

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 10692 - L2 Version 2  
Chandra X-Ray Center

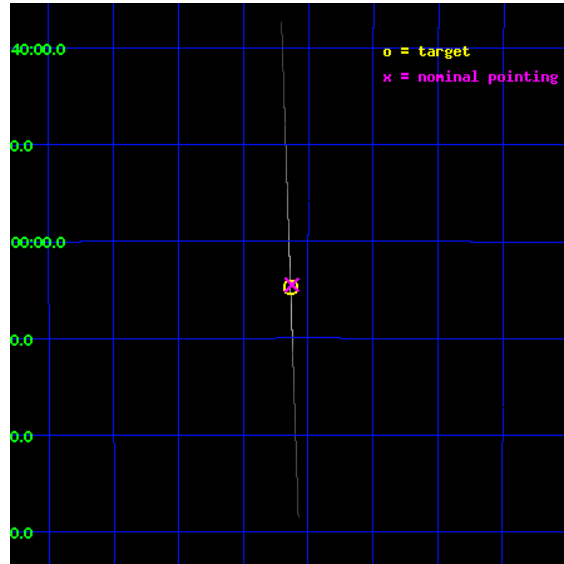
L2 Processing Date : Jun 8 2012

## 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	Parameters . . . . .	4
2.1.3	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

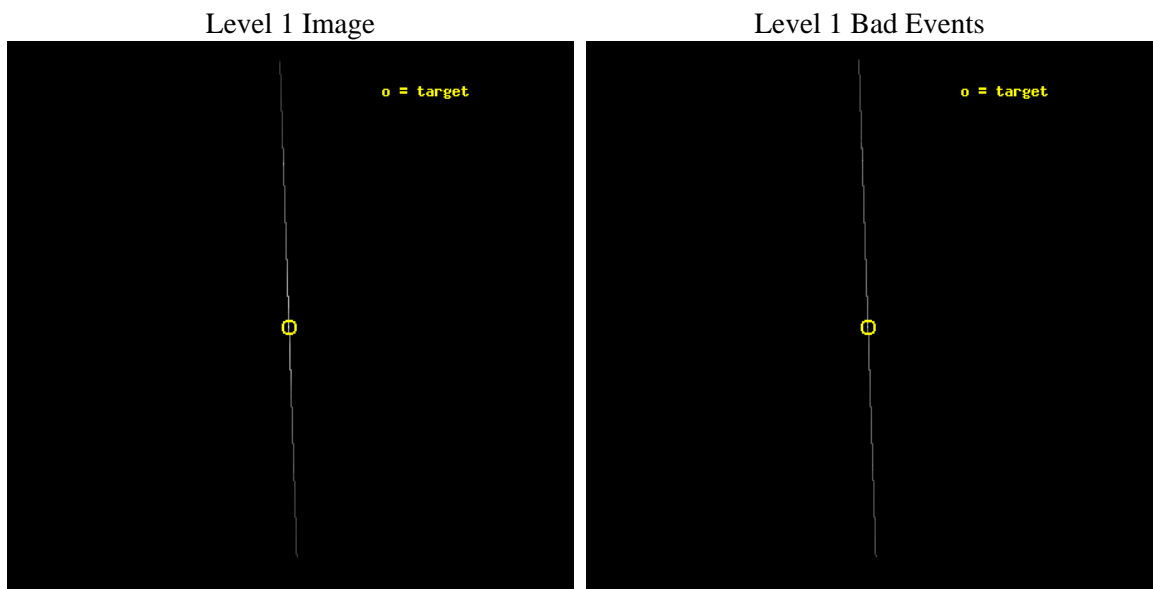
seq_num	401059	Sequence number
obs_id	10692	Observation id
title	Observe Z sources at High Mass Accretion Rates	Proposal title
observer	Prof Claude Canizares	Principal investigator
object	GX 5-1	Source name
ra_targ	270.284167	Observer's specified target RA [deg]
dec_targ	-25.079167	Observer's specified target Dec [deg]
ra_nom	270.28145055424	Nominal RA [deg]
dec_nom	-25.07492194559	Nominal Dec [deg]
roll_nom	87.995883407088	Nominal Roll [deg]
revision	2	Processing version of data
ontime	8179.0	Sum of GTIs [s]
livetime	8147.05078125	Livetime [s]
ontime4	8179.0	Sum of GTIs [s]
ontime5	8179.0	Sum of GTIs [s]
ontime6	8179.0	Sum of GTIs [s]
ontime7	8179.0	Sum of GTIs [s]
ontime8	8179.0	Sum of GTIs [s]
ontime9	8179.0	Sum of GTIs [s]
l2events	2564086	Number of level 2 events



## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



### 2.1.2 Parameters

obi_num	0	Obi number	sched_exp_time	8000.146000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	8179.0	Sum of GTIs [s]
caldsver	4.4.10	&#160	ontime4	8179.0	Sum of GTIs [s]
date	2012-06-07T02:48:29	Date and time of file creation	ontime5	8179.0	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	8179.0	Sum of GTIs [s]
			ontime7	8179.0	Sum of GTIs [s]
			ontime8	8179.0	Sum of GTIs [s]
			ontime9	8179.0	Sum of GTIs [s]
			l1events	2903445	Number of level 1 events

### 2.1.3 Events

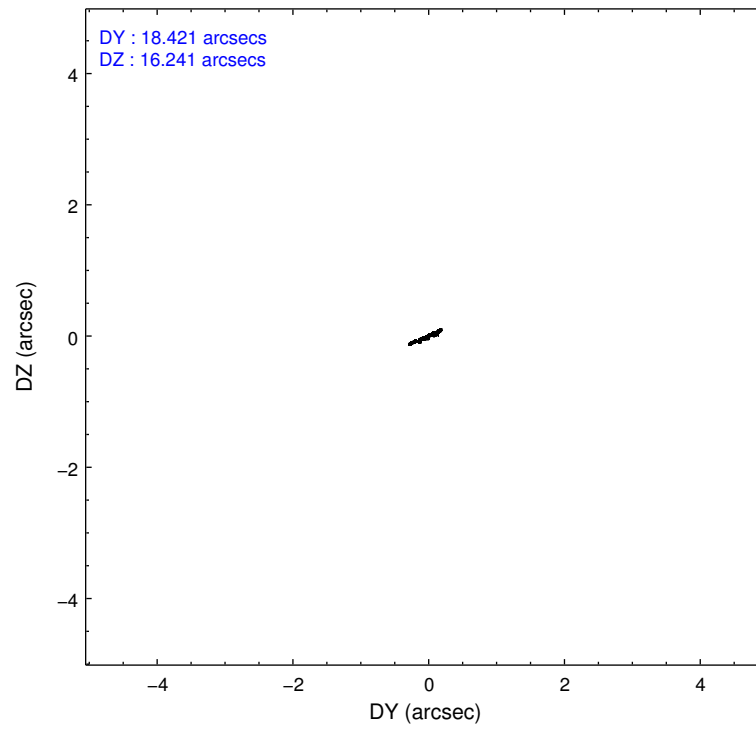
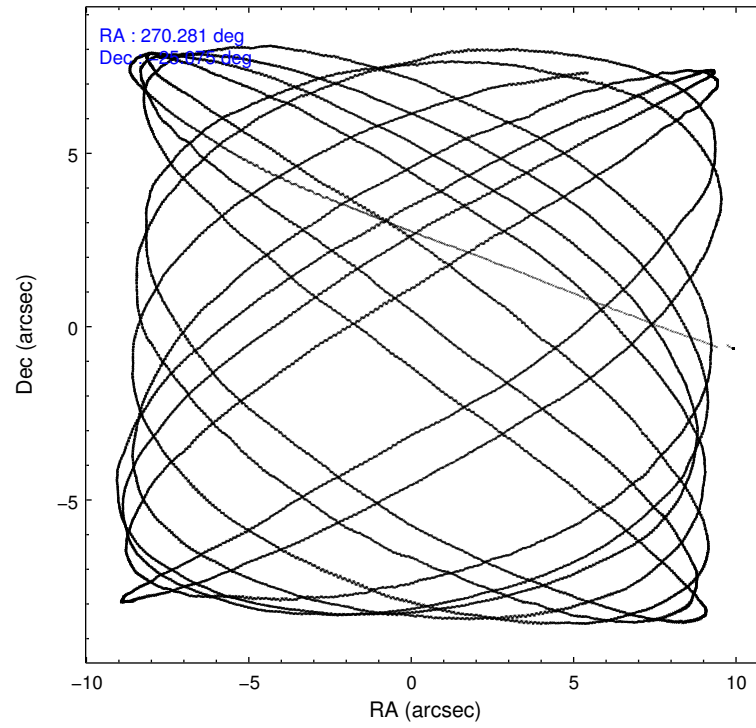
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	39246	171755	874546	1649561	123658	44679	grade 0 events	2562	31340	429621	180447	46536	4754
rejected events	6407	20357	23758	126907	12959	7135		6%	18%	49%	10%	37%	10%
rejected %	16%	11%	2%	7%	10%	15%	grade 1 events	73	112	2483	12522	294	96
								0%	0%	0%	0%	0%	0%
							grade 2 events	22759	60133	290682	429537	43213	24170
								57%	35%	33%	26%	34%	54%
							grade 3 events	2177	3309	31720	112314	5993	2151
								5%	1%	3%	6%	4%	4%
							grade 4 events	2202	3169	31552	112913	5867	2218
								5%	1%	3%	6%	4%	4%
							grade 5 events	3819	8518	10176	89578	6607	4645
								9%	4%	1%	5%	5%	10%
							grade 6 events	5654	65174	78312	712250	15148	6645
								14%	37%	8%	43%	12%	14%
							grade 7 events	0	0	0	0	0	0
								0%	0%	0%	0%	0%	0%

