V&V Reference Report
L2 ASCDS Version : 7.6.9

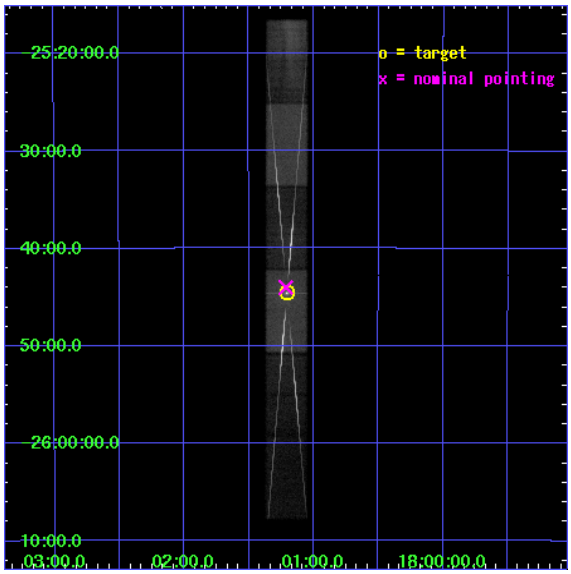
Observation 2429 - L2 Version 001
Chandra X-Ray Center

L2 Processing Date : Nov 16 2006

Contents

1 Front

seq_num	400163
obs_id	2429
title	HIGH RESOLUTION SPECTROSCOPY OF THE POSSIBLE JETS IN GRS 1758-258
observer	Dr. William Heindl
object	GRS 1758-258
dtycycle	0
cycle	P
ra_targ	270.301667
dec_targ	-25.743306
ra_nom	270.30359652237
dec_nom	-25.733671211174
roll_nom	90.091759220115
revision	2
ontime	30317.759072989
livetime	29603.105284245
ontime4	30319.500053152
ontime5	30317.759072989
ontime6	30317.759072989
ontime7	30317.759072989
ontime8	30319.500053152
ontime9	30317.759072989
l2events	505841

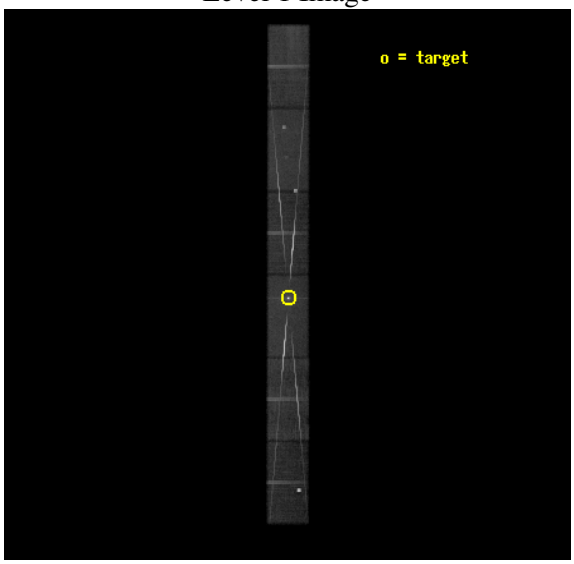


2 OBI

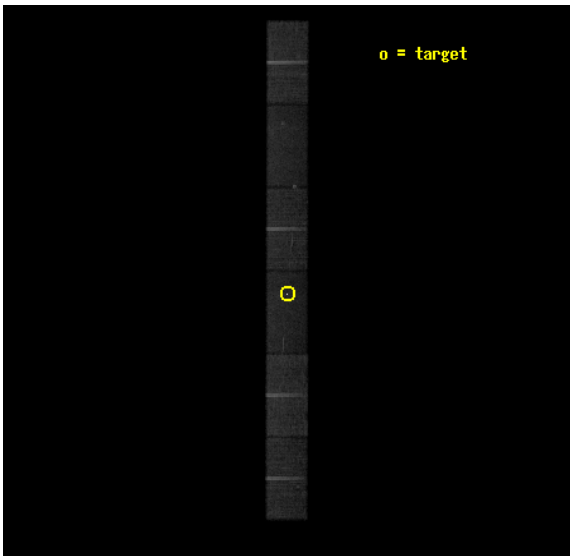
2.1 OBI

2.1.1 Images

Level 1 Image

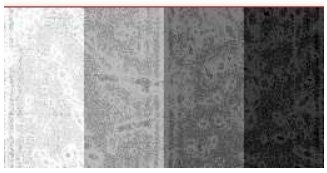


Level 1 Bad Events

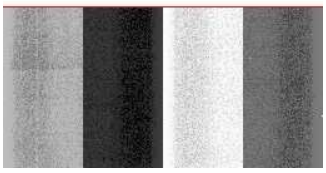


2.1.2 Bias

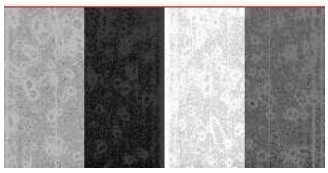
Chip 4



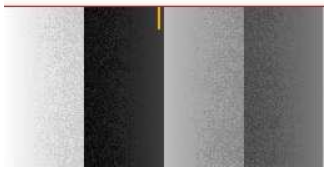
Chip 5



Chip 6

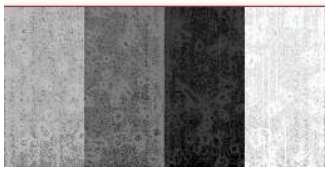


Chip 7



Chip 8

Chip 9



2.1.3 Parameters

obi_num	0
ascdsver	7.6.9
caldbver	3.2.4
date	2006-11-15T23:24:15
revision	3

sched_exp_time	30000.000000
ontime	30321.562704414
ontime4	30323.303684577
ontime5	30321.562704414
ontime6	30321.562704414
ontime7	30321.562704414
ontime8	30323.303684577
ontime9	30321.562704414
l1events	1165385

2.1.4 Events

	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	177814	188395	221631	248077	197750	131718
rejected events	110568	80680	100070	90206	114302	92273
rejected %	62%	42%	45%	36%	57%	70%

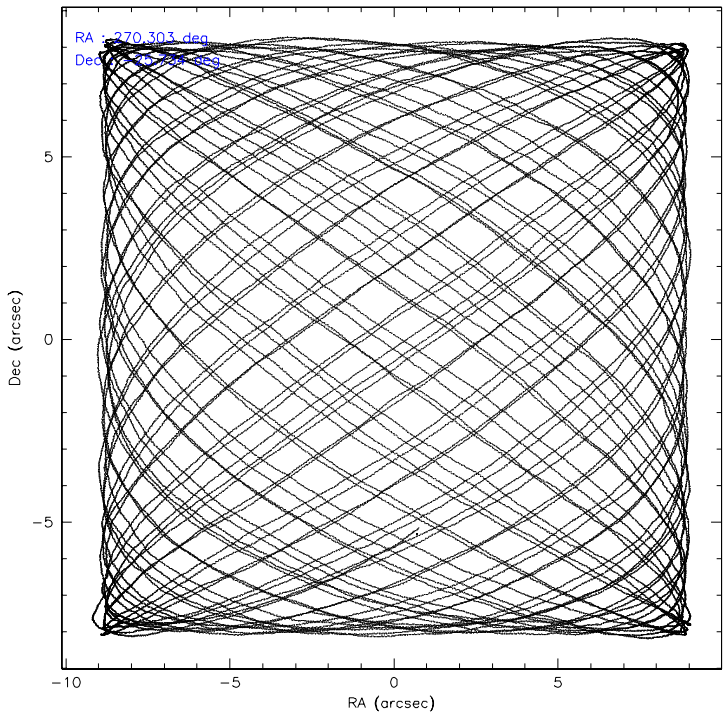
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	47332	18283	91624	25380	53388	28520
	26%	9%	41%	10%	26%	21%
grade 1 events	184	341	468	423	206	69
	0%	0%	0%	0%	0%	0%
grade 2 events	9182	34676	14422	39980	11597	3453
	5%	18%	6%	16%	5%	2%
grade 3 events	3481	5930	5374	15550	5076	1869
	1%	3%	2%	6%	2%	1%
grade 4 events	3486	5550	5480	15281	4860	3127
	1%	2%	2%	6%	2%	2%
grade 5 events	3675	8901	4426	12240	5185	4197
	2%	4%	1%	4%	2%	3%
grade 6 events	3776	43286	4673	61693	8532	2478
	2%	22%	2%	24%	4%	1%
grade 7 events	106698	71428	95164	77530	108906	88005
	60%	37%	42%	31%	55%	66%

