

# V&V Reference Report

## L2 ASCDS Version : 7.6.9

Observation 2603 - L2 Version 3  
Chandra X-Ray Center

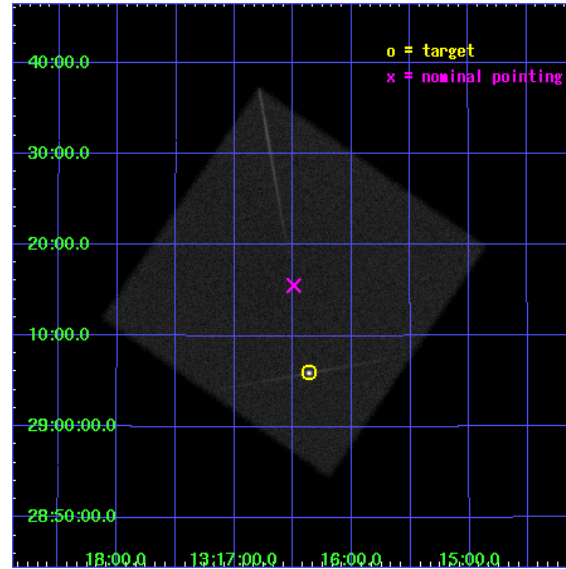
L2 Processing Date : Nov 21 2007

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# 1 Front

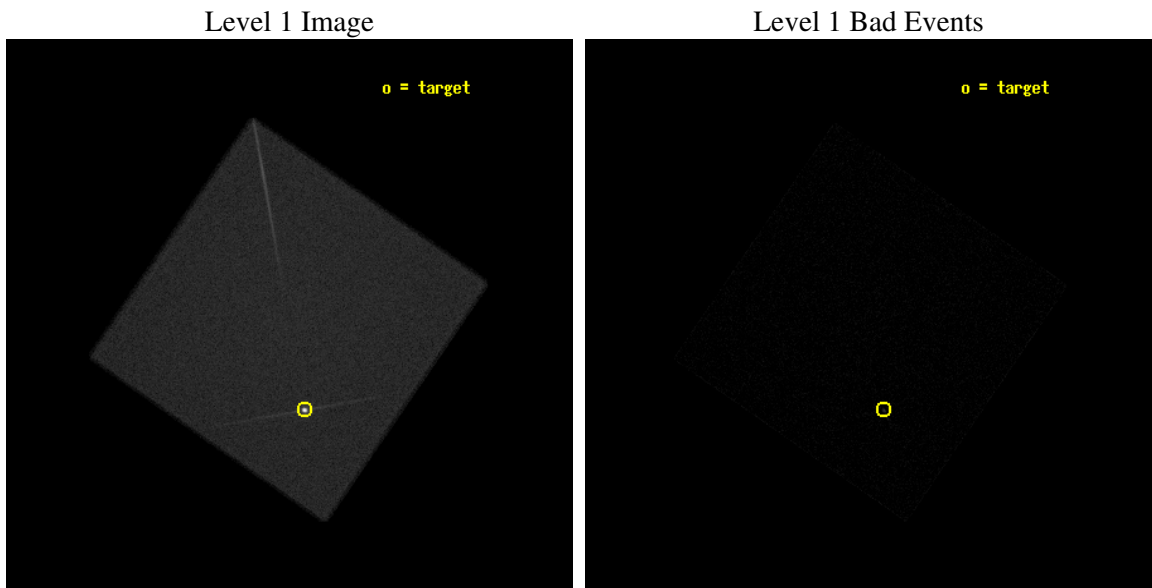
seq_num	290159
obs_id	2603
title	AO3 LETG/HRC-I CALIBRATION OBSERVATIONS OF HZ43
observer	Dr. CXC Calibration
object	HZ43
ra_targ	199.092083
dec_targ	29.099
ra_nom	199.12332903069
dec_nom	29.259417511839
roll_nom	259.63511401326
revision	3
ontime	10187.73166886
livetime	10104.802209862
l2events	622919



## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



### 2.1.2 Parameters

obi_num	0
ascdsver	7.6.11.2
caldbver	3.4.1
date	2007-11-21T22:40:44
revision	3

sched_exp_time	10000.000000
ontime	10187.73166886
l1events	932847

### 2.1.3 Events

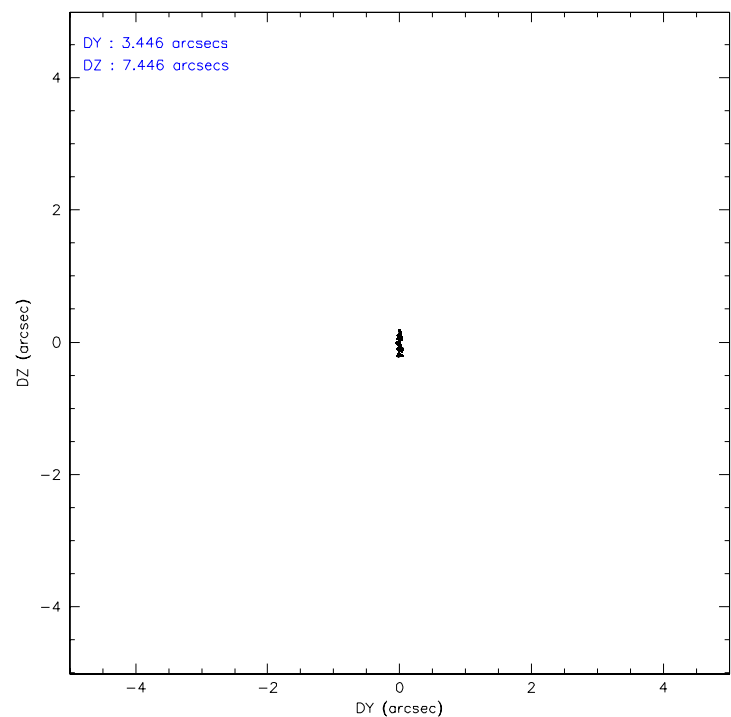
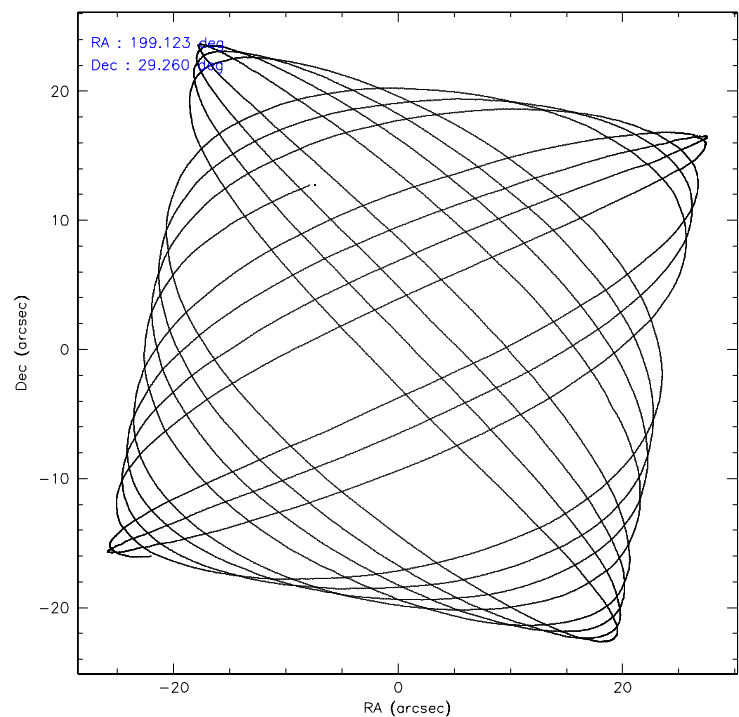
#### Level 1 Events

