ADAS Subroutine r8xip

```
      FUNCTION R8XIP( XI , DELTA )
C
C
C-----------------------------------------------------------------------
C
C  ***************** FORTRAN77 REAL*8 FUNCTION: R8XIP  ******************
C
C  PURPOSE: EVALUATES IMPACT PARAMETER CROSS-SECTION FIRST BESSEL
C           INTEGRAL X [BURGESS AND SUMMERS: MNRAS (1976)
C           172,345 - EQN C12]
C
C  CALLING PROGRAMS: EIQIP, ZERO1, CXEIQP,CXZERO
C
C  INPUT:  (R*8)  XI      = Z[1/KN-1/KN1]/A0 WITH Z TARGET CHARGE,
C                           KN, KN1 INITIAL AND FINAL ELECTRON WAVE
C                           NUMBERS AND A0 THE BOHR RADIUS
C  INPUT:  (R*8)  DELTA   = RC[KN-KN1] WITH RC THE CLOSEST APPROACH
c
C  OUTPUT: (R*8)  R8XIP   = X(XI,DELTA)
C
C ROUTINES: NONE
C
C AUTHOR:  JONATHAN NASH (TESSELLA SUPPORT SERVICES PLC)
C          K1/0/81
C          JET EXT. 5183
C
C DATE:    07/10/93
C
C VERSION 1.1                              DATE: 07/10/93
C MODIFIED: JONATHAN NASH
C           - FIRST VERSION
C VERSION 1.2                              DATE: 17-04-07
C MODIFIED: HUGH SUMMERS
C           - COMPLETED COMMENT BLOCK DESCRIPTION
C
C-----------------------------------------------------------------------
C
C-----------------------------------------------------------------------
      REAL*8              DELTA,       XI
```