

# V&V Reference Report

## L2 ASCDS Version : 10.8.1

Observation 21734 - L2 Version 1  
Chandra X-Ray Center

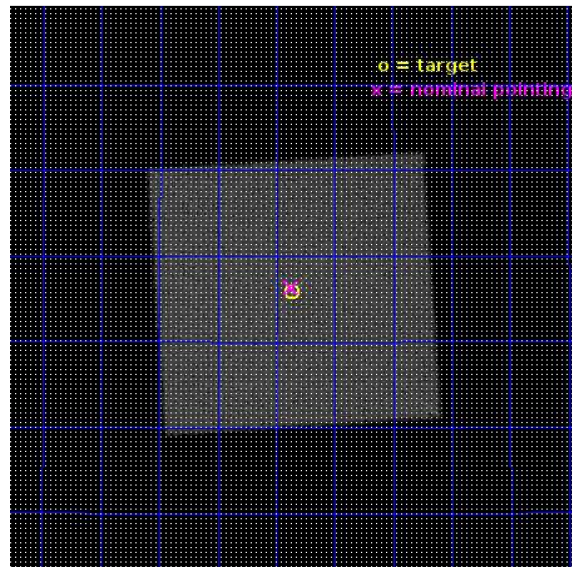
L2 Processing Date : Nov 20 2019

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# 1 Front

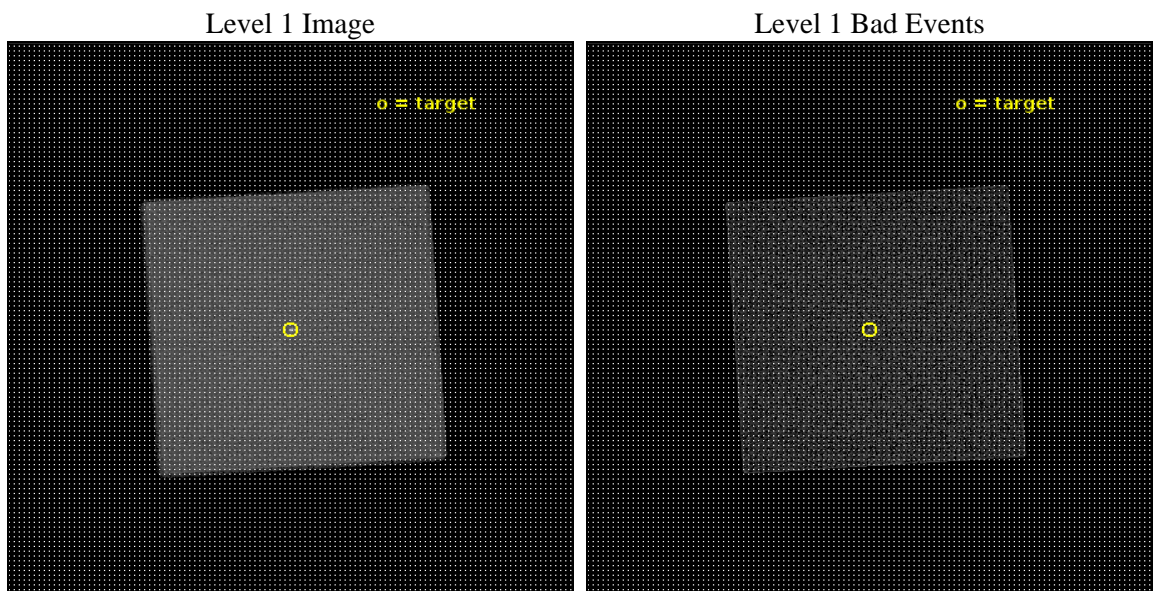
seq_num	291420	Sequence number
obs_id	21734	Observation id
title	AO-20 Calibration Observations of HZ43	Proposal title
observer	CXC Calibration	Principal investigator
object	HZ43	Source name
ra_targ	199.090417	Observer's specified target RA [deg]
dec_targ	29.098306	Observer's specified target Dec [deg]
ra_nom	199.09284707805	Nominal RA [deg]
dec_nom	29.105579279982	Nominal Dec [deg]
roll_nom	41.403331115475	Nominal Roll [deg]
revision	1	Processing version of data
ontime	2194.7813825607	[s]
livetime	2161.977548203	Ontime multiplied by DTCOR
l2events	282304	Number of level 2 events



## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



### 2.1.2 Parameters

obi_num	0	Obi number	sched_exp_time	2000.000000	[s] Scheduled observation exposure time
ascdsver	10.8.1	Processing system revision	ontime	2194.7813825607	[s]
caldbver	4.8.4.2	&#160	l1events	553969	Number of level 1 events
date	2019-11-20T20:03:06	Date and time of file creation	tgmethod	TGDETECT	Method used to create src1a file
revision	1	Processing version of data	zo_pos	(16452.58, 16182.27)	src1a sky pixel position

### 2.1.3 Events

#### Level 1 Events

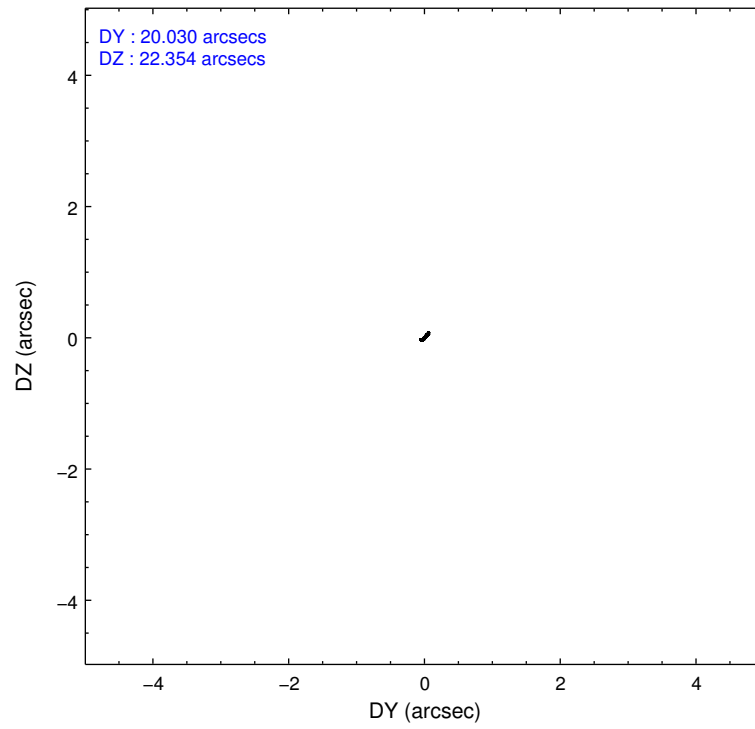
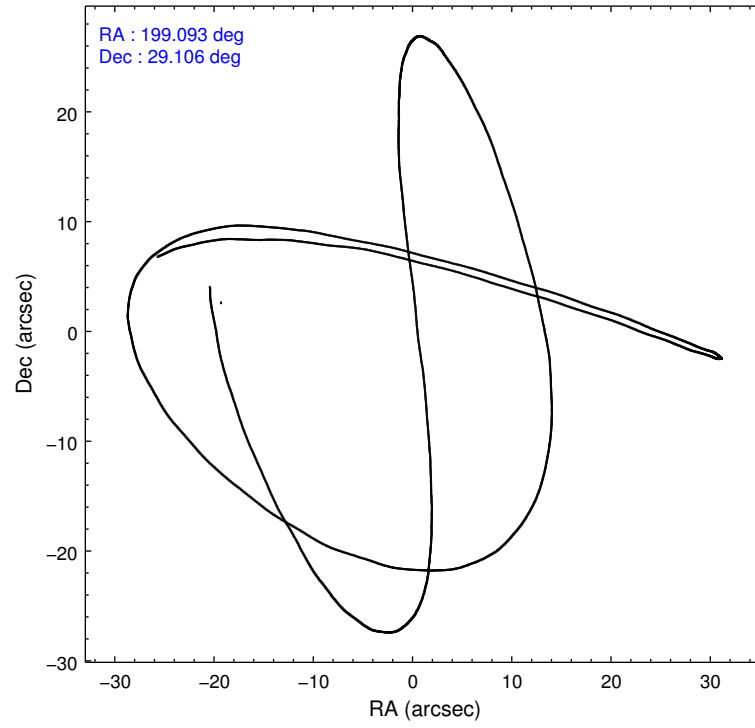
	<b>segment 0</b>
level 1 events	553969
rejected events	184118
rejected %	33%