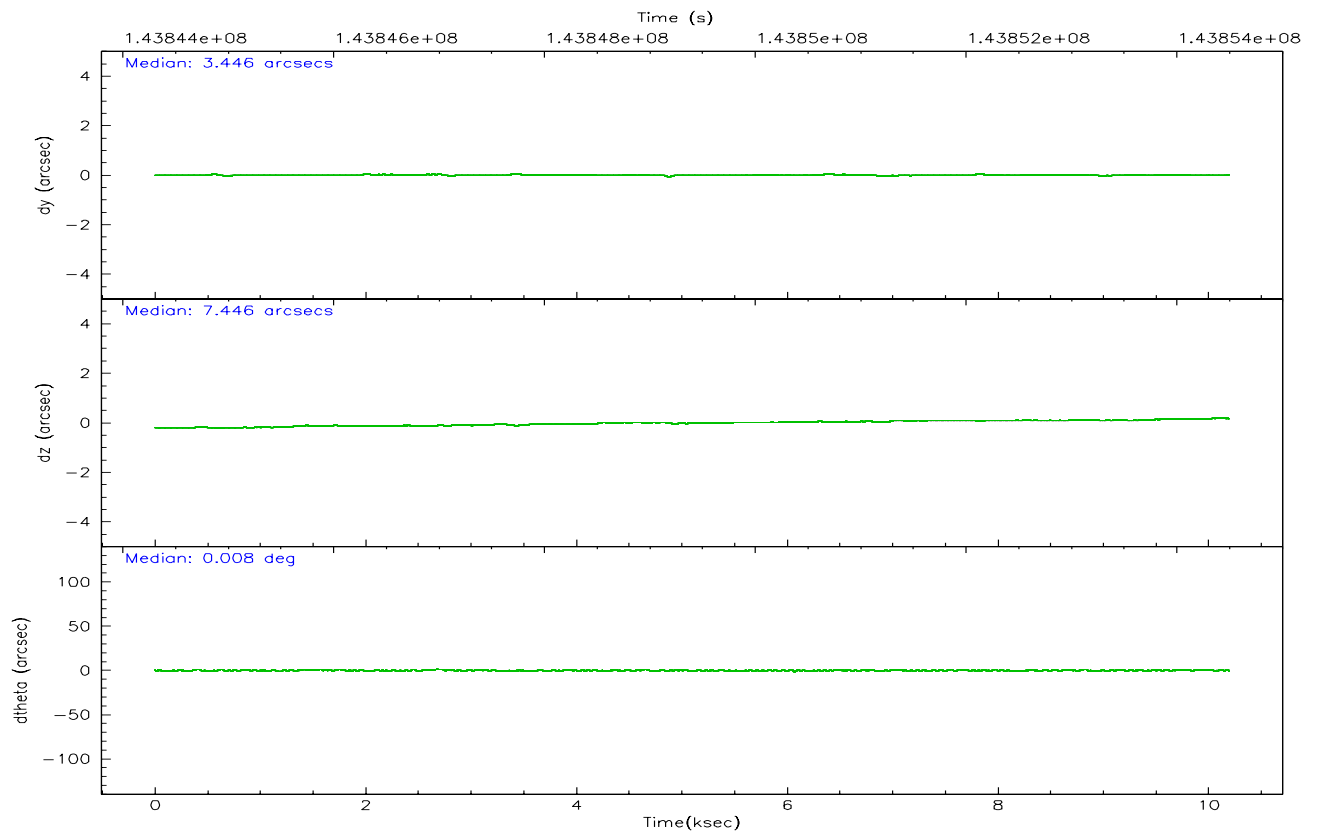
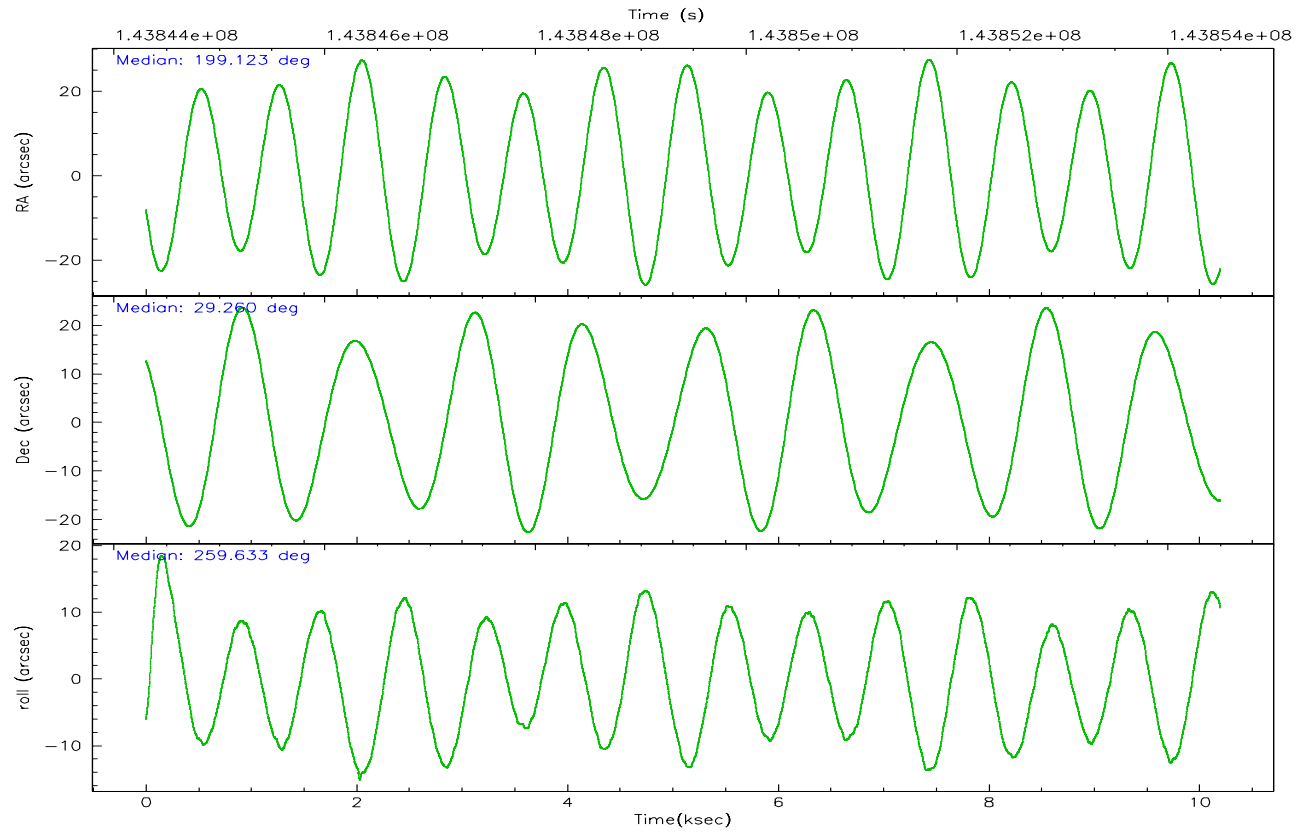
	<b>segment 0</b>
level 1 events	932847
rejected events	94762
rejected %	10%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	HRC	HRC	Obspar format version number	6	6
Detector	HRC-I	HRC-I	Obspar file type	PREDICTED	ACTUAL
Grating	LETG	LETG	Obspar update status	NONE	UPDATED
Data mode	OBSERVING	OBSERVING			
Observation mode	POINTING	POINTING			
Pointing RA	199.112369	199.1233290306928			
Pointing Dec	29.284823	29.25941751183949			
Pointing Roll	259.735963	259.6351140132571			
Window start time	141868864.184000	141868864.184000			
Window stop time	144460864.184000	144460864.184000			
SIM focus pos (mm)	-1.040293	-1.038866356238299			
SIM defocus (mm)	0	0.001426264420575141			
SIM translation stage pos (mm)	126.985494	126.9854943052878			
SIM translation stage offset (mm)	0	-5.413686238853188e-06			
Observation start time	143844498.184000	143844101.31507			
Observation start date	2002-07-23T20:47:14	2002-07-23T20:41:41			
Observation end time	143854498.184000	143855520.84054			
Observation end date	2002-07-23T23:33:54	2002-07-23T23:52:00			

