

# V&V Reference Report

## L2 ASCDS Version : 8.3.2.1

Observation 1103 - L2 Version 5  
Chandra X-Ray Center

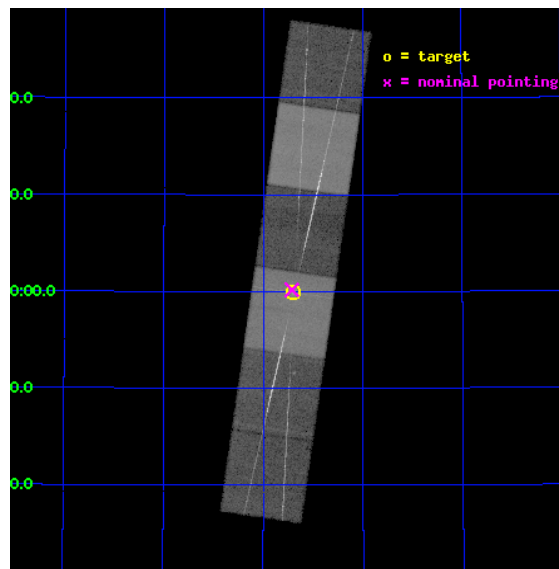
L2 Processing Date : Nov 4 2010

## Contents

<b>1</b>	<b>Front</b>	<b>2</b>
<b>2</b>	<b>OBI</b>	<b>3</b>
2.1	OBI . . . . .	3
2.1.1	Images . . . . .	3
2.1.2	Bias . . . . .	3
2.1.3	Parameters . . . . .	4
2.1.4	Events . . . . .	4
2.2	Compared Parameters . . . . .	5
2.3	Aspect . . . . .	6
2.4	Star Slots . . . . .	9
2.4.1	Slot 3 . . . . .	9
2.4.2	Slot 4 . . . . .	10
2.4.3	Slot 5 . . . . .	11
2.4.4	Slot 6 . . . . .	12
2.4.5	Slot 7 . . . . .	13
2.5	FID Slots . . . . .	14
2.5.1	Slot 0 . . . . .	14
2.5.2	Slot 1 . . . . .	15
2.5.3	Slot 2 . . . . .	16
<b>3</b>	<b>Gratings</b>	<b>17</b>
3.1	HEG Arm . . . . .	17
3.2	MEG Arm . . . . .	19
<b>A</b>	<b>Summary</b>	<b>21</b>
A.1	Status . . . . .	21
A.2	Comments . . . . .	21

# 1 Front

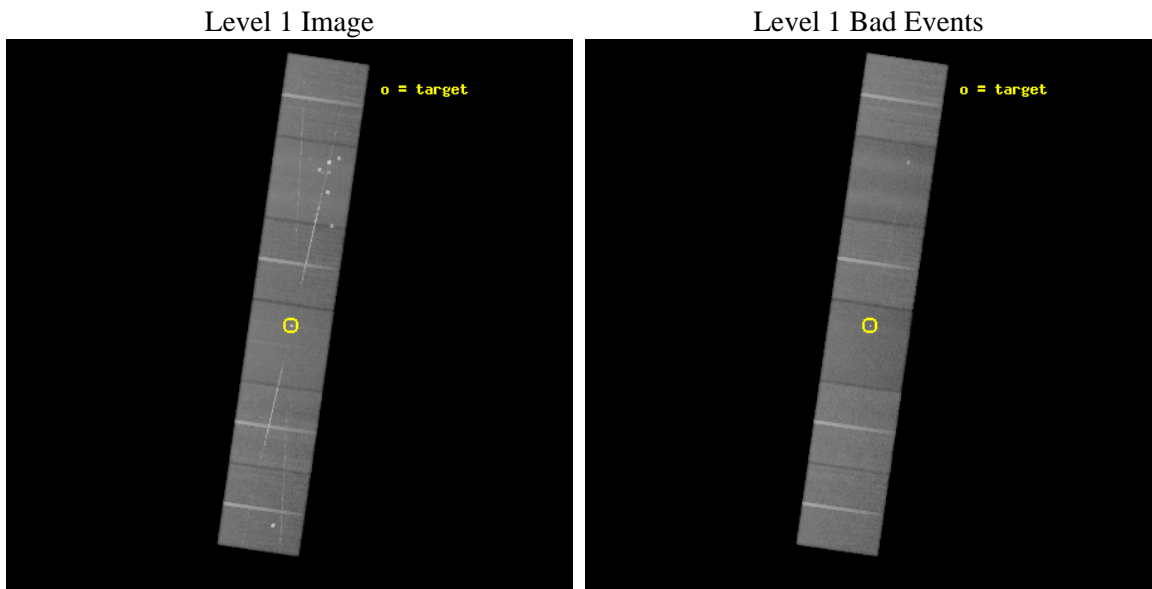
seq_num	280053	Sequence number
obs_id	1103	Observation id
title	&#160	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	CAPELLA	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	79.17625	Observer's specified target RA
dec_targ	45.997889	Observer's specified target Dec
ra_nom	79.17830042102	Nominal RA
dec_nom	46.002788540387	Nominal Dec
roll_nom	98.238005878748	Nominal Roll
revision	5	Processing version of data
ontime	41035.615434743	Sum of GTIs [s]
livetime	40515.997763428	Livetime [s]
ontime4	41032.292394534	Sum of GTIs [s]
ontime5	41035.57439474	Sum of GTIs [s]
ontime6	41035.410234742	Sum of GTIs [s]
ontime7	41035.615434743	Sum of GTIs [s]
ontime8	41032.251354523	Sum of GTIs [s]
ontime9	41025.72836417	Sum of GTIs [s]
l2events	591517	Number of level 2 events



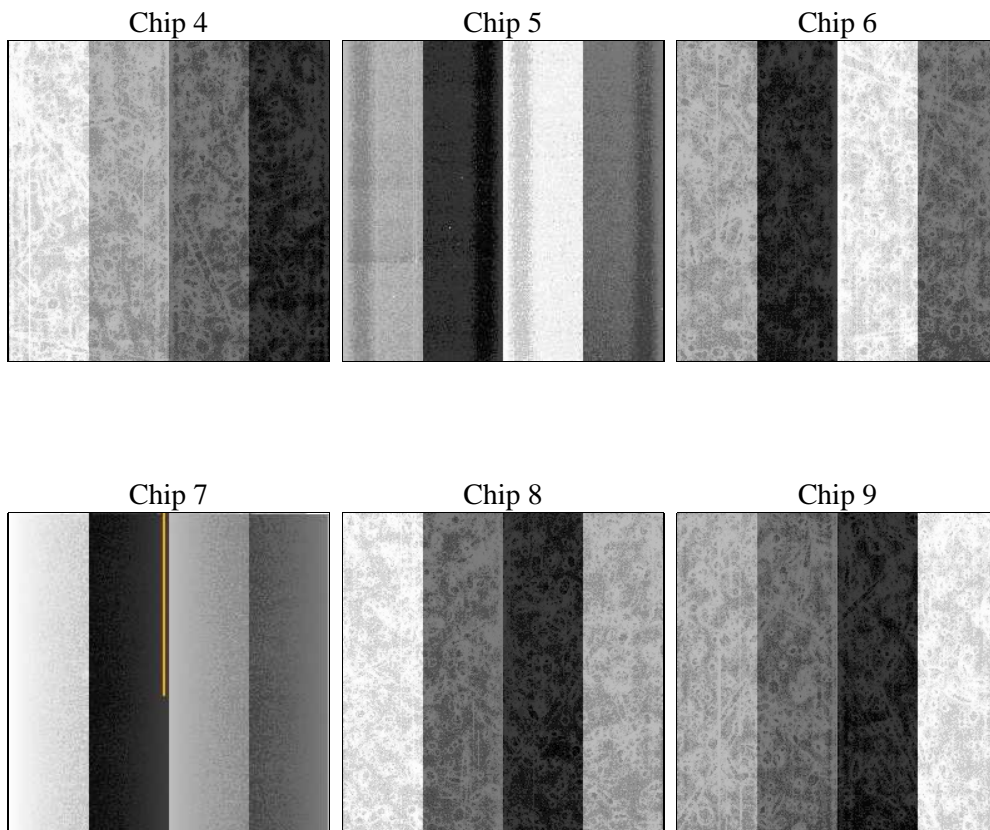
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	42000.000000	Scheduled observation exposure time
ascdsver	8.3.2.1	ASCDS version number	ontime	41035.615434743	Sum of GTIs [s]
caldbver	4.3.1	&#160	ontime4	41032.292394534	Sum of GTIs [s]
date	2010-09-28T11:07:14	Date and time of file creation	ontime5	41035.57439474	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	41035.410234742	Sum of GTIs [s]
			ontime7	41035.615434743	Sum of GTIs [s]
			ontime8	41032.251354523	Sum of GTIs [s]
			ontime9	41025.72836417	Sum of GTIs [s]
			l1events	2819514	Number of level 1 events

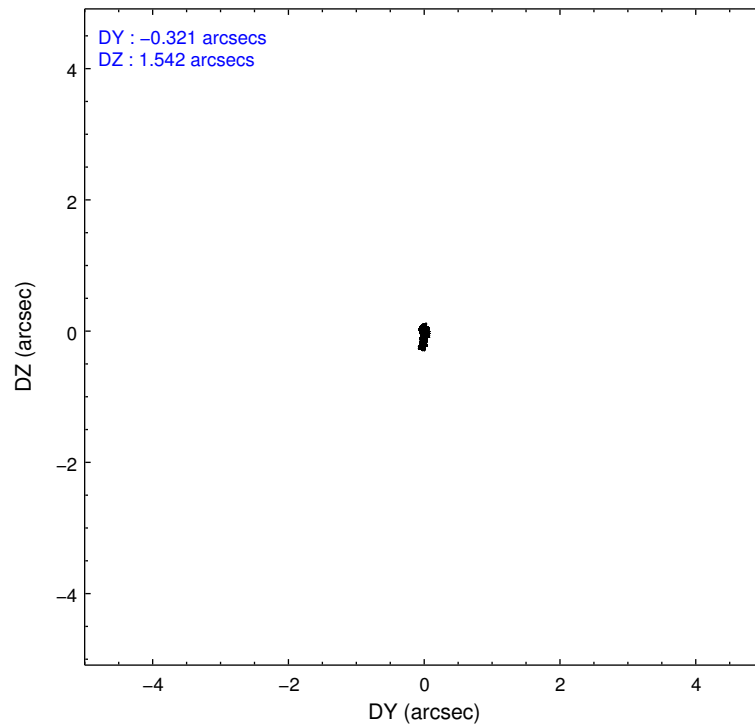
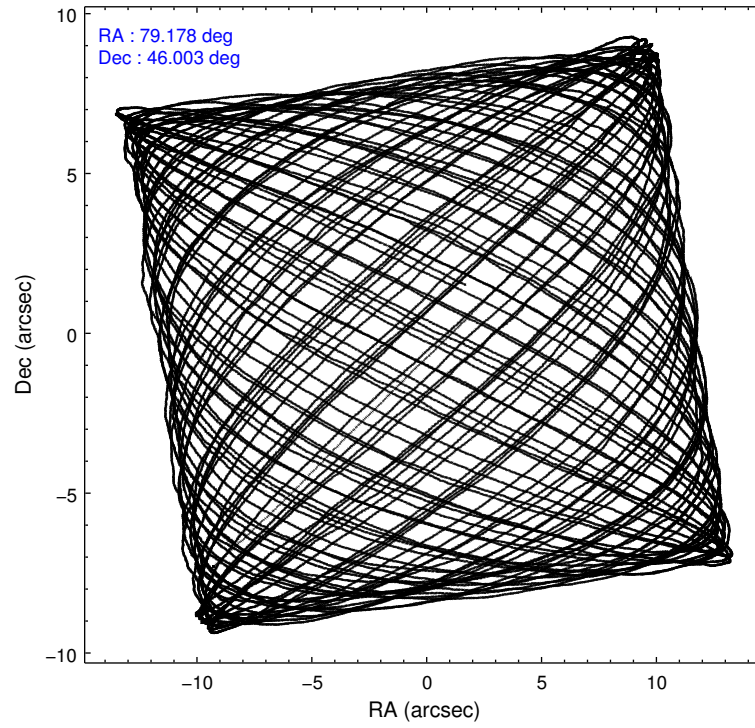
### 2.1.4 Events

