

**PHOTOIONIZATION AND PHOTOABSORPTION CROSS SECTIONS OF O, N₂,
O₂, AND N FOR AERONOMIC CALCULATIONS**

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A compilation of experimental and theoretical photoionization and photoabsorption cross sections is presented for O, N₂, O₂, and N for use primarily in studies of ion and photoelectron production in the earth's atmosphere. Since the last compilation of Kirby et al. (ATOMIC DATA AND NUCLEAR DATA TABLES **23**, 83 (1979) there have been numerous measurements taken related to these cross sections. We have tabulated these cross sections at the wavelengths of the solar lines and continuum given in the 1974 solar minimum reference spectrum, F74113, of Heroux and Hinteregger from 1027.0 to 23.7 Å, as well as for wavelengths where rapid variations occur in the cross sections. Whenever possible, autoionization states have been included and there has been no averaging over autoionization cross sections leading up to the thresholds of the ionic continuum states. This is the first compilation, in a comprehensive manner, to include the dense structure and autoionization structure in the photoabsorption and photoionization cross sections. The tables include, for the first time, cases where the photoionization and photoabsorption cross sections for atomic oxygen are not equal. Also, this is the first compilation to include the photoionization cross sections for atomic nitrogen and of multiple photoionization for atomic oxygen and nitrogen. © 1992 Academic Press, Inc.

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INTRODUCTION

Modeling the earth's upper atmosphere requires the calculation of the absorption of extreme ultraviolet (EUV) and soft x-ray solar radiation, and the production rates of major ions and photoelectrons. This in turn requires values for the composition of the thermosphere, EUV and soft x-ray solar flux, and photoabsorption and photoionization cross sections. We present a compilation of photoabsorption and photoionization cross sections in the wavelength range 1027.0 to 23.7 Å for O, N₂, O₂, and N. This is the first time in a compilation of the photoionization cross sections that atomic nitrogen has been included. Kirby et al.¹ were the first to comprehensively compile these cross sections (except for N) for aeronomic work; however, considerable detail in the variation of the cross sections with wavelength was omitted. In wavelength regions where the cross sections are highly structured, they computed and tabulated average values. Kirby et al.¹ extrapolated the cross sections down to the K absorption edge of N₂ (33.74 Å). They also included autoionization cross sections when these coincided with the strong solar radiation lines given in the solar minimum reference spectrum F74113.⁹

When an atom or molecule is excited by photoabsorption to discrete short-lived states lying above its lowest ionization potential, the excited states are referred to as a Rydberg series. The limit of each Rydberg series in an absorption spectrum constitutes the energy threshold for a new mechanism of photoabsorption. Rydberg series are associated with inner electron or multiple electron excitations and become the dominant features of EUV ab-

sorption spectra whereas the thresholds themselves fade out. The Rydberg series also provide an alternative indirect mechanism of ionization. Through absorption into discrete Rydberg states, which are found in the midst of the photoionization continuous spectrum, ionization can occur by autoionization, followed by de-excitation by a radiationless transition to the adjoining ionic continuum.

Numerous measurements²⁻⁸ have been made since Kirby et al.¹ compiled the photoabsorption and photoionization cross sections for O, N₂, and O₂ along with the partial cross sections of atomic oxygen. These recent measurements have made it possible to normalize existing high-resolution relative photoionization cross sections^{2,7,10-14} which contain dense structure due to autoionization. Thus, we have compiled new photoabsorption and photoionization cross sections for O, N₂, O₂, and N, incorporating new and existing measurements that for the first time include the structure due to photoabsorption into the Rydberg series and the photoionization due to autoionization of the Rydberg series. Also included are the cross sections of multiple photoionization for atomic oxygen and atomic nitrogen.

We have tabulated cross sections using linear interpolation where necessary and have restricted the wavelength region from the photoionization threshold (1027.0 Å) to the K edge (23.7 Å) of O₂, including all the wavelengths listed in the F74113 solar minimum reference spectrum⁹ and wavelengths where the cross sections are highly structured. The F74113 solar minimum reference

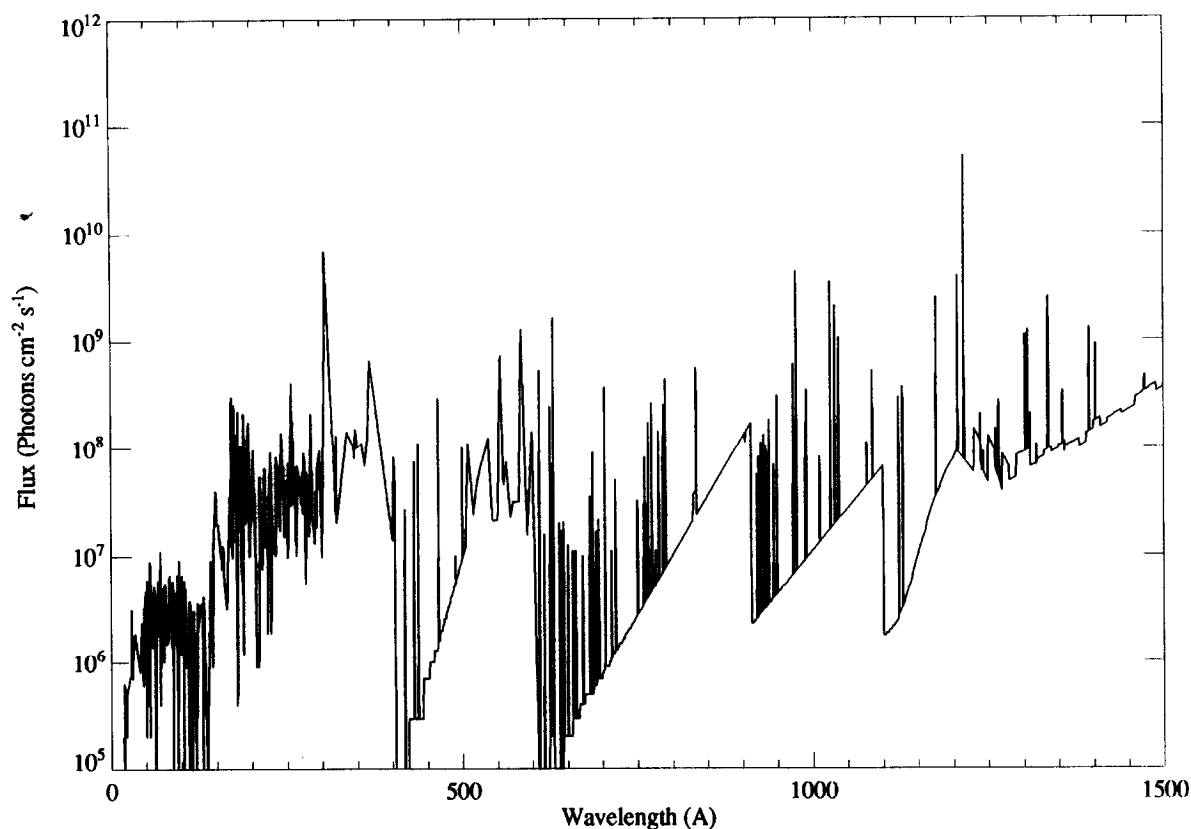


Figure 1. The F74113 EUV solar minimum reference spectrum.⁹ The fluxes above 250 Å were based on a rocket experiment flown on April 23, 1974. The fluxes below 250 Å were the estimated values for the solar condition of April 23, 1974.

spectrum⁹ is shown in Fig. 1, for the wavelength range 18–1500 Å.

An accurate knowledge of the photoionization frequencies of the constituents is fundamental to studies of planetary atmospheres. For a given constituent i , the unattenuated photoionization frequency j_i is given by

$$j_i = \int \sigma_i(\lambda) F_\infty(\lambda) d\lambda, \quad (1)$$

where σ_i is the photoionization cross section, and $F_\infty(\lambda)$ is the unattenuated solar flux at the wavelength λ . The photoionization cross sections listed in Tables I and II and the F74113 solar minimum reference spectrum⁹ have been used to calculate photoionization frequencies. A comparison of these photoionization frequencies to those calculated by Torr et al.¹⁰ is given in Table A. The photoionization frequencies of Torr et al.¹⁰ were calculated with the F74113 solar minimum reference spectrum⁹ and the photoionization cross sections of Kirby et al.¹ It is seen that the current photoionization frequencies are smaller than those of Torr et al.¹⁰

Since the cross section data have been collected from a variety of experimental and theoretical sources and have been subjected to interpolation, the accuracy is

TABLE A.
Unattenuated Photoionization Frequencies (s⁻¹)
for Major Atmospheric Constituents

Species	Current Rate	Previous Rate ¹⁰	% Difference
O ⁺ (⁴ S ⁰)	8.99×10^{-8}	9.80×10^{-8}	8.3
O ⁺ (² D ⁰)	8.71×10^{-8}	9.02×10^{-8}	3.4
O ⁺ (² P ⁰)	4.93×10^{-8}	5.28×10^{-8}	6.6
O ⁺ (⁴ P ^e)	1.17×10^{-8}	1.36×10^{-8}	14.3
O ⁺ (² P ^e)	5.64×10^{-9}	6.45×10^{-9}	12.6
O ⁺ Total	2.44×10^{-7}	2.61×10^{-7}	6.5
N ₂ ⁺	3.35×10^{-7}	3.60×10^{-7}	7.1
O ₂ ⁺	4.90×10^{-7}	4.97×10^{-7}	1.3

not uniform. Whenever there was a discrepancy between sets of data, the more recent measurements were used. Due to the diverse nature of the sources, each species was dealt with in a different way as summarized under the Discussion of Cross Section Data. The data listed in the tables are available in an ASCII format file (Digital VAX format) and can be transferred via NASA's SPAN/Telenet network.

Discussion of Cross Section Data

Atomic Oxygen

Photoionization of the $2p$ valence-shell electron of atomic oxygen leads to $O^+(^4S^0)$, $O^+(^2D^0)$, and $O^+(^2P^0)$ states with thresholds at 910.44, 731.82, and 665.32 Å, respectively. Removing the $2s$ inner-shell electron by photoionization gives rise to $O^+(^4P^e)$ and $O^+(^2P^e)$ states with respective thresholds at 435 and 315 Å. Recently, Angel and Samson² reported the absolute total photoionization continuum cross section for atomic oxygen from threshold down to 44.3 Å. In addition, they measured the contributions of multiple photoionization to the total photoionization cross section below 250 Å. The results of their work were made absolute by normalizing the photoionization cross sections to the measurements of Samson and Pareek.⁵ They estimated² the error of their absolute photoionization cross sections for atomic oxygen at 9%, but they believe that it could be as low as 4.4%. For the first time the autoionization states leading to the $^4P^0$ threshold were observed by Angel and Samson.² Moreover, they were able to measure the continuum photoionization cross sections between numerous autoionization lines leading to the various OII state thresholds. These measurements have allowed the normalization of high-resolution relative cross sections measurements¹¹⁻¹³ that included autoionization structure in the energy region from OII $^4S^0$ threshold to the OII $^2P^0$ threshold.

Dehmer et al.¹³ reported high-resolution measurements of the relative photoionization cross sections that included autoionization structure corresponding to all the transitions observed in absorption and identified by Huffman et al.^{15,16} Huffman et al.^{15,16} had observed in the absorption spectrum nine Rydberg series converging to the three lowest states of OII: $^4S^0$, $^2D^0$, and $^2P^0$. Using the photoionization cross sections measurements of Angel and Samson² and Samson and Pareek,⁵ the relative cross sections measurements of Dehmer et al.^{11,13} have been normalized for the wavelength range 765 to 913 Å. These measurements were high resolution (the full width at half-maximum, FWHM, ranged from 0.42 to 0.2 Å) and made in step sizes that ranged from 0.1 to 0.0123 Å. It has been possible to extend the cross sections beyond the OII $^4S^0$ threshold to 913 Å, since Dehmer et al.¹³ measured three autoionization lines leading up to this threshold at 910.44

Å. These lines corresponded to autoionization of the 3P_2 (910.44 Å), 3P_1 (911.76 Å), and 3P_0 (912.32 Å) Rydberg states of OI.

Previously, the total atomic oxygen photoionization cross section was assumed to be equal to the photoabsorption cross section. Dehmer et al.¹³ found this assumption to hold except for the autoionization of the states OI $2s2p^5\ ^3P^0$ (791–793 Å) and OI $3s^2\ ^3P^0$ (878–879 Å). These OI $^3P^0$ states are forbidden to autoionize in a pure Russell–Saunders coupling scheme due to the LS coupling selection rules.¹⁷ Dehmer and Chupka¹² concluded that these states do autoionize through the weaker spin–orbit or spin–spin interaction with the available continua. Dehmer and Chupka¹² and Dehmer et al.¹¹ found that the autoionization of the OI $3s^2\ ^3P^0$ and the OI $2s2p^5\ ^3P^0$ states proceeded at a substantially reduced rate and, consequently, radiative emission was found to be a significant competitive decay mechanism. Thus, these photoabsorption cross sections were found not to be equal to the autoionization photoionization cross sections. Dehmer et al.¹¹ determined accurate branching ratios for autoionization versus emission for these OI $^3P^0$ states. Using normalized photoionization cross sections and the branching ratios,¹¹ the photoabsorption cross sections for these $^3P^0$ states of atomic oxygen were calculated and are listed in Table B. These are the only known wavelengths for atomic oxygen where the photoabsorption and photoionization cross sections were not equal.

Angel and Samson² also observed the autoionization structure in the regions from 440 to 480 Å and 675 to 765 Å, which we have included in this computation of atomic oxygen total photoionization cross sections. In order to include these measurements, it was necessary to normalize these measurements to the absolute continuum cross sections that they measured. It must be noted that

TABLE B.
Atomic Oxygen Photoabsorption Cross Sections (σ_{abs})
that Are Not Equal to the Photoionization
Cross Sections (σ_{ion})

λ (Å)	σ_{ion} (Mb)	σ_{abs} (Mb)
791.508	124.1	217.73
791.966	277.87	591.21
792.231	51.26	85.44
792.501	37.77	68.68
792.966	60.44	128.59
877.799	210.35	313.96
877.876	241.08	709.06
878.07	69.96	144.37
878.188	53.42	144.37

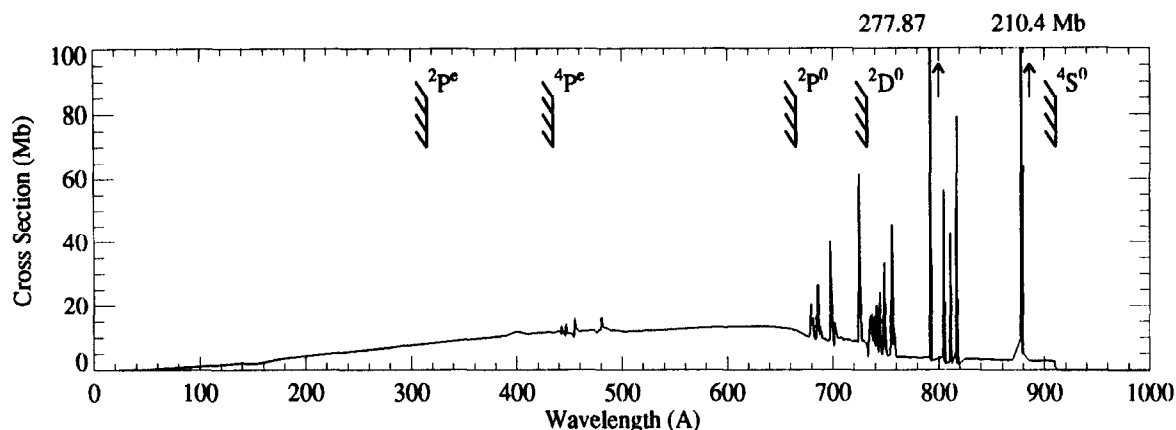


Figure 2. Atomic oxygen photoionization cross sections for the production of singly charged ions ($O + h\nu \rightarrow O^+ + e^-$) compiled in this study. The threshold of each ionic state is indicated.

the authors made no attempt to allow for peak shifts or line broadening in the wavelength range of 440 to 480 Å due to finite resolution of their instrument. Thus, the reader must use the cross sections in this range with caution.

Angel and Samson² also measured the absolute photoionization cross sections for the double and triple photoionization of atomic oxygen. These have been included in this work and are listed in Table II. The total photoionization cross sections down to the K absorption edge (23.3 Å) have been included using the absorption cross section measured at 23.7 Å by Denne.¹⁸ For cross sections below the K edge of atomic oxygen the reader is referred to the compilations of Henke et al.¹⁹ Shown in Fig. 2 are the atomic oxygen photoionization cross sections that are listed in Table I. In Fig. 3, the photoionization

cross sections compiled by Kirby et al.¹ are shown for comparison.

The measured relative photoionization partial cross sections (branching ratios) of Hussein et al.⁴ in the wavelength range 725 to 580 Å were used in this compilation. A number of branching ratios for the OI nd^m $^3P^0$ and $^3D^0$ autoionizing states that approach the OII $^2P^0$ threshold were reported in this data set. This was the first time that any information was obtained on the partial cross sections of atomic oxygen where autoionization was present. Also, it included branching ratios for autoionization that had more than one underlying ionic continuum to decay into. The branching ratios at 302 Å, measured by Dehmer and Dehmer,²⁰ and that at 584 Å, measured by Samson and Petrosky,²¹ were used to calculate the partial cross sections at these wavelengths.

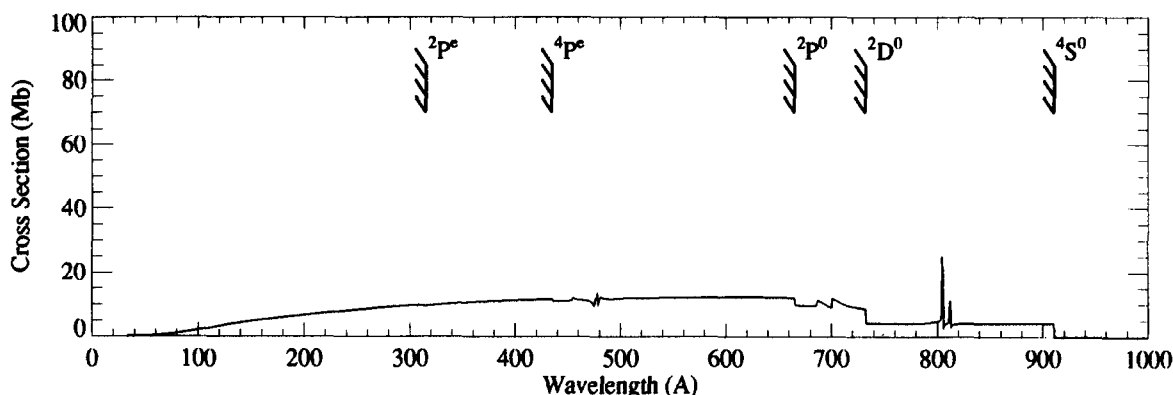


Figure 3. Atomic oxygen photoionization cross section for the production of singly charged ions ($O + h\nu \rightarrow O^+ + e^-$) compiled by Kirby et al.¹

Where measured branching ratios were not available, the branching ratios for the partial cross sections of atomic oxygen were taken to be the same as those used by Kirby et al.,¹ which were based on the empirical fits of Henry.²² Also included were the O⁺(⁴P^e) and O⁺(²P^e) calculated photoionization partial cross sections of Dalgarno et al.,²³ as modified by Henry.²⁴ Since there was no available information on the branching ratios for the autoionization structure in the wavelength range of 440 to 480 Å, the continuum partial cross sections were applied to this region; caution should be exercised when using these cross sections. The absolute partial cross sections for atomic oxygen are listed in Table I.

Molecular Nitrogen

The photoabsorption, total photoionization, and dissociative cross sections have been compiled for N₂ from 986 Å down to 23.7 Å, which lies below the K edge (33.74 Å) of N₂. The absolute photoionization and photoabsorption cross sections measured by Samson et al.³ in the range from 796 to 114 Å were used. Also used were the ionization efficiencies and photoabsorption cross section measurements made at discrete wavelengths between 790 and 660 Å by Samson et al.²⁵ and Samson and Cairns,²⁶ as were the measurements of the N₂ dissociative photoionization cross sections producing N₂⁺ and N⁺ made by Samson et al.³ The photoabsorption and total photoionization cross sections were reported^{3,25,26} to have an error of ±3% and the dissociative cross sections, an error of ±5%.³ The photoabsorption cross sections leading down to and past the K edge at 23.7 Å used for this compilation were those measured by Denne¹⁸ with an estimated error of less than ±3%.

The absolute photoabsorption cross sections of Carter,²⁷ measured at a resolution of 0.04 Å between 980 and 730 Å, were used to extend the long-wavelength range. There is good agreement between the absolute measurements of the photoabsorption cross sections of Carter²⁷ and those of Samson et al.,³ Samson et al.,²⁵ and Samson and Cairns,²⁶ in the region where they have overlapping measurements. Kirby et al.¹ estimated only the structure of N₂ absorption cross sections from the work of Carter²⁷ by fitting a straight line through the structure that was less dense and replacing major peaks with square waves. This has led to distorted shapes and magnitudes of the cross section data in Kirby et al.¹ Included in this work is the entire structure of the photoabsorption cross sections as measured by Carter.²⁷

The total photoionization cross section below 660 Å was assumed to be equal to the photoabsorption cross section. From 660 Å to the threshold at 796 Å, the high-resolution relative photoionization cross sections of N₂ measured by Berkowitz⁷ were normalized with the absolute photoionization cross sections of Samson et al.,³

Samson et al.,²⁵ and Samson and Cairns.²⁶ The photoabsorption and the total photoionization cross sections for N₂, listed in Table I, are shown in Figs. 4a and 4b, respectively. Shown for comparison in Figs. 5a and 5b are the total photoabsorption and total photoionization cross sections, respectively, as compiled by Kirby et al.¹

Molecular Oxygen

The O₂ photoabsorption and photoionization cross sections have been re-evaluated in this work, using the 0.3-Å resolution absolute cross section measurements of Matsunaga and Watanabe²⁸ (as reproduced by Berkowitz²⁹) in the wavelength range of 600 to 1027 Å. These authors reported considerable autoionization structure leading up to the ionization thresholds. We found good agreement between the measurements of Matsunaga and Watanabe²⁸ and those of Samson and Cairns,²⁶ Samson et al.,³⁰ and Samson et al.⁶ for both the photoabsorption and the photoionization cross sections in this region. The inclusion of the data of Matsunaga and Watanabe²⁸ adds significantly more detail than that given in the work of Kirby et al.¹ In this region Kirby et al.¹ had used the measurements of the photoabsorption cross sections of Huffman³¹ for wavelengths above 870 Å and Samson et al.³⁰ for the shorter wavelengths down to 600 Å. They used a least-squares fit to the absorption data, region by region, adjusting the overall profile to join with the measurement at 742 Å made by Samson et al.³⁰ The photoionization cross sections used by Kirby et al.¹ were those of Cook and Metzger,³² which had to be adjusted until a smooth fit to the measurements of Samson et al.³⁰ was obtained.

Below 600 Å, the measurements of Samson et al.^{6,30} were used. The measurements of Samson and Cairns²⁶ below 600 Å were not used since these had been superseded by those of Samson et al.⁶ The photoabsorption cross sections are assumed to be equal to the photoionization cross sections in this region. The photoabsorption cross section measurements of Denne¹⁸ for atomic oxygen were doubled and used for O₂ below 100 Å down to the K edge (23.7 Å). In the wavelength range from 685 to 120 Å we list the partial photoionization cross sections of Samson et al.⁶ for the production of the O₂⁺ parent ion and the O⁺ fragment ion formed from O₂. In Figs. 6a and 6b the photoabsorption and photoionization cross sections of O₂ listed in Table I are shown, respectively. For comparison, Figs. 7a and 7b show the total photoabsorption and photoionization cross sections, respectively, as compiled by Kirby et al.¹

Atomic Nitrogen

There are few measurements of the photoabsorption and photoionization cross sections for N because of the difficulty in producing a sufficient number of free N atoms

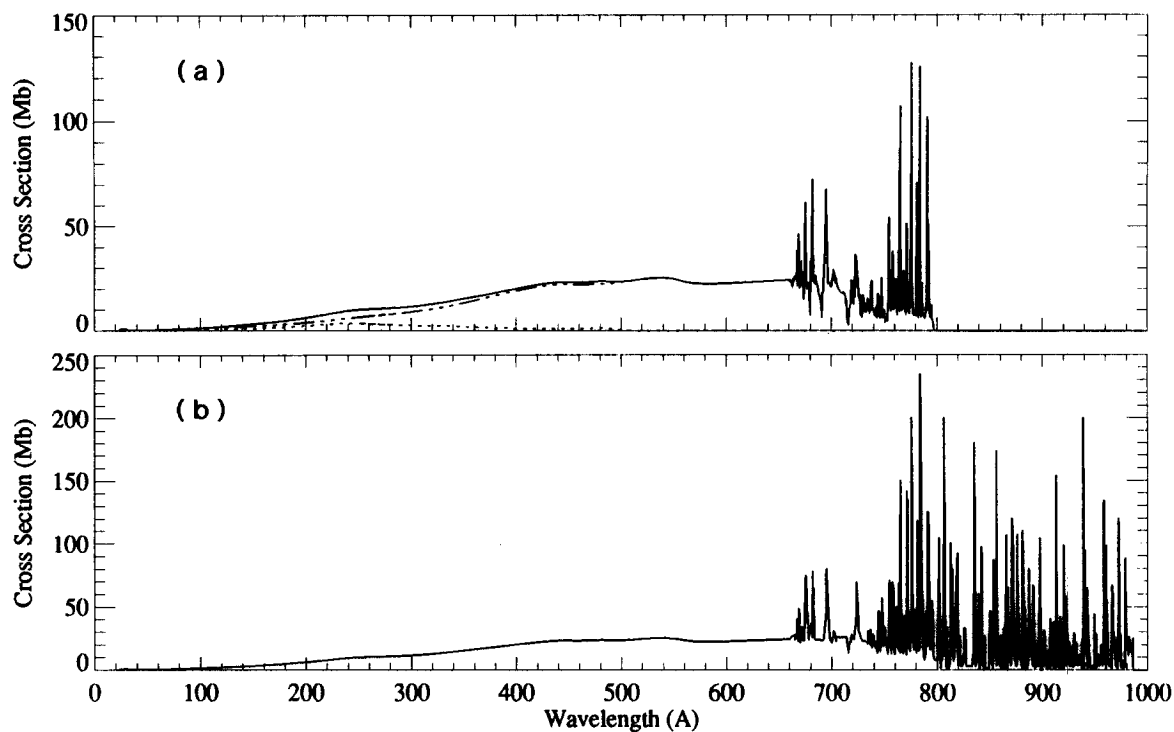


Figure 4. (a) Total photoionization cross sections of molecular nitrogen (solid line), photoionization cross sections for the production of N₂⁺ (dash-dot line), and dissociative photoionization cross sections for the production of N⁺ (dotted line). (b) Total photoabsorption cross sections of molecular nitrogen.

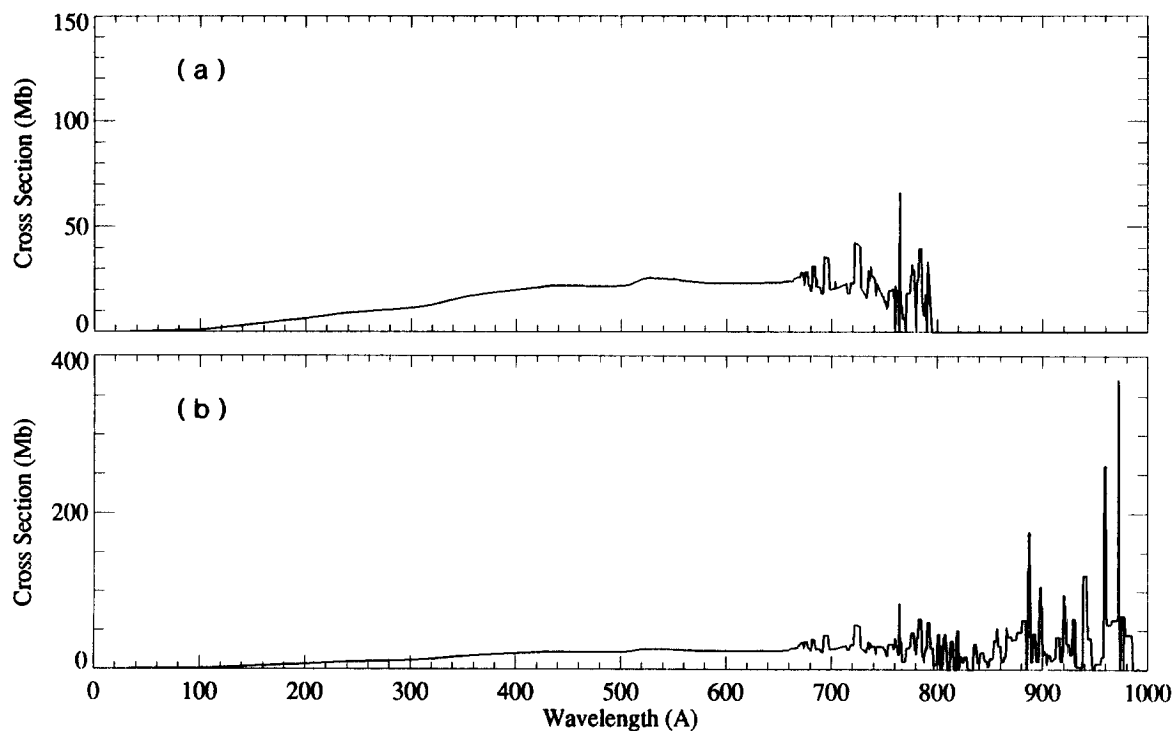


Figure 5. (a) Total photoionization cross sections of molecular nitrogen as compiled by Kirby et al.¹ (b) Total photoabsorption cross sections of molecular nitrogen as compiled by Kirby et al.¹

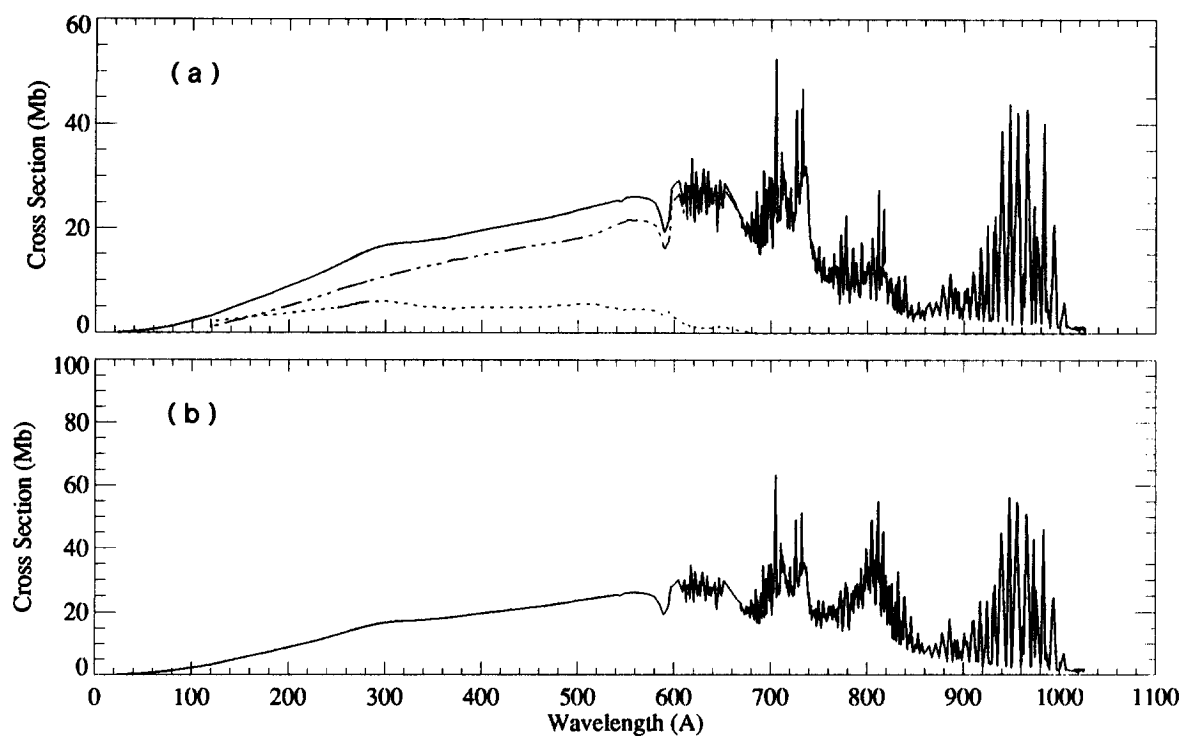


Figure 6. (a) Total photoionization cross sections for molecular oxygen (solid line), photoionization cross sections for the production of O_2^+ (dot-dash line), and dissociative photoionization cross sections for the production of O^+ (dotted line). (b) Total photoabsorption cross sections for molecular oxygen.

