



# SECCHI Status

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**STEREO SWG**

**2-5 May 2005**

**Hamburg Planetarium**



# SECCHI STATUS – SCIP FM-A

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**Delivery of the SCIP and  
SEB to APL are scheduled  
for this Friday!**



# SECCHI STATUS – SCIP FM-A

- All post-environmental test calibrations showed no significant changes from pre-environmental test conditions.
- The performance of all the telescopes is excellent, in that they meet or exceed requirements
  - Repaired the camera electronics boxes which had a problem with the FPGA design at cold temperatures. Used that occasion to replace with the new FPGA foundry and to correct the frequency problem giving the interference with SWAVES
  - CCD failure on the EUVI caused by improper GSE/harness used to take the place of the FM CEB which had been removed for repair. Calibrated the spare devices and replaced the CCD. Failure analysis by E2V indicates that there was an overvoltage condition, rather than an ESD event.
- Documentation is behind, but expect to catch up by PSR



# SECCHI STATUS FM-A (2)

- **SEB**

- Swapped the SEB-FMB with the SEB-FMA due to problems on FMA.
- We will deliver FMB (which had gone through TV/TB with the SCIP-FMA) with the SCIP-FMA

- **Software**

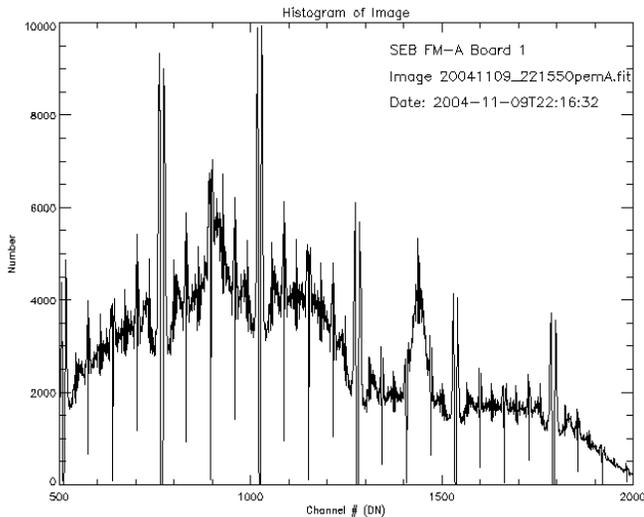
- Current software on FMA is fully flight functional, but not fully tested
- Final testing will occur during TV of SCIP-FMB
- Will require upload of 4.5 FM to A
- Also may have additional software mods based on testing at observatory level.

- **Hi**

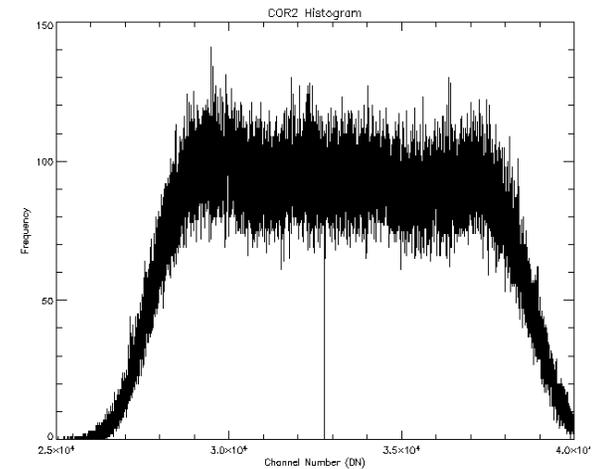
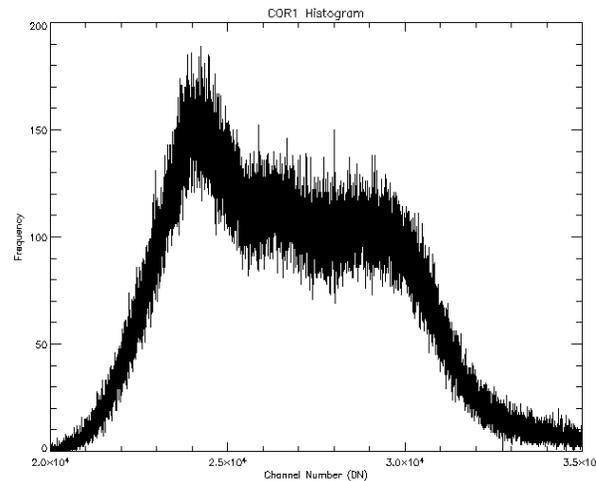
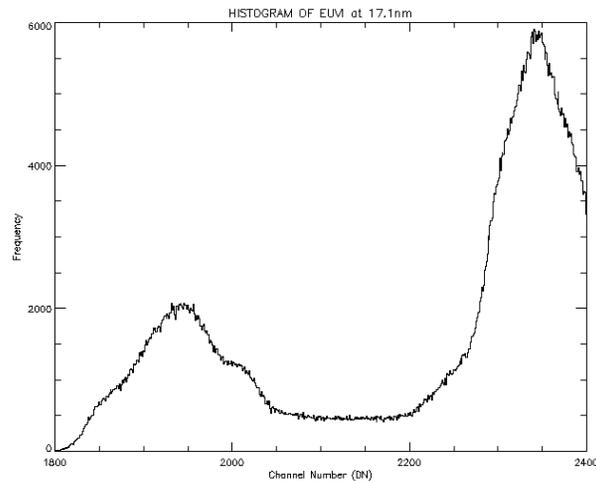
- The HI assembly is completing its final preparations at the University of Birmingham prior to delivery to the Centre Spatiale de Liege for environmental testing and calibration. UBham did an excellent job in the repair of the 4 CEBs and 18 FPGA replacements, but this caused a delay on HI
- PER scheduled for May 12 and expect delivery to APL June 20.