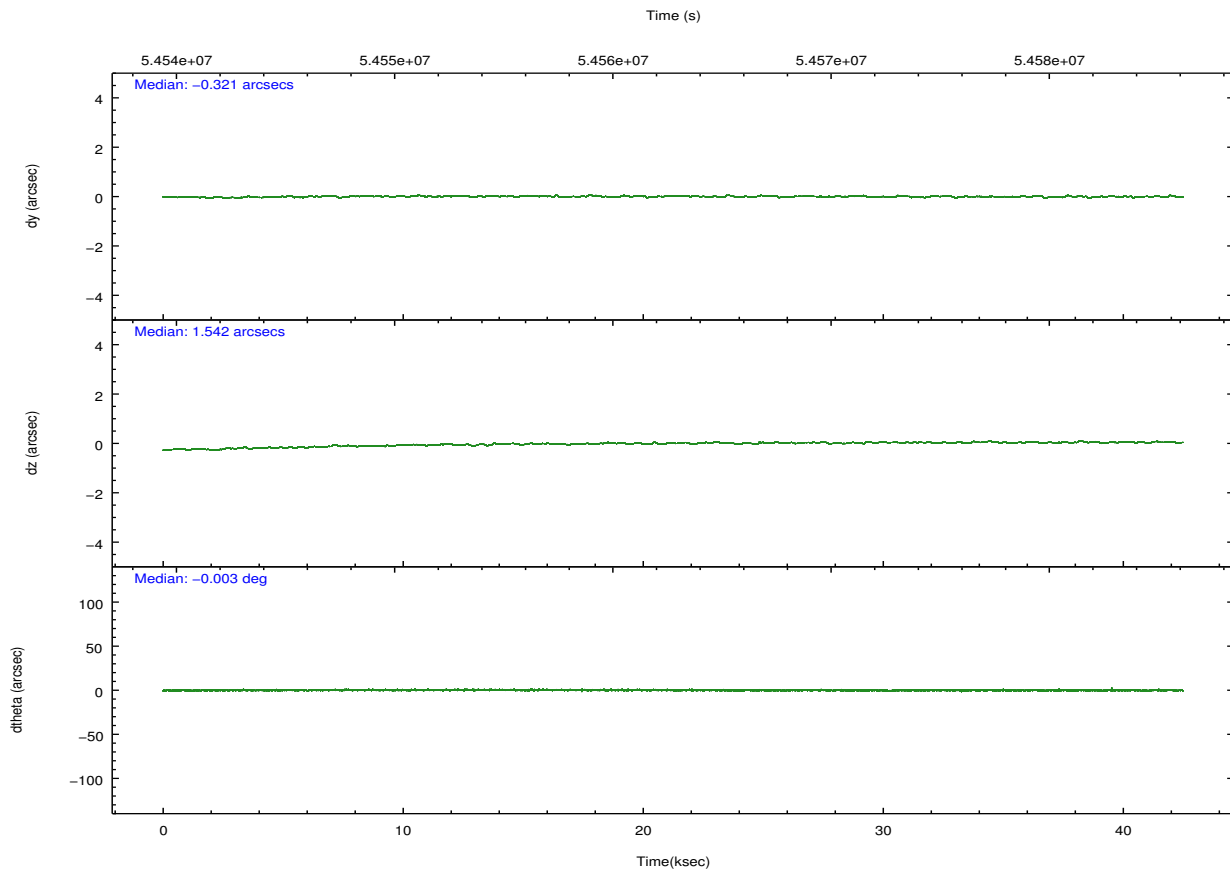
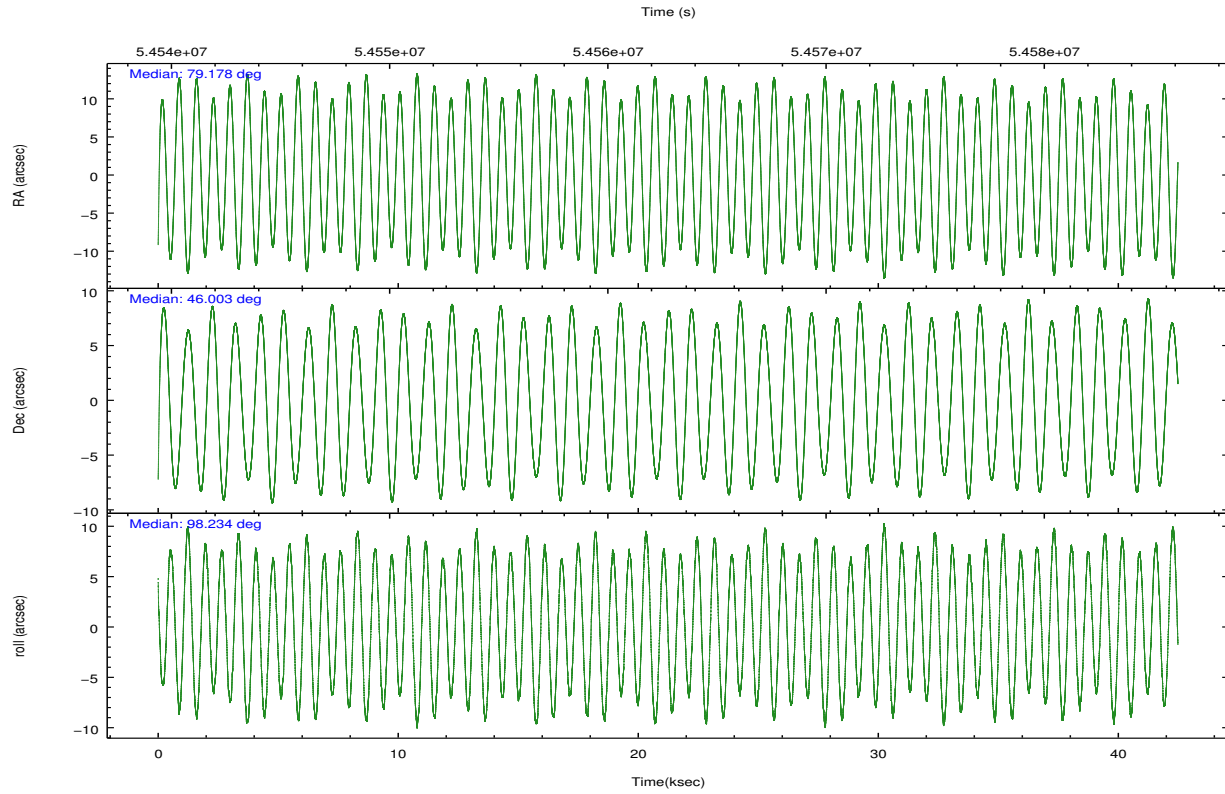
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	475128	543349	428593	442206	512937	417301	grade 0 events	11049	57269	28235	12027	45541	13438
rejected events	431194	281833	365388	269395	402764	360041		2%	10%	6%	2%	8%	3%
rejected %	90%	51%	85%	60%	78%	86%	grade 1 events	108	2257	184	421	308	107
								0%	0%	0%	0%	0%	0%
							grade 2 events	18481	57887	18224	37398	28327	28039
								3%	10%	4%	8%	5%	6%
							grade 3 events	2389	9801	3005	10823	6952	2659
								0%	1%	0%	2%	1%	0%
							grade 4 events	2329	8868	3109	9799	6388	2471
								0%	1%	0%	2%	1%	0%
							grade 5 events	6521	19335	7975	25900	11170	8558
								1%	3%	1%	5%	2%	2%
							grade 6 events	9690	127727	10643	102796	22983	10662
								2%	23%	2%	23%	4%	2%
							grade 7 events	424561	260205	357218	243042	391268	351367
								89%	47%	83%	54%	76%	84%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	6	6
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
Pointing RA	79.202485	79.17830042102004	Subarray requested	NONE	NONE
Pointing Dec	45.980944	46.00278854038665	Alternating exposures requested	N	N
Pointing Roll	98.063983	98.2380058787477	Primary exposure time	0.000000	3.2
SIM focus pos (mm)	-0.684267	-0.6828225247311905			
SIM defocus (mm)	0	0.001444936568705701			
SIM translation stage pos (mm)	-190.132523	-190.145094680475			
SIM translation stage offset (mm)	0	0.01257209746719923			
Observation start time	54542000.184000	54540561.796948			
Observation start date	1999-09-24T06:32:16	1999-09-24T06:09:21			
Observation end time	54584000.184000	54584576.836027			
Observation end date	1999-09-24T18:12:16	1999-09-24T18:22:56			
Read mode	TIMED	TIMED			

