

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 14396 - L2 Version 2  
Chandra X-Ray Center

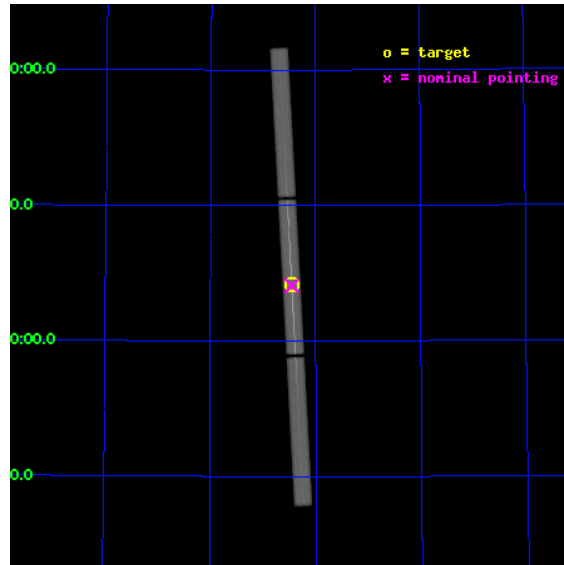
L2 Processing Date : Jul 26 2012

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# 1 Front

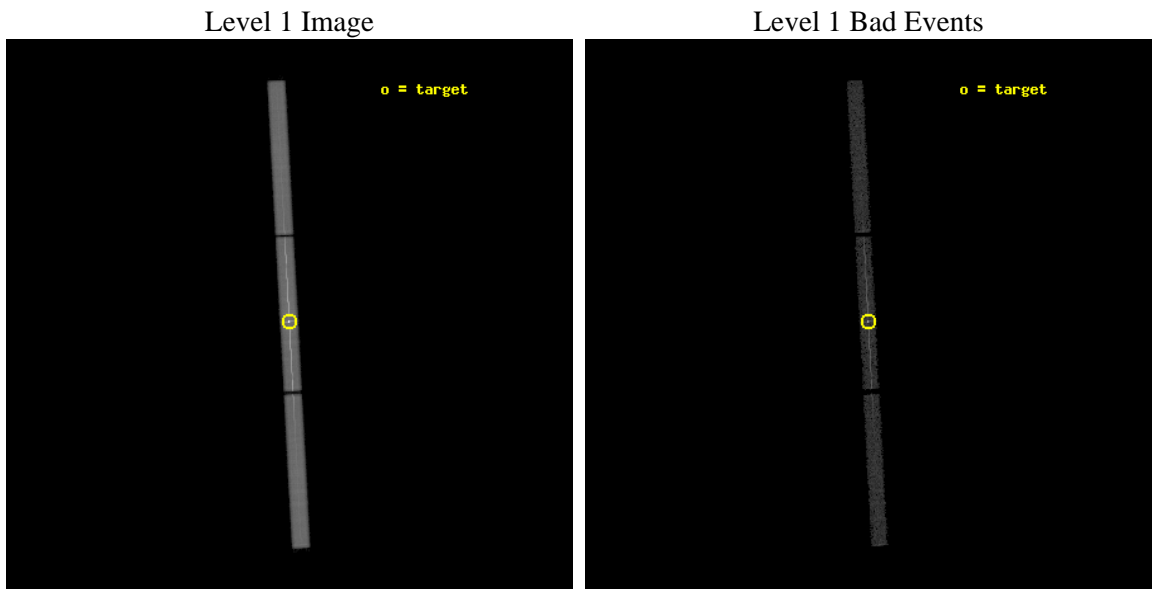
seq_num	790247	Sequence number
obs_id	14396	Observation id
title	AO-13 Calibration Observations of Mkn421 to Calibrate the New HRC-S HV Setting	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	MKN421[Voltage:original default]	Source name
ra_targ	166.113333	Observer's specified target RA [deg]
dec_targ	38.208806	Observer's specified target Dec [deg]
ra_nom	166.11290067595	Nominal RA [deg]
dec_nom	38.204216443287	Nominal Dec [deg]
roll_nom	266.85163313382	Nominal Roll [deg]
revision	2	Processing version of data
ontime	9786.9567722678	[s]
livetime	9701.7105537977	Ontime multiplied by DTCOR
l2events	808444	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	10000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	9786.9567722678	[s]
caldsver	4.5.1	&#160	l1events	1046269	Number of level 1 events
date	2012-07-26T22:49:20	Date and time of file creation			
revision	2	Processing version of data			

### 2.1.3 Events

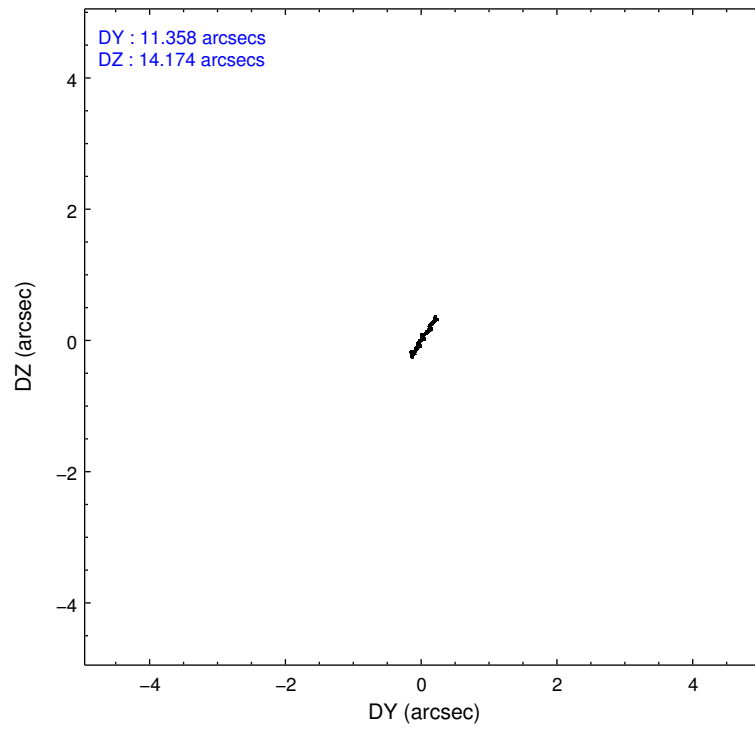
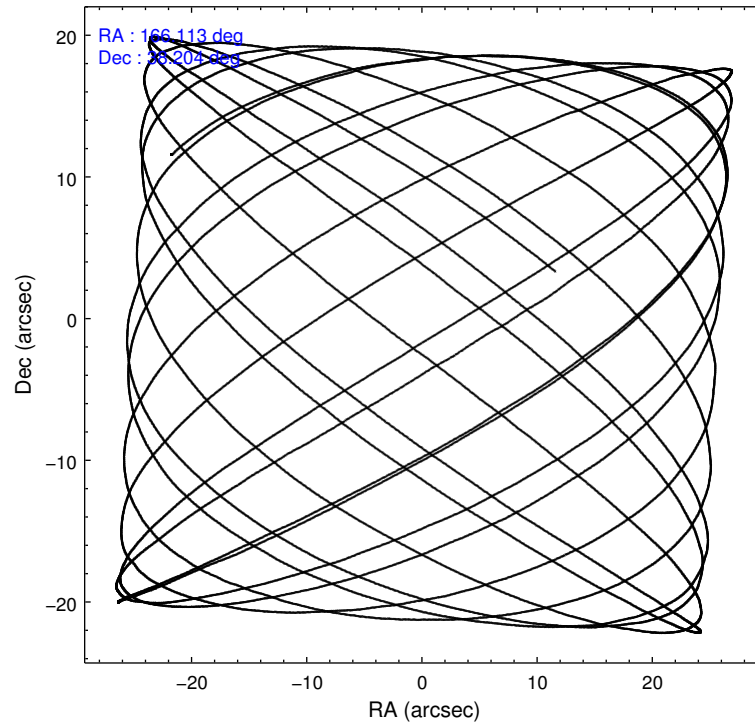
Level 1 Events