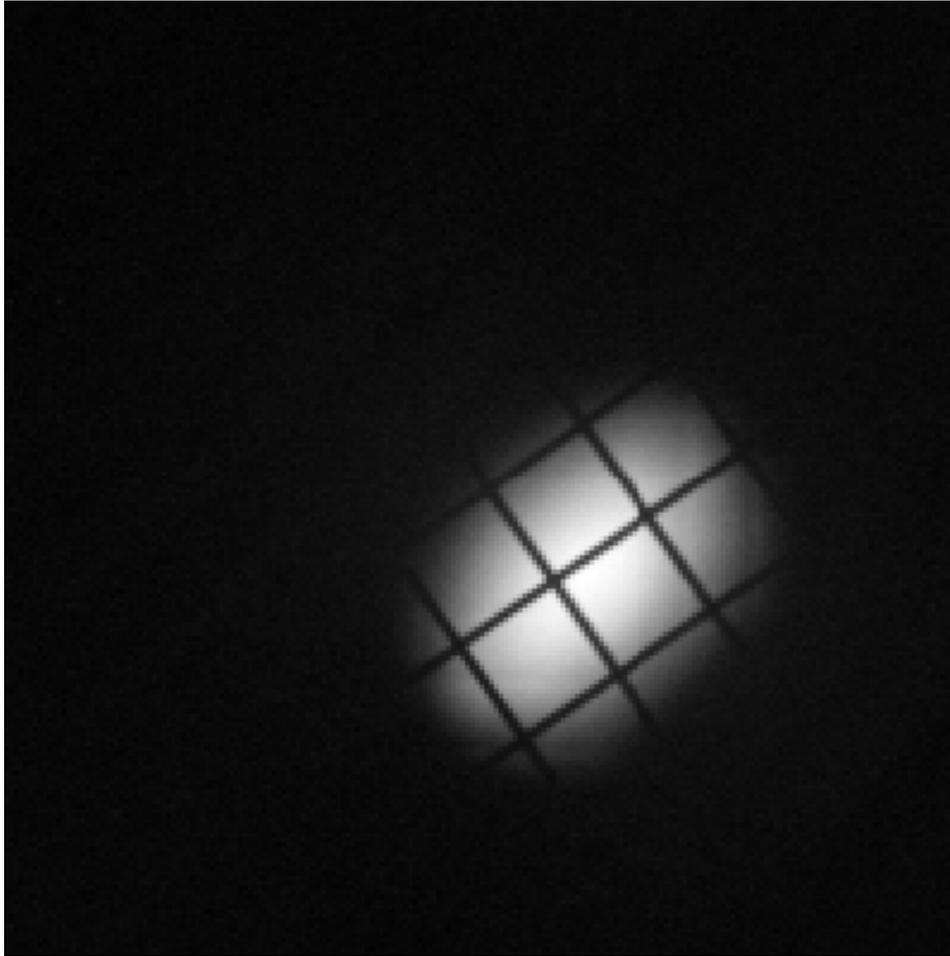
# Missing Codes Problem



On the left is shown a histogram from the CEB before repair. It shows the missing codes problem as the spikes of decreased occurrence of a particular data value. The plot is similar for the other two boards for both FM-A and FM-B of the SCIP-CEB. The bottom three plots show histograms for the EUVI, COR1 and COR2 for the repaired FM-A CEB. The problem has been fixed, and only one missing code remains at half full scale, rather than every 32 DN.



# EUV Calibration Picture



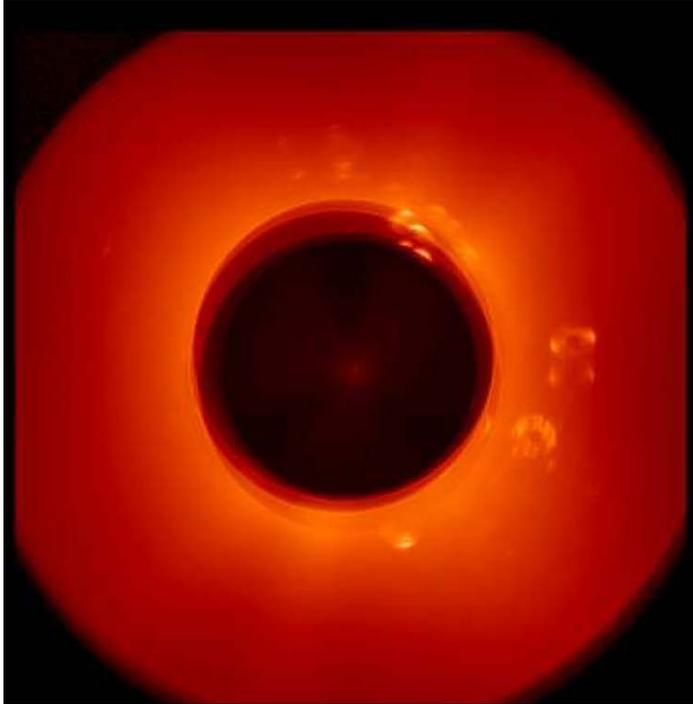
**This is a 17.1 nm image through the complete flight EUVI telescope, the flight electronics system, and a cooled CCD. Initial analysis shows the system performed as expected.**

**This was before the CCD was replaced, but the new image looks the same.**

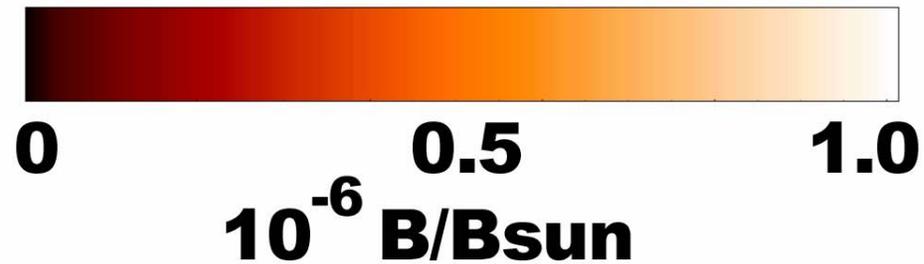
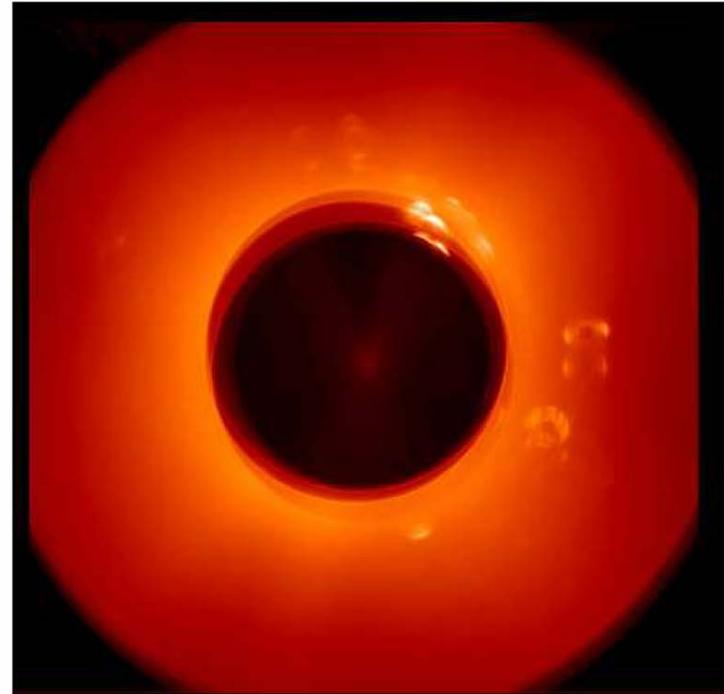


