

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 7589 - L2 Version 3  
Chandra X-Ray Center

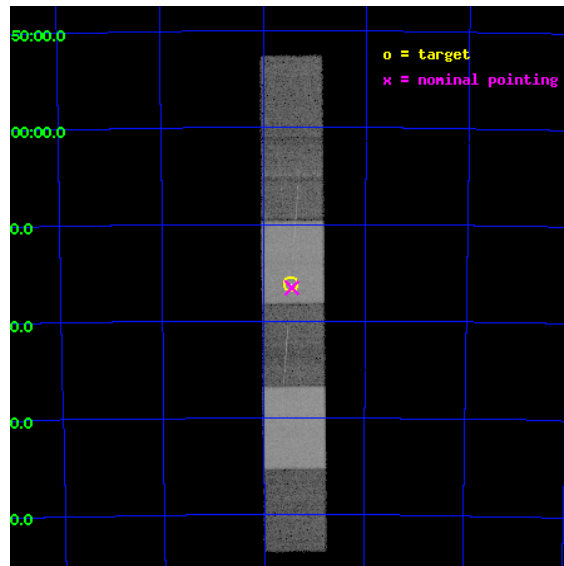
L2 Processing Date : Apr 21 2012

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# 1 Front

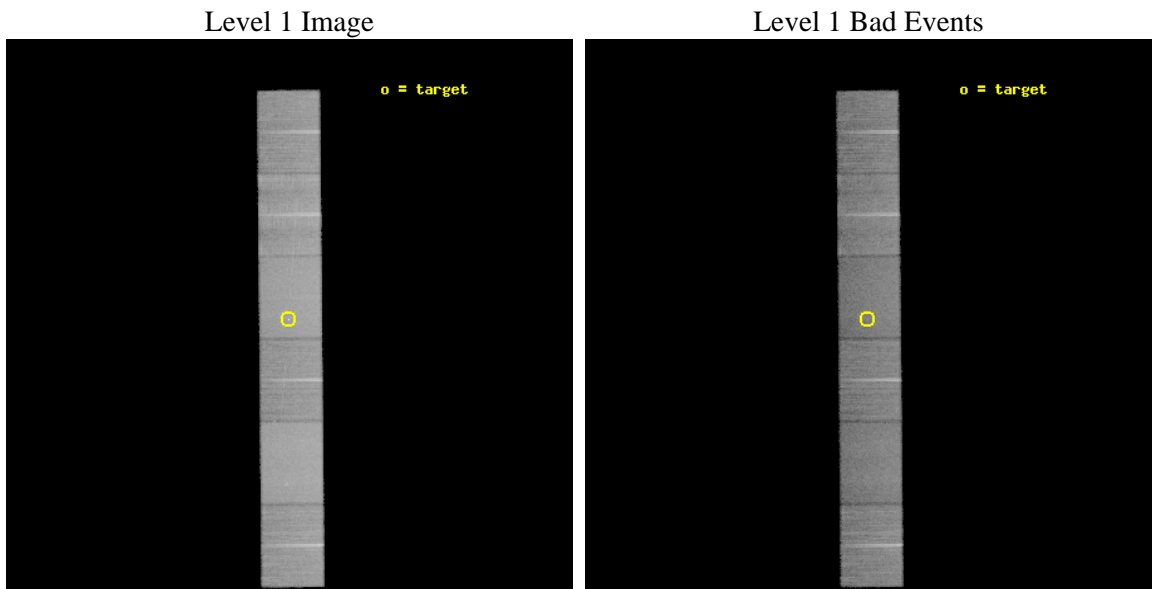
seq_num	500720	Sequence number
obs_id	7589	Observation id
title	High resolution spectral imaging of SN 1987A at 20 years: HETG observation	Proposal title
observer	Prof Claude Canizares	Principal investigator
object	Sn 1987A	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.866667	Observer's specified target RA [deg]
dec_targ	-69.269722	Observer's specified target Dec [deg]
ra_nom	83.86185455576	Nominal RA [deg]
dec_nom	-69.27600143867	Nominal Dec [deg]
roll_nom	269.45212496372	Nominal Roll [deg]
revision	3	Processing version of data
ontime	25680.0	Sum of GTIs [s]
livetime	25265.245726159	Livetime [s]
ontime4	25677.459009767	Sum of GTIs [s]
ontime5	25680.0	Sum of GTIs [s]
ontime6	25680.0	Sum of GTIs [s]
ontime7	25680.0	Sum of GTIs [s]
ontime8	25680.0	Sum of GTIs [s]
ontime9	25680.0	Sum of GTIs [s]
l2events	313162	Number of level 2 events



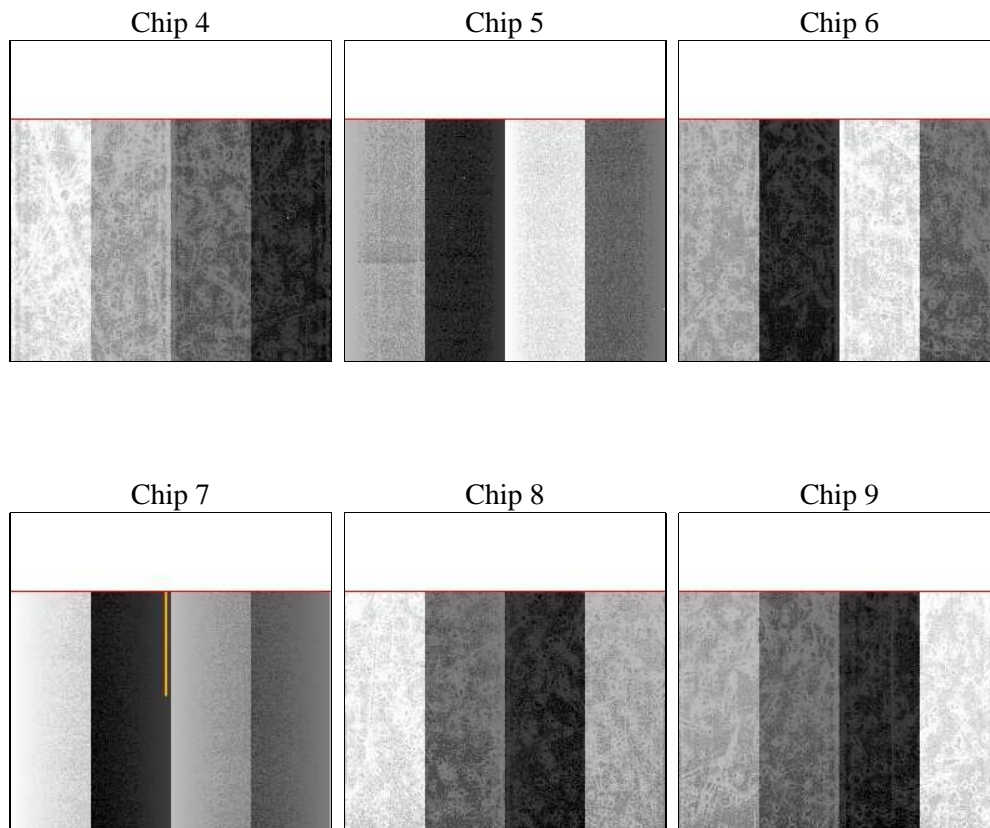
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	25500.000000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	25680.0	Sum of GTIs [s]
caldbver	4.4.9	&#160	ontime4	25677.459009767	Sum of GTIs [s]
date	2012-04-21T15:21:29	Date and time of file creation	ontime5	25680.0	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	25680.0	Sum of GTIs [s]
			ontime7	25680.0	Sum of GTIs [s]
			ontime8	25680.0	Sum of GTIs [s]
			ontime9	25680.0	Sum of GTIs [s]
			l1events	1346046	Number of level 1 events

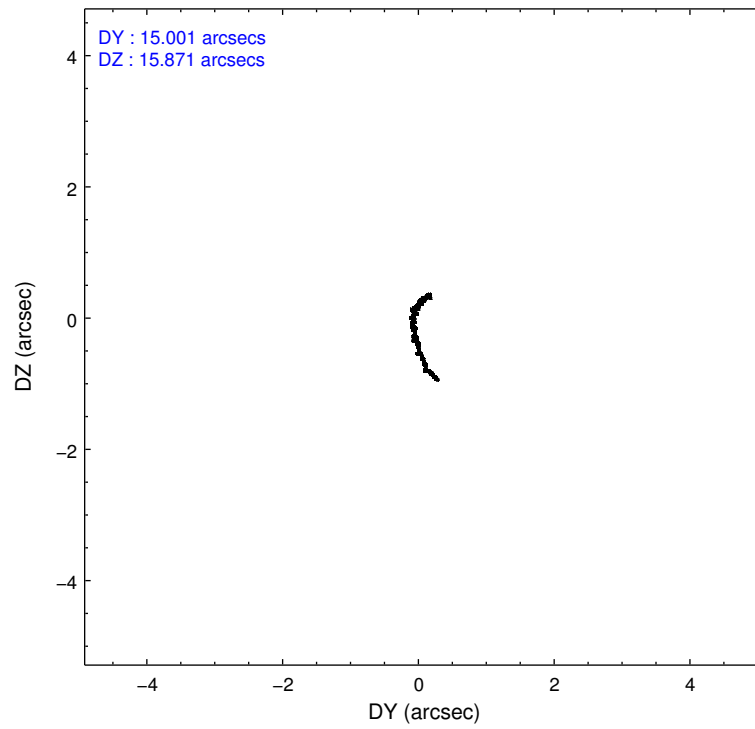
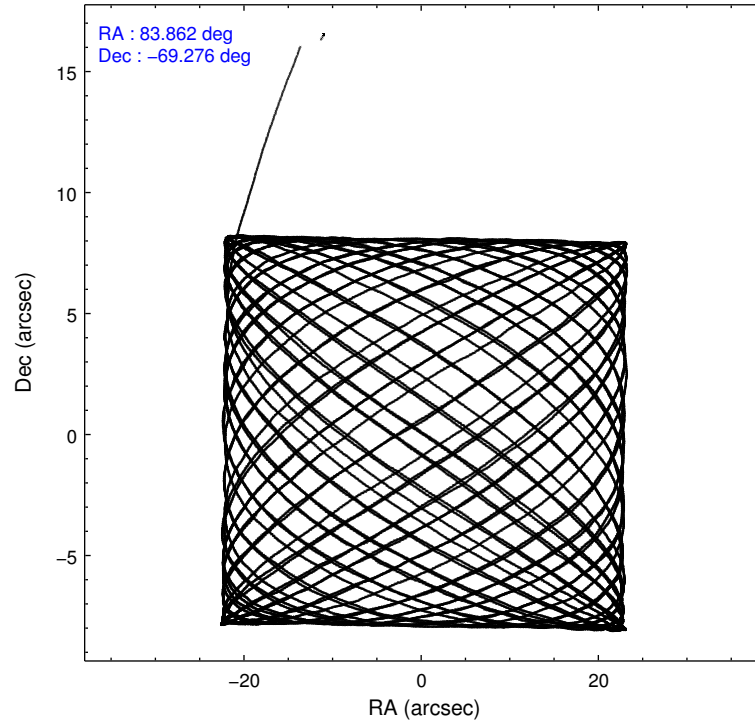
### 2.1.4 Events