### 2.3 Aspect





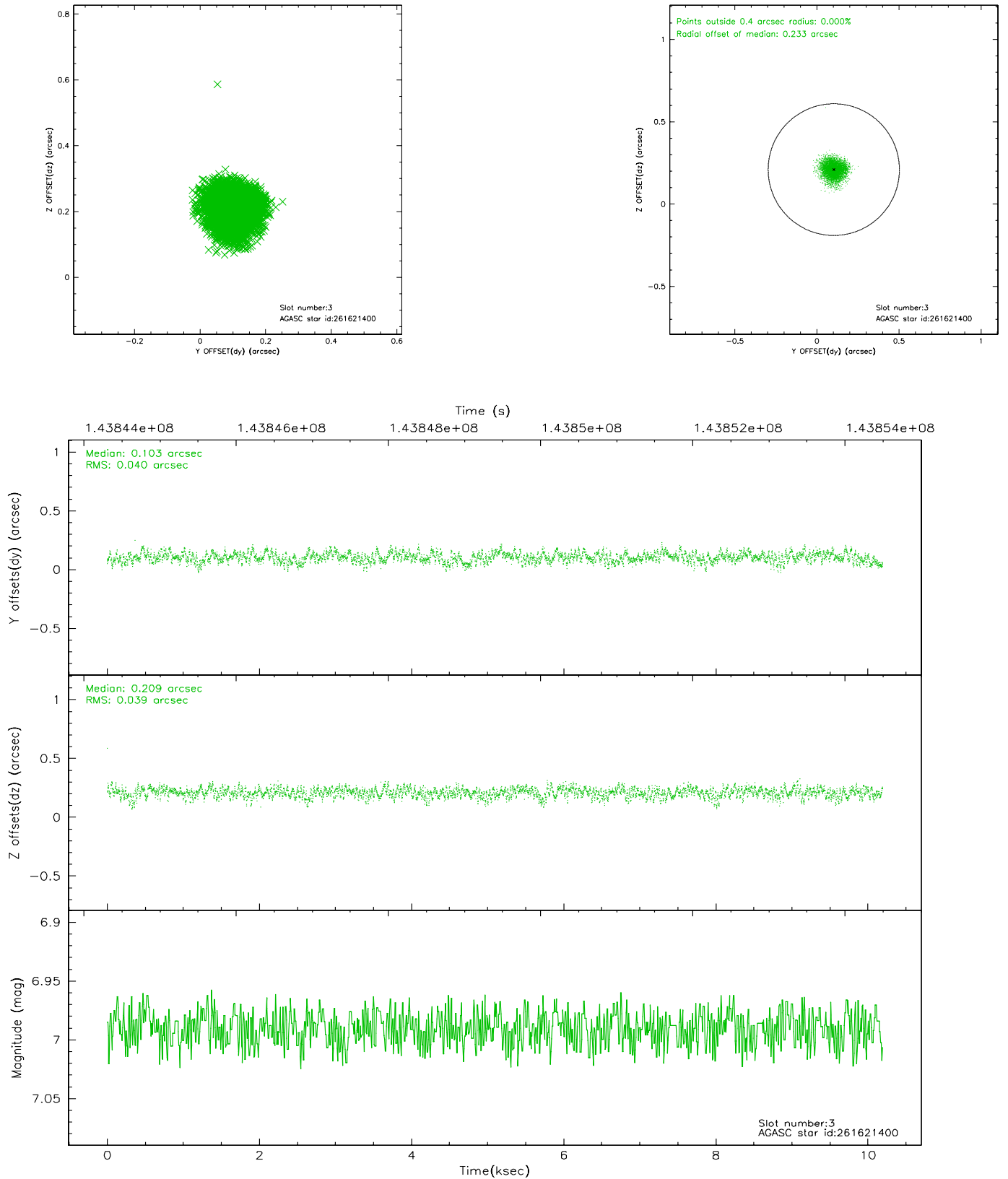
### Slot Statistics

slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	HRC-I-2	6.99	2486	0.090	0.002	0.007	0.012	0.000000	0.000000	853.79	-1296.91
1	FID	HRC-I-3	7.04	2486	-0.004	0.012	0.006	0.010	0.000000	0.000000	-1187.08	1008.71
2	FID	HRC-I-4	6.99	2486	0.033	-0.100	0.006	0.011	0.000000	0.000000	1283.41	1007.13
3	GUIDE	261621400	6.99	4972	0.103	0.209	0.060	0.094	198.901600	28.741982	2041.14	-305.46
4	GUIDE	261624080	7.09	4972	-0.160	-0.100	0.055	0.089	198.424651	29.817768	-1510.98	-2456.03
5	GUIDE	261629720	8.09	4972	0.138	-0.030	0.055	0.090	199.236176	29.044452	781.78	537.98
6	GUIDE	261626352	8.61	4970	-0.094	-0.029	0.091	0.141	198.417097	29.781420	-1378.38	-2456.80
7	GUIDE	261623040	9.12	4969	0.018	-0.041	0.077	0.125	198.792686	29.757643	-1498.36	-1286.35

