V&V Reference Report
L2 ASCDS Version : 7.6.10

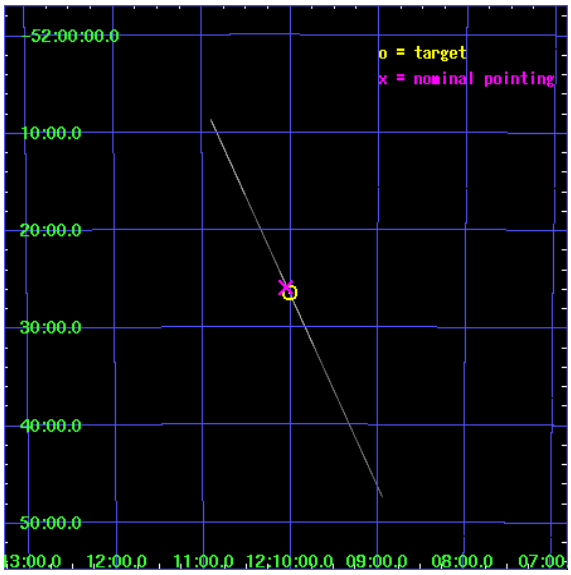
Observation 751 - L2 Version 001
Chandra X-Ray Center

L2 Processing Date : Jun 14 2007

Contents

1 Front

seq_num	500047
obs_id	751
title	RADIO-SILENT NEUTRON STARS IN SUPERNOVA REMNANTS
observer	Dr. George Pavlov
object	1E 1207.4-5209
ra_targ	182.503333
dec_targ	-52.440278
ra_nom	182.51303365515
dec_nom	-52.432003529541
roll_nom	65.202152319961
revision	3
ontime	32485.291850545
livetime	32358.396179253
ontime5	32486.75
ontime6	32486.75
ontime7	32485.291850545
ontime8	32486.75
ontime9	32486.75
l2events	443109

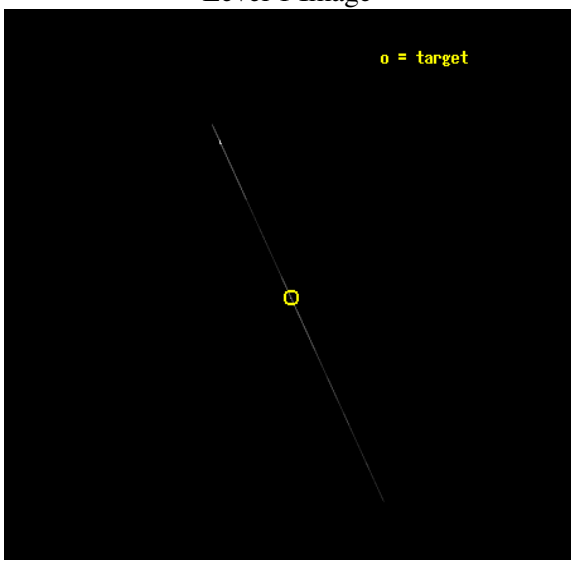


2 OBI

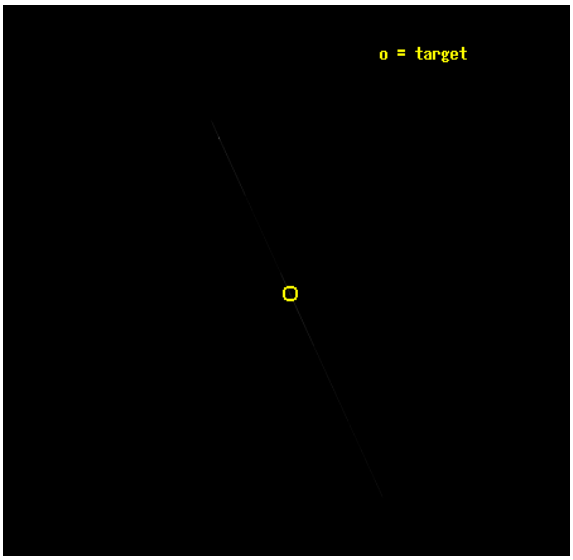
2.1 OBI

2.1.1 Images

Level 1 Image



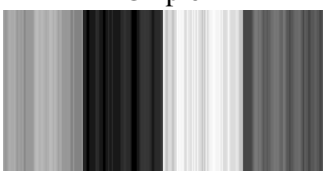
Level 1 Bad Events



2.1.2 Bias

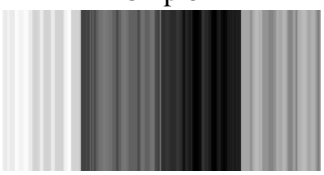
Chip 5

Chip 6



Chip 7

Chip 8



Chip 9

2.1.3 Parameters

obi_num	0
ascdsver	7.6.10
caldbver	3.4.0
date	2007-06-15T01:15:30
revision	3

sched_exp_time	32000.000000
ontime	32485.291850545
ontime5	32486.75
ontime6	32486.75
ontime7	32485.291850545
ontime8	32486.75
ontime9	32486.75
l1events	1285302

2.1.4 Events

	ccd 5	**ccd 6**	**ccd 7**	**ccd 8**	**ccd 9**
level 1 events	920750	41341	206030	74788	42393
rejected events	18333	5669	16798	8253	6335
rejected %	1%	13%	8%	11%	14%

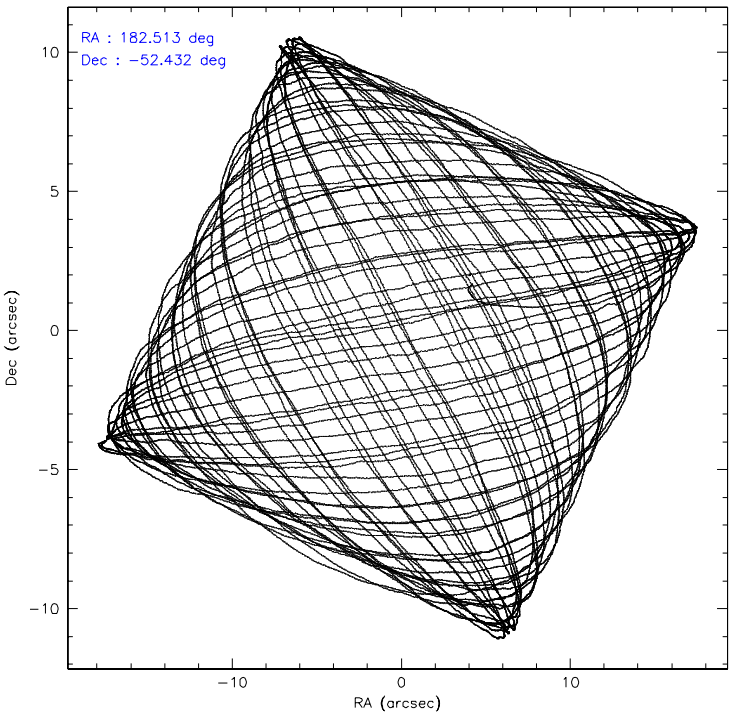
	ccd 5	**ccd 6**	**ccd 7**	**ccd 8**	**ccd 9**
grade 0 events	527385	3929	30502	13392	5053
	57%	9%	14%	17%	11%
grade 1 events	931	124	262	208	136
	0%	0%	0%	0%	0%
grade 2 events	264189	12957	43277	19892	11358
	28%	31%	21%	26%	26%
grade 3 events	11038	6776	16880	9320	6418
	1%	16%	8%	12%	15%
grade 4 events	10281	6488	15909	9308	7227
	1%	15%	7%	12%	17%
grade 5 events	14498	5426	16137	7832	6087
	1%	13%	7%	10%	14%
grade 6 events	92428	5641	83063	14836	6114
	10%	13%	40%	19%	14%
grade 7 events	0	0	0	0	0
	0%	0%	0%	0%	0%

