

# V&V Reference Report

## L2 ASCDS Version : 8.5.1.1

Observation 6297 - L2 Version 4  
Chandra X-Ray Center

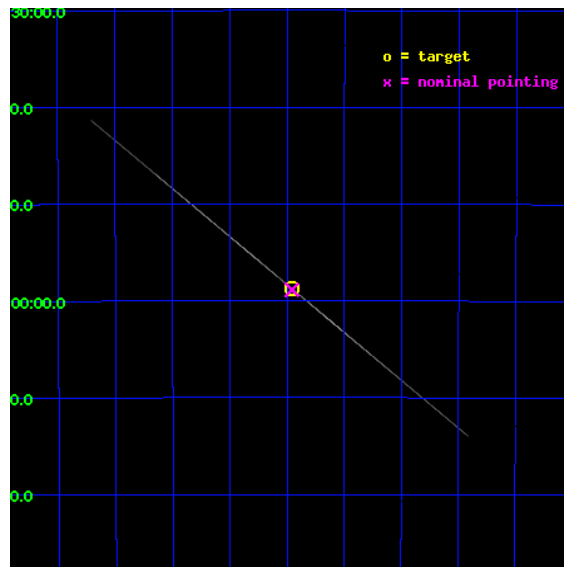
L2 Processing Date : Dec 24 2012

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# 1 Front

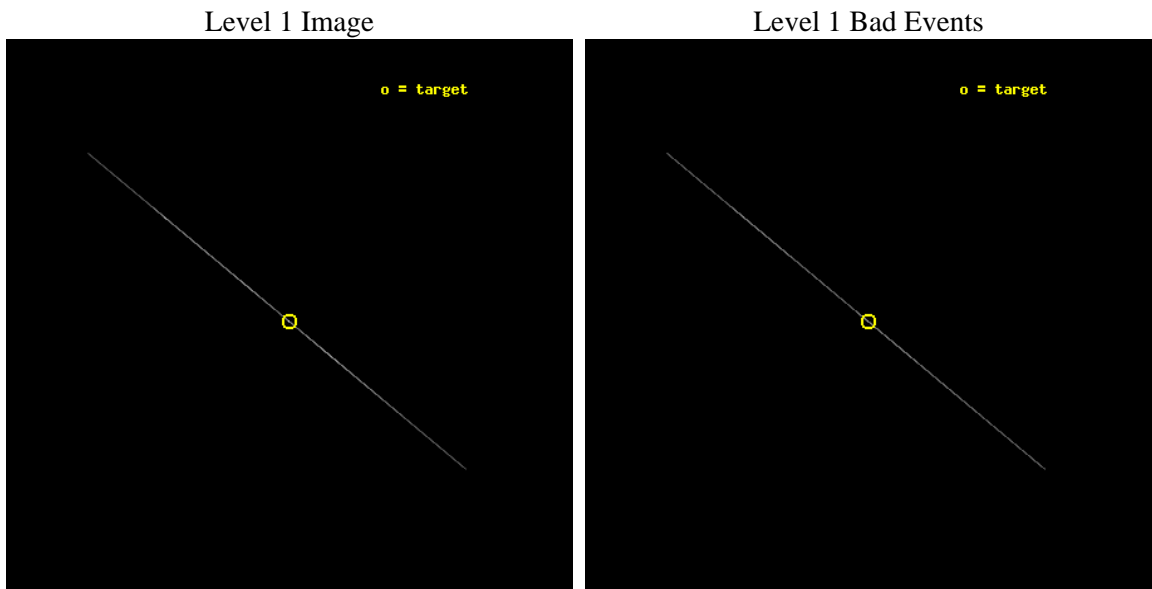
seq_num	400469	Sequence number
obs_id	6297	Observation id
title	Outburst spectroscopy of the closest accretion-powered millisecond pulsar	Proposal title
observer	Dr Duncan Galloway	Principal investigator
object	SAX J1808.4-3658	Source name
ra_targ	272.114583	Observer's specified target RA [deg]
dec_targ	-36.978972	Observer's specified target Dec [deg]
ra_nom	272.11443374967	Nominal RA [deg]
dec_nom	-36.981195695003	Nominal Dec [deg]
roll_nom	39.548264721598	Nominal Roll [deg]
revision	4	Processing version of data
ontime	14344.25	Sum of GTIs [s]
livetime	14288.217773438	Livetime [s]
ontime4	14344.25	Sum of GTIs [s]
ontime5	14344.25	Sum of GTIs [s]
ontime6	14344.25	Sum of GTIs [s]
ontime7	14344.25	Sum of GTIs [s]
ontime8	14344.25	Sum of GTIs [s]
ontime9	14344.25	Sum of GTIs [s]
l2events	1004209	Number of level 2 events



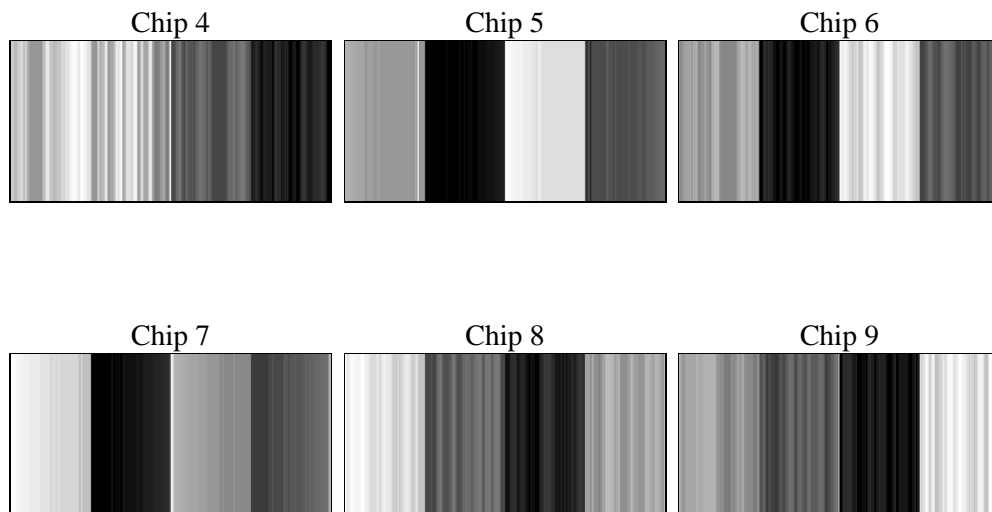
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	14220.000000	[s] Scheduled observation exposure time
ascdsver	8.5.1.1	Processing system revision	ontime	14344.25	Sum of GTIs [s]
caldbver	4.5.5	&#160	ontime4	14344.25	Sum of GTIs [s]
date	2012-12-24T14:04:13	Date and time of file creation	ontime5	14344.25	Sum of GTIs [s]
revision	4	Processing version of data	ontime6	14344.25	Sum of GTIs [s]
			ontime7	14344.25	Sum of GTIs [s]
			ontime8	14344.25	Sum of GTIs [s]
			ontime9	14344.25	Sum of GTIs [s]
			l1events	1210619	Number of level 1 events

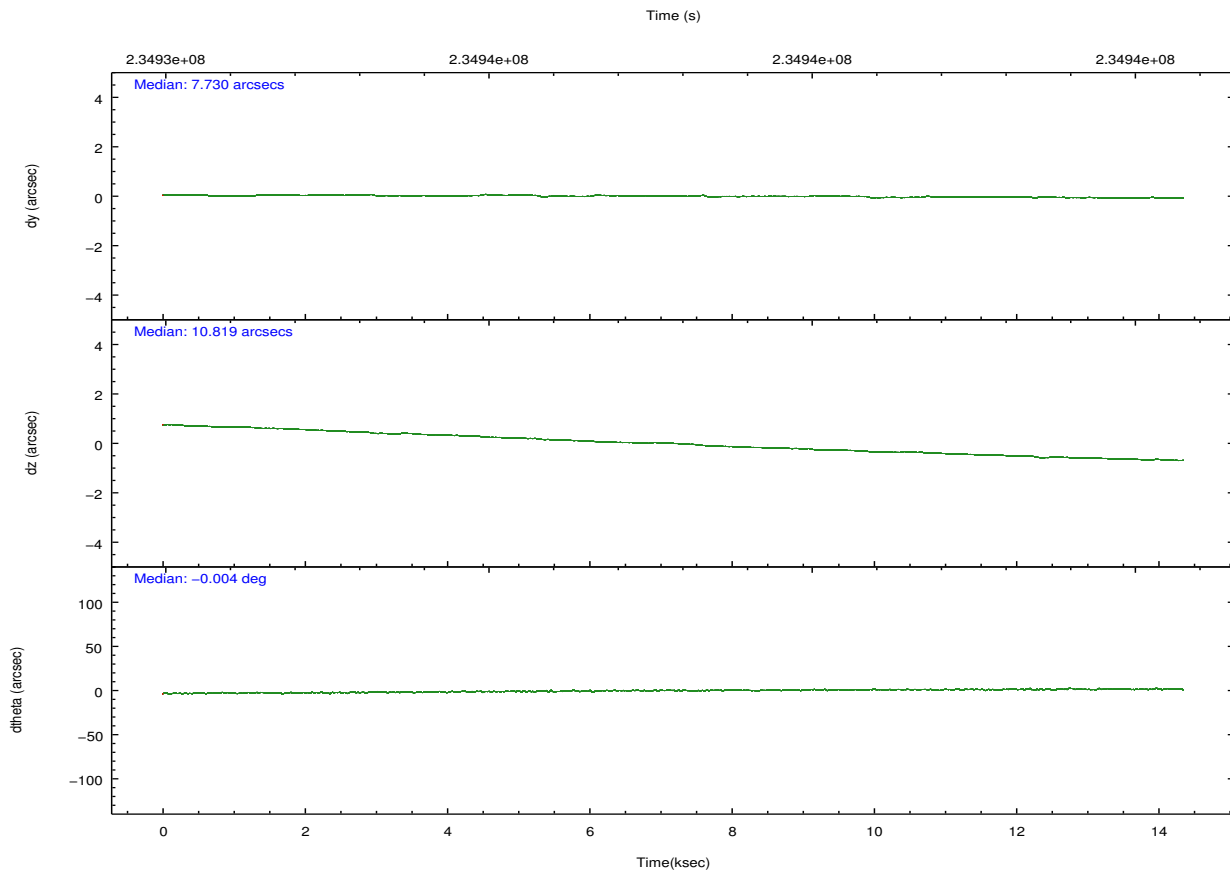
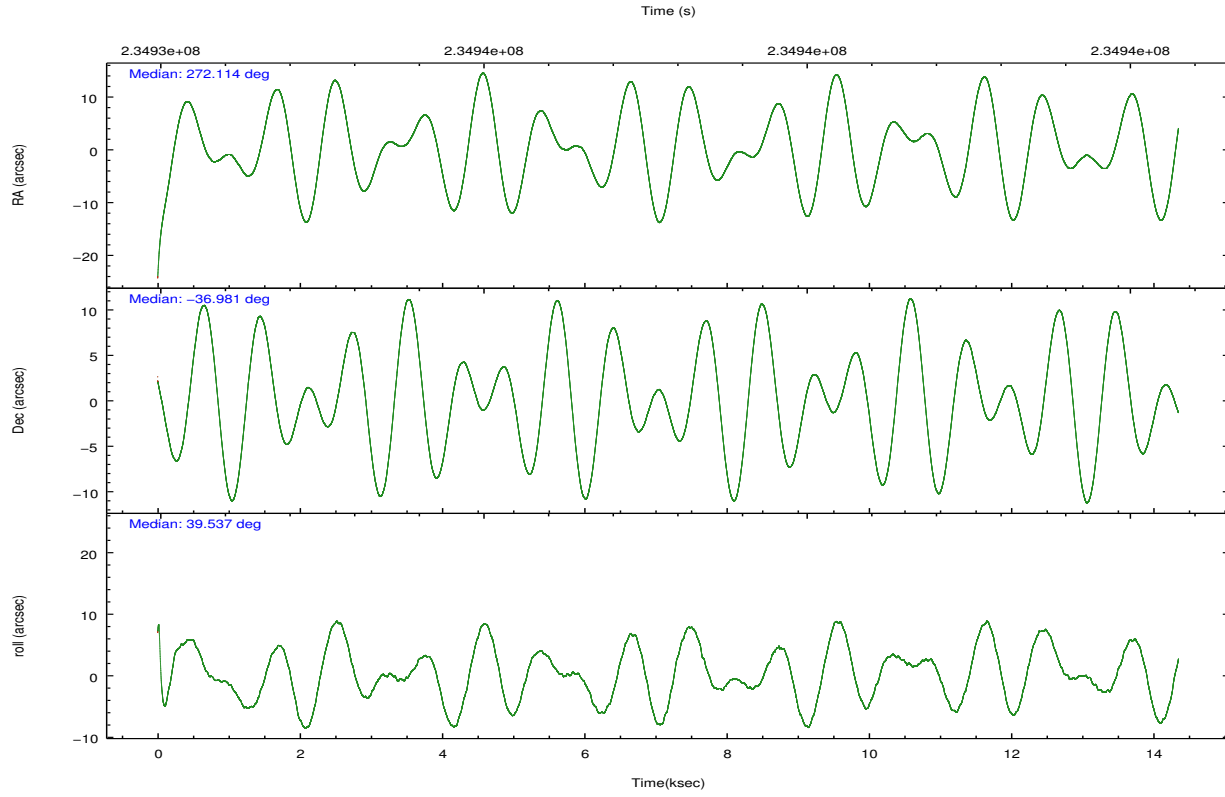
### 2.1.4 Events

