

# V&V Reference Report

## L2 ASCDS Version : 10.4.2.1

Observation 14687 - L2 Version 4  
Chandra X-Ray Center

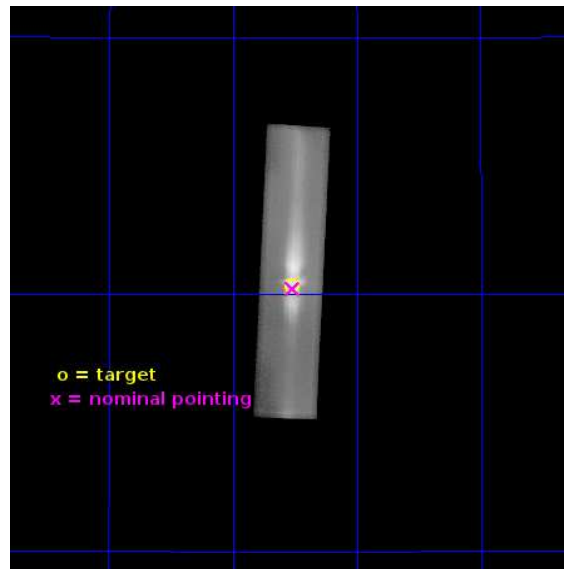
L2 Processing Date : Dec 3 2015

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# 1 Front

seq_num	501821	Sequence number
obs_id	14687	Observation id
title	Pre-planned Target of Opportunity Observations of the Crab Nebula upon the Occurrence of a Gamma-Ray Flare	Proposal title
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	83.631849462347	Nominal RA [deg]
dec_nom	22.010888889365	Nominal Dec [deg]
roll_nom	272.58307316161	Nominal Roll [deg]
revision	4	Processing version of data
ontime	17234.607171416	[s]
livetime	16717.76142437	Ontime multiplied by DTCOR
l2events	2519067	Number of level 2 events

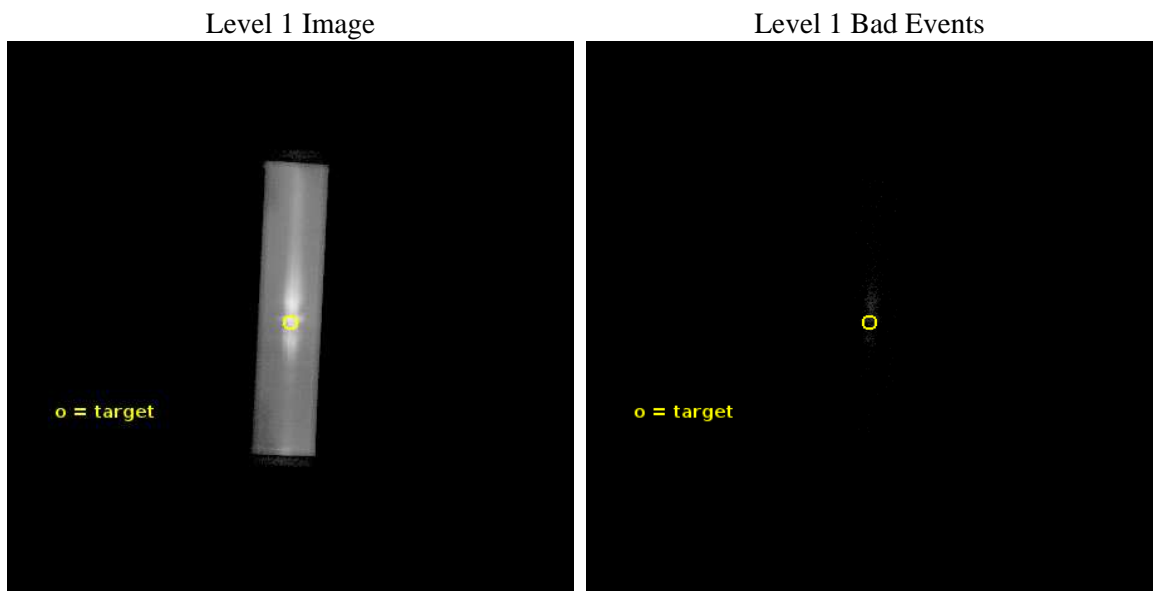




## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



### 2.1.2 Parameters

obi_num	0	Obi number	sched_exp_time	20000.000000	[s] Scheduled observation exposure time
ascdsver	10.4.2.1	Processing system revision	ontime	17234.60718143	[s]
caldsver	4.6.10a	&#160	l1events	2681390	Number of level 1 events
date	2015-12-03T17:07:35	Date and time of file creation	tgmethod	TGDETECT	Method used to create src1a file
revision	4	Processing version of data	zo_pos	(32738.33, 32865.48)	src1a sky pixel position

### 2.1.3 Events

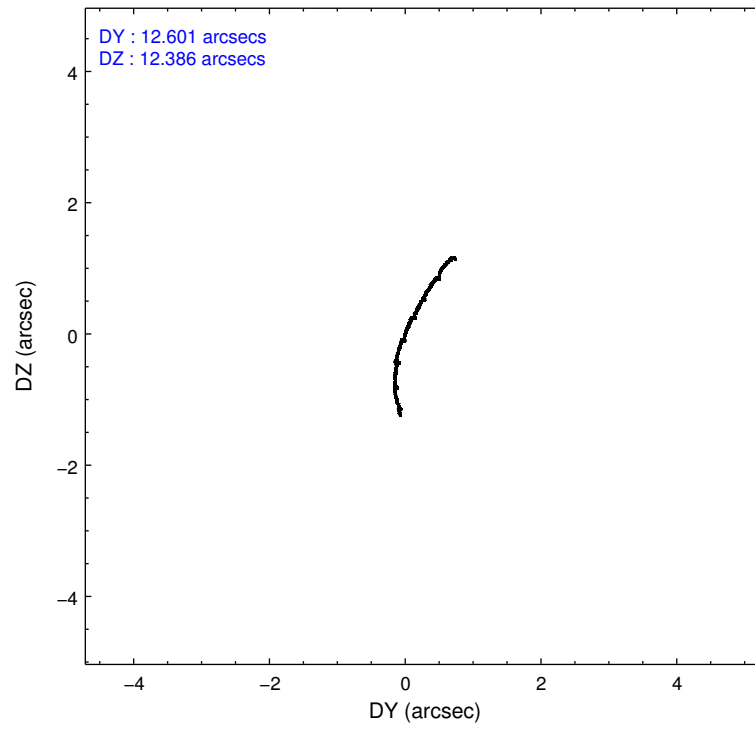
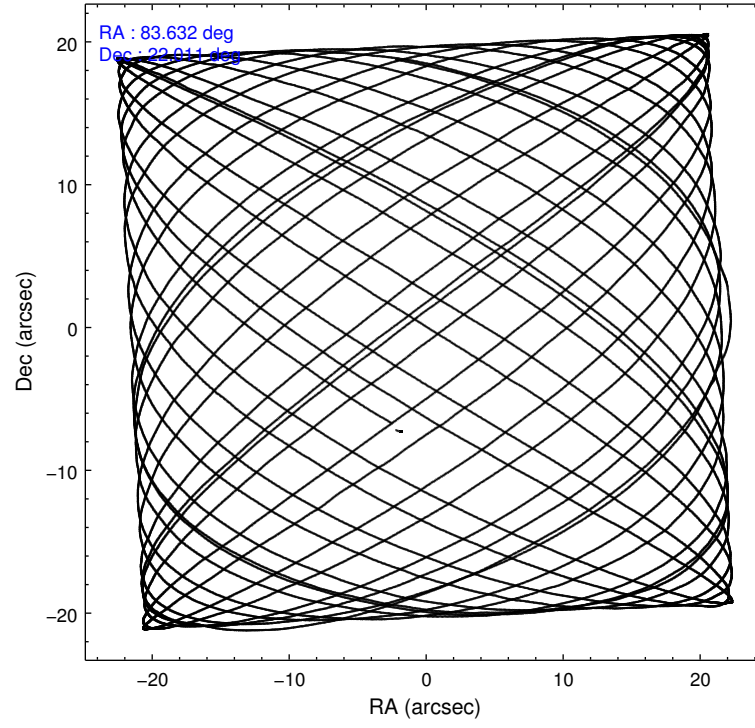
Level 1 Events

