

# V&V Reference Report

## L2 ASCDS Version : 10.4

Observation 17680 - L2 Version 1  
Chandra X-Ray Center

L2 Processing Date : Jun 13 2015

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# 1 Front

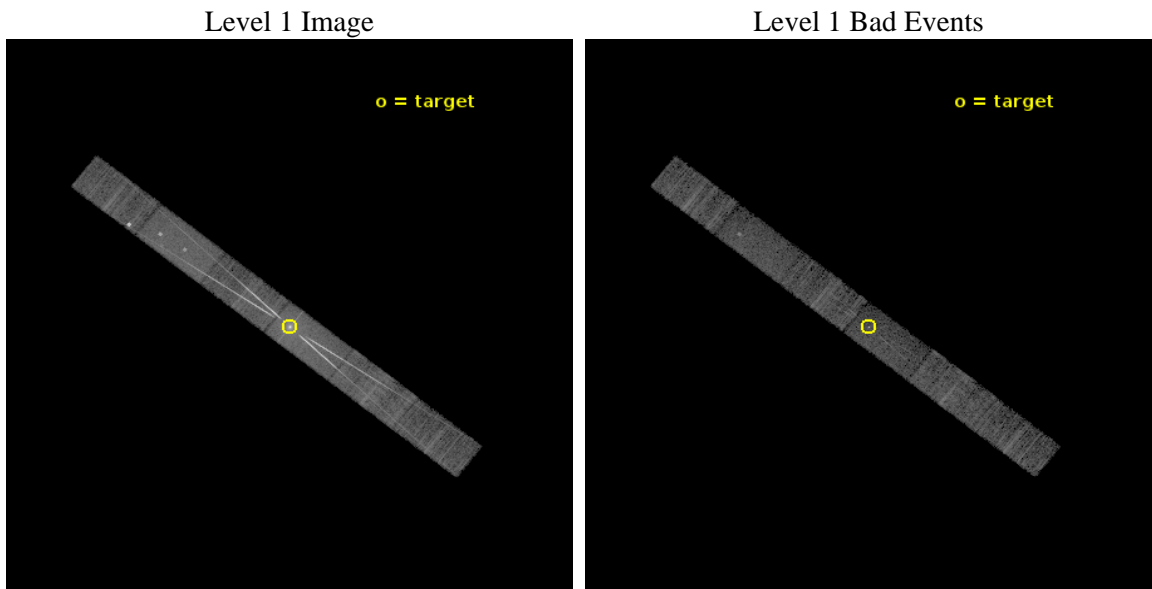
seq_num	401660	Sequence number
obs_id	17680	Observation id
title	An Integrated Approach to Winds, Jets, and State Transitions	Propo
observer	Dr. Joseph Neilsen	Principal investigator
object	H1743-322	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	266.565042	Observer's specified target RA [deg]
dec_targ	-32.2335	Observer's specified target Dec [deg]
ra_nom	266.56644290884	Nominal RA [deg]
dec_nom	-32.228224926812	Nominal Dec [deg]
roll_nom	38.157389774134	Nominal Roll [deg]
revision	1	Processing version of data
ontime	9445.2002649307	Sum of GTIs [s]
livetime	9222.5568915029	Livetime [s]
ontime4	9445.2002649307	Sum of GTIs [s]
ontime5	9445.2002649307	Sum of GTIs [s]
ontime6	9445.2002649307	Sum of GTIs [s]
ontime7	9445.2002649307	Sum of GTIs [s]
ontime8	9445.2002649307	Sum of GTIs [s]
ontime9	9445.2002649307	Sum of GTIs [s]
l2events	165961	Number of level 2 events



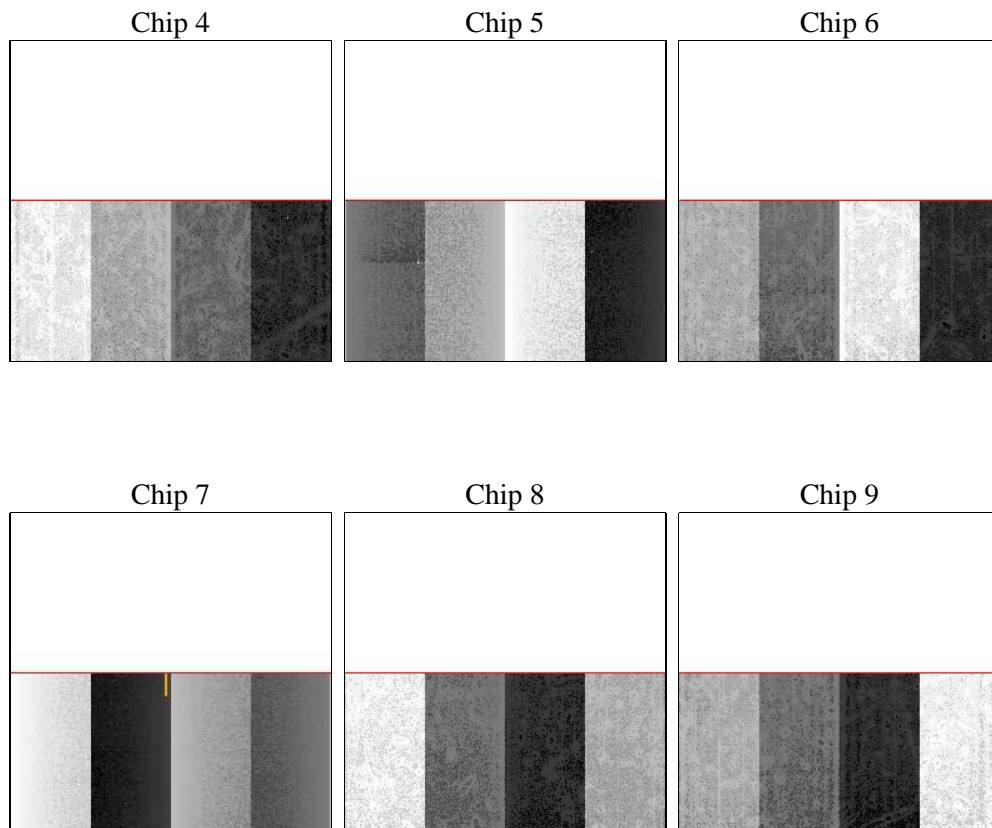
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	9400.000000	[s] Scheduled observation exposure time
ascdsver	10.4	Processing system revision	ontime	9445.2002649307	Sum of GTIs [s]
caldsver	4.6.7	&#160	ontime4	9445.2002649307	Sum of GTIs [s]
date	2015-06-14T02:12:23	Date and time of file creation	ontime5	9445.2002649307	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	9445.2002649307	Sum of GTIs [s]
			ontime7	9445.2002649307	Sum of GTIs [s]
			ontime8	9445.2002649307	Sum of GTIs [s]
			ontime9	9445.2002649307	Sum of GTIs [s]
			l1events	325623	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			ra_pos	(4105.37, 4058.08)	src1a sky pixel position

### 2.1.4 Events

	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	34022	47891	70565	98404	46936	27805
rejected events	24876	21290	23863	20560	26705	22273
rejected %	73%	44%	33%	20%	56%	80%

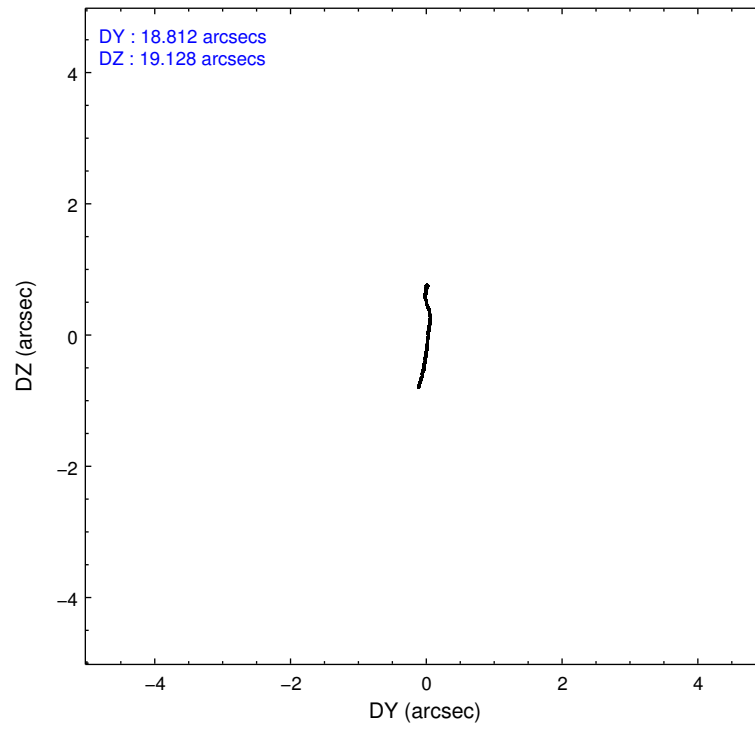
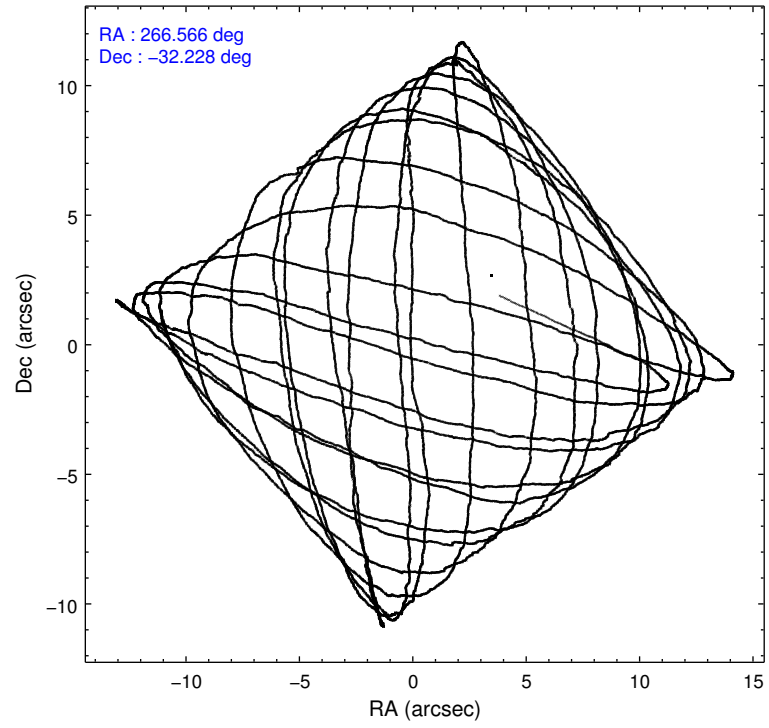
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	6716	4183	32372	14191	10631	2782
	19%	8%	45%	14%	22%	10%
grade 1 events	34	63	149	216	38	18
	0%	0%	0%	0%	0%	0%
grade 2 events	986	8098	6552	18477	3573	1027
	2%	16%	9%	18%	7%	3%
grade 3 events	424	1510	2255	8061	1451	439
	1%	3%	3%	8%	3%	1%
grade 4 events	381	1384	2227	7975	1449	476
	1%	2%	3%	8%	3%	1%
grade 5 events	1190	3640	1409	4430	1780	1345
	3%	7%	1%	4%	3%	4%
grade 6 events	641	11435	3314	29171	3132	808
	1%	23%	4%	29%	6%	2%
grade 7 events	23650	17578	22287	15883	24882	20910
	69%	36%	31%	16%	53%	75%

