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The following is a list of AIPS-related items which are currently affecting the development of UVFITS at the VLA.

1- Block length for 6250bpi tapes.

At present there is only one FITS standard block length, namely 2880 characters. It was expected that the standard would be updated by allowing a longer block (say 4 times as long) for tapes written at 6250bpi. The UVFITS program offers the longer block length as an option but the AIPS program which reads the tape cannot handle it.

Note that, from the point of view of the pipeline, the big advantage of the longer block length is NOT the saving in tape but the reduced number of I/O commands necessary to write the tape. The longer block length speeds things up by about 10-20%.

2- Standard tape labels.

Standard tape labels are acceptable under the FITS rubric. The VLA has decided (for good reasons that need not be discussed here) that labelled tapes should be used wherever possible. The AIPS program that reads UVFITS tapes cannot handle labelled tapes at this time. (For that reason the UVFITS program does not yet contain code to write standard labels - the option is a dummy!)

3- Two IF pairs.

Continuum databases in the pipeline contain data for both the AC and the BD IFs in each visibility record. The UVFITS program writes both on tape. The AIPS program to read the tape does not seem to be able to handle the BD data. (It may not even be able to handle the AC data when it is written in this format - Ed Fomalont has not yet tested this.) Databases written from the DEC10 contain only 2 IF's at a time i.e. the complete dataset must be written as two files. The AIPS programs do not seem to have the ability to distinguish between the two files nor to be able to combine them properly.

4- Baseline definition.

The AIPS expectation for baseline values differs from the pipeline standard. UVFITS does change the format of these values to conform to the AIPS expectation but this conversion (carried out in the PDP11 rather than in the AP) slows the program needlessly.

5- Terminology.

Several of the messages seen by the AIPS user of databases which have been loaded from UVFITS tapes refer to "MAPS". This is inappropriate for the data and could easily confuse the user.

6- Gain tables.

A UVFITS program module has been written to read from the AP the gain tables that were used in calibrating the data. At present we await a FITS standard for writing such tables on tape. The AIPS program that reads the UVFITS tape will probably need to recognize and read such tables.

7- Sort Order.

AIPS programs do not seem to recognize pigeonhole sorting as the data order on UVFITS tapes.

8- Cubes.

Spectral line data in the pipeline is organized in 8-channel groups. Data for each group is in a separate file. The UVFITS tape will likewise always write spectral line data in 8-channel groups. It would probably be useful to have an AIPS program that can merge several such files into a larger n-channel cube.

9- General.

It might be useful to distribute a list of the most commonly used keywords that are encountered in FITS or UVFITS header records. The lists included in the published papers thatr define FITS seem to be rather incomplete at this time.