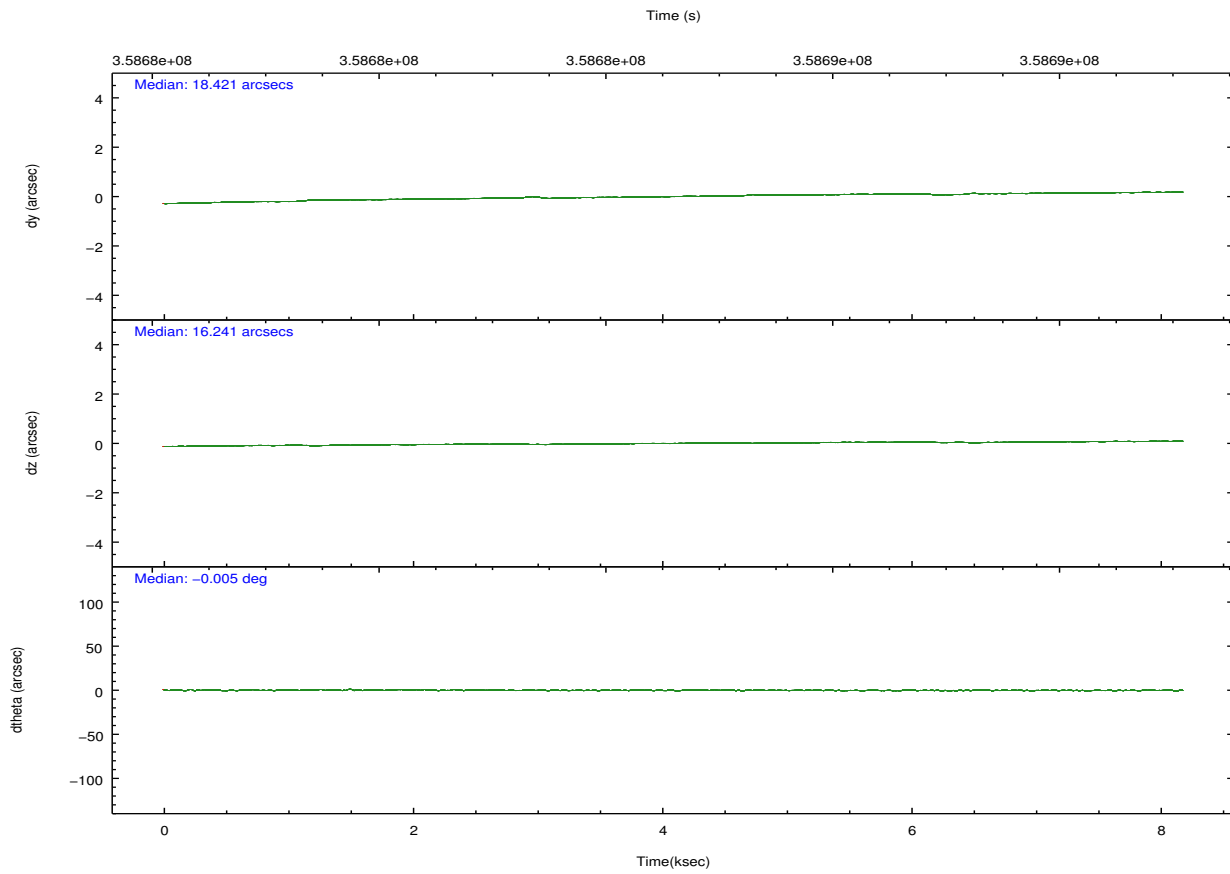
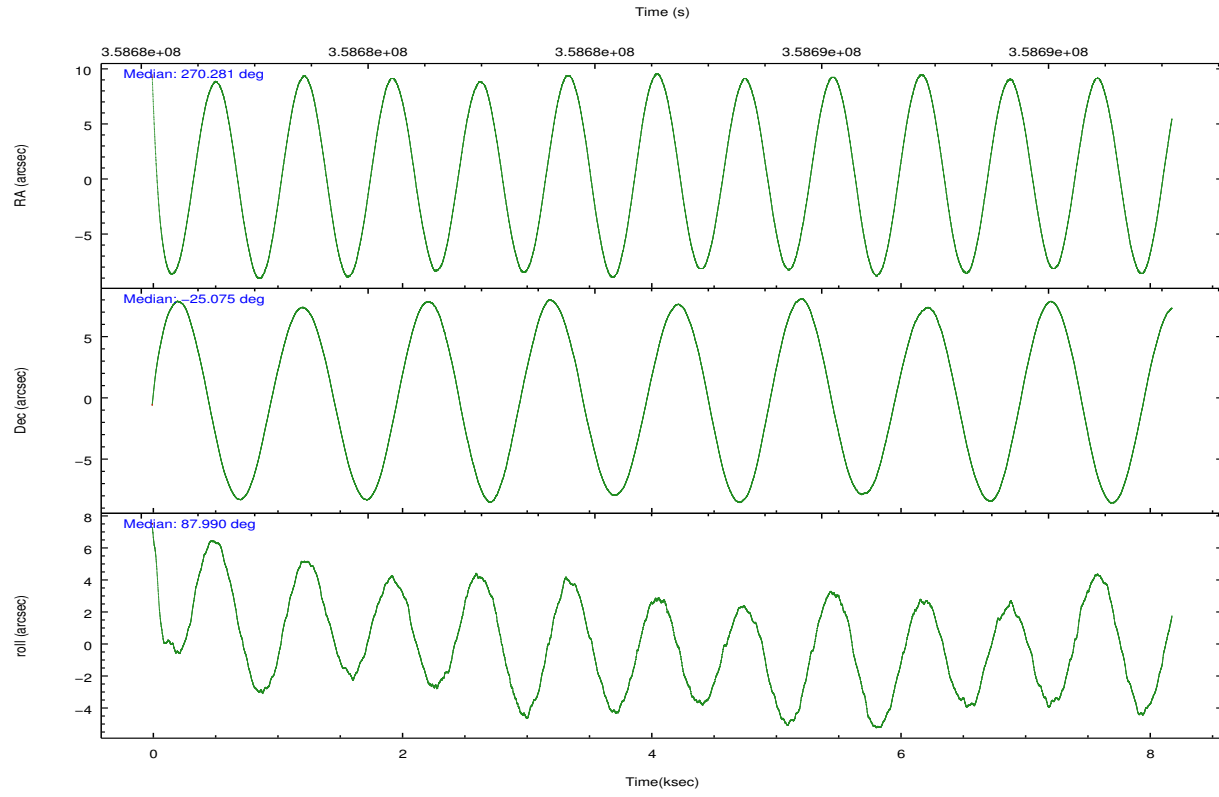


## 2.2 Compared Parameters

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	CC33_GRADED	CC33_GRADED	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	270.296055	270.2814505542351	CCD I2 on	N	N
[deg] Pointing Dec	-25.098925	-25.07492194558991	CCD I3 on	N	N
[deg] Pointing Roll	87.845440	87.99588340708794	CCD S0 on	O1	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-178.832523	-178.8382187693597	CCD S3 on	Y	Y
[mm] SIM translation stage offset	-11.3	-11.29430381364813	CCD S4 on	Y	Y
[s] Observation start time (MET)	358680686.184000	358679483.08247	CCD S5 on	O2	Y
Observation start date	2009-05-14T09:30:20	2009-05-14T09:11:23	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	358688686.184000	358688903.85794	On-chip summing requested	N	N
Observation end date	2009-05-14T11:43:40	2009-05-14T11:48:23	Subarray requested	NONE	NONE
Read mode	CONTINUOUS	CONTINUOUS	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	0

