

# V&V Reference Report

## L2 ASCDS Version : 8.1.2

Observation 460 - L2 Version 5  
Chandra X-Ray Center

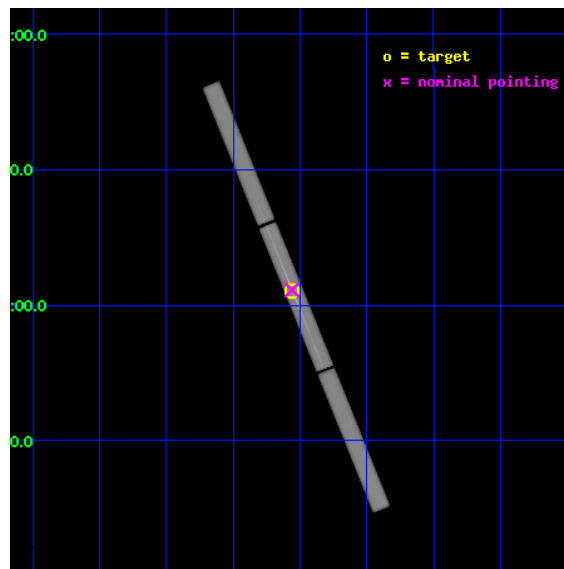
L2 Processing Date : Jul 9 2010

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# 1 Front

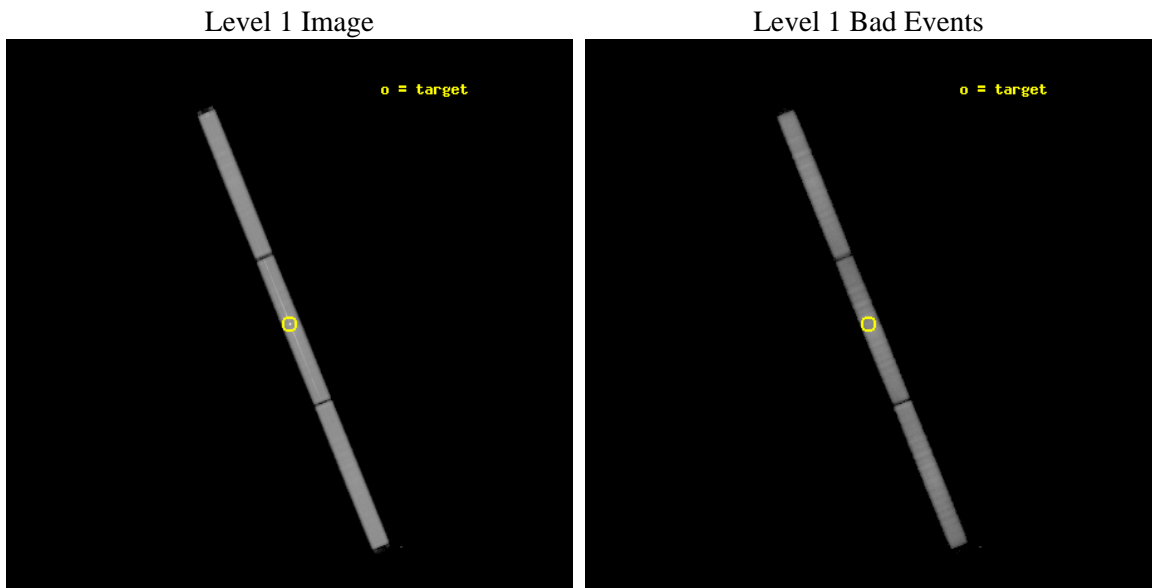
seq_num	790021	Sequence number
obs_id	460	Observation id
title	IN FLIGHT CALIBRATION OF THE HETGS EFFECTIVE AREA AND CROSS DISPERSION PROFILE	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	3C 273	Source name
ra_targ	187.277917	Observer's specified target RA
dec_targ	2.052389	Observer's specified target Dec
ra_nom	187.28015294672	Nominal RA
dec_nom	2.0570010037227	Nominal Dec
roll_nom	67.768209412306	Nominal Roll
revision	5	Processing version of data
ontime	40208.70145984	[s]
livetime	39931.487797692	Ontime multiplied by DTCOR
l2events	1985046	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	40000.000000	Scheduled observation exposure time
ascdsver	8.1.2	Processing system revision	ontime	40208.70145984	[s]
caldbver	4.1.4	&#160	ll events	3076140	Number of level 1 events
date	2009-12-02T08:29:19	Date and time of file creation			
revision	5	Processing version of data			

## 2.1.3 Events

### Level 1 Events

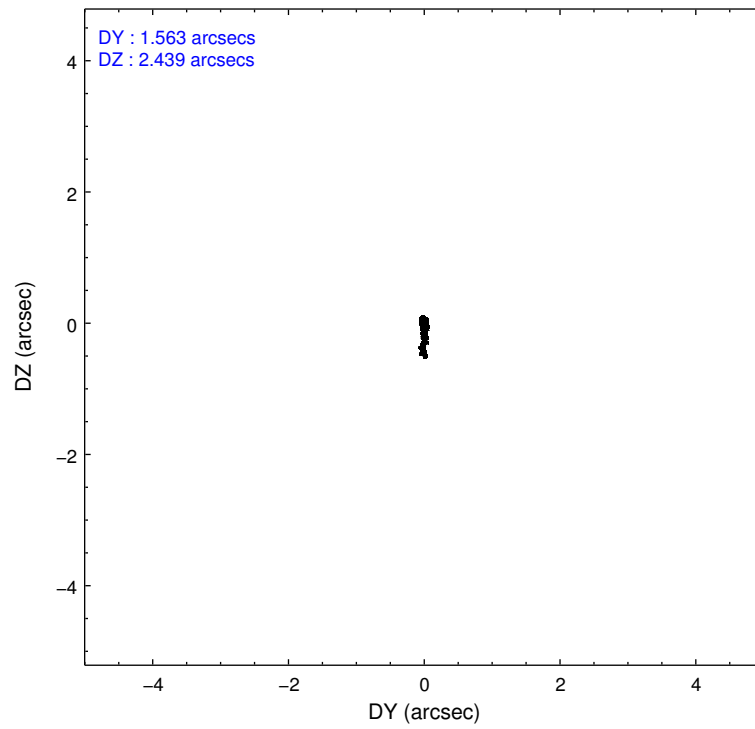
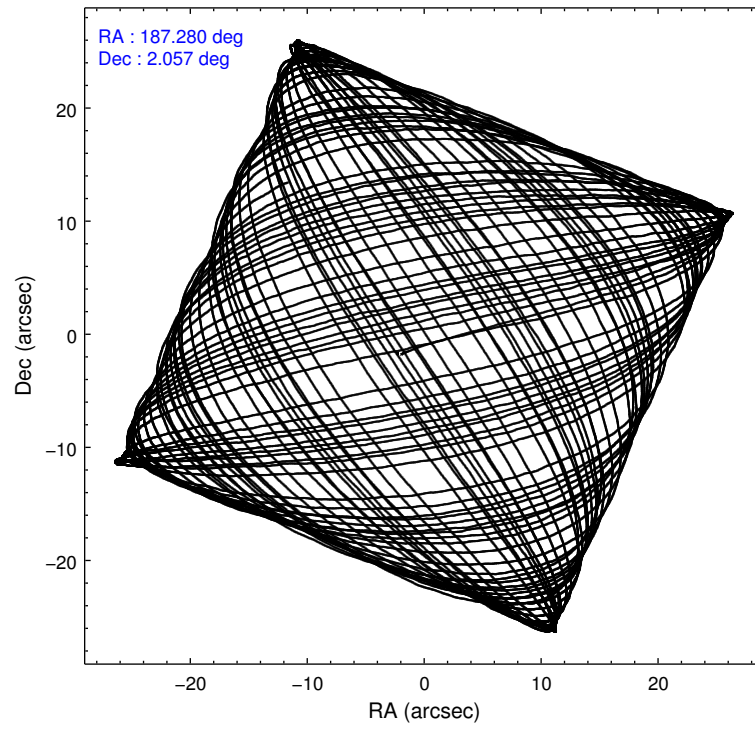
	<b>segment 1</b>	<b>segment 2</b>	<b>segment 3</b>
level 1 events	995438	1082390	998312
rejected events	251487	268175	305785
rejected %	25%	24%	30%

