

# V&V Reference Report

## L2 ASCDS Version : 10.7.1

Observation 22010 - L2 Version 1  
Chandra X-Ray Center

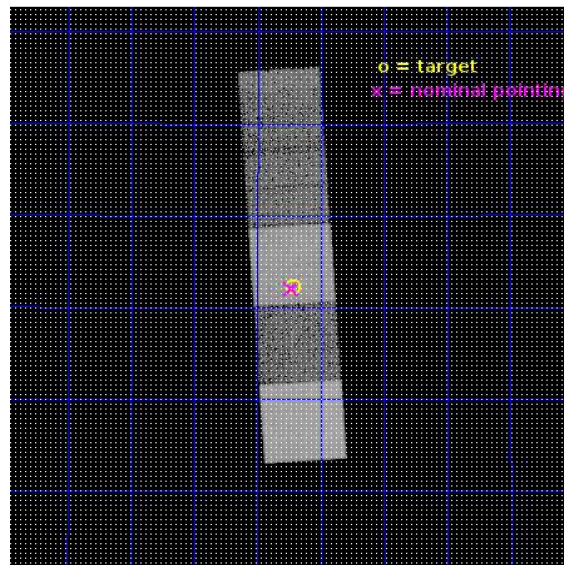
L2 Processing Date : Dec 22 2018

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# 1 Front

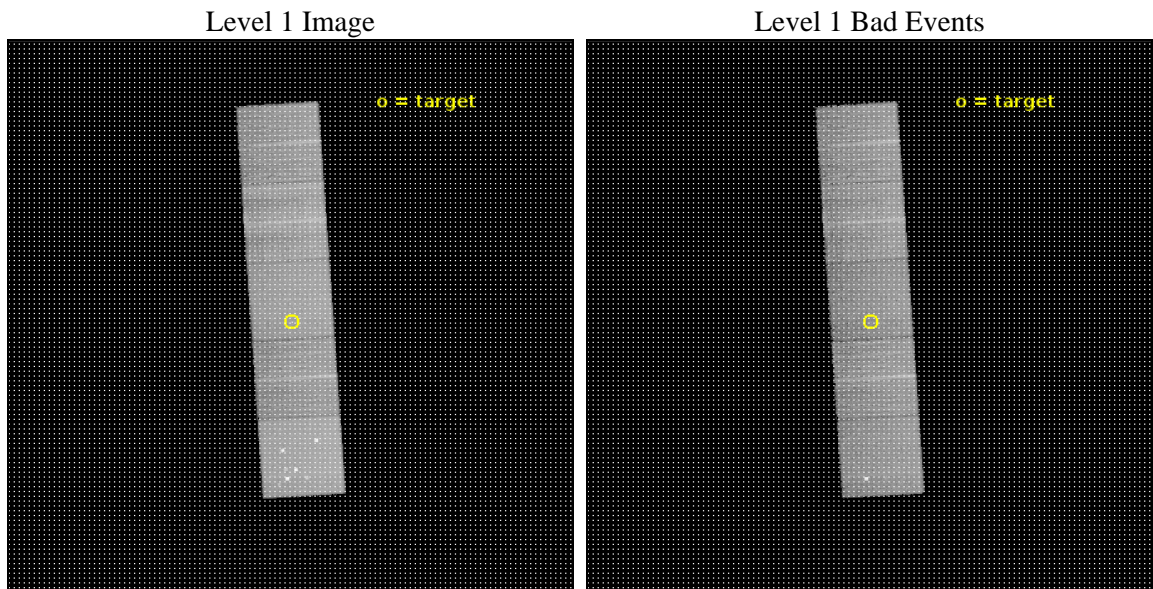
seq_num	201196	Sequence number
obs_id	22010	Observation id
title	X-ray Flares from Young Stars and the Sun: Bridging the Gap with Chandra+NuSTAR	Proposal title
observer	Dr. Claude Canizares	Principal investigator
object	V773 Tau	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	63.55375	Observer's specified target RA [deg]
dec_targ	28.203417	Observer's specified target Dec [deg]
ra_nom	63.557860131622	Nominal RA [deg]
dec_nom	28.200624486408	Nominal Dec [deg]
roll_nom	266.15465091122	Nominal Roll [deg]
revision	1	Processing version of data
ontime	16020.800123334	Sum of GTIs [s]
livetime	15811.476575381	Livetime [s]
ontime5	16020.800123334	Sum of GTIs [s]
ontime6	16020.800123334	Sum of GTIs [s]
ontime7	16020.800123334	Sum of GTIs [s]
ontime8	16020.800123334	Sum of GTIs [s]
ontime9	16020.800123334	Sum of GTIs [s]
l2events	197057	Number of level 2 events



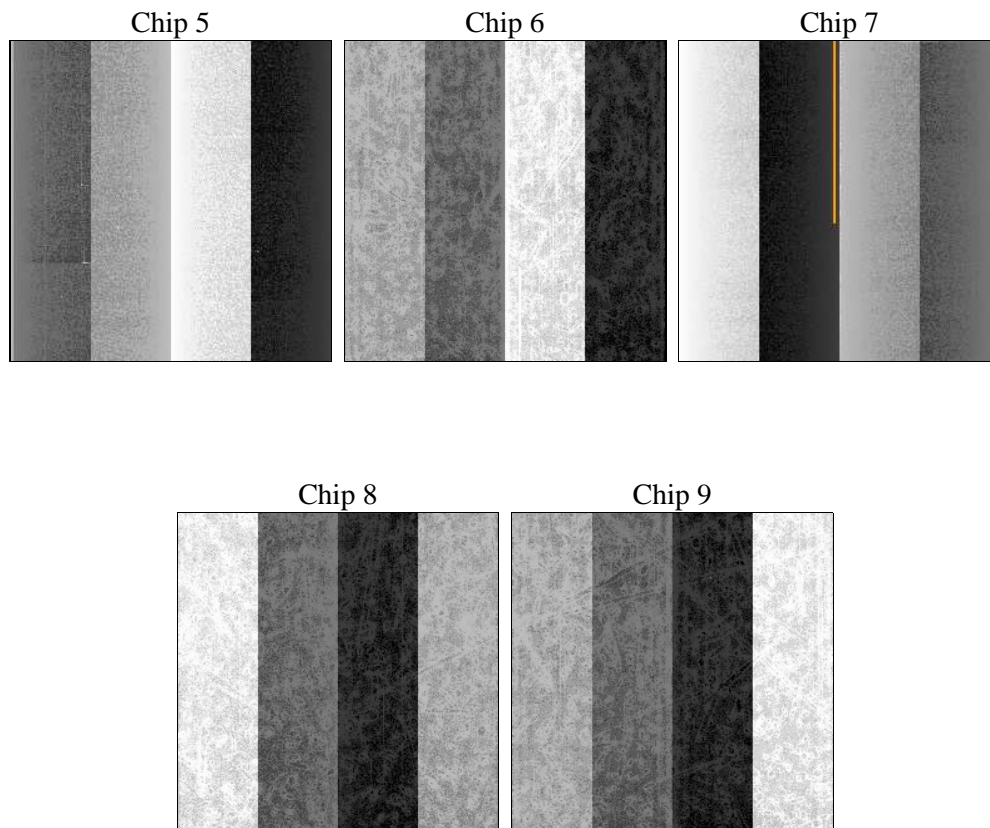
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	16000.000000	[s] Scheduled observation exposure time
ascdsver	10.7.1	Processing system revision	ontime	16020.800123334	Sum of GTIs [s]
caldsver	4.8.2	&#160	ontime5	16020.800123334	Sum of GTIs [s]
date	2018-12-23T00:22:06	Date and time of file creation	ontime6	16020.800123334	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	16020.800123334	Sum of GTIs [s]
			ontime8	16020.800123334	Sum of GTIs [s]
			ontime9	16020.800123334	Sum of GTIs [s]
			l1events	793355	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			zo_pos	(4121.70, 4115.91)	src1a sky pixel position

### 2.1.4 Events

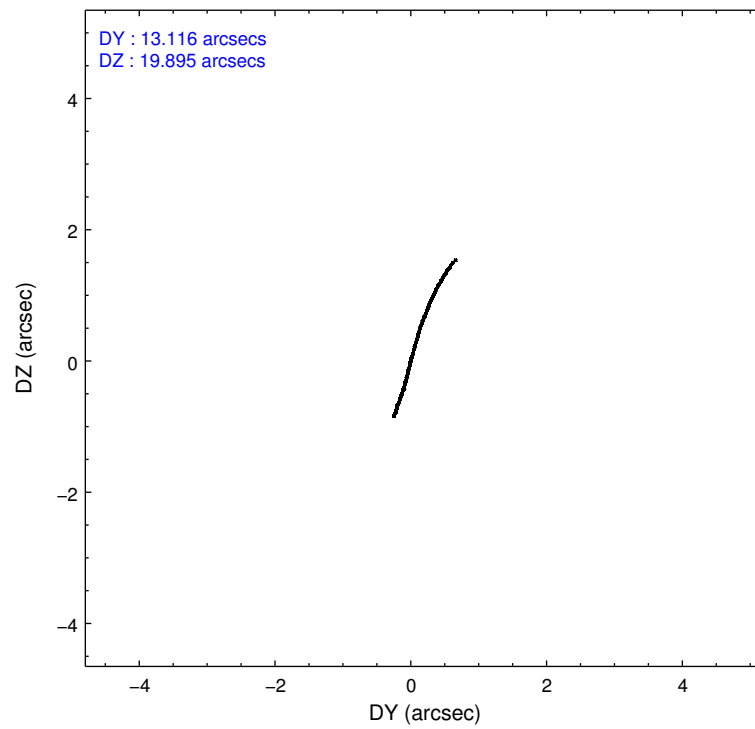
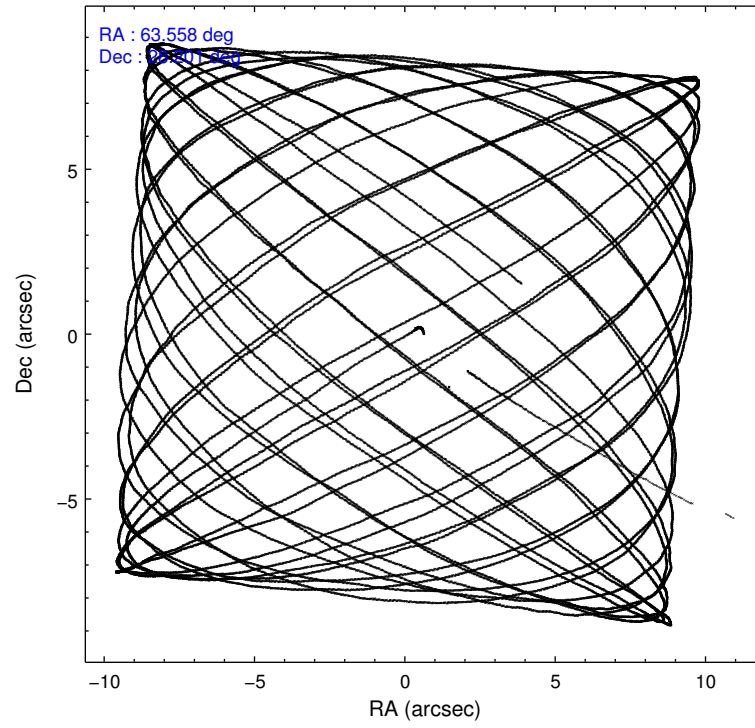
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	218375	126925	160044	162505	125506
rejected events	109180	112827	91161	117972	110247
rejected %	49%	88%	56%	72%	87%

