ADAS Subroutine xxdata_08

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       SUBROUTINE XXDATA_08( IUNIT  , NDPRT  , NDLEV , NDT   ,
     &                       SEQSYM , IZ     , IZ0   , IZ1   ,
     &                       NPRNT  , NPRNTI , BWNP  ,
     &                       IPA    , CSTRPA , ISPA  , ILPA  , XJPA  ,
     &                       WPA    ,
     &                       IL     , BWNR   ,
     &                       IA     , CSTRGA , ISA   , ILA   , XJA   ,
     &                       WA     ,
     &                       IPRTI  , TPRTI  , ISPRTI, RADR  , LRADR ,
     &                       NTE    , TEA
     &                     )
C-----------------------------------------------------------------------
C
C  ****************** FORTRAN77 SUBROUTINE: XXDATA_08 ******************
C
C  PURPOSE:  TO FETCH DATA FROM INPUT ADF08 DATA SET.
C
C  CALLING PROGRAM: ADAS411
C
C
C  SUBROUTINE:
C
C  INPUT : (I*4)  IUNIT   = UNIT TO WHICH INPUT FILE IS ALLOCATED
C
C  INPUT : (I*4)  NDPRT   = MAXIMUM NUMBER OF PARENT STATES
C  INPUT : (I*4)  NDLEV   = MAXIMUM NUMBER OF RESOLVED LEVELS
C  INPUT : (I*4)  NDT     = MAX. NUMBER OF ELECTRON TEMPERATURES
C
C  OUTPUT: (C*2)  SEQSYM  = RECOMBINED ION SEQ
C  OUTPUT: (I*4)  IZ      = RECOMBINED ION CHARGE
C  OUTPUT: (I*4)  IZ0     = NUCLEAR CHARGE
C  OUTPUT: (I*4)  IZ1     = RECOMBINING ION CHARGE
C  OUTPUT: (I*4)  NPRNT   = TOTAL NUMBER OF PARENTS
C  OUTPUT: (I*4)  NPRNTI  = NUMBER OF PARENTS WHICH ARE INITIAL PARENTS
C  OUTPUT: (R*8)  BWNP    = BINDING WAVE NO. OF GROUND PARENT (CM-1)
C  OUTPUT: (I*4)  IPA()   = NUMBER OF PARENT ENERGY LEVELS
C  OUTPUT: (C*18) CSTRPA()= NOMENCL./CONFIG. FOR PARENT LEVEL 'IPA()'
C  OUTPUT: (I*4)  ISPA()  = MULTIPLICITY FOR PARENT LEVEL 'IPA()'
C                           NOTE: (ISPA-1)/2 = QUANTUM NUMBER (SP)
C  OUTPUT: (I*4)  ILPA()  = QUANTUM NUMBER (LP) FOR PARENT LEVEL 'IPA()'
C  OUTPUT: (R*8)  XJPA()  = QUANTUM NUMBER (JP) FOR PARENT LEVEL 'IPA()'
C                           NOTE: (2*XJPA)+1 = STATISTICAL WEIGHT
C  OUTPUT: (R*8)  WPA()   = ENERGY RELATIVE TO PARENT LEVEL 1 (CM-1)
C                           FOR PARENT LEVEL 'IPA()'
C
C  OUTPUT: (I*4)  IL      = NUMBER OF ENERGY LEVELS (TERMS) OF
C                           RECOMBINED ION
C  OUTPUT: (R*8)  BWNR    = IONISATION POTENTIAL (CM-1) OF LOWEST LEVEL
C                           OF RECOMBINED ION
C  OUTPUT: (I*4)  IA()    = RECOMBINED ION ENERGY LEVEL INDEX NUMBER
C  OUTPUT: (C*18) CSTRGA()= NOMENCL./CONFIG. FOR RECOMBINED ION LEVEL
C                           'IA()'
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C  OUTPUT: (I*4)  ISA()   = MULTIPLICITY FOR RECOMBINED LEVEL 'IA()'
C                          NOTE: (ISA-1)/2 = QUANTUM NUMBER (S)
C  OUTPUT: (I*4)  ILA()   = QUANTUM NUMBER (L) FOR RECOMBINED LEVEL
C                          'IA()'
C  OUTPUT: (R*8)  XJA()   = QUANTUM NUMBER (J) FOR RECOMBINED LEVEL
C                          'IA()'
C                          NOTE: (2*XJA)+1 = STATISTICAL WEIGHT
C  OUTPUT: (R*8)  WA()    = ENERGY RELATIVE TO RECOMBINED LEVEL 1 (CM-1)
C                          FOR RECOMBINED LEVEL 'IA()'