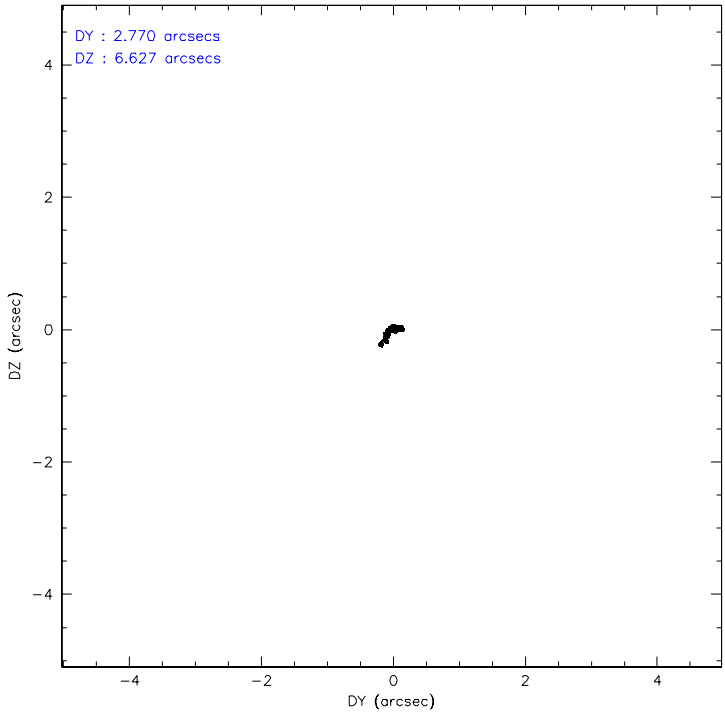
2.2 Compared Parameters

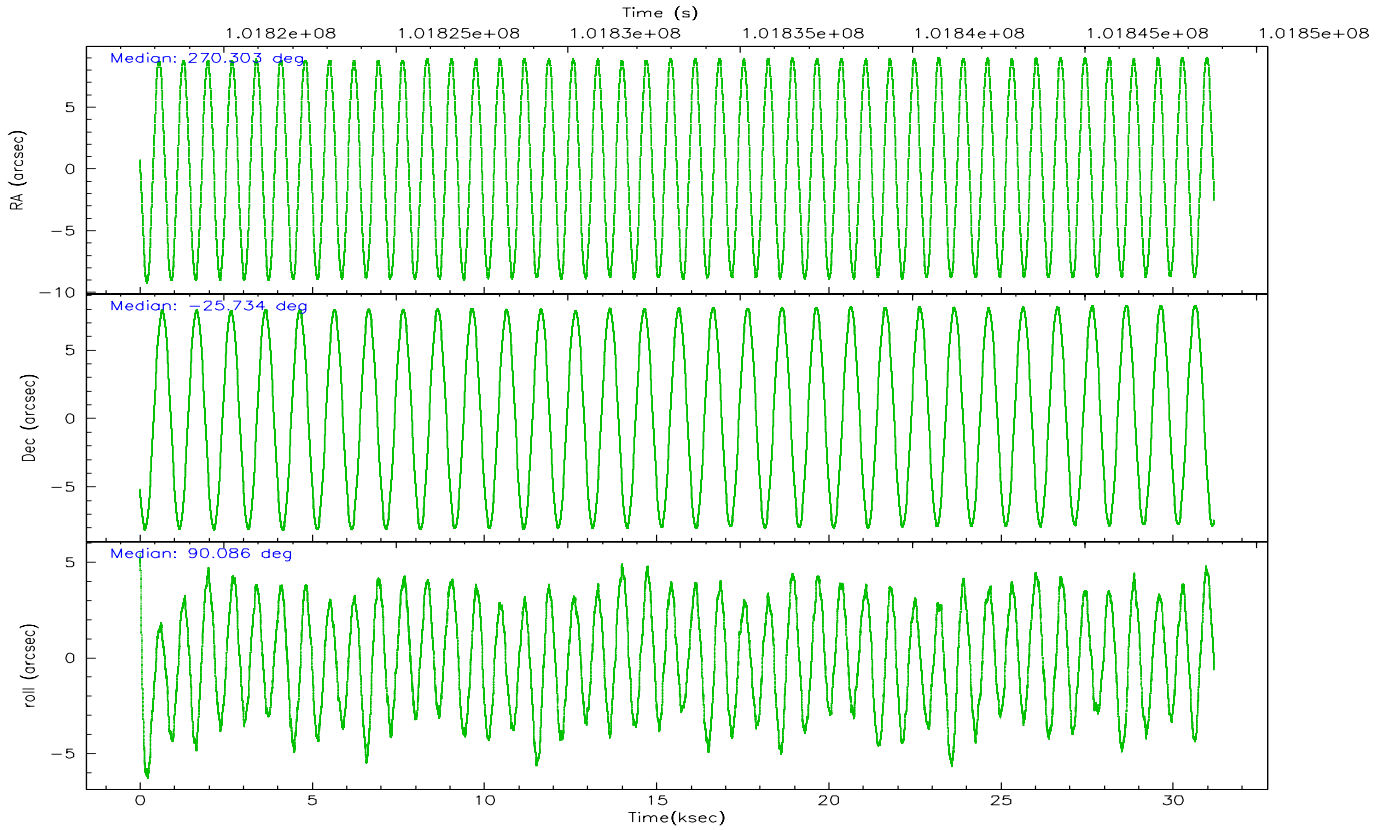
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-456789	ACIS-456789
Grating	HETG	HETG
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
Pointing RA	270.319049	270.3035965223714
Pointing Dec	-25.757159	-25.73367121117421
Pointing Roll	89.941844	90.09175922011531
SIM focus pos (mm)	-0.684267	-0.6828225247311905
SIM defocus (mm)	0	0.001444936568705701
SIM translation stage pos (mm)	-184.032523	-184.025251236478
SIM translation stage offset (mm)	-6.1	-6.107271346529842
Observation start time	101818759.184000	101817291.53821
Observation start date	2001-03-24T10:58:15	2001-03-24T10:34:51
Observation end time	101848759.184000	101849376.60195
Observation end date	2001-03-24T19:18:15	2001-03-24T19:29:36
Read mode	TIMED	TIMED

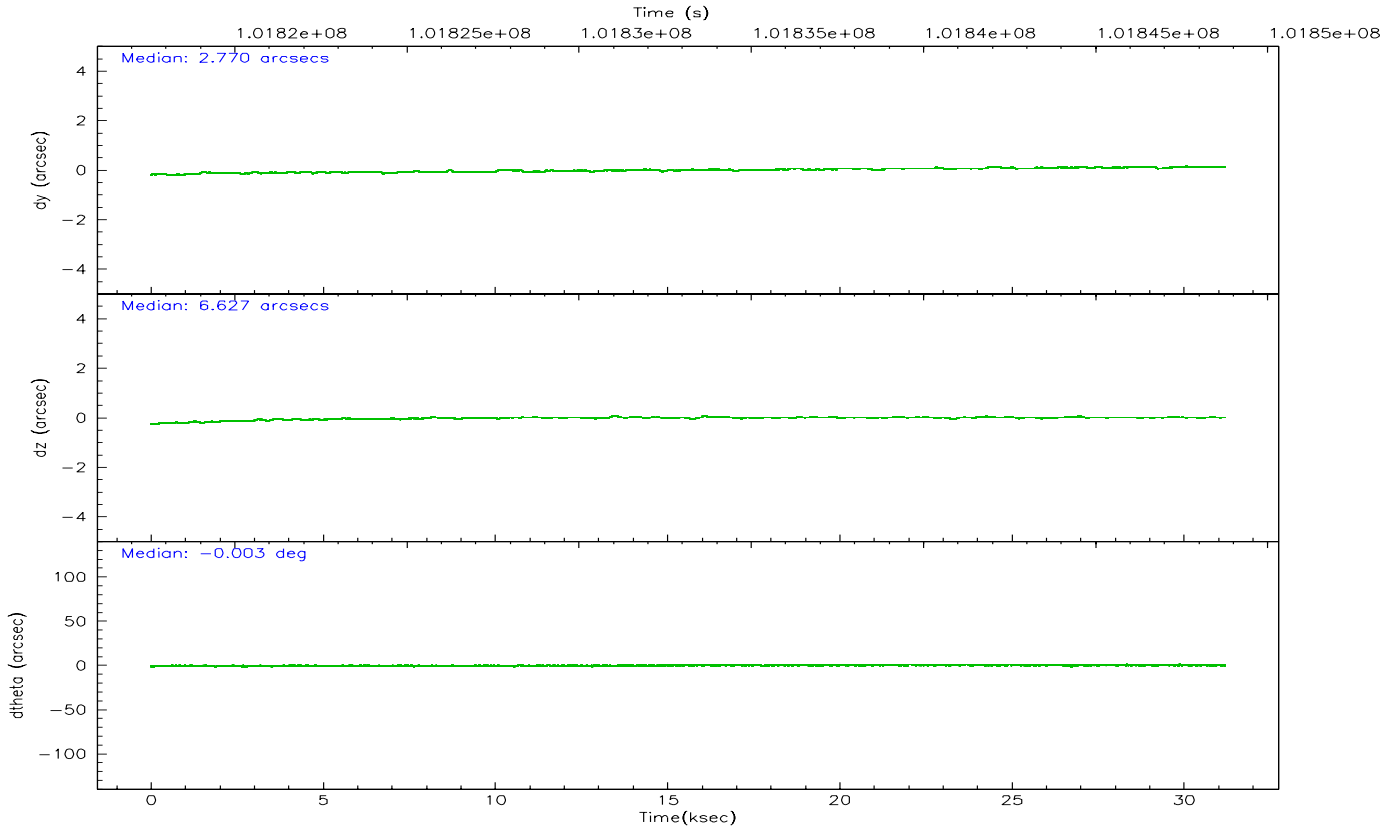
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	CUSTOM	1/2
Subarray start row	1	1
Subarray row count	512	512
Alternating exposures requested	N	N
Primary exposure time	0.000000	1.7

2.3 Aspect


RA : 270.303 deg
Dec
5
0
−5
Dec (arcsec)
−10
−5
0
5
RA (arcsec)


DY : 2.770 arcsecs
DZ : 6.627 arcsecs
4
2
0
−2
−4
DZ (arcsec)
−4
−2
0
2
4
DY (arcsec)


Time (s)
1.0182e+08
1.01825e+08
1.0183e+08
1.01835e+08
1.0184e+08
1.01845e+08
1.0185e+08
Median: 270.303 deg
RA (arcsec)
Median: −25.734 deg
Dec (arcsec)
Median: 90.086 deg
roll (arcsec)
Time(ksec)

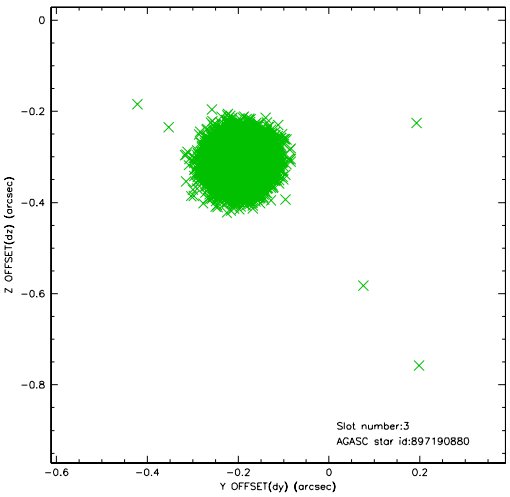

Time (s)
1.0182e+08
1.01825e+08
1.0183e+08
1.01835e+08
1.0184e+08
1.01845e+08
1.0185e+08
Median: 2.770 arcsecs
dy (arcsec)
Median: 6.627 arcsecs
dz (arcsec)
Median: −0.003 deg
dtheta (arcsec)
Time(ksec)

