V&V Reference Report
L2 ASCDS Version : 7.6.8.1

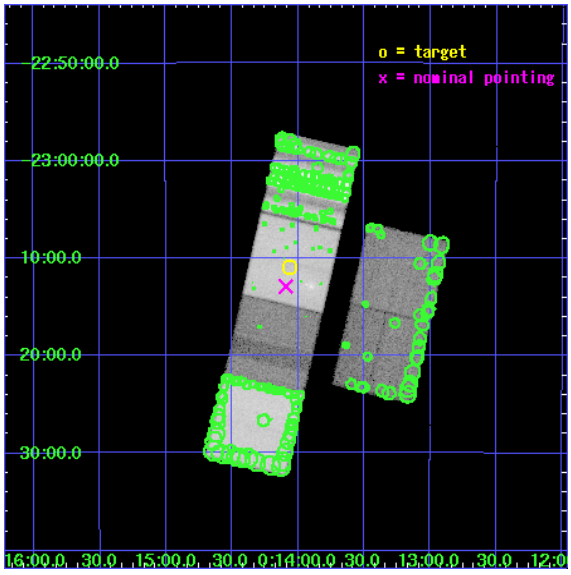
Observation 4690 - L2 Version 003
Chandra X-Ray Center

L2 Processing Date : Aug 9 2006

Contents

1 Front

seq_num	600345
obs_id	4690
title	An X-ray Search for Extragalactic Supernova Remnants in Three Nearby Galaxies: NGC 45, NGC 247 and NGC 300
observer	Dr. Thomas Pannuti
object	NGC 45
dtycycle	0
cycle	P
ra_targ	3.516667
dec_targ	-23.181667
ra_nom	3.5231384527066
dec_nom	-23.215184301763
roll_nom	283.00918151413
revision	3
ontime	34879.999870062
livetime	34438.328309493
ontime2	16536.745261371
ontime3	18241.671560675
ontime5	34879.999870062
ontime6	17930.495403111
ontime7	34879.999870062
ontime8	20471.514376611
l2events	799263

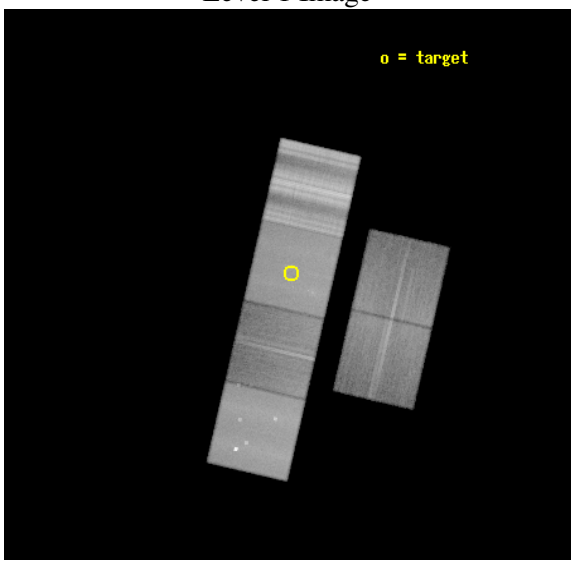


2 OBI

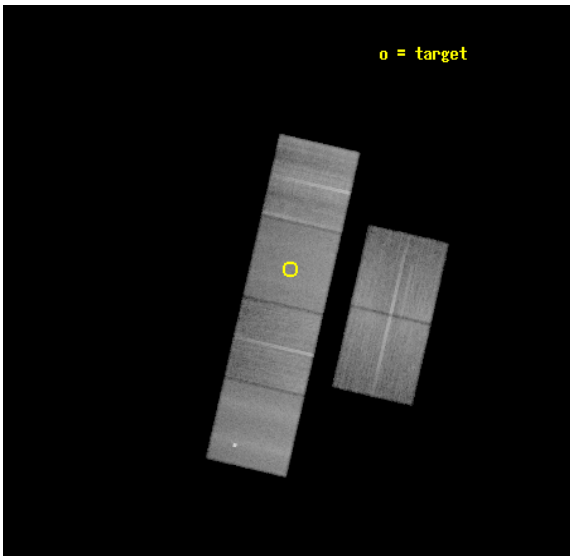
2.1 OBI

2.1.1 Images

Level 1 Image

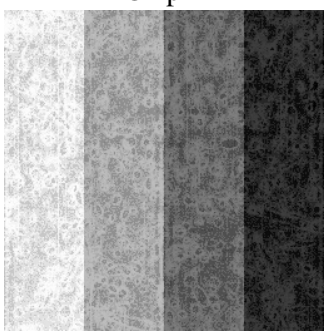


Level 1 Bad Events

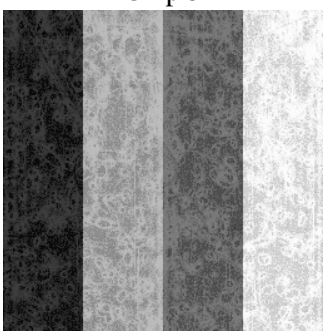


2.1.2 Bias

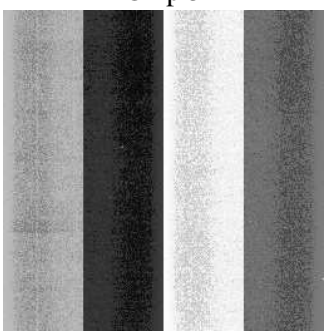
Chip 2



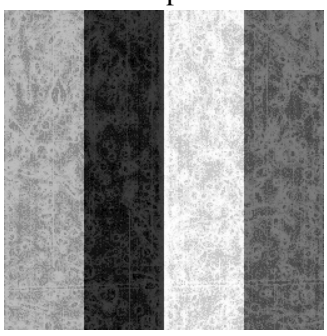
Chip 3



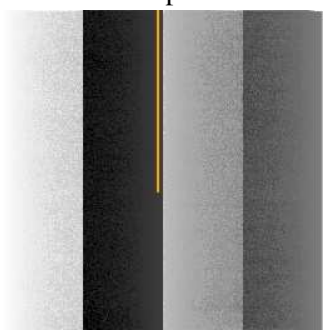
Chip 5



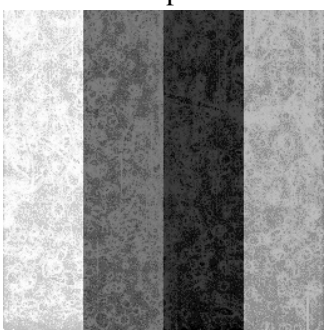
Chip 6



Chip 7



Chip 8



2.1.3 Parameters

obi_num	0
ascdsver	7.6.8.1
caldbver	3.2.2
date	2006-08-08T19:30:27
revision	3

sched_exp_time	44938.879000
ontime	35070.889061332
ontime2	16688.059506148
ontime3	18392.821645439
ontime5	35064.407051057
ontime6	18081.686527878
ontime7	35070.889061332
ontime8	20625.864461392
l1events	2517836

2.1.4 Events

	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	268437	265513	545900	283816	481190	672980
rejected events	220690	220876	273846	236549	254768	293020
rejected %	82%	83%	50%	83%	52%	43%

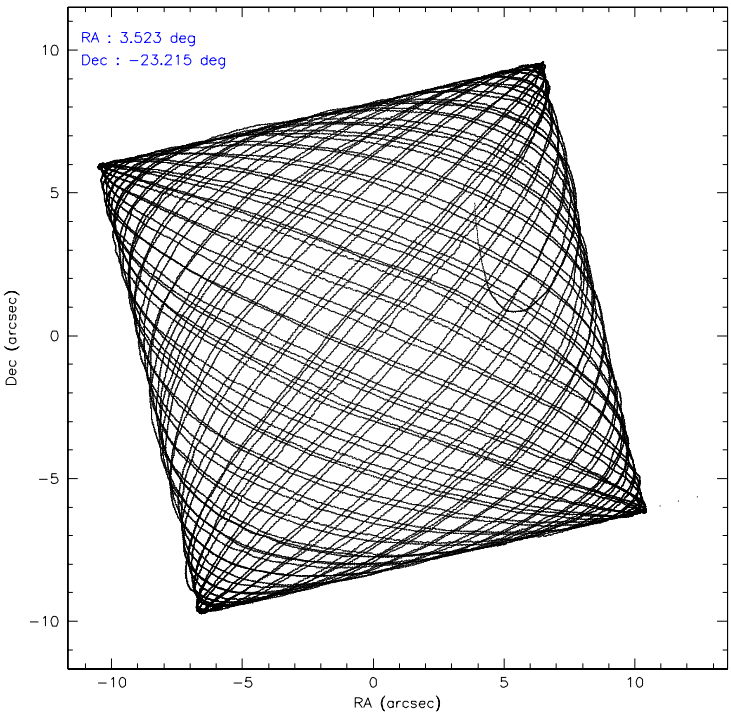
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	24830	22789	22360	22575	16361	119166
	9%	8%	4%	7%	3%	17%
grade 1 events	244	171	3249	234	466	1086
	0%	0%	0%	0%	0%	0%
grade 2 events	11119	9774	92863	12683	62277	59706
	4%	3%	17%	4%	12%	8%
grade 3 events	2179	2549	10893	2418	12289	60575
	0%	0%	1%	0%	2%	9%
grade 4 events	3122	2647	10853	2510	12084	53856
	1%	0%	1%	0%	2%	8%
grade 5 events	5261	6232	22260	6471	26603	14883
	1%	2%	4%	2%	5%	2%
grade 6 events	6814	7148	136501	7368	124647	88412
	2%	2%	25%	2%	25%	13%
grade 7 events	214868	214203	246921	229557	226463	275296
	80%	80%	45%	80%	47%	40%

