

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 9580 - L2 Version 2  
Chandra X-Ray Center

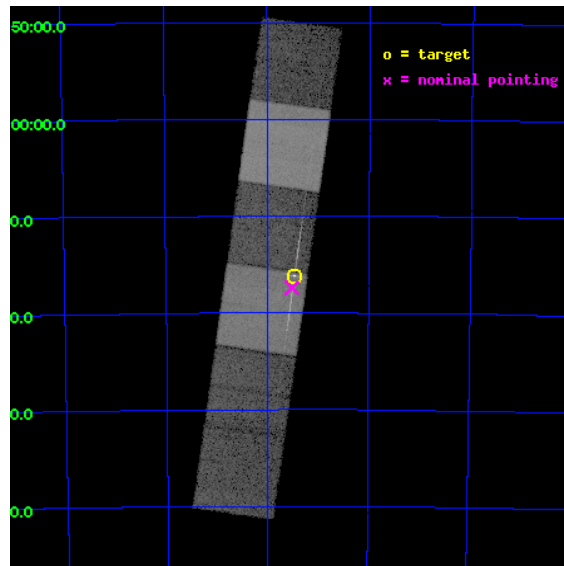
L2 Processing Date : Apr 30 2012

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# 1 Front

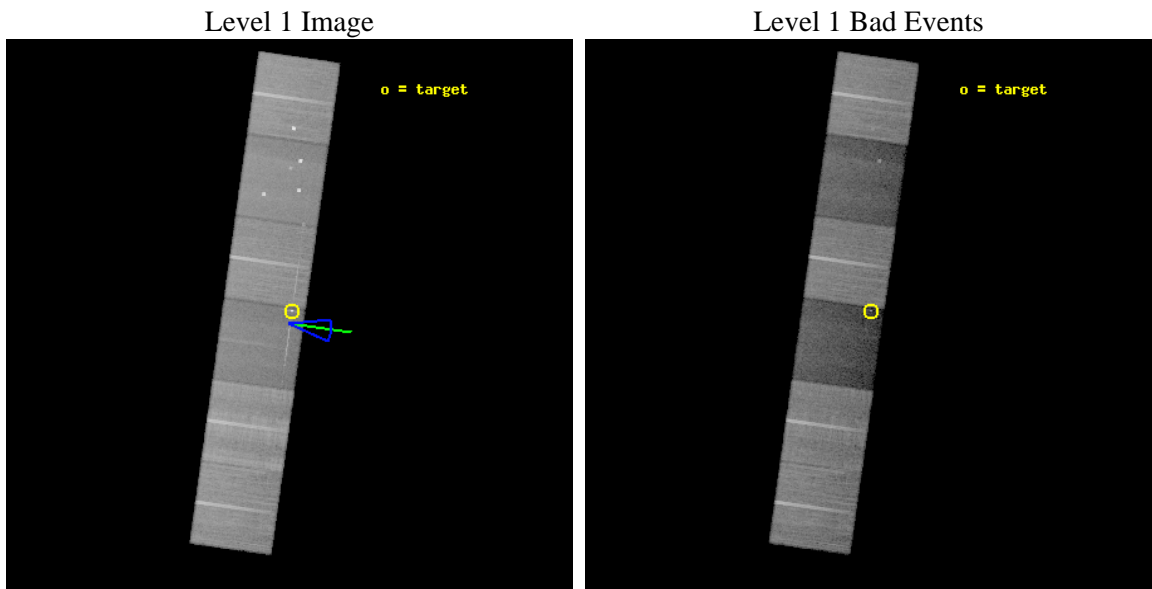
seq_num	500750	Sequence number
obs_id	9580	Observation id
title	SPATIALLY RESOLVED LETG SPECTROMETRY OF SNR1987A	Proposal title
observer	Dr. Richard McCray	Principal investigator
object	SNR1987A	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.866667	Observer's specified target RA [deg]
dec_targ	-69.26975	Observer's specified target Dec [deg]
ra_nom	83.879300132618	Nominal RA [deg]
dec_nom	-69.290197407359	Nominal Dec [deg]
roll_nom	98.06844687748	Nominal Roll [deg]
revision	2	Processing version of data
ontime	35036.349317074	Sum of GTIs [s]
liveltime	34592.697965664	Livetime [s]
ontime4	35036.390357077	Sum of GTIs [s]
ontime5	35036.308277071	Sum of GTIs [s]
ontime6	35036.267237067	Sum of GTIs [s]
ontime7	35036.349317074	Sum of GTIs [s]
ontime8	35032.98522675	Sum of GTIs [s]
ontime9	35036.185157061	Sum of GTIs [s]
l2events	280787	Number of level 2 events



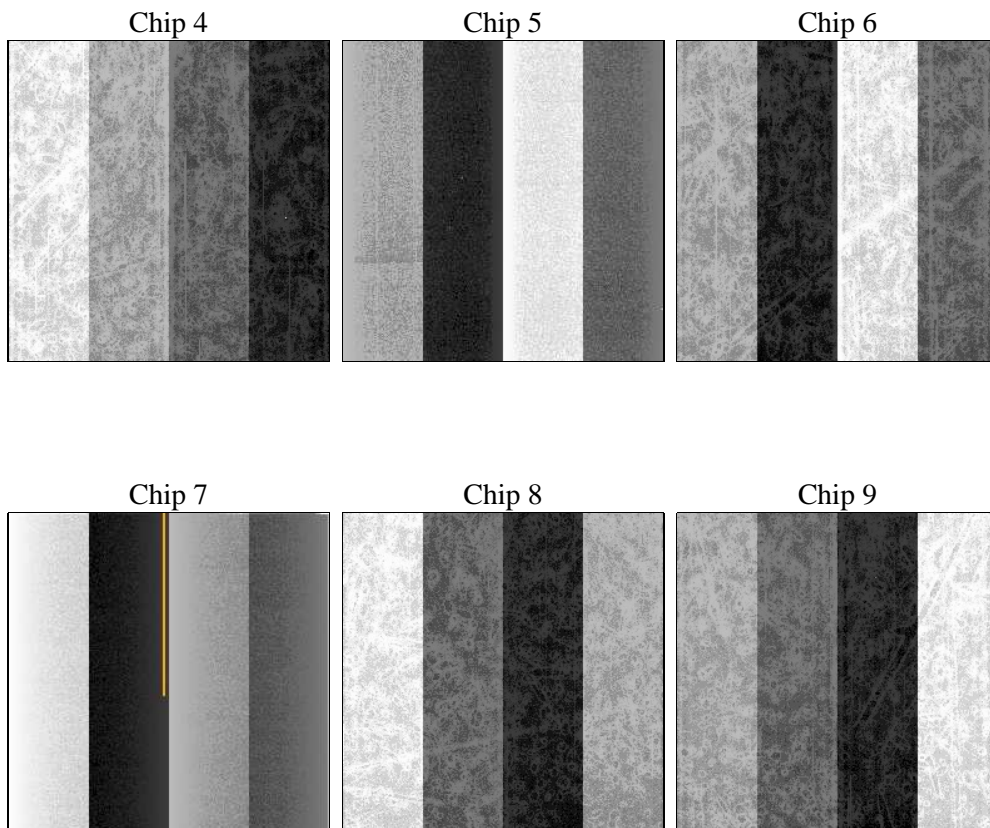
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	35000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	35036.349317074	Sum of GTIs [s]
caldbver	4.4.9	&#160	ontime4	35036.390357077	Sum of GTIs [s]
date	2012-04-30T14:50:19	Date and time of file creation	ontime5	35036.308277071	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	35036.267237067	Sum of GTIs [s]
			ontime7	35036.349317074	Sum of GTIs [s]
			ontime8	35032.98522675	Sum of GTIs [s]
			ontime9	35036.185157061	Sum of GTIs [s]
			l1events	1423404	Number of level 1 events

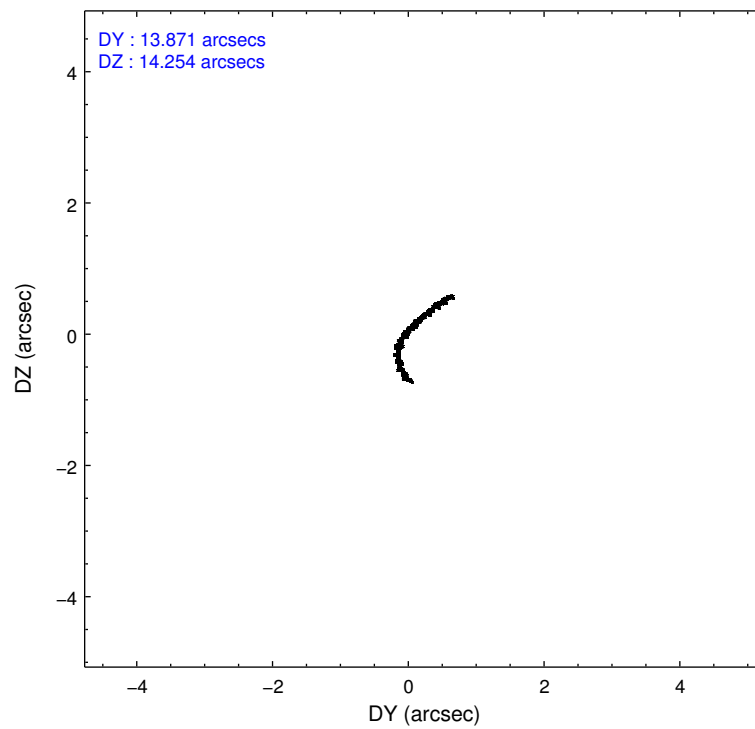
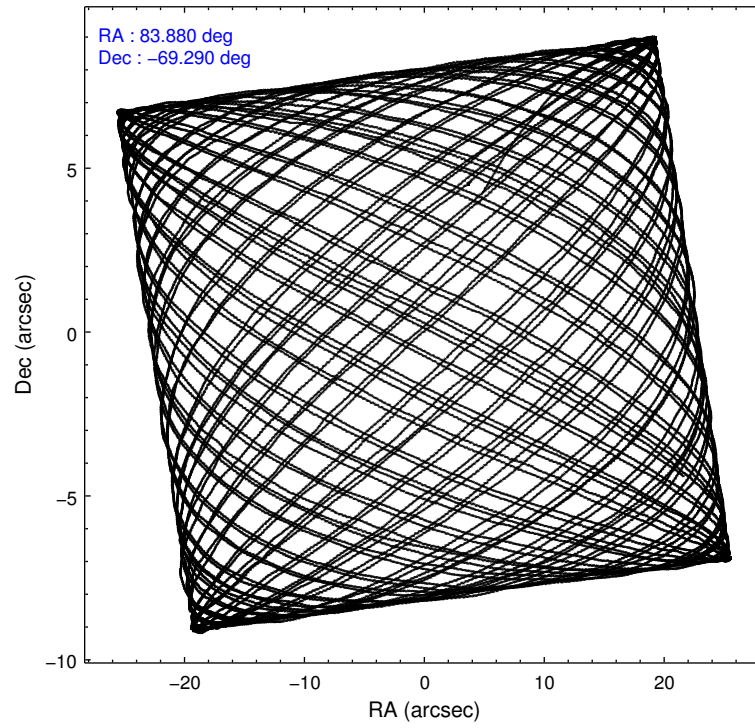
### 2.1.4 Events

