ADAS Subroutine cxhyde

```
      SUBROUTINE CXHYDE( IZ0 , ZEFF , N , L , E0 )
C
C
C-----------------------------------------------------------------------
C
C  ******************* FORTRAN77 SUBROUTINE: CXHYDE *******************
C
C  PURPOSE:  CALCULATES LOWEST ORDER NON-RELATIVISTIC, RELATIVISTIC AND
C            QUANTUMELECTRODYNAMIC ENERGIES FOR HYDROGENIC IONS.
C
C            BINDING ENERGY FOR CENTRE OF TERM IS PRODUCED.
C
C            FINE STRUCTURE FOR L>0 MUST BE ADDED EXTERNALLY.
C            FORMULAE ARE FROM ERIKSON (1977) J.PHY CHEM.REF.DATA,6,831.
C
C            QED EFFECTS FOR L>0 OMITTED.
C
C  CALLING PROGRAM: GENERAL USE
C
C  INPUT : (I*4)  IZ0     = NUCLEAR CHARGE.
C  INPUT : (R*8)  ZEFF    = EFFECTIVE NUCLEAR CHARGE.
C  INPUT : (I*4)  N       = PRINCIPAL QUANTUM NUMBER.
C  INPUT : (I*4)  L       = ORBITAL QUANTUM NUMBER.
C
C  OUTPUT: (R*8)  E0      = CENTER BINDING ENERGY.
C                           UNITS: RYD
C
C          (R*8)  Z0      = REAL VALUE = IZ0.
C          (R*8)  XN      = REAL VALUE = N.
C          (R*8)  XL      = REAL VALUE = L.
C          (R*8)  BLN     =
C          (R*8)  RMC     =
C          (R*8)  QED     =
C
C          (R*8)  BLNA()  =
C                           DIMENSION: 4
C
C ROUTINES: NONE
C
C AUTHOR:  JONATHAN NASH (TESSELLA SUPPORT SERVICES PLC)
C          K1/0/81
C          JET EXT. 5183
C
C DATE:    08/10/93
C
C-----------------------------------------------------------------------
C
C-----------------------------------------------------------------------
      INTEGER             IZ0,         L,           N
      REAL*8              E0,          ZEFF
```