# ADAS Subroutine r8rd2b

```
      FUNCTION R8RD2B ( NU , LU , NL , LL )
C
C
C-----------------------------------------------------------------------
C
C  **************** FORTRAN77 REAL*8 FUNCTION: R8RD2B *****************
C
C  PURPOSE: CLACULATES HYDROGENIC BOUND-BOUND RADIAL INTEGRALS USING
C           RECURRENCE RELATIONS.
C
C  CALLING PROGRAM: GENERAL USE
C
C  FUNC:   (R*8)  R8RD2B  = RESULT OF INTEGRAL.
C
C  INPUT:  (I*4)  NU      = UPPER VALUE OF N QUANTUM NUMBER.
C  INPUT:  (I*4)  LU      = UPPER VALUE OF L QUANTUM NUMBER.
C  INPUT:  (I*4)  NL      = LOWER VALUE OF N QUANTUM NUMBER.
C  INPUT:  (I*4)  LL      = LOWER VALUE OF L QUANTUM NUMBER.
C
C  PARAM:  (R*8)  P1      = EQUATION CONSTANT.
C  PARAM:  (R*8)  P12     = EQUATION CONSTANT = P1**2.
C  PARAM:  (R*8)  P2      = EQUATION CONSTANT = 1/P1.
C  PARAM:  (R*8)  P22     = EQUATION CONSTANT = P2**2.
C
C          (I*4)  JS      =
C          (I*4)  I       = LOOP INDEX.
C
C          (R*8)  XNL     = REAL VALUE = NL.
C          (R*8)  XNL2    = REAL VALUE = XNL**2.
C          (R*8)  XNU     = REAL VALUE = NU.
C          (R*8)  XNU2    = REAL VALUE = XNU**2.
C          (R*8)  XNL1    = REAL VALUE = NL-1.
C          (R*8)  U       =
C          (R*8)  V       =
C          (R*8)  W       =
C          (R*8)  P       =
C          (R*8)  XI      = REAL VALUE = I.
C          (R*8)  XI1     = REAL VALUE = I+1.
C          (R*8)  XI12    = REAL VALUE = XI1**2.
C          (R*8)  T1      =
C          (R*8)  T2      =
C          (R*8)  T3      =
C
C ROUTINES: NONE
C
C AUTHOR:   JONATHAN NASH (TESSELLA SUPPORT SERVICES PLC)
C           K1/0/81
C           JET EXT. 5183
C
C DATE:     28/09/93
C
C-----------------------------------------------------------------------
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C
C-----------------------------------------------------------------------
      INTEGER              LL,           LU,           NL,           NU
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