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H.P. Summers, H. Anderson, T. Kato and S. Murakami

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Hydrogen beam stopping and beam emission data for LHD

H.P. Summers[1], H. Anderson[1], T. Kato[2], and S. Murakami[2]

[1] University of Strathclyde, 107 Rottenrow, Glasgow G4 0NG, U.K.
[2] National Institute for Fusion Science, Toki, Gifu, 509-5292 Japan

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Abstract. A set of data are presented for estimating neutral hydrogen beam stopping and Balmer alpha beam emission for the fast neutral beams from the H^- source at the Large Helical Device. The data are presented as economised look-up tables and are suitable for plasmas with arbitrary mixtures of light impurity nuclei up to neon, with impurity species Ar^{18+} and Fe^{26+} also included. The data stem from very many level collisional-radiative modelling using the most up-to-date fundamental ion and electron impact cross-section information. Fortran routines are available for accessing the computer archived data files and assembling the composite coefficients for mixed impurity plasmas.

Key words: atomic database – plasmas:spectroscopy – nuclear fusion: neutral beams

1. Introduction

Detailed knowledge of neutral hydrogen beam attenuation or alternatively neutral beam density along the beam path is required both for assessment of deposition rates and for charge exchange and beam emission diagnostic spectroscopy. There are two methods which may be employed to determine the neutral beam density at points along the beam path. The first, and in principle the more accurate method in dense plasmas with high attenuation factors, involves the direct measurement of the intensity of the H_α light emitted from the excited beam atoms as they traverse the plasma. Then with the use of atomic modelling to evaluate effective H_α emission coefficients, the local neutral beam density can be recovered. This is the basis of beam emission spectroscopy (Boileau *et al* , 1989). The second method, which is a numerical calculation of the attenuation along the beam path from the point of injection, has received the main attention due to the focus on plasmas of moderate line-integrated density. Also, measurement of the complex motional Stark beam emission spectrum requires considerable attention to detail and is usually closely linked to charge exchange spectroscopy measurements. A valid picture of beam stopping and impurity concentrations in a plasma requires that both methods agree. Both methods are susceptible to uncertainties in the fundamental atomic data but in somewhat different manner (von Hellermann *et al* , 1993; Mandl *et al* , 1993). A long term study at JET Joint Undertaking has been aimed at exploiting the H_α beam emission feature and improving the accuracy of the spectroscopic method (Anderson, 1999; Anderson *et al* , 1999). The present tabulations are a consequence of these efforts.

Send offprint requests to: H.P. Summers

2. The calculation basis

The calculations of accurate effective beam stopping and H_α emission coefficients are in fact closely linked. This is because at the densities of the fusion plasma core, the collision limit for neutral hydrogen is around n=4. Thus the population of the n=3 quantum shell of neutral hydrogen is influenced by collisional excitation and ionisation losses and this in turn influences the effective stopping coefficient.

The model for the present tabulations calculates the excited population structure of the beam atoms in a very many n-shell bundled-n approximation (Burgess and Summers, 1974; Spence and Summers, 1986). If the population equations are written symbolically as

$$\sum_{n'} C_{n,n'} N_{n'} = N_e N_+ r_n \quad : n = 1, ... \tag{1}$$

then the stopping coefficient, S_{cr}, is obtained from the collisional-radiative matrix C as

$$S_{cr} = 1/(N_e [C^{-1}]_{1,1}) \tag{2}$$

N_n is the number density (population) of hydrogen beam atoms in principal quantum shell n and r_n represents recombination processes into quantum shell n. Note that in conventional practice, the stopping coefficient is expressed in terms of the local electron density, so that $N_e S_{cr}$ is the stopping rate, even though collisions with

protons and impurity ions in the plasma are in fact the dominating reactions for beam stopping for fast beams ($E_b \geq 20$ keV/amu).

Writing the populations in terms of the Saha-Boltzmann deviations, b_n, then $N_n = N_n^{(S)} b_n$. The calculation determines the effective collisional-radiative coefficients, $F_n^{(1)}$, $F_n^{(2)}$ and $F_n^{(3)}$ in the expansion of the b_n factors as

$$b_n = F_n^{(1)} \frac{N_1}{N_+} + F_n^{(2)} + F_n^{(3)} \frac{N_H}{N_e} \quad (3)$$

For a beam atom, $F_n^{(1)}$ is the effective contribution to the population of the level n due to excitation processes originating from the ground level. $F_n^{(2)}$ and $F_n^{(3)}$ are the respective contributions due to recombination and charge exchange. The former and latter is of no relevance to beams since the ionised beam atoms depart from the beam path. We obtain immediately all effective emission coefficients from the level n as

$$\epsilon_{n \to n'} = A_{n \to n'} (N_n^{(S)} / N_e N_+) F_n^{(1)} \quad (4)$$

where $A_{n \to n'}$ is the Einstein A-coefficient and $N_n^{(S)}$ is the Saha-Boltzmann population for principal quantum shell n. The effective coefficients S_{cr} and $\epsilon_{n \to n'}$ include the influence of all indirect (redistributive and stepwise) pathways and depend on electron density, impurity concentrations and plasma ion temperature as well as beam energy.

The population calculation codes can evaluate these coefficients for plasmas of arbitrary mixture of impurities. However computing times preclude explicit calculation for particular impurity mixtures in rapid inter-pulse self-consistent determination of stopping and impurity concentrations. Also the multi-parameter dependence of the effective coefficients in principle would require very large high-dimensionality look-up tables. Attention has therefore been given to the creation of economised tabulations which allow very fast look-up yet maintain required precision. The methods for achieving this are summarised in Sect. 4.

3. Fundamental data sources

Electron collisions typically contribute less than 20% to the total collisional rates at primary beam energies although this proportion increases at lower beam energies. This is to be contrasted with the formation of passive Balmer alpha emission from the edge plasma where electron collisions fully dominate. Since the electron speeds are fast compared with beam atom speeds in the beam/plasma overlap region, it is acceptable to draw best available Maxwell averaged effective electron collision strengths from such data collections used for thermal plasma.

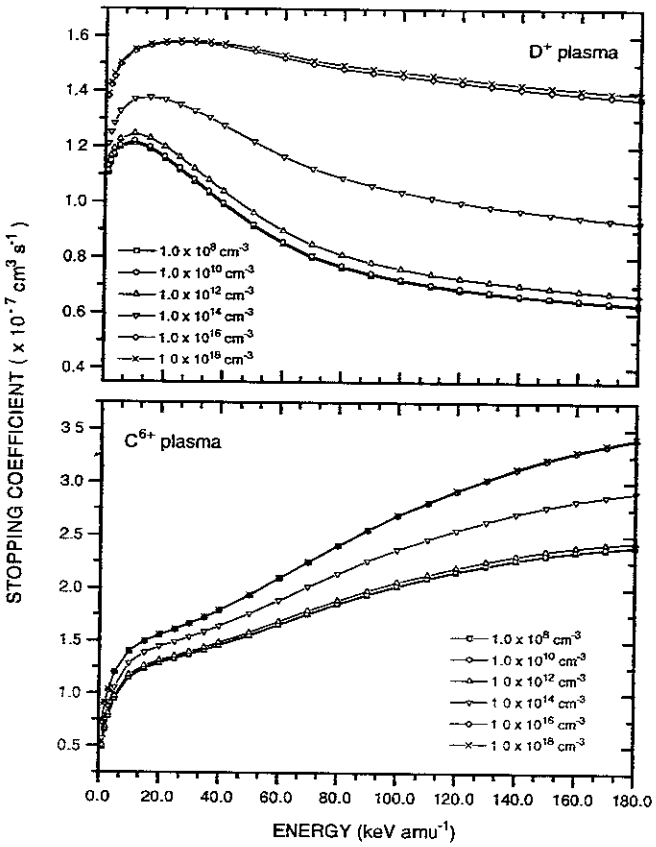

Fig. 1. Energy and density dependence of the effective stopping coefficient. $T_I = 2.0 \times 10^3$ eV. The top figure is for a pure H^+ plasma, while the bottom corresponds to a pure C^{6+} plasma. Characteristic are the low and high density asymptotic limits and the change from charge transfer to ionisation as the dominant loss mechanism at higher energies. The slope variation at E_b=30keV/amu in the C^{6+} case shows this most clearly.

The principle effort has been in the preparation and updating of comprehensive cross-section data for fully ionised impurity ions in collision with neutral hydrogen. The relative speeds of the reactants means that database archives must be maintained as cross-sections with explicit Maxwellian averaging carried out in association with the population calculations. The compilations of cross-sections for previous JET beam stopping calculations (see von Hellerman & Summers, 1993), called the *JET89* data, have been revised and augmented to include ion impact ionisation and charge exchange data from the ground and excited states up to the n=5 shell and ion impact excitation data up to the n=5 shell for all bare nucleus impurity species projectiles ($H^+ - Ne^{+10}$). The efforts by many workers as represented by the assessment of Janev and Smith (1993) have been strongly influential. The detailed assesment is given by Anderson (1999) and the new fundamental data collection is called *JET99* data. We have

also recently added data for Ar^{18+} and Fe^{26+} using a combination of available data and scaling formulae, consequently the accuracy there data are considerably less in comparison to the data obtained from our detailed assessment.

4. Economised tabulations

In the creation of compact interpolable datasets some simplifications are made. The first simplifications relies on the relatively slow variation of the stopping and emission coefficients with ion temperature T_I. Acceptable precision is retained by tabulating the coefficients as a function of beam energy, E_b and electron density N_e at a reference value of the ion temperature $T_I^{(ref)}$. Then a one- dimensional tabulation as a function T_I at reference conditions $E_b^{(ref)}$ and $N_e^{(ref)}$ of the beam energy and electron density provides the temperature variation. That is

$$S(E_b,N_e,T_I) \sim S(E_b,N_e,T_I^{(ref)}) \times \frac{S(E_b^{(ref)},N_e^{(ref)},T_I)}{S(E_b^{(ref)},N_e^{(ref)},T_I^{(ref)})} \quad (5)$$

and similarly for the beam emission coefficient. The tabulations are normally constructed sufficiently densely for low order interpolation to be sufficient. The reference conditions are chosen as representative of typical operating plasma conditions.

The second simplification concerns the handling of multiple impurities in the plasma. The stopping coefficient datasets for each impurity species are calculated as though that species alone is present in the plasma. For species X^{+z_0}, of nuclear charge z_0, of number density $N^{(z_0)}$, the electron density used in the stopping calculation is $N_e = z_0 N^{(z_0)}$ consistent with charge neutrality. Let the stopping coefficient for the impurity species be $S_{cr}^{(X)}$ then the loss rate is

$$N_e S_{cr}^{(X)}(E_b,N^{(z_0)},T^{(z_0)}) = N_e S_{cr}^{(e)}(E_b,N^{(z_0)},T^{(z_0)}) + N^{(z_0)} S_{cr}^{(z_0)}(E_b,N^{(z_0)},T^{(z_0)}) \quad (6)$$

distinguishing parts driven by excitation from the ground state of H by electron collisions and by $X^{(z_0)}$ ions respectively. The coefficient is

$$S_{cr}^{(X)}(E_b,N^{(z_0)},T^{(z_0)}) = S_{cr}^{(e)}(E_b,N^{(z_0)},T^{(z_0)}) + (1/z_0) S_{cr}^{(z_0)}(E_b,N^{(z_0)},T^{(z_0)}) \quad (7)$$

The density dependence of the collisional-radiative coefficient is written in terms of the impurity ion density since ion collisions primarily determine the collisional redistribution.

Consider a set of species $\{X_i^{+z_{0i}} : i = 1,...,I\}$ with fractions $\{f_i : i = 1,...,I\}$, in the plasma causing a composite stopping. The loss rate may be written approximately as

$$\begin{aligned} N_e S_{cr}(E_b,N_I,T_I) &= N_e S_{cr}^{(e)}(E_b,N_I,T_I) + \sum_{i=1}^{I} N_i^{(z_{0i})} S_{cr}^{(z_{0i})}(E_b,N_I,T_I) \\ &= \sum_{i=1}^{I} [N_{ei} S_{cr}^{(e)}(E_b,N_I,T_I) + \\ &\quad + (1/z_{0i}) S_{cr}^{(z_{0i})}(E_b,N_I,T_I)] \end{aligned} \quad (8)$$

where

$$N_e = \sum_{i=1}^{I} N_{e,i} = \sum_{i=1}^{I} z_{0i} N^{(z_{0i})} = N_I (\sum_{i=1}^{I} z_{0i} f_i) \quad (9)$$

defines the proportions of the electron density contributed by each impurity species. From an ion collisional redistribution point of view, in a composite plasma the $\sum_{k=1}^{I} z_{0k}^2 N_k^{(z_{0k})}$ z-weighted density sum is meaningful so the equivalent density of the single impurity $N_i^{(z_{0i})}$ to correspond to the summed impurity ion density for this purpose is

$$N_i^{(Z_{0i}),equiv} = N_i (\sum_{k=1}^{I} z_{0k}^2 f_k)/z_{0i}^2 \quad (10)$$

and the equivalent electron density is

$$N_{ei}^{(Z_{0i}),equiv} = \frac{N_e}{\sum_{k=1}^{I} z_{0k} f_k} (\sum_{k=1}^{I} z_{0k}^2 f_k)/z_{0i} \quad (11)$$

The approximate composite stopping coefficient is assembled from the pure species coefficients as

$$S_{cr}(E_b,N_e,T_I) = \sum_{i=1}^{I} [z_{0i} f_i S_{cr}^{(X,)}(E_b,N_{ei}^{(Z_{0i}),equiv},T_I)] / (\sum_{k=1}^{I} z_{0k} f_k) \quad (12)$$

The prescription outlined is equally applicable for the storage and handling of beam emission coefficients. The error introduced by both procedures conserves a precision of $\sim 5\%$ in the beam emission coefficient and $\sim 20\%$ in the beam emission coefficient for usual variations of plasma conditions and impurity mixtures in plasma operations. For a markedly different beam energy operating regime from the reference, it is advisable to regenerate the tabulations at a new reference beam energy for highest accuracy.

5. Generation of the data

The data presented here were computed using codes from the Atomic Data and Analysis Structure, ADAS (Summers, 1993; 1999). Specifically, the ADAS series 3 code,

adas310, performed the bundled-n collisional-radiative calculation for the beam hydrogen population structure and derived effective coefficients. The code *adas312* performed the extraction of required data from the archived population structure solutions and stacked them in the economised forms presented. In ADAS terminology, the beam stopping coefficient data are organised and archived under ADAS data format, *adf21* and the beam emission coefficient data under format *adf22*. Fundamental electron impact excitation rate coefficient data were drawn from data format *adf04*, while the electron impact ionisation rates were taken from the data format *adf07*. Ion-atom collision data were drawn from data format *adf02* and comprised the 1999 JET Joint Undertaking revision also prepared in collaboration with Kernversneller Institute and called *sia#h/sia#h_j97#h.dat*.

6. Conclusions

Other theoretical calculations of hydrogen beam stopping include Janev *et al* (1989) and Suzuki *et al* (1998). For stopping by a pure hydrogen plasma, the calculations by Janev *et al* are substantially larger than the present calculations at low beam energy while the results of Suzuki *et al* are close to the present data at all energies. These comparisons and differences reflect principally improvements in the direct ionisation and charge exchange cross-section data from the ground state of the hydrogen beam atoms. The present work is comprehensive in both beam stopping and beam emission and has been validated against experimental measurement.

Other lines are observable in the hydrogen beam emission spectrum besides H_α. In particular H_β is measurable but significantly weaker. The motional Stark pattern of H_β in principle has some advantages for spectral analysis but these have not been realised yet in practice. Tabulations of the H_β effective emission coefficient can be provided in the same organisation as the present tables.

The limiting accuracy in the H_α beam emission coefficient calculations is due to the currently assessed precision of the fundamental cross-sections for ion impact ionisation and excitation processes out of excited n-shells of the neutral hydrogen beam atom. At this time, the effective stopping coefficient uncertainty is $\sim 5\%$ and that of the H_α effective emission coefficient $\sim 20\%$. It should however be noted that the uncertainty in the contribution to the stopping and emission coefficient from Ar^{18+} and Fe^{26+} as impurity species is expected to be higher. This is due to the lack of high quality ion-atom collision cross-section data associated with each ion.

In tables 1a-1m we have tabulated the stopping coefficients for all of the light impurities from H^+ to Ne^{10+}, and have also included D^+, Ar^{18+} and Fe^{26+} as impurity species. The corresponding H_α emission coeffcients are tabulated in tables 2a-2m. A detailed description of the FORTRAN routines required to access and assemble composite stopping and emission data using the method described in section 4 is given in appendix A. In appendix B the organisation of the look-up tables is detailed.

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Appendix A: ADAS library routines

A.1. Overview

The routines relevant for the present work are part of the FORTRAN library for the ADAS series 3 codes. There is a total of six routines which are neccessary to implement the linear interpolation and combination scheme as shown in figureA1.

The parent routine, $CXBMS$, has been generalised to return either composite stopping or emission coeffcients. The treatment in each case is identical and the only difference is the name of either the $adf21$ or $adf22$ type files which are passed to the routine as input. The routine also requires information concerning the fractional impurity content of the plasma as well as the range of temperatures, densities and neutral beam energies for which the coefficients are to be evaluated. The routine can assemble the coefficients for either a single set of

plasma parameters or a wide range. It can thus be incorporated into an inter-pulse analysis package or alternatively used to study the parameter dependencies of individual coefficients in detail. The routine *C4DATA* accesses either the stopping (*adf*21) or emission (*adf*22) coefficients which are archived as pure impurity species. The routine *C4SPLN* implements the interpolation method (Equation 5), after which the linear combination (Equation 12) is carried out in the parent routine *CXBMS*. These routines are also available on the computer system at the National Institute for Fusion science (NIFS), under the directory */export/home/dpcrocus/summers/idl_adas/fortran/adas3xx/adaslib/* .

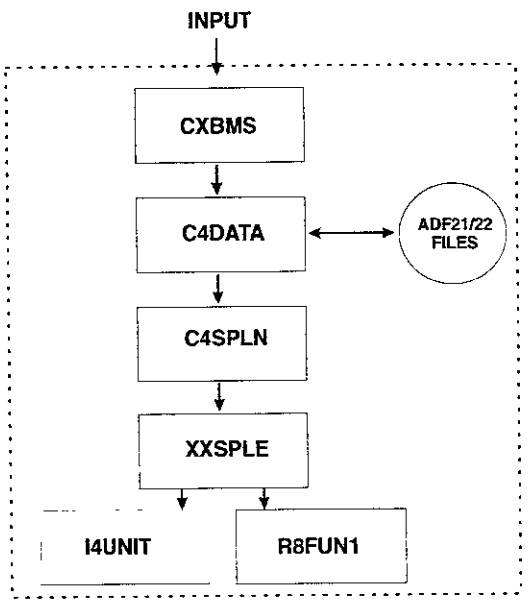

Fig. A1. Computational implementation of the linear interpolation and combination scheme for beam stopping and emission.

A.2. General usage

The calling argument of *CXBMS* is as follows,

CALL CXBMS(DSNIN, NSITYP, IOUNIT, MXIT, SIFRAC,UBMENG,UTDENS, UTTEMP, MXREQ, NREQ, BSTOT)

where the input variables are,

- *DSNIN - CHARACTER* array - Filename and path of each *adf*21 or *adf*22 type file.
- *NSITYP - INTEGER* - Number of different plasma impurity ions.
- *IOUNIT - INTEGER* - Unit number employed to read *adf*21 or *adf*22 type file.
- *MXIT - INTEGER* - Maximum number of different plasma impurity ions.
- *SIFRAC - REAL* array - Fractional impurity content of the plasma.
- *UBMENG - REAL* array - Required neutral beam energies ($eVamu^{-1}$).
- *UTDENS - REAL* array - Required electron densities (cm^{-3}).
- *UTTEMP - REAL* array - Required temperatures (eV).
- *MXREQ - INTEGER* - Maximum number of required energies, densities and temperatures.
- *NREQ - INTEGER* - Number of required energies, densities and temperatures.

and the output is,

- *BTOT - REAL* array - Composite stopping or emission coefficients (cm^3s^{-1}).

A.3. Example

Consider a composite plasma consisting of 97.5 % H^+, 1.0 % C^{6+}, 1.0 % O^{8+} and 0.5 % Fe^{26+}. The plasma temperature is 2.0×10^3eV, the beam energy is $3.0\times10^4eVamu^{-1}$ and the electron density is $2\times10^{13}cm^{-3}$. Figure A2 shows a sample program to evaluate the composite stopping coefficient.

```
PROGRAM  EXAMPLE

INTEGER  NSITYP   MXIT,  MXREQ    IOUNIT,  NREQ, I
PARAMETER(MXIT=12,  MXREQ=25)
CHARACTER  DSNIN(12)*80
REAL*8  UBMENG(MXREQ),  UTDENS(MXREQ),  UTTEMP(MXREQ),
        SIFRAC(MXIT)     ,  BSTOT(MXREQ)


DSNIN(1) = '/adas/adf21/bms99#h/bms99#h_h1.dat'
DSNIN(2) = '/adas/adf21/bms99#h/bms99#h_he2.dat'
DSNIN(3) = '/adas/adf21/bms99#h/bms99#h_li3.dat'
DSNIN(4) = '/adas/adf21/bms99#h/bms99#h_be4.dat'
DSNIN(5) = '/adas/adf21/bms99#h/bms99#h_b5.dat'
DSNIN(6) = '/adas/adf21/bms99#h/bms99#h_c6.dat'
DSNIN(7) = '/adas/adf21/bms99#h/bms99#h_n7.dat'
DSNIN(8) = '/adas/adf21/bms99#h/bms99#h_o8.dat'
DSNIN(9) = '/adas/adf21/bms99#h/bms99#h_f9.dat'
DSNIN(10) = '/adas/adf21/bms99#h/bms99#h_ne10.dat'
DSNIN(11) = '/adas/adf21/bms99#h/bms99#h_ar18.dat'
DSNIN(12) = '/adas/adf21/bms99#h/bms99#h_fe26.dat'

DO I=1, MXIT
  SIFRAC(I) = 0.0
ENDDO

IOUNIT = 2
NSITYP = 12

SIFRAC(1)  = 0.975
SIFRAC(6)  = 0.01
SIFRAC(8)  = 0.01
SIFRAC(12) = 0.005

NREQ = 1
UBMENG(1) = 3E4
UTDENS(1) = 2E13
UTTEMP(1) = 2E3

CALL CXMBS(DSNIN,NSITYP,IOUNIT,MXIT,SIFRAC,UBMENG,UTDENS,
           UTTEMP,MXREQ,NREQ,BSTOT)

WRITE(6,*) 'TOTAL STOPPING COEFFICIENT   BSTOT(1)

STOP
END
```

Fig. A2. Example program to evaluate the composite stopping coefficient using the routine *CXBMS*.

The fractional distribution of each impurity is specified in the array *SIFRAC*. The number of different sets of plasma conditions for which the coefficient is to be evaluated is specified by *NREQ*. The above example considers the simplest case in which there is one set of plasma conditions, with the energy, density and temperature

supplied as the first element of the arrays $UBMENG$, $UTDENS$ and $UTTEMP$. The composite stopping coefficient is returned in the array $BSTOT$. The assembly of effective emission coefficients is achieved in the same manner, only the naming of the data files interrogated by the routine $C4DATA$ differs. In this example the composite stopping coefficient is $1.327 \times 10^{-7}\ cm^3 s^{-1}$, while for the H_α emission coefficient it is $5.569 \times 10^{-10}\ cm^3 s^{-1}$. For applications on the computer system at NIFS, the stopping and emission coeffcients are respectively archived as $adf21$ and $adf22$ type files under the directory */export/home/dpcrocus/summers/adas/* .

Appendix B: Structure of compact tabulations

The organisation of each data set for stopping and emission data is identical, the only distinction is the ADAS file naming convention i.e beam stopping data is archived as $adf21$ data while beam emission data is archived as $adf22$. Figure B1 shows the formatting convention and variable storage.

Data lines :

```
ZT, SVREF, SPEC, DATE, CODE
NEB, NDT, TREF
(EB(IEB),IEB=1,NEB)
(DT(IDT),IDT=1,NDT)
for IDT = 1 to NDT
    (SVT(IEB,IDT), IEB=1,NEB)
repeat
NTT, EREF, DREF
TT(ITT), ITT=1,NTT
(SVT(ITT), ITT=1, NTT)
```

Variable identification .

NAME	*MEANING*
ZT	Charge of target ion.
SVREF	Coefficient at reference conditions ($cm^3\ s^{-1}$).
DATE	Date of calculation.
CODE	Name of computer code for calculation.
NEB	Number of beam energies.
NDT	Number of target densities.
TREF	Reference temperature (eV)
EB()	Beam energies (eV/amu).
DT()	Target densities (cm^{-3}).
SV(,)	Coefficient at reference temperature. 1st parameter - beam energy 2nd parameter - target density
NTT	Number of target temperatures.
EREF	Reference beam energy (eV/amu).
DREF	Reference target density (cm^{-3}).
TT()	Target temperatures (eV).
SVT()	Coefficient at reference beam energy and density ($cm^3\ s^{-1}$).

Fig. B1. Formatting convention and variable storage for ADAS $adf21$ and $adf22$ type files.

Table 1. (a) Hydrogen stopping coefficient for pure H^{+1} plasma. Economised tabulation with respect to reference conditions. 1st. data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges; 2nd. data block contains $S_{cr}(E_b, N_e, T_I^{(ref)})$ ($cm^3\ s^{-1}$); 3rd. data block contains T_I (eV) scan range; 4th. data block contains $S_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ ($cm^3\ s^{-1}$)

z_0=1	$S_{cr}^{(ref)}$=8.675E-08 $cm^3\ s^{-1}$			Date=24/08/99		Code=adas312	
N_{E_b}=24	N_{N_e}=20	$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04[a]
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12[b]	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
1.205E-07	1.155E-07	1.080E-07	1.001E-07	9.300E-08	8.702E-08	8.224E-08	7.855E-08
7.570E-08	7.343E-08	7.157E-08	7.001E-08	6.932E-08	6.868E-08	6.808E-08	6.752E-08
6.700E-08	6.651E-08	6.605E-08	6.561E-08	6.479E-08	6.405E-08	6.337E-08	6.274E-08
1.208E-07	1.160E-07	1.085E-07	1.007E-07	9.357E-08	8.761E-08	8.283E-08	7.914E-08
7.629E-08	7.401E-08	7.214E-08	7.057E-08	6.988E-08	6.924E-08	6.864E-08	6.807E-08
6.755E-08	6.705E-08	6.659E-08	6.614E-08	6.532E-08	6.458E-08	6.389E-08	6.326E-08
1.212E-07	1.164E-07	1.091E-07	1.013E-07	9.423E-08	8.827E-08	8.350E-08	7.981E-08[c]
7.695E-08	7.467E-08	7.280E-08	7.122E-08	7.053E-08	6.988E-08	6.927E-08	6.871E-08
6.818E-08	6.768E-08	6.721E-08	6.676E-08	6.593E-08	6.518E-08	6.449E-08	6.385E-08
1.216E-07	1.170E-07	1.097E-07	1.020E-07	9.494E-08	8.900E-08	8.424E-08	8.055E-08
7.769E-08	7.539E-08	7.352E-08	7.193E-08	7.123E-08	7.058E-08	6.997E-08	6.940E-08
6.887E-08	6.837E-08	6.789E-08	6.744E-08	6.661E-08	6.585E-08	6.515E-08	6.450E-08
1.220E-07	1.175E-07	1.104E-07	1.028E-07	9.574E-08	8.982E-08	8.507E-08	8.137E-08
7.851E-08	7.621E-08	7.433E-08	7.274E-08	7.203E-08	7.138E-08	7.076E-08	7.019E-08
6.965E-08	6.915E-08	6.867E-08	6.821E-08	6.737E-08	6.660E-08	6.589E-08	6.524E-08
1.225E-07	1.182E-07	1.112E-07	1.036E-07	9.664E-08	9.075E-08	8.600E-08	8.231E-08
7.944E-08	7.714E-08	7.525E-08	7.364E-08	7.294E-08	7.228E-08	7.166E-08	7.108E-08
7.054E-08	7.003E-08	6.954E-08	6.908E-08	6.823E-08	6.745E-08	6.674E-08	6.607E-08
1.230E-07	1.189E-07	1.120E-07	1.046E-07	9.764E-08	9.178E-08	8.704E-08	8.336E-08
8.049E-08	7.818E-08	7.627E-08	7.466E-08	7.395E-08	7.328E-08	7.266E-08	7.207E-08
7.153E-08	7.101E-08	7.052E-08	7.006E-08	6.920E-08	6.841E-08	6.768E-08	6.701E-08
1.236E-07	1.197E-07	1.129E-07	1.056E-07	9.876E-08	9.294E-08	8.823E-08	8.454E-08
8.167E-08	7.936E-08	7.744E-08	7.582E-08	7.510E-08	7.443E-08	7.380E-08	7.321E-08
7.266E-08	7.214E-08	7.164E-08	7.117E-08	7.030E-08	6.950E-08	6.876E-08	6.808E-08
1.242E-07	1.205E-07	1.140E-07	1.068E-07	1.000E-07	9.424E-08	8.955E-08	8.588E-08
8.301E-08	8.069E-08	7.877E-08	7.713E-08	7.641E-08	7.573E-08	7.509E-08	7.450E-08
7.394E-08	7.341E-08	7.291E-08	7.243E-08	7.155E-08	7.073E-08	6.998E-08	6.928E-08
1.249E-07	1.215E-07	1.151E-07	1.081E-07	1.014E-07	9.569E-08	9.103E-08	8.737E-08
8.450E-08	8.217E-08	8.024E-08	7.860E-08	7.787E-08	7.719E-08	7.654E-08	7.594E-08
7.537E-08	7.484E-08	7.433E-08	7.385E-08	7.295E-08	7.212E-08	7.136E-08	7.064E-08

The 2nd. data block is arranged with sub-blocks for each electron density. Thus the beam stopping coefficient for E_b=8.000E+04 eV/amu (index position 8 in the 1st. sub-block of the 1st. data block - marked as [a]) and N_e=1.780E+12 cm^{-3} (index position 3 in the 2nd. sub-block of the 1st. data block - marked as [b]) is S_{cr}=7.981E-08 $cm^3\ s^{-1}$ and is at index position 8 in the 3rd. sub-block of the 2nd. data block - marked as [c].

Table 1. (a) contd.

