

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 12005 - L2 Version 3  
Chandra X-Ray Center

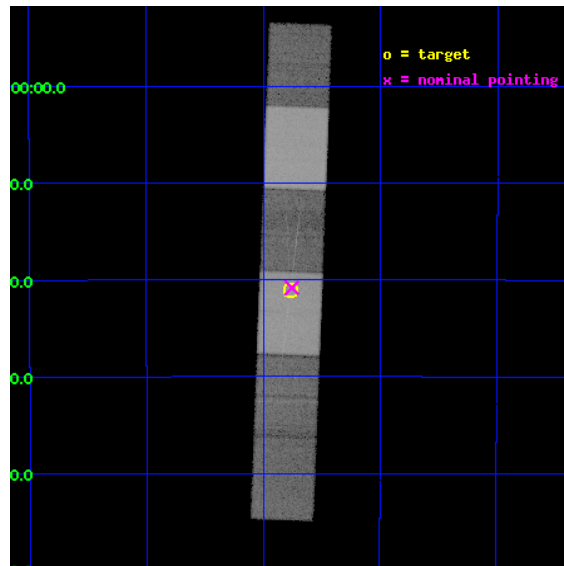
L2 Processing Date : Jun 15 2012

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# 1 Front

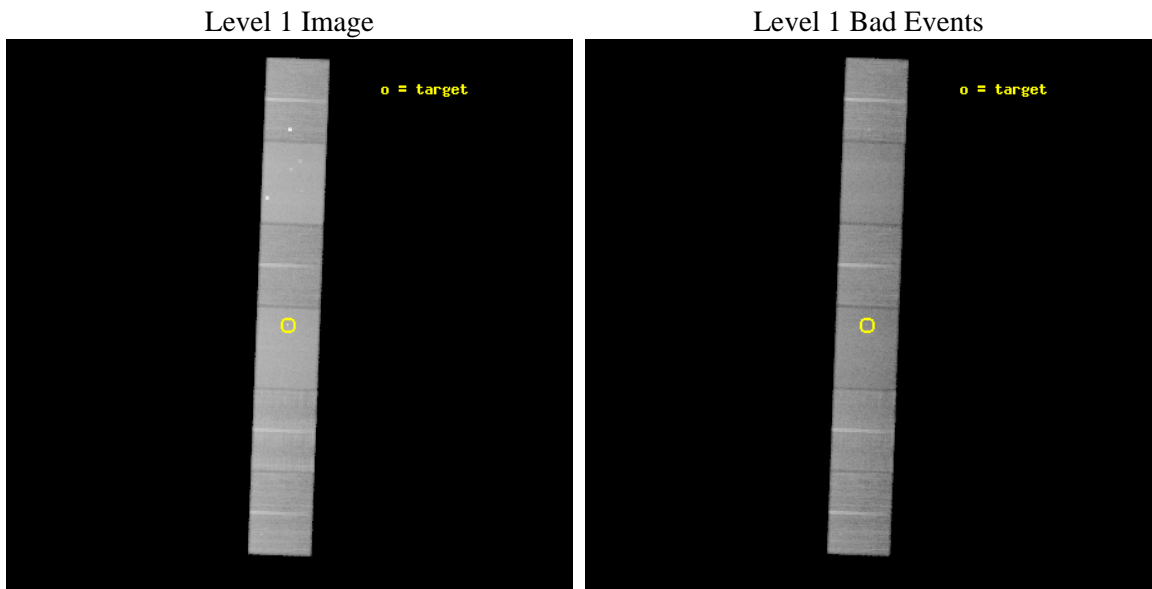
seq_num	300253	Sequence number
obs_id	12005	Observation id
title	CP Puppis, a template for the secular evolution of novae	Proposal
observer	Dr Marina Orio	Principal investigator
object	CP Puppis	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	122.942083	Observer's specified target RA [deg]
dec_targ	-35.351389	Observer's specified target Dec [deg]
ra_nom	122.93877493593	Nominal RA [deg]
dec_nom	-35.347362278129	Nominal Dec [deg]
roll_nom	92.154726945717	Nominal Roll [deg]
revision	3	Processing version of data
ontime	33036.809006751	Sum of GTIs [s]
livetime	32503.235886439	Livetime [s]
ontime4	33036.850046754	Sum of GTIs [s]
ontime5	33036.767966747	Sum of GTIs [s]
ontime6	33036.726926744	Sum of GTIs [s]
ontime7	33036.809006751	Sum of GTIs [s]
ontime8	33036.685886741	Sum of GTIs [s]
ontime9	33036.644846737	Sum of GTIs [s]
l2events	462025	Number of level 2 events



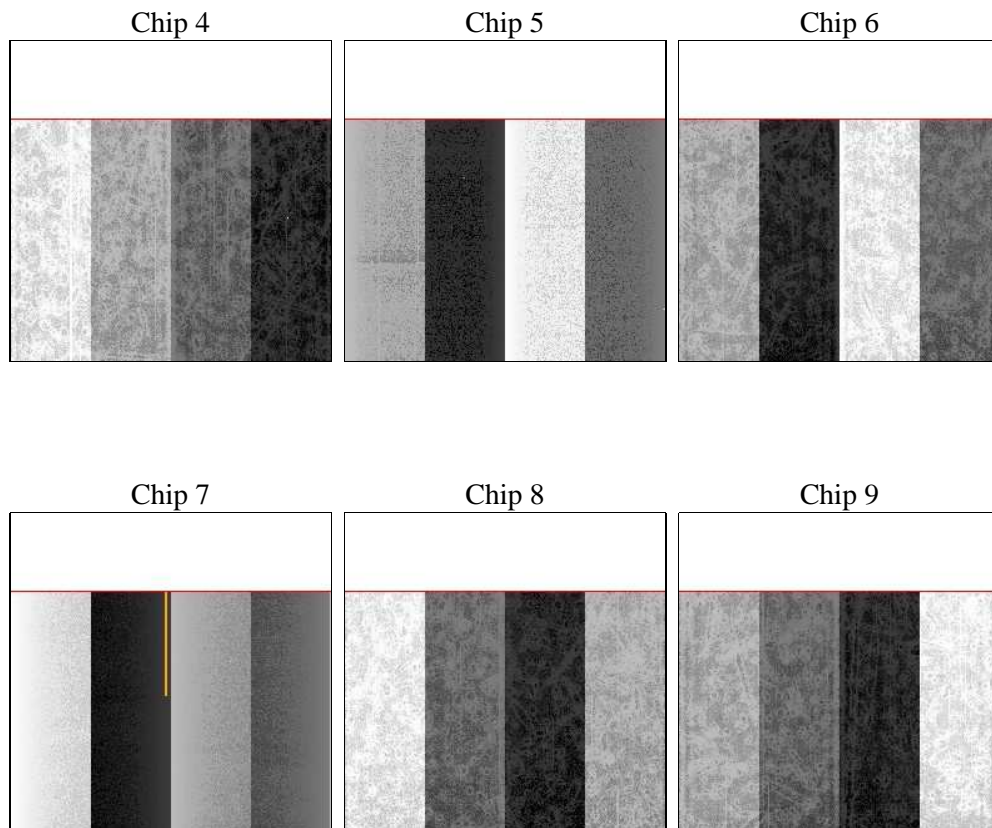
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	33000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	33036.809006751	Sum of GTIs [s]
caldbver	4.4.10	&#160	ontime4	33036.850046754	Sum of GTIs [s]
date	2012-06-15T14:30:44	Date and time of file creation	ontime5	33036.767966747	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	33036.726926744	Sum of GTIs [s]
			ontime7	33036.809006751	Sum of GTIs [s]
			ontime8	33036.685886741	Sum of GTIs [s]
			ontime9	33036.644846737	Sum of GTIs [s]
			l1events	1961981	Number of level 1 events

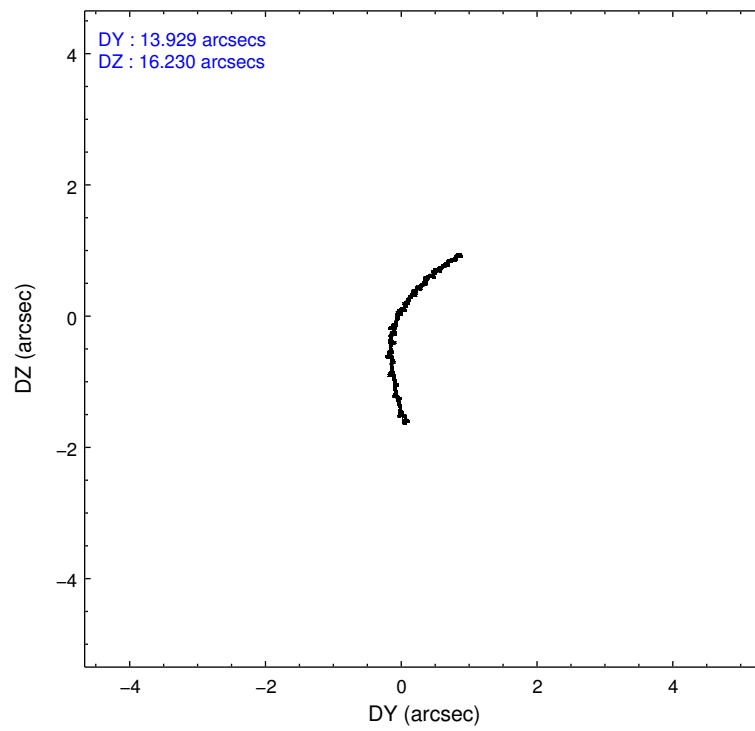
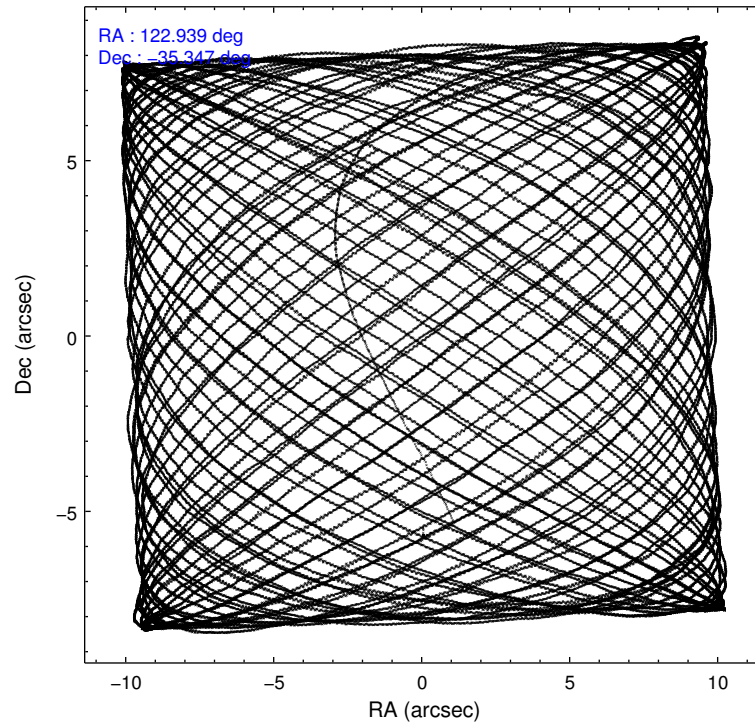
### 2.1.4 Events

