

# V&V Reference Report

## L2 ASCDS Version : 7.6.7.1

Observation 6091 - L2 Version 002  
Chandra X-Ray Center

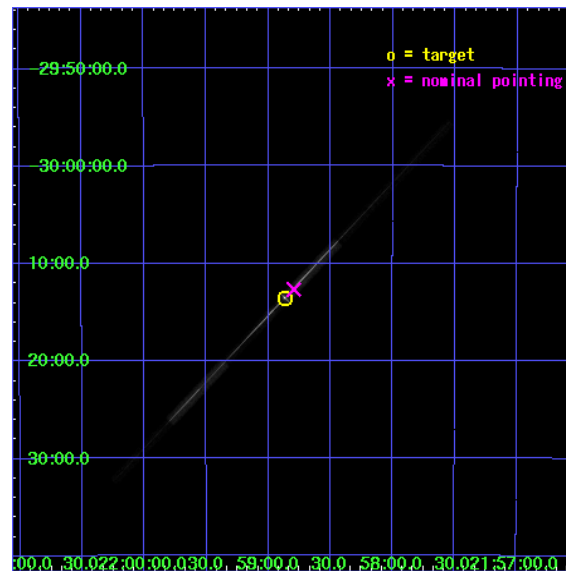
L2 Processing Date : Mar 25 2006

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# 1 Front

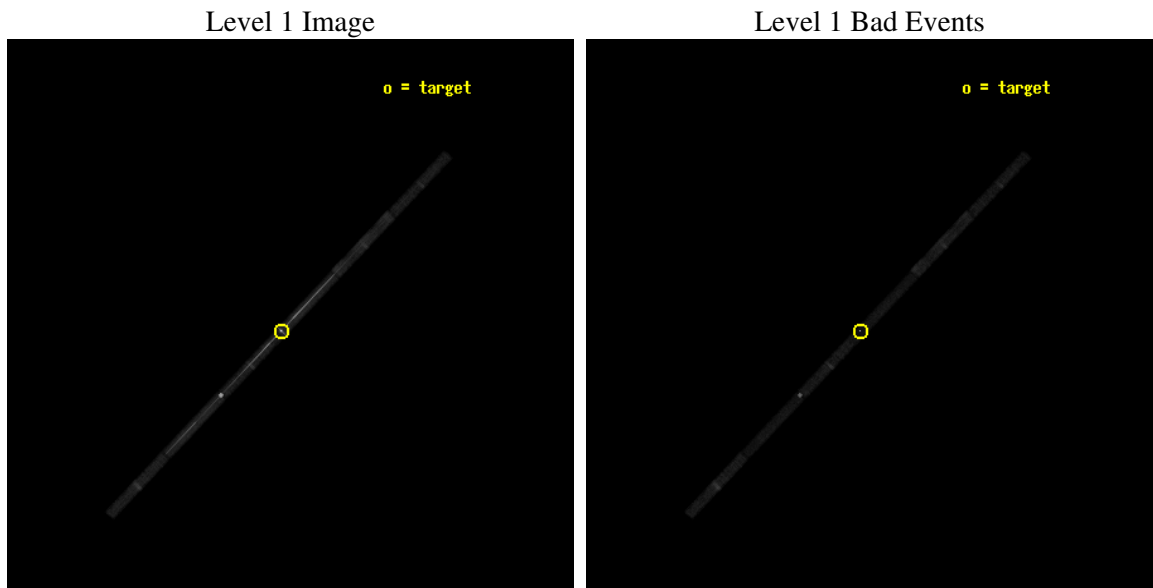
seq_num	790100
obs_id	6091
title	AO6 Calibration Observations of PKS2155-304
observer	Dr. CXC Calibration
object	PKS2155-304
dtcycle	0
cycle	P
ra_targ	329.716667
dec_targ	-30.225556
ra_nom	329.69858682878
dec_nom	-30.211436121951
roll_nom	313.53930139149
revision	2
ontime	30954.168272465
livedtime	29239.876107532
ontime4	30954.168272465
ontime5	30954.176471829
ontime6	30954.217511833
ontime7	30954.168272465
ontime8	30954.258551836
ontime9	30954.29959181
l2events	187221



## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias

Chip 4

Chip 5

Chip 6



Chip 7

Chip 8

Chip 9



### 2.1.3 Parameters

obi_num	1
ascdsver	7.6.7.1
caldbver	3.2.1
date	2006-03-25T19:23:13
revision	2

sched_exp_time	30800.000000
ontime	31390.961784452
ontime4	31390.961784452
ontime5	31390.961784452
ontime6	31390.961784452
ontime7	31390.961784452
ontime8	31390.961784452
ontime9	31390.961784452
l1events	406729

### 2.1.4 Events

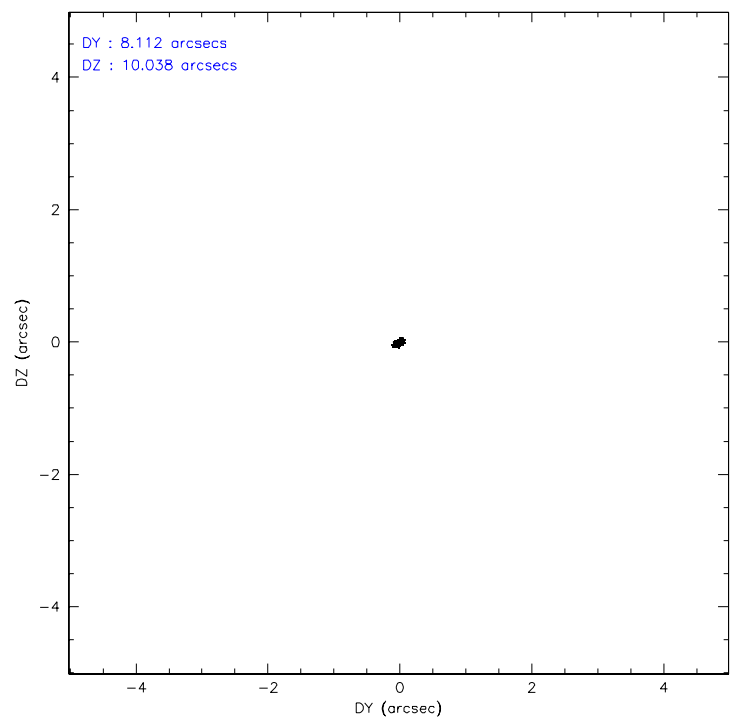
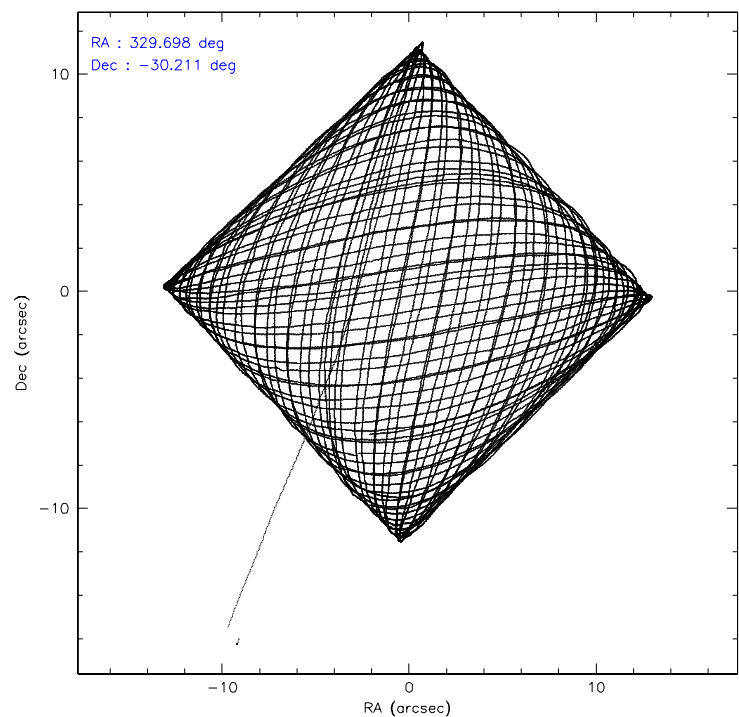
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	37381	80067	65219	144487	48358	31217
rejected events	31905	27316	28606	37398	35842	25913
rejected %	85%	34%	43%	25%	74%	83%

