

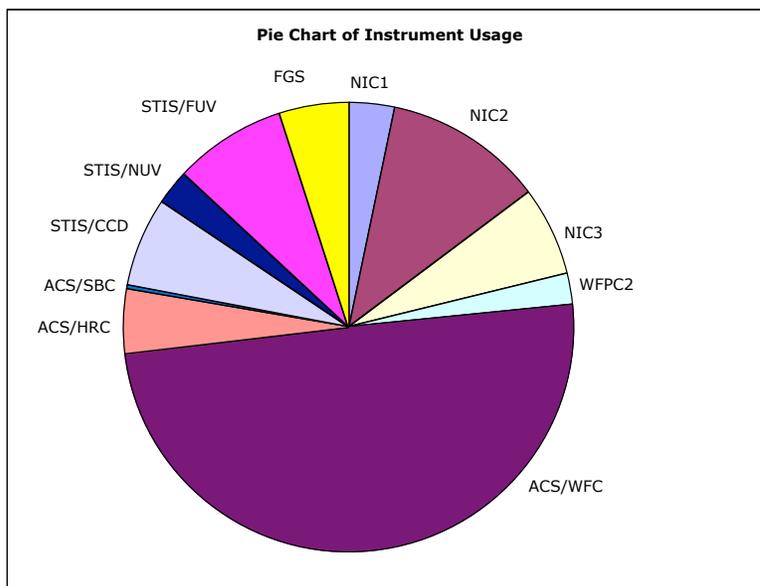
Hi Debbie and the Users Committee,

For the upcoming HST User's meeting later this week, I am providing you ahead of time the information requested concerning instrument usage in Cycle 12. The request contained in the Draft Agenda given me by Duccio reads:

should report on statistics of the use of different filters and modes, in particular: what NICMOS is doing that could not be done with WFPC3 and what WFPC2 is still doing, and how much the ACS coronagraph and ACS/SBC are used

The basic instrument statistics are given in the table below (from STScI Newsletter, vol 20, issue 3).

INSTRUMENT	ORBITS	PERCENT
<i>ACS/HRC</i>	251	4.7
<i>ACS/SBC</i>	19	0.4
<i>ACS/WFC</i>	2640	49.7
<i>FGS</i>	268	5.0
<i>NIC1</i>	183	3.4
<i>NIC2</i>	597	11.2
<i>NIC3</i>	342	6.4
<i>STIS/CCD</i>	333	6.3
<i>STIS/FUV</i>	433	8.1
<i>STIS/NUV</i>	126	2.4
<i>WFPC2</i>	123	2.3



What NICMOS is doing, that could not be done with WFC3

NICMOS Proposal Breakdown

Out of 38 Cycle 12 approved programs, the split is (by number of programs): 79 percent imaging; 8 percent grism spectroscopy (includes one proposal that is 500 orbits of pure parallel grism observations); 8 percent coronagraphy; and 5 percent polarimetry.

NICMOS Uniqueness

The unique modes that will not be replaced by WFC3 include: Long wavelength imaging (beyond 1.7 micron, notably: Paschen-alpha; 15 to 20 percent of Cycle 12 programs); High-angular resolution (NIC1+NIC2: 71.5 percent of all Cycle 12 exposures; 50 percent of all exposures are NIC2); Polarimetry & coronagraphy.

ACS usage: use of the coronagraph and solar blind channel

Total ACS usage: 9000+ exposures, 5.8×10^6 seconds exposure time.

<i>Breakdown by camera</i>	<i>Exposure (%)</i>	<i>Time (%)</i>
<i>WFC</i>	69.8	88.6
<i>HRC</i>	28.6	10.3
<i>SBC</i>	1.5	1.1

Fraction of total (%) for polarimetry (relative to total by camera):

<i>Breakdown by camera</i>	<i>Exposure (%)</i>	<i>Time (%)</i>
<i>WFC</i>	1.0	0.9
<i>HRC</i>	2.6	0.4

Fraction of total (%) for grisms/prisms (relative to total by camera):

<i>Breakdown by camera</i>	<i>Exposure (%)</i>	<i>Time (%)</i>
<i>WFC</i>	2.5	4.0
<i>HRC</i>	3.0	1.6
<i>SBC</i>	0.0	0.0

Note: The SBC elements PR110L, PR130L, F115LP and F122M are not utilized for science in Cycle 12.

