

V&V Reference Report

L2 ASCDS Version : 10.5.2

Observation 19510 - L2 Version 2
Chandra X-Ray Center

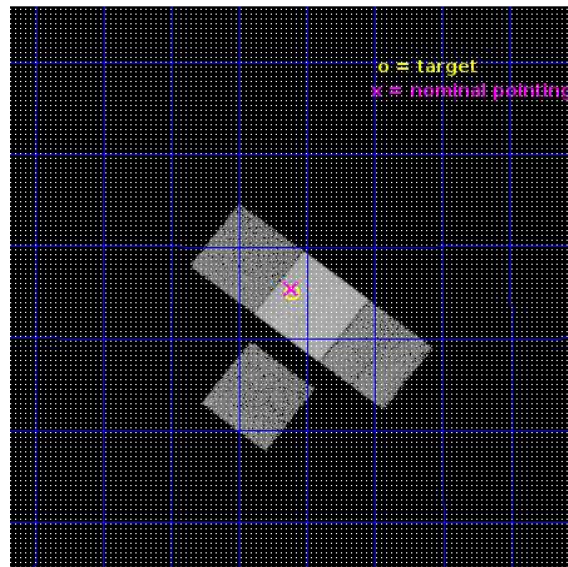
L2 Processing Date : Dec 20 2016

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1 Front

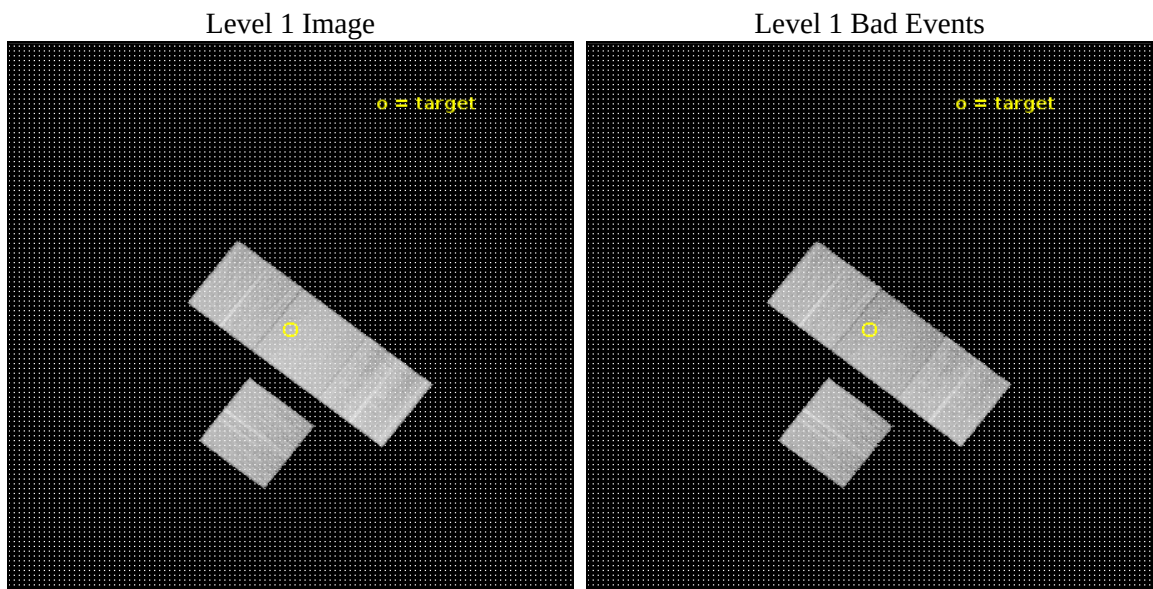
seq_num	703358	Sequence number
obs_id	19510	Observation id
title	Extreme rotation measures and high-redshift clusters	Proposal titl
observer	Mark Birkinshaw	Principal investigator
object	4C +18.45	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	237.4025	Observer's specified target RA [deg]
dec_targ	18.583361	Observer's specified target Dec [deg]
ra_nom	237.40358116443	Nominal RA [deg]
dec_nom	18.590241210754	Nominal Dec [deg]
roll_nom	37.656271890093	Nominal Roll [deg]
revision	2	Processing version of data
ontime	20069.400154471	Sum of GTIs [s]
livetime	19807.178666576	Livetime [s]
ontime3	20069.400154471	Sum of GTIs [s]
ontime6	20066.259194016	Sum of GTIs [s]
ontime7	20069.400154471	Sum of GTIs [s]
ontime8	20069.400154471	Sum of GTIs [s]
l2events	124150	Number of level 2 events



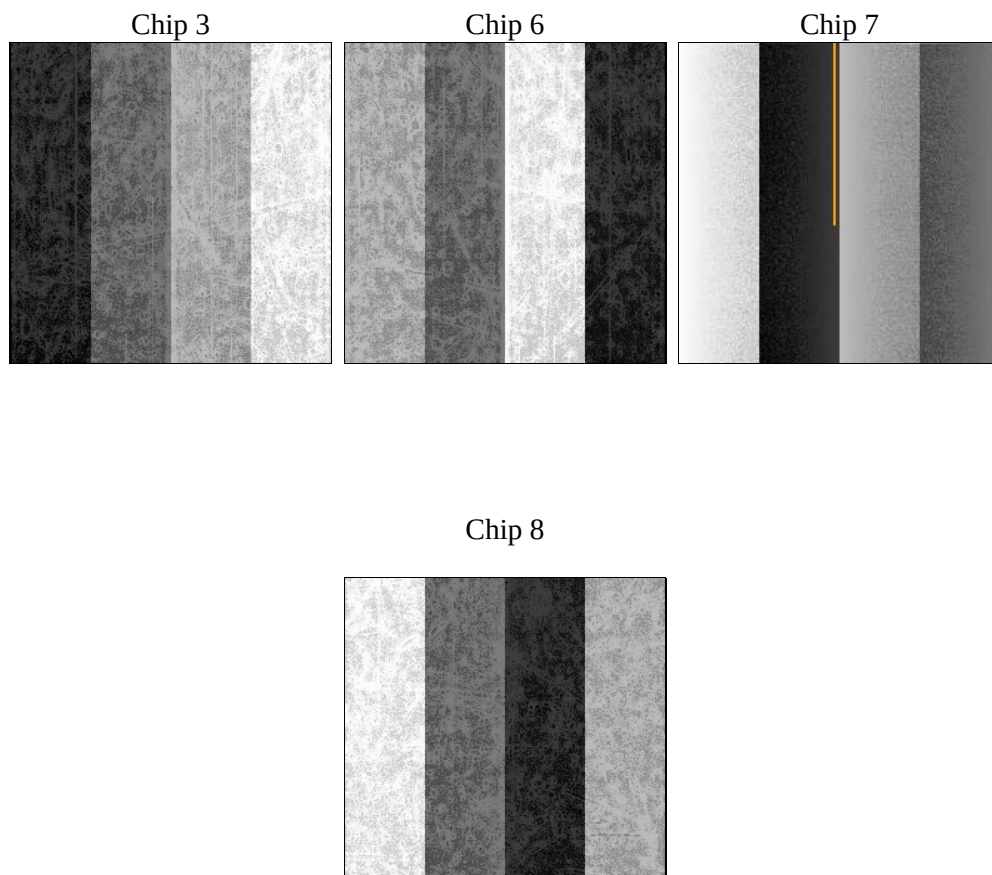
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	20000.000000	[s] Scheduled observation exposure time
ascdsver	10.5.2	Processing system revision	ontime	20069.400154471	Sum of GTIs [s]
caldbver	4.7.3	 	ontime3	20069.400154471	Sum of GTIs [s]
date	2016-12-21T03:02:27	Date and time of file creation	ontime6	20066.259194016	Sum of GTIs [s]
revision	2	Processing version of data	ontime7	20069.400154471	Sum of GTIs [s]
			ontime8	20069.400154471	Sum of GTIs [s]
			l1events	652708	Number of level 1 events

