V&V Reference Report
L2 ASCDS Version : 8.3.2.1

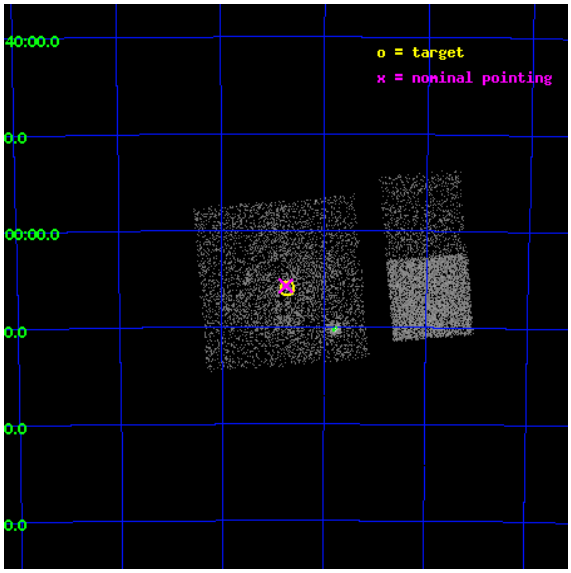
Observation 22 - L2 Version 4
Chandra X-Ray Center

L2 Processing Date : Oct 14 2010

Contents

1 Front

seq_num	200020	Sequence number
obs_id	22	Observation id
title	ACIS OBSERVATION OF 30 DORADUS	Proposal title
observer	Prof. Gordon Garmire	Principal investigator
object	30 DORADUS	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	84.678542	Observer's specified target RA
dec_targ	-69.100833	Observer's specified target Dec
ra_nom	84.686380462359	Nominal RA
dec_nom	-69.095801271082	Nominal Dec
roll_nom	85.216044604575	Nominal Roll
revision	4	Processing version of data
ontime	1059.2000009865	Sum of GTIs [s]
livetime	1045.7877728003	Livetime [s]
ontime0	1059.2000009865	Sum of GTIs [s]
ontime1	1059.2000009865	Sum of GTIs [s]
ontime2	1059.2000009865	Sum of GTIs [s]
ontime3	1059.2000009865	Sum of GTIs [s]
ontime6	1059.2000009865	Sum of GTIs [s]
ontime7	1059.2000009865	Sum of GTIs [s]
l2events	14553	Number of level 2 events

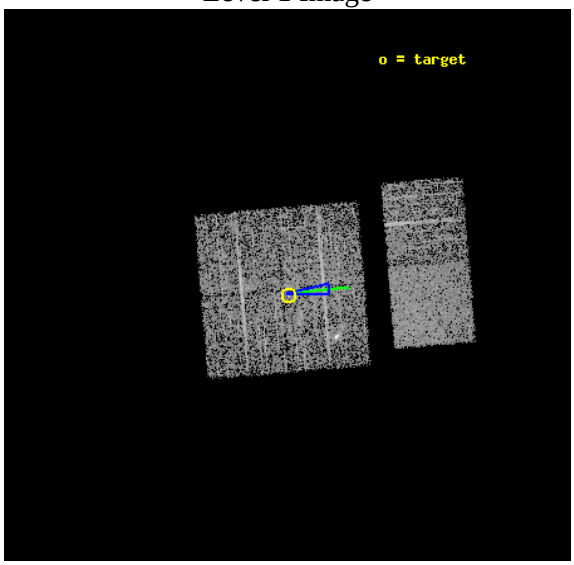


2 OBI

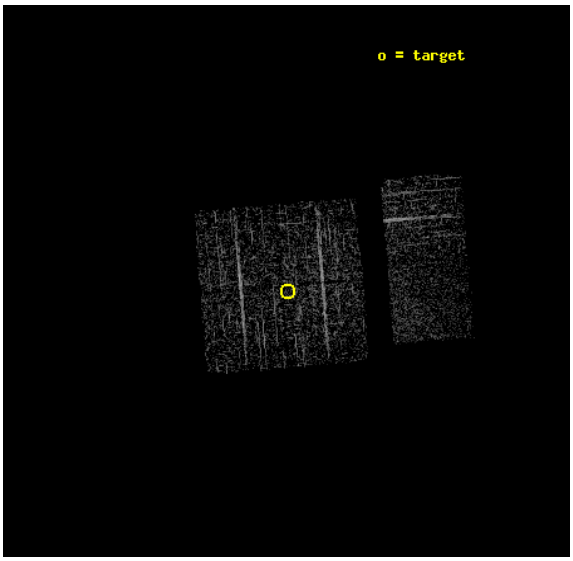
2.1 OBI

2.1.1 Images

Level 1 Image

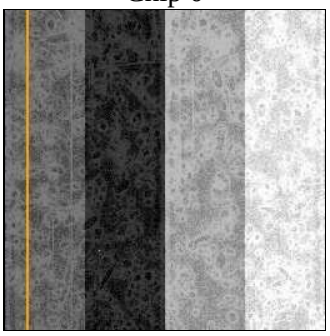


Level 1 Bad Events

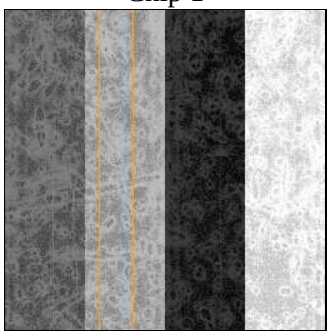


2.1.2 Bias

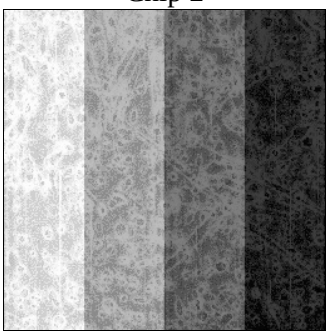
Chip 0



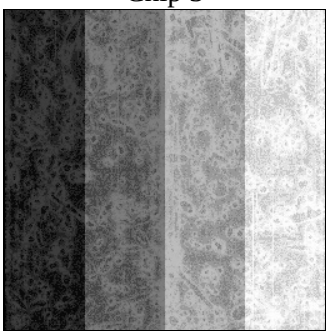
Chip 1



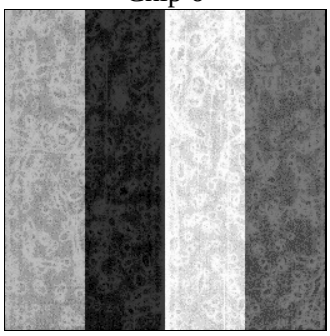
Chip 2



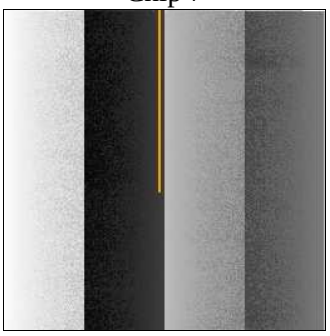
Chip 3



Chip 6



Chip 7



2.1.3 Parameters

obi_num	0	Obi number
ascdsver	8.3.2.1	ASCDS version number
caldbver	4.3.1	
date	2010-09-28T07:54:43	Date and time of file creation
revision	4	Processing version of data

sched_exp_time	2160.000000	Scheduled observation exposure time
ontime	1059.2000009865	Sum of GTIs [s]
ontime0	1059.2000009865	Sum of GTIs [s]
ontime1	1059.2000009865	Sum of GTIs [s]
ontime2	1059.2000009865	Sum of GTIs [s]
ontime3	1059.2000009865	Sum of GTIs [s]
ontime6	1059.2000009865	Sum of GTIs [s]
ontime7	1059.2000009865	Sum of GTIs [s]
l1events	66987	Number of level 1 events

2.1.4 Events

	ccd 0	**ccd 1**	**ccd 2**	**ccd 3**	**ccd 6**	**ccd 7**
level 1 events	10196	10119	11265	11669	10204	13534
rejected events	8793	8587	9695	8942	9072	6674
rejected %	86%	84%	86%	76%	88%	49%

