V&V Reference Report
L2 ASCDS Version : 8.1.2

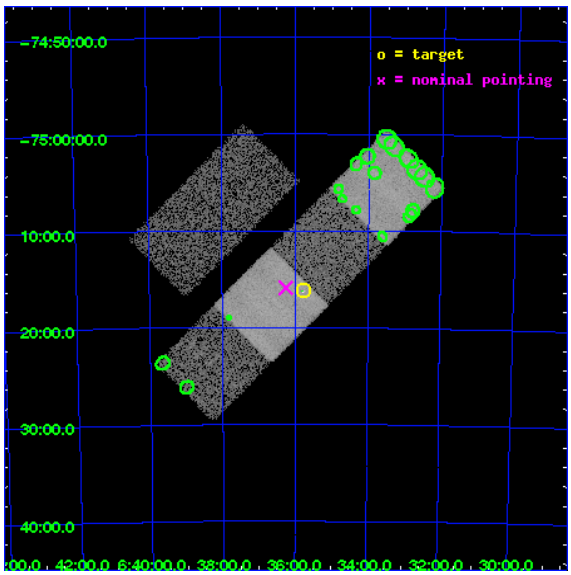
Observation 1060 - L2 Version 3
Chandra X-Ray Center

L2 Processing Date : Dec 14 2009

Contents

1 Front

seq_num	780010	Sequence number
obs_id	1060	Observation id
title		Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	PKS0637-752	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	98.94	Observer's specified target RA
dec_targ	-75.27	Observer's specified target Dec
ra_nom	99.062222570224	Nominal RA
dec_nom	-75.264778601179	Nominal Dec
roll_nom	135.02141484823	Nominal Roll
revision	3	Processing version of data
ontime	1758.7977610901	Sum of GTIs [s]
livetime	1736.5268048183	Livetime [s]
ontime2	1758.715681091	Sum of GTIs [s]
ontime3	1758.6746410877	Sum of GTIs [s]
ontime5	1758.7567210868	Sum of GTIs [s]
ontime6	1758.5925610885	Sum of GTIs [s]
ontime7	1758.7977610901	Sum of GTIs [s]
ontime8	1758.6336010918	Sum of GTIs [s]
l2events	116631	Number of level 2 events

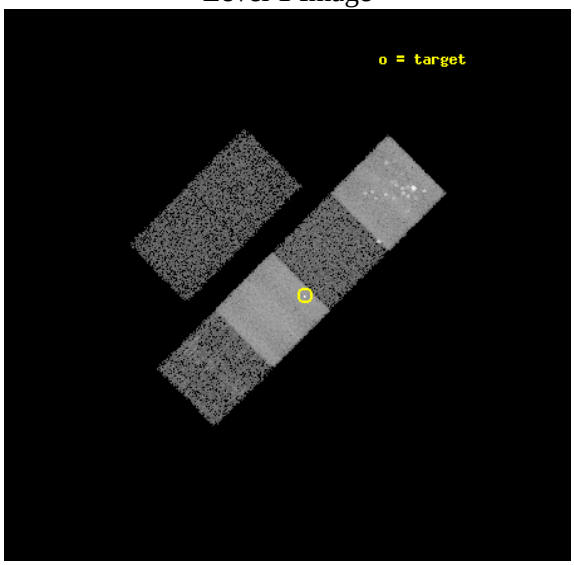


2 OBI

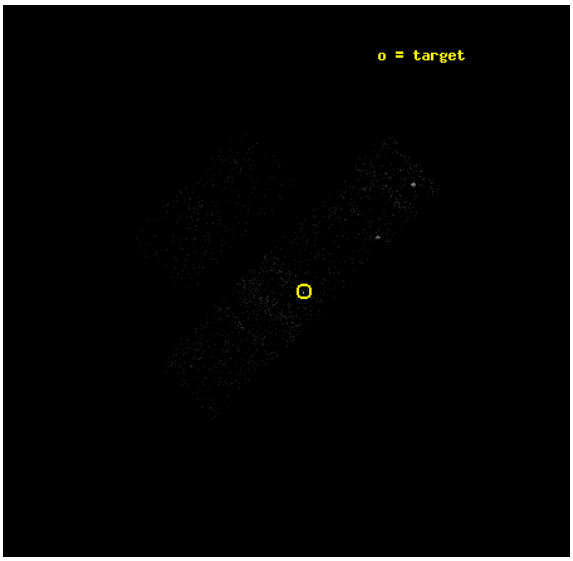
2.1 OBI

2.1.1 Images

Level 1 Image

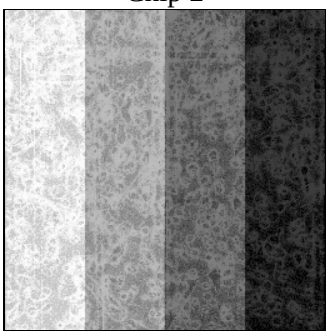


Level 1 Bad Events

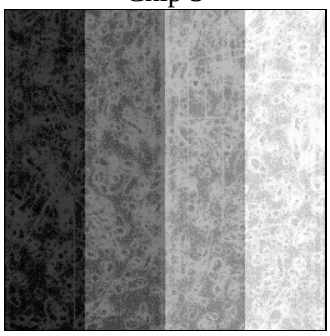


2.1.2 Bias

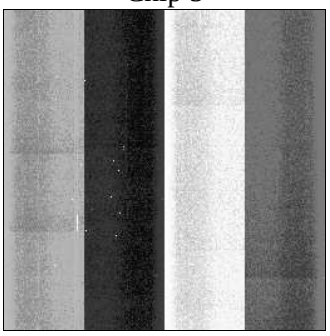
Chip 2



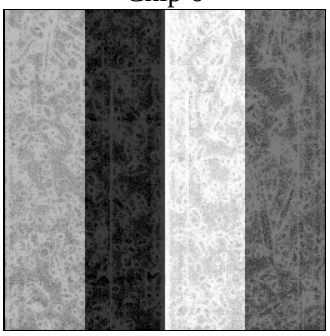
Chip 3



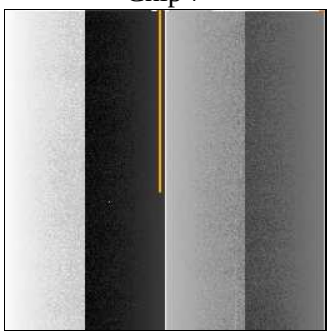
Chip 5



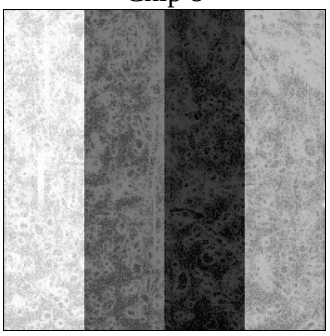
Chip 6



Chip 7



Chip 8



2.1.3 Parameters

obi_num	0	Obi number
ascdsver	8.1.2	ASCDS version number
caldbver	4.1.4	
date	2009-12-14T07:40:12	Date and time of file creation
revision	3	Processing version of data

sched_exp_time	2000.000000	Scheduled observation exposure time
ontime	1758.7977610901	Sum of GTIs [s]
ontime2	1758.715681091	Sum of GTIs [s]
ontime3	1758.6746410877	Sum of GTIs [s]
ontime5	1758.7567210868	Sum of GTIs [s]
ontime6	1758.5925610885	Sum of GTIs [s]
ontime7	1758.7977610901	Sum of GTIs [s]
ontime8	1758.6336010918	Sum of GTIs [s]
l1events	137254	Number of level 1 events

2.1.4 Events

	ccd 2	**ccd 3**	**ccd 5**	**ccd 6**	**ccd 7**	**ccd 8**
level 1 events	6484	6456	53590	9315	51957	9452
rejected events	1068	1202	2151	1353	2485	1434
rejected %	16%	18%	4%	14%	4%	15%