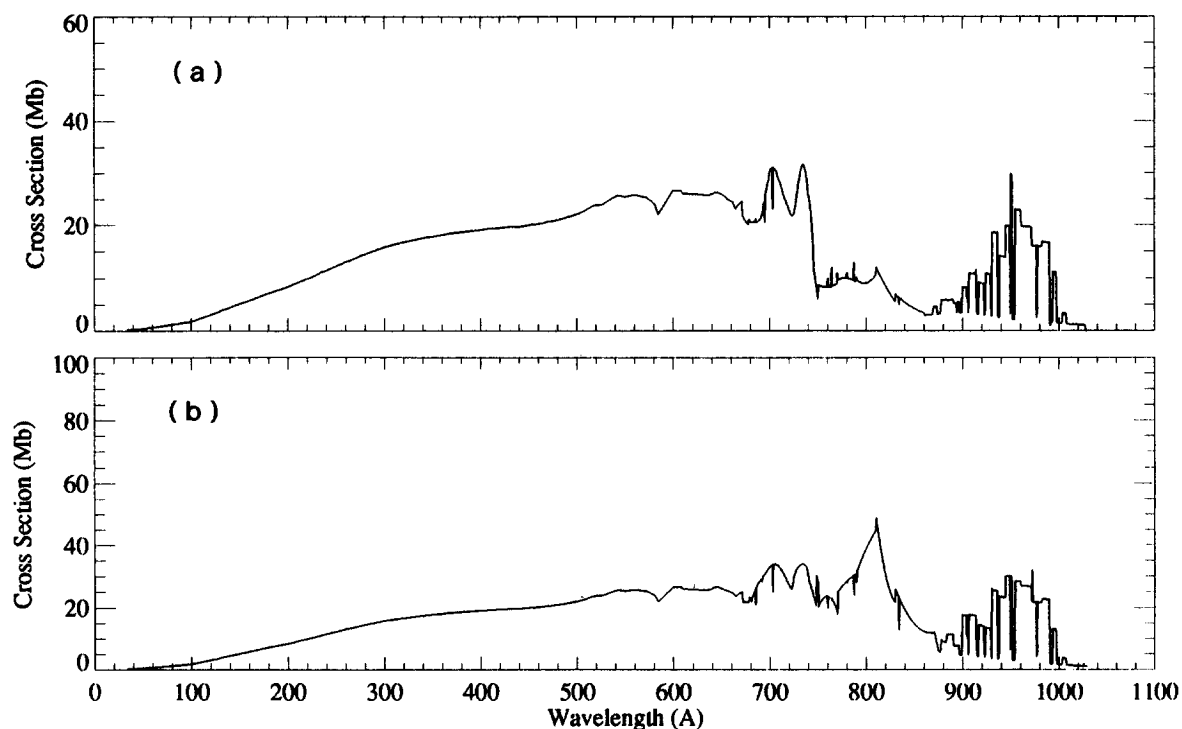


Figure 7. (a) Total photoionization cross sections for molecular oxygen compiled by Kirby et al.¹ (b) Total photoabsorption cross sections for molecular oxygen compiled by Kirby et al.¹

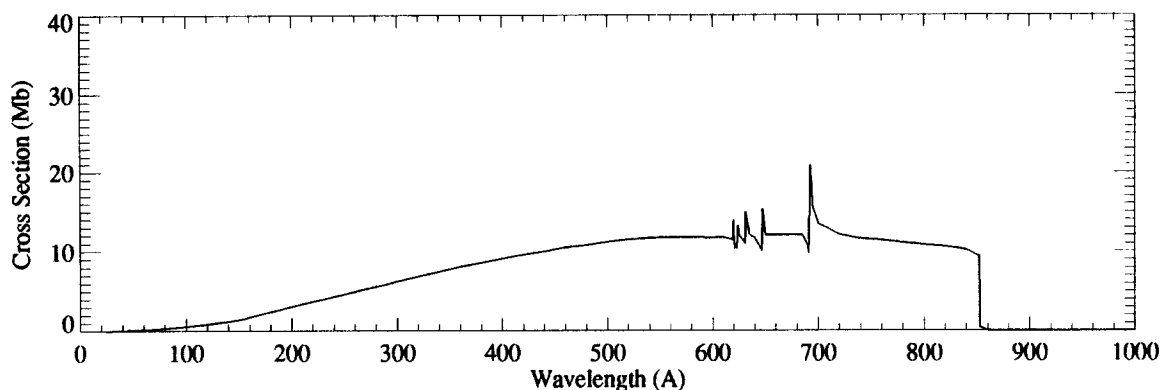


Figure 8. Total photoionization cross sections for atomic nitrogen.

from the dissociation of N₂.⁸ Recently, Samson and Angel⁸ measured the absolute single and double photoionization cross sections of N from threshold (852.19 Å) down to 31 Å. These measured cross sections have allowed the normalization of the high-resolution measurements of the relative photoionization cross sections of Dehmer et al.¹⁴ for atomic nitrogen. The Dehmer et al.¹⁴ measurements have a resolution of 0.83 Å (FWHM) and ranged from 870 to 600 Å, which includes the autoionization structure from the NI 2s2p³(⁵S⁰)np ⁴P Rydberg series.

The total photoionization cross sections for N from 860 to 31 Å are listed in Table I. Dehmer et al.¹⁴ observed a sharp threshold at the NI ionization limit at 852.19 Å, after which the photoionization cross section remains fairly constant until the appearance of the autoionization, approximately at 700 Å. The single, double, and total photoionization cross sections from 299 to 44 Å have been tabulated and are listed in Table II. The photoabsorption cross sections are assumed to be equal to the total photoionization cross sections over the entire wavelength range. Since there have been no recent measurements of the N photoabsorption cross sections, the photoabsorption cross sections have not been directly included in this compilation. The total photoionization cross sections of N listed in Table I from threshold down to 31 Å are shown in Fig. 8.

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EXPLANATION OF TABLES

All cross sections are in units of 10^{-18} cm^2

λ	Wavelength in angstroms ($\text{\AA}$)
O	Atomic oxygen
N ₂	Molecular nitrogen
O ₂	Molecular oxygen
N	Atomic nitrogen

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

⁴ S	Cross section for photoionization of a $2p$ valence electron of atomic oxygen giving the ground state $\text{O}^+(\text{}^4\text{S})$
² D	Cross section for photoionization of a $2p$ valence electron of atomic oxygen giving the excited state $\text{O}^+(\text{}^2\text{D})$
² P	Cross section for photoionization of a $2p$ valence electron of atomic oxygen giving the excited state $\text{O}^+(\text{}^2\text{P})$
⁴ P ^e	Cross section for photoionization of a $2s$ electron giving the excited state $\text{O}^+(\text{}^4\text{P}^e)$
² P ^e	Cross section for photoionization of a $2s$ electron giving the excited state $\text{O}^+(\text{}^2\text{P}^e)$
ION	Total photoionization cross section for the given species (including multiple ionization)
ABS	Total photoabsorption cross section for the given species
N ₂ ⁺	Photoionization cross section of molecular nitrogen for the production of N ₂ ⁺
N ⁺	Dissociative photoionization cross section of molecular nitrogen for the production of N ⁺ ; below 30 $\text{\AA}$, N ⁺ is included with N ₂ ⁺
O ₂ ⁺	Photoionization cross section of molecular oxygen for the production of O ₂ ⁺
O ⁺	Dissociative photoionization cross section of molecular oxygen for the production of O ⁺ ; below 120 $\text{\AA}$, O ⁺ is included with O ₂ ⁺

TABLE II. Total Photoionization Cross Sections for Multiple Photoionization of O and N

O ⁺	Photoionization cross section for singly ionized atomic oxygen
O ⁺⁺	Photoionization cross section for doubly ionized atomic oxygen
O ⁺⁺⁺	Photoionization cross section for triply ionized atomic oxygen
TOTAL	Total photoionization cross section for given species
N ⁺	Photoionization cross section for singly ionized atomic nitrogen
N ⁺⁺	Photoionization cross section for doubly ionized atomic nitrogen

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

See page 331 for Explanation of Tables

λ	O						N ₂				O ₂				N
	⁴ S	² D	³ P	⁴ P [°]	² P [°]	ION	ABS	N ₂ ⁺	N ⁺	ION	ABS	O ₂ ⁺	O ⁺	ION	ION
$\text{\AA}$	$\times 10^{-18} \text{ cm}^2$														
23.70	0.01	0.01	0.01	0.00	0.00	0.04	0.80	0.80	0.00	0.80	0.07	0.07	0.00	0.07	0.00
28.47	0.02	0.02	0.01	0.01	0.00	0.06	0.96	0.96	0.00	0.96	0.13	0.13	0.00	0.13	0.00
28.79	0.02	0.02	0.01	0.01	0.00	0.07	0.97	0.97	0.00	0.97	0.13	0.13	0.00	0.13	0.00
29.52	0.02	0.02	0.02	0.01	0.00	0.07	0.99	0.99	0.00	0.99	0.14	0.14	0.00	0.14	0.00
30.00	0.02	0.02	0.02	0.01	0.01	0.07	1.01	0.61	0.40	1.01	0.14	0.14	0.00	0.14	0.00
30.27	0.02	0.02	0.02	0.01	0.01	0.07	1.02	0.61	0.41	1.02	0.15	0.15	0.00	0.15	0.00
30.43	0.02	0.03	0.02	0.01	0.01	0.08	0.91	0.55	0.36	0.91	0.15	0.15	0.00	0.15	0.00
31.00	0.02	0.03	0.02	0.01	0.01	0.08	0.51	0.31	0.20	0.51	0.16	0.16	0.00	0.16	0.04
31.62	0.02	0.03	0.02	0.01	0.01	0.08	0.08	0.05	0.03	0.08	0.16	0.16	0.00	0.16	0.04
33.74	0.03	0.03	0.02	0.01	0.01	0.10	0.10	0.06	0.04	0.10	0.19	0.19	0.00	0.19	0.05
35.40	0.03	0.03	0.02	0.01	0.01	0.11	0.11	0.06	0.04	0.11	0.21	0.21	0.00	0.21	0.05
40.95	0.04	0.05	0.03	0.02	0.01	0.14	0.15	0.09	0.06	0.15	0.28	0.28	0.00	0.28	0.07
41.30	0.04	0.05	0.03	0.02	0.01	0.14	0.15	0.09	0.06	0.15	0.28	0.28	0.00	0.28	0.07
43.76	0.05	0.05	0.03	0.02	0.01	0.16	0.17	0.10	0.07	0.17	0.31	0.31	0.00	0.31	0.08
44.02	0.05	0.05	0.03	0.02	0.01	0.16	0.17	0.10	0.07	0.17	0.31	0.31	0.00	0.31	0.08
44.16	0.05	0.05	0.03	0.02	0.01	0.16	0.17	0.10	0.07	0.17	0.31	0.31	0.00	0.31	0.09
44.70	0.05	0.05	0.03	0.02	0.01	0.18	0.18	0.11	0.07	0.18	0.32	0.32	0.00	0.32	0.09
45.30	0.05	0.05	0.03	0.02	0.01	0.18	0.18	0.11	0.07	0.18	0.33	0.33	0.00	0.33	0.09
45.66	0.05	0.05	0.03	0.02	0.01	0.18	0.19	0.11	0.08	0.19	0.34	0.34	0.00	0.34	0.09
45.90	0.05	0.05	0.03	0.02	0.01	0.18	0.19	0.11	0.08	0.19	0.35	0.35	0.00	0.35	0.09
46.40	0.05	0.05	0.03	0.02	0.01	0.18	0.20	0.12	0.08	0.20	0.36	0.36	0.00	0.36	0.10
46.67	0.05	0.05	0.04	0.02	0.01	0.18	0.20	0.12	0.08	0.20	0.36	0.36	0.00	0.36	0.10
47.70	0.05	0.05	0.04	0.02	0.01	0.18	0.21	0.13	0.08	0.21	0.38	0.38	0.00	0.38	0.10
47.87	0.05	0.05	0.04	0.02	0.01	0.18	0.21	0.13	0.08	0.21	0.39	0.39	0.00	0.39	0.10
49.22	0.06	0.06	0.04	0.02	0.01	0.19	0.23	0.14	0.09	0.23	0.42	0.42	0.00	0.42	0.11
49.60	0.05	0.06	0.04	0.02	0.01	0.20	0.23	0.14	0.09	0.23	0.43	0.43	0.00	0.43	0.11
50.36	0.05	0.06	0.04	0.02	0.01	0.20	0.24	0.14	0.09	0.24	0.44	0.44	0.00	0.44	0.12
50.52	0.05	0.06	0.04	0.02	0.01	0.21	0.24	0.14	0.09	0.24	0.44	0.44	0.00	0.44	0.12
50.69	0.06	0.06	0.04	0.02	0.01	0.21	0.24	0.15	0.10	0.24	0.45	0.45	0.00	0.45	0.12
51.70	0.06	0.07	0.04	0.02	0.02	0.22	0.25	0.15	0.10	0.25	0.47	0.47	0.00	0.47	0.12
52.30	0.06	0.07	0.04	0.02	0.02	0.22	0.26	0.16	0.10	0.26	0.48	0.48	0.00	0.48	0.13
52.91	0.06	0.07	0.04	0.02	0.02	0.23	0.27	0.16	0.11	0.27	0.50	0.50	0.00	0.50	0.13
53.90	0.06	0.07	0.04	0.02	0.02	0.24	0.28	0.17	0.11	0.28	0.52	0.52	0.00	0.52	0.14
54.15	0.06	0.08	0.04	0.02	0.02	0.24	0.28	0.17	0.11	0.28	0.53	0.53	0.00	0.53	0.14
54.42	0.07	0.08	0.05	0.02	0.02	0.25	0.29	0.17	0.11	0.29	0.54	0.54	0.00	0.54	0.14
54.70	0.06	0.08	0.05	0.02	0.02	0.25	0.29	0.18	0.12	0.29	0.54	0.54	0.00	0.54	0.14
55.06	0.07	0.08	0.05	0.02	0.02	0.26	0.30	0.18	0.12	0.30	0.55	0.55	0.00	0.55	0.14
55.34	0.07	0.08	0.05	0.03	0.02	0.26	0.30	0.18	0.12	0.30	0.56	0.56	0.00	0.56	0.14
56.08	0.07	0.08	0.05	0.03	0.02	0.27	0.31	0.19	0.12	0.31	0.58	0.58	0.00	0.58	0.15
56.40	0.07	0.08	0.05	0.03	0.02	0.28	0.31	0.19	0.12	0.31	0.59	0.59	0.00	0.59	0.15
56.92	0.07	0.09	0.05	0.03	0.02	0.28	0.32	0.19	0.13	0.32	0.60	0.60	0.00	0.60	0.15
57.36	0.07	0.09	0.05	0.03	0.02	0.29	0.33	0.20	0.13	0.33	0.61	0.61	0.00	0.61	0.16
57.56	0.07	0.09	0.06	0.03	0.02	0.29	0.33	0.20	0.13	0.33	0.62	0.62	0.00	0.62	0.16
57.88	0.08	0.09	0.05	0.03	0.02	0.30	0.34	0.20	0.13	0.34	0.62	0.62	0.00	0.62	0.16
58.96	0.08	0.10	0.06	0.03	0.02	0.31	0.35	0.21	0.14	0.35	0.65	0.65	0.00	0.65	0.17
59.62	0.08	0.10	0.06	0.03	0.02	0.32	0.36	0.22	0.14	0.36	0.67	0.67	0.00	0.67	0.17
60.30	0.09	0.10	0.06	0.03	0.02	0.34	0.37	0.22	0.15	0.37	0.68	0.68	0.00	0.68	0.18
60.85	0.09	0.10	0.06	0.03	0.02	0.35	0.38	0.23	0.15	0.38	0.70	0.70	0.00	0.70	0.18
61.07	0.09	0.11	0.06	0.03	0.02	0.35	0.38	0.23	0.15	0.38	0.70	0.70	0.00	0.70	0.18
61.63	0.09	0.11	0.07	0.03	0.03	0.36	0.39	0.24	0.15	0.39	0.72	0.72	0.00	0.72	0.18
61.90	0.10	0.11	0.07	0.03	0.03	0.37	0.39	0.24	0.15	0.39	0.73	0.73	0.00	0.73	0.19
62.30	0.10	0.11	0.07	0.03	0.03	0.38	0.40	0.24	0.16	0.40	0.74	0.74	0.00	0.74	0.19
62.77	0.10	0.11	0.07	0.03	0.03	0.38	0.40	0.25	0.16	0.40	0.75	0.75	0.00	0.75	0.19
62.92	0.10	0.11	0.07	0.03	0.03	0.39	0.41	0.25	0.16	0.41	0.75	0.75	0.00	0.75	0.19
63.16	0.10	0.11	0.07	0.03	0.03	0.39	0.41	0.25	0.16	0.41	0.76	0.76	0.00	0.76	0.20
63.30	0.10	0.12	0.07	0.03	0.03	0.39	0.41	0.25	0.16	0.41	0.76	0.76	0.00	0.76	0.20
63.65	0.10	0.12	0.08	0.04	0.03	0.40	0.42	0.25	0.16	0.42	0.77	0.77	0.00	0.77	0.20
64.11	0.11	0.12	0.08	0.03	0.03	0.41	0.42	0.26	0.17	0.42	0.78	0.78	0.00	0.78	0.20
64.38	0.11	0.12	0.07	0.03	0.03	0.41	0.43	0.26	0.17	0.43	0.79	0.79	0.00	0.79	0.20
64.60	0.11	0.12	0.07	0.03	0.03	0.42	0.43	0.26	0.17	0.43	0.80	0.80	0.00	0.80	0.21
65.21	0.11	0.12	0.08	0.03	0.03	0.43	0.44	0.27	0.17	0.44	0.82	0.82	0.00	0.82	0.21
65.71	0.12	0.13	0.08	0.03	0.03	0.44	0.44	0.27	0.17	0.44	0.84	0.84	0.00	0.84	0.21
65.85	0.12	0.13	0.08	0.04	0.03	0.44	0.45	0.27	0.17	0.45	0.84	0.84	0.00	0.84	0.22

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

See page 331 for Explanation of Tables

λ	O						N ₂				O ₂				N
	⁴ S	² D	² P	⁴ P ^e	² P ^e	ION	ABS	N ₂ ⁺	N ⁺	ION	ABS	O ₂ ⁺	O ⁺	ION	ION
Å	$\times 10^{-18} \text{ cm}^2$														
66.30	0.12	0.13	0.08	0.04	0.03	0.45	0.45	0.27	0.18	0.45	0.86	0.86	0.00	0.86	0.22
67.14	0.12	0.14	0.09	0.04	0.03	0.47	0.46	0.28	0.18	0.46	0.89	0.89	0.00	0.89	0.22
67.35	0.12	0.13	0.09	0.04	0.03	0.48	0.46	0.28	0.18	0.46	0.89	0.89	0.00	0.89	0.23
67.60	0.12	0.14	0.09	0.04	0.03	0.48	0.47	0.29	0.18	0.47	0.90	0.90	0.00	0.90	0.23
68.35	0.13	0.14	0.09	0.04	0.04	0.50	0.48	0.29	0.19	0.48	0.93	0.93	0.00	0.93	0.23
68.90	0.13	0.15	0.09	0.04	0.03	0.51	0.50	0.30	0.19	0.50	0.94	0.94	0.00	0.94	0.24
69.65	0.13	0.15	0.10	0.04	0.03	0.52	0.51	0.31	0.20	0.51	0.96	0.96	0.00	0.96	0.24
70.00	0.14	0.15	0.09	0.05	0.03	0.53	0.52	0.32	0.20	0.52	0.98	0.98	0.00	0.98	0.25
70.54	0.14	0.16	0.10	0.05	0.03	0.54	0.53	0.32	0.21	0.53	0.99	0.99	0.00	0.99	0.25
70.75	0.14	0.15	0.10	0.05	0.03	0.55	0.53	0.33	0.21	0.53	1.00	1.00	0.00	1.00	0.25
71.00	0.15	0.16	0.10	0.05	0.03	0.55	0.54	0.33	0.21	0.54	1.00	1.00	0.00	1.00	0.26
71.94	0.15	0.16	0.11	0.05	0.04	0.57	0.56	0.34	0.22	0.56	1.03	1.03	0.00	1.03	0.26
72.19	0.15	0.16	0.11	0.05	0.04	0.58	0.56	0.34	0.22	0.56	1.04	1.04	0.00	1.04	0.27
72.31	0.15	0.16	0.11	0.05	0.04	0.58	0.57	0.35	0.22	0.57	1.04	1.04	0.00	1.04	0.27
72.63	0.15	0.16	0.11	0.05	0.04	0.59	0.57	0.35	0.22	0.57	1.06	1.06	0.00	1.06	0.27
72.80	0.16	0.16	0.11	0.05	0.04	0.59	0.57	0.35	0.22	0.57	1.06	1.06	0.00	1.06	0.27
73.55	0.15	0.17	0.11	0.05	0.04	0.61	0.59	0.36	0.23	0.59	1.09	1.09	0.00	1.09	0.28
74.21	0.16	0.17	0.11	0.05	0.04	0.62	0.60	0.37	0.23	0.60	1.11	1.11	0.00	1.11	0.28
74.44	0.17	0.18	0.12	0.06	0.04	0.63	0.60	0.37	0.23	0.60	1.12	1.12	0.00	1.12	0.29
74.83	0.16	0.18	0.12	0.06	0.04	0.64	0.61	0.37	0.24	0.61	1.14	1.14	0.00	1.14	0.29
75.03	0.17	0.18	0.12	0.06	0.04	0.64	0.62	0.38	0.24	0.62	1.14	1.14	0.00	1.14	0.29
75.29	0.17	0.18	0.12	0.06	0.04	0.65	0.62	0.38	0.24	0.62	1.15	1.15	0.00	1.15	0.29
75.46	0.17	0.18	0.12	0.06	0.04	0.65	0.62	0.38	0.24	0.62	1.16	1.16	0.00	1.16	0.29
75.73	0.17	0.18	0.12	0.05	0.05	0.66	0.63	0.38	0.24	0.63	1.17	1.17	0.00	1.17	0.30
76.01	0.17	0.19	0.12	0.05	0.05	0.66	0.63	0.39	0.25	0.63	1.18	1.18	0.00	1.18	0.30
76.48	0.17	0.18	0.12	0.06	0.05	0.67	0.64	0.39	0.25	0.64	1.19	1.19	0.00	1.19	0.30
76.83	0.18	0.19	0.13	0.06	0.05	0.68	0.65	0.40	0.25	0.65	1.21	1.21	0.00	1.21	0.31
76.94	0.18	0.19	0.13	0.06	0.05	0.68	0.65	0.40	0.25	0.65	1.21	1.21	0.00	1.21	0.31
77.30	0.18	0.19	0.12	0.06	0.05	0.69	0.66	0.40	0.25	0.66	1.22	1.22	0.00	1.22	0.31
77.50	0.18	0.20	0.12	0.06	0.05	0.70	0.66	0.40	0.26	0.66	1.23	1.23	0.00	1.23	0.31
77.74	0.18	0.20	0.13	0.06	0.04	0.70	0.66	0.41	0.26	0.66	1.24	1.24	0.00	1.24	0.32
78.56	0.18	0.20	0.13	0.06	0.05	0.72	0.68	0.42	0.26	0.68	1.27	1.27	0.00	1.27	0.32
78.70	0.19	0.20	0.13	0.06	0.05	0.73	0.68	0.42	0.26	0.68	1.28	1.28	0.00	1.28	0.32
79.08	0.19	0.21	0.14	0.06	0.05	0.74	0.69	0.42	0.27	0.69	1.29	1.29	0.00	1.29	0.33
79.48	0.20	0.21	0.14	0.07	0.05	0.75	0.69	0.43	0.27	0.69	1.30	1.30	0.00	1.30	0.33
79.76	0.20	0.21	0.14	0.07	0.05	0.76	0.70	0.43	0.27	0.70	1.31	1.31	0.00	1.31	0.33
80.00	0.20	0.21	0.14	0.07	0.05	0.76	0.70	0.43	0.27	0.70	1.32	1.32	0.00	1.32	0.34
80.21	0.20	0.22	0.14	0.06	0.05	0.77	0.71	0.43	0.27	0.71	1.33	1.33	0.00	1.33	0.34
80.55	0.20	0.21	0.14	0.06	0.05	0.78	0.71	0.44	0.28	0.71	1.34	1.34	0.00	1.34	0.34
80.94	0.21	0.22	0.14	0.07	0.05	0.79	0.72	0.44	0.28	0.72	1.36	1.36	0.00	1.36	0.35
81.16	0.21	0.22	0.15	0.07	0.06	0.79	0.73	0.45	0.28	0.73	1.36	1.36	0.00	1.36	0.35
81.58	0.21	0.23	0.15	0.07	0.06	0.81	0.73	0.45	0.28	0.73	1.38	1.38	0.00	1.38	0.35
81.94	0.21	0.23	0.15	0.07	0.06	0.82	0.74	0.45	0.28	0.74	1.39	1.39	0.00	1.39	0.36
82.10	0.21	0.23	0.15	0.07	0.06	0.82	0.74	0.46	0.29	0.74	1.40	1.40	0.00	1.40	0.36
82.43	0.22	0.23	0.15	0.07	0.06	0.83	0.75	0.46	0.29	0.75	1.41	1.41	0.00	1.41	0.36
82.67	0.22	0.23	0.15	0.07	0.06	0.84	0.76	0.47	0.29	0.76	1.43	1.43	0.00	1.43	0.36
83.25	0.22	0.23	0.16	0.07	0.05	0.85	0.78	0.48	0.30	0.78	1.45	1.45	0.00	1.45	0.37
83.42	0.22	0.24	0.16	0.07	0.05	0.85	0.78	0.48	0.30	0.78	1.46	1.46	0.00	1.46	0.37
83.67	0.22	0.24	0.16	0.07	0.05	0.86	0.79	0.49	0.30	0.79	1.47	1.47	0.00	1.47	0.37
84.00	0.23	0.24	0.16	0.08	0.05	0.86	0.80	0.49	0.31	0.80	1.49	1.49	0.00	1.49	0.38
84.26	0.23	0.24	0.16	0.08	0.06	0.87	0.81	0.50	0.31	0.81	1.50	1.50	0.00	1.50	0.38
84.50	0.23	0.24	0.16	0.08	0.06	0.87	0.82	0.50	0.31	0.82	1.51	1.51	0.00	1.51	0.38
84.72	0.23	0.25	0.16	0.07	0.06	0.88	0.82	0.51	0.32	0.82	1.53	1.53	0.00	1.53	0.38
84.86	0.23	0.25	0.16	0.07	0.06	0.88	0.83	0.51	0.32	0.83	1.53	1.53	0.00	1.53	0.39
85.16	0.23	0.25	0.16	0.08	0.06	0.89	0.84	0.52	0.32	0.84	1.55	1.55	0.00	1.55	0.39
85.50	0.23	0.25	0.16	0.08	0.06	0.90	0.85	0.52	0.32	0.85	1.56	1.56	0.00	1.56	0.39
85.69	0.24	0.25	0.17	0.08	0.06	0.90	0.85	0.53	0.33	0.85	1.57	1.57	0.00	1.57	0.39
85.87	0.24	0.25	0.17	0.08	0.06	0.90	0.86	0.53	0.33	0.86	1.58	1.58	0.00	1.58	0.40
86.23	0.24	0.25	0.17	0.08	0.06	0.91	0.87	0.54	0.33	0.87	1.60	1.60	0.00	1.60	0.40
86.40	0.24	0.26	0.17	0.08	0.06	0.92	0.87	0.54	0.34	0.87	1.61	1.61	0.00	1.61	0.40
86.77	0.24	0.26	0.17	0.07	0.06	0.92	0.89	0.55	0.34	0.89	1.62	1.62	0.00	1.62	0.41
86.98	0.24	0.26	0.17	0.07	0.06	0.93	0.89	0.55	0.34	0.89	1.64	1.64	0.00	1.64	0.41
87.30	0.24	0.26	0.17	0.07	0.07	0.93	0.90	0.56	0.35	0.90	1.65	1.65	0.00	1.65	0.41

