

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 14397 - L2 Version 2  
Chandra X-Ray Center

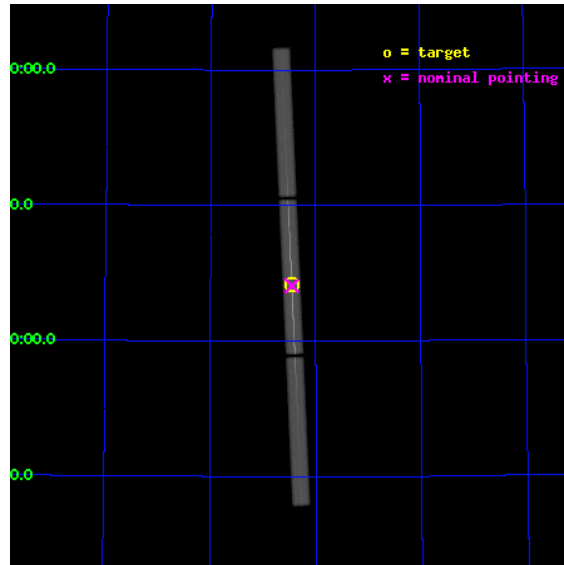
L2 Processing Date : Jul 26 2012

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# 1 Front

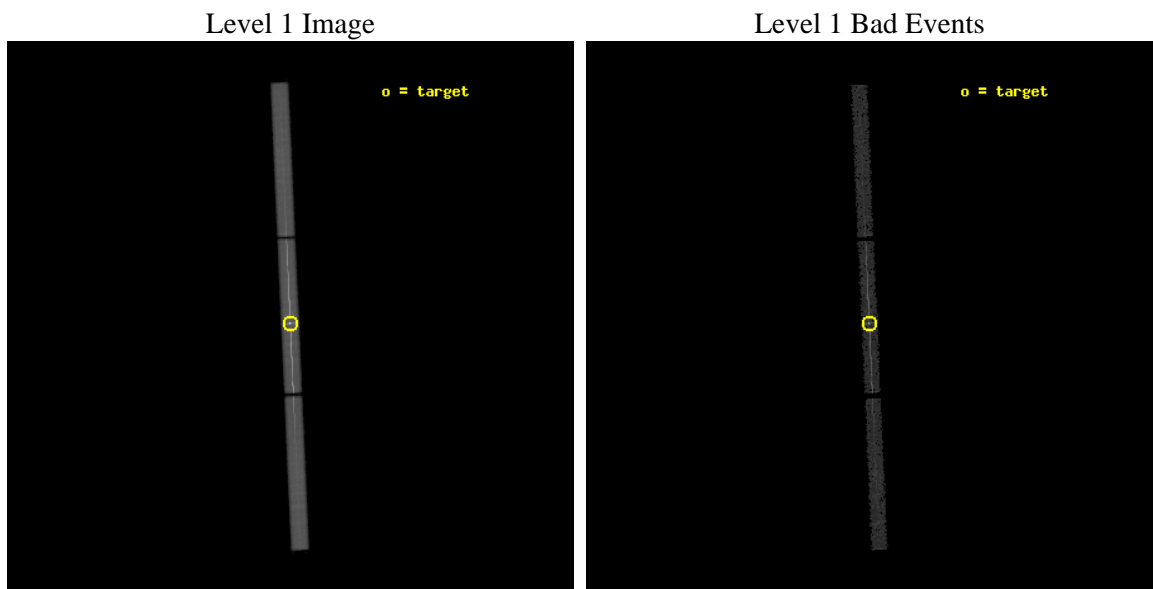
seq_num	790248	Sequence number
obs_id	14397	Observation id
title	AO-13 Calibration Observations of Mkn421 to Calibrate the New HRC-S HV Setting	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	MKN421[Voltage:original default]	Source name
ra_targ	166.113333	Observer's specified target RA [deg]
dec_targ	38.208806	Observer's specified target Dec [deg]
ra_nom	166.112855902	Nominal RA [deg]
dec_nom	38.203887121793	Nominal Dec [deg]
roll_nom	267.36500295699	Nominal Roll [deg]
revision	2	Processing version of data
ontime	9786.7005223036	[s]
livetime	9695.5475564416	Ontime multiplied by DTCOR
l2events	890164	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	9786.7005223036	[s]
caldsver	4.5.1	&#160	l1events	1133439	Number of level 1 events
date	2012-07-26T22:49:27	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	301492	526498	305449
rejected events	19283	32489	19190
rejected %	6%	6%	6%

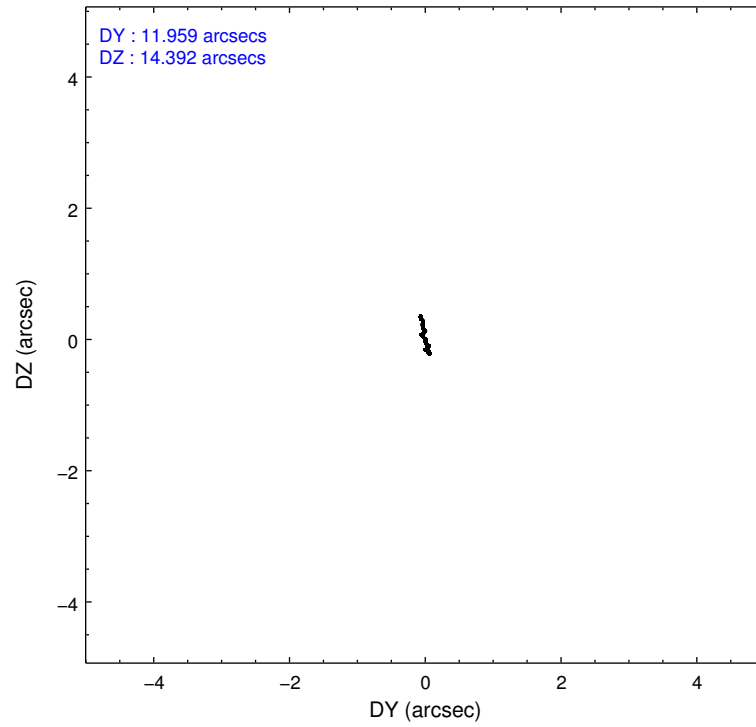
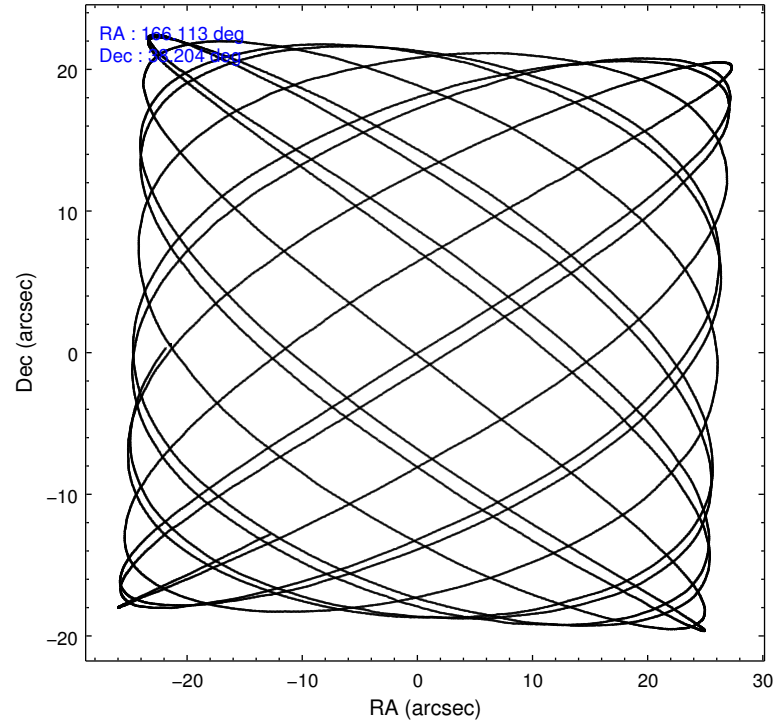


