ADAS Subroutine h4angf

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C
      subroutine h4angf( xsp  , xlp  , xl0  , xst0 , xlt0 ,
     &                   xl1  , xst1 , xlt1 , xnq  , fpc  ,
     &                   xjp  , xj0  , xjt0 , xj1  , xjt1 ,
     &                   anga , lama , nlam
     &                 )
c----------------------------------------------------------------------
c
c  ***************** fortran77 subroutine: h4angf *********************
c
c  purpose:  calculates angular factors for born approximation
c
c
c  subroutine:
c
c  input : (r*8)  xsp      = 2*Sp+1 parent spin angular momentum
c  input : (r*8)  xlp      = Lp parent orbital angular momentum
c  input : (r*8)  xl0      = l initial valence electron orbital
c  input : (r*8)  xst0     = 2*S+1  total initial spin anular momentum
c  input : (r*8)  xlt0     = L  total initial orbital angular momentum
c  input : (r*8)  xl1      = l' final valence electron orbital
c  input : (r*8)  xst1     = 2*S'+1  total initial spin anular momentum
c  input : (r*8)  xlt1     = L'  total initial orbital angular momentum
c  input : (r*8)  xnq      = number of equivalent electrons in initial
c                            state
c  input : (r*8)  fpc      = fractional parentage coefficient
c  input : (r*8)  xjp      = Jp  parent total angular momentum
c  input : (r*8)  xj0      = j  initial valence electron angular mom.
c  input : (r*8)  xjt0     = J  total initial angular momentum
c  input : (r*8)  xj1      = j'  final valence electron angular mom.
c  input : (r*8)  xjt1     = J'  total initial angular momentum
c
c  output: (r*8)  anga()   = angular factor for each multipole
c  output: (i*4)  lama()   = multipole
c  output: (i*4)  nlam     = number of multipoles in anga vector
c
c
c  output: (c*80) cstrg    = string marking end of partition block
c
c  routines:
c          routine    source    brief description
c          -------------------------------------------------------------
c          wig3j      adas      evaluates the wigner 3-j symbol
c          wig6j      adas      evaluates the wigner 6-j symbol
c          i4unit     adas      fetch unit number for output of messages
c
c  author: h. p. summers, university of strathclyde
c          ja7.08
c          tel. 0141-548-4196
c
c  date:    24/02/03
c
```

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c  update:
c
c----------------------------------------------------------------------
c----------------------------------------------------------------------
      INTEGER           LAMA(20),    NLAM
      REAL*8            ANGA(20),    FPC,         XJ0,         XJ1
      REAL*8            XJP,         XJT0,        XJT1,        XL0
      REAL*8            XL1,         XLP,         XLT0,        XLT1
      REAL*8            XNQ,         XSP,         XST0,        XST1
```