## 2.3 Aspect



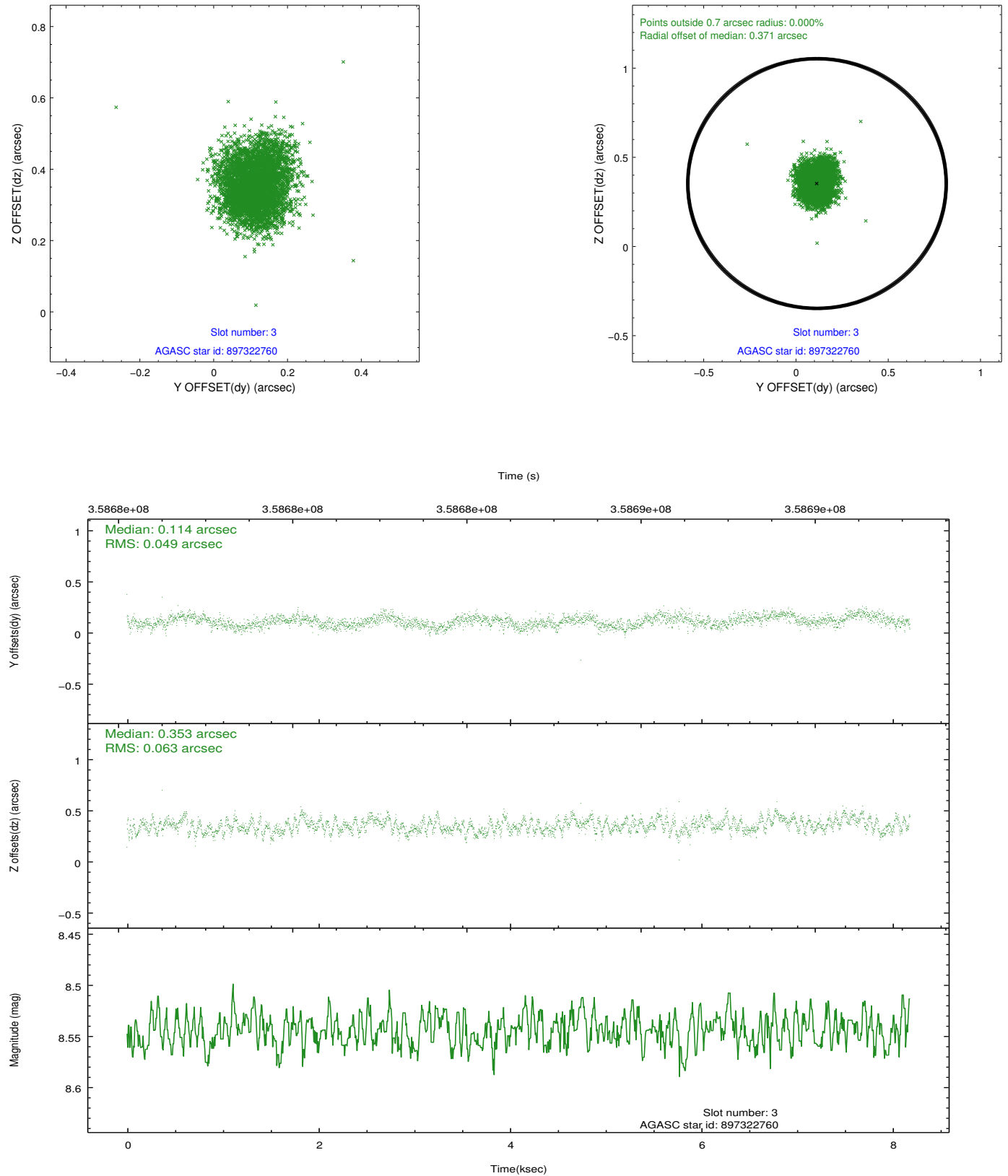


### Slot Statistics

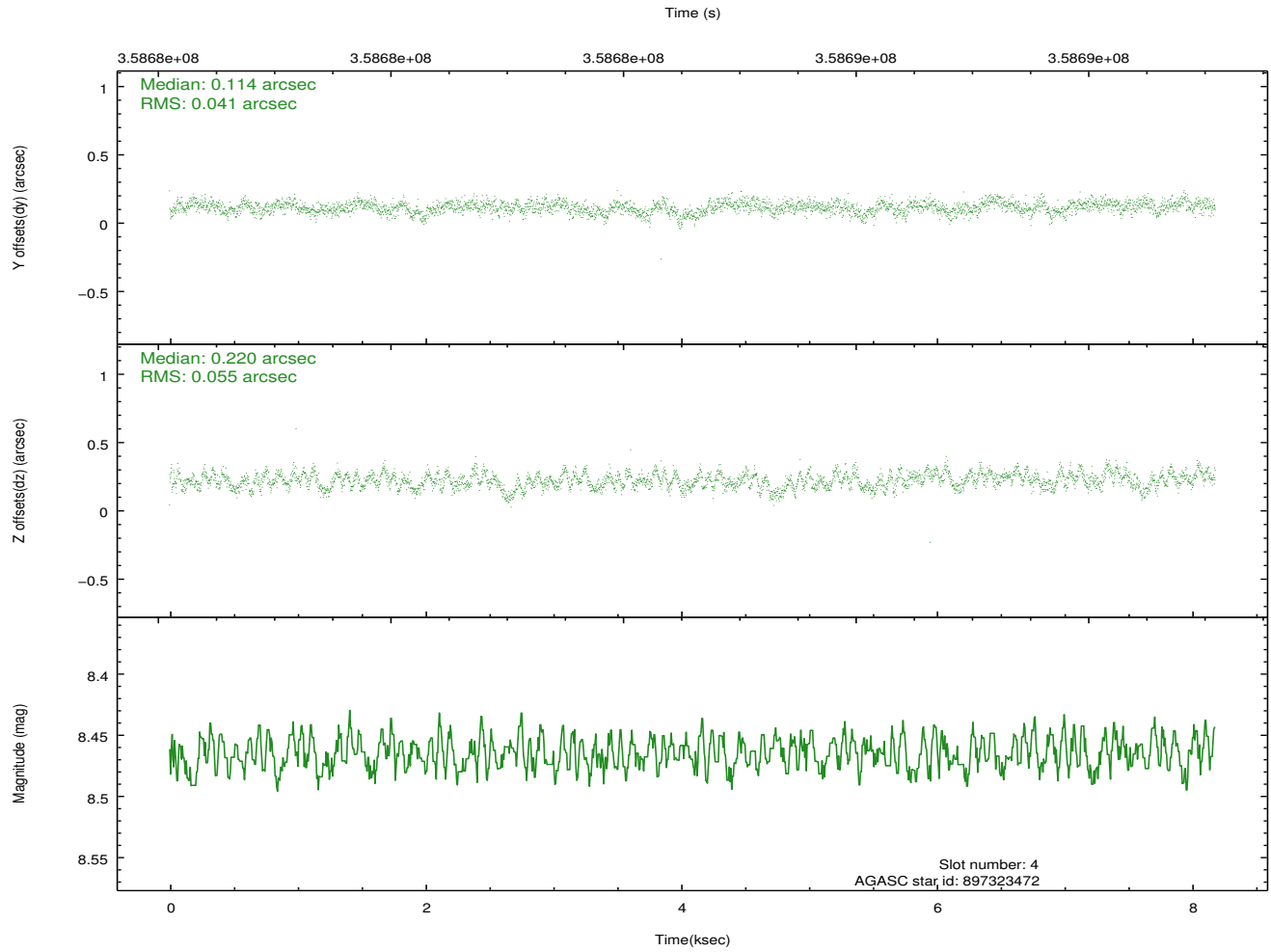
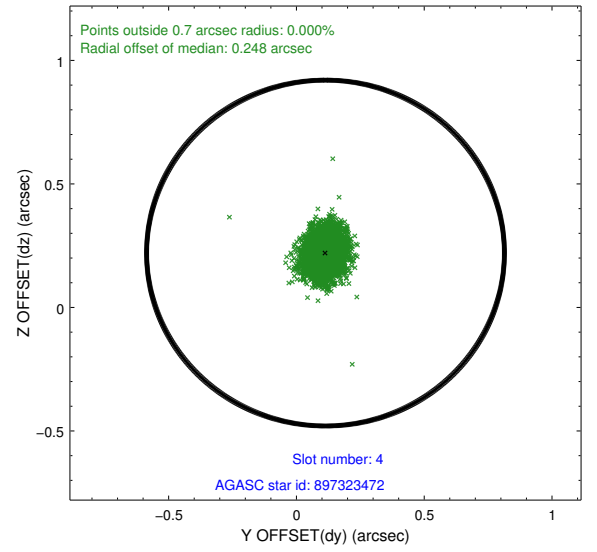
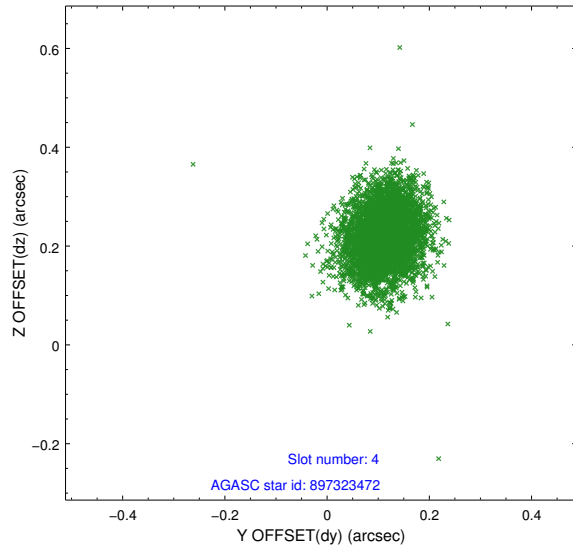
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.90	1997	-0.117	-0.333	0.009	0.014	0.000000	0.000000	-770.72	-1970.50
1	FID	ACIS-S-4	6.98	1997	0.191	0.145	0.007	0.014	0.000000	0.000000	2142.52	-62.34
2	FID	ACIS-S-5	7.05	1997	-0.105	0.195	0.009	0.014	0.000000	0.000000	-1822.71	-67.90
3	GUIDE	897322760	8.54	3990	0.114	0.353	0.085	0.134	270.988015	-25.669699	-1975.47	-2320.76
4	GUIDE	897323472	8.47	3992	0.114	0.220	0.073	0.118	270.860121	-25.266503	-537.85	-1858.55
5	GUIDE	897325464	8.20	3988	-0.146	0.235	0.067	0.105	270.454899	-24.555059	1975.48	-446.27
6	GUIDE	897325632	8.52	3986	-0.085	-0.192	0.071	0.114	270.212330	-24.788521	1106.77	315.10
7	GUIDE	897190880	8.12	3991	0.005	-0.612	0.078	0.122	269.584058	-25.142408	-249.64	2311.84