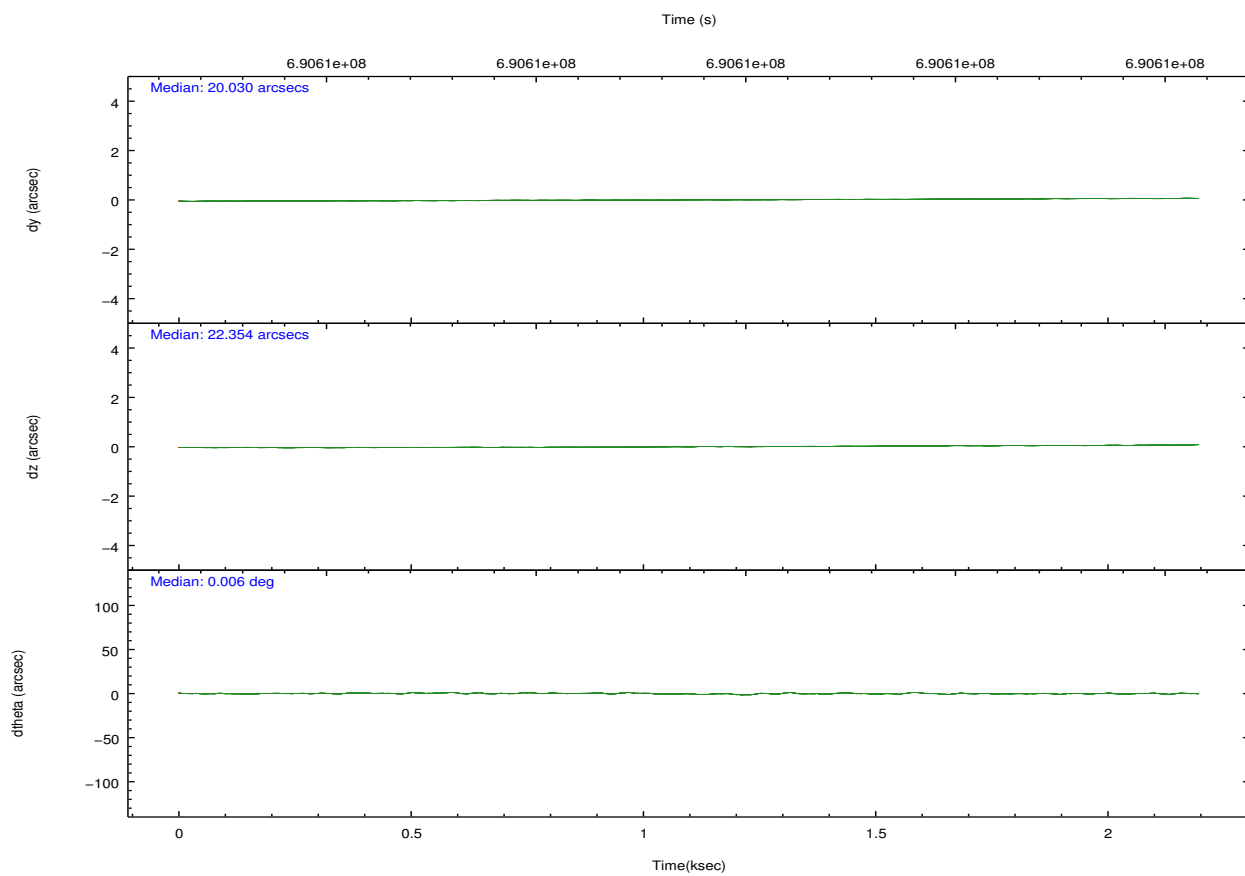
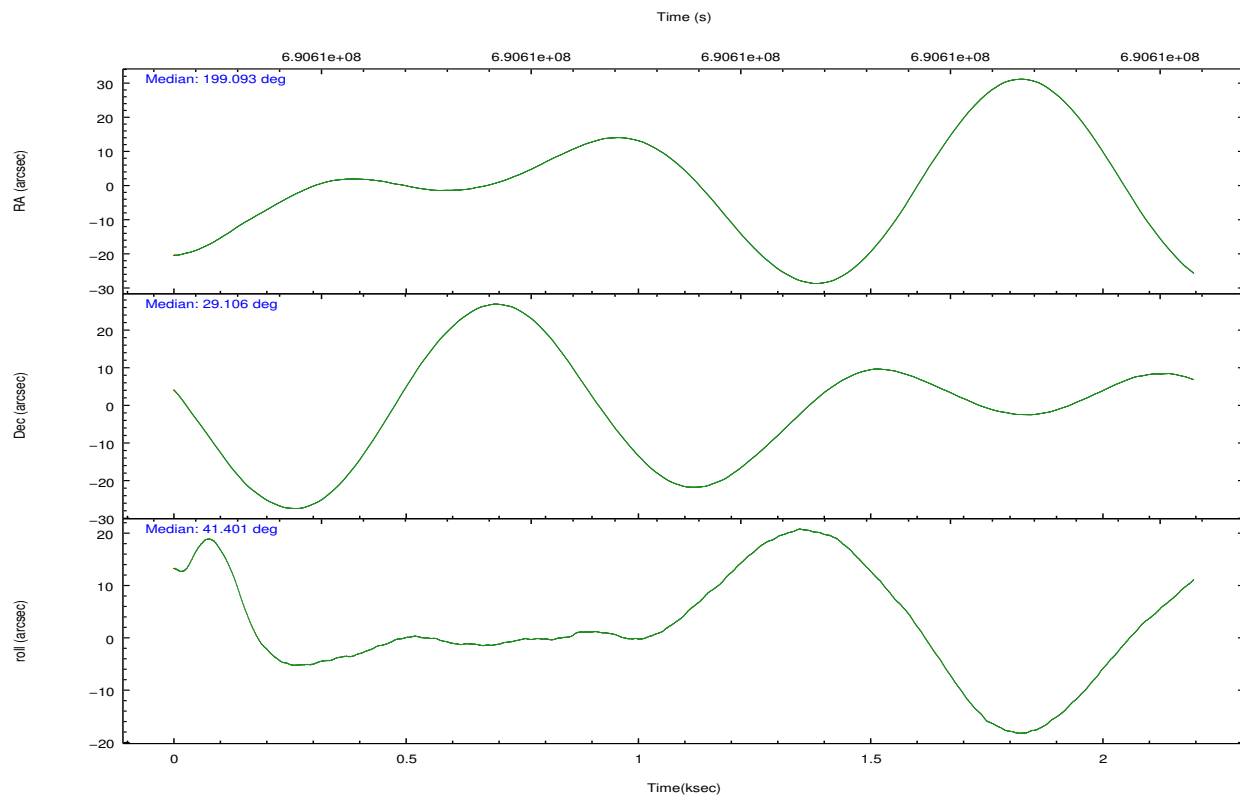
## 2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	HRC	HRC
Detector	HRC-I	HRC-I
Grating	LETG	LETG
Data mode	OBSERVING	OBSERVING
Observation mode	POINTING	POINTING
[deg] Pointing RA	199.083388	199.0928470780515
[deg] Pointing Dec	29.079703	29.10557927998179
[deg] Pointing Roll	41.503420	41.40333111547506
[s] Window start time (MET)	690163269.184000	690163269.184000
[s] Window stop time (MET)	692755269.184000	692755269.184000
[mm] SIM focus pos	-1.040293	-1.038866356238299
[mm] SIM defocus	0	0.001426264420575141
[mm] SIM translation stage pos	126.985494	126.9854943052878
[mm] SIM translation stage offset	0	-5.413686238853188e-06
[s] Observation start time (MET)	690611955.184000	690611537.48737
Observation start date	2019-11-20T04:38:06	2019-11-20T04:32:17
[s] Observation end time (MET)	690613955.184000	690614985.07508
Observation end date	2019-11-20T05:11:26	2019-11-20T05:29:45

Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED

## 2.3 Aspect





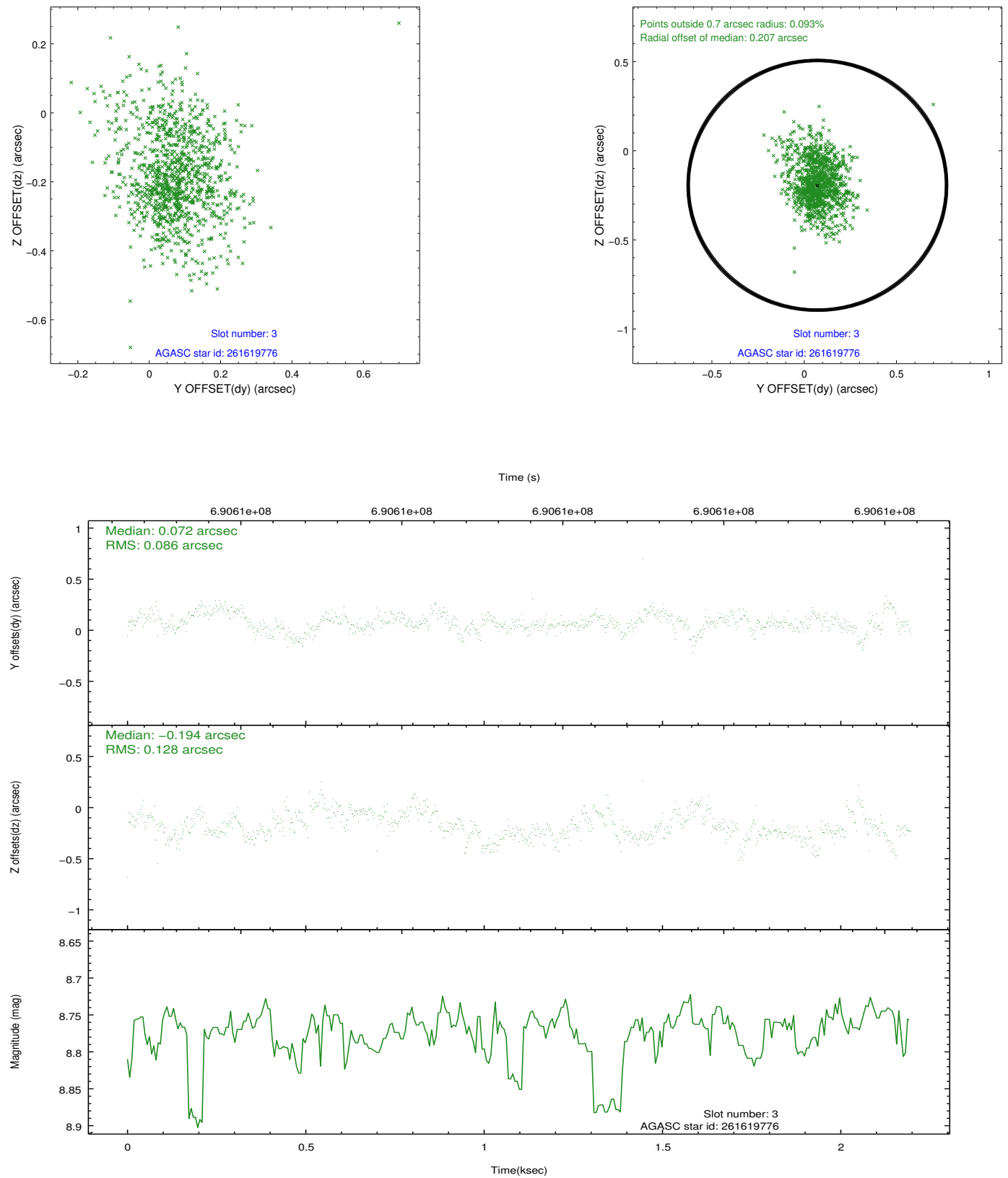
Slot Statistics

pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		HRC-I-1	7.05	536	1.000	-0.308	0.024	0.009	0.015	0.000000	0.000000	-776.21	-1310
1	FID		HRC-I-2	7.09	536	1.000	0.491	-0.160	0.007	0.012	0.000000	0.000000	835.77	-1314
2	FID		HRC-I-3	7.15	536	1.000	-0.065	0.046	0.006	0.012	0.000000	0.000000	-1203.00	991
3	GUIDE	used	261619776	8.77	1070	1.000	0.072	-0.194	0.161	0.280	198.654383	29.401174	-238.56	1759
4	GUIDE	used	261621400	6.98	1072	1.000	0.377	0.643	0.155	0.241	198.901600	28.741982	-1235.07	-526
5	GUIDE	used	261623040	9.09	1072	1.000	-0.406	-0.585	0.237	0.403	198.792686	29.757643	936.04	2429
6	GUIDE	used	261626376	9.69	1066	1.000	-0.146	-0.233	0.275	0.493	198.947288	29.347445	319.59	1008
7	GUIDE	used	261629720	8.10	1071	1.000	0.099	0.312	0.139	0.232	199.236176	29.044452	276.65	-411

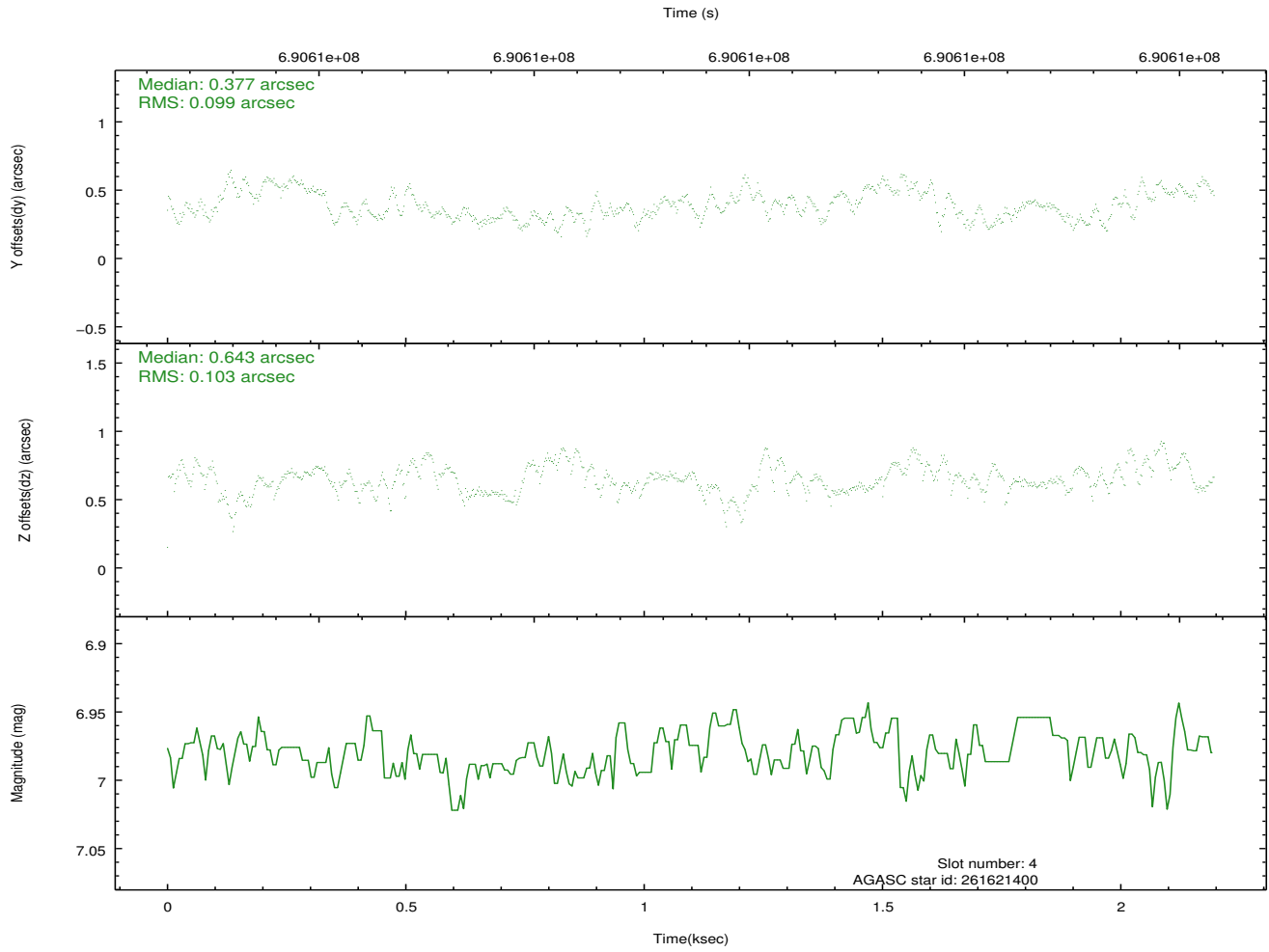
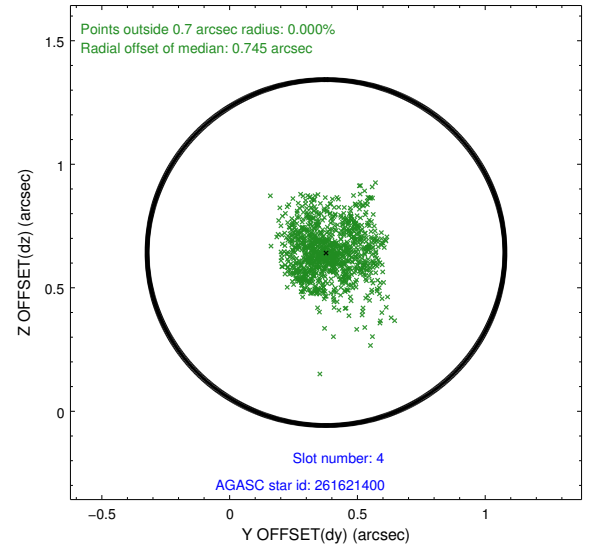
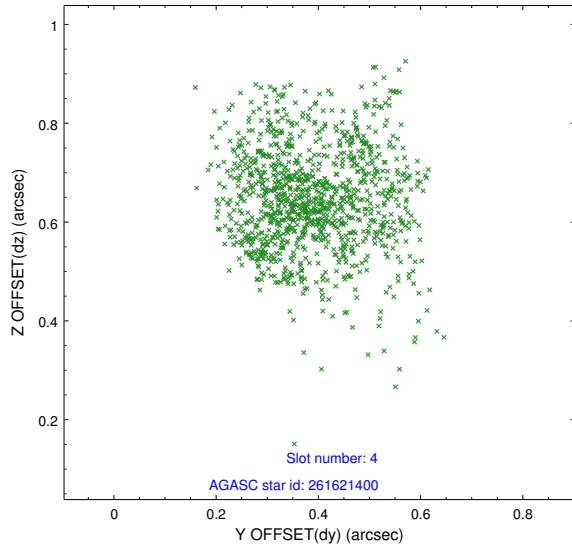


