

# V&V Reference Report

## L2 ASCDS Version : 10.1

Observation 16247 - L2 Version 2  
Chandra X-Ray Center

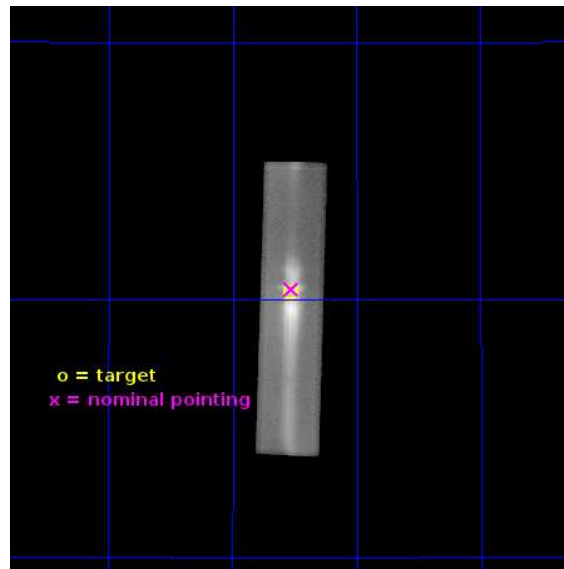
L2 Processing Date : Oct 25 2013

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# 1 Front

seq_num	502247	Sequence number
obs_id	16247	Observation id
title	Pre-Planned Target of Opportunity (ToO) Observations of the Crab Nebula upon the Occurrence of the Next Gamma-Ray Flare	Proposal titl
observer	Dr. Martin Weisskopf	Principal investigator
object	Crab	Source name
ra_targ	83.631667	Observer's specified target RA [deg]
dec_targ	22.015667	Observer's specified target Dec [deg]
ra_nom	83.631643217763	Nominal RA [deg]
dec_nom	22.020370100912	Nominal Dec [deg]
roll_nom	91.594683563105	Nominal Roll [deg]
revision	2	Processing version of data
ontime	20056.432347536	[s]
liveltime	19770.145554813	Ontime multiplied by DTCOR
l2events	1451670	Number of level 2 events

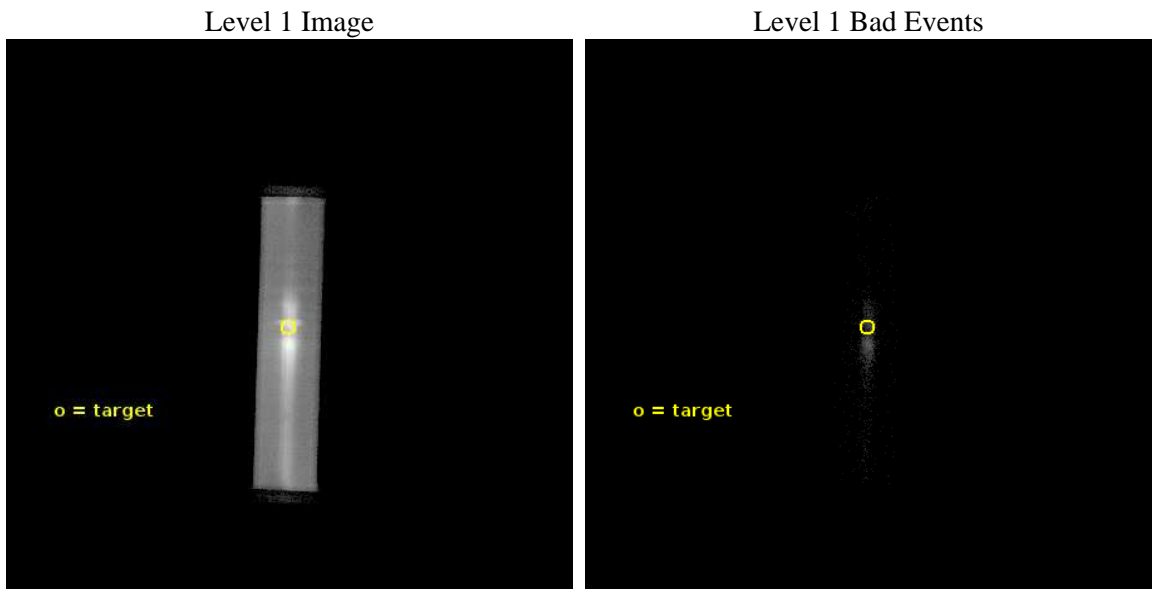




## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



### 2.1.2 Parameters

obi_num	0	Obi number	sched_exp_time	20000.124000	[s] Scheduled observation exposure time
ascdsver	10.1	Processing system revision	ontime	20056.432347536	[s]
caldsver	4.5.8	&#160	l1events	1674016	Number of level 1 events
date	2013-10-25T16:14:47	Date and time of file creation	tgmethod	TGDETECT	Method used to create src1a file
revision	2	Processing version of data	zo_pos	(32727.08, 32601.44)	src1a sky pixel position

