



11891 - NUV MAMA Fold Distribution

Cycle: 17, Proposal Category: CAL/COS

(Availability Mode: RESTRICTED)

INVESTIGATORS

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VISITS

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	DARK DEUTERIUM	COS/NUV S/C	1	31-Oct-2008 21:27:37.0	yes
02	DARK DEUTERIUM	COS/NUV S/C	1	31-Oct-2008 21:27:40.0	yes

2 Total Orbits Used

ABSTRACT

The performance of MAMA microchannel plate can be monitored using a MAMA fold analysis procedure. The fold analysis provides a measurement of the distribution of charge cloud sizes incident upon the anode giving some measure of changes in the pulse-height distribution of the MCP and, therefore, MCP gain. This proposal executes the same steps as the COS SMOV as proposal 13555 (visit 5).

OBSERVING DESCRIPTION

While illuminating the detector with a flat field lamp (D2), the valid event rate counter (VE) is monitored while various combinations of row- and column-folds are selected. The procedure is implemented during a time-tag exposure using special commanding. It is based on SMOV proposal 13555 (visit 5)

ADDITIONAL COMMENTS

Special Commanding is required to support this proposal. This test should only be run with the COS external shutter closed.

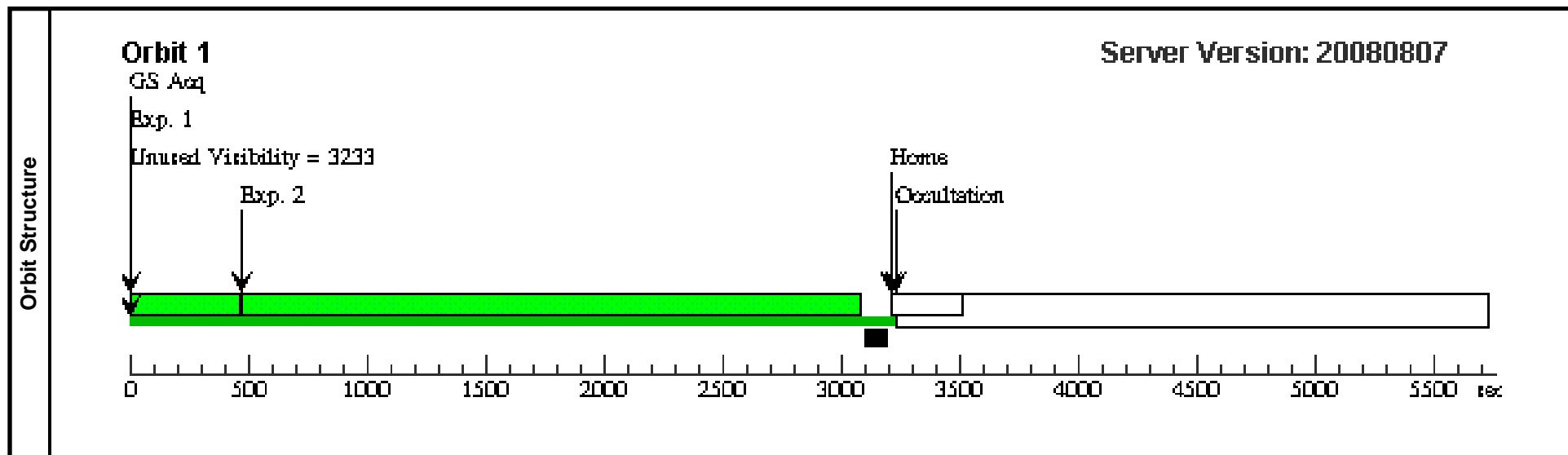
Proposal 11891 - Visit 01 - NUV MAMA Fold Distribution

Sat Nov 01 01:27:42 GMT 2008

Visit	Proposal 11891, Visit 01 Diagnostic Status: Warning Scientific Instruments: COS/NUV, S/C Special Requirements: GYRO MODE 3GOBAD; BETWEEN 01-MAY-2010:00:00:00 AND 01-JUN-2010:00:00:00 <i>Comments: NUV Fold Test</i>									
	(Visit 01) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU									
Diagnosics										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	Fold Test Setup	DARK	S/C, DATA, NONE			SAA CONTOUR 32; Same Alignment SPEC COM INSTR ELFOLDSET		475.0 Secs [==>]	[1]
<i>Comments: Special setup for NUV Fold Analysis Test. Set the Software Global Monitor to 150,000 ORCOUNTS per sec (sufficient to allow for spike at lamp turn-on).</i>										

