ADAS Subroutine b1tran

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       SUBROUTINE B1TRAN( NDLEV  , NDTRN  , NDTEM ,
     &                    IL     , ISTRN  , NV    ,
     &                    IA     , WA     , XJA   ,
     &                    I1A    , I2A    , AVAL  , SCOM ,
     &                    IUPPER , ILOWER ,
     &                    LUPPER , LLOWER ,
     &                    WUPPER , WLOWER ,
     &                    EUPPER , ELOWER ,
     &                    AA     , GAMMA
     &                  )
C-----------------------------------------------------------------------
C
C  ****************** FORTRAN77 SUBROUTINE: B1TRAN *********************
C
C  PURPOSE:  TO SET UP SELECTED TRANSITION PARAMETERS.
C
C  CALLING PROGRAM: ADAS201
C
C  SUBROUTINE:
C
C  INPUT : (I*4)  NDLEV   = MAXIMUM NUMBER OF INDEX LEVELS
C  INPUT : (I*4)  NDTRN   = MAXIMUM NUMBER OF TRANSITIONS
C  INPUT : (I*4)  NDTEM   = MAXIMUM NUMBER OF INPUT FILE TEMPERATURES
C
C  INPUT : (I*4)  IL      = NUMBER OF INDEX LEVELS
C  INPUT : (I*4)  ISTRN   = SELECTED TRANSITION INDEX.
C  INPUT : (I*4)  NV      = INPUT DATA FILE: NUMBER OF GAMMA/TEMPERATURE
C                           PAIRS FOR THE SELECTED TRANSITION.
C
C  INPUT : (I*4)  IA()    = LEVEL INDEX NUMBER ARRAY
C  INPUT : (R*8)  WA()    = LEVEL ENERGIES RELATIVE TO LEVEL 1 (CM-1)
C  INPUT : (R*8)  XJA()   = QUANTUM NUMBER (J-VALUE) FOR LEVEL
C                           NOTE: (2*XJA)+1 = STATISTICAL WEIGHT
C
C  INPUT : (I*4)  I1A()   = LOWER LEVEL INDEX FOR ELECTRON IMPACT
C                           TRANSITION
C  INPUT : (I*4)  I2A()   = UPPER LEVEL INDEX FOR ELECTRON IMPACT
C                           TRANSITION
C  INPUT : (I*4)  AVAL()  = A-VALUE FOR ELECTRON IMPACT TRANSITION
C  INPUT : (I*4)  SCOM(,) = GAMMA VALUES FOR ELECTRON IMPACT TRANSITION
C                            1st DIMENSION: TEMPERATURE INDEX
C                            2nd DIMENSION: TRANSITION INDEX
C
C  OUTPUT: (I*4)  IUPPER  = SELECTED TRANSITION: UPPER LEVEL ARRAY INDEX
C  OUTPUT: (I*4)  ILOWER  = SELECTED TRANSITION: LOWER LEVEL ARRAY INDEX
C
C
C  OUTPUT: (I*4)  LUPPER  = SELECTED TRANSITION: UPPER INDEX LEVEL
C  OUTPUT: (I*4)  LLOWER  = SELECTED TRANSITION: LOWER INDEX LEVEL
C
C  OUTPUT: (R*8)  WUPPER  = SELECTED TRANSITION: UPPER LEVEL STAT. WT.
C  OUTPUT: (R*8)  WLOWER  = SELECTED TRANSITION: LOWER LEVEL STAR. WT.
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C                           (NOTE: STAT. WT. = STATISTICAL WEIGHT)
C
C  OUTPUT: (R*8)  EUPPER  = SELECTED TRANSITION: UPPER ENERGY LEVEL
C                           RELATIVE TO INDEX LEVEL 1. (CM-1)
C  OUTPUT: (R*8)  ELOWER  = SELECTED TRANSITION: LOWER ENERGY LEVEL
C                           RELATIVE TO INDEX LEVEL 1. (CM-1)
C
C  OUTPUT: (R*8)  GAMMA() = INPUT DATA FILE: SELECTED TRANSITION -
C                                            GAMMA VALUE AT 'TEMP()'
C  OUTPUT: (R*8)  AA      = SELECTED TRANSITION A-VALUE (SEC-1)
C
C          (I*4)  I       = GENERAL USE.
C
C ROUTINES: NONE
C
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C          K1/0/81
C          JET EXT. 4569
C
C DATE:    09/10/90
C
C-----------------------------------------------------------------------
C-----------------------------------------------------------------------
      INTEGER             I1A(NDTRN),  I2A(NDTRN),  IA(NDLEV),   IL
      INTEGER             ILOWER,      ISTRN,       IUPPER,      LLOWER
      INTEGER             LUPPER,      NDLEV,       NDTEM,       NDTRN
      INTEGER             NV
      REAL*8              AA,          AVAL(NDTRN), ELOWER,      EUPPER
      REAL*8              GAMMA(NDTEM),             SCOM(NDTEM,NDTRN)
      REAL*8              WA(NDLEV),   WLOWER,      WUPPER
      REAL*8              XJA(NDLEV)
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