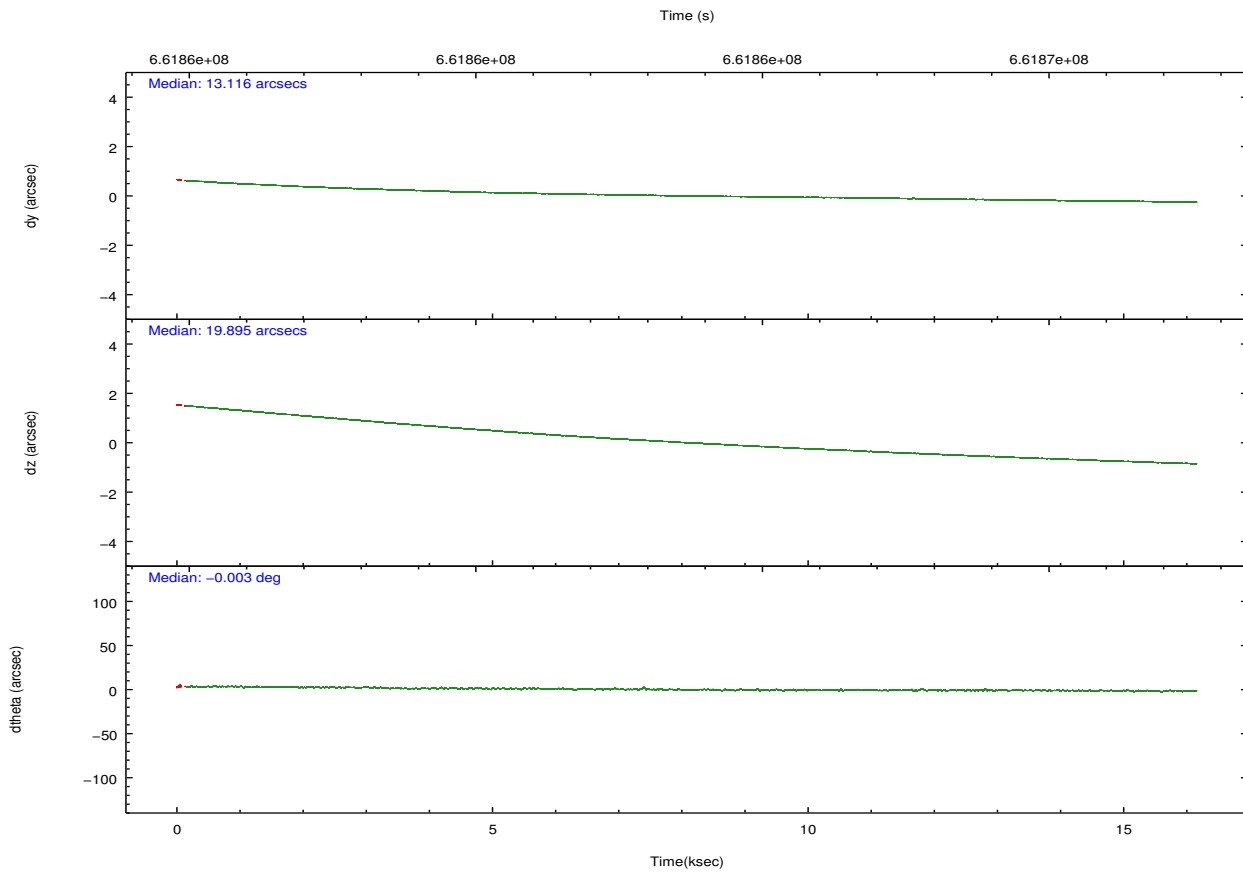
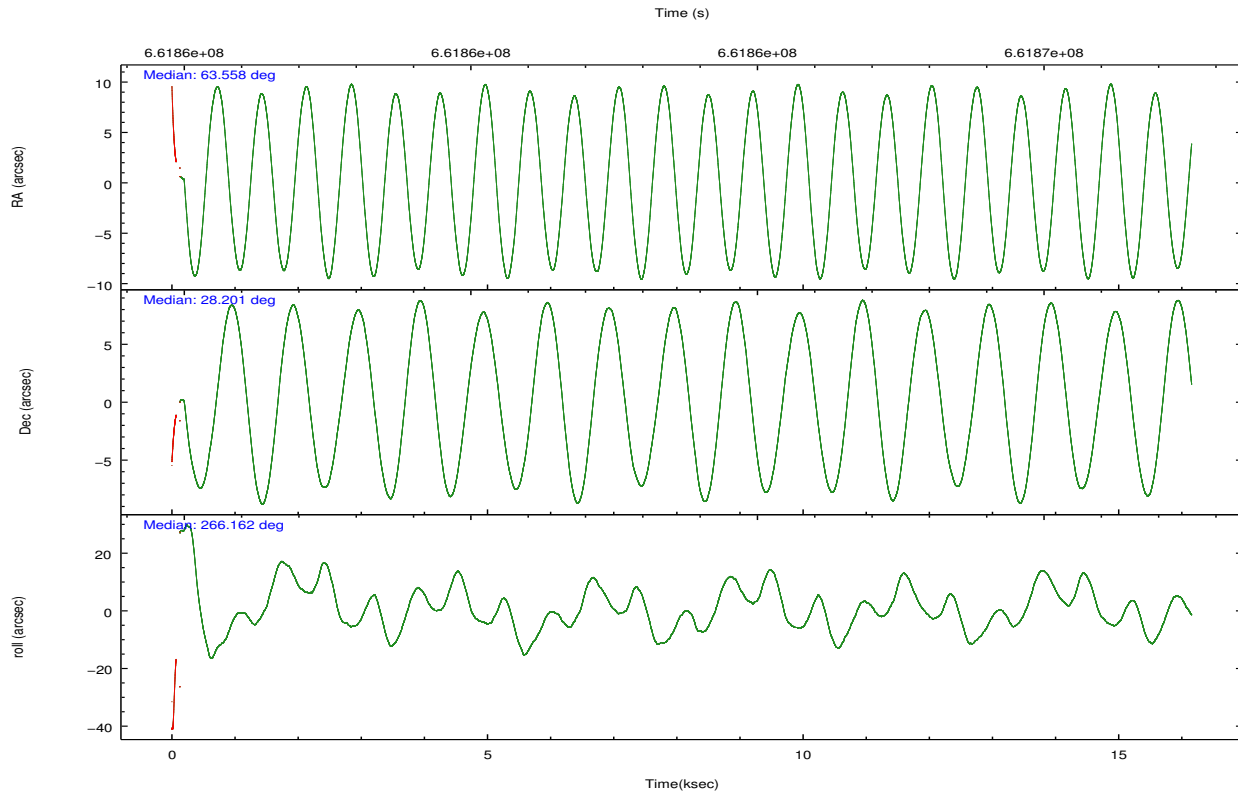
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	19117	4758	5946	12493	5355
	8%	3%	3%	7%	4%
grade 1 events	489	62	240	136	80
	0%	0%	0%	0%	0%
grade 2 events	31897	3300	14838	10795	3496
	14%	2%	9%	6%	2%
grade 3 events	3167	1344	5321	4829	1548
	1%	1%	3%	2%	1%
grade 4 events	2679	1382	5209	4403	1480
	1%	1%	3%	2%	1%
grade 5 events	13630	5785	15640	8893	6374
	6%	4%	9%	5%	5%
grade 6 events	52590	3350	37731	12137	3416
	24%	2%	23%	7%	2%
grade 7 events	94806	106944	75119	108819	103757
	43%	84%	46%	66%	82%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-56789	ACIS-56789	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	63.543777	63.55786013162245	CCD I2 on	N	N
[deg] Pointing Dec	28.225099	28.20062448640831	CCD I3 on	N	N
[deg] Pointing Roll	266.004712	266.1546509112154	CCD S0 on	O1	N
[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	-190.1425803651734	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01005778216563158	CCD S4 on	Y	Y
[s] Observation start time (MET)	661855750.184000	661854706.68744	CCD S5 on	O2	Y
Observation start date	2018-12-22T08:48:01	2018-12-22T08:31:46	Number of optional ACIS chips dropped	1	1
[s] Observation end time (MET)	661871750.184000	661872548.8635	On-chip summing requested	N	N
Observation end date	2018-12-22T13:14:41	2018-12-22T13:29:08	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect