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

See page 331 for Explanation of Tables

λ	O						N ₂				O ₂				N
	⁴ S	² D	² P	⁴ P ^e	² P ^e	ION	ABS	N ₂ ⁺	N ⁺	ION	ABS	O ₂ ⁺	O ⁺	ION	ION
Å	$\times 10^{-18} \text{ cm}^2$														
87.61	0.25	0.26	0.17	0.08	0.07	0.94	0.91	0.56	0.35	0.91	1.67	1.67	0.00	1.67	0.41
88.10	0.25	0.27	0.17	0.08	0.07	0.95	0.93	0.57	0.35	0.93	1.69	1.69	0.00	1.69	0.42
88.42	0.25	0.27	0.18	0.08	0.07	0.96	0.94	0.58	0.36	0.94	1.71	1.71	0.00	1.71	0.42
88.60	0.25	0.27	0.18	0.08	0.07	0.96	0.94	0.58	0.36	0.94	1.71	1.71	0.00	1.71	0.43
88.90	0.25	0.27	0.18	0.08	0.06	0.97	0.95	0.59	0.36	0.95	1.73	1.73	0.00	1.73	0.43
89.14	0.26	0.27	0.18	0.08	0.06	0.98	0.96	0.59	0.37	0.96	1.74	1.74	0.00	1.74	0.43
89.70	0.26	0.28	0.18	0.08	0.07	0.99	0.98	0.60	0.37	0.98	1.77	1.77	0.00	1.77	0.44
90.14	0.26	0.28	0.18	0.09	0.07	1.00	0.99	0.61	0.38	0.99	1.79	1.79	0.00	1.79	0.44
90.45	0.27	0.28	0.19	0.09	0.07	1.01	1.00	0.62	0.38	1.00	1.80	1.80	0.00	1.80	0.45
90.71	0.26	0.28	0.19	0.09	0.07	1.02	1.01	0.62	0.38	1.01	1.82	1.82	0.00	1.82	0.45
91.00	0.27	0.29	0.19	0.09	0.07	1.03	1.02	0.63	0.39	1.02	1.83	1.83	0.00	1.83	0.45
91.48	0.27	0.29	0.19	0.08	0.06	1.04	1.03	0.64	0.39	1.03	1.85	1.85	0.00	1.85	0.46
91.69	0.27	0.29	0.19	0.09	0.06	1.04	1.04	0.64	0.40	1.04	1.86	1.86	0.00	1.86	0.46
91.81	0.27	0.29	0.19	0.09	0.06	1.05	1.04	0.64	0.40	1.04	1.87	1.87	0.00	1.87	0.46
92.09	0.28	0.30	0.19	0.09	0.07	1.06	1.05	0.65	0.40	1.05	1.88	1.88	0.00	1.88	0.47
92.55	0.28	0.30	0.20	0.09	0.07	1.07	1.06	0.66	0.41	1.06	1.91	1.91	0.00	1.91	0.47
92.81	0.28	0.30	0.20	0.09	0.08	1.07	1.07	0.66	0.41	1.07	1.92	1.92	0.00	1.92	0.47
93.61	0.29	0.31	0.20	0.09	0.08	1.10	1.10	0.68	0.42	1.10	1.96	1.96	0.00	1.96	0.48
94.07	0.29	0.31	0.20	0.10	0.08	1.11	1.11	0.69	0.42	1.11	1.98	1.98	0.00	1.98	0.49
94.25	0.29	0.31	0.20	0.10	0.07	1.11	1.12	0.69	0.42	1.12	1.99	1.99	0.00	1.99	0.49
94.39	0.29	0.31	0.21	0.10	0.07	1.12	1.12	0.69	0.43	1.12	2.00	2.00	0.00	2.00	0.49
94.81	0.30	0.32	0.21	0.10	0.08	1.13	1.13	0.70	0.43	1.13	2.02	2.02	0.00	2.02	0.50
95.37	0.30	0.32	0.21	0.09	0.08	1.14	1.15	0.71	0.44	1.15	2.04	2.04	0.00	2.04	0.50
95.51	0.30	0.31	0.21	0.09	0.08	1.15	1.16	0.72	0.44	1.16	2.05	2.05	0.00	2.05	0.51
95.81	0.30	0.32	0.21	0.09	0.08	1.15	1.16	0.72	0.44	1.16	2.06	2.06	0.00	2.06	0.51
96.05	0.30	0.32	0.21	0.10	0.08	1.16	1.17	0.73	0.44	1.17	2.08	2.08	0.00	2.08	0.51
96.49	0.31	0.33	0.21	0.10	0.08	1.17	1.19	0.74	0.45	1.19	2.10	2.10	0.00	2.10	0.52
96.83	0.31	0.33	0.22	0.10	0.07	1.18	1.20	0.74	0.45	1.20	2.11	2.11	0.00	2.11	0.52
97.12	0.31	0.33	0.22	0.10	0.07	1.18	1.20	0.75	0.46	1.20	2.13	2.13	0.00	2.13	0.53
97.51	0.31	0.33	0.22	0.09	0.08	1.19	1.22	0.76	0.46	1.22	2.15	2.15	0.00	2.15	0.53
97.87	0.32	0.34	0.22	0.11	0.08	1.20	1.23	0.76	0.46	1.23	2.16	2.16	0.00	2.16	0.54
98.12	0.32	0.34	0.22	0.11	0.08	1.21	1.24	0.77	0.47	1.24	2.18	2.18	0.00	2.18	0.54
98.23	0.32	0.34	0.22	0.11	0.08	1.21	1.24	0.77	0.47	1.24	2.18	2.18	0.00	2.18	0.54
98.50	0.32	0.34	0.22	0.11	0.09	1.22	1.25	0.78	0.47	1.25	2.20	2.20	0.00	2.20	0.54
98.88	0.32	0.34	0.23	0.11	0.09	1.23	1.26	0.78	0.48	1.26	2.21	2.21	0.00	2.21	0.55
99.44	0.33	0.35	0.23	0.10	0.08	1.24	1.28	0.79	0.48	1.28	2.24	2.24	0.00	2.24	0.56
99.71	0.33	0.35	0.23	0.10	0.08	1.25	1.28	0.80	0.49	1.28	2.25	2.25	0.00	2.25	0.56
99.99	0.33	0.35	0.23	0.11	0.09	1.25	1.29	0.80	0.49	1.29	2.27	2.27	0.00	2.27	0.56
100.54	0.33	0.36	0.23	0.11	0.09	1.27	1.31	0.82	0.49	1.31	2.29	2.29	0.00	2.29	0.57
100.96	0.34	0.36	0.24	0.11	0.09	1.28	1.32	0.82	0.50	1.32	2.31	2.31	0.00	2.31	0.58
101.57	0.34	0.36	0.24	0.10	0.09	1.29	1.34	0.84	0.51	1.34	2.34	2.34	0.00	2.34	0.58
102.15	0.34	0.37	0.24	0.11	0.08	1.31	1.36	0.85	0.51	1.36	2.37	2.37	0.00	2.37	0.59
103.01	0.35	0.37	0.24	0.12	0.09	1.33	1.39	0.86	0.52	1.39	2.41	2.41	0.00	2.41	0.60
103.15	0.35	0.37	0.25	0.12	0.09	1.33	1.39	0.87	0.52	1.39	2.42	2.42	0.00	2.42	0.60
103.30	0.35	0.37	0.25	0.11	0.09	1.33	1.39	0.87	0.53	1.39	2.43	2.43	0.00	2.43	0.61
103.58	0.35	0.38	0.25	0.11	0.09	1.34	1.40	0.88	0.53	1.40	2.44	2.44	0.00	2.44	0.61
103.94	0.36	0.38	0.25	0.12	0.09	1.35	1.41	0.88	0.53	1.41	2.46	2.46	0.00	2.46	0.61
104.23	0.36	0.38	0.25	0.12	0.10	1.36	1.42	0.89	0.54	1.42	2.47	2.47	0.00	2.47	0.62
104.76	0.36	0.39	0.25	0.12	0.08	1.37	1.44	0.90	0.54	1.44	2.50	2.50	0.00	2.50	0.63
105.23	0.36	0.39	0.26	0.12	0.10	1.38	1.45	0.91	0.55	1.45	2.52	2.52	0.00	2.52	0.63
106.25	0.37	0.40	0.26	0.12	0.10	1.41	1.49	0.93	0.56	1.49	2.57	2.57	0.00	2.57	0.65
106.57	0.37	0.40	0.26	0.12	0.10	1.42	1.50	0.93	0.56	1.50	2.59	2.59	0.00	2.59	0.65
106.93	0.38	0.40	0.26	0.13	0.09	1.43	1.51	0.94	0.57	1.51	2.60	2.60	0.00	2.60	0.66
107.80	0.38	0.41	0.27	0.13	0.10	1.45	1.53	0.96	0.57	1.53	2.65	2.65	0.00	2.65	0.67
108.05	0.38	0.41	0.27	0.13	0.10	1.46	1.54	0.96	0.58	1.54	2.66	2.66	0.00	2.66	0.67
108.46	0.39	0.41	0.27	0.13	0.10	1.47	1.55	0.97	0.58	1.55	2.68	2.68	0.00	2.68	0.68
109.50	0.39	0.42	0.28	0.13	0.11	1.49	1.59	0.99	0.59	1.59	2.73	2.73	0.00	2.73	0.69
109.98	0.40	0.42	0.28	0.13	0.11	1.51	1.60	1.00	0.60	1.60	2.75	2.75	0.00	2.75	0.70
110.56	0.40	0.43	0.28	0.12	0.11	1.52	1.62	1.01	0.60	1.62	2.78	2.78	0.00	2.78	0.71
110.76	0.40	0.43	0.28	0.12	0.11	1.53	1.62	1.02	0.61	1.62	2.79	2.79	0.00	2.79	0.71
111.16	0.41	0.43	0.28	0.14	0.09	1.54	1.64	1.03	0.61	1.64	2.81	2.81	0.00	2.81	0.72
112.70	0.42	0.44	0.29	0.13	0.11	1.58	1.68	1.06	0.63	1.68	2.89	2.89	0.00	2.89	0.74
113.80	0.42	0.45	0.30	0.13	0.11	1.60	1.72	1.08	0.64	1.72	2.94	2.94	0.00	2.94	0.76

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

See page 331 for Explanation of Tables

λ	O						N ₂				O ₂				N
	⁴ S	² D	² P	⁴ P ^e	² P ^e	ION	ABS	N ₂ ⁺	N ⁺	ION	ABS	O ₂ ⁺	O ⁺	ION	ION
Å	$\times 10^{-18} \text{ cm}^2$														
114.09	0.43	0.46	0.30	0.14	0.11	1.61	1.73	1.08	0.64	1.73	2.95	2.95	0.00	2.95	0.76
114.24	0.43	0.46	0.30	0.14	0.11	1.61	1.73	1.09	0.64	1.73	2.96	2.96	0.00	2.96	0.76
115.39	0.44	0.46	0.30	0.13	0.10	1.64	1.77	1.11	0.66	1.77	3.02	3.02	0.00	3.02	0.78
115.80	0.44	0.47	0.31	0.15	0.12	1.65	1.78	1.12	0.66	1.78	3.04	3.04	0.00	3.04	0.79
116.75	0.44	0.47	0.31	0.15	0.12	1.68	1.82	1.15	0.66	1.82	3.08	3.08	0.00	3.08	0.80
117.20	0.45	0.48	0.31	0.13	0.12	1.69	1.84	1.17	0.67	1.84	3.10	3.10	0.00	3.10	0.81
118.10	0.45	0.48	0.32	0.14	0.12	1.71	1.87	1.21	0.67	1.87	3.15	3.15	0.00	3.15	0.83
120.00	0.47	0.50	0.33	0.15	0.12	1.76	1.95	1.28	0.67	1.95	3.24	1.13	2.11	3.24	0.86
120.40	0.47	0.50	0.33	0.16	0.13	1.77	1.97	1.29	0.68	1.97	3.27	1.15	2.12	3.27	0.86
121.15	0.48	0.51	0.33	0.16	0.13	1.79	2.00	1.31	0.69	2.00	3.32	1.18	2.14	3.32	0.88
121.79	0.48	0.51	0.34	0.16	0.13	1.80	2.02	1.33	0.70	2.02	3.37	1.21	2.16	3.37	0.89
122.70	0.49	0.52	0.34	0.16	0.13	1.82	2.06	1.35	0.71	2.06	3.43	1.24	2.19	3.43	0.90
123.50	0.49	0.52	0.34	0.16	0.13	1.84	2.09	1.37	0.72	2.09	3.49	1.28	2.21	3.49	0.92
124.00	0.50	0.53	0.35	0.17	0.13	1.86	2.11	1.38	0.73	2.11	3.52	1.30	2.22	3.52	0.93
125.00	0.50	0.54	0.35	0.17	0.13	1.89	2.15	1.41	0.74	2.15	3.60	1.35	2.25	3.60	0.94
127.65	0.53	0.56	0.37	0.18	0.14	1.97	2.27	1.48	0.79	2.27	3.78	1.47	2.32	3.78	0.99
129.87	0.55	0.58	0.38	0.18	0.15	2.04	2.36	1.54	0.83	2.36	3.94	1.57	2.37	3.94	1.03
130.00	0.55	0.59	0.38	0.18	0.15	2.04	2.37	1.54	0.83	2.37	3.95	1.58	2.37	3.95	1.04
130.30	0.55	0.59	0.39	0.18	0.15	2.05	2.38	1.55	0.83	2.38	3.97	1.60	2.38	3.97	1.04
130.50	0.55	0.59	0.39	0.18	0.15	2.06	2.39	1.55	0.83	2.39	3.99	1.61	2.38	3.99	1.05
131.02	0.56	0.59	0.39	0.19	0.15	2.07	2.41	1.57	0.84	2.41	4.02	1.63	2.39	4.02	1.05
131.21	0.56	0.60	0.39	0.19	0.15	2.08	2.42	1.58	0.84	2.42	4.03	1.64	2.39	4.03	1.06
135.00	0.58	0.63	0.42	0.20	0.16	2.20	2.56	1.69	0.87	2.56	4.30	1.84	2.46	4.30	1.13
136.21	0.58	0.64	0.42	0.20	0.16	2.23	2.61	1.73	0.88	2.61	4.38	1.91	2.48	4.38	1.15
136.45	0.59	0.65	0.42	0.20	0.16	2.24	2.62	1.73	0.89	2.62	4.40	1.92	2.48	4.40	1.15
137.80	0.60	0.66	0.43	0.21	0.16	2.28	2.68	1.77	0.90	2.68	4.50	2.00	2.50	4.50	1.17
140.00	0.60	0.66	0.43	0.21	0.16	2.27	2.77	1.84	0.93	2.77	4.65	2.12	2.53	4.65	1.22
141.20	0.59	0.66	0.43	0.20	0.16	2.26	2.82	1.88	0.94	2.82	4.73	2.17	2.56	4.73	1.24
144.21	0.59	0.65	0.43	0.20	0.16	2.24	2.95	1.97	0.97	2.95	4.93	2.30	2.63	4.93	1.30
145.00	0.59	0.67	0.43	0.20	0.16	2.24	2.98	2.00	0.98	2.98	4.99	2.34	2.65	4.99	1.32
145.90	0.59	0.67	0.43	0.20	0.16	2.23	3.02	2.03	1.00	3.02	5.05	2.38	2.67	5.05	1.34
148.38	0.59	0.65	0.42	0.20	0.16	2.22	3.14	2.09	1.04	3.14	5.21	2.49	2.72	5.21	1.39
150.00	0.59	0.66	0.42	0.20	0.16	2.21	3.21	2.14	1.07	3.21	5.32	2.56	2.76	5.32	1.43
150.10	0.58	0.67	0.42	0.20	0.16	2.21	3.22	2.14	1.07	3.22	5.33	2.56	2.76	5.33	1.43
152.15	0.58	0.66	0.42	0.20	0.16	2.19	3.32	2.20	1.12	3.32	5.47	2.66	2.82	5.47	1.48
152.84	0.56	0.66	0.42	0.20	0.16	2.19	3.35	2.22	1.13	3.35	5.52	2.69	2.84	5.52	1.49
154.18	0.56	0.66	0.42	0.20	0.16	2.18	3.42	2.26	1.16	3.42	5.62	2.75	2.87	5.62	1.52
155.00	0.56	0.66	0.42	0.20	0.16	2.18	3.46	2.28	1.18	3.46	5.68	2.78	2.89	5.68	1.54
157.73	0.61	0.72	0.46	0.22	0.17	2.36	3.60	2.35	1.24	3.60	5.87	2.91	2.96	5.87	1.65
158.37	0.62	0.73	0.49	0.22	0.18	2.41	3.63	2.37	1.26	3.63	5.91	2.94	2.98	5.91	1.68
159.94	0.65	0.77	0.51	0.23	0.19	2.51	3.71	2.41	1.30	3.71	6.03	3.01	3.01	6.03	1.74
160.37	0.66	0.77	0.52	0.23	0.19	2.54	3.73	2.42	1.31	3.73	6.05	3.03	3.02	6.05	1.76
164.13	0.73	0.85	0.57	0.26	0.21	2.80	3.92	2.54	1.38	3.92	6.31	3.21	3.09	6.31	1.91
165.00	0.74	0.87	0.58	0.26	0.21	2.85	3.97	2.57	1.40	3.97	6.37	3.26	3.11	6.37	1.95
165.30	0.75	0.88	0.59	0.27	0.21	2.87	3.99	2.58	1.41	3.99	6.39	3.27	3.11	6.39	1.96
167.50	0.79	0.93	0.62	0.28	0.22	3.02	4.11	2.66	1.45	4.11	6.53	3.38	3.15	6.53	2.03
168.17	0.80	0.94	0.63	0.29	0.23	3.07	4.14	2.68	1.46	4.14	6.58	3.41	3.16	6.58	2.05
168.55	0.81	0.95	0.63	0.29	0.23	3.09	4.16	2.69	1.47	4.16	6.60	3.43	3.17	6.60	2.07
168.92	0.81	0.96	0.64	0.29	0.23	3.12	4.18	2.70	1.48	4.18	6.63	3.45	3.18	6.63	2.08
169.70	0.83	0.97	0.65	0.30	0.24	3.17	4.22	2.73	1.49	4.22	6.68	3.49	3.19	6.68	2.10
170.00	0.83	0.98	0.65	0.30	0.24	3.19	4.24	2.74	1.50	4.24	6.70	3.50	3.20	6.70	2.11
171.06	0.85	1.00	0.67	0.30	0.24	3.26	4.30	2.78	1.52	4.30	6.77	3.56	3.20	6.77	2.15
172.12	0.87	1.03	0.68	0.31	0.25	3.33	4.35	2.81	1.54	4.35	6.83	3.62	3.21	6.83	2.18
172.92	0.85	1.04	0.70	0.32	0.25	3.38	4.40	2.84	1.56	4.40	6.88	3.67	3.22	6.88	2.20
173.08	0.86	1.05	0.70	0.32	0.25	3.39	4.41	2.84	1.56	4.41	6.89	3.67	3.22	6.89	2.21
174.53	0.91	1.08	0.72	0.33	0.26	3.49	4.48	2.89	1.59	4.48	6.99	3.76	3.23	6.99	2.25
175.00	0.90	1.09	0.72	0.33	0.26	3.52	4.51	2.91	1.60	4.51	7.01	3.78	3.23	7.01	2.27
175.24	0.89	1.09	0.73	0.33	0.26	3.53	4.52	2.92	1.61	4.52	7.03	3.80	3.23	7.03	2.28
175.47	0.90	1.10	0.73	0.33	0.27	3.55	4.54	2.93	1.61	4.54	7.04	3.81	3.24	7.04	2.28
177.10	0.93	1.13	0.75	0.34	0.27	3.66	4.64	2.98	1.65	4.64	7.15	3.90	3.25	7.15	2.34
177.22	0.93	1.13	0.76	0.34	0.27	3.66	4.64	2.99	1.66	4.64	7.15	3.91	3.25	7.15	2.34
178.02	0.93	1.14	0.76	0.35	0.28	3.69	4.69	3.01	1.68	4.69	7.21	3.95	3.25	7.21	2.37
179.27	0.95	1.16	0.77	0.35	0.28	3.73	4.77	3.06	1.71	4.77	7.28	4.03	3.26	7.28	2.41

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

See page 331 for Explanation of Tables

λ	O						N ₂				O ₂				N
	⁴ S	² D	² P	⁴ P ^o	² P ^o	ION	ABS	N ₂ ⁺	N ⁺	ION	ABS	O ₂ ⁺	O ⁺	ION	ION
$\text{\AA}$	$\times 10^{-18} \text{ cm}^2$														
179.74	0.95	1.16	0.77	0.35	0.28	3.74	4.79	3.07	1.72	4.79	7.31	4.05	3.26	7.31	2.43
180.00	0.95	1.16	0.78	0.35	0.28	3.75	4.81	3.08	1.73	4.81	7.33	4.07	3.26	7.33	2.43
180.40	0.96	1.17	0.78	0.35	0.28	3.77	4.84	3.09	1.74	4.84	7.36	4.09	3.27	7.36	2.45
180.71	0.96	1.21	0.78	0.36	0.28	3.78	4.86	3.11	1.75	4.86	7.39	4.11	3.28	7.39	2.46
181.14	0.96	1.18	0.79	0.36	0.29	3.79	4.89	3.12	1.77	4.89	7.42	4.13	3.29	7.42	2.47
182.16	0.97	1.23	0.79	0.36	0.29	3.83	4.96	3.16	1.80	4.96	7.51	4.18	3.32	7.51	2.51
182.39	0.98	1.23	0.79	0.36	0.29	3.83	4.98	3.17	1.81	4.98	7.53	4.20	3.33	7.53	2.52
183.45	0.98	1.24	0.80	0.36	0.29	3.87	5.05	3.20	1.85	5.05	7.61	4.25	3.36	7.61	2.55
183.91	0.99	1.25	0.81	0.37	0.29	3.88	5.08	3.22	1.86	5.08	7.65	4.28	3.38	7.65	2.57
184.10	0.99	1.21	0.81	0.37	0.29	3.89	5.10	3.23	1.87	5.10	7.67	4.29	3.38	7.67	2.57
184.52	0.99	1.25	0.81	0.37	0.29	3.90	5.13	3.24	1.88	5.13	7.70	4.31	3.39	7.70	2.59
184.76	1.00	1.26	0.81	0.37	0.30	3.91	5.14	3.25	1.89	5.14	7.72	4.32	3.40	7.72	2.60
185.00	1.00	1.26	0.81	0.37	0.30	3.92	5.16	3.26	1.90	5.16	7.74	4.33	3.41	7.74	2.61
185.21	1.00	1.26	0.82	0.37	0.30	3.93	5.17	3.27	1.91	5.17	7.76	4.34	3.41	7.76	2.61
186.60	1.01	1.28	0.83	0.38	0.30	3.97	5.27	3.32	1.95	5.27	7.87	4.42	3.45	7.87	2.66
186.87	1.02	1.28	0.83	0.38	0.30	3.98	5.29	3.33	1.96	5.29	7.89	4.43	3.46	7.89	2.67
187.95	1.03	1.29	0.84	0.38	0.30	4.02	5.36	3.37	1.99	5.36	7.98	4.49	3.49	7.98	2.71
188.23	1.03	1.30	0.84	0.38	0.30	4.03	5.38	3.38	2.00	5.38	8.00	4.51	3.50	8.00	2.72
188.70	1.03	1.30	0.84	0.38	0.31	4.04	5.41	3.40	2.01	5.41	8.04	4.53	3.51	8.04	2.73
190.00	1.05	1.32	0.85	0.39	0.31	4.09	5.50	3.45	2.05	5.50	8.15	4.60	3.55	8.15	2.78
190.70	1.05	1.32	0.86	0.39	0.31	4.11	5.55	3.48	2.07	5.55	8.20	4.63	3.57	8.20	2.80
191.04	1.05	1.33	0.86	0.39	0.31	4.12	5.57	3.49	2.08	5.57	8.22	4.65	3.57	8.22	2.81
191.29	1.06	1.33	0.86	0.39	0.31	4.13	5.59	3.50	2.08	5.59	8.24	4.66	3.58	8.24	2.82
192.38	1.07	1.34	0.87	0.40	0.32	4.16	5.66	3.54	2.11	5.66	8.32	4.72	3.60	8.32	2.86
192.80	1.07	1.35	0.87	0.40	0.32	4.18	5.68	3.56	2.12	5.68	8.35	4.74	3.61	8.35	2.87
193.50	1.08	1.36	0.88	0.40	0.32	4.20	5.73	3.59	2.14	5.73	8.40	4.77	3.63	8.40	2.89
195.00	1.09	1.37	0.89	0.40	0.32	4.25	5.83	3.65	2.18	5.83	8.51	4.84	3.66	8.51	2.94
195.13	1.09	1.38	0.89	0.40	0.32	4.25	5.84	3.65	2.19	5.84	8.51	4.85	3.66	8.51	2.95
196.52	1.11	1.39	0.90	0.41	0.33	4.30	5.94	3.72	2.23	5.94	8.61	4.92	3.70	8.61	2.99
196.63	1.11	1.39	0.90	0.41	0.33	4.30	5.95	3.72	2.23	5.95	8.62	4.92	3.70	8.62	3.00
197.41	1.11	1.40	0.91	0.41	0.33	4.33	6.01	3.76	2.25	6.01	8.68	4.96	3.71	8.68	3.02
198.53	1.12	1.42	0.92	0.42	0.33	4.37	6.09	3.80	2.29	6.09	8.76	5.02	3.74	8.76	3.06
200.00	1.14	1.43	0.93	0.42	0.34	4.41	6.20	3.87	2.33	6.20	8.86	5.09	3.77	8.86	3.11
201.10	1.11	1.45	0.94	0.43	0.34	4.45	6.28	3.92	2.36	6.28	8.94	5.15	3.79	8.94	3.14
202.05	1.11	1.46	0.94	0.43	0.34	4.48	6.36	3.96	2.39	6.36	9.01	5.20	3.80	9.01	3.18
202.64	1.12	1.46	0.95	0.43	0.34	4.50	6.40	3.99	2.41	6.40	9.05	5.24	3.81	9.05	3.19
203.78	1.13	1.48	0.96	0.43	0.35	4.54	6.49	4.04	2.44	6.49	9.13	5.30	3.83	9.13	3.23
204.25	1.13	1.48	0.96	0.44	0.35	4.55	6.52	4.07	2.46	6.52	9.16	5.33	3.84	9.16	3.25
204.89	1.14	1.49	0.96	0.44	0.35	4.57	6.57	4.09	2.48	6.57	9.21	5.36	3.85	9.21	3.27
206.26	1.15	1.51	0.97	0.44	0.35	4.62	6.68	4.16	2.52	6.68	9.30	5.44	3.87	9.30	3.31
206.38	1.15	1.51	0.98	0.44	0.35	4.62	6.69	4.17	2.52	6.69	9.31	5.44	3.87	9.31	3.32
206.60	1.15	1.51	0.98	0.44	0.36	4.63	6.71	4.18	2.53	6.71	9.33	5.46	3.87	9.33	3.33
207.46	1.16	1.52	0.98	0.45	0.36	4.65	6.78	4.22	2.56	6.78	9.39	5.51	3.88	9.39	3.35
208.33	1.17	1.53	0.99	0.45	0.36	4.68	6.85	4.27	2.59	6.85	9.45	5.55	3.90	9.45	3.38
209.63	1.18	1.54	1.00	0.45	0.36	4.72	6.96	4.33	2.63	6.96	9.54	5.63	3.91	9.54	3.42
209.78	1.18	1.54	1.00	0.45	0.36	4.72	6.97	4.34	2.63	6.97	9.55	5.64	3.92	9.55	3.43
209.93	1.18	1.55	1.00	0.45	0.36	4.72	6.98	4.35	2.64	6.98	9.57	5.65	3.92	9.57	3.43
211.32	1.19	1.56	1.01	0.46	0.37	4.76	7.10	4.41	2.69	7.10	9.67	5.71	3.95	9.67	3.47
212.14	1.20	1.57	1.02	0.46	0.37	4.79	7.17	4.45	2.72	7.17	9.73	5.75	3.97	9.73	3.50
213.78	1.21	1.59	1.03	0.47	0.38	4.84	7.30	4.52	2.78	7.30	9.85	5.83	4.01	9.85	3.55
214.75	1.22	1.60	1.03	0.47	0.38	4.86	7.38	4.57	2.81	7.38	9.92	5.88	4.04	9.92	3.58
215.00	1.22	1.60	1.04	0.47	0.38	4.87	7.40	4.58	2.82	7.40	9.94	5.89	4.04	9.94	3.59
215.16	1.23	1.60	1.04	0.47	0.38	4.88	7.41	4.59	2.83	7.41	9.95	5.90	4.04	9.95	3.60
216.88	1.24	1.62	1.05	0.48	0.33	4.93	7.57	4.68	2.89	7.57	10.07	5.99	4.09	10.07	3.65
217.00	1.24	1.62	1.05	0.48	0.33	4.93	7.58	4.68	2.90	7.58	10.08	5.99	4.09	10.08	3.65
218.19	1.25	1.64	1.06	0.48	0.34	4.96	7.69	4.75	2.94	7.69	10.17	6.05	4.12	10.17	3.69
219.09	1.26	1.65	1.07	0.48	0.34	4.99	7.77	4.79	2.98	7.77	10.23	6.10	4.14	10.23	3.72
220.00	1.27	1.66	1.07	0.49	0.34	5.01	7.85	4.84	3.01	7.85	10.30	6.14	4.16	10.30	3.75
221.26	1.28	1.72	1.08	0.49	0.34	5.05	7.96	4.91	3.05	7.96	10.40	6.22	4.18	10.40	3.79
221.40	1.28	1.72	1.08	0.49	0.34	5.05	7.97	4.91	3.06	7.97	10.41	6.23	4.18	10.41	3.80
221.82	1.28	1.72	1.08	0.49	0.35	5.07	8.01	4.93	3.07	8.01	10.45	6.25	4.19	10.45	3.81
223.26	1.29	1.69	1.09	0.50	0.35	5.11	8.13	5.01	3.12	8.13	10.56	6.35	4.21	10.56	3.84
223.72	1.30	1.75	1.10	0.50	0.35	5.12	8.17	5.03	3.14	8.17	10.60	6.38	4.22	10.60	3.86

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

See page 331 for Explanation of Tables

λ	O						N ₂				O ₂				N
	⁴ S	² D	² P	⁴ P ^o	² P ^o	ION	ABS	N ₂ ⁺	N ⁺	ION	ABS	O ₂ ⁺	O ⁺	ION	ION
$\text{\AA}$	$\times 10^{-18} \text{ cm}^2$														
224.74	1.31	1.76	1.11	0.50	0.35	5.15	8.26	5.09	3.17	8.26	10.68	6.44	4.24	10.68	3.88
225.00	1.31	1.76	1.11	0.50	0.35	5.16	8.28	5.10	3.18	8.28	10.70	6.46	4.24	10.70	3.89
225.12	1.31	1.76	1.11	0.50	0.35	5.16	8.29	5.11	3.18	8.29	10.71	6.46	4.24	10.71	3.89
227.01	1.32	1.78	1.12	0.51	0.36	5.21	8.45	5.20	3.25	8.45	10.86	6.59	4.27	10.86	3.94
227.19	1.33	1.79	1.12	0.51	0.36	5.22	8.47	5.21	3.25	8.47	10.88	6.60	4.28	10.88	3.94
227.47	1.33	1.79	1.12	0.51	0.36	5.23	8.49	5.23	3.26	8.49	10.90	6.62	4.28	10.90	3.95
228.70	1.34	1.80	1.13	0.51	0.36	5.26	8.60	5.29	3.31	8.60	11.00	6.70	4.30	11.00	3.98
229.60	1.35	1.81	1.14	0.52	0.36	5.29	8.68	5.34	3.34	8.68	11.07	6.75	4.31	11.07	4.00
230.00	1.35	1.82	1.14	0.52	0.36	5.30	8.71	5.36	3.35	8.71	11.10	6.78	4.32	11.10	4.01
230.65	1.36	1.82	1.15	0.52	0.36	5.32	8.76	5.40	3.37	8.76	11.15	6.82	4.34	11.15	4.04
231.55	1.36	1.83	1.21	0.52	0.37	5.34	8.84	5.45	3.39	8.84	11.22	6.87	4.36	11.22	4.07
232.60	1.37	1.85	1.21	0.53	0.37	5.37	8.92	5.51	3.42	8.92	11.31	6.93	4.38	11.31	4.10
233.84	1.38	1.86	1.22	0.53	0.37	5.40	9.02	5.57	3.45	9.02	11.41	7.00	4.41	11.41	4.14
234.38	1.39	1.87	1.23	0.53	0.37	5.42	9.07	5.61	3.46	9.07	11.45	7.03	4.42	11.45	4.16
235.00	1.39	1.87	1.23	0.54	0.37	5.44	9.12	5.64	3.48	9.12	11.50	7.06	4.44	11.50	4.18
235.55	1.40	1.88	1.24	0.54	0.38	5.45	9.16	5.67	3.49	9.16	11.54	7.09	4.45	11.54	4.20
237.33	1.41	1.90	1.25	0.54	0.38	5.50	9.30	5.77	3.53	9.30	11.69	7.20	4.49	11.69	4.26
238.40	1.42	1.91	1.26	0.55	0.38	5.53	9.38	5.82	3.56	9.38	11.77	7.26	4.51	11.77	4.30
239.87	1.43	1.93	1.27	0.55	0.39	5.57	9.49	5.90	3.59	9.49	11.89	7.34	4.55	11.89	4.34
240.00	1.43	1.93	1.27	0.55	0.39	5.57	9.50	5.91	3.59	9.50	11.90	7.35	4.55	11.90	4.35
240.71	1.44	1.94	1.27	0.55	0.39	5.59	9.54	5.95	3.60	9.54	11.96	7.40	4.56	11.96	4.37
241.74	1.42	1.95	1.28	0.56	0.39	5.62	9.60	6.00	3.60	9.60	12.06	7.48	4.58	12.06	4.40
243.03	1.40	1.96	1.29	0.56	0.39	5.66	9.68	6.07	3.61	9.68	12.17	7.57	4.60	12.17	4.44
243.86	1.41	1.97	1.30	0.56	0.39	5.68	9.73	6.11	3.62	9.73	12.25	7.64	4.61	12.25	4.47
244.92	1.42	1.98	1.30	0.57	0.40	5.71	9.80	6.17	3.63	9.80	12.34	7.72	4.63	12.34	4.50
245.94	1.43	2.00	1.31	0.57	0.40	5.73	9.84	6.22	3.62	9.84	12.43	7.79	4.64	12.43	4.53
246.24	1.49	2.00	1.31	0.57	0.40	5.74	9.85	6.24	3.62	9.85	12.46	7.81	4.65	12.46	4.54
246.91	1.49	2.01	1.32	0.57	0.40	5.76	9.88	6.28	3.61	9.88	12.52	7.87	4.66	12.52	4.56
247.18	1.49	2.01	1.32	0.57	0.40	5.77	9.90	6.29	3.60	9.90	12.55	7.89	4.66	12.55	4.57
248.00	1.50	2.04	1.33	0.58	0.40	5.79	9.93	6.34	3.59	9.93	12.62	7.95	4.67	12.62	4.60
249.18	1.51	2.09	1.34	0.58	0.41	5.81	9.98	6.40	3.58	9.98	12.73	8.04	4.69	12.73	4.64
250.00	1.52	2.10	1.34	0.58	0.41	5.84	10.02	6.45	3.57	10.02	12.80	8.10	4.70	12.80	4.66
251.10	1.53	2.12	1.35	0.59	0.41	5.88	10.06	6.51	3.55	10.06	12.90	8.16	4.74	12.90	4.70
251.95	1.48	2.13	1.36	0.59	0.41	5.91	10.08	6.55	3.53	10.08	12.98	8.21	4.76	12.98	4.73
252.17	1.54	2.13	1.36	0.59	0.41	5.92	10.09	6.56	3.53	10.09	13.00	8.22	4.77	13.00	4.74
253.78	1.55	2.15	1.37	0.60	0.42	5.98	10.14	6.65	3.49	10.14	13.14	8.32	4.82	13.14	4.79
254.40	1.56	2.16	1.38	0.60	0.42	6.00	10.16	6.68	3.48	10.16	13.20	8.35	4.85	13.20	4.81
255.00	1.56	2.17	1.38	0.60	0.42	6.02	10.18	6.71	3.47	10.18	13.25	8.38	4.87	13.25	4.83
256.32	1.57	2.18	1.39	0.61	0.42	6.05	10.21	6.78	3.42	10.21	13.37	8.46	4.91	13.37	4.87
256.64	1.58	2.18	1.39	0.61	0.42	6.06	10.21	6.80	3.41	10.21	13.40	8.48	4.92	13.40	4.88
257.16	1.58	2.19	1.40	0.61	0.39	6.07	10.22	6.83	3.39	10.22	13.44	8.51	4.94	13.44	4.90
257.39	1.58	2.19	1.40	0.61	0.37	6.08	10.23	6.84	3.38	10.23	13.47	8.52	4.94	13.47	4.91
258.30	1.59	2.20	1.40	0.61	0.37	6.10	10.25	6.89	3.35	10.25	13.55	8.57	4.97	13.55	4.94
259.50	1.53	2.21	1.41	0.61	0.37	6.14	10.27	6.96	3.31	10.27	13.65	8.64	5.01	13.65	4.98
260.00	1.54	2.21	1.41	0.62	0.37	6.15	10.28	6.99	3.29	10.28	13.70	8.67	5.03	13.70	4.99
261.05	1.55	2.23	1.42	0.62	0.37	6.19	10.31	7.03	3.27	10.31	13.80	8.72	5.09	13.80	5.03
262.99	1.56	2.25	1.44	0.63	0.38	6.25	10.35	7.12	3.24	10.35	14.00	8.81	5.19	14.00	5.09
264.24	1.57	2.27	1.45	0.63	0.38	6.30	10.38	7.17	3.21	10.38	14.12	8.86	5.26	14.12	5.13
264.80	1.58	2.27	1.45	0.63	0.38	6.32	10.40	7.19	3.20	10.40	14.18	8.89	5.29	14.18	5.15
265.00	1.58	2.28	1.45	0.63	0.38	6.33	10.40	7.20	3.20	10.40	14.20	8.90	5.30	14.20	5.15
269.50	1.62	2.33	1.49	0.65	0.39	6.48	10.49	7.42	3.07	10.49	14.65	9.09	5.56	14.65	5.30
270.00	1.63	2.34	1.50	0.65	0.39	6.50	10.50	7.44	3.06	10.50	14.70	9.11	5.59	14.70	5.31
270.50	1.63	2.35	1.50	0.65	0.39	6.52	10.51	7.46	3.05	10.51	14.74	9.14	5.60	14.74	5.33
271.99	1.64	2.37	1.51	0.66	0.39	6.57	10.54	7.54	3.01	10.54	14.86	9.22	5.64	14.86	5.37
272.64	1.65	2.37	1.52	0.66	0.40	6.59	10.56	7.57	2.99	10.56	14.91	9.25	5.66	14.91	5.39
274.19	1.66	2.39	1.53	0.66	0.40	6.65	10.59	7.64	2.95	10.59	15.04	9.34	5.70	15.04	5.44
275.00	1.67	2.40	1.54	0.67	0.40	6.68	10.61	7.68	2.93	10.61	15.10	9.38	5.72	15.10	5.47
275.35	1.67	2.41	1.54	0.67	0.40	6.69	10.62	7.69	2.93	10.62	15.13	9.40	5.73	15.13	5.48
275.67	1.67	2.41	1.54	0.67	0.40	6.70	10.63	7.71	2.93	10.63	15.15	9.42	5.74	15.15	5.49
276.15	1.68	2.42	1.54	0.67	0.40	6.72	10.65	7.73	2.92	10.65	15.19	9.44	5.75	15.19	5.50
276.77	1.68	2.43	1.55	0.67	0.40	6.74	10.67	7.75	2.92	10.67	15.24	9.48	5.77	15.24	5.52
277.00	1.69	2.43	1.55	0.67	0.40	6.74	10.68	7.76	2.92	10.68	15.26	9.49	5.77	15.26	5.53
277.27	1.69	2.43	1.55	0.68	0.41	6.75	10.69	7.77	2.92	10.69	15.28	9.50	5.78	15.28	5.54

