

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 13422 - L2 Version 2  
Chandra X-Ray Center

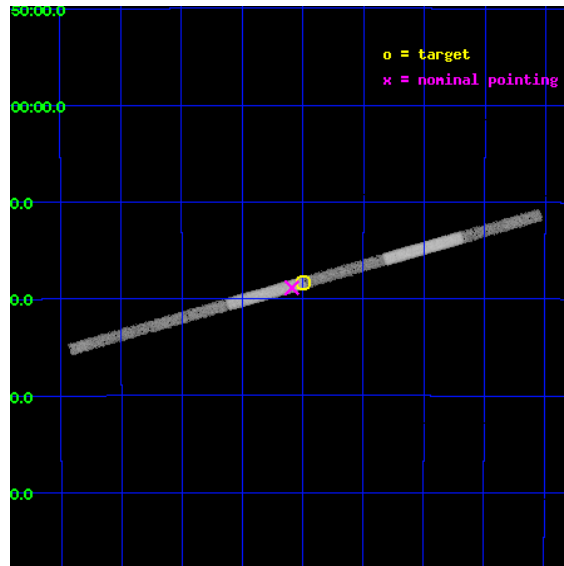
L2 Processing Date : Feb 13 2012

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# 1 Front

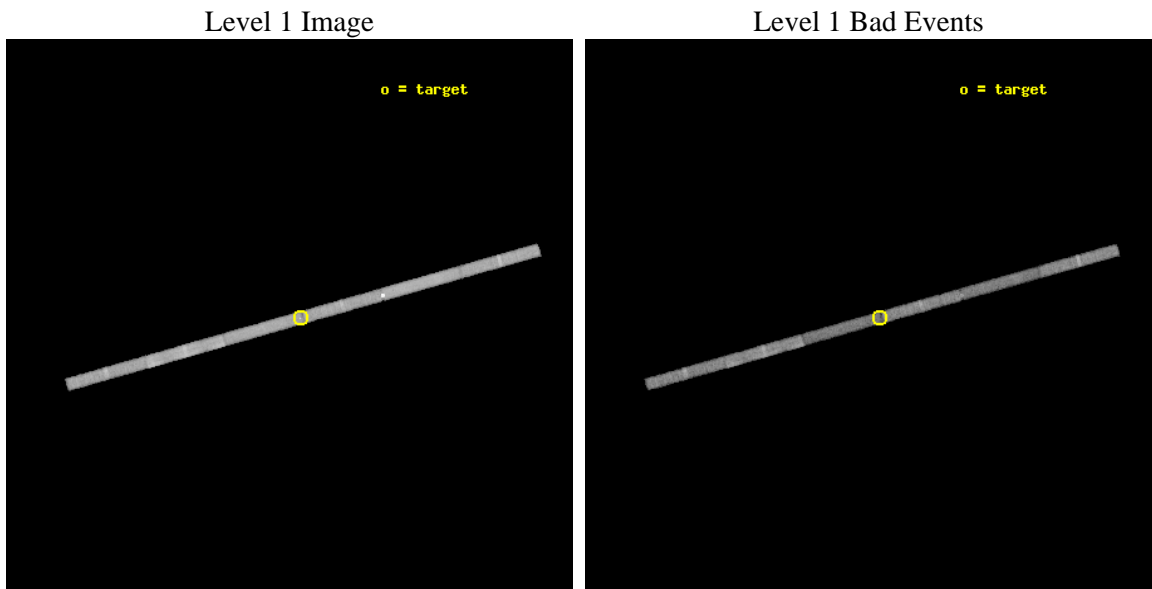
seq_num	200685	Sequence number
obs_id	13422	Observation id
title	Understanding the weak winds: high-resolution Chandra spectroscopy of mu Col	Proposal title
observer	Dr. Lidia Oskinova	Principal investigator
object	mu Col	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	86.499583	Observer's specified target RA [deg]
dec_targ	-32.306444	Observer's specified target Dec [deg]
ra_nom	86.522488369271	Nominal RA [deg]
dec_nom	-32.314662618818	Nominal Dec [deg]
roll_nom	164.1688771118	Nominal Roll [deg]
revision	2	Processing version of data
ontime	30064.999487936	Sum of GTIs [s]
livetime	28399.950935922	Livetime [s]
ontime4	30064.999487936	Sum of GTIs [s]
ontime5	30064.989103794	Sum of GTIs [s]
ontime6	30064.948063791	Sum of GTIs [s]
ontime7	30064.999487936	Sum of GTIs [s]
ontime8	30064.907023787	Sum of GTIs [s]
ontime9	30064.865983784	Sum of GTIs [s]
l2events	42213	Number of level 2 events



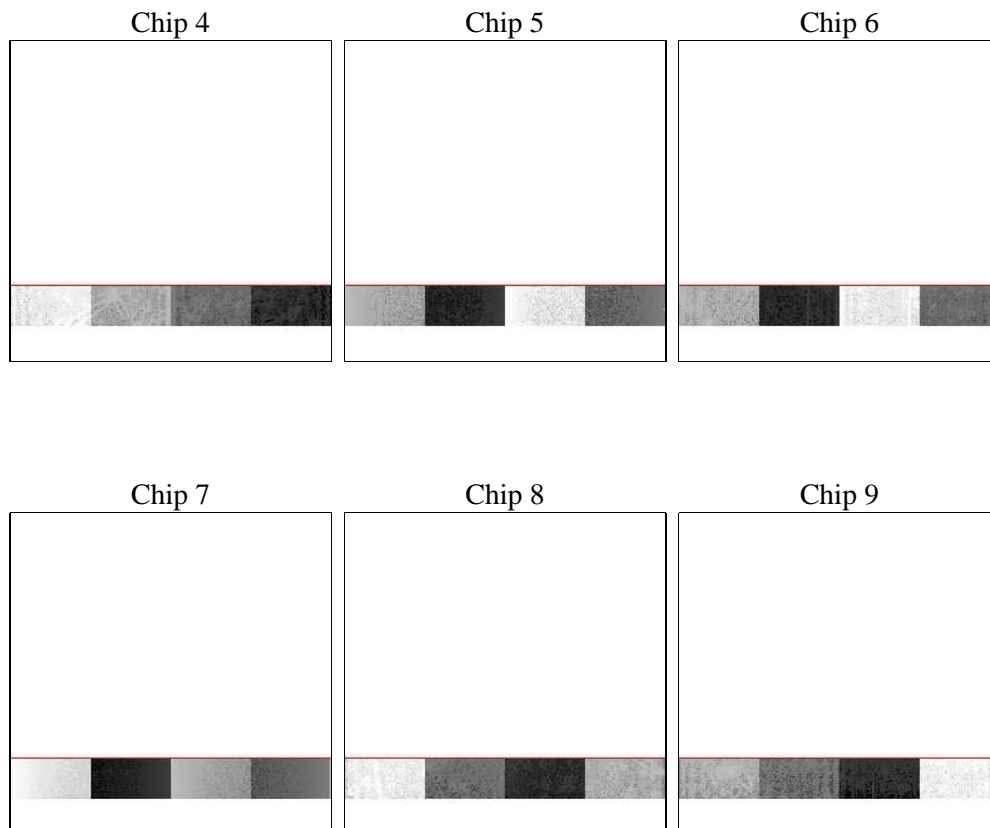
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	30000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	30064.999487936	Sum of GTIs [s]
caldbver	4.4.7	&#160	ontime4	30064.999487936	Sum of GTIs [s]
date	2012-02-13T12:14:39	Date and time of file creation	ontime5	30064.989103794	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	30064.948063791	Sum of GTIs [s]
			ontime7	30064.999487936	Sum of GTIs [s]
			ontime8	30064.907023787	Sum of GTIs [s]
			ontime9	30064.865983784	Sum of GTIs [s]
			l1events	196673	Number of level 1 events

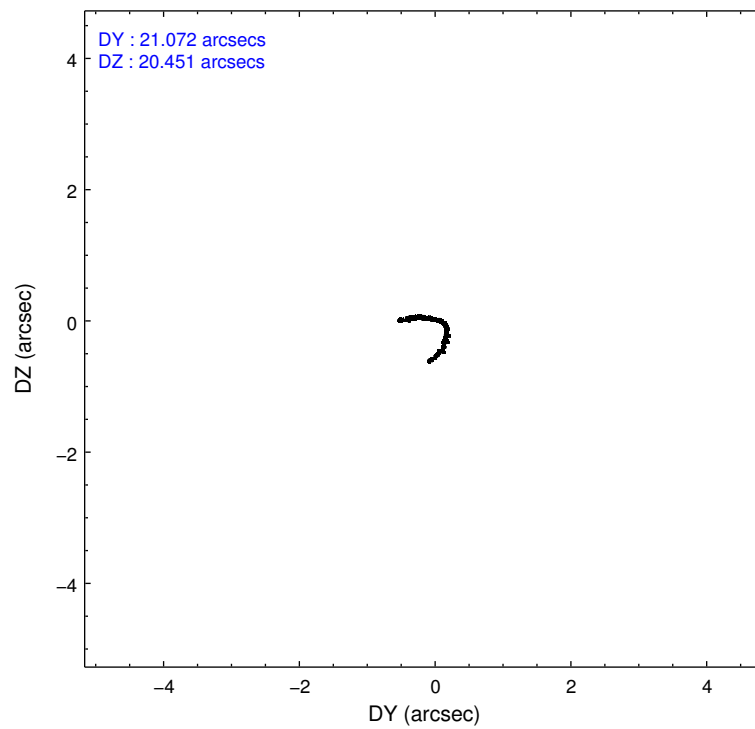
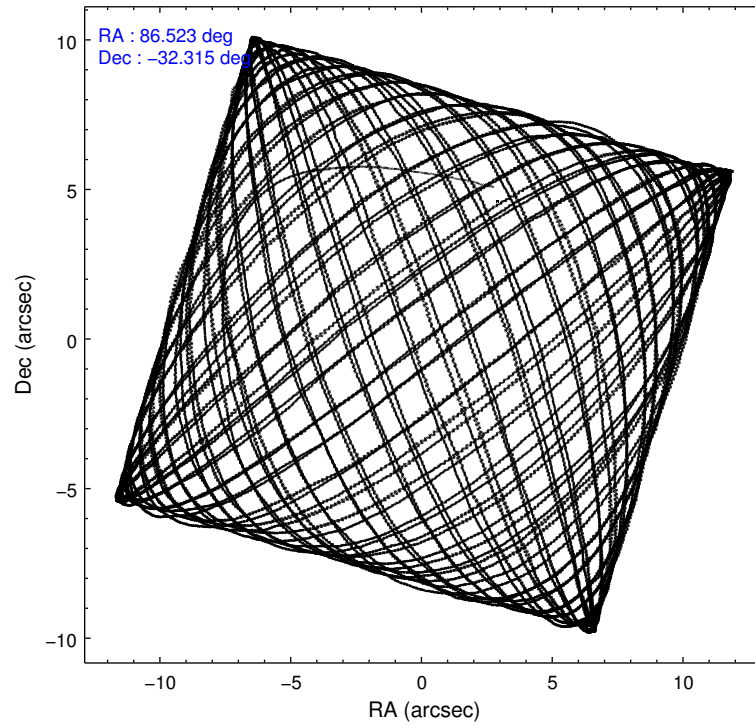
### 2.1.4 Events

