

# V&V Reference Report

## L2 ASCDS Version : 10.2.4

Observation 17415 - L2 Version 1  
Chandra X-Ray Center

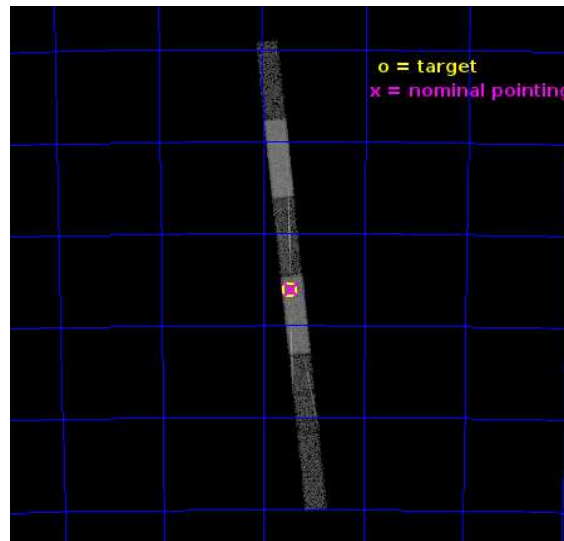
L2 Processing Date : Sep 18 2014

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# 1 Front

seq_num	502043	Sequence number
obs_id	17415	Observation id
title	CHANDRA CYCLE 15 SPATIAL AND SPECTRAL MONITORING OF SN 1987A	Propo
observer	Prof. David Burrows	Principal investigator
object	SN 1987A	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.866667	Observer's specified target RA [deg]
dec_targ	-69.26975	Observer's specified target Dec [deg]
ra_nom	83.859819566707	Nominal RA [deg]
dec_nom	-69.267794063542	Nominal Dec [deg]
roll_nom	84.15020562575	Nominal Roll [deg]
revision	1	Processing version of data
ontime	20091.309048891	Sum of GTIs [s]
livetime	19368.681162606	Livetime [s]
ontime4	20091.350088894	Sum of GTIs [s]
ontime5	20091.268008888	Sum of GTIs [s]
ontime6	20091.226968884	Sum of GTIs [s]
ontime7	20091.309048891	Sum of GTIs [s]
ontime8	20091.185928881	Sum of GTIs [s]
ontime9	20091.144888878	Sum of GTIs [s]
l2events	49609	Number of level 2 events

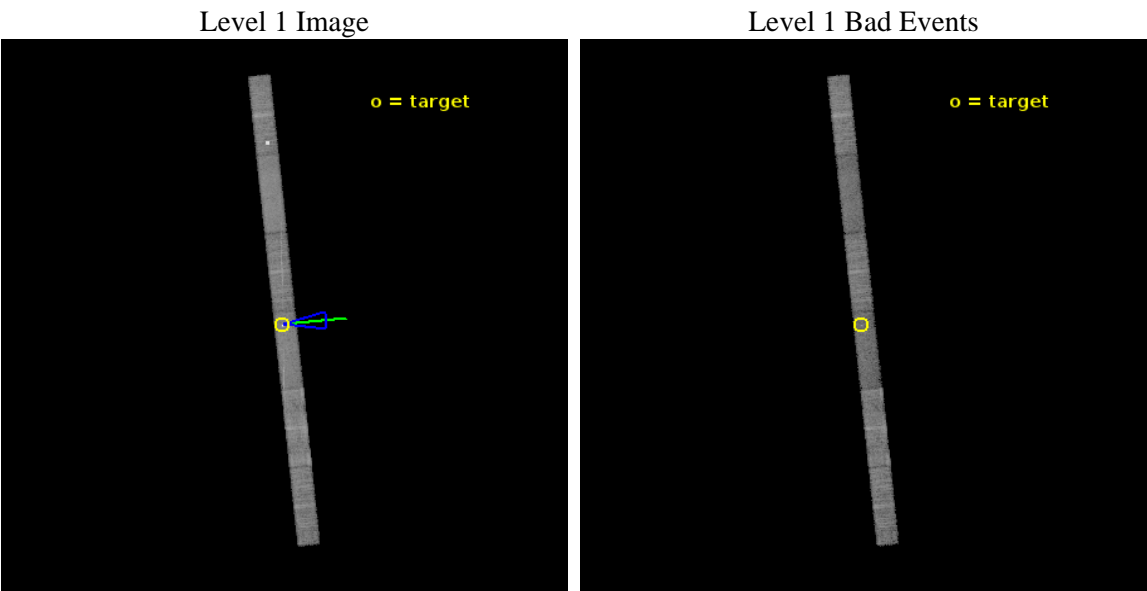




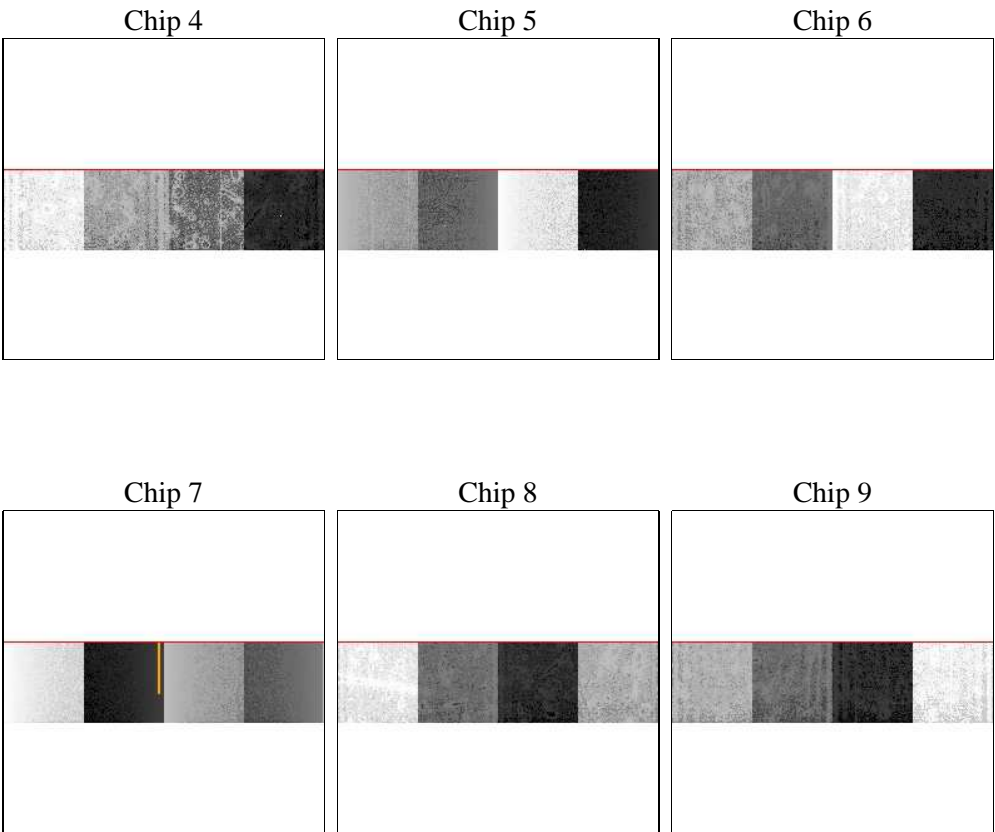
# 2 OBI

## 2.1 OBI

### 2.1.1 Images



### 2.1.2 Bias



Chip 7



Chip 8



Chip 9



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	20000.000000	[s] Scheduled observation exposure time
ascdsver	10.2.4	Processing system revision	ontime	20091.309048891	Sum of GTIs [s]
caldsver	4.6.3	&#160	ontime4	20091.350088894	Sum of GTIs [s]
date	2014-09-18T19:17:16	Date and time of file creation	ontime5	20091.268008888	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	20091.226968884	Sum of GTIs [s]
			ontime7	20091.309048891	Sum of GTIs [s]
			ontime8	20091.185928881	Sum of GTIs [s]
			ontime9	20091.144888878	Sum of GTIs [s]
			l1events	202973	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			grade_pos	(4078.60, 4082.15)	grade sky pixel position