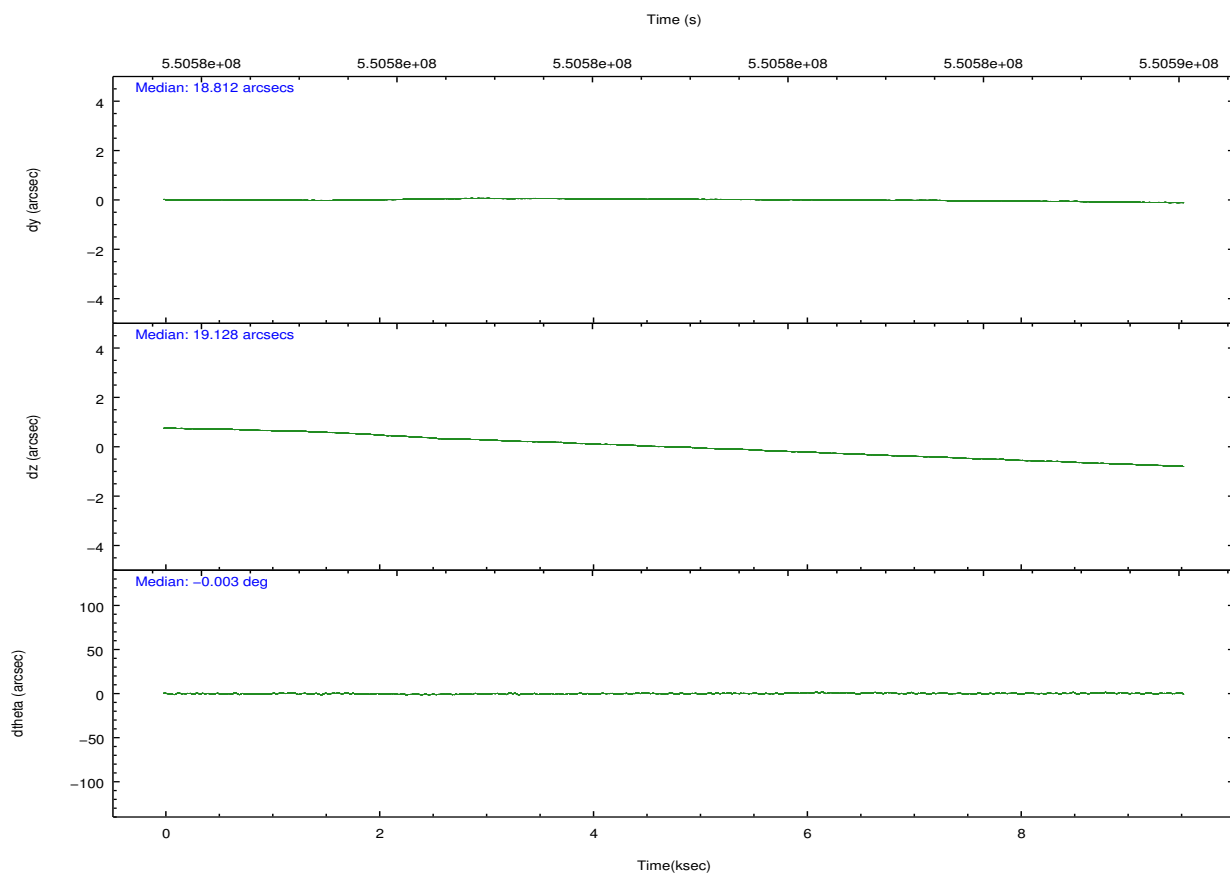
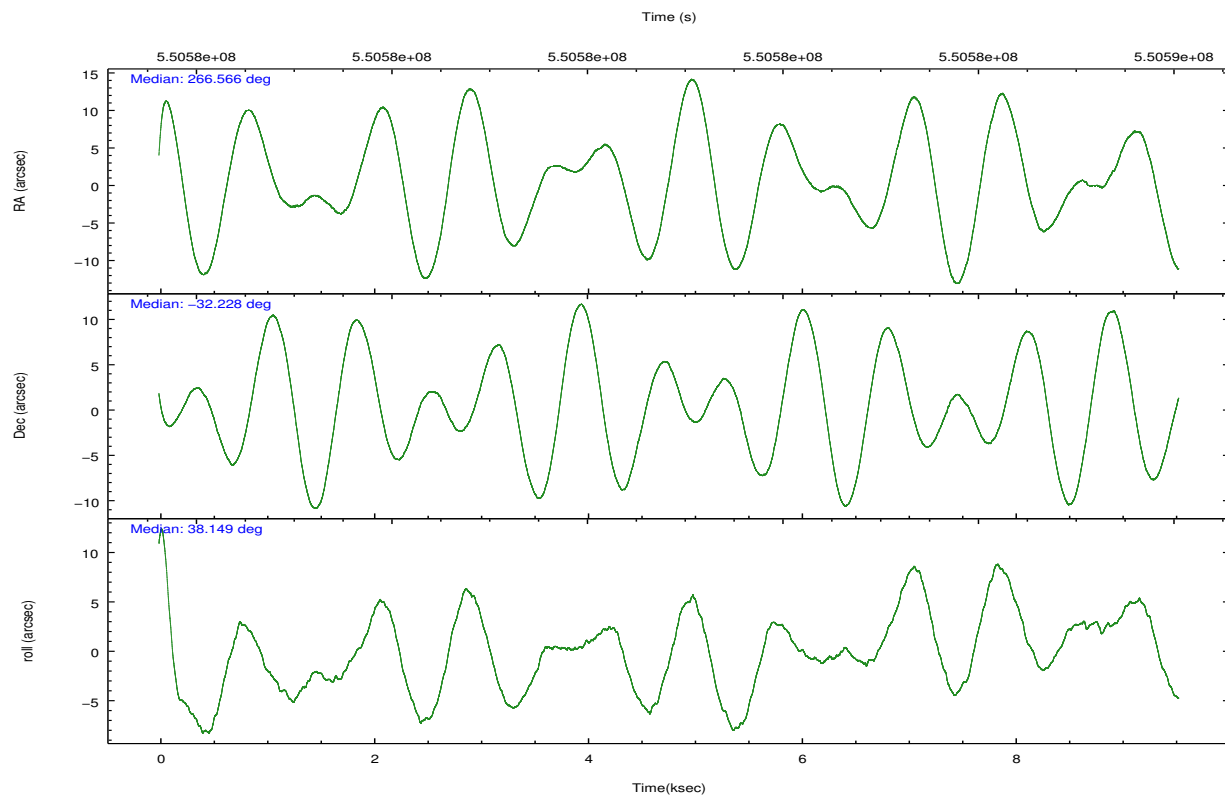


## 2.2 Compared Parameters

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	266.554794	266.5664429088421	CCD I2 on	N	N
[deg] Pointing Dec	-32.253799	-32.22822492681165	CCD I3 on	N	N
[deg] Pointing Roll	37.994533	38.15738977413436	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)	550576185.184000	550574814.39211	CCD S5 on	O2	Y
Observation start date	2015-06-13T09:48:38	2015-06-13T09:26:54	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	550585585.184000	550586640.84277	On-chip summing requested	N	N
Observation end date	2015-06-13T12:25:18	2015-06-13T12:44:00	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