	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	40262	204844	205947	564401	147114	48051	grade 0 events	8579	55424	35938	119062	61200	11953
rejected events	6493	27454	10227	40870	12056	7544		21%	27%	17%	21%	41%	24%
rejected %	16%	13%	4%	7%	8%	15%	grade 1 events	135	1734	133	3774	225	109
								0%	0%	0%	0%	0%	0%
							grade 2 events	16269	59638	138443	143637	51544	18609
								40%	29%	67%	25%	35%	38%
							grade 3 events	2847	7180	3921	56757	6450	2712
								7%	3%	1%	10%	4%	5%
							grade 4 events	2953	7321	3857	55953	6384	3000
								7%	3%	1%	9%	4%	6%
							grade 5 events	4492	13738	6103	23610	7367	5479
								11%	6%	2%	4%	5%	11%
							grade 6 events	4987	59809	17552	161608	13944	6189
								12%	29%	8%	28%	9%	12%
							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_FAINT	CC33_FAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	272.102995	272.1144337496747	Subarray requested	NONE	NONE
[deg] Pointing Dec	-37.006834	-36.98119569500287	Alternating exposures requested	N	N
[deg] Pointing Roll	39.384734	39.54826472159832	[s] Primary exposure time	0.000000	0
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-186.132523	-186.1397904050899			
[mm] SIM translation stage offset	-4	-3.992732177917873			
[s] Observation start time (MET)	234930796.184000	234929473.10985			
Observation start date	2005-06-12T02:32:12	2005-06-12T02:11:13			
[s] Observation end time (MET)	234945016.184000	234945541.01059			
Observation end date	2005-06-12T06:29:12	2005-06-12T06:39:01			
Read mode	CONTINUOUS	CONTINUOUS			

## 2.3 Aspect

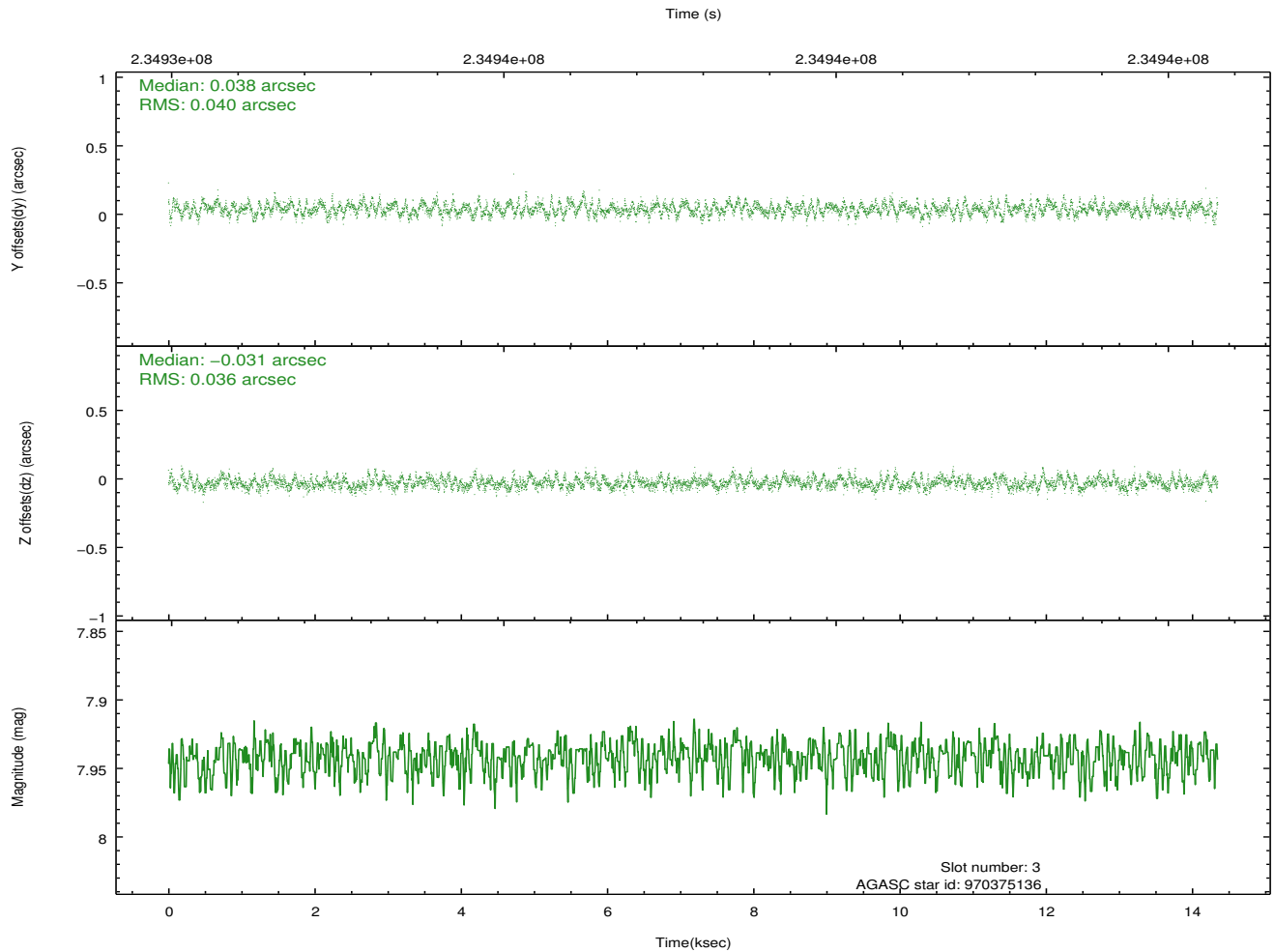
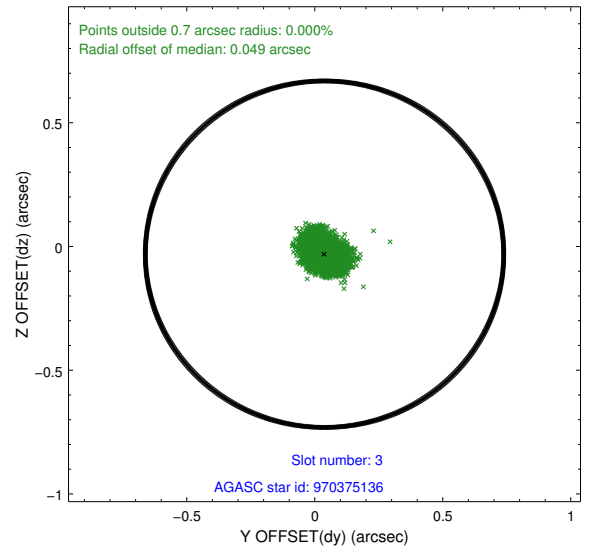
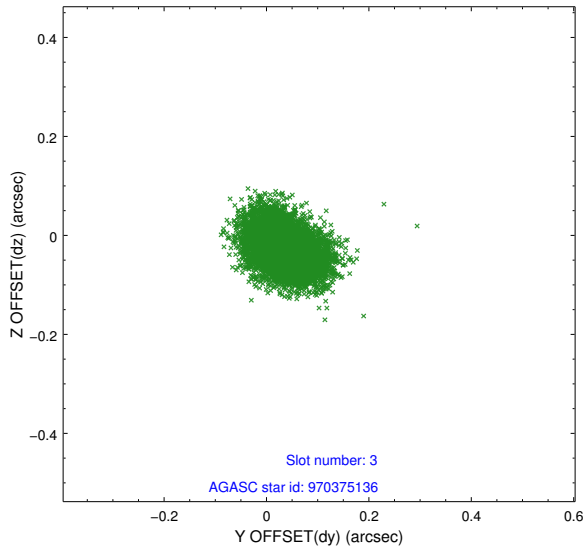