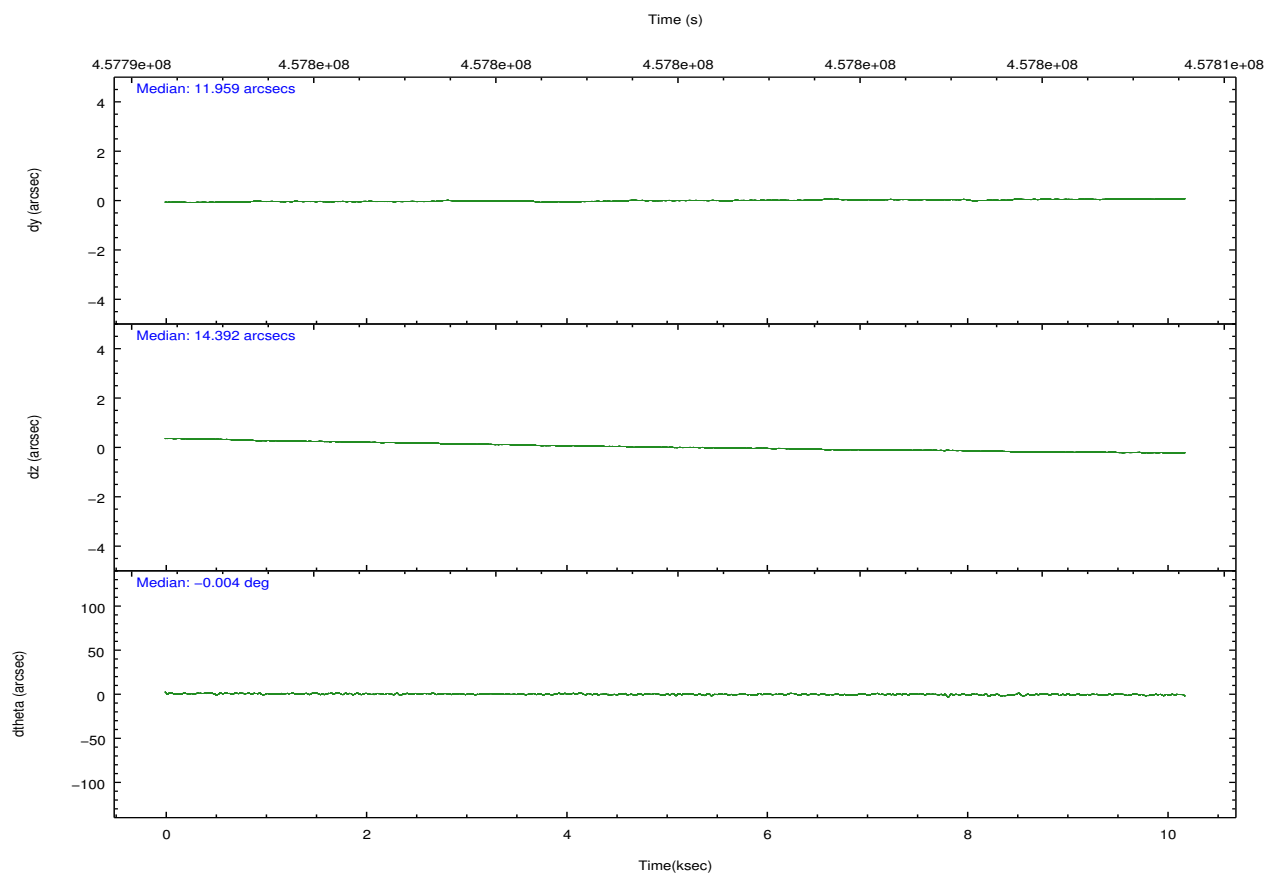
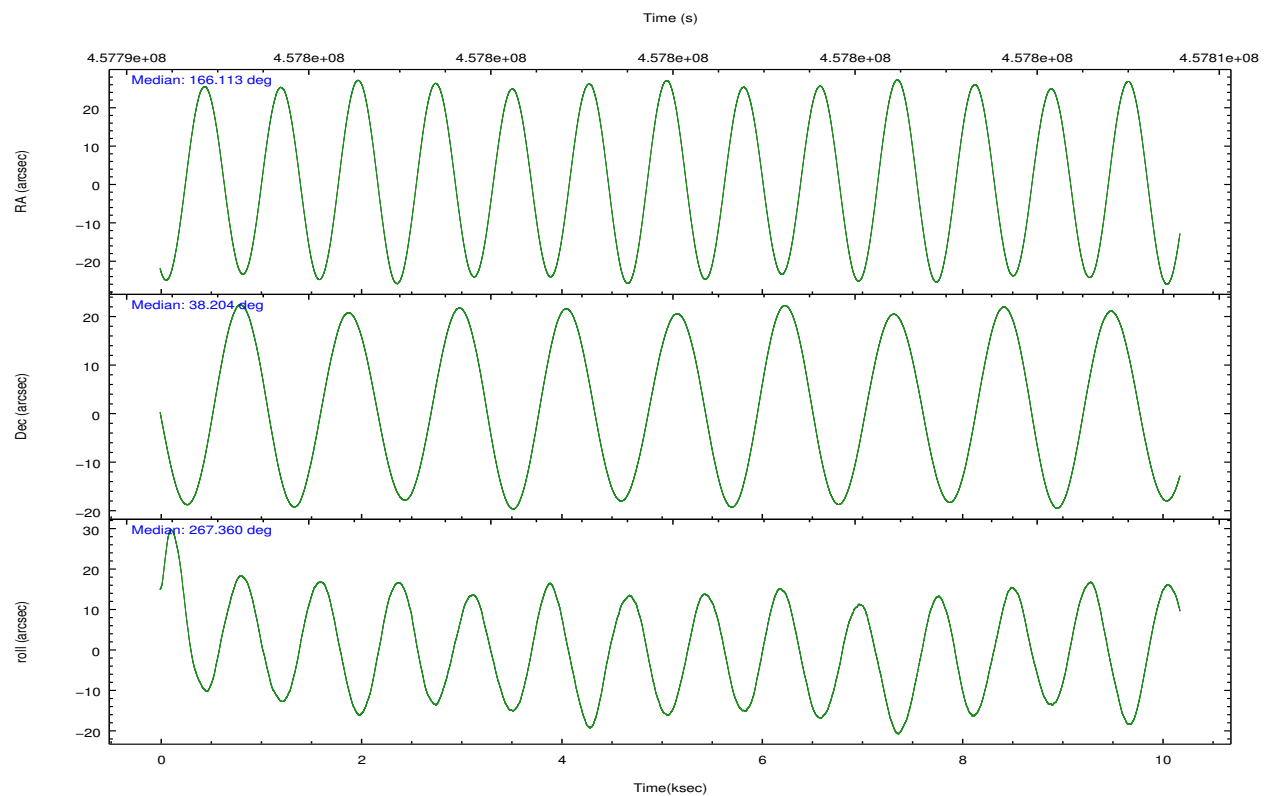
## 2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	HRC	HRC
Detector	HRC-S	HRC-S
Grating	LETG	LETG
Data mode	OBSERVING	OBSERVING
Observation mode	POINTING	POINTING
[deg] Pointing RA	166.094572	166.112855902004
[deg] Pointing Dec	38.228849	38.20388712179274
[deg] Pointing Roll	267.308989	267.3650029569935
[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)	457795050.184000	457794673.1552
Observation start date	2012-07-04T13:16:23	2012-07-04T13:11:13
[s] Observation end time (MET)	457805050.184000	457805313.16827
Observation end date	2012-07-04T16:03:03	2012-07-04T16:08:33

