

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 9574 - L2 Version 2  
Chandra X-Ray Center

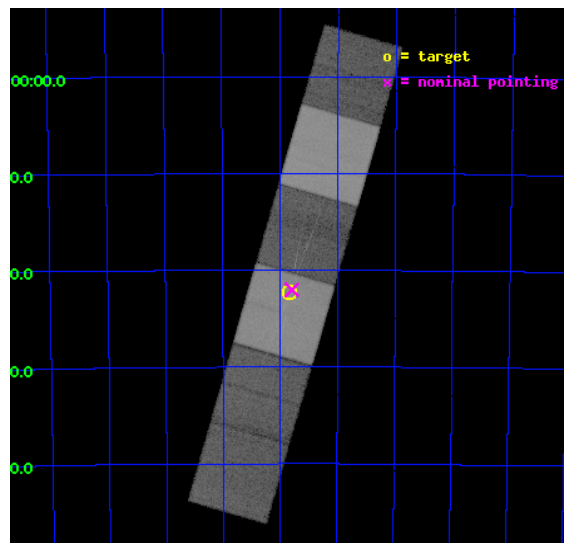
L2 Processing Date : Apr 30 2012

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# 1 Front

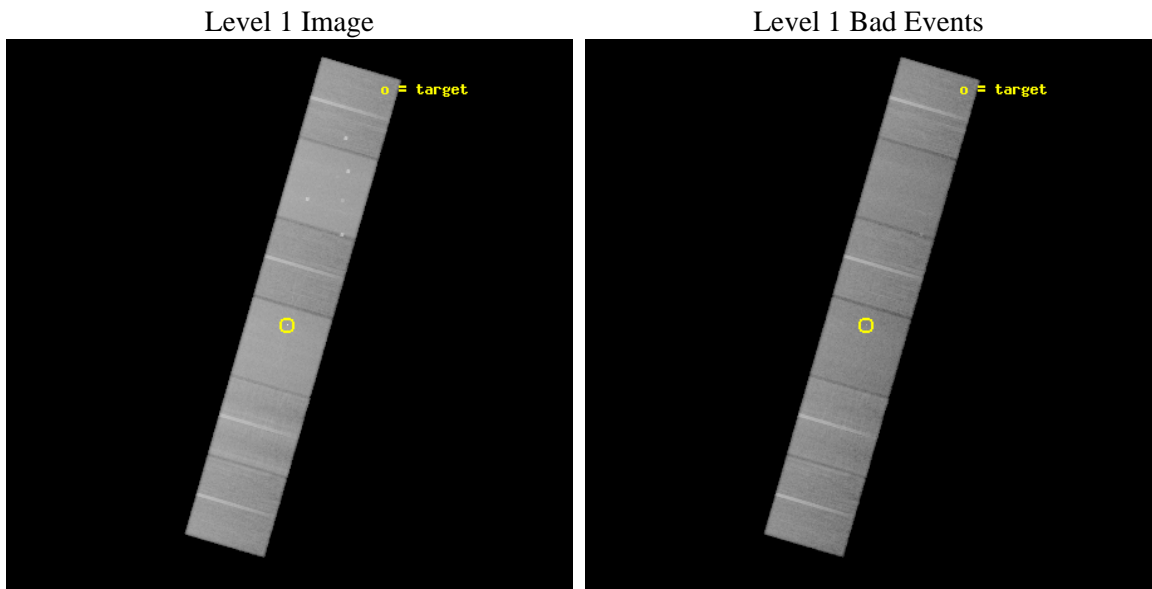
seq_num	400618	Sequence number
obs_id	9574	Observation id
title	A Chandra HETGS Study of LMC X-4 : Binary Disk and Wind Properties and Studies of Grain Distribution at Small Angles	Proposal title
observer	Prof. Julia Lee	Principal investigator
object	LMC X-4	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.2075	Observer's specified target RA [deg]
dec_targ	-66.3705	Observer's specified target Dec [deg]
ra_nom	83.198543695089	Nominal RA [deg]
dec_nom	-66.367234597333	Nominal Dec [deg]
roll_nom	106.14842162713	Nominal Roll [deg]
revision	2	Processing version of data
ontime	44057.312239885	Sum of GTIs [s]
livetime	43499.432024175	Livetime [s]
ontime4	44057.353279889	Sum of GTIs [s]
ontime5	44057.271199882	Sum of GTIs [s]
ontime6	44057.230159879	Sum of GTIs [s]
ontime7	44057.312239885	Sum of GTIs [s]
ontime8	44057.189119875	Sum of GTIs [s]
ontime9	44057.148079872	Sum of GTIs [s]
l2events	705315	Number of level 2 events



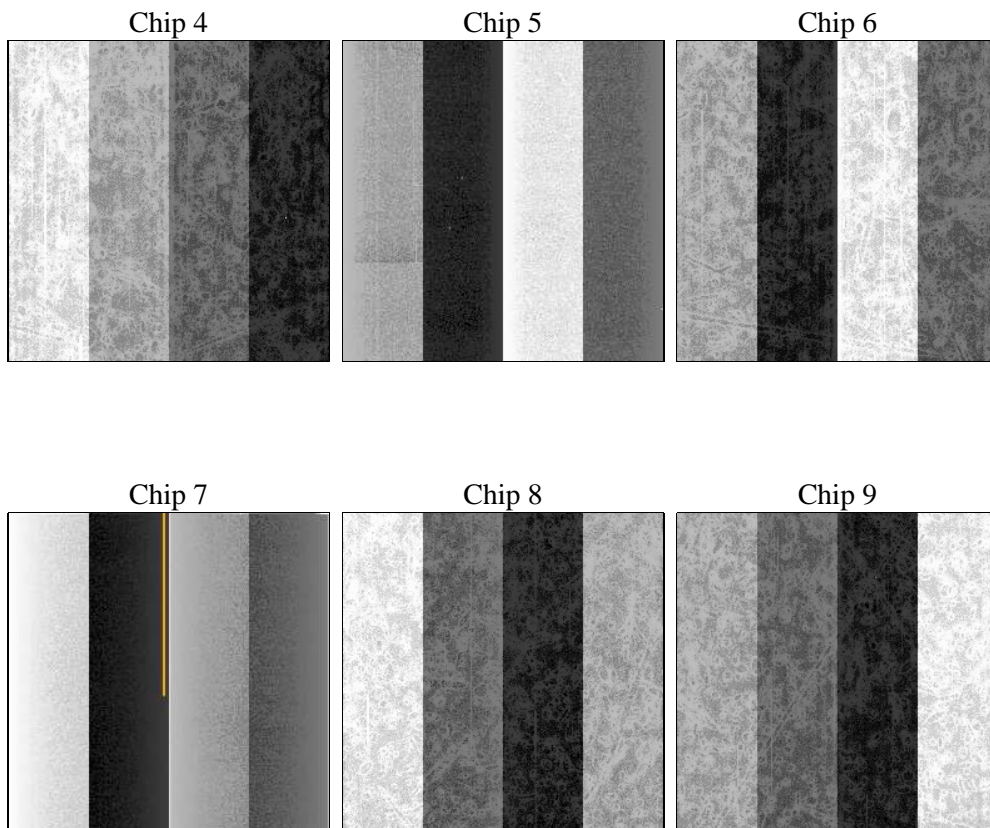
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	44109.469000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	44057.312239885	Sum of GTIs [s]
caldbver	4.4.9	&#160	ontime4	44057.353279889	Sum of GTIs [s]
date	2012-04-30T15:23:58	Date and time of file creation	ontime5	44057.271199882	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	44057.230159879	Sum of GTIs [s]
			ontime7	44057.312239885	Sum of GTIs [s]
			ontime8	44057.189119875	Sum of GTIs [s]
			ontime9	44057.148079872	Sum of GTIs [s]
			l1events	3110257	Number of level 1 events

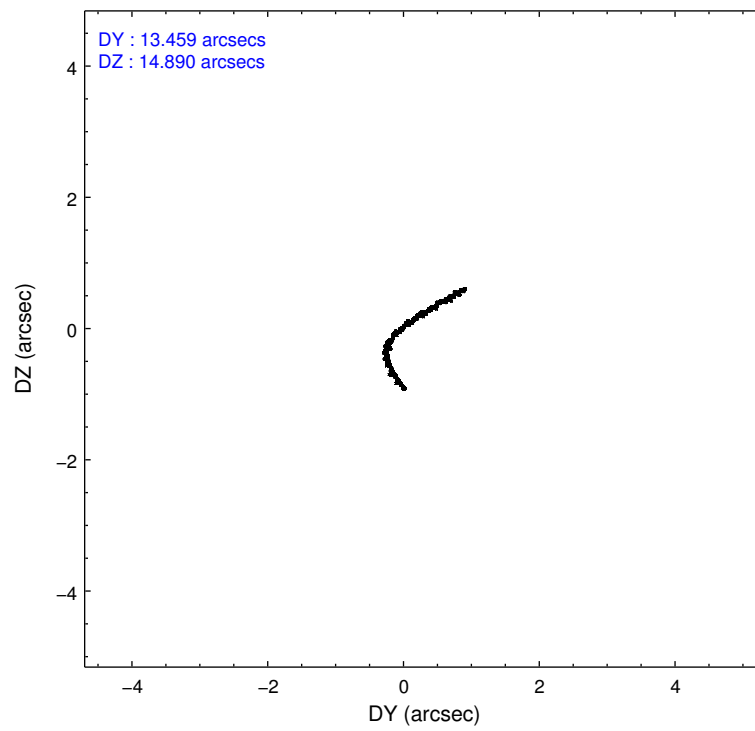
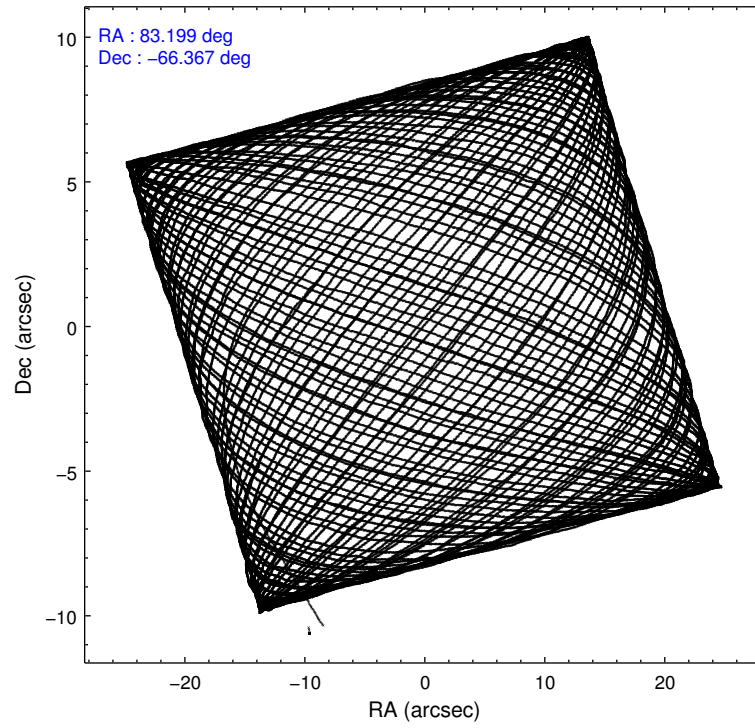
### 2.1.4 Events

