

Annual Report, 2003
Working Group on Astronomical Software

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The primary role of the AAS Working Group on Astronomical Software is to function as the body which formulates, reviews, and endorses modifications to the FITS data format standard. There has been substantial activity in this area in the past year.

After a decade of work, the papers describing a general framework for the encoding of World Coordinate Systems (WCS) and, in particular, celestial coordinates, were approved by the regional FITS committees and accepted for publication in *Astronomy and Astrophysics*. This is a monumental achievement, as these papers are complex and the process by which agreement was reached required extensive negotiation and discussion. Eric Greisen (NRAO) and Mark Calabretta (ATNF) are to be commended for their diligent work on these papers.

Paper I: “Representations of world coordinates in FITS,” Eric W. Greisen and Mark R. Calabretta, *A&A* 395, 1059–1073 (2002)

Paper II: “Representations of celestial coordinates in FITS,” Mark R. Calabretta and Eric W. Greisen, *A&A* 395, 1075–1120 (2002)

In addition, substantial progress has been made on Paper III (“Representations of spectral coordinates in FITS,” by E. Greisen, F. Valdes, M. Calabretta, and S. Allen), which describes spectral dispersion relations. This paper is being discussed within the community and will likely move forward to formal review in the FITS committees in the coming few months.

The WGAS FITS Committee has been chaired for many years by Dr. Peter Teuben (University of Maryland). In September 2002 I appointed Dr. Arnold Rots (SAO) to succeed Peter. I wish to thank Peter for his service in this role, and look forward to working with Arnold in the future.

The WGAS FITS Committee is now working through a number of proposals that had taken a back seat during the WCS negotiations. In October a vote was called on elevating Appendices B.1 (variable length arrays in binary tables) and B.2 (multi-dimensional arrays in binary tables) to full incorporation in the standard. This was approved on November 13, 2002 with 17 yes votes, 0 no votes, and 1 non-response. This proposal has been forwarded to the European and Japanese FITS Committees for their consideration.

Discussion is now underway concerning a check-sum proposal submitted by R. Seaman (NOAO), A. Rots (SAO), and W. Pence (NASA-GSFC).