

V&V Reference Report

L2 ASCDS Version : 10.3.3

Observation 16977 - L2 Version 2
Chandra X-Ray Center

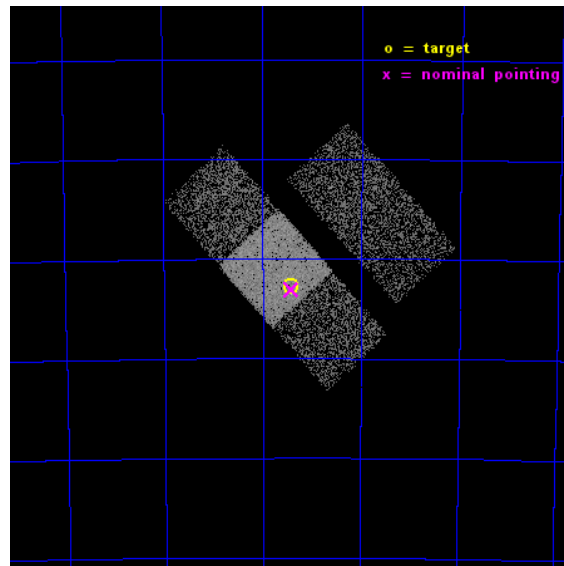
L2 Processing Date : Feb 24 2015

Contents

1	Front	2
2	OBI	3
2.1	OBI	3
2.1.1	Images	3
2.1.2	Bias	3
2.1.3	Parameters	4
2.1.4	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
A	Summary	17
A.1	Status	17
A.2	Comments	17

1 Front

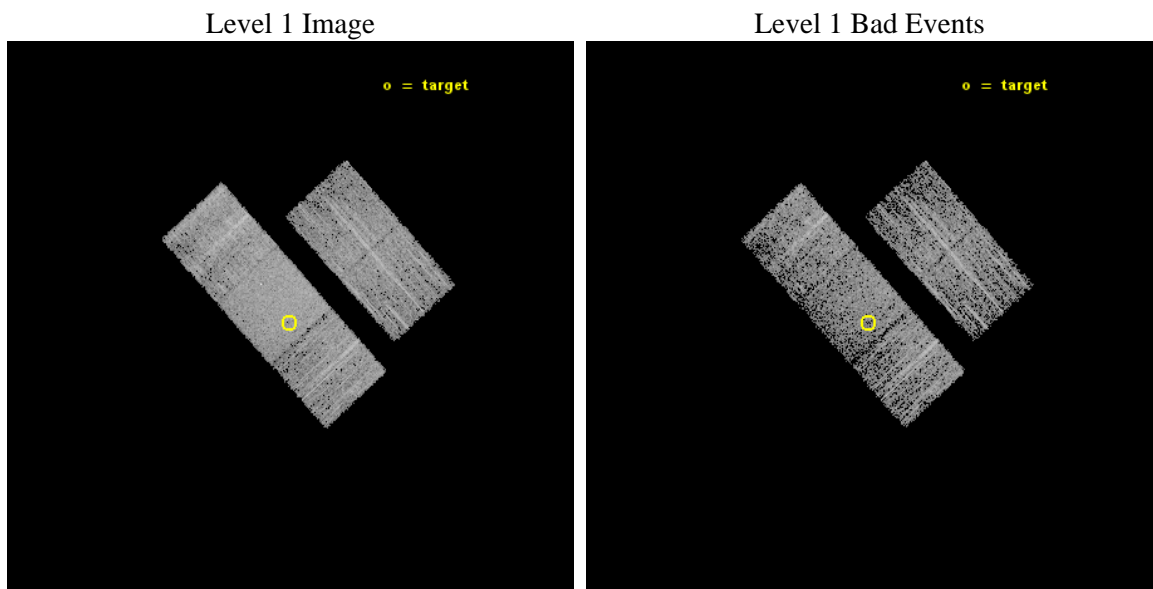
seq_num	601170	Sequence number
obs_id	16977	Observation id
title	Super-massive black holes and nuclear star clusters in late type galaxies	Proposal title
observer	Elena Gallo	Principal investigator
object	NGC406	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	16.854583	Observer's specified target RA [deg]
dec_targ	-69.879222	Observer's specified target Dec [deg]
ra_nom	16.853691882869	Nominal RA [deg]
dec_nom	-69.884651808014	Nominal Dec [deg]
roll_nom	227.6924502603	Nominal Roll [deg]
revision	2	Processing version of data
ontime	4863.0476675034	Sum of GTIs [s]
livetime	4799.5083696038	Livetime [s]
ontime2	4862.8835074902	Sum of GTIs [s]
ontime3	4859.8245472908	Sum of GTIs [s]
ontime6	4863.0066275597	Sum of GTIs [s]
ontime7	4863.0476675034	Sum of GTIs [s]
ontime8	4862.9245475531	Sum of GTIs [s]
l2events	23921	Number of level 2 events



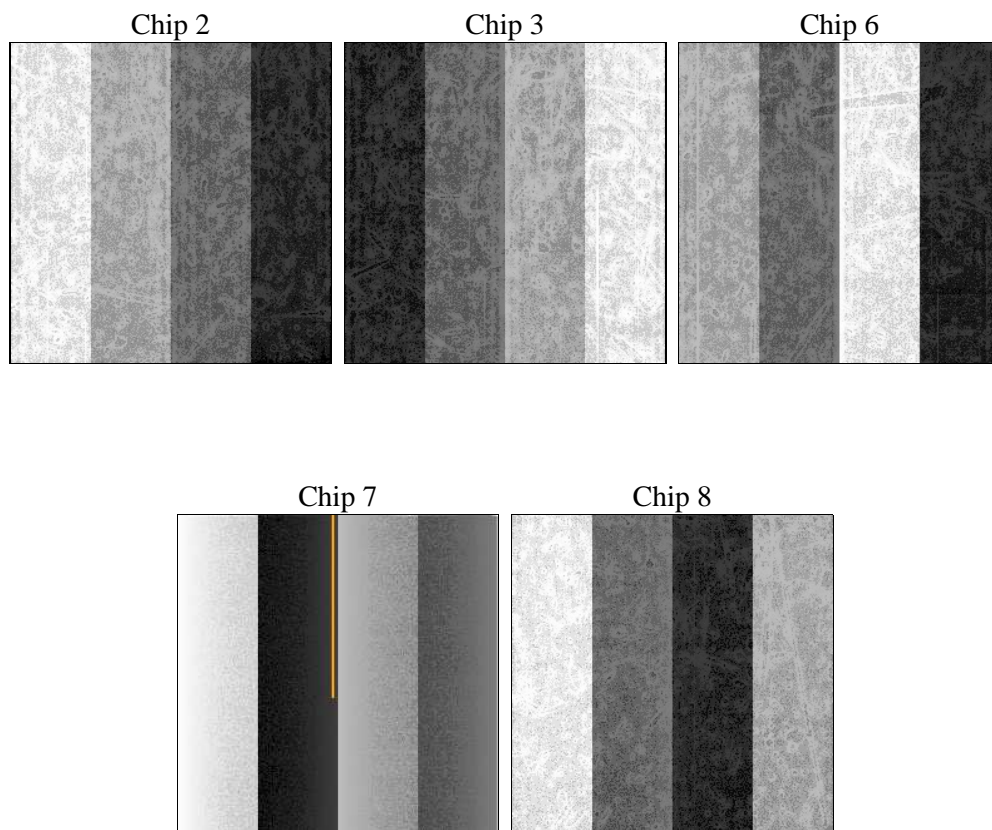
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	3	Obi number	sched_exp_time	4800.000000	[s] Scheduled observation exposure time
ascdsver	10.3.3	Processing system revision	ontime	4863.0476675034	Sum of GTIs [s]
caldsver	4.6.7	 	ontime2	4862.8835074902	Sum of GTIs [s]
date	2015-02-24T16:33:26	Date and time of file creation	ontime3	4859.8245472908	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	4863.0066275597	Sum of GTIs [s]
			ontime7	4863.0476675034	Sum of GTIs [s]
			ontime8	4862.9245475531	Sum of GTIs [s]
			l1events	137810	Number of level 1 events

