

Electron-impact ionization cross sections for elements $Z = 1$ to $Z = 54$ [☆]

Philip L. Bartlett* and Andris T. Stelbovics

Centre for Atomic, Molecular and Surface Physics, Murdoch University, Perth 6150, Australia

Abstract

The electron-impact ionization cross sections for all neutral ground-state elements H–Xe ($Z = 1$ to $Z = 54$) have been calculated using the plane wave Born approximation. The atomic orbital wavefunctions have been approximated by Roothaan–Hartree–Fock Slater functions, and the scattered and ejected electrons have been approximated by a plane wave and Coulomb wave, respectively. Full orthogonalization of the Coulomb wave with the occupied atomic orbitals has been performed, which improves the correspondence with experimental data at low- and mid-energies. Results are presented for the total ionization cross section and the partial ionization cross sections of the largest contributing orbitals for each atom.

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* Corresponding author.

E-mail address: bartlett@fizzy.murdoch.edu.au (P.L. Bartlett).

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1. Introduction

In recent years, there has been significant progress in the calculation of electron-impact ionization cross sections of neutral and charged atomic targets. For example, convergent close coupling (CCC) (see [1]) and R -matrix techniques (see [2]) have provided accurate partial cross sections for the ionization of valence electrons. These techniques are computationally intensive and have not yet been applied to inner-shell ionization nor to atoms with more than two valence electrons. In order to calculate the total ionization cross section (TICS) at high energies, inner-shell ionization must be taken into account, and to date the most popular methods used for these calculations are based upon the Born approximation.

The distorted-wave Born approximation, where both the ejected and scattered electron are modeled by distorted waves, has provided the best quantum mechanical estimates for the total and differential cross sections of many atoms, where CCC and R -matrix methods have not been applied, e.g., see Moores [3]. Until recently this method has proven to be superior to the plane-wave Born approximation for calculating TICS, however we recently demonstrated [4,5] that by orthogonalizing the continuum Coulomb wave to all of the occupied atomic orbitals, similar or better correspondence to experimental data can be obtained from the plane-wave Born approximation. The benefit of this method is that an analytic expression for the ionization amplitude can be obtained and evaluated using minimal computational resources.

To date, a comprehensive table of estimates for the total and partial electron-impact ionization cross sections for *all* ground state neutral atoms (up to xenon) has not been published, which provided the motivation to calculate and tabulate these results here (Table 1).

2. Theory

The differential cross section for the plane-wave Born approximation for the electron-impact of a single atomic orbital of a neutral atom is given by [6]

$$d\sigma_{nlm} = \frac{4k'\kappa^2}{kq^4} |(e^{-iq\cdot r})_{nlm\kappa}|^2 d\Omega d\Omega_\kappa d\kappa, \quad (1)$$

where σ is the TICS, \mathbf{k} , \mathbf{k}' and $\boldsymbol{\kappa}$ are the momentum of the incident, scattered, and ejected electrons, respectively, $\mathbf{q} = \mathbf{k} - \mathbf{k}'$ is the momentum transfer, and n , l , and m are the usual orbital, angular momentum and magnetic quantum numbers of the target orbital. $d\Omega$ and $d\Omega_\kappa$ are the elements of solid angle about the scattered and ejected electrons, respectively, and the matrix element is given by

$$(e^{-iq\cdot r})_{nlm\kappa} = \int \tilde{\psi}_{\kappa}^{(-)*} e^{-iq\cdot r} \phi_{nlm} d^3r, \quad (2)$$

where $\tilde{\psi}_{\kappa}^{(-)}$ is an incoming Coulomb wave made orthogonal to all occupied atomic orbitals and represents the ejected continuum electron, and ϕ_{nlm} is the wavefunction for the target atomic orbital.

The TICS of the atom is calculated from the sum of the partial ionization cross sections of each occupied orbital,

$$\sigma = \sum_{nlm} \frac{N_{nl}\sigma_{nlm}}{2l+1}, \quad (3)$$

where N_{nl} is the number of electrons in the nl orbital and it is assumed that the electrons are equally shared among the available m quantum states.

The Roothaan–Hartree–Fock calculations of Clementi and Roetti [7] have been used to approximate the wavefunctions of the occupied orbitals of the target atom and are represented by a sum of Slater functions,

$$\phi_{nlm}(r, \theta, \phi) = \sum_p \zeta_{lp} A_{lp} r^{n_{lp}-1} e^{-\zeta_{lp}r} Y_{lm}(\theta, \phi), \quad (4)$$

where $Y_{lm}(\theta, \phi)$ is the spherical harmonic function and

$$A_{lp} = [(2n_{lp})!]^{-1/2} (2\zeta_{lp})^{n_{lp}+1/2}, \quad (5)$$

where the coefficients c_{lp} , n_{lp} , and ζ_{lp} are tabulated in [7].

The incoming continuum Coulomb wavefunction for a charge of $Z = 1$, normalized to the three-dimensional delta function in momentum space, is given by

$$\begin{aligned} \psi_{\kappa}^{(-)} &= \frac{1}{(2\pi)^{(3/2)}} e^{(\pi/2\kappa)} \Gamma(1 + i/\kappa) e^{i\mathbf{k}\cdot\mathbf{r}} \\ &\times {}_1F_1(-i/\kappa, 1, -i\kappa r - i\mathbf{k}\cdot\mathbf{r}), \end{aligned} \quad (6)$$

where Γ is the gamma function and ${}_1F_1$ is the confluent hypergeometric function. The orthogonalization of this function with the wavefunctions of the occupied orbitals is given by

$$\tilde{\psi}_{\kappa}^{(-)} = \psi_{\kappa}^{(-)} - \sum_{n'l'm'} \phi_{n'l'm'} \langle \phi_{n'l'm'}^* | \psi_{\kappa}^{(-)} \rangle, \quad (7)$$

where the $n'l'm'$ summation is performed for all occupied orbitals of the target atom. This relation is only applicable if the $\phi_{n'l'm'}$ wavefunctions form an orthonormal set, which is the case with the wavefunctions presented by Clementi and Roetti [7].

By using a first-order tensor representation of the spherical harmonic function, and a known analytic solution to Eq. (2) for ground state hydrogen, we were able to evaluate analytic solutions to Eq. (2) for all atomic orbitals. See Bartlett and Stelbovics [4] and McCarthy and Stelbovics [8] for the method used to obtain analytic solutions to this equation.

3. Numerical calculations

The calculations were performed by using the Maple algebraic computing environment to evaluate an analytic form of the matrix element (Eq. (2)). A three-dimensional Clenshaw–Curtis numerical integration algorithm was used to calculate the TICS, and as the solution is not dependent upon any series expansions, no errors are introduced due to series truncation, and the solutions may be found to arbitrary precision. The results presented in this paper have been calculated to a precision of four significant figures.

As discussed in a previous publication [4], we found that at low energies the TICS results were closer to experimental measurements when the orbital energy of the Roothaan–Hartree–Fock wavefunction for the valence orbital was replaced by the experimental ground state ionization energy. The results presented have been calculated using the ground state ionization energies published by National Institute of Standards and Technology (NIST) [9].

4. Results and discussion

Formally, the Born approximation used in these calculations only becomes accurate at high energies $E \gg E_i$, where E_i is the orbital ionization energy. Also, it does not make allowance for multiple or indirect ionization and only provides a simplistic allowance for exchange effects between the the incident and scattered electron, by restricting the range of the κ integration in Eq. (1). However, for the elements considered in detail in previous publications [4,5], where experimental data

was available (including noble gases, transition metals, and elements containing more than two valence electrons), the TICS results are close to experimental results at high energies and provide a good approximation at low to intermediate energies.

A comparison of these results with other Born approximations [3,8,10–13] shows that the present method gives results that are either consistent with or significantly closer to experimental results than these previous calculations. The uniformly good results over all columns and rows of the periodic table, and the inclusion of the contribution of each orbital to the TICS, should make the tables in this publication useful to experimentalists, especially for the significant number of elements for which no previous quantal calculations have been performed.

If TICS calculations are required for energies, orbitals or atoms not considered in this publication or for a different basis of Slater functions, the software has been made available in the Computer Physics Communications Software Library [14].

Acknowledgments

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Explanation of Tables

Table 1. Electron-impact total and partial ionization cross sections for ground-state neutral atomic targets: He–Xe, $Z = 1$ –54

eV	Incident electron energy in electron volts.
TICS	Total electron-impact ionization cross section (all orbitals), with units of Angstroms squared $\text{\AA}^2 = 10^{-20} \text{ m}^2$. Superscripts indicate the exponent of the value, e.g., $1.200^{-2} = 1.200 \times 10^{-2} \text{\AA}^2 = 1.200 \times 10^{-22} \text{ m}^2$.
nl	Partial electron-impact ionization cross section for the nl orbital, with units of \AA^2 , where n is the orbital quantum number and l is the angular momentum quantum number. A “—” indicates that the incident energy (eV) is below the ionization threshold (or the estimated orbital energy) for the given orbital. Only the “outer” four orbitals, which have the largest partial ionization cross sections, have been included. The total contribution from the remaining orbitals may be calculated by subtracting the nl columns from the TICS column. Where the target atom has four or fewer orbitals, the TICS column will be equal to the sum of the nl columns, apart from rounding error. The partial ionization cross sections assume that the orbital electrons are shared equally among the available m quantum states.

Table 1

Electron-impact total and partial ionization cross sections for ground-state neutral atomic targets: He–Xe, $Z = 1$ –54. See page 238 for Explanation of Tables

(1) Hydrogen (H^2S)

eV	TICS	1s
5	—	—
6	—	—
7	—	—
8	—	—
9	—	—
10	—	—
11	—	—
12	—	—
13	—	—
14	1.066^{-2}	1.066^{-2}
15	6.277^{-2}	6.277^{-2}
16	1.276^{-1}	1.276^{-1}
18	2.625^{-1}	2.625^{-1}
20	3.865^{-1}	3.865^{-1}
22	4.930^{-1}	4.930^{-1}
25	6.198^{-1}	6.198^{-1}
28	7.126^{-1}	7.126^{-1}
30	7.592^{-1}	7.592^{-1}
32	7.960^{-1}	7.960^{-1}
35	8.362^{-1}	8.362^{-1}
40	8.740^{-1}	8.740^{-1}
45	8.876^{-1}	8.876^{-1}
50	8.863^{-1}	8.863^{-1}
55	8.759^{-1}	8.759^{-1}
60	8.599^{-1}	8.599^{-1}
65	8.408^{-1}	8.408^{-1}
70	8.199^{-1}	8.199^{-1}
75	7.983^{-1}	7.983^{-1}
80	7.766^{-1}	7.766^{-1}
90	7.342^{-1}	7.342^{-1}
100	6.943^{-1}	6.943^{-1}
110	6.574^{-1}	6.574^{-1}
120	6.236^{-1}	6.236^{-1}
130	5.928^{-1}	5.928^{-1}
140	5.647^{-1}	5.647^{-1}
150	5.390^{-1}	5.390^{-1}
160	5.155^{-1}	5.155^{-1}
180	4.741^{-1}	4.741^{-1}
200	4.389^{-1}	4.389^{-1}
250	3.704^{-1}	3.704^{-1}
300	3.210^{-1}	3.210^{-1}
400	2.542^{-1}	2.542^{-1}
500	2.112^{-1}	2.112^{-1}
600	1.811^{-1}	1.811^{-1}
800	1.416^{-1}	1.416^{-1}
1000	1.168^{-1}	1.168^{-1}
1500	8.189^{-2}	8.189^{-2}
2000	6.351^{-2}	6.351^{-2}
2500	5.209^{-2}	5.209^{-2}
3000	4.428^{-2}	4.428^{-2}
4000	3.422^{-2}	3.422^{-2}
5000	2.800^{-2}	2.800^{-2}
6000	2.375^{-2}	2.375^{-2}
8000	1.831^{-2}	1.831^{-2}
10,000	1.495^{-2}	1.495^{-2}

Table 1 (continued)

(2) Helium (He^1S)

eV	TICS	1s
5	—	—
6	—	—
7	—	—
8	—	—
9	—	—
10	—	—
11	—	—
12	—	—
13	—	—
14	—	—
15	—	—
16	—	—
18	—	—
20	—	—
22	—	—
25	1.485^{-3}	1.485^{-3}
28	3.199^{-2}	3.199^{-2}
30	5.967^{-2}	5.967^{-2}
32	8.924^{-2}	8.924^{-2}
35	1.339^{-1}	1.339^{-1}
40	2.035^{-1}	2.035^{-1}
45	2.634^{-1}	2.634^{-1}
50	3.129^{-1}	3.129^{-1}
55	3.530^{-1}	3.530^{-1}
60	3.849^{-1}	3.849^{-1}
65	4.100^{-1}	4.100^{-1}
70	4.294^{-1}	4.294^{-1}
75	4.442^{-1}	4.442^{-1}
80	4.553^{-1}	4.553^{-1}
90	4.687^{-1}	4.687^{-1}
100	4.739^{-1}	4.739^{-1}
110	4.737^{-1}	4.737^{-1}
120	4.699^{-1}	4.699^{-1}
130	4.637^{-1}	4.637^{-1}
140	4.561^{-1}	4.561^{-1}
150	4.475^{-1}	4.475^{-1}
160	4.383^{-1}	4.383^{-1}
180	4.195^{-1}	4.195^{-1}
200	4.009^{-1}	4.009^{-1}
250	3.583^{-1}	3.583^{-1}
300	3.226^{-1}	3.226^{-1}
400	2.683^{-1}	2.683^{-1}
500	2.298^{-1}	2.298^{-1}
600	2.013^{-1}	2.013^{-1}
800	1.620^{-1}	1.620^{-1}
1000	1.361^{-1}	1.361^{-1}
1500	9.822^{-2}	9.822^{-2}
2000	7.752^{-2}	7.752^{-2}
2500	6.435^{-2}	6.435^{-2}
3000	5.520^{-2}	5.520^{-2}
4000	4.324^{-2}	4.324^{-2}
5000	3.571^{-2}	3.571^{-2}
6000	3.052^{-2}	3.052^{-2}
8000	2.379^{-2}	2.379^{-2}
10,000	1.959^{-2}	1.959^{-2}

Table 1 (continued)
(3) Lithium ($Li\ ^2S$)

eV	TICS	2s	1s
5	—	—	—
6	5.318^{-1}	5.318^{-1}	—
7	1.621^{+0}	1.621^{+0}	—
8	2.486^{+0}	2.486^{+0}	—
9	3.106^{+0}	3.106^{+0}	—
10	3.534^{+0}	3.534^{+0}	—
11	3.822^{+0}	3.822^{+0}	—
12	4.008^{+0}	4.008^{+0}	—
13	4.121^{+0}	4.121^{+0}	—
14	4.182^{+0}	4.182^{+0}	—
15	4.204^{+0}	4.204^{+0}	—
16	4.200^{+0}	4.200^{+0}	—
18	4.137^{+0}	4.137^{+0}	—
20	4.033^{+0}	4.033^{+0}	—
22	3.910^{+0}	3.910^{+0}	—
25	3.712^{+0}	3.712^{+0}	—
28	3.516^{+0}	3.516^{+0}	—
30	3.392^{+0}	3.392^{+0}	—
32	3.272^{+0}	3.272^{+0}	—
35	3.104^{+0}	3.104^{+0}	—
40	2.855^{+0}	2.855^{+0}	—
45	2.638^{+0}	2.638^{+0}	—
50	2.451^{+0}	2.451^{+0}	—
55	2.287^{+0}	2.287^{+0}	—
60	2.143^{+0}	2.143^{+0}	—
65	2.016^{+0}	2.016^{+0}	—
70	1.904^{+0}	1.903^{+0}	3.288^{-4}
75	1.804^{+0}	1.802^{+0}	1.585^{-3}
80	1.715^{+0}	1.712^{+0}	3.295^{-3}
90	1.562^{+0}	1.555^{+0}	7.566^{-3}
100	1.437^{+0}	1.425^{+0}	1.248^{-2}
110	1.332^{+0}	1.315^{+0}	1.761^{-2}
120	1.243^{+0}	1.221^{+0}	2.268^{-2}
130	1.167^{+0}	1.139^{+0}	2.752^{-2}
140	1.101^{+0}	1.069^{+0}	3.204^{-2}
150	1.042^{+0}	1.006^{+0}	3.617^{-2}
160	9.902^{-1}	9.503^{-1}	3.991^{-2}
180	9.023^{-1}	8.560^{-1}	4.626^{-2}
200	8.302^{-1}	7.790^{-1}	5.122^{-2}
250	6.956^{-1}	6.367^{-1}	5.899^{-2}
300	6.013^{-1}	5.389^{-1}	6.237^{-2}
400	4.759^{-1}	4.131^{-1}	6.284^{-2}
500	3.956^{-1}	3.356^{-1}	6.006^{-2}
600	3.393^{-1}	2.828^{-1}	5.646^{-2}
800	2.652^{-1}	2.157^{-1}	4.949^{-2}
1000	2.184^{-1}	1.747^{-1}	4.373^{-2}
1500	1.526^{-1}	1.188^{-1}	3.377^{-2}
2000	1.179^{-1}	9.032^{-2}	2.760^{-2}
2500	9.641^{-2}	7.298^{-2}	2.343^{-2}
3000	8.171^{-2}	6.130^{-2}	2.042^{-2}
4000	6.287^{-2}	4.653^{-2}	1.634^{-2}
5000	5.126^{-2}	3.757^{-2}	1.370^{-2}
6000	4.336^{-2}	3.153^{-2}	1.183^{-2}
8000	3.327^{-2}	2.391^{-2}	9.362^{-3}
10,000	2.707^{-2}	1.928^{-2}	7.790^{-3}

Table 1 (continued)
(4) Beryllium ($Be\ ^1S$)

eV	TICS	2s	1s
5	—	—	—
6	—	—	—
7	—	—	—
8	—	—	—
9	—	—	—
10	2.304^{-1}	2.304^{-1}	—
11	7.590^{-1}	7.590^{-1}	—
12	1.305^{+0}	1.305^{+0}	—
13	1.806^{+0}	1.806^{+0}	—
14	2.244^{+0}	2.244^{+0}	—
15	2.616^{+0}	2.616^{+0}	—
16	2.927^{+0}	2.927^{+0}	—
18	3.394^{+0}	3.394^{+0}	—
20	3.696^{+0}	3.696^{+0}	—
22	3.881^{+0}	3.881^{+0}	—
25	4.011^{+0}	4.011^{+0}	—
28	4.029^{+0}	4.029^{+0}	—
30	4.002^{+0}	4.002^{+0}	—
32	3.956^{+0}	3.956^{+0}	—
35	3.864^{+0}	3.864^{+0}	—
40	3.678^{+0}	3.678^{+0}	—
45	3.483^{+0}	3.483^{+0}	—
50	3.292^{+0}	3.292^{+0}	—
55	3.113^{+0}	3.113^{+0}	—
60	2.948^{+0}	2.948^{+0}	—
65	2.796^{+0}	2.796^{+0}	—
70	2.657^{+0}	2.657^{+0}	—
75	2.531^{+0}	2.531^{+0}	—
80	2.414^{+0}	2.414^{+0}	—
90	2.210^{+0}	2.210^{+0}	—
100	2.037^{+0}	2.037^{+0}	—
110	1.889^{+0}	1.889^{+0}	—
120	1.761^{+0}	1.761^{+0}	—
130	1.649^{+0}	1.649^{+0}	1.813^{-5}
140	1.550^{+0}	1.550^{+0}	4.026^{-4}
150	1.464^{+0}	1.463^{+0}	8.922^{-4}
160	1.386^{+0}	1.385^{+0}	1.414^{-3}
180	1.254^{+0}	1.252^{+0}	2.518^{-3}
200	1.146^{+0}	1.142^{+0}	3.677^{-3}
250	9.448^{-1}	9.382^{-1}	6.596^{-3}
300	8.061^{-1}	7.969^{-1}	9.212^{-3}
400	6.264^{-1}	6.135^{-1}	1.298^{-2}
500	5.146^{-1}	4.996^{-1}	1.506^{-2}
600	4.378^{-1}	4.218^{-1}	1.605^{-2}
800	3.386^{-1}	3.223^{-1}	1.635^{-2}
1000	2.770^{-1}	2.612^{-1}	1.574^{-2}
1500	1.915^{-1}	1.780^{-1}	1.352^{-2}
2000	1.469^{-1}	1.353^{-1}	1.162^{-2}
2500	1.195^{-1}	1.094^{-1}	1.015^{-2}
3000	1.009^{-1}	9.186^{-2}	9.015^{-3}
4000	7.712^{-2}	6.973^{-2}	7.388^{-3}
5000	6.257^{-2}	5.629^{-2}	6.283^{-3}
6000	5.273^{-2}	4.724^{-2}	5.482^{-3}
8000	4.022^{-2}	3.582^{-2}	4.396^{-3}
10,000	3.257^{-2}	2.888^{-2}	3.690^{-3}

Table 1 (continued)
(5) Boron (B^2P)

eV	TICS	2p	2s	1s
5	—	—	—	—
6	—	—	—	—
7	—	—	—	—
8	—	—	—	—
9	3.521^{-2}	3.521^{-2}	—	—
10	1.310^{-1}	1.310^{-1}	—	—
11	2.524^{-1}	2.524^{-1}	—	—
12	3.850^{-1}	3.850^{-1}	—	—
13	5.201^{-1}	5.201^{-1}	—	—
14	6.682^{-1}	6.526^{-1}	1.559^{-2}	—
15	8.486^{-1}	7.793^{-1}	6.933^{-2}	—
16	1.034^{+0}	8.986^{-1}	1.355^{-1}	—
18	1.389^{+0}	1.112^{+0}	2.769^{-1}	—
20	1.702^{+0}	1.291^{+0}	4.117^{-1}	—
22	1.969^{+0}	1.438^{+0}	5.312^{-1}	—
25	2.287^{+0}	1.609^{+0}	6.781^{-1}	—
28	2.520^{+0}	1.731^{+0}	7.890^{-1}	—
30	2.636^{+0}	1.790^{+0}	8.458^{-1}	—
32	2.728^{+0}	1.836^{+0}	8.914^{-1}	—
35	2.827^{+0}	1.885^{+0}	9.420^{-1}	—
40	2.916^{+0}	1.924^{+0}	9.911^{-1}	—
45	2.941^{+0}	1.930^{+0}	1.011^{+0}	—
50	2.926^{+0}	1.915^{+0}	1.011^{+0}	—
55	2.886^{+0}	1.886^{+0}	1.000^{+0}	—
60	2.832^{+0}	1.850^{+0}	9.822^{-1}	—
65	2.770^{+0}	1.809^{+0}	9.602^{-1}	—
70	2.702^{+0}	1.767^{+0}	9.360^{-1}	—
75	2.634^{+0}	1.723^{+0}	9.107^{-1}	—
80	2.564^{+0}	1.679^{+0}	8.852^{-1}	—
90	2.430^{+0}	1.595^{+0}	8.354^{-1}	—
100	2.303^{+0}	1.515^{+0}	7.886^{-1}	—
110	2.187^{+0}	1.441^{+0}	7.455^{-1}	—
120	2.079^{+0}	1.373^{+0}	7.062^{-1}	—
130	1.981^{+0}	1.311^{+0}	6.704^{-1}	—
140	1.892^{+0}	1.254^{+0}	6.378^{-1}	—
150	1.810^{+0}	1.201^{+0}	6.081^{-1}	—
160	1.734^{+0}	1.153^{+0}	5.810^{-1}	—
180	1.601^{+0}	1.068^{+0}	5.334^{-1}	—
200	1.487^{+0}	9.941^{-1}	4.931^{-1}	—
250	1.265^{+0}	8.497^{-1}	4.152^{-1}	3.579^{-4}
300	1.104^{+0}	7.437^{-1}	3.592^{-1}	7.663^{-4}
400	8.838^{-1}	5.982^{-1}	2.839^{-1}	1.665^{-3}
500	7.410^{-1}	5.028^{-1}	2.356^{-1}	2.593^{-3}
600	6.404^{-1}	4.352^{-1}	2.019^{-1}	3.385^{-3}
800	5.071^{-1}	3.451^{-1}	1.576^{-1}	4.433^{-3}
1000	4.222^{-1}	2.875^{-1}	1.298^{-1}	4.931^{-3}
1500	3.012^{-1}	2.053^{-1}	9.084^{-2}	5.075^{-3}
2000	2.362^{-1}	1.611^{-1}	7.034^{-2}	4.729^{-3}
2500	1.953^{-1}	1.333^{-1}	5.762^{-2}	4.320^{-3}
3000	1.670^{-1}	1.141^{-1}	4.892^{-2}	3.943^{-3}
4000	1.302^{-1}	8.911^{-2}	3.774^{-2}	3.335^{-3}
5000	1.072^{-1}	7.347^{-2}	3.084^{-2}	2.886^{-3}
6000	9.139^{-2}	6.271^{-2}	2.614^{-2}	2.546^{-3}
8000	7.096^{-2}	4.879^{-2}	2.010^{-2}	2.068^{-3}
10,000	5.825^{-2}	4.012^{-2}	1.639^{-2}	1.749^{-3}

Table 1 (continued)
(6) Carbon (C^3P)

eV	TICS	2p	2s	1s
5	—	—	—	—
6	—	—	—	—
7	—	—	—	—
8	—	—	—	—
9	—	—	—	—
10	—	—	—	—
11	—	—	—	—
12	1.850^{-2}	1.850^{-2}	—	—
13	6.400^{-2}	6.400^{-2}	—	—
14	1.213^{-1}	1.213^{-1}	—	—
15	1.855^{-1}	1.855^{-1}	—	—
16	2.536^{-1}	2.536^{-1}	—	—
18	3.942^{-1}	3.942^{-1}	—	—
20	5.394^{-1}	5.332^{-1}	6.254^{-3}	—
22	7.023^{-1}	6.651^{-1}	3.720^{-2}	—
25	9.407^{-1}	8.442^{-1}	9.644^{-2}	—
28	1.156^{+0}	9.989^{-1}	1.574^{-1}	—
30	1.284^{+0}	1.089^{+0}	1.960^{-1}	—
32	1.400^{+0}	1.168^{+0}	2.319^{-1}	—
35	1.550^{+0}	1.270^{+0}	2.801^{-1}	—
40	1.747^{+0}	1.402^{+0}	3.452^{-1}	—
45	1.887^{+0}	1.494^{+0}	3.932^{-1}	—
50	1.984^{+0}	1.557^{+0}	4.272^{-1}	—
55	2.048^{+0}	1.597^{+0}	4.504^{-1}	—
60	2.086^{+0}	1.621^{+0}	4.652^{-1}	—
65	2.106^{+0}	1.633^{+0}	4.738^{-1}	—
70	2.113^{+0}	1.635^{+0}	4.777^{-1}	—
75	2.108^{+0}	1.630^{+0}	4.782^{-1}	—
80	2.096^{+0}	1.620^{+0}	4.761^{-1}	—
90	2.056^{+0}	1.590^{+0}	4.667^{-1}	—
100	2.004^{+0}	1.551^{+0}	4.533^{-1}	—
110	1.946^{+0}	1.508^{+0}	4.381^{-1}	—
120	1.886^{+0}	1.463^{+0}	4.223^{-1}	—
130	1.825^{+0}	1.419^{+0}	4.065^{-1}	—
140	1.767^{+0}	1.375^{+0}	3.912^{-1}	—
150	1.710^{+0}	1.333^{+0}	3.766^{-1}	—
160	1.655^{+0}	1.293^{+0}	3.626^{-1}	—
180	1.555^{+0}	1.218^{+0}	3.371^{-1}	—
200	1.464^{+0}	1.149^{+0}	3.145^{-1}	—
250	1.276^{+0}	1.007^{+0}	2.689^{-1}	—
300	1.131^{+0}	8.964^{-1}	2.348^{-1}	—
400	9.244^{-1}	7.366^{-1}	1.876^{-1}	2.898^{-4}
500	7.845^{-1}	6.274^{-1}	1.566^{-1}	5.294^{-4}
600	6.835^{-1}	5.480^{-1}	1.348^{-1}	7.791^{-4}
800	5.470^{-1}	4.399^{-1}	1.059^{-1}	1.278^{-3}
1000	4.586^{-1}	3.694^{-1}	8.752^{-2}	1.674^{-3}
1500	3.307^{-1}	2.669^{-1}	6.164^{-2}	2.163^{-3}
2000	2.612^{-1}	2.110^{-1}	4.792^{-2}	2.253^{-3}
2500	2.170^{-1}	1.755^{-1}	3.936^{-2}	2.193^{-3}
3000	1.863^{-1}	1.507^{-1}	3.349^{-2}	2.084^{-3}
4000	1.461^{-1}	1.183^{-1}	2.592^{-2}	1.848^{-3}
5000	1.208^{-1}	9.792^{-2}	2.123^{-2}	1.641^{-3}
6000	1.033^{-1}	8.382^{-2}	1.802^{-2}	1.472^{-3}
8000	8.060^{-2}	6.548^{-2}	1.390^{-2}	1.219^{-3}
10,000	6.643^{-2}	5.401^{-2}	1.137^{-2}	1.042^{-3}

Table 1 (continued)
(7) Nitrogen (N^4S)

eV	TICS	2p	2s	1s
5	—	—	—	—
6	—	—	—	—
7	—	—	—	—
8	—	—	—	—
9	—	—	—	—
10	—	—	—	—
11	—	—	—	—
12	—	—	—	—
13	—	—	—	—
14	—	—	—	—
15	5.862 ⁻³	5.862 ⁻³	—	—
16	3.012 ⁻²	3.012 ⁻²	—	—
18	9.519 ⁻²	9.519 ⁻²	—	—
20	1.678 ⁻¹	1.678 ⁻¹	—	—
22	2.421 ⁻¹	2.421 ⁻¹	—	—
25	3.517 ⁻¹	3.517 ⁻¹	—	—
28	4.636 ⁻¹	4.556 ⁻¹	7.993 ⁻³	—
30	5.400 ⁻¹	5.207 ⁻¹	1.933 ⁻²	—
32	6.145 ⁻¹	5.821 ⁻¹	3.240 ⁻²	—
35	7.204 ⁻¹	6.669 ⁻¹	5.343 ⁻²	—
40	8.782 ⁻¹	7.894 ⁻¹	8.879 ⁻²	—
45	1.011 ⁺⁰	8.897 ⁻¹	1.215 ⁻¹	—
50	1.121 ⁺⁰	9.707 ⁻¹	1.502 ⁻¹	—
55	1.210 ⁺⁰	1.035 ⁺⁰	1.744 ⁻¹	—
60	1.280 ⁺⁰	1.086 ⁺⁰	1.942 ⁻¹	—
65	1.336 ⁺⁰	1.126 ⁺⁰	2.103 ⁻¹	—
70	1.379 ⁺⁰	1.156 ⁺⁰	2.230 ⁻¹	—
75	1.411 ⁺⁰	1.178 ⁺⁰	2.328 ⁻¹	—
80	1.435 ⁺⁰	1.195 ⁺⁰	2.402 ⁻¹	—
90	1.462 ⁺⁰	1.212 ⁺⁰	2.495 ⁻¹	—
100	1.469 ⁺⁰	1.216 ⁺⁰	2.533 ⁻¹	—
110	1.463 ⁺⁰	1.210 ⁺⁰	2.534 ⁻¹	—
120	1.448 ⁺⁰	1.197 ⁺⁰	2.512 ⁻¹	—
130	1.428 ⁺⁰	1.180 ⁺⁰	2.473 ⁻¹	—
140	1.403 ⁺⁰	1.161 ⁺⁰	2.425 ⁻¹	—
150	1.377 ⁺⁰	1.140 ⁺⁰	2.371 ⁻¹	—
160	1.349 ⁺⁰	1.118 ⁺⁰	2.314 ⁻¹	—
180	1.292 ⁺⁰	1.073 ⁺⁰	2.196 ⁻¹	—
200	1.237 ⁺⁰	1.028 ⁺⁰	2.082 ⁻¹	—
250	1.109 ⁺⁰	9.267 ⁻¹	1.826 ⁻¹	—
300	1.002 ⁺⁰	8.404 ⁻¹	1.618 ⁻¹	—
400	8.387 ⁻¹	7.072 ⁻¹	1.314 ⁻¹	—
500	7.220 ⁻¹	6.112 ⁻¹	1.107 ⁻¹	1.080 ⁻⁴
600	6.350 ⁻¹	5.390 ⁻¹	9.575 ⁻²	2.141 ⁻⁴
800	5.143 ⁻¹	4.382 ⁻¹	7.572 ⁻²	3.866 ⁻⁴
1000	4.343 ⁻¹	3.708 ⁻¹	6.287 ⁻²	5.644 ⁻⁴
1500	3.165 ⁻¹	2.711 ⁻¹	4.456 ⁻²	9.156 ⁻⁴
2000	2.515 ⁻¹	2.156 ⁻¹	3.478 ⁻²	1.088 ⁻³
2500	2.099 ⁻¹	1.801 ⁻¹	2.865 ⁻²	1.146 ⁻³
3000	1.807 ⁻¹	1.551 ⁻¹	2.443 ⁻²	1.147 ⁻³
4000	1.424 ⁻¹	1.224 ⁻¹	1.897 ⁻²	1.083 ⁻³
5000	1.181 ⁻¹	1.016 ⁻¹	1.557 ⁻²	9.960 ⁻⁴
6000	1.013 ⁻¹	8.714 ⁻²	1.324 ⁻²	9.131 ⁻⁴
8000	7.932 ⁻²	6.831 ⁻²	1.024 ⁻²	7.758 ⁻⁴
10,000	6.553 ⁻²	5.647 ⁻²	8.387 ⁻³	6.728 ⁻⁴