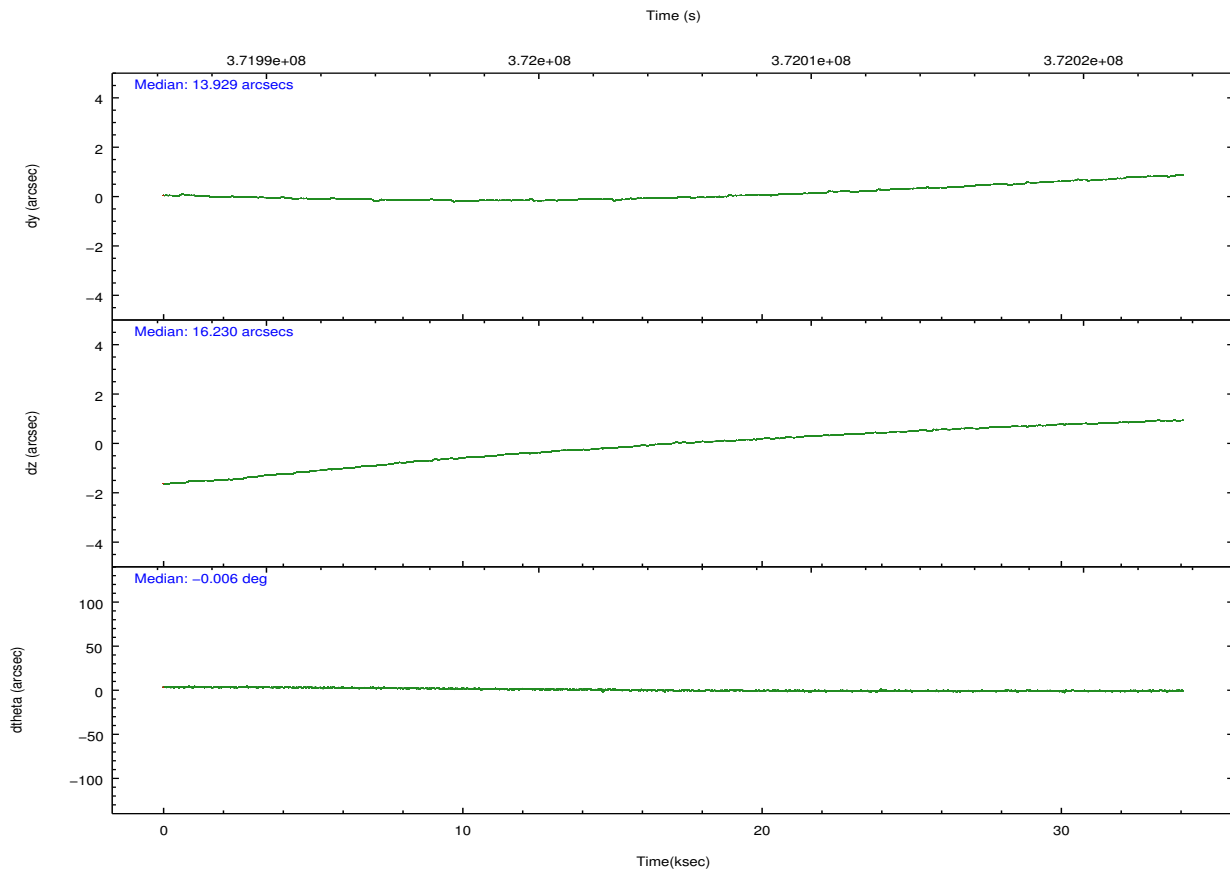
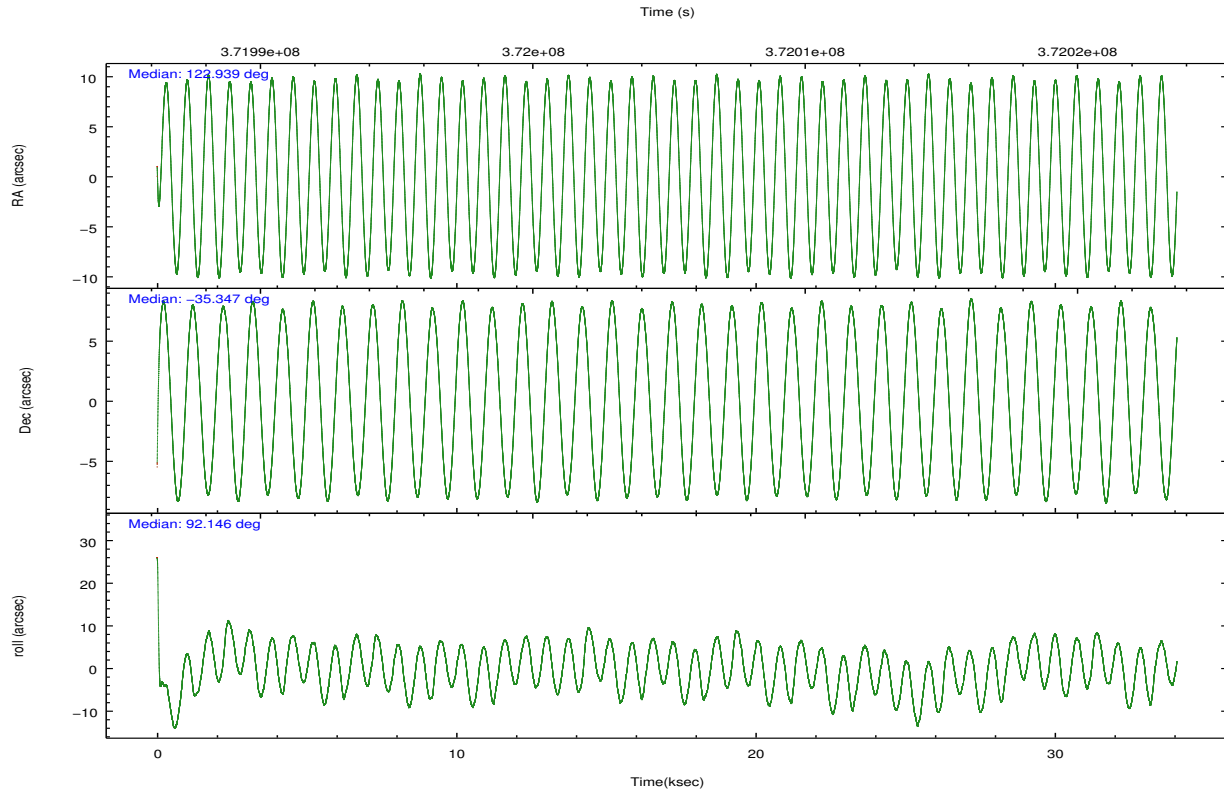
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	295684	417095	265268	373013	341871	269050	grade 0 events	24609	19767	13397	13777	25618	13869
rejected events	250543	221382	231188	214155	258538	234789		8%	4%	5%	3%	7%	5%
rejected %	84%	53%	87%	57%	75%	87%	grade 1 events	333	527	141	404	216	157
								0%	0%	0%	0%	0%	0%
							grade 2 events	7914	58404	7375	33229	18951	7010
								2%	14%	2%	8%	5%	2%
							grade 3 events	3535	8088	3299	13783	8849	3459
								1%	1%	1%	3%	2%	1%
							grade 4 events	3416	7845	3227	13477	8304	3266
								1%	1%	1%	3%	2%	1%
							grade 5 events	12391	30789	12785	34514	17062	13550
								4%	7%	4%	9%	4%	5%
							grade 6 events	5673	101639	6787	84619	21627	6660
								1%	24%	2%	22%	6%	2%
							grade 7 events	237813	190036	218257	179210	241244	221079
								80%	45%	82%	48%	70%	82%

## 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	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	122.957010	122.9387749359345	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	-35.370308	-35.34736227812851	Subarray start row	1	1
[deg] Pointing Roll	92.008640	92.15472694571665	Subarray row count	774	774
[mm] SIM focus pos	-0.684267	-0.6828225247311905	Alternating exposures requested	N	N
[mm] SIM defocus	0	0.001444936568705701	[s] Primary exposure time	0.000000	2.5
[mm] SIM translation stage pos	-187.132523	-187.1228876879999			
[mm] SIM translation stage offset	-3	-3.009634895007935			
[s] Observation start time (MET)	371988968.184000	371986926.52355			
Observation start date	2009-10-15T10:15:02	2009-10-15T09:42:06			
[s] Observation end time (MET)	372021968.184000	372022823.05036			
Observation end date	2009-10-15T19:25:02	2009-10-15T19:40:23			
Read mode	TIMED	TIMED			

