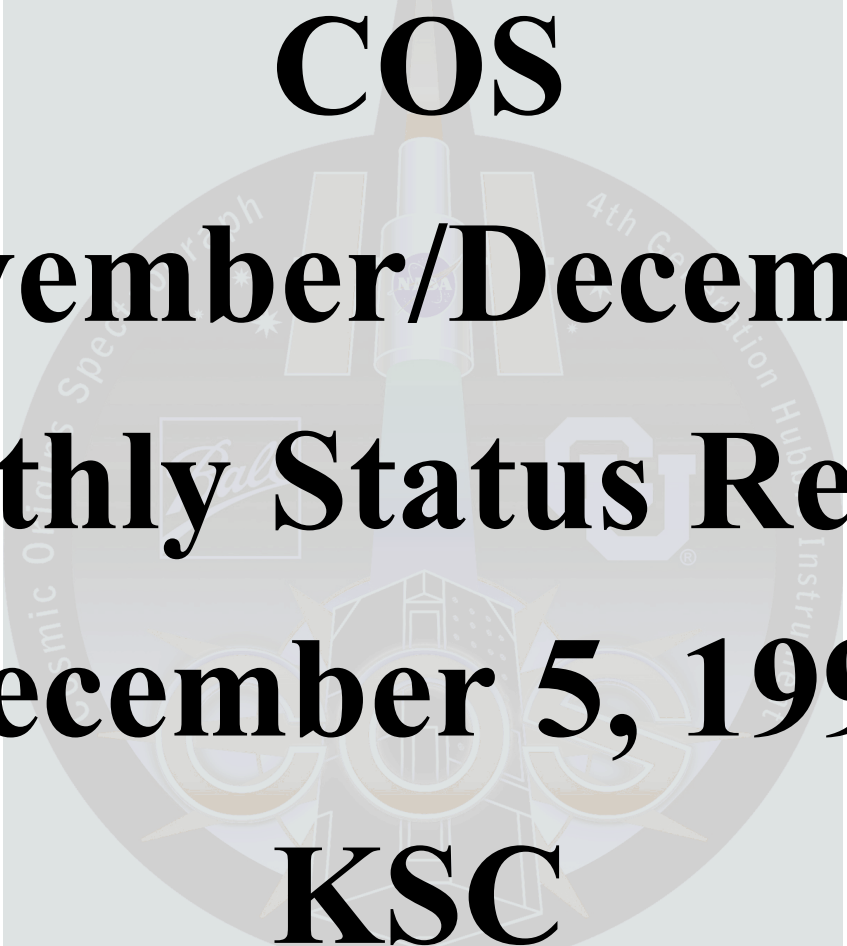




COS
November/December
Monthly Status Review
December 5, 1999
KSC





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Monthly Status Review



Agenda

Progress Summary Since Last Monthly	J. Andrews
Tinsley/J-Y Status	J. Andrews
UCB FUV Detector Status	J. Andrews
Optics Test Status	J. Green
CU Software Activities Status	J. Andrews
CU Schedule	J. Andrews
Upcoming Events/Activities	J. Andrews
CU Issues & Resolution Plan	J. Andrews
STScI Presentation	R. Kutina
BATC Presentation	D. Hood
Financial Splinter	



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Monthly Status Review



Progress Summary Since Last Monthly

- Started the optical performance testing of the first G130M grating.
- Completed and released the COS Evaluation and Data Archive (CEDAR) Software Requirements Document.
- Completed full screening 6 of 12 sets of MCP triplets.
- Released a draft FUV Detector Verification Plan.
- Held the DCE FSW Design Review.



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Monthly Status Review



Tinsley & J-Y Status

- Tinsley:
 - At work on NUV optics.
 - Recently revised delivery schedule:
 - Flight units due 5/15/00 (was 4/5/00)
 - Spares due 7/15/00 (was 6/1/00)
- J-Y:
 - At work recording G160M gratings.
 - In November J-Y encountered a temperature stability problem in the holography lab which caused errors in recording of test mask and slowing work.
 - Temperature control was to be restored by 12/1.
 - G160M No. 1 delivery expected to slip out to late December.
 - Delivery of G160M No. 2 not impacted.