2.1.4 Events

	ccd 3	ccd 6	ccd 7	ccd 8
level 1 events	134831	143767	181656	192454
rejected events	119561	127374	100789	138941
rejected %	88%	88%	55%	72%

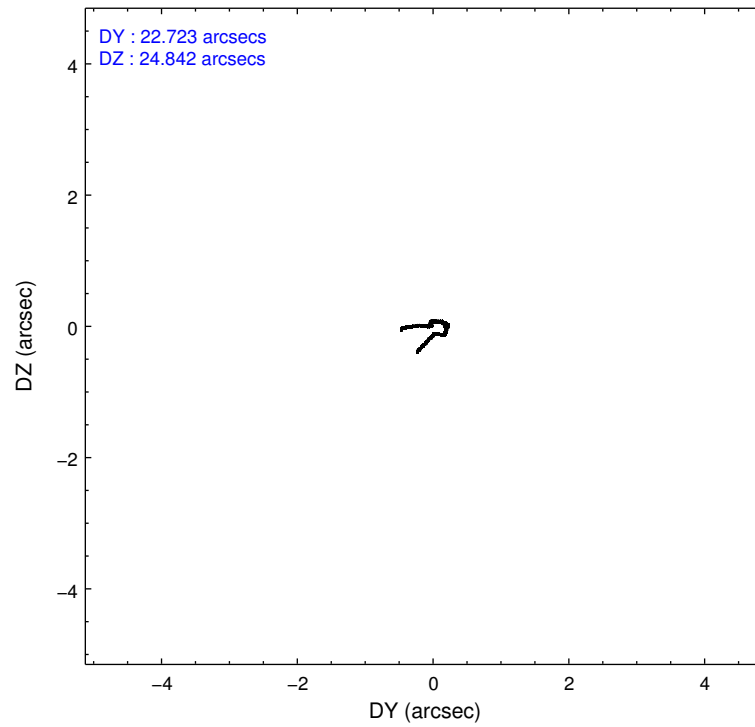
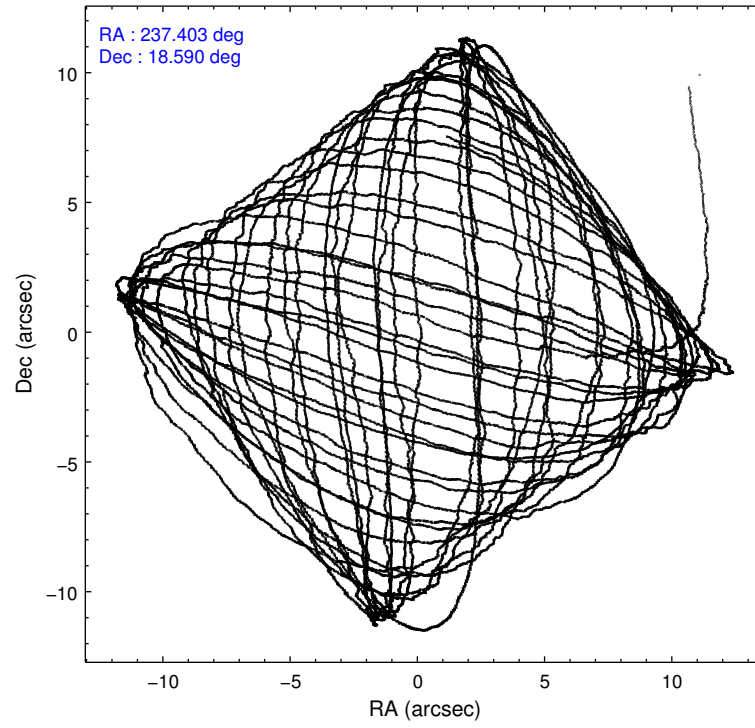
	ccd 3	ccd 6	ccd 7	ccd 8
grade 0 events	5882	5464	7129	15745
	4%	3%	3%	8%
grade 1 events	94	60	241	161
	0%	0%	0%	0%
grade 2 events	3241	3813	17206	12903
	2%	2%	9%	6%
grade 3 events	1519	1677	6805	5503
	1%	1%	3%	2%
grade 4 events	1527	1612	6605	5239
	1%	1%	3%	2%
grade 5 events	6792	6734	18669	10249
	5%	4%	10%	5%
grade 6 events	3104	3830	43129	14124
	2%	2%	23%	7%
grade 7 events	112672	120577	81872	128530
	83%	83%	45%	66%

