V&V Reference Report
L2 ASCDS Version : 8.1.1

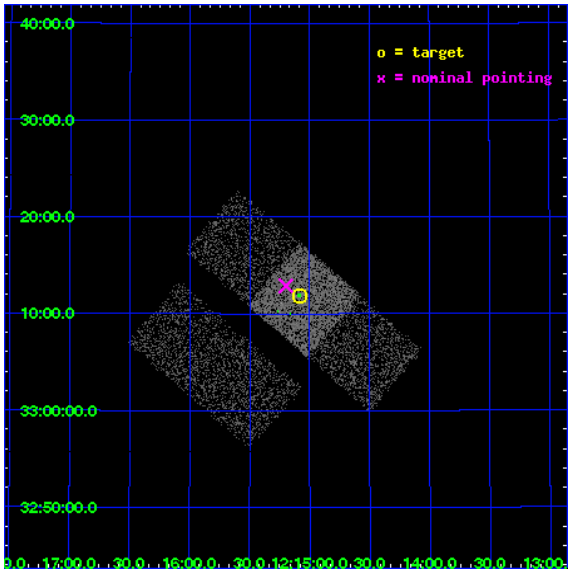
Observation 397 - L2 Version 4
Chandra X-Ray Center

L2 Processing Date : Nov 21 2009

Contents

1 Front

seq_num	700069	Sequence number
obs_id	397	Observation id
title	LOW-LUMINOSITY ACTIVE GALACTIC NUCLEI IN NEARBY GALAXIES	Proposal
observer	Prof Gordon Garmire	Principal investigator
object	NGC 4203	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	183.770833	Observer's specified target RA
dec_targ	33.196944	Observer's specified target Dec
ra_nom	183.79955737473	Nominal RA
dec_nom	33.214768385259	Nominal Dec
roll_nom	40.735415047245	Nominal Roll
revision	4	Processing version of data
ontime	1772.800001651	Sum of GTIs [s]
livetime	1750.3517405781	Livetime [s]
ontime2	1772.800001651	Sum of GTIs [s]
ontime3	1772.800001651	Sum of GTIs [s]
ontime6	1772.800001651	Sum of GTIs [s]
ontime7	1772.800001651	Sum of GTIs [s]
ontime8	1772.800001651	Sum of GTIs [s]
l2events	13092	Number of level 2 events

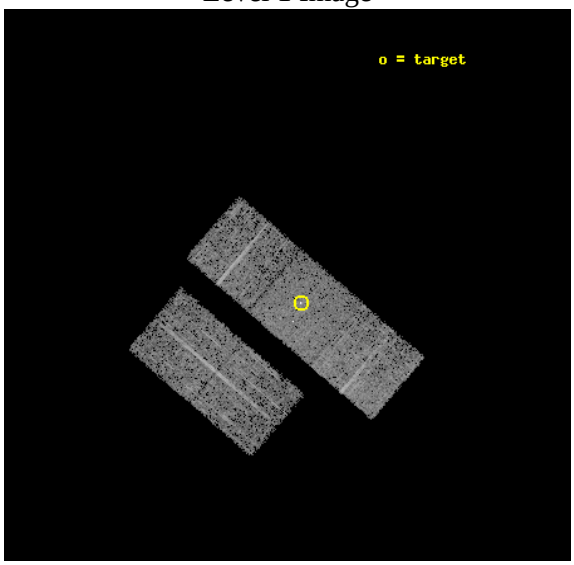


2 OBI

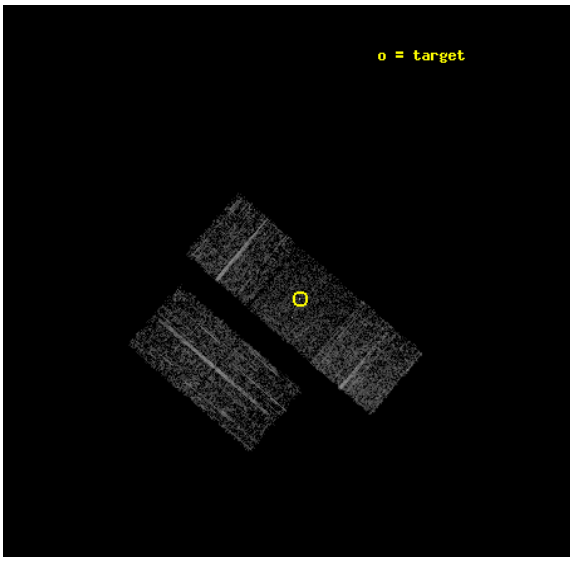
2.1 OBI

2.1.1 Images

Level 1 Image

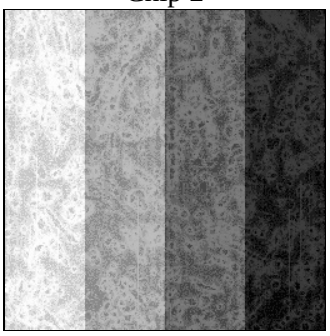


Level 1 Bad Events

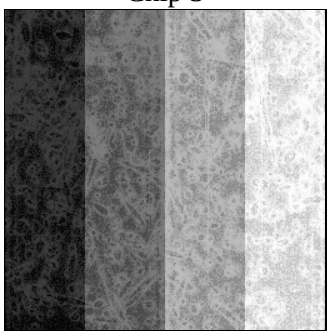


2.1.2 Bias

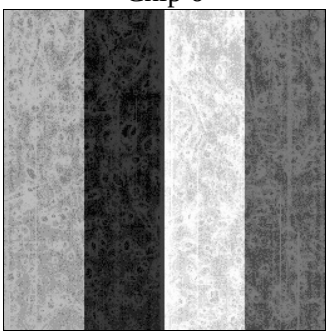
Chip 2



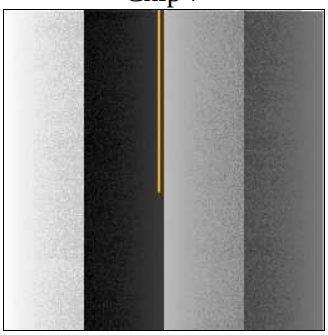
Chip 3



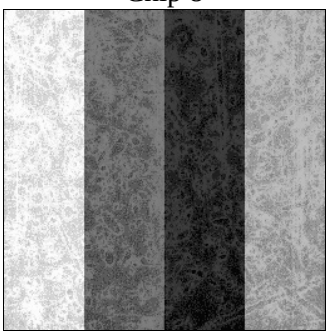
Chip 6



Chip 7



Chip 8



2.1.3 Parameters

obi_num	1	Obi number
ascdsver	8.1.1	ASCDS version number
caldbver	4.1.4	
date	2009-11-21T09:58:01	Date and time of file creation
revision	3	Processing version of data

sched_exp_time	2000.000000	Scheduled observation exposure time
ontime	1772.800001651	Sum of GTIs [s]
ontime2	1772.800001651	Sum of GTIs [s]
ontime3	1772.800001651	Sum of GTIs [s]
ontime6	1772.800001651	Sum of GTIs [s]
ontime7	1772.800001651	Sum of GTIs [s]
ontime8	1772.800001651	Sum of GTIs [s]
l1events	90427	Number of level 1 events

2.1.4 Events

	ccd 2	**ccd 3**	**ccd 6**	**ccd 7**	**ccd 8**
level 1 events	16642	16246	17267	18500	21772
rejected events	15211	14721	15727	10967	18745
rejected %	91%	90%	91%	59%	86%

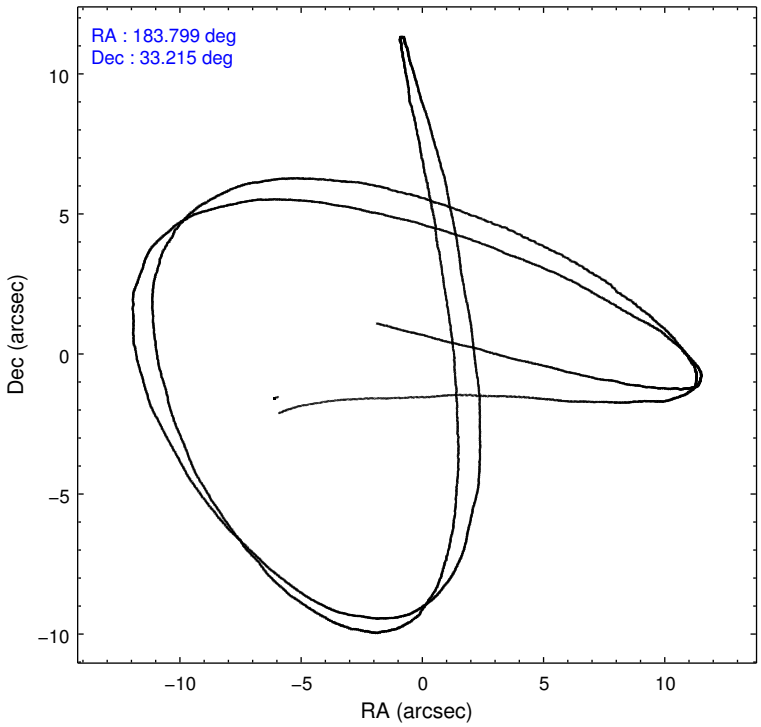
	ccd 2	**ccd 3**	**ccd 6**	**ccd 7**	**ccd 8**
grade 0 events	318	342	299	704	710
	1%	2%	1%	3%	3%
grade 1 events	1	2	3	31	6
	0%	0%	0%	0%	0%
grade 2 events	572	583	621	1614	918
	3%	3%	3%	8%	4%
grade 3 events	105	90	110	486	269
	0%	0%	0%	2%	1%
grade 4 events	85	101	99	436	245
	0%	0%	0%	2%	1%
grade 5 events	271	316	340	1137	378
	1%	1%	1%	6%	1%
grade 6 events	357	413	418	4313	910
	2%	2%	2%	23%	4%
grade 7 events	14933	14399	15377	9779	18336
	89%	88%	89%	52%	84%