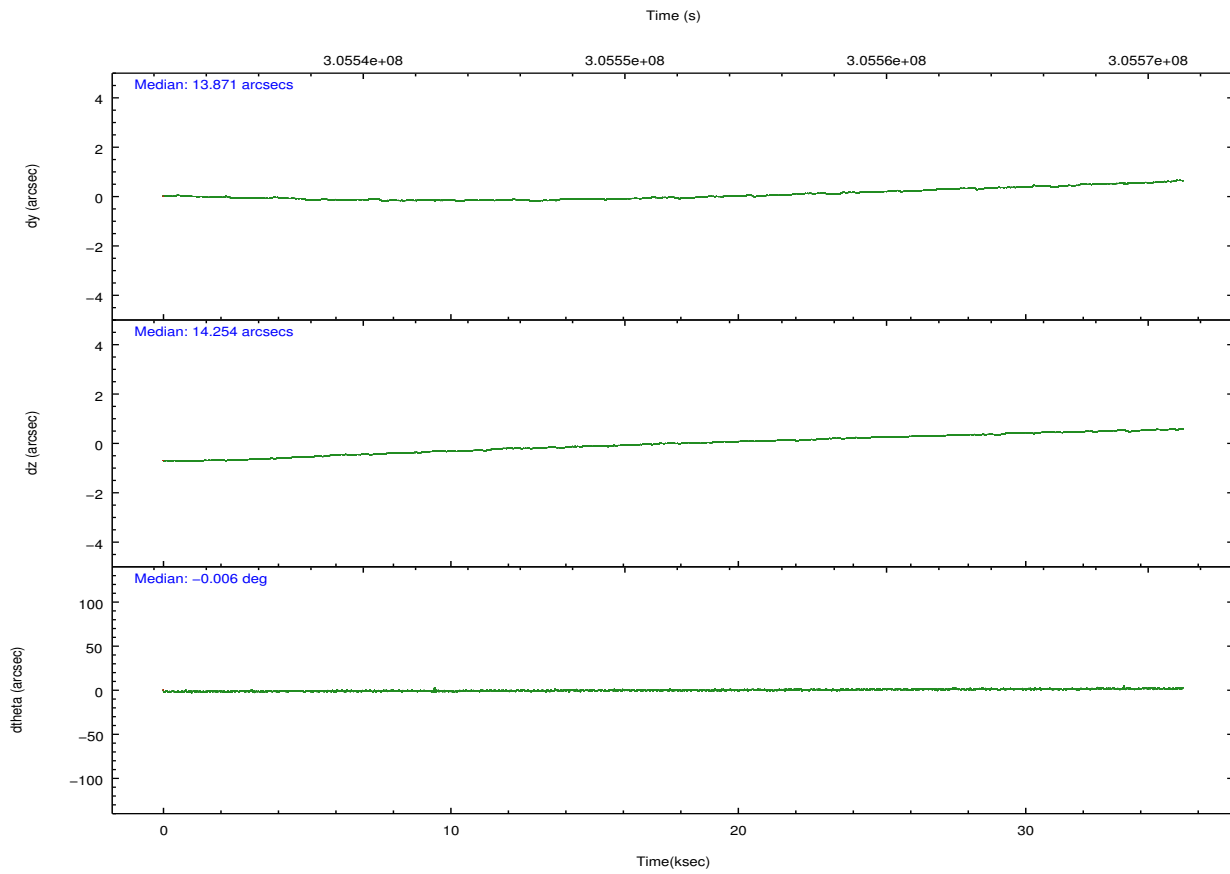
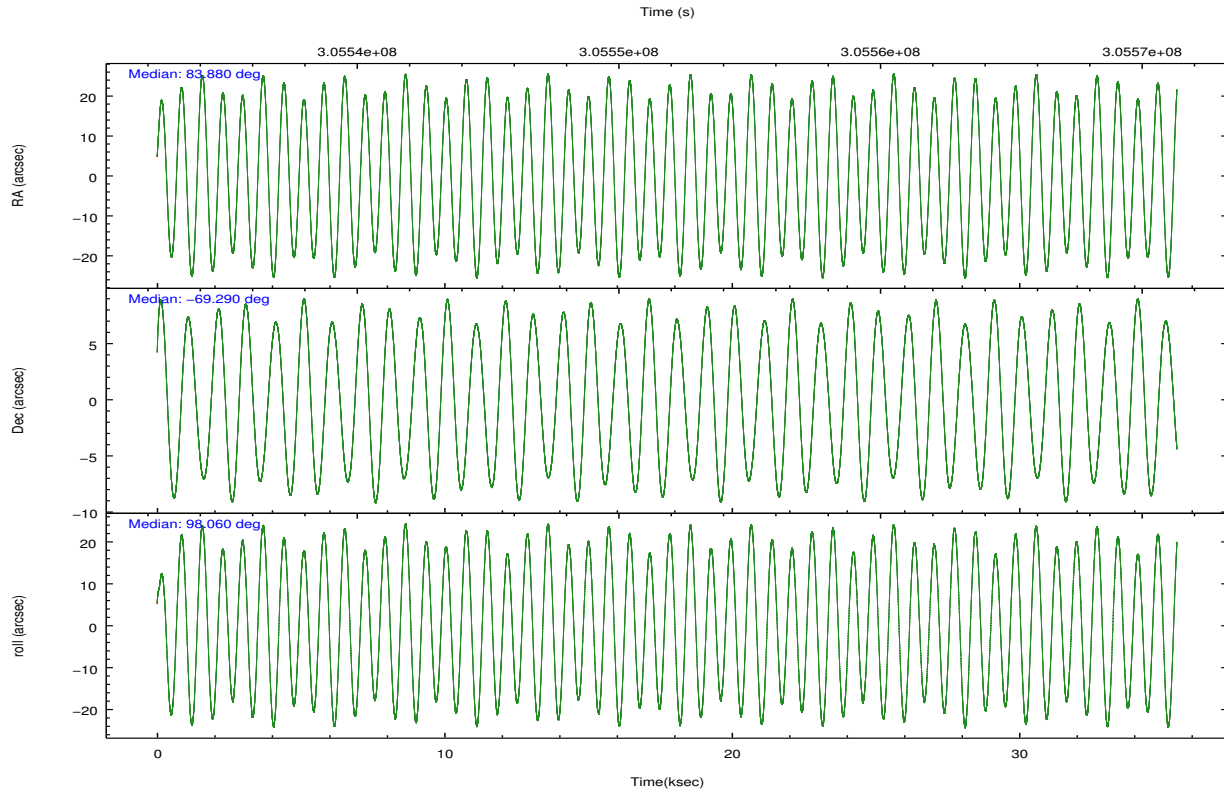
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	288793	220424	244023	150971	291118	228075	grade 0 events	16441	26420	13077	14129	21746	8233
rejected events	258863	83623	217337	59004	214968	206921		5%	11%	5%	9%	7%	3%
rejected %	89%	37%	89%	39%	73%	90%	grade 1 events	293	1166	133	379	270	150
								0%	0%	0%	0%	0%	0%
							grade 2 events	5702	41349	5248	22550	17846	4636
								1%	18%	2%	14%	6%	2%
							grade 3 events	2406	6599	2455	9609	8221	2350
								0%	2%	1%	6%	2%	1%
							grade 4 events	2314	6481	2431	9472	7582	2366
								0%	2%	0%	6%	2%	1%
							grade 5 events	4867	17382	4707	14467	8277	5536
								1%	7%	1%	9%	2%	2%
							grade 6 events	3077	55994	3479	36222	20765	3580
								1%	25%	1%	23%	7%	1%
							grade 7 events	253693	65033	212493	44143	206411	201224
								87%	29%	87%	29%	70%	88%

## 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	VFAINT	VFAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	83.927845	83.87930013261791	CCD I2 on	N	N
[deg] Pointing Dec	-69.311514	-69.29019740735936	CCD I3 on	N	N
[deg] Pointing Roll	97.957228	98.06844687748038	CCD S0 on	O1	Y
[deg] Roll angle	100.000000	100.000000	CCD S1 on	Y	Y
[deg] Roll tolerance	15.000000	15.000000	CCD S2 on	Y	Y
Roll constraint allows 180D rotation	N	N	CCD S3 on	Y	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S4 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S5 on	O2	Y
[mm] SIM translation stage pos	-182.132523	-182.1370004450064	Number of optional ACIS chips dropped	0	0
[mm] SIM translation stage offset	-8	-7.995522138001405	On-chip summing requested	N	N
[s] Observation start time (MET)	305534580.184000	305533279.90782	Subarray requested	NONE	NONE
Observation start date	2007-09-07T06:41:55	2007-09-07T06:21:19	Alternating exposures requested	N	N
[s] Observation end time (MET)	305569580.184000	305570274.2096	[s] Primary exposure time	0.000000	3.2
Observation end date	2007-09-07T16:25:15	2007-09-07T16:37:54			
Read mode	TIMED	TIMED			