# Comparison of COR1 Straylight

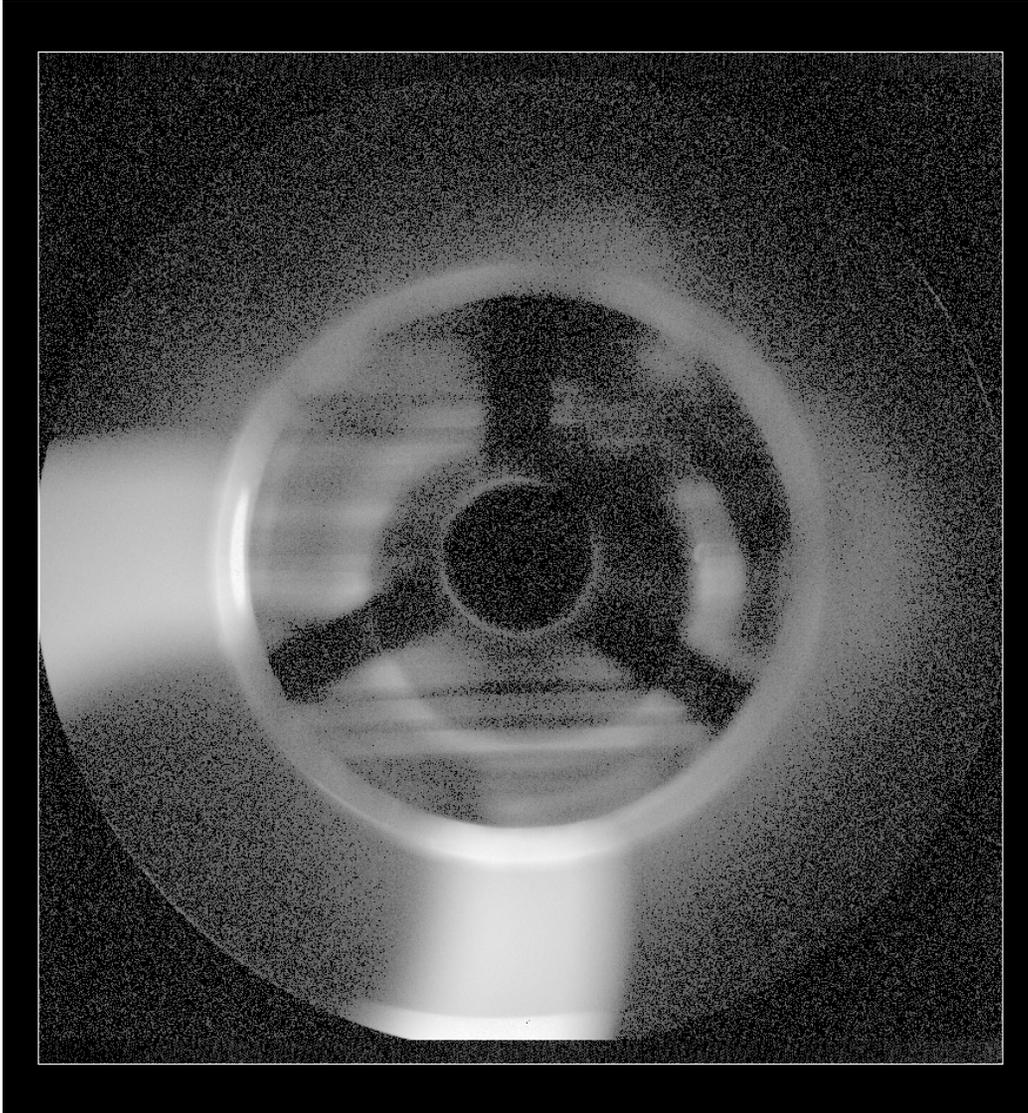
**July 2004**



**April 2005**



# COR2 Stray Light Image



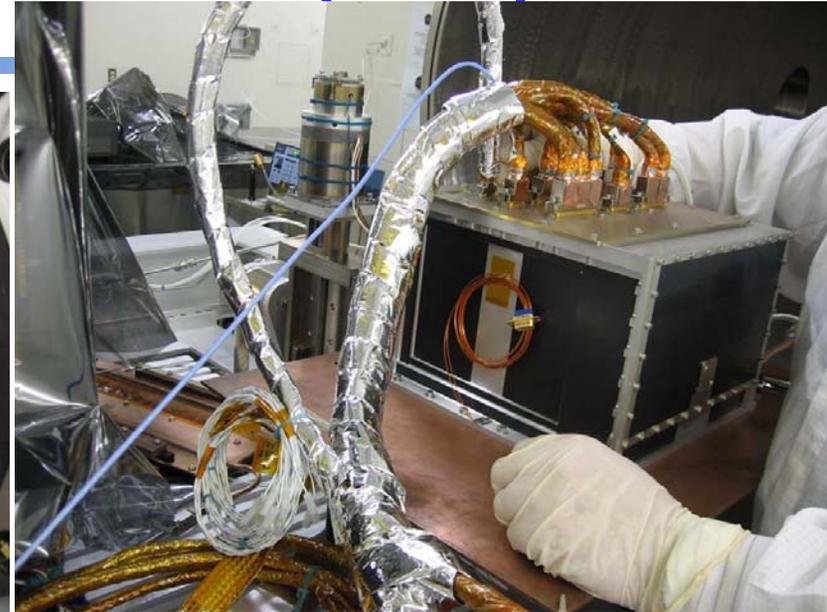
- Stray Light Level =  $2 \times 10^{-11}$  B/B<sub>0</sub>
- See reflections caused by two mirrors to reflect sunlight back out
- Circular baffles in the vacuum tank
- Horizontal louvers at the end of the tank
- A pattern of 3 very low reflective strips at the end
- Fringe around the occluder is very low
- No arcs or ghosts



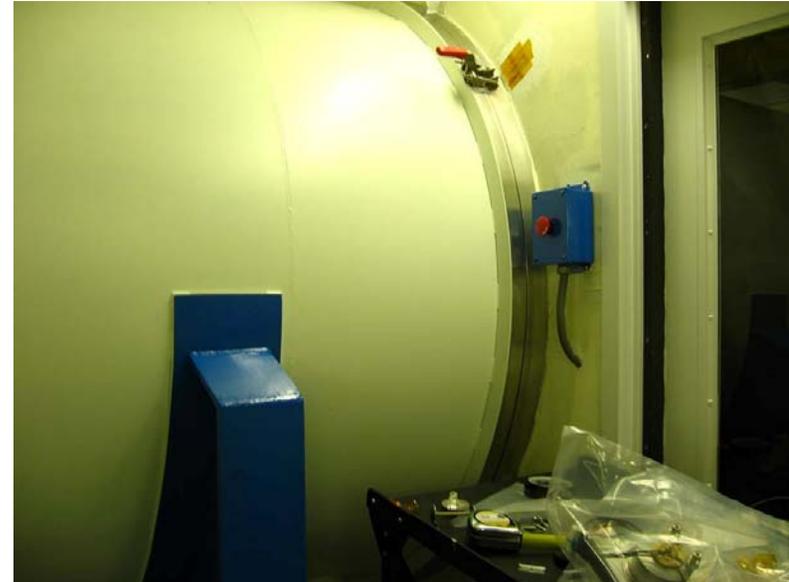
# Pictures: SCIP-A Activities (cont)