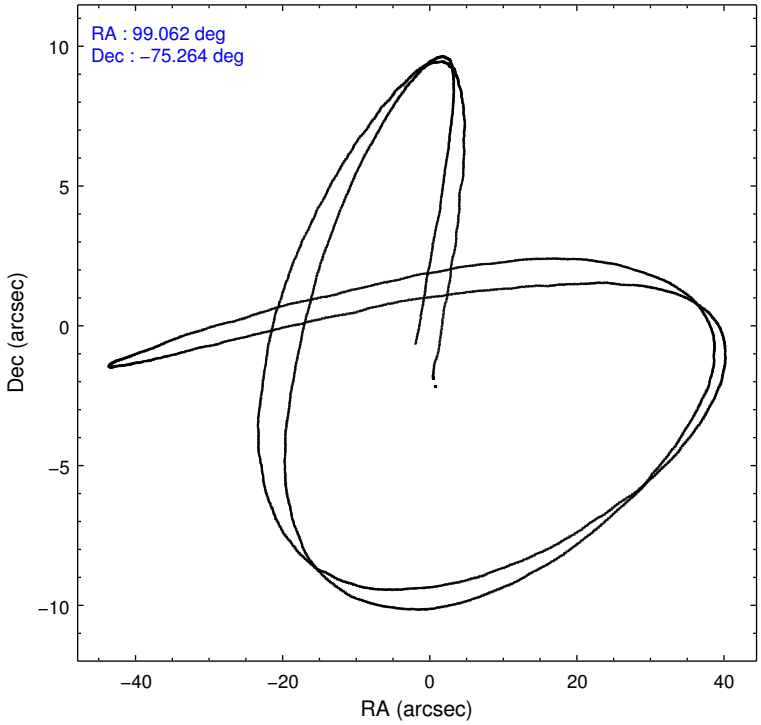
	ccd 2	**ccd 3**	**ccd 5**	**ccd 6**	**ccd 7**	**ccd 8**
grade 0 events	2685	2618	9147	4520	3507	3748
	41%	40%	17%	48%	6%	39%
grade 1 events	20	18	82	17	45	60
	0%	0%	0%	0%	0%	0%
grade 2 events	994	945	7169	1333	5778	1570
	15%	14%	13%	14%	11%	16%
grade 3 events	327	351	3564	368	3204	505
	5%	5%	6%	3%	6%	5%
grade 4 events	282	279	3043	376	2892	464
	4%	4%	5%	4%	5%	4%
grade 5 events	1041	1179	1853	1327	2410	1369
	16%	18%	3%	14%	4%	14%
grade 6 events	1135	1066	28556	1374	34114	1736
	17%	16%	53%	14%	65%	18%
grade 7 events	0	0	176	0	7	0
	0%	0%	0%	0%	0%	0%

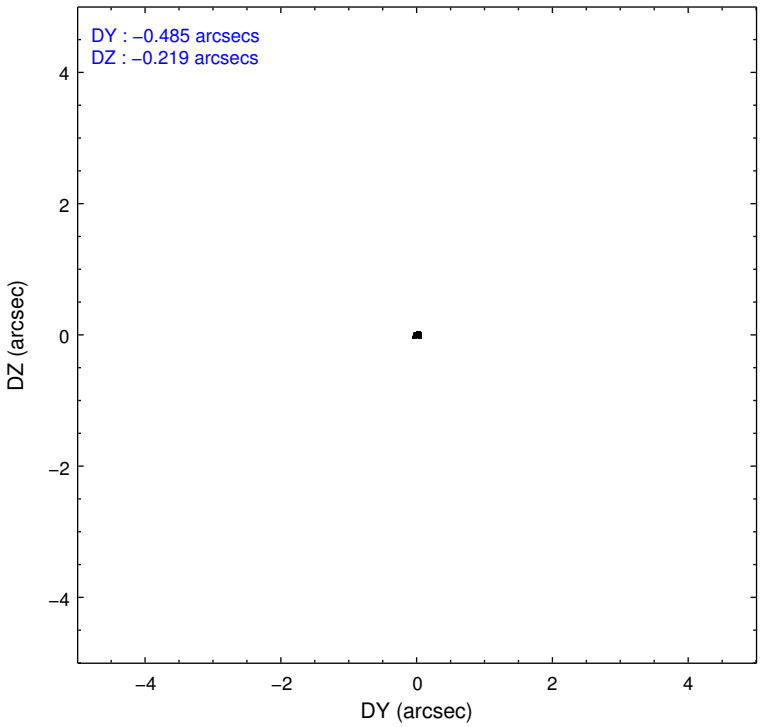
2.2 Compared Parameters

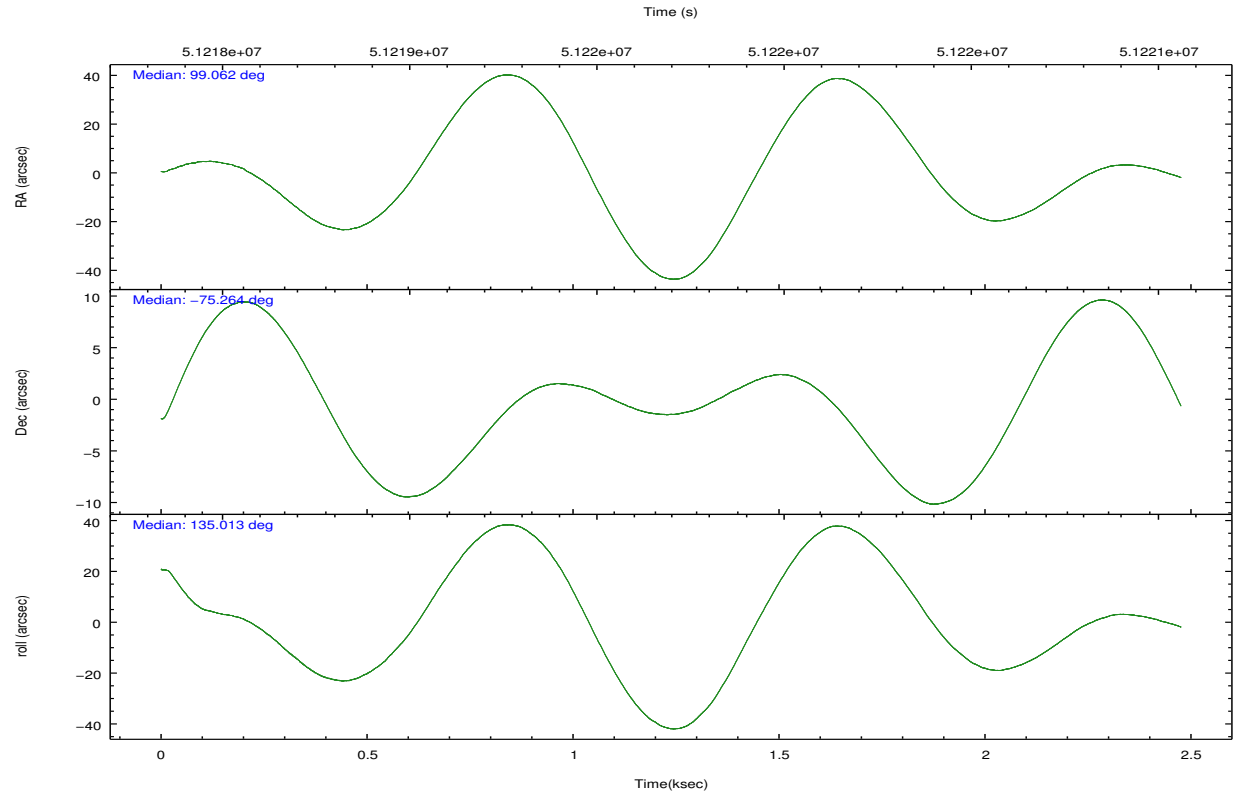
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-235678	ACIS-235678
Grating	NONE	NONE
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
Pointing RA	99.167116	99.06222257022355
Pointing Dec	-75.272731	-75.26477860117885
Pointing Roll	134.966227	135.0214148482344
SIM focus pos (mm)	-1.180069	-1.346558362777969
SIM defocus (mm)	-0.495802	-0.6622909014780725
SIM translation stage pos (mm)	-190.132523	-190.1325231039672
SIM translation stage offset (mm)	0	5.209593894051068e-07
Observation start time	51218947.184000	51218283.556567
Observation start date	1999-08-16T19:28:03	1999-08-16T19:18:03
Observation end time	51220947.184000	51221063.356665
Observation end date	1999-08-16T20:01:23	1999-08-16T20:04:23
Read mode	TIMED	TIMED