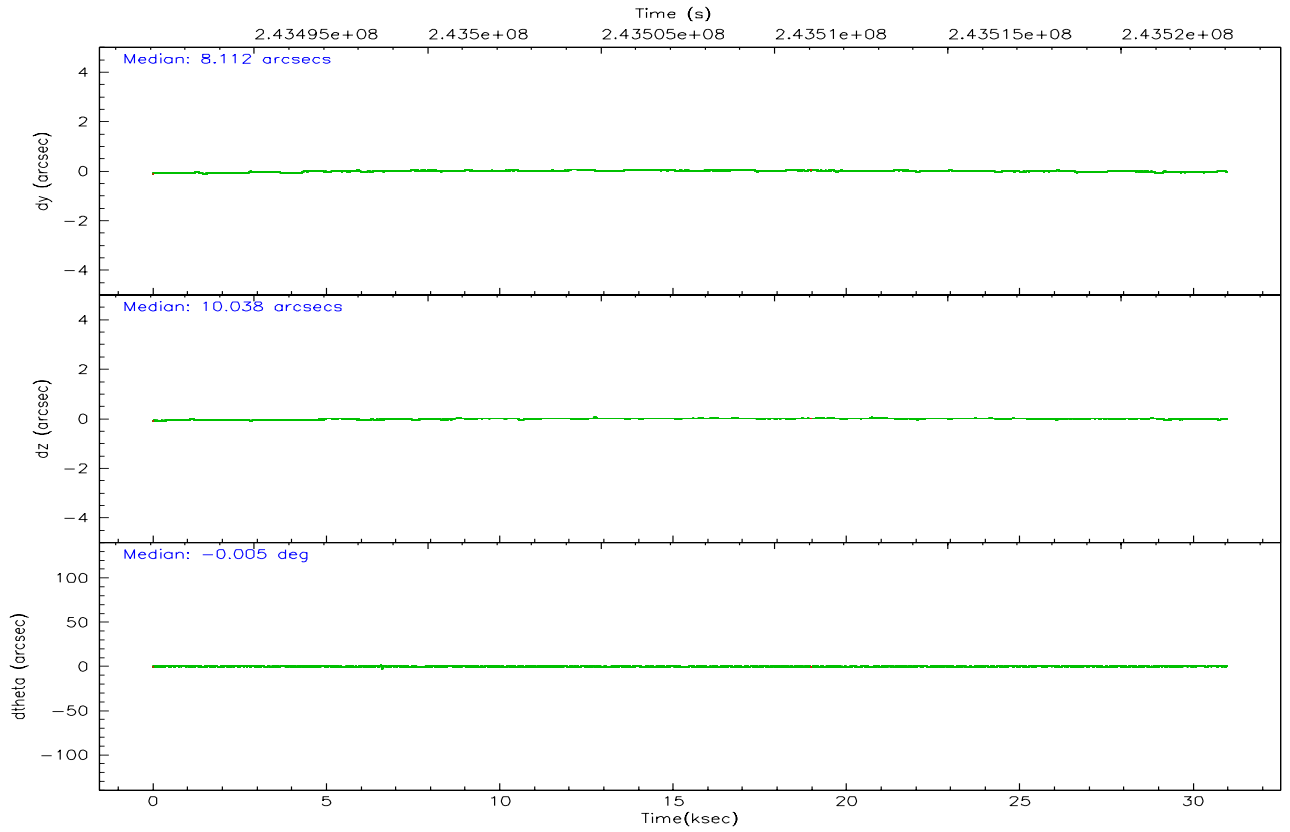
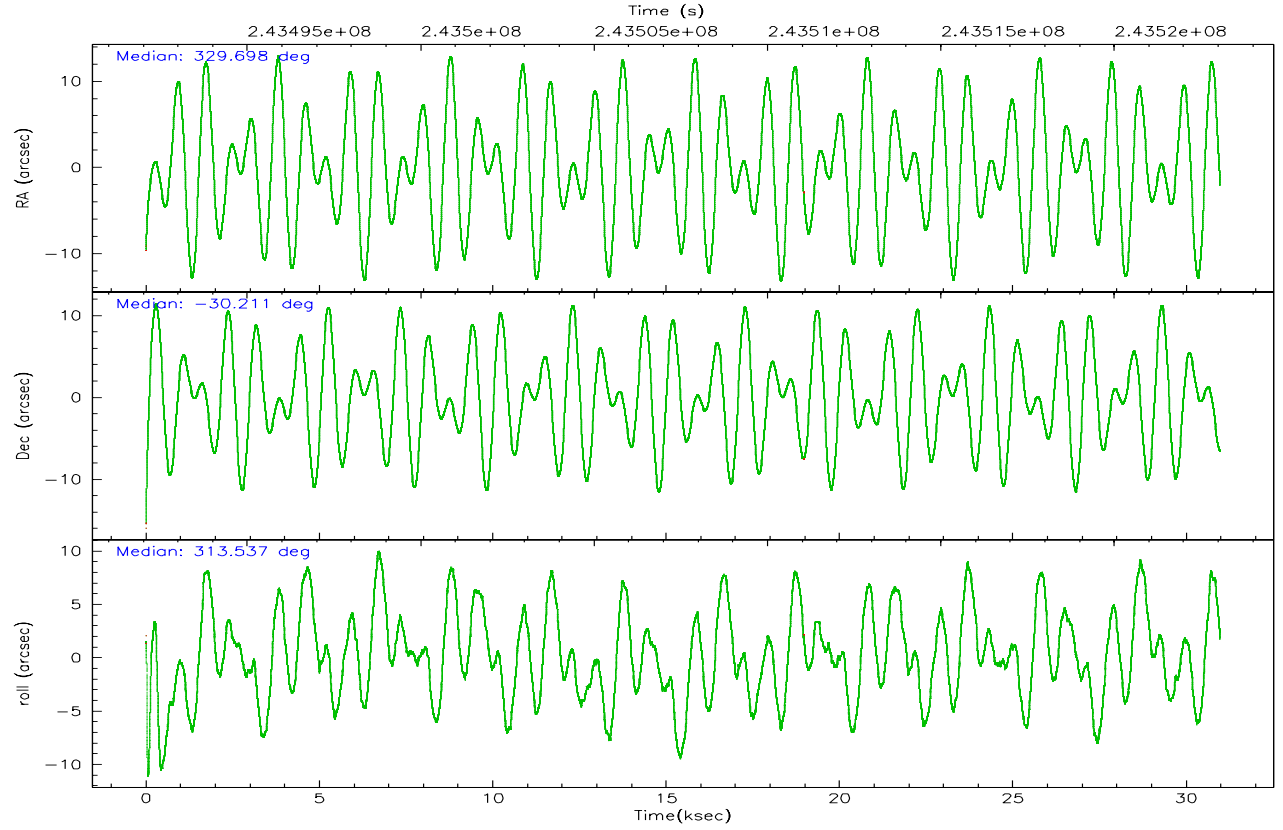
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	2660	19199	28819	27061	5337	2570
	7%	23%	44%	18%	11%	8%
grade 1 events	16	2165	63	1378	14	15
	0%	2%	0%	0%	0%	0%
grade 2 events	960	10635	3654	26538	2202	764
	2%	13%	5%	18%	4%	2%
grade 3 events	689	5773	1564	11454	1134	660
	1%	7%	2%	7%	2%	2%
grade 4 events	566	4399	1460	11346	1128	625
	1%	5%	2%	7%	2%	2%
grade 5 events	1087	5089	1177	8105	1463	1125
	2%	6%	1%	5%	3%	3%
grade 6 events	662	13390	1309	31253	2842	747
	1%	16%	2%	21%	5%	2%
grade 7 events	30741	19417	27173	27352	34238	24711
	82%	24%	41%	18%	70%	79%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	6	6
Detector	ACIS-456789	ACIS-456789	Obspar file type	PREDICTED	ACTUAL
Grating	LETG	LETG	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	On-chip summing requested	N	N
Observation mode	POINTING	POINTING	Subarray requested	CUSTOM	1/8
Pointing RA	329.668253	329.6985868287758	Subarray start row	113	113
Pointing Dec	-30.204096	-30.21143612195069	Subarray row count	128	128
Pointing Roll	313.367402	313.5393013914945	Alternating exposures requested	N	N
Window start time	241920064.184000	241920064.184000	Primary exposure time	0.000000	0.7
Window stop time	252374464.184000	252374464.184000			
SIM focus pos (mm)	-0.684267	-0.6828225247311905			
SIM defocus (mm)	0	0.001444936568705701			
SIM translation stage pos (mm)	-182.132523	-182.1370004450064			
SIM translation stage offset (mm)	-8	-7.995522138001405			
Observation start time	243492262.184000	243491105.80203			
Observation start date	2005-09-19T04:43:18	2005-09-19T04:25:05			
Observation end time	243523062.184000	243524395.75356			
Observation end date	2005-09-19T13:16:38	2005-09-19T13:39:55			
Read mode	TIMED	TIMED			