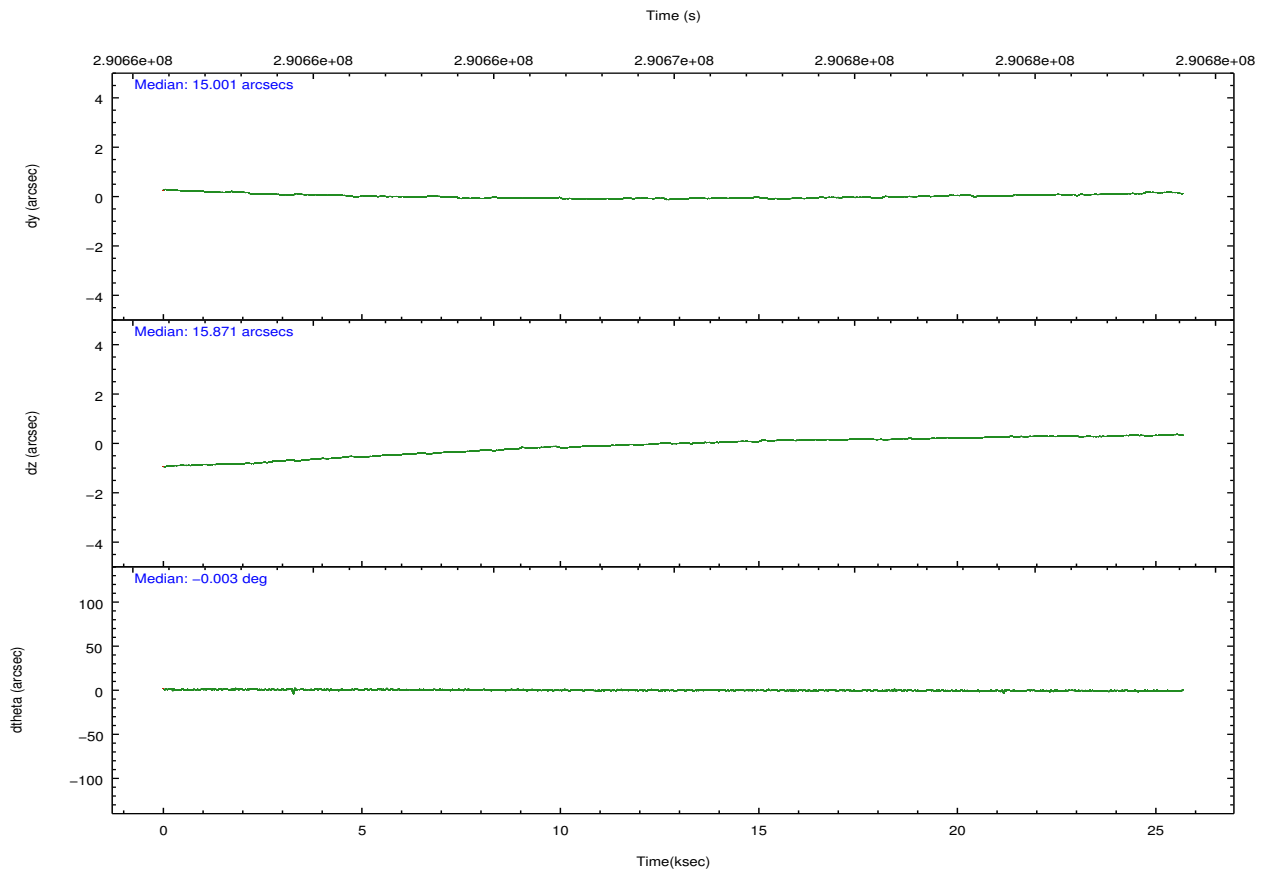
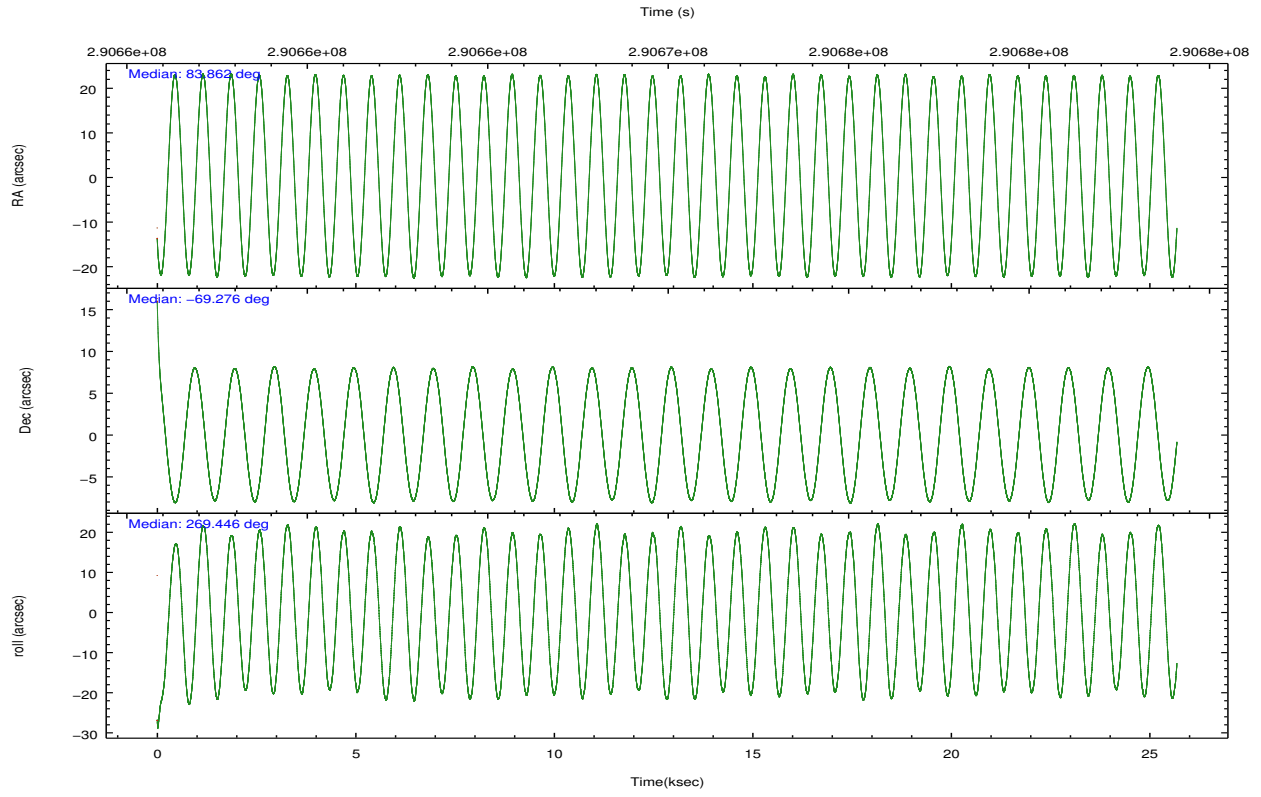
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	209526	276155	189538	253966	234571	182290	grade 0 events	10506	8451	10125	10054	17575	9573
rejected events	185449	150912	165314	144844	179119	159086		5%	3%	5%	3%	7%	5%
rejected %	88%	54%	87%	57%	76%	87%	grade 1 events	165	374	99	240	175	101
								0%	0%	0%	0%	0%	0%
							grade 2 events	5158	38062	5096	22675	12061	4596
								2%	13%	2%	8%	5%	2%
							grade 3 events	2442	5765	2296	9876	6077	2355
								1%	2%	1%	3%	2%	1%
							grade 4 events	2309	5394	2294	9735	5435	2416
								1%	1%	1%	3%	2%	1%
							grade 5 events	8315	20998	8411	23751	11258	9038
								3%	7%	4%	9%	4%	4%
							grade 6 events	3751	68062	4524	57182	14473	4341
								1%	24%	2%	22%	6%	2%
							grade 7 events	176880	129049	156693	120453	167517	149870
								84%	46%	82%	47%	71%	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	VFAINT	VFAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	83.823043	83.86185455576015	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	-69.252366	-69.27600143867005	Subarray start row	1	1
[deg] Pointing Roll	269.259203	269.4521249637192	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)	290657302.184000	290656285.69623			
Observation start date	2007-03-19T02:07:17	2007-03-19T01:51:25			
[s] Observation end time (MET)	290682802.184000	290684295.36006			
Observation end date	2007-03-19T09:12:17	2007-03-19T09:38:15			
Read mode	TIMED	TIMED			