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Monthly Status Review



UCB FUV Detector Status - General

- In general, UCB is making good progress and is successfully overcoming key problem areas from FUSE and other past programs (MCPs, Anodes, bodies, etc.).
- FSW activities at UCB continue to be an area of concern and the CU/BATC team has worked very hard with UCB to shore up this effort.
- UCB did receive funding from Explorers for facilities upgrades and upkeep. The spare test/cal tank in the new building is being commissioned now and a dedicated MCP test tank is established in the new building. CU is sending UCB a vacuum technician to help support these facility set-ups.
- Recent communications with the GALEX mission manager at JPL indicate that resource conflicts between the two projects have not been an issue for GALEX since the 10/20/99 meeting.



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Monthly Status Review



UCB FUV Detector Status - Detector Vacuum Assembly

- MCPs:
 - 6 of 12 12/10/10 stacks have completed initial acceptance tests and meet COS requirements.
 - Pathfinder plates for BBA No. 1 will be selected by the CU/UCB team via telecon on 12/13/99.
 - 12 μ test plates have completed lifetime testing and UCB will be issuing a report.
 - Plate testing will continue into January when BBA No. 2 and flight plates will be selected.
- Anodes:
 - 4 anodes to be laser etched in mid-December prior to final processing at UCB.
 - These 4 anodes will be used in BBA 1 and 2 to verify design and optimize performance.
 - If design is validated, more substrates will be processed into anodes.



COS

Monthly Status Review



UCB FUV Detector Status - Detector Vacuum Assembly

- Bodies:
 - 3 of 3 bodies completed and meet or exceed metrology requirements.
- Amplifiers:
 - 6 of 6 assemblies have completed initial assembly at J&T and shipped to UCB.
 - Final assembly to be completed by UCB after final component selection during detector optimization.
- Cabling
 - The DVA/DEB harness routing and design was laid out on the COS mock-up structure this past week.
 - An intermediate connector between the DVA's amps and the DEB's TDCs has been baselined.



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Monthly Status Review



UCB FUV Detector Status - Electronics

- Power Systems:
 - Battel is at Lockheed now to oversee final systems assembly and potting.
 - HVPS and HVFM to start assembly testing at Battel's lab over X-mas holiday.
 - At present Battel is on schedule for a late-January/early-February delivery to UCB.
- DCE:
 - DCE - A, B, C boards have been completed at SAS circuits.
 - Parts kitting has started and assembly at J&T should start within two weeks.
- Digitizers:
 - Boards are now in production at SAS.
 - Assembly at J&T could commence in 2 to 3 weeks.



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Monthly Status Review



UCB FUV Detector Status - Software

- DCE FSW Design Review was held 10/22/99
 - The number of RFAs captured at the review was quite large.
- In order to recover from the review and prepare for a delta-design review, a CU/BATC team spent one week at UCB to work FSW design issues. This meeting was productive but the SDD was not completed. A follow-up meeting is now scheduled for 1/4-6/00 at CU.
- The present solution to the UCB FSW documentation efforts is to have CU and BATC software personnel write the documents for UCB review and approval.



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Monthly Status Review



UCB FUV Detector Status - Systems

- EEE parts stress analysis is nearing completion with only a few minor problems having been identified and resolved.
- Actel reviews scheduled for final close-out next week at UCB.
- ICD Rev. A still on schedule for 12/15/99 release.
- Draft Performance Verification and Environmental Verification Plans have been reviewed, and released versions to be issued in January.



COS

Monthly Status Review



UCB FUV Detector Status - Summary & Issues

- To reiterate, UCB is making good progress on their present hardware related activities.
- FSW documentation efforts at UCB continue to be a concern and our present solution is to have CU/BATC team members take over the documentation effort.
- Due to FY00 fund constraints, the revised development schedule at Ball, and a thorough review of UCB's I&T plan and schedule, UCB's delivery date and "need by" dates have slipped out:
 - Present flight delivery to Ball \Rightarrow 11/15/00
 - Revised need date at Ball \Rightarrow 1/01



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Monthly Status Review



Optics Test Status

- Grating testing is proceeding on schedule.
- Optical bench was aligned and installed in vacuum chamber on 11/18/99.
- First light on 11/19/99.
- Conservative estimate places unoptimized resolution at better than 15500.
- Image height, spectral location and dispersion all match predictions.