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

See page 331 for Explanation of Tables

λ	O						N ₂				O ₂				N
	⁴ S	² D	² P	⁴ P ^e	² P ^e	ION	ABS	N ₂ ⁺	N ⁺	ION	ABS	O ₂ ⁺	O ⁺	ION	ION
$\text{\AA}$	$\times 10^{-18} \text{ cm}^2$														
278.40	1.70	2.45	1.56	0.68	0.41	6.79	10.73	7.82	2.91	10.73	15.37	9.56	5.81	15.37	5.57
280.00	1.71	2.47	1.58	0.69	0.37	6.85	10.78	7.88	2.90	10.78	15.50	9.65	5.85	15.50	5.62
280.90	1.72	2.48	1.59	0.69	0.36	6.90	10.81	7.93	2.88	10.81	15.56	9.70	5.86	15.56	5.63
281.41	1.73	2.49	1.59	0.69	0.35	6.93	10.82	7.95	2.87	10.82	15.60	9.73	5.87	15.60	5.64
284.15	1.77	2.62	1.63	0.71	0.35	7.08	10.90	8.10	2.80	10.90	15.79	9.89	5.90	15.79	5.72
285.00	1.78	2.64	1.64	0.71	0.36	7.13	10.92	8.14	2.78	10.92	15.85	9.94	5.91	15.85	5.75
285.70	1.79	2.65	1.65	0.72	0.36	7.16	10.95	8.18	2.77	10.95	15.90	9.98	5.92	15.90	5.77
285.85	1.79	2.65	1.65	0.72	0.36	7.17	10.95	8.18	2.77	10.95	15.91	9.99	5.92	15.91	5.78
288.36	1.83	2.70	1.75	0.73	0.37	7.31	11.04	8.31	2.73	11.04	16.09	10.14	5.94	16.09	5.85
289.17	1.84	2.72	1.77	0.66	0.37	7.35	11.07	8.36	2.71	11.07	16.14	10.19	5.95	16.14	5.88
290.00	1.85	2.74	1.78	0.71	0.37	7.40	11.10	8.40	2.70	11.10	16.20	10.24	5.96	16.20	5.90
290.69	1.85	2.74	1.78	0.74	0.37	7.41	11.12	8.43	2.69	11.12	16.23	10.27	5.97	16.23	5.93
291.63	1.86	2.75	1.78	0.74	0.37	7.42	11.16	8.48	2.67	11.16	16.28	10.31	5.97	16.28	5.97
292.00	1.86	2.75	1.78	0.74	0.37	7.43	11.17	8.50	2.67	11.17	16.30	10.33	5.97	16.30	5.98
292.78	1.86	2.75	1.79	0.74	0.37	7.44	11.19	8.54	2.66	11.19	16.34	10.36	5.98	16.34	6.01
295.00	1.87	2.77	1.79	0.69	0.37	7.48	11.27	8.65	2.62	11.27	16.45	10.46	5.99	16.45	6.10
295.57	1.87	2.77	1.80	0.67	0.37	7.48	11.30	8.68	2.62	11.30	16.48	10.48	5.99	16.48	6.12
296.17	1.87	2.77	1.80	0.67	0.37	7.49	11.32	8.71	2.61	11.32	16.51	10.51	6.00	16.51	6.15
299.50	1.89	2.79	1.81	0.68	0.30	7.54	11.48	8.88	2.59	11.48	16.68	10.66	6.02	16.68	6.28
300.00	1.89	2.79	1.81	0.68	0.30	7.55	11.50	8.91	2.59	11.50	16.70	10.68	6.02	16.70	6.30
300.80	1.90	2.81	1.82	0.68	0.30	7.58	11.54	9.04	2.51	11.54	16.72	10.72	6.00	16.72	6.32
303.31	1.92	2.84	1.84	0.69	0.31	7.68	11.67	9.18	2.49	11.67	16.80	10.86	5.94	16.80	6.40
303.78	1.92	2.85	1.85	0.69	0.31	7.70	11.70	9.21	2.49	11.70	16.81	10.88	5.93	16.81	6.41
310.00	2.02	3.01	1.94	0.75	0.14	7.90	12.02	9.57	2.45	12.02	17.00	11.22	5.78	17.00	6.60
315.00	2.10	3.15	2.02	0.81	0.00	8.07	12.37	9.92	2.45	12.37	17.10	11.45	5.65	17.10	6.75
316.10	2.11	3.16	2.03	0.81	0.00	8.11	12.45	10.00	2.45	12.45	17.12	11.50	5.62	17.12	6.78
316.20	2.11	3.17	2.03	0.81	0.00	8.12	12.46	10.01	2.45	12.46	17.12	11.51	5.62	17.12	6.79
319.01	2.14	3.20	2.05	0.82	0.00	8.22	12.66	10.22	2.44	12.66	17.18	11.64	5.54	17.18	6.87
319.83	2.14	3.22	2.06	0.82	0.00	8.24	12.72	10.29	2.43	12.72	17.20	11.68	5.52	17.20	6.89
320.00	2.14	3.22	2.06	0.82	0.00	8.25	12.73	10.30	2.43	12.73	17.20	11.69	5.51	17.20	6.90
320.56	2.15	3.23	2.07	0.82	0.00	8.27	12.77	10.34	2.43	12.77	17.21	11.71	5.50	17.21	6.92
325.00	2.19	3.31	2.11	0.81	0.00	8.43	13.13	10.68	2.45	13.13	17.25	11.89	5.36	17.25	7.05
330.00	2.24	3.41	2.15	0.80	0.00	8.60	13.55	11.11	2.44	13.55	17.30	12.10	5.20	17.30	7.20
335.00	2.28	3.50	2.19	0.79	0.00	8.76	13.95	11.60	2.35	13.95	17.40	12.33	5.07	17.40	7.35
335.39	2.28	3.51	2.19	0.79	0.00	8.77	13.98	11.65	2.34	13.98	17.41	12.35	5.06	17.41	7.36
340.00	2.32	3.57	2.23	0.80	0.00	8.92	14.38	12.20	2.18	14.38	17.50	12.56	4.94	17.50	7.50
345.00	2.36	3.63	2.27	0.82	0.00	9.09	14.82	12.70	2.12	14.82	17.65	12.73	4.92	17.65	7.65
345.13	2.36	3.64	2.27	0.82	0.00	9.09	14.83	12.72	2.12	14.83	17.65	12.73	4.92	17.65	7.65
345.74	2.37	3.64	2.28	0.82	0.00	9.11	14.89	12.79	2.10	14.89	17.67	12.75	4.92	17.67	7.67
347.39	2.38	3.67	2.29	0.82	0.00	9.16	15.04	12.99	2.05	15.04	17.72	12.81	4.92	17.72	7.72
349.85	2.40	3.70	2.31	0.83	0.00	9.25	15.27	13.28	1.98	15.27	17.80	12.89	4.91	17.80	7.80
350.00	2.40	3.70	2.31	0.83	0.00	9.25	15.28	13.30	1.98	15.28	17.80	12.89	4.91	17.80	7.80
353.86	2.44	3.75	2.34	0.84	0.00	9.37	15.63	13.72	1.91	15.63	17.88	13.05	4.83	17.88	7.92
356.01	2.46	3.78	2.36	0.85	0.00	9.44	15.82	13.96	1.86	15.82	17.92	13.14	4.78	17.92	7.98
360.00	2.49	3.83	2.39	0.86	0.00	9.57	16.18	14.40	1.78	16.18	18.00	13.30	4.70	18.00	8.10
360.76	2.49	3.84	2.40	0.86	0.00	9.60	16.25	14.49	1.76	16.25	18.03	13.34	4.69	18.03	8.12
364.48	2.53	3.89	2.43	0.87	0.00	9.72	16.58	14.92	1.66	16.58	18.18	13.55	4.63	18.18	8.21
364.80	2.53	3.89	2.43	0.88	0.00	9.73	16.61	14.96	1.65	16.61	18.19	13.57	4.62	18.19	8.22
368.07	2.56	3.93	2.46	0.79	0.00	9.84	16.91	15.35	1.56	16.91	18.32	13.76	4.56	18.32	8.30
370.00	2.57	3.97	2.47	0.79	0.00	9.90	17.08	15.58	1.50	17.08	18.40	13.87	4.53	18.40	8.35
374.74	2.59	4.00	2.49	0.78	0.00	9.95	17.53	16.15	1.38	17.53	18.59	13.97	4.62	18.59	8.47
380.00	2.65	4.12	2.55	0.78	0.00	10.20	18.03	16.80	1.23	18.03	18.80	14.07	4.73	18.80	8.60
390.00	2.73	4.27	2.63	0.77	0.00	10.50	19.05	17.90	1.15	19.05	19.20	14.40	4.80	19.20	8.85
399.82	3.06	4.82	2.94	0.83	0.00	11.78	20.05	18.98	1.07	20.05	19.59	14.80	4.79	19.59	9.10
400.00	3.07	4.83	2.95	0.83	0.00	11.80	20.07	19.00	1.07	20.07	19.60	14.81	4.79	19.60	9.10
401.14	3.04	4.80	2.93	0.82	0.00	11.71	20.18	19.11	1.06	20.18	19.65	14.85	4.79	19.65	9.13
401.70	3.03	4.78	2.92	0.82	0.00	11.66	20.23	19.17	1.06	20.23	19.67	14.87	4.80	19.67	9.14
401.94	3.03	4.77	2.91	0.82	0.00	11.64	20.25	19.19	1.06	20.25	19.68	14.88	4.80	19.68	9.15
403.26	3.00	4.73	2.88	0.81	0.00	11.54	20.38	19.33	1.05	20.38	19.73	14.93	4.80	19.73	9.18
405.00	2.96	4.67	2.85	0.80	0.00	11.40	20.55	19.50	1.05	20.55	19.80	15.00	4.80	19.80	9.23

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

See page 331 for Explanation of Tables

λ	O						N ₂				O ₂				N
	⁴ S	² D	² P	⁴ P ^e	² P ^e	ION	ABS	N ₂ ⁺	N ⁺	ION	ABS	O ₂ ⁺	O ⁺	ION	ION
$\text{\AA}$	$\times 10^{-18} \text{ cm}^2$														
406.00	2.94	4.64	2.94	0.79	0.00	11.32	20.64	19.60	1.04	20.64	19.84	15.04	4.80	19.84	9.25
407.00	2.92	4.61	2.92	0.79	0.00	11.24	20.74	19.70	1.04	20.74	19.88	15.08	4.80	19.88	9.28
408.00	2.90	4.58	2.90	0.78	0.00	11.16	20.83	19.80	1.03	20.83	19.92	15.12	4.80	19.92	9.30
409.00	2.88	4.54	2.88	0.78	0.00	11.08	20.93	19.90	1.03	20.93	19.96	15.15	4.81	19.96	9.33
410.00	2.86	4.51	2.86	0.77	0.00	11.00	21.02	20.00	1.02	21.02	20.00	15.19	4.81	20.00	9.35
411.00	2.87	4.41	2.87	0.77	0.00	11.03	21.10	20.10	1.00	21.10	20.03	15.23	4.80	20.03	9.38
412.00	2.87	4.53	2.87	0.77	0.00	11.06	21.19	20.20	0.99	21.19	20.06	15.26	4.80	20.06	9.40
413.00	2.88	4.54	2.88	0.78	0.00	11.09	21.27	20.30	0.97	21.27	20.09	15.29	4.80	20.09	9.43
414.00	2.89	4.56	2.89	0.78	0.00	11.11	21.35	20.40	0.95	21.35	20.12	15.32	4.80	20.12	9.45
415.00	2.90	4.57	2.90	0.78	0.00	11.14	21.44	20.50	0.94	21.44	20.15	15.36	4.79	20.15	9.48
416.00	2.90	4.58	2.90	0.78	0.00	11.17	21.52	20.60	0.92	21.52	20.18	15.39	4.79	20.18	9.50
417.00	2.91	4.59	2.91	0.78	0.00	11.20	21.60	20.70	0.90	21.60	20.21	15.42	4.79	20.21	9.53
417.24	2.91	4.60	2.91	0.78	0.00	11.21	21.62	20.72	0.90	21.62	20.22	15.43	4.79	20.22	9.53
417.71	2.92	4.60	2.92	0.79	0.00	11.23	21.66	20.77	0.89	21.66	20.23	15.45	4.78	20.23	9.54
418.00	2.92	4.61	2.92	0.79	0.00	11.24	21.68	20.80	0.89	21.68	20.24	15.46	4.78	20.24	9.55
419.00	2.93	4.73	2.93	0.79	0.00	11.27	21.77	20.90	0.87	21.77	20.27	15.49	4.78	20.27	9.58
420.00	2.94	4.63	2.94	0.79	0.00	11.30	21.85	21.00	0.85	21.85	20.30	15.52	4.78	20.30	9.60
421.00	2.94	4.64	2.94	0.79	0.00	11.32	21.93	21.07	0.86	21.93	20.34	15.55	4.79	20.34	9.62
422.00	2.95	4.76	2.95	0.79	0.00	11.34	22.01	21.14	0.86	22.01	20.38	15.58	4.80	20.38	9.64
423.00	2.95	4.77	2.95	0.80	0.00	11.36	22.09	21.22	0.87	22.09	20.42	15.61	4.81	20.42	9.66
424.00	2.96	4.78	2.96	0.80	0.00	11.38	22.17	21.29	0.88	22.17	20.46	15.64	4.82	20.46	9.68
425.00	2.96	4.79	2.96	0.80	0.00	11.40	22.25	21.36	0.88	22.25	20.50	15.67	4.83	20.50	9.70
426.00	2.97	4.80	2.97	0.80	0.00	11.42	22.32	21.43	0.89	22.32	20.54	15.70	4.84	20.54	9.72
427.00	2.97	4.80	2.97	0.80	0.00	11.44	22.40	21.50	0.90	22.40	20.58	15.73	4.85	20.58	9.74
428.00	2.98	4.81	2.98	0.69	0.00	11.46	22.48	21.58	0.91	22.48	20.62	15.76	4.86	20.62	9.76
429.00	2.98	4.82	2.98	0.69	0.00	11.48	22.56	21.65	0.91	22.56	20.66	15.79	4.87	20.66	9.78
430.00	2.99	4.83	2.99	0.69	0.00	11.50	22.64	21.72	0.92	22.64	20.70	15.82	4.88	20.70	9.80
430.47	2.99	4.83	2.99	0.69	0.00	11.49	22.66	21.74	0.92	22.66	20.71	15.84	4.87	20.71	9.81
431.00	2.99	4.82	2.99	0.69	0.00	11.48	22.69	21.76	0.92	22.69	20.73	15.86	4.87	20.73	9.82
432.00	2.98	4.81	2.98	0.69	0.00	11.46	22.73	21.81	0.93	22.73	20.76	15.90	4.86	20.76	9.84
433.00	2.98	4.81	2.98	0.69	0.00	11.45	22.78	21.85	0.93	22.78	20.79	15.94	4.85	20.79	9.86
434.00	2.97	4.80	2.97	0.69	0.00	11.43	22.82	21.89	0.93	22.82	20.82	15.98	4.84	20.82	9.88
435.00	2.97	4.79	2.97	0.68	0.00	11.41	22.87	21.94	0.93	22.87	20.85	16.01	4.84	20.85	9.90
436.00	3.19	5.13	3.08	0.00	0.00	11.39	22.92	21.98	0.94	22.92	20.88	16.05	4.83	20.88	9.92
436.10	3.19	5.13	3.08	0.00	0.00	11.39	22.92	21.98	0.94	22.92	20.88	16.06	4.83	20.88	9.92
436.67	3.19	5.12	3.07	0.00	0.00	11.38	22.95	22.01	0.94	22.95	20.90	16.08	4.82	20.90	9.93
437.00	3.20	5.15	3.09	0.00	0.00	11.43	22.96	22.02	0.94	22.96	20.91	16.09	4.82	20.91	9.94
438.00	3.25	5.22	3.13	0.00	0.00	11.60	23.01	22.06	0.94	23.01	20.94	16.13	4.81	20.94	9.96
439.00	3.29	5.29	3.17	0.00	0.00	11.76	23.05	22.11	0.95	23.05	20.97	16.17	4.80	20.97	9.98
440.00	3.34	5.36	3.22	0.00	0.00	11.92	23.10	22.15	0.95	23.10	21.00	16.21	4.79	21.00	10.00
440.50	3.36	5.40	3.24	0.00	0.00	12.00	23.10	22.15	0.95	23.10	21.02	16.23	4.79	21.02	10.01
441.00	3.27	5.26	3.16	0.00	0.00	11.69	23.10	22.16	0.94	23.10	21.04	16.25	4.79	21.04	10.02
442.00	3.10	4.99	2.99	0.00	0.00	11.08	23.10	22.16	0.94	23.10	21.08	16.28	4.80	21.08	10.05
442.30	3.05	4.90	2.94	0.00	0.00	10.90	23.10	22.16	0.94	23.10	21.09	16.29	4.80	21.09	10.06
442.70	3.61	5.80	3.48	0.00	0.00	12.90	23.10	22.16	0.94	23.10	21.11	16.31	4.80	21.11	10.07
443.00	3.49	5.61	3.37	0.00	0.00	12.47	23.10	22.17	0.93	23.10	21.12	16.32	4.80	21.12	10.07
443.60	3.25	5.22	3.13	0.00	0.00	11.60	23.10	22.17	0.93	23.10	21.14	16.34	4.80	21.14	10.09
444.00	3.21	5.16	3.10	0.00	0.00	11.47	23.10	22.17	0.93	23.10	21.16	16.36	4.80	21.16	10.10
445.00	3.12	5.01	3.01	0.00	0.00	11.13	23.10	22.18	0.93	23.10	21.20	16.40	4.80	21.20	10.13
445.10	3.11	4.99	3.00	0.00	0.00	11.10	23.10	22.18	0.92	23.10	21.20	16.40	4.80	21.20	10.13
446.00	2.97	4.77	2.86	0.00	0.00	10.61	23.10	22.18	0.92	23.10	21.24	16.43	4.81	21.24	10.15
446.20	2.94	4.72	2.84	0.00	0.00	10.50	23.10	22.18	0.92	23.10	21.25	16.44	4.81	21.25	10.16
446.70	3.92	6.30	3.78	0.00	0.00	14.00	23.10	22.18	0.92	23.10	21.27	16.46	4.81	21.27	10.17
447.00	3.74	6.02	3.61	0.00	0.00	13.37	23.10	22.19	0.92	23.10	21.28	16.47	4.81	21.28	10.18
447.60	3.39	5.45	3.27	0.00	0.00	12.10	23.10	22.19	0.91	23.10	21.30	16.49	4.81	21.30	10.19
448.00	3.28	5.27	3.16	0.00	0.00	11.70	23.10	22.19	0.91	23.10	21.32	16.51	4.81	21.32	10.20
448.60	3.11	4.99	3.00	0.00	0.00	11.10	23.10	22.19	0.91	23.10	21.34	16.53	4.81	21.34	10.22
449.00	3.12	5.02	3.01	0.00	0.00	11.15	23.10	22.19	0.90	23.10	21.36	16.55	4.81	21.36	10.23
450.00	3.16	5.07	3.04	0.00	0.00	11.27	23.10	22.20	0.90	23.10	21.40	16.58	4.82	21.40	10.25
450.20	3.16	5.09	3.05	0.00	0.00	11.30	23.10	22.20	0.90	23.10	21.41	16.59	4.82	21.41	10.26
451.00	3.14	5.04	3.02	0.00	0.00	11.20	23.10	22.18	0.91	23.10	21.43	16.60	4.83	21.43	10.27
452.00	3.10	4.98	2.99	0.00	0.00	11.08	23.09	22.17	0.92	23.09	21.46	16.62	4.84	21.46	10.30
452.60	3.08	4.95	2.97	0.00	0.00	11.00	23.09	22.16	0.93	23.09	21.48	16.63	4.84	21.48	10.32

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

See page 331 for Explanation of Tables

λ Å	O						N ₂				O ₂				N
	⁴ S	³ D	² P	⁴ P ^e	² P ^e	ION	ABS	N ₂ ⁺	N ⁺	ION	ABS	O ₂ ⁺	O ⁺	ION	ION
$\times 10^{-18} \text{ cm}^2$															
453.00	3.01	4.84	2.91	0.00	0.00	10.76	23.09	22.15	0.93	23.09	21.49	16.64	4.85	21.49	10.32
454.00	2.85	4.58	2.75	0.00	0.00	10.18	23.08	22.14	0.94	23.08	21.52	16.66	4.86	21.52	10.35
454.30	2.80	4.47	2.70	0.00	0.00	10.00	23.08	22.14	0.94	23.08	21.53	16.67	4.86	21.53	10.36
454.70	3.08	4.87	2.97	0.00	0.00	11.00	23.08	22.13	0.95	23.08	21.54	16.68	4.87	21.54	10.37
455.00	3.57	5.61	3.44	0.00	0.00	12.76	23.08	22.12	0.95	23.08	21.55	16.68	4.87	21.55	10.38
455.40	4.23	6.70	4.08	0.00	0.00	15.10	23.07	22.12	0.95	23.07	21.56	16.69	4.87	21.56	10.39
456.00	3.88	6.23	3.74	0.00	0.00	13.85	23.07	22.11	0.96	23.07	21.58	16.70	4.88	21.58	10.40
456.50	3.52	5.76	3.46	0.00	0.00	12.80	23.07	22.10	0.97	23.07	21.60	16.71	4.89	21.60	10.41
457.00	3.41	5.68	3.41	0.00	0.00	12.61	23.07	22.09	0.97	23.07	21.61	16.72	4.89	21.61	10.43
458.00	3.31	5.51	3.31	0.00	0.00	12.24	23.06	22.08	0.98	23.06	21.64	16.74	4.90	21.64	10.45
459.00	3.21	5.34	3.21	0.00	0.00	11.87	23.06	22.06	0.99	23.06	21.67	16.76	4.91	21.67	10.48
459.20	3.21	5.31	3.19	0.00	0.00	11.80	23.05	22.06	0.99	23.05	21.68	16.76	4.91	21.68	10.48
460.00	3.31	5.32	3.19	0.00	0.00	11.82	23.05	22.05	1.00	23.05	21.70	16.78	4.92	21.70	10.50
461.00	3.31	5.33	3.20	0.00	0.00	11.84	23.07	22.06	1.01	23.07	21.74	16.81	4.93	21.74	10.52
462.00	3.32	5.34	3.20	0.00	0.00	11.86	23.09	22.07	1.02	23.09	21.78	16.85	4.93	21.78	10.53
463.00	3.33	5.35	3.21	0.00	0.00	11.88	23.12	22.08	1.04	23.12	21.82	16.89	4.93	21.82	10.55
464.00	3.33	5.36	3.21	0.00	0.00	11.90	23.14	22.09	1.05	23.14	21.86	16.92	4.94	21.86	10.56
465.00	3.34	5.37	3.22	0.00	0.00	11.92	23.16	22.10	1.06	23.16	21.90	16.96	4.94	21.90	10.57
465.22	3.34	5.37	3.22	0.00	0.00	11.93	23.16	22.10	1.06	23.16	21.91	16.97	4.94	21.91	10.58
466.00	3.34	5.38	3.23	0.00	0.00	11.95	23.18	22.11	1.07	23.18	21.94	16.99	4.95	21.94	10.59
467.00	3.35	5.39	3.23	0.00	0.00	11.97	23.20	22.12	1.08	23.20	21.98	17.03	4.95	21.98	10.61
468.00	3.36	5.39	3.24	0.00	0.00	11.99	23.23	22.13	1.10	23.23	22.02	17.07	4.95	22.02	10.62
469.00	3.36	5.40	3.24	0.00	0.00	12.01	23.25	22.14	1.11	23.25	22.06	17.10	4.96	22.06	10.64
469.80	3.37	5.41	3.25	0.00	0.00	12.03	23.27	22.15	1.12	23.27	22.09	17.13	4.96	22.09	10.65
470.00	3.37	5.41	3.25	0.00	0.00	12.03	23.27	22.15	1.12	23.27	22.10	17.14	4.96	22.10	10.65
471.00	3.37	5.42	3.25	0.00	0.00	12.05	23.30	22.17	1.13	23.30	22.15	17.16	4.99	22.15	10.66
472.00	3.38	5.43	3.26	0.00	0.00	12.07	23.34	22.19	1.15	23.34	22.20	17.18	5.02	22.20	10.68
473.00	3.39	5.44	3.27	0.00	0.00	12.10	23.37	22.21	1.16	23.37	22.25	17.20	5.05	22.25	10.69
473.20	3.39	5.45	3.27	0.00	0.00	12.10	23.38	22.21	1.16	23.38	22.26	17.20	5.06	22.26	10.70
473.80	3.36	5.40	3.24	0.00	0.00	12.00	23.40	22.23	1.17	23.40	22.29	17.21	5.08	22.29	10.71
474.00	3.35	5.38	3.23	0.00	0.00	11.97	23.40	22.23	1.17	23.40	22.30	17.22	5.08	22.30	10.71
475.00	3.30	5.31	3.19	0.00	0.00	11.80	23.44	22.25	1.18	23.44	22.35	17.24	5.11	22.35	10.73
475.90	3.22	5.17	3.11	0.00	0.00	11.50	23.46	22.27	1.20	23.46	22.40	17.25	5.14	22.40	10.74
476.00	3.21	5.16	3.09	0.00	0.00	11.46	23.47	22.27	1.20	23.47	22.40	17.25	5.15	22.40	10.74
476.40	3.16	5.09	3.05	0.00	0.00	11.30	23.48	22.28	1.20	23.48	22.42	17.26	5.16	22.42	10.75
477.00	3.25	5.23	3.14	0.00	0.00	11.61	23.50	22.29	1.21	23.50	22.45	17.27	5.18	22.45	10.76
478.00	3.40	5.46	3.28	0.00	0.00	12.14	23.53	22.31	1.22	23.53	22.50	17.29	5.21	22.50	10.77
478.50	3.47	5.58	3.35	0.00	0.00	12.40	23.55	22.32	1.23	23.55	22.52	17.30	5.22	22.52	10.78
479.00	3.45	5.55	3.33	0.00	0.00	12.33	23.57	22.33	1.24	23.57	22.55	17.31	5.24	22.55	10.78
480.00	3.42	5.49	3.29	0.00	0.00	12.20	23.60	22.35	1.25	23.60	22.60	17.33	5.27	22.60	10.80
480.80	4.51	7.24	4.35	0.00	0.00	16.10	23.59	22.37	1.22	23.59	22.63	17.36	5.27	22.63	10.82
481.00	4.36	7.00	4.20	0.00	0.00	15.57	23.59	22.38	1.21	23.59	22.64	17.37	5.27	22.64	10.82
481.70	3.84	6.16	3.70	0.00	0.00	13.70	23.58	22.39	1.19	23.58	22.67	17.39	5.27	22.67	10.83
482.00	3.78	6.08	3.65	0.00	0.00	13.50	23.58	22.40	1.18	23.58	22.68	17.41	5.27	22.68	10.84
482.10	3.76	6.05	3.63	0.00	0.00	13.43	23.58	22.40	1.18	23.58	22.68	17.41	5.27	22.68	10.84
482.60	3.67	5.89	3.54	0.00	0.00	13.10	23.57	22.42	1.16	23.57	22.70	17.43	5.28	22.70	10.85
483.00	3.65	5.87	3.52	0.00	0.00	13.04	23.57	22.43	1.14	23.57	22.72	17.44	5.28	22.72	10.86
483.30	3.64	5.85	3.51	0.00	0.00	13.00	23.57	22.43	1.13	23.57	22.73	17.45	5.28	22.73	10.87
484.00	3.63	5.83	3.50	0.00	0.00	12.95	23.56	22.45	1.11	23.56	22.76	17.48	5.28	22.76	10.88
484.70	3.61	5.80	3.48	0.00	0.00	12.90	23.55	22.47	1.09	23.55	22.79	17.51	5.28	22.79	10.89
485.00	3.60	5.79	3.47	0.00	0.00	12.86	23.55	22.48	1.07	23.55	22.80	17.52	5.28	22.80	10.90
486.00	3.56	5.73	3.44	0.00	0.00	12.73	23.54	22.50	1.04	23.54	22.84	17.56	5.28	22.84	10.92
486.60	3.54	5.69	3.42	0.00	0.00	12.65	23.53	22.52	1.02	23.53	22.86	17.58	5.28	22.86	10.93
487.00	3.52	5.66	3.39	0.00	0.00	12.57	23.53	22.53	1.00	23.53	22.88	17.59	5.29	22.88	10.94
488.00	3.47	5.57	3.34	0.00	0.00	12.38	23.52	22.55	0.97	23.52	22.92	17.63	5.29	22.92	10.96
489.00	3.41	5.49	3.29	0.00	0.00	12.19	23.51	22.58	0.93	23.51	22.96	17.67	5.29	22.96	10.98
489.50	3.39	5.44	3.27	0.00	0.00	12.10	23.50	22.59	0.92	23.50	22.98	17.69	5.29	22.98	10.99
490.00	3.36	5.40	3.24	0.00	0.00	12.00	23.50	22.60	0.90	23.50	23.00	17.71	5.29	23.00	11.00
491.00	3.40	5.47	3.28	0.00	0.00	12.16	23.50	22.65	0.85	23.50	23.06	17.75	5.31	23.06	11.02
491.70	3.44	5.52	3.31	0.00	0.00	12.27	23.50	22.68	0.81	23.50	23.10	17.77	5.33	23.10	11.03
492.00	3.43	5.52	3.31	0.00	0.00	12.26	23.50	22.70	0.80	23.50	23.12	17.78	5.34	23.12	11.04
493.00	3.42	5.50	3.30	0.00	0.00	12.21	23.50	22.75	0.75	23.50	23.18	17.82	5.36	23.18	11.06
494.00	3.41	5.48	3.29	0.00	0.00	12.17	23.50	22.80	0.70	23.50	23.24	17.86	5.38	23.24	11.08

