

## ADAS Subroutine r8rd2f

FUNCTION R8RD2F( N , L , L1 , E2 )

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C \*\*\*\*\* FORTRAN77 REAL\*8 FUNCTION: R8RD2F \*\*\*\*\*

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C PURPOSE: CLACULATES HYDROGENIC BOUND-FREE RADIAL INTEGRALS USING  
C RECURRENCE RELATIONS.

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C CALLING PROGRAM: GENERAL USE

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C FUNC: (R\*8) R8RD2F = RESULT OF INTEGRAL.

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C INPUT: (I\*4) N = PRINCIAPL QUANTUM NUMBER OF BOUND ELECTRON.

C INPUT: (I\*4) L = ORBITAL QUANTUM NUMBER OF BOUND ELECTRON.

C INPUT: (I\*4) L1 = ORBITAL QUANTUM NUMBER OF FREE ELECTRON.

C INPUT: (R\*8) E2 =

C

C PARAM: (R\*8) P1 = EQUATION CONSTANT = 64.

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.

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C (I\*4) JS =

C (I\*4) I = LOOP INDEX.

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C (R\*8) XN = REAL VALUE = N.

C (R\*8) XN1 = REAL VALUE = N-1.

C (R\*8) XN2 = REAL VALUE = XN\*\*2.

C (R\*8) E =

C (R\*8) U =

C (R\*8) V =

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

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C AUTHOR: JONATHAN NASH (TESSELLA SUPPORT SERVICES PLC)

C K1/0/81

C JET EXT. 5183

C

C DATE: 04/11/93

C

C UNIX-IDL PORT:

C

C AUTHOR: WILLIAM OSBORN (TESSELLA SUPPORT SERVICES PLC)

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C DATE: 22ND MAY 1996

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C VERSION: 1.1

DATE: 22-05-96

C MODIFIED: WILLIAM OSBORN

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- FIRST VERSION. IBM VERSION NOT CHANGED

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C

C-----

INTEGER

L,

L1,

N

REAL\*8

E2