### Slot Statistics

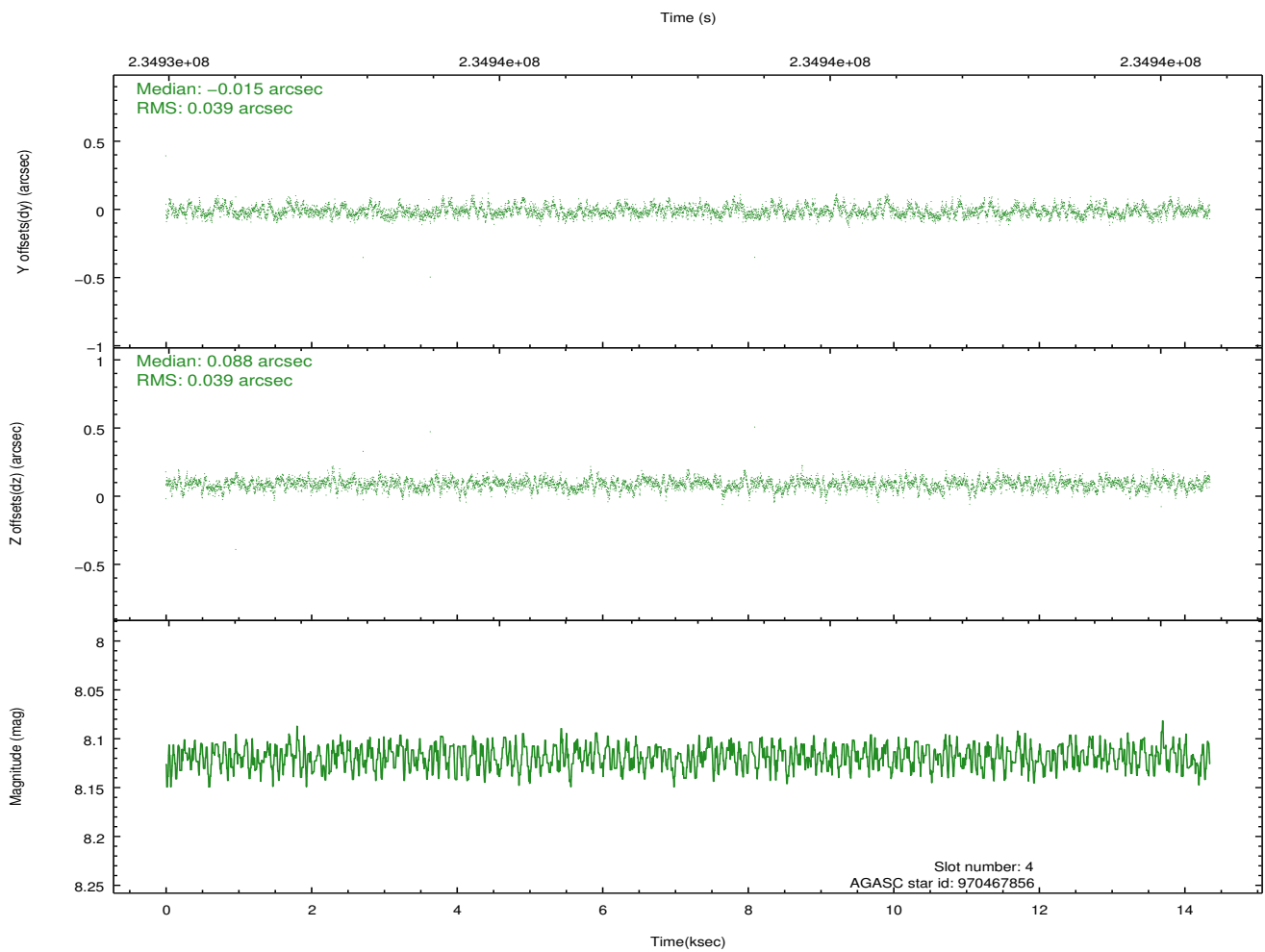
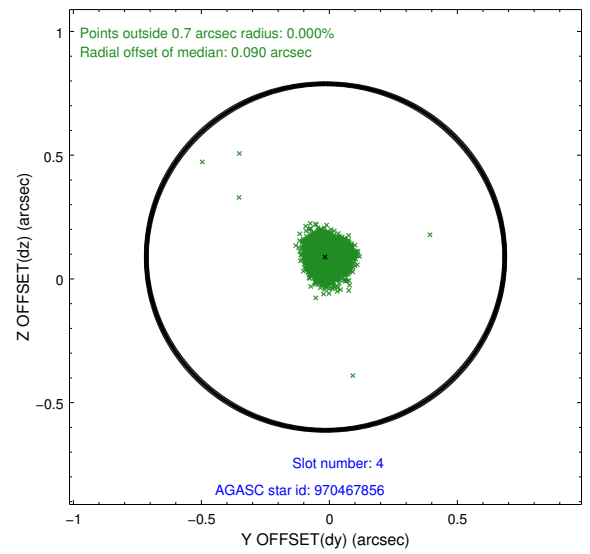
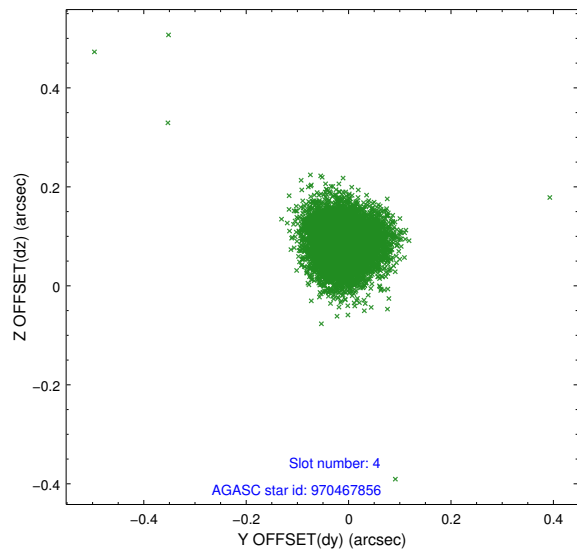
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.08	3501	-0.048	-0.115	0.010	0.023	0.000000	0.000000	-760.27	-1814.56
1	FID	ACIS-S-4	7.18	3501	0.101	0.054	0.006	0.011	0.000000	0.000000	2153.01	93.72
2	FID	ACIS-S-5	7.23	3501	-0.084	0.070	0.010	0.022	0.000000	0.000000	-1812.73	87.78
3	GUIDE	970375136	7.94	7001	0.038	-0.031	0.057	0.092	271.398909	-36.754910	-998.98	1983.37
4	GUIDE	970467856	8.12	7000	-0.015	0.088	0.057	0.092	272.620241	-37.224567	646.46	-1549.50
5	GUIDE	970481256	7.12	7001	-0.079	0.067	0.048	0.075	272.321587	-36.966000	579.34	-285.99
6	GUIDE	970485720	8.97	6999	0.075	0.043	0.091	0.152	273.024642	-37.041963	1959.53	-1787.87
7	GUIDE	970501016	7.03	6999	-0.021	-0.168	0.079	0.126	272.343750	-36.672537	1301.03	488.17

## 2.4 Star Slots

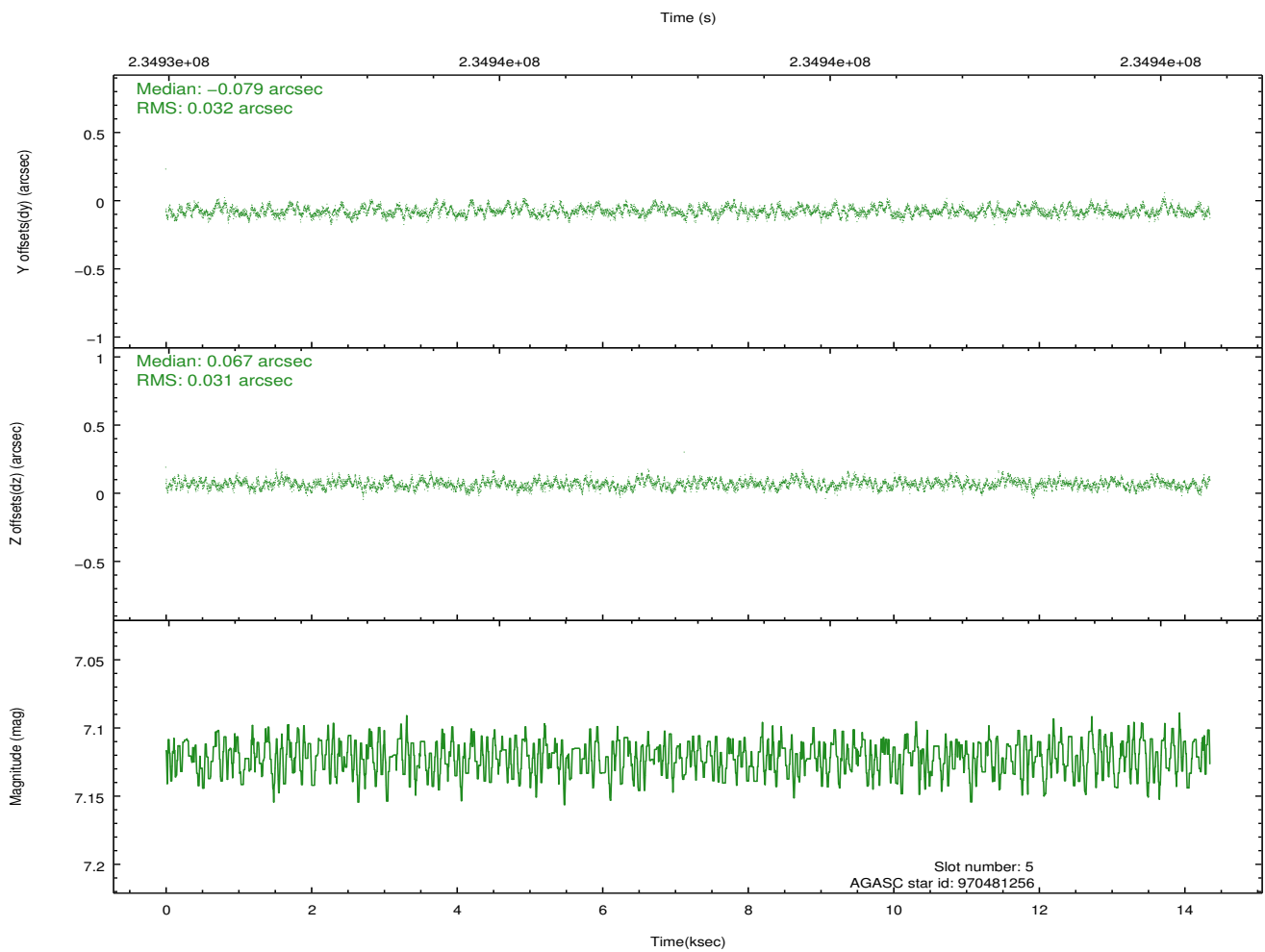
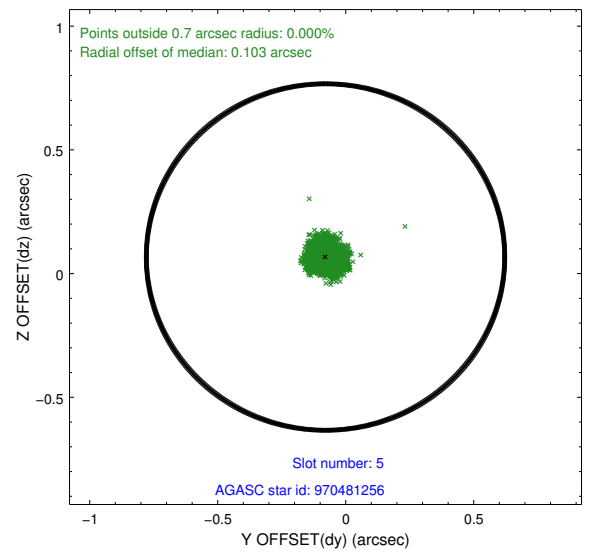
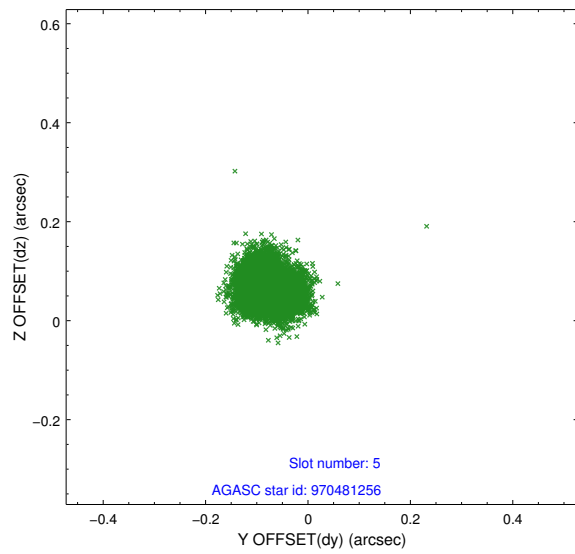
### 2.4.1 Slot 3