Proposal 11891 - Visit 01 - NUV MAMA Fold Distribution

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
2	Fold Test	DEUTERIUM	COS/NUV, TIME-TAG, FCA	G185M 1850 A	CURRENT=MEDIU M; BUFFER-TIME=27 00	SPEC COM INSTR ELFOLDTST; QESIPARM TARG TYPE FOLD	Same Alignment	2300.0 Secs [==>]	[1]
Exposures (continued)	<p>Comments: Special NUV Fold Analysis Test. The test will be conducted during a deuterium lamp time-tag exposure. The exposure specification will ensure that the FCA aperture will be used, that the OSMs will be positioned at NCM1FLAT and G185M/1850, and that the lamp current is set to MEDIUM. Qesiparm TARGTYPE must be specified as FOLD so that the instructions will command the proper lamp. Note that the commanding will turn the lamp off during the exposure, and the exposure commanding will issue a redundant lamp off command after the exposure.</p> <p>Set Software Global monitor (SGM Threshold = TBD, SGM Integration period = 1 sec.)</p> <p>(a) Collect counter samples during flat field illumination. Collect 5 samples X events Collect 5 samples Y events Collect 5 samples Z events Collect 5 samples W events Collect 5 samples VE events Collect 5 samples EV events Collect 5 samples OR events</p> <p>The TLM sample rate for COS is one sample / 10 seconds.</p> <p>(b) Disable MAMA Folds: C2, C3, C4, C5, C6, R2, R3, R4, R5, R6</p> <p>(c) Conduct fold analysis. Collect 5 samples VE for following 19 combinations of MAMA folds: (1) Enabled: C2, R2; Disabled: C3, C4, C5, C6, R3, R4, R5, R6 (2) Enabled: C2, R3; Disabled: C3, C4, C5, C6, R2, R4, R5, R6 (3) Enabled: C3, R2; Disabled: C2, C4, C5, C6, R3, R4, R5, R6 (4) Enabled: C2, R4; Disabled: C3, C4, C5, C6, R2, R3, R5, R6 (5) Enabled: C3, R3; Disabled: C2, C4, C5, C6, R2, R4, R5, R6 (6) Enabled: C4, R2; Disabled: C2, C3, C5, C6, R3, R4, R5, R6 (7) Enabled: C3, R4; Disabled: C2, C4, C5, C6, R2, R3, R5, R6 (8) Enabled: C4, R3; Disabled: C2, C3, C5, C6, R2, R4, R5, R6 (9) Enabled: C3, R5; Disabled: C2, C4, C5, C6, R2, R3, R4, R6 (10) Enabled: C4, R4; Disabled: C2, C3, C5, C6, R2, R3, R5, R6 (11) Enabled: C5, R3; Disabled: C2, C3, C4, C6, R2, R4, R5, R6 (12) Enabled: C4, R5; Disabled: C2, C3, C5, C6, R2, R3, R4, R6 (13) Enabled: C5, R4; Disabled: C2, C3, C4, C6, R2, R3, R5, R6 (14) Enabled: C4, R6; Disabled: C2, C3, C5, C6, R2, R3, R4, R5 (15) Enabled: C5, R5; Disabled: C2, C3, C4, C6, R2, R3, R4, R6 (16) Enabled: C6, R4; Disabled: C2, C3, C4, C5, R2, R3, R5, R6 (17) Enabled: C5, R6; Disabled: C2, C3, C4, C6, R2, R3, R4, R5 (18) Enabled: C6, R5; Disabled: C2, C3, C4, C5, R2, R3, R4, R6 (19) Enabled: C6, R6; Disabled: C2, C3, C4, C5, R2, R3, R4, R5</p> <p>(d) Enable MAMA folds C2, C3, C4, C5, C6, R2, R3, R4, R5, R6</p> <p>(e) Check lamp stability by checking EV and VE: Collect 5 samples events (EV). Collect 5 samples Valid Events (VE)</p> <p>(f) Turn off the lamp</p> <p>(g) Collect event counter data for detector dark count rate. Collect 5 samples X dark events. Collect 5 samples Y dark events. Collect 5 samples Z dark events. Collect 5 samples W dark events. Collect 5 samples VE dark events. Collect 5 samples EV dark events. Collect 5 samples OR dark events.</p> <p>(h) At completion of procedure reset SGM to nominal operating level</p>								



Proposal 11891 - Visit 02 - NUV MAMA Fold Distribution

Sat Nov 01 01:27:43 GMT 2008

Visit	<p>Proposal 11891, Visit 02 Diagnostic Status: Warning Scientific Instruments: COS/NUV, S/C Special Requirements: GYRO MODE 3GOBAD; ON HOLD Comments: NUV Fold Test On Hold Comments: This visit is included for redundancy if in the event that the science team deems a fold distribution is required more frequently than once a year.</p>									
	<p>(Visit 02) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU</p>									
Diagnosics										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	Fold Test Setup	DARK	S/C, DATA, NONE			SAA CONTOUR 32; Same Alignment SPEC COM INSTR ELFOLDSET		475.0 Secs [==>]	[1]
<p>Comments: Special setup for NUV Fold Analysis Test. Set the Software Global Monitor to 150,000 ORCOUNTS per sec (sufficient to allow for spike at lamp turn-on).</p>										

