



# NICMOS and NCS

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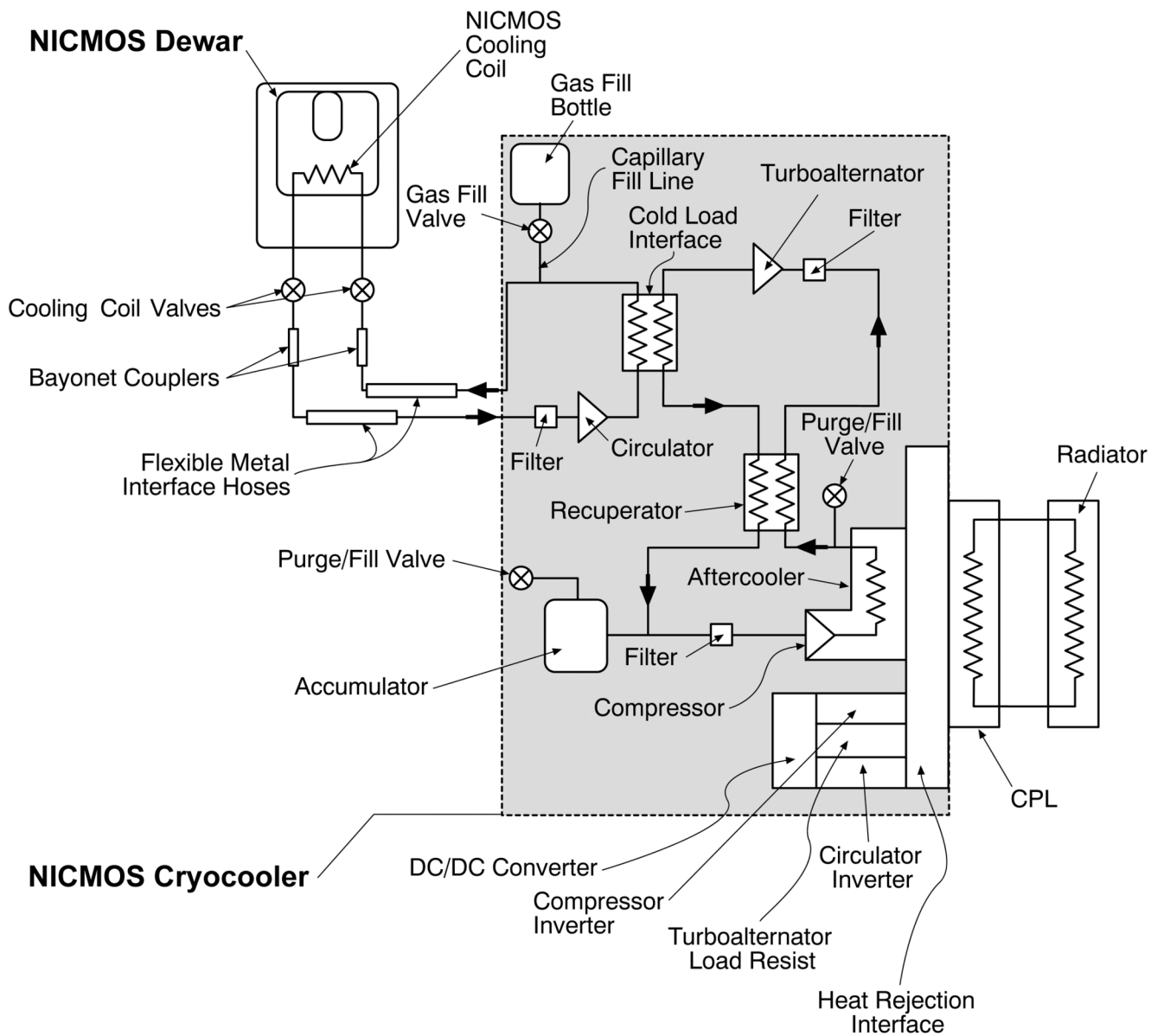
# NICMOS



- **NICMOS remains a healthy instrument**
  - Cooldown of August 2009 successful
  - Slightly elevated dark currents since detectors are ~3K warmer
    - Dark increased 2x in NIC1,NIC2, 4x in NIC3 (mainly more in tail)
    - Minimal to no impact of Cy17 science program
- **NICMOS Cooling System (NCS)**
  - Loss of efficiency over time and restart problems (ice?)
    - 11 attempts in 2008-2009 resulted in successful approach in Aug 2009
  - SI C&DH hangup causes NCS to halt (hardwired)
    - Ice in circulator loop poses unacceptable risk for cold restart
    - Warm-up to ~280K and re-cooling takes 6-8 weeks
  - NCS has capability for a (one-time) purge of circulator loop
    - Might restore NCS to something close to 2003 condition
    - HST Project decision meeting planned for 11/19

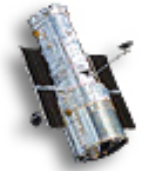


# NCS





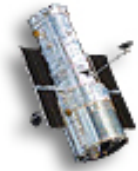
## Remaining GO Programs



- Eight GO&DD Programs remain
  - 28 visits; 62 orbits
- 11123 (Bourke) 2 orbits NIC2 Pa-alpha - Proplyds
- 11136 (Liu) 13 orbits NIC1 multi filters - Brown dwarf binaries
- 11164 (Weintraub) 2 orbits NIC2 H2 - T Tauri Disks [JUNE]
- 11512 (Swain) 5 orbits NIC3 defocus K grism – Exoplanets
- 11545 (Davies) 7 orbits NIC3 H,K,Pa-alpha – young clusters
- 11622 (Knutson) 16 orbits NIC3 defocus K grism – exoplanets [APRIL]
- 11740 (Pont) 8 orbits NIC3 defocus H grism – exoplanets
- 11799 (Perlmutter) 9 orbits NIC2 – calibration for faint sources
- Recently Moved to WFC3 via Program Change Request & TTRB:
  - 11150 (Graham) 4 orbits coronagraph -- Beta Pic disk
  - 11603 (Andrews) 9 orbits – SNII faint dust (Spitzer)



## Summary



- Eight GO programs remain (7 have partial data)
  - Require 62 orbits (with 6 SMOV and 14 CAL orbits required)
  - target scheduling needed for new cooldown schedule
- SMOV repeat requires 6 to 19 orbits depending upon risk
  - NICMOS has been stable over several cycles (aperture position)
- Broader calibration program requires ~20 orbits
  - NICMOS rate dependent non-linearity
    - NICMOS internal lamps are a unique asset for this (not avail in WFC3)
  - Bohlin's grism cross calibration of faint standards
- NICMOS provides HST with several unique science capabilities
  - Access to  $1.7 < \lambda < 2.5$  microns: P $\alpha$ , CO, H<sub>2</sub>, and K band
  - Infrared polarimetry (NIC1,NIC2) and coronagraphy (NIC2)
  - Maximal sampling in the infrared (NIC1)
  - Spectroscopy of very bright targets (NIC3 defocused)