2.1.4 Events

	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
level 1 events	24261	22946	25985	33184	31434
rejected events	21690	20286	23113	18763	22960
rejected %	89%	88%	88%	56%	73%

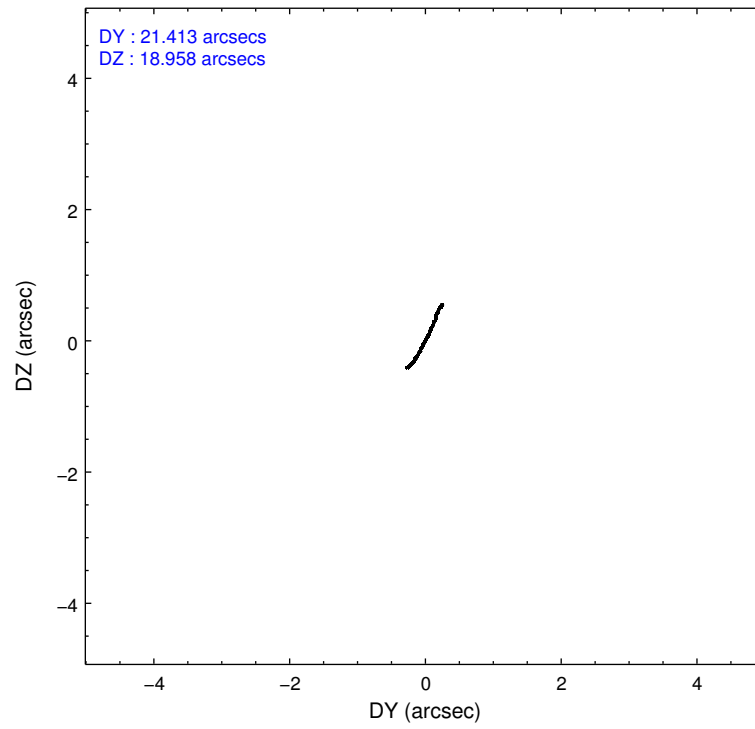
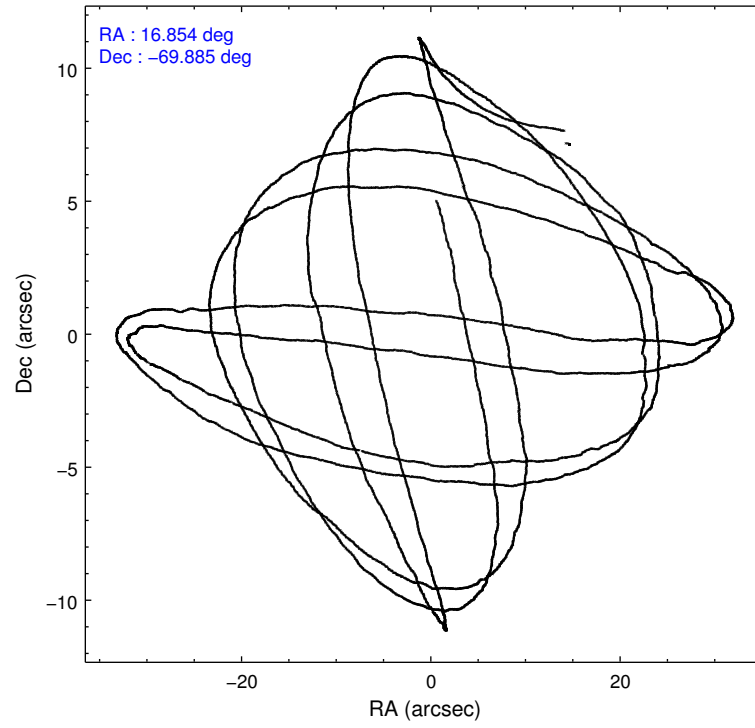
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
grade 0 events	926	905	971	1363	2314
	3%	3%	3%	4%	7%
grade 1 events	13	14	10	39	21
	0%	0%	0%	0%	0%
grade 2 events	636	616	619	2971	2189
	2%	2%	2%	8%	6%
grade 3 events	261	290	332	1176	793
	1%	1%	1%	3%	2%
grade 4 events	254	275	286	1170	797
	1%	1%	1%	3%	2%
grade 5 events	1051	1262	1283	3282	1828
	4%	5%	4%	9%	5%
grade 6 events	497	579	671	7754	2391
	2%	2%	2%	23%	7%
grade 7 events	20623	19005	21813	15429	21101
	85%	82%	83%	46%	67%