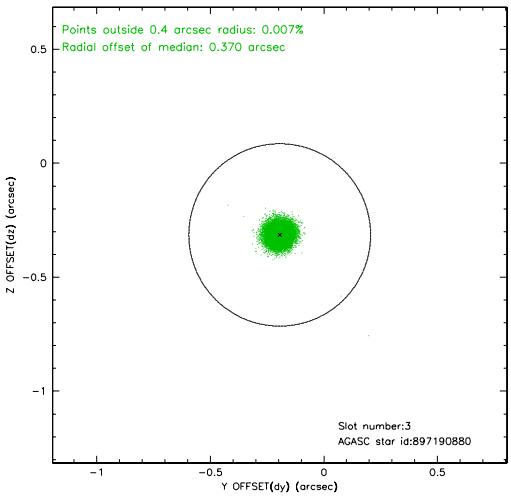
Slot Statistics

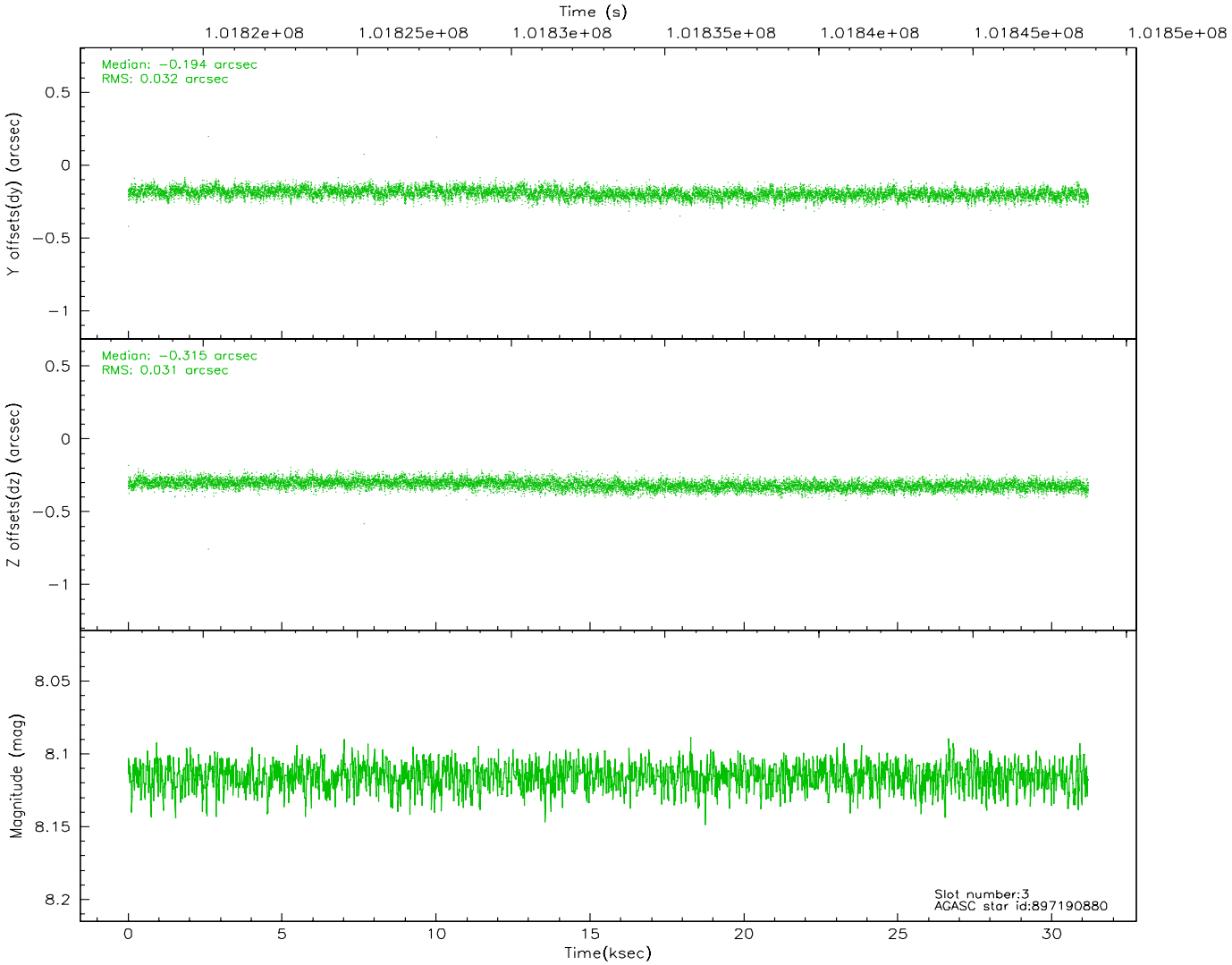
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.08	7608	-0.011	-0.096	0.015	0.023	0.000000	0.000000	-755.01	-1853.73
1	FID	ACIS-S-4	7.18	7608	-0.081	0.031	0.021	0.030	0.000000	0.000000	2158.20	54.75
2	FID	ACIS-S-5	7.23	7609	0.058	0.075	0.015	0.021	0.000000	0.000000	-1807.68	48.59
3	GUIDE	897190880	8.12	15213	-0.194	-0.315	0.047	0.076	269.584058	-25.142408	2203.33	2397.09
4	GUIDE	897859912	7.72	15214	0.271	0.210	0.061	0.101	270.849161	-26.319822	-2027.17	-1712.97
5	GUIDE	897326672	8.22	15211	0.222	-0.091	0.048	0.078	270.237029	-26.222744	-1676.78	262.39
6	GUIDE	897326256	8.25	15216	-0.138	0.425	0.062	0.096	271.063775	-25.425801	1188.18	-2420.04
7	GUIDE	897188632	8.64	15208	-0.162	-0.226	0.066	0.105	269.725883	-25.281908	1704.02	1931.99