## 2.3 Aspect



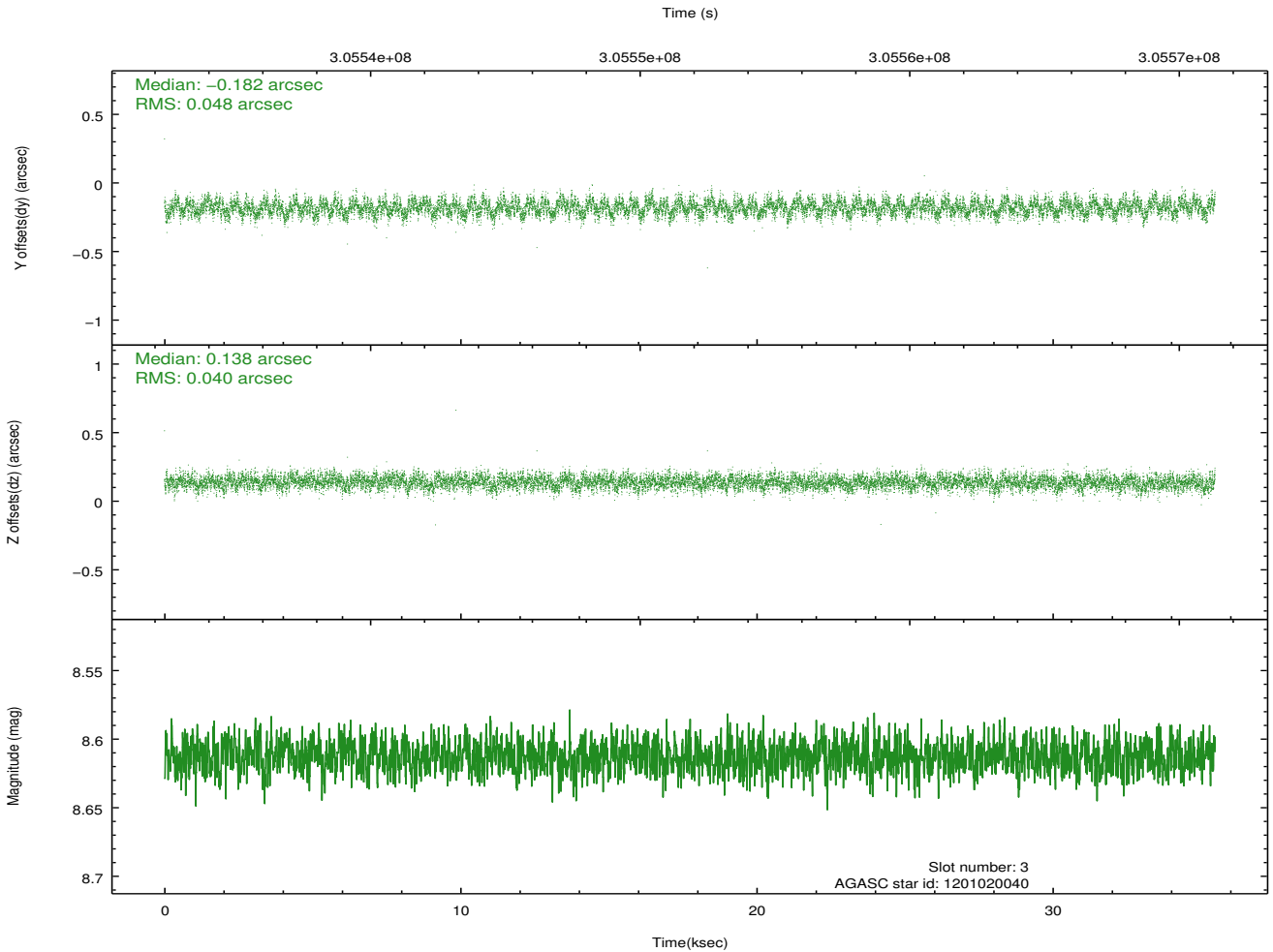
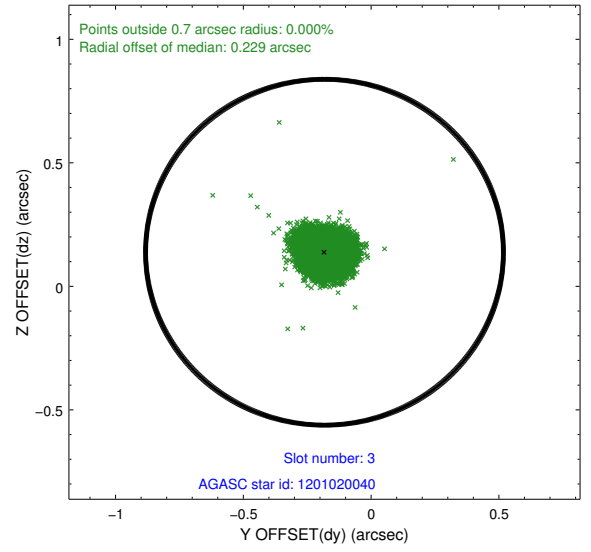
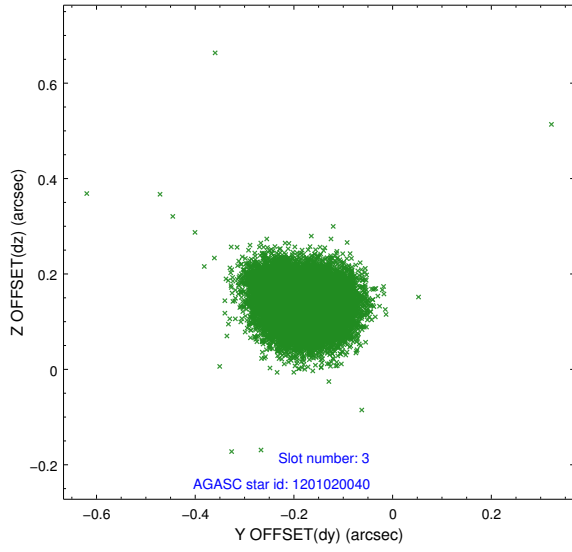


### Slot Statistics

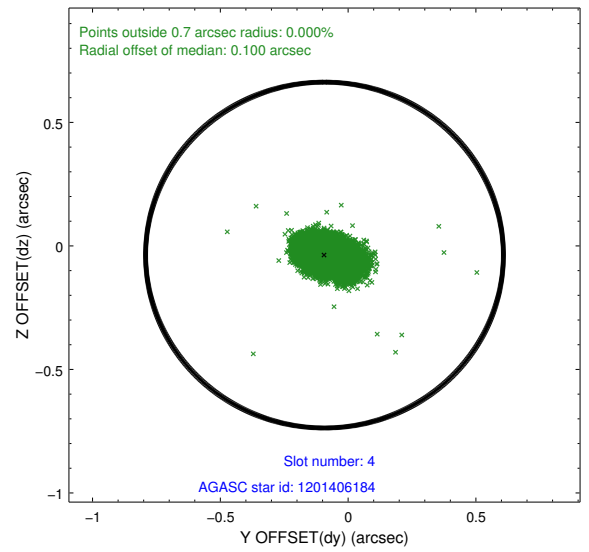
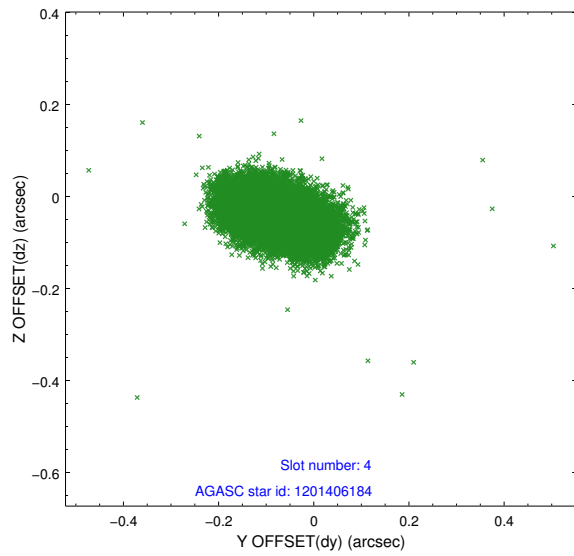
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	7.17	8651	0.091	0.134	0.019	0.033	0.000000	0.000000	929.83	-1895.77
1	FID	ACIS-S-2	7.08	8654	-0.181	-0.105	0.011	0.019	0.000000	0.000000	-766.33	-1900.64
2	FID	ACIS-S-6	7.39	8654	0.068	-0.028	0.015	0.023	0.000000	0.000000	395.42	645.33
3	GUIDE	1201020040	8.61	17294	-0.182	0.138	0.067	0.107	85.379163	-68.879396	1258.20	-2075.98
4	GUIDE	1201406184	7.92	17307	-0.092	-0.037	0.074	0.125	82.503234	-69.975517	-2144.78	2072.74
5	GUIDE	1201540776	9.58	17283	0.175	0.096	0.101	0.164	85.107945	-69.858480	-2166.34	-1173.97
6	GUIDE	1201410616	9.32	17289	0.164	-0.234	0.099	0.155	82.516808	-69.784406	-1463.31	1976.63
7	GUIDE	1201019672	6.85	17305	-0.068	0.039	0.052	0.088	85.312192	-68.770187	1660.30	-2053.38