## 2.3 Aspect



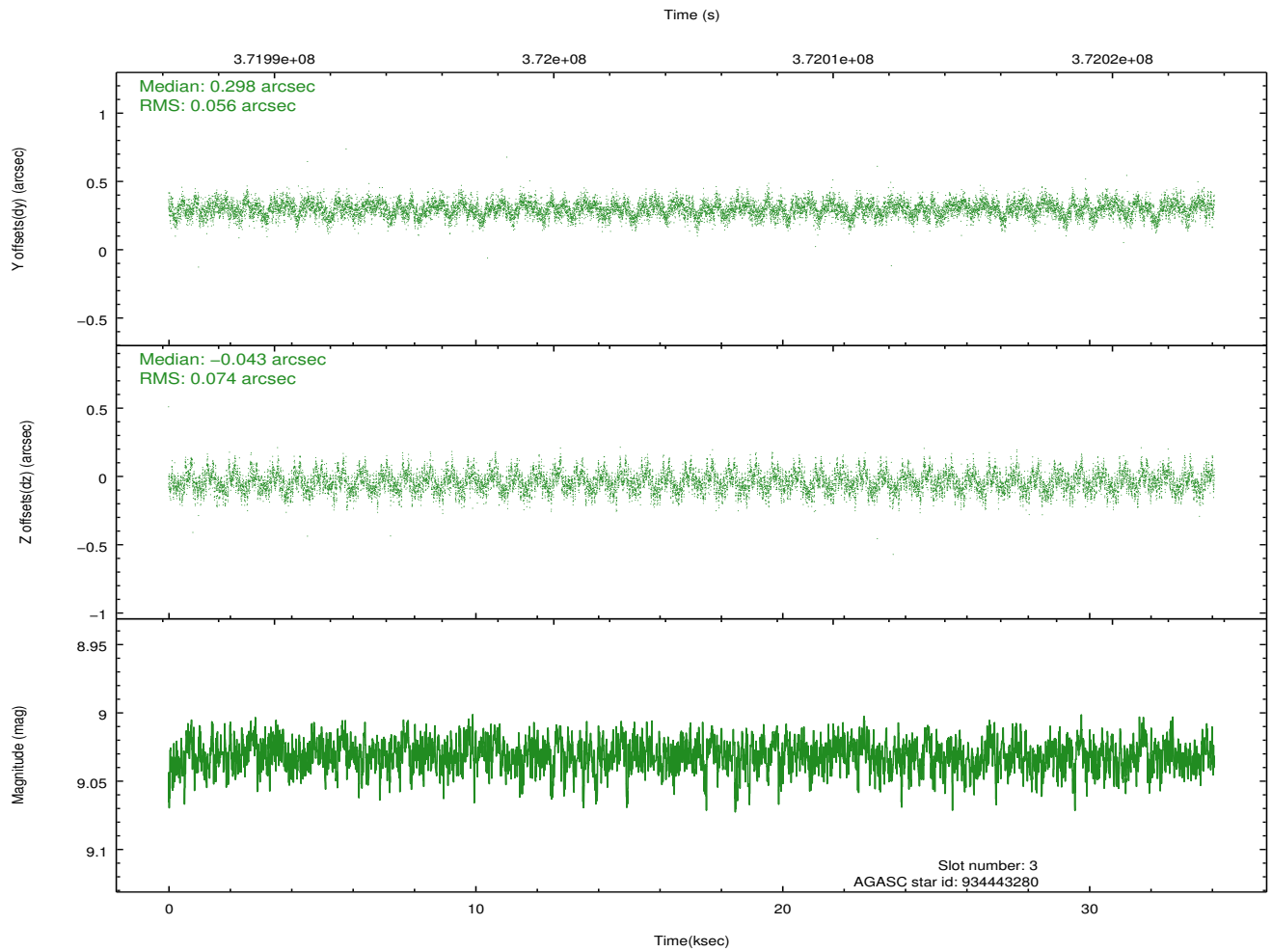
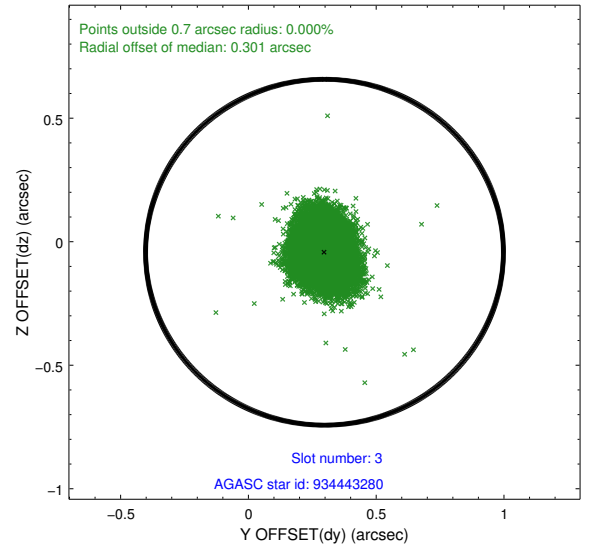
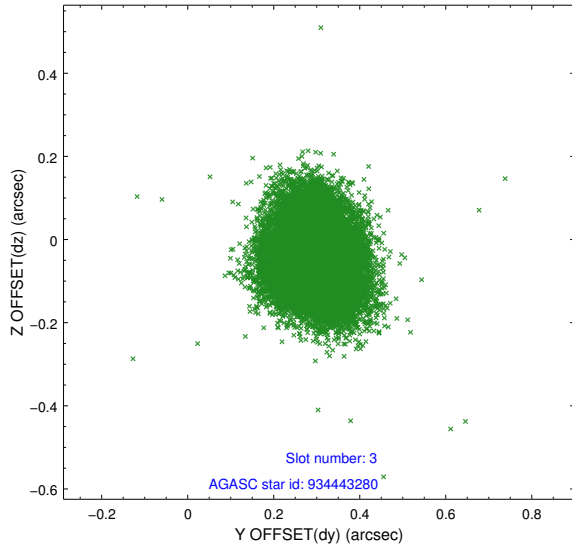


### Slot Statistics

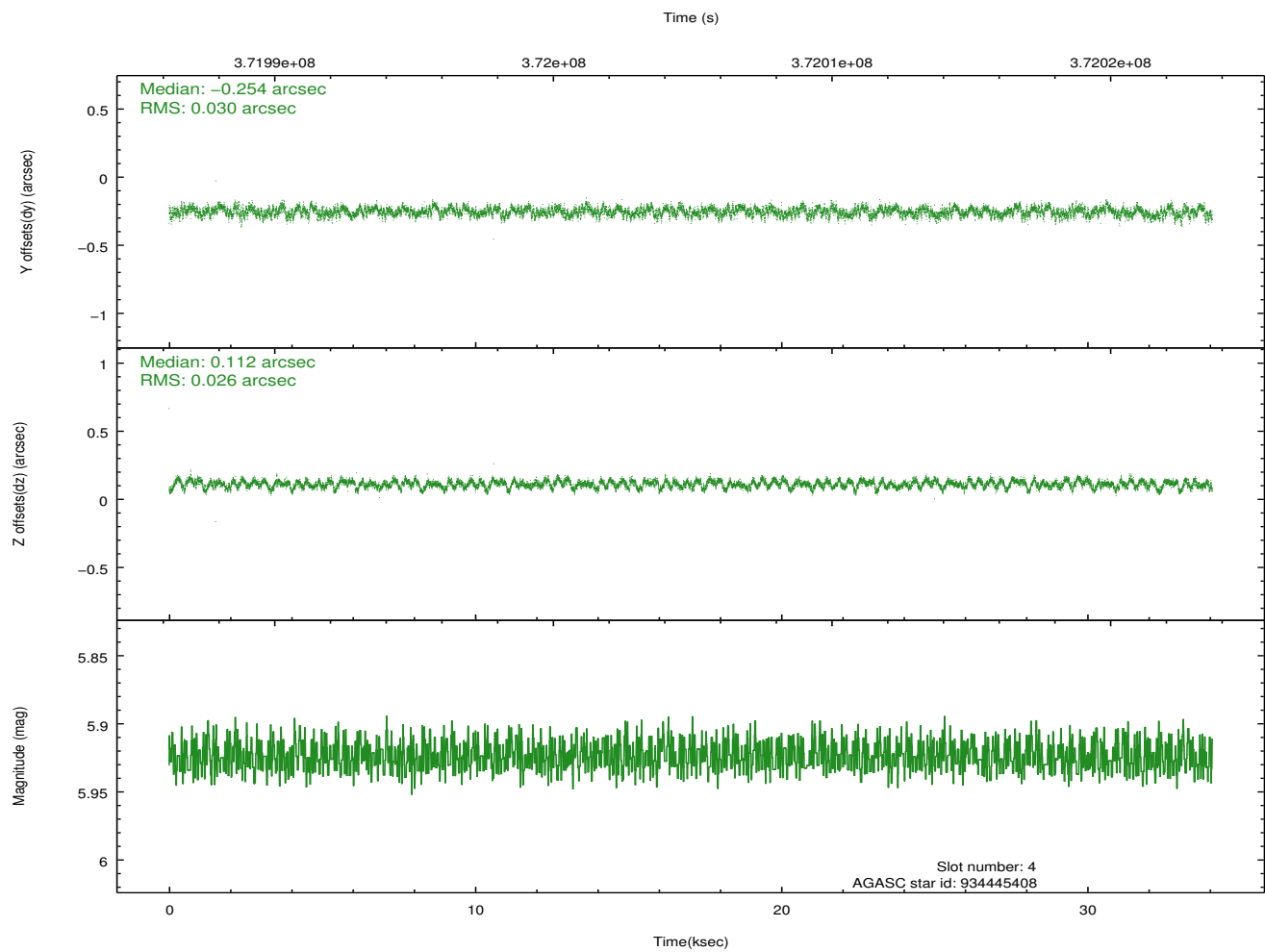
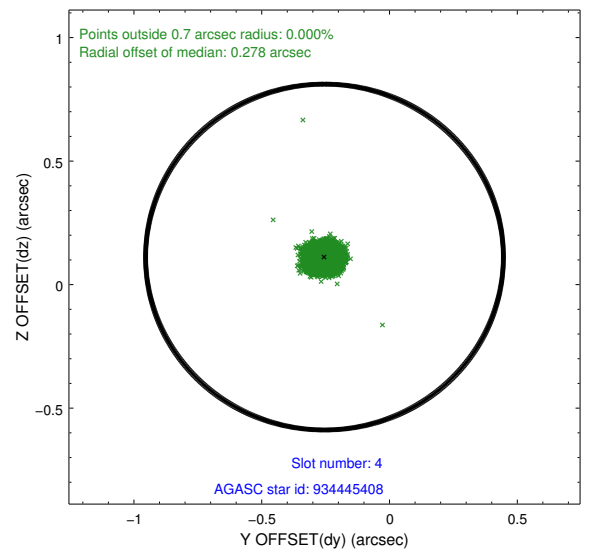
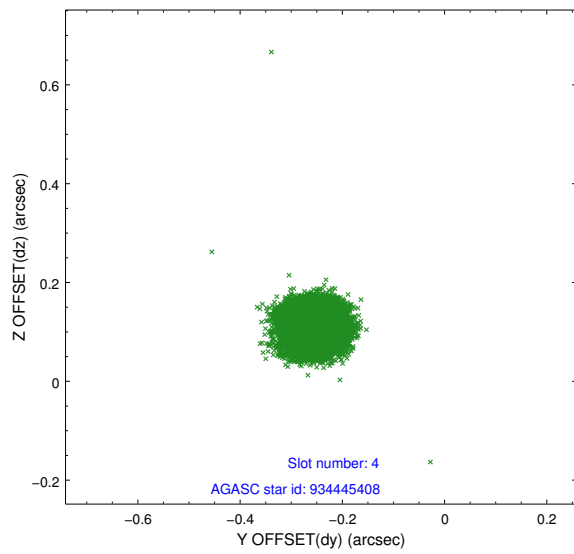
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	6.94	8311	0.058	0.028	0.030	0.066	0.000000	0.000000	929.31	-1795.24
1	FID	ACIS-S-5	6.99	8312	-0.154	0.043	0.022	0.040	0.000000	0.000000	-1819.89	102.25
2	FID	ACIS-S-6	7.12	8312	0.072	-0.049	0.023	0.035	0.000000	0.000000	394.81	746.20
3	GUIDE	934443280	9.03	16611	0.298	-0.043	0.099	0.159	123.348771	-35.369207	-37.84	-1149.18
4	GUIDE	934445408	5.92	16624	-0.254	0.112	0.042	0.065	123.155863	-35.146509	784.12	-612.93
5	GUIDE	934448384	9.35	16492	0.090	0.137	0.103	0.164	123.060299	-35.434250	-240.47	-294.53
6	GUIDE	934449128	9.17	16603	0.060	-0.144	0.107	0.174	122.610732	-35.593771	-770.14	1041.17
7	GUIDE	934449184	6.93	16621	-0.191	-0.061	0.068	0.110	123.461425	-35.208271	527.42	-1502.90