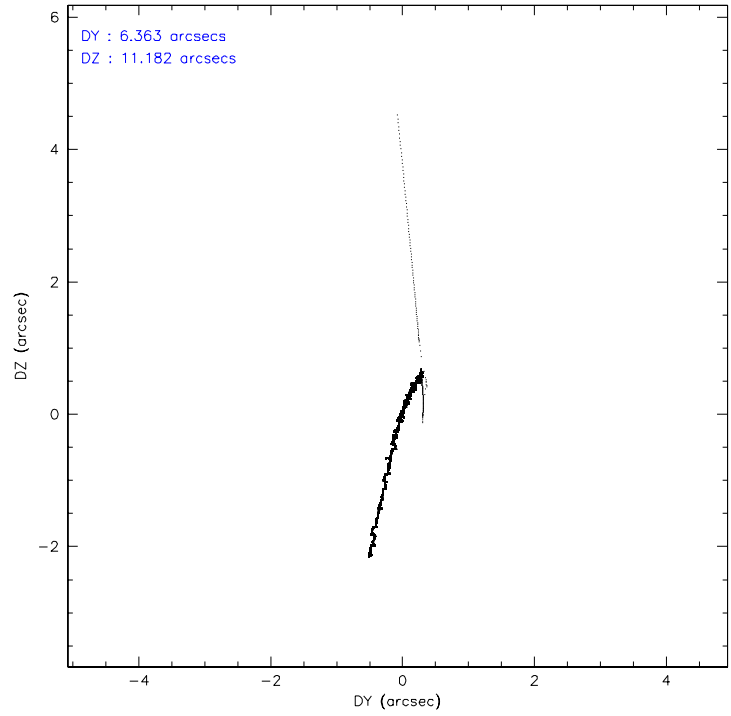
2.2 Compared Parameters

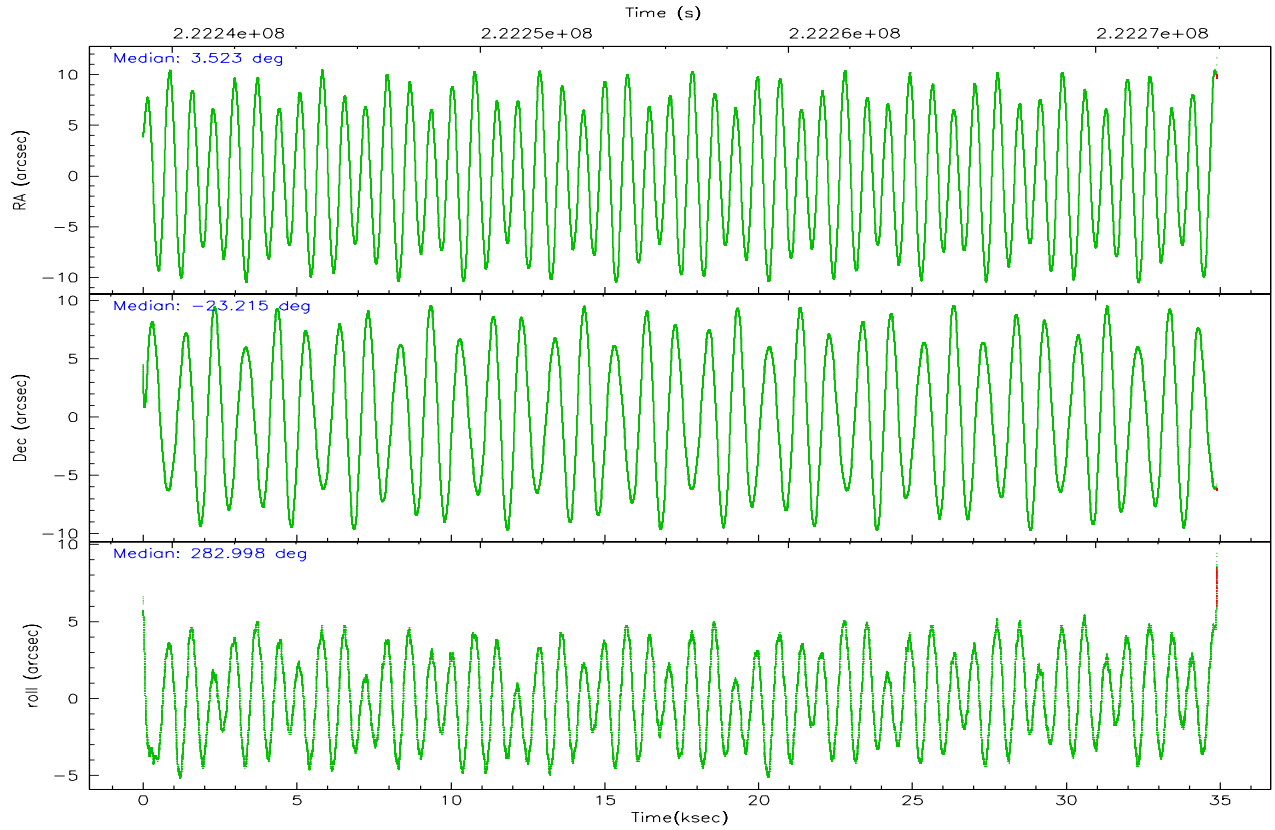
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-235678	ACIS-235678
Grating	NONE	NONE
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
Pointing RA	3.502628	3.523138452706569
Pointing Dec	-23.195544	-23.21518430176326
Pointing Roll	282.844470	283.0091815141287
SIM focus pos (mm)	-0.684267	-0.6828225247311905
SIM defocus (mm)	0	0.001444936568705701
SIM translation stage pos (mm)	-190.132523	-190.1400660498719
SIM translation stage offset (mm)	0	0.00754346686406393
Observation start time	222239159.184000	222238886.03374
Observation start date	2005-01-16T05:04:55	2005-01-16T05:01:26
Observation end time	222284098.184000	222273967.17283
Observation end date	2005-01-16T17:33:54	2005-01-16T14:46:07
Read mode	TIMED	TIMED

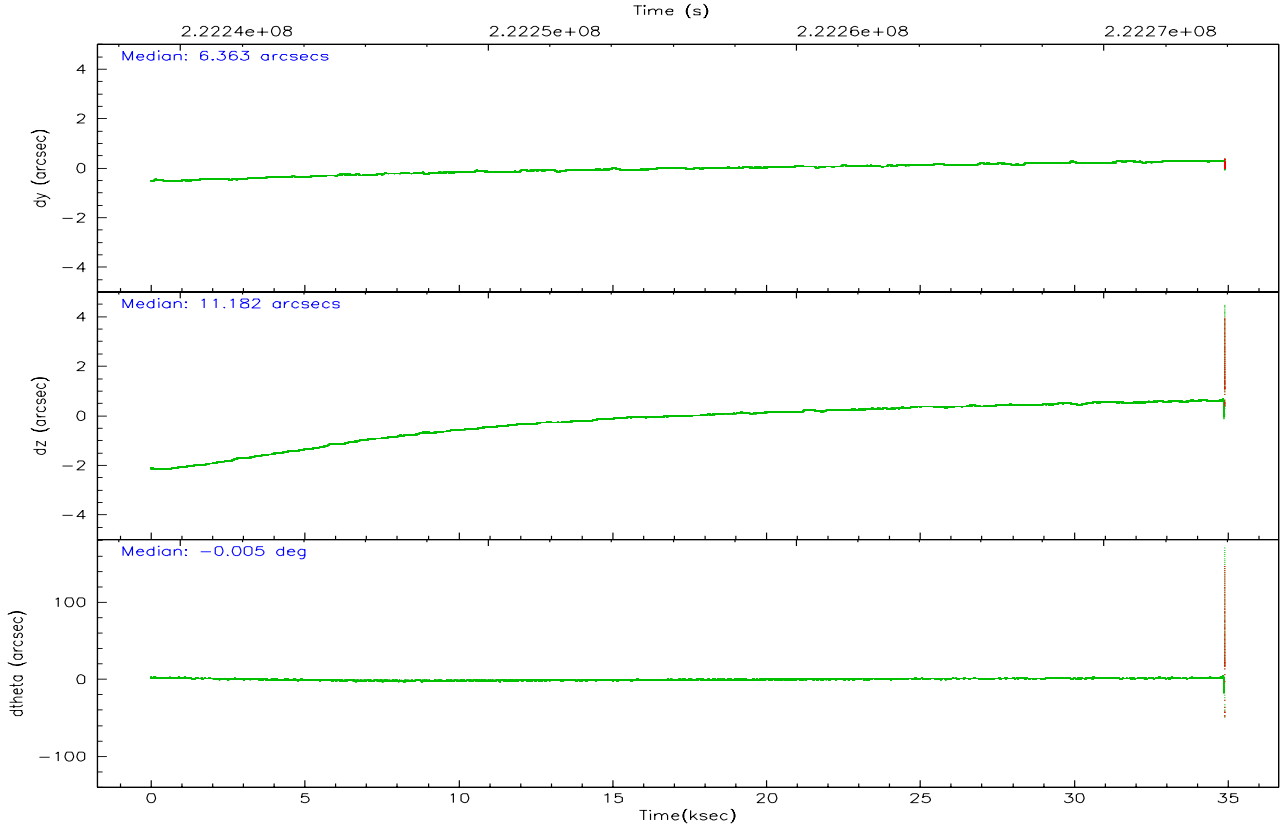
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
Primary exposure time	0.000000	3.2

