MONTHLY STATUS REPORT

Engineering & Technical Services
September 2002

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N-NU 500-000 Gemini Near Infrared Spectrograph (GNIRS)

DESCRIPTION: The Gemini Near Infrared Spectrograph is a $4.2 million long-slit spectrometer that will be mounted on the Gemini South 8-meter Telescope on Cerro Pachon, Chile. It will operate from 1 to 5 um and will offer two plate scales and a range of dispersions. The instrument is scheduled for completion early in 2003. See regular monthly reports on the web at http://www.noao.edu/ets/gnirs/.
N-NW 0 MONSOON

DESCRIPTION: Monsoon Image Acquisition system is the NOAO solution for scalable, multi-channel high-speed image acquisition systems required for next generation projects.

FY 02

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ACCOMPLISHMENTS:

- The 36-Channel IR Acquisition Board Prototype is currently in test and evaluation, progress continues to be good.
- The IR Clock & Bias Board Prototype is in PCB fab.
- Monsoon SPIE paper and poster successfully presented and received.
- Monsoon support within LSST internal group.
- Asteroid meeting in Kona.

PLANS:

- Continued evaluation of CCD prototype.
- Continued development of IR prototypes.
- Continue effort to formalize collaboration with ASTEROID effort.
N-NW 1 NEWFIRM

DESCRIPTION: This is a multiyear project to develop a wide field, near infrared imager designed for use at the Cassegrain focus of the Mayall 4-M telescope. A draft of the concepts for this instrument can be found at http://www.noao.edu/ets/newfirm/newfcon.html.

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<th>2002</th>
<th>2003</th>
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FY 02

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SCHEDULE:

An updated NEWFIRM Project Schedule is summarized above. The Conceptual Design Review (CoDR) Update is scheduled for October 28, 2002, in the Main Conference Room. The Preliminary Design effort has started in some areas, notably optical design. The PDR is tentatively scheduled for February, 2003, and CDR is tentatively scheduled for October, 2003. Note that the fabrication effort will have begun in advance of the CDR.

ACCOMPLISHMENTS:

- Presentation materials are being completed for the CoDR Update.
- The optical design effort is drawing toward initiating the procurement of the lenses. Final lens diameters and prescriptions will be defined following completion of the thermal environment analysis (see below). Test methods for the optical train at ambient temperature are being defined. Charles Harmer, using a different optical analysis code, has completed a performance verification of Ming Liang’s Zeemax model at operating temperatures (as defined by Ron’s initial “not-to-exceed” thermal analysis). Charles’ analysis confirms Ming’s results.
- Ed Hileman and Ruben Dominguez have been finalizing the girth ring Dewar support concept, particularly the “barrel” structure that holds the optical element mounts, the lens mounts and the filter wheel mounting concept.
- Earl Pearson has been using his thermal FEA model to analyze the NEWFIRM optics thermal environment. He has completed a number of runs looking at heat flow from the tangent bar mounting structure into the optical support barrel, shield placement, use of insulation and baffle concepts. These results will be summarized and presented at the CoDR Update.
• The K band optical filters were delivered in July. They have a number of tiny point defects in the surface coatings, and Ron Probst is discussing their possible effects with Barr Associates. The H and J band filters were delivered in September, but they have not been inspected yet.

• The ISPI instrument had a very successful first light trial in September. This impacts NEWFIRM in that it confirms the performance of spring finger lens mounts for lenses up to eight inches in diameter.

PLANS:

• NEWFIRM Conceptual Design Review Update, October 10 and 11, 1:00 PM to 5:00 PM in the Main Conference Room.

• Complete the optical element design effort following final temperature determinations by Earl Pearson. Prepare the drawing package for bids and, after receiving the bids, prepare the purchase order. NSF review will be required, because of the expected cost of the procurement.

• Complete the formal response to CoDR Committee report

• Complete project plan for project preliminary design, detailed design, fabrication, integration and test.
N-NX539-202 WTTM

DESCRIPTION: The WTTM is a step to provide VIS-NIR adaptive optics to the NOAO/KPNO/WIYN community. A module will be developed in lab and then integrated into the WIYN IAS as a second port. It is designed for upgrades and will be commissioned in FY ’02.

