

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 1852 - L2 Version 4
Chandra X-Ray Center

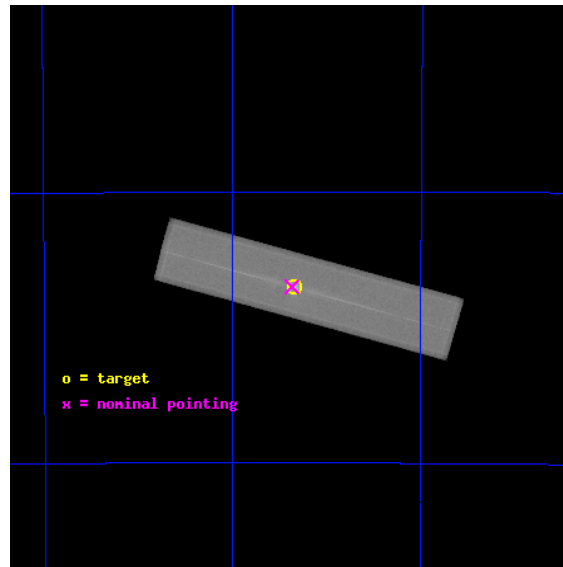
L2 Processing Date : Sep 6 2012

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
2.4.5	Slot 7	13
2.5	FID Slots	14
2.5.1	Slot 0	14
2.5.2	Slot 1	15
2.5.3	Slot 2	16
3	Gratings	17
3.1	LETG Arm	17
A	Summary	19
A.1	Status	19
A.2	Comments	19

1 Front

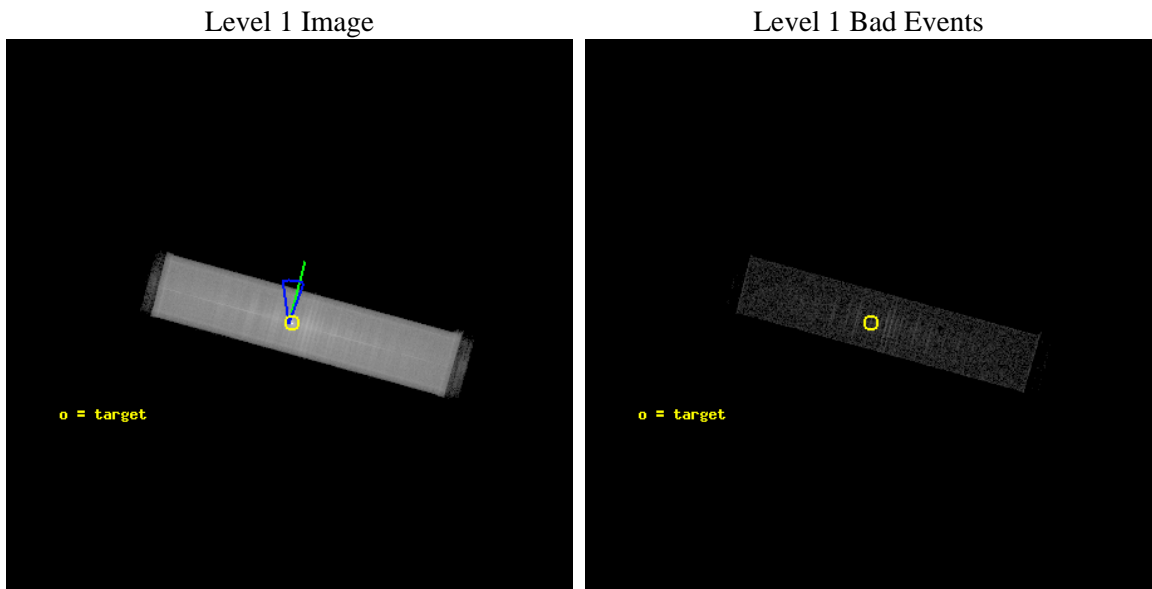
seq_num	500123	Sequence number
obs_id	1852	Observation id
title	THE VELA PULSAR	Proposal title
observer	Professor Gordon Garmire	Principal investigator
object	VELA PULSAR	Source name
ra_targ	128.835833	Observer's specified target RA [deg]
dec_targ	-45.176389	Observer's specified target Dec [deg]
ra_nom	128.84245566108	Nominal RA [deg]
dec_nom	-45.175306972941	Nominal Dec [deg]
roll_nom	15.210313495698	Nominal Roll [deg]
revision	4	Processing version of data
ontime	25162.982214823	[s]
livetime	25087.922756854	Ontime multiplied by DTCOR
l2events	713298	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	25000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	25162.982215822	[s]
caldbver	4.5.1.1	 	l1events	1195111	Number of level 1 events
date	2012-09-06T11:45:06	Date and time of file creation			
revision	5	Processing version of data			

2.1.3 Events

Level 1 Events

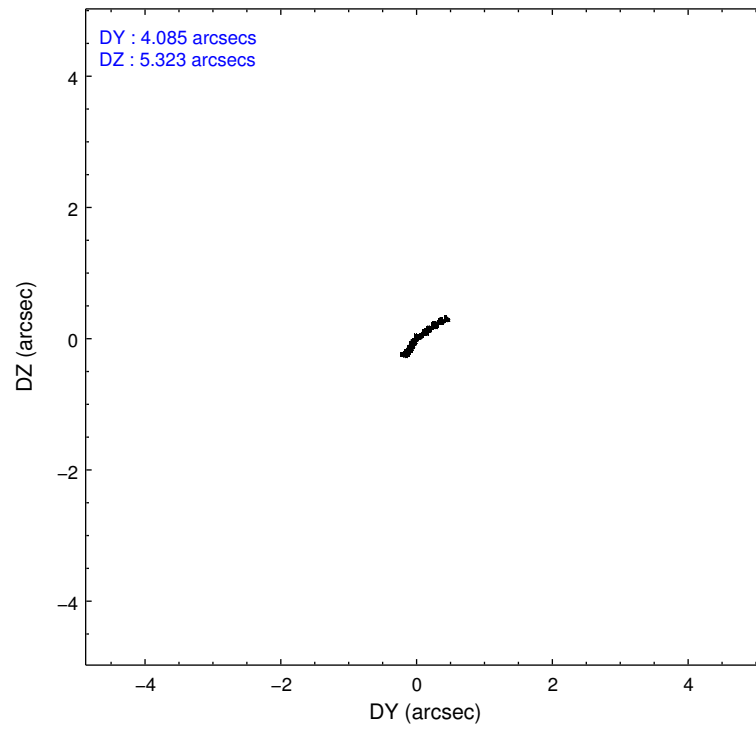
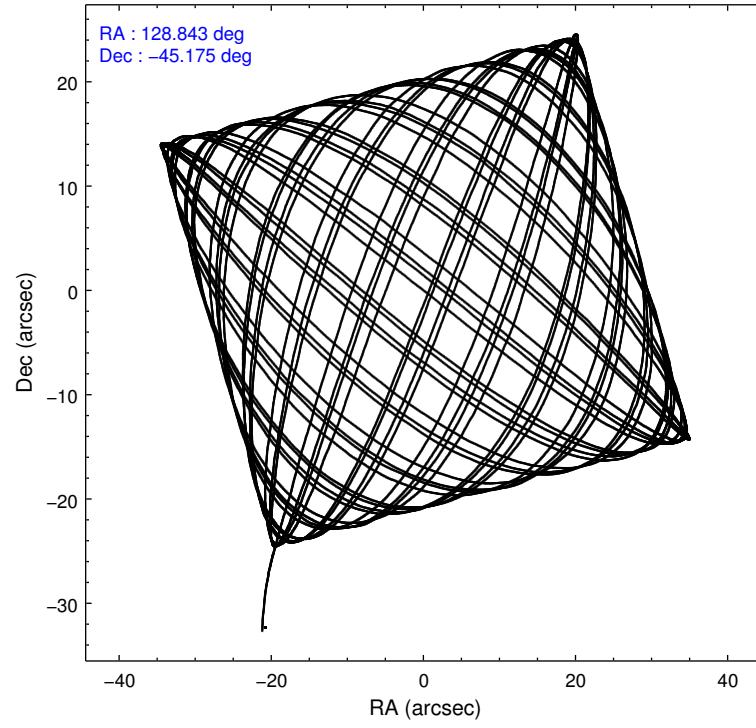
	segment 1	segment 2	segment 3
level 1 events	20126	1156547	18438
rejected events	18495	62555	18437
rejected %	91%	5%	99%

