

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 1947 - L2 Version 3  
Chandra X-Ray Center

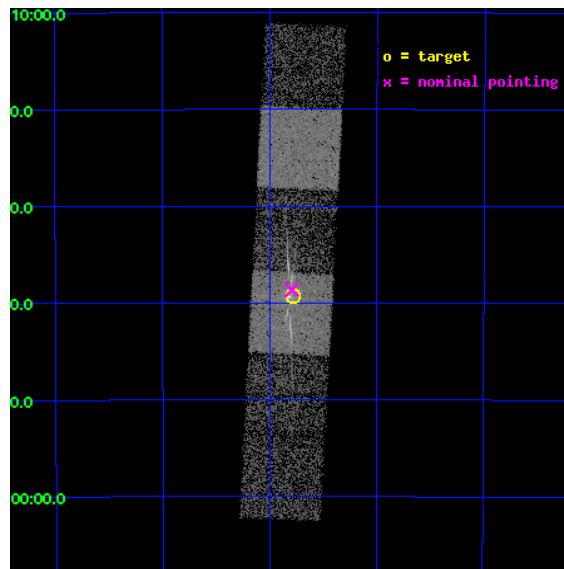
L2 Processing Date : Sep 16 2012

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# 1 Front

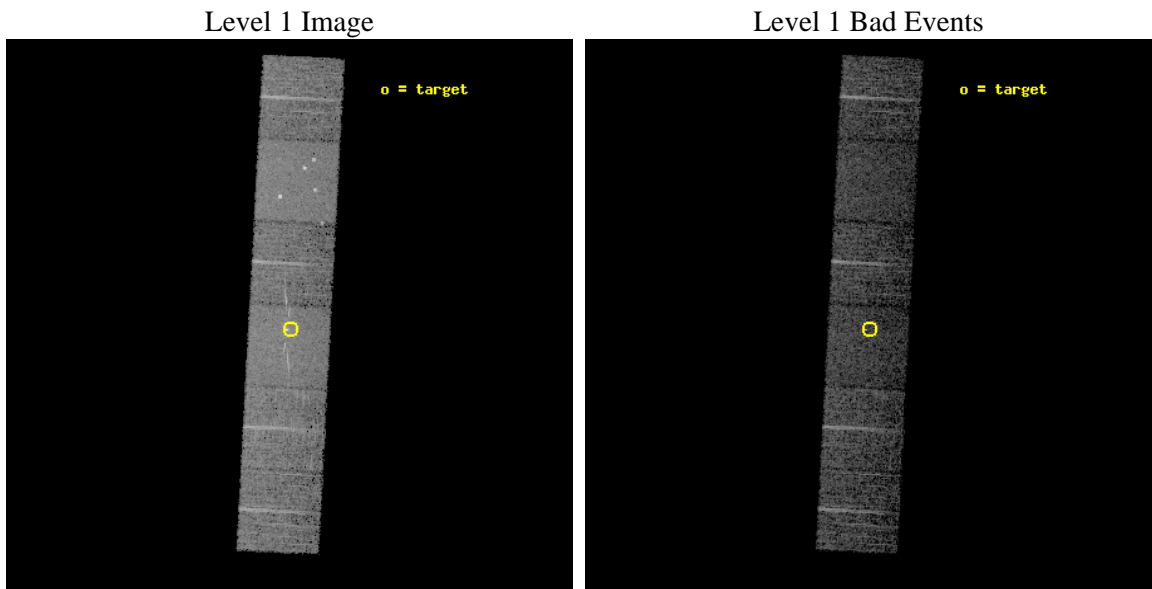
seq_num	400160	Sequence number
obs_id	1947	Observation id
title	WHERE IS OAO 1657-415?	Proposal title
observer	Prof. Deepto Chakrabarty	Principal investigator
object	OAO 1657-415	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	255.19625	Observer's specified target RA [deg]
dec_targ	-41.654056	Observer's specified target Dec [deg]
ra_nom	255.1979036586	Nominal RA [deg]
dec_nom	-41.64425839398	Nominal Dec [deg]
roll_nom	93.021206531403	Nominal Roll [deg]
revision	3	Processing version of data
ontime	5196.800004825	Sum of GTIs [s]
livetime	5130.9949940266	Livetime [s]
ontime4	5196.800004825	Sum of GTIs [s]
ontime5	5196.800004825	Sum of GTIs [s]
ontime6	5196.800004825	Sum of GTIs [s]
ontime7	5196.800004825	Sum of GTIs [s]
ontime8	5193.5590146631	Sum of GTIs [s]
ontime9	5196.800004825	Sum of GTIs [s]
l2events	53848	Number of level 2 events



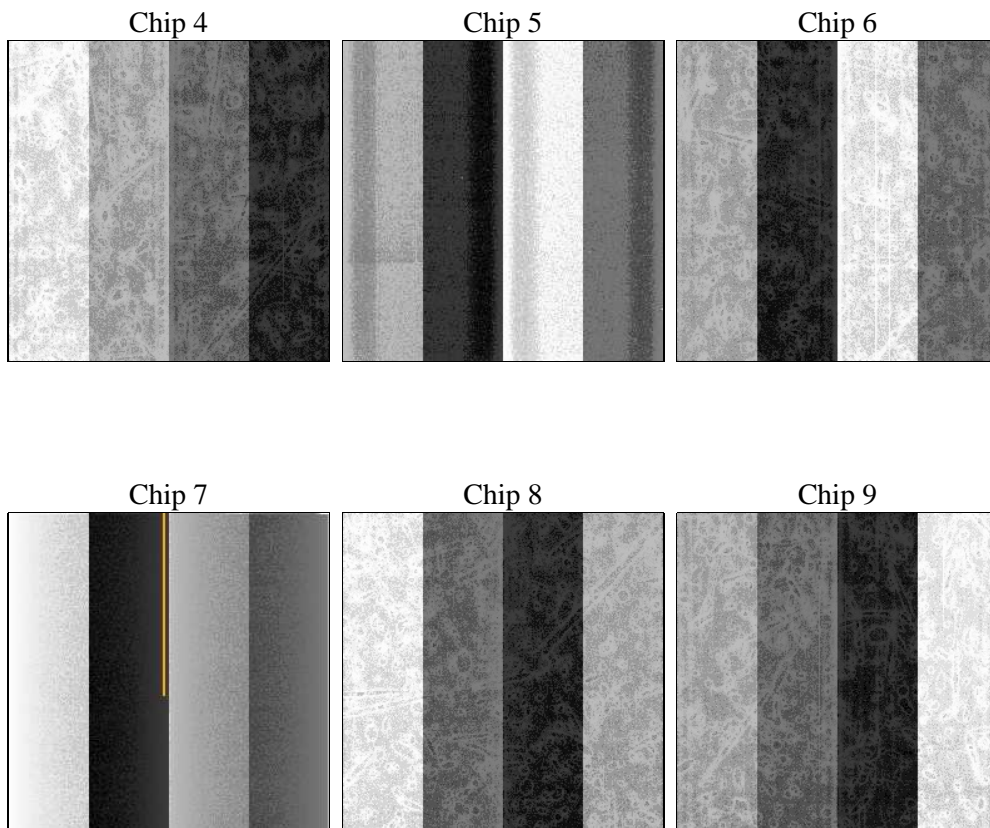
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	5057.660000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	5196.800004825	Sum of GTIs [s]
caldbver	4.5.1.1	&#160	ontime4	5196.800004825	Sum of GTIs [s]
date	2012-09-16T03:20:22	Date and time of file creation	ontime5	5196.800004825	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	5196.800004825	Sum of GTIs [s]
			ontime7	5196.800004825	Sum of GTIs [s]
			ontime8	5193.5590146631	Sum of GTIs [s]
			ontime9	5196.800004825	Sum of GTIs [s]
			l1events	259051	Number of level 1 events

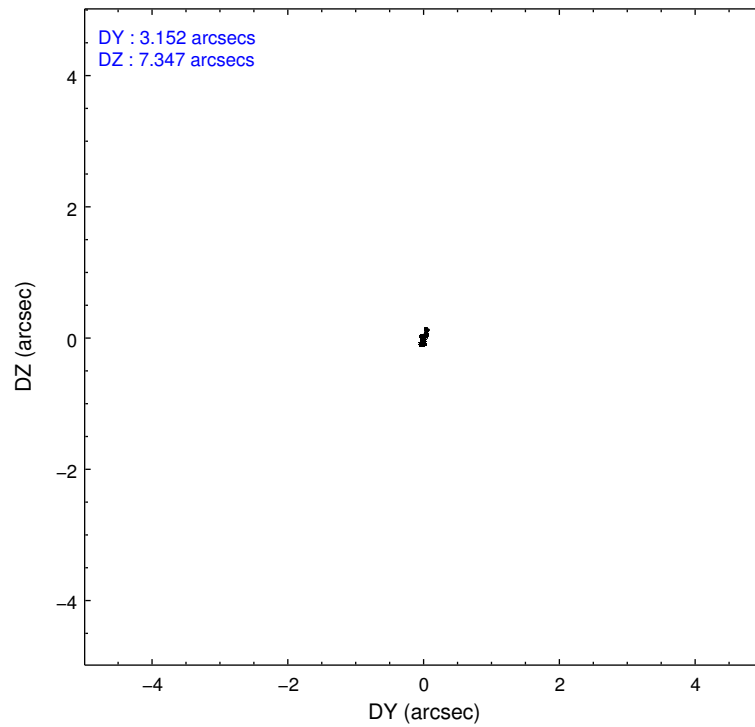
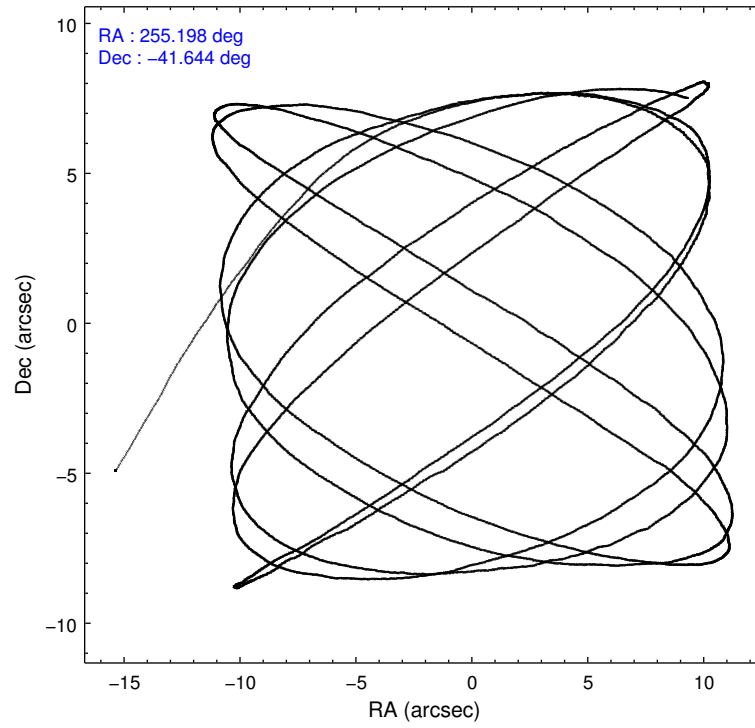
### 2.1.4 Events

