AIPS MEMO NO. 26

SUMMARY OF AIPS MEETING OF MARCH 10, 1983

ED FOMALONT

The following is a quick and dirty summary of the AIPS meeting of March 10, 1983. Some judgements of the relative priorities of the suggestions have been made. In about three months we will have another such meeting and by then we hope that a good fraction of the suggestions tendered here will have been implemented. Those which will have the highest priority have been given an asterisk.

1. SPECTRAL LINE

Eric is working on the package and hopes to have a good part of it swallowed by AIPS at the May 15, 1983 update. This effort has the highest priority. Further evolution and improvement of the package will await its use. Some points discussed in the meeting were:

a. Lack of labelling of third dimension in plots.
b. m/sec versus km/sec.
c. General use of blotch planes for analysis.
d. Pixel coordinates which do not change with subimaging.

2. APCLN

Continued work on alternative methods. Several good suggestions were made for improvement of APCLN:

a. Continue major cycle to NITER limit if less than about 20% increase in the cycle length.
b. Stop cleaning at the first negative component.

3. IMFIT (and SLFIT)

Modifications under way. Additional suggestions were:

a. Fit to a linear baseline as well as a zero level.
b. Be more intelligent about scaling of output.
c. Have a cutoff-level for fitting components.
d. More general fitting of non-Gaussians.
e. SLFIT could use polynomial functions for baseline fitting.

4 IMLOD

Very high priority to speed up this program. It is now about a factor of two faster. Some comments were made that it could be made a factor of ten faster based on the IMPS experience.

5. TV stuff

Nice TV development over the last several months. Some comments:

a. Need blotch plane generation and display for several applications.
b. IMPS-style TV fiddling popular at VLA. Can it be use in CV?
c. IIS to DICOMED link useful at VLA. Can it be implemented in CV?
d. TVHUE and TVMOVIE appear to have changed slightly during standardization. Look into this.

6. VLB-AIPS

AIPS self-cal is not being used for VLB because of the lack of antenna weighting capability. Couldn't a task be written which reweights a data point associated with an antenna? It is important that VLB people are comfortable with AIPS since it will probably be used for VLBA reductions.

7. DOCUMENTATION

No comments about COOKBOOK or EXPLAIN files. Remember, the deadline for your contribution to the EXPLAIN files is APRIL 15.

8. COMB

Needs a lot of detailed work in order to sort out lots of problems. There was not strong feeling that COMB was particularly slow and needed a major overhaul. Some problems were:

a. Use absolute levels as well as percentage levels for blanking.
b. Better handling of blanked pixels on input maps.
c. Some other software doesn't know what to do with blanked pixels.
d. Could speed up comb by a factor of two or so easily.
e. How to handle analysis which has more than two input maps, eg Rotation measure. Task RM exists for this. Does it still work? Perley will find out.
f. A verb which can store a header value in an accessible location could help users write COMB-like algorithms at the procedure level.
g. CORMS, a product of COMB, calculates an error map. Should this task be further tested and expanded? Not high priority.

9. SELF-CAL

Strong desires were expressed for:

a. Print out capability of gain solutions
b. Listing of goodness-of-fit parameter in order to tell if the self calibration has improved the data. This might save resorting, remapping and recleaning if many cases.
c. GNPLT should have default axis as scan number, not time.

Milder desires were expressed for:

a. 9290 component limit for the clean model.
b. Only use positive clean components for model.

10. CLEAN COMPONENTS

Need concatenation and editing capability of CLEAN components file. The AIPS group was planning to implement a general sorting, merging, editing capability for all table type files, which include clean components. However, people were worried that this more ambitious scheme would be delayed too long. With concatenation capability the 32000 component limit was acceptable although Pat Crane has an example of a source where this limit was still unacceptable.

11. GEOM

The general purpose GEOM program for map interpolation should be generalized for large rotations on large maps. This task is very useful for spectral line work so it should work on cubes.

12. TEMPLATE TASKS

There was much enthusiasm for a template task which dealt in some generality with maps. Such a task would hide most of the odious I/O details from the user and allow astronomers to write experimental programs much more easily than at the present time. Arnold Rots has a template task which may be acceptable after some modification and additional documentation.

13. OTHER SOFTWARE

Other software which users felt were needed in the near future is:

a. Subtraction of Gaussian models from a map.
b. Semi-automatic program to search for and fit sources on a crowded map.
c. Generation of a zoo of useful model sources; such as wedges, slopes.
d. Use of IMEAN over arbitrary areas given by a blotch plane
e. Surface brightness routines. Useful for optical work.