

INTERFEROMETER TAPE MASTER FILES

B. G. Clark

(January 5, 1965)

I am in the process of getting the interferometer output cards stacked on magnetic tape. In order to facilitate the use of these tape master files, and to allow for comments and suggestions from other members of the group, I am setting forth the tape format I propose to use.

The data, for maximum convenience in use and efficiency of storage, will be written in 121 word blocks. They will be read by statements

DIMENSION DATA (10,12)

READ (i) KEY, DATA

or the equivalent.

The cards from each telescope tape will be prefaced by a block giving the parameters used for reduction. For the first record KEY = 1, and the format is given below.

I	DATA (I,1)
1	Number of records in last telescope tape + 1
2	Telescope tape number
3	B_1
4	B_2
5	B_3

6	h + π (in radians)
7	Clock correction
8	Date (BCD)
9,10	Spaces for future use

The number of records in the last telescope tape is included so that a series of statements

```
N = DATA (I,1)
DO 1 I DUMMY = 1,N
1 BACKSPACE i
```

will return to the header block of the data block just passed.

DATA (I,2) will also be spaces for the recording of other data not now taken. DATA (I,3) will contain 60 characters of comments, which, for the moment, will be put in blank at the initial loading. DATA (I,J) for J>3 will record the modification history of the data following.

Since one of the great advantages of having these things on mag tape is that one may run modification programs, which read the data and modify it, for instance to correct for wrong baseline parameters, and then rewrite it in the original space, it becomes highly desirable, if not absolutely necessary, to keep track of what program has been applied to what data. The simplest way to do this is to give each modification program a six character name, which is written in the first non-blank word of DATA (I,J) J>3 in this header record. These words are reserved for this purpose.

Following this record, there are as many records as necessary with KEY = 2, which will contain the source catalogue used for the fringe reduction. Their format will be as follows:

I	DATA (I,J)
1	Source number in floating point
2	RA in radians
3	Dec in radians
4	Epoch in years AD
5- 10	0

where the right ascension and declination are the apparent source positions on the date of observation.

The data will then follow in blocks with KEY = 3. The format will be

I	DATA (I,J)
1	Source number in floating point
2	Hour angle in radians
3	Amplitude
4	Phase
5	u
6	v
7	RMS deviation of the data points
8,9,10	Spaces for future use, or for the use of the modification programs

In order to avoid loss of data and to keep track of what has been done, several precautions should be taken.

- 1) Whenever a modification program changes the reduction parameters or source positions, these should also be changed in the header block.
- 2) Master file modification programs should be carefully checked on scratch tapes before use to avoid destroying data.
- 3) After any substantial change (i.e. one which could alter the output) is made in a modification program, its name should be changed.
- 4) A fortran listing of any modification program should be on file in some central location before it is applied to the file tape.