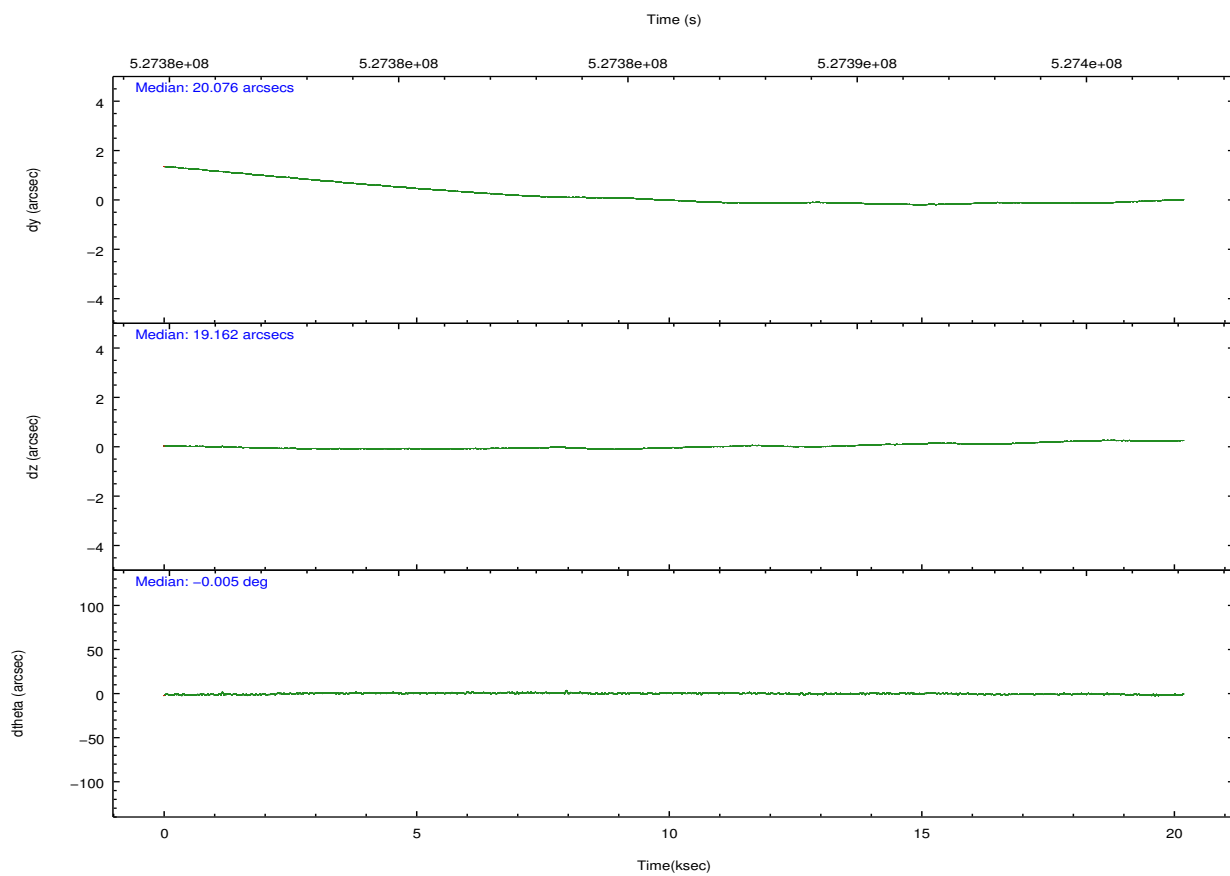
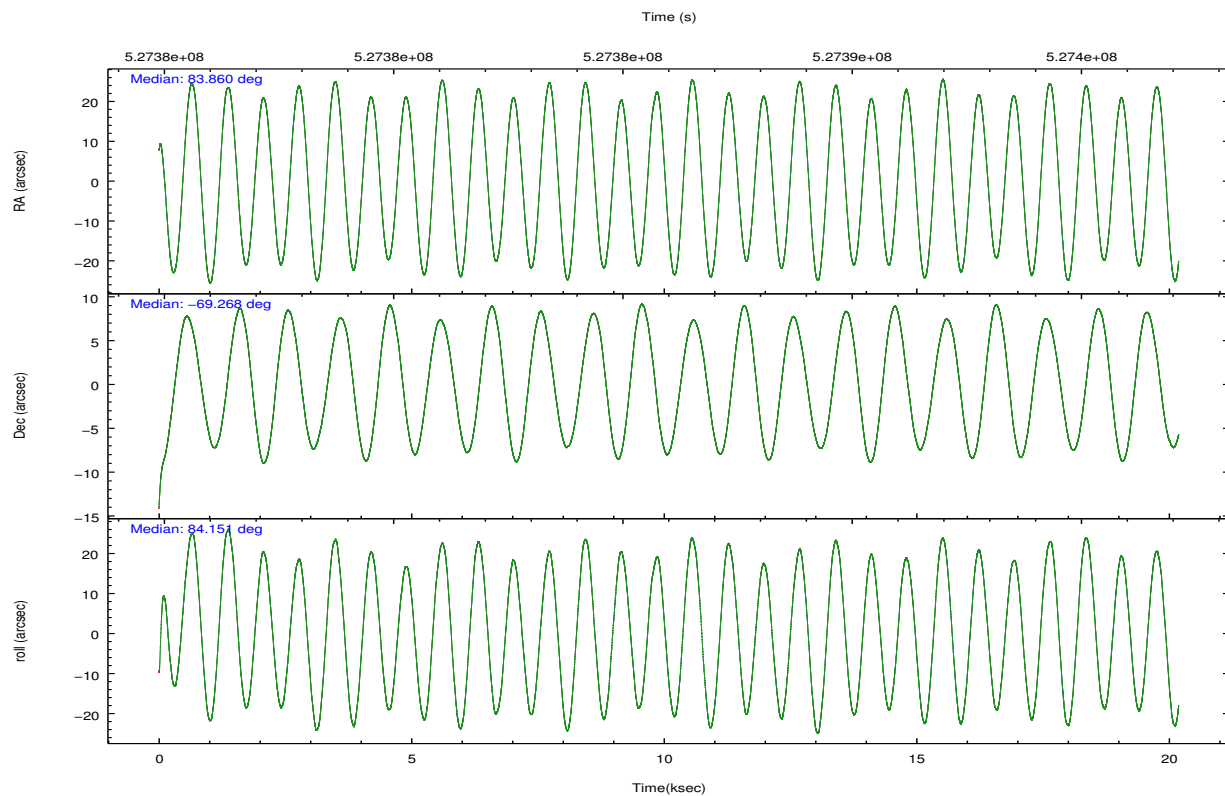
### 2.1.4 Events

	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	39532	35565	29943	34094	37443	26396	grade 0 events	9429	1628	2863	2694	2894	998
rejected events	27822	17130	24505	15320	27484	23298		23%	4%	9%	7%	7%	3%
rejected %	70%	48%	81%	44%	73%	88%	grade 1 events	24	94	19	69	15	9
								0%	0%	0%	0%	0%	0%
							grade 2 events	827	5673	842	4364	2336	590
								2%	15%	2%	12%	6%	2%
							grade 3 events	478	927	515	2035	948	463
								1%	2%	1%	5%	2%	1%
							grade 4 events	441	871	524	1977	887	434
								1%	2%	1%	5%	2%	1%
							grade 5 events	1070	2838	1053	3053	1612	1142
								2%	7%	3%	8%	4%	4%
							grade 6 events	535	9336	694	7705	2894	613
								1%	26%	2%	22%	7%	2%
							grade 7 events	26728	14198	23433	12197	25857	22147
								67%	39%	78%	35%	69%	83%

## 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	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	83.892544	83.85981956670651	CCD I2 on	N	N
[deg] Pointing Dec	-69.292668	-69.26779406354154	CCD I3 on	N	N
[deg] Pointing Roll	84.024204	84.1502056257502	CCD S0 on	O1	Y
[deg] Roll angle	84.000000	84.000000	CCD S1 on	Y	Y
[deg] Roll tolerance	12.000000	12.000000	CCD S2 on	Y	Y
Roll constraint allows 180D rotation	N	N	CCD S3 on	Y	Y
[s] Window start time (MET)	526780867.184000	526780867.184000	CCD S4 on	Y	Y
[s] Window stop time (MET)	528940807.184000	528940807.184000	CCD S5 on	Y	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	Number of optional ACIS chips dropped	0	0
[mm] SIM defocus	0	0.001444936568705701	On-chip summing requested	N	N
[mm] SIM translation stage pos	-190.132523	-190.145094680475	Subarray requested	CUSTOM	1/4
[mm] SIM translation stage offset	0	0.01257209746719923	Subarray start row	351	351
[s] Observation start time (MET)	527376087.184000	527375055.34658	Subarray row count	256	256
Observation start date	2014-09-17T21:20:20	2014-09-17T21:04:15	Alternating exposures requested	N	N
[s] Observation end time (MET)	527396087.184000	527396614.17278	[s] Primary exposure time	0.000000	1.1
Observation end date	2014-09-18T02:53:40	2014-09-18T03:03:34			
Read mode	TIMED	TIMED			

## 2.3 Aspect

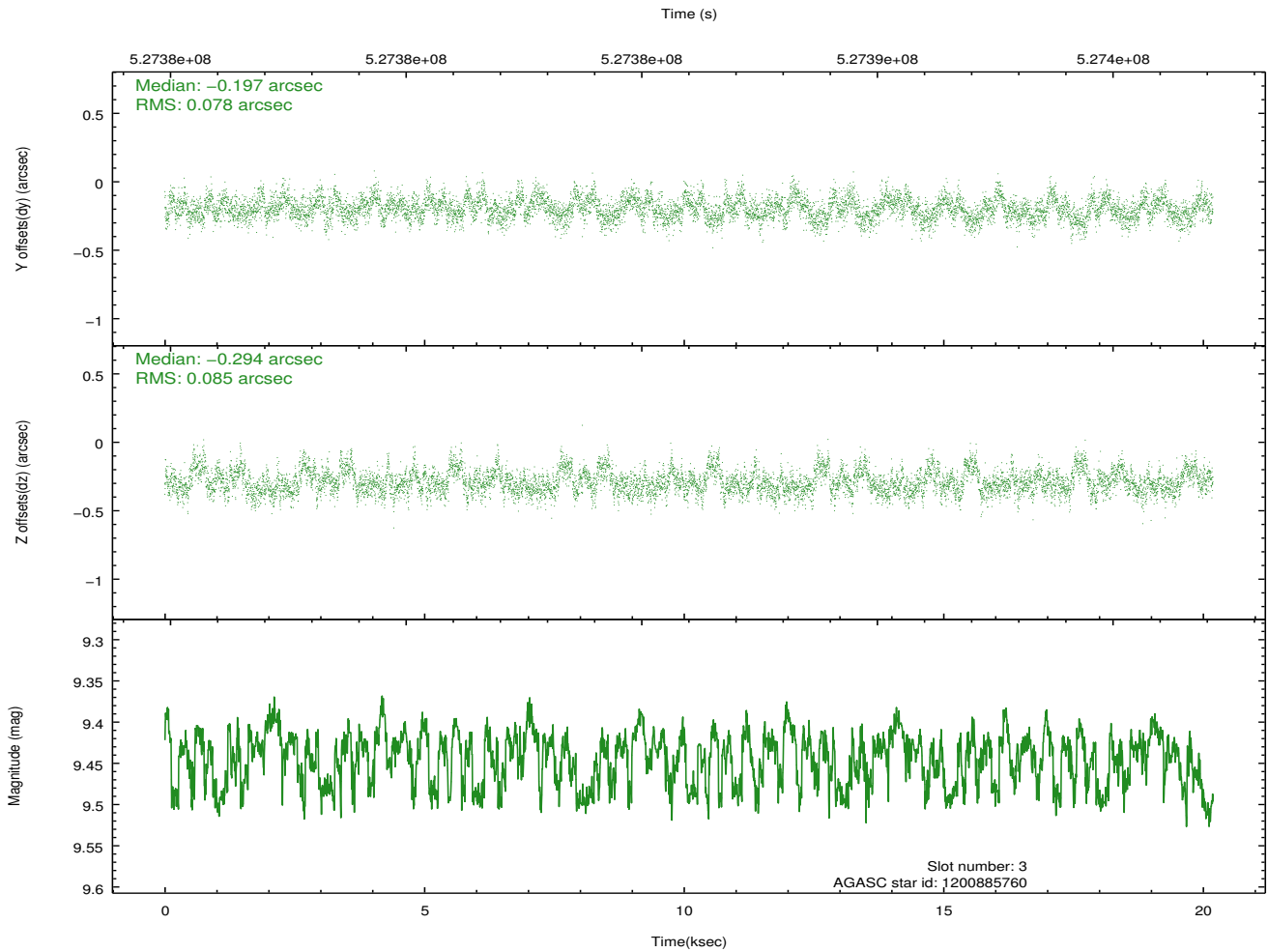
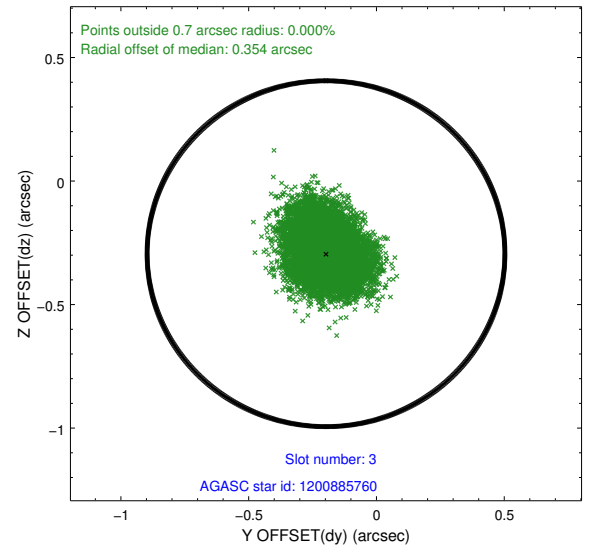
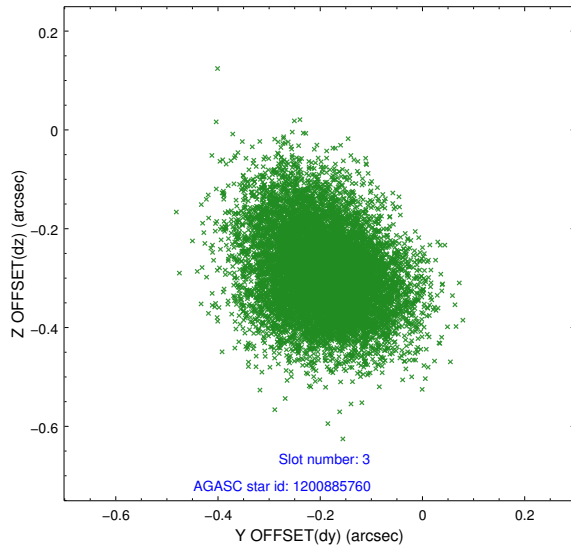