2.3 Aspect


RA : 3.523 deg
Dec : −23.215 deg
Dec (arcsec)
RA (arcsec)
10
5
0
−5
−10
−10
−5
0
5
10


DY : 6.363 arcsecs
DZ : 11.182 arcsecs
DZ (arcsec)
DY (arcsec)
6
4
2
0
−2
−4
−2
0
2
4


Time (s)
2.2224e+08
2.2225e+08
2.2226e+08
2.2227e+08
Median: 3.523 deg
RA (arcsec)
Median: −23.215 deg
Dec (arcsec)
Median: 282.998 deg
roll (arcsec)
Time(ksec)

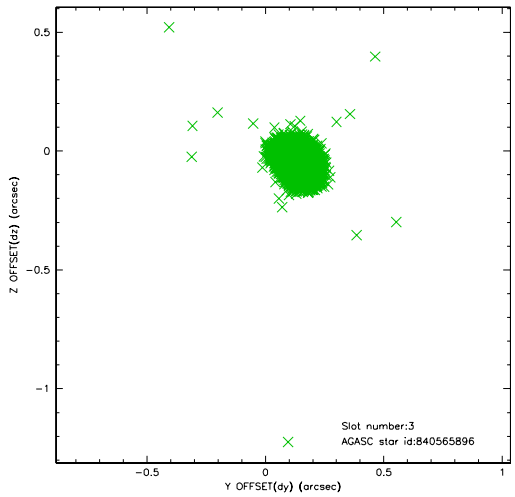

Time (s)
2.2224e+08
2.2225e+08
2.2226e+08
2.2227e+08
Median: 6.363 arcsecs
dy (arcsec)
Median: 11.182 arcsecs
dz (arcsec)
Median: −0.005 deg
dtheta (arcsec)
Time(ksec)

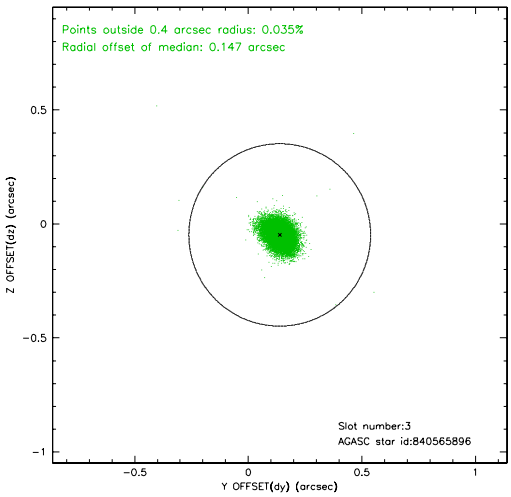
Slot Statistics

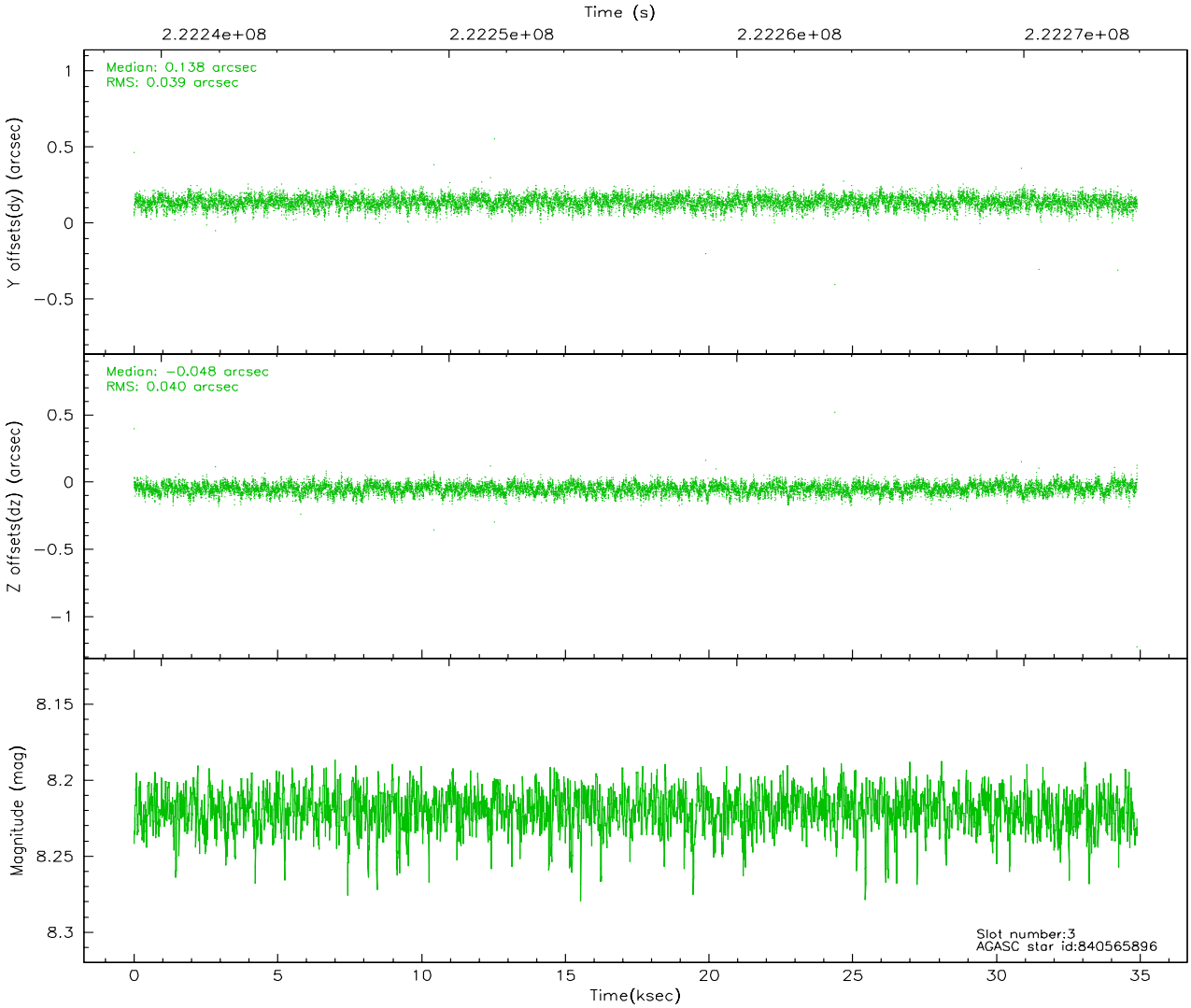
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	8505	-0.052	-0.009	0.016	0.025	0.000000	0.000000	-759.09	-1732.21
1	FID	ACIS-S-4	7.21	8507	0.055	0.028	0.019	0.029	0.000000	0.000000	2154.26	176.30
2	FID	ACIS-S-5	7.23	8514	-0.036	-0.008	0.011	0.020	0.000000	0.000000	-1811.88	169.94
3	GUIDE	840565896	8.22	17022	0.138	-0.048	0.057	0.094	3.323646	-23.732514	1754.59	-1004.31
4	GUIDE	840568104	8.00	17024	0.046	-0.032	0.066	0.104	3.814856	-22.890920	-837.76	1253.21
5	GUIDE	840569088	8.00	17022	-0.046	0.062	0.053	0.089	2.901742	-23.632364	1097.35	-2282.04
6	GUIDE	840570320	8.75	17012	-0.094	-0.008	0.077	0.122	3.286958	-22.935511	-1070.66	-489.15
7	GUIDE	840565040	9.56	17018	-0.044	0.024	0.122	0.201	4.068979	-22.578007	-1745.65	2329.02