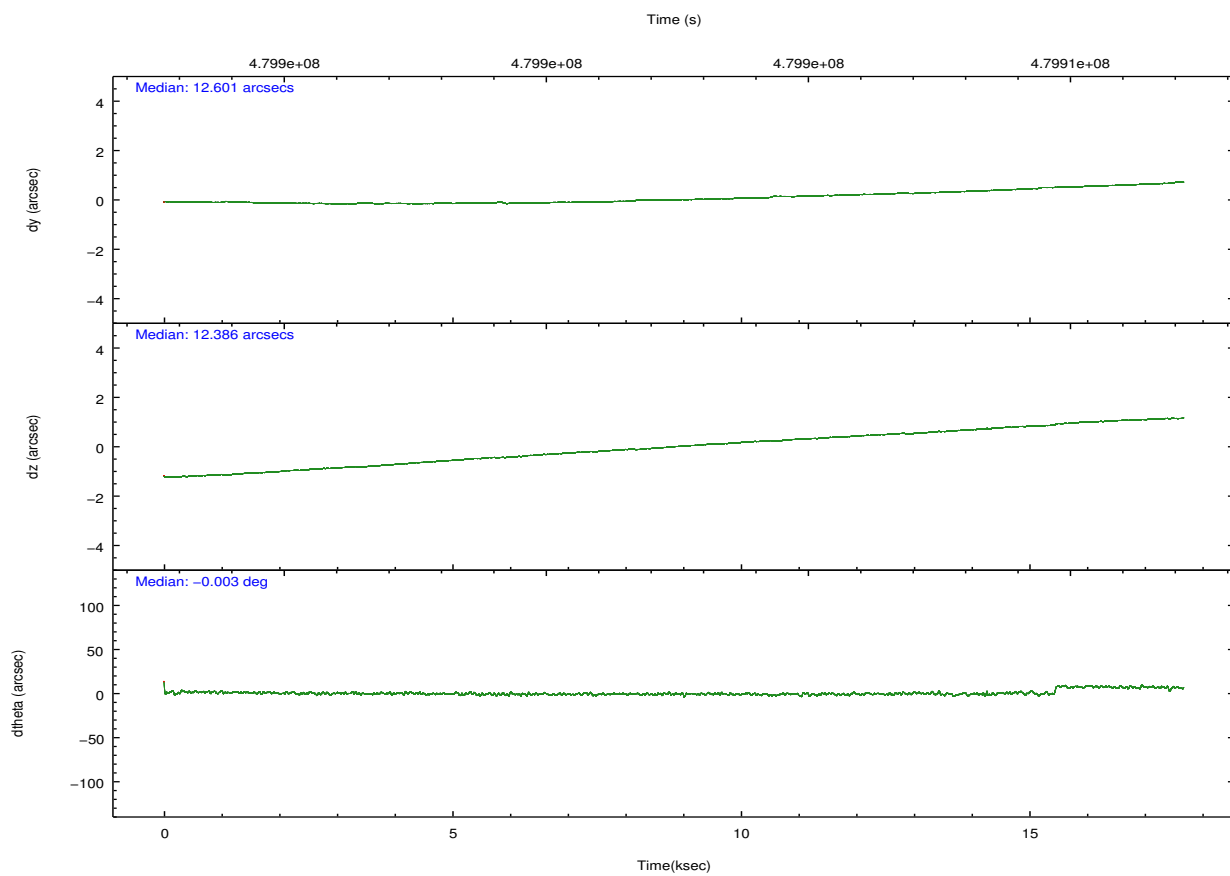
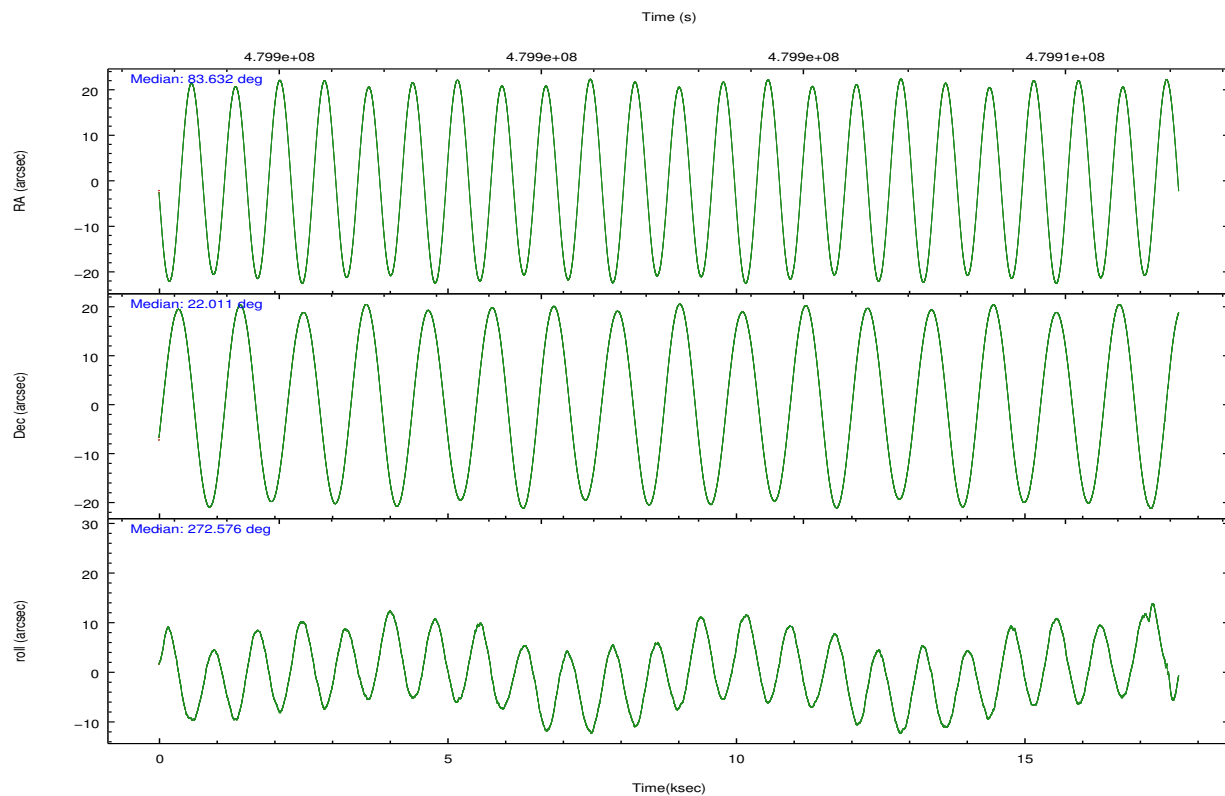
	<b>segment 1</b>	<b>segment 2</b>	<b>segment 3</b>
level 1 events	297	2681092	1
rejected events	0	2419	0
rejected %	0%	0%	0%

## 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	OVERRIDE	OVERRIDE
Data mode	OBSERVING	OBSERVING			
Observation mode	POINTING	POINTING			
[deg] Pointing RA	83.613870	83.63184946234679			
[deg] Pointing Dec	22.034295	22.01088888936497			
[deg] Pointing Roll	272.522487	272.5830731616084			
[mm] SIM focus pos	-1.428180813131781	-1.428180813131781			
[mm] SIM defocus	0.1051557500239624	0.1051557500239624			
[mm] SIM translation stage pos	250.466033080201	250.466033080201			
[mm] SIM translation stage offset	-0.0100572612062706	-0.0100572612062706			
[s] Observation start time (MET)	479893589.184000	479893589.184			
Observation start date	2013-03-17T07:45:22	2013-03-17T07:46:29			
[s] Observation end time (MET)	479911264.920000	479911264.92			
Observation end date	2013-03-17T12:41:04	2013-03-17T12:41:04			