2.4 Star Slots

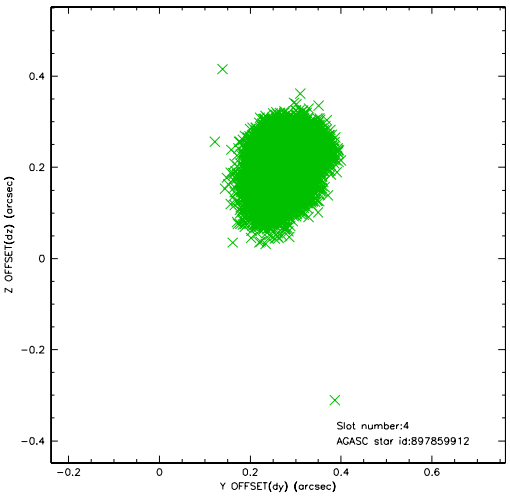
2.4.1 Slot 3

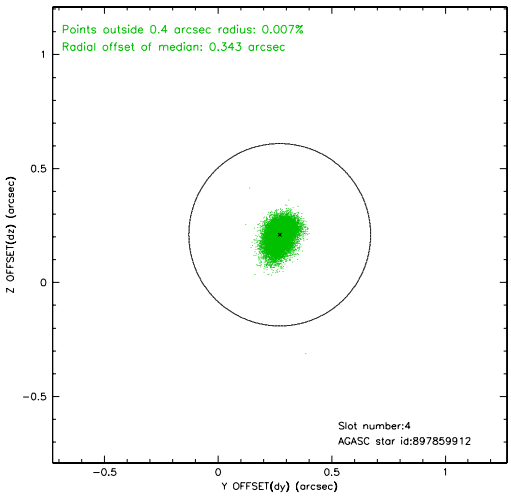


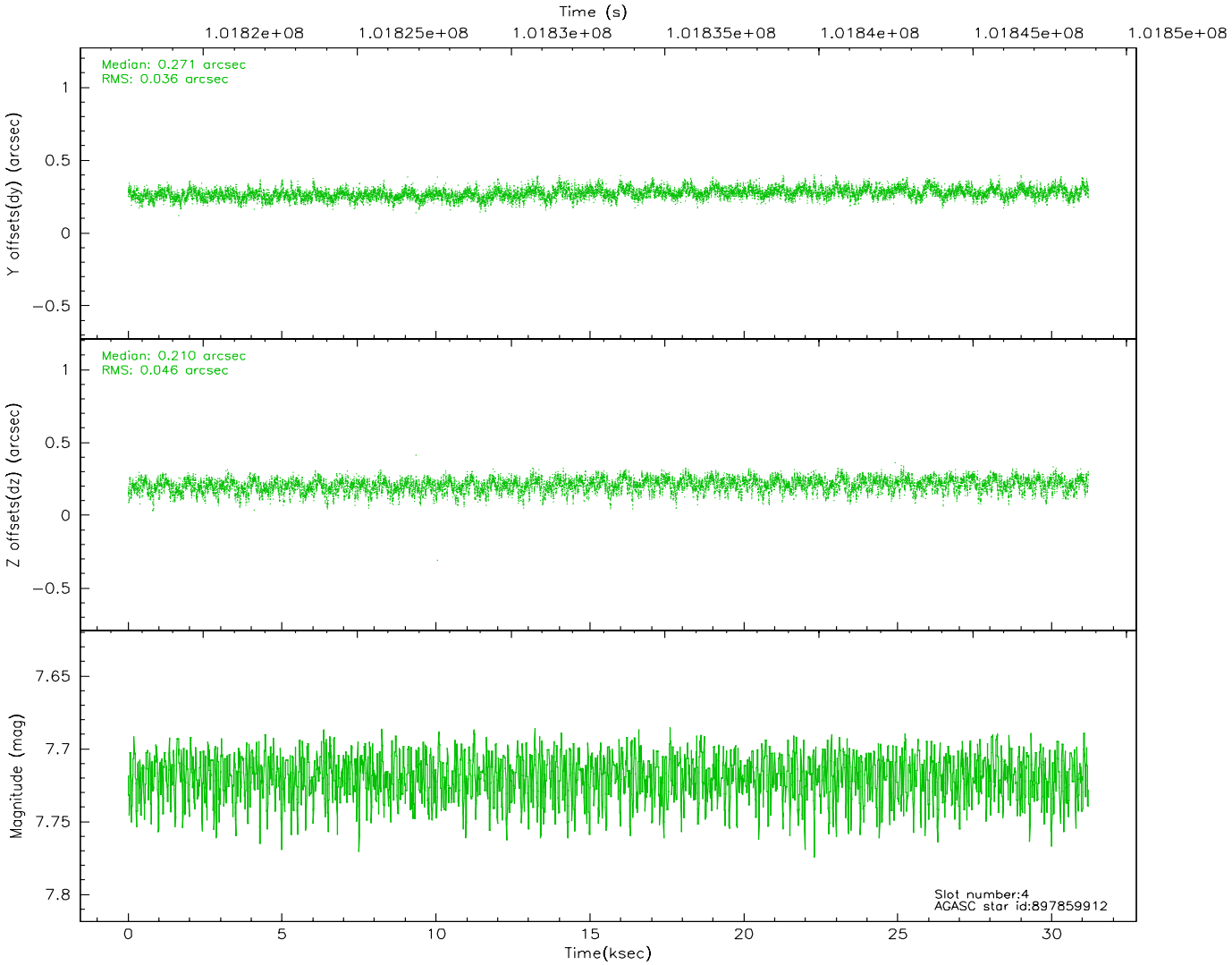




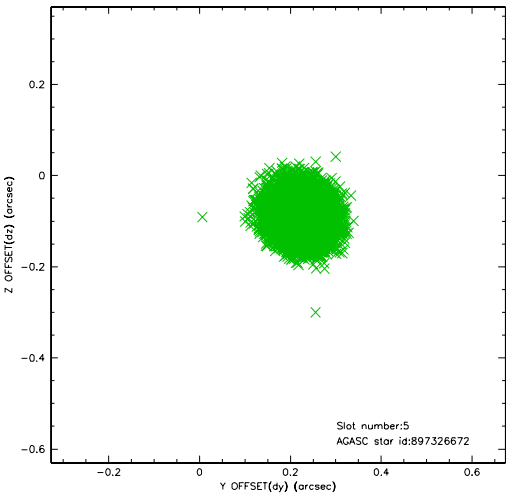
2.4.2 Slot 4

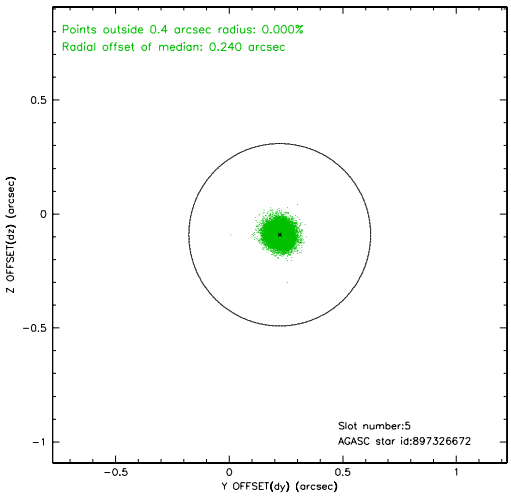

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:897859912

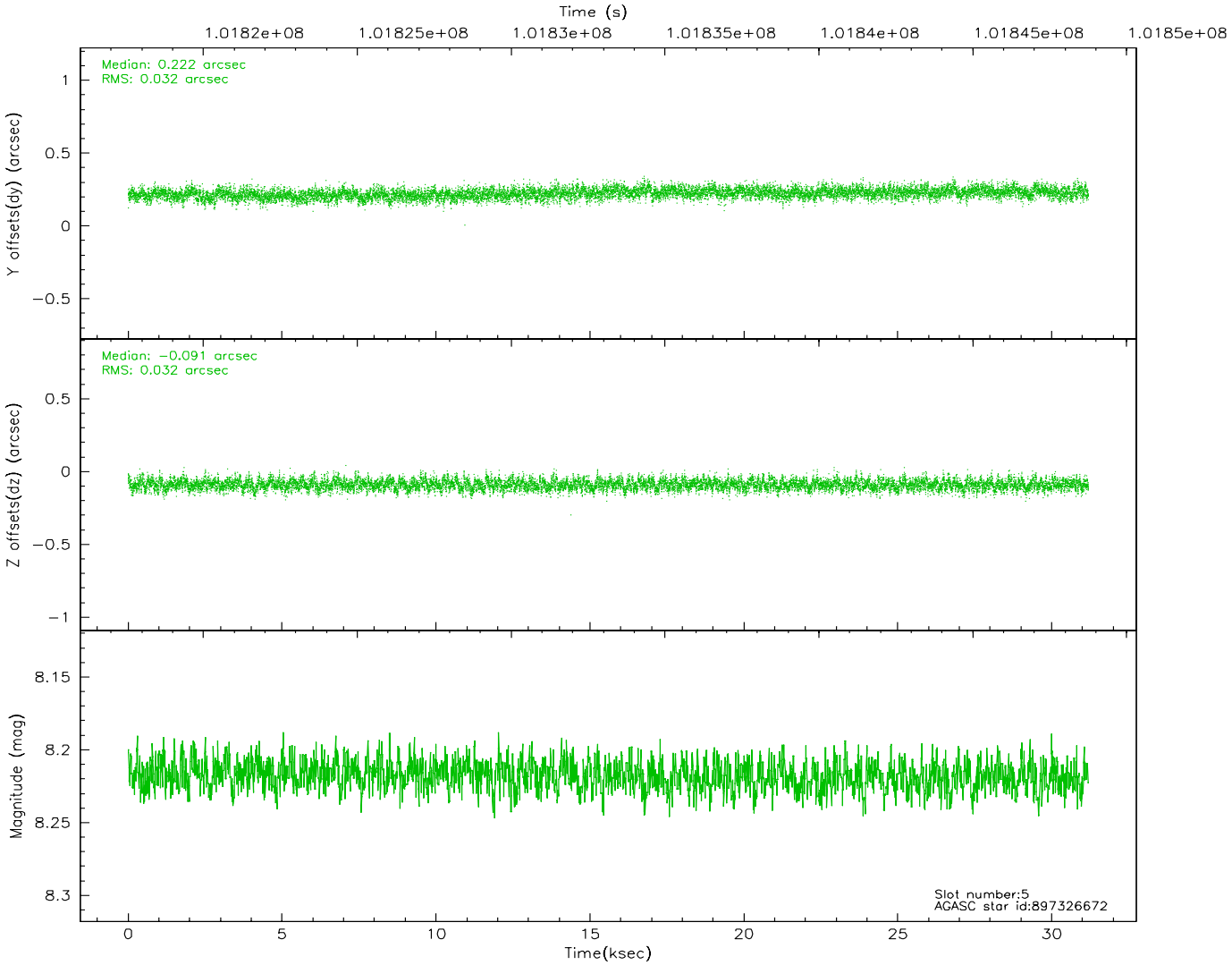

Points outside 0.4 arcsec radius: 0.007%
Radial offset of median: 0.343 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:897859912


Time (s)
1.0182e+08
1.01825e+08
1.0183e+08
1.01835e+08
1.0184e+08
1.01845e+08
1.0185e+08
Median: 0.271 arcsec
RMS: 0.036 arcsec
Y offsets(dy) (arcsec)
Median: 0.210 arcsec
RMS: 0.046 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:4
AGASC star id:897859912
Time(ksec)

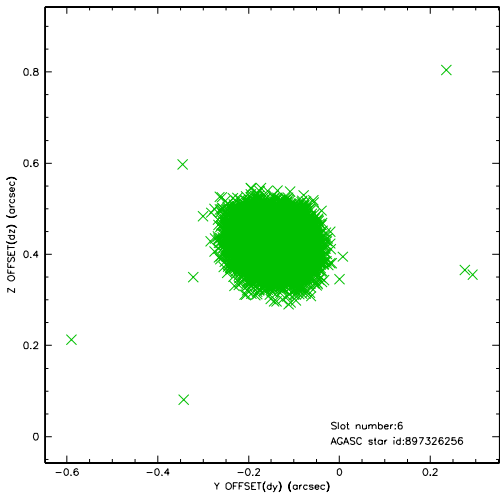
2.4.3 Slot 5

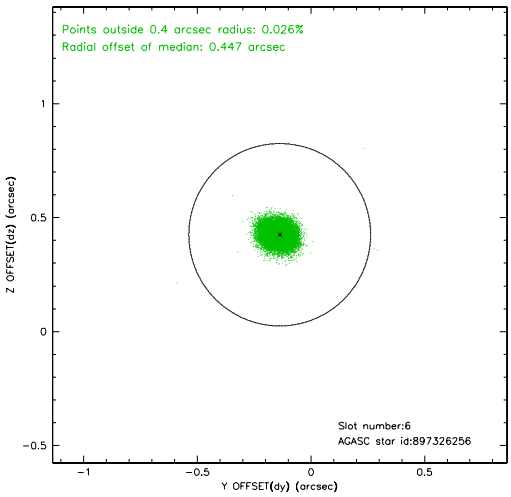

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:897326672

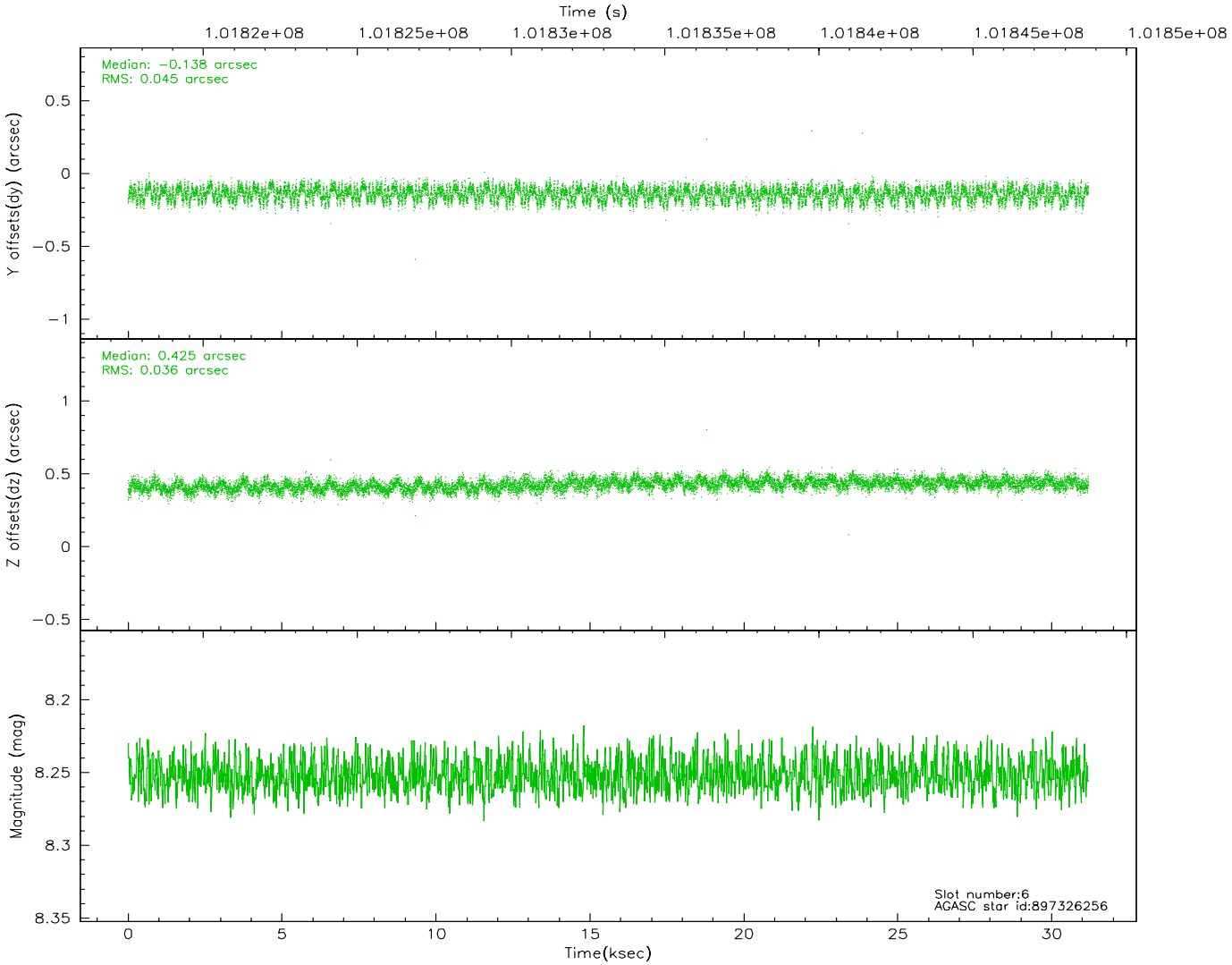

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.240 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:897326672


Time (s)
1.0182e+08
1.01825e+08
1.0183e+08
1.01835e+08
1.0184e+08
1.01845e+08
1.0185e+08
Median: 0.222 arcsec
RMS: 0.032 arcsec
Y offsets(dy) (arcsec)
Median: −0.091 arcsec
RMS: 0.032 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:5
AGASC star id:897326672
Time(ksec)