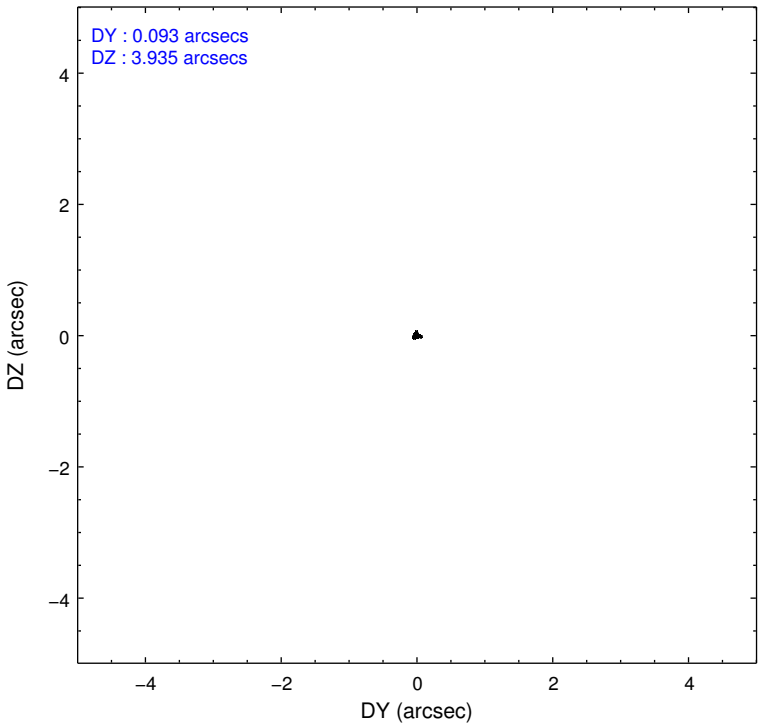
2.2 Compared Parameters

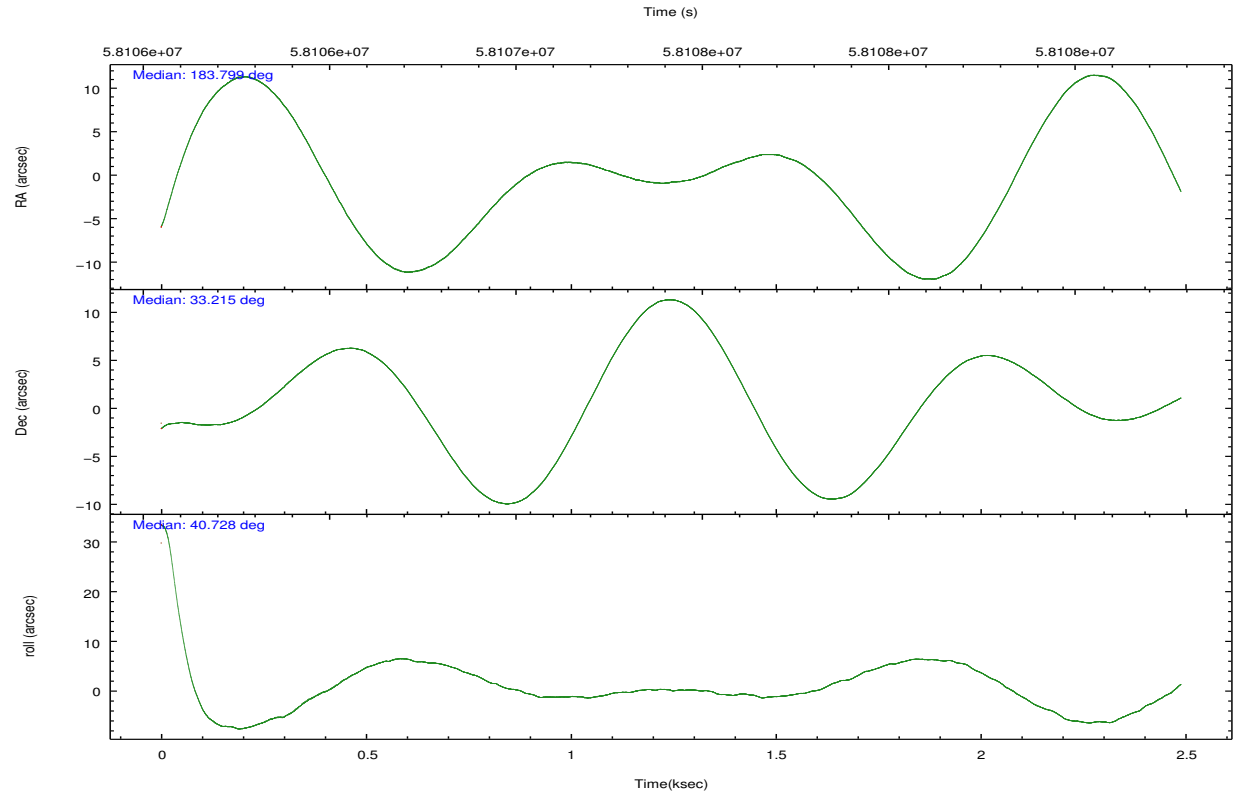
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-23678	ACIS-23678
Grating	NONE	NONE
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
Pointing RA	183.788159	183.7995573747334
Pointing Dec	33.188729	33.21476838525945
Pointing Roll	40.584883	40.73541504724469
SIM focus pos (mm)	-0.684267	-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	58106659.184000	58105778.943253
Observation start date	1999-11-04T12:43:15	1999-11-04T12:29:38
Observation end time	58108659.184000	58109007.69337
Observation end date	1999-11-04T13:16:35	1999-11-04T13:23:27
Read mode	TIMED	TIMED

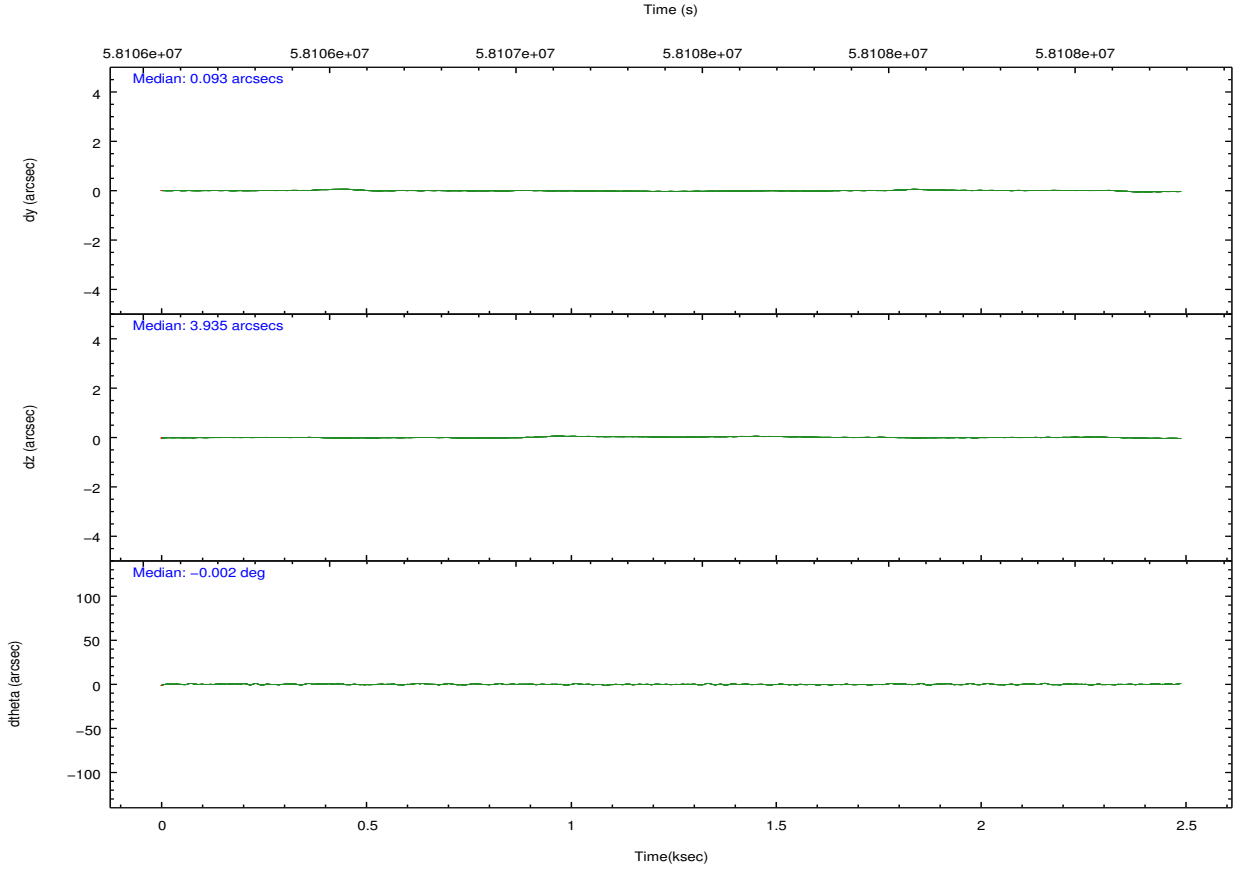
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
Primary exposure time	0.000000	3.2