**SCIP-A Chamber setup**

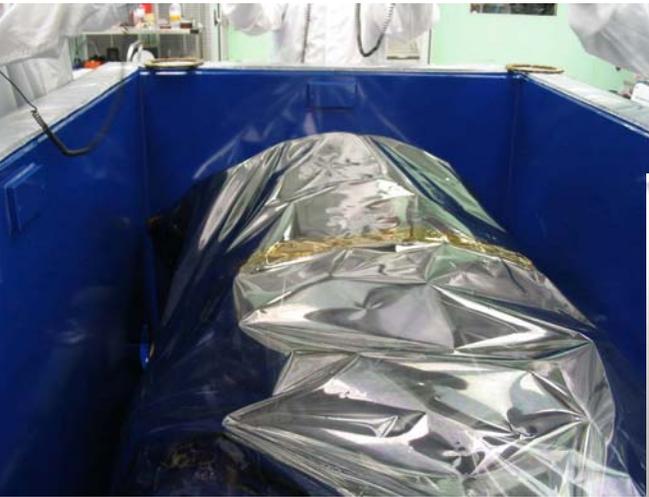


**SEB-B Installation**



**Chamber Sealed**

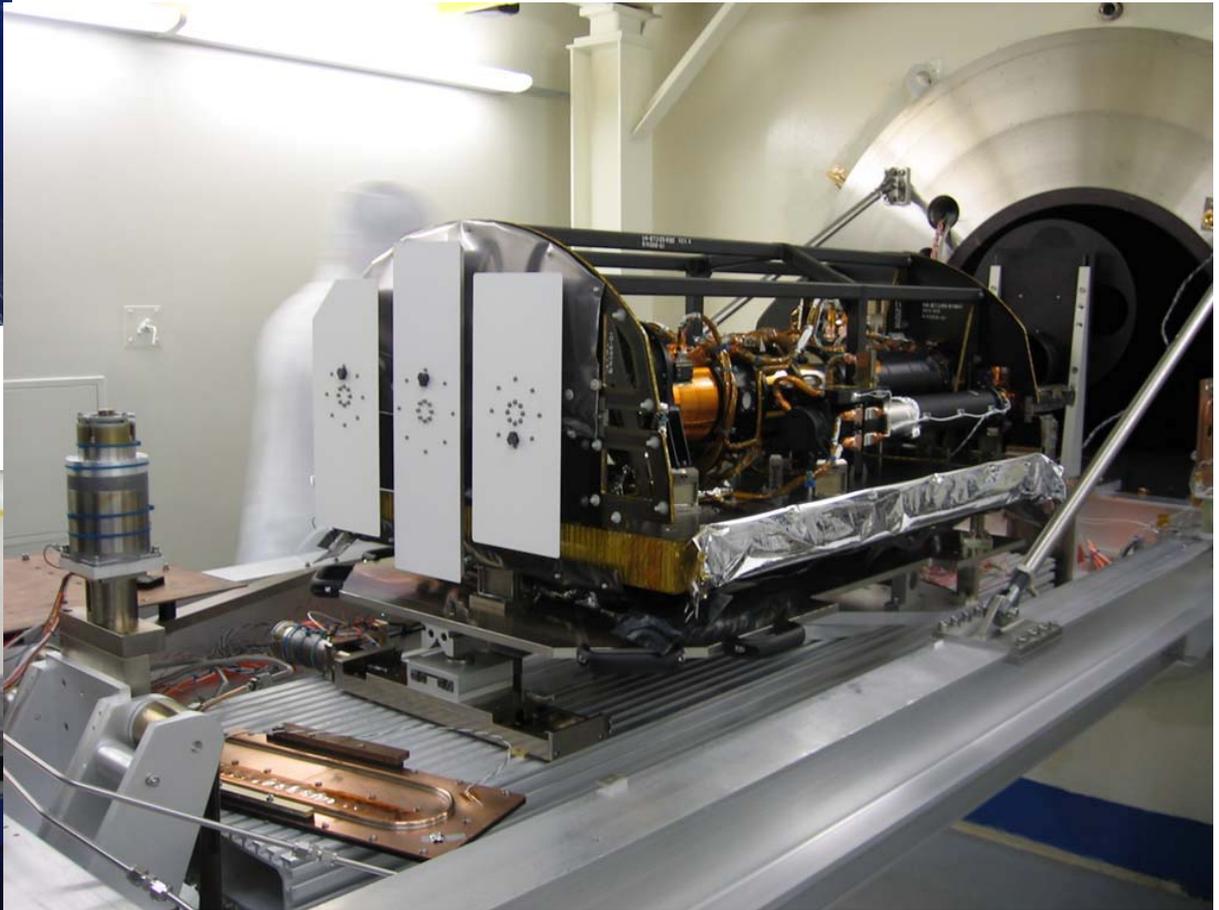
# Pictures: SCIP-A Activities



**SCIP-A in Shipping Container for Move to A13**



**SCIP-A Coming out of Box in A13**



**SCIP-A on A13 Chamber Bench**

# Pictures: HI-A

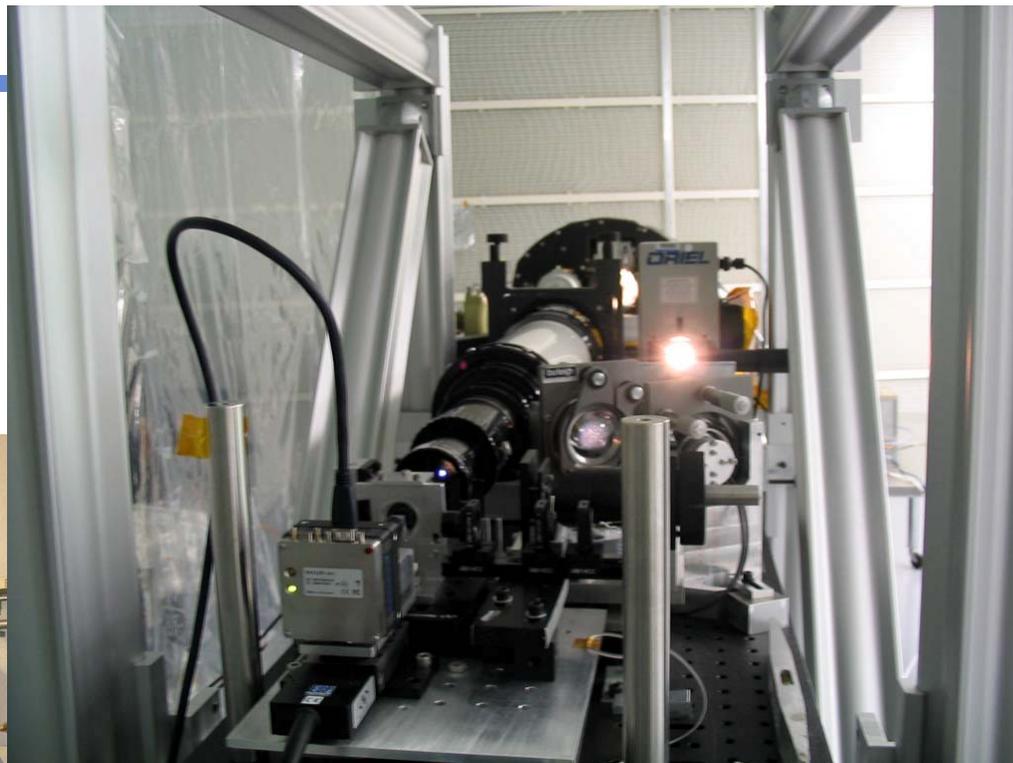


# SECCHI-B Status

- **SCIP-FMB Completely Assembled. Vibration and conductive EMI testing performed**
- **TVAC facility has been renovated and the chamber is not ready**
- **SCIP-B (and SEB) have been moved into the calibration facility to perform final calibrations**
  - **Will be prior to TVAC, but only risk is a contamination event which would require a major refurb anyway.**
- **TVAC will include SCIP-FMB, SEB-FMA and HI-CEB-FMB, each controlled separately. Will perform**
- **Expect to be delivering SCIP and SEB at beginning of June and HI in July**
- **SEB-FMA had problem with occasional “long boots”. Thought to be in Start up ROM, which had been reworked to minimize code that was single string. Finally replaced RAD-750 CPU Card with flight spare and now seems OK. Will go through an analysis of former card to see why the failure was occurring.**
- **Not carrying any major technical issues, other than determination of the problem on the SEB**



