

ADAS Subroutine cxfrac

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      SUBROUTINE CXFRAC ( MXNENG , MXNSHL ,  
&                        NENRGY , NMIN   , NMAX   ,  
&                        LSETL  ,  
&                        SIGNA   , FRACLA  
&                        )
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C  
C ***** FORTRAN77 SUBROUTINE: CXFRAC *****  
C  
C PURPOSE:  TO CONVERT L RESOLVED PARTIAL CROSS-SECTIONS FROM  
C           ABSOLUTE VALUES TO FRACTIONS OF THE N AND L RESOLVED DATA,  
C           RESPECTIVELY.  
C  
C CALLING PROGRAM: ADAS301/ADAS306/ADAS307/ADAS308/ADAS309  
C  
C SUBROUTINE:  
C  
C INPUT : (I*4)  MXNENG      = MAXIMUM NO. OF ENERGIES.  
C INPUT : (I*4)  MXNSHL      = MAXIMUM NO. OF N SHELLS.  
C INPUT : (I*4)  NENRGY      = NUMBER OF ENERGIES READ.  
C INPUT : (I*4)  NMIN        = LOWEST N-SHELL FOR WHICH DATA READ.  
C INPUT : (I*4)  NMAX        = HIGHEST N-SHELL FOR WHICH DATA READ.  
C INPUT : (L*4)  LSETL       = FLAGS IF L-RESOLVED DATA PRESENT.  
C                               .TRUE.  => L-RESOLVED DATA PRESENT.  
C                               .FALSE => L-RESOLVED DATA ABSENT.  
C INPUT : (R*8)  SIGNA(,)    = N-RESOLVED CHARGE EXCHANGE CROSS-SECTIONS.  
C                               UNITS: CM2  
C                               1ST DIMENSION: ENERGY INDEX  
C                               2ND DIMENSION: N-SHELL  
C  
C I/O   : (R*8)  FRACLA(,)  = L-RESOLVED CHARGE EXCHANGE CROSS-SECTIONS.  
C                               INPUT : ABSOLUTE VALUES (CM2)  
C                               OUTPUT: FRACTION OF N-RESOLVED DATA.  
C                               1ST DIMENSION: ENERGY INDEX  
C                               2ND DIMENSION: INDEXED BY I4IDFL(N,L)  
C  
C           (I*4)  IE          = ENERGY INDEX.  
C           (I*4)  N           = N QUANTUM NUMBER.  
C           (I*4)  L           = L QUANTUM NUMBER.  
C           (I*4)  IDL        = L-RESOLVED DATA INDEX.  
C           (I*4)  IDM        = M-RESOLVED DATA INDEX.  
C  
C ROUTINES:  
C  
C           ROUTINE      SOURCE      BRIEF DESCRIPTION  
C-----  
C           I4IDFL       ADAS        RETURNS UNIQUE INDEX FROM QUANTUM  
C                               NUMBERS N AND L.  
C           I4IDFM       ADAS        RETURNS UNIQUE INDEX FROM QUANTUM  
C                               NUMBERS N, L AND M.  
C  
C AUTHOR:  JONATHAN NASH (TESSELLA SUPPORT SERVICES PLC)  
C          K1/0/81
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C JET EXT. 5183

C

C DATE: 15/09/93

C

C VERSION : 1.2

C DATE : 22-05-2007

C MODIFIED : Martin O'Mullane

C - Remove unused m-subshell data possibility.

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INTEGER	MXNENG,	MXNSHL,	NENRGY,	NMAX
INTEGER	NMIN			
LOGICAL	LSETL			
REAL*8	FRACLA (MXNENG, (MXNSHL* (MXNSHL+1)) /2)			
REAL*8	SIGNA (MXNENG, MXNSHL)			