2.4 Star Slots

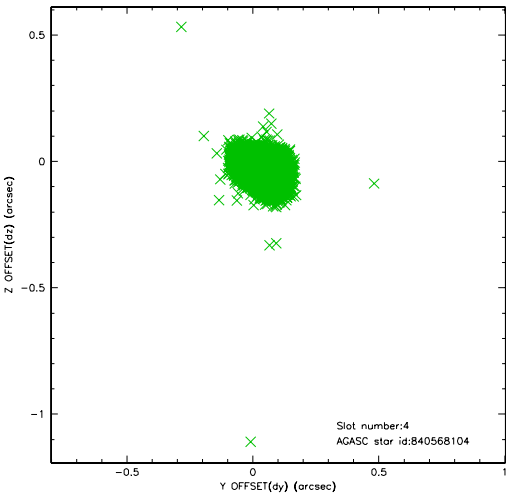
2.4.1 Slot 3

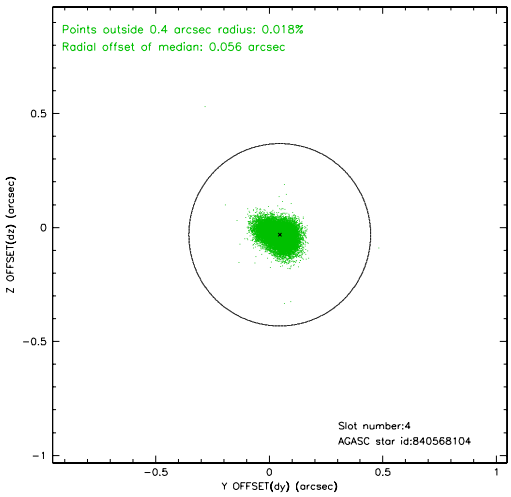


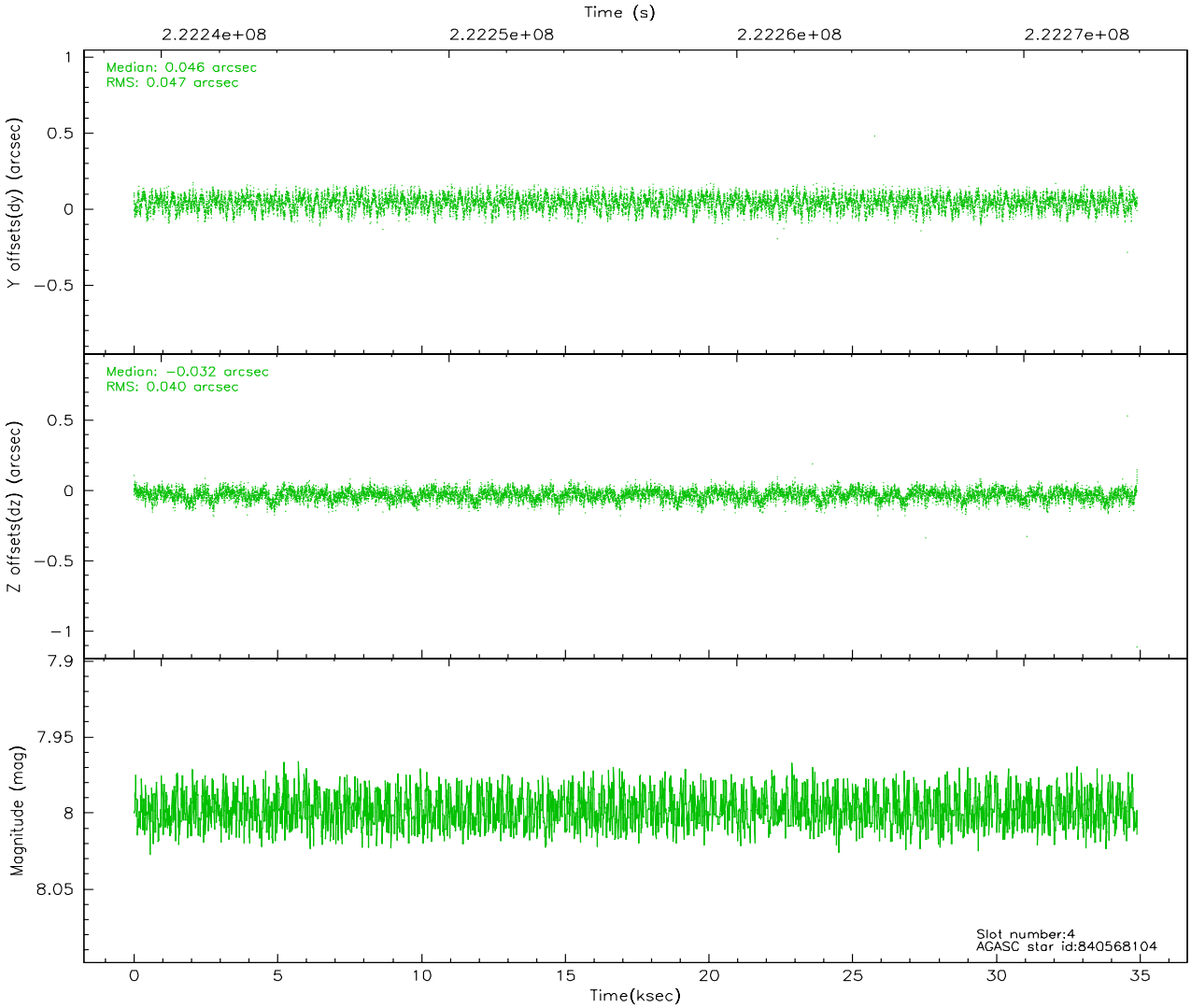




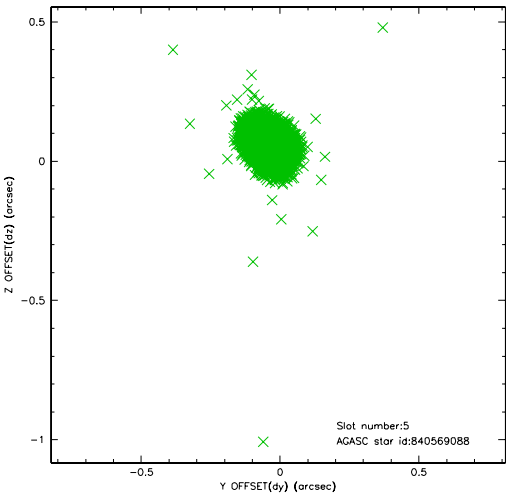
2.4.2 Slot 4

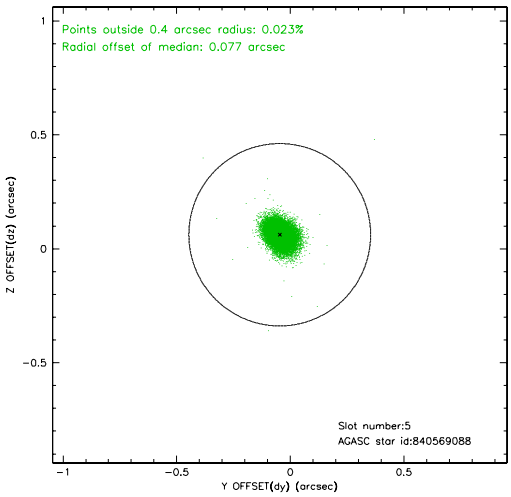

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:840568104

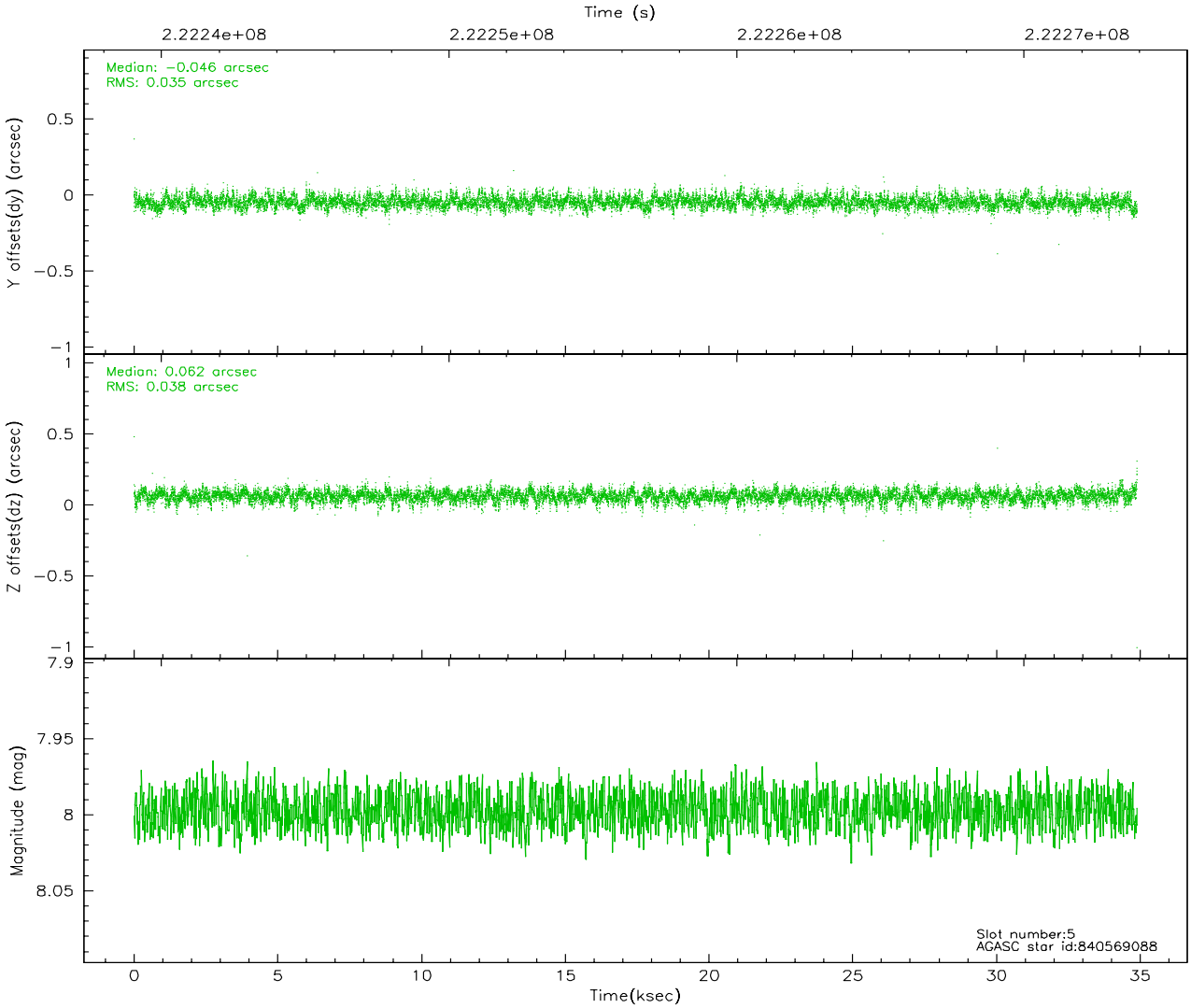

Points outside 0.4 arcsec radius: 0.018%
Radial offset of median: 0.056 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:840568104


Time (s)
2.2224e+08
2.2225e+08
2.2226e+08