2.3 Aspect


RA : 183.799 deg
Dec : 33.215 deg
Dec (arcsec)
RA (arcsec)
10
5
0
−5
−10
−10
−5
0
5
10


DY : 0.093 arcsecs
DZ : 3.935 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
5.8106e+07
5.8106e+07
5.8107e+07
5.8108e+07
5.8108e+07
5.8108e+07
Median: 183.799 deg
RA (arcsec)
Median: 33.215 deg
Dec (arcsec)
Median: 40.728 deg
roll (arcsec)
Time(ksec)

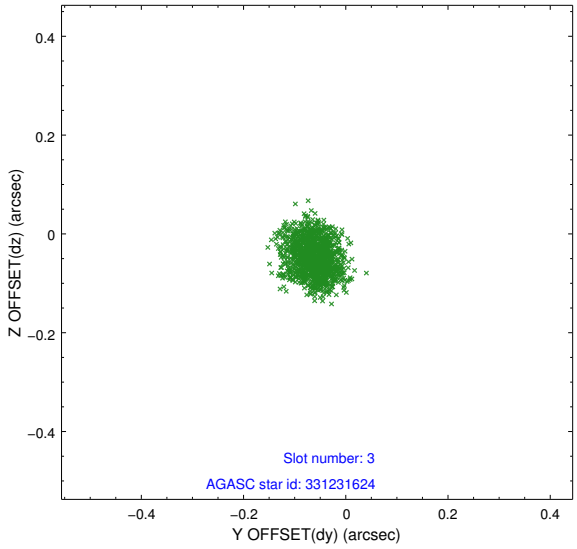

Time (s)
5.8106e+07
5.8106e+07
5.8107e+07
5.8108e+07
5.8108e+07
5.8108e+07
Median: 0.093 arcsecs
dy (arcsec)
Median: 3.935 arcsecs
dz (arcsec)
Median: −0.002 deg
dtheta (arcsec)
Time(ksec)

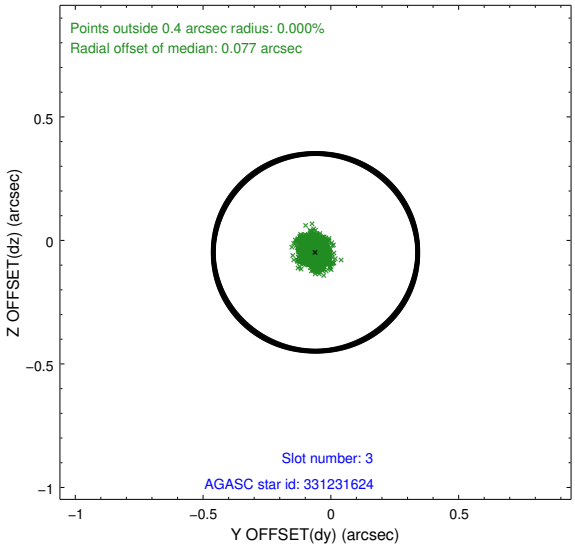
Slot Statistics

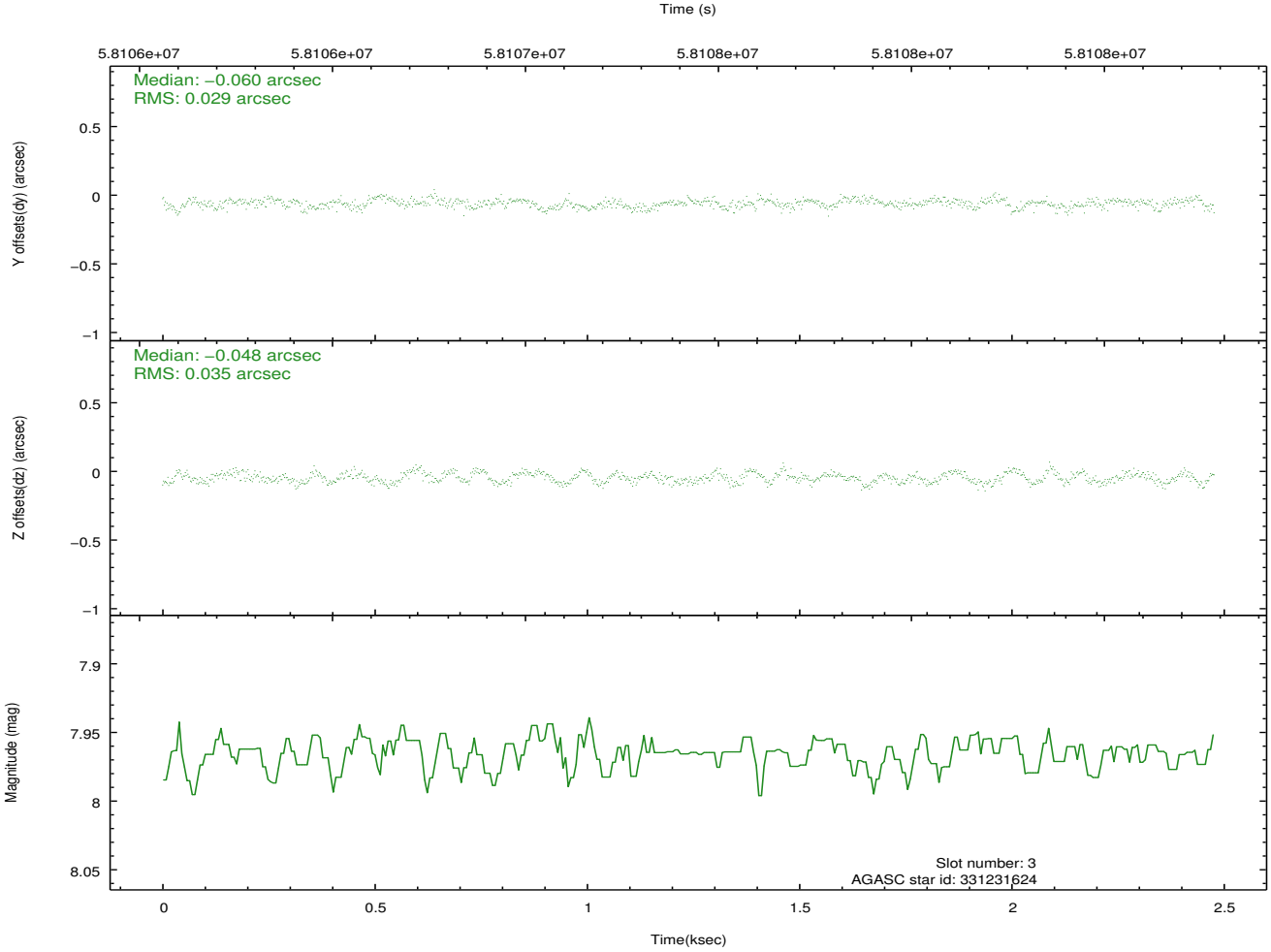
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.11	1215	0.003	-0.015	0.006	0.010	0.000000	0.000000	-752.71	-1725.01
1	FID	ACIS-S-4	7.21	1215	0.039	0.003	0.005	0.010	0.000000	0.000000	2160.12	182.14
2	FID	ACIS-S-5	7.24	1215	-0.073	0.021	0.006	0.010	0.000000	0.000000	-1803.99	177.34
3	GUIDE	331231624	7.96	1209	-0.060	-0.048	0.049	0.077	183.558239	33.450173	88.12	1165.37
4	GUIDE	331233992	8.29	1212	0.015	-0.091	0.053	0.085	183.745951	33.256340	61.93	269.17
5	GUIDE	331235608	9.14	1215	0.016	0.109	0.074	0.117	183.835580	32.650973	-1150.01	-1562.80
6	GUIDE	331233128	9.27	1188	-0.027	-0.057	0.072	0.117	183.552740	33.490773	169.96	1285.62
7	GUIDE	331232512	9.37	1152	0.057	0.090	0.077	0.124	183.921245	32.791183	-624.30	-1347.19

