

# V&V Reference Report

## L2 ASCDS Version : 8.5

Observation 4970 - L2 Version 5  
Chandra X-Ray Center

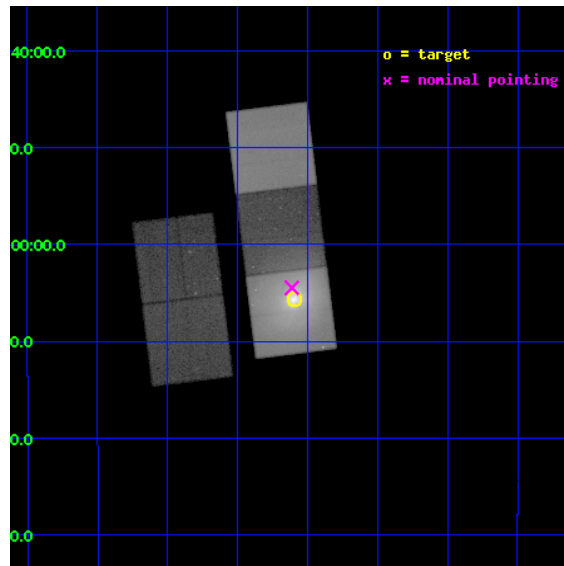
L2 Processing Date : Feb 4 2013

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# 1 Front

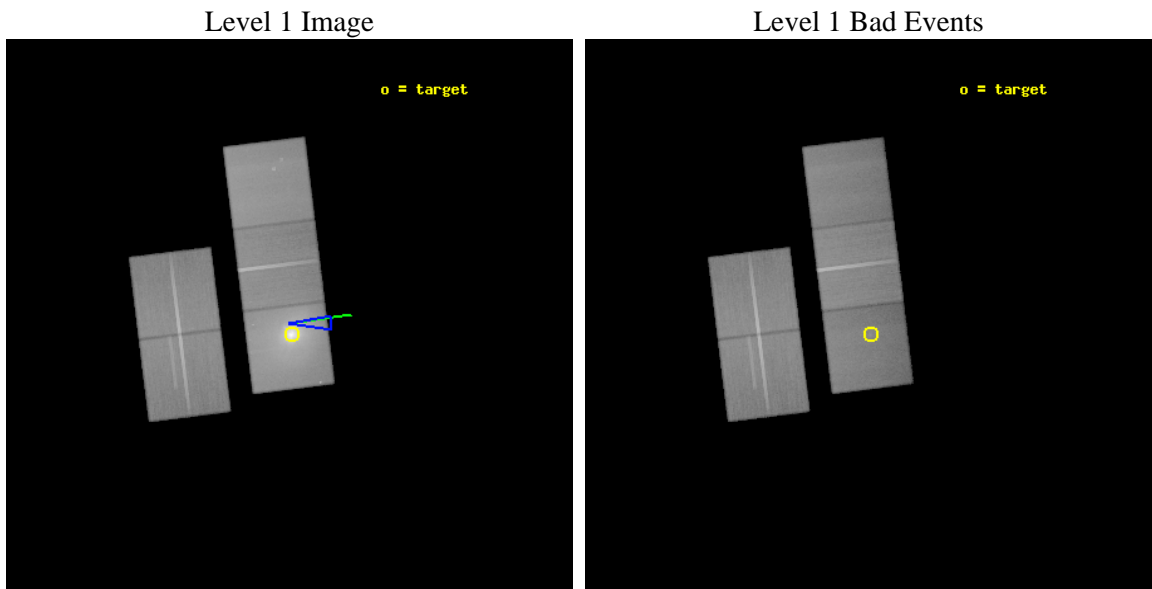
seq_num	800458	Sequence number
obs_id	4970	Observation id
title	A Deep Look at the radio-ICM interaction in the powerful radio galaxy Hydra A	Proposal title
observer	Prof. Brian McNamara	Principal investigator
object	Hydra A	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	139.52375	Observer's specified target RA [deg]
dec_targ	-12.095139	Observer's specified target Dec [deg]
ra_nom	139.52808847788	Nominal RA [deg]
dec_nom	-12.0748072842	Nominal Dec [deg]
roll_nom	82.966108922113	Nominal Roll [deg]
revision	5	Processing version of data
ontime	100126.89980745	Sum of GTIs [s]
livetime	98818.668149118	Livetime [s]
ontime2	100114.33594647	Sum of GTIs [s]
ontime3	100111.19494629	Sum of GTIs [s]
ontime5	100126.89980745	Sum of GTIs [s]
ontime6	100092.34913477	Sum of GTIs [s]
ontime7	100126.89980745	Sum of GTIs [s]
l2events	1753437	Number of level 2 events



