V&V Reference Report
L2 ASCDS Version : 7.6.8.1

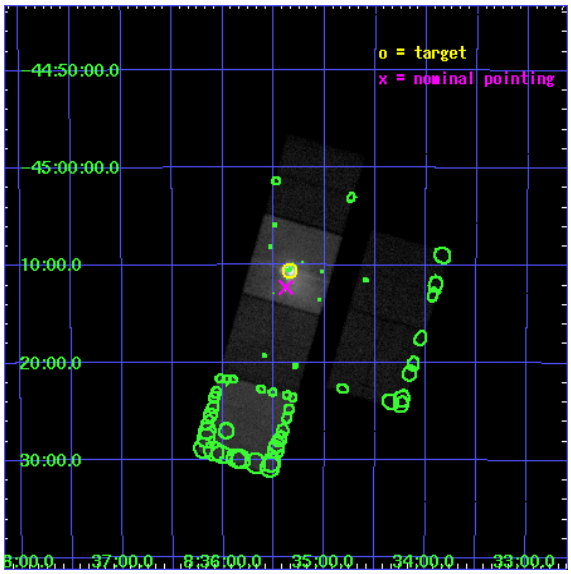
Observation 2819 - L2 Version 001
Chandra X-Ray Center

L2 Processing Date : Sep 9 2006

Contents

1 Front

seq_num	500269
obs_id	2819
title	THE DYNAMICAL PULSAR-WIND NEBULA IN THE VELA SNR
observer	Dr. George Pavlov
object	VELA PWN
dtycycle	0
cycle	P
ra_targ	128.83625
dec_targ	-45.176667
ra_nom	128.8453017945
dec_nom	-45.205061002018
roll_nom	286.14154112179
revision	3
ontime	20179.199924827
livetime	19923.678744923
ontime2	20179.199924827
ontime3	20179.199924827
ontime5	20179.199924827
ontime6	20179.199924827
ontime7	20179.199924827
ontime8	20175.958964556
l2events	576717

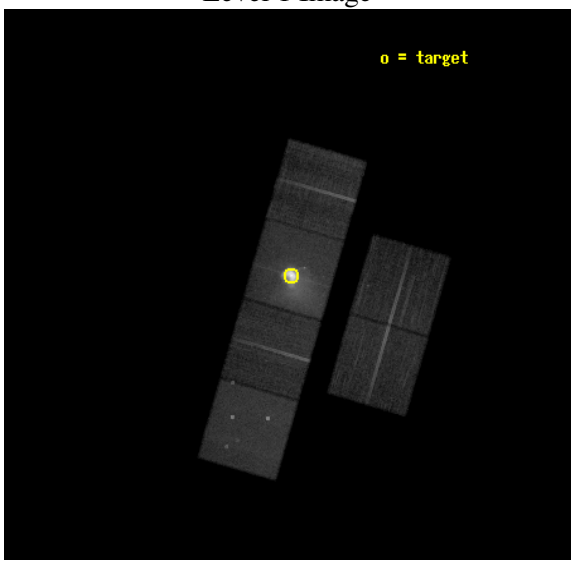


2 OBI

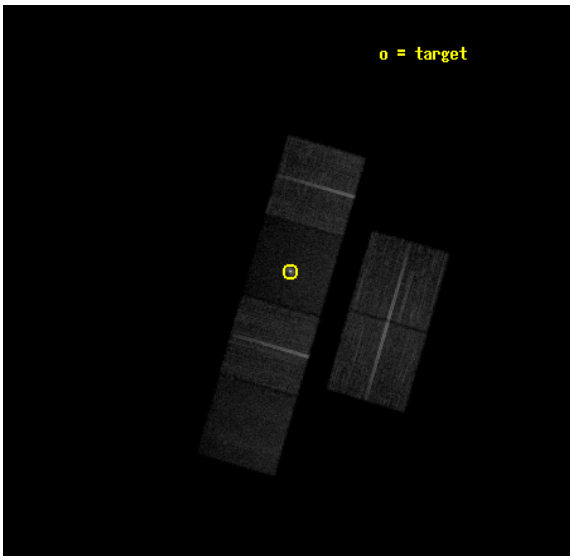
2.1 OBI

2.1.1 Images

Level 1 Image

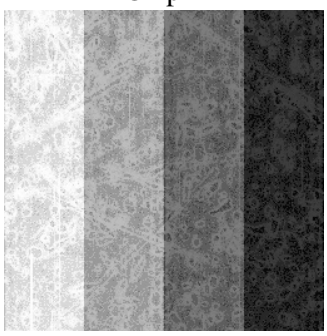


Level 1 Bad Events

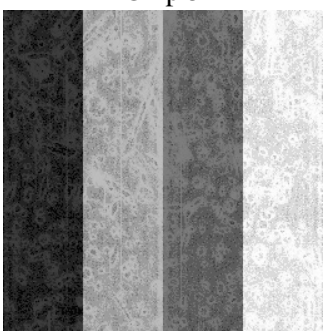


2.1.2 Bias

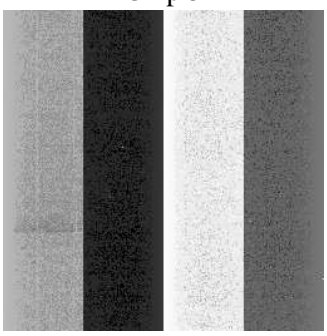
Chip 2



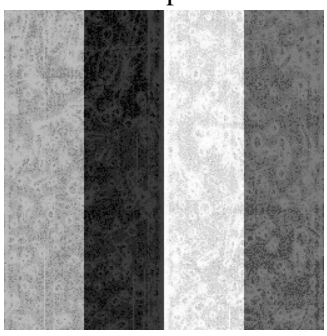
Chip 3



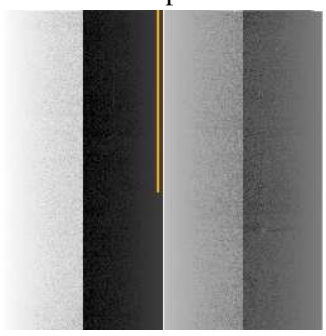
Chip 5



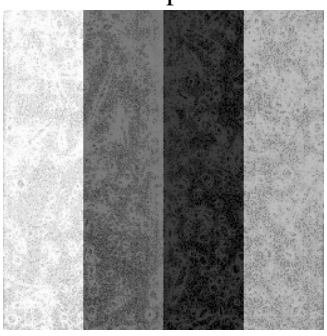
Chip 6



Chip 7



Chip 8



2.1.3 Parameters

obi_num	1
ascdsver	7.6.8.1
caldbver	3.2.3
date	2006-09-09T13:20:08
revision	3

sched_exp_time	20000.000000
ontime	20269.212702781
ontime2	20269.212702781
ontime3	20269.212702781
ontime5	20269.212702781
ontime6	20269.212702781
ontime7	20269.212702781
ontime8	20265.971742511
l1events	1124489

2.1.4 Events

	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	130116	118659	170119	141213	421769	142613
rejected events	98495	94477	59185	92824	63540	98380
rejected %	75%	79%	34%	65%	15%	68%

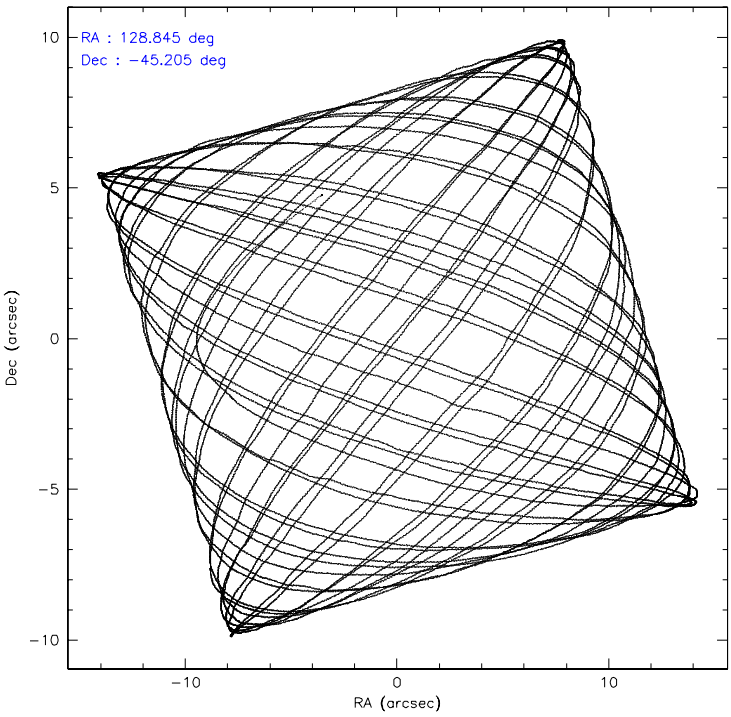
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	22583	16496	28100	36927	101951	22237
	17%	13%	16%	26%	24%	15%
grade 1 events	121	92	106	162	601	126
	0%	0%	0%	0%	0%	0%
grade 2 events	4106	3077	33942	5191	99426	7261
	3%	2%	19%	3%	23%	5%
grade 3 events	1504	1325	5208	1949	36026	3594
	1%	1%	3%	1%	8%	2%
grade 4 events	1522	1396	5190	1971	34944	3344
	1%	1%	3%	1%	8%	2%
grade 5 events	2662	3083	7053	3374	10575	4896
	2%	2%	4%	2%	2%	3%
grade 6 events	2048	2003	38983	2563	87484	8009
	1%	1%	22%	1%	20%	5%
grade 7 events	95570	91187	51537	89076	50762	93146
	73%	76%	30%	63%	12%	65%