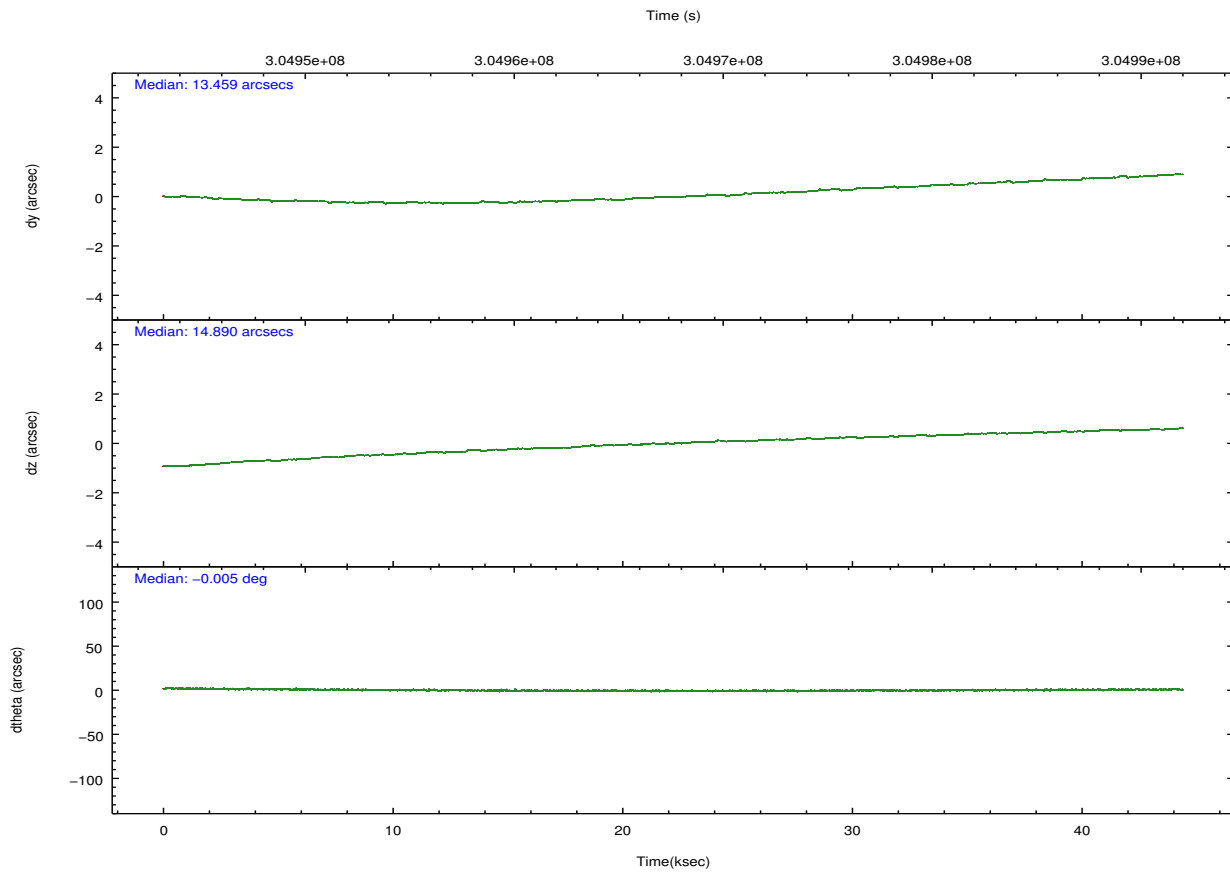
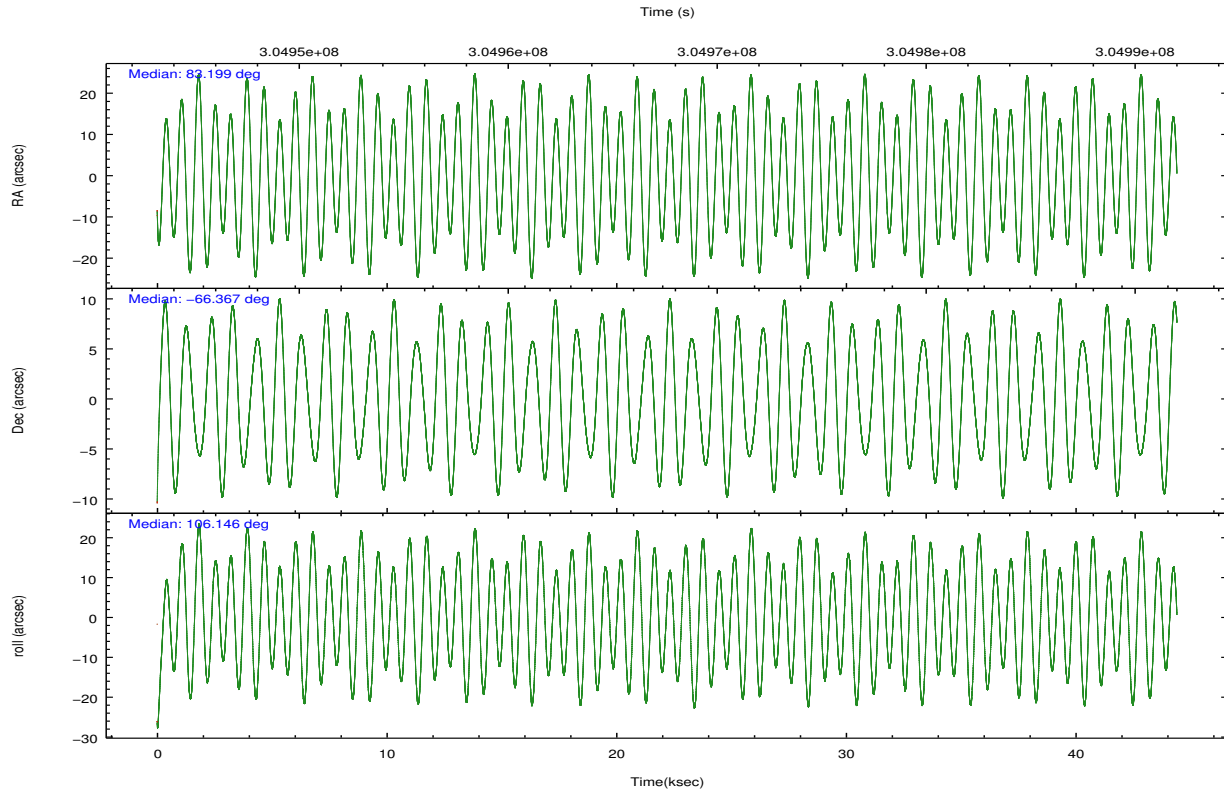
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	476488	645871	432445	586505	539786	429162	grade 0 events	26920	23572	20077	21283	38293	21603
rejected events	419164	350352	381108	341834	417951	376204		5%	3%	4%	3%	7%	5%
rejected %	87%	54%	88%	58%	77%	87%	grade 1 events	535	1133	220	622	429	263
								0%	0%	0%	0%	0%	0%
							grade 2 events	11491	91032	11223	49416	26971	10792
								2%	14%	2%	8%	4%	2%
							grade 3 events	5444	10774	4903	20728	13103	5232
								1%	1%	1%	3%	2%	1%
							grade 4 events	5107	10278	4705	20381	12124	4909
								1%	1%	1%	3%	2%	1%
							grade 5 events	19357	45788	19794	54358	26534	21250
								4%	7%	4%	9%	4%	4%
							grade 6 events	8367	159876	10430	132879	31345	10427
								1%	24%	2%	22%	5%	2%
							grade 7 events	399267	303418	361093	286838	390987	354686
								83%	46%	83%	48%	72%	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	83.248397	83.19854369508892	Subarray requested	NONE	NONE
[deg] Pointing Dec	-66.385913	-66.3672345973329	Alternating exposures requested	N	N
[deg] Pointing Roll	106.037472	106.1484216271328	[s] Primary exposure time	0.000000	3.2
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-190.132523	-190.145094680475			
[mm] SIM translation stage offset	0	0.01257209746719923			
[s] Observation start time (MET)	304945691.184000	304944621.86701			
Observation start date	2007-08-31T11:07:06	2007-08-31T10:50:21			
[s] Observation end time (MET)	304989800.184000	304990023.73169			
Observation end date	2007-08-31T23:22:15	2007-08-31T23:27:03			
Read mode	TIMED	TIMED			