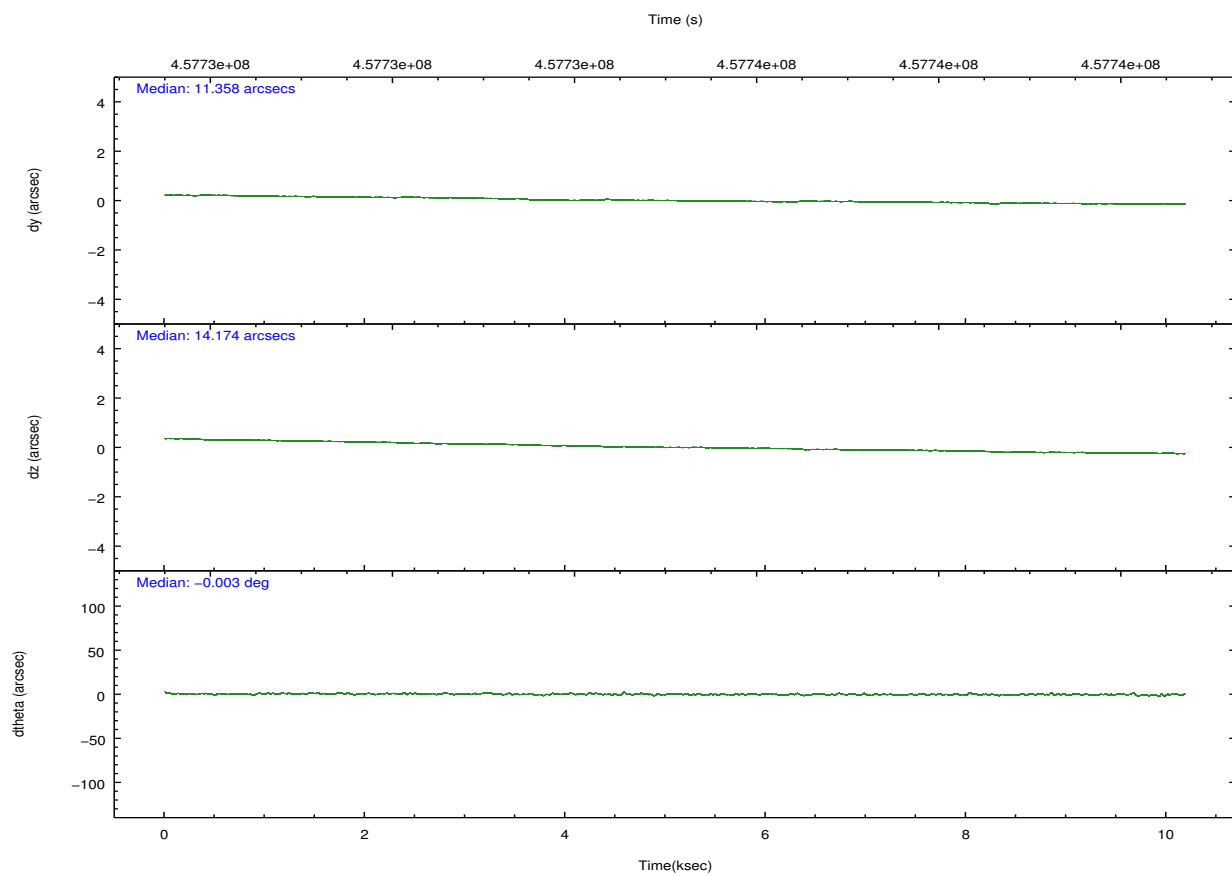
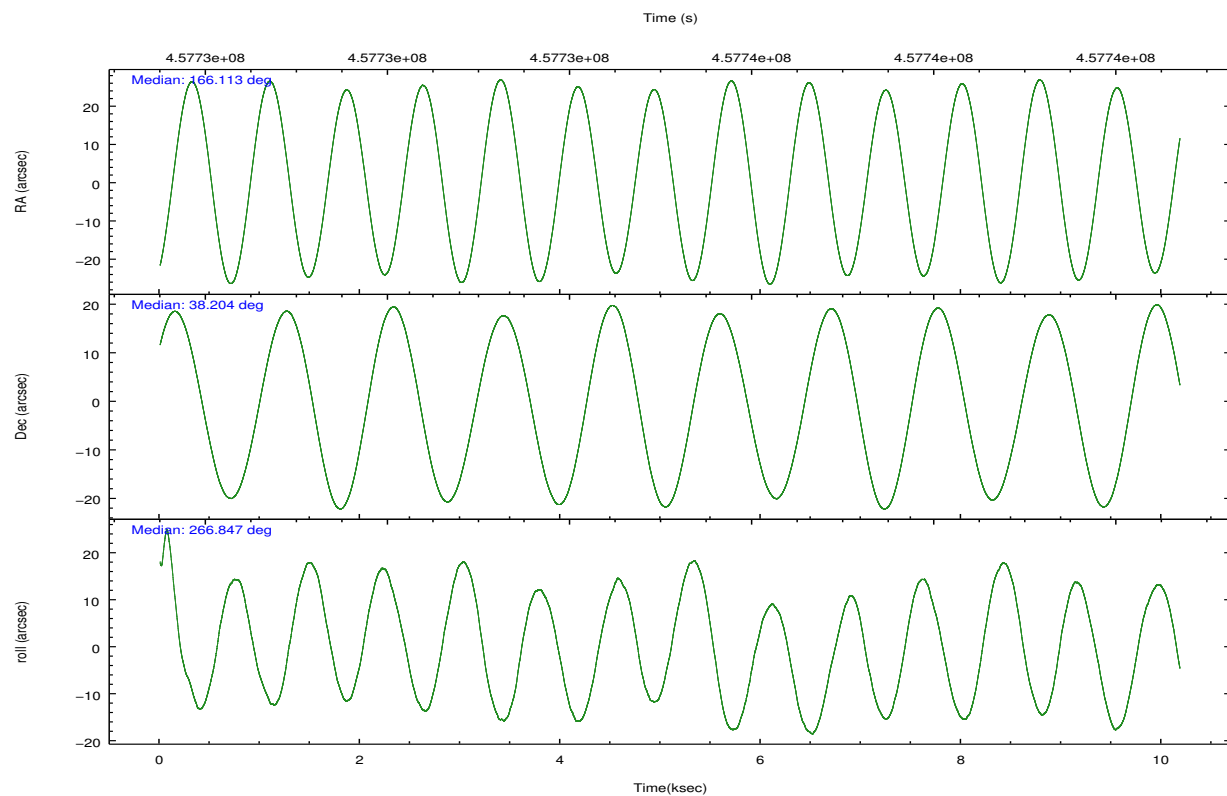
	<b>segment 1</b>	<b>segment 2</b>	<b>segment 3</b>
level 1 events	287025	464823	294421
rejected events	17955	27454	18268
rejected %	6%	5%	6%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	HRC	HRC	Obspar format version number	7	7
Detector	HRC-S	HRC-S	Obspar file type	PREDICTED	ACTUAL
Grating	LETG	LETG	Obspar update status	NONE	UPDATED
Data mode	OBSERVING	OBSERVING			
Observation mode	POINTING	POINTING			
[deg] Pointing RA	166.094805	166.1129006759528			
[deg] Pointing Dec	38.228981	38.20421644328741			
[deg] Pointing Roll	266.795503	266.8516331338178			
[mm] SIM focus pos	-1.429586	-1.428180813131781			
[mm] SIM defocus	0.1037507710433287	0.1051558262725154			
[mm] SIM translation stage pos	250.455976	250.466033080201			
[mm] SIM translation stage offset	0	-0.01005468664627074			
[s] Observation start time (MET)	457730208.184000	457729831.13924			
Observation start date	2012-07-03T19:15:41	2012-07-03T19:10:31			
[s] Observation end time (MET)	457740208.184000	457740469.61481			
Observation end date	2012-07-03T22:02:21	2012-07-03T22:07:49			