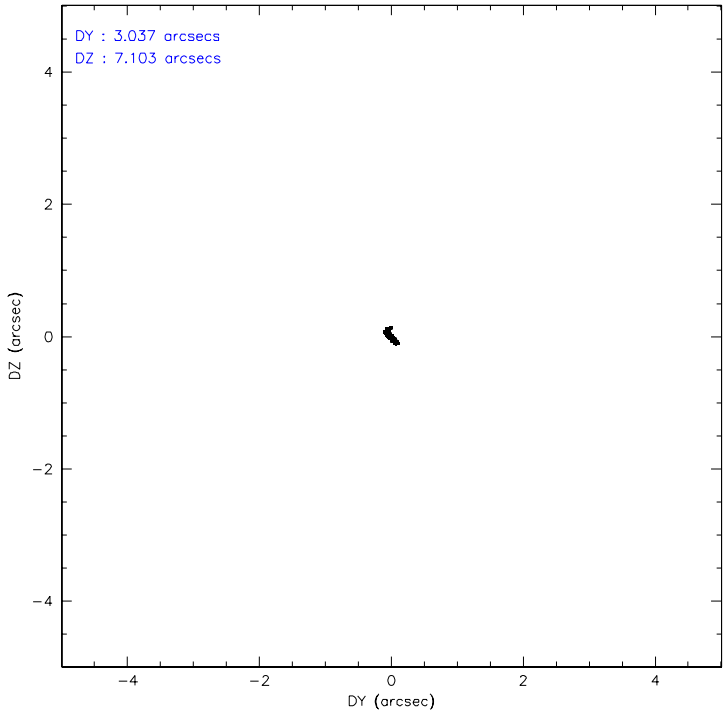
2.2 Compared Parameters

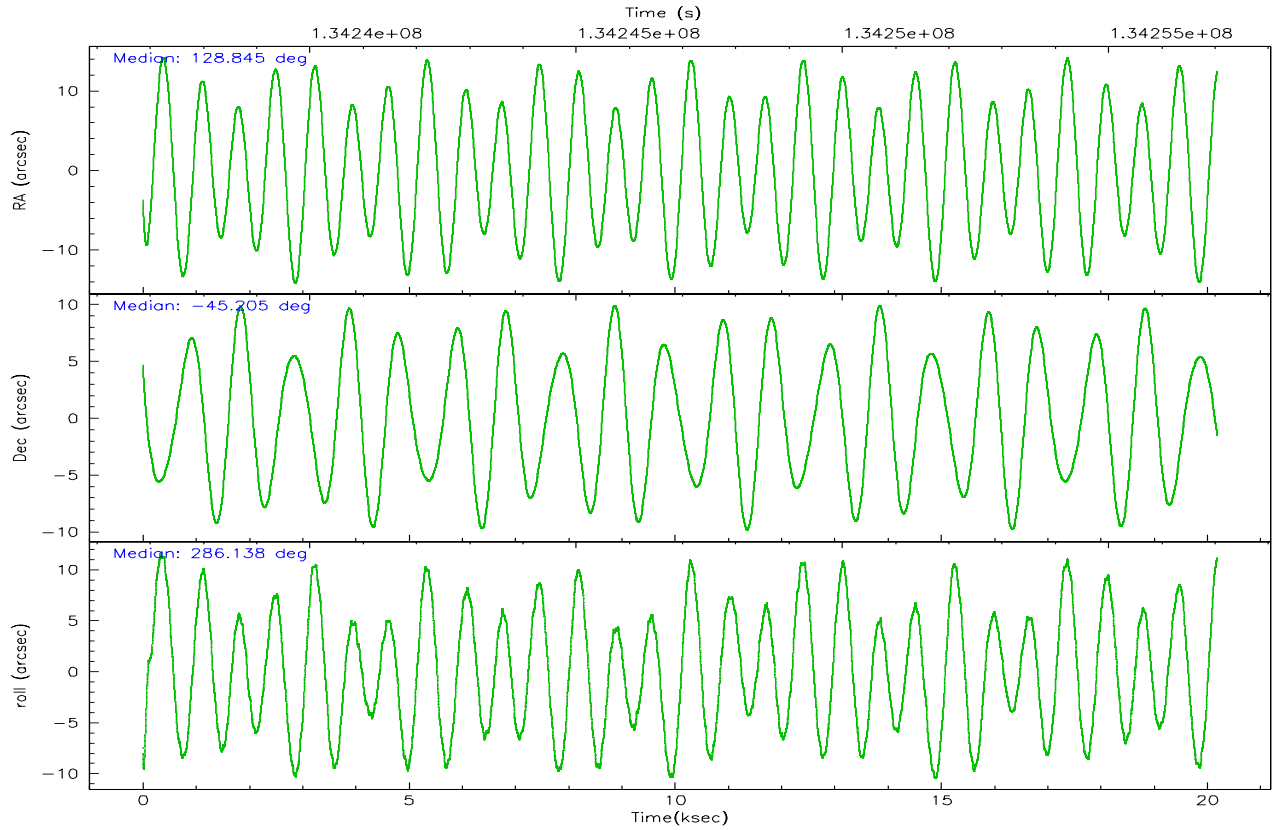
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-235678	ACIS-235678
Grating	NONE	NONE
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
Pointing RA	128.817097	128.8453017945026
Pointing Dec	-45.186432	-45.20506100201786
Pointing Roll	285.964911	286.1415411217888
SIM focus pos (mm)	-0.684267	-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	134237047.184000	134235934.91006
Observation start date	2002-04-03T16:03:03	2002-04-03T15:45:34
Observation end time	134257047.184000	134258759.09849
Observation end date	2002-04-03T21:36:23	2002-04-03T22:05:59
Read mode	TIMED	TIMED

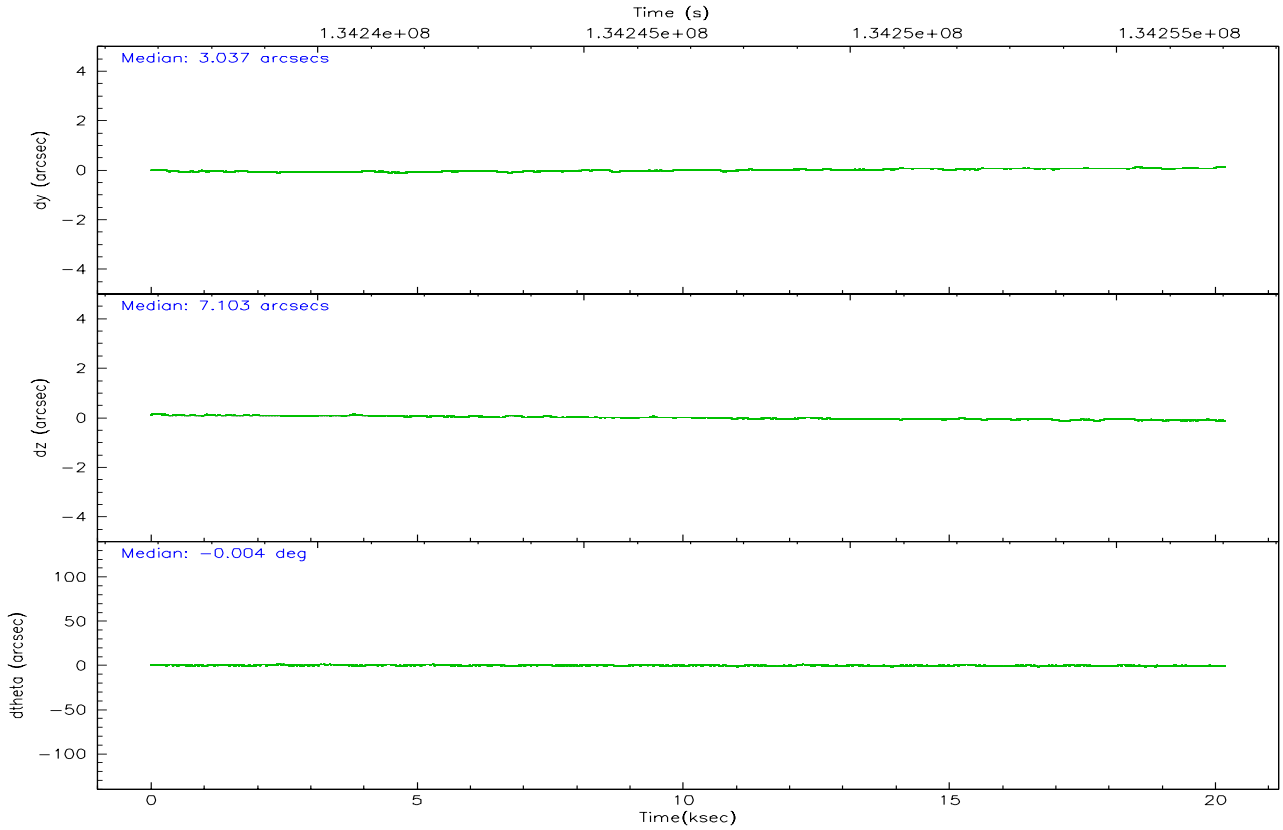
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
Primary exposure time	0.000000	3.2