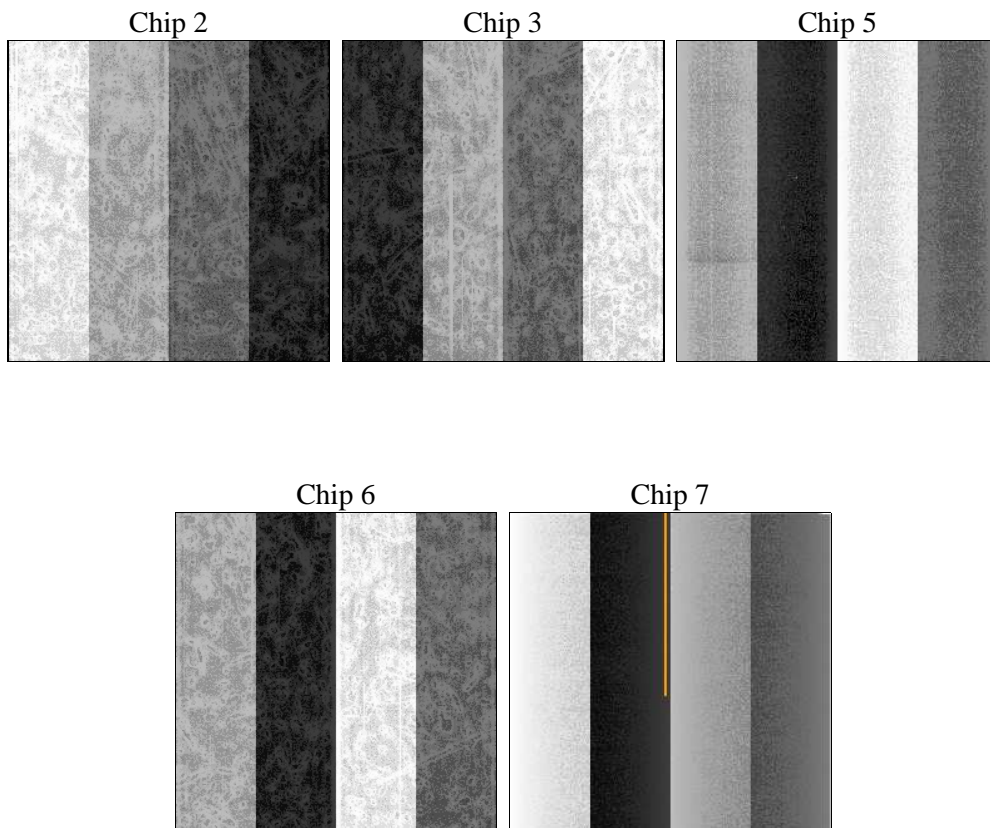
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	100000.000000	[s] Scheduled observation exposure time
ascdsver	8.5.1.1	Processing system revision	ontime	100126.89980745	Sum of GTIs [s]
caldbver	4.5.5	&#160	ontime2	100114.33594647	Sum of GTIs [s]
date	2013-02-02T12:00:48	Date and time of file creation	ontime3	100111.19494629	Sum of GTIs [s]
revision	5	Processing version of data	ontime5	100126.89980745	Sum of GTIs [s]
			ontime6	100092.34913477	Sum of GTIs [s]
			ontime7	100126.89980745	Sum of GTIs [s]
			l1events	4635501	Number of level 1 events

### 2.1.4 Events

	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7
level 1 events	716219	691038	904776	750470	1572998
rejected events	651091	626134	474424	644727	428676
rejected %	90%	90%	52%	85%	27%

	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7
grade 0 events	24532	24557	31161	54686	284459
	3%	3%	3%	7%	18%
grade 1 events	347	332	737	443	906
	0%	0%	0%	0%	0%
grade 2 events	15117	13793	129111	18785	283143
	2%	1%	14%	2%	18%
grade 3 events	7473	7818	21091	9091	127740
	1%	1%	2%	1%	8%
grade 4 events	7455	7461	20227	8727	126978
	1%	1%	2%	1%	8%
grade 5 events	21994	26667	75899	27673	85770
	3%	3%	8%	3%	5%
grade 6 events	11756	12513	236957	15865	329970
	1%	1%	26%	2%	20%
grade 7 events	627545	597897	389593	615200	334032
	87%	86%	43%	81%	21%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-23567	ACIS-23567	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	139.539311	139.5280884778751	Subarray requested	NONE	NONE
[deg] Pointing Dec	-12.099744	-12.07480728419995	Alternating exposures requested	N	N
[deg] Pointing Roll	82.811834	82.96610892211321	[s] Primary exposure time	0.000000	3.1
[deg] Roll angle	90.000000	90.000000			
[deg] Roll tolerance	10.000000	10.000000			
Roll constraint allows 180D rotation	N	N			
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-189.132523	-189.1368542445495			
[mm] SIM translation stage offset	-1	-0.9956683384583584			
[s] Observation start time (MET)	214845272.184000	214843227.80127			
Observation start date	2004-10-22T15:13:28	2004-10-22T14:40:27			
[s] Observation end time (MET)	214945272.184000	214946420.19339			
Observation end date	2004-10-23T19:00:08	2004-10-23T19:20:20			
Read mode	TIMED	TIMED			