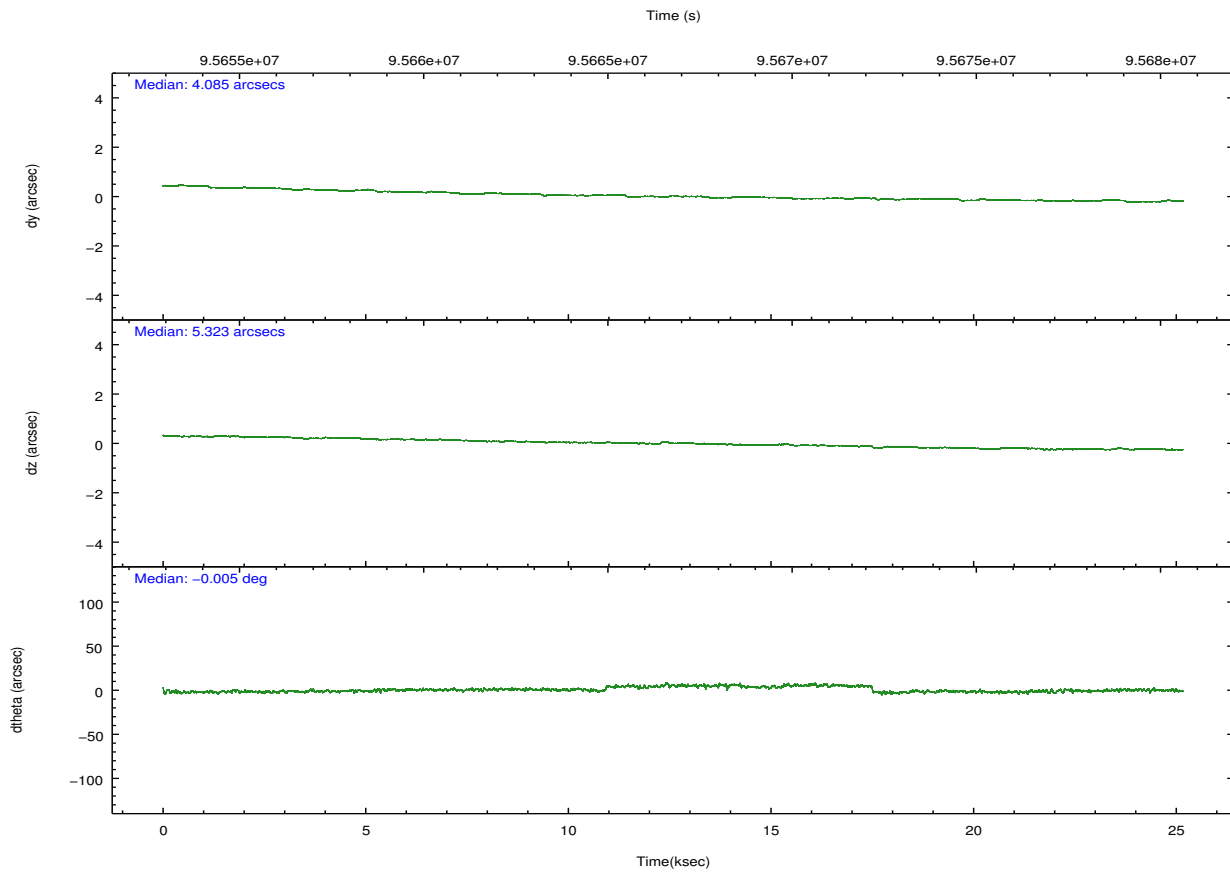
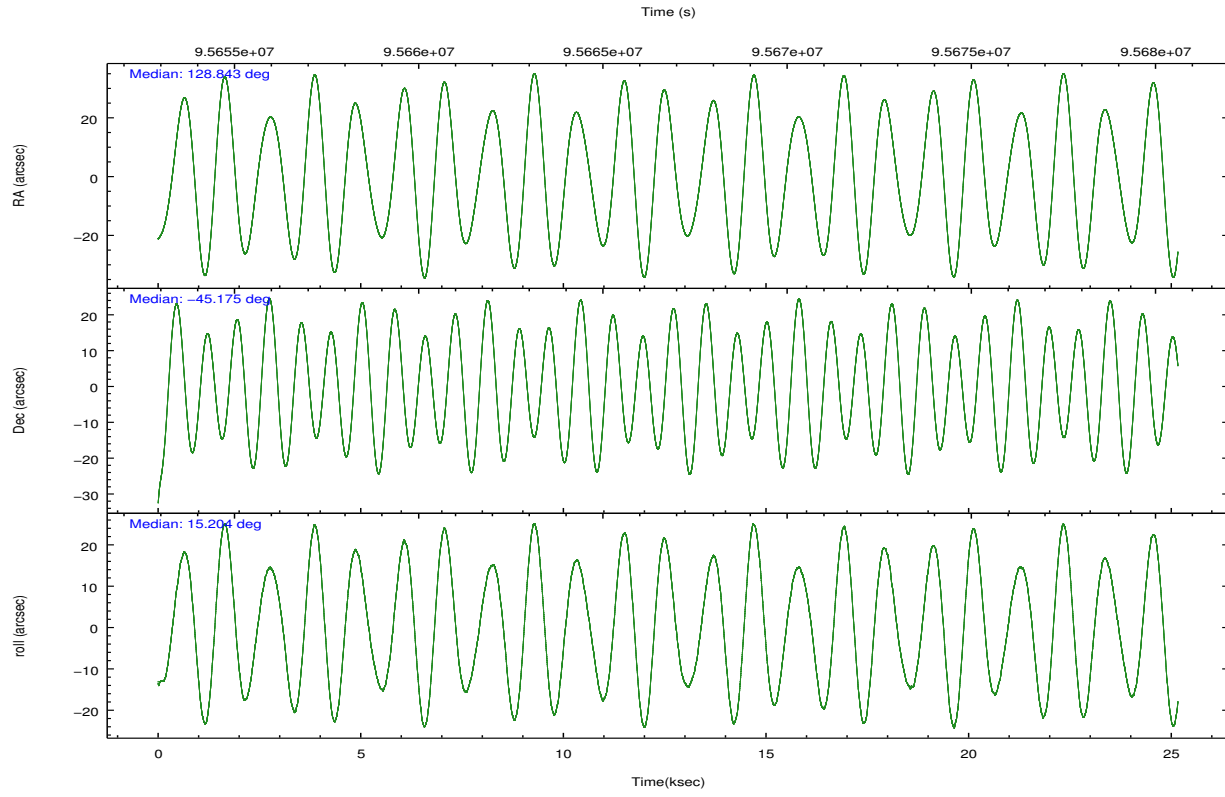
2.2 Compared Parameters

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	128.815164	128.8424556610782
[deg] Pointing Dec	-45.196555	-45.17530697294092
[deg] Pointing Roll	15.123618	15.2103134956983
[deg] Roll angle	5.000000	5.000000
[deg] Roll tolerance	15.000000	15.000000
Roll constraint allows 180D rotation	N	N
[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)	95654349.184000	95653181.66303401
Observation start date	2001-01-12T02:38:05	2001-01-12T02:19:41
[s] Observation end time (MET)	95679349.184000	95680392.33907799
Observation end date	2001-01-12T09:34:45	2001-01-12T09:53:12