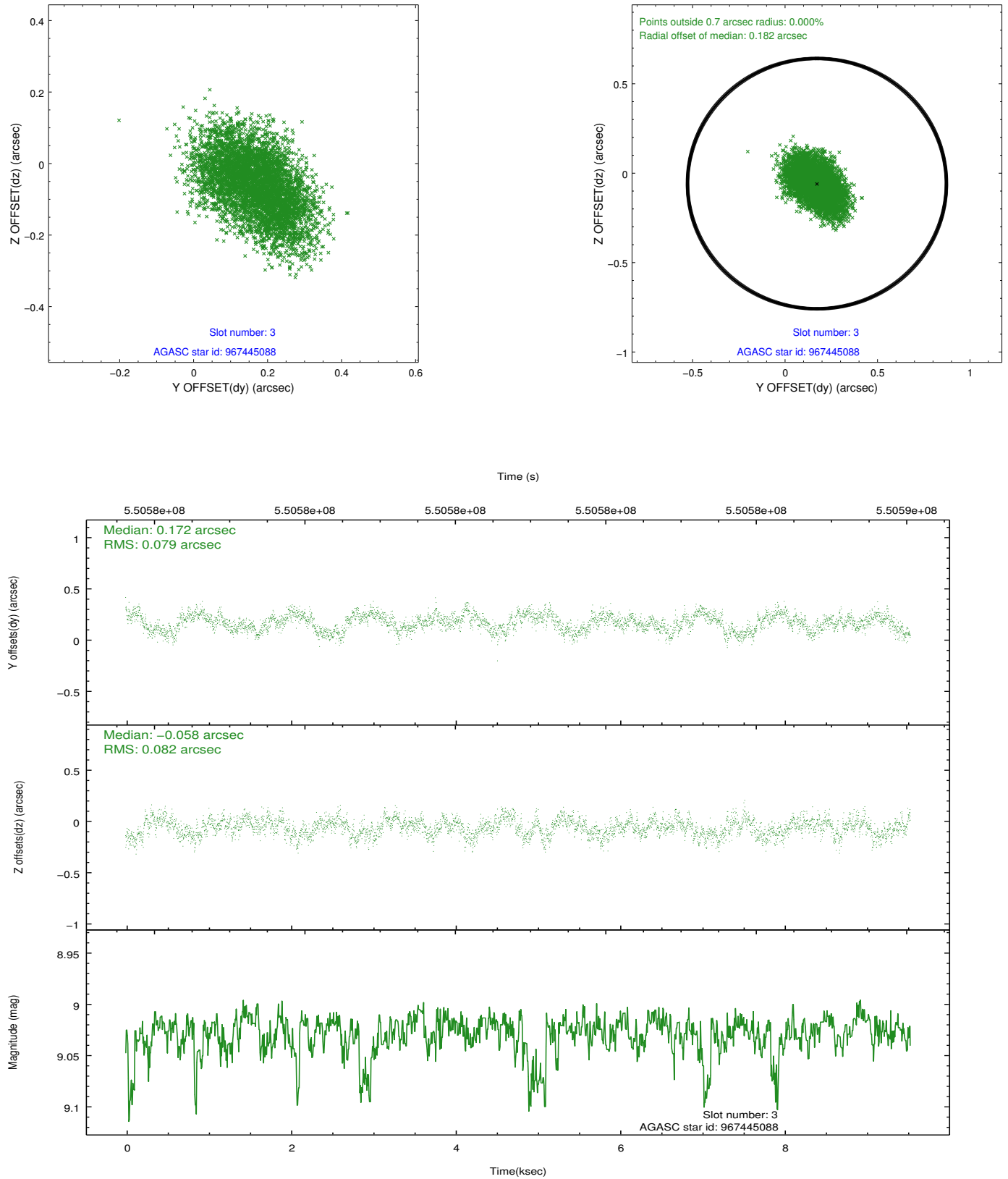


### Slot Statistics

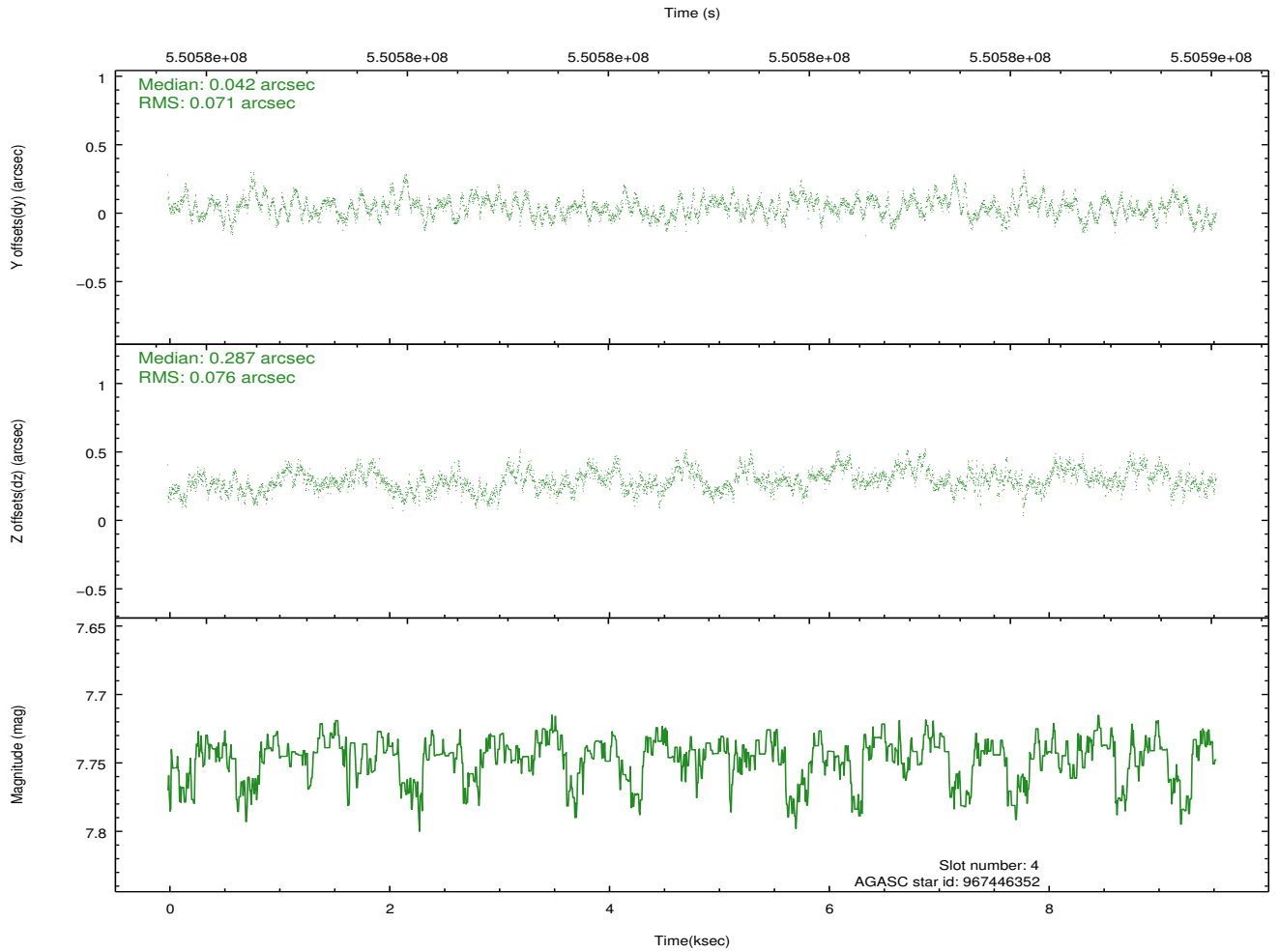
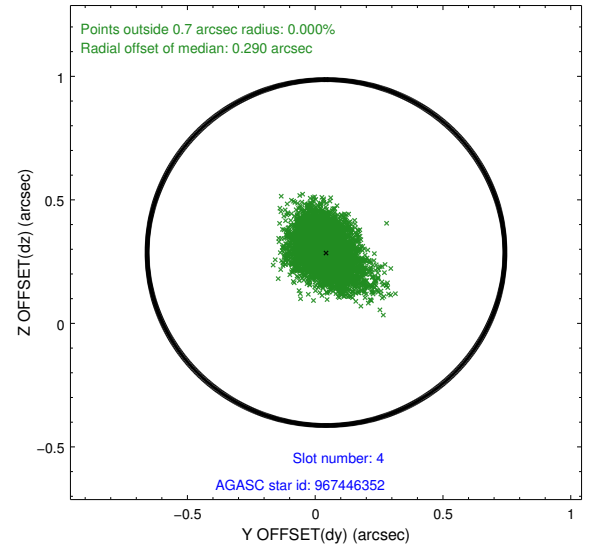
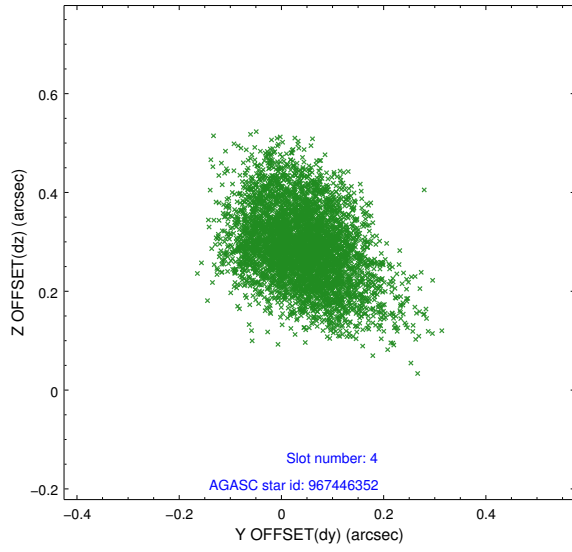
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.93	2327	-0.208	-0.135	0.019	0.026	0.000000	0.000000	-771.70	-1867.39
1	FID		ACIS-S-4	7.02	2327	0.206	0.129	0.010	0.016	0.000000	0.000000	2141.77	40.64
2	FID		ACIS-S-6	7.22	2327	-0.025	0.013	0.027	0.035	0.000000	0.000000	391.25	678.60
3	GUIDE	used	967445088	9.03	4648	0.172	-0.058	0.122	0.194	265.761342	-32.072953	-1511.77	1995.75
4	GUIDE	used	967446352	7.74	4654	0.042	0.287	0.112	0.180	267.069988	-32.671157	302.93	-2147.37
5	GUIDE	used	967450832	9.10	4650	-0.032	0.010	0.150	0.228	266.078096	-31.879979	-321.78	1954.78
6	GUIDE	used	966926896	9.15	4653	-0.315	-0.456	0.123	0.192	266.197771	-31.663459	444.77	2347.07
7	GUIDE	used	967448136	8.81	4650	0.142	0.217	0.087	0.139	265.900071	-32.546602	-2217.76	388.22