## 2.4 Star Slots

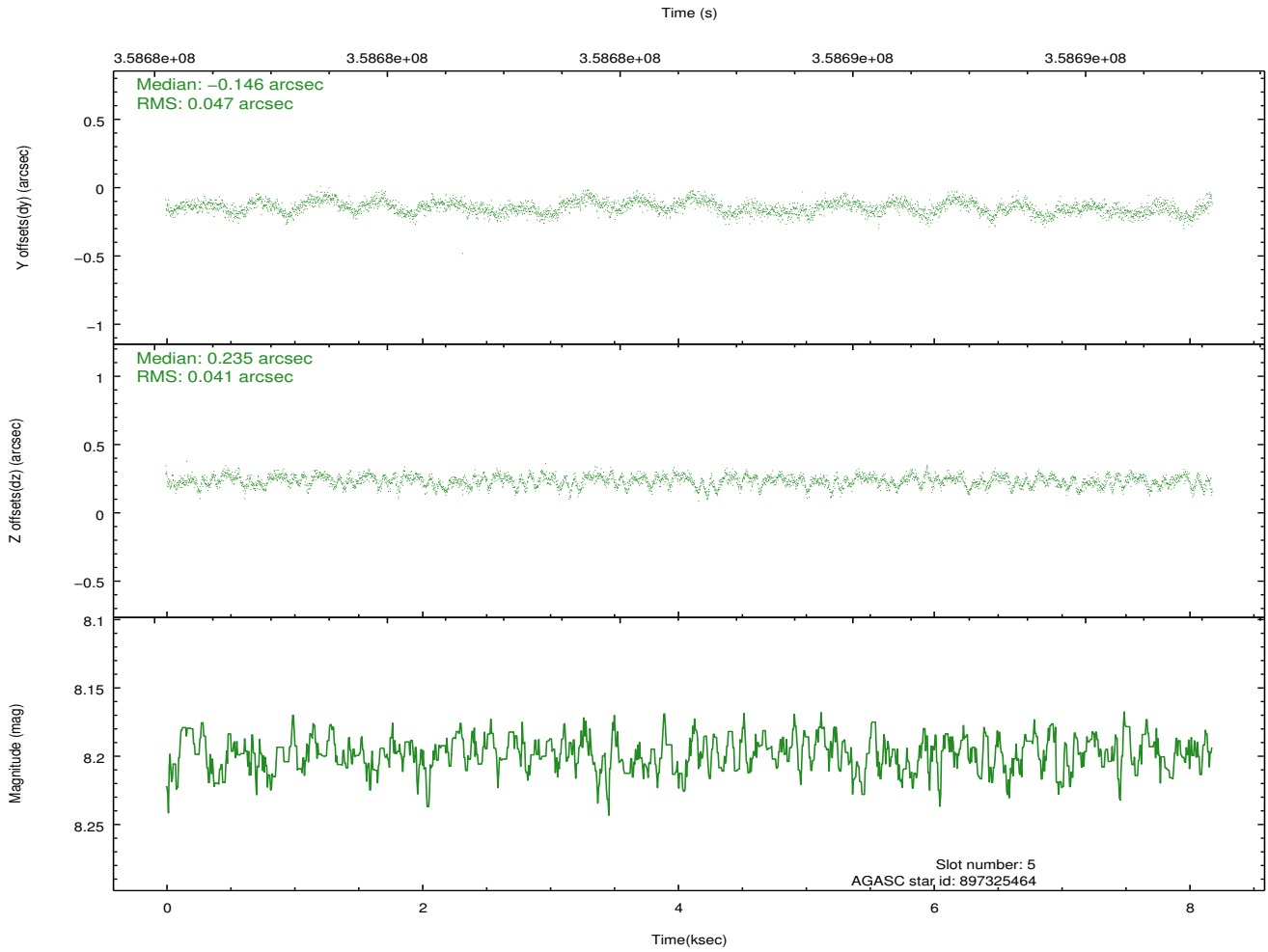
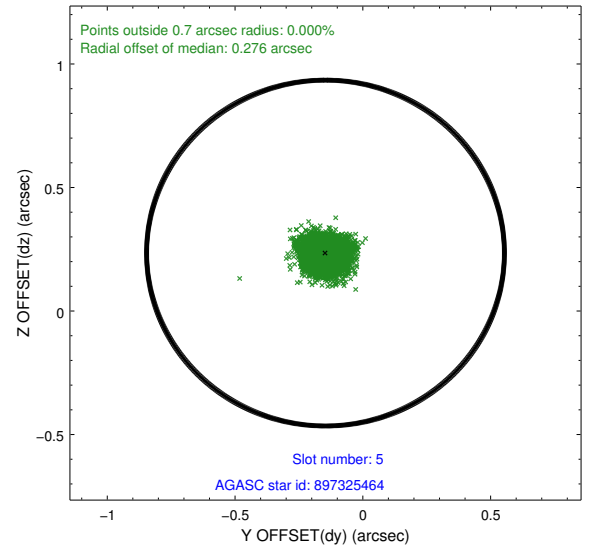
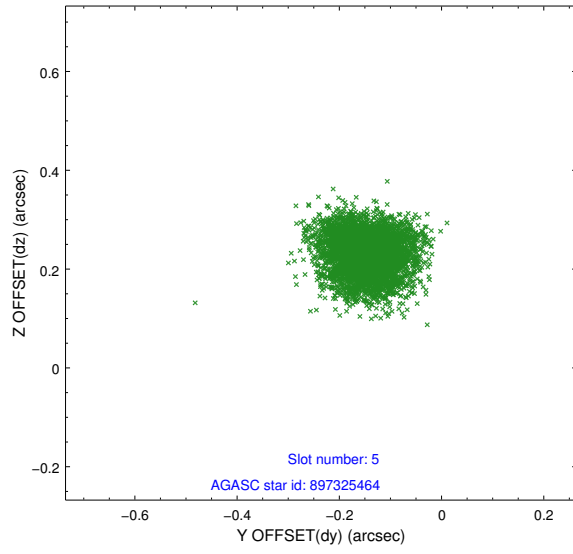
### 2.4.1 Slot 3



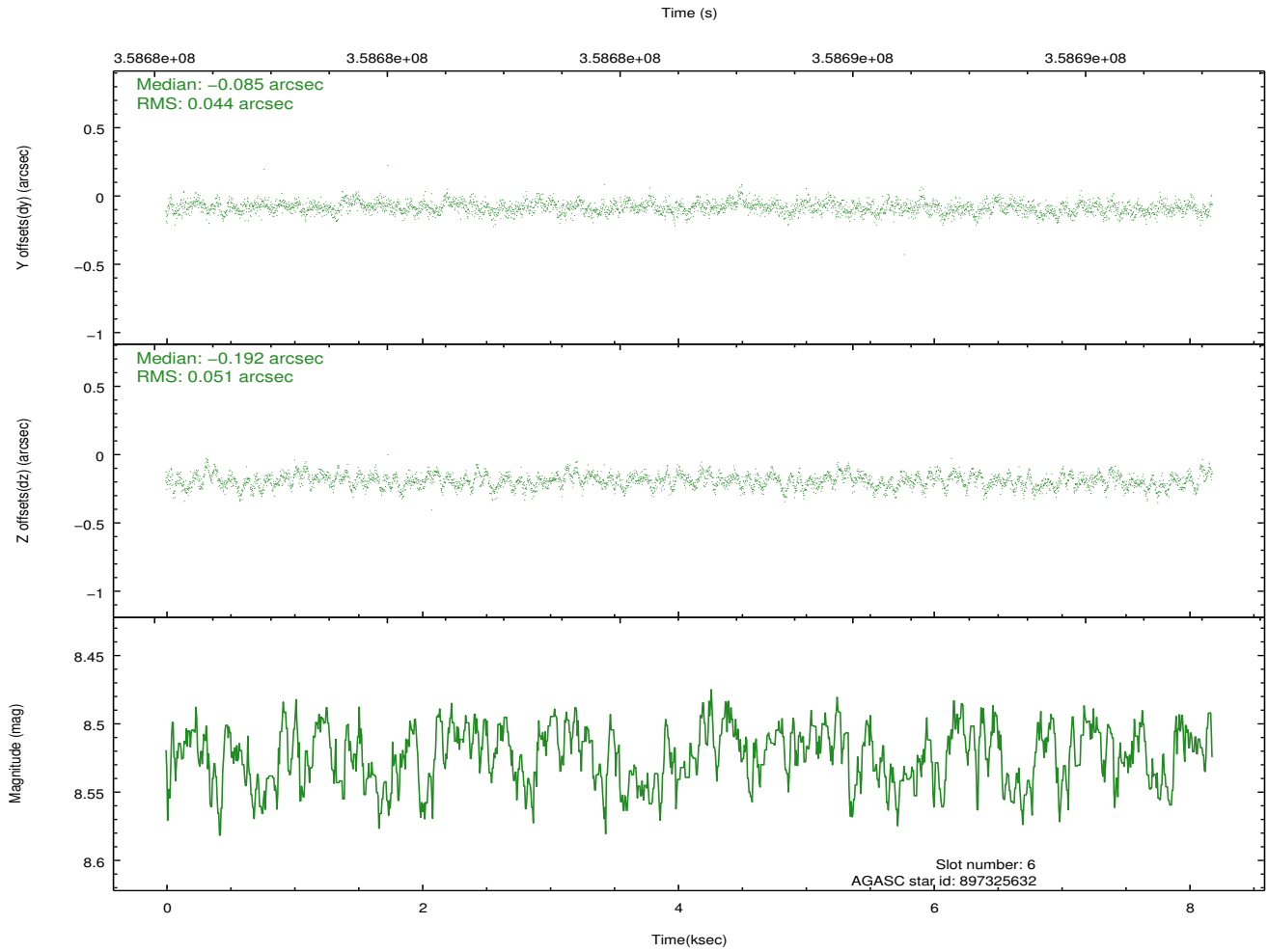
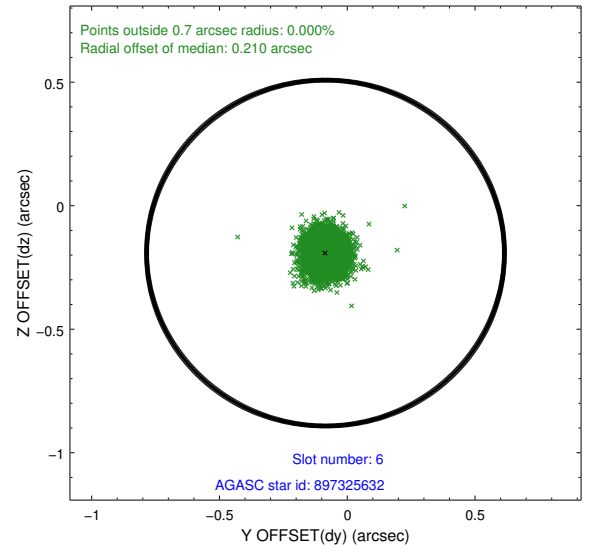
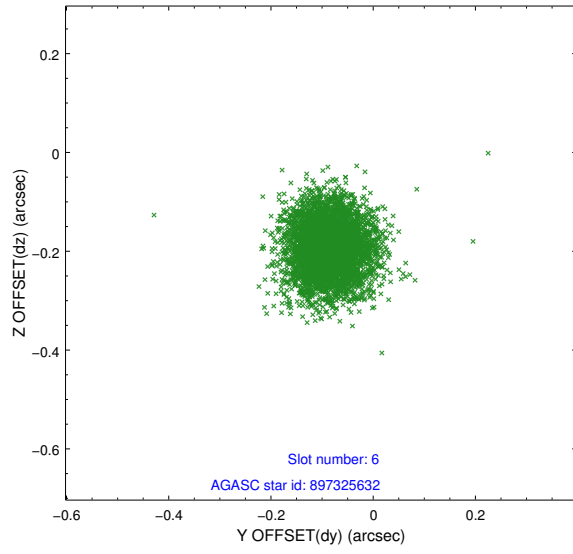
## 2.4.2 Slot 4