**MILESTONE SCHEDULE**

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<th>Jul</th>
<th>Aug</th>
<th>Sept ’02</th>
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<td>Commissioning - Elect &amp; SW Testing</td>
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**FY 02**

- Budgeted Hours: 2146.5
- Budgeted Capital: $10,000
- Actual Hours: 3,865.4
- Actual Capital: $39,627

**ACCOMPLISHMENTS:**
- The project is essentially finished with commissioning and is in a share risk observing mode.
- Reports for the commissioning are in process as is the users manual.
- The WTTM is being offered for general use for the 2003A semester.

**PLANS:**
- We are still attempting to obtain beamsplitters for the instrument.
- Complete documentation package.
- Complete system; turn over to KPNO.

**PROBLEMS:**
- No items.
DESCRIPTION: Recruit the Schmidt camera reflective mirror with a protected silver. Acquire and install a new LBNL Hi-Rho CCD. Acquire two new VPH prisms.

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<td>Integrate new CCD &amp; Field Flattner</td>
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Milestone Schedule

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FY 02

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ACCOMPLISHMENTS:

- Tested device #8L and tried various optimizations to improve characteristic of this device.

PLANS:

- Continue testing device #8L and test device #7U to determine if we have a device suitable to use in the Cryo Camera upgrade.

PROBLEMS:

- Device #8L have the "Manhattan Skyline" effect and according to Arjun this defect makes this device unsuitable for Cryo upgrade.

SOLUTIONS:

- Test device #7U for Cryo Camera Upgrade.
Z-ZUP44-6XX GEMINI CCD CONTROLLER INTEGRATION (bHROS)

**DESCRIPTION:** Investigation of CCDs provided by Marconi, CCD Controllers provided by LEACH and bHROS camera provided by UCL. CCDs will be tested and installed in the camera.

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**Milestone Schedule**

- Cold Test
- Fab Cables
- Mod CCD Mount
- Wire Dewar
- Check Coplanarity
- Examine chips, install dry run
- Install chips, lab test
- Acceptance Test

**FY 02**

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**ACCOMPLISHMENTS:**

- Provided Doug Simons with test report.

**PLANS:**

- Bill Gemini.

**PROBLEMS:**

- No items.
Electronic Design (D. Stover)

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<th>Acct No</th>
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<td>finish spread sheet with efile locations then on to investigating the jobs with the &quot;unknown&quot; status (still continuing, I don't have all the efile locations yet)</td>
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<td>IR Acquisition Brd Mother</td>
<td>NNX 053 209</td>
<td>Debugging in progress</td>
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<td>IR Acquisition Brd Daughter</td>
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<td>Waiting for mother debugging to complete</td>
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<td>Monsoon Clock &amp; Bias board</td>
<td>NNX 053 213</td>
<td>in Layout, placement done routing 85% complete</td>
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<td>NNX 510 000</td>
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<td>WTTM Documents for Dryden</td>
<td>NNX 539 202</td>
<td>Dave took binder back to do the documents himself</td>
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**Finished Items**

Slit masks for Sept & 1st part Oct. NNX 360 000

**Ongoing jobs**

Library standards & Libraries NNX 510 000

drawing standards written NNX 510 000

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Comments: I have a few small misc tasks of providing KPNO group with drawing numbers for the electronics part of the wave front camera change over. Other things include supporting Beth in release of documents originating from PCAD, providing A size prints and .pdf files.
**Instrument Shop (R. Repp)**

**Small Purchase Orders** (Account Numbers, Vendors, Products Purchased, and Cost)

- NNU580-310, McMaster Carr, Metric Hardware...............................................$67.77
- NNU580-310, Precision Plating, Anodize.........................................................$55.12
- NNX519-131, Berg, Flexible E-Pitch Ladder .................................................... $25.30
- SNP140-110, Precision Plating, Anodize...........................................................$55.12
- SNP140-120, Perfection Powder Coating, Paint Tailcone Assembly........$110.00
- SNP140-120, Precision Plating, Anodize...........................................................$55.12
- ZZXP00-044, Precision Plating, Chem Film.....................................................$79.50
- ZZXP99-002, Bralco, Aluminum Stock..............................................................$745.00
- Total Non-Shop Expenses ............................................................................. $1,192.93

**Hard Purchase Orders, September 2002** (Acct. Number/Req Number/date/vendor/purchase/cost):
- ZZXP99-002, 3118751, 9/10/02, Abrasivejet Cutting Service, Cut Perimeter A&G Bench….$140.00

In addition to these expenses, the instrument shop budget contributed money to purchase needed stock and supplies for all projects that are manufactured at NOAO.