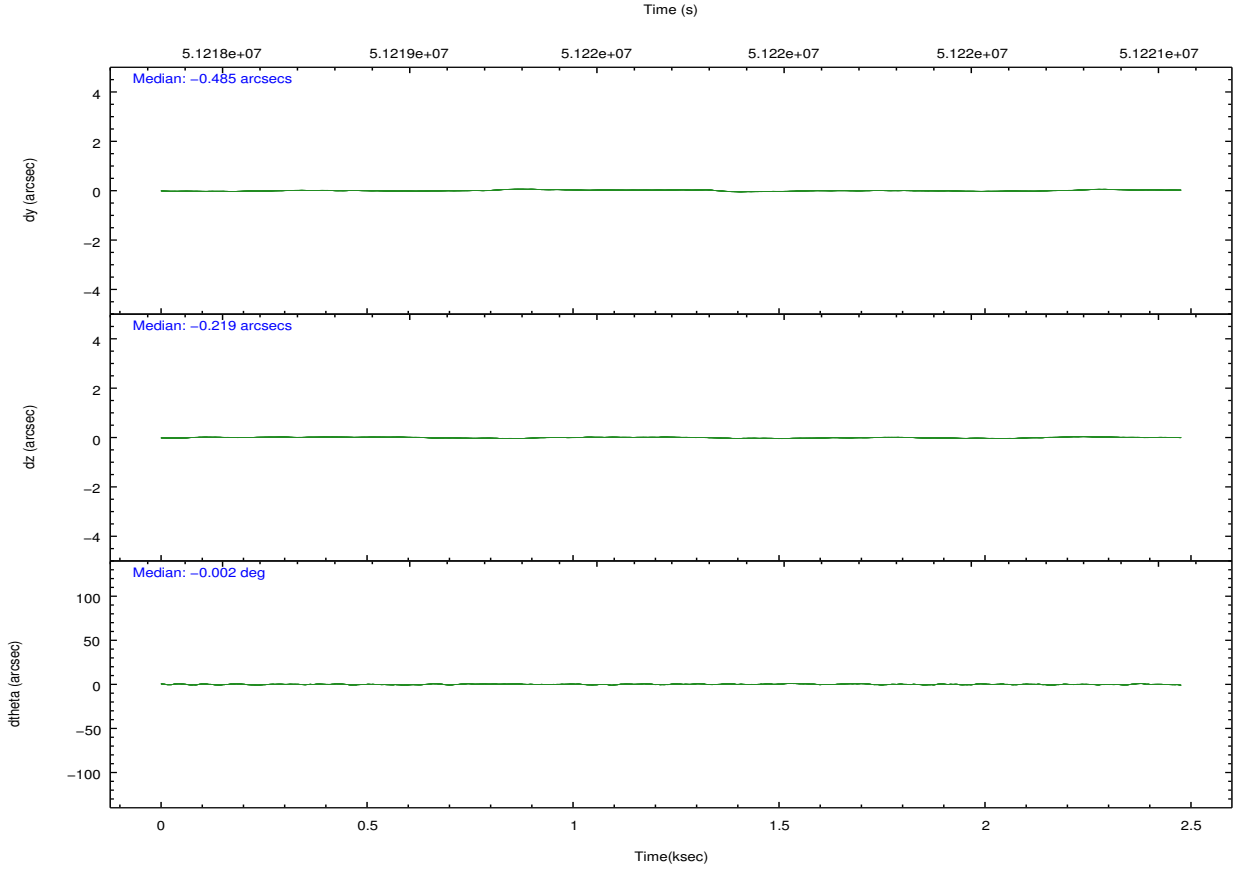
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
Primary exposure time	0.000000	3.2

2.3 Aspect


RA : 99.062 deg
Dec : −75.264 deg
Dec (arcsec)
RA (arcsec)
10
5
0
−5
−10
−40
−20
0
20
40


DY : −0.485 arcsecs
DZ : −0.219 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
5.1218e+07
5.1219e+07
5.122e+07
5.122e+07
5.122e+07
5.1221e+07
Median: 99.062 deg
RA (arcsec)
Median: −75.264 deg
Dec (arcsec)
Median: 135.013 deg
roll (arcsec)
Time(ksec)

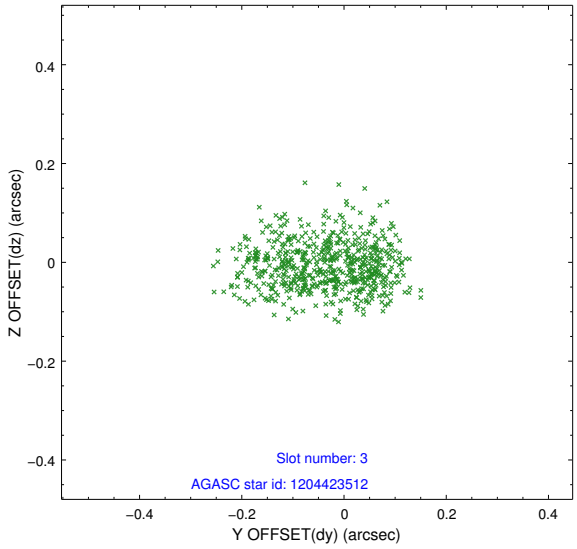

Time (s)
5.1218e+07
5.1219e+07
5.122e+07
5.122e+07
5.122e+07
5.1221e+07
Median: −0.485 arcsecs
dy (arcsec)
Median: −0.219 arcsecs
dz (arcsec)
Median: −0.002 deg
dtheta (arcsec)
Time(ksec)

