

Summary of Changes

The changes fall into the following categories:

1. Wrong sign in the ANSI C function iauTdbtcb corrected.
2. Update DAT release year.
3. Implementation of four new routines that have been added to the Star Catalog Conversions section dealing with the transformation between the FK4 and the FK5 reference systems. These routines have been included partly for completeness but mainly so that positions in publications pre-1984 can be properly handled. They cover conversions between B1950.0 FK4 and J2000.0 FK5, with and without proper motion.
4. Enhancement of 17 routines that compare the two components of given date/time arguments to minimize rounding errors, so that optimum results are achieved even when one of the arguments is negative. (SOFA is grateful to the Astropy group for drawing attention to the deficiency.)
5. Due to introducing these new routines, the Astrometry Tools Cookbook, the test program and other supporting files have also been updated.
6. Miscellaneous typographical corrections and improvements to various other documents.

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FORTRAN 77 Library

1. iau_DAT Year
2. iau_FK425 Convert B1950.0 FK4 star catalog data to J2000.0 FK5.
 iau_FK524 Convert J2000.0 FK5 star catalog data to B1950.0 FK4.
 iau_FK45Z Convert a B1950.0 FK4 star position to J2000.0 FK5,
 assuming zero proper motion in the FK5 system.
 iau_FK54Z Convert a J2000.0 FK5 star position to B1950.0 FK4,
 assuming zero proper motion in FK5 and zero parallax.
3. iau_JD2CAL In all these routines the Fortran function ABS was
 iau_JD2CALF included when comparing the two argument data/time
 iau_TAI parameter.
 iau_TAIUT1
 iau_TAIUTC
 iau_TCBTDB
 iau_TCGTT
 iau_TDBTCB
 iau_TDBTT
 iau_TTTAI
 iau_TTTTCG
 iau_TTTDB
 IAU_TTUT1
 iau_UT1TAI
 iau_UT1TT
 iau_UT1UTC
 iau_UTCTAI
4. t_sofa_f.for Addition of new routines.

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ANSI C Library

1. iauTdbtcb.c Replace
 *tcbl = f - (d - (f - t77tf)) * elbb;

