Prop. ID	Title	External	Internal	Status/End obs.
Cycle 17				
11843	CCD Performance Monitor	0	24	complete
11844	CCD Dark Monitor	0	488	complete
11845	CCD Dark Monitor	0	488	Oct. 31, 2010
11846	CCD Bias Monitor	0	244	complete
11847	CCD Bias Monitor	0	244	Oct. 31, 2010
11848	CCD Readnoise Monitor	0	18	complete
11849	CCD Hot Pixel Annealing	0	85-P	Oct. 11, 2010
11852	CCD Spectroscopic Flats	0	50	Oct. 25, 2010
11853	CCD Imaging Flats	0	12	Oct. 25, 2010
11858	CCD Dispersion Solutions	0	7	complete
11850	CCD Sparse Field CTE	0	74	complete
11854	CCD Full Field Sensitivity	1	0	complete
11851	Slit Wheel Repeatability	0	1-P	complete
11855	CCD Spectroscopic Sensitivity Monitor	10	0	complete
11859	MAMA Dispersion Solutions	0	10	complete
11856	MAMA Full-Field Sensitivity	3	0	complete
11860	MAMA Sensitivity & Focus Monitoring	11	0	LRP
11857	MAMA Dark Monitor	0	116	LRP
11863	MAMA Fold Distribution	0	4	complete
11861	MAMA FUV Flats	0	11	complete
11862	MAMA NUV Flats	0	11	LRP
11864	MAMA Anomalous Recovery			
11865	COS Flux Standard	2	0	complete
11866	Echelle Grating Blaze Function Zero Points	24	0	complete
11999	JWST Calibration	13	0	April 28, 2011
Supplemental				
12078	Verification of Adjustment to Two STIS MSM Positions	0	1	complete
12079	STIS PtCr/Ne Lamp Ratios	0	7	complete
11861+	Supplemental FUV MAMA Flats	0	3	complete
11857+	Additional MAMA Dark Expsoures	0	4	LRP
11860+	Additional Monitoring of STIS Echelle Modes	4	0	LRP
	Cycle 17 Totals	**68**	**1902**	

STIS Cycle 17:
27 programs
68 external orbits
1902 internal orbits

STIS observations comprise 26.2% of prime orbits in Cycle 18

STIS Cycle 18 usage statistics

configuration/mode	prime usage	SNAP usage
CCD/imaging	4.7%	0%
CCD/spectroscopy	5.5%	0%
FUV/imaging	0.2%	0%
FUV/spectroscopy	10.1%	19.4%
NUV/imaging	0.3%	0%
NUV/spectroscopy	5.4%	0%

STIS Cycle 18 calibration request

PID	Title	External	Parallel	Internal	Frequency
	CCD Monitors				
12396	CCD Performance Monitor			14	2x7
12400 & 12401	CCD Dark Monitor			730	365x2
12402 & 12403	CCD Bias and Readnoise Monitor			365	365x1
12404	CCD Hot Pixel Annealing		39		13x3
12405	CCD Spectroscopic Flats			37	various
12406	CCD Imaging Flats			10	various
12407	CCD Spectroscopic Dispersion Solution Monitor			3	3x1
12408	CCD Sparse Field CTE			74	
12409	CCD Full Field Sensitivity	1			1x1
12410	Slit Wheel Repeatability			1	1x1
12411	CCD Spectroscopic Sensitivity Monitor	5			3x1/L, 1x2/M
	MAMA Monitors				
12412	MAMA Dispersion Solutions			7	7x1
12413	MAMA Full Field Sensitivity	3			1x3
12414	MAMA Spectroscopic Sensitivity and Focus Monitor	12			3x1/L, 1x1/M,4x2/E
12415	MAMA Dark Monitor			116	2/det/alt. wks +2x6 FUV
12416	MAMA Fold Distribution			2	1x2
	MAMA NUV Flats			0	C19
12417	MAMA FUV Flats			11	11x1
12429	MAMA Anomalous Recovery				
	Special Programs				
12418	A DB White Dwarf as a Fundamental Calibrator for COS/G130M	1			
	Totals	**22**	**39**	**1370**	

CCD Performance Monitor
P.I.Michael Wolfe

Purpose	To measure the baseline performance of the CCD system.
Description	This activity measures the baseline performance and commandability of the CCD subsystem. Only primary amplifier D is used. Bias and Flat Field exposures are taken in order to measure bias level, read noise, CTE, and gain. Numerous bias frames are taken to permit construction of "superbias" frames in which the effects of read noise have been rendered negligible. Full frame observations are made. Bias frames are taken in subarray readouts to check the bias level for ACQ and ACQ/PEAK observations.
Fraction GO/GTO Programs Supported	60% of STIS exposures
Resources Required: Observations	14 internal orbits, performed in two groups of 7.
Resources Required: Analysis	3 FTE weeks for analysis: Provides baseline measurements of CCD bias levels, gains, read noise, charge transfer efficiency, dark current levels, and performance verification of binning and subarray readpout capabilities. Provides a rough assessment of changes in flat field features due to dust motes or other particulates. Numerous bias frames are taken to permit construction of "super bias" frames in which the effects of read noise have been rendered negligible.
Products	Possible updates of the following CDBS files: Possible update of the gain, bias level, and read noise values in ccdtab. This also provides a relative measure of CTI via the extended pixel edge response test. Possible flight software updates of table CCDBiasSubtractionValue. Possible reports in STAN and ISR.
Accuracy Goals	Bias level: better than 0.1 ADU at any position within the CCD frame; read-out noise negligible Dark current: good to 0.5 electrons/hour. RMS noise level about 0.5 electrons per hour per pixel. Systematic error in hot pixels may well exceed this limit.
Scheduling & Special Requirements	orbits will occur every 6 months starting in March 2011 and then in September 2011.
Changes from Cycle 17	C17: 3x8 frequency C18: reduction from 8 to 7 visits results from dropping binned images, alternating GAIN=2 and GAIN=8 exposures