## 2.3 Aspect



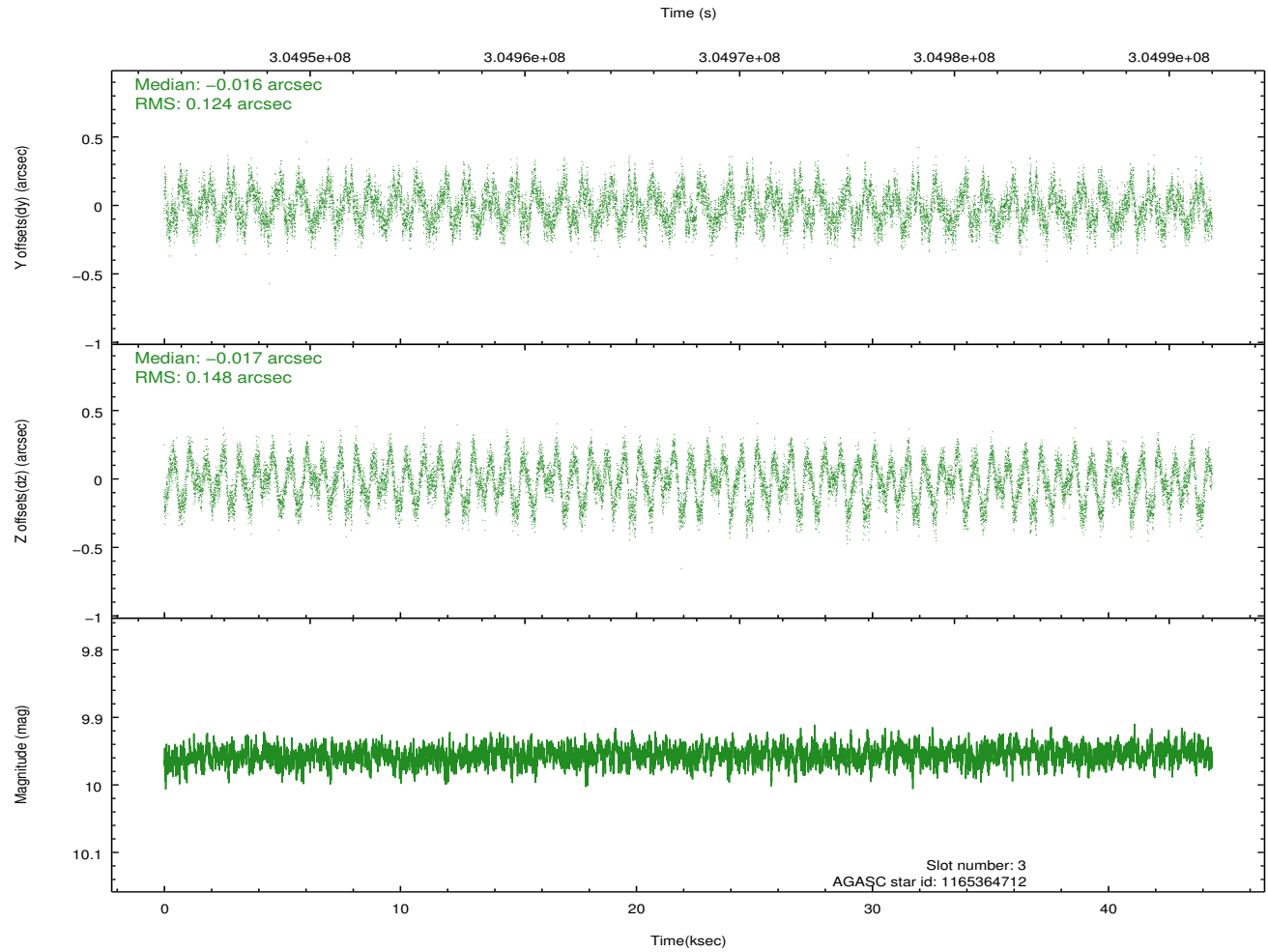
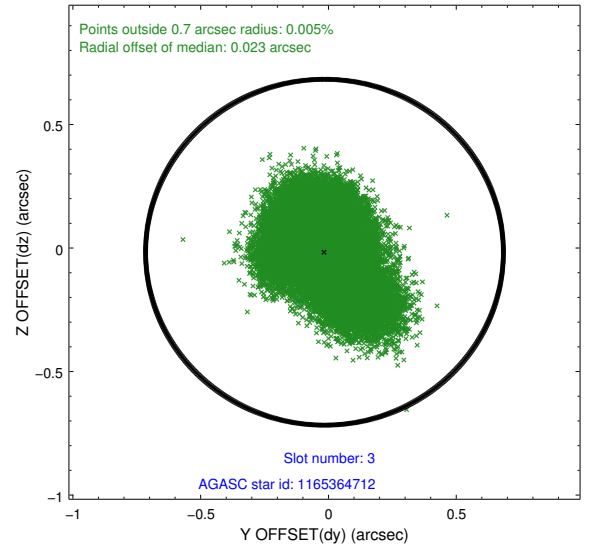
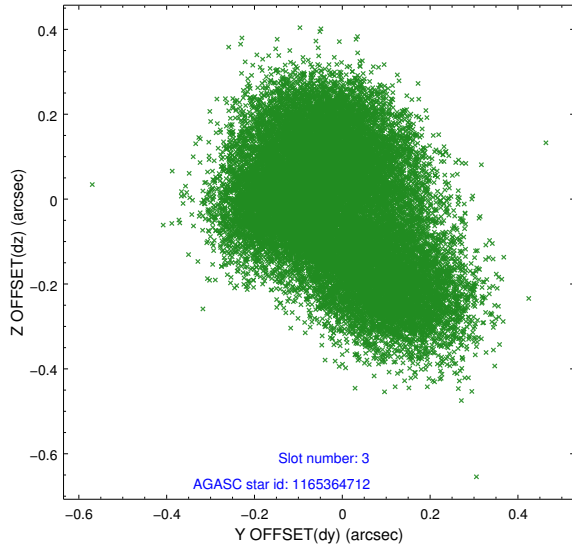


### Slot Statistics

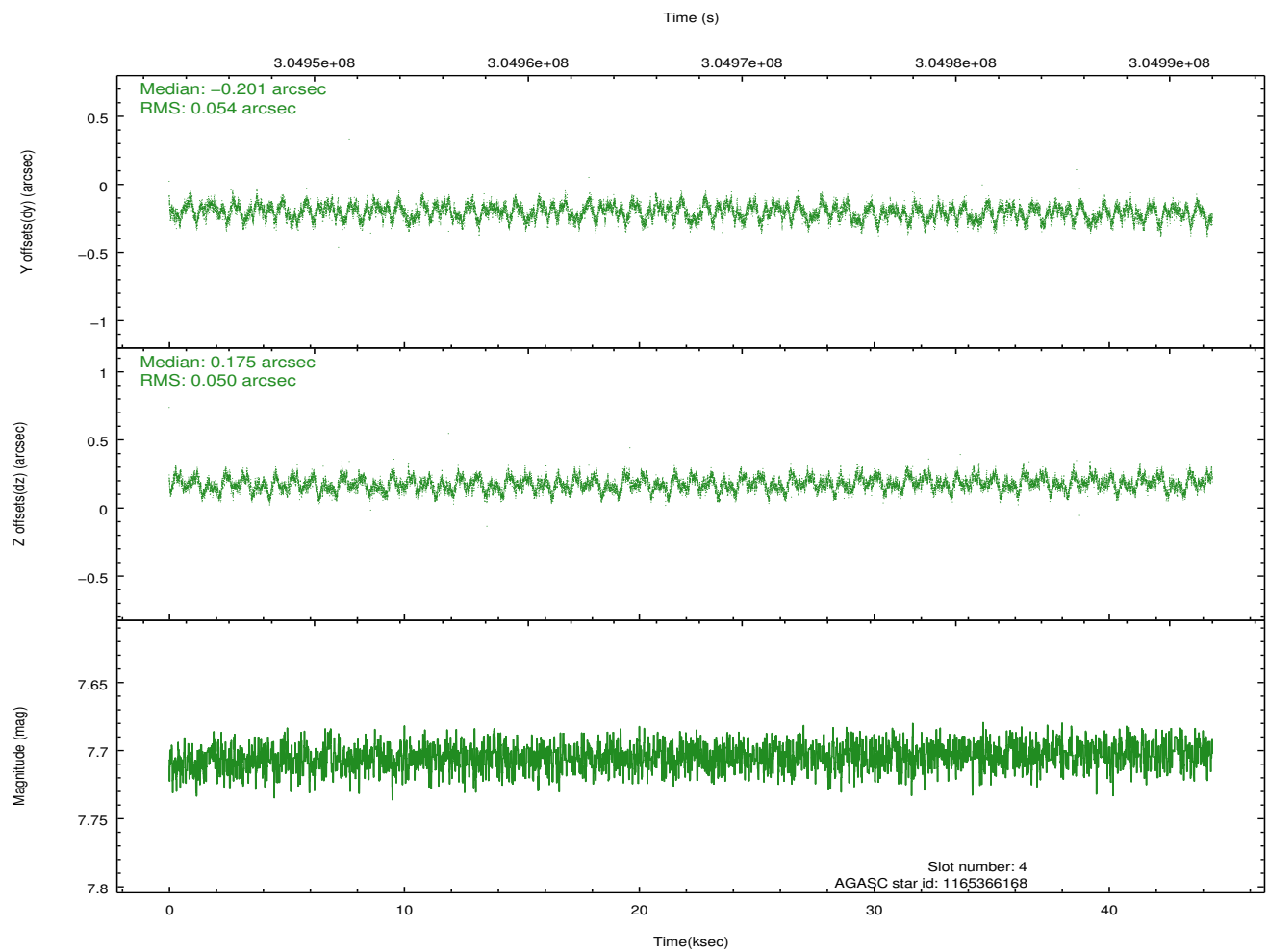
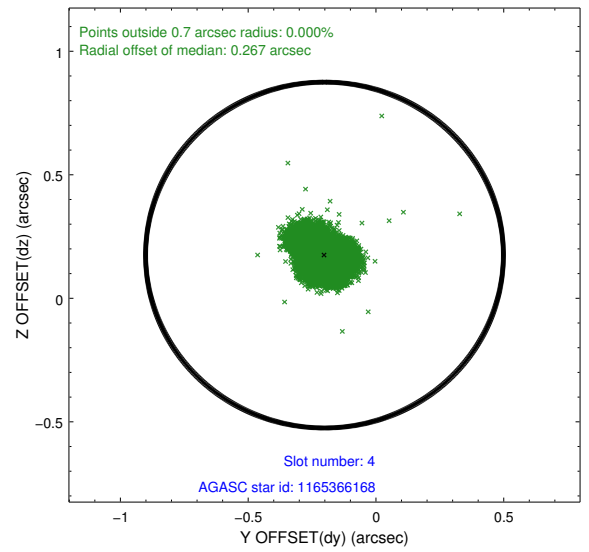
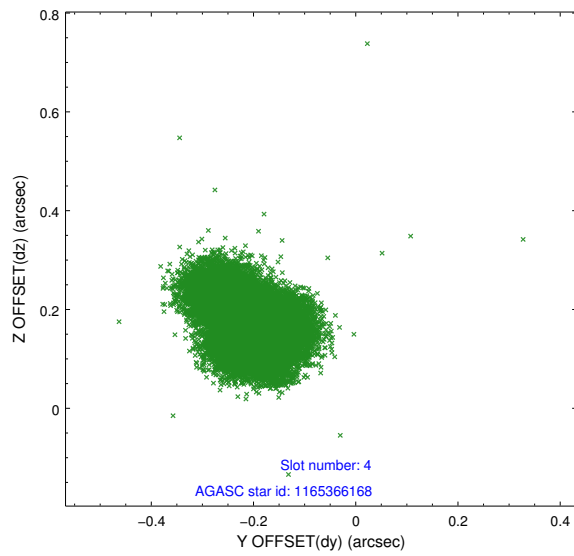
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.09	10829	-0.065	-0.049	0.022	0.030	0.000000	0.000000	-766.58	-1736.17
1	FID	ACIS-S-4	7.19	10829	0.205	0.044	0.012	0.021	0.000000	0.000000	2146.96	172.44
2	FID	ACIS-S-5	7.22	10830	-0.171	0.013	0.019	0.027	0.000000	0.000000	-1819.54	166.04
3	GUIDE	1165364712	9.96	21628	-0.016	-0.017	0.209	0.321	82.070456	-66.128810	1348.07	1398.11
4	GUIDE	1165366168	7.70	21655	-0.201	0.175	0.080	0.125	83.133276	-65.825610	1985.45	-393.63
5	GUIDE	1165367920	6.78	21655	-0.025	-0.005	0.126	0.184	84.229085	-66.560284	-1001.63	-1173.17
6	GUIDE	1165382424	8.35	21651	0.038	-0.009	0.103	0.158	82.355152	-66.439036	162.44	1290.72
7	GUIDE	1165388496	10.09	21617	0.203	-0.110	0.418	0.582	82.286138	-66.879588	-1342.22	1801.13