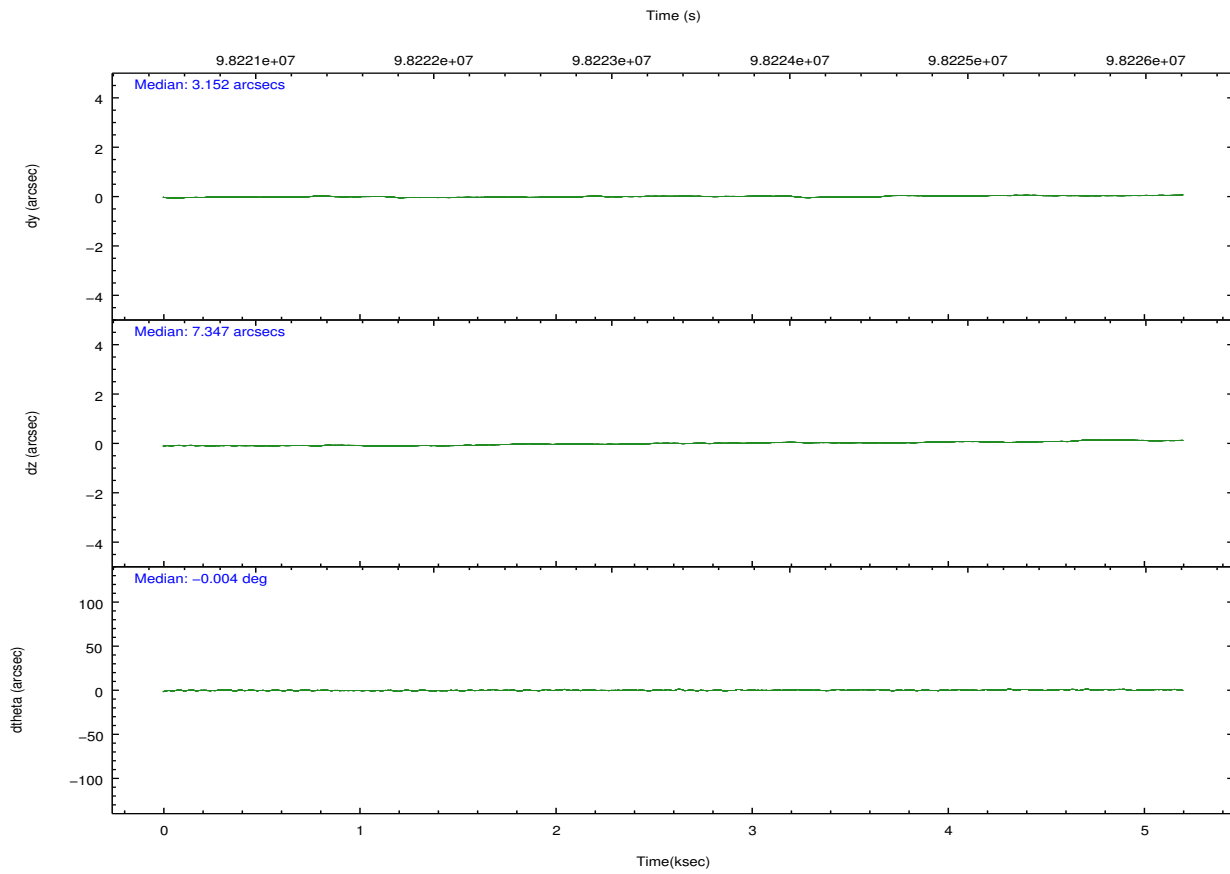
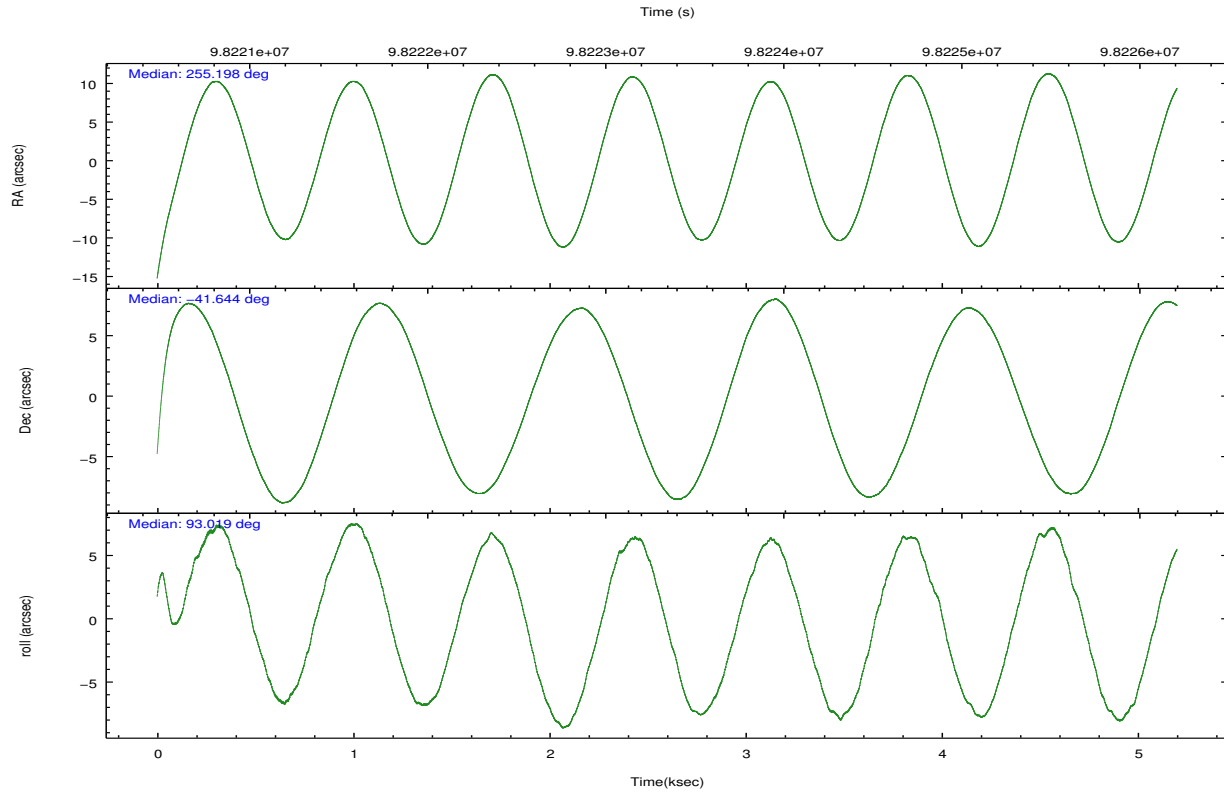
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	38232	52195	36662	50850	44562	36550	grade 0 events	1586	5522	2261	2909	2872	1702
rejected events	34550	29110	31859	29294	36617	32762		4%	10%	6%	5%	6%	4%
rejected %	90%	55%	86%	57%	82%	89%	grade 1 events	18	107	22	74	32	18
								0%	0%	0%	0%	0%	0%
							grade 2 events	962	6601	1046	4710	1835	890
								2%	12%	2%	9%	4%	2%
							grade 3 events	383	939	458	2178	1009	398
								1%	1%	1%	4%	2%	1%
							grade 4 events	415	966	487	2116	923	400
								1%	1%	1%	4%	2%	1%
							grade 5 events	1227	3723	1456	4599	1891	1545
								3%	7%	3%	9%	4%	4%
							grade 6 events	734	11550	968	11499	2213	843
								1%	22%	2%	22%	4%	2%
							grade 7 events	32907	22787	29964	22765	33787	30754
								86%	43%	81%	44%	75%	84%

## 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	255.218125	255.1979036585958	Subarray requested	NONE	NONE
[deg] Pointing Dec	-41.667086	-41.64425839397957	Alternating exposures requested	N	N
[deg] Pointing Roll	92.878007	93.02120653140292	[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	-190.1400660498719			
[mm] SIM translation stage offset	0	0.00754346686406393			
Phase constraints	Y	Y			
[d] Phase period	10.448090	10.448090			
[d] Phase epoch (MJD)	50605.509988	50605.509988			
Phase start	0.400000	0.400000			
Phase end	0.100000	0.100000			
Phase start error	0.050000	0.050000			
Phase end error	0.050000	0.050000			
[s] Observation start time (MET)	98220883.184000	98219549.08677401			
Observation start date	2001-02-10T19:33:39	2001-02-10T19:12:29			
[s] Observation end time (MET)	98225941.184000	98226255.66203199			
Observation end date	2001-02-10T20:57:57	2001-02-10T21:04:15			
Read mode	TIMED	TIMED			

