

V&V Reference Report

L2 ASCDS Version : 10.7

Observation 21894 - L2 Version 2
Chandra X-Ray Center

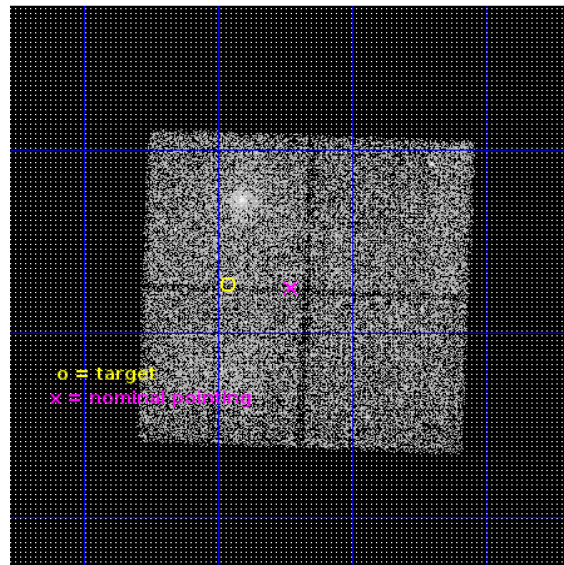
L2 Processing Date : Nov 17 2018

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

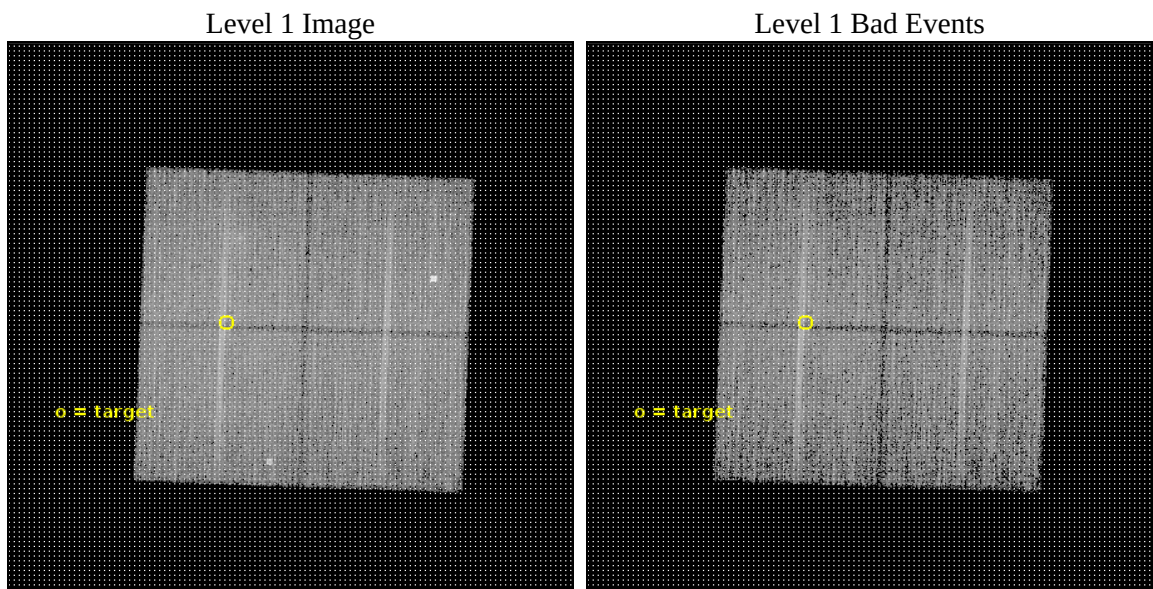
seq_num	801818	Sequence number
obs_id	21894	Observation id
title	Deep Chandra Observations of the Shock Front and Faint Filament in the Pre-Merger Cluster Abell 98	Proposal title
observer	Scott Randall	Principal investigator
object	Abell 98	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	11.615833	Observer's specified target RA [deg]
dec_targ	20.544667	Observer's specified target Dec [deg]
ra_nom	11.556703597654	Nominal RA [deg]
dec_nom	20.541496703493	Nominal Dec [deg]
roll_nom	272.22942230279	Nominal Roll [deg]
revision	2	Processing version of data
ontime	18075.006152272	Sum of GTIs [s]
livetime	17838.842890267	Livetime [s]
ontime0	18078.024122596	Sum of GTIs [s]
ontime1	18078.065162539	Sum of GTIs [s]
ontime2	18078.106202602	Sum of GTIs [s]
ontime3	18075.006152272	Sum of GTIs [s]
l2events	54260	Number of level 2 events



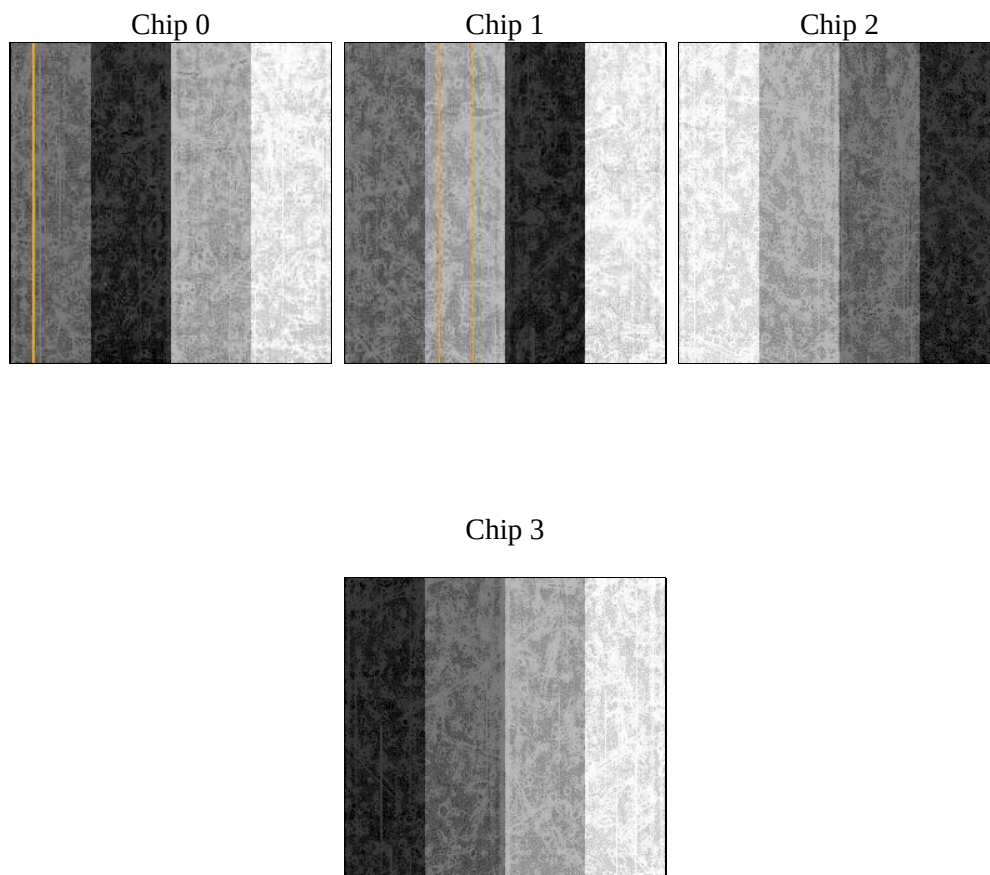
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	18000.000000	[s] Scheduled observation exposure time
ascdsver	10.7	Processing system revision	ontime	18075.006152272	Sum of GTIs [s]
caldsver	4.8.0.1	 	ontime0	18078.024122596	Sum of GTIs [s]
date	2018-11-17T22:32:03	Date and time of file creation	ontime1	18078.065162539	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	18078.106202602	Sum of GTIs [s]
			ontime3	18075.006152272	Sum of GTIs [s]
			l1events	526232	Number of level 1 events