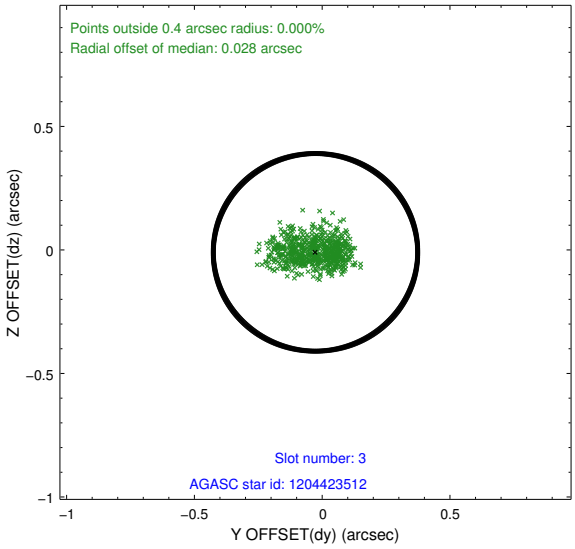
Slot Statistics

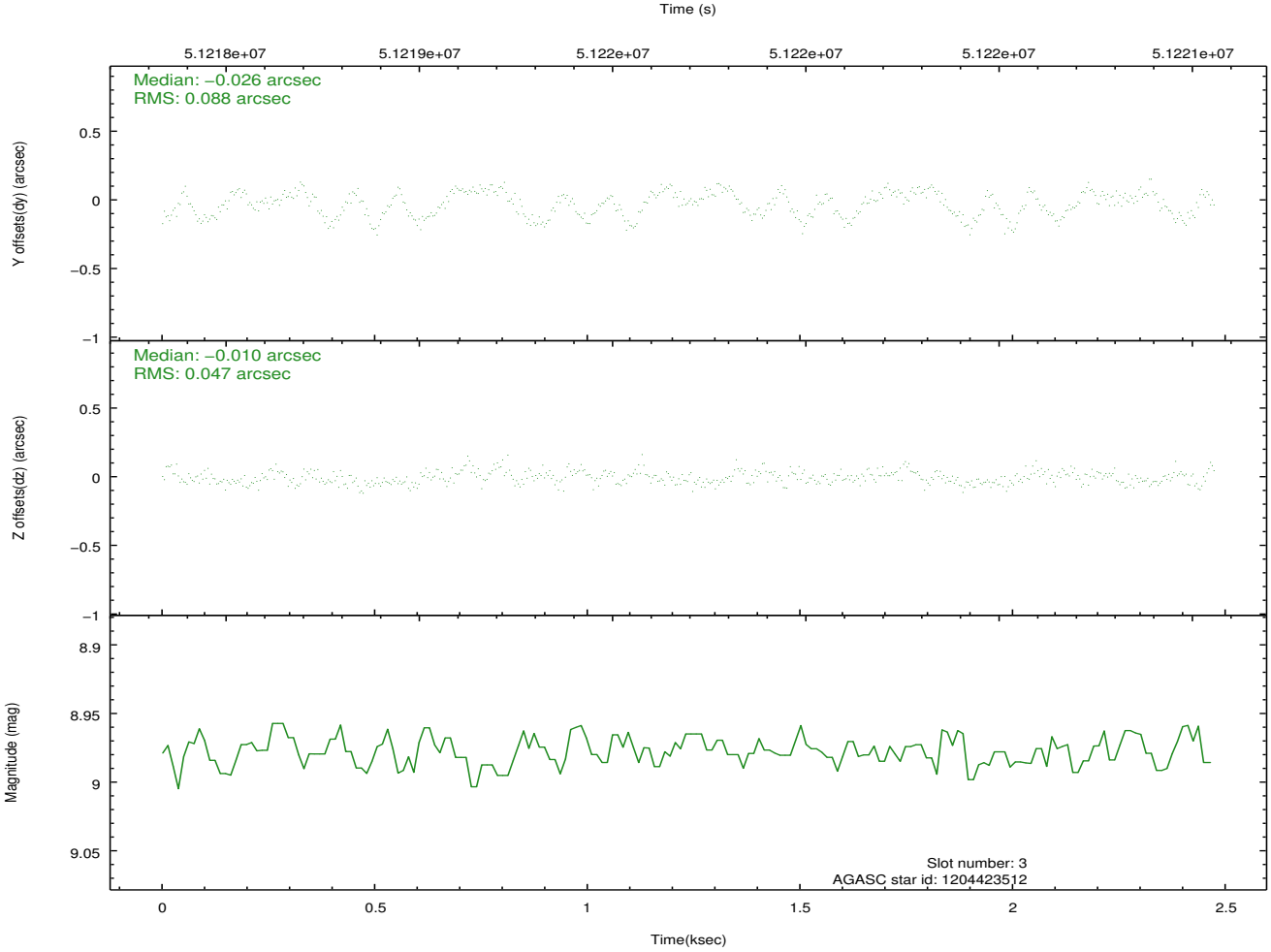
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-3	7.36	605	-0.046	0.033	0.006	0.010	0.000000	0.000000	61.02	-1849.81
1	FID	ACIS-S-4	7.21	604	0.164	0.010	0.005	0.010	0.000000	0.000000	2161.41	184.61
2	FID	ACIS-S-5	7.25	604	-0.146	-0.033	0.006	0.010	0.000000	0.000000	-1801.55	181.57
3	GUIDE	1204423512	8.98	604	-0.026	-0.010	0.105	0.170	100.368786	-74.674048	707.43	-2322.25
4	GUIDE	1229331616	9.92	604	0.051	0.048	0.116	0.190	96.182998	-75.347362	1680.41	2158.12
5	GUIDE	1229333040	9.78	605	-0.038	-0.006	0.119	0.187	99.562583	-75.788185	-1559.80	1069.74
6	GUIDE	1204425200	9.80	603	0.018	-0.029	0.135	0.232	100.052994	-74.556368	1216.25	-2415.45
7	UNUSED		0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00