## 2.4 Star Slots

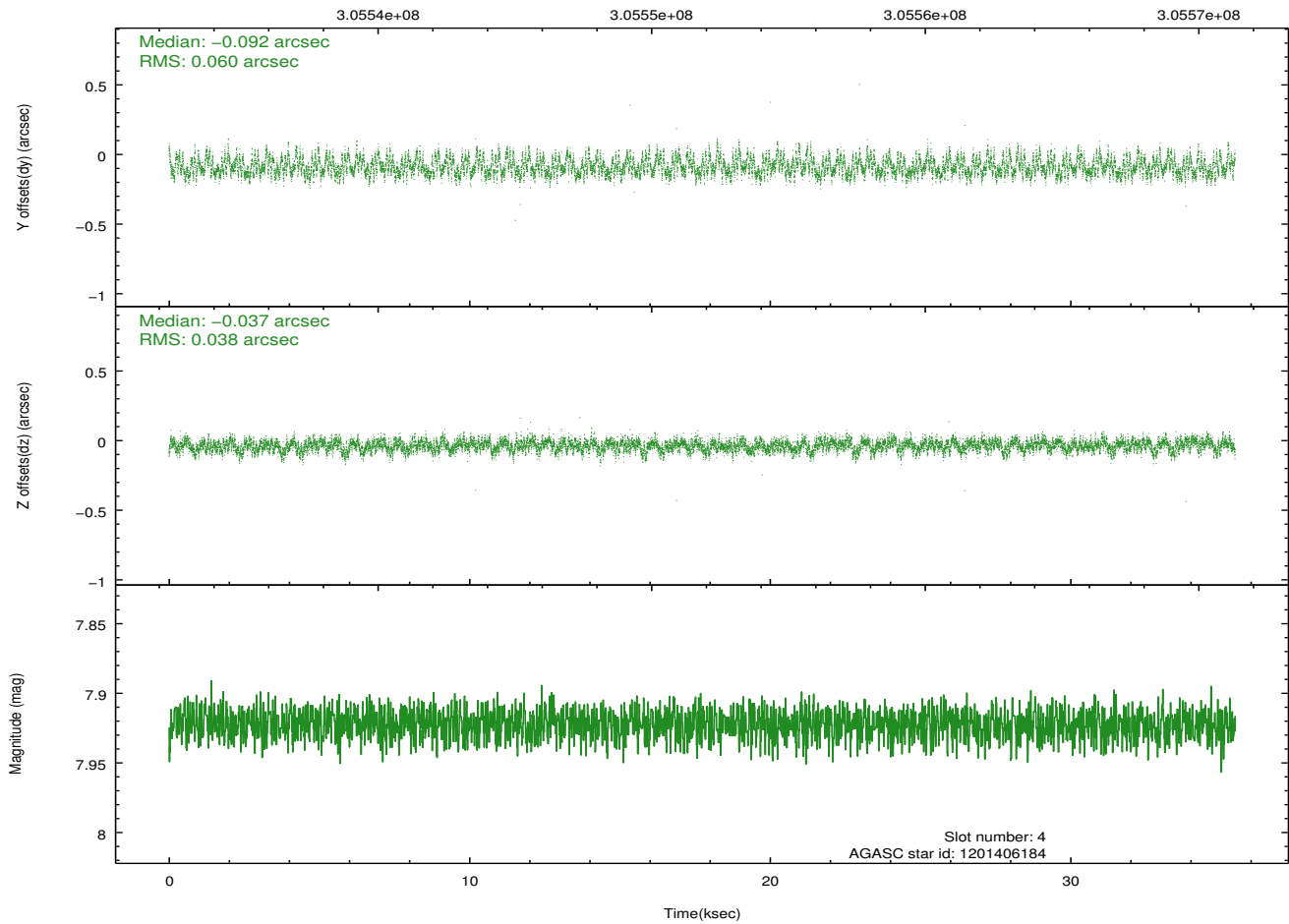
### 2.4.1 Slot 3



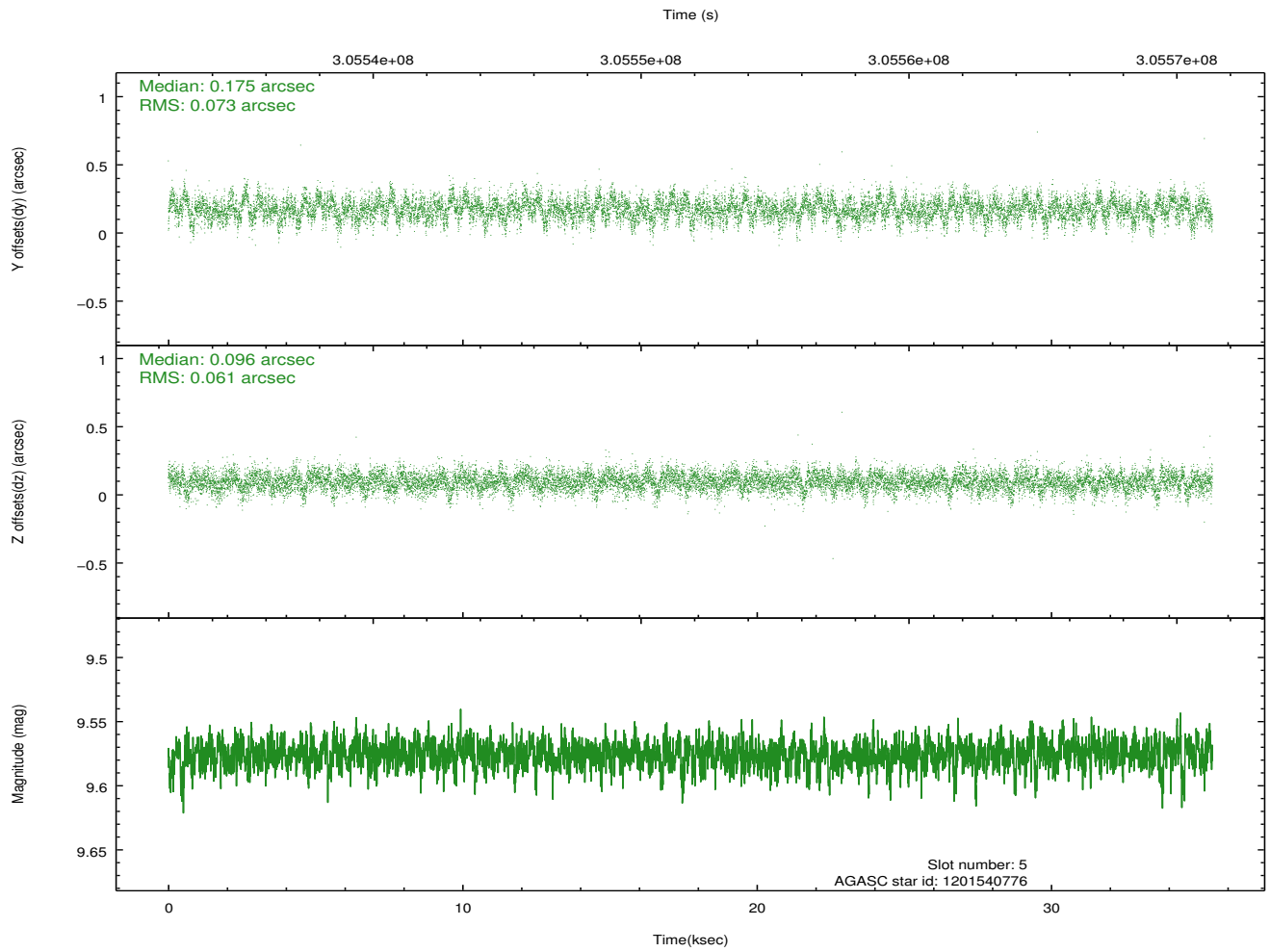
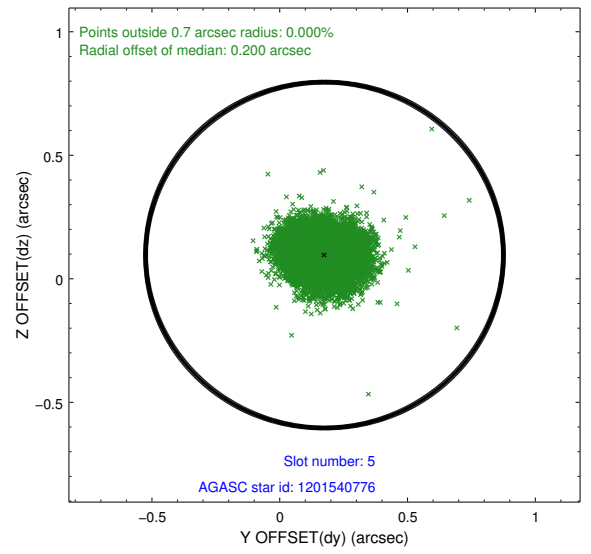
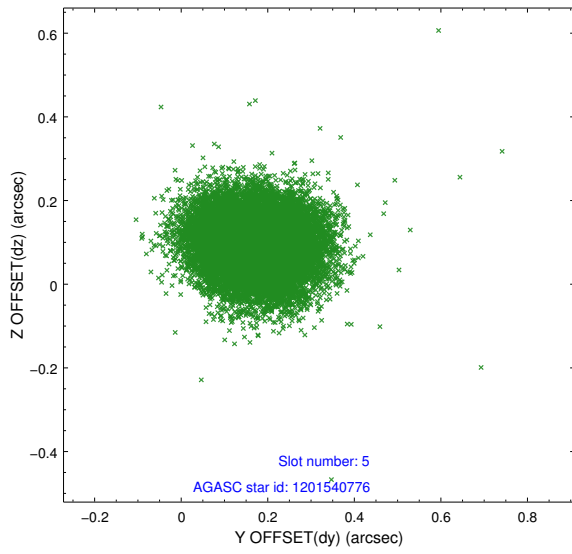
## 2.4.2 Slot 4



