

ADAS Subroutine a8optm

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subroutine a8optm(itype, xa, oa, n, s, b0, bp0, f10, f20, f30, xk0, ifail)
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C  
C ***** fortran77 subroutine a8optm *****  
C  
C purpose: to find the best approximate form parameters for neutral  
C          atoms by varing the matching position.  
C  
C calling program:  adas108.for  
C  
C input:  
C          (i*4)  itype    = type of transition (1=dipole,2=non-dipole  
C                    non-spin change, 3=spin change, 4=null)  
C          (r*8)  xa()     = x-parameters for cross-section  
C          (r*8)  oa       = collisions strengths for transition  
C          (i*4)  n        = no of collision strengths  
C          (r*8)  s        = line strength if dipole transition  
C          (i*4)  ifail    = failure code  on entry (ifail=0 two point  
C                    fit, ifail=-1 one point fit)  
C  
C output:  
C          (r*8)  b0       = threshold form parameter  
C          (r*8)  bp0     = matching parameter  
C          (r*8)  f10     = threshold form parameter  
C          (r*8)  f20     = asymptotic form parameter  
C          (r*8)  f30     = asymptotic form parameter  
C          (r*8)  xk0     = optimum matching x-value  
C          (i*4)  ifail    = failure code  on exit  
C                    (ifail=0 successful two point fit  
C                    ifail=1 converted to one point fit)  
C  
C  
C routines:  
C          a8slvf adas solves for asymptotic parms f2 and f3  
C          a8slv2 adas  solves for the parms f1,f2,f3,b  
C  
C author:  Hugh Summers, University of Strathclyde ext.4196  
C  
C  
C version 1.1                                date:    19/07/99  
C modified: Hugh Summers  
C - first release  
C  
-----  
INTEGER          IFAIL,          ITYPE,          N  
REAL*8           B0,             BP0,             F10,             F20  
REAL*8           F30,             OA(N),          S,             XA(N)  
REAL*8           XK0
```