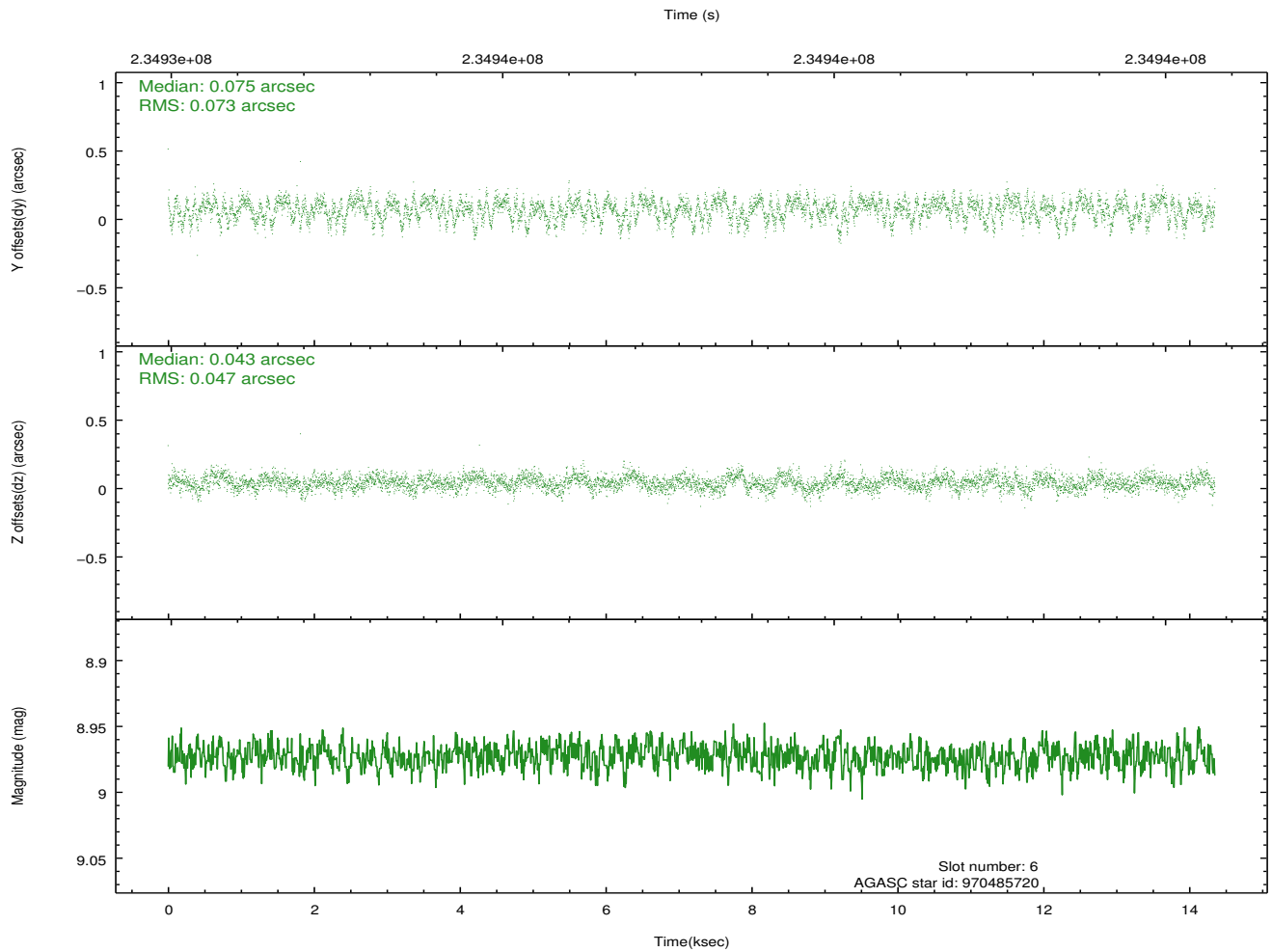
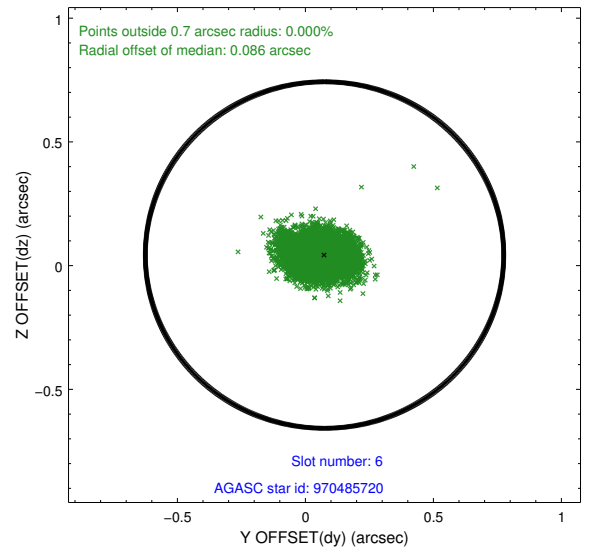
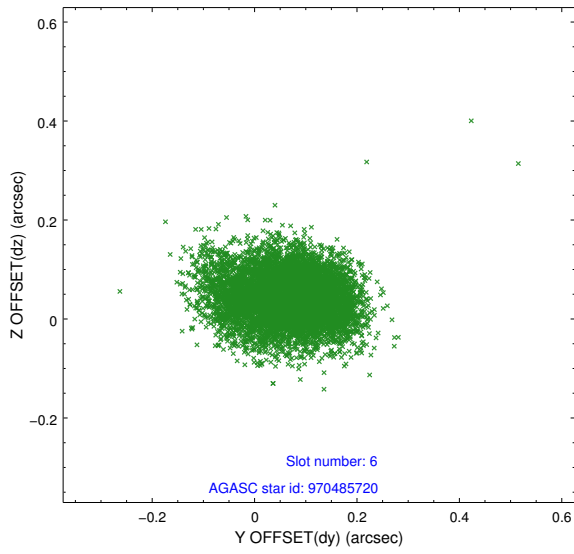
## 2.4.2 Slot 4



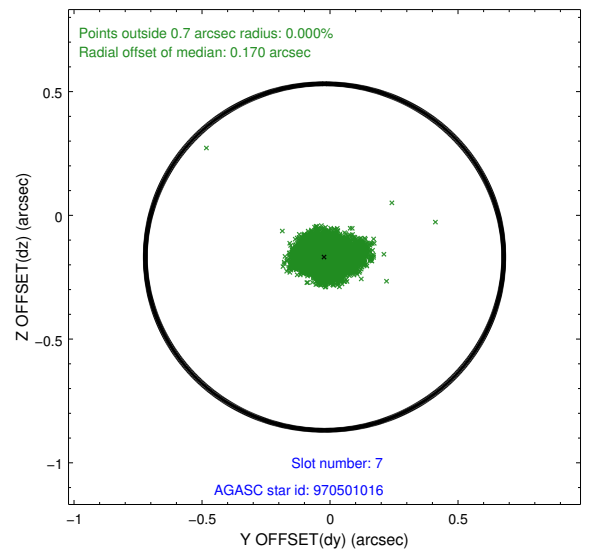
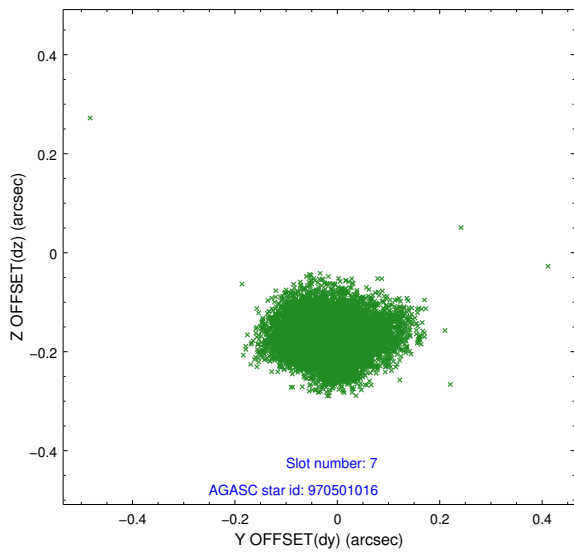
### 2.4.3 Slot 5