CCD Dark Monitor (pts 1 & 2)
P.I. Michael Wolfe

Purpose	Monitor the darks for the STIS CCD.
Description	Obtain darks at GAIN=1 in order to monitor CCD behavior and chart growth of hot and bad pixels. Check how well the anneals work for the CCD. All exposures are internals and fit in occultation orbits.
Fraction GO/GTO Programs Supported	60% of STIS exposures
Resources Required: Observations	362 (pt1) + 368 (pt2) internal orbits (twice per day)
Resources Required: Analysis	2 FTE weeks; Retrieve and construct superdarks. These superdarks are compared to previous superdarks and the image statistics are checked to see if there are any anomalous statistical deviations.
Products	Weekly CDBS reference files (superdarks)
Accuracy Goals	> 5%
Scheduling & Special Requirements	two orbits per day
Changes from Cycle 17	no change in frequency

CCD Bias and Readnoise Monitor (pts 1 & 2)
P.I. Michael Wolfe

Purpose	Monitor the bias in the 1x1 bin settings at gain=1, and 1x1 at gain = 4, to build up high S/N superbiases and track the evolution of hot columns. Also GAIN=1, 1x1 biases through AMPS A and C to use in combination with biases taken through AMP D for monitoring of the read noise.
Description	Take fullframe bias exposures in the 1x1 bin settings at gain=1, and 1x1 at gain = 4. Take fullframe biases through AMPS A and C. All exposures are internals and fit in occultation orbits.
Fraction GO/GTO Programs Supported	60% of STIS exposures
Resources Required: Observations	181 (pt1) + 184 (pt2) internal orbits
Resources Required: Analysis	2 FTE weeks; Retrieve and construct superbiases. These superbiases are compared to previous superbiases and the image statistics are checked to see if there are any anomalous statistical deviations. Furthermore, acquisition of biases through AMPS A and C will allow the read noise monitor to be accomplished.
Products	Weekly CDBS reference files (superbiases)
Accuracy Goals	Bias level: better than 0.1 ADU at any position within CCD frame superbias rms: 0.4 ADU at gain 1 1x1 and 0.3 ADU at gain 4 1x1
Scheduling & Special Requirements	observations once per day
Changes from Cycle 17	monthly observations for readnoise monitor have been combined with daily bias monitor observations. Exposures in 1x2,2x1, and 2x2 binnings have been dropped as these modes are not used in GO observations in Cycle 18.

CCD Hot Pixel Annealing
P.I. Michael Wolfe

Purpose	To anneal hot pixels and the effectiveness of the CCD, hot pixel annealing is assessed by measuring the dark current behavior before and after annealing.
Description	The CCD Thermoelectric cooler will be turned off to allow the CCD detector temperature to rise from ~ -80 C to +5 C. The CCD will be left in the uncooled state for approximately 12 hours. At the end of this period the Thermoelectric cooler is turned back on and the CCD is cooled to its normal operating temperature. Since the CCD on Side-2 does not have thermistor, a 3 hour period, at a minimum, is necessary to ensure that the CCD is cool and stable.
Fraction GO/GTO Programs Supported	60%
Resources Required: Observations	39 internal orbits; orbits during which the anneal is occurring are not counted.
Resources Required: Analysis	3 FTE weeks
Products	Hot pixel growth rate, median dark count rate, ISR, reference files
Accuracy Goals	1%; Anneal the CCD and measure the growth rate of hot pixels
Scheduling & Special Requirements	1 anneal will execute every 4th week using 3 orbits.
Changes from Cycle 17	C17 had1 anneal every 4th week using 5 orbits; no significant change was found using 3 darks (obtained in 1 orbit pre/post anneal) vs 5 darks (2 orbits pre/post anneal)

CCD Spectroscopic Flats
P.I. Elena Mason

Purpose	This program will obtain STIS CCD flat-field observations with the internal Tungsten lamp for the construction of pixel-to-pixel flat-fields with a high S/N for all CCD spectroscopic modes. Low-resolution gratings are also used as the dust motes are being illuminated from a different angle than in case of medium-resolution gratings.
Description	This program takes data with five separate settings: 1). G430M 5216 Angstroms 50CCD; 2). G430L 4300 Angstroms 50CCD; 3). G750L 7751 Angstroms 50CCD; 4). G430M 5216 Angstroms 52X2; 5). G430L 4300 Angstroms 52X2
Fraction GO/GTO Programs Supported	15%
Resources Required: Observations	37 internal orbits: 9 for G430M 5216 50CCD, 5 for G430L 4300 50CCD, 3 for G750L 7751 50CCD, 10 for G430M 5216 52x2, 10 for G430L 4300 52x2
Resources Required: Analysis	4 FTE weeks
Products	reference files and an ISR
Accuracy Goals	<1%
Scheduling & Special Requirements	
Changes from Cycle 17	increase in the number of low-resolution grating exposures, decrease in number of medium-resolution grating exposures

CCD Imaging Flats
P.I. Elena Mason

Purpose	Investigate flat-field stability over a monthly period and to map a few non-standard slit wheel positions for 50CORON.
Description	Once every seven weeks, obtain a series of imaging CCD flats using the MIRROR with the unfiltered 50CCD aperture and the filtered F28X50LP aperture. These will be used to monitor the characteristics of the CCD reponse, and to look for the development of new cosmetic defects. Once per cycle, flats will also be obtained using the F28X50OII and the F28X50OIII filters. Additionally, data using 50CORON will be taken to map a few non-standard slit wheel positions for coronagraphy. Continuation of Cycle-17 program 11853.
Fraction GO/GTO Programs Supported	34%
Resources Required: Observations	10 internal orbits
Resources Required: Analysis	2 FTE weeks; we will obtain the flats and monitor both their variations and the development of any cosmetic defects. Will wait for three months worth of data before attempting to build a new flat.
Products	reference files and an ISR
Accuracy Goals	0.5% pixel-to-pixel (except 0.8% for OII)
Scheduling & Special Requirements	1 orbit every 7 weeks for 50CCD and F28X50LP; 2 orbits 50CORON
Changes from Cycle 17	addition of 2 orbits for 50CORON observations