## 2.3 Aspect



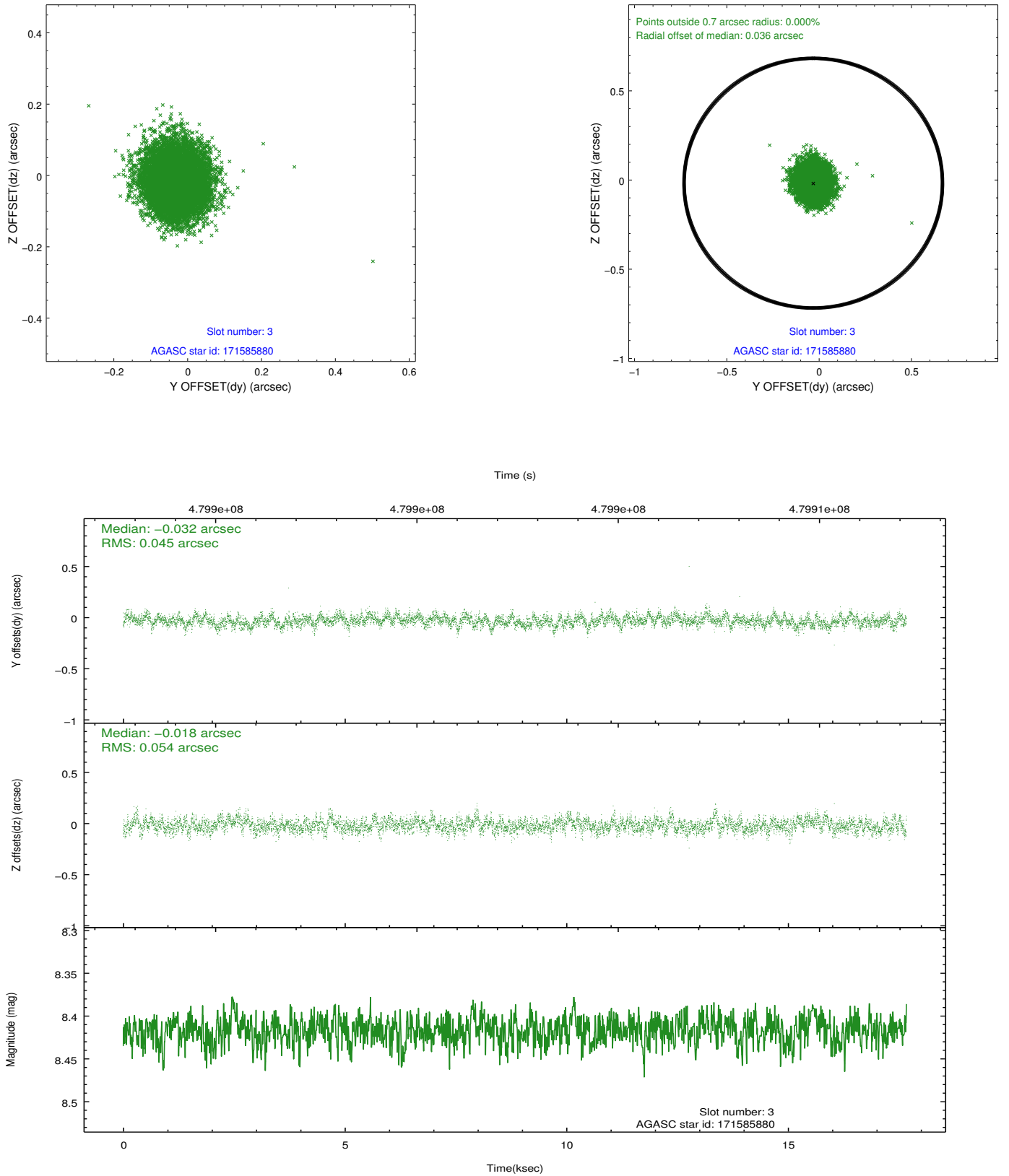


### Slot Statistics

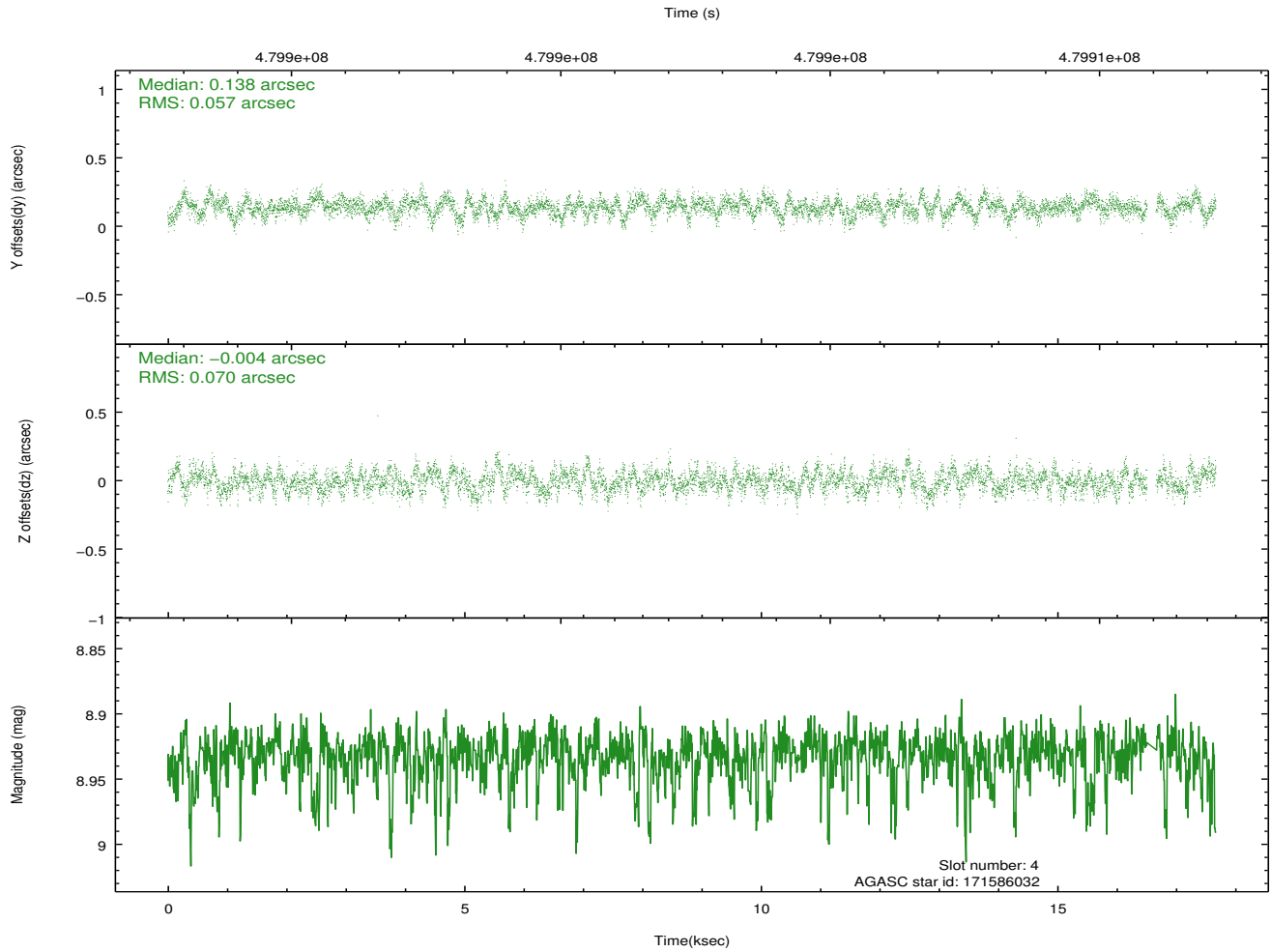
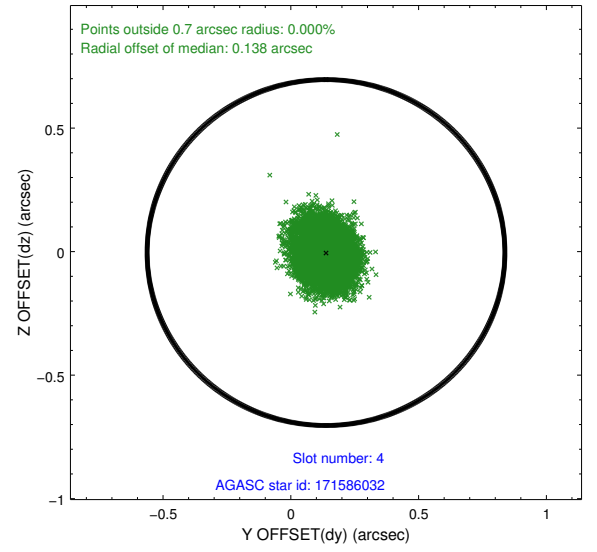
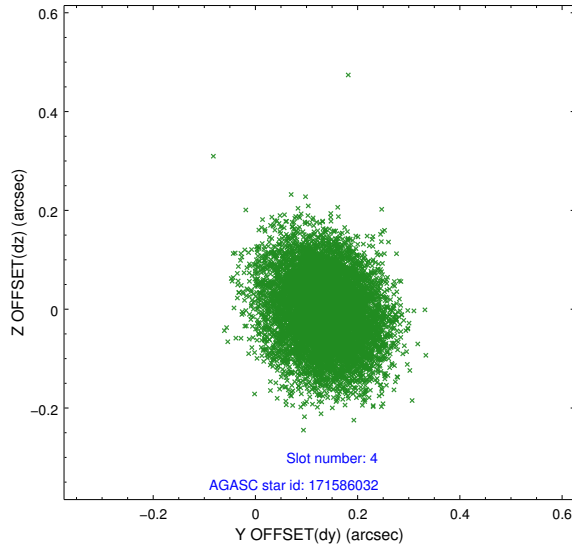
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		HRC-S-1	6.97	4311	0.041	-0.147	0.016	0.029	0.000000	0.000000	-1167.10	-461.12
1	FID		HRC-S-3	6.98	4311	0.032	-0.089	0.018	0.033	0.000000	0.000000	-1170.09	568.37
2	FID		HRC-S-4	6.92	4311	0.314	-0.062	0.007	0.013	0.000000	0.000000	1231.17	571.17
3	GUIDE	used	171585880	8.42	8619	-0.032	-0.018	0.075	0.121	83.676260	22.176319	-501.31	230.43
4	GUIDE	used	171586032	8.93	8542	0.138	-0.004	0.096	0.154	83.950197	22.083225	-127.63	1129.00
5	GUIDE	used	171721904	9.20	8616	-0.005	0.114	0.126	0.206	84.272676	22.116922	-205.08	2208.79
6	GUIDE	used	243941560	8.28	8621	-0.286	0.012	0.068	0.111	83.733264	22.568598	-1904.04	481.27
7	GUIDE	used	171597832	9.15	8605	0.185	-0.109	0.111	0.183	83.183230	21.366702	2336.08	-1547.66