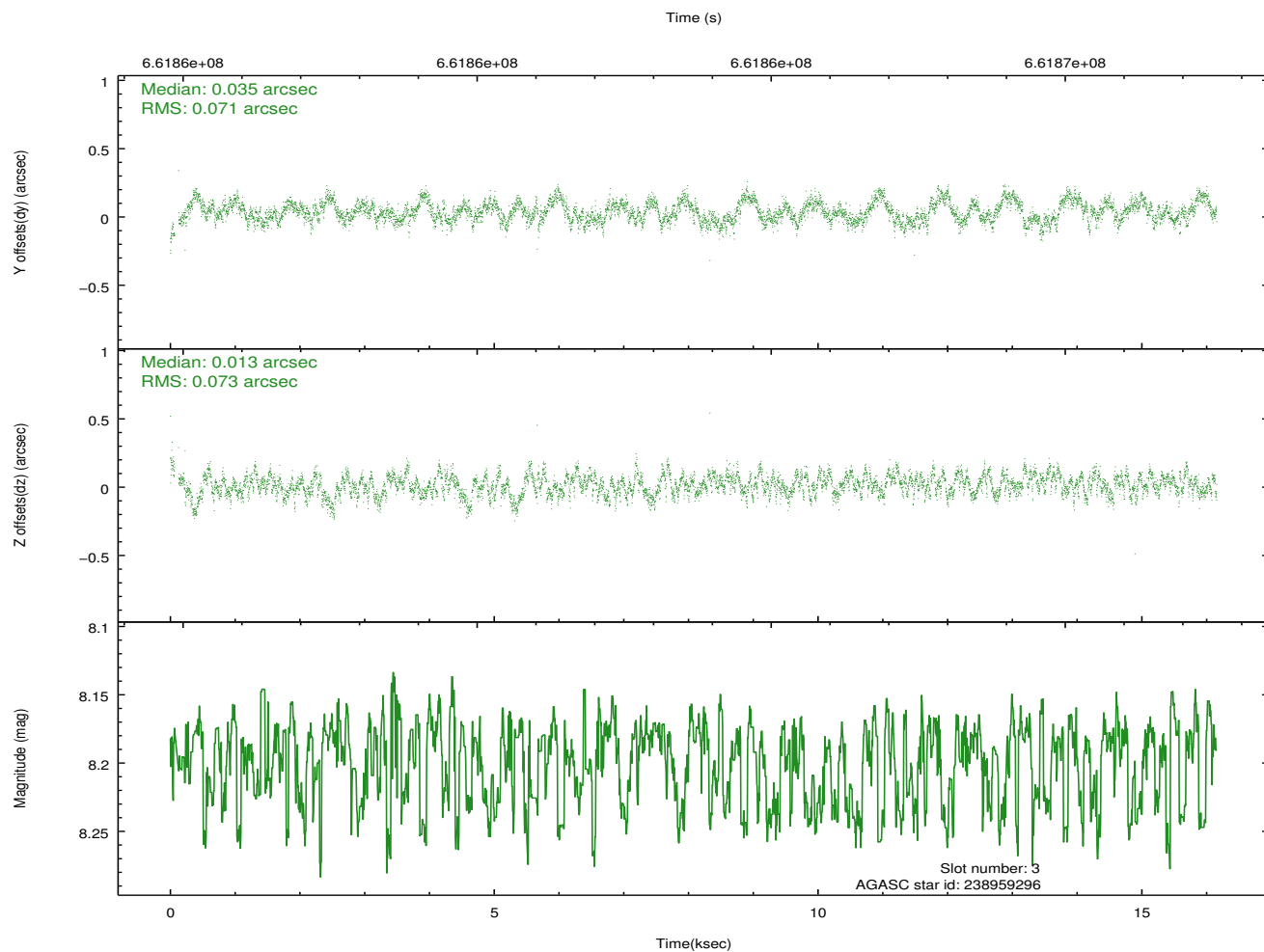
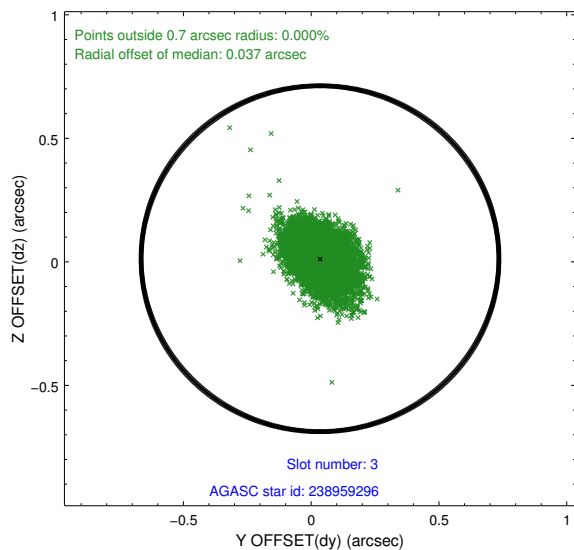
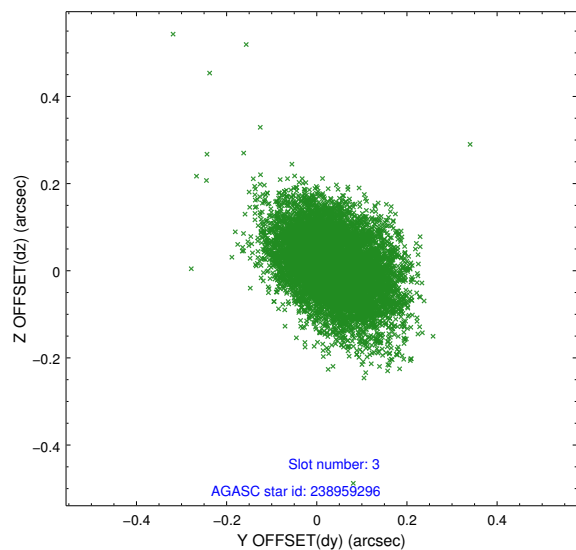
### Slot Statistics

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	7.03	3927	1.000	-0.431	-0.276	0.016	0.048	0.000000	0.000000	-766.57	-1741
1	FID		ACIS-S-4	7.16	3927	1.000	0.455	0.264	0.010	0.018	0.000000	0.000000	2147.52	166
2	FID		ACIS-S-6	7.28	3927	1.000	-0.051	0.020	0.013	0.043	0.000000	0.000000	396.21	804
3	GUIDE	used	238959296	8.20	7846	1.000	0.035	0.013	0.107	0.172	63.264622	28.040280	725.21	-837
4	GUIDE	used	238959616	8.63	7851	1.000	-0.166	-0.303	0.105	0.179	63.631917	27.959756	934.34	347
5	GUIDE	used	239475552	8.62	7851	1.000	-0.134	0.026	0.169	0.237	63.591874	28.708120	-1744.52	31
6	GUIDE	used	239476904	9.38	7831	1.000	0.280	0.272	0.208	0.365	63.088920	28.435074	-655.87	-1487
7	MONITOR	unused		0.00	0	0.000	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0

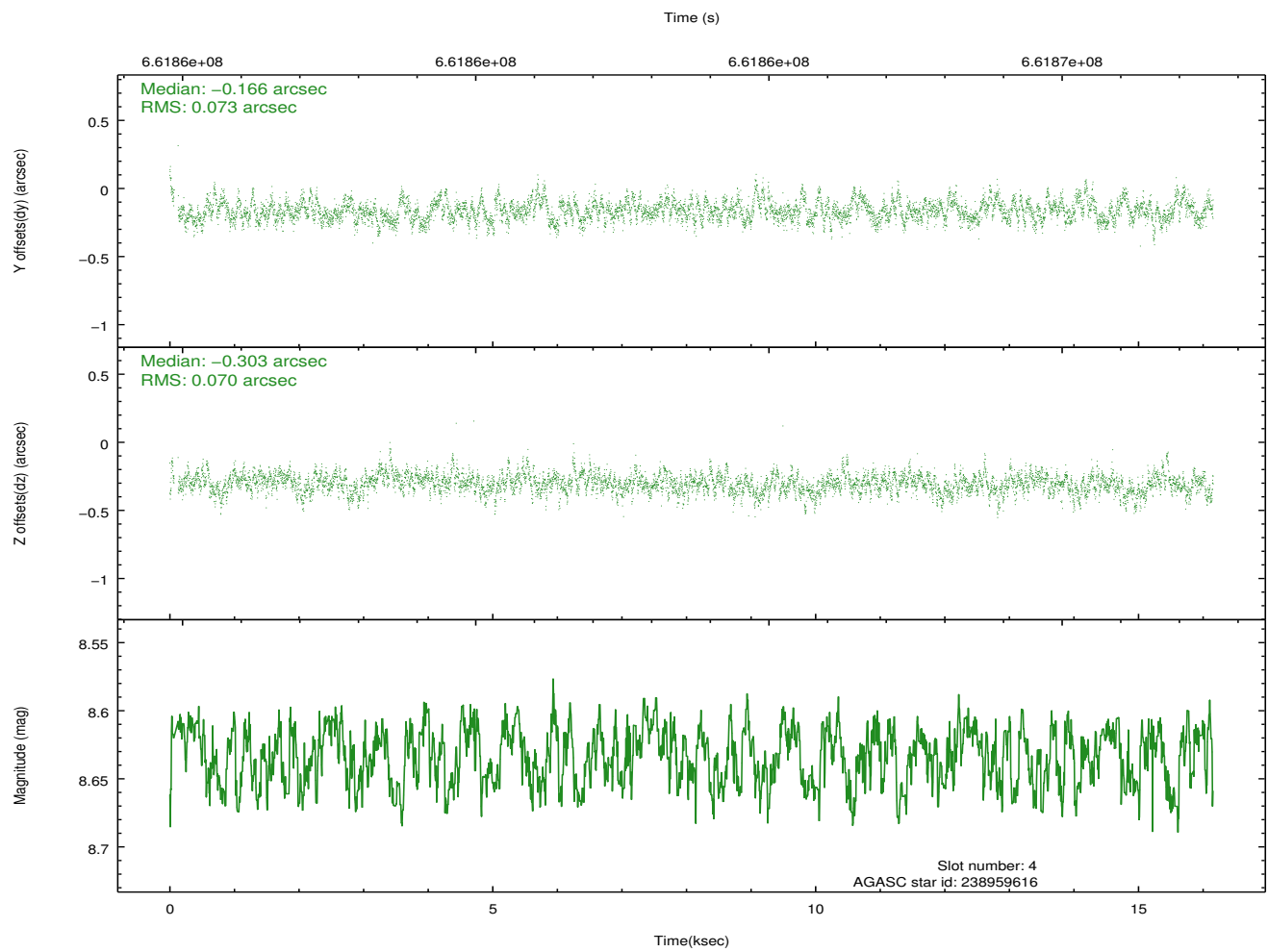
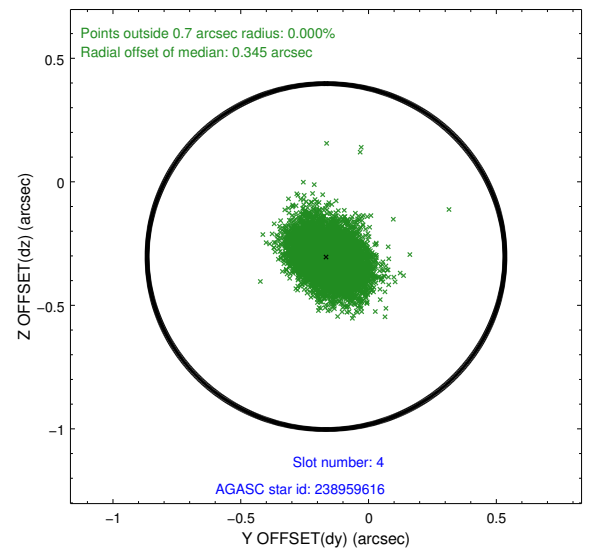
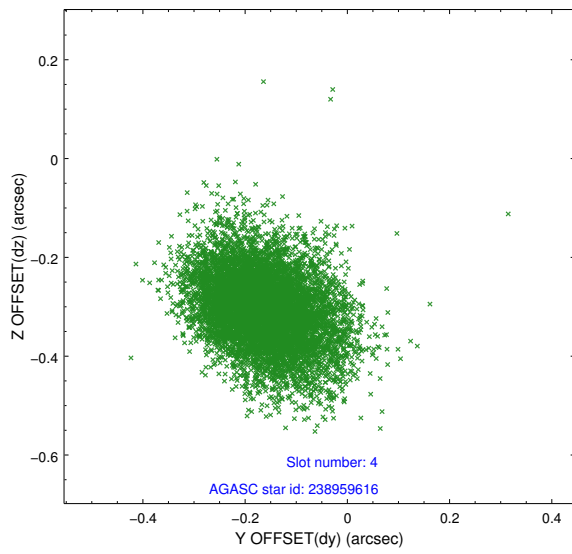
∞