# Pictures: SCIP-B



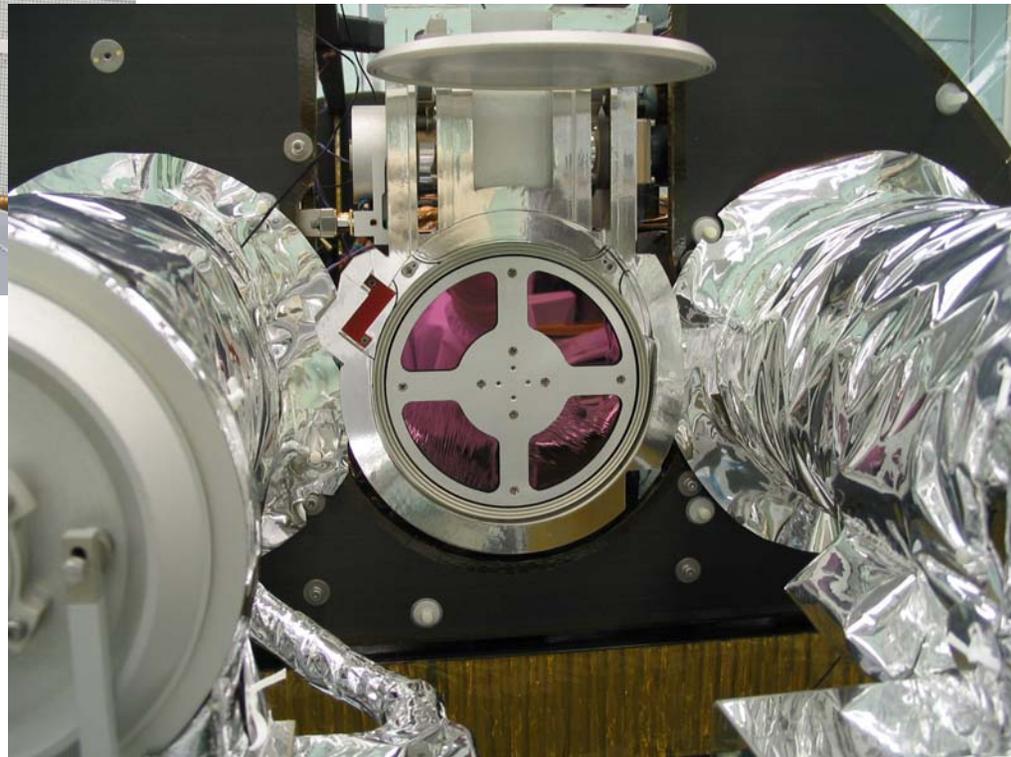
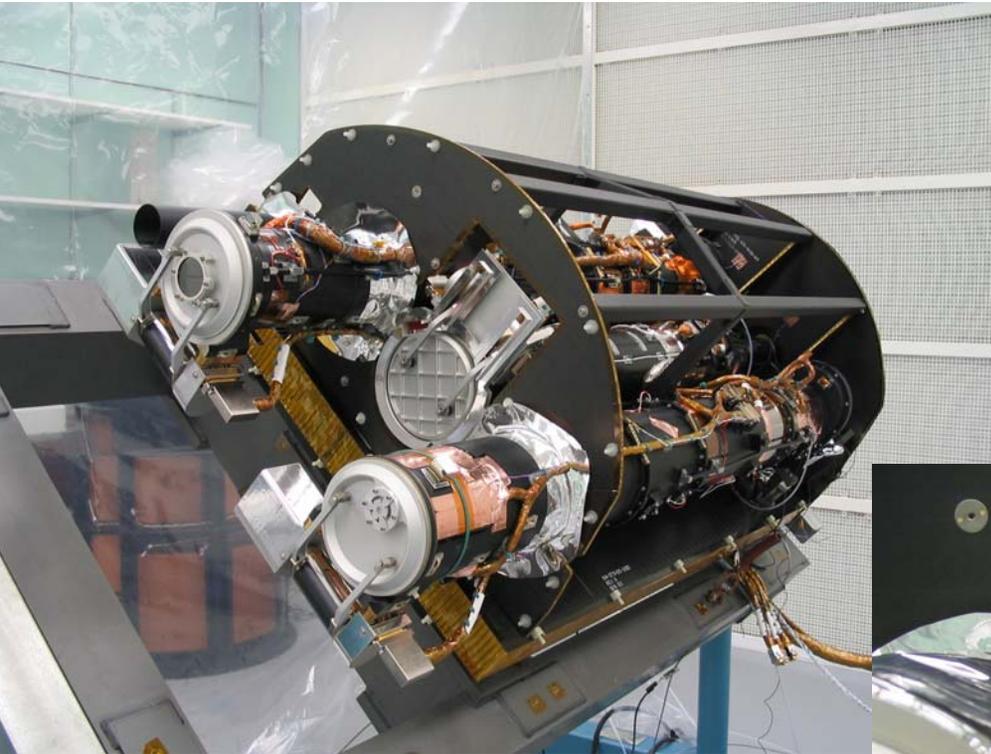
**EUVI-B Post Vibration  
Focus Test**