### 2.1.3 Events

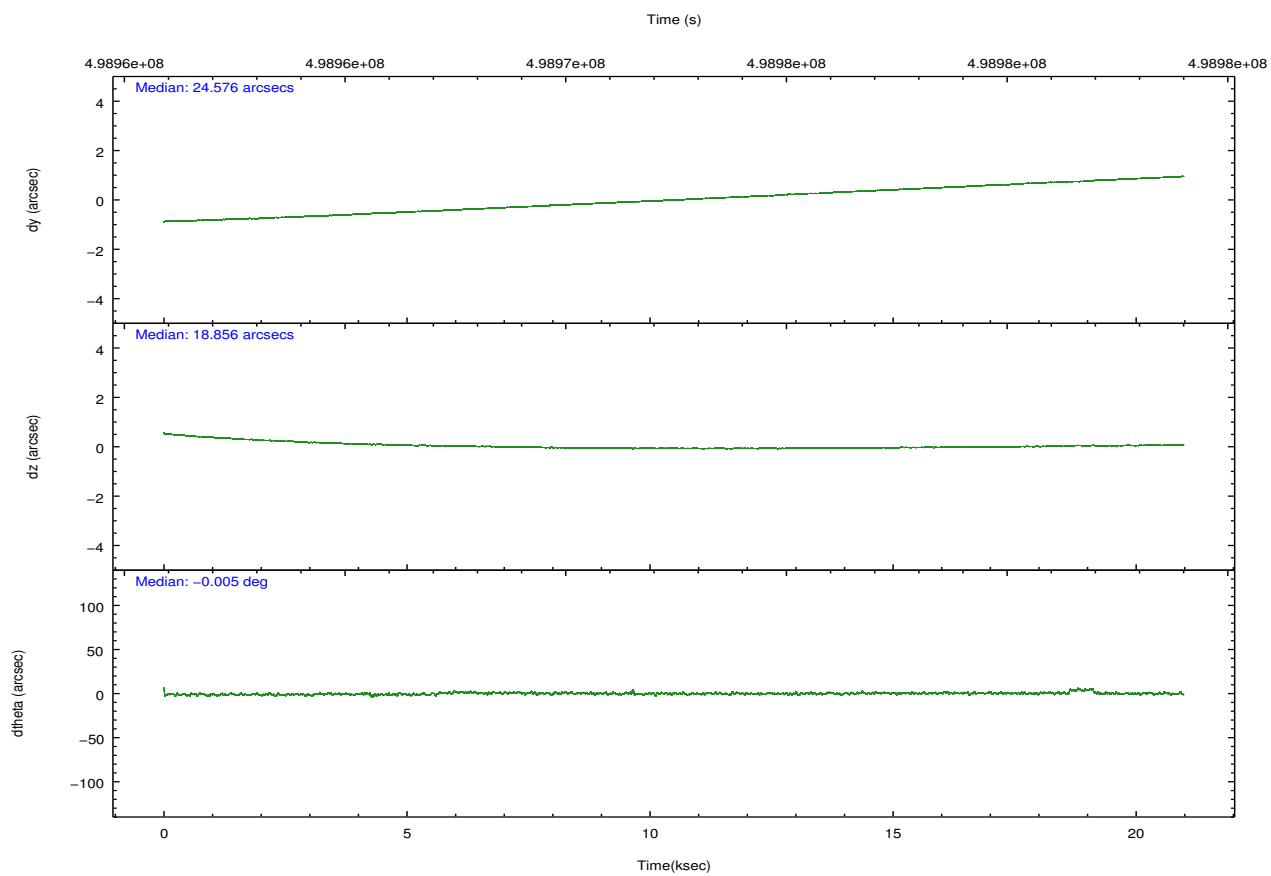
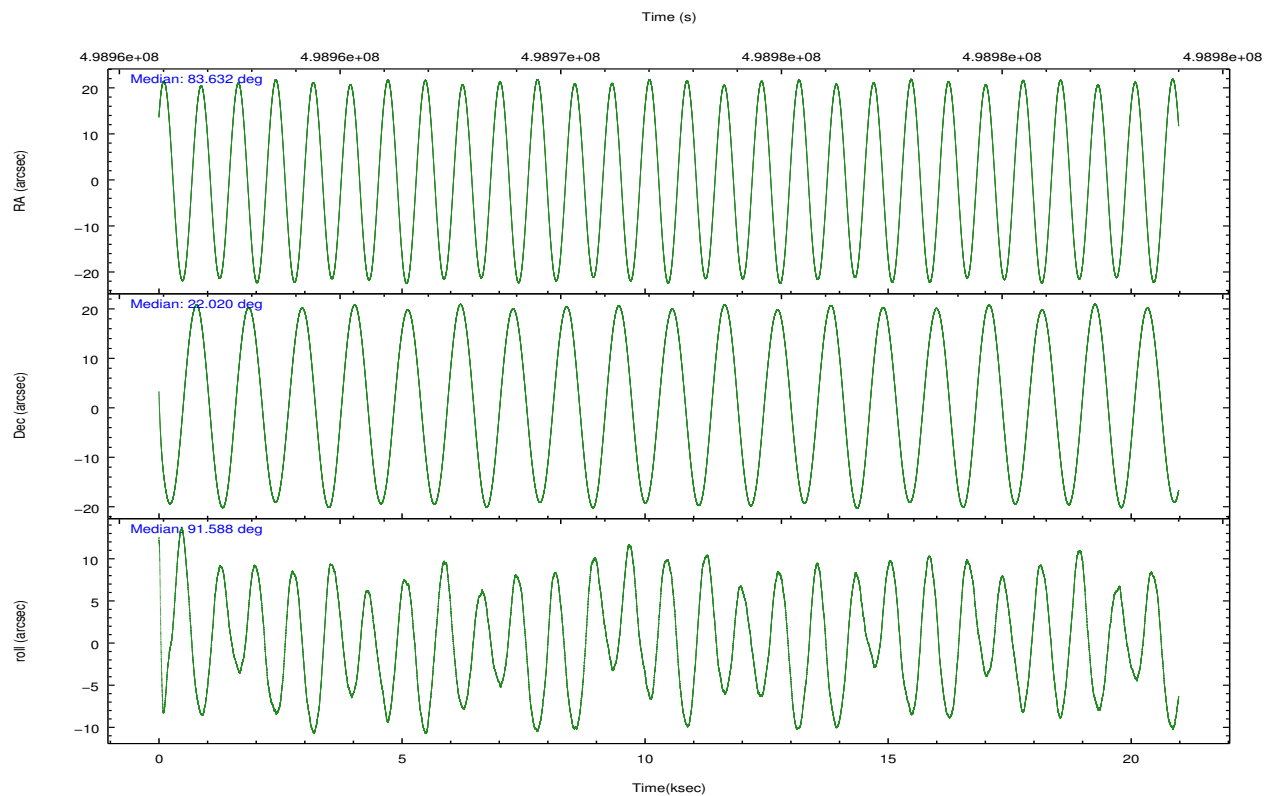
Level 1 Events

	<b>segment 1</b>	<b>segment 2</b>	<b>segment 3</b>
level 1 events	349	1673666	1
rejected events	20	56224	0
rejected %	5%	3%	0%

## 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	83.649116	83.63164321776344			
[deg] Pointing Dec	21.996759	22.02037010091162			
[deg] Pointing Roll	91.520792	91.59468356310546			
[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)	498962089.184000	498960584.44216			
Observation start date	2013-10-24T00:33:42	2013-10-24T00:09:44			
[s] Observation end time (MET)	498982089.184000	498983746.88093			
Observation end date	2013-10-24T06:07:02	2013-10-24T06:35:46			

