

ADAS Subroutine xypars

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      subroutine xypars( ndmet  , strng1  , npt    , bwnoa   , lseta   ,
&                    prtwta , cprta   , ifail   , itype)
c
c -----
c
c ***** fortran77 subroutine: xypars *****
c
c purpose:  to analyse the tail character string of the first line of
c           a specific ion file into binding wave numbers for different
c           parents and statistical weights for the parents.
c
c           unified version of b9pars, bapars & g5pars and a
c           replacement for these subroutines.
c
c calling program: various
c
c subroutine:
c
c input : (i*4)  ndmet    = maximum number of metastables allowed
c input : (c*(*))strng1  = string to be parsed
c
c output: (i*4)  npt      = number of binding wave numbers detected
c output: (l*4)  lseta()  = .true.  - parent term set for this w.no.
c                   .false. - parent term not set for w.no.
c output: (l*4)  lfnd     = .true.  - l quantum number present in
c                   string
c                   .false. - no l quantum number detected
c output: (r*8)  bwnoa()  = binding wave numbers
c output: (r*8)  prtwta() = parent statistical weights
c output: (c*(*))cprta() = parent name in brackets
c output: (i*4)  ifail    = 0 - subroutine concludes correctly
c                   1 - fault detected in subroutine
c                   2 - single ionisation potential detected
c output: (i*4)  itype    = resolution of parent metastables
c                   1 - ls resolved
c                   2 - lsj resolved
c                   3 - arbitrary resolution
c
c           (i*4)  maxwrđ   = maximum number of words sought initially
c                   initially, finally number actually found
c           (i*4)  nfirst   = first word to be extracted from string
c           (i*4)  ifirst() = index of first char. of word () in string
c           (i*4)  ilast()  = index of last  char. of word () in string
c           (i*4)  iwords   = number of words found in string
c           (i*4)  iabt     = failure number from r8fctn
c           (i*4)  nchar    = number of characters in substring
c           (i*4)  i        = general use
c           (i*4)  j        = general use
c           (i*4)  k        = general use
c           (i*4)  ic       = general use
c           (i*4)  itp      = flag for incompatible types
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c      (i*4)  ityp      = copy of current itype
c      (i*4)  kmrk      = position marker in the string for parent
c                          l quantum number
c      (i*4)  itypea() = resolution of each parent
c      (r*8)  twta()   = (2L+1) value for parent L quantum number
c      (c*1)  ctrma()  = parent L quantum number letter set
c                          (inclusive convention for 'l'=j in set of
c                          character values for 'l' and extended
c                          ctrma, twta vectors)

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c routines:

routine	source	brief description
i4unit	adas	fetch unit number for output of messages
r8fctn	adas	converts from character to real variable
i4fctn	adas	converts from char. to integer variable
xxword	adas	parses a string into separate words for ' (<>{}' delimiters
xxslen	adas	finds the length of a string excluding leading and trailing blanks
xxrmve	adas	removes a character from a string
xxcase	adas	change string to upper or lower case

c author: hp summers
c JA7.08, University of Strathclyde
c Tel: 0141-548-4196

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c update: 22/11/04 - hp summers - corrected error in write back of
c cprta strings for the unified itype

c update: 17/05/07 - ad whiteford - Updated comments as part of
c subroutine documentation
c procedure.

CHARACTER*(*)	CPRTA (NDMET),	STRNG1
INTEGER	IFAIL, ITYPE,	NDMET, NPT
LOGICAL	LSETA (NDMET)	
REAL*8	BWNOA (NDMET),	PRTWTA (NDMET)