1.257E-07	1.225E-07	1.164E-07	1.095E-07	1.030E-07	9.734E-08	9.272E-08	8.908E-08
8.622E-08	8.389E-08	8.195E-08	8.030E-08	7.956E-08	7.887E-08	7.822E-08	7.761E-08
7.703E-08	7.649E-08	7.598E-08	7.548E-08	7.457E-08	7.373E-08	7.295E-08	7.222E-08
1.265E-07	1.237E-07	1.178E-07	1.111E-07	1.047E-07	9.917E-08	9.459E-08	9.097E-08
8.812E-08	8.579E-08	8.384E-08	8.218E-08	8.143E-08	8.073E-08	8.008E-08	7.946E-08
7.888E-08	7.833E-08	7.780E-08	7.730E-08	7.637E-08	7.551E-08	7.472E-08	7.397E-08
1.274E-07	1.249E-07	1.194E-07	1.129E-07	1.067E-07	1.012E-07	9.671E-08	9.312E-08
9.028E-08	8.795E-08	8.599E-08	8.431E-08	8.356E-08	8.286E-08	8.219E-08	8.156E-08
8.097E-08	8.042E-08	7.988E-08	7.937E-08	7.842E-08	7.755E-08	7.673E-08	7.597E-08
1.285E-07	1.264E-07	1.212E-07	1.150E-07	1.089E-07	1.036E-07	9.912E-08	9.556E-08
9.274E-08	9.041E-08	8.845E-08	8.675E-08	8.599E-08	8.528E-08	8.460E-08	8.397E-08
8.337E-08	8.280E-08	8.226E-08	8.174E-08	8.077E-08	7.987E-08	7.903E-08	7.825E-08
1.297E-07	1.280E-07	1.232E-07	1.173E-07	1.114E-07	1.062E-07	1.018E-07	9.831E-08
9.550E-08	9.317E-08	9.120E-08	8.949E-08	8.873E-08	8.800E-08	8.731E-08	8.667E-08
8.606E-08	8.548E-08	8.493E-08	8.440E-08	8.340E-08	8.248E-08	8.162E-08	8.081E-08
1.310E-07	1.298E-07	1.254E-07	1.199E-07	1.142E-07	1.092E-07	1.049E-07	1.014E-07
9.863E-08	9.631E-08	9.434E-08	9.262E-08	9.184E-08	9.111E-08	9.041E-08	8.975E-08
8.913E-08	8.854E-08	8.797E-08	8.743E-08	8.641E-08	8.547E-08	8.458E-08	8.375E-08
1.325E-07	1.318E-07	1.279E-07	1.227E-07	1.173E-07	1.124E-07	1.083E-07	1.049E-07
1.021E-07	9.981E-08	9.784E-08	9.610E-08	9.532E-08	9.458E-08	9.387E-08	9.320E-08
9.257E-08	9.197E-08	9.139E-08	9.084E-08	8.980E-08	8.883E-08	8.791E-08	8.705E-08
1.341E-07	1.340E-07	1.305E-07	1.257E-07	1.206E-07	1.159E-07	1.119E-07	1.086E-07
1.059E-07	1.036E-07	1.016E-07	9.991E-08	9.912E-08	9.837E-08	9.765E-08	9.698E-08
9.634E-08	9.573E-08	9.514E-08	9.457E-08	9.351E-08	9.252E-08	9.158E-08	9.069E-08
1.359E-07	1.362E-07	1.332E-07	1.289E-07	1.241E-07	1.197E-07	1.158E-07	1.126E-07
1.100E-07	1.078E-07	1.058E-07	1.041E-07	1.033E-07	1.025E-07	1.018E-07	1.011E-07
1.005E-07	9.987E-08	9.928E-08	9.870E-08	9.762E-08	9.661E-08	9.565E-08	9.474E-08
1.377E-07	1.385E-07	1.359E-07	1.320E-07	1.276E-07	1.234E-07	1.197E-07	1.167E-07
1.141E-07	1.120E-07	1.101E-07	1.083E-07	1.076E-07	1.068E-07	1.061E-07	1.054E-07
1.048E-07	1.041E-07	1.035E-07	1.030E-07	1.019E-07	1.008E-07	9.988E-08	9.895E-08

N_{T_I}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
1.118E-07	1.109E-07	1.083E-07	1.038E-07	1.020E-07	1.005E-07	9.911E-08	9.795E-08
9.685E-08	9.019E-08	8.675E-08	8.292E-08	8.169E-08	8.071E-08	7.991E-08	7.925E-08
7.864E-08	7.507E-08	7.291E-08	6.965E-08				

Table 1. (b) Hydrogen stopping coefficient for pure D^{+1} plasma Economised tabulation with respect to reference conditions. 1st. data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges; 2nd. data block contains $S_{cr}(E_b, N_e, T_I^{(ref)})$ ($cm^3\ s^{-1}$); 3rd. data block contains T_I (eV) scan range; 4th. data block contains $S_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ ($cm^3\ s^{-1}$)

z_0=1	$S_{cr}^{(ref)}$=8.671E-08 $cm^3\ s^{-1}$			Date=24/08/99		Code=adas312	
N_{E_b}=24	N_{N_e}=20	$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
1.227E-07	1.178E-07	1.100E-07	1.015E-07	9.357E-08	8.692E-08	8.188E-08	7.821E-08
7.546E-08	7.329E-08	7.147E-08	6.993E-08	6.924E-08	6.861E-08	6.802E-08	6.747E-08
6.695E-08	6.647E-08	6.601E-08	6.558E-08	6.478E-08	6.405E-08	6.337E-08	6.275E-08
1.230E-07	1.182E-07	1.105E-07	1.021E-07	9.414E-08	8.751E-08	8.248E-08	7.880E-08
7.604E-08	7.387E-08	7.205E-08	7.050E-08	6.980E-08	6.916E-08	6.857E-08	6.802E-08
6.750E-08	6.702E-08	6.656E-08	6.612E-08	6.531E-08	6.457E-08	6.390E-08	6.326E-08
1.233E-07	1.187E-07	1.111E-07	1.027E-07	9.480E-08	8.818E-08	8.315E-08	7.947E-08
7.671E-08	7.453E-08	7.270E-08	7.114E-08	7.045E-08	6.980E-08	6.921E-08	6.865E-08
6.813E-08	6.764E-08	6.718E-08	6 674E-08	6.593E-08	6.518E-08	6.449E-08	6.386E-08
1.236E-07	1.192E-07	1.117E-07	1.034E-07	9.551E-08	8.892E-08	8.389E-08	8.021E-08
7.745E-08	7.526E-08	7.342E-08	7.186E-08	7.116E-08	7.051E-08	6.991E-08	6.935E-08
6.882E-08	6.833E-08	6.787E-08	6.742E-08	6.660E-08	6.585E-08	6.515E-08	6.451E-08
1.240E-07	1.197E-07	1.124E-07	1.041E-07	9.632E-08	8.974E-08	8.472E-08	8.104E-08
7.827E-08	7.608E-08	7.424E-08	7.266E-08	7.196E-08	7.130E-08	7.070E-08	7.013E-08
6.961E-08	6.911E-08	6.864E-08	6.819E-08	6.736E-08	6.660E-08	6.590E-08	6.525E-08
1.245E-07	1.204E-07	1.131E-07	1.050E-07	9.722E-08	9.067E-08	8.566E-08	8.198E-08
7.921E-08	7.701E-08	7.516E-08	7.357E-08	7.286E-08	7.221E-08	7.160E-08	7.103E-08
7.049E-08	6.999E-08	6.952E-08	6.907E-08	6.823E-08	6.746E-08	6.675E-08	6.608E-08
1.250E-07	1.210E-07	1.140E-07	1.059E-07	9.822E-08	9.170E-08	8.671E-08	8.303E-08
8.026E-08	7.805E-08	7.618E-08	7.459E-08	7.387E-08	7.321E-08	7.260E-08	7.202E-08
7.149E-08	7.098E-08	7.050E-08	7.004E-08	6.919E-08	6.841E-08	6.769E-08	6.702E-08
1.255E-07	1.218E-07	1.149E-07	1.070E-07	9.936E-08	9.288E-08	8.790E-08	8.422E-08
8.145E-08	7.923E-08	7.736E-08	7.575E-08	7.503E-08	7.436E-08	7.374E-08	7.316E-08
7.262E-08	7.211E-08	7.162E-08	7.116E-08	7.030E-08	6.950E-08	6.877E-08	6.809E-08
1.261E-07	1.226E-07	1.159E-07	1.082E-07	1.006E-07	9.419E-08	8.923E-08	8.556E-08
8.279E-08	8.057E-08	7.868E-08	7.707E-08	7.634E-08	7.566E-08	7.504E-08	7.445E-08
7.390E-08	7.338E-08	7.289E-08	7.242E-08	7.155E-08	7.074E-08	7.000E-08	6.930E-08
1.267E-07	1.235E-07	1.171E-07	1.095E-07	1.020E-07	9.564E-08	9.071E-08	8.706E-08
8.429E-08	8 206E-08	8.017E-08	7.854E-08	7.780E-08	7.712E-08	7.649E-08	7.589E-08
7.534E-08	7.481E-08	7.431E-08	7.384E-08	7.295E-08	7.213E-08	7.137E-08	7.066E-08

Table 1. (b) contd.

1.274E-07	1.245E-07	1.183E-07	1.109E-07	1.036E-07	9.731E-08	9.241E-08	8.878E-08
8.601E-08	8.378E-08	8.188E-08	8.024E-08	7.949E-08	7.881E-08	7.817E-08	7.756E-08
7.700E-08	7.647E-08	7.596E-08	7.548E-08	7.457E-08	7.374E-08	7.297E-08	7.224E-08
1.282E-07	1.256E-07	1.197E-07	1.125E-07	1.054E-07	9.914E-08	9.429E-08	9.068E-08
8.792E-08	8.569E-08	8.378E-08	8.212E-08	8.137E-08	8.068E-08	8.003E-08	7.942E-08
7.885E-08	7.831E-08	7.779E-08	7.730E-08	7.638E-08	7.553E-08	7.474E-08	7.400E-08
1.290E-07	1.269E-07	1.213E-07	1.143E-07	1.073E-07	1.012E-07	9.642E-08	9.284E-08
9.009E-08	8.786E-08	8.594E-08	8.427E-08	8.351E-08	8.280E-08	8.215E-08	8.153E-08
8.095E-08	8.040E-08	7.987E-08	7.937E-08	7.844E-08	7.757E-08	7.676E-08	7.600E-08
1.300E-07	1.283E-07	1.230E-07	1.164E-07	1.096E-07	1.036E-07	9.885E-08	9.529E-08
9.256E-08	9.033E-08	8.840E-08	8.671E-08	8.594E-08	8.523E-08	8.456E-08	8.393E-08
8.334E-08	8.278E-08	8.225E-08	8.174E-08	8.078E-08	7.989E-08	7.906E-08	7.828E-08
1.311E-07	1.298E-07	1.250E-07	1.187E-07	1.121E-07	1.062E-07	1.016E-07	9.805E-08
9.533E-08	9.311E-08	9.117E-08	8.946E-08	8.868E-08	8.796E-08	8.728E-08	8.664E-08
8.604E-08	8.547E-08	8.492E-08	8.440E-08	8.342E-08	8.251E-08	8.166E-08	8.085E-08
1.324E-07	1.316E-07	1.272E-07	1.212E-07	1.149E-07	1.092E-07	1.046E-07	1.012E-07
9.848E-08	9.627E-08	9.432E-08	9.259E-08	9.181E-08	9.107E-08	9.038E-08	8.973E-08
8.911E-08	8.853E-08	8.798E-08	8.744E-08	8.644E-08	8.551E-08	8.463E-08	8.379E-08
1.338E-07	1.335E-07	1.296E-07	1.240E-07	1.180E-07	1.125E-07	1.080E-07	1.046E-07
1.020E-07	9.978E-08	9.783E-08	9.609E-08	9.529E-08	9.455E-08	9.385E-08	9.318E-08
9.256E-08	9.196E-08	9.140E-08	9.085E-08	8.983E-08	8.887E-08	8.796E-08	8.710E-08
1.353E-07	1.355E-07	1.321E-07	1.270E-07	1.213E-07	1.160E-07	1.117E-07	1.084E-07
1.058E-07	1.036E-07	1.017E-07	9.991E-08	9.910E-08	9.835E-08	9.764E-08	9.696E-08
9.633E-08	9.572E-08	9.515E-08	9.459E-08	9.355E-08	9.257E-08	9.164E-08	9.075E-08
1.369E-07	1.376E-07	1.348E-07	1.302E-07	1.249E-07	1.198E-07	1.156E-07	1.124E-07
1.099E-07	1.078E-07	1.058E-07	1.041E-07	1.033E-07	1.025E-07	1.018E-07	1.011E-07
1.005E-07	9.987E-08	9.929E-08	9.873E-08	9.767E-08	9.667E-08	9.572E-08	9.481E-08
1.386E-07	1.398E-07	1.374E-07	1.333E-07	1.284E-07	1.236E-07	1.196E-07	1.165E-07
1.141E-07	1.120E-07	1.101E-07	1.084E-07	1.076E-07	1.068E-07	1.061E-07	1.054E-07
1.048E-07	1.041E-07	1.036E-07	1.030E-07	1.019E-07	1.009E-07	9.995E-08	9.903E-08
N_{T_I}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
1.118E-07	1.109E-07	1.082E-07	1.038E-07	1.020E-07	1.004E-07	9.907E-08	9.791E-08
9.681E-08	9.015E-08	8.671E-08	8.283E-08	8.158E-08	8.057E-08	7.975E-08	7.908E-08
7.846E-08	7.511E-08	7.345E-08	7.134E-08				

Table 1. (c) Hydrogen stopping coefficient for pure He^{+2} plasma. Economised tabulation with respect to reference conditions. 1st. data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges; 2nd. data block contains $S_{cr}(E_b, N_e, T_I^{(ref)})$ ($cm^3\ s^{-1}$), 3rd. data block contains T_I (eV) scan range; 4th. data block contains $S_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ ($cm^3\ s^{-1}$)

z_0=2	$S_{cr}^{(ref)}$=1.287E-07 $cm^3\ s^{-1}$				Date=24/08/99		Code=adas312	
N_{E_b}=24	N_{N_e}=20		$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
1.075E-07	1.323E-07	1.382E-07	1.375E-07	1.336E-07	1.289E-07	1.244E-07	1.202E-07
1.164E-07	1.132E-07	1.106E-07	1.084E-07	1.075E-07	1.067E-07	1.059E-07	1.052E-07
1.046E-07	1.040E-07	1.034E-07	1.028E-07	1.017E-07	1.007E-07	9.974E-08	9.876E-08
1.077E-07	1.325E-07	1.385E-07	1.379E-07	1.340E-07	1.293E-07	1.249E-07	1.207E-07
1.170E-07	1.138E-07	1.111E-07	1.090E-07	1.081E-07	1.072E-07	1.065E-07	1.058E-07
1.052E-07	1.046E-07	1.040E-07	1.034E-07	1.023E-07	1.013E-07	1.003E-07	9.932E-08
1.080E-07	1.328E-07	1.389E-07	1.383E-07	1.345E-07	1.299E-07	1.255E-07	1.213E-07
1.176E-07	1.145E-07	1.118E-07	1.097E-07	1.088E-07	1.079E-07	1.072E-07	1.065E-07
1.059E-07	1.053E-07	1.047E-07	1.041E-07	1.030E-07	1.020E-07	1.010E-07	1.000E-07
1.082E-07	1.331E-07	1.393E-07	1.388E-07	1.350E-07	1.305E-07	1.262E-07	1.221E-07
1.184E-07	1.152E-07	1.126E-07	1.105E-07	1.096E-07	1.087E-07	1.080E-07	1.073E-07
1.067E-07	1.061E-07	1.055E-07	1.049E-07	1.038E-07	1.028E-07	1.018E-07	1.008E-07
1.085E-07	1.335E-07	1.397E-07	1.393E-07	1.357E-07	1.312E-07	1.269E-07	1.229E-07
1.192E-07	1.161E-07	1.135E-07	1.114E-07	1.105E-07	1.097E-07	1.090E-07	1.083E-07
1.077E-07	1.070E-07	1.065E-07	1.059E-07	1.048E-07	1.038E-07	1.028E-07	1.018E-07
1.088E-07	1.339E-07	1.402E-07	1.399E-07	1.364E-07	1.320E-07	1.278E-07	1.238E-07
1.202E-07	1.172E-07	1.146E-07	1.125E-07	1.116E-07	1.108E-07	1.101E-07	1.094E-07
1.088E-07	1.082E-07	1.076E-07	1.070E-07	1.059E-07	1.049E-07	1.039E-07	1.029E-07
1.092E-07	1.343E-07	1.408E-07	1.406E-07	1.372E-07	1.329E-07	1.288E-07	1.249E-07
1.213E-07	1.183E-07	1.158E-07	1.137E-07	1.128E-07	1.121E-07	1.114E-07	1.107E-07
1.101E-07	1.095E-07	1.089E-07	1.083E-07	1.072E-07	1.062E-07	1.052E-07	1.042E-07
1.096E-07	1.348E-07	1.414E-07	1.414E-07	1.381E-07	1.340E-07	1.300E-07	1.261E-07
1.226E-07	1.197E-07	1.172E-07	1.152E-07	1.143E-07	1.135E-07	1.128E-07	1.122E-07
1.116E-07	1.110E-07	1.104E-07	1.098E-07	1.087E-07	1.077E-07	1.067E-07	1.057E-07
1.101E-07	1.353E-07	1.421E-07	1.423E-07	1.392E-07	1.352E-07	1.312E-07	1.275E-07
1.241E-07	1.212E-07	1.188E-07	1.168E-07	1.159E-07	1.152E-07	1.145E-07	1.139E-07
1.133E-07	1.127E-07	1.121E-07	1.115E-07	1.104E-07	1.094E-07	1.084E-07	1.074E-07
1.106E-07	1.360E-07	1.429E-07	1.432E-07	1.403E-07	1.365E-07	1.327E-07	1.290E-07
1.257E-07	1.229E-07	1.206E-07	1.186E-07	1.178E-07	1.171E-07	1.164E-07	1.158E-07
1.152E-07	1.146E-07	1.140E-07	1.135E-07	1.124E-07	1.114E-07	1.104E-07	1.093E-07

Table 1. (c) contd.

1.111E-07	1.367E-07	1.438E-07	1.443E-07	1.416E-07	1.380E-07	1.343E-07	1.308E-07
1.276E-07	1.249E-07	1.226E-07	1.207E-07	1.199E-07	1.192E-07	1.186E-07	1.180E-07
1.174E-07	1.168E-07	1.163E-07	1.157E-07	1.147E-07	1.136E-07	1.126E-07	1.116E-07
1.118E-07	1.375E-07	1.448E-07	1.456E-07	1.431E-07	1.396E-07	1.362E-07	1.328E-07
1.297E-07	1.271E-07	1.248E-07	1.230E-07	1.223E-07	1.216E-07	1.210E-07	1.204E-07
1.199E-07	1.193E-07	1.188E-07	1.182E-07	1.172E-07	1.162E-07	1.152E-07	1.141E-07
1.125E-07	1.383E-07	1.459E-07	1.469E-07	1.447E-07	1.415E-07	1.382E-07	1.350E-07
1.320E-07	1.295E-07	1.274E-07	1.257E-07	1.250E-07	1.243E-07	1.237E-07	1.232E-07
1.227E-07	1.221E-07	1.216E-07	1.211E-07	1.200E-07	1.190E-07	1.181E-07	1.171E-07
1.133E-07	1.393E-07	1.471E-07	1.485E-07	1.466E-07	1.436E-07	1.405E-07	1.375E-07
1.347E-07	1.323E-07	1.303E-07	1.287E-07	1.280E-07	1.274E-07	1.269E-07	1.263E-07
1.258E-07	1.253E-07	1.248E-07	1.243E-07	1.233E-07	1.223E-07	1.214E-07	1.204E-07
1.142E-07	1.405E-07	1.486E-07	1.503E-07	1.487E-07	1.460E-07	1.432E-07	1.403E-07
1.376E-07	1.354E-07	1.335E-07	1.320E-07	1.314E-07	1.309E-07	1.304E-07	1.299E-07
1.294E-07	1.290E-07	1.285E-07	1.280E-07	1.270E-07	1.261E-07	1.251E-07	1.241E-07
1.152E-07	1.417E-07	1.502E-07	1.523E-07	1.510E-07	1.487E-07	1.461E-07	1.435E-07
1.410E-07	1.389E-07	1.372E-07	1.358E-07	1.353E-07	1.348E-07	1.344E-07	1.340E-07
1.335E-07	1.331E-07	1.327E-07	1.322E-07	1.313E-07	1.304E-07	1.294E-07	1.285E-07
1.164E-07	1.431E-07	1.520E-07	1.545E-07	1.537E-07	1.517E-07	1.495E-07	1.470E-07
1.448E-07	1.429E-07	1.413E-07	1.401E-07	1.396E-07	1.392E-07	1.389E-07	1.385E-07
1.381E-07	1.378E-07	1.373E-07	1.369E-07	1.361E-07	1.352E-07	1.343E-07	1.333E-07
1.177E-07	1.447E-07	1.540E-07	1.570E-07	1.566E-07	1.550E-07	1.531E-07	1.509E-07
1.488E-07	1.472E-07	1.458E-07	1.448E-07	1.444E-07	1.440E-07	1.437E-07	1.435E-07
1.432E-07	1.428E-07	1.425E-07	1.421E-07	1.413E-07	1.405E-07	1.396E-07	1.387E-07
1.191E-07	1.464E-07	1.561E-07	1.597E-07	1.598E-07	1.586E-07	1.570E-07	1.551E-07
1.533E-07	1.518E-07	1.507E-07	1.499E-07	1.496E-07	1.493E-07	1.491E-07	1.489E-07
1.487E-07	1.484E-07	1.481E-07	1.478E-07	1.471E-07	1.463E-07	1.455E-07	1.446E-07
1.205E-07	1.481E-07	1.584E-07	1.624E-07	1.631E-07	1.623E-07	1.610E-07	1.594E-07
1.579E-07	1.566E-07	1.557E-07	1.551E-07	1.549E-07	1.547E-07	1.546E-07	1.545E-07
1.544E-07	1.542E-07	1.539E-07	1.537E-07	1.530E-07	1.524E-07	1.516E-07	1.508E-07

N_{T_I}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
1.544E-07	1.533E-07	1.506E-07	1.459E-07	1.441E-07	1.425E-07	1.411E-07	1.400E-07
1.389E-07	1.321E-07	1.287E-07	1.248E-07	1.235E-07	1.225E-07	1.217E-07	1.210E-07
1.204E-07	1.169E-07	1.152E-07	1.129E-07				

Table 1. (d) Hydrogen stopping coefficient for pure Li^{+3} plasma. Economised tabulation with respect to reference conditions. 1st. data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges; 2nd. data block contains $S_{cr}(E_b, N_e, T_I^{(ref)})$ ($cm^3\ s^{-1}$); 3rd. data block contains T_I (eV) scan range; 4th. data block contains $S_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ ($cm^3\ s^{-1}$)

z_0=3	$S_{cr}^{(ref)}$=2.152E-07 $cm^3\ s^{-1}$			Date=24/08/99		Code=adas312	
N_{E_b}=24	N_{N_e}=20	$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
1.115E-07	1.392E-07	1.417E-07	1.395E-07	1.405E-07	1.427E-07	1.482E-07	1.569E-07
1.672E-07	1.768E-07	1.842E-07	1.910E-07	1.946E-07	1.984E-07	2.022E-07	2.058E-07
2.092E-07	2.121E-07	2.144E-07	2.163E-07	2.193E-07	2.218E-07	2.237E-07	2.246E-07
1.117E-07	1.394E-07	1.420E-07	1.399E-07	1.409E-07	1.432E-07	1.487E-07	1.574E-07
1.678E-07	1.774E-07	1.848E-07	1.916E-07	1.953E-07	1.990E-07	2.028E-07	2.065E-07
2.099E-07	2.127E-07	2.151E-07	2.170E-07	2.200E-07	2.225E-07	2.244E-07	2.253E-07
1.119E-07	1.397E-07	1.424E-07	1.403E-07	1.414E-07	1.437E-07	1.493E-07	1.581E-07
1.685E-07	1.781E-07	1.856E-07	1.924E-07	1.961E-07	1.998E-07	2.037E-07	2.073E-07
2.107E-07	2.136E-07	2.160E-07	2.179E-07	2.209E-07	2.234E-07	2.253E-07	2.261E-07
1.122E-07	1.400E-07	1.428E-07	1.408E-07	1 420E-07	1.444E-07	1.500E-07	1.588E-07
1.693E-07	1.790E-07	1.865E-07	1.934E-07	1.970E-07	2.008E-07	2.046E-07	2.083E-07
2.117E-07	2.146E-07	2.170E-07	2.189E-07	2.219E-07	2.244E-07	2.263E-07	2.272E-07
1.125E-07	1.403E-07	1.432E-07	1.414E-07	1.426E-07	1.451E-07	1.508E-07	1.597E-07
1.703E-07	1.800E-07	1.876E-07	1.945E-07	1.981E-07	2.019E-07	2.058E-07	2.095E-07
2.129E-07	2.158E-07	2.182E-07	2.201E-07	2.231E-07	2.256E-07	2.276E-07	2.284E-07
1.128E-07	1.407E-07	1.437E-07	1.420E-07	1.434E-07	1.460E-07	1.518E-07	1.608E-07
1.714E-07	1.812E-07	1.888E-07	1.958E-07	1.995E-07	2.033E-07	2.072E-07	2.109E-07
2.143E-07	2.172E-07	2.196E-07	2.215E-07	2.246E-07	2.271E-07	2.291E-07	2.299E-07
1.132E-07	1.412E-07	1.443E-07	1.428E-07	1.443E-07	1.470E-07	1.529E-07	1.620E-07
1.727E-07	1.826E-07	1.903E-07	1.973E-07	2.010E-07	2.049E-07	2.088E-07	2.125E-07
2.159E-07	2.189E-07	2.213E-07	2.232E-07	2 263E-07	2.288E-07	2.308E-07	2.317E-07
1.136E-07	1.417E-07	1.450E-07	1.436E-07	1.453E-07	1.482E-07	1.542E-07	1.634E-07
1.742E-07	1.842E-07	1.920E-07	1.991E-07	2.028E-07	2.067E-07	2.106E-07	2.144E-07
2.178E-07	2.208E-07	2.232E-07	2.252E-07	2.283E-07	2.308E-07	2.328E-07	2.337E-07
1.141E-07	1.422E-07	1.457E-07	1.446E-07	1.464E-07	1.495E-07	1.556E-07	1.650E-07
1.760E-07	1.861E-07	1.939E-07	2.011E-07	2.048E-07	2.088E-07	2.127E-07	2.165E-07
2.200E-07	2.229E-07	2.254E-07	2.274E-07	2.305E-07	2.331E-07	2.351E-07	2.360E-07
1.146E-07	1.429E-07	1.465E-07	1.456E-07	1.476E-07	1.509E-07	1.572E-07	1.667E-07
1.778E-07	1.881E-07	1.961E-07	2.033E-07	2.071E-07	2.111E-07	2.150E-07	2.189E-07
2.224E-07	2.254E-07	2.279E-07	2.299E-07	2.330E-07	2.357E-07	2.377E-07	2.386E-07

Table 1. (d) contd.

1.152E-07	1.436E-07	1.475E-07	1.468E-07	1.490E-07	1.525E-07	1.590E-07	1.687E-07
1.800E-07	1.904E-07	1.985E-07	2.058E-07	2.097E-07	2.137E-07	2.177E-07	2.216E-07
2.251E-07	2.282E-07	2.307E-07	2.327E-07	2.359E-07	2.386E-07	2.407E-07	2.417E-07
1.158E-07	1.444E-07	1.485E-07	1.480E-07	1.505E-07	1.542E-07	1.610E-07	1.709E-07
1.823E-07	1.929E-07	2.011E-07	2.086E-07	2.125E-07	2.166E-07	2.207E-07	2.246E-07
2.282E-07	2.312E-07	2.338E-07	2.359E-07	2.391E-07	2.418E-07	2.440E-07	2.450E-07
1.165E-07	1.452E-07	1.496E-07	1.494E-07	1.522E-07	1.561E-07	1.631E-07	1.733E-07
1.849E-07	1.957E-07	2.041E-07	2.117E-07	2.157E-07	2.198E-07	2.240E-07	2.280E-07
2.316E-07	2.347E-07	2.373E-07	2.394E-07	2.427E-07	2.455E-07	2.477E-07	2.487E-07
1.173E-07	1.463E-07	1.509E-07	1.510E-07	1.541E-07	1.583E-07	1.655E-07	1.759E-07
1.878E-07	1.988E-07	2.074E-07	2.152E-07	2.193E-07	2.235E-07	2.277E-07	2.317E-07
2.354E-07	2.386E-07	2.412E-07	2.434E-07	2.468E-07	2.496E-07	2.519E-07	2.530E-07
1.182E-07	1.474E-07	1.523E-07	1.528E-07	1.562E-07	1.607E-07	1.682E-07	1.789E-07
1.911E-07	2.023E-07	2.111E-07	2.191E-07	2.233E-07	2.276E-07	2.318E-07	2.360E-07
2.397E-07	2.429E-07	2.456E-07	2.478E-07	2.513E-07	2.543E-07	2.566E-07	2.578E-07
1.192E-07	1.486E-07	1.539E-07	1.547E-07	1.585E-07	1.633E-07	1.712E-07	1.822E-07
1.947E-07	2.062E-07	2.153E-07	2.235E-07	2.277E-07	2.321E-07	2.365E-07	2.407E-07
2.445E-07	2.478E-07	2.506E-07	2.528E-07	2.565E-07	2.595E-07	2.620E-07	2.632E-07
1.204E-07	1.500E-07	1.556E-07	1.569E-07	1.610E-07	1.662E-07	1.745E-07	1.858E-07
1.986E-07	2.104E-07	2.198E-07	2.283E-07	2.326E-07	2.371E-07	2.416E-07	2.459E-07
2.498E-07	2.532E-07	2.560E-07	2.584E-07	2.621E-07	2.653E-07	2.679E-07	2.692E-07
1.216E-07	1.514E-07	1.575E-07	1.591E-07	1.637E-07	1.693E-07	1.779E-07	1.896E-07
2.028E-07	2.150E-07	2.246E-07	2.334E-07	2.379E-07	2.425E-07	2.471E-07	2.515E-07
2.555E-07	2.590E-07	2.619E-07	2.643E-07	2.682E-07	2.715E-07	2.742E-07	2.756E-07
1.229E-07	1.530E-07	1.595E-07	1.616E-07	1.666E-07	1.727E-07	1.817E-07	1.937E-07
2.073E-07	2.198E-07	2.298E-07	2.388E-07	2.435E-07	2.482E-07	2.530E-07	2.575E-07
2.616E-07	2.652E-07	2.682E-07	2.707E-07	2.747E-07	2.782E-07	2.811E-07	2.826E-07
1.242E-07	1.545E-07	1.614E-07	1.640E-07	1.695E-07	1.760E-07	1.854E-07	1.978E-07
2.118E-07	2.246E-07	2.349E-07	2.443E-07	2.491E-07	2.540E-07	2.588E-07	2.635E-07
2.677E-07	2.714E-07	2.745E-07	2.770E-07	2.813E-07	2.850E-07	2.879E-07	2.896E-07

N_{T_i}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
2.403E-07	2.393E-07	2.366E-07	2.320E-07	2.302E-07	2.287E-07	2.273E-07	2.261E-07
2.250E-07	2.185E-07	2.152E-07	2.116E-07	2.105E-07	2.096E-07	2.089E-07	2.083E-07
2.077E-07	2.045E-07	2.030E-07	2.016E-07				

Table 1. (e) Hydrogen stopping coefficient for pure Be^{+4} plasma. Economised tabulation with respect to reference conditions. 1st. data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges; 2nd. data block contains $S_{cr}(E_b, N_e, T_I^{(ref)})$ ($cm^3\ s^{-1}$); 3rd. data block contains T_I (eV) scan range; 4th. data block contains $S_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ ($cm^3\ s^{-1}$)

z_0=4	$S_{cr}^{(ref)}$=1.859E-07 $cm^3\ s^{-1}$			Date=24/08/99		Code=adas312	
N_{E_b}=24	N_{N_e}=20	$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
1.221E-07	1.369E-07	1.423E-07	1.439E-07	1.458E-07	1.461E-07	1.455E-07	1.468E-07
1.503E-07	1.544E-07	1.575E-07	1.607E-07	1.626E-07	1.647E-07	1.668E-07	1.690E-07
1.709E-07	1.725E-07	1.736E-07	1.744E-07	1.756E-07	1.767E-07	1.776E-07	1.777E-07
1.223E-07	1.372E-07	1.426E-07	1.443E-07	1.463E-07	1.466E-07	1.460E-07	1.474E-07
1.509E-07	1.551E-07	1.582E-07	1.615E-07	1.634E-07	1.655E-07	1.676E-07	1.698E-07
1.717E-07	1.733E-07	1.745E-07	1.753E-07	1.765E-07	1.776E-07	1.785E-07	1.786E-07
1.226E-07	1.375E-07	1.429E-07	1.447E-07	1.467E-07	1.471E-07	1.467E-07	1.481E-07
1.517E-07	1.559E-07	1.591E-07	1.624E-07	1.643E-07	1.664E-07	1.686E-07	1.708E-07
1.728E-07	1.744E-07	1.755E-07	1.764E-07	1.776E-07	1.787E-07	1.796E-07	1.798E-07
1.229E-07	1.378E-07	1.433E-07	1.451E-07	1.473E-07	1.478E-07	1.474E-07	1.489E-07
1.526E-07	1.568E-07	1.601E-07	1.634E-07	1.654E-07	1.675E-07	1.698E-07	1.720E-07
1.739E-07	1.755E-07	1.767E-07	1.776E-07	1.788E-07	1.800E-07	1.809E-07	1.811E-07
1.232E-07	1.381E-07	1.437E-07	1.456E-07	1.479E-07	1.486E-07	1.483E-07	1.499E-07
1.536E-07	1.580E-07	1.613E-07	1.647E-07	1.667E-07	1.688E-07	1.711E-07	1.733E-07
1.753E-07	1.769E-07	1.782E-07	1.790E-07	1.803E-07	1.814E-07	1.824E-07	1.826E-07
1.235E-07	1.385E-07	1.442E-07	1.462E-07	1.487E-07	1.494E-07	1.493E-07	1.510E-07
1.548E-07	1.592E-07	1.627E-07	1.661E-07	1.681E-07	1.703E-07	1.726E-07	1.749E-07
1.769E-07	1.786E-07	1.798E-07	1.807E-07	1.820E-07	1.832E-07	1.842E-07	1.844E-07
1.239E-07	1.390E-07	1.447E-07	1.469E-07	1.495E-07	1.504E-07	1.504E-07	1.522E-07
1.562E-07	1.607E-07	1.642E-07	1.677E-07	1.698E-07	1.721E-07	1.744E-07	1.767E-07
1.787E-07	1.804E-07	1.817E-07	1.826E-07	1.839E-07	1.851E-07	1.862E-07	1.864E-07
1.244E-07	1.395E-07	1.453E-07	1.476E-07	1.504E-07	1.515E-07	1.516E-07	1.536E-07
1.577E-07	1.623E-07	1.660E-07	1.696E-07	1.717E-07	1.740E-07	1.764E-07	1.787E-07
1.808E-07	1.825E-07	1.838E-07	1.847E-07	1.861E-07	1.874E-07	1.885E-07	1.888E-07
1 249E-07	1.400E-07	1.460E-07	1.484E-07	1.514E-07	1.527E-07	1.530E-07	1.551E-07
1.594E-07	1.642E-07	1.679E-07	1.717E-07	1.738E-07	1 762E-07	1.786E-07	1.809E-07
1.831E-07	1.848E-07	1.861E-07	1.871E-07	1.886E-07	1.899E-07	1.910E-07	1.914E-07
1.254E-07	1.407E-07	1.467E-07	1.493E-07	1.525E-07	1.540E-07	1.545E-07	1.568E-07
1.613E-07	1.662E-07	1.701E-07	1.739E-07	1.762E-07	1.785E-07	1.810E-07	1.834E-07
1.856E-07	1.874E-07	1.887E-07	1.897E-07	1.912E-07	1.926E-07	1.938E-07	1.942E-07

Table 1. (e) contd.