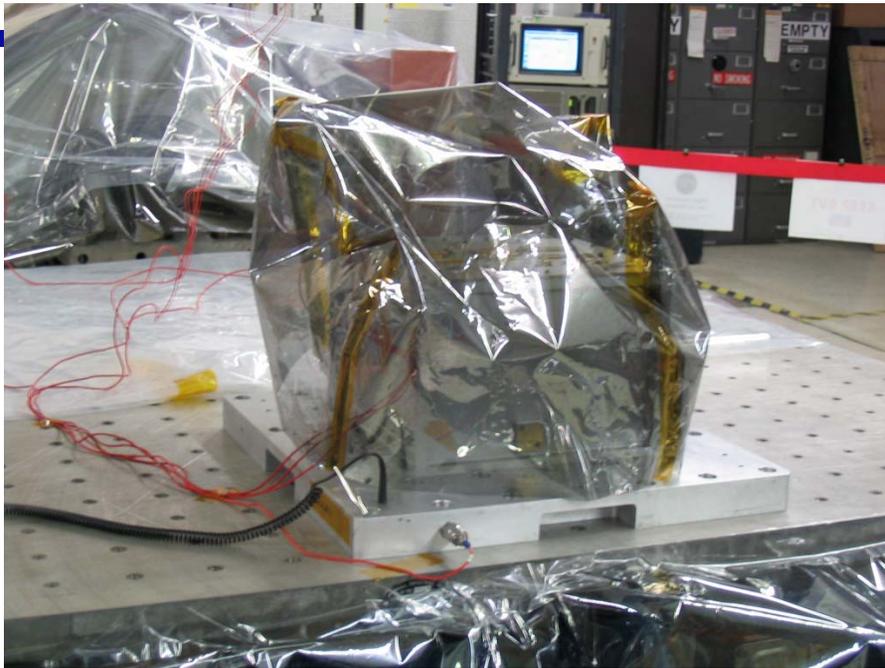
**SCIP-B Vibration – Y Axis**



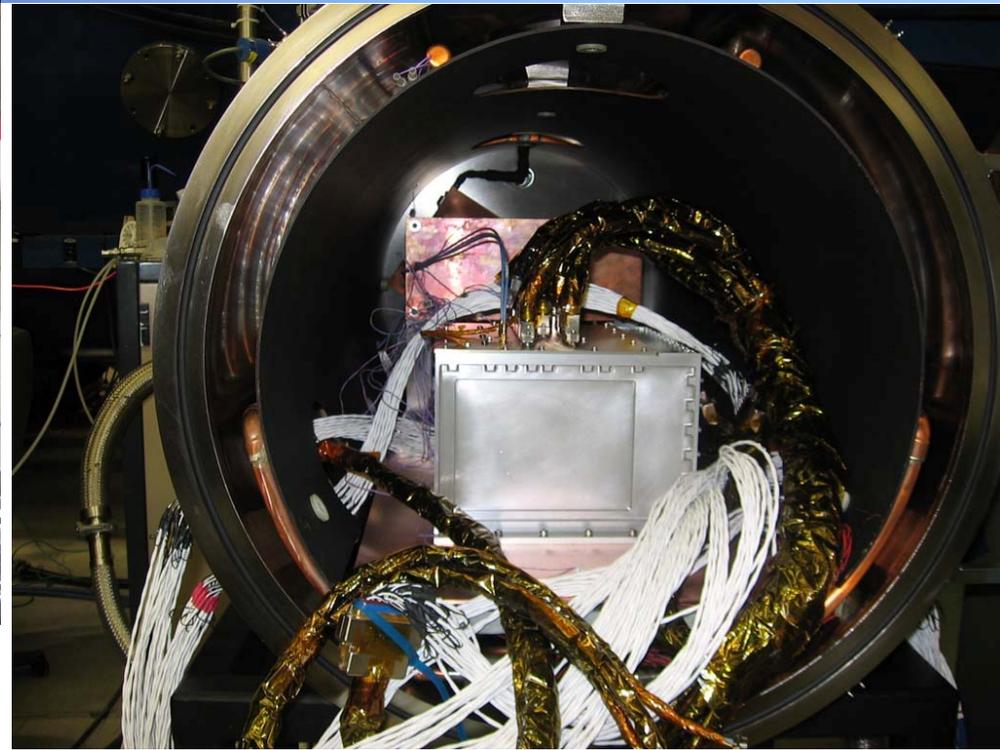
# Pictures: SCIP-B (cont)