### Slot Statistics

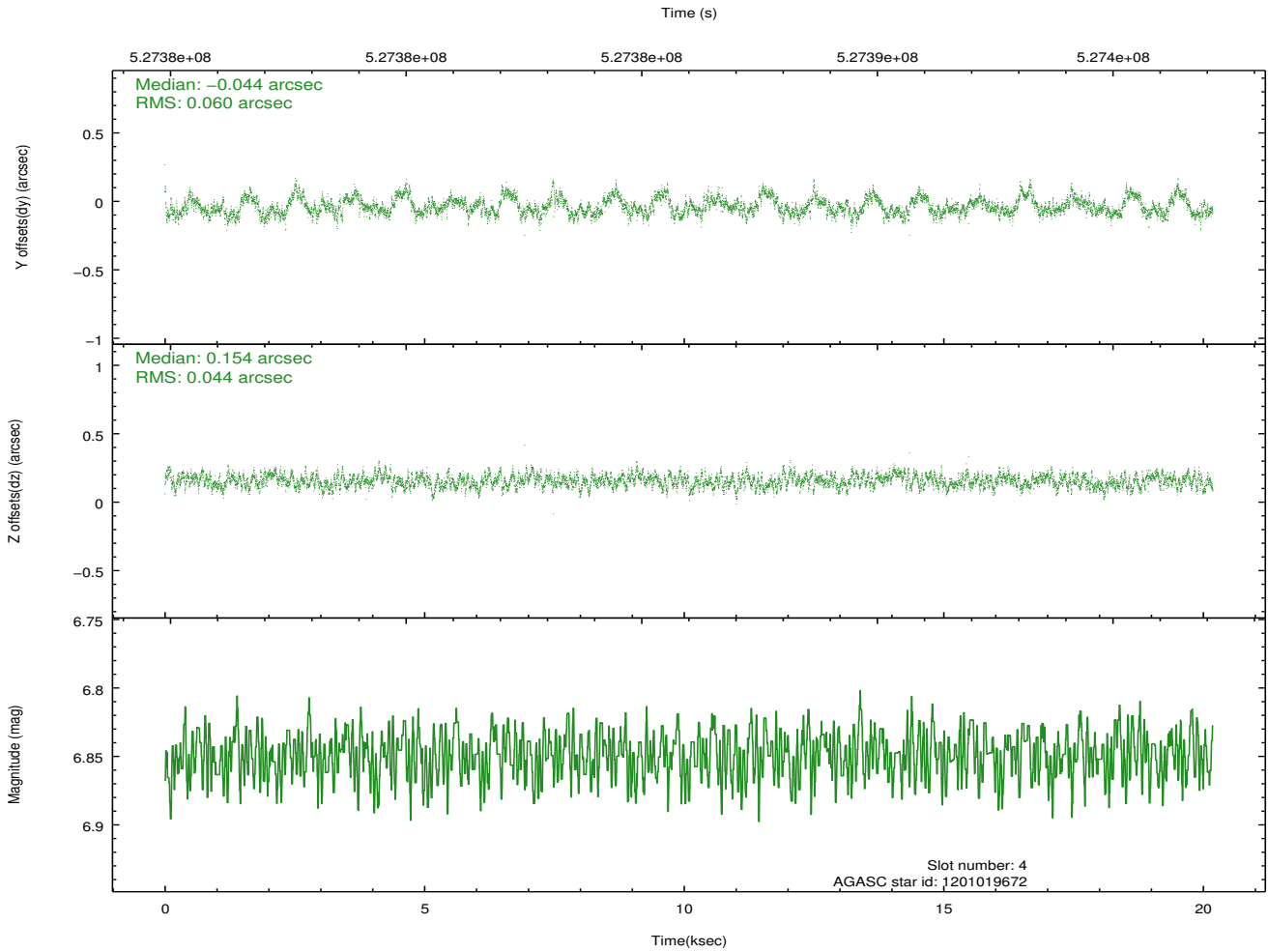
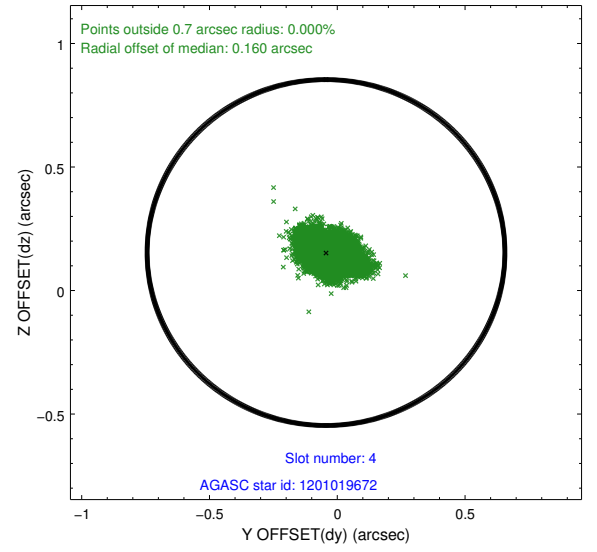
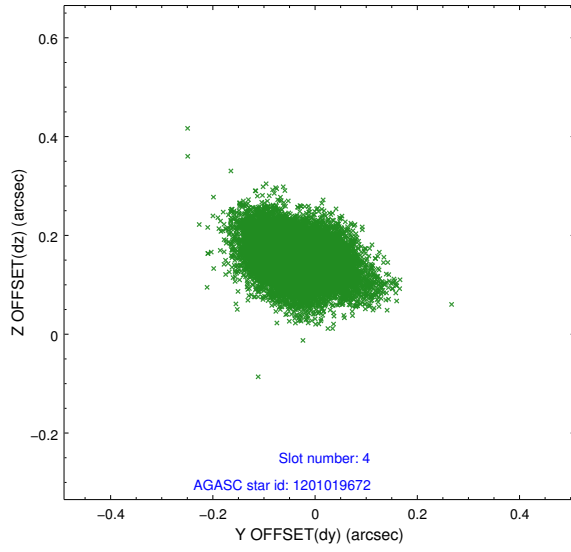
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-4	7.14	4925	0.240	0.007	0.007	0.013	0.000000	0.000000	2140.19	168.11
1	FID	ACIS-S-5	7.17	4923	-0.264	0.007	0.011	0.023	0.000000	0.000000	-1826.27	161.56
2	FID	ACIS-S-6	7.28	4924	-0.005	0.000	0.011	0.019	0.000000	0.000000	387.99	805.32
3	GUIDE	1200885760	9.44	9845	-0.197	-0.294	0.122	0.200	83.723637	-68.777667	1820.78	411.71
4	GUIDE	1201019672	6.85	9849	-0.044	0.154	0.078	0.129	85.312192	-68.770187	2042.66	-1646.48
5	GUIDE	1201020040	8.59	9845	-0.096	0.202	0.079	0.128	85.379163	-68.879396	1657.74	-1765.10
6	GUIDE	1201410616	9.31	9843	0.144	-0.249	0.120	0.202	82.516808	-69.784406	-1957.20	1515.59
7	GUIDE	1201542672	8.18	9846	0.185	0.184	0.085	0.143	84.492488	-69.957531	-2304.12	-985.71