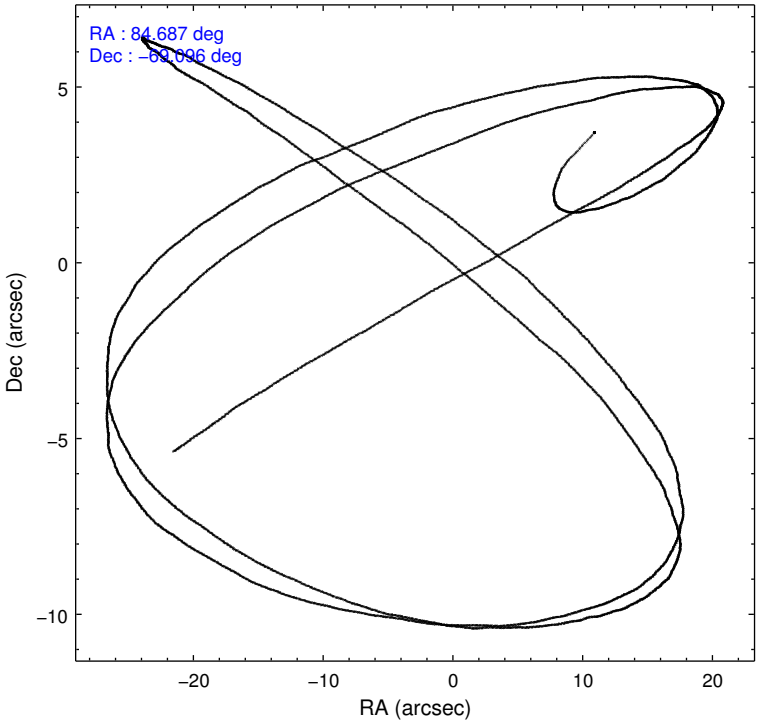
	ccd 0	**ccd 1**	**ccd 2**	**ccd 3**	**ccd 6**	**ccd 7**
grade 0 events	605	645	715	1571	302	695
	5%	6%	6%	13%	2%	5%
grade 1 events	3	5	3	6	2	7
	0%	0%	0%	0%	0%	0%
grade 2 events	449	503	490	696	470	1505
	4%	4%	4%	5%	4%	11%
grade 3 events	73	83	74	106	60	489
	0%	0%	0%	0%	0%	3%
grade 4 events	72	72	71	108	68	441
	0%	0%	0%	0%	0%	3%
grade 5 events	200	197	157	199	196	680
	1%	1%	1%	1%	1%	5%
grade 6 events	210	235	232	263	239	3772
	2%	2%	2%	2%	2%	27%
grade 7 events	8584	8379	9523	8720	8867	5945
	84%	82%	84%	74%	86%	43%

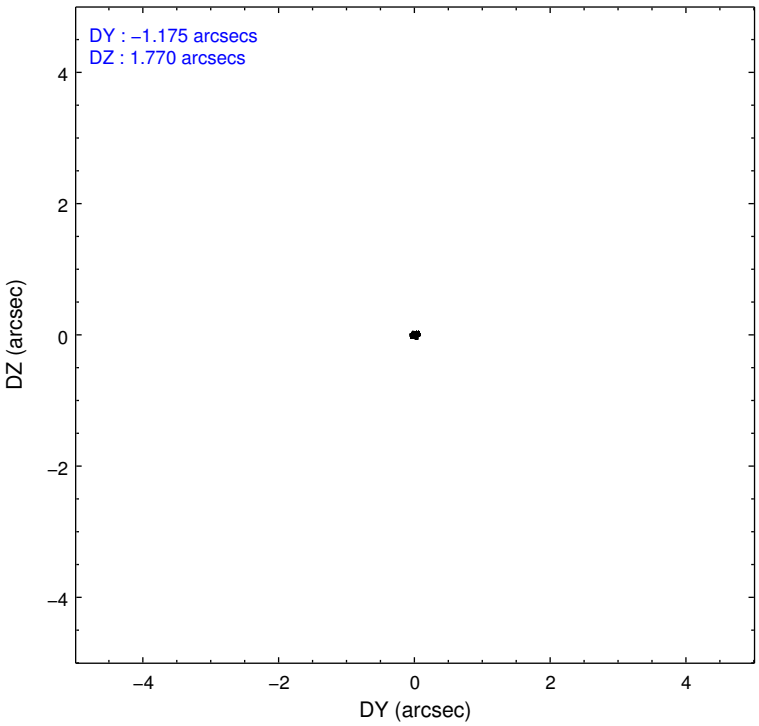
2.2 Compared Parameters

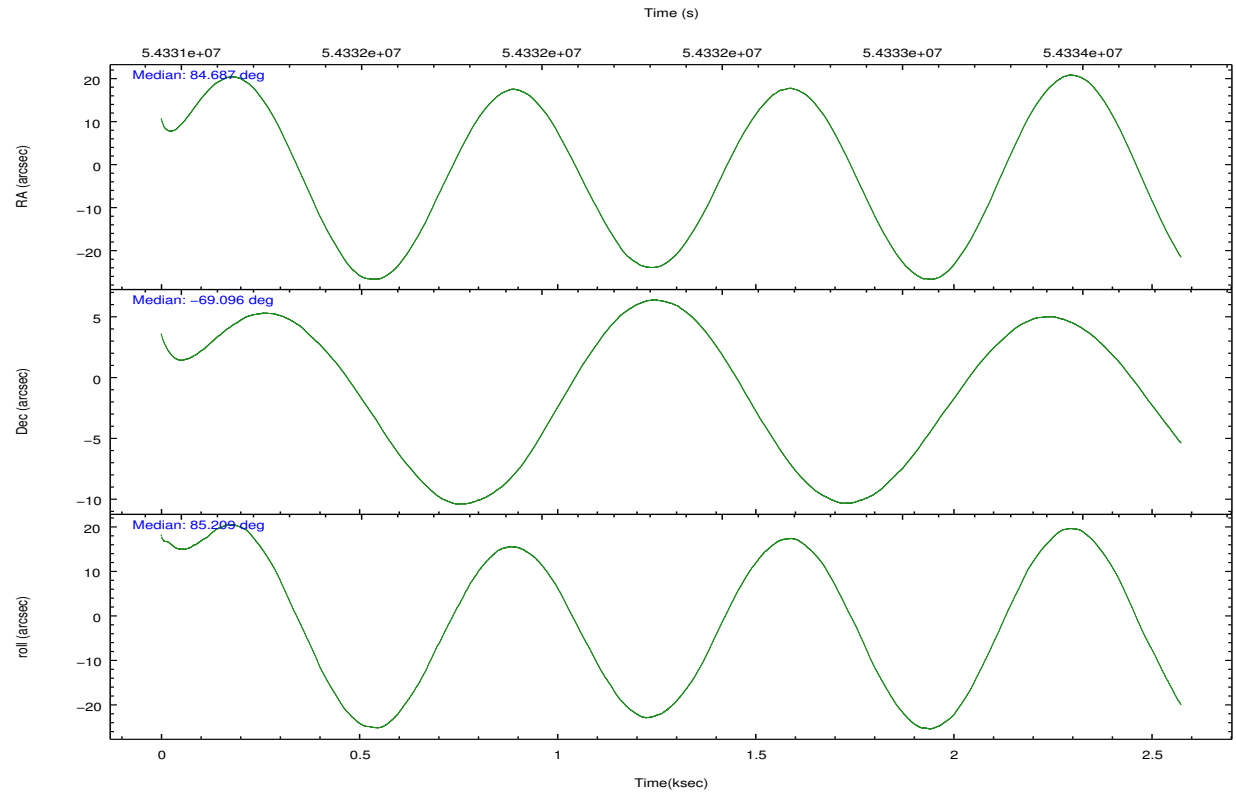
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-012367	ACIS-012367
Grating	NONE	NONE
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
Pointing RA	84.717613	84.6863804623588
Pointing Dec	-69.121451	-69.09580127108234
Pointing Roll	85.036505	85.21604460457536
Roll angle	85.000000	85.000000
Roll tolerance	7.000000	7.000000
Roll constraint allows 180D rotation	N	N
Window start time	53481664.184000	53481664.184000
Window stop time	58838464.184000	58838464.184000
SIM focus pos (mm)	-0.782348	-0.7809083437167272
SIM defocus (mm)	0	0.001439871863259334
SIM translation stage pos (mm)	-233.592463	-233.5874344608287
SIM translation stage offset (mm)	0	-0.005018542100998502
Observation start time	54331555.184000	54330480.864409
Observation start date	1999-09-21T20:04:51	1999-09-21T19:48:00
Observation end time	54333715.184000	54333647.089523
Observation end date	1999-09-21T20:40:51	1999-09-21T20:40:47
Read mode	TIMED	TIMED

