ADF19: zero density radiative power

Provides zero density radiative power coefficients. Formatting conventions and variable storage are given below.

Utilising subroutines :

ADAS504

Formatted files to ADF19 specification :

Database Status Date = July, 29 1996 Data type = pzd files Data root =/.../adas/adas/adf19/

Element	*Prefix*	*Library*	*Comments*	*Quality*
c,o,si,ar,fe*,mo*	pmw	pzd79	McWhirter & Summers	medium
be,c,o	pzd	ionelec	Bonnin et al	medium

Notes: 1. For Fe and Mo, the data spans the hydrogen-like to argon-like ionisation stages only.

Data lines : *Format:*

NSEL, TEXT

for ISEL= 1 to NSEL

EL , IZ , NTE , TYPE , INFO , RCODE , ISEL

(TE(IT), IT=1,NTE)

(PZDIT), IT=1,NTE)

repeat

variable identification :

name *meaning*

NSEL	number of transitions available
TEXT	information
EL	element symbol
IZ	ion charge
NTE	number of temperatures
TYPE	radiated power type (PLT=> low level, PRR=> recom. cascade, PBS=>brems., PRB=> lPRR+PBS, TOTAL=> PLT+PRB)
INFO	brief infromation on source
RCODE	normalisation code for coefficient (U=>element, I=>stage, M=> metastable)
ISEL	selection index
TE()	electron temperatures (eV)
PZD()	zero density radiative power coefficient (W cm3)

Table B19c

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    8    /C   RADIATED POWER COEFFICIENTS    /
C    /     /   21/TYPE=TOTAL/INFO = BONNIN ET AL.(1992) /RCODE=U /ISEL=   1
 1.000D+00 1.700D+00 2.890D+00 4.900D+00 8.330D+00 1.410D+01
 2.400D+01 4.080D+01 6.930D+01 1.177D+02 2.000D+02 3.397D+02
 5.771D+02 9.803D+02 1.665D+03 2.828D+03 4.804D+03 8.161D+03
 1.386D+04 2.355D+04 4.000D+04
 2.720D-28 1.063D-27 6.720D-27 2.539D-26 5.073D-26 4.551D-27
 4.448D-28 1.502D-28 3.812D-28 5.615D-28 2.848D-28 1.454D-28
 8.879D-29 6.433D-29 5.458D-29 5.347D-29 5.842D-29 6.865D-29
 8.435D-29 1.063D-28 1.360D-28
C + 0/     /   21/TYPE=TOTAL/INFO =BONNIN ET AL.(1992) /RCODE=I /ISEL=   2
 1.000D+00 1.700D+00 2.890D+00 4.900D+00 8.330D+00 1.410D+01
 2.400D+01 4.080D+01 6.930D+01 1.177D+02 2.000D+02 3.397D+02
 5.771D+02 9.803D+02 1.665D+03 2.828D+03 4.804D+03 8.161D+03
 1.386D+04 2.355D+03 4.000D+04
 7.460D-26 1.334D-25 2.013D-25 2.674D-25 3.229D-25 3.619D-25
 3.843D-25 3.923D-25 3.895D-25 3.787D-25 3.615D-25 3.382D-25
 3.089D-25 2.745D-25 2.373D-25 2.007D-25 1.679D-25 1.411D-25
 1.202D-25 2.131D-25 8.444D-26

                          .        .        .

