



# NRAO NM NEWS

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## NOTES FROM THE AD

- Jim Ulvestad

I am coming to the end of my second year as Assistant Director for VLA/VLBA Operations, and I'd like to celebrate the end of this year by thanking all the individuals who have contributed to our success in 2003.

We have served the usual total of at least 800 observers on the VLA and VLBA, maintaining our high level of operational reliability while facing the many demands of the ALMA and EVLA projects and making significant changes in our computing organization. The accomplishments of the last year are a tribute to all of the staff at the AOC, the VLA site, and the VLBA stations.

Among other areas, significant new scientific results have been obtained on gamma-ray bursts, supernova remnants, pulsars, young stellar systems, and the most distant forming galaxies. For more details on some of these scientific results, I refer you to the NRAO press releases at <http://www.nrao.edu/pr/>. Rather than summarizing the science here, I'd like to list a few of the significant accomplishments that are making the science possible and have helped NRAO fulfill its mission during 2003.

- 1/03 Completed tests of VLA correlator controller in continuum mode.
- 3/03 Completed implementation of Iridium 1612 MHz filters on VLA.
- 4/03 Completed 22 GHz upgrade on all VLA antennas except EVLA test antennas.
- 5/03 Completed installation of 43 GHz systems on VLA.
- 5/03 Completed installation of tubing to house fiber in upgraded AOC computer network.
- 6/03 Held scientific meeting honoring 10<sup>th</sup> anniversary of VLBA.
- 6/03 Opened VLA Visitor Center gift shop.
- 7/03 Replaced elevation bearing on Saint Croix VLBA antenna.
- 8/03 Implemented automatic release and pipeline calibration of most VLBA observations.
- 8/03 Replaced azimuth bearing on VLA antenna 15.
- 9/03 Successfully completed another VLA-Pie Town link observing session.
- 9/03 Completed last of 3 VLBA maintenance visits for 2003.
- 9/03 Finished EVLA fiber installation on two of the three arms of the VLA.
- 10/03 Made VLA/VLBA/GBT on-line data archive available.
- 10/03 Received first light through the EVLA test antenna.
- 11/03 Upgrade of on-line VLA data filling system to support downloads of archive data.

## WELCOME ABOARD

Nissim Chudnoff, EYLA; Dennis Mobley, ES, Rodney Morrill, Electronics-St. Croix; Philip Van Buskirk, Computing Infrastructure.

## VISITOR CENTER UPDATE

Robyn Harrison

Now showing . . . Visitors who stop by the VLA Visitor Center with the

question of "what do you see?" are greeted by a four foot by four foot backlit "radio sky": five square degrees of sky imaged by the VLA at 1.4GHz. The accompanying text gives a brief explanation of radio galaxies and shows some of the capabilities of our telescope. It is accompanied by our poster telling of some of the scientific discoveries made by astronomers using the VLA during its first twenty years.

In an attempt to give visitors a feel for the individuals who work every day to keep the VLA running, we have posted a new exhibit that will focus on different departments throughout the year. The first display features the antenna mechanics climbing antennas, working on azimuth bearings, painting and "other duties as assigned."

The exhibit has also been added to our website at: <http://www.vla.nrao.edu/genpub/work/antmech2.shtml>

**Just in time for the holidays:** If you're interested in making a gift shop purchase but aren't planning a trip to the site soon, Prescilla will be happy to take your order over the phone. You can see most of the items we sell on the web at: <http://www.vla.nrao.edu/genpub/shop/> Prescilla can be reached between 9:00 a.m. - 4:00 p.m., Monday through Friday, at ext. 7410. You can make payment arrangements with her and she will send your purchases to the AOC on the next shuttle. Now, what could be easier than that? Oh, and be sure to ask for your 10% employee discount. Happy shopping!