CCD Spectroscopic Dispersion Solution Monitor
P.I. Ilaria Pascucci

Purpose	To constrain the wavelength and spatial distortion maps
Description	Internal wavecals will be obtained with all 6 gratings (G230LB, G230MB, G430L, G430M, G750L, G750M) supported for use with the CCD. All observations will be obtained with the 52x0.1 aperture, which maps to 2 pixels at the CCD. The HITM1 lamp will be used, rather than the LINE lamp. The HITM1 lamp has a more favorable spatial illumination pattern, dropping by only a factor of 3 at row 900, relative to the peak brightness at row 420. A comparison LINE lamp wavecal is however included with the G430L/4300 grating.
Fraction GO/GTO Programs Supported	60%
Resources Required: Observations	3 internal orbits
Resources Required: Analysis	4 FTE weeks
Products	possibly a new reference file and accompanying ISR
Accuracy Goals	0.2 pixels; wavelength accuracy for row 900. Wavelength coefficients are tabulated every 32 rows in the CCD dispersion (_dsp) reference file. Exposure times in this program have typically been chosen to yield a S/N ratio of at least 10 per pixel in row 900 after combining 32 rows. This constraint must be satisfied in the left, middle, and right thirds of the image. Existing HITM1 wavecals were used to estimate exposure times assuming no significant degradation post-SM4.
Scheduling & Special Requirements	none
Changes from Cycle 17	reduction of 4 orbits: medium-resolution mode exposures were cut, keeping only the bluest & reddest wavelengths and a few cenwaves in between

CCD Sparse Field CTE
P.I. Michael Wolfe

Purpose	Reestablish an accurate correction for parallel register CTE losses that can be used for direct analysis of science data with negligible background. Do measurements for both GAIN settings (1 and 4).
Description	The sparse field CTE will be measured via internal calibration internal lamp observations taken through narrow slits. The strategy of the test is as follows. If there is a CTE effect, charge will be left behind as the image is shifted through pixels during readout. The further the charge needs to be shifted to be read out, the more charge it will lose. Because the D amp and the B amp read out at opposite ends of the CCD, the ratio in image intensity (B amp/D amp) should increase as the image position moves closer to the B amp end (and further from the Damp end). For the parallel CTE measurement, the test will use the the crossdisperser slits: 0.05x31NDB and 0.05x31NDA slits, projected on different parts of the detector via an optional parameter that allows the aperture aperture to illuminate various positions on the CCD. The whole series of exposures are executed once for GAIN=1, and once for GAIN=4 to test the effect of different bias voltages.
Fraction GO/GTO Programs Supported	60% of STIS
Resources Required: Observations	74 internal orbits
Resources Required: Analysis	3 FTE weeks
Products	ISR, algorithm for calibration and coefficients.
Accuracy Goals	CTE correction coefficients will be determined to a relative accuracy of 1%; photometry should not be limited to by >1% accuracy after correction for CTE.
Scheduling & Special Requirements	
Changes from Cycle 17	none

CCD Full Field Sensitivity
P.I. van Dixon

Purpose	To monitor CCD sensitivity over the whole field of view
Description	Measure a photometric standard star field in Omega Cen in 50CCD annually to monitor CCD sensitivity over the whole field of view. Keep the spacecraft orientation within a suitable range (+/- 5 degrees) to keep the same stars in the same part of the CCD for every measurement. This test will give a direct transformation of the 50CCD magnitudes to the Johnson-Cousins system for red sources. These transformations should be accurate to 1%. The stability of these transformations will be measured to the sub-percent level. These observations also provide a check of the astrometric and PSF stability of the instrument over its full field of view.
Fraction GO/GTO Programs Supported	10%
Resources Required: Observations	1 external orbit
Resources Required: Analysis	2 FTE weeks
Products	ISR, STAN
Accuracy Goals	1%
Scheduling & Special Requirements	ORIENT 310.0D TO 310.0 D; BETWEEN 15-JAN-2011:00:00:00 AND 20-MAR-2011:00:00:00
Changes from Cycle 17	none