## 2.3 Aspect



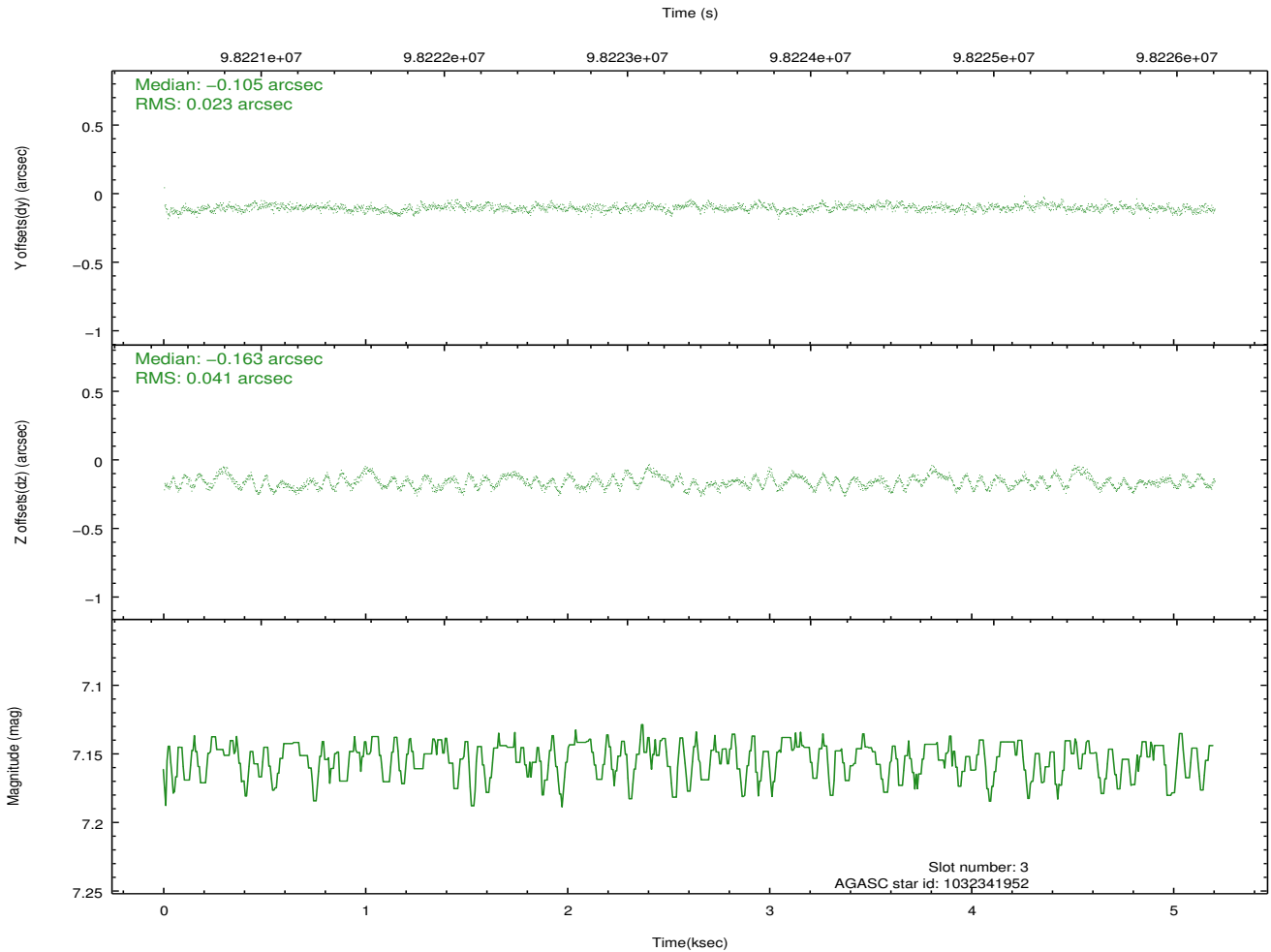
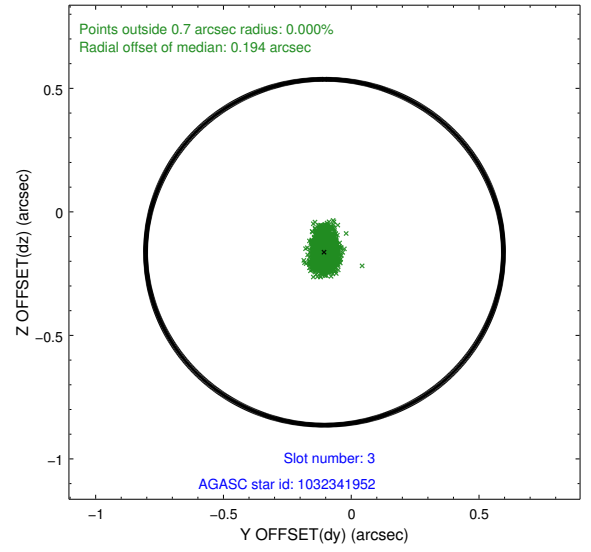
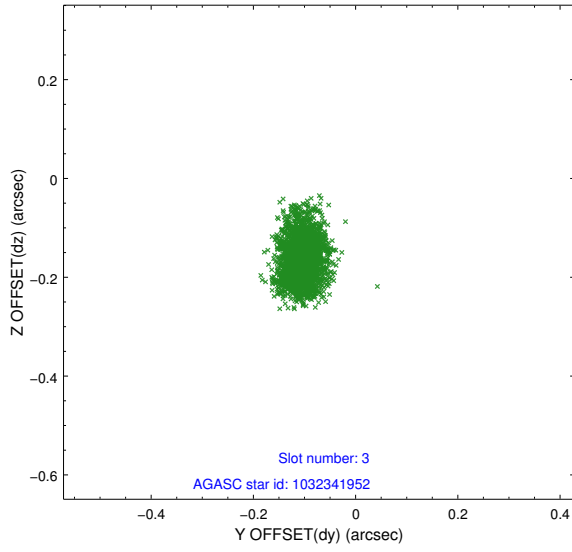


### Slot Statistics

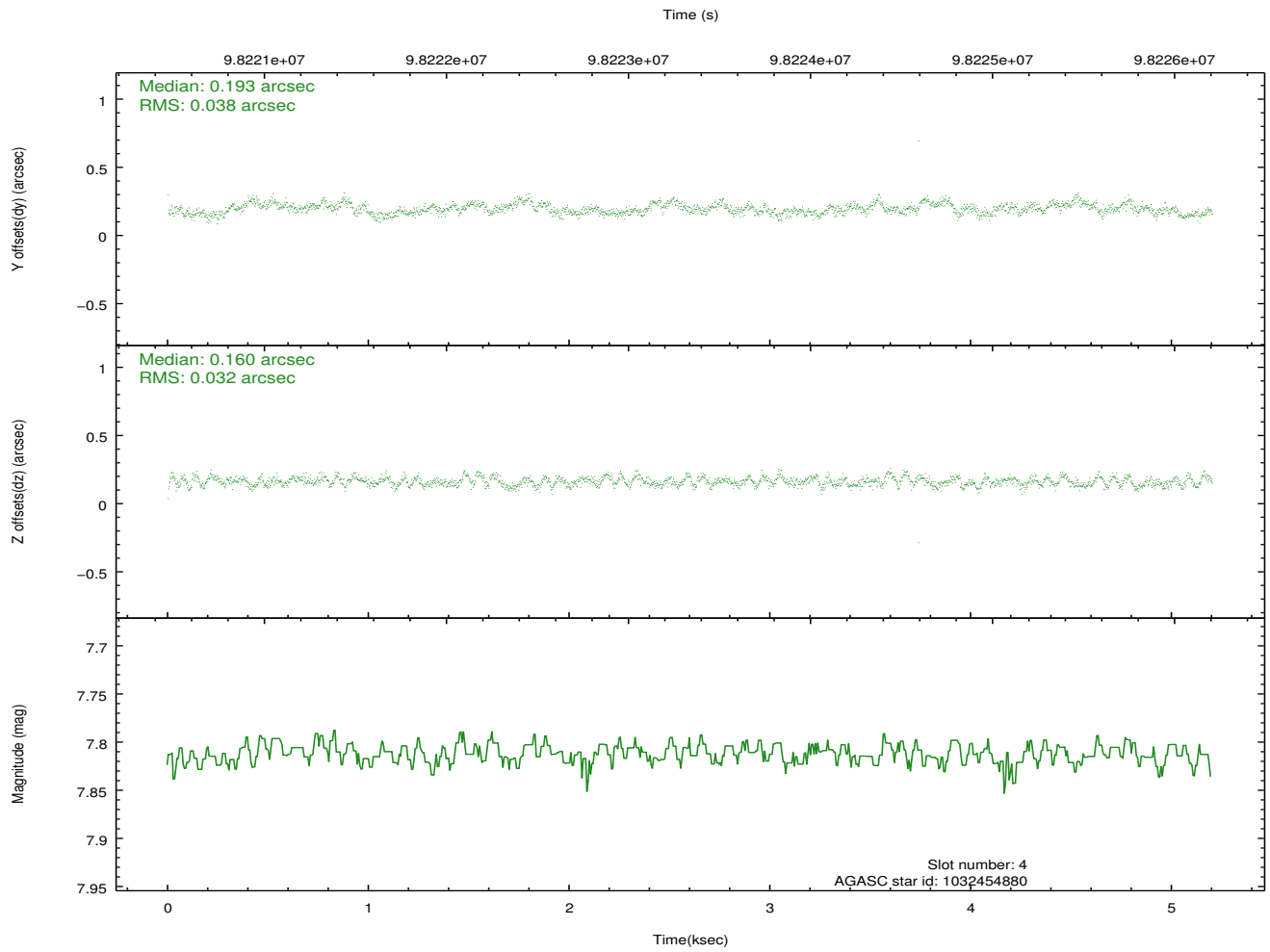
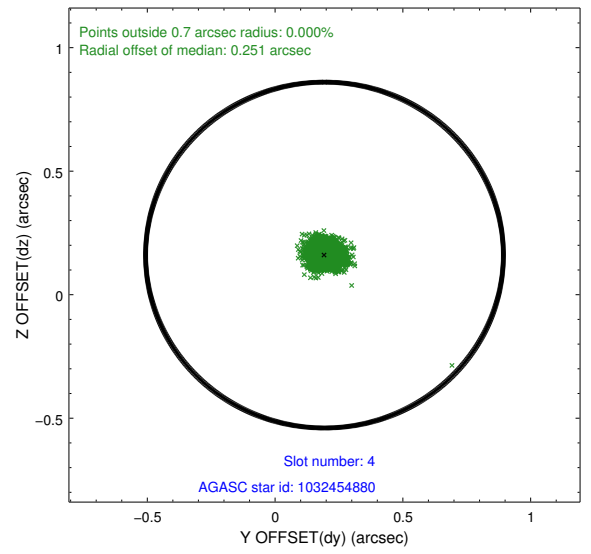
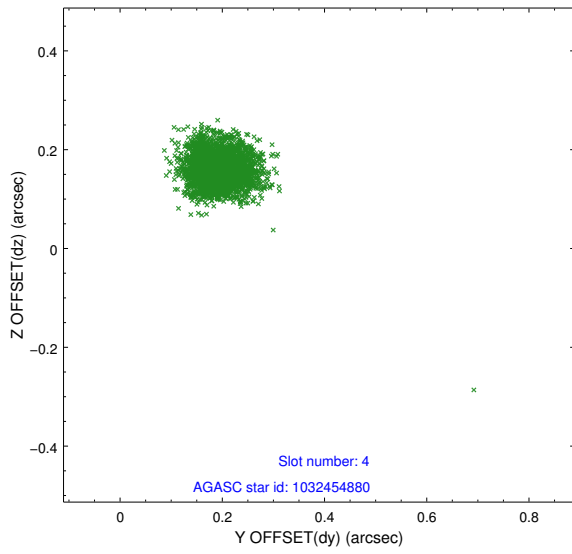
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.12	1269	0.005	0.007	0.006	0.011	0.000000	0.000000	-755.81	-1728.50
1	FID	ACIS-S-4	7.19	1269	-0.055	-0.004	0.005	0.010	0.000000	0.000000	2156.90	178.75
2	FID	ACIS-S-5	7.24	1269	0.020	0.006	0.006	0.012	0.000000	0.000000	-1807.12	173.78
3	GUIDE	1032341952	7.15	2538	-0.105	-0.163	0.050	0.082	254.946907	-41.627000	178.17	721.87
4	GUIDE	1032454880	7.81	2538	0.193	0.160	0.051	0.080	255.805803	-42.215139	-2055.56	-1464.99
5	GUIDE	1032456032	8.37	2538	0.135	0.201	0.061	0.096	256.011351	-42.138769	-1813.97	-2029.27
6	GUIDE	1032340744	7.89	2538	-0.177	-0.120	0.056	0.090	254.712738	-41.416040	964.89	1316.93
7	GUIDE	1032338512	8.40	2537	-0.045	-0.072	0.074	0.113	254.833160	-41.405214	990.39	991.74