## 2.3 Aspect





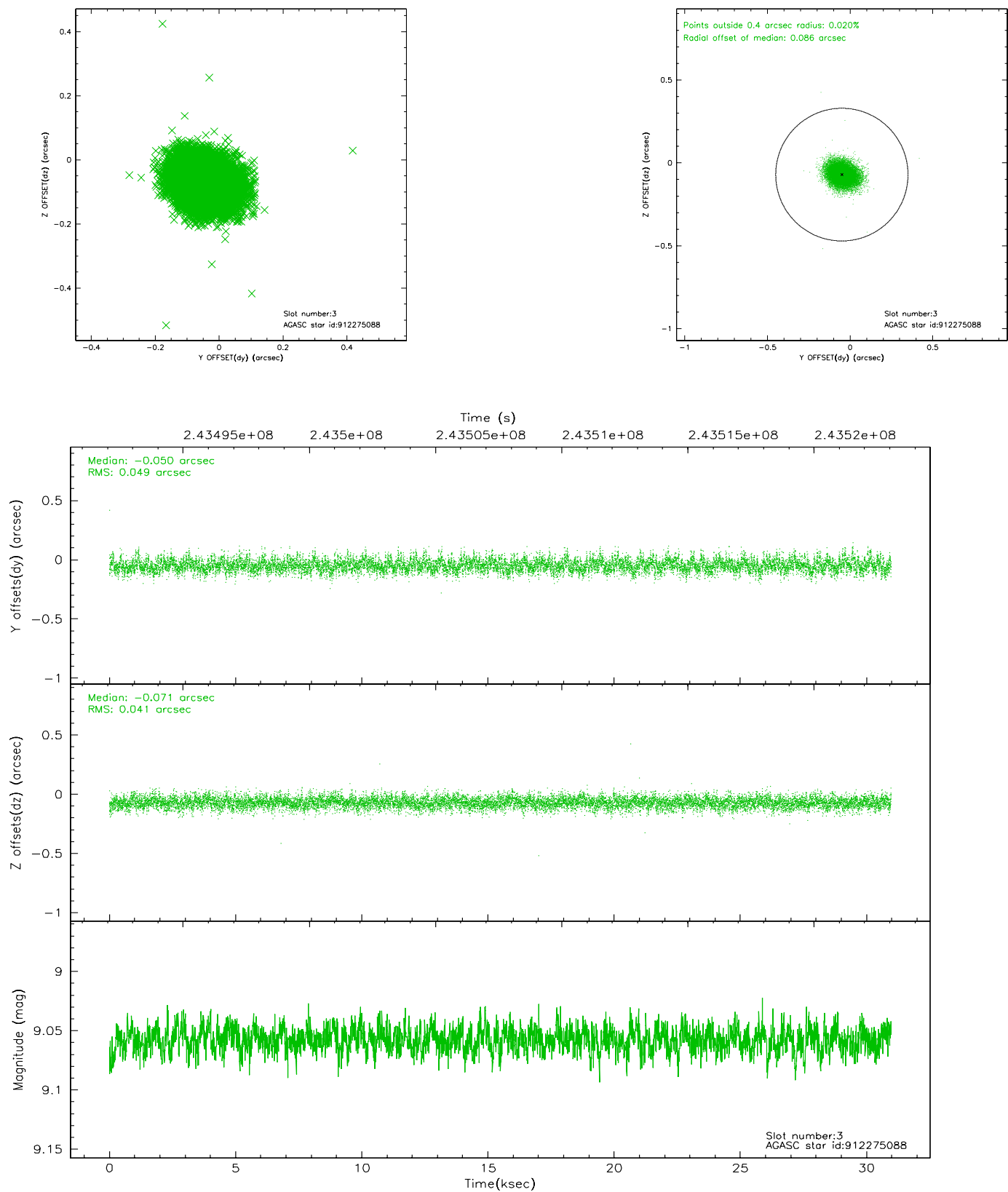
### Slot Statistics

slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	7551	-0.055	-0.073	0.007	0.011	0.000000	0.000000	-760.35	-1896.07
1	FID	ACIS-S-4	7.19	7551	0.086	0.046	0.005	0.009	0.000000	0.000000	2153.02	12.45
2	FID	ACIS-S-5	7.23	7550	-0.062	0.035	0.006	0.011	0.000000	0.000000	-1813.13	6.15
3	GUIDE	912275088	9.06	15089	-0.050	-0.071	0.067	0.112	329.619228	-29.738698	-1323.02	1039.12
4	GUIDE	912276032	9.60	15099	0.157	0.138	0.093	0.149	329.395967	-29.803466	-1631.50	371.66
5	GUIDE	981468016	9.00	15098	-0.101	-0.168	0.078	0.127	328.842457	-30.034984	-2202.93	-1459.40
6	GUIDE	981469488	9.59	15095	0.015	-0.012	0.115	0.196	329.261199	-30.045155	-1285.21	-530.78
7	GUIDE	981478152	9.41	15095	-0.020	0.117	0.108	0.172	329.415589	-30.057192	-924.27	-209.55