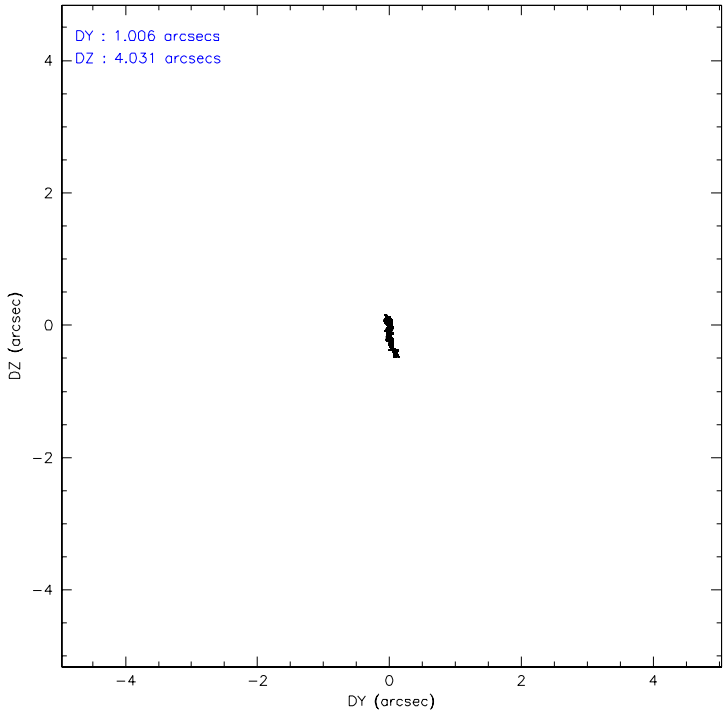
2.2 Compared Parameters

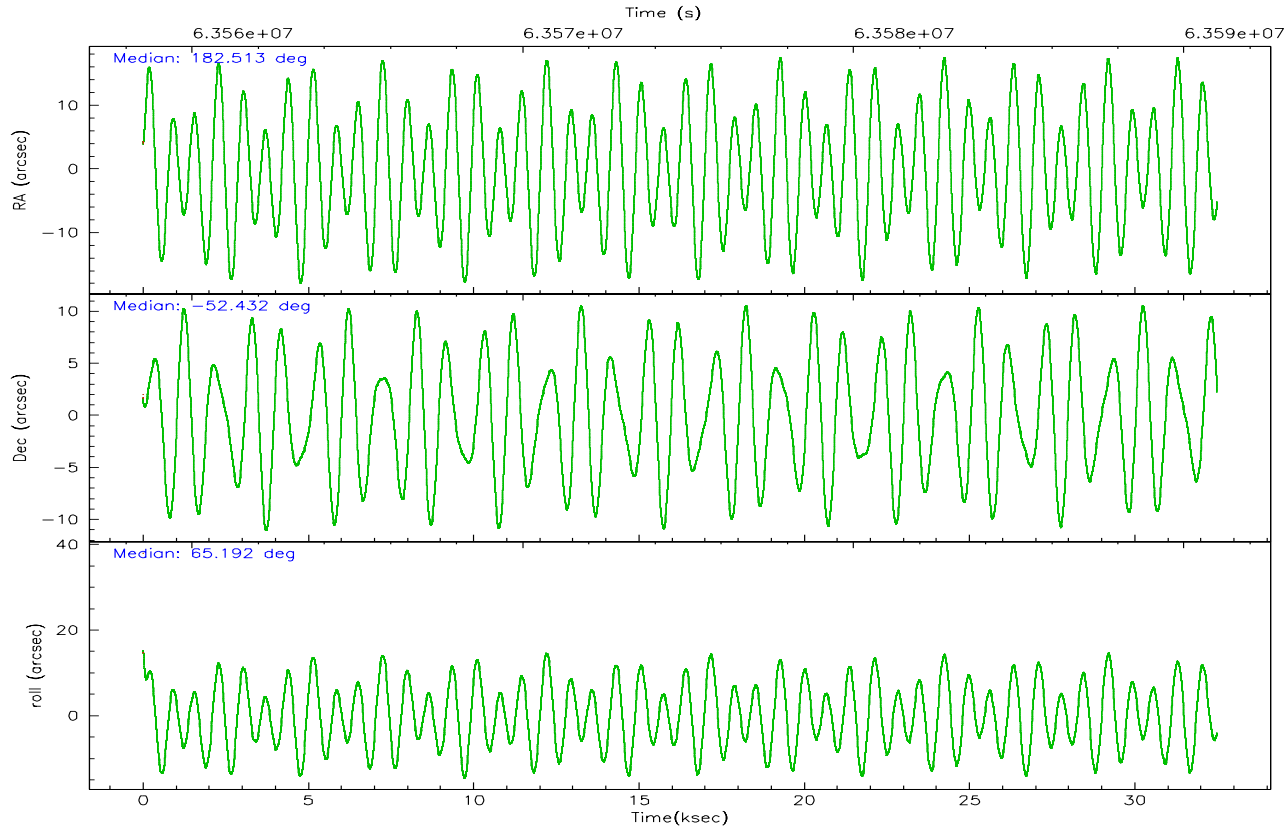
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-56789	ACIS-56789
Grating	NONE	NONE
Data mode	CC33_FAINT	CC33_FAINT
Observation mode	POINTING	POINTING
Pointing RA	182.517066	182.5130336551484
Pointing Dec	-52.459424	-52.43200352954139
Pointing Roll	65.048715	65.20215231996124
SIM focus pos (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	63559005.184000	63558129.803016
Observation start date	2000-01-06T15:15:41	2000-01-06T15:02:09
Observation end time	63591005.184000	63592303.816756
Observation end date	2000-01-07T00:09:01	2000-01-07T00:31:43
Read mode	CONTINUOUS	CONTINUOUS

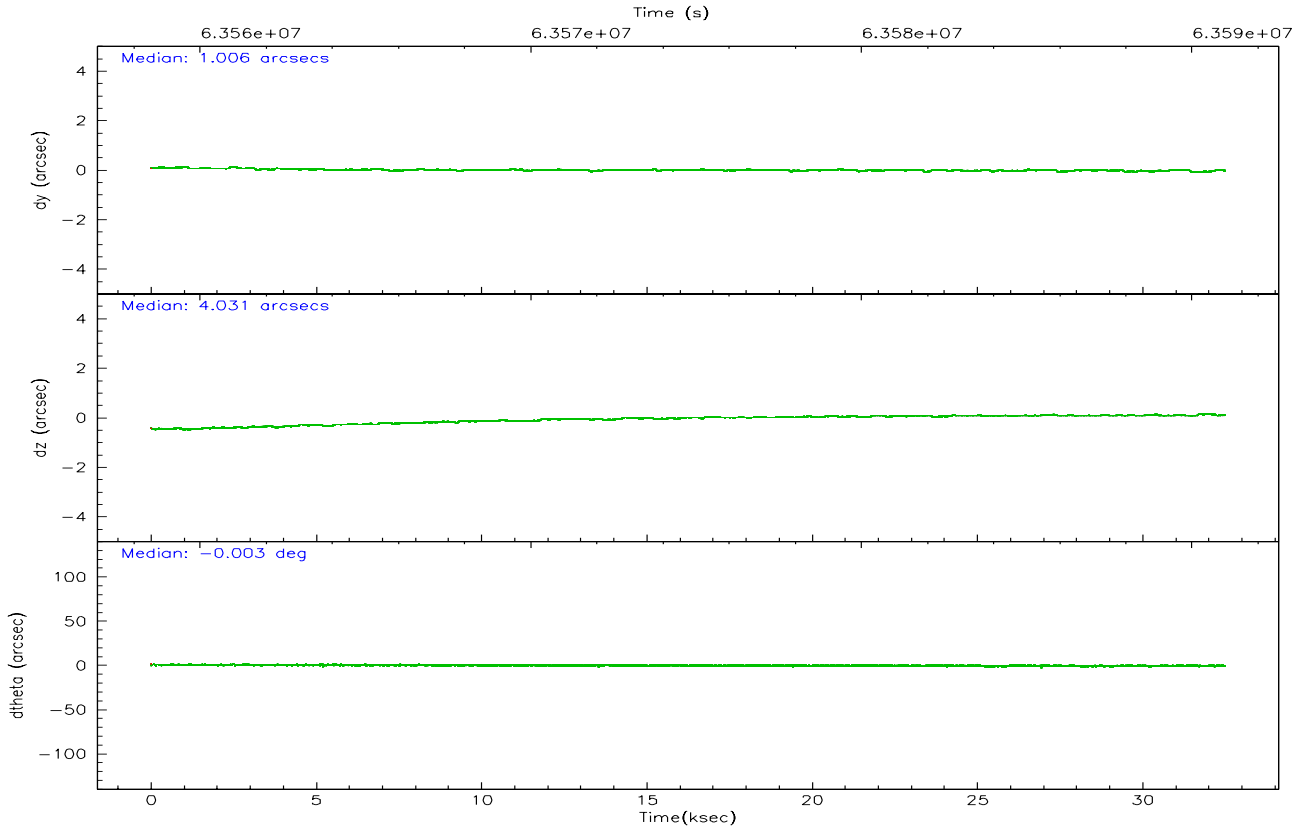
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
Primary exposure time	0.000000	0