## 2.4 Star Slots

### 2.4.1 Slot 3

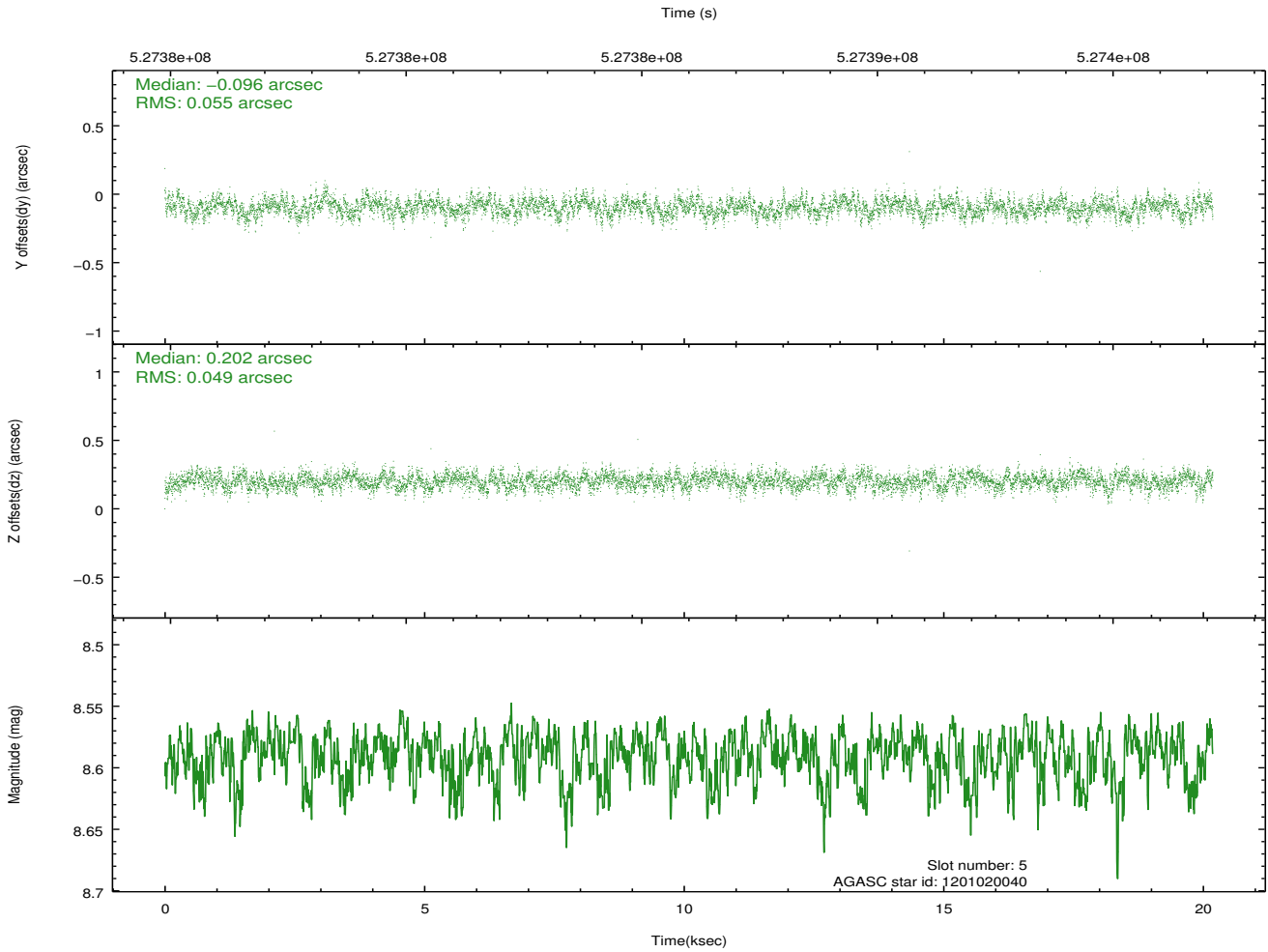
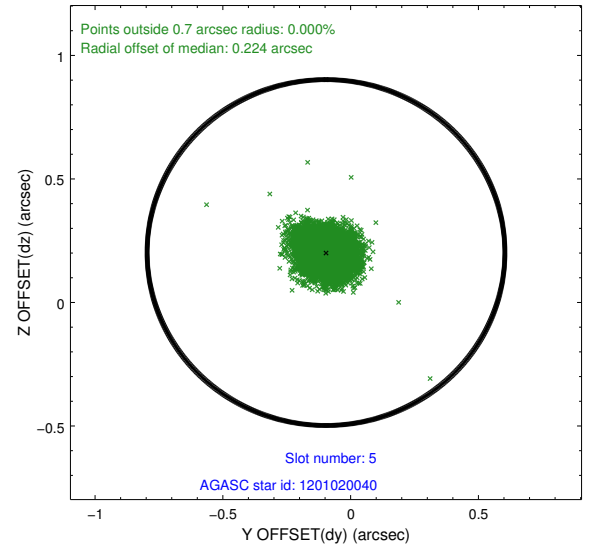
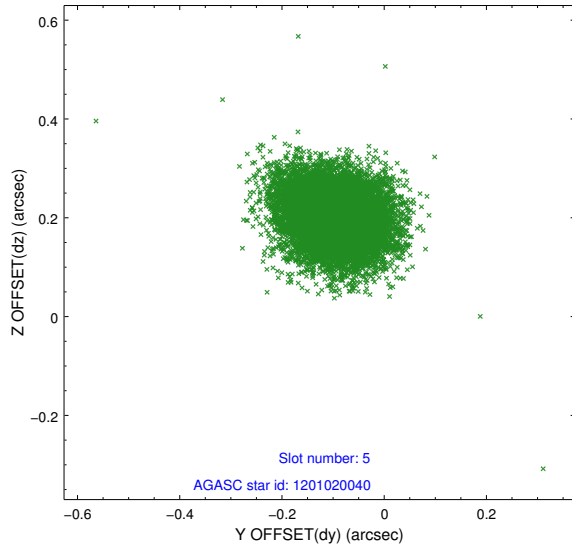


## 2.4.2 Slot 4

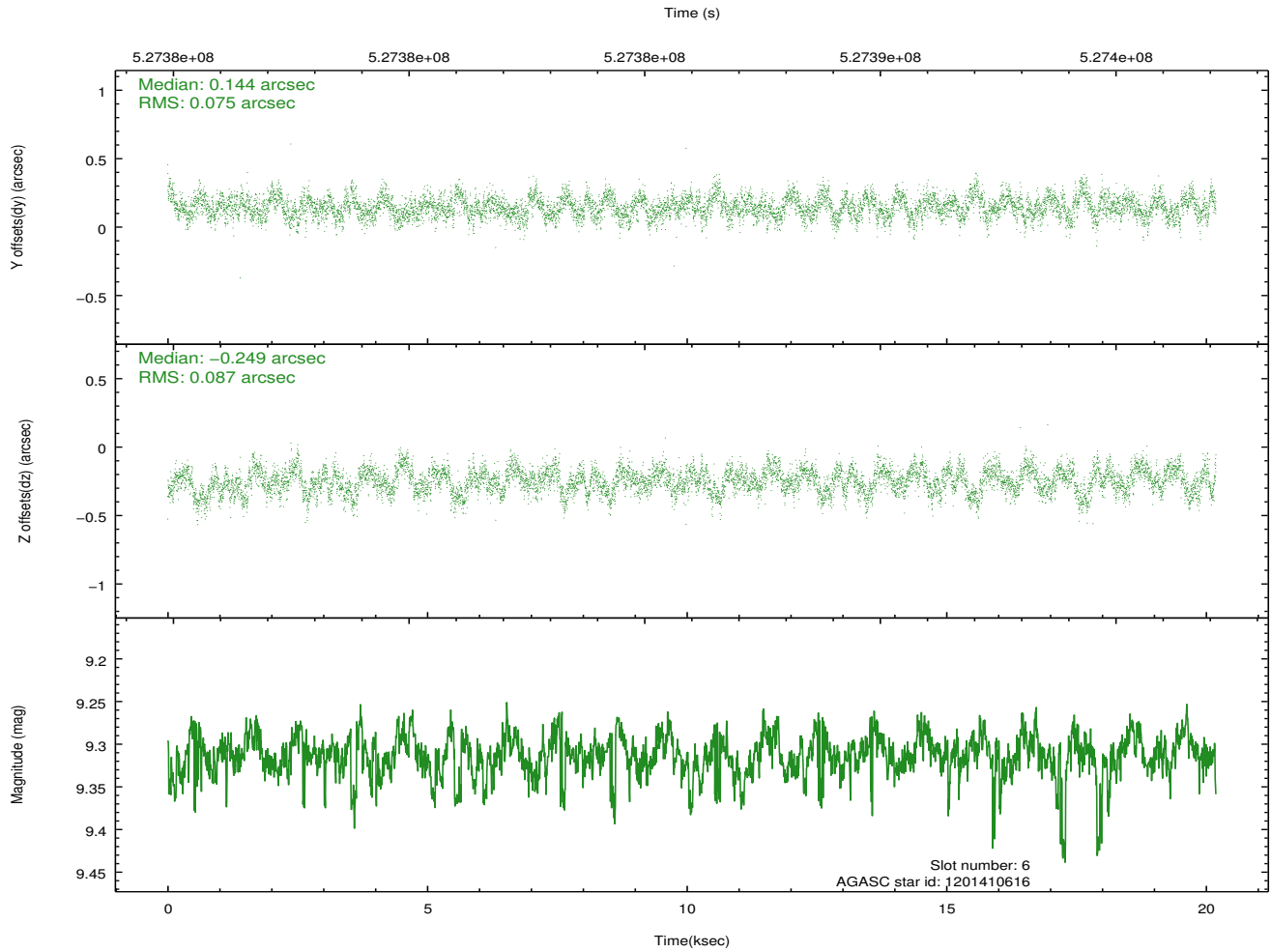
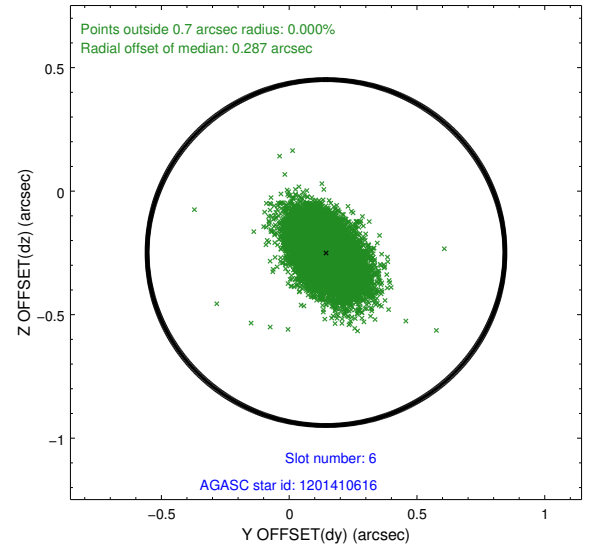
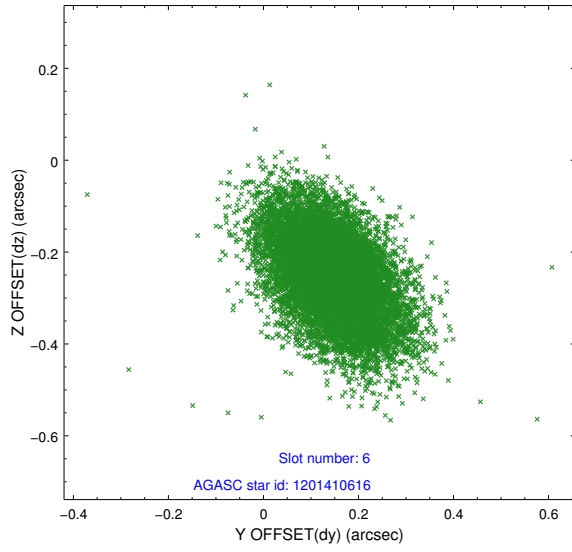