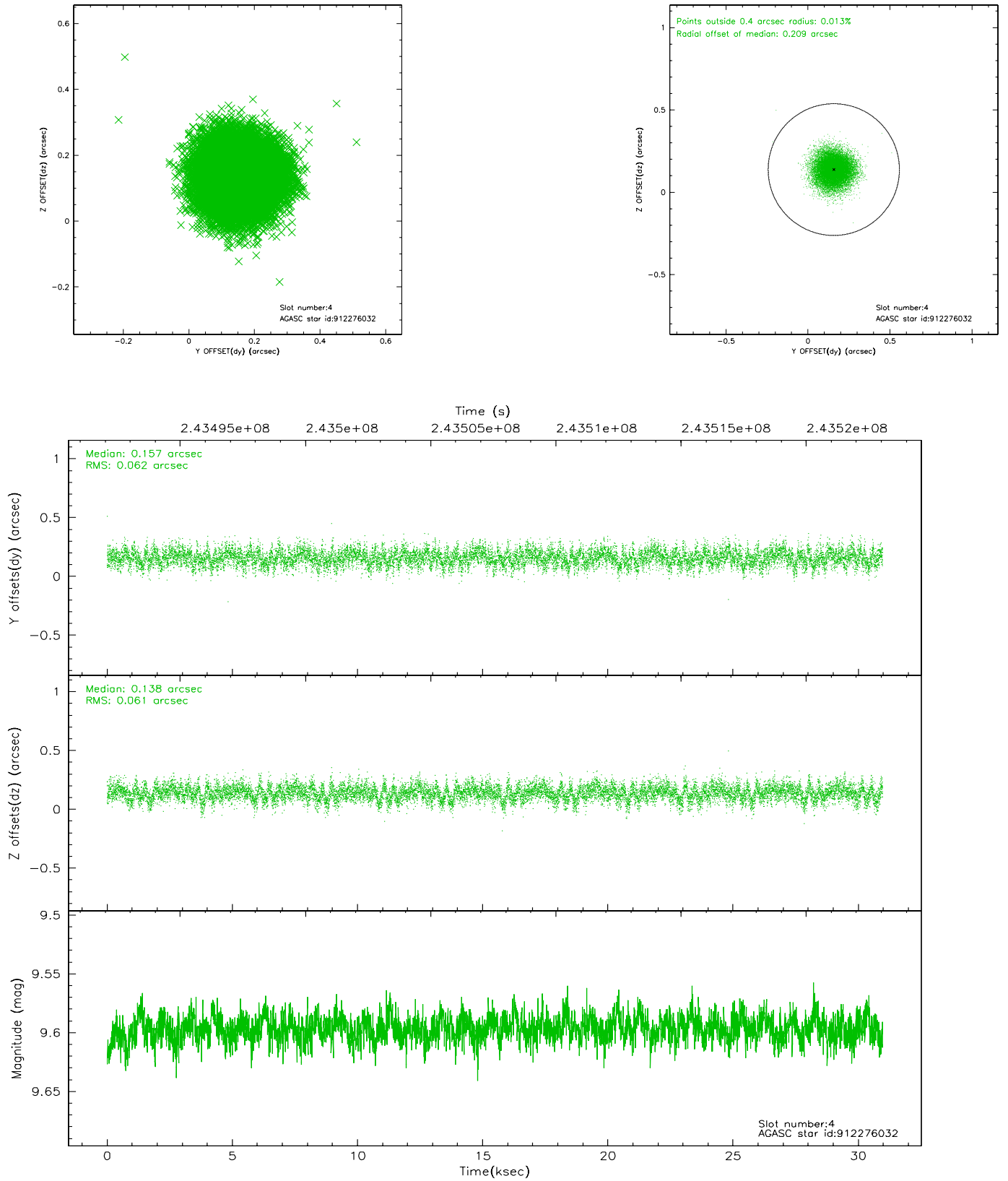


## 2.4 Star Slots

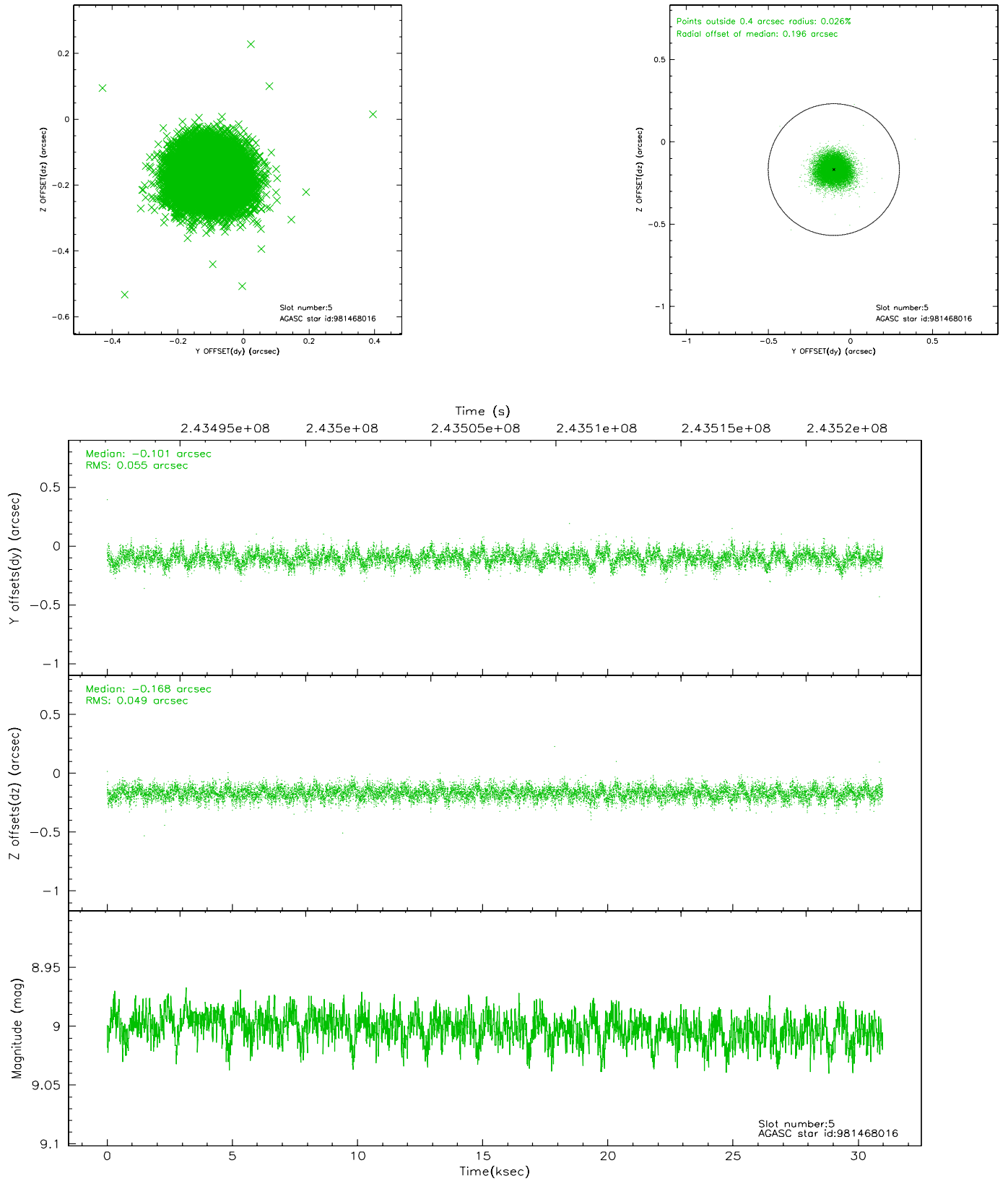
