ADAS Subroutine b6loss

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C
      SUBROUTINE B6LOSS( NDTRN  , NDLEV  ,
     &                   ICNTE  , ISTRN  ,
     &                   XJA    , ER     , AVAL  ,
     &                   IE1A   , IE2A   ,
     &                   SLOSS  , TLOSS
     &                 )
C-----------------------------------------------------------------------
C
C  ****************** FORTRAN77 SUBROUTINE: B6LOSS *********************
C
C  PURPOSE: TO CALCULATE THE DIRECT LINE POWER LOSS FOR EACH LEVEL AND
C           FOR THE SPECIFIC LINE POWER TRANSITION GIVEN BY 'ISTRN'.
C
C  CALLING PROGRAM:  ADAS206
C
C  SUBROUTINE:
C
C  INPUT :  (I*4)  NDTRN   = MAXIMUM NUMBER OF TRANSITIONS ALLOWED
C  INPUT :  (I*4)  NDLEV   = MAXIMUM NUMBER OF ENERGY LEVELS ALLOWED
C
C  INPUT :  (I*4)  ICNTE   = NUMBER OF ELERCTRON IMPACT TRANSITIONS
C  INPUT :  (I*4)  ISTRN   = SPECIFIC LINE POWER: SELECTED ELECTRON
C                            IMPACT TRANSITION INDEX. (FOR USE WITH
C                            'IE1A()' , 'IE2A()' AND 'AA()' ARRAYS)
C
C
C  INPUT :  (R*8)  XJA()   = QUANTUM NUMBER (J-VALUE) FOR GIVEN LEVEL.
C                            NOTE: (2*XJA)+1 = STATISTICAL WEIGHT
C  INPUT :  (R*8)  ER()    = ENERGY RELATIVE TO LEVEL 1 (RYDBERGS)
C                            DIMENSION: ENERGY LEVEL.
C  INPUT :  (R*8)  AVAL()  = ELECTRON IMPACT TRANSITION: A-VALUE (SEC-1)
C                            DIMENSION: ENERGY LEVEL.
C
C  INPUT :  (I*4)  IE1A()  = ELECTRON IMPACT TRANSITION:
C                            LOWER ENERGY LEVEL INDEX
C  INPUT :  (I*4)  IE2A()  = ELECTRON IMPACT TRANSITION:
C                            UPPER ENERGY LEVEL INDEX
C
C  OUTPUT:  (R*8)  SLOSS    = DIRECT LINE POWER LOSS FOR SPECIFIC LINE
C                             POWER TRANSITION GIVEN BY 'ISTRN'.
C                             (UNITS: ERGS SEC-1)
C  OUTPUT:  (R*8)  TLOSS()  = DIRECT LINE POWER LOSS FOR EACH LEVEL.
C                             (UNITS: ERGS SEC-1)
C                             DIMENSION: LEVEL INDEX
C
C           (R*8)  R2LOSS  = PARAMETER = EQUATION CONSTANT = 2.17958D-11
C                            (CONVERTS RYDBERGS/SEC TO ERGS/SEC)
C
C           (I*4)  LLOWER  = SELECTED ELECTRON IMPACT TRANSITION:
C                            LOWER ENERGY LEVEL INDEX
C           (I*4)  LUPPER  = SELECTED ELECTRON IMPACT TRANSITION:
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C                            UPPER ENERGY LEVEL INDEX
C           (I*4)  IC      = TRANSITION ARRAY INDEX
C
C
C ROUTINES:  NONE
C
C NOTES:
C            EQUATIONS USED -
C
C            FOR EACH TRANSITION - DIRECT LINE POWER LOSS IS GIVEN BY:
C
C            LOSS  = 'R2LOSS' x AVALUE x (ENERGY DIFFERENCE)
C
C
C AUTHOR:  PAUL E. BRIDEN (TESSELLA SUPPORT SERVICES PLC)
C          K1/0/37
C          JET EXT. 5023
C
C DATE:    09/10/90
C
C UPDATE:  29/07/92 - CORRECT ERROR - ZERO TLOSS OVER NDLEV INSTEAD OF
C                                     ICNTE.
C
C UNIX-IDL PORT:
C
C DATE: UNKNOWN
C
C AUTHOR: DAVID H BROOKS, UNIVERSITY OF STRATHCLYDE
C
C**********************************************************************
C PUT UNDER SCCS CONTROL:
C
C DATE:    10-05-96
C
C VERSION: 1.1
C MODIFIED: WILLIAM OSBORN (TESSELLA SUPPORT SERVICES PLC)
C     - FIRST PUT UNDER SCCS
C
C-----------------------------------------------------------------------
C
C-----------------------------------------------------------------------
      INTEGER             ICNTE,       IE1A(NDTRN), IE2A(NDTRN), ISTRN
      INTEGER             NDLEV,       NDTRN
      REAL*8              AVAL(NDTRN), ER(NDLEV),   SLOSS
      REAL*8              TLOSS(NDLEV),             XJA(NDLEV)
```