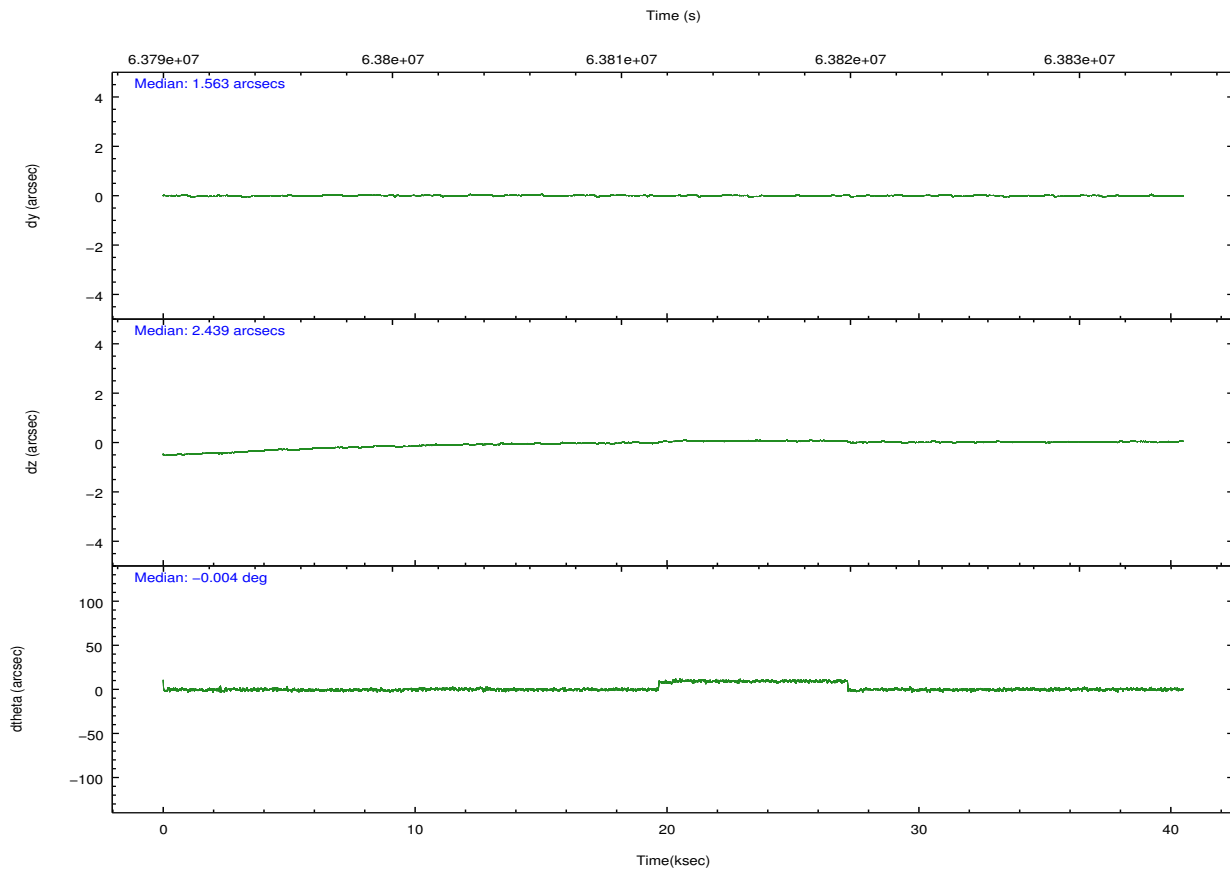
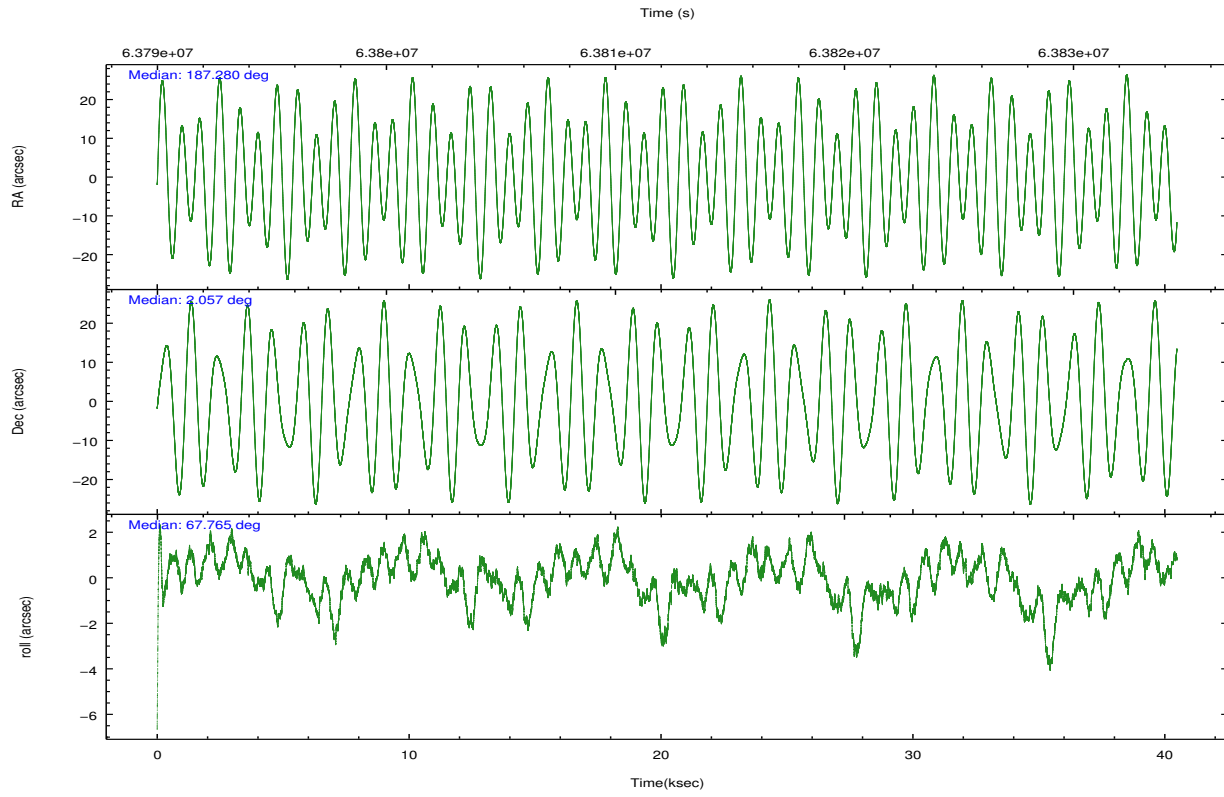
## 2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	HRC	HRC
Detector	HRC-S	HRC-S
Grating	LETG	LETG
Data mode	OBSERVING	OBSERVING
Observation mode	POINTING	POINTING
Pointing RA	187.285087	187.2801529467221
Pointing Dec	2.028555	2.057001003722652
Pointing Roll	67.700693	67.76820941230571
Window start time	63072064.184000	63072064.184000
Window stop time	64368004.184000	64368004.184000
SIM focus pos (mm)	-1.429586	-1.428180813131781
SIM defocus (mm)	0.1037507710433287	0.1051558262725154
SIM translation stage pos (mm)	250.455976	250.466033080201
SIM translation stage offset (mm)	0	-0.01005468664627074
Observation start time	63792492.184000	63791262.473978
Observation start date	2000-01-09T08:07:08	2000-01-09T07:47:42
Observation end time	63832492.184000	63832725.775484
Observation end date	2000-01-09T19:13:48	2000-01-09T19:18:45

Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED

## 2.3 Aspect



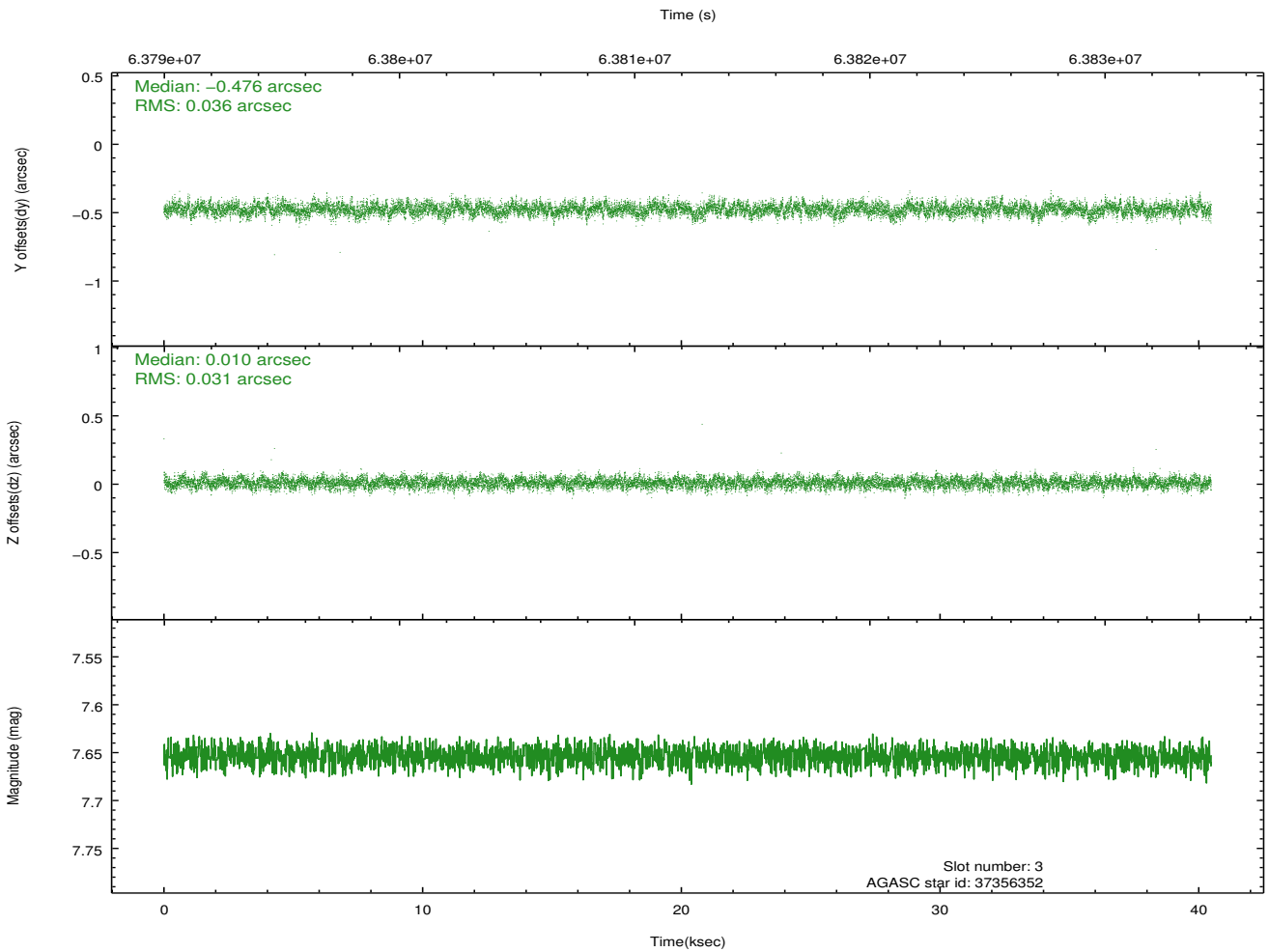
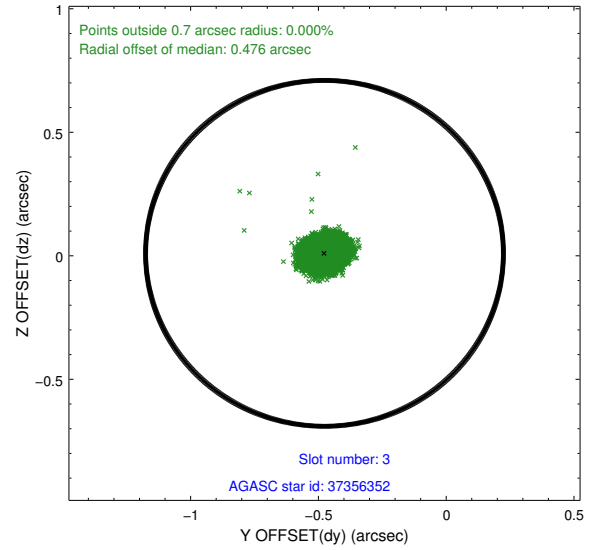
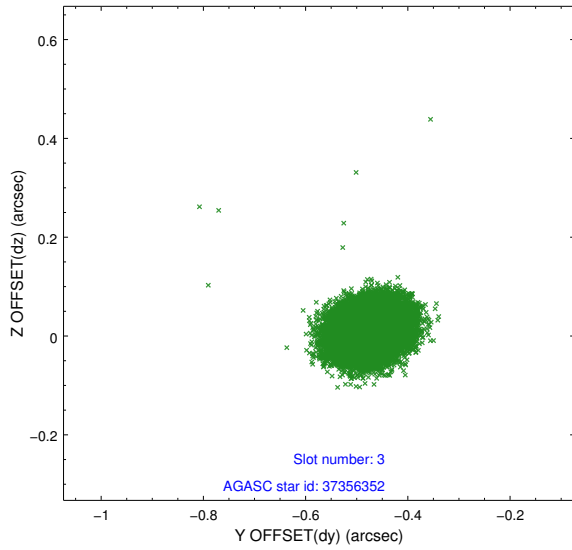


### Slot Statistics

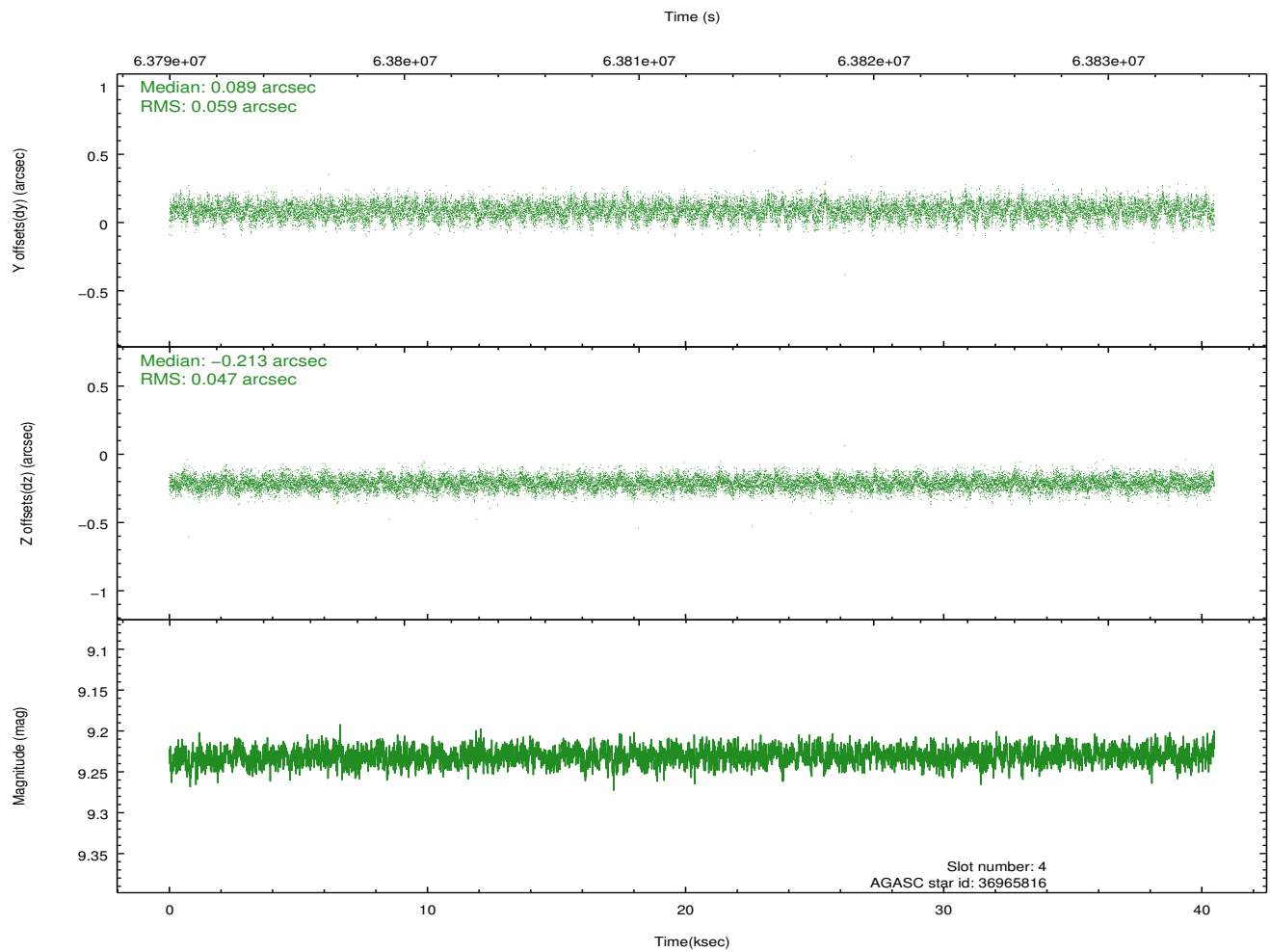
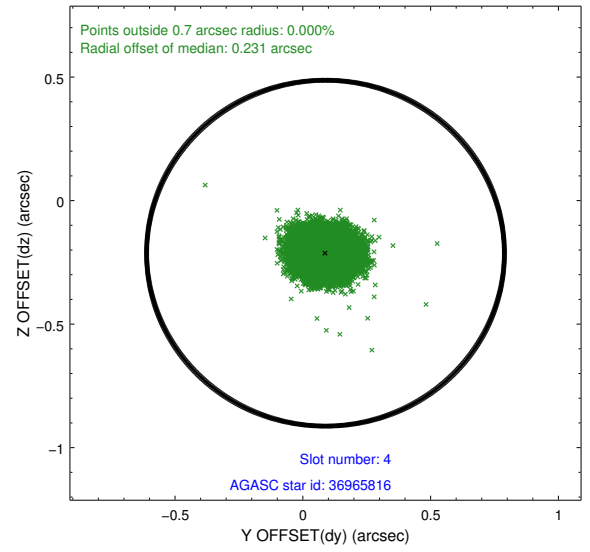
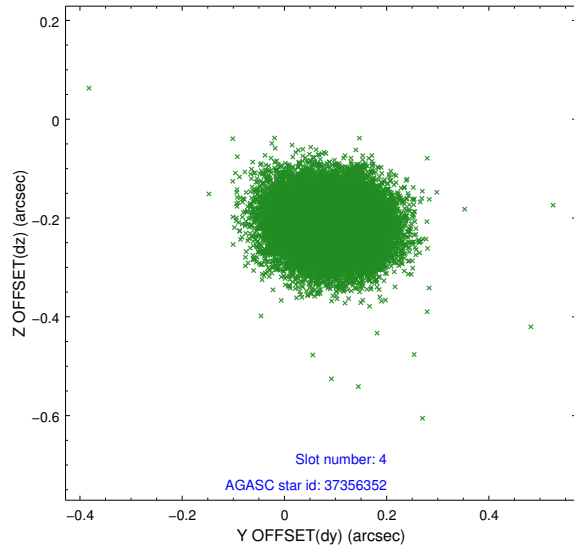
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	HRC-S-1	6.99	9873	0.094	-0.063	0.010	0.020	0.000000	0.000000	-1155.61	-450.72
1	FID	HRC-S-3	7.01	9871	0.160	-0.148	0.012	0.030	0.000000	0.000000	-1158.39	578.68
2	FID	HRC-S-4	6.95	9871	0.134	-0.085	0.007	0.014	0.000000	0.000000	1242.56	581.41
3	GUIDE	37356352	7.65	19737	-0.476	0.010	0.050	0.081	187.433784	2.618460	2168.17	310.80
4	GUIDE	36965816	9.23	19739	0.089	-0.213	0.080	0.129	186.823353	1.771455	-1485.57	1185.40
5	GUIDE	36965296	9.09	19738	0.089	-0.129	0.078	0.127	186.926292	1.837429	-1125.50	932.88
6	GUIDE	37883040	10.03	19736	0.090	0.251	0.103	0.169	187.575516	1.280402	-2094.23	-1989.40
7	GUIDE	36965896	9.73	19732	0.210	0.080	0.094	0.153	187.153754	1.617178	-1548.52	-125.19

