ADAS Subroutine e6coll

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      SUBROUTINE E6COLL (IUNT20, FILC, DSFULL, ELEM, IZ,
     &                   ISTRN, MAXT, APWLO , SWLO  ,
     &                   TOA, GFTOA)
C-----------------------------------------------------------------------
C
C  ****************** FORTRAN77 SUBROUTINE: E6COLL *********************
C
C  PURPOSE:  TO STORE SELECTED GFT INTO A COLLECTION FILE.
C
C  CALLING PROGRAM: ADAS506
C
C  SUBROUTINE:
C
C  INPUT : (I*4)  IUNIT20  =  UNIT NUMBER FOR COLLECTION FILE
C  INPUT : (C*80) FILC     =  COLLECTION FILENAME
C  INPUT : (C*80) DSFULL   =  INPUT DATA SET NAME
C  INPUT : (C*2)  ELEM     =  ELEMENT SYMBOL.
C  INPUT : (I*4)  IZ       =  RECOMBINED ION CHARGE
C  INPUT : (I*4)  ISTRN    =  SELECTED TRANSITION INDEX
C  INPUT : (I*4)  MAXT     =  NUMBER OF ISPF ENTERED TEMPERATURE VALUES.
C  INPUT : (R*8)  APWLO    =  SELECTED APPROXIMATE WAVELENGTHS (A)
C  INPUT : (R*8)  SWLO     =  SELECTED EXACT WAVELENGTHS (A)
C  INPUT : (R*8)  TOA()    =  ISPF ENTERED TEMPERATURES (kelvin)
C  INPUT : (R*8)  GFTOA()  =  SPLINE INTEROPLATED GFT VALUE AT 'TOA()'
C
C          (I*4)  NTRAN    =  NUMBER OF G(T) FUNCTION IN FINAL COLL. FILE
C          (R*8)  TX(,)    =  STORED TEMPERATURE FROM OLD COLLECTION FILE
C          (R*8)  GFTX(,)  =  STORED G(T) FROM OLD COLLECTION FILE
C          (C*2)  ELEMC()  =  ELEMENT SYMBOL READ FROM COLL FILE
C          (I*4)  IZC()    =  RECOMBINED ION CHARGE READ FROM COLL FILE
C          (I*4)  ISTRNC() =  TRANSITION INDEX FROM COLL FILE
C          (I*4)  NG()     =  NUMBER OF DATA POINTS FOR G(T) IN COLL FILE
C          (L*4)  LFEXST   = .TRUE. COLLECTION FILE EXISTS
C
C
C ROUTINES:
C          ROUTINE    SOURCE    BRIEF DESCRIPTION
C          ------------------------------------------------------------
C          I4UNIT     ADAS      FETCH UNIT NUMBER FOR OUTPUT OF MESSAGES
C          R8FCTN     ADAS      CONVERTS FROM CHARACTER TO REAL VARIABLE
C          I4FCTN     ADAS      CONVERTS CHARACTER STRING TO INTEGER
C          I4EIZ0     ADAS      RETURNS Z0 FOR GIVEN ELEMENT SYMBOL
C
C AUTHOR  : Alessandro Lanzafame, University of Strathclyde
C
C DATE:    june06-95
C
C UPDATE:
C VERSION: 1.2 DATE: 09-11-95
C MODIFIED: Alessandro Lanzafame
C           - MTRAN: 100 -> 300
C             MTEMP: 100 -> 101
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C
C VERSION       1.3             DATE:   31-05-96
C MODIFIED: Alessandro Lanzafame
C           - MTRAN: 300 -> 800
C
C VERSION       1.4             DATE:   13-10-99
C MODIFIED: Martin O'Mullane
C           - Replace format statements 1004 and 1005. Not all
C             compilers can use dynamically created format statements.
C
C VERSION       1.5             DATE:   08-07-02
C MODIFIED: Richard Martin
C           - Fixed format statements introduced in 1.4 to work on SUN's
C
C-----------------------------------------------------------------------
      CHARACTER*80        DSFULL
      CHARACTER*2         ELEM
      CHARACTER*80        FILC
      INTEGER             ISTRN,       IUNT20,      IZ,          MAXT
      REAL*8              APWLO,       GFTOA(*),    SWLO,        TOA(*)
```