2.4 Star Slots

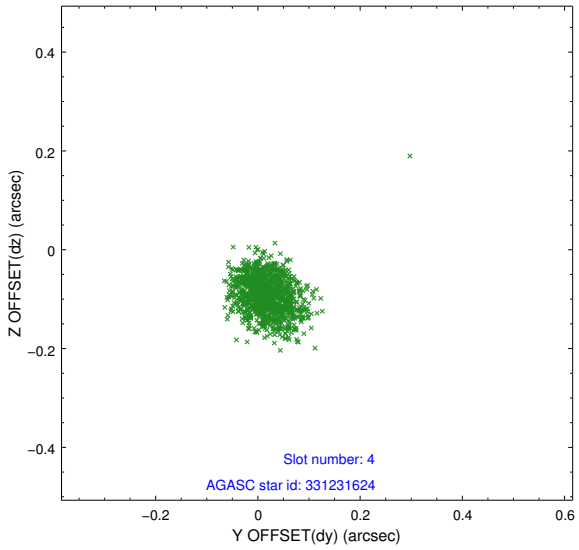
2.4.1 Slot 3

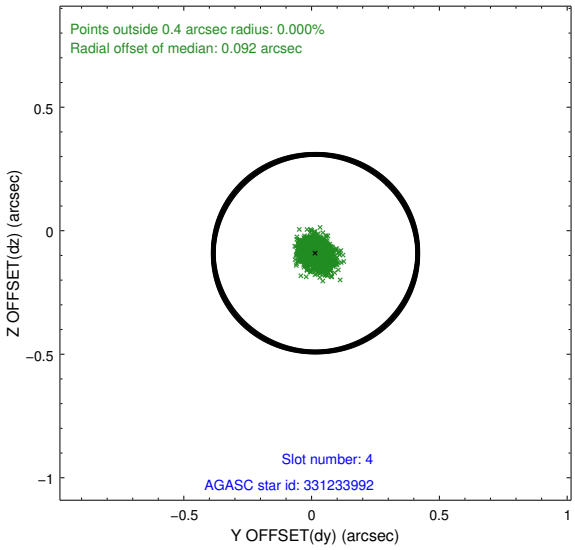


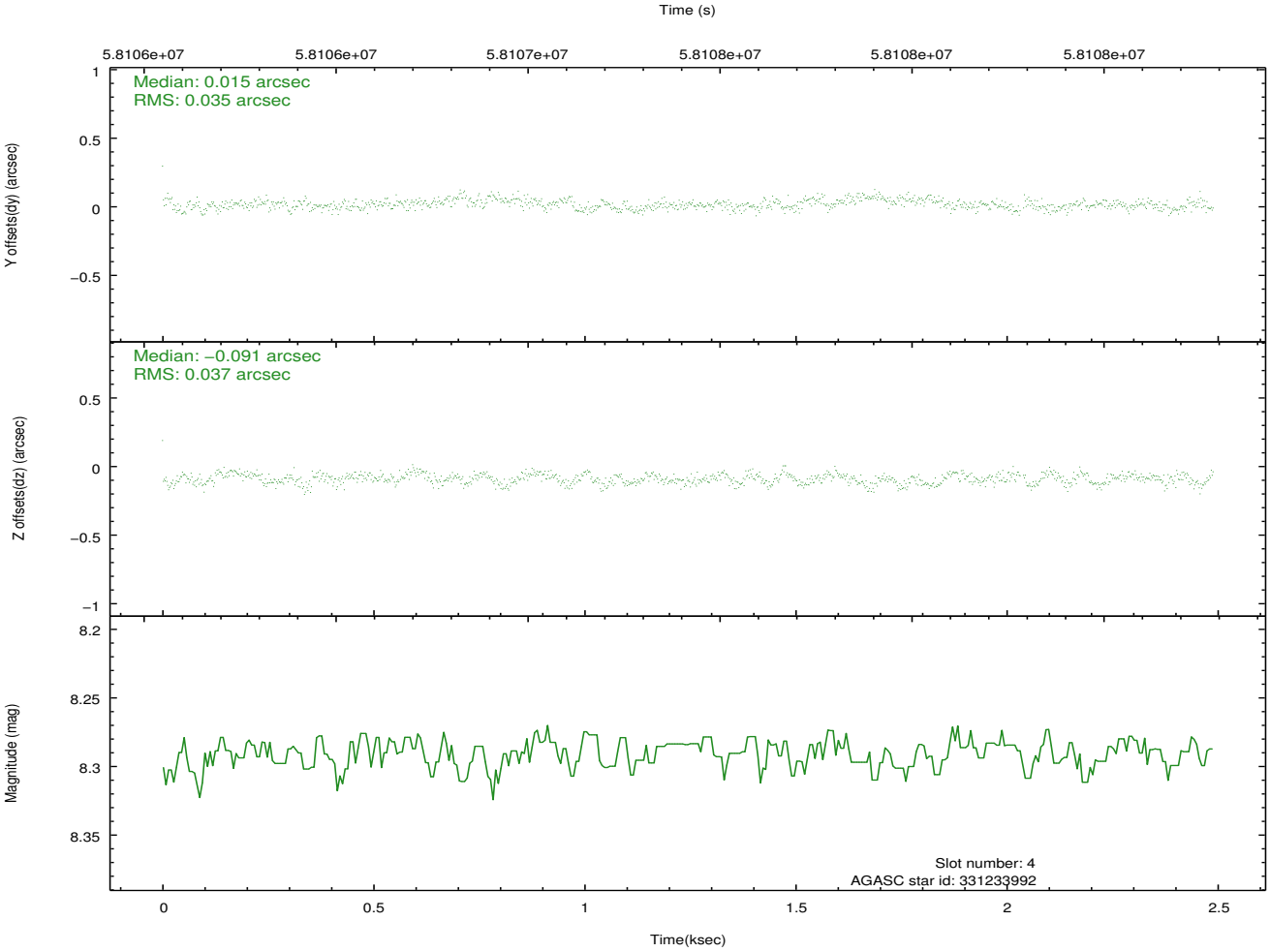




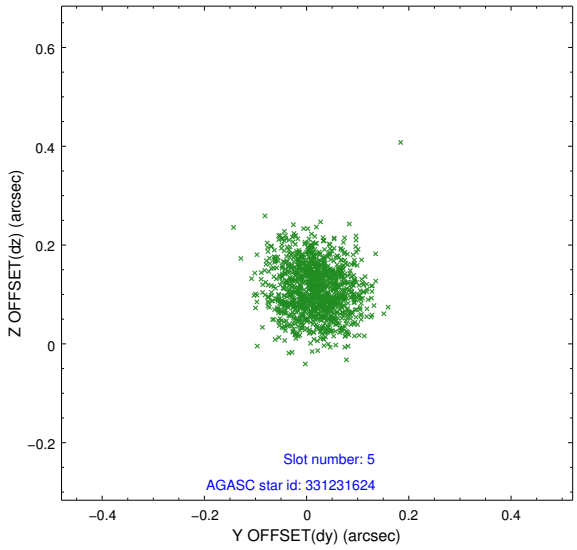
2.4.2 Slot 4

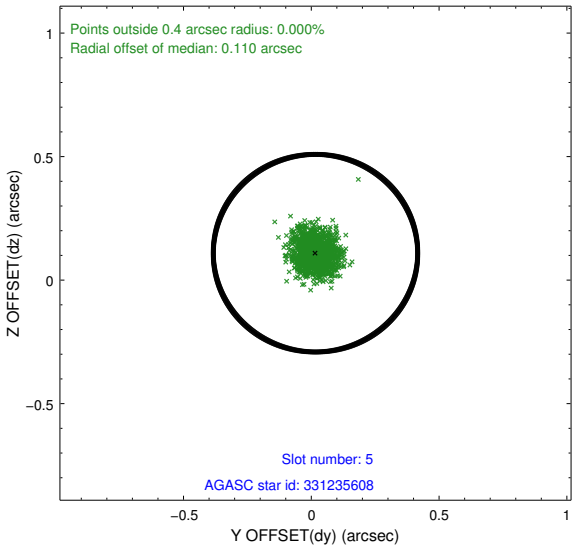

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 331231624

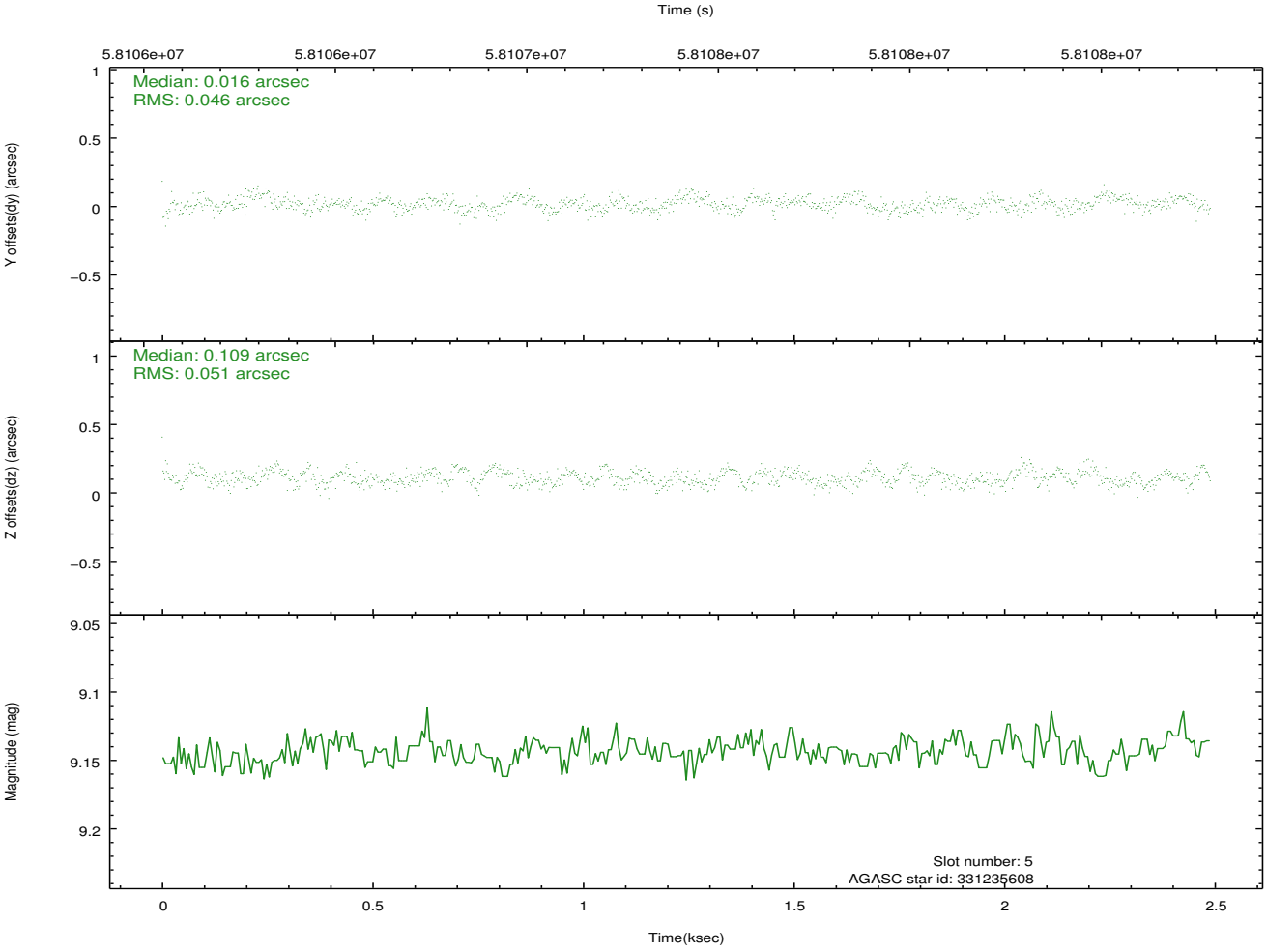

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.092 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 331233992


Time (s)