2.4 Star Slots

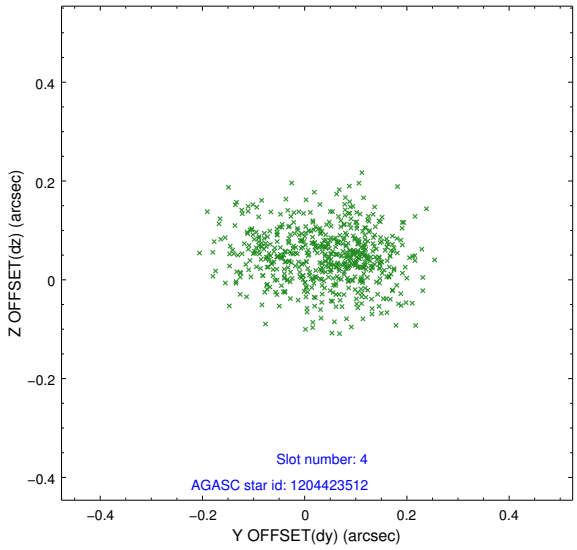
2.4.1 Slot 3

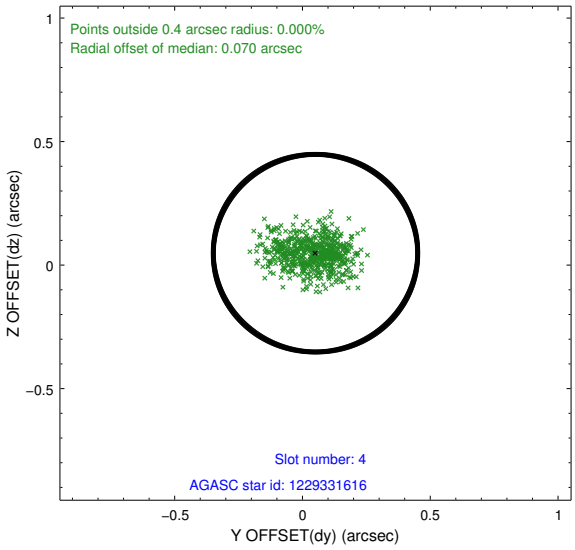


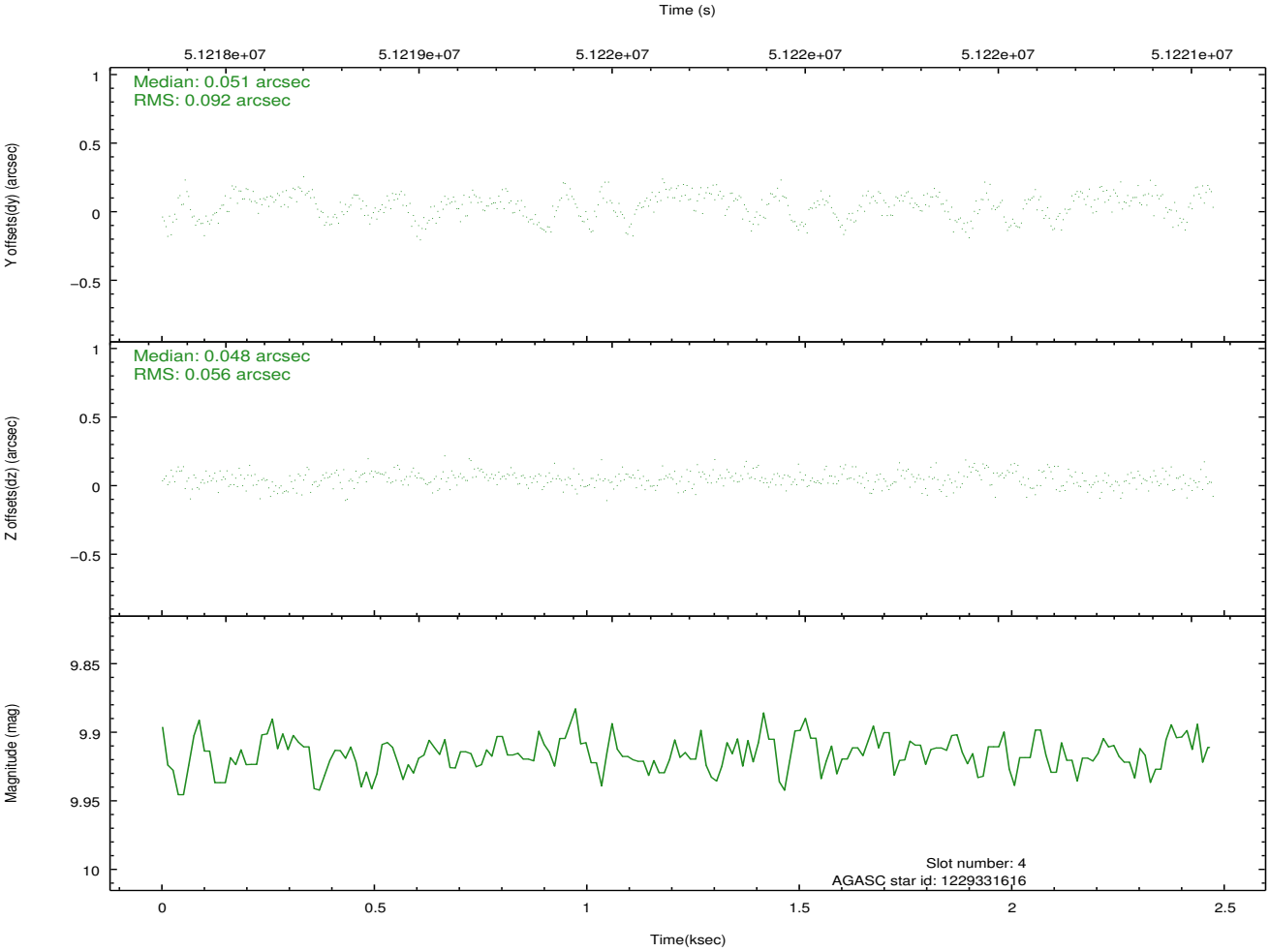




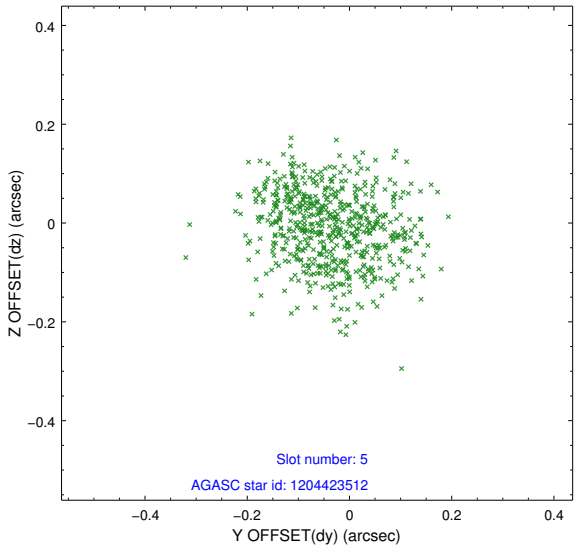
2.4.2 Slot 4

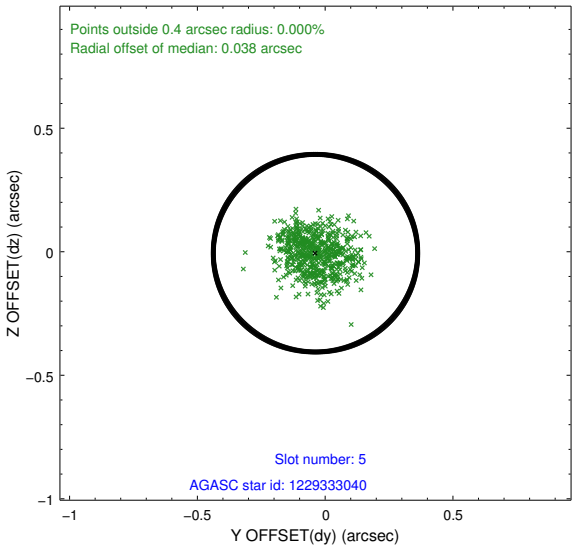

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 1204423512

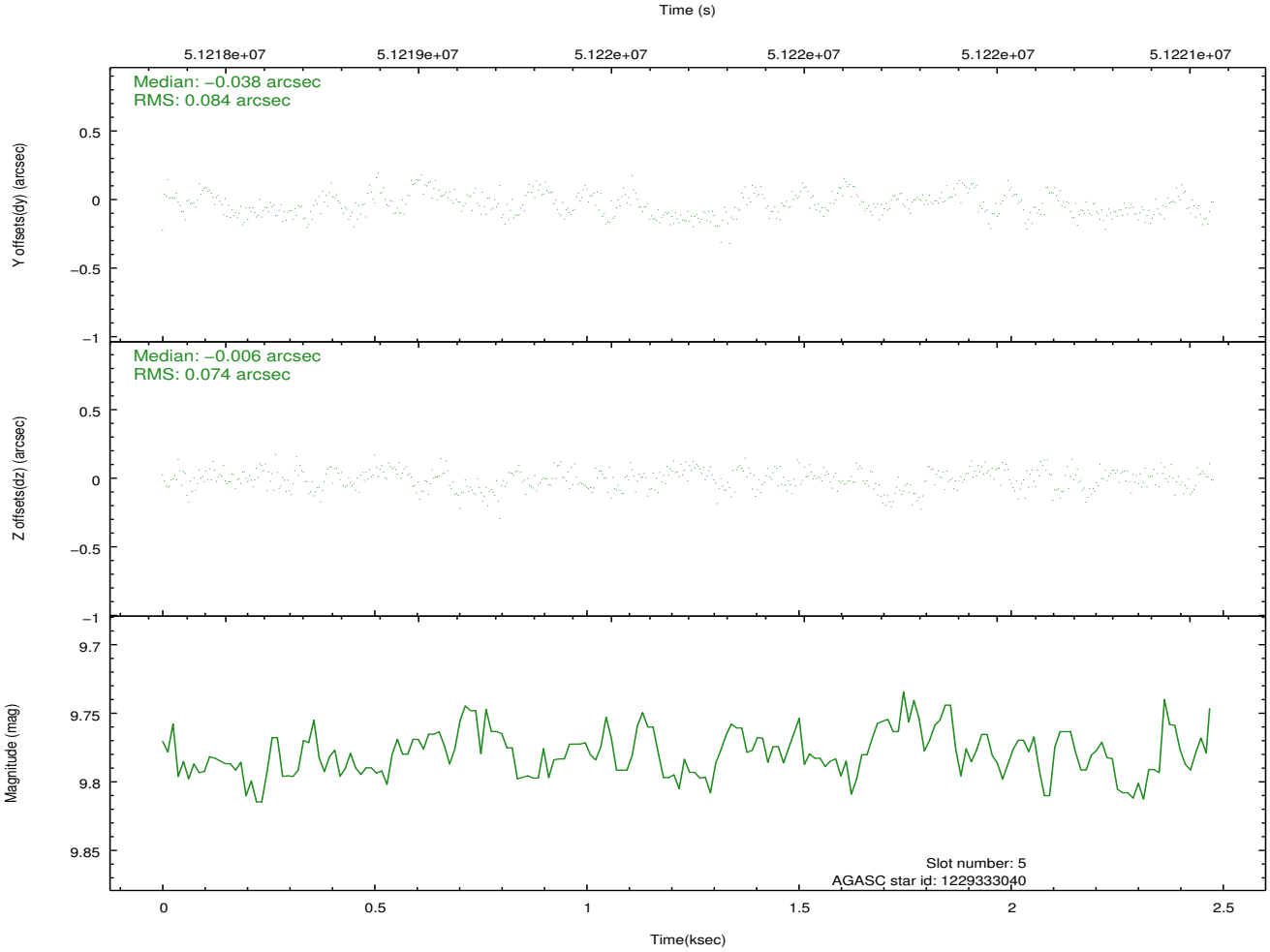

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.070 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 1229331616


Time (s)
5.1218e+07
5.1219e+07
5.122e+07
5.122e+07
5.122e+07
5.1221e+07
Median: 0.051 arcsec
RMS: 0.092 arcsec
Y offsets(dy) (arcsec)
Median: 0.048 arcsec
RMS: 0.056 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 1229331616
Time(ksec)