1.260E-07	1.414E-07	1.475E-07	1.504E-07	1.538E-07	1.555E-07	1.563E-07	1.588E-07
1.634E-07	1.684E-07	1.725E-07	1.765E-07	1.788E-07	1.812E-07	1.838E-07	1.862E-07
1.884E-07	1.903E-07	1.917E-07	1.927E-07	1.943E-07	1.958E-07	1.970E-07	1.975E-07
1.267E-07	1.422E-07	1.485E-07	1.515E-07	1.552E-07	1.572E-07	1.581E-07	1.608E-07
1.657E-07	1.709E-07	1.751E-07	1.793E-07	1.816E-07	1.842E-07	1.868E-07	1.893E-07
1.915E-07	1.934E-07	1.949E-07	1.960E-07	1.976E-07	1.992E-07	2.005E-07	2.010E-07
1.274E-07	1.431E-07	1.495E-07	1.527E-07	1.567E-07	1.590E-07	1.602E-07	1.632E-07
1.682E-07	1.737E-07	1.781E-07	1.824E-07	1.848E-07	1.874E-07	1.901E-07	1.927E-07
1.950E-07	1.969E-07	1.984E-07	1.996E-07	2.013E-07	2.030E-07	2.044E-07	2.050E-07
1.283E-07	1.441E-07	1.507E-07	1.542E-07	1.584E-07	1.610E-07	1.626E-07	1.658E-07
1.711E-07	1.768E-07	1.813E-07	1.859E-07	1.884E-07	1.911E-07	1.938E-07	1.965E-07
1.989E-07	2.009E-07	2.024E-07	2.036E-07	2.055E-07	2.072E-07	2.088E-07	2.095E-07
1.292E-07	1.453E-07	1.520E-07	1.557E-07	1.603E-07	1.633E-07	1.651E-07	1.687E-07
1.742E-07	1.802E-07	1.850E-07	1.897E-07	1.923E-07	1.951E-07	1.979E-07	2.007E-07
2.032E-07	2.052E-07	2.068E-07	2.081E-07	2.101E-07	2.120E-07	2.136E-07	2.144E-07
1.303E-07	1.465E-07	1.534E-07	1.575E-07	1.624E-07	1.658E-07	1.680E-07	1.719E-07
1.778E-07	1.840E-07	1.890E-07	1.940E-07	1.967E-07	1.996E-07	2.025E-07	2.054E-07
2.079E-07	2.101E-07	2.118E-07	2.131E-07	2.152E-07	2.172E-07	2.190E-07	2.199E-07
1.315E-07	1.479E-07	1.550E-07	1.594E-07	1.647E-07	1.686E-07	1.712E-07	1.754E-07
1.816E-07	1.881E-07	1.934E-07	1.986E-07	2.015E-07	2.044E-07	2.075E-07	2.104E-07
2.131E-07	2.153E-07	2.171E-07	2.185E-07	2.208E-07	2.230E-07	2.249E-07	2.260E-07
1.327E-07	1.493E-07	1.567E-07	1.614E-07	1.672E-07	1.715E-07	1.745E-07	1.790E-07
1.856E-07	1.925E-07	1.981E-07	2.035E-07	2.065E-07	2.096E-07	2.127E-07	2.158E-07
2.186E-07	2.209E-07	2.228E-07	2.243E-07	2.268E-07	2.291E-07	2.312E-07	2.324E-07
1.340E-07	1.508E-07	1.584E-07	1.635E-07	1.698E-07	1.745E-07	1.779E-07	1.829E-07
1.898E-07	1.970E-07	2.029E-07	2.086E-07	2.117E-07	2.150E-07	2.182E-07	2.214E-07
2.243E-07	2.268E-07	2.288E-07	2.304E-07	2.330E-07	2.356E-07	2.378E-07	2.392E-07
1.353E-07	1.522E-07	1.601E-07	1.655E-07	1.723E-07	1.775E-07	1.814E-07	1.867E-07
1.940E-07	2.015E-07	2.077E-07	2.137E-07	2.169E-07	2.203E-07	2.237E-07	2.270E-07
2.300E-07	2.325E-07	2.346E-07	2.363E-07	2.392E-07	2.419E-07	2.444E-07	2.458E-07
N_{T_I}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
2.112E-07	2.103E-07	2.076E-07	2.030E-07	2.012E-07	1.996E-07	1.982E-07	1.971E-07
1.959E-07	1.892E-07	1.859E-07	1.822E-07	1.810E-07	1.800E-07	1.793E-07	1.787E-07
1.781E-07	1.750E-07	1.736E-07	1.723E-07				

Table 1. (f) Hydrogen stopping coefficient for pure B^{+5} plasma. Economised tabulation with respect to reference conditions. 1st. data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges; 2nd. data block contains $S_{cr}(E_b, N_e, T_I^{(ref)})$ ($cm^3\ s^{-1}$); 3rd. data block contains T_I (eV) scan range; 4th. data block contains $S_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ ($cm^3\ s^{-1}$)

z_0=5	$S_{cr}^{(ref)}$=1.880E-07 $cm^3\ s^{-1}$			Date=24/08/99		Code=adas312	
N_{E_b}=24	N_{N_e}=20	$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
1.219E-07	1.445E-07	1.470E-07	1.456E-07	1.427E-07	1.433E-07	1.442E-07	1.462E-07
1.505E-07	1.558E-07	1.600E-07	1.641E-07	1.664E-07	1.689E-07	1.713E-07	1.737E-07
1.758E-07	1.774E-07	1.784E-07	1.790E-07	1.795E-07	1.799E-07	1.803E-07	1.799E-07
1.222E-07	1.447E-07	1.472E-07	1.459E-07	1.430E-07	1.438E-07	1.447E-07	1.467E-07
1.511E-07	1.564E-07	1.606E-07	1.648E-07	1.671E-07	1.696E-07	1.721E-07	1.745E-07
1.766E-07	1.782E-07	1.792E-07	1.798E-07	1.804E-07	1.808E-07	1.812E-07	1.808E-07
1.225E-07	1.450E-07	1.475E-07	1.463E-07	1.435E-07	1.443E-07	1.452E-07	1.473E-07
1.518E-07	1.572E-07	1.614E-07	1.657E-07	1.680E-07	1.705E-07	1.730E-07	1.754E-07
1.775E-07	1.792E-07	1.802E-07	1.808E-07	1.814E-07	1.819E-07	1.823E-07	1.820E-07
1.228E-07	1.453E-07	1.479E-07	1.467E-07	1.440E-07	1.448E-07	1.459E-07	1.481E-07
1.526E-07	1.580E-07	1.624E-07	1.666E-07	1.690E-07	1.715E-07	1.741E-07	1.765E-07
1.787E-07	1.803E-07	1.814E-07	1.820E-07	1.826E-07	1.831E-07	1.836E-07	1.833E-07
1.231E-07	1.457E-07	1.483E-07	1.472E-07	1.445E-07	1.455E-07	1.466E-07	1.489E-07
1.535E-07	1.591E-07	1.635E-07	1.678E-07	1.702E-07	1.728E-07	1.753E-07	1.778E-07
1.800E-07	1.817E-07	1.828E-07	1.834E-07	1.841E-07	1.846E-07	1.851E-07	1.849E-07
1.235E-07	1.461E-07	1.487E-07	1.478E-07	1.452E-07	1.463E-07	1.475E-07	1.499E-07
1.546E-07	1.603E-07	1.647E-07	1.692E-07	1.716E-07	1.742E-07	1.768E-07	1.793E-07
1.815E-07	1.832E-07	1.844E-07	1.851E-07	1.858E-07	1.864E-07	1.869E-07	1.867E-07
1.239E-07	1.465E-07	1.493E-07	1.484E-07	1.459E-07	1.471E-07	1.485E-07	1.510E-07
1.559E-07	1.616E-07	1.662E-07	1.707E-07	1.732E-07	1.758E-07	1.785E-07	1.810E-07
1.833E-07	1.850E-07	1.862E-07	1.869E-07	1.877E-07	1.884E-07	1.890E-07	1.888E-07
1.244E-07	1.471E-07	1.499E-07	1.491E-07	1.468E-07	1.481E-07	1.496E-07	1.523E-07
1.573E-07	1.631E-07	1.678E-07	1.725E-07	1.750E-07	1.777E-07	1.804E-07	1.830E-07
1.853E-07	1.871E-07	1.883E-07	1.890E-07	1.899E-07	1.907E-07	1.913E-07	1.913E-07
1.249E-07	1.477E-07	1.505E-07	1.499E-07	1.477E-07	1.492E-07	1.509E-07	1.537E-07
1.588E-07	1.649E-07	1.697E-07	1.744E-07	1.771E-07	1.798E-07	1.825E-07	1.852E-07
1.875E-07	1.894E-07	1.906E-07	1.914E-07	1.924E-07	1.932E-07	1.940E-07	1.940E-07
1.254E-07	1.483E-07	1.513E-07	1.508E-07	1.487E-07	1.504E-07	1.522E-07	1.552E-07
1.605E-07	1.667E-07	1.717E-07	1.766E-07	1.793E-07	1.821E-07	1.849E-07	1.876E-07
1.900E-07	1.919E-07	1.932E-07	1.940E-07	1.951E-07	1.960E-07	1.969E-07	1.970E-07

Table 1. (f) contd.

1.260E-07	1.491E-07	1.521E-07	1.518E-07	1.499E-07	1.518E-07	1.538E-07	1.570E-07
1.625E-07	1.689E-07	1.740E-07	1.791E-07	1.818E-07	1.847E-07	1.876E-07	1.903E-07
1.928E-07	1.947E-07	1.961E-07	1.970E-07	1.981E-07	1.992E-07	2.002E-07	2.003E-07
1.267E-07	1.499E-07	1.531E-07	1.529E-07	1.512E-07	1.533E-07	1.555E-07	1.589E-07
1.646E-07	1.712E-07	1.765E-07	1.817E-07	1.846E-07	1.875E-07	1.904E-07	1.933E-07
1.958E-07	1.978E-07	1.993E-07	2.002E-07	2.015E-07	2.027E-07	2.037E-07	2.040E-07
1.275E-07	1.509E-07	1.541E-07	1.541E-07	1.526E-07	1.549E-07	1.574E-07	1.610E-07
1.670E-07	1.738E-07	1.793E-07	1.847E-07	1.876E-07	1.906E-07	1.937E-07	1.966E-07
1.992E-07	2.013E-07	2.028E-07	2.038E-07	2.052E-07	2.065E-07	2.077E-07	2.082E-07
1.284E-07	1.519E-07	1.553E-07	1.555E-07	1.542E-07	1.568E-07	1.595E-07	1.634E-07
1.696E-07	1.766E-07	1.824E-07	1.880E-07	1.910E-07	1.942E-07	1.973E-07	2.003E-07
2.030E-07	2.052E-07	2.068E-07	2.079E-07	2.094E-07	2.109E-07	2.123E-07	2.128E-07
1.294E-07	1.531E-07	1.566E-07	1.570E-07	1.560E-07	1.588E-07	1.619E-07	1.660E-07
1.725E-07	1.798E-07	1.858E-07	1.917E-07	1.948E-07	1.981E-07	2.013E-07	2.044E-07
2.072E-07	2.095E-07	2.112E-07	2.123E-07	2.141E-07	2.157E-07	2.172E-07	2.180E-07
1.305E-07	1.544E-07	1.581E-07	1.587E-07	1.580E-07	1.611E-07	1.645E-07	1.689E-07
1.757E-07	1.833E-07	1.896E-07	1.957E-07	1.990E-07	2.024E-07	2.057E-07	2.090E-07
2.119E-07	2.143E-07	2.160E-07	2.173E-07	2.192E-07	2.211E-07	2.228E-07	2.237E-07
1.317E-07	1.558E-07	1.596E-07	1.605E-07	1.601E-07	1.636E-07	1.673E-07	1.721E-07
1.791E-07	1.871E-07	1.936E-07	2.001E-07	2.035E-07	2.070E-07	2.105E-07	2.139E-07
2.169E-07	2.194E-07	2.213E-07	2.227E-07	2.248E-07	2.268E-07	2.288E-07	2.299E-07
1.329E-07	1.572E-07	1.612E-07	1.624E-07	1.623E-07	1.662E-07	1.702E-07	1.753E-07
1.827E-07	1.910E-07	1.979E-07	2.046E-07	2.082E-07	2.118E-07	2.155E-07	2.190E-07
2.222E-07	2.248E-07	2.268E-07	2.283E-07	2.306E-07	2.329E-07	2.351E-07	2.363E-07
1.342E-07	1.586E-07	1.628E-07	1.644E-07	1.647E-07	1.689E-07	1.732E-07	1.787E-07
1.865E-07	1.951E-07	2.023E-07	2.093E-07	2.130E-07	2.169E-07	2.207E-07	2.243E-07
2.277E-07	2.304E-07	2.325E-07	2.341E-07	2.367E-07	2.393E-07	2.416E-07	2.431E-07
1.355E-07	1.599E-07	1.644E-07	1.663E-07	1.669E-07	1.715E-07	1.762E-07	1.820E-07
1.901E-07	1.990E-07	2.066E-07	2.139E-07	2.178E-07	2.217E-07	2.257E-07	2.295E-07
2.330E-07	2.359E-07	2.381E-07	2.398E-07	2.427E-07	2.454E-07	2.480E-07	2.497E-07

N_{T_I}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
2.132E-07	2.124E-07	2.098E-07	2.053E-07	2.035E-07	2.019E-07	2.005E-07	1.993E-07
1.982E-07	1.914E-07	1.880E-07	1.842E-07	1.830E-07	1.821E-07	1.813E-07	1.806E-07
1.801E-07	1.769E-07	1.754E-07	1.738E-07				

Table 1. (g) Hydrogen stopping coefficient for pure C^{+6} plasma. Economised tabulation with respect to reference conditions. 1st. data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges; 2nd. data block contains $S_{cr}(E_b, N_e, T_I^{(ref)})$ ($cm^3\ s^{-1}$); 3rd. data block contains T_I (eV) scan range; 4th. data block contains $S_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ ($cm^3\ s^{-1}$)

z_0=6	$S_{cr}^{(ref)}$=2.398E-07 $cm^3\ s^{-1}$			Date=24/08/99		Code=adas312	
N_{E_b}=24	N_{N_e}=20	$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
1.147E-07	1.296E-07	1.383E-07	1.473E-07	1.569E-07	1.669E-07	1.770E-07	1.866E-07
1.955E-07	2.036E-07	2.107E-07	2.171E-07	2.200E-07	2.228E-07	2.255E-07	2.280E-07
2.303E-07	2.324E-07	2.342E-07	2.359E-07	2.386E-07	2.408E-07	2.424E-07	2.434E-07
1.149E-07	1.299E-07	1.386E-07	1.476E-07	1.573E-07	1.673E-07	1.774E-07	1.871E-07
1.961E-07	2.042E-07	2.113E-07	2.177E-07	2.207E-07	2.236E-07	2.262E-07	2.288E-07
2.311E-07	2.332E-07	2.350E-07	2.367E-07	2.395E-07	2.416E-07	2.433E-07	2.443E-07
1.152E-07	1.302E-07	1.389E-07	1.480E-07	1.577E-07	1.678E-07	1.780E-07	1.877E-07
1.967E-07	2.049E-07	2.121E-07	2.186E-07	2.216E-07	2.244E-07	2.271E-07	2.297E-07
2.320E-07	2.341E-07	2.360E-07	2.377E-07	2.405E-07	2.427E-07	2.444E-07	2.454E-07
1.155E-07	1.305E-07	1.393E-07	1.484E-07	1.582E-07	1.684E-07	1.786E-07	1.884E-07
1.975E-07	2.058E-07	2.130E-07	2.195E-07	2.226E-07	2.254E-07	2.282E-07	2.307E-07
2.331E-07	2.353E-07	2.371E-07	2.388E-07	2.417E-07	2.440E-07	2.456E-07	2.467E-07
1.159E-07	1.309E-07	1.397E-07	1.489E-07	1.588E-07	1.690E-07	1.793E-07	1.892E-07
1.984E-07	2.067E-07	2.140E-07	2.206E-07	2.237E-07	2.266E-07	2.294E-07	2.320E-07
2.344E-07	2.366E-07	2.385E-07	2.402E-07	2.431E-07	2.454E-07	2.472E-07	2.483E-07
1.163E-07	1.314E-07	1.402E-07	1.494E-07	1.594E-07	1.697E-07	1.801E-07	1.901E-07
1.994E-07	2.079E-07	2.153E-07	2.219E-07	2.251E-07	2.280E-07	2.308E-07	2.335E-07
2.359E-07	2.381E-07	2.400E-07	2.418E-07	2.448E-07	2.471E-07	2.489E-07	2.501E-07
1.167E-07	1.318E-07	1.407E-07	1.500E-07	1.601E-07	1.706E-07	1.810E-07	1.911E-07
2.006E-07	2.091E-07	2.166E-07	2.234E-07	2.266E-07	2.296E-07	2.324E-07	2.351E-07
2.376E-07	2.398E-07	2.418E-07	2 436E-07	2.466E-07	2.491E-07	2.509E-07	2.522E-07
1.172E-07	1.324E-07	1.413E-07	1.507E-07	1.609E-07	1.715E-07	1.821E-07	1.923E-07
2.019E-07	2.106E-07	2.182E-07	2.251E-07	2.283E-07	2.313E-07	2.342E-07	2.370E-07
2.395E-07	2.418E-07	2.438E-07	2.456E-07	2.487E-07	2.513E-07	2.532E-07	2.545E-07
1.177E-07	1.330E-07	1.420E-07	1.515E-07	1.618E-07	1.725E-07	1.833E-07	1.937E-07
2.034E-07	2.122E-07	2.199E-07	2.269E-07	2.302E-07	2.333E-07	2.363E-07	2.391E-07
2.416E-07	2.440E-07	2.460E-07	2.479E-07	2.511E-07	2.537E-07	2.557E-07	2.572E-07
1.182E-07	1.337E-07	1.427E-07	1.523E-07	1.628E-07	1.737E-07	1.846E-07	1.951E-07
2.050E-07	2.140E-07	2.218E-07	2 290E-07	2.323E-07	2.355E-07	2.385E-07	2.414E-07
2.440E-07	2.464E-07	2.485E-07	2.504E-07	2.537E-07	2.564E-07	2.585E-07	2.600E-07

Table 1. (g) contd.

1.189E-07	1.345E-07	1.436E-07	1.533E-07	1.639E-07	1.749E-07	1.860E-07	1.968E-07
2.068E-07	2.160E-07	2.240E-07	2.313E-07	2.347E-07	2.380E-07	2.411E-07	2.440E-07
2.467E-07	2.491E-07	2.513E-07	2.532E-07	2.566E-07	2.594E-07	2.617E-07	2.633E-07
1.196E-07	1.354E-07	1.445E-07	1.543E-07	1.651E-07	1.764E-07	1.876E-07	1.986E-07
2.088E-07	2.182E-07	2.264E-07	2.338E-07	2.373E-07	2.407E-07	2.438E-07	2.468E-07
2.496E-07	2.521E-07	2.543E-07	2.563E-07	2.598E-07	2.628E-07	2.651E-07	2.669E-07
1.204E-07	1.364E-07	1.456E-07	1.555E-07	1.665E-07	1.779E-07	1.894E-07	2.006E-07
2.110E-07	2.206E-07	2.290E-07	2.367E-07	2.403E-07	2.437E-07	2.469E-07	2.500E-07
2.528E-07	2.554E-07	2.577E-07	2.598E-07	2.634E-07	2.665E-07	2.690E-07	2.709E-07
1.213E-07	1.375E-07	1.468E-07	1.568E-07	1.680E-07	1.797E-07	1.914E-07	2.028E-07
2.135E-07	2.233E-07	2.320E-07	2.398E-07	2.435E-07	2.470E-07	2.504E-07	2.536E-07
2.565E-07	2.591E-07	2.615E-07	2.637E-07	2.675E-07	2.707E-07	2.734E-07	2.754E-07
1.223E-07	1.388E-07	1.481E-07	1.583E-07	1.697E-07	1.816E-07	1.936E-07	2.052E-07
2.163E-07	2.263E-07	2.352E-07	2.433E-07	2.471E-07	2.508E-07	2.542E-07	2.575E-07
2.605E-07	2.633E-07	2.657E-07	2.680E-07	2.719E-07	2.753E-07	2.781E-07	2.803E-07
1.234E-07	1.401E-07	1.495E-07	1.599E-07	1.715E-07	1.837E-07	1.960E-07	2.079E-07
2.193E-07	2.296E-07	2.388E-07	2.472E-07	2.511E-07	2.548E-07	2.584E-07	2.618E-07
2.650E-07	2.678E-07	2.704E-07	2.727E-07	2.769E-07	2.804E-07	2.835E-07	2.858E-07
1.246E-07	1.414E-07	1.510E-07	1.616E-07	1.735E-07	1.860E-07	1.986E-07	2.108E-07
2.225E-07	2.332E-07	2.426E-07	2.513E-07	2.554E-07	2.592E-07	2.629E-07	2.665E-07
2.697E-07	2.727E-07	2.754E-07	2.778E-07	2.822E-07	2.859E-07	2.892E-07	2.918E-07
1.259E-07	1.428E-07	1.525E-07	1.633E-07	1.755E-07	1.883E-07	2.012E-07	2.138E-07
2.258E-07	2.368E-07	2.466E-07	2.555E-07	2.598E-07	2.638E-07	2.676E-07	2.713E-07
2.747E-07	2.778E-07	2.806E-07	2.832E-07	2.877E-07	2.917E-07	2.951E-07	2.979E-07
1.272E-07	1.441E-07	1.540E-07	1.651E-07	1.775E-07	1.907E-07	2.040E-07	2.169E-07
2.292E-07	2.406E-07	2.507E-07	2.599E-07	2.643E-07	2.685E-07	2.725E-07	2.763E-07
2.798E-07	2.830E-07	2.860E-07	2.886E-07	2.934E-07	2.976E-07	3.013E-07	3.043E-07
1.284E-07	1.454E-07	1.554E-07	1.667E-07	1.795E-07	1.930E-07	2.066E-07	2.198E-07
2.325E-07	2.442E-07	2.546E-07	2.641E-07	2.686E-07	2.730E-07	2.771E-07	2.810E-07
2.847E-07	2.881E-07	2.911E-07	2.939E-07	2.989E-07	3.033E-07	3.072E-07	3.104E-07

N_{T_I}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
2.640E-07	2.633E-07	2.609E-07	2.565E-07	2.547E-07	2.532E-07	2.519E-07	2.507E-07
2.497E-07	2.431E-07	2.398E-07	2.362E-07	2.350E-07	2.342E-07	2.335E-07	2.329E-07
2.324E-07	2.305E-07	2.304E-07	2.314E-07				

Table 1. (h) Hydrogen stopping coefficient for pure N^{+7} plasma Economised tabulation with respect to reference conditions. 1st. data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges; 2nd. data block contains $S_{cr}(E_b, N_e, T_I^{(ref)})$ ($cm^3\ s^{-1}$); 3rd. data block contains T_I (eV) scan range; 4th. data block contains $S_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ ($cm^3\ s^{-1}$)

z_0=7	$S_{cr}^{(ref)}$=2.001E-07 $cm^3\ s^{-1}$			Date=24/08/99		Code=adas312	
N_{E_b}=24	N_{N_e}=20	$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
1.251E-07	1.507E-07	1.586E-07	1.599E-07	1.576E-07	1.576E-07	1.597E-07	1.631E-07
1.660E-07	1.697E-07	1.731E-07	1.774E-07	1.801E-07	1.830E-07	1.862E-07	1.894E-07
1.925E-07	1.950E-07	1.970E-07	1.986E-07	2.013E-07	2.043E-07	2.075E-07	2.102E-07
1.253E-07	1.510E-07	1.589E-07	1.602E-07	1.580E-07	1.581E-07	1.601E-07	1.636E-07
1.665E-07	1.703E-07	1.738E-07	1.781E-07	1.808E-07	1.838E-07	1.869E-07	1.902E-07
1.933E-07	1.959E-07	1.978E-07	1.994E-07	2.022E-07	2.052E-07	2.085E-07	2.111E-07
1.256E-07	1.513E-07	1.593E-07	1.606E-07	1.584E-07	1.586E-07	1.607E-07	1.642E-07
1.672E-07	1.710E-07	1.746E-07	1.790E-07	1.817E-07	1.847E-07	1.879E-07	1.912E-07
1.942E-07	1.968E-07	1.989E-07	2.004E-07	2.033E-07	2.064E-07	2.096E-07	2.123E-07
1.260E-07	1.517E-07	1.596E-07	1.610E-07	1.589E-07	1.591E-07	1.613E-07	1.650E-07
1.680E-07	1.719E-07	1.755E-07	1.799E-07	1.827E-07	1.857E-07	1.889E-07	1.922E-07
1.954E-07	1.980E-07	2.000E-07	2.016E-07	2.045E-07	2.076E-07	2.110E-07	2.137E-07
1.263E-07	1.521E-07	1.600E-07	1.614E-07	1.594E-07	1.598E-07	1.621E-07	1.658E-07
1.689E-07	1.729E-07	1.766E-07	1.811E-07	1.839E-07	1.869E-07	1.902E-07	1.935E-07
1.967E-07	1.993E-07	2.014E-07	2.030E-07	2.060E-07	2.092E-07	2.125E-07	2.153E-07
1.267E-07	1.526E-07	1.605E-07	1.620E-07	1.601E-07	1.605E-07	1.629E-07	1.667E-07
1.699E-07	1.740E-07	1.778E-07	1.824E-07	1.852E-07	1.883E-07	1.917E-07	1.950E-07
1.982E-07	2.009E-07	2.030E-07	2.047E-07	2.077E-07	2.109E-07	2.143E-07	2.172E-07
1.272E-07	1.531E-07	1.611E-07	1.626E-07	1.608E-07	1.614E-07	1.639E-07	1.678E-07
1.711E-07	1.753E-07	1.792E-07	1.839E-07	1.868E-07	1.899E-07	1.933E-07	1.967E-07
1.999E-07	2.027E-07	2.048E-07	2.065E-07	2.096E-07	2.129E-07	2.164E-07	2.193E-07
1.276E-07	1.537E-07	1.617E-07	1.633E-07	1.616E-07	1.623E-07	1.650E-07	1.690E-07
1.725E-07	1.768E-07	1.808E-07	1.856E-07	1.885E-07	1.917E-07	1.951E-07	1.986E-07
2.019E-07	2.046E-07	2.068E-07	2.086E-07	2.117E-07	2.151E-07	2.187E-07	2.217E-07
1.282E-07	1.543E-07	1.624E-07	1.641E-07	1.625E-07	1.634E-07	1.662E-07	1.704E-07
1.739E-07	1.784E-07	1.825E-07	1.875E-07	1.905E-07	1.937E-07	1.972E-07	2.007E-07
2.040E-07	2.068E-07	2.091E-07	2.109E-07	2.141E-07	2 176E-07	2.213E-07	2.244E-07
1.287E-07	1.551E-07	1.631E-07	1.649E-07	1.635E-07	1.646E-07	1.675E-07	1.718E-07
1.756E-07	1.801E-07	1.844E-07	1.895E-07	1.926E-07	1.959E-07	1.994E-07	2.030E-07
2.063E-07	2.092E-07	2.115E-07	2.134E-07	2.167E-07	2.203E-07	2.241E-07	2.273E-07

Table 1. (h) contd.

1.294E-07	1.559E-07	1.640E-07	1.659E-07	1.646E-07	1.659E-07	1.690E-07	1.735E-07
1.773E-07	1.821E-07	1.866E-07	1.918E-07	1.949E-07	1.983E-07	2.019E-07	2.055E-07
2.090E-07	2.119E-07	2.142E-07	2.162E-07	2.196E-07	2.233E-07	2.272E-07	2.305E-07
1.301E-07	1.568E-07	1.650E-07	1.669E-07	1.658E-07	1.672E-07	1.706E-07	1.752E-07
1.793E-07	1.842E-07	1.889E-07	1.943E-07	1.975E-07	2.009E-07	2.046E-07	2.083E-07
2.118E-07	2.148E-07	2.172E-07	2.192E-07	2.227E-07	2.266E-07	2.306E-07	2.341E-07
1.309E-07	1.579E-07	1.660E-07	1.681E-07	1.672E-07	1.688E-07	1.723E-07	1.772E-07
1.814E-07	1.865E-07	1.914E-07	1.970E-07	2.003E-07	2.039E-07	2.076E-07	2.114E-07
2.150E-07	2.180E-07	2.205E-07	2.225E-07	2.263E-07	2.303E-07	2.345E-07	2.380E-07
1.318E-07	1.590E-07	1.672E-07	1.694E-07	1.687E-07	1.705E-07	1.742E-07	1.793E-07
1.838E-07	1.891E-07	1.942E-07	2.001E-07	2.035E-07	2.071E-07	2.109E-07	2.148E-07
2.185E-07	2.216E-07	2.242E-07	2.263E-07	2.302E-07	2.344E-07	2.387E-07	2.425E-07
1.329E-07	1.602E-07	1.685E-07	1.708E-07	1.703E-07	1.723E-07	1.763E-07	1.816E-07
1.863E-07	1.919E-07	1.973E-07	2.034E-07	2.069E-07	2.106E-07	2.146E-07	2.185E-07
2.223E-07	2.255E-07	2.282E-07	2.304E-07	2.345E-07	2.388E-07	2.434E-07	2.474E-07
1.340E-07	1.616E-07	1.699E-07	1.723E-07	1.720E-07	1.744E-07	1.786E-07	1.841E-07
1.891E-07	1.950E-07	2.006E-07	2.070E-07	2.106E-07	2.145E-07	2.185E-07	2.226E-07
2.265E-07	2.298E-07	2.326E-07	2.349E-07	2.392E-07	2.438E-07	2.486E-07	2.527E-07
1.352E-07	1.629E-07	1.713E-07	1.739E-07	1.739E-07	1.765E-07	1.810E-07	1.868E-07
1.920E-07	1.982E-07	2.042E-07	2.108E-07	2.146E-07	2.186E-07	2.228E-07	2.270E-07
2.309E-07	2.344E-07	2.373E-07	2.397E-07	2.442E-07	2.490E-07	2.541E-07	2.584E-07
1.365E-07	1.642E-07	1.727E-07	1.755E-07	1.758E-07	1.786E-07	1.834E-07	1.895E-07
1.950E-07	2.015E-07	2.078E-07	2.148E-07	2.187E-07	2.228E-07	2.271E-07	2.314E-07
2.355E-07	2.391E-07	2.421E-07	2.447E-07	2.494E-07	2.545E-07	2.597E-07	2.643E-07
1.377E-07	1.655E-07	1.741E-07	1.771E-07	1.777E-07	1.808E-07	1.859E-07	1.923E-07
1.981E-07	2.049E-07	2.115E-07	2.188E-07	2.228E-07	2.271E-07	2.315E-07	2.360E-07
2.402E-07	2.439E-07	2.471E-07	2.498E-07	2.548E-07	2.601E-07	2.656E-07	2.704E-07
1.389E-07	1.667E-07	1.754E-07	1.786E-07	1.795E-07	1.829E-07	1.882E-07	1.949E-07
2.010E-07	2.080E-07	2.150E-07	2.226E-07	2.268E-07	2.312E-07	2.357E-07	2.403E-07
2.447E-07	2.485E-07	2.518E-07	2.546E-07	2.598E-07	2.654E-07	2.711E-07	2.762E-07
N_{T_r}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
2.252E-07	2.245E-07	2.220E-07	2.174E-07	2.156E-07	2.140E-07	2.126E-07	2.114E-07
2.103E-07	2.035E-07	2.001E-07	1.963E-07	1.952E-07	1.943E-07	1.935E-07	1.929E-07
1.924E-07	1.898E-07	1.888E-07	1.882E-07				

Table 1. (i) Hydrogen stopping coefficient for pure O^{+8} plasma. Economised tabulation with respect to reference conditions. 1st. data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges; 2nd. data block contains $S_{cr}(E_b, N_e, T_I^{(ref)})$ ($cm^3\ s^{-1}$); 3rd. data block contains T_I (eV) scan range; 4th. data block contains $S_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ ($cm^3\ s^{-1}$)

z_0=8	$S_{cr}^{(ref)}$=2.213E-07 $cm^3\ s^{-1}$			Date=24/08/99		Code=adas312	
N_{E_b}=24	N_{N_e}=20	$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
1.127E-07	1.386E-07	1.540E-07	1.661E-07	1.765E-07	1.852E-07	1.920E-07	1.962E-07
1.981E-07	1.997E-07	1.985E-07	1.987E-07	1.999E-07	2.018E-07	2.041E-07	2.068E-07
2.095E-07	2.117E-07	2.134E-07	2.147E-07	2.173E-07	2.205E-07	2.241E-07	2.270E-07
1.130E-07	1.389E-07	1.543E-07	1.664E-07	1.769E-07	1.856E-07	1.925E-07	1.967E-07
1.987E-07	2.003E-07	1.991E-07	1.994E-07	2.007E-07	2.025E-07	2.049E-07	2.076E-07
2.103E-07	2.126E-07	2.143E-07	2.156E-07	2.182E-07	2.214E-07	2.250E-07	2.281E-07
1.133E-07	1.392E-07	1.546E-07	1.668E-07	1.773E-07	1.860E-07	1.930E-07	1.973E-07
1.994E-07	2.010E-07	1.999E-07	2.003E-07	2.016E-07	2.035E-07	2.059E-07	2.086E-07
2.113E-07	2.136E-07	2.153E-07	2.167E-07	2.193E-07	2.226E-07	2.263E-07	2.293E-07
1.137E-07	1.396E-07	1.550E-07	1.672E-07	1.778E-07	1.866E-07	1.936E-07	1.980E-07
2.001E-07	2.018E-07	2.008E-07	2.013E-07	2.026E-07	2.045E-07	2.070E-07	2.097E-07
2.124E-07	2.148E-07	2.165E-07	2.179E-07	2.206E-07	2.239E-07	2.277E-07	2.308E-07
1.140E-07	1.400E-07	1.554E-07	1.676E-07	1.783E-07	1.872E-07	1.943E-07	1.988E-07
2.010E-07	2.028E-07	2.019E-07	2.024E-07	2.038E-07	2.058E-07	2.082E-07	2.110E-07
2.138E-07	2.162E-07	2.180E-07	2.194E-07	2.221E-07	2.255E-07	2.293E-07	2.325E-07
1.144E-07	1.405E-07	1.559E-07	1.682E-07	1.789E-07	1.879E-07	1.951E-07	1.997E-07
2.020E-07	2.040E-07	2.031E-07	2.038E-07	2.052E-07	2.072E-07	2.097E-07	2.126E-07
2.154E-07	2.178E-07	2.196E-07	2.211E-07	2.239E-07	2.274E-07	2.312E-07	2.344E-07
1.149E-07	1.410E-07	1.565E-07	1.688E-07	1.796E-07	1.887E-07	1.960E-07	2.007E-07
2.031E-07	2.052E-07	2.045E-07	2.053E-07	2.067E-07	2.088E-07	2.114E-07	2.143E-07
2.171E-07	2.196E-07	2.214E-07	2.229E-07	2.259E-07	2.294E-07	2.334E-07	2.367E-07
1.154E-07	1.416E-07	1.571E-07	1.694E-07	1.804E-07	1.896E-07	1.971E-07	2.019E-07
2.044E-07	2.066E-07	2.061E-07	2.070E-07	2.085E-07	2.106E-07	2.133E-07	2.162E-07
2.191E-07	2.216E-07	2.235E-07	2.251E-07	2.281E-07	2.317E-07	2.358E-07	2.391E-07
1.159E-07	1.423E-07	1.578E-07	1.702E-07	1.812E-07	1.906E-07	1.982E-07	2.031E-07
2.059E-07	2.082E-07	2.078E-07	2.088E-07	2.104E-07	2.126E-07	2.153E-07	2.183E-07
2.213E-07	2.238E-07	2.258E-07	2.274E-07	2.305E-07	2.342E-07	2.384E-07	2.419E-07
1.165E-07	1.430E-07	1.585E-07	1.710E-07	1.822E-07	1.917E-07	1.994E-07	2.045E-07
2.074E-07	2.099E-07	2.097E-07	2.109E-07	2.125E-07	2.148E-07	2.175E-07	2.206E-07
2.236E-07	2.262E-07	2.283E-07	2.299E-07	2.331E-07	2.370E-07	2.413E-07	2.449E-07

Table 1. (i) contd.

