

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
&                      )

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C
C ***** FORTRAN77 SUBROUTINE: XXDATA_08 *****
C
C PURPOSE:  TO FETCH DATA FROM INPUT ADF08 DATA SET.
C
C CALLING PROGRAM: ADAS411
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. => DIELEC. PRESENT FOR LEVEL INDEX

 C .FALSE. => DIELEC. 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:

ROUTINE	SOURCE	BRIEF DESCRIPTION
I4UNIT	ADAS	FETCH UNIT NUMBER FOR OUTPUT OF MESSAGES
I4EIZ0	ADAS	RETURNS NUCL. CHARGE FROM ELEMENT SYMBOL
R8FCTN	ADAS	CONVERTS FROM CHARACTER TO REAL VARIABLE
XXWORD	ADAS	EXTRACT POSITION OF NUMBER IN BUFFER

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 C JA8.08

 C TEL. 0141-553-4196

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C DATE: 10/11/97

C UPDATE:

C

C VERSION: 1.1 DATE: 10-03-98
C MODIFIED: RICHARD MARTIN
C - PUT UNDER SCCS CONTROL

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C NOTES: Copied from dbdata.for. This is v1.1 of xxdata_08.

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C VERSION : 1.1

C DATE : 27-03-2008

C MODIFIED : Allan Whiteford

C - First version

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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, BWRN	
REAL*8	RADR (NDLEV, NDPRT, NDT) ,	TEA (NDT)
REAL*8	WA (NDLEV) , WPA (NDPRT) ,	XJA (NDLEV)
REAL*8	XJPA (NDPRT)	