Table 1 (continued)
(8) Oxygen (O^3P)

eV	TICS	2p	2s	1s
5	—	—	—	—
6	—	—	—	—
7	—	—	—	—
8	—	—	—	—
9	—	—	—	—
10	—	—	—	—
11	—	—	—	—
12	—	—	—	—
13	—	—	—	—
14	5.846 ⁻³	5.846 ⁻³	—	—
15	3.641 ⁻²	3.641 ⁻²	—	—
16	7.522 ⁻²	7.522 ⁻²	—	—
18	1.599 ⁻¹	1.599 ⁻¹	—	—
20	2.448 ⁻¹	2.448 ⁻¹	—	—
22	3.261 ⁻¹	3.261 ⁻¹	—	—
25	4.390 ⁻¹	4.390 ⁻¹	—	—
28	5.406 ⁻¹	5.406 ⁻¹	—	—
30	6.021 ⁻¹	6.021 ⁻¹	—	—
32	6.590 ⁻¹	6.590 ⁻¹	—	—
35	7.368 ⁻¹	7.360 ⁻¹	8.879 ⁻⁴	—
40	8.543 ⁻¹	8.446 ⁻¹	9.695 ⁻³	—
45	9.535 ⁻¹	9.320 ⁻¹	2.146 ⁻²	—
50	1.036 ⁺⁰	1.002 ⁺⁰	3.434 ⁻²	—
55	1.105 ⁺⁰	1.057 ⁺⁰	4.739 ⁻²	—
60	1.161 ⁺⁰	1.101 ⁺⁰	6.000 ⁻²	—
65	1.207 ⁺⁰	1.135 ⁺⁰	7.179 ⁻²	—
70	1.244 ⁺⁰	1.161 ⁺⁰	8.254 ⁻²	—
75	1.273 ⁺⁰	1.181 ⁺⁰	9.217 ⁻²	—
80	1.295 ⁺⁰	1.195 ⁺⁰	1.007 ⁻¹	—
90	1.325 ⁺⁰	1.210 ⁺⁰	1.145 ⁻¹	—
100	1.338 ⁺⁰	1.214 ⁺⁰	1.245 ⁻¹	—
110	1.340 ⁺⁰	1.209 ⁺⁰	1.316 ⁻¹	—
120	1.334 ⁺⁰	1.198 ⁺⁰	1.362 ⁻¹	—
130	1.323 ⁺⁰	1.184 ⁺⁰	1.390 ⁻¹	—
140	1.307 ⁺⁰	1.166 ⁺⁰	1.404 ⁻¹	—
150	1.288 ⁺⁰	1.148 ⁺⁰	1.407 ⁻¹	—
160	1.268 ⁺⁰	1.128 ⁺⁰	1.403 ⁻¹	—
180	1.224 ⁺⁰	1.086 ⁺⁰	1.378 ⁻¹	—
200	1.179 ⁺⁰	1.045 ⁺⁰	1.340 ⁻¹	—
250	1.072 ⁺⁰	9.492 ⁻¹	1.226 ⁻¹	—
300	9.773 ⁻¹	8.660 ⁻¹	1.113 ⁻¹	—
400	8.277 ⁻¹	7.349 ⁻¹	9.279 ⁻²	—
500	7.176 ⁻¹	6.385 ⁻¹	7.914 ⁻²	—
600	6.342 ⁻¹	5.652 ⁻¹	6.896 ⁻²	2.348 ⁻⁵
800	5.167 ⁻¹	4.616 ⁻¹	5.495 ⁻²	1.290 ⁻⁴
1000	4.377 ⁻¹	3.917 ⁻¹	4.582 ⁻²	2.022 ⁻⁴
1500	3.204 ⁻¹	2.874 ⁻¹	3.265 ⁻²	3.815 ⁻⁴
2000	2.551 ⁻¹	2.290 ⁻¹	2.555 ⁻²	5.177 ⁻⁴
2500	2.131 ⁻¹	1.914 ⁻¹	2.109 ⁻²	5.972 ⁻⁴
3000	1.837 ⁻¹	1.651 ⁻¹	1.801 ⁻²	6.360 ⁻⁴
4000	1.449 ⁻¹	1.303 ⁻¹	1.401 ⁻²	6.480 ⁻⁴
5000	1.203 ⁻¹	1.082 ⁻¹	1.151 ⁻²	6.231 ⁻⁴
6000	1.033 ⁻¹	9.287 ⁻²	9.803 ⁻³	5.876 ⁻⁴
8000	8.094 ⁻²	7.283 ⁻²	7.596 ⁻³	5.162 ⁻⁴
10,000	6.691 ⁻²	6.023 ⁻²	6.228 ⁻³	4.560 ⁻⁴

Table 1 (continued)
(9) Fluorine (F^2P)

eV	TICS	2p	2s	1s
5	—	—	—	—
6	—	—	—	—
7	—	—	—	—
8	—	—	—	—
9	—	—	—	—
10	—	—	—	—
11	—	—	—	—
12	—	—	—	—
13	—	—	—	—
14	—	—	—	—
15	—	—	—	—
16	—	—	—	—
18	6.480^{-3}	6.480^{-3}	—	—
20	5.100^{-2}	5.100^{-2}	—	—
22	1.033^{-1}	1.033^{-1}	—	—
25	1.805^{-1}	1.805^{-1}	—	—
28	2.520^{-1}	2.520^{-1}	—	—
30	2.963^{-1}	2.963^{-1}	—	—
32	3.380^{-1}	3.380^{-1}	—	—
35	3.960^{-1}	3.960^{-1}	—	—
40	4.816^{-1}	4.816^{-1}	—	—
45	5.558^{-1}	5.550^{-1}	8.429^{-4}	—
50	6.220^{-1}	6.177^{-1}	4.322^{-3}	—
55	6.797^{-1}	6.711^{-1}	8.693^{-3}	—
60	7.299^{-1}	7.163^{-1}	1.361^{-2}	—
65	7.733^{-1}	7.544^{-1}	1.887^{-2}	—
70	8.108^{-1}	7.865^{-1}	2.430^{-2}	—
75	8.431^{-1}	8.134^{-1}	2.974^{-2}	—
80	8.707^{-1}	8.356^{-1}	3.506^{-2}	—
90	9.141^{-1}	8.691^{-1}	4.499^{-2}	—
100	9.444^{-1}	8.907^{-1}	5.367^{-2}	—
110	9.647^{-1}	9.037^{-1}	6.095^{-2}	—
120	9.771^{-1}	9.102^{-1}	6.690^{-2}	—
130	9.833^{-1}	9.117^{-1}	7.163^{-2}	—
140	9.848^{-1}	9.095^{-1}	7.531^{-2}	—
150	9.827^{-1}	9.046^{-1}	7.809^{-2}	—
160	9.777^{-1}	8.975^{-1}	8.013^{-2}	—
180	9.618^{-1}	8.793^{-1}	8.246^{-2}	—
200	9.409^{-1}	8.578^{-1}	8.313^{-2}	—
250	8.802^{-1}	7.994^{-1}	8.080^{-2}	—
300	8.188^{-1}	7.427^{-1}	7.613^{-2}	—
400	7.115^{-1}	6.454^{-1}	6.607^{-2}	—
500	6.266^{-1}	5.691^{-1}	5.752^{-2}	—
600	5.597^{-1}	5.090^{-1}	5.071^{-2}	—
800	4.621^{-1}	4.211^{-1}	4.092^{-2}	2.618^{-5}
1000	3.948^{-1}	3.603^{-1}	3.434^{-2}	7.683^{-5}
1500	2.922^{-1}	2.673^{-1}	2.466^{-2}	1.633^{-4}
2000	2.340^{-1}	2.144^{-1}	1.937^{-2}	2.444^{-4}
2500	1.962^{-1}	1.799^{-1}	1.603^{-2}	3.077^{-4}
3000	1.696^{-1}	1.556^{-1}	1.371^{-2}	3.500^{-4}
4000	1.343^{-1}	1.233^{-1}	1.070^{-2}	3.889^{-4}
5000	1.118^{-1}	1.026^{-1}	8.810^{-3}	3.941^{-4}
6000	9.616^{-2}	8.826^{-2}	7.511^{-3}	3.845^{-4}
8000	7.560^{-2}	6.941^{-2}	5.833^{-3}	3.519^{-4}
10,000	6.262^{-2}	5.751^{-2}	4.789^{-3}	3.181^{-4}

Table 1 (continued)
(10) Neon (Ne^1S)

eV	TICS	2p	2s	1s
5	—	—	—	—
6	—	—	—	—
7	—	—	—	—
8	—	—	—	—
9	—	—	—	—
10	—	—	—	—
11	—	—	—	—
12	—	—	—	—
13	—	—	—	—
14	—	—	—	—
15	—	—	—	—
16	—	—	—	—
18	—	—	—	—
20	—	—	—	—
22	2.693^{-3}	2.693^{-3}	—	—
25	4.696^{-2}	4.696^{-2}	—	—
28	9.833^{-2}	9.833^{-2}	—	—
30	1.311^{-1}	1.311^{-1}	—	—
32	1.620^{-1}	1.620^{-1}	—	—
35	2.050^{-1}	2.050^{-1}	—	—
40	2.684^{-1}	2.684^{-1}	—	—
45	3.236^{-1}	3.236^{-1}	—	—
50	3.720^{-1}	3.720^{-1}	—	—
55	4.151^{-1}	4.147^{-1}	4.274^{-4}	—
60	4.542^{-1}	4.523^{-1}	1.914^{-3}	—
65	4.893^{-1}	4.856^{-1}	3.700^{-3}	—
70	5.206^{-1}	5.149^{-1}	5.695^{-3}	—
75	5.485^{-1}	5.407^{-1}	7.877^{-3}	—
80	5.735^{-1}	5.633^{-1}	1.022^{-2}	—
90	6.155^{-1}	6.003^{-1}	1.520^{-2}	—
100	6.485^{-1}	6.282^{-1}	2.029^{-2}	—
110	6.742^{-1}	6.490^{-1}	2.520^{-2}	—
120	6.937^{-1}	6.640^{-1}	2.973^{-2}	—
130	7.081^{-1}	6.743^{-1}	3.379^{-2}	—
140	7.184^{-1}	6.811^{-1}	3.735^{-2}	—
150	7.253^{-1}	6.849^{-1}	4.041^{-2}	—
160	7.294^{-1}	6.864^{-1}	4.300^{-2}	—
180	7.310^{-1}	6.841^{-1}	4.693^{-2}	—
200	7.265^{-1}	6.770^{-1}	4.951^{-2}	—
250	7.004^{-1}	6.484^{-1}	5.201^{-2}	—
300	6.656^{-1}	6.142^{-1}	5.141^{-2}	—
400	5.947^{-1}	5.476^{-1}	4.710^{-2}	—
500	5.331^{-1}	4.909^{-1}	4.219^{-2}	—
600	4.818^{-1}	4.440^{-1}	3.782^{-2}	—
800	4.038^{-1}	3.727^{-1}	3.106^{-2}	—
1000	3.481^{-1}	3.218^{-1}	2.630^{-2}	1.830^{-5}
1500	2.609^{-1}	2.417^{-1}	1.908^{-2}	7.468^{-5}
2000	2.103^{-1}	1.951^{-1}	1.506^{-2}	1.176^{-4}
2500	1.771^{-1}	1.644^{-1}	1.249^{-2}	1.580^{-4}
3000	1.535^{-1}	1.426^{-1}	1.071^{-2}	1.912^{-4}
4000	1.220^{-1}	1.134^{-1}	8.377^{-3}	2.325^{-4}
5000	1.019^{-1}	9.469^{-2}	6.913^{-3}	2.497^{-4}
6000	8.774^{-2}	8.158^{-2}	5.903^{-3}	2.534^{-4}
8000	6.916^{-2}	6.433^{-2}	4.594^{-3}	2.432^{-4}
10,000	5.740^{-2}	5.340^{-2}	3.778^{-3}	2.260^{-4}

Table 1 (continued)
(11) Sodium (Na^2S)

eV	TICS	3s	2p	2s	1s
5	—	—	—	—	—
6	9.851^{-1}	9.851^{-1}	—	—	—
7	2.226^{+0}	2.226^{+0}	—	—	—
8	3.157^{+0}	3.157^{+0}	—	—	—
9	3.809^{+0}	3.809^{+0}	—	—	—
10	4.252^{+0}	4.252^{+0}	—	—	—
11	4.544^{+0}	4.544^{+0}	—	—	—
12	4.729^{+0}	4.729^{+0}	—	—	—
13	4.837^{+0}	4.837^{+0}	—	—	—
14	4.891^{+0}	4.891^{+0}	—	—	—
15	4.906^{+0}	4.906^{+0}	—	—	—
16	4.892^{+0}	4.892^{+0}	—	—	—
18	4.811^{+0}	4.811^{+0}	—	—	—
20	4.688^{+0}	4.688^{+0}	—	—	—
22	4.546^{+0}	4.546^{+0}	—	—	—
25	4.323^{+0}	4.323^{+0}	—	—	—
28	4.102^{+0}	4.102^{+0}	—	—	—
30	3.962^{+0}	3.962^{+0}	—	—	—
32	3.828^{+0}	3.828^{+0}	—	—	—
35	3.639^{+0}	3.639^{+0}	—	—	—
40	3.358^{+0}	3.358^{+0}	—	—	—
45	3.121^{+0}	3.113^{+0}	7.911^{-3}	—	—
50	2.924^{+0}	2.901^{+0}	2.353^{-2}	—	—
55	2.754^{+0}	2.715^{+0}	3.906^{-2}	—	—
60	2.604^{+0}	2.551^{+0}	5.326^{-2}	—	—
65	2.471^{+0}	2.405^{+0}	6.603^{-2}	—	—
70	2.353^{+0}	2.276^{+0}	7.754^{-2}	—	—
75	2.248^{+0}	2.160^{+0}	8.798^{-2}	—	—
80	2.153^{+0}	2.055^{+0}	9.758^{-2}	1.964^{-4}	—
90	1.990^{+0}	1.874^{+0}	1.148^{-1}	9.651^{-4}	—
100	1.854^{+0}	1.723^{+0}	1.299^{-1}	1.864^{-3}	—
110	1.741^{+0}	1.595^{+0}	1.434^{-1}	2.954^{-3}	—
120	1.644^{+0}	1.485^{+0}	1.555^{-1}	4.253^{-3}	—
130	1.561^{+0}	1.389^{+0}	1.664^{-1}	5.727^{-3}	—
140	1.489^{+0}	1.306^{+0}	1.761^{-1}	7.316^{-3}	—
150	1.426^{+0}	1.232^{+0}	1.848^{-1}	8.962^{-3}	—
160	1.369^{+0}	1.166^{+0}	1.925^{-1}	1.061^{-2}	—
180	1.274^{+0}	1.054^{+0}	2.054^{-1}	1.376^{-2}	—
200	1.195^{+0}	9.628^{-1}	2.154^{-1}	1.657^{-2}	—
250	1.045^{+0}	7.924^{-1}	2.304^{-1}	2.173^{-2}	—
300	9.352^{-1}	6.747^{-1}	2.360^{-1}	2.459^{-2}	—
400	7.813^{-1}	5.220^{-1}	2.331^{-1}	2.620^{-2}	—
500	6.750^{-1}	4.270^{-1}	2.226^{-1}	2.540^{-2}	—
600	5.960^{-1}	3.621^{-1}	2.101^{-1}	2.387^{-2}	—
800	4.853^{-1}	2.787^{-1}	1.860^{-1}	2.064^{-2}	—
1000	4.110^{-1}	2.273^{-1}	1.658^{-1}	1.794^{-2}	—
1500	3.000^{-1}	1.566^{-1}	1.300^{-1}	1.343^{-2}	3.275^{-5}
2000	2.381^{-1}	1.201^{-1}	1.072^{-1}	1.076^{-2}	5.709^{-5}
2500	1.983^{-1}	9.769^{-2}	9.155^{-2}	9.014^{-3}	7.895^{-5}
3000	1.705^{-1}	8.251^{-2}	8.013^{-2}	7.779^{-3}	9.993^{-5}
4000	1.340^{-1}	6.317^{-2}	6.452^{-2}	6.144^{-3}	1.329^{-4}
5000	1.109^{-1}	5.134^{-2}	5.429^{-2}	5.104^{-3}	1.524^{-4}
6000	9.491^{-2}	4.332^{-2}	4.705^{-2}	4.380^{-3}	1.620^{-4}
8000	7.411^{-2}	3.312^{-2}	3.739^{-2}	3.434^{-3}	1.647^{-4}
10,000	6.107^{-2}	2.688^{-2}	3.120^{-2}	2.838^{-3}	1.582^{-4}

Table 1 (continued)
(12) Magnesium (Mg^1S)

eV	TICS	3s	2p	2s	1s
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	1.769^{-1}	1.769^{-1}	—	—	—
9	1.057^{+0}	1.057^{+0}	—	—	—
10	1.968^{+0}	1.968^{+0}	—	—	—
11	2.759^{+0}	2.759^{+0}	—	—	—
12	3.407^{+0}	3.407^{+0}	—	—	—
13	3.921^{+0}	3.921^{+0}	—	—	—
14	4.322^{+0}	4.322^{+0}	—	—	—
15	4.627^{+0}	4.627^{+0}	—	—	—
16	4.856^{+0}	4.856^{+0}	—	—	—
18	5.142^{+0}	5.142^{+0}	—	—	—
20	5.267^{+0}	5.267^{+0}	—	—	—
22	5.291^{+0}	5.291^{+0}	—	—	—
25	5.215^{+0}	5.215^{+0}	—	—	—
28	5.069^{+0}	5.069^{+0}	—	—	—
30	4.953^{+0}	4.953^{+0}	—	—	—
32	4.830^{+0}	4.830^{+0}	—	—	—
35	4.641^{+0}	4.641^{+0}	—	—	—
40	4.335^{+0}	4.335^{+0}	—	—	—
45	4.053^{+0}	4.053^{+0}	—	—	—
50	3.797^{+0}	3.797^{+0}	—	—	—
55	3.569^{+0}	3.569^{+0}	—	—	—
60	3.364^{+0}	3.364^{+0}	—	—	—
65	3.181^{+0}	3.180^{+0}	1.370^{-3}	—	—
70	3.020^{+0}	3.015^{+0}	5.522^{-3}	—	—
75	2.875^{+0}	2.865^{+0}	1.035^{-2}	—	—
80	2.745^{+0}	2.730^{+0}	1.524^{-2}	—	—
90	2.518^{+0}	2.494^{+0}	2.439^{-2}	—	—
100	2.328^{+0}	2.296^{+0}	3.238^{-2}	—	—
110	2.167^{+0}	2.127^{+0}	3.930^{-2}	2.552^{-4}	—
120	2.028^{+0}	1.982^{+0}	4.537^{-2}	6.344^{-4}	—
130	1.907^{+0}	1.855^{+0}	5.079^{-2}	9.715^{-4}	—
140	1.801^{+0}	1.744^{+0}	5.570^{-2}	1.313^{-3}	—
150	1.707^{+0}	1.646^{+0}	6.022^{-2}	1.696^{-3}	—
160	1.624^{+0}	1.558^{+0}	6.440^{-2}	2.138^{-3}	—
180	1.483^{+0}	1.408^{+0}	7.193^{-2}	3.199^{-3}	—
200	1.368^{+0}	1.285^{+0}	7.852^{-2}	4.432^{-3}	—
250	1.154^{+0}	1.055^{+0}	9.152^{-2}	7.654^{-3}	—
300	1.007^{+0}	8.962^{-1}	1.004^{-1}	1.038^{-2}	—
400	8.132^{-1}	6.900^{-1}	1.096^{-1}	1.364^{-2}	—
500	6.885^{-1}	5.619^{-1}	1.118^{-1}	1.479^{-2}	—
600	5.999^{-1}	4.745^{-1}	1.106^{-1}	1.487^{-2}	—
800	4.806^{-1}	3.627^{-1}	1.040^{-1}	1.384^{-2}	—
1000	4.028^{-1}	2.941^{-1}	9.617^{-2}	1.249^{-2}	—
1500	2.894^{-1}	2.006^{-1}	7.912^{-2}	9.739^{-3}	8.628^{-6}
2000	2.275^{-1}	1.527^{-1}	6.681^{-2}	7.939^{-3}	2.867^{-5}
2500	1.881^{-1}	1.235^{-1}	5.786^{-2}	6.716^{-3}	4.123^{-5}
3000	1.608^{-1}	1.038^{-1}	5.111^{-2}	5.834^{-3}	5.309^{-5}
4000	1.253^{-1}	7.891^{-2}	4.165^{-2}	4.649^{-3}	7.531^{-5}
5000	1.031^{-1}	6.377^{-2}	3.531^{-2}	3.886^{-3}	9.200^{-5}
6000	8.778^{-2}	5.357^{-2}	3.075^{-2}	3.350^{-3}	1.026^{-4}
8000	6.802^{-2}	4.067^{-2}	2.460^{-2}	2.643^{-3}	1.113^{-4}
10,000	5.577^{-2}	3.285^{-2}	2.062^{-2}	2.194^{-3}	1.112^{-4}

Table 1 (continued)
(13) Aluminum ($Al\ 2P$)

eV	TICS	3p	3s	2p	2s
5	—	—	—	—	—
6	9.852 ⁻⁴	9.852 ⁻⁴	—	—	—
7	4.891 ⁻¹	4.891 ⁻¹	—	—	—
8	1.235 ⁺⁰	1.235 ⁺⁰	—	—	—
9	2.006 ⁺⁰	2.006 ⁺⁰	—	—	—
10	2.722 ⁺⁰	2.722 ⁺⁰	—	—	—
11	3.378 ⁺⁰	3.353 ⁺⁰	2.475 ⁻²	—	—
12	4.099 ⁺⁰	3.894 ⁺⁰	2.046 ⁻¹	—	—
13	4.782 ⁺⁰	4.349 ⁺⁰	4.338 ⁻¹	—	—
14	5.397 ⁺⁰	4.725 ⁺⁰	6.714 ⁻¹	—	—
15	5.935 ⁺⁰	5.034 ⁺⁰	9.006 ⁻¹	—	—
16	6.398 ⁺⁰	5.285 ⁺⁰	1.113 ⁺⁰	—	—
18	7.121 ⁺⁰	5.643 ⁺⁰	1.479 ⁺⁰	—	—
20	7.620 ⁺⁰	5.857 ⁺⁰	1.763 ⁺⁰	—	—
22	7.946 ⁺⁰	5.969 ⁺⁰	1.977 ⁺⁰	—	—
25	8.203 ⁺⁰	6.010 ⁺⁰	2.193 ⁺⁰	—	—
28	8.271 ⁺⁰	5.955 ⁺⁰	2.316 ⁺⁰	—	—
30	8.248 ⁺⁰	5.886 ⁺⁰	2.362 ⁺⁰	—	—
32	8.187 ⁺⁰	5.801 ⁺⁰	2.386 ⁺⁰	—	—
35	8.047 ⁺⁰	5.654 ⁺⁰	2.393 ⁺⁰	—	—
40	7.741 ⁺⁰	5.386 ⁺⁰	2.355 ⁺⁰	—	—
45	7.399 ⁺⁰	5.116 ⁺⁰	2.283 ⁺⁰	—	—
50	7.054 ⁺⁰	4.858 ⁺⁰	2.196 ⁺⁰	—	—
55	6.721 ⁺⁰	4.616 ⁺⁰	2.105 ⁺⁰	—	—
60	6.407 ⁺⁰	4.392 ⁺⁰	2.014 ⁺⁰	—	—
65	6.114 ⁺⁰	4.187 ⁺⁰	1.927 ⁺⁰	—	—
70	5.842 ⁺⁰	3.999 ⁺⁰	1.844 ⁺⁰	—	—
75	5.591 ⁺⁰	3.826 ⁺⁰	1.766 ⁺⁰	—	—
80	5.360 ⁺⁰	3.667 ⁺⁰	1.693 ⁺⁰	—	—
90	4.947 ⁺⁰	3.385 ⁺⁰	1.562 ⁺⁰	1.002 ⁻⁴	—
100	4.595 ⁺⁰	3.145 ⁺⁰	1.448 ⁺⁰	1.705 ⁻³	—
110	4.291 ⁺⁰	2.938 ⁺⁰	1.349 ⁺⁰	4.453 ⁻³	—
120	4.026 ⁺⁰	2.757 ⁺⁰	1.262 ⁺⁰	7.602 ⁻³	—
130	3.794 ⁺⁰	2.598 ⁺⁰	1.185 ⁺⁰	1.077 ⁻²	—
140	3.589 ⁺⁰	2.458 ⁺⁰	1.117 ⁺⁰	1.380 ⁻²	1.091 ⁻⁴
150	3.406 ⁺⁰	2.332 ⁺⁰	1.057 ⁺⁰	1.662 ⁻²	3.392 ⁻⁴
160	3.242 ⁺⁰	2.220 ⁺⁰	1.003 ⁺⁰	1.922 ⁻²	5.468 ⁻⁴
180	2.960 ⁺⁰	2.027 ⁺⁰	9.090 ⁻¹	2.385 ⁻²	8.944 ⁻⁴
200	2.727 ⁺⁰	1.866 ⁺⁰	8.313 ⁻¹	2.786 ⁻²	1.238 ⁻³
250	2.287 ⁺⁰	1.563 ⁺⁰	6.852 ⁻¹	3.600 ⁻²	2.380 ⁻³
300	1.978 ⁺⁰	1.349 ⁺⁰	5.829 ⁻¹	4.230 ⁻²	3.810 ⁻³
400	1.573 ⁺⁰	1.066 ⁺⁰	4.488 ⁻¹	5.100 ⁻²	6.413 ⁻³
500	1.315 ⁺⁰	8.863 ⁻¹	3.650 ⁻¹	5.593 ⁻²	8.051 ⁻³
600	1.136 ⁺⁰	7.610 ⁻¹	3.075 ⁻¹	5.834 ⁻²	8.863 ⁻³
800	8.990 ⁻¹	5.970 ⁻¹	2.339 ⁻¹	5.896 ⁻²	9.134 ⁻³
1000	7.483 ⁻¹	4.938 ⁻¹	1.888 ⁻¹	5.703 ⁻²	8.687 ⁻³
1500	5.331 ⁻¹	3.486 ⁻¹	1.275 ⁻¹	4.987 ⁻²	7.169 ⁻³
2000	4.174 ⁻¹	2.718 ⁻¹	9.626 ⁻²	4.339 ⁻²	5.974 ⁻³
2500	3.445 ⁻¹	2.238 ⁻¹	7.737 ⁻²	3.824 ⁻²	5.112 ⁻³
3000	2.942 ⁻¹	1.908 ⁻¹	6.470 ⁻²	3.418 ⁻²	4.473 ⁻³
4000	2.289 ⁻¹	1.482 ⁻¹	4.876 ⁻²	2.825 ⁻²	3.596 ⁻³
5000	1.881 ⁻¹	1.217 ⁻¹	3.914 ⁻²	2.416 ⁻²	3.022 ⁻³
6000	1.601 ⁻¹	1.036 ⁻¹	3.270 ⁻²	2.117 ⁻²	2.615 ⁻³
8000	1.241 ⁻¹	8.024 ⁻²	2.462 ⁻²	1.707 ⁻²	2.074 ⁻³
10,000	1.017 ⁻¹	6.576 ⁻²	1.975 ⁻²	1.438 ⁻²	1.728 ⁻³

Table 1 (continued)
(14) Silicon ($Si\ 3P$)

eV	TICS	3p	3s	2p	2s
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	—	—	—	—	—
9	1.609 ⁻¹	1.609 ⁻¹	—	—	—
10	5.115 ⁻¹	5.115 ⁻¹	—	—	—
11	9.424 ⁻¹	9.424 ⁻¹	—	—	—
12	1.404 ⁺⁰	1.404 ⁺⁰	—	—	—
13	1.868 ⁺⁰	1.868 ⁺⁰	—	—	—
14	2.315 ⁺⁰	2.315 ⁺⁰	—	—	—
15	2.743 ⁺⁰	2.737 ⁺⁰	5.886 ⁻³	—	—
16	3.176 ⁺⁰	3.128 ⁺⁰	4.864 ⁻²	—	—
18	3.987 ⁺⁰	3.810 ⁺⁰	1.770 ⁻¹	—	—
20	4.689 ⁺⁰	4.366 ⁺⁰	3.232 ⁻¹	—	—
22	5.274 ⁺⁰	4.807 ⁺⁰	4.671 ⁻¹	—	—
25	5.956 ⁺⁰	5.295 ⁺⁰	6.604 ⁻¹	—	—
28	6.438 ⁺⁰	5.619 ⁺⁰	8.188 ⁻¹	—	—
30	6.672 ⁺⁰	5.767 ⁺⁰	9.048 ⁻¹	—	—
32	6.848 ⁺⁰	5.871 ⁺⁰	9.767 ⁻¹	—	—
35	7.025 ⁺⁰	5.964 ⁺⁰	1.061 ⁺⁰	—	—
40	7.150 ⁺⁰	5.999 ⁺⁰	1.151 ⁺⁰	—	—
45	7.137 ⁺⁰	5.940 ⁺⁰	1.197 ⁺⁰	—	—
50	7.040 ⁺⁰	5.828 ⁺⁰	1.213 ⁺⁰	—	—
55	6.895 ⁺⁰	5.686 ⁺⁰	1.209 ⁺⁰	—	—
60	6.722 ⁺⁰	5.529 ⁺⁰	1.193 ⁺⁰	—	—
65	6.537 ⁺⁰	5.367 ⁺⁰	1.170 ⁺⁰	—	—
70	6.346 ⁺⁰	5.204 ⁺⁰	1.142 ⁺⁰	—	—
75	6.157 ⁺⁰	5.044 ⁺⁰	1.112 ⁺⁰	—	—
80	5.971 ⁺⁰	4.890 ⁺⁰	1.081 ⁺⁰	—	—
90	5.619 ⁺⁰	4.599 ⁺⁰	1.019 ⁺⁰	—	—
100	5.295 ⁺⁰	4.335 ⁺⁰	9.601 ⁻¹	—	—
110	5.003 ⁺⁰	4.098 ⁺⁰	9.053 ⁻¹	—	—
120	4.738 ⁺⁰	3.883 ⁺⁰	8.552 ⁻¹	1.274 ⁻⁵	—
130	4.499 ⁺⁰	3.690 ⁺⁰	8.096 ⁻¹	2.831 ⁻⁴	—
140	4.284 ⁺⁰	3.515 ⁺⁰	7.681 ⁻¹	9.667 ⁻⁴	—
150	4.088 ⁺⁰	3.356 ⁺⁰	7.304 ⁻¹	1.954 ⁻³	—
160	3.910 ⁺⁰	3.211 ⁺⁰	6.961 ⁻¹	3.116 ⁻³	—
180	3.600 ⁺⁰	2.958 ⁺⁰	6.361 ⁻¹	5.616 ⁻³	1.381 ⁻⁴
200	3.337 ⁺⁰	2.744 ⁺⁰	5.854 ⁻¹	8.060 ⁻³	3.967 ⁻⁴
250	2.831 ⁺⁰	2.329 ⁺⁰	4.881 ⁻¹	1.332 ⁻²	8.706 ⁻⁴
300	2.467 ⁺⁰	2.030 ⁺⁰	4.186 ⁻¹	1.748 ⁻²	1.400 ⁻³
400	1.977 ⁺⁰	1.625 ⁺⁰	3.260 ⁻¹	2.371 ⁻²	2.800 ⁻³
500	1.661 ⁺⁰	1.362 ⁺⁰	2.671 ⁻¹	2.802 ⁻²	4.105 ⁻³
600	1.439 ⁺⁰	1.177 ⁺⁰	2.262 ⁻¹	3.092 ⁻²	5.025 ⁻³
800	1.145 ⁺⁰	9.319 ⁻¹	1.733 ⁻¹	3.381 ⁻²	5.868 ⁻³
1000	9.566 ⁻¹	7.758 ⁻¹	1.405 ⁻¹	3.444 ⁻²	5.965 ⁻³
1500	6.866 ⁻¹	5.535 ⁻¹	9.544 ⁻²	3.236 ⁻²	5.295 ⁻³
2000	5.404 ⁻¹	4.344 ⁻¹	7.234 ⁻²	2.919 ⁻²	4.535 ⁻³
2500	4.479 ⁻¹	3.594 ⁻¹	5.829 ⁻²	2.628 ⁻²	3.931 ⁻³
3000	3.837 ⁻¹	3.076 ⁻¹	4.883 ⁻²	2.382 ⁻²	3.466 ⁻³
4000	3.000 ⁻¹	2.402 ⁻¹	3.690 ⁻²	2.002 ⁻²	2.811 ⁻³
5000	2.474 ⁻¹	1.981 ⁻¹	2.968 ⁻²	1.729 ⁻²	2.374 ⁻³
6000	2.112 ⁻¹	1.690 ⁻¹	2.484 ⁻²	1.525 ⁻²	2.061 ⁻³
8000	1.644 ⁻¹	1.315 ⁻¹	1.873 ⁻²	1.240 ⁻²	1.642 ⁻³
10,000	1.352 ⁻¹	1.082 ⁻¹	1.506 ⁻²	1.050 ⁻²	1.372 ⁻³

Table 1 (continued)
(15) Phosphorus (P^4S)

eV	TICS	3p	3s	2p	2s
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	—	—	—	—	—
9	—	—	—	—	—
10	—	—	—	—	—
11	3.107^{-2}	3.107^{-2}	—	—	—
12	1.614^{-1}	1.614^{-1}	—	—	—
13	3.466^{-1}	3.466^{-1}	—	—	—
14	5.662^{-1}	5.662^{-1}	—	—	—
15	8.063^{-1}	8.063^{-1}	—	—	—
16	1.057^{+0}	1.057^{+0}	—	—	—
18	1.563^{+0}	1.563^{+0}	—	—	—
20	2.059^{+0}	2.048^{+0}	1.171^{-2}	—	—
22	2.546^{+0}	2.492^{+0}	5.437^{-2}	—	—
25	3.207^{+0}	3.069^{+0}	1.375^{-1}	—	—
28	3.767^{+0}	3.541^{+0}	2.264^{-1}	—	—
30	4.085^{+0}	3.801^{+0}	2.840^{-1}	—	—
32	4.361^{+0}	4.023^{+0}	3.383^{-1}	—	—
35	4.706^{+0}	4.294^{+0}	4.122^{-1}	—	—
40	5.122^{+0}	4.609^{+0}	5.127^{-1}	—	—
45	5.384^{+0}	4.798^{+0}	5.866^{-1}	—	—
50	5.535^{+0}	4.897^{+0}	6.382^{-1}	—	—
55	5.606^{+0}	4.934^{+0}	6.722^{-1}	—	—
60	5.620^{+0}	4.928^{+0}	6.928^{-1}	—	—
65	5.594^{+0}	4.891^{+0}	7.034^{-1}	—	—
70	5.540^{+0}	4.834^{+0}	7.066^{-1}	—	—
75	5.467^{+0}	4.762^{+0}	7.045^{-1}	—	—
80	5.380^{+0}	4.682^{+0}	6.985^{-1}	—	—
90	5.187^{+0}	4.507^{+0}	6.793^{-1}	—	—
100	4.982^{+0}	4.327^{+0}	6.548^{-1}	—	—
110	4.778^{+0}	4.149^{+0}	6.284^{-1}	—	—
120	4.581^{+0}	3.980^{+0}	6.017^{-1}	—	—
130	4.395^{+0}	3.819^{+0}	5.759^{-1}	—	—
140	4.220^{+0}	3.669^{+0}	5.512^{-1}	—	—
150	4.056^{+0}	3.528^{+0}	5.280^{-1}	6.886^{-6}	—
160	3.904^{+0}	3.397^{+0}	5.062^{-1}	4.204^{-5}	—
180	3.629^{+0}	3.161^{+0}	4.670^{-1}	4.261^{-4}	—
200	3.390^{+0}	2.956^{+0}	4.329^{-1}	1.260^{-3}	—
250	2.916^{+0}	2.546^{+0}	3.655^{-1}	4.058^{-3}	3.269^{-4}
300	2.564^{+0}	2.240^{+0}	3.160^{-1}	6.744^{-3}	6.023^{-4}
400	2.077^{+0}	1.816^{+0}	2.489^{-1}	1.098^{-2}	1.208^{-3}
500	1.756^{+0}	1.535^{+0}	2.054^{-1}	1.412^{-2}	1.985^{-3}
600	1.528^{+0}	1.334^{+0}	1.749^{-1}	1.649^{-2}	2.707^{-3}
800	1.223^{+0}	1.065^{+0}	1.350^{-1}	1.953^{-2}	3.647^{-3}
1000	1.026^{+0}	8.910^{-1}	1.099^{-1}	2.100^{-2}	4.022^{-3}
1500	7.418^{-1}	6.413^{-1}	7.518^{-2}	2.136^{-2}	3.917^{-3}
2000	5.867^{-1}	5.060^{-1}	5.720^{-2}	2.009^{-2}	3.477^{-3}
2500	4.880^{-1}	4.202^{-1}	4.620^{-2}	1.853^{-2}	3.066^{-3}
3000	4.193^{-1}	3.607^{-1}	3.878^{-2}	1.706^{-2}	2.729^{-3}
4000	3.291^{-1}	2.829^{-1}	2.938^{-2}	1.463^{-2}	2.235^{-3}
5000	2.724^{-1}	2.340^{-1}	2.368^{-2}	1.278^{-2}	1.898^{-3}
6000	2.331^{-1}	2.002^{-1}	1.984^{-2}	1.135^{-2}	1.654^{-3}
8000	1.820^{-1}	1.563^{-1}	1.500^{-2}	9.317^{-3}	1.323^{-3}
10,000	1.500^{-1}	1.288^{-1}	1.207^{-2}	7.936^{-3}	1.109^{-3}