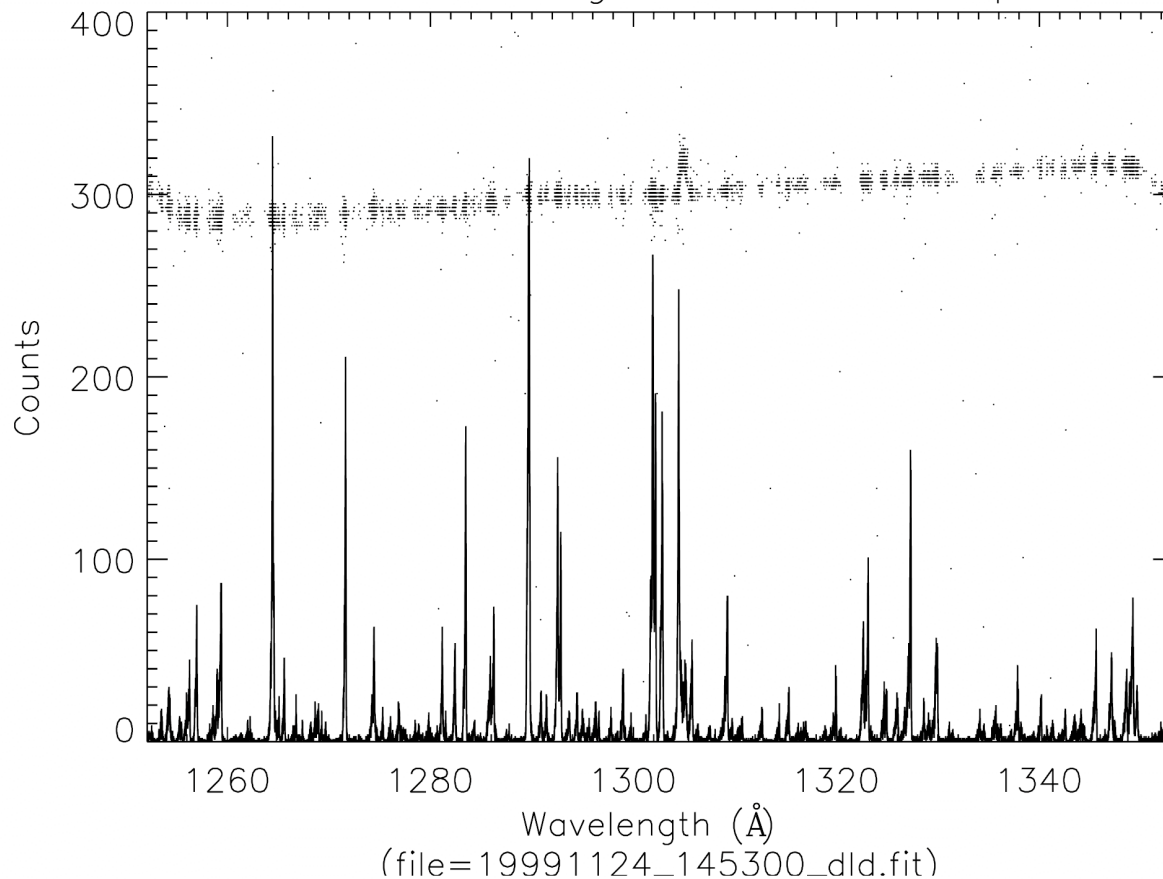
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Monthly Status Review