## 2.3 Aspect

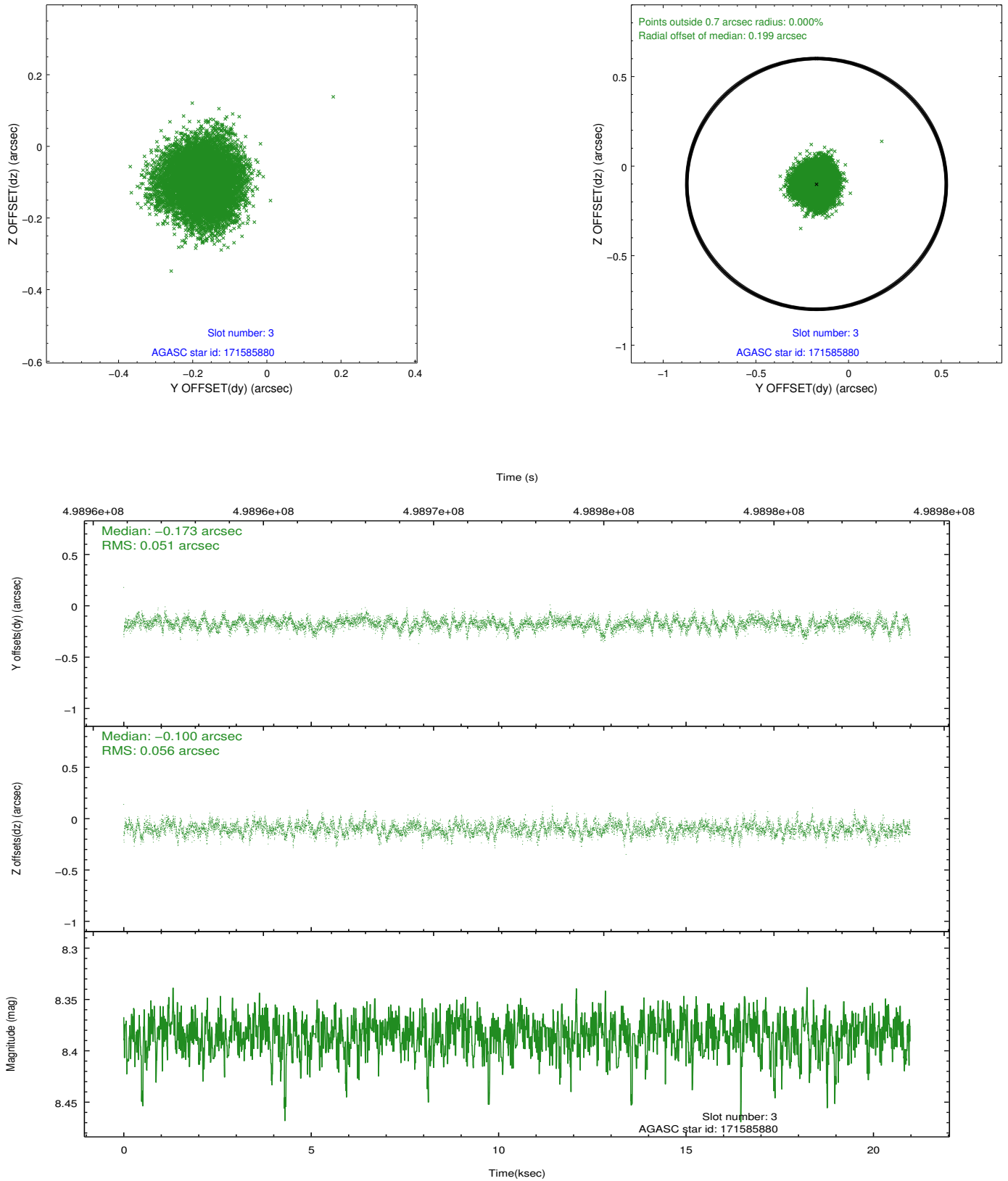


### Slot Statistics

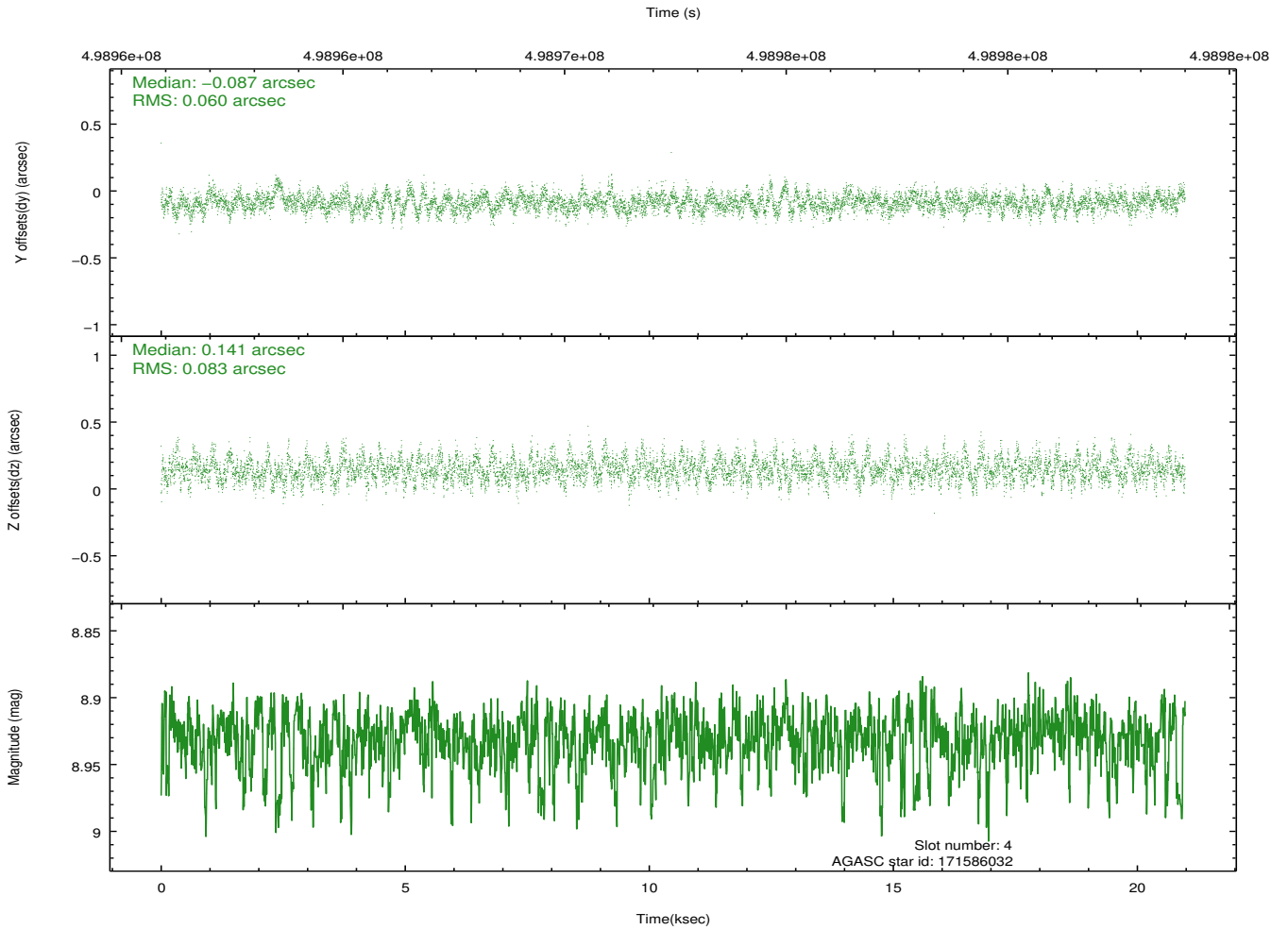
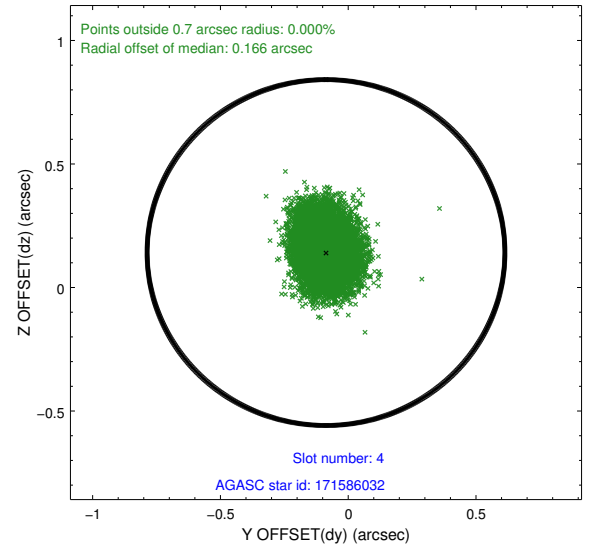
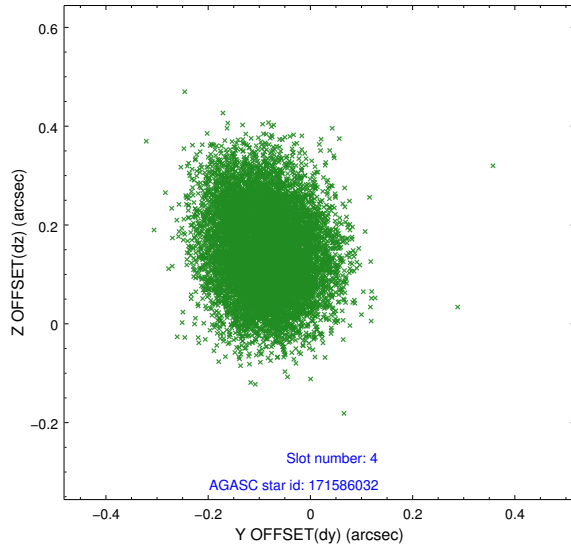
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	HRC-S-1	7.11	5117	-0.091	-0.185	0.020	0.031	0.000000	0.000000	-1179.40	-467.96
1	FID	HRC-S-2	7.07	5117	0.167	-0.116	0.023	0.034	0.000000	0.000000	1220.31	-460.56
2	FID	HRC-S-4	7.04	5117	0.326	-0.003	0.011	0.025	0.000000	0.000000	1219.48	564.29
3	GUIDE	171585880	8.38	10234	-0.173	-0.100	0.081	0.130	83.676260	22.176319	644.14	-107.28
4	GUIDE	171586032	8.93	10211	-0.087	0.141	0.108	0.178	83.950197	22.083225	286.11	-1011.75
5	GUIDE	171721904	9.18	10196	0.086	0.208	0.168	0.278	84.272676	22.116922	382.34	-2089.97
6	GUIDE	243941560	8.30	10231	-0.123	-0.023	0.096	0.154	83.733264	22.568598	2050.78	-333.74
7	GUIDE	171597832	9.13	10214	0.311	-0.219	0.110	0.182	83.183230	21.366702	-2222.78	1621.43