## 2.3 Aspect



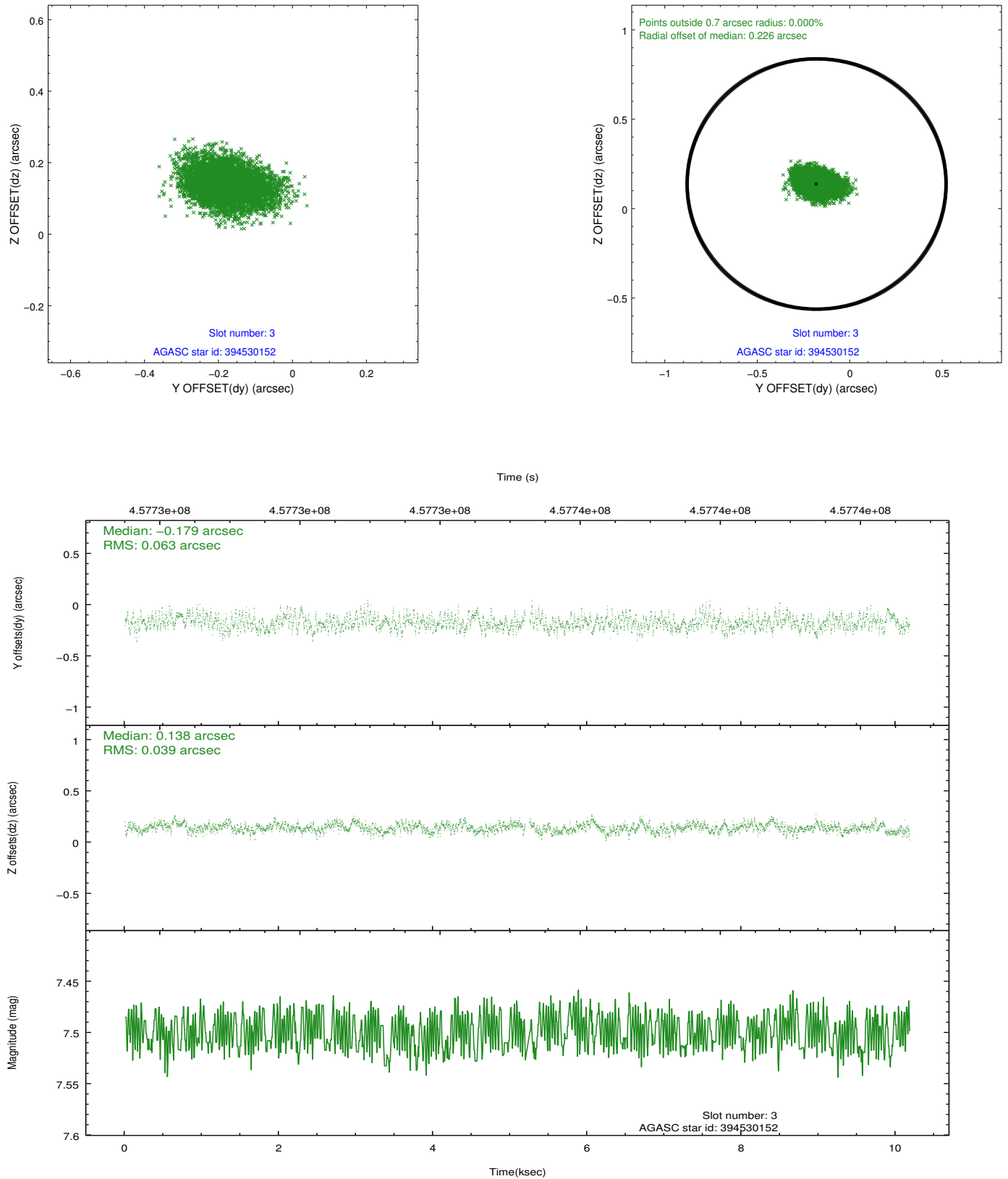


Slot Statistics

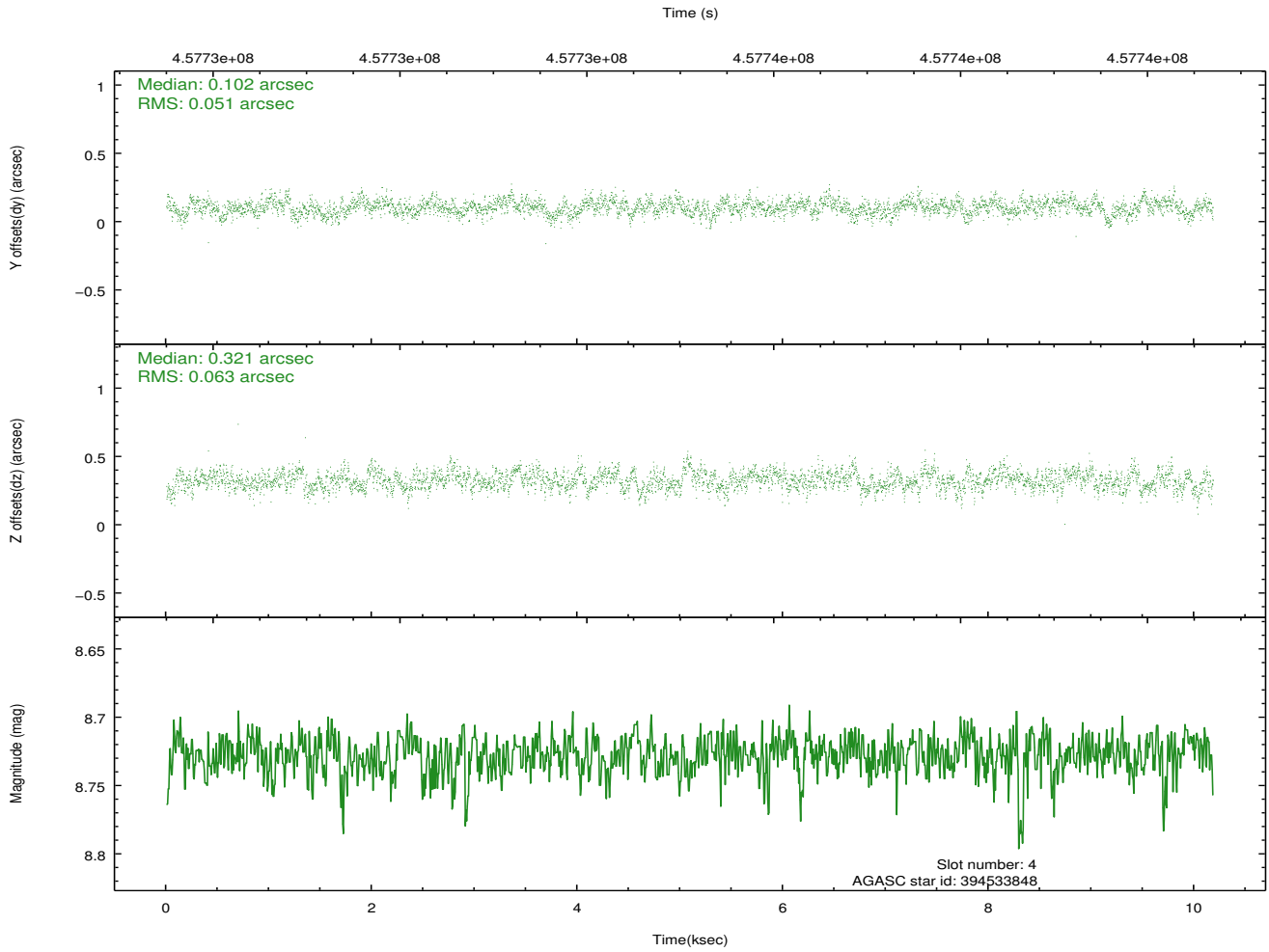
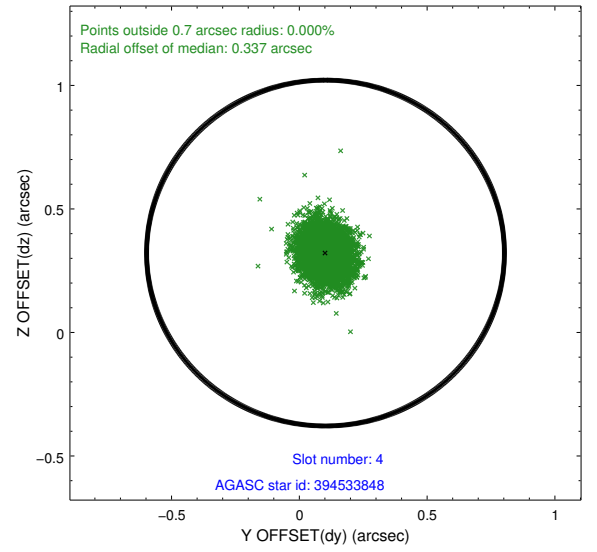
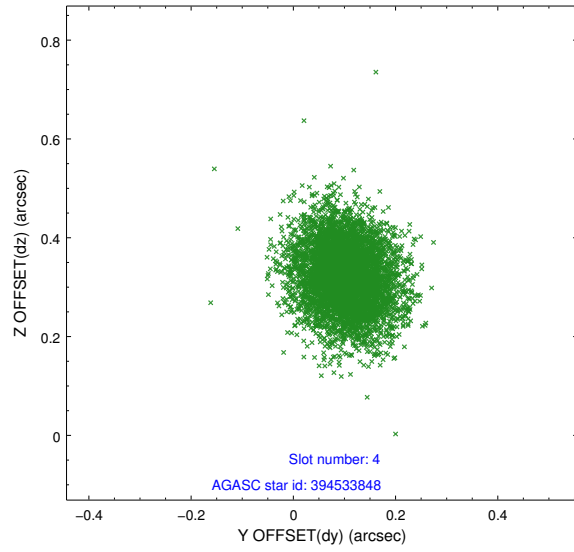
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	HRC-S-1	7.01	2483	0.055	-0.179	0.011	0.017	0.000000	0.000000	-1165.70	-463.03
1	FID	HRC-S-2	7.00	2483	0.280	-0.132	0.007	0.014	0.000000	0.000000	1233.73	-455.81
2	FID	HRC-S-3	7.02	2483	0.055	0.010	0.012	0.019	0.000000	0.000000	-1167.93	566.50
3	GUIDE	394530152	7.50	4937	-0.179	0.138	0.078	0.130	166.075805	38.868252	-2293.97	-181.68
4	GUIDE	394533848	8.73	4966	0.102	0.321	0.086	0.140	166.382906	38.276007	-215.83	799.72
5	GUIDE	394543960	9.80	4940	0.177	0.206	0.156	0.261	165.802757	37.787371	1633.55	-740.01
6	GUIDE	394546712	6.61	4967	-0.178	0.276	0.069	0.113	166.451462	38.394357	-651.34	970.78
7	GUIDE	394546720	6.42	4966	0.062	-0.944	0.099	0.170	166.130115	38.241361	-49.24	96.73