2.3 Aspect


RA : 182.513 deg
Dec : −52.432 deg
10
5
0
−5
−10
Dec (arcsec)
−10
0
10
RA (arcsec)


DY : 1.006 arcsecs
DZ : 4.031 arcsecs
4
2
0
−2
−4
DZ (arcsec)
−4
−2
0
2
4
DY (arcsec)


Time (s)
6.356e+07
6.357e+07
6.358e+07
6.359e+07
Median: 182.513 deg
RA (arcsec)
Median: −52.432 deg
Dec (arcsec)
Median: 65.192 deg
roll (arcsec)
Time(ksec)

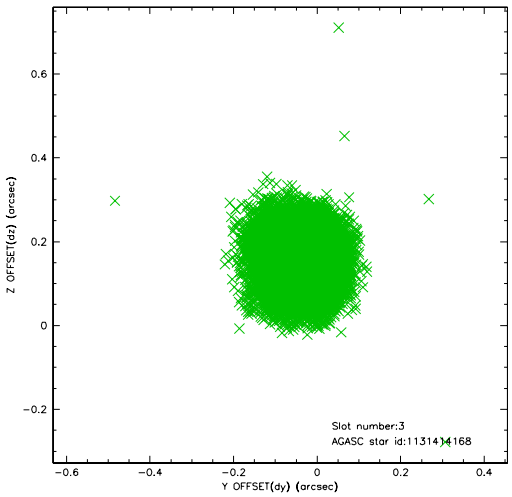

Time (s)
6.356e+07
6.357e+07
6.358e+07
6.359e+07
Median: 1.006 arcsecs
dy (arcsec)
Median: 4.031 arcsecs
dz (arcsec)
Median: −0.003 deg
dtheta (arcsec)
Time(ksec)

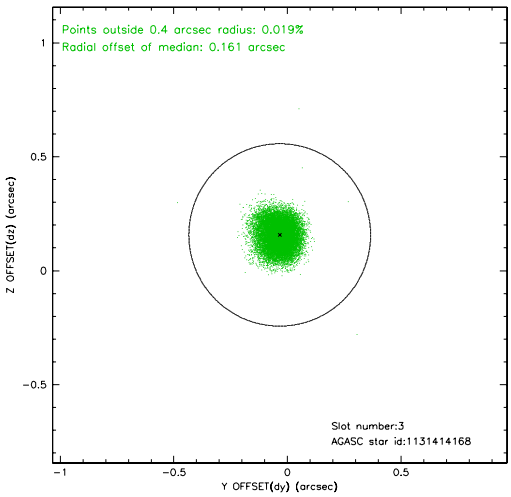
Slot Statistics

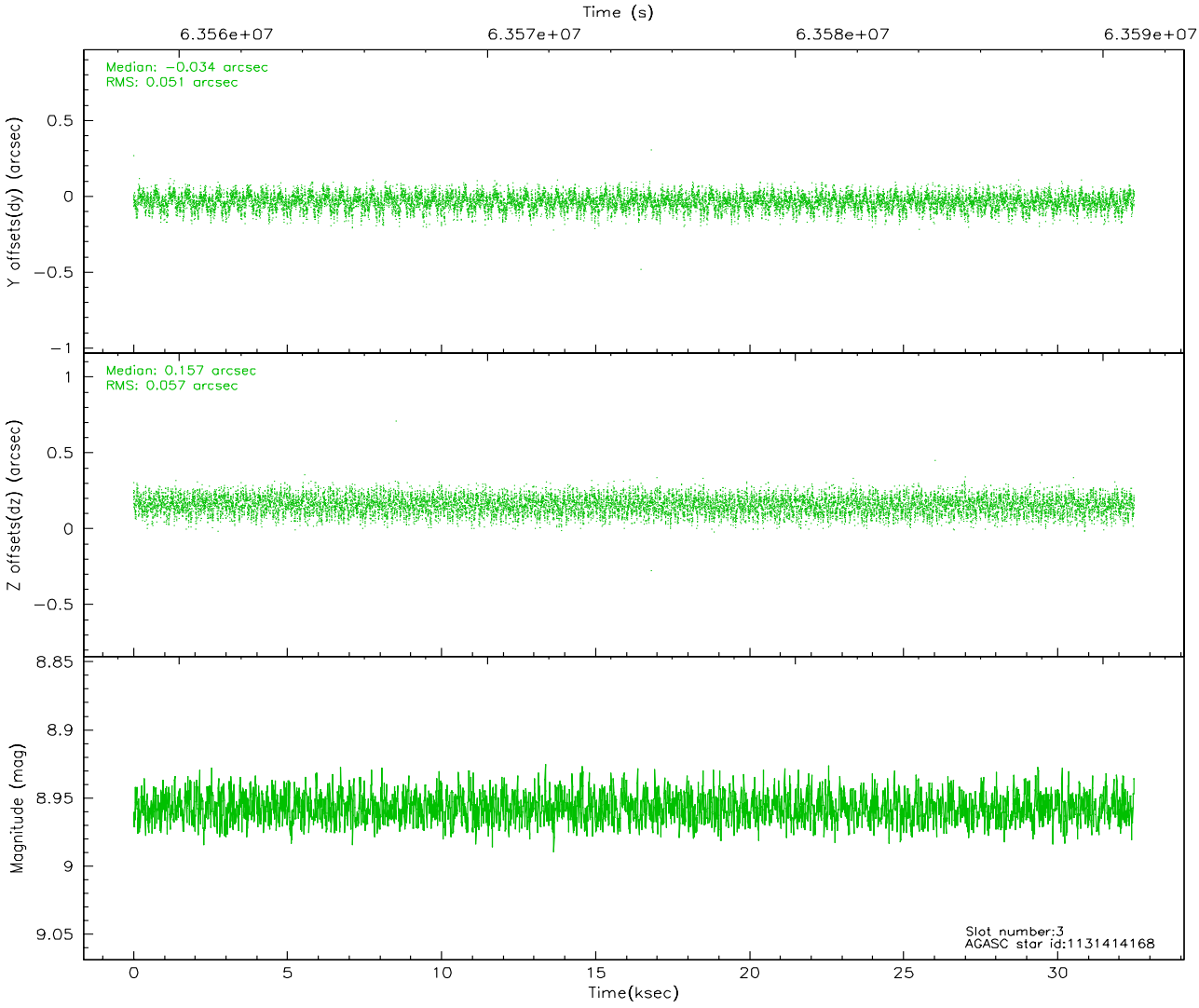
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-3	7.36	15848	0.007	0.016	0.011	0.020	0.000000	0.000000	59.56	-1854.09
1	FID	ACIS-S-4	7.21	15849	-0.038	-0.010	0.006	0.010	0.000000	0.000000	2159.72	183.42
2	FID	ACIS-S-5	7.24	15850	0.003	0.004	0.008	0.015	0.000000	0.000000	-1806.50	177.16
3	GUIDE	1131414168	8.96	15845	-0.034	0.157	0.083	0.128	183.224863	-52.915912	-847.89	-2089.92
4	GUIDE	1131423616	8.83	15842	0.066	-0.045	0.084	0.135	182.073492	-52.590429	-839.19	678.58
5	GUIDE	1131424824	9.24	15840	0.044	-0.084	0.074	0.120	181.758646	-52.547110	-994.31	1367.84
6	GUIDE	1080309976	9.40	15843	-0.181	0.196	0.080	0.131	183.762069	-52.214320	1937.68	-2127.37
7	GUIDE	1131417408	9.88	15833	0.101	-0.226	0.130	0.215	181.139877	-52.694143	-2059.43	2354.57

