

ADAS Subroutine h4gasy

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C
      subroutine h4gasy(  istdim  ,
&                      x        , dx        ,
&                      form     , iforms   , iends
&                      )
C-----
C
C ***** fortran77 subroutine: h4gasy.for *****
C
C purpose: initialises common arrays required for splining with
C          smooth fitting to an asymptotic form
C
C calling program: various
C
C notes: (1) uses labelled common /espl3/
C        (2) common /espl3/ is set by this routine
C        (3) conditions at 1st & nth nodes controlled by iend1 & iendn
C            iend = 1 : specified d log(y) ie. dy/y at node stored in
C                    appropriate vector
C            = 2 : zero curvature
C            = 3 : constant curvature
C            = 4 : matched to specified functional form in terms of
C                two parameters a and b such that
C                    funct = p(1)*a+q(1)*b
C                    1st deriv. = p(2)*a+q(2)*b
C                    2nd deriv. = p(3)*a+q(3)*b
C                    where a1,b1,p1,q1 are used for 1st node and
C                    an,bn,pn,qn for nth node
C
C        (4) if iends=1, matching is at first knot (given by x)
C            =2, matching is at last knot (given by x)
C            asymptotic forms are given in external function form(i,x)
C            where i=4*iforms-5+2*iends points to 1st part of asymp. form
C            =4*iforms-4+2*iends points to 2nd part of asymp. form
C            thus a series of asymptotic forms may be present in form
C
C input : (i*4)  istdim  = dimensionality for splining arrays
C
C input : (i*4)  n       = number of knots
C            common /espl3/ provides input in vector iend which specifies
C                    choice of end condition at first iend(1) or last
C                    iend(2) knot of spline
C input : (r*8)  x       = x-value of end point
C input : (r*8)  dx      = displacement from x-value for
C                        derivative evaluation
C input : (r*8)  form    = external function specifying asymptotic forms
C input : (i*4)  iforms  = selected form
C input : (i*4)  iends   = 1, matching is at first knot (given by x)
C                        = 2, matching is at last knot (given by x)
C
C
```

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c routines:
c      routine      source      brief description
c      -----
c      i4unit      adas      fetch unit number for output of messages
c
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c
c date: 24 July 2002
c
c
c version: 1.1      Hugh Summers 24/07/02
c modified: first release
c-----
c      INTEGER      IENDS,      IFORMS,      ISTDIM
c      REAL*8      DX,      X
```