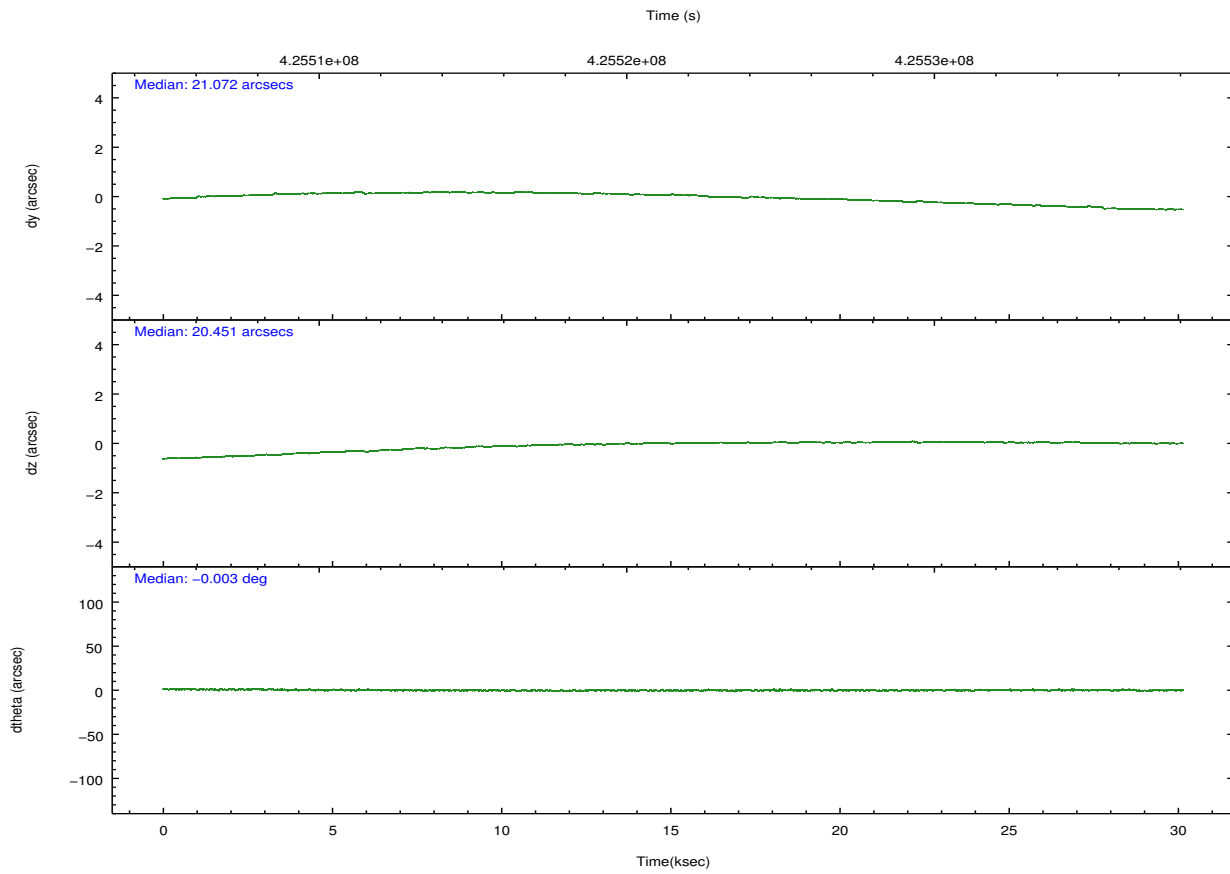
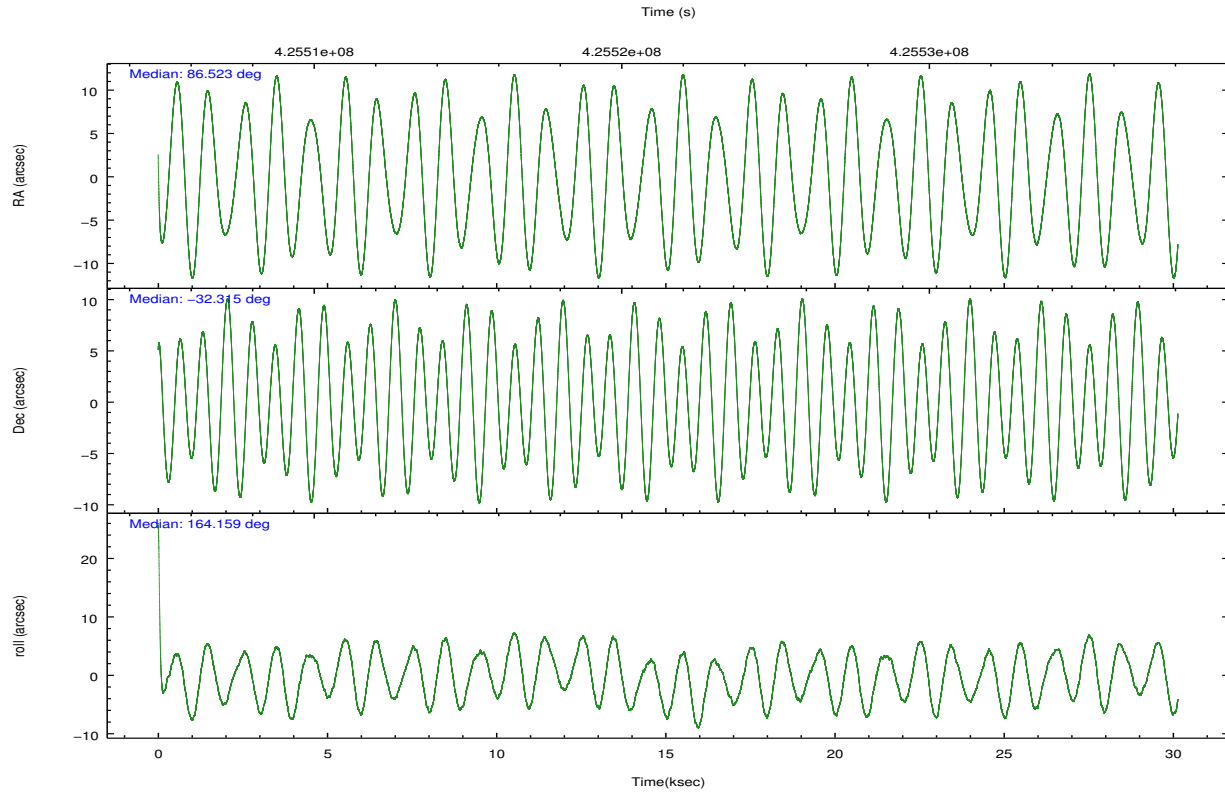
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	31105	42386	27723	29675	40206	25578	grade 0 events	1264	6270	899	1461	2414	996
rejected events	27366	17457	24481	15595	30589	22367		4%	14%	3%	4%	6%	3%
rejected %	87%	41%	88%	52%	76%	87%	grade 1 events	14	338	4	28	21	7
								0%	0%	0%	0%	0%	0%
							grade 2 events	792	5047	658	2896	1923	568
								2%	11%	2%	9%	4%	2%
							grade 3 events	529	2271	579	1593	1213	542
								1%	5%	2%	5%	3%	2%
							grade 4 events	539	2528	530	1497	1098	539
								1%	5%	1%	5%	2%	2%
							grade 5 events	959	3397	1004	3035	1515	995
								3%	8%	3%	10%	3%	3%
							grade 6 events	615	8813	576	6633	2969	566
								1%	20%	2%	22%	7%	2%
							grade 7 events	26393	13722	23473	12532	29053	21365
								84%	32%	84%	42%	72%	83%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-456789	ACIS-456789	Obspar file type	PREDICTED	ACTUAL
Grating	LETG	LETG	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	86.553754	86.52248836927137	CCD I2 on	N	N
[deg] Pointing Dec	-32.307603	-32.31466261881837	CCD I3 on	N	N
[deg] Pointing Roll	164.028959	164.1688771118012	CCD S0 on	O2	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-182.132523	-182.1370004450064	CCD S3 on	Y	Y
[mm] SIM translation stage offset	-8	-7.995522138001405	CCD S4 on	Y	Y
[s] Observation start time (MET)	425506567.184000	425505208.13969	CCD S5 on	O1	Y
Observation start date	2011-06-26T20:15:01	2011-06-26T19:53:28	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	425536567.184000	425537575.59138	On-chip summing requested	N	N
Observation end date	2011-06-27T04:35:01	2011-06-27T04:52:55	Subarray requested	CUSTOM	1/8
Read mode	TIMED	TIMED	Subarray start row	113	113
			Subarray row count	128	128
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	0.7