## 2.4 Star Slots

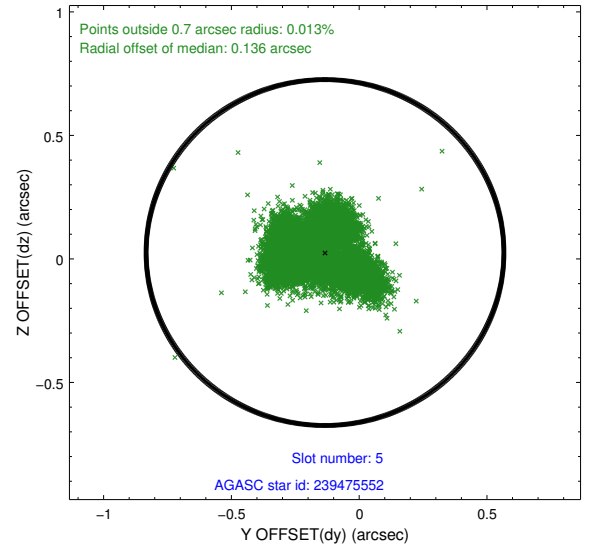
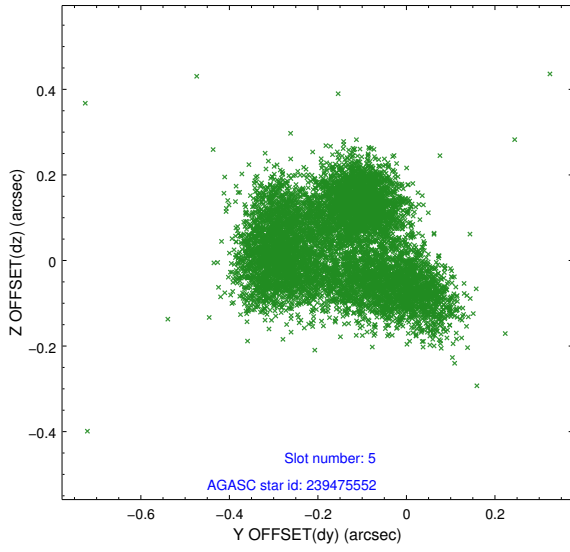
### 2.4.1 Slot 3



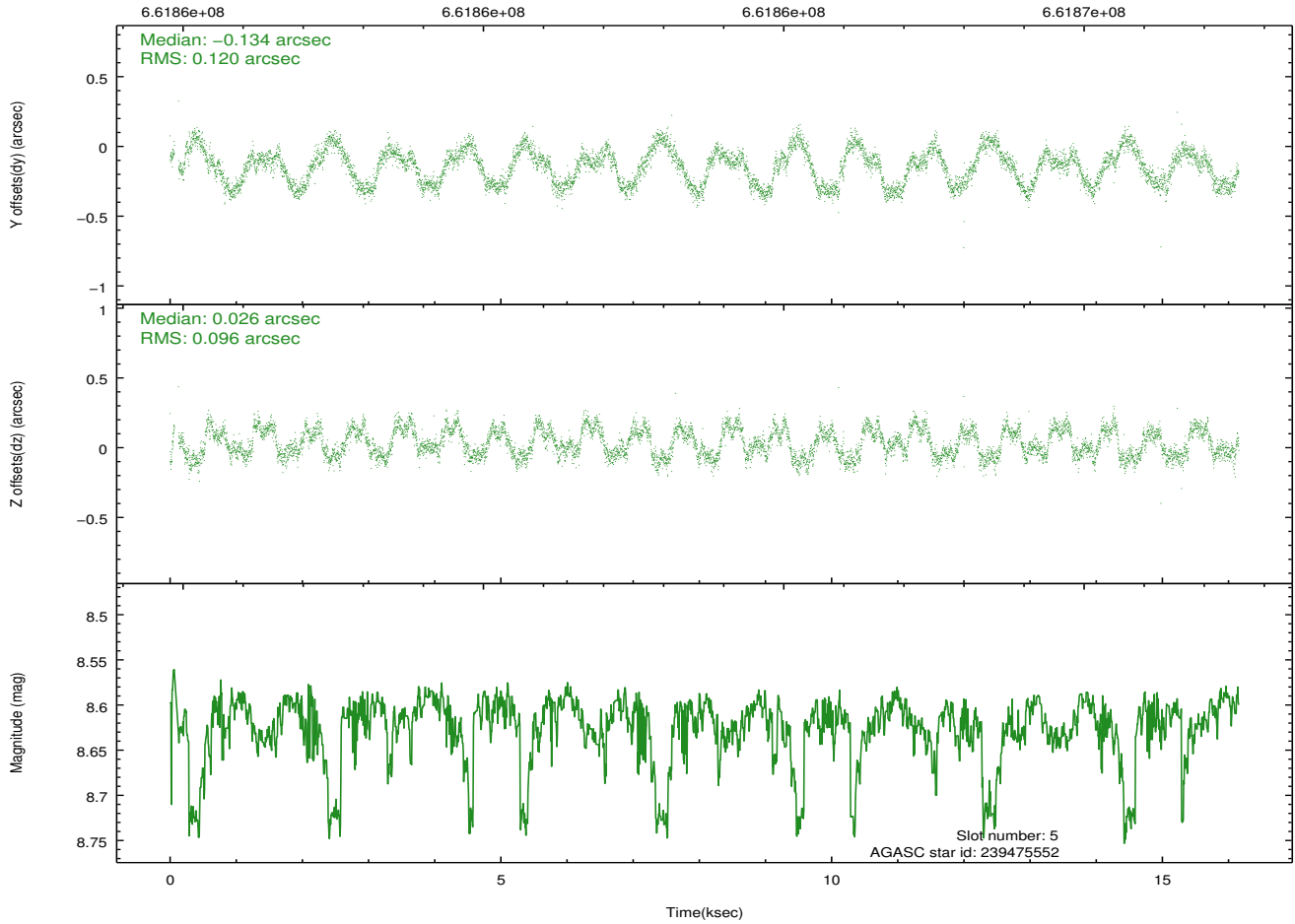
## 2.4.2 Slot 4



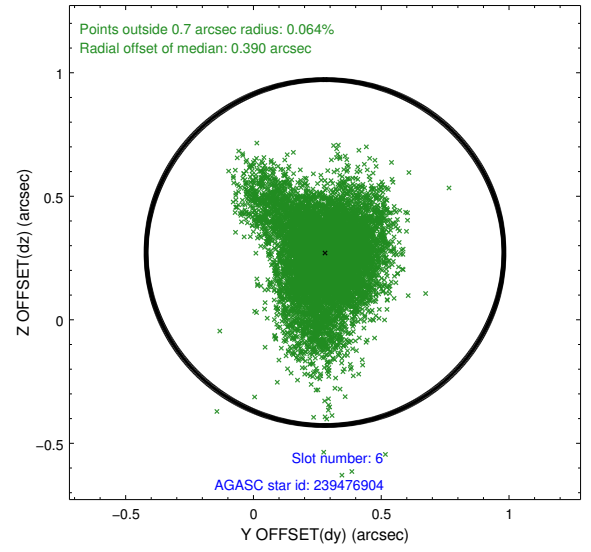
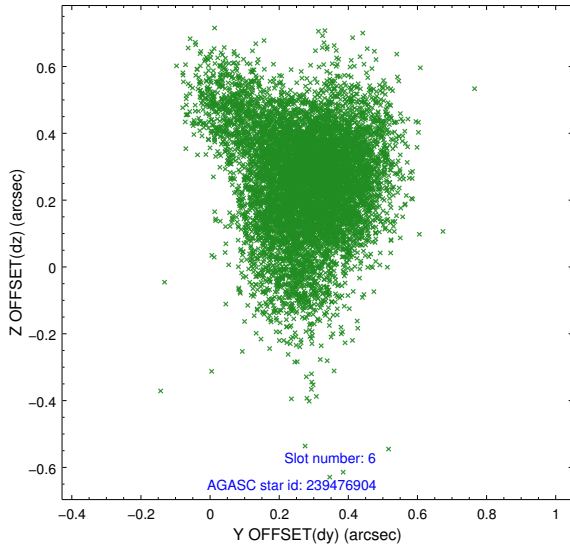
### 2.4.3 Slot 5



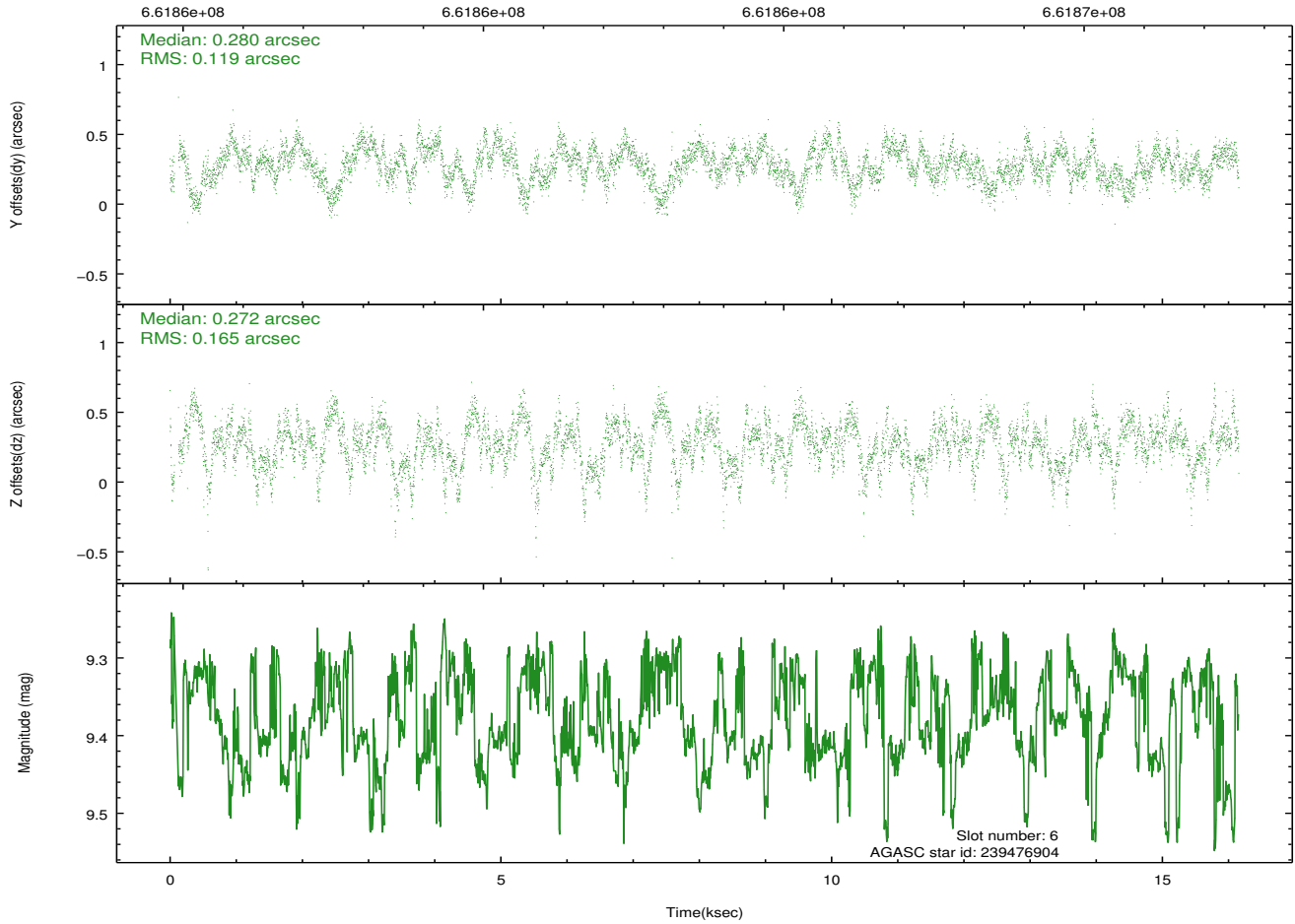
Time (s)



