

ADAS Subroutine c4data

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      SUBROUTINE C4DATA( IUNIT , MXBE , MXTD , MXTT ,  
&                       ITZ   , TSYM  , BEREf , TDREF ,  
&                       TTREF , SVREF , NBE   , BE    ,  
&                       NTDENS , TDENS  , NTTEMP , TTEMP ,  
&                       SVT   , SVED   , DSNIN  
&                       )
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C ***** FORTRAN77 SUBROUTINE: C4DATA *****

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C PURPOSE: TO READ DATA FROM AN EFFECTIVE BEAM STOPPING DATA SET.
C (ADAS FORMAT ADF21).

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C CALLING PROGRAM: SBMS / ADAS304

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C SUBROUTINE:

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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.

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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 VERSION: 1.2          DATE: 06-06-2003
C MODIFIED: Martin O'Mullane
C          - Warn user that the routine is now deprecated
C          and that xxdata_21 should be used instead.
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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

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