## 2.4 Star Slots

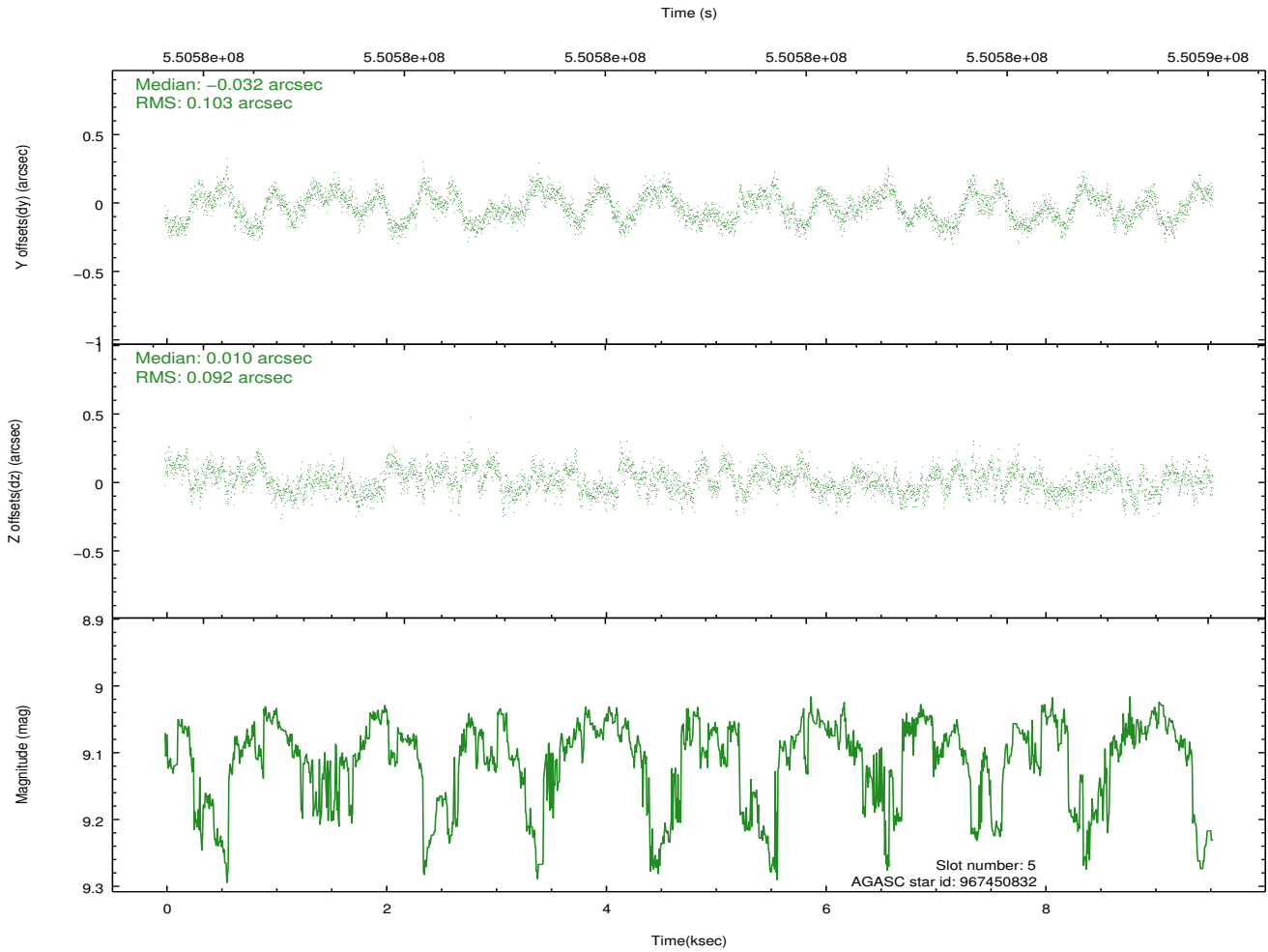
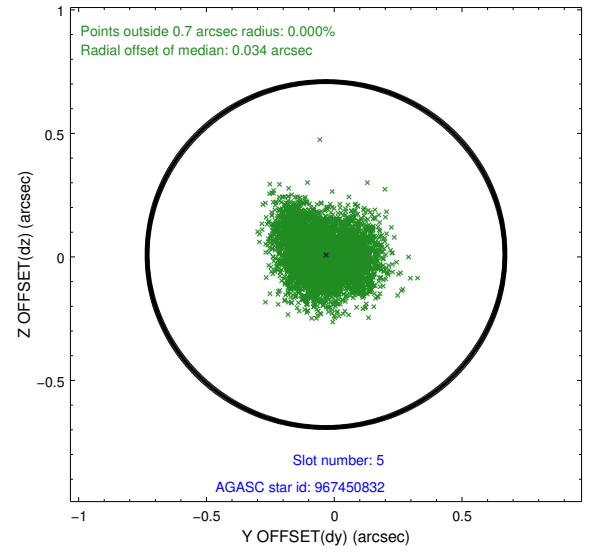
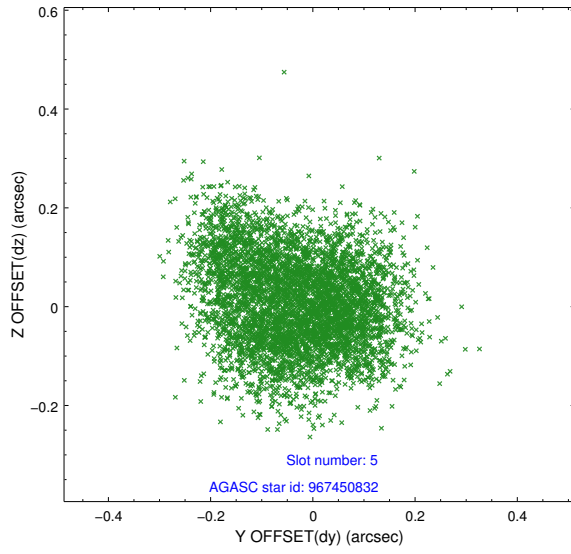
### 2.4.1 Slot 3



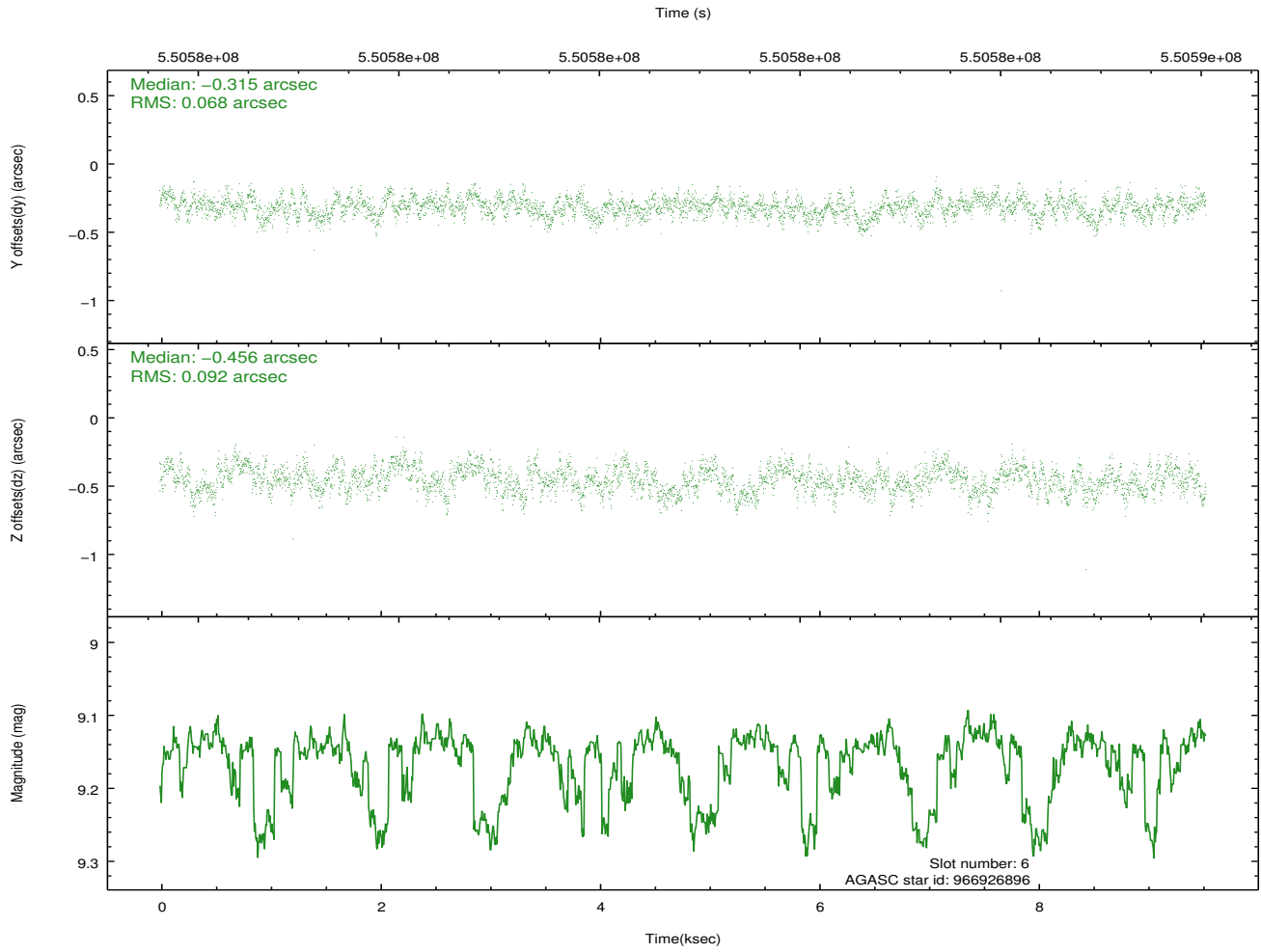
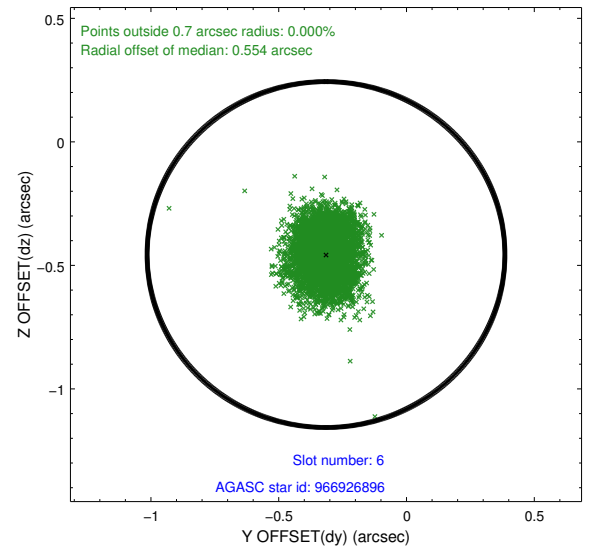
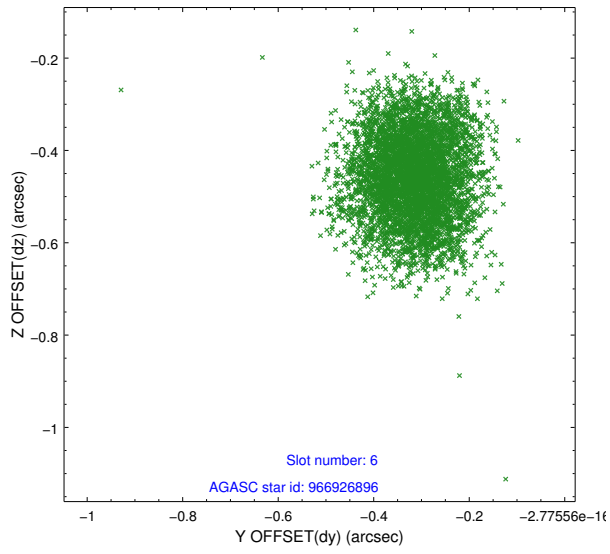
## 2.4.2 Slot 4