**Instrument Shop Spreadsheet (page 2) at a Glance:**

- 880 estimated hours of work in progress
- 710 hours in shop queue
- 513 hours of potential future projects for instrument shop
Instrument Shop (cont.)

<table>
<thead>
<tr>
<th>DRAWING NUMBER</th>
<th>DRAWING TITLE</th>
<th>PROJECT</th>
<th>INSTRUMENT MAKER</th>
<th>PERSONAL QUEUE HRS (PQH)</th>
<th>ECD</th>
<th>COMMENTS</th>
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<tbody>
<tr>
<td>3</td>
<td>COMPLEX DETAILS</td>
<td>IRMOS</td>
<td>IRMOS</td>
<td>RON HARRIS</td>
<td>24</td>
<td>10/4/2002</td>
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<td>2</td>
<td>STORAGE DEWER Assembly</td>
<td>ORION</td>
<td>RON HARRIS</td>
<td>40</td>
<td>10/18/2002</td>
<td>DO OTHER OCTOBER WORK AS WELL</td>
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<td>10</td>
<td>ORION SHUTTER Assembly</td>
<td>IRMOS</td>
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<td>BEAMSPLOITER MOUNTS</td>
<td>GEMINI</td>
<td>LOU LEDERER</td>
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<td>GEMINI</td>
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<td>N/A</td>
<td>FLEXURE RIG SAFETY GUARDS</td>
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<td>SAFETY STRUT ASSEMBLY--FLEX RIG</td>
<td>GNIRS</td>
<td>LOU LEDERER</td>
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<td>ASSIGNMENTS, LOU WILL DO GNIRS SHIPPING CRATE</td>
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<td>STEVE RATH</td>
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<td>MANY</td>
<td>GNIRS FAB ONLY WORK</td>
<td>GNIRS</td>
<td>JOHN STEIN</td>
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<td>SEE GNIRS DATABASE FOR EXACT DETAILS</td>
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<td>N/A</td>
<td>ASSEMBLY MODIFICATIONS</td>
<td>GNIRS</td>
<td>JOHN STEIN</td>
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<td>TOTAL HOURS IN SHOP: 9/30/2002</td>
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<tr>
<th>PROJECT</th>
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<tbody>
<tr>
<td>GNIRS SHIPPING CRATE</td>
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</table>

| EXIST, UNKNOWN | SOLIS | 120 | COMPLEX COPPER PART--MAY GO TO HAUTH |
| N/A | FIBER MOUNTS | SOLIS FDP | 40 | AWAITING GO AHEAD FROM JAKSHA |
| N/A | FIBER GUIDES/SOLIS | SOLIS FDP | 80 | AWAITING GO AHEAD FROM JAKSHA |
| N/A | WALL LINING | SOLIS FDP | 40 | AWAITING GO AHEAD FROM JAKSHA |
| N/A | AIR DUCT | SOLIS FDP | 40 | AWAITING GO AHEAD FROM JAKSHA |
| N/A | PROTOTYPE LENS SLIDE | GONG | 32 |
| N/A | GONG PLASTIC MIRROR COVERS | GONG | 8 |
| N/A | GONG BAY AND CAMERA PANEL MODS | GONG | 8 |
| N/A | PROTECTION ASSEMBLIES | GONG | 40 | 40 HOURS IS PLACEHOLDER--NO DRAWINGS TO QUOTE FROM |
| BSM-2-L | BEAMSPLOITER MOUNT PLATE | CHARA | 16 | TO REPLACE PARTS DAMAGED IN SHIPPING |
| 7 | QTY 10) ATTACHMENT PADS | CHARA | 6 | IN MY "SMALL JOBS" FOLDER |
| TOTAL QUEUE HOURS: 9/30/2002 | | | | 710 |

<table>
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<tr>
<th>ESTIMATED HOURS</th>
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<tr>
<td>IRMOS SPIDER ADAPTER</td>
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<td>FORTHCOMING</td>
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<td>3 DRAWINGS</td>
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<tr>
<td>1 SKETCH</td>
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<tr>
<td>TOTAL: 9/30/2002</td>
</tr>
</tbody>
</table>
Infrared R&D Program (K. M. Merrill)

- The primary effort this month was to build up a spare set of Phoenix boards to operate a Virgo readout from RIO. This approach will preserve our ability to test both Virgo and Orion parts.
- We are considering elements of the Virgo design as a path for improving the yield of Orion readouts and will test the Virgo design for operation at 35 to 25K.
Optical Coating Laboratory (G. Poczulp)

WWZ-300-000 WIYN 0.9m Harris U Filter
Coated one 4"x4"x2mm fused quartz substrate and one 4"x4x1mm UG1 filter glass with MgF2 peaked to 4327Å. The substrates will be used to construct the WIYN 0.9m Harris U filter.