## 2.4.4 Slot 6

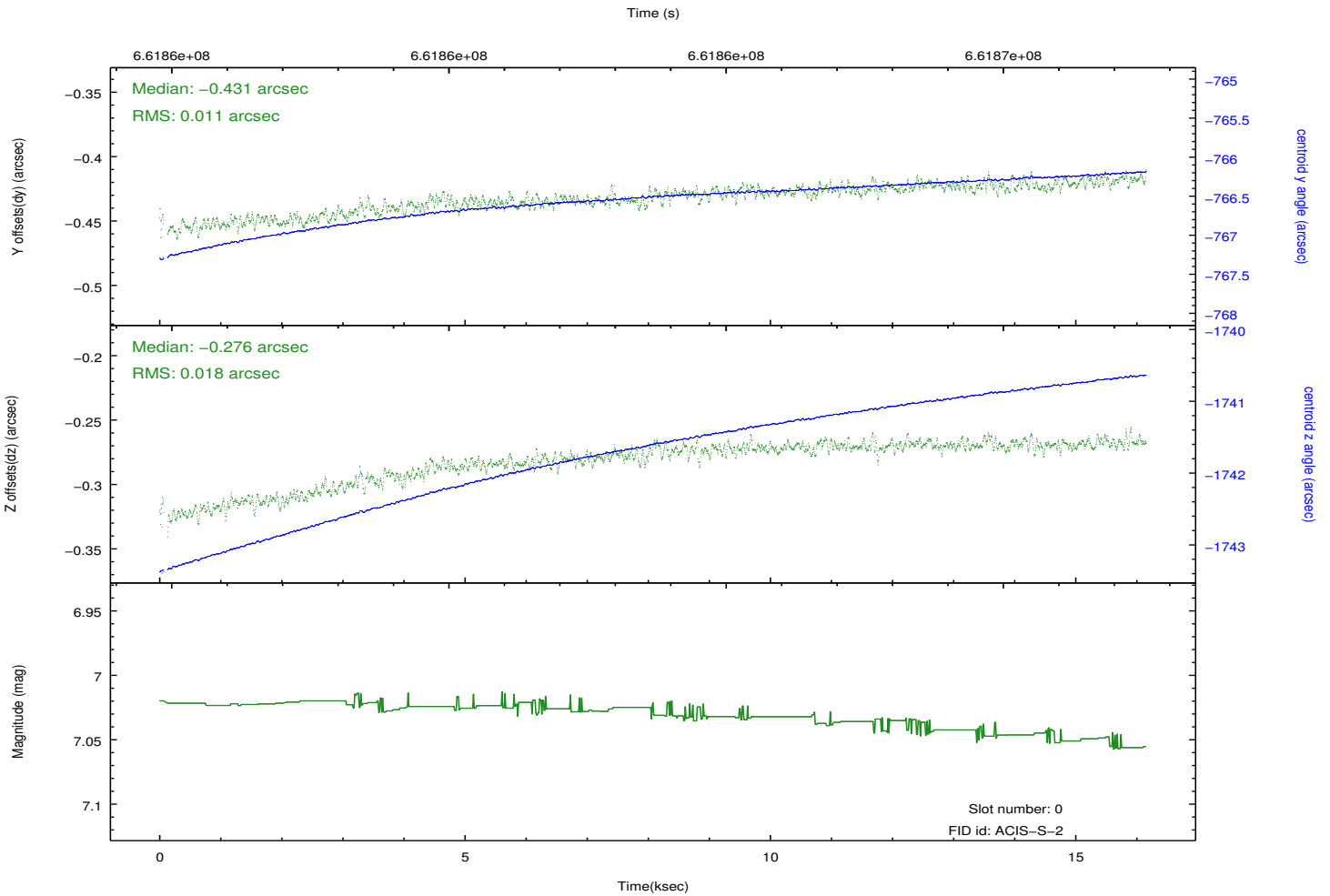
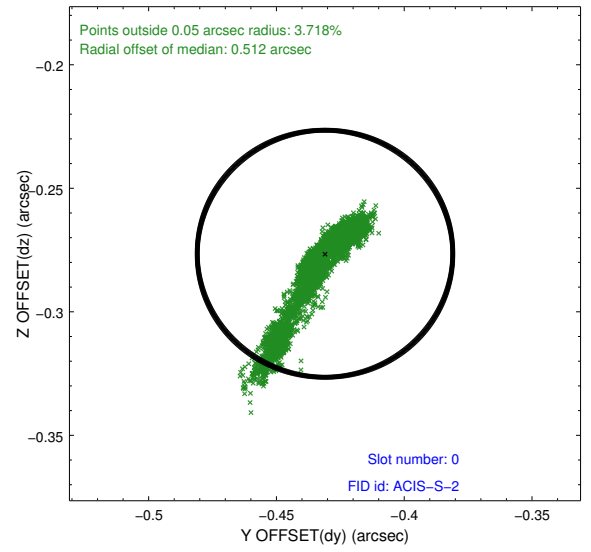
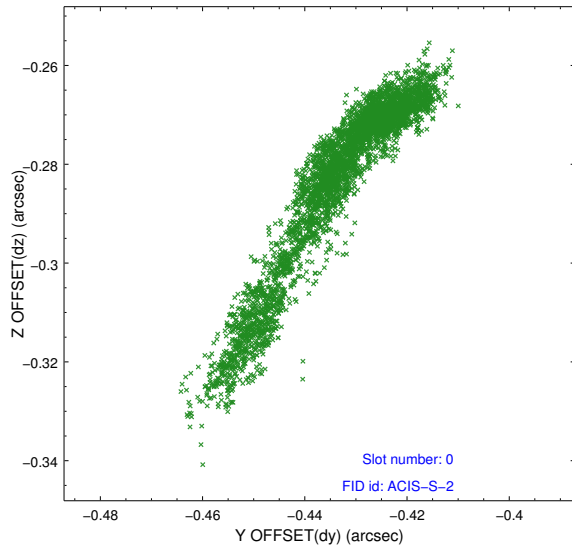


Time (s)

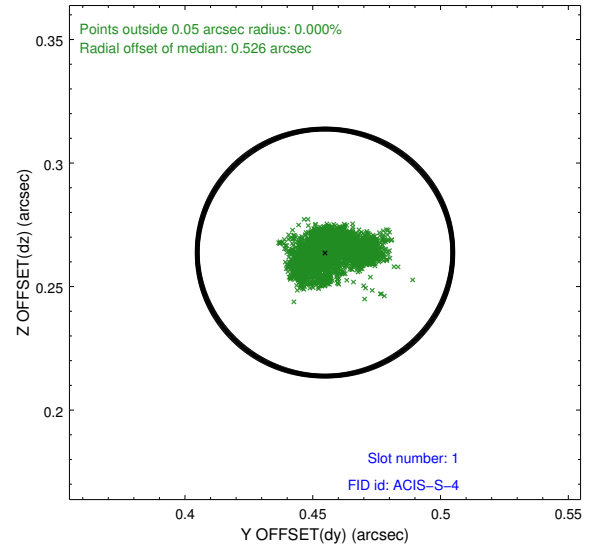
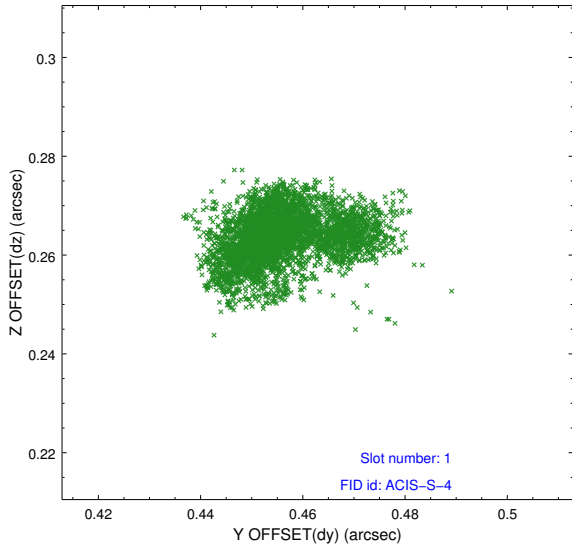