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

## 2.3 Aspect



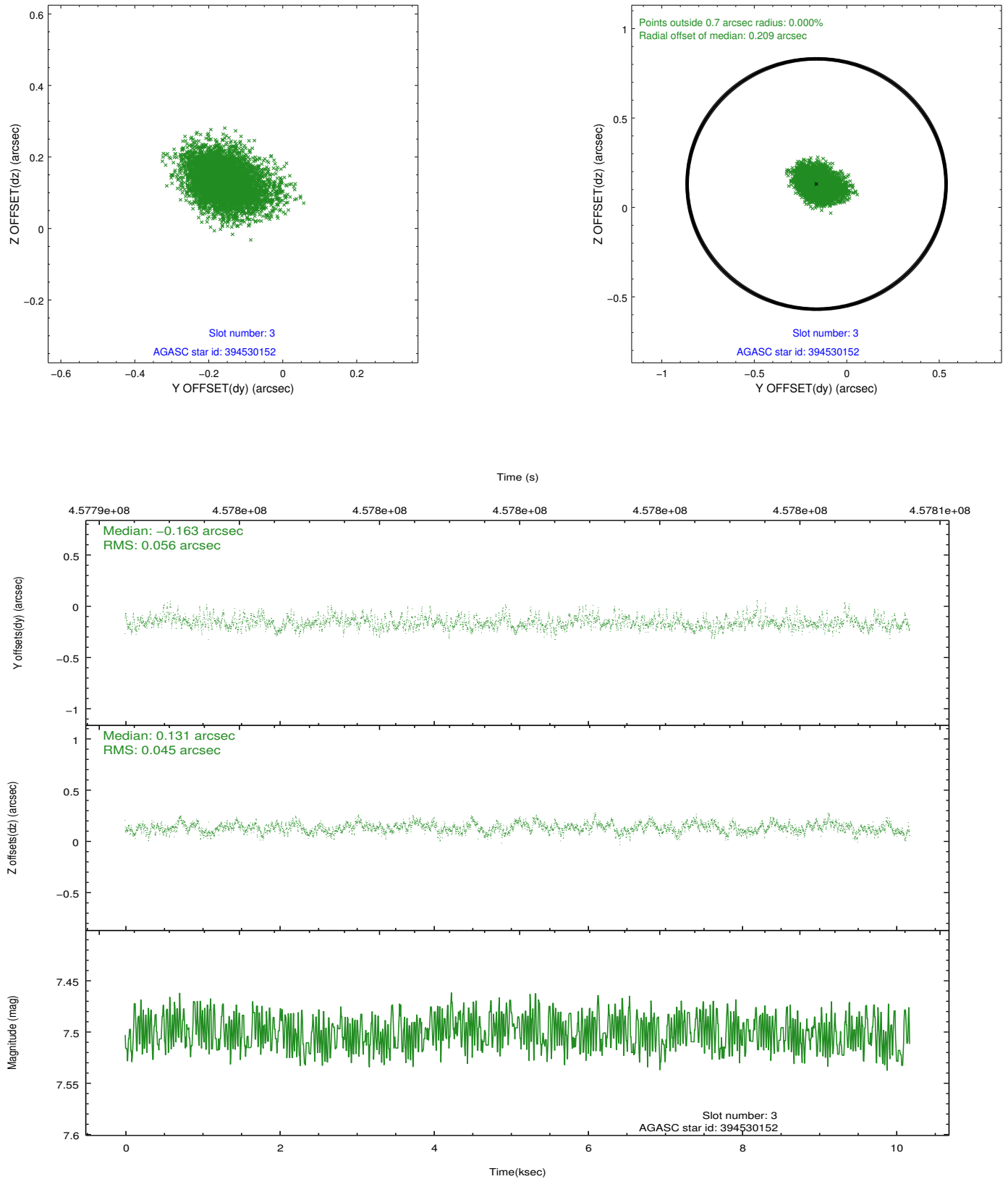


### Slot Statistics

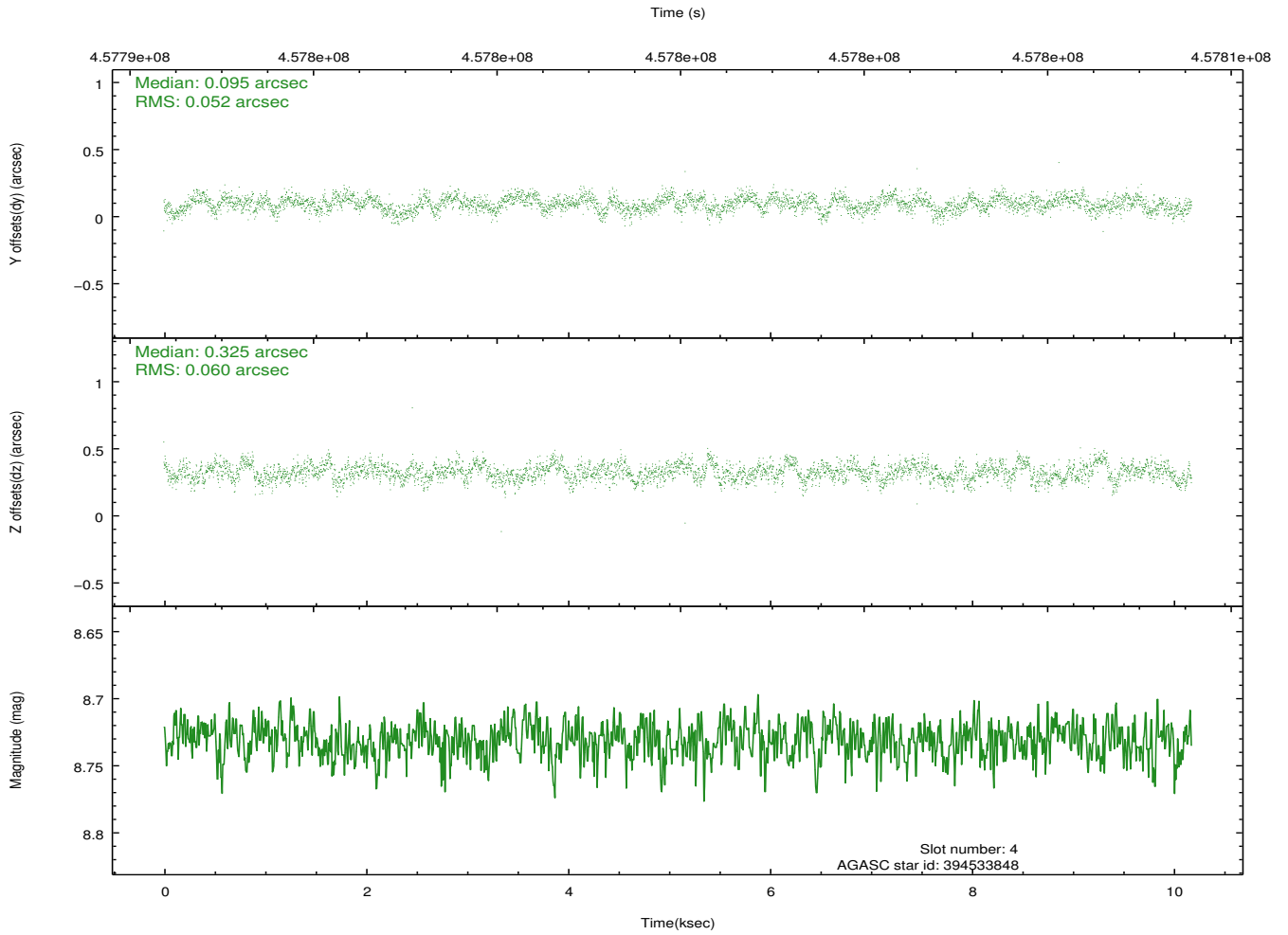
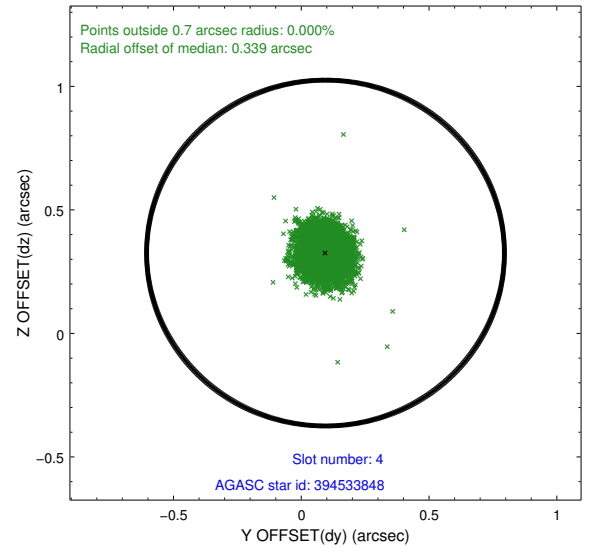
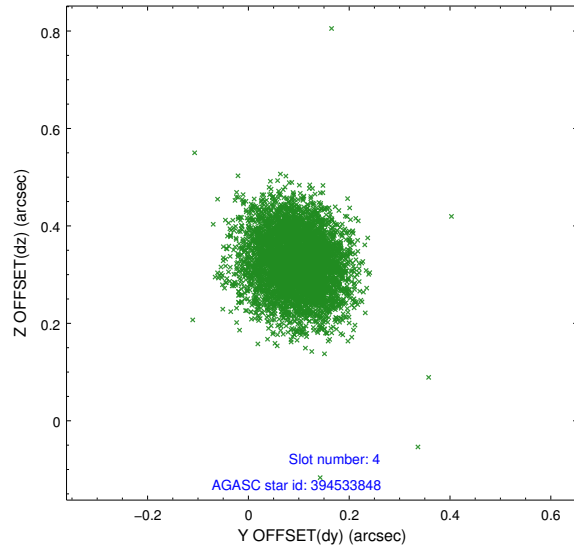
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	HRC-S-1	7.01	2483	0.061	-0.182	0.008	0.013	0.000000	0.000000	-1166.29	-463.27
1	FID	HRC-S-2	7.00	2483	0.275	-0.133	0.005	0.009	0.000000	0.000000	1233.13	-456.04
2	FID	HRC-S-3	7.01	2483	0.054	0.013	0.008	0.014	0.000000	0.000000	-1168.53	566.27
3	GUIDE	394530152	7.50	4967	-0.163	0.131	0.075	0.129	166.075805	38.868252	-2297.26	-160.22
4	GUIDE	394533848	8.73	4965	0.095	0.325	0.084	0.136	166.382906	38.276007	-210.37	802.45
5	GUIDE	394543960	9.80	4952	0.169	0.185	0.154	0.244	165.802757	37.787371	1625.15	-753.80
6	GUIDE	394546712	6.61	4967	-0.183	0.285	0.075	0.122	166.451462	38.394357	-644.34	977.41
7	GUIDE	394546720	6.42	4965	0.071	-0.932	0.112	0.179	166.130115	38.241361	-50.06	98.01