N-NK360-000 Flat Field Bulbs
Coated ten GE 50W quartz reflector bulbs with 100nm of aluminum in the NRC-3177 chamber.

S-NP140-110 VSM Specific
Prepared and sent a request for quotation for a second VSM M2 to Rayleigh Optical Corporation.

N-NX517-200 VPH Grating Development
Performed initial inspection and wavefront measurements of the new large (8.5"x 8.5") volume phase holographic transmission grating received from CSL. The surface figures of both the entrance and exit sides of the grating were also measured and S. Barden is reviewing optical test data.

Sloan 2.5m Primary Mirror
Z-ZKP00-043
The Sloan 2.5m primary mirror was successfully coated on 9/25/02 in the 4m aluminizing chamber. The chamber was loaded with twelve aluminum clips per filament instead of the usual eleven. The old coating was stripped on 9/24/02 and the next morning the mirror was cleaned, placed in the chamber and pump down was started by noon. After firing was complete, the inner thickness monitor indicated 1093Å and the outer monitor indicated 1035Å. After the chamber was opened the next day, the six witness slides were inspected using a high intensity light and the thickness was deemed acceptable. Measurements of the mirror surface were taken with the Minolta 2002 spectrophotometer and it was found that reflectivity at 400 nm had increased from 90.8% to 91.4%, and at 700 nm from 87.9% to 88.1%. Scatter measurements showed a decrease from 0.8% to 0.4% at 400 nm and 0.5% to 0.3% at 700 nm.

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<tr>
<th>Date</th>
<th>Mirror</th>
<th>Initial</th>
<th>Initial</th>
<th>Final</th>
<th>Final</th>
<th>Reflectivity at 400 nm</th>
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<tr>
<td>9/25/02</td>
<td>Sloan 2.5m Primary</td>
<td>6.4e-06</td>
<td>N/A</td>
<td>N/A</td>
<td>1093Å / 1035Å</td>
<td>91.4%</td>
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### Upcoming Coating Lab Projects

<table>
<thead>
<tr>
<th>Chamber Coating</th>
<th>Contact</th>
<th>Received</th>
<th>Need Date</th>
<th>Planned Start</th>
<th>Estimated Duration</th>
<th>Planned Completion</th>
<th>Delivery Date</th>
<th>Account #</th>
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</thead>
<tbody>
<tr>
<td>WIYN 0.9m Filter Set</td>
<td>NRC-3177 MgF2</td>
<td>H. Schweiker</td>
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<td>4 days</td>
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<td>WWZ-300-000</td>
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<tr>
<td>SOLIS Cover Slides</td>
<td>NRC-3177 Al</td>
<td>D. Jaksha</td>
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### Completed Coating Lab Projects

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<th>Chamber Coating</th>
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<th>Received</th>
<th>Need Date</th>
<th>Actual Start</th>
<th>Actual Duration</th>
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<th>Delivery Date</th>
<th>Account #</th>
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<td>WIYN 0.9m UG1 Filter</td>
<td>NRC-3177 MgF2</td>
<td>H. Schweiker</td>
<td>9/13/2002</td>
<td>9/16/2002</td>
<td>1 day</td>
<td>9/16/2002</td>
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<tr>
<td>Sloan 2.5m Primary</td>
<td>4m Al</td>
<td>M. Klaene</td>
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<td>9/24/2002</td>
<td>3 days</td>
<td>9/26/2002</td>
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<td>Z-ZKP00-043</td>
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## Optics Lab & Optical Shop (G. Poczulp)