C  OUTPUT: (I*4)  IPRTI() = INITIAL PARENT BLOCK INDEX
C  OUTPUT: (C*5)  TPRTI() = INITIAL PARENT BLOCK TERM
C  OUTPUT: (I*4)  ISPRTI()= INITIAL PARENT BLOCK SPIN MULTIPLICITY
C  OUTPUT: (R*8)  TEA()   = ELECTRON TEMPERATURES (K)
C  OUTPUT: (R*8)  RADR(,,)= TERM SELECTIVE DIELEC. COEFFTS.(CM3 S-1)
C                          1ST.DIM: LEVEL INDEX
C                          2ND.DIM: INITIAL PARENT INDEX
C                          3RD.DIM: TEMPERATURE INDEX
C  OUTPUT: (L*4)  LRADR(,)= .TRUE. => DIEL. PRESENT FOR LEVEL INDEX
C                          .FALSE.=> DIEL. NOT PRESENT FOR LEVEL INDEX
C                          1ST.DIM: LEVEL INDEX
C                          2ND.DIM: INITIAL PARENT INDEX
C
C          (I*4)  INDX    = GENERAL INDEX
C          (I*4)  II      = GENERAL INDEX
C          (I*4)  I       = GENERAL INDEX
C          (I*4)  IPI     = GENERAL INDEX
C          (I*4)  IPF     = GENERAL INDEX
C          (I*4)  IPFS    = GENERAL INDEX
C          (I*4)  J       = GENERAL INDEX
C          (I*4)  K       = GENERAL INDEX
C
C          (L)    LDATA   = GENERAL READ/DO NOT READ FLAG
C          (L)    LNOPI   = FLAG TO DETERMINE WHETHER HAVE PASSED
C     INTO A NEW INITIAL PARENT BLOCK
C
C          (C*20) C20     = GENERAL CHARACTER STRING
C
C  ROUTINES:
C          ROUTINE    SOURCE    BRIEF DESCRIPTION
C          ------------------------------------------------------------
C          I4UNIT     ADAS      FETCH UNIT NUMBER FOR OUTPUT OF MESSAGES
C          I4EIZ0     ADAS      RETURNS NUCL. CHARGE FROM ELEMENT SYMBOL
C          R8FCTN     ADAS      CONVERTS FROM CHARACTER TO REAL VARIABLE
C          XXWORD     ADAS      EXTRACT POSITION OF NUMBER IN BUFFER
C
C  AUTHOR: H. P. SUMMERS, UNIVERSITY OF STRATHCLYDE
C          JA8.08
C          TEL. 0141-553-4196
C
C  DATE:    10/11/97
C
C  UPDATE:
C
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C VERSION: 1.1 DATE: 10-03-98
C MODIFIED: RICHARD MARTIN
C - PUT UNDER SCCS CONTROL
C
C-----------------------------------------------------------------------
C
C NOTES: Copied from dbdata.for. This is v1.1 of xxdata_08.
C
C VERSION  : 1.1
C DATE     : 27-03-2008
C MODIFIED : Allan Whiteford
C              - First version
C
C-----------------------------------------------------------------------
C-----------------------------------------------------------------------
      CHARACTER*(*)       CSTRGA(NDLEV),            CSTRPA(NDPRT)
      CHARACTER*2         SEQSYM
      CHARACTER*5         TPRTI(NDPRT)
      INTEGER             IA(NDLEV),   IL,          ILA(NDLEV)
      INTEGER             ILPA(NDPRT), IPA(NDPRT),  IPRTI(NDPRT)
      INTEGER             ISA(NDLEV),  ISPA(NDPRT), ISPRTI(NDPRT)
      INTEGER             IUNIT,       IZ,          IZ0,         IZ1
      INTEGER             NDLEV,       NDPRT,       NDT,         NPRNT
      INTEGER             NPRNTI,      NTE
      LOGICAL             LRADR(NDLEV,NDPRT)
      REAL*8              BWNP,        BWNR
      REAL*8              RADR(NDLEV,NDPRT,NDT),    TEA(NDT)
      REAL*8              WA(NDLEV),   WPA(NDPRT),  XJA(NDLEV)
      REAL*8              XJPA(NDPRT)
```