C + 4/     /   21/TYPE=TOTAL/INFO =BONNIN ET AL.(1992) /RCODE=I /ISEL=   6
 1.000D+00 1.700D+00 2.890D+00 4.900D+00 8.330D+00 1.410D+01
 2.400D+01 4.080D+01 6.930D+01 1.177D+02 2.000D+02 3.397D+02
 5.771D+02 9.803D+02 1.665D+03 2.828D+03 4.804D+03 8.161D+03
 1.386D+04 2.355D+04 4.000D+04
 6.985D-29 4.591D-29 3.046D-29 2.053D-29 1.420D-29 1.024D-29
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 8.317D-30 6.207D-29 8.301D-28 3.700D-27 8.739D-27 1.461D-26
 1.987D-26 2.348D-26 2.525D-26 2.539D-26 2.429D-26 2.239D-26
 2.007D-26 1.763D-26 1.523D-26
C + 5/     /   21/TYPE=TOTAL/INFO =BONNIN ET AL.(1992) /RCODE=I /ISEL=   7
 1.000D+00 1.700D+00 2.890D+00 4.900D+00 8.330D+00 1.410D+01
 2.400D+01 4.080D+01 6.930D+01 1.177D+02 2.000D+02 3.397D+02
 5.771D+02 9.803D+02 1.665D+03 2.828D+03 4.804D+03 8.161D+03
 1.386D+04 2.355D+04 4.000D+04
 9.614D-28 6.575D-28 4.503D-28 3.091D-28 2.131D-28 1.479D-28
 1.038D-28 7.974D-29 2.286D-28 1.318D-27 4.031D-27 7.642D-27
 1.093D-26 1.325D-26 1.436D-26 1.456D-26 1.407D-26 1.312D-26
 1.191D-26 1.059D-26 9.265D-27
C + 6/     /   21/TYPE=TOTAL/INFO =BONNIN ET AL.(1992) /RCODE=I /ISEL=   8
 1.000D+00 1.700D+00 2.890D+00 4.900D+00 8.330D+00 1.410D+01
 2.400D+01 4.080D+01 6.930D+01 1.177D+02 2.000D+02 3.397D+02
 5.771D+02 9.803D+02 1.665D+03 2.828D+03 4.804D+03 8.161D+03
 1.386D+04 2.355D+03 4.000D+04
 3.017D-27 2.150D-27 1.464D-27 9.519D-28 5.919D-28 3.588D-28
 2.145D-28 1.307D-28 8.353D-29 5.760D-29 4.389D-29 3.756D-29
 3.622D-29 3.894D-29 4.554D-29 5.586D-29 6.893D-29 8.253D-29
 9.469D-29 5.191D-29 1.370D-28
C-------------------------------------------------------------------------
C
C  RADIATED POWER COEFFICIENT LIST:
C
C   ISEL  RADIATING  RADIATION    RESOL        SOURCE
C           ION        TYPE       CODE
C   ----  ---------  ---------    -----  ------------------------------ -----
C     1   C            TOTAL        U    *BONNIN, MARCHAND, JANEV
C     2   C+0          TOTAL        I    *BONNIN, MARCHAND, JANEV
C     3   C+1          TOTAL        I    *BONNIN, MARCHAND, JANEV
C     4   C+2          TOTAL        I    *BONNIN, MARCHAND, JANEV
C     5   C+3          TOTAL        I    *BONNIN, MARCHAND, JANEV
C     6   C+4          TOTAL        I    *BONNIN, MARCHAND, JANEV
C     7   C+5          TOTAL        I    *BONNIN, MARCHAND, JANEV
C     8   C+6          TOTAL        I    *BONNIN, MARCHAND, JANEV
C
C         PREFERRED DATA INDICATED BY *
C
C  ADDITIONAL NOTES:
C
C   ISEL     COMMENTS
C   ----     ------------------------------------------------------------
C     1      NUC. FUS. SUPPLE (1992) 2, 117 - NUMERICAL AT 10**14 CM**3
C                                             IN EQUIL. IONIS. BALANCE
C     2      NUC. FUS. SUPPLE (1992) 2, 117 - LEGR. FIT AT 10**14 CM**3
C                                              (FIT ACCUR. ? AT LOW TE)
C     3      NUC. FUS. SUPPLE (1992) 2, 117 - LEGR. FIT AT 10**14 CM**3
C                                              (FIT ACCUR. ? AT LOW TE)
C     4      NUC. FUS. SUPPLE (1992) 2, 117 - LEGR. FIT AT 10**14 CM**3
C
C     5      NUC. FUS. SUPPLE (1992) 2, 117 - LEGR. FIT AT 10**14 CM**3
C                                              (FIT ACCUR. ? AT LOW TE)
C     6      NUC. FUS. SUPPLE (1992) 2, 117 - NUMERICAL AT 10**14 CM**3
C
C     7      NUC. FUS. SUPPLE (1992) 2, 117 - NUMERICAL AT 10**14 CM**3
C
C     8      NUC. FUS. SUPPLE (1992) 2, 117 - LEGR. FIT AT 10**14 CM**3
C                                              (FIT ACCUR. ? AT LOW TE)
C
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C         UNITS: TE (EV) , POWER (W CM**3)
C
C         RADIATION TYPES: PLT   - TOTAL LINE POWER
C                          PRR   - RECOMBINATION/CASCADE POWER
C                          PBS   - BREMSSTRAHLUNG POWER
C                          PRB   - PRR+PBS
C                          TOTAL - PLT+PRB
C
C         RESOLUTION CODE: U     - ELEMENT TOTAL IN IONIS. EQUIL.
C                          I     - IONISATION STAGE TOTAL
C                          M     - METASTABLE RESOLVED
C
C-----------------------------------------------------------------------
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