## 2.3 Aspect



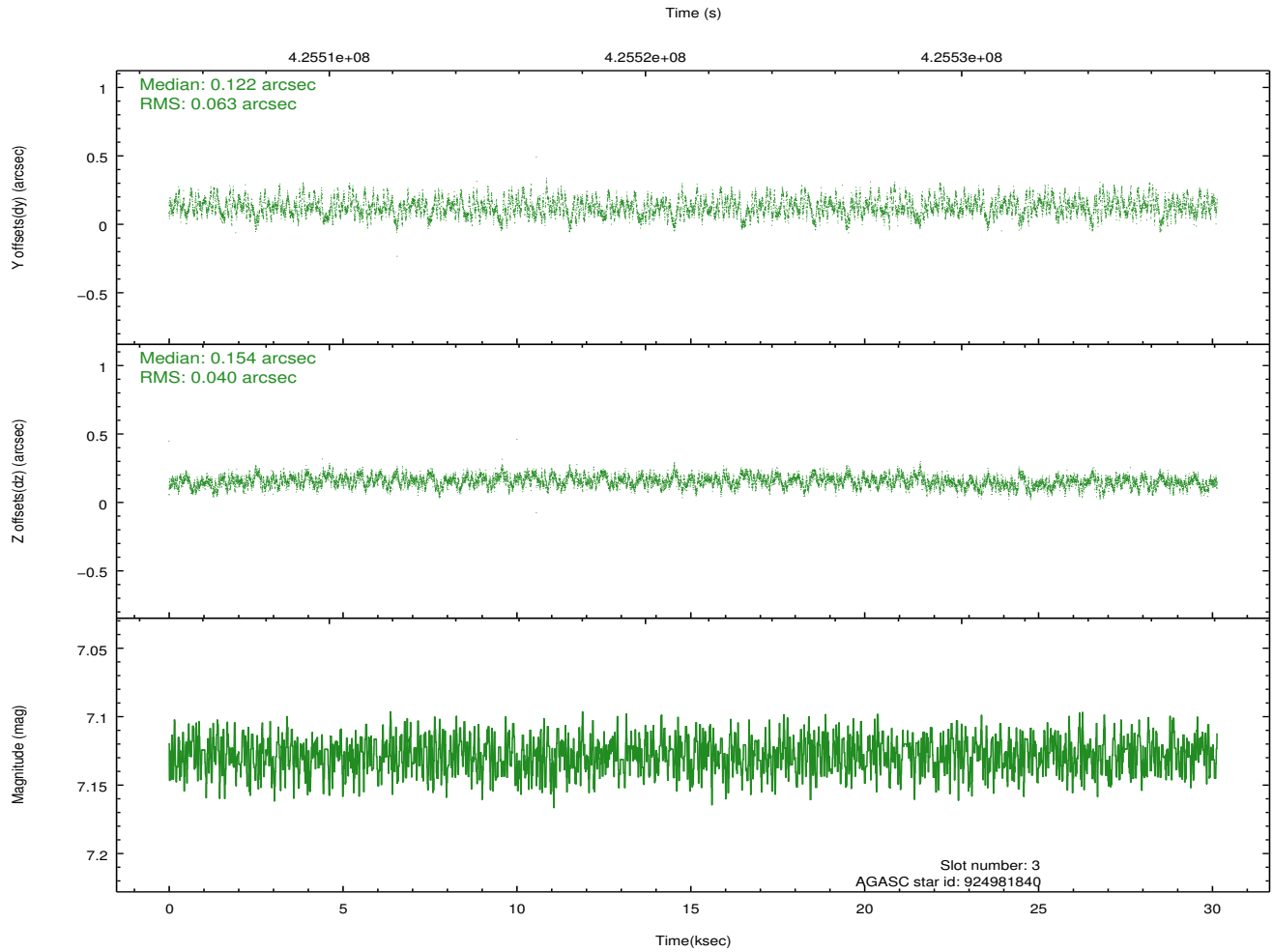
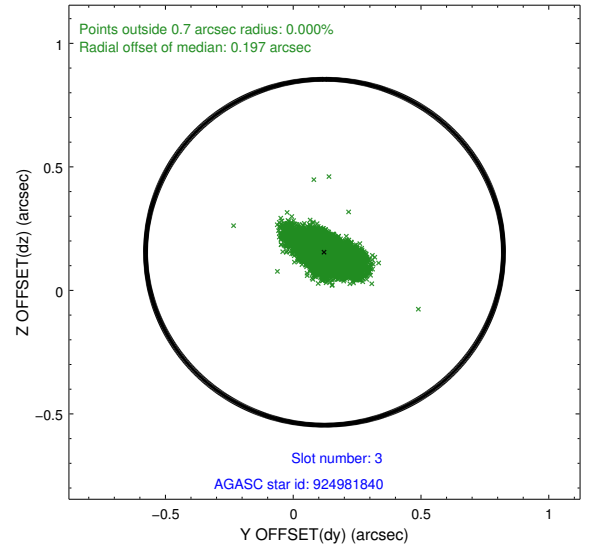
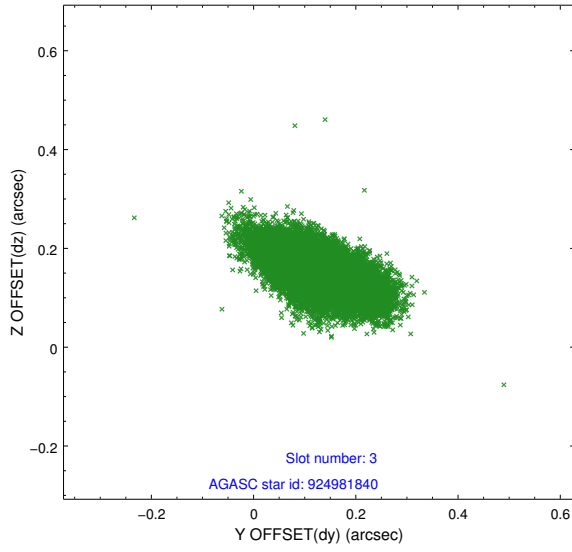


### Slot Statistics

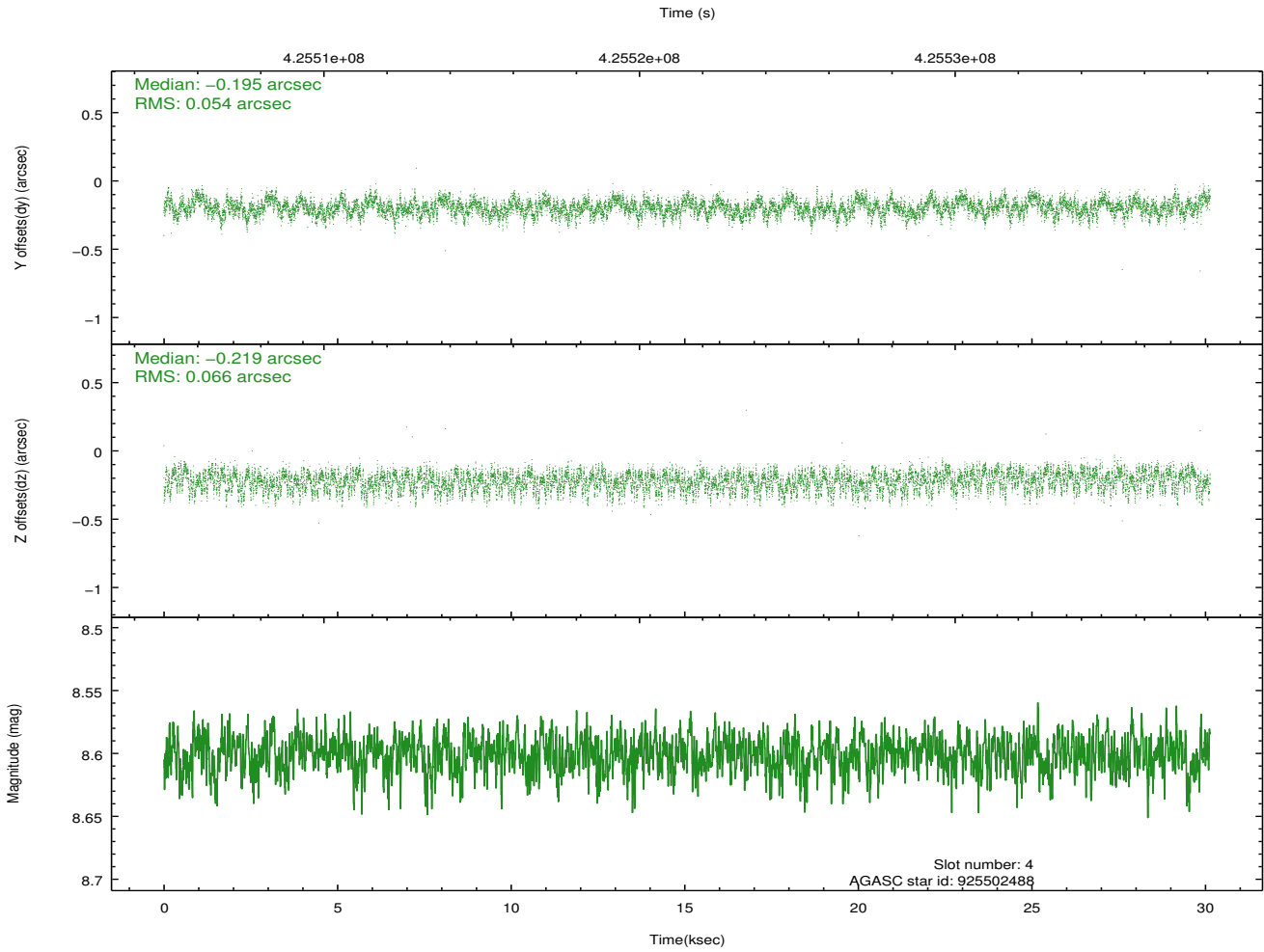
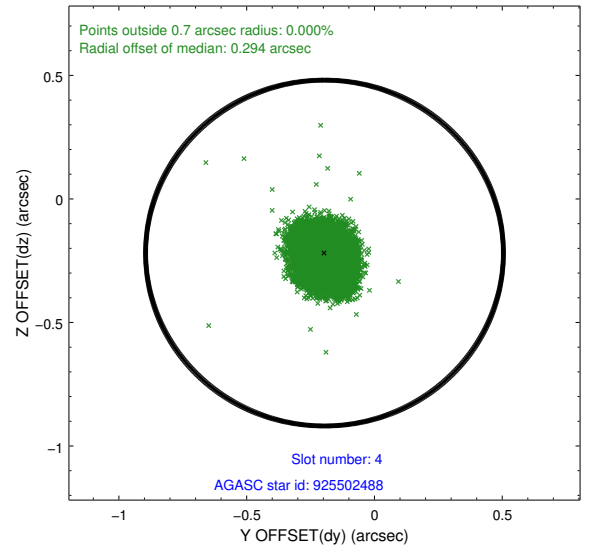
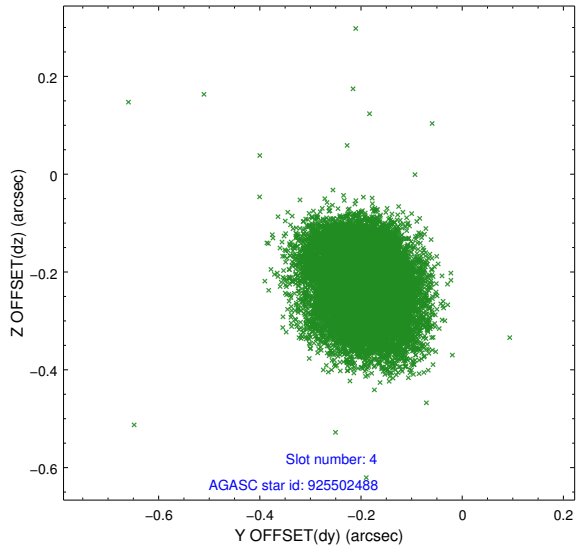
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	6.97	7352	0.076	0.159	0.011	0.018	0.000000	0.000000	922.48	-1902.08
1	FID	ACIS-S-2	6.87	7352	-0.235	-0.165	0.013	0.022	0.000000	0.000000	-773.70	-1906.99
2	FID	ACIS-S-4	6.94	7352	0.135	0.011	0.009	0.016	0.000000	0.000000	2139.81	1.78
3	GUIDE	924981840	7.13	14704	0.122	0.154	0.077	0.137	86.304523	-31.669315	1366.79	-1997.69
4	GUIDE	925502488	8.60	14699	-0.195	-0.219	0.091	0.144	86.176662	-32.817378	590.97	2080.08
5	GUIDE	925503024	8.21	14701	-0.062	-0.136	0.078	0.123	86.310142	-32.614466	405.85	1266.34
6	GUIDE	925505832	8.78	14697	0.081	-0.239	0.093	0.150	86.569515	-32.978859	-710.62	2309.89
7	GUIDE	925502632	8.55	14693	0.050	0.441	0.080	0.129	87.276261	-32.031721	-1848.21	-1554.23