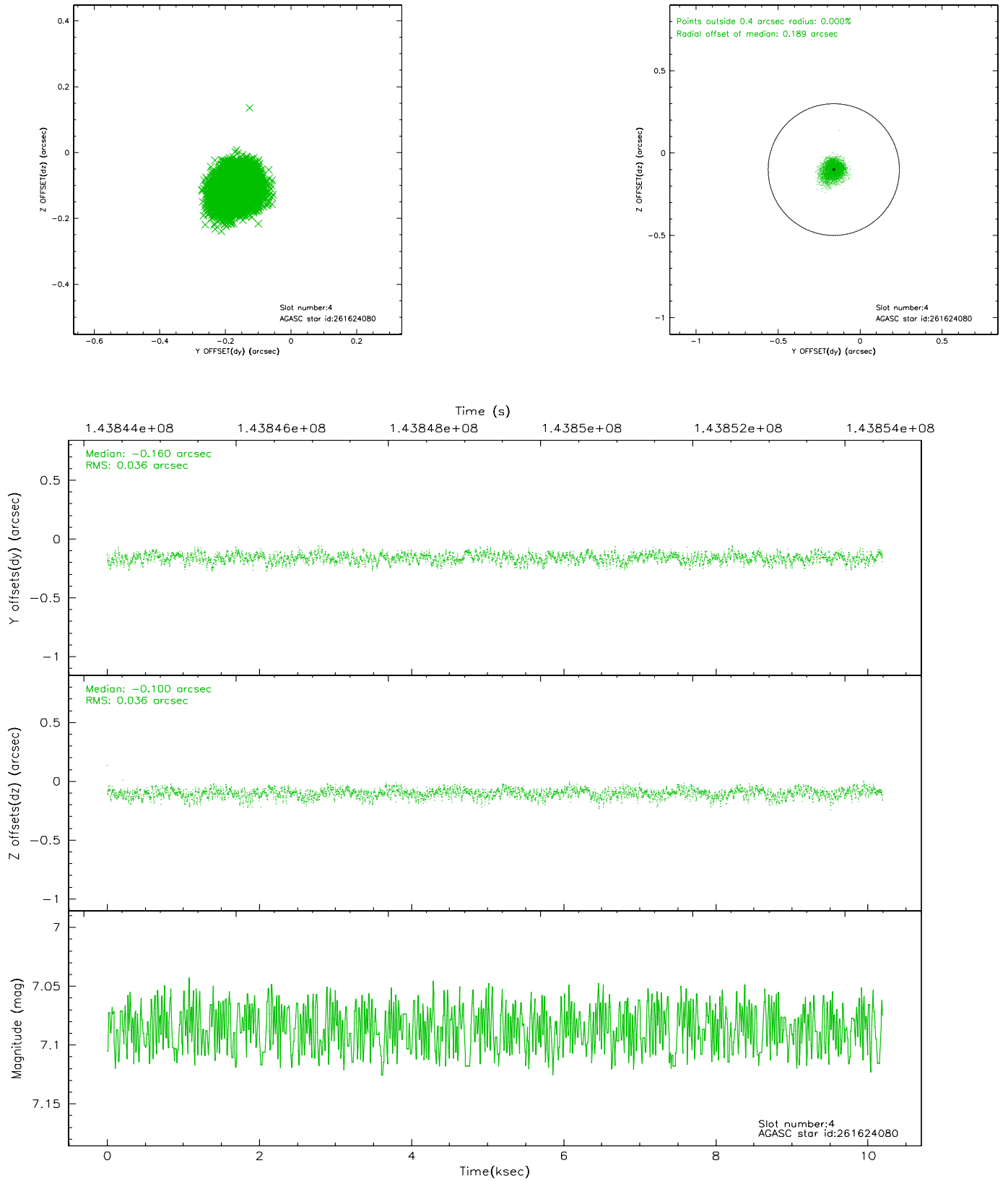


## 2.4 Star Slots

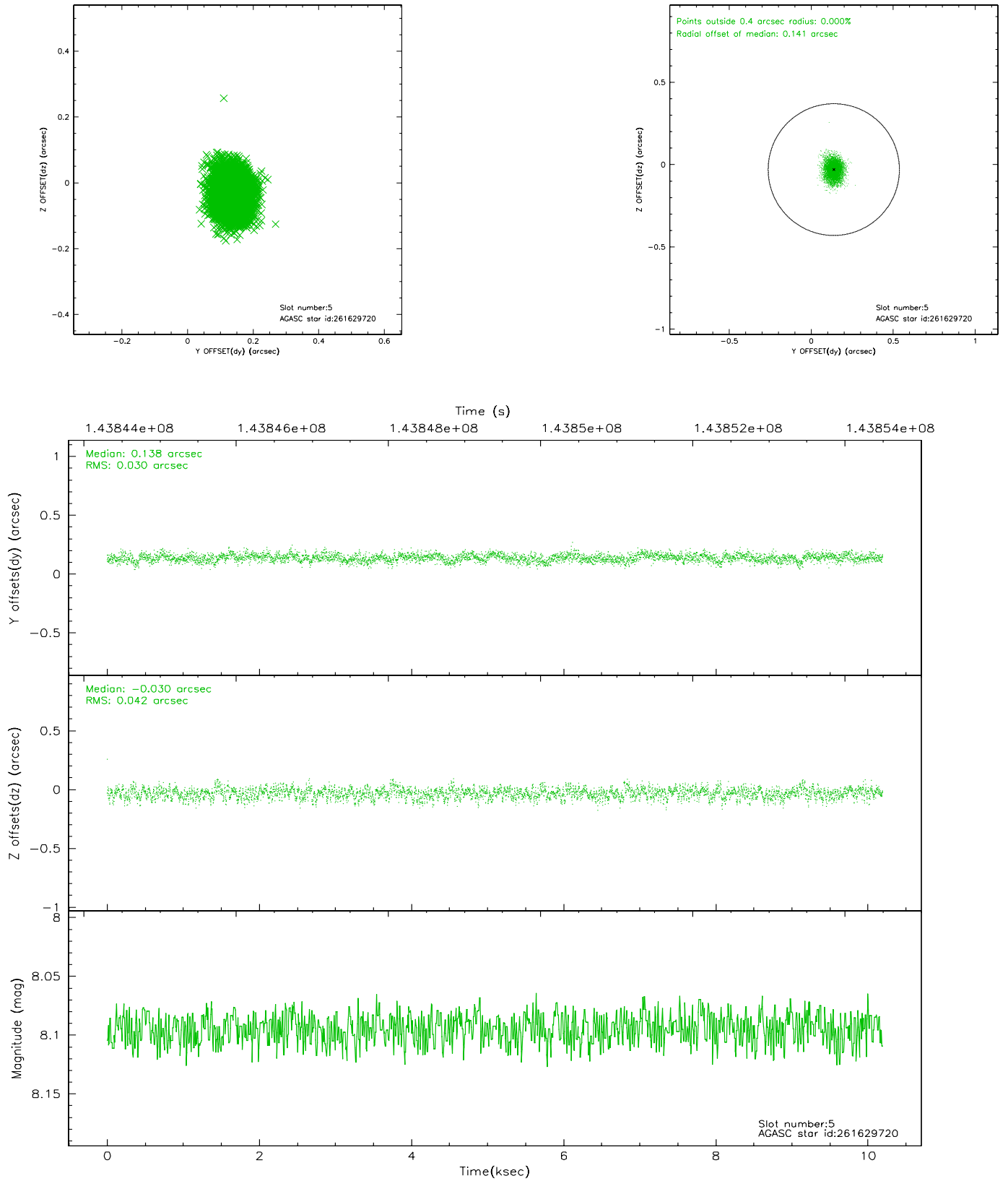
### 2.4.1 Slot 3



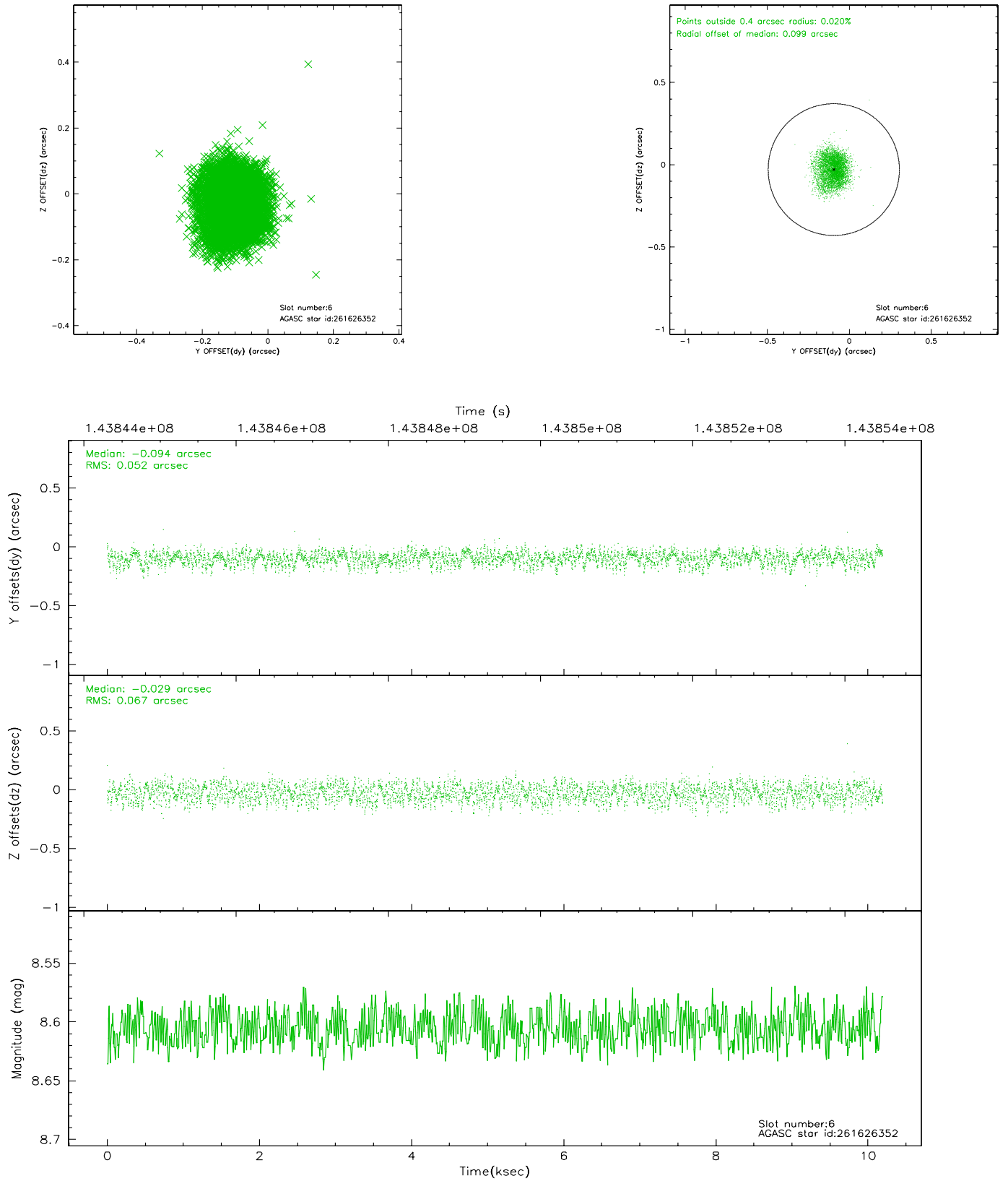
## 2.4.2 Slot 4



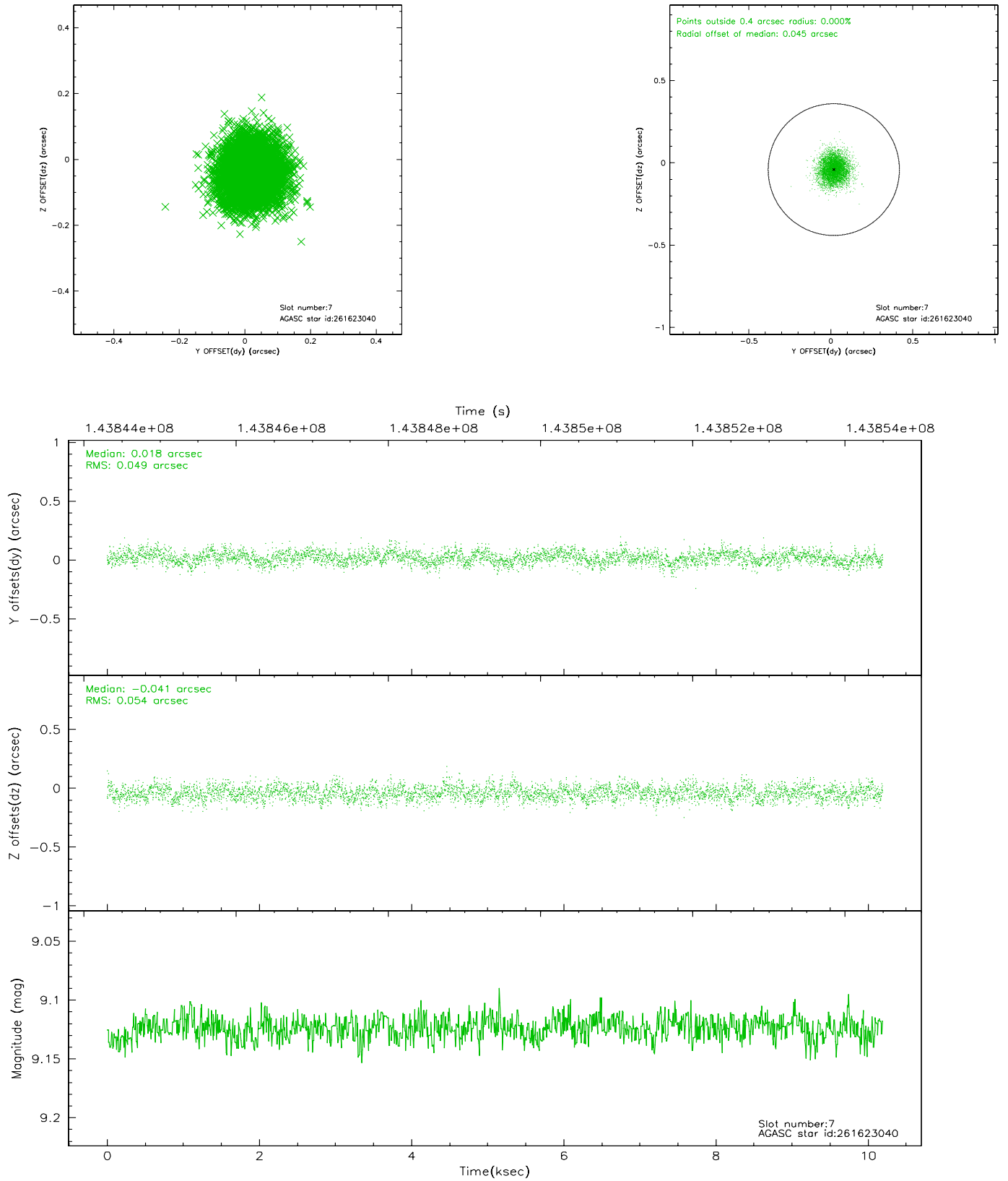
### 2.4.3 Slot 5



## 2.4.4 Slot 6

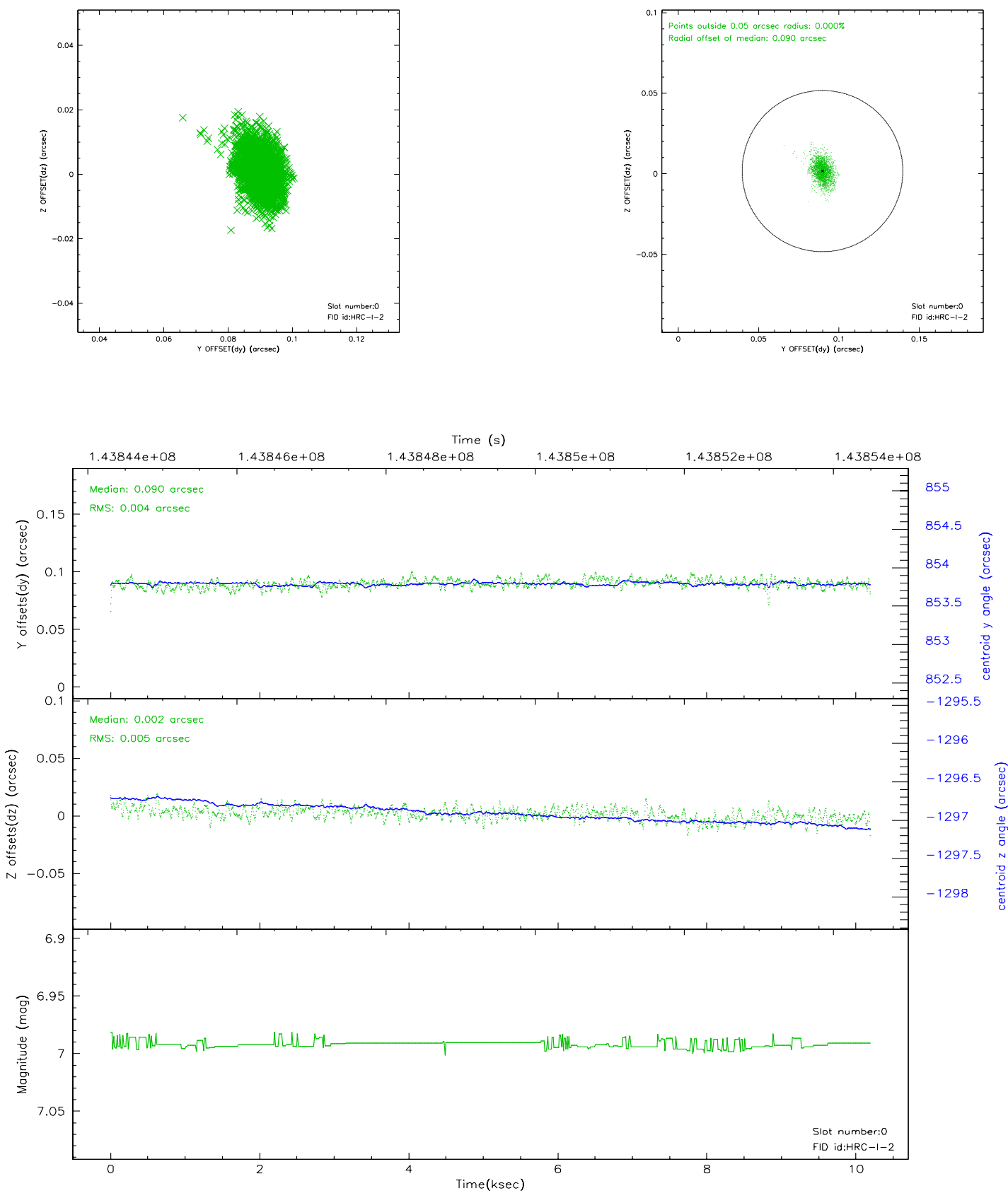


## 2.4.5 Slot 7

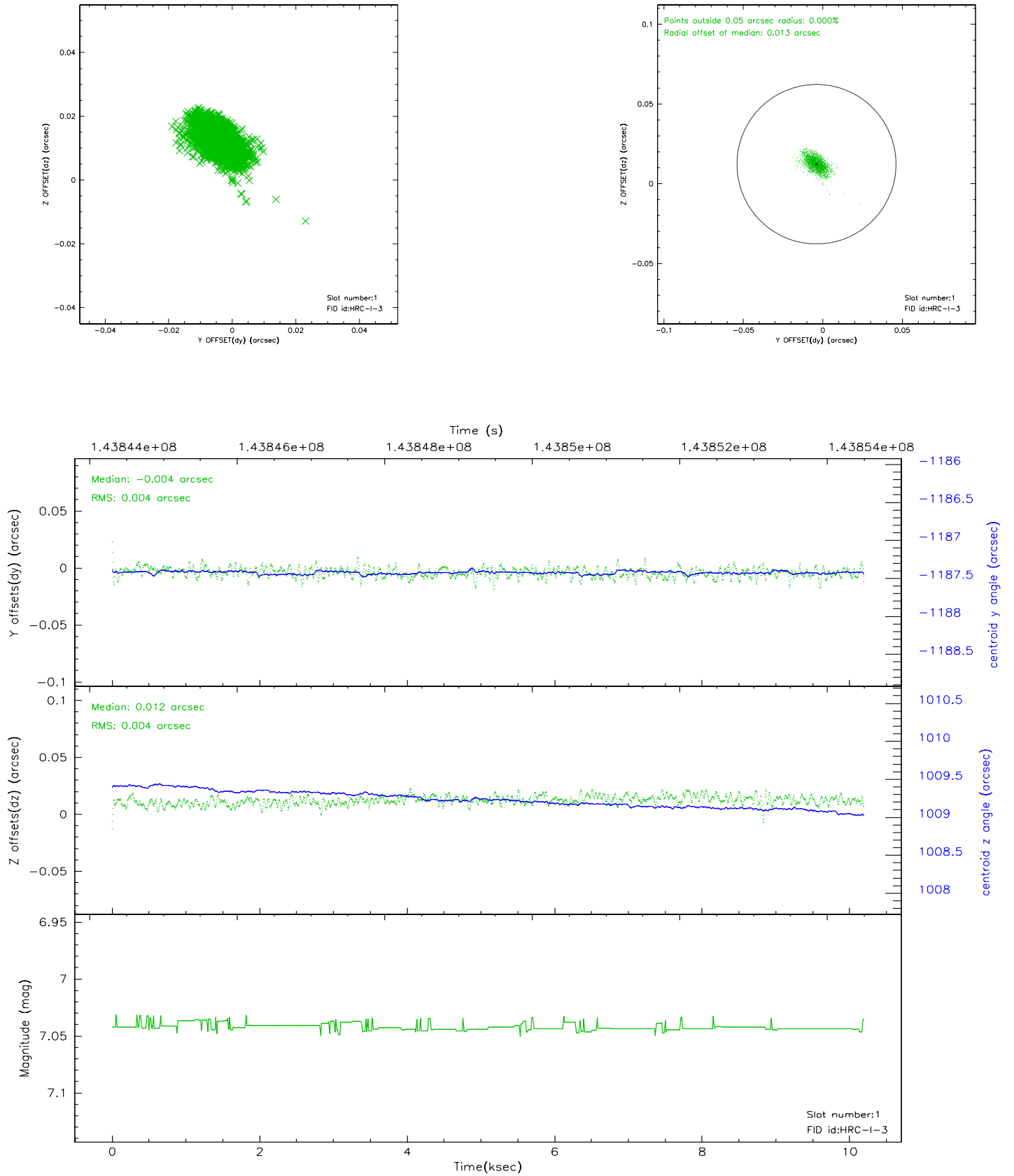


## 2.5 FID Slots

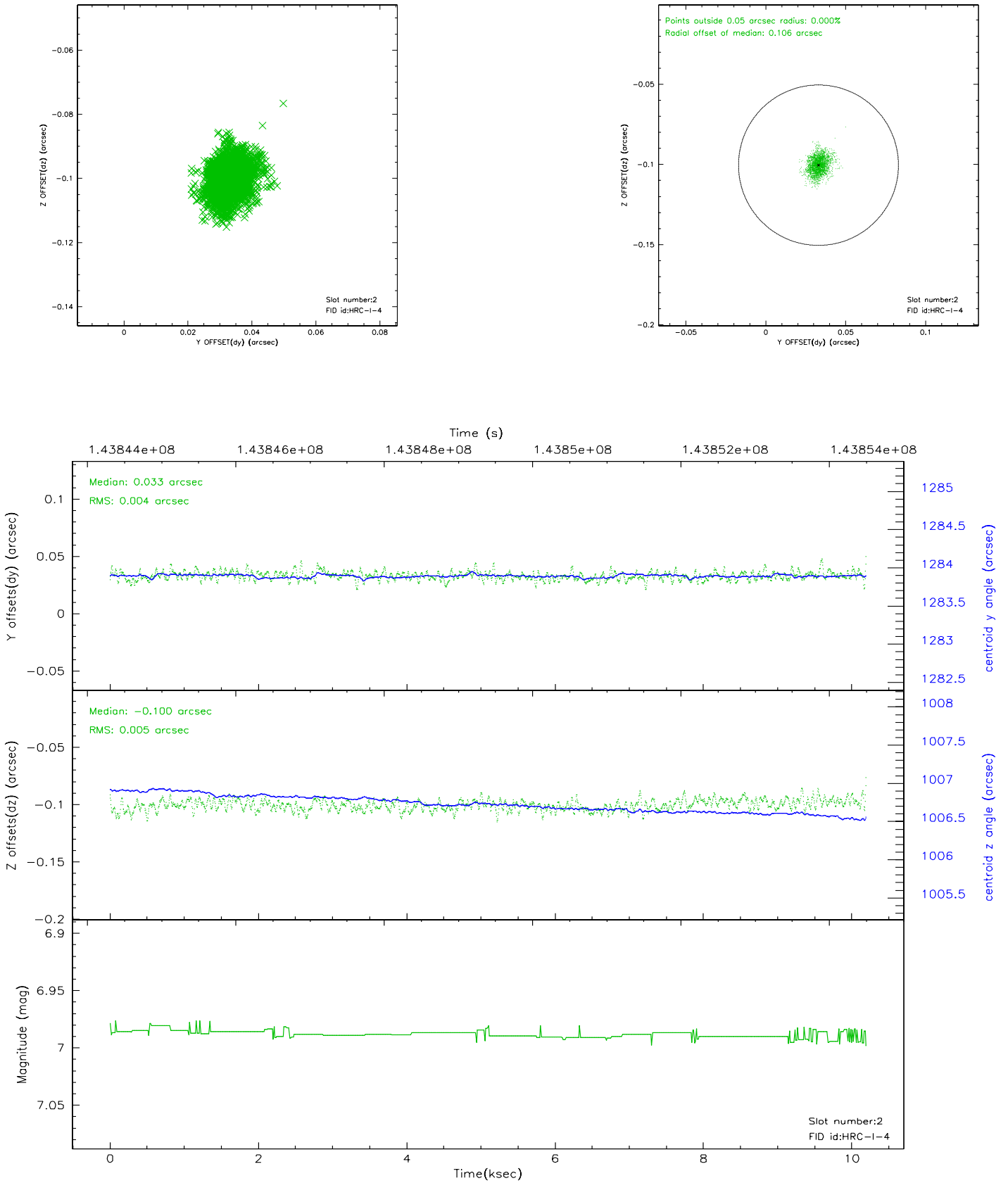
### 2.5.1 Slot 0



## 2.5.2 Slot 1



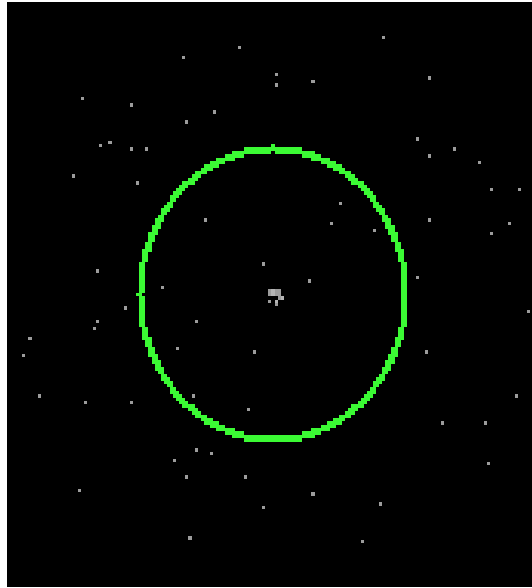