2.3 Aspect


RA : 128.845 deg
Dec : −45.205 deg
10
5
0
−5
−10
Dec (arcsec)
−10
0
10
RA (arcsec)


DY : 3.037 arcsecs
DZ : 7.103 arcsecs
4
2
0
−2
−4
DZ (arcsec)
−4
−2
0
2
4
DY (arcsec)


Time (s)
1.3424e+08
1.34245e+08
1.3425e+08
1.34255e+08
Median: 128.845 deg
RA (arcsec)
Median: −45.205 deg
Dec (arcsec)
Median: 286.138 deg
roll (arcsec)
Time(ksec)

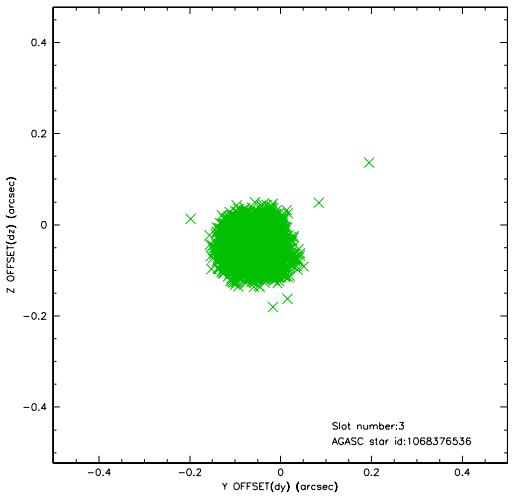

Time (s)
1.3424e+08
1.34245e+08
1.3425e+08
1.34255e+08
Median: 3.037 arcsecs
dy (arcsec)
Median: 7.103 arcsecs
dz (arcsec)
Median: −0.004 deg
dtheta (arcsec)
Time(ksec)

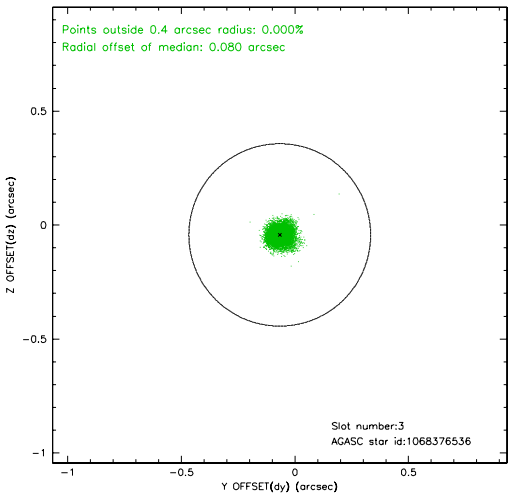
Slot Statistics

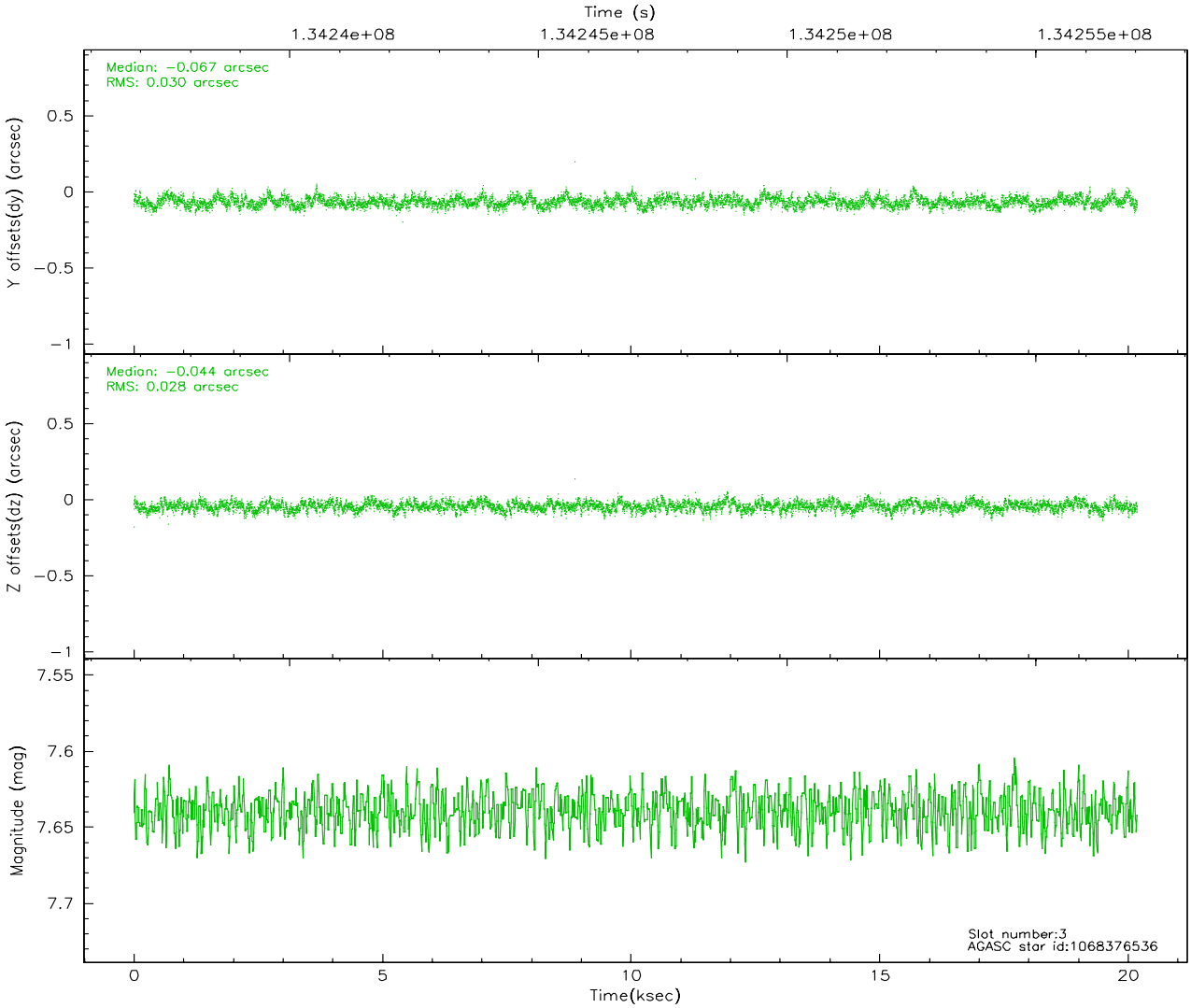
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.11	4922	0.000	0.036	0.012	0.019	0.000000	0.000000	-755.67	-1728.24
1	FID	ACIS-S-4	7.20	4921	-0.073	-0.010	0.008	0.014	0.000000	0.000000	2157.44	180.02
2	FID	ACIS-S-5	7.24	4922	0.042	-0.017	0.009	0.014	0.000000	0.000000	-1808.24	173.87
3	GUIDE	1068376536	7.64	9844	-0.067	-0.044	0.043	0.071	129.556408	-45.593502	1929.92	1385.00
4	GUIDE	1005872888	8.42	9845	-0.050	-0.142	0.057	0.090	128.718363	-44.887099	-1104.29	53.95
5	GUIDE	1068239704	8.57	9845	-0.014	0.039	0.067	0.107	129.331182	-45.207211	435.07	1231.75
6	GUIDE	1068270344	8.54	9844	0.108	-0.025	0.081	0.133	128.097487	-45.785157	1584.20	-2332.04
7	GUIDE	1005862984	8.78	9842	0.023	0.172	0.061	0.099	128.482680	-44.577316	-2341.51	-222.29