### 2.4.3 Slot 5

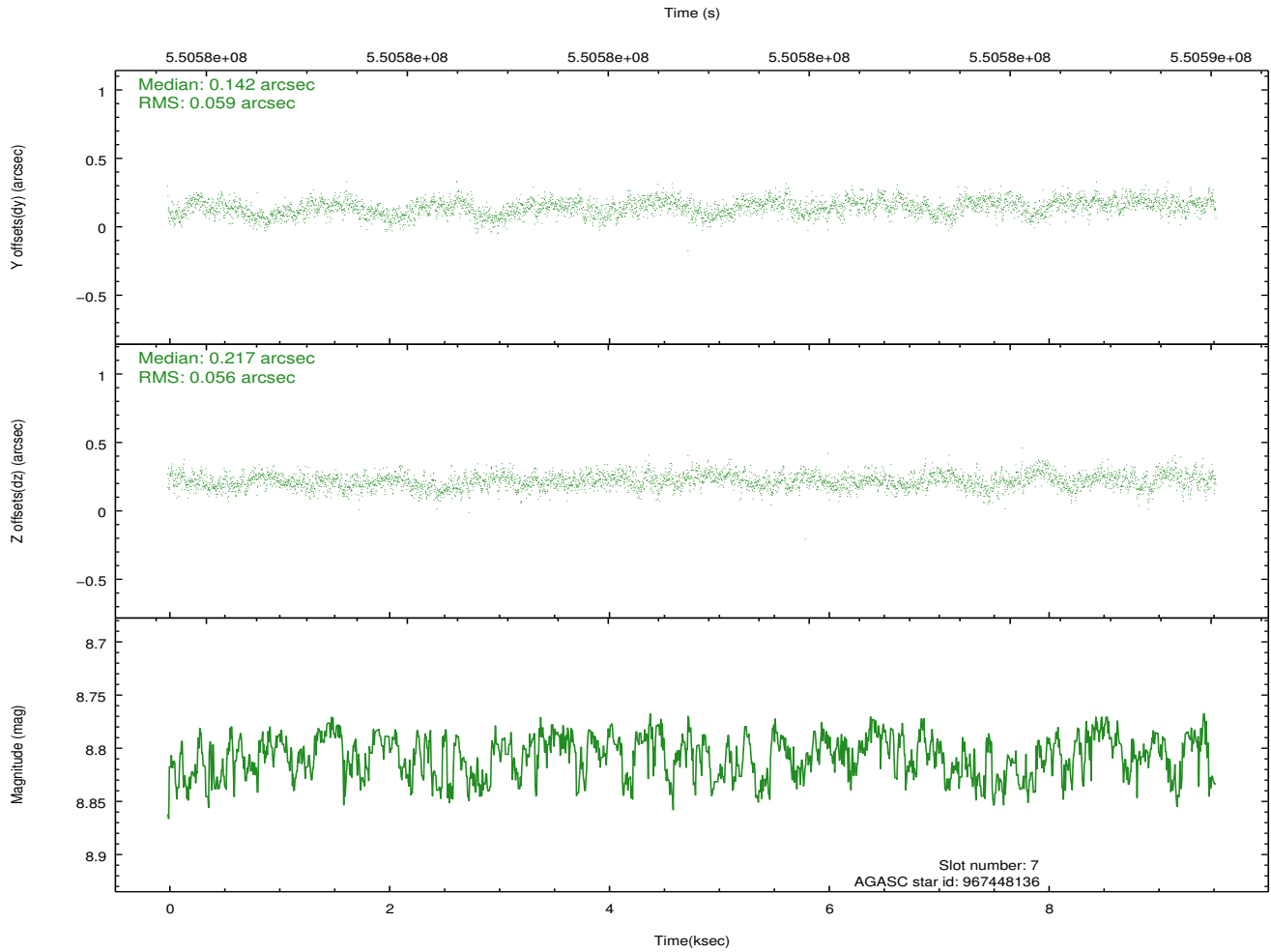
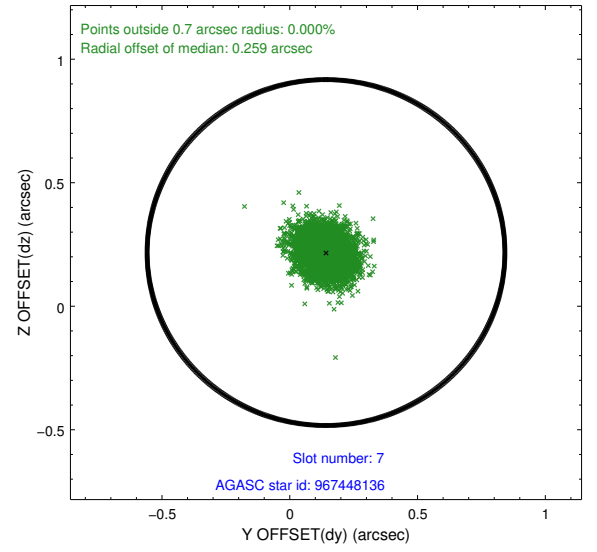
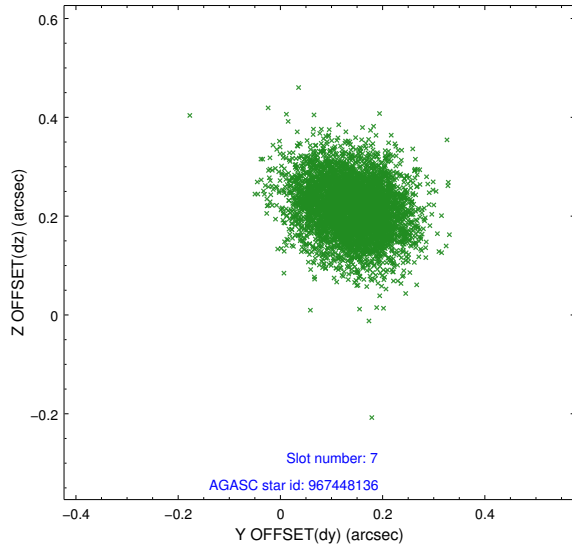