### 2.5.3 Slot 2



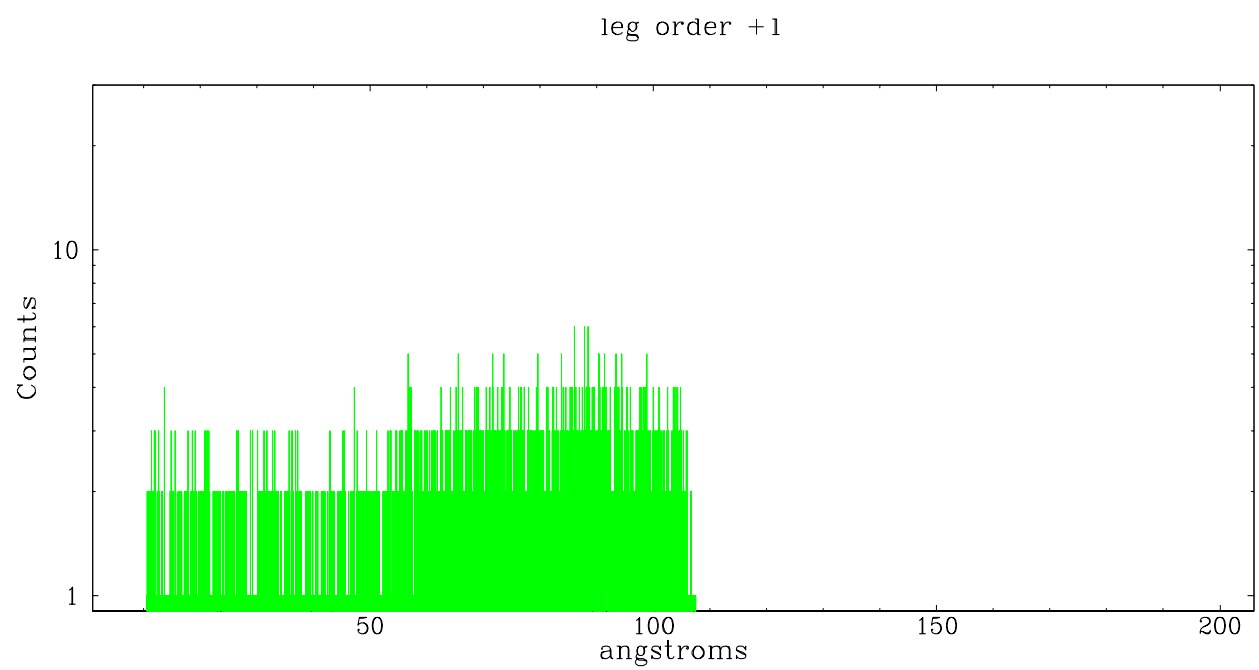
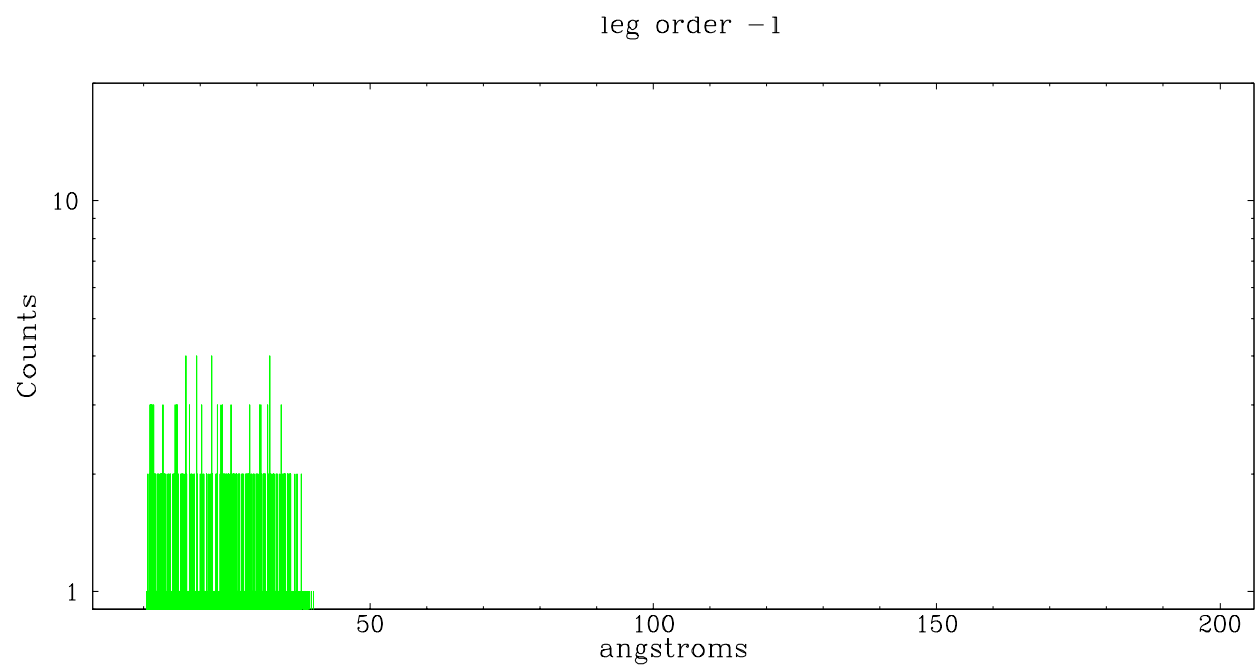


## 3 Gratings

### 3.1 LETG Arm



LETG Zero Order



# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2007.12.04
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.187

## A.2 Comments

Source is quite far off-axis, and the PSF is asymmetric and contains the pattern of the struts. The zeroth order is not found at the precise center of the PSF, but is within about 1 arcsec. The off-axis position yields a minus side spectrum with energies beyond 100 A. The plus side spectrum is truncated.

===== The point spread function is significantly extended by this off-axis position. Off-axis source gratings observation: WARNING: there are no standard CIAO tools for analysis of grating spectra from extended sources. The shape of an emission 'line' will be the shape of the zero order spatial structure convolved with the instrumental LSF. Grating extractions can be used, but need to be combined with custom spatial-spectral analysis, since wavelength is multi-valued at any particular diffraction angle. WARNING: The user will need to deconvolve the PSF of the off-axis source to get an accurate determination of the zeroth order position, then use software tools such as CIAO to specify the coordinates of the zeroth order before running the tools to resolve the dispersed events. The spectral data supplied in this processing are only energy-calibrated for the zeroth order position as given by the user-supplied coordinates. The tool tgdetect failed to find a

source.===== The current observation has been reprocessed as part of Repro III ('C' supplement) the purpose of which is to update all HRC-I ObsIDs since Jan 2000 to the latest calibrations available for that configuration. Specifically, we are updating the DEGAP solution and the Gain Maps applied. For more information see the Repro IIIC web page at <http://asc.harvard.edu/cda/repro3.html#IIIC> and the associated links.