## 2.3 Aspect



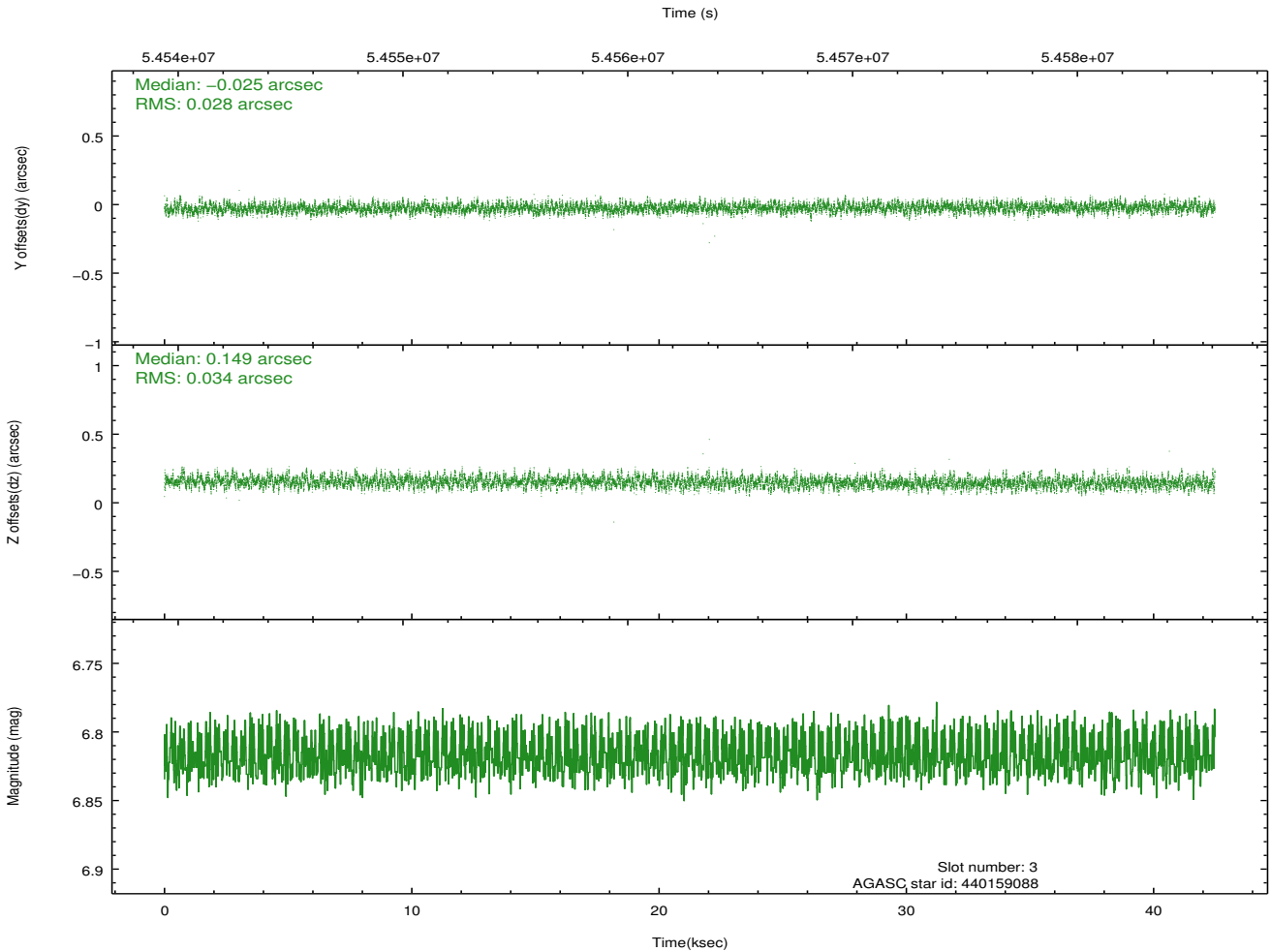
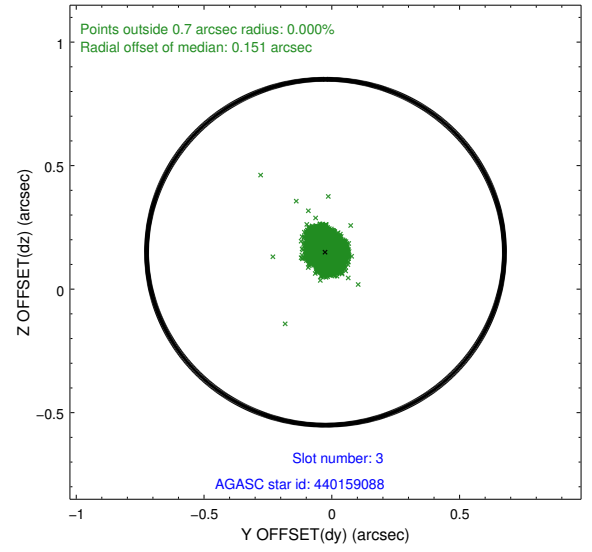
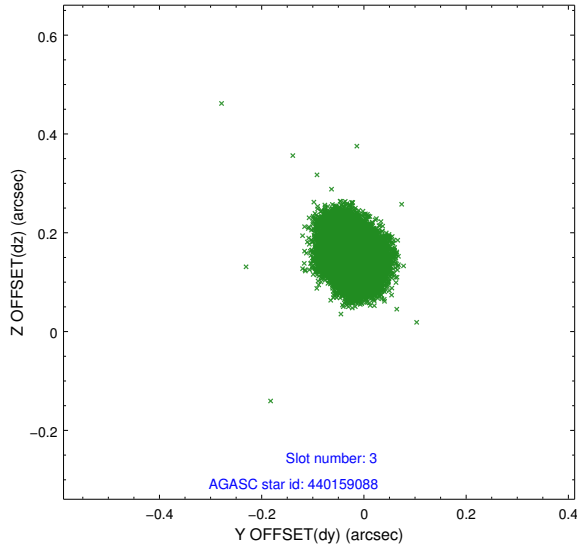


### Slot Statistics

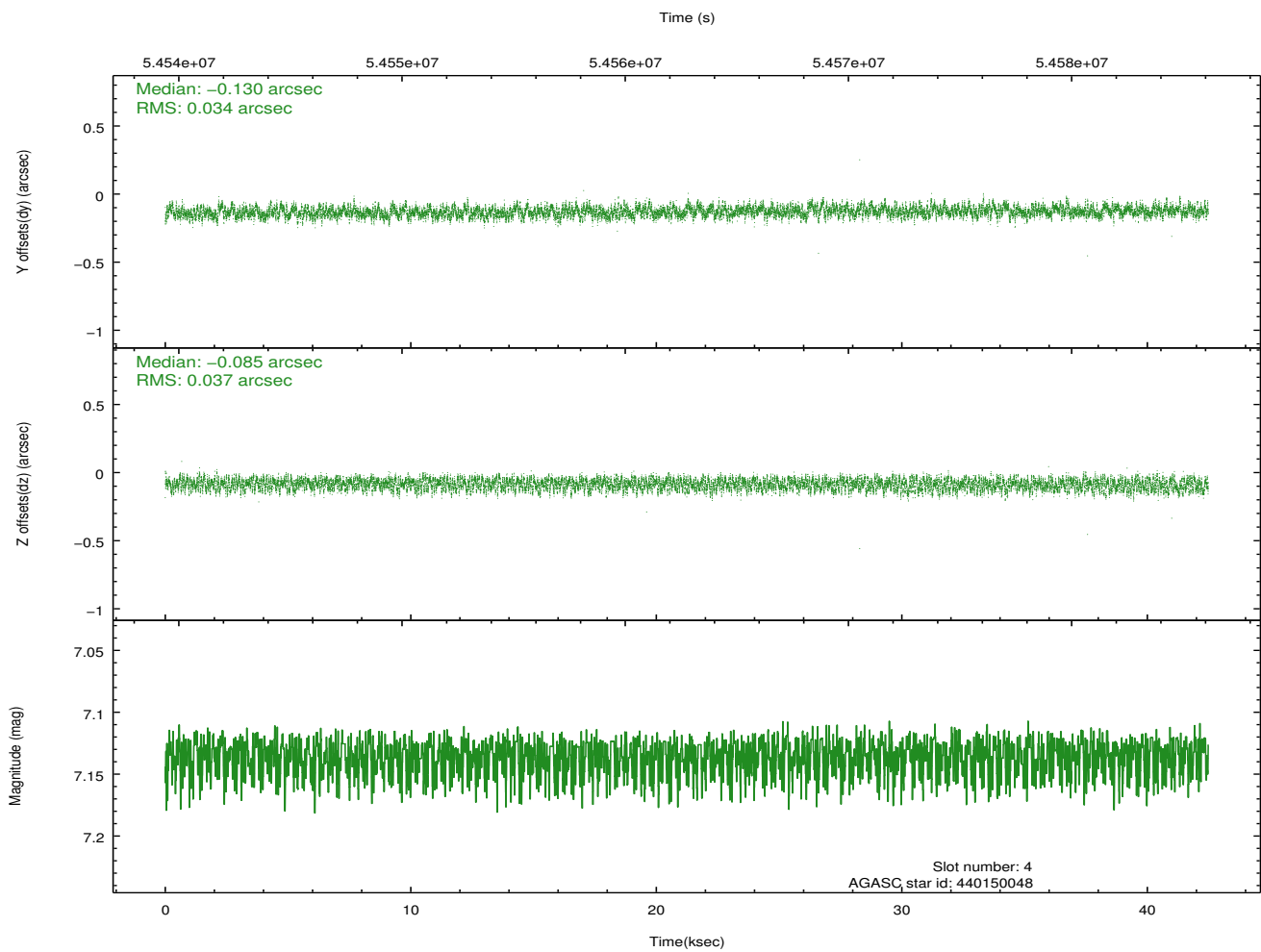
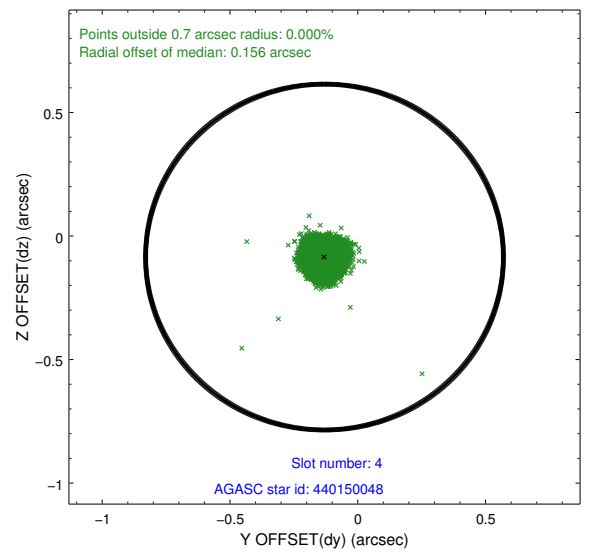
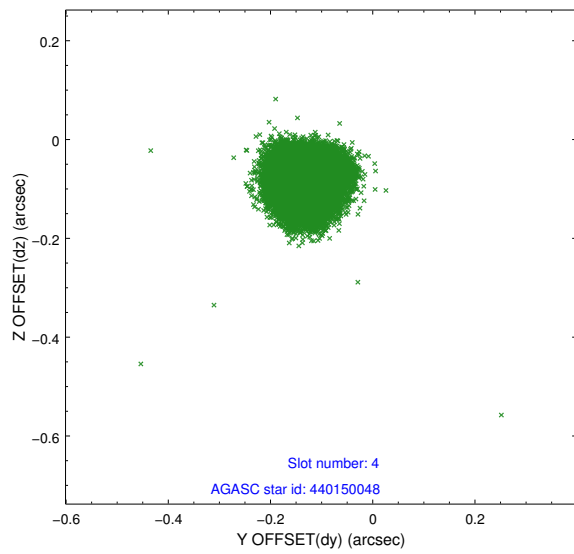
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.12	20725	-0.014	0.004	0.013	0.018	0.000000	0.000000	-752.27	-1722.41
1	FID	ACIS-S-4	7.21	20724	0.081	0.005	0.018	0.025	0.000000	0.000000	2161.17	186.11
2	FID	ACIS-S-5	7.24	20724	-0.099	-0.001	0.014	0.021	0.000000	0.000000	-1805.26	179.75
3	GUIDE	440159088	6.82	20724	-0.025	0.149	0.047	0.076	79.453034	46.128063	436.98	-693.12
4	GUIDE	440150048	7.14	20725	-0.130	-0.085	0.054	0.082	79.112838	46.416060	1581.44	0.60
5	GUIDE	440149808	8.43	20723	-0.030	0.019	0.055	0.090	78.873930	46.405955	1630.28	592.87
6	GUIDE	438460832	8.99	20707	0.053	-0.263	0.099	0.155	78.414614	45.554782	-1231.48	2180.04
7	GUIDE	440145944	9.09	20714	0.127	0.181	0.075	0.122	80.083717	45.428844	-2268.65	-1927.16