### 2.4.1 Slot 3



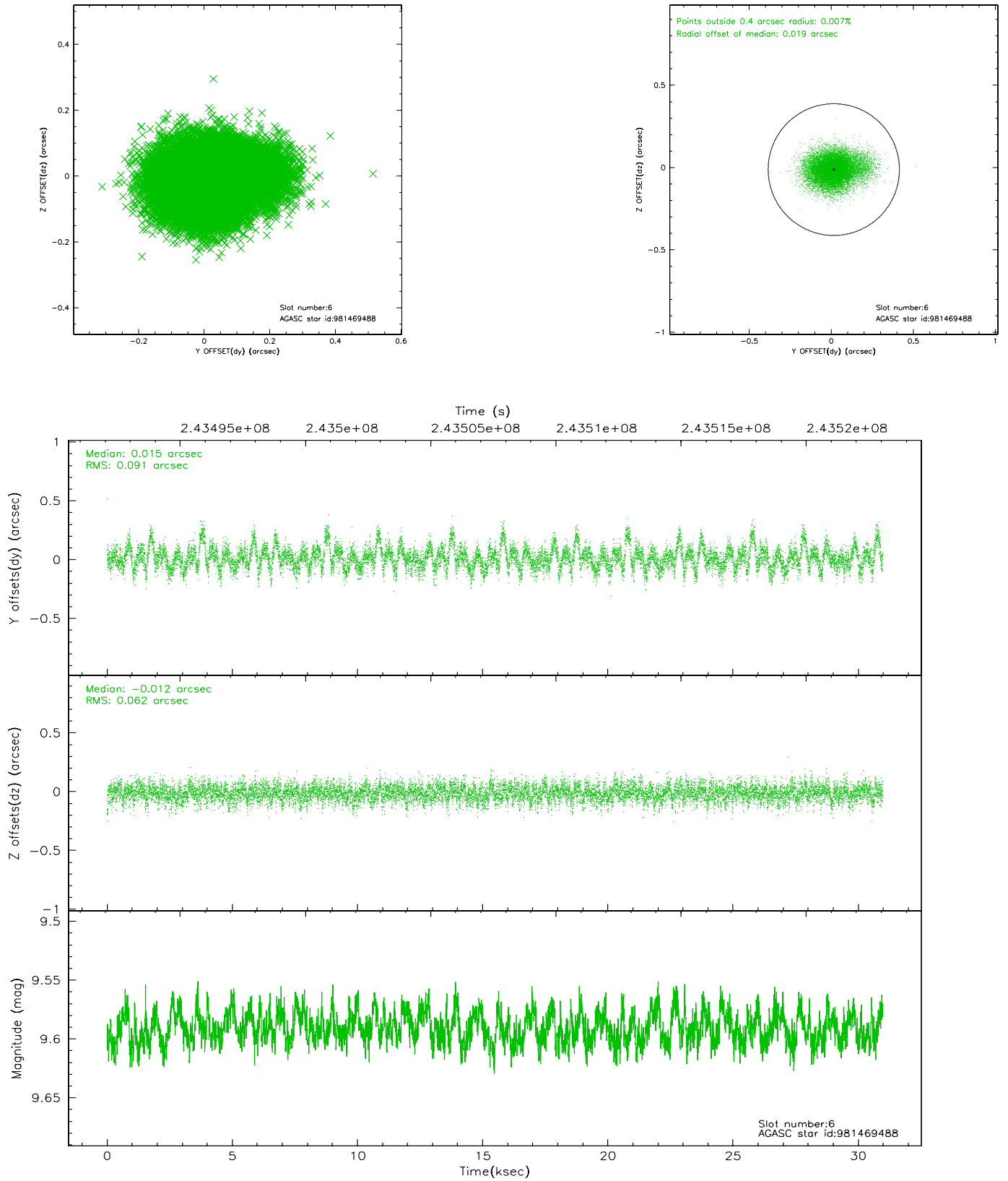
## 2.4.2 Slot 4



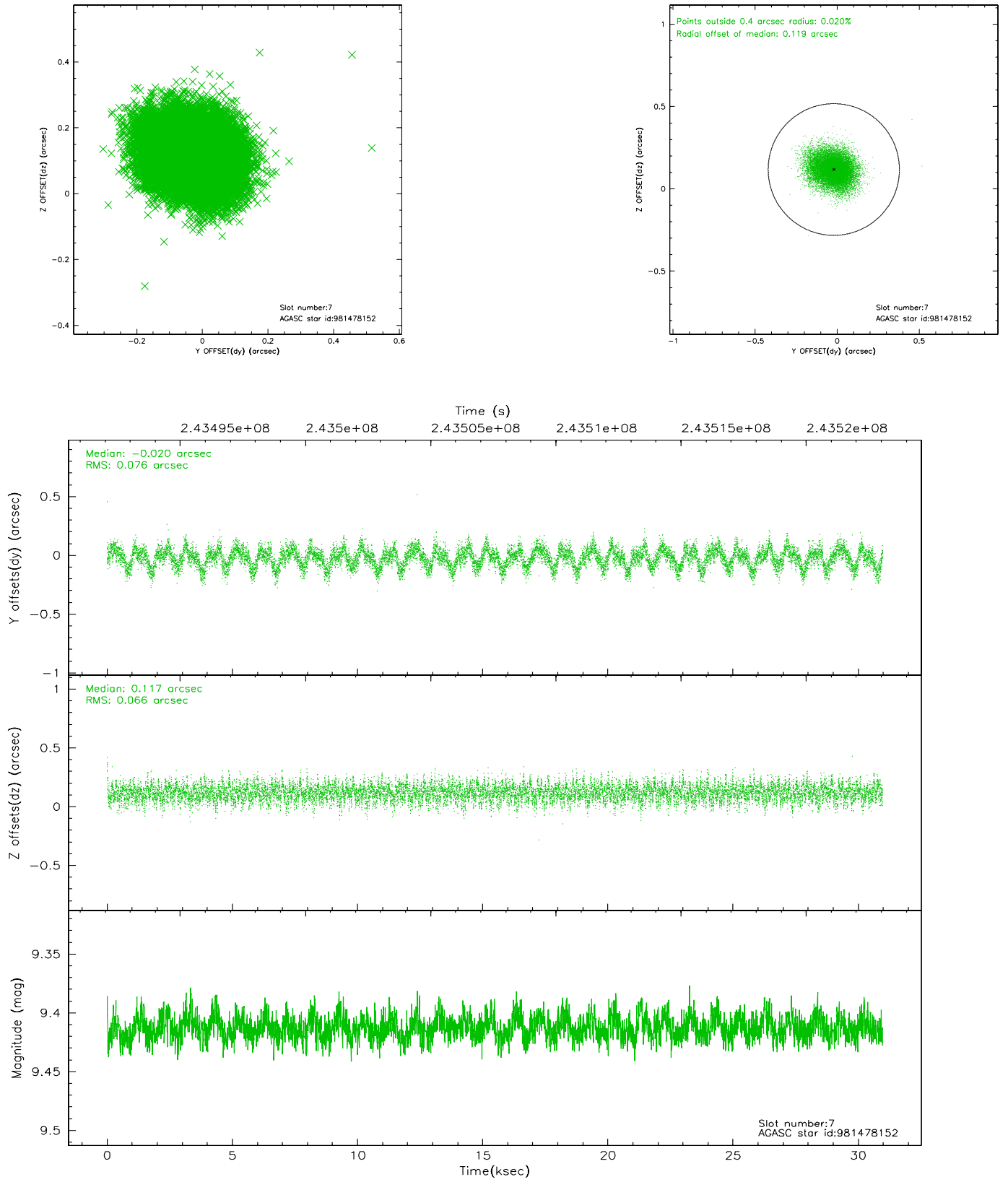
