

V&V Reference Report

L2 ASCDS Version : 10.5.4

Observation 19708 - L2 Version 1
Chandra X-Ray Center

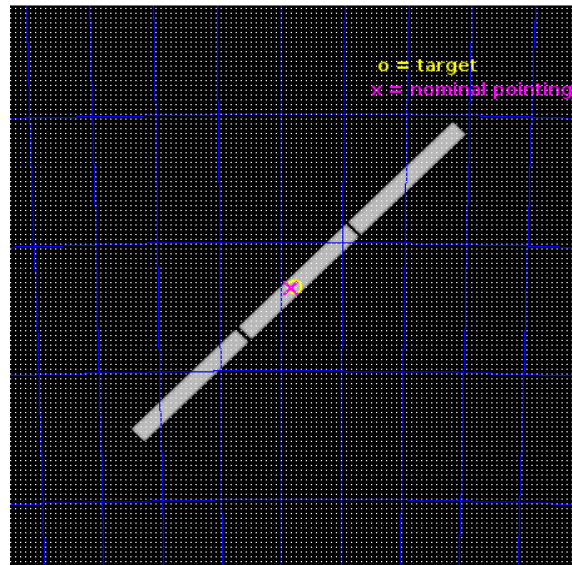
L2 Processing Date : Jun 1 2017

Contents

1	Front	2
2	OBI	3
2.1	OBI	3
2.1.1	Images	3
2.1.2	Parameters	4
2.1.3	Events	4
2.2	Compared Parameters	5
2.3	Aspect	6
2.4	Star Slots	9
2.4.1	Slot 3	9
2.4.2	Slot 4	10
2.4.3	Slot 5	11
2.4.4	Slot 6	12
2.5	FID Slots	13
2.5.1	Slot 0	13
2.5.2	Slot 1	14
2.5.3	Slot 2	15
3	Gratings	16
3.1	LETG Arm	16
A	Summary	18
A.1	Status	18
A.2	Comments	18

1 Front

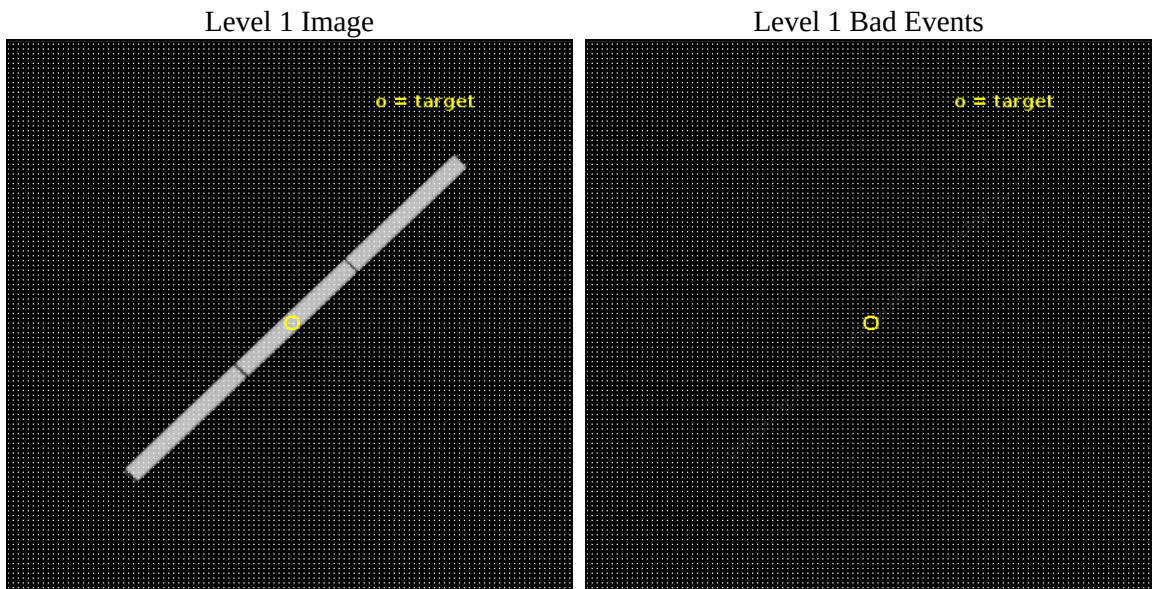
seq_num	201148	Sequence number
obs_id	19708	Observation id
title	A deep LETGS observation of Proxima Centauri	Proposal title
observer	Peter Predehl	Principal investigator
object	Proxima Centauri	Source name
ra_targ	217.39	Observer's specified target RA [deg]
dec_targ	-62.675861	Observer's specified target Dec [deg]
ra_nom	217.41284378878	Nominal RA [deg]
dec_nom	-62.677555254306	Nominal Dec [deg]
roll_nom	315.08762954203	Nominal Roll [deg]
revision	1	Processing version of data
ontime	44765.083854437	[s]
livetime	44349.073646757	Ontime multiplied by DTCOR
l2events	3711538	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	45000.000000	[s] Scheduled observation exposure time
ascdsver	10.5.4	Processing system revision	ontime	44765.083854437	[s]
caldsver	4.7.4	 	l1events	4624349	Number of level 1 events
date	2017-06-01T14:05:15	Date and time of file creation	tgmethod	TGDETECT	Method used to create src1a file
revision	1	Processing version of data	zo_pos	(33070.35, 32815.01)	src1a sky pixel position

2.1.3 Events

Level 1 Events

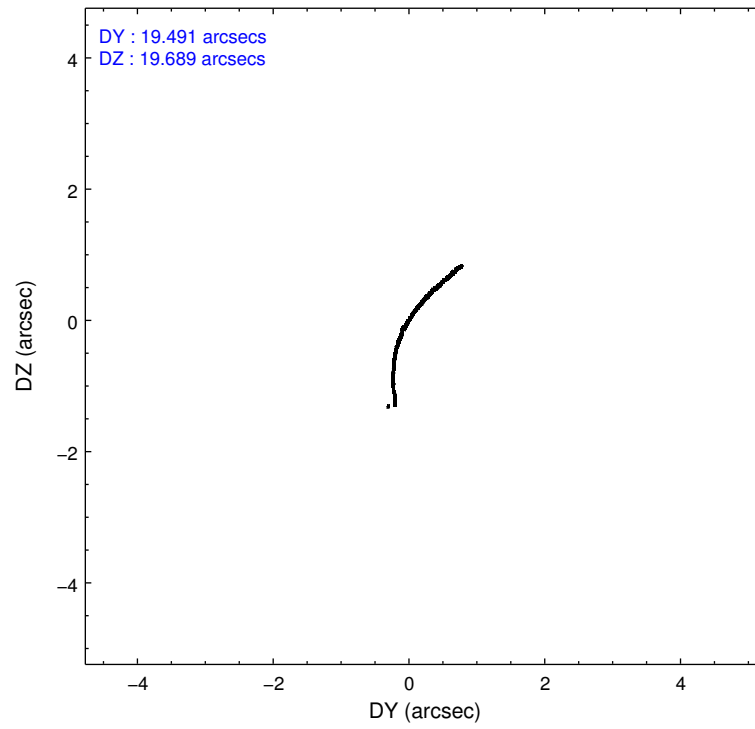
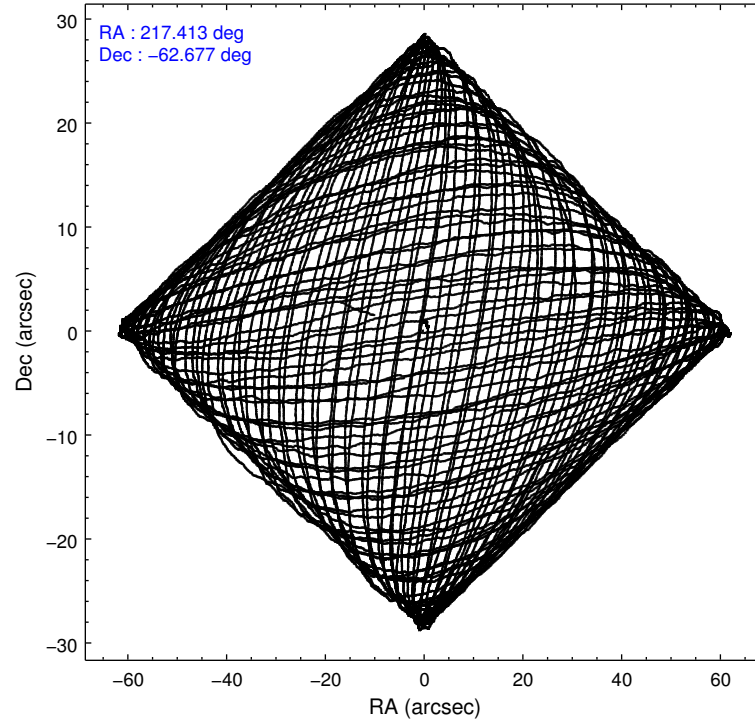
	segment 1	segment 2	segment 3
level 1 events	1536842	1552434	1535073
rejected events	2194	2342	2320
rejected %	0%	0%	0%