## 2.4 Star Slots

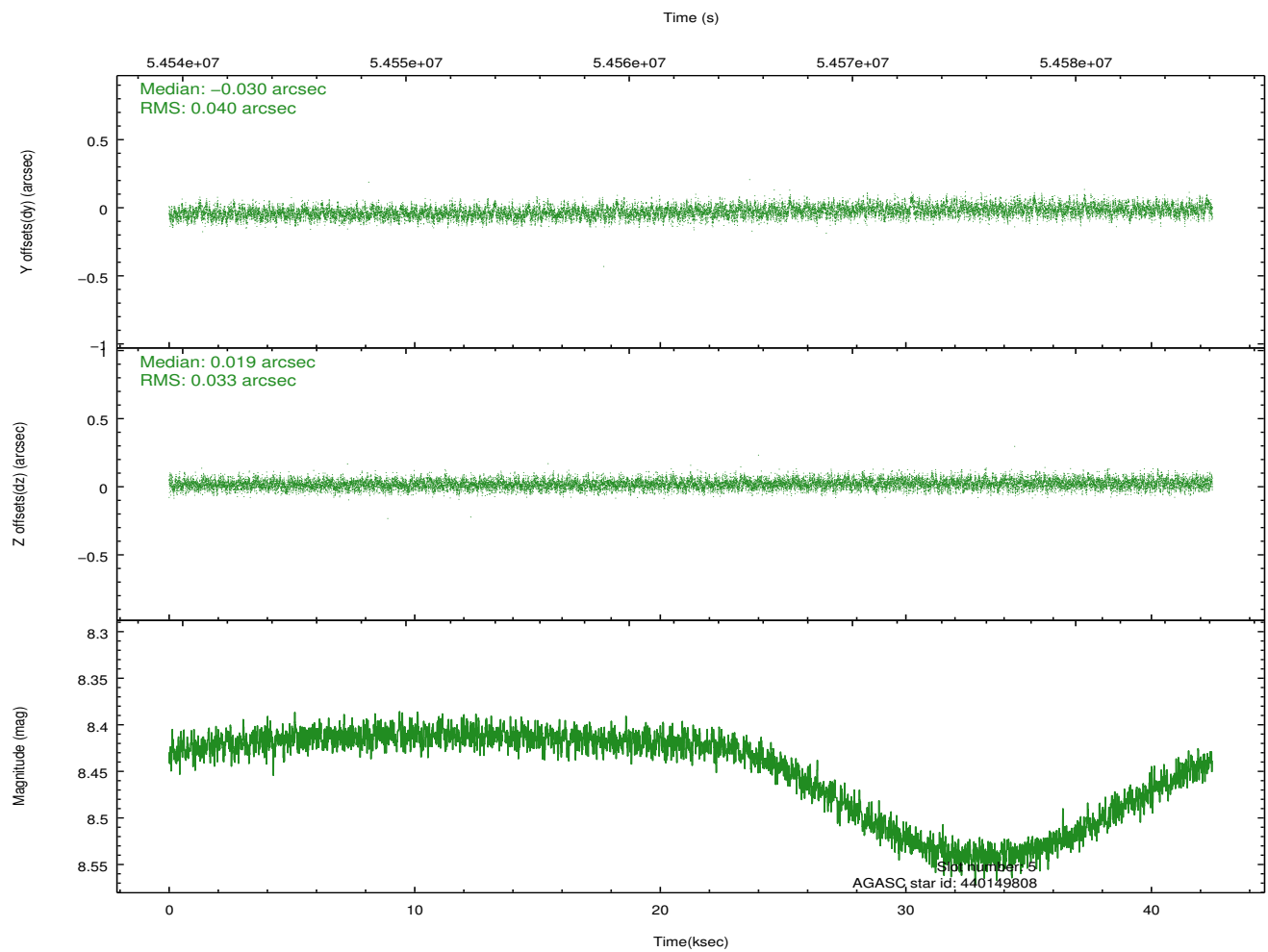
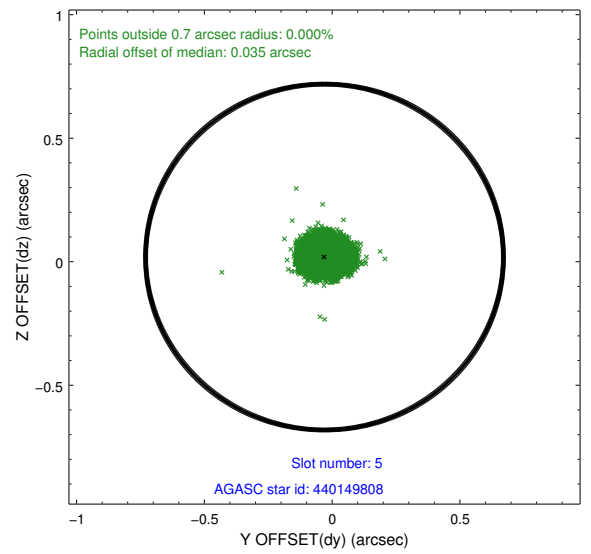
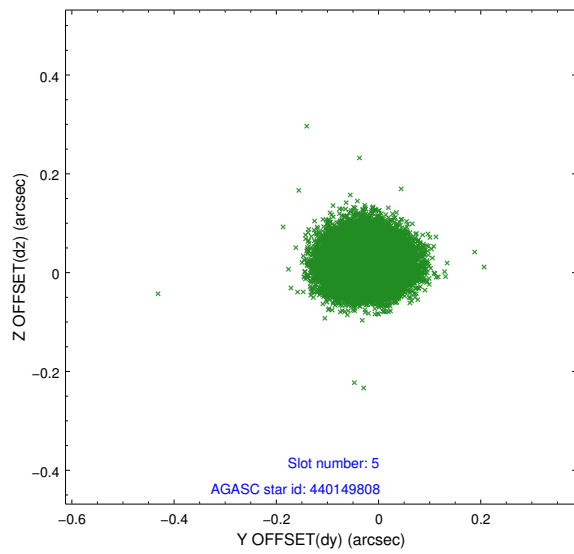
### 2.4.1 Slot 3



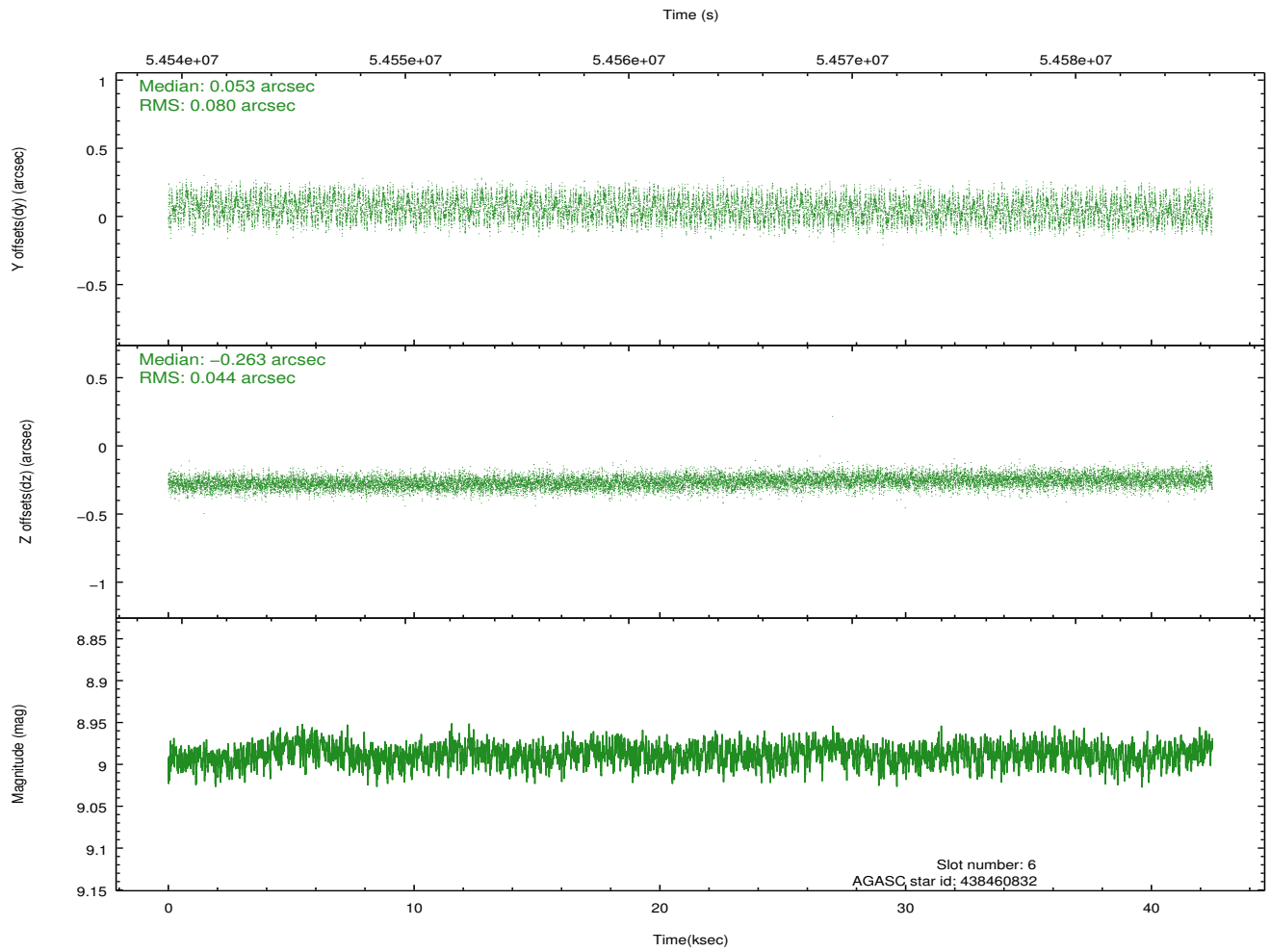
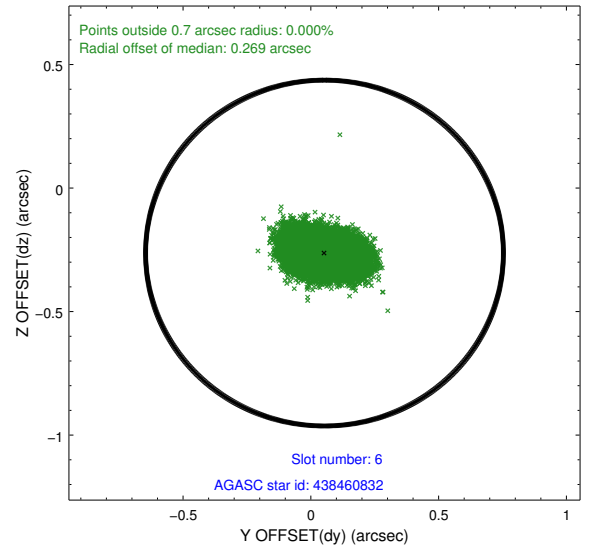
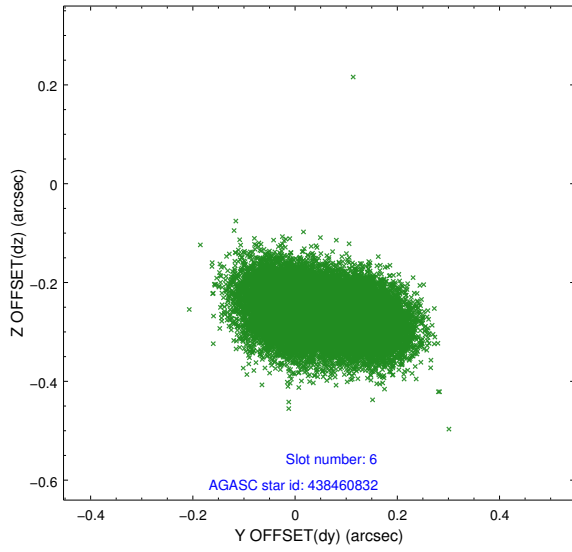
## 2.4.2 Slot 4