Table 1 (continued)
(16) Sulfur (S^3P)

eV	TICS	3p	3s	2p	2s
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	—	—	—	—	—
9	—	—	—	—	—
10	—	—	—	—	—
11	4.731^{-2}	4.731^{-2}	—	—	—
12	1.917^{-1}	1.917^{-1}	—	—	—
13	3.826^{-1}	3.826^{-1}	—	—	—
14	6.005^{-1}	6.005^{-1}	—	—	—
15	8.336^{-1}	8.336^{-1}	—	—	—
16	1.074^{+0}	1.074^{+0}	—	—	—
18	1.553^{+0}	1.553^{+0}	—	—	—
20	2.010^{+0}	2.010^{+0}	—	—	—
22	2.430^{+0}	2.430^{+0}	—	—	—
25	2.988^{+0}	2.984^{+0}	4.774^{-3}	—	—
28	3.477^{+0}	3.445^{+0}	3.255^{-2}	—	—
30	3.761^{+0}	3.704^{+0}	5.646^{-2}	—	—
32	4.012^{+0}	3.930^{+0}	8.257^{-2}	—	—
35	4.335^{+0}	4.212^{+0}	1.236^{-1}	—	—
40	4.747^{+0}	4.556^{+0}	1.909^{-1}	—	—
45	5.032^{+0}	4.781^{+0}	2.516^{-1}	—	—
50	5.220^{+0}	4.918^{+0}	3.029^{-1}	—	—
55	5.335^{+0}	4.991^{+0}	3.444^{-1}	—	—
60	5.395^{+0}	5.018^{+0}	3.768^{-1}	—	—
65	5.413^{+0}	5.011^{+0}	4.014^{-1}	—	—
70	5.400^{+0}	4.981^{+0}	4.194^{-1}	—	—
75	5.365^{+0}	4.933^{+0}	4.321^{-1}	—	—
80	5.313^{+0}	4.873^{+0}	4.404^{-1}	—	—
90	5.177^{+0}	4.730^{+0}	4.472^{-1}	—	—
100	5.018^{+0}	4.573^{+0}	4.452^{-1}	—	—
110	4.849^{+0}	4.411^{+0}	4.379^{-1}	—	—
120	4.680^{+0}	4.252^{+0}	4.275^{-1}	—	—
130	4.514^{+0}	4.098^{+0}	4.155^{-1}	—	—
140	4.354^{+0}	3.952^{+0}	4.027^{-1}	—	—
150	4.202^{+0}	3.813^{+0}	3.897^{-1}	—	—
160	4.058^{+0}	3.681^{+0}	3.767^{-1}	—	—
180	3.794^{+0}	3.442^{+0}	3.521^{-1}	—	—
200	3.559^{+0}	3.230^{+0}	3.295^{-1}	5.537^{-5}	—
250	3.082^{+0}	2.799^{+0}	2.823^{-1}	7.460^{-4}	1.045^{-5}
300	2.722^{+0}	2.473^{+0}	2.463^{-1}	2.120^{-3}	2.329^{-4}
400	2.215^{+0}	2.014^{+0}	1.960^{-1}	4.875^{-3}	5.595^{-4}
500	1.877^{+0}	1.706^{+0}	1.629^{-1}	7.071^{-3}	9.390^{-4}
600	1.635^{+0}	1.486^{+0}	1.394^{-1}	8.814^{-3}	1.390^{-3}
800	1.310^{+0}	1.188^{+0}	1.083^{-1}	1.132^{-2}	2.173^{-3}
1000	1.100^{+0}	9.962^{-1}	8.857^{-2}	1.287^{-2}	2.634^{-3}
1500	7.966^{-1}	7.186^{-1}	6.096^{-2}	1.423^{-2}	2.876^{-3}
2000	6.309^{-1}	5.677^{-1}	4.652^{-2}	1.400^{-2}	2.673^{-3}
2500	5.253^{-1}	4.719^{-1}	3.765^{-2}	1.328^{-2}	2.411^{-3}
3000	4.516^{-1}	4.053^{-1}	3.164^{-2}	1.246^{-2}	2.173^{-3}
4000	3.550^{-1}	3.182^{-1}	2.401^{-2}	1.092^{-2}	1.802^{-3}
5000	2.940^{-1}	2.634^{-1}	1.937^{-2}	9.664^{-3}	1.540^{-3}
6000	2.517^{-1}	2.255^{-1}	1.625^{-2}	8.658^{-3}	1.347^{-3}
8000	1.968^{-1}	1.762^{-1}	1.230^{-2}	7.179^{-3}	1.083^{-3}
10,000	1.623^{-1}	1.453^{-1}	9.911^{-3}	6.152^{-3}	9.105^{-4}

Table 1 (continued)
(17) Chlorine (Cl^2P)

eV	TICS	3p	3s	2p	2s
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	—	—	—	—	—
9	—	—	—	—	—
10	—	—	—	—	—
11	—	—	—	—	—
12	—	—	—	—	—
13	7.576^{-4}	7.576^{-4}	—	—	—
14	4.975^{-2}	4.975^{-2}	—	—	—
15	1.343^{-1}	1.343^{-1}	—	—	—
16	2.388^{-1}	2.388^{-1}	—	—	—
18	4.842^{-1}	4.842^{-1}	—	—	—
20	7.547^{-1}	7.547^{-1}	—	—	—
22	1.033^{+0}	1.033^{+0}	—	—	—
25	1.440^{+0}	1.440^{+0}	—	—	—
28	1.818^{+0}	1.818^{+0}	—	—	—
30	2.051^{+0}	2.050^{+0}	1.518^{-3}	—	—
32	2.273^{+0}	2.264^{+0}	9.168^{-3}	—	—
35	2.576^{+0}	2.551^{+0}	2.496^{-2}	—	—
40	3.002^{+0}	2.946^{+0}	5.680^{-2}	—	—
45	3.340^{+0}	3.249^{+0}	9.144^{-2}	—	—
50	3.604^{+0}	3.478^{+0}	1.257^{-1}	—	—
55	3.804^{+0}	3.646^{+0}	1.577^{-1}	—	—
60	3.953^{+0}	3.767^{+0}	1.861^{-1}	—	—
65	4.060^{+0}	3.849^{+0}	2.107^{-1}	—	—
70	4.133^{+0}	3.902^{+0}	2.314^{-1}	—	—
75	4.180^{+0}	3.931^{+0}	2.485^{-1}	—	—
80	4.204^{+0}	3.942^{+0}	2.623^{-1}	—	—
90	4.205^{+0}	3.923^{+0}	2.817^{-1}	—	—
100	4.162^{+0}	3.869^{+0}	2.925^{-1}	—	—
110	4.091^{+0}	3.794^{+0}	2.972^{-1}	—	—
120	4.004^{+0}	3.707^{+0}	2.977^{-1}	—	—
130	3.909^{+0}	3.614^{+0}	2.953^{-1}	—	—
140	3.809^{+0}	3.518^{+0}	2.910^{-1}	—	—
150	3.708^{+0}	3.422^{+0}	2.855^{-1}	—	—
160	3.608^{+0}	3.329^{+0}	2.793^{-1}	—	—
180	3.415^{+0}	3.149^{+0}	2.657^{-1}	—	—
200	3.235^{+0}	2.983^{+0}	2.520^{-1}	—	—
250	2.849^{+0}	2.628^{+0}	2.204^{-1}	8.713^{-5}	—
300	2.542^{+0}	2.347^{+0}	1.946^{-1}	4.423^{-4}	1.708^{-5}
400	2.095^{+0}	1.936^{+0}	1.568^{-1}	1.936^{-3}	2.712^{-4}
500	1.788^{+0}	1.653^{+0}	1.312^{-1}	3.430^{-3}	4.661^{-4}
600	1.565^{+0}	1.447^{+0}	1.129^{-1}	4.681^{-3}	7.068^{-4}
800	1.262^{+0}	1.166^{+0}	8.829^{-2}	6.590^{-3}	1.249^{-3}
1000	1.063^{+0}	9.813^{-1}	7.257^{-2}	7.912^{-3}	1.674^{-3}
1500	7.746^{-1}	7.127^{-1}	5.029^{-2}	9.528^{-3}	2.087^{-3}
2000	6.158^{-1}	5.654^{-1}	3.853^{-2}	9.842^{-3}	2.054^{-3}
2500	5.141^{-1}	4.713^{-1}	3.125^{-2}	9.625^{-3}	1.905^{-3}
3000	4.429^{-1}	4.057^{-1}	2.630^{-2}	9.214^{-3}	1.744^{-3}
4000	3.493^{-1}	3.195^{-1}	2.000^{-2}	8.282^{-3}	1.470^{-3}
5000	2.899^{-1}	2.650^{-1}	1.616^{-2}	7.436^{-3}	1.265^{-3}
6000	2.487^{-1}	2.273^{-1}	1.357^{-2}	6.726^{-3}	1.112^{-3}
8000	1.948^{-1}	1.780^{-1}	1.029^{-2}	5.640^{-3}	8.988^{-4}
10,000	1.610^{-1}	1.471^{-1}	8.300^{-3}	4.865^{-3}	7.579^{-4}

Table 1 (continued)
(18) Argon (Ar^1S)

eV	TICS	3p	3s	2p	2s
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	—	—	—	—	—
9	—	—	—	—	—
10	—	—	—	—	—
11	—	—	—	—	—
12	—	—	—	—	—
13	—	—	—	—	—
14	—	—	—	—	—
15	—	—	—	—	—
16	3.446^{-3}	3.446^{-3}	—	—	—
18	8.993^{-2}	8.993^{-2}	—	—	—
20	2.187^{-1}	2.187^{-1}	—	—	—
22	3.680^{-1}	3.680^{-1}	—	—	—
25	6.110^{-1}	6.110^{-1}	—	—	—
28	8.605^{-1}	8.605^{-1}	—	—	—
30	1.024^{+0}	1.024^{+0}	—	—	—
32	1.184^{+0}	1.184^{+0}	—	—	—
35	1.411^{+0}	1.411^{+0}	1.418^{-4}	—	—
40	1.761^{+0}	1.750^{+0}	1.152^{-2}	—	—
45	2.066^{+0}	2.038^{+0}	2.761^{-2}	—	—
50	2.324^{+0}	2.278^{+0}	4.570^{-2}	—	—
55	2.539^{+0}	2.474^{+0}	6.468^{-2}	—	—
60	2.716^{+0}	2.632^{+0}	8.357^{-2}	—	—
65	2.860^{+0}	2.758^{+0}	1.016^{-1}	—	—
70	2.975^{+0}	2.857^{+0}	1.184^{-1}	—	—
75	3.067^{+0}	2.933^{+0}	1.335^{-1}	—	—
80	3.137^{+0}	2.991^{+0}	1.469^{-1}	—	—
90	3.229^{+0}	3.061^{+0}	1.686^{-1}	—	—
100	3.271^{+0}	3.087^{+0}	1.842^{-1}	—	—
110	3.278^{+0}	3.084^{+0}	1.948^{-1}	—	—
120	3.261^{+0}	3.060^{+0}	2.015^{-1}	—	—
130	3.227^{+0}	3.022^{+0}	2.051^{-1}	—	—
140	3.182^{+0}	2.975^{+0}	2.065^{-1}	—	—
150	3.129^{+0}	2.923^{+0}	2.063^{-1}	—	—
160	3.071^{+0}	2.867^{+0}	2.048^{-1}	—	—
180	2.950^{+0}	2.750^{+0}	1.995^{-1}	—	—
200	2.827^{+0}	2.634^{+0}	1.924^{-1}	—	—
250	2.540^{+0}	2.367^{+0}	1.731^{-1}	—	—
300	2.295^{+0}	2.140^{+0}	1.551^{-1}	9.431^{-5}	—
400	1.920^{+0}	1.792^{+0}	1.270^{-1}	6.297^{-4}	9.756^{-5}
500	1.653^{+0}	1.544^{+0}	1.072^{-1}	1.541^{-3}	2.431^{-4}
600	1.454^{+0}	1.359^{+0}	9.267^{-2}	2.410^{-3}	3.713^{-4}
800	1.180^{+0}	1.103^{+0}	7.301^{-2}	3.813^{-3}	7.014^{-4}
1000	9.989^{-1}	9.327^{-1}	6.030^{-2}	4.855^{-3}	1.033^{-3}
1500	7.319^{-1}	6.820^{-1}	4.210^{-2}	6.374^{-3}	1.491^{-3}
2000	5.840^{-1}	5.431^{-1}	3.239^{-2}	6.926^{-3}	1.568^{-3}
2500	4.888^{-1}	4.540^{-1}	2.634^{-2}	7.000^{-3}	1.506^{-3}
3000	4.220^{-1}	3.916^{-1}	2.221^{-2}	6.852^{-3}	1.406^{-3}
4000	3.337^{-1}	3.093^{-1}	1.693^{-2}	6.334^{-3}	1.209^{-3}
5000	2.776^{-1}	2.571^{-1}	1.370^{-2}	5.782^{-3}	1.050^{-3}
6000	2.385^{-1}	2.208^{-1}	1.151^{-2}	5.285^{-3}	9.278^{-4}
8000	1.873^{-1}	1.733^{-1}	8.746^{-3}	4.489^{-3}	7.543^{-4}
10,000	1.551^{-1}	1.435^{-1}	7.063^{-3}	3.901^{-3}	6.383^{-4}

Table 1 (continued)
(19) Potassium (K^2S)

eV	TICS	4s	3p	3s	2p
5	1.388 ⁺⁰	1.388 ⁺⁰	—	—	—
6	3.756 ⁺⁰	3.756 ⁺⁰	—	—	—
7	5.494 ⁺⁰	5.494 ⁺⁰	—	—	—
8	6.673 ⁺⁰	6.673 ⁺⁰	—	—	—
9	7.451 ⁺⁰	7.451 ⁺⁰	—	—	—
10	7.950 ⁺⁰	7.950 ⁺⁰	—	—	—
11	8.257 ⁺⁰	8.257 ⁺⁰	—	—	—
12	8.429 ⁺⁰	8.429 ⁺⁰	—	—	—
13	8.508 ⁺⁰	8.508 ⁺⁰	—	—	—
14	8.521 ⁺⁰	8.521 ⁺⁰	—	—	—
15	8.486 ⁺⁰	8.486 ⁺⁰	—	—	—
16	8.419 ⁺⁰	8.419 ⁺⁰	—	—	—
18	8.223 ⁺⁰	8.223 ⁺⁰	—	—	—
20	7.981 ⁺⁰	7.981 ⁺⁰	—	—	—
22	7.721 ⁺⁰	7.721 ⁺⁰	—	—	—
25	7.328 ⁺⁰	7.328 ⁺⁰	—	—	—
28	6.967 ⁺⁰	6.951 ⁺⁰	1.636 ⁻²	—	—
30	6.754 ⁺⁰	6.712 ⁺⁰	4.214 ⁻²	—	—
32	6.558 ⁺⁰	6.486 ⁺⁰	7.195 ⁻²	—	—
35	6.290 ⁺⁰	6.169 ⁺⁰	1.211 ⁻¹	—	—
40	5.908 ⁺⁰	5.698 ⁺⁰	2.102 ⁻¹	—	—
45	5.595 ⁺⁰	5.291 ⁺⁰	3.046 ⁻¹	—	—
50	5.338 ⁺⁰	4.936 ⁺⁰	4.010 ⁻¹	1.353 ⁻³	—
55	5.129 ⁺⁰	4.626 ⁺⁰	4.964 ⁻¹	6.049 ⁻³	—
60	4.954 ⁺⁰	4.354 ⁺⁰	5.887 ⁻¹	1.159 ⁻²	—
65	4.806 ⁺⁰	4.112 ⁺⁰	6.762 ⁻¹	1.775 ⁻²	—
70	4.679 ⁺⁰	3.897 ⁺⁰	7.580 ⁻¹	2.445 ⁻²	—
75	4.568 ⁺⁰	3.703 ⁺⁰	8.335 ⁻¹	3.155 ⁻²	—
80	4.471 ⁺⁰	3.529 ⁺⁰	9.024 ⁻¹	3.888 ⁻²	—
90	4.302 ⁺⁰	3.227 ⁺⁰	1.021 ⁺⁰	5.352 ⁻²	—
100	4.158 ⁺⁰	2.976 ⁺⁰	1.116 ⁺⁰	6.719 ⁻²	—
110	4.031 ⁺⁰	2.762 ⁺⁰	1.190 ⁺⁰	7.922 ⁻²	—
120	3.914 ⁺⁰	2.578 ⁺⁰	1.246 ⁺⁰	8.937 ⁻²	—
130	3.804 ⁺⁰	2.419 ⁺⁰	1.288 ⁺⁰	9.765 ⁻²	—
140	3.701 ⁺⁰	2.279 ⁺⁰	1.318 ⁺⁰	1.042 ⁻¹	—
150	3.603 ⁺⁰	2.155 ⁺⁰	1.338 ⁺⁰	1.092 ⁻¹	—
160	3.509 ⁺⁰	2.045 ⁺⁰	1.351 ⁺⁰	1.129 ⁻¹	—
180	3.332 ⁺⁰	1.856 ⁺⁰	1.359 ⁺⁰	1.173 ⁻¹	—
200	3.171 ⁺⁰	1.702 ⁺⁰	1.351 ⁺⁰	1.187 ⁻¹	—
250	2.821 ⁺⁰	1.412 ⁺⁰	1.294 ⁺⁰	1.151 ⁻¹	—
300	2.536 ⁺⁰	1.211 ⁺⁰	1.218 ⁺⁰	1.077 ⁻¹	—
400	2.110 ⁺⁰	9.476 ⁻¹	1.070 ⁺⁰	9.205 ⁻²	1.540 ⁻⁴
500	1.809 ⁺⁰	7.821 ⁻¹	9.469 ⁻¹	7.926 ⁻²	5.127 ⁻⁴
600	1.587 ⁺⁰	6.679 ⁻¹	8.483 ⁻¹	6.936 ⁻²	1.035 ⁻³
800	1.281 ⁺⁰	5.199 ⁻¹	7.033 ⁻¹	5.543 ⁻²	2.026 ⁻³
1000	1.080 ⁺⁰	4.275 ⁻¹	6.028 ⁻¹	4.619 ⁻²	2.819 ⁻³
1500	7.860 ⁻¹	2.990 ⁻¹	4.492 ⁻¹	3.267 ⁻²	4.122 ⁻³
2000	6.245 ⁻¹	2.317 ⁻¹	3.616 ⁻¹	2.531 ⁻²	4.755 ⁻³
2500	5.212 ⁻¹	1.899 ⁻¹	3.045 ⁻¹	2.068 ⁻²	4.997 ⁻³
3000	4.490 ⁻¹	1.613 ⁻¹	2.640 ⁻¹	1.749 ⁻²	5.026 ⁻³
4000	3.540 ⁻¹	1.247 ⁻¹	2.101 ⁻¹	1.339 ⁻²	4.808 ⁻³
5000	2.938 ⁻¹	1.020 ⁻¹	1.756 ⁻¹	1.086 ⁻²	4.478 ⁻³
6000	2.520 ⁻¹	8.655 ⁻²	1.514 ⁻¹	9.146 ⁻³	4.147 ⁻³
8000	1.975 ⁻¹	6.672 ⁻²	1.196 ⁻¹	6.967 ⁻³	3.578 ⁻³
10,000	1.632 ⁻¹	5.450 ⁻²	9.935 ⁻²	5.637 ⁻³	3.137 ⁻³

Table 1 (continued)
(20) Calcium (Ca^1S)

eV	TICS	4s	3p	3s	2p
5	—	—	—	—	—
6	—	—	—	—	—
7	1.326 ⁺⁰	1.326 ⁺⁰	—	—	—
8	3.161 ⁺⁰	3.161 ⁺⁰	—	—	—
9	4.705 ⁺⁰	4.705 ⁺⁰	—	—	—
10	5.900 ⁺⁰	5.900 ⁺⁰	—	—	—
11	6.792 ⁺⁰	6.792 ⁺⁰	—	—	—
12	7.445 ⁺⁰	7.445 ⁺⁰	—	—	—
13	7.914 ⁺⁰	7.914 ⁺⁰	—	—	—
14	8.244 ⁺⁰	8.244 ⁺⁰	—	—	—
15	8.468 ⁺⁰	8.468 ⁺⁰	—	—	—
16	8.612 ⁺⁰	8.612 ⁺⁰	—	—	—
18	8.733 ⁺⁰	8.733 ⁺⁰	—	—	—
20	8.711 ⁺⁰	8.711 ⁺⁰	—	—	—
22	8.606 ⁺⁰	8.606 ⁺⁰	—	—	—
25	8.366 ⁺⁰	8.366 ⁺⁰	—	—	—
28	8.082 ⁺⁰	8.082 ⁺⁰	—	—	—
30	7.885 ⁺⁰	7.885 ⁺⁰	—	—	—
32	7.687 ⁺⁰	7.687 ⁺⁰	—	—	—
35	7.396 ⁺⁰	7.396 ⁺⁰	—	—	—
40	6.951 ⁺⁰	6.939 ⁺⁰	1.165 ⁻²	—	—
45	6.561 ⁺⁰	6.523 ⁺⁰	3.801 ⁻²	—	—
50	6.215 ⁺⁰	6.148 ⁺⁰	6.779 ⁻²	—	—
55	5.910 ⁺⁰	5.810 ⁺⁰	9.926 ⁻²	—	—
60	5.638 ⁺⁰	5.506 ⁺⁰	1.320 ⁻¹	—	—
65	5.399 ⁺⁰	5.232 ⁺⁰	1.656 ⁻¹	1.018 ⁻³	—
70	5.186 ⁺⁰	4.984 ⁺⁰	1.998 ⁻¹	2.918 ⁻³	—
75	4.997 ⁺⁰	4.758 ⁺⁰	2.341 ⁻¹	5.010 ⁻³	—
80	4.827 ⁺⁰	4.552 ⁺⁰	2.682 ⁻¹	7.294 ⁻³	—
90	4.537 ⁺⁰	4.190 ⁺⁰	3.344 ⁻¹	1.256 ⁻²	—
100	4.297 ⁺⁰	3.882 ⁺⁰	3.962 ⁻¹	1.868 ⁻²	—
110	4.096 ⁺⁰	3.618 ⁺⁰	4.521 ⁻¹	2.529 ⁻²	—
120	3.923 ⁺⁰	3.389 ⁺⁰	5.017 ⁻¹	3.199 ⁻²	—
130	3.772 ⁺⁰	3.188 ⁺⁰	5.450 ⁻¹	3.843 ⁻²	—
140	3.637 ⁺⁰	3.011 ⁺⁰	5.823 ⁻¹	4.439 ⁻²	—
150	3.516 ⁺⁰	2.853 ⁺⁰	6.138 ⁻¹	4.975 ⁻²	—
160	3.406 ⁺⁰	2.712 ⁺⁰	6.404 ⁻¹	5.446 ⁻²	—
180	3.211 ⁺⁰	2.469 ⁺⁰	6.803 ⁻¹	6.194 ⁻²	—
200	3.041 ⁺⁰	2.268 ⁺⁰	7.063 ⁻¹	6.710 ⁻²	—
250	2.693 ⁺⁰	1.890 ⁺⁰	7.306 ⁻¹	7.277 ⁻²	—
300	2.419 ⁺⁰	1.624 ⁺⁰	7.226 ⁻¹	7.256 ⁻²	—
400	2.013 ⁺⁰	1.275 ⁺⁰	6.724 ⁻¹	6.620 ⁻²	5.584 ⁻⁵
500	1.727 ⁺⁰	1.054 ⁺⁰	6.142 ⁻¹	5.875 ⁻²	1.592 ⁻⁴
600	1.515 ⁺⁰	9.010 ⁻¹	5.611 ⁻¹	5.227 ⁻²	3.826 ⁻⁴
800	1.222 ⁺⁰	7.024 ⁻¹	4.759 ⁻¹	4.253 ⁻²	1.016 ⁻³
1000	1.029 ⁺⁰	5.782 ⁻¹	4.132 ⁻¹	3.580 ⁻²	1.600 ⁻³
1500	7.472 ⁻¹	4.050 ⁻¹	3.132 ⁻¹	2.570 ⁻²	2.648 ⁻³
2000	5.926 ⁻¹	3.140 ⁻¹	2.545 ⁻¹	2.008 ⁻²	3.253 ⁻³
2500	4.940 ⁻¹	2.575 ⁻¹	2.156 ⁻¹	1.649 ⁻²	3.563 ⁻³
3000	4.252 ⁻¹	2.189 ⁻¹	1.877 ⁻¹	1.400 ⁻²	3.688 ⁻³
4000	3.348 ⁻¹	1.692 ⁻¹	1.503 ⁻¹	1.077 ⁻²	3.662 ⁻³
5000	2.776 ⁻¹	1.385 ⁻¹	1.261 ⁻¹	8.762 ⁻³	3.488 ⁻³
6000	2.380 ⁻¹	1.176 ⁻¹	1.091 ⁻¹	7.395 ⁻³	3.278 ⁻³
8000	1.862 ⁻¹	9.066 ⁻²	8.652 ⁻²	5.650 ⁻³	2.878 ⁻³
10,000	1.538 ⁻¹	7.408 ⁻²	7.212 ⁻²	4.581 ⁻³	2.549 ⁻³

Table 1 (continued)
(21) Scandium ($Sc\ 2D$)

eV	TICS	4s	3d	3p	3s
5	—	—	—	—	—
6	—	—	—	—	—
7	3.437 ⁻¹	3.437 ⁻¹	—	—	—
8	1.578 ⁺⁰	1.578 ⁺⁰	—	—	—
9	2.750 ⁺⁰	2.750 ⁺⁰	—	—	—
10	3.722 ⁺⁰	3.704 ⁺⁰	1.743 ⁻²	—	—
11	4.501 ⁺⁰	4.442 ⁺⁰	5.941 ⁻²	—	—
12	5.100 ⁺⁰	4.997 ⁺⁰	1.032 ⁻¹	—	—
13	5.551 ⁺⁰	5.407 ⁺⁰	1.441 ⁻¹	—	—
14	5.885 ⁺⁰	5.704 ⁺⁰	1.806 ⁻¹	—	—
15	6.127 ⁺⁰	5.914 ⁺⁰	2.128 ⁻¹	—	—
16	6.299 ⁺⁰	6.058 ⁺⁰	2.411 ⁻¹	—	—
18	6.494 ⁺⁰	6.207 ⁺⁰	2.875 ⁻¹	—	—
20	6.558 ⁺⁰	6.235 ⁺⁰	3.236 ⁻¹	—	—
22	6.545 ⁺⁰	6.193 ⁺⁰	3.522 ⁻¹	—	—
25	6.445 ⁺⁰	6.059 ⁺⁰	3.854 ⁻¹	—	—
28	6.297 ⁺⁰	5.886 ⁺⁰	4.106 ⁻¹	—	—
30	6.187 ⁺⁰	5.763 ⁺⁰	4.242 ⁻¹	—	—
32	6.073 ⁺⁰	5.637 ⁺⁰	4.360 ⁻¹	—	—
35	5.901 ⁺⁰	5.450 ⁺⁰	4.506 ⁻¹	—	—
40	5.622 ⁺⁰	5.153 ⁺⁰	4.691 ⁻¹	—	—
45	5.369 ⁺⁰	4.879 ⁺⁰	4.823 ⁻¹	7.715 ⁻³	—
50	5.158 ⁺⁰	4.630 ⁺⁰	4.915 ⁻¹	3.725 ⁻²	—
55	4.966 ⁺⁰	4.403 ⁺⁰	4.978 ⁻¹	6.531 ⁻²	—
60	4.785 ⁺⁰	4.196 ⁺⁰	5.017 ⁻¹	8.717 ⁻²	—
65	4.615 ⁺⁰	4.008 ⁺⁰	5.038 ⁻¹	1.029 ⁻¹	—
70	4.454 ⁺⁰	3.836 ⁺⁰	5.045 ⁻¹	1.137 ⁻¹	1.176 ⁻⁵
75	4.305 ⁺⁰	3.678 ⁺⁰	5.040 ⁻¹	1.209 ⁻¹	2.135 ⁻³
80	4.165 ⁺⁰	3.532 ⁺⁰	5.027 ⁻¹	1.258 ⁻¹	4.673 ⁻³
90	3.911 ⁺⁰	3.273 ⁺⁰	4.979 ⁻¹	1.315 ⁻¹	8.368 ⁻³
100	3.687 ⁺⁰	3.050 ⁺⁰	4.911 ⁻¹	1.353 ⁻¹	1.041 ⁻²
110	3.490 ⁺⁰	2.856 ⁺⁰	4.832 ⁻¹	1.390 ⁻¹	1.166 ⁻²
120	3.316 ⁺⁰	2.686 ⁺⁰	4.745 ⁻¹	1.433 ⁻¹	1.267 ⁻²
130	3.163 ⁺⁰	2.535 ⁺⁰	4.655 ⁻¹	1.483 ⁻¹	1.371 ⁻²
140	3.026 ⁺⁰	2.401 ⁺⁰	4.563 ⁻¹	1.538 ⁻¹	1.485 ⁻²
150	2.903 ⁺⁰	2.281 ⁺⁰	4.470 ⁻¹	1.594 ⁻¹	1.609 ⁻²
160	2.793 ⁺⁰	2.173 ⁺⁰	4.378 ⁻¹	1.651 ⁻¹	1.737 ⁻²
180	2.601 ⁺⁰	1.985 ⁺⁰	4.199 ⁻¹	1.757 ⁻¹	1.991 ⁻²
200	2.438 ⁺⁰	1.828 ⁺⁰	4.029 ⁻¹	1.847 ⁻¹	2.218 ⁻²
250	2.120 ⁺⁰	1.531 ⁺⁰	3.648 ⁻¹	1.990 ⁻¹	2.608 ⁻²
300	1.883 ⁺⁰	1.319 ⁺⁰	3.328 ⁻¹	2.034 ⁻¹	2.773 ⁻²
400	1.545 ⁺⁰	1.039 ⁺⁰	2.832 ⁻¹	1.958 ⁻¹	2.746 ⁻²
500	1.313 ⁺⁰	8.600 ⁻¹	2.469 ⁻¹	1.805 ⁻¹	2.560 ⁻²
600	1.144 ⁺⁰	7.360 ⁻¹	2.193 ⁻¹	1.644 ⁻¹	2.355 ⁻²
800	9.121 ⁻¹	5.742 ⁻¹	1.801 ⁻¹	1.368 ⁻¹	2.006 ⁻²
1000	7.611 ⁻¹	4.728 ⁻¹	1.535 ⁻¹	1.161 ⁻¹	1.744 ⁻²
1500	5.437 ⁻¹	3.311 ⁻¹	1.135 ⁻¹	8.372 ⁻²	1.319 ⁻²
2000	4.265 ⁻¹	2.566 ⁻¹	9.095 ⁻²	6.558 ⁻²	1.062 ⁻²
2500	3.527 ⁻¹	2.104 ⁻¹	7.631 ⁻²	5.406 ⁻²	8.898 ⁻³
3000	3.017 ⁻¹	1.787 ⁻¹	6.599 ⁻²	4.609 ⁻²	7.662 ⁻³
4000	2.353 ⁻¹	1.380 ⁻¹	5.230 ⁻²	3.576 ⁻²	6.007 ⁻³
5000	1.938 ⁻¹	1.129 ⁻¹	4.357 ⁻²	2.933 ⁻²	4.950 ⁻³
6000	1.652 ⁻¹	9.571 ⁻²	3.746 ⁻²	2.493 ⁻²	4.217 ⁻³
8000	1.284 ⁻¹	7.377 ⁻²	2.950 ⁻²	1.927 ⁻²	3.264 ⁻³
10,000	1.054 ⁻¹	6.021 ⁻²	2.445 ⁻²	1.576 ⁻²	2.672 ⁻³

Table 1 (continued)
(22) Titanium ($Ti\ 3F$)

eV	TICS	4s	3d	3p	3s
5	—	—	—	—	—
6	—	—	—	—	—
7	8.394 ⁻²	8.394 ⁻²	—	—	—
8	1.151 ⁺⁰	1.151 ⁺⁰	—	—	—
9	2.297 ⁺⁰	2.297 ⁺⁰	—	—	—
10	3.263 ⁺⁰	3.263 ⁺⁰	—	—	—
11	4.024 ⁺⁰	4.024 ⁺⁰	—	—	—
12	4.604 ⁺⁰	4.604 ⁺⁰	2.892 ⁻⁴	—	—
13	5.059 ⁺⁰	5.035 ⁺⁰	2.325 ⁻²	—	—
14	5.408 ⁺⁰	5.350 ⁺⁰	5.861 ⁻²	—	—
15	5.670 ⁺⁰	5.574 ⁺⁰	9.666 ⁻²	—	—
16	5.862 ⁺⁰	5.728 ⁺⁰	1.342 ⁻¹	—	—
18	6.089 ⁺⁰	5.886 ⁺⁰	2.030 ⁻¹	—	—
20	6.177 ⁺⁰	5.916 ⁺⁰	2.613 ⁻¹	—	—
22	6.180 ⁺⁰	5.870 ⁺⁰	3.094 ⁻¹	—	—
25	6.093 ⁺⁰	5.728 ⁺⁰	3.659 ⁻¹	—	—
28	5.952 ⁺⁰	5.544 ⁺⁰	4.082 ⁻¹	—	—
30	5.844 ⁺⁰	5.413 ⁺⁰	4.306 ⁻¹	—	—
32	5.731 ⁺⁰	5.282 ⁺⁰	4.495 ⁻¹	—	—
35	5.560 ⁺⁰	5.088 ⁺⁰	4.726 ⁻¹	—	—
40	5.284 ⁺⁰	4.783 ⁺⁰	5.014 ⁻¹	—	—
45	5.028 ⁺⁰	4.506 ⁺⁰	5.220 ⁻¹	—	—
50	4.796 ⁺⁰	4.258 ⁺⁰	5.372 ⁻¹	1.628 ⁻³	—
55	4.600 ⁺⁰	4.034 ⁺⁰	5.486 ⁻¹	1.737 ⁻²	—
60	4.426 ⁺⁰	3.833 ⁺⁰	5.573 ⁻¹	3.569 ⁻²	—
65	4.267 ⁺⁰	3.652 ⁺⁰	5.637 ⁻¹	5.196 ⁻²	—
70	4.121 ⁺⁰	3.487 ⁺⁰	5.684 ⁻¹	6.503 ⁻²	—
75	3.984 ⁺⁰	3.337 ⁺⁰	5.717 ⁻¹	7.496 ⁻²	—
80	3.856 ⁺⁰	3.199 ⁺⁰	5.739 ⁻¹	8.225 ⁻²	2.860 ⁻⁴
90	3.627 ⁺⁰	2.957 ⁺⁰	5.754 ⁻¹	9.119 ⁻²	3.288 ⁻³
100	3.425 ⁺⁰	2.749 ⁺⁰	5.742 ⁻¹	9.573 ⁻²	5.687 ⁻³
110	3.246 ⁺⁰	2.569 ⁺⁰	5.709 ⁻¹	9.834 ⁻²	7.154 ⁻³
120	3.087 ⁺⁰	2.412 ⁺⁰	5.662 ⁻¹	1.004 ⁻¹	8.079 ⁻³
130	2.946 ⁺⁰	2.274 ⁺⁰	5.604 ⁻¹	1.025 ⁻¹	8.785 ⁻³
140	2.819 ⁺⁰	2.151 ⁺⁰	5.539 ⁻¹	1.049 ⁻¹	9.452 ⁻³
150	2.706 ⁺⁰	2.041 ⁺⁰	5.468 ⁻¹	1.076 ⁻¹	1.016 ⁻²
160	2.603 ⁺⁰	1.942 ⁺⁰	5.394 ⁻¹	1.106 ⁻¹	1.093 ⁻²
180	2.425 ⁺⁰	1.772 ⁺⁰	5.239 ⁻¹	1.169 ⁻¹	1.259 ⁻²
200	2.275 ⁺⁰	1.630 ⁺⁰	5.082 ⁻¹	1.232 ⁻¹	1.427 ⁻²
250	1.983 ⁺⁰	1.360 ⁺⁰	4.704 ⁻¹	1.358 ⁻¹	1.775 ⁻²
300	1.767 ⁺⁰	1.169 ⁺⁰	4.361 ⁻¹	1.427 ⁻¹	1.978 ⁻²
400	1.460 ⁺⁰	9.165 ⁻¹	3.794 ⁻¹	1.438 ⁻¹	2.079 ⁻²
500	1.249 ⁺⁰	7.567 ⁻¹	3.355 ⁻¹	1.365 ⁻¹	2.000 ⁻²
600	1.093 ⁺⁰	6.459 ⁻¹	3.010 ⁻¹	1.268 ⁻¹	1.874 ⁻²
800	8.773 ⁻¹	5.021 ⁻¹	2.505 ⁻¹	1.078 ⁻¹	1.628 ⁻²
1000	7.353 ⁻¹	4.123 ⁻¹	2.153 ⁻¹	9.253 ⁻²	1.432 ⁻²
1500	5.284 ⁻¹	2.874 ⁻¹	1.611 ⁻¹	6.748 ⁻²	1.102 ⁻²
2000	4.158 ⁻¹	2.220 ⁻¹	1.299 ⁻¹	5.305 ⁻²	8.974 ⁻³
2500	3.446 ⁻¹	1.816 ⁻¹	1.094 ⁻¹	4.381 ⁻²	7.577 ⁻³
3000	2.953 ⁻¹	1.540 ⁻¹	9.490 ⁻²	3.739 ⁻²	6.560 ⁻³
4000	2.309 ⁻¹	1.186 ⁻¹	7.553 ⁻²	2.905 ⁻²	5.180 ⁻³
5000	1.906 ⁻¹	9.684 ⁻²	6.310 ⁻²	2.385 ⁻²	4.288 ⁻³
6000	1.627 ⁻¹	8.197 ⁻²	5.440 ⁻²	2.029 ⁻²	3.663 ⁻³
8000	1.266 ⁻¹	6.303 ⁻²	4.293 ⁻²	1.570 ⁻²	2.848 ⁻³
10,000	1.041 ⁻¹	5.135 ⁻²	3.566 ⁻²	1.285 ⁻²	2.336 ⁻³