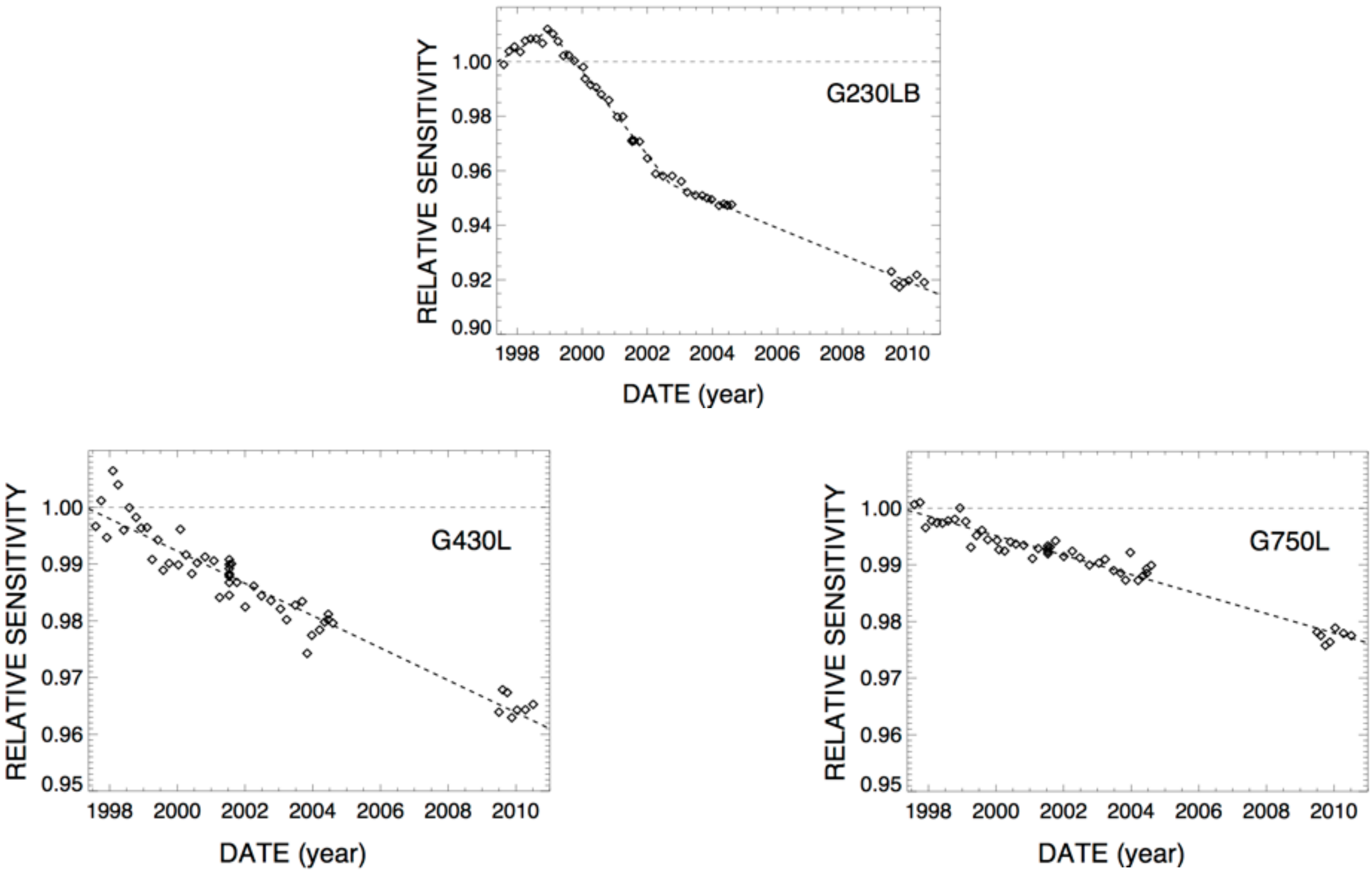
Slit Wheel Repeatability
P.I. Wei Zheng

Purpose	Test the repeatibility of the slit wheel by taking a sequence of comparison lamp spectra with grating G230MB (2697) and the three smallest long slits (52X0.2, 52X0.1, and 52X0.05). This is a clone of Cycle 17 Program 11851.
Description	Verify the repeatability of the slit wheel for three STIS slits (52X0.2, 52X0.1, and 52X0.05) by taking images with the Pt/Cr/Ne LINE lamp and the CCD detector. Use the G230MB (2697) grating with the CCD, and rotate the slit wheel among the 3 chosen slits. Detector: CCD Grating: G230MB (2697) Slits: 52x0.2, 52X0.1, 52X0.05 Grating A: 52X0.2 (10 seconds) Grating B: 52X0.1 (10 seconds) Grating C: 52X0.05 (20 seconds) Sequence: A-B-C-B-C-A-A-B-A-C-B-B-A-B-C-B-C-C-A-B-A-C-B-A Forward motion: B - 4 times C - 6 times Backward motion: A - 6 times B - 4 times No motion: A/B/C - 1 time.
Fraction GO/GTO Programs Supported	50% of STIS
Resources Required: Observations	1 internal orbit
Resources Required: Analysis	1 FTE week
Products	report
Accuracy Goals	0.1 pixel after removing the 0th order shift
Scheduling & Special Requirements	scheduling early in Cycle 18
Changes from Cycle 17	none

CCD Spectroscopic Sensitivity Monitor
P.I. Rachel Osten

Purpose	Monitor the spectroscopic sensitivity of the CCDs using both low- and medium-resolution grating settings to reveal any contamination issues which might affect the spectroscopic throughput.
Description	This calibration program will monitor the spectroscopic sensitivity of CCD spectroscopic settings using the same high-declination calibration standard. Results will be ratioed to the first observations to detect any trends. Every 4 months, the L-modes will be observed at settings which cover both the nominal position and the recommended E1 position which places the spectrum closer to the CCD readout. These visits comprise one orbit each. This program also monitors the medium-resolution gratins, with one visit. This visit takes observations at 2 central wavelength settings of G230MB and G430M, at each of the nominal and E1 pseudo-aperture positions, and at 1 central wavelength setting of G750M (with the addition of an observation at the pseudo-aperture position to that at the nominal position).
Fraction GO/GTO Programs Supported	19% of STIS observations are made with L-mode settings, 29% with M-modes (percentages based on exposure times)
Resources Required: Observations	5 external orbits: 3x1 orbits for L mode monitoring, 2 orbits for 1 visit of M mode monitoring + verification of CTE
Resources Required: Analysis	3 FTE weeks
Products	interim reports and ISRs on sensitivity. Update of TDS reference file.
Accuracy Goals	minimum of S/N of 50 at the wavelength of least sensitivity
Scheduling & Special Requirements	L modes observed every 4th month, M modes observed once
Changes from Cycle 17	reduce frequency of monitoring

Recent CCD TDS results



MAMA Dispersion Solutions
P.I. Ilaria Pascucci

Purpose	To constrain the wavelength dispersion solutions
Description	Internal wavecals will be obtained at primary and secondary central wavelengths chosen to cover Cycle 18 use. There is also overlap with choices of configurations used with previous calibration programs which will enable long-term monitoring. This program uses the LINE lamp for a total of approximately 8 hours, typically at a lamp current of 10 mA, consuming about 0.5% of the 15000 mA-hour lifetime. Extra-deep wavecals are included for some echelle modes and for some first order modes to ensure detection of weak lines.
Fraction GO/GTO Programs Supported	70%
Resources Required: Observations	7 internal orbits
Resources Required: Analysis	4 FTE weeks
Products	possible new reference file and accompanying ISR
Accuracy Goals	0.1 pixels internal wavelength precision
Scheduling & Special Requirements	none
Changes from Cycle 17	decrease of 3 orbits; high- and medium-resolution modes have bluest & reddest wavelengths + a few settings in between

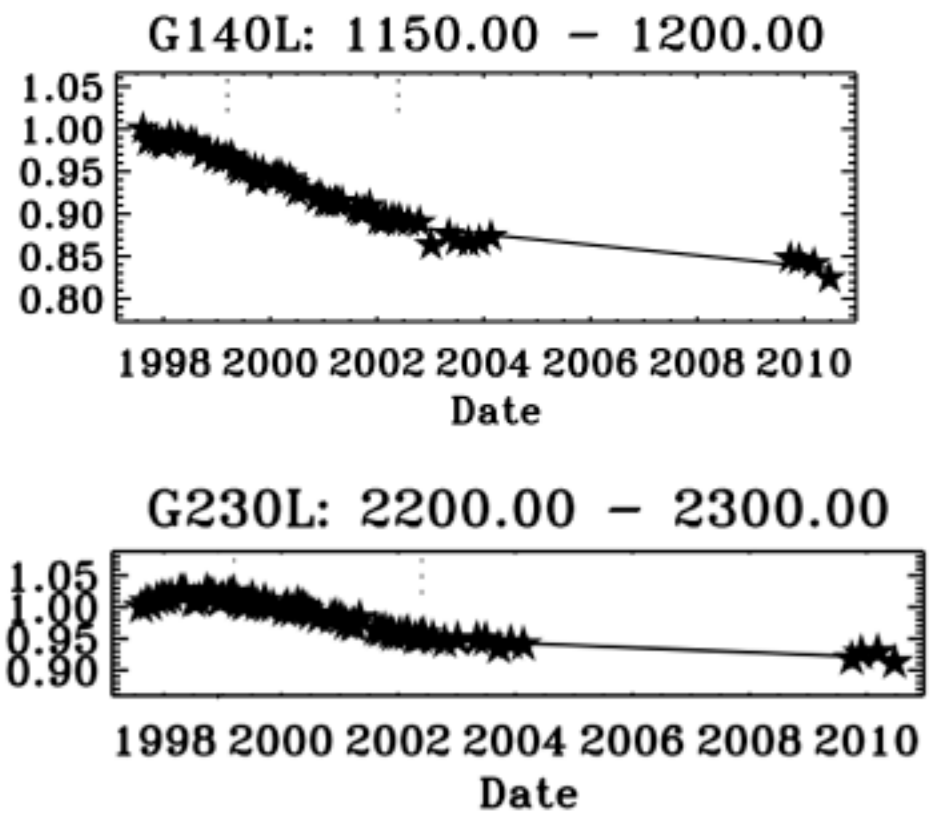
MAMA Full Field Sensitivity
P.I. van Dixon