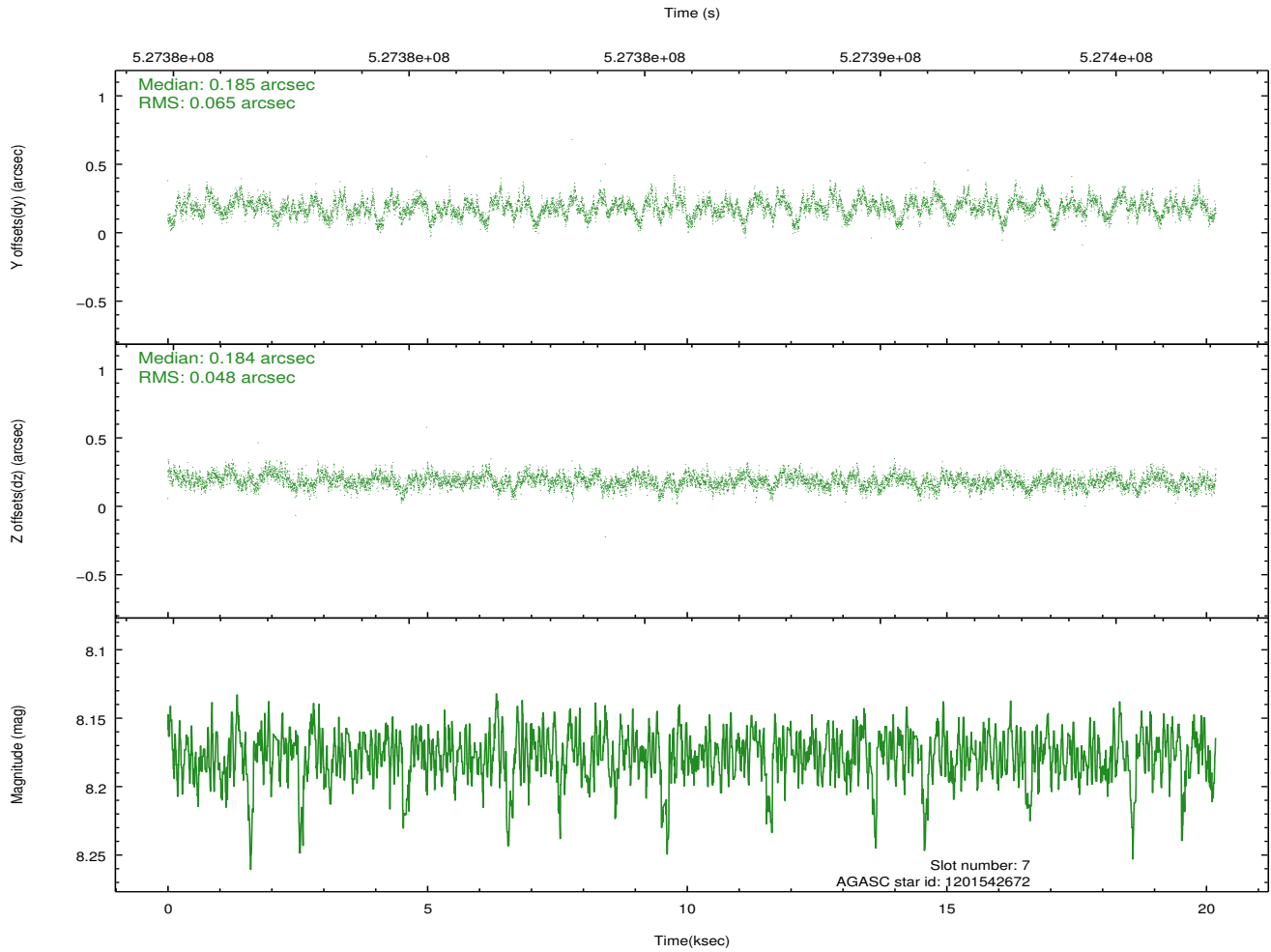
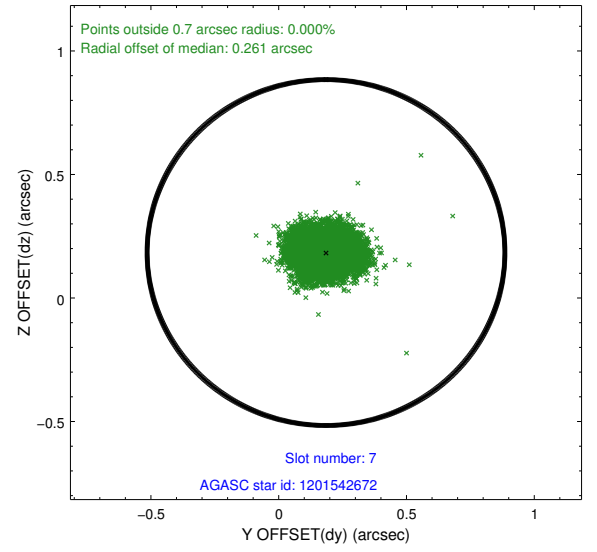
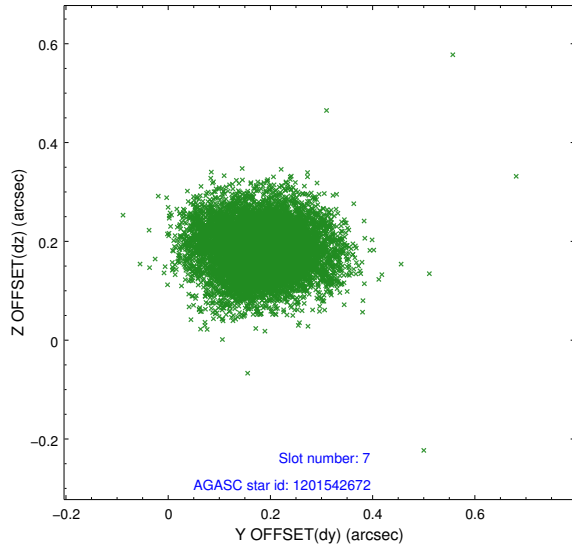
### 2.4.3 Slot 5



