

ADAS Subroutine bnd404b

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SUBROUTINE BND404B(ITYPE ,
&                 NUTMAX , NUDMAX , NUZMAX , NUMMAX ,
&                 MAXT   , MAXD   ,
&                 IZL    , IZH    , IZO    ,
&                 TEK    , DENSA   ,
&                 METFRC ,
&                 NGRD   ,
&                 IST2   , IST5    , IWRITE , DATE ,
&                 DSNIN)
```

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C

C ***** FORTRAN 77 SUBROUTINE BND404B *****

C

C VERSION 1.0

C

C PURPOSE:

C

C TO FETCH DATA FROM RESOLVED ADF10 FILES, SPLINE THEM
C ONTO THE REQUESTED TEMPERATURE/DENSITY GRID, BUNDLE
C THEM INTO UNRESOLVED DATA USING THE INPUT METASTABLE
C FRACTIONS, AND WRITE THE RESULT TO ADF11 FILES.

C

C CALLING ROUTINE / PROGRAM : LH404RU / ADAS404

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C DATA:

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C THE SOURCE DATA IS CONTAINED AS MEMBERS OF PARTITIONED
C DATA SETS AS FOLLOWS:

C

C 8. JETUID.PLT<YR>.DATA

C

C 9. JETUID.PLS<YR>.DATA

C

C WHERE <YR> DENOTES TWO INTEGERS FOR THE YEAR SELECTED.

C

C SUBROUTINE:

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C INPUT : (I*4) ITYPE - TYPE OF ADF10 DATA BEING READ (SEE ABOVE)

C

C INPUT : (I*4) NUTMAX - OUTPUT ELEMENT MASTER FILE

C

C MAXIMUM NUMBER OF TEMPERATURES

C

C INPUT : (I*4) NUDMAX - OUTPUT ELEMENT MASTER FILE

C

C MAXIMUM NUMBER OF DENSITIES

C

C INPUT : (I*4) NUZMAX - OUTPUT ELEMENT MASTER FILE

C

C MAXIMUM NUMBER OF CHARGE STATES

C

C INPUT : (I*4) NUMMAX - OUTPUT ELEMENT MASTER FILE

C

C MAXIMUM NUMBER OF METASTABLES

C

C INPUT : (I*4) MAXT - OUTPUT ELEMENT MASTER FILE

C

C ACTUAL NUMBER OF TEMPERATURES

C

C INPUT : (I*4) MAXD - OUTPUT ELEMENT MASTER FILE

C

C ACTUAL NUMBER OF DENSITIES

C

C INPUT : (I*4) IZL - LOWEST ION CHARGE TO READ

C

C INPUT : (I*4) IZH - HIGHEST ION CHARGE TO READ

C

C INPUT : (I*4) IZO - NUCLEAR CHARGE TO READ

C : (R*8) WORK(,) - SUM OF INTERPOLATED VALUES OVER
C METASTABLE STATES
C 1ST DIMENSION - TEMPERATURE
C 2ND DIMENSION - DENSITY
C

C ROUTINES:

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C XXOPEN -
C XXTERM -
C XXIN80 - FETCH DATA FROM MASTER CONDENSED FILE
C D4SPLN - INTERPOLATE CONDENSED MASTER FILE
C UPDATED VERSION OF D1SPLN
C

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C AUTHOR: LORNE D. HORTON
C ROOM K1/1/58, JET JOINT UNDERTAKING
C

C DATE: 21ST FEBRUARY 1996
C-----

C UNIX-IDL PORT:
C

C VERSION: 1.1 DATE: 11-11-96
C MODIFIED: WILLIAM OSBORN (TESSELLA SUPPORT SERVICES PLC)
C - FIRST CONVERTED
C

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C
C VERSION: 1.2 DATE: 20-10-97
C MODIFIED: LORNE HORTON (JET)
C - INCREASED SPACE FOR DIAGNOSTIC PRINTS OF FILE NAMES
C - ADDED D4OPEN TO SUPPRESS ERROR MESSAGES ON MISSING
C FILES AND ALLOWED ZERO-FILLING
C - REMOVED ISWIT VARIABLES AND PASSED ITYPE TO
C D4SPLN INSTEAD
C - TURNED LSWIT OFF FOR ALL CASES
C

C-----
C
C CHARACTER*8 DATE
C CHARACTER*80 DSNIN(50,10)
C INTEGER IST2, IST5, ITYPE, IWRITE
C INTEGER IZ0, IZH, IZL, MAXD
C INTEGER MAXT, NGRD(50), NUDMAX, NUMMAX
C INTEGER NUTMAX, NUZMAX
C REAL*8 DENSA(NUDMAX)
C REAL*8 METFRC(NUDMAX, NUTMAX, NUZMAX, NUMMAX)
C REAL*8 TEK(NUTMAX)