## 2.3 Aspect

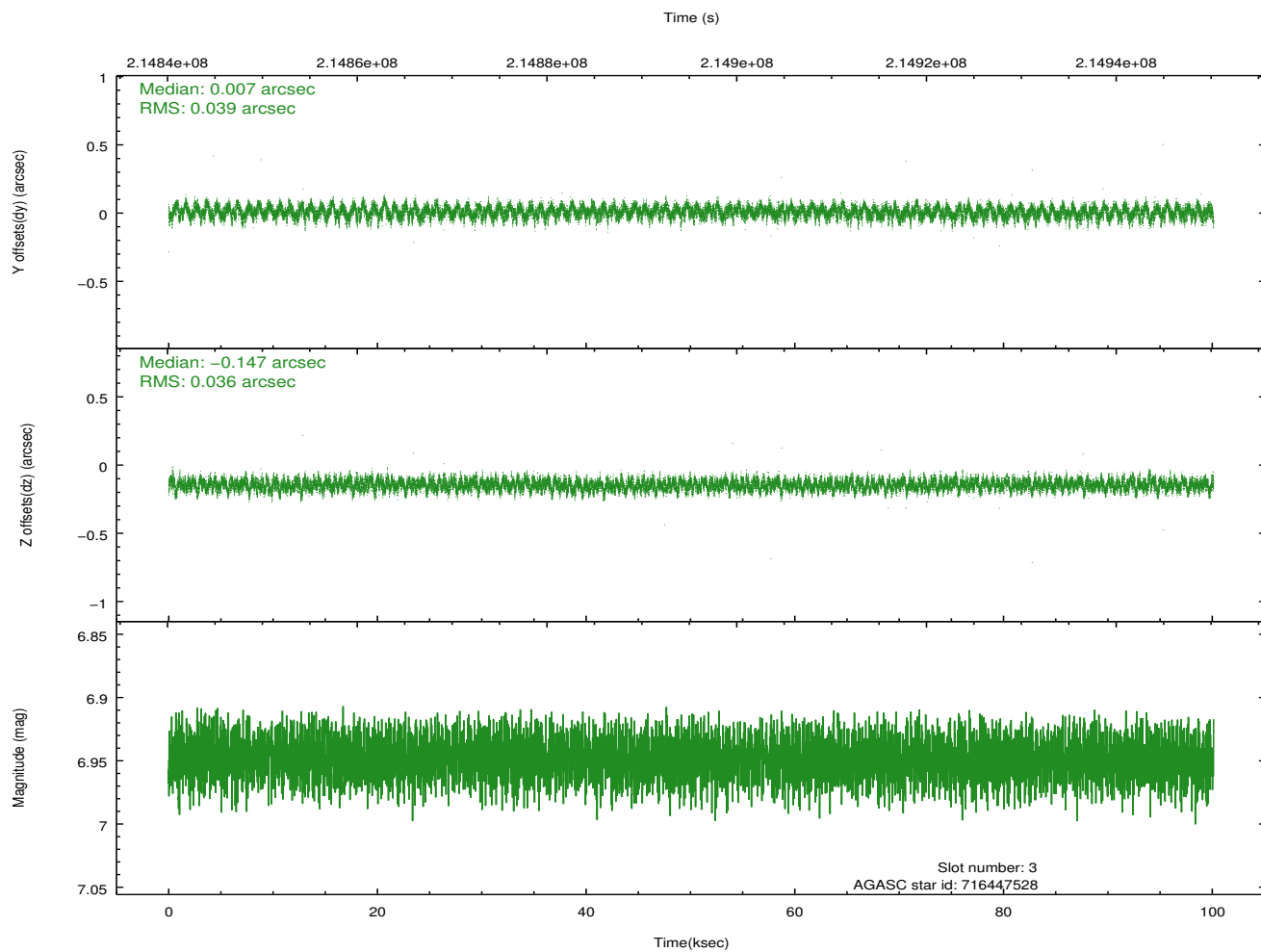


### Slot Statistics

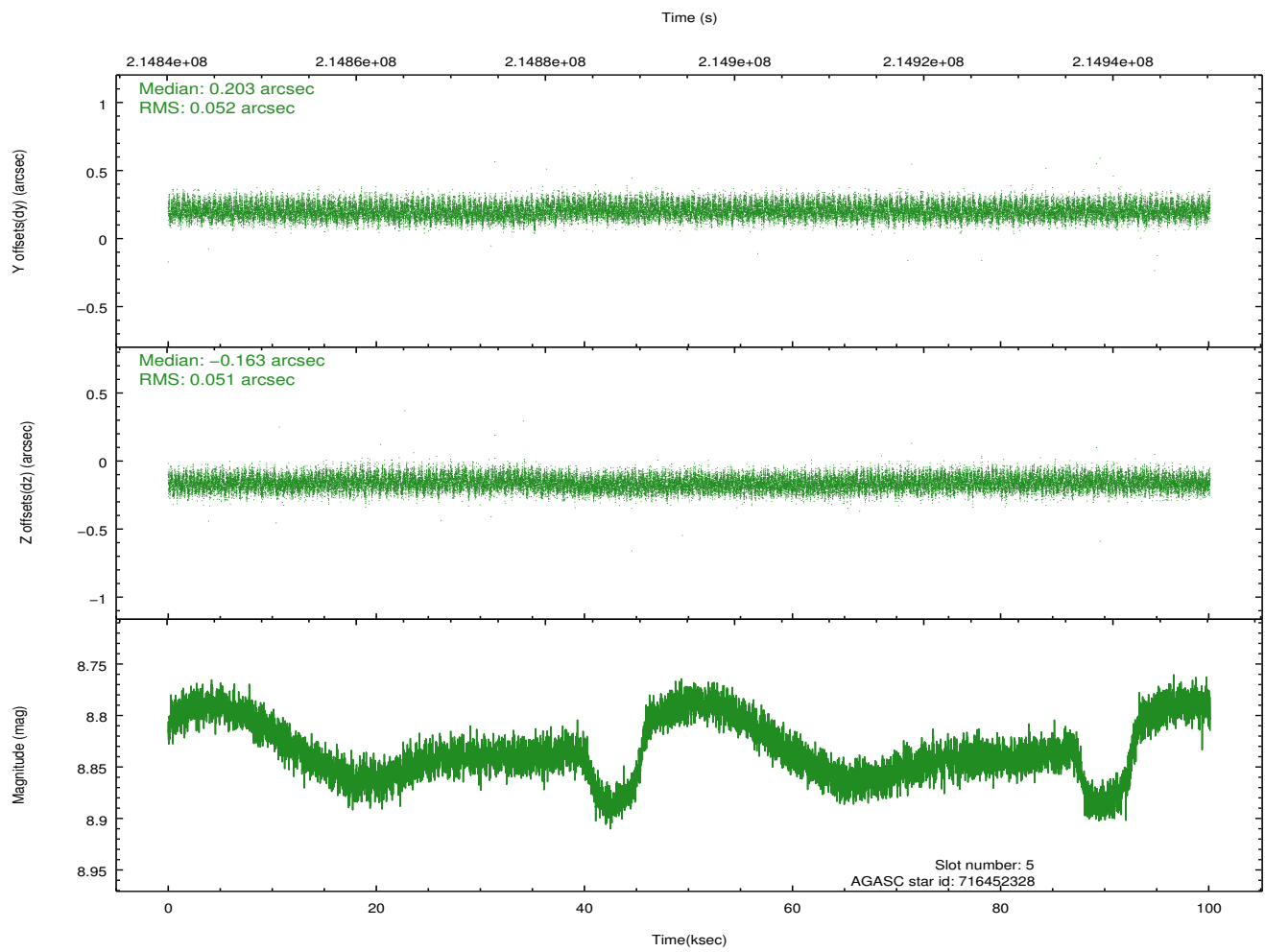
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	7.18	24423	0.030	-0.050	0.030	0.054	0.000000	0.000000	936.49	-1748.94
1	FID	ACIS-S-4	7.20	24422	0.044	0.025	0.029	0.055	0.000000	0.000000	2153.90	155.37
2	FID	ACIS-S-5	7.23	24422	-0.104	0.039	0.016	0.033	0.000000	0.000000	-1812.60	148.92
3	GUIDE	716447528	6.95	48845	0.007	-0.147	0.057	0.088	139.371683	-11.961966	418.20	647.75
4	OMITTED		0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00
5	GUIDE	716452328	8.84	48831	0.203	-0.163	0.078	0.123	138.982178	-12.235590	-732.45	1883.40
6	GUIDE	716575816	8.59	48834	-0.062	0.145	0.082	0.140	140.229272	-11.600909	2083.27	-2189.67
7	GUIDE	716578888	9.26	48585	-0.143	0.165	0.087	0.142	139.858876	-11.605741	1905.28	-895.34