1.171E-07	1.439E-07	1.594E-07	1.720E-07	1.832E-07	1.929E-07	2.008E-07	2.061E-07
2.092E-07	2.119E-07	2.118E-07	2.131E-07	2.149E-07	2.172E-07	2.200E-07	2.232E-07
2.262E-07	2.289E-07	2.310E-07	2.327E-07	2.361E-07	2.401E-07	2.445E-07	2.482E-07
1.179E-07	1.448E-07	1.604E-07	1.730E-07	1.844E-07	1.942E-07	2.023E-07	2.078E-07
2.110E-07	2.139E-07	2.141E-07	2.156E-07	2.174E-07	2.198E-07	2.227E-07	2.259E-07
2.291E-07	2.318E-07	2.340E-07	2.358E-07	2.393E-07	2.434E-07	2.480E-07	2.518E-07
1.187E-07	1.459E-07	1.615E-07	1.741E-07	1.857E-07	1.957E-07	2.040E-07	2.097E-07
2.131E-07	2.162E-07	2.165E-07	2.183E-07	2.202E-07	2.227E-07	2.257E-07	2.290E-07
2.322E-07	2.351E-07	2.373E-07	2.391E-07	2.428E-07	2.471E-07	2.518E-07	2.558E-07
1.197E-07	1.470E-07	1.627E-07	1.754E-07	1.871E-07	1.973E-07	2.058E-07	2.117E-07
2.154E-07	2.187E-07	2.193E-07	2.213E-07	2.233E-07	2.259E-07	2.290E-07	2.324E-07
2.357E-07	2.386E-07	2.409E-07	2.429E-07	2.467E-07	2.512E-07	2.561E-07	2.603E-07
1.207E-07	1.483E-07	1.640E-07	1.768E-07	1.886E-07	1.991E-07	2.078E-07	2.139E-07
2.179E-07	2.215E-07	2.223E-07	2.245E-07	2.266E-07	2.294E-07	2.326E-07	2.361E-07
2.395E-07	2.425E-07	2.449E-07	2.470E-07	2.510E-07	2.556E-07	2.608E-07	2.651E-07
1.219E-07	1.496E-07	1.654E-07	1.783E-07	1.903E-07	2.009E-07	2.099E-07	2.163E-07
2.205E-07	2.244E-07	2.255E-07	2.280E-07	2.303E-07	2.331E-07	2.365E-07	2.401E-07
2.436E-07	2.467E-07	2.493E-07	2.514E-07	2.556E-07	2.605E-07	2.659E-07	2.705E-07
1.231E-07	1.509E-07	1.668E-07	1.798E-07	1.920E-07	2.029E-07	2.122E-07	2.189E-07
2.234E-07	2.276E-07	2.289E-07	2.317E-07	2.341E-07	2.371E-07	2.406E-07	2.443E-07
2.480E-07	2.512E-07	2.538E-07	2.561E-07	2.605E-07	2.657E-07	2.713E-07	2.761E-07
1.243E-07	1.522E-07	1.681E-07	1.813E-07	1.937E-07	2.049E-07	2.144E-07	2.214E-07
2.262E-07	2.307E-07	2.324E-07	2.354E-07	2.380E-07	2.411E-07	2.447E-07	2.486E-07
2.524E-07	2.558E-07	2.585E-07	2.609E-07	2.656E-07	2.710E-07	2.768E-07	2.819E-07
1.256E-07	1.534E-07	1.695E-07	1.828E-07	1.955E-07	2.069E-07	2.167E-07	2.240E-07
2.291E-07	2.339E-07	2.359E-07	2.392E-07	2.419E-07	2.452E-07	2.490E-07	2.530E-07
2.569E-07	2.604E-07	2.633E-07	2.658E-07	2.707E-07	2.764E-07	2.825E-07	2.878E-07
1.267E-07	1.546E-07	1.707E-07	1.842E-07	1.971E-07	2.088E-07	2.188E-07	2.264E-07
2.318E-07	2.369E-07	2.392E-07	2.428E-07	2.456E-07	2.490E-07	2.529E-07	2.571E-07
2.611E-07	2.648E-07	2.678E-07	2.704E-07	2.756E-07	2.815E-07	2.878E-07	2.934E-07

N_{T_i}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
2.461E-07	2.455E-07	2.430E-07	2.385E-07	2.367E-07	2.351E-07	2.337E-07	2.325E-07
2.314E-07	2.246E-07	2.213E-07	2.176E-07	2.165E-07	2.157E-07	2.150E-07	2.144E-07
2.139E-07	2.115E-07	2.107E-07	2.101E-07				

Table 1. (j) Hydrogen stopping coefficient for pure F^{+9} plasma. Economised tabulation with respect to reference conditions. 1st. data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges; 2nd. data block contains $S_{cr}(E_b, N_e, T_I^{(ref)})$ ($cm^3\ s^{-1}$); 3rd. data block contains T_I (eV) scan range; 4th. data block contains $S_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ ($cm^3\ s^{-1}$)

z_0=9	$S_{cr}^{(ref)}$=1.932E-07 $cm^3\ s^{-1}$			Date=24/08/99		Code=adas312	
N_{E_b}=24	N_{N_e}=20	$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
1.201E-07	1.377E-07	1.494E-07	1.566E-07	1.614E-07	1.629E-07	1.629E-07	1.656E-07
1.669E-07	1.665E-07	1.677E-07	1.714E-07	1.741E-07	1.772E-07	1.808E-07	1.845E-07
1.882E-07	1.914E-07	1.940E-07	1.964E-07	2.011E-07	2.065E-07	2.122E-07	2.172E-07
1.204E-07	1.381E-07	1.496E-07	1.569E-07	1.617E-07	1.632E-07	1.633E-07	1.660E-07
1.674E-07	1.671E-07	1.684E-07	1.721E-07	1.748E-07	1.780E-07	1.816E-07	1.853E-07
1.890E-07	1.922E-07	1.949E-07	1.972E-07	2.021E-07	2.075E-07	2.132E-07	2.183E-07
1.207E-07	1.384E-07	1.500E-07	1.572E-07	1.620E-07	1.636E-07	1.637E-07	1.666E-07
1.680E-07	1.677E-07	1.691E-07	1.729E-07	1.756E-07	1.789E-07	1.825E-07	1.863E-07
1.900E-07	1.932E-07	1.959E-07	1.983E-07	2.032E-07	2.087E-07	2.145E-07	2.196E-07
1.210E-07	1.388E-07	1.504E-07	1.576E-07	1.624E-07	1.641E-07	1.643E-07	1.672E-07
1.687E-07	1.685E-07	1.700E-07	1.739E-07	1.766E-07	1.799E-07	1.836E-07	1.874E-07
1.911E-07	1.944E-07	1.971E-07	1.996E-07	2.045E-07	2.100E-07	2.159E-07	2.211E-07
1.214E-07	1.392E-07	1.508E-07	1.580E-07	1.628E-07	1.646E-07	1.649E-07	1.679E-07
1.695E-07	1.694E-07	1.710E-07	1.750E-07	1.778E-07	1.811E-07	1.848E-07	1.887E-07
1.925E-07	1.958E-07	1.986E-07	2.010E-07	2.060E-07	2.116E-07	2.176E-07	2.228E-07
1.218E-07	1.397E-07	1.513E-07	1.585E-07	1.634E-07	1.652E-07	1.656E-07	1.687E-07
1.705E-07	1.705E-07	1.722E-07	1.763E-07	1.792E-07	1.825E-07	1.863E-07	1.902E-07
1.940E-07	1.974E-07	2.002E-07	2.027E-07	2.078E-07	2.135E-07	2.195E-07	2.248E-07
1.223E-07	1.403E-07	1.518E-07	1.590E-07	1.639E-07	1.659E-07	1.663E-07	1.696E-07
1.715E-07	1.717E-07	1.735E-07	1.777E-07	1.807E-07	1.841E-07	1.879E-07	1.919E-07
1.958E-07	1.992E-07	2.020E-07	2.046E-07	2.098E-07	2.156E-07	2.217E-07	2.271E-07
1.228E-07	1.409E-07	1.524E-07	1.596E-07	1.646E-07	1.666E-07	1.672E-07	1.706E-07
1.727E-07	1.730E-07	1.750E-07	1.794E-07	1.824E-07	1.859E-07	1.897E-07	1.938E-07
1.977E-07	2.012E-07	2.041E-07	2.067E-07	2.120E-07	2.179E-07	2.241E-07	2.296E-07
1.233E-07	1.416E-07	1.531E-07	1.603E-07	1.653E-07	1.675E-07	1.682E-07	1.718E-07
1.740E-07	1.745E-07	1.767E-07	1.812E-07	1.842E-07	1.878E-07	1.917E-07	1.959E-07
1.998E-07	2.034E-07	2.063E-07	2.090E-07	2.144E-07	2.204E-07	2.268E-07	2.323E-07
1.239E-07	1.424E-07	1.539E-07	1.611E-07	1.661E-07	1.684E-07	1.693E-07	1.730E-07
1.754E-07	1.761E-07	1.785E-07	1.831E-07	1.863E-07	1.899E-07	1.939E-07	1.981E-07
2.022E-07	2.057E-07	2.088E-07	2.115E-07	2.170E-07	2.232E-07	2.296E-07	2.353E-07

Table 1. (j) contd.

1.246E-07	1.433E-07	1.548E-07	1.619E-07	1.670E-07	1.694E-07	1.706E-07	1.745E-07
1.771E-07	1.779E-07	1.805E-07	1.853E-07	1.886E-07	1.923E-07	1.964E-07	2.006E-07
2.048E-07	2.084E-07	2.115E-07	2.143E-07	2.200E-07	2.263E-07	2.329E-07	2.387E-07
1.254E-07	1.443E-07	1.558E-07	1.629E-07	1.681E-07	1.706E-07	1.719E-07	1.760E-07
1.788E-07	1.799E-07	1.826E-07	1.877E-07	1.910E-07	1.949E-07	1.990E-07	2.034E-07
2.076E-07	2.113E-07	2.145E-07	2.173E-07	2.232E-07	2.296E-07	2.364E-07	2.423E-07
1.262E-07	1.454E-07	1.568E-07	1.640E-07	1.692E-07	1.719E-07	1.734E-07	1.777E-07
1.808E-07	1.820E-07	1.850E-07	1.903E-07	1.938E-07	1.977E-07	2.020E-07	2.064E-07
2.107E-07	2.145E-07	2.177E-07	2.207E-07	2.267E-07	2.333E-07	2.402E-07	2.464E-07
1.272E-07	1.466E-07	1.581E-07	1.652E-07	1.705E-07	1.734E-07	1.751E-07	1.796E-07
1.829E-07	1.844E-07	1.877E-07	1.932E-07	1.968E-07	2.008E-07	2.052E-07	2.097E-07
2.141E-07	2.180E-07	2.214E-07	2.244E-07	2.306E-07	2.374E-07	2.445E-07	2.508E-07
1.283E-07	1.479E-07	1.594E-07	1.665E-07	1.719E-07	1.749E-07	1.769E-07	1.817E-07
1.853E-07	1.871E-07	1.906E-07	1.964E-07	2.001E-07	2.042E-07	2.087E-07	2.134E-07
2.178E-07	2.218E-07	2.253E-07	2.284E-07	2.348E-07	2.418E-07	2.492E-07	2.557E-07
1.295E-07	1.493E-07	1.607E-07	1.679E-07	1.734E-07	1.766E-07	1.789E-07	1.840E-07
1.878E-07	1.899E-07	1.937E-07	1.998E-07	2.036E-07	2.079E-07	2.126E-07	2.173E-07
2.219E-07	2.260E-07	2.296E-07	2.328E-07	2.395E-07	2.467E-07	2.543E-07	2.610E-07
1.307E-07	1.506E-07	1.621E-07	1.693E-07	1.749E-07	1.784E-07	1.810E-07	1.863E-07
1.904E-07	1.928E-07	1.970E-07	2.034E-07	2.074E-07	2.118E-07	2.166E-07	2.214E-07
2.261E-07	2.304E-07	2.341E-07	2.374E-07	2.443E-07	2.518E-07	2.596E-07	2.666E-07
1.319E-07	1.519E-07	1.634E-07	1.707E-07	1.764E-07	1.802E-07	1.830E-07	1.886E-07
1.931E-07	1.958E-07	2.002E-07	2.070E-07	2.111E-07	2.157E-07	2.206E-07	2.256E-07
2.305E-07	2.348E-07	2.386E-07	2.422E-07	2.493E-07	2.570E-07	2.651E-07	2.723E-07
1.332E-07	1.531E-07	1.647E-07	1.721E-07	1.780E-07	1.819E-07	1.851E-07	1.910E-07
1.957E-07	1.988E-07	2.035E-07	2.106E-07	2.149E-07	2.196E-07	2.247E-07	2.299E-07
2.348E-07	2.393E-07	2.433E-07	2.469E-07	2.543E-07	2.623E-07	2.706E-07	2.781E-07
1.344E-07	1.542E-07	1.659E-07	1.734E-07	1.794E-07	1.836E-07	1.870E-07	1.932E-07
1.982E-07	2.015E-07	2.066E-07	2.140E-07	2.184E-07	2.233E-07	2.285E-07	2.338E-07
2.389E-07	2.435E-07	2.476E-07	2.514E-07	2.591E-07	2.673E-07	2.758E-07	2.835E-07

N_{T_I}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
2.182E-07	2.177E-07	2.152E-07	2.106E-07	2.088E-07	2.072E-07	2.058E-07	2.046E-07
2.035E-07	1.967E-07	1.932E-07	1.895E-07	1.883E-07	1.874E-07	1.867E-07	1.861E-07
1.856E-07	1.834E-07	1.828E-07	1.828E-07				

Table 1. (k) Hydrogen stopping coefficient for pure Ne^{+10} plasma. Economised tabulation with respect to reference conditions. 1st. data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges. 2nd. data block contains $S_{cr}(E_b, N_e, T_I^{(ref)})$ ($cm^3\ s^{-1}$); 3rd. data block contains T_I (eV) scan range; 4th. data block contains $S_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ ($cm^3\ s^{-1}$)

z_0=10	$S_{cr}^{(ref)}$=1.805E-07 $cm^3\ s^{-1}$			Date=24/08/99		Code=adas312	
N_{E_b}=24	N_{N_e}=20	$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
1.224E-07	1.397E-07	1.504E-07	1.577E-07	1.621E-07	1.623E-07	1.619E-07	1.618E-07
1.608E-07	1.606E-07	1.592E-07	1.598E-07	1.612E-07	1.631E-07	1.656E-07	1.684E-07
1.715E-07	1.745E-07	1.774E-07	1.802E-07	1.860E-07	1.925E-07	1.995E-07	2.057E-07
1.227E-07	1.400E-07	1.507E-07	1.580E-07	1.624E-07	1.626E-07	1.623E-07	1.623E-07
1.613E-07	1.611E-07	1.598E-07	1.605E-07	1.619E-07	1.638E-07	1.663E-07	1.692E-07
1.723E-07	1.754E-07	1.782E-07	1.810E-07	1.869E-07	1.935E-07	2.005E-07	2.067E-07
1.230E-07	1.404E-07	1.511E-07	1.583E-07	1.628E-07	1.630E-07	1.627E-07	1.628E-07
1.619E-07	1.617E-07	1.605E-07	1.613E-07	1.627E-07	1.647E-07	1.672E-07	1.701E-07
1.733E-07	1.764E-07	1.793E-07	1.821E-07	1.880E-07	1.946E-07	2.017E-07	2.080E-07
1.234E-07	1.408E-07	1.515E-07	1.587E-07	1.632E-07	1.634E-07	1.632E-07	1.633E-07
1.625E-07	1.625E-07	1.614E-07	1.622E-07	1.637E-07	1.657E-07	1.682E-07	1.712E-07
1.744E-07	1.775E-07	1.805E-07	1.833E-07	1.893E-07	1.960E-07	2.031E-07	2.095E-07
1.237E-07	1.413E-07	1.519E-07	1.591E-07	1.636E-07	1.639E-07	1.638E-07	1.640E-07
1.633E-07	1.633E-07	1.623E-07	1.633E-07	1.648E-07	1.669E-07	1.694E-07	1.724E-07
1.757E-07	1.788E-07	1.818E-07	1.847E-07	1.908E-07	1.975E-07	2.047E-07	2.112E-07
1.242E-07	1.418E-07	1.524E-07	1.596E-07	1.641E-07	1.645E-07	1.644E-07	1.647E-07
1.641E-07	1.643E-07	1.634E-07	1.645E-07	1.660E-07	1.682E-07	1.708E-07	1.739E-07
1.771E-07	1.804E-07	1.834E-07	1.863E-07	1.925E-07	1.993E-07	2.066E-07	2.132E-07
1.246E-07	1.424E-07	1.530E-07	1.602E-07	1.647E-07	1.651E-07	1.652E-07	1.656E-07
1.651E-07	1.654E-07	1.646E-07	1.658E-07	1.675E-07	1.697E-07	1.724E-07	1.755E-07
1.788E-07	1.821E-07	1.852E-07	1.882E-07	1.944E-07	2.014E-07	2.087E-07	2.154E-07
1.251E-07	1.430E-07	1.536E-07	1.608E-07	1.653E-07	1.658E-07	1.660E-07	1.665E-07
1.662E-07	1.667E-07	1.660E-07	1.674E-07	1.691E-07	1.714E-07	1.741E-07	1.773E-07
1.807E-07	1.840E-07	1.871E-07	1.902E-07	1.965E-07	2.036E-07	2.111E-07	2.178E-07
1.257E-07	1.437E-07	1.544E-07	1 615E-07	1.660E-07	1.666E-07	1.669E-07	1.676E-07
1.674E-07	1.680E-07	1.676E-07	1 691E-07	1.709E-07	1.732E-07	1.760E-07	1.793E-07
1.827E-07	1.861E-07	1.893E-07	1.924E-07	1.989E-07	2.060E-07	2.137E-07	2.205E-07
1.263E-07	1.446E-07	1.552E-07	1.623E-07	1.668E-07	1.675E-07	1.679E-07	1.688E-07
1.687E-07	1.695E-07	1.692E-07	1.709E-07	1.728E-07	1.752E-07	1.781E-07	1.814E-07
1.849E-07	1.884E-07	1.917E-07	1.948E-07	2.014E-07	2.087E-07	2.165E-07	2.235E-07

Table 1. (k) contd.

1.270E-07	1.455E-07	1.561E-07	1.632E-07	1.677E-07	1.685E-07	1.691E-07	1.701E-07
1.702E-07	1.712E-07	1.711E-07	1.730E-07	1.749E-07	1.775E-07	1.804E-07	1.838E-07
1.874E-07	1.910E-07	1.943E-07	1.975E-07	2.042E-07	2.117E-07	2.196E-07	2.267E-07
1.278E-07	1.465E-07	1.571E-07	1.642E-07	1.687E-07	1.696E-07	1.704E-07	1.716E-07
1.719E-07	1.731E-07	1.732E-07	1.752E-07	1.773E-07	1.799E-07	1.830E-07	1.864E-07
1.901E-07	1.937E-07	1.971E-07	2.004E-07	2.073E-07	2.149E-07	2.229E-07	2.302E-07
1.287E-07	1.477E-07	1.582E-07	1.653E-07	1.699E-07	1.708E-07	1.718E-07	1.732E-07
1.737E-07	1.751E-07	1.754E-07	1.777E-07	1.799E-07	1.826E-07	1.857E-07	1.893E-07
1.931E-07	1.968E-07	2.003E-07	2.037E-07	2.107E-07	2.184E-07	2.267E-07	2.342E-07
1.297E-07	1.489E-07	1.595E-07	1.665E-07	1.711E-07	1.722E-07	1.734E-07	1.750E-07
1.757E-07	1.774E-07	1.779E-07	1.805E-07	1.827E-07	1.855E-07	1.888E-07	1.925E-07
1.964E-07	2.002E-07	2.038E-07	2.072E-07	2.144E-07	2.224E-07	2.308E-07	2.385E-07
1.307E-07	1.502E-07	1.608E-07	1.678E-07	1.725E-07	1.737E-07	1.751E-07	1.770E-07
1.779E-07	1.798E-07	1.806E-07	1.834E-07	1.858E-07	1.888E-07	1.921E-07	1.959E-07
1.999E-07	2.039E-07	2.075E-07	2.111E-07	2.185E-07	2.267E-07	2.353E-07	2.432E-07
1.319E-07	1.515E-07	1.621E-07	1.692E-07	1.739E-07	1.753E-07	1.769E-07	1.791E-07
1.803E-07	1.824E-07	1.835E-07	1.866E-07	1.892E-07	1.922E-07	1.957E-07	1.997E-07
2.038E-07	2.078E-07	2.116E-07	2.153E-07	2.229E-07	2.313E-07	2.402E-07	2.483E-07
1.332E-07	1.528E-07	1.635E-07	1.706E-07	1.754E-07	1.769E-07	1.788E-07	1.812E-07
1.827E-07	1.852E-07	1.865E-07	1.899E-07	1.926E-07	1.958E-07	1.995E-07	2.035E-07
2.078E-07	2.120E-07	2.159E-07	2.197E-07	2.275E-07	2.362E-07	2.453E-07	2.537E-07
1.344E-07	1.541E-07	1.648E-07	1.720E-07	1.769E-07	1.786E-07	1.807E-07	1.834E-07
1.851E-07	1.879E-07	1.895E-07	1.932E-07	1.961E-07	1.995E-07	2.033E-07	2.075E-07
2.119E-07	2.162E-07	2.202E-07	2.241E-07	2.322E-07	2.411E-07	2.505E-07	2.591E-07
1.357E-07	1.553E-07	1.661E-07	1.733E-07	1.783E-07	1.802E-07	1.826E-07	1.855E-07
1.875E-07	1.906E-07	1.926E-07	1.966E-07	1.996E-07	2.031E-07	2.070E-07	2.114E-07
2.159E-07	2.204E-07	2.246E-07	2.286E-07	2.370E-07	2.461E-07	2.557E-07	2.646E-07
1.368E-07	1.563E-07	1.672E-07	1.745E-07	1.796E-07	1.816E-07	1.843E-07	1.875E-07
1.898E-07	1.931E-07	1.953E-07	1.996E-07	2.028E-07	2.064E-07	2.105E-07	2.150E-07
2.197E-07	2.243E-07	2.286E-07	2.328E-07	2.414E-07	2.508E-07	2.606E-07	2.697E-07

N_{T_i}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
2.054E-07	2.049E-07	2.025E-07	1.979E-07	1.961E-07	1.945E-07	1.931E-07	1.919E-07
1.908E-07	1.839E-07	1.805E-07	1.767E-07	1.755E-07	1.746E-07	1.739E-07	1.733E-07
1.728E-07	1.704E-07	1.698E-07	1.699E-07				

Table 1. (l) Hydrogen stopping coefficient for pure Ar^{+18} plasma. Economised tabulation with respect to reference conditions. 1st. data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges; 2nd. data block contains $S_{cr}(E_b, N_e, T_I^{(ref)})$ ($cm^3\ s^{-1}$); 3rd. data block contains T_I (eV) scan range; 4th. data block contains $S_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ ($cm^3\ s^{-1}$)

z_0=18	$S_{cr}^{(ref)}$=2.638E-07 $cm^3\ s^{-1}$				Date=24/08/99		Code=adas312	
N_{E_b}=24	N_{N_e}=20		$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
1.127E-07	1.438E-07	1.679E-07	1.875E-07	2.049E-07	2.194E-07	2.324E-07	2.397E-07
2.471E-07	2.527E-07	2.482E-07	2.448E-07	2.443E-07	2.446E-07	2.455E-07	2.468E-07
2.483E-07	2.490E-07	2.485E-07	2.476E-07	2.477E-07	2.506E-07	2.553E-07	2.609E-07
1.129E-07	1.440E-07	1.682E-07	1.878E-07	2.053E-07	2.198E-07	2.328E-07	2.402E-07
2.476E-07	2.534E-07	2.488E-07	2.455E-07	2.452E-07	2.455E-07	2.464E-07	2.478E-07
2.493E-07	2.501E-07	2.496E-07	2.488E-07	2.490E-07	2.520E-07	2.568E-07	2.625E-07
1.132E-07	1.442E-07	1.684E-07	1.881E-07	2.057E-07	2.203E-07	2.334E-07	2.408E-07
2 483E-07	2.541E-07	2.497E-07	2.465E-07	2.461E-07	2.465E-07	2.475E-07	2.490E-07
2.506E-07	2.514E-07	2.510E-07	2.502E-07	2.506E-07	2.536E-07	2.586E-07	2.644E-07
1.135E-07	1.444E-07	1.687E-07	1.885E-07	2.062E-07	2.208E-07	2.340E-07	2.415E-07
2.491E-07	2.550E-07	2.506E-07	2.475E-07	2.473E-07	2.477E-07	2.488E-07	2.503E-07
2.520E-07	2.529E-07	2.525E-07	2.518E-07	2.523E-07	2.555E-07	2.607E-07	2.666E-07
1.137E-07	1.445E-07	1.690E-07	1.890E-07	2.068E-07	2.215E-07	2.348E-07	2.424E-07
2.500E-07	2.560E-07	2.518E-07	2.488E-07	2.486E-07	2.491E-07	2.503E-07	2.518E-07
2.536E-07	2.545E-07	2.542E-07	2.536E-07	2.543E-07	2.577E-07	2.630E-07	2.691E-07
1.139E-07	1.448E-07	1.694E-07	1.895E-07	2.075E-07	2.223E-07	2.357E-07	2.434E-07
2.511E-07	2.572E-07	2.531E-07	2.502E-07	2.501E-07	2.508E-07	2.520E-07	2.536E-07
2.554E-07	2.565E-07	2.563E-07	2.557E-07	2.566E-07	2 602E-07	2.657E-07	2.720E-07
1.142E-07	1.450E-07	1.698E-07	1.902E-07	2.083E-07	2.233E-07	2.367E-07	2.445E-07
2.523E-07	2.585E-07	2.545E-07	2.518E-07	2.518E-07	2.525E-07	2.539E-07	2.556E-07
2.575E-07	2.586E-07	2.585E-07	2.581E-07	2.591E-07	2.629E-07	2.686E-07	2.751E-07
1.144E-07	1.453E-07	1.704E-07	1.910E-07	2.093E-07	2.243E-07	2.379E-07	2.457E-07
2.536E-07	2.600E-07	2.561E-07	2.536E-07	2.537E-07	2.545E-07	2.559E-07	2.578E-07
2.597E-07	2.610E-07	2.609E-07	2.606E-07	2.619E-07	2.659E-07	2.717E-07	2.784E-07
1.147E-07	1.456E-07	1.710E-07	1.919E-07	2.103E-07	2.255E-07	2.392E-07	2.471E-07
2.551E-07	2.615E-07	2.578E-07	2.555E-07	2.556E-07	2.566E-07	2.581E-07	2.600E-07
2.621E-07	2.634E-07	2.635E-07	2.632E-07	2.647E-07	2.689E-07	2 750E-07	2.819E-07
1.149E-07	1.460E-07	1.718E-07	1.929E-07	2.115E-07	2.268E-07	2.405E-07	2.485E-07
2.565E-07	2.631E-07	2.595E-07	2.573E-07	2.576E-07	2.586E-07	2.602E-07	2.622E-07
2.644E-07	2.658E-07	2.660E-07	2.658E-07	2.675E-07	2.719E-07	2.782E-07	2.852E-07

Table 2. (l) contd.