## 2.4 Star Slots

### 2.4.1 Slot 3

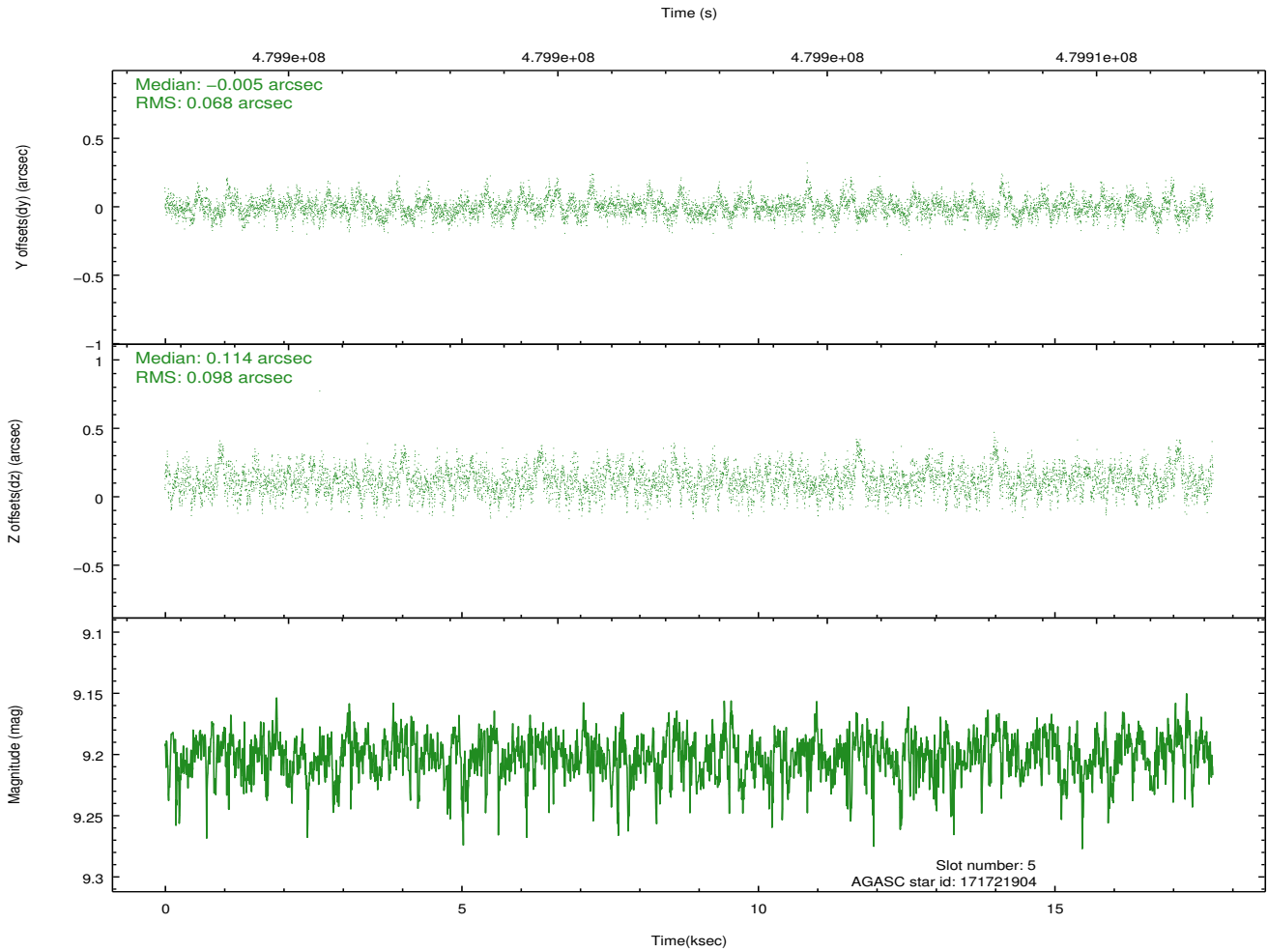
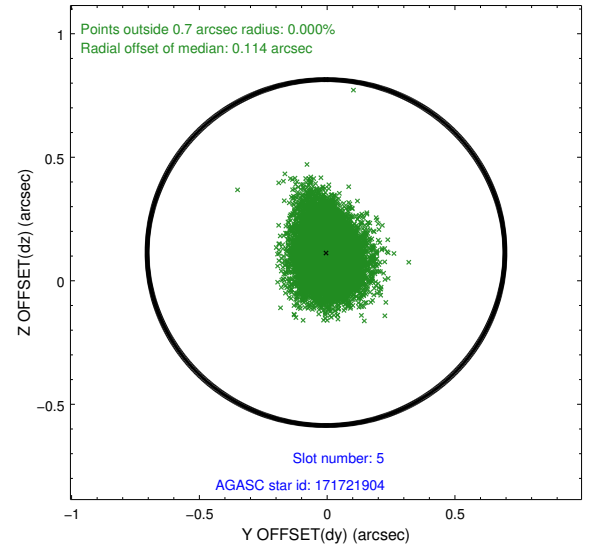
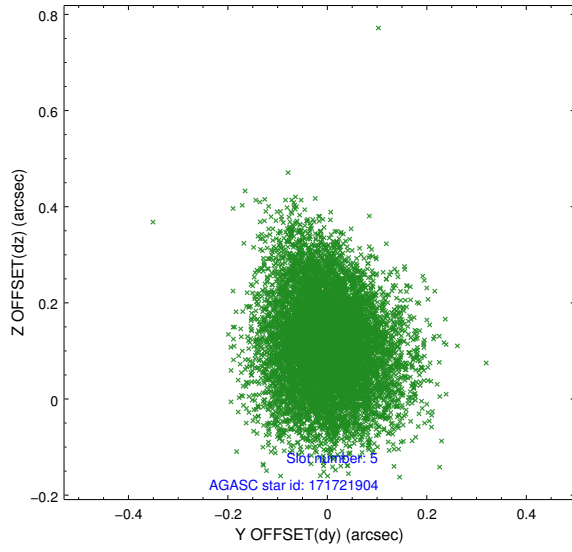