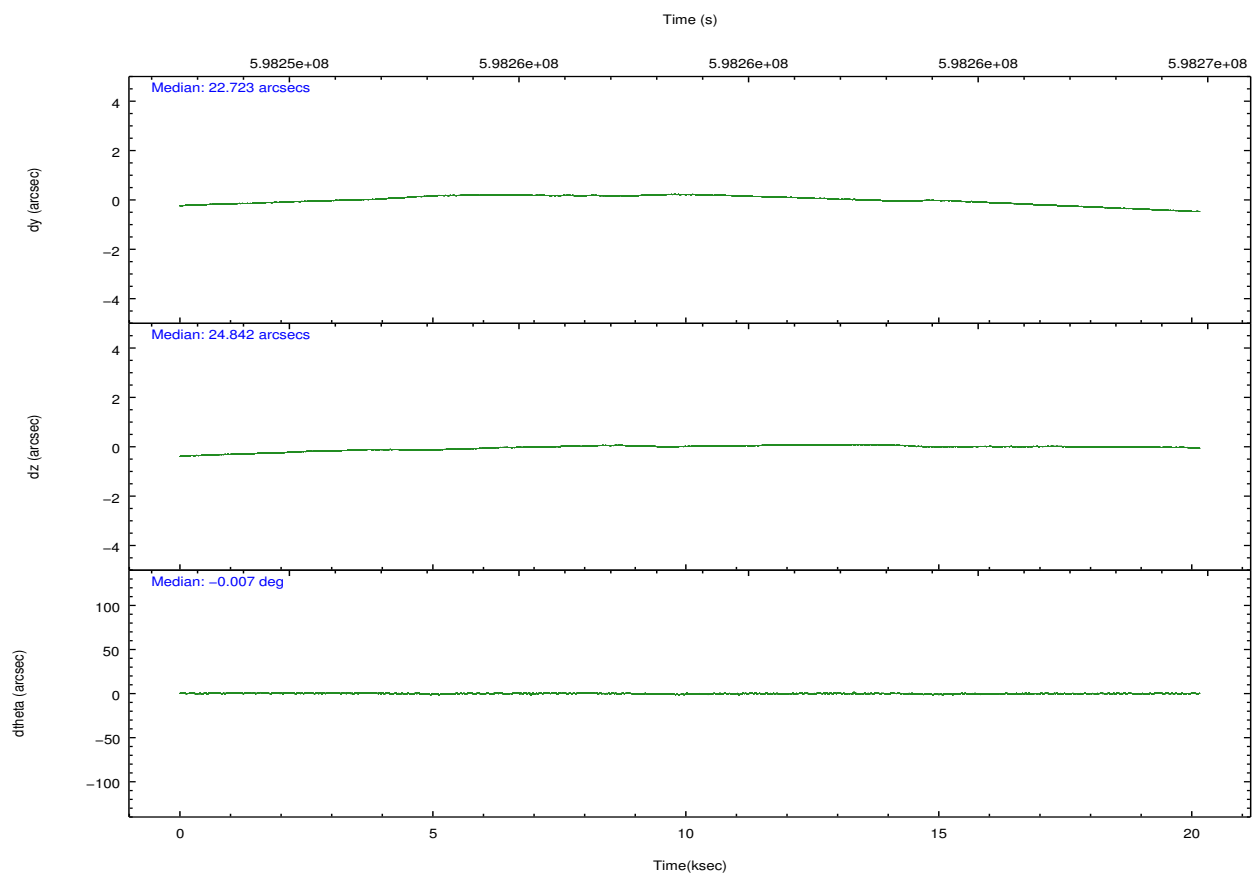
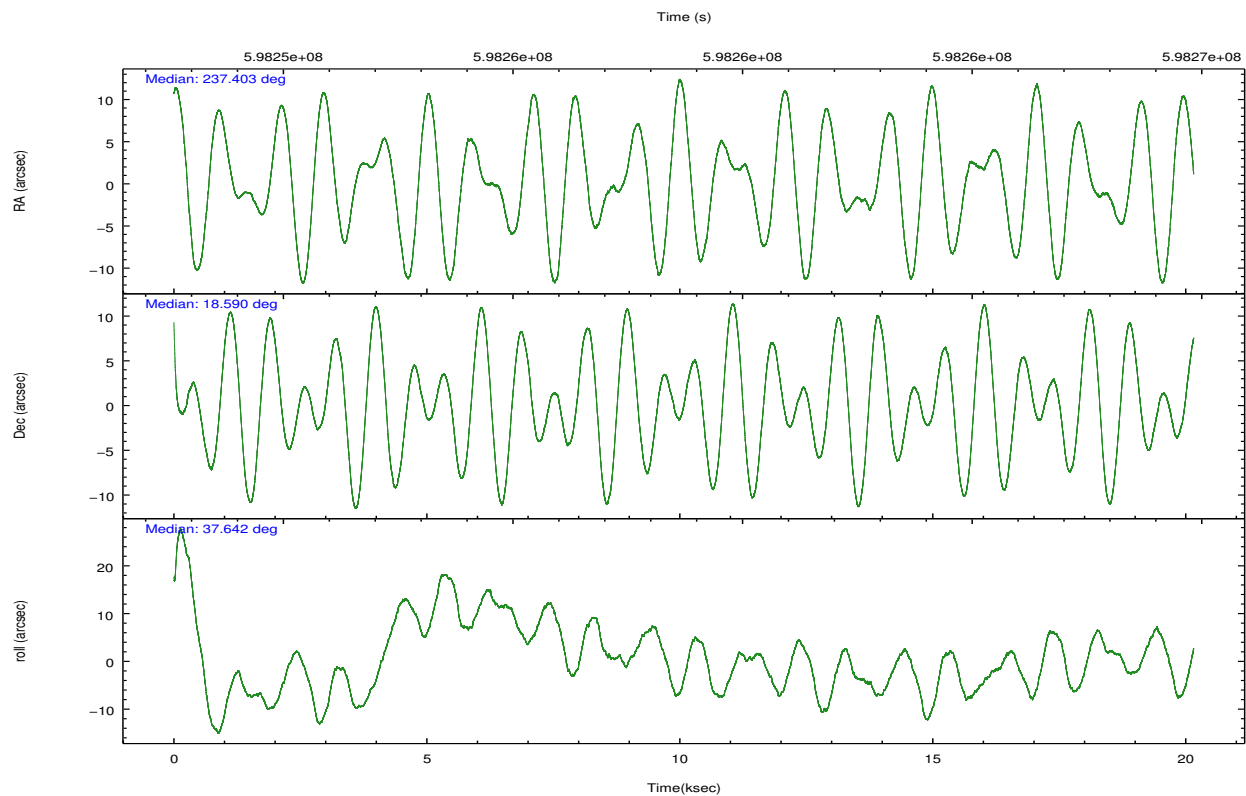
2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-3678	ACIS-3678
Grating	NONE	NONE
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	237.392902	237.4035811644289
[deg] Pointing Dec	18.564724	18.59024121075424
[deg] Pointing Roll	37.503059	37.65627189009299
[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)	598248795.184000	598247601.65925
Observation start date	2016-12-16T04:12:07	2016-12-16T03:53:21
[s] Observation end time (MET)	598268795.184000	598269857.9980299
Observation end date	2016-12-16T09:45:27	2016-12-16T10:04:17
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	N	N
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	O2	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