Table 1 (continued)
(23) Vanadium (V^4F)

eV	TICS	4s	3d	3p	3s
5	—	—	—	—	—
6	—	—	—	—	—
7	1.511^{-1}	1.511^{-1}	—	—	—
8	1.268^{+0}	1.268^{+0}	—	—	—
9	2.397^{+0}	2.397^{+0}	—	—	—
10	3.329^{+0}	3.329^{+0}	—	—	—
11	4.053^{+0}	4.053^{+0}	—	—	—
12	4.599^{+0}	4.599^{+0}	—	—	—
13	5.002^{+0}	5.002^{+0}	—	—	—
14	5.293^{+0}	5.292^{+0}	9.352^{-4}	—	—
15	5.517^{+0}	5.495^{+0}	2.174^{-2}	—	—
16	5.684^{+0}	5.632^{+0}	5.170^{-2}	—	—
18	5.882^{+0}	5.764^{+0}	1.184^{-1}	—	—
20	5.956^{+0}	5.773^{+0}	1.829^{-1}	—	—
22	5.953^{+0}	5.712^{+0}	2.406^{-1}	—	—
25	5.864^{+0}	5.551^{+0}	3.127^{-1}	—	—
28	5.723^{+0}	5.354^{+0}	3.693^{-1}	—	—
30	5.616^{+0}	5.216^{+0}	3.999^{-1}	—	—
32	5.504^{+0}	5.078^{+0}	4.260^{-1}	—	—
35	5.334^{+0}	4.876^{+0}	4.581^{-1}	—	—
40	5.060^{+0}	4.563^{+0}	4.979^{-1}	—	—
45	4.807^{+0}	4.281^{+0}	5.258^{-1}	—	—
50	4.577^{+0}	4.031^{+0}	5.462^{-1}	—	—
55	4.369^{+0}	3.808^{+0}	5.613^{-1}	9.540^{-6}	—
60	4.189^{+0}	3.608^{+0}	5.727^{-1}	8.191^{-3}	—
65	4.031^{+0}	3.429^{+0}	5.814^{-1}	2.021^{-2}	—
70	3.888^{+0}	3.268^{+0}	5.880^{-1}	3.208^{-2}	—
75	3.757^{+0}	3.121^{+0}	5.930^{-1}	4.248^{-2}	—
80	3.635^{+0}	2.987^{+0}	5.968^{-1}	5.104^{-2}	—
90	3.418^{+0}	2.753^{+0}	6.012^{-1}	6.303^{-2}	4.375^{-4}
100	3.229^{+0}	2.554^{+0}	6.027^{-1}	6.988^{-2}	2.485^{-3}
110	3.062^{+0}	2.382^{+0}	6.019^{-1}	7.365^{-2}	4.139^{-3}
120	2.914^{+0}	2.233^{+0}	5.995^{-1}	7.579^{-2}	5.216^{-3}
130	2.781^{+0}	2.102^{+0}	5.959^{-1}	7.723^{-2}	5.914^{-3}
140	2.662^{+0}	1.986^{+0}	5.913^{-1}	7.847^{-2}	6.426^{-3}
150	2.555^{+0}	1.883^{+0}	5.860^{-1}	7.978^{-2}	6.880^{-3}
160	2.458^{+0}	1.790^{+0}	5.802^{-1}	8.125^{-2}	7.342^{-3}
180	2.290^{+0}	1.630^{+0}	5.675^{-1}	8.473^{-2}	8.378^{-3}
200	2.149^{+0}	1.497^{+0}	5.540^{-1}	8.864^{-2}	9.537^{-3}
250	1.875^{+0}	1.245^{+0}	5.196^{-1}	9.816^{-2}	1.236^{-2}
300	1.674^{+0}	1.068^{+0}	4.868^{-1}	1.050^{-1}	1.440^{-2}
400	1.390^{+0}	8.342^{-1}	4.299^{-1}	1.099^{-1}	1.608^{-2}
500	1.194^{+0}	6.868^{-1}	3.842^{-1}	1.074^{-1}	1.599^{-2}
600	1.049^{+0}	5.850^{-1}	3.472^{-1}	1.018^{-1}	1.528^{-2}
800	8.476^{-1}	4.531^{-1}	2.918^{-1}	8.869^{-2}	1.354^{-2}
1000	7.133^{-1}	3.711^{-1}	2.524^{-1}	7.710^{-2}	1.204^{-2}
1500	5.155^{-1}	2.575^{-1}	1.905^{-1}	5.703^{-2}	9.403^{-3}
2000	4.069^{-1}	1.984^{-1}	1.544^{-1}	4.507^{-2}	7.732^{-3}
2500	3.378^{-1}	1.619^{-1}	1.305^{-1}	3.731^{-2}	6.572^{-3}
3000	2.899^{-1}	1.370^{-1}	1.134^{-1}	3.189^{-2}	5.718^{-3}
4000	2.271^{-1}	1.053^{-1}	9.053^{-2}	2.483^{-2}	4.545^{-3}
5000	1.877^{-1}	8.576^{-2}	7.579^{-2}	2.041^{-2}	3.778^{-3}
6000	1.604^{-1}	7.250^{-2}	6.542^{-2}	1.738^{-2}	3.237^{-3}
8000	1.251^{-1}	5.558^{-2}	5.173^{-2}	1.347^{-2}	2.525^{-3}
10,000	1.029^{-1}	4.521^{-2}	4.303^{-2}	1.104^{-2}	2.077^{-3}

Table 1 (continued)
(24) Chromium (Cr^7S)

eV	TICS	4s	3d	3p	3s
5	—	—	—	—	—
6	—	—	—	—	—
7	6.664^{-2}	6.664^{-2}	—	—	—
8	6.211^{-1}	6.211^{-1}	—	—	—
9	1.190^{+0}	1.190^{+0}	—	—	—
10	1.661^{+0}	1.661^{+0}	—	—	—
11	2.101^{+0}	2.027^{+0}	7.388^{-2}	—	—
12	2.511^{+0}	2.303^{+0}	2.081^{-1}	—	—
13	2.855^{+0}	2.506^{+0}	3.492^{-1}	—	—
14	3.136^{+0}	2.652^{+0}	4.840^{-1}	—	—
15	3.362^{+0}	2.754^{+0}	6.079^{-1}	—	—
16	3.541^{+0}	2.822^{+0}	7.197^{-1}	—	—
18	3.795^{+0}	2.887^{+0}	9.081^{-1}	—	—
20	3.946^{+0}	2.890^{+0}	1.056^{+0}	—	—
22	4.030^{+0}	2.858^{+0}	1.172^{+0}	—	—
25	4.077^{+0}	2.775^{+0}	1.301^{+0}	—	—
28	4.067^{+0}	2.675^{+0}	1.392^{+0}	—	—
30	4.043^{+0}	2.605^{+0}	1.438^{+0}	—	—
32	4.011^{+0}	2.535^{+0}	1.475^{+0}	—	—
35	3.951^{+0}	2.434^{+0}	1.518^{+0}	—	—
40	3.841^{+0}	2.276^{+0}	1.565^{+0}	—	—
45	3.727^{+0}	2.134^{+0}	1.594^{+0}	—	—
50	3.617^{+0}	2.007^{+0}	1.610^{+0}	—	—
55	3.513^{+0}	1.895^{+0}	1.618^{+0}	—	—
60	3.421^{+0}	1.795^{+0}	1.620^{+0}	7.281^{-3}	—
65	3.342^{+0}	1.704^{+0}	1.617^{+0}	2.059^{-2}	—
70	3.269^{+0}	1.623^{+0}	1.612^{+0}	3.387^{-2}	—
75	3.199^{+0}	1.549^{+0}	1.605^{+0}	4.544^{-2}	—
80	3.132^{+0}	1.482^{+0}	1.595^{+0}	5.488^{-2}	—
90	3.005^{+0}	1.364^{+0}	1.573^{+0}	6.789^{-2}	3.854^{-5}
100	2.888^{+0}	1.264^{+0}	1.546^{+0}	7.509^{-2}	2.031^{-3}
110	2.780^{+0}	1.178^{+0}	1.519^{+0}	7.877^{-2}	3.910^{-3}
120	2.679^{+0}	1.104^{+0}	1.490^{+0}	8.056^{-2}	5.120^{-3}
130	2.586^{+0}	1.038^{+0}	1.461^{+0}	8.146^{-2}	5.843^{-3}
140	2.500^{+0}	9.804^{-1}	1.432^{+0}	8.203^{-2}	6.306^{-3}
150	2.421^{+0}	9.289^{-1}	1.403^{+0}	8.258^{-2}	6.661^{-3}
160	2.348^{+0}	8.825^{-1}	1.375^{+0}	8.326^{-2}	6.996^{-3}
180	2.217^{+0}	8.029^{-1}	1.321^{+0}	8.513^{-2}	7.748^{-3}
200	2.103^{+0}	7.368^{-1}	1.270^{+0}	8.754^{-2}	8.637^{-3}
250	1.874^{+0}	6.121^{-1}	1.157^{+0}	9.418^{-2}	1.099^{-2}
300	1.699^{+0}	5.245^{-1}	1.062^{+0}	9.943^{-2}	1.285^{-2}
400	1.440^{+0}	4.092^{-1}	9.130^{-1}	1.035^{-1}	1.457^{-2}
500	1.255^{+0}	3.365^{-1}	8.023^{-1}	1.015^{-1}	1.466^{-2}
600	1.114^{+0}	2.864^{-1}	7.171^{-1}	9.662^{-2}	1.410^{-2}
800	9.135^{-1}	2.215^{-1}	5.941^{-1}	8.497^{-2}	1.257^{-2}
1000	7.767^{-1}	1.813^{-1}	5.095^{-1}	7.432^{-2}	1.118^{-2}
1500	5.703^{-1}	1.256^{-1}	3.799^{-1}	5.540^{-2}	8.738^{-3}
2000	4.545^{-1}	9.660^{-2}	3.057^{-1}	4.391^{-2}	7.193^{-3}
2500	3.798^{-1}	7.876^{-2}	2.573^{-1}	3.639^{-2}	6.123^{-3}
3000	3.274^{-1}	6.663^{-2}	2.229^{-1}	3.112^{-2}	5.335^{-3}
4000	2.584^{-1}	5.113^{-2}	1.772^{-1}	2.423^{-2}	4.249^{-3}
5000	2.146^{-1}	4.162^{-2}	1.479^{-1}	1.992^{-2}	3.537^{-3}
6000	1.841^{-1}	3.516^{-2}	1.274^{-1}	1.696^{-2}	3.034^{-3}
8000	1.443^{-1}	2.693^{-2}	1.004^{-1}	1.314^{-2}	2.369^{-3}
10,000	1.193^{-1}	2.188^{-2}	8.332^{-2}	1.077^{-2}	1.950^{-3}

Table 1 (continued)
(25) Manganese ($Mn\ ^6S$)

eV	TICS	4s	3d	3p	3s
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	3.538^{-1}	3.538^{-1}	—	—	—
9	1.296^{+0}	1.296^{+0}	—	—	—
10	2.201^{+0}	2.201^{+0}	—	—	—
11	2.962^{+0}	2.962^{+0}	—	—	—
12	3.571^{+0}	3.571^{+0}	—	—	—
13	4.045^{+0}	4.045^{+0}	—	—	—
14	4.405^{+0}	4.405^{+0}	—	—	—
15	4.674^{+0}	4.674^{+0}	—	—	—
16	4.870^{+0}	4.870^{+0}	—	—	—
18	5.105^{+0}	5.099^{+0}	5.367^{-3}	—	—
20	5.226^{+0}	5.184^{+0}	4.227^{-2}	—	—
22	5.267^{+0}	5.178^{+0}	8.885^{-2}	—	—
25	5.235^{+0}	5.075^{+0}	1.600^{-1}	—	—
28	5.140^{+0}	4.915^{+0}	2.247^{-1}	—	—
30	5.058^{+0}	4.795^{+0}	2.630^{-1}	—	—
32	4.969^{+0}	4.672^{+0}	2.972^{-1}	—	—
35	4.827^{+0}	4.486^{+0}	3.416^{-1}	—	—
40	4.590^{+0}	4.190^{+0}	3.996^{-1}	—	—
45	4.364^{+0}	3.921^{+0}	4.422^{-1}	—	—
50	4.155^{+0}	3.681^{+0}	4.738^{-1}	—	—
55	3.965^{+0}	3.467^{+0}	4.974^{-1}	—	—
60	3.792^{+0}	3.276^{+0}	5.153^{-1}	—	—
65	3.634^{+0}	3.105^{+0}	5.290^{-1}	—	—
70	3.493^{+0}	2.952^{+0}	5.396^{-1}	1.259^{-3}	—
75	3.367^{+0}	2.813^{+0}	5.479^{-1}	6.090^{-3}	—
80	3.253^{+0}	2.687^{+0}	5.543^{-1}	1.202^{-2}	—
90	3.054^{+0}	2.467^{+0}	5.632^{-1}	2.366^{-2}	—
100	2.883^{+0}	2.282^{+0}	5.683^{-1}	3.292^{-2}	—
110	2.734^{+0}	2.123^{+0}	5.709^{-1}	3.946^{-2}	4.638^{-4}
120	2.603^{+0}	1.986^{+0}	5.717^{-1}	4.377^{-2}	1.514^{-3}
130	2.486^{+0}	1.866^{+0}	5.711^{-1}	4.650^{-2}	2.393^{-3}
140	2.380^{+0}	1.760^{+0}	5.695^{-1}	4.819^{-2}	3.020^{-3}
150	2.285^{+0}	1.666^{+0}	5.671^{-1}	4.926^{-2}	3.449^{-3}
160	2.199^{+0}	1.581^{+0}	5.641^{-1}	5.000^{-2}	3.756^{-3}
180	2.048^{+0}	1.436^{+0}	5.567^{-1}	5.113^{-2}	4.228^{-3}
200	1.921^{+0}	1.316^{+0}	5.480^{-1}	5.234^{-2}	4.707^{-3}
250	1.677^{+0}	1.091^{+0}	5.237^{-1}	5.637^{-2}	6.198^{-3}
300	1.499^{+0}	9.323^{-1}	4.984^{-1}	6.079^{-2}	7.732^{-3}
400	1.252^{+0}	7.245^{-1}	4.510^{-1}	6.692^{-2}	9.742^{-3}
500	1.083^{+0}	5.940^{-1}	4.101^{-1}	6.874^{-2}	1.044^{-2}
600	9.579^{-1}	5.042^{-1}	3.756^{-1}	6.772^{-2}	1.042^{-2}
800	7.818^{-1}	3.884^{-1}	3.214^{-1}	6.216^{-2}	9.676^{-3}
1000	6.630^{-1}	3.168^{-1}	2.814^{-1}	5.569^{-2}	8.793^{-3}
1500	4.845^{-1}	2.183^{-1}	2.160^{-1}	4.264^{-2}	7.061^{-3}
2000	3.847^{-1}	1.673^{-1}	1.766^{-1}	3.415^{-2}	5.905^{-3}
2500	3.206^{-1}	1.360^{-1}	1.501^{-1}	2.845^{-2}	5.082^{-3}
3000	2.758^{-1}	1.148^{-1}	1.311^{-1}	2.441^{-2}	4.463^{-3}
4000	2.169^{-1}	8.780^{-2}	1.052^{-1}	1.908^{-2}	3.593^{-3}
5000	1.797^{-1}	7.128^{-2}	8.836^{-2}	1.573^{-2}	3.011^{-3}
6000	1.539^{-1}	6.010^{-2}	7.648^{-2}	1.341^{-2}	2.595^{-3}
8000	1.203^{-1}	4.587^{-2}	6.070^{-2}	1.042^{-2}	2.039^{-3}
10,000	9.917^{-2}	3.718^{-2}	5.061^{-2}	8.565^{-3}	1.684^{-3}

Table 1 (continued)
(26) Iron ($Fe\ ^5D$)

eV	TICS	4s	3d	3p	3s
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	2.386^{-2}	2.386^{-2}	—	—	—
9	7.125^{-1}	7.125^{-1}	—	—	—
10	1.539^{+0}	1.539^{+0}	—	—	—
11	2.287^{+0}	2.287^{+0}	—	—	—
12	2.912^{+0}	2.912^{+0}	—	—	—
13	3.417^{+0}	3.417^{+0}	—	—	—
14	3.814^{+0}	3.814^{+0}	—	—	—
15	4.121^{+0}	4.121^{+0}	—	—	—
16	4.354^{+0}	4.354^{+0}	—	—	—
18	4.653^{+0}	4.650^{+0}	3.051^{-3}	—	—
20	4.829^{+0}	4.788^{+0}	4.072^{-2}	—	—
22	4.917^{+0}	4.826^{+0}	9.076^{-2}	—	—
25	4.941^{+0}	4.773^{+0}	1.684^{-1}	—	—
28	4.889^{+0}	4.649^{+0}	2.399^{-1}	—	—
30	4.830^{+0}	4.547^{+0}	2.824^{-1}	—	—
32	4.759^{+0}	4.438^{+0}	3.205^{-1}	—	—
35	4.640^{+0}	4.270^{+0}	3.701^{-1}	—	—
40	4.431^{+0}	3.996^{+0}	4.351^{-1}	—	—
45	4.226^{+0}	3.743^{+0}	4.830^{-1}	—	—
50	4.032^{+0}	3.514^{+0}	5.184^{-1}	—	—
55	3.854^{+0}	3.309^{+0}	5.447^{-1}	—	—
60	3.690^{+0}	3.126^{+0}	5.644^{-1}	—	—
65	3.541^{+0}	2.962^{+0}	5.793^{-1}	—	—
70	3.404^{+0}	2.814^{+0}	5.905^{-1}	—	—
75	3.280^{+0}	2.680^{+0}	5.991^{-1}	5.096^{-5}	—
80	3.167^{+0}	2.559^{+0}	6.055^{-1}	2.636^{-3}	—
90	2.973^{+0}	2.348^{+0}	6.139^{-1}	1.118^{-2}	—
100	2.808^{+0}	2.170^{+0}	6.182^{-1}	1.985^{-2}	—
110	2.665^{+0}	2.018^{+0}	6.197^{-1}	2.692^{-2}	—
120	2.538^{+0}	1.887^{+0}	6.194^{-1}	3.213^{-2}	3.779^{-4}
130	2.426^{+0}	1.772^{+0}	6.177^{-1}	3.576^{-2}	1.190^{-3}
140	2.325^{+0}	1.670^{+0}	6.150^{-1}	3.819^{-2}	1.893^{-3}
150	2.234^{+0}	1.580^{+0}	6.115^{-1}	3.976^{-2}	2.412^{-3}
160	2.151^{+0}	1.500^{+0}	6.076^{-1}	4.078^{-2}	2.775^{-3}
180	2.005^{+0}	1.362^{+0}	5.984^{-1}	4.192^{-2}	3.223^{-3}
200	1.882^{+0}	1.247^{+0}	5.882^{-1}	4.264^{-2}	3.545^{-3}
250	1.643^{+0}	1.033^{+0}	5.610^{-1}	4.485^{-2}	4.508^{-3}
300	1.469^{+0}	8.820^{-1}	5.336^{-1}	4.781^{-2}	5.685^{-3}
400	1.228^{+0}	6.847^{-1}	4.830^{-1}	5.307^{-2}	7.573^{-3}
500	1.065^{+0}	5.607^{-1}	4.398^{-1}	5.560^{-2}	8.457^{-3}
600	9.434^{-1}	4.756^{-1}	4.034^{-1}	5.580^{-2}	8.671^{-3}
800	7.728^{-1}	3.659^{-1}	3.461^{-1}	5.261^{-2}	8.275^{-3}
1000	6.573^{-1}	2.981^{-1}	3.035^{-1}	4.793^{-2}	7.614^{-3}
1500	4.827^{-1}	2.049^{-1}	2.338^{-1}	3.745^{-2}	6.195^{-3}
2000	3.843^{-1}	1.568^{-1}	1.915^{-1}	3.024^{-2}	5.217^{-3}
2500	3.208^{-1}	1.273^{-1}	1.630^{-1}	2.529^{-2}	4.513^{-3}
3000	2.763^{-1}	1.074^{-1}	1.424^{-1}	2.174^{-2}	3.980^{-3}
4000	2.176^{-1}	8.200^{-2}	1.144^{-1}	1.702^{-2}	3.223^{-3}
5000	1.805^{-1}	6.650^{-2}	9.617^{-2}	1.404^{-2}	2.712^{-3}
6000	1.547^{-1}	5.602^{-2}	8.328^{-2}	1.199^{-2}	2.343^{-3}
8000	1.210^{-1}	4.270^{-2}	6.614^{-2}	9.324^{-3}	1.847^{-3}
10,000	9.993^{-2}	3.460^{-2}	5.517^{-2}	7.666^{-3}	1.529^{-3}

Table 1 (continued)
(27) Cobalt ($Co\ 4F$)

eV	TICS	4s	3d	3p	3s
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	3.161^{-2}	3.161^{-2}	—	—	—
9	7.213^{-1}	7.213^{-1}	—	—	—
10	1.532^{+0}	1.532^{+0}	—	—	—
11	2.261^{+0}	2.261^{+0}	—	—	—
12	2.869^{+0}	2.869^{+0}	—	—	—
13	3.358^{+0}	3.358^{+0}	—	—	—
14	3.744^{+0}	3.744^{+0}	—	—	—
15	4.041^{+0}	4.041^{+0}	—	—	—
16	4.267^{+0}	4.267^{+0}	—	—	—
18	4.555^{+0}	4.555^{+0}	—	—	—
20	4.712^{+0}	4.690^{+0}	2.224^{-2}	—	—
22	4.795^{+0}	4.728^{+0}	6.723^{-2}	—	—
25	4.818^{+0}	4.675^{+0}	1.428^{-1}	—	—
28	4.769^{+0}	4.553^{+0}	2.154^{-1}	—	—
30	4.713^{+0}	4.454^{+0}	2.596^{-1}	—	—
32	4.646^{+0}	4.346^{+0}	2.999^{-1}	—	—
35	4.533^{+0}	4.180^{+0}	3.529^{-1}	—	—
40	4.333^{+0}	3.910^{+0}	4.237^{-1}	—	—
45	4.136^{+0}	3.659^{+0}	4.766^{-1}	—	—
50	3.949^{+0}	3.433^{+0}	5.161^{-1}	—	—
55	3.776^{+0}	3.230^{+0}	5.457^{-1}	—	—
60	3.617^{+0}	3.049^{+0}	5.678^{-1}	—	—
65	3.471^{+0}	2.886^{+0}	5.846^{-1}	—	—
70	3.337^{+0}	2.740^{+0}	5.973^{-1}	—	—
75	3.215^{+0}	2.608^{+0}	6.068^{-1}	—	—
80	3.103^{+0}	2.489^{+0}	6.140^{-1}	—	—
90	2.908^{+0}	2.281^{+0}	6.233^{-1}	3.402^{-3}	—
100	2.744^{+0}	2.106^{+0}	6.279^{-1}	1.002^{-2}	—
110	2.603^{+0}	1.957^{+0}	6.294^{-1}	1.655^{-2}	—
120	2.479^{+0}	1.828^{+0}	6.290^{-1}	2.200^{-2}	—
130	2.369^{+0}	1.716^{+0}	6.271^{-1}	2.618^{-2}	3.050^{-4}
140	2.271^{+0}	1.617^{+0}	6.241^{-1}	2.922^{-2}	9.369^{-4}
150	2.182^{+0}	1.529^{+0}	6.205^{-1}	3.136^{-2}	1.502^{-3}
160	2.101^{+0}	1.450^{+0}	6.163^{-1}	3.282^{-2}	1.935^{-3}
180	1.960^{+0}	1.316^{+0}	6.068^{-1}	3.445^{-2}	2.467^{-3}
200	1.839^{+0}	1.205^{+0}	5.964^{-1}	3.522^{-2}	2.757^{-3}
250	1.605^{+0}	9.963^{-1}	5.690^{-1}	3.651^{-2}	3.379^{-3}
300	1.435^{+0}	8.504^{-1}	5.418^{-1}	3.835^{-2}	4.223^{-3}
400	1.200^{+0}	6.594^{-1}	4.918^{-1}	4.248^{-2}	5.864^{-3}
500	1.041^{+0}	5.396^{-1}	4.491^{-1}	4.516^{-2}	6.823^{-3}
600	9.234^{-1}	4.573^{-1}	4.129^{-1}	4.607^{-2}	7.194^{-3}
800	7.587^{-1}	3.514^{-1}	3.557^{-1}	4.458^{-2}	7.080^{-3}
1000	6.470^{-1}	2.860^{-1}	3.129^{-1}	4.132^{-2}	6.609^{-3}
1500	4.772^{-1}	1.963^{-1}	2.422^{-1}	3.301^{-2}	5.455^{-3}
2000	3.809^{-1}	1.500^{-1}	1.989^{-1}	2.690^{-2}	4.625^{-3}
2500	3.185^{-1}	1.217^{-1}	1.696^{-1}	2.259^{-2}	4.022^{-3}
3000	2.745^{-1}	1.026^{-1}	1.483^{-1}	1.947^{-2}	3.561^{-3}
4000	2.166^{-1}	7.825^{-2}	1.194^{-1}	1.529^{-2}	2.901^{-3}
5000	1.798^{-1}	6.341^{-2}	1.005^{-1}	1.263^{-2}	2.451^{-3}
6000	1.542^{-1}	5.338^{-2}	8.706^{-2}	1.079^{-2}	2.123^{-3}
8000	1.208^{-1}	4.066^{-2}	6.922^{-2}	8.397^{-3}	1.680^{-3}
10,000	9.981^{-2}	3.291^{-2}	5.777^{-2}	6.908^{-3}	1.394^{-3}

Table 1 (continued)
(28) Nickel ($Ni\ 3F$)

eV	TICS	4s	3d	3p	3s
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	1.658^{-1}	1.658^{-1}	—	—	—
9	9.659^{-1}	9.659^{-1}	—	—	—
10	1.787^{+0}	1.787^{+0}	—	—	—
11	2.496^{+0}	2.496^{+0}	—	—	—
12	3.074^{+0}	3.074^{+0}	—	—	—
13	3.531^{+0}	3.531^{+0}	—	—	—
14	3.887^{+0}	3.887^{+0}	—	—	—
15	4.158^{+0}	4.158^{+0}	—	—	—
16	4.361^{+0}	4.361^{+0}	—	—	—
18	4.612^{+0}	4.612^{+0}	—	—	—
20	4.728^{+0}	4.722^{+0}	6.724^{-3}	—	—
22	4.783^{+0}	4.741^{+0}	4.226^{-2}	—	—
25	4.782^{+0}	4.671^{+0}	1.105^{-1}	—	—
28	4.719^{+0}	4.539^{+0}	1.801^{-1}	—	—
30	4.657^{+0}	4.433^{+0}	2.237^{-1}	—	—
32	4.587^{+0}	4.323^{+0}	2.642^{-1}	—	—
35	4.471^{+0}	4.153^{+0}	3.185^{-1}	—	—
40	4.271^{+0}	3.878^{+0}	3.927^{-1}	—	—
45	4.074^{+0}	3.625^{+0}	4.495^{-1}	—	—
50	3.890^{+0}	3.397^{+0}	4.927^{-1}	—	—
55	3.719^{+0}	3.193^{+0}	5.255^{-1}	—	—
60	3.562^{+0}	3.011^{+0}	5.504^{-1}	—	—
65	3.418^{+0}	2.849^{+0}	5.694^{-1}	—	—
70	3.286^{+0}	2.703^{+0}	5.838^{-1}	—	—
75	3.166^{+0}	2.571^{+0}	5.948^{-1}	—	—
80	3.055^{+0}	2.452^{+0}	6.032^{-1}	—	—
90	2.859^{+0}	2.244^{+0}	6.141^{-1}	7.580^{-5}	—
100	2.694^{+0}	2.070^{+0}	6.197^{-1}	3.612^{-3}	—
110	2.553^{+0}	1.922^{+0}	6.219^{-1}	8.725^{-3}	—
120	2.430^{+0}	1.794^{+0}	6.219^{-1}	1.373^{-2}	—
130	2.321^{+0}	1.683^{+0}	6.203^{-1}	1.801^{-2}	—
140	2.225^{+0}	1.585^{+0}	6.177^{-1}	2.142^{-2}	2.379^{-4}
150	2.137^{+0}	1.499^{+0}	6.143^{-1}	2.400^{-2}	7.336^{-4}
160	2.058^{+0}	1.421^{+0}	6.103^{-1}	2.589^{-2}	1.193^{-3}
180	1.920^{+0}	1.289^{+0}	6.012^{-1}	2.818^{-2}	1.831^{-3}
200	1.802^{+0}	1.179^{+0}	5.912^{-1}	2.928^{-2}	2.169^{-3}
250	1.572^{+0}	9.742^{-1}	5.648^{-1}	3.037^{-2}	2.626^{-3}
300	1.404^{+0}	8.311^{-1}	5.386^{-1}	3.143^{-2}	3.194^{-3}
400	1.173^{+0}	6.439^{-1}	4.905^{-1}	3.442^{-2}	4.539^{-3}
500	1.018^{+0}	5.266^{-1}	4.493^{-1}	3.688^{-2}	5.491^{-3}
600	9.044^{-1}	4.461^{-1}	4.142^{-1}	3.812^{-2}	5.960^{-3}
800	7.448^{-1}	3.426^{-1}	3.583^{-1}	3.779^{-2}	6.066^{-3}
1000	6.364^{-1}	2.787^{-1}	3.162^{-1}	3.563^{-2}	5.755^{-3}
1500	4.712^{-1}	1.911^{-1}	2.460^{-1}	2.914^{-2}	4.827^{-3}
2000	3.770^{-1}	1.459^{-1}	2.027^{-1}	2.398^{-2}	4.120^{-3}
2500	3.157^{-1}	1.184^{-1}	1.731^{-1}	2.024^{-2}	3.599^{-3}
3000	2.725^{-1}	9.968^{-2}	1.516^{-1}	1.749^{-2}	3.199^{-3}
4000	2.152^{-1}	7.600^{-2}	1.223^{-1}	1.377^{-2}	2.622^{-3}
5000	1.788^{-1}	6.155^{-2}	1.030^{-1}	1.139^{-2}	2.224^{-3}
6000	1.535^{-1}	5.180^{-2}	8.933^{-2}	9.734^{-3}	1.932^{-3}
8000	1.204^{-1}	3.943^{-2}	7.109^{-2}	7.586^{-3}	1.535^{-3}
10,000	9.953^{-2}	3.190^{-2}	5.940^{-2}	6.245^{-3}	1.276^{-3}

Table 1 (continued)
(29) Copper ($\text{Cu } ^2S$)

eV	TICS	4s	3d	3p	3s
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	5.934^{-2}	5.934^{-2}	—	—	—
9	4.826^{-1}	4.826^{-1}	—	—	—
10	9.417^{-1}	9.417^{-1}	—	—	—
11	1.345^{+0}	1.345^{+0}	—	—	—
12	1.675^{+0}	1.675^{+0}	—	—	—
13	1.935^{+0}	1.935^{+0}	—	—	—
14	2.159^{+0}	2.135^{+0}	2.378^{-2}	—	—
15	2.374^{+0}	2.286^{+0}	8.807^{-2}	—	—
16	2.560^{+0}	2.396^{+0}	1.641^{-1}	—	—
18	2.851^{+0}	2.528^{+0}	3.226^{-1}	—	—
20	3.051^{+0}	2.579^{+0}	4.717^{-1}	—	—
22	3.184^{+0}	2.580^{+0}	6.044^{-1}	—	—
25	3.300^{+0}	2.529^{+0}	7.710^{-1}	—	—
28	3.348^{+0}	2.446^{+0}	9.025^{-1}	—	—
30	3.357^{+0}	2.383^{+0}	9.739^{-1}	—	—
32	3.352^{+0}	2.318^{+0}	1.034^{+0}	—	—
35	3.328^{+0}	2.221^{+0}	1.108^{+0}	—	—
40	3.261^{+0}	2.066^{+0}	1.195^{+0}	—	—
45	3.177^{+0}	1.925^{+0}	1.252^{+0}	—	—
50	3.088^{+0}	1.800^{+0}	1.288^{+0}	—	—
55	2.998^{+0}	1.689^{+0}	1.310^{+0}	—	—
60	2.912^{+0}	1.590^{+0}	1.322^{+0}	—	—
65	2.829^{+0}	1.502^{+0}	1.327^{+0}	—	—
70	2.751^{+0}	1.423^{+0}	1.328^{+0}	—	—
75	2.678^{+0}	1.352^{+0}	1.326^{+0}	—	—
80	2.609^{+0}	1.288^{+0}	1.321^{+0}	—	—
90	2.483^{+0}	1.176^{+0}	1.306^{+0}	—	—
100	2.375^{+0}	1.083^{+0}	1.288^{+0}	3.345^{-3}	—
110	2.281^{+0}	1.004^{+0}	1.268^{+0}	8.862^{-3}	—
120	2.197^{+0}	9.354^{-1}	1.247^{+0}	1.430^{-2}	—
130	2.121^{+0}	8.759^{-1}	1.226^{+0}	1.893^{-2}	—
140	2.052^{+0}	8.238^{-1}	1.205^{+0}	2.257^{-2}	9.250^{-5}
150	1.988^{+0}	7.776^{-1}	1.185^{+0}	2.531^{-2}	5.656^{-4}
160	1.929^{+0}	7.364^{-1}	1.164^{+0}	2.729^{-2}	1.064^{-3}
180	1.823^{+0}	6.661^{-1}	1.125^{+0}	2.963^{-2}	1.789^{-3}
200	1.729^{+0}	6.082^{-1}	1.088^{+0}	3.066^{-2}	2.169^{-3}
250	1.540^{+0}	5.002^{-1}	1.006^{+0}	3.128^{-2}	2.582^{-3}
300	1.395^{+0}	4.253^{-1}	9.354^{-1}	3.172^{-2}	3.030^{-3}
400	1.188^{+0}	3.278^{-1}	8.222^{-1}	3.364^{-2}	4.182^{-3}
500	1.043^{+0}	2.672^{-1}	7.354^{-1}	3.548^{-2}	5.065^{-3}
600	9.343^{-1}	2.257^{-1}	6.666^{-1}	3.647^{-2}	5.532^{-3}
800	7.785^{-1}	1.726^{-1}	5.641^{-1}	3.616^{-2}	5.689^{-3}
1000	6.706^{-1}	1.400^{-1}	4.909^{-1}	3.423^{-2}	5.427^{-3}
1500	5.030^{-1}	9.551^{-2}	3.745^{-1}	2.823^{-2}	4.565^{-3}
2000	4.056^{-1}	7.271^{-2}	3.054^{-1}	2.335^{-2}	3.896^{-3}
2500	3.415^{-1}	5.881^{-2}	2.592^{-1}	1.976^{-2}	3.402^{-3}
3000	2.959^{-1}	4.943^{-2}	2.259^{-1}	1.710^{-2}	3.025^{-3}
4000	2.351^{-1}	3.757^{-2}	1.811^{-1}	1.348^{-2}	2.482^{-3}
5000	1.961^{-1}	3.035^{-2}	1.519^{-1}	1.115^{-2}	2.107^{-3}
6000	1.688^{-1}	2.549^{-2}	1.314^{-1}	9.529^{-3}	1.833^{-3}
8000	1.330^{-1}	1.934^{-2}	1.041^{-1}	7.423^{-3}	1.458^{-3}
10,000	1.103^{-1}	1.561^{-2}	8.671^{-2}	6.108^{-3}	1.213^{-3}