## 2.4 Star Slots

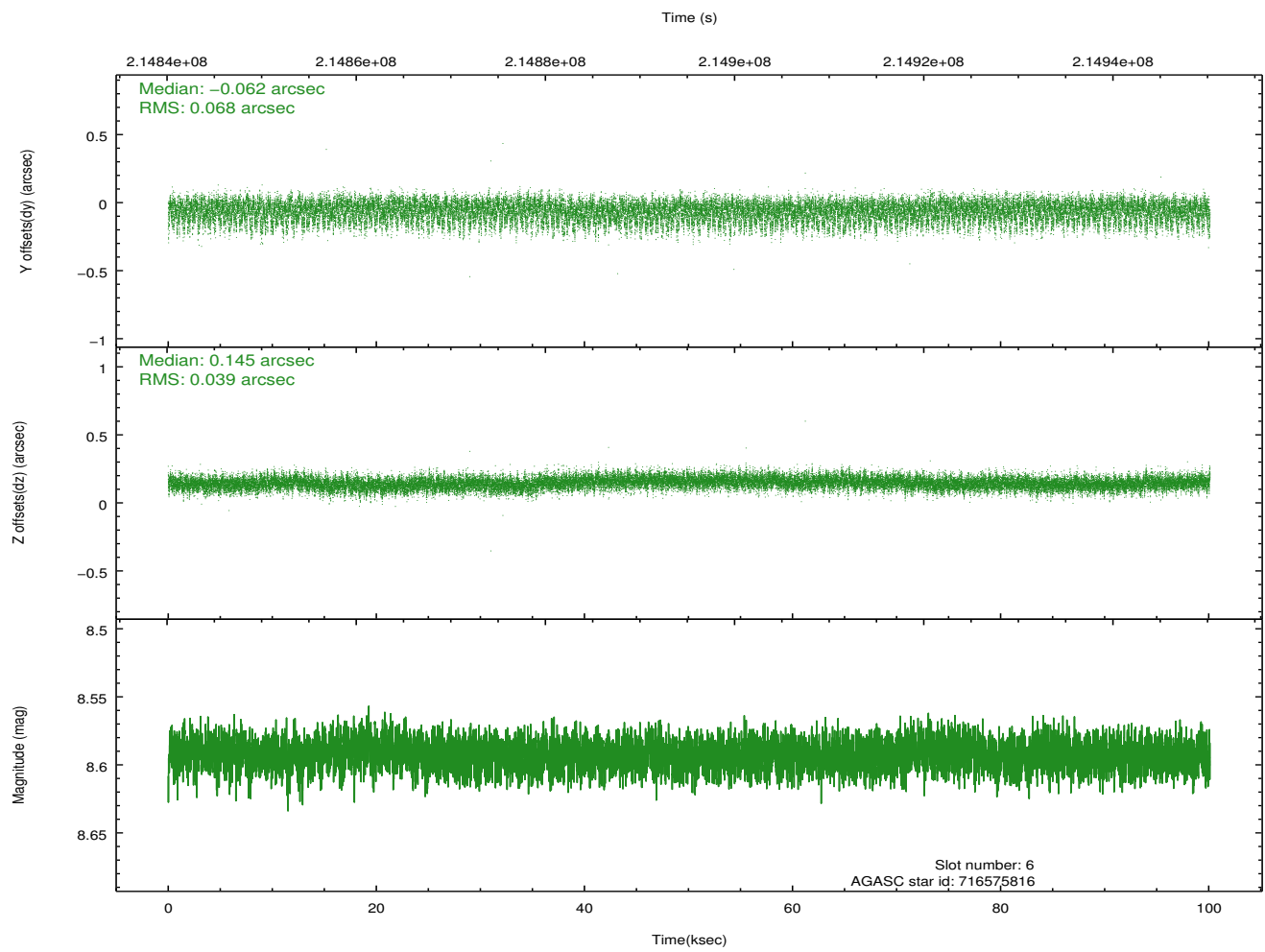
### 2.4.1 Slot 3



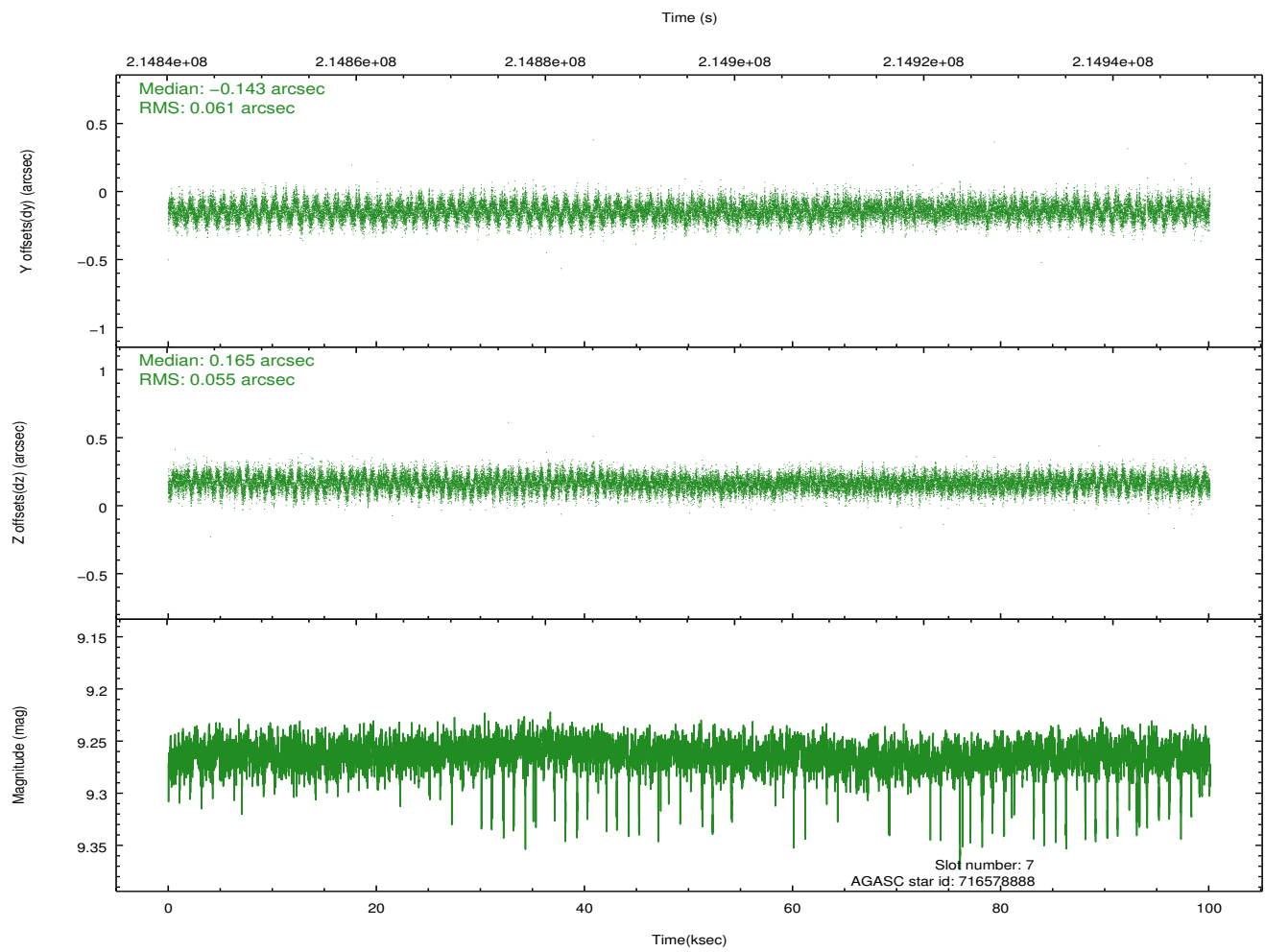