## 2.4 Star Slots

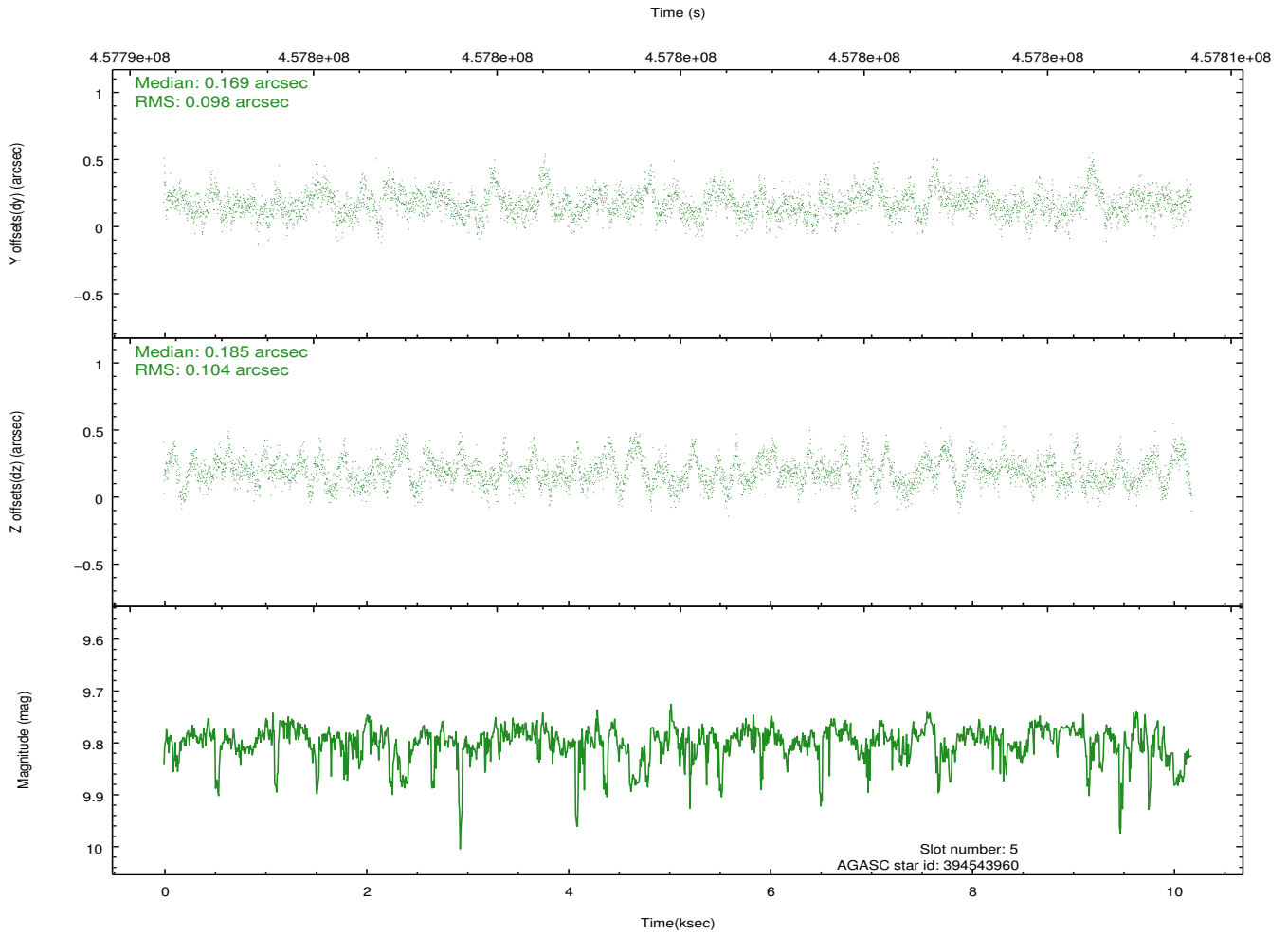
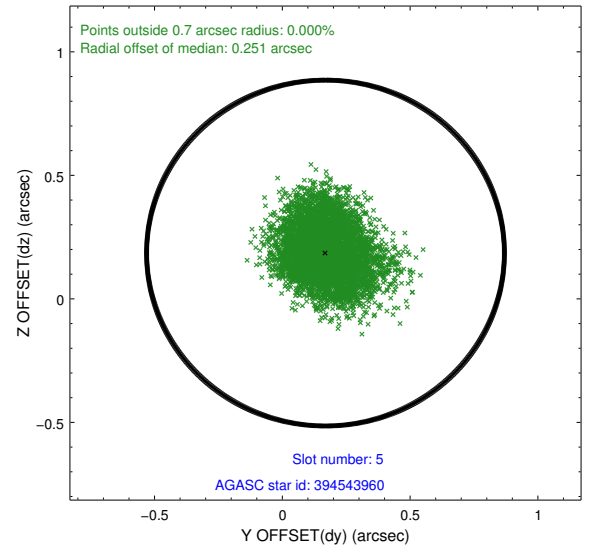
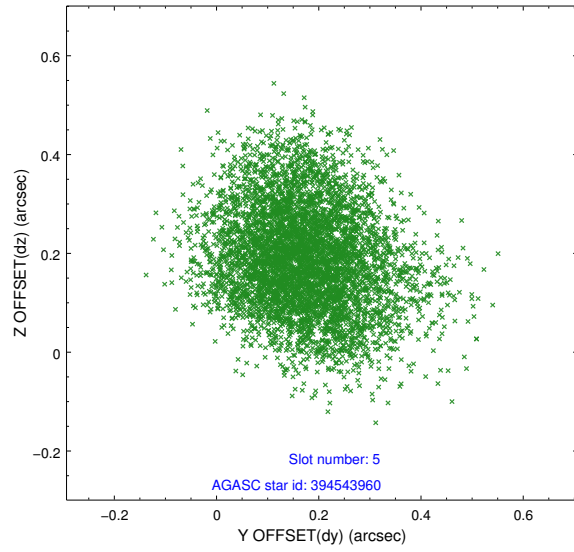
### 2.4.1 Slot 3