2.1.4 Events

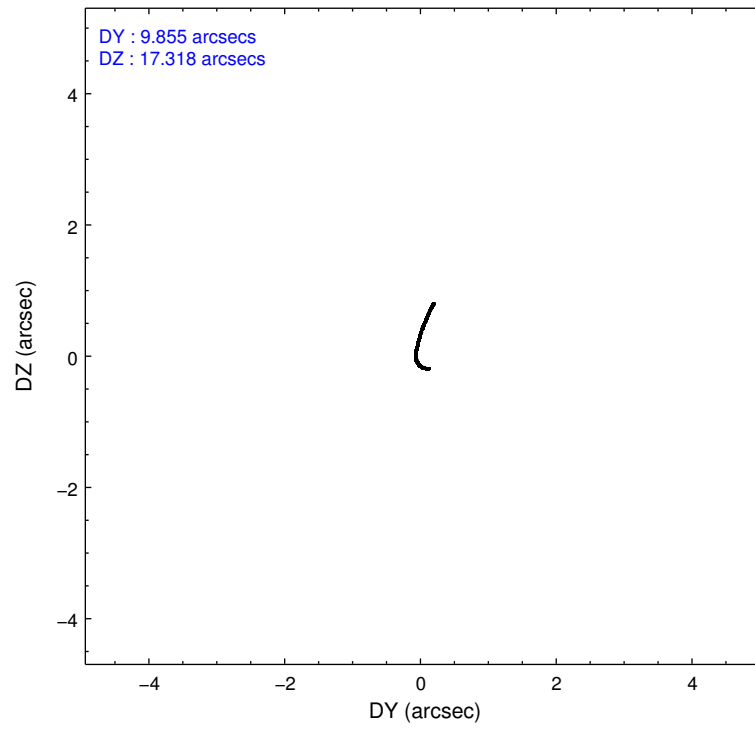
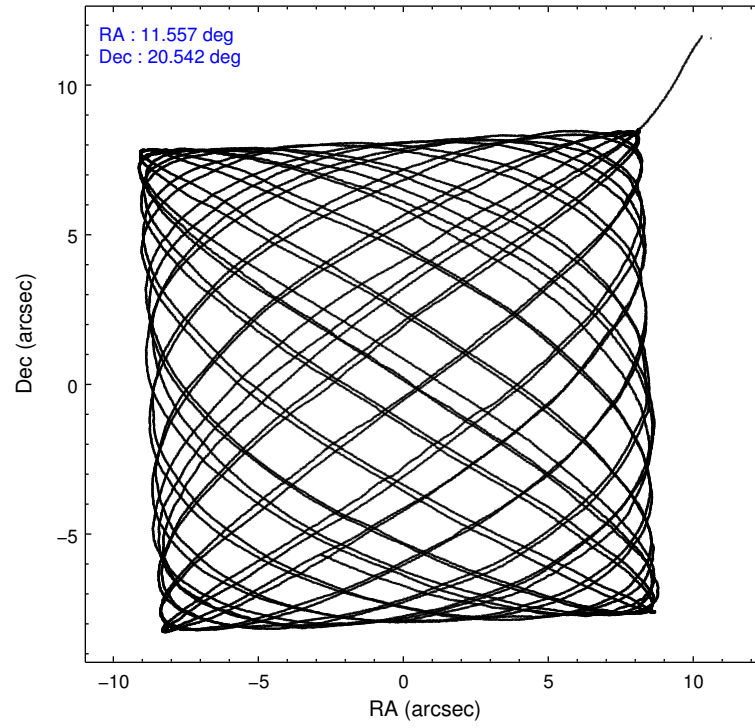
	ccd 0	ccd 1	ccd 2	ccd 3
level 1 events	123284	129707	136738	136503
rejected events	108296	109251	119295	119584
rejected %	87%	84%	87%	87%