## 2.4.2 Slot 4

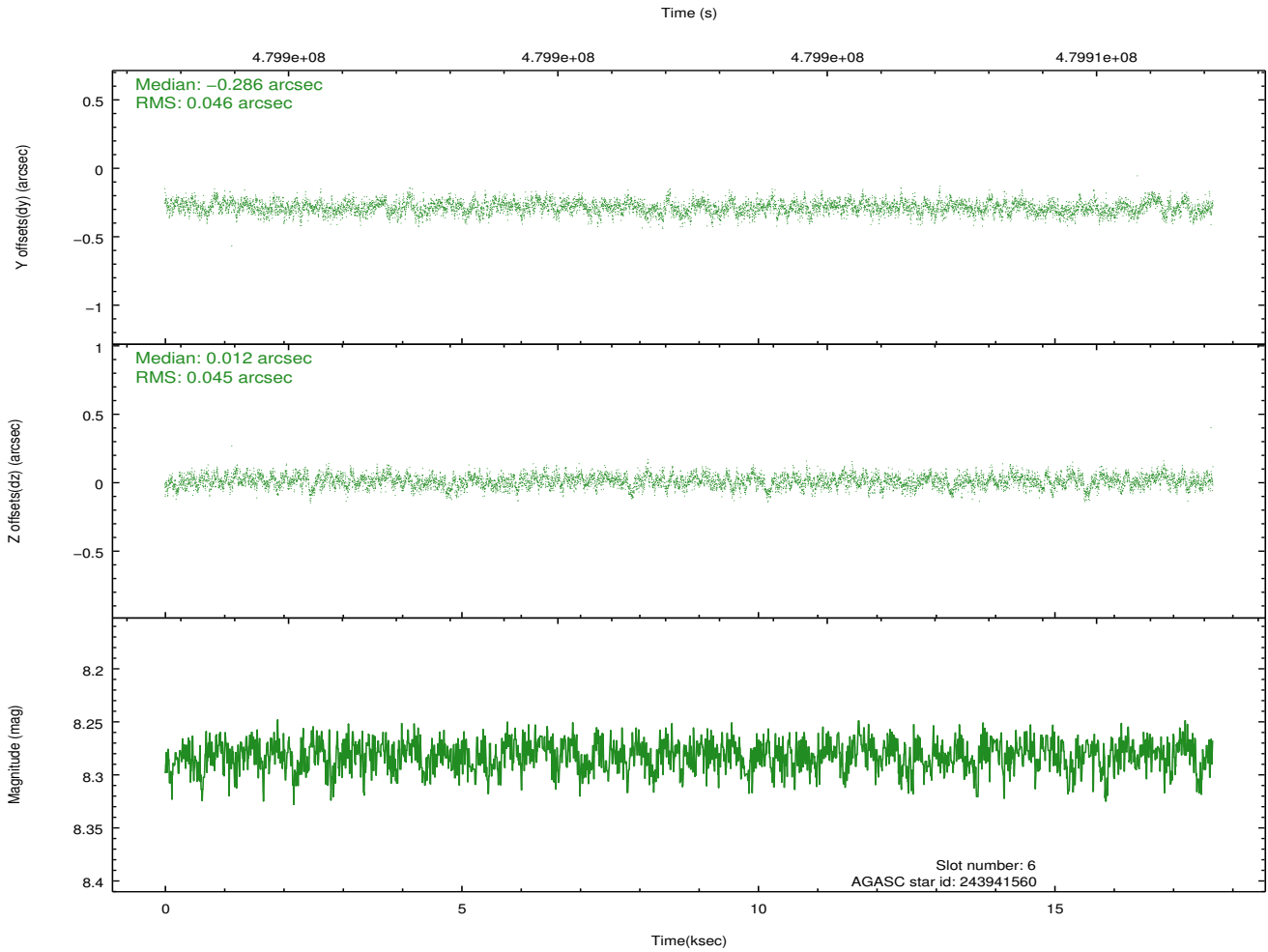
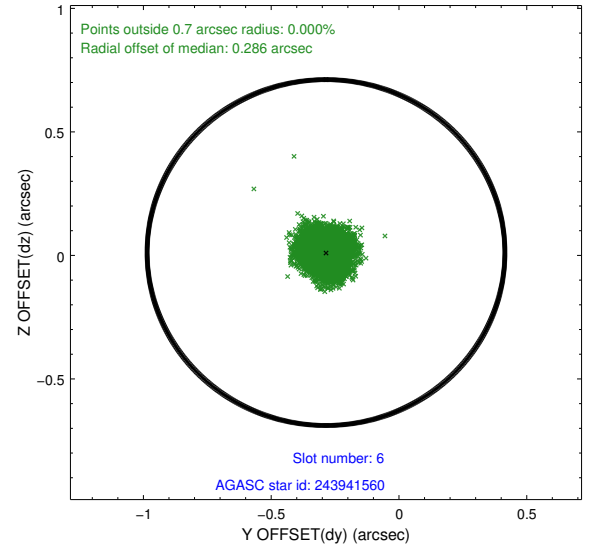
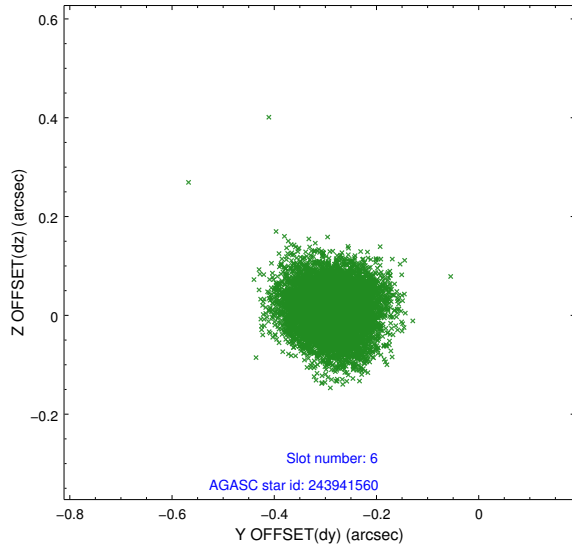