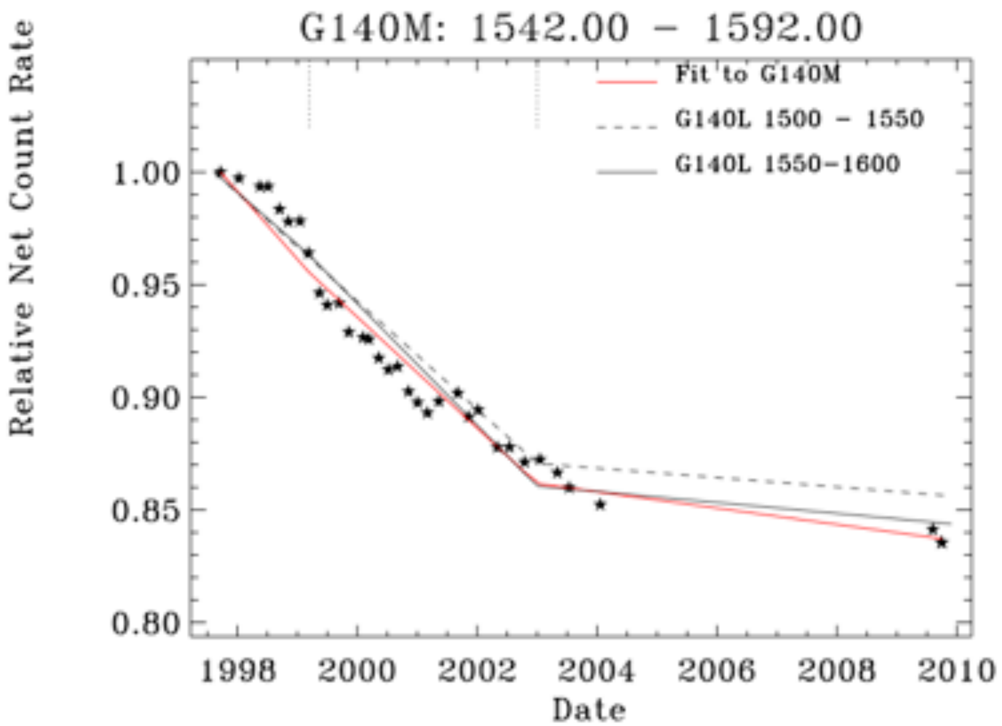
Purpose	To monitor the sensitivity of the FUV-MAMA and NUV-MAMA over the full field.
Description	By observing the globular cluster NGC6681 once every year at roughly the same orientation, we will monitor the full-field sensitivity of the MAMA detectors and their astrometric and PSF stability. These observations will be used to look for contamination, throughput changes, or formation of color centers in the photocathode and window that might be missed by spectroscopic monitoring or difficult to interpret in flat-fielding. Although this test is done using MAMA imaging modes, the confirmation of detector stability and uniformity provided by this monitor is important for spectroscopic observations as well.
Fraction GO/GTO Programs Supported	1%
Resources Required: Observations	3 external orbits
Resources Required: Analysis	5 FTE weeks
Products	ISR, STAN
Accuracy Goals	Percent level; counting statistics signal-to-noise on bright stars
Scheduling & Special Requirements	Should roughly match most common orient from previous observations. ORIENT 260.0D TO 266.0 D; BEFORE 16-JUN-2011:00:00:00
Changes from Cycle 17	none

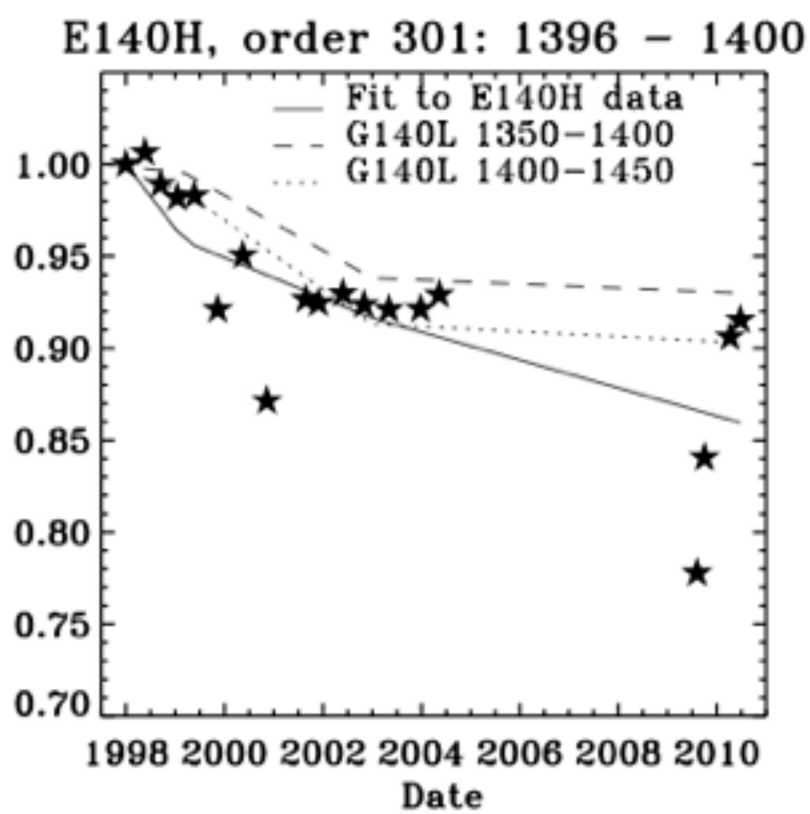
MAMA Sensitivity and Focus Monitor
P.I. Rachel Osten