1.152E-07	1.465E-07	1.727E-07	1.941E-07	2.128E-07	2.282E-07	2.419E-07	2.499E-07
2.580E-07	2.647E-07	2.612E-07	2.592E-07	2.595E-07	2.606E-07	2.624E-07	2.645E-07
2.667E-07	2.682E-07	2.684E-07	2.683E-07	2.702E-07	2.748E-07	2.813E-07	2.885E-07
1.155E-07	1.471E-07	1.738E-07	1.954E-07	2.142E-07	2.295E-07	2.432E-07	2.513E-07
2.594E-07	2.661E-07	2.628E-07	2.609E-07	2.613E-07	2.625E-07	2.643E-07	2.665E-07
2.688E-07	2.703E-07	2.707E-07	2.707E-07	2.727E-07	2.775E-07	2.841E-07	2.915E-07
1.159E-07	1.479E-07	1.749E-07	1.967E-07	2.155E-07	2.308E-07	2.445E-07	2.525E-07
2.607E-07	2.674E-07	2.642E-07	2.624E-07	2.629E-07	2.642E-07	2.661E-07	2.683E-07
2.707E-07	2.723E-07	2.727E-07	2.727E-07	2.749E-07	2.798E-07	2.866E-07	2.942E-07
1.164E-07	1.487E-07	1.762E-07	1.980E-07	2.167E-07	2.319E-07	2.456E-07	2.536E-07
2.618E-07	2.686E-07	2.654E-07	2.638E-07	2.643E-07	2.657E-07	2.676E-07	2.699E-07
2.723E-07	2.740E-07	2.744E-07	2.745E-07	2.768E-07	2.819E-07	2.887E-07	2.964E-07
1.170E-07	1.497E-07	1.774E-07	1.992E-07	2.178E-07	2.330E-07	2.466E-07	2.546E-07
2.627E-07	2.696E-07	2.665E-07	2.649E-07	2.655E-07	2.669E-07	2.689E-07	2.712E-07
2.737E-07	2.754E-07	2.759E-07	2.760E-07	2.784E-07	2.836E-07	2.905E-07	2.983E-07
1.177E-07	1.508E-07	1.787E-07	2.003E-07	2.188E-07	2.339E-07	2.474E-07	2.554E-07
2.635E-07	2.704E-07	2.673E-07	2.658E-07	2.665E-07	2.679E-07	2.699E-07	2.723E-07
2.748E-07	2.765E-07	2.771E-07	2.773E-07	2.797E-07	2.850E-07	2.920E-07	2.999E-07
1.185E-07	1.520E-07	1.798E-07	2.013E-07	2.196E-07	2.346E-07	2.481E-07	2.561E-07
2.642E-07	2.711E-07	2.680E-07	2.666E-07	2.673E-07	2.687E-07	2.708E-07	2.732E-07
2.757E-07	2.775E-07	2.780E-07	2.783E-07	2.808E-07	2.861E-07	2.932E-07	3.011E-07
1.195E-07	1.532E-07	1.809E-07	2.021E-07	2.203E-07	2.352E-07	2.487E-07	2.566E-07
2.647E-07	2.716E-07	2.686E-07	2.672E-07	2.679E-07	2.694E-07	2.714E-07	2.739E-07
2.764E-07	2.782E-07	2.788E-07	2.790E-07	2.816E-07	2.870E-07	2.941E-07	3.021E-07
1.206E-07	1.545E-07	1.818E-07	2.028E-07	2.209E-07	2.357E-07	2.491E-07	2.570E-07
2.651E-07	2.720E-07	2.690E-07	2.677E-07	2.684E-07	2.699E-07	2.720E-07	2.744E-07
2.770E-07	2.788E-07	2.794E-07	2.797E-07	2.823E-07	2.877E-07	2.948E-07	3.029E-07
1.217E-07	1.556E-07	1.826E-07	2.033E-07	2.213E-07	2.361E-07	2.495E-07	2.573E-07
2.654E-07	2.723E-07	2.694E-07	2.680E-07	2.688E-07	2.703E-07	2.724E-07	2.749E-07
2.774E-07	2.793E-07	2.798E-07	2.801E-07	2.828E-07	2.882E-07	2.954E-07	3.034E-07

N_{T_I}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
2.959E-07	2.959E-07	2.930E-07	2.872E-07	2.847E-07	2.826E-07	2.807E-07	2.791E-07
2.776E-07	2.685E-07	2.638E-07	2.585E-07	2.568E-07	2.554E-07	2.543E-07	2.535E-07
2.526E-07	2.484E-07	2.464E-07	2.444E-07				

Table 1. (m) Hydrogen stopping coefficient for pure Fe^{+26} plasma. Economised tabulation with respect to reference conditions. 1st. data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges; 2nd. data block contains $S_{cr}(E_b, N_e, T_I^{(ref)})$ ($cm^3\ s^{-1}$); 3rd. data block contains T_I (eV) scan range; 4th. data block contains $S_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ ($cm^3\ s^{-1}$)

z_0=27	$S_{cr}^{(ref)}$=1.616E-07 $cm^3\ s^{-1}$			Date=24/08/99		Code=adas312	
N_{E_b}=24	N_{N_e}=20	$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
9.479E-08	1.062E-07	1.084E-07	1.101E-07	1.173E-07	1.236E-07	1.311E-07	1.339E-07
1.372E-07	1.421E-07	1.462E-07	1.502E-07	1.523E-07	1.544E-07	1.565E-07	1.586E-07
1.607E-07	1.623E-07	1.632E-07	1.637E-07	1.647E-07	1.656E-07	1.666E-07	1.674E-07
9.515E-08	1.066E-07	1.088E-07	1.105E-07	1.177E-07	1.240E-07	1.315E-07	1.343E-07
1.376E-07	1.425E-07	1.465E-07	1.506E-07	1.526E-07	1.547E-07	1.569E-07	1.590E-07
1.611E-07	1.628E-07	1.637E-07	1.642E-07	1.651E-07	1.661E-07	1.672E-07	1.680E-07
9.556E-08	1.071E-07	1.093E-07	1.110E-07	1.182E-07	1.244E-07	1.319E-07	1.347E-07
1.380E-07	1.429E-07	1.470E-07	1.510E-07	1.531E-07	1.552E-07	1.573E-07	1.595E-07
1.616E-07	1.633E-07	1.642E-07	1.647E-07	1.657E-07	1.668E-07	1.679E-07	1.687E-07
9.598E-08	1.076E-07	1.098E-07	1.115E-07	1.187E-07	1.250E-07	1.324E-07	1.352E-07
1.385E-07	1.434E-07	1.474E-07	1.515E-07	1.536E-07	1.557E-07	1.579E-07	1.600E-07
1.621E-07	1.638E-07	1.648E-07	1.653E-07	1.664E-07	1.675E-07	1.687E-07	1.696E-07
9.645E-08	1.082E-07	1.105E-07	1.121E-07	1.193E-07	1.256E-07	1.330E-07	1.357E-07
1.390E-07	1.440E-07	1.480E-07	1.521E-07	1.542E-07	1.563E-07	1.585E-07	1.606E-07
1.628E-07	1.645E-07	1.654E-07	1.660E-07	1.671E-07	1.683E-07	1.695E-07	1.705E-07
9.697E-08	1.089E-07	1.111E-07	1.128E-07	1.200E-07	1.262E-07	1.337E-07	1.364E-07
1.397E-07	1.446E-07	1.486E-07	1.527E-07	1.548E-07	1.570E-07	1.591E-07	1.613E-07
1.635E-07	1.652E-07	1.662E-07	1.668E-07	1.679E-07	1.692E-07	1.705E-07	1.716E-07
9.753E-08	1.097E-07	1.119E-07	1.136E-07	1.208E-07	1.270E-07	1.344E-07	1.371E-07
1.404E-07	1.453E-07	1.494E-07	1.534E-07	1.556E-07	1.577E-07	1.599E-07	1.621E-07
1.643E-07	1.660E-07	1.670E-07	1.677E-07	1.689E-07	1.702E-07	1.716E-07	1.728E-07
9.816E-08	1.105E-07	1.128E-07	1.144E-07	1.216E-07	1.278E-07	1.352E-07	1.379E-07
1.412E-07	1.461E-07	1.502E-07	1.543E-07	1.564E-07	1.585E-07	1.608E-07	1.630E-07
1.652E-07	1.669E-07	1.680E-07	1.686E-07	1.699E-07	1.713E-07	1.729E-07	1.741E-07
9.887E-08	1.114E-07	1.138E-07	1.154E-07	1.226E-07	1.287E-07	1.362E-07	1.388E-07
1.421E-07	1.470E-07	1.511E-07	1.552E-07	1.573E-07	1.595E-07	1.617E-07	1.640E-07
1.662E-07	1.680E-07	1.690E-07	1.697E-07	1.711E-07	1.726E-07	1.742E-07	1.756E-07
9.967E-08	1.125E-07	1.148E-07	1.165E-07	1.236E-07	1.298E-07	1.372E-07	1.399E-07
1.431E-07	1.480E-07	1.521E-07	1.562E-07	1.584E-07	1.606E-07	1.628E-07	1.651E-07
1.673E-07	1.691E-07	1.702E-07	1.709E-07	1.724E-07	1.740E-07	1.757E-07	1.772E-07

Table 1. (m) contd.

1.006E-07	1.137E-07	1.160E-07	1.176E-07	1.248E-07	1.309E-07	1.384E-07	1.410E-07
1.443E-07	1.491E-07	1.533E-07	1.574E-07	1.596E-07	1.618E-07	1.640E-07	1.663E-07
1.686E-07	1.704E-07	1.715E-07	1.723E-07	1.738E-07	1.755E-07	1.774E-07	1.790E-07
1.016E-07	1.149E-07	1.172E-07	1.189E-07	1.260E-07	1.322E-07	1.396E-07	1.423E-07
1.455E-07	1.504E-07	1.545E-07	1.587E-07	1.609E-07	1.631E-07	1.653E-07	1.677E-07
1.700E-07	1.718E-07	1.730E-07	1.738E-07	1.754E-07	1.772E-07	1.793E-07	1.810E-07
1.027E-07	1.161E-07	1.185E-07	1.202E-07	1.273E-07	1.335E-07	1.410E-07	1.436E-07
1.468E-07	1.518E-07	1.559E-07	1.601E-07	1.623E-07	1.645E-07	1.668E-07	1.692E-07
1.715E-07	1.734E-07	1.746E-07	1.755E-07	1.772E-07	1.791E-07	1.813E-07	1.832E-07
1.039E-07	1.174E-07	1.198E-07	1.216E-07	1.287E-07	1.349E-07	1.424E-07	1.451E-07
1.483E-07	1.532E-07	1.574E-07	1.616E-07	1.638E-07	1.661E-07	1.684E-07	1.708E-07
1.731E-07	1.751E-07	1.764E-07	1.773E-07	1.791E-07	1.812E-07	1.835E-07	1.855E-07
1.052E-07	1.186E-07	1.211E-07	1.229E-07	1.301E-07	1.363E-07	1.438E-07	1.465E-07
1.497E-07	1.547E-07	1.589E-07	1.632E-07	1.654E-07	1.677E-07	1.700E-07	1.725E-07
1.749E-07	1.769E-07	1.782E-07	1.792E-07	1.811E-07	1.834E-07	1.859E-07	1.880E-07
1.064E-07	1.198E-07	1.223E-07	1.241E-07	1.314E-07	1.377E-07	1.452E-07	1.479E-07
1.512E-07	1.561E-07	1.604E-07	1.648E-07	1.670E-07	1.693E-07	1.717E-07	1.742E-07
1.766E-07	1.787E-07	1.801E-07	1.811E-07	1.832E-07	1.856E-07	1.883E-07	1.906E-07
1.076E-07	1.208E-07	1.233E-07	1.252E-07	1.326E-07	1.389E-07	1.465E-07	1.492E-07
1.525E-07	1.576E-07	1.619E-07	1.663E-07	1.685E-07	1.709E-07	1.733E-07	1.758E-07
1.783E-07	1.805E-07	1.819E-07	1.830E-07	1.852E-07	1.878E-07	1.907E-07	1.932E-07
1.086E-07	1.217E-07	1.242E-07	1.262E-07	1.336E-07	1.400E-07	1.476E-07	1.505E-07
1.538E-07	1.588E-07	1.632E-07	1.676E-07	1.699E-07	1.723E-07	1.748E-07	1.774E-07
1.800E-07	1.821E-07	1.836E-07	1.848E-07	1.872E-07	1.899E-07	1.930E-07	1.957E-07
1.096E-07	1.224E-07	1.250E-07	1.271E-07	1.346E-07	1.410E-07	1.487E-07	1.515E-07
1.549E-07	1.600E-07	1.644E-07	1.689E-07	1.713E-07	1.737E-07	1.762E-07	1.788E-07
1.815E-07	1.837E-07	1.853E-07	1.865E-07	1.890E-07	1.919E-07	1.952E-07	1.980E-07
1.104E-07	1.230E-07	1.256E-07	1.278E-07	1.354E-07	1.418E-07	1.496E-07	1.525E-07
1.559E-07	1.610E-07	1.655E-07	1.700E-07	1.724E-07	1.748E-07	1.774E-07	1.801E-07
1.828E-07	1.851E-07	1.867E-07	1.880E-07	1.906E-07	1.937E-07	1.971E-07	2.000E-07

N_{T_I}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
1.884E-07	1.882E-07	1.857E-07	1.809E-07	1.789E-07	1.772E-07	1.756E-07	1.743E-07
1.731E-07	1.656E-07	1.616E-07	1.572E-07	1.557E-07	1.546E-07	1.536E-07	1.528E-07
1.521E-07	1.482E-07	1.463E-07	1.445E-07				

Table 2. (a) H_α beam emission coefficient for pure H^{+1} plasma. Economised tabulation with respect to reference conditions. 1st. data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges; 2nd. data block contains $\epsilon_{cr}(E_b, N_e, T_I^{(ref)})$ ($cm^3\ s^{-1}$); 3rd. data block contains T_I (eV) scan range; 4th. data block contains $\epsilon_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ ($cm^3\ s^{-1}$)

z_0=1	$\epsilon_{cr}^{(ref)}$=1.839E-09 $cm^3\ s^{-1}$			Date=24/08/99		Code=adas312	
N_{E_b}=24	N_{N_e}=20	$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
2.095E-09	2.716E-09	3.290E-09	3.764E-09	4.134E-09	4.409E-09	4.610E-09	4.754E-09
4.857E-09	4.931E-09	4.983E-09	5.019E-09	5.033E-09	5.044E-09	5.052E-09	5.059E-09
5.063E-09	5.066E-09	5.068E-09	5.068E-09	5.065E-09	5.058E-09	5.048E-09	5.036E-09
2.019E-09	2.613E-09	3.172E-09	3.639E-09	4.008E-09	4.284E-09	4.487E-09	4.633E-09
4.740E-09	4.816E-09	4.871E-09	4.910E-09	4.924E-09	4.936E-09	4.946E-09	4.953E-09
4.959E-09	4.963E-09	4.965E-09	4.966E-09	4.965E-09	4.960E-09	4.951E-09	4.940E-09
1.929E-09	2.491E-09	3.031E-09	3.490E-09	3.856E-09	4.133E-09	4.338E-09	4.488E-09
4.598E-09	4.677E-09	4.735E-09	4.776E-09	4.792E-09	4.805E-09	4.816E-09	4.825E-09
4.832E-09	4.837E-09	4.840E-09	4.842E-09	4.843E-09	4.840E-09	4.833E-09	4.824E-09
1.827E-09	2.353E-09	2.871E-09	3.319E-09	3.682E-09	3.959E-09	4.167E-09	4.320E-09
4.433E-09	4.516E-09	4.577E-09	4.621E-09	4.638E-09	4.653E-09	4.665E-09	4.675E-09
4.683E-09	4.689E-09	4.694E-09	4.698E-09	4.700E-09	4.699E-09	4.695E-09	4.688E-09
1.710E-09	2.196E-09	2.687E-09	3.123E-09	3.480E-09	3.757E-09	3.966E-09	4.122E-09
4.239E-09	4.325E-09	4.390E-09	4.437E-09	4.456E-09	4.473E-09	4.486E-09	4.498E-09
4.507E-09	4.515E-09	4.521E-09	4.526E-09	4.531E-09	4.532E-09	4.530E-09	4.526E-09
1.578E-09	2.019E-09	2.481E-09	2.900E-09	3.250E-09	3.525E-09	3.735E-09	3.894E-09
4.013E-09	4.103E-09	4.171E-09	4.223E-09	4.243E-09	4.261E-09	4.276E-09	4.289E-09
4.300E-09	4.310E-09	4.317E-09	4.323E-09	4.332E-09	4.336E-09	4.336E-09	4.334E-09
1.435E-09	1.830E-09	2.259E-09	2.658E-09	2.997E-09	3.268E-09	3.478E-09	3.637E-09
3.760E-09	3.853E-09	3.924E-09	3.979E-09	4.001E-09	4.020E-09	4.037E-09	4.052E-09
4.064E-09	4.075E-09	4.084E-09	4.092E-09	4.103E-09	4.110E-09	4.114E-09	4.114E-09
1.283E-09	1.630E-09	2.022E-09	2.397E-09	2.722E-09	2.986E-09	3.192E-09	3.352E-09
3.476E-09	3.571E-09	3.645E-09	3.703E-09	3.727E-09	3.747E-09	3.766E-09	3.782E-09
3.796E-09	3.808E-09	3.819E-09	3.828E-09	3.843E-09	3.853E-09	3.859E-09	3.862E-09
1.128E-09	1.428E-09	1.782E-09	2.129E-09	2.436E-09	2.688E-09	2.890E-09	3.047E-09
3.170E-09	3.267E-09	3.343E-09	3.402E-09	3.427E-09	3.449E-09	3.469E-09	3.486E-09
3.502E-09	3.515E-09	3.527E-09	3.538E-09	3.555E-09	3 568E-09	3.577E-09	3.583E-09
9.762E-10	1.233E-09	1.547E-09	1.864E-09	2.149E-09	2.388E-09	2.581E-09	2.733E-09
2.854E-09	2.950E-09	3 026E-09	3.087E-09	3.112E-09	3.135E-09	3.155E-09	3.174E-09
3.190E-09	3.205E-09	3.218E-09	3.229E-09	3.249E-09	3.264E-09	3.275E-09	3.284E-09

Table 2. (a) contd.

8.288E-10	1.045E-09	1.320E-09	1.603E-09	1.864E-09	2.085E-09	2.266E-09	2.412E-09
2.528E-09	2.621E-09	2.696E-09	2.756E-09	2.782E-09	2.805E-09	2.826E-09	2.844E-09
2.861E-09	2.876E-09	2.890E-09	2.902E-09	2.923E-09	2.940E-09	2.954E-09	2.964E-09
6.960E-10	8.771E-10	1.115E-09	1.366E-09	1.601E-09	1.803E-09	1.970E-09	2.106E-09
2.216E-09	2.305E-09	2.377E-09	2.435E-09	2.460E-09	2.483E-09	2.503E-09	2.522E-09
2.539E-09	2.554E-09	2.568E-09	2.581E-09	2.602E-09	2.620E-09	2.635E-09	2.647E-09
5.774E-10	7.282E-10	9.321E-10	1.152E-09	1.360E-09	1.542E-09	1.694E-09	1.818E-09
1.920E-09	2.003E-09	2.071E-09	2.127E-09	2.151E-09	2.172E-09	2.192E-09	2.210E-09
2.226E-09	2.241E-09	2.255E-09	2.268E-09	2.289E-09	2.308E-09	2.323E-09	2.335E-09
4.743E-10	5.993E-10	7.725E-10	9.622E-10	1.145E-09	1.306E-09	1.443E-09	1.555E-09
1.648E-09	1.725E-09	1.787E-09	1.839E-09	1.861E-09	1.882E-09	1.900E-09	1.917E-09
1.933E-09	1.947E-09	1.960E-09	1.972E-09	1.993E-09	2.011E-09	2.026E-09	2.039E-09
3.879E-10	4.914E-10	6.379E-10	8.008E-10	9.596E-10	1.101E-09	1.222E-09	1.323E-09
1.407E-09	1.476E-09	1.533E-09	1.580E-09	1.601E-09	1.620E-09	1.637E-09	1.653E-09
1.667E-09	1.681E-09	1.693E-09	1.704E-09	1.724E-09	1.742E-09	1.756E-09	1.769E-09
3.154E-10	4.006E-10	5.236E-10	6.624E-10	7.993E-10	9.227E-10	1.029E-09	1.118E-09
1.193E-09	1.255E-09	1.306E-09	1.349E-09	1.368E-09	1.385E-09	1.400E-09	1.415E-09
1.428E-09	1.440E-09	1.452E-09	1.462E-09	1.481E-09	1.497E-09	1.511E-09	1.523E-09
2.557E-10	3.256E-10	4.283E-10	5.458E-10	6.629E-10	7.695E-10	8.621E-10	9.404E-10
1.006E-09	1.061E-09	1.107E-09	1.145E-09	1.162E-09	1.178E-09	1.192E-09	1.205E-09
1.217E-09	1.228E-09	1.238E-09	1.248E-09	1.265E-09	1.280E-09	1.293E-09	1.304E-09
2.070E-10	2.641E-10	3.494E-10	4.482E-10	5.479E-10	6.393E-10	7.194E-10	7.875E-10
8.453E-10	8.937E-10	9.343E-10	9.683E-10	9.832E-10	9.970E-10	1.010E-09	1.021E-09
1.032E-09	1.042E-09	1.052E-09	1.060E-09	1.076E-09	1.090E-09	1.102E-09	1.112E-09
1.662E-10	2.122E-10	2.822E-10	3.643E-10	4.479E-10	5.254E-10	5.937E-10	6.523E-10
7.023E-10	7.444E-10	7.799E-10	8.097E-10	8.229E-10	8.350E-10	8.462E-10	8.566E-10
8.663E-10	8.752E-10	8.836E-10	8.914E-10	9.055E-10	9.179E-10	9.288E-10	9.384E-10
1.333E-10	1.702E-10	2.272E-10	2.949E-10	3.647E-10	4.298E-10	4.876E-10	5.376E-10
5.805E-10	6.168E-10	6.476E-10	6.735E-10	6.850E-10	6.957E-10	7.055E-10	7.146E-10
7.231E-10	7.311E-10	7.385E-10	7.454E-10	7.580E-10	7.691E-10	7.790E-10	7.877E-10

N_{T_I}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
1.962E-09	2.056E-09	2.072E-09	2.052E-09	2.036E-09	2.021E-09	2.007E-09	1.994E-09
1.981E-09	1.892E-09	1.839E-09	1.768E-09	1.742E-09	1.719E-09	1.699E-09	1.682E-09
1.665E-09	1.561E-09	1.509E-09	1.467E-09				

Table 2. (b) H_α beam emission coefficient for pure D^{+1} plasma. Economised tabulation with respect to reference conditions 1st. data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges; 2nd. data block contains $\epsilon_{cr}(E_b, N_e, T_I^{(ref)})$ (cm^3 s^{-1}); 3rd. data block contains T_I (eV) scan range; 4th. data block contains $\epsilon_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ (cm^3 s^{-1})

z_0=1	$\epsilon_{cr}^{(ref)}$=1.849E-09 cm^3 s^{-1}			Date=24/08/99		Code=adas312	
N_{E_b}=24	N_{N_e}=20	$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
1.931E-09	2.591E-09	3.225E-09	3.747E-09	4.146E-09	4.434E-09	4.637E-09	4.779E-09
4.880E-09	4.951E-09	5.001E-09	5.034E-09	5.047E-09	5.057E-09	5.066E-09	5.072E-09
5.076E-09	5.079E-09	5.081E-09	5.080E-09	5.076E-09	5.069E-09	5.058E-09	5.044E-09
1.861E-09	2.489E-09	3.106E-09	3.621E-09	4.019E-09	4.309E-09	4.514E-09	4.659E-09
4.763E-09	4.837E-09	4.889E-09	4.925E-09	4.939E-09	4.950E-09	4.959E-09	4.966E-09
4.972E-09	4.976E-09	4.978E-09	4.979E-09	4.976E-09	4.970E-09	4.961E-09	4.949E-09
1.777E-09	2.369E-09	2.965E-09	3.471E-09	3.867E-09	4.157E-09	4.365E-09	4.513E-09
4.620E-09	4.698E-09	4.752E-09	4.791E-09	4.806E-09	4.819E-09	4.830E-09	4.838E-09
4.845E-09	4.849E-09	4.853E-09	4.854E-09	4.854E-09	4.850E-09	4.843E-09	4.833E-09
1.682E-09	2.234E-09	2.804E-09	3.300E-09	3.693E-09	3.984E-09	4.193E-09	4.345E-09
4.455E-09	4.536E-09	4.594E-09	4.636E-09	4.653E-09	4.667E-09	4.678E-09	4.688E-09
4.696E-09	4.702E-09	4.706E-09	4.709E-09	4.712E-09	4.709E-09	4.704E-09	4.696E-09
1.573E-09	2.080E-09	2.621E-09	3.103E-09	3.491E-09	3.781E-09	3.993E-09	4.147E-09
4.261E-09	4.346E-09	4.407E-09	4.453E-09	4.471E-09	4.486E-09	4.499E-09	4.510E-09
4.520E-09	4.527E-09	4.533E-09	4.537E-09	4.542E-09	4.542E-09	4.540E-09	4.534E-09
1.451E-09	1.908E-09	2.416E-09	2.880E-09	3.260E-09	3.548E-09	3.761E-09	3.918E-09
4.035E-09	4.123E-09	4.189E-09	4.238E-09	4.257E-09	4.274E-09	4.289E-09	4.302E-09
4.313E-09	4.322E-09	4.329E-09	4.335E-09	4.342E-09	4.345E-09	4.345E-09	4.342E-09
1.319E-09	1.724E-09	2.195E-09	2.637E-09	3.007E-09	3.291E-09	3.503E-09	3.661E-09
3.781E-09	3.872E-09	3.941E-09	3.993E-09	4.015E-09	4.033E-09	4.050E-09	4.064E-09
4.076E-09	4.087E-09	4.096E-09	4.103E-09	4 113E-09	4.120E-09	4.122E-09	4.122E-09
1.179E-09	1.531E-09	1.960E-09	2.376E-09	2.731E-09	3.007E-09	3.217E-09	3.375E-09
3.497E-09	3.591E-09	3.662E-09	3.717E-09	3.740E-09	3.760E-09	3.778E-09	3.794E-09
3.808E-09	3.820E-09	3.830E-09	3.839E-09	3.852E-09	3.861E-09	3.867E-09	3.870E-09
1.035E-09	1.337E-09	1.723E-09	2.108E-09	2.444E-09	2.709E-09	2.912E-09	3.069E-09
3.191E-09	3.286E-09	3.359E-09	3.416E-09	3.440E-09	3.462E-09	3.481E-09	3.498E-09
3.513E-09	3.526E-09	3.538E-09	3.548E-09	3 564E-09	3.576E-09	3.585E-09	3.590E-09
8.954E-10	1.151E-09	1.493E-09	1.844E-09	2.156E-09	2.407E-09	2.602E-09	2.754E-09
2.873E-09	2.968E-09	3.042E-09	3.100E-09	3.125E-09	3.147E-09	3.167E-09	3.185E-09
3.201E-09	3.215E-09	3.227E-09	3.239E-09	3 257E-09	3.272E-09	3.283E-09	3 291E-09

Table 2. (b) contd.

7.598E-10	9.723E-10	1.270E-09	1.585E-09	1.870E-09	2.103E-09	2.286E-09	2.431E-09
2.546E-09	2.638E-09	2.711E-09	2.769E-09	2.794E-09	2.816E-09	2.836E-09	2.854E-09
2.871E-09	2.886E-09	2.899E-09	2.911E-09	2.931E-09	2.948E-09	2.960E-09	2.970E-09
6.378E-10	8.138E-10	1.071E-09	1.349E-09	1.606E-09	1.819E-09	1.988E-09	2.123E-09
2.233E-09	2.320E-09	2.391E-09	2.447E-09	2.471E-09	2.493E-09	2.513E-09	2.531E-09
2.548E-09	2.563E-09	2.576E-09	2.588E-09	2.610E-09	2.627E-09	2.641E-09	2.653E-09
5.290E-10	6.738E-10	8.928E-10	1.136E-09	1.364E-09	1.555E-09	1.709E-09	1.834E-09
1.935E-09	2.018E-09	2.084E-09	2.138E-09	2.161E-09	2.182E-09	2.201E-09	2.218E-09
2.234E-09	2.249E-09	2.262E-09	2.275E-09	2.296E-09	2.314E-09	2.328E-09	2.341E-09
4.346E-10	5.531E-10	7.383E-10	9.486E-10	1.149E-09	1.318E-09	1.456E-09	1.569E-09
1.662E-09	1.737E-09	1.799E-09	1.849E-09	1.870E-09	1.890E-09	1.908E-09	1.925E-09
1.940E-09	1.954E-09	1.967E-09	1.978E-09	1.999E-09	2.017E-09	2.031E-09	2.044E-09
3.556E-10	4.524E-10	6.082E-10	7.886E-10	9.628E-10	1.112E-09	1.234E-09	1.335E-09
1.419E-09	1.488E-09	1.544E-09	1.590E-09	1.609E-09	1.628E-09	1.644E-09	1.659E-09
1.674E-09	1.687E-09	1.699E-09	1.710E-09	1.729E-09	1.746E-09	1.761E-09	1.773E-09
2.892E-10	3.680E-10	4.981E-10	6.517E-10	8.019E-10	9.315E-10	1.039E-09	1.128E-09
1.203E-09	1.265E-09	1.315E-09	1.357E-09	1.375E-09	1.391E-09	1.407E-09	1.421E-09
1.433E-09	1.445E-09	1.457E-09	1.467E-09	1.485E-09	1.501E-09	1.515E-09	1.526E-09
2.347E-10	2.984E-10	4.066E-10	5.364E-10	6.650E-10	7.770E-10	8.707E-10	9.492E-10
1.015E-09	1.070E-09	1.115E-09	1.152E-09	1.169E-09	1.183E-09	1.197E-09	1.210E-09
1.221E-09	1.232E-09	1.242E-09	1.252E-09	1.269E-09	1.284E-09	1.296E-09	1.307E-09
1.902E-10	2.415E-10	3.309E-10	4.401E-10	5.495E-10	6.456E-10	7.266E-10	7.950E-10
8.530E-10	9.015E-10	9.414E-10	9.745E-10	9.888E-10	1.002E-09	1.014E-09	1.026E-09
1.036E-09	1.046E-09	1.055E-09	1.064E-09	1.079E-09	1.093E-09	1.105E-09	1.115E-09
1.528E-10	1.936E-10	2.666E-10	3.572E-10	4.491E-10	5.306E-10	5.997E-10	6.586E-10
7.088E-10	7.511E-10	7.861E-10	8.151E-10	8.277E-10	8.394E-10	8.502E-10	8.603E-10
8.696E-10	8.784E-10	8.866E-10	8.942E-10	9.082E-10	9.205E-10	9.313E-10	9.408E-10
1.227E-10	1.549E-10	2.142E-10	2.889E-10	3.655E-10	4.340E-10	4.925E-10	5.428E-10
5.860E-10	6.225E-10	6.528E-10	6.781E-10	6.892E-10	6.994E-10	7.089E-10	7.177E-10
7.260E-10	7.337E-10	7.410E-10	7.478E-10	7.602E-10	7.713E-10	7.811E-10	7.897E-10
N_{T_I}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
1.963E-09	2.057E-09	2.072E-09	2.053E-09	2.038E-09	2.023E-09	2.009E-09	1.996E-09
1.983E-09	1.899E-09	1.849E-09	1.785E-09	1.762E-09	1.742E-09	1.725E-09	1.711E-09
1.697E-09	1.607E-09	1.554E-09	1.494E-09				

Table 2. (c) H_α beam emission coefficient for pure He^{+2} plasma. Economised tabulation with respect to reference conditions. 1st. data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges; 2nd. data block contains $\epsilon_{cr}(E_b, N_e, T_I^{(ref)})$ ($cm^3\ s^{-1}$); 3rd. data block contains T_I (eV) scan range; 4th. data block contains $\epsilon_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ ($cm^3\ s^{-1}$)

z_0=2	$\epsilon_{cr}^{(ref)}$=2.368E-09 $cm^3\ s^{-1}$			Date=24/08/99			Code=adas312
N_{E_b}=24	N_{N_e}=20	$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
1.671E-09	2.019E-09	2.540E-09	3.179E-09	3.823E-09	4.394E-09	4.885E-09	5.314E-09
5 687E-09	5.997E-09	6.243E-09	6.446E-09	6.537E-09	6.622E-09	6.700E-09	6.771E-09
6.833E-09	6.885E-09	6.928E-09	6.962E-09	7.013E-09	7.049E-09	7.077E-09	7.098E-09
1.629E-09	1.970E-09	2.479E-09	3.103E-09	3.733E-09	4.294E-09	4.777E-09	5.199E-09
5.566E-09	5.871E-09	6.114E-09	6.315E-09	6.406E-09	6.490E-09	6.568E-09	6.638E-09
6.700E-09	6.752E-09	6.795E-09	6.830E-09	6.882E-09	6.919E-09	6.948E-09	6.970E-09
1.579E-09	1.910E-09	2.403E-09	3.010E-09	3.623E-09	4.170E-09	4.641E-09	5.054E-09
5.414E-09	5.713E-09	5.952E-09	6.151E-09	6.241E-09	6.324E-09	6.401E-09	6.471E-09
6.532E-09	6.585E-09	6.628E-09	6.663E-09	6.716E-09	6.754E-09	6.784E-09	6.808E-09
1.521E-09	1.840E-09	2.316E-09	2.900E-09	3.493E-09	4.023E-09	4.481E-09	4.883E-09
5.233E-09	5.525E-09	5.759E-09	5.955E-09	6.043E-09	6.125E-09	6.202E-09	6.270E-09
6.332E-09	6.384E-09	6.427E-09	6.462E-09	6.517E-09	6.556E-09	6.588E-09	6.613E-09
1.452E-09	1.759E-09	2.212E-09	2.771E-09	3.339E-09	3.848E-09	4.290E-09	4.678E-09
5.016E-09	5.299E-09	5.527E-09	5.718E-09	5.804E-09	5.885E-09	5.961E-09	6.028E-09
6.089E-09	6.141E-09	6.184E-09	6.220E-09	6.275E-09	6.316E-09	6.349E-09	6.376E-09
1.373E-09	1.663E-09	2.091E-09	2.620E-09	3.159E-09	3.643E-09	4.065E-09	4.436E-09
4.760E-09	5.031E-09	5.252E-09	5.438E-09	5.522E-09	5.601E-09	5.674E-09	5.741E-09
5.800E-09	5.851E-09	5.895E-09	5.930E-09	5.987E-09	6.029E-09	6.064E-09	6.092E-09
1.283E-09	1.556E-09	1.955E-09	2.449E-09	2.955E-09	3.412E-09	3.811E-09	4.162E-09
4.469E-09	4.727E-09	4.938E-09	5.117E-09	5.199E-09	5.275E-09	5.347E-09	5.411E-09
5.470E-09	5.520E-09	5.563E-09	5.599E-09	5.656E-09	5 700E-09	5.736E-09	5.766E-09
1.183E-09	1.435E-09	1.803E-09	2.259E-09	2.727E-09	3.153E-09	3.525E-09	3.853E-09
4.141E-09	4.384E-09	4.584E-09	4.755E-09	4.833E-09	4.906E-09	4.975E-09	5.038E-09
5.094E-09	5.144E-09	5.186E-09	5.221E-09	5.279E-09	5.324E-09	5.361E-09	5.393E-09
1.074E-09	1.304E-09	1.640E-09	2.055E-09	2.483E-09	2.874E-09	3.218E-09	3.521E-09
3.787E-09	4.013E-09	4.201E-09	4.362E-09	4.436E-09	4.506E-09	4.571E-09	4.631E-09
4.686E-09	4.733E-09	4.774E-09	4.810E-09	4.867E-09	4.913E-09	4.951E-09	4.984E-09
9.603E-10	1.169E-09	1.470E-09	1.845E-09	2.232E-09	2 586E-09	2.900E-09	3.176E-09
3.419E-09	3.627E-09	3.801E-09	3.952E-09	4.022E-09	4.087E-09	4.149E-09	4.206E-09
4.258E-09	4.304E-09	4.343E-09	4.378E-09	4.434E-09	4.480E-09	4.519E-09	4.553E-09

Table 2. (c) contd.