2.4 Star Slots

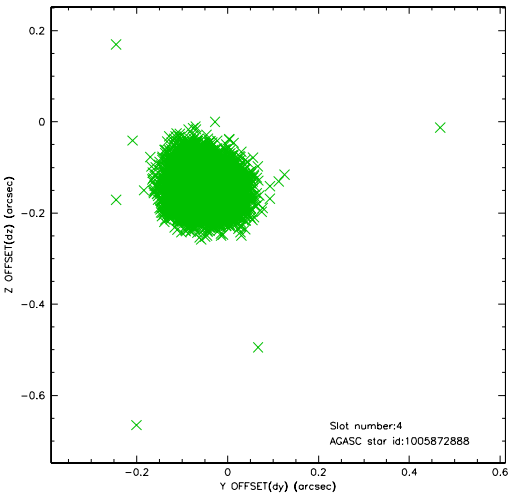
2.4.1 Slot 3

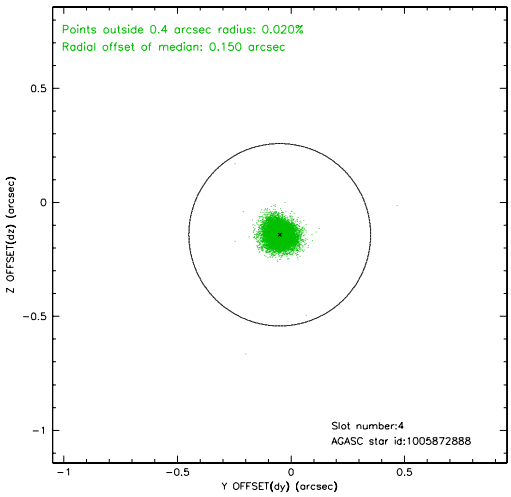


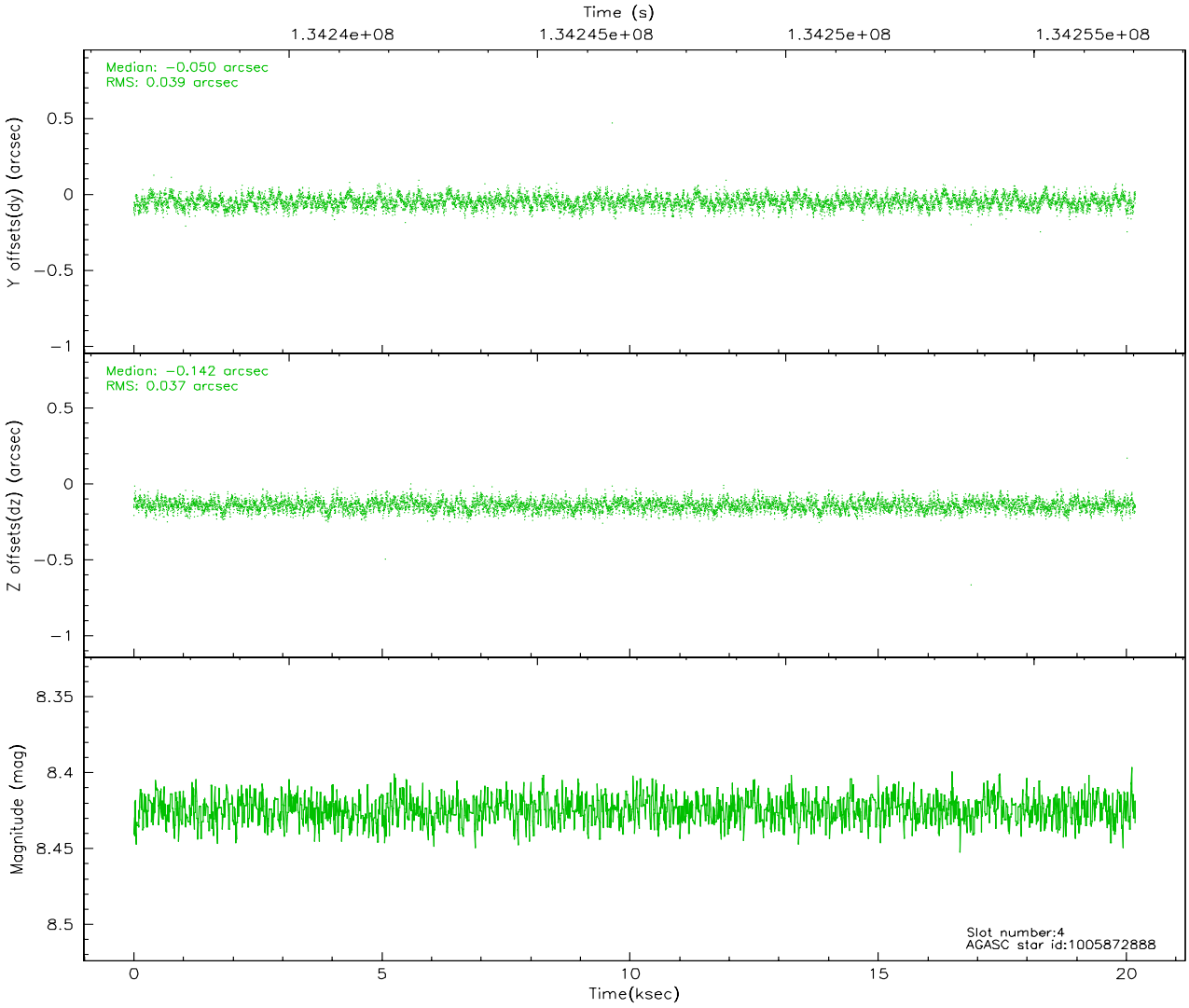




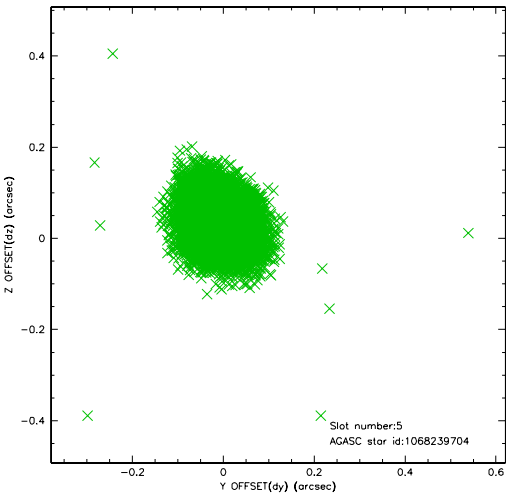
2.4.2 Slot 4

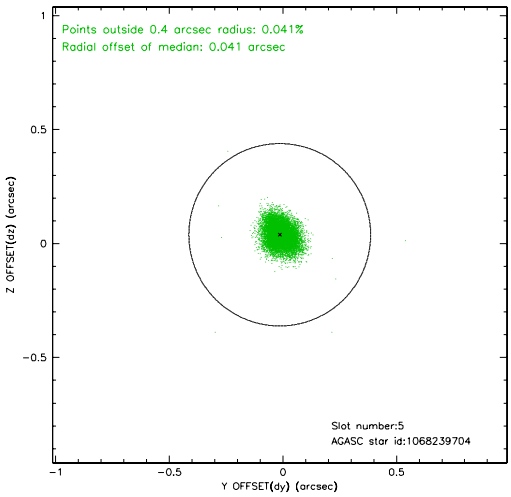

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:1005872888

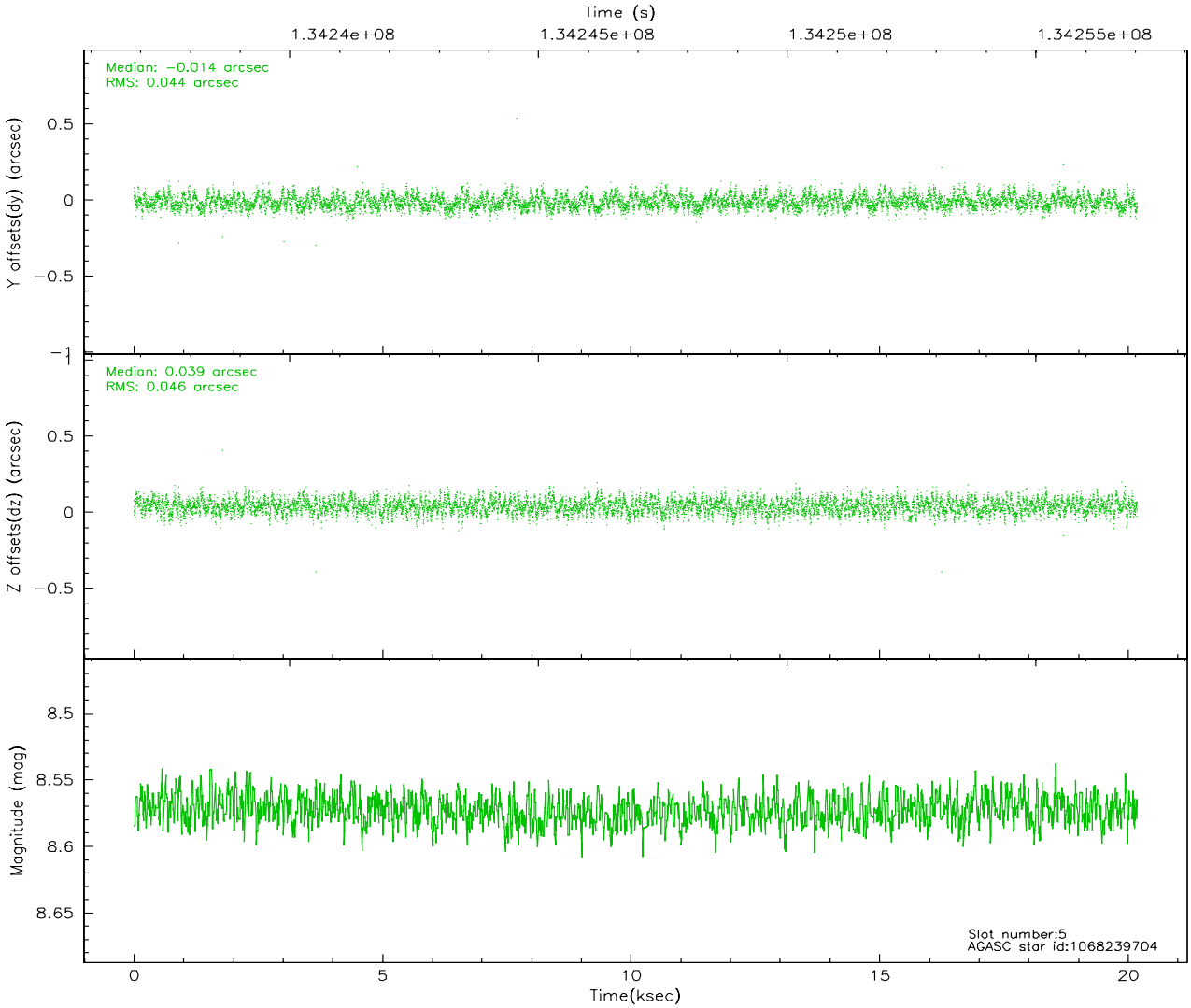

Points outside 0.4 arcsec radius: 0.020%
Radial offset of median: 0.150 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:1005872888


Time (s)
1.3424e+08
1.34245e+08
1.3425e+08