## 2.4 Star Slots

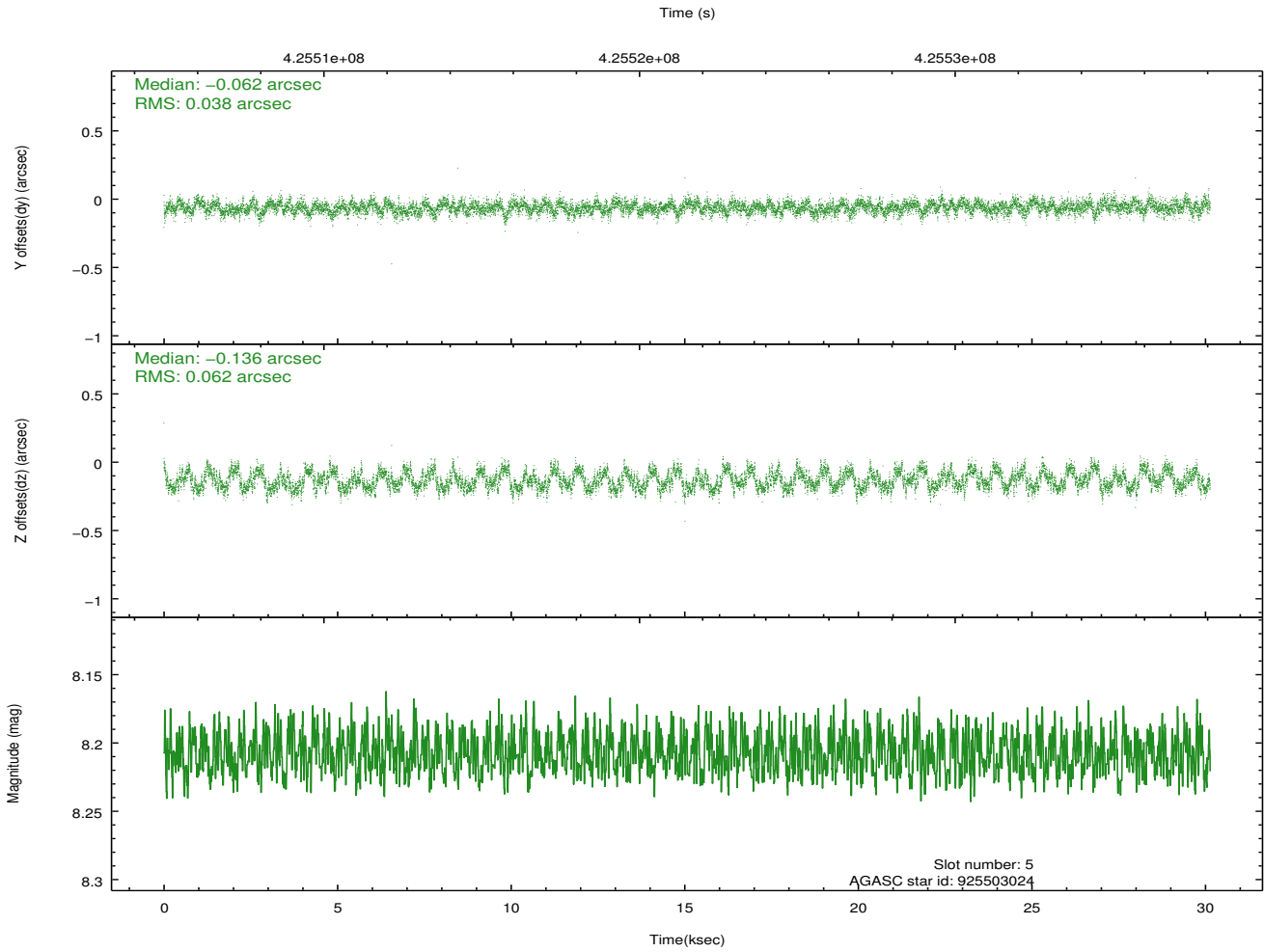
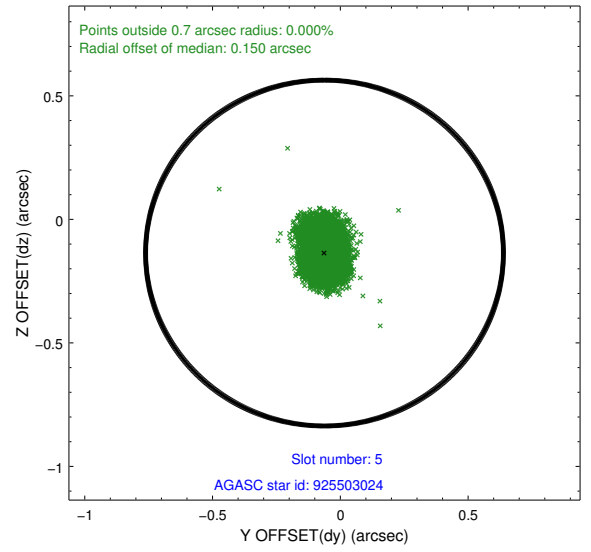
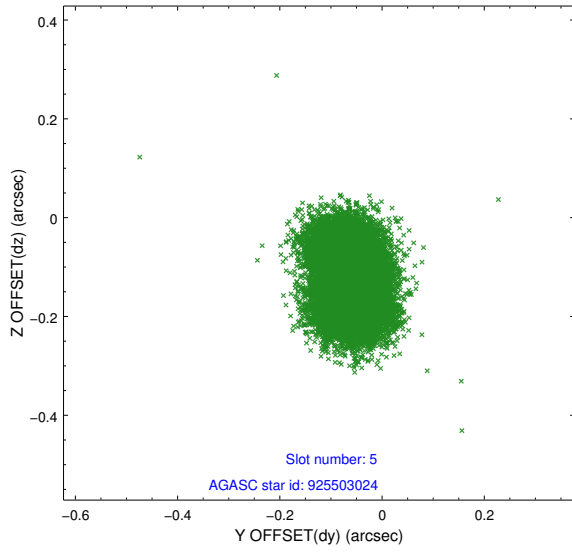
### 2.4.1 Slot 3