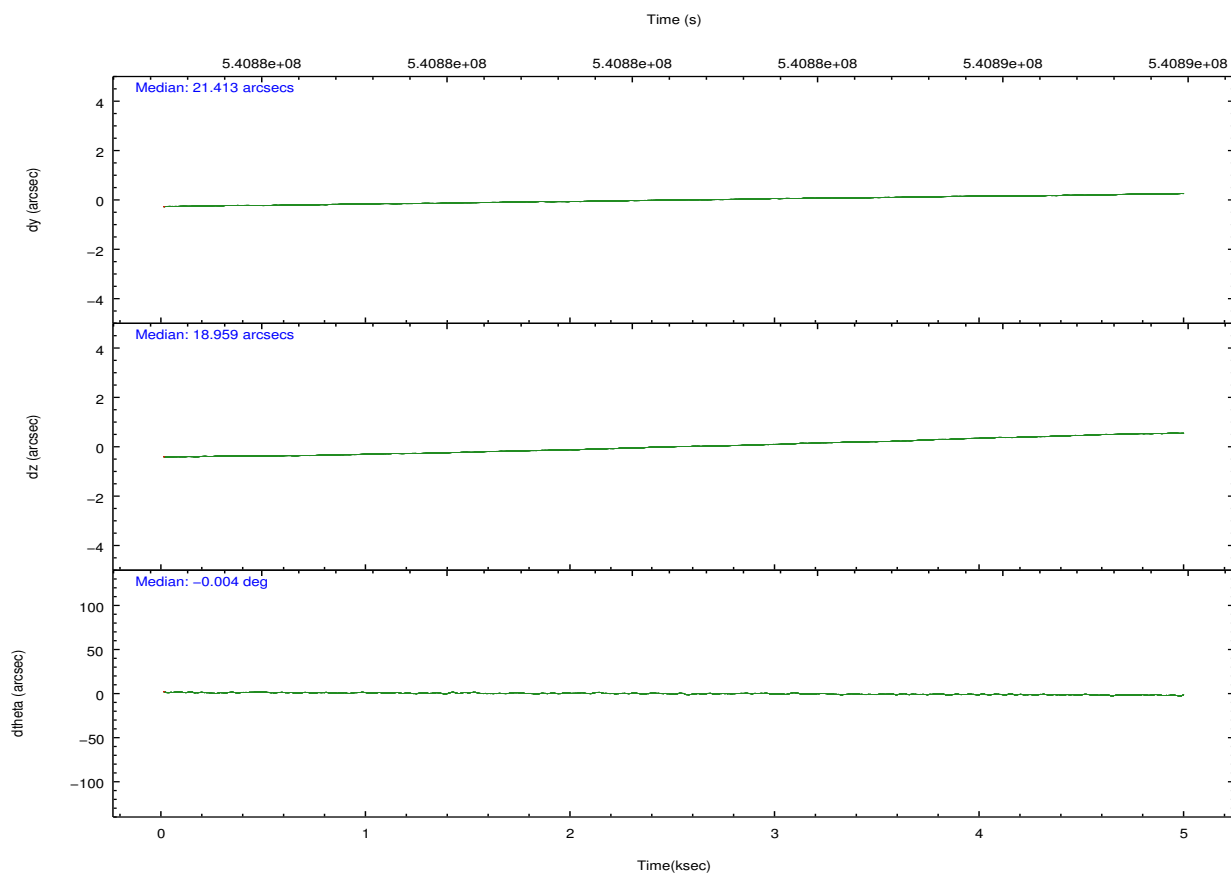
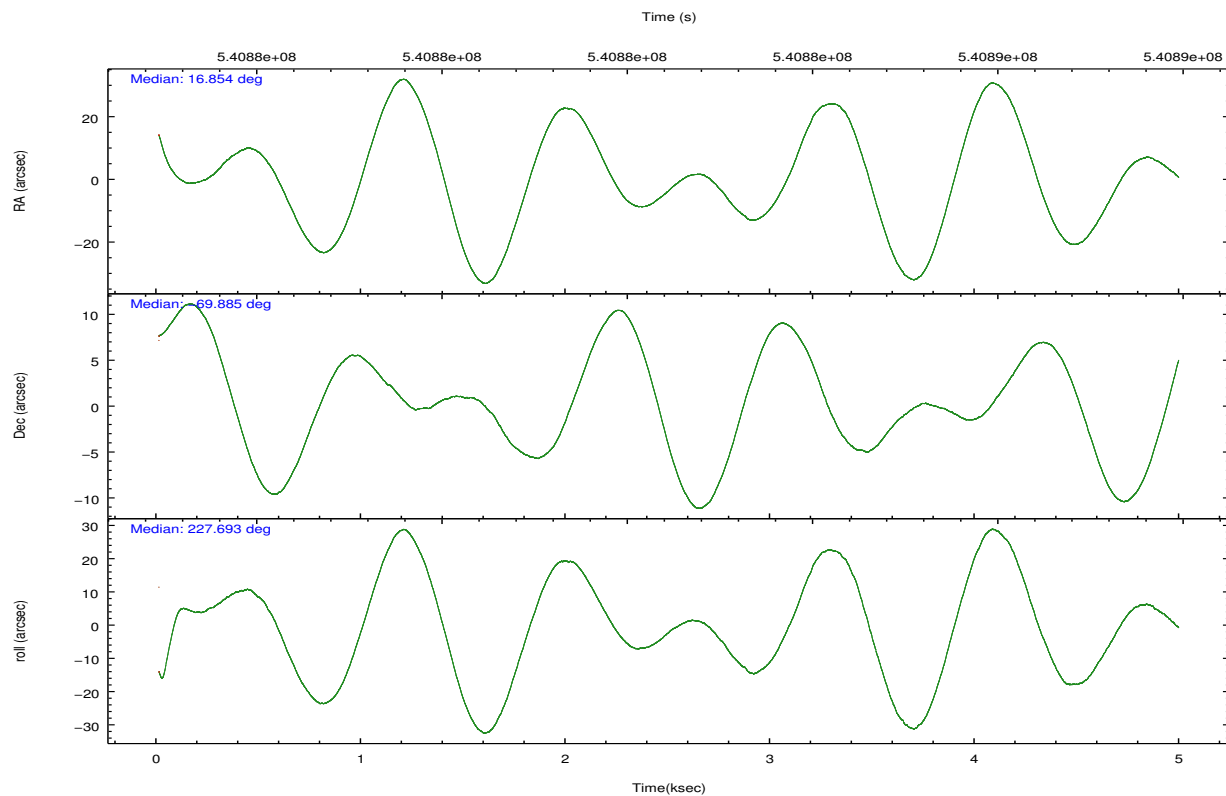
2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-23678	ACIS-23678
Grating	NONE	NONE
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	16.869635	16.85369188286874
[deg] Pointing Dec	-69.857767	-69.8846518080135
[deg] Pointing Roll	227.550885	227.6924502602996
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-190.132523	-190.1425803651734
[mm] SIM translation stage offset	0	0.01005778216563158
[s] Observation start time (MET)	540881930.184000	540880968.5989799
Observation start date	2015-02-21T04:57:43	2015-02-21T04:42:48
[s] Observation end time (MET)	540886730.184000	540887877.09936
Observation end date	2015-02-21T06:17:43	2015-02-21T06:37:57
Read mode	TIMED	TIMED

Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
CCD I0 on	N	N
CCD I1 on	N	N
CCD I2 on	O2	Y
CCD I3 on	O1	Y
CCD S0 on	N	N
CCD S1 on	N	N
CCD S2 on	Y	Y
CCD S3 on	Y	Y
CCD S4 on	Y	Y
CCD S5 on	N	N
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	3.1