2.2227e+08
Median: 0.046 arcsec
RMS: 0.047 arcsec
Y offsets(dy) (arcsec)
Median: −0.032 arcsec
RMS: 0.040 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:4
AGASC star id:840568104
Time(ksec)

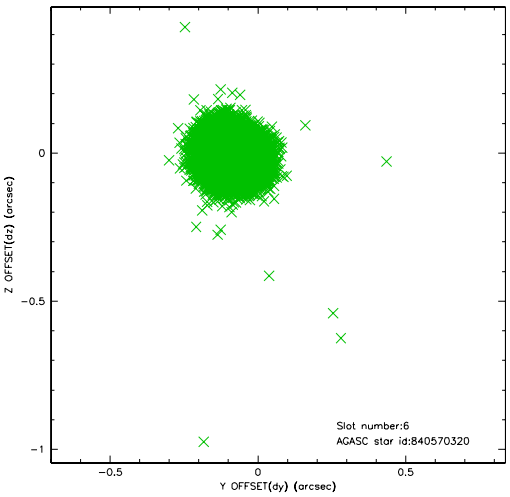
2.4.3 Slot 5

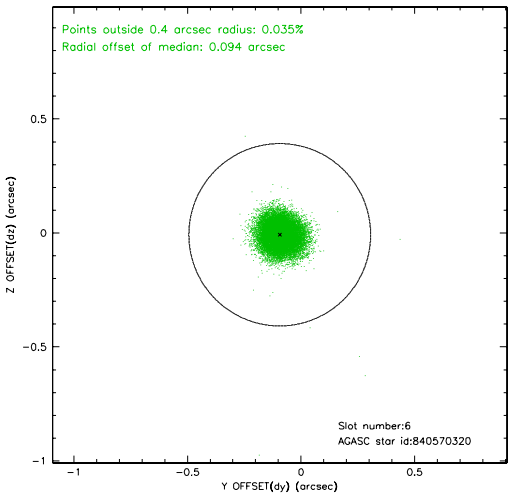

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:840569088

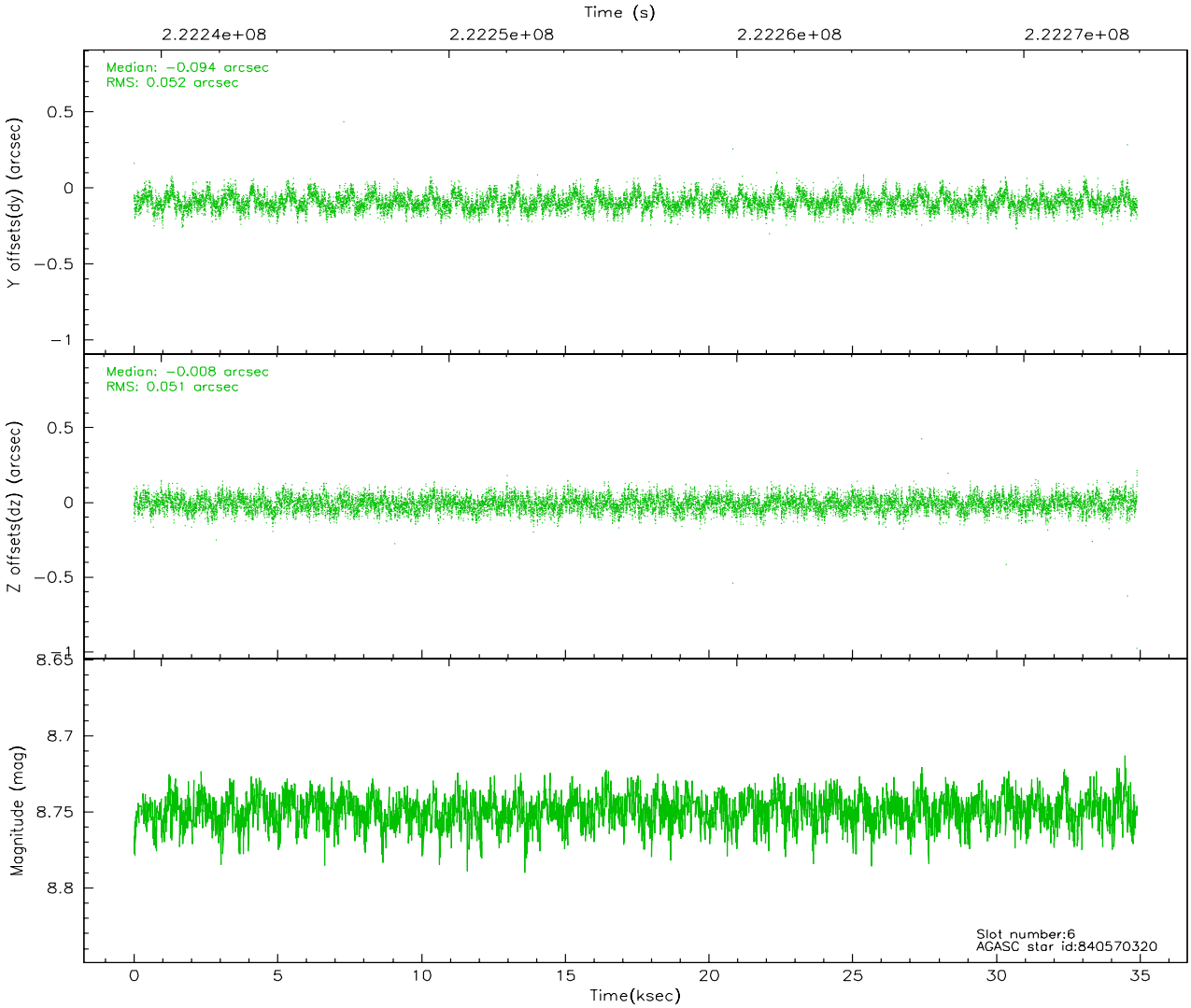

Points outside 0.4 arcsec radius: 0.023%
Radial offset of median: 0.077 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:840569088