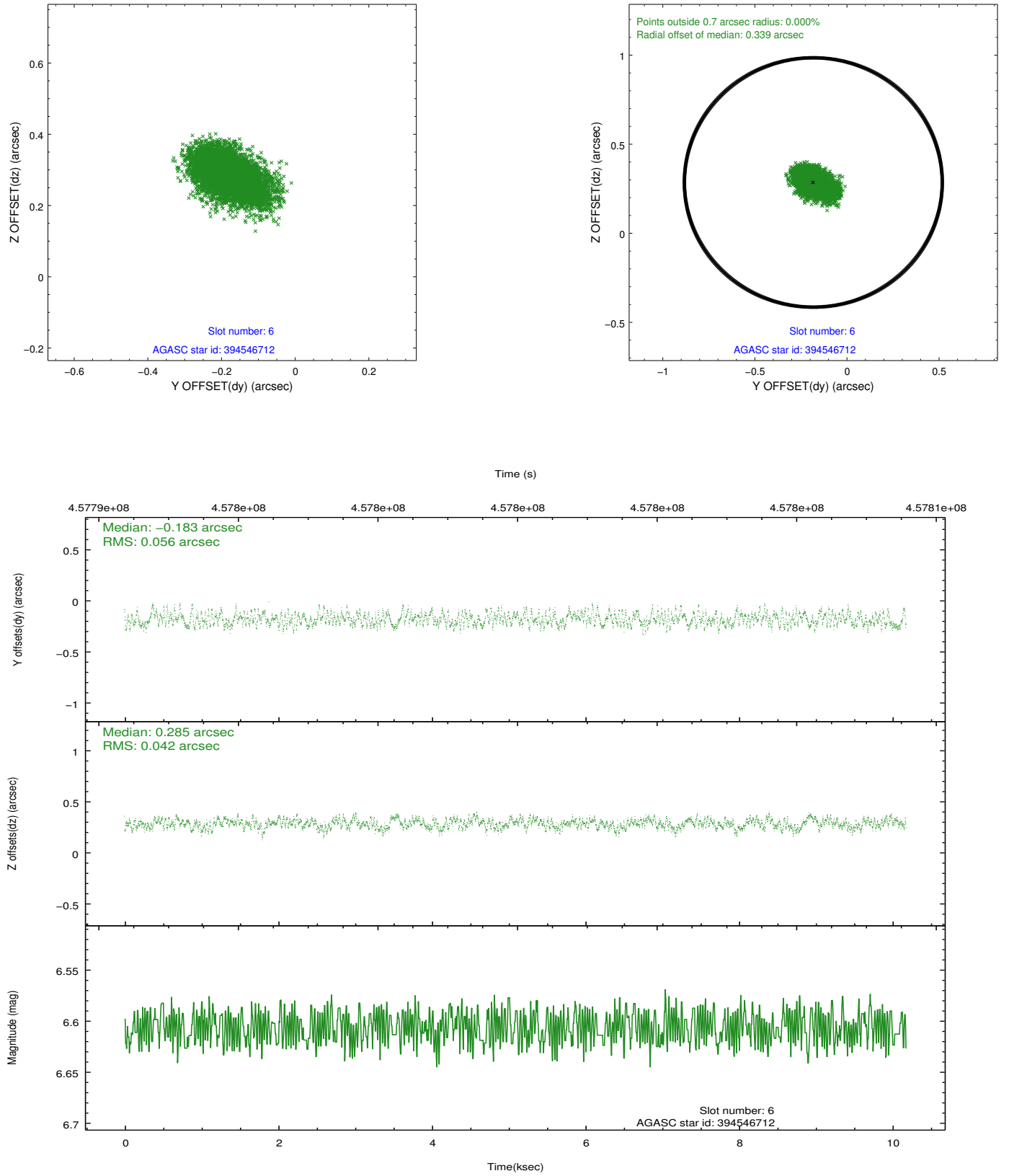
## 2.4.2 Slot 4



### 2.4.3 Slot 5

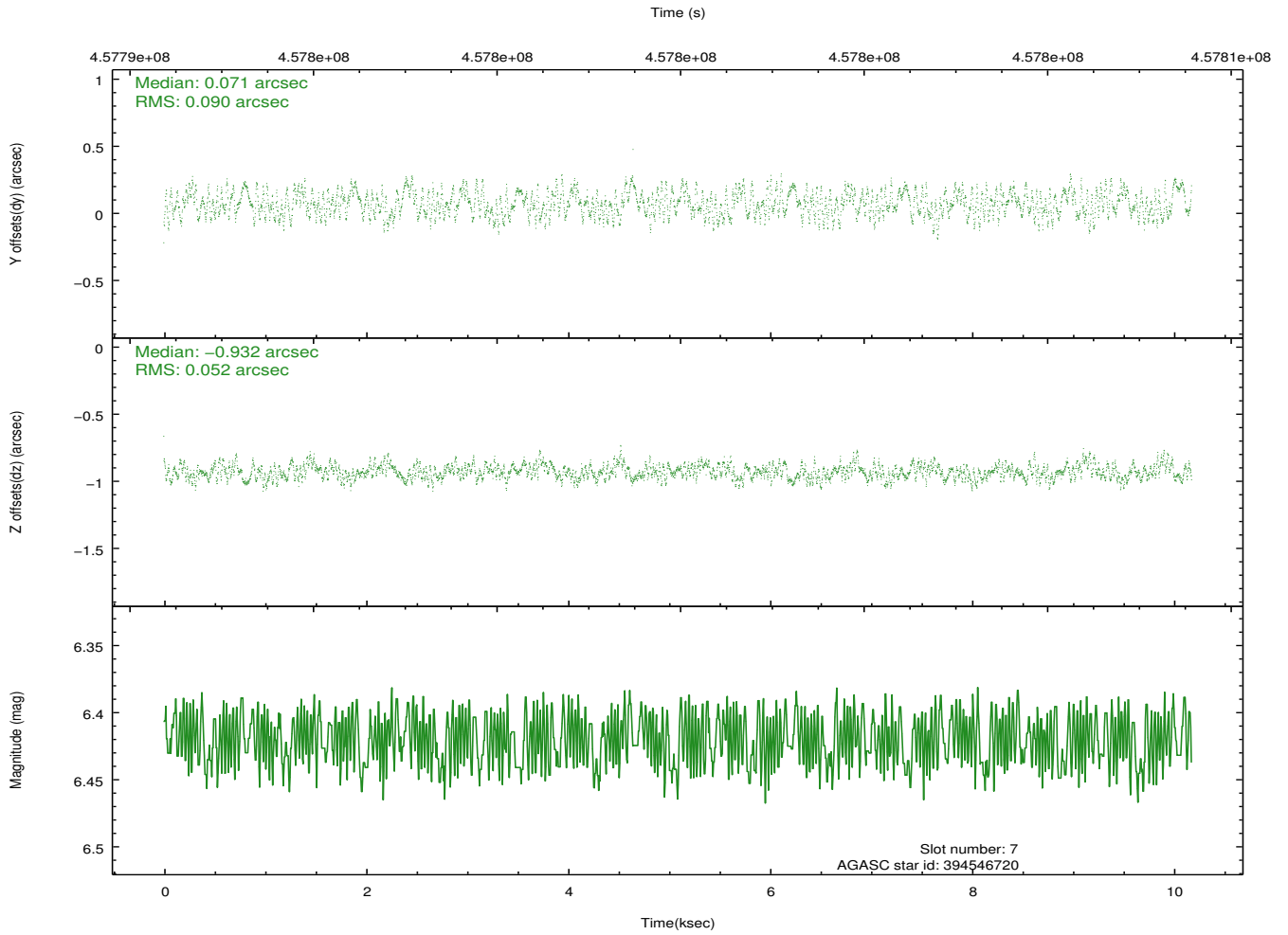
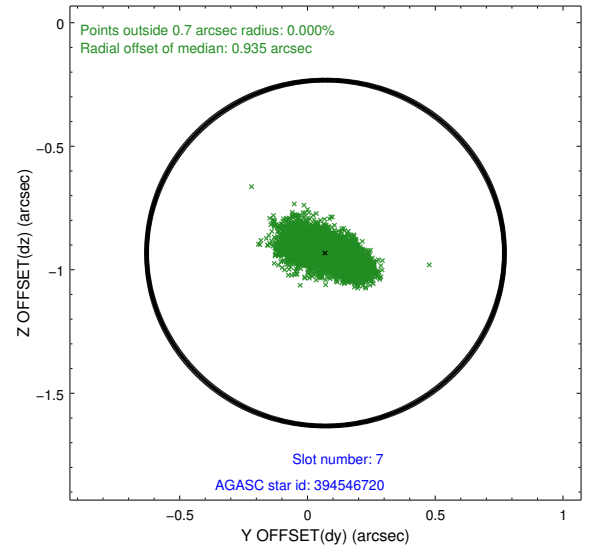
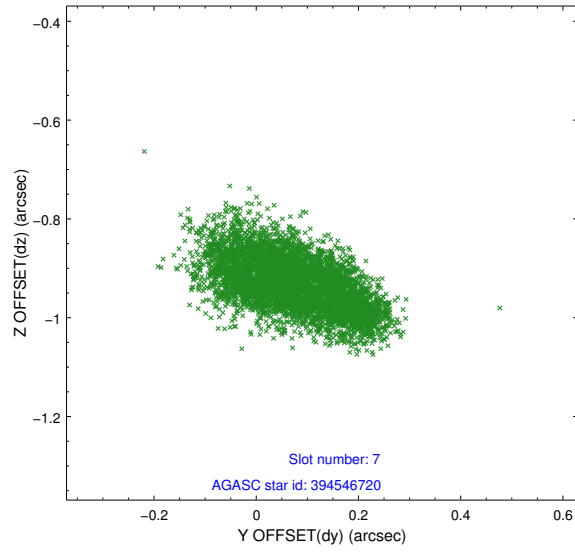