### 2.4.3 Slot 5



## 2.4.4 Slot 6

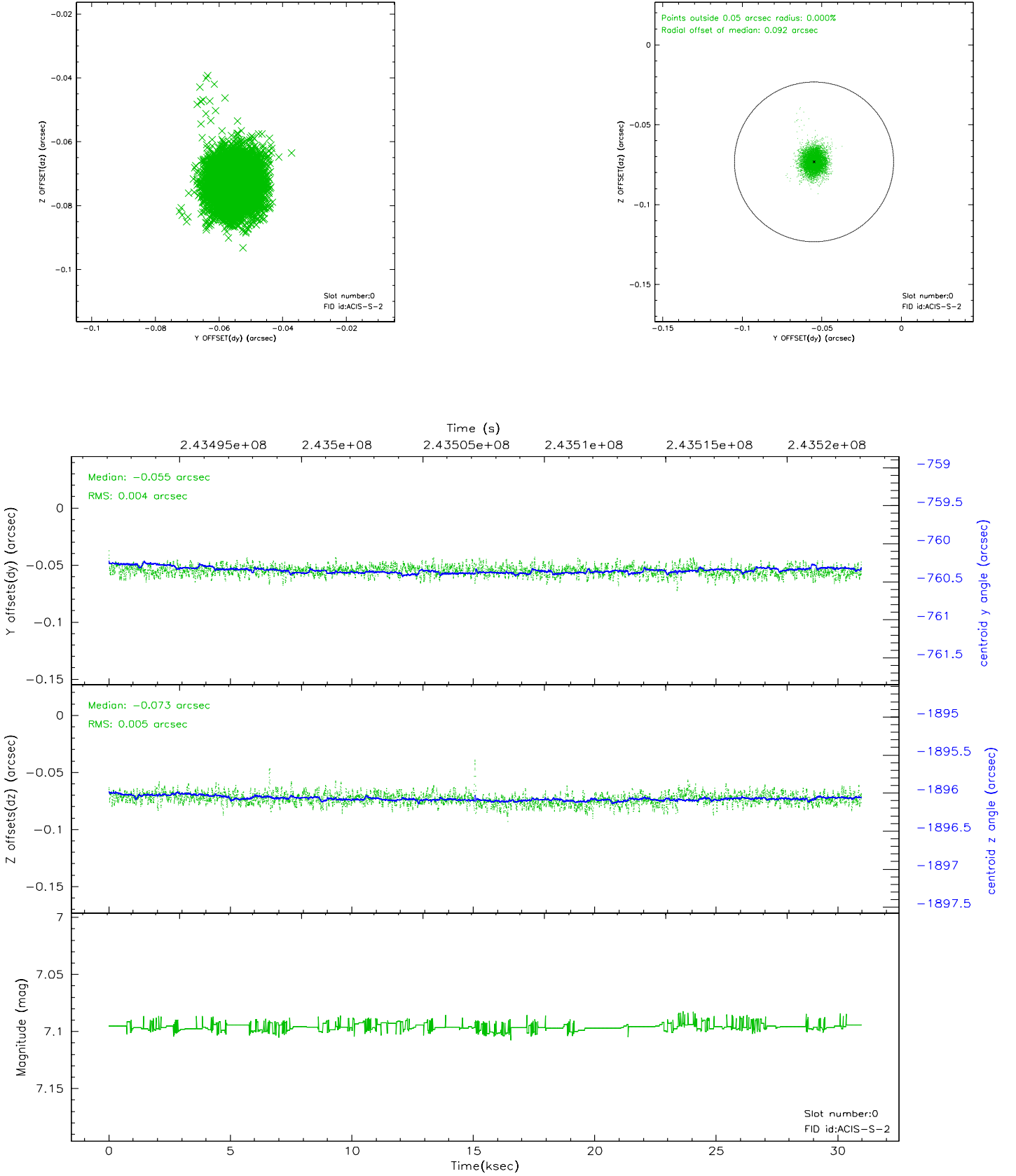


## 2.4.5 Slot 7

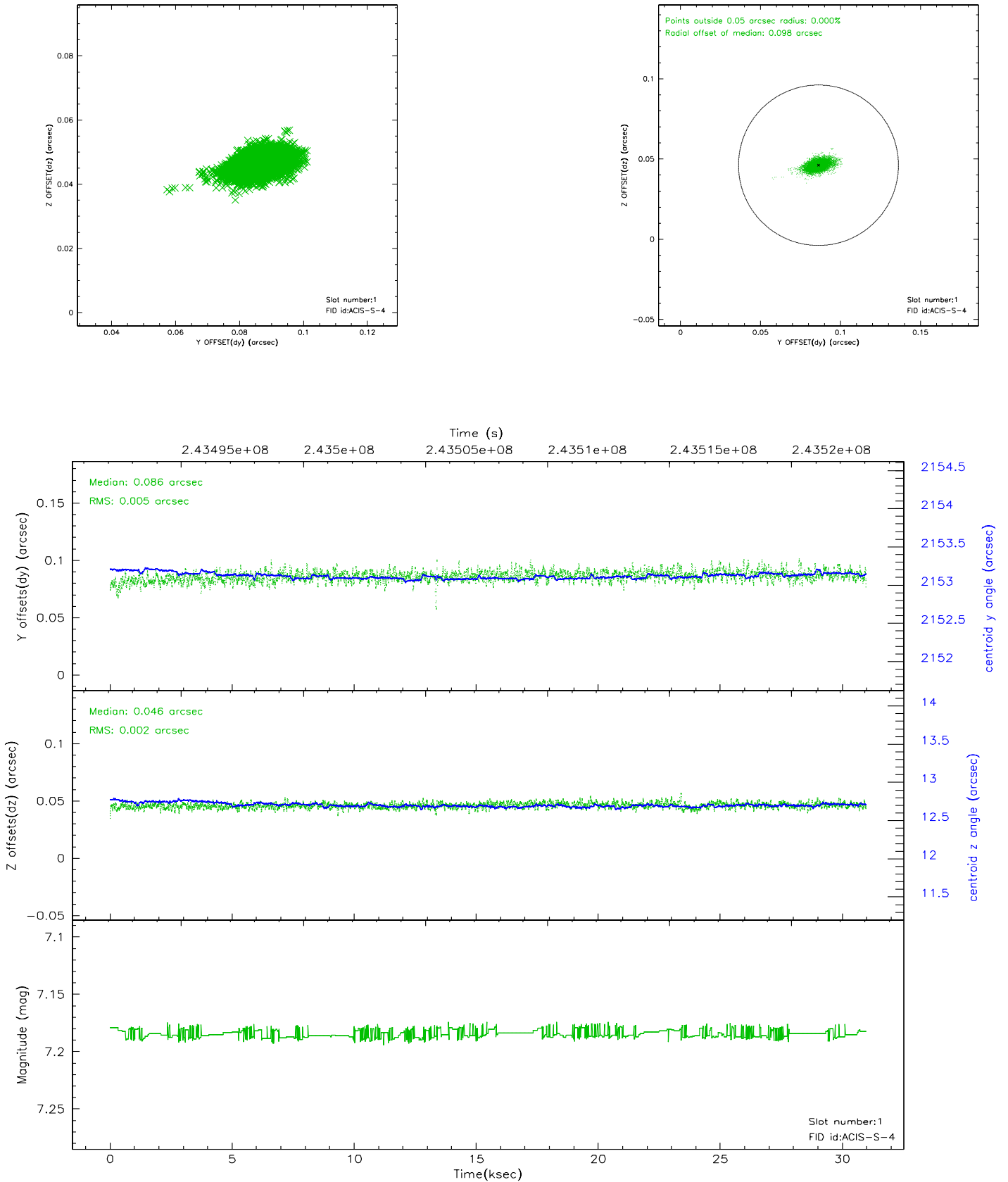