## 2.4 Star Slots

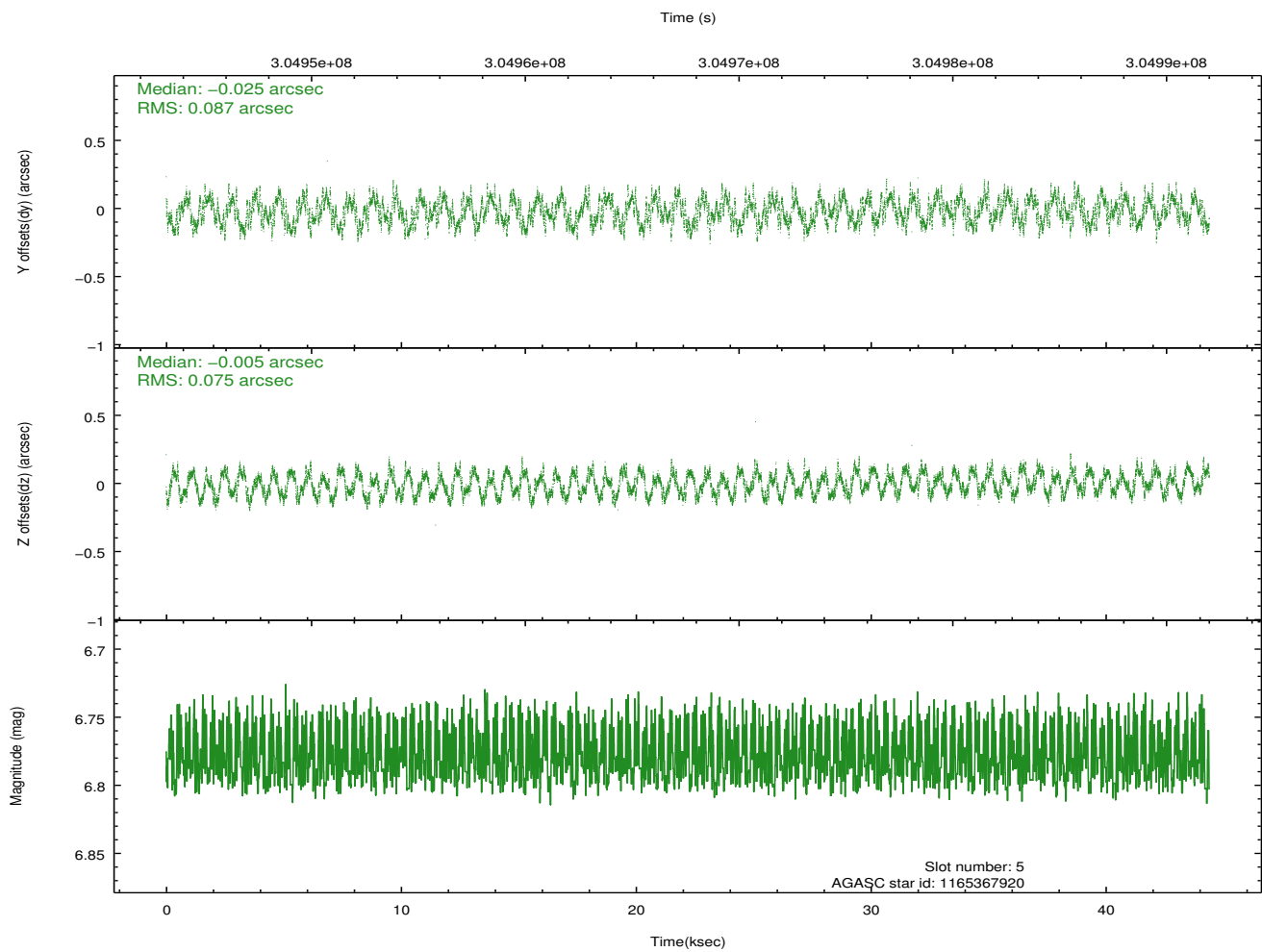
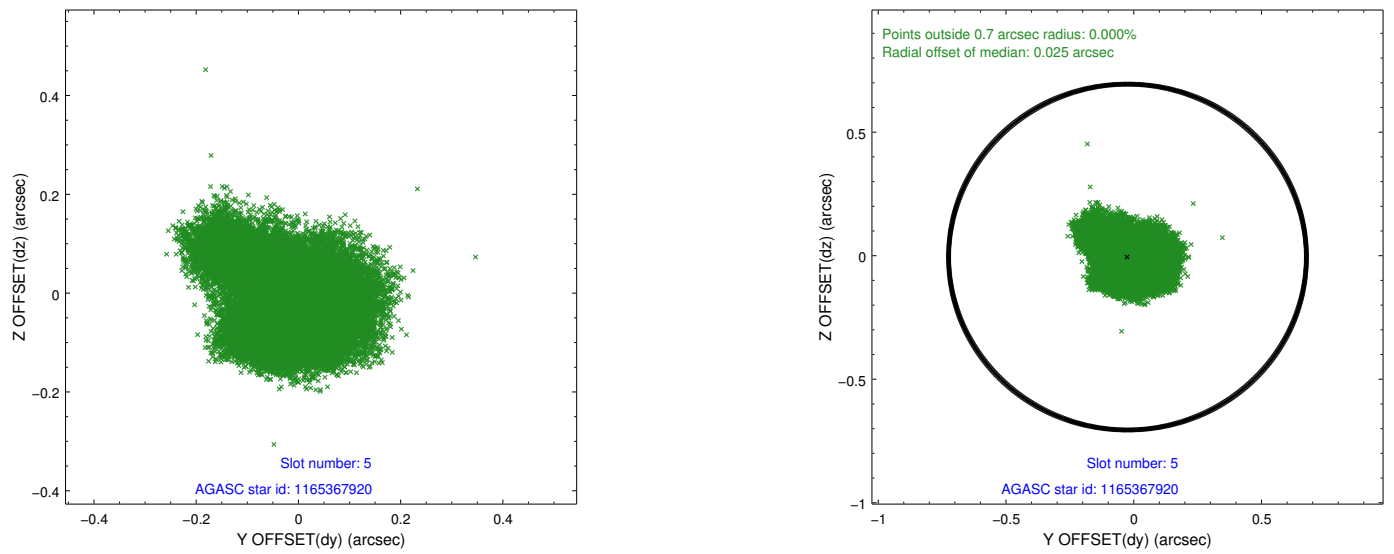
### 2.4.1 Slot 3



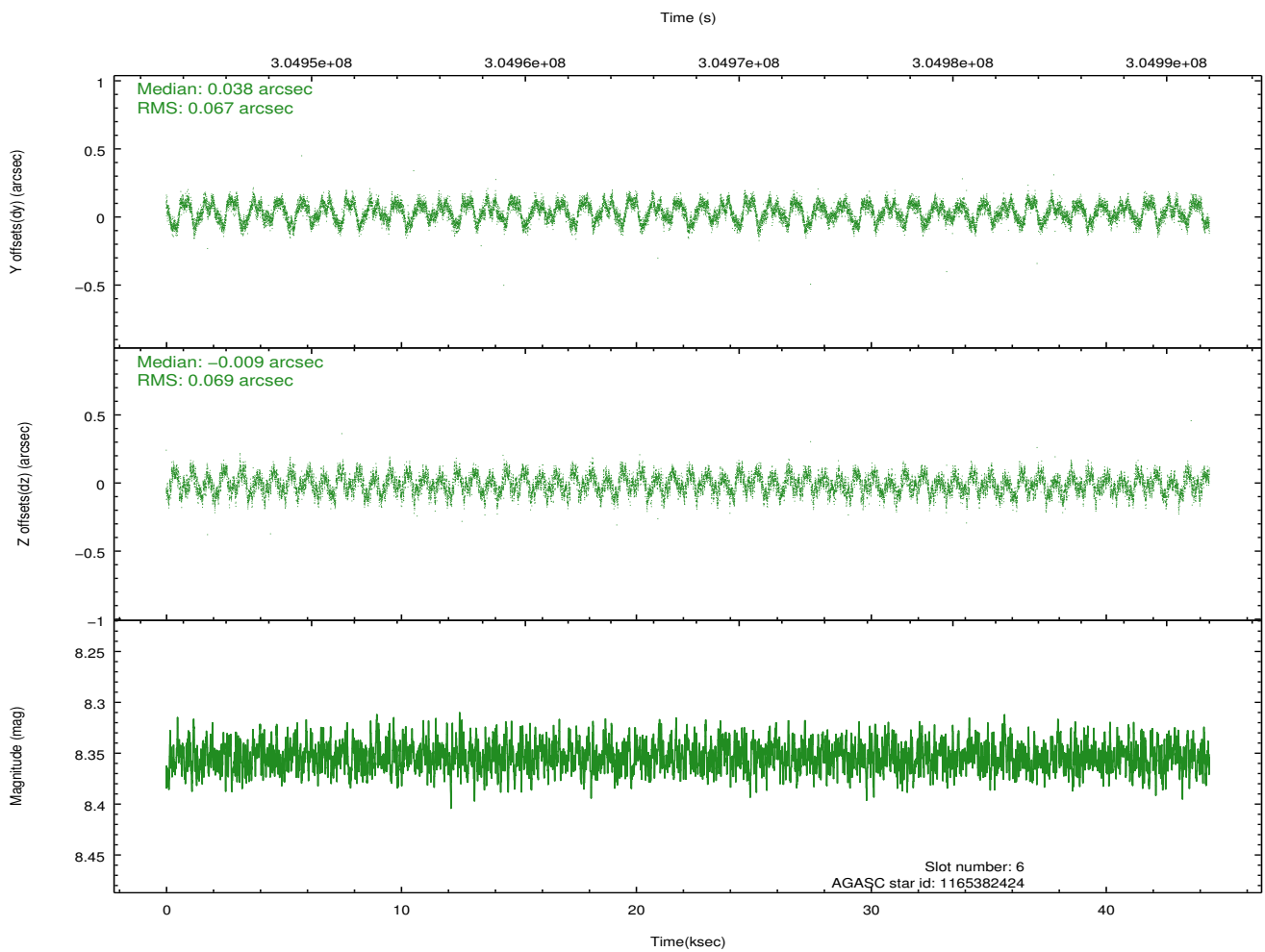
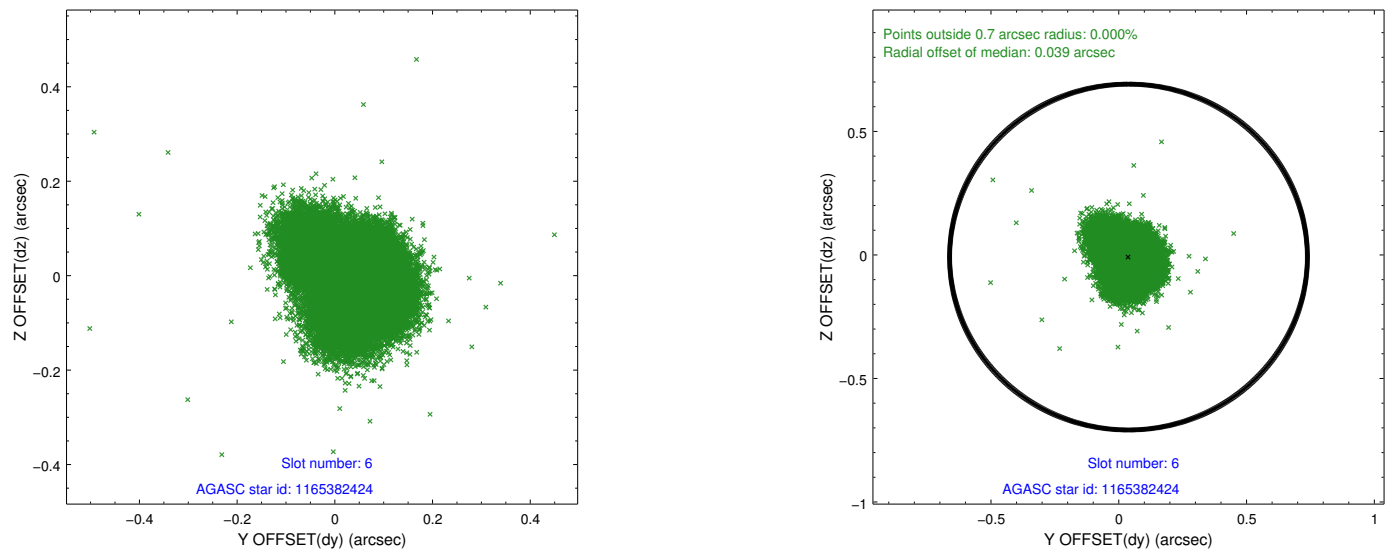
## 2.4.2 Slot 4