## 2.4 Star Slots

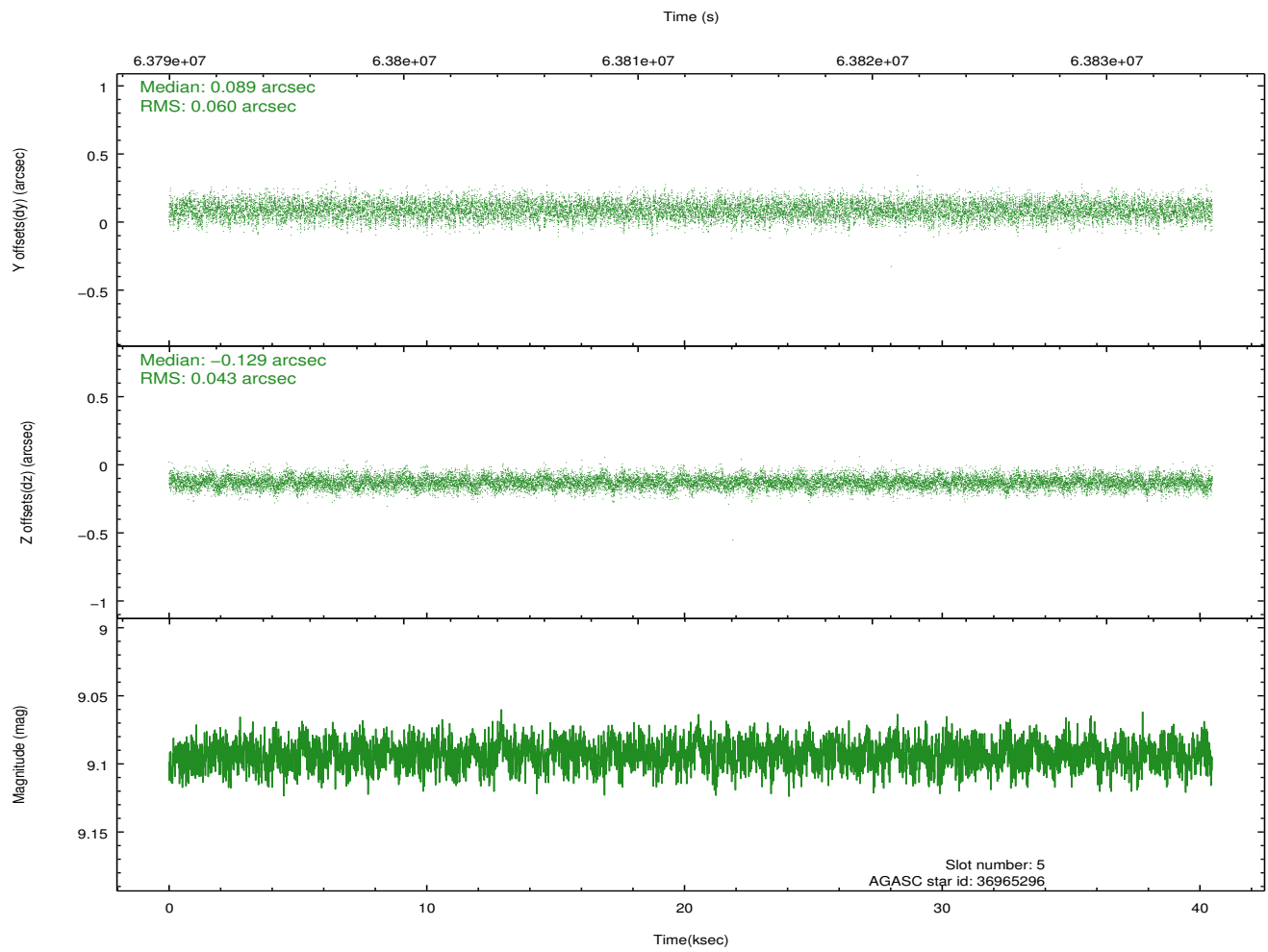
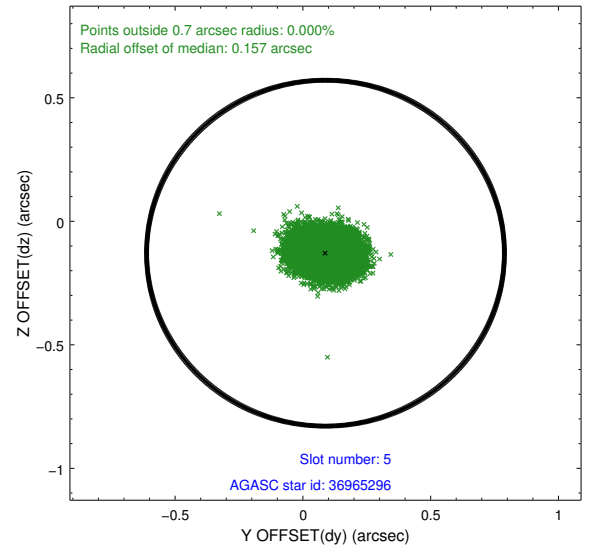
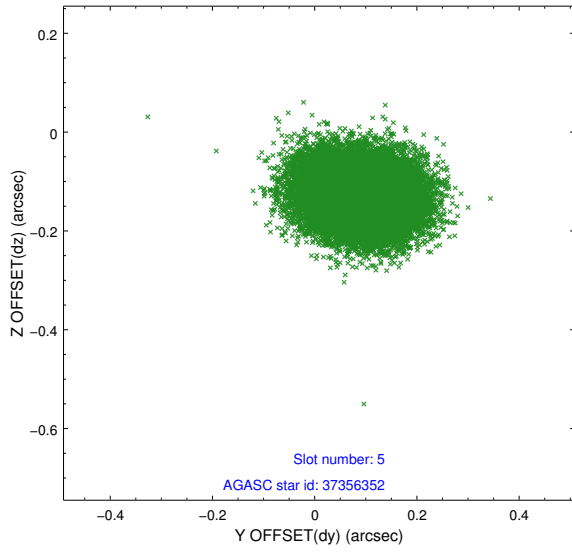
### 2.4.1 Slot 3