1.34255e+08
Median: −0.050 arcsec
RMS: 0.039 arcsec
Y offsets(dy) (arcsec)
Median: −0.142 arcsec
RMS: 0.037 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:4
AGASC star id:1005872888
Time(ksec)

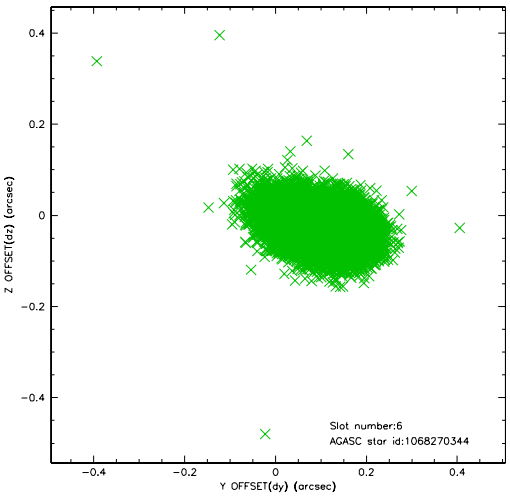
2.4.3 Slot 5

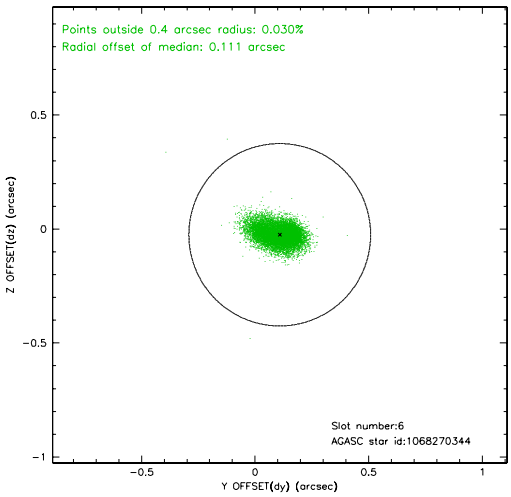

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:1068239704

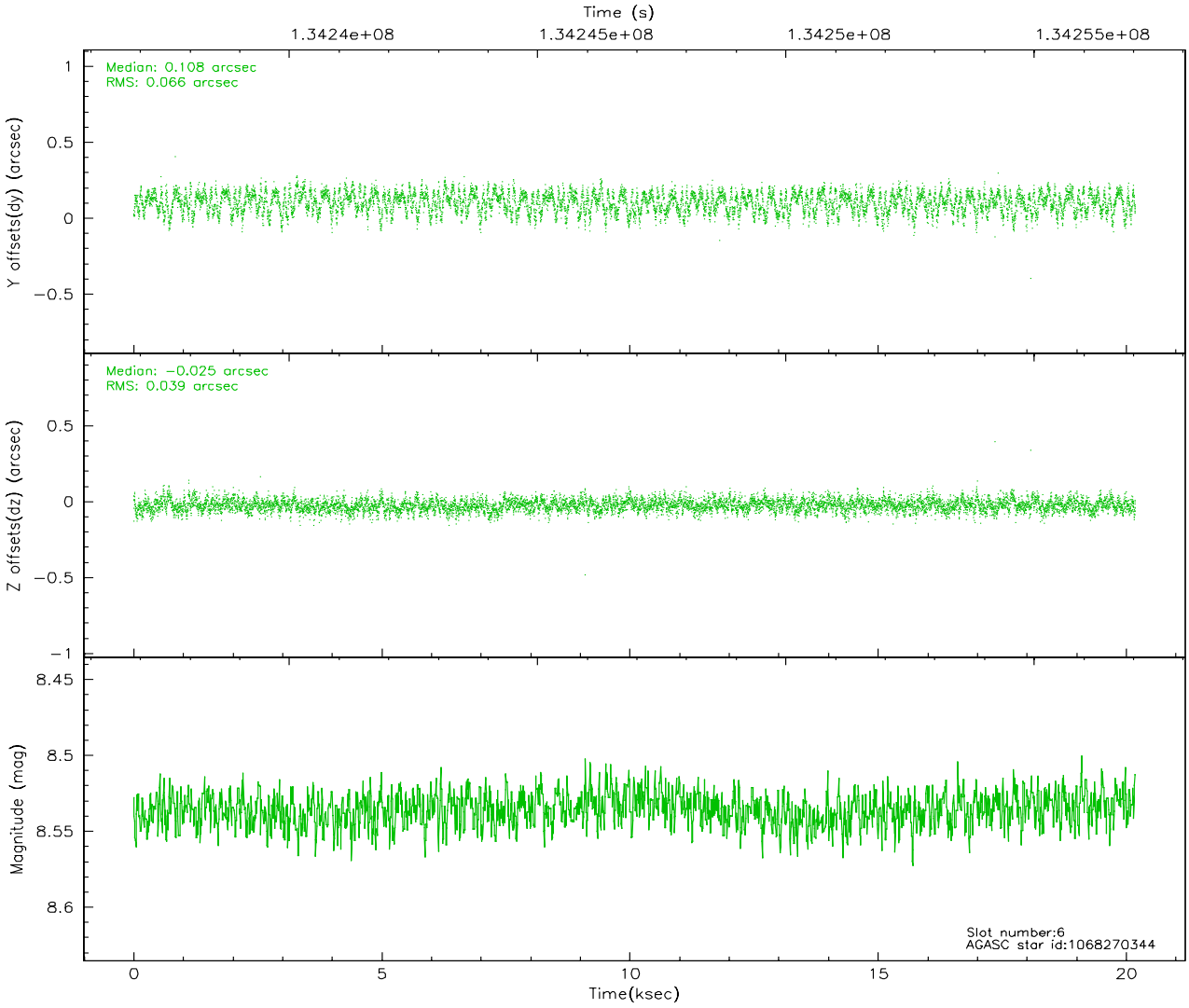

Points outside 0.4 arcsec radius: 0.041%
Radial offset of median: 0.041 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:1068239704