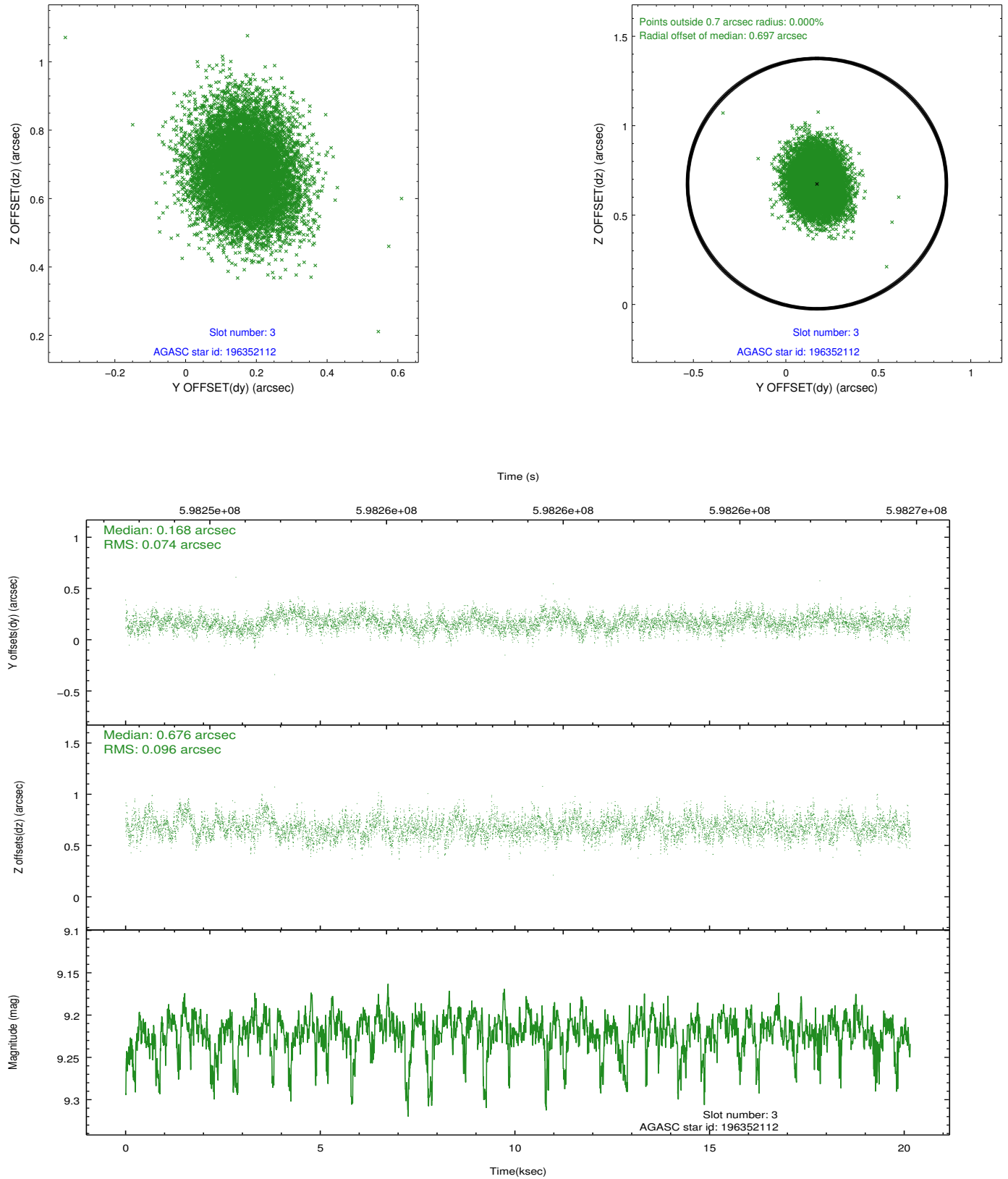


Slot Statistics

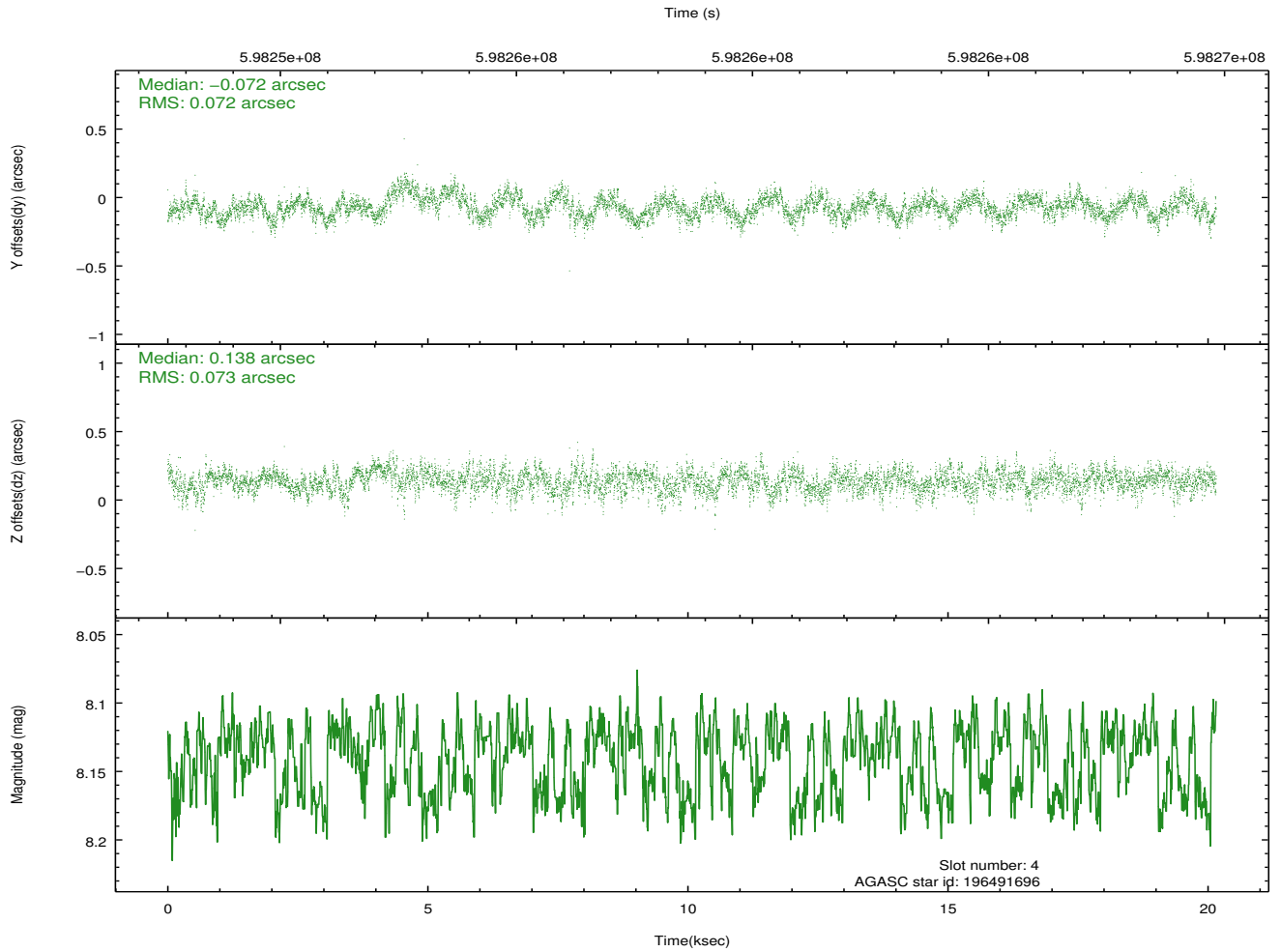
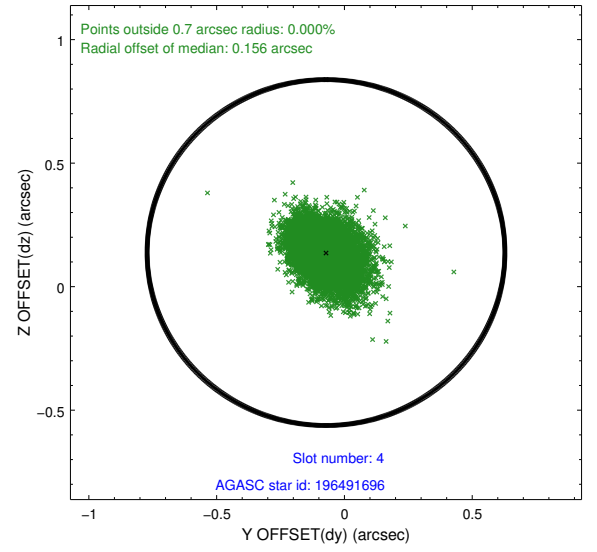
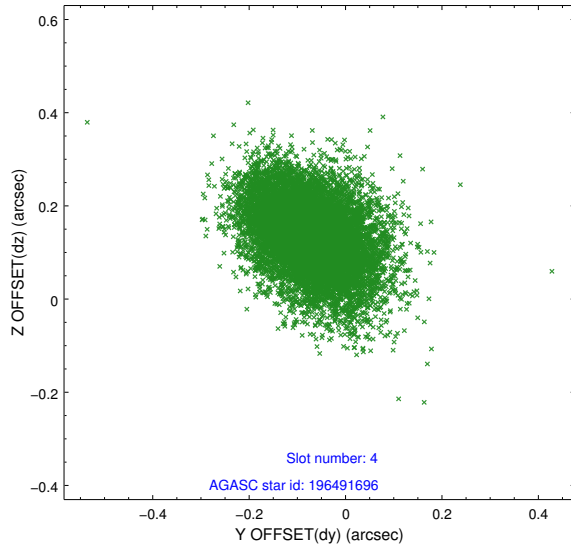
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.96	4917	-0.244	-0.056	0.008	0.016	0.000000	0.000000	-776.06	-1746.48
1	FID		ACIS-S-4	7.05	4916	0.502	0.133	0.011	0.021	0.000000	0.000000	2137.79	162.12
2	FID		ACIS-S-5	7.08	4916	-0.289	-0.068	0.012	0.020	0.000000	0.000000	-1828.79	155.63
3	GUIDE	used	196352112	9.22	9822	0.168	0.676	0.128	0.210	237.135523	18.279120	-1323.04	-278.93
4	GUIDE	used	196491696	8.14	9828	-0.072	0.138	0.109	0.179	237.529274	18.444240	105.25	-627.36
5	GUIDE	used	196354072	7.53	9833	0.083	-0.238	0.101	0.169	236.857547	18.814649	-898.24	1826.12
6	GUIDE	used	196359872	7.92	9826	-0.178	-0.577	0.100	0.161	236.857654	18.849379	-821.63	1924.99
7	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00