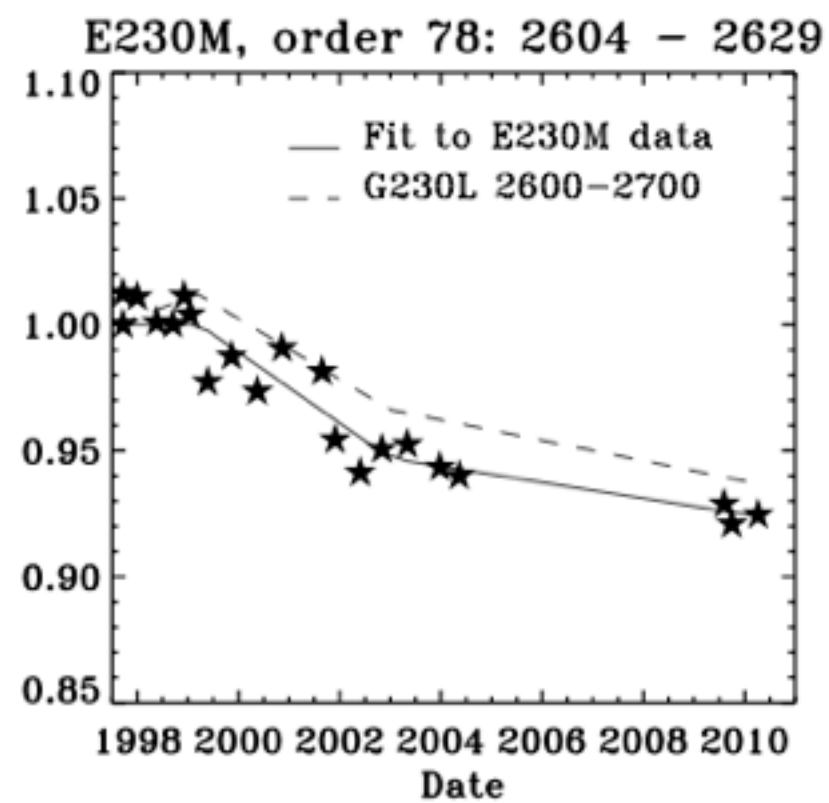
Purpose	Monitor sensitivity of each MAMA grating mode to detect any change due to contamination or other causes. Also monitor the STIS focus in a spectroscopic and an imaging mode.
Description	Obtain exposures in each of the 2 low-resolution MAMA spectroscopic modes every 4 months, in each of the two medium-resolution modes once a year, and in each of the 4 echelle modes every 3 months, using unique calibration standards for each mode, and ratio the results to the first observations to detect any trends. In addition, each L-mode sequence will be preceded by two spectroscopic ACQ/PEAKS with the CCD/G230LB and crossed linear patterns, with the purpose of measuring the focus (PSF across the dispersion as a function of UV wavelength); and each M-mode sequence will be preceded by a CCD/F28x50OII direct image also to monitor the focus.
Fraction GO/GTO Programs Supported	20% of STIS observations are FUV-MAMA spectroscopic exposures (by exposure time); 31% use NUV-MAMA spectroscopic exposures. Broken down further: 11% of STIS exposures are L-mode spectroscopic MAMA observations, 1% are M-mode, and 39% are echelle modes (by exposure time).
Resources Required: Observations	12 external orbits
Resources Required: Analysis	4 FTE weeks for sensitivity, 4 for focus
Products	interim reports and ISR on sensitivity monitor. Wavelength-dependent trends for implementation as pipeline corrections. ISR on focus monitors. If the focus quality is found to degrade significantly, a separate program to take corrective action (such as adjustment of the STIS tip/tilt mirror) may be implemented.
Accuracy Goals	minimum of S/N of 50 at the wavelength of least sensitivity for L modes, and at the central wavelength for M- and E-modes. 10% for focus changes, i.e. FWHM of the profile across dispersion.
Scheduling & Special Requirements	Monthly MAMA offsets are to be cancelled and centering returned to nominal for all exposures in this program. L mode exposures 3x, M mode exposures once, echelle exposures 4x.
Changes from Cycle 17	reduced number of L mode exposures, dropped prism observation

recent MAMA TDS results









MAMA Dark Monitor
P.I. Wei Zheng

Purpose	This proposal monitors the behavior of the dark current in each of the MAMA detectors. This proposal will provide the primary means of checking on health of the MAMA detectors systems through frequent monitoring of the background count rate. The purpose is to look for evidence of change in the dark rate,
Description	Two times a week one exposure of 1380s is taken with the FUV and NUV MAMAs with the shutter closed. For each detector, the second exposure in the weekly pair should be taken 4.5 to 7.5 orbits after the first exposure of the pair. This ensures they are taken in different parts of the same SAA free interval. The exposures are taken in ACCUM mode. The length of the exposures is chosen to make them parallels. Two times a year a six-exposure sequence of 1314s FUV-MAMA TIME-TAG darks are taken over the course of a single SAA free period.
Fraction GO/GTO Programs Supported	70% of STIS
Resources Required: Observations	116 internal orbits
Resources Required: Analysis	4 FTE weeks
Products	CDBS DRK files; ISR
Accuracy Goals	Each measurement will give a statistical uncertainty of 5% for the global dark rate.
Scheduling & Special Requirements	2 orbits per detector, alternating every week, plus 2 groups of 6 exposure sequences of FUV dark measurements over the course of a single SAA-free period
Changes from Cycle 17	observations every other week, instead of only when STIS observations are in the LRP.