Table 1 (continued)
(30) Zinc ($\text{Zn } ^1S$)

eV	TICS	4s	3d	3p	3s
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	—	—	—	—	—
9	—	—	—	—	—
10	1.932^{-1}	1.932^{-1}	—	—	—
11	7.115^{-1}	7.115^{-1}	—	—	—
12	1.262^{+0}	1.262^{+0}	—	—	—
13	1.772^{+0}	1.772^{+0}	—	—	—
14	2.220^{+0}	2.220^{+0}	—	—	—
15	2.600^{+0}	2.600^{+0}	—	—	—
16	2.918^{+0}	2.918^{+0}	—	—	—
18	3.389^{+0}	3.389^{+0}	—	—	—
20	3.689^{+0}	3.689^{+0}	—	—	—
22	3.872^{+0}	3.867^{+0}	4.554^{-3}	—	—
25	4.031^{+0}	3.982^{+0}	4.881^{-2}	—	—
28	4.090^{+0}	3.985^{+0}	1.053^{-1}	—	—
30	4.093^{+0}	3.949^{+0}	1.438^{-1}	—	—
32	4.076^{+0}	3.895^{+0}	1.811^{-1}	—	—
35	4.026^{+0}	3.792^{+0}	2.334^{-1}	—	—
40	3.905^{+0}	3.596^{+0}	3.087^{-1}	—	—
45	3.764^{+0}	3.394^{+0}	3.695^{-1}	—	—
50	3.620^{+0}	3.202^{+0}	4.176^{-1}	—	—
55	3.479^{+0}	3.024^{+0}	4.555^{-1}	—	—
60	3.346^{+0}	2.861^{+0}	4.852^{-1}	—	—
65	3.221^{+0}	2.712^{+0}	5.084^{-1}	—	—
70	3.104^{+0}	2.578^{+0}	5.267^{-1}	—	—
75	2.996^{+0}	2.455^{+0}	5.409^{-1}	—	—
80	2.895^{+0}	2.343^{+0}	5.520^{-1}	—	—
90	2.715^{+0}	2.148^{+0}	5.672^{-1}	—	—
100	2.559^{+0}	1.983^{+0}	5.760^{-1}	—	—
110	2.423^{+0}	1.842^{+0}	5.805^{-1}	7.066^{-4}	—
120	2.305^{+0}	1.720^{+0}	5.823^{-1}	3.247^{-3}	—
130	2.202^{+0}	1.613^{+0}	5.821^{-1}	6.336^{-3}	—
140	2.110^{+0}	1.520^{+0}	5.806^{-1}	9.376^{-3}	—
150	2.027^{+0}	1.437^{+0}	5.781^{-1}	1.209^{-2}	—
160	1.952^{+0}	1.363^{+0}	5.749^{-1}	1.437^{-2}	1.333^{-4}
180	1.821^{+0}	1.236^{+0}	5.673^{-1}	1.769^{-2}	7.516^{-4}
200	1.711^{+0}	1.131^{+0}	5.586^{-1}	1.966^{-2}	1.222^{-3}
250	1.493^{+0}	9.346^{-1}	5.354^{-1}	2.152^{-2}	1.714^{-3}
300	1.334^{+0}	7.976^{-1}	5.122^{-1}	2.204^{-2}	1.974^{-3}
400	1.114^{+0}	6.181^{-1}	4.695^{-1}	2.332^{-2}	2.756^{-3}
500	9.667^{-1}	5.056^{-1}	4.325^{-1}	2.498^{-2}	3.548^{-3}
600	8.595^{-1}	4.284^{-1}	4.008^{-1}	2.628^{-2}	4.080^{-3}
800	7.103^{-1}	3.289^{-1}	3.497^{-1}	2.719^{-2}	4.467^{-3}
1000	6.091^{-1}	2.675^{-1}	3.106^{-1}	2.653^{-2}	4.401^{-3}
1500	4.543^{-1}	1.833^{-1}	2.442^{-1}	2.280^{-2}	3.829^{-3}
2000	3.651^{-1}	1.400^{-1}	2.024^{-1}	1.920^{-2}	3.314^{-3}
2500	3.067^{-1}	1.135^{-1}	1.737^{-1}	1.640^{-2}	2.920^{-3}
3000	2.653^{-1}	9.554^{-2}	1.525^{-1}	1.427^{-2}	2.613^{-3}
4000	2.101^{-1}	7.280^{-2}	1.235^{-1}	1.131^{-2}	2.164^{-3}
5000	1.749^{-1}	5.893^{-2}	1.043^{-1}	9.379^{-3}	1.850^{-3}
6000	1.503^{-1}	4.958^{-2}	9.061^{-2}	8.031^{-3}	1.616^{-3}
8000	1.181^{-1}	3.773^{-2}	7.229^{-2}	6.271^{-3}	1.293^{-3}
10,000	9.776^{-2}	3.050^{-2}	6.048^{-2}	5.169^{-3}	1.080^{-3}

Table 1 (continued)
(31) Gallium (Ga^2P)

eV	TICS	4p	4s	3d	3p
5	—	—	—	—	—
6	1.767 ⁻⁴	1.767 ⁻⁴	—	—	—
7	4.652 ⁻¹	4.652 ⁻¹	—	—	—
8	1.187 ⁺⁰	1.187 ⁺⁰	—	—	—
9	1.935 ⁺⁰	1.935 ⁺⁰	—	—	—
10	2.631 ⁺⁰	2.631 ⁺⁰	—	—	—
11	3.245 ⁺⁰	3.245 ⁺⁰	—	—	—
12	3.805 ⁺⁰	3.772 ⁺⁰	3.324 ⁻²	—	—
13	4.391 ⁺⁰	4.215 ⁺⁰	1.763 ⁻¹	—	—
14	4.936 ⁺⁰	4.582 ⁺⁰	3.540 ⁻¹	—	—
15	5.424 ⁺⁰	4.884 ⁺⁰	5.404 ⁻¹	—	—
16	5.851 ⁺⁰	5.128 ⁺⁰	7.233 ⁻¹	—	—
18	6.533 ⁺⁰	5.478 ⁺⁰	1.056 ⁺⁰	—	—
20	7.018 ⁺⁰	5.687 ⁺⁰	1.331 ⁺⁰	—	—
22	7.345 ⁺⁰	5.797 ⁺⁰	1.548 ⁺⁰	—	—
25	7.618 ⁺⁰	5.837 ⁺⁰	1.781 ⁺⁰	—	—
28	7.710 ⁺⁰	5.782 ⁺⁰	1.928 ⁺⁰	—	—
30	7.704 ⁺⁰	5.715 ⁺⁰	1.990 ⁺⁰	—	—
32	7.661 ⁺⁰	5.631 ⁺⁰	2.030 ⁺⁰	—	—
35	7.550 ⁺⁰	5.487 ⁺⁰	2.059 ⁺⁰	3.859 ⁻³	—
40	7.298 ⁺⁰	5.225 ⁺⁰	2.053 ⁺⁰	1.967 ⁻²	—
45	7.010 ⁺⁰	4.962 ⁺⁰	2.008 ⁺⁰	4.042 ⁻²	—
50	6.716 ⁺⁰	4.709 ⁺⁰	1.944 ⁺⁰	6.271 ⁻²	—
55	6.429 ⁺⁰	4.473 ⁺⁰	1.871 ⁺⁰	8.463 ⁻²	—
60	6.156 ⁺⁰	4.255 ⁺⁰	1.796 ⁺⁰	1.052 ⁻¹	—
65	5.901 ⁺⁰	4.055 ⁺⁰	1.722 ⁺⁰	1.240 ⁻¹	—
70	5.663 ⁺⁰	3.872 ⁺⁰	1.651 ⁺⁰	1.408 ⁻¹	—
75	5.442 ⁺⁰	3.703 ⁺⁰	1.583 ⁺⁰	1.558 ⁻¹	—
80	5.238 ⁺⁰	3.549 ⁺⁰	1.519 ⁺⁰	1.690 ⁻¹	—
90	4.871 ⁺⁰	3.276 ⁺⁰	1.404 ⁺⁰	1.909 ⁻¹	—
100	4.554 ⁺⁰	3.043 ⁺⁰	1.303 ⁺⁰	2.077 ⁻¹	—
110	4.277 ⁺⁰	2.842 ⁺⁰	1.215 ⁺⁰	2.206 ⁻¹	—
120	4.035 ⁺⁰	2.666 ⁺⁰	1.138 ⁺⁰	2.306 ⁻¹	—
130	3.821 ⁺⁰	2.513 ⁺⁰	1.070 ⁺⁰	2.384 ⁻¹	3.635 ⁻⁴
140	3.632 ⁺⁰	2.377 ⁺⁰	1.010 ⁺⁰	2.445 ⁻¹	1.465 ⁻³
150	3.463 ⁺⁰	2.256 ⁺⁰	9.557 ⁻¹	2.492 ⁻¹	2.973 ⁻³
160	3.312 ⁺⁰	2.147 ⁺⁰	9.073 ⁻¹	2.529 ⁻¹	4.624 ⁻³
180	3.050 ⁺⁰	1.960 ⁺⁰	8.240 ⁻¹	2.581 ⁻¹	7.750 ⁻³
200	2.832 ⁺⁰	1.805 ⁺⁰	7.550 ⁻¹	2.612 ⁻¹	1.023 ⁻²
250	2.415 ⁺⁰	1.512 ⁺⁰	6.247 ⁻¹	2.636 ⁻¹	1.361 ⁻²
300	2.117 ⁺⁰	1.306 ⁺⁰	5.331 ⁻¹	2.619 ⁻¹	1.481 ⁻²
400	1.716 ⁺⁰	1.032 ⁺⁰	4.124 ⁻¹	2.537 ⁻¹	1.594 ⁻²
500	1.457 ⁺⁰	8.579 ⁻¹	3.364 ⁻¹	2.430 ⁻¹	1.722 ⁻²
600	1.274 ⁺⁰	7.368 ⁻¹	2.840 ⁻¹	2.319 ⁻¹	1.847 ⁻²
800	1.029 ⁺⁰	5.783 ⁻¹	2.166 ⁻¹	2.107 ⁻¹	1.998 ⁻²
1000	8.695 ⁻¹	4.784 ⁻¹	1.751 ⁻¹	1.923 ⁻¹	2.021 ⁻²
1500	6.352 ⁻¹	3.380 ⁻¹	1.184 ⁻¹	1.572 ⁻¹	1.829 ⁻²
2000	5.050 ⁻¹	2.636 ⁻¹	8.950 ⁻²	1.331 ⁻¹	1.578 ⁻²
2500	4.212 ⁻¹	2.172 ⁻¹	7.197 ⁻²	1.157 ⁻¹	1.365 ⁻²
3000	3.624 ⁻¹	1.852 ⁻¹	6.021 ⁻²	1.026 ⁻¹	1.196 ⁻²
4000	2.851 ⁻¹	1.439 ⁻¹	4.541 ⁻²	8.402 ⁻²	9.554 ⁻³
5000	2.362 ⁻¹	1.183 ⁻¹	3.646 ⁻²	7.151 ⁻²	7.959 ⁻³
6000	2.022 ⁻¹	1.007 ⁻¹	3.047 ⁻²	6.246 ⁻²	6.835 ⁻³
8000	1.581 ⁻¹	7.800 ⁻²	2.295 ⁻²	5.018 ⁻²	5.356 ⁻³
10,000	1.304 ⁻¹	6.395 ⁻²	1.841 ⁻²	4.218 ⁻²	4.426 ⁻³

Table 1 (continued)
(32) Germanium (Ge^3P)

eV	TICS	4p	4s	3d	3p
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	8.126 ⁻³	8.126 ⁻³	—	—	—
9	2.850 ⁻¹	2.850 ⁻¹	—	—	—
10	7.310 ⁻¹	7.310 ⁻¹	—	—	—
11	1.247 ⁺⁰	1.247 ⁺⁰	—	—	—
12	1.783 ⁺⁰	1.783 ⁺⁰	—	—	—
13	2.309 ⁺⁰	2.309 ⁺⁰	—	—	—
14	2.808 ⁺⁰	2.808 ⁺⁰	—	—	—
15	3.272 ⁺⁰	3.272 ⁺⁰	—	—	—
16	3.725 ⁺⁰	3.697 ⁺⁰	2.775 ⁻²	—	—
18	4.569 ⁺⁰	4.427 ⁺⁰	1.414 ⁻¹	—	—
20	5.289 ⁺⁰	5.008 ⁺⁰	2.807 ⁻¹	—	—
22	5.884 ⁺⁰	5.461 ⁺⁰	4.226 ⁻¹	—	—
25	6.565 ⁺⁰	5.946 ⁺⁰	6.181 ⁻¹	—	—
28	7.035 ⁺⁰	6.254 ⁺⁰	7.814 ⁻¹	—	—
30	7.256 ⁺⁰	6.385 ⁺⁰	8.711 ⁻¹	—	—
32	7.418 ⁺⁰	6.471 ⁺⁰	9.465 ⁻¹	—	—
35	7.570 ⁺⁰	6.535 ⁺⁰	1.036 ⁺⁰	—	—
40	7.653 ⁺⁰	6.520 ⁺⁰	1.132 ⁺⁰	—	—
45	7.597 ⁺⁰	6.415 ⁺⁰	1.182 ⁺⁰	8.822 ⁻⁵	—
50	7.463 ⁺⁰	6.259 ⁺⁰	1.200 ⁺⁰	3.070 ⁻³	—
55	7.286 ⁺⁰	6.080 ⁺⁰	1.198 ⁺⁰	8.136 ⁻³	—
60	7.087 ⁺⁰	5.890 ⁺⁰	1.183 ⁺⁰	1.454 ⁻²	—
65	6.880 ⁺⁰	5.698 ⁺⁰	1.160 ⁺⁰	2.179 ⁻²	—
70	6.672 ⁺⁰	5.510 ⁺⁰	1.132 ⁺⁰	2.945 ⁻²	—
75	6.468 ⁺⁰	5.329 ⁺⁰	1.102 ⁺⁰	3.721 ⁻²	—
80	6.270 ⁺⁰	5.155 ⁺⁰	1.070 ⁺⁰	4.485 ⁻²	—
90	5.898 ⁺⁰	4.832 ⁺⁰	1.007 ⁺⁰	5.923 ⁻²	—
100	5.562 ⁺⁰	4.542 ⁺⁰	9.475 ⁻¹	7.197 ⁻²	—
110	5.259 ⁺⁰	4.284 ⁺⁰	8.923 ⁻¹	8.298 ⁻²	—
120	4.987 ⁺⁰	4.053 ⁺⁰	8.420 ⁻¹	9.235 ⁻²	—
130	4.742 ⁺⁰	3.845 ⁺⁰	7.964 ⁻¹	1.003 ⁻¹	—
140	4.520 ⁺⁰	3.658 ⁺⁰	7.551 ⁻¹	1.070 ⁻¹	—
150	4.320 ⁺⁰	3.490 ⁺⁰	7.177 ⁻¹	1.127 ⁻¹	1.490 ⁻⁴
160	4.139 ⁺⁰	3.337 ⁺⁰	6.837 ⁻¹	1.175 ⁻¹	6.104 ⁻⁴
180	3.821 ⁺⁰	3.069 ⁺⁰	6.245 ⁻¹	1.251 ⁻¹	2.191 ⁻³
200	3.554 ⁺⁰	2.844 ⁺⁰	5.748 ⁻¹	1.307 ⁻¹	4.041 ⁻³
250	3.038 ⁺⁰	2.411 ⁺⁰	4.795 ⁻¹	1.395 ⁻¹	7.650 ⁻³
300	2.665 ⁺⁰	2.099 ⁺⁰	4.117 ⁻¹	1.439 ⁻¹	9.454 ⁻³
400	2.159 ⁺⁰	1.679 ⁺⁰	3.212 ⁻¹	1.469 ⁻¹	1.085 ⁻²
500	1.829 ⁺⁰	1.407 ⁺⁰	2.634 ⁻¹	1.460 ⁻¹	1.185 ⁻²
600	1.597 ⁺⁰	1.215 ⁺⁰	2.233 ⁻¹	1.433 ⁻¹	1.292 ⁻²
800	1.286 ⁺⁰	9.618 ⁻¹	1.711 ⁻¹	1.356 ⁻¹	1.460 ⁻²
1000	1.085 ⁺⁰	8.005 ⁻¹	1.386 ⁻¹	1.272 ⁻¹	1.535 ⁻²
1500	7.910 ⁻¹	5.711 ⁻¹	9.407 ⁻²	1.084 ⁻¹	1.473 ⁻²
2000	6.288 ⁻¹	4.482 ⁻¹	7.123 ⁻²	9.381 ⁻²	1.308 ⁻²
2500	5.247 ⁻¹	3.708 ⁻¹	5.734 ⁻²	8.269 ⁻²	1.149 ⁻²
3000	4.517 ⁻¹	3.174 ⁻¹	4.801 ⁻²	7.400 ⁻²	1.016 ⁻²
4000	3.555 ⁻¹	2.479 ⁻¹	3.624 ⁻²	6.137 ⁻²	8.198 ⁻³
5000	2.947 ⁻¹	2.044 ⁻¹	2.913 ⁻²	5.263 ⁻²	6.865 ⁻³
6000	2.525 ⁻¹	1.745 ⁻¹	2.436 ⁻²	4.622 ⁻²	5.915 ⁻³
8000	1.975 ⁻¹	1.357 ⁻¹	1.836 ⁻²	3.740 ⁻²	4.655 ⁻³
10,000	1.630 ⁻¹	1.116 ⁻¹	1.474 ⁻²	3.158 ⁻²	3.857 ⁻³

Table 1 (continued)
(33) Arsenic (*As* 4S)

eV	TICS	4p	4s	3d	3p
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	—	—	—	—	—
9	—	—	—	—	—
10	1.191 ⁻²	1.191 ⁻²	—	—	—
11	1.697 ⁻¹	1.697 ⁻¹	—	—	—
12	4.209 ⁻¹	4.209 ⁻¹	—	—	—
13	7.261 ⁻¹	7.261 ⁻¹	—	—	—
14	1.062 ⁺⁰	1.062 ⁺⁰	—	—	—
15	1.410 ⁺⁰	1.410 ⁺⁰	—	—	—
16	1.761 ⁺⁰	1.761 ⁺⁰	—	—	—
18	2.438 ⁺⁰	2.438 ⁺⁰	—	—	—
20	3.073 ⁺⁰	3.056 ⁺⁰	1.782 ⁻²	—	—
22	3.668 ⁺⁰	3.601 ⁺⁰	6.742 ⁻²	—	—
25	4.443 ⁺⁰	4.280 ⁺⁰	1.629 ⁻¹	—	—
28	5.073 ⁺⁰	4.809 ⁺⁰	2.648 ⁻¹	—	—
30	5.419 ⁺⁰	5.088 ⁺⁰	3.305 ⁻¹	—	—
32	5.710 ⁺⁰	5.318 ⁺⁰	3.922 ⁻¹	—	—
35	6.060 ⁺⁰	5.585 ⁺⁰	4.753 ⁻¹	—	—
40	6.453 ⁺⁰	5.867 ⁺⁰	5.865 ⁻¹	—	—
45	6.669 ⁺⁰	6.003 ⁺⁰	6.660 ⁻¹	—	—
50	6.763 ⁺⁰	6.043 ⁺⁰	7.196 ⁻¹	—	—
55	6.772 ⁺⁰	6.018 ⁺⁰	7.532 ⁻¹	—	—
60	6.724 ⁺⁰	5.952 ⁺⁰	7.718 ⁻¹	3.406 ⁻⁴	—
65	6.640 ⁺⁰	5.859 ⁺⁰	7.795 ⁻¹	1.712 ⁻³	—
70	6.531 ⁺⁰	5.748 ⁺⁰	7.794 ⁻¹	3.669 ⁻³	—
75	6.408 ⁺⁰	5.628 ⁺⁰	7.736 ⁻¹	6.097 ⁻³	—
80	6.276 ⁺⁰	5.503 ⁺⁰	7.640 ⁻¹	8.900 ⁻³	—
90	6.002 ⁺⁰	5.249 ⁺⁰	7.377 ⁻¹	1.524 ⁻²	—
100	5.731 ⁺⁰	5.002 ⁺⁰	7.070 ⁻¹	2.201 ⁻²	—
110	5.473 ⁺⁰	4.769 ⁺⁰	6.751 ⁻¹	2.871 ⁻²	—
120	5.230 ⁺⁰	4.552 ⁺⁰	6.438 ⁻¹	3.504 ⁻²	—
130	5.005 ⁺⁰	4.350 ⁺⁰	6.140 ⁻¹	4.087 ⁻²	—
140	4.797 ⁺⁰	4.165 ⁺⁰	5.860 ⁻¹	4.614 ⁻²	—
150	4.605 ⁺⁰	3.994 ⁺⁰	5.599 ⁻¹	5.087 ⁻²	—
160	4.427 ⁺⁰	3.836 ⁺⁰	5.357 ⁻¹	5.508 ⁻²	—
180	4.111 ⁺⁰	3.556 ⁺⁰	4.927 ⁻¹	6.214 ⁻²	2.483 ⁻⁴
200	3.839 ⁺⁰	3.314 ⁺⁰	4.557 ⁻¹	6.772 ⁻²	1.017 ⁻³
250	3.305 ⁺⁰	2.840 ⁺⁰	3.836 ⁻¹	7.728 ⁻²	3.686 ⁻³
300	2.912 ⁺⁰	2.491 ⁺⁰	3.313 ⁻¹	8.306 ⁻²	5.659 ⁻³
400	2.370 ⁺⁰	2.012 ⁺⁰	2.607 ⁻¹	8.919 ⁻²	7.410 ⁻³
500	2.013 ⁺⁰	1.697 ⁺⁰	2.150 ⁻¹	9.174 ⁻²	8.278 ⁻³
600	1.759 ⁺⁰	1.473 ⁺⁰	1.830 ⁻¹	9.245 ⁻²	9.114 ⁻³
800	1.419 ⁺⁰	1.174 ⁺⁰	1.409 ⁻¹	9.097 ⁻²	1.066 ⁻²
1000	1.198 ⁺⁰	9.820 ⁻¹	1.146 ⁻¹	8.771 ⁻²	1.163 ⁻²
1500	8.760 ⁻¹	7.059 ⁻¹	7.810 ⁻²	7.789 ⁻²	1.188 ⁻²
2000	6.978 ⁻¹	5.565 ⁻¹	5.927 ⁻²	6.901 ⁻²	1.089 ⁻²
2500	5.831 ⁻¹	4.619 ⁻¹	4.778 ⁻²	6.171 ⁻²	9.739 ⁻³
3000	5.027 ⁻¹	3.963 ⁻¹	4.004 ⁻²	5.577 ⁻²	8.704 ⁻³
4000	3.965 ⁻¹	3.107 ⁻¹	3.027 ⁻²	4.684 ⁻²	7.104 ⁻³
5000	3.292 ⁻¹	2.569 ⁻¹	2.435 ⁻²	4.049 ⁻²	5.985 ⁻³
6000	2.824 ⁻¹	2.197 ⁻¹	2.038 ⁻²	3.575 ⁻²	5.175 ⁻³
8000	2.213 ⁻¹	1.715 ⁻¹	1.538 ⁻²	2.912 ⁻²	4.091 ⁻³
10,000	1.828 ⁻¹	1.413 ⁻¹	1.236 ⁻²	2.470 ⁻²	3.400 ⁻³

Table 1 (continued)
(34) Selenium (*Se* 3P)

eV	TICS	4p	4s	3d	3p
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	—	—	—	—	—
9	—	—	—	—	—
10	1.680 ⁻²	1.680 ⁻²	—	—	—
11	1.920 ⁻¹	1.920 ⁻¹	—	—	—
12	4.586 ⁻¹	4.586 ⁻¹	—	—	—
13	7.763 ⁻¹	7.763 ⁻¹	—	—	—
14	1.122 ⁺⁰	1.122 ⁺⁰	—	—	—
15	1.479 ⁺⁰	1.479 ⁺⁰	—	—	—
16	1.838 ⁺⁰	1.838 ⁺⁰	—	—	—
18	2.532 ⁺⁰	2.532 ⁺⁰	—	—	—
20	3.172 ⁺⁰	3.172 ⁺⁰	—	—	—
22	3.743 ⁺⁰	3.743 ⁺⁰	—	—	—
25	4.486 ⁺⁰	4.469 ⁺⁰	1.664 ⁻²	—	—
28	5.106 ⁺⁰	5.049 ⁺⁰	5.775 ⁻²	—	—
30	5.455 ⁺⁰	5.364 ⁺⁰	9.114 ⁻²	—	—
32	5.756 ⁺⁰	5.629 ⁺⁰	1.270 ⁻¹	—	—
35	6.129 ⁺⁰	5.946 ⁺⁰	1.822 ⁻¹	—	—
40	6.575 ⁺⁰	6.305 ⁺⁰	2.699 ⁻¹	—	—
45	6.852 ⁺⁰	6.507 ⁺⁰	3.454 ⁻¹	—	—
50	7.006 ⁺⁰	6.599 ⁺⁰	4.063 ⁻¹	—	—
55	7.070 ⁺⁰	6.617 ⁺⁰	4.531 ⁻¹	—	—
60	7.071 ⁺⁰	6.583 ⁺⁰	4.876 ⁻¹	—	—
65	7.026 ⁺⁰	6.514 ⁺⁰	5.121 ⁻¹	—	—
70	6.949 ⁺⁰	6.421 ⁺⁰	5.284 ⁻¹	—	—
75	6.852 ⁺⁰	6.313 ⁺⁰	5.383 ⁻¹	1.801 ⁻⁴	—
80	6.740 ⁺⁰	6.196 ⁺⁰	5.433 ⁻¹	7.873 ⁻⁴	—
90	6.494 ⁺⁰	5.948 ⁺⁰	5.426 ⁻¹	2.694 ⁻³	—
100	6.236 ⁺⁰	5.698 ⁺⁰	5.330 ⁻¹	5.334 ⁻³	—
110	5.982 ⁺⁰	5.455 ⁺⁰	5.185 ⁻¹	8.480 ⁻³	—
120	5.739 ⁺⁰	5.225 ⁺⁰	5.016 ⁻¹	1.190 ⁻²	—
130	5.508 ⁺⁰	5.009 ⁺⁰	4.837 ⁻¹	1.539 ⁻²	—
140	5.292 ⁺⁰	4.808 ⁺⁰	4.658 ⁻¹	1.883 ⁻²	—
150	5.090 ⁺⁰	4.620 ⁺⁰	4.482 ⁻¹	2.212 ⁻²	—
160	4.902 ⁺⁰	4.446 ⁺⁰	4.314 ⁻¹	2.522 ⁻²	—
180	4.564 ⁺⁰	4.133 ⁺⁰	4.002 ⁻¹	3.074 ⁻²	—
200	4.270 ⁺⁰	3.862 ⁺⁰	3.724 ⁻¹	3.540 ⁻²	1.101 ⁻⁴
250	3.684 ⁺⁰	3.322 ⁺⁰	3.166 ⁻¹	4.395 ⁻²	1.411 ⁻³
300	3.249 ⁺⁰	2.921 ⁺⁰	2.751 ⁻¹	4.954 ⁻²	3.069 ⁻³
400	2.647 ⁺⁰	2.367 ⁺⁰	2.182 ⁻¹	5.610 ⁻²	5.009 ⁻³
500	2.248 ⁺⁰	2.001 ⁺⁰	1.810 ⁻¹	5.959 ⁻²	5.874 ⁻³
600	1.963 ⁺⁰	1.739 ⁺⁰	1.546 ⁻¹	6.149 ⁻²	6.539 ⁻³
800	1.580 ⁺⁰	1.389 ⁺⁰	1.198 ⁻¹	6.269 ⁻²	7.823 ⁻³
1000	1.333 ⁺⁰	1.163 ⁺⁰	9.769 ⁻²	6.203 ⁻²	8.810 ⁻³
1500	9.732 ⁻¹	8.375 ⁻¹	6.686 ⁻²	5.744 ⁻²	9.587 ⁻³
2000	7.749 ⁻¹	6.611 ⁻¹	5.083 ⁻²	5.214 ⁻²	9.100 ⁻³
2500	6.476 ⁻¹	5.492 ⁻¹	4.103 ⁻²	4.734 ⁻²	8.299 ⁻³
3000	5.583 ⁻¹	4.715 ⁻¹	3.441 ⁻²	4.324 ⁻²	7.507 ⁻³
4000	4.405 ⁻¹	3.700 ⁻¹	2.604 ⁻²	3.680 ⁻²	6.207 ⁻³
5000	3.657 ⁻¹	3.061 ⁻¹	2.096 ⁻²	3.207 ⁻²	5.263 ⁻³
6000	3.137 ⁻¹	2.619 ⁻¹	1.755 ⁻²	2.847 ⁻²	4.569 ⁻³
8000	2.459 ⁻¹	2.046 ⁻¹	1.326 ⁻²	2.336 ⁻²	3.628 ⁻³
10,000	2.032 ⁻¹	1.687 ⁻¹	1.066 ⁻²	1.990 ⁻²	3.023 ⁻³

Table 1 (continued)
(35) Bromine (Br^2P)

eV	TICS	4p	4s	3d	3p
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	—	—	—	—	—
9	—	—	—	—	—
10	—	—	—	—	—
11	—	—	—	—	—
12	7.198^{-3}	7.198^{-3}	—	—	—
13	9.918^{-2}	9.918^{-2}	—	—	—
14	2.483^{-1}	2.483^{-1}	—	—	—
15	4.329^{-1}	4.329^{-1}	—	—	—
16	6.412^{-1}	6.412^{-1}	—	—	—
18	1.098^{+0}	1.098^{+0}	—	—	—
20	1.573^{+0}	1.573^{+0}	—	—	—
22	2.039^{+0}	2.039^{+0}	—	—	—
25	2.691^{+0}	2.691^{+0}	—	—	—
28	3.269^{+0}	3.267^{+0}	2.712^{-3}	—	—
30	3.619^{+0}	3.605^{+0}	1.356^{-2}	—	—
32	3.936^{+0}	3.908^{+0}	2.825^{-2}	—	—
35	4.355^{+0}	4.300^{+0}	5.491^{-2}	—	—
40	4.914^{+0}	4.808^{+0}	1.061^{-1}	—	—
45	5.324^{+0}	5.165^{+0}	1.590^{-1}	—	—
50	5.617^{+0}	5.408^{+0}	2.086^{-1}	—	—
55	5.817^{+0}	5.564^{+0}	2.521^{-1}	—	—
60	5.944^{+0}	5.655^{+0}	2.888^{-1}	—	—
65	6.015^{+0}	5.697^{+0}	3.186^{-1}	—	—
70	6.044^{+0}	5.702^{+0}	3.423^{-1}	—	—
75	6.040^{+0}	5.680^{+0}	3.605^{-1}	—	—
80	6.012^{+0}	5.638^{+0}	3.740^{-1}	—	—
90	5.905^{+0}	5.515^{+0}	3.902^{-1}	6.051^{-5}	—
100	5.758^{+0}	5.361^{+0}	3.959^{-1}	6.848^{-4}	—
110	5.590^{+0}	5.194^{+0}	3.947^{-1}	1.679^{-3}	—
120	5.415^{+0}	5.023^{+0}	3.892^{-1}	2.986^{-3}	—
130	5.240^{+0}	4.854^{+0}	3.810^{-1}	4.545^{-3}	—
140	5.068^{+0}	4.691^{+0}	3.712^{-1}	6.278^{-3}	—
150	4.902^{+0}	4.534^{+0}	3.607^{-1}	8.112^{-3}	—
160	4.744^{+0}	4.384^{+0}	3.499^{-1}	9.985^{-3}	—
180	4.451^{+0}	4.109^{+0}	3.285^{-1}	1.367^{-2}	—
200	4.189^{+0}	3.864^{+0}	3.084^{-1}	1.709^{-2}	—
250	3.651^{+0}	3.361^{+0}	2.655^{-1}	2.408^{-2}	3.630^{-4}
300	3.239^{+0}	2.976^{+0}	2.323^{-1}	2.908^{-2}	1.400^{-3}
400	2.658^{+0}	2.433^{+0}	1.858^{-1}	3.533^{-2}	3.241^{-3}
500	2.267^{+0}	2.068^{+0}	1.549^{-1}	3.897^{-2}	4.161^{-3}
600	1.984^{+0}	1.805^{+0}	1.329^{-1}	4.127^{-2}	4.738^{-3}
800	1.603^{+0}	1.449^{+0}	1.036^{-1}	4.368^{-2}	5.771^{-3}
1000	1.355^{+0}	1.218^{+0}	8.479^{-2}	4.441^{-2}	6.671^{-3}
1500	9.925^{-1}	8.819^{-1}	5.831^{-2}	4.297^{-2}	7.717^{-3}
2000	7.922^{-1}	6.986^{-1}	4.444^{-2}	4.000^{-2}	7.601^{-3}
2500	6.632^{-1}	5.818^{-1}	3.592^{-2}	3.692^{-2}	7.084^{-3}
3000	5.726^{-1}	5.005^{-1}	3.016^{-2}	3.410^{-2}	6.493^{-3}
4000	4.527^{-1}	3.937^{-1}	2.285^{-2}	2.944^{-2}	5.447^{-3}
5000	3.764^{-1}	3.264^{-1}	1.842^{-2}	2.588^{-2}	4.653^{-3}
6000	3.234^{-1}	2.797^{-1}	1.543^{-2}	2.311^{-2}	4.056^{-3}
8000	2.539^{-1}	2.189^{-1}	1.167^{-2}	1.911^{-2}	3.236^{-3}
10,000	2.101^{-1}	1.808^{-1}	9.388^{-3}	1.636^{-2}	2.705^{-3}