### 2.4.3 Slot 5

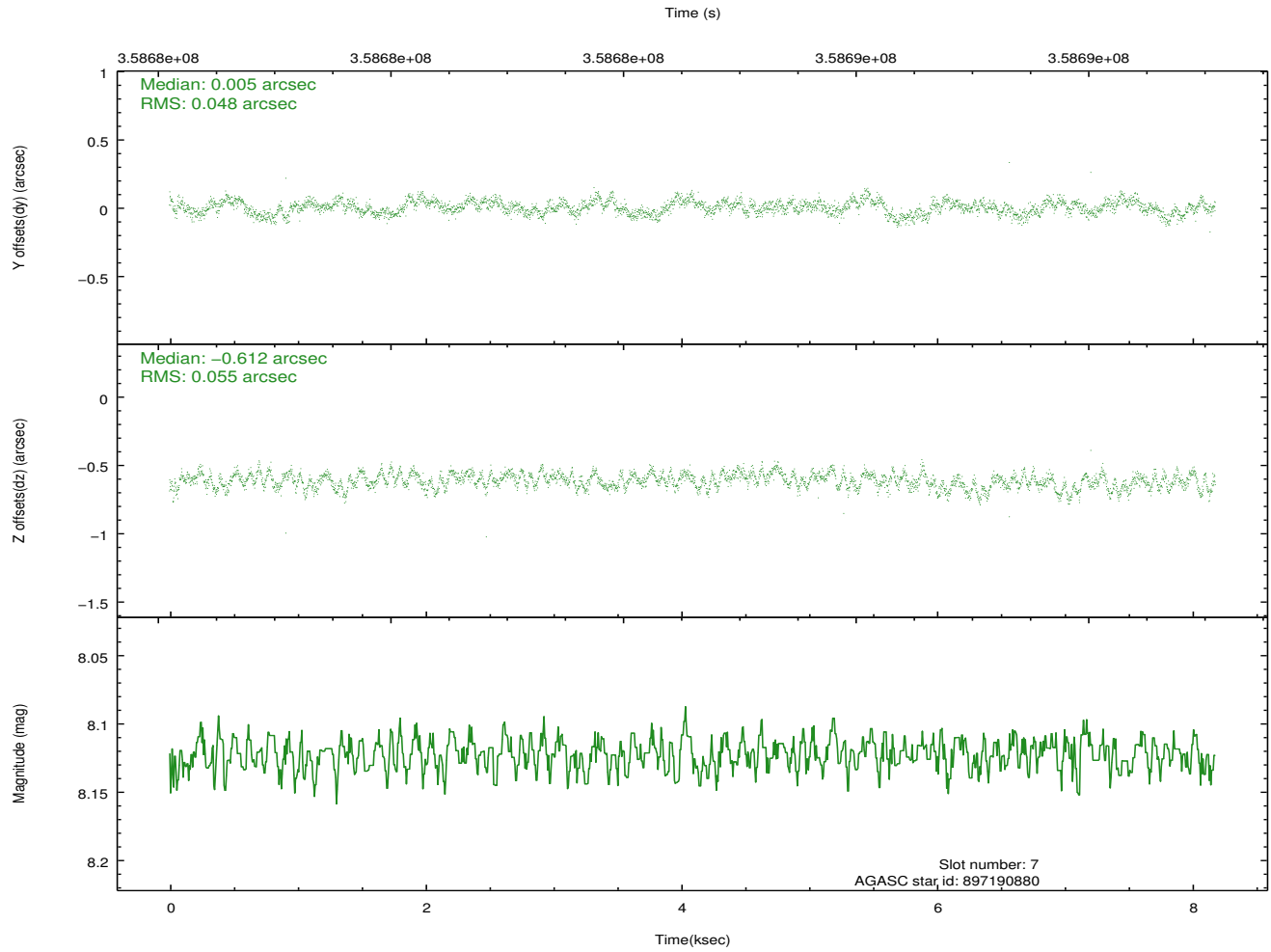
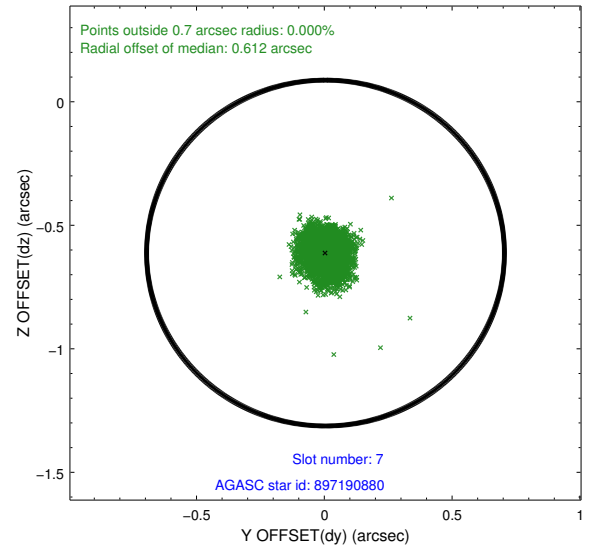
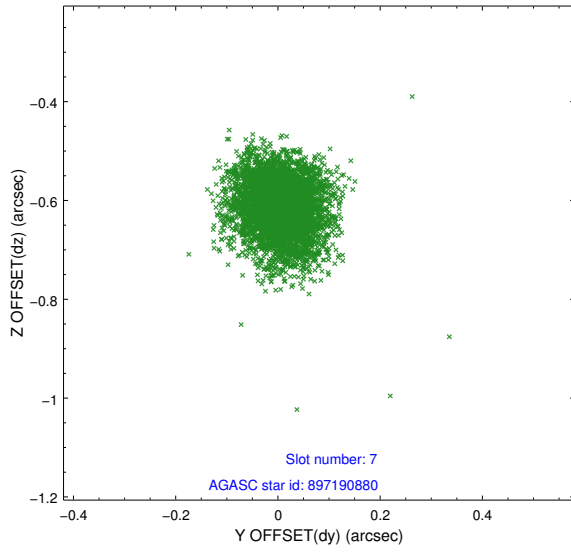