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

2.3 Aspect



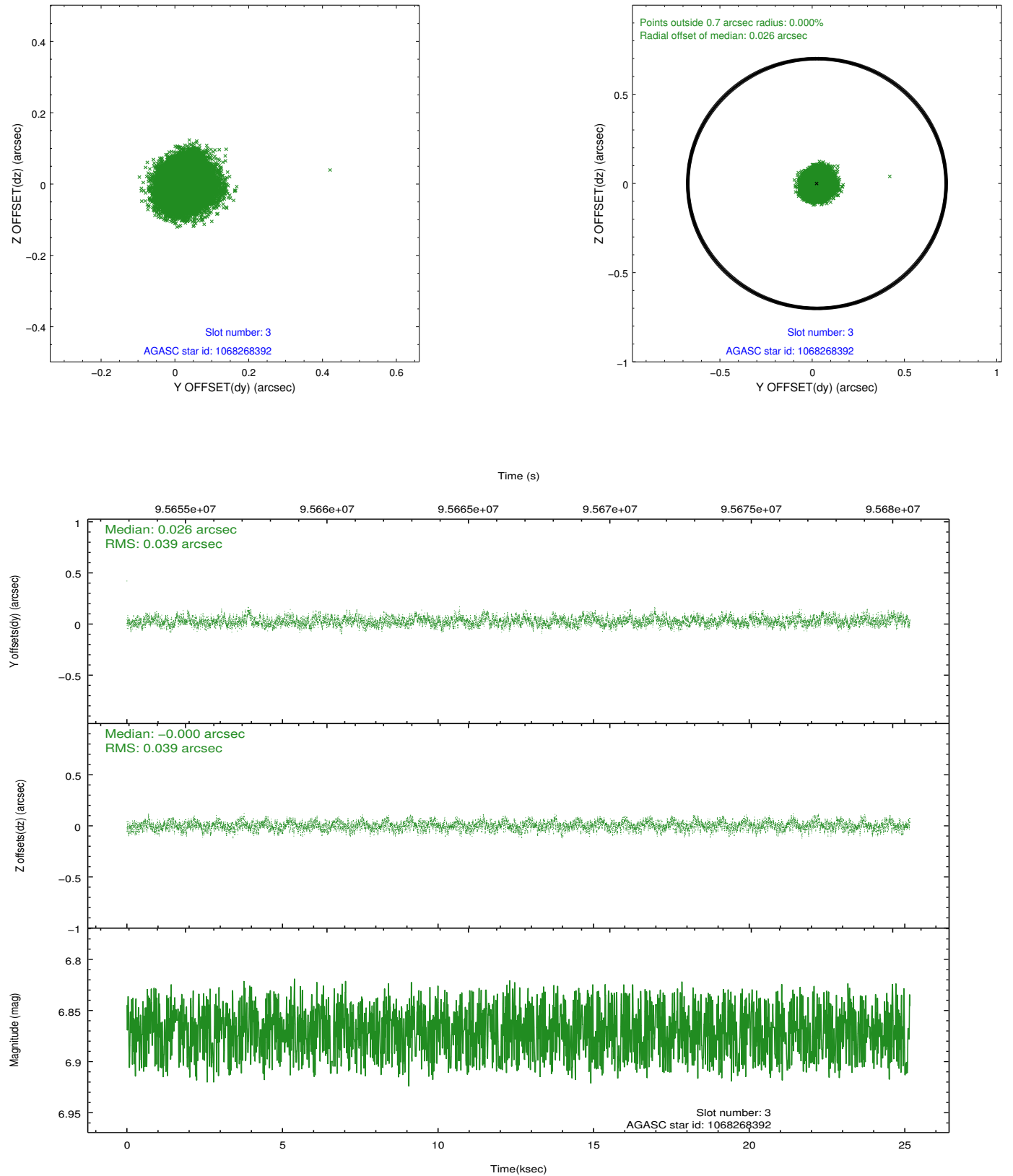


Slot Statistics

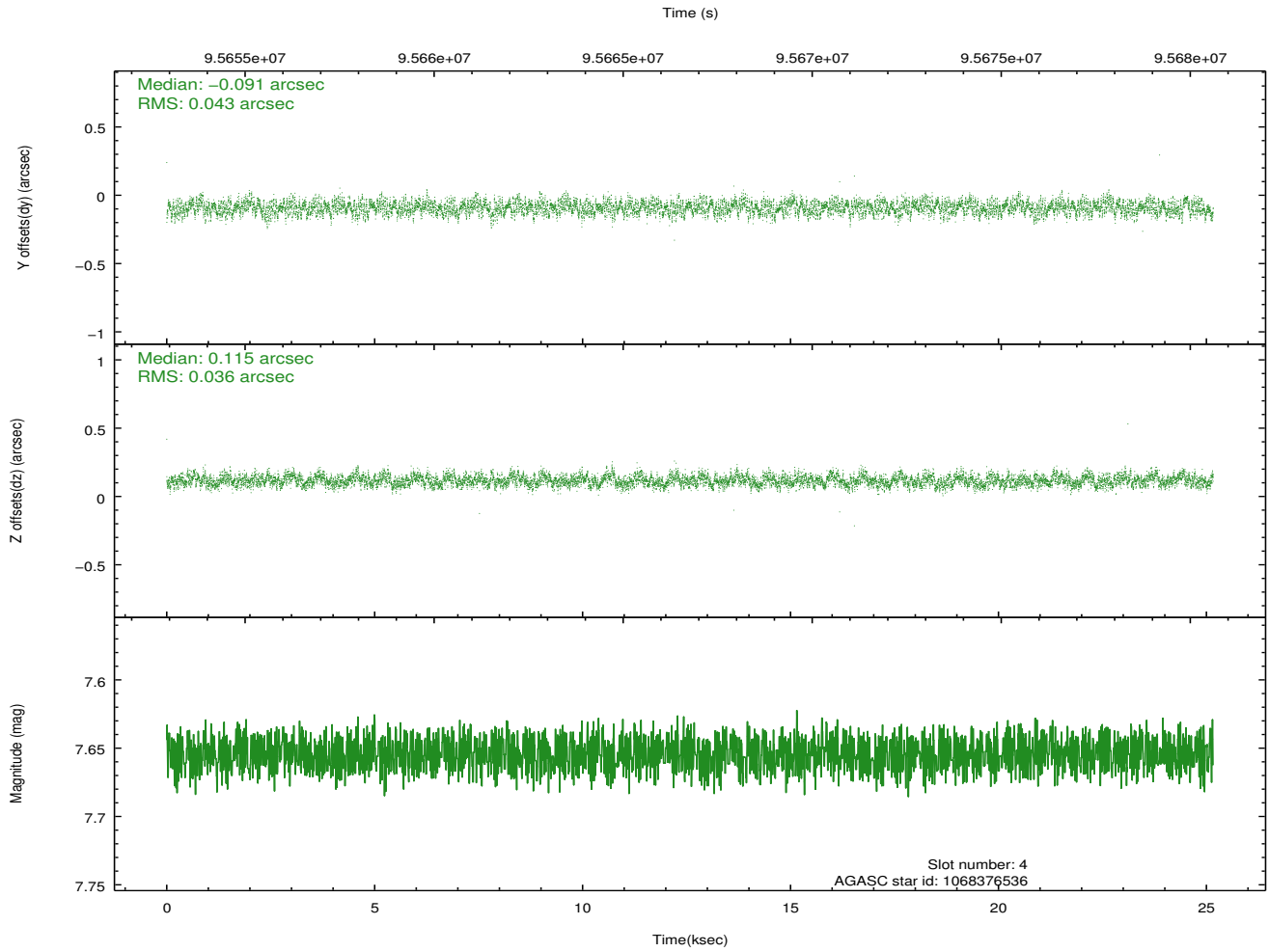
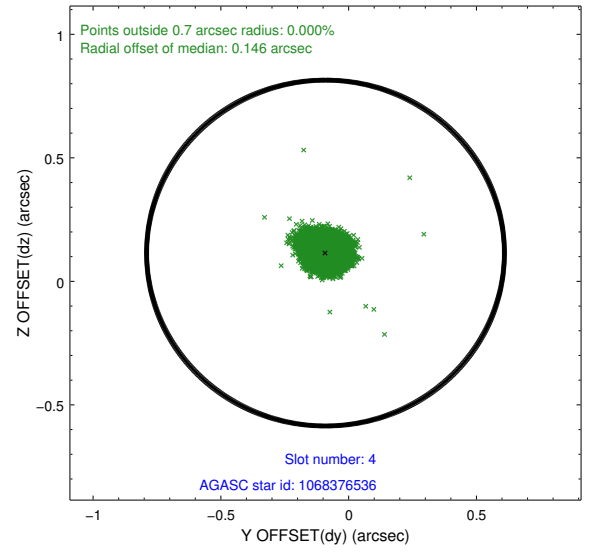
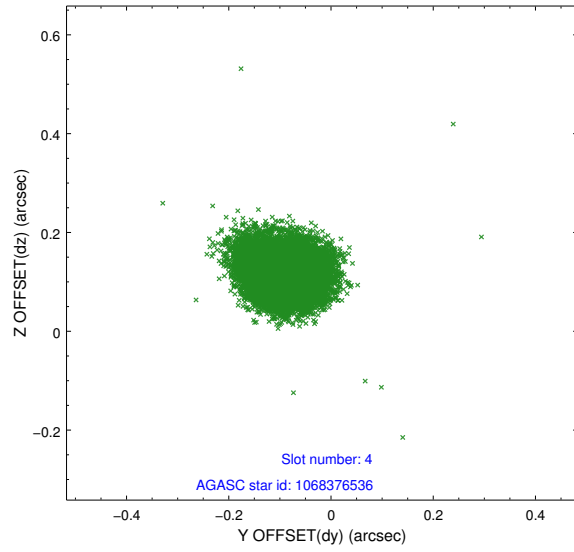
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	HRC-S-1	7.01	6136	0.128	-0.167	0.010	0.016	0.000000	0.000000	-1158.20	-453.90
1	FID	HRC-S-3	7.03	6138	0.171	-0.030	0.014	0.023	0.000000	0.000000	-1161.09	575.70
2	FID	HRC-S-4	6.96	6136	0.088	-0.099	0.007	0.013	0.000000	0.000000	1239.81	578.41
3	GUIDE	1068268392	6.87	12275	0.026	-0.000	0.060	0.091	128.257754	-45.752904	-1875.46	-1573.27
4	GUIDE	1068376536	7.65	12275	-0.091	0.115	0.059	0.094	129.556408	-45.593502	1427.37	-1874.98
5	GUIDE	1005855016	8.33	12273	-0.052	-0.062	0.051	0.084	129.483009	-44.485796	2321.36	2015.77
6	GUIDE	1068239704	8.57	12269	0.106	0.033	0.058	0.096	129.331182	-45.207211	1252.59	-382.36
7	GUIDE	1005868872	9.14	12270	0.011	-0.085	0.088	0.141	128.945114	-44.744416	745.18	1484.21