Table 1 (continued)
(36) Krypton (Kr^1S)

eV	TICS	4p	4s	3d	3p
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	—	—	—	—	—
9	—	—	—	—	—
10	—	—	—	—	—
11	—	—	—	—	—
12	—	—	—	—	—
13	—	—	—	—	—
14	8.918^{-4}	8.918^{-4}	—	—	—
15	4.646^{-2}	4.646^{-2}	—	—	—
16	1.308^{-1}	1.308^{-1}	—	—	—
18	3.627^{-1}	3.627^{-1}	—	—	—
20	6.458^{-1}	6.458^{-1}	—	—	—
22	9.551^{-1}	9.551^{-1}	—	—	—
25	1.433^{+0}	1.433^{+0}	—	—	—
28	1.898^{+0}	1.898^{+0}	—	—	—
30	2.191^{+0}	2.191^{+0}	—	—	—
32	2.468^{+0}	2.467^{+0}	8.389^{-4}	—	—
35	2.855^{+0}	2.845^{+0}	1.047^{-2}	—	—
40	3.413^{+0}	3.378^{+0}	3.493^{-2}	—	—
45	3.864^{+0}	3.799^{+0}	6.512^{-2}	—	—
50	4.221^{+0}	4.124^{+0}	9.771^{-2}	—	—
55	4.498^{+0}	4.368^{+0}	1.300^{-1}	—	—
60	4.708^{+0}	4.548^{+0}	1.602^{-1}	—	—
65	4.863^{+0}	4.675^{+0}	1.874^{-1}	—	—
70	4.973^{+0}	4.762^{+0}	2.109^{-1}	—	—
75	5.046^{+0}	4.815^{+0}	2.309^{-1}	—	—
80	5.089^{+0}	4.842^{+0}	2.475^{-1}	—	—
90	5.111^{+0}	4.839^{+0}	2.718^{-1}	—	—
100	5.072^{+0}	4.785^{+0}	2.865^{-1}	—	—
110	4.994^{+0}	4.700^{+0}	2.942^{-1}	1.159^{-4}	—
120	4.894^{+0}	4.597^{+0}	2.968^{-1}	5.007^{-4}	—
130	4.781^{+0}	4.484^{+0}	2.959^{-1}	1.057^{-3}	—
140	4.662^{+0}	4.368^{+0}	2.927^{-1}	1.771^{-3}	—
150	4.540^{+0}	4.250^{+0}	2.879^{-1}	2.622^{-3}	—
160	4.420^{+0}	4.134^{+0}	2.820^{-1}	3.583^{-3}	—
180	4.186^{+0}	3.911^{+0}	2.688^{-1}	5.707^{-3}	—
200	3.968^{+0}	3.705^{+0}	2.551^{-1}	7.927^{-3}	—
250	3.500^{+0}	3.264^{+0}	2.232^{-1}	1.308^{-2}	7.484^{-5}
300	3.129^{+0}	2.914^{+0}	1.970^{-1}	1.719^{-2}	5.136^{-4}
400	2.590^{+0}	2.406^{+0}	1.590^{-1}	2.271^{-2}	1.961^{-3}
500	2.219^{+0}	2.057^{+0}	1.333^{-1}	2.608^{-2}	2.902^{-3}
600	1.949^{+0}	1.802^{+0}	1.148^{-1}	2.833^{-2}	3.446^{-3}
800	1.581^{+0}	1.455^{+0}	8.995^{-2}	3.102^{-2}	4.280^{-3}
1000	1.339^{+0}	1.227^{+0}	7.393^{-2}	3.232^{-2}	5.046^{-3}
1500	9.850^{-1}	8.938^{-1}	5.111^{-2}	3.260^{-2}	6.184^{-3}
2000	7.883^{-1}	7.104^{-1}	3.905^{-2}	3.114^{-2}	6.332^{-3}
2500	6.612^{-1}	5.931^{-1}	3.161^{-2}	2.922^{-2}	6.042^{-3}
3000	5.717^{-1}	5.110^{-1}	2.656^{-2}	2.731^{-2}	5.621^{-3}
4000	4.530^{-1}	4.031^{-1}	2.015^{-2}	2.393^{-2}	4.794^{-3}
5000	3.773^{-1}	3.347^{-1}	1.625^{-2}	2.123^{-2}	4.128^{-3}
6000	3.245^{-1}	2.873^{-1}	1.363^{-2}	1.908^{-2}	3.615^{-3}
8000	2.552^{-1}	2.252^{-1}	1.032^{-2}	1.589^{-2}	2.900^{-3}
10,000	2.114^{-1}	1.863^{-1}	8.308^{-3}	1.367^{-2}	2.430^{-3}

Table 1 (continued)
(37) Rubidium ($Rb\ 2S$)

eV	TICS	5s	4p	4s	3d
5	2.175 ⁺⁰	2.175 ⁺⁰	—	—	—
6	4.908 ⁺⁰	4.908 ⁺⁰	—	—	—
7	6.859 ⁺⁰	6.859 ⁺⁰	—	—	—
8	8.165 ⁺⁰	8.165 ⁺⁰	—	—	—
9	9.015 ⁺⁰	9.015 ⁺⁰	—	—	—
10	9.551 ⁺⁰	9.551 ⁺⁰	—	—	—
11	9.873 ⁺⁰	9.873 ⁺⁰	—	—	—
12	1.004 ⁺¹	1.004 ⁺¹	—	—	—
13	1.011 ⁺¹	1.011 ⁺¹	—	—	—
14	1.011 ⁺¹	1.011 ⁺¹	—	—	—
15	1.005 ⁺¹	1.005 ⁺¹	—	—	—
16	9.955 ⁺⁰	9.955 ⁺⁰	—	—	—
18	9.703 ⁺⁰	9.703 ⁺⁰	—	—	—
20	9.403 ⁺⁰	9.403 ⁺⁰	—	—	—
22	9.085 ⁺⁰	9.085 ⁺⁰	—	—	—
25	8.657 ⁺⁰	8.610 ⁺⁰	4.727 ⁻²	—	—
28	8.288 ⁺⁰	8.158 ⁺⁰	1.307 ⁻¹	—	—
30	8.072 ⁺⁰	7.874 ⁺⁰	1.982 ⁻¹	—	—
32	7.877 ⁺⁰	7.604 ⁺⁰	2.729 ⁻¹	—	—
35	7.623 ⁺⁰	7.228 ⁺⁰	3.948 ⁻¹	—	—
40	7.284 ⁺⁰	6.671 ⁺⁰	6.129 ⁻¹	—	—
45	7.029 ⁺⁰	6.191 ⁺⁰	8.348 ⁻¹	3.963 ⁻³	—
50	6.835 ⁺⁰	5.774 ⁺⁰	1.049 ⁺⁰	1.310 ⁻²	—
55	6.681 ⁺⁰	5.410 ⁺⁰	1.247 ⁺⁰	2.452 ⁻²	—
60	6.554 ⁺⁰	5.090 ⁺⁰	1.427 ⁺⁰	3.770 ⁻²	—
65	6.445 ⁺⁰	4.807 ⁺⁰	1.586 ⁺⁰	5.204 ⁻²	—
70	6.347 ⁺⁰	4.555 ⁺⁰	1.725 ⁺⁰	6.685 ⁻²	—
75	6.256 ⁺⁰	4.329 ⁺⁰	1.846 ⁺⁰	8.155 ⁻²	—
80	6.170 ⁺⁰	4.125 ⁺⁰	1.949 ⁺⁰	9.568 ⁻²	—
90	6.003 ⁺⁰	3.773 ⁺⁰	2.109 ⁺⁰	1.211 ⁻¹	—
100	5.840 ⁺⁰	3.479 ⁺⁰	2.219 ⁺⁰	1.419 ⁻¹	—
110	5.679 ⁺⁰	3.230 ⁺⁰	2.291 ⁺⁰	1.580 ⁻¹	—
120	5.519 ⁺⁰	3.016 ⁺⁰	2.333 ⁺⁰	1.698 ⁻¹	—
130	5.362 ⁺⁰	2.830 ⁺⁰	2.354 ⁺⁰	1.781 ⁻¹	4.752 ⁻⁶
140	5.208 ⁺⁰	2.667 ⁺⁰	2.358 ⁺⁰	1.835 ⁻¹	1.332 ⁻⁴
150	5.059 ⁺⁰	2.523 ⁺⁰	2.349 ⁺⁰	1.866 ⁻¹	3.568 ⁻⁴
160	4.915 ⁺⁰	2.394 ⁺⁰	2.332 ⁺⁰	1.880 ⁻¹	6.613 ⁻⁴
180	4.644 ⁺⁰	2.175 ⁺⁰	2.280 ⁺⁰	1.869 ⁻¹	1.496 ⁻³
200	4.395 ⁺⁰	1.995 ⁺⁰	2.215 ⁺⁰	1.828 ⁻¹	2.575 ⁻³
250	3.867 ⁺⁰	1.658 ⁺⁰	2.037 ⁺⁰	1.675 ⁻¹	5.739 ⁻³
300	3.451 ⁺⁰	1.423 ⁺⁰	1.868 ⁺⁰	1.514 ⁻¹	8.780 ⁻³
400	2.846 ⁺⁰	1.115 ⁺⁰	1.591 ⁺⁰	1.250 ⁻¹	1.339 ⁻²
500	2.431 ⁺⁰	9.213 ⁻¹	1.386 ⁺⁰	1.060 ⁻¹	1.640 ⁻²
600	2.130 ⁺⁰	7.876 ⁻¹	1.229 ⁺⁰	9.204 ⁻²	1.848 ⁻²
800	1.720 ⁺⁰	6.139 ⁻¹	1.008 ⁺⁰	7.289 ⁻²	2.116 ⁻²
1000	1.452 ⁺⁰	5.055 ⁻¹	8.595 ⁻¹	6.033 ⁻²	2.272 ⁻²
1500	1.062 ⁺⁰	3.542 ⁻¹	6.361 ⁻¹	4.211 ⁻²	2.411 ⁻²
2000	8.475 ⁻¹	2.748 ⁻¹	5.104 ⁻¹	3.232 ⁻²	2.375 ⁻²
2500	7.094 ⁻¹	2.254 ⁻¹	4.288 ⁻¹	2.624 ⁻²	2.277 ⁻²
3000	6.125 ⁻¹	1.917 ⁻¹	3.713 ⁻¹	2.209 ⁻²	2.159 ⁻²
4000	4.843 ⁻¹	1.483 ⁻¹	2.949 ⁻¹	1.680 ⁻²	1.928 ⁻²
5000	4.028 ⁻¹	1.214 ⁻¹	2.460 ⁻¹	1.357 ⁻²	1.730 ⁻²
6000	3.461 ⁻¹	1.031 ⁻¹	2.119 ⁻¹	1.139 ⁻²	1.566 ⁻²
8000	2.717 ⁻¹	7.956 ⁻²	1.671 ⁻¹	8.640 ⁻³	1.317 ⁻²
10,000	2.249 ⁻¹	6.504 ⁻²	1.387 ⁻¹	6.968 ⁻³	1.139 ⁻²

Table 1 (continued)
(38) Strontium ($Sr\ 1S$)

eV	TICS	5s	4p	4s	3d
5	—	—	—	—	—
6	4.215 ⁻¹	4.215 ⁻¹	—	—	—
7	2.767 ⁺⁰	2.767 ⁺⁰	—	—	—
8	5.008 ⁺⁰	5.008 ⁺⁰	—	—	—
9	6.792 ⁺⁰	6.792 ⁺⁰	—	—	—
10	8.142 ⁺⁰	8.142 ⁺⁰	—	—	—
11	9.138 ⁺⁰	9.138 ⁺⁰	—	—	—
12	9.863 ⁺⁰	9.863 ⁺⁰	—	—	—
13	1.038 ⁺¹	1.038 ⁺¹	—	—	—
14	1.074 ⁺¹	1.074 ⁺¹	—	—	—
15	1.099 ⁺¹	1.099 ⁺¹	—	—	—
16	1.115 ⁺¹	1.115 ⁺¹	—	—	—
18	1.127 ⁺¹	1.127 ⁺¹	—	—	—
20	1.124 ⁺¹	1.124 ⁺¹	—	—	—
22	1.110 ⁺¹	1.110 ⁺¹	—	—	—
25	1.081 ⁺¹	1.081 ⁺¹	—	—	—
28	1.046 ⁺¹	1.046 ⁺¹	—	—	—
30	1.022 ⁺¹	1.022 ⁺¹	2.555 ⁻³	—	—
32	9.979 ⁺⁰	9.969 ⁺⁰	1.017 ⁻²	—	—
35	9.643 ⁺⁰	9.607 ⁺⁰	3.644 ⁻²	—	—
40	9.128 ⁺⁰	9.032 ⁺⁰	9.586 ⁻²	—	—
45	8.675 ⁺⁰	8.506 ⁺⁰	1.686 ⁻¹	—	—
50	8.280 ⁺⁰	8.029 ⁺⁰	2.508 ⁻¹	—	—
55	7.939 ⁺⁰	7.599 ⁺⁰	3.388 ⁻¹	1.650 ⁻³	—
60	7.646 ⁺⁰	7.211 ⁺⁰	4.294 ⁻¹	5.499 ⁻³	—
65	7.389 ⁺⁰	6.859 ⁺⁰	5.198 ⁻¹	1.019 ⁻²	—
70	7.163 ⁺⁰	6.540 ⁺⁰	6.078 ⁻¹	1.572 ⁻²	—
75	6.963 ⁺⁰	6.250 ⁺⁰	6.918 ⁻¹	2.204 ⁻²	—
80	6.784 ⁺⁰	5.984 ⁺⁰	7.709 ⁻¹	2.898 ⁻²	—
90	6.474 ⁺⁰	5.518 ⁺⁰	9.120 ⁻¹	4.396 ⁻²	—
100	6.210 ⁺⁰	5.122 ⁺⁰	1.030 ⁺⁰	5.905 ⁻²	—
110	5.978 ⁺⁰	4.781 ⁺⁰	1.125 ⁺⁰	7.311 ⁻²	—
120	5.770 ⁺⁰	4.485 ⁺⁰	1.200 ⁺⁰	8.547 ⁻²	—
130	5.579 ⁺⁰	4.225 ⁺⁰	1.258 ⁺⁰	9.592 ⁻²	—
140	5.402 ⁺⁰	3.995 ⁺⁰	1.302 ⁺⁰	1.044 ⁻¹	—
150	5.236 ⁺⁰	3.791 ⁺⁰	1.334 ⁺⁰	1.112 ⁻¹	—
160	5.080 ⁺⁰	3.607 ⁺⁰	1.356 ⁺⁰	1.164 ⁻¹	1.665 ⁻⁵
180	4.794 ⁺⁰	3.292 ⁺⁰	1.378 ⁺⁰	1.228 ⁻¹	2.128 ⁻⁴
200	4.536 ⁺⁰	3.031 ⁺⁰	1.379 ⁺⁰	1.254 ⁻¹	5.776 ⁻⁴
250	3.995 ⁺⁰	2.537 ⁺⁰	1.334 ⁺⁰	1.228 ⁻¹	2.104 ⁻³
300	3.569 ⁺⁰	2.189 ⁺⁰	1.261 ⁺⁰	1.150 ⁻¹	4.043 ⁻³
400	2.946 ⁺⁰	1.728 ⁺⁰	1.112 ⁺⁰	9.813 ⁻²	7.598 ⁻³
500	2.518 ⁺⁰	1.436 ⁺⁰	9.864 ⁻¹	8.448 ⁻²	1.018 ⁻²
600	2.205 ⁺⁰	1.232 ⁺⁰	8.855 ⁻¹	7.402 ⁻²	1.203 ⁻²
800	1.779 ⁺⁰	9.658 ⁻¹	7.371 ⁻¹	5.931 ⁻²	1.448 ⁻²
1000	1.501 ⁺⁰	7.983 ⁻¹	6.340 ⁻¹	4.948 ⁻²	1.605 ⁻²
1500	1.096 ⁺⁰	5.632 ⁻¹	4.756 ⁻¹	3.493 ⁻²	1.792 ⁻²
2000	8.736 ⁻¹	4.388 ⁻¹	3.845 ⁻¹	2.696 ⁻²	1.824 ⁻²
2500	7.308 ⁻¹	3.611 ⁻¹	3.248 ⁻¹	2.195 ⁻²	1.787 ⁻²
3000	6.308 ⁻¹	3.078 ⁻¹	2.823 ⁻¹	1.852 ⁻²	1.720 ⁻²
4000	4.985 ⁻¹	2.389 ⁻¹	2.253 ⁻¹	1.412 ⁻²	1.567 ⁻²
5000	4.145 ⁻¹	1.962 ⁻¹	1.887 ⁻¹	1.143 ⁻²	1.424 ⁻²
6000	3.560 ⁻¹	1.669 ⁻¹	1.630 ⁻¹	9.607 ⁻³	1.299 ⁻²
8000	2.795 ⁻¹	1.292 ⁻¹	1.290 ⁻¹	7.299 ⁻³	1.104 ⁻²
10,000	2.313 ⁻¹	1.058 ⁻¹	1.074 ⁻¹	5.894 ⁻³	9.608 ⁻³

Table 1 (continued)
(39) Yttrium (Y^2D)

eV	TICS	5s	4d	4p	4s
5	—	—	—	—	—
6	—	—	—	—	—
7	7.387^{-1}	7.274^{-1}	1.129^{-2}	—	—
8	2.069^{+0}	1.952^{+0}	1.169^{-1}	—	—
9	3.276^{+0}	3.043^{+0}	2.334^{-1}	—	—
10	4.260^{+0}	3.922^{+0}	3.388^{-1}	—	—
11	5.039^{+0}	4.608^{+0}	4.312^{-1}	—	—
12	5.648^{+0}	5.136^{+0}	5.121^{-1}	—	—
13	6.124^{+0}	5.540^{+0}	5.834^{-1}	—	—
14	6.497^{+0}	5.850^{+0}	6.472^{-1}	—	—
15	6.790^{+0}	6.086^{+0}	7.048^{-1}	—	—
16	7.022^{+0}	6.265^{+0}	7.573^{-1}	—	—
18	7.352^{+0}	6.501^{+0}	8.505^{-1}	—	—
20	7.558^{+0}	6.626^{+0}	9.314^{-1}	—	—
22	7.683^{+0}	6.680^{+0}	1.003^{+0}	—	—
25	7.772^{+0}	6.678^{+0}	1.095^{+0}	—	—
28	7.785^{+0}	6.613^{+0}	1.172^{+0}	—	—
30	7.766^{+0}	6.550^{+0}	1.216^{+0}	—	—
32	7.731^{+0}	6.476^{+0}	1.255^{+0}	—	—
35	7.656^{+0}	6.350^{+0}	1.305^{+0}	—	—
40	7.539^{+0}	6.123^{+0}	1.368^{+0}	4.753^{-2}	—
45	7.404^{+0}	5.887^{+0}	1.411^{+0}	1.049^{-1}	—
50	7.239^{+0}	5.655^{+0}	1.439^{+0}	1.451^{-1}	—
55	7.056^{+0}	5.432^{+0}	1.454^{+0}	1.705^{-1}	—
60	6.866^{+0}	5.219^{+0}	1.459^{+0}	1.868^{-1}	5.741^{-4}
65	6.681^{+0}	5.018^{+0}	1.458^{+0}	1.986^{-1}	6.216^{-3}
70	6.501^{+0}	4.830^{+0}	1.451^{+0}	2.088^{-1}	1.131^{-2}
75	6.327^{+0}	4.653^{+0}	1.440^{+0}	2.190^{-1}	1.479^{-2}
80	6.161^{+0}	4.487^{+0}	1.427^{+0}	2.299^{-1}	1.705^{-2}
90	5.854^{+0}	4.186^{+0}	1.393^{+0}	2.542^{-1}	1.990^{-2}
100	5.581^{+0}	3.922^{+0}	1.356^{+0}	2.809^{-1}	2.243^{-2}
110	5.338^{+0}	3.689^{+0}	1.316^{+0}	3.081^{-1}	2.546^{-2}
120	5.121^{+0}	3.481^{+0}	1.276^{+0}	3.341^{-1}	2.896^{-2}
130	4.925^{+0}	3.297^{+0}	1.237^{+0}	3.580^{-1}	3.271^{-2}
140	4.746^{+0}	3.131^{+0}	1.200^{+0}	3.791^{-1}	3.644^{-2}
150	4.582^{+0}	2.982^{+0}	1.163^{+0}	3.973^{-1}	3.997^{-2}
160	4.431^{+0}	2.847^{+0}	1.129^{+0}	4.124^{-1}	4.318^{-2}
180	4.159^{+0}	2.611^{+0}	1.064^{+0}	4.346^{-1}	4.843^{-2}
200	3.920^{+0}	2.414^{+0}	1.006^{+0}	4.475^{-1}	5.211^{-2}
250	3.430^{+0}	2.035^{+0}	8.849^{-1}	4.524^{-1}	5.600^{-2}
300	3.048^{+0}	1.764^{+0}	7.904^{-1}	4.365^{-1}	5.547^{-2}
400	2.496^{+0}	1.401^{+0}	6.535^{-1}	3.875^{-1}	5.023^{-2}
500	2.117^{+0}	1.168^{+0}	5.592^{-1}	3.403^{-1}	4.456^{-2}
600	1.843^{+0}	1.004^{+0}	4.903^{-1}	3.011^{-1}	3.979^{-2}
800	1.472^{+0}	7.893^{-1}	3.959^{-1}	2.436^{-1}	3.269^{-2}
1000	1.233^{+0}	6.535^{-1}	3.340^{-1}	2.046^{-1}	2.773^{-2}
1500	8.885^{-1}	4.619^{-1}	2.432^{-1}	1.470^{-1}	2.004^{-2}
2000	7.022^{-1}	3.602^{-1}	1.932^{-1}	1.154^{-1}	1.564^{-2}
2500	5.841^{-1}	2.966^{-1}	1.613^{-1}	9.535^{-2}	1.281^{-2}
3000	5.018^{-1}	2.529^{-1}	1.389^{-1}	8.142^{-2}	1.085^{-2}
4000	3.940^{-1}	1.964^{-1}	1.096^{-1}	6.329^{-2}	8.322^{-3}
5000	3.260^{-1}	1.613^{-1}	9.096^{-2}	5.195^{-2}	6.760^{-3}
6000	2.789^{-1}	1.372^{-1}	7.807^{-2}	4.415^{-2}	5.700^{-3}
8000	2.177^{-1}	1.062^{-1}	6.122^{-2}	3.410^{-2}	4.352^{-3}
10,000	1.794^{-1}	8.702^{-2}	5.064^{-2}	2.787^{-2}	3.528^{-3}

Table 1 (continued)
(40) Zirconium (Zr^3F)

eV	TICS	5s	4d	4p	4s
5	—	—	—	—	—
6	—	—	—	—	—
7	2.370^{-1}	2.370^{-1}	—	—	—
8	1.326^{+0}	1.326^{+0}	—	—	—
9	2.416^{+0}	2.416^{+0}	—	—	—
10	3.384^{+0}	3.325^{+0}	5.902^{-2}	—	—
11	4.197^{+0}	4.042^{+0}	1.545^{-1}	—	—
12	4.846^{+0}	4.591^{+0}	2.550^{-1}	—	—
13	5.356^{+0}	5.007^{+0}	3.491^{-1}	—	—
14	5.751^{+0}	5.317^{+0}	4.344^{-1}	—	—
15	6.056^{+0}	5.546^{+0}	5.109^{-1}	—	—
16	6.292^{+0}	5.712^{+0}	5.793^{-1}	—	—
18	6.609^{+0}	5.914^{+0}	6.956^{-1}	—	—
20	6.790^{+0}	6.000^{+0}	7.907^{-1}	—	—
22	6.887^{+0}	6.016^{+0}	8.704^{-1}	—	—
25	6.936^{+0}	5.966^{+0}	9.701^{-1}	—	—
28	6.922^{+0}	5.869^{+0}	1.053^{+0}	—	—
30	6.891^{+0}	5.789^{+0}	1.102^{+0}	—	—
32	6.850^{+0}	5.704^{+0}	1.146^{+0}	—	—
35	6.775^{+0}	5.569^{+0}	1.206^{+0}	—	—
40	6.631^{+0}	5.341^{+0}	1.290^{+0}	—	—
45	6.504^{+0}	5.118^{+0}	1.359^{+0}	2.752^{-2}	—
50	6.385^{+0}	4.904^{+0}	1.413^{+0}	6.711^{-2}	—
55	6.259^{+0}	4.703^{+0}	1.456^{+0}	9.967^{-2}	—
60	6.127^{+0}	4.515^{+0}	1.489^{+0}	1.230^{-1}	—
65	5.990^{+0}	4.338^{+0}	1.513^{+0}	1.389^{-1}	—
70	5.856^{+0}	4.173^{+0}	1.531^{+0}	1.497^{-1}	2.589^{-3}
75	5.725^{+0}	4.019^{+0}	1.542^{+0}	1.576^{-1}	6.615^{-3}
80	5.597^{+0}	3.876^{+0}	1.548^{+0}	1.640^{-1}	9.935^{-3}
90	5.354^{+0}	3.615^{+0}	1.549^{+0}	1.756^{-1}	1.400^{-2}
100	5.129^{+0}	3.387^{+0}	1.538^{+0}	1.881^{-1}	1.610^{-2}
110	4.925^{+0}	3.185^{+0}	1.520^{+0}	2.021^{-1}	1.767^{-2}
120	4.739^{+0}	3.006^{+0}	1.497^{+0}	2.170^{-1}	1.936^{-2}
130	4.570^{+0}	2.846^{+0}	1.471^{+0}	2.321^{-1}	2.132^{-2}
140	4.415^{+0}	2.703^{+0}	1.442^{+0}	2.467^{-1}	2.350^{-2}
150	4.273^{+0}	2.574^{+0}	1.413^{+0}	2.604^{-1}	2.578^{-2}
160	4.141^{+0}	2.457^{+0}	1.383^{+0}	2.728^{-1}	2.806^{-2}
180	3.903^{+0}	2.253^{+0}	1.325^{+0}	2.934^{-1}	3.226^{-2}
200	3.694^{+0}	2.082^{+0}	1.268^{+0}	3.083^{-1}	3.570^{-2}
250	3.261^{+0}	1.753^{+0}	1.141^{+0}	3.251^{-1}	4.073^{-2}
300	2.919^{+0}	1.518^{+0}	1.035^{+0}	3.230^{-1}	4.200^{-2}
400	2.414^{+0}	1.203^{+0}	8.721^{-1}	2.967^{-1}	3.974^{-2}
500	2.061^{+0}	1.002^{+0}	7.551^{-1}	2.649^{-1}	3.598^{-2}
600	1.801^{+0}	8.604^{-1}	6.672^{-1}	2.363^{-1}	3.248^{-2}
800	1.446^{+0}	6.751^{-1}	5.442^{-1}	1.924^{-1}	2.703^{-2}
1000	1.215^{+0}	5.582^{-1}	4.620^{-1}	1.619^{-1}	2.312^{-2}
1500	8.789^{-1}	3.936^{-1}	3.395^{-1}	1.164^{-1}	1.693^{-2}
2000	6.963^{-1}	3.065^{-1}	2.712^{-1}	9.127^{-2}	1.330^{-2}
2500	5.802^{-1}	2.521^{-1}	2.272^{-1}	7.534^{-2}	1.094^{-2}
3000	4.992^{-1}	2.148^{-1}	1.963^{-1}	6.428^{-2}	9.291^{-3}
4000	3.928^{-1}	1.666^{-1}	1.554^{-1}	4.988^{-2}	7.146^{-3}
5000	3.255^{-1}	1.366^{-1}	1.294^{-1}	4.087^{-2}	5.816^{-3}
6000	2.789^{-1}	1.162^{-1}	1.113^{-1}	3.469^{-2}	4.911^{-3}
8000	2.180^{-1}	8.982^{-2}	8.751^{-2}	2.672^{-2}	3.757^{-3}
10,000	1.799^{-1}	7.352^{-2}	7.253^{-2}	2.180^{-2}	3.051^{-3}

Table 1 (continued)
(41) Niobium ($Nb\ 6D$)

eV	TICS	5s	4d	4p	4s
5	—	—	—	—	—
6	—	—	—	—	—
7	6.087 ⁻²	6.087 ⁻²	—	—	—
8	5.449 ⁻¹	5.449 ⁻¹	—	—	—
9	1.219 ⁺⁰	1.054 ⁺⁰	1.654 ⁻¹	—	—
10	1.917 ⁺⁰	1.486 ⁺⁰	4.315 ⁻¹	—	—
11	2.521 ⁺⁰	1.829 ⁺⁰	6.921 ⁻¹	—	—
12	3.022 ⁺⁰	2.094 ⁺⁰	9.280 ⁻¹	—	—
13	3.432 ⁺⁰	2.296 ⁺⁰	1.137 ⁺⁰	—	—
14	3.766 ⁺⁰	2.447 ⁺⁰	1.319 ⁺⁰	—	—
15	4.039 ⁺⁰	2.559 ⁺⁰	1.480 ⁺⁰	—	—
16	4.262 ⁺⁰	2.642 ⁺⁰	1.621 ⁺⁰	—	—
18	4.598 ⁺⁰	2.742 ⁺⁰	1.856 ⁺⁰	—	—
20	4.831 ⁺⁰	2.785 ⁺⁰	2.046 ⁺⁰	—	—
22	4.997 ⁺⁰	2.794 ⁺⁰	2.203 ⁺⁰	—	—
25	5.167 ⁺⁰	2.770 ⁺⁰	2.396 ⁺⁰	—	—
28	5.278 ⁺⁰	2.724 ⁺⁰	2.554 ⁺⁰	—	—
30	5.331 ⁺⁰	2.686 ⁺⁰	2.644 ⁺⁰	—	—
32	5.371 ⁺⁰	2.646 ⁺⁰	2.725 ⁺⁰	—	—
35	5.414 ⁺⁰	2.582 ⁺⁰	2.832 ⁺⁰	—	—
40	5.452 ⁺⁰	2.475 ⁺⁰	2.977 ⁺⁰	—	—
45	5.471 ⁺⁰	2.370 ⁺⁰	3.089 ⁺⁰	1.262 ⁻²	—
50	5.493 ⁺⁰	2.270 ⁺⁰	3.173 ⁺⁰	4.953 ⁻²	—
55	5.494 ⁺⁰	2.177 ⁺⁰	3.234 ⁺⁰	8.363 ⁻²	—
60	5.475 ⁺⁰	2.089 ⁺⁰	3.277 ⁺⁰	1.094 ⁻¹	—
65	5.438 ⁺⁰	2.007 ⁺⁰	3.304 ⁺⁰	1.273 ⁻¹	—
70	5.389 ⁺⁰	1.931 ⁺⁰	3.318 ⁺⁰	1.394 ⁻¹	3.253 ⁻⁴
75	5.333 ⁺⁰	1.860 ⁺⁰	3.322 ⁺⁰	1.477 ⁻¹	3.701 ⁻³
80	5.271 ⁺⁰	1.793 ⁺⁰	3.317 ⁺⁰	1.536 ⁻¹	7.228 ⁻³
90	5.136 ⁺⁰	1.673 ⁺⁰	3.289 ⁺⁰	1.627 ⁻¹	1.194 ⁻²
100	4.995 ⁺⁰	1.567 ⁺⁰	3.242 ⁺⁰	1.714 ⁻¹	1.421 ⁻²
110	4.855 ⁺⁰	1.474 ⁺⁰	3.184 ⁺⁰	1.811 ⁻¹	1.551 ⁻²
120	4.720 ⁺⁰	1.392 ⁺⁰	3.120 ⁺⁰	1.919 ⁻¹	1.666 ⁻²
130	4.591 ⁺⁰	1.318 ⁺⁰	3.052 ⁺⁰	2.033 ⁻¹	1.799 ⁻²
140	4.468 ⁺⁰	1.251 ⁺⁰	2.983 ⁺⁰	2.147 ⁻¹	1.954 ⁻²
150	4.352 ⁺⁰	1.192 ⁺⁰	2.913 ⁺⁰	2.257 ⁻¹	2.126 ⁻²
160	4.241 ⁺⁰	1.137 ⁺⁰	2.845 ⁺⁰	2.361 ⁻¹	2.306 ⁻²
180	4.036 ⁺⁰	1.043 ⁺⁰	2.712 ⁺⁰	2.540 ⁻¹	2.659 ⁻²
200	3.849 ⁺⁰	9.638 ⁻¹	2.588 ⁺⁰	2.678 ⁻¹	2.969 ⁻²
250	3.448 ⁺⁰	8.114 ⁻¹	2.316 ⁺⁰	2.859 ⁻¹	3.474 ⁻²
300	3.120 ⁺⁰	7.024 ⁻¹	2.093 ⁺⁰	2.876 ⁻¹	3.655 ⁻²
400	2.618 ⁺⁰	5.565 ⁻¹	1.756 ⁺⁰	2.689 ⁻¹	3.543 ⁻²
500	2.257 ⁺⁰	4.628 ⁻¹	1.517 ⁺⁰	2.427 ⁻¹	3.245 ⁻²
600	1.987 ⁺⁰	3.974 ⁻¹	1.338 ⁺⁰	2.180 ⁻¹	2.947 ⁻²
800	1.610 ⁺⁰	3.116 ⁻¹	1.089 ⁺⁰	1.788 ⁻¹	2.466 ⁻²
1000	1.360 ⁺⁰	2.574 ⁻¹	9.234 ⁻¹	1.509 ⁻¹	2.117 ⁻²
1500	9.927 ⁻¹	1.813 ⁻¹	6.771 ⁻¹	1.089 ⁻¹	1.562 ⁻²
2000	7.903 ⁻¹	1.410 ⁻¹	5.401 ⁻¹	8.561 ⁻²	1.233 ⁻²
2500	6.608 ⁻¹	1.159 ⁻¹	4.519 ⁻¹	7.077 ⁻²	1.017 ⁻²
3000	5.700 ⁻¹	9.871 ⁻²	3.901 ⁻¹	6.046 ⁻²	8.651 ⁻³
4000	4.504 ⁻¹	7.649 ⁻²	3.084 ⁻¹	4.699 ⁻²	6.667 ⁻³
5000	3.743 ⁻¹	6.270 ⁻²	2.566 ⁻¹	3.856 ⁻²	5.433 ⁻³
6000	3.214 ⁻¹	5.328 ⁻²	2.205 ⁻¹	3.276 ⁻²	4.592 ⁻³
8000	2.522 ⁻¹	4.117 ⁻²	1.733 ⁻¹	2.527 ⁻²	3.518 ⁻³
10,000	2.086 ⁻¹	3.368 ⁻²	1.435 ⁻¹	2.063 ⁻²	2.859 ⁻³