2.4 Star Slots

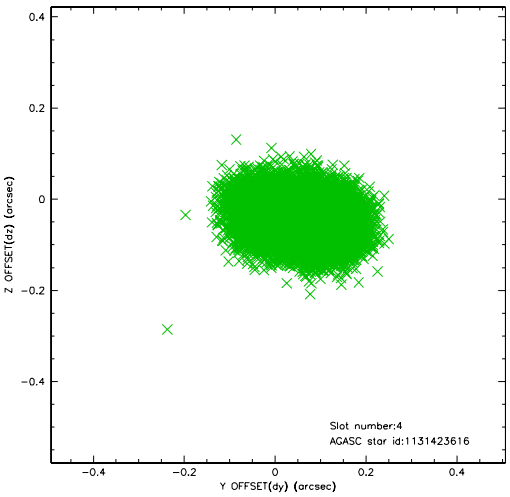
2.4.1 Slot 3

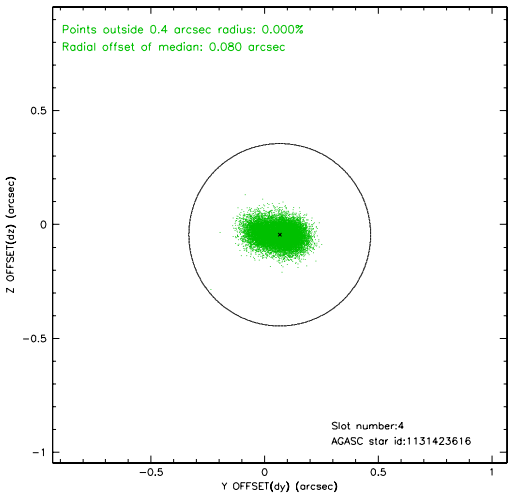


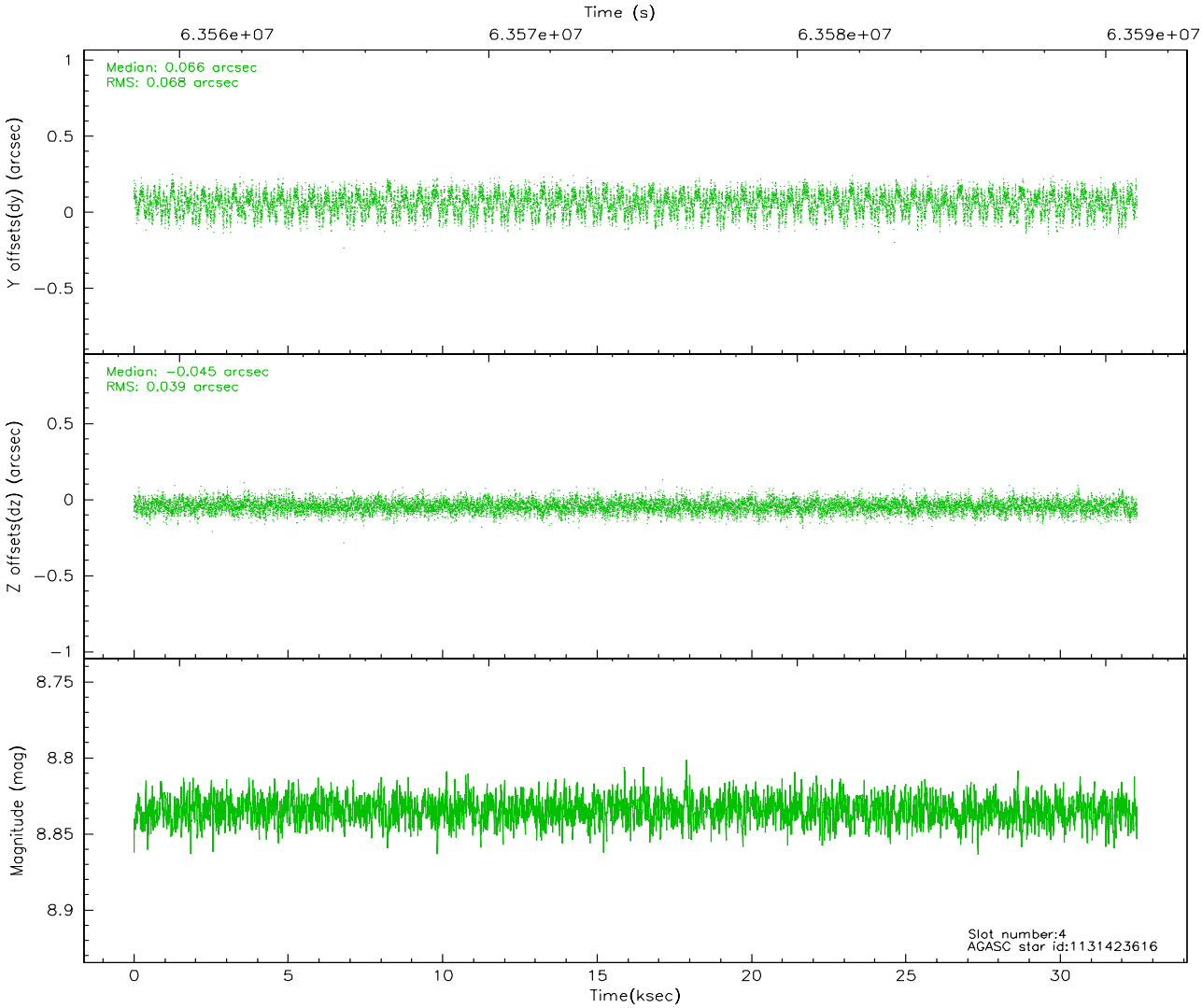




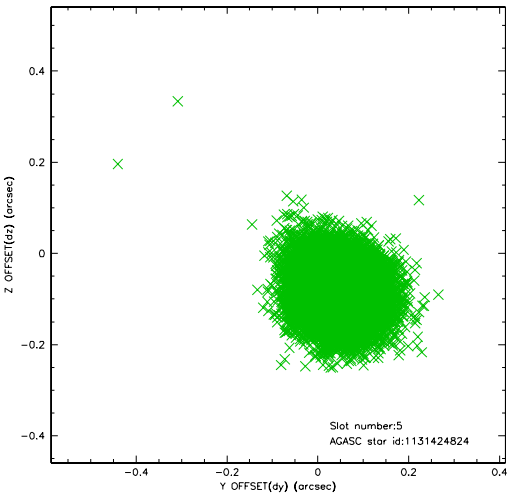
2.4.2 Slot 4

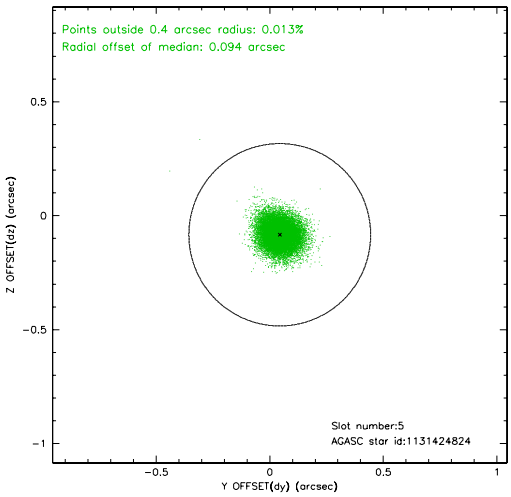

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:1131423616

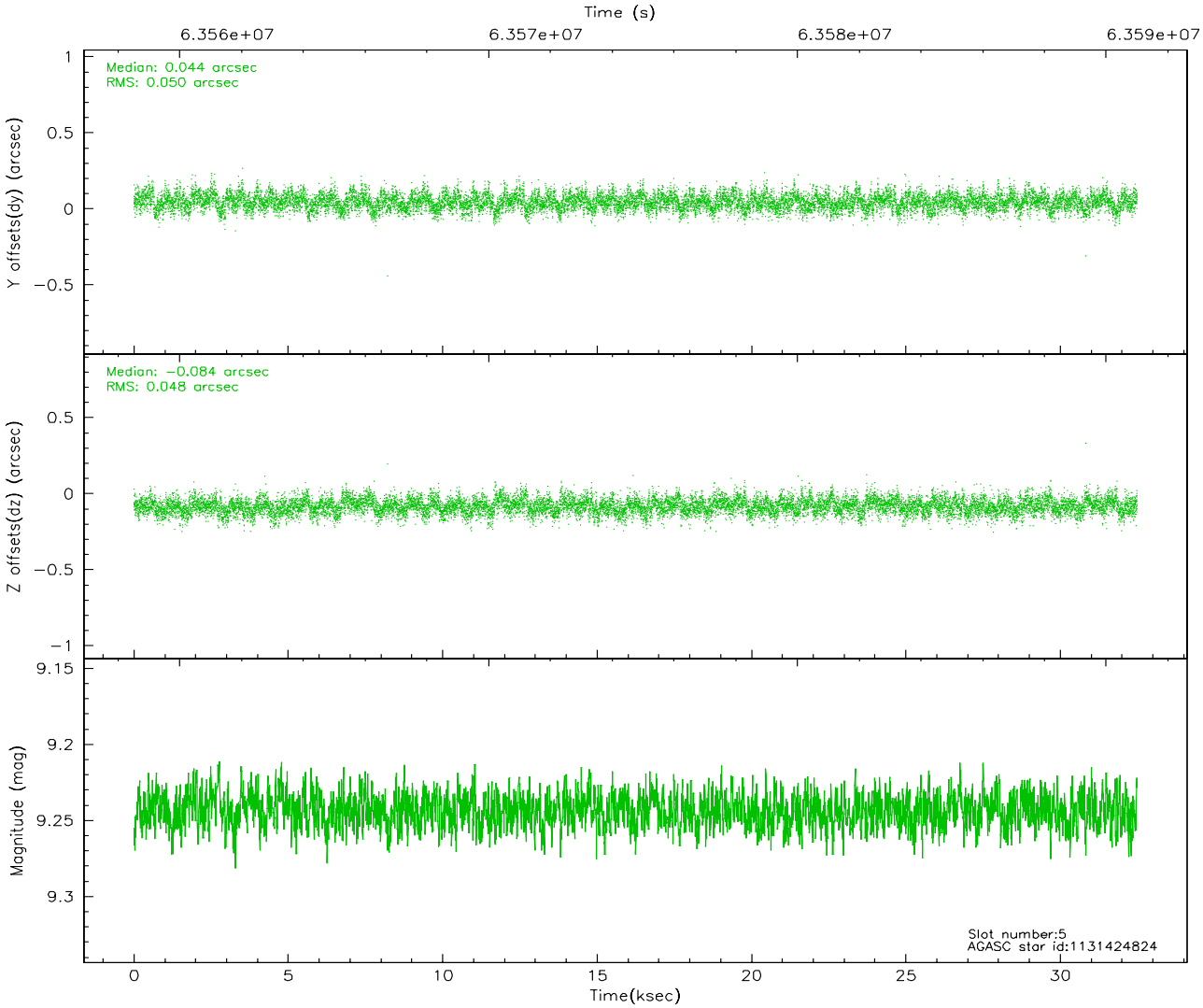

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.080 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:1131423616


Time (s)
6.356e+07
6.357e+07
6.358e+07
6.359e+07