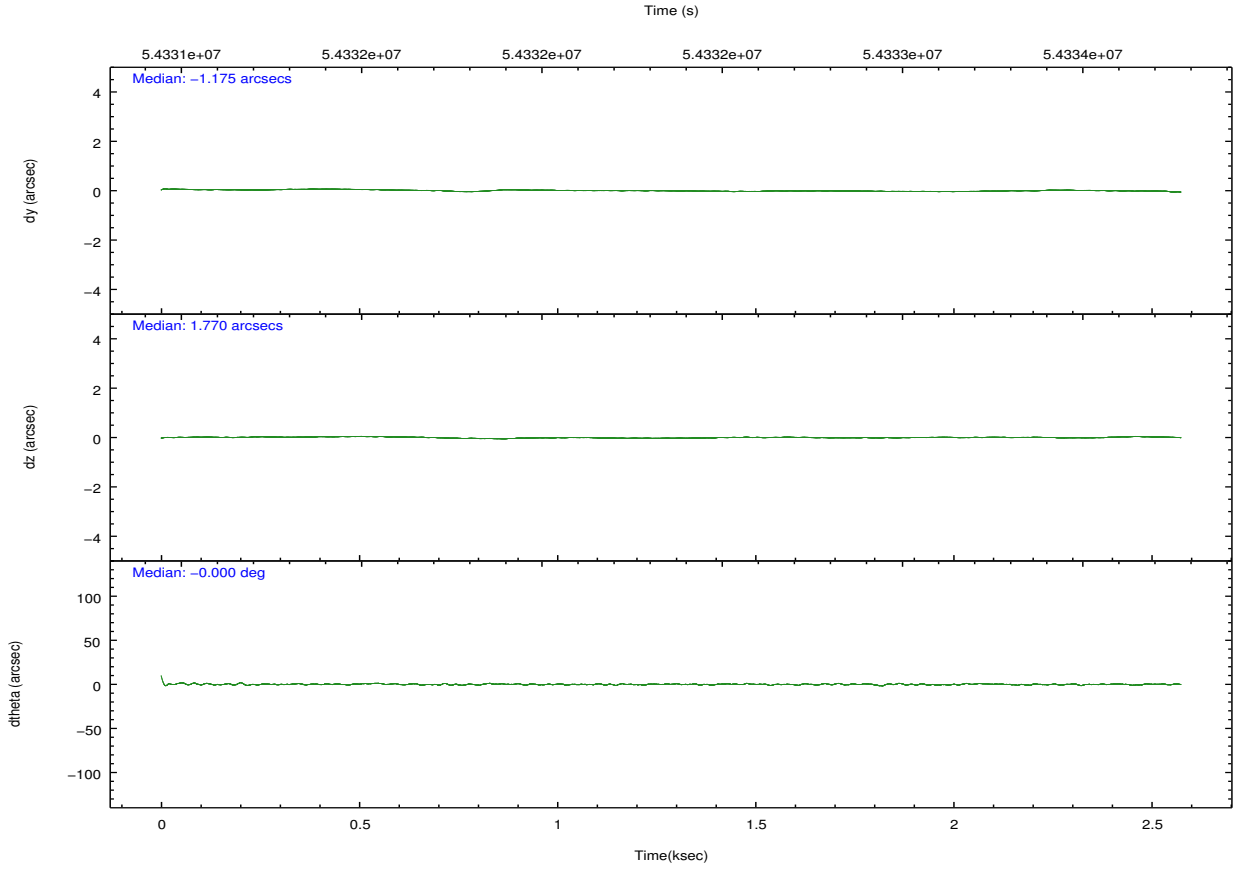
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
Primary exposure time	0.000000	3.2

2.3 Aspect


RA : 84.687 deg
Dec : −69.096 deg
5
0
−5
−10
Dec (arcsec)
−20
−10
0
10
20
RA (arcsec)


DY : −1.175 arcsecs
DZ : 1.770 arcsecs
4
2
0
−2
−4
DZ (arcsec)
−4
−2
0
2
4
DY (arcsec)


Time (s)
5.4331e+07
5.4332e+07
5.4332e+07
5.4332e+07
5.4333e+07
5.4334e+07
Median: 84.687 deg
RA (arcsec)
Median: −69.096 deg
Dec (arcsec)
Median: 85.209 deg
roll (arcsec)
Time(ksec)

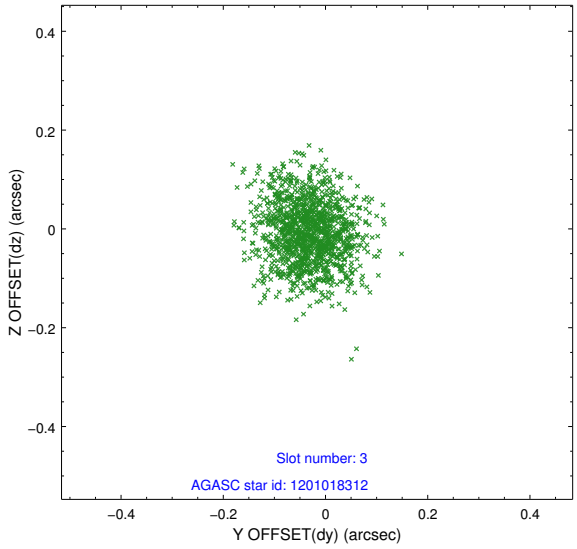

Time (s)
5.4331e+07
5.4332e+07
5.4332e+07
5.4332e+07
5.4333e+07
5.4334e+07
Median: −1.175 arcsecs
dy (arcsec)
Median: 1.770 arcsecs
dz (arcsec)
Median: −0.000 deg
dtheta (arcsec)
Time(ksec)

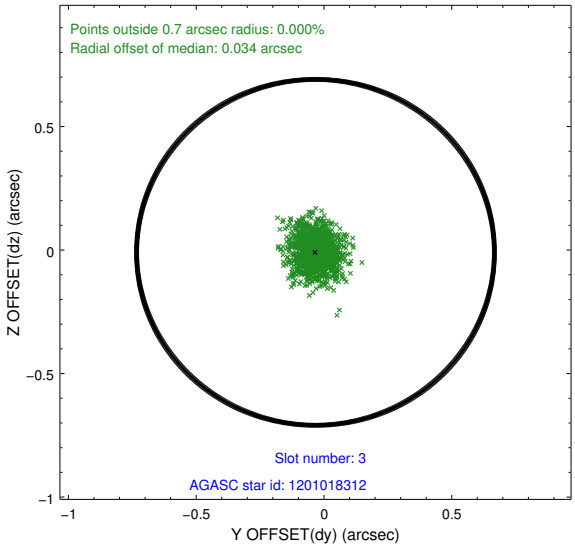
Slot Statistics

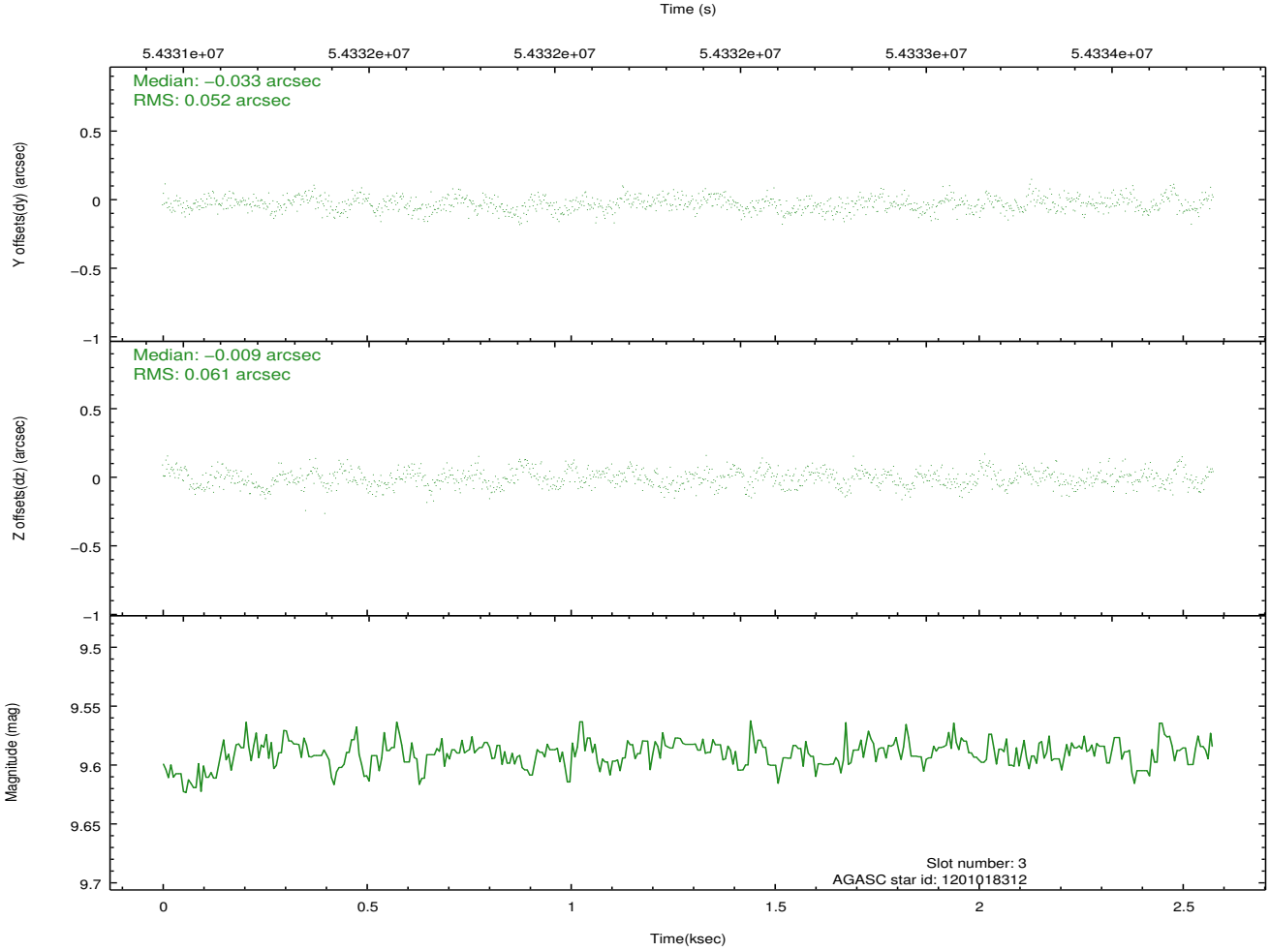
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-3	7.44	1257	0.024	0.093	0.007	0.012	0.000000	0.000000	58.48	-958.16
1	FID	ACIS-I-4	7.22	1257	0.086	-0.040	0.006	0.010	0.000000	0.000000	2161.21	1073.98
2	FID	ACIS-I-5	7.23	1257	-0.209	0.016	0.006	0.010	0.000000	0.000000	-1805.57	1073.47
3	GUIDE	1201018312	9.59	1256	-0.033	-0.009	0.085	0.138	86.298231	-69.115627	170.33	-2020.31
4	GUIDE	1200885760	9.46	1257	-0.190	-0.024	0.075	0.126	83.723637	-68.777667	1110.01	1395.87
5	GUIDE	1201017424	10.20	1255	0.040	-0.028	0.096	0.161	85.854985	-69.248506	-342.72	-1484.18
6	GUIDE	1201020088	10.53	1255	0.019	-0.031	0.149	0.231	86.319248	-68.997756	595.33	-2022.72
7	GUIDE	1200883712	10.98	1253	0.167	0.087	0.175	0.288	82.967832	-68.544140	1838.63	2471.76