## 2.3 Aspect



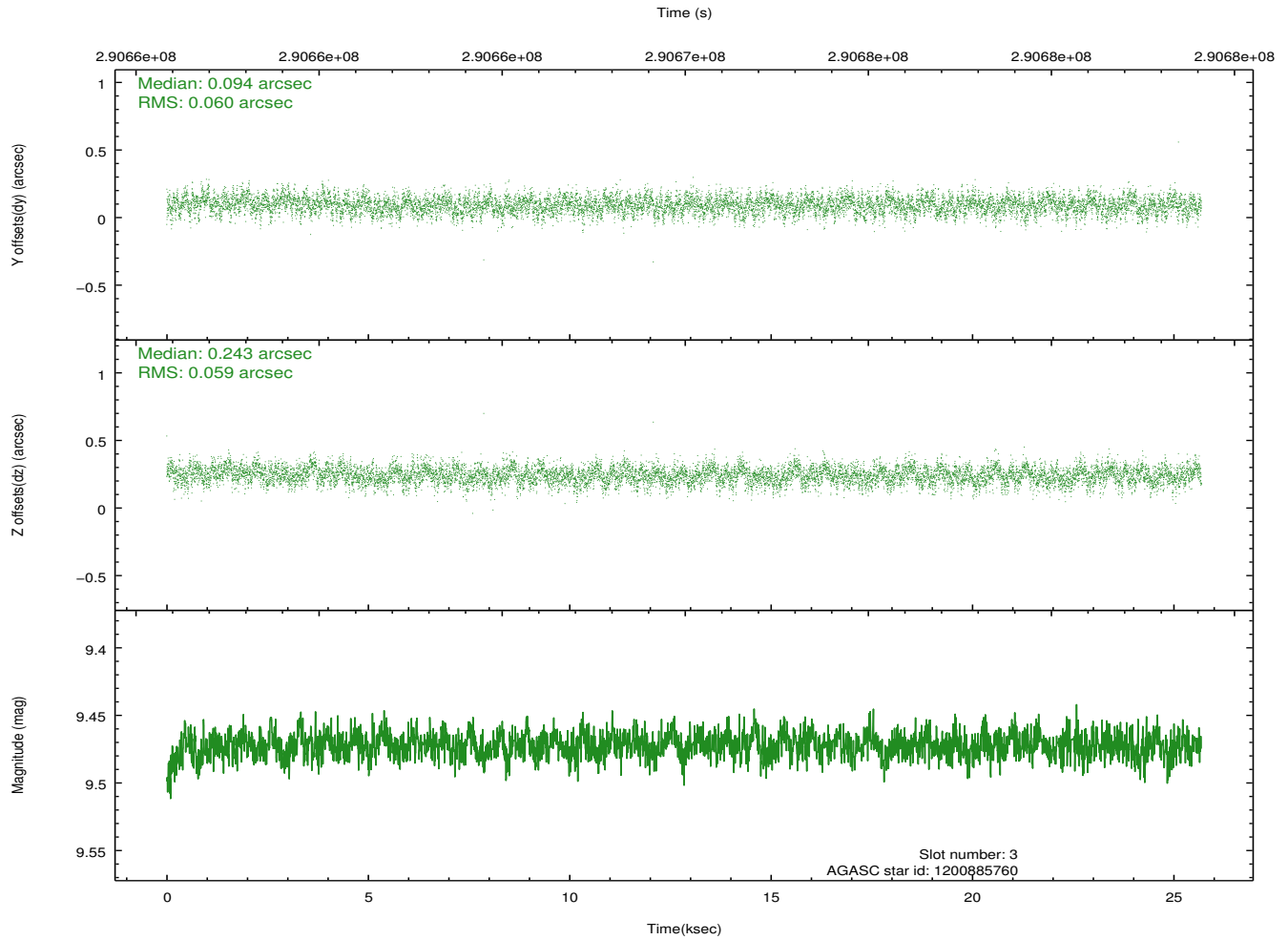
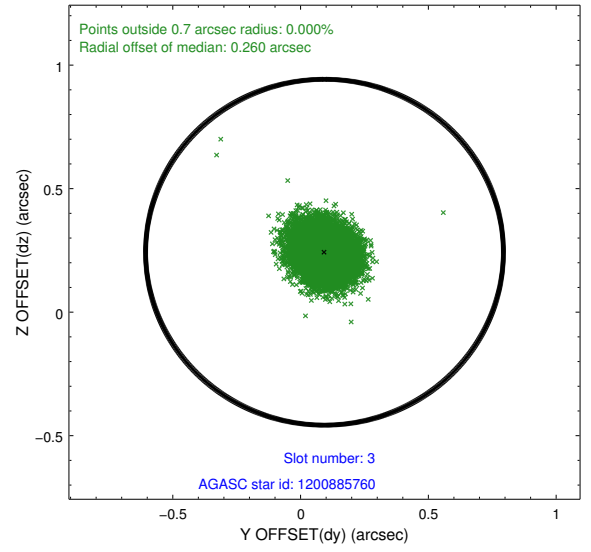
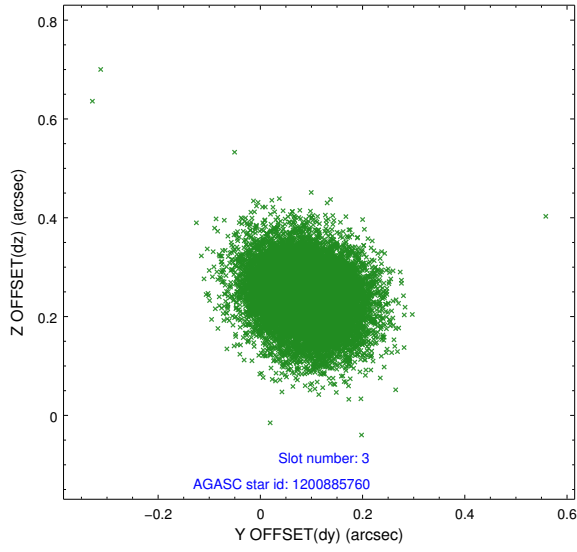


### Slot Statistics

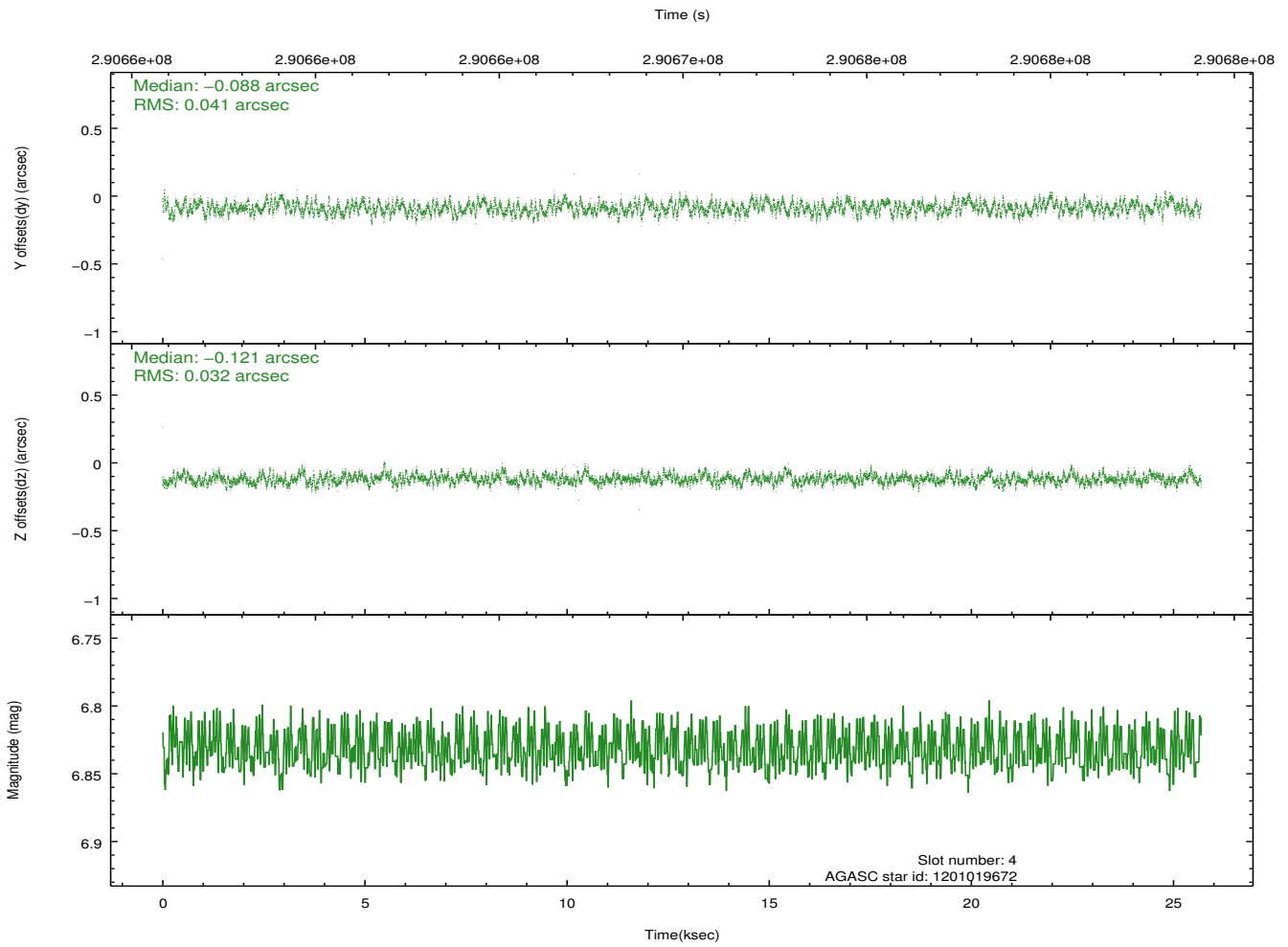
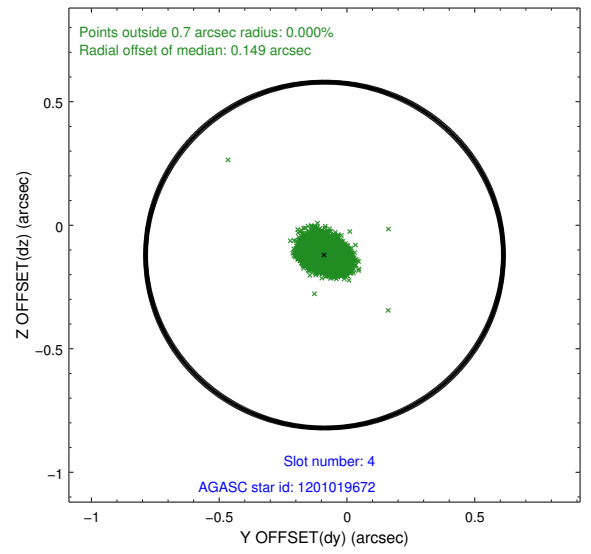
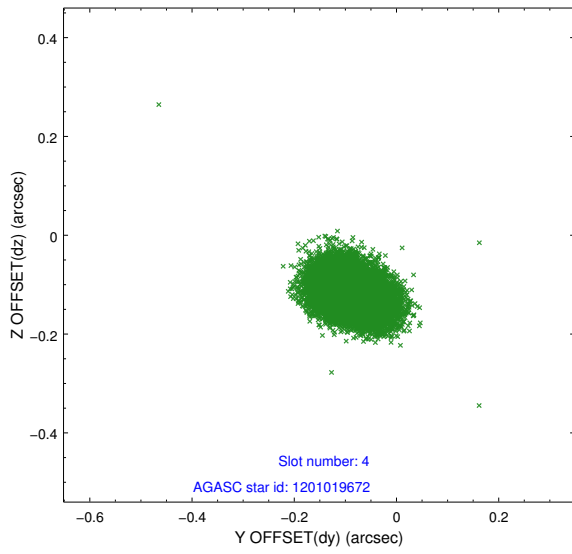
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.08	6266	-0.177	-0.131	0.007	0.025	0.000000	0.000000	-768.00	-1799.40
1	FID	ACIS-S-4	7.18	6266	0.164	0.099	0.008	0.019	0.000000	0.000000	2145.61	109.11
2	FID	ACIS-S-6	7.36	6266	-0.015	0.038	0.008	0.014	0.000000	0.000000	394.35	746.62
3	GUIDE	1200885760	9.47	12518	0.094	0.243	0.089	0.143	83.723637	-68.777667	-1706.70	-151.12
4	GUIDE	1201019672	6.83	12530	-0.088	-0.121	0.056	0.089	85.312192	-68.770187	-1737.61	1918.89
5	GUIDE	1201020040	8.58	12520	0.051	-0.159	0.075	0.118	85.379163	-68.879396	-1343.30	2001.46
6	GUIDE	1201540776	9.58	12510	0.023	0.005	0.110	0.180	85.107945	-69.858480	2177.84	1621.82
7	GUIDE	1201410616	9.33	12522	-0.077	0.032	0.099	0.160	82.516808	-69.784406	1953.92	-1599.04