8.425E-10	1.029E-09	1.297E-09	1.629E-09	1.974E-09	2.291E-09	2.572E-09	2.821E-09
3.040E-09	3.228E-09	3.388E-09	3.527E-09	3.592E-09	3.653E-09	3.711E-09	3.764E-09
3.813E-09	3.856E-09	3.894E-09	3.927E-09	3.982E-09	4.028E-09	4.067E-09	4.100E-09
7.293E-10	8.940E-10	1.131E-09	1.424E-09	1.728E-09	2.010E-09	2.260E-09	2.482E-09
2.677E-09	2.846E-09	2.991E-09	3.118E-09	3.178E-09	3.234E-09	3.288E-09	3.337E-09
3.383E-09	3.423E-09	3.459E-09	3.491E-09	3.544E-09	3.589E-09	3.627E-09	3.659E-09
6.219E-10	7.666E-10	9.740E-10	1.231E-09	1.497E-09	1.745E-09	1.965E-09	2.161E-09
2.333E-09	2.483E-09	2.613E-09	2.729E-09	2.783E-09	2.834E-09	2.884E-09	2.929E-09
2.971E-09	3.009E-09	3.043E-09	3.073E-09	3.124E-09	3.166E-09	3.203E-09	3.235E-09
5.233E-10	6.496E-10	8.307E-10	1.054E-09	1.286E-09	1.502E-09	1.695E-09	1.865E-09
2.016E-09	2.148E-09	2.264E-09	2.368E-09	2.417E-09	2.464E-09	2.508E-09	2.550E-09
2.589E-09	2.623E-09	2.655E-09	2.683E-09	2.731E-09	2.771E-09	2.806E-09	2.836E-09
4.367E-10	5.467E-10	7.045E-10	8.981E-10	1.099E-09	1.287E-09	1.454E-09	1.603E-09
1.734E-09	1.850E-09	1.952E-09	2.045E-09	2.089E-09	2.132E-09	2.172E-09	2.210E-09
2.245E-09	2.277E-09	2.306E-09	2.332E-09	2.377E-09	2.415E-09	2.448E-09	2.476E-09
3.611E-10	4.564E-10	5.935E-10	7.608E-10	9.340E-10	1.096E-09	1.241E-09	1.369E-09
1.482E-09	1.583E-09	1.673E-09	1.756E-09	1.795E-09	1.833E-09	1.870E-09	1.904E-09
1.936E-09	1.965E-09	1.991E-09	2.015E-09	2.057E-09	2.092E-09	2.123E-09	2.149E-09
2.970E-10	3.791E-10	4.979E-10	6.419E-10	7.908E-10	9.302E-10	1.054E-09	1.164E-09
1.262E-09	1.349E-09	1.428E-09	1.501E-09	1.536E-09	1.570E-09	1.602E-09	1.633E-09
1.662E-09	1.688E-09	1.712E-09	1.734E-09	1.772E-09	1.805E-09	1.833E-09	1.857E-09
2.434E-10	3.138E-10	4.164E-10	5.399E-10	6.671E-10	7.863E-10	8.925E-10	9.862E-10
1.070E-09	1.145E-09	1.214E-09	1.278E-09	1.309E-09	1.338E-09	1.367E-09	1.395E-09
1.420E-09	1.444E-09	1.466E-09	1.485E-09	1.520E-09	1.550E-09	1.576E-09	1.598E-09
1.976E-10	2.572E-10	3.448E-10	4.495E-10	5.571E-10	6.578E-10	7.474E-10	8.264E-10
8.971E-10	9.612E-10	1.020E-09	1.076E-09	1.103E-09	1.129E-09	1.154E-09	1.178E-09
1.201E-09	1.222E-09	1.241E-09	1.258E-09	1.290E-09	1.317E-09	1.340E-09	1.360E-09
1.601E-10	2.102E-10	2.844E-10	3.727E-10	4.630E-10	5.475E-10	6.225E-10	6.887E-10
7.481E-10	8.022E-10	8.524E-10	9.001E-10	9.233E-10	9.459E-10	9.679E-10	9.888E-10
1.009E-09	1.027E-09	1.044E-09	1.059E-09	1.087E-09	1.111E-09	1.132E-09	1.149E-09
N_{T_I}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
2.385E-09	2.502E-09	2.530E-09	2.525E-09	2.515E-09	2.504E-09	2.493E-09	2.483E-09
2.473E-09	2.407E-09	2.368E-09	2.318E-09	2.301E-09	2.286E-09	2.273E-09	2.263E-09
2.253E-09	2.192E-09	2.158E-09	2.122E-09				

Table 2. (d) H_α beam emission coefficient for pure Li^{+3} plasma. Economised tabulation with respect to reference conditions 1st. data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges; 2nd. data block contains $\epsilon_{cr}(E_b, N_e, T_I^{(ref)})$ (cm^3 s^{-1}); 3rd. data block contains T_I (eV) scan range; 4th. data block contains $\epsilon_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ (cm^3 s^{-1})

z_0=3	$\epsilon_{cr}^{(ref)}$=2.387E-09 cm^3 s^{-1}			Date=24/08/99		Code=adas312	
N_{E_b}=24	N_{N_e}=20	$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
1.513E-09	1.826E-09	2.598E-09	3.440E-09	4.175E-09	4.826E-09	5.424E-09	5.967E-09
6.471E-09	6.914E-09	7.273E-09	7.579E-09	7.724E-09	7.863E-09	7.998E-09	8.126E-09
8.244E-09	8.351E-09	8.446E-09	8.531E-09	8.679E-09	8.810E-09	8.924E-09	9.009E-09
1.467E-09	1.776E-09	2.529E-09	3.350E-09	4.067E-09	4.703E-09	5.288E-09	5.820E-09
6.313E-09	6.747E-09	7.100E-09	7.401E-09	7.543E-09	7.680E-09	7.813E-09	7.939E-09
8.055E-09	8.160E-09	8.254E-09	8.338E-09	8.485E-09	8.615E-09	8.729E-09	8.814E-09
1.412E-09	1.715E-09	2.445E-09	3.239E-09	3.932E-09	4.549E-09	5.117E-09	5.635E-09
6.114E-09	6.537E-09	6.881E-09	7.175E-09	7.314E-09	7.449E-09	7.578E-09	7.701E-09
7.815E-09	7.919E-09	8.011E-09	8.094E-09	8.239E-09	8.368E-09	8.480E-09	8.565E-09
1.350E-09	1.645E-09	2.346E-09	3.107E-09	3.773E-09	4.366E-09	4.914E-09	5.414E-09
5.877E-09	6.285E-09	6.619E-09	6.905E-09	7.040E-09	7.171E-09	7.297E-09	7.417E-09
7.528E-09	7.629E-09	7.719E-09	7.800E-09	7.943E-09	8.071E-09	8.182E-09	8.266E-09
1.277E-09	1.562E-09	2.229E-09	2.951E-09	3.583E-09	4.147E-09	4.671E-09	5.150E-09
5.593E-09	5.984E-09	6.305E-09	6.580E-09	6.710E-09	6.837E-09	6.959E-09	7.074E-09
7.182E-09	7.280E-09	7.367E-09	7.446E-09	7.586E-09	7.712E-09	7.821E-09	7.905E-09
1.193E-09	1.467E-09	2.092E-09	2.768E-09	3.361E-09	3.892E-09	4.387E-09	4.840E-09
5.259E-09	5.630E-09	5.935E-09	6.198E-09	6.322E-09	6.443E-09	6.560E-09	6.671E-09
6.774E-09	6.868E-09	6.953E-09	7.029E-09	7.165E-09	7.287E-09	7.394E-09	7.478E-09
1.101E-09	1.360E-09	1.940E-09	2.564E-09	3.112E-09	3.605E-09	4.067E-09	4.491E-09
4.883E-09	5.231E-09	5.518E-09	5.767E-09	5.885E-09	6.000E-09	6.110E-09	6.215E-09
6.313E-09	6.403E-09	6.484E-09	6.557E-09	6.688E-09	6 807E-09	6.911E-09	6.993E-09
9.992E-10	1.242E-09	1.770E-09	2.337E-09	2.836E-09	3.288E-09	3.714E-09	4.104E-09
4.466E-09	4.788E-09	5.055E-09	5.288E-09	5.399E-09	5.506E-09	5.610E-09	5.708E-09
5.800E-09	5.885E-09	5.961E-09	6.031E-09	6.156E-09	6.270E-09	6.371E-09	6.450E-09
8.924E-10	1.117E-09	1.590E-09	2.097E-09	2.545E-09	2.953E-09	3.339E-09	3.695E-09
4.025E-09	4.319E-09	4.565E-09	4.780E-09	4.882E-09	4.982E-09	5.078E-09	5.169E-09
5.255E-09	5.333E-09	5.405E-09	5.471E-09	5.589E-09	5.697E-09	5.793E-09	5.870E-09
7.843E-10	9.883E-10	1.407E-09	1.854E-09	2.250E-09	2.614E-09	2.960E-09	3.280E-09
3.577E-09	3.842E-09	4.066E-09	4.263E-09	4.357E-09	4.448E-09	4.536E-09	4.620E-09
4.699E-09	4.771E-09	4.838E-09	4.899E-09	5.010E-09	5.112E-09	5.203E-09	5.276E-09

Table 2. (d) contd.

6.755E-10	8.579E-10	1.221E-09	1.608E-09	1.954E-09	2.273E-09	2.578E-09	2.862E-09
3.125E-09	3.362E-09	3.563E-09	3.741E-09	3.826E-09	3.908E-09	3.988E-09	4.064E-09
4.136E-09	4.202E-09	4.263E-09	4.319E-09	4.423E-09	4.517E-09	4.602E-09	4.671E-09
5.742E-10	7.352E-10	1.047E-09	1.379E-09	1.677E-09	1.955E-09	2.223E-09	2.472E-09
2.704E-09	2.913E-09	3.092E-09	3.252E-09	3.328E-09	3.402E-09	3.474E-09	3.543E-09
3.608E-09	3.668E-09	3.723E-09	3.775E-09	3.869E-09	3.957E-09	4.035E-09	4.100E-09
4.810E-10	6.211E-10	8.853E-10	1.167E-09	1.423E-09	1.662E-09	1.894E-09	2.111E-09
2.314E-09	2.497E-09	2.656E-09	2.798E-09	2.866E-09	2.932E-09	2.997E-09	3.058E-09
3.116E-09	3.170E-09	3.220E-09	3.267E-09	3.353E-09	3.433E-09	3.505E-09	3.565E-09
3.977E-10	5.182E-10	7.401E-10	9.775E-10	1.195E-09	1.400E-09	1.599E-09	1.786E-09
1.962E-09	2.122E-09	2.261E-09	2.387E-09	2.448E-09	2.507E-09	2.564E-09	2.619E-09
2.670E-09	2.718E-09	2.763E-09	2.805E-09	2.883E-09	2.956E-09	3.022E-09	3.076E-09
3.263E-10	4.291E-10	6.146E-10	8.138E-10	9.979E-10	1.173E-09	1.344E-09	1.505E-09
1.657E-09	1.796E-09	1.917E-09	2.028E-09	2.082E-09	2.134E-09	2.185E-09	2.233E-09
2.279E-09	2.322E-09	2.362E-09	2.399E-09	2.470E-09	2.535E-09	2.595E-09	2.644E-09
2.654E-10	3.521E-10	5.064E-10	6.727E-10	8.279E-10	9.764E-10	1.122E-09	1.260E-09
1.390E-09	1.510E-09	1.616E-09	1.713E-09	1.760E-09	1.806E-09	1.850E-09	1.893E-09
1.933E-09	1.971E-09	2.007E-09	2.040E-09	2.103E-09	2.162E-09	2.216E-09	2.260E-09
2.147E-10	2.872E-10	4.151E-10	5.535E-10	6.841E-10	8.095E-10	9.325E-10	1.050E-09
1.161E-09	1.264E-09	1.356E-09	1.440E-09	1.481E-09	1.521E-09	1.560E-09	1.597E-09
1.633E-09	1.666E-09	1.698E-09	1.727E-09	1.783E-09	1.836E-09	1.883E-09	1.923E-09
1.732E-10	2.334E-10	3.390E-10	4.540E-10	5.635E-10	6.689E-10	7.724E-10	8.716E-10
9.663E-10	1.054E-09	1.132E-09	1.205E-09	1.241E-09	1.276E-09	1.310E-09	1.342E-09
1.373E-09	1.402E-09	1.430E-09	1.456E-09	1.505E-09	1.551E-09	1.593E-09	1.628E-09
1.383E-10	1.875E-10	2.740E-10	3.687E-10	4.594E-10	5.470E-10	6.331E-10	7.159E-10
7.953E-10	8.692E-10	9.356E-10	9.976E-10	1.028E-09	1.058E-09	1.087E-09	1.115E-09
1.141E-09	1.167E-09	1.190E-09	1.213E-09	1.256E-09	1.296E-09	1.333E-09	1.363E-09
1.103E-10	1.503E-10	2.209E-10	2.985E-10	3.734E-10	4.457E-10	5.168E-10	5.854E-10
6.515E-10	7.131E-10	7.689E-10	8.211E-10	8.468E-10	8.721E-10	8.968E-10	9.206E-10
9.433E-10	9.647E-10	9.851E-10	1.005E-09	1.041E-09	1.076E-09	1.107E-09	1.134E-09
N_{T_I}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
2.414E-09	2.516E-09	2.539E-09	2.532E-09	2.522E-09	2.511E-09	2.501E-09	2.492E-09
2.483E-09	2.422E-09	2.387E-09	2.344E-09	2.329E-09	2.317E-09	2.307E-09	2.298E-09
2.290E-09	2.245E-09	2.224E-09	2.205E-09				

Table 2. (e) H_α beam emission coefficient for pure Be^{+4} plasma. Economised tabulation with respect to reference conditions. 1st. data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges; 2nd. data block contains $\epsilon_{cr}(E_b, N_e, T_I^{(ref)})$ ($cm^3\ s^{-1}$); 3rd. data block contains T_I (eV) scan range; 4th. data block contains $\epsilon_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ ($cm^3\ s^{-1}$)

z_0=4	$\epsilon_{cr}^{(ref)}$=2.069E-09 $cm^3\ s^{-1}$			Date=24/08/99		Code=adas312	
N_{E_b}=24	N_{N_e}=20	$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
1.459E-09	1.637E-09	2.068E-09	2.677E-09	3.424E-09	4.138E-09	4.784E-09	5.370E-09
5.917E-09	6.405E-09	6.861E-09	7.307E-09	7.525E-09	7.736E-09	7.933E-09	8.112E-09
8.270E-09	8.410E-09	8.539E-09	8.660E-09	8.891E-09	9.111E-09	9.314E-09	9.479E-09
1.407E-09	1.586E-09	2.005E-09	2.597E-09	3.323E-09	4.018E-09	4.647E-09	5.218E-09
5.750E-09	6.226E-09	6.670E-09	7.105E-09	7.318E-09	7.523E-09	7.716E-09	7.890E-09
8.044E-09	8.182E-09	8.307E-09	8.426E-09	8.652E-09	8.869E-09	9.068E-09	9.230E-09
1.346E-09	1.524E-09	1.930E-09	2.500E-09	3.199E-09	3.870E-09	4.477E-09	5.030E-09
5.544E-09	6.003E-09	6.433E-09	6.853E-09	7.059E-09	7.258E-09	7.445E-09	7.613E-09
7.763E-09	7.897E-09	8.018E-09	8.134E-09	8.354E-09	8.566E-09	8.760E-09	8.919E-09
1.276E-09	1.454E-09	1.843E-09	2.387E-09	3.054E-09	3.696E-09	4.279E-09	4.808E-09
5.301E-09	5.741E-09	6.153E-09	6.557E-09	6.754E-09	6.946E-09	7.124E-09	7.287E-09
7.431E-09	7.559E-09	7.677E-09	7.789E-09	8.002E-09	8.207E-09	8.395E-09	8.550E-09
1.196E-09	1.372E-09	1.741E-09	2.254E-09	2.885E-09	3.492E-09	4.045E-09	4.548E-09
5.014E-09	5.432E-09	5.823E-09	6.206E-09	6.394E-09	6.575E-09	6.745E-09	6.900E-09
7.037E-09	7.160E-09	7.272E-09	7.379E-09	7.584E-09	7.781E-09	7.962E-09	8.112E-09
1.106E-09	1.279E-09	1.624E-09	2.102E-09	2.690E-09	3.257E-09	3.776E-09	4.246E-09
4.683E-09	5.074E-09	5.441E-09	5.800E-09	5.976E-09	6.147E-09	6.306E-09	6.452E-09
6.581E-09	6.697E-09	6.804E-09	6.905E-09	7.100E-09	7.287E-09	7.460E-09	7.603E-09
1.008E-09	1.176E-09	1.495E-09	1.935E-09	2.474E-09	2.998E-09	3.477E-09	3.913E-09
4.317E-09	4.678E-09	5.018E-09	5.351E-09	5.514E-09	5.672E-09	5.820E-09	5.955E-09
6.075E-09	6.184E-09	6.284E-09	6.379E-09	6.563E-09	6.739E-09	6.902E-09	7.038E-09
9.023E-10	1.064E-09	1.355E-09	1.751E-09	2.239E-09	2.715E-09	3.152E-09	3.549E-09
3.917E-09	4.246E-09	4.556E-09	4.860E-09	5.010E-09	5.154E-09	5.289E-09	5.413E-09
5.524E-09	5.624E-09	5.717E-09	5.805E-09	5.976E-09	6.140E-09	6.291E-09	6.419E-09
7.943E-10	9.470E-10	1.207E-09	1.560E-09	1.995E-09	2.420E-09	2.813E-09	3.170E-09
3.501E-09	3.797E-09	4.076E-09	4.350E-09	4.484E-09	4.614E-09	4.737E-09	4.849E-09
4.949E-09	5.041E-09	5.126E-09	5.207E-09	5.363E-09	5.514E-09	5.654E-09	5.772E-09
6.879E-10	8.296E-10	1.060E-09	1.369E-09	1.750E-09	2.126E-09	2.475E-09	2.792E-09
3.085E-09	3.349E-09	3.597E-09	3.840E-09	3.960E-09	4.076E-09	4.185E-09	4.285E-09
4.376E-09	4.459E-09	4.535E-09	4.609E-09	4.751E-09	4.889E-09	5.016E-09	5.125E-09

Table 2. (e) contd.

5.837E-10	7.124E-10	9.121E-10	1.179E-09	1.508E-09	1.835E-09	2.139E-09	2.417E-09
2.674E-09	2.904E-09	3.122E-09	3.336E-09	3.440E-09	3.542E-09	3.638E-09	3.727E-09
3.808E-09	3.881E-09	3.950E-09	4.016E-09	4.144E-09	4.267E-09	4.382E-09	4.481E-09
4.892E-10	6.041E-10	7.757E-10	1.004E-09	1.286E-09	1.567E-09	1.831E-09	2.072E-09
2.295E-09	2.496E-09	2.686E-09	2.871E-09	2.962E-09	3.051E-09	3.135E-09	3.213E-09
3.284E-09	3.350E-09	3.411E-09	3.470E-09	3.584E-09	3.694E-09	3.797E-09	3.886E-09
4.043E-10	5.050E-10	6.509E-10	8.440E-10	1.083E-09	1.323E-09	1.550E-09	1.757E-09
1.949E-09	2.123E-09	2.287E-09	2.447E-09	2.526E-09	2.602E-09	2.675E-09	2.743E-09
2.806E-09	2.863E-09	2.918E-09	2.970E-09	3.071E-09	3.169E-09	3.260E-09	3.339E-09
3.301E-10	4.170E-10	5.399E-10	7.022E-10	9.032E-10	1.107E-09	1.300E-09	1.477E-09
1.642E-09	1.791E-09	1.931E-09	2.069E-09	2.136E-09	2.202E-09	2.265E-09	2.324E-09
2.378E-09	2.429E-09	2.477E-09	2.523E-09	2.612E-09	2.698E-09	2.778E-09	2.849E-09
2.678E-10	3.417E-10	4.449E-10	5.808E-10	7.494E-10	9.216E-10	1.085E-09	1.236E-09
1.377E-09	1.505E-09	1.625E-09	1.742E-09	1.799E-09	1.856E-09	1.910E-09	1.961E-09
2.009E-09	2.053E-09	2.095E-09	2.135E-09	2.214E-09	2.289E-09	2.360E-09	2.422E-09
2.154E-10	2.774E-10	3.635E-10	4.768E-10	6.176E-10	7.623E-10	9.002E-10	1.028E-09
1.147E-09	1.256E-09	1.358E-09	1.458E-09	1.507E-09	1.555E-09	1.601E-09	1.645E-09
1.686E-09	1.725E-09	1.762E-09	1.797E-09	1.865E-09	1.931E-09	1.993E-09	2.047E-09
1.725E-10	2.239E-10	2.954E-10	3.896E-10	5.067E-10	6.278E-10	7.435E-10	8.511E-10
9.517E-10	1.044E-09	1.130E-09	1.214E-09	1.256E-09	1.297E-09	1.337E-09	1.374E-09
1.410E-09	1.443E-09	1.475E-09	1.505E-09	1.565E-09	1.622E-09	1.675E-09	1.723E-09
1.377E-10	1.798E-10	2.391E-10	3.172E-10	4.143E-10	5.152E-10	6.117E-10	7.018E-10
7.863E-10	8.641E-10	9.366E-10	1.007E-09	1.042E-09	1.077E-09	1.110E-09	1.143E-09
1.173E-09	1.202E-09	1.229E-09	1.256E-09	1.307E-09	1.356E-09	1.402E-09	1.443E-09
1.089E-10	1.428E-10	1.914E-10	2.555E-10	3.352E-10	4.183E-10	4.978E-10	5.723E-10
6.424E-10	7.070E-10	7.673E-10	8.258E-10	8.550E-10	8.839E-10	9.120E-10	9.391E-10
9.647E-10	9.891E-10	1.012E-09	1.035E-09	1.079E-09	1.120E-09	1.159E-09	1.194E-09
8.598E-11	1.132E-10	1.528E-10	2.052E-10	2.703E-10	3.383E-10	4.035E-10	4.646E-10
5.223E-10	5.756E-10	6.253E-10	6.736E-10	6.976E-10	7.216E-10	7.450E-10	7.676E-10
7.891E-10	8.095E-10	8.292E-10	8.482E-10	8.850E-10	9.201E-10	9.530E-10	9.822E-10
N_{T_I}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
2.146E-09	2.226E-09	2.239E-09	2.224E-09	2.211E-09	2.199E-09	2.188E-09	2.178E-09
2.168E-09	2.104E-09	2.069E-09	2.026E-09	2.011E-09	2.000E-09	1.990E-09	1.982E-09
1.975E-09	1.936E-09	1.920E-09	1.908E-09				

Table 2. (f) H_α beam emission coefficient for pure B^{+5} plasma. Economised tabulation with respect to reference conditions. 1st. data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges; 2nd. data block contains $\epsilon_{cr}(E_b, N_\epsilon, T_I^{(ref)})$ ($cm^3\ s^{-1}$); 3rd. data block contains T_I (eV) scan range; 4th. data block contains $\epsilon_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ ($cm^3\ s^{-1}$)

z_0=5	$\epsilon(ref)_{cr}$=1.772E-09 $cm^3\ s^{-1}$			Date=24/08/99			Code=adas312
N_{E_b}=24	N_{N_e}=20	$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
1.422E-09	1.512E-09	1.873E-09	2.414E-09	2.955E-09	3.529E-09	4.119E-09	4.714E-09
5.283E-09	5.811E-09	6.274E-09	6.705E-09	6.916E-09	7.124E-09	7.326E-09	7.521E-09
7.706E-09	7.884E-09	8.057E-09	8.227E-09	8.564E-09	8.893E-09	9.207E-09	9.480E-09
1.365E-09	1.460E-09	1.813E-09	2.338E-09	2.863E-09	3.421E-09	3.995E-09	4.574E-09
5.126E-09	5.639E-09	6.089E-09	6.508E-09	6.713E-09	6.915E-09	7.112E-09	7.301E-09
7.481E-09	7.654E-09	7.823E-09	7.989E-09	8.317E-09	8.638E-09	8.944E-09	9.211E-09
1.298E-09	1.398E-09	1.740E-09	2.245E-09	2.750E-09	3.287E-09	3.842E-09	4.399E-09
4.931E-09	5.425E-09	5.858E-09	6.262E-09	6.460E-09	6.655E-09	6.844E-09	7.026E-09
7.200E-09	7.367E-09	7.530E-09	7.691E-09	8.008E-09	8.319E-09	8.615E-09	8.874E-09
1.222E-09	1.327E-09	1.655E-09	2.138E-09	2.619E-09	3.132E-09	3.662E-09	4.195E-09
4.702E-09	5.172E-09	5.586E-09	5.972E-09	6.161E-09	6.347E-09	6.529E-09	6.703E-09
6.869E-09	7.029E-09	7.185E-09	7.339E-09	7.643E-09	7.942E-09	8.226E-09	8.475E-09
1.136E-09	1.245E-09	1.558E-09	2.012E-09	2.465E-09	2.949E-09	3.451E-09	3.954E-09
4.432E-09	4.875E-09	5.266E-09	5.630E-09	5.809E-09	5.985E-09	6.156E-09	6.321E-09
6.478E-09	6.630E-09	6.778E-09	6.924E-09	7.213E-09	7.496E-09	7.766E-09	8.004E-09
1.040E-09	1.153E-09	1.446E-09	1.869E-09	2.289E-09	2.740E-09	3.208E-09	3.677E-09
4.121E-09	4.533E-09	4.897E-09	5.237E-09	5.404E-09	5.568E-09	5.728E-09	5.882E-09
6.029E-09	6.171E-09	6.309E-09	6.446E-09	6 717E-09	6.983E-09	7.237E-09	7.460E-09
9.372E-10	1.052E-09	1.324E-09	1.711E-09	2.096E-09	2.509E-09	2.941E-09	3.372E-09
3.779E-09	4.157E-09	4.491E-09	4.804E-09	4.958E-09	5.109E-09	5.257E-09	5.399E-09
5.535E-09	5.666E-09	5.794E-09	5.920E-09	6.171E-09	6.418E-09	6.654E-09	6.862E-09
8.295E-10	9.438E-10	1.192E-09	1.541E-09	1.887E-09	2.260E-09	2.652E-09	3.041E-09
3.409E-09	3.750E-09	4.053E-09	4.337E-09	4.477E-09	4.614E-09	4.748E-09	4.878E-09
5.001E-09	5.121E-09	5.237E-09	5.353E-09	5.583E-09	5.808E-09	6.024E-09	6.216E-09
7.213E-10	8.325E-10	1.055E-09	1.364E-09	1.671E-09	2.003E-09	2.353E-09	2.700E-09
3.027E-09	3.331E-09	3.602E-09	3.856E-09	3.981E-09	4.104E-09	4.225E-09	4.341E-09
4.452E-09	4.559E-09	4.665E-09	4.769E-09	4.976E-09	5.180E-09	5.375E-09	5.549E-09
6.170E-10	7.226E-10	9.190E-10	1.189E-09	1.458E-09	1.749E-09	2.057E-09	2.362E-09
2.650E-09	2.917E-09	3.156E-09	3.381E-09	3.492E-09	3.602E-09	3.708E-09	3.812E-09
3.911E-09	4.006E-09	4.100E-09	4.194E-09	4.378E-09	4.561E-09	4.735E-09	4.891E-09

Table 2. (f) contd.