## 2.4 Star Slots

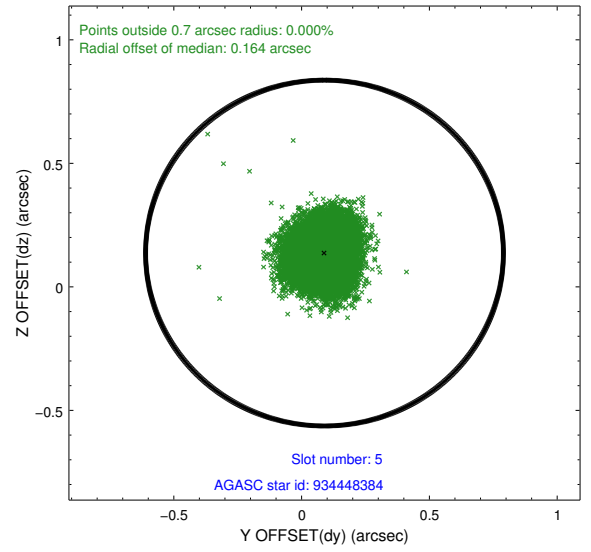
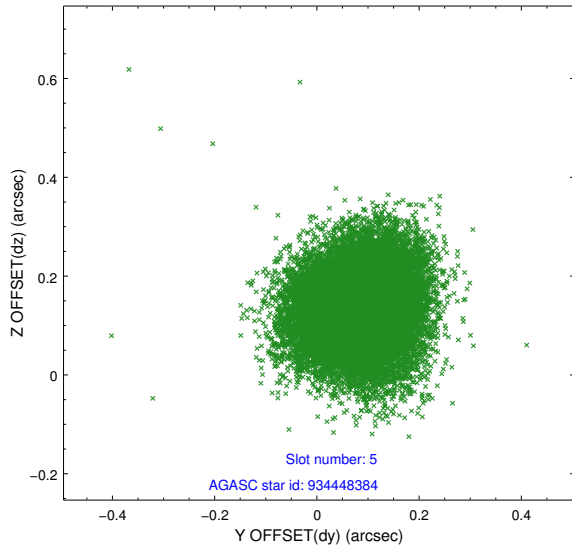
### 2.4.1 Slot 3