Median: 0.015 arcsec
RMS: 0.035 arcsec
Y offsets(dy) (arcsec)
Median: −0.091 arcsec
RMS: 0.037 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 331233992
Time(ksec)

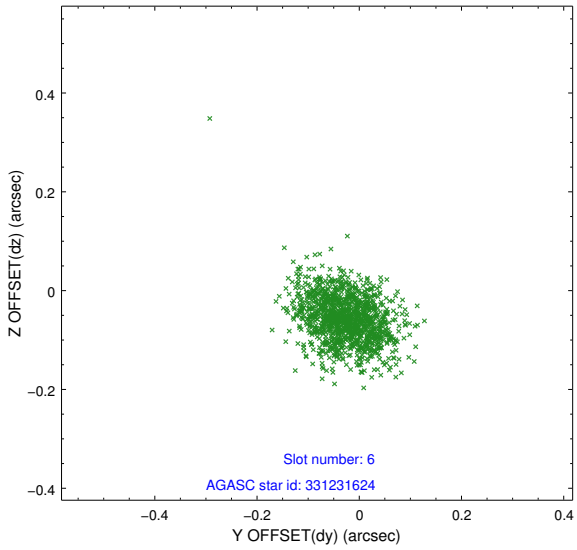
2.4.3 Slot 5

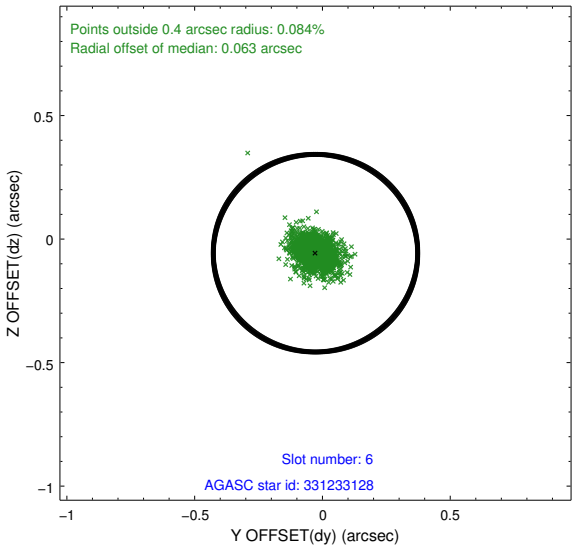

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 331231624

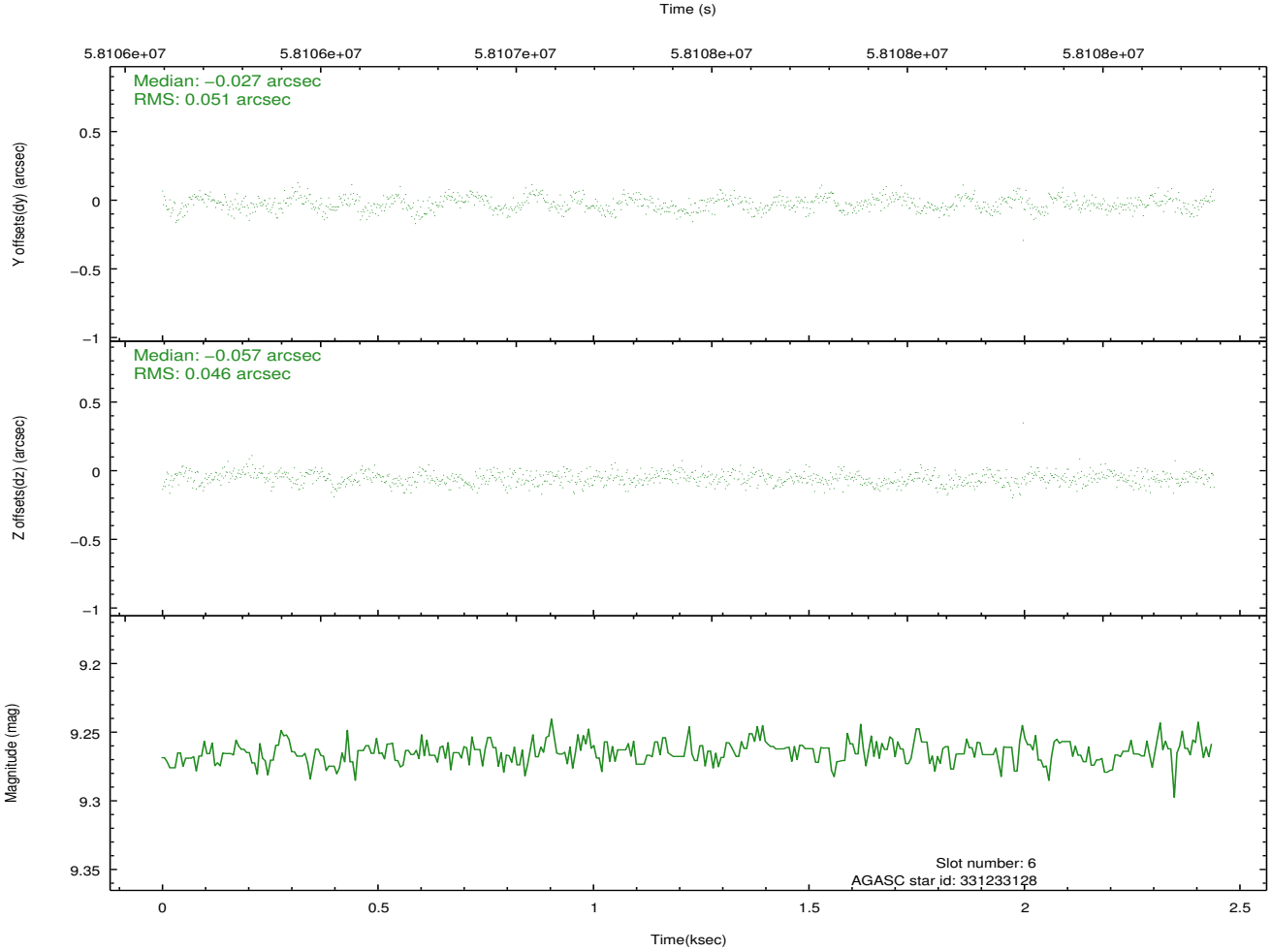

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.110 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 331235608