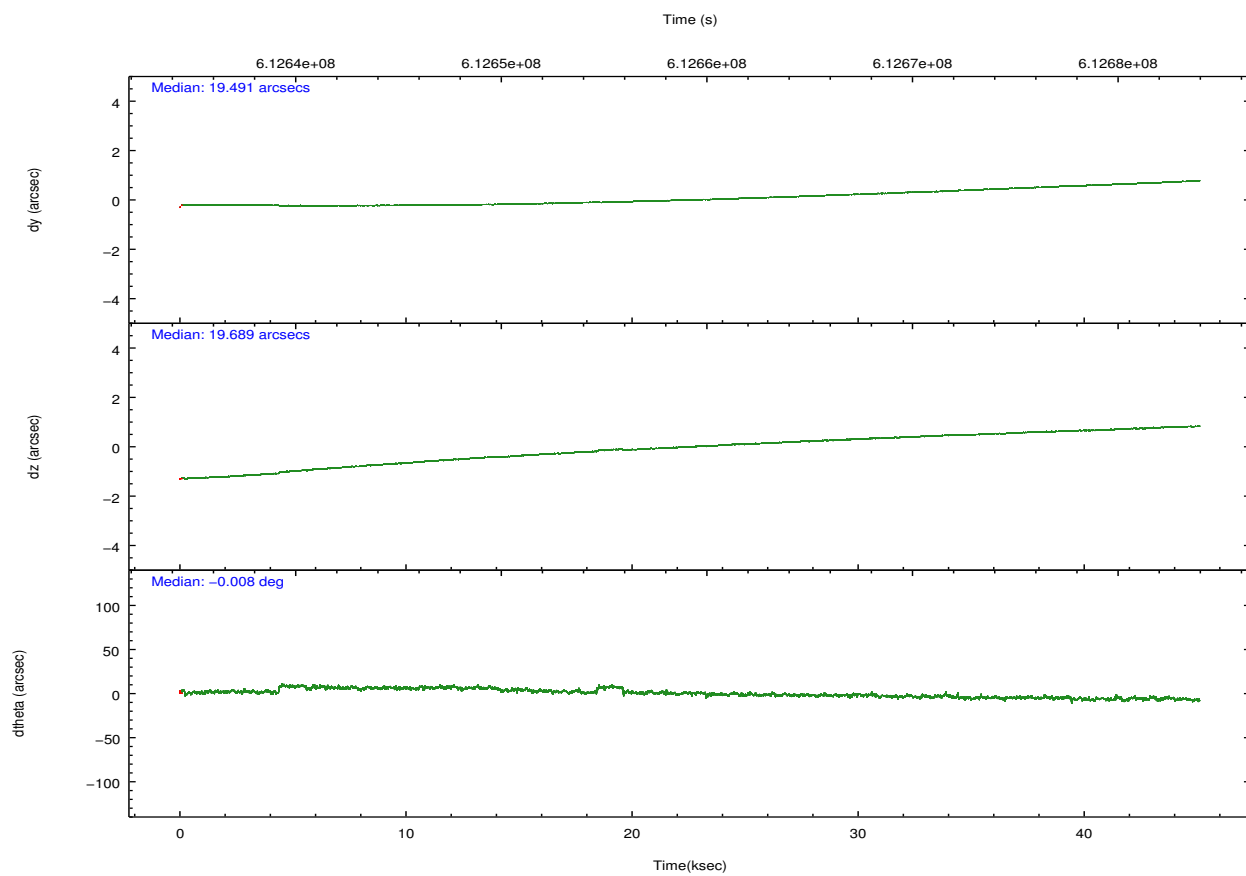
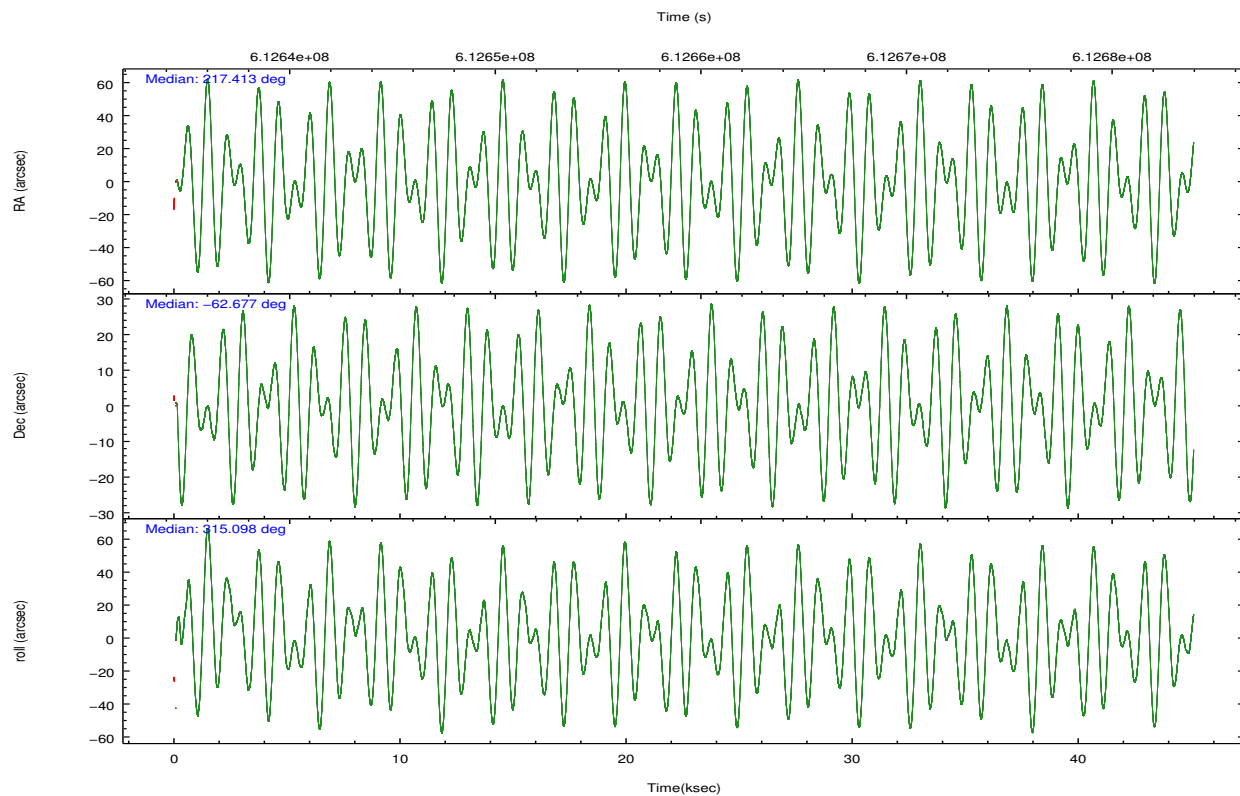
2.2 Compared Parameters