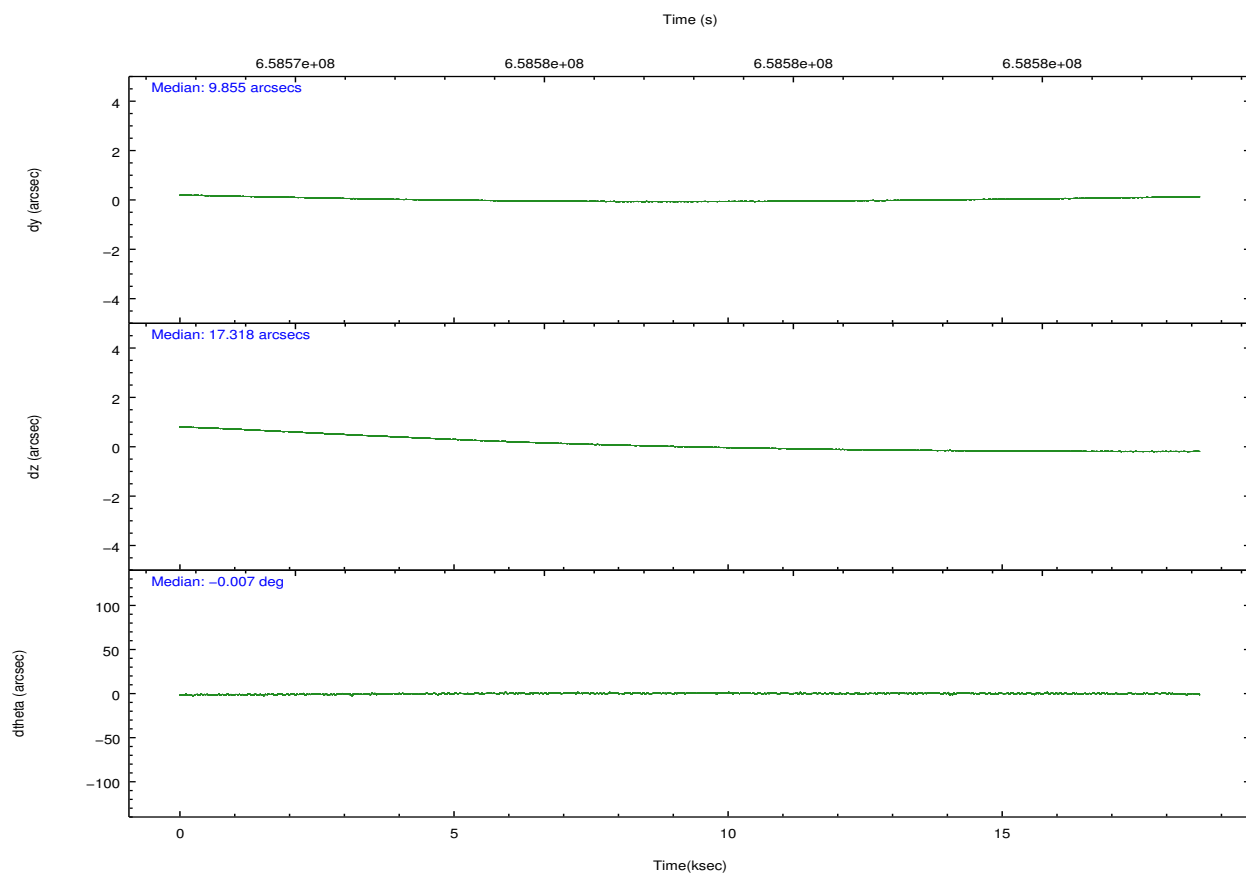
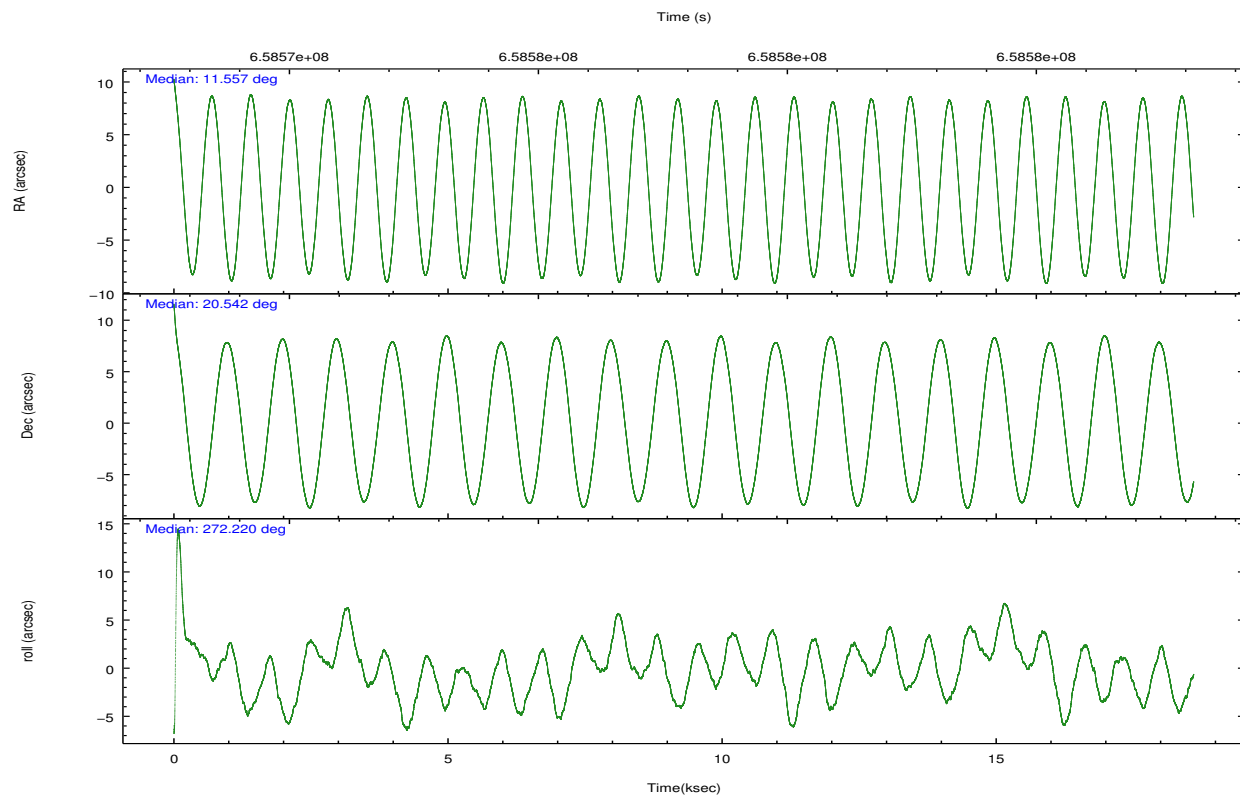
	ccd 0	ccd 1	ccd 2	ccd 3
grade 0 events	5235	9714	8135	7261
	4%	7%	5%	5%
grade 1 events	78	88	90	83
	0%	0%	0%	0%
grade 2 events	3660	3904	3466	3377
	2%	3%	2%	2%
grade 3 events	1581	1444	1440	1580
	1%	1%	1%	1%
grade 4 events	1387	1534	1503	1528
	1%	1%	1%	1%
grade 5 events	5598	5696	5344	6573
	4%	4%	3%	4%
grade 6 events	3131	3867	2904	3181
	2%	2%	2%	2%
grade 7 events	102614	103460	113856	112920
	83%	79%	83%	82%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-0123	ACIS-0123	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	Y	Y
Observation mode	POINTING	POINTING	CCD I1 on	Y	Y
[deg] Pointing RA	11.540872	11.55670359765445	CCD I2 on	Y	Y
[deg] Pointing Dec	20.564804	20.541496703493	CCD I3 on	Y	Y
[deg] Pointing Roll	272.026310	272.229422302787	CCD S0 on	N	N
[mm] SIM focus pos	-0.782348	-0.7809083437167272	CCD S1 on	N	N
[mm] SIM defocus	0	0.001439871863259334	CCD S2 on	O1	N
[mm] SIM translation stage pos	-233.592463	-233.5874344608287	CCD S3 on	N	N
[mm] SIM translation stage offset	0	-0.005018542100998502	CCD S4 on	N	N
[s] Observation start time (MET)	658569208.184000	658568117.27907	CCD S5 on	N	N
Observation start date	2018-11-14T07:52:19	2018-11-14T07:35:17	Number of optional ACIS chips dropped	1	1
[s] Observation end time (MET)	658587208.184000	658588127.84279	On-chip summing requested	N	N
Observation end date	2018-11-14T12:52:19	2018-11-14T13:08:47	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