G130M-C Lab Spectrum

G130M-C histogram and scatter plot



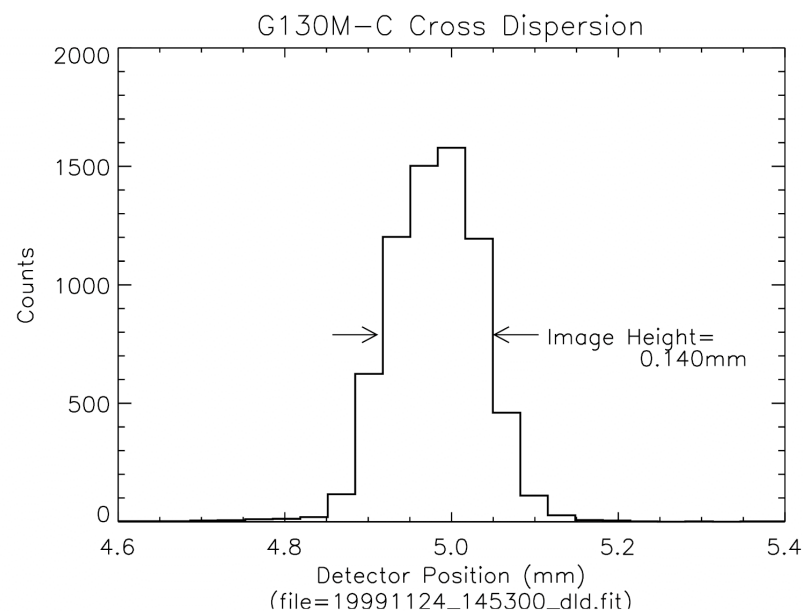
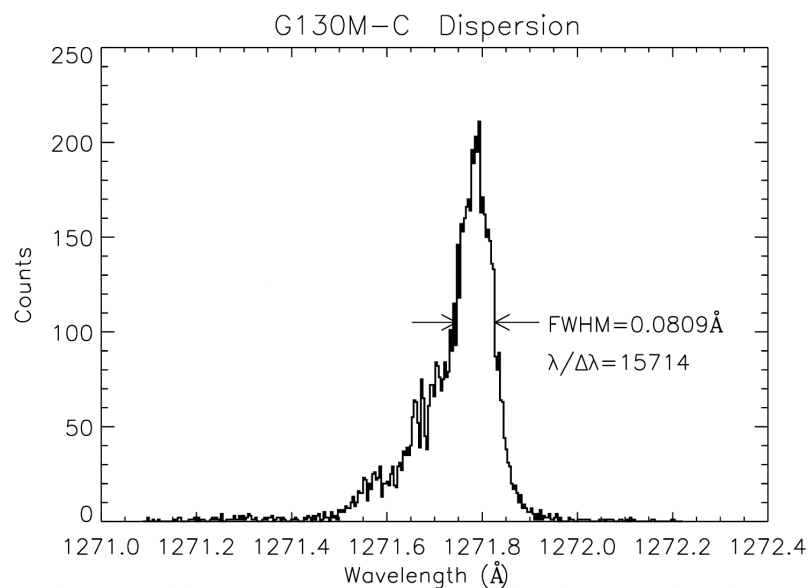


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G130M-C Lab Spectrum Pt II $\lambda 1271.8$

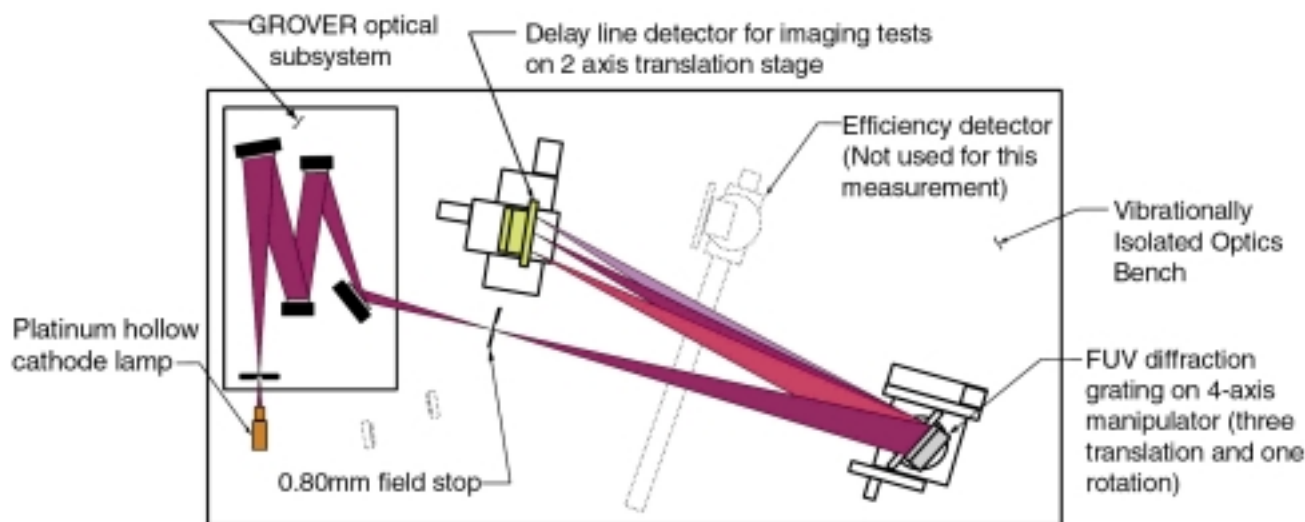




COS Monthly Status Review



FUV Grating Imaging Test Setup



Cosmic Origins Spectrograph Grating Imaging Test Setup

Grating is illuminated by a broad spectrum UV light source (platinum hollow cathode lamp) via the GROVER optical system which provides an aberrated beam identical to the HST optical train. All testing is performed in the CASA/ARL vacuum test facility.