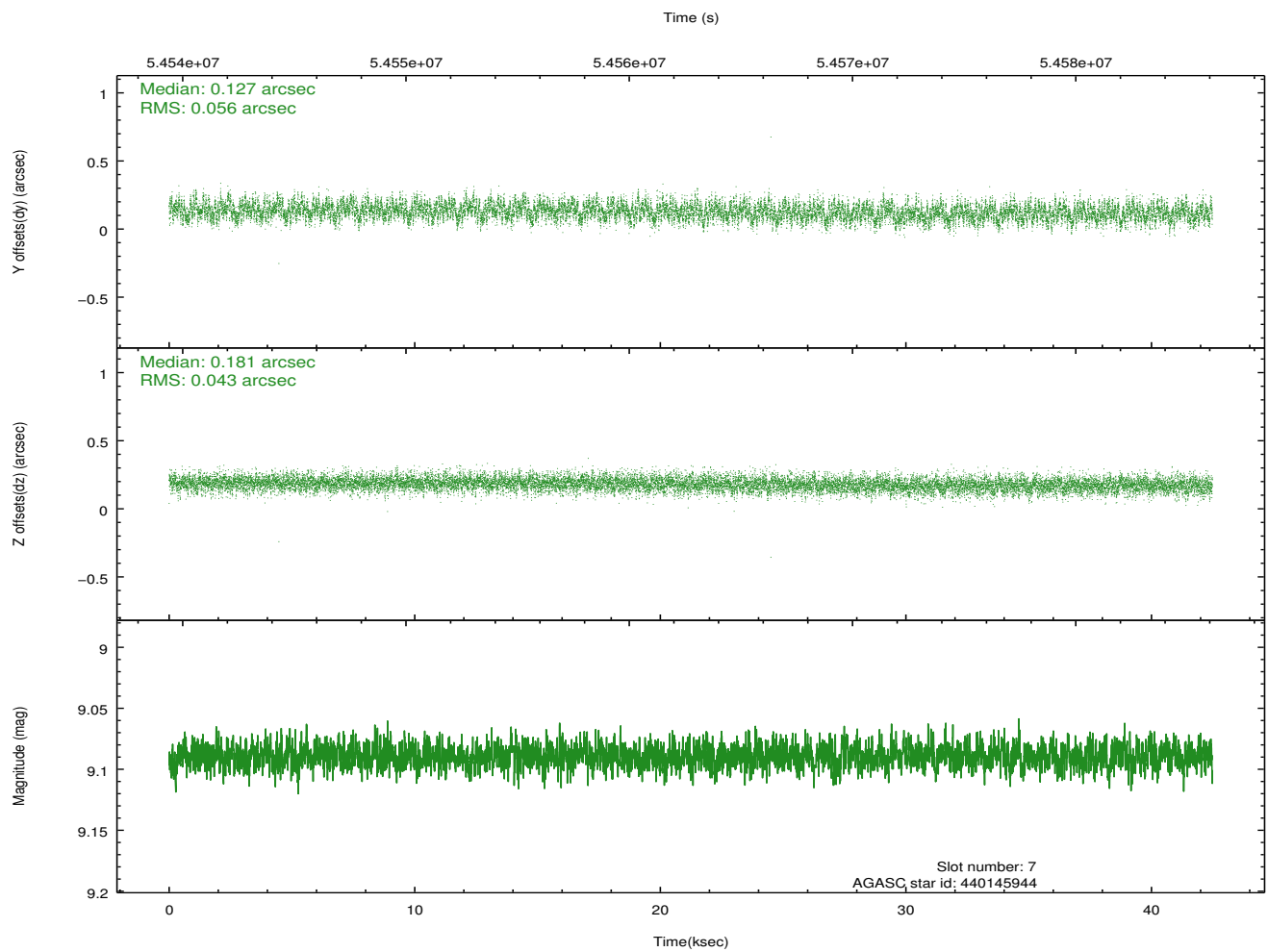
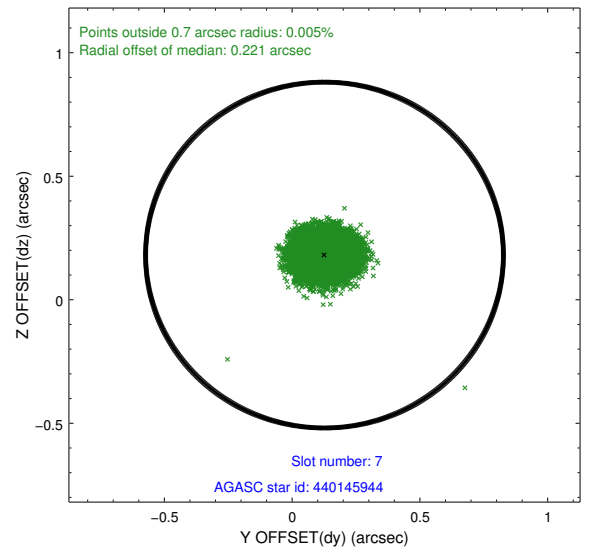
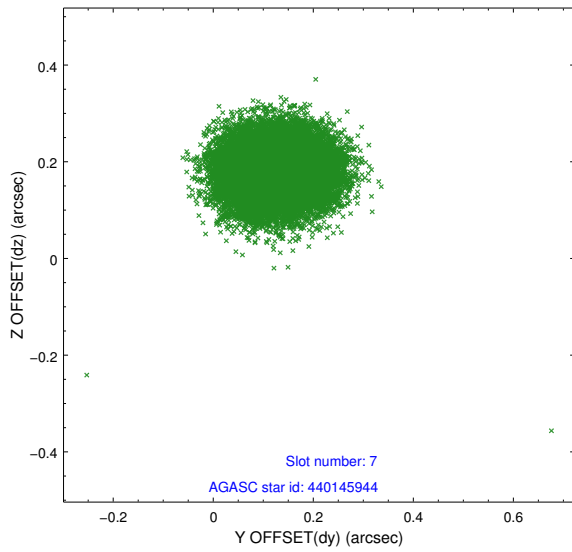
### 2.4.3 Slot 5