## 2.4 Star Slots

### 2.4.1 Slot 3

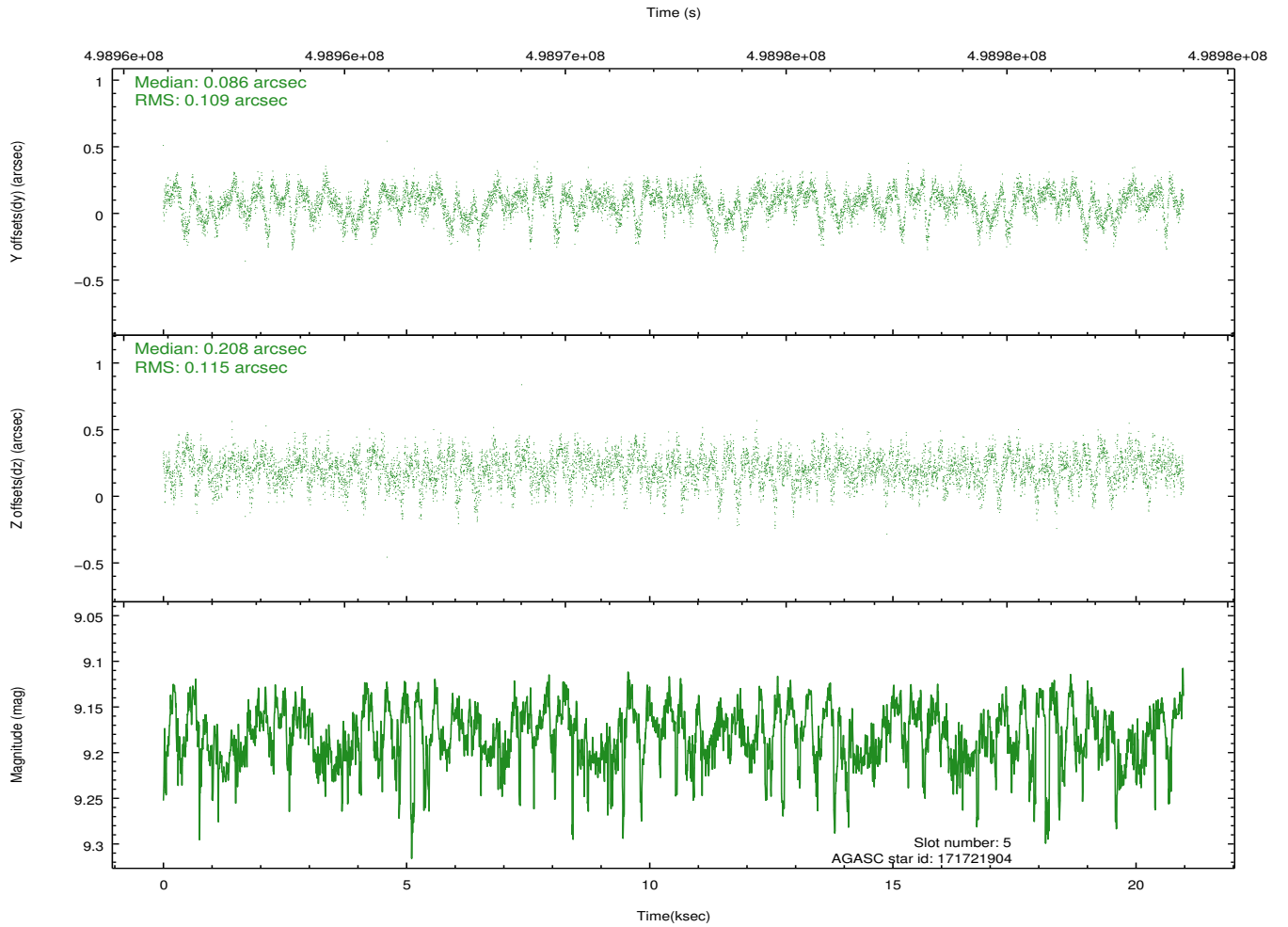
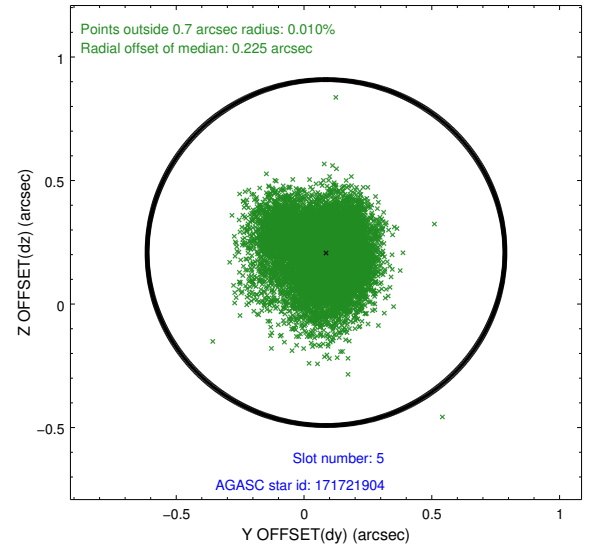
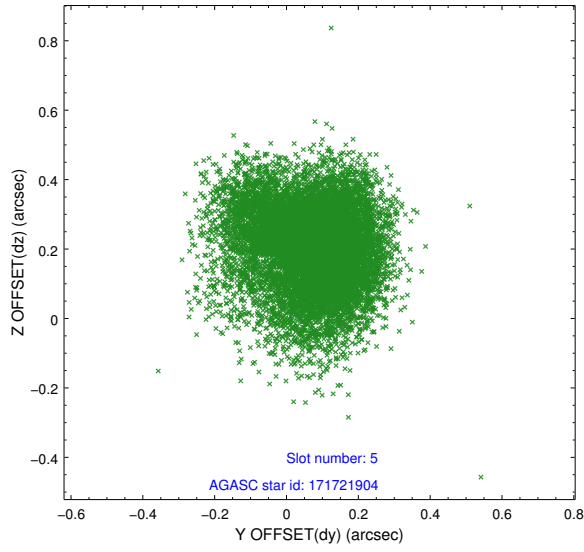


## 2.4.2 Slot 4

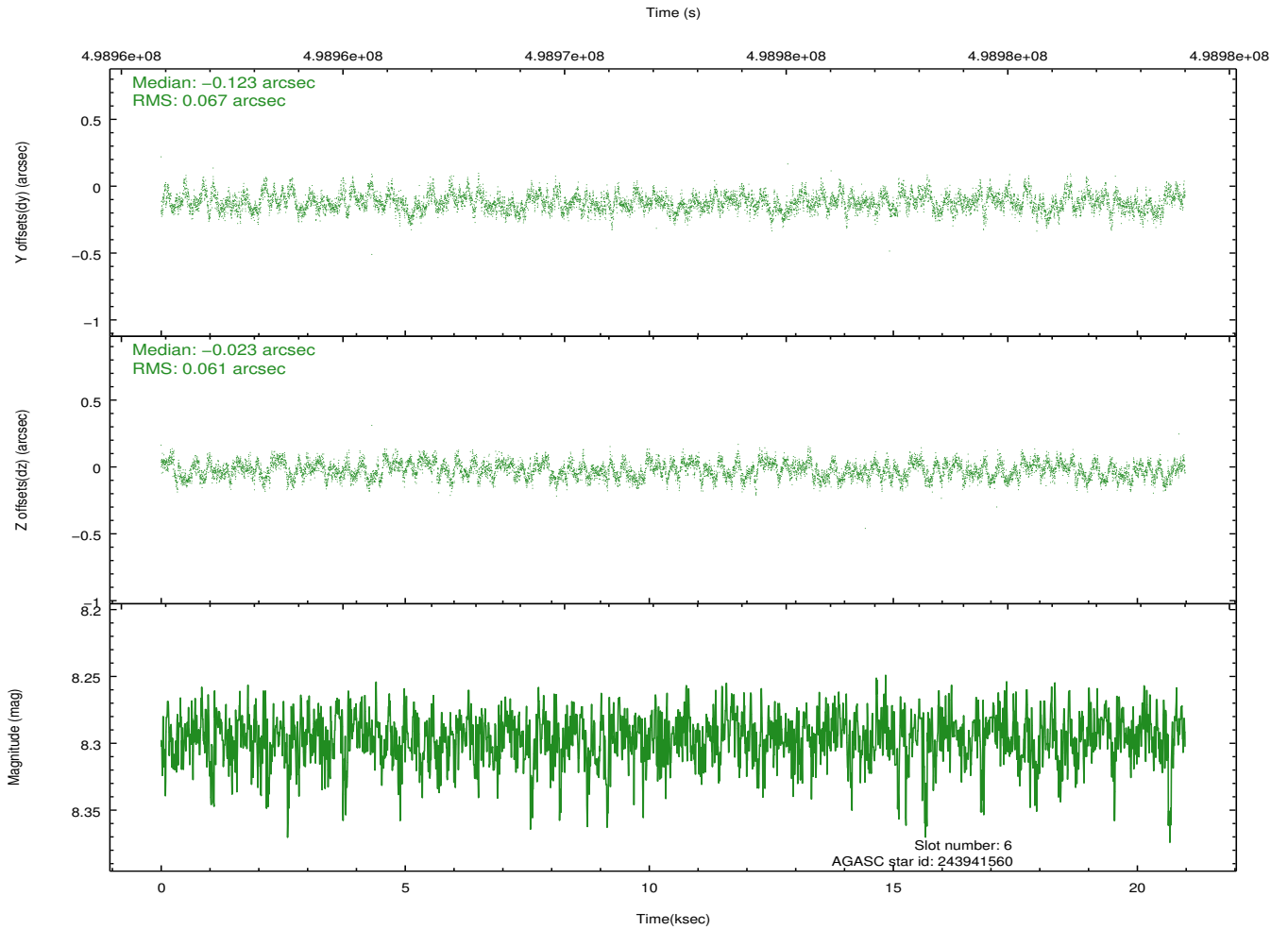
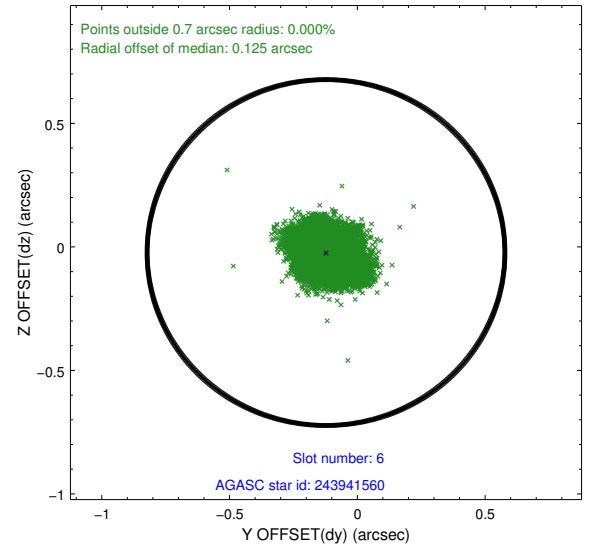
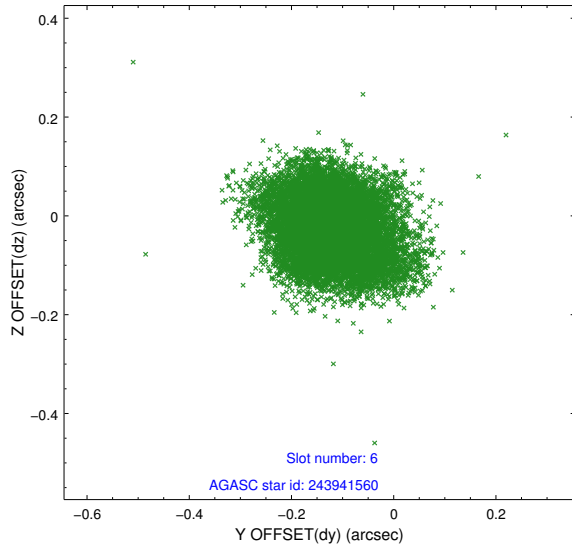