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<th>Need Date</th>
<th>Planned Start</th>
<th>Estimated Duration</th>
<th>Planned Completion</th>
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<tr>
<td>Thin VPH Grating Polishing Rework</td>
<td>S. Barden</td>
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<td>N-NX517-200</td>
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<tr>
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<td>WWZ-300-000</td>
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<tr>
<td>SOLIS FDP Optics Installation</td>
<td>J. Harvey</td>
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<table>
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<th>Received</th>
<th>Need Date</th>
<th>Actual Start</th>
<th>Actual Duration</th>
<th>Actual Completion</th>
<th>Delivery Date</th>
<th>Account #</th>
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<tr>
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<td>L. Daggert</td>
<td>9/3/02</td>
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<td>N-NX500-100</td>
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<td>200 mm VPH Grating Wavefront Tests</td>
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Computer Services (C. Danielson)

- Update nt-test-gate (windows update site)
- Retrospect 6 Beta testing on nt-test-gate
- Starjeep disk problems
- Loan Mike F pc for test - old-Ed Hileman machine
- Tiba reboot problem - needs to be power cycled. Need to investigate further
- Gather old stuff to give to Jerry S for salvage/scrap
- Tiba tape drive problem
- Draftserv security updates
- Draftserver2 security updates
- Tiba security updates
- Get tiba a new scsi card then update driver from adaptec
- Reboot draftserv
- Reboot tiba check on basset backups - not going well
- Barry Starr re: laptop backup
- Install new DDS 4 tape changer onto Tiba
- Research why tiba doesn't see tape changer
- Mike P re: fan replacement
- MikeP re: laser printer in drafting repair
- Starjeep security updates
- Chimi & eggs security updates
- Spider and stockroom security updates
- Restore file for John Andrew
- Permissions on gnirs per email from gmuller
- Check up on backups
- Tape backups
- Beth's machine repair
- Test autoloader on Basset
- Reboot servers
- Work on permissions for gmuller - have questions – will need to get with him
- Still working on permissions
- Install replacement scsi card into tiba
- Work on getting tape drives working
- Call hp about autoloader and get a service ticket number assigned
- Need to reboot tiba and check scsi card bios
- Meeting with Mike F re: share permissions
- DDS4 autoloader problems on tiba still! Tiger backup
- Repair basset win2k install again
- Fix Sang's email setup problem
- Assist Mike F at Ron H pc
- Ask Roger for assistance in getting a photo of his home pc
- Update Beth on backups/stuff
- Cat5 coupler for Sang
- Update Al F's Eudora to 5.1 – no ads
- Eggs blue screen of death - fix it and then make backup of c drive
- Backup chimi
- New boot cd versions - need to order Ghost 2003 and check it out (Oct. 1)
- Al F's lapper hd organize parts for new pc's
- New TechNet load on nt-test-gate
- Network (Cat5) cable for Paul Schmitt and Ken Don
- Work on Spider pc (stockroom pc!)
- Make sure backups are happening for stockroom
Programming Group (R. Marshall)

Behzad Abareshi

- Worked with Phil Daly to test the WTTM software under these new conditions: Red Hat 7.3 and (RTAI) RTHAL5; servo control loop with integral term (PI); building and using the software as non-root user.
- The gprobe of the IAS module would not respond when telescope had large target offsets. Fixed this by accounting for the offset in the calculations.
- Added logging feature to archiver, wiyn_page, and MPG router. The logging, especially in case of the MPG router, should help us trouble shoot problems that OA's encounter during operation. Also, archiver and wiyn_page now continuously keep trying to reconnect to WIYN router if they lose their connection for whatever reason.
- After some discussions with Charles Corson about the elusive azimuth reversal problem, I added some diagnostic routines to the TCS servo to monitor the PID loop. Our guess is that the azimuth reversal problem is due to the "windup" error associated with the integral term. I even came up with a simple fix and tested it on my simulator to stabilize the PID loop and it seemed to work. Unfortunately, we couldn't reproduce the azimuth reversal problem on the mountain after several attempts, and had to give up since each try takes quite a bit of time (30 to 50 minutes). We may have better luck next time.
- Fixed minor bug with artags script used in a couple of engineering diagnostic tools.
- Fixed VNC glitches on bone and wiyn-pms machines.
- Worked on my new Linux development box (piranha).