2.4 Star Slots

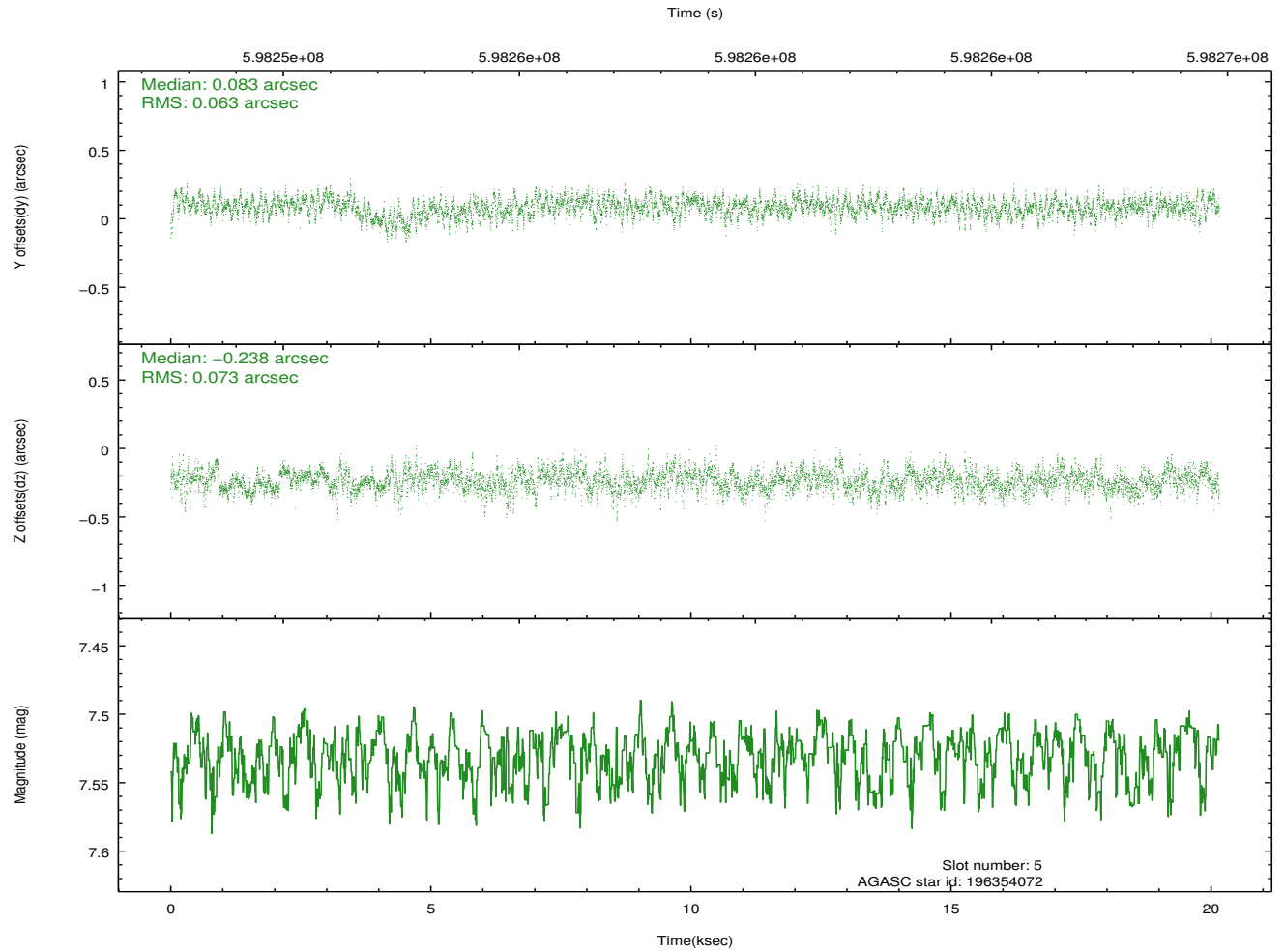
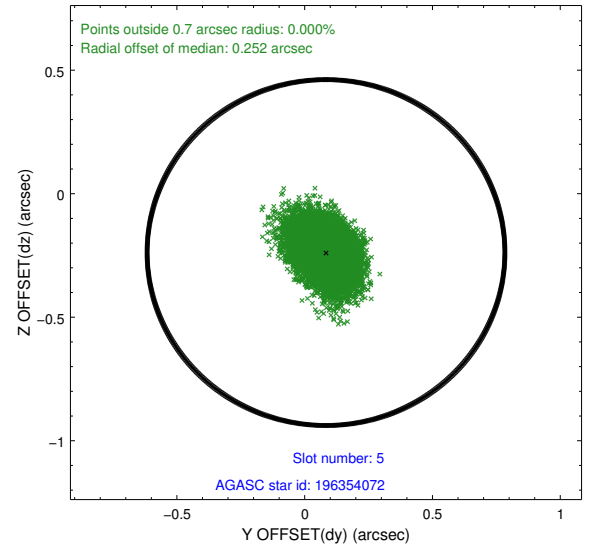
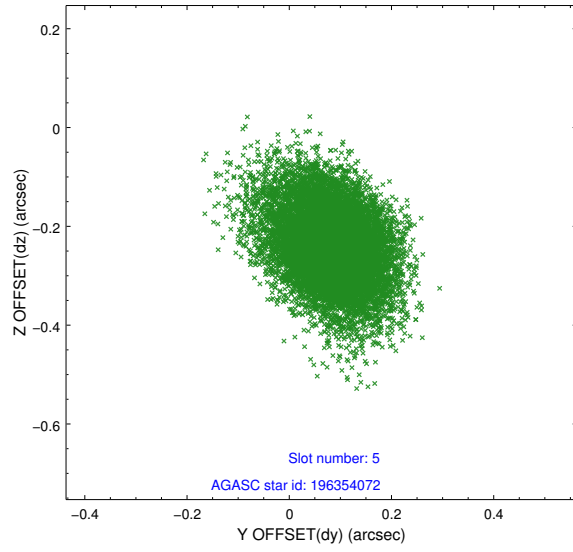
2.4.1 Slot 3



