

ADAS Subroutine a5data

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      SUBROUTINE A5DATA( DSFULL , INDXREF , TITLE , CAMETH , Z0      , Z ,
&                      Z1      , NIGRP  , EMIN  , CIA      , NSHELA,
&                      EIONA   , IZETAA , NRGRP  , CRA      , NRESOA,
&                      ENERA   , WGHTA  , ICT    , XA       , YA      ,APA,
&                      ITOUT   , TOA    , YOA    , YOAP    ,
&                      ISTDIM  , IREAD  , NA     , LA
&                      )
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C
C ***** FORTRAN77 SUBROUTINE A5DATA *****
C
C PURPOSE: TO REFRESH A DATA INDEX FROM AN ADAS105 ARCHIVE. READS
C          IN THE INDEX CODE A-ADAS, B-BURGESS AND THE THE REST OF
C          THE DATA AS APPROPRIATE.
C
C CALLING PROGRAM:
C          ADAS105.FOR
C
C INPUT:
C          (C*80) DSFULL  - THE USERS' CHOSEN ARCHIVE FILE NAME.
C          (I*4)  INDXREF - THE INDEX NUMBER TO REFRESH FROM.
C          (C*4)  CAMETH  - THE TAG TO DISTINGUISH BETWEEN THE
C                       TWO TYPES OF ANALYSIS.
C                       A - ADAS, B- BURGESS
C          (I*4)  ISTDIM = ARRAY DIMENSIONS : MAX. NO OF VALUES THAT
C                       CAN BE READ IN
C          (I*4)  IREAD  = THE INPUT UNIT
C
C OUTPUTS:
C          (C*40) TITLE   - THE INFORMATION LINE IN THE ARCHIVE
C                       FILE.
C          (R*8)  Z0      = NUCLEAR CHARGE OF ION
C          (R*8)  Z       = INITIAL ION CHARGE
C          (R*8)  Z1      = FINAL ION CHARGE
C          (I*4)  NIGRP   = NO. OF SHELL GROUPS
C          (R*8)  EMIN    = MINIMUM ENERGY (?)
C          (R*8)  CIA()   = SCALING PARAMETERS FOR SHELL GROUPS
C          (I*4)  NSHELA()=NO. OF ENTRIES FOR EACH SHELL GROUP
C          (I*4)  NA(,)   = SHELL GROUP DATA : N
C          (I*4)  LA(,)   = SHELL GROUP DATA : L
C          (R*8)  EIONA(,)=SHELL GROUP DATA : EION(RYD)
C          (I*4)  IZETAA(,)=SHELL GROUP DATA : IZETA
C          (I*4)  NRGRP   = NO. OF RESONANCE GROUPS
C          (R*8)  CRA()   = SCALING PARAMETERS FOR RESONANCE GROUPS
C          (I*4)  NRESOA()=NO. OF ENTRIES FOR EACH RESONANCE GROUP
C          (R*8)  ENERA(,)=RESONANCE GROUP DATA : ENERGY(RYD)
C          (R*8)  WGHTA(,)=RESONANCE GROUP DATA : WEIGHT
C          (R*8)  ICT     = NO. OF ENERGY / X-SECTION PAIRS
C          (R*8)  XA()    = X, THRESHOLD PARAMETER RELATIVE TO FIRST IONIS. POT.
C          (R*8)  YA()    = Q/(1-1/X), Q=CROSS-SECTION ?
C          (R*8)  APA()   = QEM/(1-1/X), QEM=APPROX. X-SECTION )
C          (R*4)  YPA()   = Q/QEM
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C (I*4) ITOUT = NO. OF TEMPS.
 C (R*8) TOA() = TEMP (KELVIN)
 C (R*8) YOA() = S, MAXWELL AVERAGED IONISATION RATE COEFF.(CM³ S⁻¹)
 C (R*8) YOAP() = SEM, APPROXIMATE RATE COEFF.

C
 C ROUTINES: NONE

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C MODIFIED: WILLIAM OSBORN

C - FIRST RELEASE

C VERSION 1.2 DATE: 08-10-96

C MODIFIED: WILLIAM OSBORN

C - REMOVED FILE READ FOR NRGRP=0 CASE

C - ADDED READ OF NA AND LA FROM ARCHIVE

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CHARACTER*4	CAMETH			
CHARACTER*80	DSFULL			
CHARACTER*40	TITLE			
INTEGER	ICT,	INDXREF,	IREAD,	ISTDIM
INTEGER	ITOUT,	IZETAA(6,2),	LA(6,2),	NA(6,2)
INTEGER	NIGRP,	NRESOA(2),	NRGRP	
INTEGER	NSHELA(2)			
REAL*8	APA(ISTDIM),	CIA(2),	CRA(2)	
REAL*8	EIONA(6,2),	EMIN,	ENERA(6,2)	
REAL*8	TOA(ISTDIM),	WGHTA(6,2),	XA(ISTDIM)	
REAL*8	YA(ISTDIM),	YOA(ISTDIM),	YOAP(ISTDIM)	
REAL*8	Z,	Z0,	Z1	