ADAS Subroutine d7wr12

```
      SUBROUTINE D7WR12( IUNIT  , LWR12   ,
     &                   NDMET  , NDCONF  , NDORB   , NDBNDL  ,
     &                   CSELR  , CSELD   , CSELS   , CSELP   , CSELL  ,
     &                   IZ0    , IZ      , ISG     ,
     &                   ISPSYS , ITYPEA  , IZETA4  ,
     &                   NSYS   , NTRANS  , N0A     ,
     &                   NCTAA  , NZETA   , N1A     ,
     &                   Z1     , CI4     , EIONA   ,
     &                   PARMR  , PARMD   ,
     &                   IBNDL  ,
     &                   DEBNDL , FBNDL   , GBNDL   , PNLSA   ,
     &                   WVSPEC , IFSPEC  ,
     &                   DESPEC , FSPEC   , GSPEC   , SNLSA
     &                 )
C-----------------------------------------------------------------------
C
C  ******************** FORTRAN77 SUBROUTINE: D7WR12 ******************
C
C  PURPOSE:  TO OUTPUT DATA TO ATOMPARS PASSING FILE.
C            DATA  FOR INITIATING AN ADAS408 DATA PREPARATION RUN
C
C  CALLING PROGRAM: ADAS407
C
C
C  SUBROUTINE:
C
C  INPUT : (I*4)  IUNIT   = OUTPUT UNIT NUMBER FOR RESULTS
C
C
C          (I*4) I         = GENERAL USE
C          (I*4) ISG       = MULTIPLICITY OF GROUND STATE OF RECOMBINED
C                            ION
C          (I*4) ITYPDN()  = SPECIFIES DELTA N FOR TRANSITION TYPE (1-7)
C          (I*4) ITYPMZ()  = SPECIFIES MERTZ CORRECTION ON(1) OR OFF(0)
C                            FOR TRANSITION TYPE (1-7)
C
C NOTE:
C
C ROUTINES:
C          ROUTINE    SOURCE    BRIEF DESCRIPTION
C          ------------------------------------------------------------
C          D7LOTZ     ADAS      RETURNS THE LOTZ IONISATION PARAMETERS
C
C AUTHOR:  H. P. SUMMERS, JET
C          K1/1/57
C          JET EXT. 4941
C
C DATE:    01/07/94
C
C UNIX-IDL PORT:
C    WILLIAM OSBORN, TESSELLA SUPPORT SERVICES PLC.
C
```

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C DATE:    22ND APRIL 1996
C
C VERSION: 1.1 DATE: 22-04-96
C MODIFIED: WILLIAM OSBORN
C     - FIRST VERSION.
C
C VERSION: 1.2                          DATE: 13-05-96
C MODIFIED: TIM HAMMOND, TESSELLA SUPPORT SERVICES PLC.
C           - COMMENTED OUT REFERENCES TO VARIABLE IZO ('oh', not 'zero')
C
C VERSION: 1.3                                  DATE: 23-05-2003
C MODIFIED: Martin O'Mullane
C - Remove all unused variables and reduced length of
C                 parameter list.
C               - In cases where there is no spin system connection
C                 between adjacent ions force it to be ground. The
C                 proper solution is to use IC and not LS input files.
C
C-----------------------------------------------------------------------
      CHARACTER           CSELD,       CSELL,       CSELP,       CSELR
      CHARACTER           CSELS
      INTEGER             IBNDL,       IFSPEC(NDMET),            ISG
      INTEGER             ISPSYS(NDMET,2),          ITYPEA(NDMET,NDCONF)
      INTEGER             IUNIT,       IZ,          IZ0
      INTEGER             IZETA4(NDMET,2,NDORB),    N0A(NDMET,2)
      INTEGER             N1A(NDMET,NDCONF),        NCTAA(NDMET,NDCONF)
      INTEGER             NDBNDL,      NDCONF,      NDMET,       NDORB
      INTEGER             NSYS(NDMET), NTRANS(NDMET)
      INTEGER             NZETA(NDMET,2)
      LOGICAL             LWR12
      REAL*8              CI4,         DEBNDL(NDBNDL,NDMET)
      REAL*8              DESPEC(NDMET),            EIONA(NDMET,2,NDORB)
      REAL*8              FBNDL(NDBNDL,NDMET),      FSPEC(NDMET)
      REAL*8              GBNDL(NDBNDL,NDMET),      GSPEC(NDMET)
      REAL*8              PARMD(NDMET,10,NDCONF),   PARMR(NDMET,2,4)
      REAL*8              PNLSA(NDBNDL,NDMET),      SNLSA(NDMET)
      REAL*8              WVSPEC(NDMET),            Z1
```