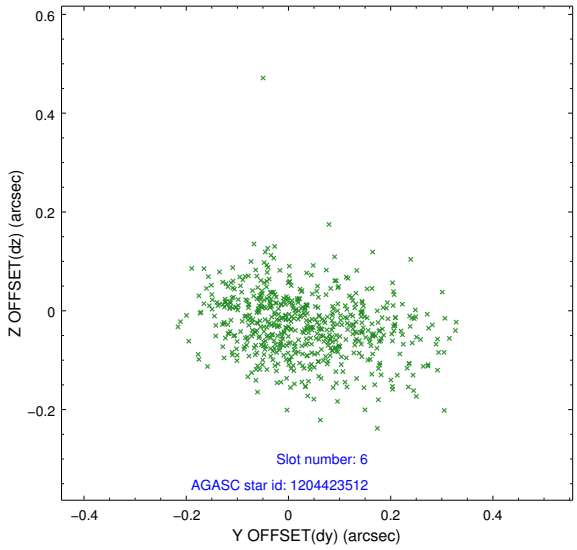
2.4.3 Slot 5

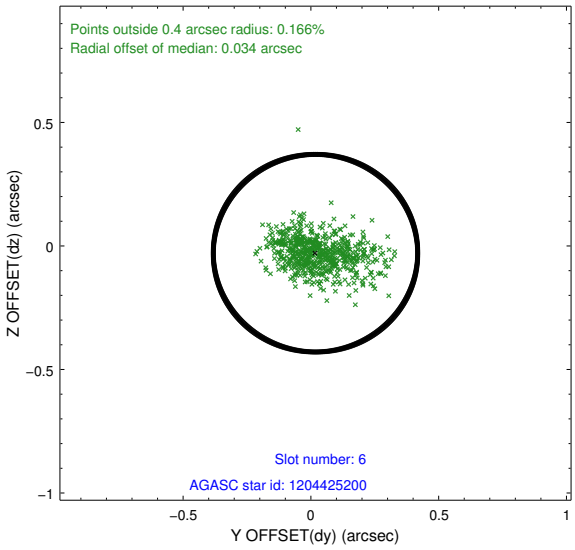

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 1204423512

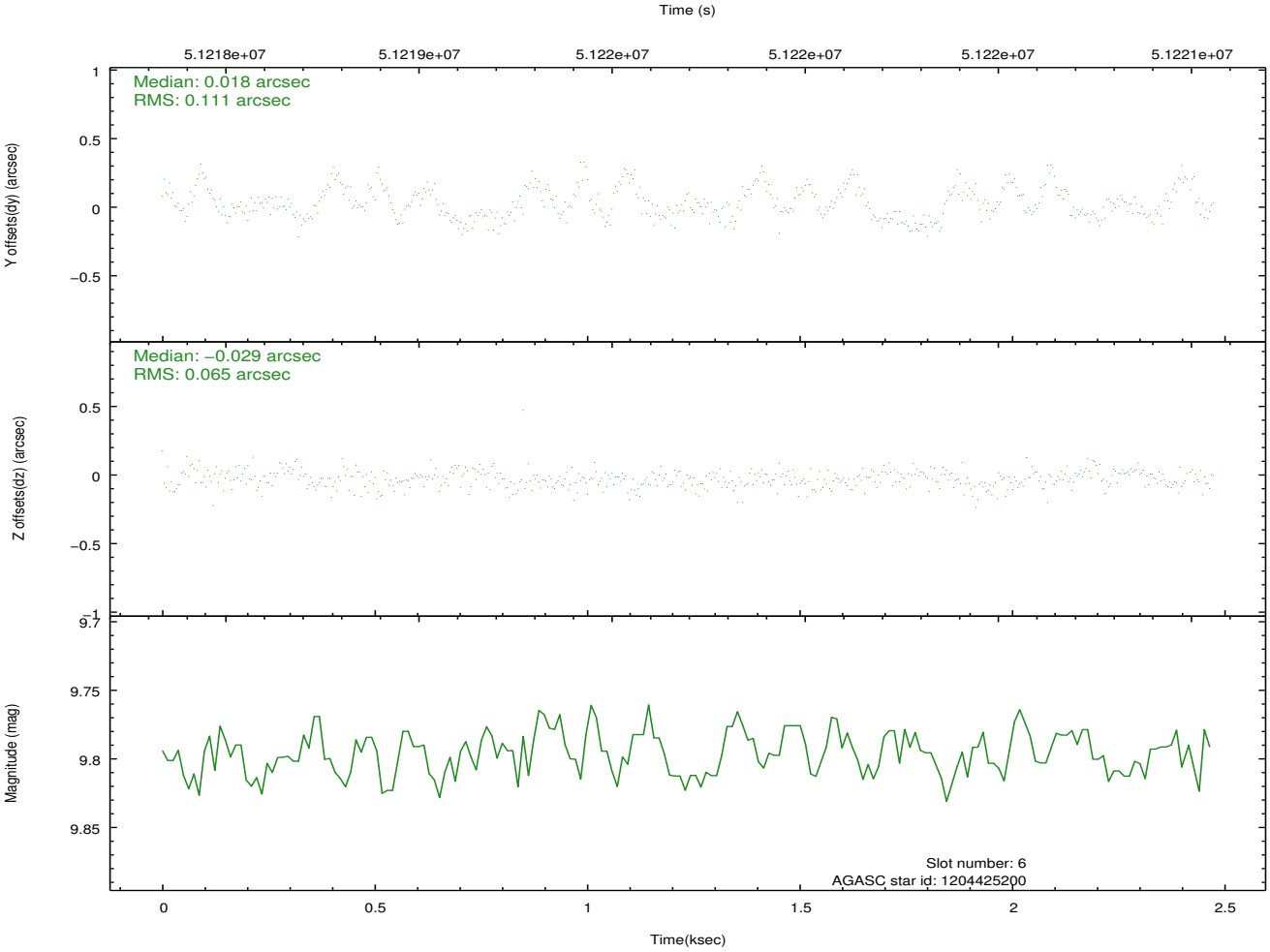

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.038 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 1229333040


Time (s)
Median: −0.038 arcsec
RMS: 0.084 arcsec
Y offsets(dy) (arcsec)
Median: −0.006 arcsec
RMS: 0.074 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 1229333040
Time(ksec)

2.4.4 Slot 6

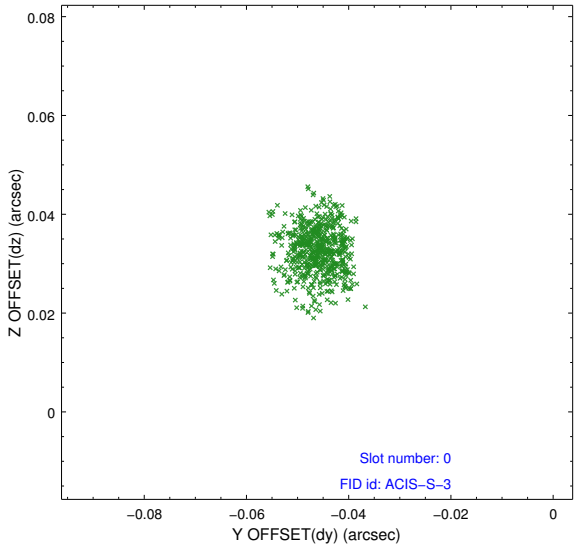

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 1204423512

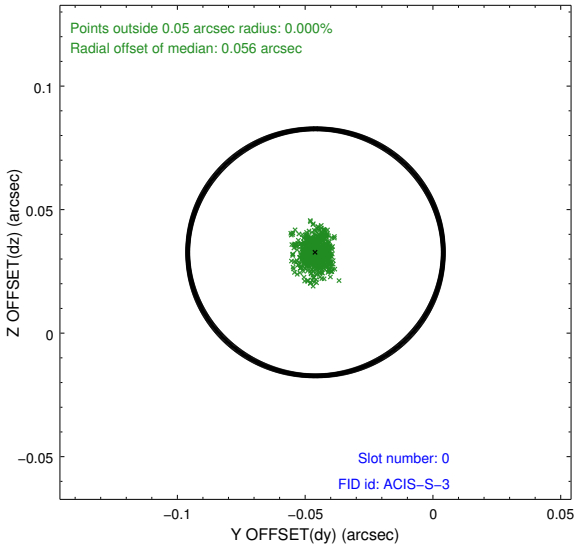

Points outside 0.4 arcsec radius: 0.166%
Radial offset of median: 0.034 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 1204425200