MAMA Fold Distribution
P.I. Tom Wheeler

Purpose	The performance of MAMA microchannel plates can be monitored using a MAMA fold analysis procedure that provides a measurement of the distribution of charge cloud sizes incident upon the anode giving some measure of change in the pulse-height distribution of the MCP and, therefore, MCP gain.
Description	While globally illuminating the detector with a flat field, the valid event (VE) rate counter is monitored while various combinations of row and column folds are selected. The process is implemented using special commanding and is the same for the FUV and NUV MAMAs with the exception of the gratings/aperture/lamp combinations used for flat field illumination. This proposal executes the same steps as cycle 17 proposal 11863 and is described in STIS ISR 98-02R.
Fraction GO/GTO Programs Supported	64.7% of STIS prime exposures use MAMAs, 99.6% of STIS SNAP exposures use MAMAs.
Resources Required: Observations	2 internal orbits
Resources Required: Analysis	0.2 FTE weeks
Products	Fold Analysis findings are reported to the STIS Science Team and V. Argabright of Ball Aerospace after completion of analysis, typically one-two weeks after the execution of the test.
Accuracy Goals	Position of the peak in the fold distribution can be measured to about 5% accuracy from this procedure.
Scheduling & Special Requirements	
Changes from Cycle 17	change to one visit per year per detector instead of two; the fold analysis tests for STIS have shown the graceful aging of MAMA detectors, i.e., a small but discernible shift to higher fold numbers.

MAMA NUV Flats
P.I. Sami Niemi

Purpose	This program will obtain NUV-MAMA flat-field observations with the internal Deuterium lamp for the construction of pixel-to-pixel flat-fields (P-flats) with a S/N of 100 per low-res pixel. The new P-flats are used to study possible structural changes in the flat-field response of the NUV-MAMA.
Description	This program will obtain a set of NUV-MAMA flat-field observations with sufficient counts to construct pixel-to-pixel flat fields (P-flats) for all modes. Approximately 11 visits will be required to construct a P-flat with S/N = 100 per low-res pixel. Experience with pre-flight and on-orbit monitoring flats show that the flat-field characteristics are in large measure color- and mode-independent, so that high-quality P-flats constructed with the G230M settings should suffice for all NUV-MAMA spectroscopic and imaging programs.
Fraction GO/GTO Programs Supported	30%
Resources Required: Observations	~~11 single orbit visits~~ will be deferred to Cycle 19
Resources Required: Analysis	3 FTE weeks
Products	A reference file (P-flat) and an ISR
Accuracy Goals	1.0% (0.5% if combined with all previous P-flats) Comments on Accuracy: Accuracy is per low-res pixel (2x2 high-res pixels)
Scheduling & Special Requirements	Observations in Cycle 17 have not occurred yet. We will defer this program to Cycle 19.
Changes from Cycle 17	last C17 observations have not occurred yet; deferred until Cycle 19

MAMA FUV Flats
P.I. Michael Wolfe

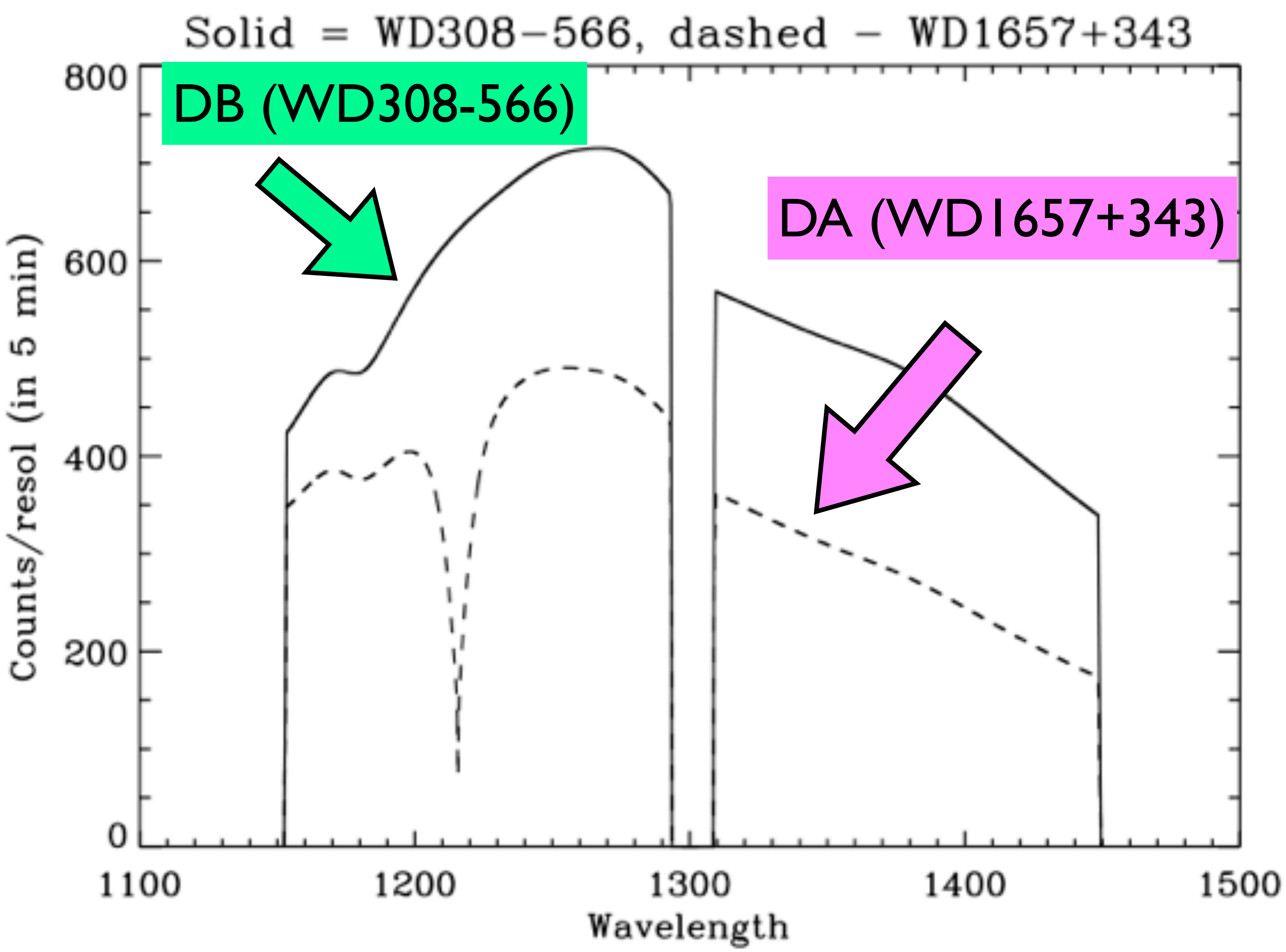
Purpose	This program will obtain FUV-MAMA flat-field observations with the internal Krypton lamp for the construction of pixel-to-pixel flat-fields (P-flats) with a S/N of 100 per low-res pixel. The new P-flats are used to study possible structural changes in the flat-field response of the FUV-MAMA.
Description	This program will obtain a set of FUV-MAMA flat-field observations with sufficient counts to construct pixel-to-pixel flat fields (P-flats) for all modes. Approximately 11 visits will be required to construct a P-flat with S/N = 100 per low-res pixel. Experience with pre-flight and on-orbit monitoring flats show that the flat-field characteristics are in large measure color- and mode-independent, so that high-quality P-flats constructed with the G140M settings should suffice for all FUV-MAMA spectroscopic and imaging programs. This Cycle-18 calibration program calls for obtaining flats with G140M at five SLIT-STEP positions to illuminate regions of the detector normally shadowed by the slit fiducial bars. We will use a cenwave of 1470 Ang and the 52X0.1 slit to assess the count rate. If required, we will adjust the central wavelength to result in approximately 284,0000 counts/s (ignoring the small decline from one lamp exposure to the next) and achieve a signal-to-noise of 100/pixel.
Fraction GO/GTO Programs Supported	21% (of STIS) (of all HST GO prime and coordinated parallel usage, excludes snapshot)
Resources Required: Observations	11 single orbit visits
Resources Required: Analysis	3 FTE weeks
Products	A reference file (P-flat) and an ISR
Accuracy Goals	1.0% (0.5% if combined with all previous P-flats). Accuracy is per low-res pixel (2x2 high-res pixels)
Scheduling & Special Requirements	Best if observations occur in the Winter of 2010. Visits should be scheduled such that no more than two visits occur during the same SMS week. This precaution is to avoid wasting the lamp in case the detector goes to the safe mode. Special commanding: As the lamp illumination declines, we are obligated to change the central wavelength and/or slit width in order to compensate, and so to preserve the limited lamp lifetime. In case special commanding is not available for the required setting, on-board table update will be required.
Changes from Cycle 17	none