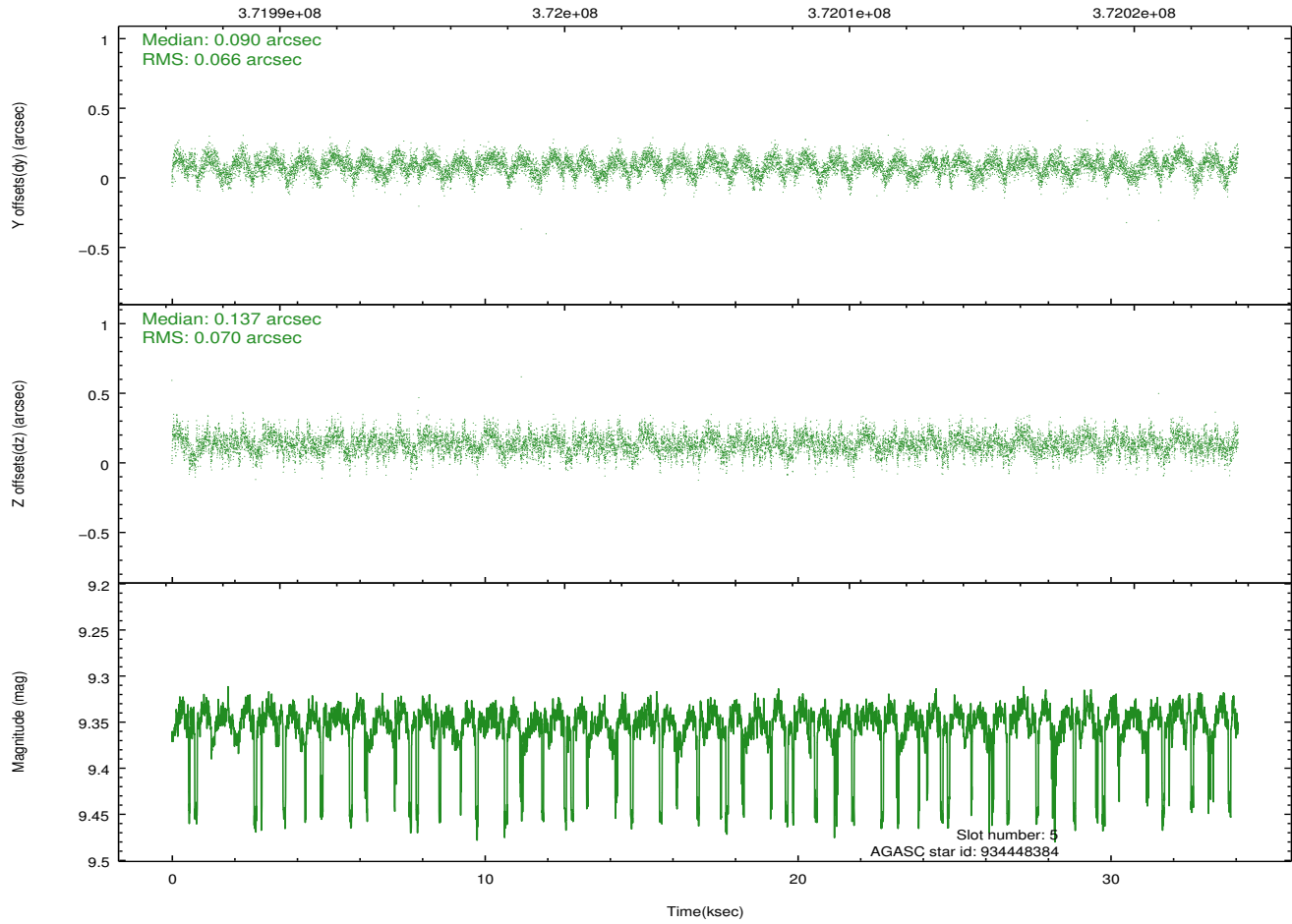
## 2.4.2 Slot 4



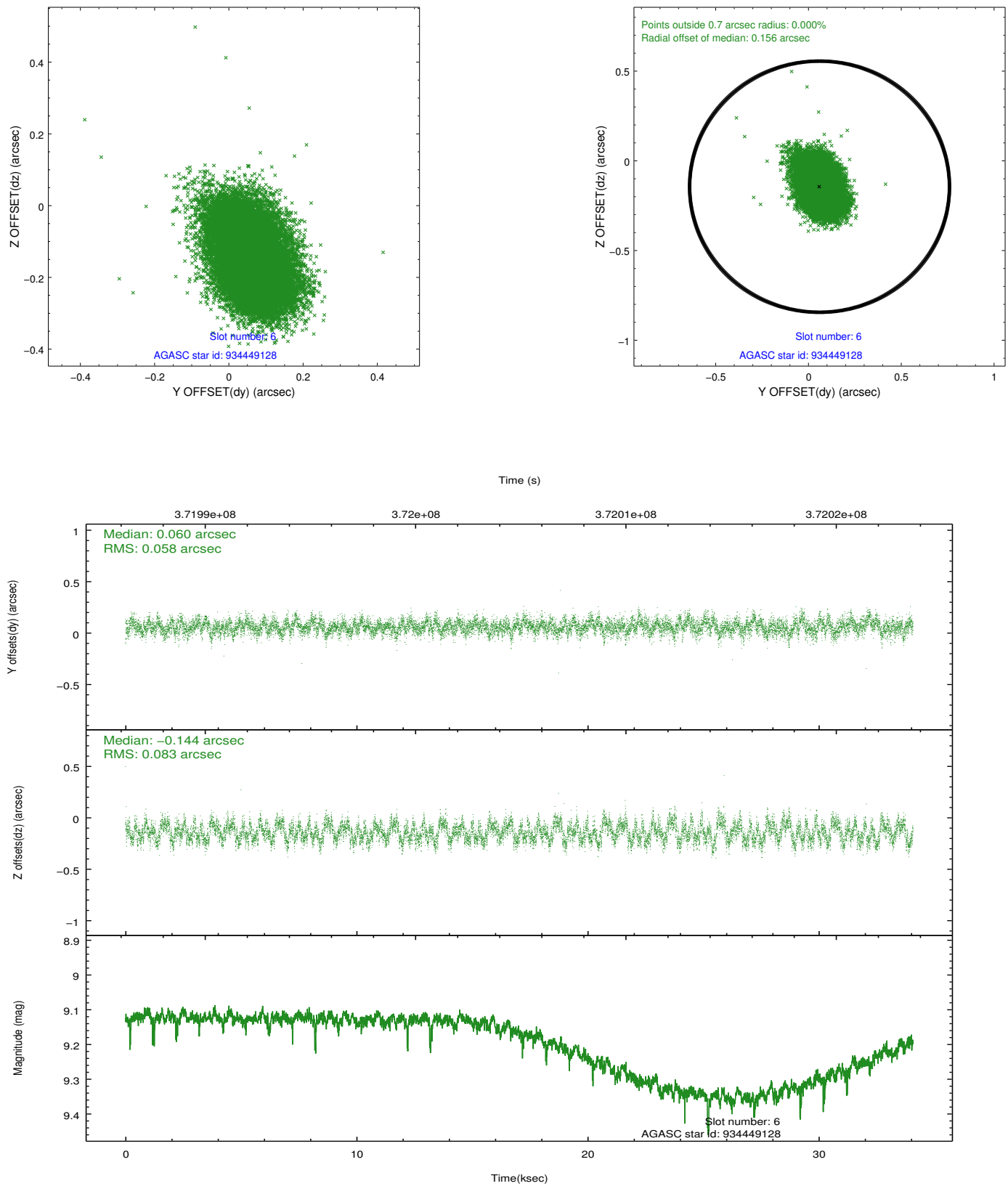
### 2.4.3 Slot 5



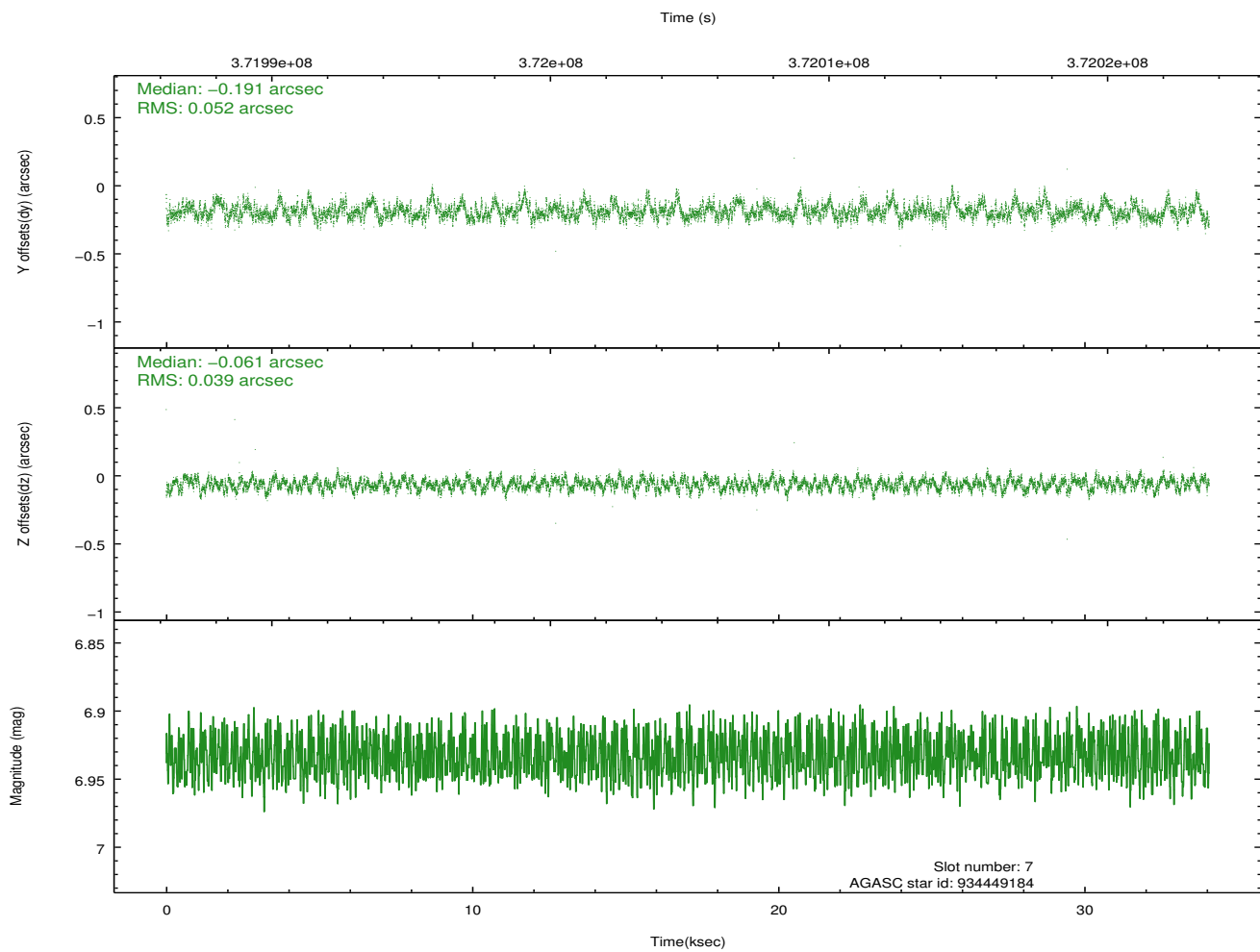
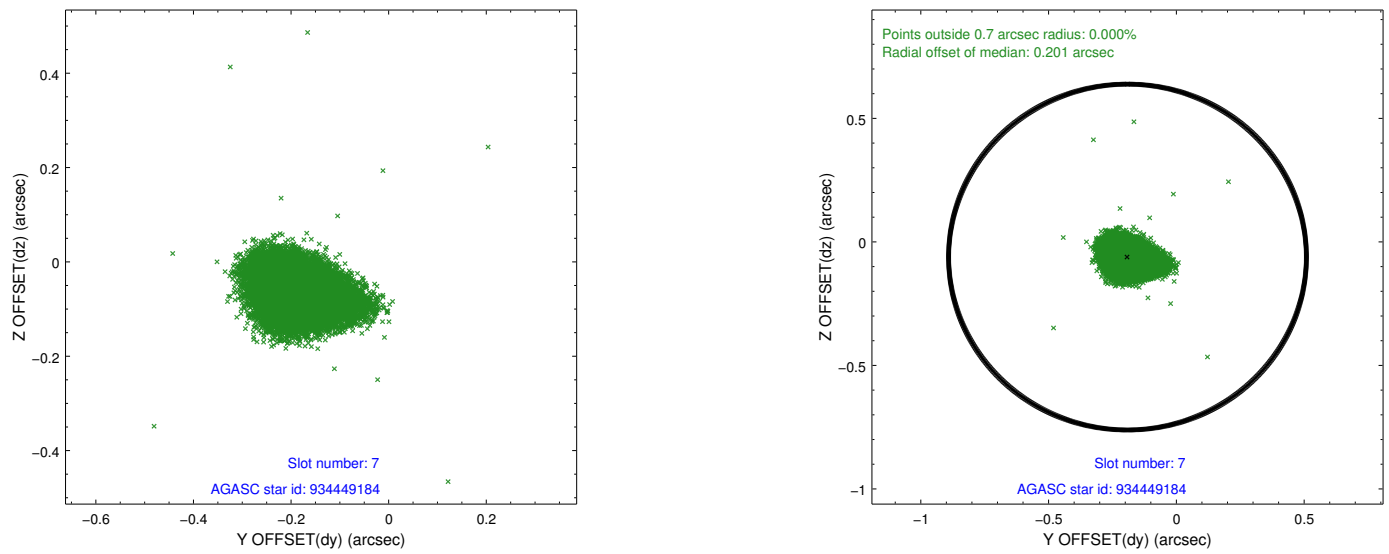
Time (s)