## 2.4.4 Slot 6



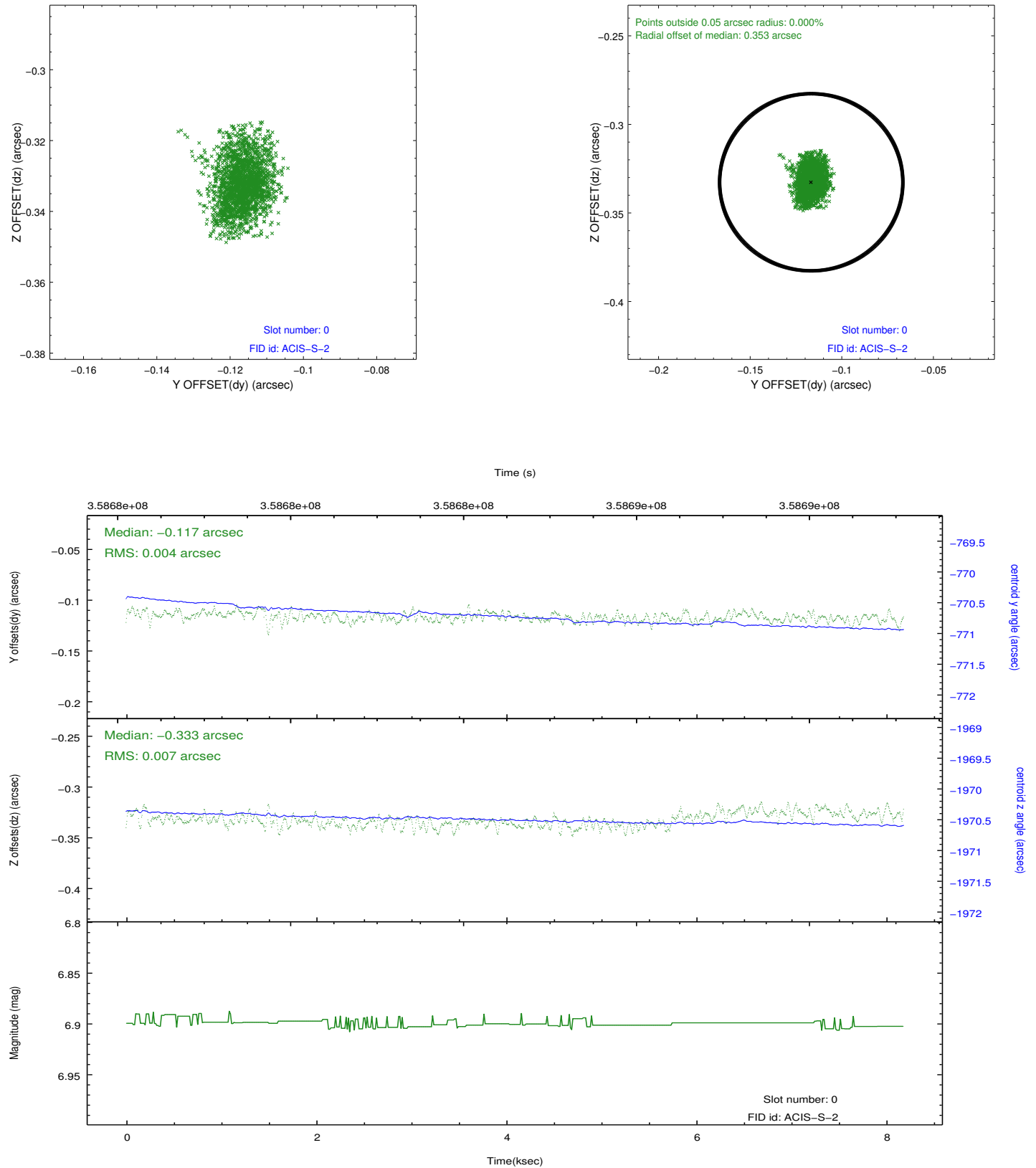


## 2.4.5 Slot 7

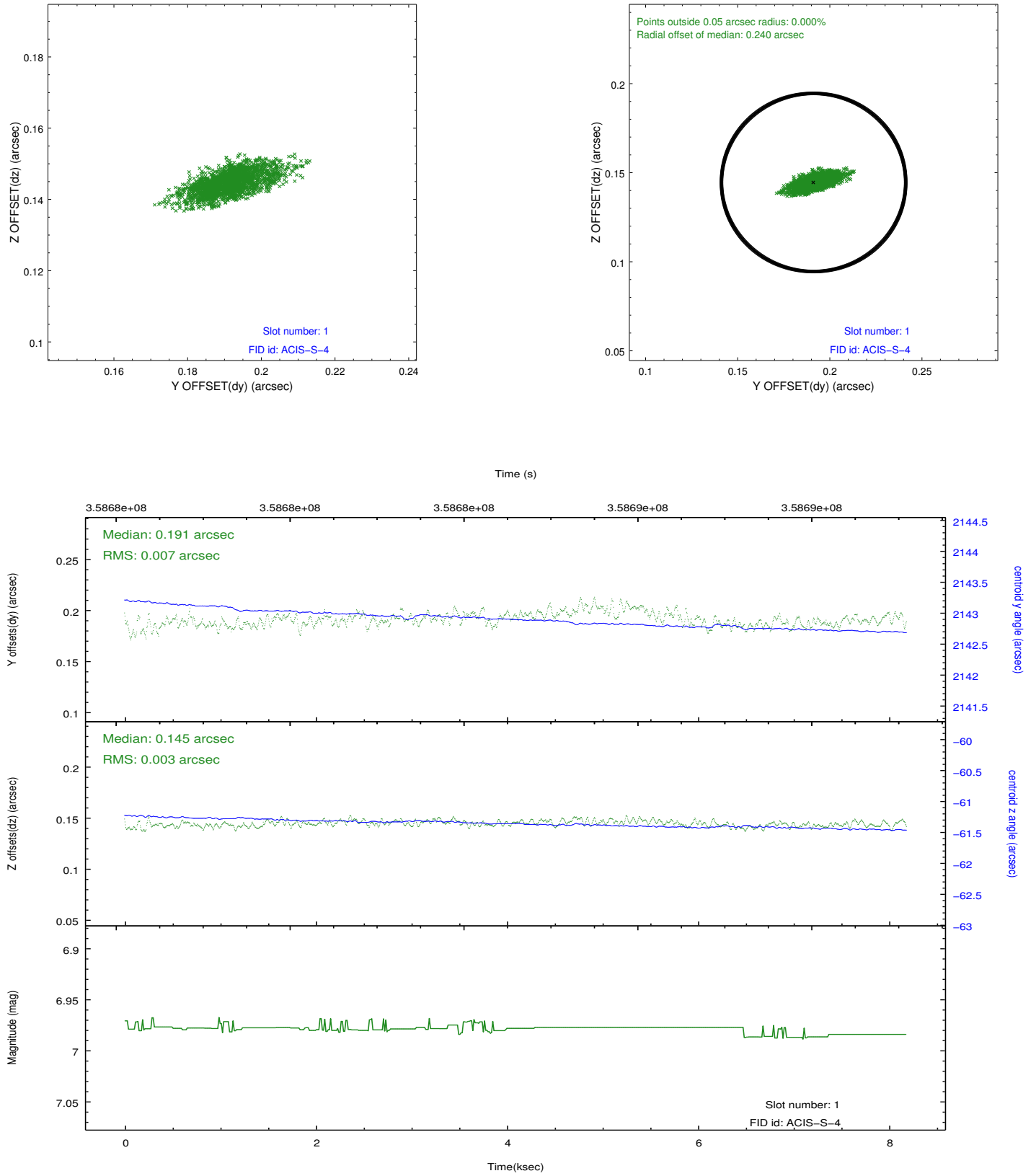


## 2.5 FID Slots

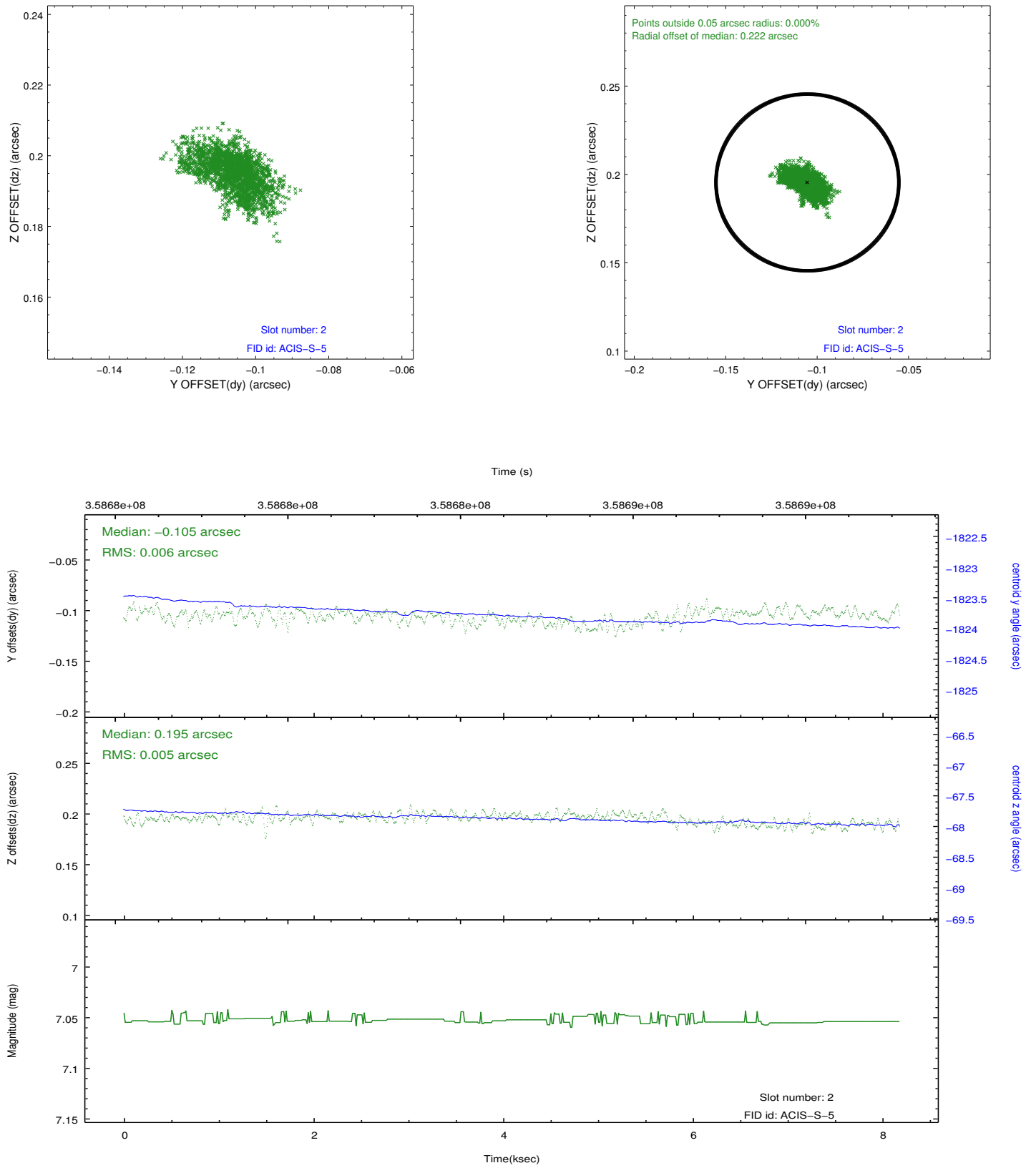
### 2.5.1 Slot 0



## 2.5.2 Slot 1

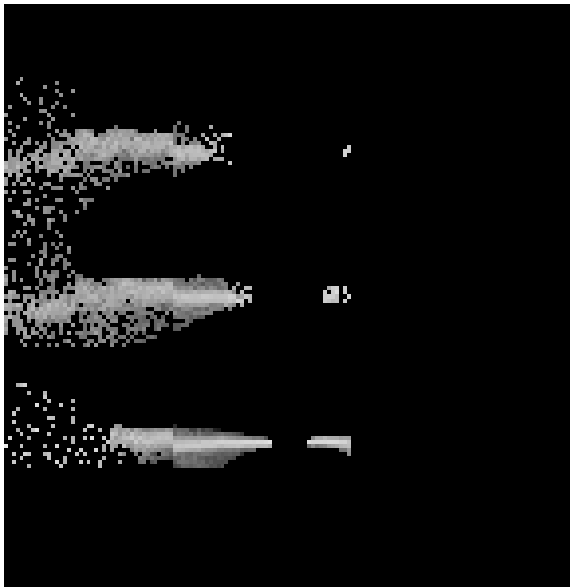


### 2.5.3 Slot 2

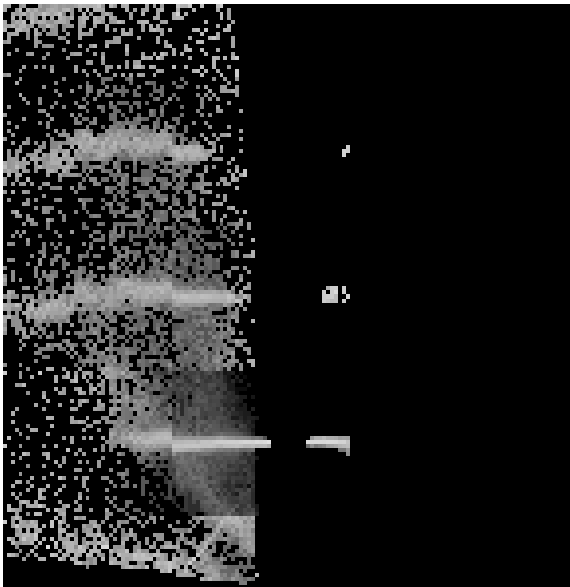


# 3 Gratings

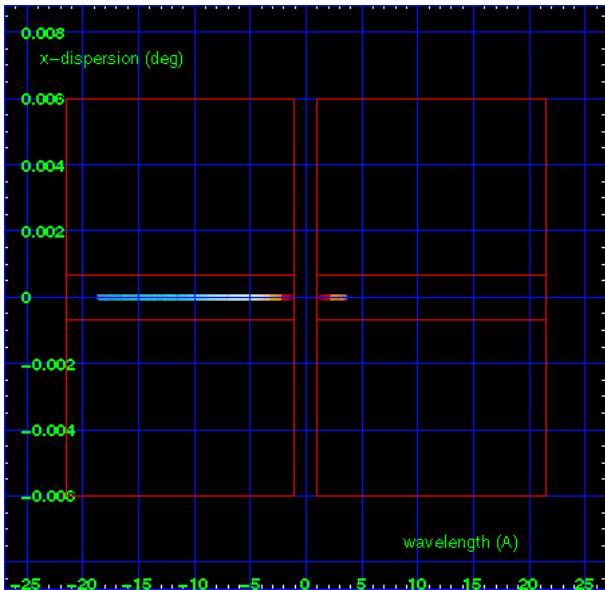