2.4 Star Slots

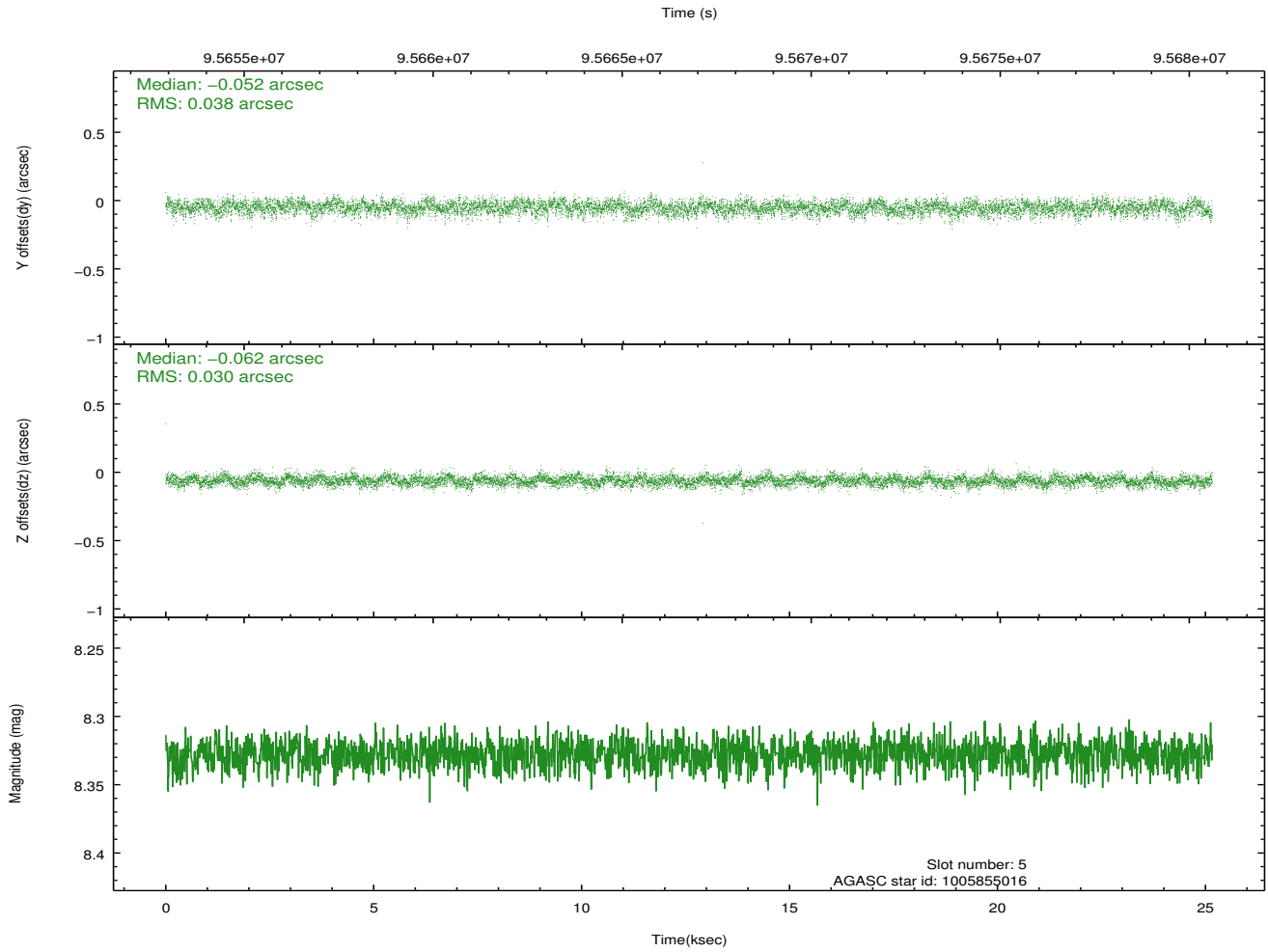
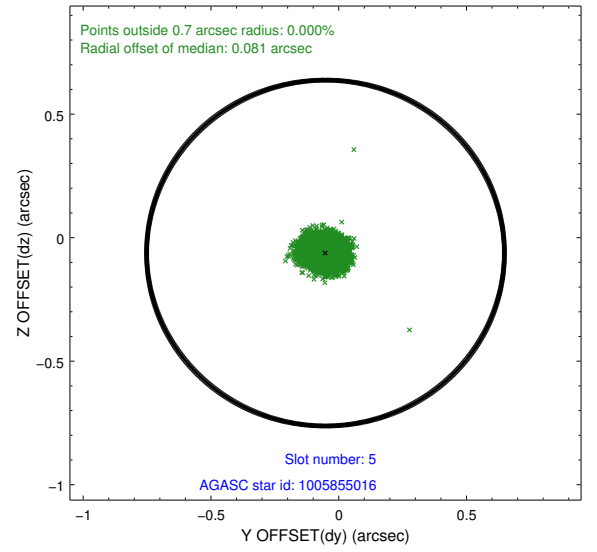
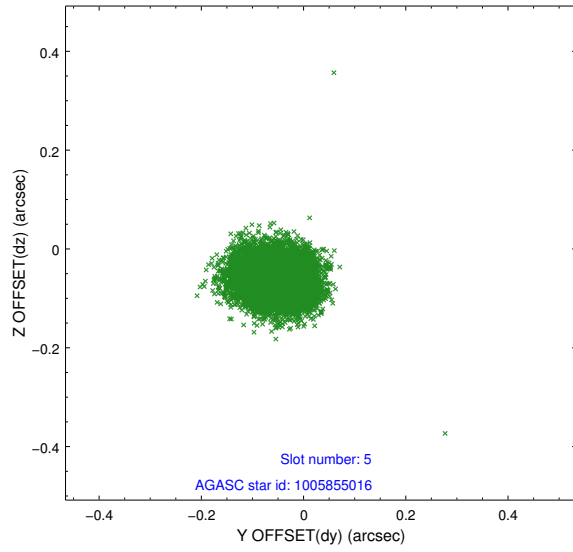
2.4.1 Slot 3