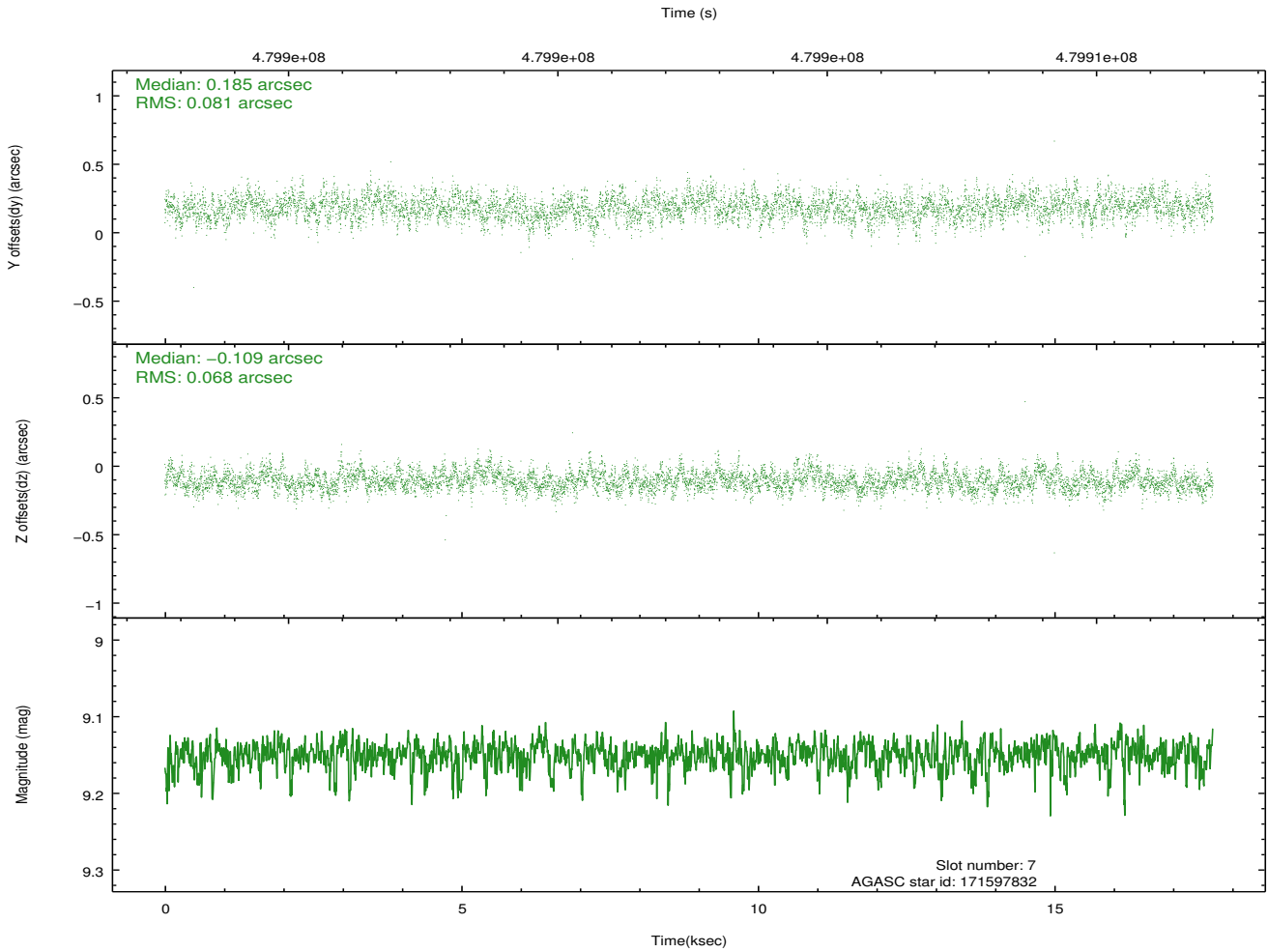
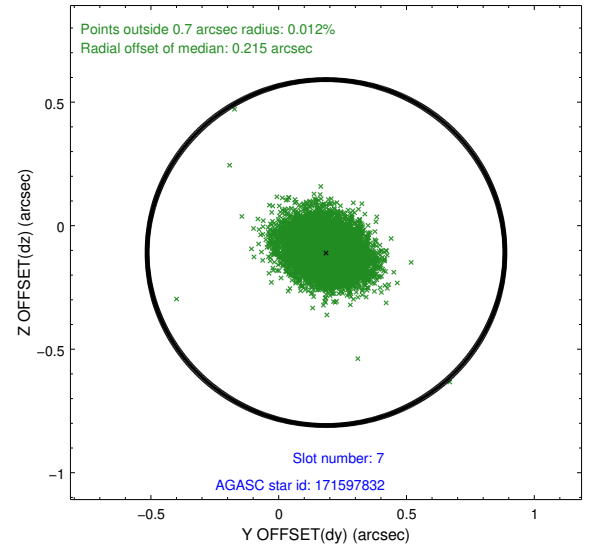
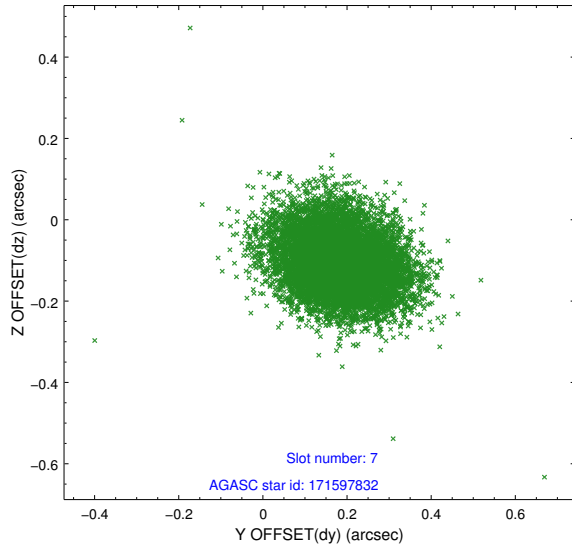
### 2.4.3 Slot 5