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

See page 331 for Explanation of Tables

λ	O						N ₂				O ₂				N
	⁴ S	² D	² P	⁴ P ^e	² P ^e	ION	ABS	N ₂ ⁺	N ⁺	ION	ABS	O ₂ ⁺	O ⁺	ION	ION
Å	× 10 ⁻¹⁸ cm ²														
495.00	3.39	5.46	3.27	0.00	0.00	12.12	23.50	22.85	0.65	23.50	23.30	17.90	5.40	23.30	11.10
496.00	3.38	5.44	3.26	0.00	0.00	12.08	23.50	22.91	0.59	23.50	23.36	17.94	5.42	23.36	11.12
497.00	3.37	5.42	3.25	0.00	0.00	12.03	23.50	22.97	0.53	23.50	23.42	17.98	5.44	23.42	11.14
498.00	3.36	5.40	3.24	0.00	0.00	11.99	23.50	23.03	0.47	23.50	23.48	18.02	5.46	23.48	11.16
499.00	3.34	5.38	3.23	0.00	0.00	11.94	23.50	23.09	0.41	23.50	23.54	18.05	5.49	23.54	11.18
499.27	3.34	5.37	3.22	0.00	0.00	11.93	23.50	23.11	0.39	23.50	23.56	18.06	5.49	23.56	11.19
499.37	3.34	5.37	3.22	0.00	0.00	11.93	23.50	23.11	0.39	23.50	23.56	18.07	5.49	23.56	11.19
500.00	3.33	5.35	3.21	0.00	0.00	11.90	23.50	23.15	0.35	23.50	23.60	18.09	5.51	23.60	11.20
501.00	3.30	5.30	3.18	0.00	0.00	11.77	23.52	23.22	0.30	23.52	23.64	18.13	5.51	23.64	11.22
501.10	3.29	5.29	3.18	0.00	0.00	11.76	23.52	23.23	0.29	23.52	23.64	18.13	5.51	23.64	11.22
502.00	3.30	5.30	3.18	0.00	0.00	11.77	23.53	23.29	0.24	23.53	23.68	18.17	5.51	23.68	11.23
503.00	3.30	5.31	3.18	0.00	0.00	11.79	23.55	23.36	0.19	23.55	23.72	18.21	5.51	23.72	11.24
504.00	3.31	5.31	3.19	0.00	0.00	11.81	23.56	23.43	0.13	23.56	23.76	18.25	5.51	23.76	11.26
505.00	3.31	5.32	3.19	0.00	0.00	11.82	23.58	23.50	0.08	23.58	23.80	18.28	5.52	23.80	11.27
507.90	3.32	5.34	3.20	0.00	0.00	11.87	23.73	23.67	0.05	23.73	23.92	18.40	5.52	23.92	11.32
510.00	3.33	5.35	3.21	0.00	0.00	11.90	23.83	23.80	0.03	23.83	24.00	18.48	5.52	24.00	11.35
515.60	3.35	5.38	3.23	0.00	0.00	11.96	24.25	24.25	0.00	24.25	24.28	18.81	5.47	24.28	11.43
520.00	3.36	5.40	3.24	0.00	0.00	12.00	24.58	24.58	0.00	24.58	24.50	19.08	5.42	24.50	11.50
520.66	3.36	5.40	3.24	0.00	0.00	12.01	24.61	24.61	0.00	24.61	24.53	19.14	5.39	24.53	11.51
521.10	3.36	5.40	3.24	0.00	0.00	12.01	24.63	24.63	0.00	24.63	24.54	19.17	5.37	24.54	11.51
525.80	3.38	5.43	3.26	0.00	0.00	12.06	24.86	24.86	0.00	24.86	24.73	19.60	5.14	24.73	11.56
530.00	3.43	5.45	3.22	0.00	0.00	12.10	25.07	25.07	0.00	25.07	24.90	19.98	4.92	24.90	11.60
537.02	3.55	5.51	3.18	0.00	0.00	12.24	25.23	25.23	0.00	25.23	25.25	20.50	4.75	25.25	11.67
540.00	3.57	5.53	3.20	0.00	0.00	12.30	25.30	25.30	0.00	25.30	25.40	20.72	4.68	25.40	11.70
542.80	3.58	5.56	3.21	0.00	0.00	12.36	25.13	25.13	0.00	25.13	25.28	20.92	4.36	25.28	11.71
544.70	3.59	5.58	3.22	0.00	0.00	12.39	25.02	25.02	0.00	25.02	25.20	21.06	4.14	25.20	11.72
548.90	3.62	5.62	3.24	0.00	0.00	12.48	24.77	24.77	0.00	24.77	25.90	21.34	4.56	25.90	11.74
550.00	3.63	5.63	3.25	0.00	0.00	12.50	24.70	24.70	0.00	24.70	25.90	21.48	4.42	25.90	11.75
551.40	3.63	5.64	3.26	0.00	0.00	12.53	24.52	24.52	0.00	24.52	25.90	21.67	4.23	25.90	11.76
554.37	3.65	5.66	3.27	0.00	0.00	12.59	24.13	24.13	0.00	24.13	26.04	21.60	4.44	26.04	11.77
554.51	3.65	5.67	3.27	0.00	0.00	12.59	24.11	24.11	0.00	24.11	26.05	21.60	4.45	26.05	11.77
555.60	3.66	5.68	3.28	0.00	0.00	12.61	23.97	23.97	0.00	23.97	26.10	21.58	4.52	26.10	11.78
558.60	3.67	5.70	3.29	0.00	0.00	12.67	23.58	23.58	0.00	23.58	26.10	21.58	4.52	26.10	11.79
560.00	3.68	5.71	3.30	0.00	0.00	12.70	23.40	23.40	0.00	23.40	26.10	21.59	4.51	26.10	11.80
562.80	3.70	5.74	3.32	0.00	0.00	12.76	23.15	23.15	0.00	23.15	26.04	21.55	4.50	26.04	11.80
565.00	3.71	5.76	3.33	0.00	0.00	12.80	22.95	22.95	0.00	22.95	26.00	21.52	4.48	26.00	11.80
568.50	3.73	5.79	3.35	0.00	0.00	12.87	22.64	22.64	0.00	22.64	25.86	21.41	4.45	25.86	11.80
570.00	3.74	5.80	3.35	0.00	0.00	12.90	22.50	22.50	0.00	22.50	25.80	21.36	4.44	25.80	11.80
572.30	3.75	5.82	3.36	0.00	0.00	12.92	22.48	22.48	0.00	22.48	25.66	21.25	4.41	25.66	11.80
575.00	3.76	5.78	3.41	0.00	0.00	12.95	22.45	22.45	0.00	22.45	25.50	21.13	4.37	25.50	11.80
580.00	3.77	5.72	3.51	0.00	0.00	13.00	22.40	22.40	0.00	22.40	24.80	20.56	4.24	24.80	11.80
580.40	3.79	5.75	3.47	0.00	0.00	13.01	22.40	22.40	0.00	22.40	24.61	20.40	4.21	24.61	11.80
584.00	3.92	6.02	3.14	0.00	0.00	13.08	22.40	22.40	0.00	22.40	22.88	18.98	3.90	22.88	11.78
584.33	3.92	6.02	3.15	0.00	0.00	13.09	22.40	22.40	0.00	22.40	22.72	18.84	3.88	22.72	11.78
585.00	3.90	6.03	3.18	0.00	0.00	13.10	22.40	22.40	0.00	22.40	22.40	18.58	3.82	22.40	11.78
585.80	3.88	6.03	3.21	0.00	0.00	13.12	22.40	22.40	0.00	22.40	21.80	18.08	3.72	21.80	11.77
588.90	3.79	6.06	3.32	0.00	0.00	13.18	22.40	22.40	0.00	22.40	19.30	16.12	3.18	19.30	11.76
590.00	3.76	6.07	3.37	0.00	0.00	13.20	22.40	22.40	0.00	22.40	19.40	16.12	3.28	19.40	11.75
592.40	3.69	6.08	3.45	0.00	0.00	13.22	22.44	22.44	0.00	22.44	20.80	17.09	3.72	20.80	11.74
594.10	3.64	6.09	3.51	0.00	0.00	13.24	22.47	22.47	0.00	22.47	21.80	17.76	4.04	21.80	11.73
595.00	3.61	6.10	3.54	0.00	0.00	13.25	22.49	22.49	0.00	22.49	23.80	19.98	3.82	23.80	11.73
596.70	3.56	6.10	3.61	0.00	0.00	13.27	22.52	22.52	0.00	22.52	27.70	24.56	3.14	27.70	11.72
599.60	3.47	6.12	3.71	0.00	0.00	13.30	22.57	22.57	0.00	22.57	28.49	25.54	2.95	28.49	11.70
600.00	3.46	6.12	3.72	0.00	0.00	13.30	22.58	22.58	0.00	22.58	28.60	25.67	2.93	28.60	11.70
604.30	3.53	6.14	3.68	0.00	0.00	13.34	22.67	22.67	0.00	22.67	30.10	26.62	2.57	29.20	11.74
608.00	3.59	6.15	3.64	0.00	0.00	13.38	22.76	22.76	0.00	22.76	27.12	23.63	1.94	25.58	11.78
608.40	3.59	6.16	3.64	0.00	0.00	13.38	22.76	22.76	0.00	22.76	26.80	23.32	1.88	25.19	11.78
608.90	3.60	6.16	3.63	0.00	0.00	13.39	22.78	22.78	0.00	22.78	26.40	23.01	1.81	24.82	11.79
609.70	3.61	6.16	3.62	0.00	0.00	13.40	22.79	22.79	0.00	22.79	27.96	24.43	1.85	26.28	11.80
610.00	3.62	6.16	3.62	0.00	0.00	13.40	22.80	22.80	0.00	22.80	28.54	24.97	1.86	26.83	11.80
610.70	3.63	6.16	3.61	0.00	0.00	13.40	22.82	22.82	0.00	22.82	29.91	26.79	1.92	28.71	11.77
610.90	3.63	6.16	3.61	0.00	0.00	13.40	22.83	22.83	0.00	22.83	29.73	26.65	1.89	28.54	11.76
612.00	3.64	6.16	3.59	0.00	0.00	13.40	22.86	22.86	0.00	22.86	25.68	23.81	1.59	25.41	11.72

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

See page 331 for Explanation of Tables

λ	O						N ₂				O ₂				N
	⁴ S	² D	² P	⁴ P ^e	² P ^e	ION	ABS	N ₂ ⁺	N ⁺	ION	ABS	O ₂ ⁺	O ⁺	ION	ION
$\text{\AA}$	$\times 10^{-18} \text{ cm}^2$														
612.40	3.65	6.16	3.59	0.00	0.00	13.40	22.87	22.87	0.00	22.87	24.21	22.72	1.49	24.21	11.70
612.70	3.65	6.16	3.58	0.00	0.00	13.40	22.88	22.88	0.00	22.88	23.10	21.66	1.39	23.05	11.69
613.00	3.66	6.16	3.58	0.00	0.00	13.40	22.89	22.89	0.00	22.89	27.00	25.29	1.60	26.89	11.68
614.00	3.67	6.16	3.56	0.00	0.00	13.40	22.92	22.92	0.00	22.92	28.43	26.55	1.58	28.13	11.64
615.00	3.68	6.16	3.55	0.00	0.00	13.40	22.95	22.95	0.00	22.95	28.57	26.59	1.48	28.08	11.60
615.20	3.69	6.16	3.55	0.00	0.00	13.40	22.96	22.96	0.00	22.96	28.60	26.60	1.46	28.07	11.59
616.00	3.70	6.16	3.54	0.00	0.00	13.40	22.98	22.98	0.00	22.98	25.40	23.56	1.23	24.79	11.57
616.30	3.70	6.16	3.53	0.00	0.00	13.40	22.99	22.99	0.00	22.99	24.20	22.43	1.14	23.57	11.57
616.60	3.71	6.16	3.53	0.00	0.00	13.40	23.00	23.00	0.00	23.00	26.43	24.47	1.22	25.69	11.56
616.90	3.71	6.16	3.53	0.00	0.00	13.40	23.01	23.01	0.00	23.01	28.66	26.50	1.29	27.80	11.55
617.70	3.72	6.16	3.51	0.00	0.00	13.40	23.03	23.03	0.00	23.03	34.60	31.98	1.47	33.45	11.53
618.00	3.73	6.16	3.51	0.00	0.00	13.40	23.04	23.04	0.00	23.04	30.82	28.47	1.28	29.75	11.52
618.20	3.73	6.16	3.51	0.00	0.00	13.40	23.05	23.05	0.00	23.05	28.30	26.13	1.15	27.28	11.52
618.70	3.73	6.16	3.50	0.00	0.00	13.40	23.06	23.06	0.00	23.06	29.80	27.49	1.16	28.65	11.51
618.90	3.74	6.16	3.50	0.00	0.00	13.40	23.07	23.07	0.00	23.07	29.06	26.78	1.12	27.90	11.50
619.80	3.75	6.16	3.49	0.00	0.00	13.40	23.09	23.09	0.00	23.09	25.71	23.59	0.97	24.56	13.90
620.00	3.75	6.16	3.48	0.00	0.00	13.40	23.10	23.10	0.00	23.10	24.96	22.89	0.94	23.83	12.10
620.50	3.76	6.17	3.47	0.00	0.00	13.40	23.11	23.11	0.00	23.11	23.10	21.13	0.86	21.99	11.25
621.00	3.77	6.18	3.46	0.00	0.00	13.40	23.13	23.13	0.00	23.13	26.53	24.20	0.98	25.18	10.40
621.90	3.78	6.19	3.43	0.00	0.00	13.40	23.15	23.15	0.00	23.15	32.70	29.70	1.18	30.88	10.67
623.00	3.79	6.20	3.40	0.00	0.00	13.40	23.18	23.18	0.00	23.18	29.57	26.71	1.04	27.75	10.43
624.00	3.81	6.22	3.38	0.00	0.00	13.40	23.21	23.21	0.00	23.21	26.72	24.02	0.92	24.94	12.92
624.50	3.81	6.22	3.36	0.00	0.00	13.40	23.23	23.23	0.00	23.23	25.30	22.68	0.86	23.54	12.71
624.93	3.82	6.23	3.35	0.00	0.00	13.40	23.24	23.24	0.00	23.24	26.06	23.85	0.90	24.75	12.19
625.90	3.83	6.24	3.33	0.00	0.00	13.40	23.27	23.27	0.00	23.27	27.77	25.71	0.95	26.66	11.92
626.60	3.84	6.25	3.31	0.00	0.00	13.40	23.28	23.28	0.00	23.28	29.00	26.91	0.98	27.89	11.78
627.00	3.85	6.26	3.30	0.00	0.00	13.40	23.30	23.30	0.00	23.30	25.72	23.90	0.87	24.77	11.70
628.00	3.86	6.27	3.27	0.00	0.00	13.40	23.32	23.32	0.00	23.32	27.60	25.73	0.91	26.65	11.50
629.00	3.87	6.28	3.24	0.00	0.00	13.40	23.35	23.35	0.00	23.35	30.60	28.63	1.00	29.63	11.33
629.60	3.88	6.29	3.23	0.00	0.00	13.40	23.37	23.37	0.00	23.37	32.40	30.37	1.05	31.42	11.23
629.70	3.88	6.29	3.22	0.00	0.00	13.40	23.37	23.37	0.00	23.37	32.14	30.14	1.04	31.17	11.22
630.00	3.89	6.30	3.22	0.00	0.00	13.40	23.38	23.38	0.00	23.38	31.34	29.43	1.00	30.44	11.17
630.30	3.95	6.29	3.15	0.00	0.00	13.40	23.39	23.39	0.00	23.39	30.55	28.73	0.97	29.70	11.12
631.00	4.11	6.27	3.01	0.00	0.00	13.39	23.41	23.41	0.00	23.41	28.69	27.04	0.94	27.98	11.00
631.60	4.25	6.25	2.89	0.00	0.00	13.38	23.42	23.42	0.00	23.42	27.11	25.58	0.91	26.50	14.60
632.00	4.34	6.24	2.81	0.00	0.00	13.38	23.44	23.44	0.00	23.44	26.05	24.61	0.89	25.50	14.31
633.00	4.56	6.20	2.61	0.00	0.00	13.37	23.46	23.46	0.00	23.46	23.40	22.17	0.84	23.00	13.57
634.00	4.78	6.17	2.40	0.00	0.00	13.36	23.49	23.49	0.00	23.49	29.11	27.65	1.08	28.73	12.84
634.40	4.87	6.16	2.32	0.00	0.00	13.36	23.50	23.50	0.00	23.50	31.40	29.86	1.18	31.04	12.54
634.70	4.94	6.15	2.26	0.00	0.00	13.35	23.51	23.51	0.00	23.51	30.09	28.64	1.15	29.78	12.32
635.00	5.01	6.14	2.20	0.00	0.00	13.35	23.52	23.52	0.00	23.52	28.79	27.43	1.09	28.52	12.10
635.80	5.18	6.12	2.04	0.00	0.00	13.34	23.54	23.54	0.00	23.54	25.30	24.20	0.95	25.15	12.04
636.00	5.23	6.11	2.00	0.00	0.00	13.34	23.55	23.55	0.00	23.55	26.34	25.22	0.98	26.20	12.02
636.30	5.30	6.10	1.94	0.00	0.00	13.34	23.56	23.56	0.00	23.56	27.90	26.75	1.04	27.79	12.00
637.00	5.45	6.08	1.80	0.00	0.00	13.33	23.58	23.58	0.00	23.58	26.08	25.09	0.96	26.05	11.94
637.30	5.52	6.07	1.74	0.00	0.00	13.33	23.58	23.58	0.00	23.58	25.30	24.38	0.92	25.30	11.92
638.00	5.67	6.05	1.60	0.00	0.00	13.32	23.60	23.60	0.00	23.60	27.58	26.43	1.04	27.46	11.86
638.50	5.79	6.03	1.50	0.00	0.00	13.32	23.62	23.62	0.00	23.62	26.17	24.98	1.00	25.99	11.82
638.70	5.83	6.03	1.46	0.00	0.00	13.31	23.62	23.62	0.00	23.62	25.30	24.12	0.98	25.10	11.80
639.00	5.90	6.02	1.40	0.00	0.00	13.31	23.63	23.63	0.00	23.63	25.59	24.34	1.00	25.34	11.78
640.00	6.12	5.99	1.20	0.00	0.00	13.30	23.66	23.66	0.00	23.66	26.57	25.08	1.08	26.15	11.70
640.41	6.01	5.97	1.30	0.00	0.00	13.29	23.67	23.67	0.00	23.67	26.96	25.37	1.11	26.48	11.60
640.93	5.88	5.96	1.43	0.00	0.00	13.27	23.69	23.69	0.00	23.69	27.47	25.75	1.15	26.90	11.47
641.81	5.66	5.94	1.65	0.00	0.00	13.25	23.71	23.71	0.00	23.71	28.33	26.37	1.22	27.59	11.26
642.00	5.61	5.93	1.69	0.00	0.00	13.24	23.72	23.72	0.00	23.72	28.51	26.50	1.24	27.74	11.22
642.50	5.49	5.92	1.82	0.00	0.00	13.23	23.73	23.73	0.00	23.73	29.00	26.85	1.28	28.13	11.09
643.00	5.36	5.90	1.94	0.00	0.00	13.21	23.75	23.75	0.00	23.75	26.59	24.65	1.20	25.84	10.97
644.00	5.11	5.88	2.19	0.00	0.00	13.18	23.78	23.78	0.00	23.78	21.76	20.22	1.02	21.24	10.73
644.20	5.06	5.87	2.24	0.00	0.00	13.17	23.78	23.78	0.00	23.78	20.80	19.34	0.98	20.32	10.68
644.40	5.01	5.87	2.29	0.00	0.00	13.17	23.79	23.79	0.00	23.79	21.93	20.39	1.04	21.43	10.63
645.00	4.87	5.85	2.43	0.00	0.00	13.15	23.81	23.81	0.00	23.81	25.30	23.61	1.19	24.79	10.49
645.90	4.64	5.83	2.65	0.00	0.00	13.12	23.83	23.83	0.00	23.83	24.90	23.20	1.13	24.34	10.27
646.60	4.47	5.81	2.82	0.00	0.00	13.10	23.85	23.85	0.00	23.85	29.45	27.41	1.31	28.72	10.10

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

See page 331 for Explanation of Tables

λ	O						N ₂				O ₂				N
	⁴ S	² D	² P	⁴ P ^e	² P ^e	ION	ABS	N ₂ ⁺	N ⁺	ION	ABS	O ₂ ⁺	O ⁺	ION	ION
Å	$\times 10^{-18} \text{ cm}^2$														
646.70	4.45	5.81	2.85	0.00	0.00	13.10	23.85	23.85	0.00	23.85	30.10	28.01	1.33	29.35	10.68
647.00	4.37	5.80	2.92	0.00	0.00	13.09	23.86	23.86	0.00	23.86	29.57	27.51	1.30	28.80	12.41
647.50	4.25	5.79	3.04	0.00	0.00	13.07	23.88	23.88	0.00	23.88	28.68	26.66	1.24	27.89	15.30
648.00	4.13	5.77	3.16	0.00	0.00	13.06	23.89	23.89	0.00	23.89	27.79	25.81	1.18	26.99	14.66
649.00	3.88	5.75	3.40	0.00	0.00	13.03	23.92	23.92	0.00	23.92	26.01	24.12	1.06	25.18	13.38
649.40	3.79	5.74	3.50	0.00	0.00	13.02	23.93	23.93	0.00	23.93	25.30	23.43	1.03	24.47	12.87
650.00	3.64	5.72	3.64	0.00	0.00	13.00	23.95	23.95	0.00	23.95	26.42	24.43	1.08	25.51	12.10
650.30	3.63	5.72	3.64	0.00	0.00	12.99	23.96	23.96	0.00	23.96	26.99	24.93	1.10	26.03	12.10
651.00	3.60	5.72	3.64	0.00	0.00	12.96	23.98	23.98	0.00	23.98	28.30	26.08	1.15	27.23	12.10
651.80	3.57	5.71	3.64	0.00	0.00	12.93	24.00	24.00	0.00	24.00	29.80	27.42	1.18	28.61	12.10
652.00	3.57	5.71	3.64	0.00	0.00	12.92	24.00	24.00	0.00	24.00	29.71	27.37	1.17	28.54	12.10
653.00	3.53	5.71	3.65	0.00	0.00	12.88	24.03	24.03	0.00	24.03	29.29	27.09	1.13	28.22	12.10
654.00	3.49	5.70	3.65	0.00	0.00	12.84	24.05	24.05	0.00	24.05	28.86	26.81	1.08	27.89	12.10
655.00	3.46	5.70	3.65	0.00	0.00	12.80	24.08	24.08	0.00	24.08	28.43	26.53	1.03	27.56	12.10
656.00	3.42	5.69	3.65	0.00	0.00	12.76	24.10	24.10	0.00	24.10	28.00	26.25	0.98	27.23	12.10
657.00	3.38	5.69	3.65	0.00	0.00	12.72	24.13	24.13	0.00	24.13	27.57	25.96	0.94	26.89	12.10
657.30	3.37	5.68	3.65	0.00	0.00	12.71	24.13	24.13	0.00	24.13	27.44	25.87	0.92	26.79	12.10
658.00	3.35	5.68	3.65	0.00	0.00	12.68	24.15	24.15	0.00	24.15	27.14	25.66	0.89	26.56	12.10
659.00	3.31	5.68	3.65	0.00	0.00	12.64	24.18	24.18	0.00	24.18	26.71	25.37	0.85	26.22	12.10
660.00	3.28	5.67	3.65	0.00	0.00	12.60	24.20	24.20	0.00	24.20	26.29	25.07	0.80	25.87	12.10
660.30	3.31	5.65	3.60	0.00	0.00	12.57	24.30	24.30	0.00	24.30	26.16	24.98	0.79	25.77	12.10
661.00	3.40	5.59	3.47	0.00	0.00	12.49	25.22	23.00	0.00	23.00	25.86	24.77	0.76	25.53	12.10
661.40	3.44	5.56	3.40	0.00	0.00	12.44	25.74	23.36	0.00	23.36	25.69	24.65	0.75	25.39	12.10
661.90	3.50	5.53	3.31	0.00	0.00	12.38	26.40	23.80	0.00	23.80	25.47	24.49	0.72	25.22	12.10
663.00	3.63	5.44	3.11	0.00	0.00	12.26	26.69	21.00	0.00	21.00	25.00	23.97	0.67	24.65	12.10
664.00	3.74	5.37	2.94	0.00	0.00	12.15	26.94	24.30	0.00	24.30	24.57	23.50	0.63	24.13	12.10
664.60	3.81	5.32	2.84	0.00	0.00	12.08	27.10	25.20	0.00	25.20	24.31	23.22	0.60	23.83	12.10
664.90	3.84	5.30	2.78	0.00	0.00	12.05	25.60	23.80	0.00	23.80	24.19	23.11	0.59	23.70	12.10
665.30	4.16	5.78	1.93	0.00	0.00	12.00	27.47	25.60	0.00	25.60	24.01	22.96	0.58	23.53	12.10
665.80	4.67	6.58	0.55	0.00	0.00	11.92	27.42	25.60	0.00	25.60	23.80	22.77	0.56	23.32	12.10
666.00	4.87	6.89	0.00	0.00	0.00	11.89	27.40	25.60	0.00	25.60	23.74	22.72	0.55	23.27	12.10
667.00	4.77	6.85	0.00	0.00	0.00	11.72	30.00	28.20	0.00	28.20	23.45	22.47	0.51	22.98	12.10
667.30	4.74	6.83	0.00	0.00	0.00	11.67	40.40	38.10	0.00	38.10	23.37	22.40	0.50	22.90	12.10
668.00	4.66	6.80	0.00	0.00	0.00	11.56	22.40	21.20	0.00	21.20	23.16	22.22	0.48	22.70	12.10
669.00	4.56	6.75	0.00	0.00	0.00	11.39	48.40	46.10	0.00	46.10	22.87	21.97	0.44	22.42	12.10
669.60	4.50	6.72	0.00	0.00	0.00	11.30	32.32	30.86	0.00	30.86	22.70	21.82	0.42	22.25	12.10
670.00	4.46	6.70	0.00	0.00	0.00	11.23	21.60	20.70	0.00	20.70	20.80	20.01	0.38	20.38	12.10
670.40	4.42	6.67	0.00	0.00	0.00	11.16	22.00	21.40	0.00	21.40	21.44	20.63	0.38	21.01	12.10
671.00	4.36	6.64	0.00	0.00	0.00	11.07	28.71	26.40	0.00	26.40	21.23	20.44	0.36	20.80	12.10
671.50	4.31	6.62	0.00	0.00	0.00	10.98	34.30	33.30	0.00	33.30	20.86	20.10	0.34	20.44	12.10
671.90	4.27	6.59	0.00	0.00	0.00	10.92	28.40	27.50	0.00	27.50	20.56	20.23	0.33	20.56	12.10
672.90	4.17	6.54	0.00	0.00	0.00	10.75	23.00	21.40	0.00	21.40	19.82	19.32	0.29	19.61	12.10
673.60	4.10	6.50	0.00	0.00	0.00	10.64	23.00	20.83	0.00	20.83	19.30	18.69	0.27	18.95	12.10
673.80	4.08	6.49	0.00	0.00	0.00	10.61	23.00	20.50	0.00	20.50	19.63	18.97	0.27	19.24	12.10
674.00	4.06	6.48	0.00	0.00	0.00	10.57	30.41	14.80	0.00	14.80	19.96	19.25	0.26	19.52	12.10
674.40	4.02	6.45	0.00	0.00	0.00	10.51	45.24	27.60	0.00	27.60	20.61	19.81	0.26	20.07	12.10
675.00	3.96	6.42	0.00	0.00	0.00	10.41	67.49	28.70	0.00	28.70	21.60	20.64	0.26	20.90	12.10
675.20	3.94	6.41	0.00	0.00	0.00	10.38	74.90	61.40	0.00	61.40	21.17	20.19	0.25	20.44	12.10
675.70	3.90	6.38	0.00	0.00	0.00	10.30	65.77	38.71	0.00	38.71	20.10	19.08	0.22	19.30	12.10
676.00	3.87	6.36	0.00	0.00	0.00	10.25	60.30	25.10	0.00	25.10	21.00	19.99	0.22	20.21	12.10
676.20	3.85	6.35	0.00	0.00	0.00	10.21	56.65	24.08	0.00	24.08	21.60	20.59	0.22	20.82	12.10
676.60	3.81	6.32	0.00	0.00	0.00	10.15	49.35	22.04	0.00	22.04	20.10	19.24	0.20	19.44	12.10
677.00	3.77	6.30	0.00	0.00	0.00	10.08	42.05	20.00	0.00	20.00	21.20	20.36	0.20	20.56	12.10
677.50	3.73	6.27	0.00	0.00	0.00	10.00	32.93	20.85	0.00	20.85	20.52	19.16	0.18	19.33	12.10
677.90	3.82	6.47	0.00	0.00	0.00	10.30	25.62	21.53	0.00	21.53	19.97	18.22	0.16	18.37	12.10
678.30	3.92	6.68	0.00	0.00	0.00	10.60	25.42	22.03	0.00	22.03	19.43	17.95	0.15	18.10	12.10
678.80	3.96	8.04	0.00	0.00	0.00	12.00	28.13	22.58	0.00	22.58	18.75	17.59	0.13	17.73	12.10
679.00	5.48	12.19	0.00	0.00	0.00	17.67	29.21	22.80	0.00	22.80	18.47	17.45	0.13	17.58	12.10
679.20	4.47	10.93	0.00	0.00	0.00	15.40	30.29	19.68	0.00	19.68	18.20	17.30	0.12	17.42	12.10
679.90	4.43	10.09	0.00	0.00	0.00	14.52	34.08	8.76	0.00	8.76	23.80	23.11	0.14	23.26	12.10
680.20	4.41	9.74	0.00	0.00	0.00	14.15	35.70	32.80	0.00	32.80	22.11	21.67	0.13	21.80	12.10
680.40	4.39	9.51	0.00	0.00	0.00	13.90	34.67	31.95	0.00	31.95	20.99	20.69	0.11	20.81	12.10
680.70	4.61	9.68	0.00	0.00	0.00	14.29	33.14	30.67	0.00	30.67	19.30	19.20	0.10	19.30	12.10