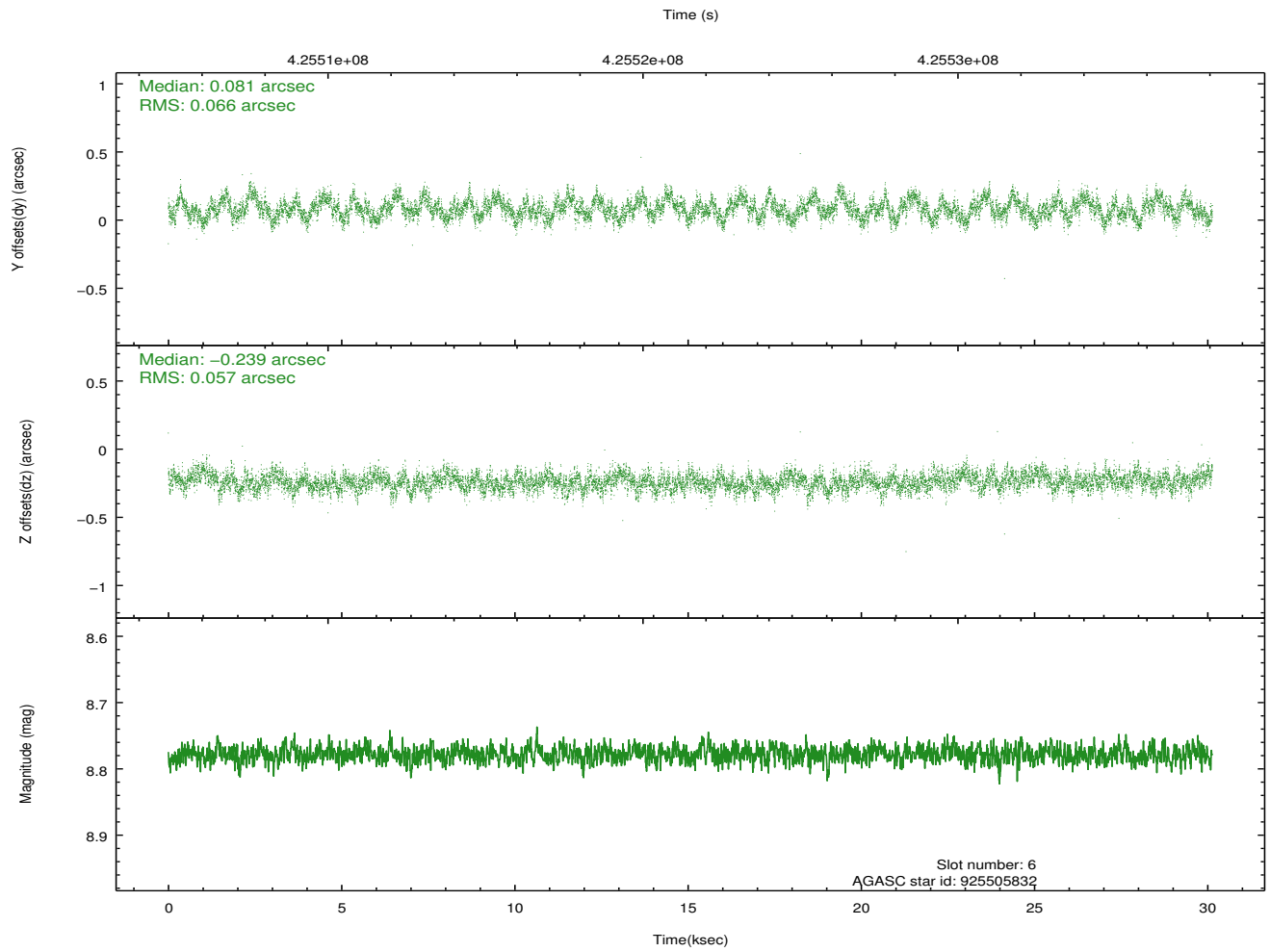
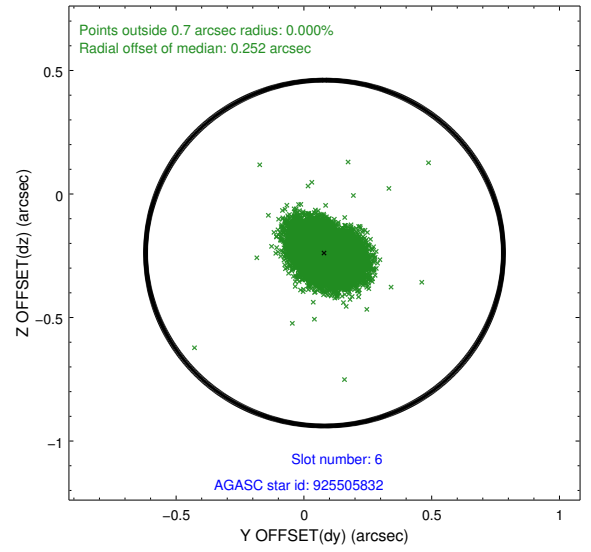
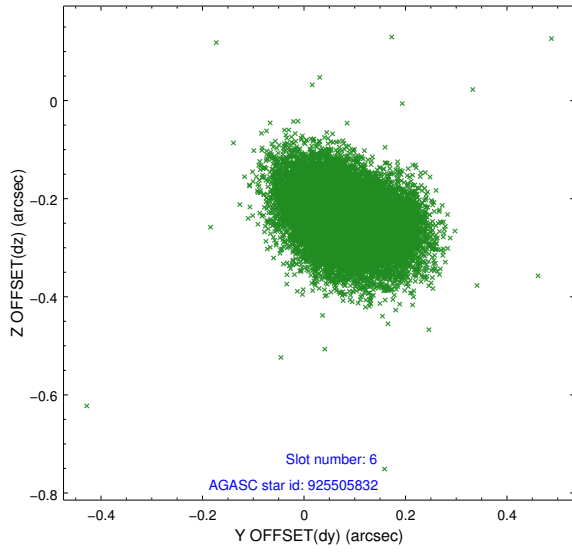
### 2.4.2 Slot 4



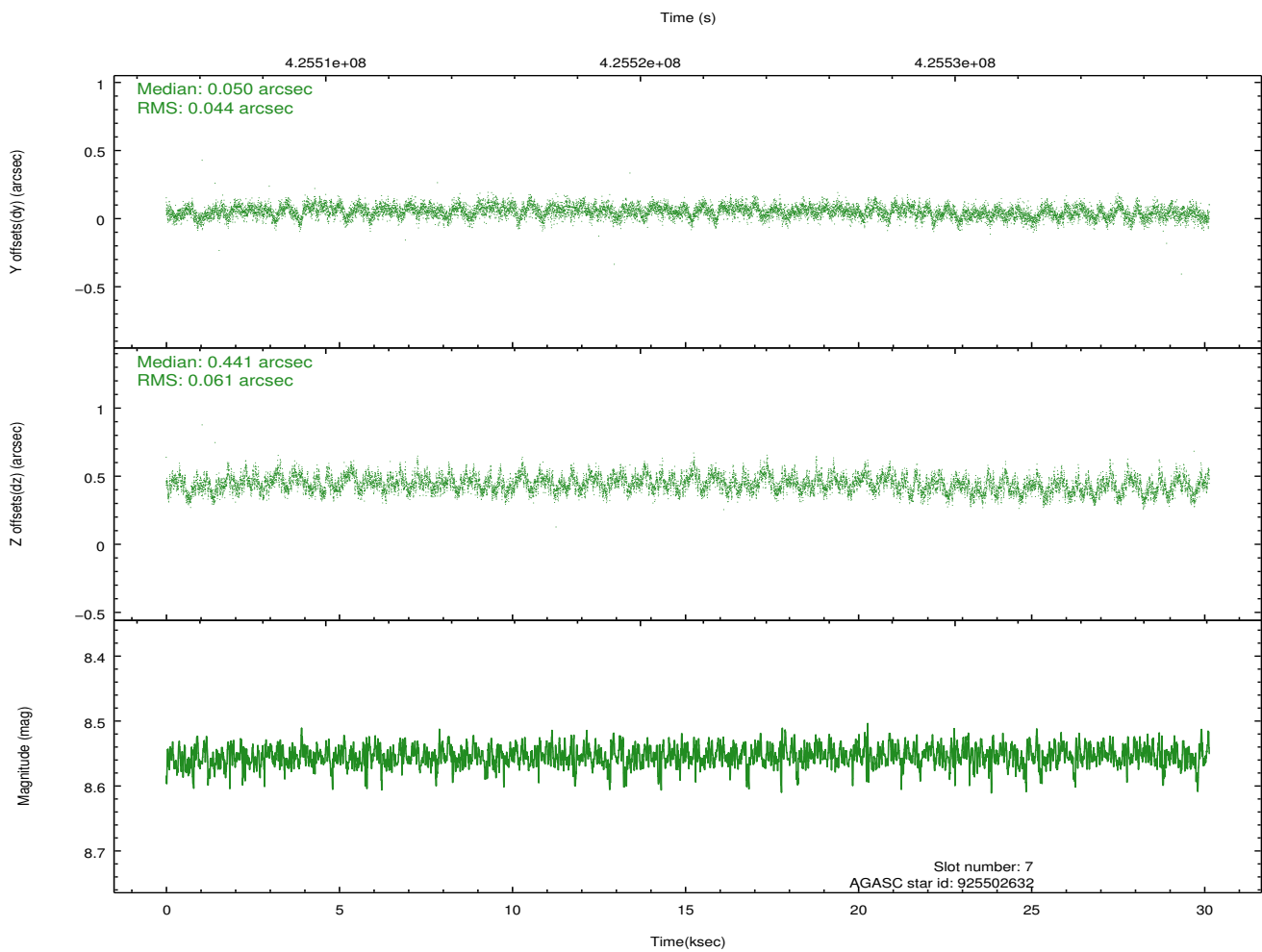
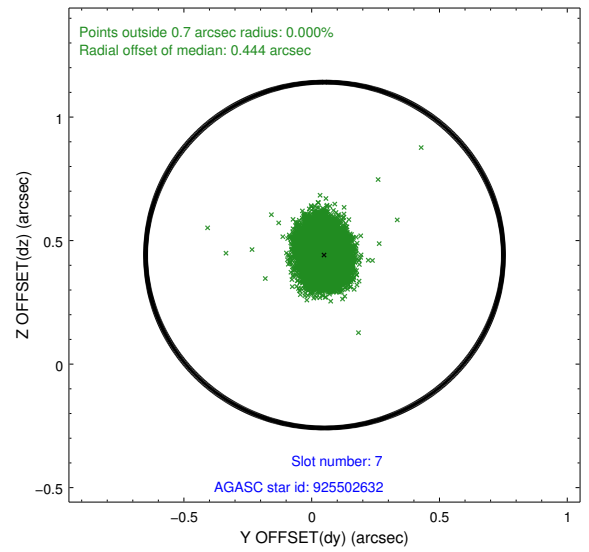
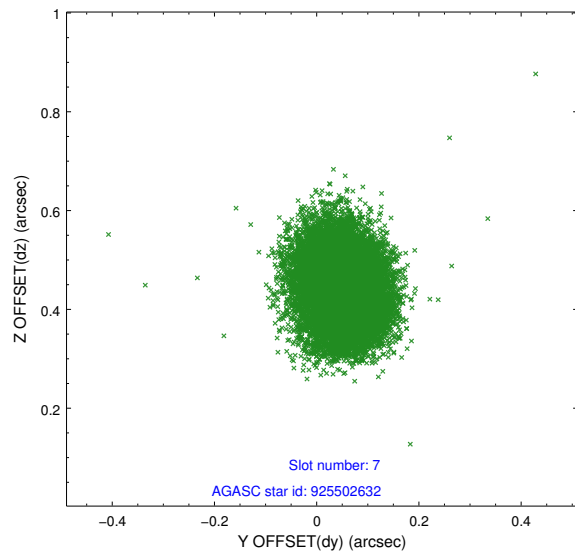
### 2.4.3 Slot 5