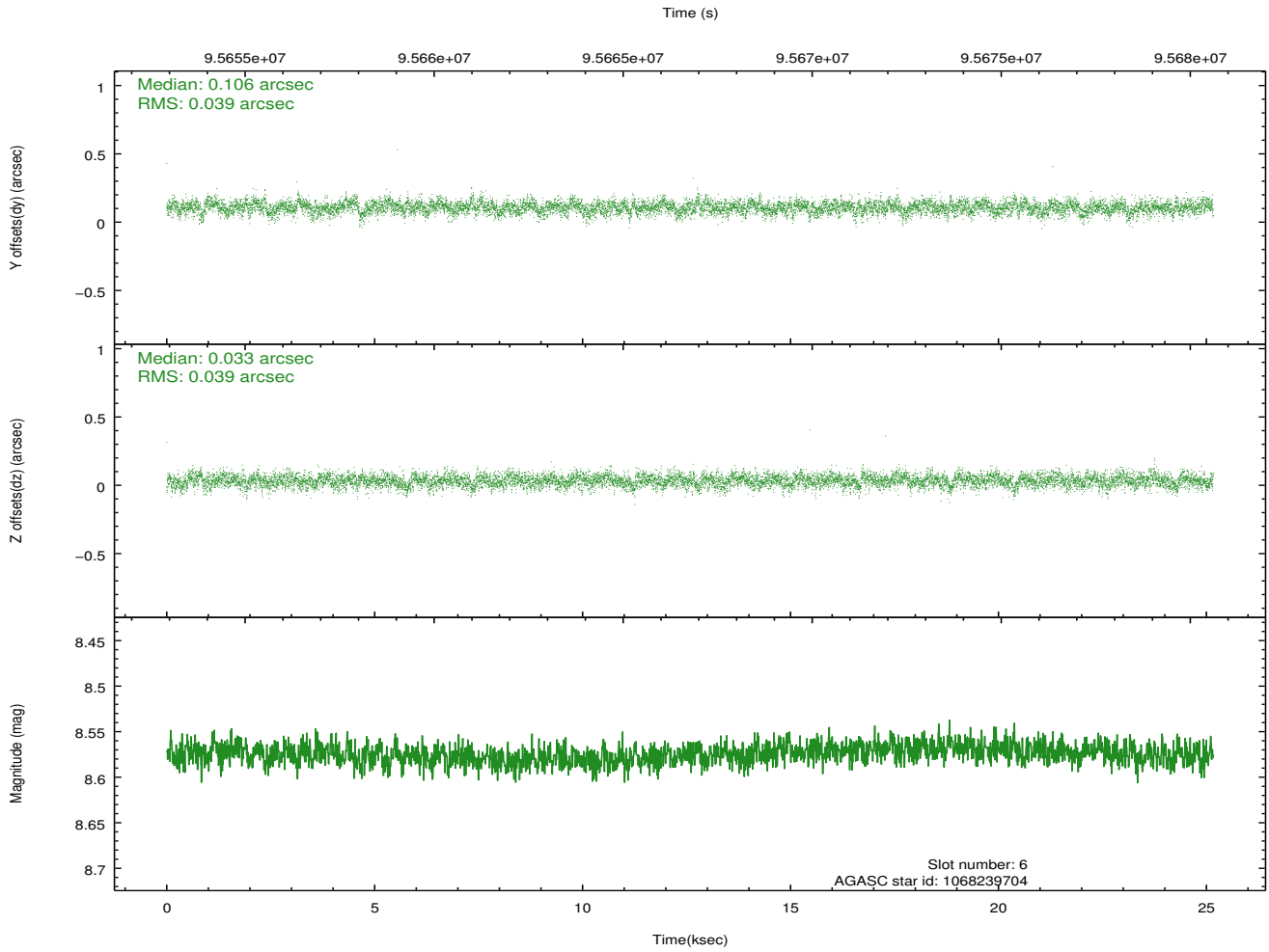
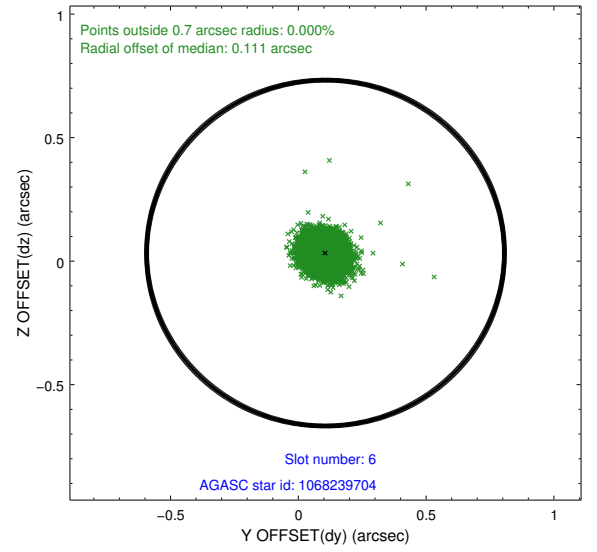
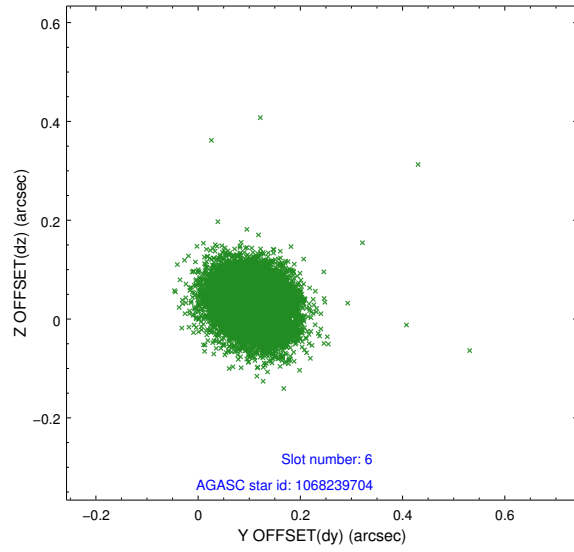
2.4.2 Slot 4