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

See page 331 for Explanation of Tables

λ	O						N ₂				O ₂			N
	⁴ S	² D	² P	⁴ P ^e	² P ^e	ION	ABS	N ₂ ⁺	N ⁺	ION	ABS	O ₂ ⁺	O ⁺	ION
$\text{\AA}$	$\times 10^{-18} \text{ cm}^2$													
681.00	4.83	9.85	0.00	0.00	0.00	14.68	31.60	29.40	0.00	29.40	21.55	20.32	0.10	20.42
681.30	5.05	10.02	0.00	0.00	0.00	15.07	25.30	23.50	0.00	23.50	22.03	20.84	0.09	20.93
681.40	5.13	10.07	0.00	0.00	0.00	15.20	32.80	30.49	0.00	30.49	21.90	20.93	0.09	21.02
681.60	4.93	9.49	0.00	0.00	0.00	14.41	47.80	44.46	0.00	44.46	22.30	21.77	0.09	21.85
681.70	4.82	9.20	0.00	0.00	0.00	14.02	55.30	51.44	0.00	51.44	21.77	21.13	0.08	21.21
682.00	4.50	8.34	0.00	0.00	0.00	12.84	77.80	72.40	0.00	72.40	20.19	19.25	0.07	19.32
682.30	4.16	7.50	0.00	0.00	0.00	11.66	65.57	59.38	0.00	59.38	18.60	17.43	0.05	17.48
682.80	3.56	6.13	0.00	0.00	0.00	9.69	45.18	37.68	0.00	37.68	21.90	20.97	0.05	21.02
683.00	3.59	6.06	0.00	0.00	0.00	9.65	37.03	29.00	0.00	29.00	21.02	20.21	0.05	20.26
683.30	3.60	5.92	0.00	0.00	0.00	9.52	24.80	23.30	0.00	23.30	19.70	19.06	0.04	19.10
683.80	3.62	5.68	0.00	0.00	0.00	9.29	24.43	22.97	0.00	22.97	17.50	17.11	0.02	17.13
683.90	3.62	5.63	0.00	0.00	0.00	9.25	24.36	22.90	0.00	22.90	18.38	18.01	0.02	18.03
684.30	3.88	5.82	0.00	0.00	0.00	9.70	24.07	22.63	0.00	22.63	21.91	21.64	0.01	21.66
684.50	3.92	6.28	0.00	0.00	0.00	10.20	23.92	22.50	0.00	22.50	23.67	23.48	0.01	23.49
684.80	4.03	7.17	0.00	0.00	0.00	11.20	23.70	22.30	0.00	22.30	26.32	26.27	0.00	26.27
684.90	4.58	8.55	0.00	0.00	0.00	13.13	23.70	24.35	0.00	24.35	27.20	27.20	0.00	27.20
685.50	6.94	17.74	0.00	0.00	0.00	24.68	23.70	23.96	0.00	23.96	21.95	21.95	0.00	21.95
685.71	6.94	18.55	0.00	0.00	0.00	25.49	23.70	22.94	0.00	22.94	20.11	20.11	0.00	20.11
686.00	6.28	16.29	0.00	0.00	0.00	22.56	23.70	22.50	0.00	22.50	17.57	17.34	0.00	17.34
686.30	5.55	13.98	0.00	0.00	0.00	19.54	23.70	22.50	0.00	22.50	19.54	18.99	0.00	18.99
686.60	4.79	11.72	0.00	0.00	0.00	16.51	23.69	21.71	0.00	21.71	23.80	22.85	0.00	22.85
686.70	4.53	10.97	0.00	0.00	0.00	15.50	23.68	21.45	0.00	21.45	23.25	22.22	0.00	22.22
687.00	3.98	9.37	0.00	0.00	0.00	13.35	23.67	20.67	0.00	20.67	21.62	20.35	0.00	20.35
687.30	3.41	7.79	0.00	0.00	0.00	11.20	23.65	19.88	0.00	19.88	19.98	18.53	0.00	18.53
687.90	3.95	8.52	0.00	0.00	0.00	12.48	23.62	18.31	0.00	18.31	16.70	15.03	0.00	15.03
688.40	4.06	8.35	0.00	0.00	0.00	12.41	23.60	17.00	0.00	17.00	19.26	16.98	0.00	16.98
688.70	3.97	7.95	0.00	0.00	0.00	11.92	23.60	16.40	0.00	16.40	20.80	18.10	0.00	18.10
689.00	3.88	7.56	0.00	0.00	0.00	11.43	23.60	15.80	0.00	15.80	17.50	15.75	0.00	15.75
690.00	3.52	6.28	0.00	0.00	0.00	9.80	23.33	13.70	0.00	13.70	25.04	23.46	0.00	23.46
690.60	3.52	5.95	0.00	0.00	0.00	9.47	23.16	9.08	0.00	9.08	22.63	21.08	0.00	21.08
690.80	3.56	5.92	0.00	0.00	0.00	9.48	23.11	7.54	0.00	7.54	21.27	19.75	0.00	19.75
691.00	3.60	5.88	0.00	0.00	0.00	9.48	23.05	6.00	0.00	6.00	19.92	18.43	0.00	18.43
691.20	3.64	5.85	0.00	0.00	0.00	9.49	23.00	12.20	0.00	12.20	18.57	17.12	0.00	17.12
691.40	3.68	5.81	0.00	0.00	0.00	9.49	23.00	17.90	0.00	17.90	19.42	17.83	0.00	17.83
692.00	3.80	5.70	0.00	0.00	0.00	9.51	23.80	18.10	0.00	18.10	28.53	25.88	0.00	25.88
692.20	3.81	5.70	0.00	0.00	0.00	9.51	24.07	18.43	0.00	18.43	31.56	28.52	0.00	28.52
692.40	3.85	5.72	0.00	0.00	0.00	9.57	25.13	20.03	0.00	20.03	34.60	31.14	0.00	31.14
692.70	3.84	5.67	0.00	0.00	0.00	9.51	27.91	24.31	0.00	24.31	31.53	28.49	0.00	28.49
693.00	3.79	5.57	0.00	0.00	0.00	9.37	30.69	28.60	0.00	28.60	28.45	25.82	0.00	25.82
693.80	3.68	5.32	0.00	0.00	0.00	9.00	38.10	35.72	0.00	35.72	20.25	18.58	0.00	18.58
694.00	3.69	5.31	0.00	0.00	0.00	9.01	39.96	37.50	0.00	37.50	18.20	16.74	0.00	16.74
694.30	3.71	5.31	0.00	0.00	0.00	9.02	42.74	46.59	0.00	46.59	21.27	19.49	0.00	19.49
694.90	3.75	5.30	0.00	0.00	0.00	9.04	48.30	64.77	0.00	64.77	27.43	24.92	0.00	24.92
695.20	3.77	5.29	0.00	0.00	0.00	9.06	76.10	62.98	0.00	62.98	30.50	27.60	0.00	27.60
696.00	3.74	5.17	0.00	0.00	0.00	8.91	61.30	43.70	0.00	43.70	19.30	17.27	0.00	17.27
696.50	3.96	4.84	0.00	0.00	0.00	8.80	52.05	32.90	0.00	32.90	23.61	20.98	0.00	20.98
697.00	3.24	6.12	0.00	0.00	0.00	9.36	42.80	22.10	0.00	22.10	27.92	24.64	0.00	24.64
697.30	2.75	6.95	0.00	0.00	0.00	9.70	37.25	22.25	0.00	22.25	30.50	26.80	0.00	26.80
697.50	9.67	30.33	0.00	0.00	0.00	40.00	33.55	22.35	0.00	22.35	31.05	27.21	0.00	27.21
697.70	7.42	29.67	0.00	0.00	0.00	37.09	29.85	22.45	0.00	22.45	31.60	27.61	0.00	27.61
698.00	7.65	25.06	0.00	0.00	0.00	32.71	24.30	22.60	0.00	22.60	33.10	28.80	0.00	28.80
698.30	7.59	20.75	0.00	0.00	0.00	28.34	23.83	22.51	0.00	22.51	34.60	29.97	0.00	29.97
698.90	6.58	13.02	0.00	0.00	0.00	19.60	22.89	22.33	0.00	22.33	29.43	25.27	0.00	25.27
699.40	6.34	9.83	0.00	0.00	0.00	16.17	22.10	20.80	0.00	20.80	25.12	21.42	0.00	21.42
699.60	6.14	8.66	0.00	0.00	0.00	14.79	22.10	20.80	0.00	20.80	23.40	19.89	0.00	19.89
699.70	6.01	8.10	0.00	0.00	0.00	14.11	22.10	20.80	0.00	20.80	24.37	20.71	0.00	20.71
700.00	5.54	6.51	0.00	0.00	0.00	12.05	23.80	22.40	0.00	22.40	27.27	23.18	0.00	23.18
700.30	4.56	5.42	0.00	0.00	0.00	9.99	22.10	20.80	0.00	20.80	30.17	25.64	0.00	25.64
700.40	4.24	5.06	0.00	0.00	0.00	9.30	22.59	21.27	0.00	21.27	31.13	26.46	0.00	26.46
700.80	3.82	4.63	0.00	0.00	0.00	8.45	24.53	23.16	0.00	23.16	35.00	29.75	0.00	29.75
701.00	3.61	4.41	0.00	0.00	0.00	8.03	25.50	24.10	0.00	24.10	31.00	26.35	0.00	26.35
701.20	3.40	4.20	0.00	0.00	0.00	7.60	26.42	25.00	0.00	25.00	27.00	22.95	0.00	22.95
701.60	5.24	6.56	0.00	0.00	0.00	11.80	28.26	26.80	0.00	26.80	19.00	16.15	0.00	16.15

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

See page 331 for Explanation of Tables

λ	O						N ₂				O ₂				N
	⁴ S	² D	² P	⁴ P ^e	² P ^e	ION	ABS	N ₂ ⁺	N ⁺	ION	ABS	O ₂ ⁺	O ⁺	ION	ION
$\text{\AA}$	$\times 10^{-18} \text{ cm}^2$														
701.80	6.14	7.76	0.00	0.00	0.00	13.90	29.18	27.70	0.00	27.70	20.33	17.28	0.00	17.28	13.37
702.00	5.98	7.61	0.00	0.00	0.00	13.59	30.10	28.60	0.00	28.60	21.67	18.42	0.00	18.42	13.36
703.00	5.17	6.85	0.00	0.00	0.00	12.02	28.30	27.10	0.00	27.10	28.33	24.08	0.00	24.08	13.29
703.36	4.89	6.57	0.00	0.00	0.00	11.46	26.54	25.48	0.00	25.48	27.44	23.75	0.00	23.75	13.26
703.60	4.70	6.38	0.00	0.00	0.00	11.08	25.36	24.40	0.00	24.40	26.00	22.88	0.00	22.88	13.25
704.00	4.39	6.06	0.00	0.00	0.00	10.46	23.40	22.60	0.00	22.60	34.75	31.20	0.00	31.20	13.22
704.50	4.15	5.84	0.00	0.00	0.00	9.99	25.80	25.00	0.00	25.00	45.69	42.04	0.00	42.04	13.19
705.00	3.94	5.66	0.00	0.00	0.00	9.60	25.79	22.30	0.00	22.30	56.64	48.92	0.00	48.92	13.15
705.30	3.96	5.67	0.00	0.00	0.00	9.64	25.79	21.91	0.00	21.91	63.20	52.46	0.00	52.46	13.13
705.90	4.02	5.69	0.00	0.00	0.00	9.71	25.78	21.13	0.00	21.13	45.52	38.20	0.00	38.20	13.09
706.60	4.07	5.71	0.00	0.00	0.00	9.78	25.78	20.16	0.00	20.16	24.90	21.17	0.00	21.17	13.04
707.00	4.10	5.72	0.00	0.00	0.00	9.82	25.77	19.60	0.00	19.60	25.36	21.64	0.00	21.64	13.01
707.60	4.15	5.73	0.00	0.00	0.00	9.88	25.77	19.24	0.00	19.24	26.05	22.35	0.00	22.35	12.97
707.90	4.15	5.70	0.00	0.00	0.00	9.85	25.76	19.06	0.00	19.06	26.40	22.70	0.00	22.70	12.95
708.90	4.15	5.60	0.00	0.00	0.00	9.74	25.75	18.19	0.00	18.19	25.70	21.85	0.00	21.85	12.88
709.20	4.14	5.57	0.00	0.00	0.00	9.71	25.75	18.04	0.00	18.04	26.53	22.48	0.00	22.48	12.86
709.70	4.01	5.35	0.00	0.00	0.00	9.36	25.74	17.89	0.00	17.89	25.70	21.65	0.00	21.65	12.82
710.00	3.93	5.22	0.00	0.00	0.00	9.15	25.74	17.80	0.00	17.80	29.39	24.68	0.00	24.68	12.80
710.80	4.03	5.27	0.00	0.00	0.00	9.30	25.73	17.96	0.00	17.96	39.24	32.64	0.00	32.64	12.74
711.00	4.03	5.26	0.00	0.00	0.00	9.30	25.73	18.00	0.00	18.00	41.70	34.61	0.00	34.61	12.73
711.90	4.06	5.22	0.00	0.00	0.00	9.27	25.72	18.00	0.00	18.00	32.40	25.60	0.00	25.60	12.67
712.50	4.07	5.19	0.00	0.00	0.00	9.26	25.71	17.30	0.00	17.30	35.70	28.85	0.00	28.85	12.63
712.70	4.08	5.17	0.00	0.00	0.00	9.25	25.71	17.02	0.00	17.02	36.80	29.96	0.00	29.96	12.61
712.90	4.08	5.16	0.00	0.00	0.00	9.24	25.71	16.74	0.00	16.74	37.90	31.08	0.00	31.08	12.60
713.50	4.09	5.12	0.00	0.00	0.00	9.21	25.70	15.40	0.00	15.40	35.28	29.12	0.00	29.12	12.56
713.90	4.10	5.09	0.00	0.00	0.00	9.19	25.70	14.44	0.00	14.44	33.54	27.80	0.00	27.80	12.53
714.70	4.13	5.07	0.00	0.00	0.00	9.20	20.57	7.41	0.00	7.41	35.00	29.40	0.00	29.40	12.47
715.00	4.15	5.07	0.00	0.00	0.00	9.21	18.55	4.50	0.00	4.50	33.62	28.00	0.00	28.00	12.45
715.60	4.18	5.06	0.00	0.00	0.00	9.24	14.50	3.60	0.00	3.60	30.85	25.27	0.00	25.27	12.41
715.70	4.18	5.06	0.00	0.00	0.00	9.24	14.94	3.45	0.00	3.45	30.38	24.82	0.00	24.82	12.40
716.00	4.16	5.01	0.00	0.00	0.00	9.17	16.26	3.00	0.00	3.00	29.00	23.49	0.00	23.49	12.38
716.50	4.13	4.92	0.00	0.00	0.00	9.05	18.46	6.75	0.00	6.75	30.50	25.01	0.00	25.01	12.35
717.00	4.09	4.84	0.00	0.00	0.00	8.93	20.66	10.50	0.00	10.50	28.36	21.43	0.00	21.43	12.31
717.20	4.08	4.81	0.00	0.00	0.00	8.88	21.54	10.60	0.00	10.60	27.50	20.08	0.00	20.08	12.30
717.60	4.05	4.74	0.00	0.00	0.00	8.79	23.30	10.80	0.00	10.80	29.80	25.93	0.00	25.93	12.27
718.00	4.09	4.76	0.00	0.00	0.00	8.84	25.06	11.00	0.00	11.00	28.71	24.75	0.00	24.75	12.24
718.50	4.13	4.77	0.00	0.00	0.00	8.91	23.20	17.55	0.00	17.55	27.35	23.02	0.00	23.02	12.20
719.00	4.18	4.79	0.00	0.00	0.00	8.97	27.40	24.10	0.00	24.10	25.99	21.27	0.00	21.27	12.17
719.20	4.20	4.80	0.00	0.00	0.00	9.00	27.05	22.08	0.00	22.08	25.44	20.59	0.00	20.59	12.16
719.40	4.21	4.79	0.00	0.00	0.00	9.00	26.71	20.06	0.00	20.06	24.90	19.92	0.00	19.92	12.14
720.00	4.23	4.77	0.00	0.00	0.00	9.00	25.66	14.00	0.00	14.00	30.48	24.67	0.00	24.67	12.10
720.40	4.10	4.86	0.00	0.00	0.00	8.96	24.97	13.48	0.00	13.48	34.20	27.90	0.00	27.90	12.09
720.90	3.95	4.96	0.00	0.00	0.00	8.91	24.10	12.83	0.00	12.83	30.09	24.78	0.00	24.78	12.08
721.30	3.85	5.09	0.00	0.00	0.00	8.94	26.80	21.17	0.00	21.17	26.80	22.24	0.00	22.24	12.07
721.40	3.83	5.12	0.00	0.00	0.00	8.94	27.48	24.00	0.00	24.00	26.94	22.47	0.00	22.47	12.06
721.80	3.73	5.24	0.00	0.00	0.00	8.97	30.19	18.53	0.00	18.53	27.50	23.38	0.00	23.38	12.06
722.00	3.68	5.30	0.00	0.00	0.00	8.99	31.54	15.80	0.00	15.80	27.05	22.65	0.00	22.65	12.05
722.50	3.56	5.46	0.00	0.00	0.00	9.02	34.92	25.70	0.00	25.70	25.92	20.90	0.00	20.90	12.04
722.90	3.41	5.49	0.00	0.00	0.00	8.90	37.62	33.62	0.00	33.62	26.00	19.50	0.00	19.50	12.03
723.40	3.61	5.14	0.00	0.00	0.00	8.75	69.30	34.60	0.00	34.60	25.30	21.25	0.00	21.25	12.01
723.90	3.68	4.92	0.00	0.00	0.00	8.60	59.51	33.35	0.00	33.35	26.68	22.41	0.00	22.41	12.00
724.20	9.72	16.39	0.00	0.00	0.00	26.10	53.63	31.00	0.00	31.00	27.50	23.10	0.00	23.10	11.99
724.80	12.23	49.27	0.00	0.00	0.00	61.50	41.88	24.70	0.00	24.70	25.85	21.91	0.00	21.91	11.98
724.90	9.23	45.07	0.00	0.00	0.00	54.30	39.92	23.65	0.00	23.65	25.57	21.71	0.00	21.71	11.98
725.50	6.59	27.31	0.00	0.00	0.00	33.90	30.60	19.15	0.00	19.15	33.80	28.97	0.00	28.97	11.96
725.70	5.48	21.62	0.00	0.00	0.00	27.10	30.06	17.77	0.00	17.77	37.20	31.99	0.00	31.99	11.96
726.00	5.16	18.90	0.00	0.00	0.00	24.07	29.24	15.70	0.00	15.70	42.30	36.56	0.00	36.56	11.95
726.40	4.62	15.40	0.00	0.00	0.00	20.02	28.16	16.10	0.00	16.10	49.10	42.72	0.00	42.72	11.94
727.00	3.56	10.40	0.00	0.00	0.00	13.96	26.53	16.70	0.00	16.70	36.43	31.70	0.00	31.70	11.93
727.30	2.92	8.00	0.00	0.00	0.00	10.92	25.71	13.82	0.00	13.82	30.10	26.19	0.00	26.19	11.92
727.50	2.45	6.45	0.00	0.00	0.00	8.90	25.17	11.90	0.00	11.90	30.18	26.40	0.00	26.40	11.91
728.00	2.66	6.33	0.00	0.00	0.00	8.99	24.17	7.10	0.00	7.10	30.38	26.93	0.00	26.93	11.90
728.30	2.78	6.26	0.00	0.00	0.00	9.04	23.63	6.86	0.00	6.86	30.50	27.25	0.00	27.25	11.89

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

See page 331 for Explanation of Tables

λ	O						N ₂				O ₂				N
	⁴ S	² D	² P	⁴ P ^e	² P ^e	ION	ABS	N ₂ ⁺	N ⁺	ION	ABS	O ₂ ⁺	O ⁺	ION	ION
$\text{\AA}$	$\times 10^{-18} \text{ cm}^2$														
728.70	2.95	6.16	0.00	0.00	0.00	9.12	22.90	6.54	0.00	6.54	29.01	26.20	0.00	26.20	11.88
729.00	3.08	6.09	0.00	0.00	0.00	9.17	22.94	6.30	0.00	6.30	27.90	25.39	0.00	25.39	11.88
729.40	3.16	5.82	0.00	0.00	0.00	8.98	23.00	10.54	0.00	10.54	29.80	25.03	0.00	25.03	11.86
729.80	3.24	5.55	0.00	0.00	0.00	8.78	23.05	14.78	0.00	14.78	29.00	26.10	0.00	26.10	11.86
730.00	3.27	5.42	0.00	0.00	0.00	8.69	23.08	16.90	0.00	16.90	29.97	26.81	0.00	26.81	11.85
730.60	3.37	5.03	0.00	0.00	0.00	8.40	23.16	14.02	0.00	14.02	32.88	28.87	0.00	28.87	11.84
730.90	3.44	4.89	0.00	0.00	0.00	8.33	23.20	12.58	0.00	12.58	34.33	29.87	0.00	29.87	11.83
731.50	3.58	4.61	0.00	0.00	0.00	8.19	22.68	9.04	0.00	9.04	33.19	29.37	0.00	29.37	11.81
731.80	3.65	4.47	0.00	0.00	0.00	8.12	22.42	11.48	0.00	11.48	31.60	28.20	0.00	28.20	11.81
732.00	8.08	0.00	0.00	0.00	0.00	8.08	22.24	13.10	0.00	13.10	37.23	33.41	0.00	33.41	11.80
732.20	8.03	0.00	0.00	0.00	0.00	8.03	22.07	12.24	0.00	12.24	42.86	38.68	0.00	38.68	11.80
732.50	6.97	0.00	0.00	0.00	0.00	6.97	21.81	10.95	0.00	10.95	51.30	46.68	0.00	46.68	11.79
733.00	5.21	0.00	0.00	0.00	0.00	5.21	21.37	8.80	0.00	8.80	39.67	36.35	0.00	36.35	11.78
733.30	4.15	0.00	0.00	0.00	0.00	4.15	21.11	9.22	0.00	9.22	32.70	30.08	0.00	30.08	11.77
734.00	8.62	0.00	0.00	0.00	0.00	8.62	20.50	10.20	0.00	10.20	33.61	30.22	0.00	30.22	11.75
734.50	11.81	0.00	0.00	0.00	0.00	11.81	30.50	15.10	0.00	15.10	34.26	30.29	0.00	30.29	11.74
735.00	15.00	0.00	0.00	0.00	0.00	15.00	25.00	11.30	0.00	11.30	34.91	30.34	0.00	30.34	11.73
735.30	15.34	0.00	0.00	0.00	0.00	15.34	23.65	10.55	0.00	10.55	35.30	30.36	0.00	30.36	11.72
735.90	16.01	0.00	0.00	0.00	0.00	16.01	20.95	9.05	0.00	9.05	34.38	31.98	0.00	31.98	11.70
736.50	16.69	0.00	0.00	0.00	0.00	16.69	31.80	14.80	0.00	14.80	33.47	30.82	0.00	30.82	11.69
737.00	10.40	0.00	0.00	0.00	0.00	10.40	26.40	9.20	0.00	9.20	32.71	29.86	0.00	29.86	11.68
737.20	12.30	0.00	0.00	0.00	0.00	12.30	24.04	11.96	0.00	11.96	32.40	29.48	0.00	29.48	11.67
737.50	15.15	0.00	0.00	0.00	0.00	15.15	20.50	16.10	0.00	16.10	34.20	30.10	0.00	30.10	11.66
738.00	12.50	0.00	0.00	0.00	0.00	12.50	18.20	23.70	0.00	23.70	31.62	27.73	0.00	27.73	11.65
738.40	8.90	0.00	0.00	0.00	0.00	8.90	21.84	18.18	0.00	18.18	29.55	25.86	0.00	25.86	11.64
739.00	14.37	0.00	0.00	0.00	0.00	14.37	27.30	9.90	0.00	9.90	26.45	23.06	0.00	23.06	11.63
739.20	16.20	0.00	0.00	0.00	0.00	16.20	26.56	9.92	0.00	9.92	25.42	22.13	0.00	22.13	11.62
740.00	9.08	0.00	0.00	0.00	0.00	9.08	23.60	10.00	0.00	10.00	25.70	19.53	0.00	19.53	11.60
740.20	7.30	0.00	0.00	0.00	0.00	7.30	22.34	9.50	0.00	9.50	24.77	19.98	0.00	19.98	11.60
741.00	18.41	0.00	0.00	0.00	0.00	18.41	17.30	7.50	0.00	7.50	21.03	17.29	0.00	17.29	11.59
741.20	18.91	0.00	0.00	0.00	0.00	18.91	17.48	8.02	0.00	8.02	20.10	16.48	0.00	16.48	11.59
742.00	11.77	0.00	0.00	0.00	0.00	11.77	18.20	10.10	0.00	10.10	21.30	17.13	0.00	17.13	11.58
742.20	9.98	0.00	0.00	0.00	0.00	9.98	17.20	9.24	0.00	9.24	21.60	17.28	0.00	17.28	11.58
742.40	8.20	0.00	0.00	0.00	0.00	8.20	16.20	8.38	0.00	8.38	20.86	16.65	0.00	16.65	11.58
743.00	6.33	0.00	0.00	0.00	0.00	6.33	13.20	5.80	0.00	5.80	18.64	14.76	0.00	14.76	11.57
743.20	5.71	0.00	0.00	0.00	0.00	5.71	17.92	8.72	0.00	8.72	17.90	14.14	0.00	14.14	11.57
743.50	10.08	0.00	0.00	0.00	0.00	10.08	25.00	13.10	0.00	13.10	18.33	15.58	0.00	15.58	11.57
743.70	14.75	0.00	0.00	0.00	0.00	14.75	27.72	11.42	0.00	11.42	18.62	16.57	0.00	16.57	11.56
744.00	21.76	0.00	0.00	0.00	0.00	21.76	31.80	8.90	0.00	8.90	19.06	16.30	0.00	16.30	11.56
744.50	17.10	0.00	0.00	0.00	0.00	17.10	46.40	17.60	0.00	17.60	19.78	15.78	0.00	15.78	11.56
744.90	10.10	0.00	0.00	0.00	0.00	10.10	34.72	12.56	0.00	12.56	20.36	15.30	0.00	15.30	11.55
746.00	5.42	0.00	0.00	0.00	0.00	5.42	15.90	6.30	0.00	6.30	19.14	12.83	0.00	12.83	11.54
746.40	4.85	0.00	0.00	0.00	0.00	4.85	18.62	6.14	0.00	6.14	18.60	11.72	0.00	11.72	11.54
746.70	4.70	0.00	0.00	0.00	0.00	4.70	20.66	6.02	0.00	6.02	19.90	12.91	0.00	12.91	11.53
747.00	5.49	0.00	0.00	0.00	0.00	5.49	22.70	5.90	0.00	5.90	21.20	14.15	0.00	14.15	11.53
747.50	6.80	0.00	0.00	0.00	0.00	6.80	51.12	21.90	0.00	21.90	18.40	12.86	0.00	12.86	11.53
748.00	20.10	0.00	0.00	0.00	0.00	20.10	38.60	11.30	0.00	11.30	15.60	11.39	0.00	11.39	11.52
748.50	33.40	0.00	0.00	0.00	0.00	33.40	28.60	8.85	0.00	8.85	17.65	12.74	0.00	12.74	11.52
749.00	20.33	0.00	0.00	0.00	0.00	20.33	18.60	6.40	0.00	6.40	19.70	14.05	0.00	14.05	11.51
749.20	15.10	0.00	0.00	0.00	0.00	15.10	21.52	7.12	0.00	7.12	20.52	14.57	0.00	14.57	11.51
750.00	9.82	0.00	0.00	0.00	0.00	9.82	33.20	10.00	0.00	10.00	23.80	16.58	0.00	16.58	11.50
750.70	5.20	0.00	0.00	0.00	0.00	5.20	25.85	5.87	0.00	5.87	19.39	13.28	0.00	13.28	11.49
751.00	5.00	0.00	0.00	0.00	0.00	5.00	22.70	4.10	0.00	4.10	17.50	11.90	0.00	11.90	11.49
751.60	4.61	0.00	0.00	0.00	0.00	4.61	20.00	4.76	0.00	4.76	19.00	12.74	0.00	12.74	11.48
752.00	4.35	0.00	0.00	0.00	0.00	4.35	18.20	5.20	0.00	5.20	17.74	11.78	0.00	11.78	11.48
752.30	4.15	0.00	0.00	0.00	0.00	4.15	16.82	4.99	0.00	4.99	16.79	11.07	0.00	11.07	11.48
752.90	4.36	0.00	0.00	0.00	0.00	4.36	14.06	4.57	0.00	4.57	14.90	9.68	0.00	9.68	11.47
754.00	4.76	0.00	0.00	0.00	0.00	4.76	27.30	13.80	0.00	13.80	19.35	12.27	0.00	12.27	11.46
754.40	4.90	0.00	0.00	0.00	0.00	4.90	61.94	46.12	0.00	46.12	20.97	13.18	0.00	13.18	11.46
755.00	22.34	0.00	0.00	0.00	0.00	22.34	30.00	28.50	0.00	28.50	23.40	14.51	0.00	14.51	11.45
755.20	28.16	0.00	0.00	0.00	0.00	28.16	44.00	24.74	0.00	24.74	22.52	13.60	0.00	13.60	11.45
755.50	36.88	0.00	0.00	0.00	0.00	36.88	25.00	19.10	0.00	19.10	21.20	12.30	0.00	12.30	11.44
755.80	45.60	0.00	0.00	0.00	0.00	45.60	22.00	16.22	0.00	16.22	19.88	11.05	0.00	11.05	11.44