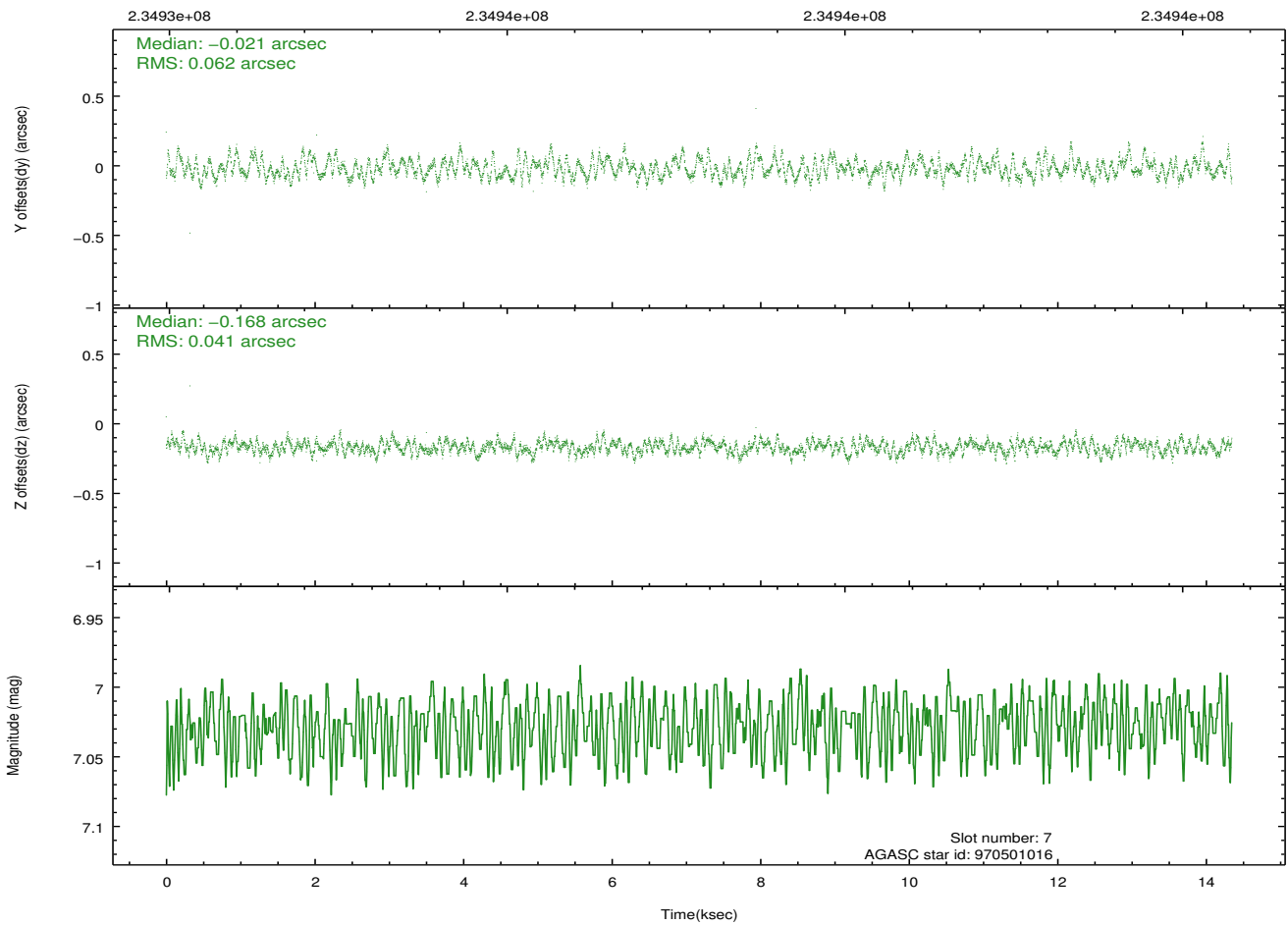
## 2.4.4 Slot 6



## 2.4.5 Slot 7

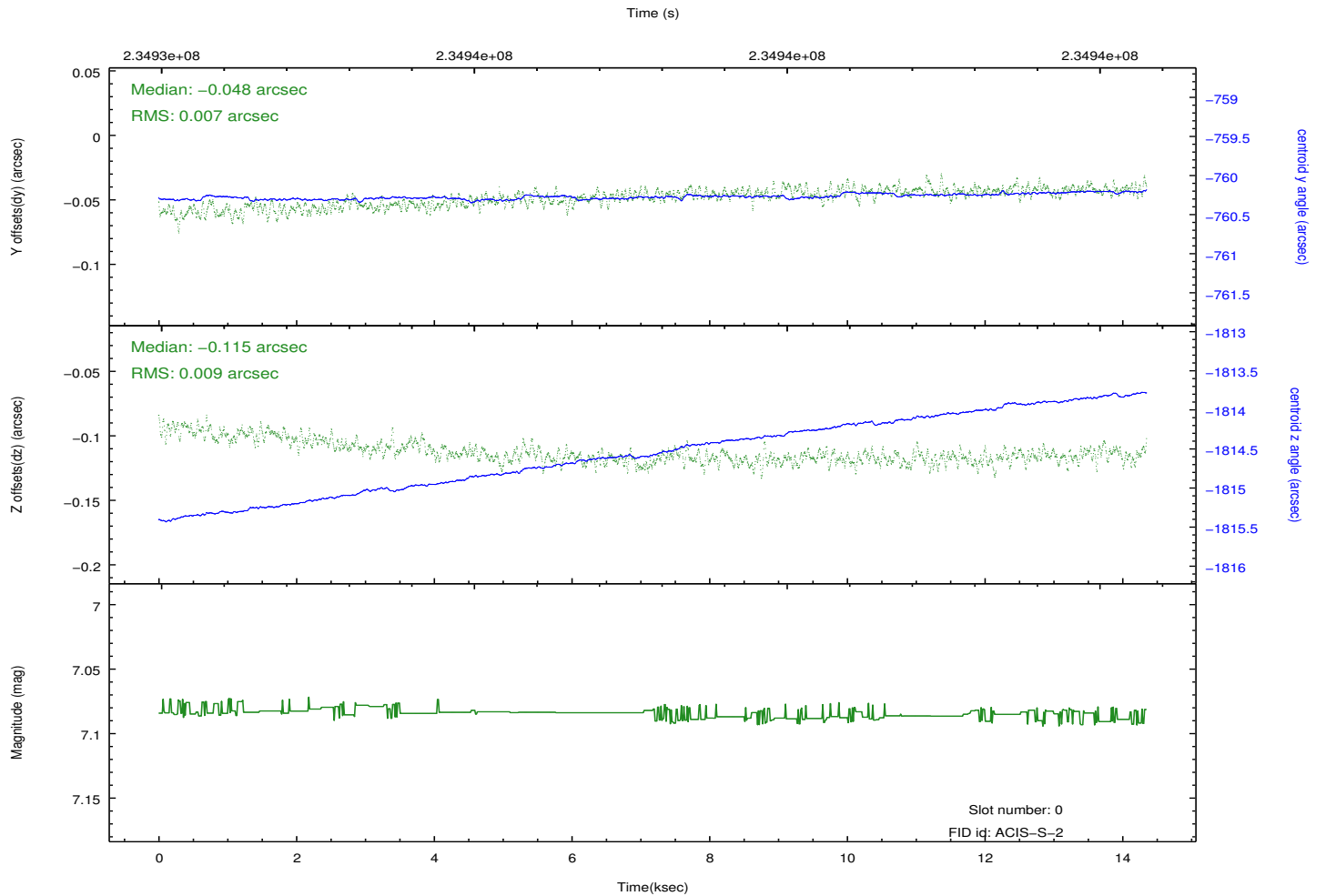
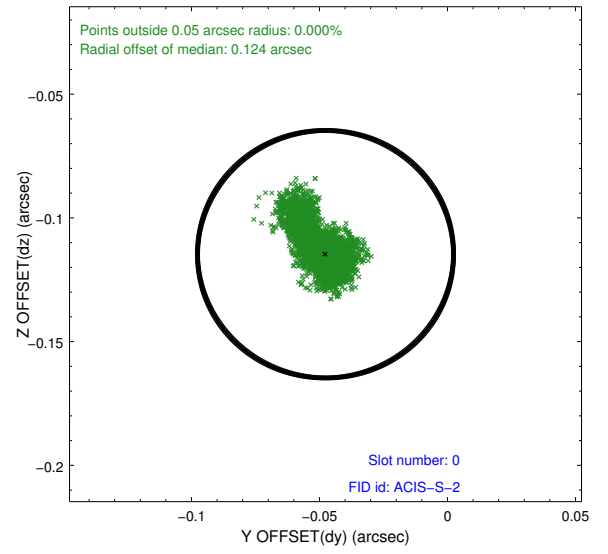
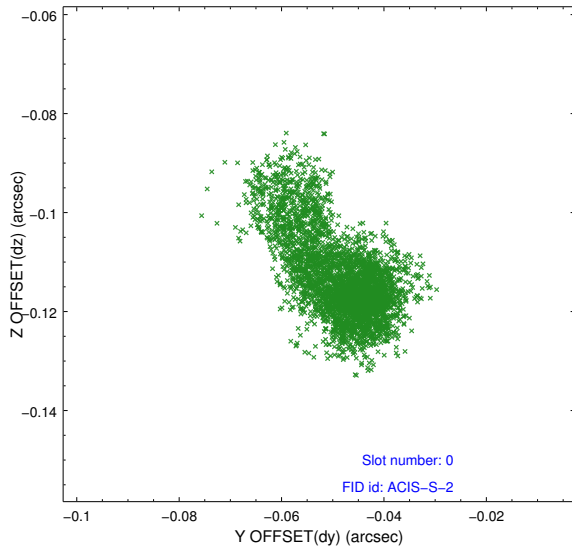


Time (s)