## 2.5 FID Slots

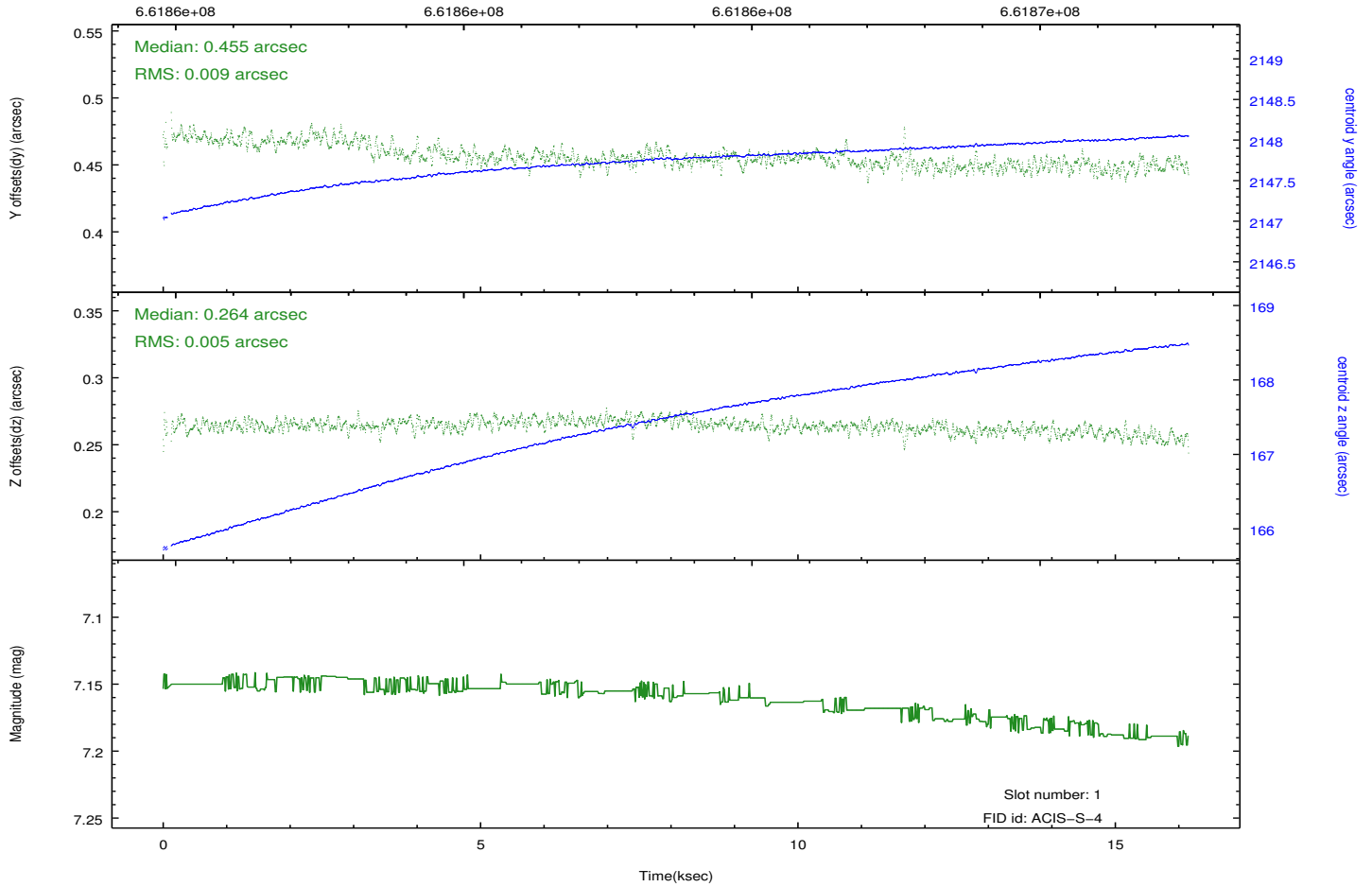
### 2.5.1 Slot 0



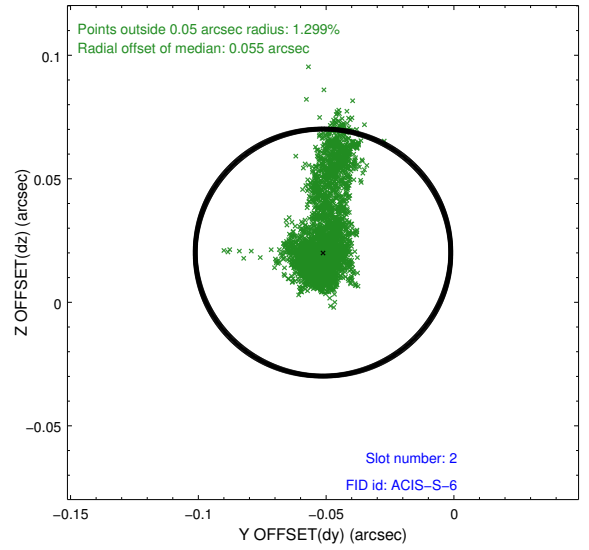
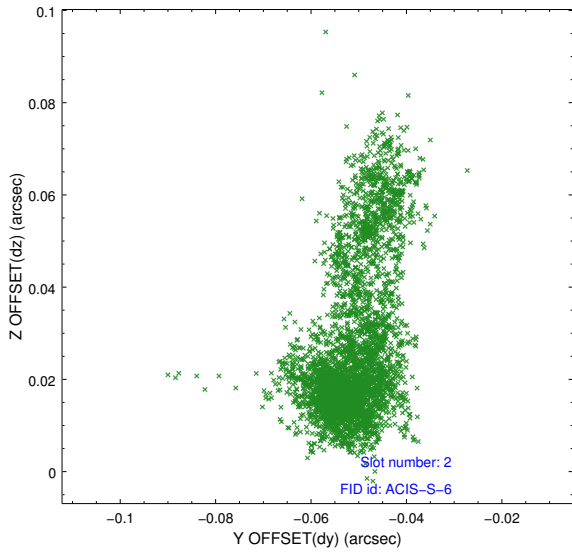
## 2.5.2 Slot 1



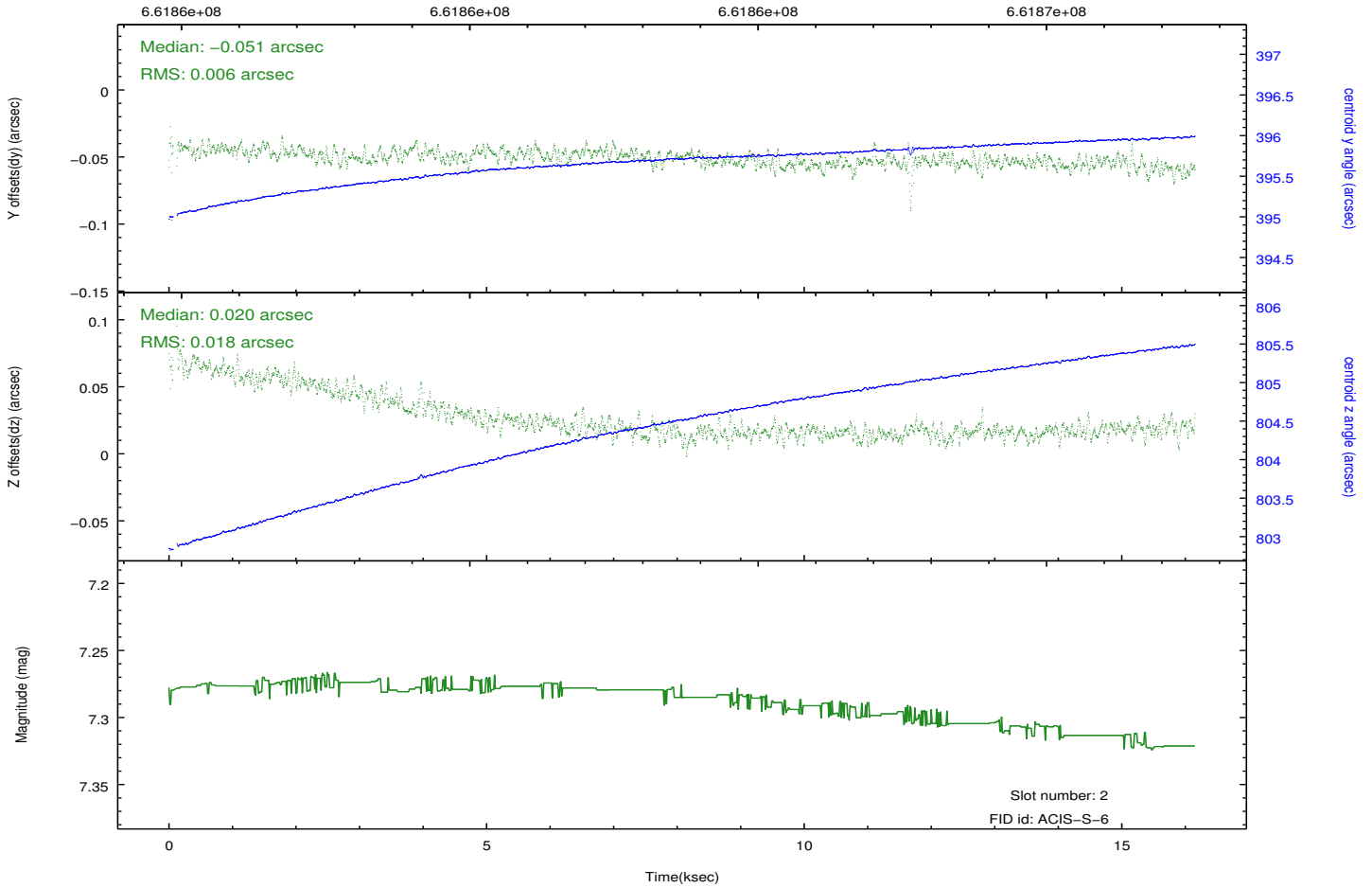
Time (s)



### 2.5.3 Slot 2

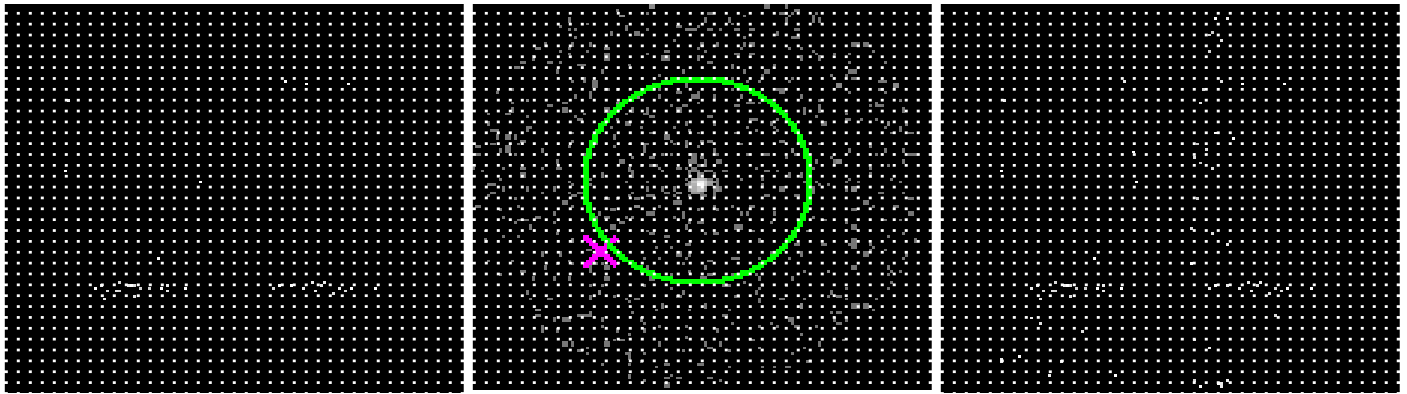


Time (s)



