

Annual Report, 2006
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 that serves the North American community in formulating, reviewing, and endorsing modifications to the FITS data format standard. The WGAS FITS Committee (WFC) serves as one of four regional FITS standards committees, operating under the IAU FITS Working Group. Dr. Arnold Rots (SAO/CXC) chairs the WFC. There has been substantial activity in this area in the past year.

The four committee resignations in April 2005 that were reported on last year (Archibald Warnock, William Lupton, Robert Kibrick, and Jeffrey Percival) were succeeded by the induction of two new members: Colin Aspin (Gemini) and Rob Seaman (NOAO). The committee now has 16 voting members.

In concert with the other three regional committees, the WGAS FITS Committee voted on three proposals during the past year.

- In June 2005 the WFC approved the WCS Paper III (“Representations of spectral coordinates in FITS,” by E. Greisen (NRAO), F. Valdes (NOAO), M. Calabretta (ATNF), and S. Allen (UCO/Lick)), which describes spectral dispersion relations. There were 15 votes in favor, none against, and one abstention. The proposal was subsequently approved by the IAU FITS Working Group.
- In September 2005 the WFC approved all four components of a proposal introducing the use of 64-bit integers. The first three components provide for support of 64-bit integers in FITS primary arrays (BITPIX=64), FITS binary tables (type ‘Q’ descriptors, effectively increasing the size of variable length arrays), and FITS binary table columns themselves (TFORMn = ‘K’). These three proposals received 13 votes in favor, none against, and no abstentions, with three committee members not voting. These components subsequently cleared the IAU FITS Working Group as well. The last component, dealing with a redefinition of ‘P’ descriptors passed as well, receiving 11 votes in favor, two abstentions, none opposed, with three non-votes; however, this component did not receive the required majority in the IAU FWG.

- In February 2006 the WFC approved the HEALPix proposal by M. Calabretta (ATNF) and B. Roukema (TCA/NCA, Toruń), with 15 votes in favor, none opposed, and one abstention. The IAU FWG approved this proposal on 26 April 2006.

The efforts by S. Allen (UCO/Lick) and D. Wells (retired) to formally reserve FITS MIME (Multipurpose Internet Mail Extension) types with the Internet Engineering Task Force (IETF) have borne fruit: the IETF has approved the proposed standard which is known as RFC 4047. MIME types, such as filename extensions .gif, .jpg, .doc, etc., are used so that computers know which programs to use to interpret files. The IETF is the standards body that reviews and approves all MIME type definitions. RFC 4047 reserves MIME types application/fits and image/fits.