## 2.4 Star Slots

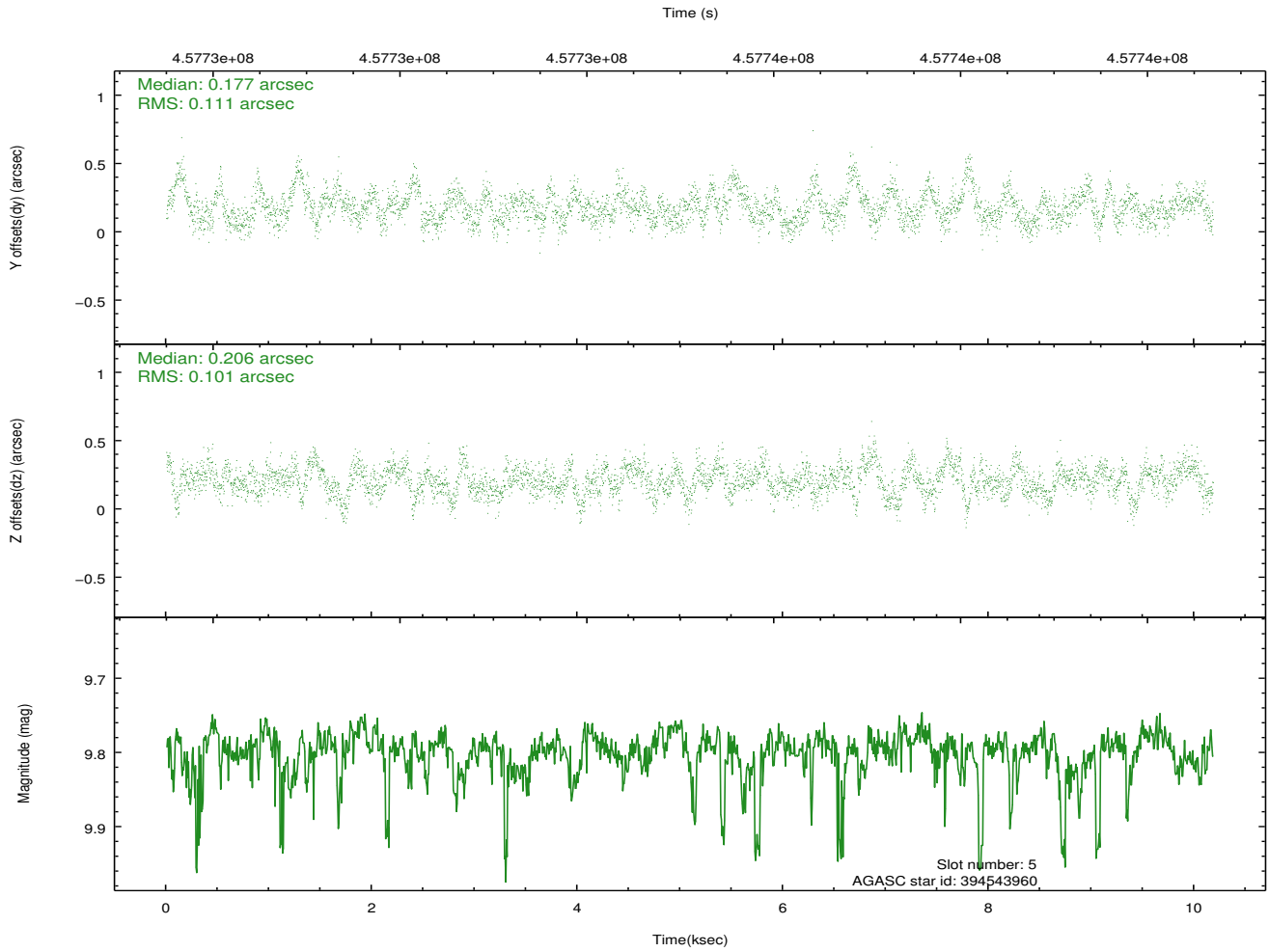
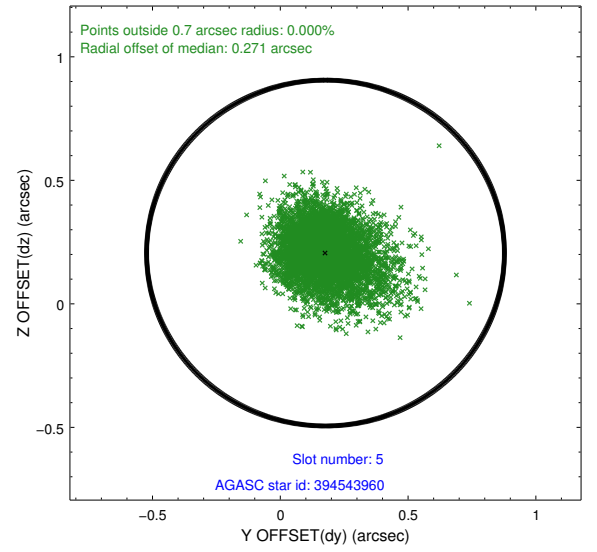
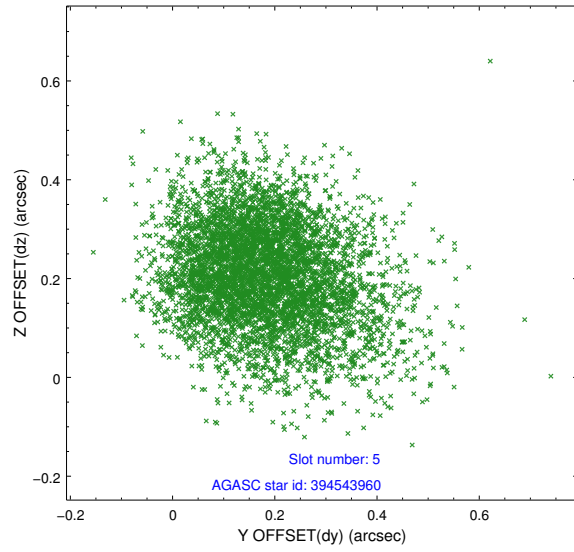
### 2.4.1 Slot 3