Time (s)
Median: 0.016 arcsec
RMS: 0.046 arcsec
Y offsets(dy) (arcsec)
Median: 0.109 arcsec
RMS: 0.051 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 331235608
Time(ksec)

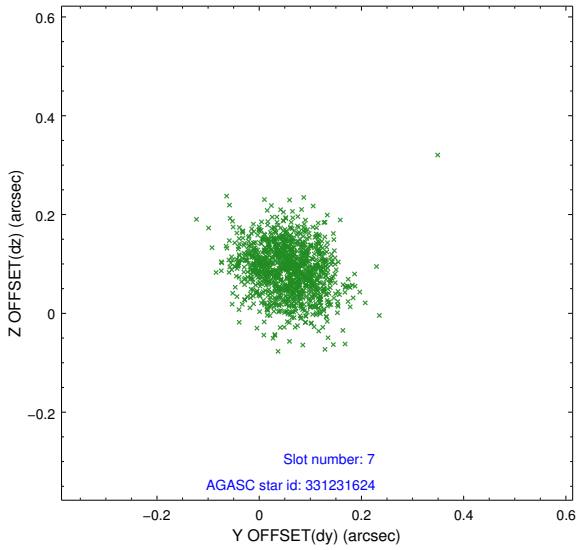
2.4.4 Slot 6

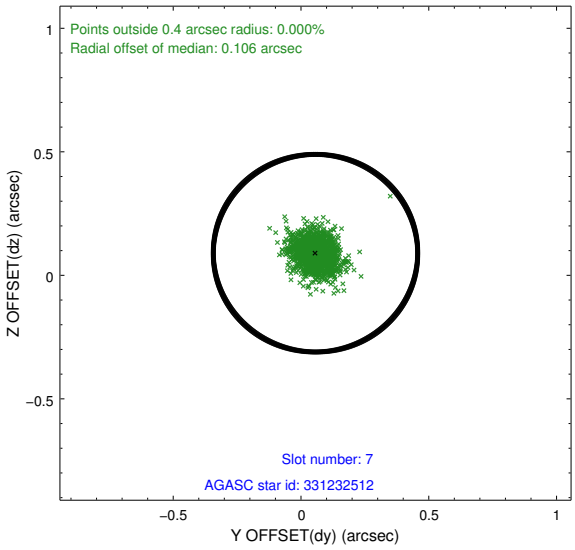

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 331231624

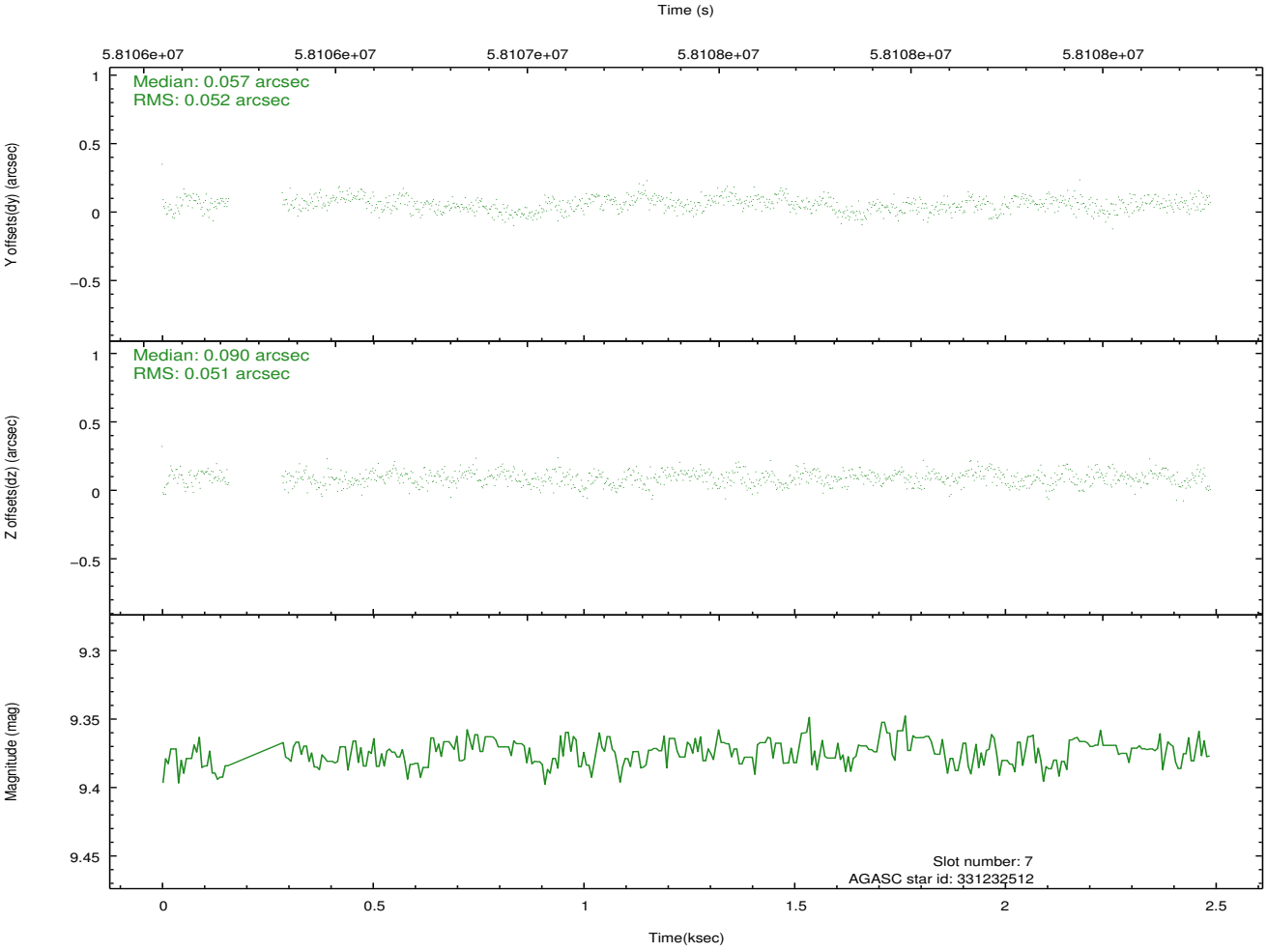

Points outside 0.4 arcsec radius: 0.084%
Radial offset of median: 0.063 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 331233128


Time (s)
Median: −0.027 arcsec
RMS: 0.051 arcsec
Y offsets(dy) (arcsec)
Median: −0.057 arcsec
RMS: 0.046 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 331233128
Time(ksec)