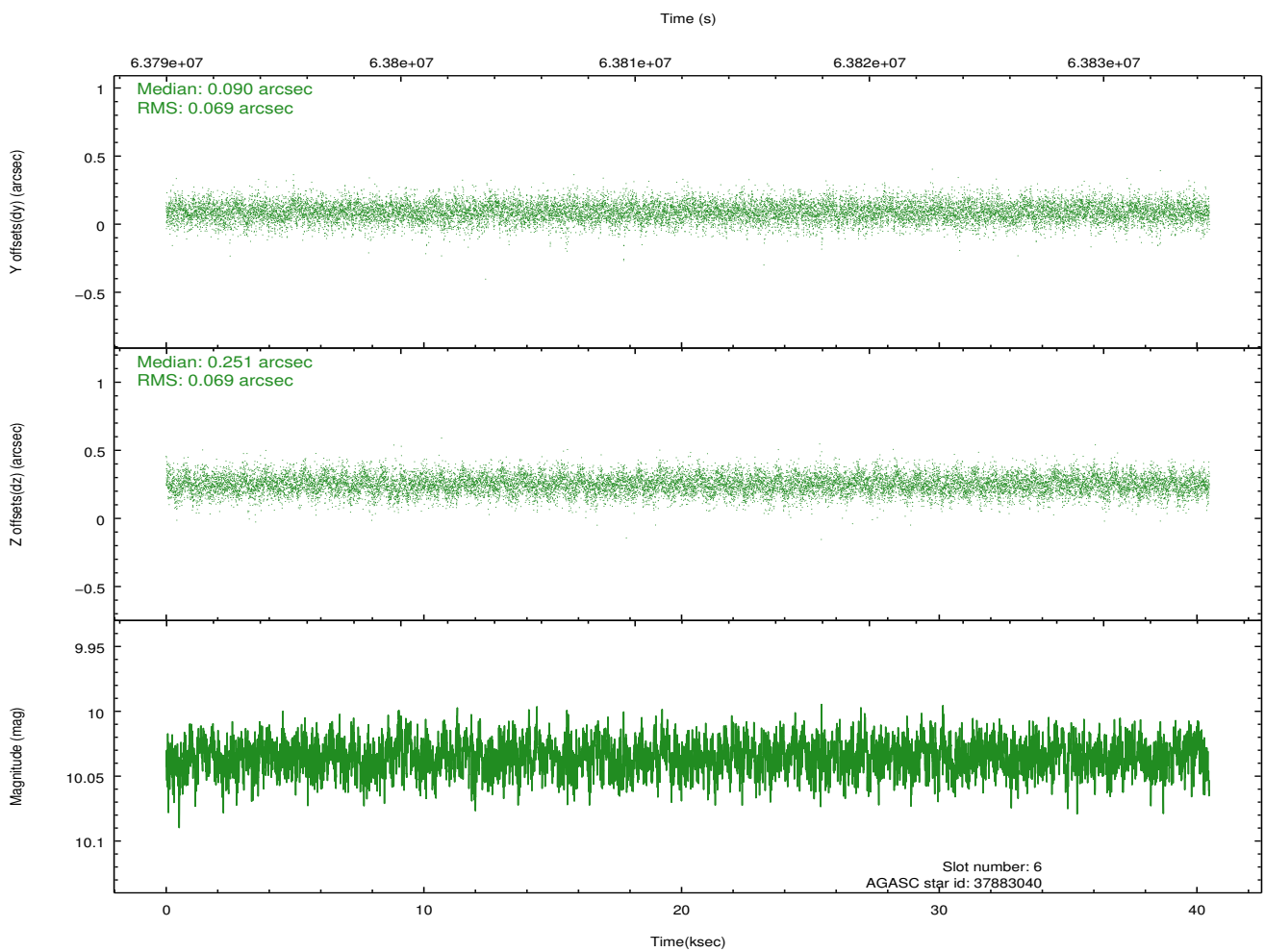
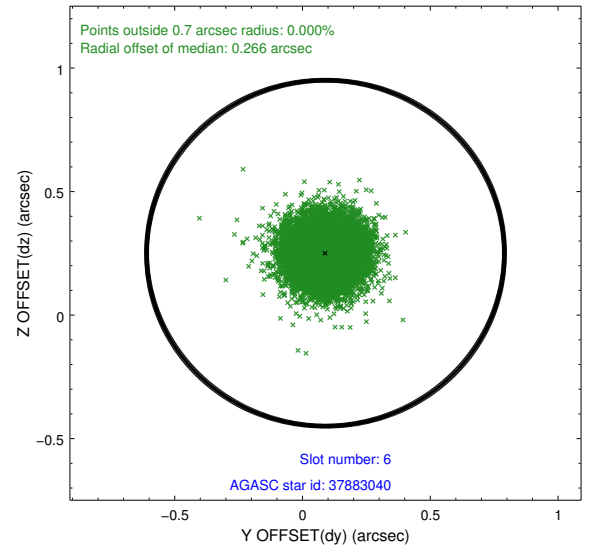
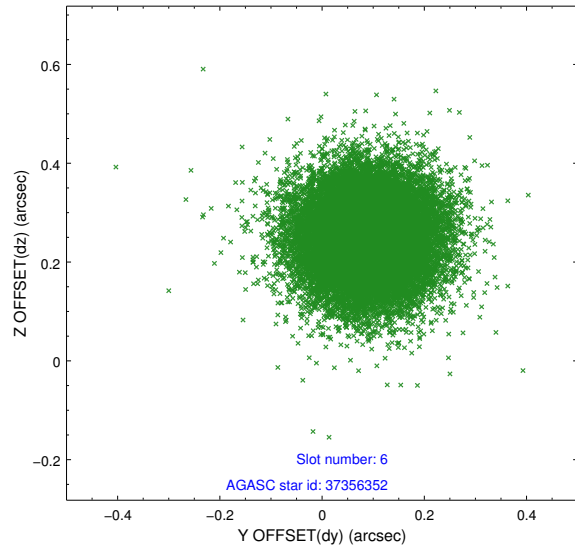
## 2.4.2 Slot 4



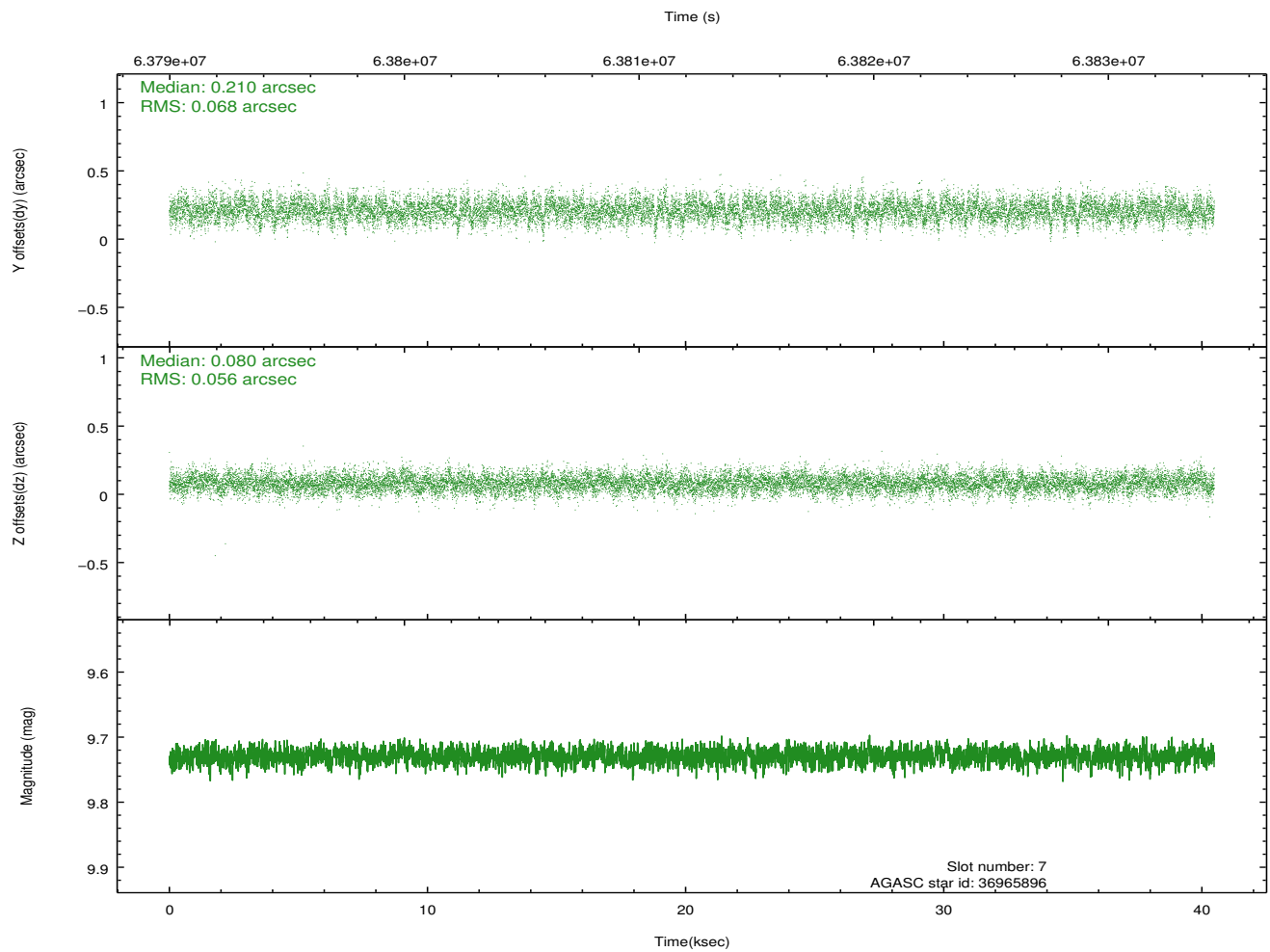
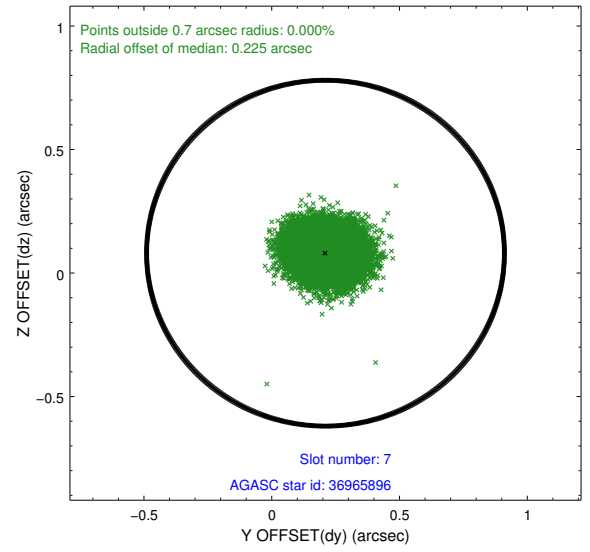
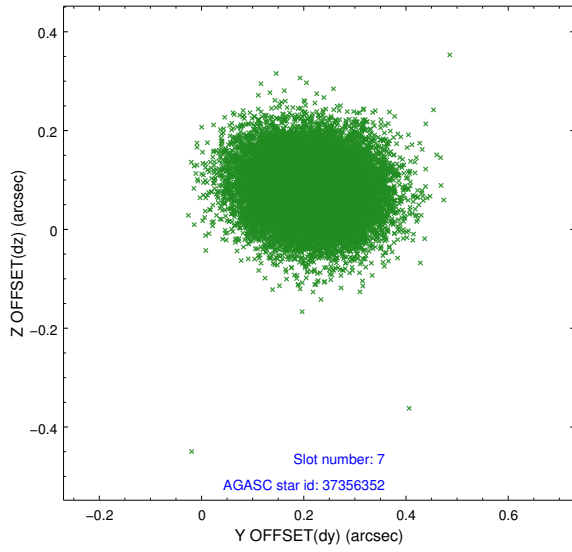
### 2.4.3 Slot 5