## 2.5 FID Slots

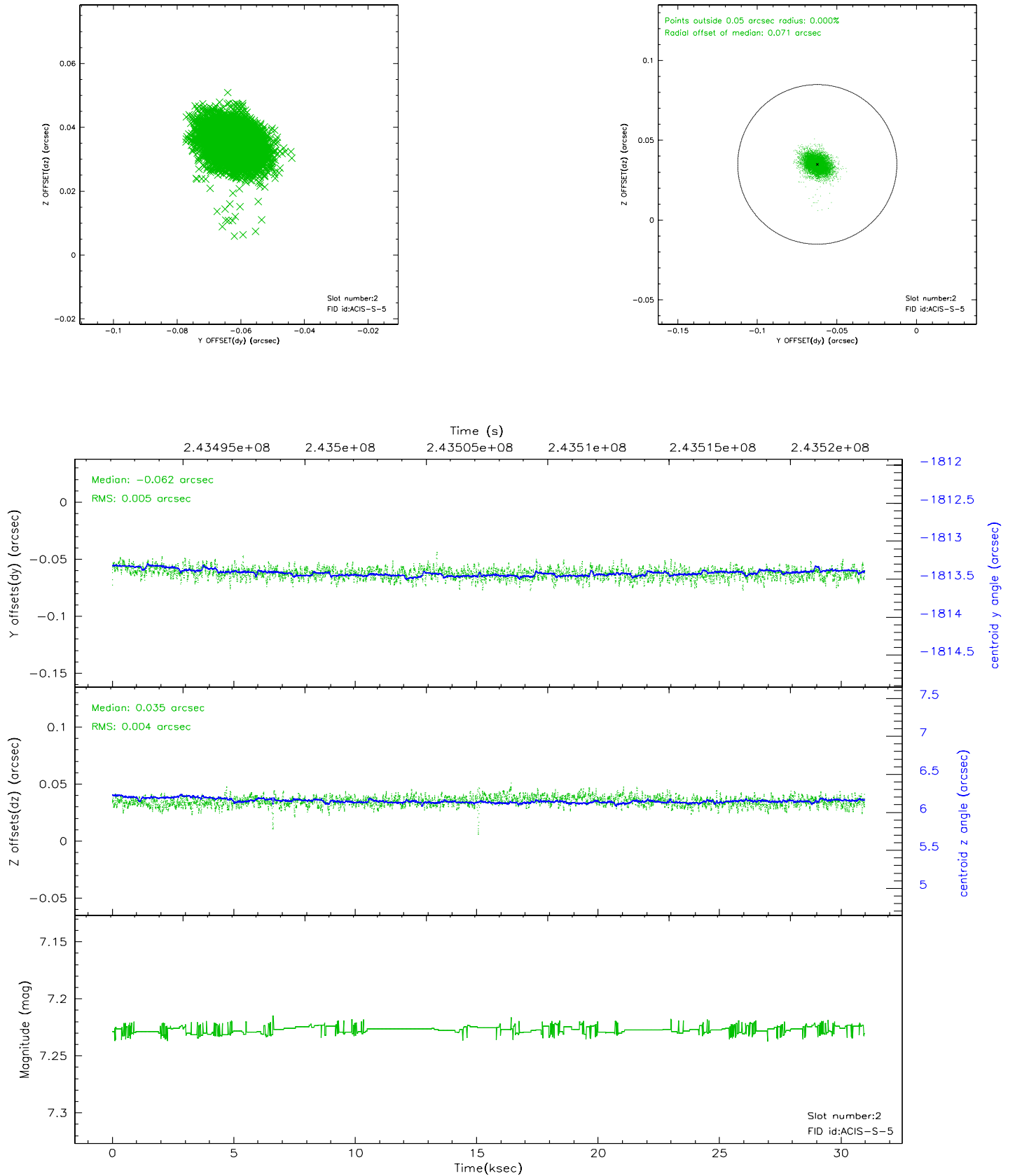
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