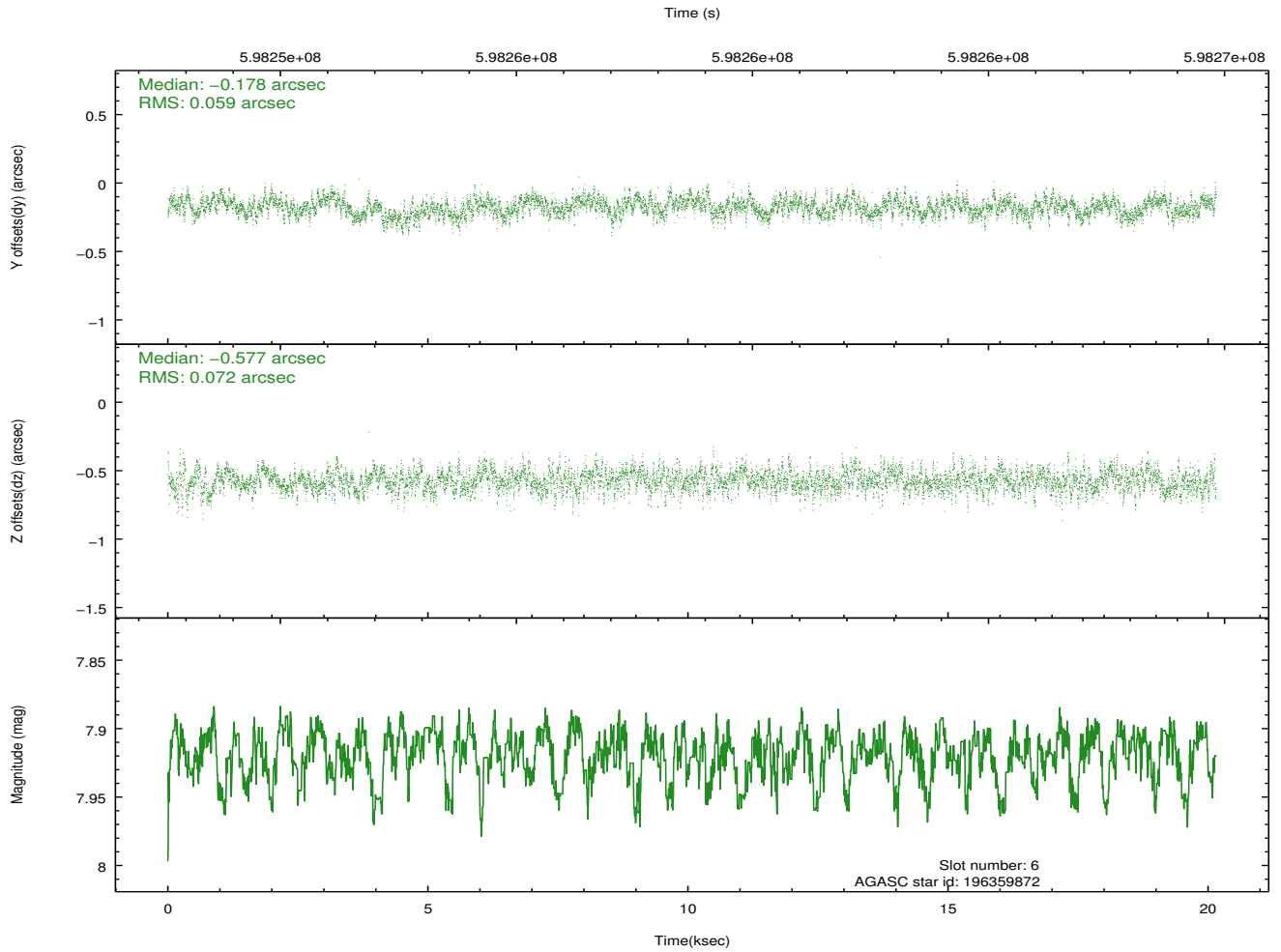
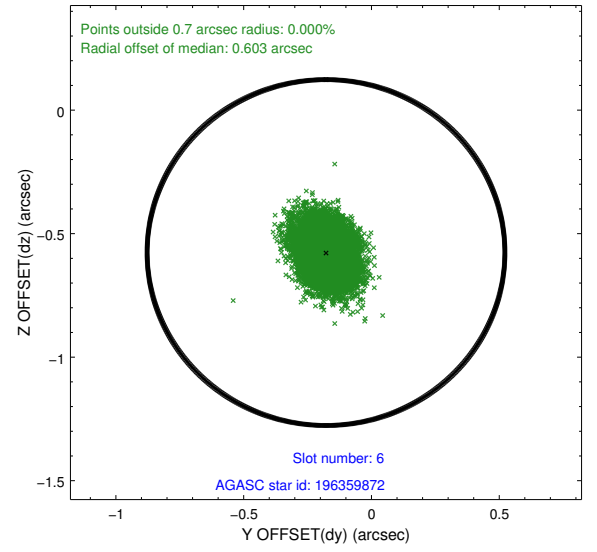
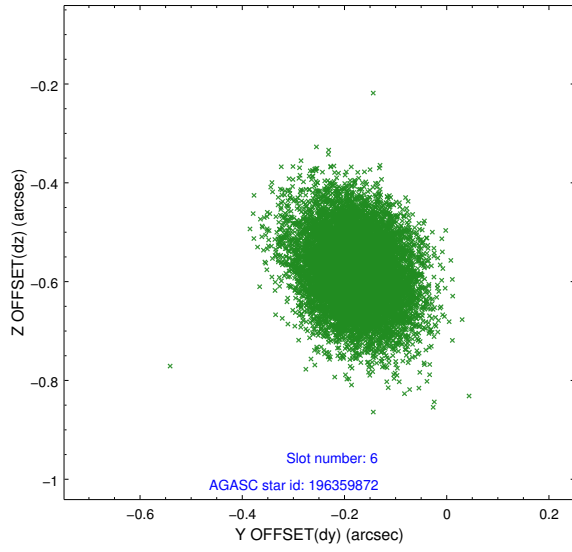
2.4.2 Slot 4