Time (s)
1.3424e+08
1.34245e+08
1.3425e+08
1.34255e+08
Median: −0.014 arcsec
RMS: 0.044 arcsec
Y offsets(dy) (arcsec)
Median: 0.039 arcsec
RMS: 0.046 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:5
AGASC star id:1068239704
Time(ksec)

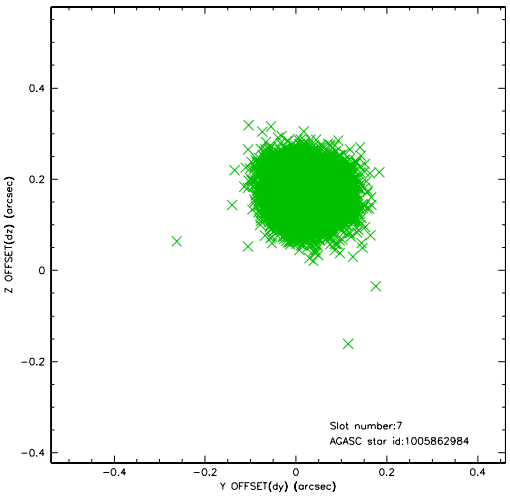
2.4.4 Slot 6

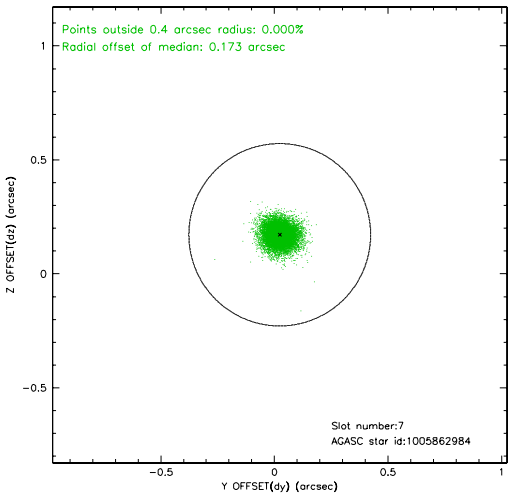

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:1068270344

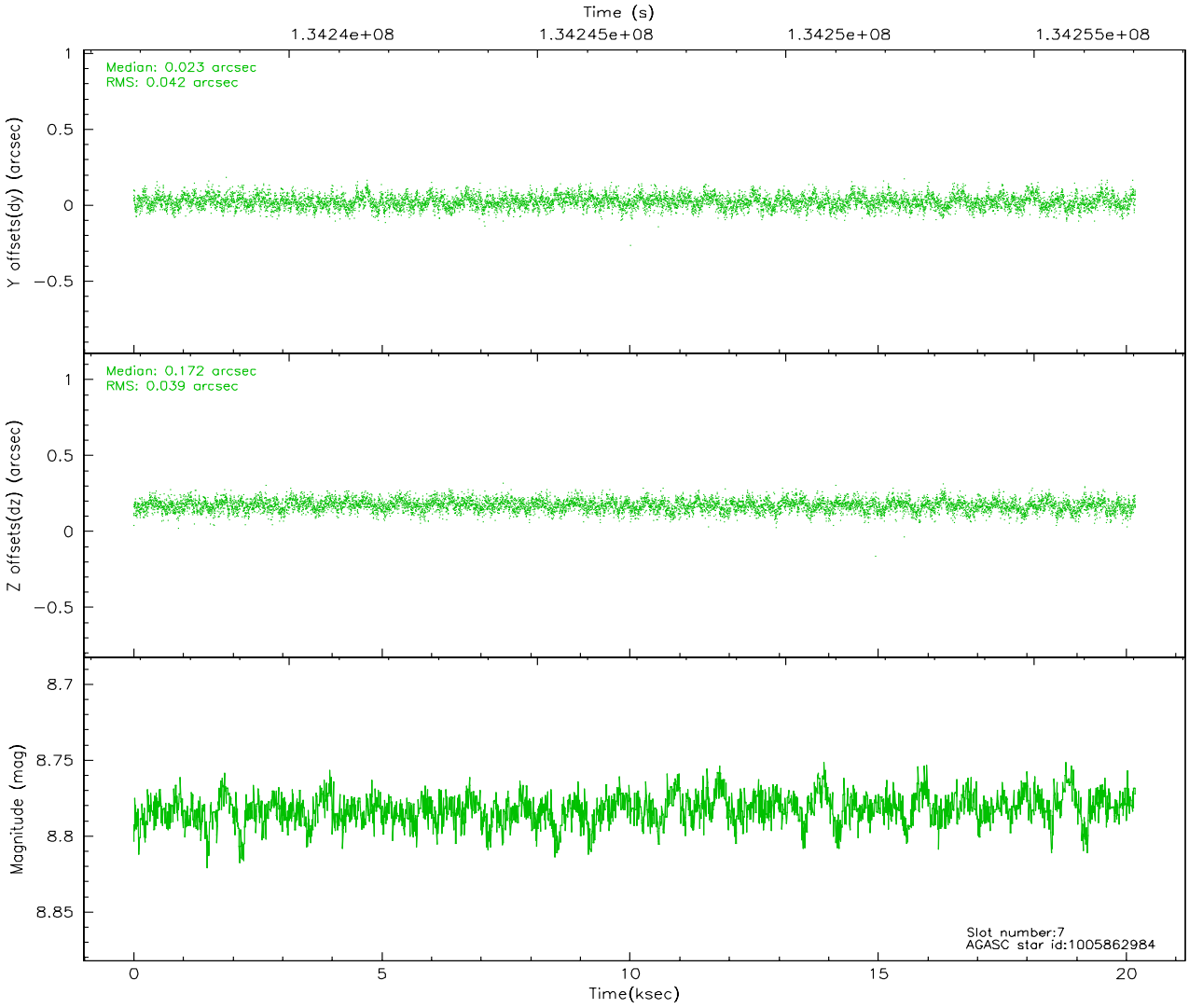

Points outside 0.4 arcsec radius: 0.030%
Radial offset of median: 0.111 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:1068270344


Time (s)
1.3424e+08
1.34245e+08
1.3425e+08
1.34255e+08
Median: 0.108 arcsec
RMS: 0.066 arcsec
Y offsets(dy) (arcsec)
Median: −0.025 arcsec
RMS: 0.039 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:6
AGASC star id:1068270344
Time(ksec)

2.4.5 Slot 7

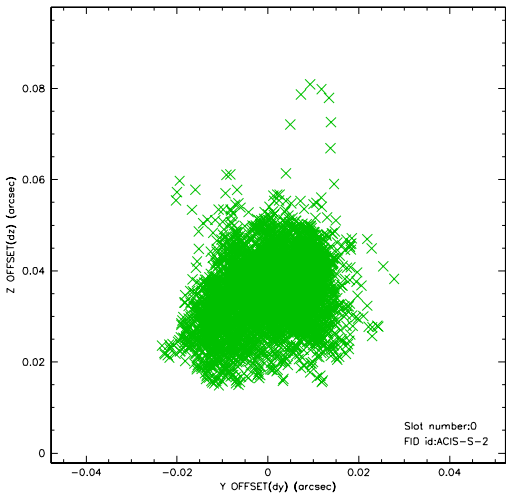

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:1005862984

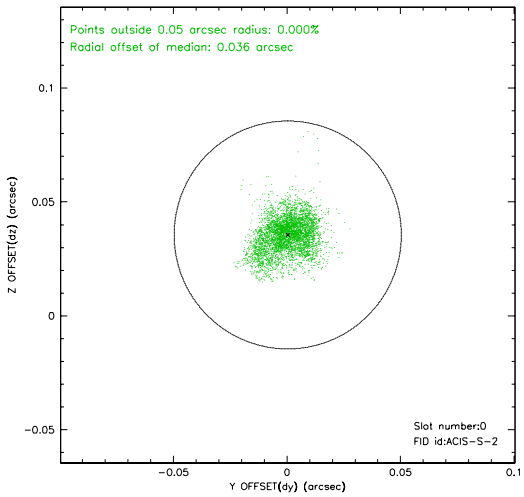

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.173 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:1005862984