### 2.4.4 Slot 6

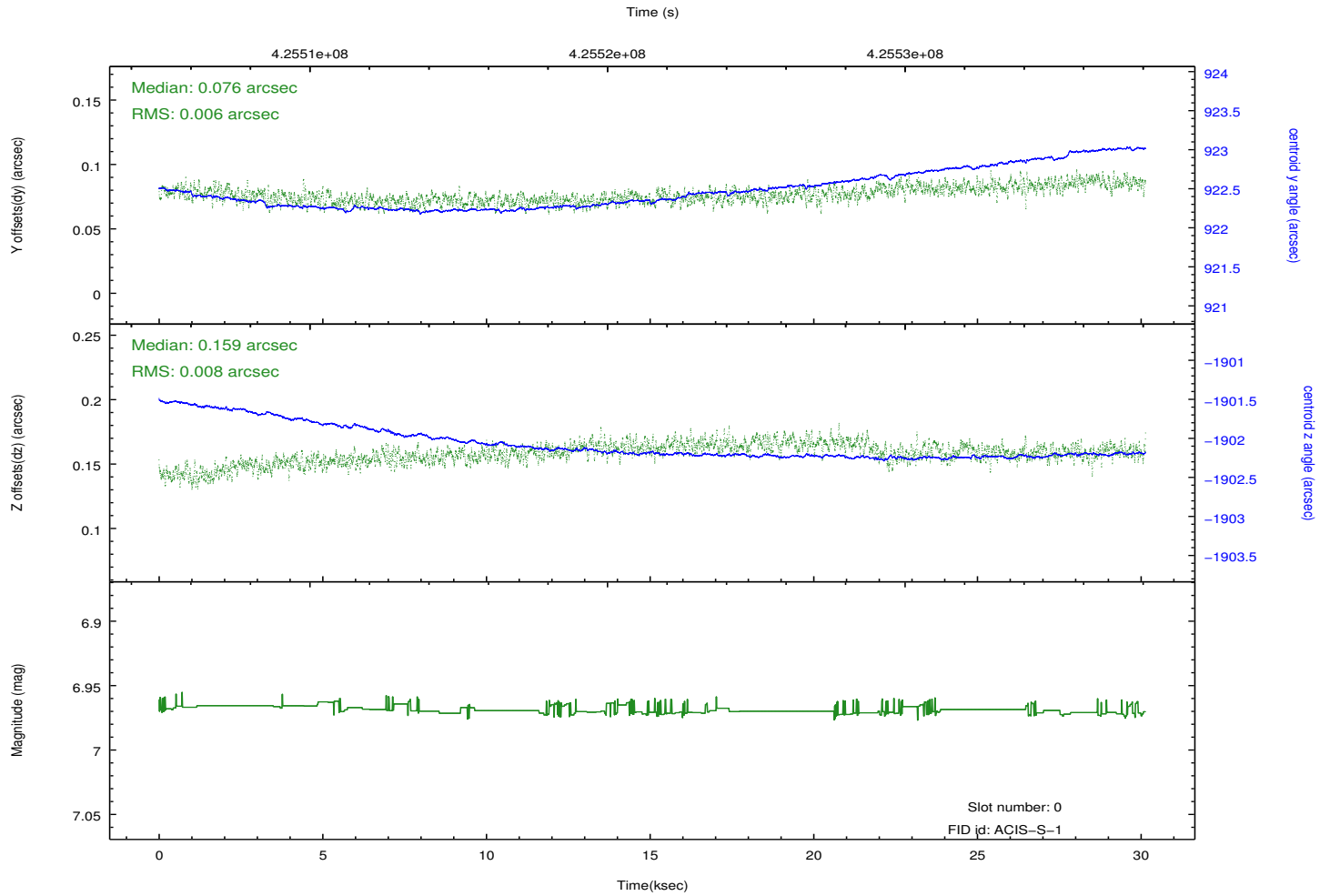
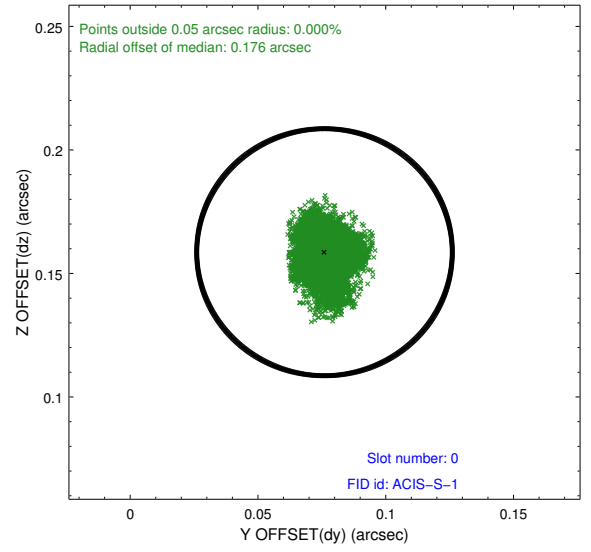
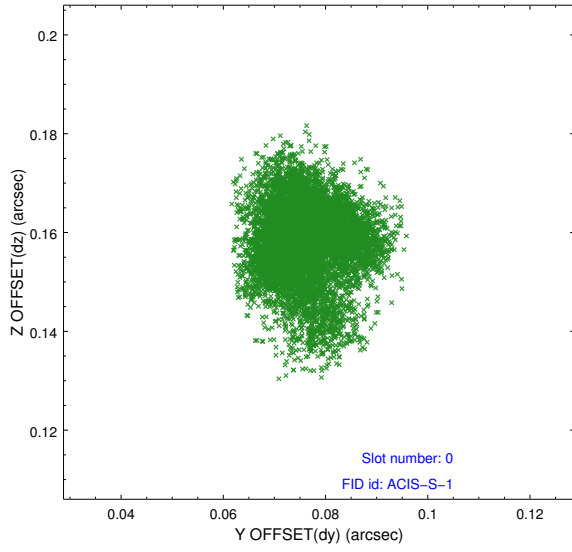


## 2.4.5 Slot 7

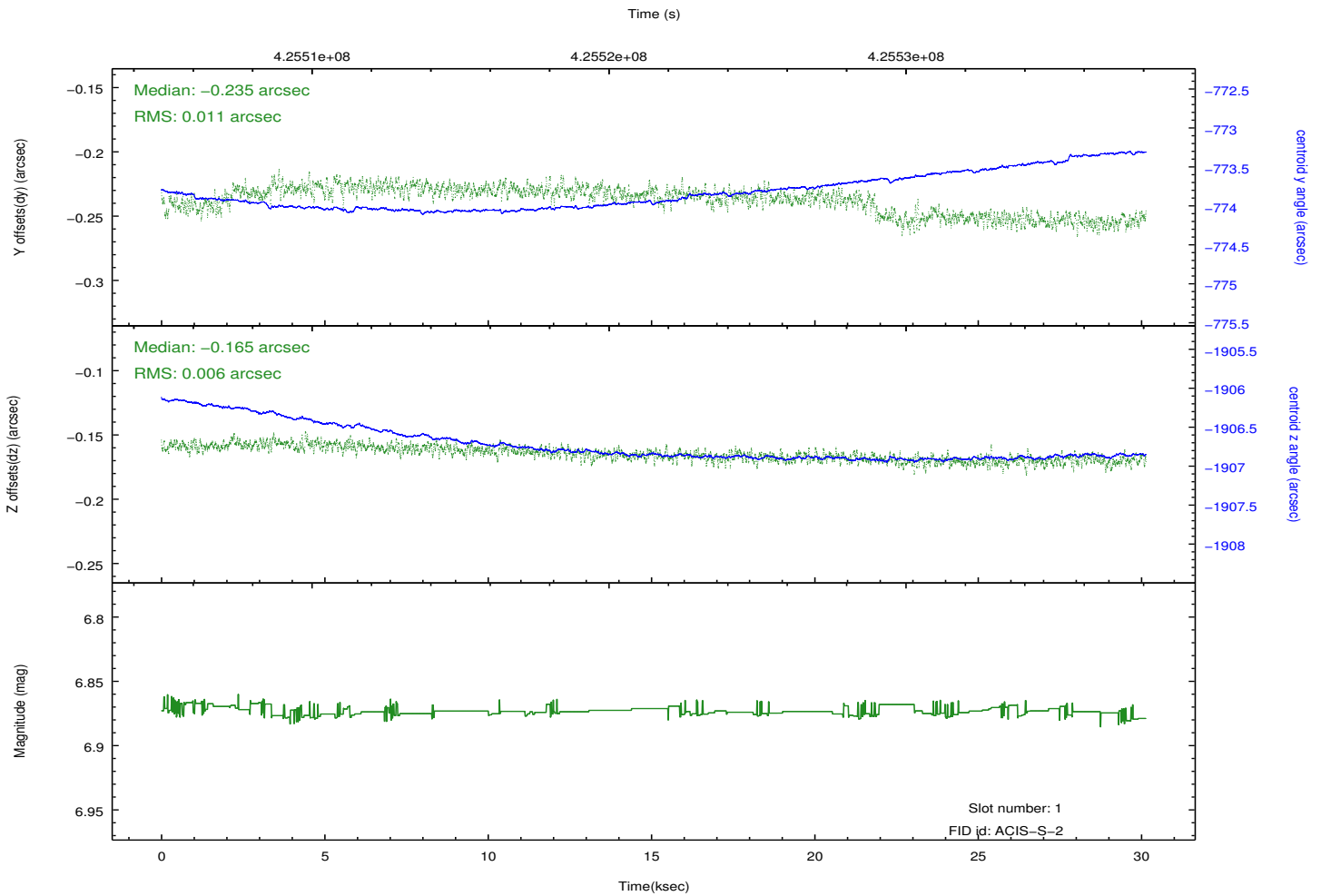
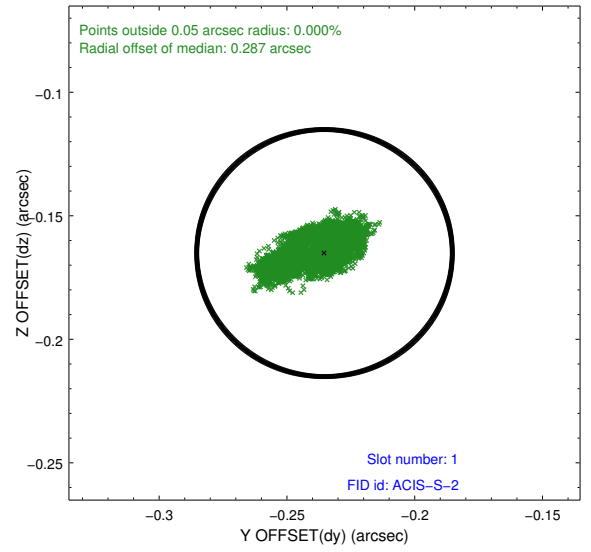
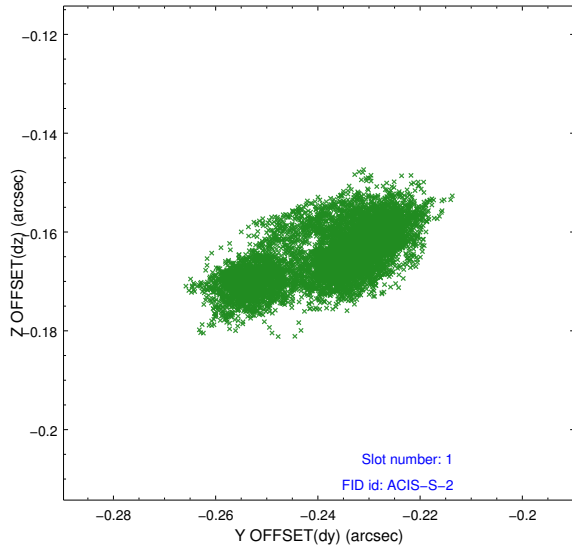