## 2.4.4 Slot 6



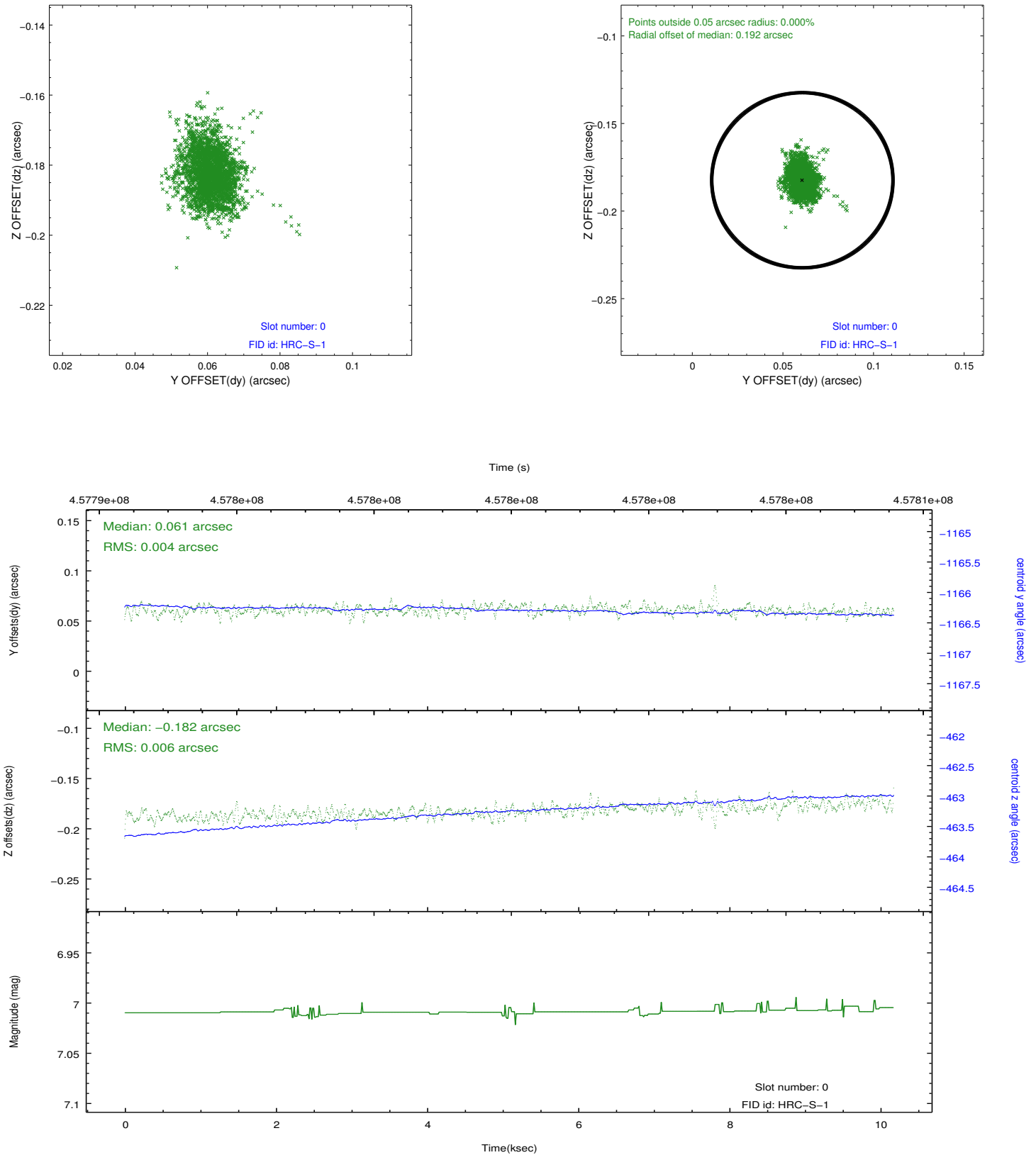


## 2.4.5 Slot 7

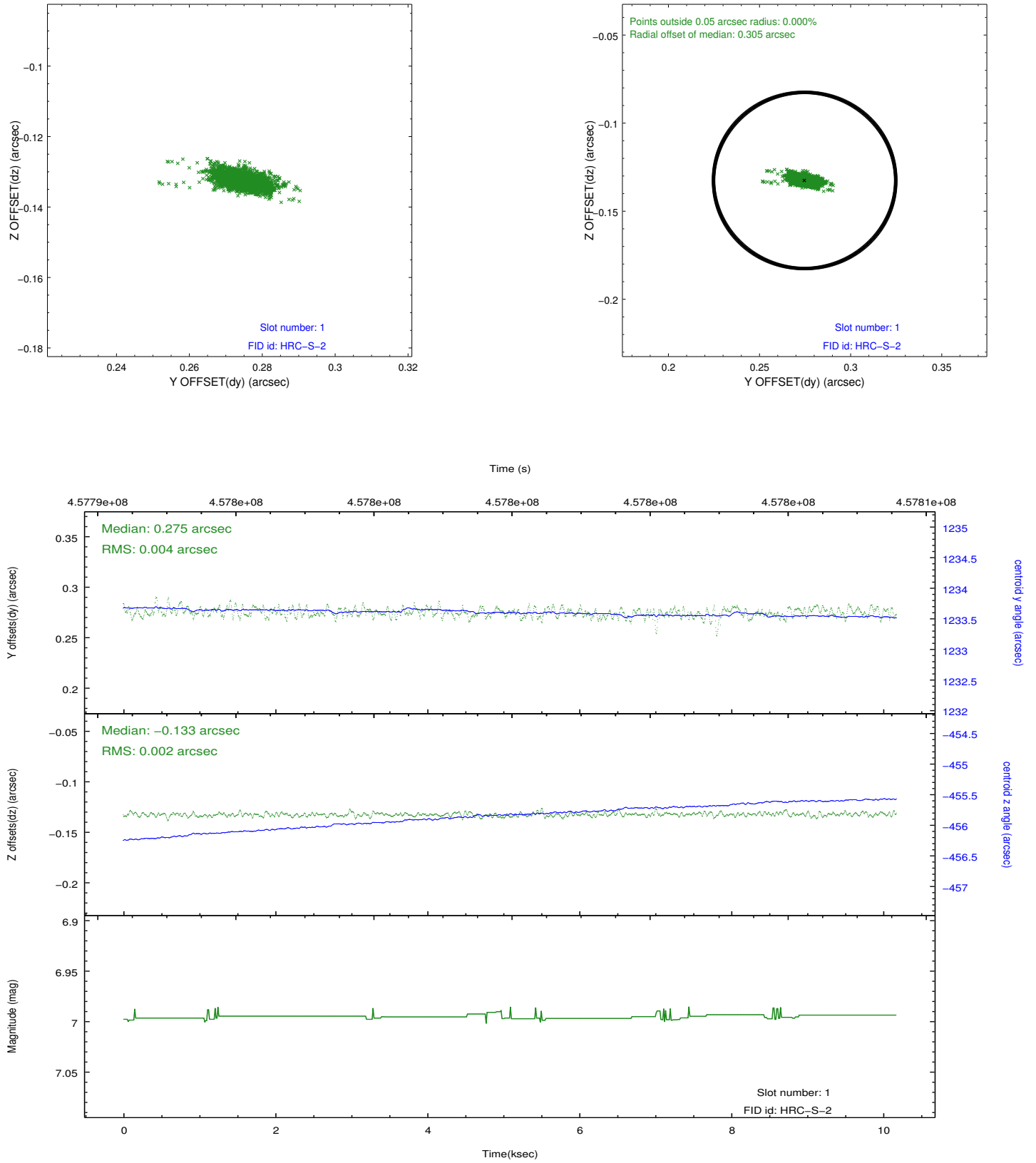


## 2.5 FID Slots

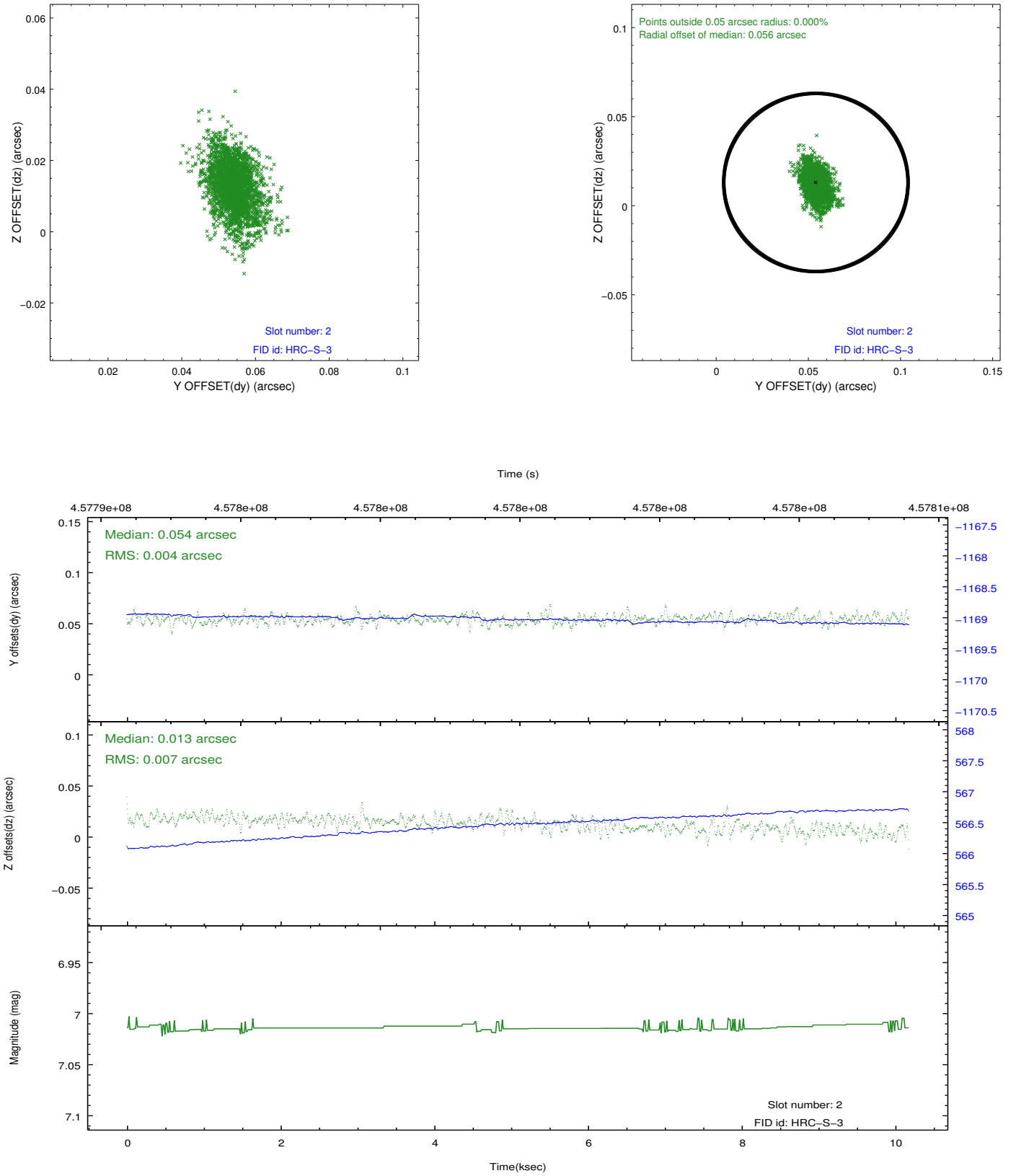