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	217.351366	217.4128437887796
[deg] Pointing Dec	-62.671416	-62.67755525430556
[deg] Pointing Roll	314.965682	315.0876295420318
[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)	612636701.184000	612635142.60624
Observation start date	2017-05-31T16:50:32	2017-05-31T16:25:42
[s] Observation end time (MET)	612681701.184000	612682138.34647
Observation end date	2017-06-01T05:20:32	2017-06-01T05:28:58

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

2.3 Aspect



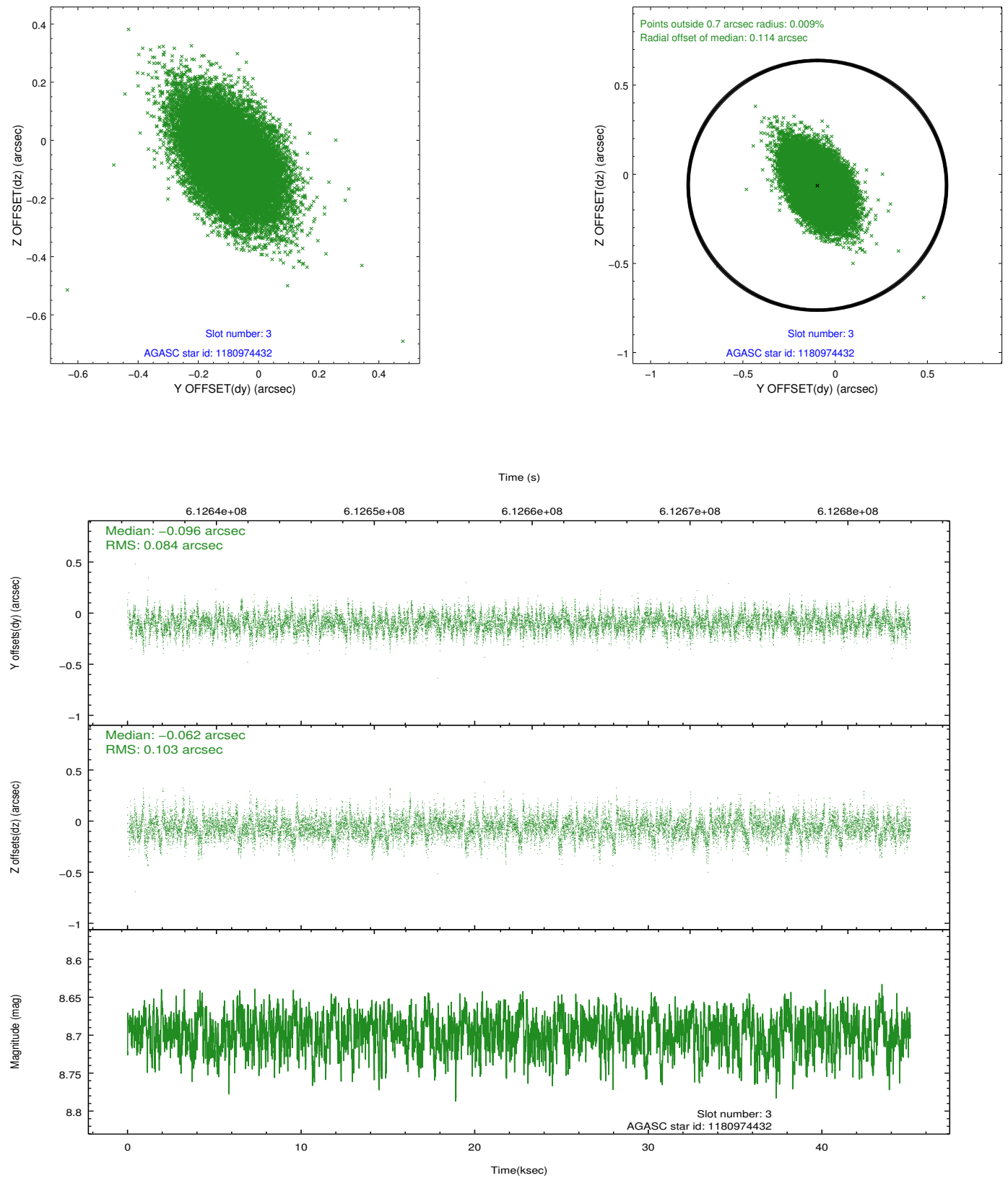


Slot Statistics

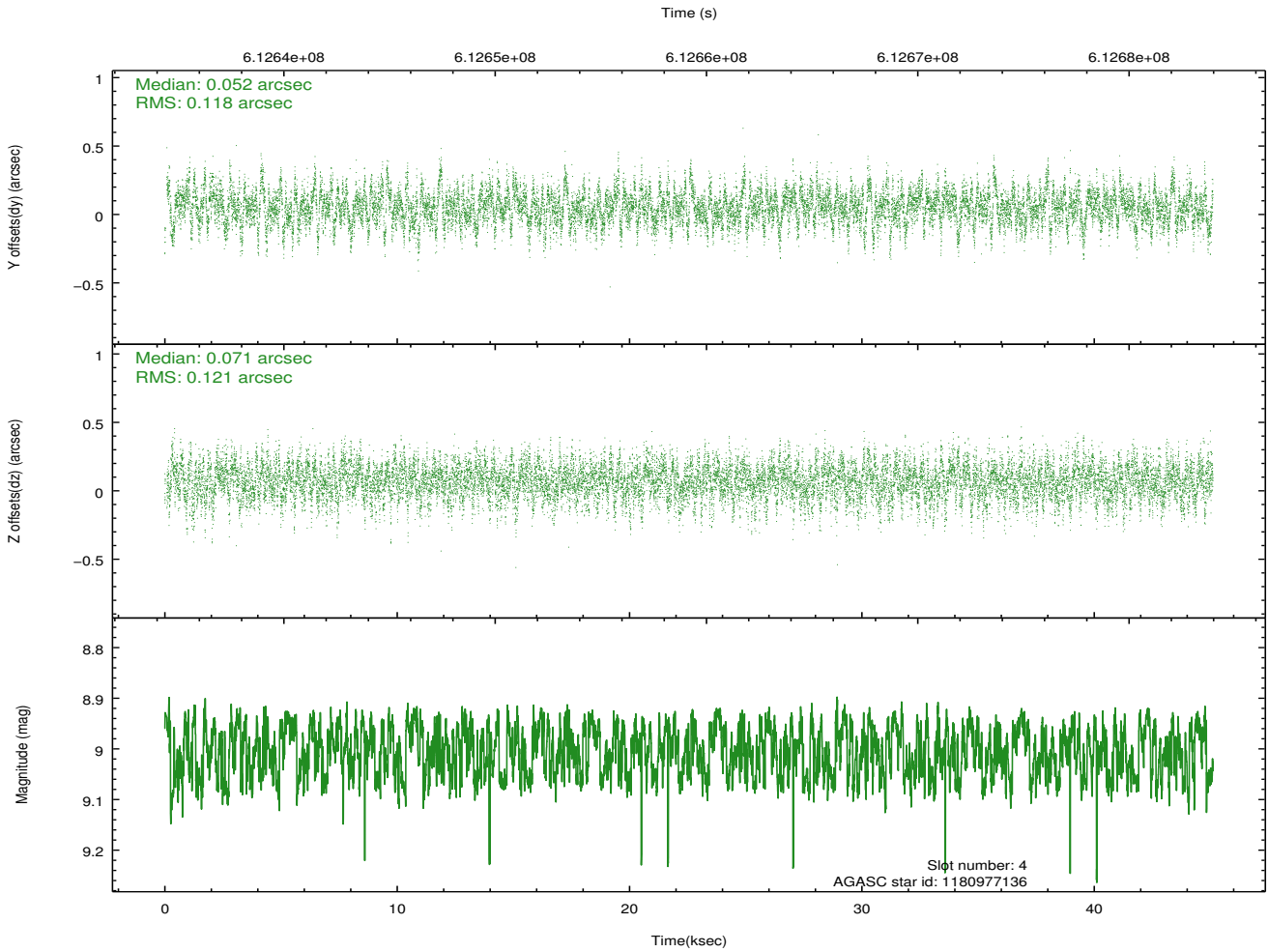
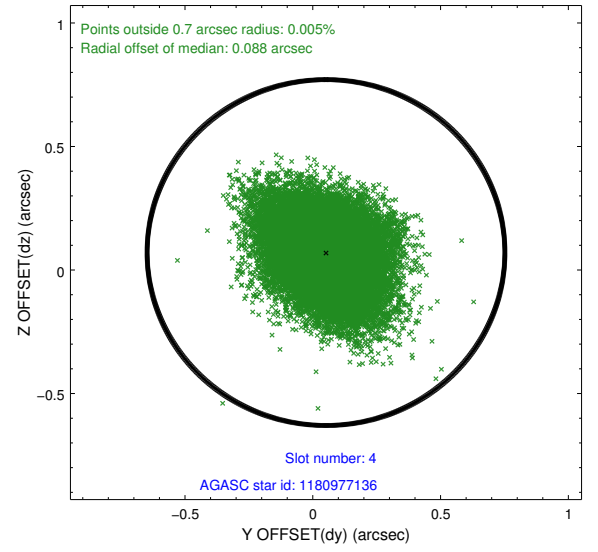
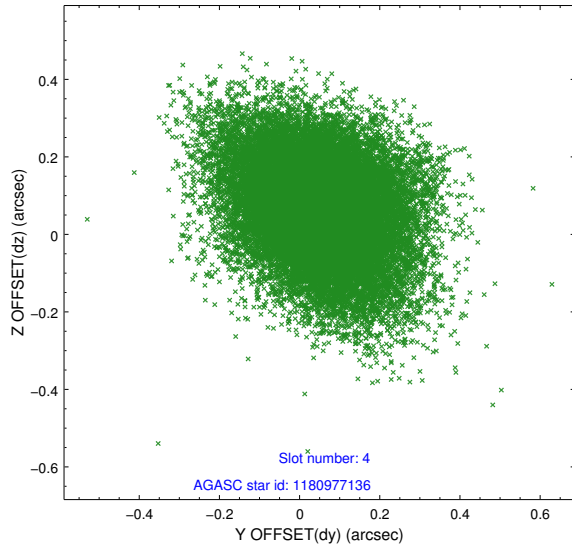
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		HRC-S-1	7.03	10987	-0.144	-0.319	0.018	0.027	0.000000	0.000000	-1174.28	-468.87
1	FID		HRC-S-3	7.01	10985	0.068	0.005	0.020	0.029	0.000000	0.000000	-1176.99	560.94
2	FID		HRC-S-4	6.97	10984	0.464	0.018	0.009	0.018	0.000000	0.000000	1224.39	563.81
3	GUIDE	used	1180974432	8.70	21955	-0.096	-0.062	0.137	0.239	217.803607	-62.540366	198.61	862.69
4	GUIDE	used	1180977136	9.01	21928	0.052	0.071	0.178	0.298	217.148159	-62.209003	-1418.34	935.00
5	GUIDE	used	1180985824	8.74	21946	0.157	0.038	0.144	0.249	216.565550	-62.139830	-2282.42	411.69
6	GUIDE	used	1180991936	7.73	21936	-0.107	-0.050	0.121	0.219	216.873169	-61.996737	-2287.41	1142.32
7	MONITOR	unused		0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00