## 2.5 FID Slots

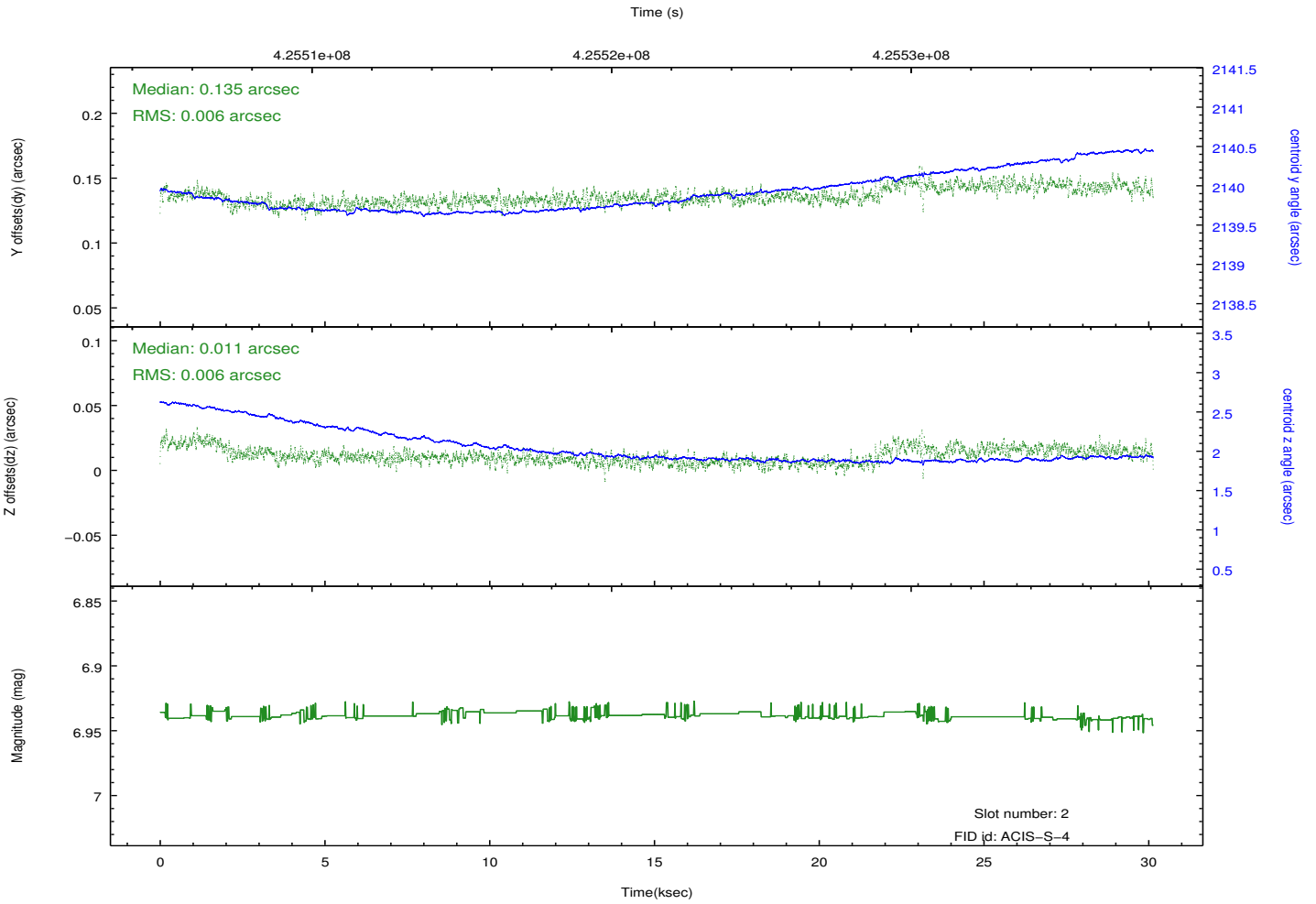
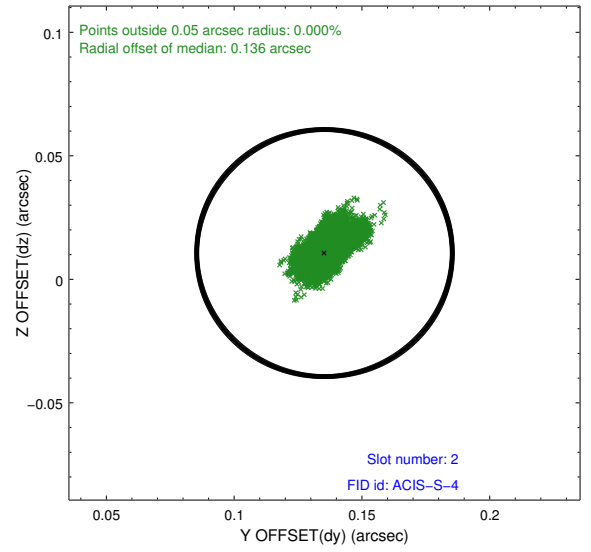
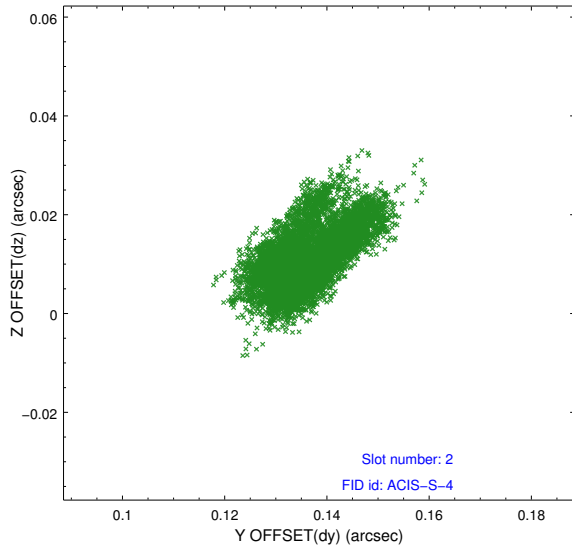
### 2.5.1 Slot 0