Fraction of total (%) for ramp filters (relative to total by camera):

<i>Breakdown by camera</i>	<i>Exposure (%)</i>	<i>Time (%)</i>
<i>WFC</i>	1.5	1.9
<i>HRC</i>	15.9	12.0

Fraction of total (%) for coronagraphy: (relative to total HRC)

<i>Breakdown by camera</i>	<i>Exposure (%)</i>	<i>Time (%)</i>
<i>HRC</i>	17.3	15.9

Unused apertures: HRC-OCCULT0.8, HRC-CORON3.0

STIS Usage breakdown

<i>Configuration</i>	<i>#Exposures</i>	<i>% Exps</i>	<i>% Time</i>
<i>STIS/CCD</i>	2208	69.72	29.39
<i>STIS/FUV-MAMA</i>	664	20.97	48.33
<i>STIS/NUV-MAMA</i>	295	9.32	22.29

CCD Usage per Spectral Element:

<i>Element</i>	<i>% Exps</i>	<i>% Time</i>
<i>G230LB</i>	7.760	12.09
<i>G230MB</i>	14.994	5.43
<i>G430L</i>	38.856	23.03
<i>G430M</i>	13.069	7.66
<i>G750L</i>	5.018	6.25
<i>G750M</i>	18.728	45.06
<i>MIRROR</i>	1.575	0.49

FUV-MAMA Usage per Spectral Element:

<i>Element</i>	<i>% Exps</i>	<i>% Time</i>
<i>E140H</i>	23.91	21.73
<i>E140M</i>	19.76	25.53
<i>G140L</i>	38.75	29.72
<i>G140M</i>	15.08	21.58
<i>MIRROR</i>	1.99	0.96

NUV-MAMA Usage per Spectral Element:

<i>Element</i>	<i>% Exps</i>	<i>% Time</i>
<i>E230H</i>	26.13	33.54
<i>E230M</i>	36.94	40.69
<i>G230</i>	18.85	14.64
<i>G230M</i>	3.13	3.64
<i>MIRROR</i>	10.41	2.10
<i>PRISM</i>	4.54	5.39

What WFPC2 is still doing.

The Cycle12 WFPC2 programs make use of a number of unique advantages of WFPC2:
UV (F336W and blueward), ~25x wider field coverage than ACS/HRC
Narrow-band filters: much wider selection than ACS
Long-term proper motion studies: astrometry extremely well characterized

Here is a list of the actual WFPC3 accepted proposals.

9774 PI: Larsen

Primary WFPC2 orbits: 11

Filters: F336W

Details: F336 obs for star cluster photometry in nearby spirals

9839 PI: Garnett

Primary WFPC2 orbits: 1

Filters: F656N,F502N,F487N,F555W

Details: F656N, F502N, F487N, F555W imaging of planetary nebulae

9731 PI: Sankrit

Primary WFPC2 orbits: 2

Filters: F673N

Details: F673N (SII) line obs of Kepler's SNR

9725 PI: Karkoshka

Primary WFPC2 orbits: 1

Filters: F255W,F336W,F439W,F547W,F658N,F673N,F791W,FQCH4N-D
(893nm),
F850LP

Details: Cross-calibrate WFPC2, ACS filters for Uranus observations

9817 PI: Kuijken

Primary WFPC2 orbits: 6

Filters: F791W,F814W

Details: Second epoch astrometry for Leo I and Leo II, for proper motions

9782 PI: Axon

Primary WFPC2 orbits: 5

Filters: F658N, FR680N, F673N, FR680N33, F547M, F814W

Details: Get H-alpha map for STIS longslit placement for nuclear BH masses, and to map the starlight.

9738 PI: Bell

Primary WFPC2 orbits: 4

Filters: F255W, F336W, F410M, F502N, F547M, F588N, F631N, F673N, LRF, F953N, F1042M

Details: Mars observations

9888 PI: Bond

Primary WFPC2 orbits: 3

Filters: F218W, F953N

Details: Visual binary studies, need excellent astrometry

9721 PI: Dorland

Primary WFPC2 orbits: 7

Filters: F336W, F410M, F631N, F656N, F658N, F1042M

Details: Astrometry of Eta Car ejecta to obtain proper motions

9775 PI: Morse

Primary WFPC2 orbits: 3

Filters: F336W, F502N, F631N, F656N, F658N

Details: Astrometry of Eta Car ejects (complementary to Dorland)

9740 PI: Dufour

Primary WFPC2 orbits: 16 (snap)

Filters: F185W, F300W, F547M, F502N

Details: Map CIII] 1909A emission-line regions of PN and HII regions

9870 PI: Romaniello

Primary WFPC2 orbits: 3

Filters: F336W

Details: LMC star cluster, need wide-field UV sensitivity

9809 PI: French

Primary WFPC2 orbits: 6

Filters: F255W,F336W,F439W,F555W,F675W,F814W

Details: Saturn's rings

9720 PI: Chandar

Primary WFPC2 orbits: 4

Filters: F336W

Details: M101 star clusters, need wide-field UV sensitivity