## 2.4 Star Slots

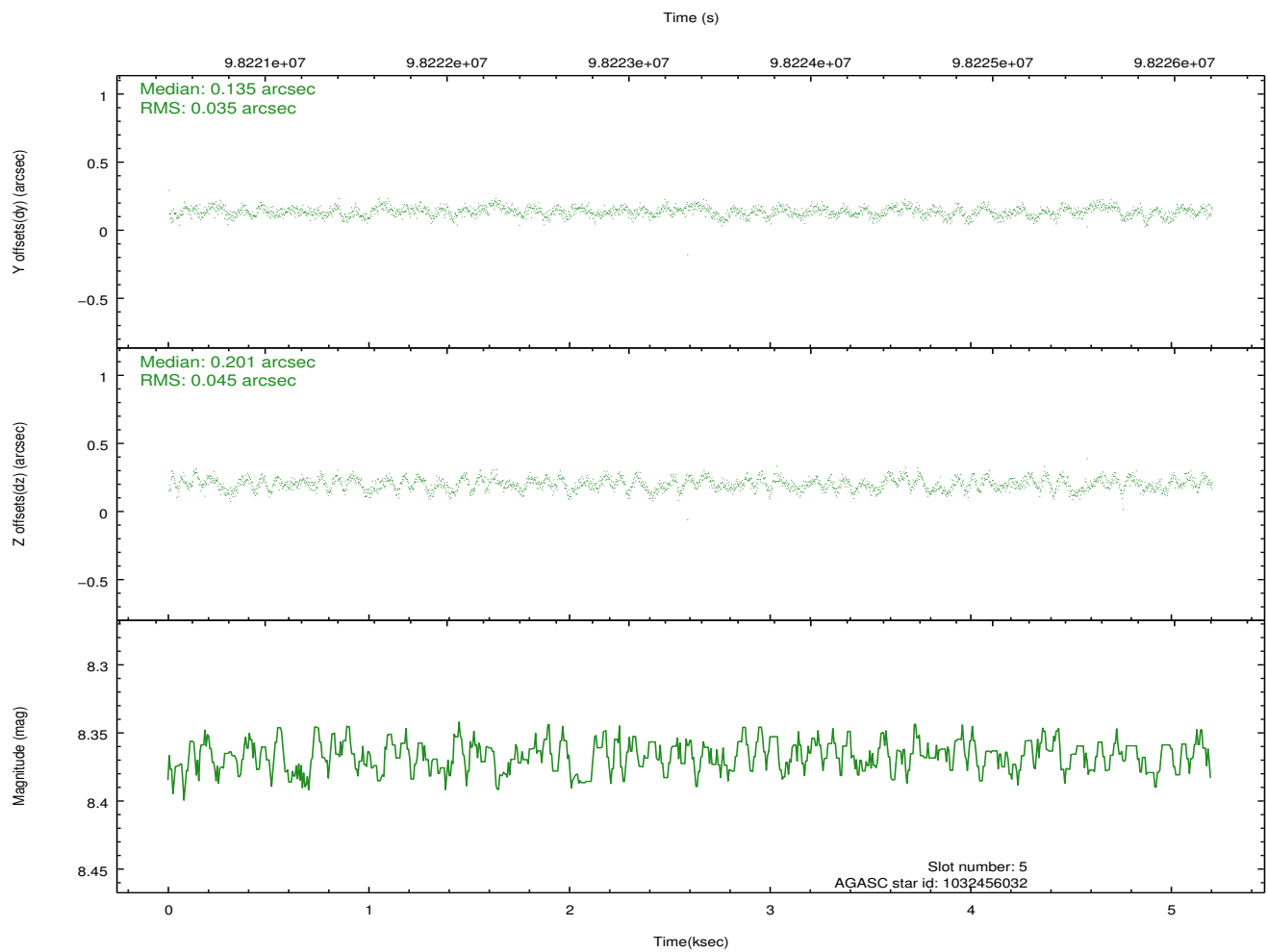
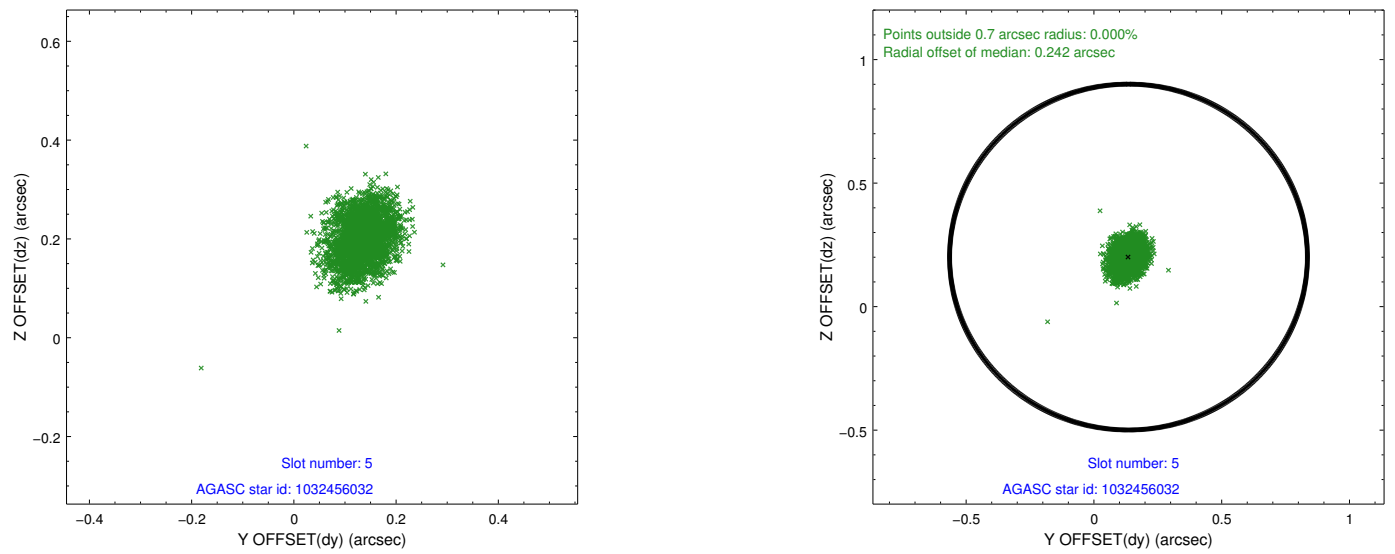
### 2.4.1 Slot 3



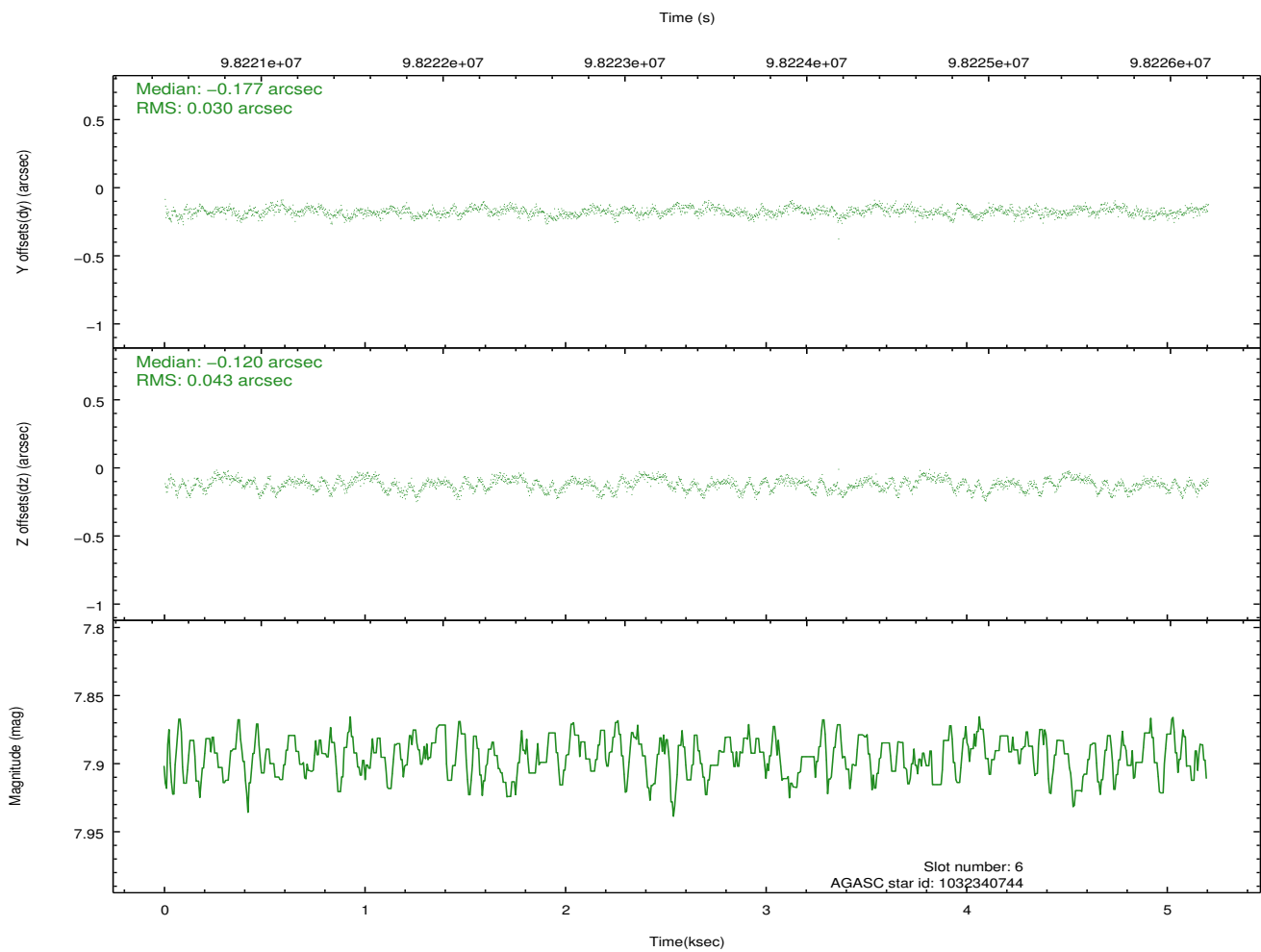
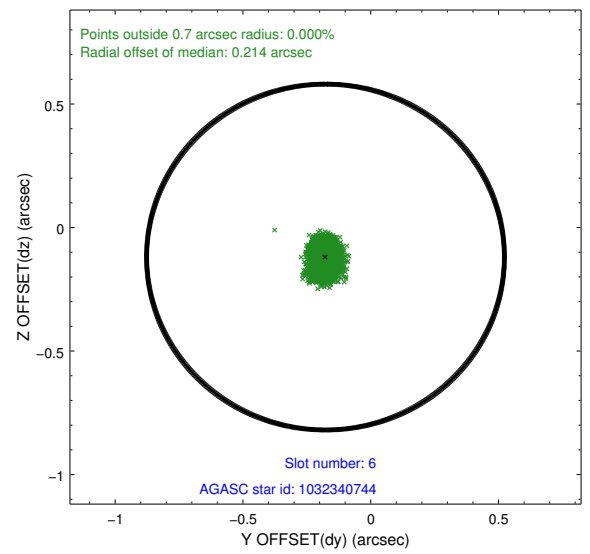
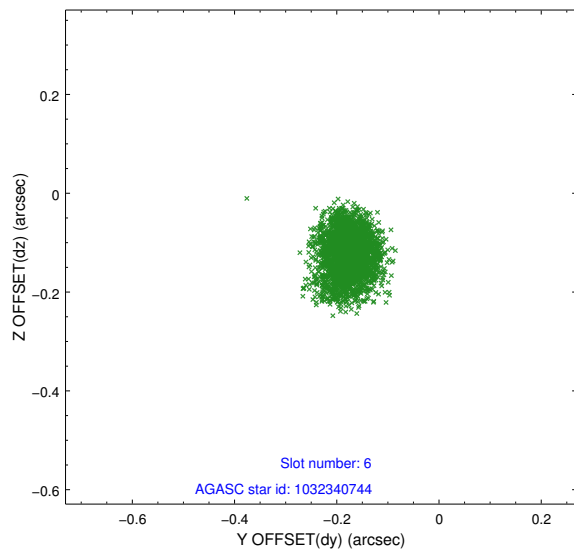
### 2.4.2 Slot 4