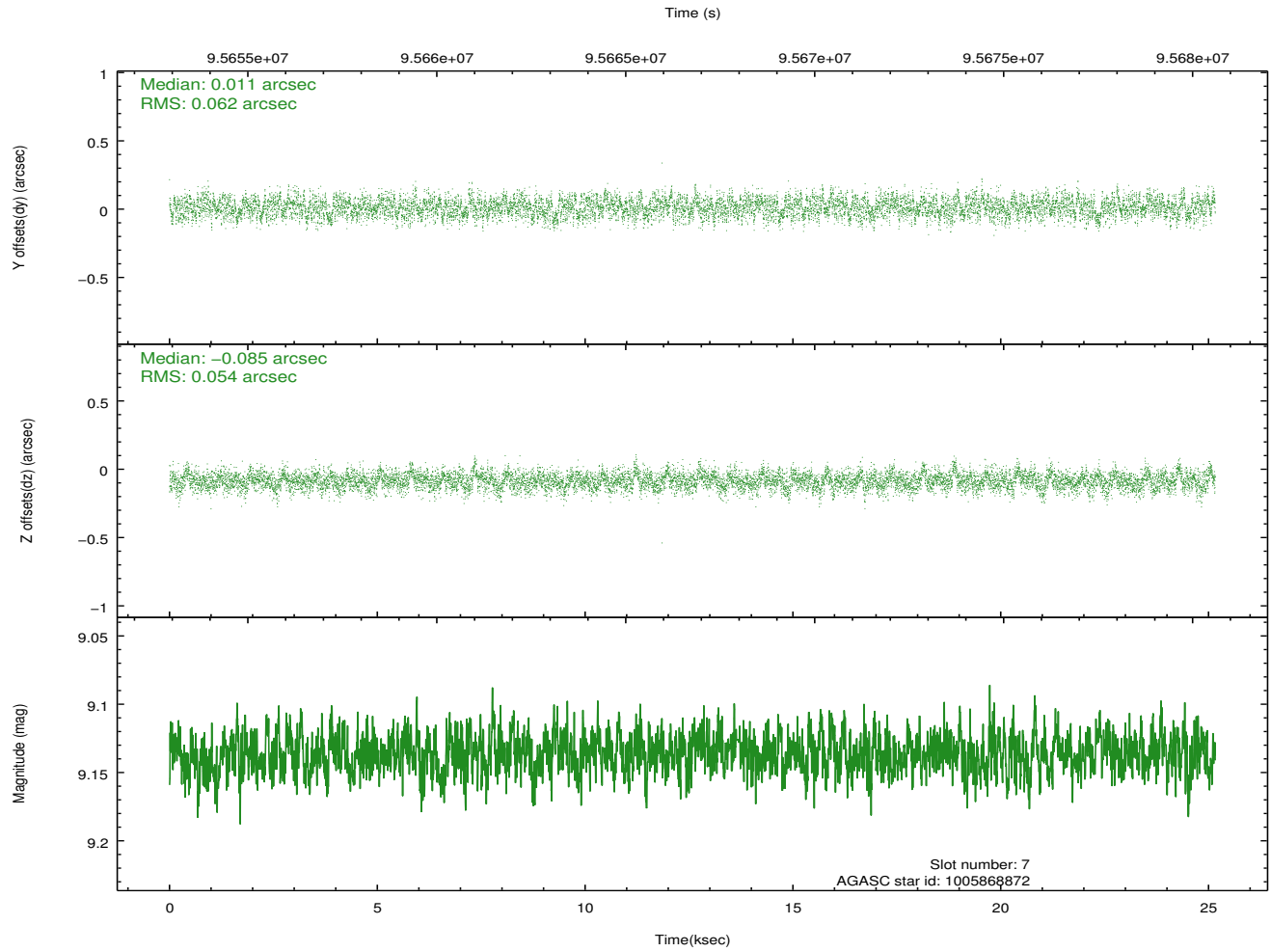
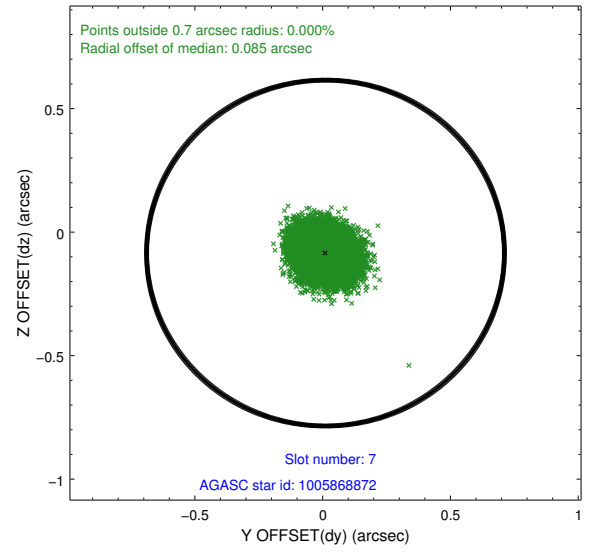
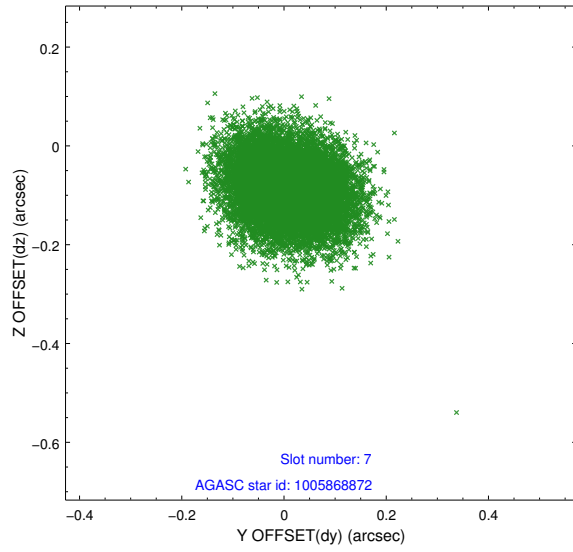
2.4.3 Slot 5