Table 1 (continued)
(42) Molybdenum ($Mo\ 7S$)

eV	TICS	5s	4d	4p	4s
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	3.403 ⁻¹	3.403 ⁻¹	—	—	—
9	8.271 ⁻¹	8.271 ⁻¹	—	—	—
10	1.296 ⁺⁰	1.265 ⁺⁰	3.026 ⁻²	—	—
11	1.819 ⁺⁰	1.624 ⁺⁰	1.955 ⁻¹	—	—
12	2.290 ⁺⁰	1.905 ⁺⁰	3.851 ⁻¹	—	—
13	2.701 ⁺⁰	2.122 ⁺⁰	5.791 ⁻¹	—	—
14	3.044 ⁺⁰	2.285 ⁺⁰	7.596 ⁻¹	—	—
15	3.329 ⁺⁰	2.406 ⁺⁰	9.233 ⁻¹	—	—
16	3.564 ⁺⁰	2.494 ⁺⁰	1.070 ⁺⁰	—	—
18	3.918 ⁺⁰	2.599 ⁺⁰	1.318 ⁺⁰	—	—
20	4.158 ⁺⁰	2.642 ⁺⁰	1.516 ⁺⁰	—	—
22	4.324 ⁺⁰	2.648 ⁺⁰	1.676 ⁺⁰	—	—
25	4.481 ⁺⁰	2.616 ⁺⁰	1.865 ⁺⁰	—	—
28	4.573 ⁺⁰	2.561 ⁺⁰	2.012 ⁺⁰	—	—
30	4.612 ⁺⁰	2.518 ⁺⁰	2.094 ⁺⁰	—	—
32	4.639 ⁺⁰	2.473 ⁺⁰	2.166 ⁺⁰	—	—
35	4.663 ⁺⁰	2.404 ⁺⁰	2.260 ⁺⁰	—	—
40	4.678 ⁺⁰	2.290 ⁺⁰	2.388 ⁺⁰	—	—
45	4.673 ⁺⁰	2.183 ⁺⁰	2.489 ⁺⁰	—	—
50	4.665 ⁺⁰	2.084 ⁺⁰	2.571 ⁺⁰	1.004 ⁻²	—
55	4.663 ⁺⁰	1.992 ⁺⁰	2.636 ⁺⁰	3.582 ⁻²	—
60	4.655 ⁺⁰	1.908 ⁺⁰	2.686 ⁺⁰	6.105 ⁻²	—
65	4.636 ⁺⁰	1.829 ⁺⁰	2.725 ⁺⁰	8.159 ⁻²	—
70	4.608 ⁺⁰	1.757 ⁺⁰	2.754 ⁺⁰	9.699 ⁻²	—
75	4.572 ⁺⁰	1.690 ⁺⁰	2.774 ⁺⁰	1.081 ⁻¹	—
80	4.533 ⁺⁰	1.628 ⁺⁰	2.786 ⁺⁰	1.159 ⁻¹	1.970 ⁻³
90	4.443 ⁺⁰	1.517 ⁺⁰	2.794 ⁺⁰	1.256 ⁻¹	7.030 ⁻³
100	4.344 ⁺⁰	1.420 ⁺⁰	2.783 ⁺⁰	1.318 ⁻¹	1.017 ⁻²
110	4.242 ⁺⁰	1.334 ⁺⁰	2.759 ⁺⁰	1.373 ⁻¹	1.181 ⁻²
120	4.140 ⁺⁰	1.258 ⁺⁰	2.726 ⁺⁰	1.432 ⁻¹	1.277 ⁻²
130	4.042 ⁺⁰	1.191 ⁺⁰	2.688 ⁺⁰	1.498 ⁻¹	1.356 ⁻²
140	3.946 ⁺⁰	1.130 ⁺⁰	2.645 ⁺⁰	1.569 ⁻¹	1.443 ⁻²
150	3.855 ⁺⁰	1.076 ⁺⁰	2.600 ⁺⁰	1.642 ⁻¹	1.543 ⁻²
160	3.767 ⁺⁰	1.026 ⁺⁰	2.553 ⁺⁰	1.715 ⁻¹	1.655 ⁻²
180	3.603 ⁺⁰	9.403 ⁻¹	2.459 ⁺⁰	1.854 ⁻¹	1.901 ⁻²
200	3.452 ⁺⁰	8.681 ⁻¹	2.366 ⁺⁰	1.973 ⁻¹	2.145 ⁻²
250	3.123 ⁺⁰	7.297 ⁻¹	2.151 ⁺⁰	2.169 ⁻¹	2.618 ⁻²
300	2.849 ⁺⁰	6.307 ⁻¹	1.965 ⁺⁰	2.237 ⁻¹	2.857 ⁻²
400	2.418 ⁺⁰	4.985 ⁻¹	1.673 ⁺⁰	2.164 ⁻¹	2.896 ⁻²
500	2.099 ⁺⁰	4.138 ⁻¹	1.458 ⁺⁰	1.991 ⁻¹	2.714 ⁻²
600	1.856 ⁺⁰	3.548 ⁻¹	1.294 ⁺⁰	1.808 ⁻¹	2.496 ⁻²
800	1.513 ⁺⁰	2.775 ⁻¹	1.061 ⁺⁰	1.498 ⁻¹	2.115 ⁻²
1000	1.283 ⁺⁰	2.289 ⁻¹	9.033 ⁻¹	1.270 ⁻¹	1.829 ⁻²
1500	9.405 ⁻¹	1.608 ⁻¹	6.667 ⁻¹	9.185 ⁻²	1.365 ⁻²
2000	7.506 ⁻¹	1.248 ⁻¹	5.337 ⁻¹	7.224 ⁻²	1.085 ⁻²
2500	6.285 ⁻¹	1.024 ⁻¹	4.477 ⁻¹	5.973 ⁻²	8.986 ⁻³
3000	5.429 ⁻¹	8.708 ⁻²	3.871 ⁻¹	5.102 ⁻²	7.664 ⁻³
4000	4.298 ⁻¹	6.739 ⁻²	3.068 ⁻¹	3.964 ⁻²	5.925 ⁻³
5000	3.577 ⁻¹	5.517 ⁻²	2.557 ⁻¹	3.251 ⁻²	4.837 ⁻³
6000	3.075 ⁻¹	4.682 ⁻²	2.200 ⁻¹	2.761 ⁻²	4.093 ⁻³
8000	2.417 ⁻¹	3.614 ⁻²	1.733 ⁻¹	2.128 ⁻²	3.141 ⁻³
10,000	2.001 ⁻¹	2.953 ⁻²	1.437 ⁻¹	1.736 ⁻²	2.557 ⁻³

Table 1 (continued)
(43) Technetium ($Tc\ ^6S$)

eV	TICS	5s	4d	4p	4s
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	5.017^{-1}	5.017^{-1}	—	—	—
9	1.476^{+0}	1.476^{+0}	—	—	—
10	2.387^{+0}	2.387^{+0}	—	—	—
11	3.143^{+0}	3.143^{+0}	—	—	—
12	3.741^{+0}	3.741^{+0}	—	—	—
13	4.203^{+0}	4.203^{+0}	—	—	—
14	4.551^{+0}	4.551^{+0}	—	—	—
15	4.817^{+0}	4.809^{+0}	8.151^{-3}	—	—
16	5.036^{+0}	4.995^{+0}	4.165^{-2}	—	—
18	5.346^{+0}	5.212^{+0}	1.338^{-1}	—	—
20	5.532^{+0}	5.291^{+0}	2.413^{-1}	—	—
22	5.631^{+0}	5.288^{+0}	3.436^{-1}	—	—
25	5.675^{+0}	5.197^{+0}	4.782^{-1}	—	—
28	5.645^{+0}	5.056^{+0}	5.890^{-1}	—	—
30	5.602^{+0}	4.951^{+0}	6.511^{-1}	—	—
32	5.547^{+0}	4.842^{+0}	7.054^{-1}	—	—
35	5.453^{+0}	4.679^{+0}	7.746^{-1}	—	—
40	5.284^{+0}	4.418^{+0}	8.658^{-1}	—	—
45	5.116^{+0}	4.180^{+0}	9.361^{-1}	—	—
50	4.957^{+0}	3.964^{+0}	9.931^{-1}	—	—
55	4.809^{+0}	3.768^{+0}	1.041^{+0}	—	—
60	4.680^{+0}	3.592^{+0}	1.081^{+0}	7.152^{-3}	—
65	4.568^{+0}	3.431^{+0}	1.117^{+0}	2.019^{-2}	—
70	4.467^{+0}	3.285^{+0}	1.148^{+0}	3.387^{-2}	—
75	4.372^{+0}	3.151^{+0}	1.175^{+0}	4.623^{-2}	—
80	4.283^{+0}	3.028^{+0}	1.199^{+0}	5.659^{-2}	—
90	4.119^{+0}	2.809^{+0}	1.238^{+0}	7.137^{-2}	8.435^{-4}
100	3.972^{+0}	2.621^{+0}	1.267^{+0}	8.022^{-2}	3.867^{-3}
110	3.837^{+0}	2.456^{+0}	1.289^{+0}	8.573^{-2}	6.255^{-3}
120	3.712^{+0}	2.312^{+0}	1.303^{+0}	8.971^{-2}	7.753^{-3}
130	3.597^{+0}	2.184^{+0}	1.311^{+0}	9.323^{-2}	8.671^{-3}
140	3.491^{+0}	2.070^{+0}	1.315^{+0}	9.682^{-2}	9.313^{-3}
150	3.393^{+0}	1.967^{+0}	1.315^{+0}	1.007^{-1}	9.877^{-3}
160	3.302^{+0}	1.875^{+0}	1.312^{+0}	1.048^{-1}	1.047^{-2}
180	3.138^{+0}	1.714^{+0}	1.299^{+0}	1.136^{-1}	1.184^{-2}
200	2.994^{+0}	1.579^{+0}	1.279^{+0}	1.224^{-1}	1.341^{-2}
250	2.695^{+0}	1.322^{+0}	1.215^{+0}	1.407^{-1}	1.722^{-2}
300	2.456^{+0}	1.140^{+0}	1.145^{+0}	1.516^{-1}	1.986^{-2}
400	2.089^{+0}	8.965^{-1}	1.014^{+0}	1.560^{-1}	2.169^{-2}
500	1.817^{+0}	7.417^{-1}	9.048^{-1}	1.487^{-1}	2.115^{-2}
600	1.609^{+0}	6.342^{-1}	8.158^{-1}	1.379^{-1}	1.988^{-2}
800	1.313^{+0}	4.941^{-1}	6.825^{-1}	1.166^{-1}	1.723^{-2}
1000	1.113^{+0}	4.063^{-1}	5.882^{-1}	9.967^{-2}	1.508^{-2}
1500	8.152^{-1}	2.839^{-1}	4.416^{-1}	7.258^{-2}	1.144^{-2}
2000	6.499^{-1}	2.197^{-1}	3.568^{-1}	5.719^{-2}	9.184^{-3}
2500	5.438^{-1}	1.799^{-1}	3.011^{-1}	4.731^{-2}	7.651^{-3}
3000	4.695^{-1}	1.527^{-1}	2.615^{-1}	4.042^{-2}	6.550^{-3}
4000	3.713^{-1}	1.178^{-1}	2.086^{-1}	3.141^{-2}	5.085^{-3}
5000	3.089^{-1}	9.628^{-2}	1.746^{-1}	2.575^{-2}	4.161^{-3}
6000	2.654^{-1}	8.156^{-2}	1.507^{-1}	2.185^{-2}	3.527^{-3}
8000	2.084^{-1}	6.276^{-2}	1.193^{-1}	1.682^{-2}	2.714^{-3}
10,000	1.725^{-1}	5.122^{-2}	9.924^{-2}	1.370^{-2}	2.213^{-3}

Table 1 (continued)
(44) Ruthenium ($Ru\ ^5F$)

eV	TICS	5s	4d	4p	4s
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	2.112^{-1}	2.112^{-1}	—	—	—
9	6.956^{-1}	6.956^{-1}	—	—	—
10	1.161^{+0}	1.161^{+0}	—	—	—
11	1.552^{+0}	1.552^{+0}	—	—	—
12	1.944^{+0}	1.863^{+0}	8.074^{-2}	—	—
13	2.319^{+0}	2.105^{+0}	2.148^{-1}	—	—
14	2.659^{+0}	2.287^{+0}	3.719^{-1}	—	—
15	2.950^{+0}	2.422^{+0}	5.275^{-1}	—	—
16	3.196^{+0}	2.520^{+0}	6.753^{-1}	—	—
18	3.574^{+0}	2.635^{+0}	9.387^{-1}	—	—
20	3.835^{+0}	2.677^{+0}	1.158^{+0}	—	—
22	4.015^{+0}	2.676^{+0}	1.338^{+0}	—	—
25	4.180^{+0}	2.630^{+0}	1.550^{+0}	—	—
28	4.267^{+0}	2.558^{+0}	1.709^{+0}	—	—
30	4.298^{+0}	2.504^{+0}	1.794^{+0}	—	—
32	4.314^{+0}	2.448^{+0}	1.866^{+0}	—	—
35	4.319^{+0}	2.364^{+0}	1.955^{+0}	—	—
40	4.298^{+0}	2.229^{+0}	2.069^{+0}	—	—
45	4.260^{+0}	2.106^{+0}	2.154^{+0}	—	—
50	4.214^{+0}	1.995^{+0}	2.220^{+0}	—	—
55	4.166^{+0}	1.894^{+0}	2.272^{+0}	—	—
60	4.121^{+0}	1.803^{+0}	2.314^{+0}	3.927^{-3}	—
65	4.085^{+0}	1.720^{+0}	2.348^{+0}	1.651^{-2}	—
70	4.050^{+0}	1.645^{+0}	2.375^{+0}	3.073^{-2}	—
75	4.016^{+0}	1.576^{+0}	2.396^{+0}	4.395^{-2}	—
80	3.980^{+0}	1.513^{+0}	2.412^{+0}	5.517^{-2}	—
90	3.903^{+0}	1.401^{+0}	2.431^{+0}	7.125^{-2}	1.729^{-4}
100	3.825^{+0}	1.305^{+0}	2.436^{+0}	8.072^{-2}	3.042^{-3}
110	3.745^{+0}	1.222^{+0}	2.431^{+0}	8.625^{-2}	5.689^{-3}
120	3.664^{+0}	1.149^{+0}	2.418^{+0}	8.982^{-2}	7.374^{-3}
130	3.583^{+0}	1.084^{+0}	2.399^{+0}	9.264^{-2}	8.348^{-3}
140	3.506^{+0}	1.026^{+0}	2.375^{+0}	9.535^{-2}	8.945^{-3}
150	3.430^{+0}	9.747^{-1}	2.348^{+0}	9.822^{-2}	9.398^{-3}
160	3.358^{+0}	9.281^{-1}	2.319^{+0}	1.014^{-1}	9.835^{-3}
180	3.222^{+0}	8.475^{-1}	2.256^{+0}	1.082^{-1}	1.087^{-2}
200	3.097^{+0}	7.802^{-1}	2.190^{+0}	1.154^{-1}	1.213^{-2}
250	2.826^{+0}	6.519^{-1}	2.027^{+0}	1.314^{-1}	1.544^{-2}
300	2.598^{+0}	5.610^{-1}	1.878^{+0}	1.416^{-1}	1.793^{-2}
400	2.236^{+0}	4.404^{-1}	1.629^{+0}	1.470^{-1}	1.991^{-2}
500	1.961^{+0}	3.637^{-1}	1.436^{+0}	1.415^{-1}	1.962^{-2}
600	1.747^{+0}	3.106^{-1}	1.285^{+0}	1.321^{-1}	1.856^{-2}
800	1.437^{+0}	2.415^{-1}	1.065^{+0}	1.128^{-1}	1.618^{-2}
1000	1.224^{+0}	1.984^{-1}	9.122^{-1}	9.690^{-2}	1.420^{-2}
1500	9.036^{-1}	1.383^{-1}	6.791^{-1}	7.099^{-2}	1.082^{-2}
2000	7.233^{-1}	1.068^{-1}	5.460^{-1}	5.610^{-2}	8.715^{-3}
2500	6.069^{-1}	8.735^{-2}	4.593^{-1}	4.651^{-2}	7.280^{-3}
3000	5.250^{-1}	7.407^{-2}	3.980^{-1}	3.981^{-2}	6.243^{-3}
4000	4.165^{-1}	5.705^{-2}	3.164^{-1}	3.101^{-2}	4.857^{-3}
5000	3.472^{-1}	4.656^{-2}	2.641^{-1}	2.547^{-2}	3.979^{-3}
6000	2.989^{-1}	3.942^{-2}	2.276^{-1}	2.165^{-2}	3.375^{-3}
8000	2.353^{-1}	3.030^{-2}	1.796^{-1}	1.671^{-2}	2.598^{-3}
10,000	1.951^{-1}	2.469^{-2}	1.492^{-1}	1.364^{-2}	2.119^{-3}

Table 1 (continued)
(45) Rhodium ($Rh\ 4F$)

eV	TICS	5s	4d	4p	4s
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	1.679^{-1}	1.679^{-1}	—	—	—
9	6.476^{-1}	6.476^{-1}	—	—	—
10	1.122^{+0}	1.122^{+0}	—	—	—
11	1.527^{+0}	1.527^{+0}	—	—	—
12	1.853^{+0}	1.853^{+0}	—	—	—
13	2.163^{+0}	2.108^{+0}	5.508^{-2}	—	—
14	2.459^{+0}	2.302^{+0}	1.573^{-1}	—	—
15	2.730^{+0}	2.447^{+0}	2.832^{-1}	—	—
16	2.964^{+0}	2.553^{+0}	4.116^{-1}	—	—
18	3.333^{+0}	2.678^{+0}	6.551^{-1}	—	—
20	3.595^{+0}	2.726^{+0}	8.689^{-1}	—	—
22	3.778^{+0}	2.727^{+0}	1.051^{+0}	—	—
25	3.951^{+0}	2.680^{+0}	1.270^{+0}	—	—
28	4.043^{+0}	2.604^{+0}	1.439^{+0}	—	—
30	4.075^{+0}	2.546^{+0}	1.529^{+0}	—	—
32	4.092^{+0}	2.486^{+0}	1.606^{+0}	—	—
35	4.096^{+0}	2.397^{+0}	1.700^{+0}	—	—
40	4.070^{+0}	2.253^{+0}	1.817^{+0}	—	—
45	4.024^{+0}	2.122^{+0}	1.902^{+0}	—	—
50	3.970^{+0}	2.004^{+0}	1.966^{+0}	—	—
55	3.914^{+0}	1.898^{+0}	2.016^{+0}	—	—
60	3.858^{+0}	1.802^{+0}	2.056^{+0}	—	—
65	3.807^{+0}	1.716^{+0}	2.088^{+0}	2.528^{-3}	—
70	3.764^{+0}	1.638^{+0}	2.115^{+0}	1.139^{-2}	—
75	3.724^{+0}	1.567^{+0}	2.136^{+0}	2.197^{-2}	—
80	3.687^{+0}	1.502^{+0}	2.153^{+0}	3.233^{-2}	—
90	3.612^{+0}	1.387^{+0}	2.176^{+0}	4.934^{-2}	—
100	3.538^{+0}	1.289^{+0}	2.187^{+0}	6.073^{-2}	7.205^{-4}
110	3.465^{+0}	1.204^{+0}	2.190^{+0}	6.777^{-2}	3.056^{-3}
120	3.393^{+0}	1.130^{+0}	2.186^{+0}	7.210^{-2}	4.987^{-3}
130	3.322^{+0}	1.065^{+0}	2.176^{+0}	7.494^{-2}	6.249^{-3}
140	3.253^{+0}	1.008^{+0}	2.161^{+0}	7.712^{-2}	7.016^{-3}
150	3.186^{+0}	9.557^{-1}	2.143^{+0}	7.911^{-2}	7.504^{-3}
160	3.121^{+0}	9.093^{-1}	2.123^{+0}	8.114^{-2}	7.870^{-3}
180	3.000^{+0}	8.290^{-1}	2.077^{+0}	8.567^{-2}	8.571^{-3}
200	2.889^{+0}	7.621^{-1}	2.027^{+0}	9.073^{-2}	9.423^{-3}
250	2.646^{+0}	6.352^{-1}	1.896^{+0}	1.034^{-1}	1.198^{-2}
300	2.443^{+0}	5.455^{-1}	1.770^{+0}	1.131^{-1}	1.424^{-2}
400	2.117^{+0}	4.269^{-1}	1.553^{+0}	1.211^{-1}	1.653^{-2}
500	1.867^{+0}	3.519^{-1}	1.379^{+0}	1.191^{-1}	1.675^{-2}
600	1.670^{+0}	3.000^{-1}	1.240^{+0}	1.130^{-1}	1.611^{-2}
800	1.380^{+0}	2.327^{-1}	1.034^{+0}	9.811^{-2}	1.428^{-2}
1000	1.180^{+0}	1.908^{-1}	8.896^{-1}	8.498^{-2}	1.263^{-2}
1500	8.742^{-1}	1.326^{-1}	6.658^{-1}	6.269^{-2}	9.724^{-3}
2000	7.011^{-1}	1.022^{-1}	5.368^{-1}	4.965^{-2}	7.886^{-3}
2500	5.890^{-1}	8.347^{-2}	4.524^{-1}	4.120^{-2}	6.617^{-3}
3000	5.099^{-1}	7.070^{-2}	3.925^{-1}	3.529^{-2}	5.692^{-3}
4000	4.050^{-1}	5.436^{-2}	3.125^{-1}	2.751^{-2}	4.444^{-3}
5000	3.379^{-1}	4.431^{-2}	2.613^{-1}	2.261^{-2}	3.648^{-3}
6000	2.911^{-1}	3.747^{-2}	2.253^{-1}	1.923^{-2}	3.098^{-3}
8000	2.294^{-1}	2.876^{-2}	1.780^{-1}	1.484^{-2}	2.389^{-3}
10,000	1.903^{-1}	2.340^{-2}	1.480^{-1}	1.212^{-2}	1.951^{-3}

Table 1 (continued)
(46) Palladium ($Pd\ 1S$)

eV	TICS	4d	4p	4s	3d
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	—	—	—	—	—
9	1.632^{-1}	1.632^{-1}	—	—	—
10	5.409^{-1}	5.409^{-1}	—	—	—
11	9.303^{-1}	9.303^{-1}	—	—	—
12	1.292^{+0}	1.292^{+0}	—	—	—
13	1.615^{+0}	1.615^{+0}	—	—	—
14	1.900^{+0}	1.900^{+0}	—	—	—
15	2.149^{+0}	2.149^{+0}	—	—	—
16	2.366^{+0}	2.366^{+0}	—	—	—
18	2.721^{+0}	2.721^{+0}	—	—	—
20	2.992^{+0}	2.992^{+0}	—	—	—
22	3.199^{+0}	3.199^{+0}	—	—	—
25	3.425^{+0}	3.425^{+0}	—	—	—
28	3.581^{+0}	3.581^{+0}	—	—	—
30	3.657^{+0}	3.657^{+0}	—	—	—
32	3.717^{+0}	3.717^{+0}	—	—	—
35	3.785^{+0}	3.785^{+0}	—	—	—
40	3.857^{+0}	3.857^{+0}	—	—	—
45	3.897^{+0}	3.897^{+0}	—	—	—
50	3.917^{+0}	3.917^{+0}	—	—	—
55	3.923^{+0}	3.923^{+0}	—	—	—
60	3.920^{+0}	3.920^{+0}	—	—	—
65	3.912^{+0}	3.911^{+0}	1.379^{-3}	—	—
70	3.906^{+0}	3.896^{+0}	9.941^{-3}	—	—
75	3.898^{+0}	3.877^{+0}	2.083^{-2}	—	—
80	3.887^{+0}	3.855^{+0}	3.165^{-2}	—	—
90	3.853^{+0}	3.804^{+0}	4.955^{-2}	—	—
100	3.807^{+0}	3.745^{+0}	6.156^{-2}	2.892^{-4}	—
110	3.754^{+0}	3.683^{+0}	6.895^{-2}	2.551^{-3}	—
120	3.695^{+0}	3.617^{+0}	7.340^{-2}	4.677^{-3}	—
130	3.633^{+0}	3.550^{+0}	7.619^{-2}	6.139^{-3}	—
140	3.569^{+0}	3.483^{+0}	7.817^{-2}	7.054^{-3}	—
150	3.504^{+0}	3.417^{+0}	7.984^{-2}	7.632^{-3}	—
160	3.441^{+0}	3.351^{+0}	8.147^{-2}	8.039^{-3}	—
180	3.317^{+0}	3.223^{+0}	8.506^{-2}	8.718^{-3}	—
200	3.201^{+0}	3.102^{+0}	8.914^{-2}	9.463^{-3}	—
250	2.940^{+0}	2.829^{+0}	9.977^{-2}	1.167^{-2}	—
300	2.718^{+0}	2.596^{+0}	1.083^{-1}	1.367^{-2}	—
400	2.361^{+0}	2.229^{+0}	1.160^{-1}	1.578^{-2}	1.671^{-4}
500	2.087^{+0}	1.955^{+0}	1.148^{-1}	1.606^{-2}	4.181^{-4}
600	1.869^{+0}	1.744^{+0}	1.096^{-1}	1.551^{-2}	4.856^{-4}
800	1.550^{+0}	1.439^{+0}	9.607^{-2}	1.382^{-2}	7.673^{-4}
1000	1.328^{+0}	1.230^{+0}	8.373^{-2}	1.224^{-2}	1.173^{-3}
1500	9.867^{-1}	9.122^{-1}	6.230^{-2}	9.459^{-3}	2.071^{-3}
2000	7.927^{-1}	7.317^{-1}	4.956^{-2}	7.693^{-3}	2.696^{-3}
2500	6.665^{-1}	6.144^{-1}	4.126^{-2}	6.471^{-3}	3.124^{-3}
3000	5.774^{-1}	5.316^{-1}	3.543^{-2}	5.577^{-3}	3.410^{-3}
4000	4.591^{-1}	4.217^{-1}	2.774^{-2}	4.364^{-3}	3.696^{-3}
5000	3.834^{-1}	3.516^{-1}	2.287^{-2}	3.586^{-3}	3.755^{-3}
6000	3.304^{-1}	3.026^{-1}	1.950^{-2}	3.048^{-3}	3.701^{-3}
8000	2.606^{-1}	2.383^{-1}	1.512^{-2}	2.352^{-3}	3.466^{-3}
10,000	2.164^{-1}	1.977^{-1}	1.238^{-2}	1.921^{-3}	3.195^{-3}

Table 1 (continued)
(47) Silver ($Ag^{25}S$)

eV	TICS	5s	4d	4p	4s
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	1.193^{-1}	1.193^{-1}	—	—	—
9	5.885^{-1}	5.885^{-1}	—	—	—
10	1.071^{+0}	1.071^{+0}	—	—	—
11	1.490^{+0}	1.490^{+0}	—	—	—
12	1.830^{+0}	1.830^{+0}	—	—	—
13	2.099^{+0}	2.099^{+0}	—	—	—
14	2.305^{+0}	2.305^{+0}	—	—	—
15	2.482^{+0}	2.461^{+0}	2.135^{-2}	—	—
16	2.649^{+0}	2.575^{+0}	7.333^{-2}	—	—
18	2.953^{+0}	2.713^{+0}	2.396^{-1}	—	—
20	3.185^{+0}	2.769^{+0}	4.158^{-1}	—	—
22	3.355^{+0}	2.773^{+0}	5.817^{-1}	—	—
25	3.525^{+0}	2.726^{+0}	7.987^{-1}	—	—
28	3.623^{+0}	2.647^{+0}	9.762^{-1}	—	—
30	3.660^{+0}	2.586^{+0}	1.075^{+0}	—	—
32	3.682^{+0}	2.522^{+0}	1.160^{+0}	—	—
35	3.693^{+0}	2.426^{+0}	1.267^{+0}	—	—
40	3.673^{+0}	2.273^{+0}	1.400^{+0}	—	—
45	3.628^{+0}	2.133^{+0}	1.496^{+0}	—	—
50	3.572^{+0}	2.006^{+0}	1.566^{+0}	—	—
55	3.512^{+0}	1.894^{+0}	1.618^{+0}	—	—
60	3.451^{+0}	1.793^{+0}	1.659^{+0}	—	—
65	3.393^{+0}	1.702^{+0}	1.691^{+0}	—	—
70	3.337^{+0}	1.620^{+0}	1.717^{+0}	—	—
75	3.284^{+0}	1.546^{+0}	1.738^{+0}	9.085^{-4}	—
80	3.238^{+0}	1.478^{+0}	1.755^{+0}	5.388^{-3}	—
90	3.157^{+0}	1.360^{+0}	1.780^{+0}	1.767^{-2}	—
100	3.085^{+0}	1.259^{+0}	1.796^{+0}	2.930^{-2}	—
110	3.017^{+0}	1.173^{+0}	1.806^{+0}	3.827^{-2}	5.032^{-5}
120	2.954^{+0}	1.098^{+0}	1.810^{+0}	4.457^{-2}	1.300^{-3}
130	2.893^{+0}	1.033^{+0}	1.809^{+0}	4.880^{-2}	2.714^{-3}
140	2.835^{+0}	9.747^{-1}	1.805^{+0}	5.162^{-2}	3.814^{-3}
150	2.779^{+0}	9.232^{-1}	1.798^{+0}	5.356^{-2}	4.568^{-3}
160	2.725^{+0}	8.769^{-1}	1.788^{+0}	5.501^{-2}	5.062^{-3}
180	2.624^{+0}	7.973^{-1}	1.764^{+0}	5.738^{-2}	5.645^{-3}
200	2.532^{+0}	7.313^{-1}	1.735^{+0}	5.979^{-2}	6.079^{-3}
250	2.332^{+0}	6.069^{-1}	1.651^{+0}	6.689^{-2}	7.463^{-3}
300	2.165^{+0}	5.195^{-1}	1.563^{+0}	7.406^{-2}	9.081^{-3}
400	1.899^{+0}	4.046^{-1}	1.399^{+0}	8.343^{-2}	1.141^{-2}
500	1.691^{+0}	3.323^{-1}	1.261^{+0}	8.587^{-2}	1.225^{-2}
600	1.524^{+0}	2.825^{-1}	1.145^{+0}	8.412^{-2}	1.222^{-2}
800	1.274^{+0}	2.182^{-1}	9.676^{-1}	7.596^{-2}	1.125^{-2}
1000	1.096^{+0}	1.783^{-1}	8.391^{-1}	6.712^{-2}	1.012^{-2}
1500	8.187^{-1}	1.232^{-1}	6.350^{-1}	5.047^{-2}	7.962^{-3}
2000	6.592^{-1}	9.466^{-2}	5.149^{-1}	4.021^{-2}	6.541^{-3}
2500	5.551^{-1}	7.709^{-2}	4.354^{-1}	3.347^{-2}	5.538^{-3}
3000	4.814^{-1}	6.516^{-2}	3.787^{-1}	2.872^{-2}	4.794^{-3}
4000	3.832^{-1}	4.994^{-2}	3.026^{-1}	2.245^{-2}	3.772^{-3}
5000	3.203^{-1}	4.061^{-2}	2.535^{-1}	1.849^{-2}	3.109^{-3}
6000	2.762^{-1}	3.428^{-2}	2.190^{-1}	1.574^{-2}	2.647^{-3}
8000	2.181^{-1}	2.622^{-2}	1.734^{-1}	1.217^{-2}	2.047^{-3}
10,000	1.812^{-1}	2.127^{-2}	1.444^{-1}	9.945^{-3}	1.676^{-3}

Table 1 (continued)
(48) Cadmium ($Cd^{1}S$)

eV	TICS	5s	4d	4p	4s
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	—	—	—	—	—
9	2.361^{-3}	2.361^{-3}	—	—	—
10	4.428^{-1}	4.428^{-1}	—	—	—
11	1.059^{+0}	1.059^{+0}	—	—	—
12	1.664^{+0}	1.664^{+0}	—	—	—
13	2.204^{+0}	2.204^{+0}	—	—	—
14	2.663^{+0}	2.663^{+0}	—	—	—
15	3.043^{+0}	3.043^{+0}	—	—	—
16	3.352^{+0}	3.352^{+0}	—	—	—
18	3.792^{+0}	3.792^{+0}	—	—	—
20	4.054^{+0}	4.054^{+0}	—	—	—
22	4.210^{+0}	4.193^{+0}	1.631^{-2}	—	—
25	4.351^{+0}	4.257^{+0}	9.434^{-2}	—	—
28	4.405^{+0}	4.218^{+0}	1.878^{-1}	—	—
30	4.410^{+0}	4.160^{+0}	2.499^{-1}	—	—
32	4.397^{+0}	4.088^{+0}	3.094^{-1}	—	—
35	4.356^{+0}	3.964^{+0}	3.915^{-1}	—	—
40	4.253^{+0}	3.746^{+0}	5.074^{-1}	—	—
45	4.131^{+0}	3.532^{+0}	5.991^{-1}	—	—
50	4.005^{+0}	3.334^{+0}	6.713^{-1}	—	—
55	3.881^{+0}	3.153^{+0}	7.285^{-1}	—	—
60	3.763^{+0}	2.989^{+0}	7.743^{-1}	—	—
65	3.653^{+0}	2.841^{+0}	8.118^{-1}	—	—
70	3.549^{+0}	2.707^{+0}	8.427^{-1}	—	—
75	3.454^{+0}	2.585^{+0}	8.688^{-1}	—	—
80	3.365^{+0}	2.474^{+0}	8.911^{-1}	—	—
90	3.209^{+0}	2.279^{+0}	9.272^{-1}	2.681^{-3}	—
100	3.079^{+0}	2.114^{+0}	9.551^{-1}	9.692^{-3}	—
110	2.967^{+0}	1.972^{+0}	9.771^{-1}	1.718^{-2}	—
120	2.867^{+0}	1.849^{+0}	9.948^{-1}	2.366^{-2}	—
130	2.779^{+0}	1.741^{+0}	1.009^{+0}	2.877^{-2}	6.021^{-4}
140	2.699^{+0}	1.645^{+0}	1.020^{+0}	3.257^{-2}	1.552^{-3}
150	2.626^{+0}	1.560^{+0}	1.029^{+0}	3.533^{-2}	2.395^{-3}
160	2.559^{+0}	1.483^{+0}	1.036^{+0}	3.733^{-2}	3.039^{-3}
180	2.438^{+0}	1.351^{+0}	1.044^{+0}	3.997^{-2}	3.822^{-3}
200	2.332^{+0}	1.241^{+0}	1.046^{+0}	4.185^{-2}	4.236^{-3}
250	2.118^{+0}	1.032^{+0}	1.035^{+0}	4.658^{-2}	5.088^{-3}
300	1.952^{+0}	8.848^{-1}	1.009^{+0}	5.207^{-2}	6.241^{-3}
400	1.701^{+0}	6.903^{-1}	9.413^{-1}	6.135^{-2}	8.401^{-3}
500	1.514^{+0}	5.673^{-1}	8.709^{-1}	6.584^{-2}	9.529^{-3}
600	1.365^{+0}	4.823^{-1}	8.059^{-1}	6.648^{-2}	9.839^{-3}
800	1.142^{+0}	3.724^{-1}	6.972^{-1}	6.227^{-2}	9.396^{-3}
1000	9.830^{-1}	3.042^{-1}	6.134^{-1}	5.607^{-2}	8.601^{-3}
1500	7.347^{-1}	2.101^{-1}	4.733^{-1}	4.295^{-2}	6.893^{-3}
2000	5.913^{-1}	1.612^{-1}	3.876^{-1}	3.442^{-2}	5.718^{-3}
2500	4.976^{-1}	1.312^{-1}	3.299^{-1}	2.873^{-2}	4.873^{-3}
3000	4.312^{-1}	1.109^{-1}	2.882^{-1}	2.469^{-2}	4.237^{-3}
4000	3.430^{-1}	8.488^{-2}	2.317^{-1}	1.934^{-2}	3.352^{-3}
5000	2.865^{-1}	6.897^{-2}	1.949^{-1}	1.595^{-2}	2.771^{-3}
6000	2.470^{-1}	5.820^{-2}	1.689^{-1}	1.359^{-2}	2.364^{-3}
8000	1.949^{-1}	4.447^{-2}	1.343^{-1}	1.052^{-2}	1.833^{-3}
10,000	1.619^{-1}	3.608^{-2}	1.122^{-1}	8.595^{-3}	1.503^{-3}