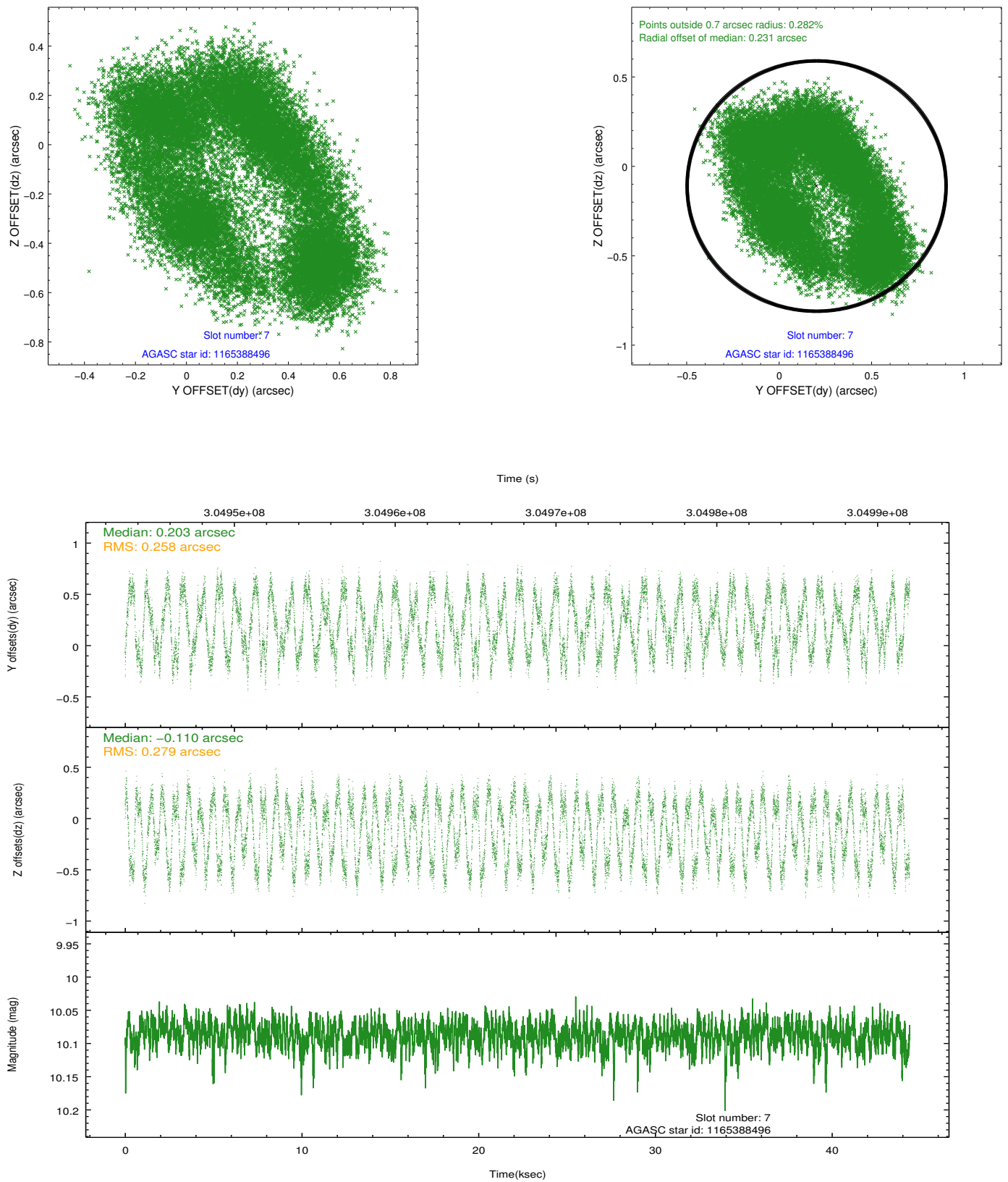
### 2.4.3 Slot 5



## 2.4.4 Slot 6

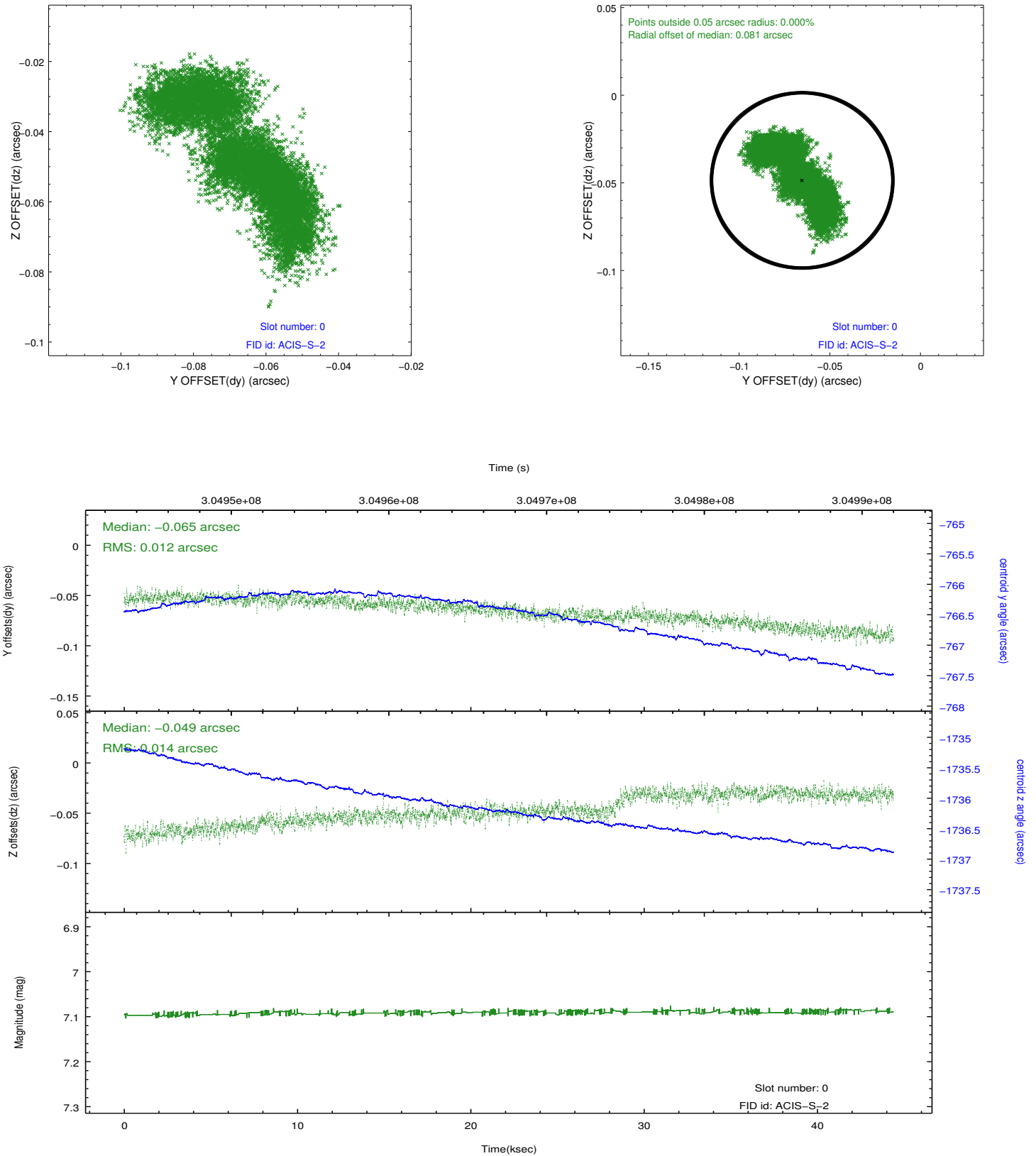


## 2.4.5 Slot 7

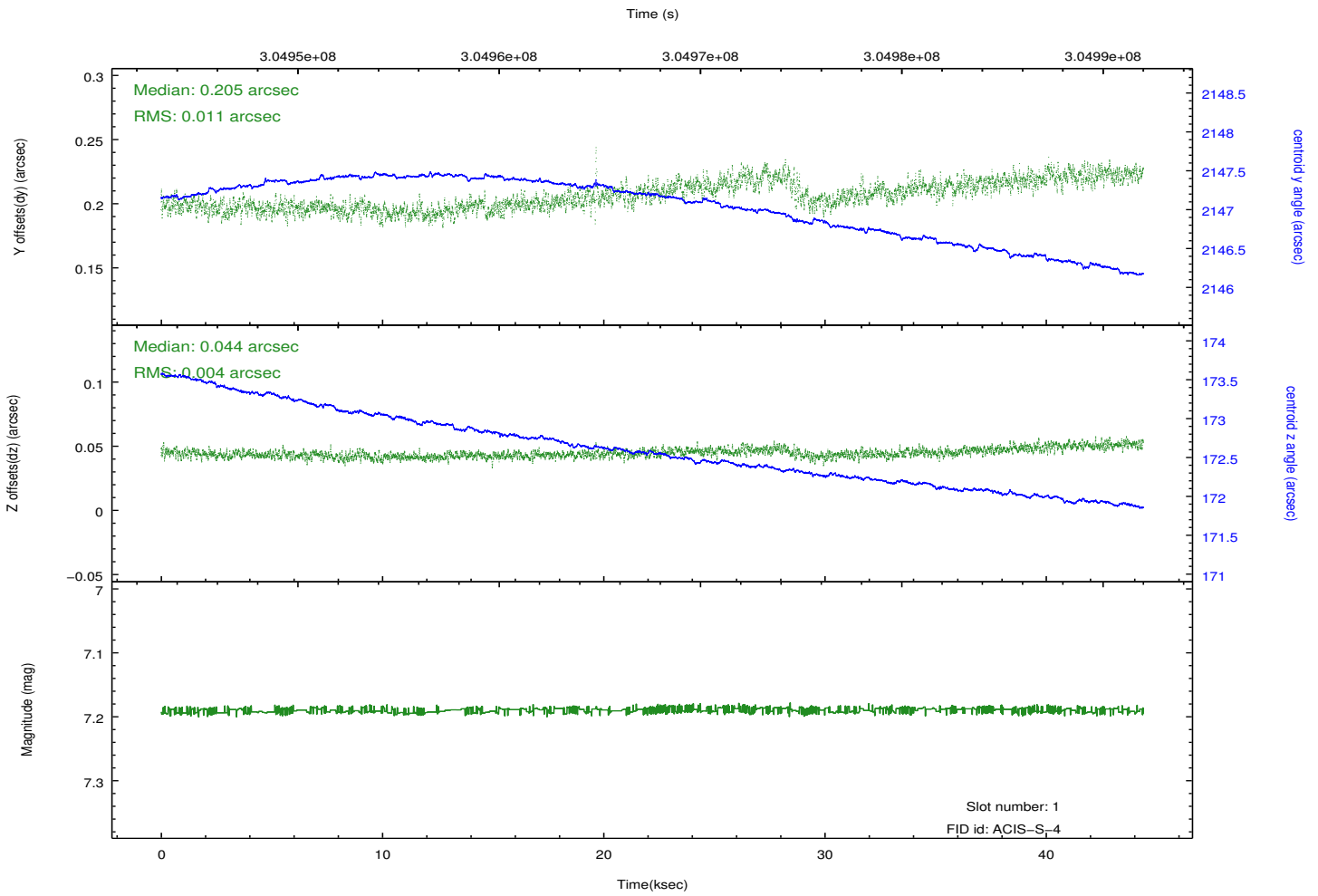
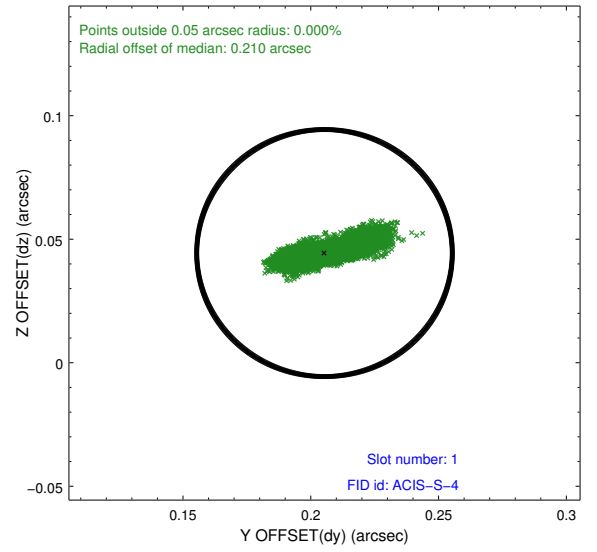