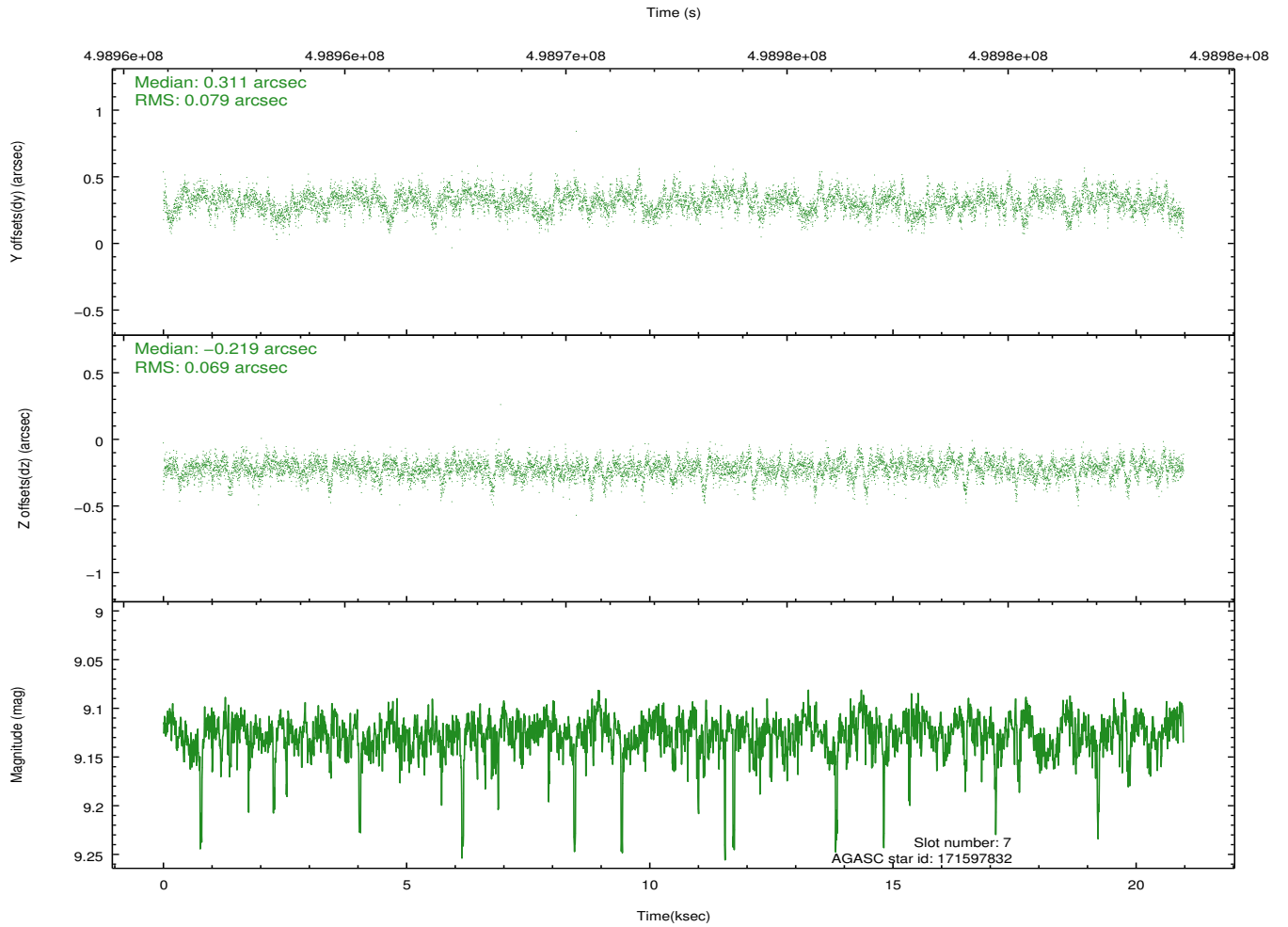
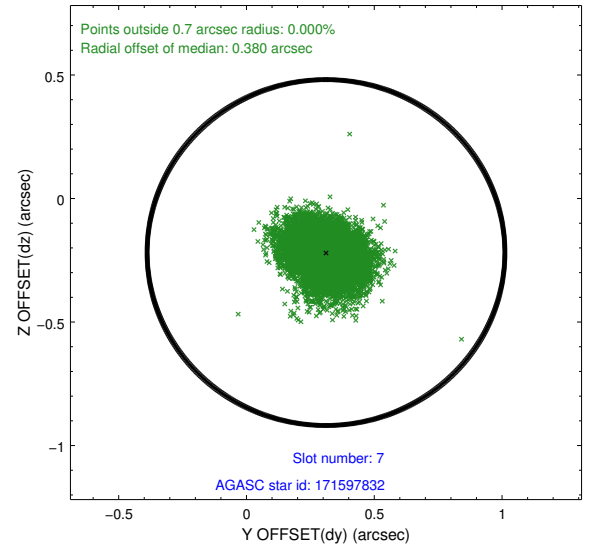
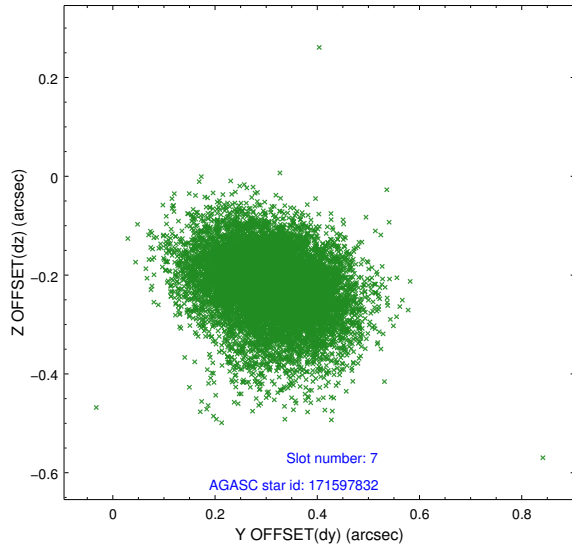
### 2.4.3 Slot 5