### 2.4.4 Slot 6

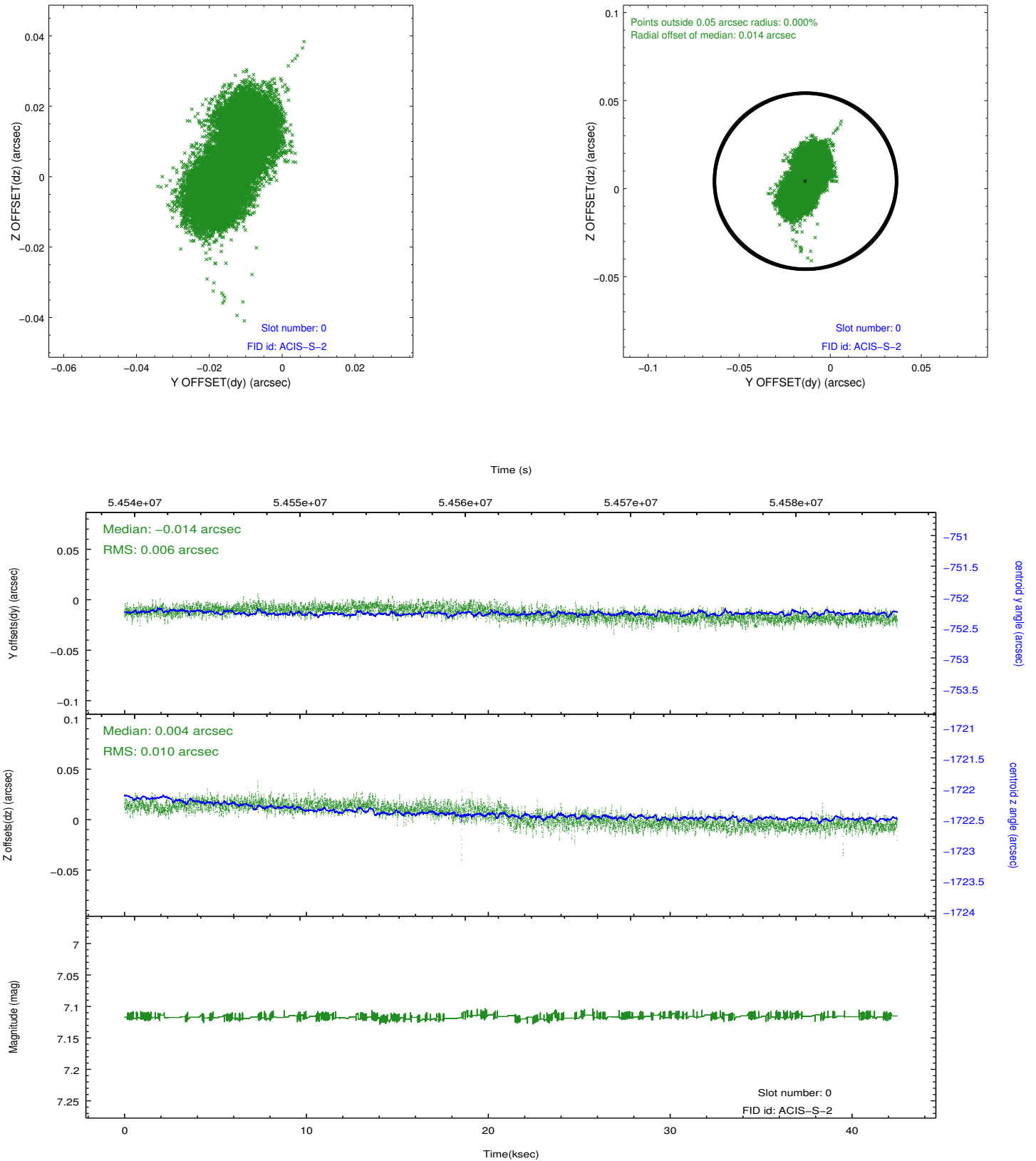


### 2.4.5 Slot 7

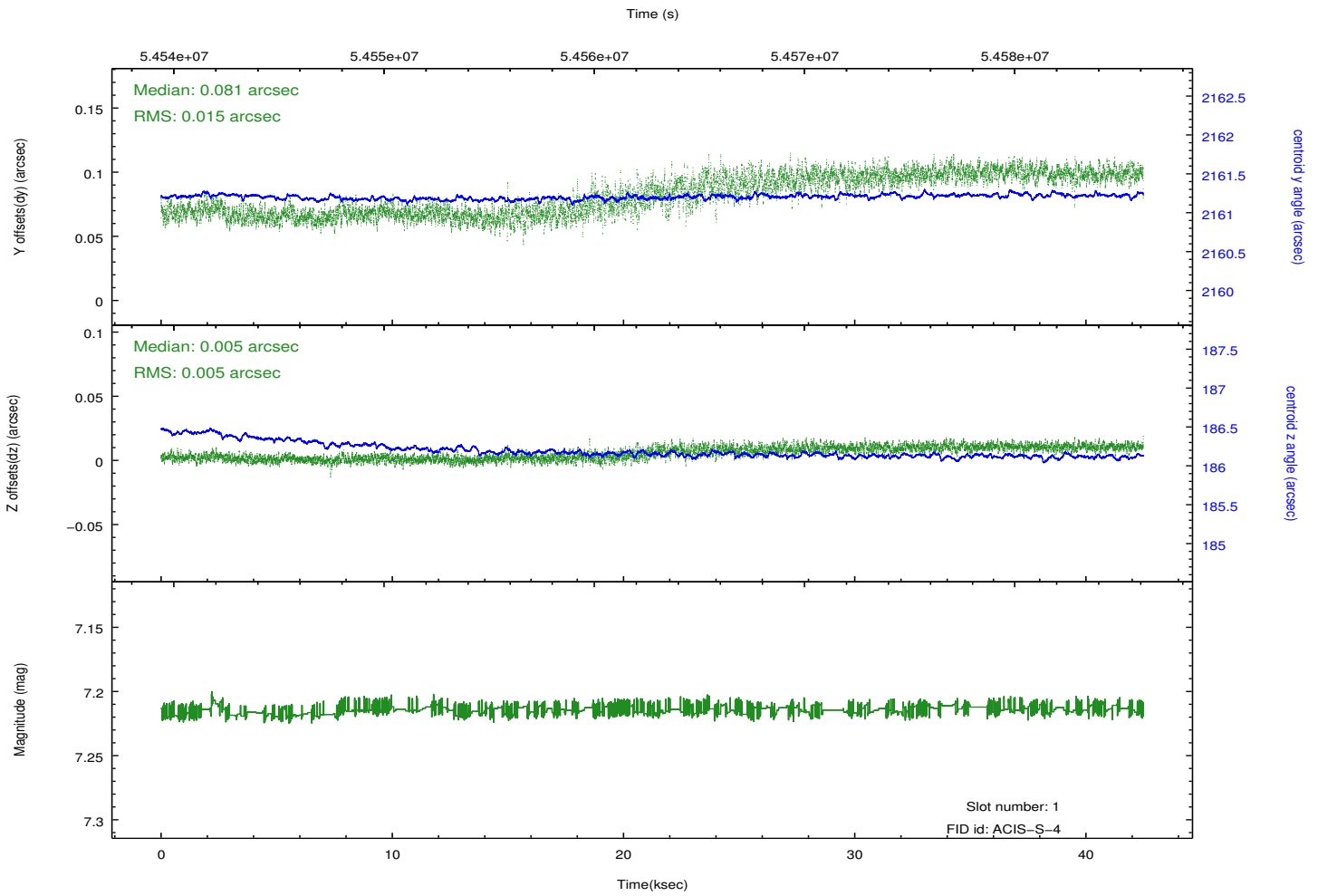
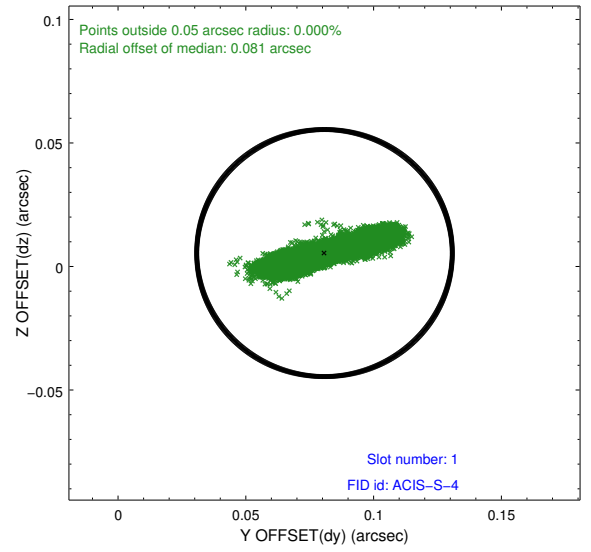
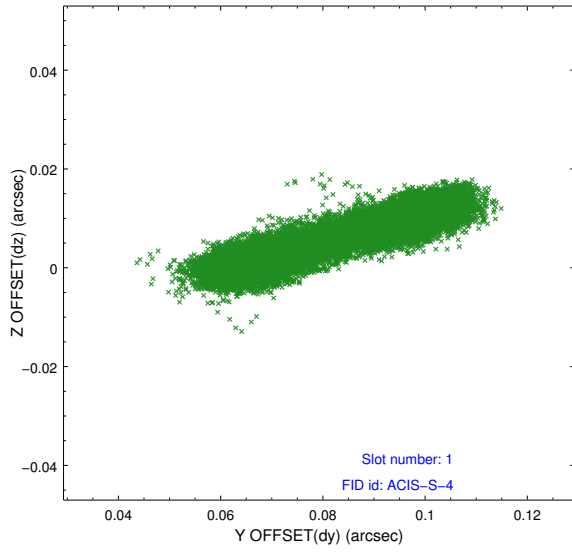


## 2.5 FID Slots

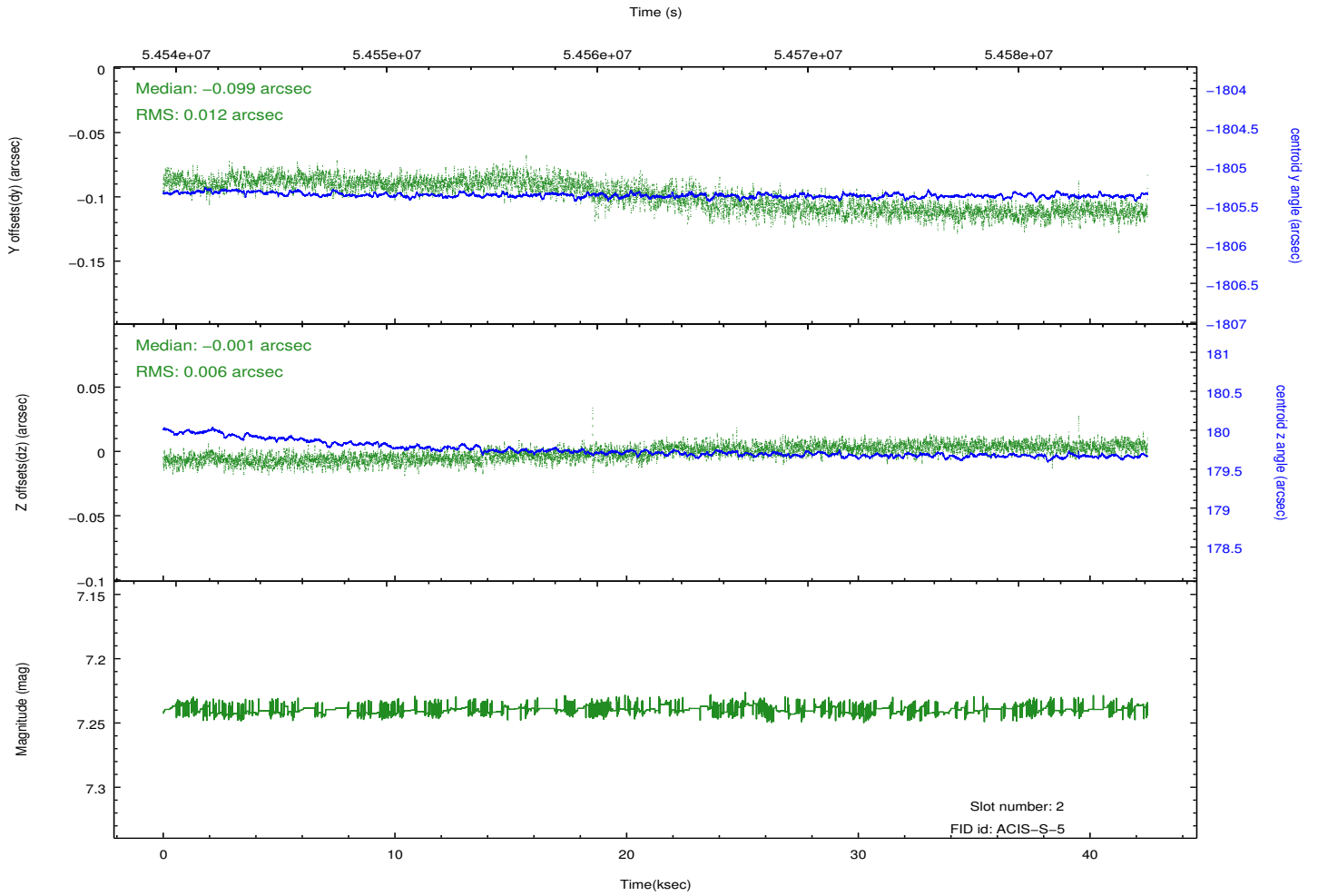
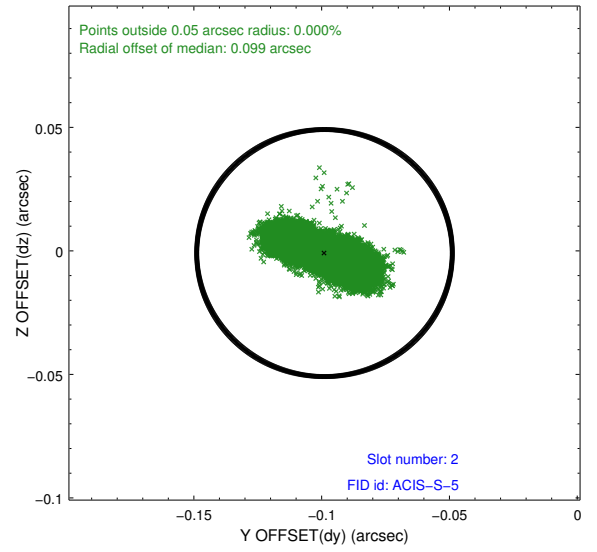
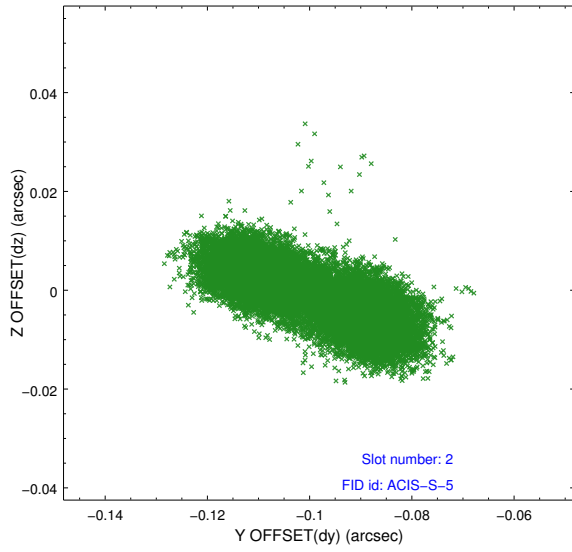
### 2.5.1 Slot 0