## 2.4.4 Slot 6

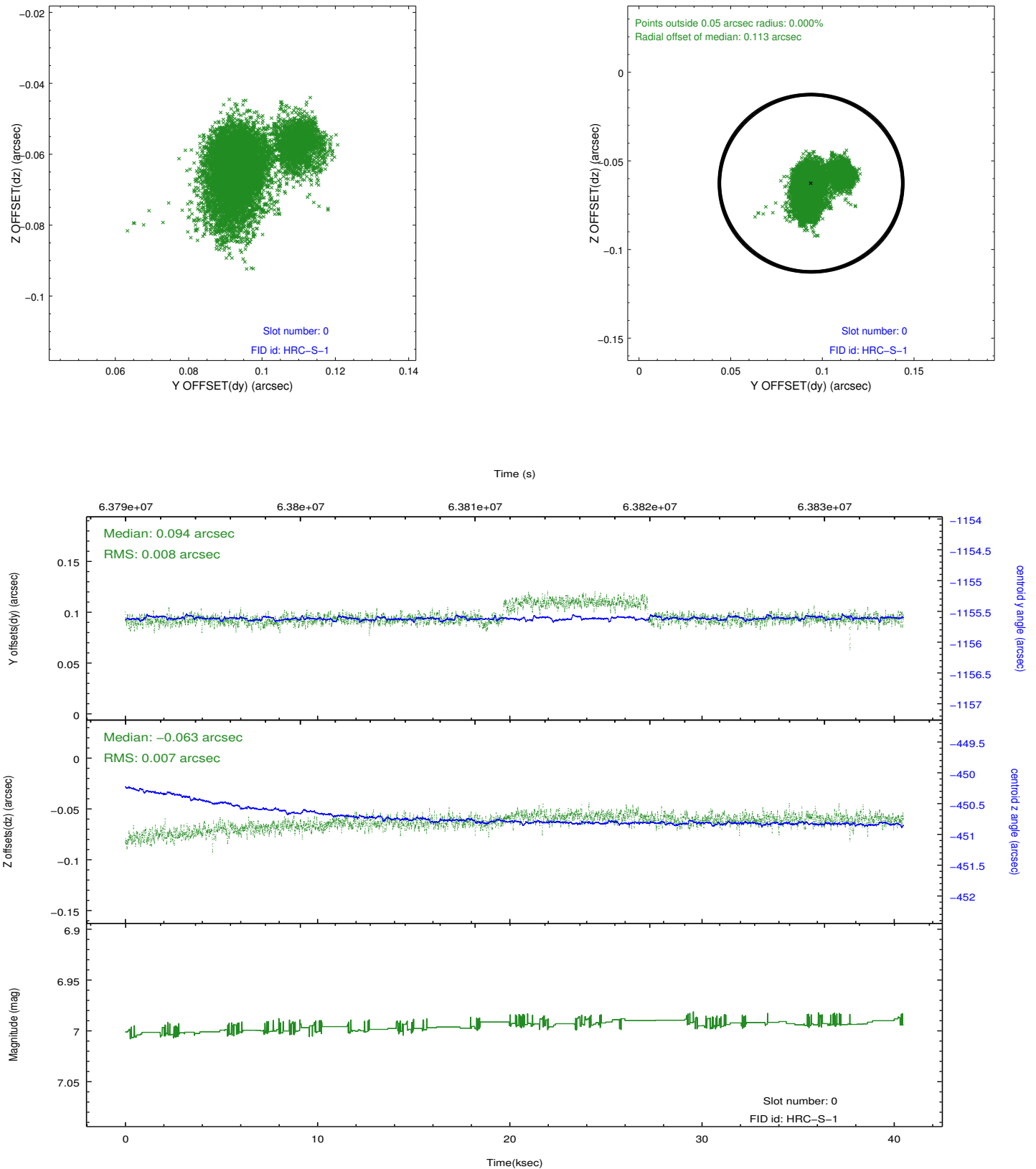


## 2.4.5 Slot 7

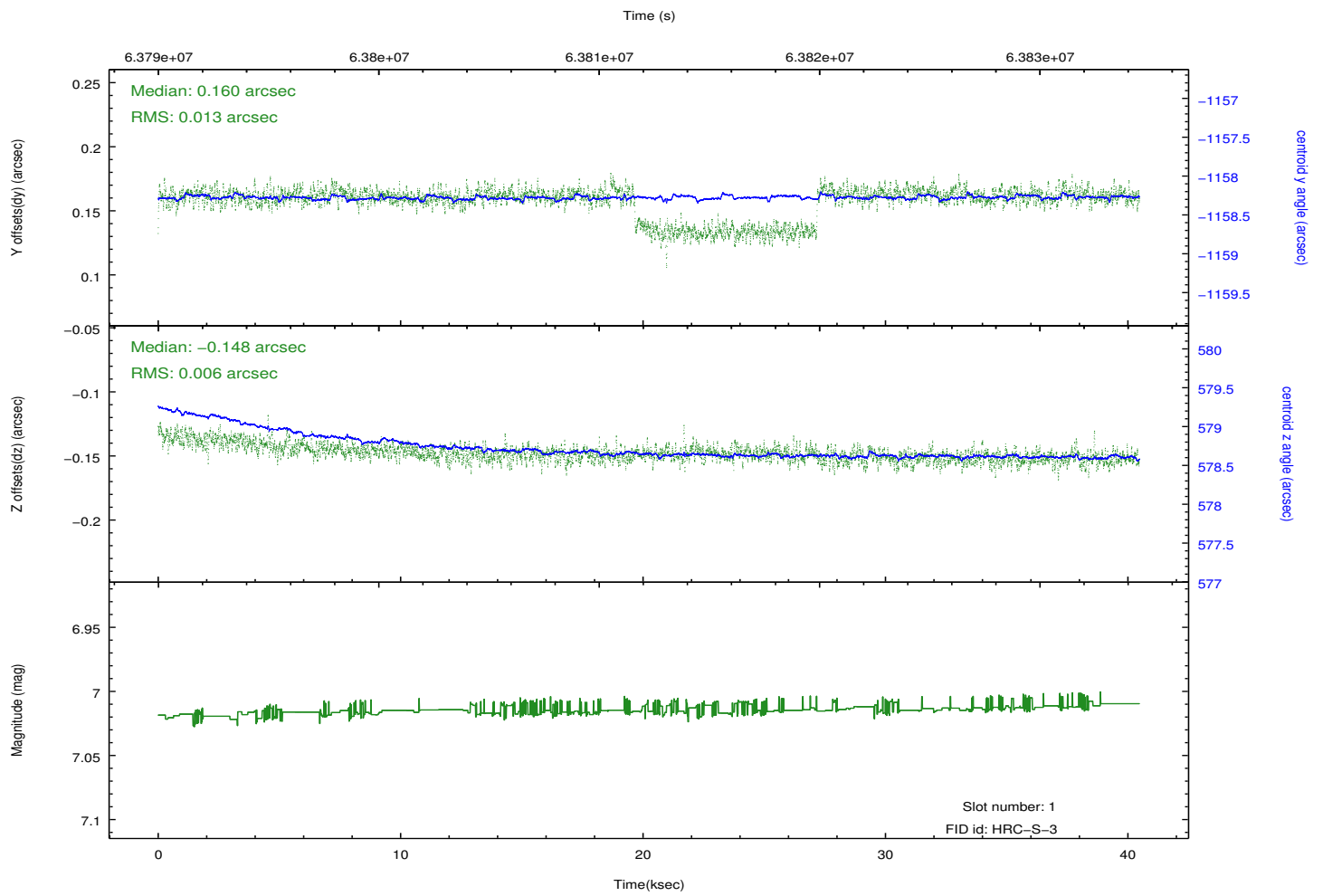
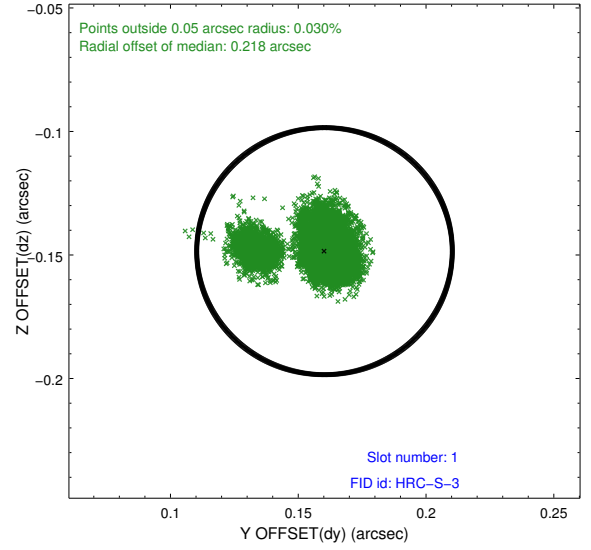
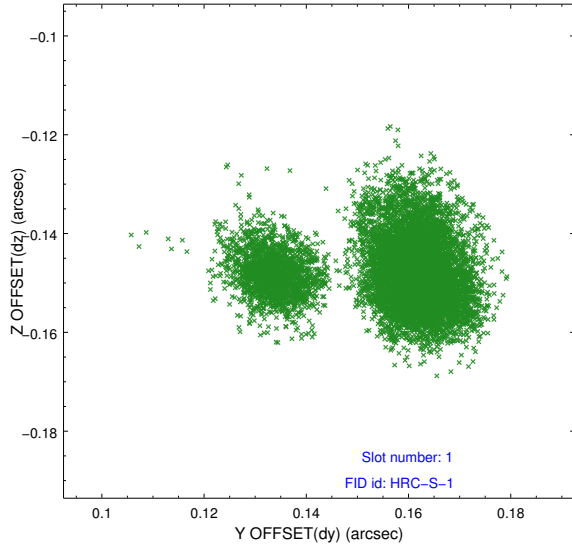