## NRAO/NM COMPUTING NEWS

- James Robnett

Several improvements to the computer infrastructure at the AOC are now being made and will continue through early 2004. The most beneficial change will be the retirement of Filehost, our Network Appliance file server. Filehost is more than five years old now and hurting for disk space, particularly where home accounts are concerned. Filehost will be replaced with a new Network Appliance Server. The new server has approximately 1.3TB of disk space, a factor of 10 improvement over the existing server. Virtually all of this disk space will be dedicated to increased home account space.

We will be deploying a VPN (Virtual Private Network) system by the end of the year. The VPN will allow laptops on the road or home systems using an ISP, to appear as if they were in the AOC, as far as service access is concerned. Not all services will be available to remote systems for security reasons but many will, in particular mail and web access. If necessary, the VPN system will allow engineers to directly connect to EVLA antennas during testing from outside the AOC. In conjunction with the VPN, we will be installing a new Cisco 802.11b wireless system at the AOC. The new system will cover the entire building, instead of current isolated pockets. The network will allow us to more easily support visitors with unknown systems while protecting our own wired and wireless systems. The existing and new system will be running in parallel for a while, until we're ready to migrate all our existing wireless systems to the new system.

The project to rewire the AOC building from copper to fiber has passed the one year mark and is well ahead of schedule. All of the AOC



The National Radio Astronomy Observatory is a facility of the National Science Foundation operated under cooperative agreement by Associated Universities Inc.

has been plumbed and blowing fiber to offices and areas that required it for EVLA testing has been completed. Starting in January, we will begin a general migration of all machines from copper to fiber. The first targeted systems will be ones that require direct access to the archive, afterwards, priority will be loosely based on those machines with the highest network load.

Redhat-9 has been undergoing testing for several months here and at the other NRAO sites. Over the next few months all possible Linux systems will be upgraded to Redhat-9 from Redhat-7.2 Redhat has decided to end support for all versions of Redhat older than Redhat-9 on December 31, 2003. So, we cannot delay much beyond that date.

Every effort is being made to ensure that these changes will result in improvements in performance and functionality, without requiring changes in procedures or causing unnecessary disruptions. All of these changes will be preceded by more detailed explanations and announcements, once they begin.

## **N**EW! OPERATOR LOGS IN NEAR-REAL TIME - James Campbell

During all VLA observations, VLA Operators maintain logs containing records of weather and equipment problems encountered during the observation. Text versions of the logs are transmitted to the principal investigators as soon as the observation is complete. Paper hard copies are then made available at the AOC. The hard copies are available to AOC personnel within 1-3 days in the library. If local personnel wish to review a particular log, they must physically go to the library to retrieve a hard copy. Eventually, text versions of the logs make it to the archive and can be called up on the web, but there is a substantial lag before they can be retrieved through the current web page at: <http://www.vla.nrao.edu/astro/archive/obslogs/> The current month's text logs, for example, are not available until the succeeding month.

As part of a new service, Operations is making "PDF" versions available to users within minutes of the end of the observation. Starting October 01, 2003, the current and previous month's logs will be available on the "Pub" drive on the VLAOPS3 computer located in the control room at the VLA. For Windows users, open "My network places" and select "Entire Network," then "Microsoft Windows Network. From there, the logs are located in "Nrao\Vlaops3\Pub\PDF Observe Logs." The naming convention used for individual logs is "Date, IAT time of start of observation, Program name" (e.g. 09 Oct03\_1429\_AI111\_Operator\_Log). For Unix/Linux users, the logs are located at /home/nraoweb/vla/content/operators/logs. Once in that directory, an "ls" command will give you a directory listing of all logs from which you can get the file name and retrieve the PDF version using Acroread or Ghostview.

Additionally, in the text logs sent to the principal investigator at the end of each observing run, a URL is included in the text that, if pasted into a web browser, allows anyone with an internet connection to view an Adobe PDF version of the log for up to two months, via the world wide web. A user who wishes to browse through all of the logs generated during the current and previous month, can go to <http://www.vla.nrao.edu/operators/logs/> and select the log to view based on the previously mentioned file name. We recommend you bookmark this page for future reference. If you have any questions or comments concerning the new service, you can contact J.C. Campbell at ext. 7409 or email at [jccampbe@nrao.edu](mailto:jccampbe@nrao.edu).

