

**Working Group on Astronomical Software
Annual Report – DRAFT
Submitted by R. J. Hanisch, Chair
15 April 1993**

This report covers the period from June 1992 (after the Columbus AAS Meeting) through June 1993 (including the Berkeley meeting).

WGAS members continued their participation in the NASA/Science Office of Standards and Technology FITS Technical Panel, whose charter was to codify the existing FITS standards in a manner acceptable as a formal NASA standard. The committee is chaired by R. J. Hanisch. All work on the proposed standard was completed in the winter of 1992 following a period of public review and comment. The standard has now been reviewed by NASA's accreditation panel and been approved for acceptance as a NASA standard. It is expected that the WGAS, European FITS Committee, and ultimately the IAU Commission 5 FITS Working Group will approve the NASA document as the official FITS standard, superseding the various FITS papers that have been published separately.

At the winter 1993 (Phoenix) Council meeting, the WGAS FITS Committee was authorized to vote on extensions and modifications to the FITS standard on behalf of the Society. The WGAS FITS Committee has been constituted to include broad representation in the user community, with representatives from the major astronomical software groups, major observatories, and end-users. The membership of this committee is as follows:

Don Wells, NRAO (Chair)	dwells@nrao.edu
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Preben Grosbol, ESO, IAU (non-voting)	pgrosbol@eso.org

In April the WGAS FITS Committee had its first serious business to consider: voting on an agreement on blocking standards for media other than $\frac{1}{2}$ -inch 9-track magnetic tape, and approval of two

new FITS extensions – binary tables (`BINTABLE`) and images (`IMAGE`). Don Wells, chair of the WGAS FITS Committee, announced a call for votes on these proposals on 7 April 1993. On 1 June 1993 Don announced the results: a unanimous vote, 20–0, in favor of all three proposals. The European FITS Committee had already approved these proposals, originally in April 1992 with a reaffirmation in April 1993. The Japanese FITS Committee, chaired by Shiro Nishimura, reported its approval of all three proposals on 19 June 1993. These proposals will now be considered by the IAU FITS Committee, hopefully in time for consideration by the IAU General Assembly in The Hague.

A WAIS server for FITS documents has now been established on host `fits.cv.nrao.edu` [192.33.115.8] which allows users to search the FITS literature (standards documents, source code, test data sets, and the archive of the FITS mail exploder and `sci.astro.fits` newsgroup postings. These files may also be accessed directly with FTP (for example, look under `fits/documents/standards` for a copy of the NASA FITS Standard, and under `fits/documents/proposals` for the text of the three approved proposals mentioned above.

Following on the success of the First Astronomical Data Analysis Software and Systems (ADASS) conference (Tucson, October 1991), a second ADASS conference was held in Boston in November 1992. Attendance was again well over 300, with over 100 papers presented. ADASS III will be held in Victoria, BC, in October 1993, and ADASS IV is currently be planned for Baltimore in late September 1994.

A special interest group meeting on world coordinate systems in FITS was held during ADASS II. This meeting led to the development of a draft proposal for handling coordinates in FITS, compiled by Eric Greisen (NRAO) and Mark Calabretta (ATNF), which supercedes the draft prepared several years earlier by Hanisch and Wells. The document has been distributed by FTP and was discussed further at the Berkeley WGAS meeting. We hope to move forward with an agreement on a standard notation for standard sky projection geometries as quickly as possible.

The Berkeley WGAS meeting consisted of a morning session with contributed papers and status reports and an afternoon business session dealing primarily with FITS issues. Barry Schlesinger gave a status report on the activities of the NASA FITS Support Office at GSFC. In addition to the work on the NASA FITS document, Barry's office is developing a FITS verification program and FITS User's Guide. Initial copies of both are available from the FITS Support Office (`fits@nssdc.gsfc.nasa.gov`). Don Wells presented the annual FITS status report, and led the discussions regarding several new issues. A proposal has been put forward by Bill Pence and Arnold Rots that would allow string-valued keywords to extend over multiple card images. Several people expressed concern about this proposal, at the same time recognizing the occasional need for long text strings. Discussion is likely to continue at the January 1994 WGAS business meeting.