Median: 0.066 arcsec
RMS: 0.068 arcsec
Y offsets(dy) (arcsec)
Median: −0.045 arcsec
RMS: 0.039 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:4
AGASC star id:1131423616
Time(ksec)

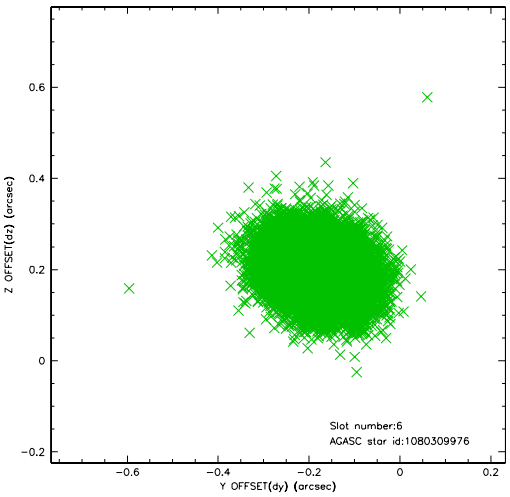
2.4.3 Slot 5

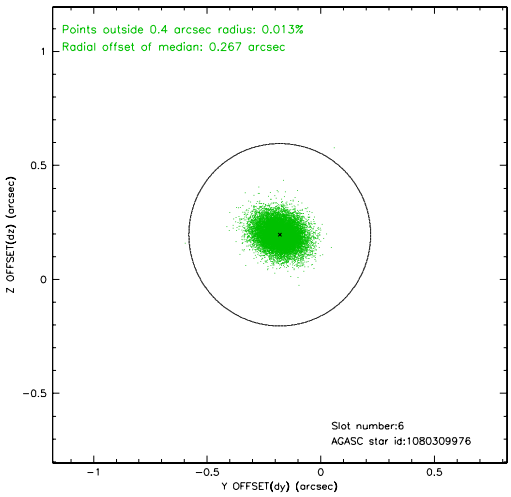

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:1131424824

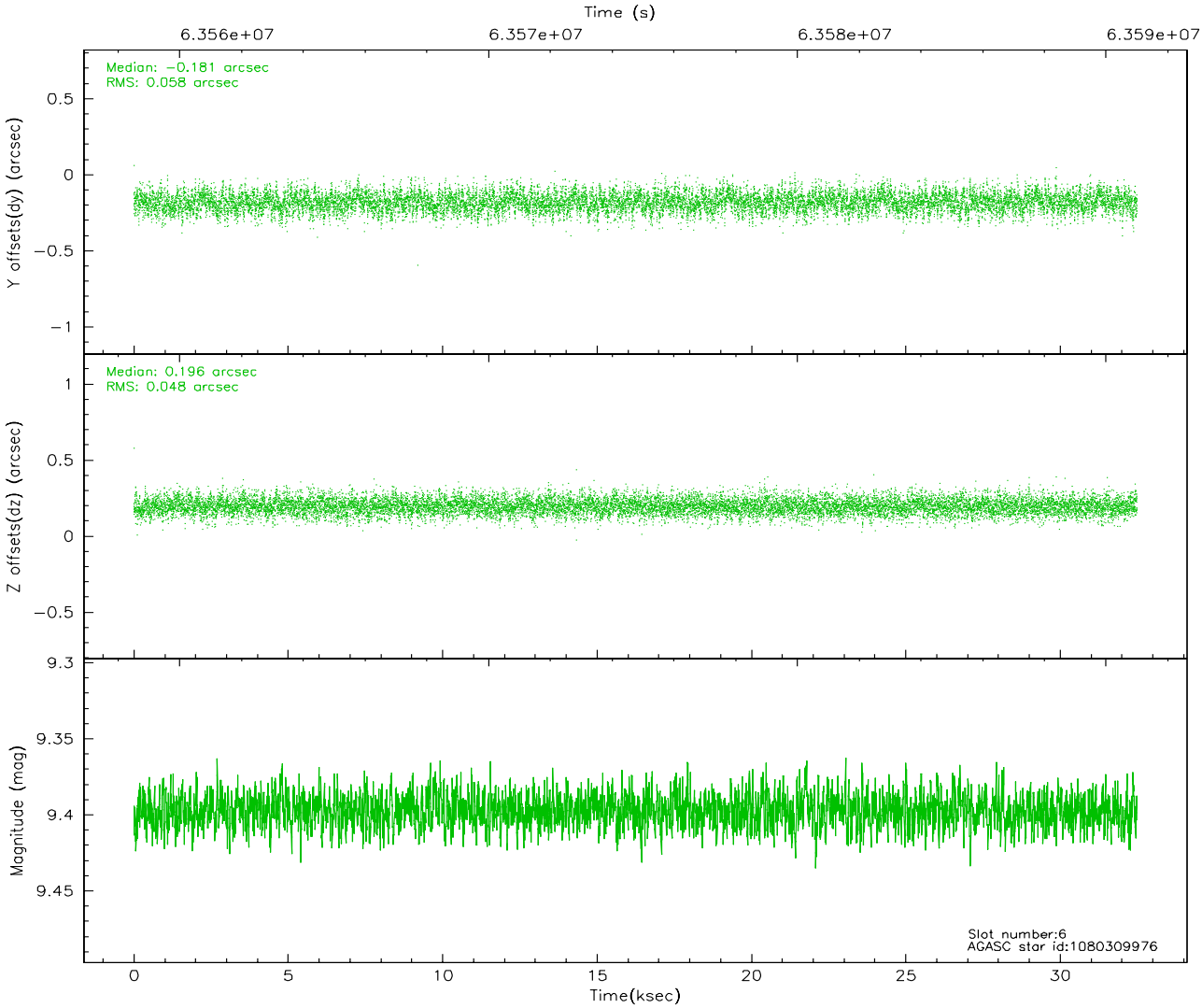

Points outside 0.4 arcsec radius: 0.013%
Radial offset of median: 0.094 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:1131424824