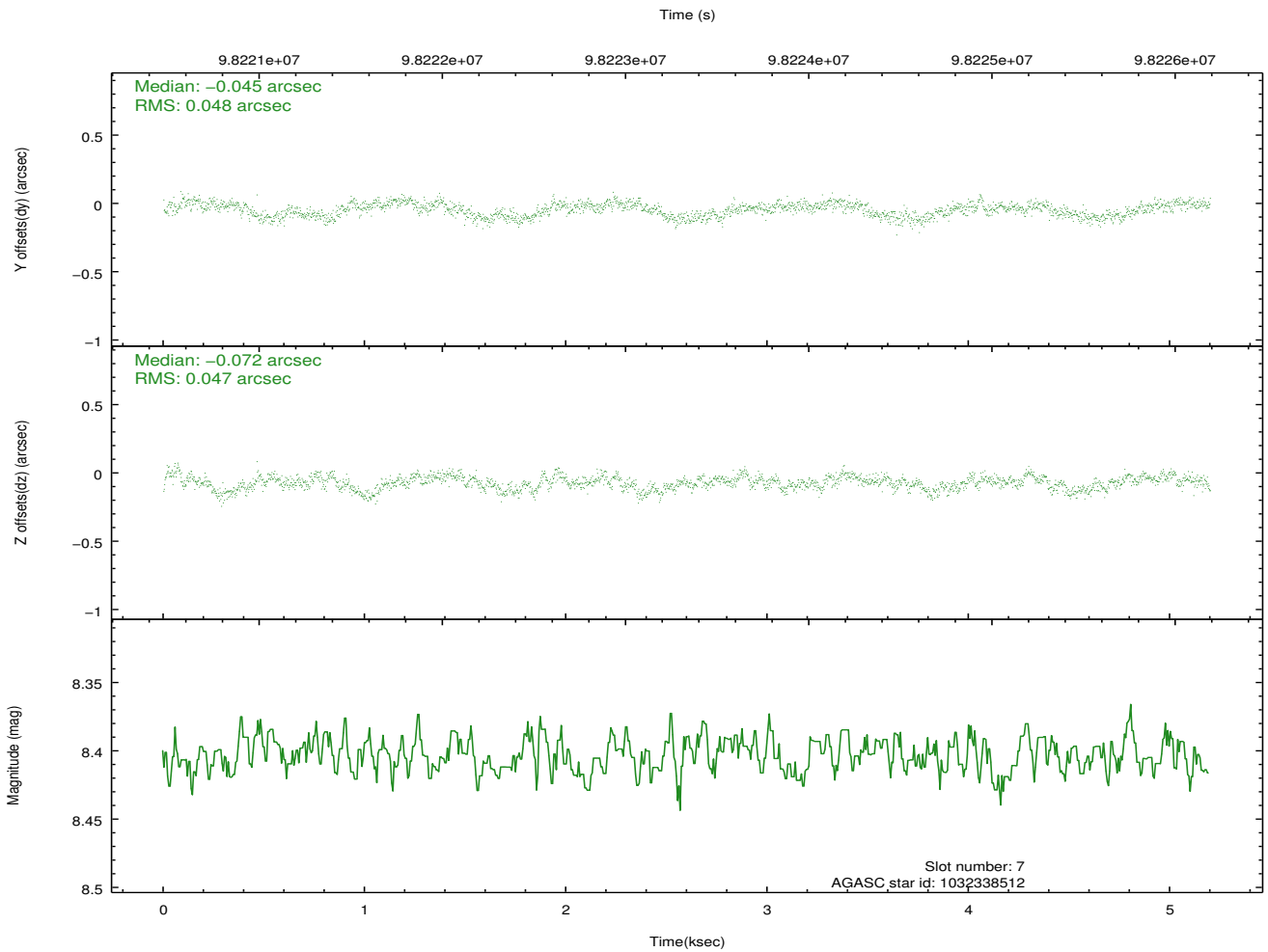
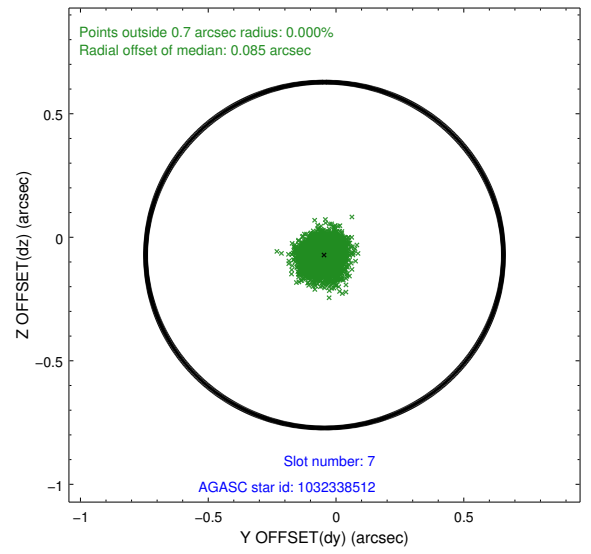
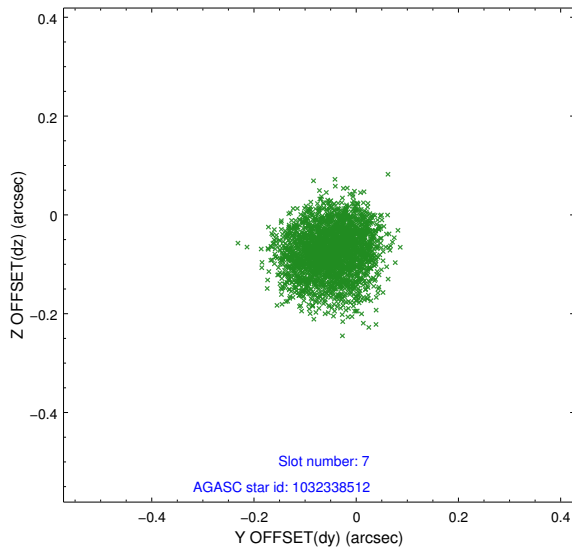
### 2.4.3 Slot 5