## 2.4.2 Slot 5



### 2.4.3 Slot 6

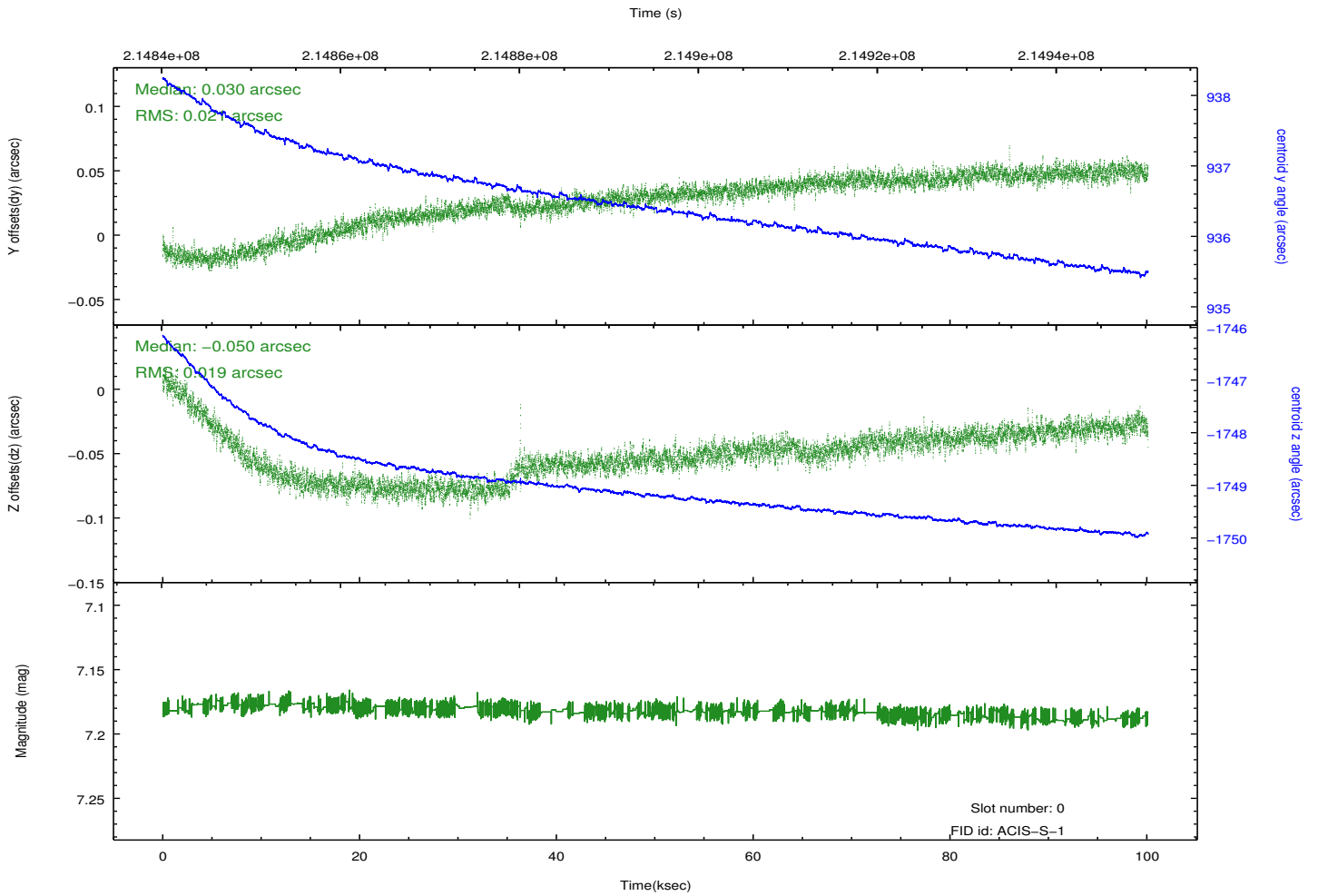
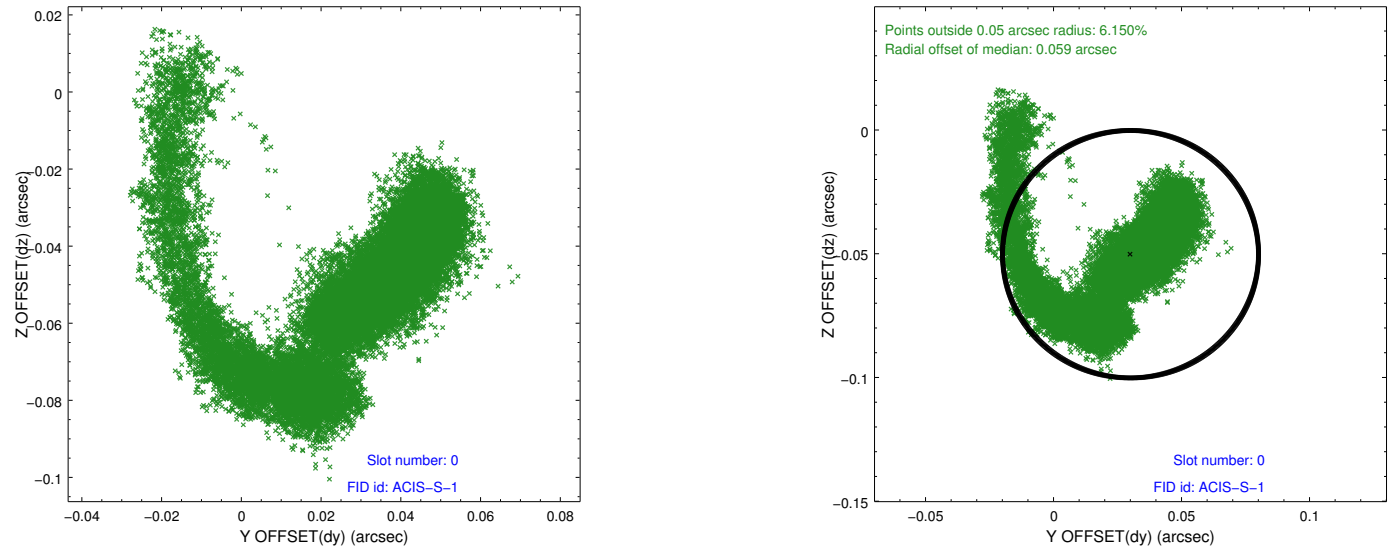


