

C PARENT WAVLENGTH (A) (CASE 'L')
C NOT USED (CASE 'P' & 'S')
C
C OUTPUT: (I*4) ICNTE = NUMBER OF ELECTRON IMPACT TRANSITIONS INPUT
C OUTPUT: (I*4) ICNTP = NUMBER OF PROTON IMPACT TRANSITIONS INPUT
C OUTPUT: (I*4) ICNTR = NUMBER OF FREE ELECTRON RECOMBINATIONS INPUT
C OUTPUT: (I*4) ICNTH = NO. OF CHARGE EXCHANGE RECOMBINATIONS INPUT
C OUTPUT: (I*4) ICNTI = NO. OF IONISATIONS TO Z INPUT
C OUTPUT: (I*4) ICNTL = NO. OF SATELLITE DR RECOMBINATIONS INPUT
C OUTPUT: (I*4) ICNTS = NO. OF IONISATIONS TO Z+1 INPUT
C
C OUTPUT: (I*4) IETRN() = ELECTRON IMPACT TRANSITION:
C INDEX VALUES IN MAIN TRANSITION ARRAYS WHICH
C REPRESENT ELECTRON IMPACT TRANSITIONS.
C OUTPUT: (I*4) IPTRN() = PROTON IMPACT TRANSITION:
C INDEX VALUES IN MAIN TRANSITION ARRAYS WHICH
C REPRESENT PROTON IMPACT TRANSITIONS.
C OUTPUT: (I*4) IRTRN() = FREE ELECTRON RECOMBINATION:
C INDEX VALUES IN MAIN TRANSITION ARRAYS WHICH
C REPRESENT FREE ELECTRON RECOMBINATIONS.
C OUTPUT: (I*4) IHTRN() = CHARGE EXCHANGE RECOMBINATION:
C INDEX VALUES IN MAIN TRANSITION ARRAYS WHICH
C REPRESENT CHARGE EXCHANGE RECOMBINATIONS.
C OUTPUT: (I*4) IITRN() = ELECTRON IMPACT IONISATION:
C INDEX VALUES IN MAIN TRANSITION ARRAYS WHICH
C REPRESENT IONISATIONS FROM LOWER STAGE ION.
C OUTPUT: (I*4) ILTRN() = SATELLITE DR RECOMBINATION:
C INDEX VALUES IN MAIN TRANSITION ARRAYS WHICH
C REPRESENT SATELLITE DR RECOMBINATIONS.
C OUTPUT: (I*4) ISTRN() = ELECTRON IMPACT IONISATION:
C INDEX VALUES IN MAIN TRANSITION ARRAYS WHICH
C REPRESENT IONISATIONS TO UPPER STAGE ION.
C
C OUTPUT: (I*4) IE1A() = ELECTRON IMPACT TRANSITION:
C LOWER ENERGY LEVEL INDEX
C OUTPUT: (I*4) IE2A() = ELECTRON IMPACT TRANSITION:
C UPPER ENERGY LEVEL INDEX
C OUTPUT: (R*8) AA() = ELECTRON IMPACT TRANSITION: A-VALUE (SEC-1)
C
C
C OUTPUT: (I*4) IP1A() = PROTON IMPACT TRANSITION:
C LOWER ENERGY LEVEL INDEX
C OUTPUT: (I*4) IP2A() = PROTON IMPACT TRANSITION:
C UPPER ENERGY LEVEL INDEX
C
C OUTPUT: (I*4) IA1A() = AUGER TRANSITION:
C PARENT ENERGY LEVEL INDEX
C OUTPUT: (I*4) IA2A() = AUGER TRANSITION:
C RECOMBINED ION ENERGY LEVEL INDEX
C OUTPUT: (R*8) AUGA() = AUGER TRANSITION: AUG-VALUE (SEC-1)
C RECOMBINED ION ENERGY LEVEL INDEX
C OUTPUT: (I*4) IL1A() = SATELLITE DR TRANSITION:
C RECOMBINING ION INDEX

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C OUTPUT: (I*4) IL2A() = SATELLITE DR TRANSITION:
C RECOMBINED ION INDEX
C OUTPUT: (R*8) WVLA() = SATELLITE DR TRANSITION: PARENT WVLGTH.(A)
C DR SATELLITE LINE INDEX
C OUTPUT: (I*4) IS1A() = IONISING TRANSITION:
C IONISED ION INDEX
C OUTPUT: (I*4) IS2A() = IONISING TRANSITION:
C IONISING ION INDEX
C OUTPUT: (L*4) LSS04A(,) = .TRUE. => IONIS. RATE SET IN ADF04 FILE:
C .FALSE.=> NOT SET IN ADF04 FILE
C 1ST DIM: LEVEL INDEX
C 2ND DIM: PARENT METASTABLE INDEX
C
C (I*4) I = GENERAL USE.

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C ROUTINES: NONE

C AUTHOR: HP SUMMERS (REVISION OF BXTTYP BY PE BRIDEN)
C K1/1/57
C JET EXT. 4941

C DATE : 11/06/92

C*****
C UNIX-IDL PORT:

C AUTHOR: DAVID H BROOKS, UNIVERSITY OF STRATHCLYDE

C DATE: UNKNOWN

C*****
C PUT UNDER SCCS CONTROL:

C VERSION: 1.1 DATE: 10/05/96
C MODIFIED: WILLIAM OSBORN (TESSELLA SUPPORT SERVICES PLC)
C - FIRST PUT UNDER SCCS

C VERSION: 1.2 DATE: 13/09/99
C MODIFIED: HUGH SUMMERS, UNIVERSITY OF STRATHCLYDE
C - ADDED DETECTION OF L-LINES AND S-LINES

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

| CHARACTER | TCODE (NDTRN) | | | |
|-----------|-----------------|----------------|---------------|-------|
| INTEGER | I1A (NDTRN) , | I2A (NDTRN) , | IA1A (NDTRN) | |
| INTEGER | IA2A (NDTRN) , | ICNTE , | ICNTH , | ICNTI |
| INTEGER | ICNTL , | ICNTP , | ICNTR , | ICNTS |
| INTEGER | IE1A (NDTRN) , | IE2A (NDTRN) , | IETRN (NDTRN) | |
| INTEGER | IHTRN (NDTRN) , | IITRN (NDTRN) | | |
| INTEGER | IL1A (NDLEV) , | IL2A (NDLEV) , | ILTRN (NDTRN) | |
| INTEGER | IP1A (NDTRN) , | IP2A (NDTRN) , | IPTRN (NDTRN) | |
| INTEGER | IRTRN (NDTRN) , | IS1A (NDLEV) | | |

| | | | | |
|---------|-----------------|-----------------|--------------|------|
| INTEGER | IS2A (NDLEV) , | ISTRN (NDTRN) , | I TRAN | |
| INTEGER | NDLEV , | NDMET , | NDTRN , | NPLI |
| INTEGER | NPLR | | | |
| LOGICAL | LSS04A (NDLEV , | NDMET) | | |
| REAL*8 | AA (NDTRN) , | AUGA (NDTRN) , | AVAL (NDTRN) | |
| REAL*8 | WVLA (NDLEV) | | | |