ADAS Subroutine xxdcon

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      SUBROUTINE XXDCON( INTYP, OUTTYP, IZ1, IDVAL, DIN, DOUT )
C-----------------------------------------------------------------------
C
C  ****************** FORTRAN77 SUBROUTINE: XXDCON *********************
C
C  PURPOSE: TO CONVERT AN ARRAY OF DENSITIES INTO SPECIFIED UNITS
C
C  CALLING PROGRAM: GENERAL USE
C
C  SUBROUTINE:
C  INPUT :    (I*4)  INTYP   = 1 => 'DIN(array)' UNITS: CM-3
C                              = 2 => 'DIN(array)' UNITS: REDUCED
C  INPUT :    (I*4)  OUTTYP  = 1 => 'DOUT(array)' UNITS: CM-3
C                              = 2 => 'DOUT(array)' UNITS: REDUCED
C  INPUT :    (I*4)  IZ1     = RECOMBINING ION CHARGE (= Z+1).
C  INPUT :    (I*4)  IDVAL   = NUMBER OF DENSITIES IN 'DIN(array)'
C  INPUT :    (R*8)  DIN()   = INPUT DENSITIES (STATED UNITS)
C  OUTPUT:    (R*8)  DOUT()  = OUTPUT DENSITIES (STATED UNITS)
C
C             (I*4)  I       = GENERAL USE
C
C             (R*8)  Z1P7    = 'IZ1'**7
C             (R*8)  DCONV() = DENSITY CONVERSION PARAMETERS
C
C ROUTINES:  NONE
C
C NOTE:
C            DENSITY CONVERSION PARAMETERS:
C
C            INTYP = 1 ; DCONV(1) =>              CM-3  -> OUTPUT UNITS
C            INTYP = 2 ; DCONV(2) =>           REDUCED  -> OUTPUT UNITS
C
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C          K1/0/81
C          JET EXT. 4569
C
C DATE:    04/02/91
C
C UPDATE:  07/08/91 - PE BRIDEN: CHANGED 'DBLE(IZ1**7)' TO 'DBLE(IZ1)**7
C                                TO AVOID INTEGER OVERFLOW IF IZ1>21.
C
C-----------------------------------------------------------------------
C
C-----------------------------------------------------------------------
      INTEGER             IDVAL,       INTYP,       IZ1,         OUTTYP
      REAL*8              DIN(IDVAL),  DOUT(IDVAL)
```