## 2.4.4 Slot 7

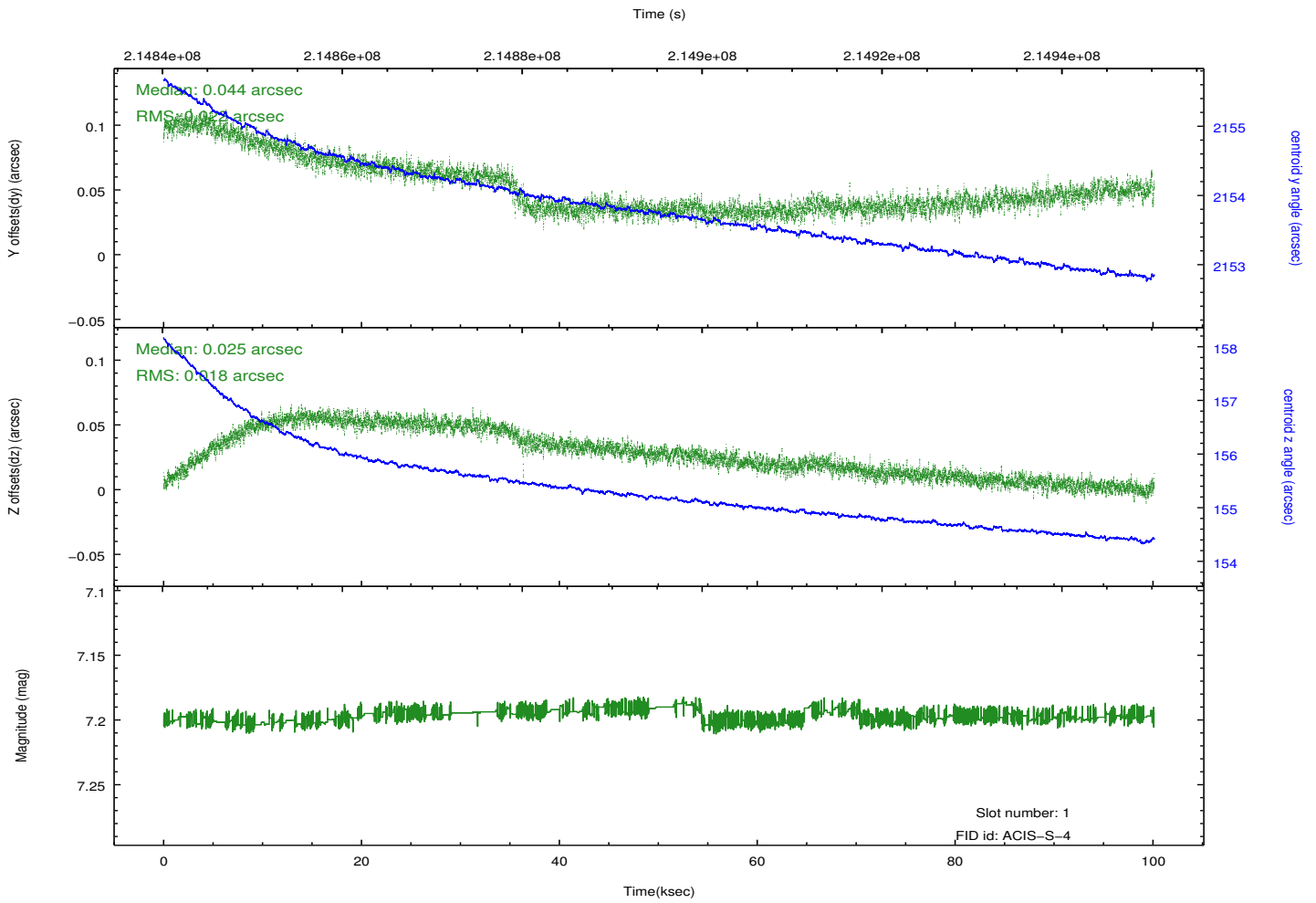
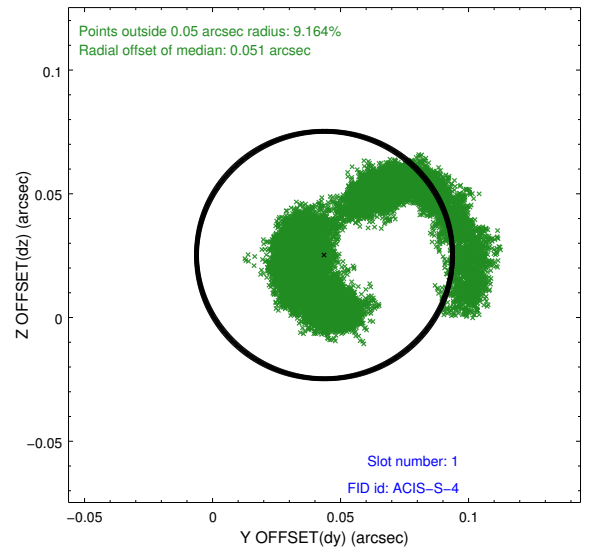
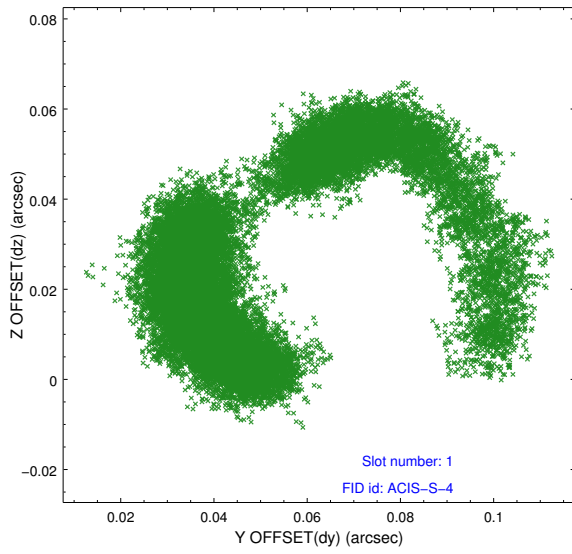