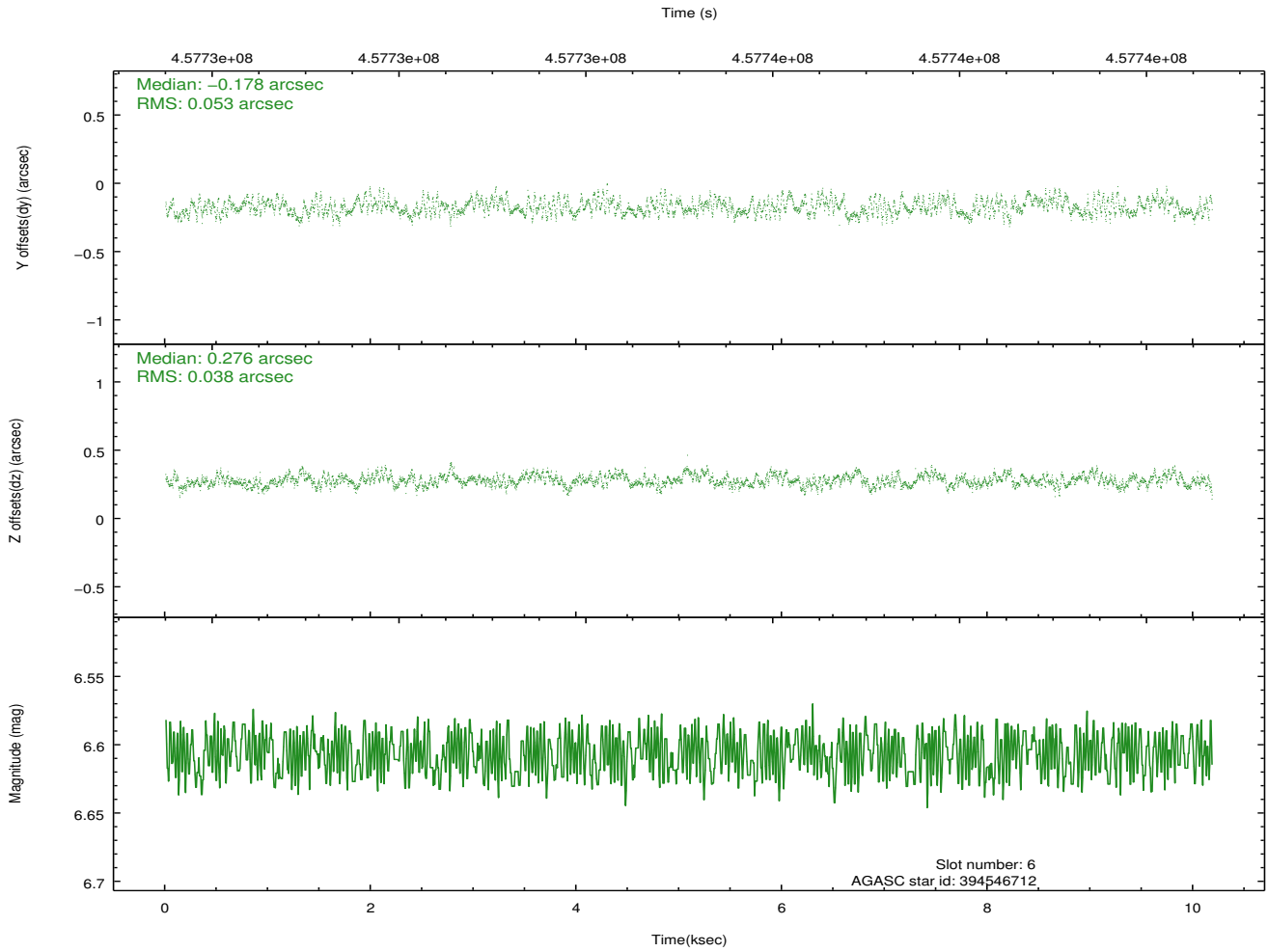
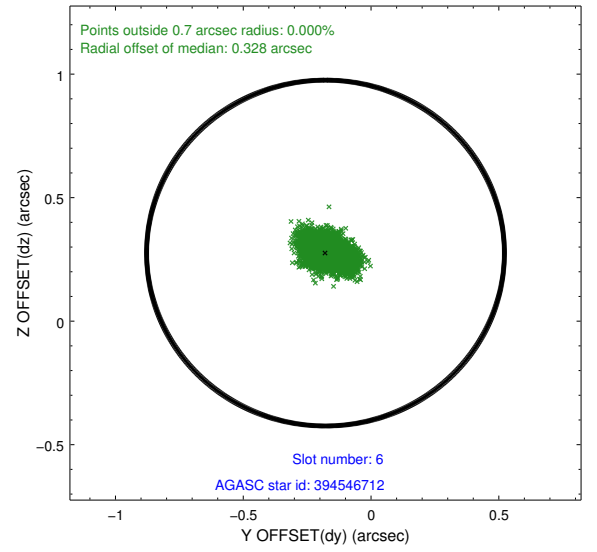
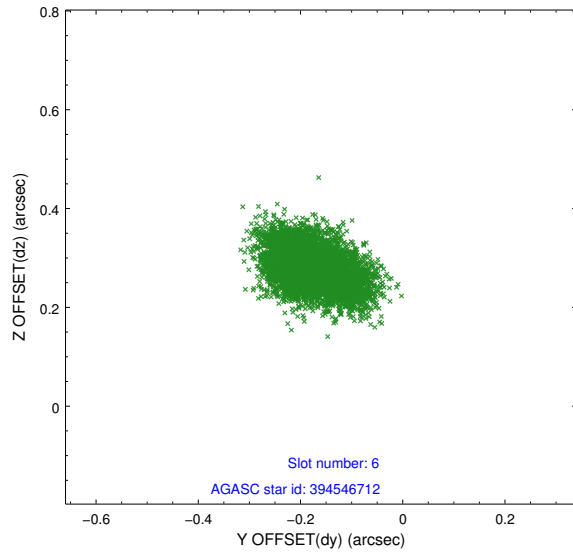
## 2.4.2 Slot 4