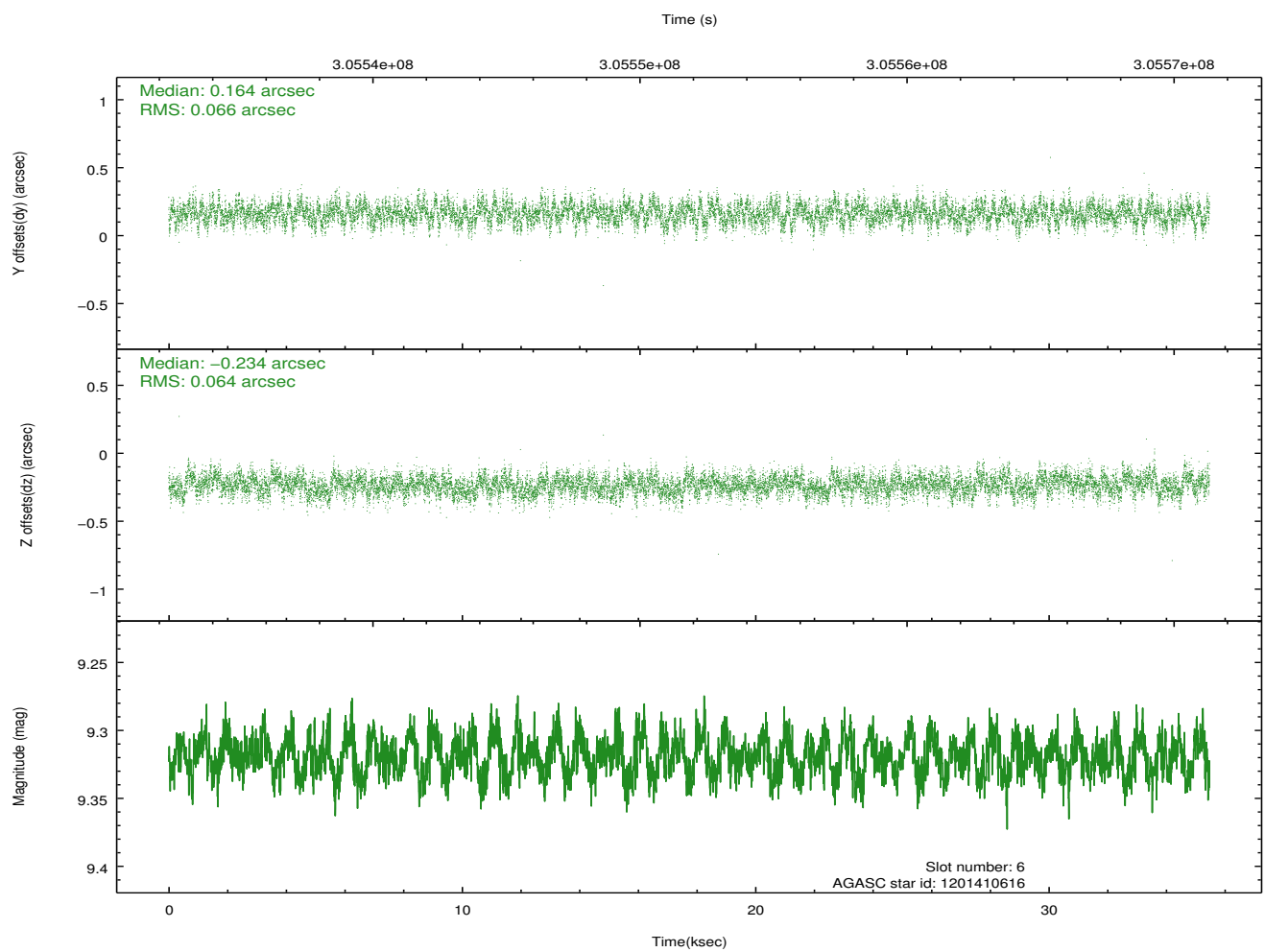
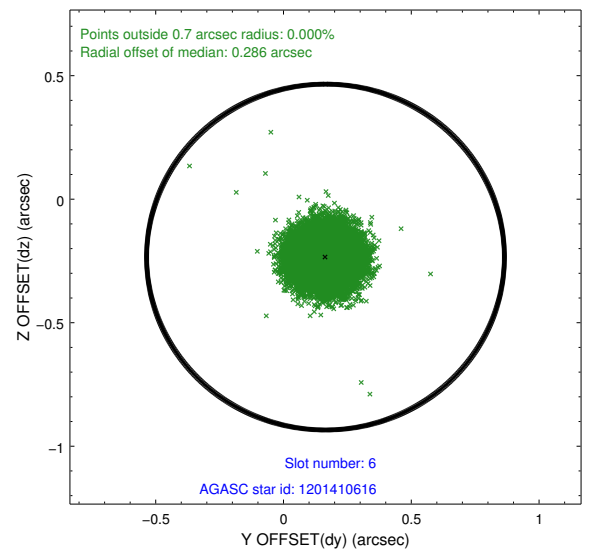
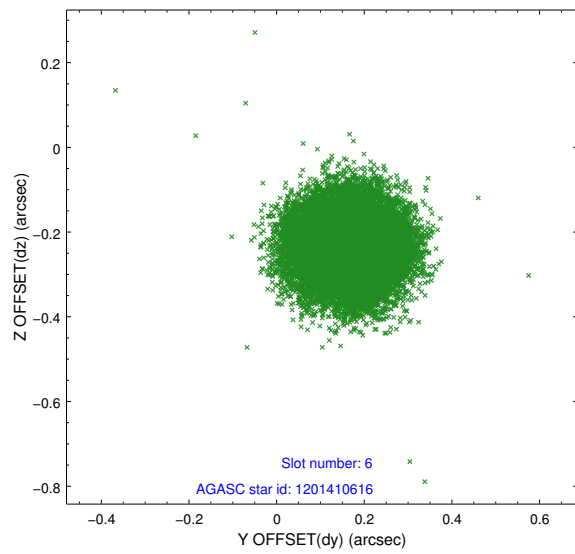
Time (s)



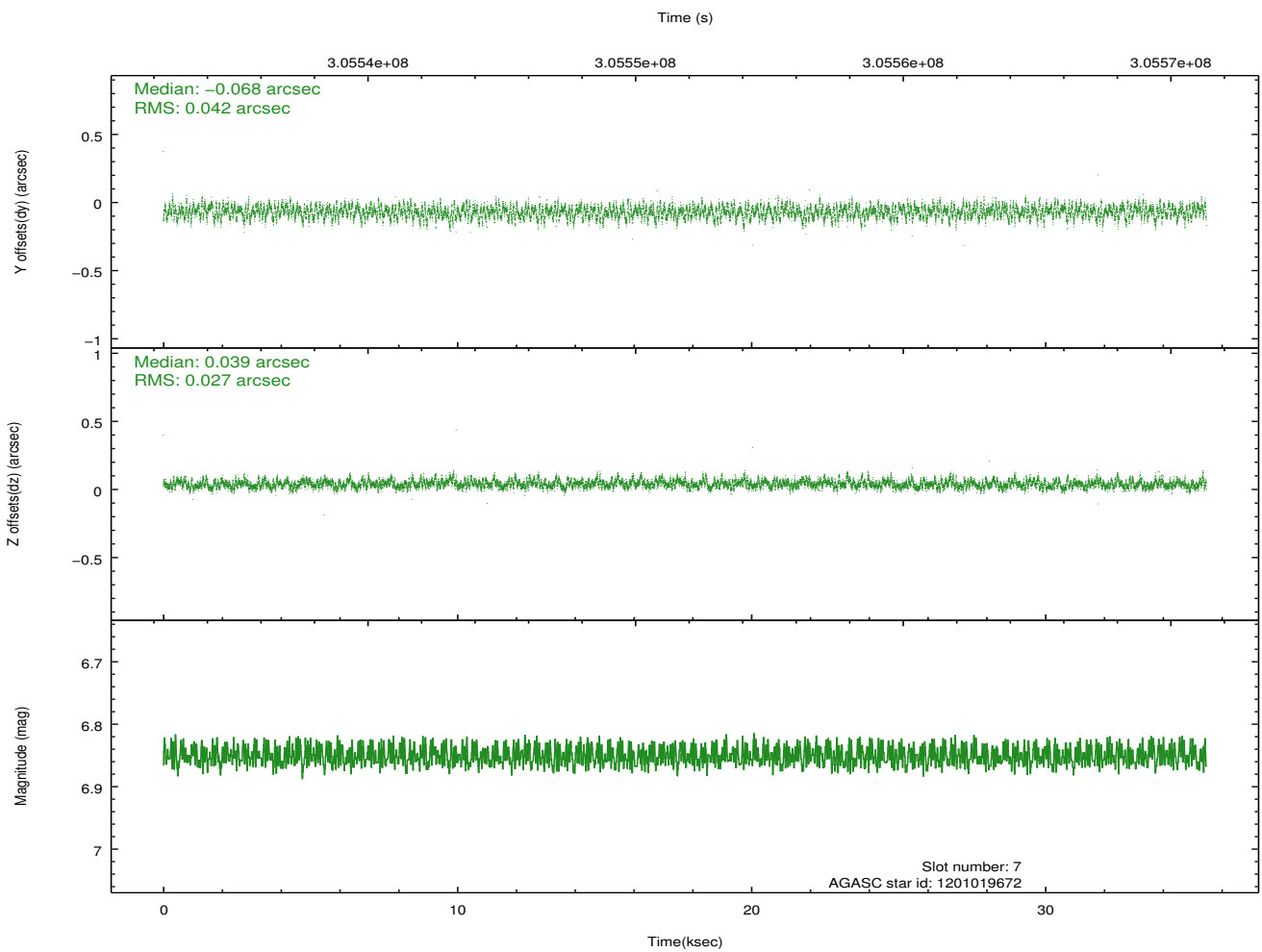
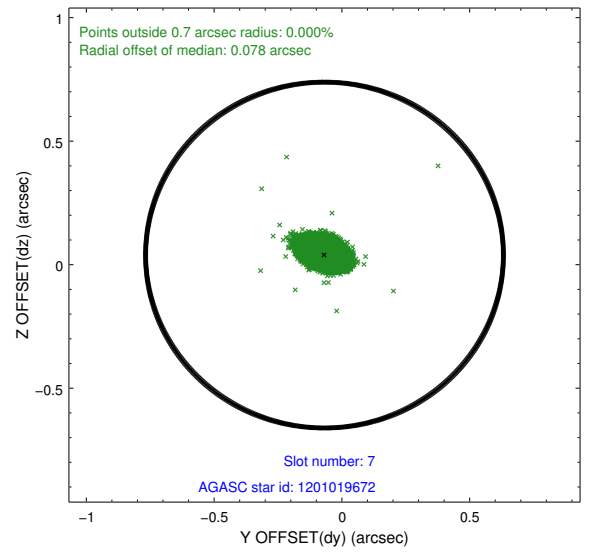
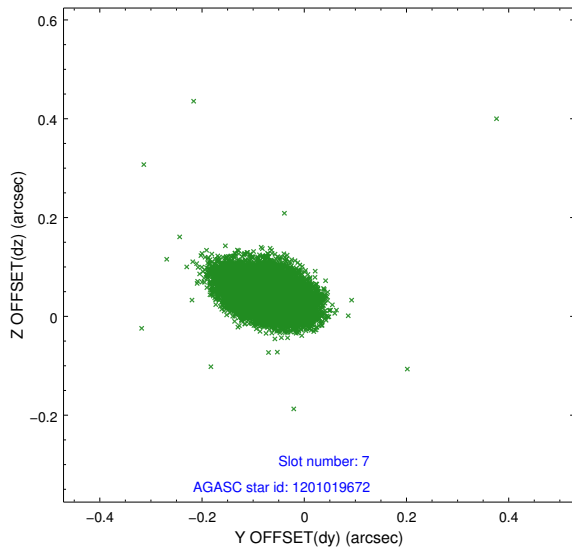
### 2.4.3 Slot 5