2.4.5 Slot 7

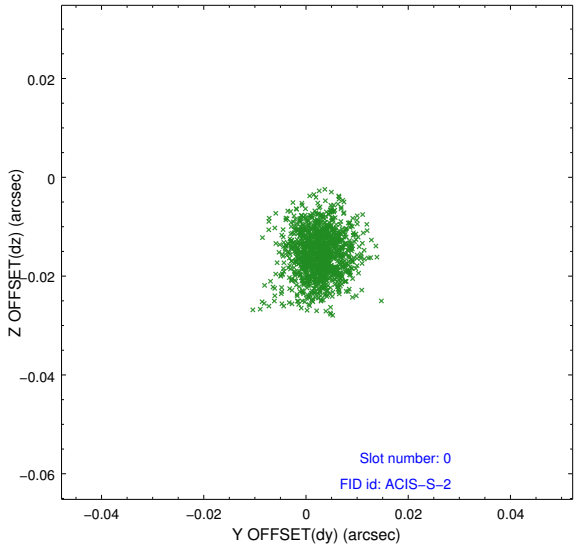

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 331231624

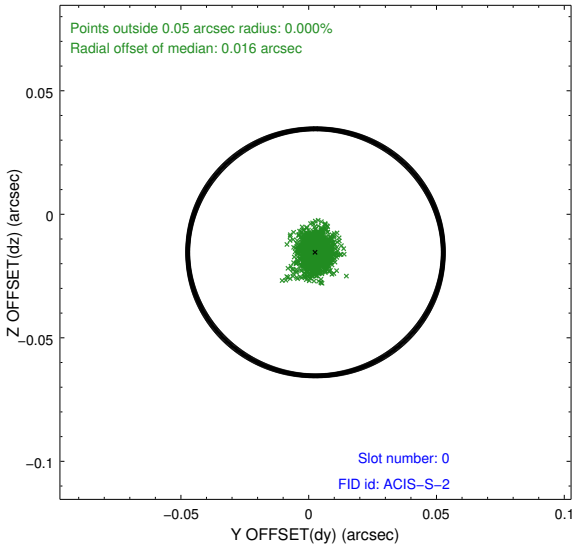

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.106 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 331232512

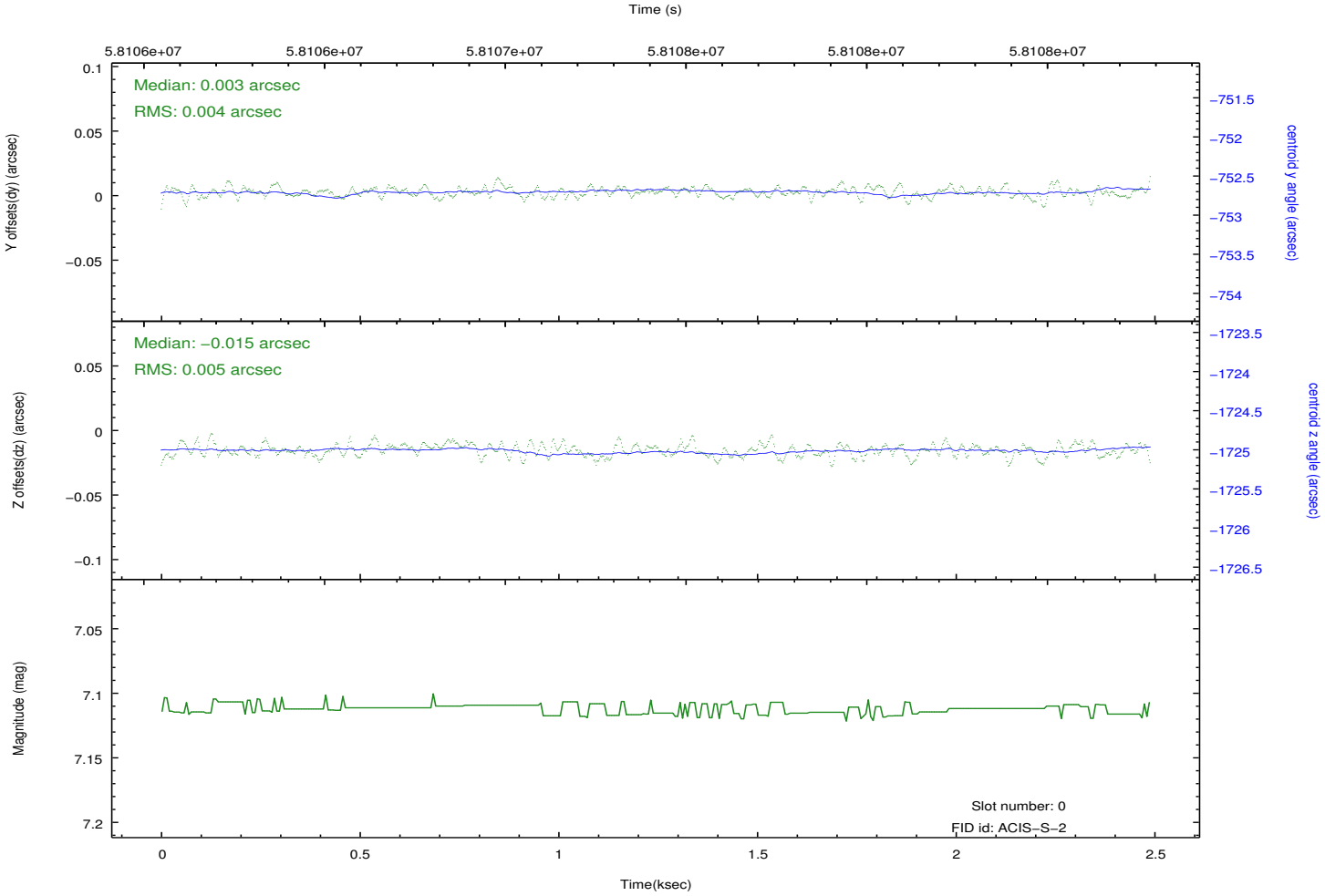

Time (s)
Median: 0.057 arcsec
RMS: 0.052 arcsec
Y offsets(dy) (arcsec)
Median: 0.090 arcsec
RMS: 0.051 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 331232512
Time(ksec)