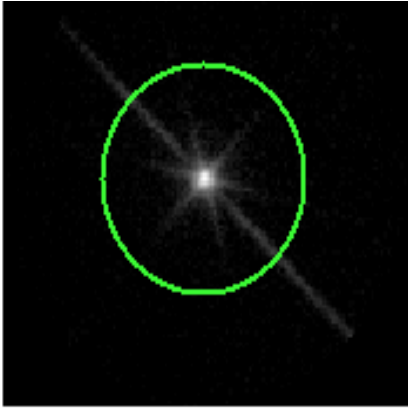


# 3 Gratings

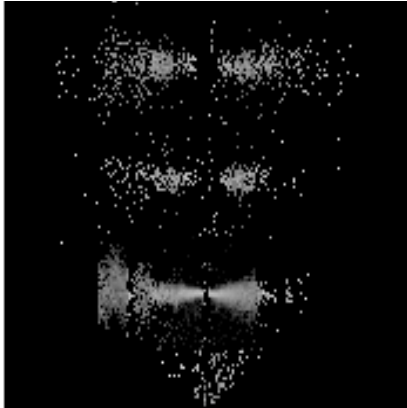
## 3.1 LETG Arm



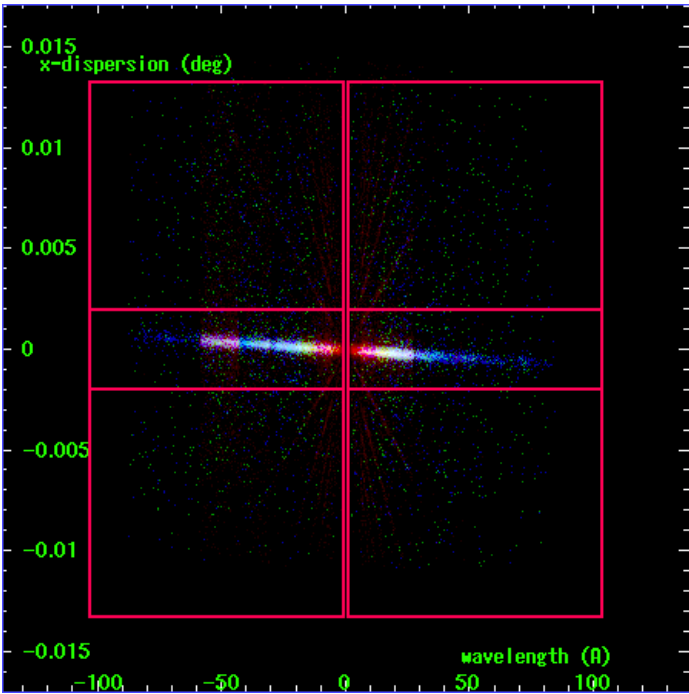
LETG Order Sort 123



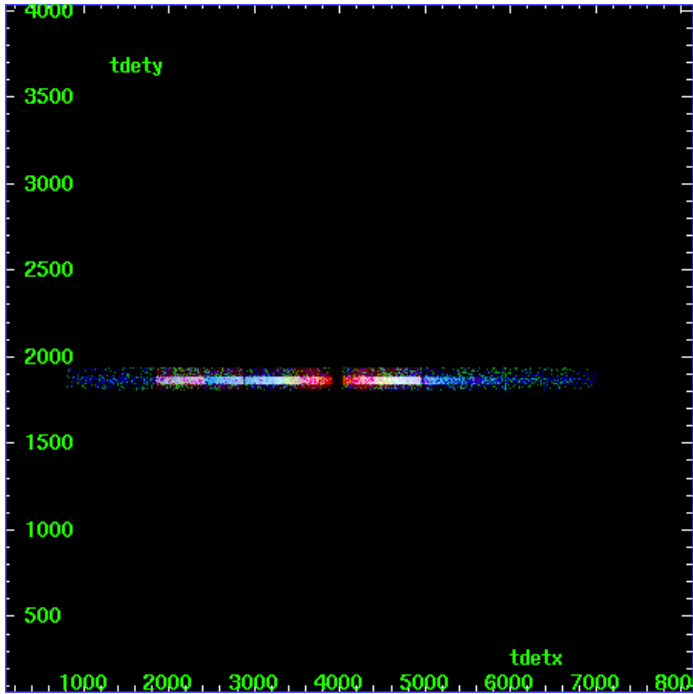
LETG Zero Order



LETG Order Sort ALL

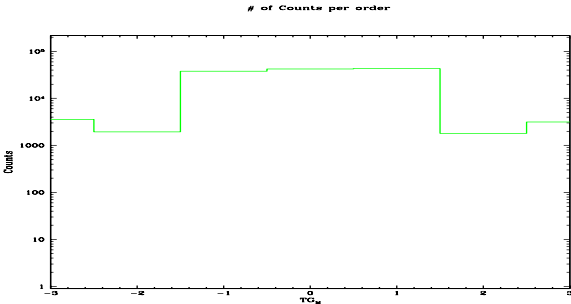


Spot Image LETG

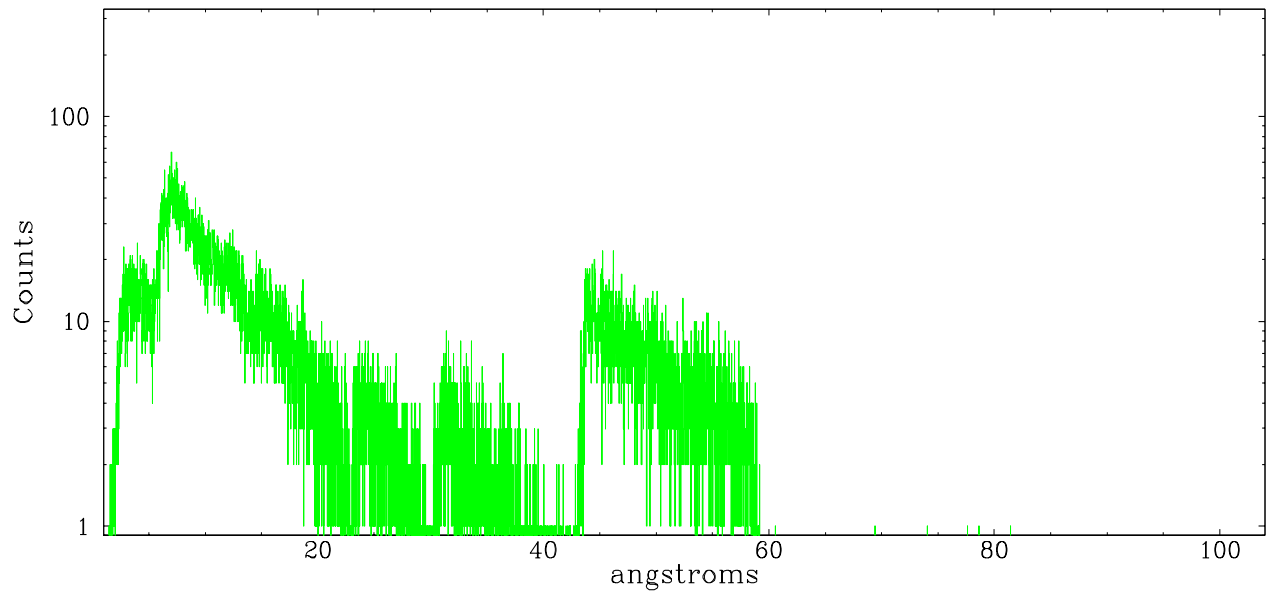


Full Detector LETG

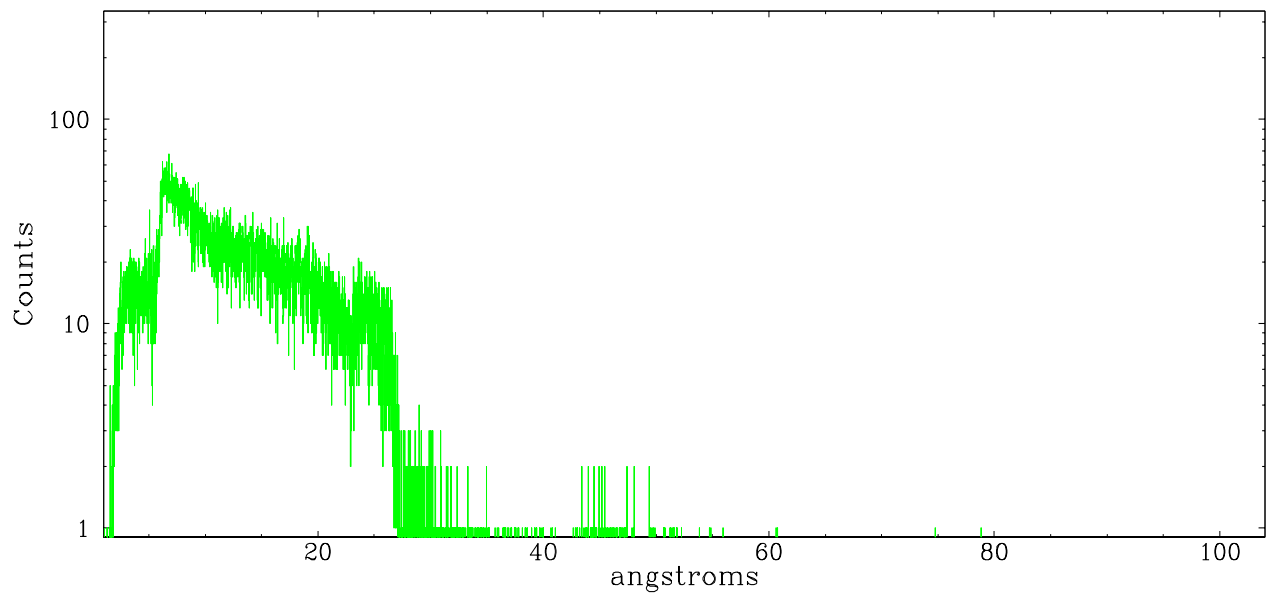
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	3587	1935	37829	42053	43151	1802	3142



leg order -1



leg order +1



# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2006.03.26
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.95416

## A.2 Comments

Window constraint met.

As a consequence of the DEA-A shutdown anomaly on Sep 15th (DOY258), the the reported value of the ACIS FP temperature was ~1.3 degrees warmer than the actual temperature. GOs should subtract 1.3 degrees from the reported temperature to determine the true temperature. In addition the FP temperature was not regulating during this period. The FP temperature fluctuated between -121.3 C and -118.8 C during this time. For analysis of line-dominated spectra from the FI CCDs, GOs might notice a systematic gain shift by up to 0.5%, either towards higher/lower energies depending on if the FP temperature was colder/warmer than -119.7 C. Analysis of line-dominated spectra on S3 are mostly unaffected (where mostly unaffected means that the changes are smaller than the current uncertainties in the calibration). Analysis of continuum-dominated spectra on both the FI and BI CCDs are mostly unaffected. Imaging analysis on both the FI and BI CCDs are mostly unaffected.