2.3 Aspect



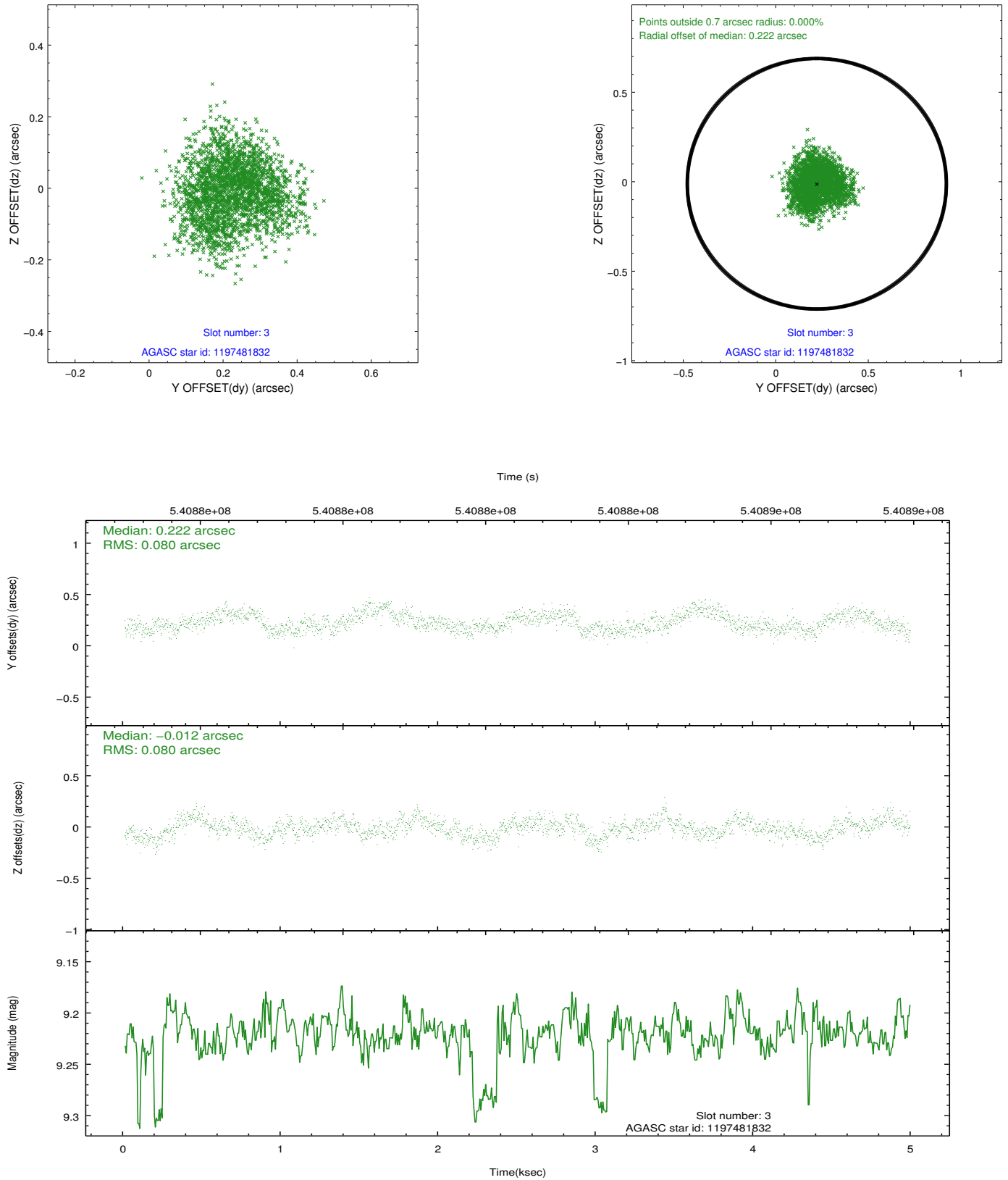


Slot Statistics

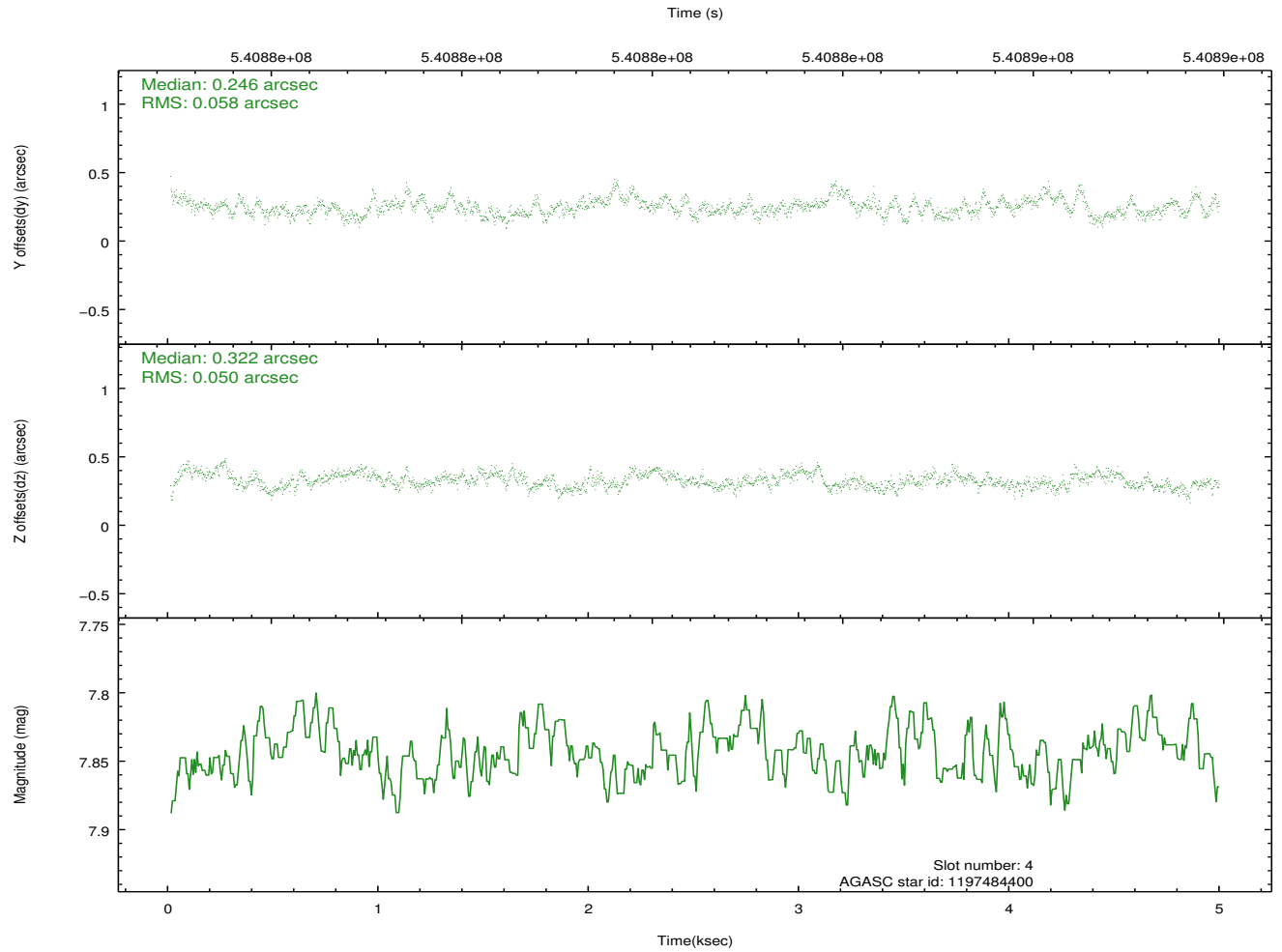
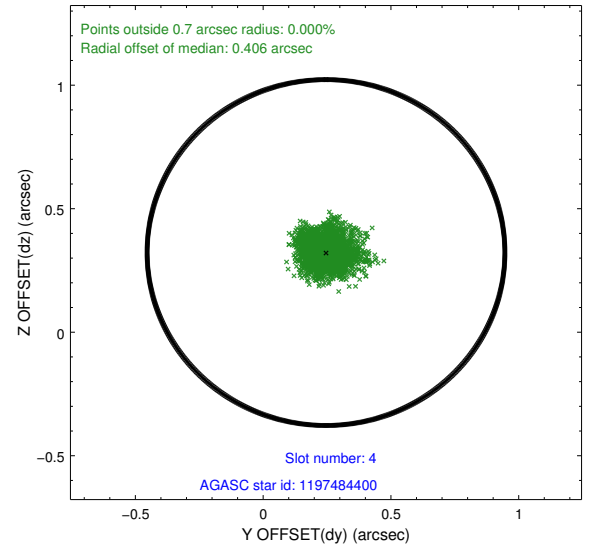
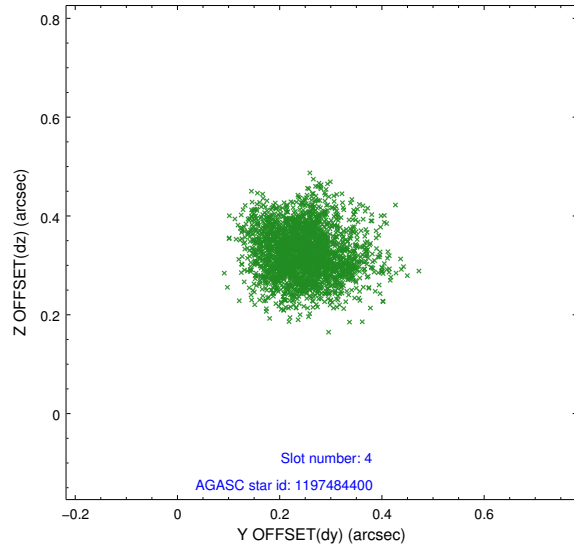
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.06	1217	-0.151	-0.088	0.011	0.020	0.000000	0.000000	-774.70	-1740.49
1	FID		ACIS-S-4	7.16	1217	0.355	0.096	0.006	0.010	0.000000	0.000000	2138.52	166.90
2	FID		ACIS-S-5	7.17	1216	-0.236	0.000	0.010	0.018	0.000000	0.000000	-1826.07	161.87
3	GUIDE	used	1197481832	9.22	2433	0.222	-0.012	0.123	0.189	17.735461	-69.955136	-456.42	1030.19
4	GUIDE	used	1197484400	7.85	2433	0.246	0.322	0.081	0.132	17.231941	-69.566383	-1080.14	-370.13
5	GUIDE	used	1197875368	8.16	2433	-0.102	-0.409	0.102	0.156	17.140782	-70.666831	1931.27	2204.49
6	GUIDE	used	1197483128	8.97	2432	0.287	-0.059	0.123	0.187	17.556778	-69.659006	-1103.52	155.86
7	GUIDE	used	1197875904	7.85	2431	-0.656	0.150	0.073	0.112	16.130104	-70.540357	2414.87	1008.18

