ADAS Subroutine r8giii

```
      function r8giii(jz, l, e1, e2)

C-----------------------------------------------------------------------
C
C  ***************** FORTRAN77 REAL*8 FUNCTION: R8GIII *****************
C
C  PURPOSE: CALCULATES GIII GIVEN IN EQUATIONS (11) AND (15) OF
C  A. BURGESS, J. PHYS. B7, L364, 1974.
C
C  SET L=1.SET JZ ZERO FOR THE ZERO CHARGE (NEUTRAL ATOM) CASE.
C  FOR PARTIAL SUMS SET L TO LOWER LIMIT OF SUMMATION WHICH
C  MUST BE GREATER THAN ZERO.
C  SET E1=(KAPPA1)**2 FOR NON ZERO CHARGE,
C        =(K1)**2 FOR ZERO CHARGE.
C  SET E2=(KAPPA2)**2 FOR NON ZERO CHARGE,
C        =(K2)**2 FOR ZERO CHARGE.
C
C
C  AUTHOR   : H P Summers
C  DATE     : 22-11-1984
C
C
C
C  VERSION  : 1.1
C  DATE     : 02-03-2005
C  MODIFIED : Martin O'Mullane
C               - First version in central ADAS.
C               - Make implicit none.
C  VERSION  : 1.2
C  DATE     : 16-05-2005
C  MODIFIED : Allan Whiteford
C               - Call r8fdip and r8fdip0 instead of fdip and fdip0
C                 since the routines were renamed.
C
C  VERSION  : 1.3
C  DATE     : 10-04-2007
C  MODIFIED : Allan Whiteford
C              - Modified documentation as part of automated
C   subroutine documentation preparation.
C
C-----------------------------------------------------------------------
C
C-----------------------------------------------------------------------
      INTEGER            JZ,          L
      REAL*8             E1,          E2
```