## 2.4 Star Slots

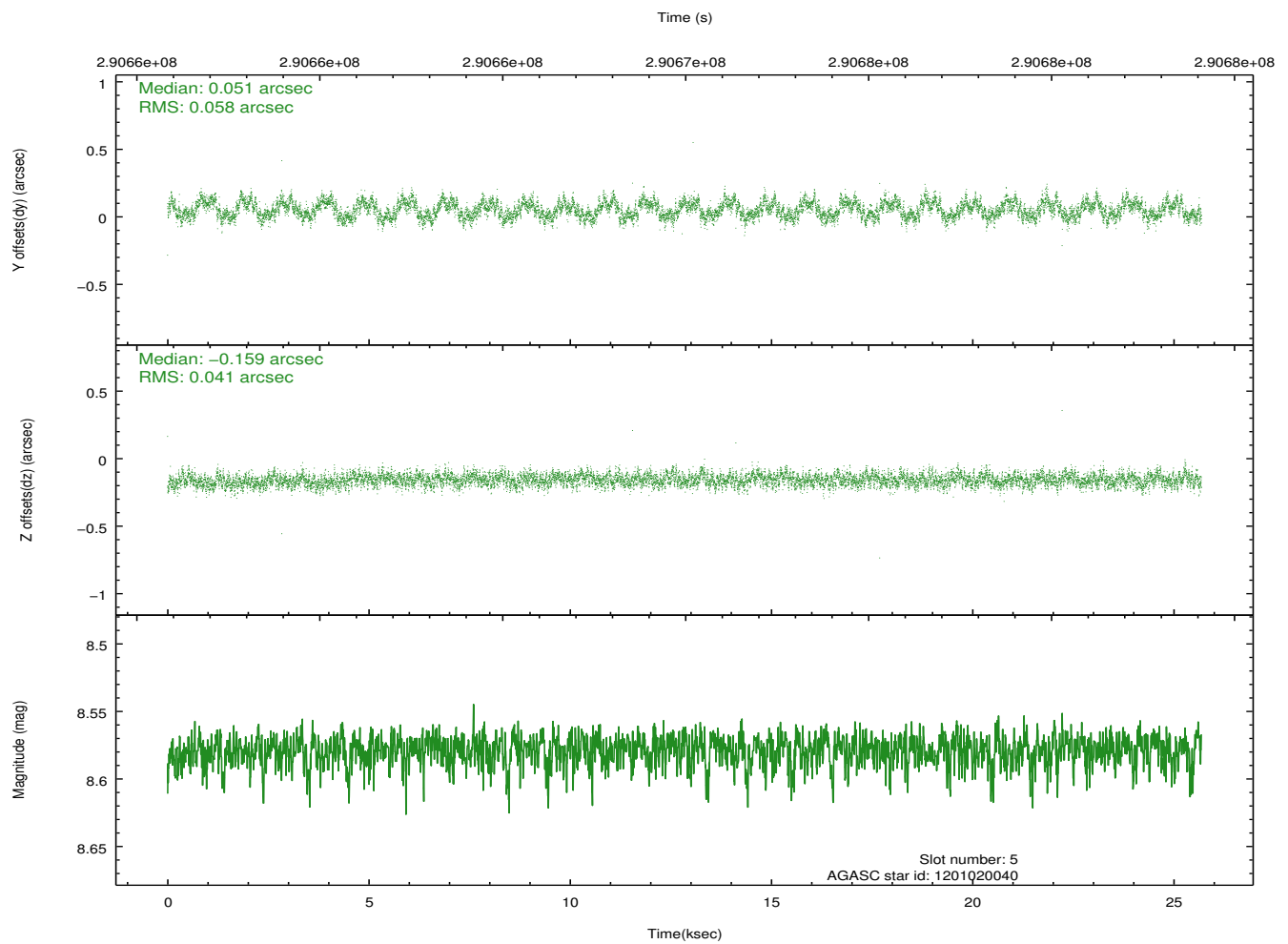
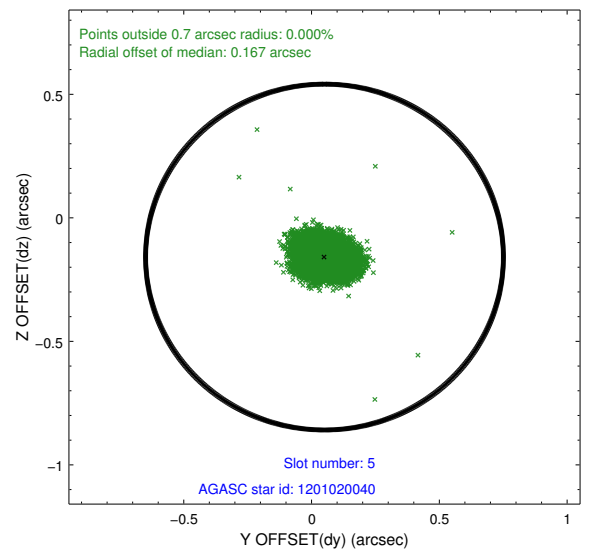
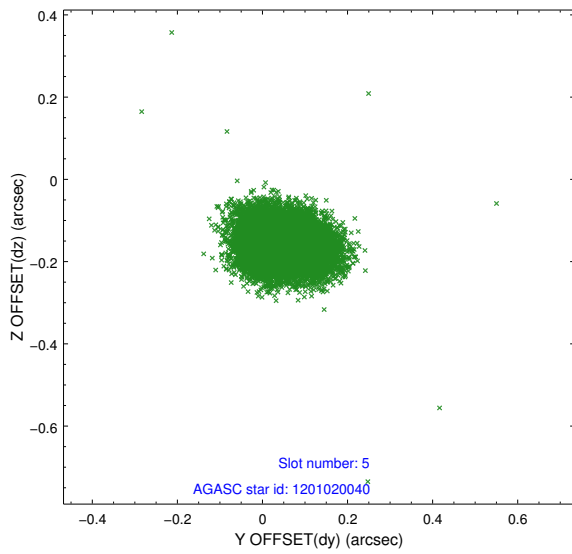
### 2.4.1 Slot 3



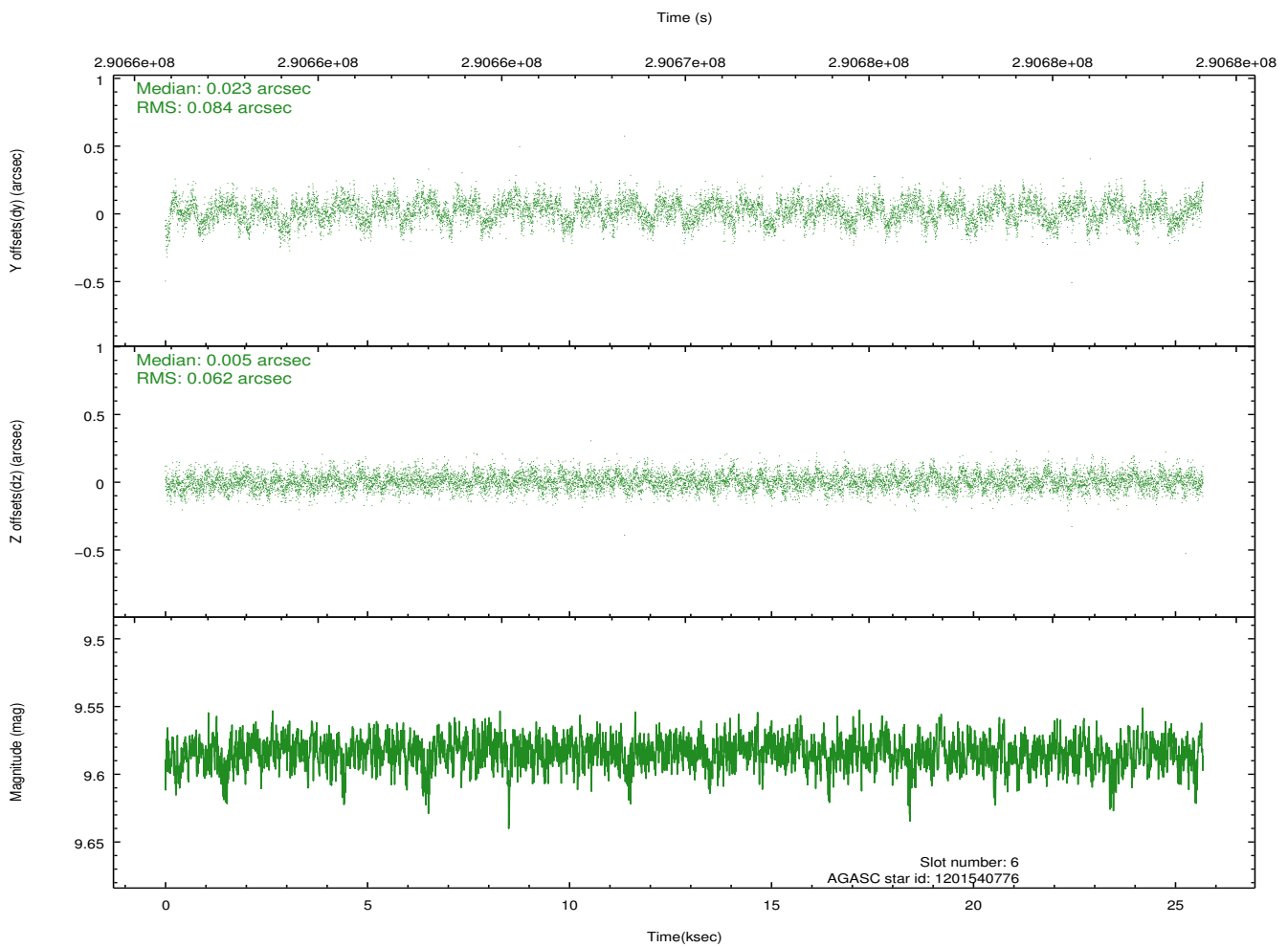
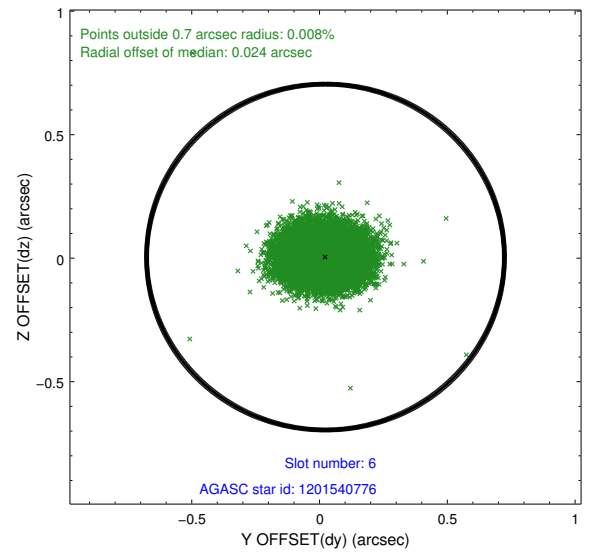
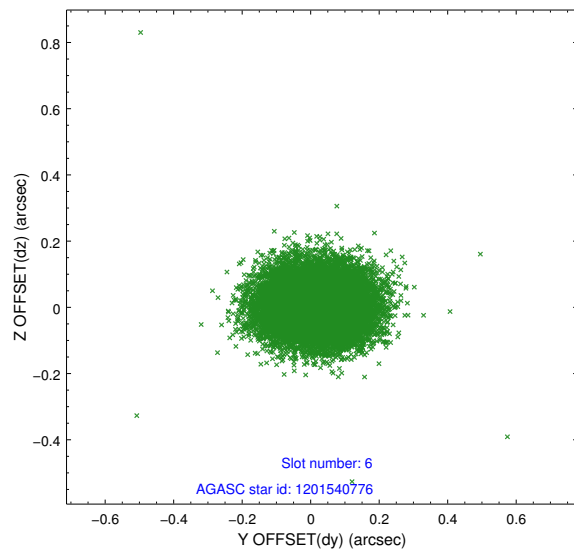
## 2.4.2 Slot 4