2.4.4 Slot 6

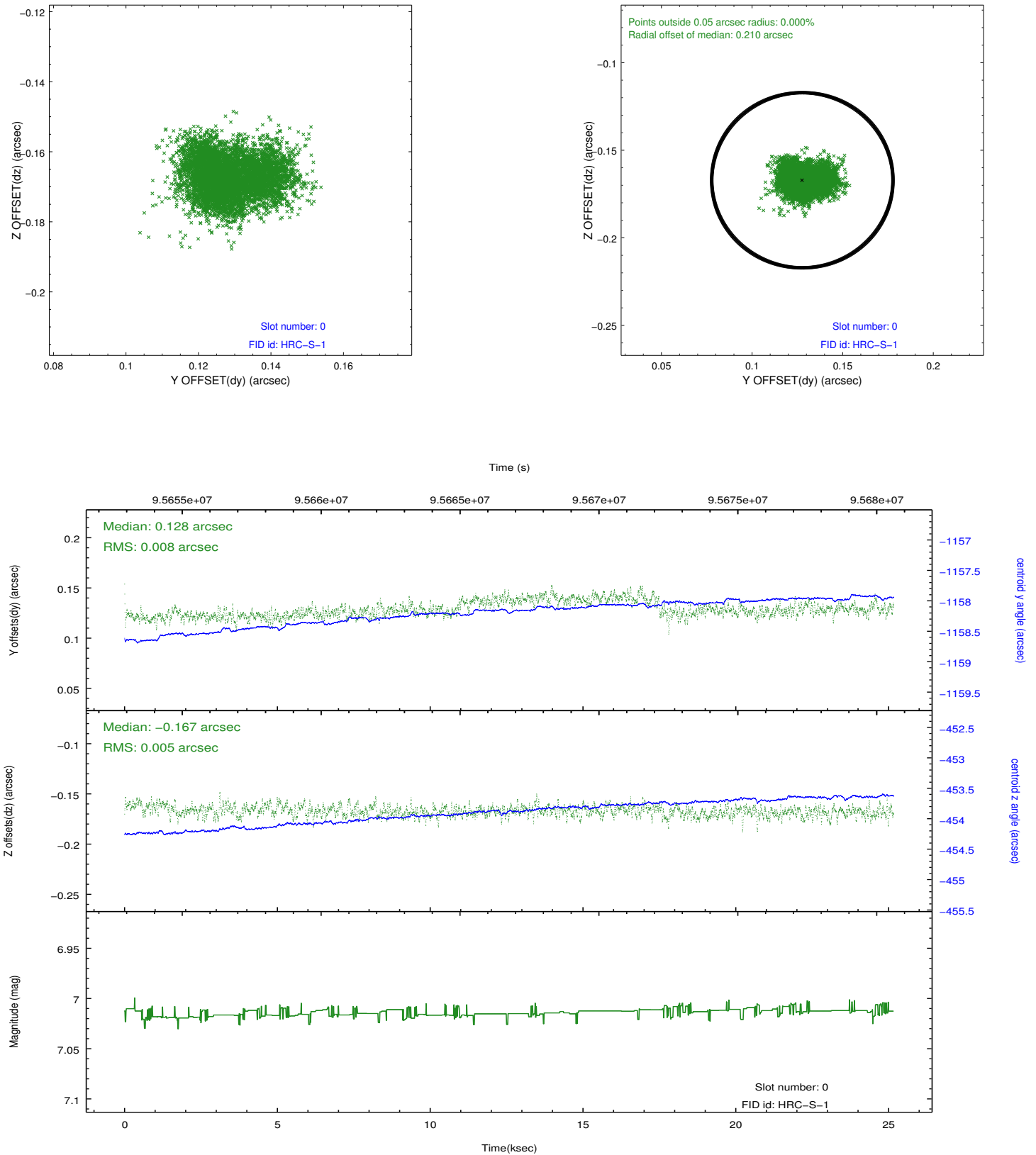


2.4.5 Slot 7

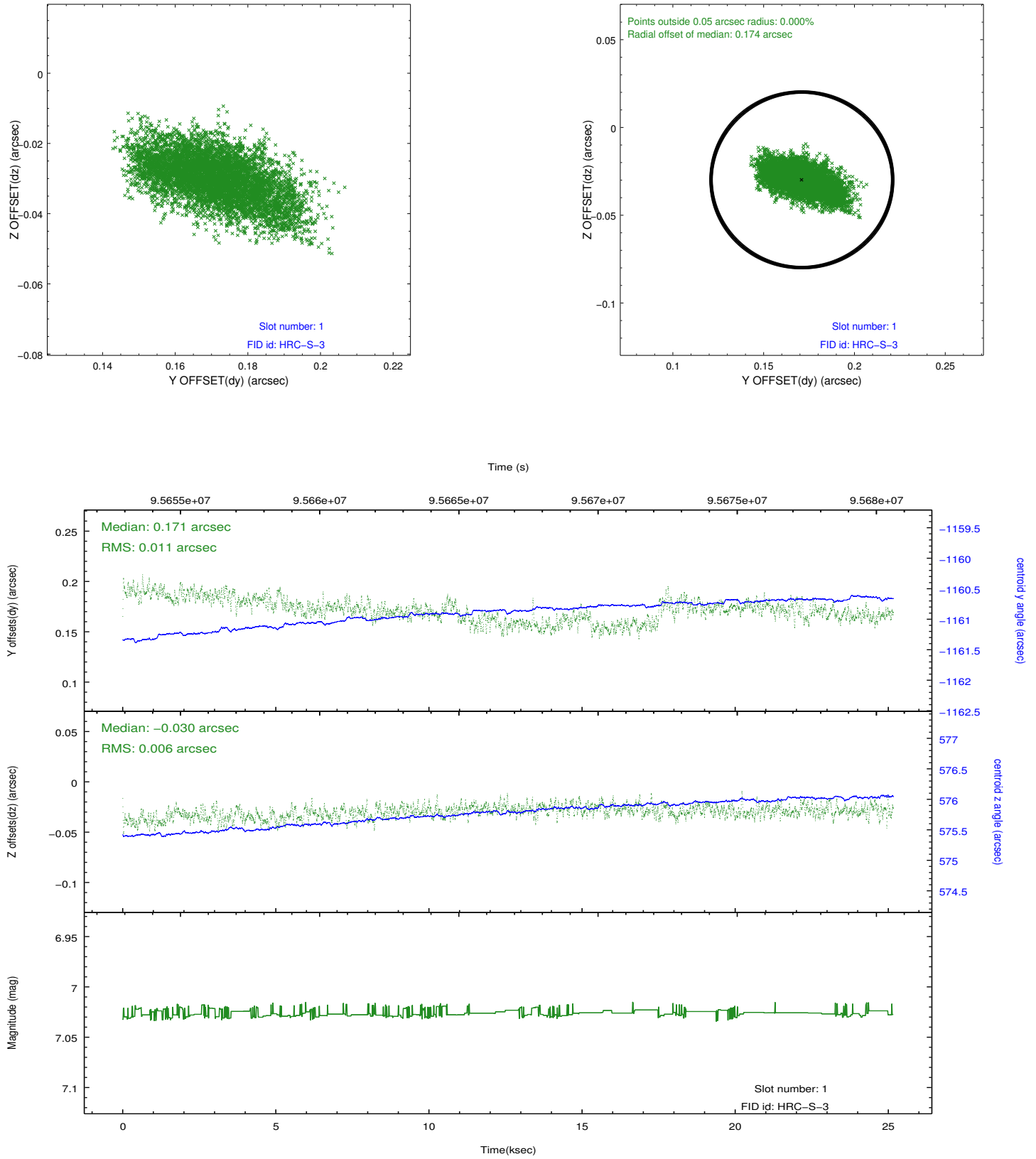


2.5 FID Slots

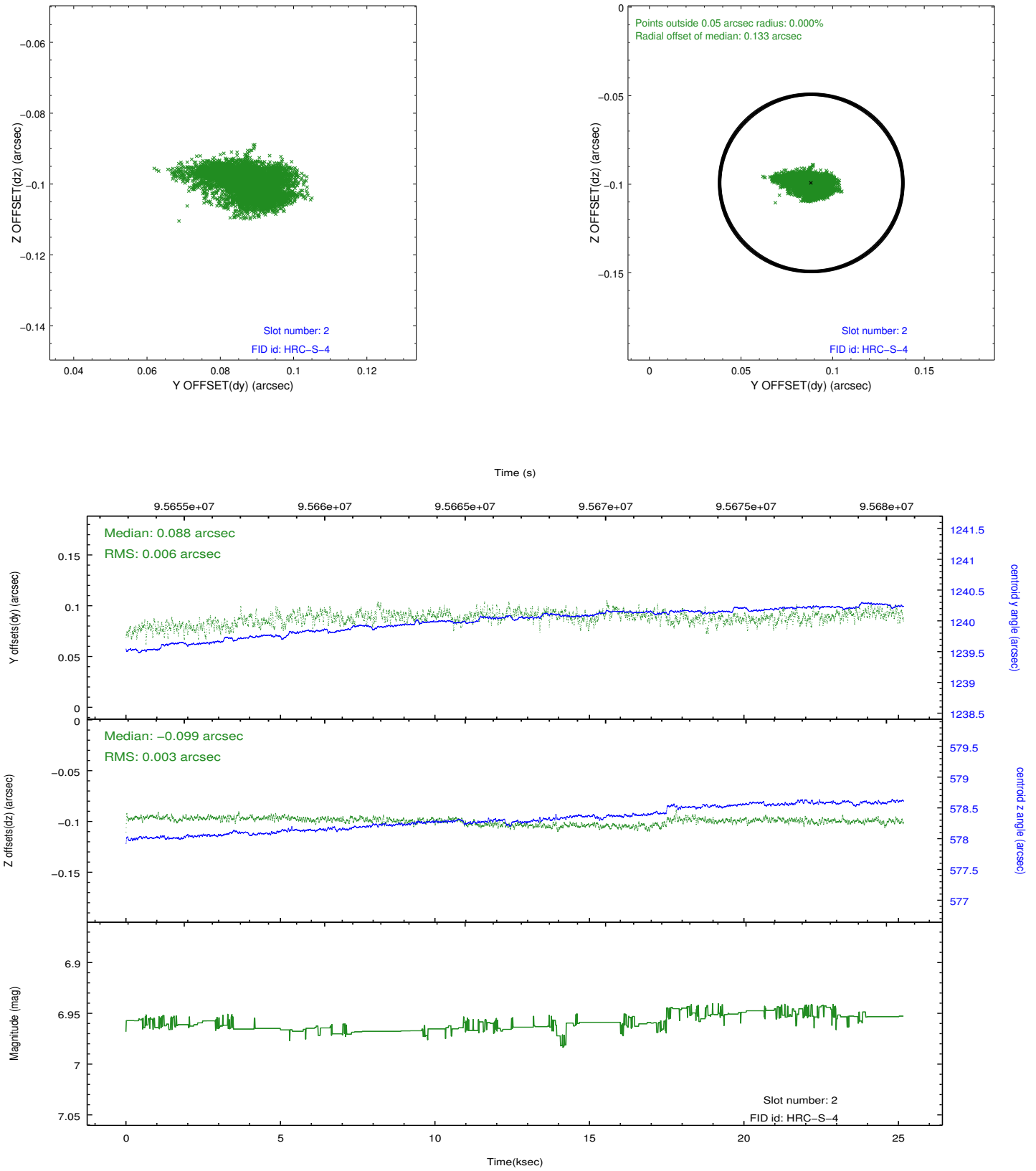
2.5.1 Slot 0



2.5.2 Slot 1

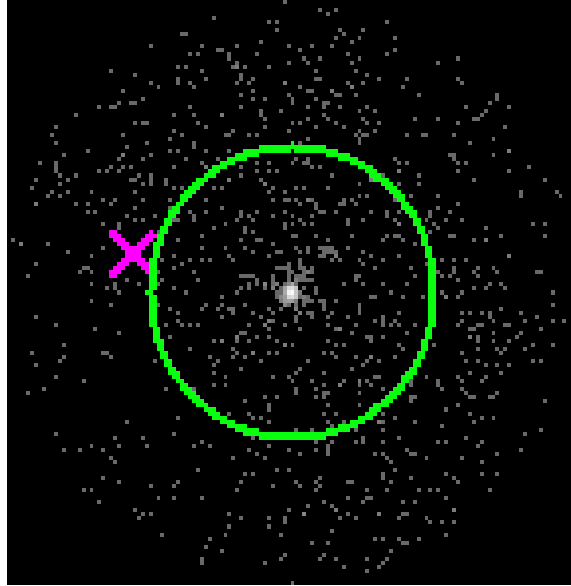


2.5.3 Slot 2

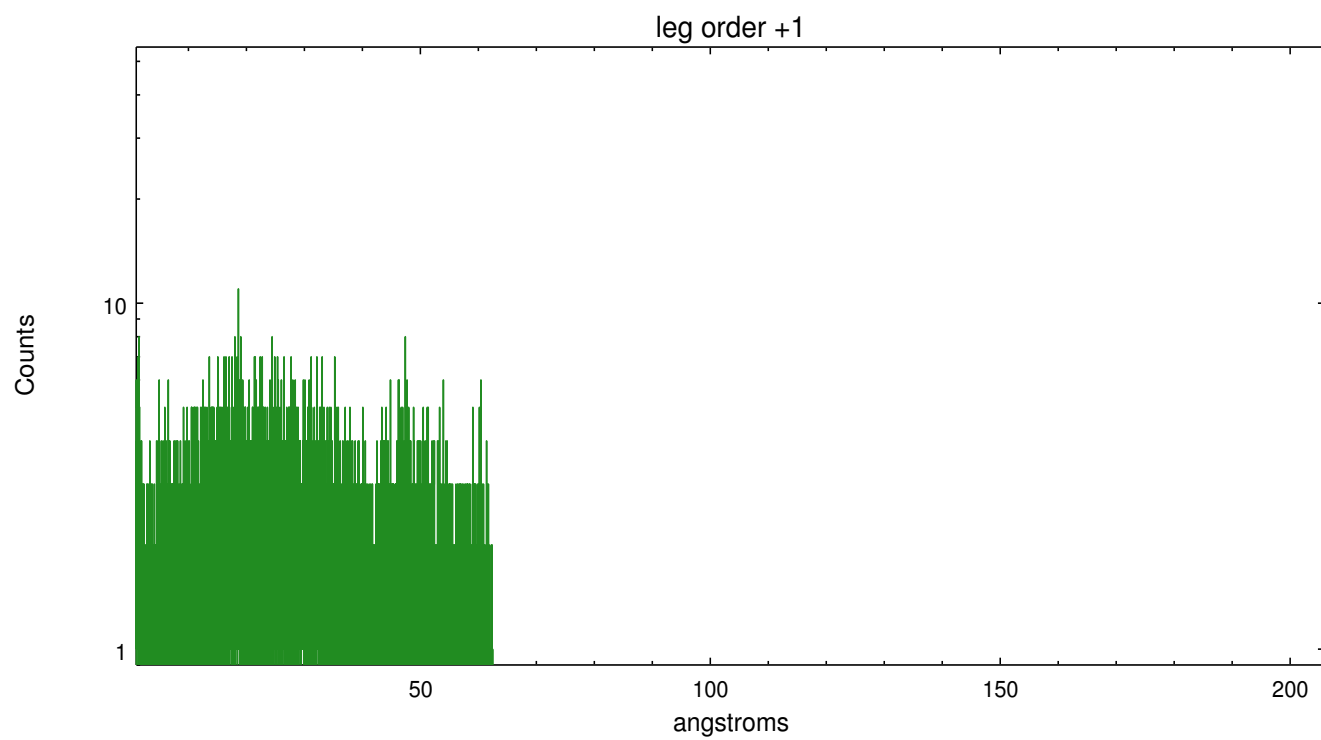
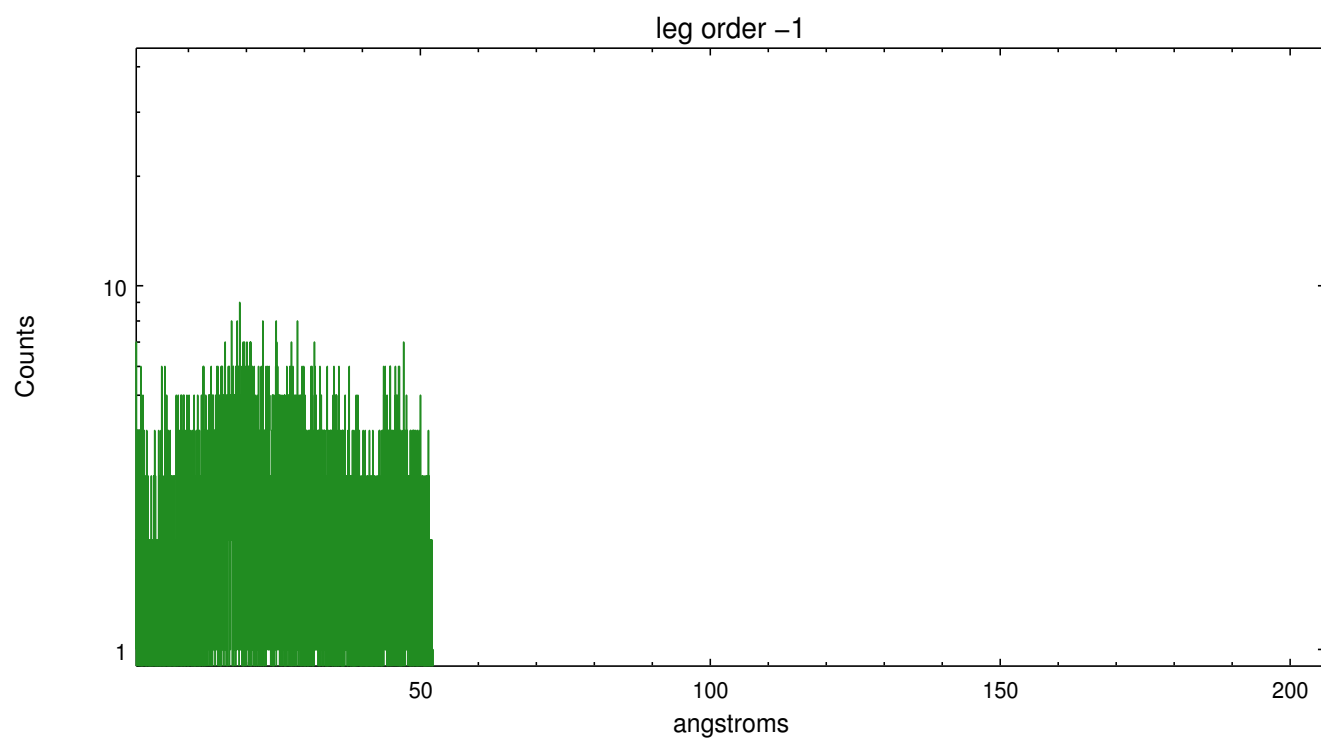


3 Gratings

3.1 LETG Arm



LETG Zero Order



A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.09.12
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	25.148

A.2 Comments

Roll constraint met. Only center segment of HRC-S used in this observation.

===

Vela pulsar has an associated wind nebula, making this an extended source.

The pulsar is a point source with a well-defined dispersed spectrum. However,

extended nebular emission overlays the dispersed spectrum and will make background determination complex.

WARNING: there are no standard ciao tools for analysis of grating spectra from extended sources. The shape of an emission 'line' will be the shape of the zero order spatial structure convolved with the instrumental LSF. Grating extractions can be used, but need to be combined with custom spatial-spectral analysis, since wavelength is multi-valued at any particular diffraction angle.