## 2.5.2 Slot 1

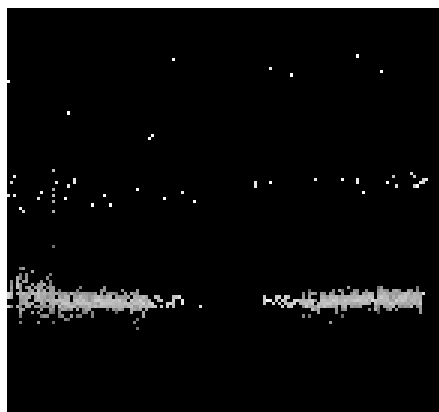


### 2.5.3 Slot 2

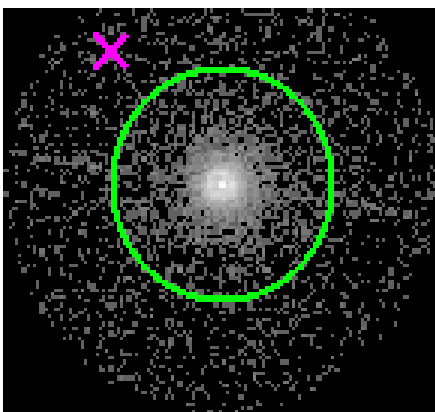


### 3 Gratings

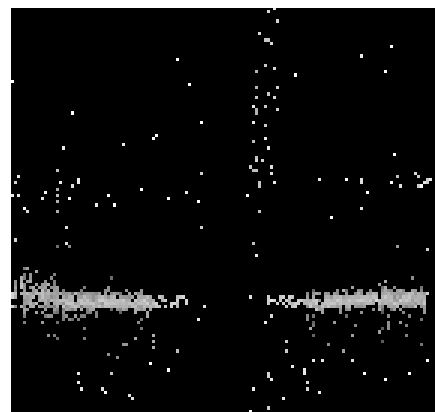
#### 3.1 HEG Arm



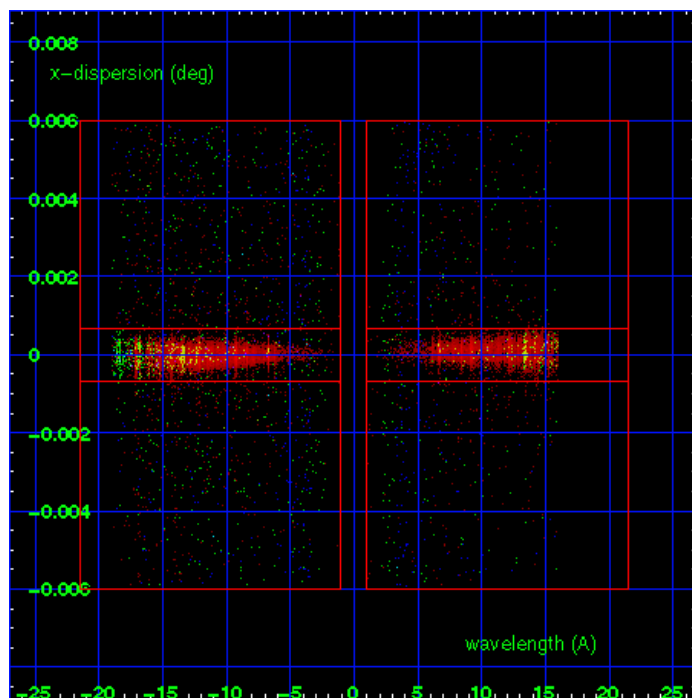
HEG Order Sort 123



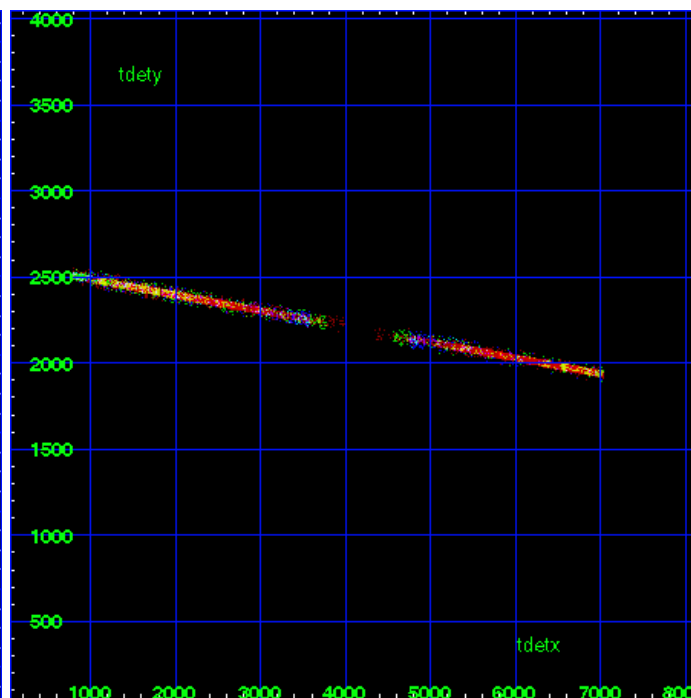
HEG Zero Order



HEG Order Sort ALL

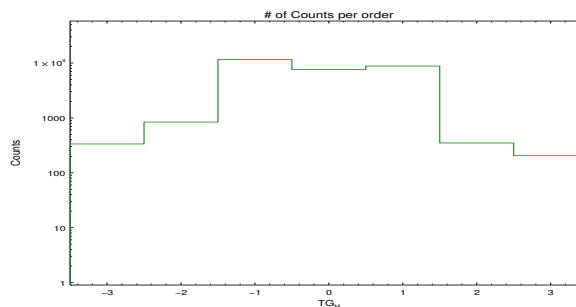


Spot Image HEG

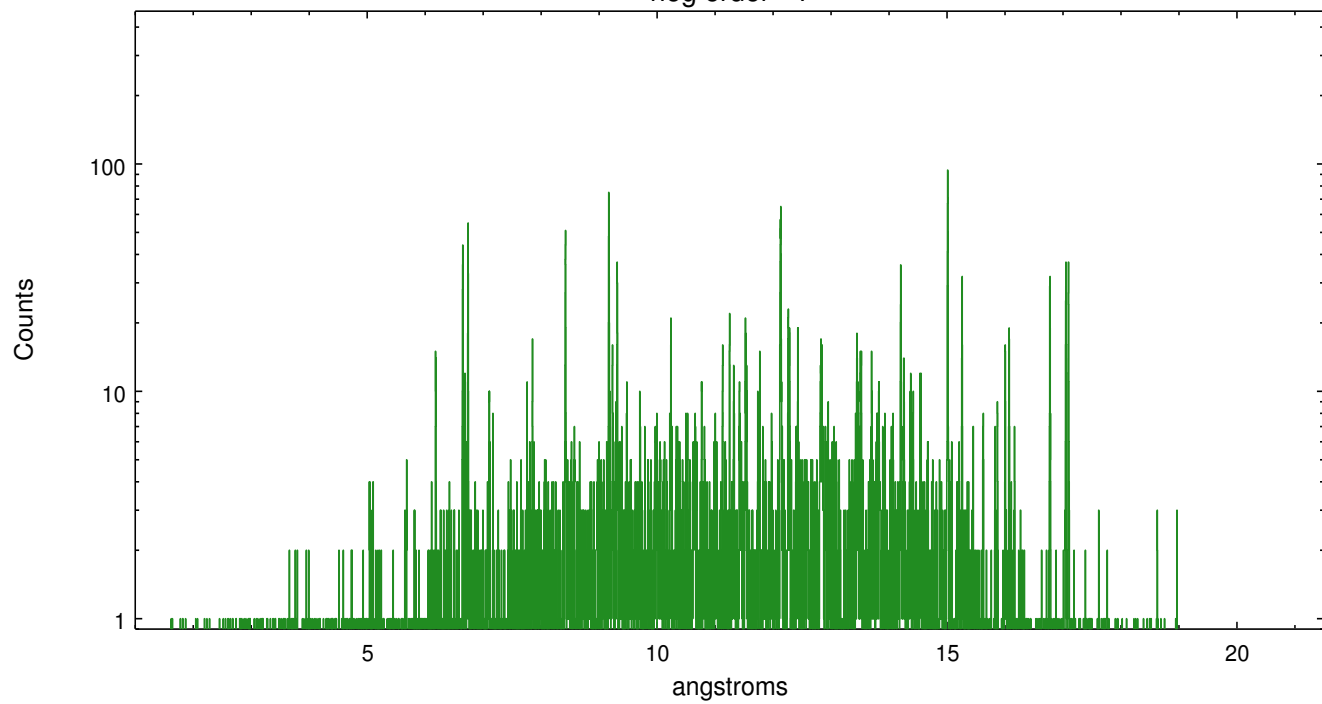


Full Detector HEG

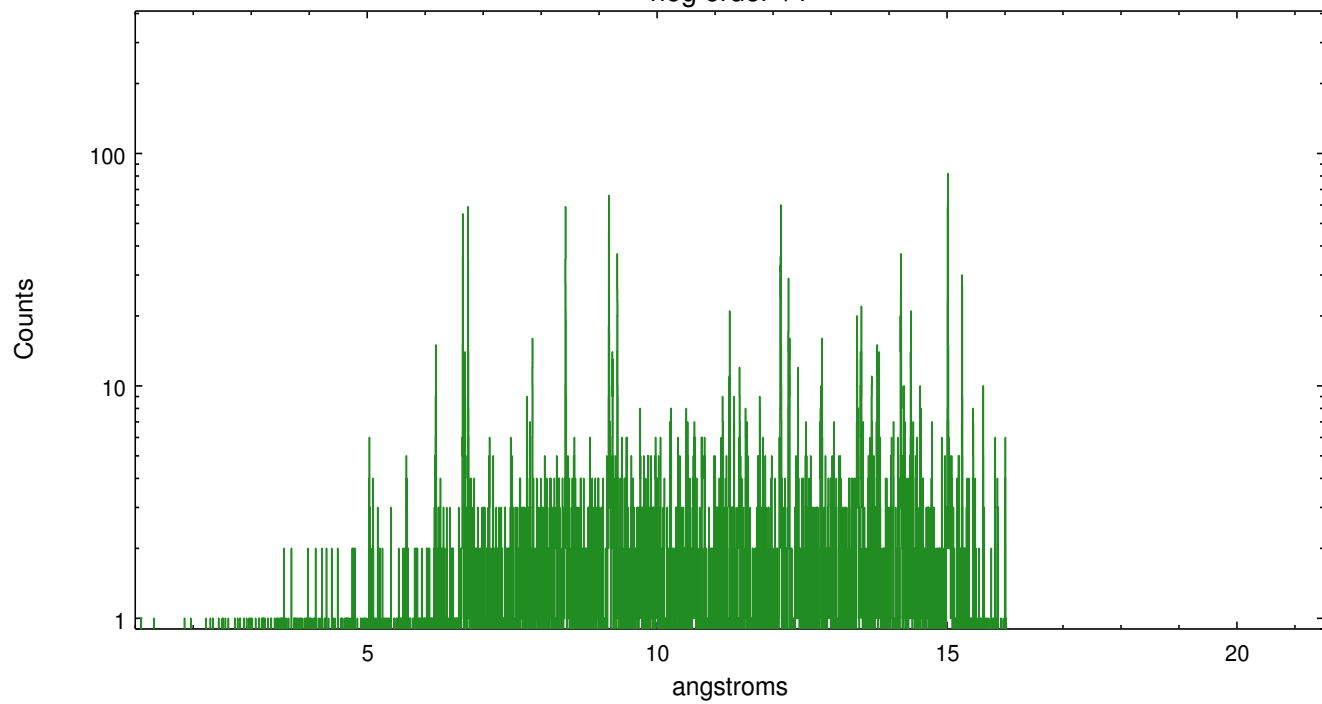
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	335	839	11633	7620	8802	349	205