## 3.1 HEG Arm



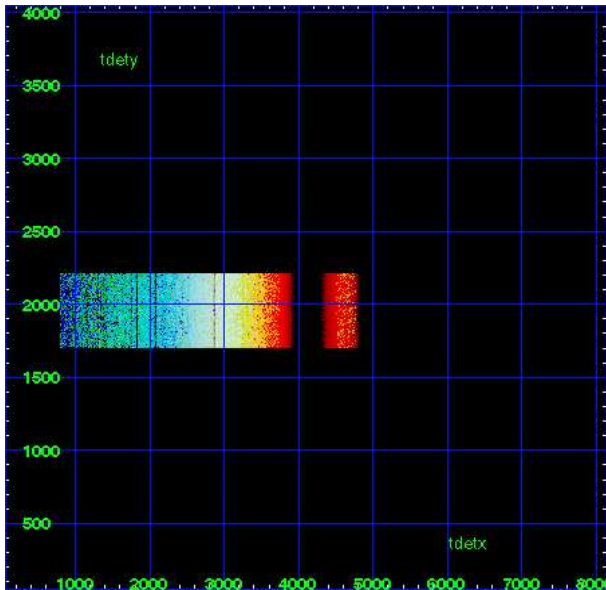
HEG Order Sort 123



HEG Order Sort ALL

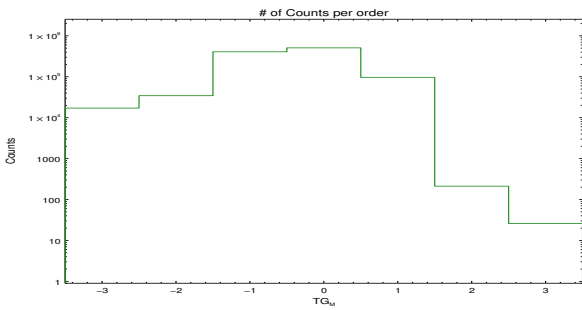


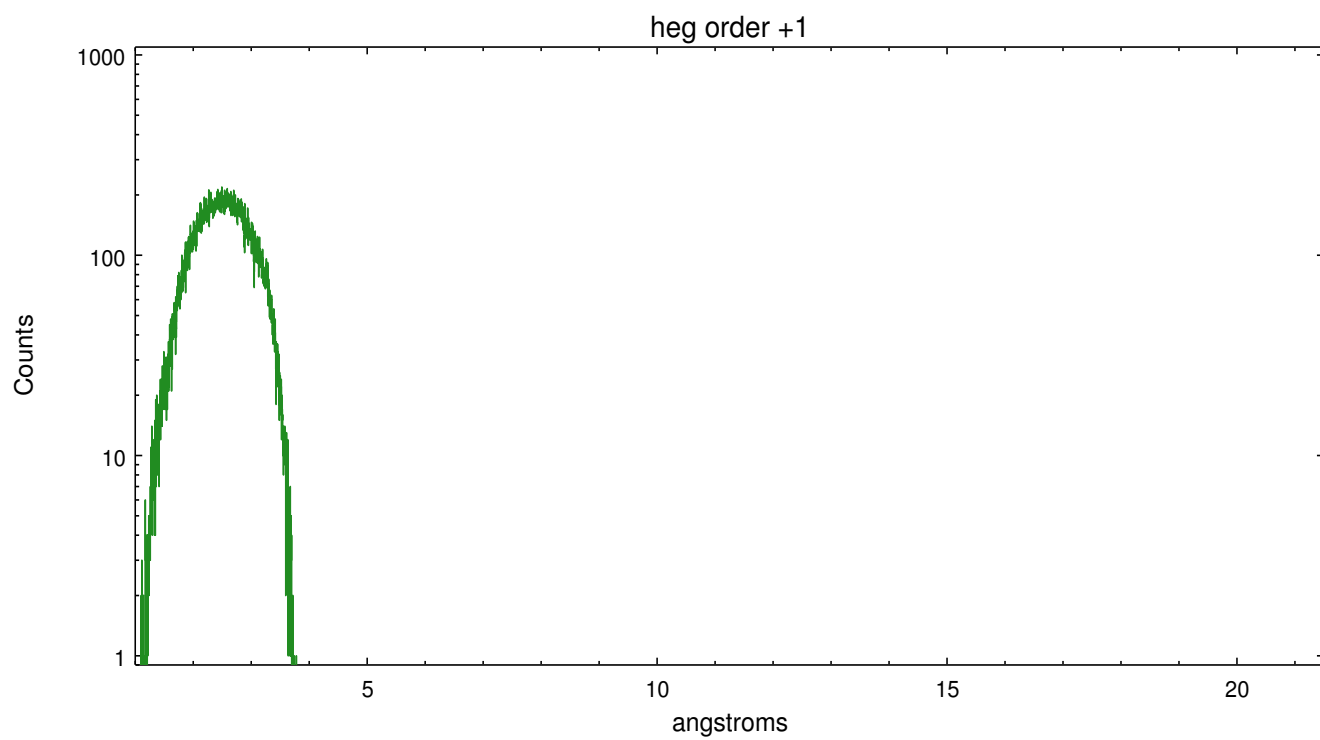
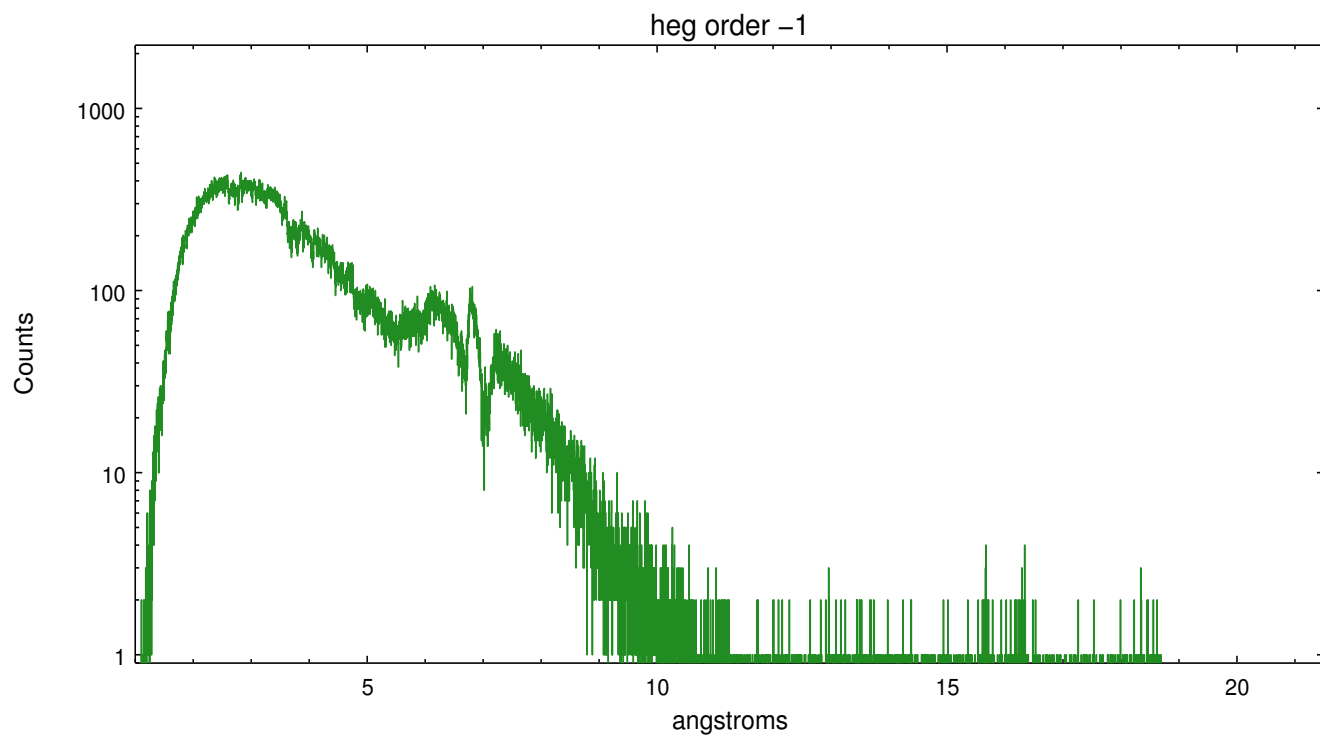
Spot Image HEG



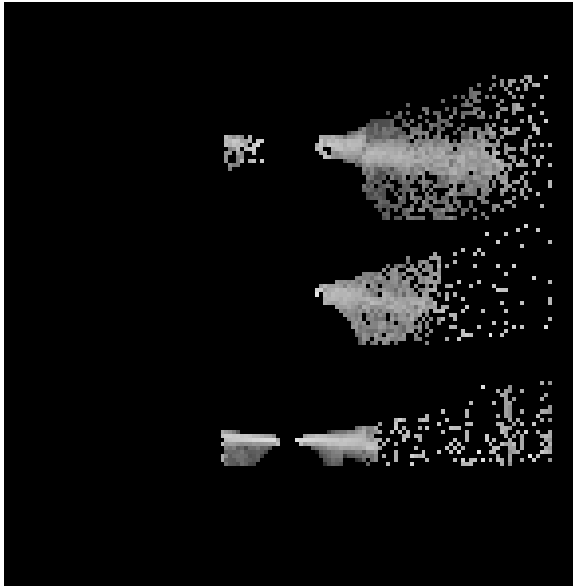
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	17132	34482	407194	508400	96724	212	26