## 2.4 Star Slots

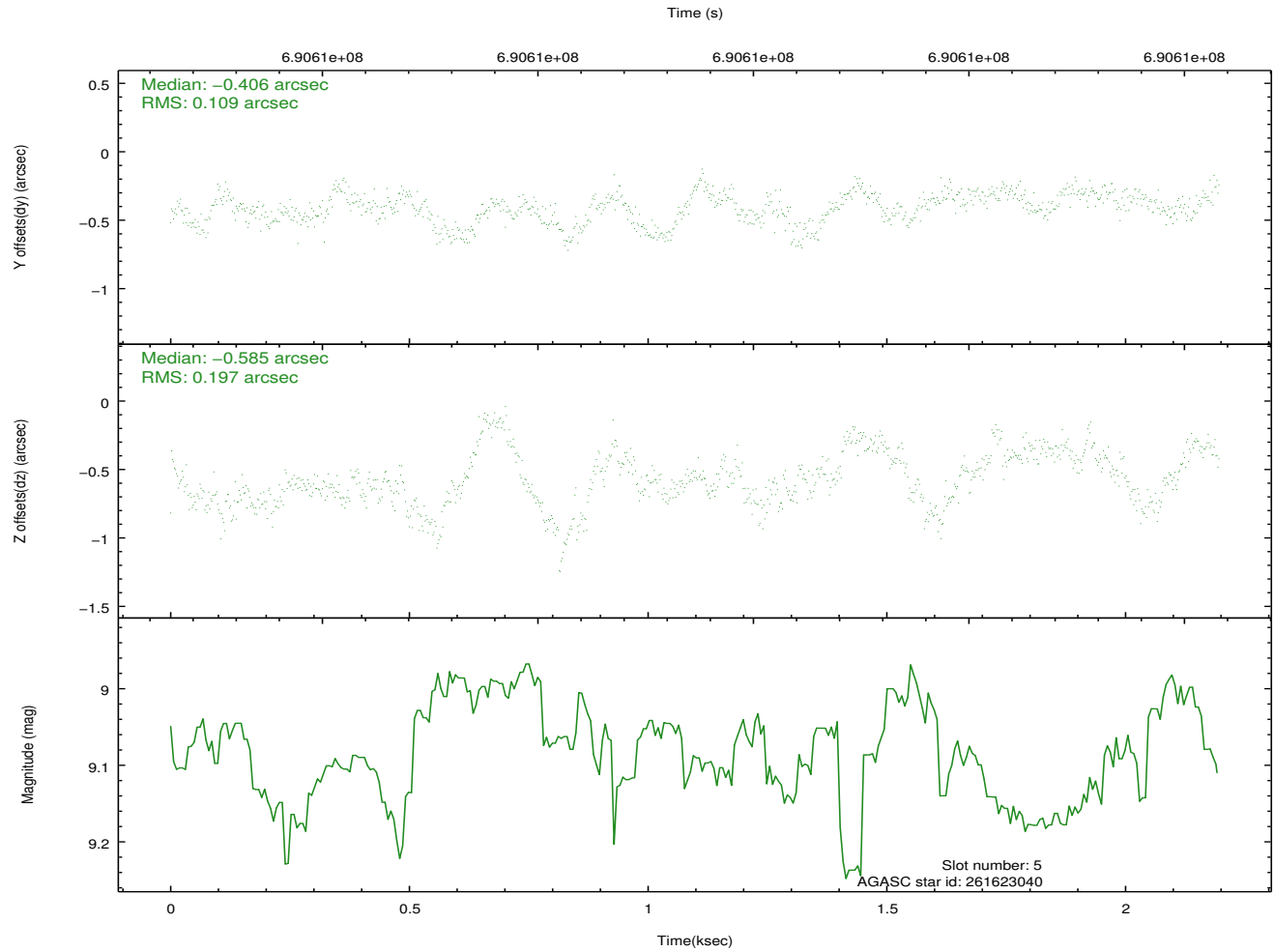
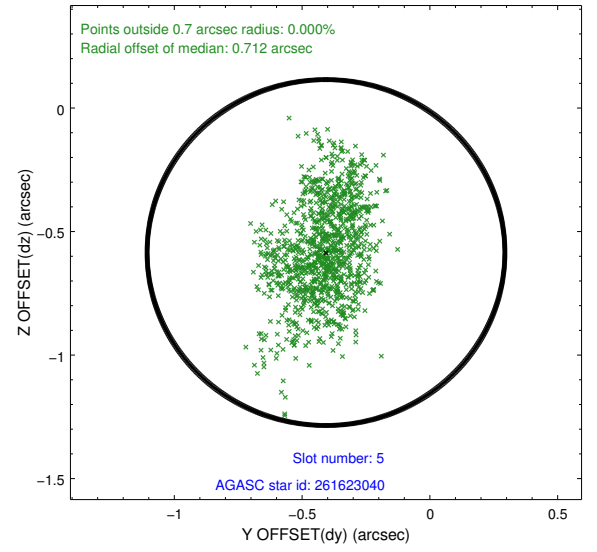
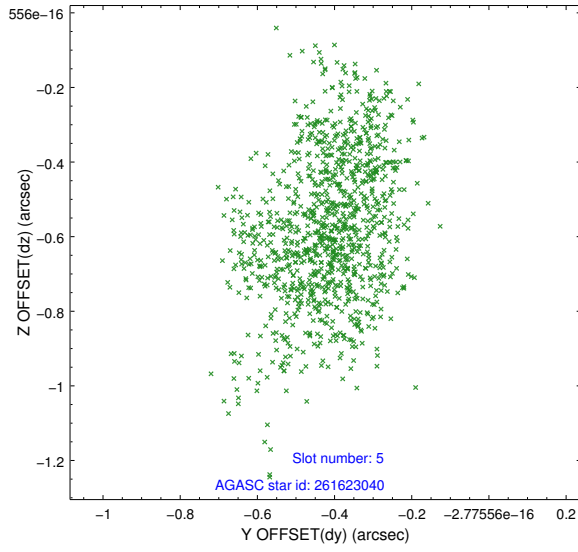
### 2.4.1 Slot 3