## 2.4.4 Slot 6

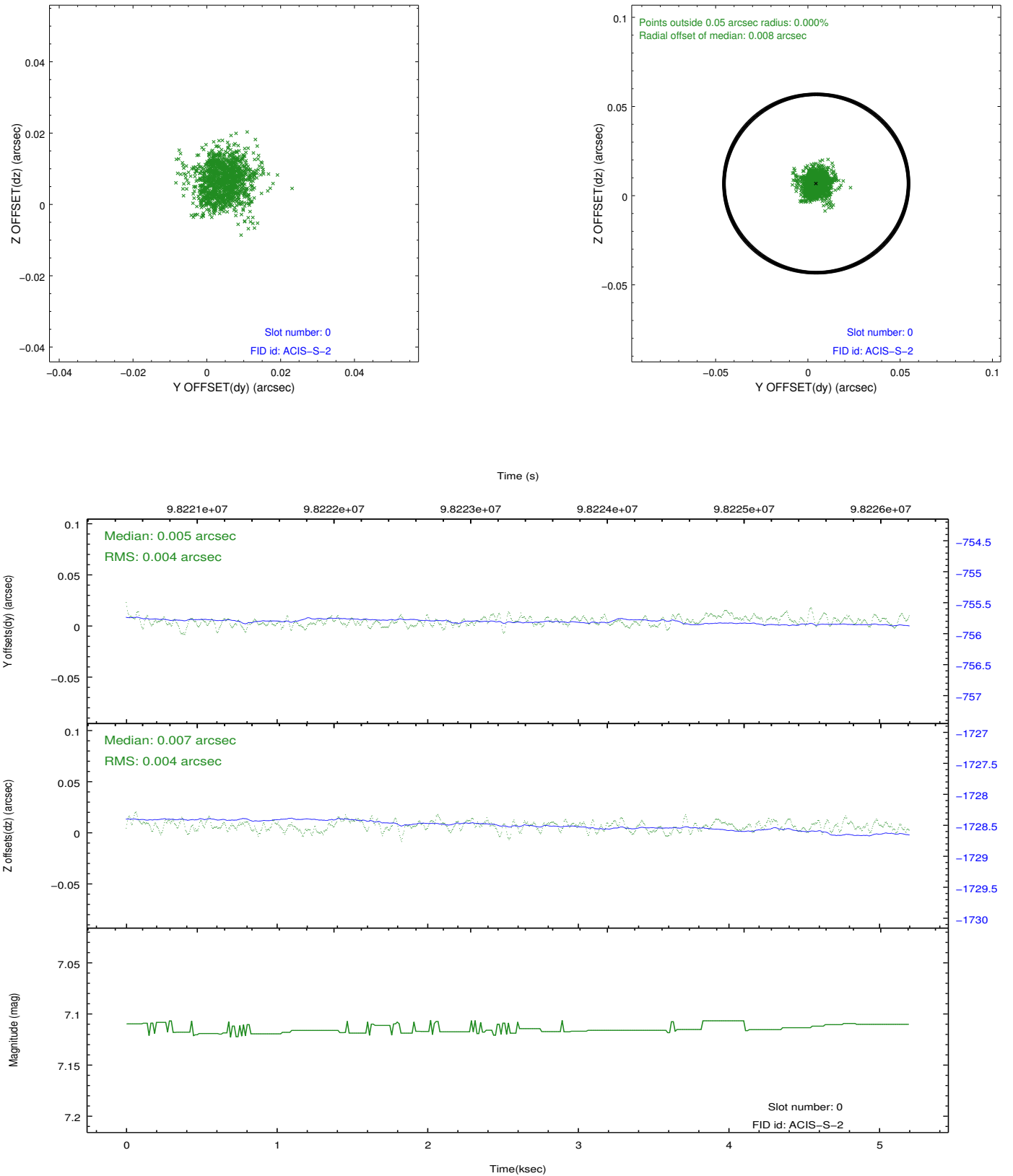


### 2.4.5 Slot 7

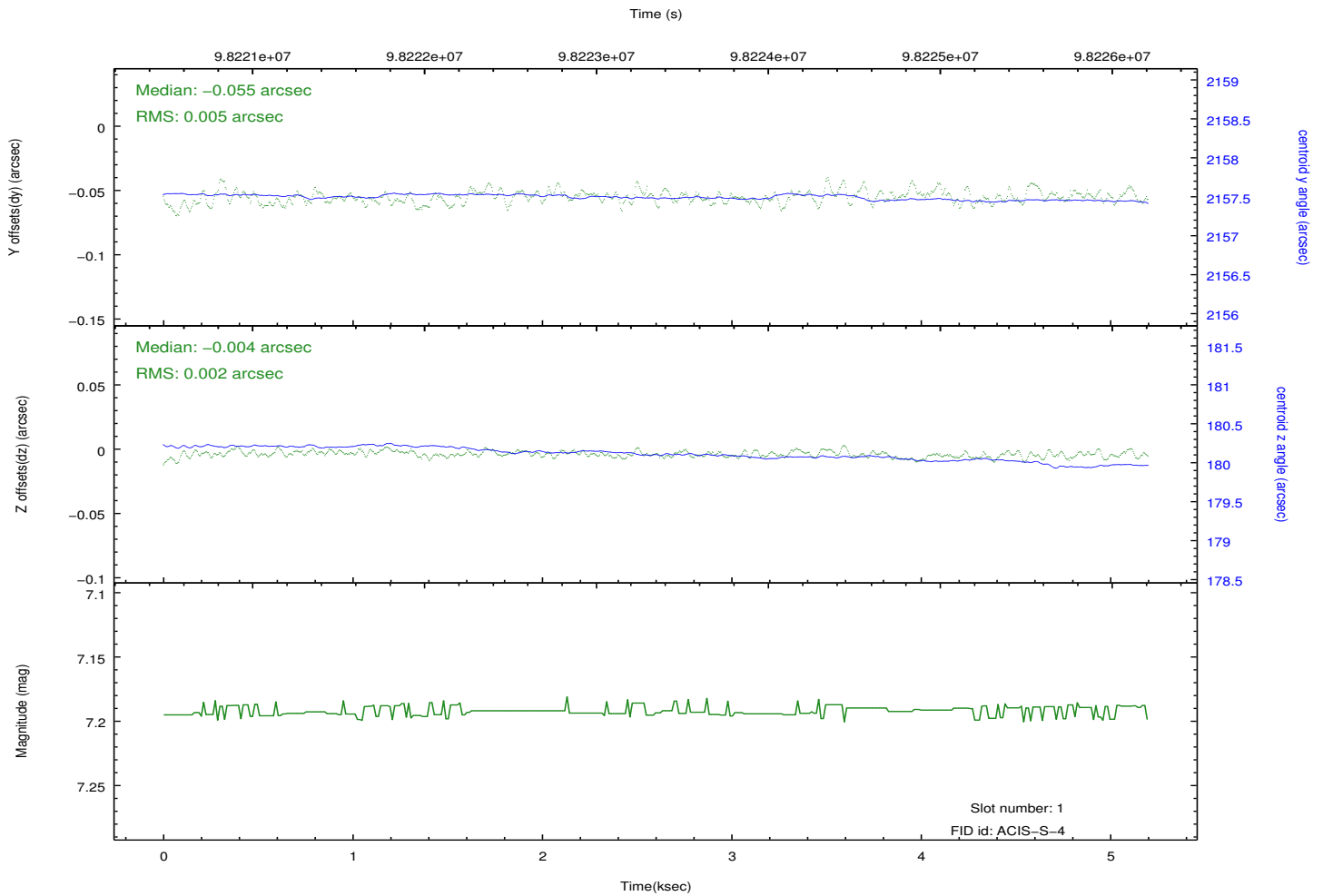
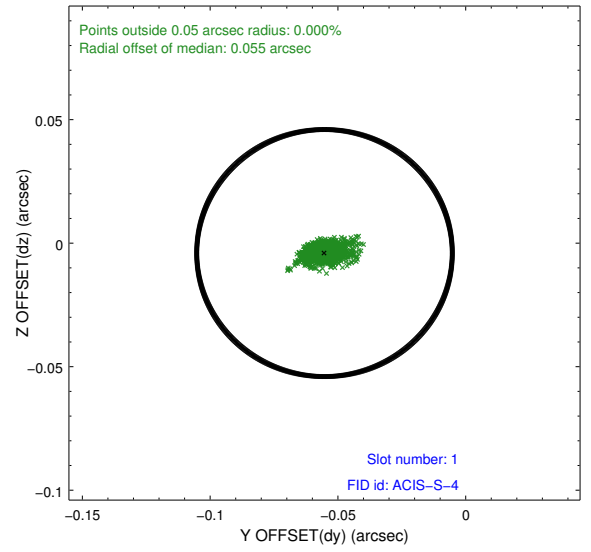
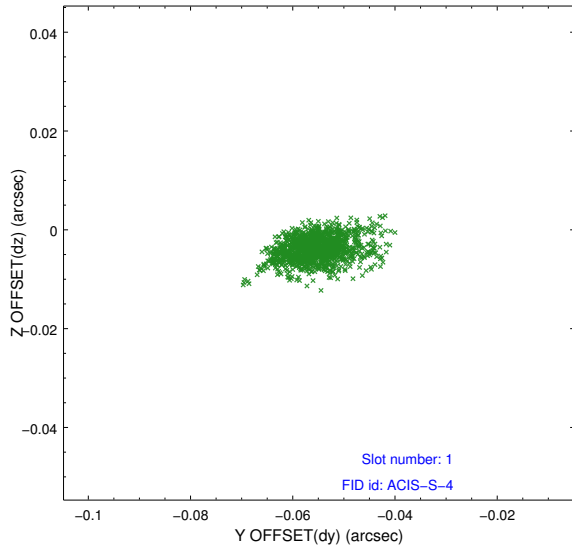


## 2.5 FID Slots

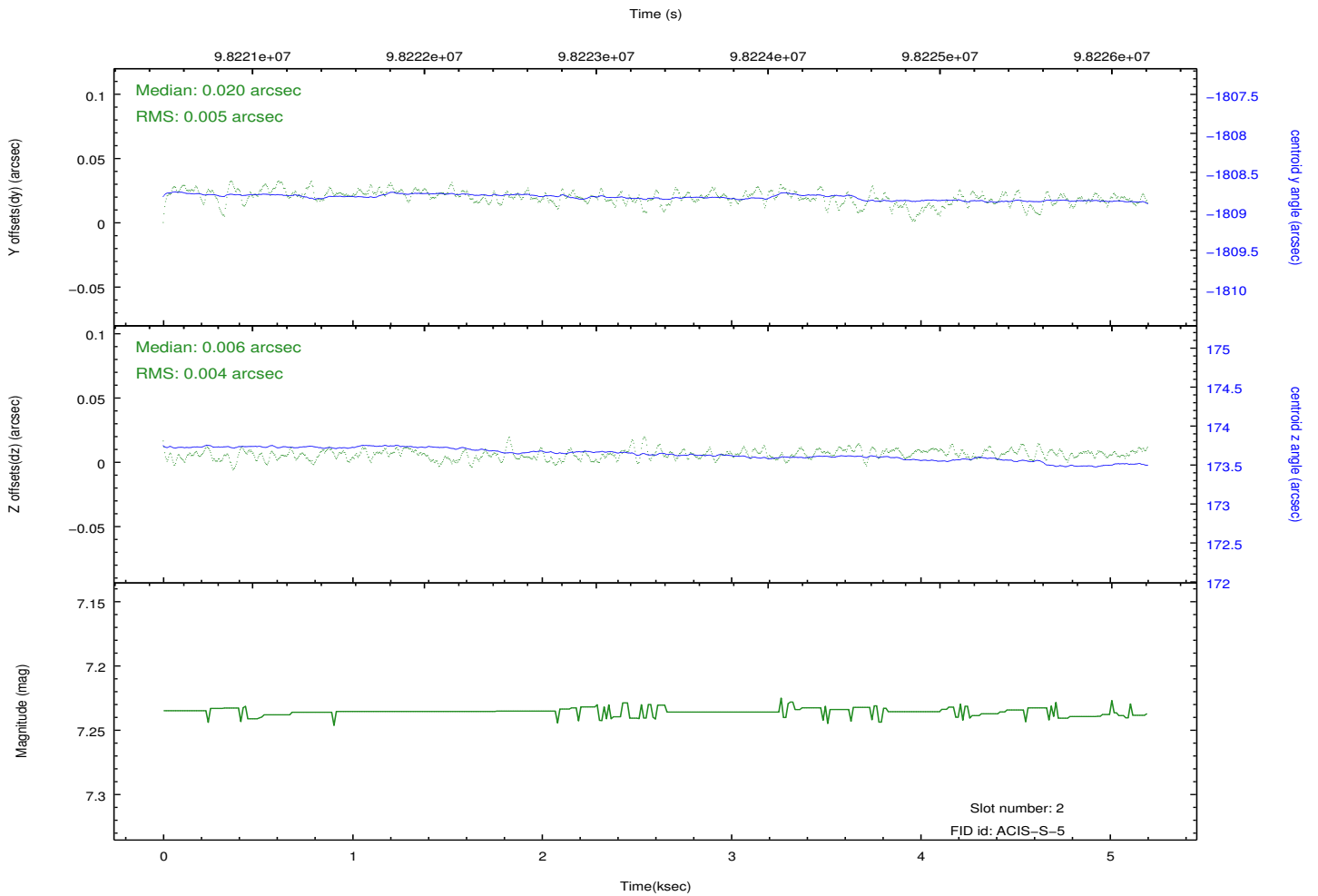
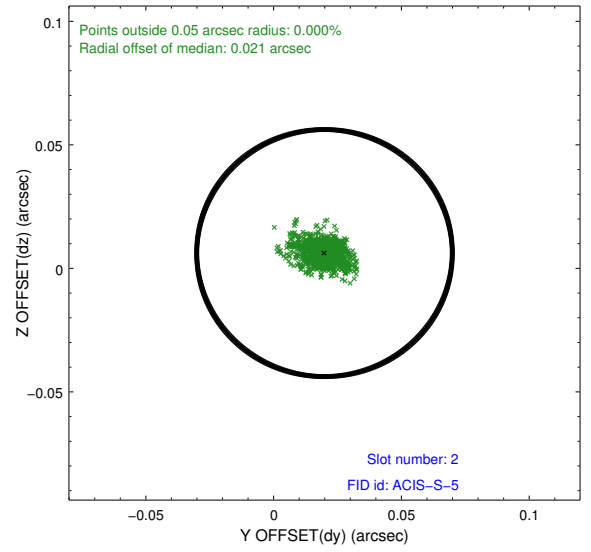
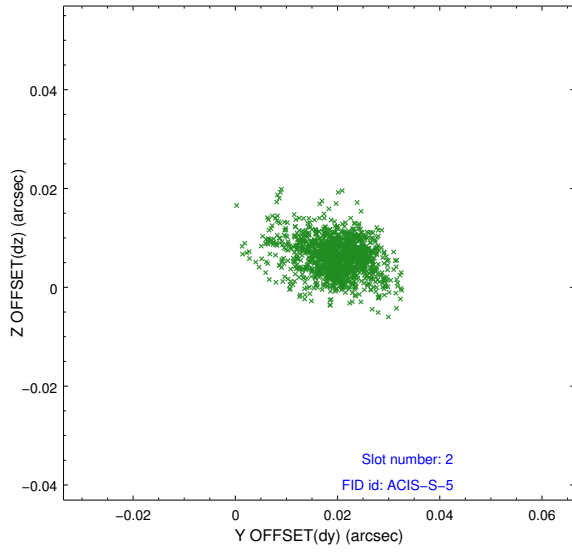
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2