5.172E-10	6.148E-10	7.852E-10	1.017E-09	1.248E-09	1.500E-09	1.766E-09	2.031E-09
2.279E-09	2.511E-09	2.719E-09	2.916E-09	3.013E-09	3.109E-09	3.203E-09	3.294E-09
3.381E-09	3.465E-09	3.548E-09	3.630E-09	3.793E-09	3.953E-09	4.107E-09	4.246E-09
4.286E-10	5.167E-10	6.629E-10	8.598E-10	1.057E-09	1.272E-09	1.502E-09	1.729E-09
1.942E-09	2.142E-09	2.322E-09	2.493E-09	2.577E-09	2.661E-09	2.743E-09	2.822E-09
2.899E-09	2.973E-09	3.045E-09	3.117E-09	3.260E-09	3.400E-09	3.536E-09	3.657E-09
3.505E-10	4.282E-10	5.522E-10	7.177E-10	8.844E-10	1.067E-09	1.262E-09	1.456E-09
1.637E-09	1.808E-09	1.963E-09	2.110E-09	2.183E-09	2.256E-09	2.327E-09	2.396E-09
2.462E-09	2.527E-09	2.590E-09	2.652E-09	2.777E-09	2.899E-09	3.017E-09	3.123E-09
2.834E-10	3.505E-10	4.547E-10	5.926E-10	7.325E-10	8.865E-10	1.051E-09	1.214E-09
1.368E-09	1.513E-09	1.645E-09	1.772E-09	1.835E-09	1.897E-09	1.959E-09	2.018E-09
2.076E-09	2.132E-09	2.187E-09	2.241E-09	2.348E-09	2.454E-09	2.557E-09	2.649E-09
2.278E-10	2.849E-10	3.718E-10	4.864E-10	6.036E-10	7.328E-10	8.712E-10	1.009E-09
1.138E-09	1.261E-09	1.374E-09	1.482E-09	1.536E-09	1.590E-09	1.643E-09	1.694E-09
1.744E-09	1.793E-09	1.840E-09	1.887E-09	1.980E-09	2.071E-09	2.159E-09	2.239E-09
1.817E-10	2.294E-10	3.015E-10	3.961E-10	4.937E-10	6.015E-10	7.172E-10	8.321E-10
9.410E-10	1.044E-09	1.140E-09	1.232E-09	1.278E-09	1.324E-09	1.369E-09	1.414E-09
1.457E-09	1.498E-09	1.539E-09	1.579E-09	1.659E-09	1.738E-09	1.813E-09	1.882E-09
1.443E-10	1.836E-10	2.430E-10	3.209E-10	4.020E-10	4.915E-10	5.877E-10	6.833E-10
7.742E-10	8.609E-10	9.414E-10	1.019E-09	1.058E-09	1.098E-09	1.136E-09	1.174E-09
1.211E-09	1.247E-09	1.282E-09	1.316E-09	1.384E-09	1.451E-09	1.516E-09	1.575E-09
1.144E-10	1.463E-10	1.950E-10	2.590E-10	3.261E-10	4.002E-10	4.797E-10	5.588E-10
6.344E-10	7.067E-10	7.741E-10	8.396E-10	8.726E-10	9.057E-10	9.386E-10	9.709E-10
1.002E-09	1.033E-09	1.062E-09	1.092E-09	1.150E-09	1.206E-09	1.261E-09	1.311E-09
8.973E-11	1.152E-10	1.548E-10	2.067E-10	2.617E-10	3.222E-10	3.872E-10	4.519E-10
5.140E-10	5.735E-10	6.292E-10	6.836E-10	7.110E-10	7.386E-10	7.661E-10	7.932E-10
8.195E-10	8.450E-10	8.699E-10	8.946E-10	9.432E-10	9.908E-10	1.036E-09	1.078E-09
7.037E-11	9.050E-11	1.225E-10	1.645E-10	2.093E-10	2.586E-10	3.114E-10	3.640E-10
4.146E-10	4.633E-10	5.090E-10	5.537E-10	5.764E-10	5.992E-10	6.221E-10	6.445E-10
6.664E-10	6.877E-10	7.084E-10	7.289E-10	7.694E-10	8.088E-10	8.466E-10	8.812E-10

N_{T_I}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
1.887E-09	1.950E-09	1.956E-09	1.934E-09	1.920E-09	1.907E-09	1.895E-09	1.884E-09
1.874E-09	1.808E-09	1.772E-09	1.729E-09	1.715E-09	1.704E-09	1.694E-09	1.686E-09
1.679E-09	1.644E-09	1.631E-09	1.626E-09				

Table 2. (g) H_o beam emission coefficient for pure C^{+6} plasma. Economised tabulation with respect to reference conditions. 1st. data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges; 2nd. data block contains $\epsilon_{cr}(E_b, N_e, T_I^{(ref)})$ ($cm^3\ s^{-1}$); 3rd. data block contains T_I (eV) scan range; 4th. data block contains $\epsilon_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ ($cm^3\ s^{-1}$)

z_0=6	$\epsilon(ref)_{cr}$=1.508E-09 $cm^3\ s^{-1}$			Date=24/08/99		Code=adas312	
N_{E_b}=24	N_{N_e}=20	$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
1.376E-09	1.517E-09	1.794E-09	2.227E-09	2.732E-09	3.223E-09	3.708E-09	4.215E-09
4.714E-09	5.159E-09	5.581E-09	6.001E-09	6.210E-09	6.416E-09	6.617E-09	6.809E-09
6.990E-09	7.162E-09	7.329E-09	7.492E-09	7.816E-09	8.136E-09	8.448E-09	8.738E-09
1.315E-09	1.460E-09	1.731E-09	2.152E-09	2.642E-09	3.119E-09	3.589E-09	4.082E-09
4.565E-09	4.996E-09	5.405E-09	5.812E-09	6.014E-09	6.214E-09	6.409E-09	6.595E-09
6.770E-09	6.937E-09	7.099E-09	7.258E-09	7.573E-09	7.884E-09	8.187E-09	8.469E-09
1.243E-09	1.393E-09	1.656E-09	2.061E-09	2.532E-09	2.990E-09	3.443E-09	3.917E-09
4.380E-09	4.794E-09	5.187E-09	5.578E-09	5.772E-09	5.964E-09	6.151E-09	6.330E-09
6.498E-09	6.659E-09	6.814E-09	6.967E-09	7.270E-09	7.570E-09	7.861E-09	8.133E-09
1.162E-09	1.315E-09	1.570E-09	1.956E-09	2.404E-09	2.840E-09	3.273E-09	3.725E-09
4.165E-09	4.558E-09	4.932E-09	5.304E-09	5.489E-09	5.671E-09	5.849E-09	6.019E-09
6.179E-09	6.332E-09	6.480E-09	6.626E-09	6.915E-09	7.201E-09	7.480E-09	7.740E-09
1.072E-09	1.227E-09	1.470E-09	1.833E-09	2.254E-09	2.665E-09	3.074E-09	3.500E-09
3.913E-09	4.282E-09	4.633E-09	4.983E-09	5.157E-09	5.328E-09	5.495E-09	5.655E-09
5.806E-09	5.950E-09	6.089E-09	6.227E-09	6.500E-09	6.770E-09	7.033E-09	7.279E-09
9.724E-10	1.128E-09	1.357E-09	1.695E-09	2.084E-09	2.466E-09	2.847E-09	3.243E-09
3.625E-09	3.967E-09	4.292E-09	4.616E-09	4.778E-09	4.937E-09	5.092E-09	5.240E-09
5.380E-09	5.513E-09	5.643E-09	5.772E-09	6.026E-09	6.277E-09	6.522E-09	6.752E-09
8.681E-10	1.022E-09	1.235E-09	1.543E-09	1.899E-09	2.248E-09	2.599E-09	2.961E-09
3.311E-09	3.623E-09	3.920E-09	4.217E-09	4.364E-09	4.510E-09	4.652E-09	4.787E-09
4.916E-09	5.038E-09	5.158E-09	5.276E-09	5.509E-09	5.741E-09	5.966E-09	6.178E-09
7.604E-10	9.090E-10	1.103E-09	1.381E-09	1.700E-09	2.015E-09	2.332E-09	2.659E-09
2.973E-09	3.254E-09	3.522E-09	3.789E-09	3.922E-09	4.054E-09	4.181E-09	4.304E-09
4.420E-09	4.531E-09	4.639E-09	4.746E-09	4.958E-09	5.168E-09	5.372E-09	5.565E-09
6.543E-10	7.945E-10	9.695E-10	1.215E-09	1.496E-09	1.776E-09	2.058E-09	2.349E-09
2.628E-09	2.877E-09	3.115E-09	3.353E-09	3.471E-09	3.588E-09	3.702E-09	3.811E-09
3.914E-09	4.014E-09	4.111E-09	4.206E-09	4.396E-09	4.584E-09	4.768E-09	4.941E-09
5.540E-10	6.833E-10	8.382E-10	1.052E-09	1.297E-09	1.541E-09	1.790E-09	2.045E-09
2.289E-09	2.508E-09	2.717E-09	2.927E-09	3.031E-09	3.133E-09	3.234E-09	3.330E-09
3.422E-09	3.510E-09	3.595E-09	3.680E-09	3.849E-09	4.015E-09	4.178E-09	4.332E-09

Table 2. (g) contd.

4.598E-10	5.758E-10	7.104E-10	8.934E-10	1.103E-09	1.313E-09	1.528E-09	1.749E-09
1.959E-09	2.149E-09	2.331E-09	2.512E-09	2.603E-09	2.692E-09	2.780E-09	2.864E-09
2.944E-09	3.021E-09	3.096E-09	3.170E-09	3.318E-09	3.463E-09	3.606E-09	3.741E-09
3.776E-10	4.794E-10	5.950E-10	7.500E-10	9.271E-10	1.107E-09	1.292E-09	1.481E-09
1.661E-09	1.825E-09	1.982E-09	2.139E-09	2.217E-09	2.294E-09	2.370E-09	2.443E-09
2.513E-09	2.580E-09	2.646E-09	2.710E-09	2.839E-09	2.966E-09	3.090E-09	3.208E-09
3.062E-10	3.937E-10	4.917E-10	6.214E-10	7.700E-10	9.217E-10	1.079E-09	1.240E-09
1.394E-09	1.534E-09	1.668E-09	1.803E-09	1.870E-09	1.937E-09	2.002E-09	2.065E-09
2.126E-09	2.184E-09	2.241E-09	2.297E-09	2.408E-09	2.518E-09	2.626E-09	2.729E-09
2.457E-10	3.194E-10	4.015E-10	5.092E-10	6.328E-10	7.601E-10	8.928E-10	1.028E-09
1.159E-09	1.278E-09	1.393E-09	1.508E-09	1.565E-09	1.622E-09	1.679E-09	1.733E-09
1.785E-09	1.836E-09	1.885E-09	1.934E-09	2.029E-09	2.124E-09	2.217E-09	2.305E-09
1.962E-10	2.573E-10	3.257E-10	4.147E-10	5.171E-10	6.235E-10	7.350E-10	8.492E-10
9.592E-10	1.061E-09	1.159E-09	1.256E-09	1.305E-09	1.354E-09	1.402E-09	1.449E-09
1.494E-09	1.538E-09	1.580E-09	1.622E-09	1.705E-09	1.786E-09	1.866E-09	1.942E-09
1.555E-10	2.054E-10	2.618E-10	3.349E-10	4.193E-10	5.078E-10	6.009E-10	6.963E-10
7.887E-10	8.747E-10	9.576E-10	1.040E-09	1.082E-09	1.123E-09	1.164E-09	1.204E-09
1.243E-09	1.281E-09	1.317E-09	1.353E-09	1.424E-09	1.493E-09	1.561E-09	1.626E-09
1.228E-10	1.629E-10	2.092E-10	2.690E-10	3.383E-10	4.115E-10	4.888E-10	5.682E-10
6.454E-10	7.178E-10	7.875E-10	8.571E-10	8.922E-10	9.273E-10	9.622E-10	9.963E-10
1.029E-09	1.061E-09	1.093E-09	1.123E-09	1.183E-09	1.242E-09	1.300E-09	1.355E-09
9.671E-11	1.286E-10	1.664E-10	2.152E-10	2.720E-10	3.322E-10	3.961E-10	4.618E-10
5.260E-10	5.865E-10	6.448E-10	7.030E-10	7.324E-10	7.620E-10	7.914E-10	8.203E-10
8.483E-10	8.755E-10	9.020E-10	9.279E-10	9.789E-10	1.029E-09	1.077E-09	1.124E-09
7.546E-11	1.004E-10	1.309E-10	1.703E-10	2.162E-10	2.653E-10	3.173E-10	3.710E-10
4.237E-10	4.736E-10	5.217E-10	5.698E-10	5.941E-10	6.186E-10	6.431E-10	6.672E-10
6.906E-10	7.134E-10	7.355E-10	7.572E-10	7.998E-10	8.412E-10	8.815E-10	9.204E-10
5.888E-11	7.830E-11	1.027E-10	1.344E-10	1.715E-10	2.112E-10	2.534E-10	2.970E-10
3.399E-10	3.808E-10	4.202E-10	4.595E-10	4.795E-10	4.997E-10	5.199E-10	5.398E-10
5.592E-10	5.781E-10	5.965E-10	6.145E-10	6.497E-10	6.839E-10	7.171E-10	7.491E-10

N_{T_I}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
1.653E-09	1.703E-09	1.703E-09	1.676E-09	1.661E-09	1.647E-09	1.634E-09	1.623E-09
1.612E-09	1.545E-09	1.508E-09	1.465E-09	1.451E-09	1.439E-09	1.430E-09	1.422E-09
1.415E-09	1.380E-09	1.368E-09	1.363E-09				

Table 2. (h) H_α beam emission coefficient for pure A^{+7} plasma. Economised tabulation with respect to reference conditions. 1st. data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges: 2nd. data block contains $\epsilon_{cr}(E_b, N_e, T_I^{(ref)})$ (cm^3 s^{-1}); 3rd. data block contains T_I (eV) scan range; 4th. data block contains $\epsilon_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ (cm^3 s^{-1})

z_0=7	$\epsilon(ref)_{cr}$=1.422E-09 cm^3 s^{-1}			Date=24/08/99			Code=adas312
N_{E_b}=24	N_{N_e}=20	$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
1.328E-09	1.515E-09	1.744E-09	2.158E-09	2.733E-09	3.335E-09	3.871E-09	4.373E-09
4.831E-09	5.265E-09	5.682E-09	6.091E-09	6.295E-09	6.497E-09	6.693E-09	6.879E-09
7.053E-09	7.218E-09	7.378E-09	7.534E-09	7.844E-09	8.147E-09	8.443E-09	8.722E-09
1.263E-09	1.453E-09	1.678E-09	2.081E-09	2.639E-09	3.222E-09	3.742E-09	4.228E-09
4.671E-09	5.090E-09	5.493E-09	5.889E-09	6.086E-09	6.281E-09	6.470E-09	6.650E-09
6.818E-09	6.977E-09	7.131E-09	7.283E-09	7.583E-09	7.876E-09	8.163E-09	8.434E-09
1.187E-09	1.380E-09	1.600E-09	1.987E-09	2.523E-09	3.082E-09	3.583E-09	4.050E-09
4.473E-09	4.874E-09	5.259E-09	5.638E-09	5.827E-09	6.013E-09	6.194E-09	6.366E-09
6.527E-09	6.679E-09	6.827E-09	6.972E-09	7.259E-09	7.541E-09	7.816E-09	8.077E-09
1.103E-09	1.297E-09	1.511E-09	1.880E-09	2.389E-09	2.920E-09	3.398E-09	3.842E-09
4.242E-09	4.621E-09	4.986E-09	5.346E-09	5.524E-09	5.701E-09	5.872E-09	6.035E-09
6.187E-09	6.331E-09	6.471E-09	6.609E-09	6.882E-09	7.150E-09	7.412E-09	7.660E-09
1.010E-09	1.203E-09	1.408E-09	1.756E-09	2.233E-09	2.732E-09	3.181E-09	3.598E-09
3.972E-09	4.326E-09	4.668E-09	5.004E-09	5.172E-09	5.336E-09	5.496E-09	5.648E-09
5.790E-09	5.925E-09	6.056E-09	6.186E-09	6.442E-09	6.694E-09	6.940E-09	7.174E-09
9.091E-10	1.099E-09	1.293E-09	1.616E-09	2.056E-09	2.517E-09	2.935E-09	3.321E-09
3.665E-09	3.991E-09	4.306E-09	4.617E-09	4.770E-09	4.922E-09	5.070E-09	5.209E-09
5.340E-09	5.465E-09	5.586E-09	5.706E-09	5.944E-09	6.178E-09	6.406E-09	6.623E-09
8.046E-10	9.883E-10	1.169E-09	1.464E-09	1.864E-09	2.285E-09	2.666E-09	3.019E-09
3.331E-09	3.626E-09	3.913E-09	4.196E-09	4.336E-09	4.474E-09	4.608E-09	4.734E-09
4.854E-09	4.967E-09	5.078E-09	5.188E-09	5.406E-09	5.620E-09	5.829E-09	6.029E-09
6.984E-10	8.723E-10	1.038E-09	1.302E-09	1.660E-09	2.036E-09	2.380E-09	2.696E-09
2.975E-09	3.238E-09	3.495E-09	3.749E-09	3.874E-09	3.997E-09	4.117E-09	4.231E-09
4.337E-09	4.439E-09	4.539E-09	4.638E-09	4.835E-09	5.029E-09	5.218E-09	5.399E-09
5.956E-10	7.562E-10	9.055E-10	1.139E-09	1.453E-09	1.783E-09	2.088E-09	2.367E-09
2.612E-09	2.844E-09	3.071E-09	3.296E-09	3.406E-09	3.515E-09	3.621E-09	3.721E-09
3.816E-09	3.906E-09	3.995E-09	4.084E-09	4.260E-09	4.432E-09	4.602E-09	4.764E-09
5.000E-10	6.449E-10	7.772E-10	9.798E-10	1.251E-09	1.538E-09	1.803E-09	2.046E-09
2.259E-09	2.461E-09	2.660E-09	2.856E-09	2.953E-09	3.048E-09	3.140E-09	3.228E-09
3.311E-09	3.391E-09	3.470E-09	3.548E-09	3.703E-09	3.856E-09	4.006E-09	4.150E-09

Table 2. (h) contd.

4.116E-10	5.390E-10	6.538E-10	8.263E-10	1.056E-09	1.300E-09	1.527E-09	1.736E-09
1.918E-09	2.092E-09	2.263E-09	2.433E-09	2.516E-09	2.598E-09	2.678E-09	2.754E-09
2.826E-09	2.896E-09	2.965E-09	3.033E-09	3.169E-09	3.303E-09	3.435E-09	3.561E-09
3.355E-10	4.452E-10	5.436E-10	6.890E-10	8.820E-10	1.087E-09	1.280E-09	1.457E-09
1.612E-09	1.760E-09	1.908E-09	2.054E-09	2.126E-09	2.196E-09	2.265E-09	2.330E-09
2.393E-09	2.453E-09	2.513E-09	2.573E-09	2.691E-09	2.808E-09	2.923E-09	3.034E-09
2.703E-10	3.628E-10	4.459E-10	5.669E-10	7.270E-10	8.975E-10	1.059E-09	1.208E-09
1.340E-09	1.465E-09	1.591E-09	1.716E-09	1.777E-09	1.838E-09	1.896E-09	1.953E-09
2.007E-09	2.059E-09	2.111E-09	2.163E-09	2.266E-09	2.367E-09	2.467E-09	2.563E-09
2.156E-10	2.921E-10	3.614E-10	4.612E-10	5.927E-10	7.331E-10	8.678E-10	9.923E-10
1.102E-09	1.209E-09	1.315E-09	1.422E-09	1.474E-09	1.525E-09	1.575E-09	1.624E-09
1.670E-09	1.715E-09	1.760E-09	1.805E-09	1.894E-09	1.982E-09	2.068E-09	2.152E-09
1.712E-10	2.336E-10	2.910E-10	3.728E-10	4.804E-10	5.955E-10	7.069E-10	8.104E-10
9.027E-10	9.923E-10	1.083E-09	1.173E-09	1.218E-09	1.261E-09	1.304E-09	1.345E-09
1.385E-09	1.424E-09	1.463E-09	1.501E-09	1.578E-09	1.654E-09	1.729E-09	1.801E-09
1.351E-10	1.851E-10	2.322E-10	2.988E-10	3.862E-10	4.798E-10	5.714E-10	6.570E-10
7.338E-10	8.090E-10	8.853E-10	9.616E-10	9.990E-10	1.036E-09	1.072E-09	1.107E-09
1.141E-09	1.175E-09	1.208E-09	1.241E-09	1.307E-09	1.373E-09	1.436E-09	1.498E-09
1.061E-10	1.458E-10	1.841E-10	2.381E-10	3.088E-10	3.847E-10	4.595E-10	5.299E-10
5.936E-10	6.564E-10	7.203E-10	7.844E-10	8.159E-10	8.469E-10	8.775E-10	9.073E-10
9.363E-10	9.648E-10	9.932E-10	1.022E-09	1.078E-09	1.134E-09	1.188E-09	1.240E-09
8.325E-11	1.144E-10	1.454E-10	1.890E-10	2.460E-10	3.073E-10	3.681E-10	4.257E-10
4.784E-10	5.304E-10	5.837E-10	6.372E-10	6.635E-10	6.894E-10	7.151E-10	7.402E-10
7.647E-10	7.889E-10	8.129E-10	8.370E-10	8.848E-10	9.318E-10	9.777E-10	1.022E-09
6.467E-11	8.875E-11	1.135E-10	1.484E-10	1.939E-10	2.428E-10	2.917E-10	3.383E-10
3.812E-10	4.238E-10	4.676E-10	5.116E-10	5.332E-10	5.547E-10	5.759E-10	5.967E-10
6.172E-10	6.374E-10	6.575E-10	6.776E-10	7.176E-10	7.567E-10	7.948E-10	8.316E-10
5.026E-11	6.878E-11	8.851E-11	1.163E-10	1.524E-10	1.914E-10	2.305E-10	2.680E-10
3.028E-10	3.375E-10	3.732E-10	4.091E-10	4.268E-10	4.444E-10	4.618E-10	4.790E-10
4.959E-10	5.126E-10	5.292E-10	5.459E-10	5.790E-10	6.112E-10	6.426E-10	6.729E-10

N_{T_I}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
1.569E-09	1.614E-09	1.612E-09	1.585E-09	1.570E-09	1.557E-09	1.544E-09	1.534E-09
1.523E-09	1.457E-09	1.422E-09	1.380E-09	1.366E-09	1.355E-09	1.346E-09	1.338E-09
1.331E-09	1.296E-09	1.283E-09	1.276E-09				

Table 2. (i) H_α beam emission coefficient for pure O^{+8} plasma. Economised tabulation with respect to reference conditions. 1st. data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges; 2nd. data block contains $\epsilon_{cr}(E_b, N_e, T_I^{(ref)})$ ($cm^3\ s^{-1}$); 3rd. data block contains T_I (eV) scan range; 4th. data block contains $\epsilon_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ ($cm^3\ s^{-1}$)

z_0=8	$\epsilon(ref)_{cr}$=1.334E-09 $cm^3\ s^{-1}$			Date=24/08/99		Code=adas312	
N_{E_b}=24	N_{N_e}=20	$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
1.284E-09	1.428E-09	1.602E-09	1.964E-09	2.454E-09	2.983E-09	3.481E-09	3.981E-09
4.476E-09	4.984E-09	5.511E-09	6.017E-09	6.241E-09	6.449E-09	6.650E-09	6.847E-09
7.044E-09	7.240E-09	7.433E-09	7.622E-09	7.984E-09	8.332E-09	8.671E-09	8.970E-09
1.216E-09	1.365E-09	1.537E-09	1.889E-09	2.364E-09	2.876E-09	3.360E-09	3.844E-09
4.322E-09	4.812E-09	5.320E-09	5.808E-09	6.024E-09	6.225E-09	6.418E-09	6.609E-09
6.798E-09	6.987E-09	7.173E-09	7.356E-09	7.704E-09	8.041E-09	8.368E-09	8.657E-09
1.138E-09	1.291E-09	1.460E-09	1.799E-09	2.254E-09	2.746E-09	3.211E-09	3.676E-09
4.132E-09	4.599E-09	5.085E-09	5.550E-09	5.757E-09	5.948E-09	6.132E-09	6.314E-09
6.494E-09	6.674E-09	6.852E-09	7.026E-09	7.360E-09	7.681E-09	7.993E-09	8.270E-09
1.051E-09	1.208E-09	1.373E-09	1.696E-09	2.128E-09	2.595E-09	3.039E-09	3.480E-09
3.911E-09	4.352E-09	4.811E-09	5.251E-09	5.445E-09	5.626E-09	5.799E-09	5.970E-09
6.141E-09	6.310E-09	6.478E-09	6.643E-09	6.958E-09	7.262E-09	7.558E-09	7.820E-09
9.557E-10	1.114E-09	1.274E-09	1.578E-09	1.982E-09	2.421E-09	2.838E-09	3.252E-09
3.654E-09	4.065E-09	4.492E-09	4.902E-09	5.083E-09	5.251E-09	5.412E-09	5.572E-09
5.730E-09	5.888E-09	6.045E-09	6.198E-09	6.493E-09	6.777E-09	7.052E-09	7.298E-09
8.538E-10	1.011E-09	1.163E-09	1.445E-09	1.818E-09	2.224E-09	2.611E-09	2.993E-09
3.363E-09	3.739E-09	4.131E-09	4.507E-09	4.673E-09	4.827E-09	4.975E-09	5.121E-09
5.267E-09	5.411E-09	5.555E-09	5.696E-09	5.967E-09	6.229E-09	6.483E-09	6.709E-09
7.499E-10	9.030E-10	1.046E-09	1.303E-09	1.642E-09	2 011E-09	2.365E-09	2.713E-09
3.047E-09	3.388E-09	3.742E-09	4.081E-09	4.232E-09	4.371E-09	4.505E-09	4.637E-09
4.768E-09	4.899E-09	5.029E-09	5.157E-09	5.403E-09	5.641E-09	5.872E-09	6.079E-09
6.458E-10	7.914E-10	9.234E-10	1.154E-09	1.456E-09	1.785E-09	2.104E-09	2.415E-09
2.713E-09	3.015E-09	3.329E-09	3.631E-09	3.765E-09	3.889E-09	4.008E-09	4.126E-09
4.243E-09	4.359E-09	4.475E-09	4.590E-09	4.810E-09	5.023E-09	5.230E-09	5.416E-09
5.464E-10	6.812E-10	8.008E-10	1.003E-09	1.268E-09	1.557E-09	1.839E-09	2.113E-09
2.374E-09	2.638E-09	2.914E-09	3.178E-09	3.295E-09	3 404E-09	3.509E-09	3.612E-09
3.715E-09	3.818E-09	3.920E-09	4.021E-09	4.216E-09	4.404E-09	4.587E-09	4.752E-09
4.554E-10	5.770E-10	6.834E-10	8.590E-10	1.087E-09	1.337E-09	1.583E-09	1.821E-09
2.046E-09	2.275E-09	2.512E-09	2.741E-09	2.843E-09	2.938E-09	3.029E-09	3.119E-09
3.208E-09	3.297E-09	3.387E-09	3.475E-09	3 645E-09	3.810E-09	3.971E-09	4.117E-09

Table 2. (i) contd.

3.723E-10	4.790E-10	5.718E-10	7.208E-10	9.136E-10	1.126E-09	1.336E-09	1.540E-09
1.731E-09	1.926E-09	2.128E-09	2.323E-09	2.410E-09	2.491E-09	2.570E-09	2.647E-09
2.724E-09	2.801E-09	2.878E-09	2.954E-09	3.101E-09	3.244E-09	3.384E-09	3.511E-09
3.017E-10	3.933E-10	4.730E-10	5.982E-10	7.594E-10	9.379E-10	1.115E-09	1.288E-09
1.450E-09	1.614E-09	1.785E-09	1.950E-09	2.024E-09	2.094E-09	2.162E-09	2.228E-09
2.294E-09	2.360E-09	2.426E-09	2.491E-09	2.618E-09	2.742E-09	2.862E-09	2.973E-09
2.417E-10	3.187E-10	3.862E-10	4.900E-10	6.232E-10	7.714E-10	9.200E-10	1.065E-09
1.200E-09	1.338E-09	1.481E-09	1.620E-09	1.683E-09	1.743E-09	1.800E-09	1.857E-09
1.913E-09	1.970E-09	2.026E-09	2.082E-09	2.191E-09	2.297E-09	2.401E-09	2.496E-09
1.919E-10	2.553E-10	3.117E-10	3.969E-10	5.059E-10	6.277E-10	7.508E-10	8.710E-10
9.842E-10	1.099E-09	1.218E-09	1.334E-09	1.387E-09	1.438E-09	1.487E-09	1.535E-09
1.583E-09	1.631E-09	1.679E-09	1.727E-09	1.820E-09	1.911E-09	2.000E-09	2.082E-09
1.517E-10	2.032E-10	2.499E-10	3.195E-10	4.083E-10	5.078E-10	6.093E-10	7.088E-10
8.028E-10	8.985E-10	9.975E-10	1.094E-09	1.139E-09	1.182E-09	1.223E-09	1.265E-09
1.305E-09	1.346E-09	1.387E-09	1.427E-09	1.507E-09	1.584E-09	1.661E-09	1.731E-09
1.192E-10	1.603E-10	1.986E-10	2.550E-10	3.268E-10	4.075E-10	4.906E-10	5.724E-10
6.500E-10	7.292E-10	8.110E-10	8.911E-10	9.285E-10	9.645E-10	9.998E-10	1.035E-09
1.069E-09	1.104E-09	1.138E-09	1.173E-09	1.240E-09	1.306E-09	1.371E-09	1.431E-09
9.332E-11	1.257E-10	1.569E-10	2.023E-10	2.601E-10	3.253E-10	3.929E-10	4.598E-10
5.236E-10	5.889E-10	6.561E-10	7.222E-10	7.533E-10	7.835E-10	8.133E-10	8.428E-10
8.720E-10	9.010E-10	9.301E-10	9.590E-10	1.016E-09	1.072E-09	1.126E-09	1.177E-09
7.293E-11	9.824E-11	1.234E-10	1.599E-10	2.063E-10	2.587E-10	3.134E-10	3.679E-10
4.202E-10	4.736E-10	5.286E-10	5.829E-10	6.087E-10	6.339E-10	6.589E-10	6.836E-10
7.080E-10	7.323E-10	7.567E-10	7.809E-10	8.287E-10	8.755E-10	9.211E-10	9.638E-10
5.646E-11	7.592E-11	9.600E-11	1.250E-10	1.618E-10	2.035E-10	2.473E-10	2.911E-10
3.333E-10	3.766E-10	4.211E-10	4.651E-10	4.862E-10	5.069E-10	5.275E-10	5.480E-10
5.682E-10	5.883E-10	6.084E-10	6.284E-10	6.680E-10	7.066E-10	7.443E-10	7.796E-10
4.373E-11	5.863E-11	7.457E-11	9.753E-11	1.267E-10	1.597E-10	1.946E-10	2.297E-10
2.637E-10	2.986E-10	3.343E-10	3.698E-10	3.869E-10	4.039E-10	4.208E-10	4.375E-10
4.541E-10	4.706E-10	4.871E-10	5.035E-10	5.360E-10	5.677E-10	5.985E-10	6.274E-10
N_{T_I}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
1.488E-09	1.528E-09	1.525E-09	1.497E-09	1.482E-09	1.468E-09	1.456E-09	1.445E-09
1.435E-09	1.370E-09	1.334E-09	1.292E-09	1.279E-09	1.267E-09	1.258E-09	1.250E-09
1.243E-09	1.208E-09	1.194E-09	1.186E-09				

Table 2. (j) H_α beam emission coefficient for pure F^{+9} plasma Economised tabulation with respect to reference conditions. 1st. data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges; 2nd. data block contains $\epsilon_{cr}(E_b, N_e, T_I^{(ref)})$ ($cm^3\ s^{-1}$); 3rd. data block contains T_I (eV) scan range; 4th. data block contains $\epsilon_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ ($cm^3\ s^{-1}$)

z_0=9	$\epsilon(ref)_{cr}$=1.193E-09 $cm^3\ s^{-1}$			Date=24/08/99		Code=adas312	
N_{E_b}=24	N_{N_e}=20	$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
1.264E-09	1.423E-09	1.455E-09	1.545E-09	1.773E-09	2.184E-09	2.722E-09	3.269E-09
3.857E-09	4.430E-09	5.004E-09	5.540E-09	5.795E-09	6.044E-09	6.284E-09	6.510E-09
6.727E-09	6.941E-09	7.153E-09	7.364E-09	7.784E-09	8.184E-09	8.549E-09	8.896E-09
1.192E-09	1.357E-09	1.392E-09	1.481E-09	1.702E-09	2.101E-09	2.622E-09	3.151E-09
3.719E-09	4.271E-09	4.825E-09	5.341E-09	5.586E-09	5.826E-09	6.057E-09	6.275E-09
6.483E-09	6.688E-09	6.893E-09	7.096E-09	7.500E-09	7.886E-09	8.237E-09	8.572E-09
1.110E-09	1.278E-09	1.317E-09	1.405E-09	1.618E-09	2.000E-09	2.501E-09	3.008E-09
3.550E-09	4.076E-09	4.604E-09	5.096E-09	5.329E-09	5.558E-09	5.777E-09	5.985E-09
6.183E-09	6.378E-09	6.573E-09	6.767E-09	7.151E-09	7.519E-09	7.853E-09	8.172E-09
1.020E-09	1.190E-09	1.234E-09	1.319E-09	1.522E-09	1.885E-09	2.361E-09	2.842E-09
3.354E-09	3.850E-09	4.348E-09	4.812E-09	5.032E-09	5.247E-09	5.453E-09	5.648E-09
5.835E-09	6.018E-09	6.201E-09	6.384E-09	6.747E-09	7.093E-09	7.409E-09	7.709E-09
9.219E-10	1.093E-09	1.139E-09	1.222E-09	1.413E-09	1.754E-09	2.200E-09	2.650E-09
3.127E-09	3.588E-09	4.052E-09	4.483E-09	4.687E-09	4.887E-09	5.078E-09	5.259E-09
5.432E-09	5.602E-09	5.772E-09	5.942E-09	6.280E-09	6.601E-09	6.895E-09	7.175E-09
8.182E-10	9.859E-10	1.035E-09	1.115E-09	1.291E-09	1.606E-09	2.019E-09	2.434E-09
2.872E-09	3.293E-09	3.718E-09	4.112E-09	4.299E-09	4.482E-09	4.657E-09	4.822E-09
4.979E-09	5.135E-09	5.290E-09	5.446E-09	5.755E-09	6.050E-09	6.319E-09	6.575E-09
7.137E-10	8.751E-10	9.261E-10	1.001E-09	1.162E-09	1.448E-09	1.825E-09	2.202E-09
2.596E-09	2.976E-09	3.359E-09	3.715E-09	3.883E-09	4.047E-09	4.205E-09	4.353E-09
4.495E-09	4.635E-09	4.775E-09	4.916E-09	5.195E-09	5.462E-09	5.704E-09	5.937E-09
6.104E-10	7.618E-10	8.129E-10	8.822E-10	1.027E-09	1.283E-09	1.620E-09	1.956E-09
2.306E-09	2.642E-09	2.981E-09	3.296E-09	3.445E-09	3.591E-09	3.731E-09	3.862E-09
3.988E-09	4.112E-09	4.236E-09	4.361E-09	4.609E-09	4.846E-09	5.062E-09	5.269E-09
5.130E-10	6.515E-10	7.012E-10	7.644E-10	8.922E-10	1.117E-09	1.413E-09	1.708E-09
2.013E-09	2.306E-09	2.602E-09	2.877E-09	3.007E-09	3.135E-09	3.256E-09	3 371E-09
3.481E-09	3.589E-09	3.698E-09	3.808E-09	4.026E-09	4.234E-09	4.423E-09	4.606E-09
4.248E-10	5.483E-10	5.953E-10	6.521E-10	7.633E-10	9.576E-10	1.214E-09	1.469E-09
1.732E-09	1.983E-09	2.238E-09	2.475E-09	2.587E-09	2.697E-09	2.802E-09	2.901E-09
2.996E-09	3.090E-09	3.185E-09	3 280E-09	3.469E-09	3.650E-09	3.815E-09	3.974E-09

Table 2. (j) contd.