## 2.4.4 Slot 6

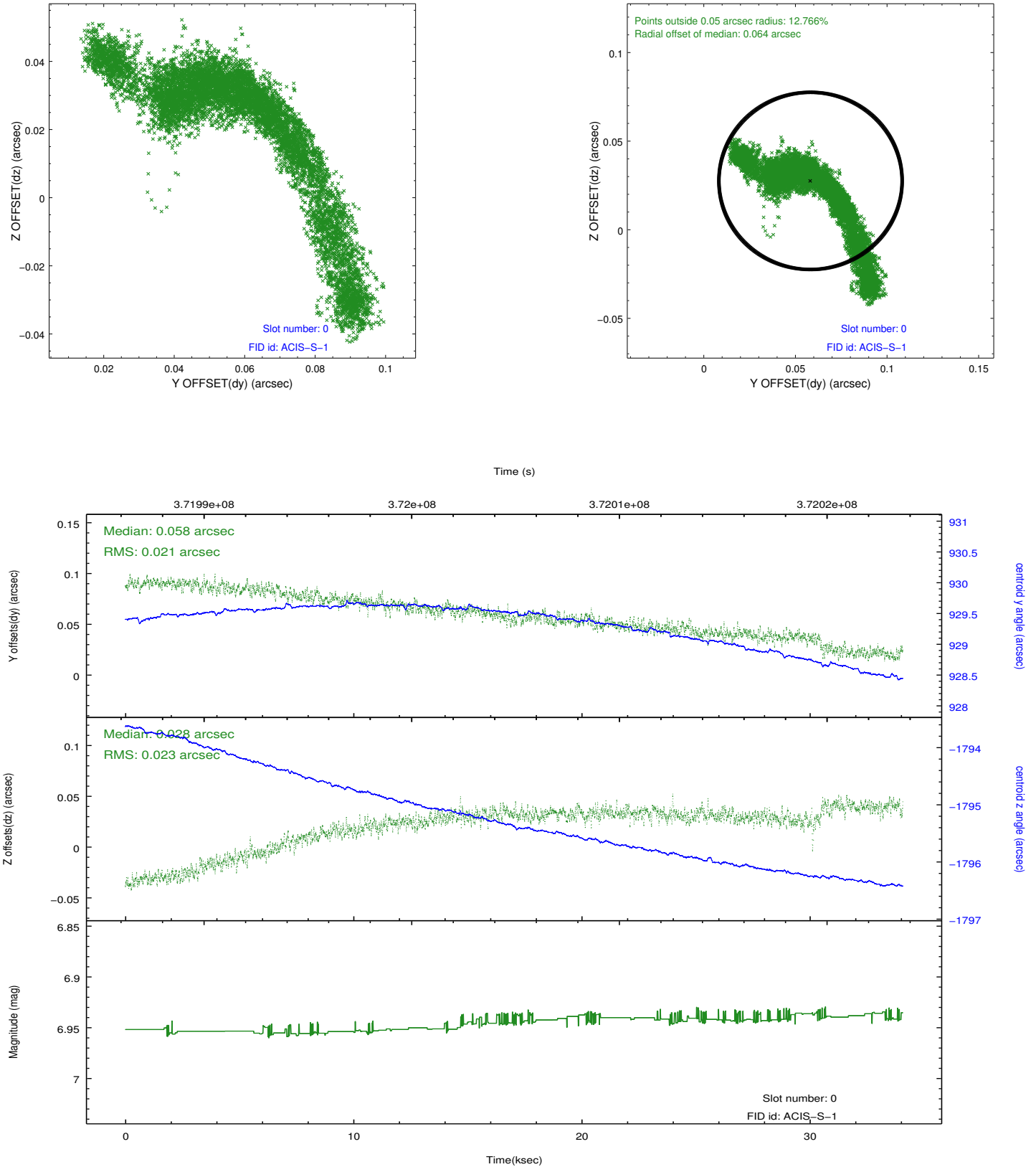


## 2.4.5 Slot 7

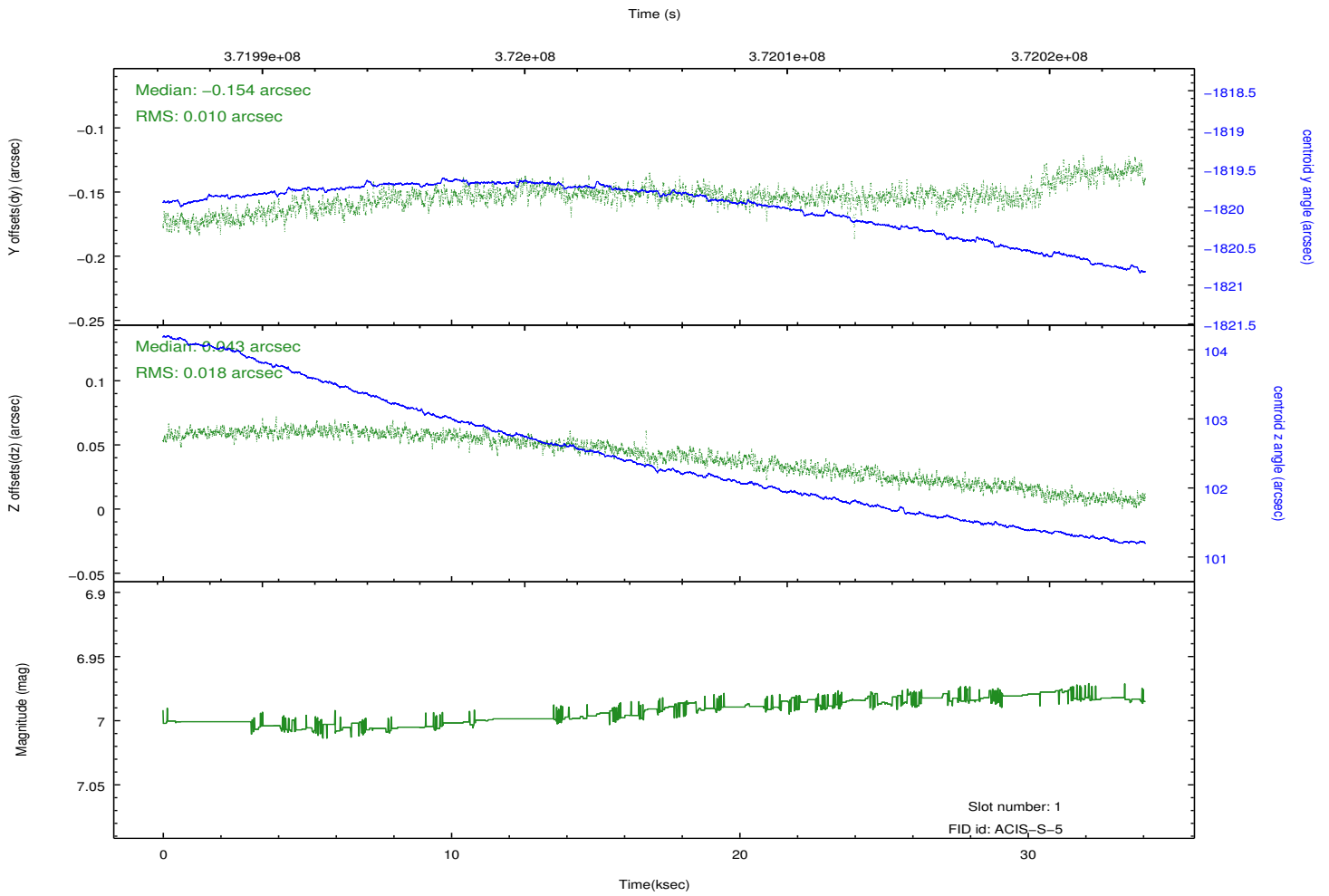
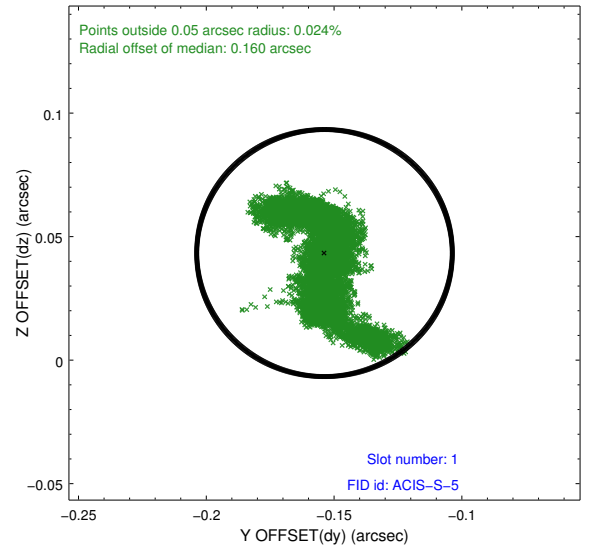
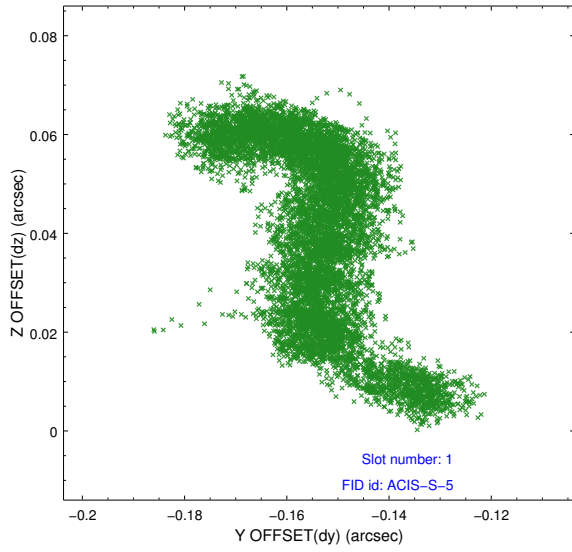


## 2.5 FID Slots

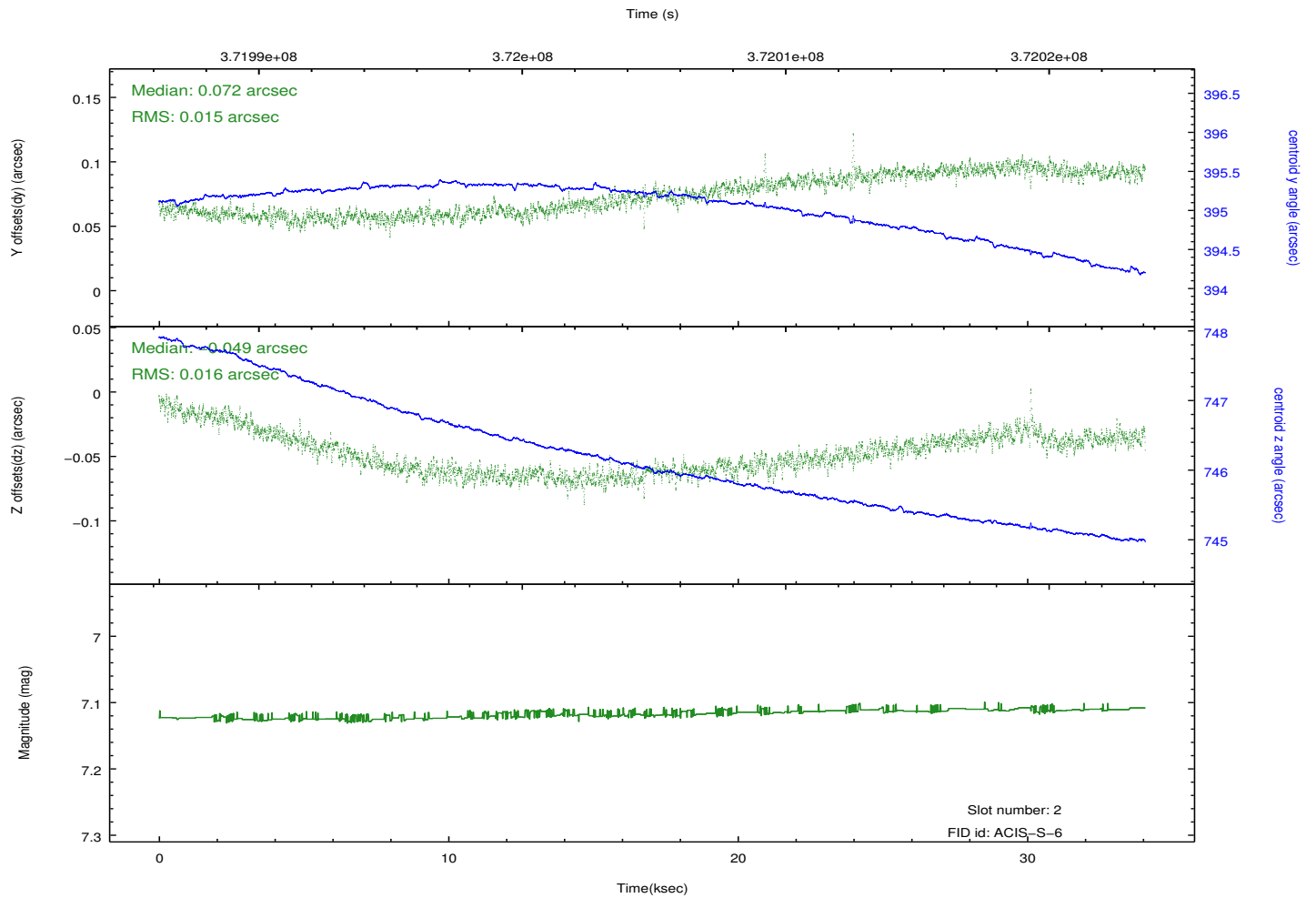
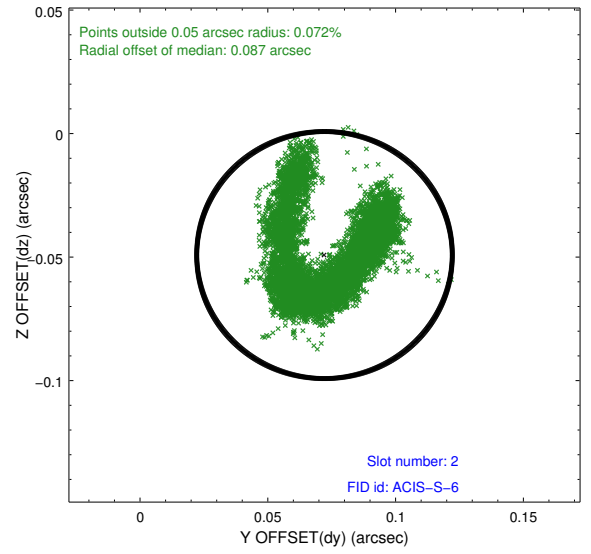
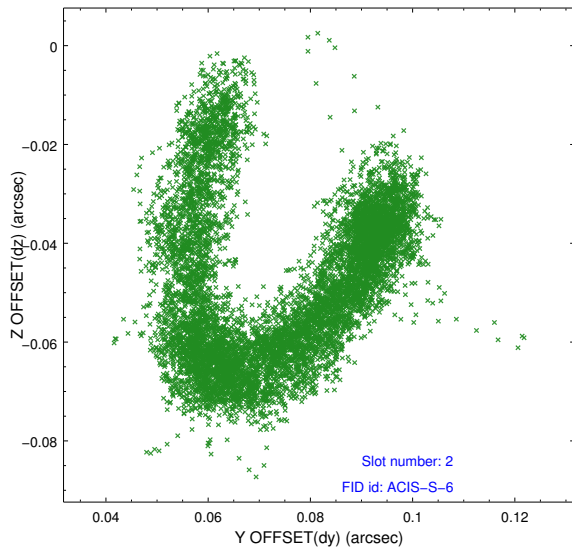
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2

