

ADAS Subroutine ccout0

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      SUBROUTINE CCOUT0( OFILE , OUNIT , IZ      , IECOUNT , INCOUNT ,
&  TREF  , EBRAY  , NERAY  , XRAY      ,
&
&          IEA      , INA      , ITREF  ,
&  ITCOUNT,
&
&          EBREF  , NEREF  , TERAY  ,
&
&          MAXTE  , MAXNE  , MAXEB  ,
&  ITA      , IEREF  , INREF  ,
&
&          DATE   , TITLE   , BMSTOP , BMEMIS  , BMDENS  ,
&  F1       , NN        , AVALUE , NLEVEL  , LEVEL   ,
&
&          INFILE )
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C-----
C
C ***** FORTRAN77 SUBROUTINE: CCOUT0 *****
C
C PURPOSE:  TO WRITE OUTPUT TO DATA FORMAT ADF21/22 SPECIFICATIONS.
C
C CALLING PROGRAM: ADAS312
C
C SUBROUTINE:
C
C INPUT : (R*8)  TREF      = THE REFERENCE TARGET TEMPERATURE (eV).
C INPUT : (R*8)  EBREF     = THE REFERENCE NEUTRAL BEAM ENERGY
C (eV/amu).
C INPUT : (R*8)  NEREF     = THE REFERENCE TARGET ELECTRON DENSITY.
C (CM**3)
C INPUT : (R*8)  TERAY()   = ARRAY CONTAINING THE TARGET TEMPERATURE.
C INPUT : (R*8)  EBRAY()   = ARRAY CONTAINING THE NEUTRAL BEAM
C ENERGY ( eV/amu ).
C INPUT : (R*8)  NERAY()   = ARRAY CONTAINING THE TARGET DENSITY.
C INPUT : (R*8)  XRAY()    = ARRAY CONTAINING EITHER THE BEAM STOPPING
C OR EMISSION COEFFICIENTS (CM**3/S).
C
C INPUT : (R*8)  IZ        = THE EFFECTIVE NUCLEAR CHARGE OF THE
C TARGET PLASMA.
C INPUT : (I*4)  ITCOUNT   = THE NUMBER OF TARGET TEMPERATURES.
C INPUT : (I*4)  IECOUNT   = THE NUMBER OF BEAM ENERGIES.
C INPUT : (I*4)  INCOUNT   = THE NUMBER OF TARGET DENSITIES.
C INPUT : (I*4)  ITA()     = ARRAY CONTAINING THE INDEX VALUES
C OF THE TEMPERATURE ARRAY TERAY().
C INPUT : (I*4)  ITREF     = THE INDEX VALUE AT WHICH THE REFERENCE
C TEMPERATURE CORRESPONDS TO IN THE ARRAY
C TERAY.
C INPUT : (I*4)  IEA()     = ARRAY CONTAINING THE INDEX VALUES
C OF THE ENERGY ARRAY EBRAY().
C INPUT : (I*4)  IEREF     = THE INDEX VALUE AT WHICH THE REFERENCE
C ENERGY CORRESPONDS TO IN THE ARRAY
C EBRAY().
C INPUT : (I*4)  INA()     = ARRAY CONTAINING THE INDEX VALUES
C OF THE DENSITY ARRAY NERAY().
C INPUT : (I*4)  INREF     = THE INDEX VALUE AT WHICH THE REFERENCE
C DENSITY CORRESPONDS TO IN THE ARRAY
C NERAY.
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C INPUT : (I*4) MAXTE = THE MAXIMUM NUMBER OF TARGET TEMPERATURES.
C INPUT : (I*4) MAXNE = THE MAXIMUM NUMBER OF TARGET DENSITIES.
C INPUT : (I*4) MAXEB = THE MAXIMUM NUMBER OF BEAM ENERGIES.
C INPUT : (I*4) NUM = THE NUMBER OF ELEMENT SYMBOLS CONTAINED
C IN THE ARRAY SPEC().

C
C (CHR) OFILE = OUTPUT FILENAME.
C (CHR) SPEC() = ARRAY CONTAINING THE CHEMICAL SYMBOLS
C OF THE ELEMENTS UP TO THE FIRST
C PERIOD.
C (CHR) HEADER = STRING CONTAINING THE ADAS VERSION,
C THE EXECUTING PROGRAM AND DATE.

C ROUTINES:

ROUTINE	SOURCE	BRIEF DESCRIPTION
I4UNIT	ADAS	FETCH UNIT NUMBER FOR OUTPUT OF MESSAGES
CCFIND	ADAS	???

C
C AUTHOR: HARVEY ANDERSON, UNIVERSITY OF STRATHCLYDE/JET
C JA8.08
C TEL. 0141-553-4196

C
C DATE: 16/05/97

C
C UNIX-IDL PORT: H.P.SUMMERS

C
C VERSION: 1.1 DATE: 10-07-97
C MODIFIED: HUGH SUMMERS, UNIVERSITY OF STRATHCLYDE
C - PUT UNDER S.C.C.S. CONTROL

C
C VERSION: 1.2 DATE: 28-07-97
C MODIFIED: HARVEY ANDERSON, UNIVERSITY OF STRATHCLYDE
C - INCLUDED PROGRAM NAME IN THE OUTPUT FILE.
C - ADDED ADDITIONAL INFORMATION AT THE BOTTOM OF
C THE ADF21/22 TYPE FILE.

C
C VERSION: 1.3 RICHARD MARTIN DATE: 1-11-97
C - CORRECTED SYNTAX ERROR IN GETENV COMMAND.

C
C VERSION: 1.4 HARVEY ANDERSON DATE: 17-03-99
C - ADDED EXTRA OUTPUT OPTION.

C
C VERSION: 1.5 RICHARD MARTIN DATE: 28-04-99
C - ADDED MISSING COMMA IN FORMAT STATEMENT 2013.

C
C VERSION: 1.6 HARVEY ANDERSON DATE: 08/09/99
C - EXTENDED THE ARRAY CONTAINING THE CHEMICAL ELEMENT

C SYMBOL TO INCLUDE ALL SPECIES UP TO ZN.
 C
 C VERSION: 1.7 COSTANZA MAGGI DATE: 05-02-03
 C - EXTENDED TO ALLOW WRITING BMP FILES
 C
 C VERSION: 1.8 Martin O'Mullane DATE: 06-02-2003
 C Improve information at bottom of output file.
 C

CHARACTER*24	DATE			
CHARACTER*80	INFILE,	OFILE		
CHARACTER*24	TITLE			
INTEGER	BMDENS,	BMEMIS,	BMSTOP	
INTEGER	IEA (MAXEB),	IECOUNT,	IEREF	
INTEGER	INA (MAXNE),	INCOUNT,	INREF	
INTEGER	ITA (MAXTE),	ITCOUNT,	ITREF,	IZ
INTEGER	LEVEL,	MAXEB,	MAXNE,	MAXTE
INTEGER	NLEVEL,	OUNIT		
REAL*8	AVALUE,	EBRAY (MAXNE),		EBREF
REAL*8	F1 (MAXEB, MAXNE, MAXTE, NLEVEL)			
REAL*8	NERAY (MAXNE),		NEREF	
REAL*8	NN (MAXEB, MAXNE, MAXTE, NLEVEL)			
REAL*8	TERAY (MAXTE),		TEREF	
REAL*8	XRAY (MAXEB, MAXNE, MAXTE)			