

ADAS Subroutine ccaval

SUBROUTINE CCAVAL (NUPPER, NLOWER, AVALUE)

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C
C *****      FORTRAN77 SUBROUTINE: CCAVAL *****
C
C  PURPOSE:  EVALUATES HYDROGENIC TRANSITION PROBABILITIES
C  FOR TRANSITIONS BETWEEN PRINCIPAL QUANTUM SHELLS.
C
C  CALLING PROGRAM: ADAS312
C
C INPUT  :
C
C (I*4) NUPPER : UPPER PRINCIPAL QUANTUM
C  NUMBER.
C (I*4) NLOWER : LOWER PRINCIPAL QUANTUM
C  NUMBER.
C
C OUTPUT :
C (R*8) AVALUE : TRANSITION PROBABILITY.
C
C GENERAL :
C
C (R*8) EN : UPPER PRINCIPAL QUANTUM
C  NUMBER.
C (R*8) EN1 : LOWER PRINCIPAL QUANTUM
C  NUMBER.
C (R*8) X2 : GENERAL VARIABLE
C (R*8) X : GENERAL VARIABLE
C (R*8) G : BOUND-BOUND GAUNT FACTOR.
C
C
C ROUTINES:
C
C          ROUTINE          SOURCE          BRIEF DESCRIPTION
C          -----          -
C          GBB          ADAS EVALUATES BOUND-BOUND
C  GAUNT FACTOR.
C
C CONTACT : HARVEY ANDERSON
C          UNIVERSITY OF STRATHCLYDE
C          ANDERSON@PHYS.STRATH.AC.UK
C
C DATE    : 11/03/99
C
C VERSION: 1.1 DATE: 17-03-99
C MODIFIED: HARVEY ANDERSON
C - FIRST VERSION
C-----
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INTEGER NLOWER, NUPPER
REAL*8 AVALUE