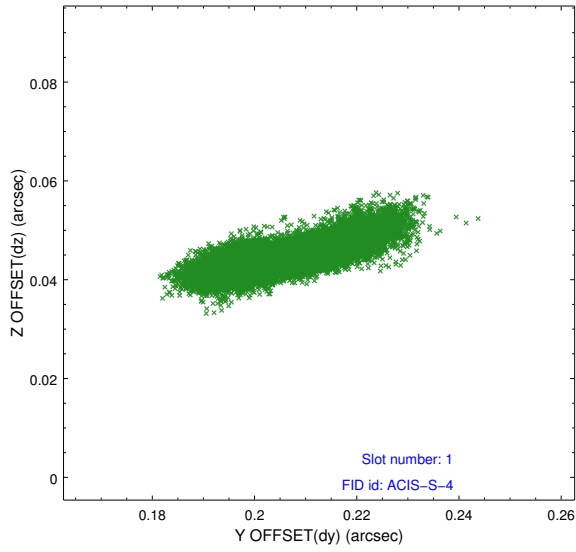


## 2.5 FID Slots

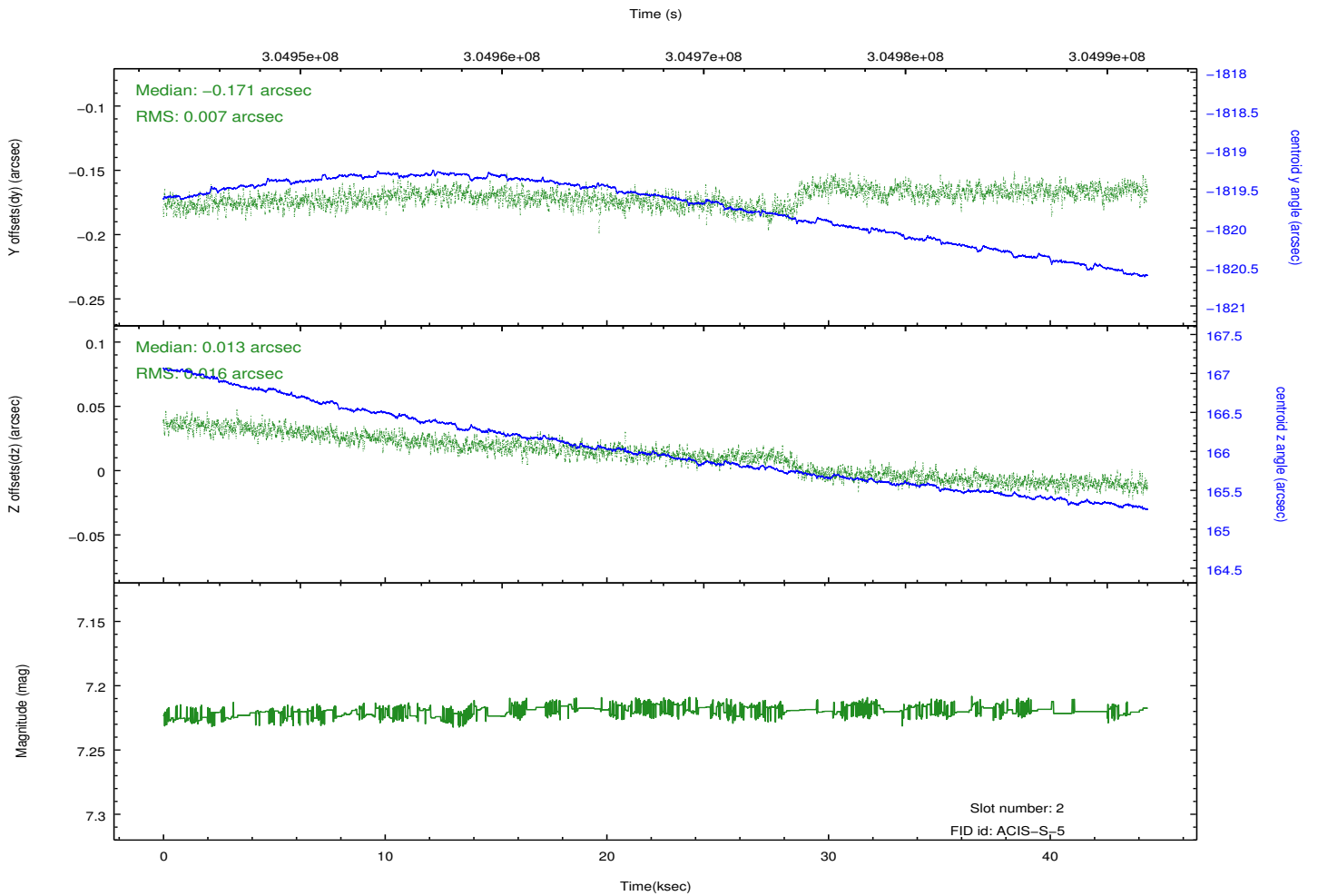
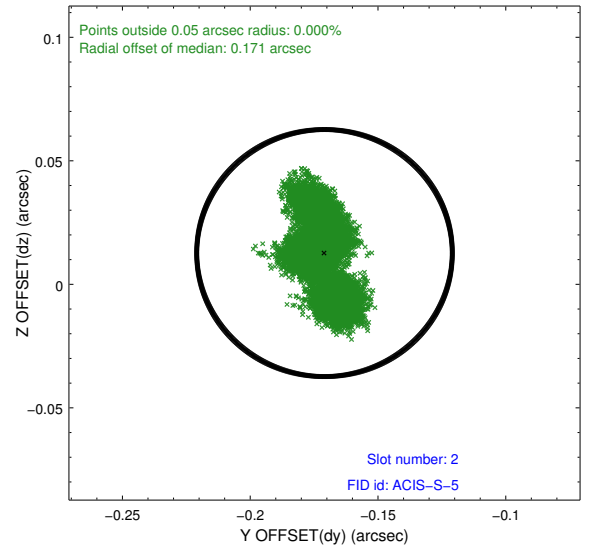
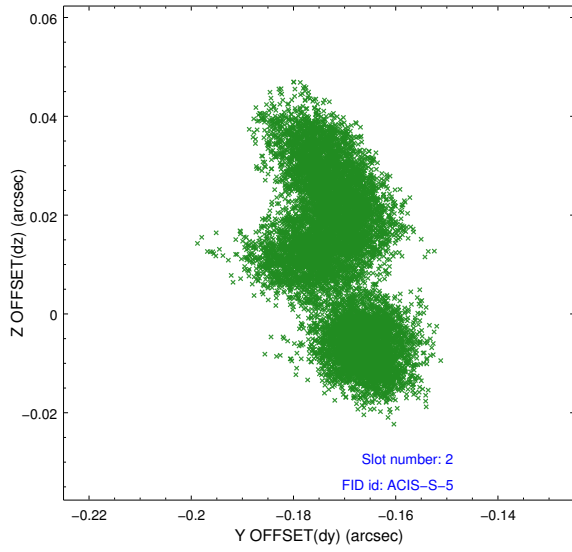
### 2.5.1 Slot 0



