A I P S L E T T E R

Volume XI, Number 1: January 15, 1991

A newsletter for users of the NRAO
Astronomical Image Processing System

Edited by
Gareth Hunt
National Radio Astronomy Observatory
P. O. Box 0, Socorro, NM 87801-0387
505–835–7000, x7213; TWX 910–988–1710; Fax 505–835–7027
and
Glen Langston
National Radio Astronomy Observatory
Edgemont Road, Charlottesville, VA 22903–2475
804–296–0211, x209; TWX 910–997–0174; Fax 804–296–0328
`aipsmail@nrao.edu` or `aipsmail@nrao.bitnet` or
`6654::aipsmail` or ...`!uunet!nrao.edu!aipsmail`

LaTeX set by GL

Recent Developments

The structure and focus of the *AIPS* programming group was redefined in January 1991. In summary, the *AIPS* group, under the leadership of Geoff Croes, has decided to re-write *AIPS* in order to incorporate software capabilities needed for the coming decade.

The *AIPS* re-write is discussed in the 15APR91 `AIPSLETTER`. The new *AIPS* software will be written in the language C++, and here after, the new *AIPS* will be called *AIPS*++.

Personnel

There has been one recent personnel change: Patrick Murphy, formerly of NRAO Tucson (and before that, the VLA), has joined the *AIPS* group and moved to NRAO, Charlottesville. Pat is in charge of helping *AIPS* system managers install new releases and is also updating the *AIPS* interface to the various flavors of operating systems. Welcome Pat! (Pat can be contacted at (804) 296-0372 or e-mail address `pmurphy@orangutan.cv.nrao.edu or pmurphy@192.33.115.11`)

New VLA data and Old Releases of *AIPS*

Scientists using the VLA often calibrate their *uv*-data at NRAO using the latest release of *AIPS* then take the data back to there home institution for further processing. This can cause problems if the the home institution has not recently installed the latest release of *AIPS*. The problem occurs because the VLA has started allowing many new observing modes (with many simultaneous observing frequencies) which are not supported in old releases of *AIPS*.

In particular, the newest releases of $\mathcal{AIPS}$ support *multi-IF* VLA observations in a different manner than previous $\mathcal{AIPS}$ releases. (*Multi-IF* observations are observations in which two separate band passes observed simultaneously *e.g.*, two 5O MHz observations at 4885 and 4835 MHz). Old releases of $\mathcal{AIPS}$ were geared toward *uv*-data calibrated with the DEC 10 at the VLA site. The continuum *uv*-data calibrated by the DEC 10 could contain only a single frequency. (Called AC or BD *uv*-data in DEC 10 speak). New $\mathcal{AIPS}$ tasks place the *uv*-data for these *multi-IF* observations in one file to facilitate some of the new data processing algorithms. Old versions of $\mathcal{AIPS}$ either ignore the second *IF* or incorrectly handle processing the second frequency. ($\mathcal{AIPS}$ tasks `UVMAP` and `ASCAL` **ignore** the second *IF*. In 15JAN91, tasks `MX` and `CALIB` handle *multi-IF* data correctly, and replace `UVMAP`and `ASCAL`.)

If observers are taking data back to sites running old versions of $\mathcal{AIPS}$ they should use the task `UVCOP`to copy each *IF* into a separate *uv*-data set. The old $\mathcal{AIPS}$ tasks are believed to handle the single frequency data correctly. Note that spectral line data from a single *IF* is believed to be processed correctly in older versions of $\mathcal{AIPS}$.

Getting $\mathcal{AIPS}$ over the InterNet

Over the past few months, we have been investigating the feasibility of using InterNet for distribution of the Unix $\mathcal{AIPS}$ source. Several sites have obtained the 15JAN91 release of $\mathcal{AIPS}$ in this manner, and the experience so far has been very positive. The procedure is quite simple: the requester uses the standard `ftp` program to copy a compressed Unix `tar` file from NRAO to their computer. The requester can also retrieve copies of the Installation guide and reference manual or can request that they be sent via electronic mail. The tar file is about 36 Mega-bytes in size, and compresses down to 10 Mega-bytes. The requester can choose between a single monolithic file and the split version (52 files).

As $\mathcal{AIPS}$ code is proprietary, we are unable to simply make it available over anonymous ftp. The procedure currently in use is to use a password-based account; the password is changed for each requester.

We are now adding "`ftp`" as an option for distribution medium on the $\mathcal{AIPS}$ order form at the end of this `AIPSLETTER`. Please note that this applies *only to the Unix version* of $\mathcal{AIPS}$. If you wish to make use of this option, you should either use the form or send an e-mail equivalent to `aipsmail@nrao.edu`. Your site does need a current $\mathcal{AIPS}$ license in order for us to process `ftp` orders. Contact Pat Murphy for more information concerning $\mathcal{AIPS}$ via InterNet.

Changes in 15JAN91

There were 403 "significant" changes applied to 15JAN91. A selection of these changes are summarized below.

Changes of interest to Users:

FQ ids Bugs were removed from several tasks which handled several *IF*s simultaneously.

`CALIB` `CALIB`was split into two tasks, `CALIB`to do amplitude and phase calibration as well as self-calibration. `FRING`was created for fring fitting VLBI data. Several Calibration bugs were fixed.

`MK3IN` Major improvement to $\mathcal{AIPS}$ ability to process Mark III VLBI data.

`MX` `MX`has been modified to accept un-sorted *uv*-data. This significantly reduces disk space needed to process observations.

Print All printing tasks were modified so that output could be re-directed to a file.

TVs Improvements were made to the three workstation TV emulators.

`IBLED` An Interactive Baseline EDitor is available. This task is particularly suited to VLBI data and provides a graphics interface to *uv*-data editing.

`FILLM` Numerous improvements to $\mathcal{AIPS}$ ability to read VLA archive tapes.

`DAYFX` A new task to fix occasionally garbled Day numbers in *uv*-data read by FILLM.

`CVEL` Numerous improvements and bug fixes were applied.

`VBPLT` Several improvements to VLBI Baseline Plotting tasks.

IBM Subroutine libraries were added for the IBM 6000/RISC computers.

HORUS Errors in applying UNIFORM Weighting in HORUS were corrected.

text describing the MX AP size changes.

input MXPSAP.tex is missing