3.453E-10	4.524E-10	4.956E-10	5.458E-10	6.408E-10	8.058E-10	1.024E-09	1.240E-09
1.462E-09	1.675E-09	1.890E-09	2.092E-09	2.187E-09	2.281E-09	2.371E-09	2.455E-09
2.536E-09	2.616E-09	2.697E-09	2.779E-09	2.941E-09	3.096E-09	3.238E-09	3.375E-09
2.783E-10	3.693E-10	4.082E-10	4.520E-10	5.326E-10	6.712E-10	8.548E-10	1.037E-09
1.222E-09	1.401E-09	1.582E-09	1.752E-09	1.833E-09	1.912E-09	1.988E-09	2.060E-09
2.129E-09	2.197E-09	2.266E-09	2.336E-09	2.474E-09	2.607E-09	2.729E-09	2.847E-09
2.220E-10	2.977E-10	3.319E-10	3.698E-10	4.373E-10	5.525E-10	7.051E-10	8.563E-10
1.010E-09	1.159E-09	1.310E-09	1.452E-09	1.520E-09	1.587E-09	1.651E-09	1.712E-09
1.770E-09	1.828E-09	1.887E-09	1.946E-09	2.063E-09	2.177E-09	2.281E-09	2.381E-09
1.755E-10	2.373E-10	2.669E-10	2.993E-10	3.555E-10	4.502E-10	5.758E-10	7.003E-10
8.272E-10	9.497E-10	1.075E-09	1.193E-09	1.250E-09	1.306E-09	1.360E-09	1.411E-09
1.460E-09	1.509E-09	1.559E-09	1.608E-09	1.708E-09	1.804E-09	1.893E-09	1.978E-09
1.383E-10	1.880E-10	2.133E-10	2.409E-10	2.873E-10	3.648E-10	4.676E-10	5.697E-10
6.738E-10	7.746E-10	8.779E-10	9.762E-10	1.024E-09	1.070E-09	1.116E-09	1.159E-09
1.200E-09	1.241E-09	1.283E-09	1.325E-09	1.410E-09	1.491E-09	1.566E-09	1.638E-09
1.082E-10	1.476E-10	1.690E-10	1.922E-10	2.304E-10	2.933E-10	3.767E-10	4.599E-10
5.446E-10	6.271E-10	7.119E-10	7.930E-10	8.323E-10	8.712E-10	9.090E-10	9.450E-10
9.799E-10	1.015E-09	1.050E-09	1.085E-09	1.156E-09	1.224E-09	1.288E-09	1.349E-09
8.445E-11	1.153E-10	1.331E-10	1.525E-10	1.837E-10	2.346E-10	3.019E-10	3.692E-10
4.379E-10	5.051E-10	5.744E-10	6.410E-10	6.734E-10	7.056E-10	7.371E-10	7.672E-10
7.963E-10	8.253E-10	8.546E-10	8.843E-10	9.437E-10	1.001E-09	1.054E-09	1.105E-09
6.579E-11	8.974E-11	1.044E-10	1.205E-10	1.459E-10	1.868E-10	2.409E-10	2.951E-10
3.507E-10	4.052E-10	4.615E-10	5.159E-10	5.425E-10	5.691E-10	5.952E-10	6.201E-10
6.443E-10	6.685E-10	6.929E-10	7.176E-10	7.671E-10	8.147E-10	8.587E-10	9.014E-10
5.078E-11	6.909E-11	8.094E-11	9.410E-11	1.146E-10	1.471E-10	1.900E-10	2.332E-10
2.776E-10	3.213E-10	3.665E-10	4.104E-10	4.320E-10	4.537E-10	4.750E-10	4.954E-10
5.153E-10	5.351E-10	5.551E-10	5.754E-10	6.161E-10	6.552E-10	6.912E-10	7.262E-10
3.922E-11	5.318E-11	6.269E-11	7.336E-11	8.975E-11	1.155E-10	1.495E-10	1.838E-10
2.191E-10	2.540E-10	2.902E-10	3.254E-10	3.429E-10	3.604E-10	3.776E-10	3.943E-10
4.105E-10	4.266E-10	4.430E-10	4.595E-10	4.927E-10	5.245E-10	5.539E-10	5.823E-10

N_{T_I}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
1.354E-09	1.388E-09	1.382E-09	1.353E-09	1.338E-09	1.324E-09	1.312E-09	1.302E-09
1.291E-09	1.228E-09	1.193E-09	1.153E-09	1.140E-09	1.129E-09	1.120E-09	1.112E-09
1.106E-09	1.071E-09	1.058E-09	1.050E-09				

Table 2. (k) H_α beam emission coefficient for pure Ne^{+10} plasma. Economised tabulation with respect to reference conditions. 1st data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges; 2nd. data block contains $\epsilon_{cr}(E_b, N_e, T_I^{(ref)})$ ($cm^3\ s^{-1}$); 3rd. data block contains T_I (eV) scan range; 4th. data block contains $\epsilon_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ ($cm^3\ s^{-1}$)

z_0=10	$\epsilon(ref)_{cr}$=1.054E-09 $cm^3\ s^{-1}$			Date=24/08/99		Code=adas312	
N_{E_b}=24	N_{N_e}=20	$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
1.232E-09	1.401E-09	1.446E-09	1.490E-09	1.640E-09	1.931E-09	2.383E-09	2.894E-09
3.410E-09	3.969E-09	4.508E-09	5.053E-09	5.319E-09	5.570E-09	5.812E-09	6.050E-09
6.285E-09	6.511E-09	6.726E-09	6.932E-09	7.334E-09	7.733E-09	8.126E-09	8.504E-09
1.158E-09	1.331E-09	1.380E-09	1.425E-09	1.571E-09	1.854E-09	2.292E-09	2.786E-09
3.283E-09	3.822E-09	4.341E-09	4.865E-09	5.121E-09	5.363E-09	5.595E-09	5.824E-09
6.049E-09	6.267E-09	6.473E-09	6.671E-09	7.058E-09	7.441E-09	7.819E-09	8.182E-09
1.074E-09	1.249E-09	1.302E-09	1.348E-09	1.489E-09	1.761E-09	2.181E-09	2.655E-09
3.129E-09	3.642E-09	4.136E-09	4.635E-09	4.878E-09	5.108E-09	5.328E-09	5.546E-09
5.760E-09	5.966E-09	6.162E-09	6.350E-09	6.718E-09	7.082E-09	7.441E-09	7.786E-09
9.815E-10	1.158E-09	1.215E-09	1.262E-09	1.397E-09	1 656E-09	2.055E-09	2.504E-09
2.951E-09	3.434E-09	3.899E-09	4.369E-09	4.597E-09	4.813E-09	5.020E-09	5.224E-09
5.425E-09	5.619E-09	5.803E-09	5.980E-09	6.326E-09	6.668E-09	7.005E-09	7.329E-09
8.822E-10	1.058E-09	1.117E-09	1.164E-09	1.292E-09	1.535E-09	1.910E-09	2.330E-09
2.746E-09	3.194E-09	3.626E-09	4.062E-09	4.274E-09	4.474E-09	4.665E-09	4.854E-09
5.040E-09	5.219E-09	5.390E-09	5.554E-09	5.874E-09	6.191E-09	6.504E-09	6.804E-09
7.783E-10	9.493E-10	1.010E-09	1.057E-09	1.177E-09	1.402E-09	1.749E-09	2.135E-09
2 516E-09	2.925E-09	3.319E-09	3.717E-09	3.911E-09	4.093E-09	4.268E-09	4.440E-09
4.609E-09	4.772E-09	4.928E-09	5.077E-09	5.370E-09	5.659E-09	5.944E-09	6.219E-09
6 746E-10	8.376E-10	8.990E-10	9.450E-10	1.055E-09	1.260E-09	1.576E-09	1.926E-09
2.269E-09	2.637E-09	2.992E-09	3.349E-09	3.523E-09	3.687E-09	3.844E-09	3.998E-09
4.150E-09	4.296E-09	4.436E-09	4.571E-09	4.834E-09	5.094E-09	5.351E-09	5.598E-09
5.734E-10	7.247E-10	7.849E-10	8.290E-10	9.283E-10	1.112E-09	1.394E-09	1.706E-09
2.010E-09	2.335E-09	2.648E-09	2.964E-09	3.117E-09	3.262E-09	3.400E-09	3.536E-09
3.670E-09	3.800E-09	3.924E-09	4.043E-09	4.276E-09	4.506E-09	4.733E-09	4.953E-09
4.790E-10	6.159E-10	6.732E-10	7.148E-10	8.030E-10	9 646E-10	1.213E-09	1.486E-09
1.750E-09	2.033E-09	2.305E-09	2.580E-09	2.713E-09	2.839E-09	2.959E-09	3.078E-09
3 194E-09	3.307E-09	3.415E-09	3.519E-09	3.723E-09	3.924E-09	4.123E-09	4.315E-09
3.945E-10	5.154E-10	5.684E-10	6.069E-10	6.842E-10	8.243E-10	1.039E-09	1.275E-09
1.502E-09	1.743E-09	1.977E-09	2.213E-09	2.327E-09	2.436E-09	2.539E-09	2.641E-09
2.741E-09	2.839E-09	2.932E-09	3.021E-09	3.198E-09	3 372E-09	3.544E-09	3.710E-09

Table 2. (k) contd.

3.191E-10	4.228E-10	4.706E-10	5.055E-10	5.721E-10	6.913E-10	8.741E-10	1.074E-09
1.265E-09	1.468E-09	1.666E-09	1.865E-09	1.962E-09	2.053E-09	2.141E-09	2.227E-09
2.313E-09	2.396E-09	2.475E-09	2.552E-09	2.702E-09	2.851E-09	2.998E-09	3.141E-09
2.561E-10	3.434E-10	3.856E-10	4.168E-10	4.736E-10	5.741E-10	7.277E-10	8.950E-10
1.055E-09	1.225E-09	1.390E-09	1.557E-09	1.639E-09	1.716E-09	1.790E-09	1.863E-09
1.935E-09	2.006E-09	2.073E-09	2.138E-09	2.266E-09	2.393E-09	2.519E-09	2.640E-09
2.035E-10	2.755E-10	3.121E-10	3.395E-10	3.875E-10	4.712E-10	5.987E-10	7.374E-10
8.696E-10	1.010E-09	1.148E-09	1.287E-09	1.355E-09	1.419E-09	1.482E-09	1.543E-09
1.604E-09	1.663E-09	1.720E-09	1.775E-09	1.884E-09	1.991E-09	2.098E-09	2.201E-09
1.603E-10	2.186E-10	2.498E-10	2.736E-10	3.139E-10	3.829E-10	4.877E-10	6.015E-10
7.101E-10	8.256E-10	9.388E-10	1.054E-09	1.110E-09	1.164E-09	1.216E-09	1.268E-09
1.319E-09	1.368E-09	1.416E-09	1.463E-09	1.554E-09	1.645E-09	1.735E-09	1.822E-09
1.259E-10	1.725E-10	1.987E-10	2.193E-10	2.528E-10	3.094E-10	3.950E-10	4.881E-10
5.768E-10	6.714E-10	7.645E-10	8.593E-10	9.060E-10	9.508E-10	9.942E-10	1.037E-09
1.080E-09	1.122E-09	1.162E-09	1.201E-09	1.278E-09	1.355E-09	1.430E-09	1.504E-09
9.826E-11	1.350E-10	1.567E-10	1.742E-10	2.020E-10	2.481E-10	3.174E-10	3.929E-10
4.650E-10	5.419E-10	6.179E-10	6.956E-10	7.340E-10	7.711E-10	8.072E-10	8.431E-10
8.787E-10	9.136E-10	9.473E-10	9.800E-10	1.045E-09	1.109E-09	1.172E-09	1.234E-09
7.646E-11	1.050E-10	1.228E-10	1.376E-10	1.605E-10	1.978E-10	2.536E-10	3.145E-10
3.728E-10	4.350E-10	4.968E-10	5.602E-10	5.917E-10	6.222E-10	6.521E-10	6.819E-10
7.115E-10	7.405E-10	7.685E-10	7.959E-10	8.499E-10	9.034E-10	9.562E-10	1.008E-09
5.941E-11	8.149E-11	9.595E-11	1.083E-10	1.270E-10	1.570E-10	2.018E-10	2.507E-10
2.976E-10	3.478E-10	3.978E-10	4.493E-10	4.750E-10	5.000E-10	5.246E-10	5.492E-10
5.737E-10	5.977E-10	6.209E-10	6.436E-10	6.884E-10	7.328E-10	7.764E-10	8.191E-10
4.574E-11	6.255E-11	7.411E-11	8.425E-11	9.934E-11	1.232E-10	1.587E-10	1.975E-10
2.348E-10	2.749E-10	3.149E-10	3.562E-10	3.768E-10	3.971E-10	4.171E-10	4.371E-10
4.571E-10	4.767E-10	4.957E-10	5.143E-10	5.511E-10	5.873E-10	6.229E-10	6.577E-10
3.524E-11	4.802E-11	5.721E-11	6.545E-11	7.756E-11	9.651E-11	1.245E-10	1.552E-10
1.848E-10	2.166E-10	2.485E-10	2.814E-10	2.980E-10	3.143E-10	3.305E-10	3.467E-10
3.629E-10	3.788E-10	3.943E-10	4.094E-10	4.393E-10	4.687E-10	4.976E-10	5.258E-10

N_{T_I}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
1.223E-09	1.251E-09	1.244E-09	1.213E-09	1.198E-09	1.185E-09	1.172E-09	1.162E-09
1.151E-09	1.088E-09	1.054E-09	1.014E-09	1.001E-09	9.906E-10	9.819E-10	9.748E-10
9.684E-10	9.352E-10	9.225E-10	9.150E-10				

Table 2. (l) H_α beam emission coefficient for pure Ar^{+18} plasma. Economised tabulation with respect to reference conditions. 1st. data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges, 2nd. data block contains $\epsilon_{cr}(E_b, N_\epsilon, T_I^{(ref)})$ ($cm^3\ s^{-1}$); 3rd data block contains T_I (eV) scan range; 4th. data block contains $\epsilon_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ ($cm^3\ s^{-1}$)

z_0=18	$\epsilon_{cr}^{(ref)}$=8.294E-12 $cm^3\ s^{-1}$				Date=24/08/99		Code=adas312	
N_{E_b}=24	N_{N_e}=20		$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
8.458E-10	3.544E-10	2.537E-10	2.175E-10	1.982E-10	1.864E-10	1.826E-10	1.894E-10
2.014E-10	2.229E-10	2.542E-10	2.943E-10	3.179E-10	3.435E-10	3.690E-10	3.928E-10
4.156E-10	4.390E-10	4.636E-10	4.893E-10	5.443E-10	6.012E-10	6.540E-10	7.076E-10
7.506E-10	2.843E-10	1.992E-10	1.695E-10	1.539E-10	1.445E-10	1.415E-10	1.467E-10
1.559E-10	1.726E-10	1.969E-10	2.280E-10	2.463E-10	2.661E-10	2.860E-10	3.044E-10
3.221E-10	3.403E-10	3.594E-10	3.794E-10	4.221E-10	4.663E-10	5.073E-10	5.490E-10
6.509E-10	2.241E-10	1.541E-10	1.303E-10	1.181E-10	1.108E-10	1.084E-10	1.123E-10
1.194E-10	1.321E-10	1.507E-10	1.746E-10	1.886E-10	2.038E-10	2.190E-10	2.332E-10
2.468E-10	2.607E-10	2.754E-10	2.907E-10	3.235E-10	3.574E-10	3.889E-10	4.210E-10
5.547E-10	1.755E-10	1.189E-10	1.002E-10	9.057E-11	8.486E-11	8.301E-11	8.602E-11
9.140E-11	1.012E-10	1.154E-10	1.337E-10	1.445E-10	1.561E-10	1.678E-10	1.786E-10
1.891E-10	1.998E-10	2.110E-10	2.228E-10	2.479E-10	2.740E-10	2.982E-10	3.228E-10
4.634E-10	1.362E-10	9.120E-11	7.652E-11	6.911E-11	6.471E-11	6.329E-11	6.557E-11
6.966E-11	7.712E-11	8.800E-11	1.020E-10	1.102E-10	1.191E-10	1.280E-10	1.362E-10
1.442E-10	1.524E-10	1.609E-10	1.699E-10	1.891E-10	2.090E-10	2.275E-10	2.464E-10
3.799E-10	1.048E-10	6.956E-11	5.821E-11	5.251E-11	4.915E-11	4.806E-11	4.979E-11
5.290E-11	5.856E-11	6.683E-11	7.743E-11	8.366E-11	9.042E-11	9.718E-11	1.035E-10
1.095E-10	1.157E-10	1.223E-10	1.291E-10	1.437E-10	1.588E-10	1.729E-10	1.873E-10
3.073E-10	8.050E-11	5.306E-11	4.430E-11	3.993E-11	3.737E-11	3.653E-11	3.784E-11
4.021E-11	4.451E-11	5.079E-11	5.886E-11	6.360E-11	6.873E-11	7.388E-11	7.866E-11
8.326E-11	8.799E-11	9.296E-11	9.816E-11	1.093E-10	1.208E-10	1.315E-10	1.425E-10
2.450E-10	6.153E-11	4.032E-11	3.361E-11	3.027E-11	2.832E-11	2.769E-11	2.867E-11
3.046E-11	3.372E-11	3.848E-11	4.459E-11	4.818E-11	5.208E-11	5.597E-11	5.960E-11
6.309E-11	6.668E-11	7.044E-11	7.438E-11	8.282E-11	9.156E-11	9.970E-11	1.080E-10
1.934E-10	4.698E-11	3.064E-11	2.550E-11	2.295E-11	2.146E-11	2.098E-11	2.173E-11
2.308E-11	2.554E-11	2.915E-11	3.378E-11	3.650E-11	3.945E-11	4.240E-11	4.514E-11
4.779E-11	5.051E-11	5.336E-11	5.635E-11	6.274E-11	6.937E-11	7.555E-11	8.185E-11
1.518E-10	3.593E-11	2.334E-11	1.938E-11	1.743E-11	1.630E-11	1.593E-11	1.649E-11
1.751E-11	1.938E-11	2.212E-11	2.563E-11	2.769E-11	2.992E-11	3.216E-11	3.424E-11
3.625E-11	3.832E-11	4.048E-11	4.275E-11	4.760E-11	5.263E-11	5.732E-11	6.211E-11

Table 3. (l) contd.

1.179E-10	2.733E-11	1.767E-11	1.465E-11	1.316E-11	1.229E-11	1.201E-11	1.243E-11
1.320E-11	1.460E-11	1.666E-11	1.931E-11	2.086E-11	2.254E-11	2.423E-11	2.579E-11
2.731E-11	2.886E-11	3.049E-11	3.220E-11	3.585E-11	3.964E-11	4.318E-11	4.679E-11
9.169E-11	2.091E-11	1.345E-11	1.112E-11	9.973E-12	9.312E-12	9.094E-12	9.407E-12
9.984E-12	1.105E-11	1.260E-11	1.460E-11	1.578E-11	1.705E-11	1.832E-11	1.951E-11
2.065E-11	2.183E-11	2.306E-11	2.435E-11	2.711E-11	2.998E-11	3.266E-11	3.539E-11
7.113E-11	1.600E-11	1.023E-11	8.425E-12	7.545E-12	7.039E-12	6.870E-12	7.104E-12
7.537E-12	8.337E-12	9.512E-12	1.102E-11	1.190E-11	1.286E-11	1.382E-11	1.472E-11
1.558E-11	1.647E-11	1.740E-11	1.837E-11	2.046E-11	2.262E-11	2.464E-11	2.670E-11
5.513E-11	1.225E-11	7.770E-12	6.372E-12	5.695E-12	5.308E-12	5.178E-12	5.351E-12
5.676E-12	6.276E-12	7.160E-12	8.294E-12	8.959E-12	9.681E-12	1.040E-11	1.108E-11
1.172E-11	1.239E-11	1.309E-11	1.383E-11	1.539E-11	1.702E-11	1.854E-11	2.010E-11
4.291E-11	9.423E-12	5.915E-12	4.828E-12	4.306E-12	4.009E-12	3.909E-12	4.038E-12
4.282E-12	4.733E-12	5.400E-12	6.254E-12	6.756E-12	7.300E-12	7.844E-12	8.351E-12
8.840E-12	9.343E-12	9.870E-12	1.042E-11	1.161E-11	1.283E-11	1.398E-11	1.515E-11
3.344E-11	7.243E-12	4.491E-12	3.647E-12	3.246E-12	3.019E-12	2.942E-12	3.038E-12
3.221E-12	3.560E-12	4.061E-12	4.703E-12	5.080E-12	5.488E-12	5.898E-12	6.279E-12
6.646E-12	7.024E-12	7.420E-12	7.836E-12	8.725E-12	9.647E-12	1.051E-11	1.139E-11
2.616E-11	5.576E-12	3.409E-12	2.754E-12	2.447E-12	2.274E-12	2.215E-12	2.286E-12
2.423E-12	2.678E-12	3.054E-12	3.537E-12	3.820E-12	4.127E-12	4.435E-12	4.721E-12
4.998E-12	5.282E-12	5.580E-12	5.892E-12	6.560E-12	7.254E-12	7.902E-12	8.565E-12
2.057E-11	4.302E-12	2.591E-12	2.083E-12	1.847E-12	1.715E-12	1.670E-12	1.723E-12
1.826E-12	2.018E-12	2.301E-12	2.665E-12	2.878E-12	3.110E-12	3.342E-12	3.557E-12
3.765E-12	3.979E-12	4.204E-12	4.439E-12	4.942E-12	5.465E-12	5.953E-12	6.453E-12
1.613E-11	3.297E-12	1.954E-12	1.564E-12	1.385E-12	1.285E-12	1.251E-12	1.290E-12
1.367E-12	1.510E-12	1.723E-12	1.995E-12	2.154E-12	2.327E-12	2.501E-12	2.662E-12
2.818E-12	2.978E-12	3.146E-12	3.322E-12	3.699E-12	4.090E-12	4.455E-12	4.829E-12
1.271E-11	2.533E-12	1.479E-12	1.179E-12	1.043E-12	9.672E-13	9.411E-13	9.706E-13
1.028E-12	1.136E-12	1.295E-12	1.500E-12	1.620E-12	1.750E-12	1.881E-12	2.002E-12
2.119E-12	2.239E-12	2.366E-12	2.498E-12	2.781E-12	3.075E-12	3.350E-12	3.631E-12

N_{T_l}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
1.368E-11	1.323E-11	1.265E-11	1.168E-11	1.130E-11	1.098E-11	1.071E-11	1.048E-11
1.025E-11	8.944E-12	8.294E-12	7.572E-12	7.343E-12	7.160E-12	7.011E-12	6.890E-12
6.781E-12	6.229E-12	6.019E-12	5.881E-12				

Table 2. (m) H_α beam emission coefficient for pure Fe^{+26} plasma. Economised tabulation with respect to reference conditions. 1st. data block contains E_b (eV/amu) and N_e (cm^{-3}) scan ranges; 2nd. data block contains $\epsilon_{cr}(E_b, N_e, T_I^{(ref)})$ (cm^3 s^{-1}); 3rd. data block contains T_I (eV) scan range; 4th. data block contains $\epsilon_{cr}(E_b^{(ref)}, N_e^{(ref)}, T_I)$ (cm^3 s^{-1})

z_0=27	$\epsilon_{cr}^{(ref)}$=2.418E-10 cm^3 s^{-1}				Date=24/08/99		Code=adas312	
N_{E_b}=24	N_{N_e}=20		$T_I^{(ref)}$=3.000E+03 eV					
1.000E+04	2.000E+04	3.000E+04	4.000E+04	5.000E+04	6.000E+04	7.000E+04	8.000E+04
9.000E+04	1.000E+05	1.100E+05	1.200E+05	1.250E+05	1.300E+05	1.350E+05	1.400E+05
1.450E+05	1.500E+05	1.550E+05	1.600E+05	1.700E+05	1.800E+05	1.900E+05	2.000E+05
1.000E+12	1.330E+12	1.780E+12	2.370E+12	3.160E+12	4.220E+12	5.620E+12	7.500E+12
1.000E+13	1.330E+13	1.780E+13	2.370E+13	3.160E+13	4.220E+13	5.620E+13	7.500E+13
1.000E+14	1.330E+14	1.780E+14	2.370E+14				
9.736E-10	1.051E-09	1.139E-09	1.250E-09	1.346E-09	1.397E-09	1.433E-09	1.446E-09
1.449E-09	1.470E-09	1.537E-09	1.615E-09	1.658E-09	1.709E-09	1.773E-09	1.848E-09
1.932E-09	2.022E-09	2.121E-09	2.229E-09	2.472E-09	2.755E-09	3.077E-09	3.381E-09
8.779E-10	9.589E-10	1.049E-09	1.158E-09	1.252E-09	1.306E-09	1.346E-09	1.362E-09
1.367E-09	1.389E-09	1.453E-09	1.528E-09	1.569E-09	1.618E-09	1.679E-09	1.751E-09
1.830E-09	1.917E-09	2.011E-09	2.114E-09	2.345E-09	2.614E-09	2.920E-09	3.208E-09
7.753E-10	8.582E-10	9.490E-10	1.055E-09	1.147E-09	1.202E-09	1.246E-09	1.266E-09
1.272E-09	1.294E-09	1.355E-09	1.427E-09	1.466E-09	1.512E-09	1.569E-09	1.637E-09
1.711E-09	1.793E-09	1.881E-09	1.977E-09	2.194E-09	2.446E-09	2.732E-09	3.002E-09
6.733E-10	7.555E-10	8.448E-10	9.463E-10	1.034E-09	1.091E-09	1.137E-09	1.160E-09
1.169E-09	1.190E-09	1.248E-09	1.315E-09	1.351E-09	1.394E-09	1.448E-09	1.511E-09
1.580E-09	1.655E-09	1.737E-09	1.826E-09	2.027E-09	2.259E-09	2.524E-09	2.773E-09
5.731E-10	6.521E-10	7.377E-10	8.329E-10	9.159E-10	9.719E-10	1.020E-09	1.045E-09
1.055E-09	1.077E-09	1.131E-09	1.192E-09	1.226E-09	1.265E-09	1.314E-09	1.372E-09
1.435E-09	1.504E-09	1.578E-09	1.659E-09	1.842E-09	2.054E-09	2.294E-09	2.520E-09
4.783E-10	5.517E-10	6.314E-10	7.187E-10	7.952E-10	8.493E-10	8.981E-10	9.248E-10
9.360E-10	9.565E-10	1.006E-09	1.062E-09	1.092E-09	1.128E-09	1.172E-09	1.224E-09
1.280E-09	1.342E-09	1.409E-09	1.481E-09	1.644E-09	1.833E-09	2.048E-09	2.249E-09
3.930E-10	4.590E-10	5.312E-10	6.094E-10	6.785E-10	7.294E-10	7.769E-10	8.042E-10
8.160E-10	8.356E-10	8.800E-10	9.301E-10	9.572E-10	9.888E-10	1.028E-09	1.074E-09
1.123E-09	1.178E-09	1.237E-09	1.301E-09	1.444E-09	1.610E-09	1.798E-09	1.974E-09
3.175E-10	3.751E-10	4.385E-10	5.070E-10	5.679E-10	6.144E-10	6.592E-10	6.860E-10
6.980E-10	7.163E-10	7.556E-10	7.995E-10	8.233E-10	8.508E-10	8.850E-10	9.245E-10
9.677E-10	1.015E-09	1.066E-09	1.121E-09	1.245E-09	1.388E-09	1.550E-09	1.702E-09
2.534E-10	3.022E-10	3.566E-10	4.152E-10	4.677E-10	5.091E-10	5.501E-10	5.754E-10
5.872E-10	6.040E-10	6.381E-10	6.762E-10	6.967E-10	7.203E-10	7.496E-10	7.833E-10
8.203E-10	8.604E-10	9.038E-10	9.508E-10	1.056E-09	1.177E-09	1.315E-09	1.443E-09
2.004E-10	2.409E-10	2.866E-10	3 358E-10	3.802E-10	4.163E-10	4.527E-10	4.760E-10
4.872E-10	5.023E-10	5.317E-10	5.641E-10	5.816E-10	6.017E-10	6.264E-10	6.549E-10
6.861E-10	7.199E-10	7.564E-10	7.959E-10	8.842E-10	9.860E-10	1.101E-09	1.209E-09

Table 2. (m) contd.

1.564E-10	1.890E-10	2.265E-10	2.670E-10	3.038E-10	3.345E-10	3.660E-10	3.868E-10
3.971E-10	4.105E-10	4.353E-10	4.625E-10	4.772E-10	4.940E-10	5.146E-10	5.383E-10
5.642E-10	5.922E-10	6.225E-10	6.552E-10	7.282E-10	8.122E-10	9.069E-10	9.958E-10
1.217E-10	1.477E-10	1.781E-10	2.110E-10	2.412E-10	2.668E-10	2.937E-10	3.118E-10
3.211E-10	3.328E-10	3.536E-10	3.764E-10	3.886E-10	4.025E-10	4.197E-10	4.393E-10
4.606E-10	4.837E-10	5.087E-10	5.356E-10	5.956E-10	6.645E-10	7.421E-10	8.150E-10
9.406E-11	1.145E-10	1.387E-10	1.651E-10	1.896E-10	2.107E-10	2.331E-10	2.486E-10
2.569E-10	2.670E-10	2.843E-10	3.031E-10	3.132E-10	3.247E-10	3.388E-10	3.548E-10
3.724E-10	3.913E-10	4.117E-10	4.336E-10	4.826E-10	5.387E-10	6.017E-10	6.611E-10
7.231E-11	8.807E-11	1.072E-10	1.281E-10	1.477E-10	1.649E-10	1.833E-10	1.963E-10
2.036E-10	2.122E-10	2.264E-10	2.418E-10	2.501E-10	2.595E-10	2.710E-10	2.841E-10
2.984E-10	3.137E-10	3.303E-10	3.481E-10	3.878E-10	4.332E-10	4.840E-10	5.320E-10
5.553E-11	6.760E-11	8.259E-11	9.908E-11	1.147E-10	1.285E-10	1.435E-10	1.543E-10
1.605E-10	1.678E-10	1.794E-10	1.920E-10	1.987E-10	2.064E-10	2.158E-10	2.264E-10
2.380E-10	2.505E-10	2.639E-10	2.783E-10	3.104E-10	3.469E-10	3.878E-10	4.265E-10
4.244E-11	5.158E-11	6.321E-11	7.608E-11	8.837E-11	9.938E-11	1.114E-10	1.202E-10
1.255E-10	1.316E-10	1.410E-10	1.511E-10	1.566E-10	1.629E-10	1.704E-10	1.790E-10
1.883E-10	1.984E-10	2.091E-10	2.207E-10	2.465E-10	2.758E-10	3.084E-10	3.394E-10
3.237E-11	3.926E-11	4.823E-11	5.822E-11	6.784E-11	7.653E-11	8.609E-11	9.324E-11
9.761E-11	1.026E-10	1.102E-10	1.183E-10	1.227E-10	1.277E-10	1.338E-10	1.407E-10
1.482E-10	1.562E-10	1.649E-10	1.741E-10	1.947E-10	2.181E-10	2.440E-10	2.687E-10
2.468E-11	2.986E-11	3.676E-11	4.448E-11	5.198E-11	5.880E-11	6.635E-11	7.208E-11
7.566E-11	7.973E-11	8.577E-11	9.228E-11	9.578E-11	9.981E-11	1.047E-10	1.102E-10
1.161E-10	1.225E-10	1.294E-10	1.368E-10	1.532E-10	1.717E-10	1.923E-10	2.118E-10
1.867E-11	2.253E-11	2.777E-11	3.368E-11	3.945E-11	4.474E-11	5.061E-11	5.513E-11
5.802E-11	6.127E-11	6.603E-11	7.114E-11	7.390E-11	7.709E-11	8.092E-11	8.525E-11
8.994E-11	9.498E-11	1.004E-10	1.062E-10	1.191E-10	1.336E-10	1.497E-10	1.651E-10
1.416E-11	1.704E-11	2.104E-11	2.556E-11	3.000E-11	3.409E-11	3.865E-11	4.219E-11
4.449E-11	4.707E-11	5.080E-11	5.481E-11	5.698E-11	5.948E-11	6.249E-11	6.589E-11
6.957E-11	7.353E-11	7.778E-11	8.234E-11	9.246E-11	1.038E-10	1.164E-10	1.284E-10
N_{T_I}=20	$E_b^{(ref)}$=1.200E+05 eV/amu			$N_e^{(ref)}$=4.220E+13 cm^{-3}			
1.000E+02	2.000E+02	3.000E+02	5.000E+02	6.000E+02	7.000E+02	8.000E+02	8.966E+02
1.000E+03	2.000E+03	3.000E+03	5.000E+03	6.000E+03	7.000E+03	8.000E+03	8.966E+03
1.000E+04	2.000E+04	3.000E+04	5.000E+04				
4.071E-10	4.071E-10	3.930E-10	3.638E-10	3.513E-10	3.405E-10	3.310E-10	3.227E-10
3.147E-10	2.664E-10	2.418E-10	2.135E-10	2.042E-10	1.967E-10	1.905E-10	1.854E-10
1.807E-10	1.548E-10	1.430E-10	1.315E-10				

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