Time (s)
2.2224e+08
2.2225e+08
2.2226e+08
2.2227e+08
Median: −0.046 arcsec
RMS: 0.035 arcsec
Y offsets(dy) (arcsec)
Median: 0.062 arcsec
RMS: 0.038 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:5
AGASC star id:840569088
Time(ksec)

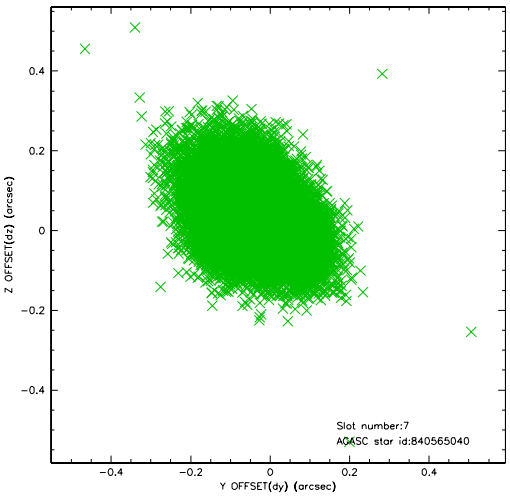
2.4.4 Slot 6

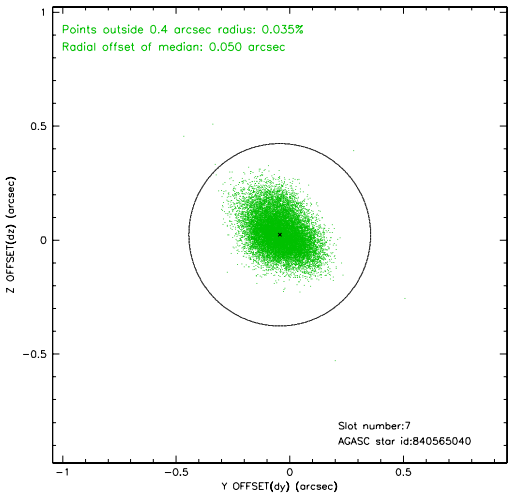

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:840570320

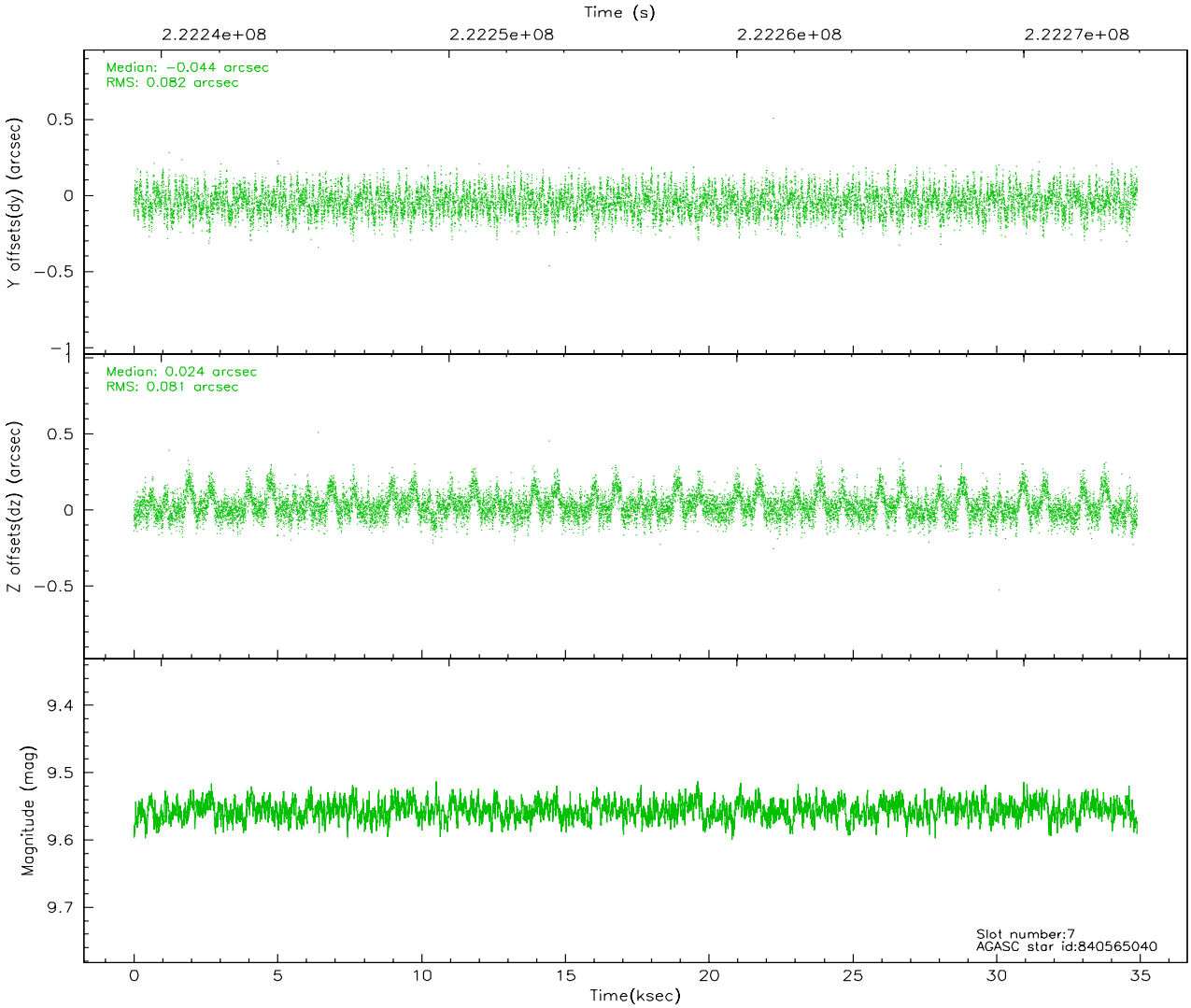

Points outside 0.4 arcsec radius: 0.035%
Radial offset of median: 0.094 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:840570320


Time (s)
2.2224e+08
2.2225e+08
2.2226e+08
2.2227e+08
Median: −0.094 arcsec
RMS: 0.052 arcsec
Y offsets(dy) (arcsec)
Median: −0.008 arcsec
RMS: 0.051 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:6
AGASC star id:840570320
Time(ksec)

2.4.5 Slot 7

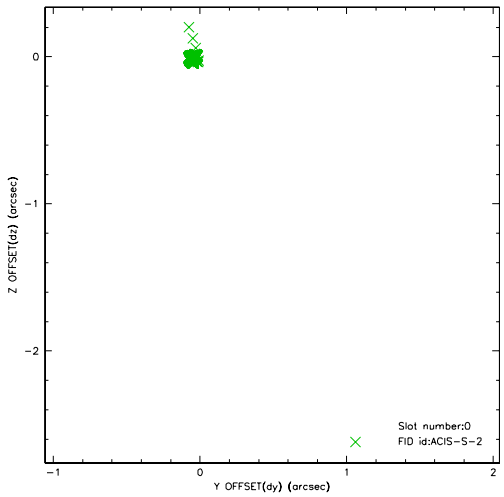

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:840565040

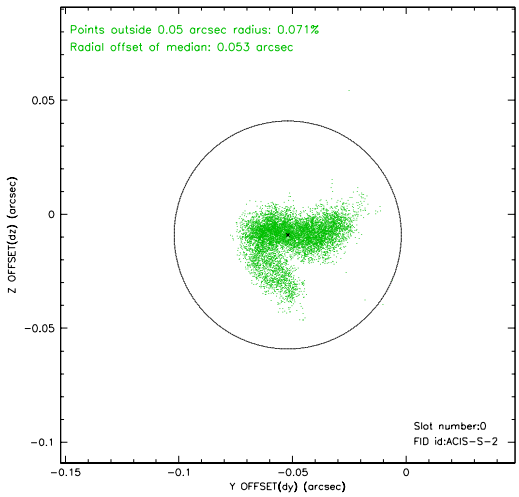

Points outside 0.4 arcsec radius: 0.035%
Radial offset of median: 0.050 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:840565040