## 2.5.2 Slot 1

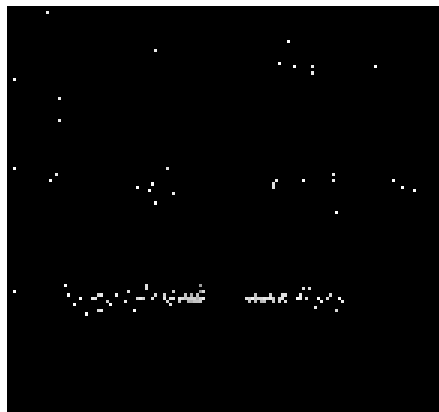


### 2.5.3 Slot 2

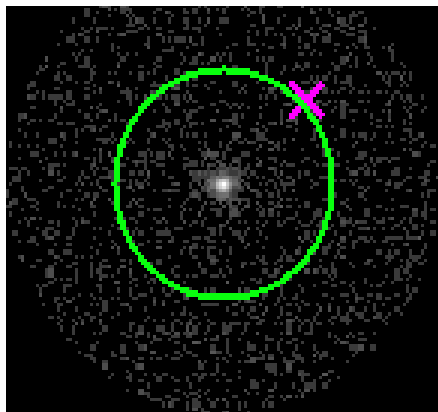


### 3 Gratings

#### 3.1 HEG Arm



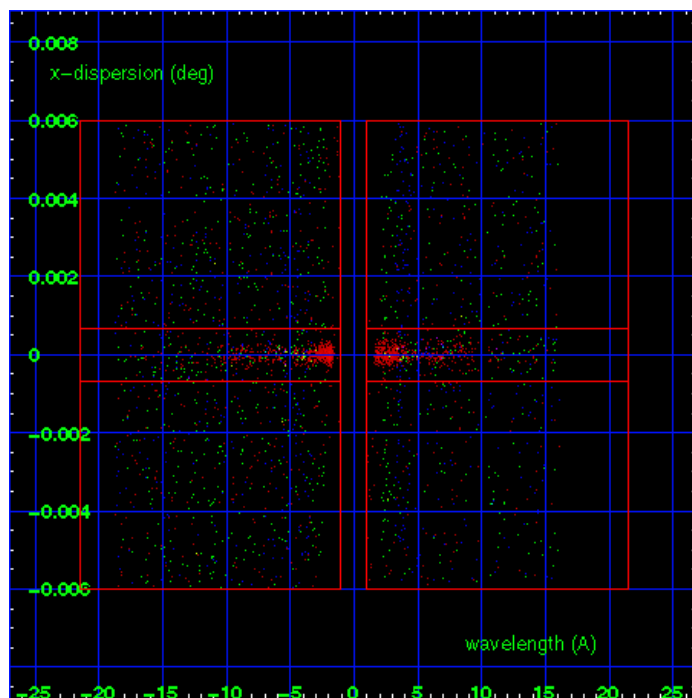
HEG Order Sort 123



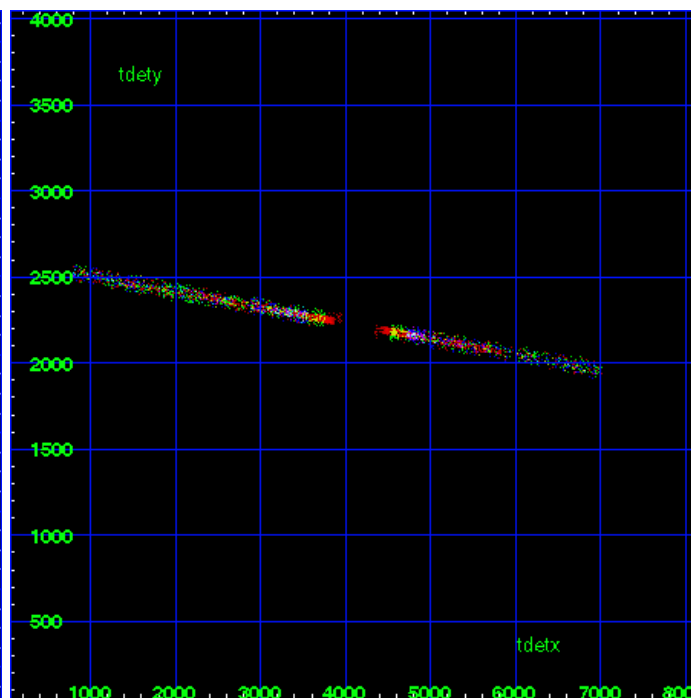
HEG Zero Order



HEG Order Sort ALL

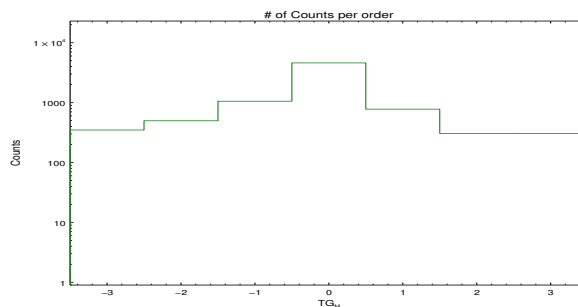


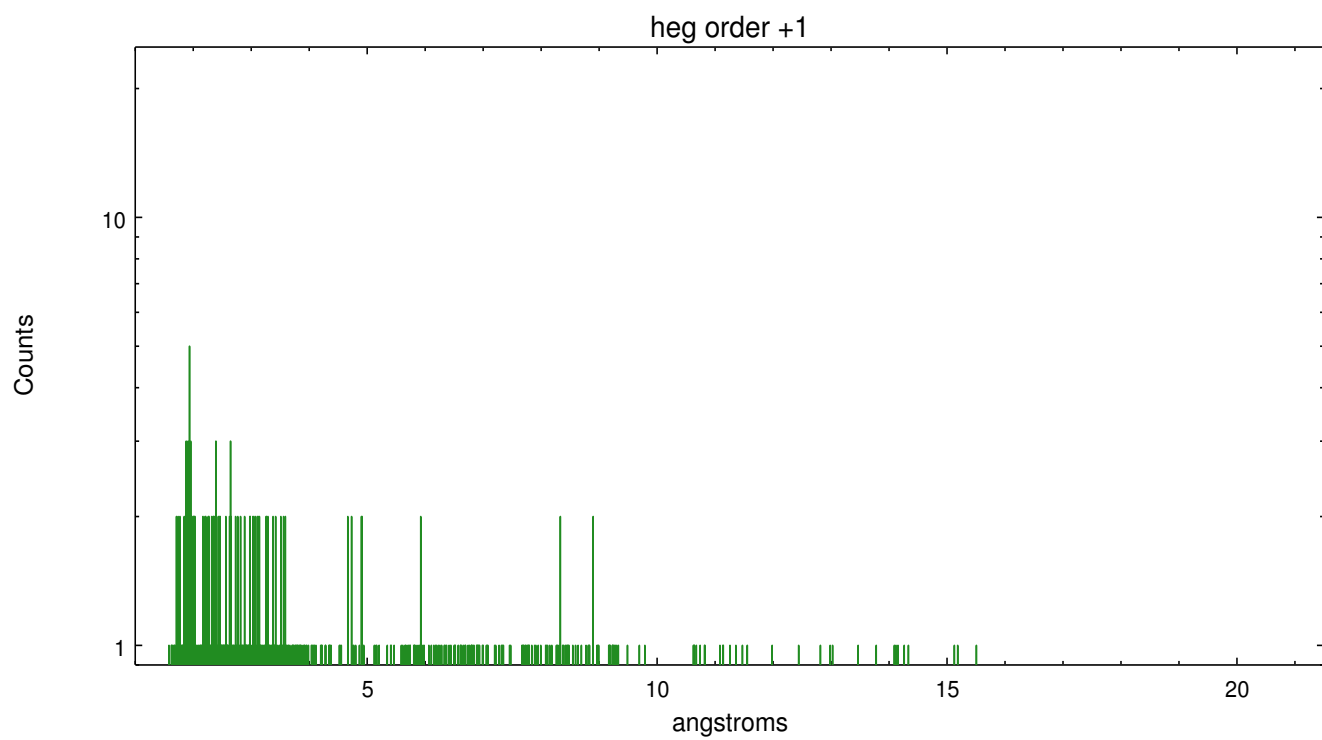
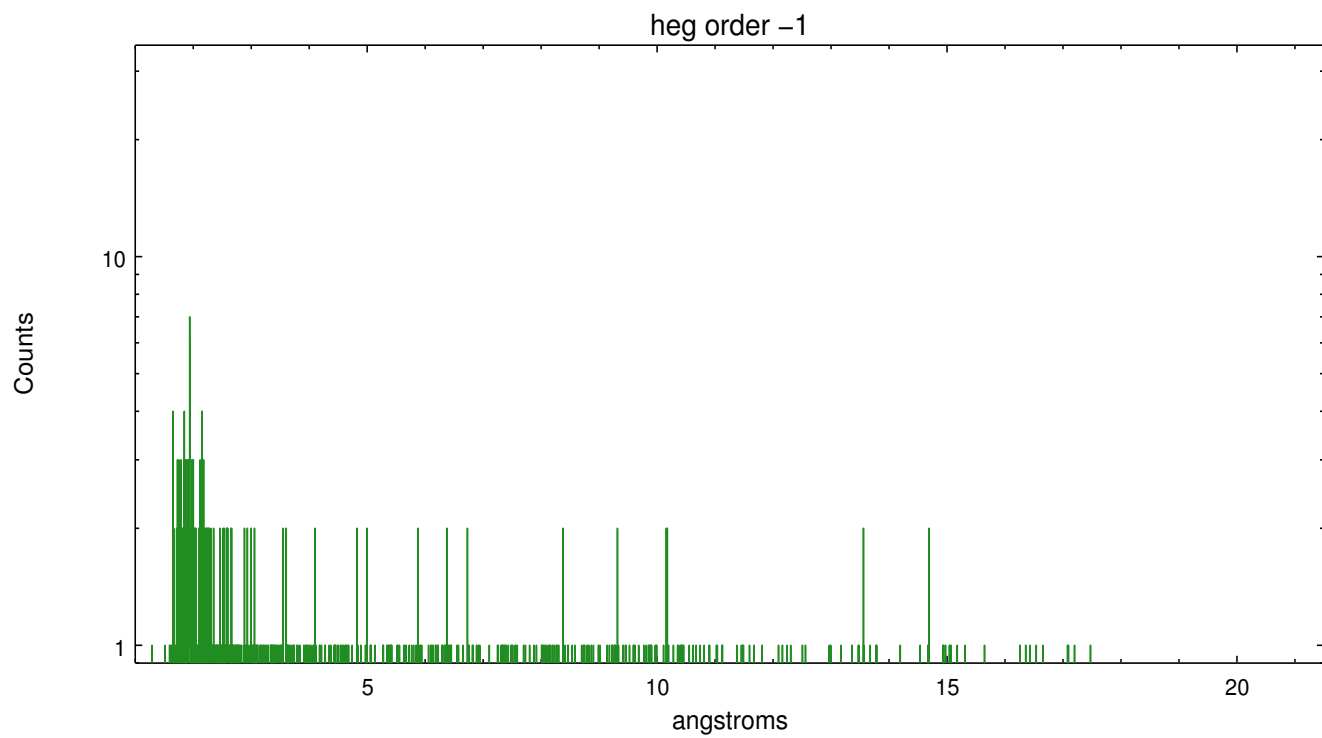
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	349	498	1055	4601	777	305	304