## 2.4.4 Slot 6

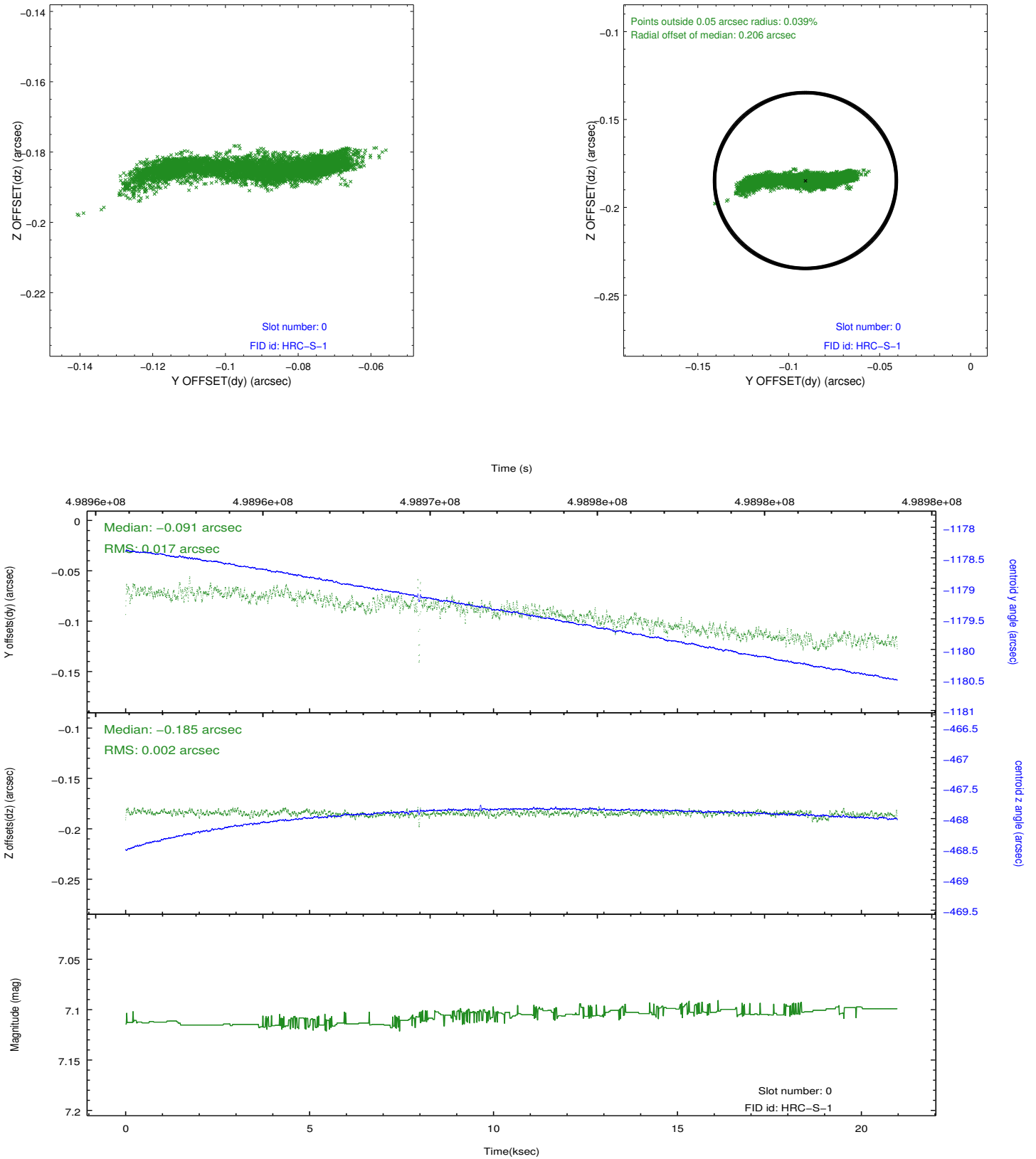


## 2.4.5 Slot 7

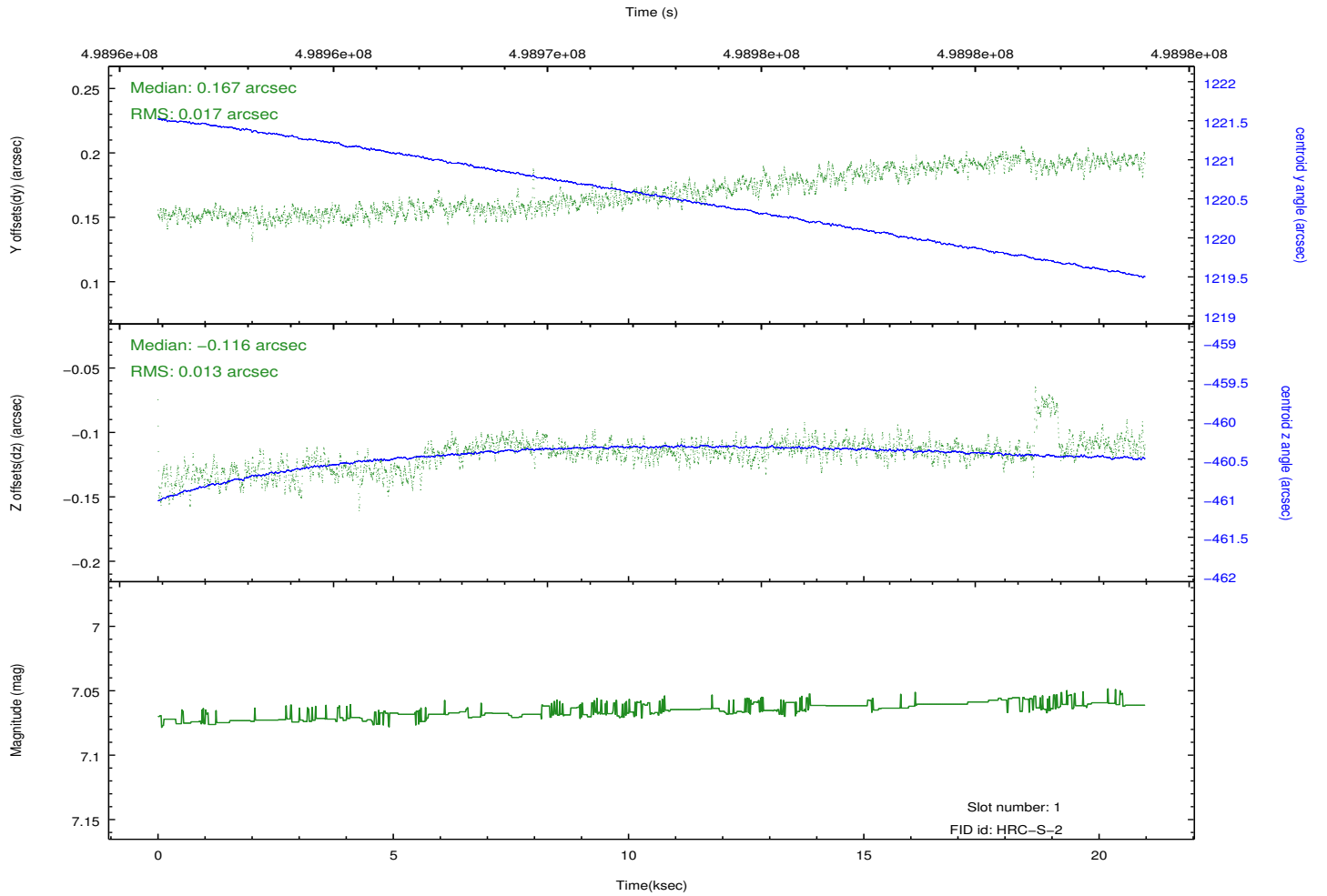
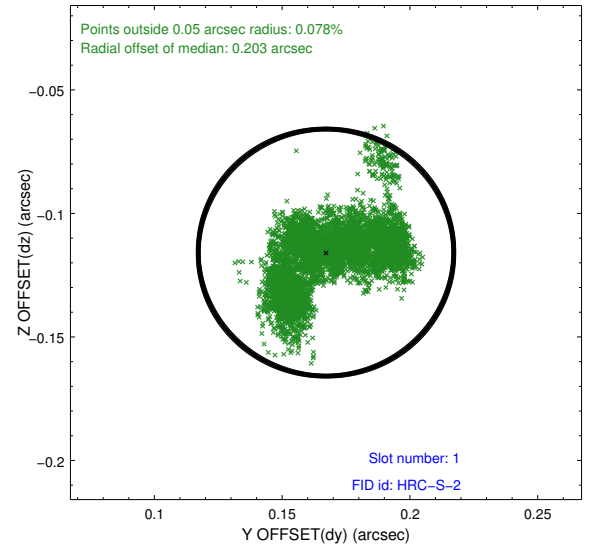
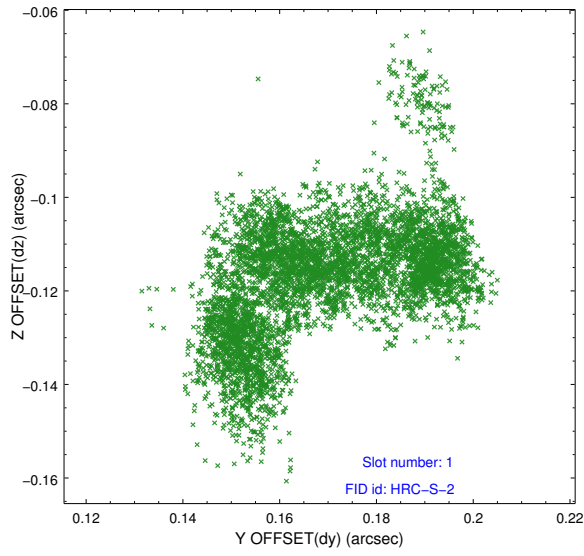