## 2.4.4 Slot 6



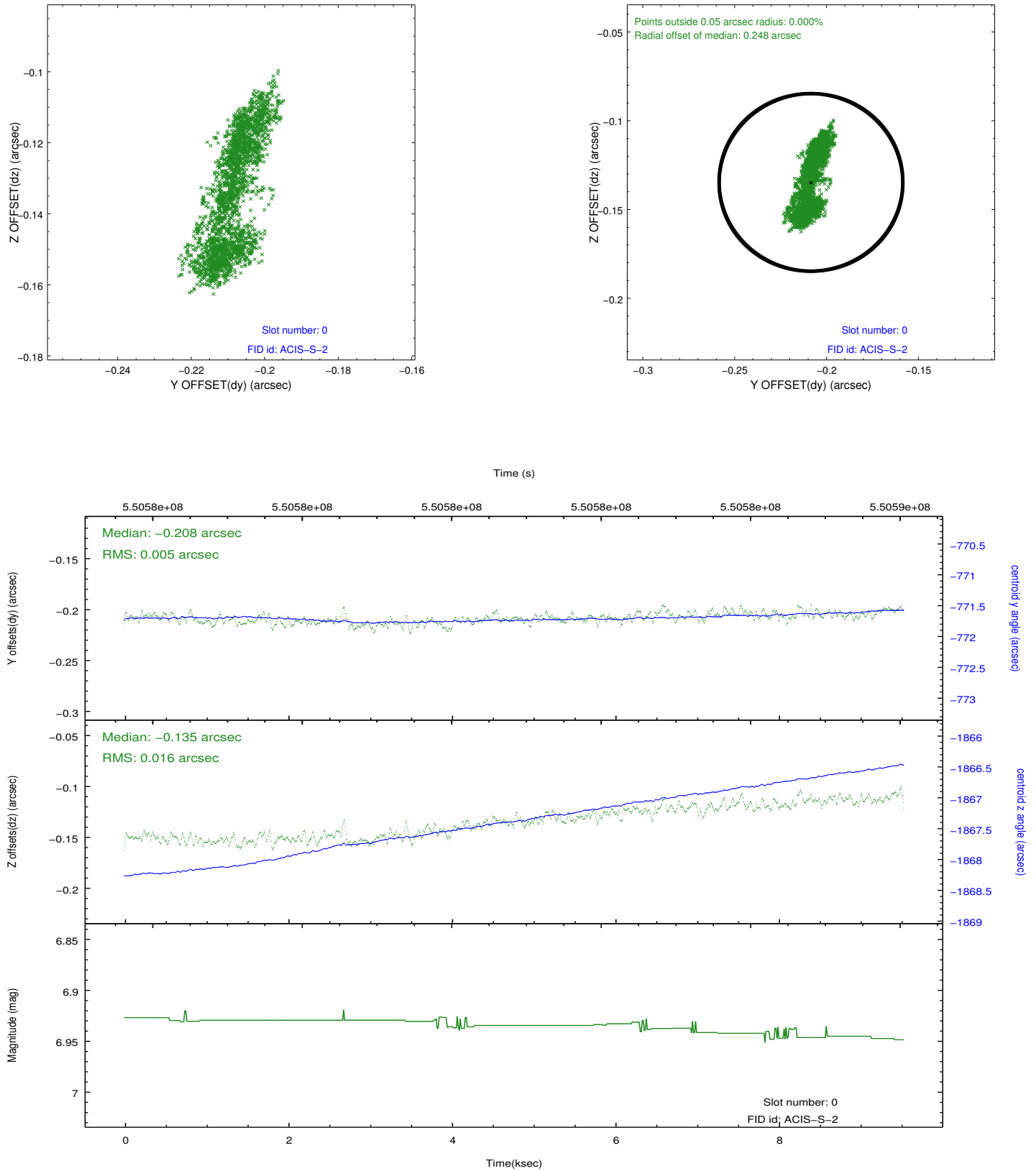


## 2.4.5 Slot 7

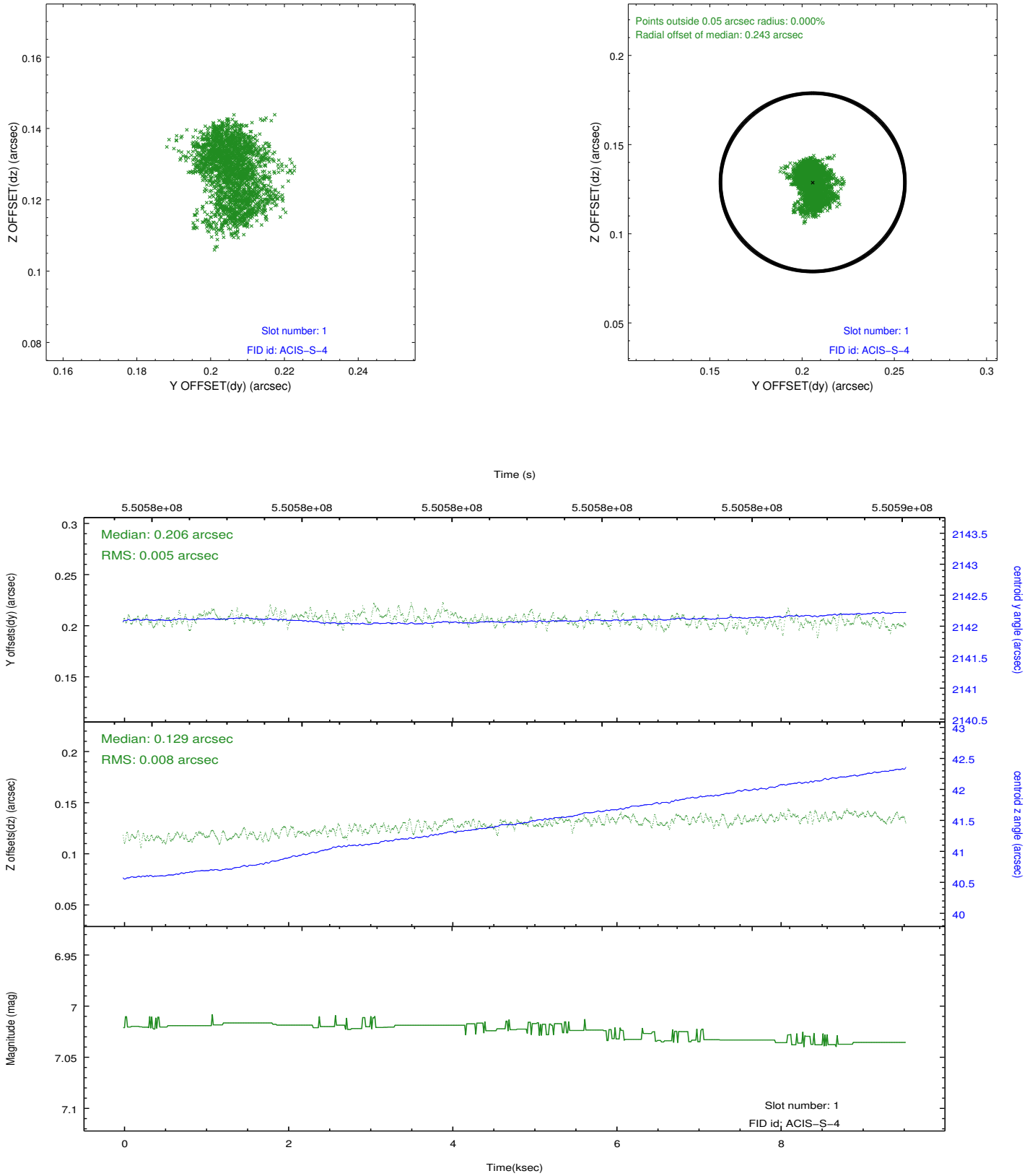


## 2.5 FID Slots

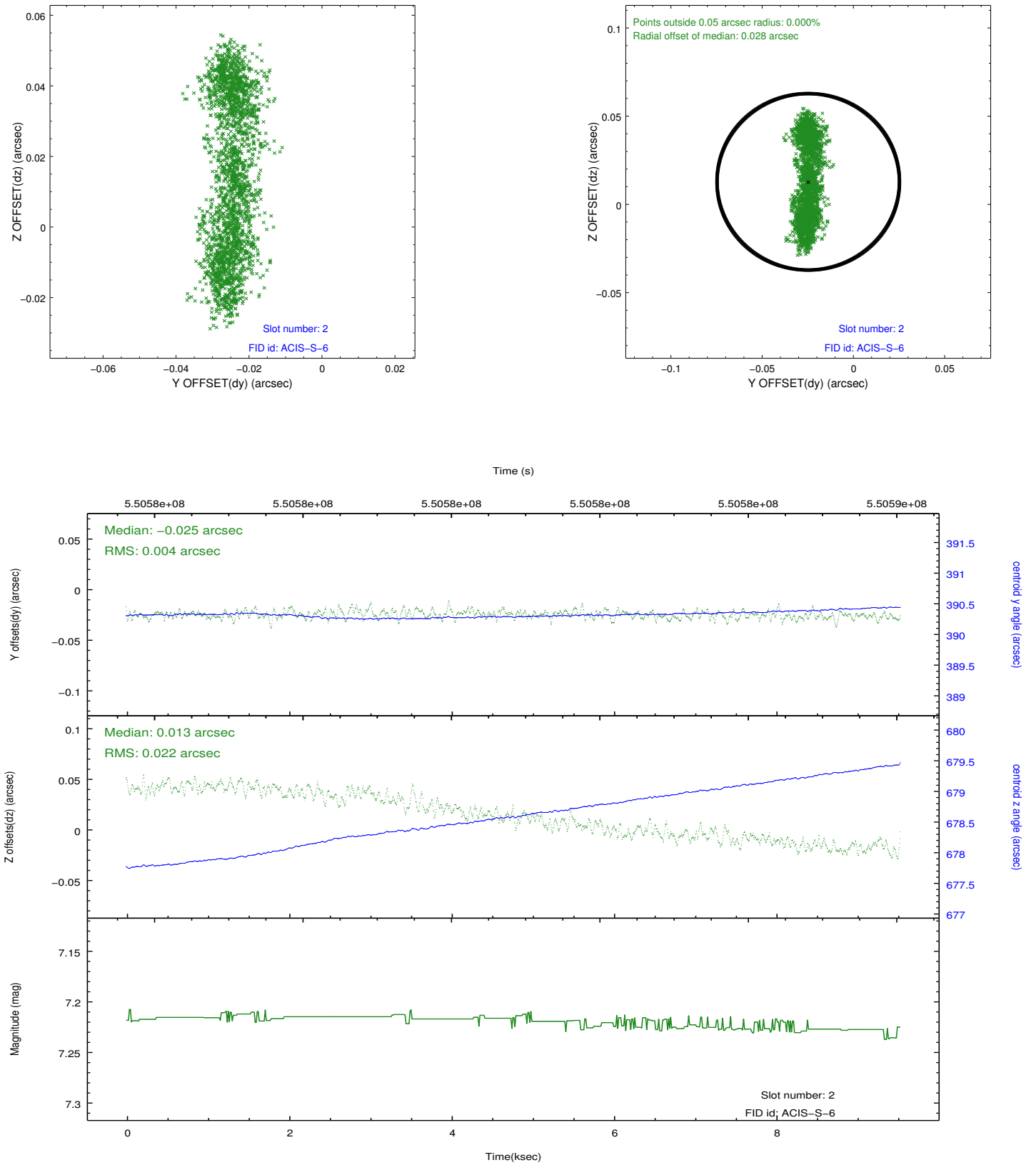
### 2.5.1 Slot 0



## 2.5.2 Slot 1

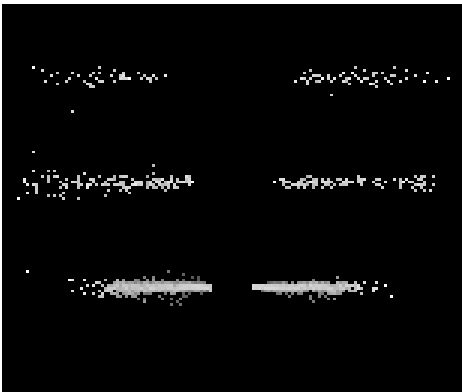


### 2.5.3 Slot 2

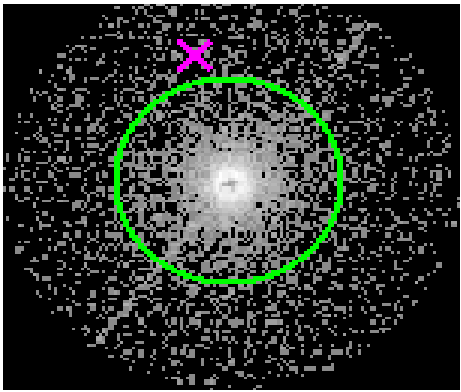


# 3 Gratings

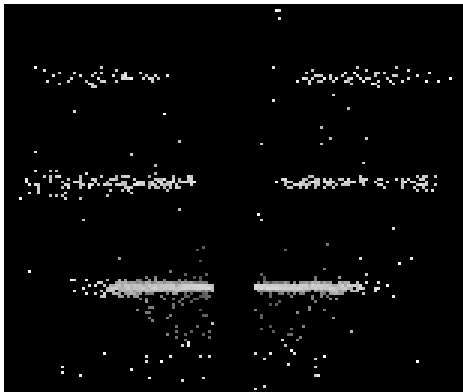