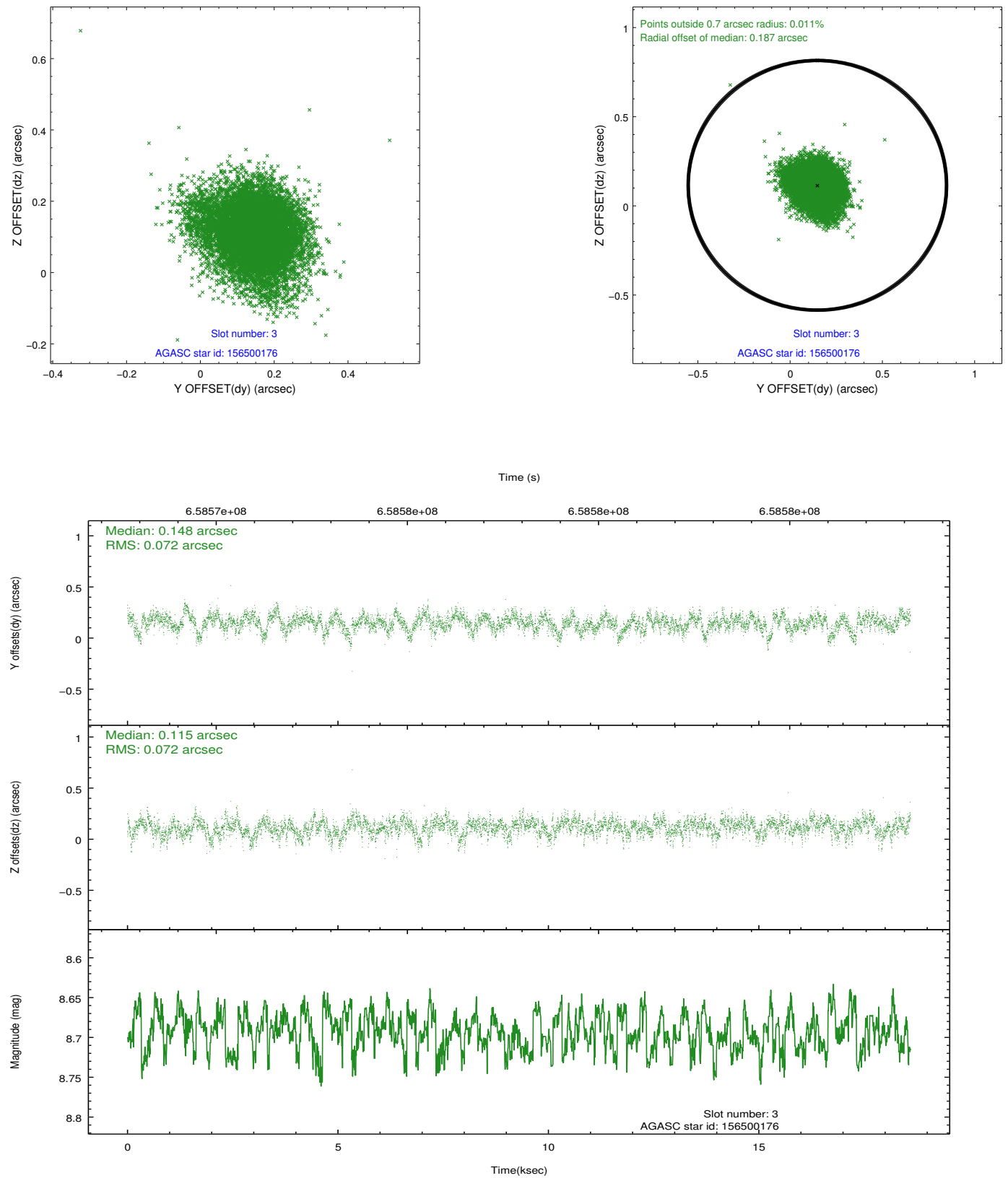


Slot Statistics

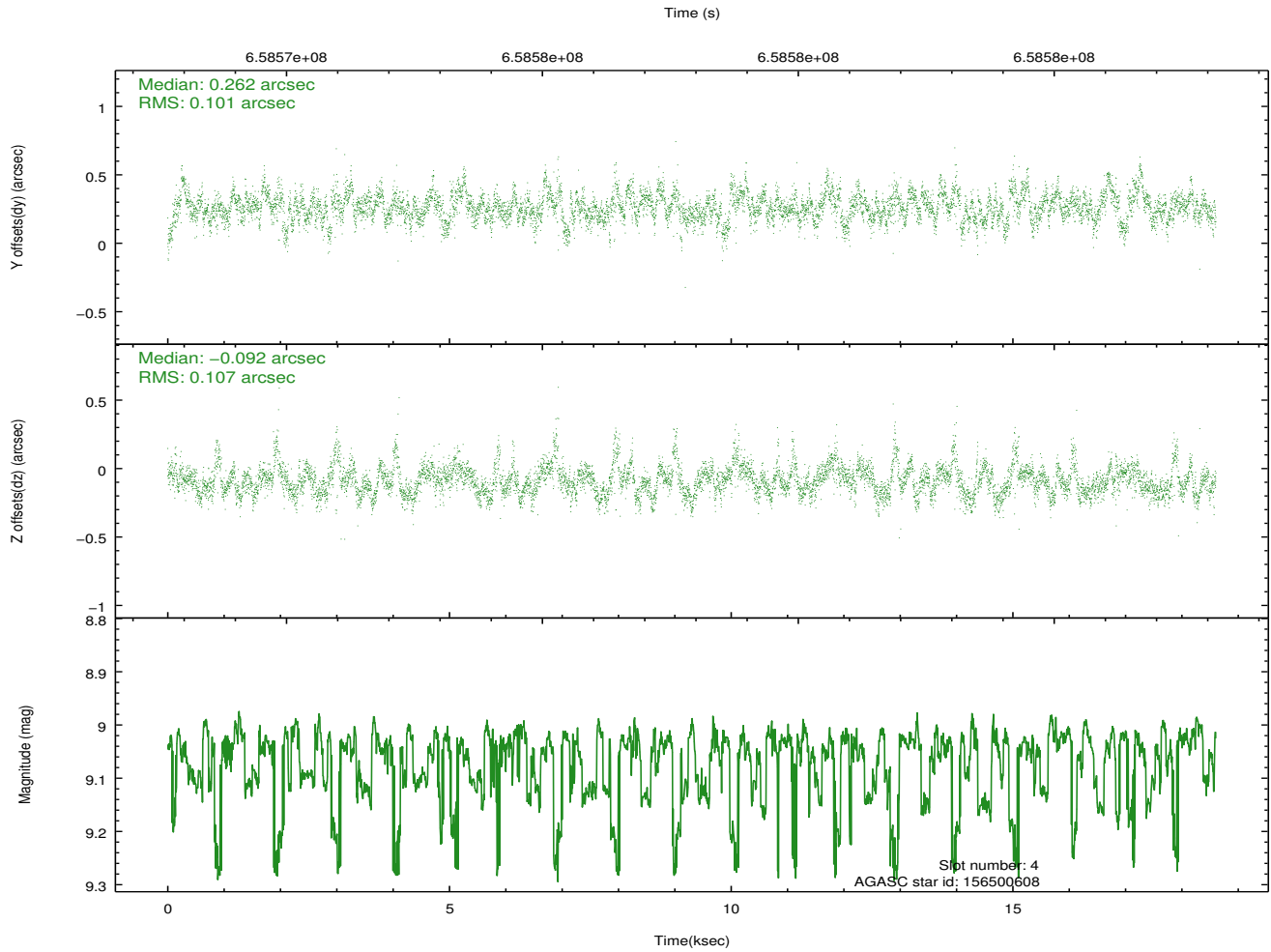
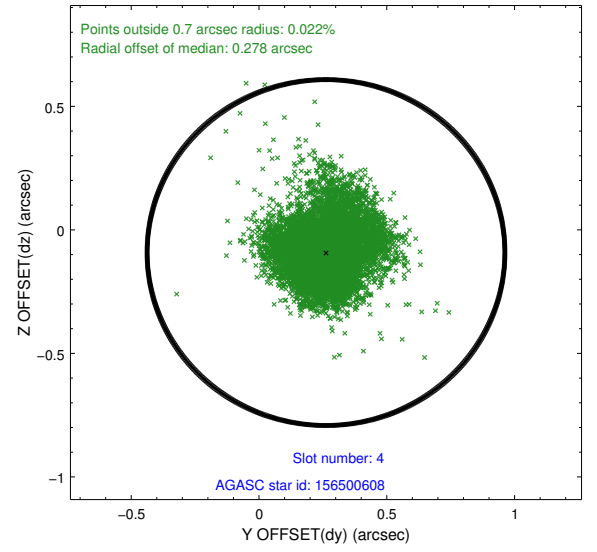
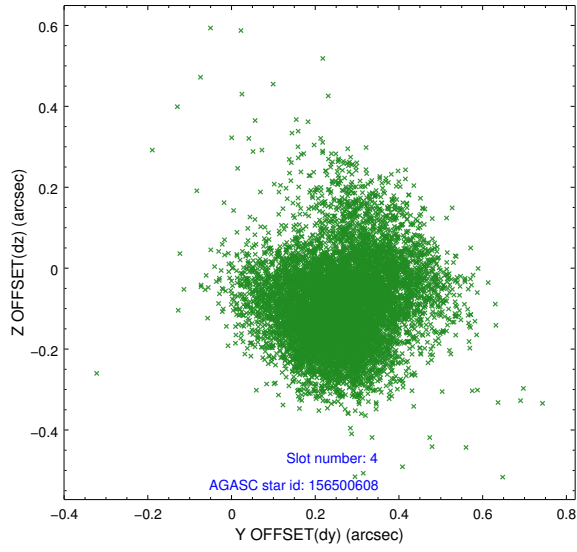
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.23	4538	1.000	0.114	-0.123	0.024	0.046	0.000000	0.000000	929.91	-841
1	FID		ACIS-I-5	7.21	4538	1.000	-0.479	0.025	0.009	0.014	0.000000	0.000000	-1818.83	1056
2	FID		ACIS-I-6	7.20	4535	1.000	0.274	0.167	0.028	0.047	0.000000	0.000000	395.18	1701
3	GUIDE	used	156500176	8.69	9068	1.000	0.148	0.115	0.107	0.179	11.171670	20.448926	374.44	-1256
4	GUIDE	used	156500608	9.06	9046	1.000	0.262	-0.092	0.152	0.255	11.245383	20.021682	1918.99	-1067
5	GUIDE	used	156501376	6.68	9076	1.000	-0.070	0.138	0.104	0.167	11.978451	20.925347	-1247.22	1519
6	GUIDE	used	156502176	8.01	9074	1.000	-0.030	0.258	0.101	0.177	11.982190	21.024044	-1601.81	1541
7	GUIDE	used	156509336	7.46	9075	1.000	-0.300	-0.425	0.082	0.126	12.201488	20.214746	1333.44	2186