COS

Monthly Status Review



Operations & Software Activities at CU

- COS Science Data Index and Analysis Software (CEDAR)
 - CEDAR Requirements Documents completed and released 11/4/99.
 - SW development proceeding on schedule for Build II release 4/00.
- COS Target Acquisition Simulation Software (TAACOS)
 - Requirements Document for TAACOS is in draft release.
 - Phase I software development is proceeding on schedule for release in 1/00. Phase II is targeted for 4/00.
- CU's COS website is in the process of being overhauled.
 - At present 2 sites serve COS
 - cos.colorado.edu
 - cos-arl.colorado.edu
 - By mid-January the official site will be cos.colorado.edu

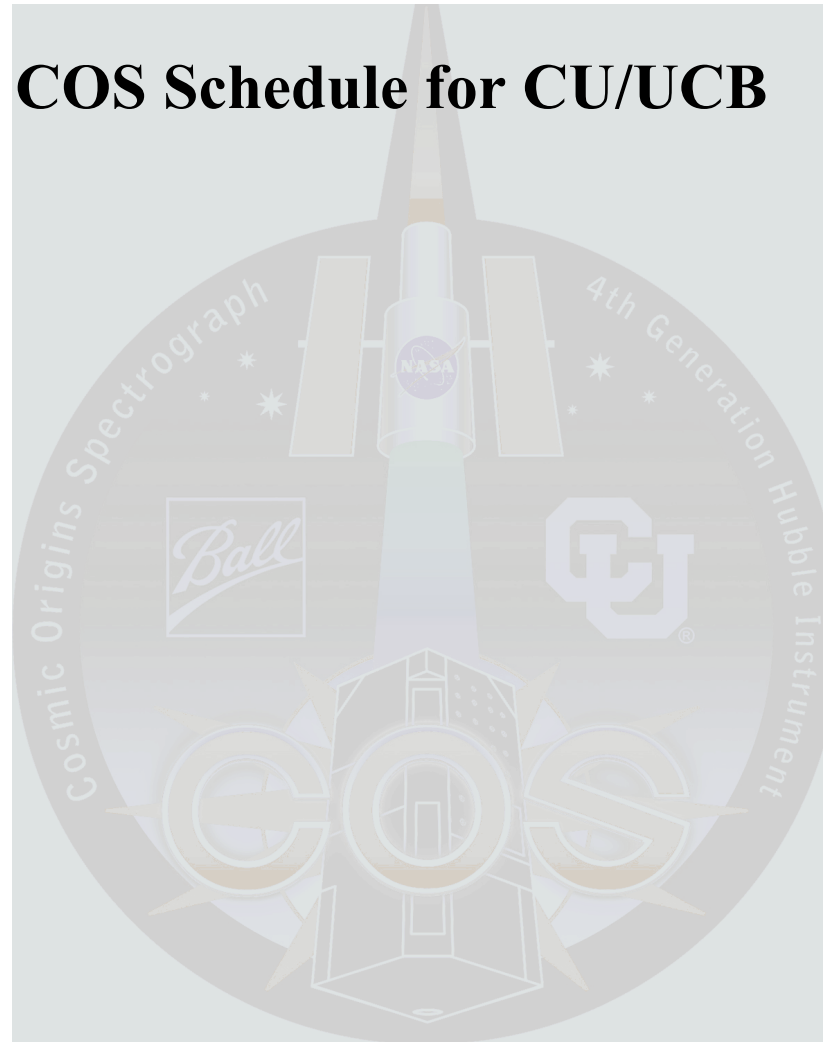


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Monthly Status Review



COS Schedule for CU/UCB



Cosmic Origins Spectrograph
Hubble Space Telescope

John Andrews
December 5, 1999



COS

Monthly Status Review



Upcoming Events/Activities

- Award NUV grating contract.
- Select Pathfinder MCPs for BBA No. 1.
- Receive and characterize first fully processed anodes.
- Receive first G160M grating.
- Release FUV Detector Verification Plan.
- Continue MCP selection tests.
- Continue G130M optics testing.



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Monthly Status Review



Questions, Issues & Resolution Plan

- None