## 3.1 HEG Arm



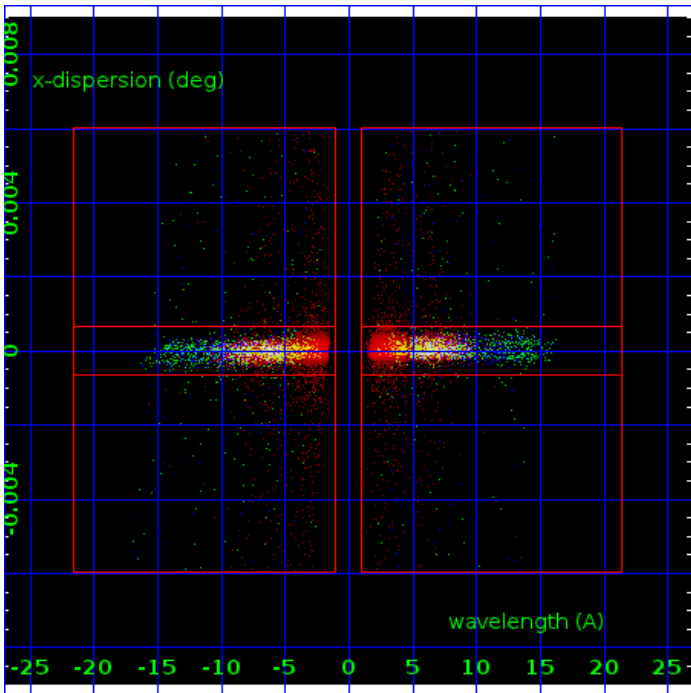
HEG Order Sort 123



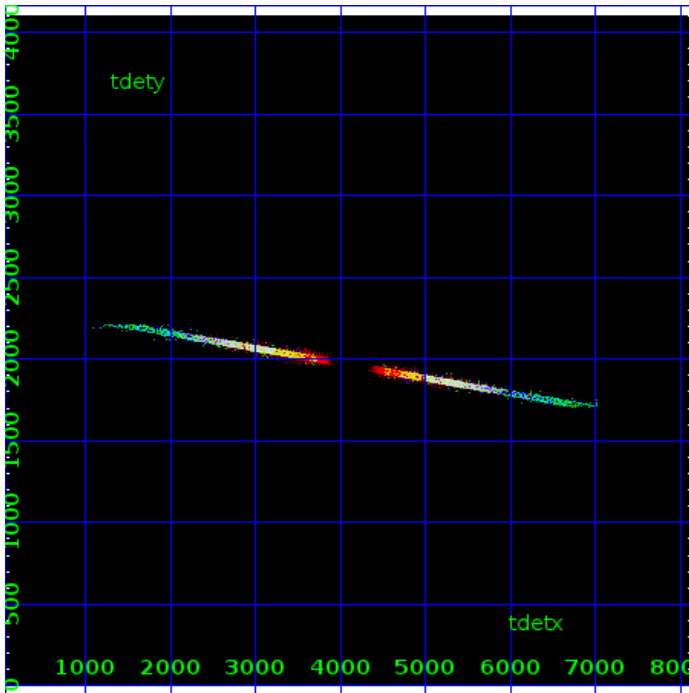
HEG Zero Order



HEG Order Sort ALL

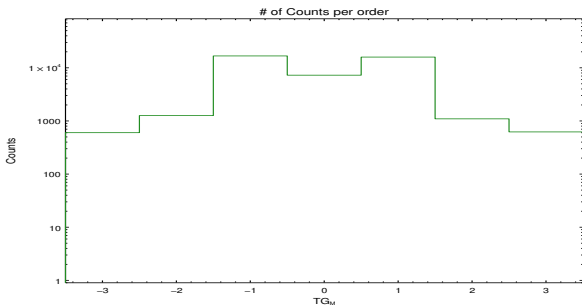


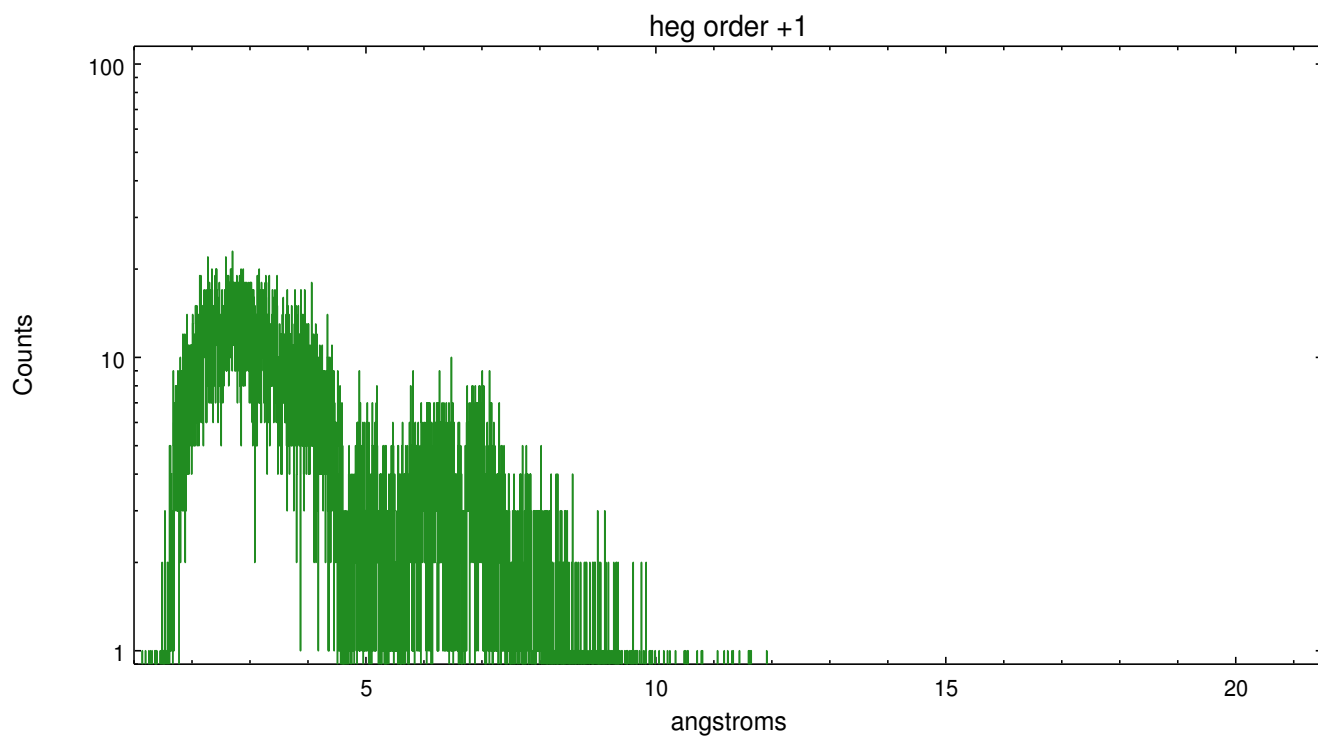
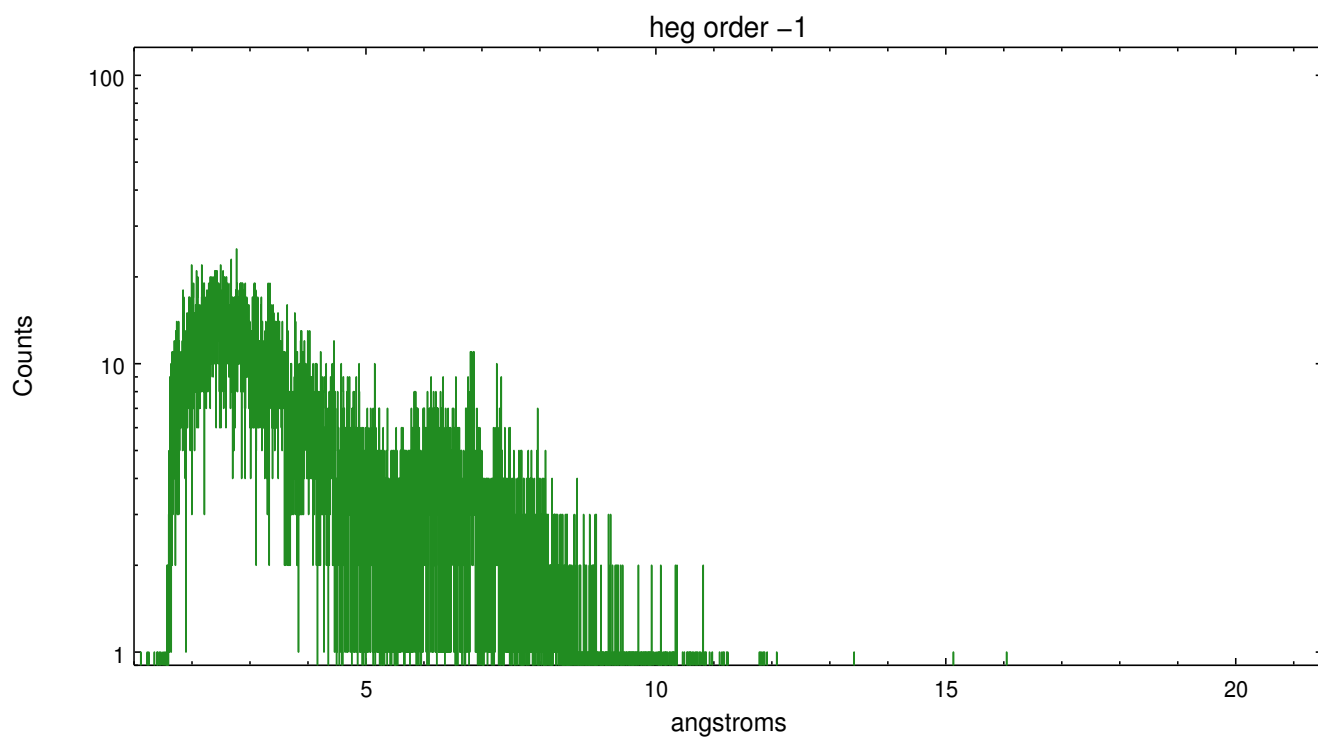
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	602	1261	16739	7263	15923	1096	622

