

ADAS Subroutine xxdata_07

```
      SUBROUTINE XXDATA_07( IUNIT , DSNAME ,
&                          NSTORE , NTDIM ,
&                          ESYM   , IZ0   ,
&                          NBSEL  , ISELA ,
&                          IZ     , IZ1   ,
&                          CICODE , CFICODE , CIION , CFION ,
&                          BWNO   ,
&                          ITA    ,
&                          TETA   , SZD
&                          )
```

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C-----
C
C ***** FORTRAN77 SUBROUTINE: XXDATA_07 *****
C
C PURPOSE: TO FETCH DATA FROM INPUT ELECTRON IMPACT IONIZATION
C          RATE COEFFT FILES (ADF07)
C
C          (MEMBER STORED IN IONELEC.DATA - MEMBER PREFIX 'SZD#').
C
C CALLING PROGRAM: ADAS502/SSZD
C
C DATA:
C
C          UP TO 'NSTORE' SETS (DATA-BLOCKS) OF DATA MAY BE READ FROM
C          THE FILE - EACH BLOCK FORMING A COMPLETE SET OF IONIZATION
C          RATE COEFFICIENT VALUES FOR GIVEN TEMPERATURES.
C          EACH DATA-BLOCK IS ANALYSED INDEPENDENTLY OF ANY OTHER
C          DATA-BLOCK.
C
C          THE UNITS USED IN THE DATA FILE ARE TAKEN AS FOLLOWS:
C
C          TEMPERATURES      : EV
C          RATE COEFFT       : CM**3 SEC-1
C
C SUBROUTINE:
C
C INPUT : (I*4)  IUNIT      = UNIT TO WHICH INPUT FILE IS ALLOCATED.
C
C INPUT : (I*4)  NSTORE    = MAXIMUM NUMBER OF INPUT DATA-BLOCKS THAT
C                          CAN BE STORED.
C
C INPUT : (I*4)  NTDIM     = MAX NUMBER OF ELECTRON TEMPERATURES ALLOWED
C
C OUTPUT: (C*2)  ESYM      = READ - IONISING ION - ELEMENT SYMBOL
C
C OUTPUT: (I*4)  IZ0       = READ - IONISING ION - NUCLEAR CHARGE
C
C OUTPUT: (I*4)  NBSEL     = NUMBER OF DATA-BLOCKS ACCEPTED & READ IN.
C
C OUTPUT: (I*4)  ISELA()   = READ - DATA-SET DATA-BLOCK ENTRY INDICES
C                          DIMENSION: DATA-BLOCK INDEX
C
C OUTPUT: (I*4)  IZ ()     = READ - IONISING ION - INITIAL CHARGE
C                          DIMENSION: DATA-BLOCK INDEX
C
C OUTPUT: (I*4)  IZ1 ()   = READ - IONISING ION - FINAL CHARGE
```


C ROUTINES:

| C | ROUTINE | SOURCE | BRIEF DESCRIPTION |
|---|---------|--------|--|
| C | XXHKEY | ADAS | OBTAIN KEY/RESPONSE STRINGS FROM TEXT |
| C | I4EIZ0 | ADAS | INTEGER*4 FUNCTION - RETURNS Z0 FOR GIVEN ELEMENT SYMBOL |
| C | I4FCTN | ADAS | INTEGER*4 FUNCTION - CONVERT CHARACTER STRING TO INTEGER |
| C | I4UNIT | ADAS | INTEGER*4 FUNCTION - FETCH UNIT NUMBER FOR OUTPUT OF MESSAGES |
| C | R8FCTN | ADAS | REAL*8 FUNCTION - CONVERT CHARACTER STRING TO REAL*8 |
| C | XXCASE | ADAS | SWITCHES CASE |

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C K1/0/37
C JET EXT. 2520

C DATE: 07/06/91

C UPDATE: 23/04/93 - PE BRIDEN - ADAS91: ADDED I4UNIT FUNCTION TO WRITE
C STATEMENTS FOR SCREEN MESSAGES

C UPDATE: 24/05/93 - PE BRIDEN - ADAS91: CHANGED I4UNIT(0)-> I4UNIT(-1)

C UPDATE: 10/11/94 - L. JALOTA - MODIFIED TO RUN UNDER UNIX.

C NOTES: Copied from e2data.for. This is v1.1 of xxdata_07.

C VERSION : 1.1
C DATE : 26-03-2008
C MODIFIED : Allan Whiteford
C - First version

C VERSION : 1.2
C DATE : 21-05-2008
C MODIFIED : Martin O'Mullane
C - Permit lower case datasets for 2008 onwards data.
C - Extract iz0 from element symbol in first block.

| | | |
|--------------|-------------------|---------------------|
| CHARACTER*2 | CFCODE (NSTORE) | |
| CHARACTER*5 | CFION (NSTORE) | |
| CHARACTER*2 | CICODE (NSTORE) | |
| CHARACTER*5 | CIIION (NSTORE) | |
| CHARACTER*80 | DSNAME | |
| CHARACTER*2 | ESYM | |
| INTEGER | ISELA (NSTORE), | ITA (NSTORE), IUNIT |
| INTEGER | IZ (NSTORE), IZ0, | IZ1 (NSTORE), NBSEL |
| INTEGER | NSTORE, | NTDIM |
| REAL*8 | BWNO (NSTORE), | SZD (NTDIM, NSTORE) |

REAL*8

TETA (NTDIM,NSTORE)