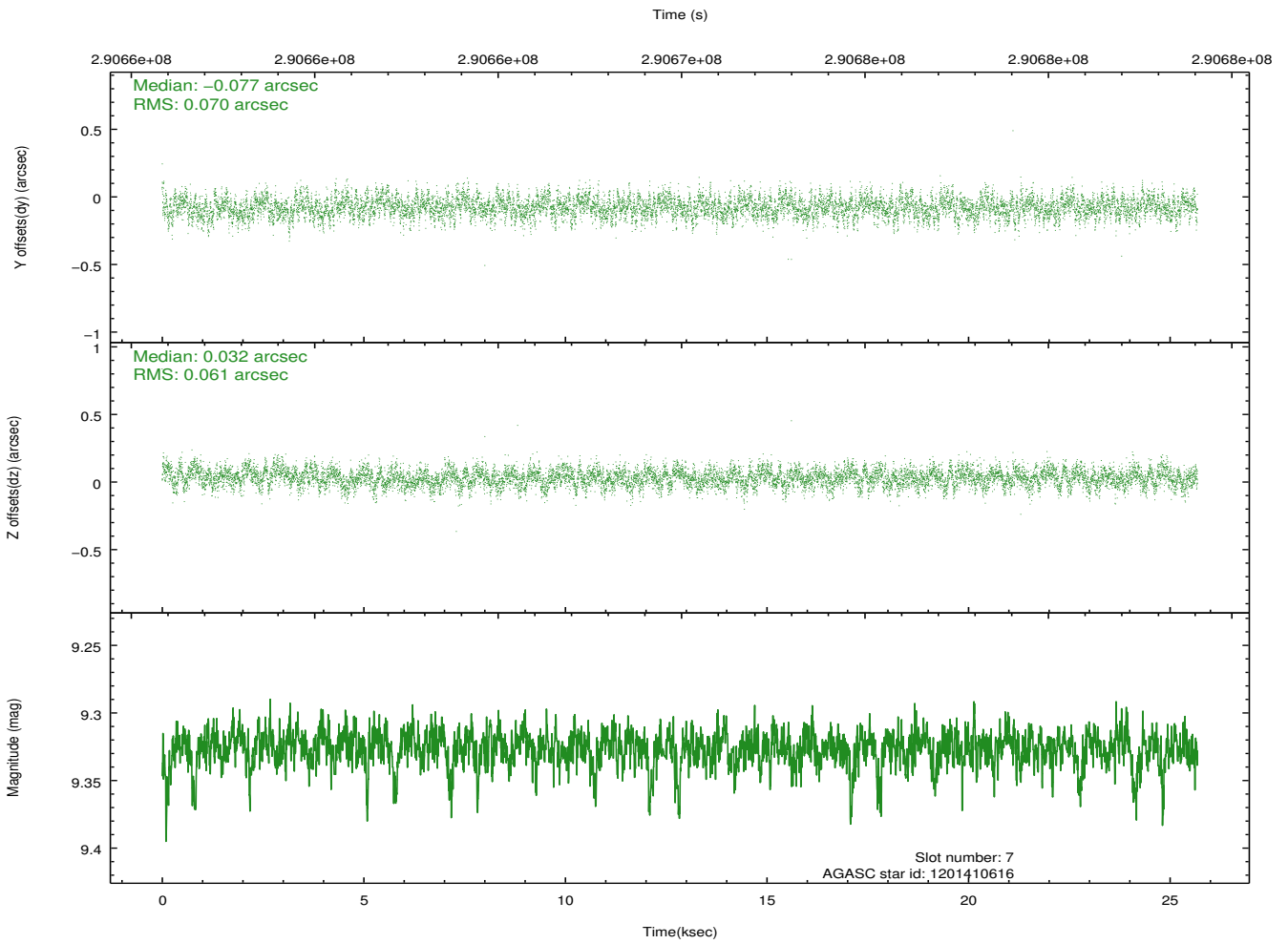
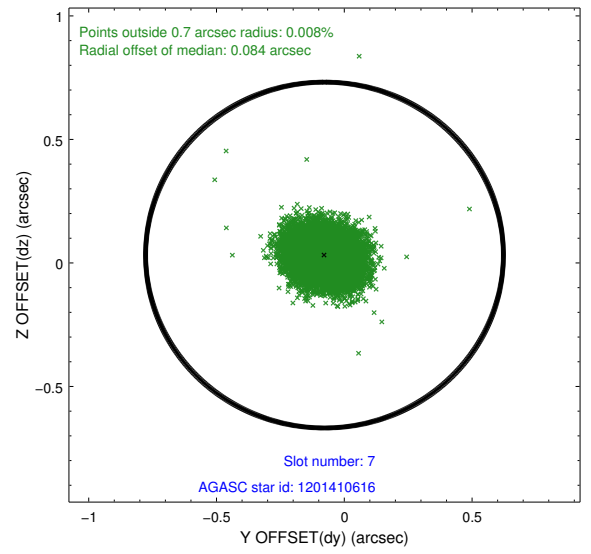
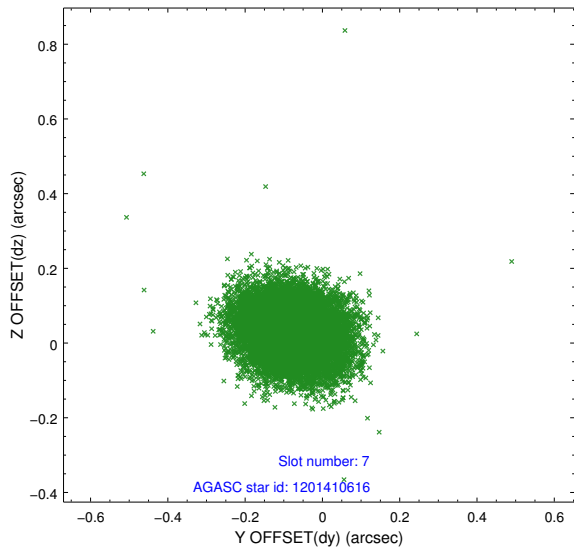
### 2.4.3 Slot 5