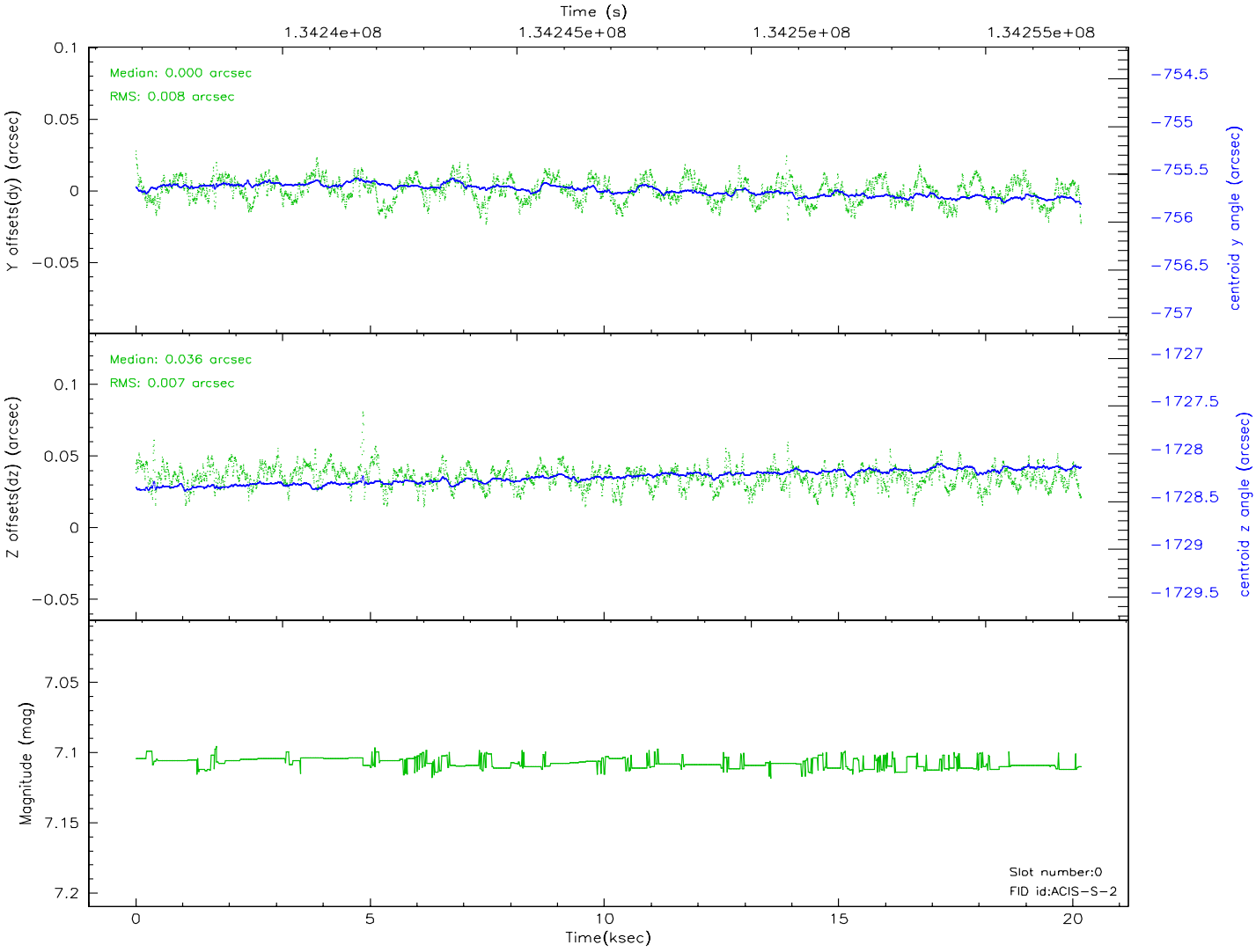

Time (s)
1.3424e+08
1.34245e+08
1.3425e+08
1.34255e+08
Median: 0.023 arcsec
RMS: 0.042 arcsec
Y offsets(dy) (arcsec)
Median: 0.172 arcsec
RMS: 0.039 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:7
AGASC star id:1005862984
Time(ksec)