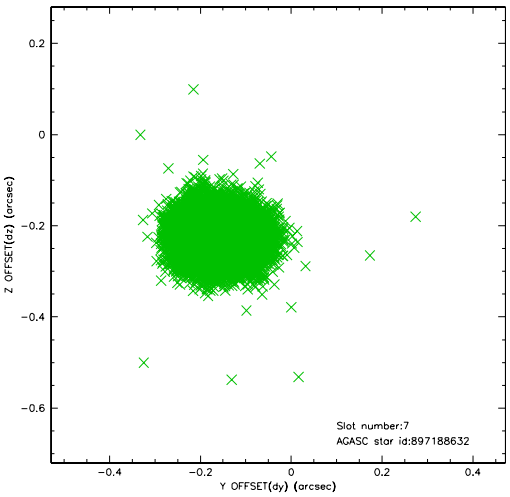
2.4.4 Slot 6

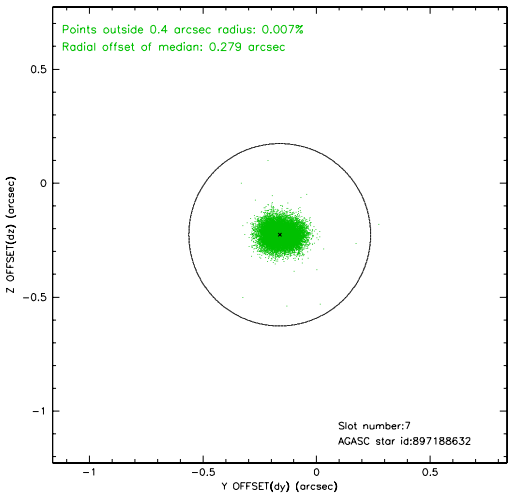

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:897326256

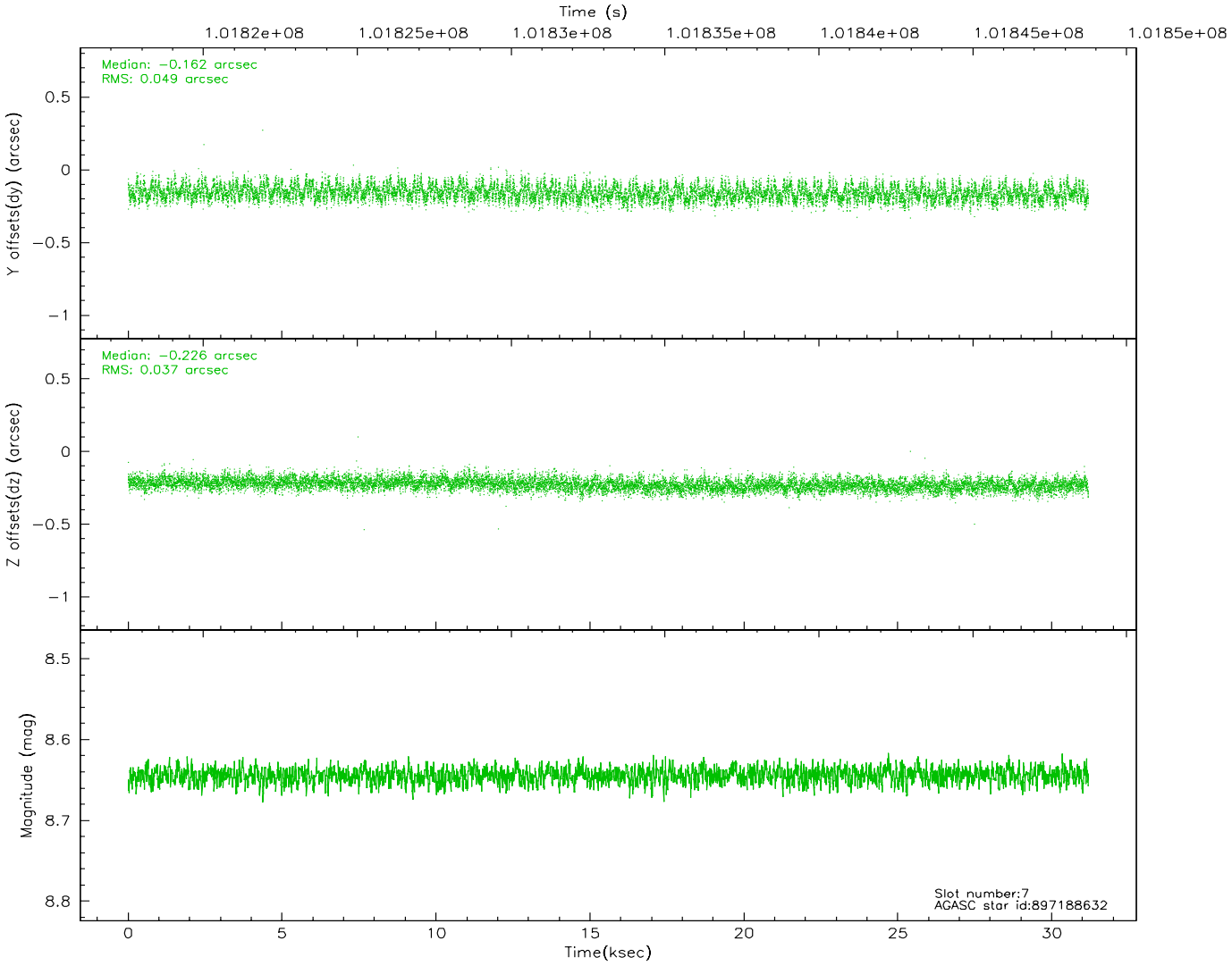

Points outside 0.4 arcsec radius: 0.026%
Radial offset of median: 0.447 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:897326256


Time (s)
1.0182e+08
1.01825e+08
1.0183e+08
1.01835e+08
1.0184e+08
1.01845e+08
1.0185e+08
Median: −0.138 arcsec
RMS: 0.045 arcsec
Y offsets(dy) (arcsec)
Median: 0.425 arcsec
RMS: 0.036 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:6
AGASC star id:897326256
Time(ksec)

2.4.5 Slot 7

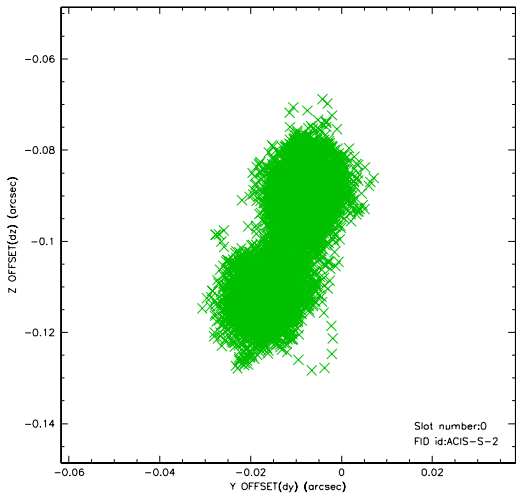

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:897188632

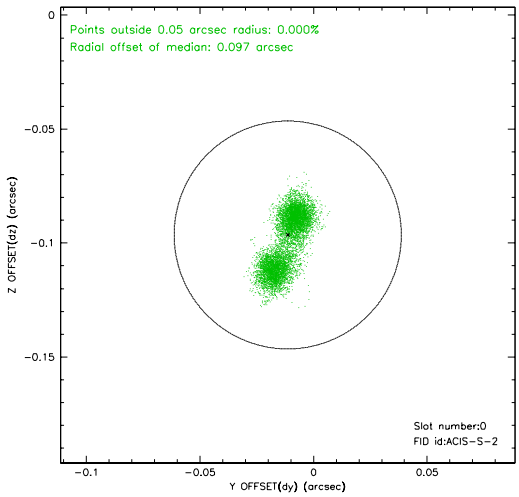

Points outside 0.4 arcsec radius: 0.007%
Radial offset of median: 0.279 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:897188632

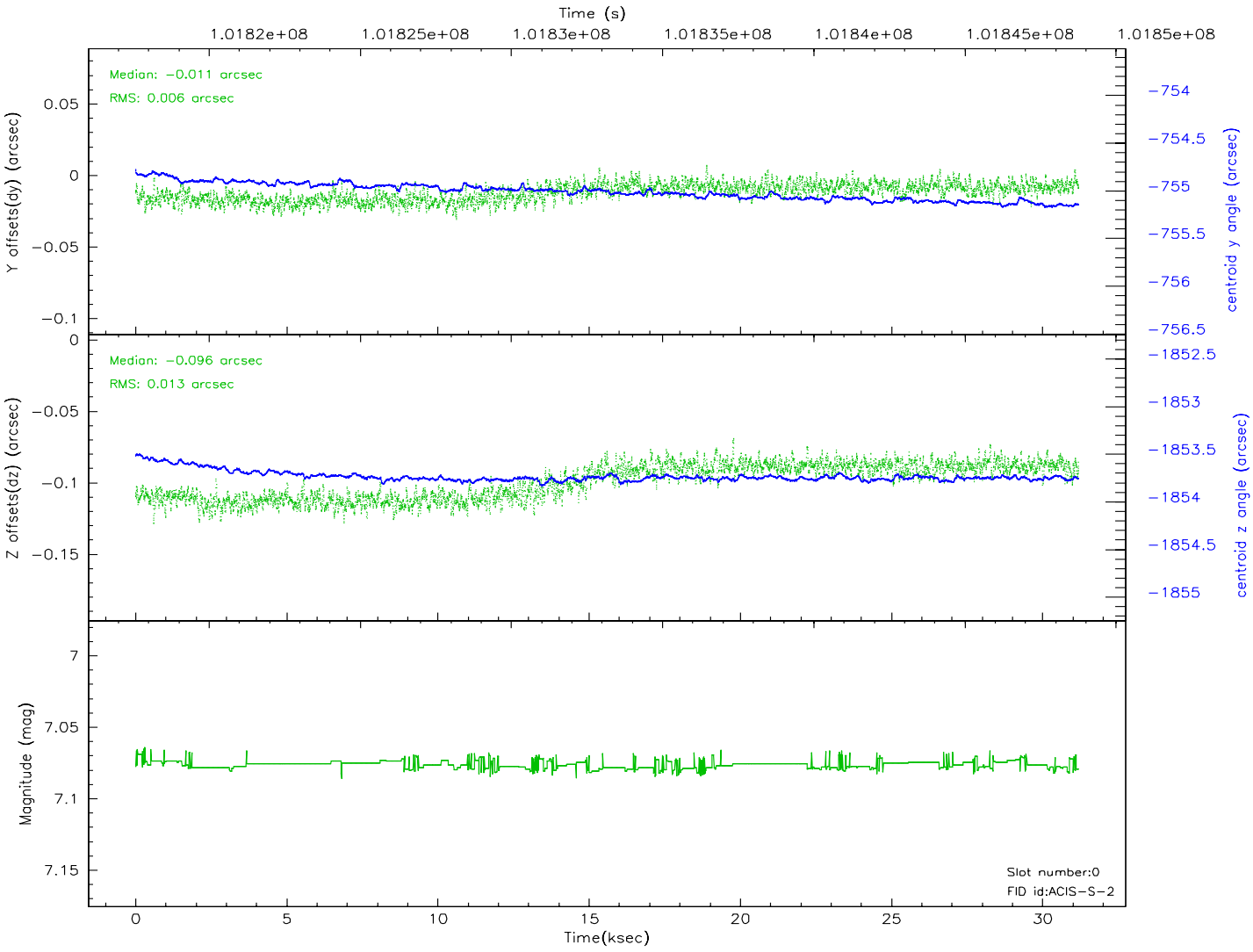

Time (s)
1.0182e+08
1.01825e+08
1.0183e+08
1.01835e+08
1.0184e+08
1.01845e+08
1.0185e+08
Median: −0.162 arcsec
RMS: 0.049 arcsec
Y offsets(dy) (arcsec)
Median: −0.226 arcsec
RMS: 0.037 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:7
AGASC star id:897188632
Time(ksec)