2.4 Star Slots

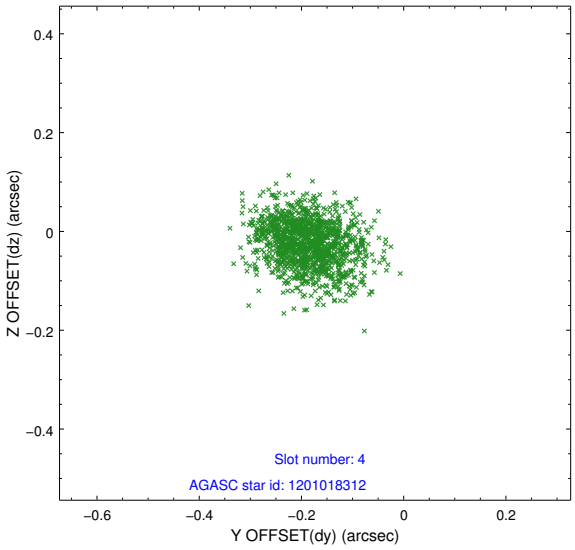
2.4.1 Slot 3

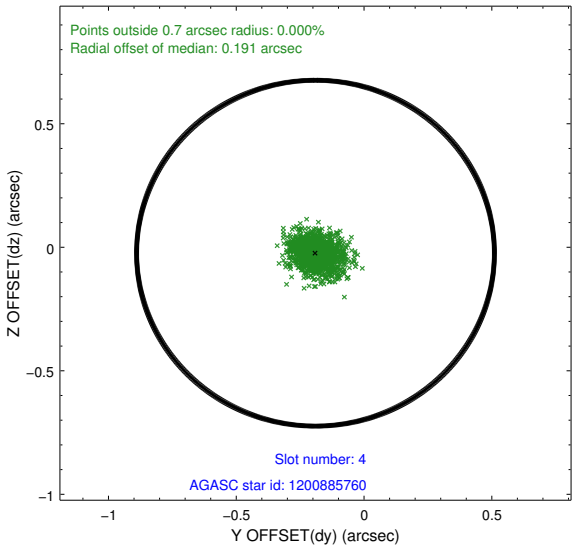


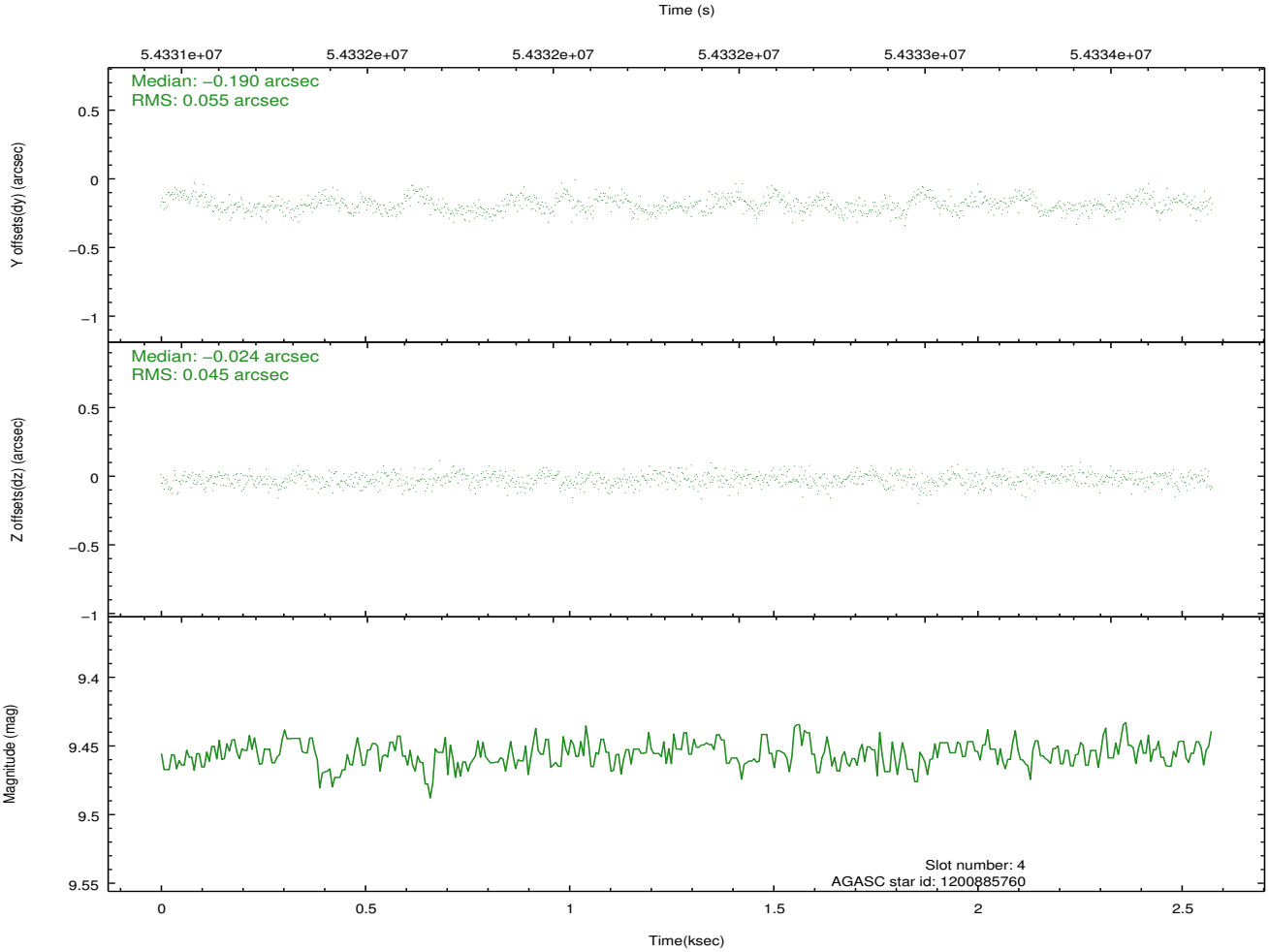




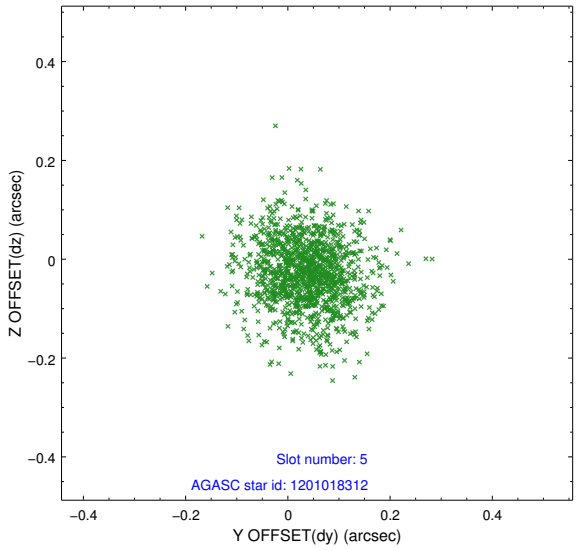
2.4.2 Slot 4

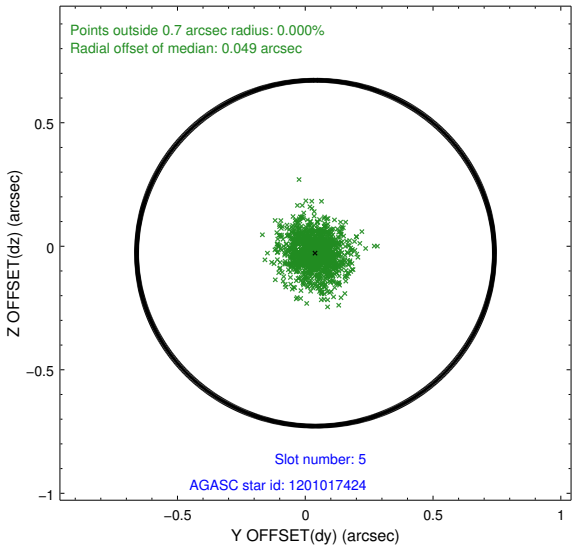

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 1201018312

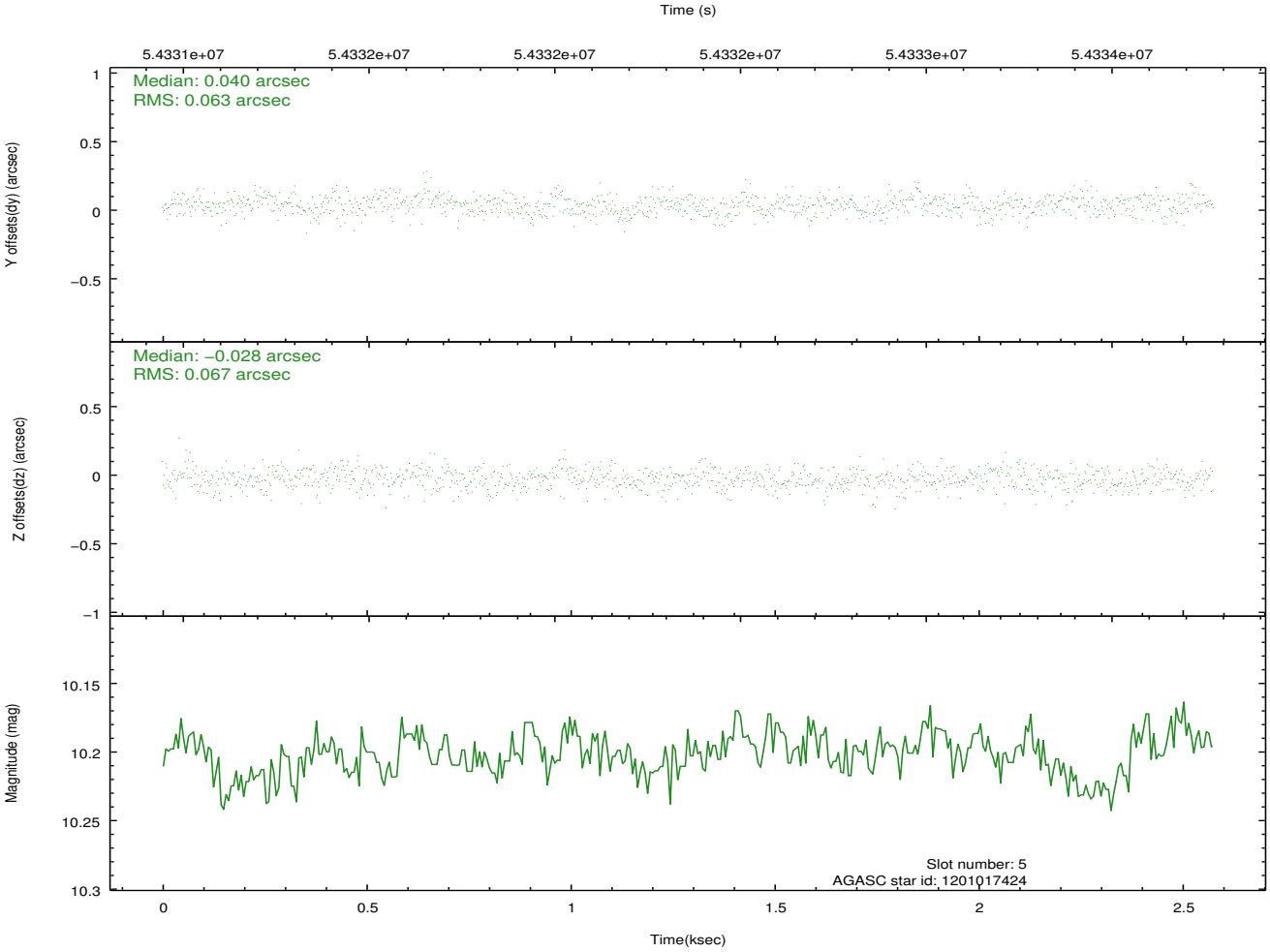

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.191 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 1200885760


Time (s)
Median: −0.190 arcsec
RMS: 0.055 arcsec
Y offsets(dy) (arcsec)
Median: −0.024 arcsec
RMS: 0.045 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 1200885760
Time(ksec)