## 2.5 FID Slots

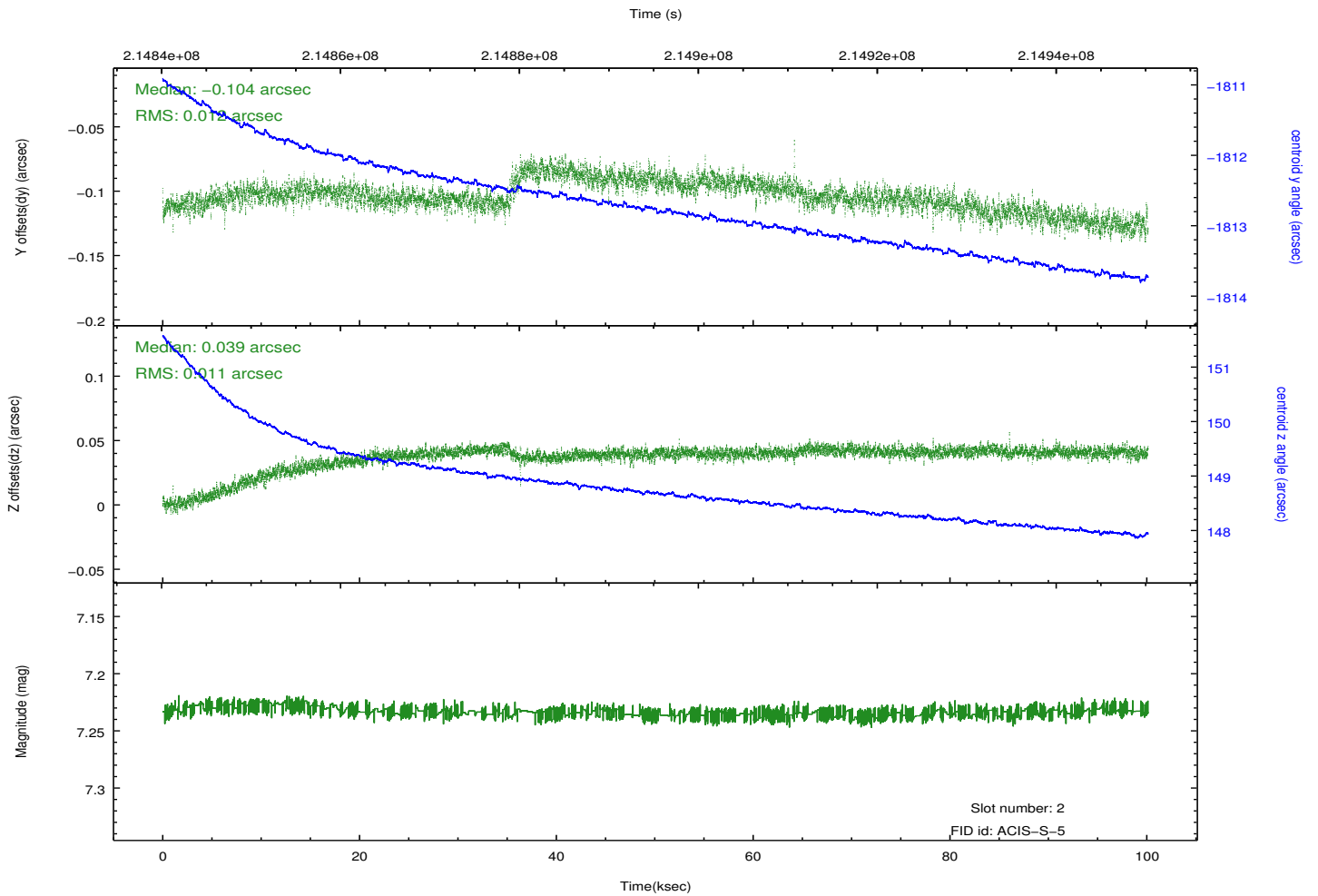
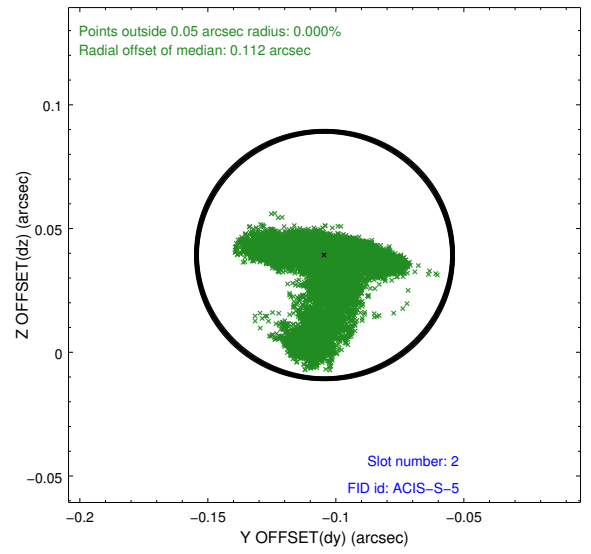
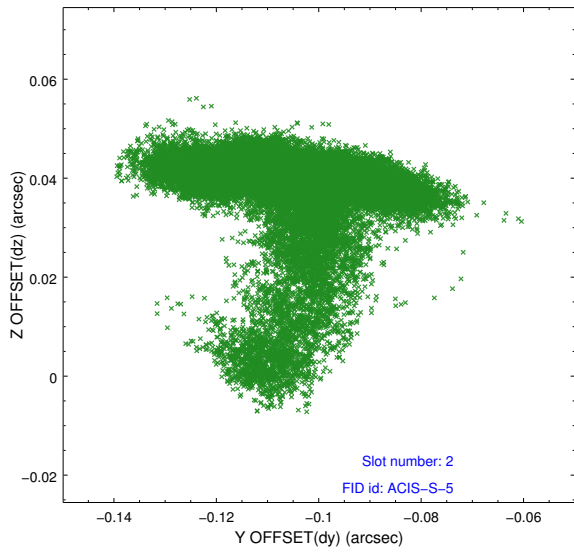
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2013.02.05
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	100.126

## A.2 Comments

The guide star in slot 4 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this guide star from the solution. Roll constraint satisfied.