Time (s)
6.356e+07
6.357e+07
6.358e+07
6.359e+07
Median: 0.044 arcsec
RMS: 0.050 arcsec
Y offsets(dy) (arcsec)
Median: −0.084 arcsec
RMS: 0.048 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:5
AGASC star id:1131424824
Time(ksec)

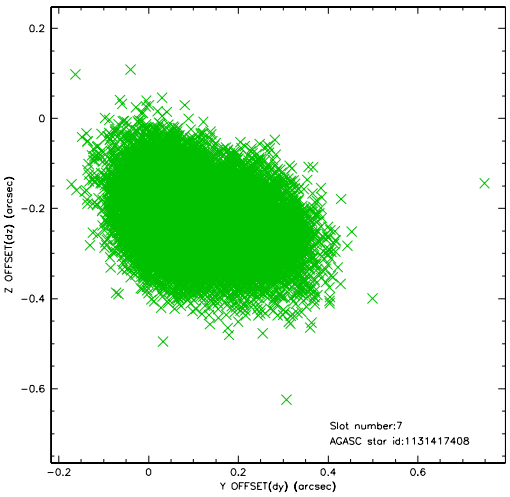
2.4.4 Slot 6

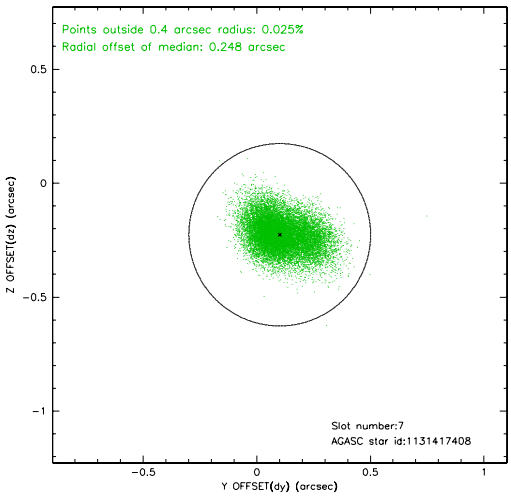

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:1080309976

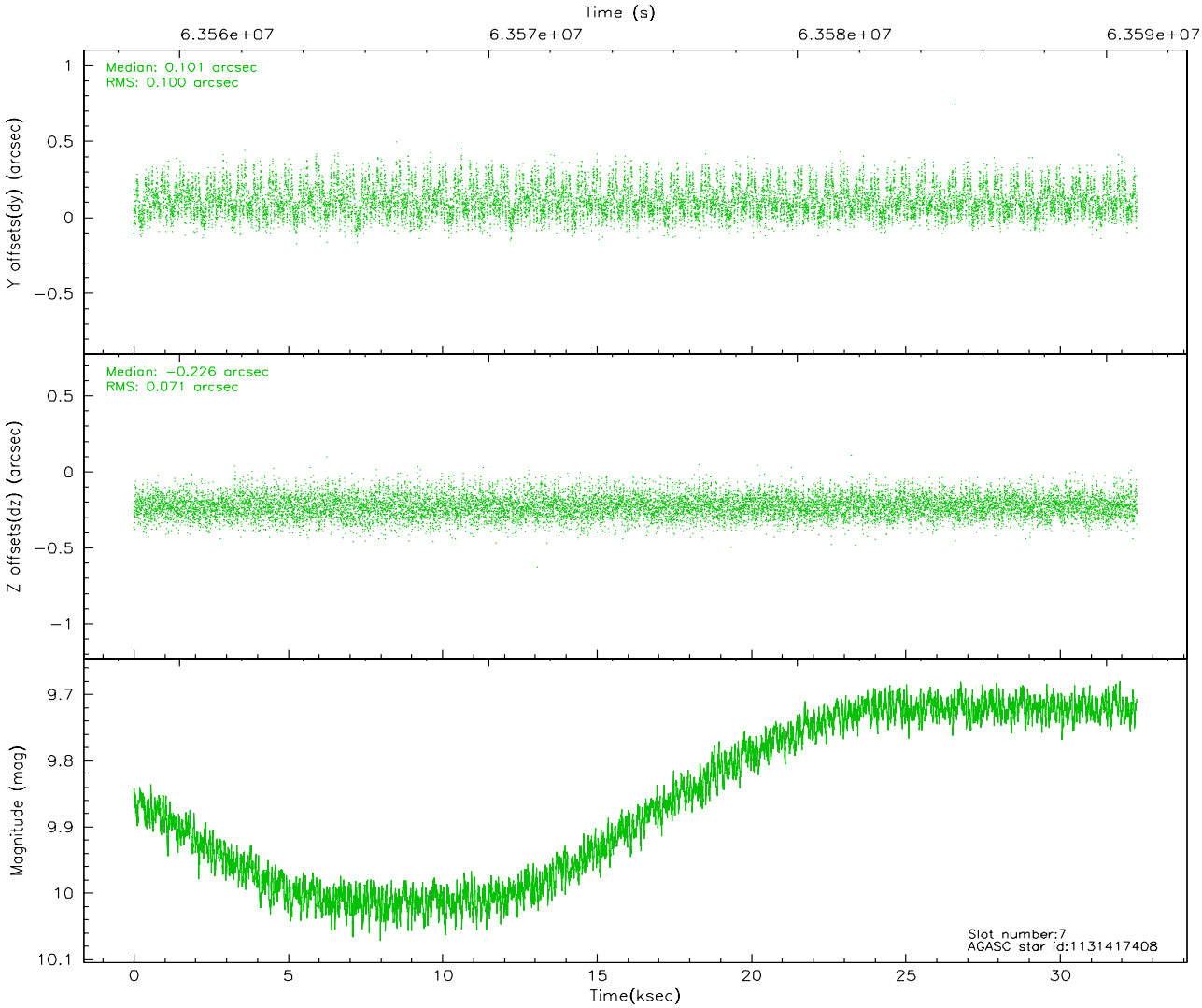

Points outside 0.4 arcsec radius: 0.013%
Radial offset of median: 0.267 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:1080309976


Time (s)
6.356e+07
6.357e+07
6.358e+07
6.359e+07
Median: −0.181 arcsec
RMS: 0.058 arcsec
Y offsets(dy) (arcsec)
Median: 0.196 arcsec
RMS: 0.048 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:6
AGASC star id:1080309976
Time(ksec)

2.4.5 Slot 7

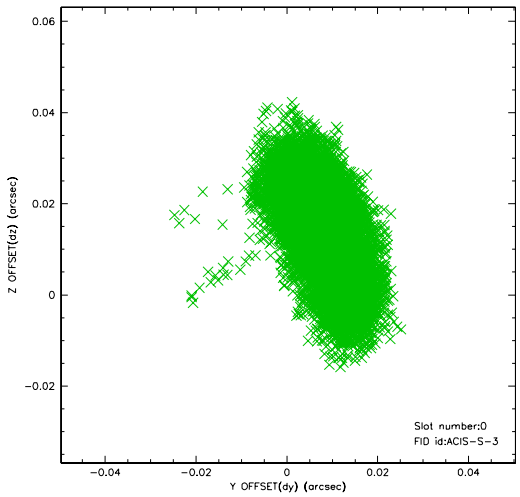

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:1131417408

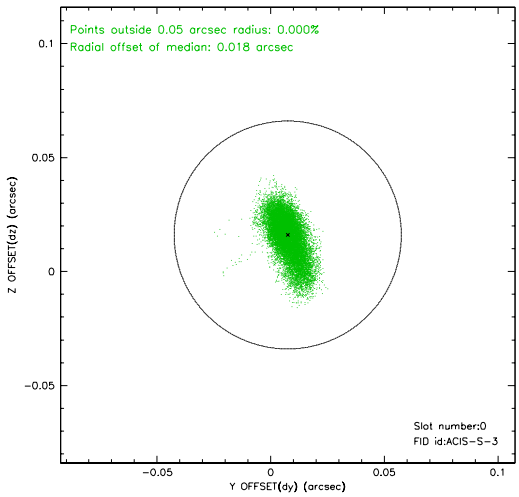

Points outside 0.4 arcsec radius: 0.025%
Radial offset of median: 0.248 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:1131417408