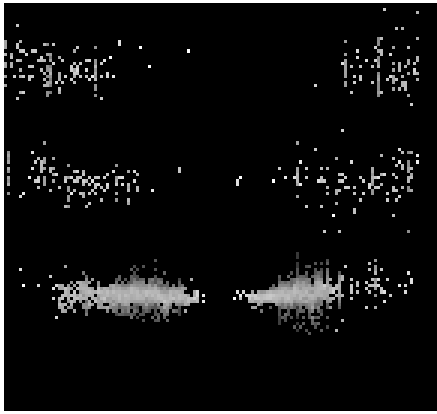
heg order -1



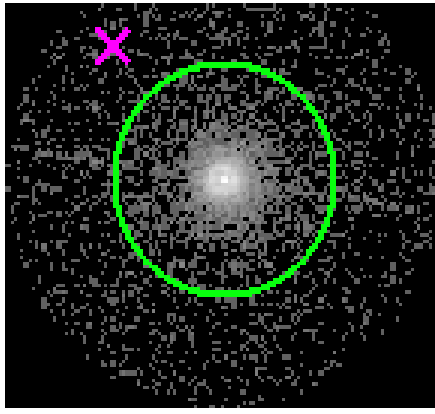
heg order +1



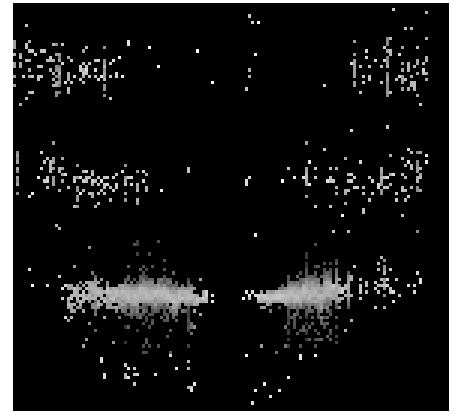
### 3.2 MEG Arm



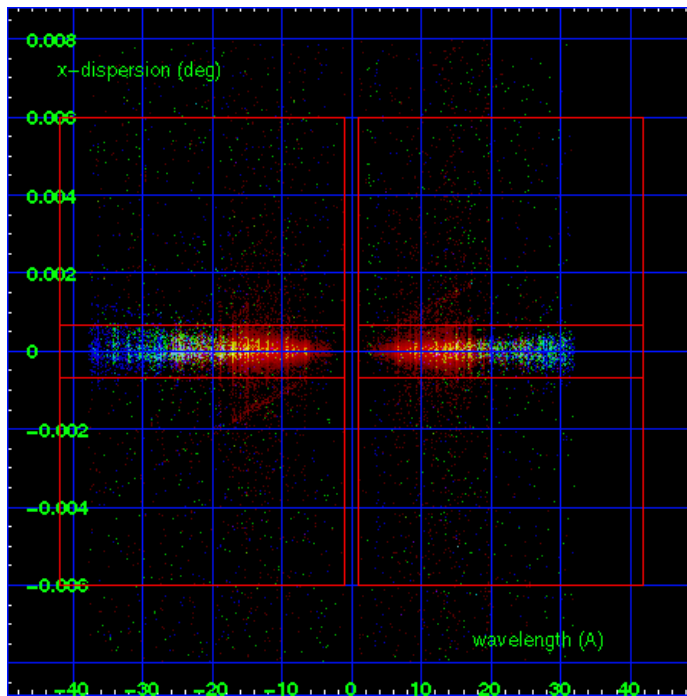
MEG Order Sort 123



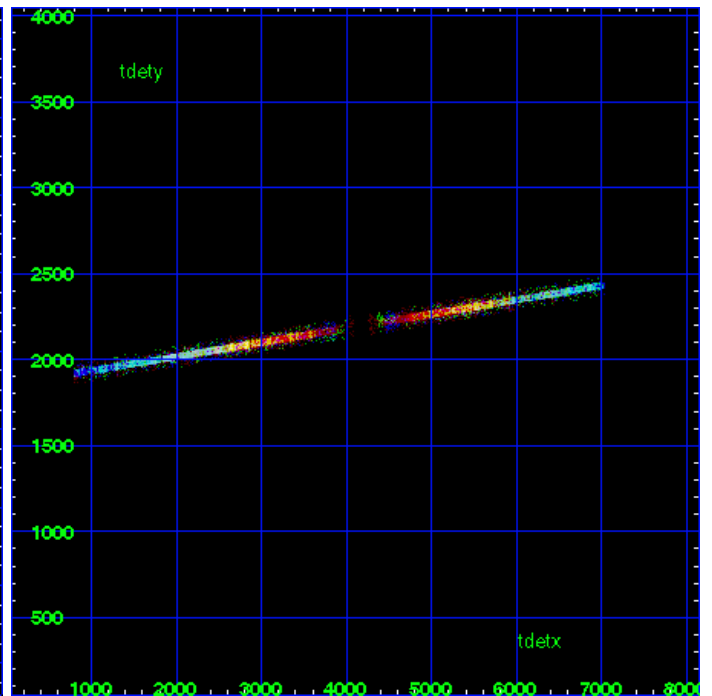
MEG Zero Order



MEG Order Sort ALL

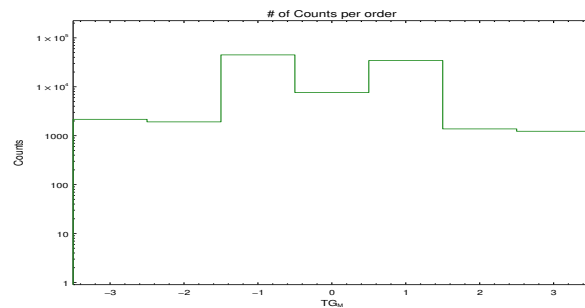


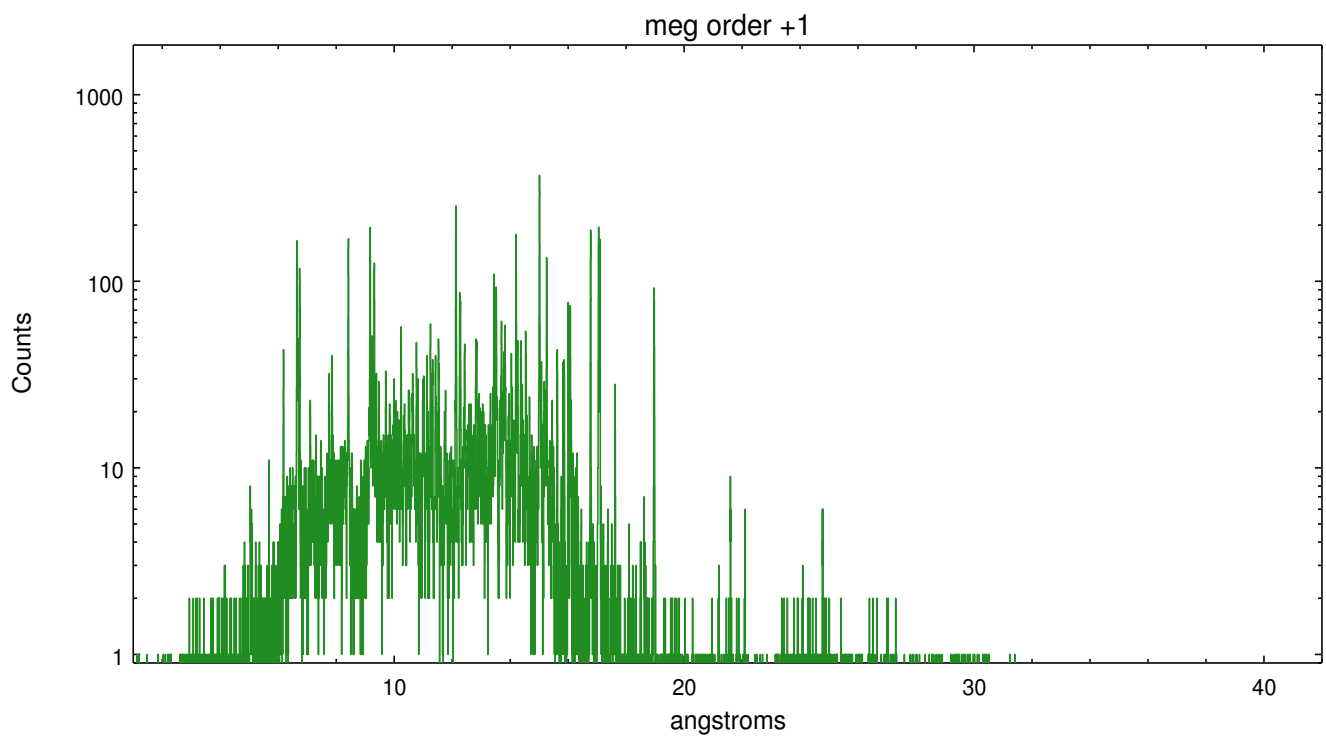
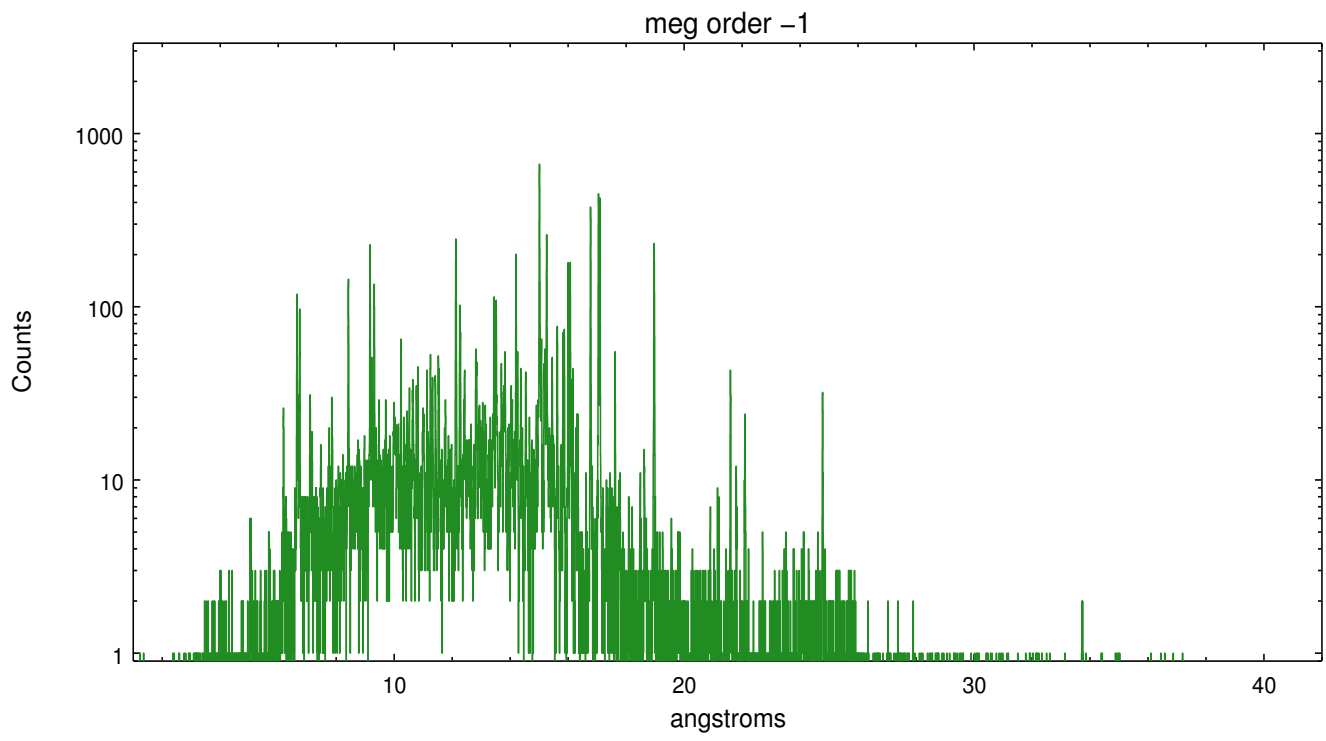
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	2158	1916	44846	7620	34328	1376	1230





## A Summary

### A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2010.11.08
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	40.998

### A.2 Comments