### 2.5.1 Slot 0



## 2.5.2 Slot 1

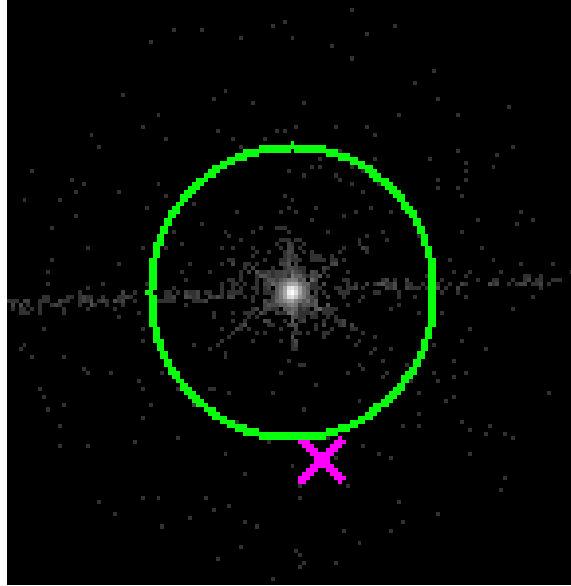


### 2.5.3 Slot 2

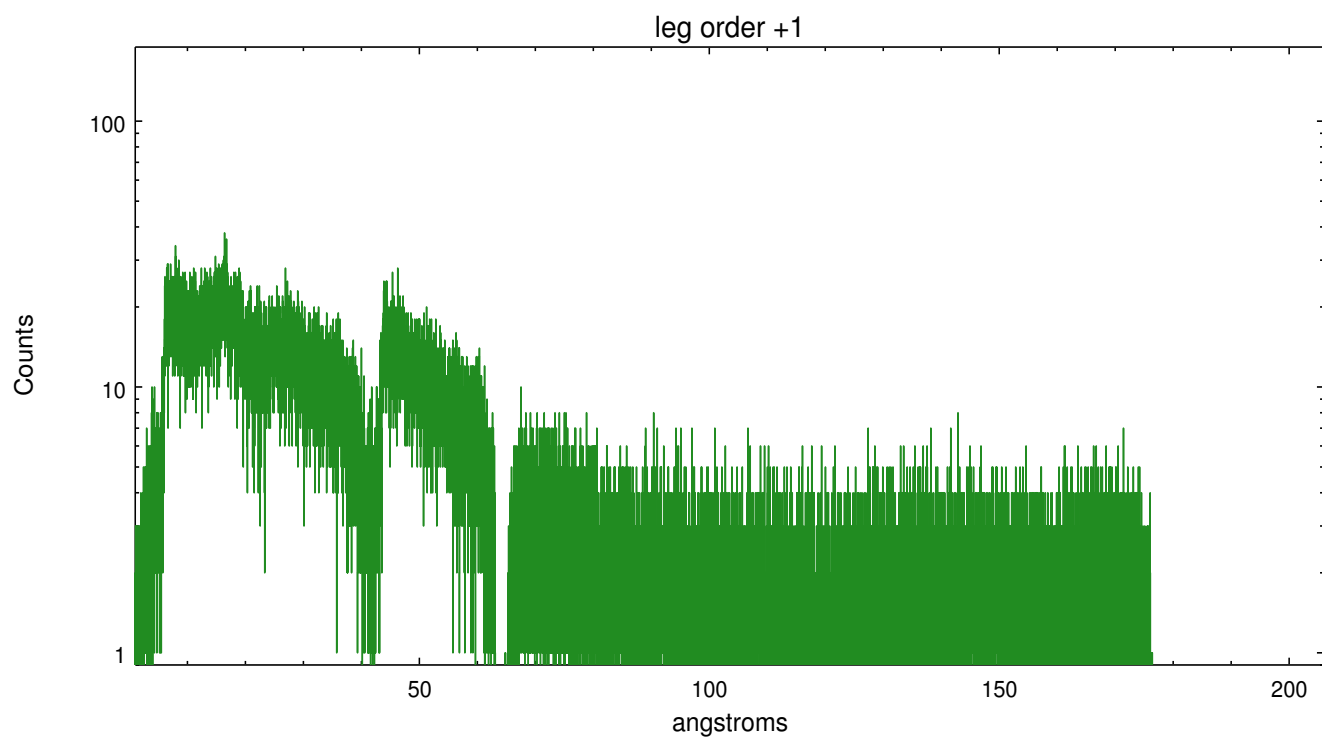
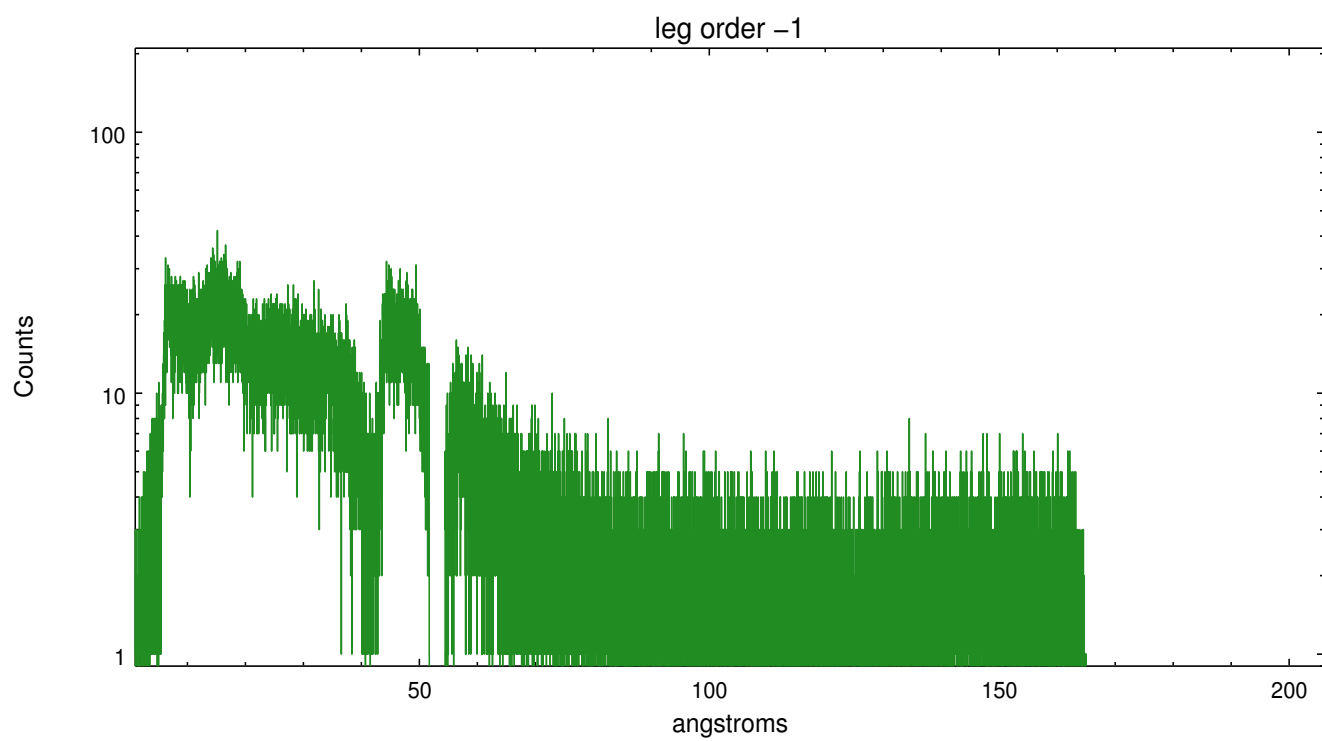


## 3 Gratings

### 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	9.7867005223036

## 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 = 9.786701 ks, 1 Obis===  
Original CHARGE TIME = 9.154275 ks, 1 Obis.