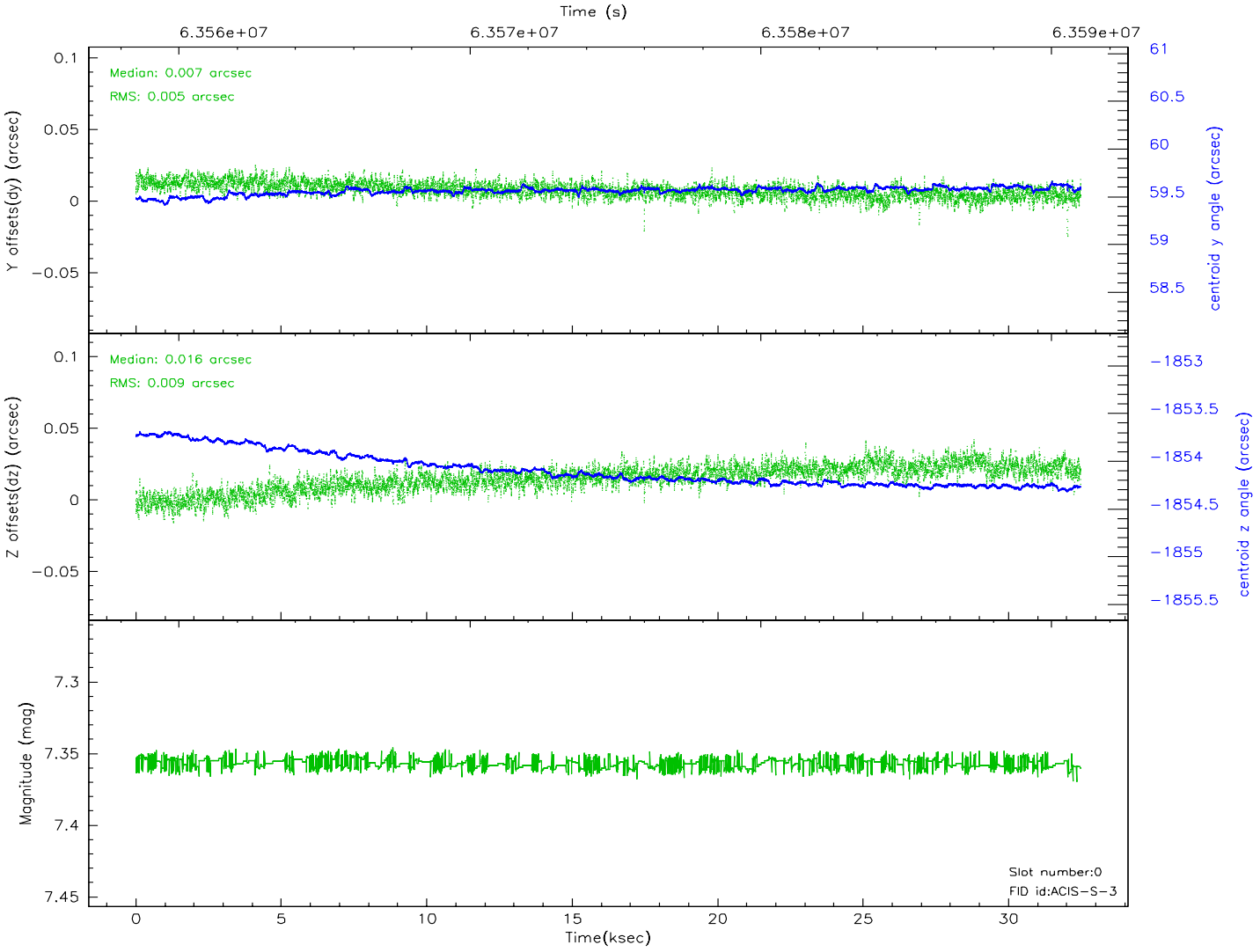

Time (s)
6.356e+07
6.357e+07
6.358e+07
6.359e+07
Median: 0.101 arcsec
RMS: 0.100 arcsec
Y offsets(dy) (arcsec)
Median: −0.226 arcsec
RMS: 0.071 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:7
AGASC star id:1131417408
Time(ksec)