2.4 Star Slots

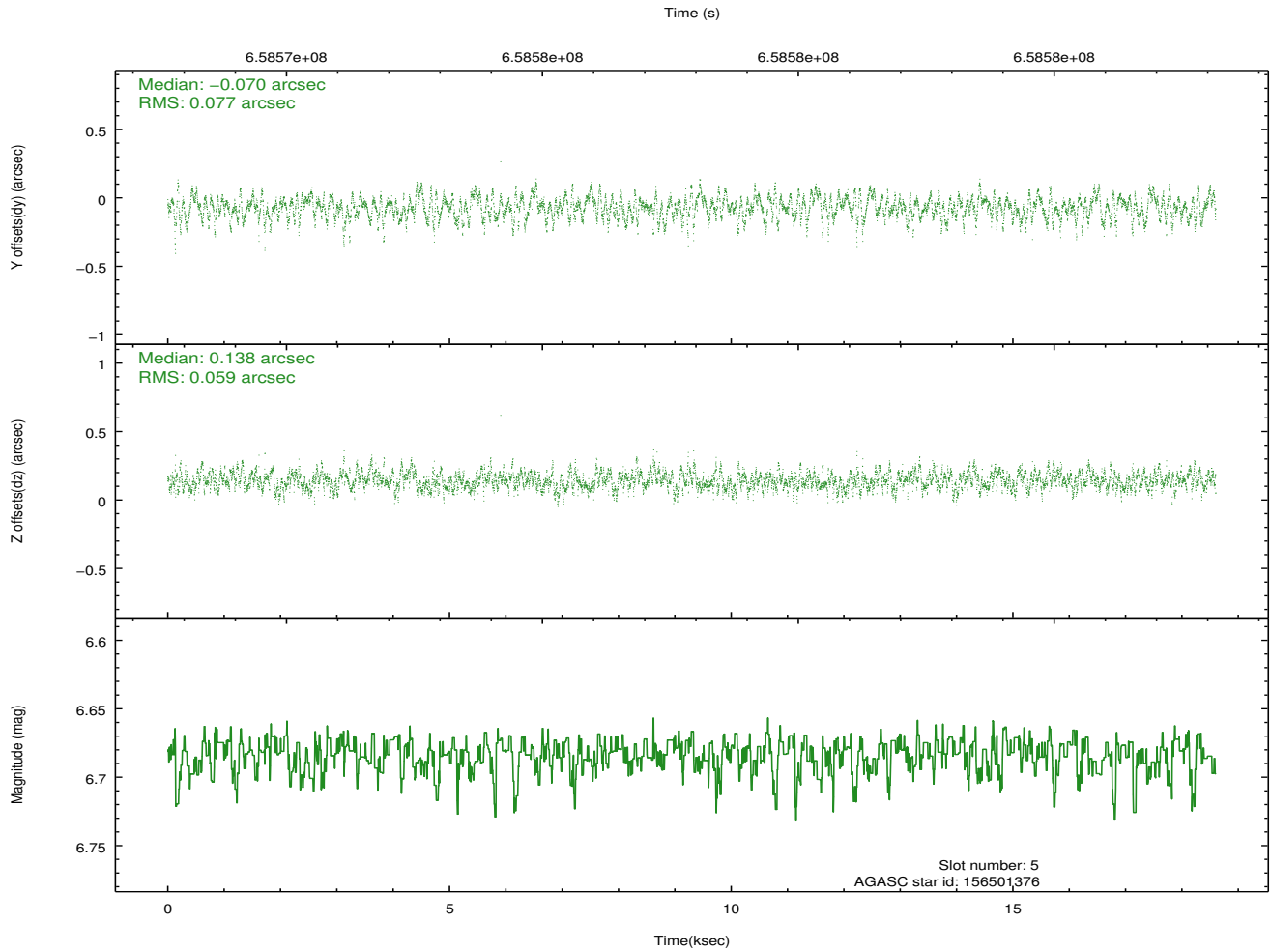
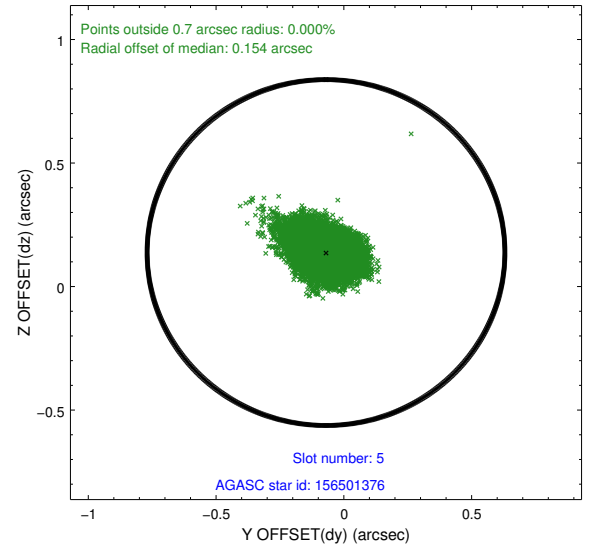
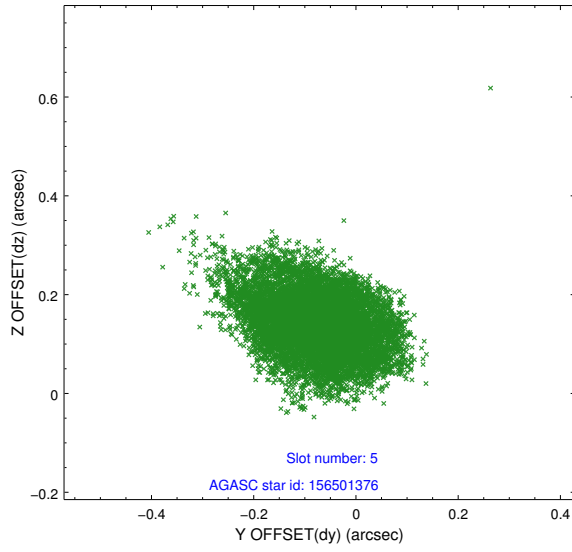
2.4.1 Slot 3