MAMA Anomalous Recovery
P.I. Tom Wheeler

Purpose	This proposal is designed to permit a safe and orderly recovery of the FUV- or NUV-MAMA detector after an anomalous shutdown. This is accomplished by using slower-than-normal MCP high-voltage rampings and diagnostics. Anomalous shutdowns can occur because of bright object violations, which trigger the Bright Scene Detection or Software Global Monitors. Anomalous shutdowns can also occur because of MAMA hardware problems.
Description	The recovery procedure consists of three separate tests (i.e. visits) to check the MAMA's health after an anomalous shutdown. Each must be successfully completed before proceeding onto the next. This proposal executes the same steps as cycle 17 proposal 11864. (1) signal processing electronics check. This reduces amplifier thresholds to 0.28V and monitors the ORCOUNT rate. (2) Slow, intermediate voltage high-voltage ramp-up. The MCP is slow-ramped to a voltage 300V below nominal. A dark time-tag exposure is taken during this partial ramp. A second dark accum exposure is taken where the event counter is cycled through W, X, Y, Z, OR, EV and VE. (3) Ramp-up to full operating voltage. As before, a dark time-tag exposure is taken during this ramp-up. A second dark accum exposure is taken where the event counter is cycled through W, X, Y, A, OR, EV and VE. This is followed by a fold analysis test.
Fraction GO/GTO Programs Supported	
Resources Required: Observations	contingency program only
Resources Required: Analysis	0.4 FTE weeks
Products	
Accuracy Goals	n/a
Scheduling & Special Requirements	contingency program only
Changes from Cycle 17	

A DB White Dwarf as a Fundamental Calibrator for G130M
P.I. Derck Massa

Purpose	DB wds are ideal stars for FUV calibration. Unlike the DA wds which are typically used, DBs do not have strong photospheric Lyman absorption lines and their flatter SEDs provide a more uniform S/N when recorded by the COS UV detectors. This proposal requests the observations needed to derive a calibration-quality model for the DB wd WD0308-566.
Description	We would like to adopt the DB wd WD0308-566 as a calibration standard. The FUV continua of 15 - 25kK DB white dwarfs can be ideal for calibration because they are smooth and, due to the absence of atmospheric hydrogen, they lack the strong photospheric Ly alpha seen in DA wds, which makes them superior to DA wds for calibrating the Ly alpha region for two reasons. First, the absence of strong photospheric absorption means that a uniform, high S/N spectrum can be obtained throughout the Ly alpha region. Second, even the best DA models are somewhat uncertain near Ly alpha since the SEDs are strongly affected by the extremely strong Ly alpha Stark wings and it is unclear how well current broadening theory applies to the extremely high pressure environments of wd atmospheres. In addition, the DB wds are considerably cooler than DAs, so their SEDs are flatter in the UV. Given the response of the COS detectors, this results in a more uniform S/N over a given grating setting. LDS749B is a good example of a DB wd standard. Its UV spectrum is relatively featureless, lacks stellar Ly alpha and has a relatively flat UV continuum. Unfortunately, LDS749B is quite faint, so high S/N noise COS observations require long exposure times. WD308-566 is between 10 - 15 times brighter than LDS749B throughout the UV, and would make an ideal COS G130M calibration target.
Fraction GO/GTO Programs Supported	42% of COS observations use G130M
Resources Required: Observations	1 external orbit of STIS observations
Resources Required: Analysis	2 FTE weeks
Products	a model fit that can be used as a new fundamental UV calibration source
Accuracy Goals	1%
Scheduling & Special Requirements	observation to be performed early in Cycle 18 so that modelling and decision to change target of flux characterization program can be made
Changes from Cycle 17	new program



WD0308-566 has been monitored for variability and is stable. Archival low resolution IUE and FUSE spectra show that there is no significant atmospheric metal content, which could make the continuum too busy

Arguments for WD308-566:

(1) faint enough to be observed in TTAG, 1.25-2 times brighter than the brightest DA WD standard (WD1657+343)
(2) lacks stellar Ly alpha, has a relatively flat continuum & produces count rates which vary by less than a factor of 2 over the G130M range
(3) increase in brightness results in enormous time savings for flat field monitoring or additional flux calibrations
(4) bright enough to serve as a precision STIS/COS cross-calibration source
(5) would be useful calibration target if the new G130M settings are adopted, since the FUV spectra of DA WDs contain the upper Lyman lines, making their spectra complex and problematic for flux calibration