## 2.4.4 Slot 6

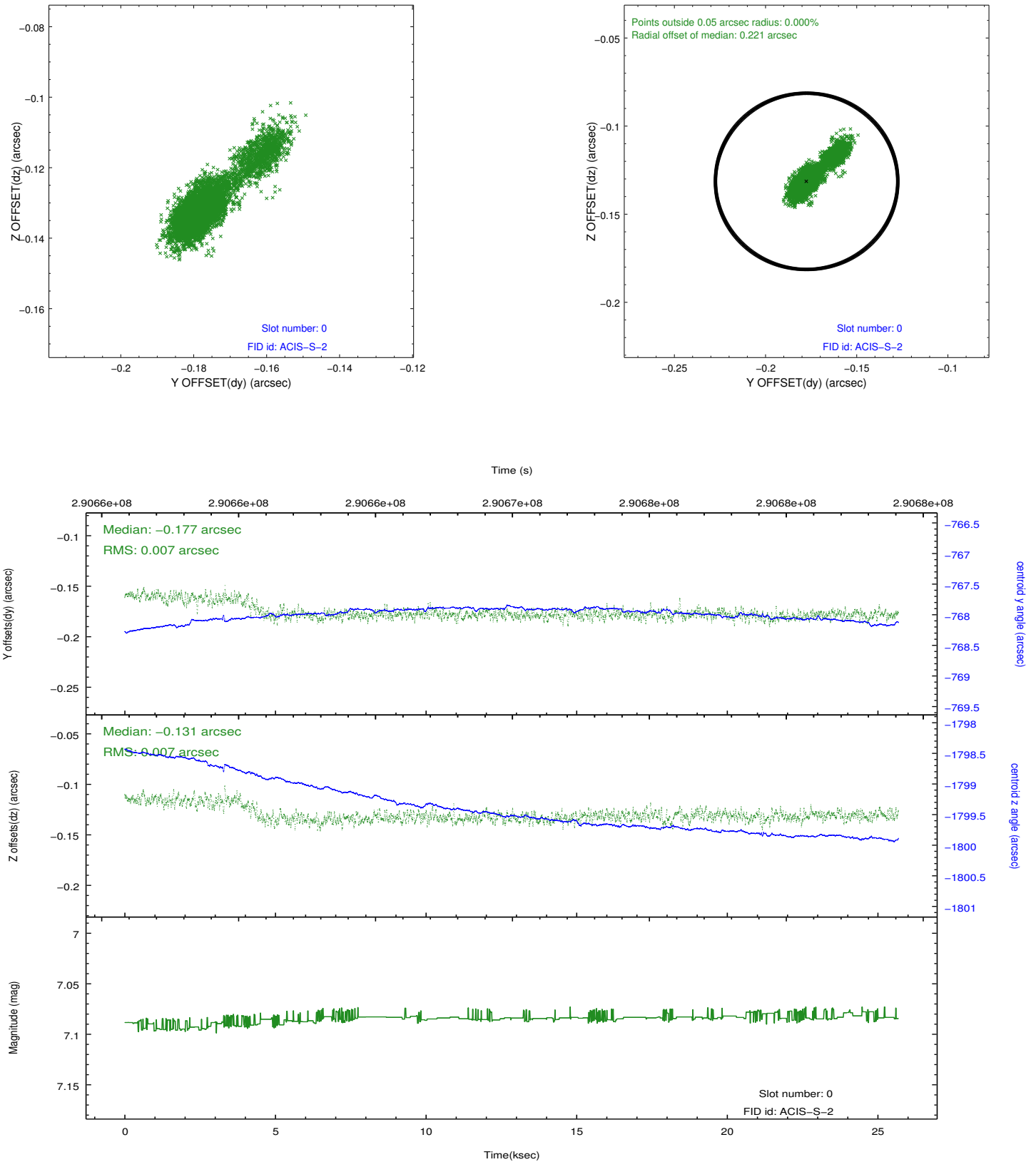


### 2.4.5 Slot 7

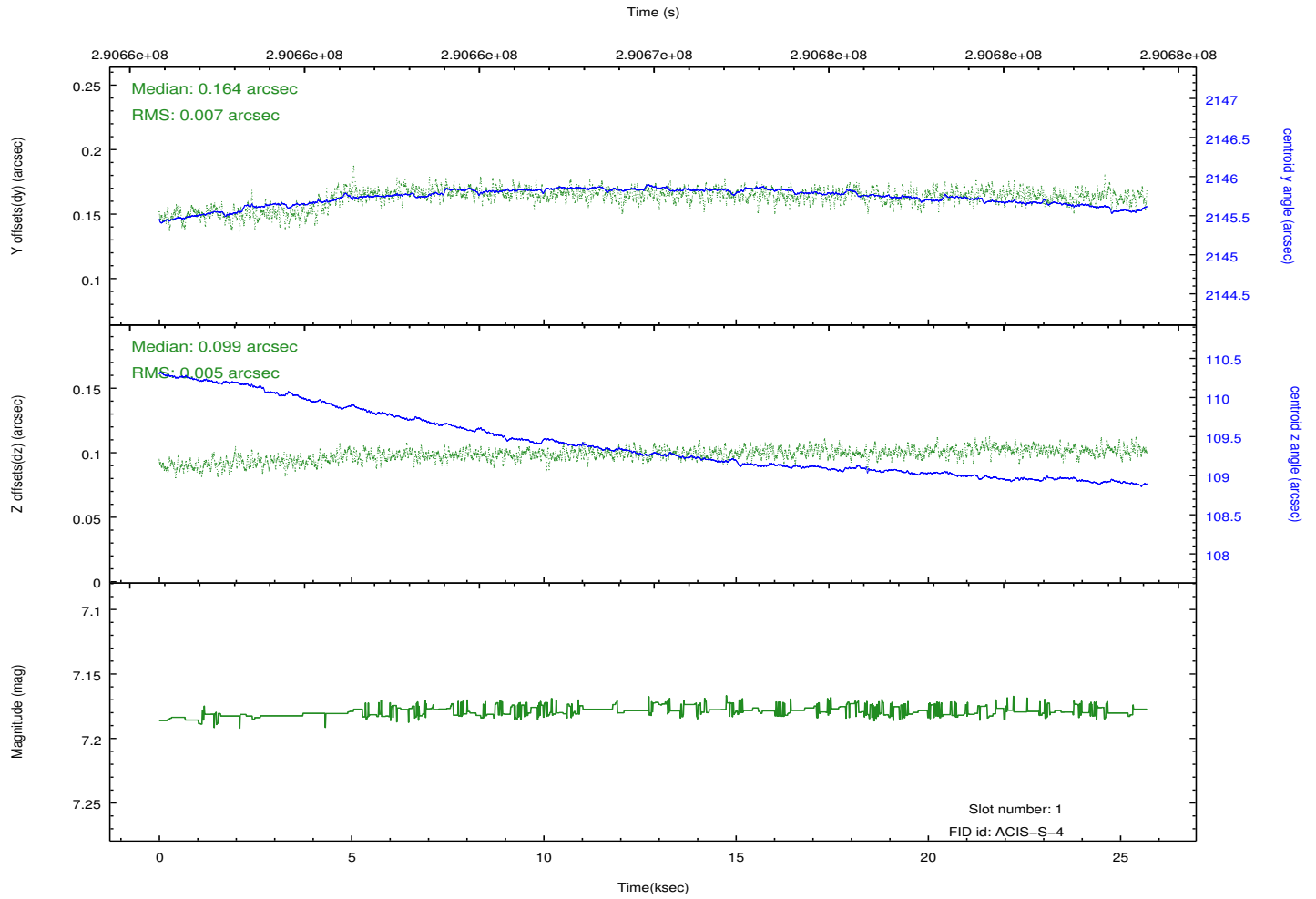
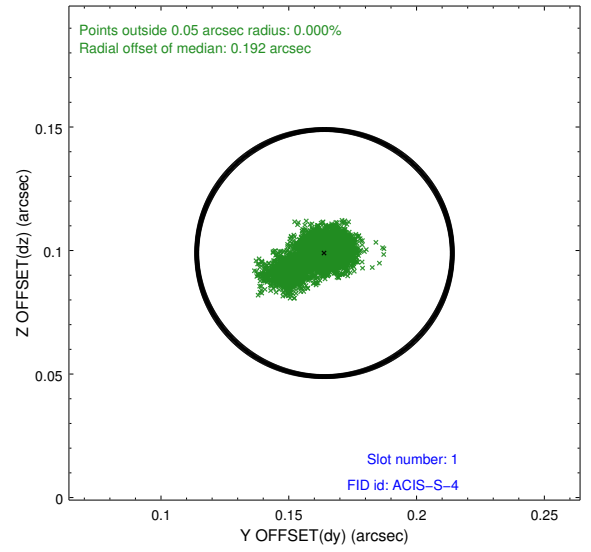
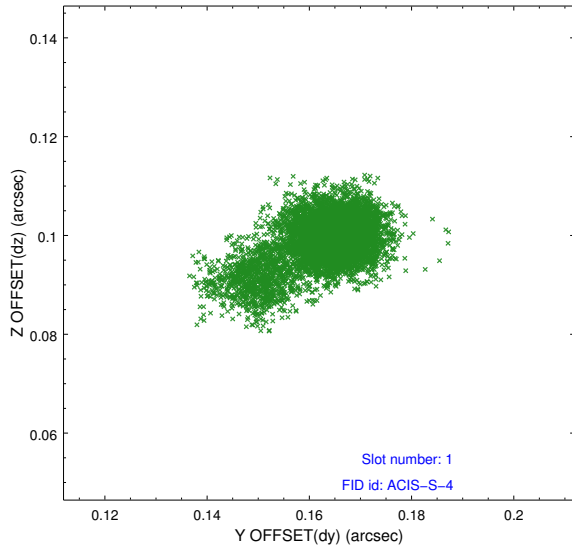


## 2.5 FID Slots

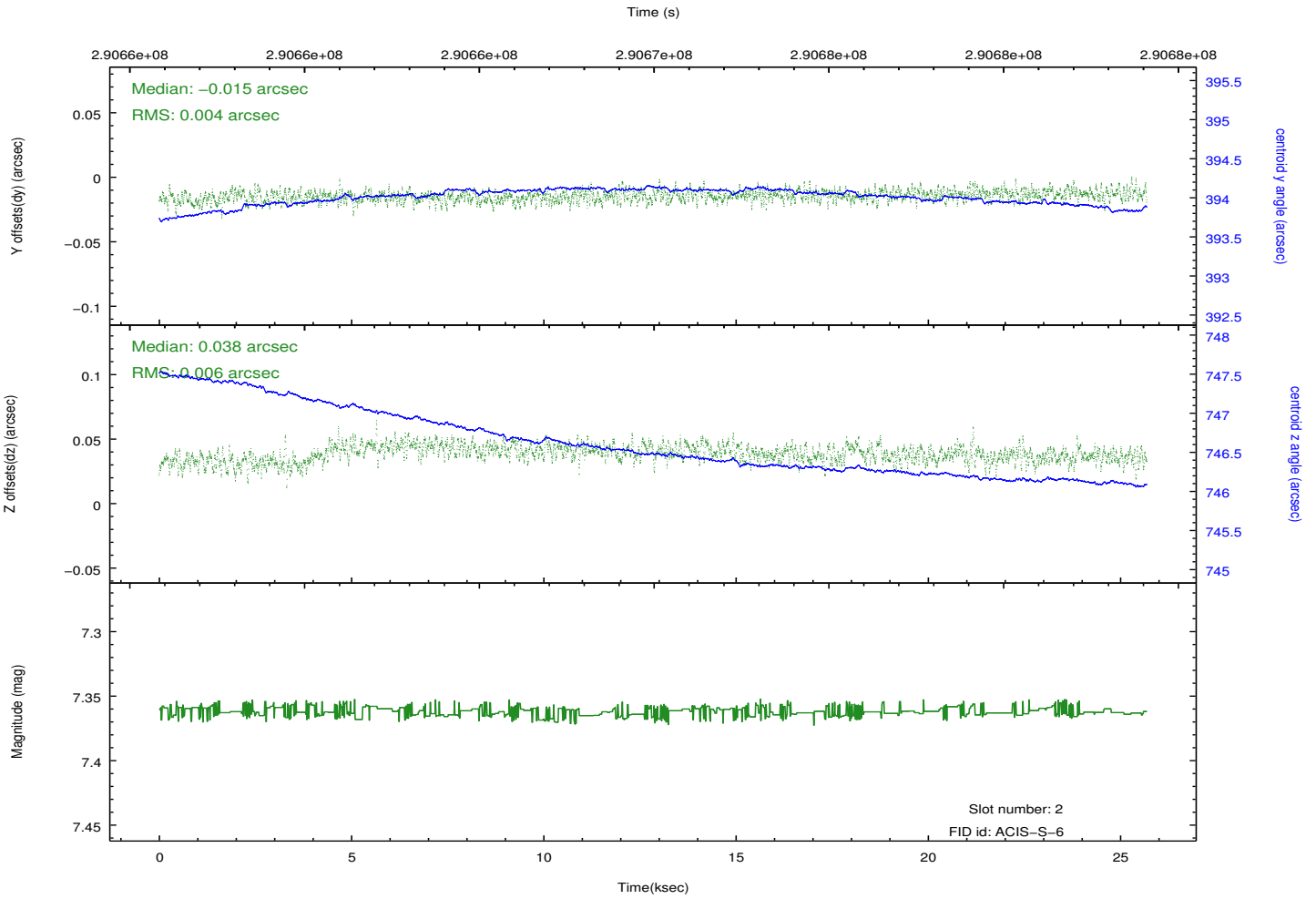
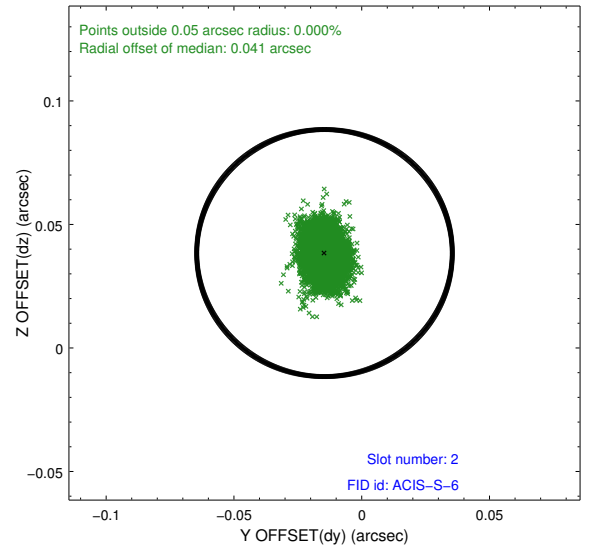
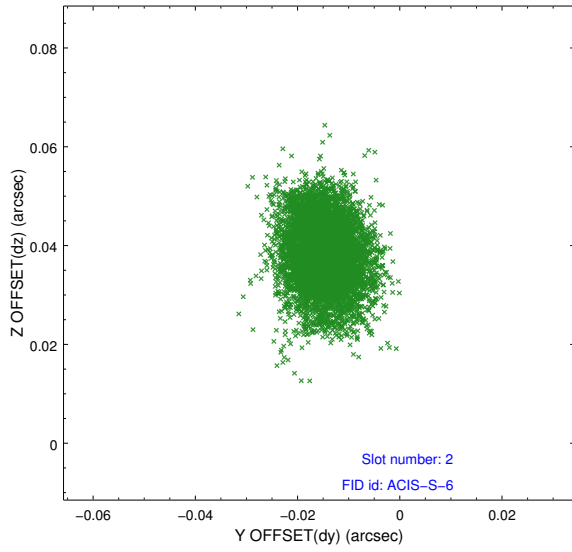
### 2.5.1 Slot 0