2.4 Star Slots

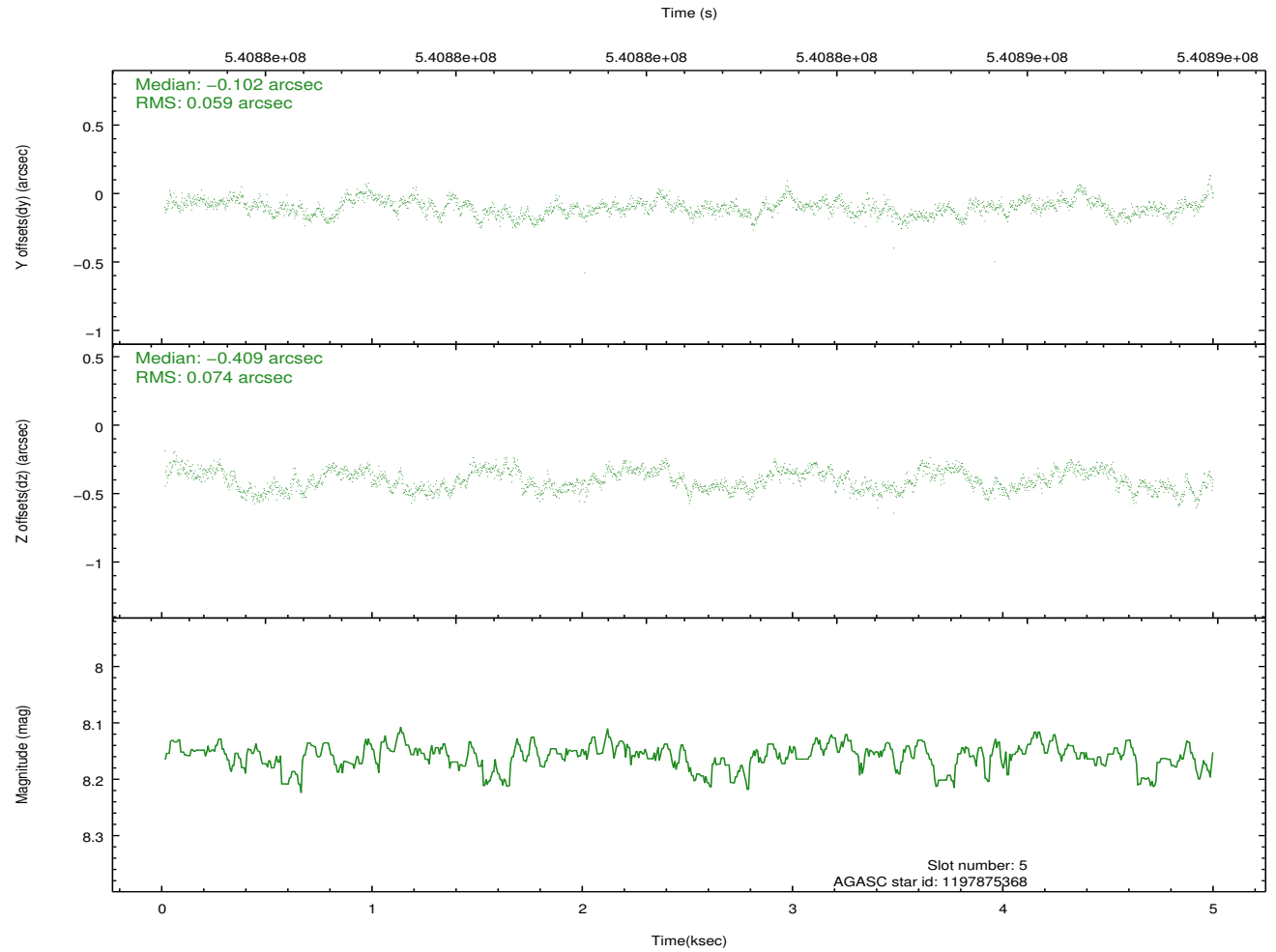
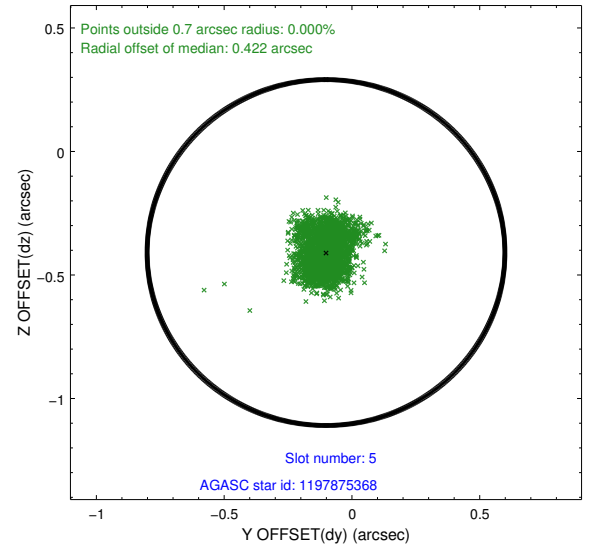
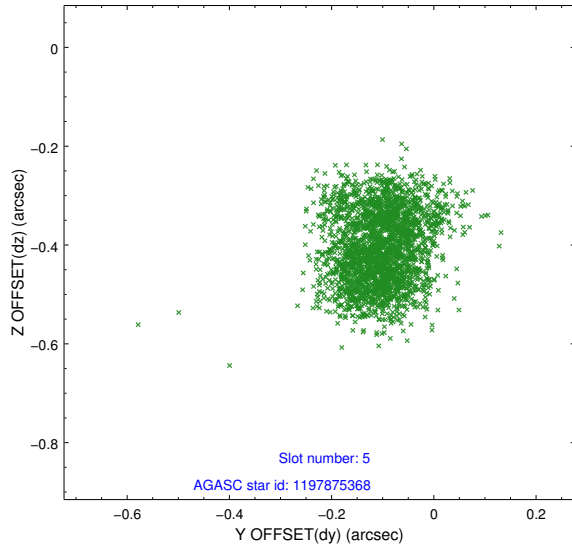
2.4.1 Slot 3