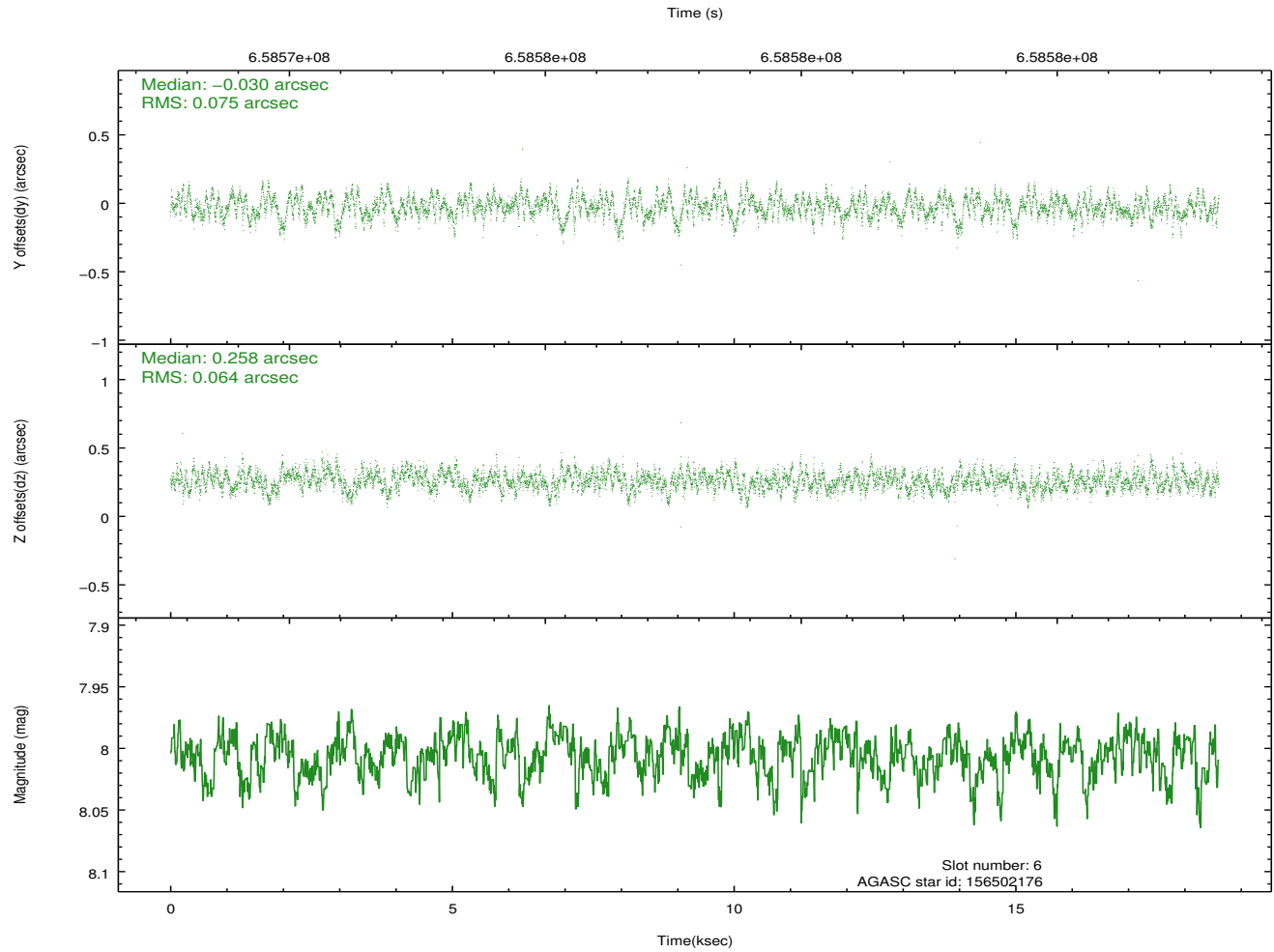
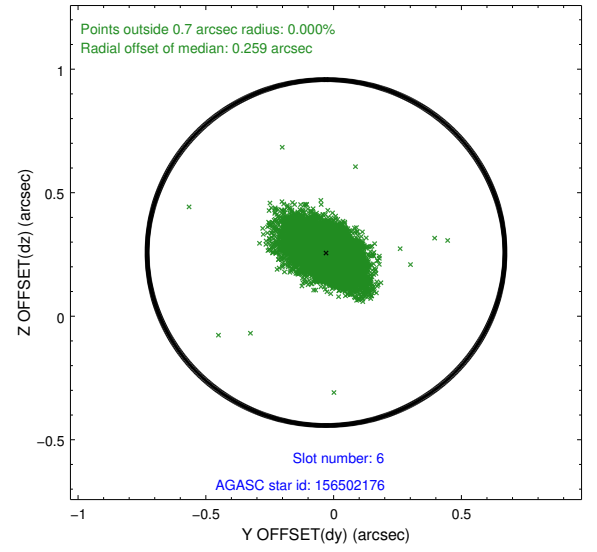
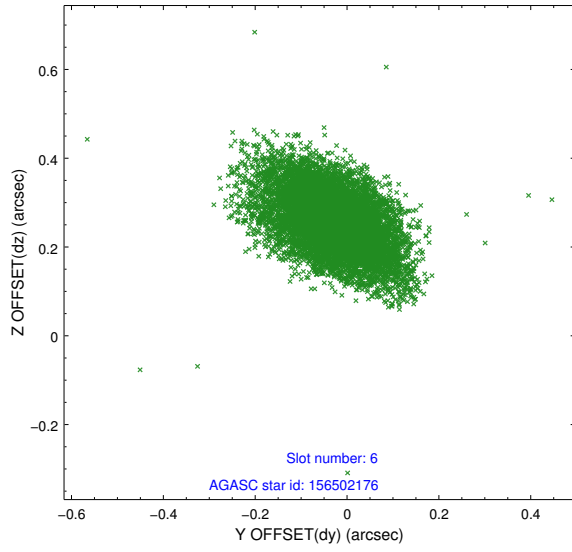
2.4.2 Slot 4



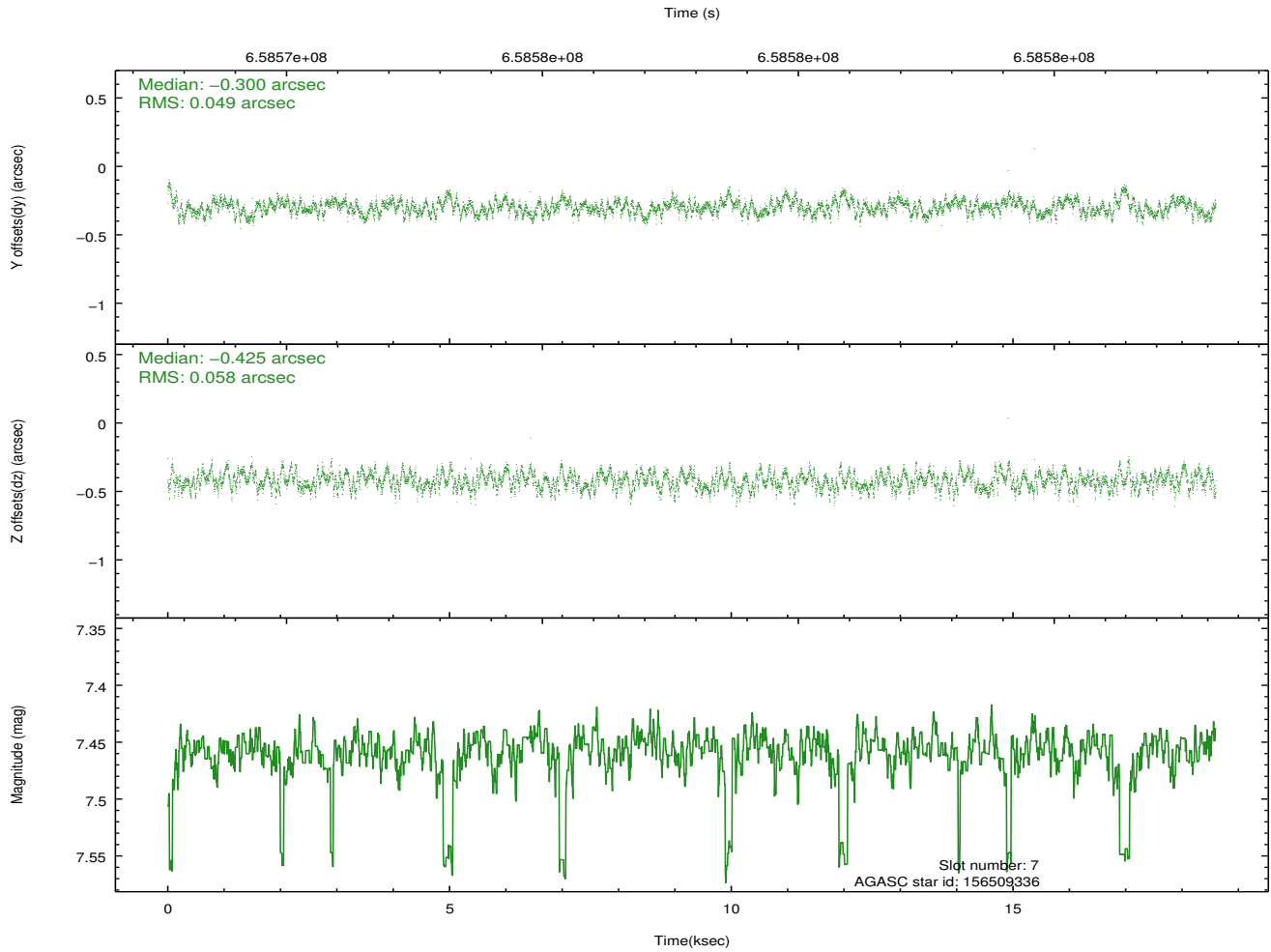
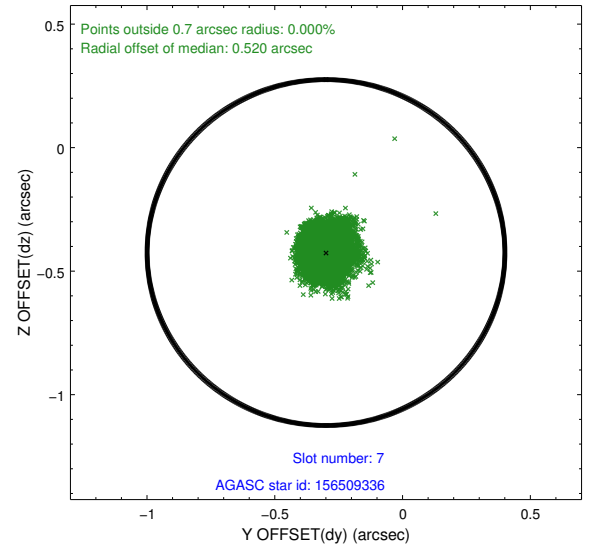
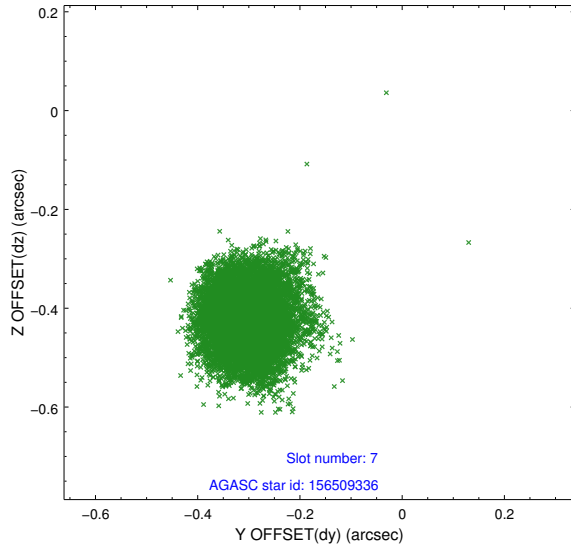
2.4.3 Slot 5