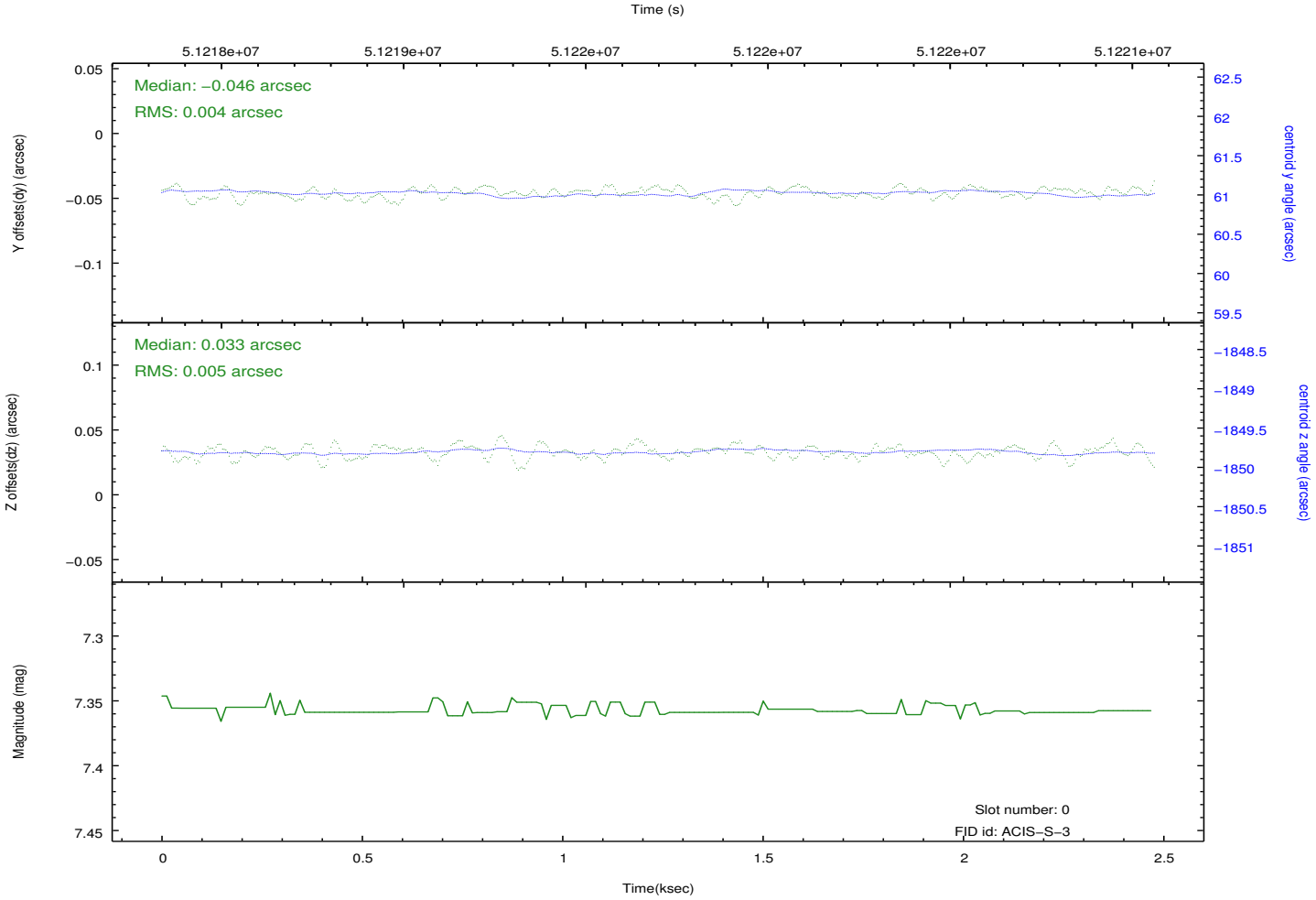

Time (s)
Median: 0.018 arcsec
RMS: 0.111 arcsec
Y offsets(dy) (arcsec)
Median: −0.029 arcsec
RMS: 0.065 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 1204425200
Time(ksec)