2.5 FID Slots

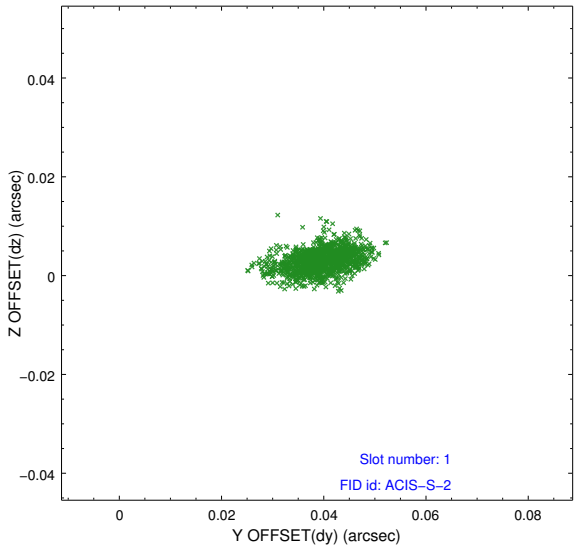
2.5.1 Slot 0

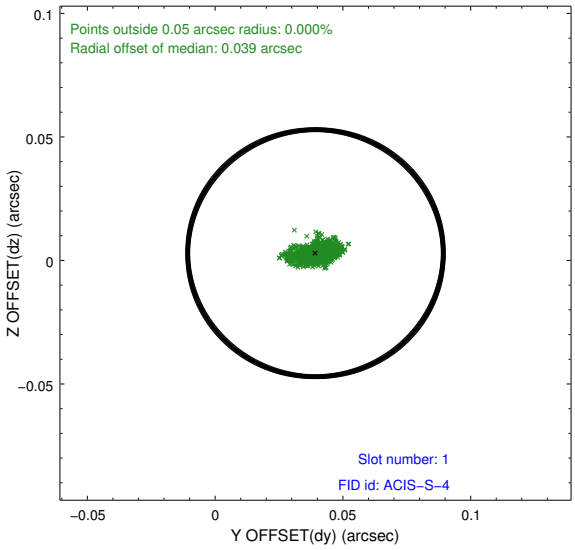


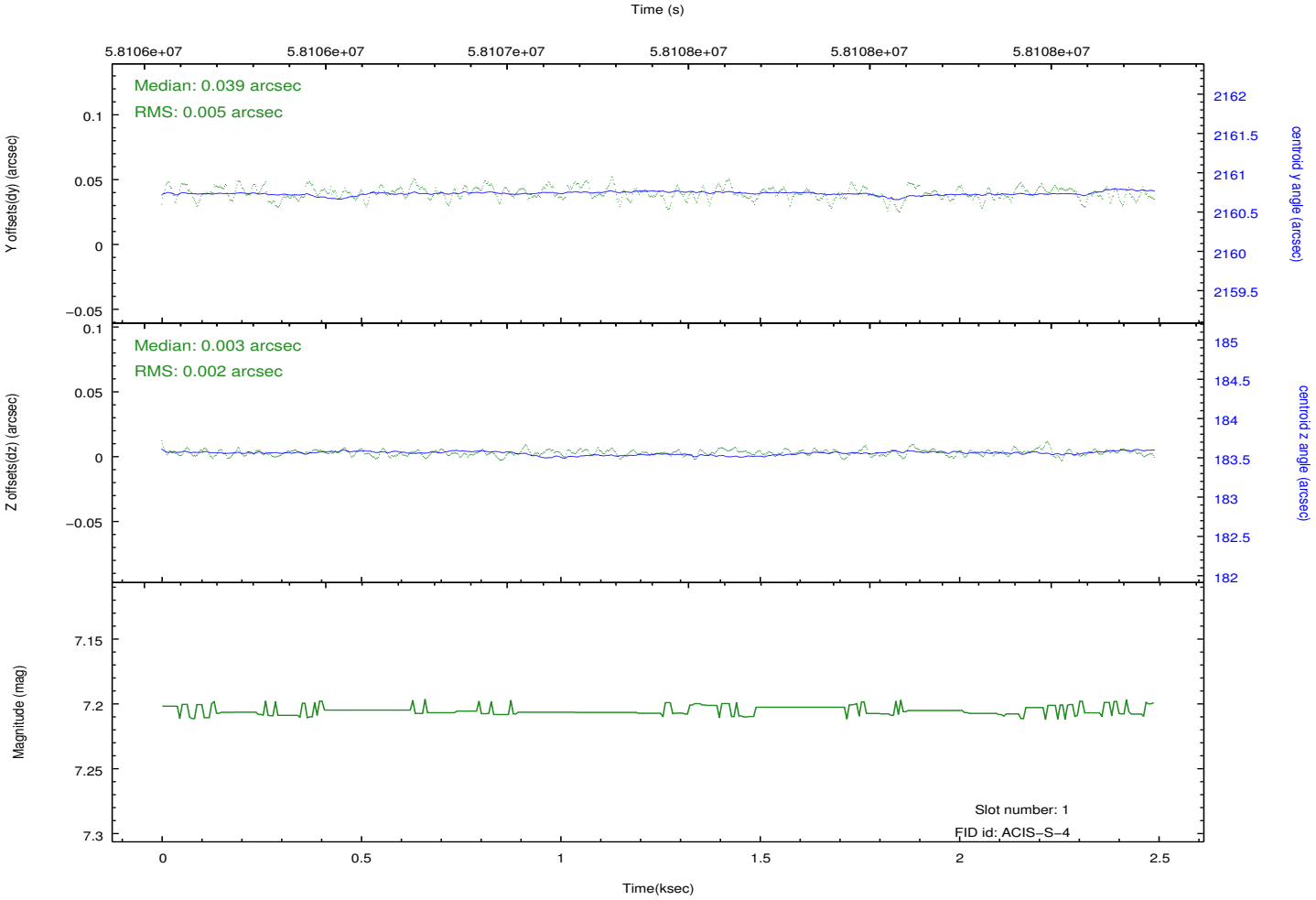




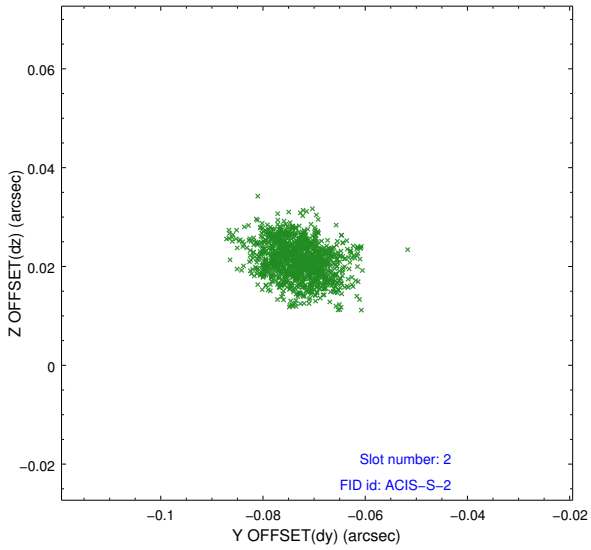
2.5.2 Slot 1

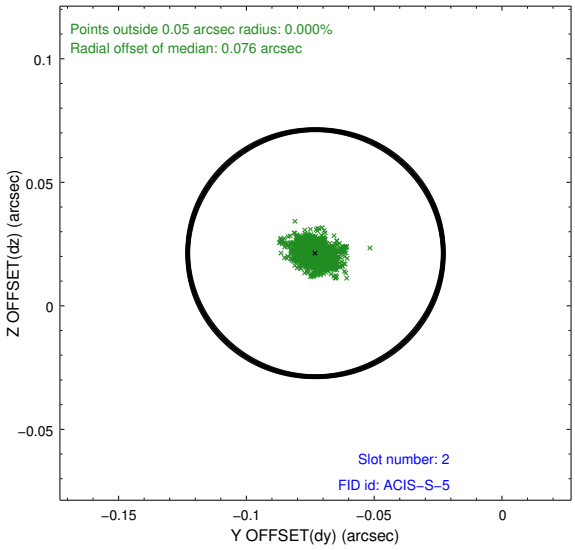

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−2

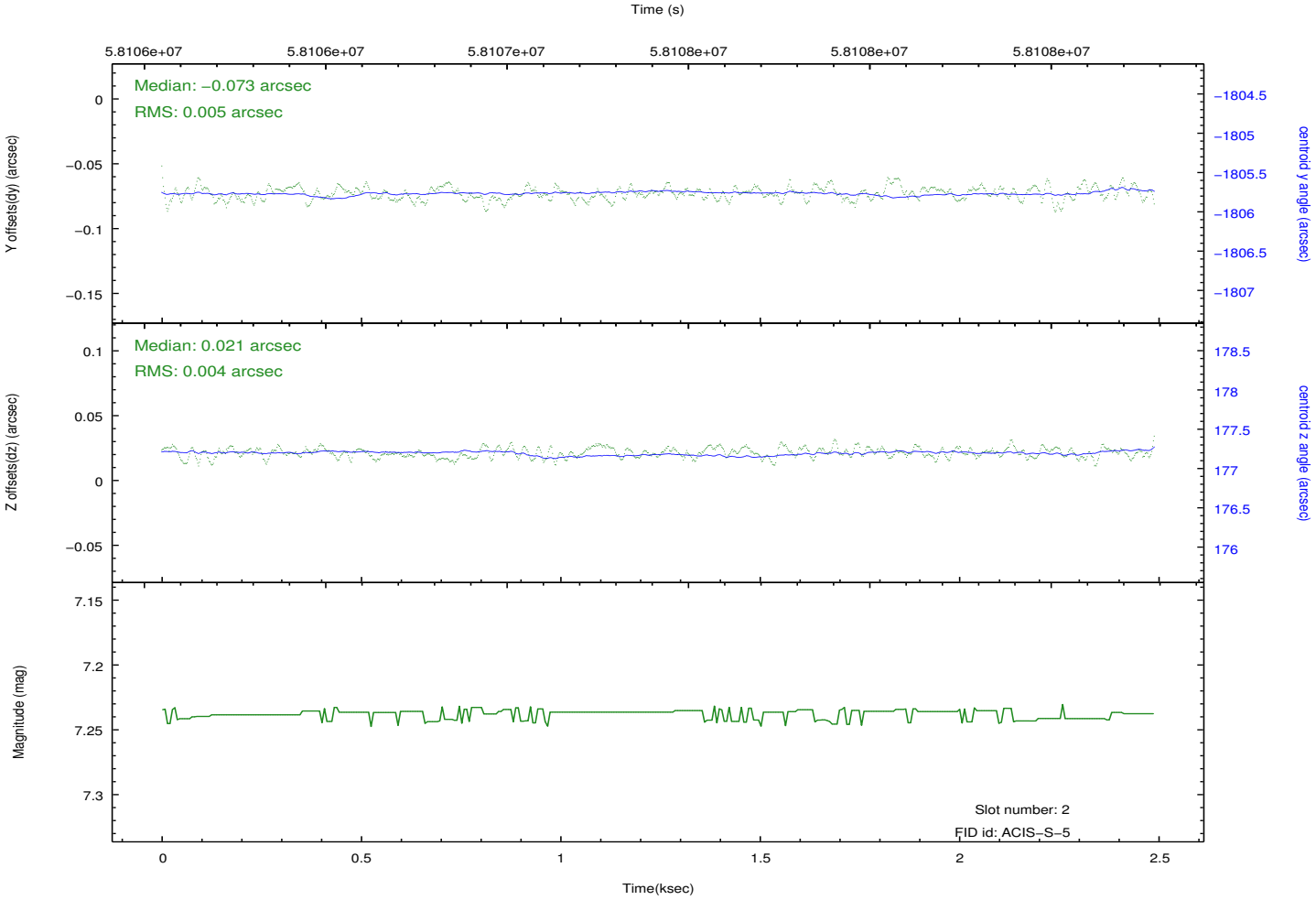

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.039 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−4


Time (s)
Median: 0.039 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.003 arcsec
RMS: 0.002 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−2


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.076 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−S−5


Time (s)
Median: −0.073 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.021 arcsec
RMS: 0.004 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 2
FID id: ACIS−S−5
Time(ksec)

3 Point Sources

3.14 arcmin

A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2009.12.04
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	1.776

A.2 Comments

```
Charge time for this ObsId remains at previous value of 1.776 ksec,
although with the current processing the charge time would have been
1.772 ksec.
==

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.
This reprocessing
of the data applies no CTI correction because none is available
for that temperature.
```