2.5 FID Slots

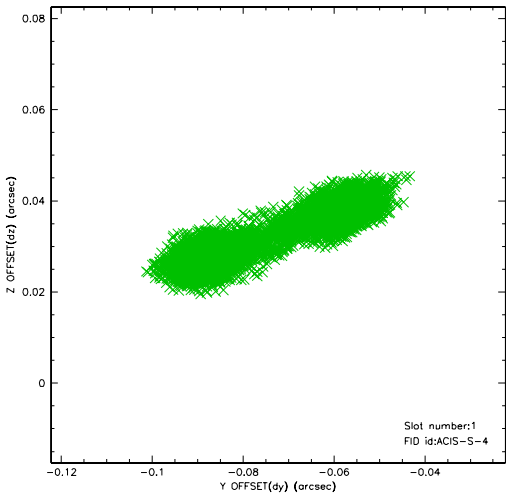
2.5.1 Slot 0

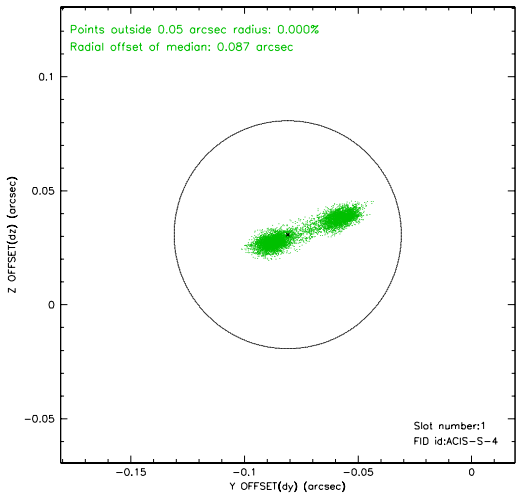


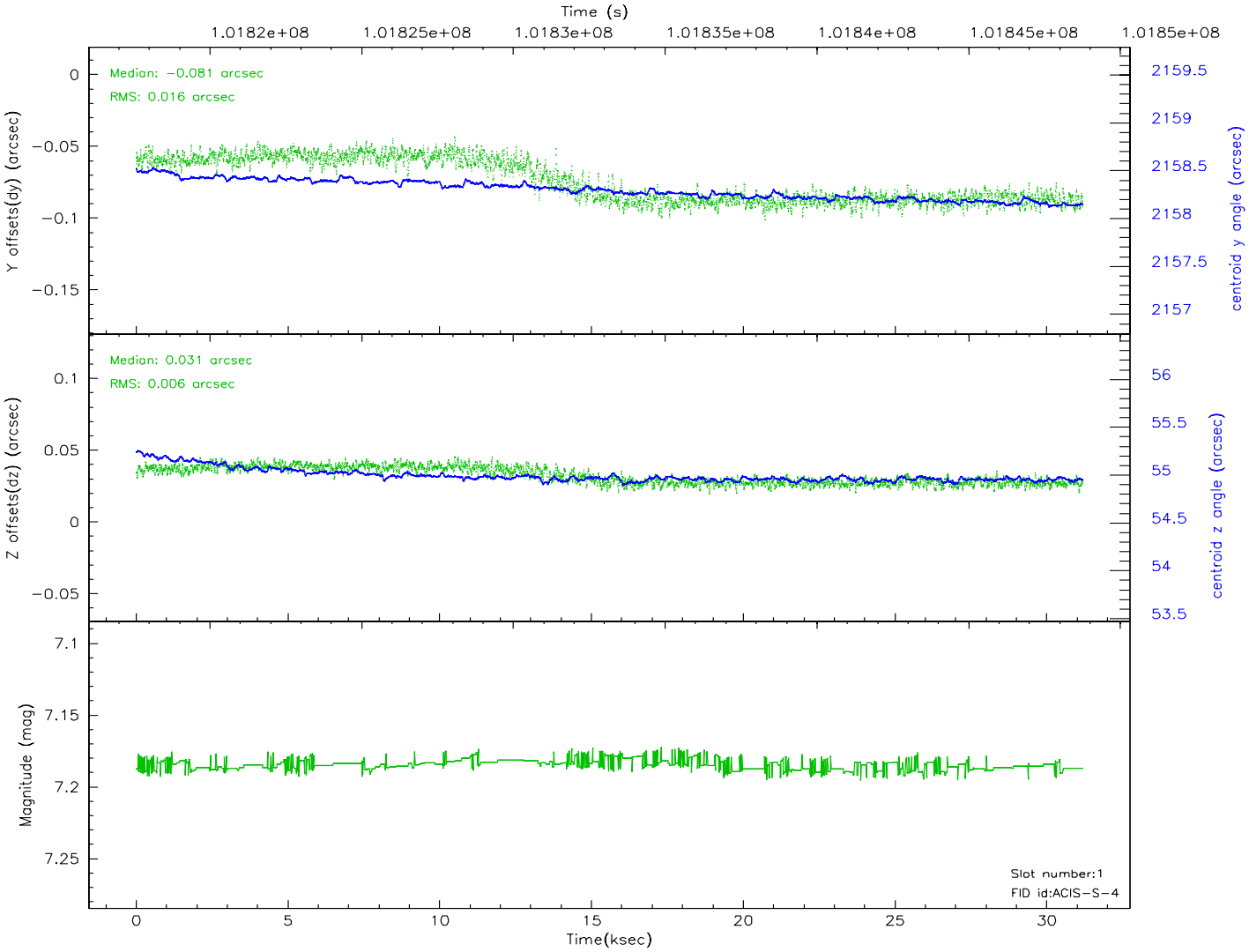




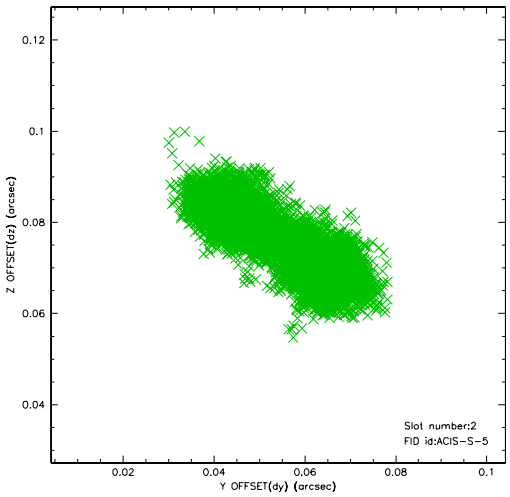
2.5.2 Slot 1

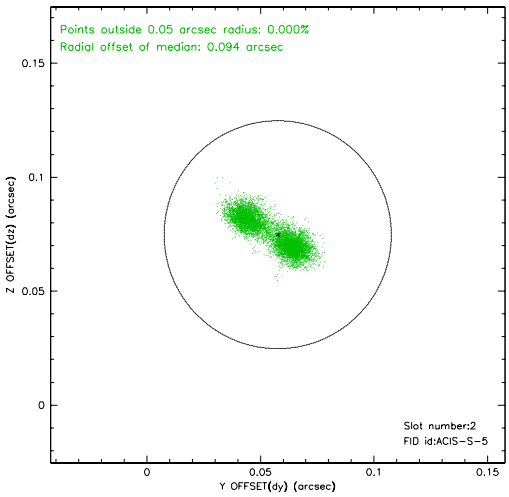

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:ACIS-S-4

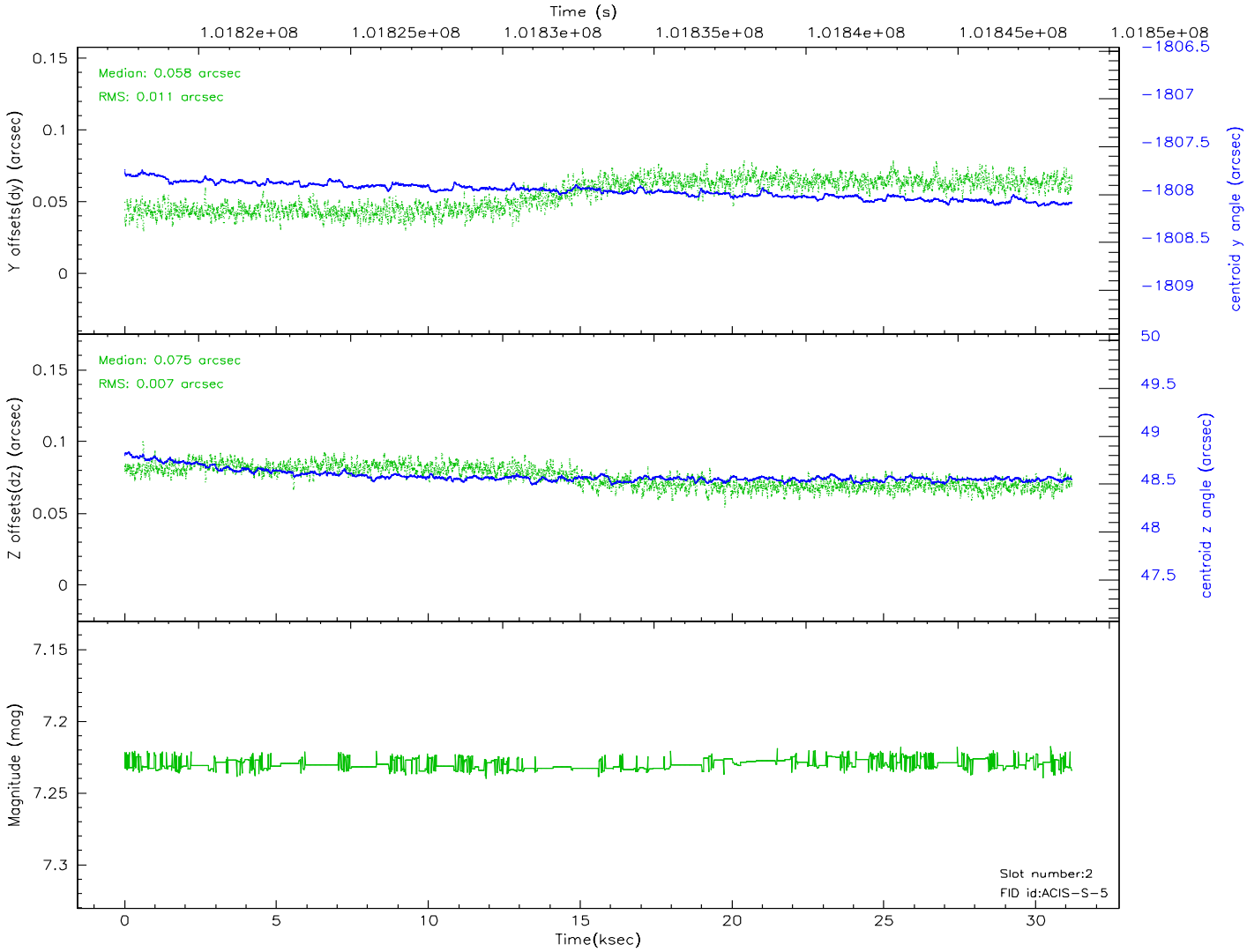

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.087 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:ACIS-S-4


Time (s)
Median: −0.081 arcsec
RMS: 0.016 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.031 arcsec
RMS: 0.006 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number:1
FID id:ACIS-S-4
Time(ksec)

2.5.3 Slot 2

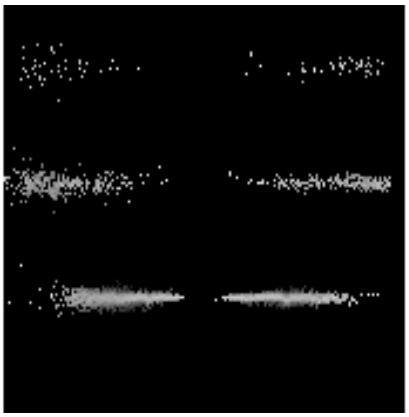

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:2
FID id:ACIS-S-5


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.094 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:2
FID id:ACIS-S-5