### 3 Gratings

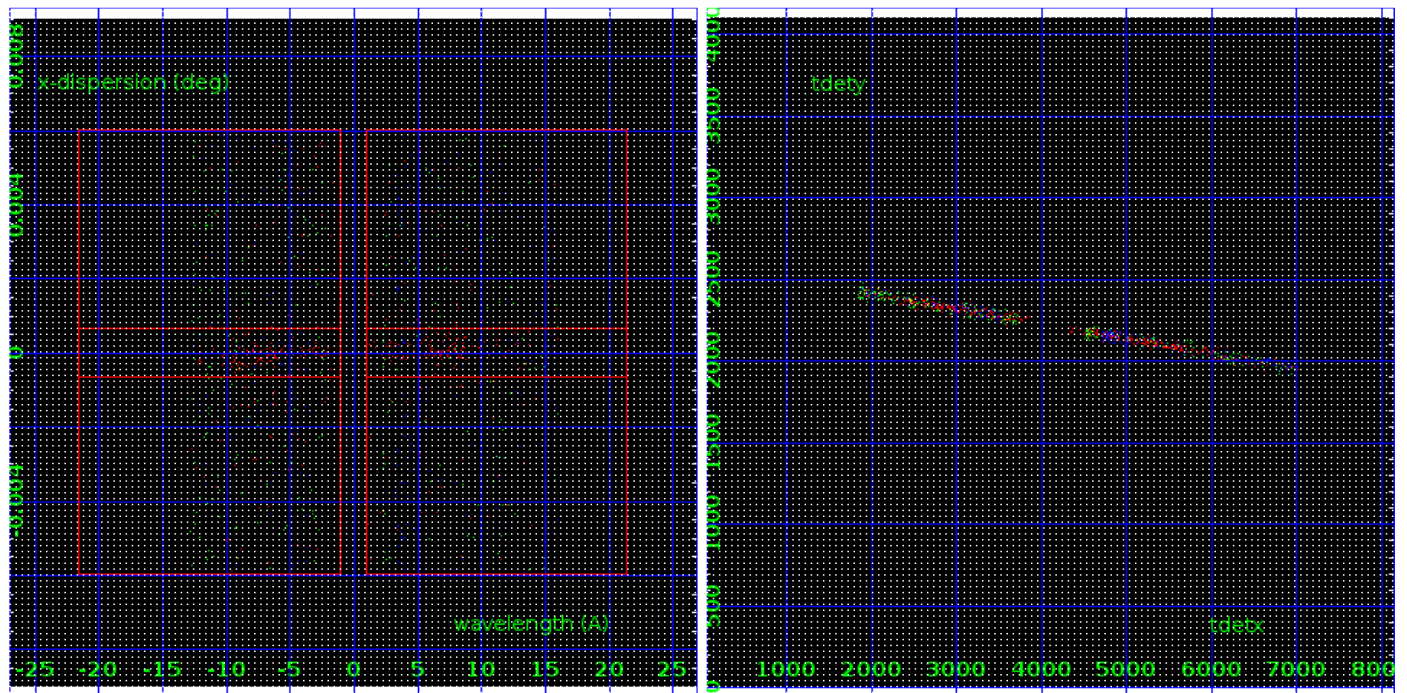
#### 3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

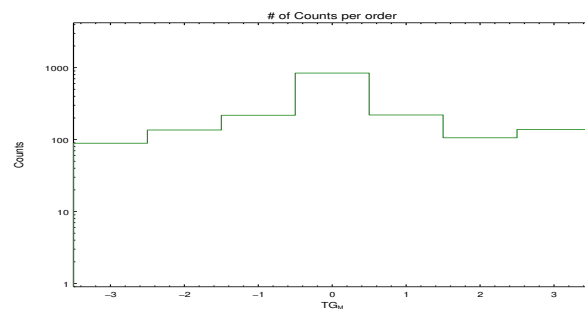
HEG Order Sort ALL

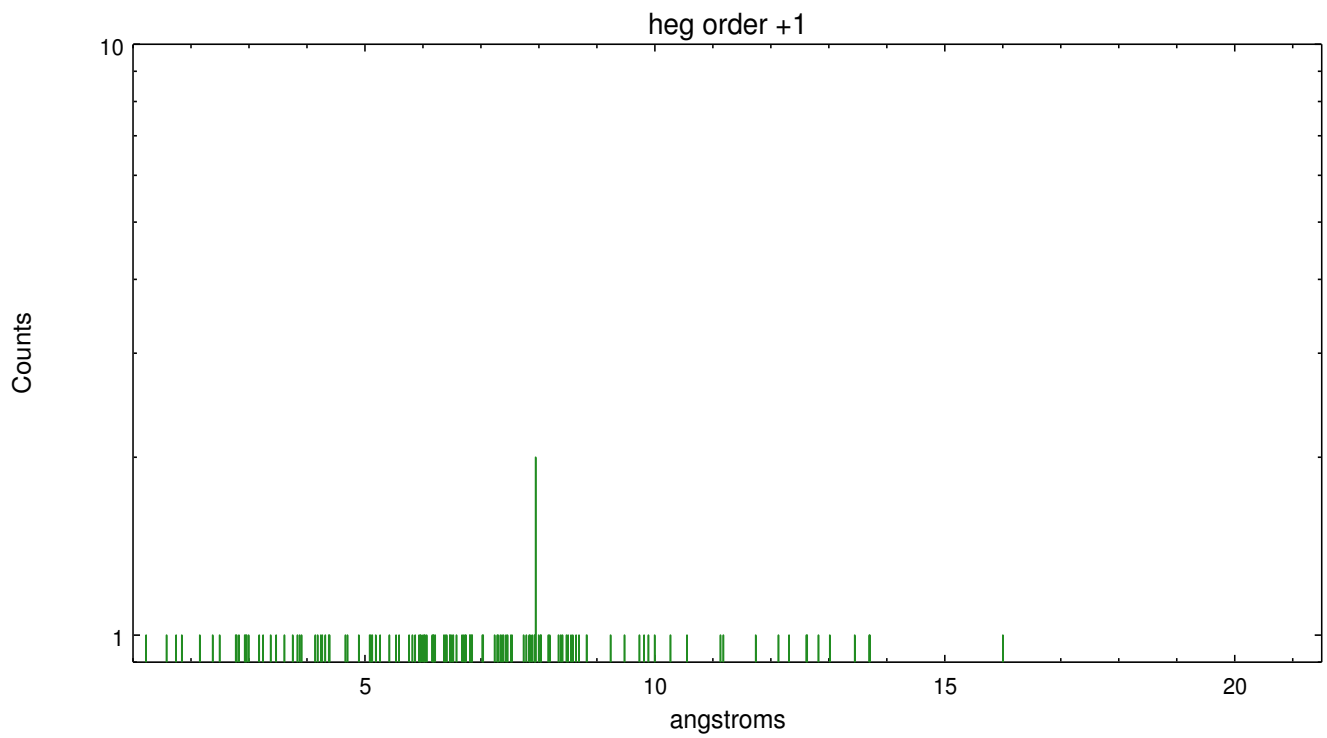
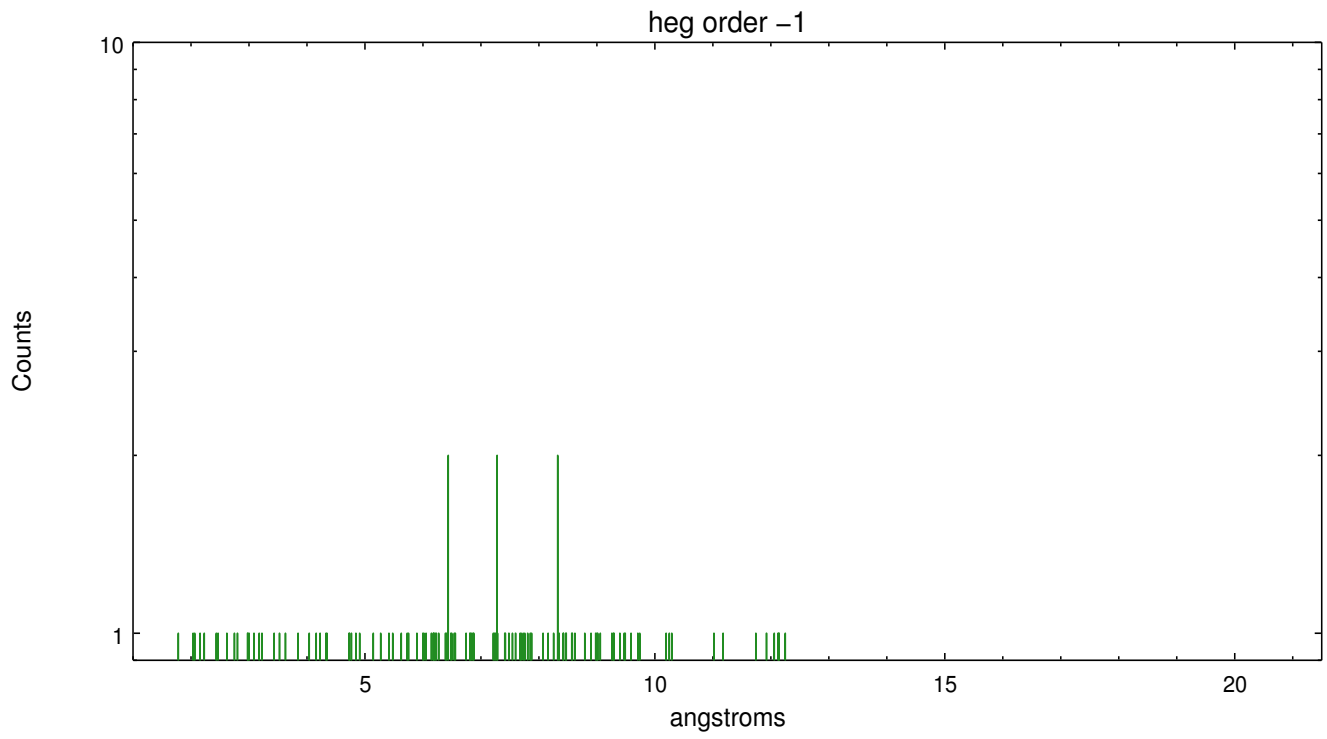


Spot Image HEG

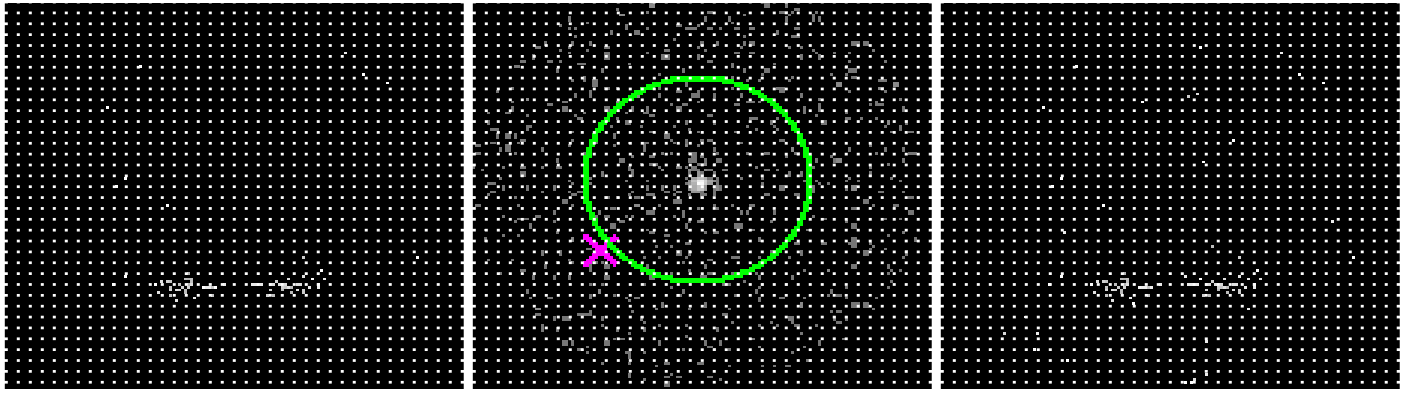
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	89	136	218	841	220	106	138