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

See page 331 for Explanation of Tables

λ	O						N ₂				O ₂				N
	⁴ S	² D	² P	⁴ P ^e	² P ^e	ION	ABS	N ₂ ⁺	N ⁺	ION	ABS	O ₂ ⁺	O ⁺	ION	ION
$\text{\AA}$	$\times 10^{-18} \text{ cm}^2$														
756.00	40.19	0.00	0.00	0.00	0.00	0.00	40.19	20.00	14.30	0.00	14.30	19.00	10.26	0.00	10.26
756.20	34.77	0.00	0.00	0.00	0.00	0.00	34.77	17.00	12.22	0.00	12.22	19.30	10.48	0.00	10.48
756.50	26.65	0.00	0.00	0.00	0.00	0.00	26.65	12.50	9.10	0.00	9.10	19.00	10.40	0.00	10.40
757.00	13.11	0.00	0.00	0.00	0.00	0.00	13.11	50.00	24.20	0.00	24.20	18.50	10.27	0.00	10.27
757.20	7.70	0.00	0.00	0.00	0.00	0.00	7.70	69.20	20.24	0.00	20.24	18.30	10.21	0.00	10.21
757.50	9.57	0.00	0.00	0.00	0.00	0.00	9.57	42.68	14.30	0.00	14.30	18.00	10.13	0.00	10.13
757.70	10.83	0.00	0.00	0.00	0.00	0.00	10.83	25.00	12.70	0.00	12.70	17.80	10.07	0.00	10.07
758.00	12.70	0.00	0.00	0.00	0.00	0.00	12.70	16.80	10.30	0.00	10.30	17.50	9.97	0.00	9.97
758.30	11.38	0.00	0.00	0.00	0.00	0.00	11.38	66.70	37.60	0.00	37.60	18.85	10.74	0.00	10.74
758.40	10.94	0.00	0.00	0.00	0.00	0.00	10.94	62.85	32.20	0.00	32.20	19.30	11.00	0.00	11.00
758.68	9.71	0.00	0.00	0.00	0.00	0.00	9.71	27.86	19.15	0.00	19.15	18.68	10.65	0.00	10.65
759.00	8.30	0.00	0.00	0.00	0.00	0.00	8.30	19.04	14.50	0.00	14.50	17.98	10.33	0.00	10.33
759.40	6.54	0.00	0.00	0.00	0.00	0.00	6.54	11.90	10.20	0.00	10.20	17.10	9.92	0.00	9.92
760.00	3.90	0.00	0.00	0.00	0.00	0.00	3.90	23.82	12.30	0.00	12.30	18.99	9.73	0.00	9.73
760.20	4.05	0.00	0.00	0.00	0.00	0.00	4.05	27.80	15.80	0.00	15.80	19.62	9.62	0.00	9.62
760.40	4.06	0.00	0.00	0.00	0.00	0.00	4.06	27.80	13.27	0.00	13.27	20.25	9.92	0.00	9.92
760.70	4.05	0.00	0.00	0.00	0.00	0.00	4.05	36.90	17.00	0.00	17.00	21.20	12.51	0.00	12.51
761.00	4.05	0.00	0.00	0.00	0.00	0.00	4.05	46.00	24.50	0.00	24.50	20.49	10.86	0.00	10.86
761.50	4.04	0.00	0.00	0.00	0.00	0.00	4.04	48.00	18.80	0.00	18.80	19.30	9.76	0.00	9.76
762.00	4.04	0.00	0.00	0.00	0.00	0.00	4.04	36.40	11.70	0.00	11.70	19.63	9.82	0.00	9.82
762.20	4.04	0.00	0.00	0.00	0.00	0.00	4.04	25.00	10.46	0.00	10.46	19.60	10.19	0.00	10.19
762.50	4.03	0.00	0.00	0.00	0.00	0.00	4.03	17.30	8.60	0.00	8.60	19.30	10.61	0.00	10.61
763.00	4.03	0.00	0.00	0.00	0.00	0.00	4.03	16.00	10.60	0.00	10.60	21.16	11.18	0.00	11.18
763.20	4.02	0.00	0.00	0.00	0.00	0.00	4.02	25.00	18.73	0.00	18.73	21.90	11.39	0.00	11.39
763.50	4.02	0.00	0.00	0.00	0.00	0.00	4.02	25.00	21.40	0.00	21.40	20.96	12.23	0.00	12.23
763.70	4.02	0.00	0.00	0.00	0.00	0.00	4.02	68.10	38.30	0.00	38.30	20.33	11.94	0.00	11.94
764.00	4.01	0.00	0.00	0.00	0.00	0.00	4.01	18.20	22.20	0.00	22.20	19.39	11.49	0.00	11.49
764.40	4.01	0.00	0.00	0.00	0.00	0.00	4.01	13.30	9.20	0.00	9.20	18.13	10.88	0.00	10.88
764.70	4.00	0.00	0.00	0.00	0.00	0.00	4.00	18.00	11.40	0.00	11.40	18.10	9.05	0.00	9.05
765.00	4.00	0.00	0.00	0.00	0.00	0.00	4.00	150.00	106.90	0.00	106.90	19.90	10.55	0.00	10.55
765.30	3.99	0.00	0.00	0.00	0.00	0.00	3.99	91.00	52.90	0.00	52.90	21.70	13.74	0.00	13.74
765.40	3.99	0.00	0.00	0.00	0.00	0.00	3.99	70.59	44.30	0.00	44.30	22.30	15.16	0.00	15.16
765.70	3.99	0.00	0.00	0.00	0.00	0.00	3.99	31.80	27.02	0.00	27.02	21.54	14.40	0.00	14.40
766.00	3.98	0.00	0.00	0.00	0.00	0.00	3.98	14.50	14.00	0.00	14.00	20.78	13.65	0.00	13.65
766.50	3.97	0.00	0.00	0.00	0.00	0.00	3.97	13.95	11.40	0.00	11.40	19.51	12.44	0.00	12.44
766.70	3.97	0.00	0.00	0.00	0.00	0.00	3.97	13.74	10.72	0.00	10.72	19.00	11.97	0.00	11.97
767.00	3.96	0.00	0.00	0.00	0.00	0.00	3.96	13.41	9.70	0.00	9.70	19.55	12.26	0.00	12.26
767.30	3.95	0.00	0.00	0.00	0.00	0.00	3.95	13.30	10.06	0.00	10.06	20.10	12.55	0.00	12.55
767.50	3.95	0.00	0.00	0.00	0.00	0.00	3.95	13.30	10.30	0.00	10.30	19.55	12.17	0.00	12.17
767.70	3.95	0.00	0.00	0.00	0.00	0.00	3.95	13.30	10.86	0.00	10.86	19.01	11.79	0.00	11.79
767.90	3.94	0.00	0.00	0.00	0.00	0.00	3.94	40.90	11.42	0.00	11.42	18.46	11.42	0.00	11.42
768.30	3.93	0.00	0.00	0.00	0.00	0.00	3.93	22.30	14.58	0.00	14.58	17.37	10.68	0.00	10.68
768.40	3.93	0.00	0.00	0.00	0.00	0.00	3.93	27.30	15.54	0.00	15.54	17.10	10.50	0.00	10.50
768.70	3.93	0.00	0.00	0.00	0.00	0.00	3.93	42.30	28.50	0.00	28.50	19.88	12.14	0.00	12.14
769.00	3.92	0.00	0.00	0.00	0.00	0.00	3.92	25.00	16.00	0.00	16.00	19.35	11.61	0.00	11.61
769.20	3.92	0.00	0.00	0.00	0.00	0.00	3.92	32.70	14.72	0.00	14.72	17.90	10.56	0.00	10.56
769.50	3.91	0.00	0.00	0.00	0.00	0.00	3.91	42.30	12.80	0.00	12.80	20.38	11.72	0.00	11.72
770.00	3.90	0.00	0.00	0.00	0.00	0.00	3.90	26.85	9.40	0.00	9.40	17.20	8.89	0.00	8.89
770.20	3.90	0.00	0.00	0.00	0.00	0.00	3.90	20.67	8.96	0.00	8.96	15.20	7.45	0.00	7.45
770.40	3.89	0.00	0.00	0.00	0.00	0.00	3.89	14.49	8.52	0.00	8.52	18.73	8.43	0.00	8.43
770.80	3.88	0.00	0.00	0.00	0.00	0.00	3.88	19.56	10.16	0.00	10.16	19.70	10.44	0.00	10.44
771.00	3.88	0.00	0.00	0.00	0.00	0.00	3.88	25.00	11.40	0.00	11.40	20.83	9.48	0.00	9.48
771.50	3.87	0.00	0.00	0.00	0.00	0.00	3.87	141.80	51.30	0.00	51.30	23.64	6.32	0.00	6.32
772.00	3.86	0.00	0.00	0.00	0.00	0.00	3.86	50.00	26.00	0.00	26.00	24.00	12.24	0.00	12.24
772.40	3.85	0.00	0.00	0.00	0.00	0.00	3.85	30.00	14.80	0.00	14.80	23.80	18.80	0.00	18.80
773.00	3.84	0.00	0.00	0.00	0.00	0.00	3.84	21.50	10.30	0.00	10.30	26.37	16.76	0.00	16.76
773.50	3.83	0.00	0.00	0.00	0.00	0.00	3.83	18.00	8.30	0.00	8.30	24.20	14.90	0.00	14.90
774.00	3.82	0.00	0.00	0.00	0.00	0.00	3.82	14.50	8.00	0.00	8.00	20.95	13.05	0.00	13.05
774.50	3.81	0.00	0.00	0.00	0.00	0.00	3.81	33.10	13.20	0.00	13.20	17.70	11.15	0.00	11.15
775.00	3.80	0.00	0.00	0.00	0.00	0.00	3.80	40.90	12.50	0.00	12.50	14.45	7.90	0.00	7.90
775.50	3.79	0.00	0.00	0.00	0.00	0.00	3.79	31.40	48.20	0.00	48.20	15.87	8.92	0.00	8.92
775.70	3.79	0.00	0.00	0.00	0.00	0.00	3.79	143.81	126.90	0.00	126.90	16.90	9.77	0.00	9.77
776.00	3.78	0.00	0.00	0.00	0.00	0.00	3.78	125.00	63.30	0.00	63.30	18.45	11.11	0.00	11.11

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

See page 331 for Explanation of Tables

λ	O						N ₂				O ₂				N
	⁴ S	² D	³ P	⁴ P ^o	² P ^o	ION	ABS	N ₂ ⁺	N ⁺	ION	ABS	O ₂ ⁺	O ⁺	ION	ION
Å	× 10 ⁻¹⁸ cm ²														
776.50	3.77	0.00	0.00	0.00	0.00	3.77	59.10	20.30	0.00	20.30	21.03	13.50	0.00	13.50	11.15
777.00	3.76	0.00	0.00	0.00	0.00	3.76	24.50	14.05	0.00	14.05	23.62	16.11	0.00	16.11	11.15
777.50	3.75	0.00	0.00	0.00	0.00	3.75	20.20	7.80	0.00	7.80	26.20	18.92	0.00	18.92	11.14
778.00	3.74	0.00	0.00	0.00	0.00	3.74	15.90	7.20	0.00	7.20	28.78	21.93	0.00	21.93	11.13
778.50	3.73	0.00	0.00	0.00	0.00	3.73	38.61	9.50	0.00	9.50	26.56	14.68	0.00	14.68	11.12
778.70	3.73	0.00	0.00	0.00	0.00	3.73	47.70	9.14	0.00	9.14	25.19	11.19	0.00	11.19	11.12
779.00	3.72	0.00	0.00	0.00	0.00	3.72	40.54	8.60	0.00	8.60	25.07	8.27	0.00	8.27	11.12
779.50	3.71	0.00	0.00	0.00	0.00	3.71	28.60	8.10	0.00	8.10	26.48	8.74	0.00	8.74	11.11
779.80	3.70	0.00	0.00	0.00	0.00	3.70	14.90	7.70	0.00	7.70	27.33	9.02	0.00	9.02	11.10
779.90	3.70	0.00	0.00	0.00	0.00	3.70	14.70	7.35	0.00	7.35	27.62	9.11	0.00	9.11	11.10
780.30	3.70	0.00	0.00	0.00	0.00	3.70	25.15	8.50	0.00	8.50	25.22	11.10	0.00	11.10	11.10
780.50	3.70	0.00	0.00	0.00	0.00	3.70	32.25	9.50	0.00	9.50	23.43	10.15	0.00	10.15	11.09
781.00	3.70	0.00	0.00	0.00	0.00	3.70	50.00	41.70	0.00	41.70	18.97	7.90	0.00	7.90	11.09
781.20	3.70	0.00	0.00	0.00	0.00	3.70	118.20	70.70	0.00	70.70	17.18	7.04	0.00	7.04	11.08
781.50	3.70	0.00	0.00	0.00	0.00	3.70	75.00	32.30	0.00	32.30	14.50	5.80	0.00	5.80	11.08
782.00	3.70	0.00	0.00	0.00	0.00	3.70	34.00	13.40	0.00	13.40	16.75	6.94	0.00	6.94	11.07
782.50	3.70	0.00	0.00	0.00	0.00	3.70	15.00	6.70	0.00	6.70	19.00	8.14	0.00	8.14	11.06
782.90	3.70	0.00	0.00	0.00	0.00	3.70	17.56	7.58	0.00	7.58	20.80	9.15	0.00	9.15	11.06
783.20	3.70	0.00	0.00	0.00	0.00	3.70	70.92	29.96	0.00	29.96	20.50	8.82	0.00	8.82	11.05
783.50	3.70	0.00	0.00	0.00	0.00	3.70	150.00	63.20	0.00	63.20	21.80	9.81	0.00	9.81	11.05
783.80	3.70	0.00	0.00	0.00	0.00	3.70	234.10	125.30	0.00	125.30	23.10	10.86	0.00	10.86	11.04
784.00	3.70	0.00	0.00	0.00	0.00	3.70	224.36	48.40	0.00	48.40	23.97	11.58	0.00	11.58	11.04
784.40	3.70	0.00	0.00	0.00	0.00	3.70	204.87	18.80	0.00	18.80	25.70	13.11	0.00	13.11	11.03
784.80	3.70	0.00	0.00	0.00	0.00	3.70	155.00	8.40	0.00	8.40	23.80	16.18	0.00	16.18	11.03
785.00	3.70	0.00	0.00	0.00	0.00	3.70	125.00	6.40	0.00	6.40	24.30	16.20	0.00	16.20	11.03
785.50	3.71	0.00	0.00	0.00	0.00	3.71	50.00	9.70	0.00	9.70	25.55	16.18	0.00	16.18	11.02
786.00	3.71	0.00	0.00	0.00	0.00	3.71	45.50	22.80	0.00	22.80	26.80	16.08	0.00	16.08	11.01
786.20	3.72	0.00	0.00	0.00	0.00	3.72	56.80	18.04	0.00	18.04	23.25	11.63	0.00	11.63	11.01
786.40	3.72	0.00	0.00	0.00	0.00	3.72	35.60	13.28	0.00	13.28	19.70	7.88	0.00	7.88	11.00
787.00	3.72	0.00	0.00	0.00	0.00	3.72	10.50	7.80	0.00	7.80	22.70	9.31	0.00	9.31	10.99
787.50	3.73	0.00	0.00	0.00	0.00	3.73	8.48	7.30	0.00	7.30	25.20	10.54	0.00	10.54	10.99
787.70	3.73	0.00	0.00	0.00	0.00	3.73	7.67	6.94	0.00	6.94	25.32	10.76	0.00	10.76	10.98
788.00	3.74	0.00	0.00	0.00	0.00	3.74	9.04	6.40	0.00	6.40	24.20	10.65	0.00	10.65	10.98
788.50	3.74	0.00	0.00	0.00	0.00	3.74	11.32	5.80	0.00	5.80	26.95	12.98	0.00	12.98	10.97
789.00	3.75	0.00	0.00	0.00	0.00	3.75	13.60	7.20	0.00	7.20	26.80	11.52	0.00	11.52	10.97
789.50	3.76	0.00	0.00	0.00	0.00	3.76	45.50	11.30	0.00	11.30	27.55	10.88	0.00	10.88	10.96
790.00	3.76	0.00	0.00	0.00	0.00	3.76	25.58	11.00	0.00	11.00	28.30	10.19	0.00	10.19	10.95
790.50	3.77	0.00	0.00	0.00	0.00	3.77	18.60	9.60	0.00	9.60	25.57	9.01	0.00	9.01	10.94
790.80	3.77	0.00	0.00	0.00	0.00	3.77	125.00	101.90	0.00	101.90	23.93	8.32	0.00	8.32	10.94
791.00	3.77	0.00	0.00	0.00	0.00	3.77	58.10	41.00	0.00	41.00	22.84	7.87	0.00	7.87	10.94
791.30	3.78	0.00	0.00	0.00	0.00	3.78	53.24	37.94	0.00	37.94	21.20	7.21	0.00	7.21	10.93
791.40	3.78	0.00	0.00	0.00	0.00	3.78	51.62	36.92	0.00	36.92	21.81	7.24	0.00	7.24	10.93
791.80	4.23	0.00	0.00	0.00	0.00	4.23	125.00	44.90	0.00	44.90	24.25	7.25	0.00	7.25	10.92
792.40	3.78	0.00	0.00	0.00	0.00	3.78	71.80	38.90	0.00	38.90	27.90	6.97	0.00	6.97	10.91
792.80	4.86	0.00	0.00	0.00	0.00	4.86	43.60	21.62	0.00	21.62	24.20	8.47	0.00	8.47	10.91
792.92	19.97	0.00	0.00	0.00	0.00	19.97	35.14	15.91	0.00	15.91	25.09	9.15	0.00	9.15	10.91
793.14	2.70	0.00	0.00	0.00	0.00	2.70	25.69	10.56	0.00	10.56	26.71	10.47	0.00	10.47	10.90
793.50	2.74	0.00	0.00	0.00	0.00	2.74	15.90	6.60	0.00	6.60	29.37	12.81	0.00	12.81	10.90
794.00	2.80	0.00	0.00	0.00	0.00	2.80	25.00	6.20	0.00	6.20	33.06	16.45	0.00	16.45	10.89
794.50	2.86	0.00	0.00	0.00	0.00	2.86	39.75	6.30	0.00	6.30	29.04	14.28	0.00	14.28	10.88
795.00	2.92	0.00	0.00	0.00	0.00	2.92	54.50	12.30	0.00	12.30	23.10	10.84	0.00	10.84	10.88
795.20	2.94	0.00	0.00	0.00	0.00	2.94	46.22	5.92	0.00	5.92	23.40	10.76	0.00	10.76	10.87
796.00	3.03	0.00	0.00	0.00	0.00	3.03	13.10	4.50	0.00	4.50	21.90	9.44	0.00	9.44	10.86
797.00	3.15	0.00	0.00	0.00	0.00	3.15	8.00	1.00	0.00	1.00	27.61	10.91	0.00	10.91	10.85
797.70	3.23	0.00	0.00	0.00	0.00	3.23	8.00	0.30	0.00	0.30	31.60	11.69	0.00	11.69	10.83
798.00	3.26	0.00	0.00	0.00	0.00	3.26	8.00	0.00	0.00	0.00	28.00	9.94	0.00	9.94	10.83
799.00	3.38	0.00	0.00	0.00	0.00	3.38	8.00	0.00	0.00	0.00	35.16	10.72	0.00	10.72	10.82
799.50	3.44	0.00	0.00	0.00	0.00	3.44	8.00	0.00	0.00	0.00	39.80	11.14	0.00	11.14	10.81
800.00	3.50	0.00	0.00	0.00	0.00	3.50	8.00	0.00	0.00	0.00	36.80	12.23	0.00	12.23	10.80
800.50	3.55	0.00	0.00	0.00	0.00	3.55	16.70	0.00	0.00	0.00	33.80	13.00	0.00	13.00	10.80
801.00	3.61	0.00	0.00	0.00	0.00	3.61	40.00	0.00	0.00	0.00	30.80	13.46	0.00	13.46	10.79
801.50	3.67	0.00	0.00	0.00	0.00	3.67	104.00	0.00	0.00	0.00	27.80	13.61	0.00	13.61	10.78
802.00	3.73	0.00	0.00	0.00	0.00	3.73	40.00	0.00	0.00	0.00	30.00	12.96	0.00	12.96	10.78

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

See page 331 for Explanation of Tables

λ	O						N ₂				O ₂				N	
	⁴ S	² D	² P	⁴ P ^e	² P ^e	ION	ABS	N ₂ ⁺	N ⁺	ION	ABS	O ₂ ⁺	O ⁺	ION	ION	
Å	$\times 10^{-18} \text{ cm}^2$															
802.60	3.80	0.00	0.00	0.00	0.00	0.00	3.80	16.60	0.00	0.00	0.00	34.20	11.29	0.00	11.29	10.77
803.00	3.84	0.00	0.00	0.00	0.00	0.00	3.84	1.00	0.00	0.00	0.00	30.56	9.00	0.00	9.00	10.77
803.50	3.90	0.00	0.00	0.00	0.00	0.00	3.90	3.85	0.00	0.00	0.00	26.00	6.50	0.00	6.50	10.77
804.00	3.96	0.00	0.00	0.00	0.00	0.00	3.96	6.70	0.00	0.00	0.00	33.22	9.55	0.00	9.55	10.76
804.27	36.41	0.00	0.00	0.00	0.00	0.00	36.41	7.82	0.00	0.00	0.00	37.07	11.40	0.00	11.40	10.76
804.38	9.14	0.00	0.00	0.00	0.00	0.00	9.14	8.30	0.00	0.00	0.00	38.71	12.23	0.00	12.23	10.76
804.50	5.34	0.00	0.00	0.00	0.00	0.00	5.34	8.80	0.00	0.00	0.00	40.44	13.14	0.00	13.14	10.76
804.78	48.94	0.00	0.00	0.00	0.00	0.00	48.94	9.96	0.00	0.00	0.00	44.41	15.35	0.00	15.35	10.75
805.00	7.20	0.00	0.00	0.00	0.00	0.00	7.20	10.90	0.00	0.00	0.00	47.66	17.28	0.00	17.28	10.75
805.29	11.73	0.00	0.00	0.00	0.00	0.00	11.73	12.14	0.00	0.00	0.00	46.92	17.60	0.00	17.60	10.75
805.44	3.64	0.00	0.00	0.00	0.00	0.00	3.64	12.75	0.00	0.00	0.00	45.31	17.17	0.00	17.17	10.75
805.74	15.37	0.00	0.00	0.00	0.00	0.00	15.37	56.86	0.00	0.00	0.00	41.90	16.22	0.00	16.22	10.74
806.00	3.64	0.00	0.00	0.00	0.00	0.00	3.64	18.00	0.00	0.00	0.00	39.06	15.38	0.00	15.38	10.74
806.23	5.91	0.00	0.00	0.00	0.00	0.00	5.91	95.95	0.00	0.00	0.00	36.48	14.58	0.00	14.58	10.74
806.42	1.62	0.00	0.00	0.00	0.00	0.00	1.62	159.70	0.00	0.00	0.00	34.37	13.91	0.00	13.91	10.74
807.00	2.06	0.00	0.00	0.00	0.00	0.00	2.06	46.70	0.00	0.00	0.00	27.90	11.72	0.00	11.72	10.73
808.00	2.13	0.00	0.00	0.00	0.00	0.00	2.13	6.70	0.00	0.00	0.00	34.98	10.61	0.00	10.61	10.72
808.20	2.14	0.00	0.00	0.00	0.00	0.00	2.14	4.42	0.00	0.00	0.00	36.40	10.19	0.00	10.19	10.72
808.50	2.17	0.00	0.00	0.00	0.00	0.00	2.17	1.00	0.00	0.00	0.00	32.55	9.12	0.00	9.12	10.72
808.80	2.19	0.00	0.00	0.00	0.00	0.00	2.19	33.30	0.00	0.00	0.00	28.71	8.04	0.00	8.04	10.71
809.00	2.20	0.00	0.00	0.00	0.00	0.00	2.20	33.30	0.00	0.00	0.00	26.15	7.32	0.00	7.32	10.71
809.30	2.22	0.00	0.00	0.00	0.00	0.00	2.22	13.92	0.00	0.00	0.00	22.30	6.24	0.00	6.24	10.71
809.50	2.24	0.00	0.00	0.00	0.00	0.00	2.24	1.00	0.00	0.00	0.00	24.92	7.42	0.00	7.42	10.70
810.00	2.27	0.00	0.00	0.00	0.00	0.00	2.27	8.00	0.00	0.00	0.00	31.46	10.75	0.00	10.75	10.70
810.50	2.31	0.00	0.00	0.00	0.00	0.00	2.31	4.50	0.00	0.00	0.00	38.00	14.65	0.00	14.65	10.70
810.66	15.23	0.00	0.00	0.00	0.00	0.00	15.23	3.35	0.00	0.00	0.00	40.15	16.07	0.00	16.07	10.69
810.85	2.82	0.00	0.00	0.00	0.00	0.00	2.82	2.05	0.00	0.00	0.00	42.57	17.73	0.00	17.73	10.69
811.00	32.62	0.00	0.00	0.00	0.00	0.00	32.62	1.00	0.00	0.00	0.00	44.54	19.13	0.00	19.13	10.69
811.26	3.39	0.00	0.00	0.00	0.00	0.00	3.39	1.96	0.00	0.00	0.00	47.94	21.69	0.00	21.69	10.69
811.49	7.90	0.00	0.00	0.00	0.00	0.00	7.90	2.81	0.00	0.00	0.00	50.92	24.06	0.00	24.06	10.69
811.61	4.74	0.00	0.00	0.00	0.00	0.00	4.74	3.26	0.00	0.00	0.00	52.51	25.38	0.00	25.38	10.68
811.80	2.80	0.00	0.00	0.00	0.00	0.00	2.80	3.96	0.00	0.00	0.00	55.00	27.50	0.00	27.50	10.68
812.00	3.67	0.00	0.00	0.00	0.00	0.00	3.67	4.70	0.00	0.00	0.00	47.69	20.85	0.00	20.85	10.68
812.27	3.95	0.00	0.00	0.00	0.00	0.00	3.95	15.50	0.00	0.00	0.00	37.81	13.32	0.00	13.32	10.68
812.50	1.97	0.00	0.00	0.00	0.00	0.00	1.97	24.70	0.00	0.00	0.00	29.40	8.23	0.00	8.23	10.68
812.80	2.21	0.00	0.00	0.00	0.00	0.00	2.21	100.00	0.00	0.00	0.00	30.80	9.16	0.00	9.16	10.67
813.00	2.38	0.00	0.00	0.00	0.00	0.00	2.38	33.40	0.00	0.00	0.00	31.73	9.81	0.00	9.81	10.67
813.50	2.79	0.00	0.00	0.00	0.00	0.00	2.79	50.00	0.00	0.00	0.00	34.07	11.53	0.00	11.53	10.66
813.70	2.95	0.00	0.00	0.00	0.00	0.00	2.95	62.00	0.00	0.00	0.00	35.00	12.25	0.00	12.25	10.66
814.00	3.19	0.00	0.00	0.00	0.00	0.00	3.19	80.00	0.00	0.00	0.00	30.90	11.90	0.00	11.90	10.66
814.50	3.60	0.00	0.00	0.00	0.00	0.00	3.60	14.70	0.00	0.00	0.00	24.07	10.67	0.00	10.67	10.66
814.90	3.93	0.00	0.00	0.00	0.00	0.00	3.93	11.50	0.00	0.00	0.00	18.60	9.11	0.00	9.11	10.65
815.50	4.42	0.00	0.00	0.00	0.00	0.00	4.42	6.70	0.00	0.00	0.00	25.59	12.77	0.00	12.77	10.65
816.00	4.83	0.00	0.00	0.00	0.00	0.00	4.83	14.00	0.00	0.00	0.00	31.42	15.92	0.00	15.92	10.64
816.42	5.17	0.00	0.00	0.00	0.00	0.00	5.17	24.92	0.00	0.00	0.00	36.31	18.63	0.00	18.63	10.64
816.77	65.14	0.00	0.00	0.00	0.00	0.00	65.14	33.92	0.00	0.00	0.00	40.34	20.91	0.00	20.91	10.63
817.00	4.14	0.00	0.00	0.00	0.00	0.00	4.14	40.00	0.00	0.00	0.00	43.07	22.47	0.00	22.47	10.63
817.19	1.86	0.00	0.00	0.00	0.00	0.00	1.86	44.94	0.00	0.00	0.00	45.28	23.76	0.00	23.76	10.63
817.50	3.10	0.00	0.00	0.00	0.00	0.00	3.10	53.00	0.00	0.00	0.00	37.81	20.02	0.00	20.02	10.63
817.78	22.02	0.00	0.00	0.00	0.00	0.00	22.02	60.20	0.00	0.00	0.00	30.80	16.44	0.00	16.44	10.62
818.00	2.59	0.00	0.00	0.00	0.00	0.00	2.59	66.00	0.00	0.00	0.00	25.16	13.51	0.00	13.51	10.62
818.20	7.40	0.00	0.00	0.00	0.00	0.00	7.40	71.20	0.00	0.00	0.00	20.10	10.85	0.00	10.85	10.62
818.34	1.96	0.00	0.00	0.00	0.00	0.00	1.96	74.84	0.00	0.00	0.00	21.11	11.06	0.00	11.06	10.62
818.50	1.55	0.00	0.00	0.00	0.00	0.00	1.55	79.00	0.00	0.00	0.00	22.26	11.27	0.00	11.27	10.62
819.00	1.68	0.00	0.00	0.00	0.00	0.00	1.68	92.00	0.00	0.00	0.00	25.85	11.63	0.00	11.63	10.61
819.50	1.82	0.00	0.00	0.00	0.00	0.00	1.82	12.00	0.00	0.00	0.00	29.44	11.59	0.00	11.59	10.61
819.80	1.90	0.00	0.00	0.00	0.00	0.00	1.90	6.60	0.00	0.00	0.00	31.60	11.38	0.00	11.38	10.60
820.00	1.95	0.00	0.00	0.00	0.00	0.00	1.95	3.00	0.00	0.00	0.00	29.52	10.61	0.00	10.61	10.60
820.50	2.09	0.00	0.00	0.00	0.00	0.00	2.09	7.30	0.00	0.00	0.00	24.32	8.71	0.00	8.71	10.59
821.00	2.22	0.00	0.00	0.00	0.00	0.00	2.22	26.70	0.00	0.00	0.00	19.12	6.82	0.00	6.82	10.58
821.30	2.30	0.00	0.00	0.00	0.00	0.00	2.30	18.66	0.00	0.00	0.00	16.00	5.69	0.00	5.69	10.57
821.50	2.36	0.00	0.00	0.00	0.00	0.00	2.36	13.30	0.00	0.00	0.00	17.29	6.14	0.00	6.14	10.57
822.00	2.49	0.00	0.00	0.00	0.00	0.00	2.49	3.00	0.00	0.00	0.00	20.53	7.26	0.00	7.26	10.56