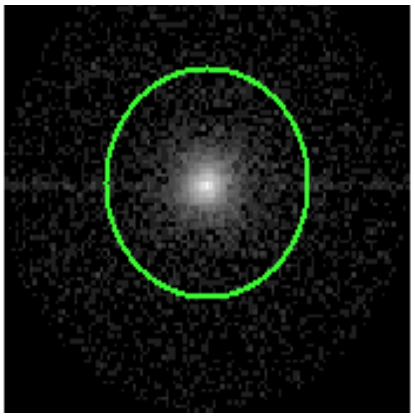

Time (s)
Median: 0.058 arcsec
RMS: 0.011 arcsec
Y offsets(dy) (arcsec)
Median: 0.075 arcsec
RMS: 0.007 arcsec
Z offsets(dz) (arcsec)
centroid y angle (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number:2
FID id:ACIS-S-5
Time(ksec)

3 Gratings

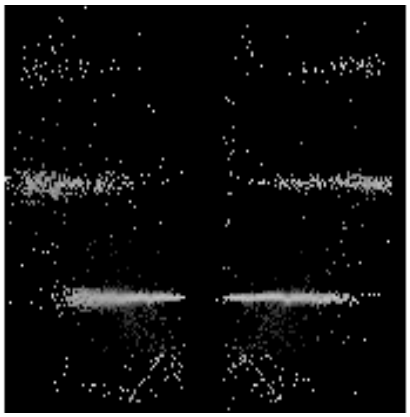
3.1 HEG Arm



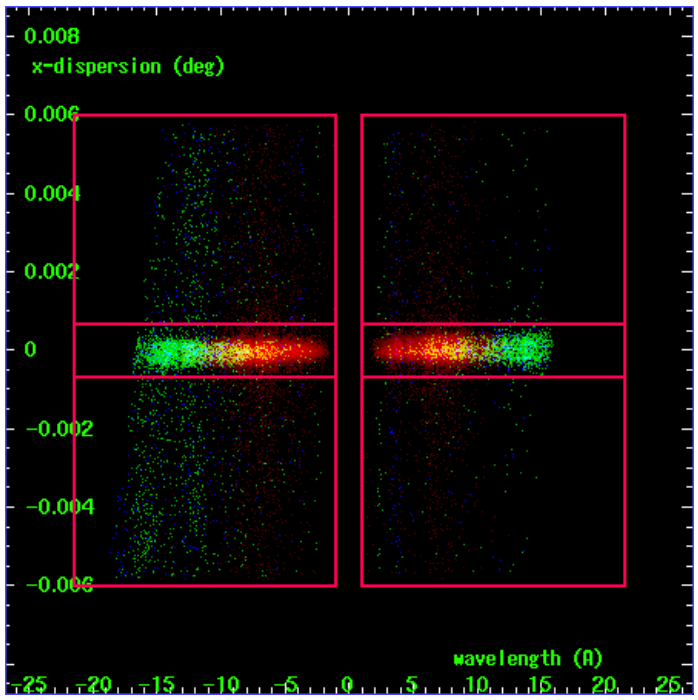
HEG Order Sort 123



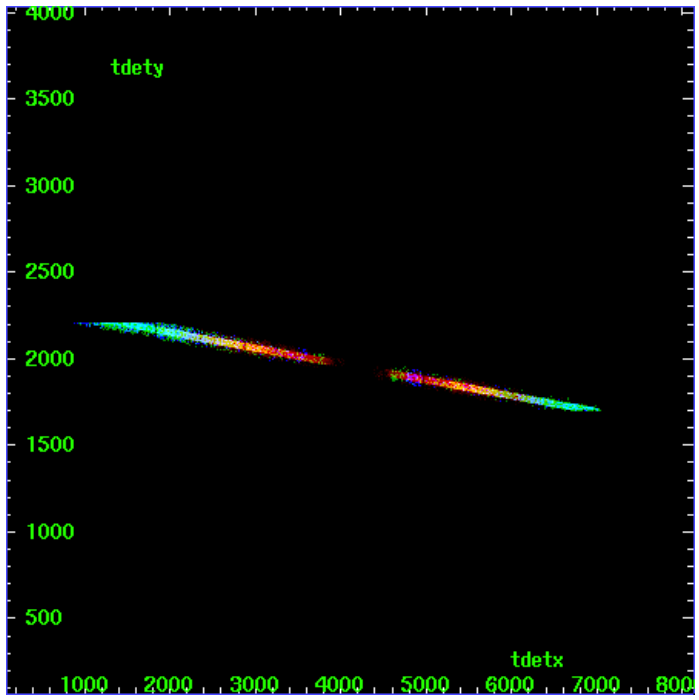
HEG Zero Order



HEG Order Sort ALL

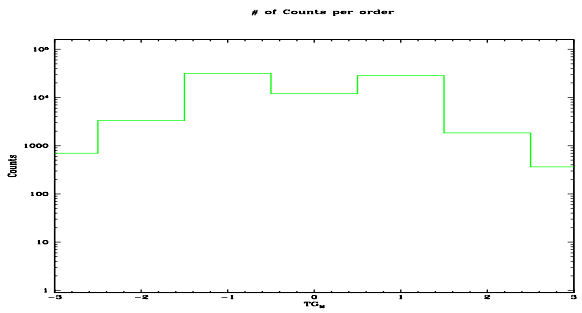


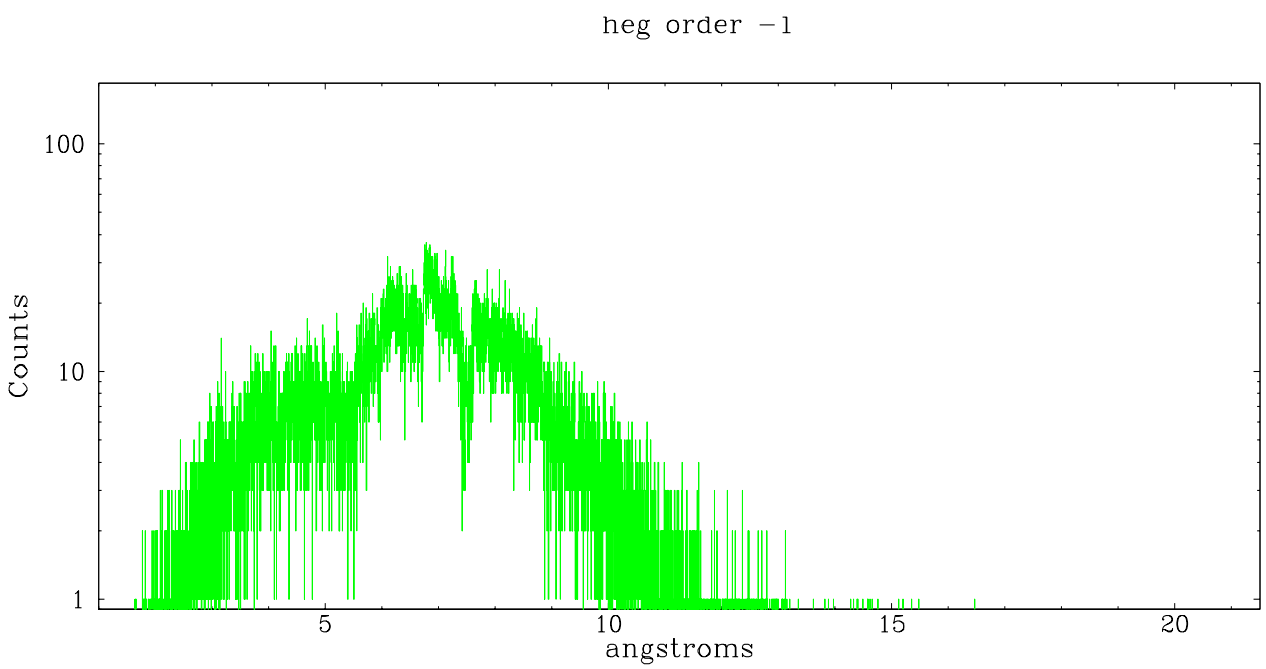
Spot Image HEG

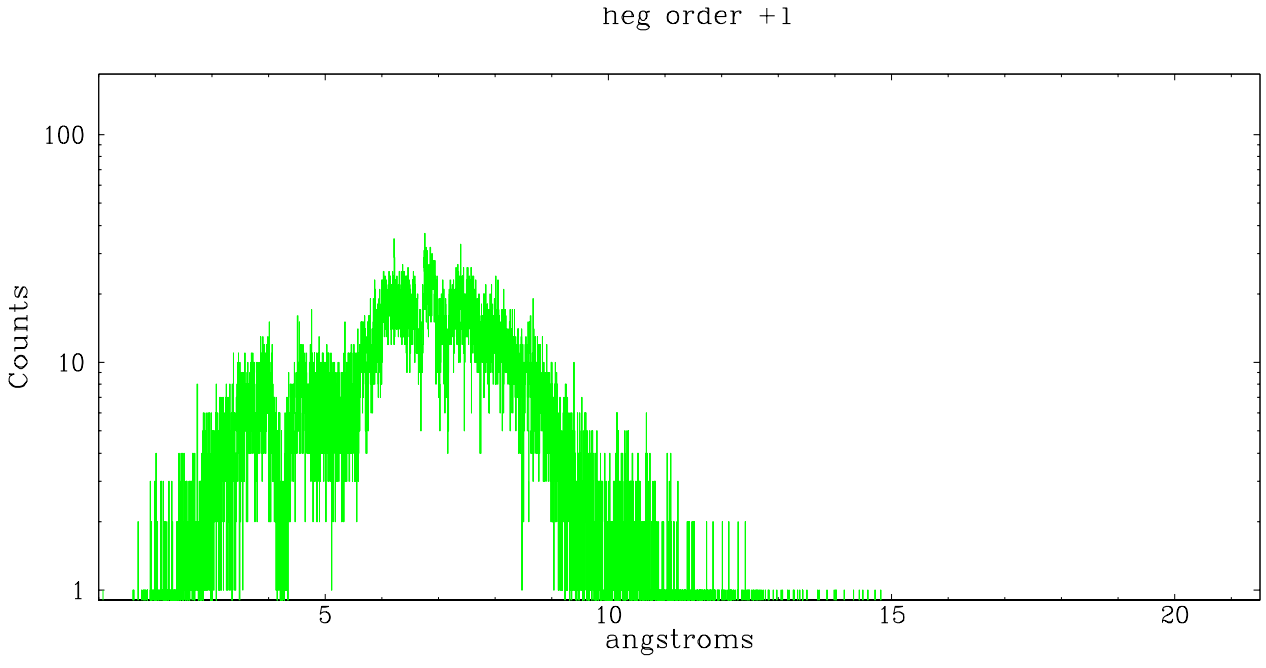


Full Detector HEG

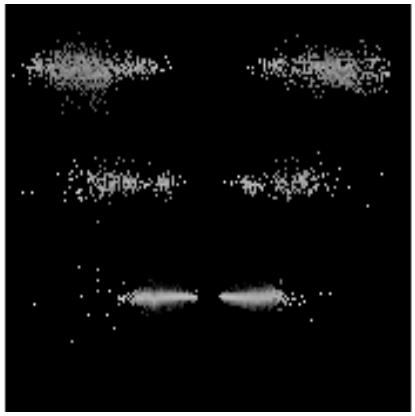
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	697	3313	31577	11988	28382	1844	364