## 2.4.4 Slot 6

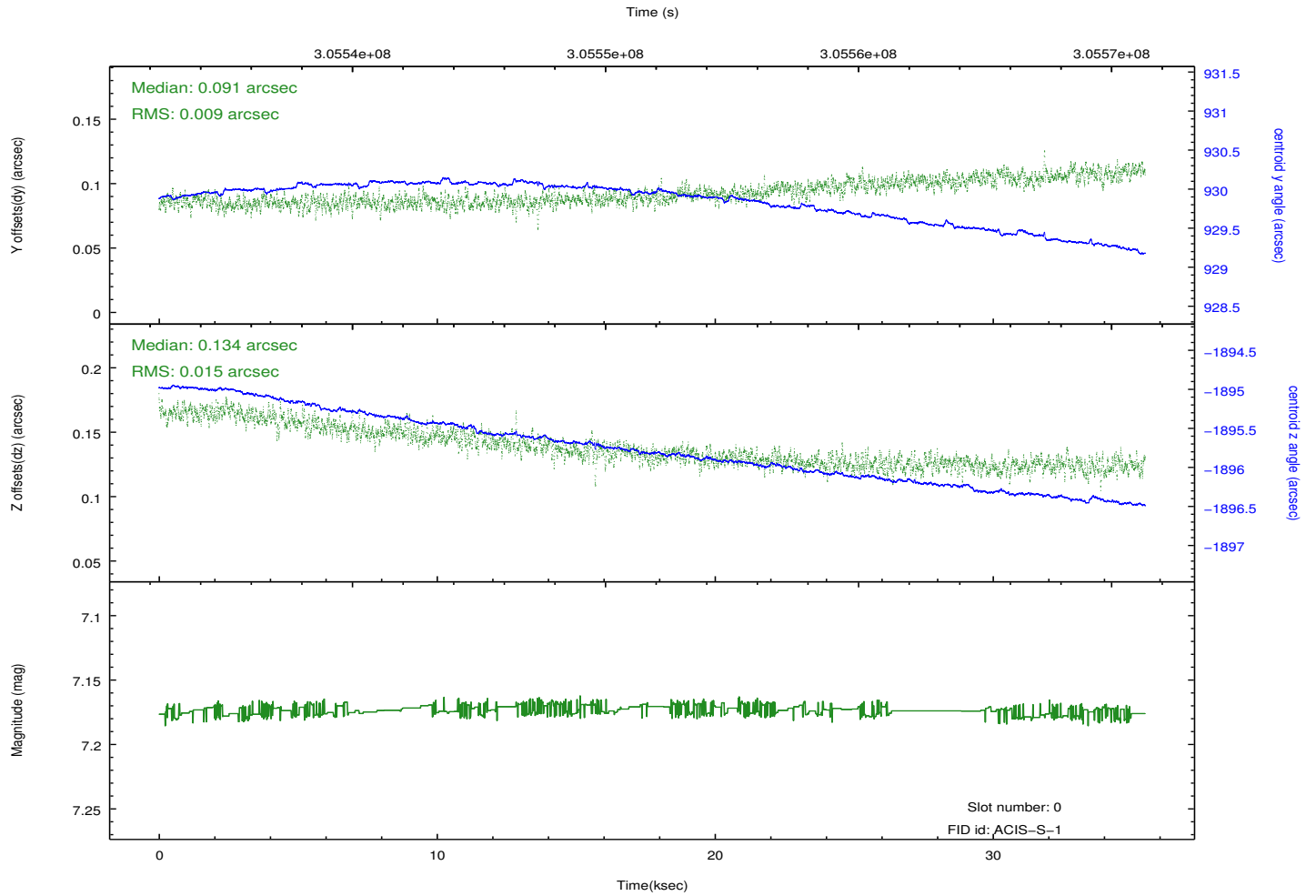
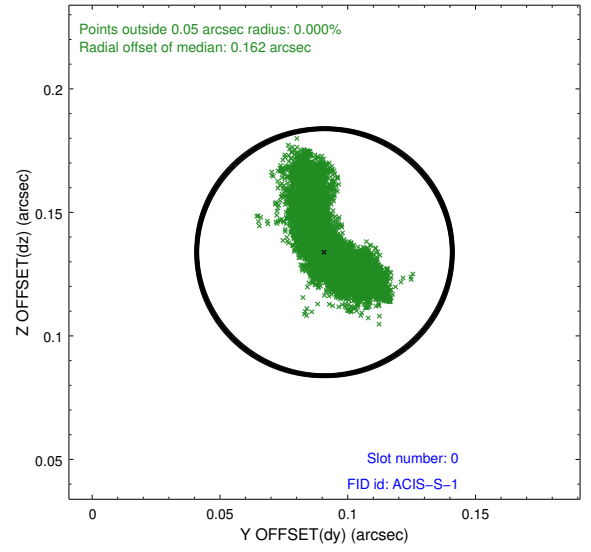
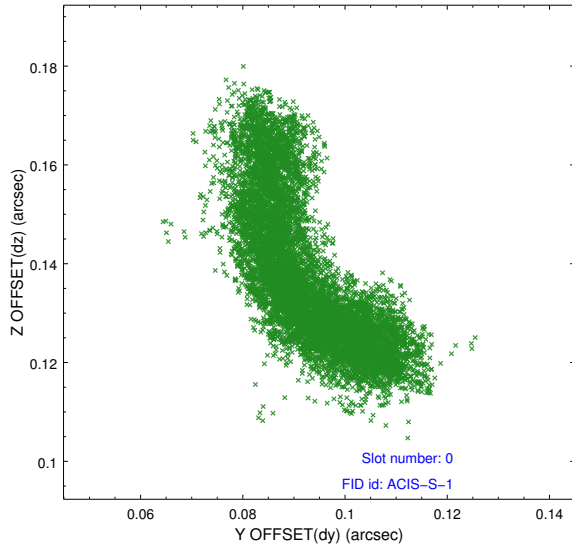


## 2.4.5 Slot 7

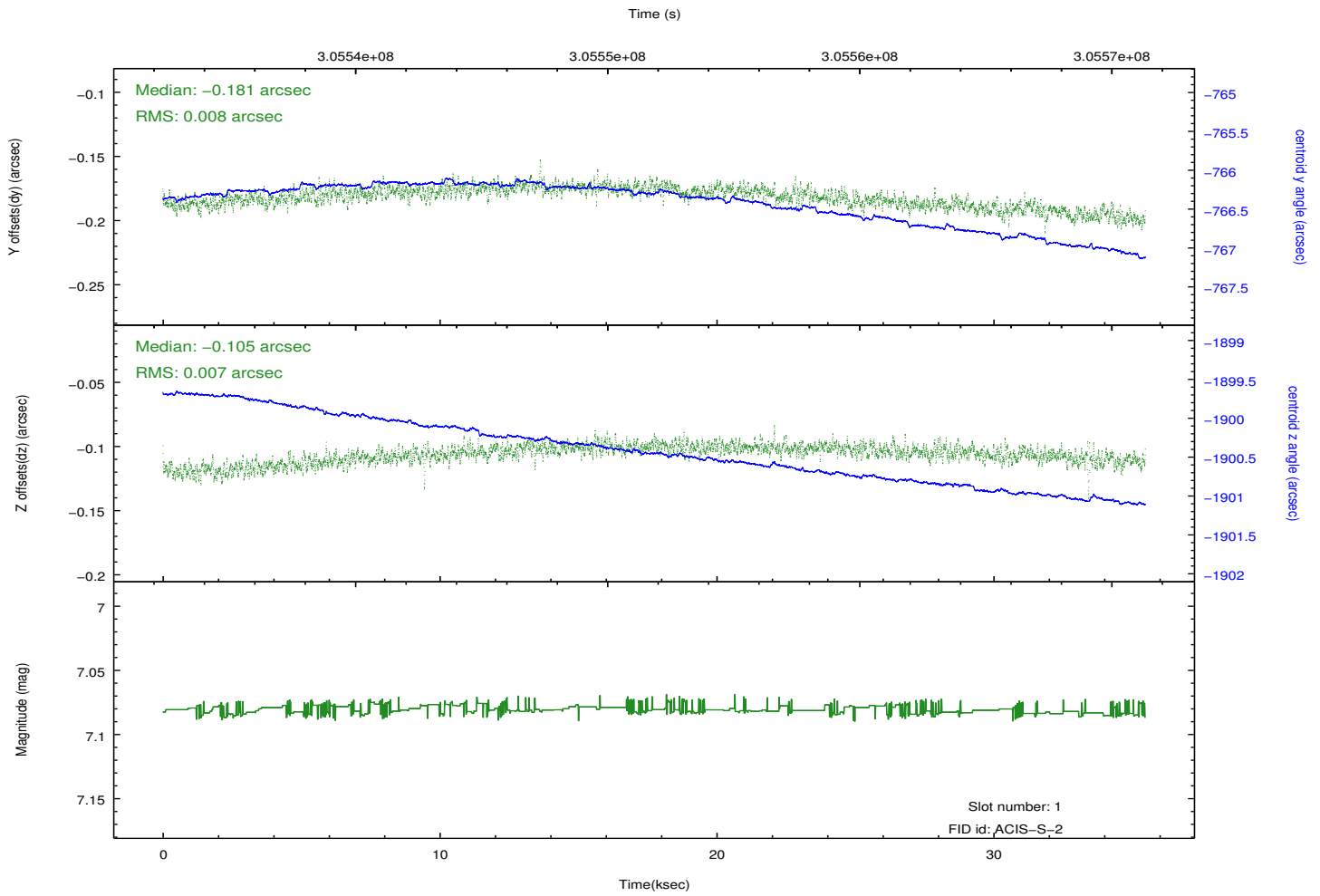
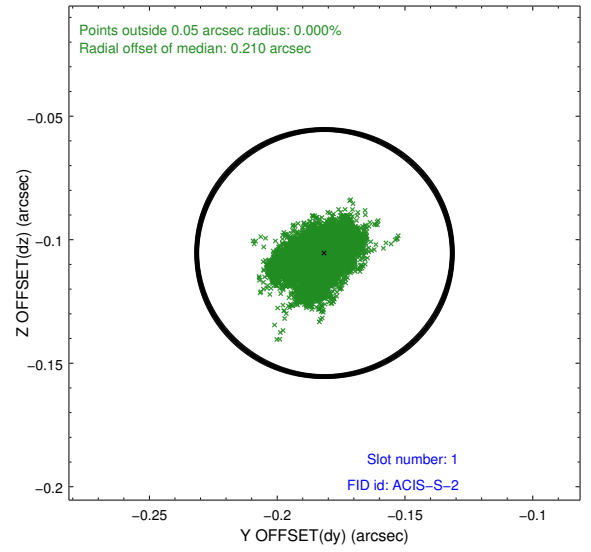
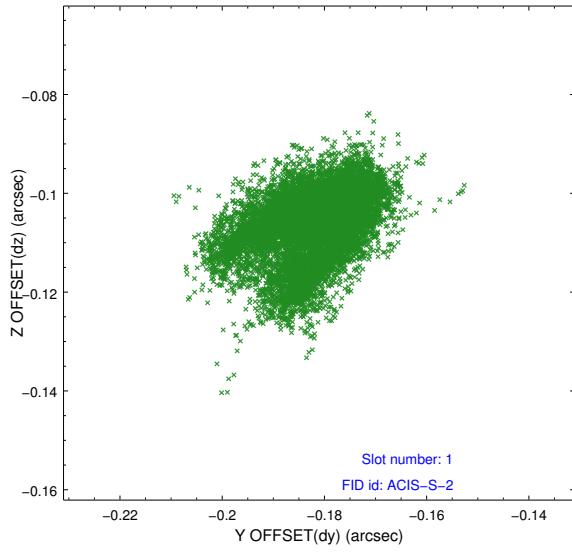