## 2.5.2 Slot 1

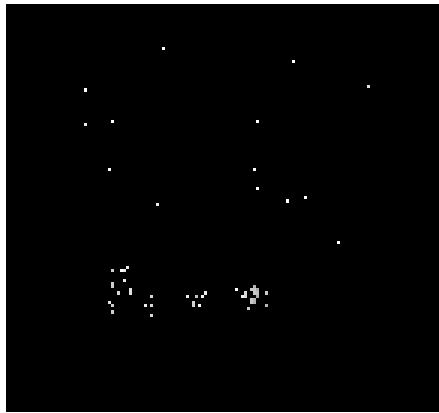


### 2.5.3 Slot 2

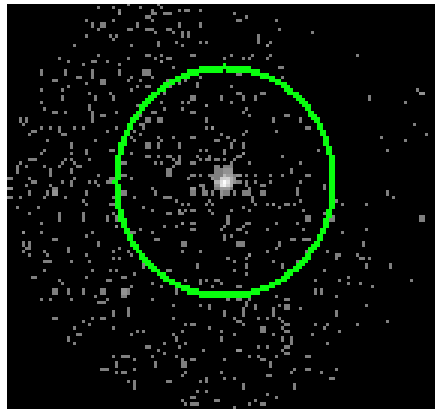


### 3 Gratings

#### 3.1 LETG Arm



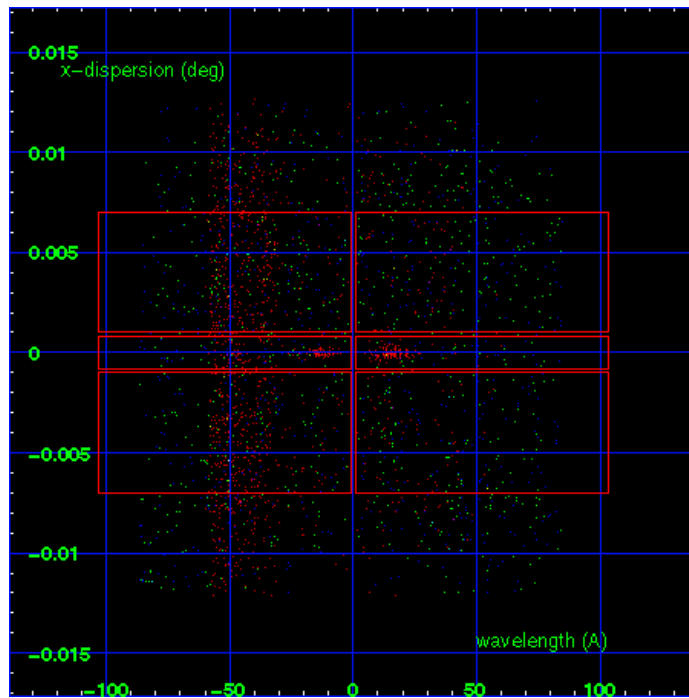
LETG Order Sort 123



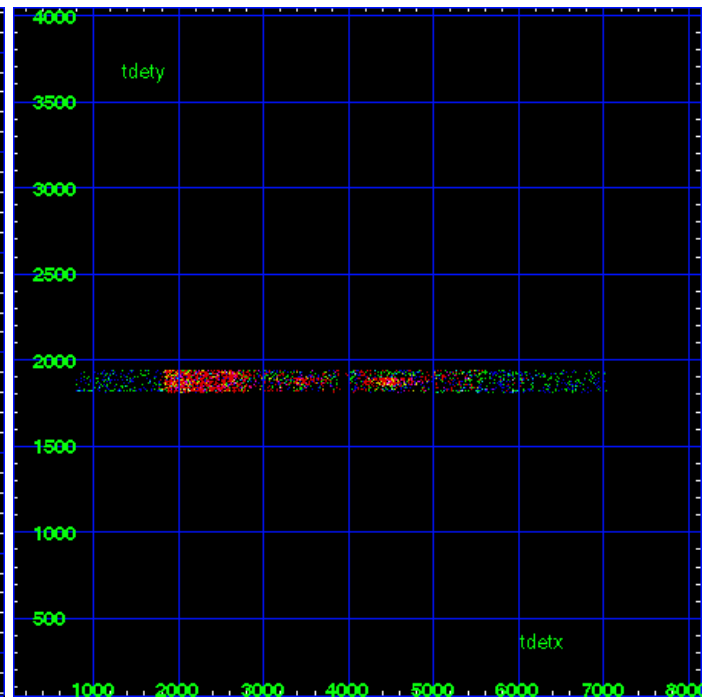
LETG Zero Order



LETG Order Sort ALL

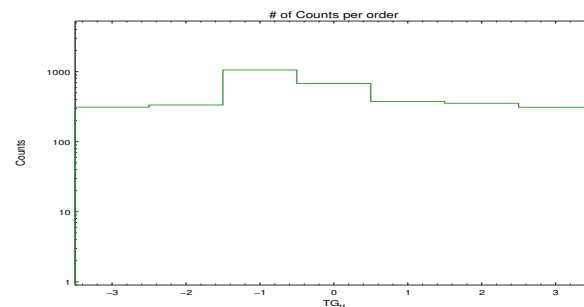


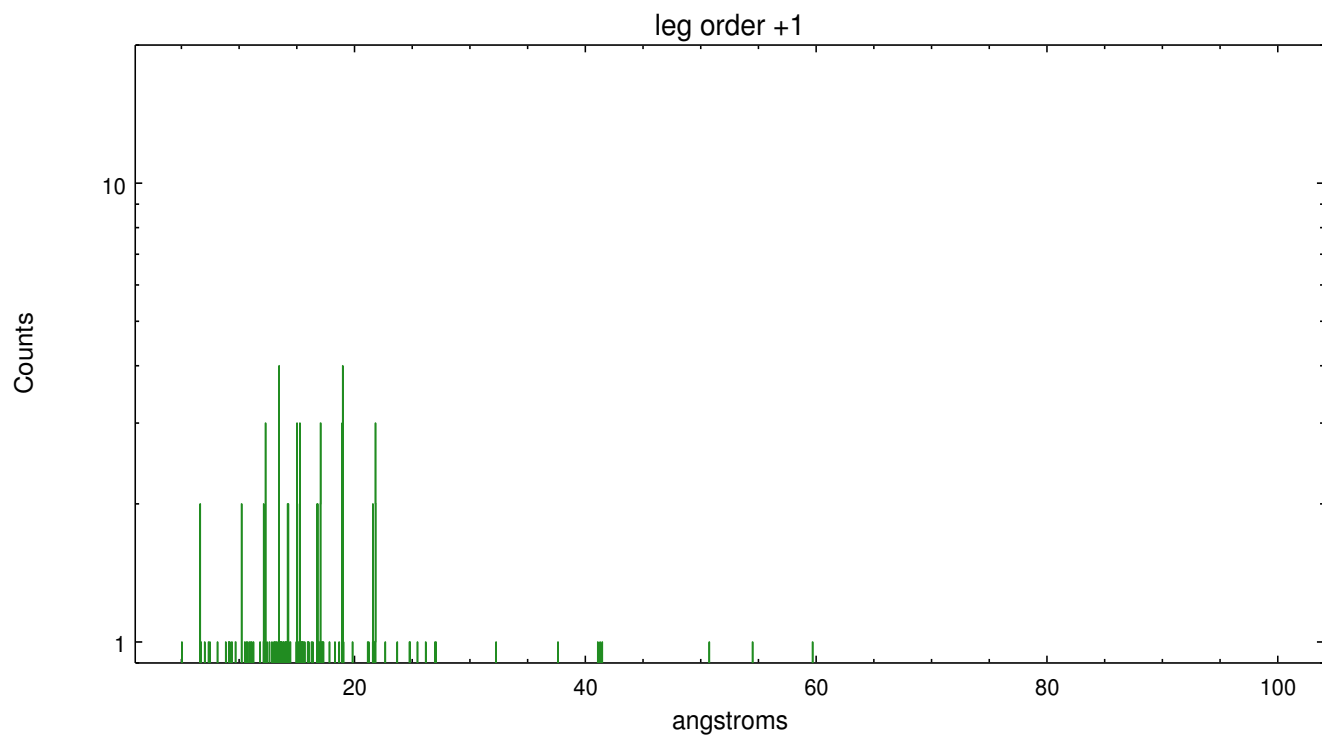
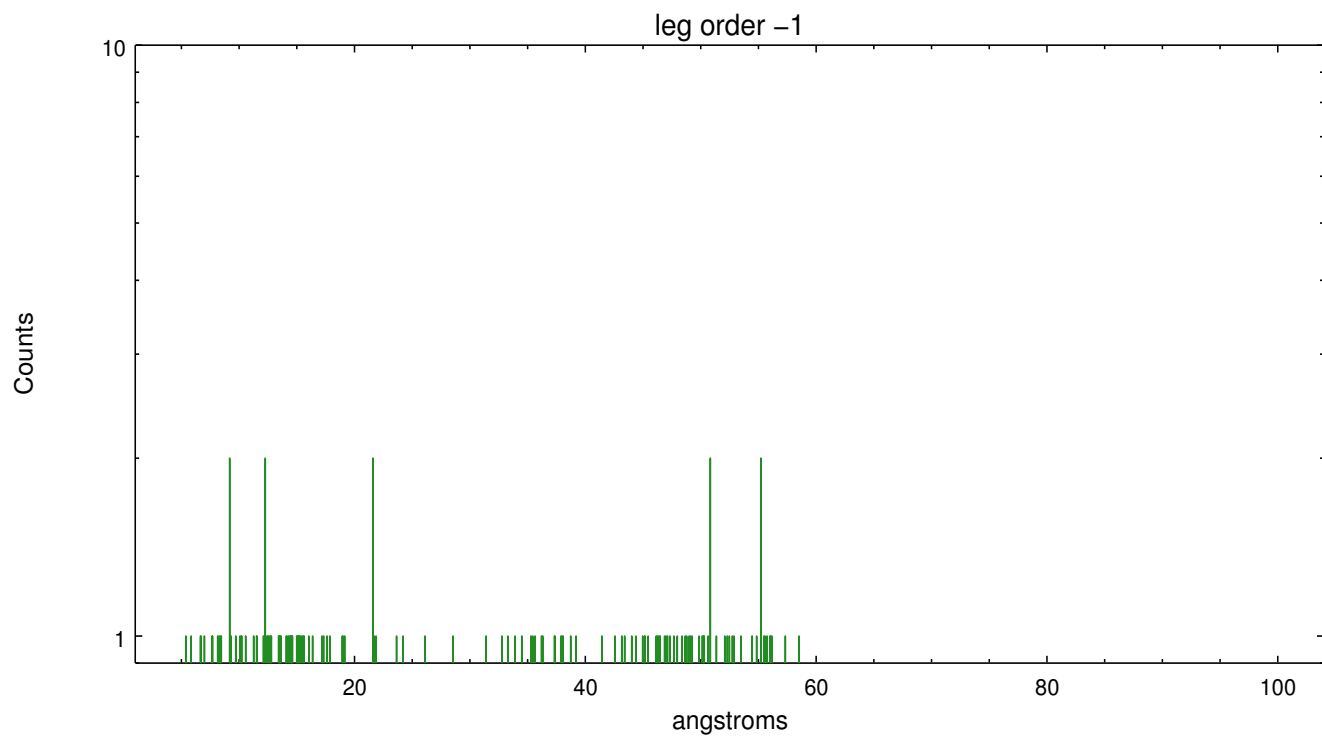
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	312	335	1058	681	376	355	311





# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.02.13
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.064999487936

## A.2 Comments

The data for this observation have been processed using the 'EDSER' sub-pixel event-repositioning algorithm of Li et al. (2004, ApJ, 610, 1204). Small-scale features should become sharper for sources near the aim point. The improvement will be less noticeable for off-axis sources where the size of the point-spread function is comparable to or larger than the size of an ACIS pixel. To take full advantage of the improvement, images should be binned on spatial scales smaller than the size of an ACIS pixel. Note that, at present, the point-spread function has not been calibrated for data to which the EDSEr algorithm has been applied. If dither was disabled for the observation, then the algorithm can introduce artificial aliasing effects on spatial scales smaller than a pixel. If you would prefer to use no sub-pixel adjustment or to apply a coordinate randomization, then use `acis_process_events` to reprocess the data with the parameter `pix_adj=NONE` or `RANDOMIZE`, respectively.