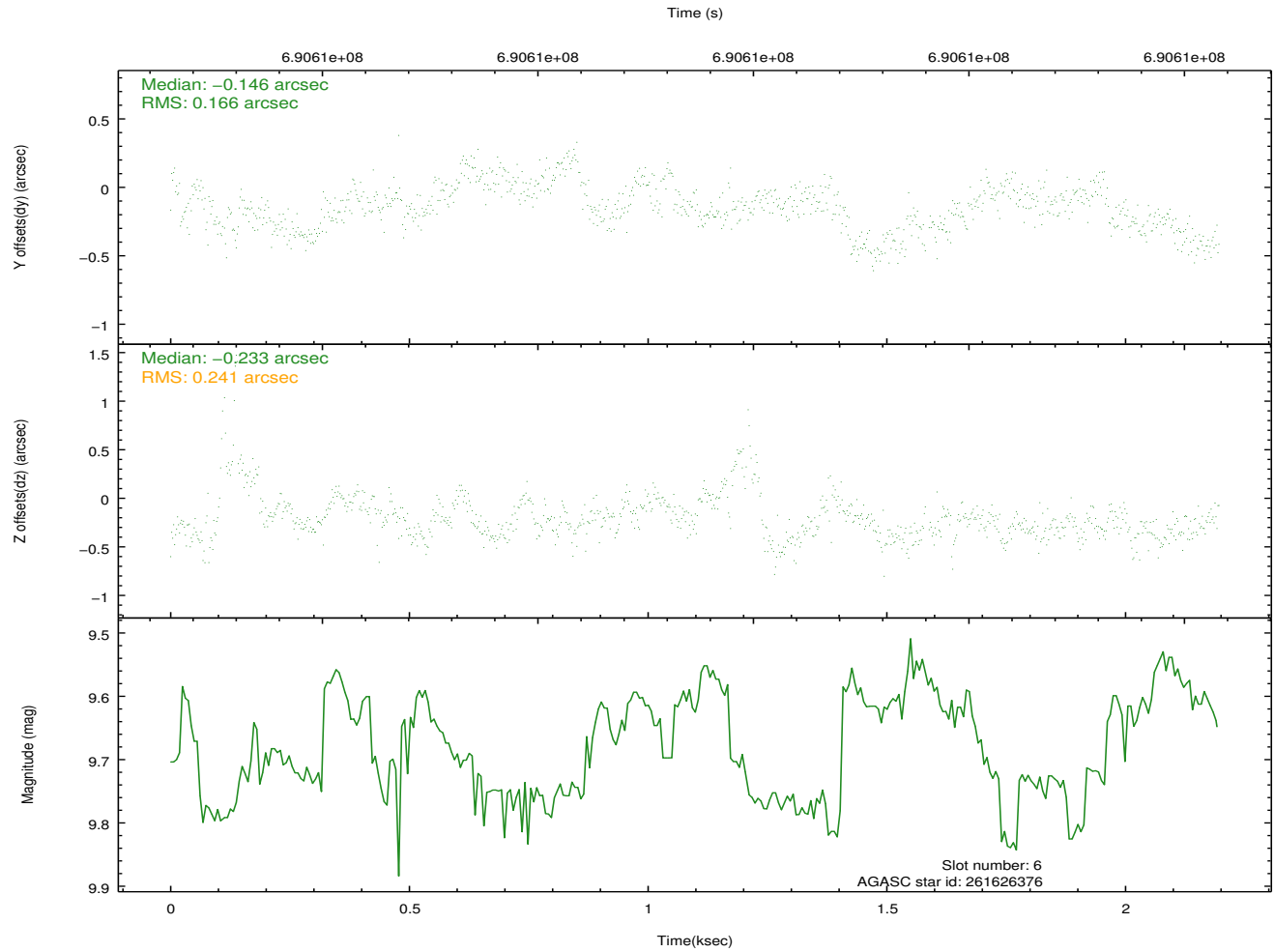
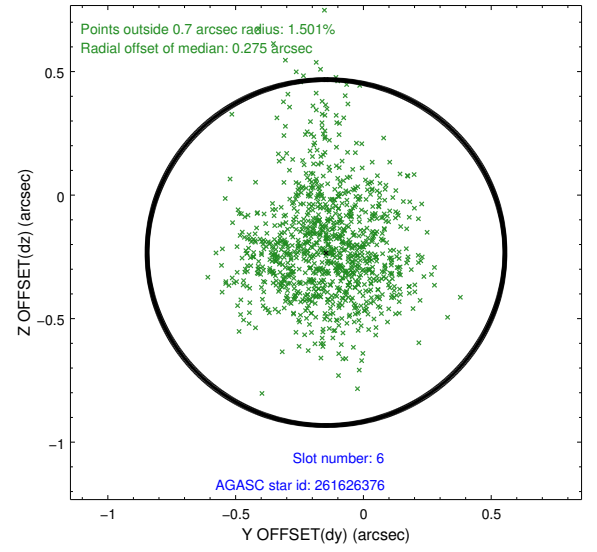
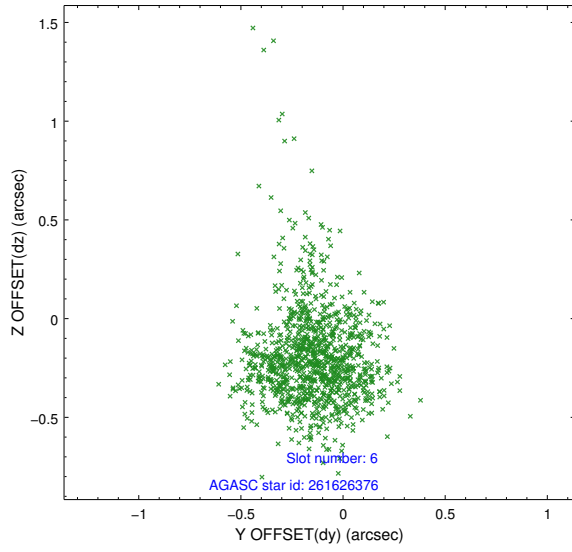
## 2.4.2 Slot 4