## 2.5 FID Slots

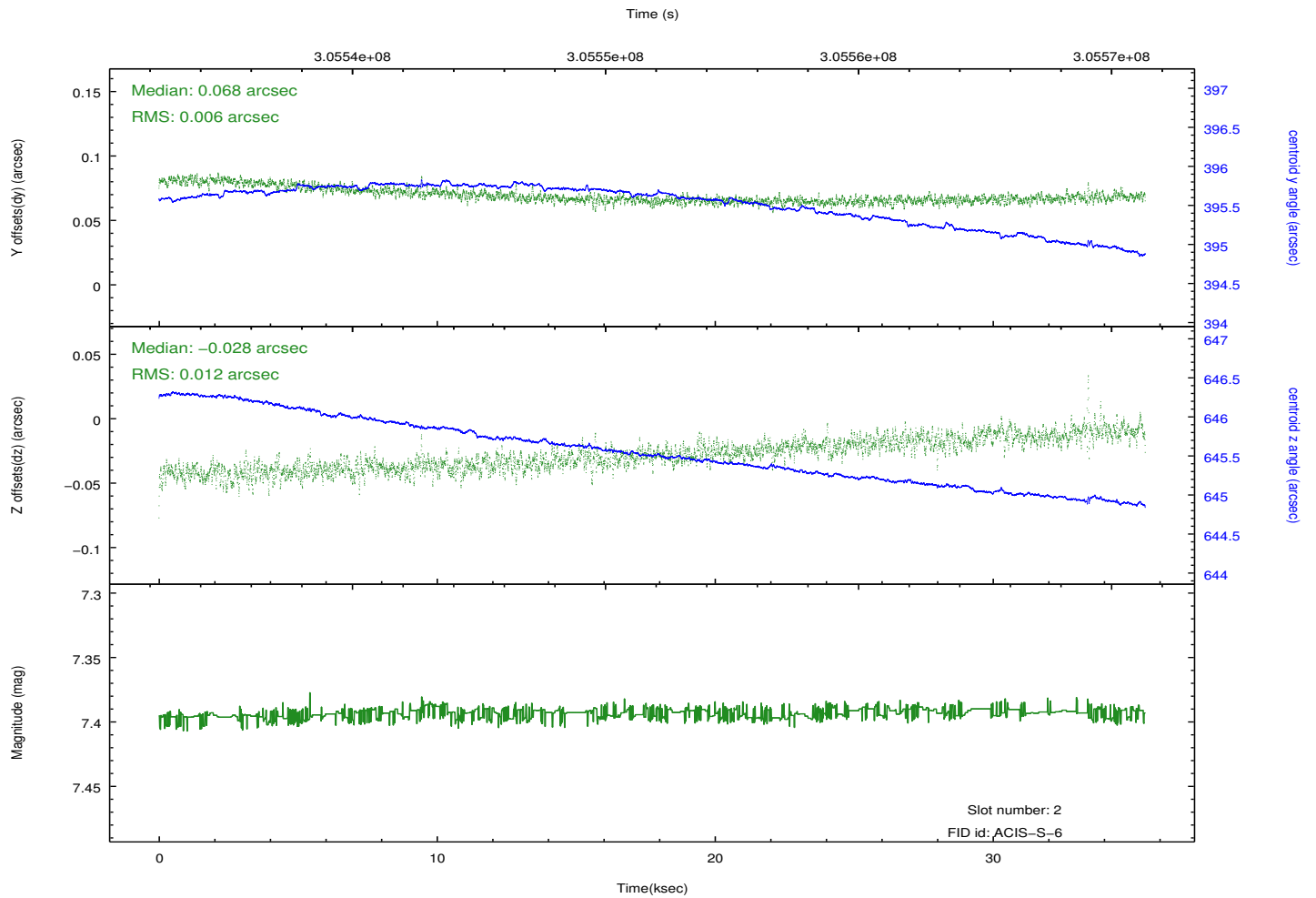
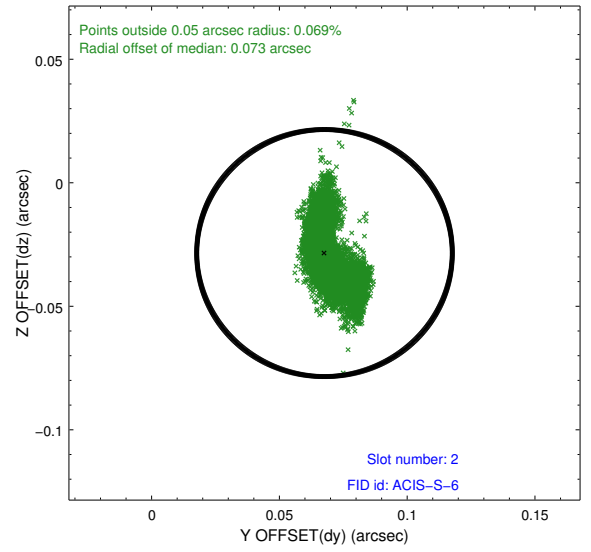
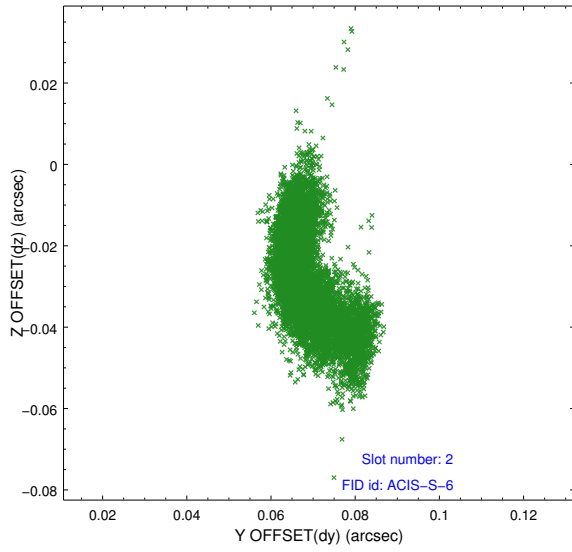
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2