2.4 Star Slots

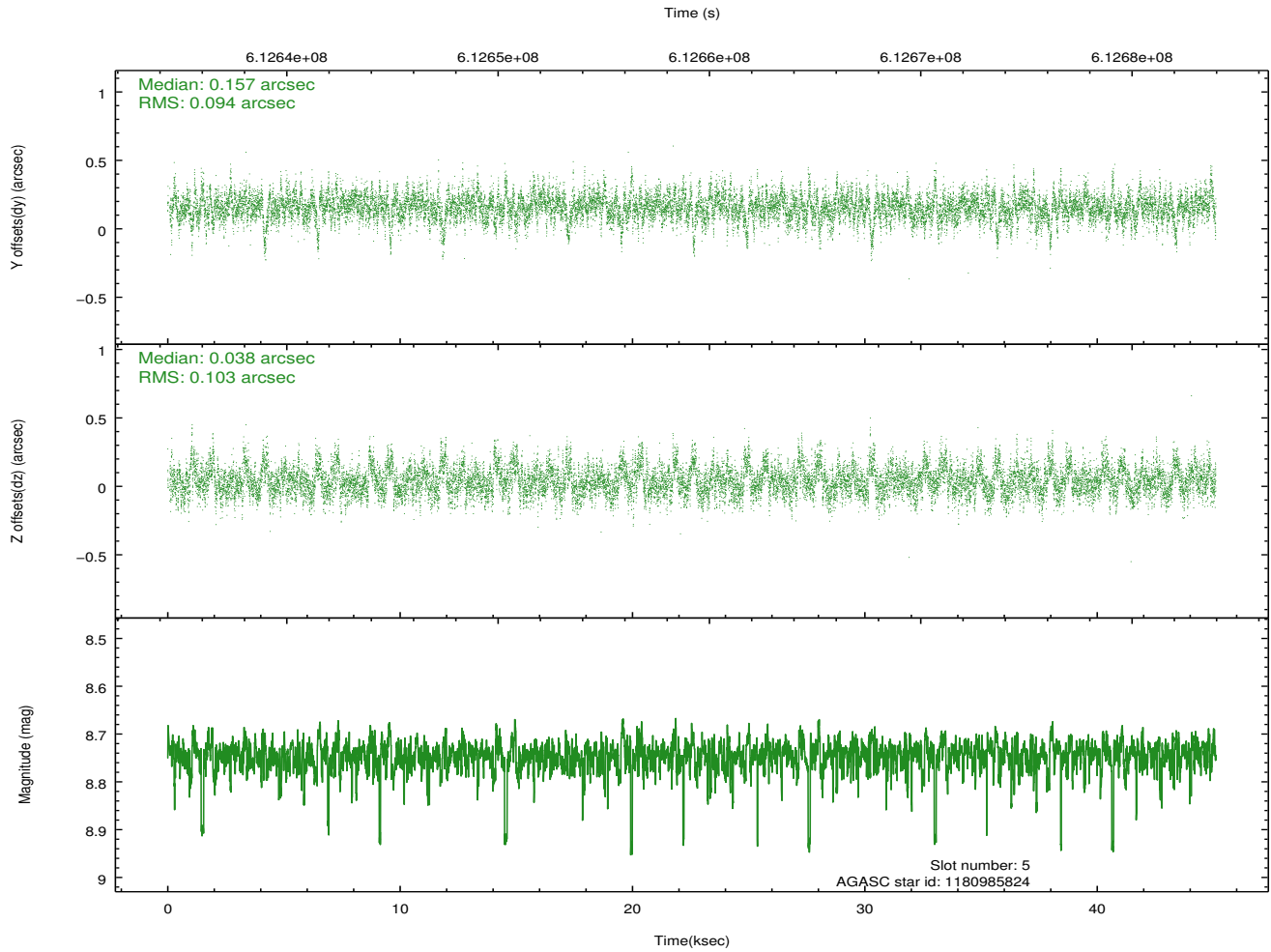
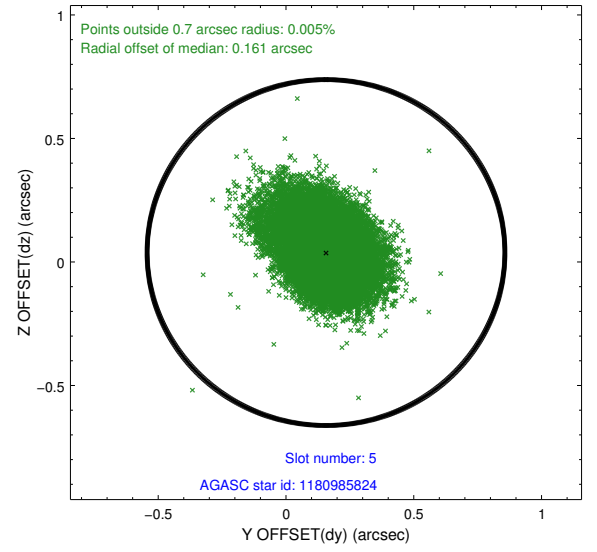
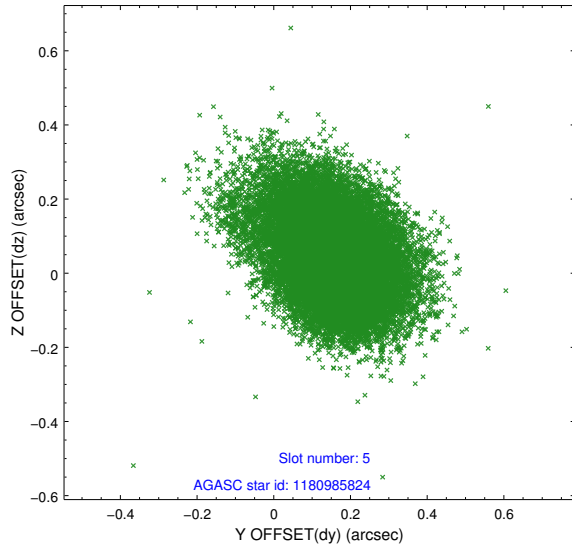