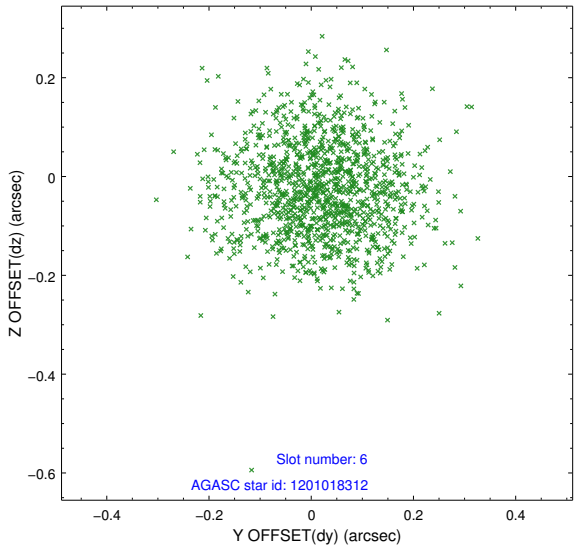
2.4.3 Slot 5

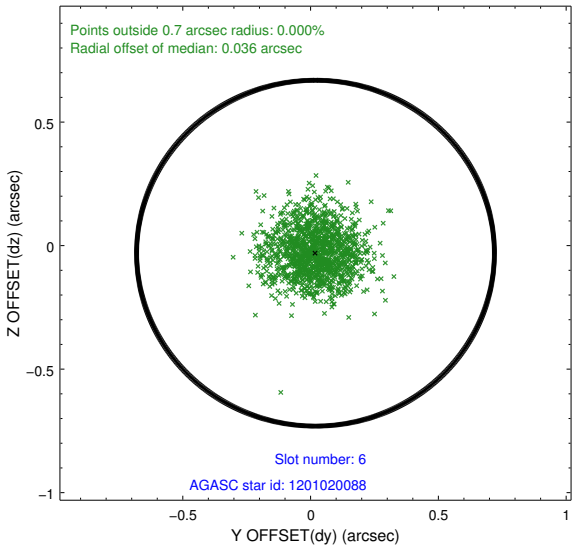

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 1201018312

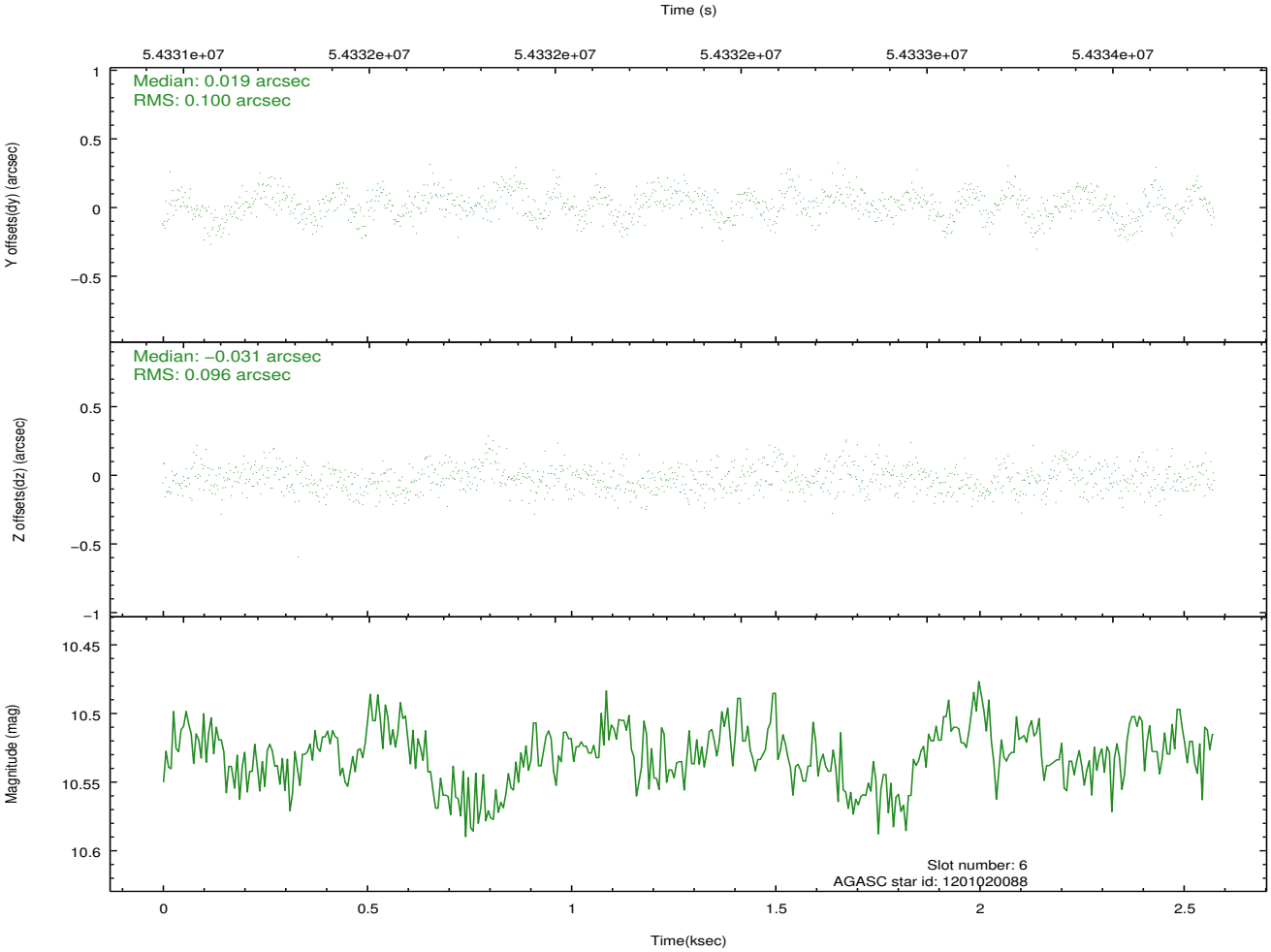

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.049 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 1201017424


Time (s)
Median: 0.040 arcsec
RMS: 0.063 arcsec
Y offsets(dy) (arcsec)
Median: −0.028 arcsec
RMS: 0.067 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 1201017424
Time(ksec)

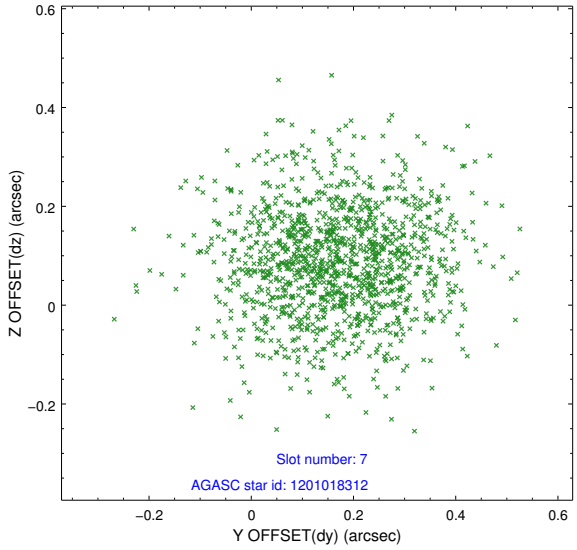
2.4.4 Slot 6

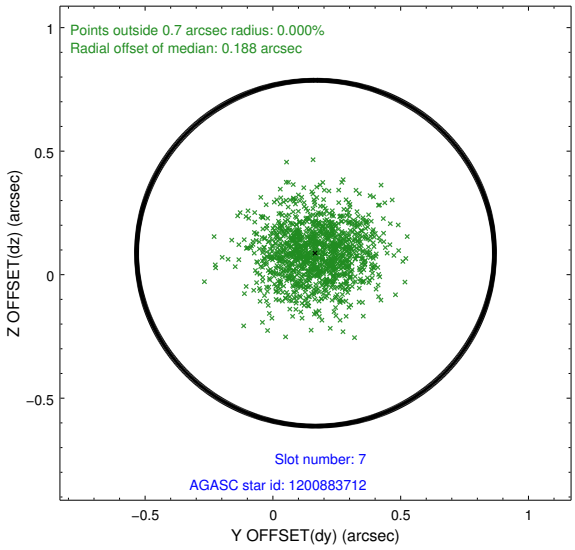

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 1201018312

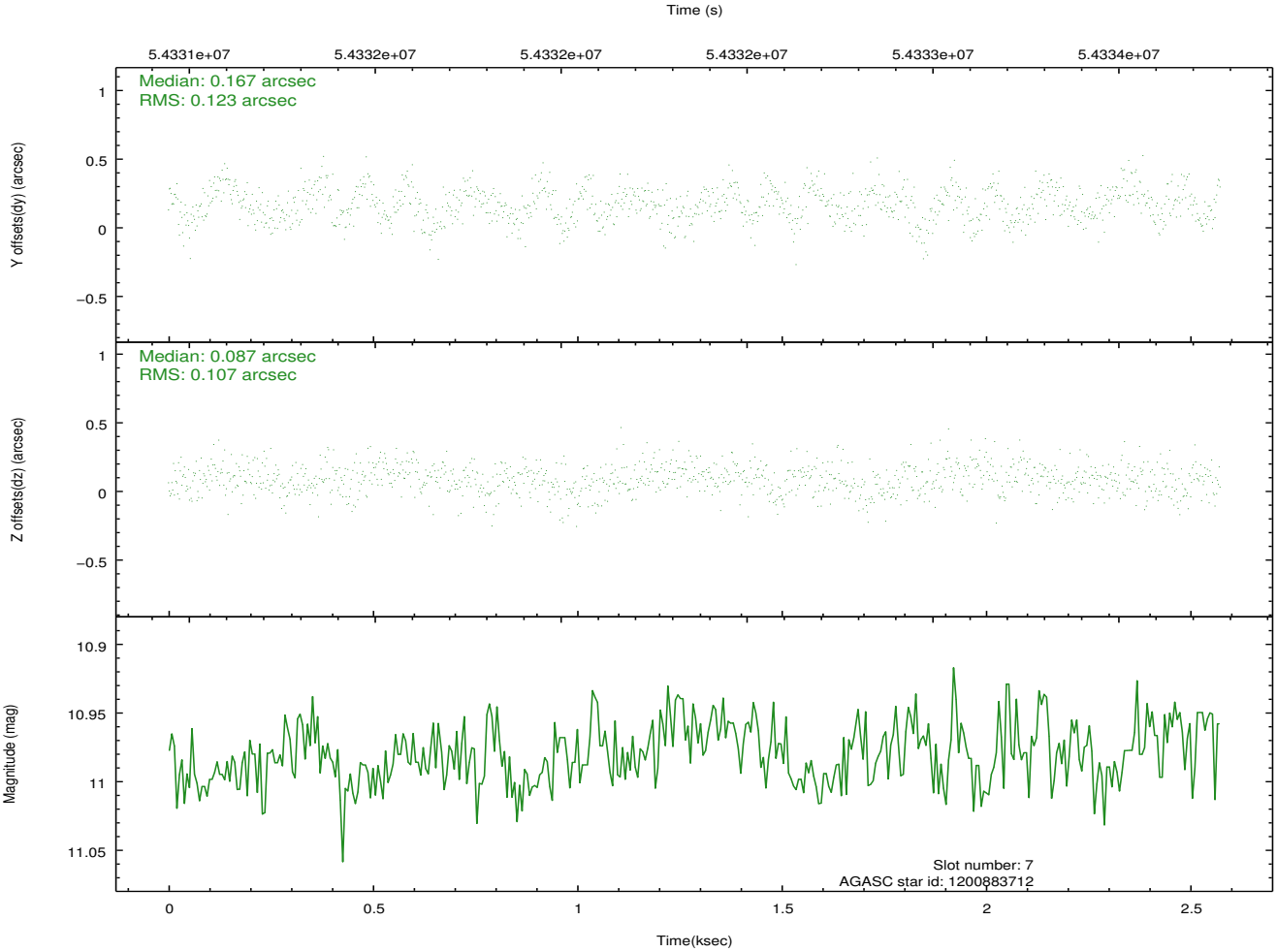

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.036 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 1201020088


Time (s)
Median: 0.019 arcsec
RMS: 0.100 arcsec
Y offsets(dy) (arcsec)
Median: −0.031 arcsec
RMS: 0.096 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 1201020088
Time(ksec)