2.4.4 Slot 6

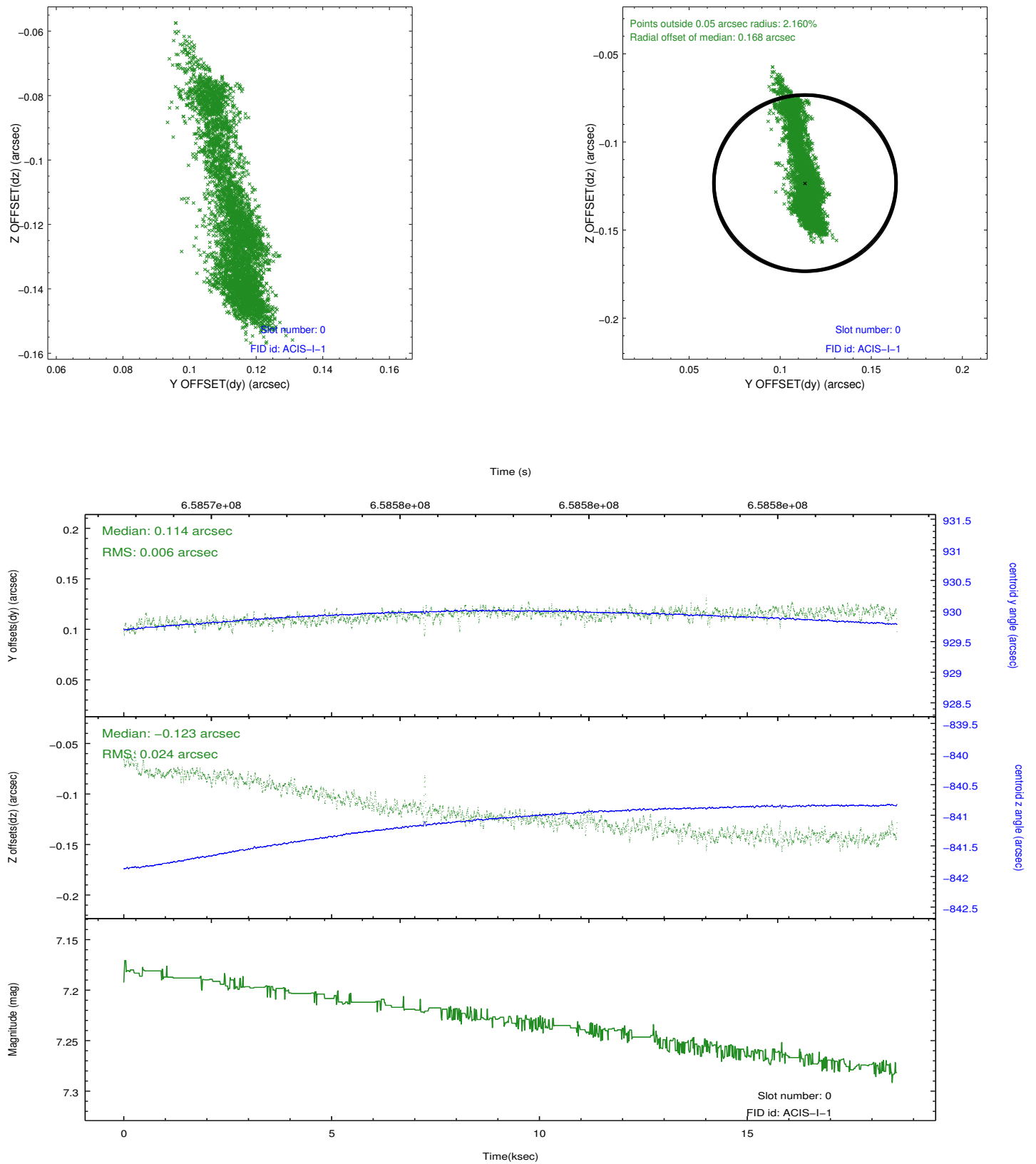


2.4.5 Slot 7

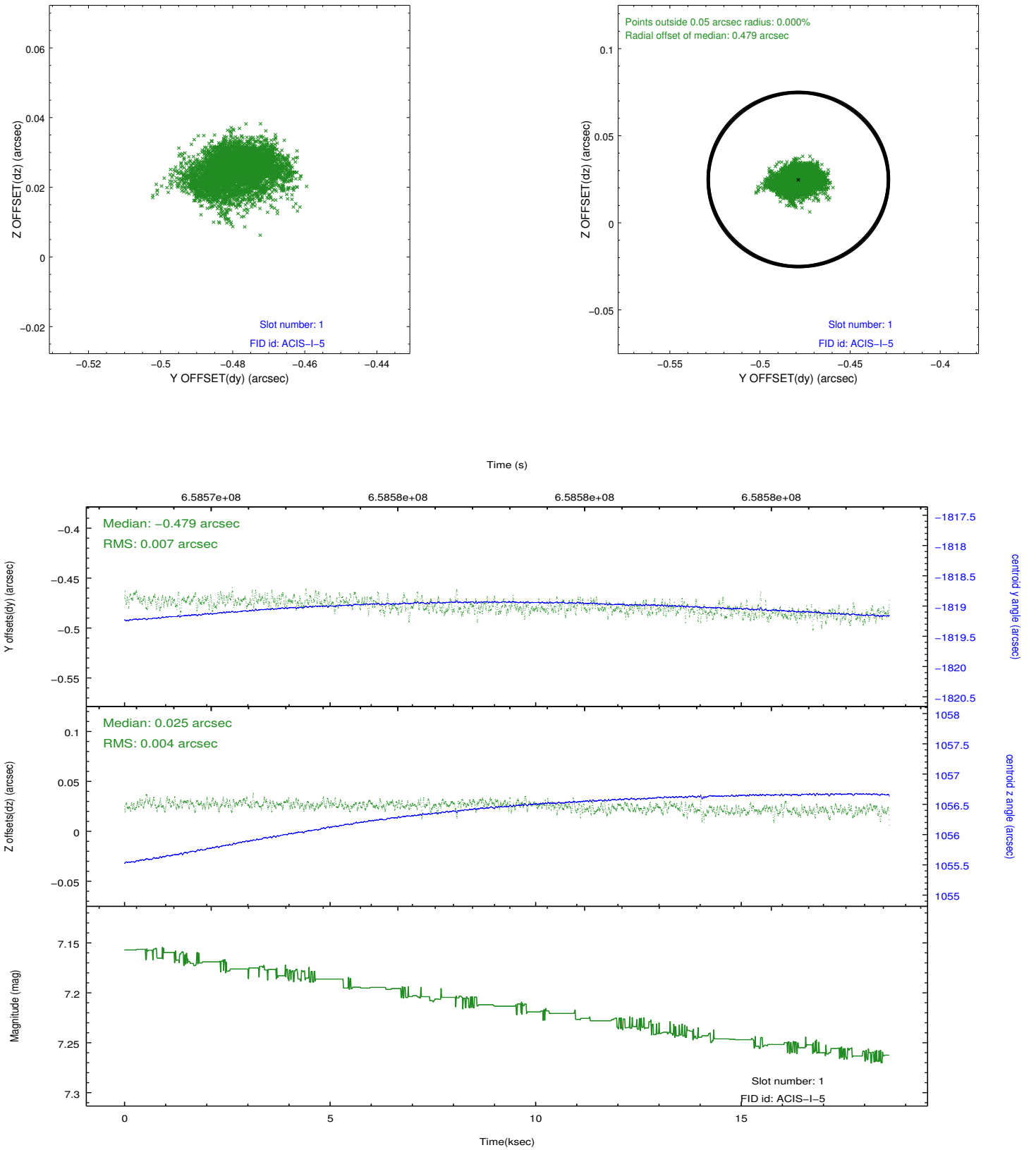


2.5 FID Slots

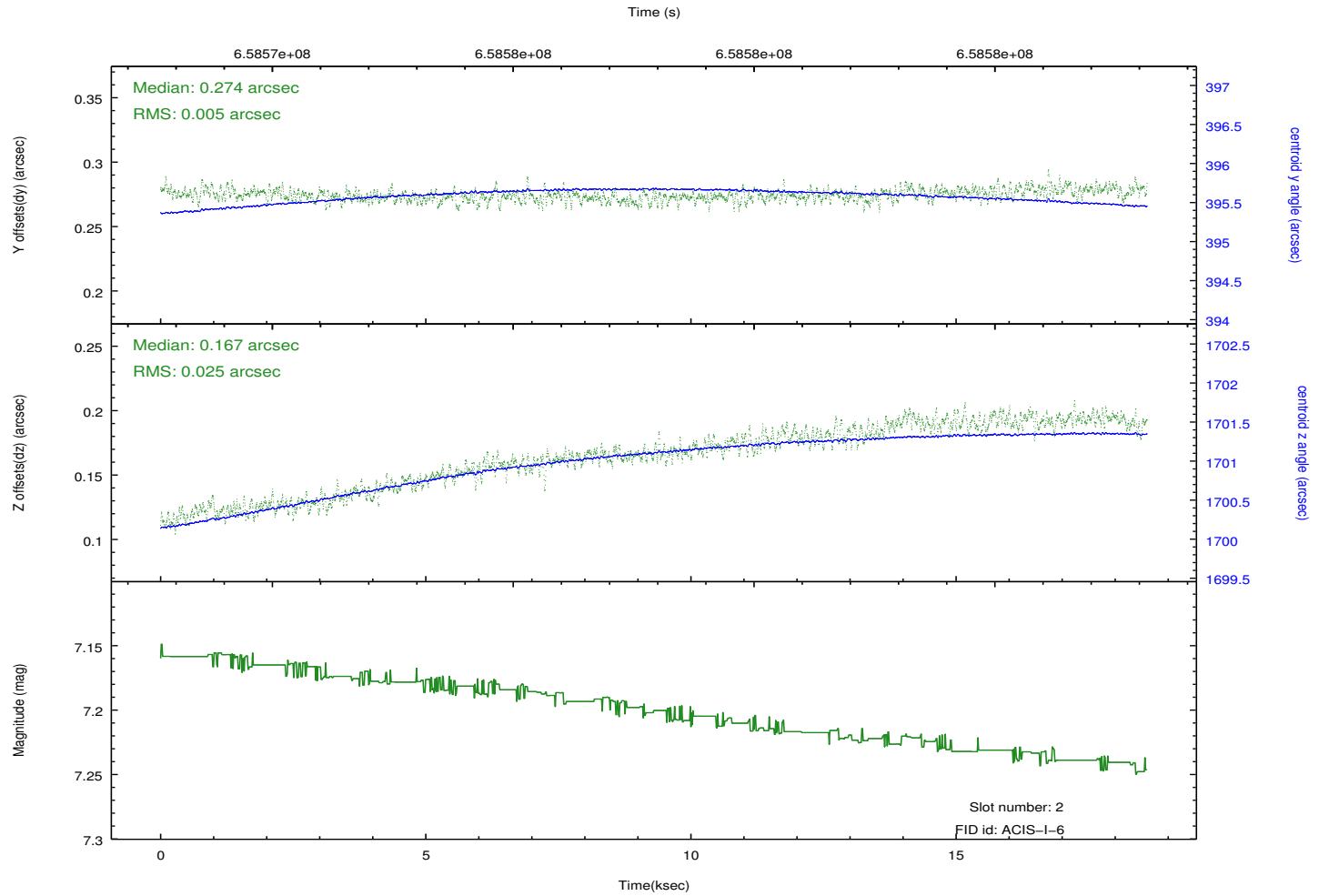
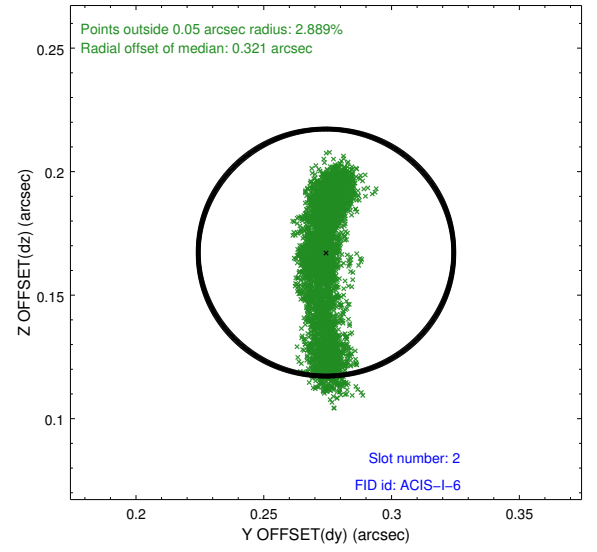
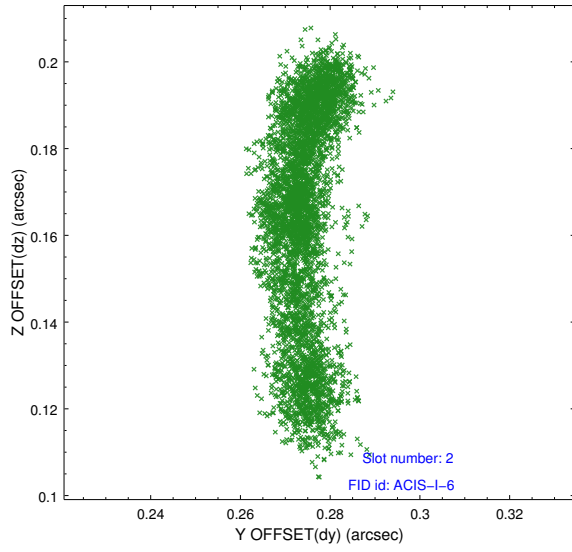
2.5.1 Slot 0



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)	2018.11.19
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	18.075006152272

A.2 Comments

One optional chip was dropped.

A spatial region of the original bias map for CCD = 2 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 = 2 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: (11.64516,20.46160),

(11.65548,20.46200), (11.65224,20.54074), (11.64191,20.54034).