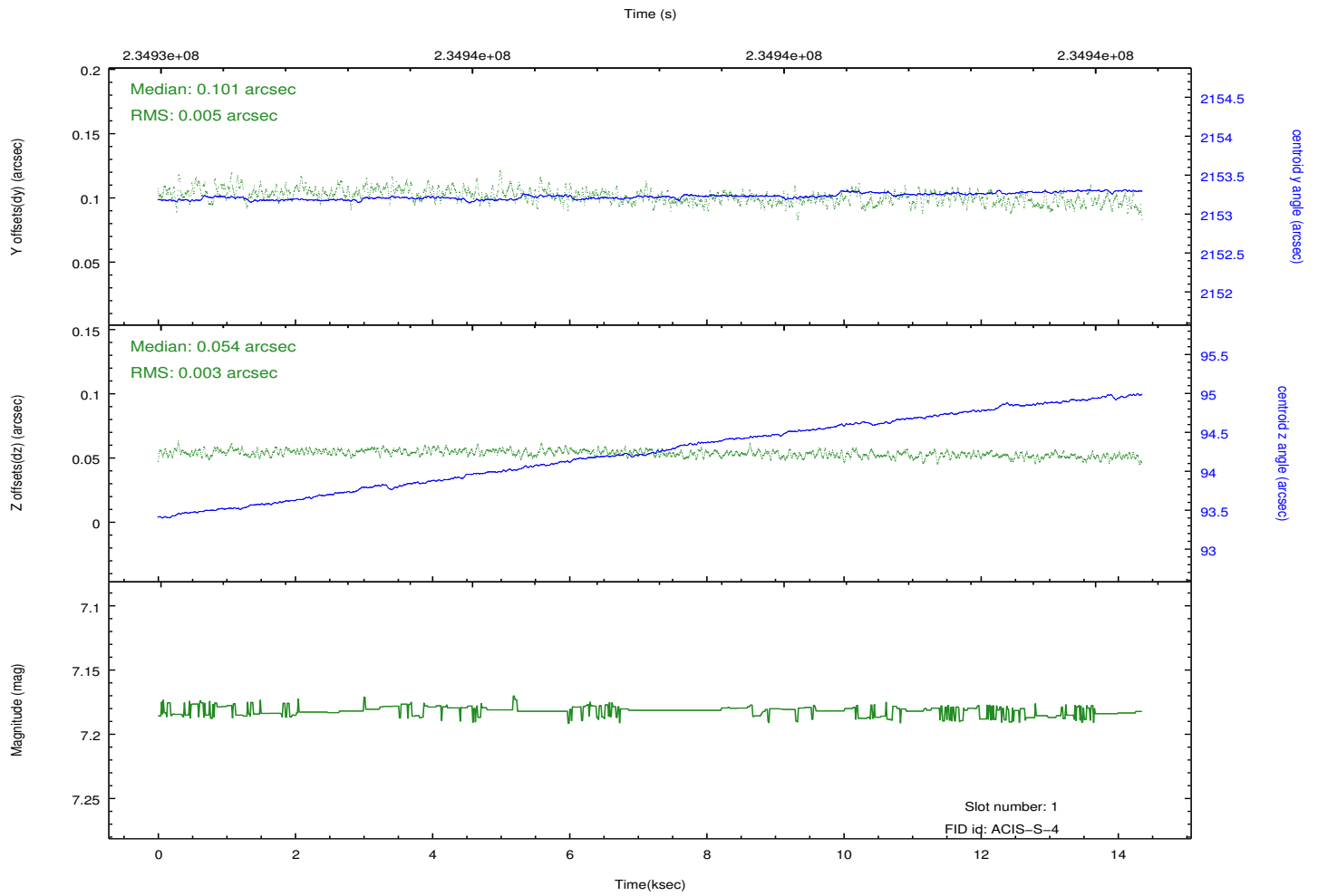
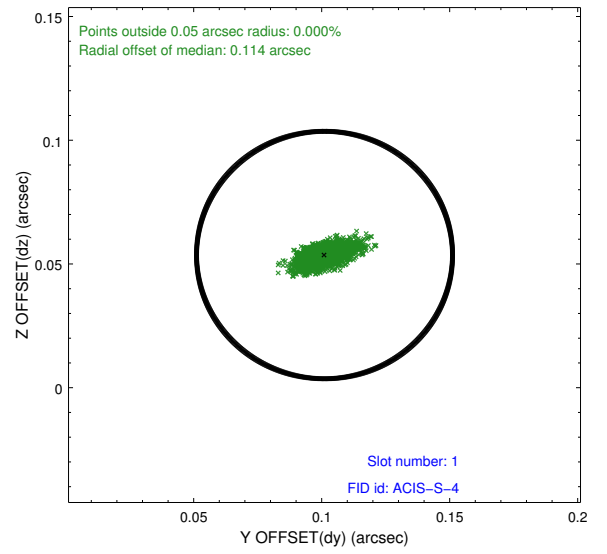
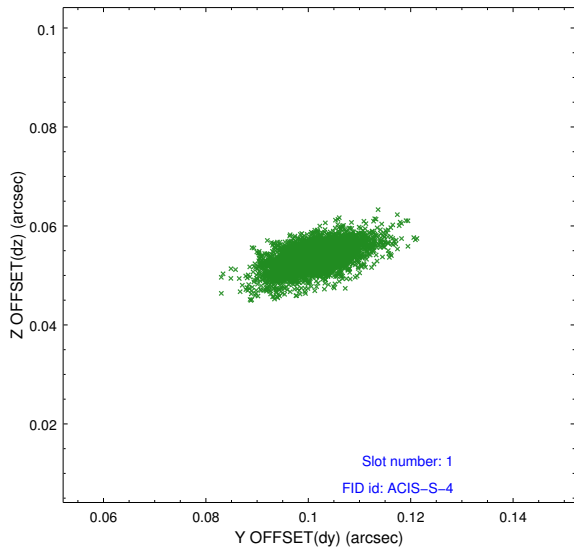


## 2.5 FID Slots

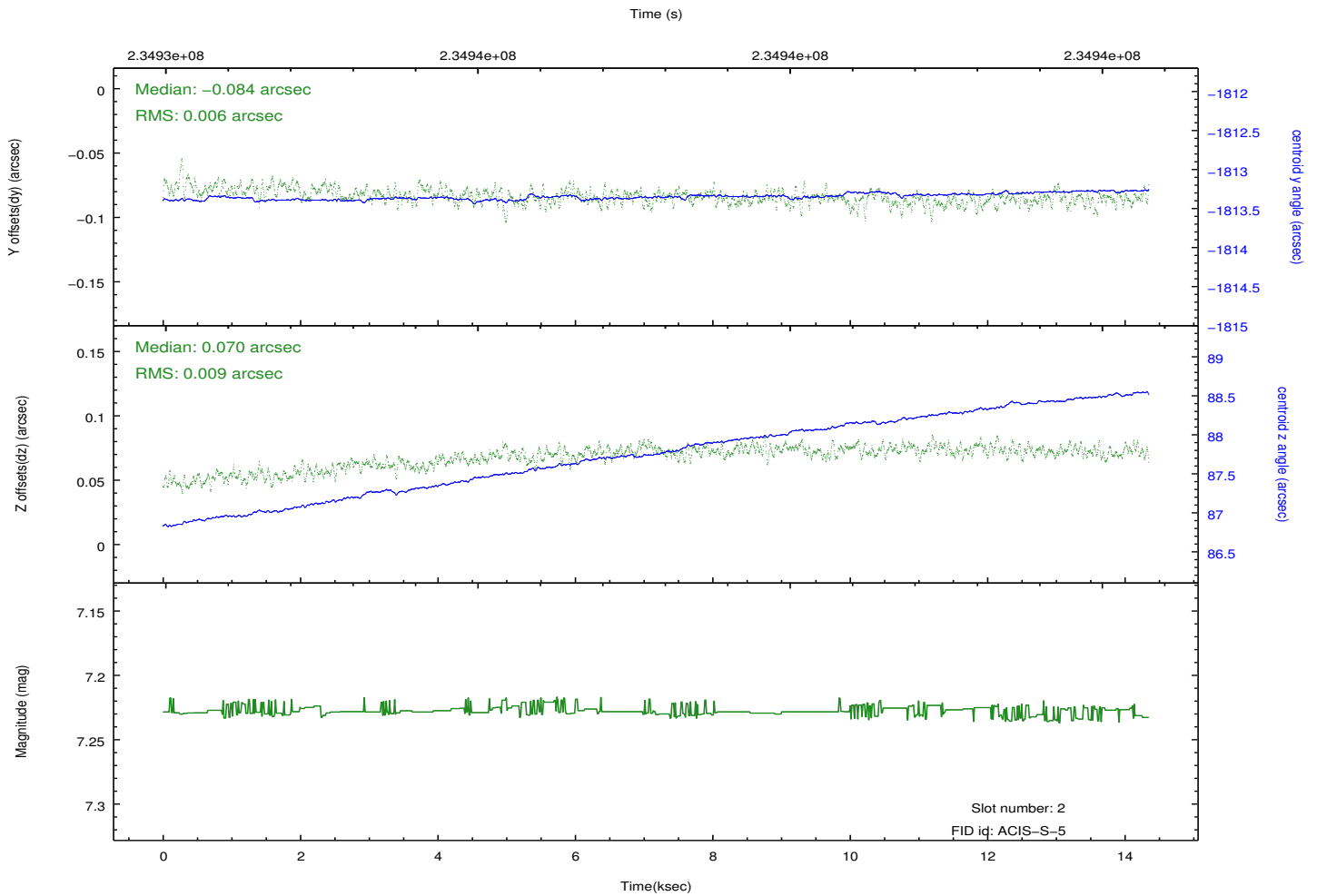
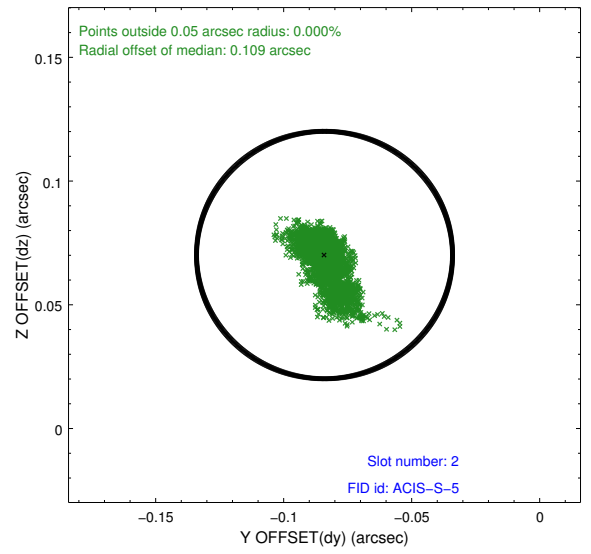
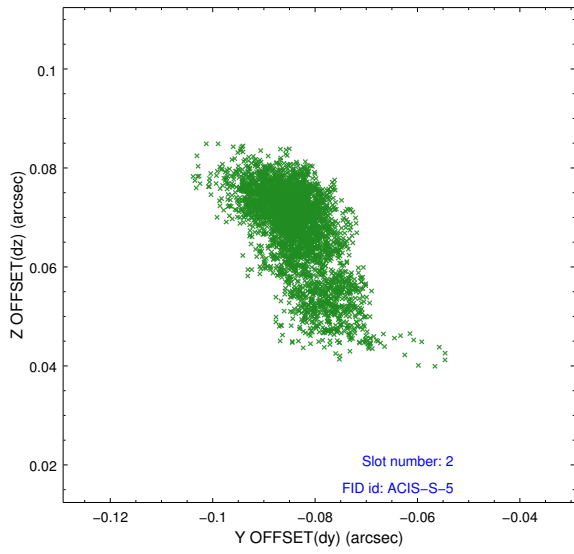
### 2.5.1 Slot 0