## 2.4.4 Slot 6

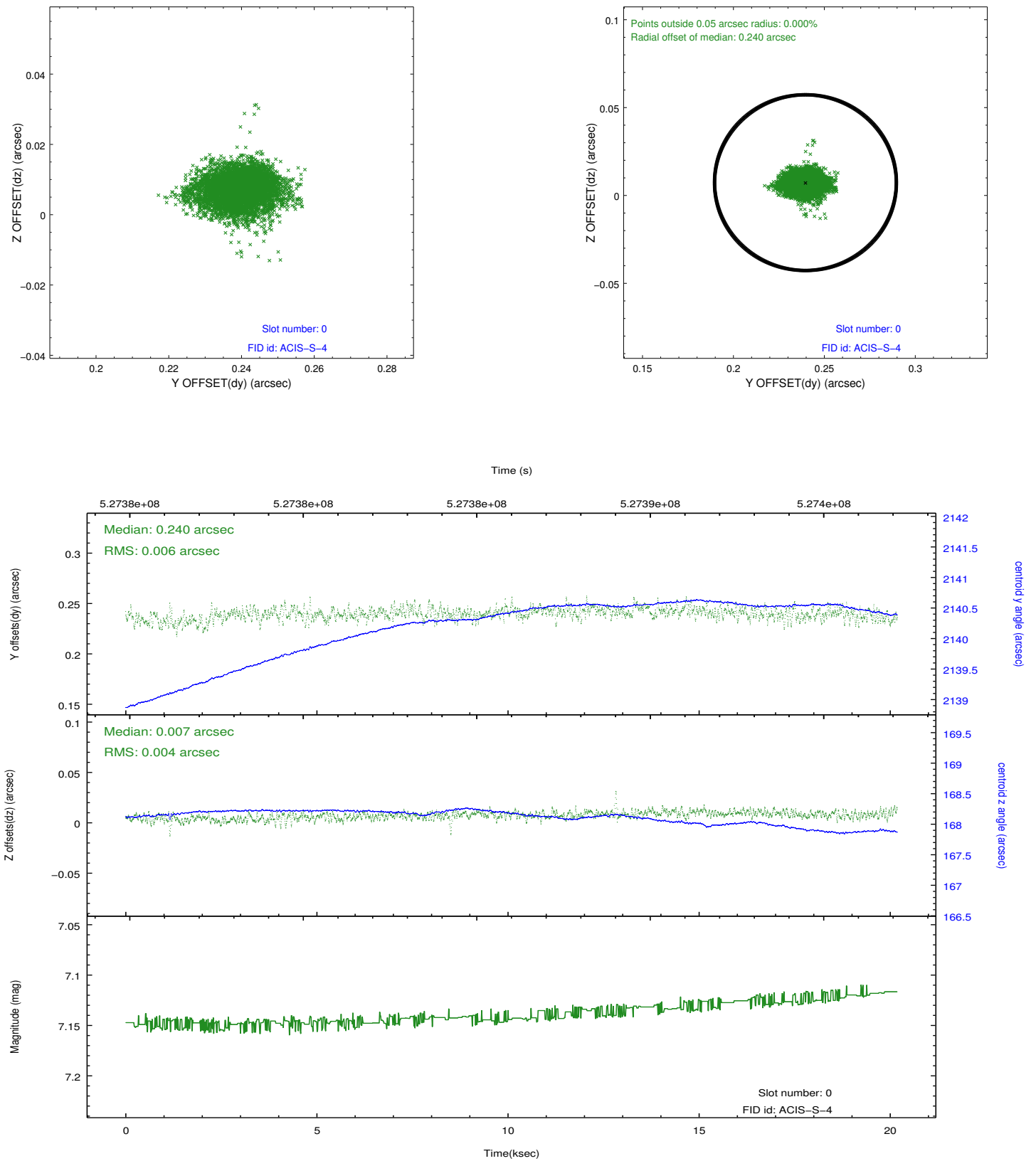


## 2.4.5 Slot 7

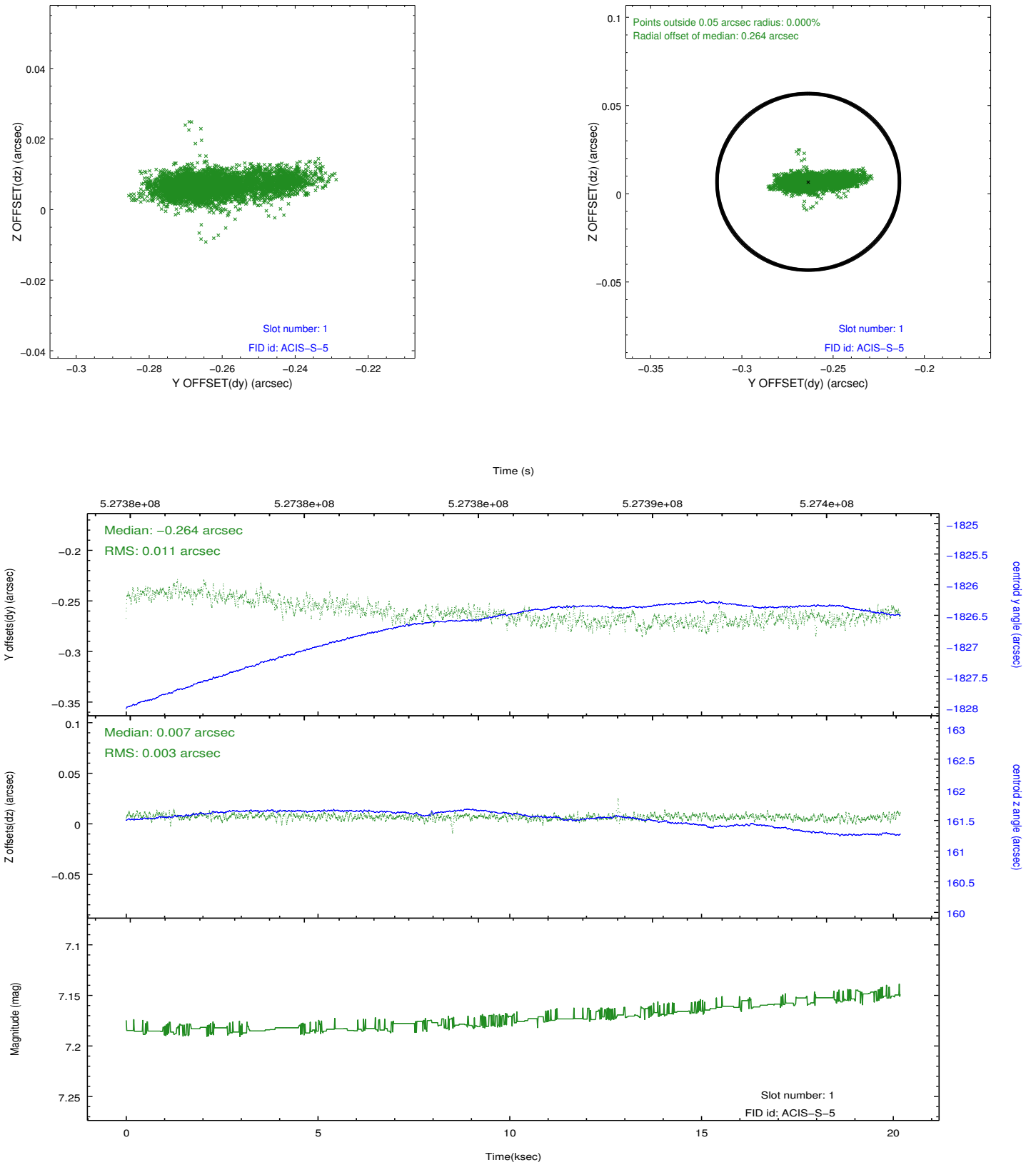


## 2.5 FID Slots

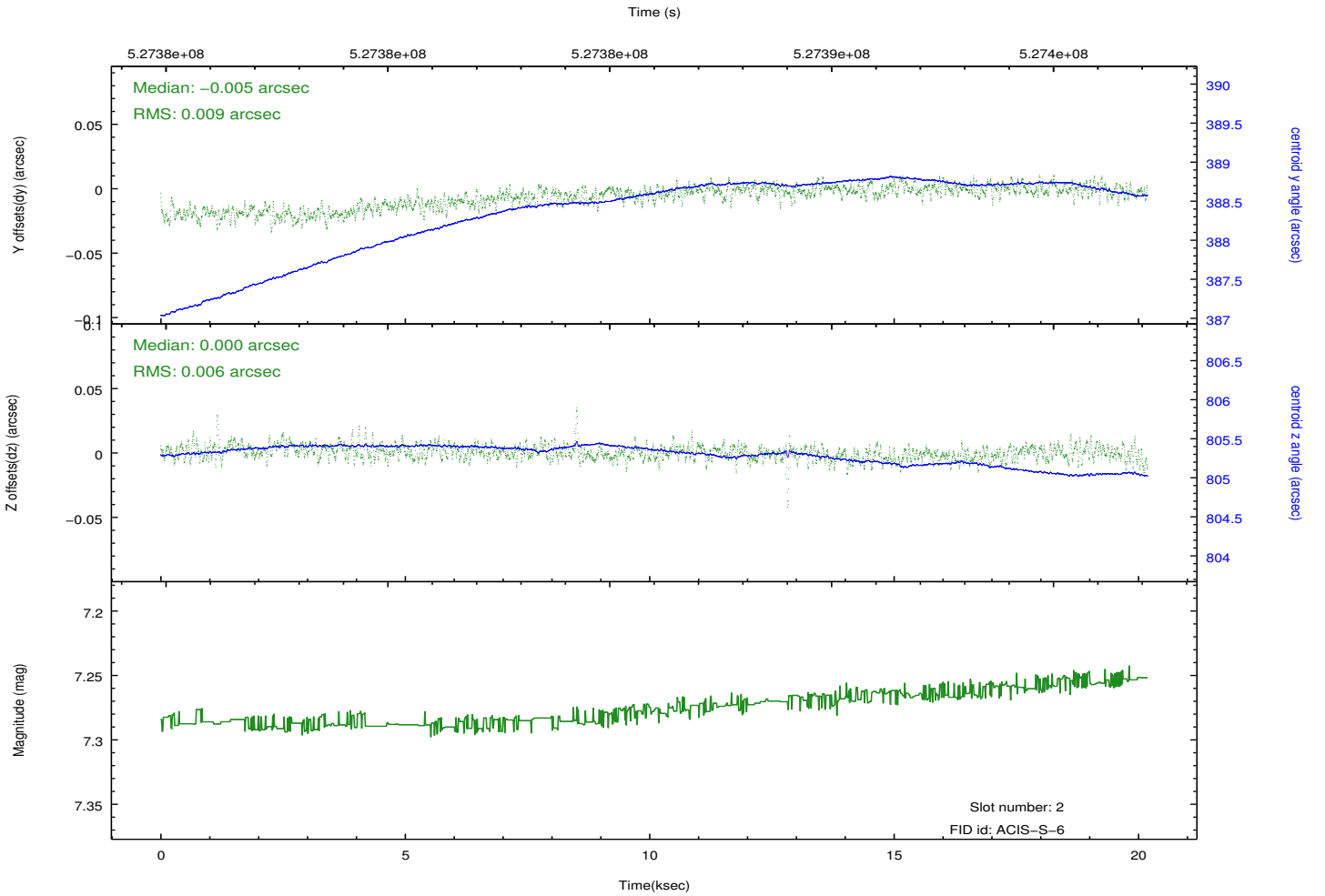
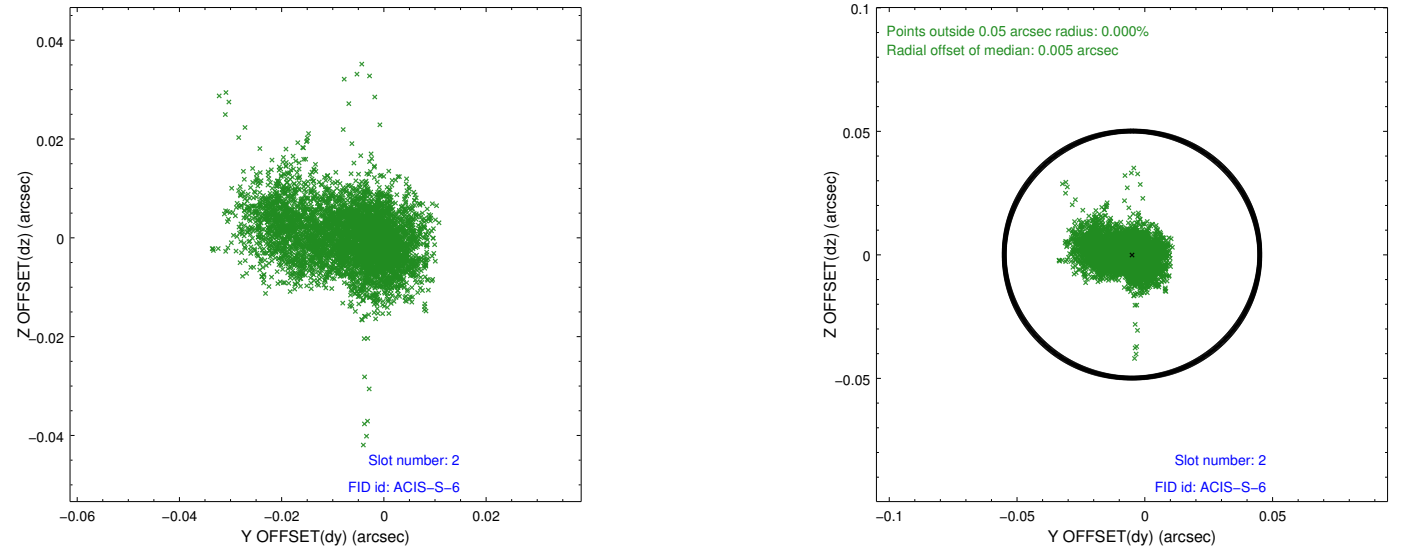
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2