2.4.5 Slot 7

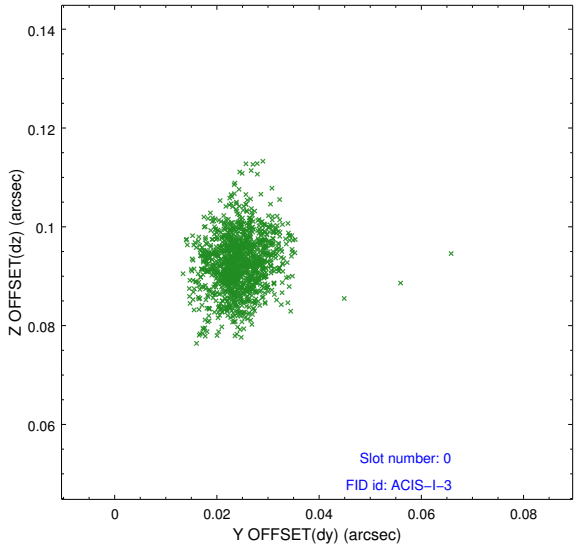

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 1201018312

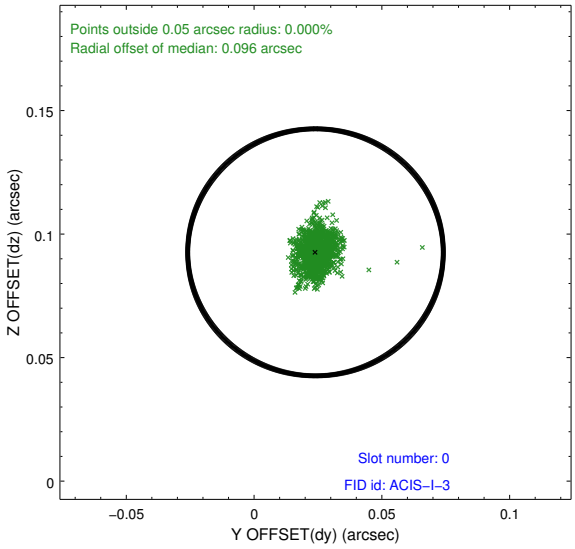

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.188 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 1200883712

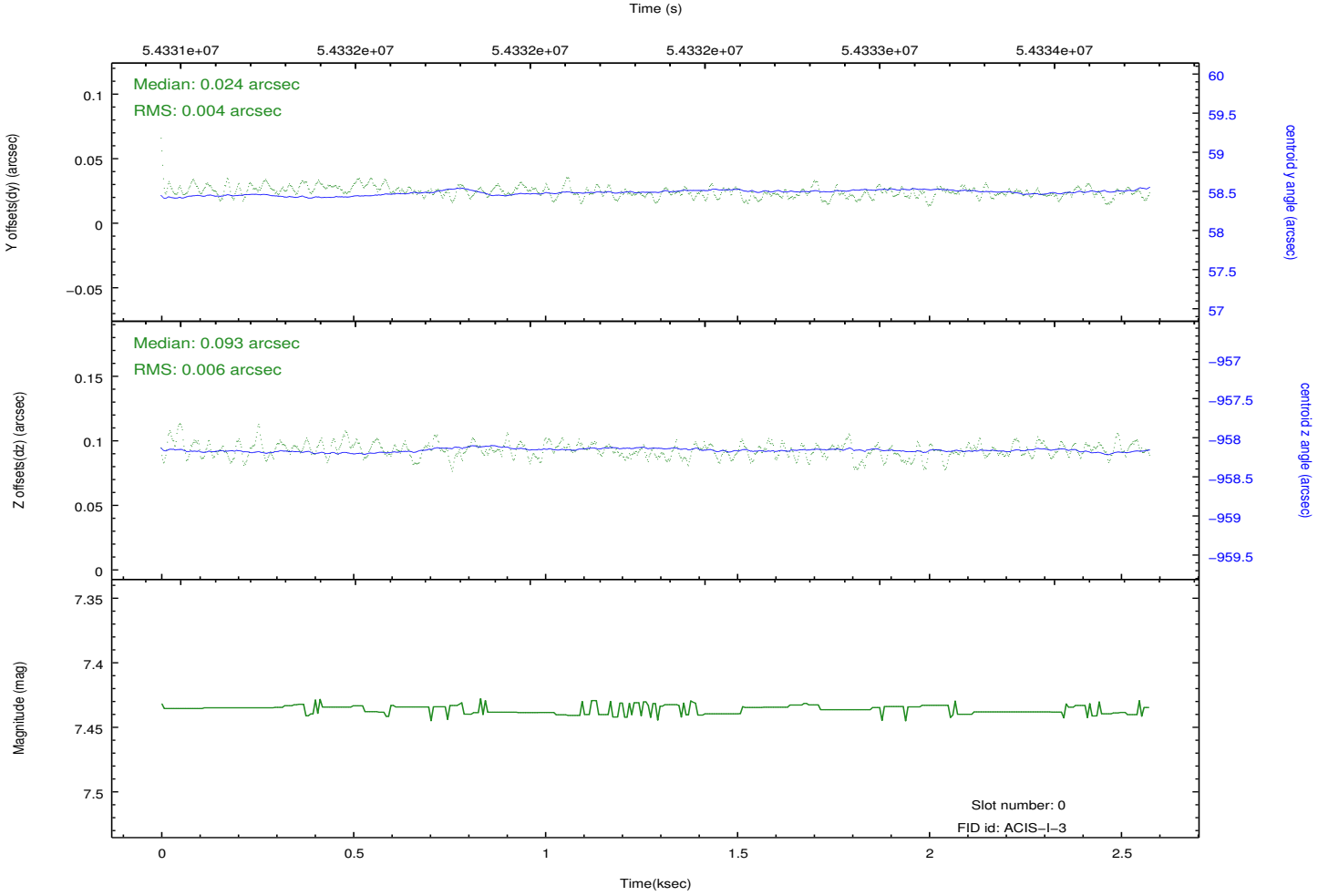

Time (s)
Median: 0.167 arcsec
RMS: 0.123 arcsec
Y offsets(dy) (arcsec)
Median: 0.087 arcsec
RMS: 0.107 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 1200883712
Time(ksec)