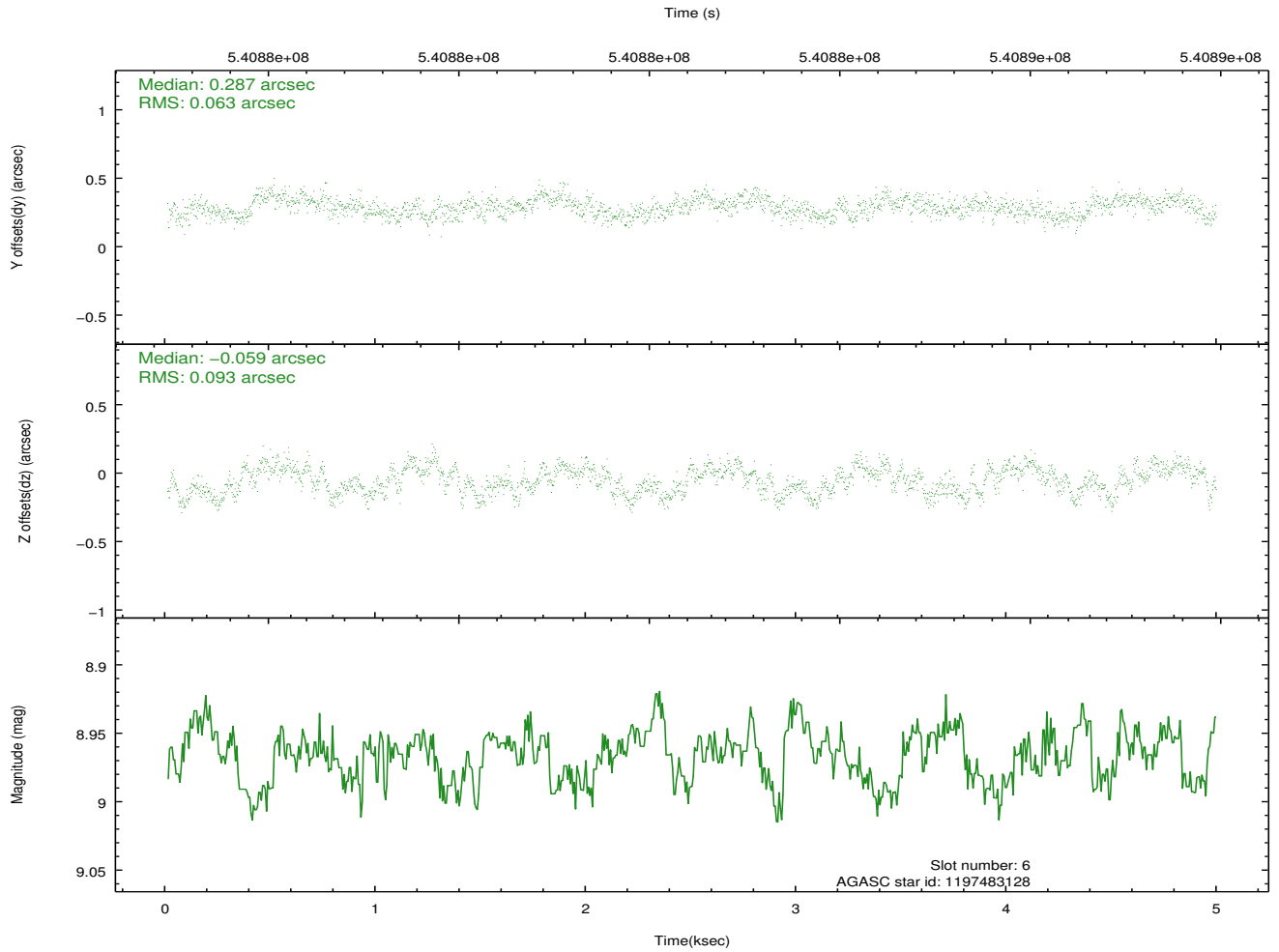
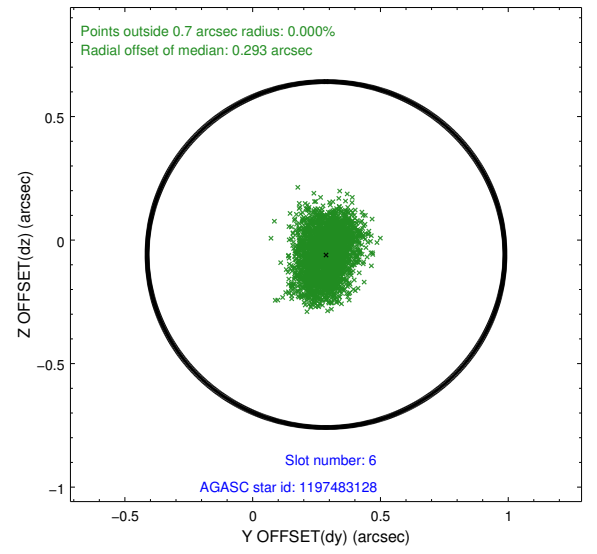
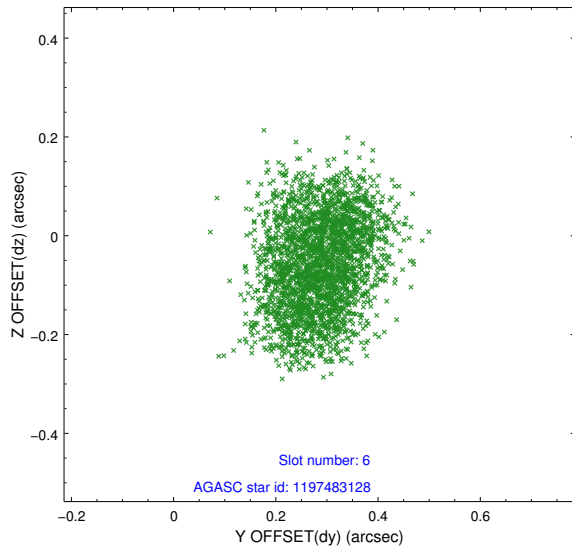
2.4.2 Slot 4



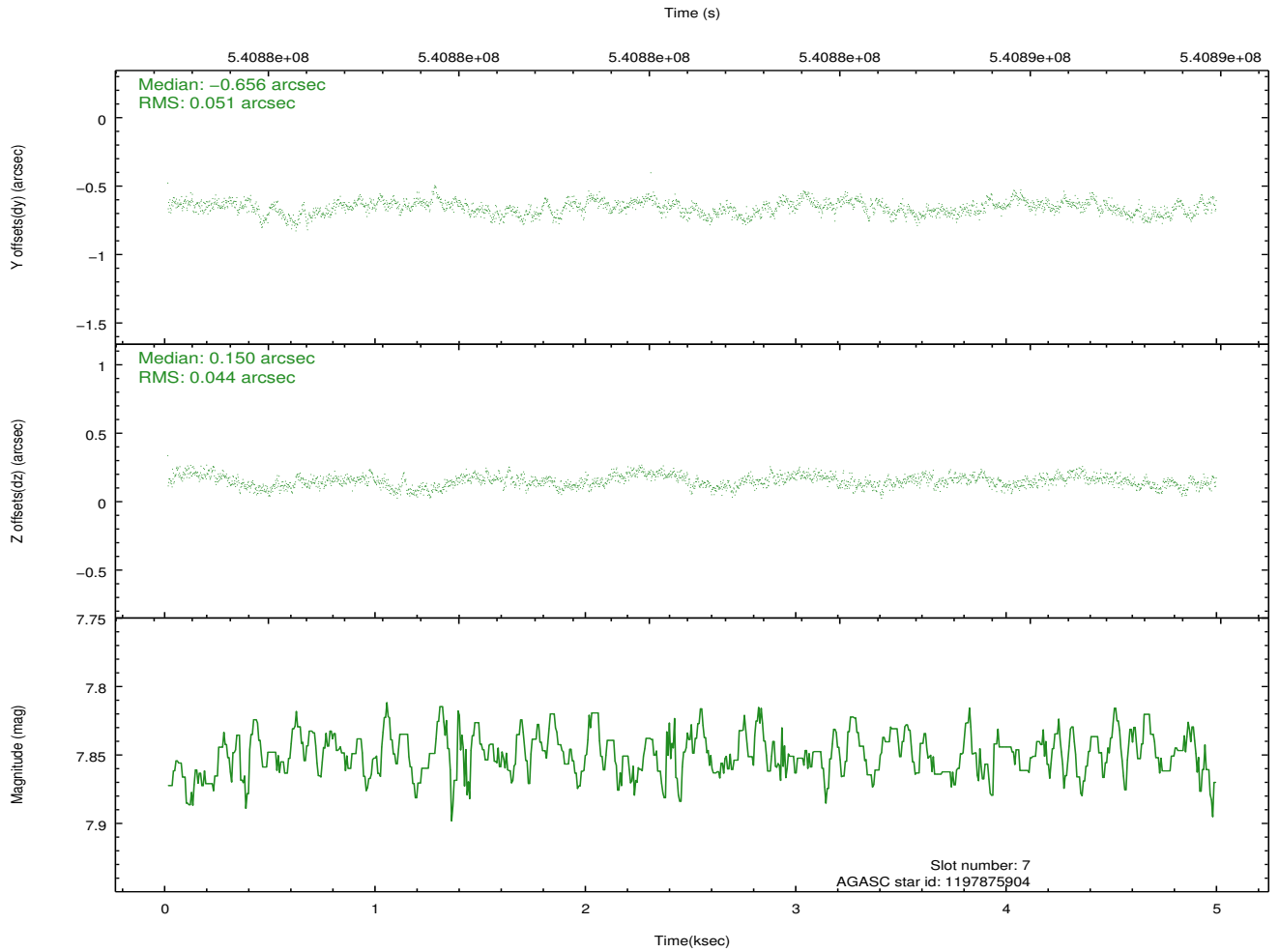
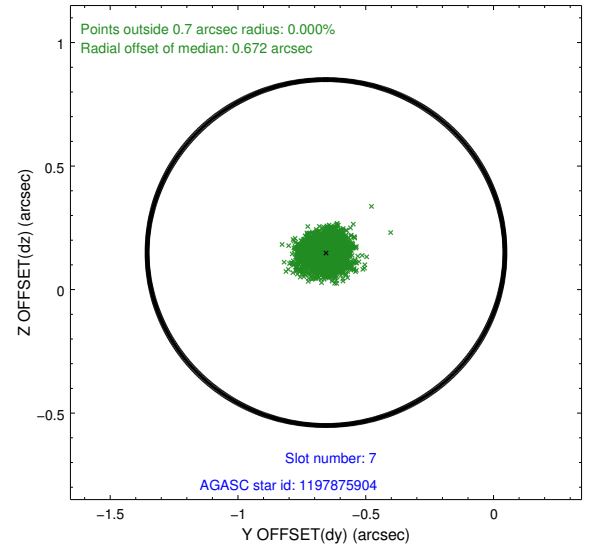
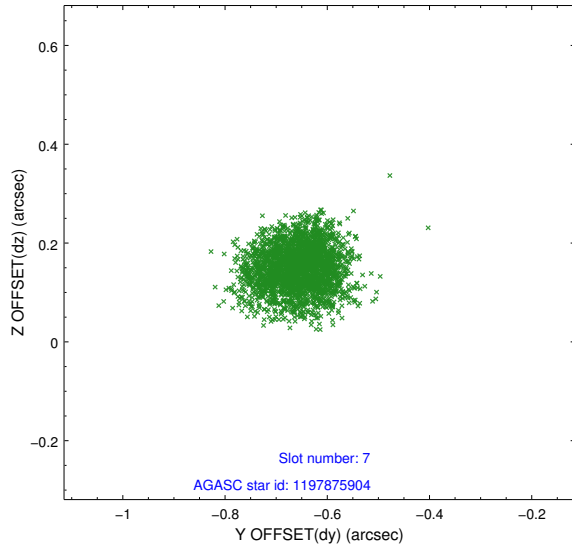
2.4.3 Slot 5