## 2.5.2 Slot 1

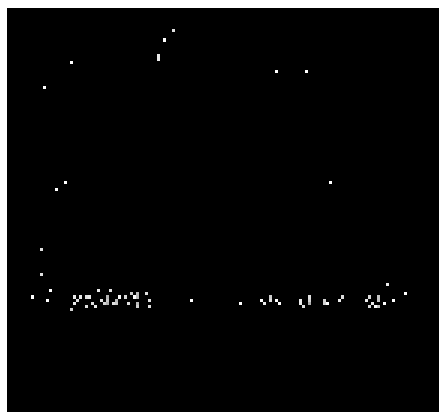


### 2.5.3 Slot 2

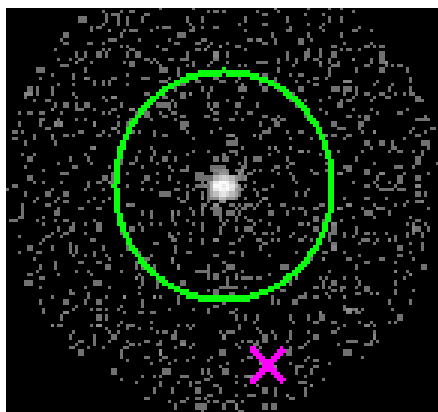


### 3 Gratings

#### 3.1 HEG Arm



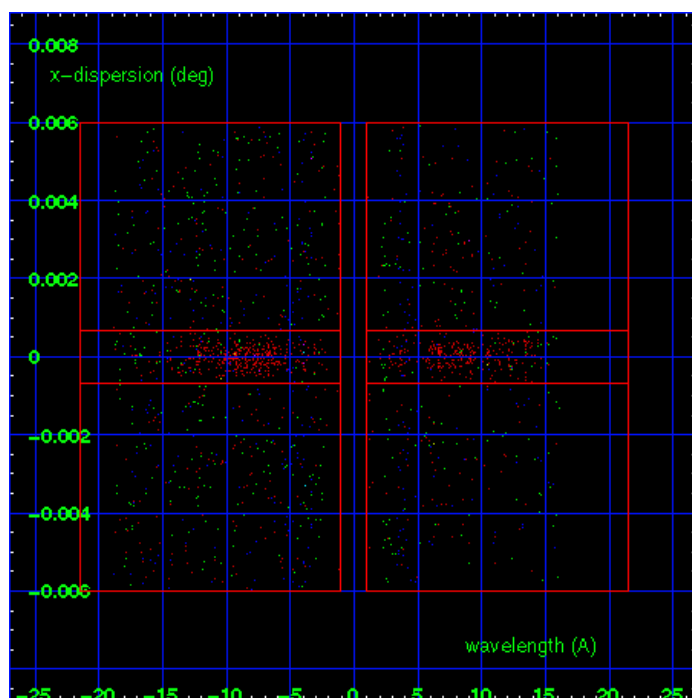
HEG Order Sort 123



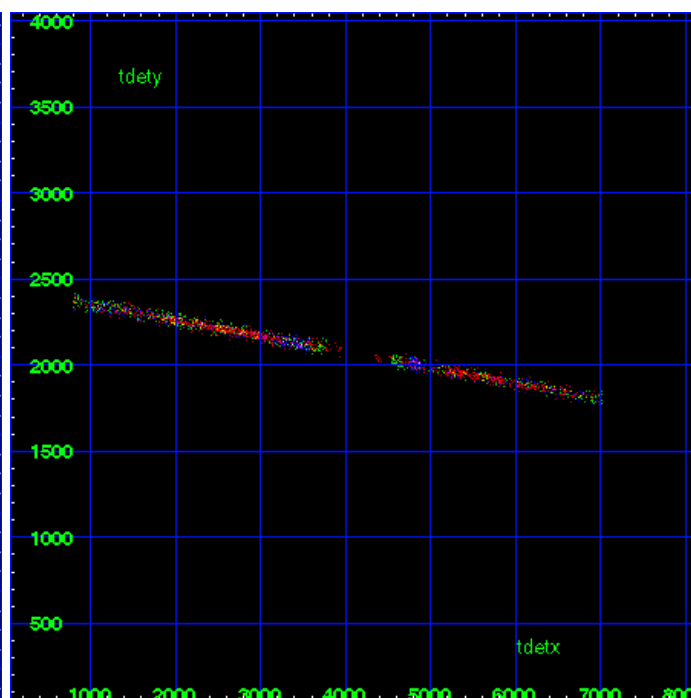
HEG Zero Order



HEG Order Sort ALL

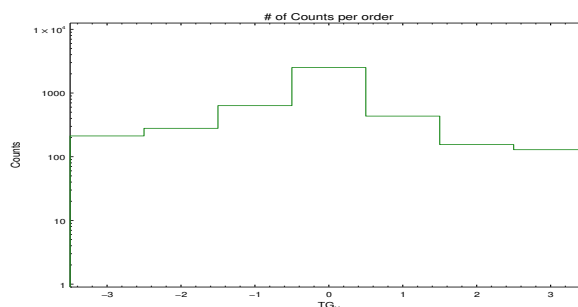


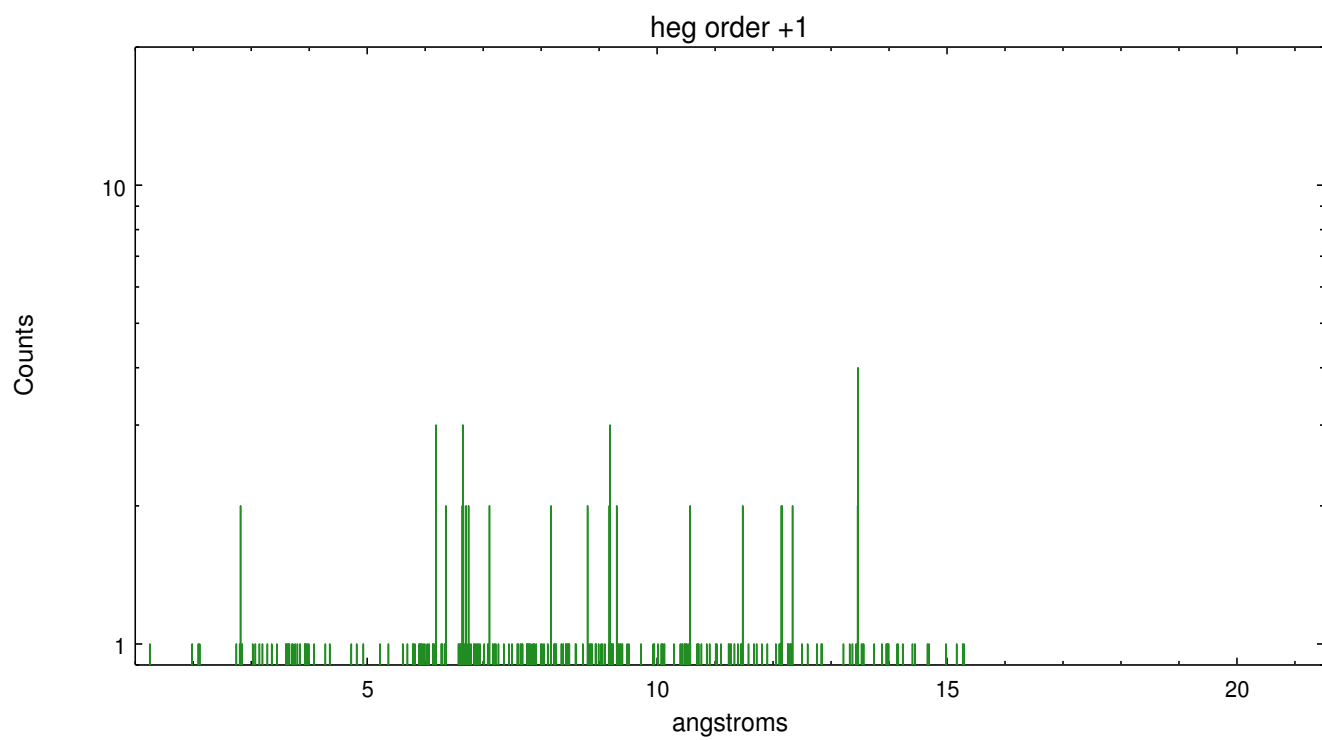
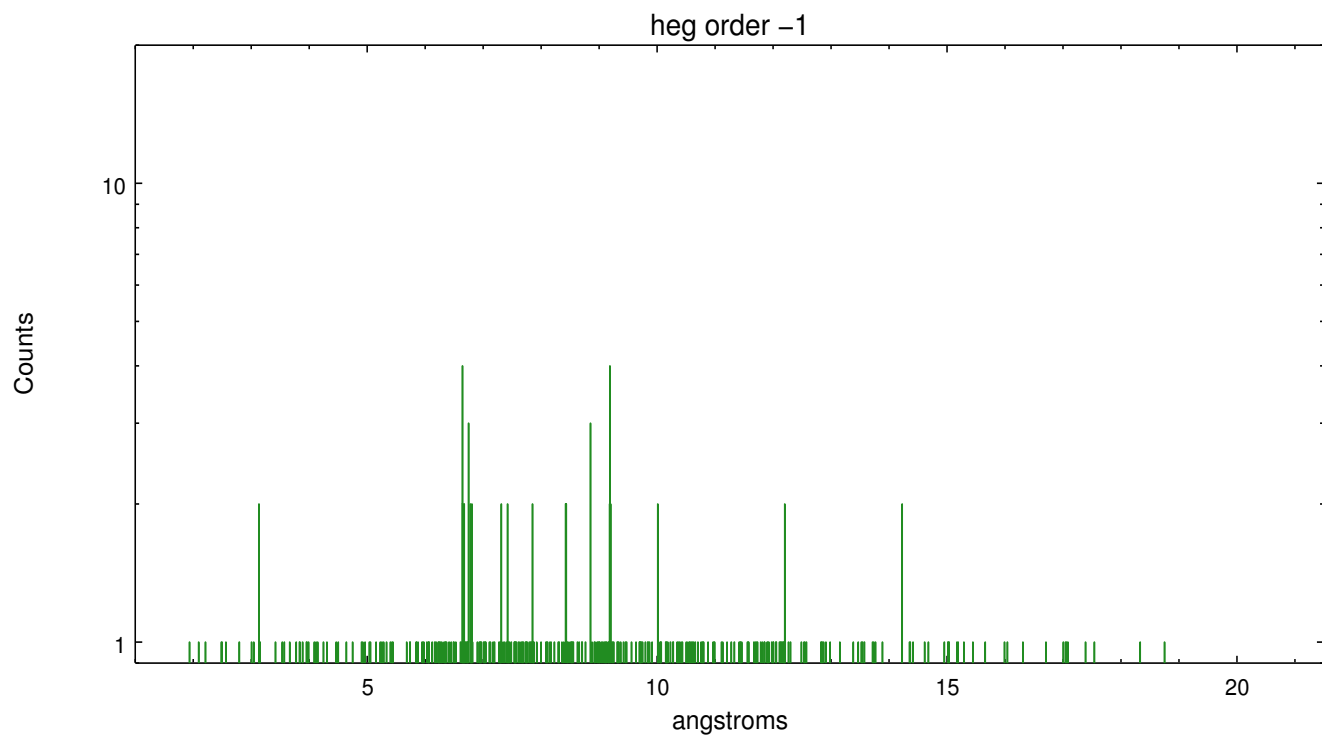
Spot Image HEG



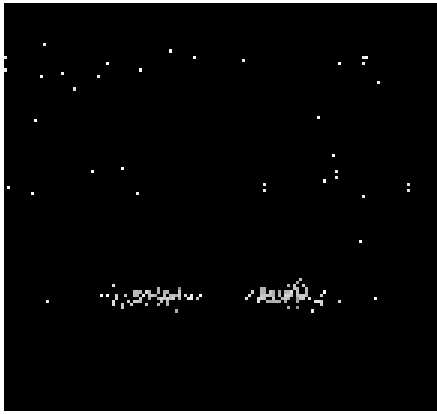
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	212	279	634	2509	434	155	129