2.5 FID Slots

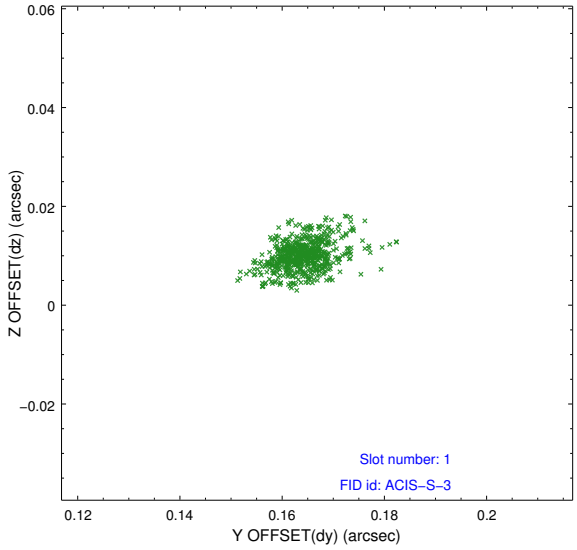
2.5.1 Slot 0

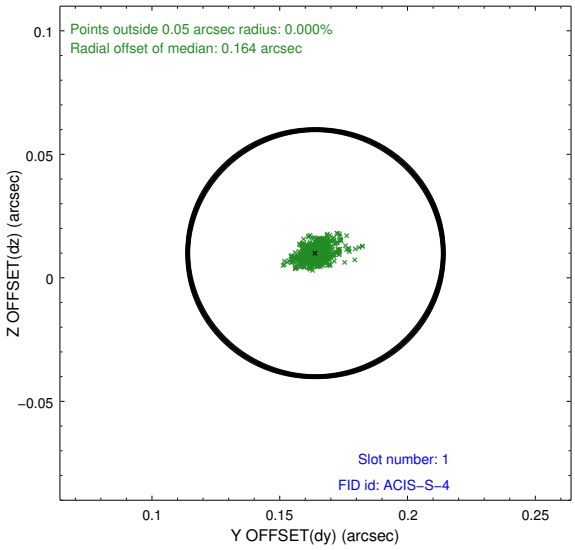


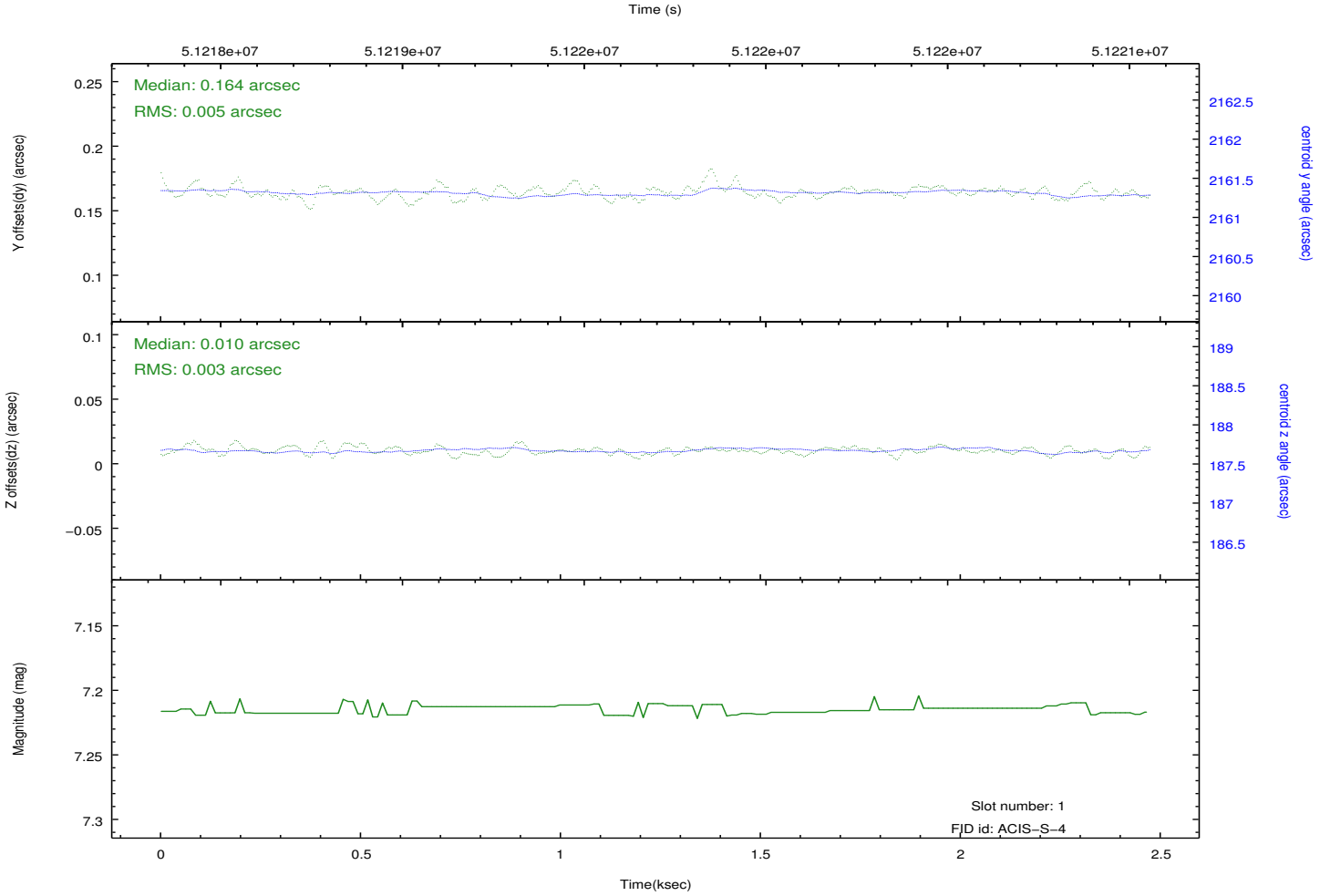




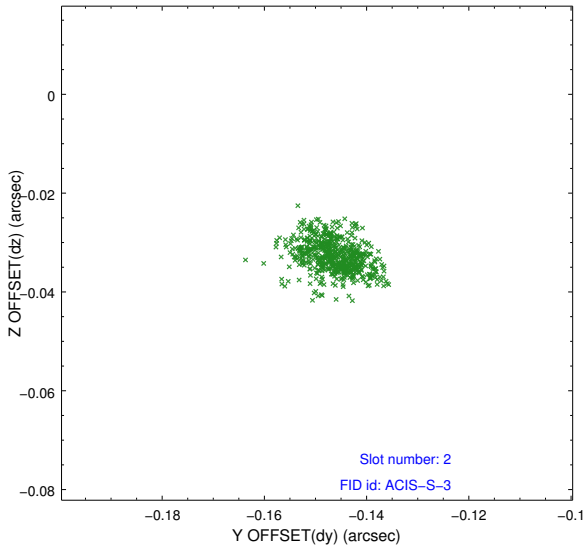
2.5.2 Slot 1

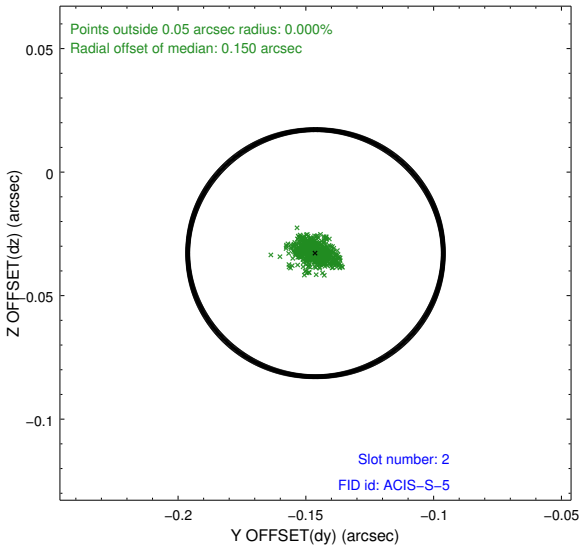

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−3

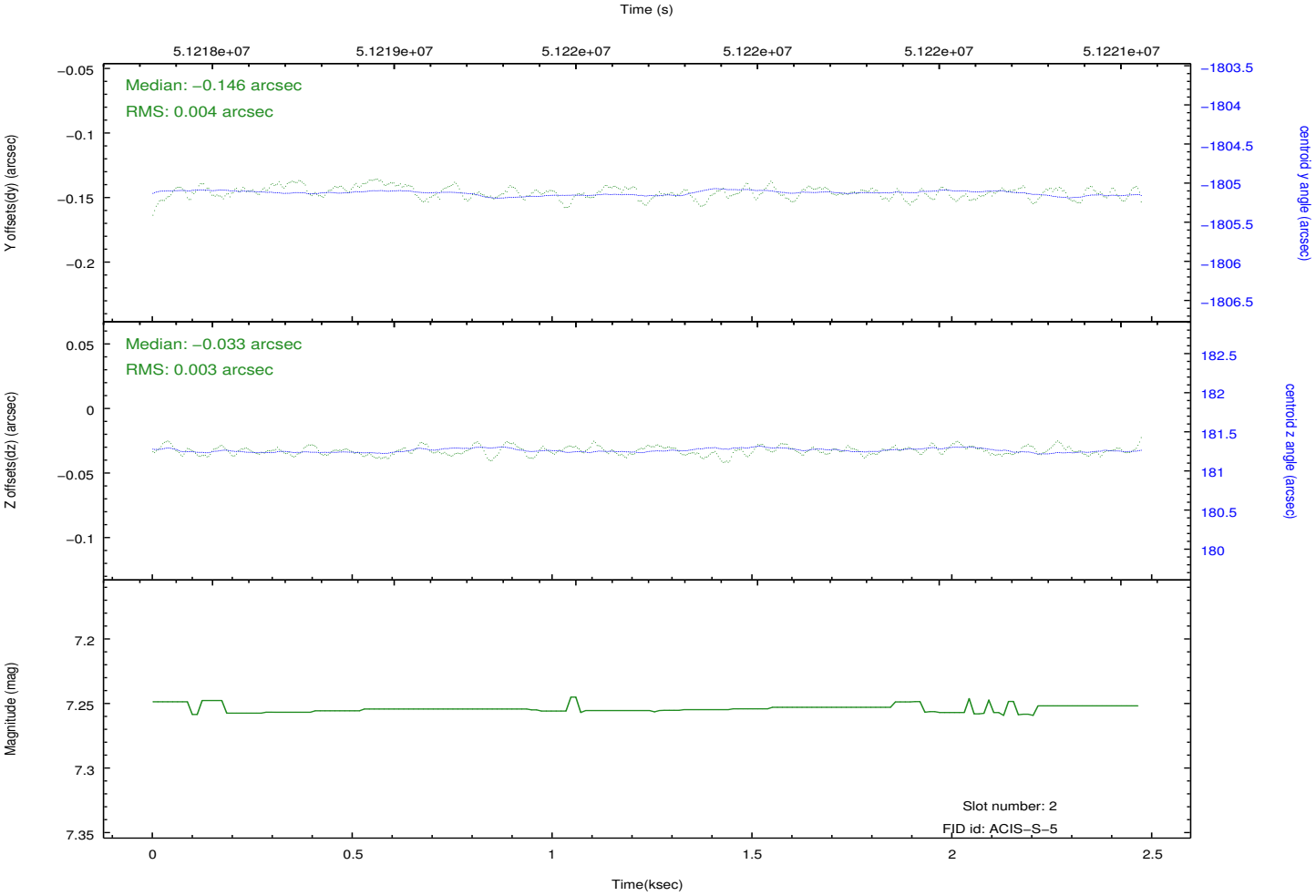

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.164 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−4


Time (s)
Median: 0.164 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.010 arcsec
RMS: 0.003 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 1
FID id: ACIS−S−4
Time(ksec)

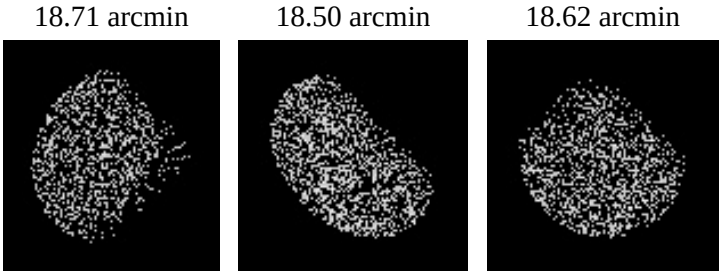
2.5.3 Slot 2


Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−S−3


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.150 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−S−5


Time (s)
Median: −0.146 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
Median: −0.033 arcsec
RMS: 0.003 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 Point Sources



A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2010.05.19
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	1.76

A.2 Comments

```
ACIS-S Crude Optical Axis Determination Yoff = -1.4, Zoff =-1.4. Target
off-axis.
===
Guide star in slot 7 was not acquired.
===
High radiation environment contributes to enhanced count rate.
===
The focal plane temperature is approximately -100 C during this
observation. This reprocessing of the data applies no CTI correction
because none is available for this temperature at present.

The ACIS CTI correction has not been calibrated at this temperature,
because it was early in the mission, and ACIS had not yet been lowered
to the standard -119.7 C. Both front and back illuminated chips are
affected. However a T_GAIN correction has been applied to the BI chips
(ACIS-5 and ACIS-7) data included here.

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.
```