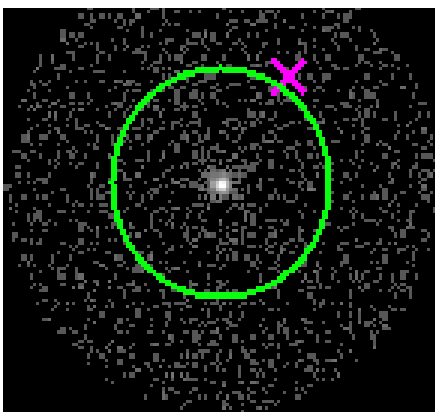


### 3 Gratings

#### 3.1 HEG Arm



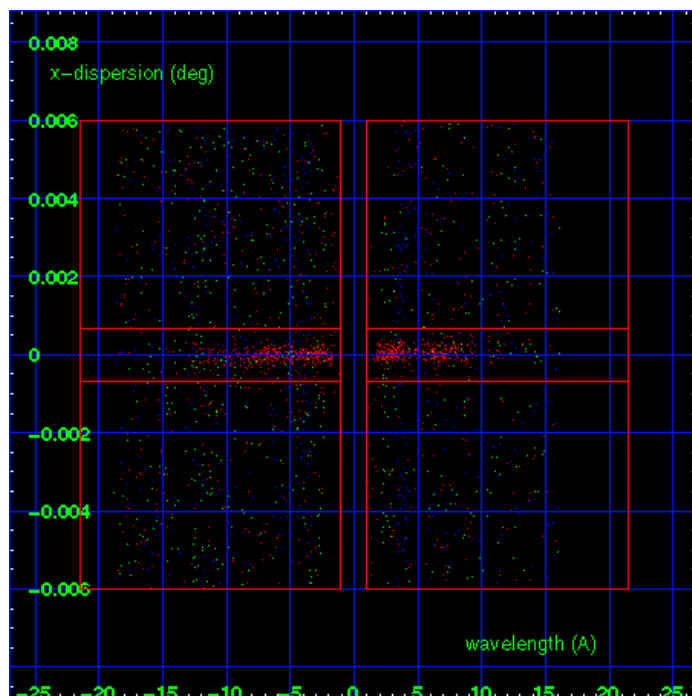
HEG Order Sort 123



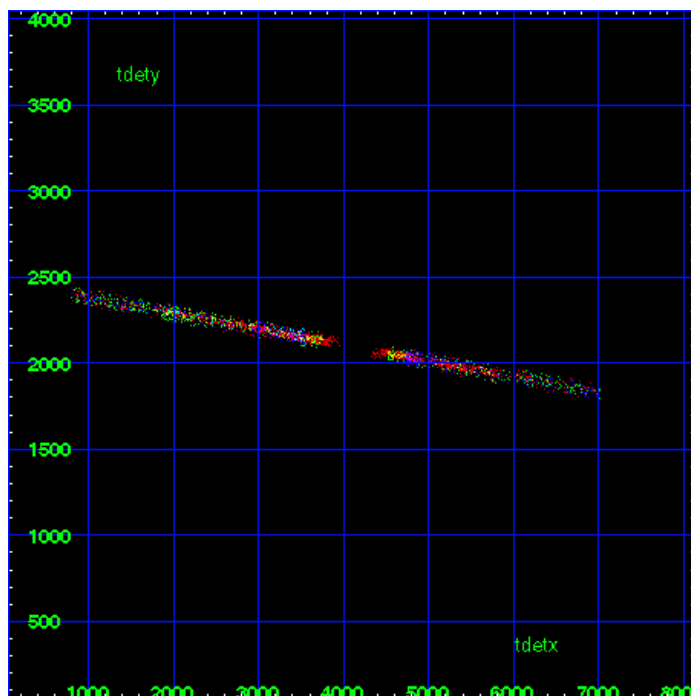
HEG Zero Order



HEG Order Sort ALL

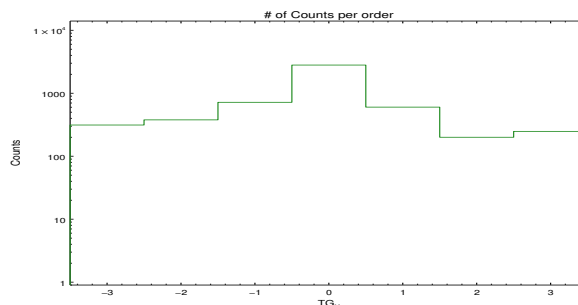


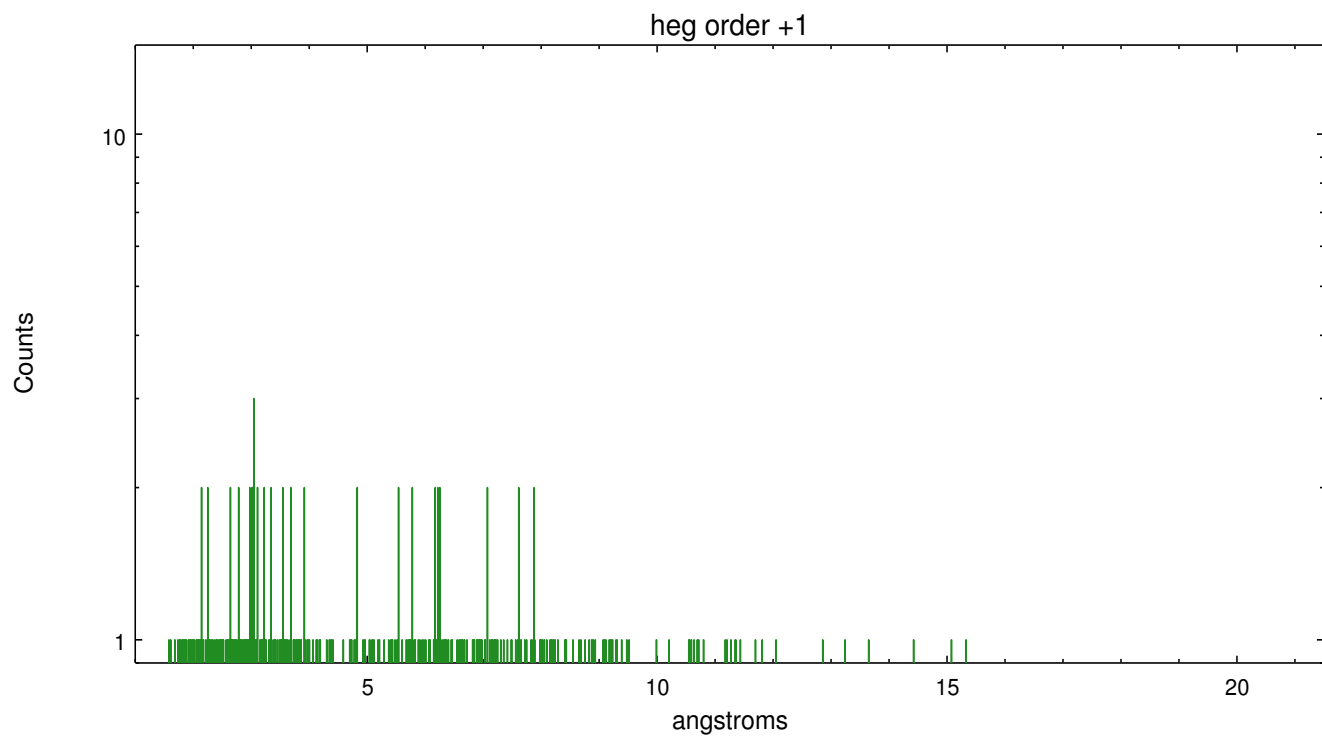
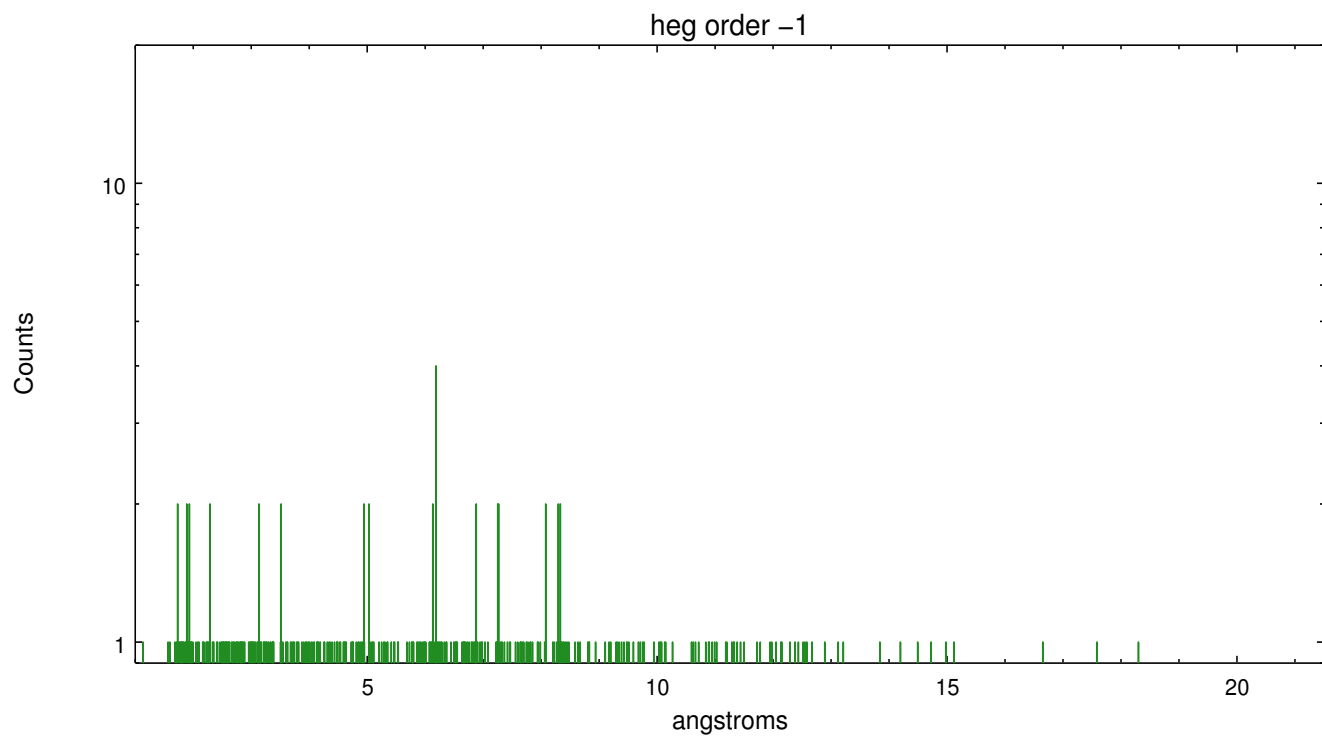
Spot Image HEG



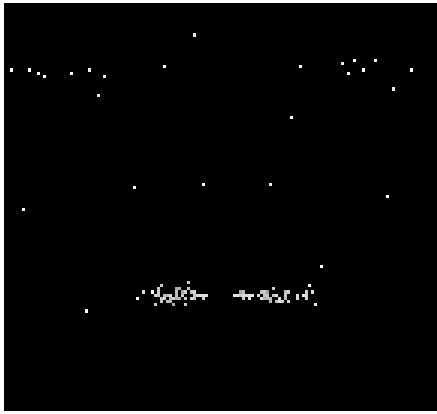
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	313	378	718	2804	602	200	248