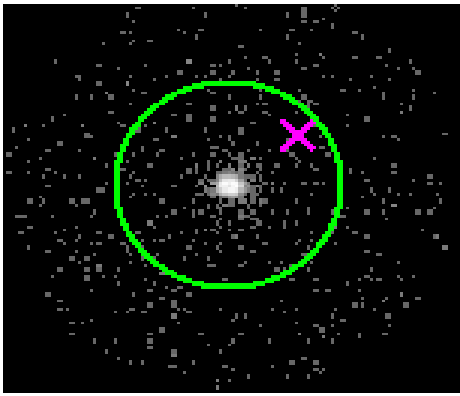


# 3 Gratings

## 3.1 HEG Arm



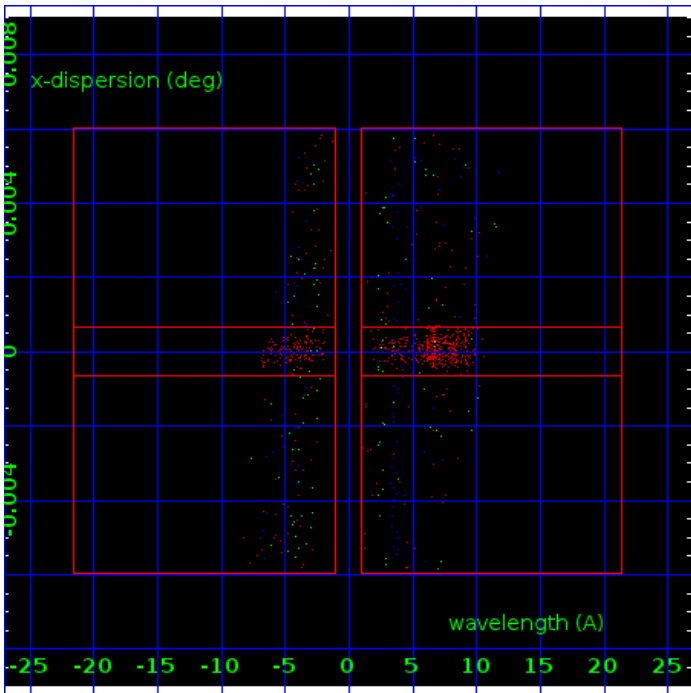
HEG Order Sort 123



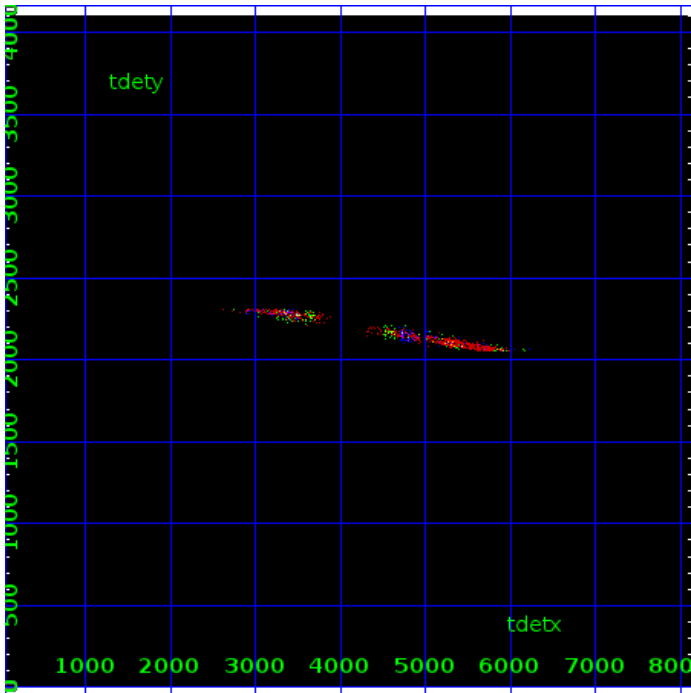
HEG Zero Order



HEG Order Sort ALL

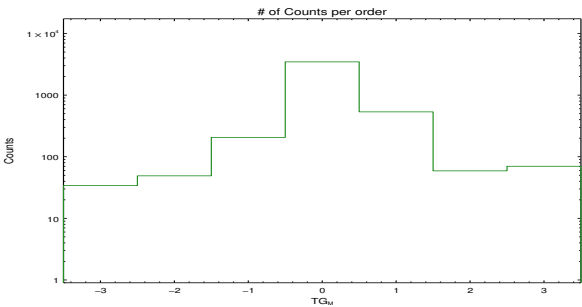


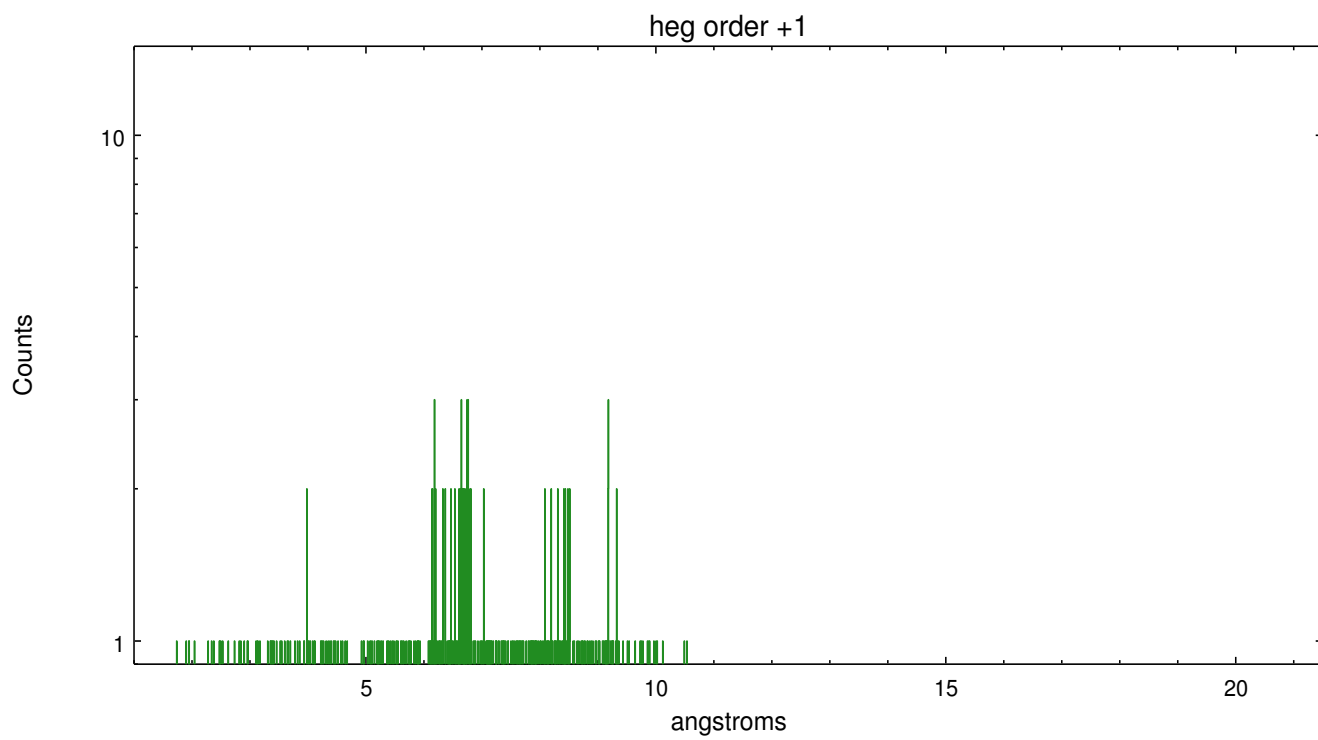
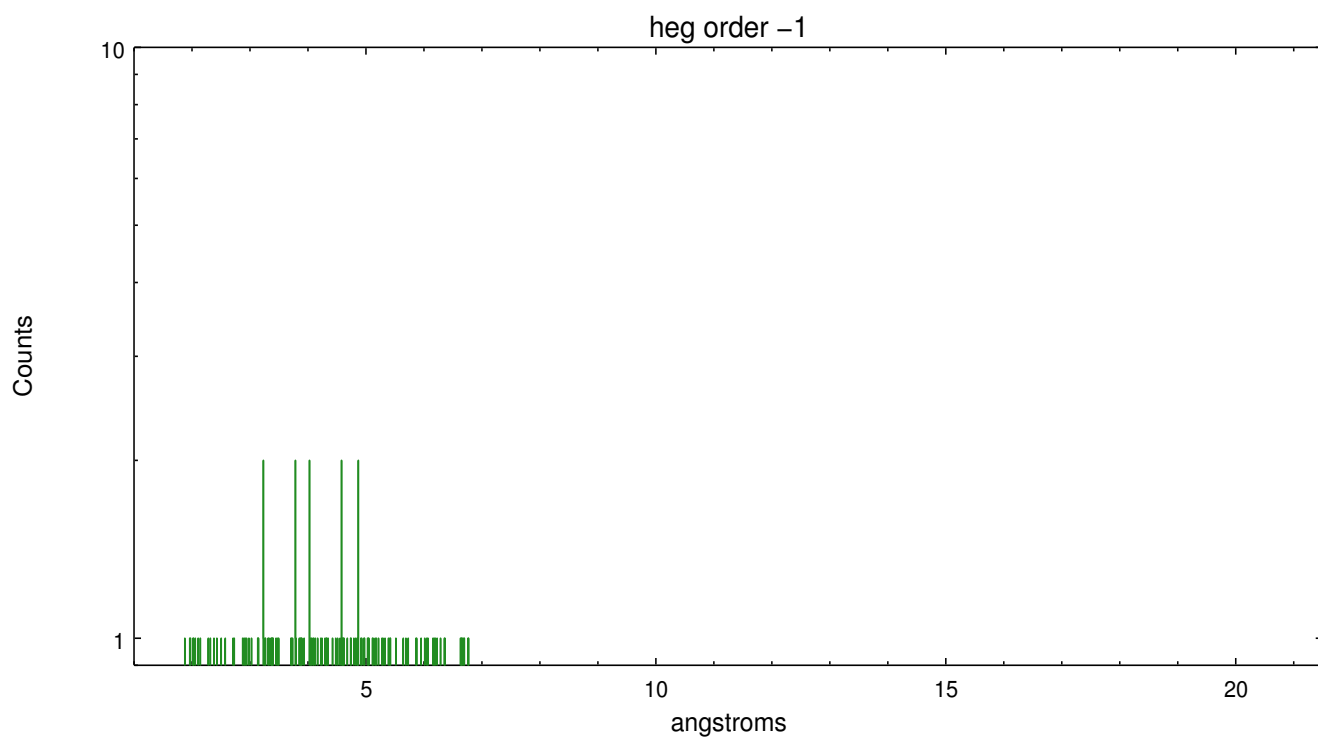
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	34	49	206	3467	535	59	70