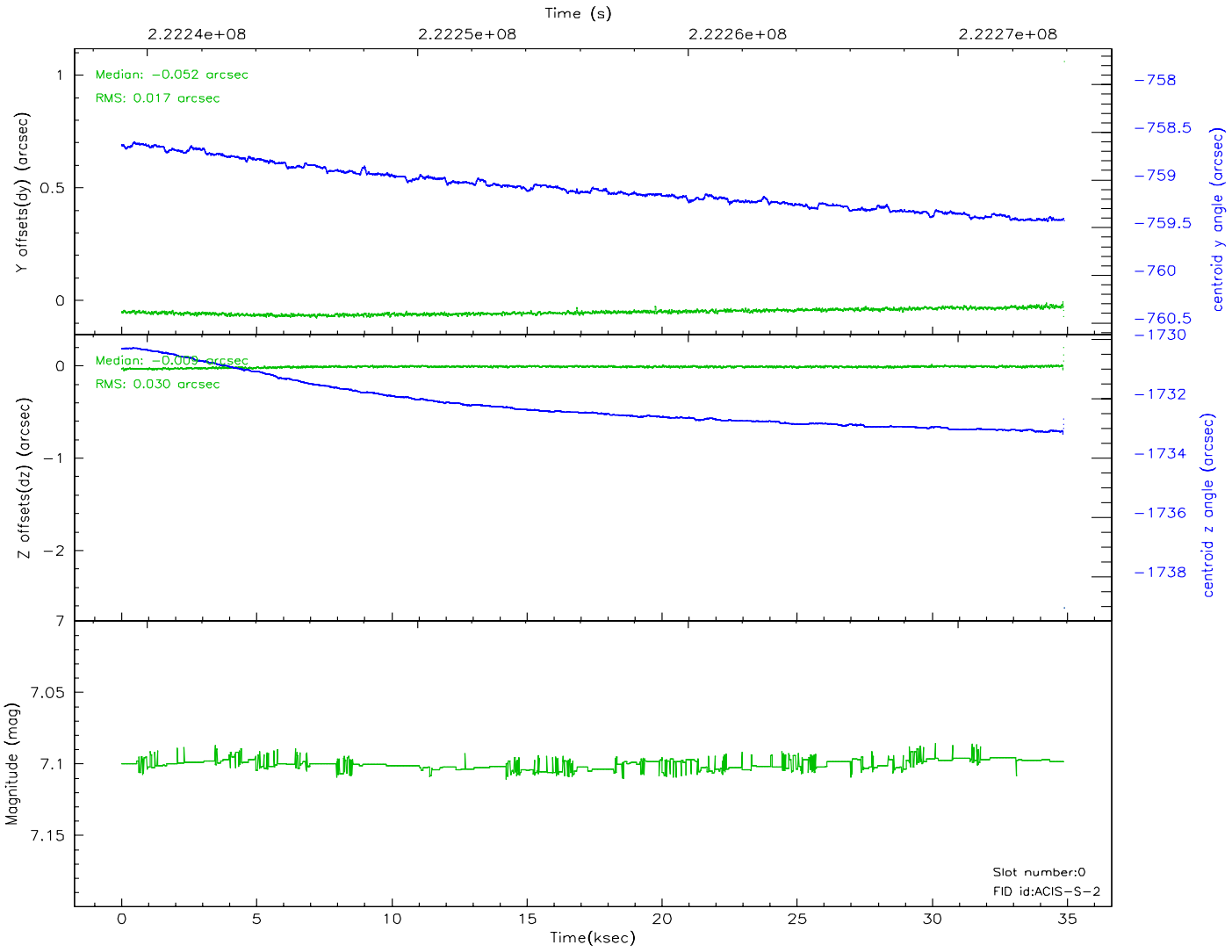

Time (s)
2.2224e+08
2.2225e+08
2.2226e+08
2.2227e+08
Median: −0.044 arcsec
RMS: 0.082 arcsec
Y offsets(dy) (arcsec)
Median: 0.024 arcsec
RMS: 0.081 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:7
AGASC star id:840565040
Time(ksec)