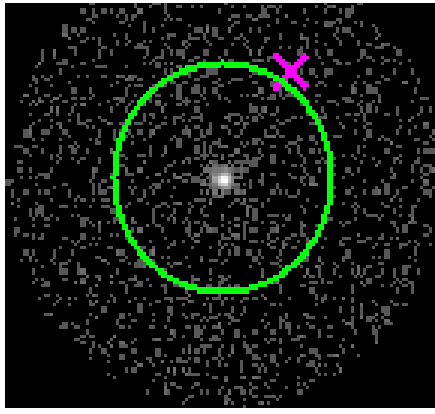




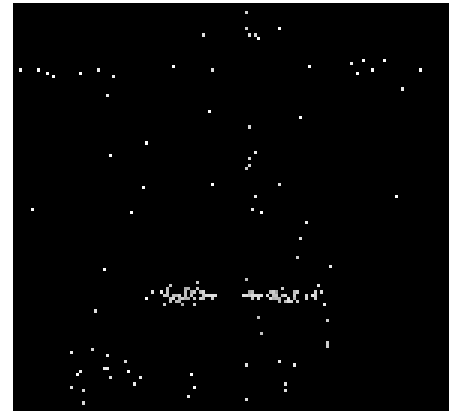
### 3.2 MEG Arm



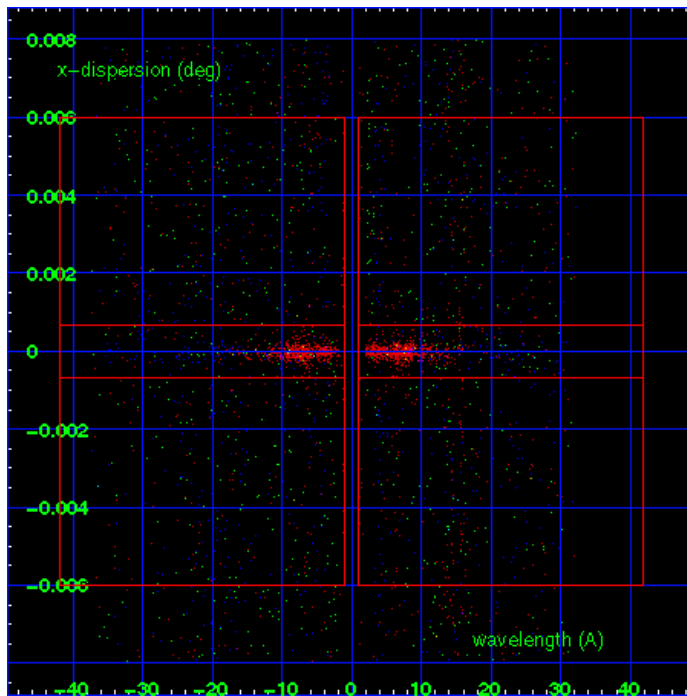
MEG Order Sort 123



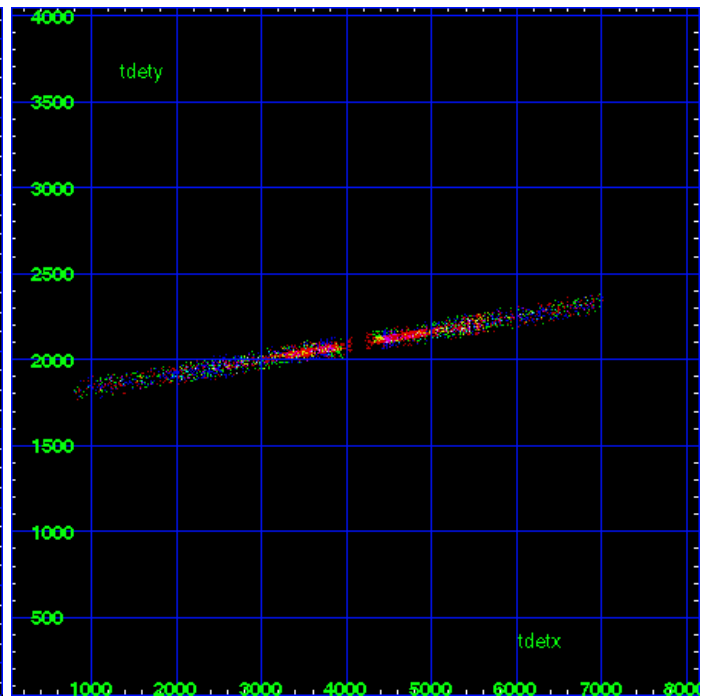
MEG Zero Order



MEG Order Sort ALL

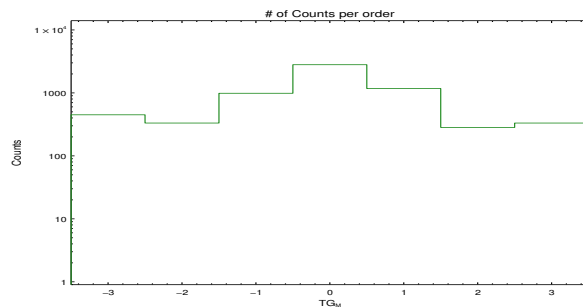


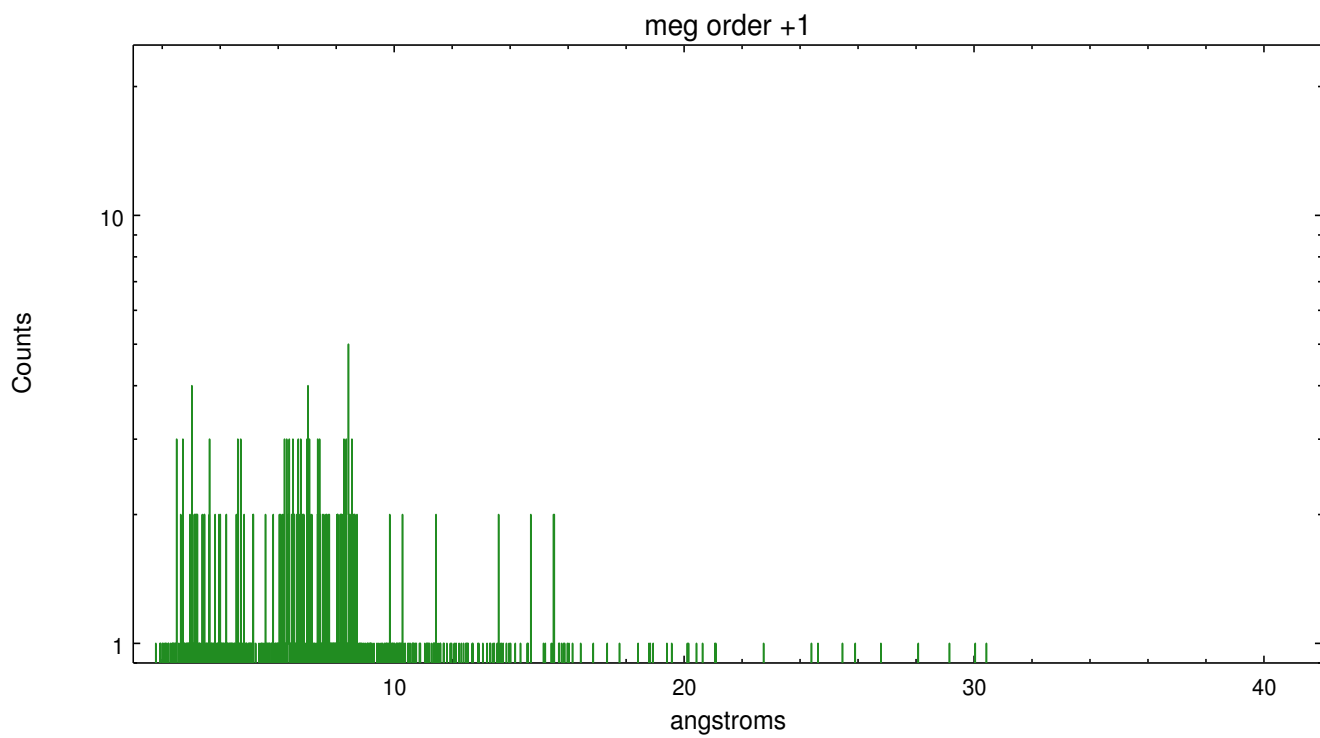
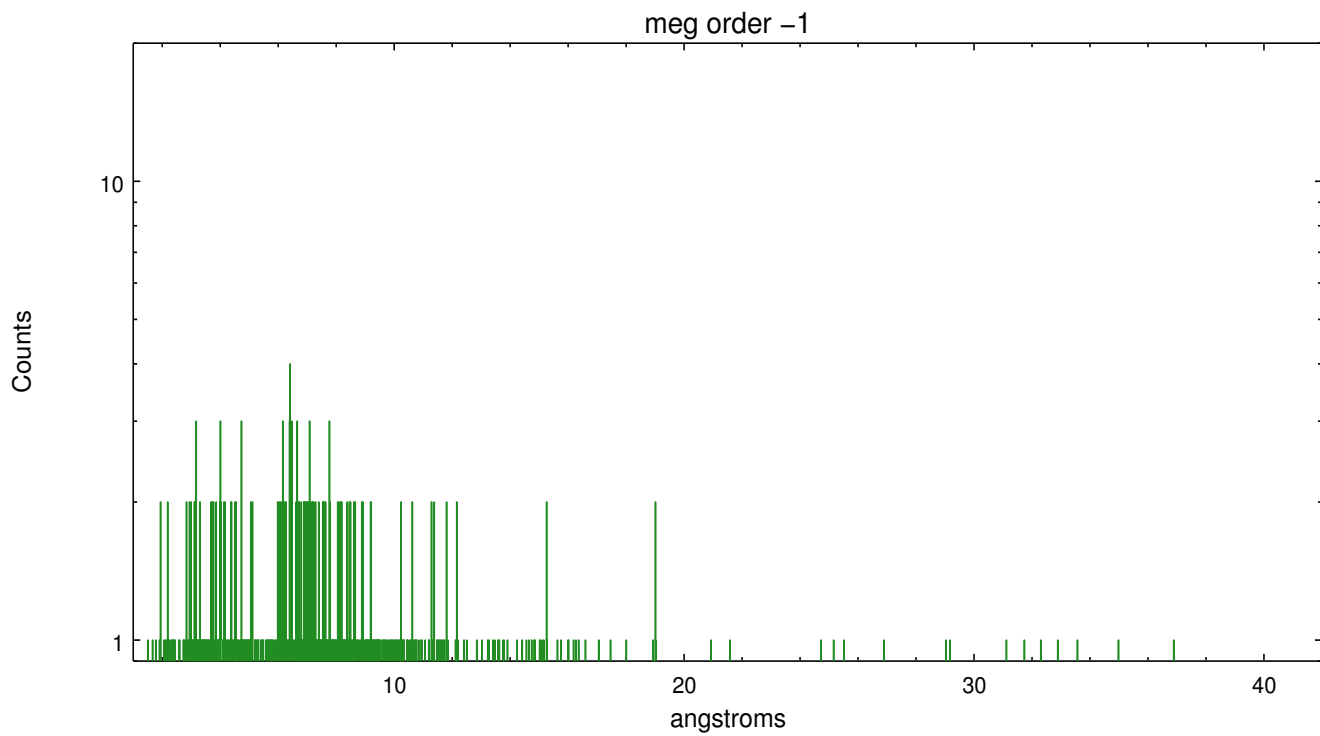
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	449	332	986	2804	1173	283	332





# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2012.06.19
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	33.0375

## A.2 Comments

Joint Proposal: NOAO

=====

A spatial region of the original bias map for CCD = 9 suffered from anomalously high data values. Pixels in the event data that were bias-corrected by one of the original affected bias pixels may have an apparent energy shift. While the change in energy is expected to be small ( $\sim 20$  eV), it depends on many parameters that have not yet been fully explored for this bias anomaly. The bias map for CCD = 9 has been reconstructed for this processing to remove this anomaly using scaled data from a comparable bias map from another observation. The pixels affected by the anomaly are bounded by sky coords:  
(122.93656, -35.69947), (122.93709, -35.71079), (123.00797, -35.70858), (122.99383, -35.69769)