## 2.5 FID Slots

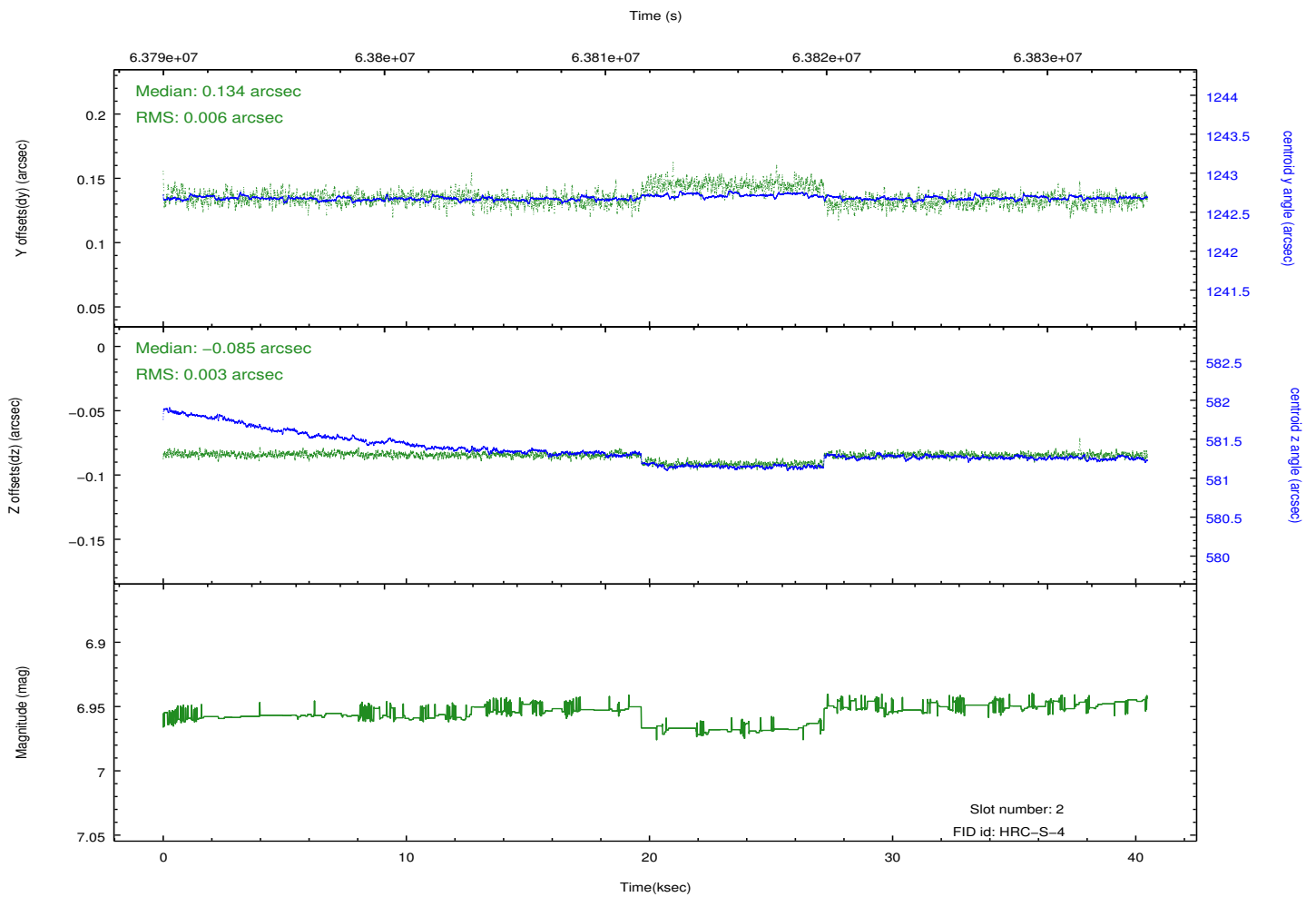
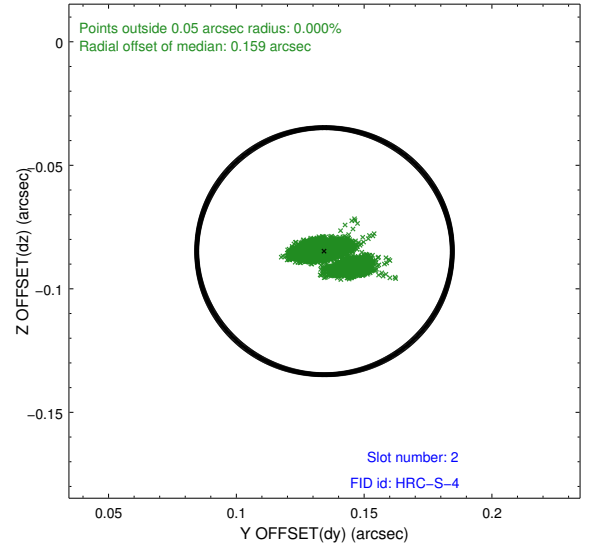
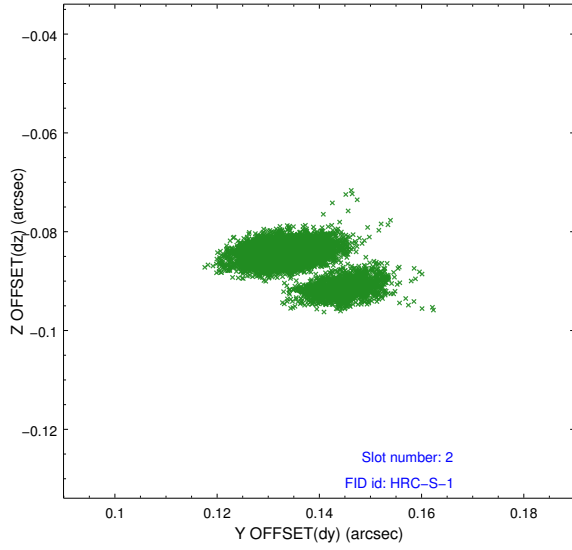
### 2.5.1 Slot 0