2.4.3 Slot 5

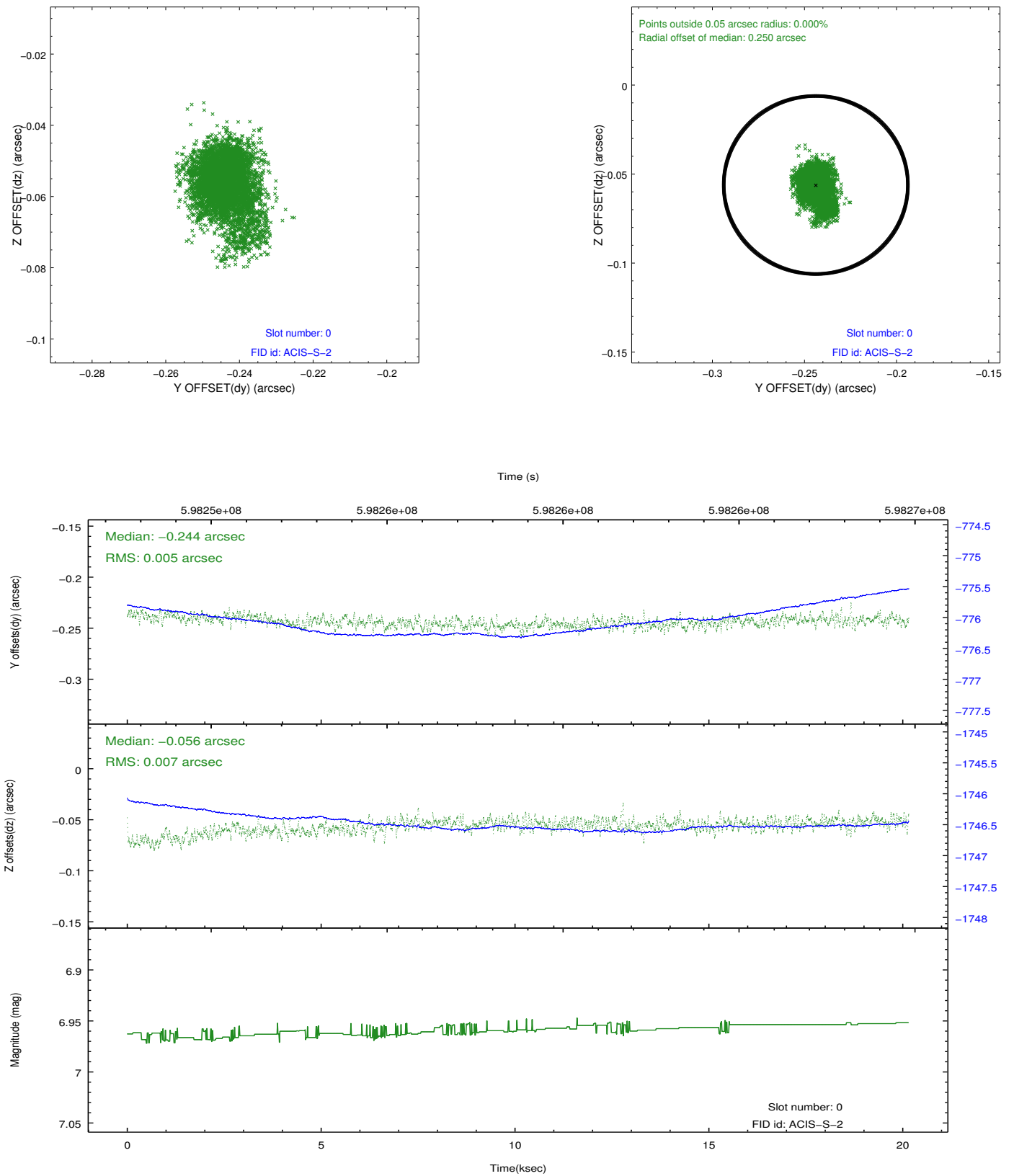


2.4.4 Slot 6

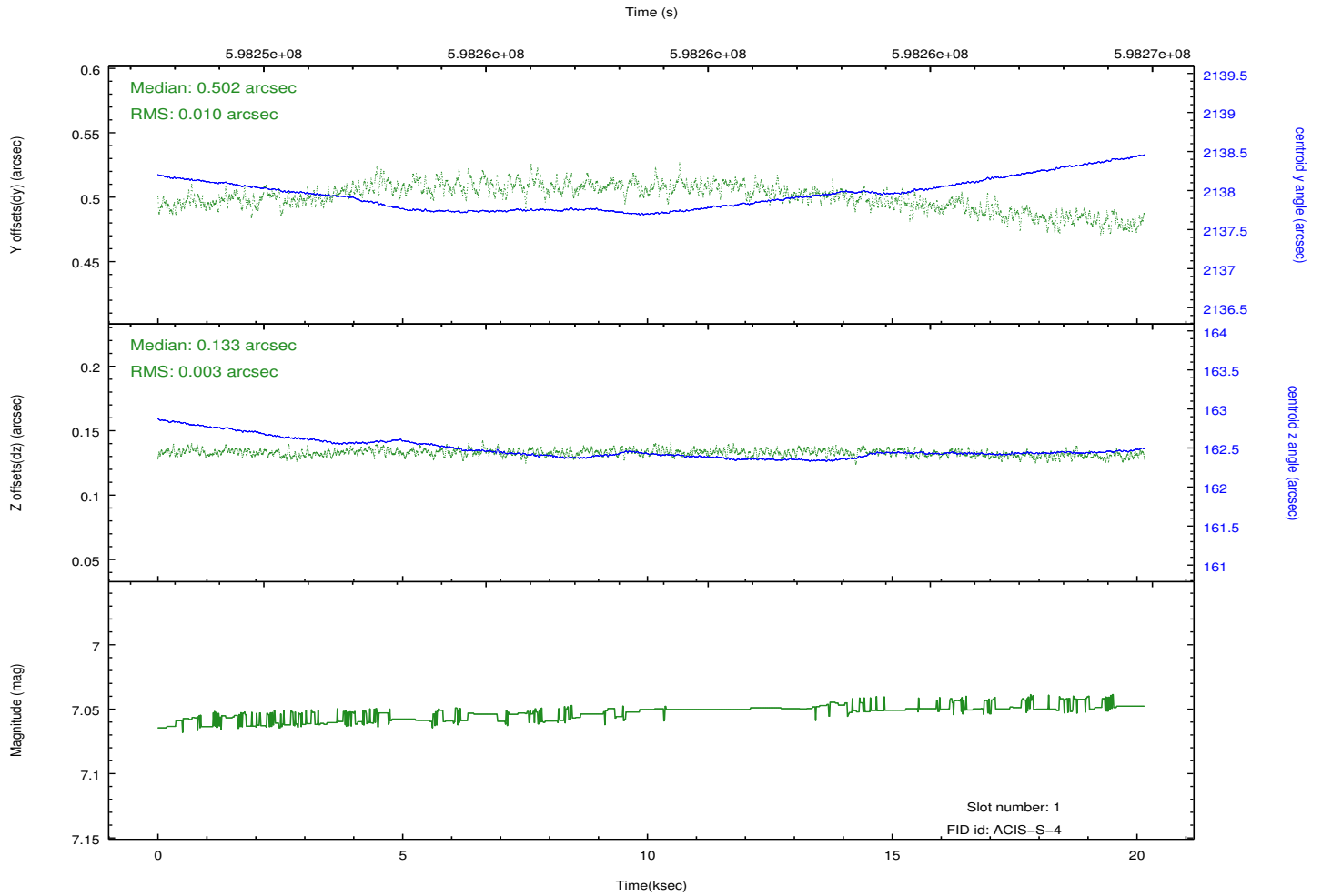
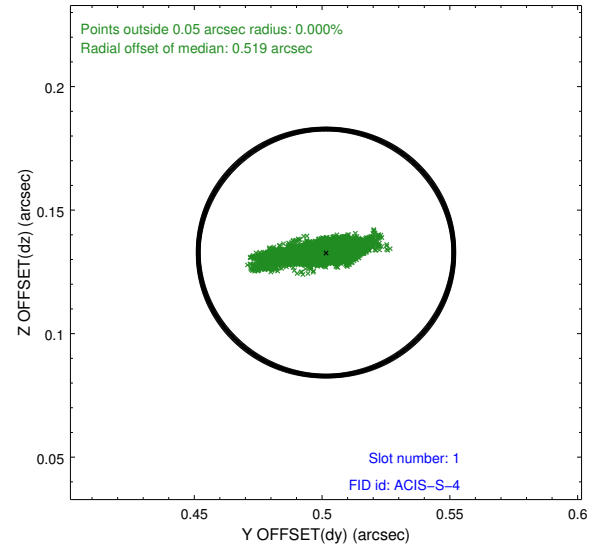
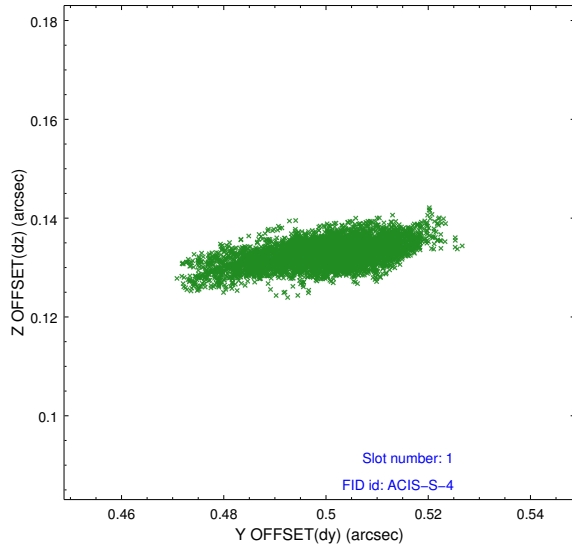