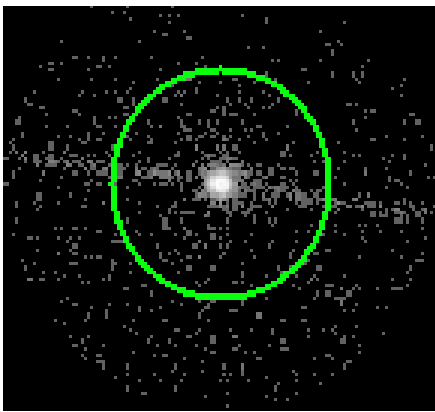


### 3 Gratings

#### 3.1 LETG Arm



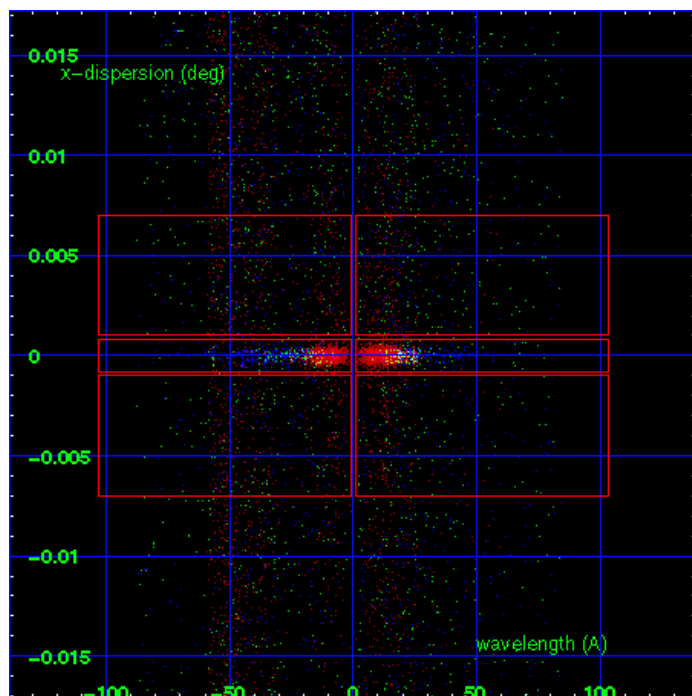
LETG Order Sort 123



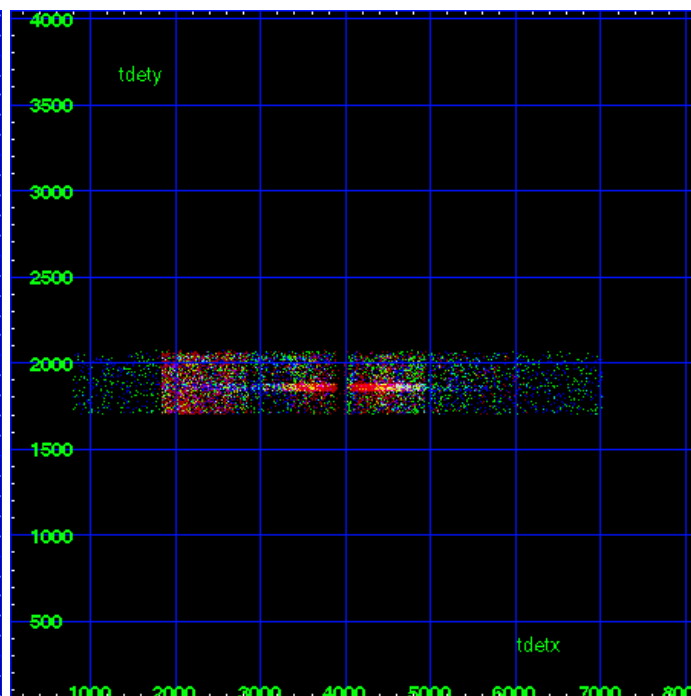
LETG Zero Order



LETG Order Sort ALL

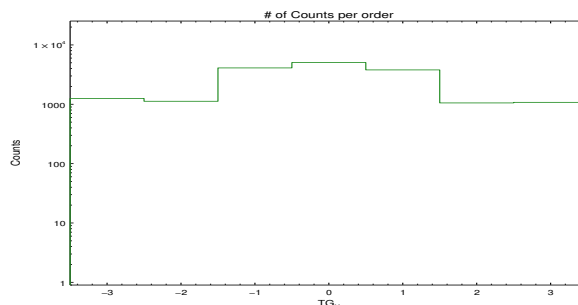


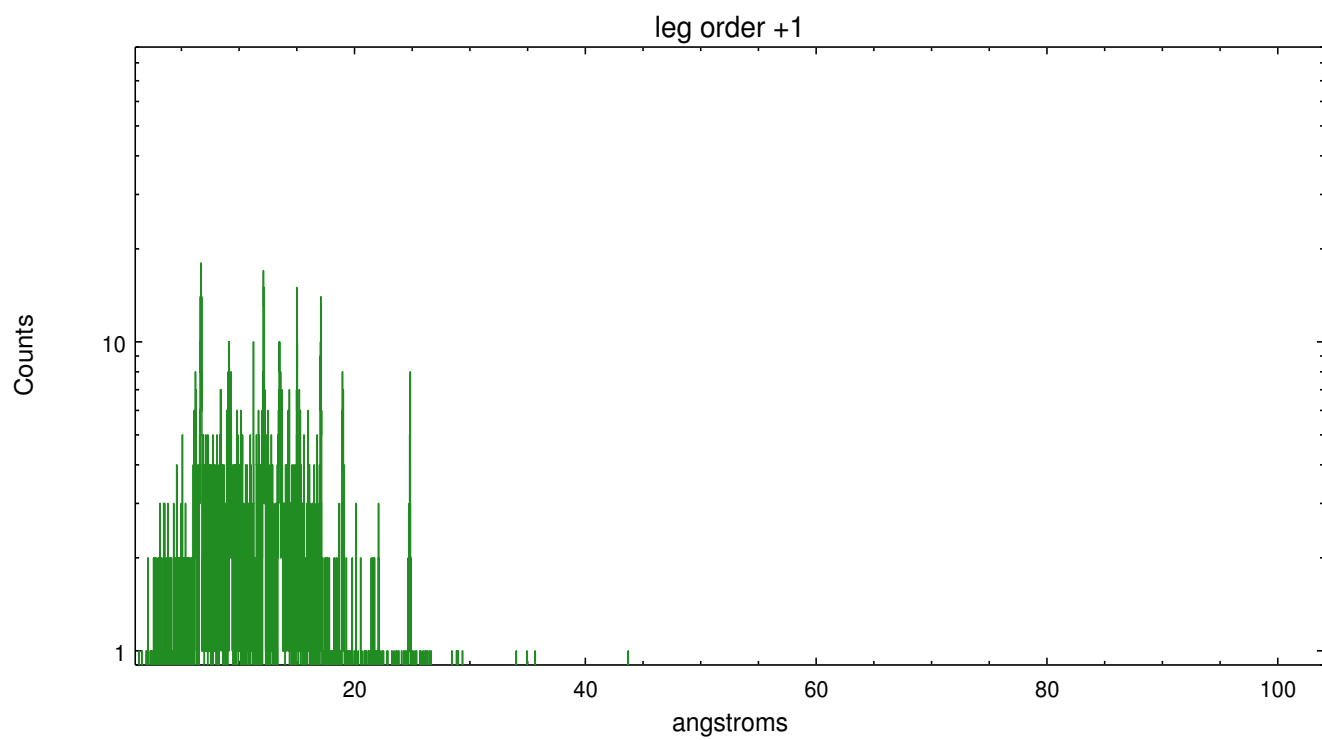
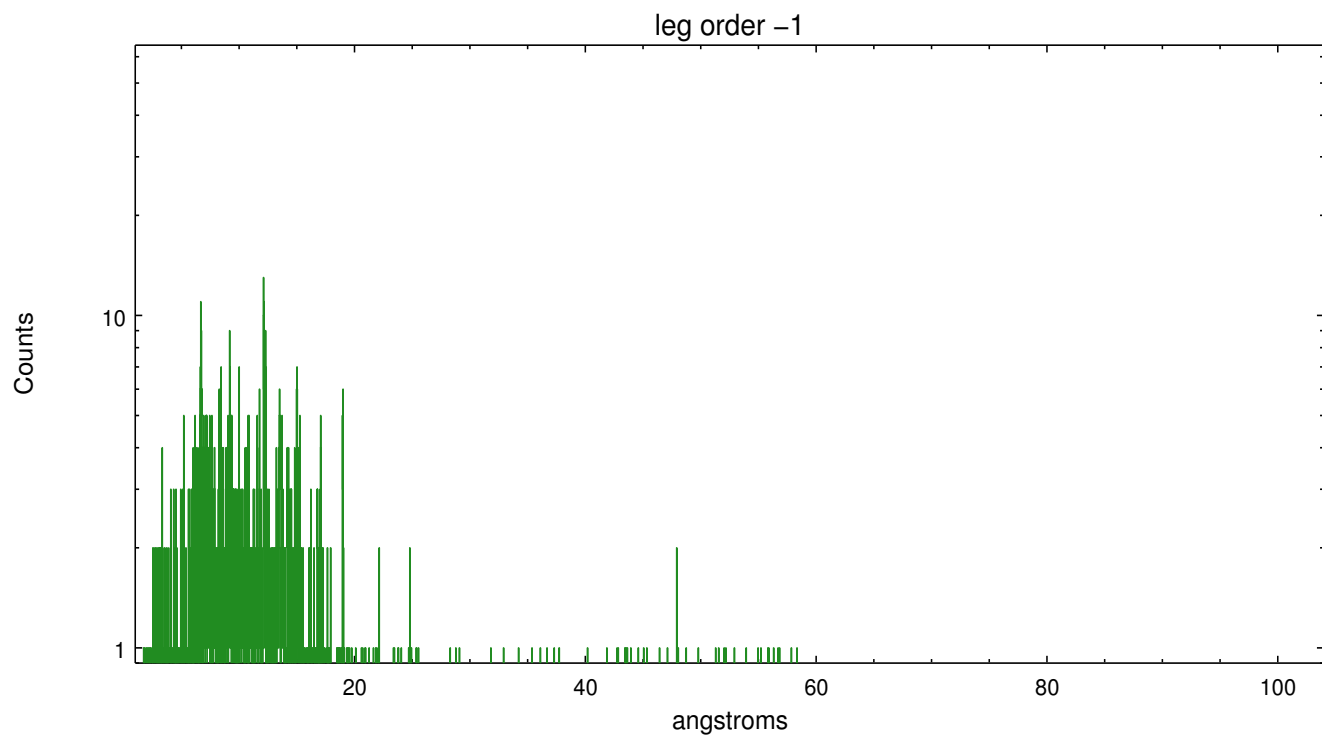
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1254	1123	4099	5050	3794	1054	1077





# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.05.09
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	35.0367998

## A.2 Comments

Warning: Extended source, dia  $\sim 3$  arc seconds; nominal extraction includes whole source and could be narrowed to reduce background. Background events dominate below 30A. Extraction is centered in supernova remnant, but is not positioned at the brightest region.

===

Gain and CTI correction are not well calibrated on CCD\_ID 5 (ACIS-S1). Default order sorting can clip some regions, particularly longward of 30A (first order). User-specified custom processing parameters may be required in `tg_resolve_events` (`osipfile=None`, `osort_lo`, `osort_hi  $\sim 0.5$` ) though this can allow more zeroth order background at short wavelengths.