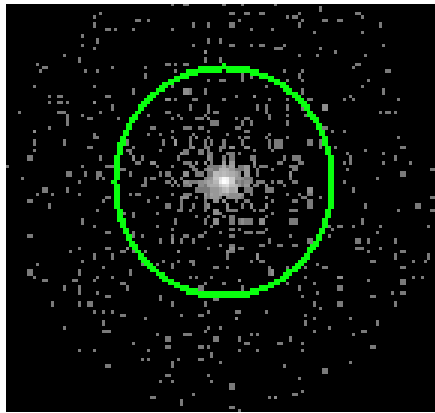


### 3 Gratings

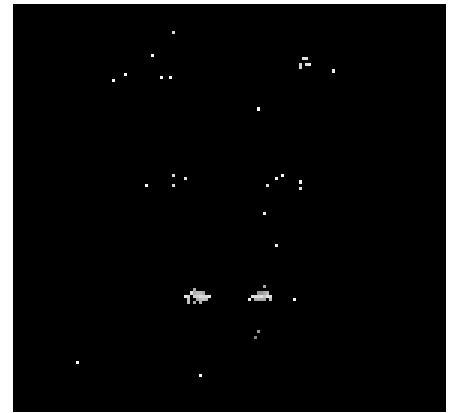
#### 3.1 HEG Arm



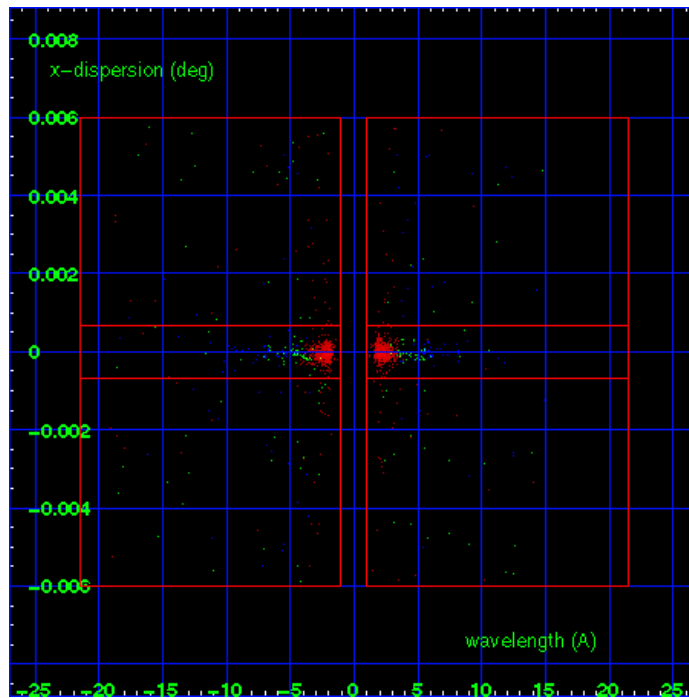
HEG Order Sort 123



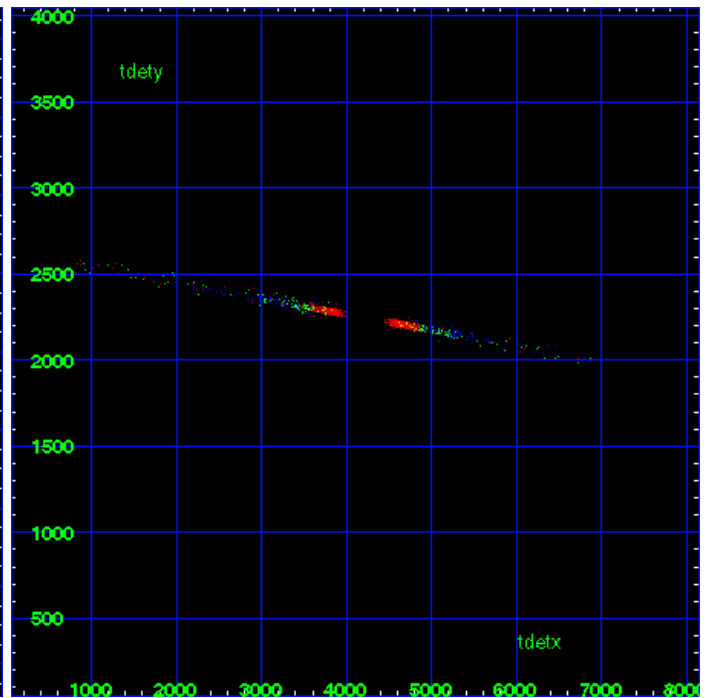
HEG Zero Order



HEG Order Sort ALL

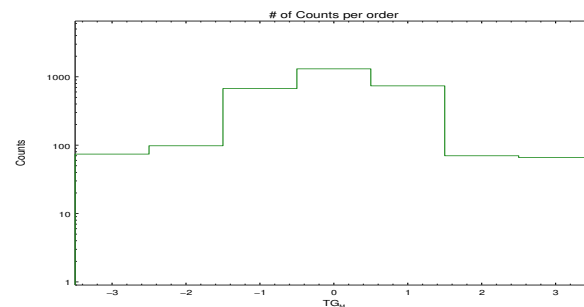


Spot Image HEG

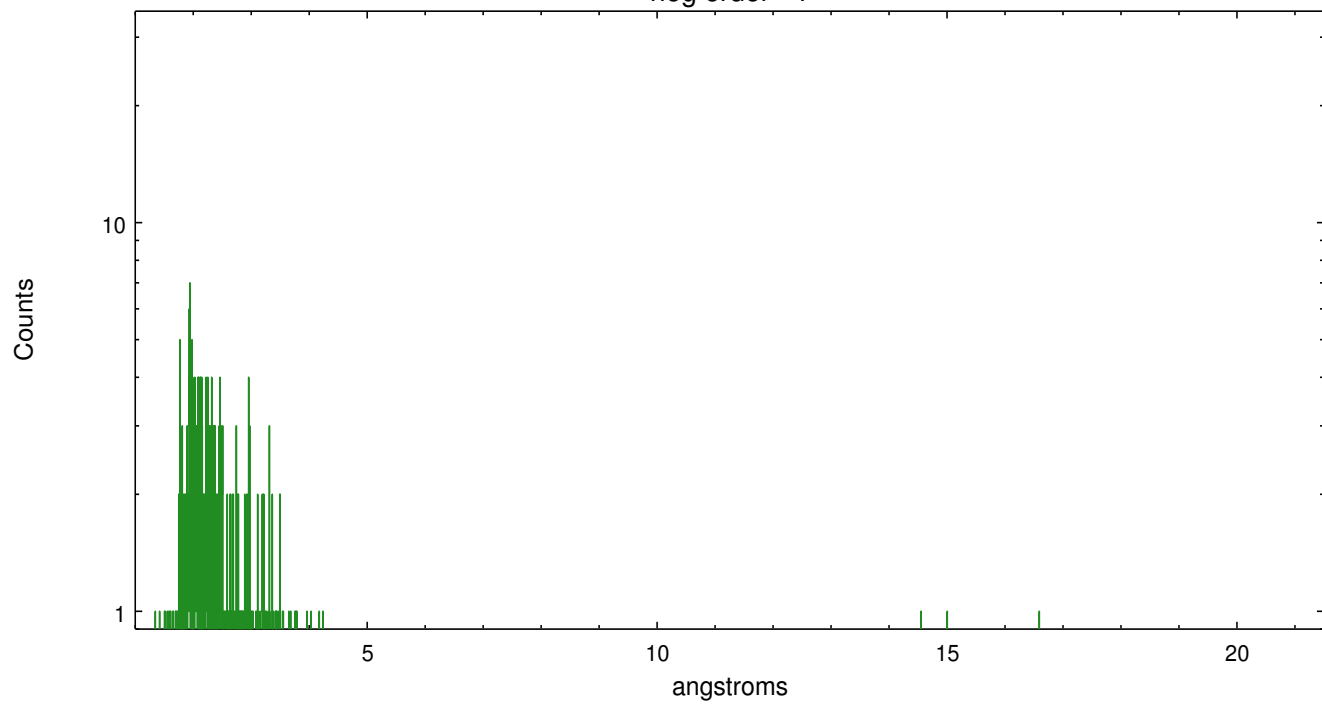


Full Detector HEG

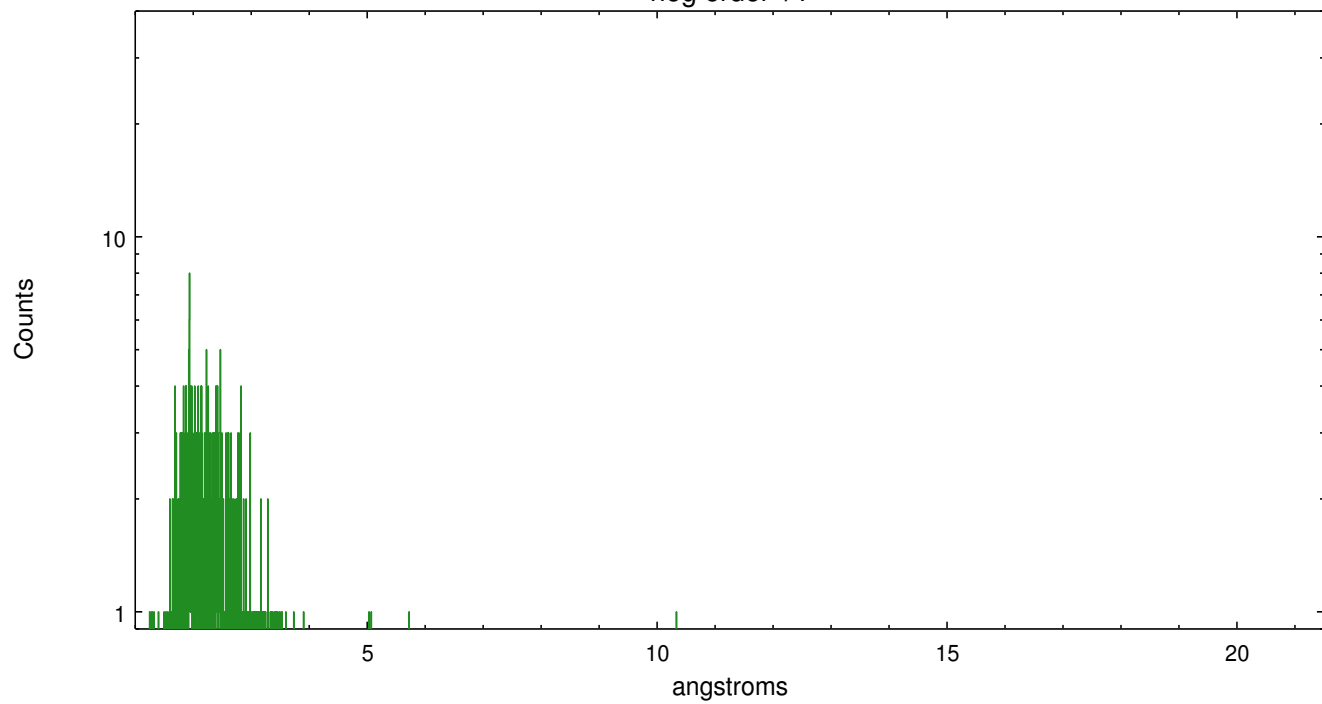
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	74	98	672	1307	737	70	66