Nick Buchholz

- Tested parts of communications Hardware Library for MONSOON written by Phil Daly.
- Continued writing the common DHE hardware library for MONSOON.
- Revised DHE hardware debug and test program for FPGA testing.
- Added new features (fillMemory, dumpMemory, sendCommand) to DHE hardware debug and test program.
- Linux semaphore manipulation library.
- Rewrote and tested a socket utility library for linux.
- Rewrote and tested a stack and queue library for linux.
- Designed and wrote an attribute-value pair handling library for linux. Still needs testing.
- Proposed a runtime configuration scheme for the PAN and DHE interface software.
- Continued working to finalize ICD 6.1.

Phil Daly

- NEWFIRM: downloaded latest code from UKIRT. Builds OK. Prepared overheads for delta CoDR (to be held 10/11 October next).
- WTTM: upgraded computer to Red Hat 7.3 with RTHAL5 real-time patch. Tested out dual-boot nature of machine. Tested code under Red Hat 7.3 - all OK. Added units to gain coefficients - can now specify gain in milliunits, microunits etc. Added an integrator (for each axis) to the control loop and tested during T&E - works well. Enabled WTTM software to be run from non-root account. Added a wmr (WTTM mirror reset) command.
- Discovered that the build executables option in LabVIEW 6.0.2 does *NOT* work under Red Hat 7.3. Will contact NI about this (but expect the answer "It's fixed in 6.1 - the upgrade costs $400"). Working with old executables so no GUI development is possible. Am thinking that we abandon the command GUI interface and just use the graphs?
- MONSOON: Documented the comHdw library. Re-built the SL240 drivers under the 2.4.18-10 kernel.
- Also, attended a half-day (free) seminar from National Instruments on their LabVIEW-RT product. Not much change from before except that their main platform for this is Windows. Discussed this with the NI rep who said that 90% of their customer base is Windows and that'd what they are concentrating on. Reading between the lines, I am concerned about their future commitment to Linux.

Shelby Gott

- Completed WIYN CassIAS documentation updates.
- Added a simple image display to the Fast Centroiding (Dalsa) Camera software (not a complete Phase 2 GUI).
- Assembled an additional Motor Module to be used in WUFF at WIYN.
- Installed, tested, and debugged the WTTM slide upgrade.
• Tested and debugged replacement filter wheel motor installation in the WIYN IAS guide probe.

Bob Marshall

• Project related work:
  - New computers for Admin: Ordered 3 computers: (1) general staff machine (rose), (2) operator's system (coral), and (3) central backup machine (crimson). Two systems arrived during the month (coral and crimson). Configured and installed the new coral at Admin.
  - KPNO backups:
    - Ordered disks, controllers, and cables needed for the new backup scheme. Installed 4 120GB disk drives at WIYN (2 in bone and 2 in ivory) for backups. Started setting up crimson.
    - The new backup scheme is mainly disk based, using 120GB IDE disks in Linux systems. We will start with 4 disks at WIYN, 2 at the 4 meter, 2 at the 2 meter, and the rest at Admin.
    - The primary backups will be to disks in each dome and the secondary (longer term) backups to 'crimson', which has easily removable disk trays. We will also continue to use the current backup system (the Exabyte tape library on scarlet) for our smaller file systems.

• Operations:
  - 4-meter: restored Guider files for RedHat 6.2 from the backup tapes, fixed a problem in the backup scripts for 'pecan'
  - WIYN: archival backups of navajo and bone, installed 'named' on the Linux systems, fixed the 'resolv.conf' files, installed 'bind' where needed.
  - 0.9-meter: supported the Mosaic T&E and investigated the Mosaic hangs.

• Maintenance:
  - 4-meter: Configured the replacement 'md1' disk on 'pecan'.
  - WIYN: VNC changes.

• Computers:
  - Ordered a Linux system for Behzad to replace his old Sparc-5, and 120GB disks for the OSE lab for backing up our laptops.
  - Consolidated our 3 Solaris 2.6 Sparc-5 systems (beet, cerebus, plum) into one machine, using the best pieces of each. Retired the other 2 systems. We gave old 'chard' to Mike Peralta last year, so we now have 3 fewer SUNs. We also reduced our software docs to 1 copy, so we will save a total of $1500 on our Sun Software Maint. bill for FY03.

