

ADAS Subroutine a6data

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      SUBROUTINE A6DATA( 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 ***** FORTRAN77 SUBROUTINE A6DATA *****

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C PURPOSE: TO REFRESH A DATA INDEX FROM AN ADAS106 ARCHIVE. READS
C IN THE INDEX CODE A-ADAS, B-BURGESS AND THE THE REST OF
C THE DATA AS APPROPRIATE.

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C CALLING PROGRAM:

C ADAS106.FOR

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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

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 ROUTINES: NONE

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C MODIFIED: WILLIAM OSBORN

C - FIRST RELEASE

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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	