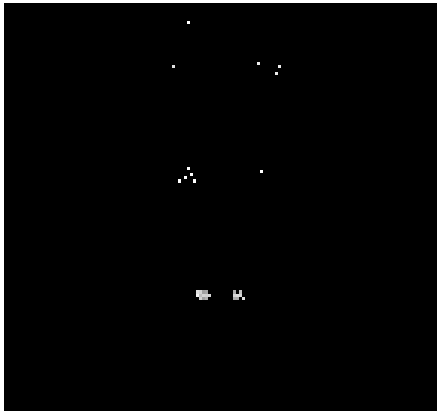
heg order -1



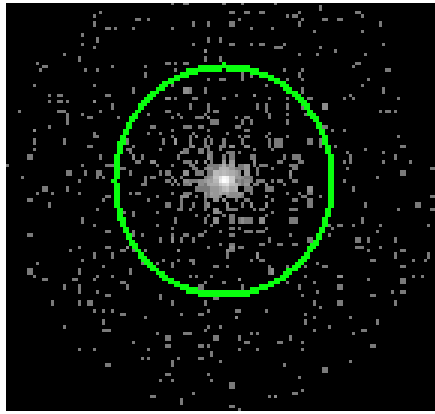
heg order +1



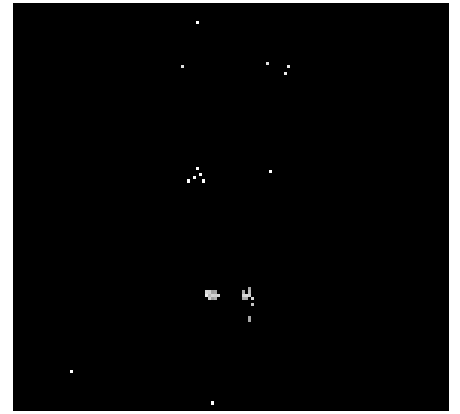
### 3.2 MEG Arm



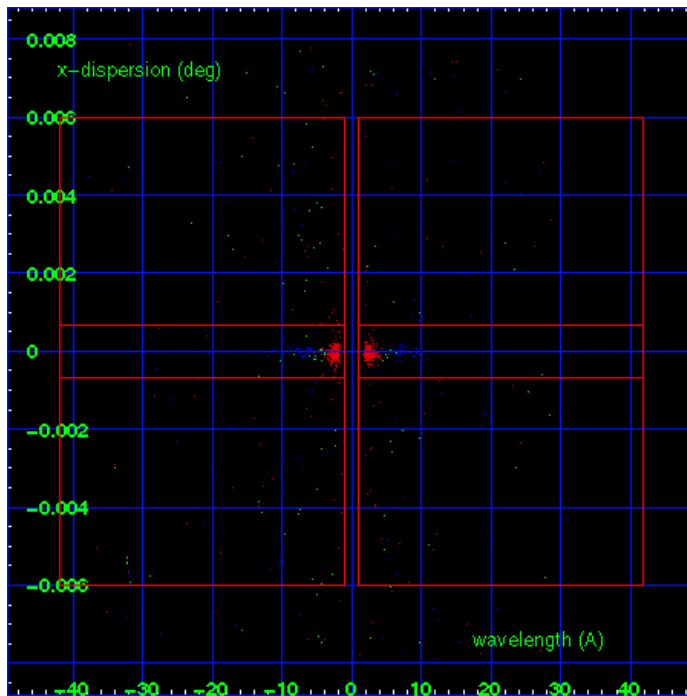
MEG Order Sort 123



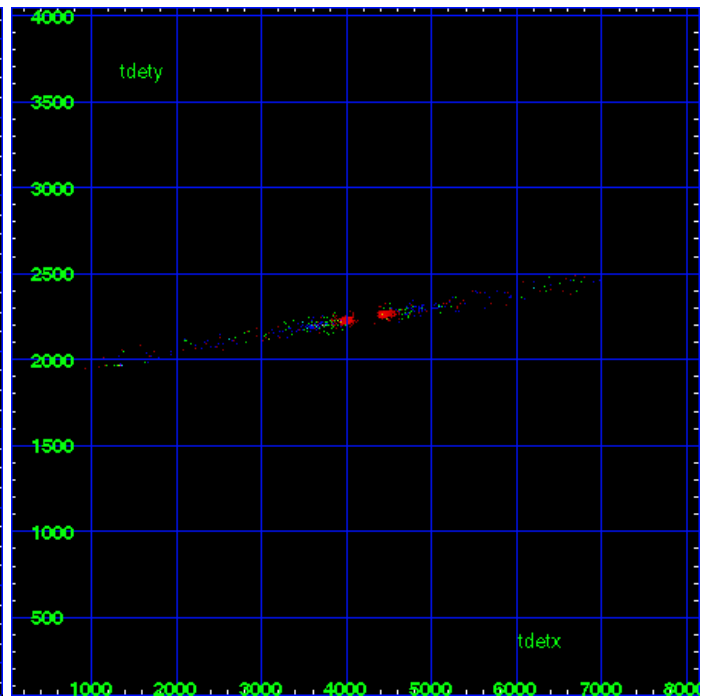
MEG Zero Order



MEG Order Sort ALL

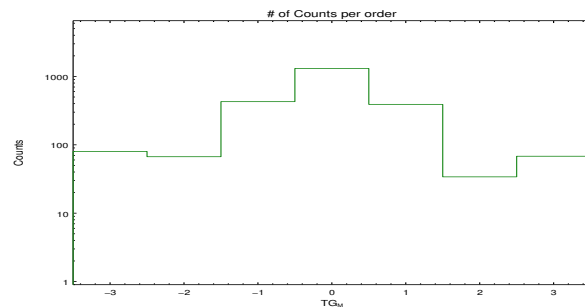


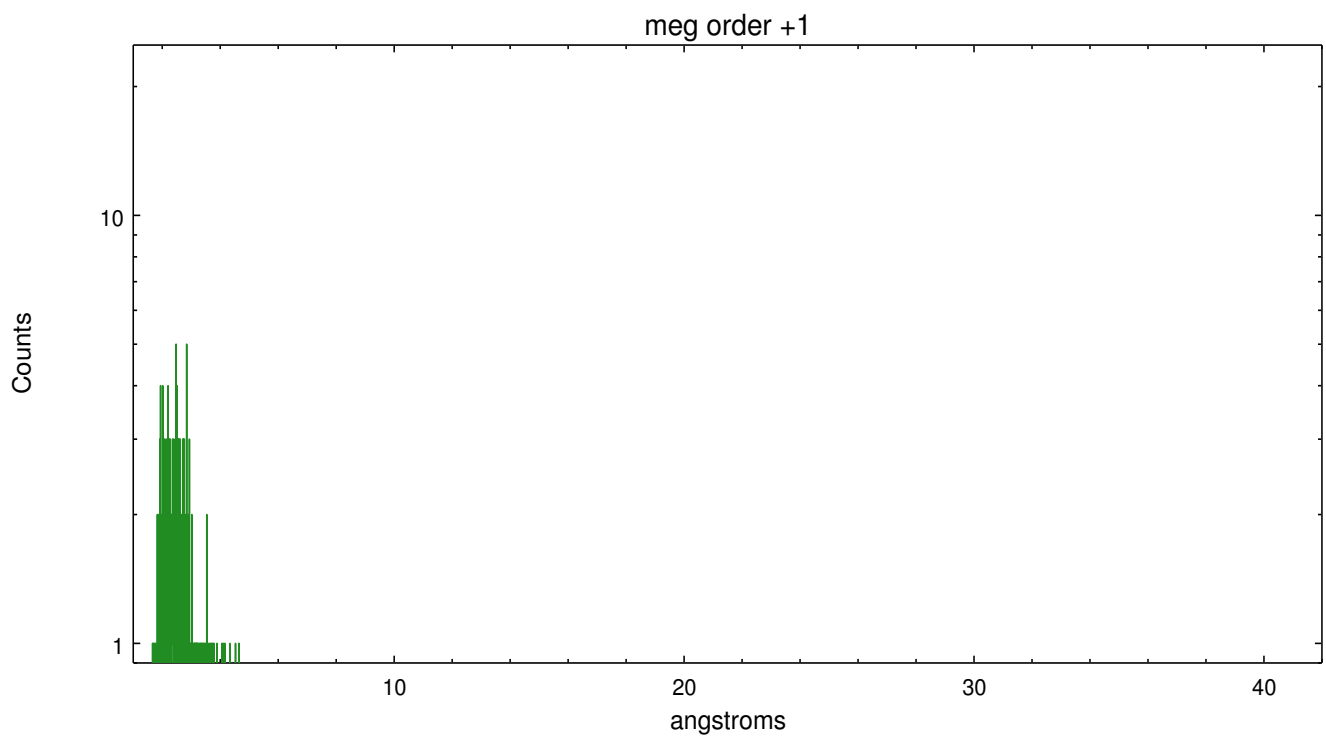
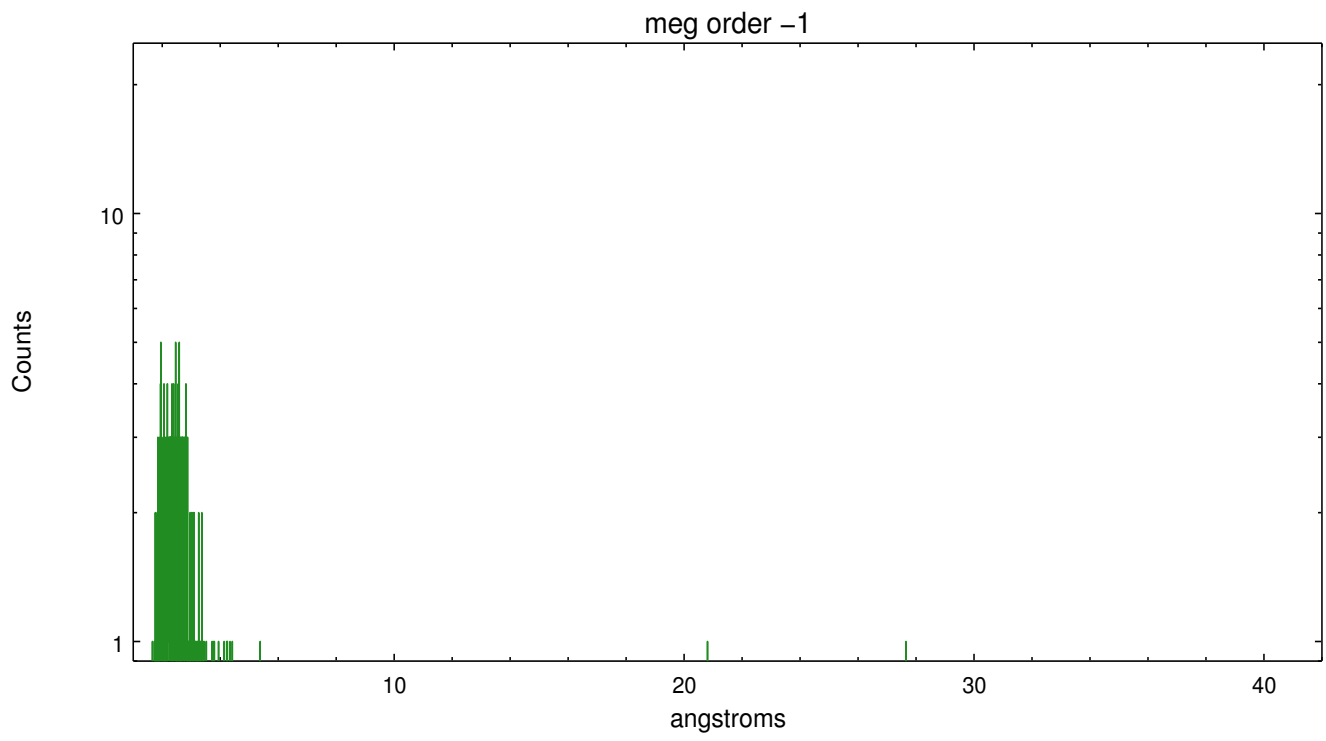
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	80	67	428	1307	390	34	68





# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.09.20
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.196

## A.2 Comments

Phase constraint met.