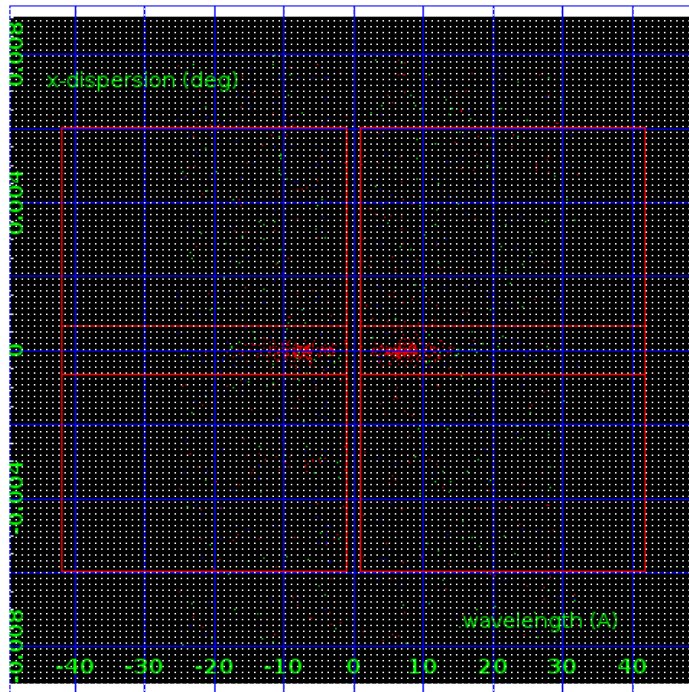
### 3.2 MEG Arm



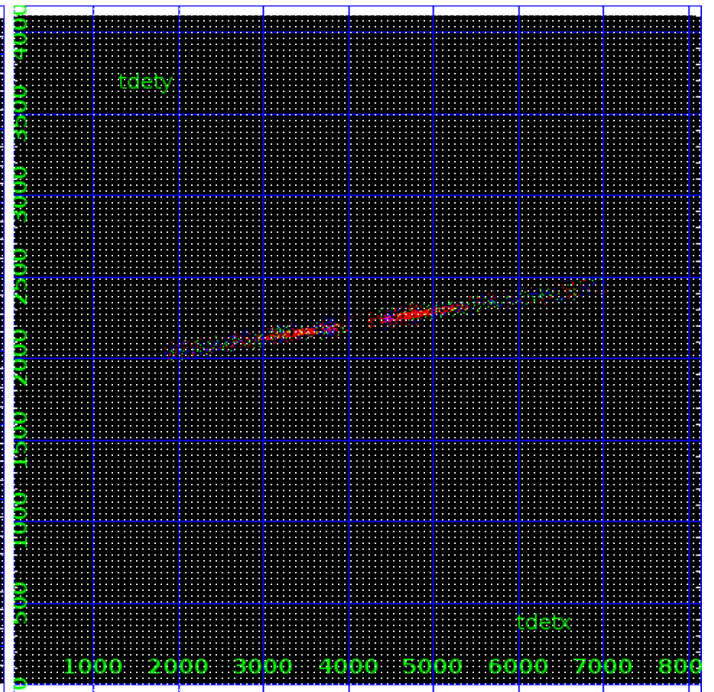
MEG Order Sort 123

MEG Zero Order

MEG Order Sort ALL

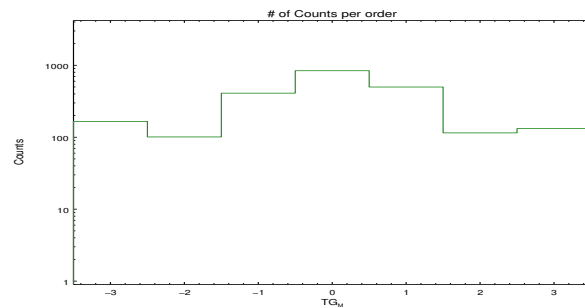


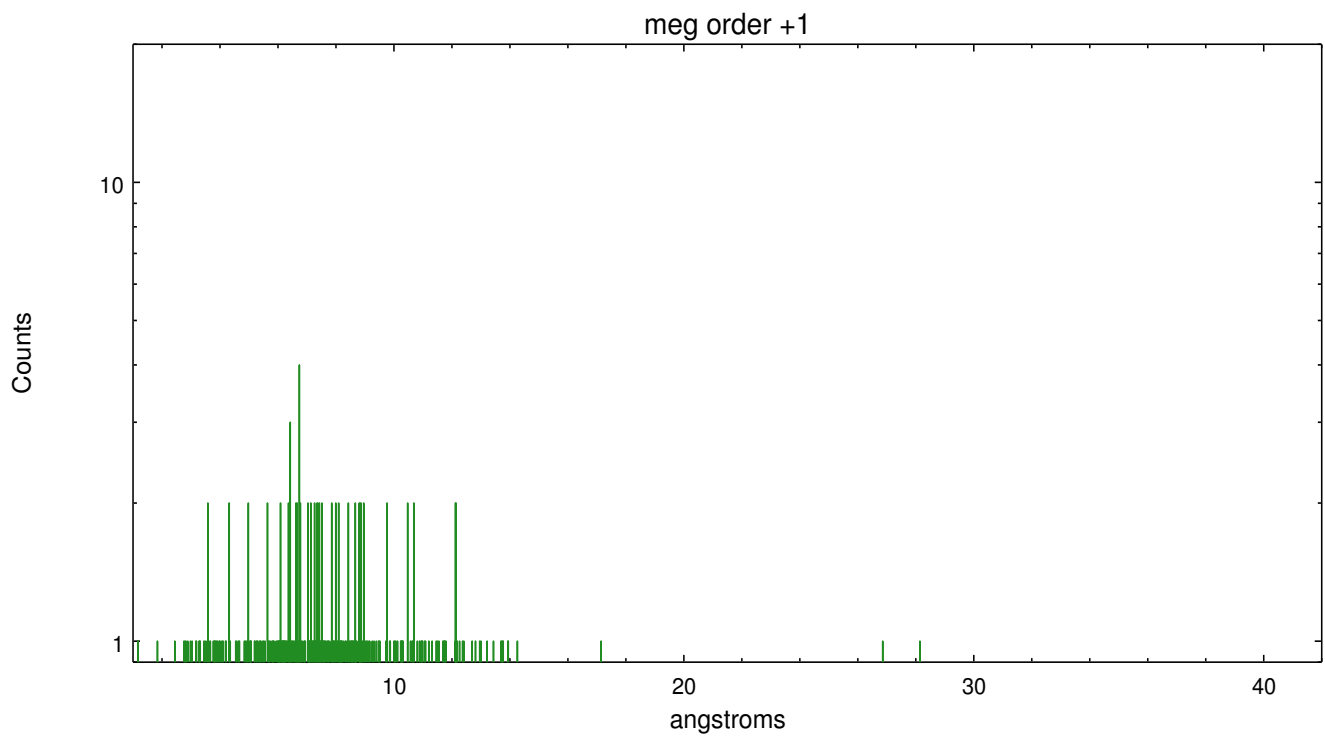
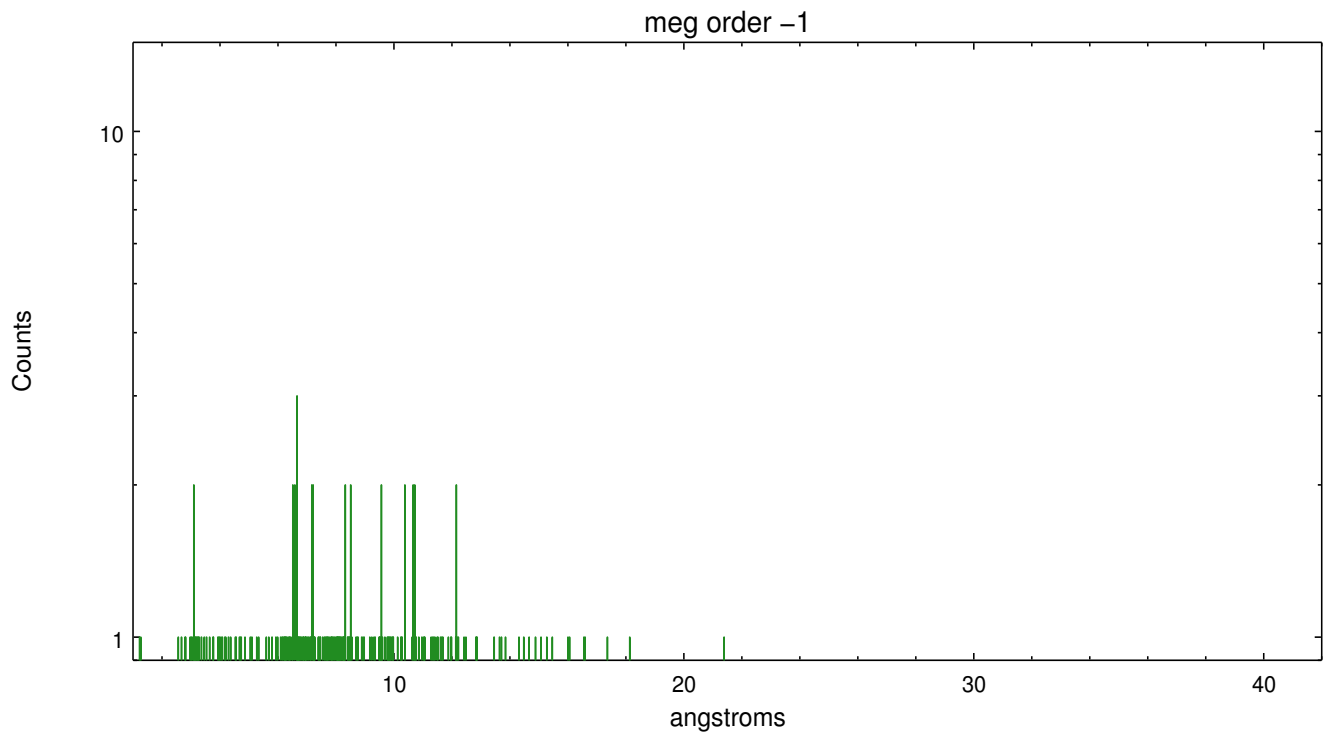
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	166	101	410	841	499	115	132





# A Summary

## A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2018.12.23
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	16.020800123334

## A.2 Comments