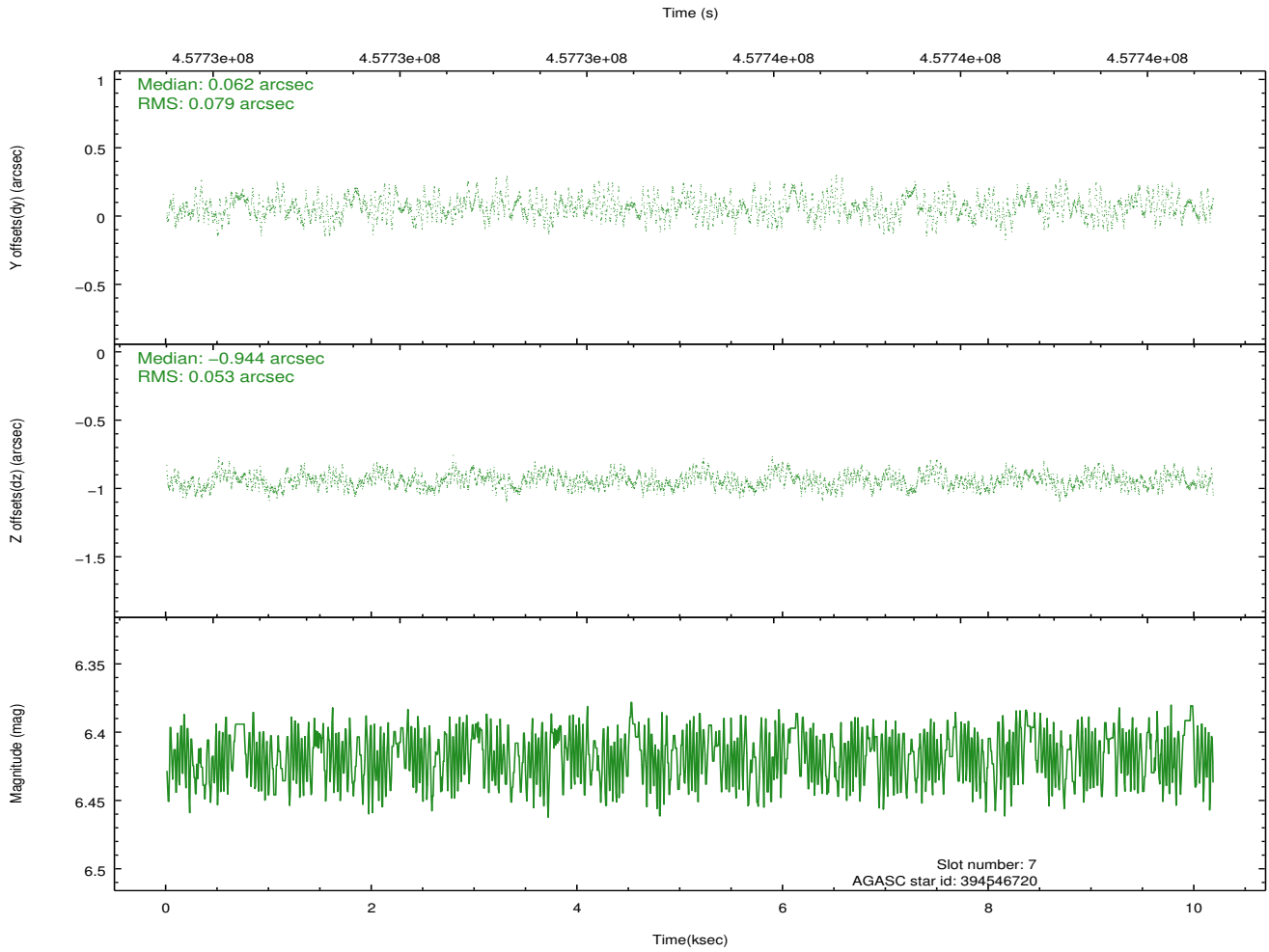
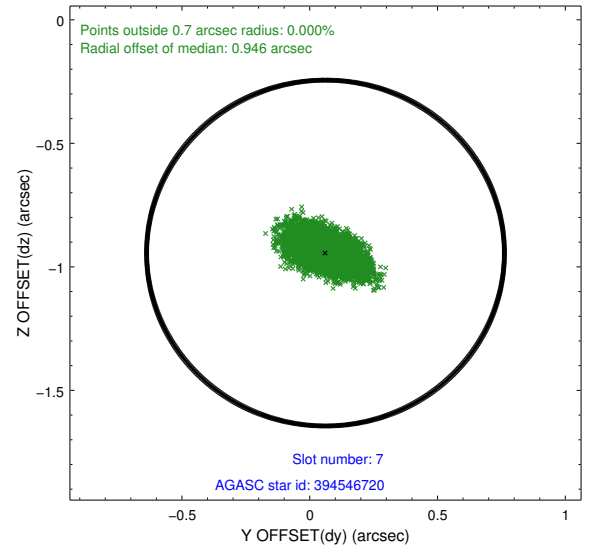
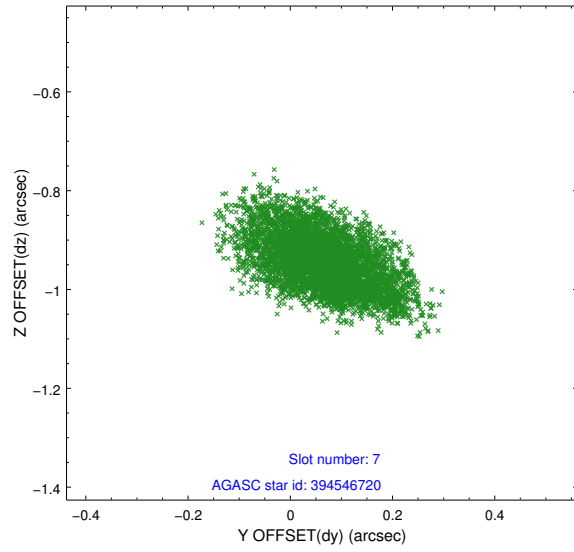
### 2.4.3 Slot 5



