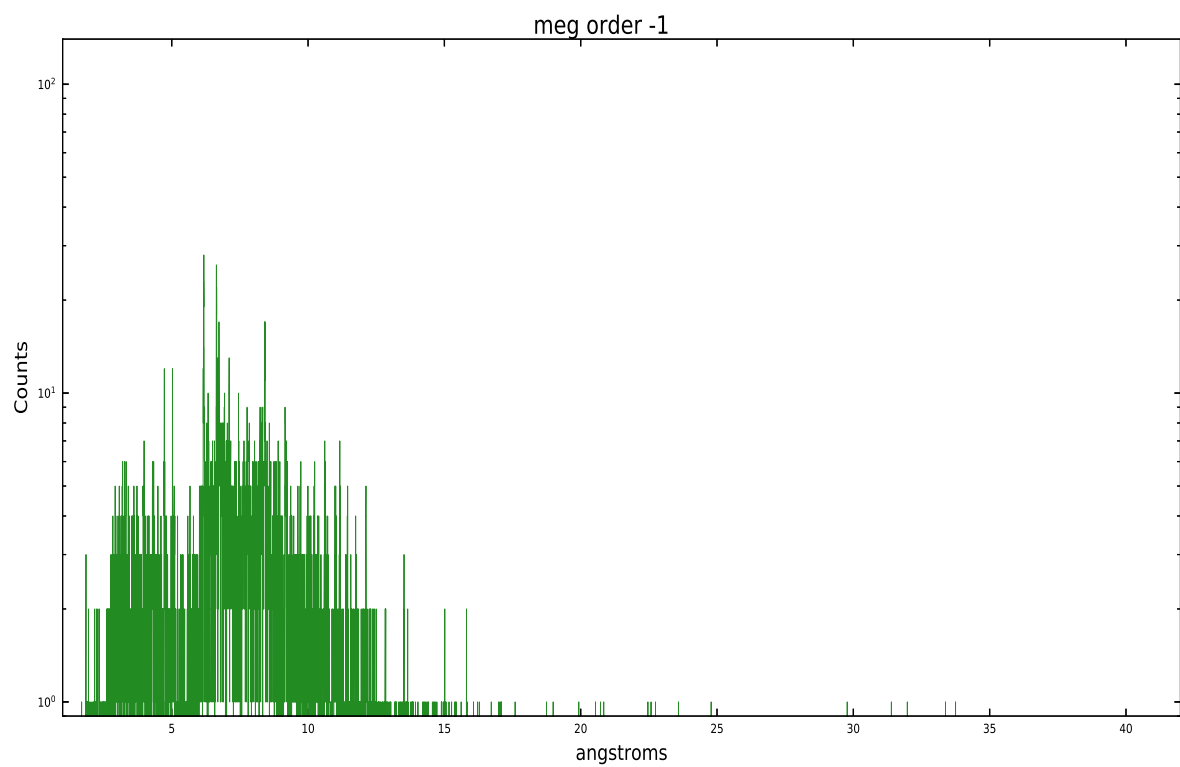


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1650	1062	7795	8130	8010	581	900





## A Summary

### A.1 Status

V&V Scientist	Melania Nynka
V&V Date (YYYY-MM-DD)	2020.10.16
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	25.947690104008

### A.2 Comments