## 2.4.4 Slot 6

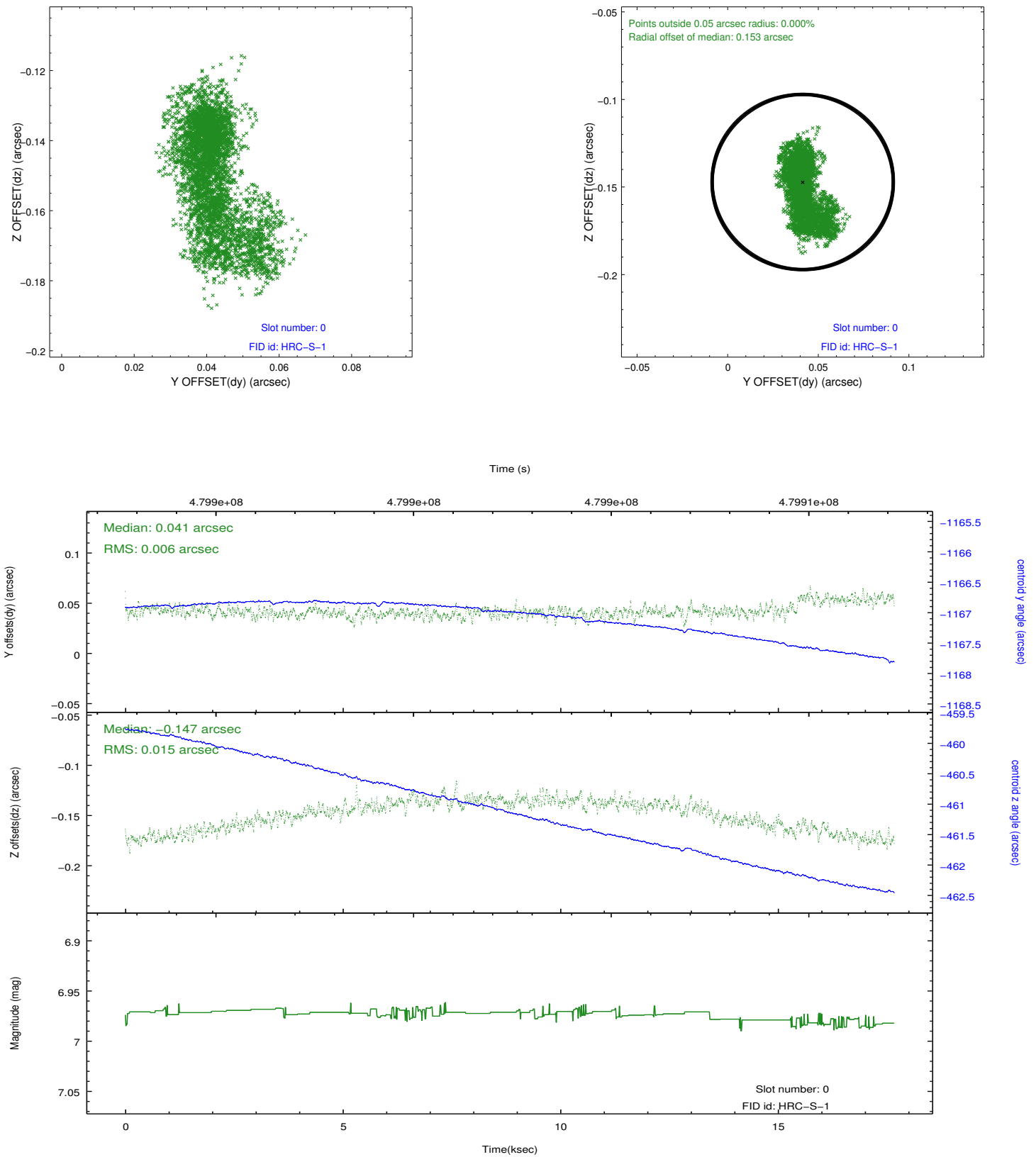


## 2.4.5 Slot 7

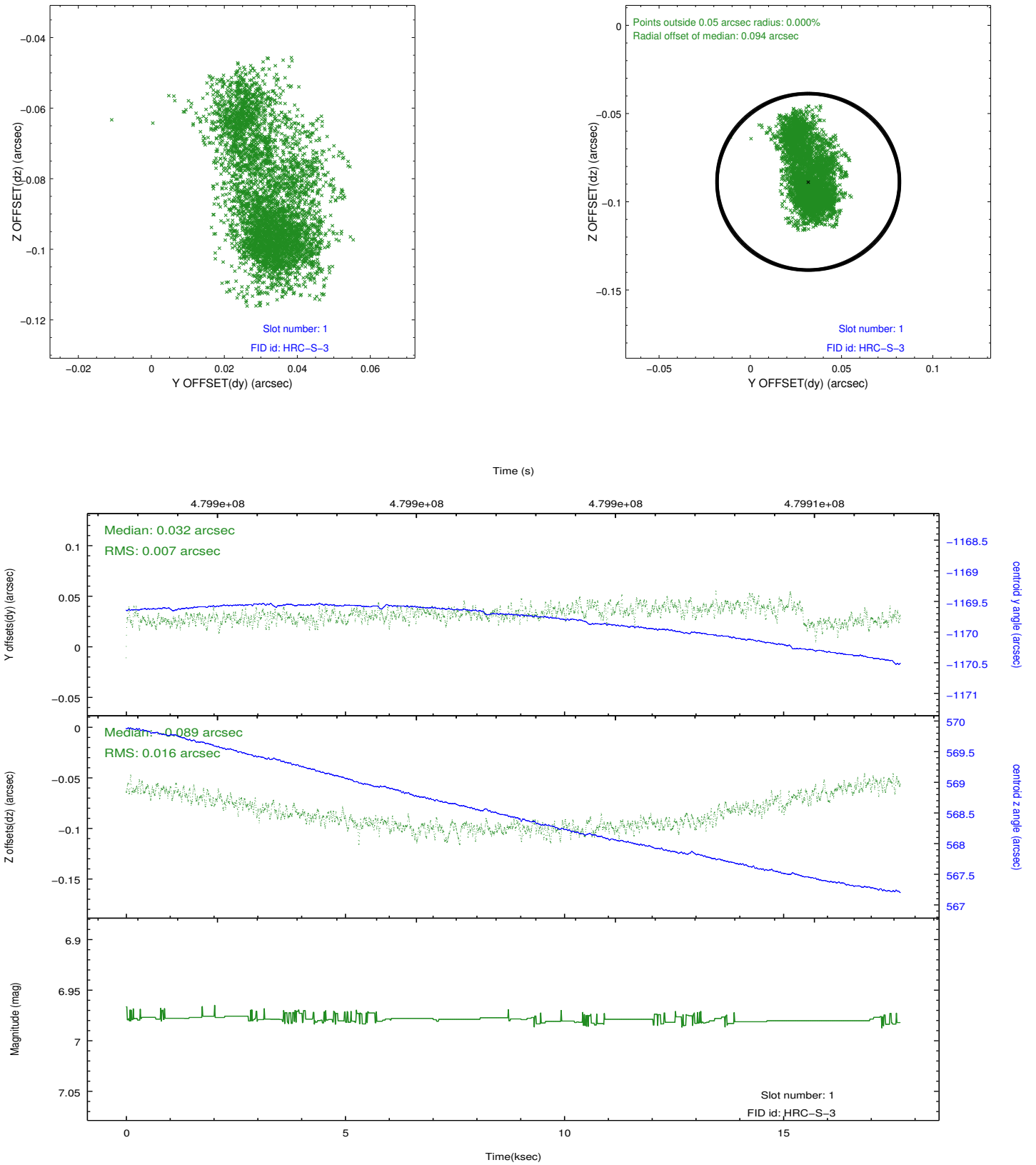


## 2.5 FID Slots

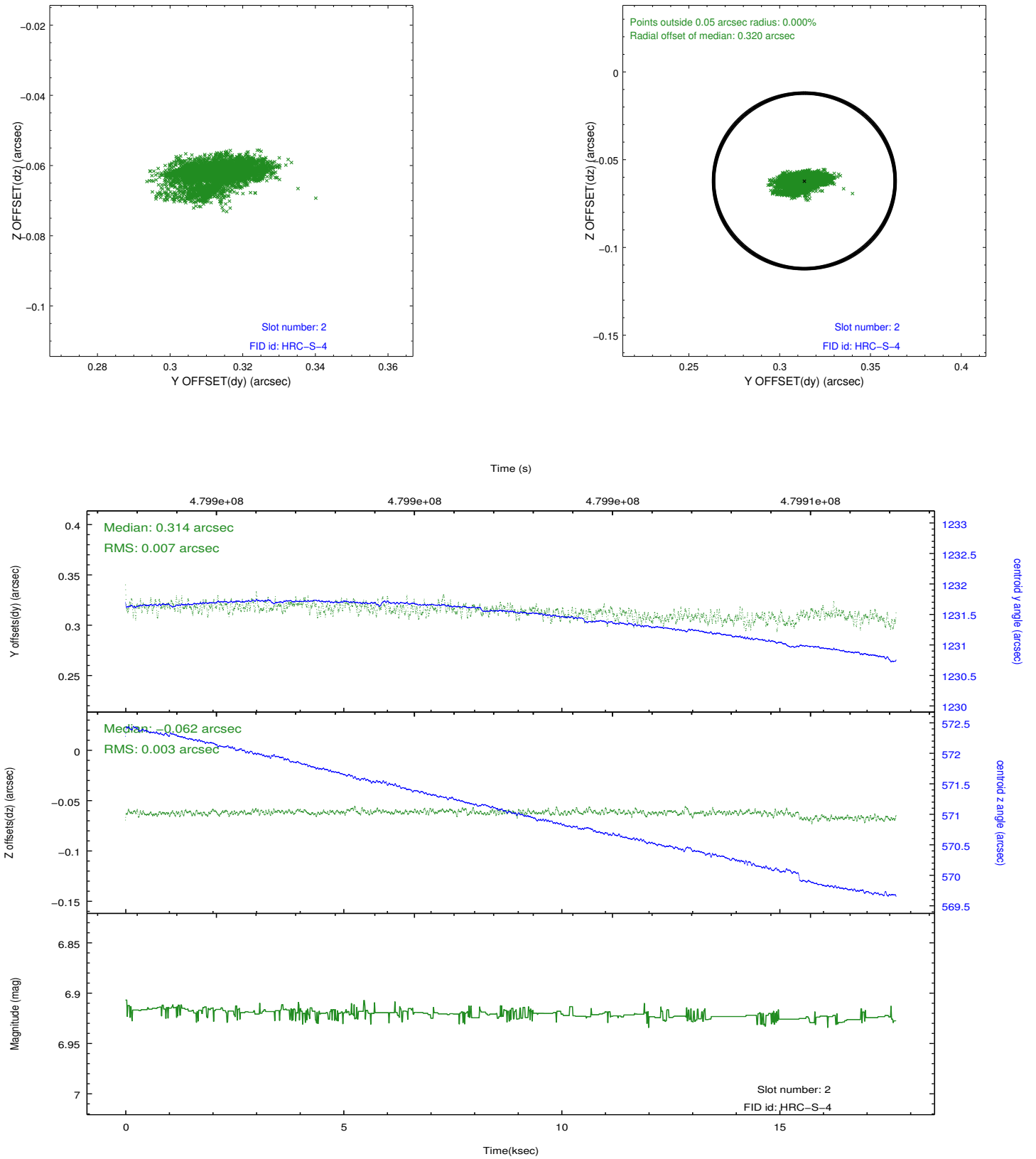
### 2.5.1 Slot 0



## 2.5.2 Slot 1

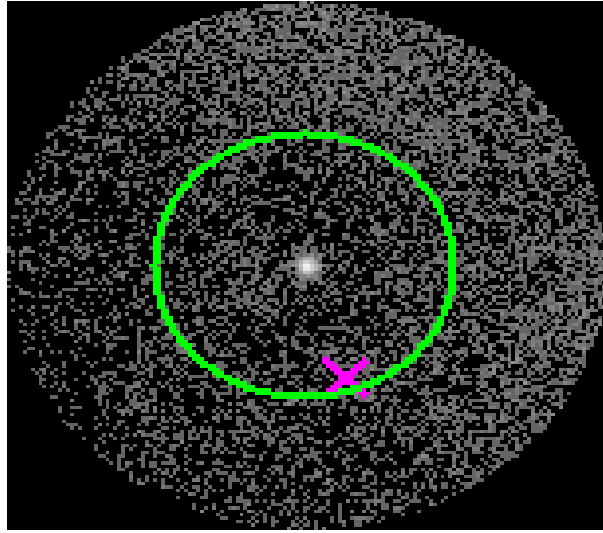


### 2.5.3 Slot 2

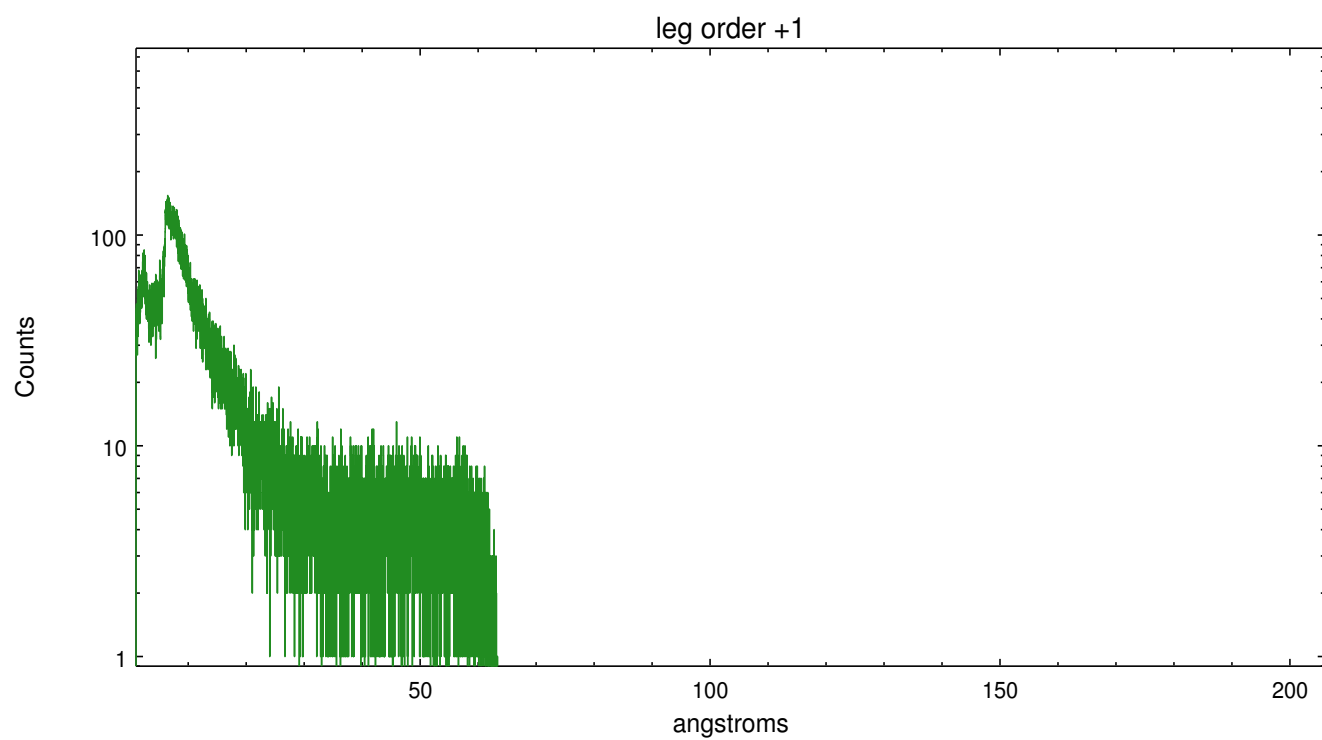
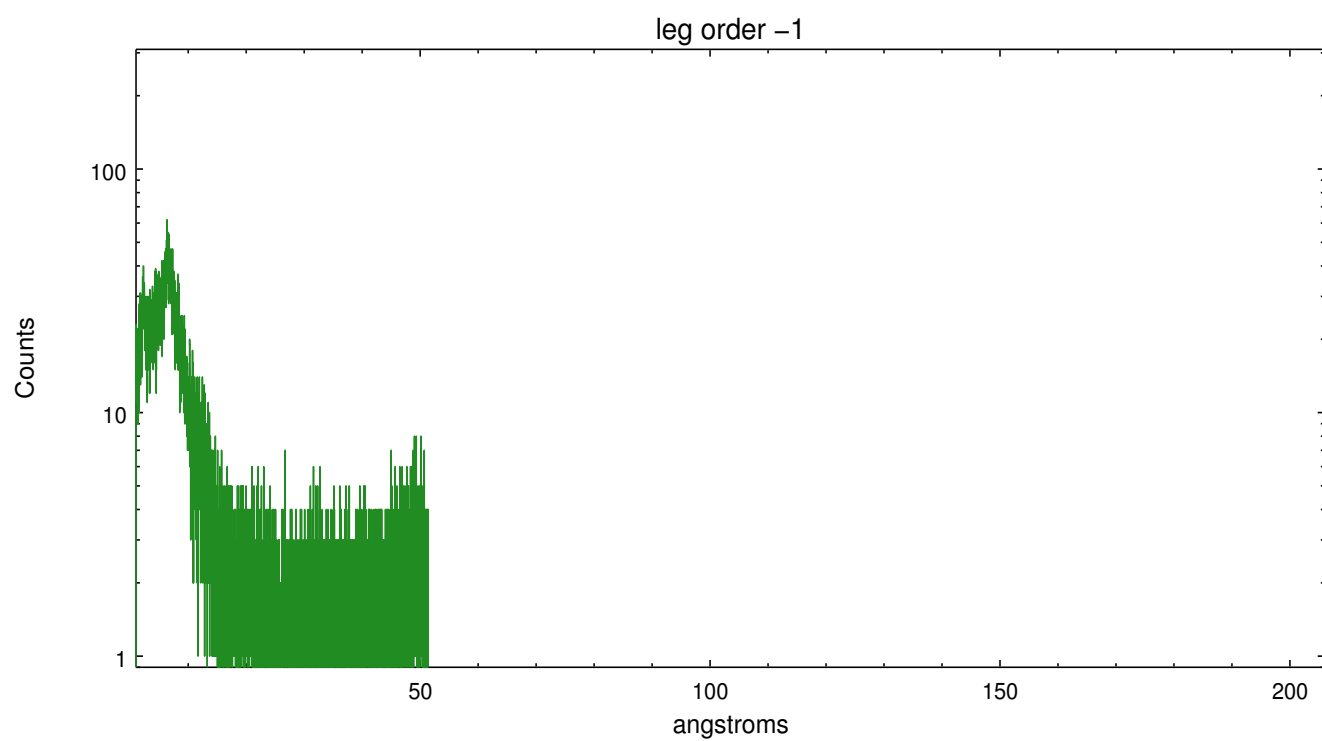


## 3 Gratings

### 3.1 LETG Arm



LETG Zero Order





# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2015.12.04
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	17.234607171416

## A.2 Comments

These data have been reprocessed with new aspect alignment calibration files that correct small mean offsets (up to 0.4 arcsecs) and improve overall astrometric accuracy. The new calibration was determined using data from the time period being reprocessed and was performed using cross-correlation of X-ray sources with radio and optical counterparts.

====

Non-standard MCP HV setting used for this observation. The setting used is top=91, bottom=103. This setting is intermediate between the original default HV setting for HRC and the 2012 revised default HV setting. THERE IS NO DETECTOR GAIN CALIBRATION FOR THIS HV SETTING. The default CALDB gain map has been applied, but is not known to be an appropriate calibration. This observation was processed with custom gti-limit parameters to allow events from non-standard voltages to be included in gti. LETG grating inserted as a filter only. === This observation was interrupted by safing of the science instruments onboard Chandra due to high solar radiation environment. The observation was interrupted at day=076,12:30:00 UT. Due to a high radiation environment, the instruments were safed and the observation terminated early. This observation has been reprocessed so that the aspect solution correctly handles the instrument safing and maneuver activities at the end of the observation.