## 2.4.4 Slot 6

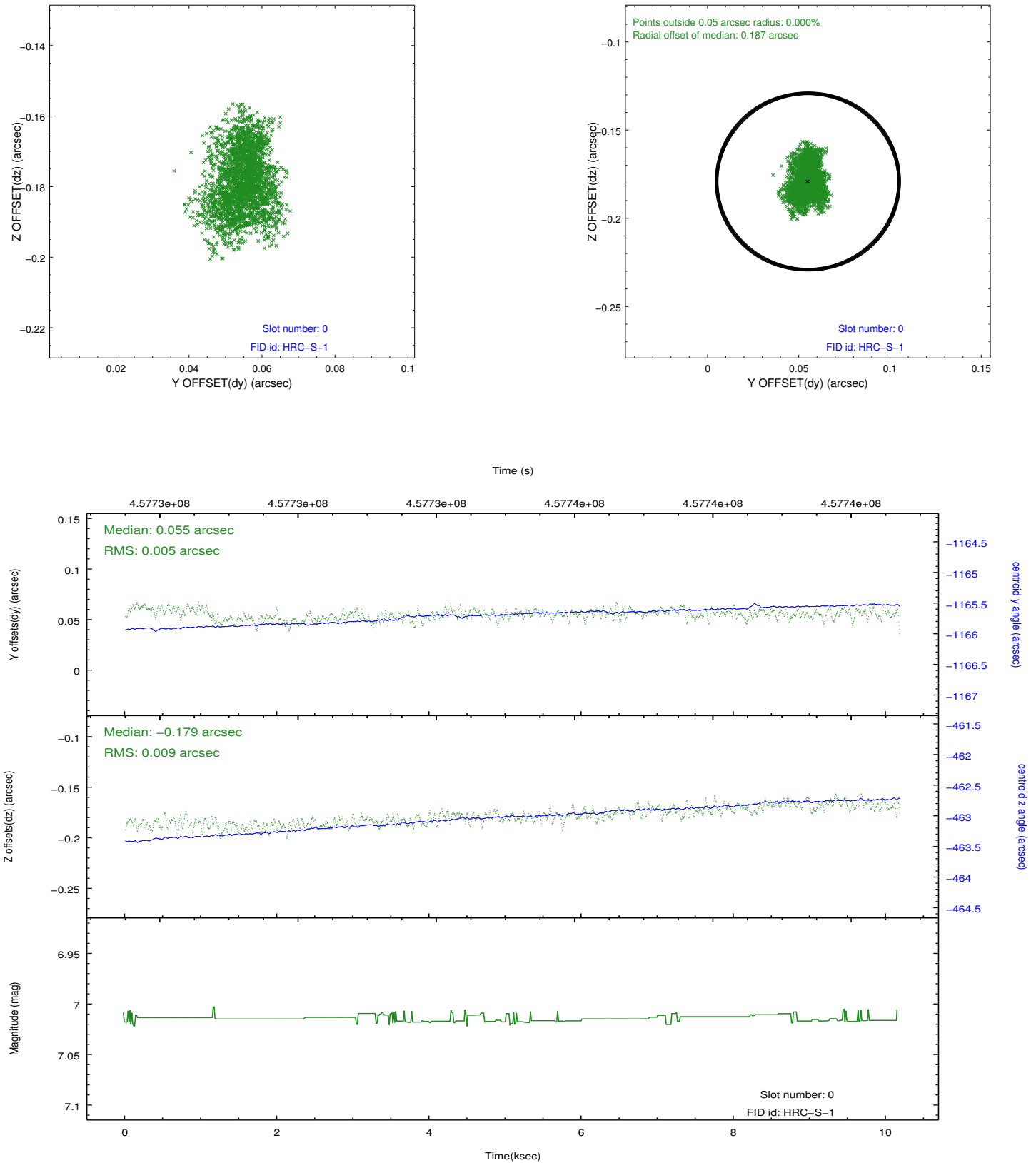


## 2.4.5 Slot 7

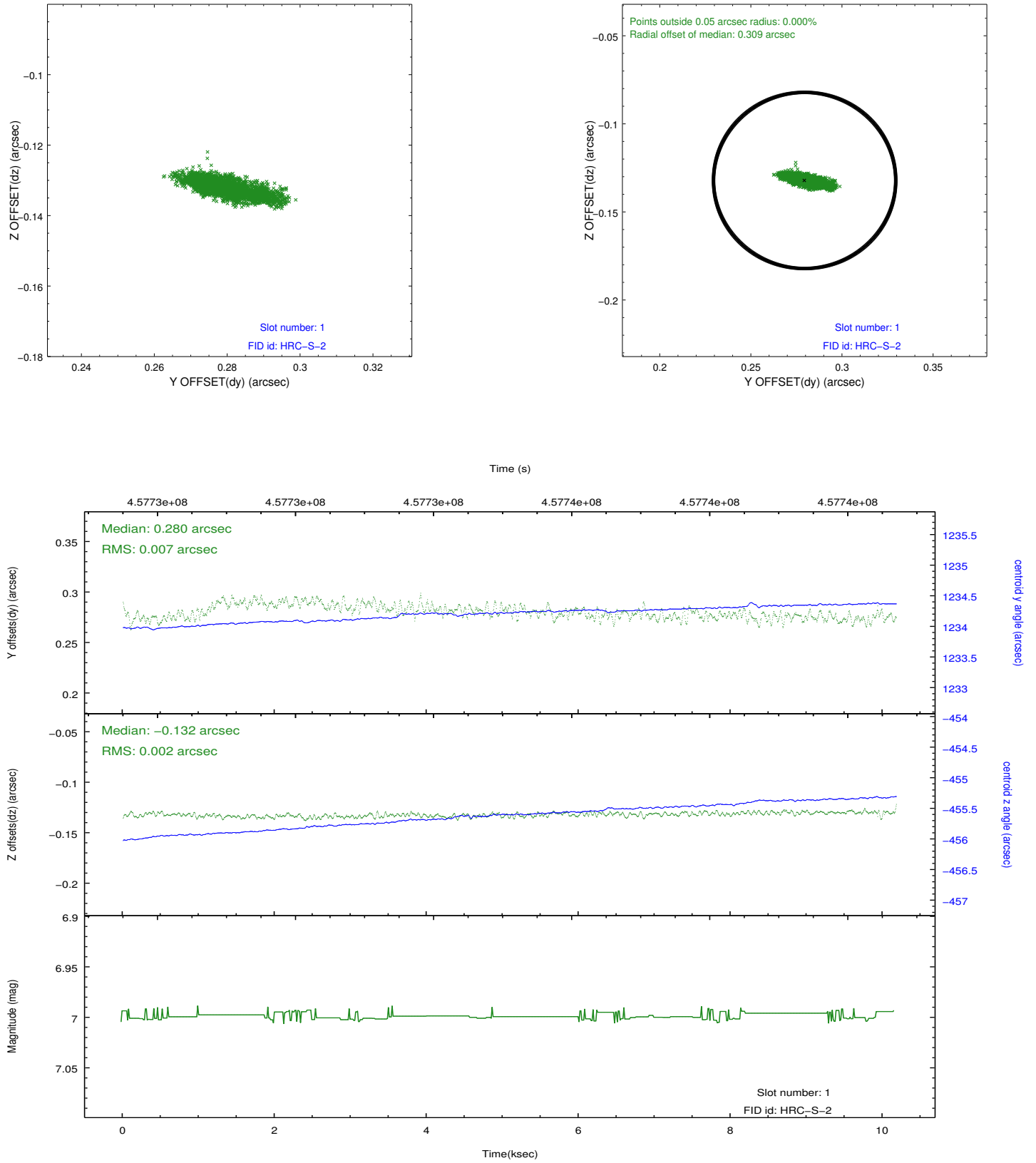


## 2.5 FID Slots

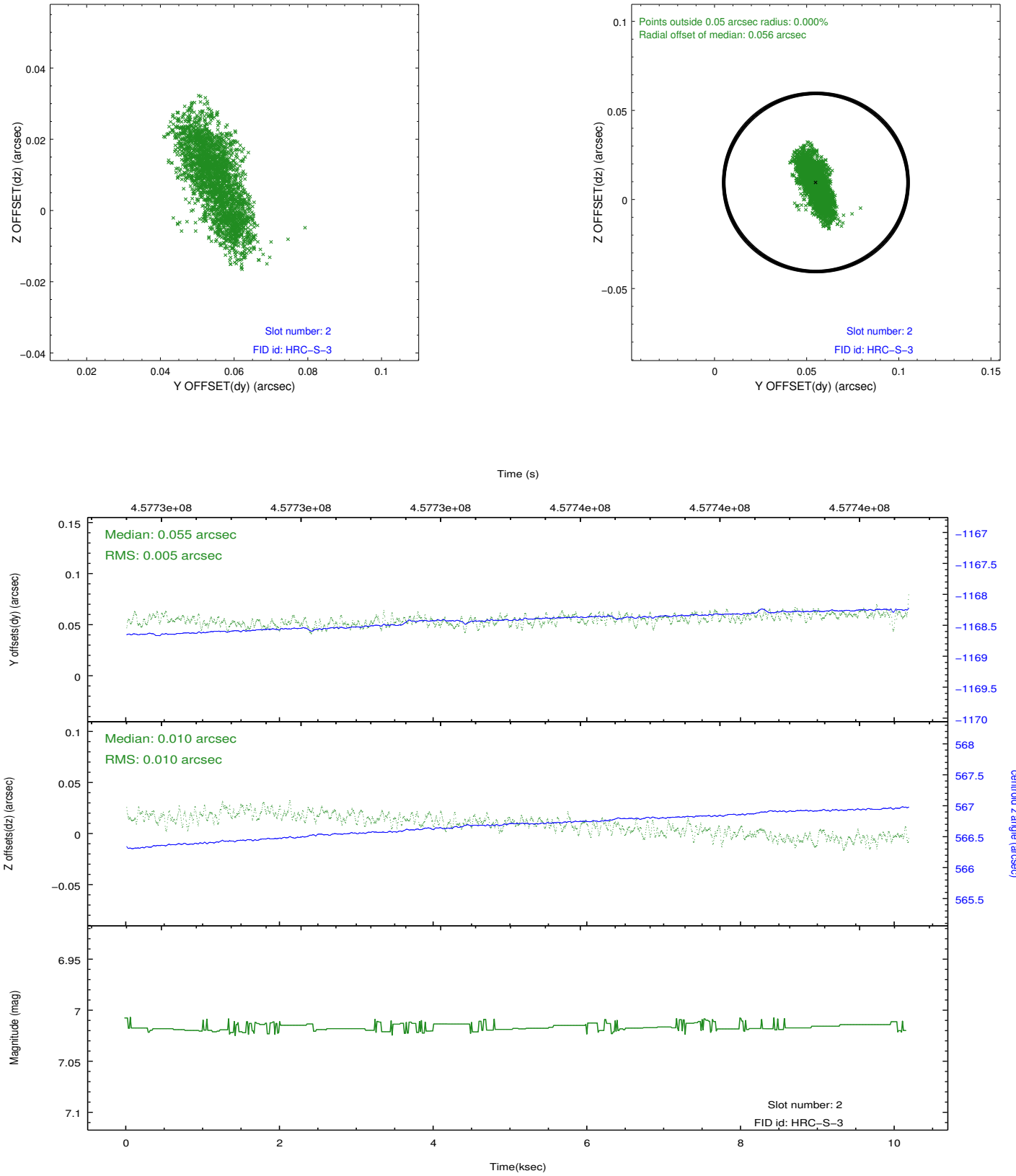
### 2.5.1 Slot 0



## 2.5.2 Slot 1

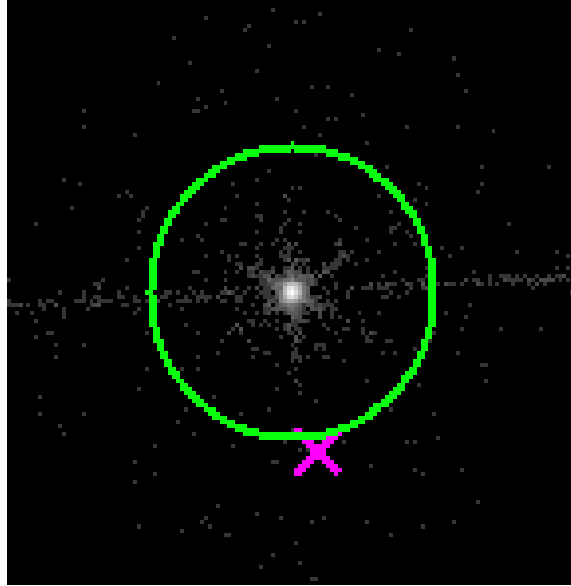


### 2.5.3 Slot 2

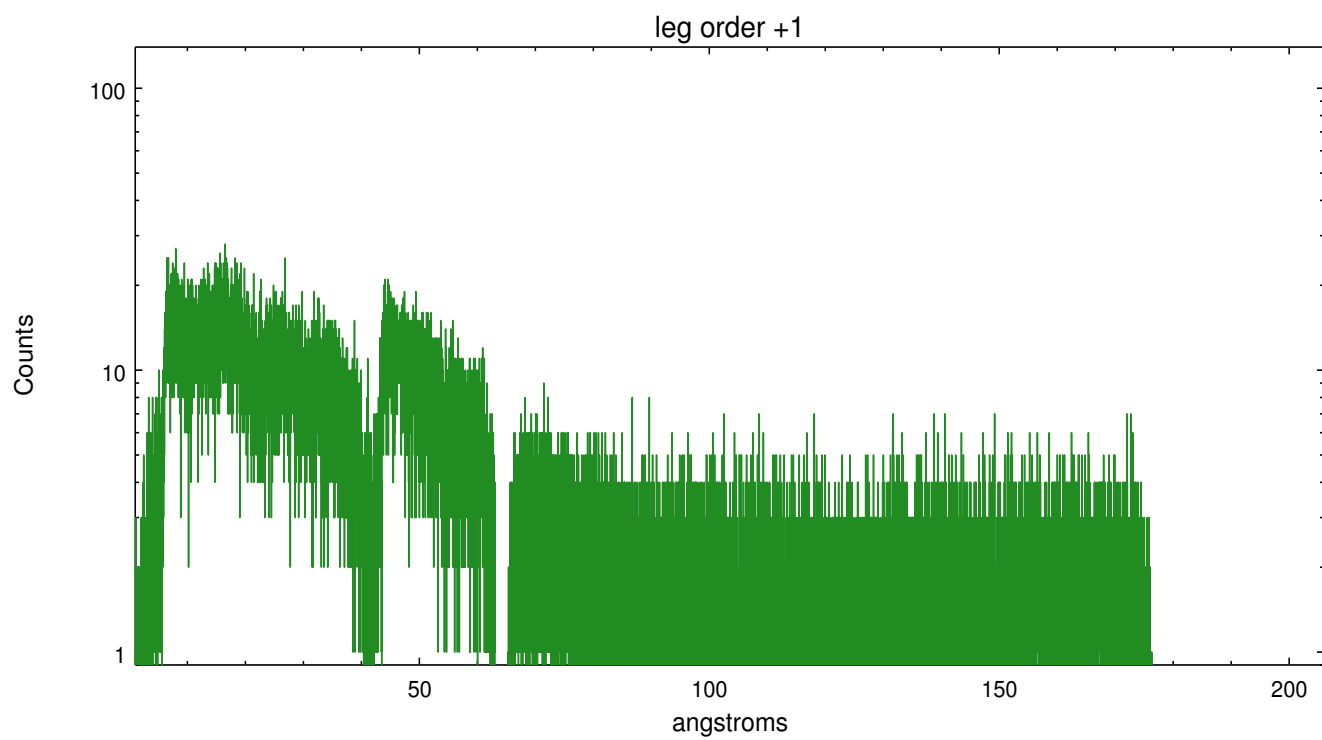
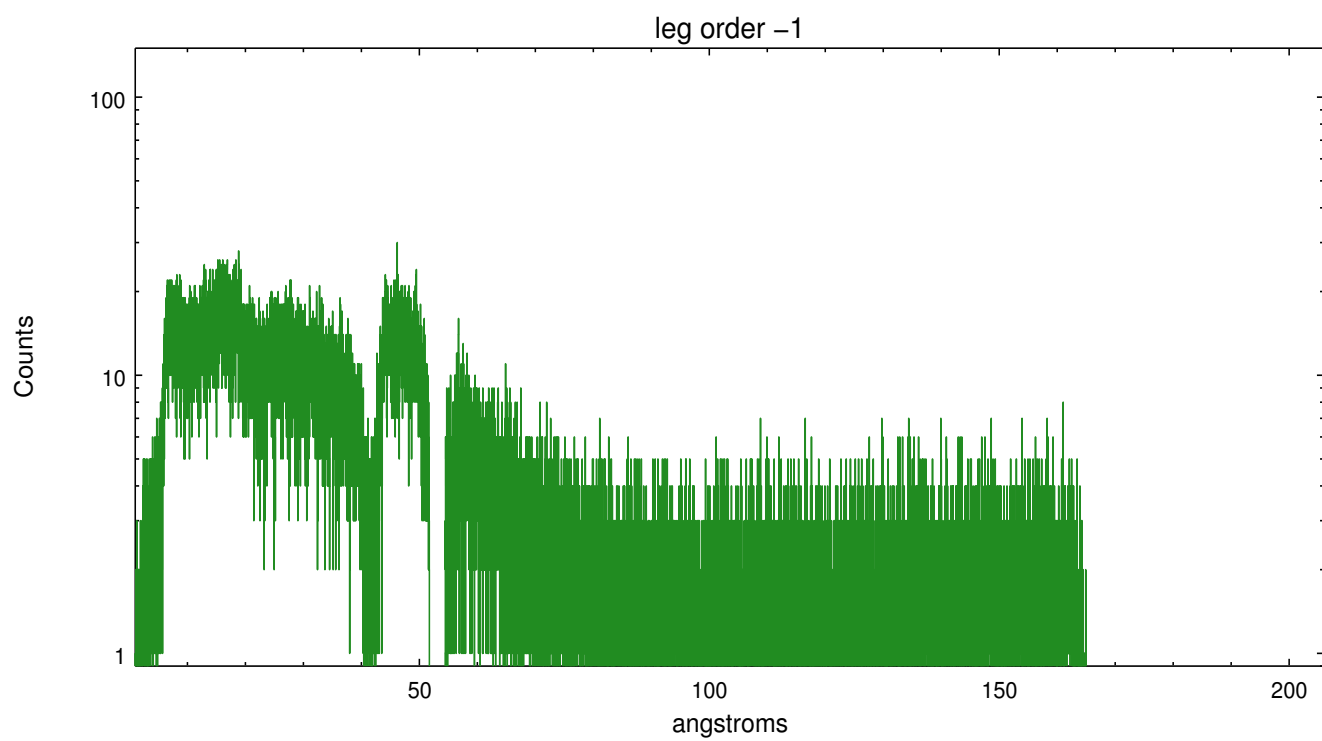


## 3 Gratings

### 3.1 LETG Arm



LETG Zero Order



# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.07.27
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	9.7869567722678

## A.2 Comments

HRC was commanded to use the old (pre-March 2012) voltage settings for this observation. Appropriate calibration files for this instrument configuration were manually linked into the processing.

===

The charge time associated with this processing of the data is different from the original processing due to more appropriate calibrations files.

===

NEW CHARGE TIME = 9.786957 ks, 1 Obis===

Original CHARGE TIME = 9.137875 ks, 1 Obis.