2.5 FID Slots

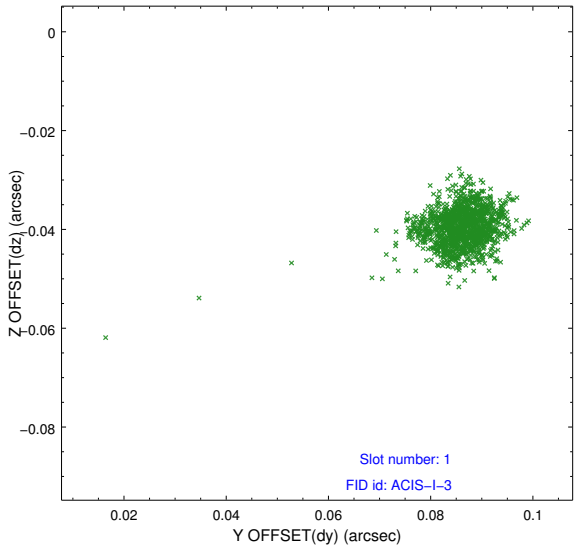
2.5.1 Slot 0

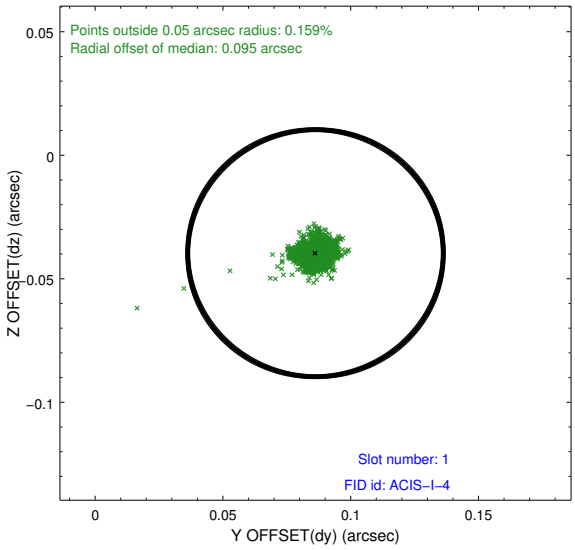


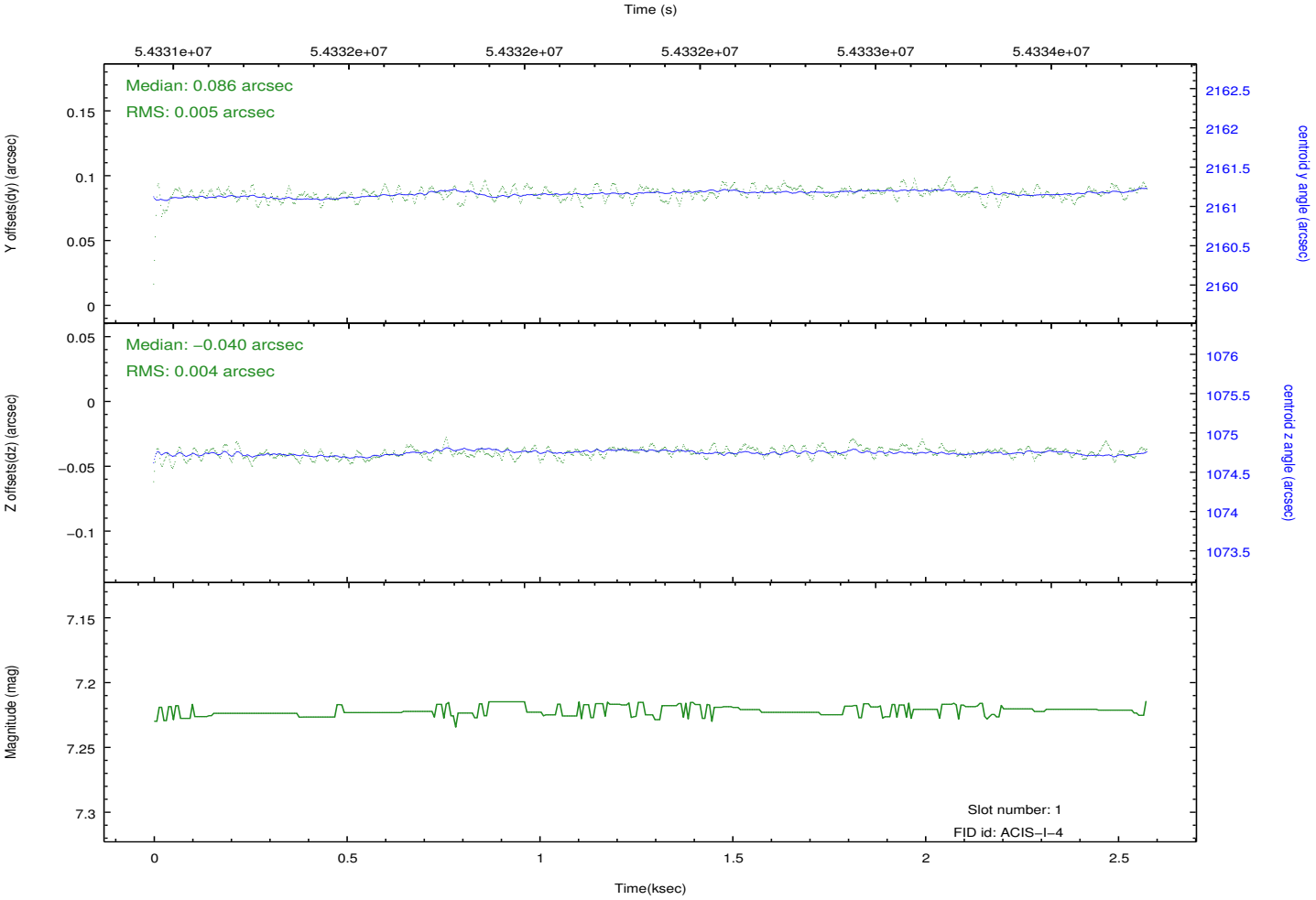




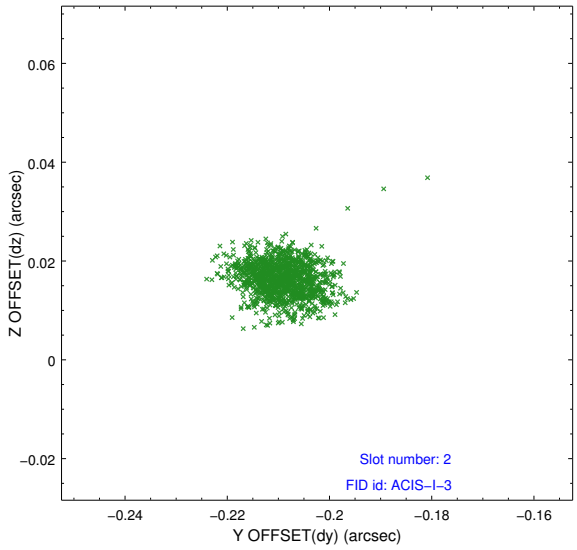
2.5.2 Slot 1

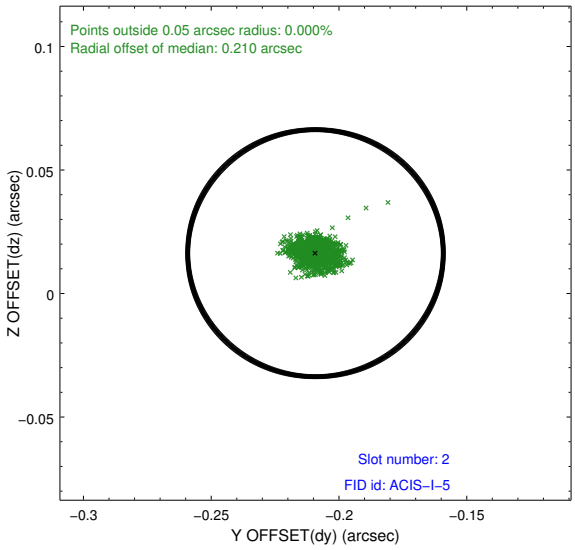

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−I−3

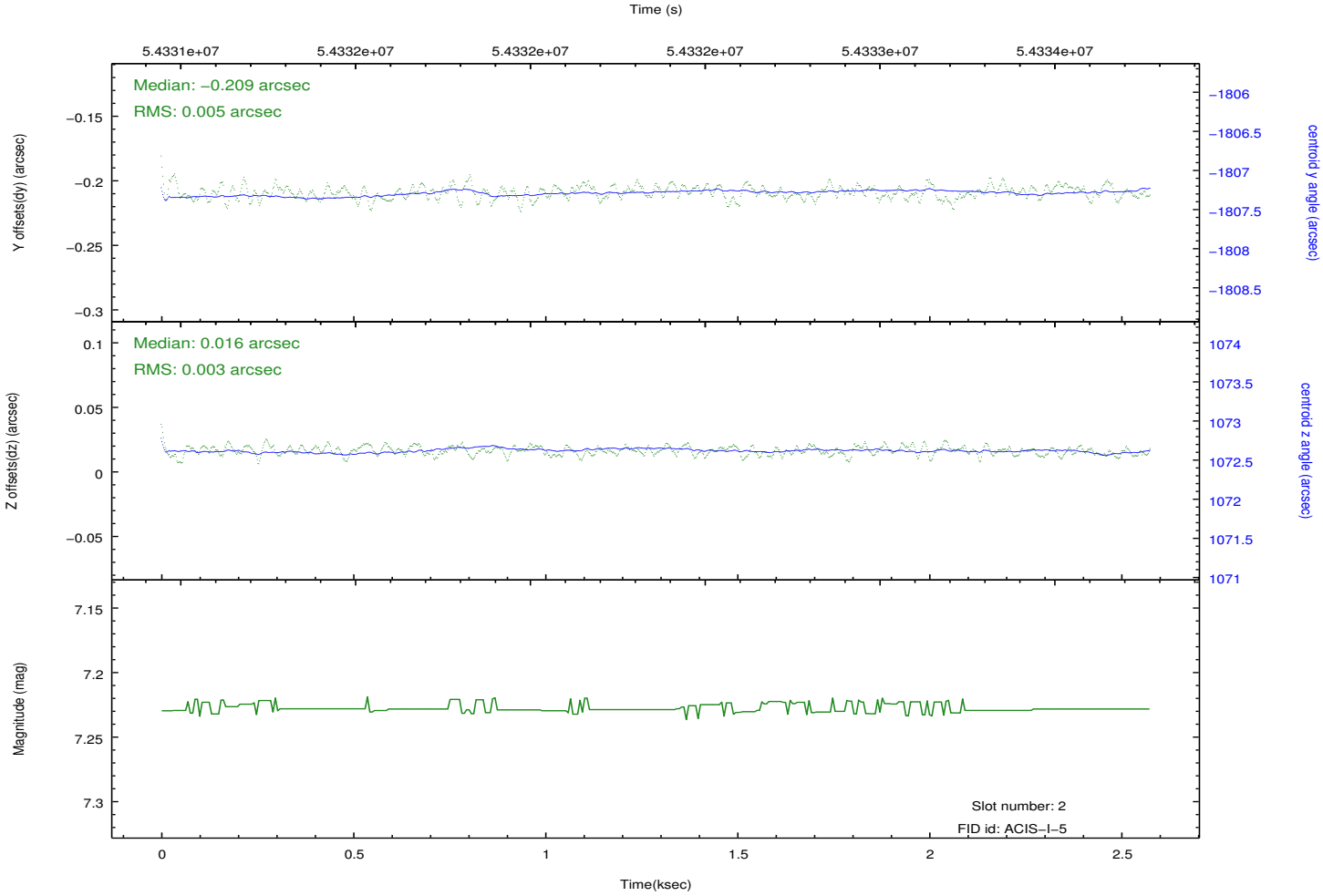

Points outside 0.05 arcsec radius: 0.159%
Radial offset of median: 0.095 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−I−4


Time (s)
Median: 0.086 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.040 arcsec
RMS: 0.004 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 1
FID id: ACIS−I−4
Time(ksec)

2.5.3 Slot 2


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


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.210 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−I−5


Time (s)
Median: −0.209 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.016 arcsec
RMS: 0.003 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 2
FID id: ACIS−I−5
Time(ksec)

3 Point Sources

A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2010.10.18
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	1.062

A.2 Comments

```
This observation was not taken with the requested parameters. As a
result, it was interrupted and the correct parameters were loaded.
The obsid was changed to 62620. Obsid 62520 contains the data from
the requested observation.
===
Charge time for this ObsId remains at original value of 1.062 ks,
although
with the current processing the charge time would have been 1.059 ksec.
===
The focal plane temperature is approximately -110 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.
```