## 2.5.2 Slot 1

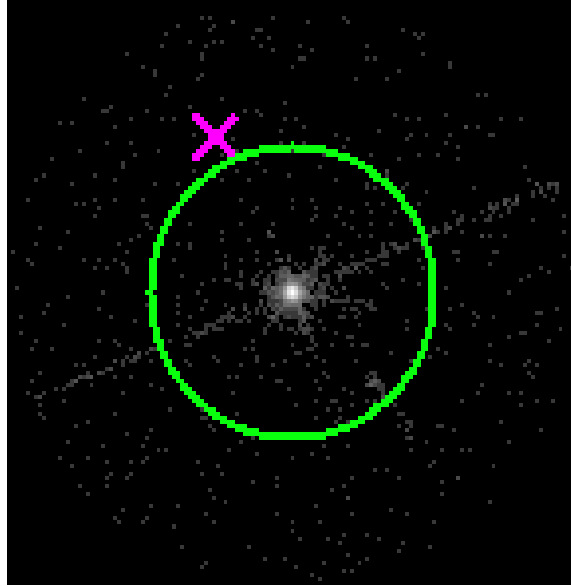


### 2.5.3 Slot 2

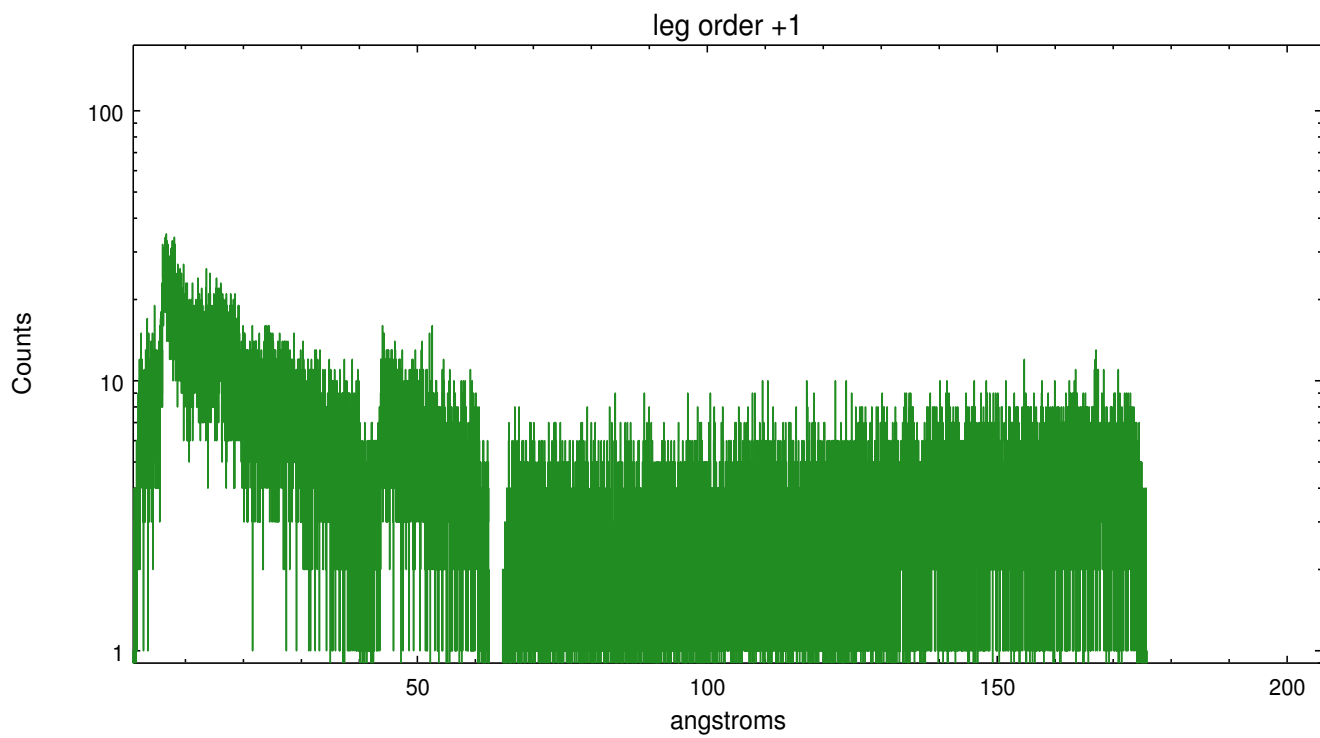
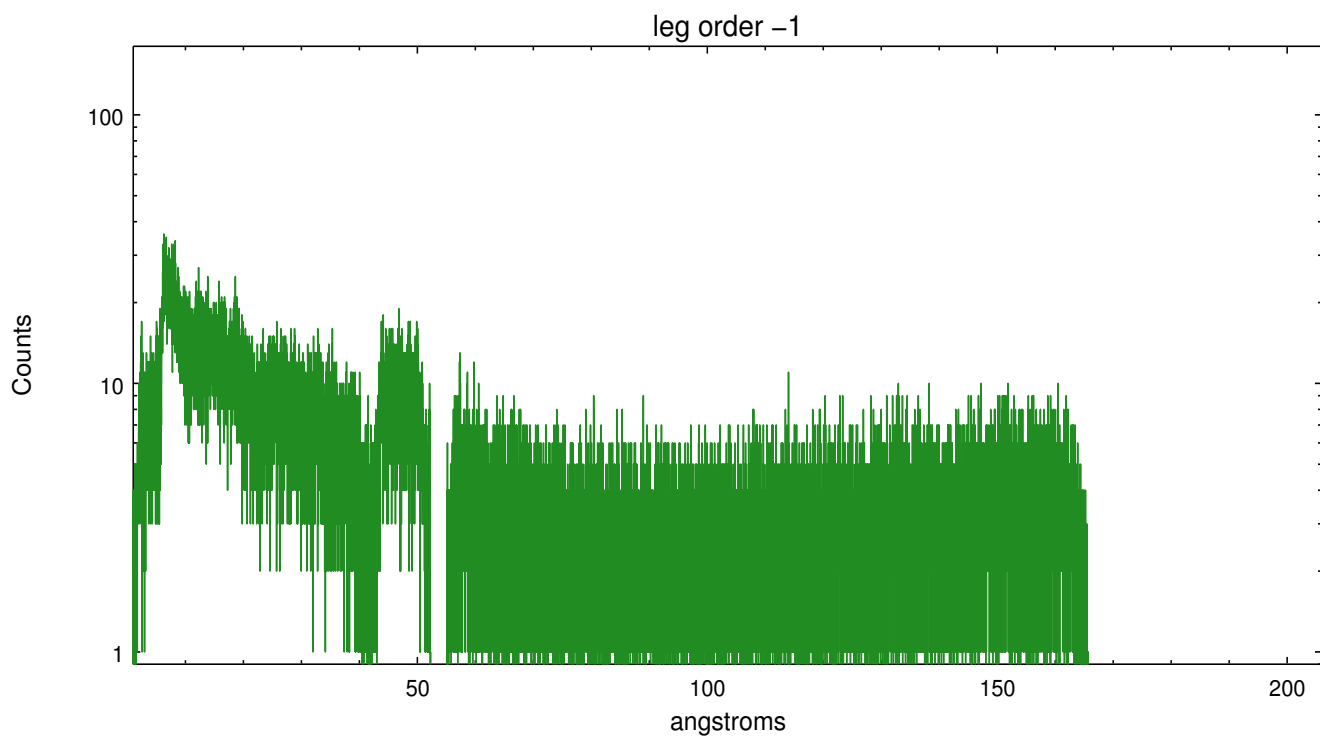


### 3 Gratings

#### 3.1 LETG Arm



LETG Zero Order



# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2010.07.28
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	40.194

## A.2 Comments