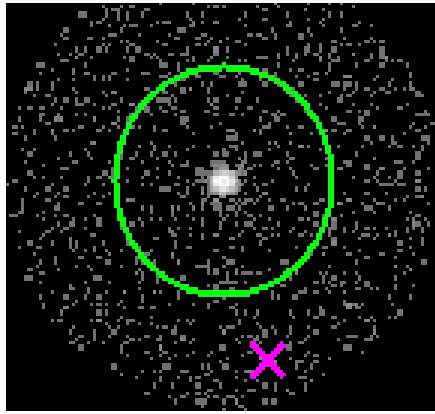




### 3.2 MEG Arm



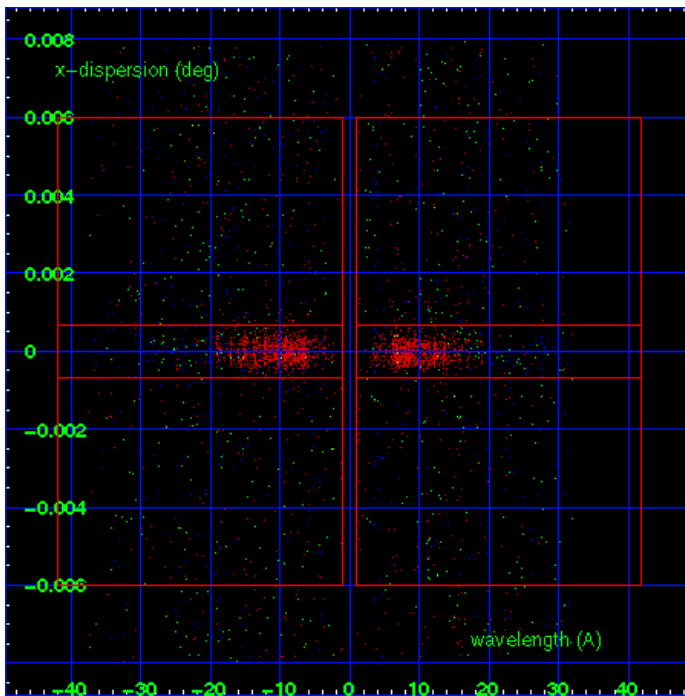
MEG Order Sort 123



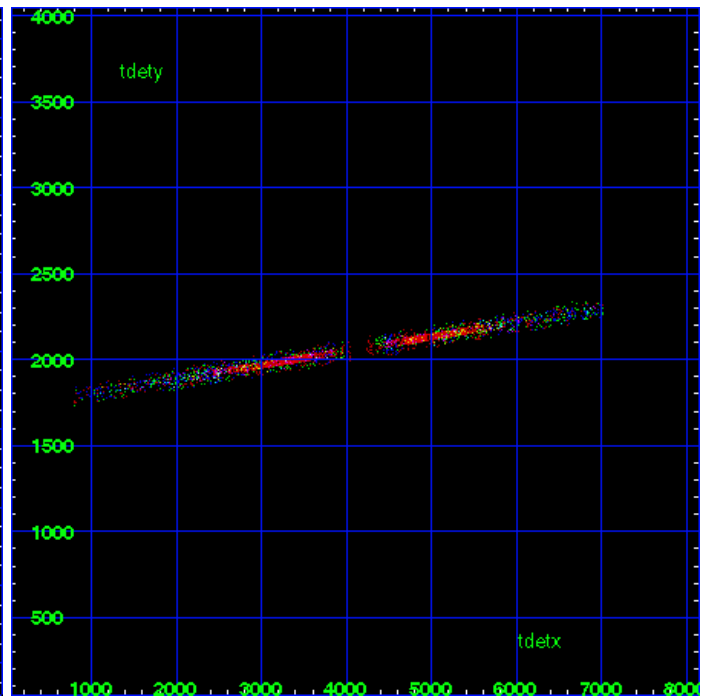
MEG Zero Order



MEG Order Sort ALL

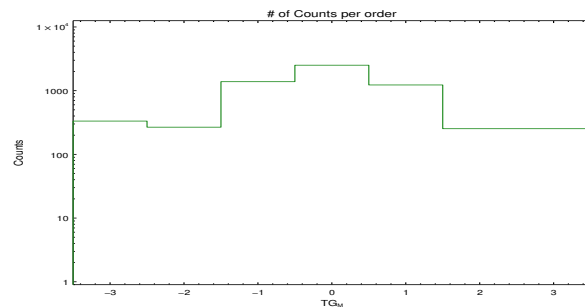


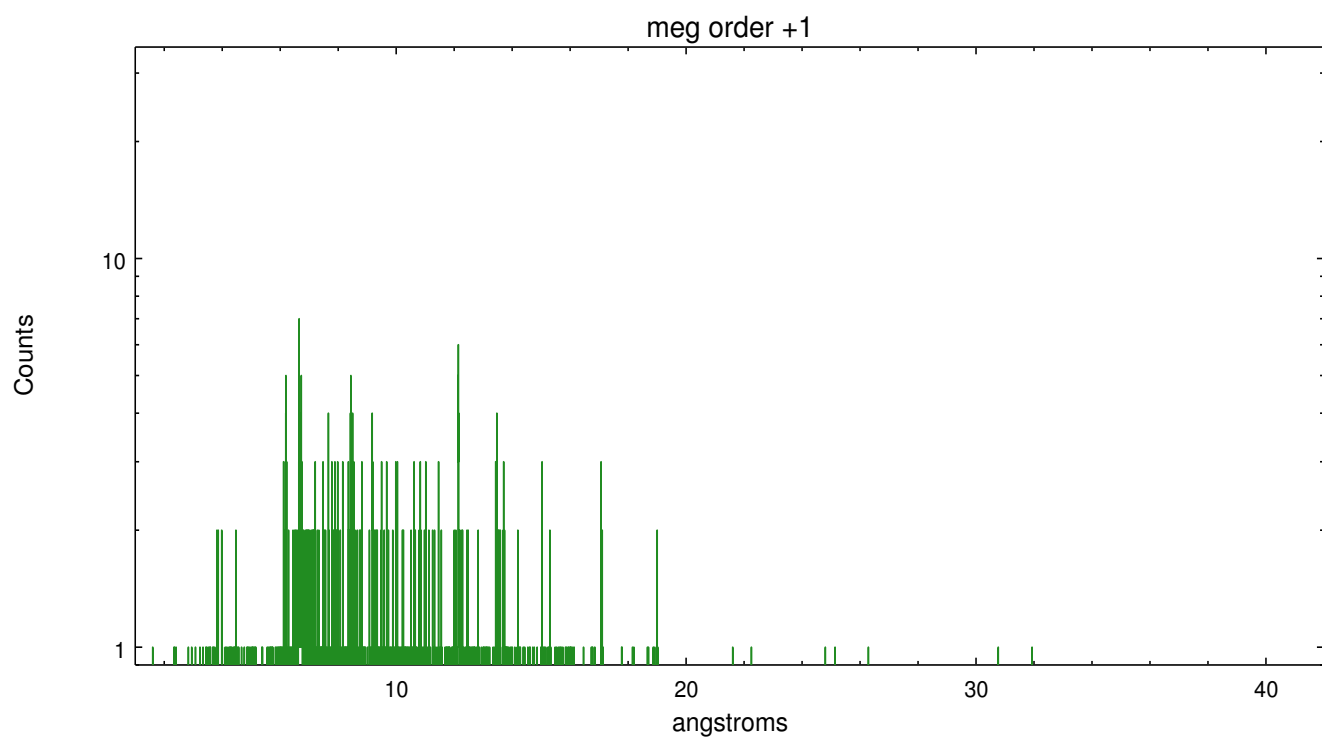
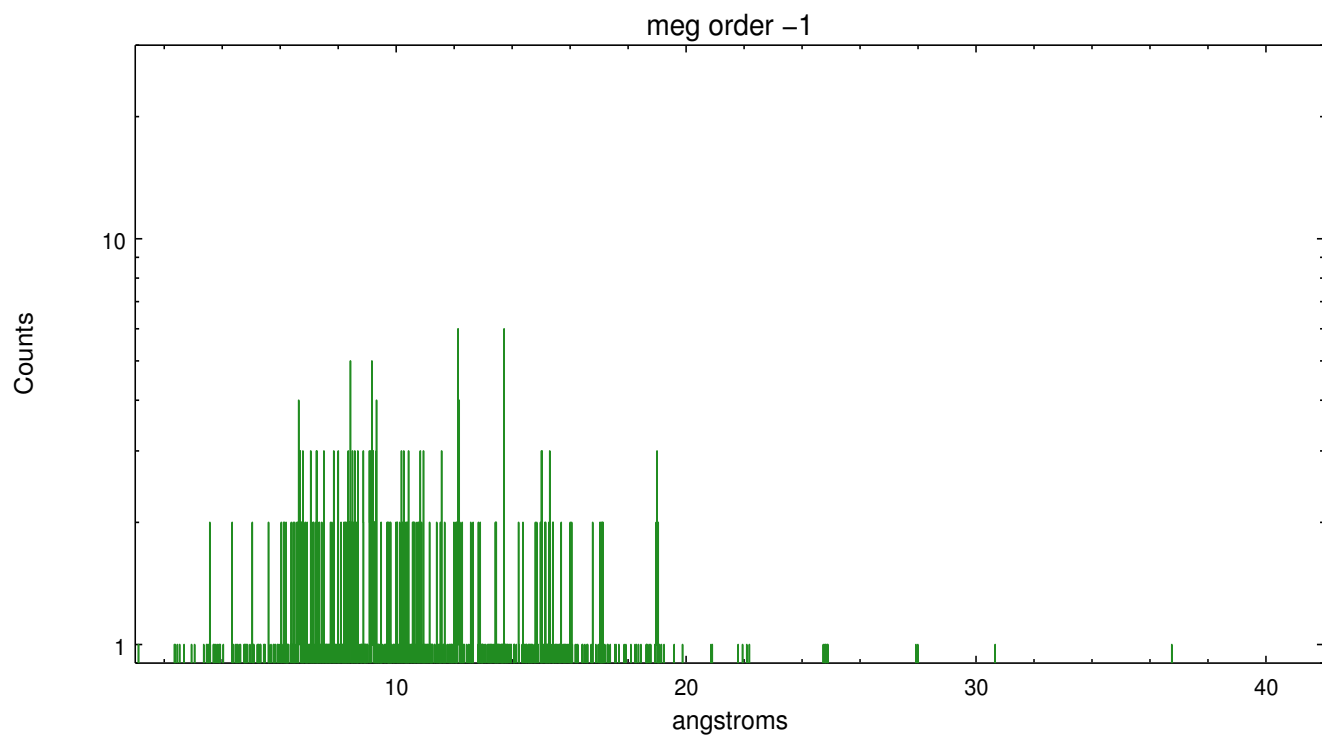
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	333	267	1384	2509	1229	253	253





## A Summary

### A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2012.04.30
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	25.68

### A.2 Comments