2.4.4 Slot 6

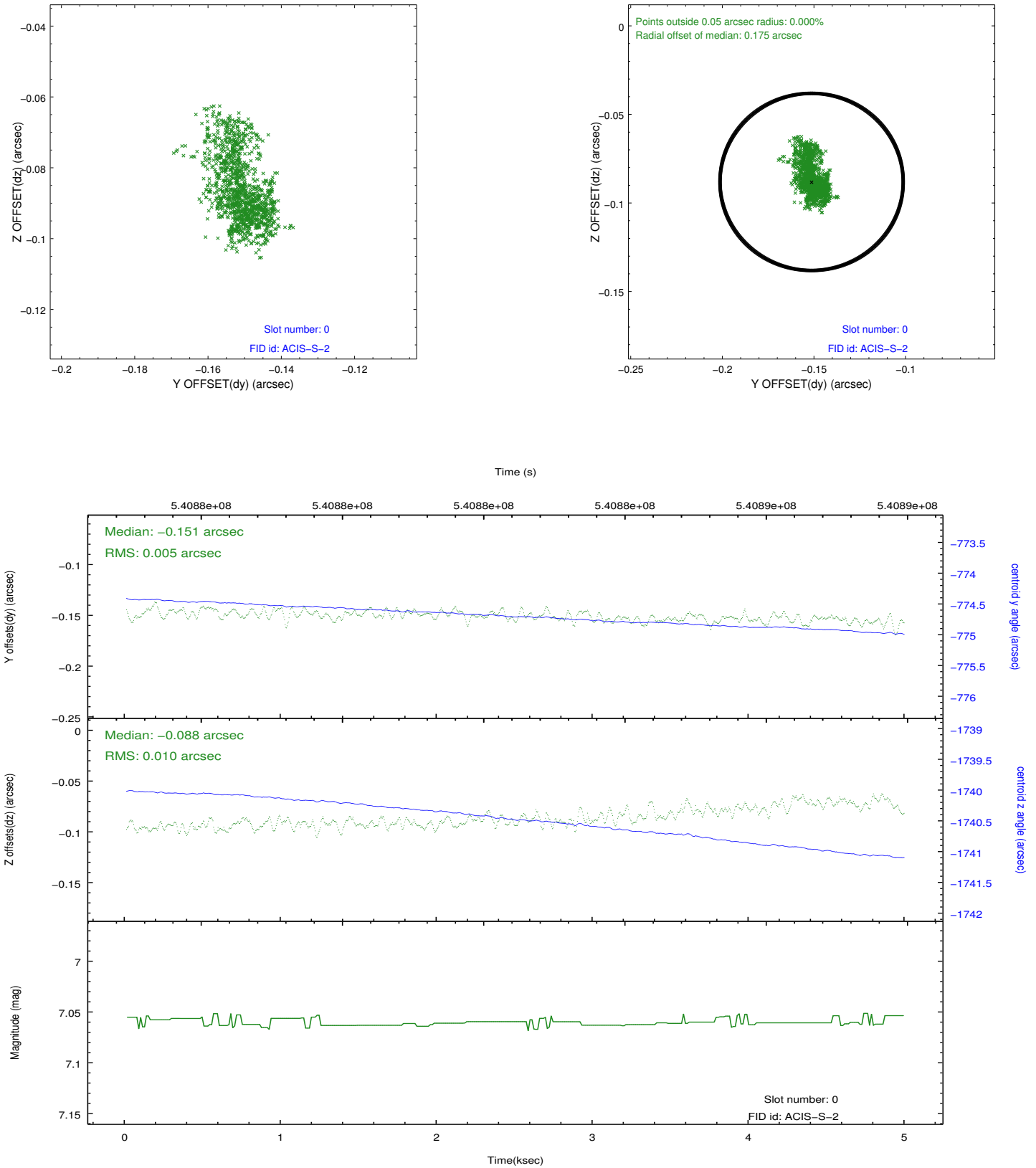


2.4.5 Slot 7

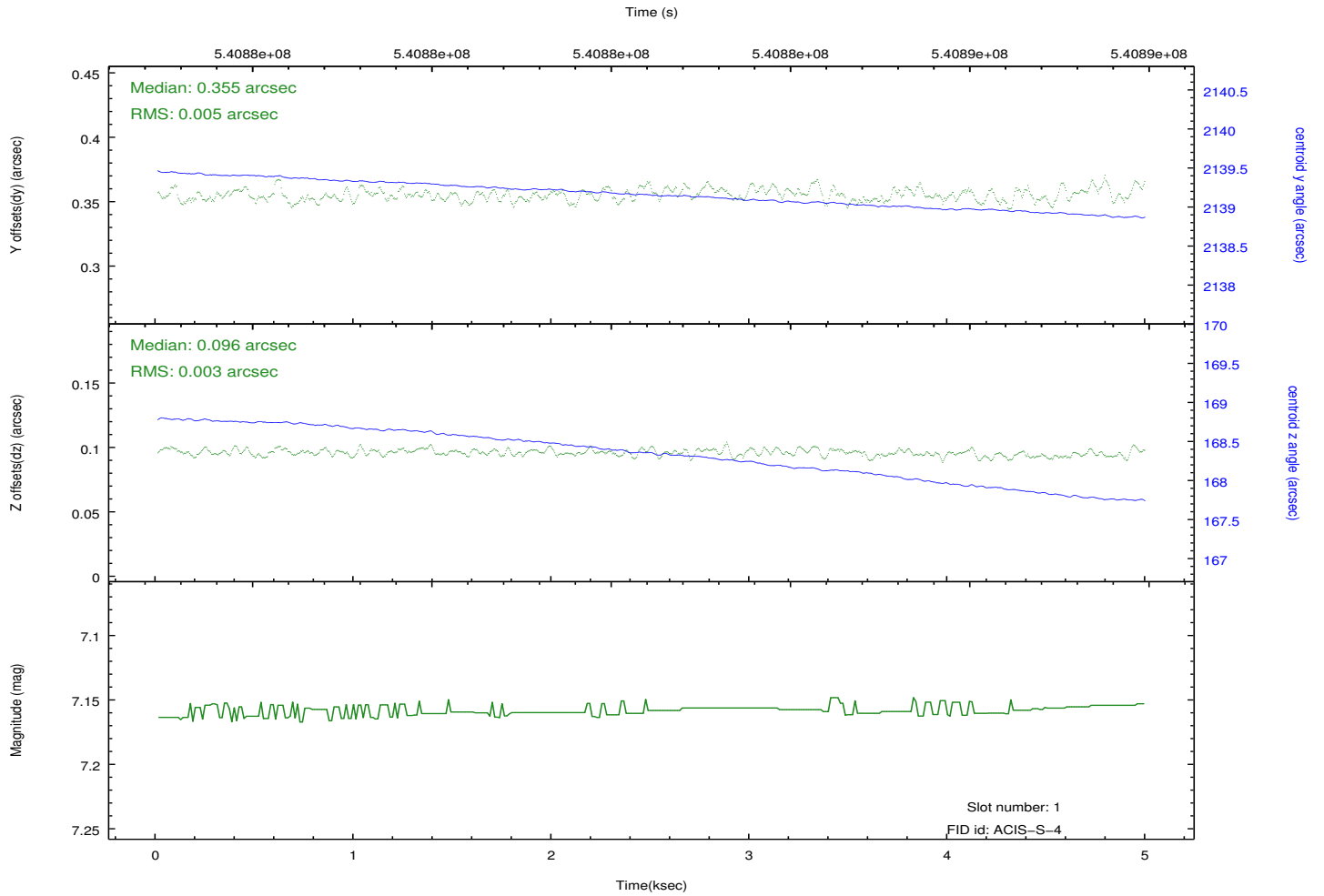
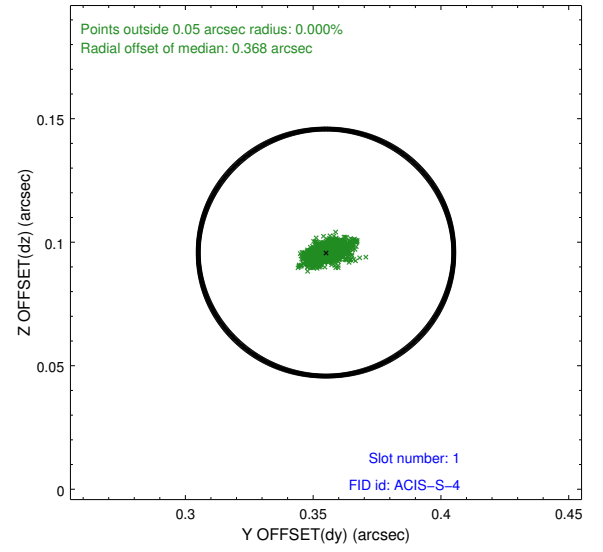
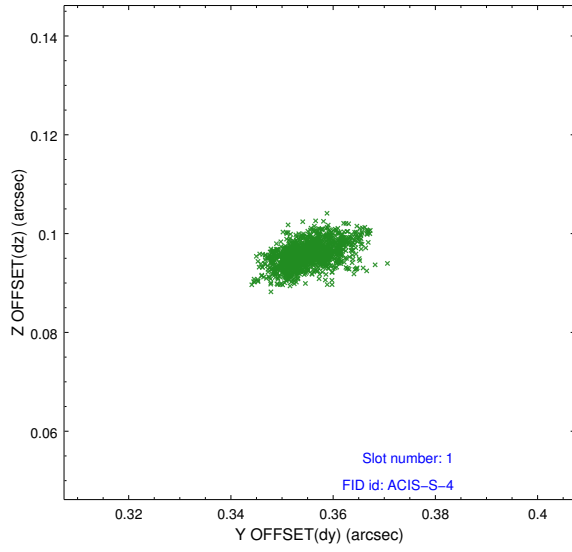


2.5 FID Slots

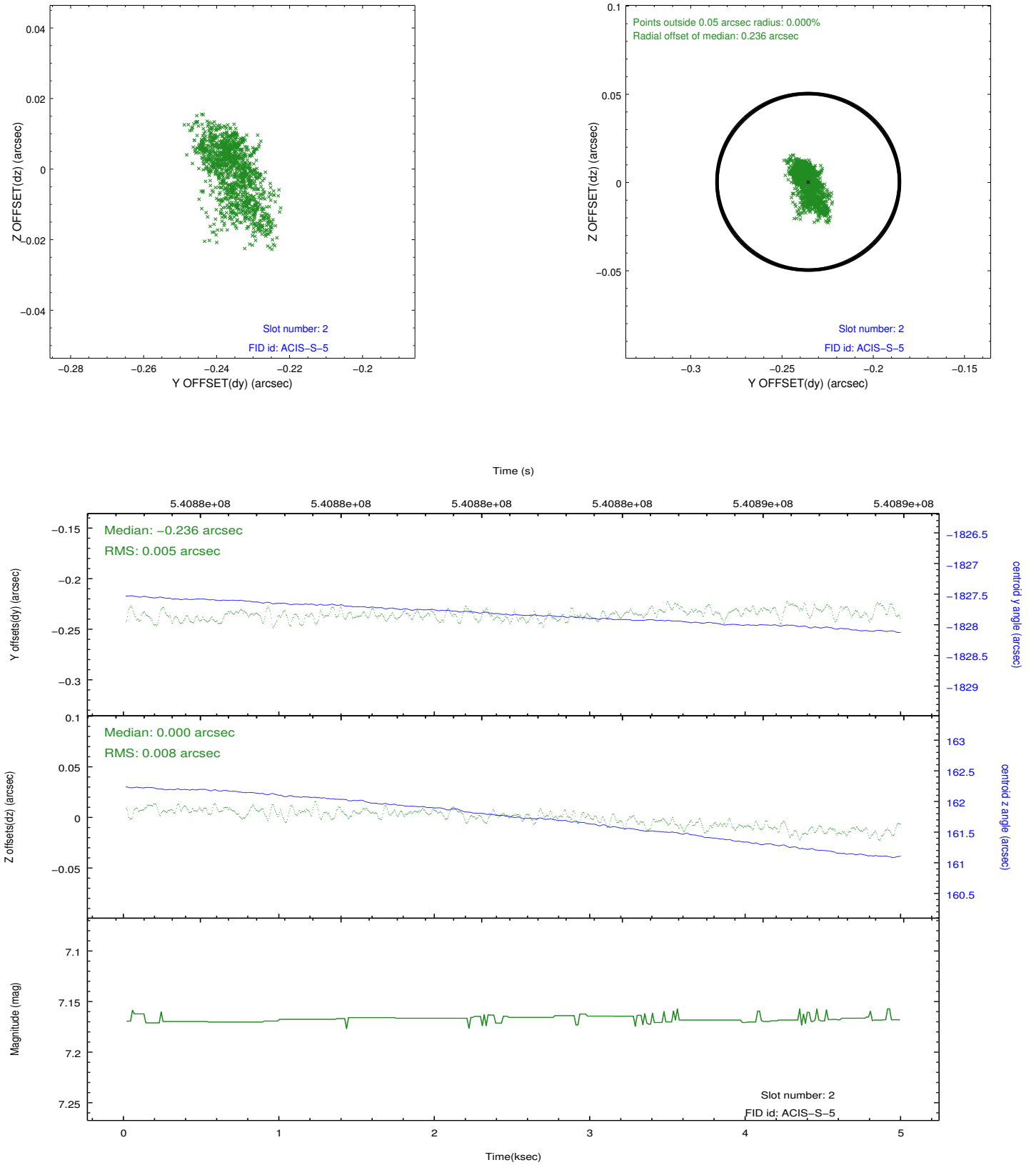
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2



A Summary

A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2015.02.24
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	4.8630476675034

A.2 Comments

A spatial region of the original bias map for CCD = 8 suffered from anomalously high data values. Pixels in the event data that were bias-corrected by one of the original affected bias pixels may have an apparent energy shift. While the change in energy is expected to be small (~ 20 eV), it depends on many parameters that have not yet been fully explored for this bias anomaly. The bias map for CCD = 8 has been reconstructed for this processing to remove this anomaly using scaled data from a comparable bias map from another observation. The pixels affected by the anomaly are bounded by sky coords: (17.34142, -69.79847), (17.36354, -69.78993), (17.06357, -69.69662), (17.04142, -69.70512).