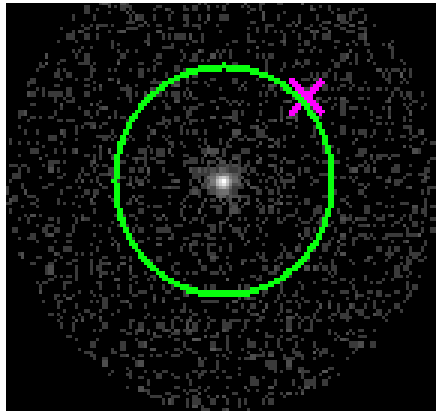




### 3.2 MEG Arm



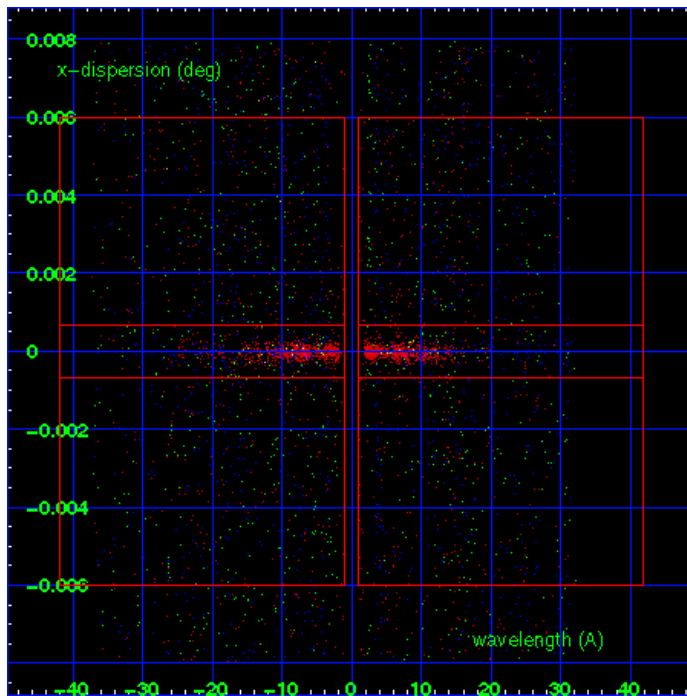
MEG Order Sort 123



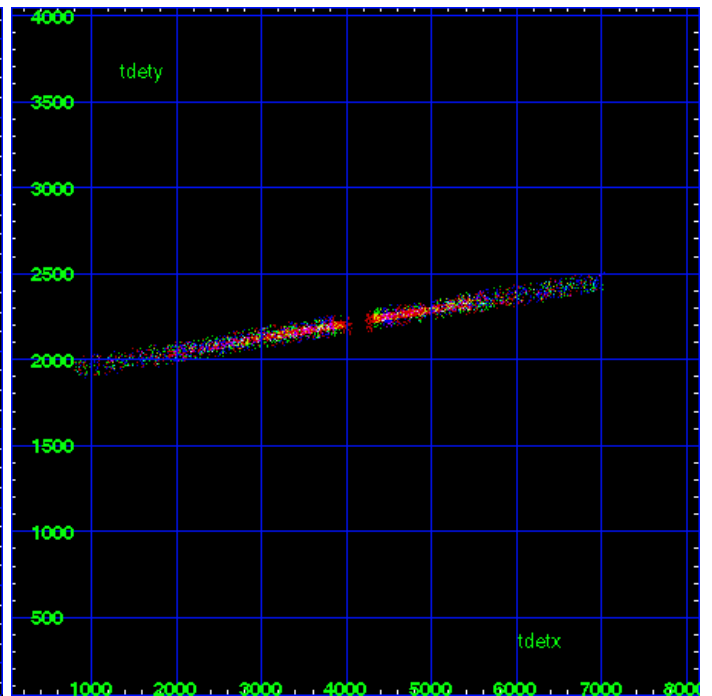
MEG Zero Order



MEG Order Sort ALL

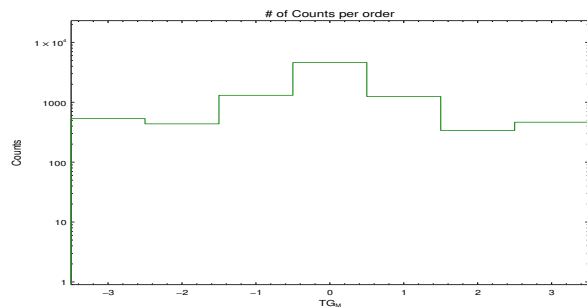


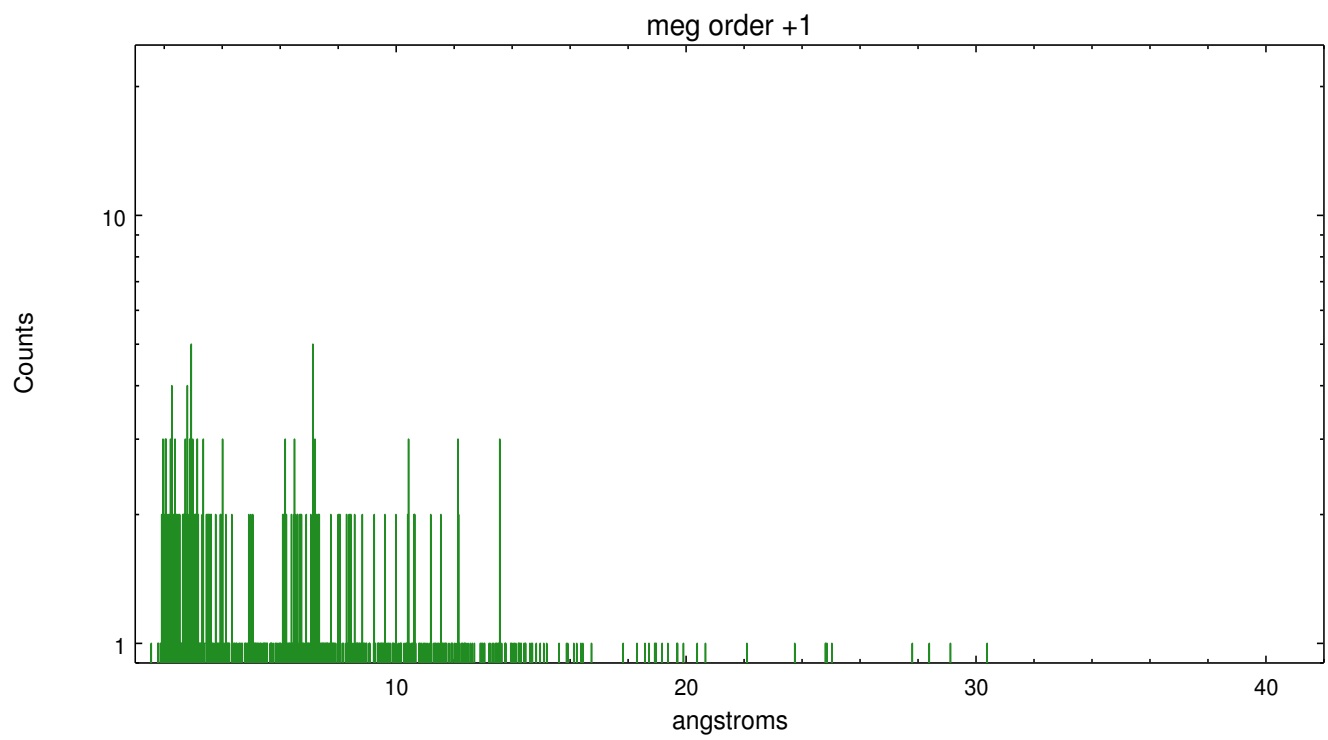
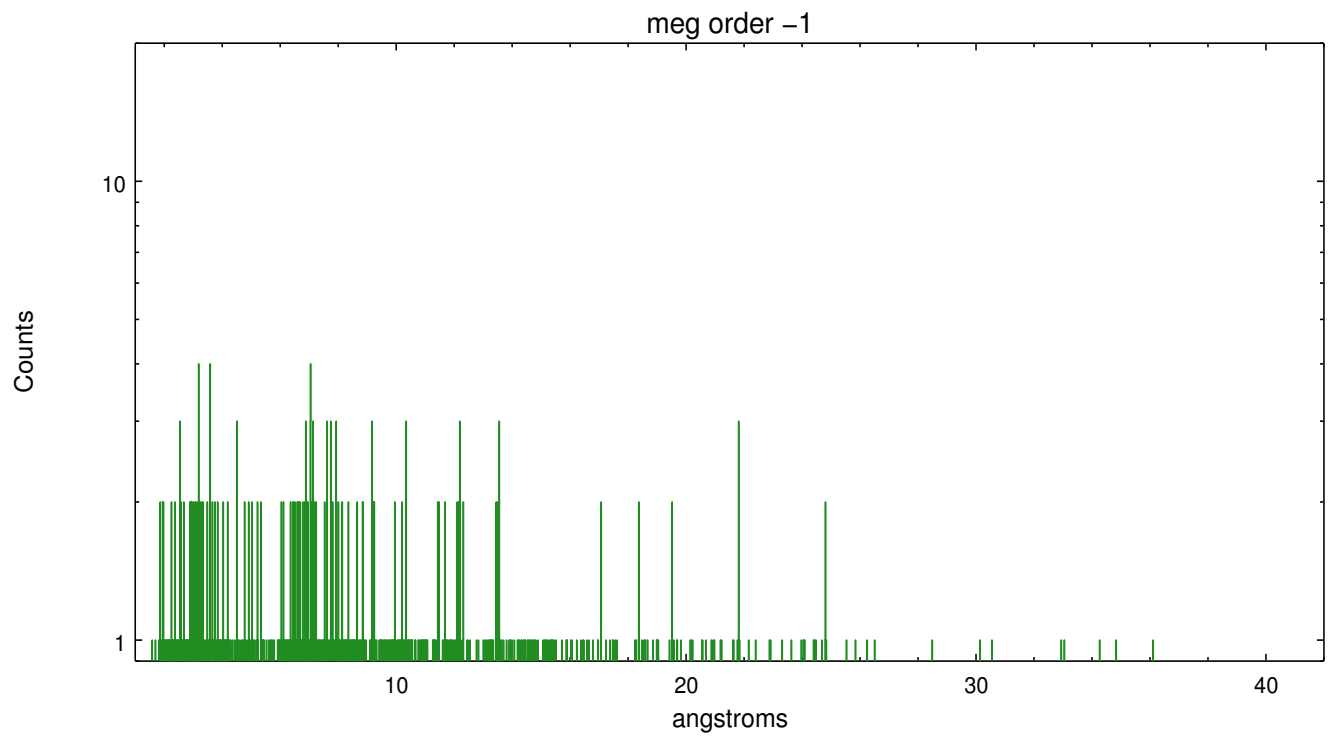
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	533	436	1305	4601	1248	338	464





# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.05.08
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	44.0575998

## A.2 Comments