## 2.5 FID Slots

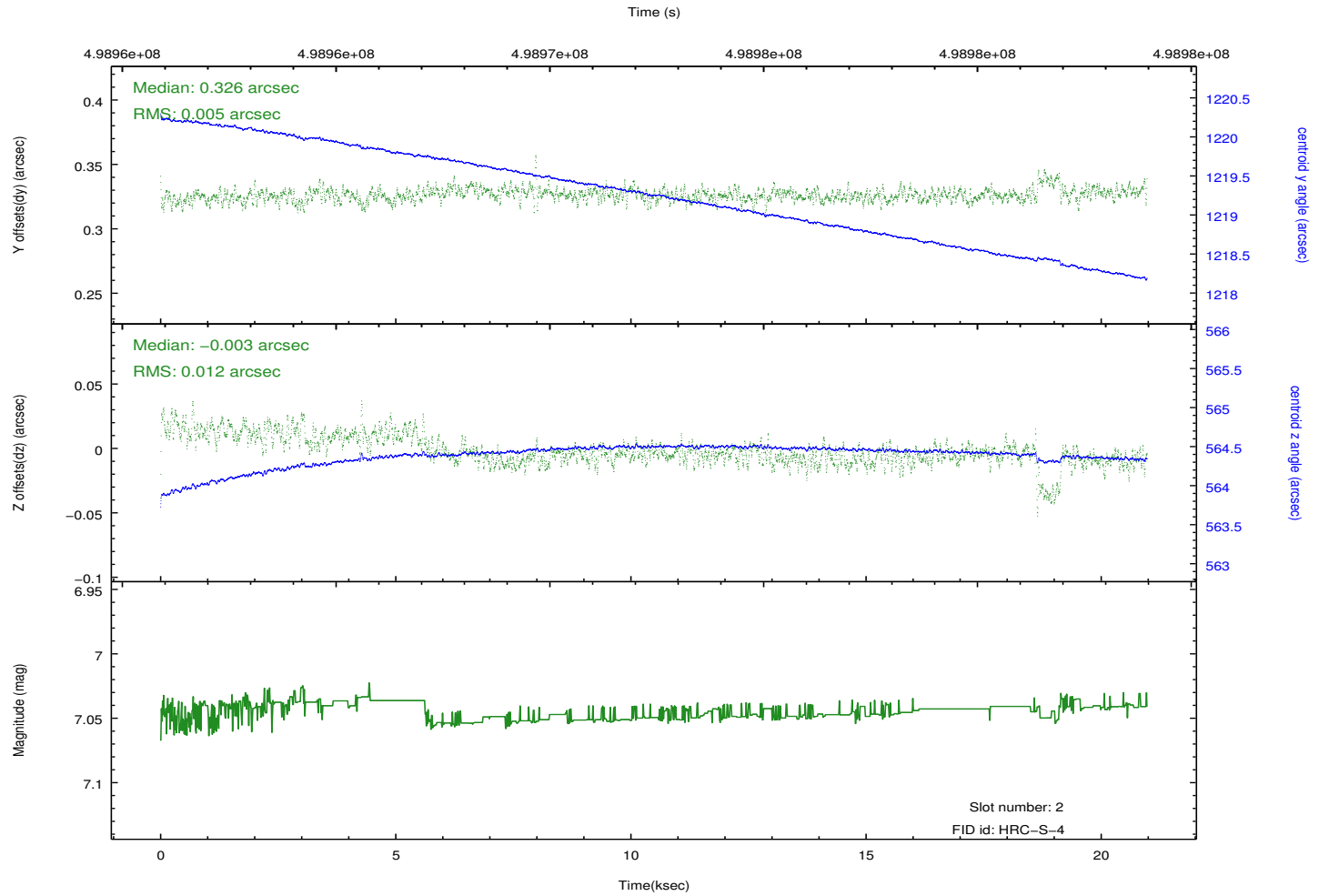
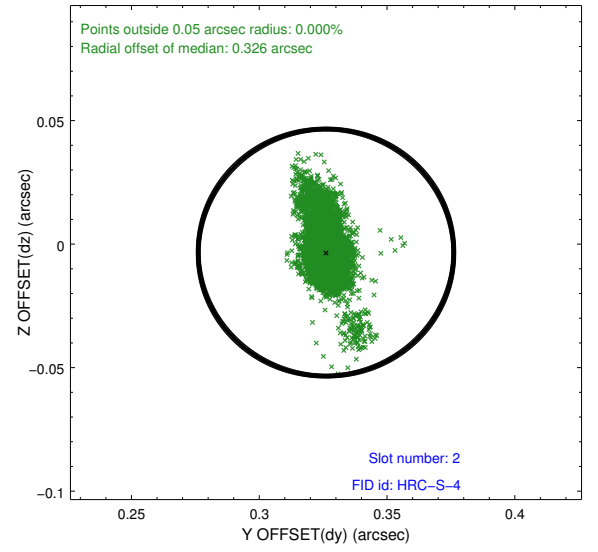
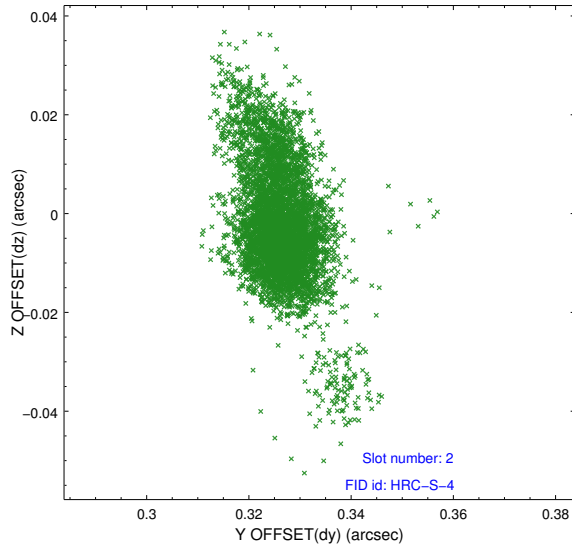
### 2.5.1 Slot 0