Table 1 (continued)
(49) Indium (In^2P)

eV	TICS	5p	5s	4d	4p
5	—	—	—	—	—
6	6.476 ⁻²	6.476 ⁻²	—	—	—
7	7.952 ⁻¹	7.952 ⁻¹	—	—	—
8	1.740 ⁺⁰	1.740 ⁺⁰	—	—	—
9	2.670 ⁺⁰	2.670 ⁺⁰	—	—	—
10	3.503 ⁺⁰	3.503 ⁺⁰	—	—	—
11	4.377 ⁺⁰	4.214 ⁺⁰	1.627 ⁻¹	—	—
12	5.254 ⁺⁰	4.805 ⁺⁰	4.485 ⁻¹	—	—
13	6.047 ⁺⁰	5.287 ⁺⁰	7.599 ⁻¹	—	—
14	6.735 ⁺⁰	5.674 ⁺⁰	1.061 ⁺⁰	—	—
15	7.319 ⁺⁰	5.980 ⁺⁰	1.339 ⁺⁰	—	—
16	7.806 ⁺⁰	6.218 ⁺⁰	1.588 ⁺⁰	—	—
18	8.529 ⁺⁰	6.533 ⁺⁰	1.996 ⁺⁰	—	—
20	8.988 ⁺⁰	6.691 ⁺⁰	2.296 ⁺⁰	—	—
22	9.251 ⁺⁰	6.743 ⁺⁰	2.508 ⁺⁰	—	—
25	9.397 ⁺⁰	6.695 ⁺⁰	2.702 ⁺⁰	—	—
28	9.352 ⁺⁰	6.559 ⁺⁰	2.793 ⁺⁰	—	—
30	9.266 ⁺⁰	6.442 ⁺⁰	2.815 ⁺⁰	9.492 ⁻³	—
32	9.141 ⁺⁰	6.312 ⁺⁰	2.816 ⁺⁰	1.360 ⁻²	—
35	8.932 ⁺⁰	6.106 ⁺⁰	2.789 ⁺⁰	3.723 ⁻²	—
40	8.545 ⁺⁰	5.760 ⁺⁰	2.699 ⁺⁰	8.627 ⁻²	—
45	8.150 ⁺⁰	5.428 ⁺⁰	2.584 ⁺⁰	1.384 ⁻¹	—
50	7.772 ⁺⁰	5.122 ⁺⁰	2.462 ⁺⁰	1.882 ⁻¹	—
55	7.418 ⁺⁰	4.843 ⁺⁰	2.342 ⁺⁰	2.334 ⁻¹	—
60	7.092 ⁺⁰	4.591 ⁺⁰	2.228 ⁺⁰	2.733 ⁻¹	—
65	6.792 ⁺⁰	4.362 ⁺⁰	2.122 ⁺⁰	3.082 ⁻¹	—
70	6.516 ⁺⁰	4.154 ⁺⁰	2.024 ⁺⁰	3.384 ⁻¹	—
75	6.264 ⁺⁰	3.966 ⁺⁰	1.933 ⁺⁰	3.647 ⁻¹	—
80	6.031 ⁺⁰	3.794 ⁺⁰	1.850 ⁺⁰	3.877 ⁻¹	—
90	5.621 ⁺⁰	3.492 ⁺⁰	1.703 ⁺⁰	4.257 ⁻¹	—
100	5.271 ⁺⁰	3.237 ⁺⁰	1.578 ⁺⁰	4.559 ⁻¹	5.747 ⁻⁴
110	4.972 ⁺⁰	3.019 ⁺⁰	1.469 ⁺⁰	4.805 ⁻¹	3.756 ⁻³
120	4.714 ⁺⁰	2.830 ⁺⁰	1.376 ⁺⁰	5.012 ⁻¹	8.190 ⁻³
130	4.489 ⁺⁰	2.664 ⁺⁰	1.293 ⁺⁰	5.189 ⁻¹	1.276 ⁻²
140	4.290 ⁺⁰	2.518 ⁺⁰	1.220 ⁺⁰	5.342 ⁻¹	1.688 ⁻²
150	4.113 ⁺⁰	2.389 ⁺⁰	1.155 ⁺⁰	5.475 ⁻¹	2.032 ⁻²
160	3.953 ⁺⁰	2.273 ⁺⁰	1.097 ⁺⁰	5.593 ⁻¹	2.307 ⁻²
180	3.678 ⁺⁰	2.074 ⁺⁰	9.968 ⁻¹	5.786 ⁻¹	2.687 ⁻²
200	3.448 ⁺⁰	1.909 ⁺⁰	9.135 ⁻¹	5.935 ⁻¹	2.921 ⁻²
250	3.005 ⁺⁰	1.598 ⁺⁰	7.555 ⁻¹	6.158 ⁻¹	3.292 ⁻²
300	2.687 ⁺⁰	1.379 ⁺⁰	6.439 ⁻¹	6.231 ⁻¹	3.657 ⁻²
400	2.249 ⁺⁰	1.090 ⁺⁰	4.967 ⁻¹	6.125 ⁻¹	4.401 ⁻²
500	1.952 ⁺⁰	9.058 ⁻¹	4.040 ⁻¹	5.864 ⁻¹	4.903 ⁻²
600	1.733 ⁺⁰	7.778 ⁻¹	3.404 ⁻¹	5.557 ⁻¹	5.115 ⁻²
800	1.423 ⁺⁰	6.104 ⁻¹	2.589 ⁻¹	4.955 ⁻¹	5.001 ⁻²
1000	1.211 ⁺⁰	5.049 ⁻¹	2.089 ⁻¹	4.438 ⁻¹	4.610 ⁻²
1500	8.914 ⁻¹	3.566 ⁻¹	1.411 ⁻¹	3.505 ⁻¹	3.614 ⁻²
2000	7.109 ⁻¹	2.780 ⁻¹	1.066 ⁻¹	2.904 ⁻¹	2.915 ⁻²
2500	5.945 ⁻¹	2.290 ⁻¹	8.566 ⁻²	2.489 ⁻¹	2.440 ⁻²
3000	5.128 ⁻¹	1.953 ⁻¹	7.165 ⁻²	2.185 ⁻¹	2.100 ⁻²
4000	4.051 ⁻¹	1.517 ⁻¹	5.401 ⁻²	1.767 ⁻¹	1.648 ⁻²
5000	3.367 ⁻¹	1.246 ⁻¹	4.337 ⁻²	1.493 ⁻¹	1.360 ⁻²
6000	2.892 ⁻¹	1.061 ⁻¹	3.624 ⁻²	1.298 ⁻¹	1.159 ⁻²
8000	2.270 ⁻¹	8.217 ⁻²	2.728 ⁻²	1.036 ⁻¹	8.972 ⁻³
10,000	1.878 ⁻¹	6.736 ⁻²	2.187 ⁻²	8.679 ⁻²	7.334 ⁻³

Table 1 (continued)
(50) Tin (Sn^3P)

eV	TICS	5p	5s	4d	4p
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	2.178 ⁻¹	2.178 ⁻¹	—	—	—
9	8.394 ⁻¹	8.394 ⁻¹	—	—	—
10	1.612 ⁺⁰	1.612 ⁺⁰	—	—	—
11	2.420 ⁺⁰	2.420 ⁺⁰	—	—	—
12	3.207 ⁺⁰	3.207 ⁺⁰	—	—	—
13	3.944 ⁺⁰	3.942 ⁺⁰	2.721 ⁻³	—	—
14	4.679 ⁺⁰	4.610 ⁺⁰	6.941 ⁻²	—	—
15	5.383 ⁺⁰	5.208 ⁺⁰	1.755 ⁻¹	—	—
16	6.038 ⁺⁰	5.736 ⁺⁰	3.020 ⁻¹	—	—
18	7.166 ⁺⁰	6.597 ⁺⁰	5.689 ⁻¹	—	—
20	8.057 ⁺⁰	7.236 ⁺⁰	8.209 ⁻¹	—	—
22	8.737 ⁺⁰	7.696 ⁺⁰	1.041 ⁺⁰	—	—
25	9.436 ⁺⁰	8.133 ⁺⁰	1.303 ⁺⁰	—	—
28	9.844 ⁺⁰	8.354 ⁺⁰	1.490 ⁺⁰	—	—
30	9.998 ⁺⁰	8.417 ⁺⁰	1.580 ⁺⁰	—	—
32	1.008 ⁺¹	8.431 ⁺⁰	1.648 ⁺⁰	—	—
35	1.010 ⁺¹	8.387 ⁺⁰	1.716 ⁺⁰	—	—
40	9.966 ⁺⁰	8.199 ⁺⁰	1.763 ⁺⁰	3.609 ⁻³	—
45	9.715 ⁺⁰	7.938 ⁺⁰	1.760 ⁺⁰	1.737 ⁻²	—
50	9.411 ⁺⁰	7.648 ⁺⁰	1.727 ⁺⁰	3.638 ⁻²	—
55	9.089 ⁺⁰	7.351 ⁺⁰	1.680 ⁺⁰	5.802 ⁻²	—
60	8.767 ⁺⁰	7.061 ⁺⁰	1.625 ⁺⁰	8.044 ⁻²	—
65	8.454 ⁺⁰	6.784 ⁺⁰	1.568 ⁺⁰	1.024 ⁻¹	—
70	8.154 ⁺⁰	6.521 ⁺⁰	1.510 ⁺⁰	1.233 ⁻¹	—
75	7.871 ⁺⁰	6.274 ⁺⁰	1.454 ⁺⁰	1.427 ⁻¹	—
80	7.604 ⁺⁰	6.043 ⁺⁰	1.401 ⁺⁰	1.606 ⁻¹	—
90	7.119 ⁺⁰	5.625 ⁺⁰	1.302 ⁺⁰	1.917 ⁻¹	—
100	6.693 ⁺⁰	5.261 ⁺⁰	1.215 ⁺⁰	2.175 ⁻¹	—
110	6.319 ⁺⁰	4.941 ⁺⁰	1.138 ⁺⁰	2.391 ⁻¹	6.043 ⁻⁵
120	5.989 ⁺⁰	4.660 ⁺⁰	1.070 ⁺⁰	2.575 ⁻¹	1.246 ⁻³
130	5.697 ⁺⁰	4.410 ⁺⁰	1.010 ⁺⁰	2.733 ⁻¹	3.501 ⁻³
140	5.437 ⁺⁰	4.187 ⁺⁰	9.561 ⁻¹	2.873 ⁻¹	6.261 ⁻³
150	5.204 ⁺⁰	3.988 ⁺⁰	9.079 ⁻¹	2.997 ⁻¹	9.076 ⁻³
160	4.994 ⁺⁰	3.807 ⁺⁰	8.644 ⁻¹	3.109 ⁻¹	1.168 ⁻²
180	4.631 ⁺⁰	3.495 ⁺⁰	7.890 ⁻¹	3.302 ⁻¹	1.586 ⁻²
200	4.326 ⁺⁰	3.233 ⁺⁰	7.260 ⁻¹	3.463 ⁻¹	1.872 ⁻²
250	3.740 ⁺⁰	2.733 ⁺⁰	6.053 ⁻¹	3.761 ⁻¹	2.265 ⁻²
300	3.318 ⁺⁰	2.376 ⁺⁰	5.189 ⁻¹	3.944 ⁻¹	2.539 ⁻²
400	2.744 ⁺⁰	1.897 ⁺⁰	4.033 ⁻¹	4.088 ⁻¹	3.125 ⁻²
500	2.365 ⁺⁰	1.588 ⁺⁰	3.295 ⁻¹	4.058 ⁻¹	3.620 ⁻²
600	2.089 ⁺⁰	1.371 ⁺⁰	2.784 ⁻¹	3.944 ⁻¹	3.915 ⁻²
800	1.707 ⁺⁰	1.084 ⁺⁰	2.125 ⁻¹	3.635 ⁻¹	4.026 ⁻²
1000	1.450 ⁺⁰	9.016 ⁻¹	1.718 ⁻¹	3.321 ⁻¹	3.820 ⁻²
1500	1.065 ⁺⁰	6.425 ⁻¹	1.163 ⁻¹	2.691 ⁻¹	3.088 ⁻²
2000	8.485 ⁻¹	5.038 ⁻¹	8.798 ⁻²	2.258 ⁻¹	2.517 ⁻²
2500	7.091 ⁻¹	4.165 ⁻¹	7.080 ⁻²	1.949 ⁻¹	2.116 ⁻²
3000	6.113 ⁻¹	3.563 ⁻¹	5.926 ⁻²	1.720 ⁻¹	1.827 ⁻²
4000	4.826 ⁻¹	2.781 ⁻¹	4.473 ⁻²	1.400 ⁻¹	1.438 ⁻²
5000	4.010 ⁻¹	2.292 ⁻¹	3.594 ⁻²	1.188 ⁻¹	1.189 ⁻²
6000	3.443 ⁻¹	1.956 ⁻¹	3.005 ⁻²	1.035 ⁻¹	1.015 ⁻²
8000	2.701 ⁻¹	1.521 ⁻¹	2.264 ⁻²	8.303 ⁻²	7.876 ⁻³
10,000	2.234 ⁻¹	1.251 ⁻¹	1.816 ⁻²	6.974 ⁻²	6.445 ⁻³

Table 1 (continued)
(51) Antimony (*Sb* 4S)

eV	TICS	5p	5s	4d	4p
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	—	—	—	—	—
9	6.753 ⁻²	6.753 ⁻²	—	—	—
10	4.338 ⁻¹	4.338 ⁻¹	—	—	—
11	9.615 ⁻¹	9.615 ⁻¹	—	—	—
12	1.566 ⁺⁰	1.566 ⁺⁰	—	—	—
13	2.198 ⁺⁰	2.198 ⁺⁰	—	—	—
14	2.828 ⁺⁰	2.828 ⁺⁰	—	—	—
15	3.436 ⁺⁰	3.436 ⁺⁰	—	—	—
16	4.015 ⁺⁰	4.011 ⁺⁰	4.048 ⁻³	—	—
18	5.122 ⁺⁰	5.043 ⁺⁰	7.914 ⁻²	—	—
20	6.107 ⁺⁰	5.906 ⁺⁰	2.009 ⁻¹	—	—
22	6.948 ⁺⁰	6.611 ⁺⁰	3.369 ⁻¹	—	—
25	7.948 ⁺⁰	7.411 ⁺⁰	5.369 ⁻¹	—	—
28	8.675 ⁺⁰	7.963 ⁺⁰	7.122 ⁻¹	—	—
30	9.034 ⁺⁰	8.223 ⁺⁰	8.116 ⁻¹	—	—
32	9.311 ⁺⁰	8.414 ⁺⁰	8.966 ⁻¹	—	—
35	9.597 ⁺⁰	8.598 ⁺⁰	9.995 ⁻¹	—	—
40	9.823 ⁺⁰	8.708 ⁺⁰	1.115 ⁺⁰	—	—
45	9.839 ⁺⁰	8.661 ⁺⁰	1.178 ⁺⁰	—	—
50	9.729 ⁺⁰	8.521 ⁺⁰	1.205 ⁺⁰	2.663 ⁻³	—
55	9.547 ⁺⁰	8.329 ⁺⁰	1.209 ⁺⁰	8.972 ⁻³	—
60	9.325 ⁺⁰	8.109 ⁺⁰	1.198 ⁺⁰	1.752 ⁻²	—
65	9.083 ⁺⁰	7.879 ⁺⁰	1.177 ⁺⁰	2.758 ⁻²	—
70	8.834 ⁺⁰	7.645 ⁺⁰	1.151 ⁺⁰	3.853 ⁻²	—
75	8.585 ⁺⁰	7.414 ⁺⁰	1.121 ⁺⁰	4.982 ⁻²	—
80	8.341 ⁺⁰	7.190 ⁺⁰	1.090 ⁺⁰	6.109 ⁻²	—
90	7.877 ⁺⁰	6.767 ⁺⁰	1.028 ⁺⁰	8.258 ⁻²	—
100	7.453 ⁺⁰	6.383 ⁺⁰	9.682 ⁻¹	1.019 ⁻¹	—
110	7.068 ⁺⁰	6.036 ⁺⁰	9.133 ⁻¹	1.190 ⁻¹	—
120	6.721 ⁺⁰	5.724 ⁺⁰	8.634 ⁻¹	1.339 ⁻¹	—
130	6.408 ⁺⁰	5.442 ⁺⁰	8.182 ⁻¹	1.470 ⁻¹	3.588 ⁻⁴
140	6.125 ⁺⁰	5.188 ⁺⁰	7.774 ⁻¹	1.586 ⁻¹	1.385 ⁻³
150	5.869 ⁺⁰	4.957 ⁺⁰	7.404 ⁻¹	1.690 ⁻¹	2.908 ⁻³
160	5.637 ⁺⁰	4.747 ⁺⁰	7.067 ⁻¹	1.783 ⁻¹	4.679 ⁻³
180	5.231 ⁺⁰	4.379 ⁺⁰	6.480 ⁻¹	1.947 ⁻¹	8.213 ⁻³
200	4.888 ⁺⁰	4.068 ⁺⁰	5.984 ⁻¹	2.088 ⁻¹	1.113 ⁻²
250	4.223 ⁺⁰	3.466 ⁺⁰	5.028 ⁻¹	2.365 ⁻¹	1.550 ⁻²
300	3.740 ⁺⁰	3.030 ⁺⁰	4.336 ⁻¹	2.564 ⁻¹	1.791 ⁻²
400	3.083 ⁺⁰	2.438 ⁺⁰	3.398 ⁻¹	2.794 ⁻¹	2.235 ⁻²
500	2.649 ⁺⁰	2.052 ⁺⁰	2.790 ⁻¹	2.875 ⁻¹	2.671 ⁻²
600	2.337 ⁺⁰	1.778 ⁺⁰	2.366 ⁻¹	2.869 ⁻¹	2.990 ⁻²
800	1.907 ⁺⁰	1.414 ⁺⁰	1.812 ⁻¹	2.737 ⁻¹	3.241 ⁻²
1000	1.620 ⁺⁰	1.181 ⁺⁰	1.469 ⁻¹	2.554 ⁻¹	3.176 ⁻²
1500	1.191 ⁺⁰	8.468 ⁻¹	9.976 ⁻²	2.127 ⁻¹	2.661 ⁻²
2000	9.499 ⁻¹	6.666 ⁻¹	7.562 ⁻²	1.808 ⁻¹	2.197 ⁻²
2500	7.944 ⁻¹	5.527 ⁻¹	6.093 ⁻²	1.573 ⁻¹	1.857 ⁻²
3000	6.852 ⁻¹	4.739 ⁻¹	5.105 ⁻²	1.394 ⁻¹	1.608 ⁻²
4000	5.412 ⁻¹	3.710 ⁻¹	3.859 ⁻²	1.143 ⁻¹	1.271 ⁻²
5000	4.499 ⁻¹	3.065 ⁻¹	3.104 ⁻²	9.731 ⁻²	1.054 ⁻²
6000	3.864 ⁻¹	2.620 ⁻¹	2.597 ⁻²	8.508 ⁻²	9.012 ⁻³
8000	3.033 ⁻¹	2.043 ⁻¹	1.959 ⁻²	6.849 ⁻²	7.008 ⁻³
10,000	2.511 ⁻¹	1.683 ⁻¹	1.573 ⁻²	5.769 ⁻²	5.744 ⁻³

Table 1 (continued)
(52) Tellurium (*Te* 3P)

eV	TICS	5p	5s	4d	4p
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	—	—	—	—	—
9	—	—	—	—	—
10	2.453 ⁻¹	2.453 ⁻¹	—	—	—
11	6.976 ⁻¹	6.976 ⁻¹	—	—	—
12	1.254 ⁺⁰	1.254 ⁺⁰	—	—	—
13	1.861 ⁺⁰	1.861 ⁺⁰	—	—	—
14	2.485 ⁺⁰	2.485 ⁺⁰	—	—	—
15	3.103 ⁺⁰	3.103 ⁺⁰	—	—	—
16	3.701 ⁺⁰	3.701 ⁺⁰	—	—	—
18	4.804 ⁺⁰	4.804 ⁺⁰	—	—	—
20	5.776 ⁺⁰	5.764 ⁺⁰	1.213 ⁻²	—	—
22	6.633 ⁺⁰	6.576 ⁺⁰	5.721 ⁻²	—	—
25	7.701 ⁺⁰	7.541 ⁺⁰	1.604 ⁻¹	—	—
28	8.527 ⁺⁰	8.249 ⁺⁰	2.776 ⁻¹	—	—
30	8.961 ⁺⁰	8.606 ⁺⁰	3.550 ⁻¹	—	—
32	9.313 ⁺⁰	8.884 ⁺⁰	4.285 ⁻¹	—	—
35	9.714 ⁺⁰	9.186 ⁺⁰	5.280 ⁻¹	—	—
40	1.012 ⁺¹	9.455 ⁺⁰	6.612 ⁻¹	—	—
45	1.028 ⁺¹	9.523 ⁺⁰	7.556 ⁻¹	—	—
50	1.028 ⁺¹	9.466 ⁺⁰	8.179 ⁻¹	—	—
55	1.019 ⁺¹	9.332 ⁺⁰	8.557 ⁻¹	—	—
60	1.003 ⁺¹	9.151 ⁺⁰	8.754 ⁻¹	1.460 ⁻³	—
65	9.829 ⁺⁰	8.943 ⁺⁰	8.821 ⁻¹	4.492 ⁻³	—
70	9.610 ⁺⁰	8.721 ⁺⁰	8.798 ⁻¹	8.603 ⁻³	—
75	9.379 ⁺⁰	8.495 ⁺⁰	8.712 ⁻¹	1.358 ⁻²	—
80	9.146 ⁺⁰	8.268 ⁺⁰	8.583 ⁻¹	1.919 ⁻²	—
90	8.686 ⁺⁰	7.830 ⁺⁰	8.253 ⁻¹	3.145 ⁻²	—
100	8.251 ⁺⁰	7.419 ⁺⁰	7.883 ⁻¹	4.402 ⁻²	—
110	7.849 ⁺⁰	7.042 ⁺⁰	7.510 ⁻¹	5.607 ⁻²	—
120	7.480 ⁺⁰	6.697 ⁺⁰	7.151 ⁻¹	6.723 ⁻²	—
130	7.142 ⁺⁰	6.383 ⁺⁰	6.814 ⁻¹	7.740 ⁻²	—
140	6.834 ⁺⁰	6.097 ⁺⁰	6.502 ⁻¹	8.661 ⁻²	7.731 ⁻⁵
150	6.553 ⁺⁰	5.836 ⁺⁰	6.214 ⁻¹	9.497 ⁻²	4.936 ⁻⁴
160	6.295 ⁺⁰	5.597 ⁺⁰	5.949 ⁻¹	1.026 ⁻¹	1.259 ⁻³
180	5.843 ⁺⁰	5.176 ⁺⁰	5.479 ⁻¹	1.160 ⁻¹	3.465 ⁻³
200	5.458 ⁺⁰	4.817 ⁺⁰	5.079 ⁻¹	1.275 ⁻¹	5.859 ⁻³
250	4.710 ⁺⁰	4.118 ⁺⁰	4.297 ⁻¹	1.508 ⁻¹	1.029 ⁻²
300	4.164 ⁺⁰	3.608 ⁺⁰	3.727 ⁻¹	1.688 ⁻¹	1.271 ⁻²
400	3.418 ⁺⁰	2.912 ⁺⁰	2.944 ⁻¹	1.930 ⁻¹	1.620 ⁻²
500	2.928 ⁺⁰	2.456 ⁺⁰	2.430 ⁻¹	2.059 ⁻¹	1.975 ⁻²
600	2.576 ⁺⁰	2.132 ⁺⁰	2.067 ⁻¹	2.111 ⁻¹	2.279 ⁻²
800	2.098 ⁺⁰	1.699 ⁺⁰	1.590 ⁻¹	2.089 ⁻¹	2.605 ⁻²
1000	1.781 ⁺⁰	1.421 ⁺⁰	1.291 ⁻¹	1.995 ⁻¹	2.642 ⁻²
1500	1.308 ⁺⁰	1.022 ⁺⁰	8.796 ⁻²	1.712 ⁻¹	2.307 ⁻²
2000	1.043 ⁺⁰	8.054 ⁻¹	6.677 ⁻²	1.475 ⁻¹	1.932 ⁻²
2500	8.724 ⁻¹	6.685 ⁻¹	5.386 ⁻²	1.294 ⁻¹	1.644 ⁻²
3000	7.525 ⁻¹	5.735 ⁻¹	4.515 ⁻²	1.153 ⁻¹	1.429 ⁻²
4000	5.943 ⁻¹	4.496 ⁻¹	3.416 ⁻²	9.515 ⁻²	1.134 ⁻²
5000	4.940 ⁻¹	3.717 ⁻¹	2.750 ⁻²	8.137 ⁻²	9.422 ⁻³
6000	4.243 ⁻¹	3.180 ⁻¹	2.302 ⁻²	7.135 ⁻²	8.075 ⁻³
8000	3.331 ⁻¹	2.482 ⁻¹	1.738 ⁻²	5.766 ⁻²	6.295 ⁻³
10,000	2.756 ⁻¹	2.045 ⁻¹	1.396 ⁻²	4.870 ⁻²	5.168 ⁻³

Table 1 (continued)
(53) Iodine (I^2P)

eV	TICS	5p	5s	4d	4p
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	—	—	—	—	—
9	—	—	—	—	—
10	—	—	—	—	—
11	7.050 ⁻²	7.050 ⁻²	—	—	—
12	3.143 ⁻¹	3.143 ⁻¹	—	—	—
13	6.497 ⁻¹	6.497 ⁻¹	—	—	—
14	1.056 ⁺⁰	1.056 ⁺⁰	—	—	—
15	1.498 ⁺⁰	1.498 ⁺⁰	—	—	—
16	1.960 ⁺⁰	1.960 ⁺⁰	—	—	—
18	2.888 ⁺⁰	2.888 ⁺⁰	—	—	—
20	3.773 ⁺⁰	3.773 ⁺⁰	—	—	—
22	4.582 ⁺⁰	4.582 ⁺⁰	—	—	—
25	5.654 ⁺⁰	5.629 ⁺⁰	2.505 ⁻²	—	—
28	6.557 ⁺⁰	6.477 ⁺⁰	7.912 ⁻²	—	—
30	7.066 ⁺⁰	6.942 ⁺⁰	1.233 ⁻¹	—	—
32	7.506 ⁺⁰	7.335 ⁺⁰	1.706 ⁻¹	—	—
35	8.051 ⁺⁰	7.808 ⁺⁰	2.429 ⁻¹	—	—
40	8.702 ⁺⁰	8.346 ⁺⁰	3.555 ⁻¹	—	—
45	9.101 ⁺⁰	8.652 ⁺⁰	4.498 ⁻¹	—	—
50	9.319 ⁺⁰	8.796 ⁺⁰	5.231 ⁻¹	—	—
55	9.407 ⁺⁰	8.829 ⁺⁰	5.774 ⁻¹	—	—
60	9.402 ⁺⁰	8.787 ⁺⁰	6.154 ⁻¹	—	—
65	9.334 ⁺⁰	8.693 ⁺⁰	6.405 ⁻¹	—	—
70	9.223 ⁺⁰	8.566 ⁺⁰	6.555 ⁻¹	7.821 ⁻⁴	—
75	9.082 ⁺⁰	8.417 ⁺⁰	6.629 ⁻¹	2.344 ⁻³	—
80	8.924 ⁺⁰	8.255 ⁺⁰	6.644 ⁻¹	4.466 ⁻³	—
90	8.579 ⁺⁰	7.913 ⁺⁰	6.558 ⁻¹	1.010 ⁻²	—
100	8.225 ⁺⁰	7.569 ⁺⁰	6.382 ⁻¹	1.701 ⁻²	—
110	7.879 ⁺⁰	7.238 ⁺⁰	6.162 ⁻¹	2.450 ⁻²	—
120	7.550 ⁺⁰	6.925 ⁺⁰	5.926 ⁻¹	3.208 ⁻²	—
130	7.242 ⁺⁰	6.633 ⁺⁰	5.689 ⁻¹	3.941 ⁻²	—
140	6.954 ⁺⁰	6.362 ⁺⁰	5.460 ⁻¹	4.634 ⁻²	—
150	6.687 ⁺⁰	6.110 ⁺⁰	5.241 ⁻¹	5.281 ⁻²	4.771 ⁻⁶
160	6.440 ⁺⁰	5.878 ⁺⁰	5.036 ⁻¹	5.881 ⁻²	1.647 ⁻⁴
180	5.999 ⁺⁰	5.462 ⁺⁰	4.664 ⁻¹	6.952 ⁻²	1.070 ⁻³
200	5.618 ⁺⁰	5.103 ⁺⁰	4.340 ⁻¹	7.882 ⁻²	2.580 ⁻³
250	4.867 ⁺⁰	4.392 ⁺⁰	3.698 ⁻¹	9.781 ⁻²	6.454 ⁻³
300	4.312 ⁺⁰	3.867 ⁺⁰	3.224 ⁻¹	1.129 ⁻¹	8.932 ⁻³
400	3.546 ⁺⁰	3.140 ⁺⁰	2.567 ⁻¹	1.350 ⁻¹	1.189 ⁻²
500	3.039 ⁺⁰	2.660 ⁺⁰	2.130 ⁻¹	1.490 ⁻¹	1.470 ⁻²
600	2.675 ⁺⁰	2.316 ⁺⁰	1.819 ⁻¹	1.569 ⁻¹	1.736 ⁻²
800	2.180 ⁺⁰	1.854 ⁺⁰	1.405 ⁻¹	1.612 ⁻¹	2.087 ⁻²
1000	1.853 ⁺⁰	1.555 ⁺⁰	1.144 ⁻¹	1.576 ⁻¹	2.195 ⁻²
1500	1.365 ⁺⁰	1.123 ⁺⁰	7.817 ⁻²	1.396 ⁻¹	2.006 ⁻²
2000	1.090 ⁺⁰	8.878 ⁻¹	5.944 ⁻²	1.222 ⁻¹	1.709 ⁻²
2500	9.127 ⁻¹	7.383 ⁻¹	4.799 ⁻²	1.081 ⁻¹	1.465 ⁻²
3000	7.880 ⁻¹	6.344 ⁻¹	4.027 ⁻²	9.689 ⁻²	1.278 ⁻²
4000	6.231 ⁻¹	4.984 ⁻¹	3.050 ⁻²	8.047 ⁻²	1.019 ⁻²
5000	5.184 ⁻¹	4.127 ⁻¹	2.457 ⁻²	6.910 ⁻²	8.487 ⁻³
6000	4.455 ⁻¹	3.534 ⁻¹	2.057 ⁻²	6.076 ⁻²	7.288 ⁻³
8000	3.501 ⁻¹	2.763 ⁻¹	1.554 ⁻²	4.930 ⁻²	5.697 ⁻³
10,000	2.899 ⁻¹	2.280 ⁻¹	1.249 ⁻²	4.173 ⁻²	4.685 ⁻³

Table 1 (continued)
(54) Xenon (Xe^1S)

eV	TICS	5p	5s	4d	4p
5	—	—	—	—	—
6	—	—	—	—	—
7	—	—	—	—	—
8	—	—	—	—	—
9	—	—	—	—	—
10	—	—	—	—	—
11	—	—	—	—	—
12	—	—	—	—	—
13	8.672 ⁻²	8.672 ⁻²	—	—	—
14	2.535 ⁻¹	2.535 ⁻¹	—	—	—
15	4.874 ⁻¹	4.874 ⁻¹	—	—	—
16	7.627 ⁻¹	7.627 ⁻¹	—	—	—
18	1.389 ⁺⁰	1.389 ⁺⁰	—	—	—
20	2.059 ⁺⁰	2.059 ⁺⁰	—	—	—
22	2.728 ⁺⁰	2.728 ⁺⁰	—	—	—
25	3.673 ⁺⁰	3.673 ⁺⁰	—	—	—
28	4.521 ⁺⁰	4.510 ⁺⁰	1.136 ⁻²	—	—
30	5.032 ⁺⁰	5.002 ⁺⁰	2.958 ⁻²	—	—
32	5.494 ⁺⁰	5.441 ⁺⁰	5.296 ⁻²	—	—
35	6.101 ⁺⁰	6.006 ⁺⁰	9.454 ⁻²	—	—
40	6.899 ⁺⁰	6.727 ⁺⁰	1.715 ⁻¹	—	—
45	7.472 ⁺⁰	7.224 ⁺⁰	2.471 ⁻¹	—	—
50	7.865 ⁺⁰	7.551 ⁺⁰	3.143 ⁻¹	—	—
55	8.120 ⁺⁰	7.749 ⁺⁰	3.703 ⁻¹	—	—
60	8.269 ⁺⁰	7.854 ⁺⁰	4.150 ⁻¹	—	—
65	8.338 ⁺⁰	7.889 ⁺⁰	4.493 ⁻¹	—	—
70	8.348 ⁺⁰	7.873 ⁺⁰	4.747 ⁻¹	—	—
75	8.313 ⁺⁰	7.821 ⁺⁰	4.926 ⁻¹	—	—
80	8.247 ⁺⁰	7.742 ⁺⁰	5.045 ⁻¹	3.983 ⁻⁴	—
90	8.052 ⁺⁰	7.535 ⁺⁰	5.147 ⁻¹	2.384 ⁻³	—
100	7.811 ⁺⁰	7.293 ⁺⁰	5.128 ⁻¹	5.497 ⁻³	—
110	7.552 ⁺⁰	7.038 ⁺⁰	5.039 ⁻¹	9.485 ⁻³	—
120	7.290 ⁺⁰	6.785 ⁺⁰	4.909 ⁻¹	1.403 ⁻²	—
130	7.033 ⁺⁰	6.538 ⁺⁰	4.760 ⁻¹	1.883 ⁻²	—
140	6.787 ⁺⁰	6.303 ⁺⁰	4.603 ⁻¹	2.367 ⁻²	—
150	6.553 ⁺⁰	6.080 ⁺⁰	4.445 ⁻¹	2.840 ⁻²	—
160	6.332 ⁺⁰	5.870 ⁺⁰	4.291 ⁻¹	3.294 ⁻²	—
180	5.929 ⁺⁰	5.487 ⁺⁰	4.002 ⁻¹	4.131 ⁻²	2.106 ⁻⁴
200	5.574 ⁺⁰	5.150 ⁺⁰	3.742 ⁻¹	4.875 ⁻²	8.818 ⁻⁴
250	4.858 ⁺⁰	4.469 ⁺⁰	3.213 ⁻¹	6.410 ⁻²	3.701 ⁻³
300	4.320 ⁺⁰	3.955 ⁺⁰	2.814 ⁻¹	7.639 ⁻²	6.079 ⁻³
400	3.566 ⁺⁰	3.235 ⁺⁰	2.257 ⁻¹	9.539 ⁻²	8.787 ⁻³
500	3.062 ⁺⁰	2.752 ⁺⁰	1.884 ⁻¹	1.088 ⁻¹	1.098 ⁻²
600	2.698 ⁺⁰	2.404 ⁺⁰	1.615 ⁻¹	1.175 ⁻¹	1.321 ⁻²
800	2.203 ⁺⁰	1.933 ⁺⁰	1.254 ⁻¹	1.253 ⁻¹	1.663 ⁻²
1000	1.876 ⁺⁰	1.627 ⁺⁰	1.023 ⁻¹	1.256 ⁻¹	1.817 ⁻²
1500	1.386 ⁺⁰	1.180 ⁺⁰	7.015 ⁻²	1.151 ⁻¹	1.745 ⁻²
2000	1.110 ⁺⁰	9.360 ⁻¹	5.343 ⁻²	1.024 ⁻¹	1.516 ⁻²
2500	9.310 ⁻¹	7.801 ⁻¹	4.319 ⁻²	9.140 ⁻²	1.311 ⁻²
3000	8.046 ⁻¹	6.713 ⁻¹	3.627 ⁻²	8.239 ⁻²	1.149 ⁻²
4000	6.373 ⁻¹	5.286 ⁻¹	2.750 ⁻²	6.891 ⁻²	9.203 ⁻³
5000	5.308 ⁻¹	4.384 ⁻¹	2.217 ⁻²	5.942 ⁻²	7.691 ⁻³
6000	4.565 ⁻¹	3.759 ⁻¹	1.858 ⁻²	5.240 ⁻²	6.618 ⁻³
8000	3.592 ⁻¹	2.944 ⁻¹	1.405 ⁻²	4.267 ⁻²	5.188 ⁻³
10,000	2.978 ⁻¹	2.433 ⁻¹	1.130 ⁻²	3.621 ⁻²	4.275 ⁻³