2.5 FID Slots

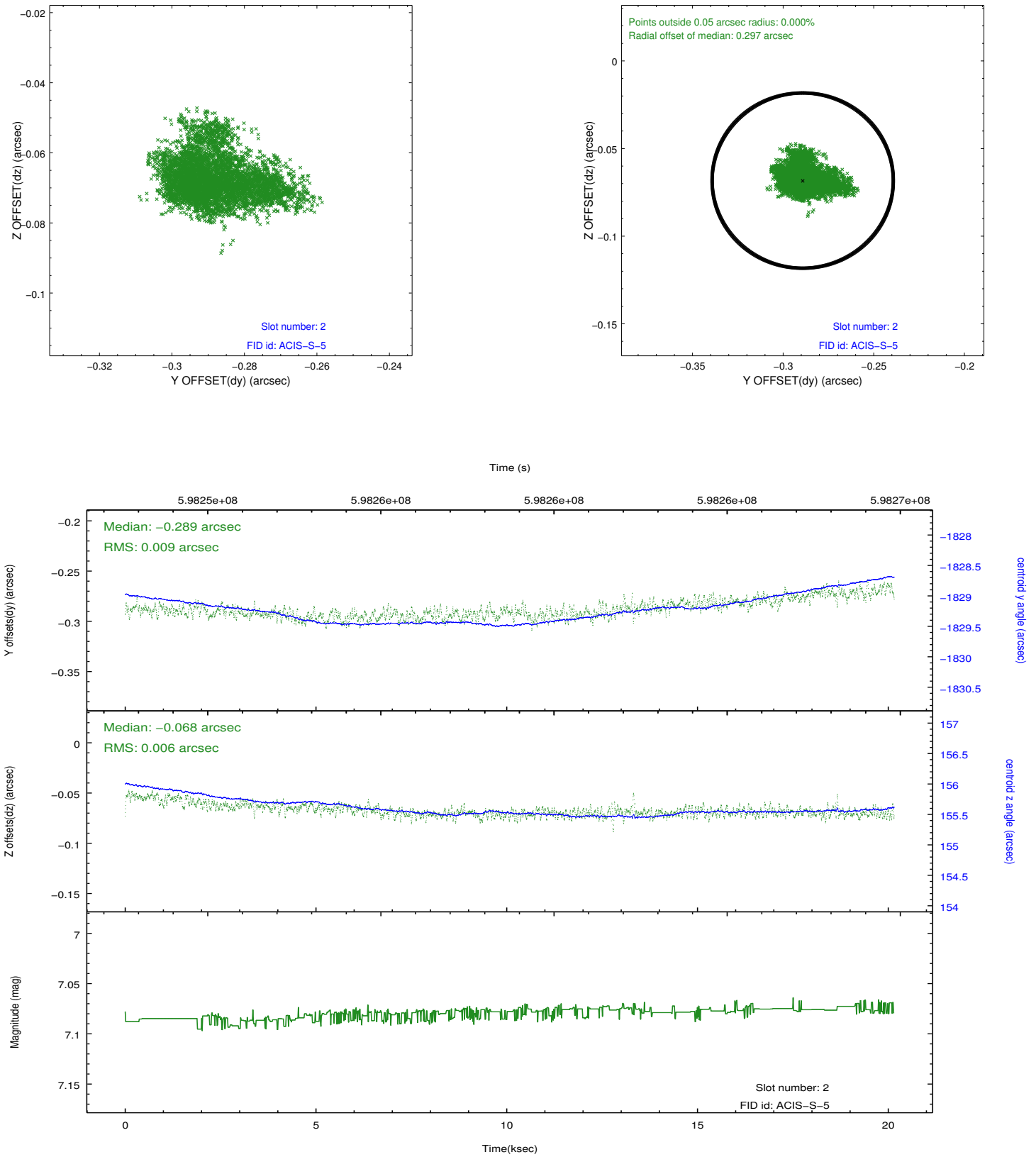
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2



A Summary

A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2016.12.21
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.069400154471

A.2 Comments

The guide star in slot 7 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this slot from the solution.

A spatial region of the original bias map for CCD = 6 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 anomaly. The bias map for CCD = 6 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: (237.49879,18.72434), (237.49549,18.72193), (237.57622,18.62286), (237.57952,18.62528).