

ADAS Subroutine bgrerr

```
C
      SUBROUTINE BGRERR( IUNT      ,
&                          NUMEXC , DEFEXC  , GENEXC  , SPFEXC  ,
&                          NUMREC , DEFREC  , GENREC  , SPFREC  ,
&                          NUMCXR , DEFCXR  , GENCXR  , SPFCXR  ,
&                          NUMION , DEFION  , GENION  , SPFION  )
-----
C
C *****
C ***** FORTRAN77 SUBROUTINE: BGRERR *****
C *****
C
C PURPOSE: READS ERROR INFORMATION IN ADF04 SPECIFIC ION FILE AND
C           PASSES BACK 4 ARRAYS ASSOCIATED WITH EACH TRANSITION TPYE
C           OF EXCITATION, RECOMBINATION AND CHARGE EXCHANGE.
C
C           THERE ARE 3 TYPES OF ERROR FOR EACH TYPE, NAMELY
C           DEFAULT, GENERAL OR SPECIFIC.
C           - GENERAL IS ERROR FROM/TO A PARTICULAR LEVEL (LIMITED TO 5).
C           - SPECIFIC IS THE ERROR TO BE APPLIED TO ONE TRANSITION
C             (LIMITED TO 20).
C           - DEFAULT IS FOR THE REST (ONLY 1!).
C           ERRORS ARE GIVEN AS A PERCENTAGE INTEPRETTATED AS VALUE +/-
C           THE PERCENTAGE ERROR.
C           ERRORS ARE IN FREE-FORMAT MARKED BY LINES IN ADF04 FILE. E.G.
C           FOR EXCITATION AND RECOMBINATION SPECIFICATION
C
C           C+++ERROR
C           C Excitation
C           C
C           C   *-*  4.7
C           C   3-*  3.2
C           C   *- 4  3.2
C           C   1-* 10.3
C           C   1- 2  5.4
C           C   31- 2  7.4
C           C   31- 4  7.4
C           C Recombination
C           C
C           C   * -*  20.0
C           C   *-1 30.0
C           C+++ERROR
C
C           HERE *-* REPRESENTS DEFAULT, 1-* OR *-3 REPRESENTS GENERAL, 3-5
C           DEFINES ERROR ON SPECIFIC TRANSITION. CAPITALISATION OR SPACING
C           IS NOT IMPORTANT.
C
C CALLING PROGRAM: ADAS216
C
C SUBROUTINE:
C
C PARAMETER: (I*4)  NDGEN  = MAX. NUMBER OF GENERAL ERRORS ALLOWED
C PARAMETER: (I*4)  NDSPF  = MAX. NUMBER OF SPECIFIC ERRORS ALLOWED
C
```

C INPUT : (I*4) IUNT = UNIT NO. OF OPENED ADF04 FILE
 C
 C OUTPUT: (R*8) NUMEXC(3)= NO. OF ERROR TYPES FOR EXCITATION
 C 1ST INDEX: NO. DEFAULT (0 OR 1)
 C 2ND INDEX: NO. GENERAL
 C 3RD INDEX: NO. SPECIFIC
 C OUTPUT: (R*8) DEFEXC = DEFAULT ERROR
 C OUTPUT: (R*8) GENEXC(,)= GENERAL ERROR
 C 1ST DIMENSION: SOURCE/DESTINATION LEVEL
 C 2ND DIMENSION: ERROR
 C
 C OUTPUT: (R*8) SPFEXC(,)= SPECIFIC ERROR
 C 1ST DIMENSION: FIRST LEVEL
 C 2ND DIMENSION: SECOND LEVEL
 C 3RD DIMENSION: ERROR
 C
 C NOTE : SIMILAR DEFINITIONS FOR RECOMBINATION, CHARGE EXCHANGE
 C AND IONISATION.

C ROUTINES:

ROUTINE	SOURCE	BRIEF DESCRIPTION
XXSTUC	ADAS	CONVERTS STRING TO UPPERCASE
XXRMWS	ADAS	REMOVES BLANKS FROM A STRING
BGPERR	ADAS	PARSES ERROR STRING

C AUTHOR : Martin O'Mullane,
 C K1/1/43,
 C JET

C VERSION : 1.1
 C DATE : 17/03/1999
 C MODIFIED : Martin O'Mullane
 C First version.

C VERSION : 1.2
 C DATE : 03-01-2006
 C MODIFIED : Martin O'Mullane
 C - Increase NDSPF to 2100.

C VERSION : 1.3
 C DATE : 18-05-2007
 C MODIFIED : Allan Whiteford
 C - Updated comments as part of subroutine documentation
 C procedure.

C
 C
 C-----
 C
 C-----

INTEGER	IUNT,	NUMCXR(3),	NUMEXC(3)
INTEGER	NUMION(3),	NUMREC(3)	
REAL*8	DEFCXR,	DEFEXC,	DEFION, DEFREC

REAL*8	GENCXR (NDGEN, 2) ,	GENEXC (NDGEN, 2)
REAL*8	GENION (NDGEN, 2) ,	GENREC (NDGEN, 2)
REAL*8	SPFCXR (NDSPF, 3) ,	SPFEXC (NDSPF, 3)
REAL*8	SPFION (NDSPF, 3) ,	SPFREX (NDSPF, 3)