## 2.5.2 Slot 1

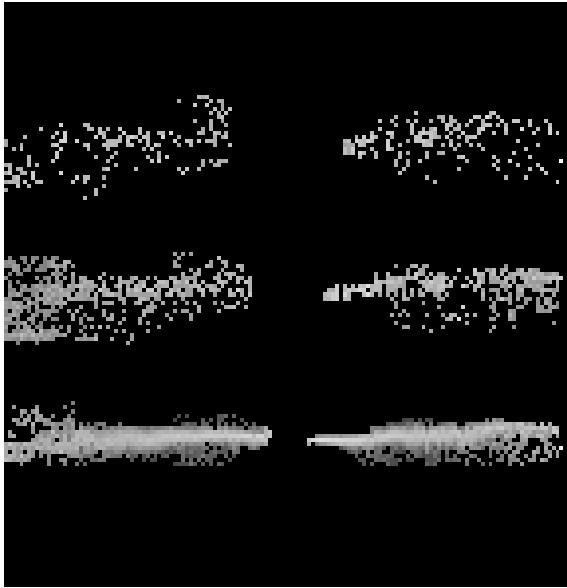


### 2.5.3 Slot 2

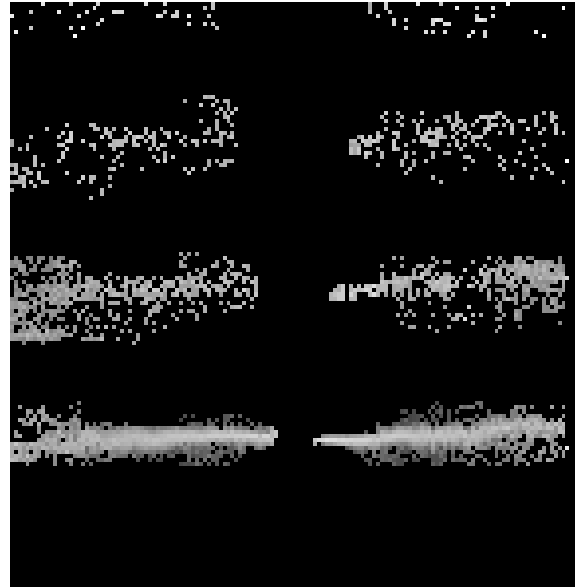


# 3 Gratings

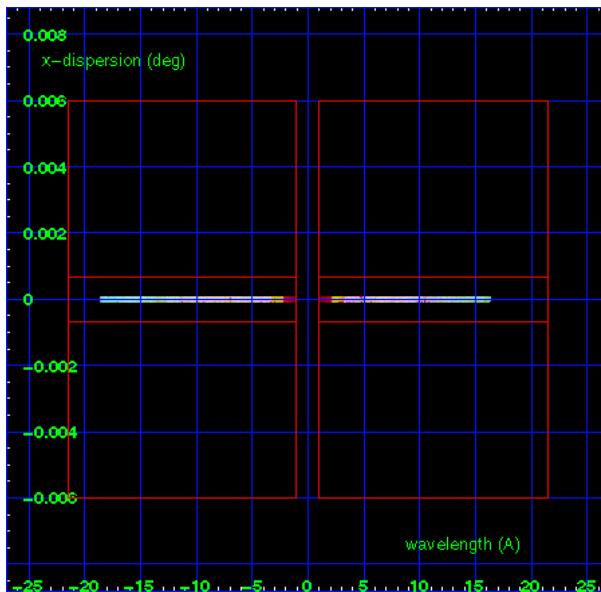
## 3.1 HEG Arm



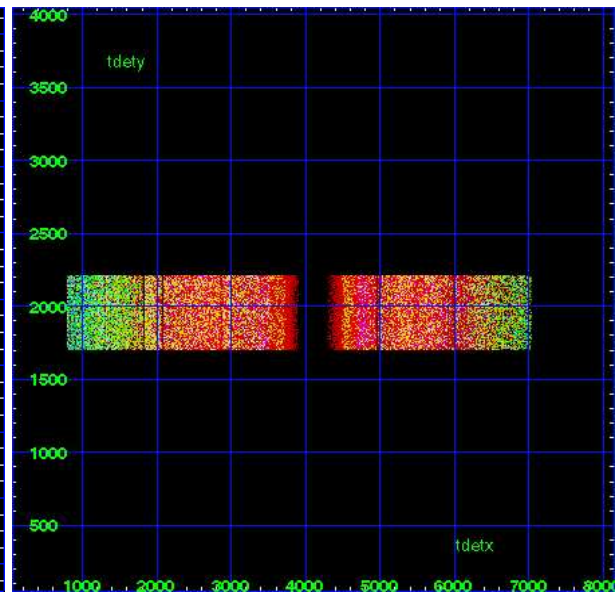
HEG Order Sort 123



HEG Order Sort ALL

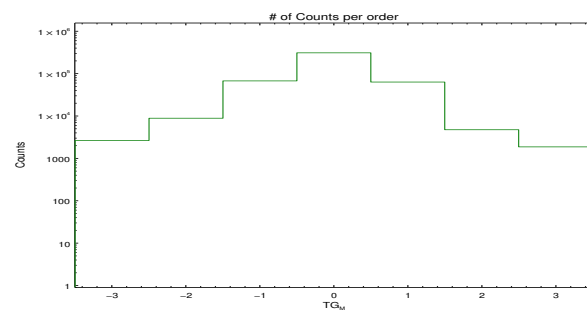


Spot Image HEG

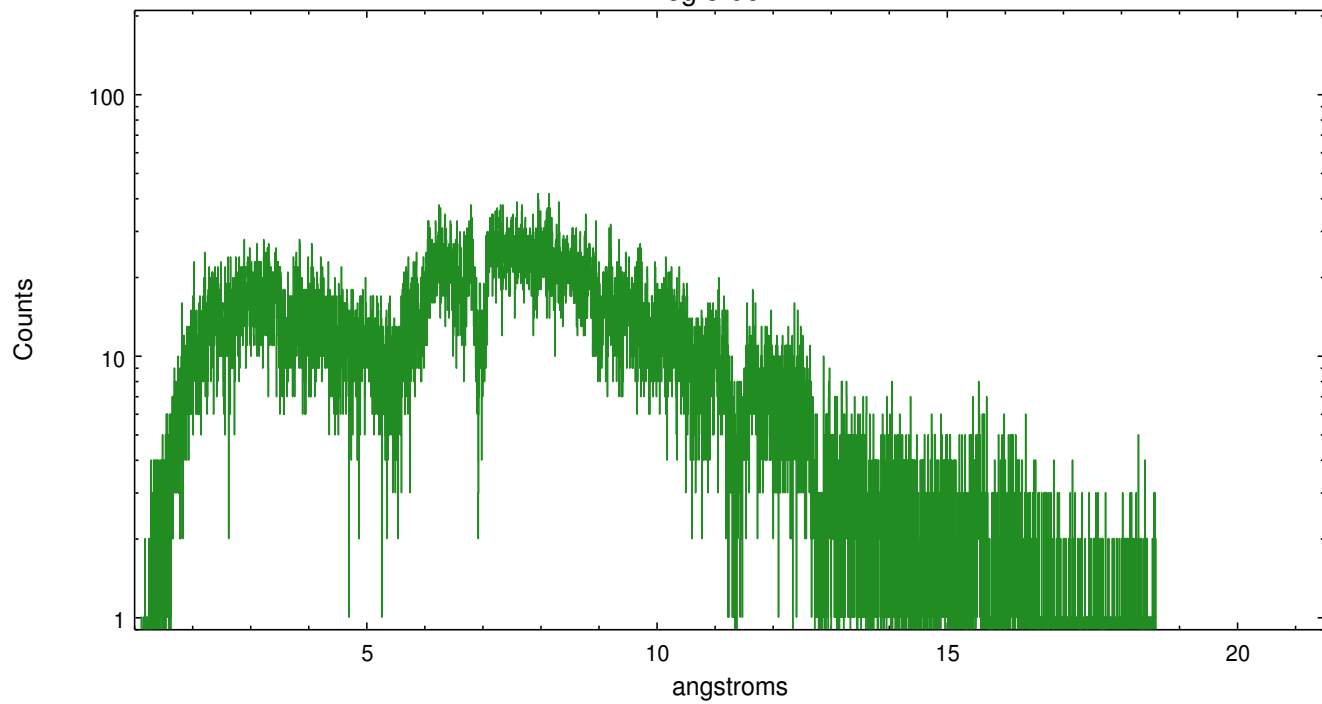


Full Detector HEG

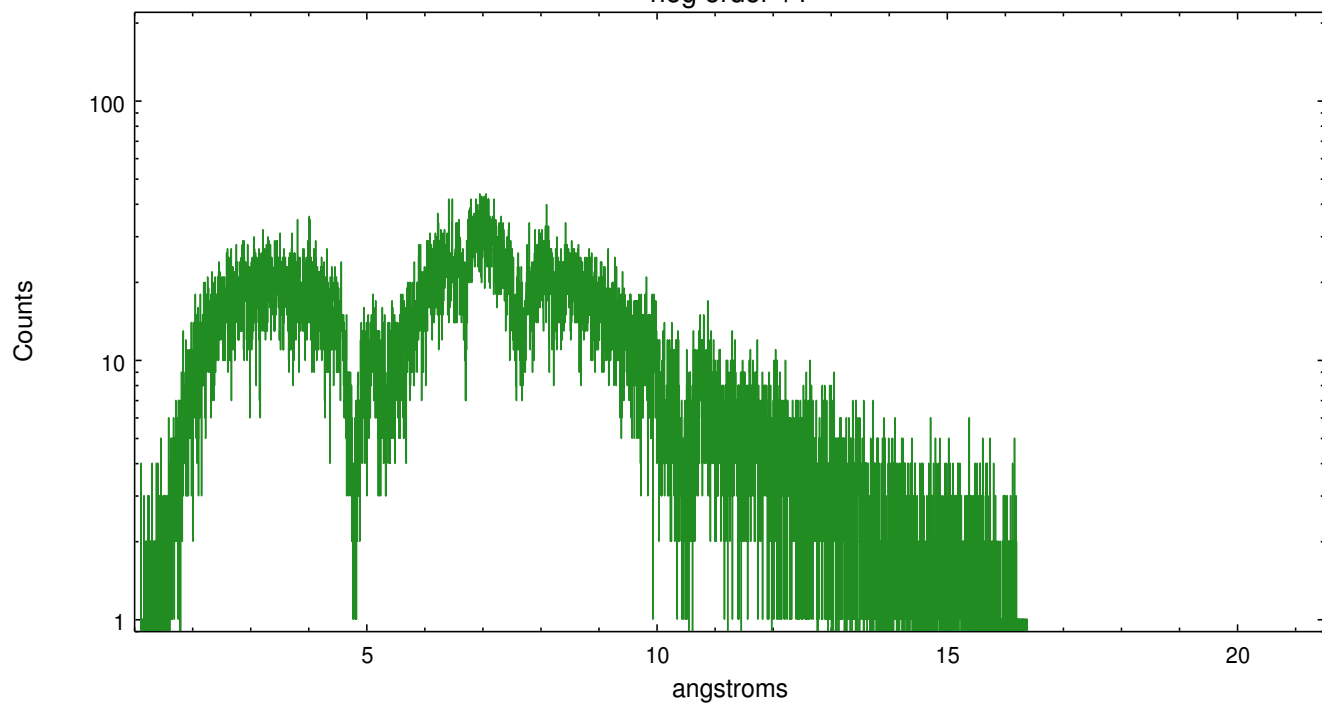
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	2653	8893	67925	312982	63743	4763	1873



