

ADAS Subroutine xxdata_21

```
C
      SUBROUTINE xxdata_21( IUNIT , MXBE , MXTD , MXTT ,
&                          ITZ   , TSYM , BEREf , TDREF ,
&                          TTREF , SVREF , NBE  , BE   ,
&                          NTDENS , TDENS , NTTEMP , TTEMP ,
&                          SVT   , SVED  , DSNIN
&                          )
C-----
C
C ***** FORTRAN77 SUBROUTINE: xxdata_21 *****
C
C PURPOSE: TO READ DATA FROM AN EFFECTIVE BEAM STOPPING DATA SET.
C          (ADAS FORMAT ADF21).
C
C CALLING PROGRAM: SBMS / ADAS304
C
C SUBROUTINE:
C
C INPUT : (I*4)  IUNIT      = UNIT TO WHICH DATA SET IS CONNECTED.
C INPUT : (I*4)  MXBE       = MAXIMUM NUMBER OF BEAM ENERGIES WHICH CAN
C                          BE READ.
C INPUT : (I*4)  MXTD       = MAXIMUM NUMBER OF TARGET DENSITIES WHICH
C                          CAN BE READ.
C INPUT : (I*4)  MXTT       = MAXIMUM NUMBER OF TARGET TEMPERATURES
C                          WHICH CAN BE READ.
C INPUT : (C*80) DSNIN      = NAME OF FILE TO BE READ.
C OUTPUT: (I*4)  ITZ        = TARGET ION CHARGE.
C OUTPUT: (C*2)  TSYM       = TARGET ION ELEMENT SYMBOL.
C OUTPUT: (R*8)  BEREf      = REFERENCE BEAM ENERGY.
C                          UNITS: EV/AMU
C OUTPUT: (R*8)  TDREF      = REFERENCE TARGET DENSITY.
C                          UNITS: CM-3
C OUTPUT: (R*8)  TTREF      = REFERENCE TARGET TEMPERATURE.
C                          UNITS: EV
C OUTPUT: (R*8)  SVREF      = STOPPING COEFFT. AT REFERENCE BEAM ENERGY,
C                          TARGET DENSITY AND TEMPERATURE.
C                          UNITS: CM3 S-1
C OUTPUT: (I*4)  NBE        = NUMBER OF BEAM ENERGIES.
C OUTPUT: (R*8)  BE ( )    = BEAM ENERGIES.
C                          UNITS: EV/AMU
C                          DIMENSION: MXBE
C OUTPUT: (I*4)  NTDENS     = NUMBER OF TARGET DENSITIES.
C OUTPUT: (R*8)  TDENS ( ) = TARGET DENSITIES.
C                          UNITS: CM-3
C                          DIMENSION: MXTD
C OUTPUT: (I*4)  NTTEMP     = NUMBER OF TARGET TEMPERATURES.
C OUTPUT: (R*8)  TTEMP ( ) = TARGET TEMPERATURES.
C                          UNITS: EV
C                          DIMENSION: MXTT
C OUTPUT: (R*8)  SVT ( )    = STOPPING COEFFT. AT REFERENCE BEAM ENERGY
```

```

C          AND TARGET DENSITY.
C          UNITS: CM3 S-1
C          DIMENSION: MXTT
C OUTPUT: (R*8)  SVED(,)  = STOPPING COEFFT. AT REFERENCE TARGET
C          TEMPERATURE.
C          UNITS: CM3 S-1
C          1ST DIMENSION: MXBE
C          2ND DIMENSION: MXTD
C
C          (I*4)  I          = ARRAY / LOOP INDEX.
C          (I*4)  J          = ARRAY INDEX.
C
C          (C*80) LINE      = TEXT LINE IN DATA SET.
C
C ROUTINES:
C          ROUTINE      SOURCE      BRIEF DESCRIPTION
C          -----
C          I4UNIT      ADAS          RETURNS UNIT NO. FOR OUTPUT OF MESSAGES.
C
C AUTHOR:  JONATHAN NASH   (TESSELLA SUPPORT SERVICES PLC)
C          K1/0/87
C          JET EXT. 5183
C
C DATE:    07/12/93
C
C UNIX-IDL PORT:
C
C VERSION: 1.1                      DATE: 16-11-95
C MODIFIED: TIM HAMMOND (TESSELLA SUPPORT SERVICES PLC)
C          - FIRST VERSION
C
C-----
C
C NOTES: Copied from c4data.for. This is v1.1 of xxdata_21.
C
C
C VERSION   : 1.1
C DATE      : 06-02-2004
C MODIFIED  : Martin O'Mullane
C           - First version
C           - File unit is closed within the subroutine.
C
C-----
C
C-----
C          CHARACTER*80      DSNIN
C          CHARACTER*2       TSYM
C          INTEGER           ITZ,          IUNIT,          MXBE,          MXTD
C          INTEGER           MXTT,        NBE,            NTDENS,        NTTEMP
C          REAL*8            BE (MXBE),    BEREf,         SVED (MXBE, MXTD)
C          REAL*8            SVREF,        SVT (MXTT),    TDENS (MXTD), TDREF
C          REAL*8            TTEMP (MXTT), TTREF

```