Dave Mills

• The new guider for the coude feed was tested on sky and found to guide well, even when most of the target fell into the slit. The only remaining issue is the proclivity of the TCS to act on false guide correction signals from the old hardware.
• A major tidy up effort on the WIYN guider/autofocus widget resulted in fixes for a variety of minor problems, some operational improvements, etc. On sky testing during T&E was successful.
• The guider center procedure for the 2meter was revised. T&E testing resulted in a perfect center calibration first time.
• The upgraded guider (RedHat 7.2) was tested during T&E (with Mosaic) and subsequently installed. The instrument change to MARS revealed a problem and the upgrade was pulled until this can be addressed.
• Made some progress on documenting the 4m wavefront camera project.
• Supported 4m and 36in startup/T&E, minor mods to 4m spectrograph GUI, Mosaic icsInfo temp warning protocol.
• Attended a Scientific Python workshop at Caltech.

Peter Ruckle

• GNIRS is in testing phase. Time has been spent on assisting testing of the GNIRS instrument. When the instrument is idle there was time for GNIRS documentation and general CCS maintenance of computers and software on the PC's in my office.
Risk Management (C. Gessner)

- No “OSHA reportable” injuries were reported to this office this month.
- The Kitt Peak Emergency Manual has been finalized, distributed to key employees and to Kitt Peak tenants. The manual is now available on the NOAO website in two places; the Kitt Peak Mountain information link and on the Risk Management Documents link. Thanks to the following people that contributed to the manual Richard Green, John Glaspey, John Dunlop, JoAnne Hudson, Christoph Keller, Rich Fedele, Jeff Barr, John Scott and Tom Zinter.
- Drafted an overview of Crisis Management that was distributed to the management committee to help them understand the proposed process of Business Contingency. Prepared a memo to Karen Wilson that has detailed the progress to date, this also was sent to the management committee. I have worked closely with CFO to bring their list of twenty questions to a workable plan, thanks to Brenda Jensen for her help. I will be moving to other departments shortly such as CAS and CCS. I consider these three departments important to get us up and running. I am receiving good response to the request for contact information.
- Last month, John Dunlop, Jeff Barr and I awarded the bid to CIS for the Electronic Access Control system. We have requested a project schedule to help us understand the time schedule, any additional support they may need and to prepare for the installation while considering accommodating our staff. Plan is due first week of October, installation may move to mid October.
- Reviewed the health and safety language of the new cooperative agreement and found no new issues with the requirements.
- Thanks to Beth Moore and Carol Gregory for scanning, editing and proofing the 1991 NOAO Safety Manual is available electronically. For now, this is our reference document. I plan on a revision early next year.
- After researching the needs of the organization, identifying topics that are relevant to the work that we do, preparing documents and converting the information to PDF formats, we now have the beginnings of a Risk Management Documents site on the NOAO web site. Thanks to Dave Bell for his help, presently you will find the Kitt Peak Emergency Manual, the 1991 NOAO Safety Manual, about a hundred different topics and presentations, useful links and a few personal touches. Soon Dave will set me up with an account so I can add more.
- Continued to review the design considerations and construction of the 16” telescope upgrade for PAEO.
- Managed the relocation and disposal of hazardous materials and “universal wastes” in Tucson. Properly disposed of unwanted chemicals, used oils, batteries, PCB capacitors, light bulbs and solvents stored in the CFO maintenance yard. Coordinated the recycling of unused chemicals with the U of A Risk Management and Safety group. Recycled thirty gallons of chemicals through a vendor.
- Continued to assume the role of meter officer for a number of illegally parked vehicles in our parking lots.
- Continued to provide minor comments and performed periodic walkthroughs during the construction of the front lobby and other projects.
- Continue to consult on “past” worker compensation issues with various managers.
- Scheduled wild land firefighting training on Kitt Peak for November 6, 13, 20 and 27.
- Participated in a “safety review” for the flex test rig, noted deficiencies, ordered materials and “supervised” installation.
- Consulted on a number of risk management issues including waste disposal, hazardous materials, safety eyewear, volunteer screening, suspended loads, barricading, oil clean up, keys, aluminizing and shop safety.
- Provided a number of reports, memos and consultation to Marsh (our insurance broker) and Procurement for the renewal of our insurance policies. As a result of the renewal, we discovered that our organization is in need of a new Spill Prevention Program for Tucson, Kitt Peak and Sac Peak.
- With the help of CFO personnel, we have logged and filed the historically available and 2002 Material Safety Data Sheets that where in my office or delivered by procurement.
- I am attending the second class of three to obtain my Associate in Risk Management.