2.4.1 Slot 3



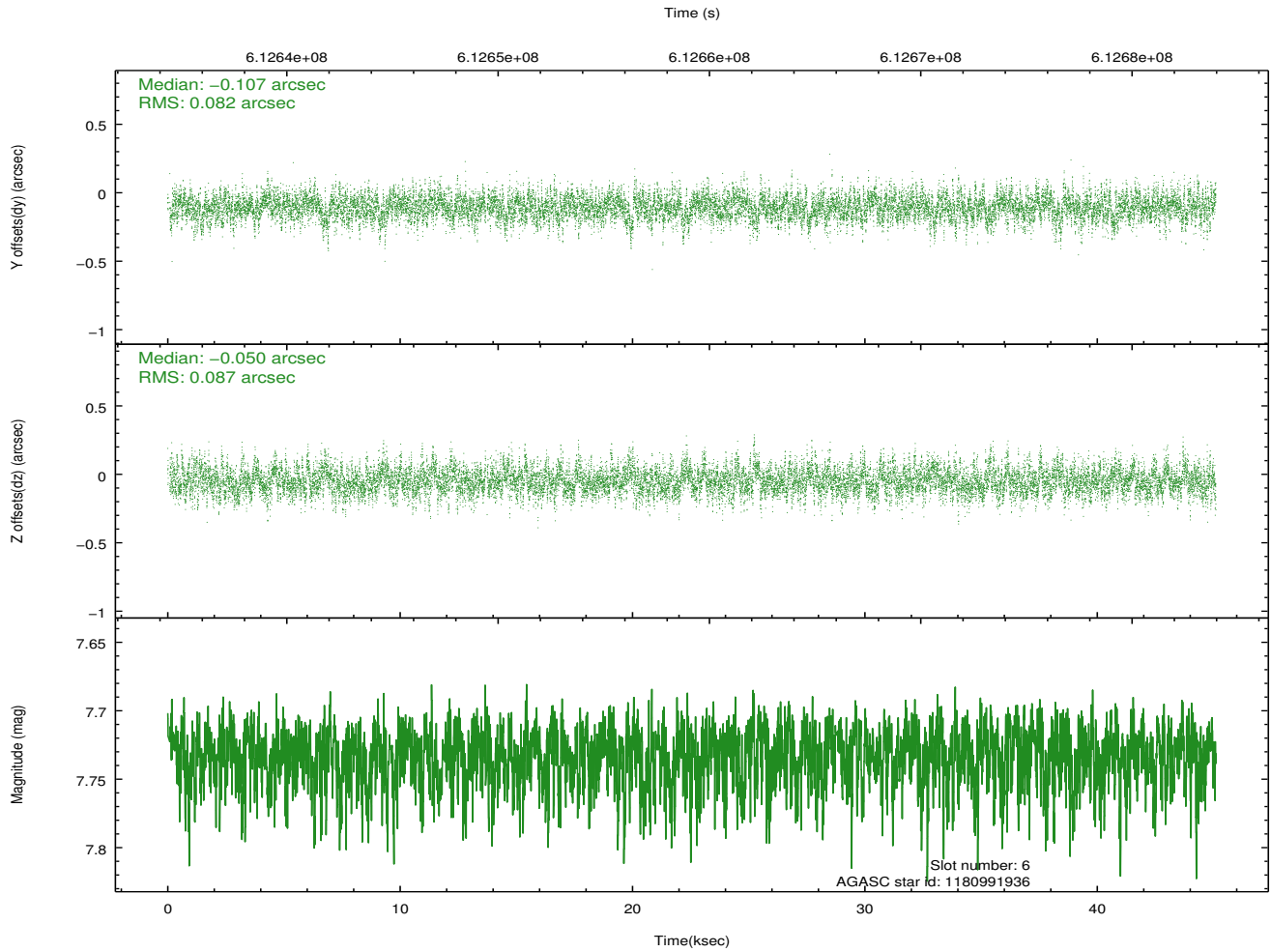
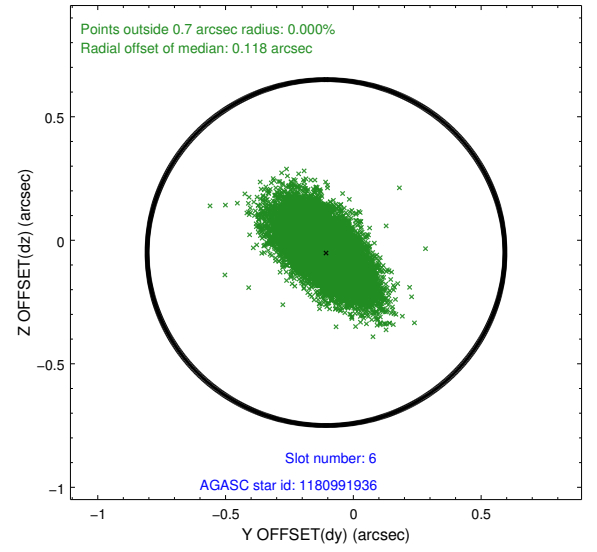
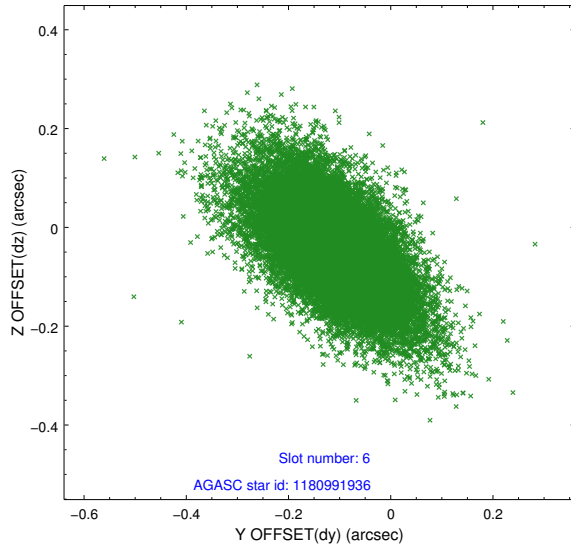
2.4.2 Slot 4