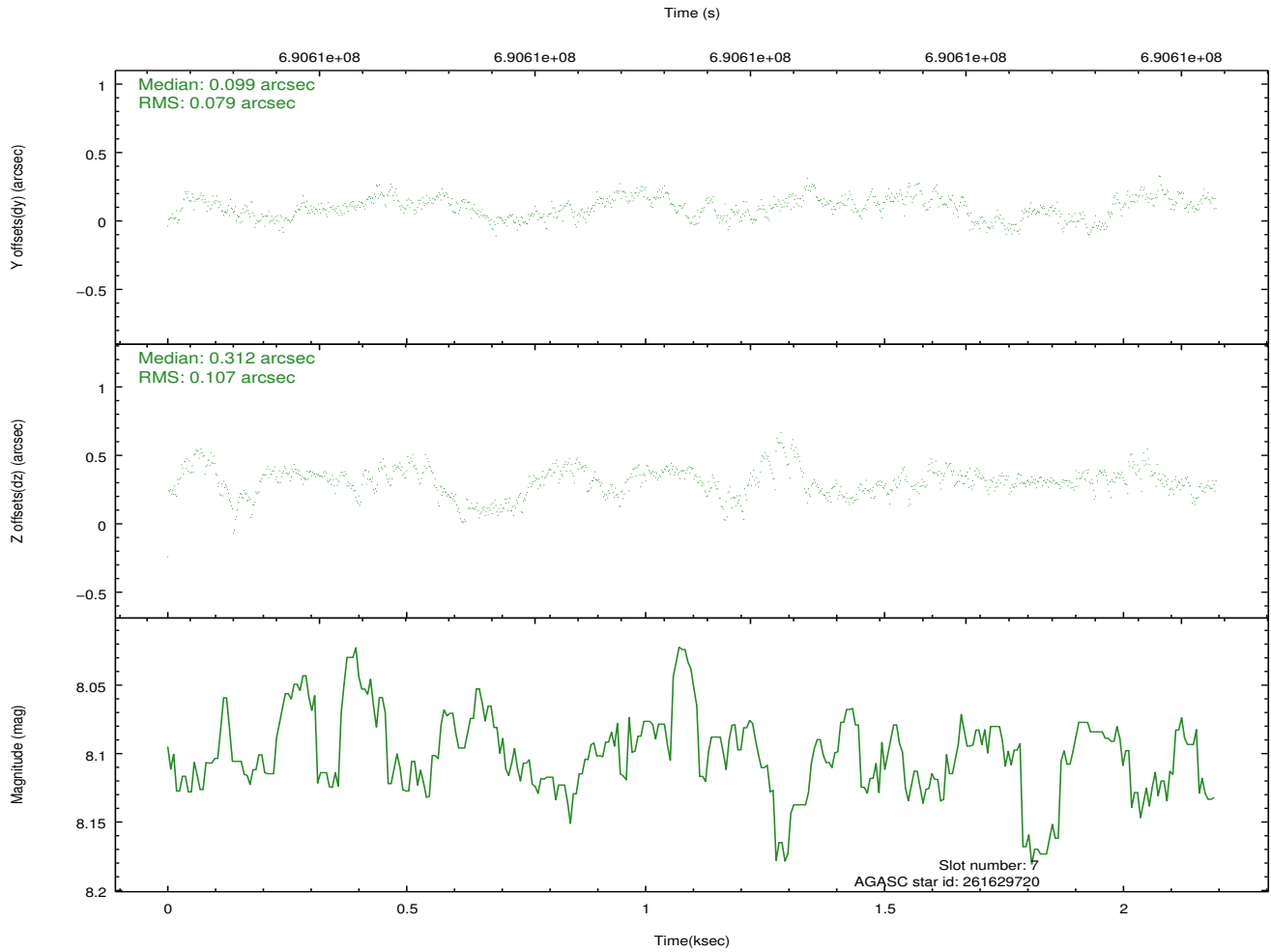
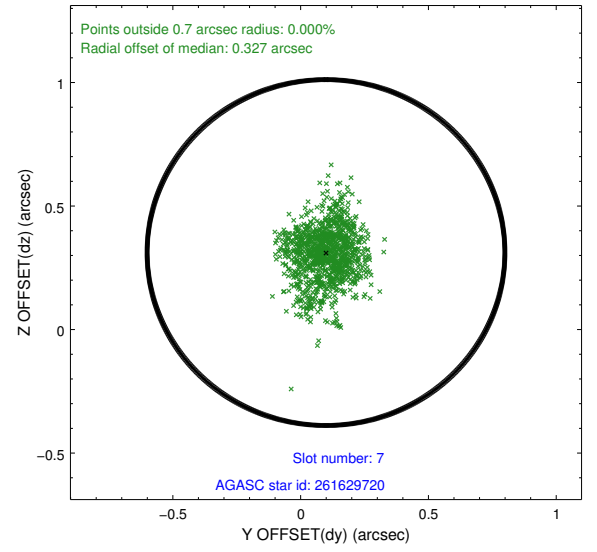
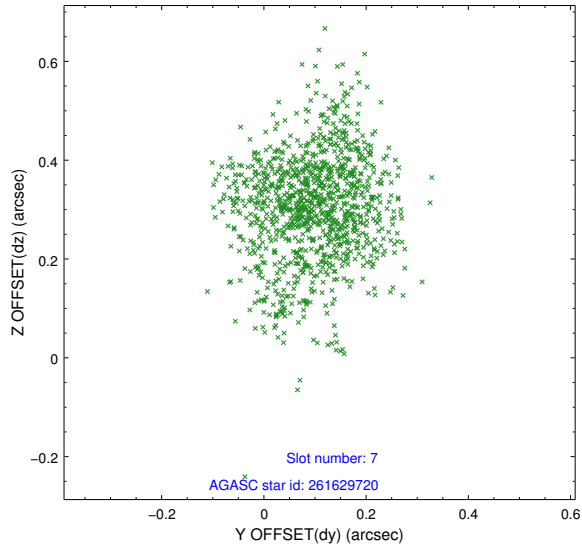
### 2.4.3 Slot 5