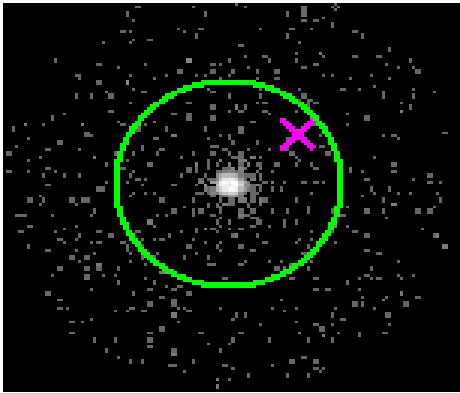




3.2 MEG Arm



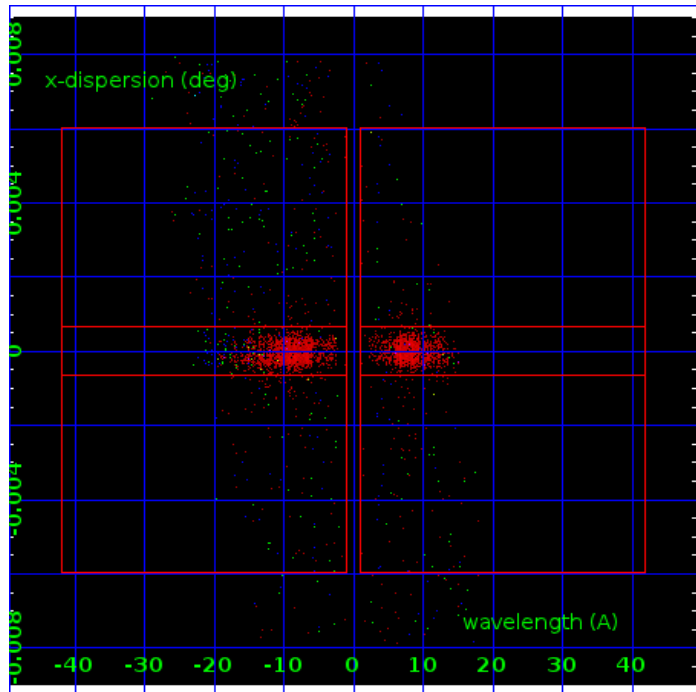
MEG Order Sort 123



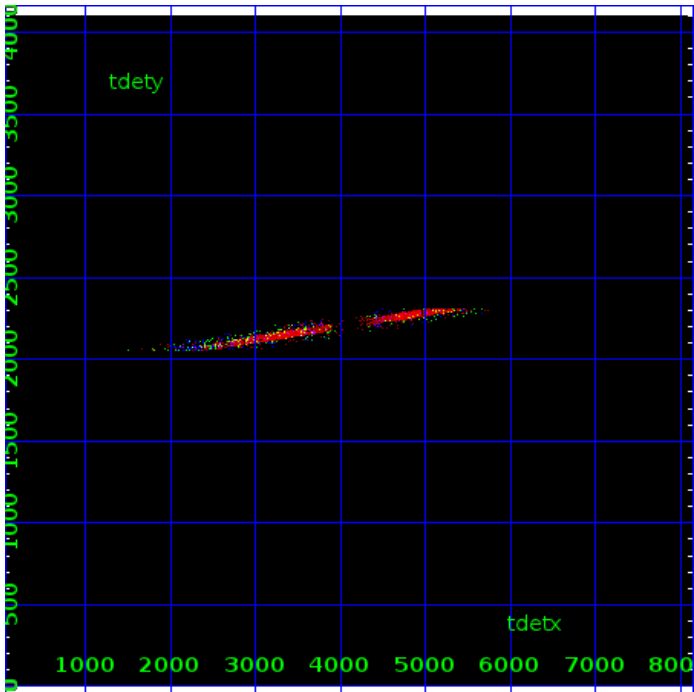
MEG Zero Order



MEG Order Sort ALL

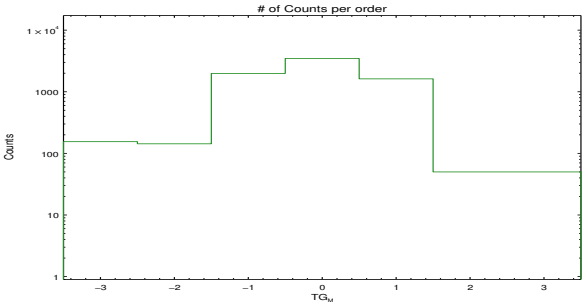


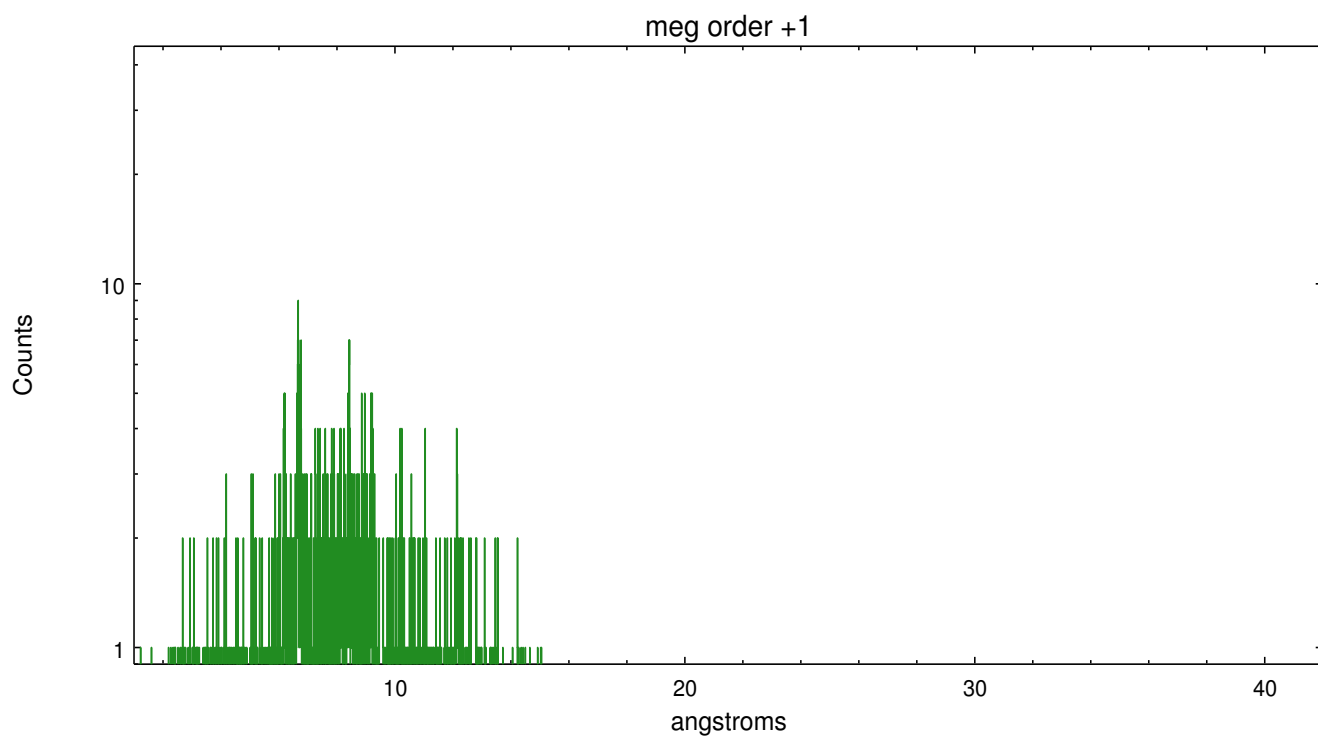
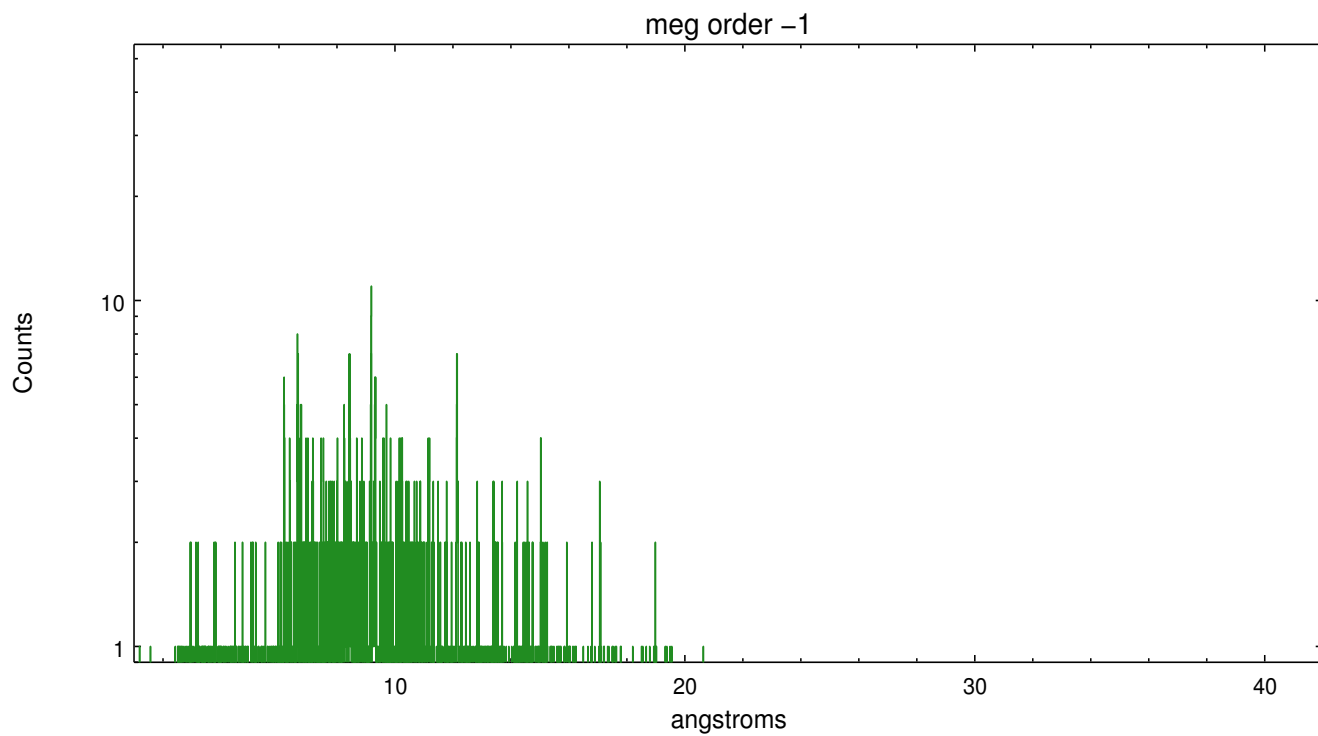
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	155	143	1984	3467	1620	50	50





# A Summary

## A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2014.09.19
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.091309048891

## A.2 Comments

Note: the narrow sub-array truncates two of the grating arms (MEG positive and HEG negative).