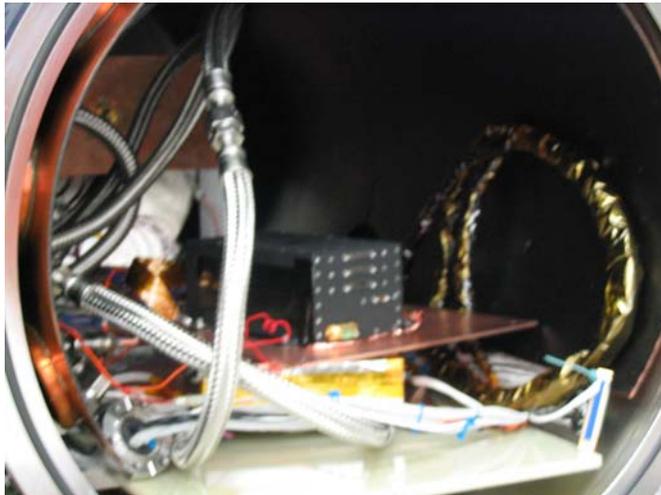
# Pictures: SEB and CEB-A



**SEB-A Vibration Test**

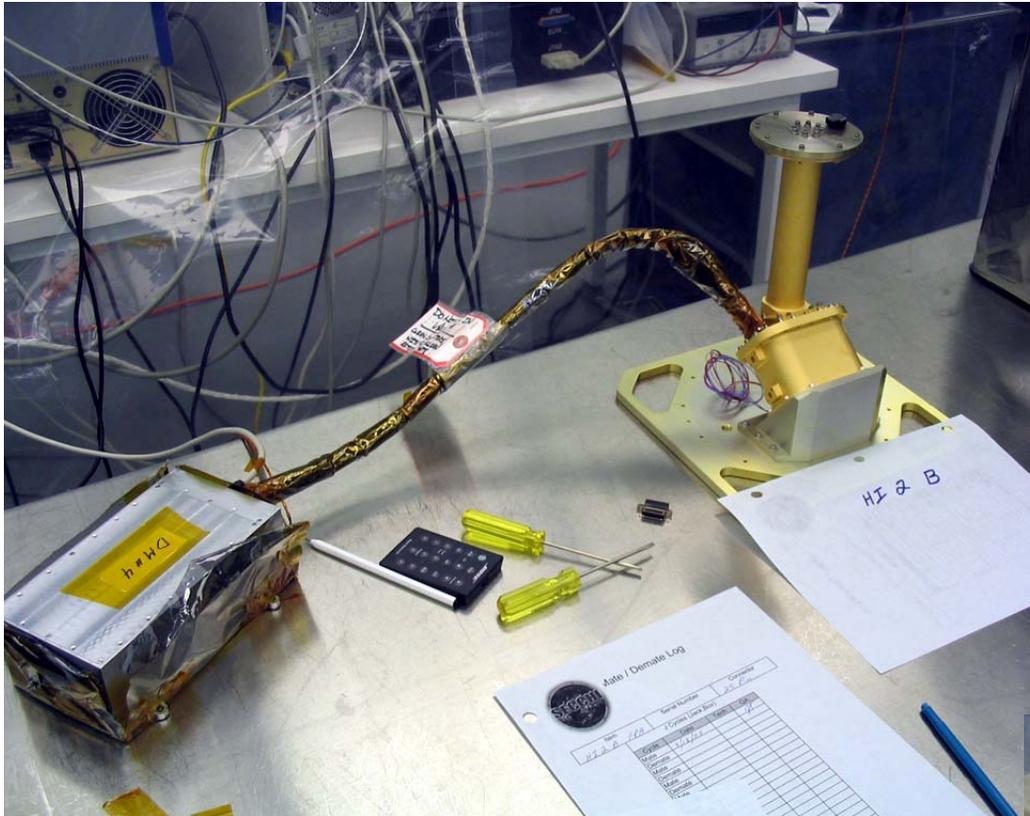


**SEB-A TVAC Test**

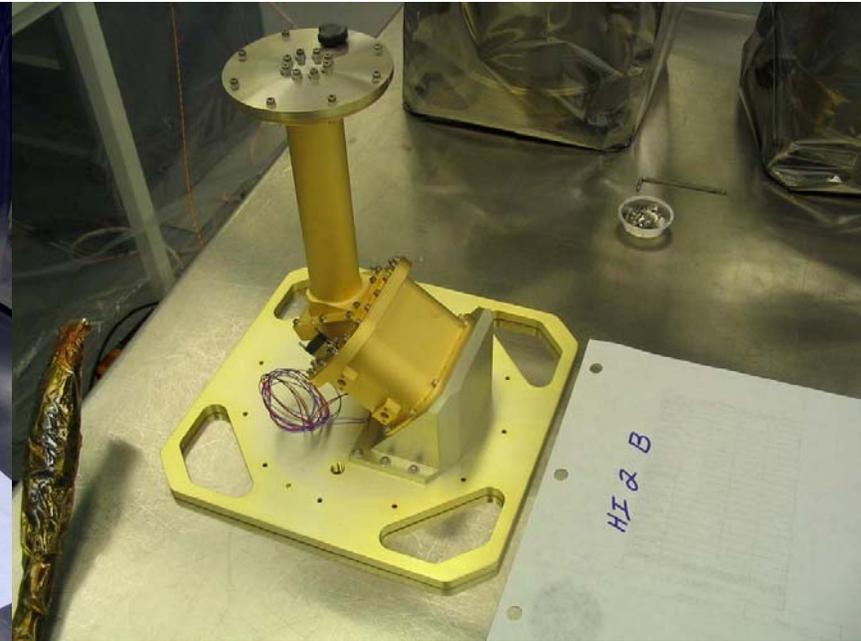


**CEB-A  
TVAC  
Test**

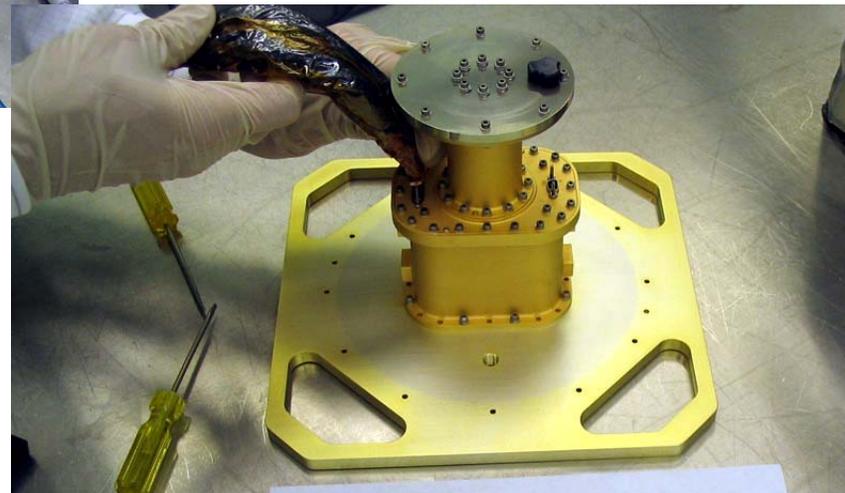
# Pictures: HI-B FPAs



HI2-B FPA Post Bake Functional Test



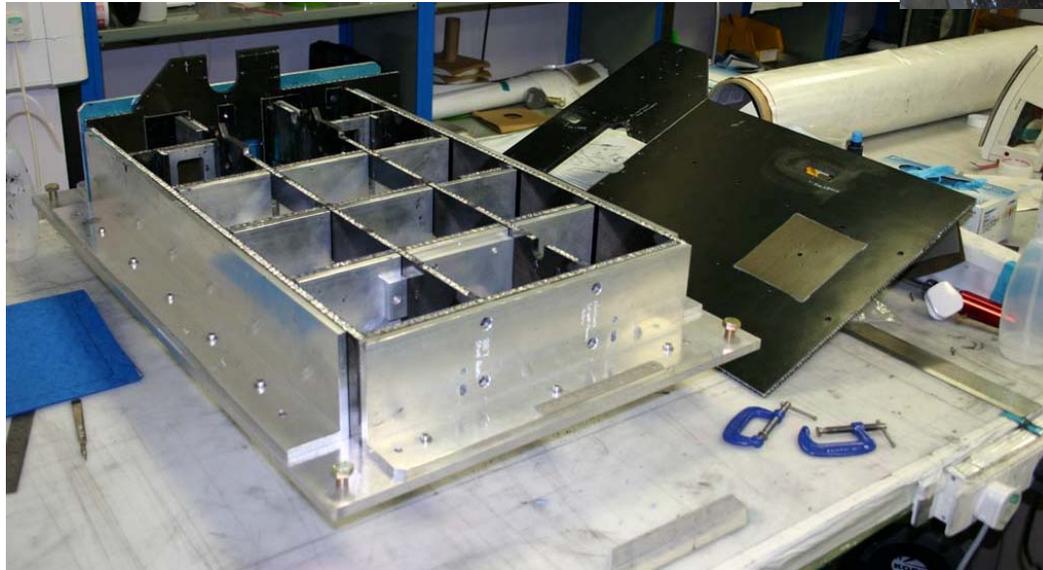
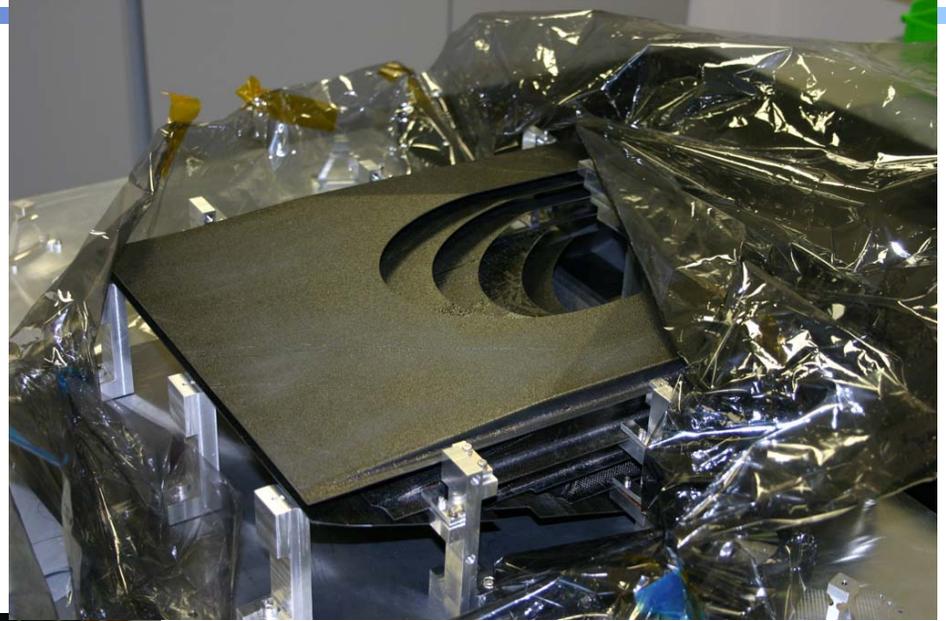
HI2-B FPA