## 2.5.2 Slot 1

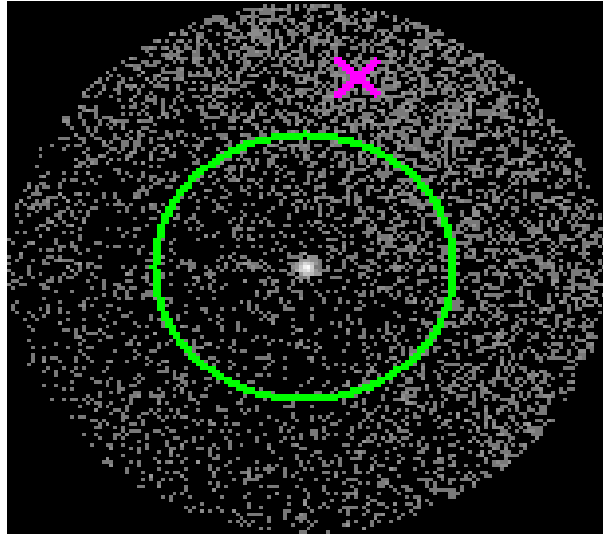


### 2.5.3 Slot 2

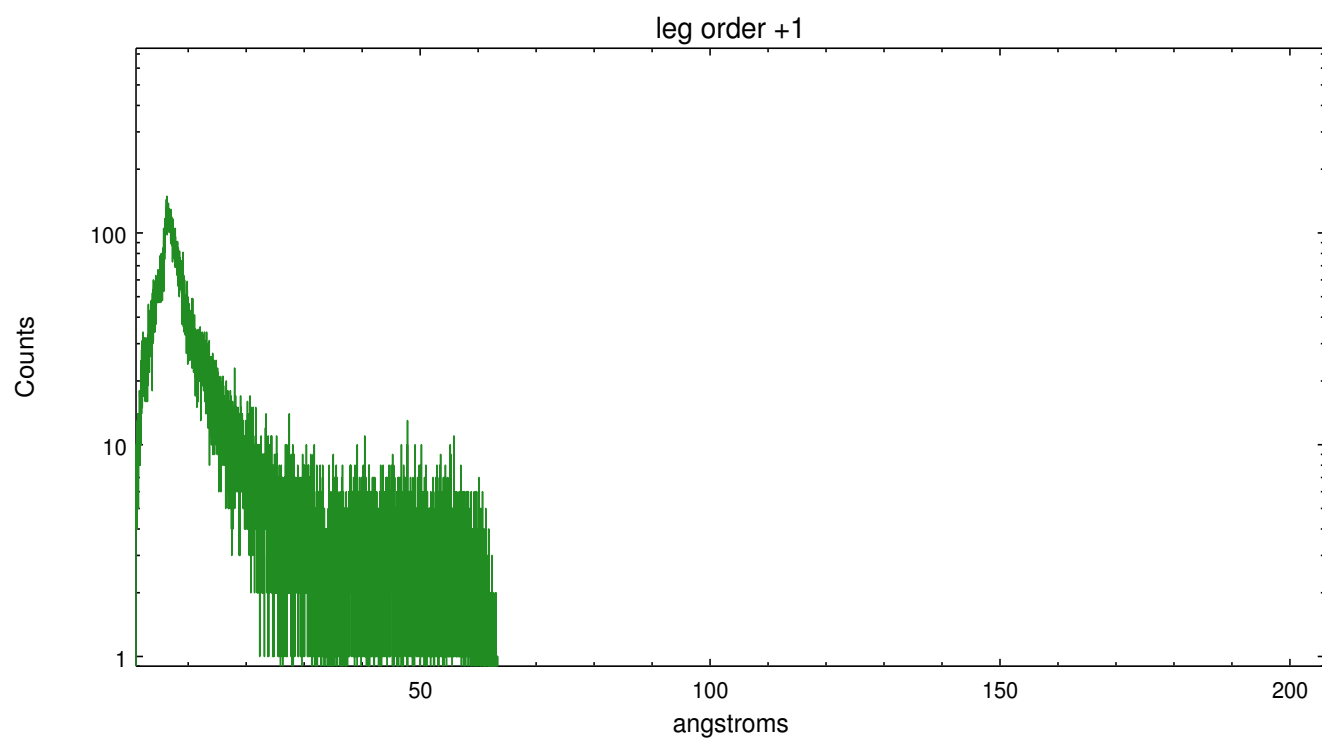
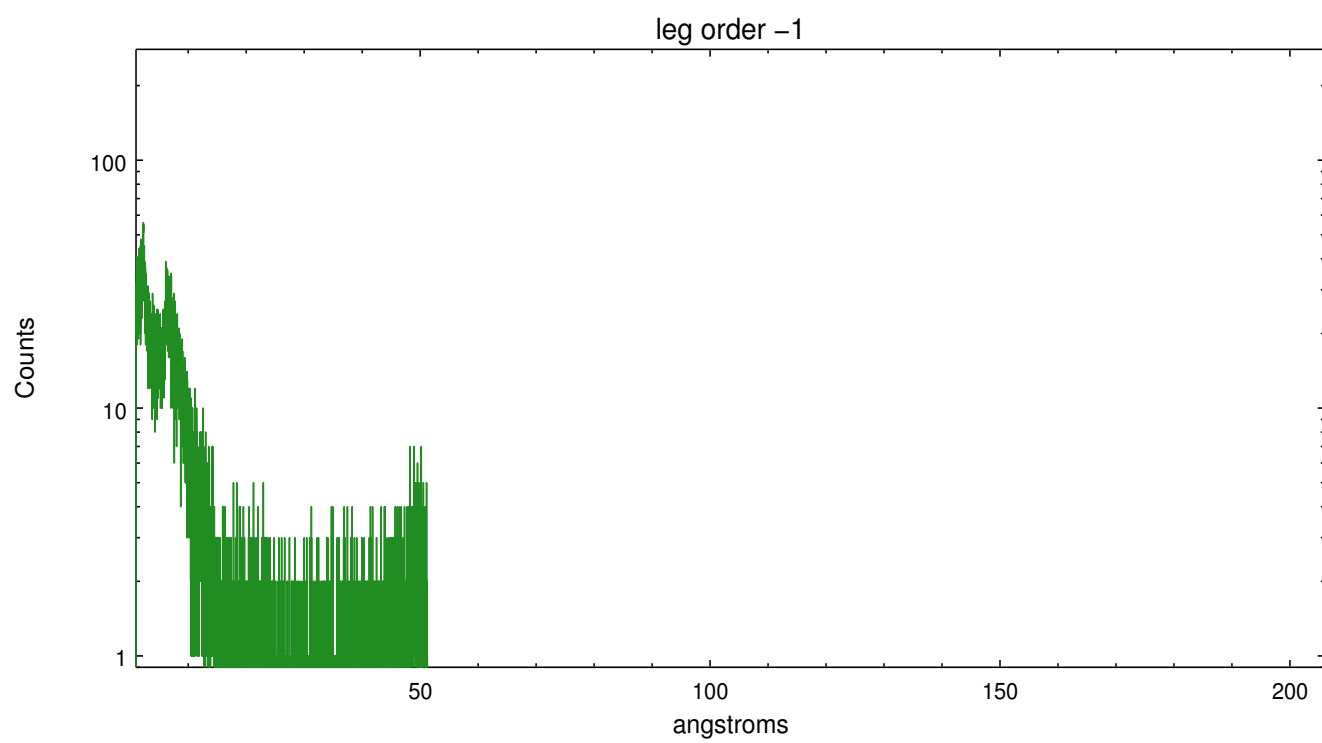


## 3 Gratings

### 3.1 LETG Arm



LETG Zero Order





# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2013.10.29
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.056432347536

## A.2 Comments

The MCP HV levels and the trigger threshold of the instrument were set to non-standard values and as such the instrument is no longer 'calibrated'. Use of the LETG grating with HRC for an extended source results in a degradation of the spectral resolution. There is no longer a unique mapping between position of an event on the focal plane and wavelength. Reprocessed using custom gti limits file. pset hrc\_lev1 std\_limits='/dsops/ap/sdp.10/14687/hracs\_crab\_gtilimN0001.fits'. The default gain file was used.