Cryo Test Configuration Status

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General Program Status

- Optical Telescope Element (OTE)/Integrated Science Instrument Module (ISIM) [OTIS] Cryo Test Equipment and Cryo Test
  - Optical Ground Support Equipment (OGSE) Integration complete at JSC
  - Started Chamber Commissioning on schedule on 10/10
Cryo Test Configuration

- Minus-K Isolation System (6 places)
- Center of Curvature Optical Assembly (COCOA)
- Upper Support Frame (USF)
- LN2 Outer Shroud
- Autocollimating Flat Assemblies (3 Places)
- Helium Ceiling
- Photogrammetry Camera Systems (4 Places)
- GHe Inner Shroud
- Space Vehicle Thermal Simulator (SVTS)
- Hardpoint/Offloader Support Structure (HOSS)
- Deep Space Edge Radiation Sink (DSERS) Frame
- Rail System
OTIS Test GSE Status

Center of Curvature Optical Assembly (COCOA)
- Multiwavelength interferometer (MWIF), null, calibration equipment, coarse/fine PM phasing tools, Displacement Measuring Interferometer – Installed in Chamber

USF Structural Frame – supports Metrology
Installed in Chamber

3 Auto collimating Flat Mirrors (ACFs)
1.5 M Plano for Pass and Half Testing
ACF 1 installed in Chamber, ACF 4 in final cryo test, ACF 5 waiting for final cryo test.

AOS Source Plate
Sources for Pass and Half Test
In test at Ball

Cryo Position Metrology (CPM)
Photogrammetry System
Integration Complete

Chamber Isolator Units
Dynamically isolates OTIS Optical Test – Integration of 6 units complete

Space Vehicle Thermal Simulator (SVTS)
and Sunshield Simulator
Procurements and fabrication

ADM
Leica system delivered to JHU

HOSS – OTIS support structure
Installed on Telescope Rods

Deep Space Edge Radiation Sink (DSERS)
Frame integrated

Mag Damper
Cryo Test Article Delivered

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Level 7 – Top of Chamber
Photogrammetry System
ACU Assembly

ACF/COCOA/USF (ACU) Assembly on the transport dolly.

Note that the COCOA thermal plug is also attached

Total assembly will be lifted to the top of the chamber
Integration of the ACF onto the ACU assembly. Actuator assembly seen in left photograph.
Integrated ACF#1
Lifting the ACF/COCOA/USF (ACU) assembly into the top of the chamber using the Direct Lift System

Note: Lift operations took 3+ days to complete
Level 5 – Above the He Shroud
The USF and one ACF (with the other two ACF Mass Simulators) can be seen with the PG booms.
Recent picture showing the Photogrammetry code plates and targets in a flash picture
HOSS in Clean Room

HOSS sitting on the pedestals with load cells
HOSS Details

Leveling Jacks

OTIS Interface Blocks

Thermal Diode connectors around the OD of the HOSS
Summary

- Currently in Chamber Commissioning
  - Full checkout of Optical Ground Support Equipment in process
  - Many issues found and punch list developed