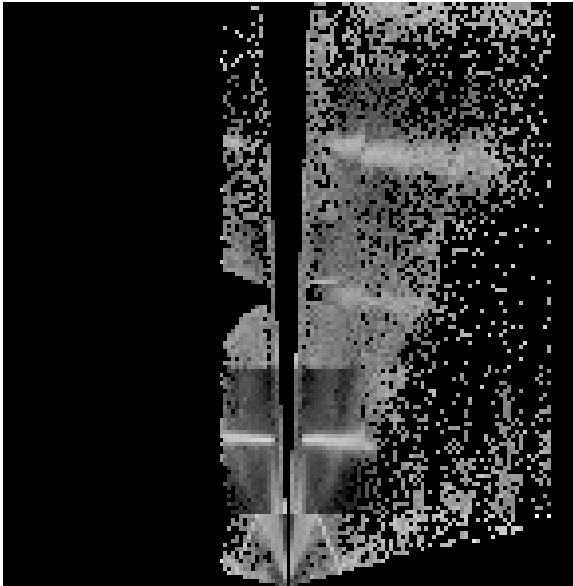




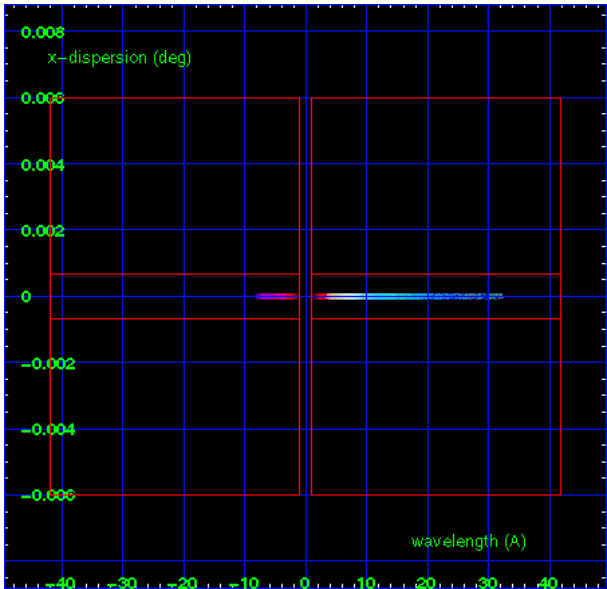
3.2 MEG Arm



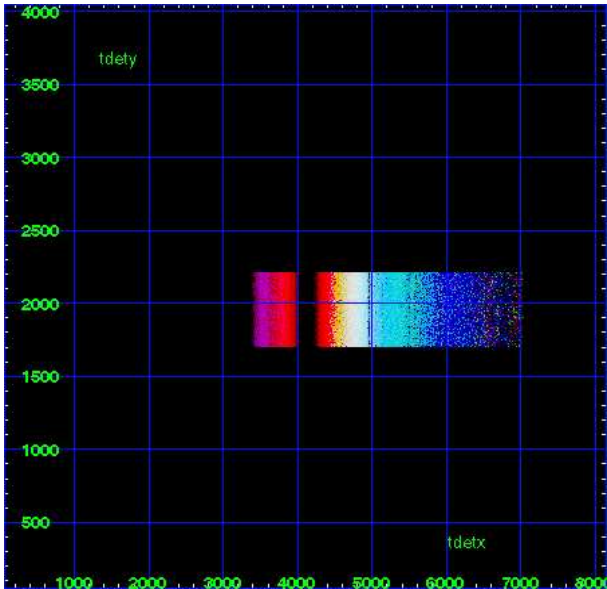
MEG Order Sort 123



MEG Order Sort ALL

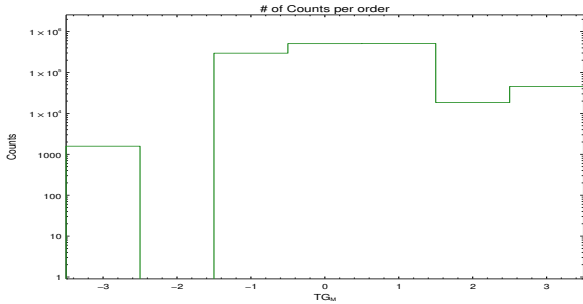


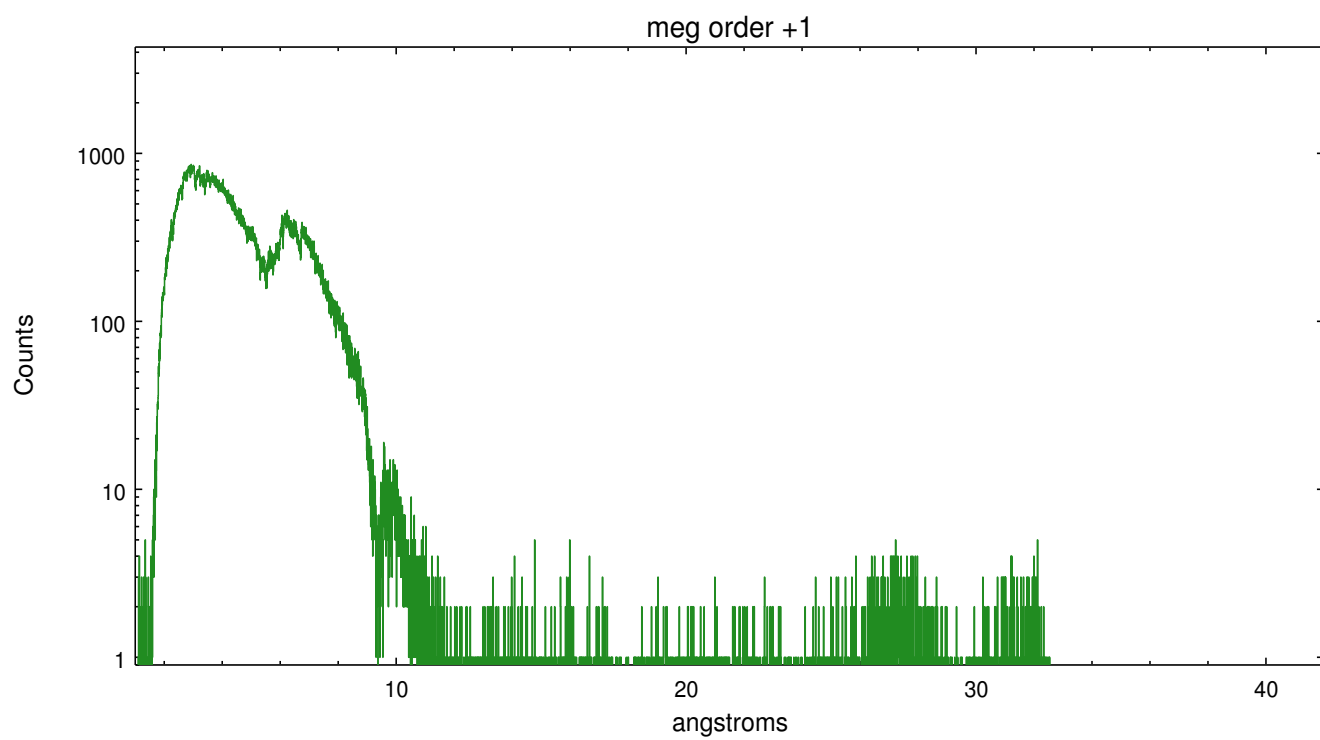
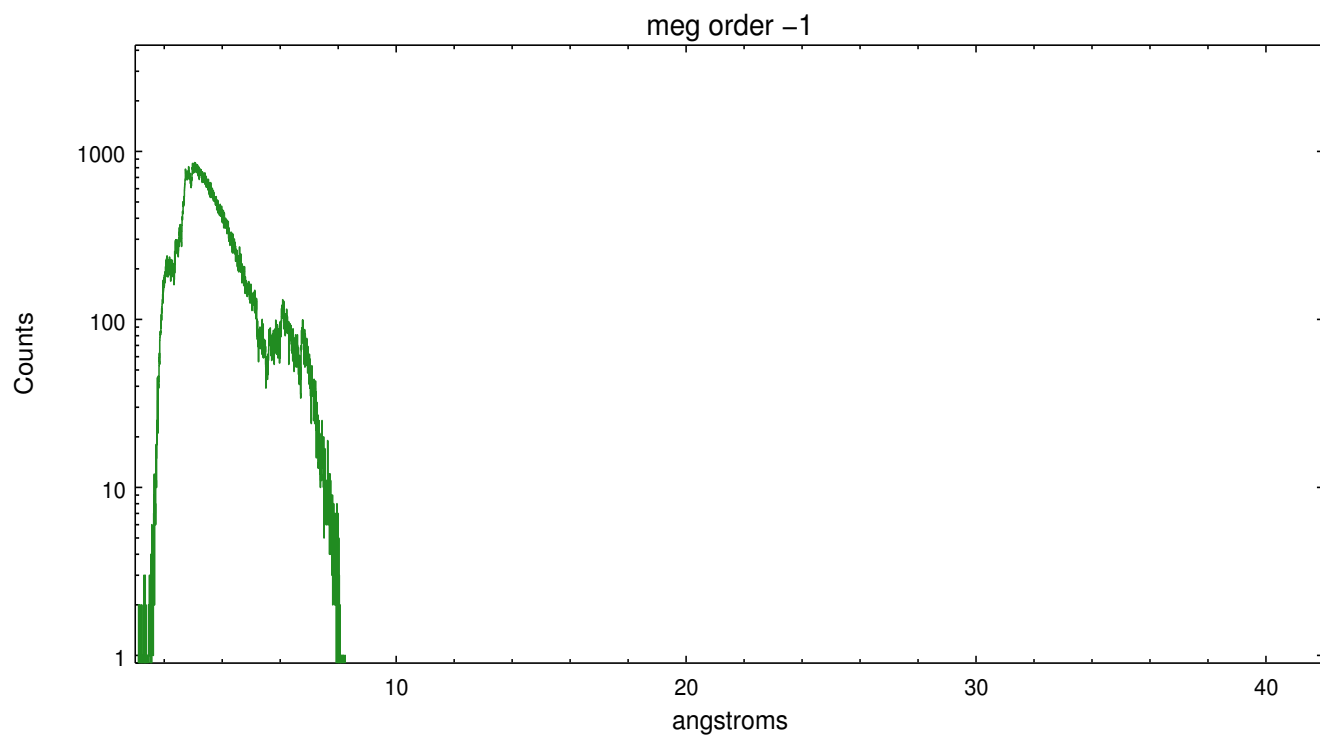
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1578	0	296774	508400	512516	18424	45537







# A Summary

## A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2012.06.11
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	8.179

## A.2 Comments

Note: intentional SIM offset to place two spectral arms off the detector array. Spectra are primarily of HEG negative and MEG positive orders.