2.5 FID Slots

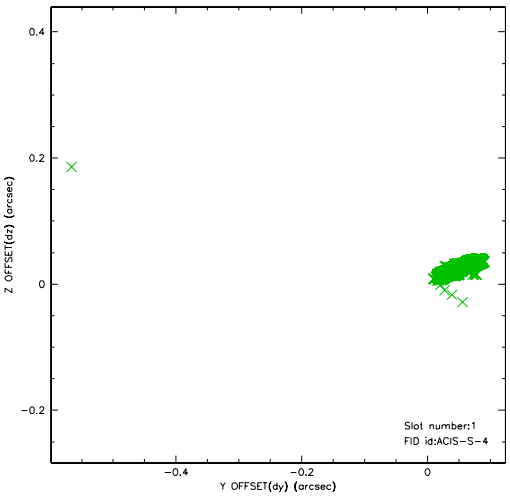
2.5.1 Slot 0

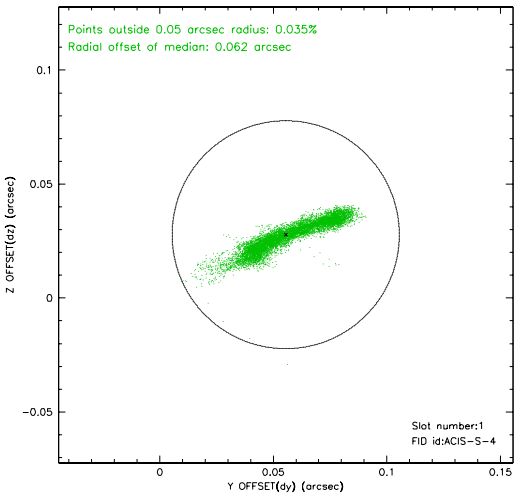


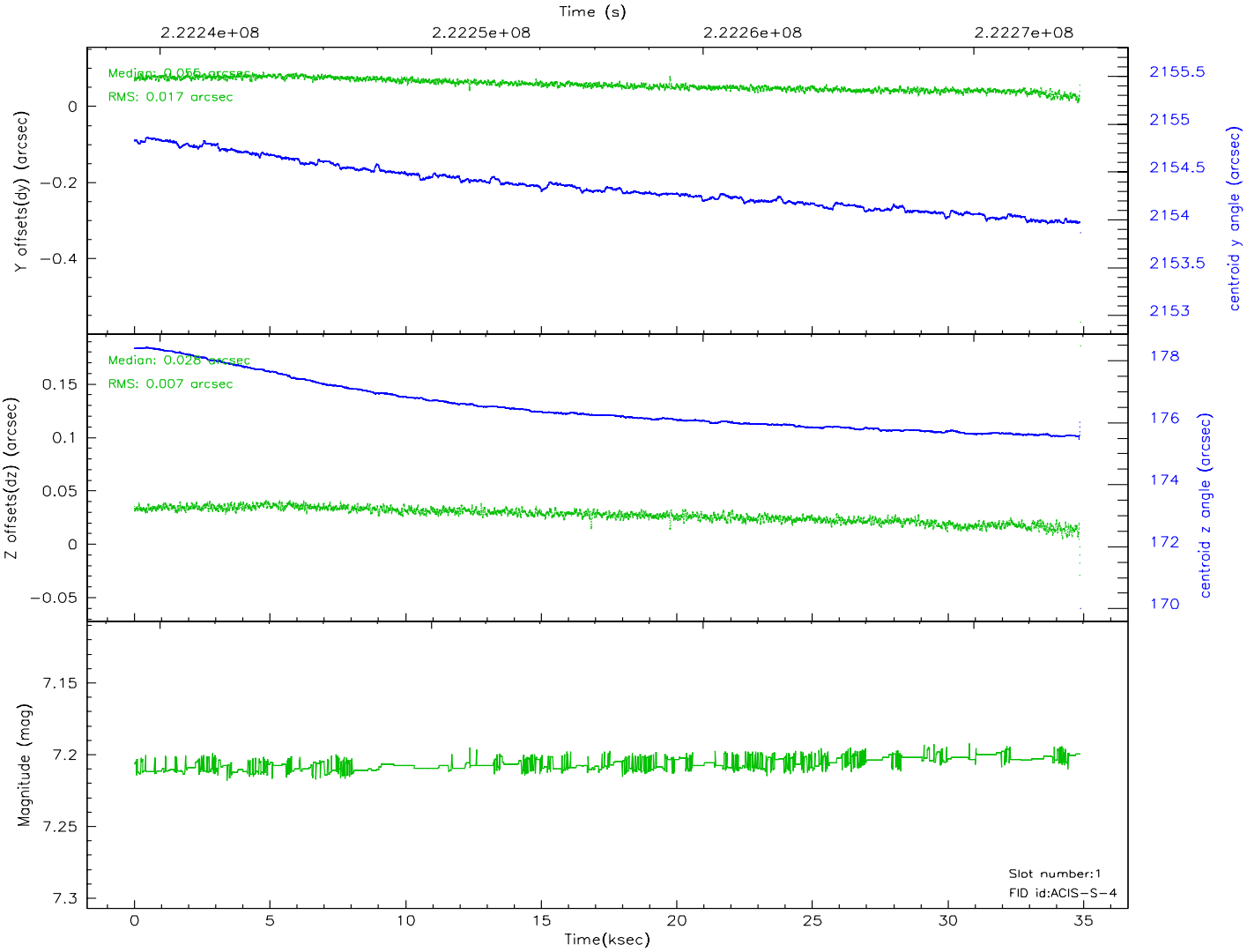




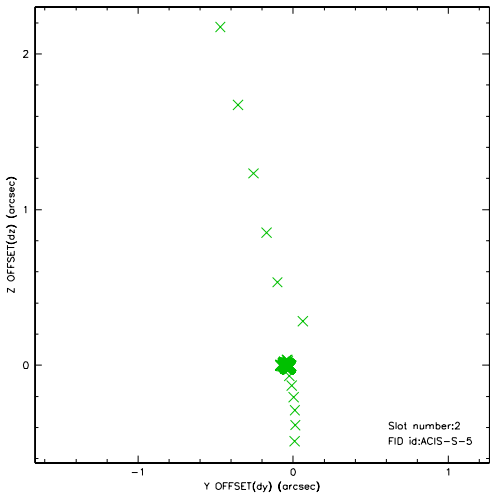
2.5.2 Slot 1

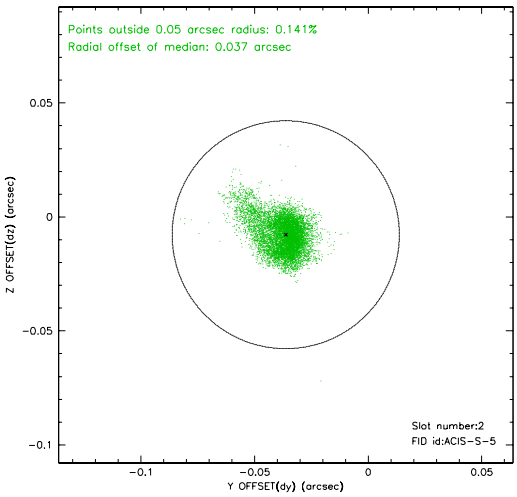

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:ACIS-S-4

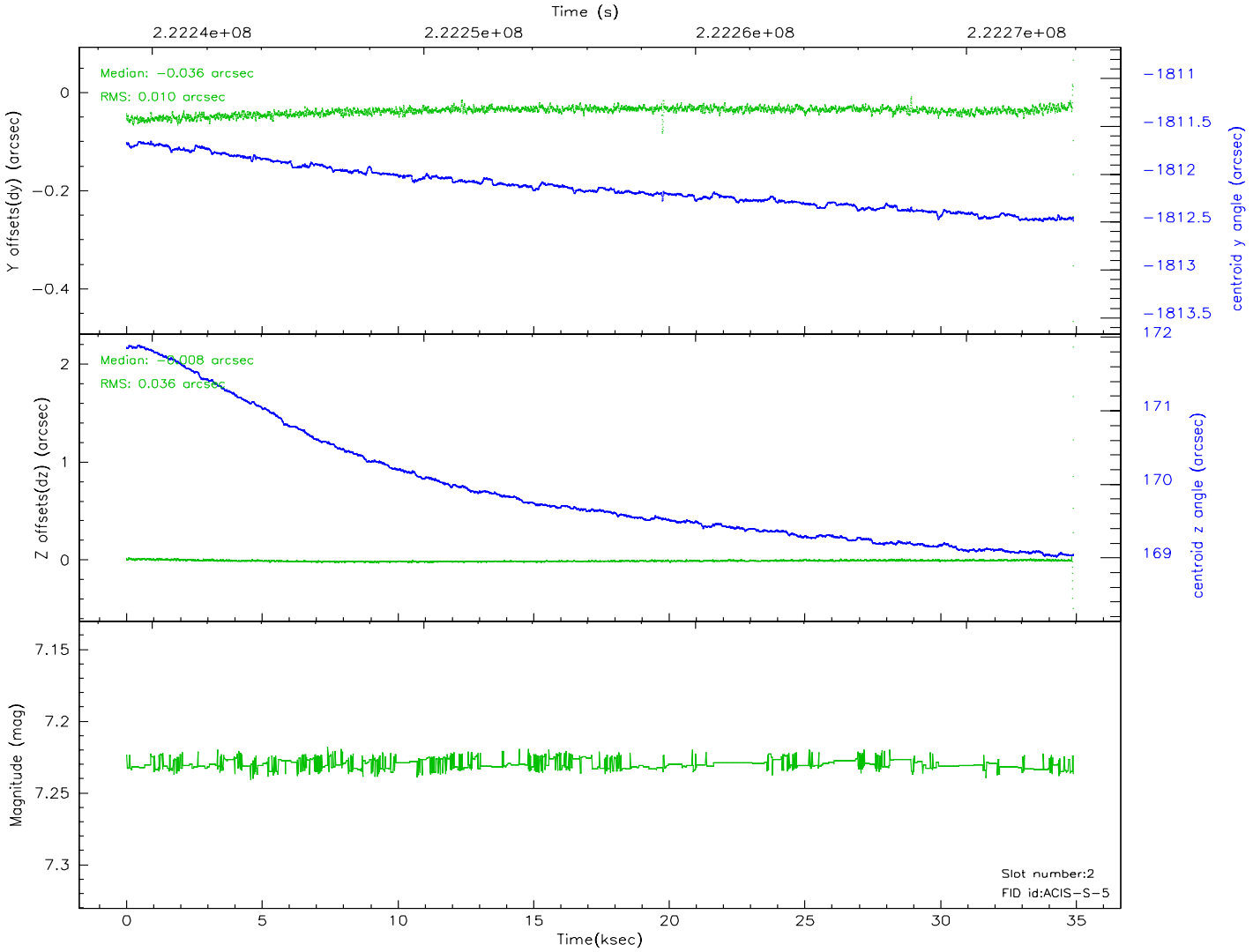

Points outside 0.05 arcsec radius: 0.035%
Radial offset of median: 0.062 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:ACIS-S-4


Time (s)
2.2224e+08
2.2225e+08
2.2226e+08
2.2227e+08
Median: 0.055 arcsec
RMS: 0.017 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.028 arcsec
RMS: 0.007 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number:1
FID id:ACIS-S-4
Time(ksec)

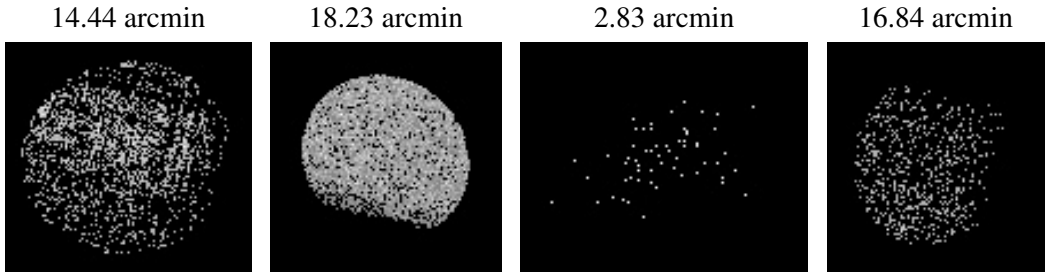
2.5.3 Slot 2


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


Points outside 0.05 arcsec radius: 0.141%
Radial offset of median: 0.037 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:2
FID id:ACIS-S-5


Time (s)
2.2224e+08
2.2225e+08
2.2226e+08
2.2227e+08
Median: −0.036 arcsec
RMS: 0.010 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.008 arcsec
RMS: 0.036 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number:2
FID id:ACIS-S-5
Time(ksec)

3 Point Sources



A Summary

A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2006.08.10
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	34.87999

A.2 Comments

```
Comments for Obi 0
SIM dz has 88 discontinuities > 0.200 arcsec
SIM dz drift > 5.000 arcsec
This observation was interrupted by safing of the science instruments
onboard Chandra due to high solar radiation environment. The observation
was interrupted at 2005:016:14:44. In this version of the software, a
few seconds of data are inadvertently included at the end of the
observation after the spacecraft and its components began to move.
Therefore, the aspect solution is not entirely correct. Software will be
modified to correct this situation as soon as feasible. The aspect
solution can be corrected in CIAO by removing data from the end of the
*asol.fits file that has a timestamp equal to or later than the above
interruption time. The Level 1 event file can be recreated using CIAO
and the edited *asol.fits file.
```