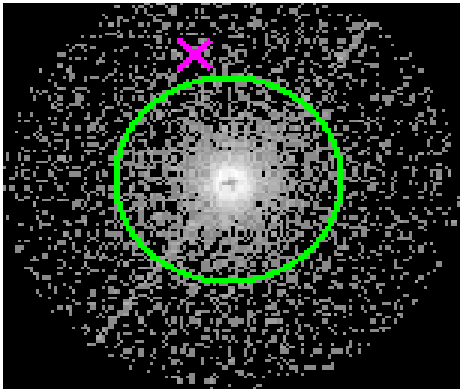




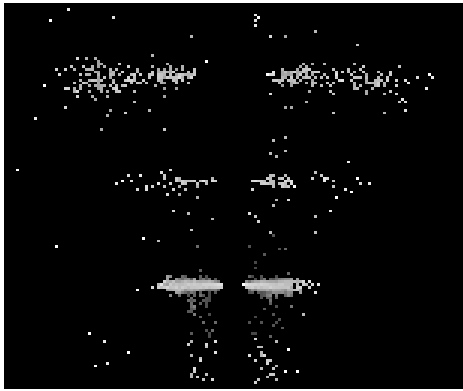
3.2 MEG Arm



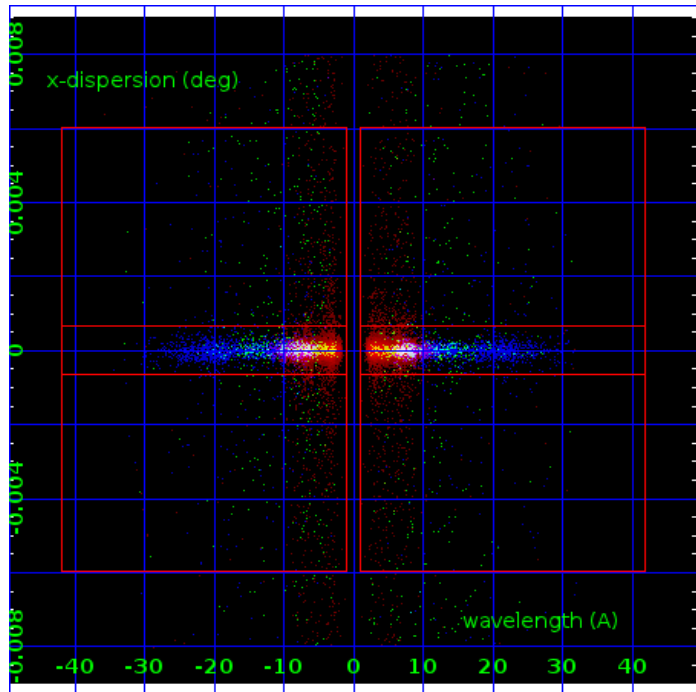
MEG Order Sort 123



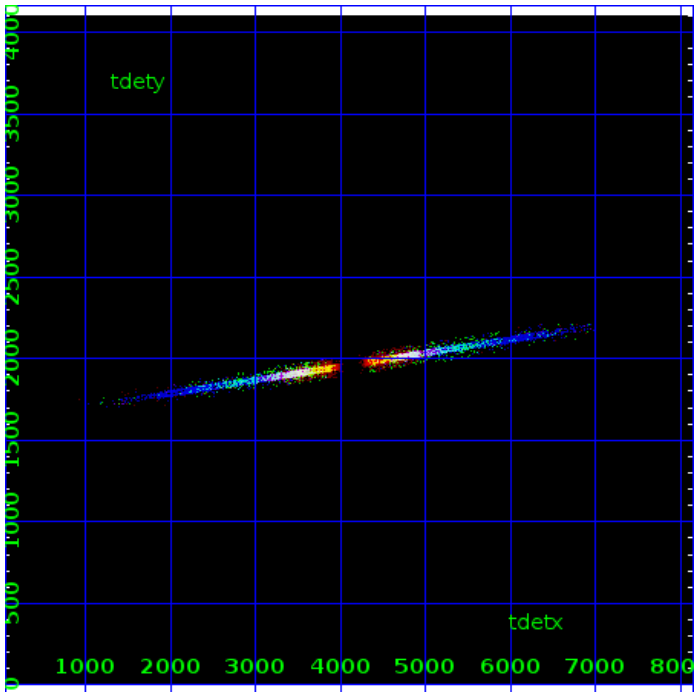
MEG Zero Order



MEG Order Sort ALL

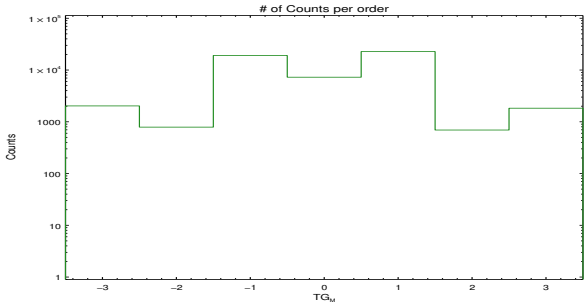


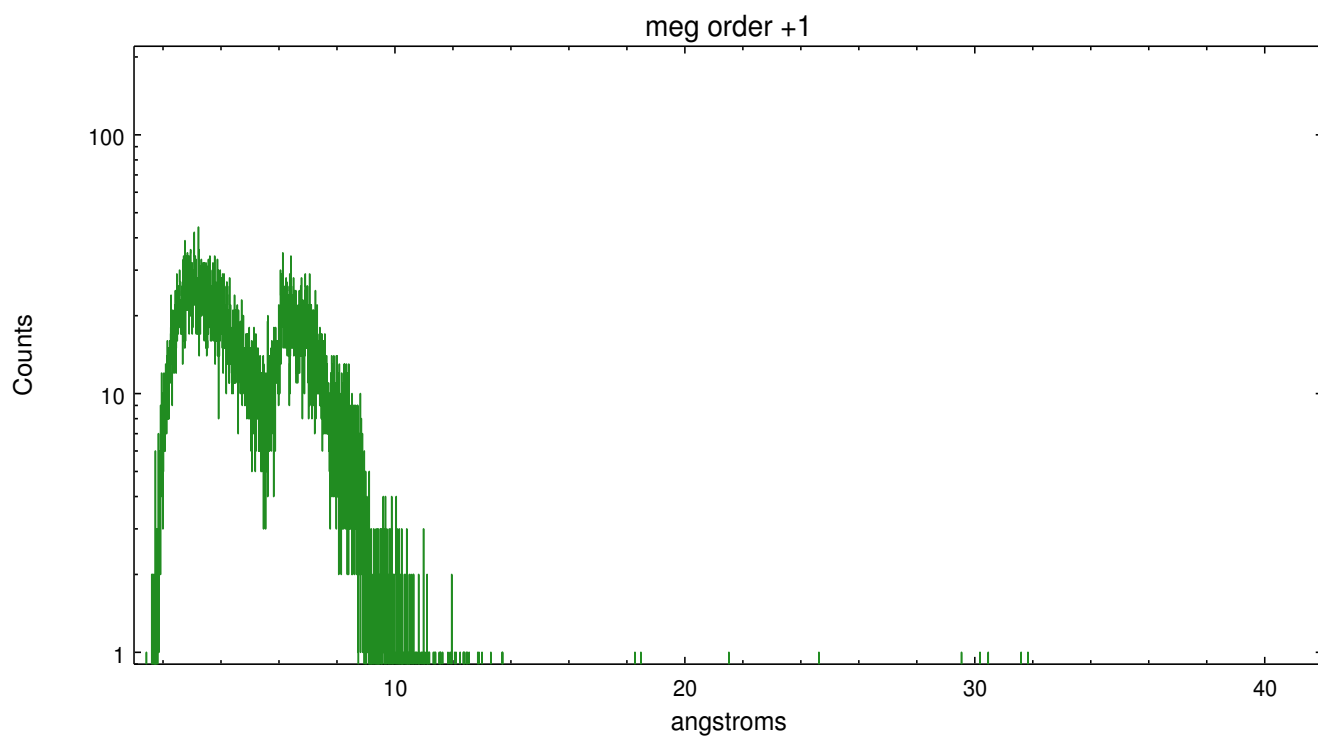
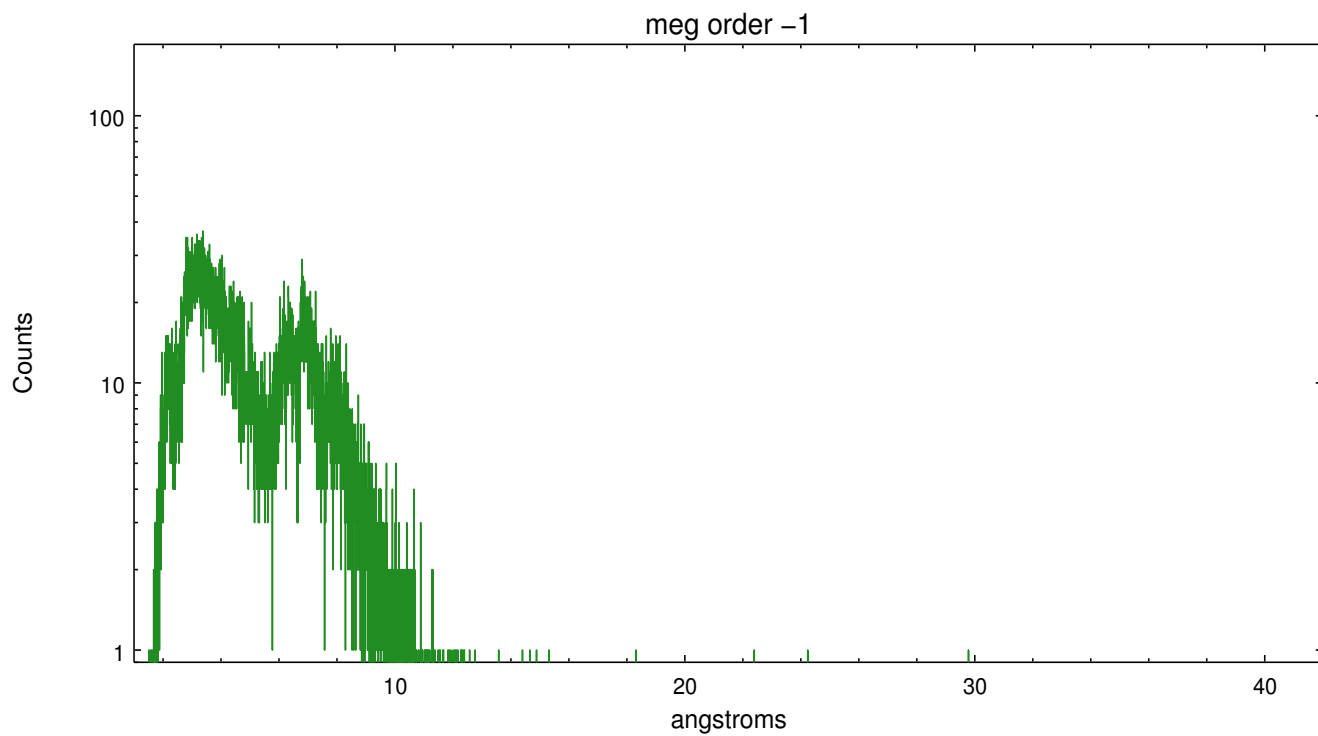
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	2027	788	19063	7263	22702	693	1829







# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2015.06.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	9.4452002649307

## A.2 Comments

Zeroth order 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.