WFC3 Status

- Instrument re-integration underway
  - Electronics mostly completed box level testing (MEB2 open issue)
    - All four Interpoint converter upgraded in LVPS
  - Filter issues all resolved
    - UVIS ghosts fixed and SOFA at GSFC in acceptance testing
    - F588N replaced with F200LP (filter glass chipping issue)
    - IR Grisms rebuilt and installed (rotation and focus problem fixed)
    - F093W replaced with F140W in IR channel
  - SMGT scheduled for February 2007
  - Thermal vacuum test #2 starting in early March (old IR detector)
  - Thermal vacuum test #3 late summer (new IR detector)
- WFC3 SOC met at STScI October 12-13
- New version of "mini-Handbook" released

IR Detector Status

- IR2 (FPA 64, substrate on – proton glow risk)
  - Successfully completed acceptance testing, thermal vacuum characterization and alignment verification
  - Currently at GSFC awaiting integration for instrument-level TVac-2
- IR1 (FPA 129, substrate removed, new BCS)
  - Encountered an electrical open on pre-amp board during build
  - Recovery plan likely to succeed but some noise risk
  - Performance significantly exceeds FPA 64 prior to glow issue
- IR3 (enclosure parts nearly complete)
  - Late November selection of FPA
  - FPA 148 from Teledyne Imaging Sensors (formerly Rockwell Scientific)
    - First promising part from "SR Lot 4"
    - Expect 5-7 additional parts to choose from by mid November
  - Earlier SR parts have significant liens (2 appear flyable)

Calibration Plans

- Steps towards calibration of WFC3
  - Component calibrations of filters (extensive and documented effort)
  - Thermal vacuum calibration
  - Servicing Mission Orbital Verification (SMOV)
  - Cycle 17 Calibration
- System Level Thermal Vacuum Testing
  - TV#2 calibrates UVIS channel and validates SI overall
  - TV#3 calibration IR channel plus contingency
  - New calibrations based on ACS and NICMOS experience
    - IR bias vs. instrument bus voltage
  - Deep survey mode UVIS and IR biases and darks

SLTV#2	SMS's	Reviewed	Revised/Ready	Delivered	Built
UVIS	80	61	49	27	
IR	61	41	41	18	
Totals	141	102	90	45	

UVIS SLTV Procedures

Proc	Description	Proc	Description
VE00	OS Verification	Proc	Descrip
UV01	Darks	UV16	Detector Cutoff
UV02	CTE	UV17	Filter Throughput (Narrow)
UV03	Gain	UV19	Filter Red Leaks
UV04	Linearity (pt src)	UV20	Filter Flats (external)
UV05	Linearity (full frame)	UV21	Grism Flats
UV06	Charge Injection	UV22	Fringing
UV07	Subarray Darks/Bias	UV23	Filter Flats (internal cal sys)
UV08	Shutter Performance	UV24	Grism Dispersion
UV11	Encircled Energy	UV25	Ghosts
UV12	Image Stability	UV26	Chip Gap Behavior
UV14	Filter Throughput (Wide, Med)	UV27	Light Leaks
UV15	System Throughput	UV28	Science Monitor
		UV31	Electronic Crosstalk

IR SLTV Procedures

Proc	Description	Proc	Description
VE00	OS Verification	IR17	Ghosts & Scattered Light
IR01	Darks & Thermal Background	IR18	Light Leaks
IR02	Gain	IR19	Science Monitor
IR03	Linearity (pt src)	IR21	Readnoise vs. Gain
IR04	Linearity (full field)	IR22	Subarray Photometry
IR05	Subarray Darks	IR23	Electronic Crosstalk
IR08	Encircled Energy		
IR11	Filter Throughput		
IR12	Detector Cutoff		
IR13	Filter Flats (external)		
IR14	Grism Flats		
IR15	Filter Flats (internal cal sys)		
IR16	Grism Dispersions		

On-Orbit Calibration

- SMOV Requirements Review conducted Fall 2003
  - Delta review schedule for Dec 2006
  - Team is developing an implementation schedule
- Items of note:
  - enable initiation of GO science at earliest possible time (~3 months)
  - Bright Earth avoidance to protect WFC3 Pick Off Mirror (POM)
  - 3 weeks outgas required prior to detector cooldown (both channels)
- Design:
  - Reuse as much as possible of the ACS SM3B approach (targets,etc.)
  - Leverage off proposals and experience with SLTV
  - Three sections: engineering, optical alignment, calibration
  - Minimal "special commanding" (only memory dump)
- Cycle 17 Science Calibration planning to start this winter
  - Mainly detailed decisions on what to include in SMOV and what to defer
  - Expect inputs and review by SOC and STUC as this progresses