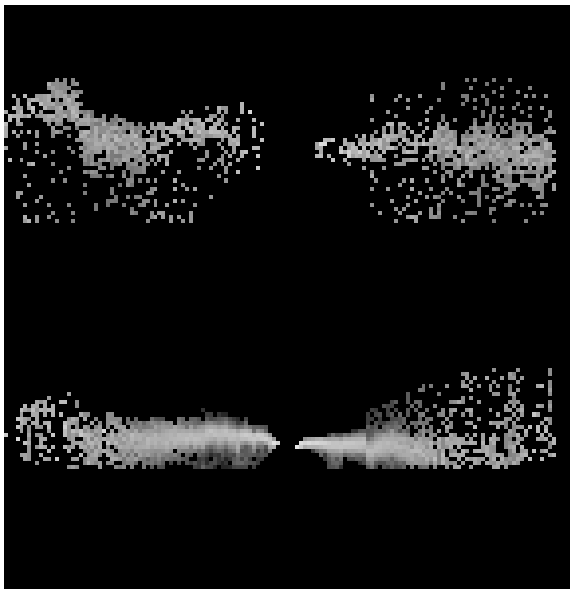
heg order -1



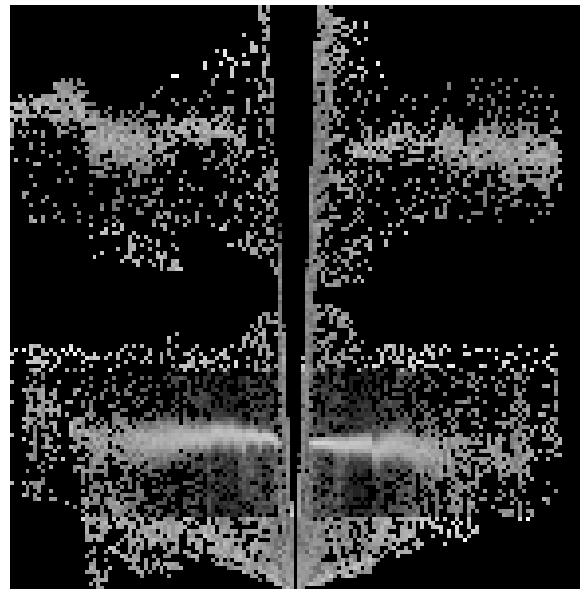
heg order +1



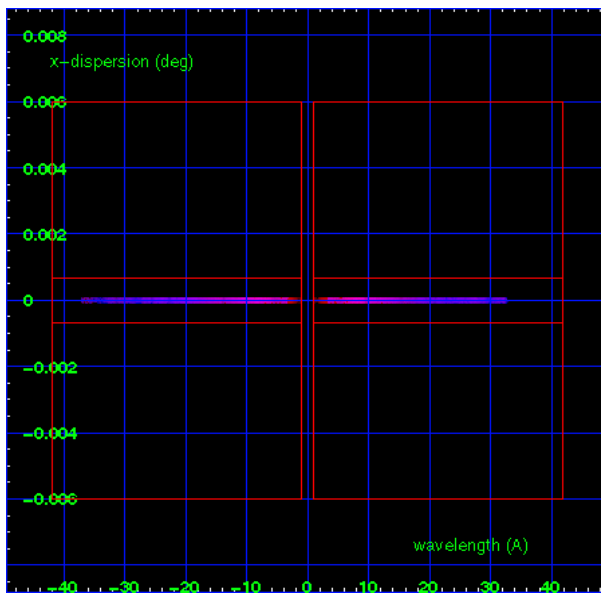
### 3.2 MEG Arm



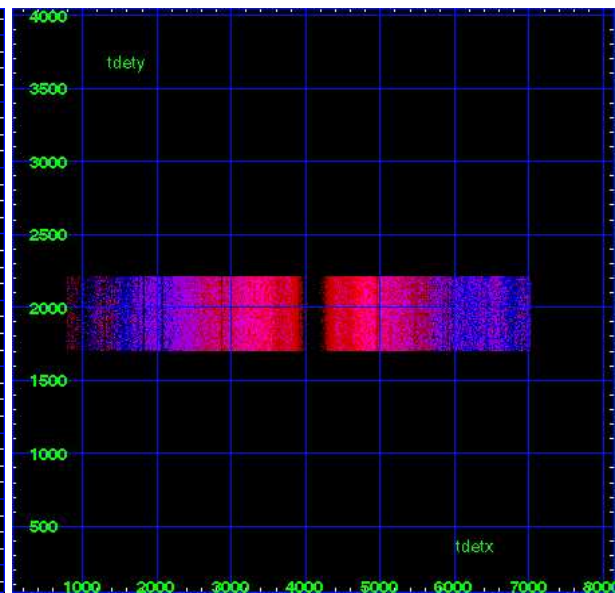
MEG Order Sort 123



MEG Order Sort ALL

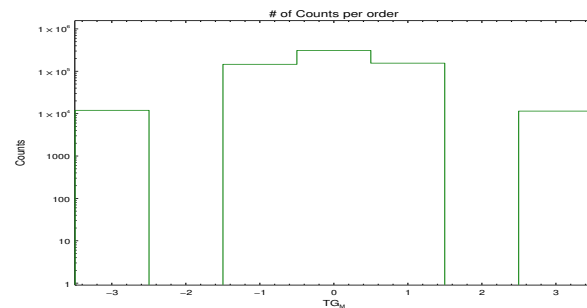


Spot Image MEG

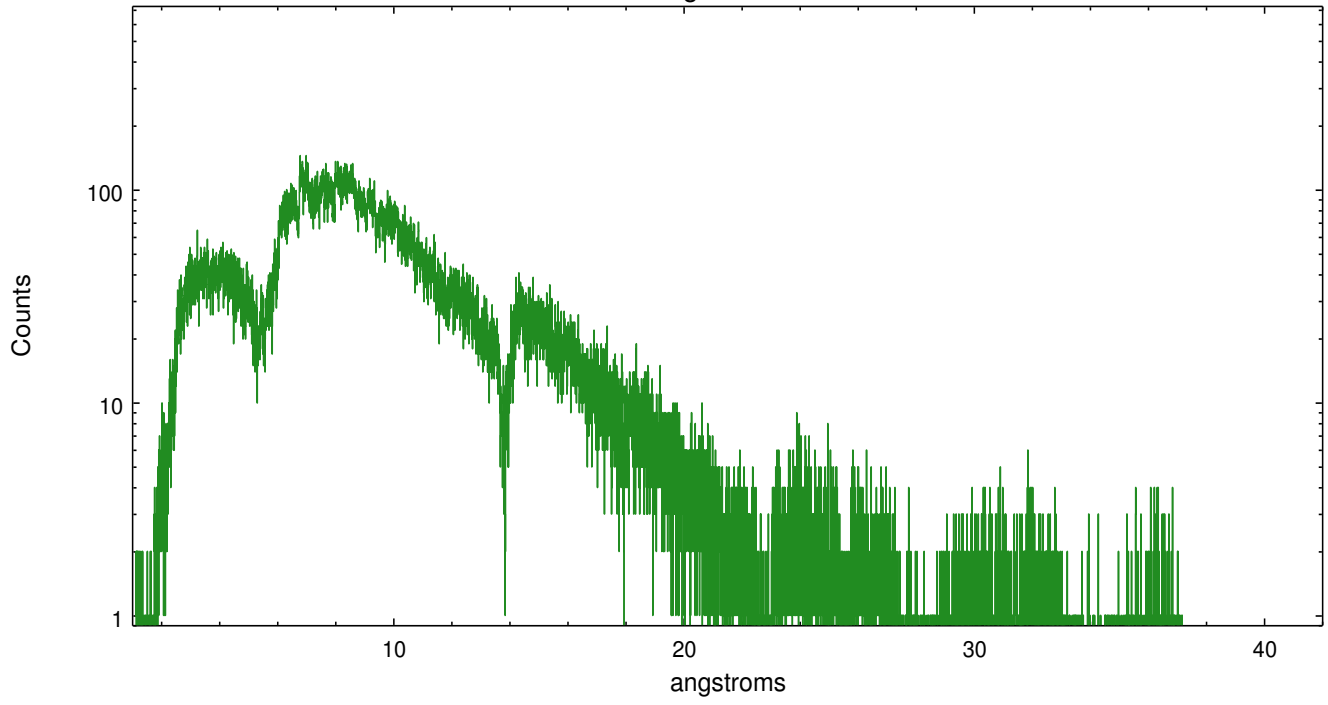


Full Detector MEG

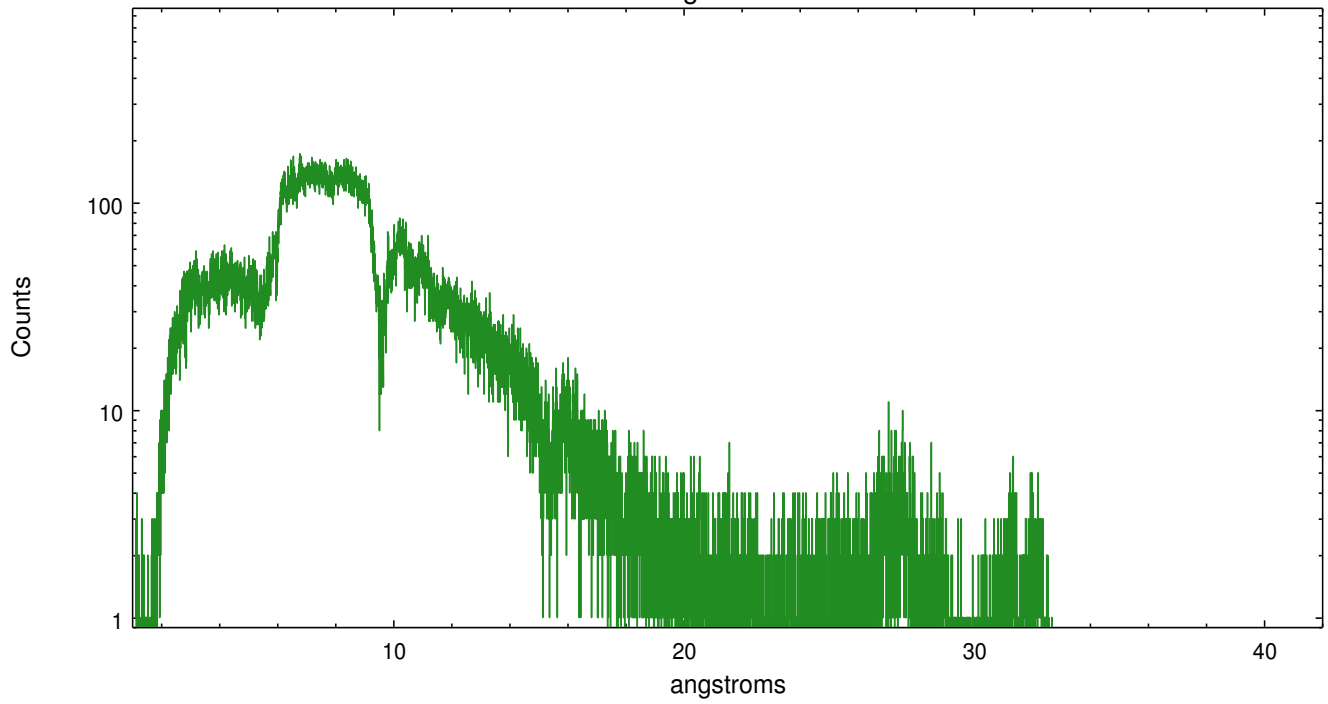
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	12019	0	147102	312982	156680	0	11529



meg order -1



meg order +1



# A Summary

## A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2013.01.25
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	14.344

## A.2 Comments