2.4.3 Slot 5

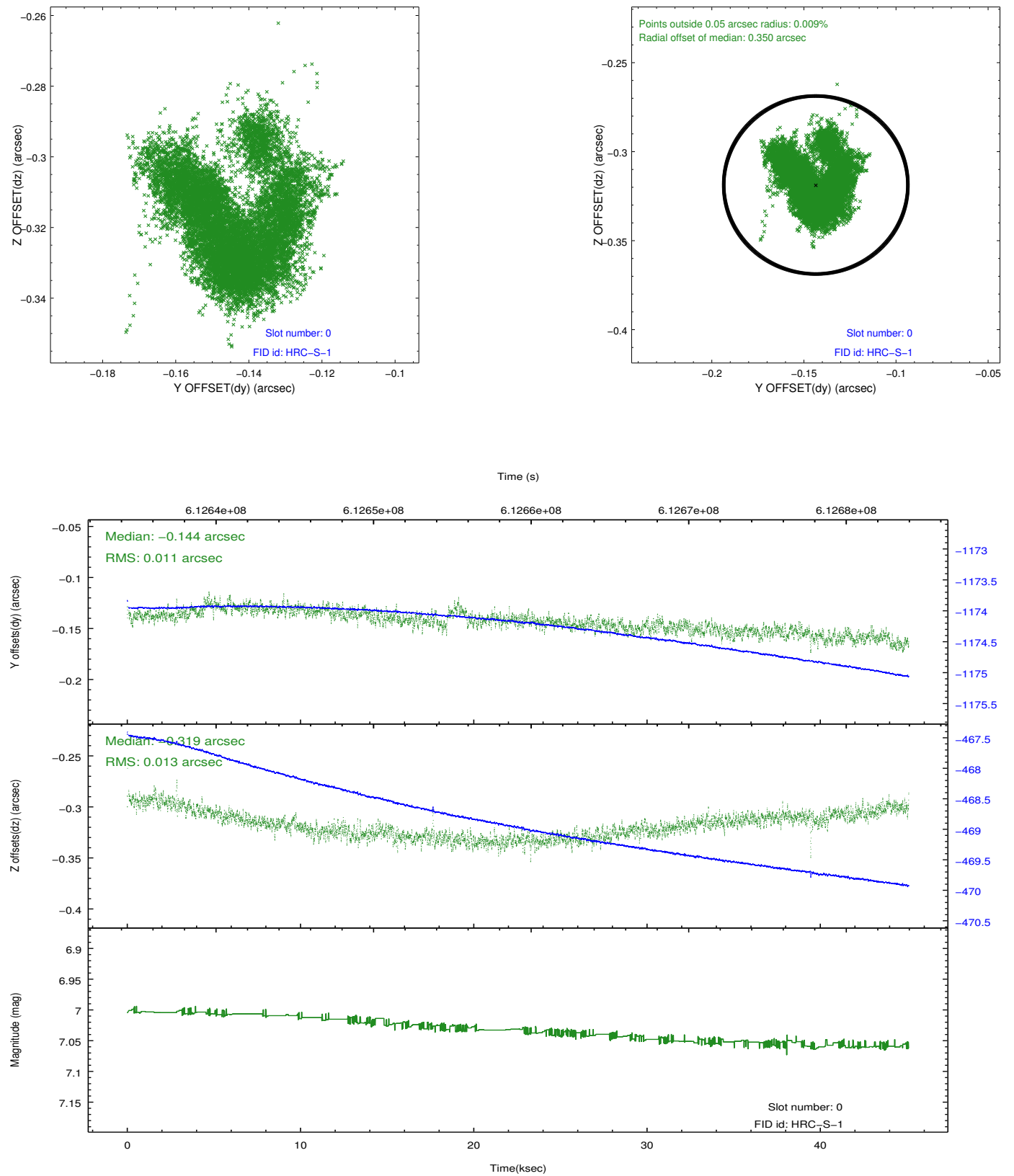


2.4.4 Slot 6

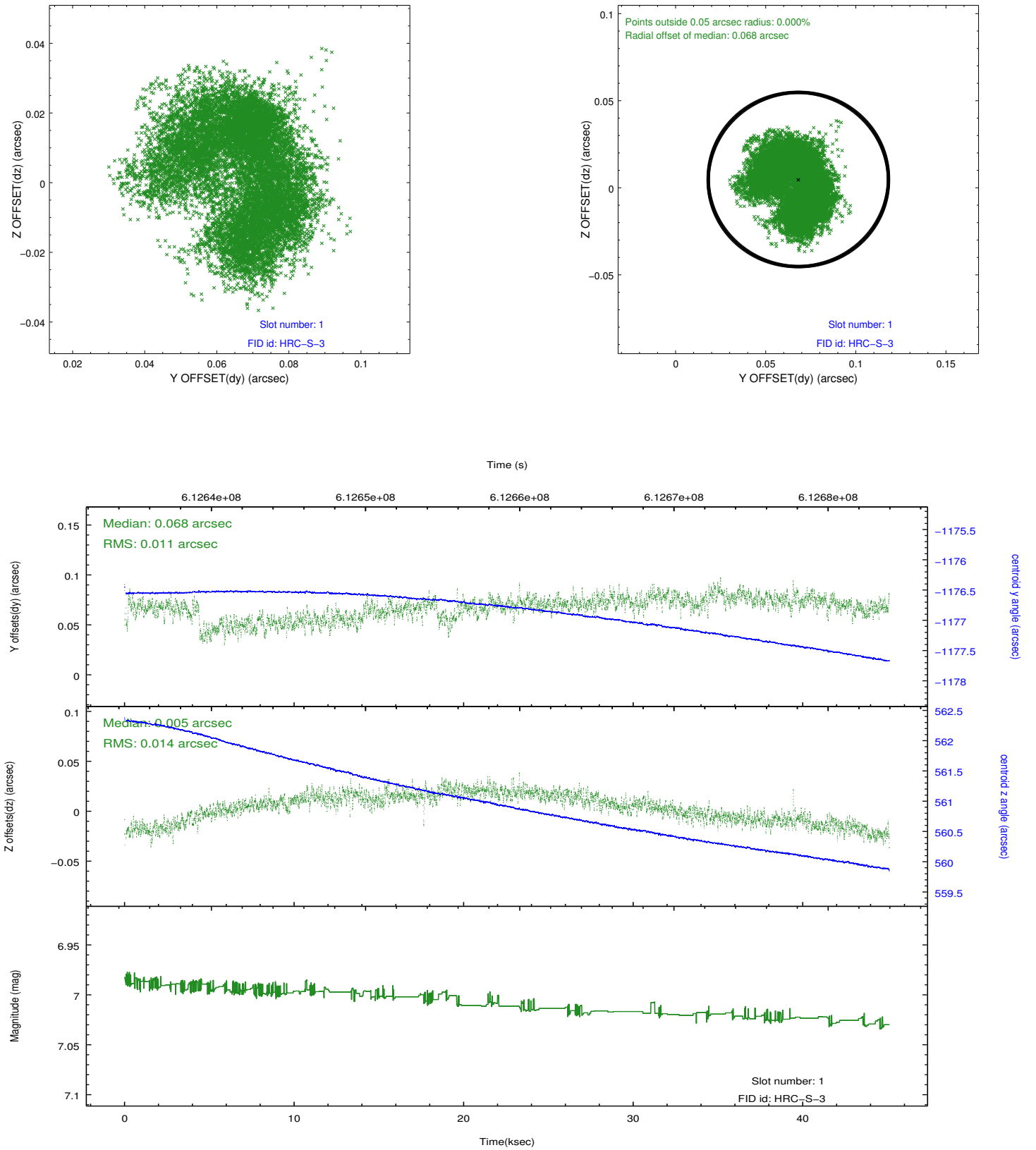


2.5 FID Slots

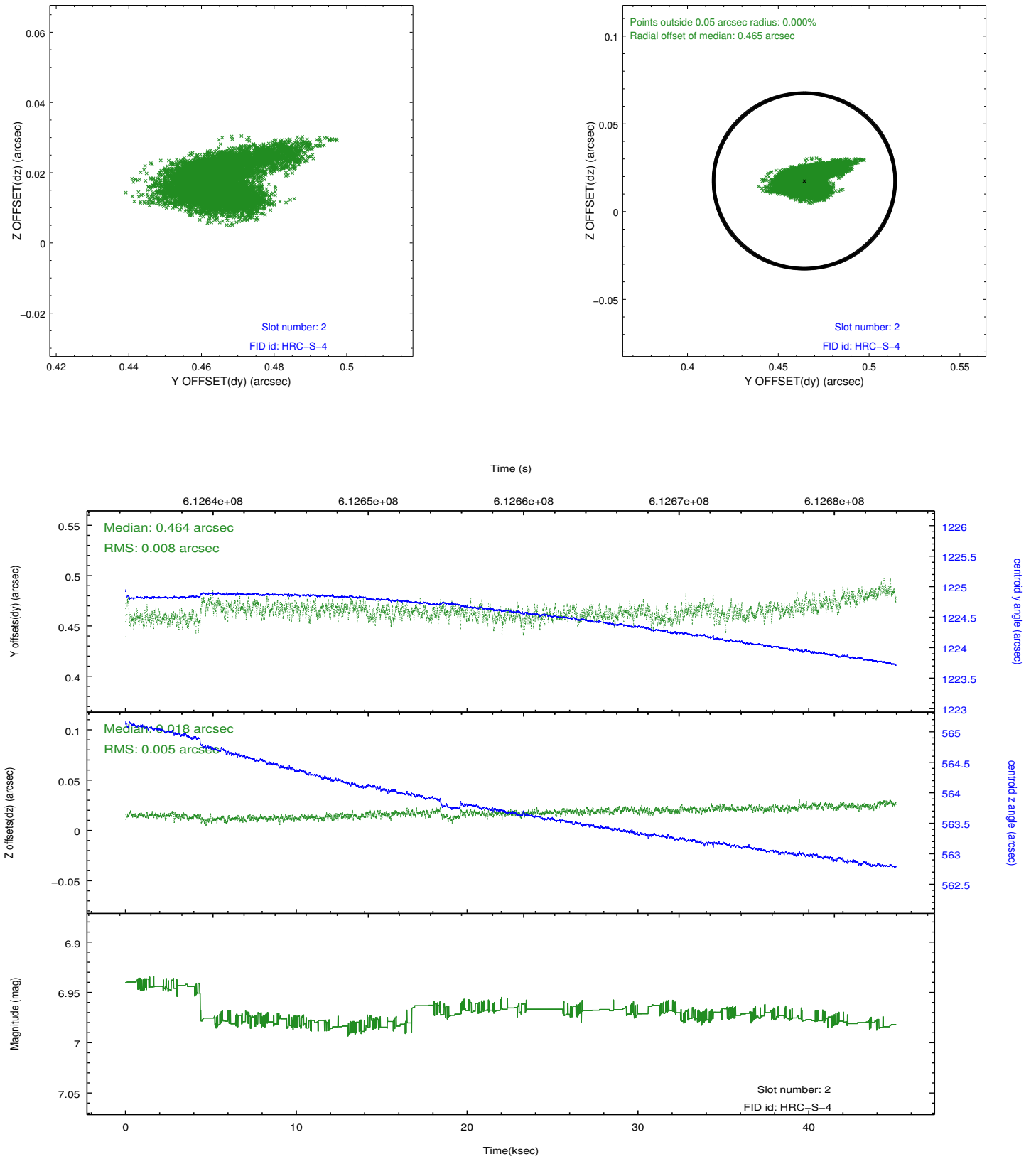
2.5.1 Slot 0



2.5.2 Slot 1

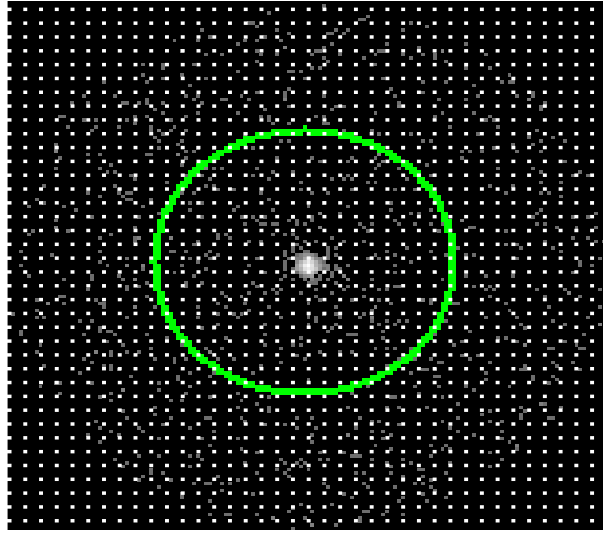


2.5.3 Slot 2

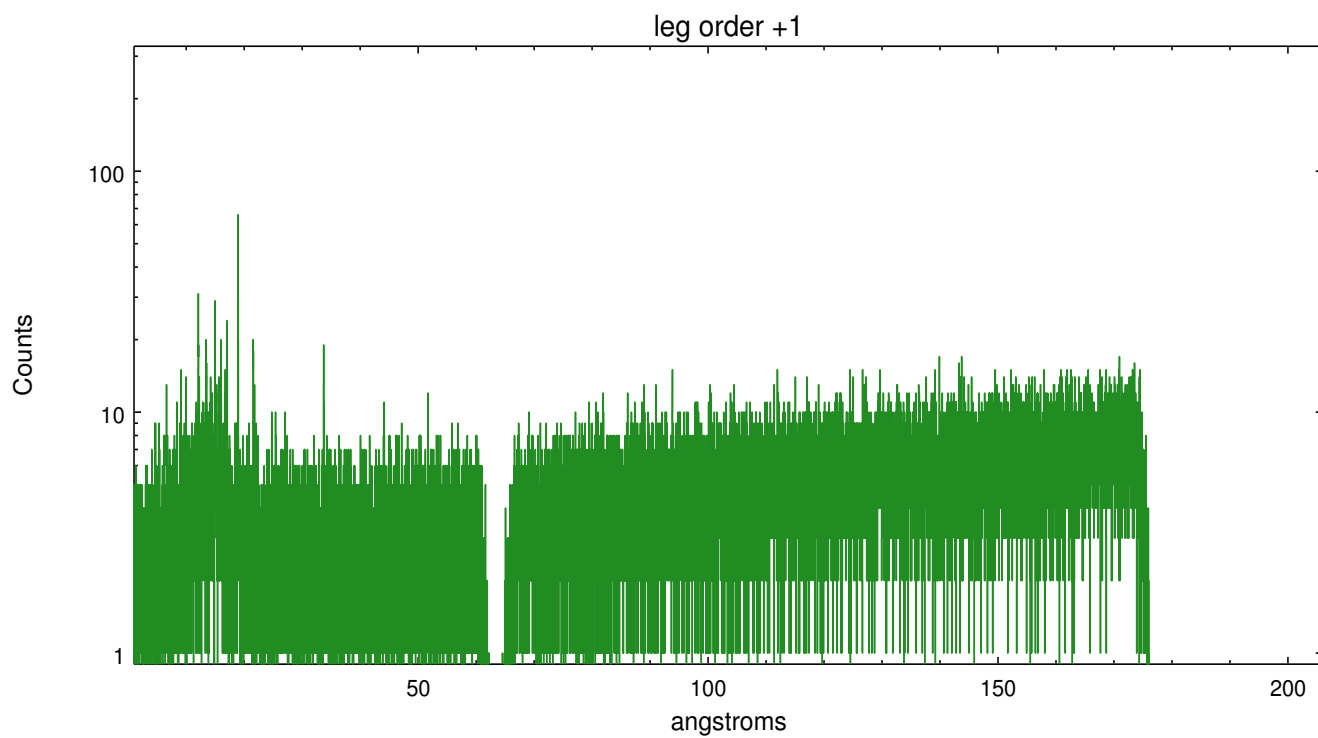
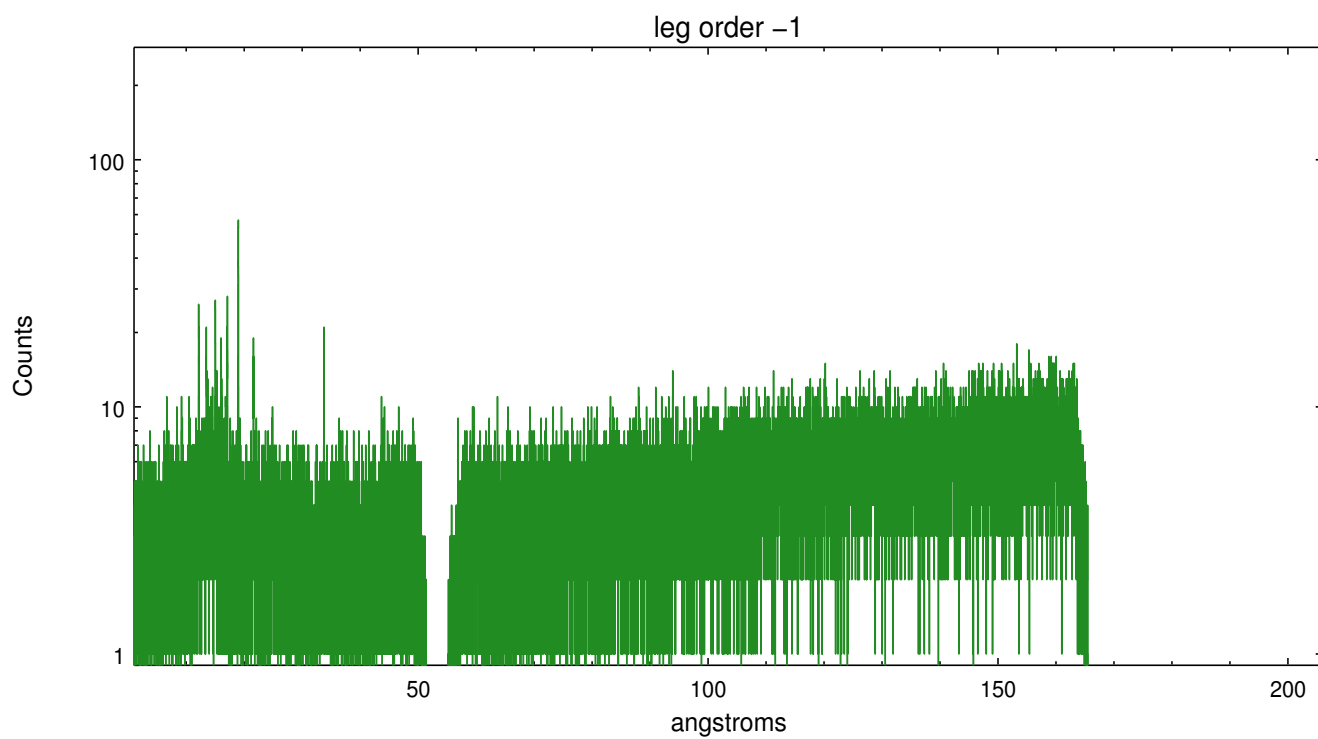


3 Gratings

3.1 LETG Arm



LETG Zero Order



A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2017.06.02
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	44.765083854437

A.2 Comments

The ACA has the capability to devote one or more of the eight image slots to "monitor" particular sky locations. This allows simultaneous optical photometry of one or more targets in the ACA field of view. These optical sources can be slightly fainter than the ACA guide star limit of $m_{ACA} = 10.2$ mag. The bright-end limit for monitor star photometry is $m_{ACA}=6.2$ mag. However, since there are a fixed number of image slots, devoting a slot to photometry instead of tracking a guide star results in a degradation of the image reconstruction and celestial location accuracy (Section 5.4). Using one monitor slot represents a 15 - 25% increase in the aspect image reconstruction RMS diameter, depending on the particular guide star configuration. Two monitor slots would increase the diameter by about 50 - 60%, but this configuration is not operationally allowed under normal circumstances. The photometric accuracy which can be achieved depends primarily on the star magnitude, integration time, CCD dark current, CCD read noise, sky background, and the CCD dark current uncertainty.