HI1-B FPA

# Pictures: HI-B

HI-B Baffles

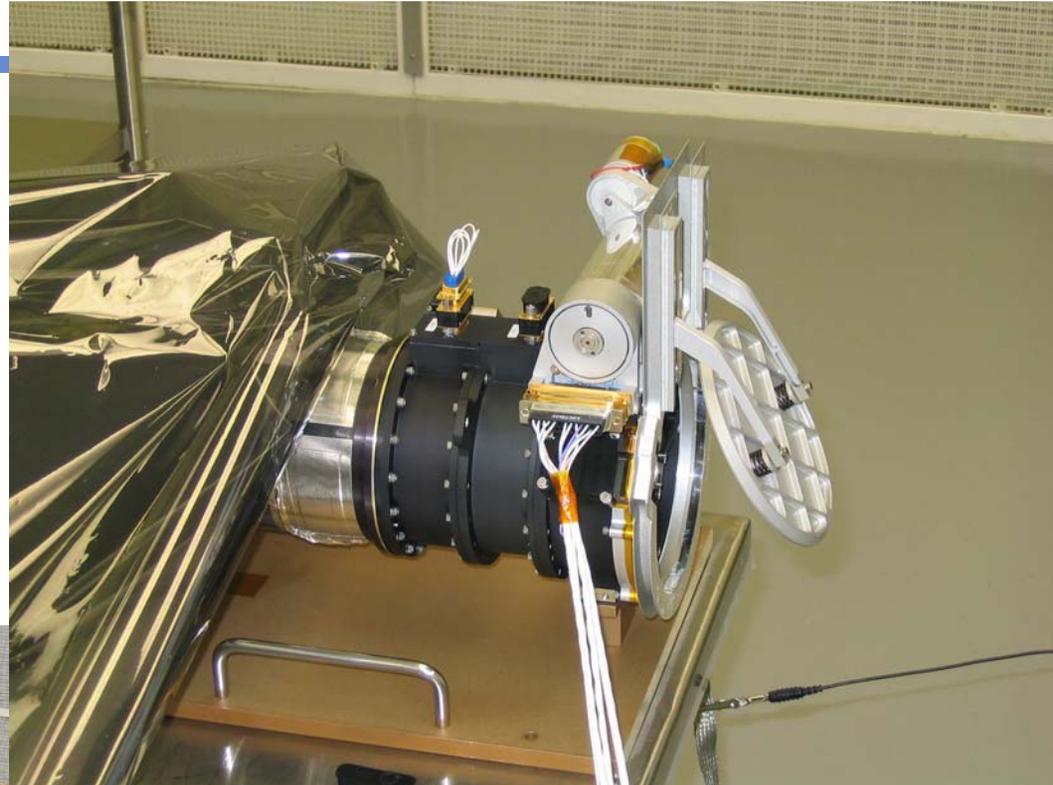


HI-B in Assembly Jig

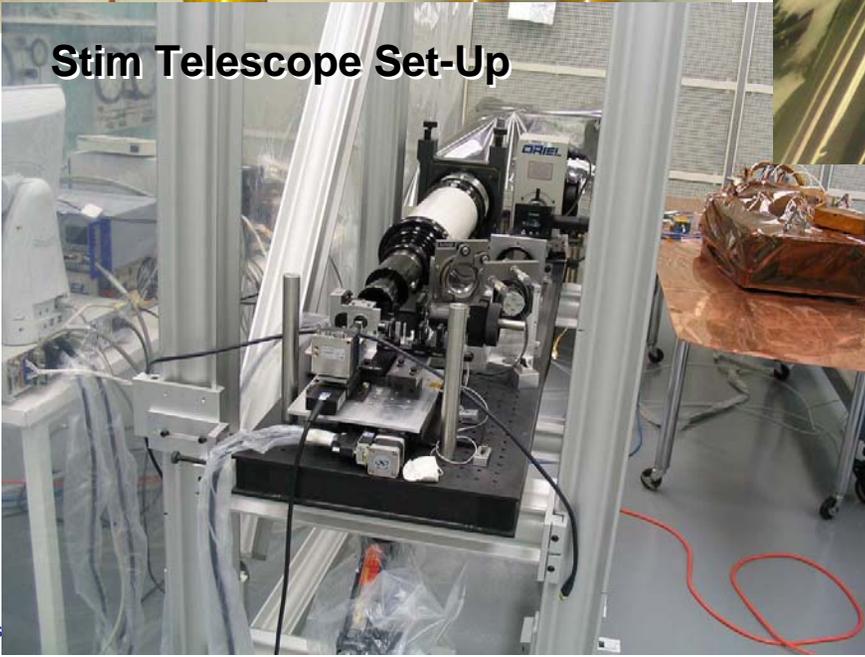


# Pictures: B Units

**COR2-B Alignment Test Set-Up**



**Stim Telescope Set-Up**



**EUVI-B Flt Door Installation and Test**

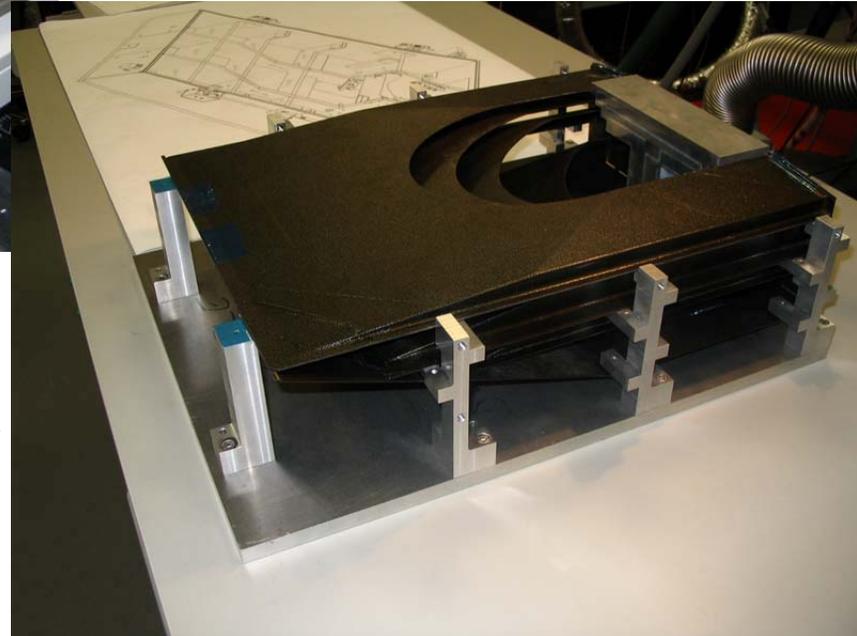


# Pictures: HI Structures



**HI-A Composite Inner Structure,  
Base Panel, and Door Panel.  
Inner Structure is Built up  
Inside an Aluminum Frame**

**HI-A Composite Internal Baffles** →



# SCIP-B Mechanical Integration

**B Flight Harness Fit Check  
(Prior to shielding)**



**Telescope Mechanical Integration Onto B Bench**