Proposal 11891 - Visit 02 - NUV MAMA Fold Distribution

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
2	Fold Test	DEUTERIUM	COS/NUV, TIME-TAG, FCA	G185M 1850 A	CURRENT=MEDIU M; BUFFER-TIME=27 00	SPEC COM INSTR ELFOLDTST; QESIPARM TARG TYPE FOLD	Same Alignment	2300.0 Secs [==>]	[1]
Exposures (continued)	<p>Comments: Special NUV Fold Analysis Test. The test will be conducted during a deuterium lamp time-tag exposure. The exposure specification will ensure that the FCA aperture will be used, that the OSMs will be positioned at NCM1FLAT and G185M/1850, and that the lamp current is set to MEDIUM. Qesiparm TARGTYPE must be specified as FOLD so that the instructions will command the proper lamp. Note that the commanding will turn the lamp off during the exposure, and the exposure commanding will issue a redundant lamp off command after the exposure.</p> <p>Set Software Global monitor (SGM Threshold = TBD, SGM Integration period = 1 sec.)</p> <p>(a) Collect counter samples during flat field illumination. Collect 5 samples X events Collect 5 samples Y events Collect 5 samples Z events Collect 5 samples W events Collect 5 samples VE events Collect 5 samples EV events Collect 5 samples OR events</p> <p>The TLM sample rate for COS is one sample / 10 seconds.</p> <p>(b) Disable MAMA Folds: C2, C3, C4, C5, C6, R2, R3, R4, R5, R6</p> <p>(c) Conduct fold analysis. Collect 5 samples VE for following 19 combinations of MAMA folds: (1) Enabled: C2, R2; Disabled: C3, C4, C5, C6, R3, R4, R5, R6 (2) Enabled: C2, R3; Disabled: C3, C4, C5, C6, R2, R4, R5, R6 (3) Enabled: C3, R2; Disabled: C2, C4, C5, C6, R3, R4, R5, R6 (4) Enabled: C2, R4; Disabled: C3, C4, C5, C6, R2, R3, R5, R6 (5) Enabled: C3, R3; Disabled: C2, C4, C5, C6, R2, R4, R5, R6 (6) Enabled: C4, R2; Disabled: C2, C3, C5, C6, R3, R4, R5, R6 (7) Enabled: C3, R4; Disabled: C2, C4, C5, C6, R2, R3, R5, R6 (8) Enabled: C4, R3; Disabled: C2, C3, C5, C6, R2, R4, R5, R6 (9) Enabled: C3, R5; Disabled: C2, C4, C5, C6, R2, R3, R4, R6 (10) Enabled: C4, R4; Disabled: C2, C3, C5, C6, R2, R3, R5, R6 (11) Enabled: C5, R3; Disabled: C2, C3, C4, C6, R2, R4, R5, R6 (12) Enabled: C4, R5; Disabled: C2, C3, C5, C6, R2, R3, R4, R6 (13) Enabled: C5, R4; Disabled: C2, C3, C4, C6, R2, R3, R5, R6 (14) Enabled: C4, R6; Disabled: C2, C3, C5, C6, R2, R3, R4, R5 (15) Enabled: C5, R5; Disabled: C2, C3, C4, C6, R2, R3, R4, R6 (16) Enabled: C6, R4; Disabled: C2, C3, C4, C5, R2, R3, R5, R6 (17) Enabled: C5, R6; Disabled: C2, C3, C4, C6, R2, R3, R4, R5 (18) Enabled: C6, R5; Disabled: C2, C3, C4, C5, R2, R3, R4, R6 (19) Enabled: C6, R6; Disabled: C2, C3, C4, C5, R2, R3, R4, R5</p> <p>(d) Enable MAMA folds C2, C3, C4, C5, C6, R2, R3, R4, R5, R6</p> <p>(e) Check lamp stability by checking EV and VE: Collect 5 samples events (EV). Collect 5 samples Valid Events (VE)</p> <p>(f) Turn off the lamp</p> <p>(g) Collect event counter data for detector dark count rate. Collect 5 samples X dark events. Collect 5 samples Y dark events. Collect 5 samples Z dark events. Collect 5 samples W dark events. Collect 5 samples VE dark events. Collect 5 samples EV dark events. Collect 5 samples OR dark events.</p> <p>(h) At completion of procedure reset SGM to nominal operating level</p>								