2.5 FID Slots

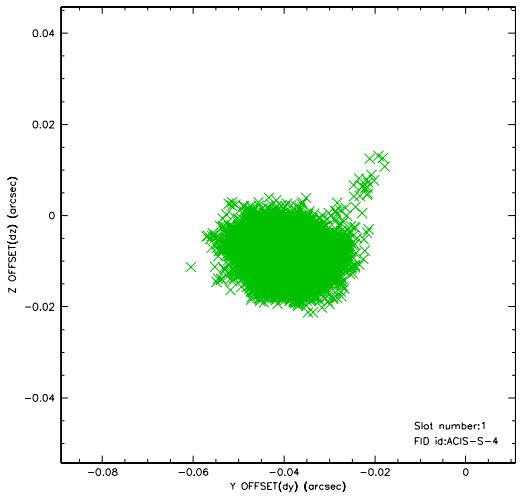
2.5.1 Slot 0

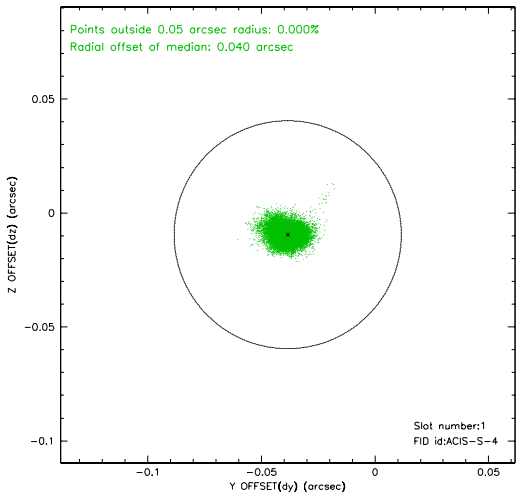


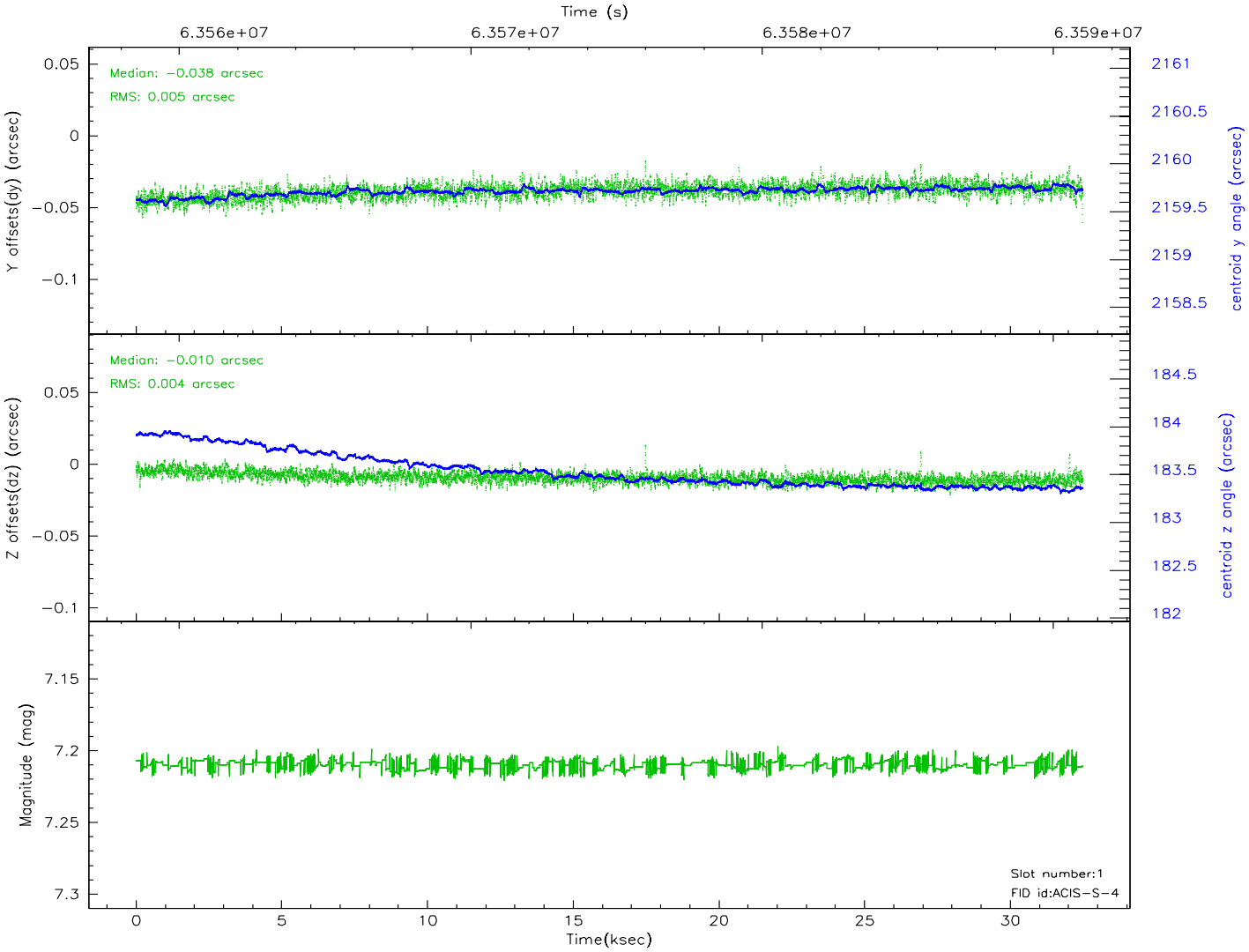




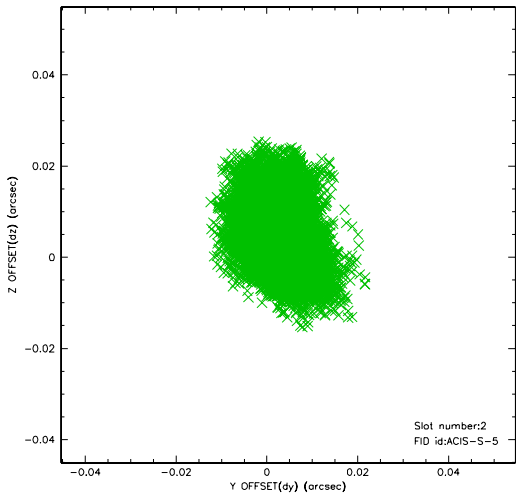
2.5.2 Slot 1

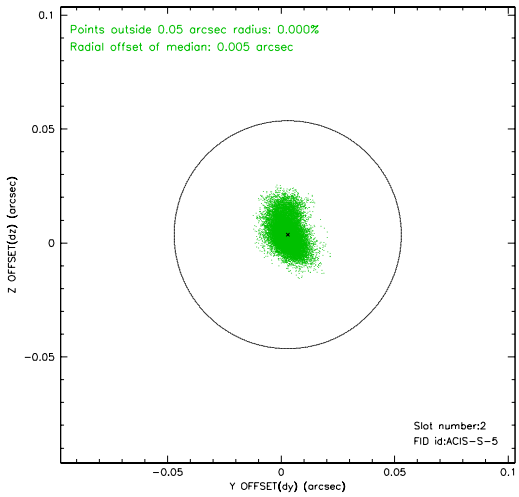

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:ACIS-S-4

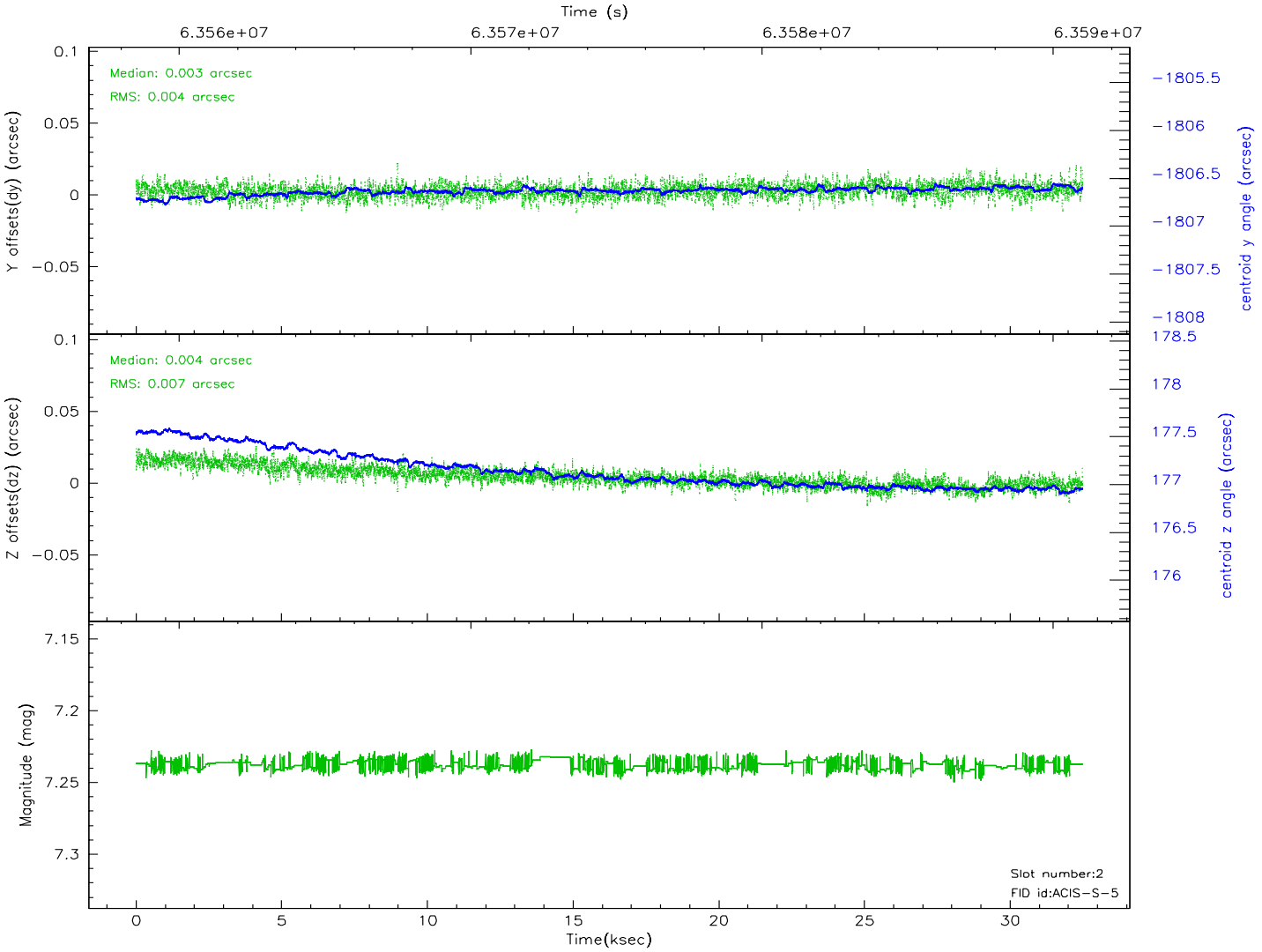

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.040 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:ACIS-S-4


Time (s)
6.356e+07
6.357e+07
6.358e+07
6.359e+07
Median: −0.038 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.010 arcsec
RMS: 0.004 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: 0.005 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:2
FID id:ACIS-S-5


Time (s)
6.356e+07
6.357e+07
6.358e+07
6.359e+07
Median: 0.003 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.004 arcsec
RMS: 0.007 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number:2
FID id:ACIS-S-5
Time(ksec)

A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2007.06.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	32.465

A.2 Comments

```
This observation was taken at a focal plane temperature of -110 degrees
C.
There is currently no accurate calibration for observations at this
focal plane temperature. Focal plane temperature is warmer than -118.7
C degrees during the entire observation. This temperature is the upper
limit of the verified ACIS calibration for the front-illuminated chips.
The focal plane temperature is warmer than -116.7 degrees C for the
entire observation. This temperature is the upper limit of the verified
ACIS calibration for the back-illuminated chips. The ACIS spectral
response calibration is less accurate at these warmer temperatures than
it is at -119.7 C. Users whose science objectives depend on the most
accurate spectral response (ie: fitting line-rich spectra) may notice an
effect. Users whose science objectives do not depend on the most
accurate spectral response should not notice an effect.
```