## **A**T THE VLA

- Lew Serna

Wondering what's new at the VLA? For starters, you may have noticed that the VLA/VLBA Newsletter is no longer published. The last published copy was issued on July 15, 2003. Due to work force constraints in the ES division, the Site Newsletter had to be cancelled. One full time secretary position was cut back to half time and several administrative tasks had to be dropped. Nevertheless, we will try to

bring VLA/VLBA newsworthy items to you via this newsletter.

Some important changes occurring since the last VLA/VLBA Newsletter: Selifa Lucero is the ES part-time Secretary; Lonnie Guiz transferred from the Servo Shop to the Electrical Shop; Dennis Mobley is a new addition in the Auto Shop; Dave McKee left the VLA Fiber Group to join the Front End Group at the AOC; Steve Grayson transferred to the Fiber Group and finally (as in last but not least), Steve Troy from the HVAC Shop is retiring at the end of this year! Congratulations Steve, we all envy you and wish you the best of luck!

## **S**TAR AWARD

Gustaaf van Moorsel

On Aug., 29, 2003, Pat Van Buskirk was presented with a Star Award for planning and executing the switch to the database engine, Oracle. Operation of our instruments relies heavily on databases, many of which used to be based on different database engines, causing support problems and extra cost. Pat's idea was to convert all databases to run under just one, new, database engine, namely Oracle, saving us thousands of dollars per year in maintenance fees and making the databases more robust. It took months of careful preparations and planning on Pat's part to make the whole transition go smoothly, with minimal effect on operations.

## **R**EMEMBRANCE

Bill Brundage

Following a six-year battle with prostate cancer, Ronald B. Weimer died November 20, 2003, at M. D. Anderson Cancer Center in Houston, Texas.

In 1958, Ron graduated from Massachusetts Institute of Technology with a degree in electrical engineering. For the next nine years, Ron worked as an electronic engineer for the Army Signal Corps in Ft. Monmouth, NJ.

Ron started his career with NRAO in July 1967. He worked in Green Bank, WV, until 1989, then relocated to New Mexico, working in VLA/VLBA Operations, as Principal Digital Engineer, until his retirement in 1999. He mainly worked on the VLA and VLBA rotation/focus systems, weather stations and data recorders/playbacks.

In Green Bank, he was the principal digital engineer for the 140-foot, the 300-foot and the interferometer radio telescopes. He was a principal designer of the Mark II VLBI Interferometer system and correlator and a major force in implementing the digital systems for the Green Bank interferometer, NRAO's first computer controlled telescope. Ron maintained and upgraded the autocorrelation spectrometers and added data acquisition systems at both telescopes. He helped develop the spectral processor, which is still used at the GBT.

He was legendary for his unique ability to reverse engineer analog and digital devices that had little or no documentation. Ron was a very generous person, frequently repairing things electronic, electrical and mechanical for friends and neighbors, and helping in many other ways.

## **S**ICK FAMILY LEAVE

Brad Strong

Sick Family is part of your sick leave balance and may be used to care for a seriously ill or injured family member. Full-time employees are allowed to use up to 40 hours per calendar year in the form of sick family time. Eligible part-time employees may use sick leave to care for family members under the same conditions as full-time employees, except the time allowed will be prorated according to the employee's official part-time work schedule. This benefit may be used to care for your spouse, child, or parent. You may also use this benefit to care for your stepchild or grandchild, if the child resides in your home and is your eligible dependent. The code for sick family is SF.

You must notify your supervisor that the sick leave is being used to care for a family member and mark your time record appropriately. Your supervisor may request certification for use of sick leave to care for a family member.

**Note:** Due to lack of space in this newsletter, the article on "December Skies," will be available on bulletin boards at the AOC and at the VLA site.