2.5 FID Slots

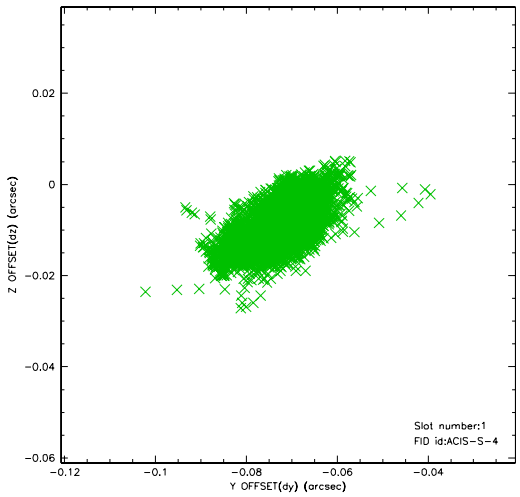
2.5.1 Slot 0

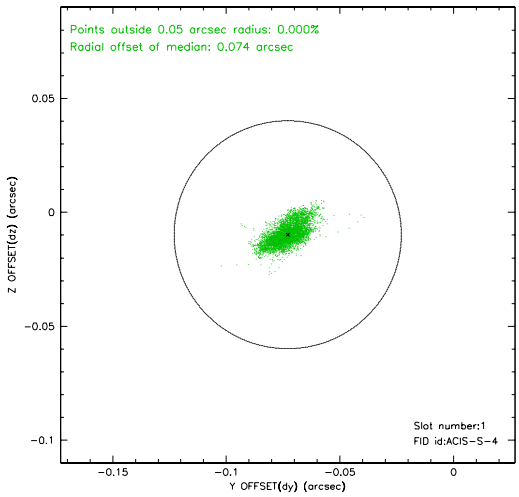


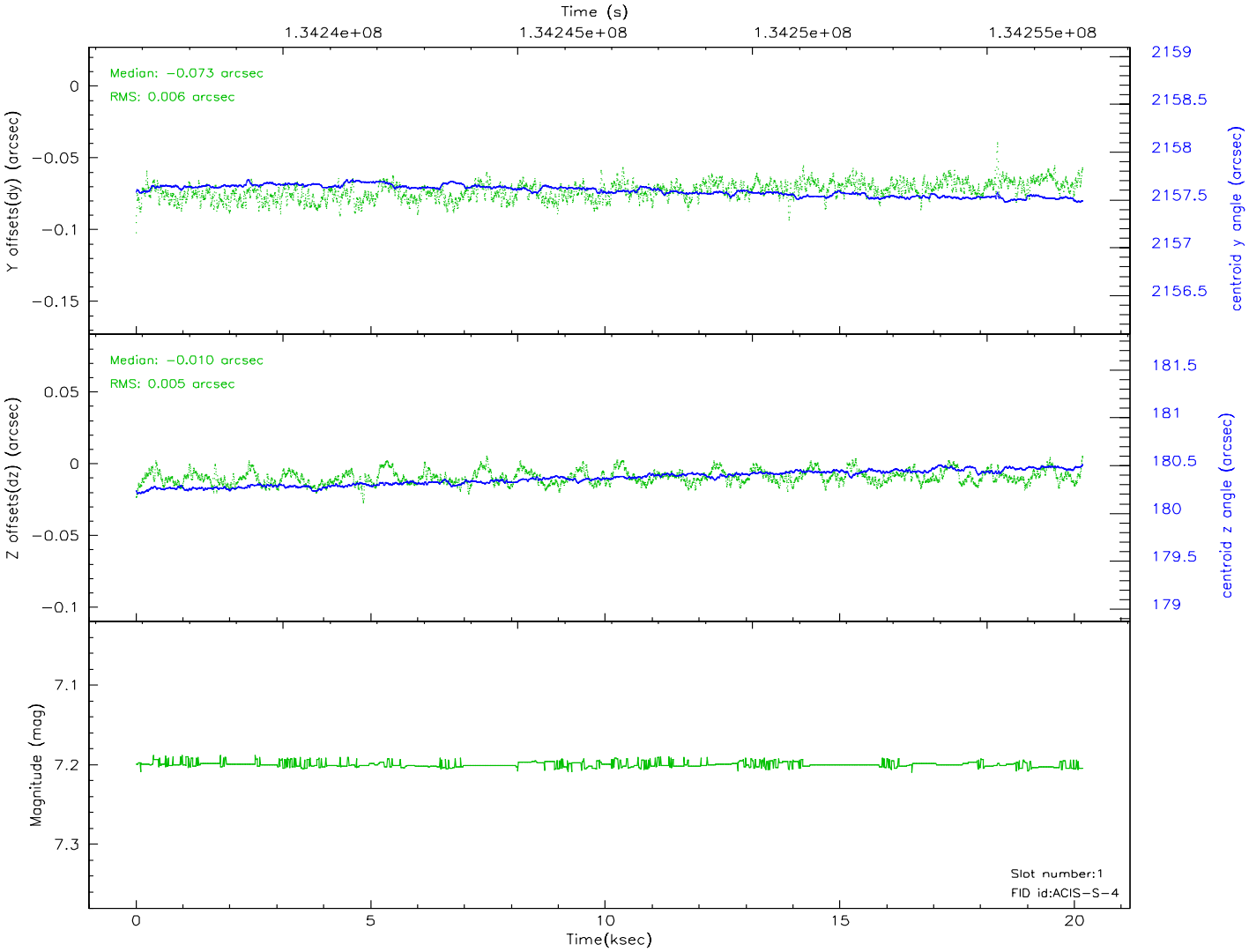




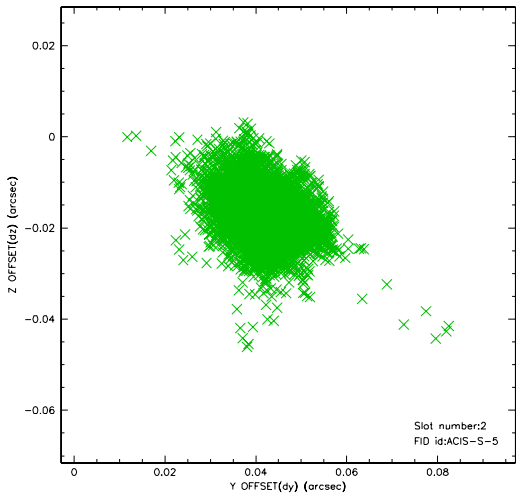
2.5.2 Slot 1

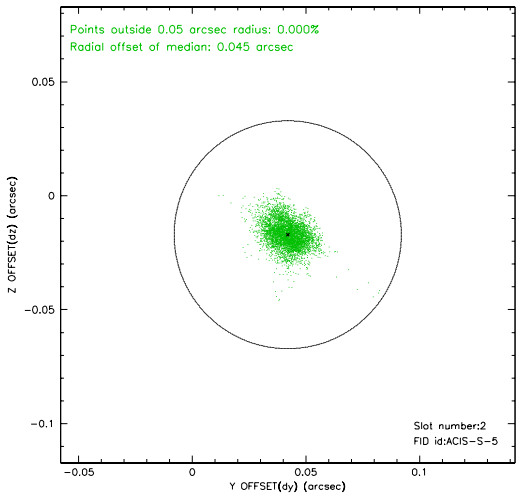

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:ACIS-S-4

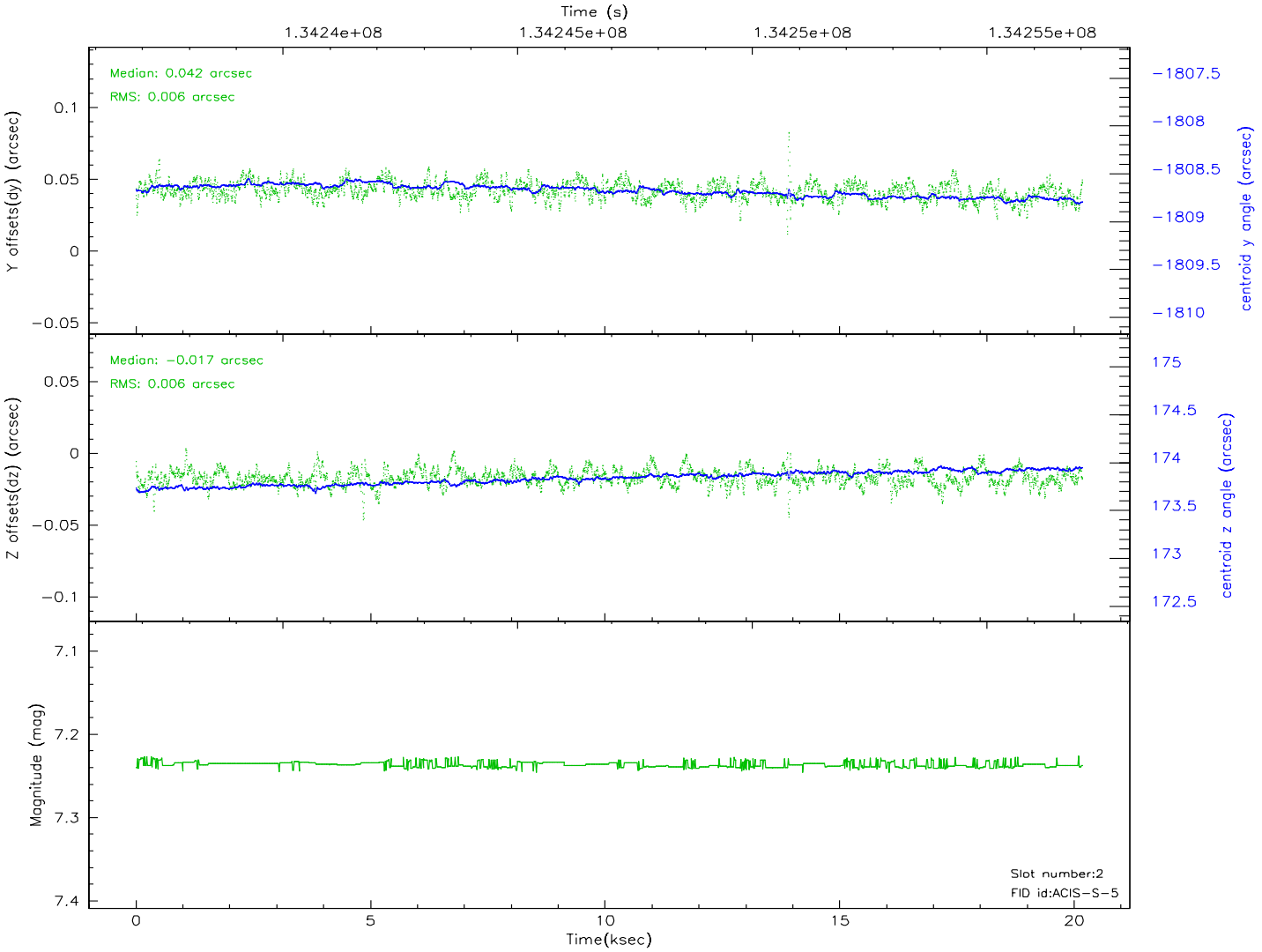

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.074 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:ACIS-S-4


Time (s)
1.3424e+08
1.34245e+08
1.3425e+08
1.34255e+08
Median: −0.073 arcsec
RMS: 0.006 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.010 arcsec
RMS: 0.005 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number:1
FID id:ACIS-S-4
Time(ksec)

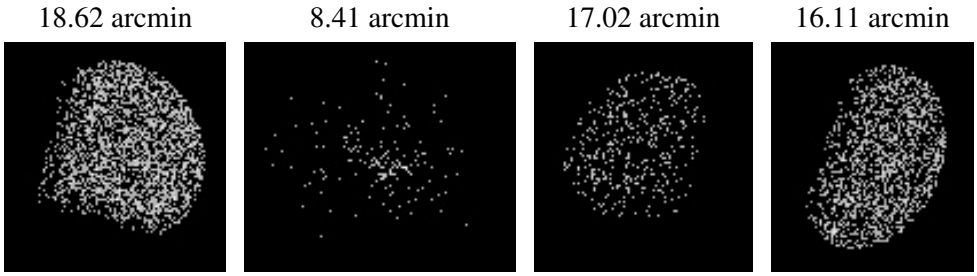
2.5.3 Slot 2


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


Time (s)
1.3424e+08
1.34245e+08
1.3425e+08
1.34255e+08
Median: 0.042 arcsec
RMS: 0.006 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.017 arcsec
RMS: 0.006 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	Jen Lauer
V&V Date (YYYY-MM-DD)	2006.09.10
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.179

A.2 Comments

```
Monitor constraint met.
```