## 2.4.4 Slot 6

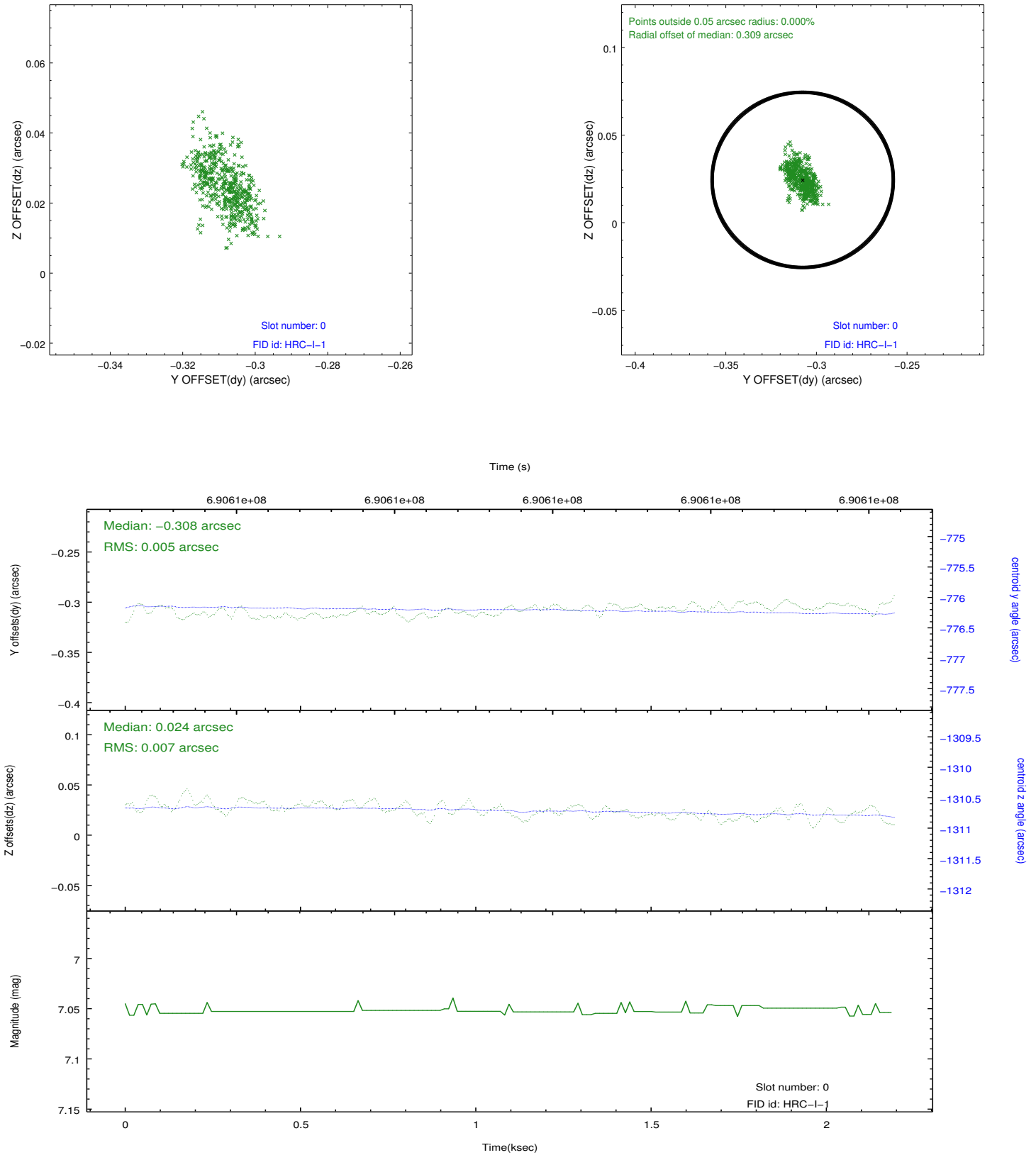


## 2.4.5 Slot 7

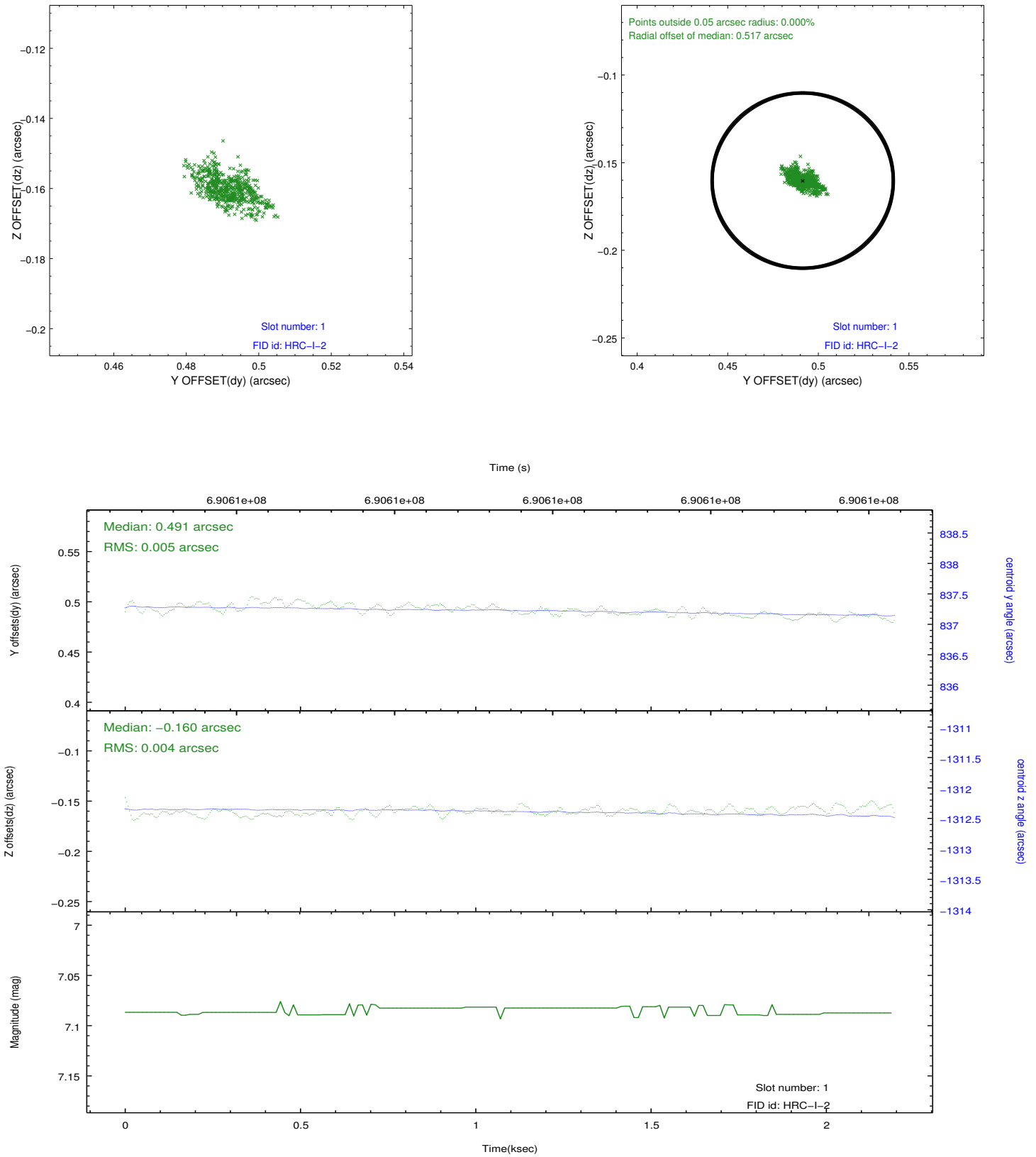


## 2.5 FID Slots

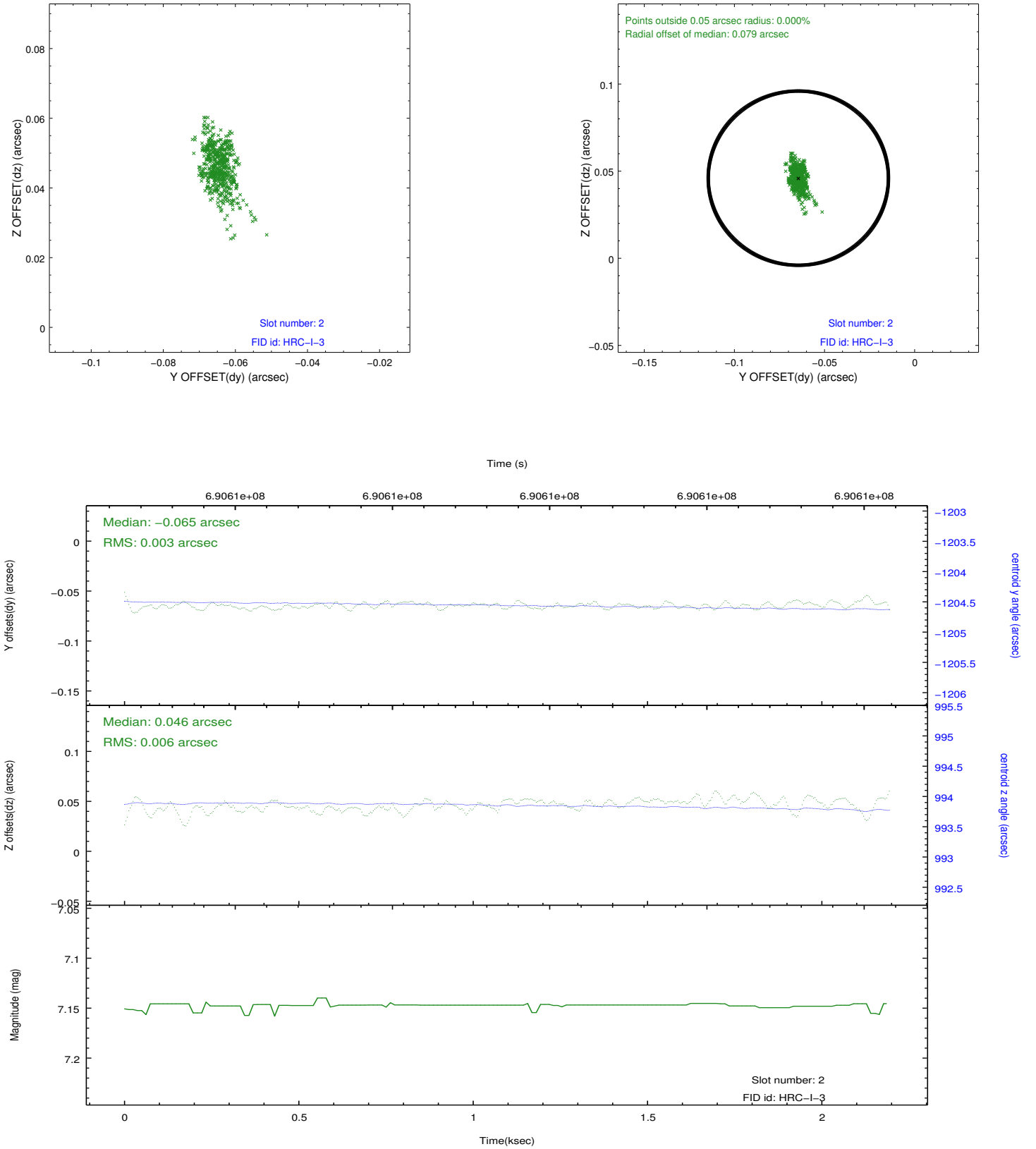
### 2.5.1 Slot 0



## 2.5.2 Slot 1



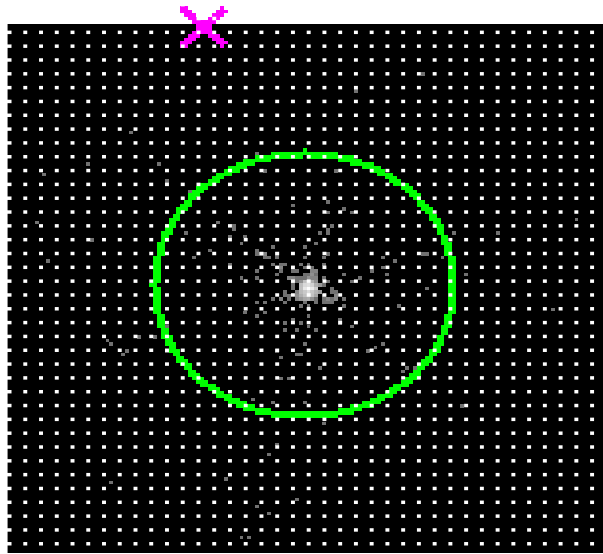
### 2.5.3 Slot 2



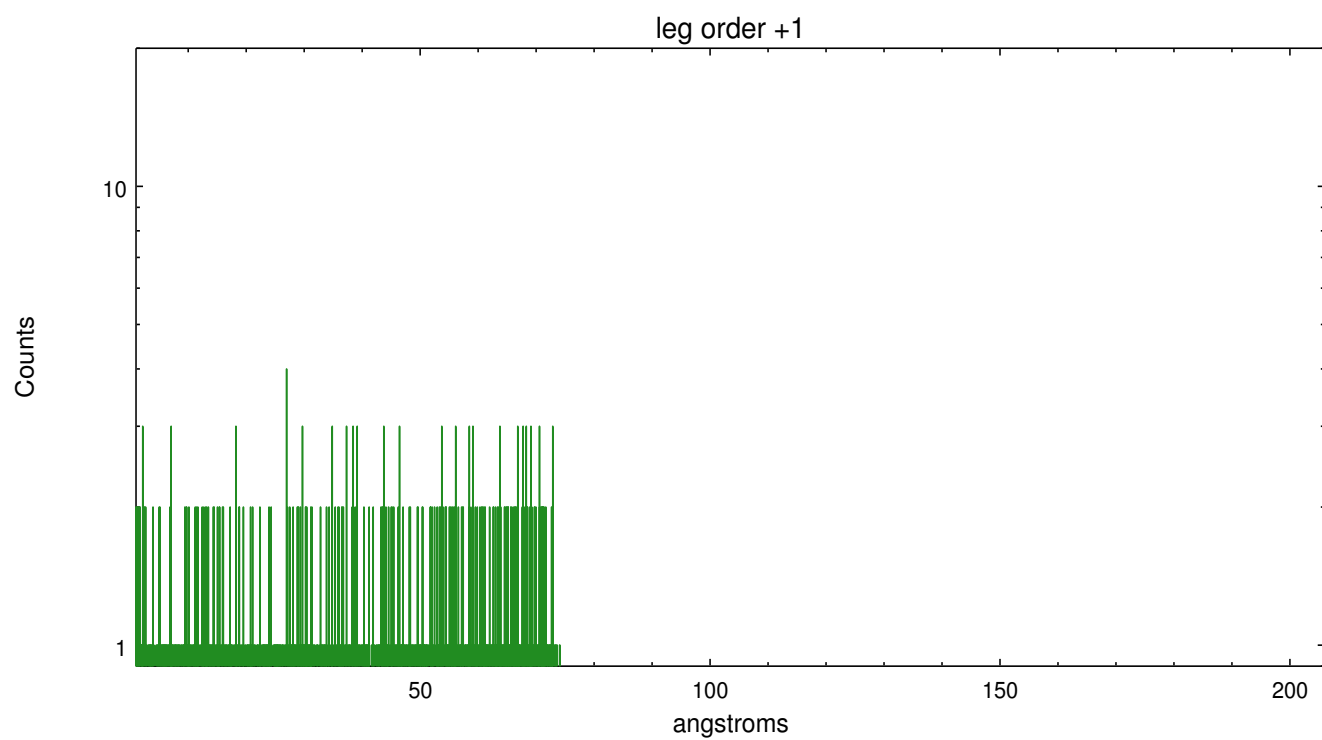
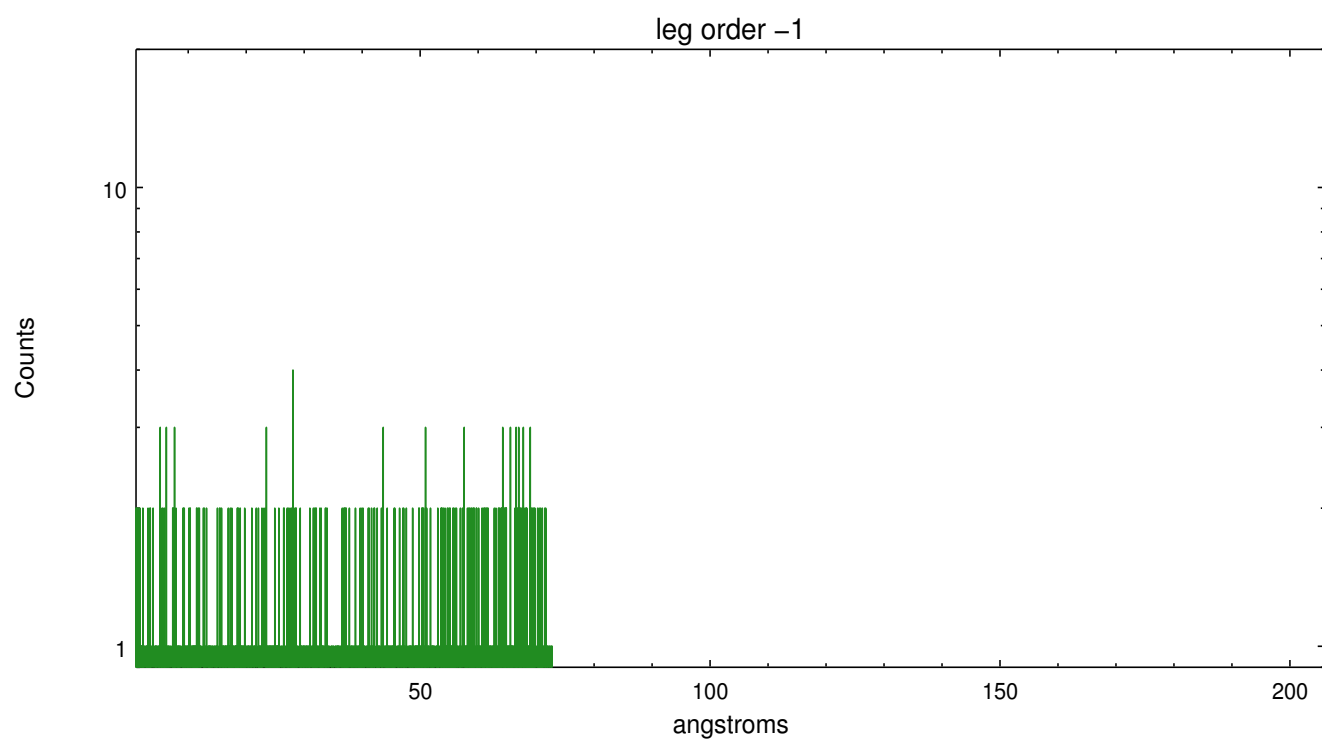


## 3 Gratings

### 3.1 LETG Arm



LETG Zero Order



# A Summary

## A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2019.11.21
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	2.1947813825607

## A.2 Comments

Note: this is a non-standard detector/grating combination of HRC-I with LETG; there might not be appropriate calibration products or standard processing support for this mode (such as ability to compute grating response matrices). Custom processing will be required.

Comments for Obi 0

Star in slot 6 has an RMS deviation > 0.200000 arcsec