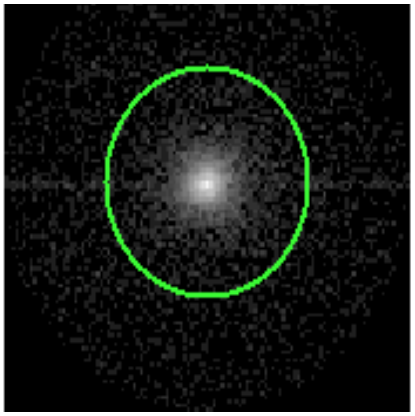

heg order −1
100
10
1
Counts
5
10
15
20
angstroms


heg order +1
100
10
1
Counts
5
10
15
20
angstroms

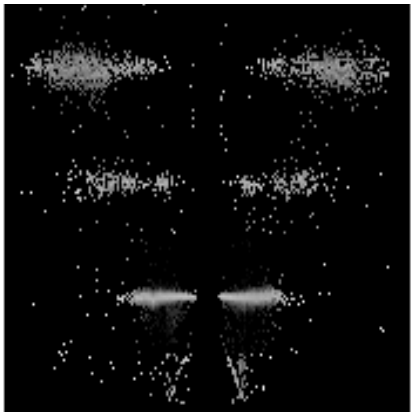
3.2 MEG Arm



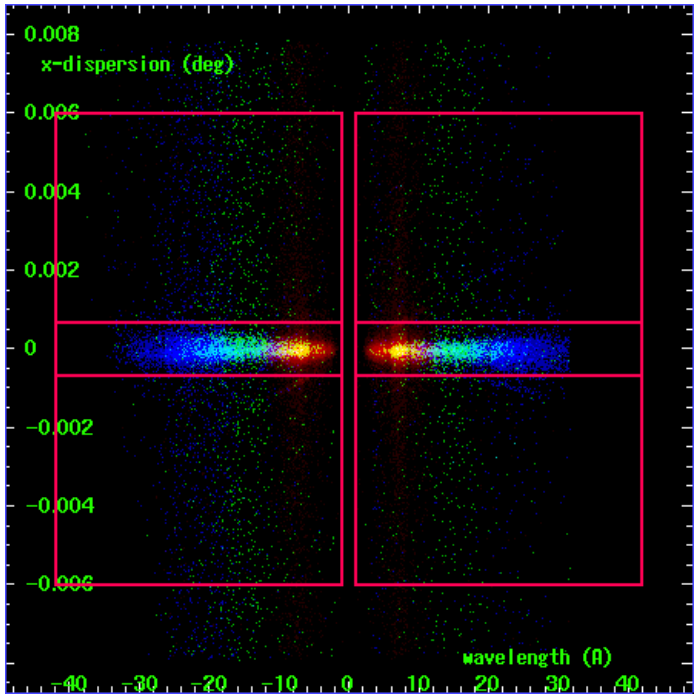
MEG Order Sort 123



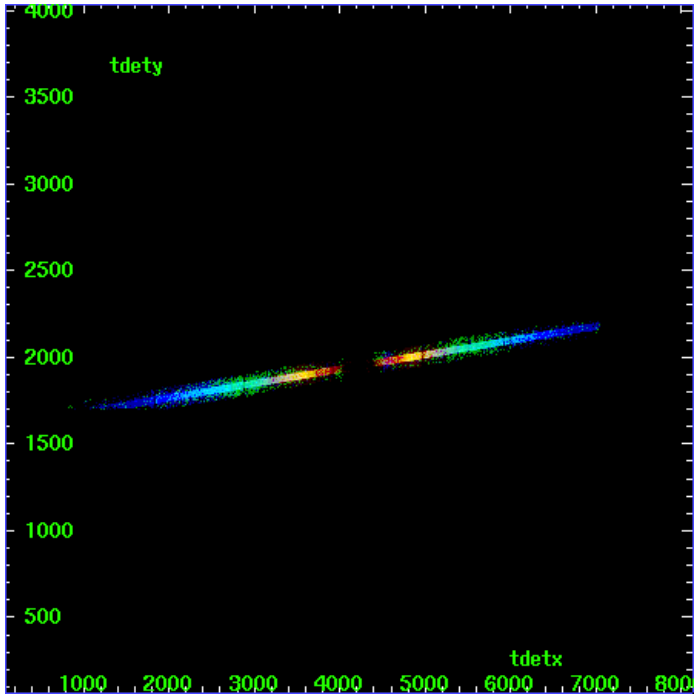
MEG Zero Order



MEG Order Sort ALL

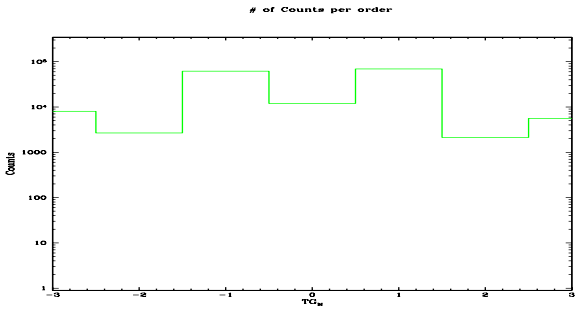


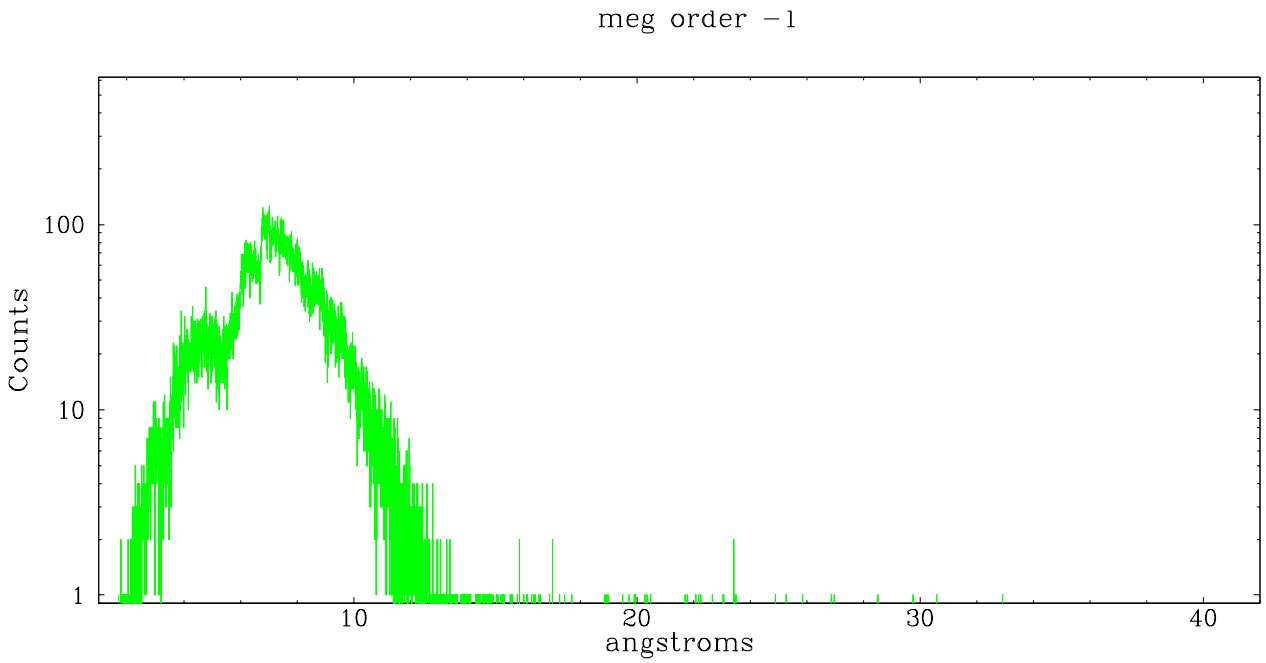
Spot Image MEG

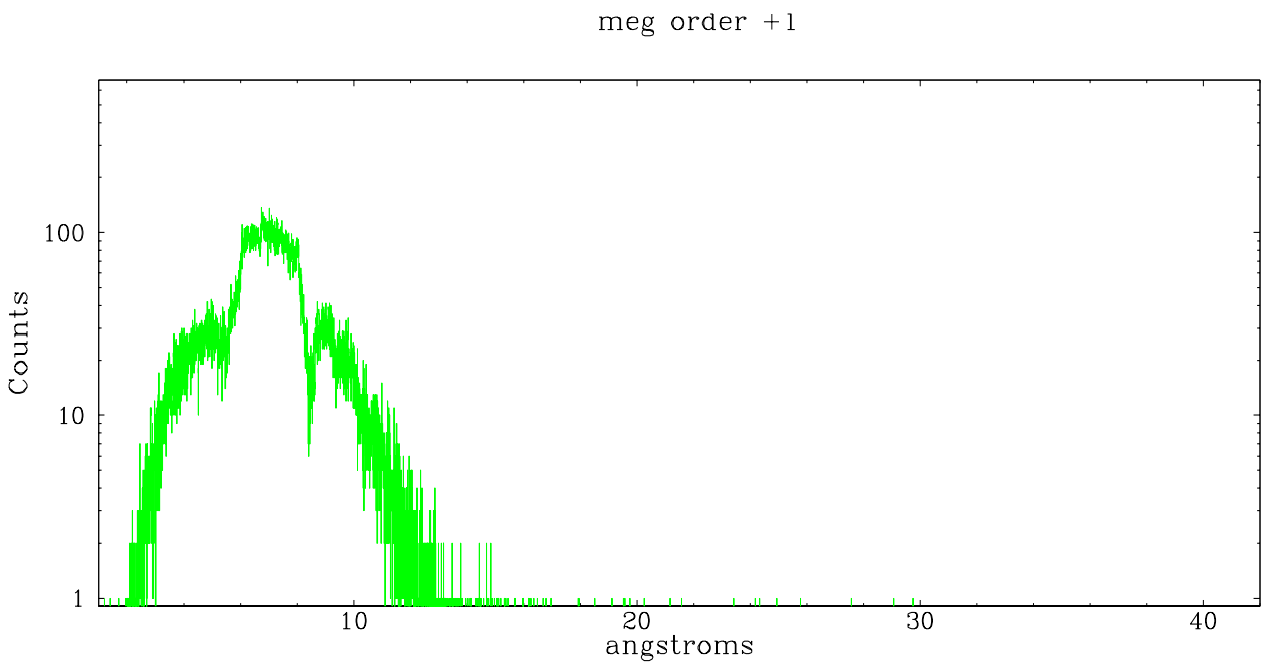


Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	8034	2663	62006	11988	69138	2137	5612




meg order −1
Counts
100
10
1
10
20
30
40
angstroms


meg order +1
Counts
100
10
1
10
20
30
40
angstroms

A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2006.11.16
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.28

A.2 Comments