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

See page 331 for Explanation of Tables

λ	O						N ₂				O ₂				N	
	⁴ S	² D	² P	⁴ P ^e	² P ^e	ION	ABS	N ₂ ⁺	N ⁺	ION	ABS	O ₂ ⁺	O ⁺	ION	ION	
Å	$\times 10^{-18} \text{ cm}^2$															
823.00	2.76	0.00	0.00	0.00	0.00	0.00	2.76	3.00	0.00	0.00	0.00	27.01	9.47	0.00	9.47	10.54
823.20	2.82	0.00	0.00	0.00	0.00	0.00	2.82	3.00	0.00	0.00	0.00	28.30	9.90	0.00	9.90	10.54
824.00	3.03	0.00	0.00	0.00	0.00	0.00	3.03	3.00	0.00	0.00	0.00	17.37	9.01	0.00	9.01	10.52
824.50	3.17	0.00	0.00	0.00	0.00	0.00	3.17	8.00	0.00	0.00	0.00	20.10	9.78	0.00	9.78	10.51
824.90	3.27	0.00	0.00	0.00	0.00	0.00	3.27	12.24	0.00	0.00	0.00	24.20	10.49	0.00	10.49	10.50
825.30	3.30	0.00	0.00	0.00	0.00	0.00	3.30	8.92	0.00	0.00	0.00	20.10	7.64	0.00	7.64	10.49
825.50	3.30	0.00	0.00	0.00	0.00	0.00	3.30	6.00	0.00	0.00	0.00	22.64	8.09	0.00	8.09	10.48
826.00	3.30	0.00	0.00	0.00	0.00	0.00	3.30	33.30	0.00	0.00	0.00	29.00	8.70	0.00	8.70	10.46
826.50	3.30	0.00	0.00	0.00	0.00	0.00	3.30	25.30	0.00	0.00	0.00	18.31	6.87	0.00	6.87	10.47
826.80	3.30	0.00	0.00	0.00	0.00	0.00	3.30	18.10	0.00	0.00	0.00	11.90	5.00	0.00	5.00	10.46
827.00	3.30	0.00	0.00	0.00	0.00	0.00	3.30	13.30	0.00	0.00	0.00	11.98	4.96	0.00	4.96	10.46
827.50	3.30	0.00	0.00	0.00	0.00	0.00	3.30	3.00	0.00	0.00	0.00	12.18	4.86	0.00	4.86	10.45
827.80	3.30	0.00	0.00	0.00	0.00	0.00	3.30	3.00	0.00	0.00	0.00	12.30	4.80	0.00	4.80	10.44
828.00	3.30	0.00	0.00	0.00	0.00	0.00	3.30	3.00	0.00	0.00	0.00	11.86	4.72	0.00	4.72	10.44
828.30	3.30	0.00	0.00	0.00	0.00	0.00	3.30	3.00	0.00	0.00	0.00	11.20	4.59	0.00	4.59	10.43
829.00	3.30	0.00	0.00	0.00	0.00	0.00	3.30	3.00	0.00	0.00	0.00	18.52	7.35	0.00	7.35	10.42
829.40	3.30	0.00	0.00	0.00	0.00	0.00	3.30	3.00	0.00	0.00	0.00	22.70	8.83	0.00	8.83	10.41
829.60	3.30	0.00	0.00	0.00	0.00	0.00	3.30	3.00	0.00	0.00	0.00	22.30	8.59	0.00	8.59	10.41
829.80	3.30	0.00	0.00	0.00	0.00	0.00	3.30	3.00	0.00	0.00	0.00	23.10	8.81	0.00	8.81	10.40
830.00	3.30	0.00	0.00	0.00	0.00	0.00	3.30	3.00	0.00	0.00	0.00	21.05	7.95	0.00	7.95	10.40
831.00	3.30	0.00	0.00	0.00	0.00	0.00	3.30	3.00	0.00	0.00	0.00	10.80	3.87	0.00	3.87	10.38
832.00	3.30	0.00	0.00	0.00	0.00	0.00	3.30	3.00	0.00	0.00	0.00	25.40	8.62	0.00	8.62	10.36
832.50	3.30	0.00	0.00	0.00	0.00	0.00	3.30	3.00	0.00	0.00	0.00	32.70	10.79	0.00	10.79	10.35
832.80	3.30	0.00	0.00	0.00	0.00	0.00	3.30	3.00	0.00	0.00	0.00	28.52	10.84	0.00	10.84	10.34
832.90	3.30	0.00	0.00	0.00	0.00	0.00	3.30	3.00	0.00	0.00	0.00	27.12	10.31	0.00	10.31	10.34
833.50	3.30	0.00	0.00	0.00	0.00	0.00	3.30	5.30	0.00	0.00	0.00	18.76	7.27	0.00	7.27	10.33
833.70	3.30	0.00	0.00	0.00	0.00	0.00	3.30	8.50	0.00	0.00	0.00	15.97	6.23	0.00	6.23	10.33
834.00	3.30	0.00	0.00	0.00	0.00	0.00	3.30	13.30	0.00	0.00	0.00	11.79	4.56	0.00	4.56	10.32
834.20	3.30	0.00	0.00	0.00	0.00	0.00	3.30	13.30	0.00	0.00	0.00	10.50	4.03	0.00	4.03	10.32
834.50	3.30	0.00	0.00	0.00	0.00	0.00	3.30	13.30	0.00	0.00	0.00	10.80	4.10	0.00	4.10	10.31
835.00	3.30	0.00	0.00	0.00	0.00	0.00	3.30	83.30	0.00	0.00	0.00	10.36	3.85	0.00	3.85	10.30
835.20	3.30	0.00	0.00	0.00	0.00	0.00	3.30	180.00	0.00	0.00	0.00	10.18	3.77	0.00	3.77	10.30
835.40	3.30	0.00	0.00	0.00	0.00	0.00	3.30	135.75	0.00	0.00	0.00	10.00	3.70	0.00	3.70	10.29
836.00	3.30	0.00	0.00	0.00	0.00	0.00	3.30	3.00	0.00	0.00	0.00	14.73	5.45	0.00	5.45	10.28
836.30	3.30	0.00	0.00	0.00	0.00	0.00	3.30	3.00	0.00	0.00	0.00	17.10	6.33	0.00	6.33	10.27
837.00	3.30	0.00	0.00	0.00	0.00	0.00	3.30	3.00	0.00	0.00	0.00	14.35	5.31	0.00	5.31	10.26
837.50	3.30	0.00	0.00	0.00	0.00	0.00	3.30	20.00	0.00	0.00	0.00	12.38	4.58	0.00	4.58	10.25
837.80	3.30	0.00	0.00	0.00	0.00	0.00	3.30	15.98	0.00	0.00	0.00	11.20	4.14	0.00	4.14	10.24
838.00	3.30	0.00	0.00	0.00	0.00	0.00	3.30	13.30	0.00	0.00	0.00	14.53	5.37	0.00	5.37	10.24
838.60	3.30	0.00	0.00	0.00	0.00	0.00	3.30	41.32	0.00	0.00	0.00	24.50	9.07	0.00	9.07	10.23
838.90	3.30	0.00	0.00	0.00	0.00	0.00	3.30	55.33	0.00	0.00	0.00	23.40	10.48	0.00	10.48	10.22
840.00	3.30	0.00	0.00	0.00	0.00	0.00	3.30	3.00	0.00	0.00	0.00	19.89	8.33	0.00	8.33	10.20
840.50	3.30	0.00	0.00	0.00	0.00	0.00	3.30	1.00	0.00	0.00	0.00	17.11	6.97	0.00	6.97	10.16
840.70	3.29	0.00	0.00	0.00	0.00	0.00	3.29	50.00	0.00	0.00	0.00	15.99	6.44	0.00	6.44	10.15
841.00	3.29	0.00	0.00	0.00	0.00	0.00	3.29	26.70	0.00	0.00	0.00	14.32	5.67	0.00	5.67	10.13
841.50	3.29	0.00	0.00	0.00	0.00	0.00	3.29	20.00	0.00	0.00	0.00	11.54	4.43	0.00	4.43	10.10
842.00	3.28	0.00	0.00	0.00	0.00	0.00	3.28	96.70	0.00	0.00	0.00	8.76	3.26	0.00	3.26	10.06
842.50	3.28	0.00	0.00	0.00	0.00	0.00	3.28	13.30	0.00	0.00	0.00	9.16	3.33	0.00	3.33	10.02
843.00	3.27	0.00	0.00	0.00	0.00	0.00	3.27	6.70	0.00	0.00	0.00	10.37	3.67	0.00	3.67	9.99
843.50	3.27	0.00	0.00	0.00	0.00	0.00	3.27	3.00	0.00	0.00	0.00	11.58	4.00	0.00	4.00	9.95
843.80	3.26	0.00	0.00	0.00	0.00	0.00	3.26	1.80	0.00	0.00	0.00	12.30	4.18	0.00	4.18	9.93
844.00	3.26	0.00	0.00	0.00	0.00	0.00	3.26	1.00	0.00	0.00	0.00	11.72	4.07	0.00	4.07	9.92
844.50	3.26	0.00	0.00	0.00	0.00	0.00	3.26	26.70	0.00	0.00	0.00	10.29	3.77	0.00	3.77	9.89
845.00	3.25	0.00	0.00	0.00	0.00	0.00	3.25	13.30	0.00	0.00	0.00	12.65	4.33	0.00	4.33	9.85
845.50	3.25	0.00	0.00	0.00	0.00	0.00	3.25	3.00	0.00	0.00	0.00	15.95	4.91	0.00	4.91	9.81
845.90	3.24	0.00	0.00	0.00	0.00	0.00	3.24	1.40	0.00	0.00	0.00	18.60	5.21	0.00	5.21	9.79
847.00	3.23	0.00	0.00	0.00	0.00	0.00	3.23	1.00	0.00	0.00	0.00	11.35	3.55	0.00	3.55	9.71
847.60	3.22	0.00	0.00	0.00	0.00	0.00	3.22	1.00	0.00	0.00	0.00	7.40	2.44	0.00	2.44	9.67
848.00	3.22	0.00	0.00	0.00	0.00	0.00	3.22	1.00	0.00	0.00	0.00	7.58	2.67	0.00	2.67	9.64
848.50	3.22	0.00	0.00	0.00	0.00	0.00	3.22	1.00	0.00	0.00	0.00	7.80	2.96	0.00	2.96	9.60
849.00	3.21	0.00	0.00	0.00	0.00	0.00	3.21	1.00	0.00	0.00	0.00	7.51	3.34	0.00	3.34	9.57
849.20	3.21	0.00	0.00	0.00	0.00	0.00	3.21	7.28	0.00	0.00	0.00	7.40	3.48	0.00	3.48	9.56
849.50	3.21	0.00	0.00	0.00	0.00	0.00	3.21	16.70	0.00	0.00	0.00	7.89	3.61	0.00	3.61	9.53

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

See page 331 for Explanation of Tables

λ	O						N ₂				O ₂				N
	⁴ S	² D	² P	⁴ P ^e	² P ^e	ION	ABS	N ₂ ⁺	N ⁺	ION	ABS	O ₂ ⁺	O ⁺	ION	ION
λ	$\times 10^{-18} \text{ cm}^2$														
850.00	3.20	0.00	0.00	0.00	0.00	3.20	46.70	0.00	0.00	0.00	8.71	3.80	0.00	3.80	9.50
850.60	3.19	0.00	0.00	0.00	0.00	3.19	26.66	0.00	0.00	0.00	9.70	3.98	0.00	3.98	9.47
851.00	3.18	0.00	0.00	0.00	0.00	3.18	13.30	0.00	0.00	0.00	9.33	3.87	0.00	3.87	9.45
851.50	3.17	0.00	0.00	0.00	0.00	3.17	6.70	0.00	0.00	0.00	8.87	3.73	0.00	3.73	9.43
851.80	3.16	0.00	0.00	0.00	0.00	3.16	4.48	0.00	0.00	0.00	8.60	3.65	0.00	3.65	9.42
852.00	3.16	0.00	0.00	0.00	0.00	3.16	3.00	0.00	0.00	0.00	9.17	3.91	0.00	3.91	9.41
852.19	3.16	0.00	0.00	0.00	0.00	3.16	2.24	0.00	0.00	0.00	9.71	4.16	0.00	4.16	9.40
852.50	3.15	0.00	0.00	0.00	0.00	3.15	1.00	0.00	0.00	0.00	10.60	4.58	0.00	4.58	9.36
853.00	3.14	0.00	0.00	0.00	0.00	3.14	3.00	0.00	0.00	0.00	12.03	5.26	0.00	5.26	0.40
853.20	3.14	0.00	0.00	0.00	0.00	3.14	36.48	0.00	0.00	0.00	12.60	5.54	0.00	5.54	0.39
853.50	3.13	0.00	0.00	0.00	0.00	3.13	86.70	0.00	0.00	0.00	11.68	5.10	0.00	5.10	0.37
854.00	3.12	0.00	0.00	0.00	0.00	3.12	66.70	0.00	0.00	0.00	10.16	4.38	0.00	4.38	0.34
854.50	3.11	0.00	0.00	0.00	0.00	3.11	46.70	0.00	0.00	0.00	8.63	3.67	0.00	3.67	0.31
855.00	3.10	0.00	0.00	0.00	0.00	3.10	20.00	0.00	0.00	0.00	7.10	2.98	0.00	2.98	0.29
855.50	3.10	0.00	0.00	0.00	0.00	3.10	13.30	0.00	0.00	0.00	7.73	3.26	0.00	3.26	0.26
856.00	3.10	0.00	0.00	0.00	0.00	3.10	3.00	0.00	0.00	0.00	8.36	3.55	0.00	3.55	0.23
856.20	3.10	0.00	0.00	0.00	0.00	3.10	173.30	0.00	0.00	0.00	8.61	3.66	0.00	3.66	0.22
856.50	3.10	0.00	0.00	0.00	0.00	3.10	20.00	0.00	0.00	0.00	8.99	3.83	0.00	3.83	0.20
857.00	3.10	0.00	0.00	0.00	0.00	3.10	8.70	0.00	0.00	0.00	9.62	4.12	0.00	4.12	0.17
857.30	3.10	0.00	0.00	0.00	0.00	3.10	12.13	0.00	0.00	0.00	10.00	4.30	0.00	4.30	0.15
857.70	3.10	0.00	0.00	0.00	0.00	3.10	16.70	0.00	0.00	0.00	9.31	3.94	0.00	3.94	0.13
858.00	3.10	0.00	0.00	0.00	0.00	3.10	13.30	0.00	0.00	0.00	8.78	3.68	0.00	3.68	0.11
858.50	3.10	0.00	0.00	0.00	0.00	3.10	6.70	0.00	0.00	0.00	7.92	3.25	0.00	3.25	0.09
859.00	3.10	0.00	0.00	0.00	0.00	3.10	3.00	0.00	0.00	0.00	7.05	2.84	0.00	2.84	0.06
859.20	3.10	0.00	0.00	0.00	0.00	3.10	3.00	0.00	0.00	0.00	6.70	2.68	0.00	2.68	0.05
860.00	3.10	0.00	0.00	0.00	0.00	3.10	3.00	0.00	0.00	0.00	7.01	3.55	0.00	3.55	0.00
860.40	3.10	0.00	0.00	0.00	0.00	3.10	1.00	0.00	0.00	0.00	7.17	4.01	0.00	4.01	0.00
861.00	3.10	0.00	0.00	0.00	0.00	3.10	6.00	0.00	0.00	0.00	7.40	4.74	0.00	4.74	0.00
861.50	3.10	0.00	0.00	0.00	0.00	3.10	1.00	0.00	0.00	0.00	7.66	4.88	0.00	4.88	0.00
862.00	3.10	0.00	0.00	0.00	0.00	3.10	1.00	0.00	0.00	0.00	7.93	5.03	0.00	5.03	0.00
863.00	3.10	0.00	0.00	0.00	0.00	3.10	1.00	0.00	0.00	0.00	8.46	5.32	0.00	5.32	0.00
863.20	3.10	0.00	0.00	0.00	0.00	3.10	33.40	0.00	0.00	0.00	8.56	5.37	0.00	5.37	0.00
864.00	3.10	0.00	0.00	0.00	0.00	3.10	6.00	0.00	0.00	0.00	8.98	5.60	0.00	5.60	0.00
864.60	3.10	0.00	0.00	0.00	0.00	3.10	3.00	0.00	0.00	0.00	9.30	5.77	0.00	5.77	0.00
865.00	3.10	0.00	0.00	0.00	0.00	3.10	1.00	0.00	0.00	0.00	8.81	5.42	0.00	5.42	0.00
865.20	3.10	0.00	0.00	0.00	0.00	3.10	86.70	0.00	0.00	0.00	8.56	5.26	0.00	5.26	0.00
865.40	3.10	0.00	0.00	0.00	0.00	3.10	106.70	0.00	0.00	0.00	8.31	5.09	0.00	5.09	0.00
866.00	3.10	0.00	0.00	0.00	0.00	3.10	3.00	0.00	0.00	0.00	7.57	4.59	0.00	4.59	0.00
866.50	3.10	0.00	0.00	0.00	0.00	3.10	1.00	0.00	0.00	0.00	6.96	4.18	0.00	4.18	0.00
867.00	3.10	0.00	0.00	0.00	0.00	3.10	65.00	0.00	0.00	0.00	6.34	3.78	0.00	3.78	0.00
867.50	3.10	0.00	0.00	0.00	0.00	3.10	32.00	0.00	0.00	0.00	5.72	3.38	0.00	3.38	0.00
868.00	3.10	0.00	0.00	0.00	0.00	3.10	14.00	0.00	0.00	0.00	6.03	3.56	0.00	3.56	0.00
868.50	3.10	0.00	0.00	0.00	0.00	3.10	11.00	0.00	0.00	0.00	6.58	3.88	0.00	3.88	0.00
869.00	3.10	0.00	0.00	0.00	0.00	3.10	10.00	0.00	0.00	0.00	7.12	4.20	0.00	4.20	0.00
869.50	3.10	0.00	0.00	0.00	0.00	3.10	6.00	0.00	0.00	0.00	7.66	4.52	0.00	4.52	0.00
870.00	3.10	0.00	0.00	0.00	0.00	3.10	3.00	0.00	0.00	0.00	8.20	4.84	0.00	4.84	0.00
870.80	3.77	0.00	0.00	0.00	0.00	3.77	120.00	0.00	0.00	0.00	9.23	5.44	0.00	5.44	0.00
871.00	3.94	0.00	0.00	0.00	0.00	3.94	25.00	0.00	0.00	0.00	9.49	5.60	0.00	5.60	0.00
871.40	4.27	0.00	0.00	0.00	0.00	4.27	26.00	0.00	0.00	0.00	10.00	5.90	0.00	5.90	0.00
872.00	4.77	0.00	0.00	0.00	0.00	4.77	80.00	0.00	0.00	0.00	9.31	5.56	0.00	5.56	0.00
872.50	5.19	0.00	0.00	0.00	0.00	5.19	33.00	0.00	0.00	0.00	8.73	5.27	0.00	5.27	0.00
873.00	5.61	0.00	0.00	0.00	0.00	5.61	12.00	0.00	0.00	0.00	8.15	4.98	0.00	4.98	0.00
873.50	6.02	0.00	0.00	0.00	0.00	6.02	10.00	0.00	0.00	0.00	7.57	4.67	0.00	4.67	0.00
874.00	6.44	0.00	0.00	0.00	0.00	6.44	6.00	0.00	0.00	0.00	6.99	4.36	0.00	4.36	0.00
874.50	6.86	0.00	0.00	0.00	0.00	6.86	3.00	0.00	0.00	0.00	6.41	4.04	0.00	4.04	0.00
875.00	7.28	0.00	0.00	0.00	0.00	7.28	3.00	0.00	0.00	0.00	5.83	3.72	0.00	3.72	0.00
875.20	7.44	0.00	0.00	0.00	0.00	7.44	3.00	0.00	0.00	0.00	5.60	3.58	0.00	3.58	0.00
875.50	7.70	0.00	0.00	0.00	0.00	7.70	3.00	0.00	0.00	0.00	6.41	4.13	0.00	4.13	0.00
876.00	8.11	0.00	0.00	0.00	0.00	8.11	107.00	0.00	0.00	0.00	7.75	5.07	0.00	5.07	0.00
876.20	8.28	0.00	0.00	0.00	0.00	8.28	60.00	0.00	0.00	0.00	8.29	5.45	0.00	5.45	0.00
876.50	8.53	0.00	0.00	0.00	0.00	8.53	54.00	0.00	0.00	0.00	9.10	6.03	0.00	6.03	0.00
877.00	8.95	0.00	0.00	0.00	0.00	8.95	30.00	0.00	0.00	0.00	10.44	7.01	0.00	7.01	0.00
877.50	9.37	0.00	0.00	0.00	0.00	9.37	24.00	0.00	0.00	0.00	11.79	8.01	0.00	8.01	0.00

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

See page 331 for Explanation of Tables

λ	O						N ₂				O ₂				N
	⁴ S	² D	² P	⁴ P ^o	² P ^o	ION	ABS	N ₂ ⁺	N ⁺	ION	ABS	O ₂ ⁺	O ⁺	ION	ION
$\text{\AA}$	$\times 10^{-18} \text{ cm}^2$														
877.72	11.82	0.00	0.00	0.00	0.00	11.82	23.12	0.00	0.00	0.00	12.38	8.46	0.00	8.46	0.00
878.50	34.88	0.00	0.00	0.00	0.00	34.88	20.00	0.00	0.00	0.00	12.74	8.75	0.00	8.75	0.00
878.92	9.93	0.00	0.00	0.00	0.00	9.93	13.28	0.00	0.00	0.00	12.04	8.23	0.00	8.23	0.00
879.20	4.73	0.00	0.00	0.00	0.00	4.73	9.60	0.00	0.00	0.00	11.58	7.89	0.00	7.89	0.00
879.50	6.81	0.00	0.00	0.00	0.00	6.81	6.00	0.00	0.00	0.00	11.08	7.53	0.00	7.53	0.00
879.80	5.20	0.00	0.00	0.00	0.00	5.20	4.20	0.00	0.00	0.00	10.59	7.17	0.00	7.17	0.00
880.00	5.11	0.00	0.00	0.00	0.00	5.11	3.00	0.00	0.00	0.00	10.26	6.93	0.00	6.93	0.00
880.50	4.88	0.00	0.00	0.00	0.00	4.88	5.00	0.00	0.00	0.00	9.43	6.33	0.00	6.33	0.00
881.00	4.66	0.00	0.00	0.00	0.00	4.66	110.00	0.00	0.00	0.00	8.60	5.74	0.00	5.74	0.00
881.50	4.43	0.00	0.00	0.00	0.00	4.43	67.00	0.00	0.00	0.00	7.78	5.16	0.00	5.16	0.00
882.00	4.21	0.00	0.00	0.00	0.00	4.21	51.00	0.00	0.00	0.00	6.95	4.59	0.00	4.59	0.00
882.50	3.98	0.00	0.00	0.00	0.00	3.98	1.00	0.00	0.00	0.00	6.12	4.02	0.00	4.02	0.00
882.70	3.89	0.00	0.00	0.00	0.00	3.89	54.00	0.00	0.00	0.00	5.79	3.79	0.00	3.79	0.00
883.00	3.75	0.00	0.00	0.00	0.00	3.75	27.00	0.00	0.00	0.00	5.30	3.45	0.00	3.45	0.00
883.30	3.62	0.00	0.00	0.00	0.00	3.62	16.80	0.00	0.00	0.00	4.80	3.12	0.00	3.12	0.00
883.50	3.53	0.00	0.00	0.00	0.00	3.53	10.00	0.00	0.00	0.00	5.85	3.79	0.00	3.79	0.00
884.00	3.30	0.00	0.00	0.00	0.00	3.30	1.00	0.00	0.00	0.00	8.47	5.46	0.00	5.46	0.00
884.50	3.08	0.00	0.00	0.00	0.00	3.08	3.00	0.00	0.00	0.00	11.09	7.10	0.00	7.10	0.00
885.00	2.85	0.00	0.00	0.00	0.00	2.85	1.00	0.00	0.00	0.00	13.71	8.72	0.00	8.72	0.00
885.50	2.84	0.00	0.00	0.00	0.00	2.84	3.00	0.00	0.00	0.00	16.33	10.33	0.00	10.33	0.00
885.80	2.83	0.00	0.00	0.00	0.00	2.83	6.60	0.00	0.00	0.00	17.90	11.28	0.00	11.28	0.00
886.00	2.82	0.00	0.00	0.00	0.00	2.82	9.00	0.00	0.00	0.00	17.11	10.95	0.00	10.95	0.00
886.50	2.81	0.00	0.00	0.00	0.00	2.81	15.00	0.00	0.00	0.00	15.12	10.07	0.00	10.07	0.00
886.90	2.79	0.00	0.00	0.00	0.00	2.79	80.00	0.00	0.00	0.00	13.53	9.29	0.00	9.29	0.00
887.50	2.78	0.00	0.00	0.00	0.00	2.78	18.00	0.00	0.00	0.00	11.15	8.00	0.00	8.00	0.00
888.00	2.76	0.00	0.00	0.00	0.00	2.76	30.00	0.00	0.00	0.00	9.17	6.81	0.00	6.81	0.00
888.50	2.75	0.00	0.00	0.00	0.00	2.75	12.00	0.00	0.00	0.00	7.18	5.52	0.00	5.52	0.00
889.00	2.73	0.00	0.00	0.00	0.00	2.73	20.00	0.00	0.00	0.00	5.20	4.13	0.00	4.13	0.00
889.50	2.72	0.00	0.00	0.00	0.00	2.72	14.00	0.00	0.00	0.00	6.00	4.80	0.00	4.80	0.00
890.00	2.70	0.00	0.00	0.00	0.00	2.70	12.00	0.00	0.00	0.00	7.50	6.00	0.00	6.00	0.00
890.50	2.71	0.00	0.00	0.00	0.00	2.71	3.00	0.00	0.00	0.00	9.00	7.20	0.00	7.20	0.00
891.00	2.71	0.00	0.00	0.00	0.00	2.71	67.00	0.00	0.00	0.00	10.50	8.40	0.00	8.40	0.00
891.50	2.72	0.00	0.00	0.00	0.00	2.72	25.00	0.00	0.00	0.00	9.76	7.81	0.00	7.81	0.00
892.00	2.72	0.00	0.00	0.00	0.00	2.72	15.00	0.00	0.00	0.00	8.46	6.77	0.00	6.77	0.00
892.50	2.73	0.00	0.00	0.00	0.00	2.73	15.00	0.00	0.00	0.00	7.16	5.73	0.00	5.73	0.00
893.00	2.73	0.00	0.00	0.00	0.00	2.73	1.00	0.00	0.00	0.00	5.86	4.69	0.00	4.69	0.00
893.50	2.74	0.00	0.00	0.00	0.00	2.74	14.00	0.00	0.00	0.00	8.09	6.11	0.00	6.11	0.00
894.00	2.74	0.00	0.00	0.00	0.00	2.74	10.00	0.00	0.00	0.00	11.20	7.84	0.00	7.84	0.00
894.50	2.75	0.00	0.00	0.00	0.00	2.75	3.00	0.00	0.00	0.00	9.64	7.85	0.00	7.85	0.00
894.70	2.75	0.00	0.00	0.00	0.00	2.75	3.00	0.00	0.00	0.00	9.02	7.76	0.00	7.76	0.00
895.00	2.75	0.00	0.00	0.00	0.00	2.75	3.00	0.00	0.00	0.00	8.09	6.34	0.00	6.34	0.00
895.50	2.76	0.00	0.00	0.00	0.00	2.76	3.00	0.00	0.00	0.00	6.53	4.29	0.00	4.29	0.00
895.80	2.77	0.00	0.00	0.00	0.00	2.77	3.00	0.00	0.00	0.00	5.60	3.25	0.00	3.25	0.00
896.00	2.77	0.00	0.00	0.00	0.00	2.77	3.00	0.00	0.00	0.00	5.84	3.41	0.00	3.41	0.00
896.50	2.78	0.00	0.00	0.00	0.00	2.78	25.00	0.00	0.00	0.00	6.44	3.83	0.00	3.83	0.00
897.00	2.79	0.00	0.00	0.00	0.00	2.79	11.00	0.00	0.00	0.00	7.04	4.25	0.00	4.25	0.00
897.20	2.79	0.00	0.00	0.00	0.00	2.79	104.00	0.00	0.00	0.00	7.28	4.43	0.00	4.43	0.00
897.50	2.80	0.00	0.00	0.00	0.00	2.80	64.00	0.00	0.00	0.00	7.03	4.29	0.00	4.29	0.00
898.00	2.81	0.00	0.00	0.00	0.00	2.81	1.00	0.00	0.00	0.00	6.10	3.74	0.00	3.74	0.00
898.50	2.82	0.00	0.00	0.00	0.00	2.82	3.00	0.00	0.00	0.00	5.17	3.18	0.00	3.18	0.00
898.70	2.82	0.00	0.00	0.00	0.00	2.82	4.20	0.00	0.00	0.00	4.80	2.95	0.00	2.95	0.00
899.00	2.83	0.00	0.00	0.00	0.00	2.83	6.00	0.00	0.00	0.00	5.62	3.46	0.00	3.46	0.00
899.50	2.84	0.00	0.00	0.00	0.00	2.84	10.00	0.00	0.00	0.00	6.99	4.31	0.00	4.31	0.00
900.00	2.85	0.00	0.00	0.00	0.00	2.85	12.00	0.00	0.00	0.00	8.35	5.17	0.00	5.17	0.00
900.20	2.85	0.00	0.00	0.00	0.00	2.85	11.20	0.00	0.00	0.00	8.90	5.52	0.00	5.52	0.00
900.50	2.84	0.00	0.00	0.00	0.00	2.84	10.00	0.00	0.00	0.00	10.40	6.40	0.00	6.40	0.00
901.00	2.83	0.00	0.00	0.00	0.00	2.83	3.00	0.00	0.00	0.00	12.90	7.83	0.00	7.83	0.00
901.30	2.82	0.00	0.00	0.00	0.00	2.82	31.00	0.00	0.00	0.00	12.58	7.57	0.00	7.57	0.00
901.50	2.82	0.00	0.00	0.00	0.00	2.82	27.00	0.00	0.00	0.00	11.76	7.03	0.00	7.03	0.00
902.00	2.81	0.00	0.00	0.00	0.00	2.81	6.00	0.00	0.00	0.00	9.70	5.72	0.00	5.72	0.00
903.00	2.79	0.00	0.00	0.00	0.00	2.79	10.00	0.00	0.00	0.00	10.31	7.29	0.00	7.29	0.00
903.50	2.78	0.00	0.00	0.00	0.00	2.78	1.00	0.00	0.00	0.00	10.62	8.12	0.00	8.12	0.00
903.80	2.77	0.00	0.00	0.00	0.00	2.77	5.20	0.00	0.00	0.00	10.80	8.64	0.00	8.64	0.00

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

See page 331 for Explanation of Tables

λ	O						N ₂				O ₂				N
	⁴ S	² D	² P	⁴ P ^o	² P ^e	ION	ABS	N ₂ ⁺	N ⁺	ION	ABS	O ₂ ⁺	O ⁺	ION	ION
$\text{\AA}$	$\times 10^{-18} \text{ cm}^2$														
904.00	2.77	0.00	0.00	0.00	0.00	2.77	8.00	0.00	0.00	0.00	10.28	8.10	0.00	8.10	0.00
904.50	2.76	0.00	0.00	0.00	0.00	2.76	14.00	0.00	0.00	0.00	9.00	6.81	0.00	6.81	0.00
905.00	2.75	0.00	0.00	0.00	0.00	2.75	12.00	0.00	0.00	0.00	7.71	5.60	0.00	5.60	0.00
905.50	2.75	0.00	0.00	0.00	0.00	2.75	10.00	0.00	0.00	0.00	6.42	4.46	0.00	4.46	0.00
906.00	2.75	0.00	0.00	0.00	0.00	2.75	3.00	0.00	0.00	0.00	5.13	3.41	0.00	3.41	0.00
906.40	2.75	0.00	0.00	0.00	0.00	2.75	1.40	0.00	0.00	0.00	4.10	2.62	0.00	2.62	0.00
907.00	2.75	0.00	0.00	0.00	0.00	2.75	1.00	0.00	0.00	0.00	6.54	4.24	0.00	4.24	0.00
907.40	2.75	0.00	0.00	0.00	0.00	2.75	1.00	0.00	0.00	0.00	8.16	5.34	0.00	5.34	0.00
908.00	2.68	0.00	0.00	0.00	0.00	2.68	15.00	0.00	0.00	0.00	10.60	7.02	0.00	7.02	0.00
908.50	2.62	0.00	0.00	0.00	0.00	2.62	15.00	0.00	0.00	0.00	12.63	8.45	0.00	8.45	0.00
909.00	2.55	0.00	0.00	0.00	0.00	2.55	9.00	0.00	0.00	0.00	14.66	9.91	0.00	9.91	0.00
909.50	2.49	0.00	0.00	0.00	0.00	2.49	6.00	0.00	0.00	0.00	16.69	11.40	0.00	11.40	0.00
909.80	2.45	0.00	0.00	0.00	0.00	2.45	4.20	0.00	0.00	0.00	16.15	11.10	0.00	11.10	0.00
910.00	1.15	0.00	0.00	0.00	0.00	1.15	3.00	0.00	0.00	0.00	15.20	10.49	0.00	10.49	0.00
910.40	0.75	0.00	0.00	0.00	0.00	0.75	1.00	0.00	0.00	0.00	17.04	10.80	0.00	10.80	0.00
911.00	0.49	0.00	0.00	0.00	0.00	0.49	14.00	0.00	0.00	0.00	15.23	9.58	0.00	9.58	0.00
911.50	0.30	0.00	0.00	0.00	0.00	0.30	6.00	0.00	0.00	0.00	12.96	8.27	0.00	8.27	0.00
911.76	0.20	0.00	0.00	0.00	0.00	0.20	3.40	0.00	0.00	0.00	11.78	7.57	0.00	7.57	0.00
912.00	0.14	0.00	0.00	0.00	0.00	0.14	1.00	0.00	0.00	0.00	10.70	6.92	0.00	6.92	0.00
912.32	0.06	0.00	0.00	0.00	0.00	0.06	1.00	0.00	0.00	0.00	9.24	6.03	0.00	6.03	0.00
912.50	0.04	0.00	0.00	0.00	0.00	0.04	1.00	0.00	0.00	0.00	8.43	5.53	0.00	5.53	0.00
913.00	0.00	0.00	0.00	0.00	0.00	0.00	82.00	0.00	0.00	0.00	6.16	4.09	0.00	4.09	0.00
913.30	0.00	0.00	0.00	0.00	0.00	0.00	53.80	0.00	0.00	0.00	4.80	3.22	0.00	3.22	0.00
913.50	0.00	0.00	0.00	0.00	0.00	0.00	35.00	0.00	0.00	0.00	5.17	3.56	0.00	3.56	0.00
914.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00	6.10	4.48	0.00	4.48	0.00
914.50	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	7.03	5.49	0.00	5.49	0.00
914.70	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	7.40	5.92	0.00	5.92	0.00
915.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	6.30	4.66	0.00	4.66	0.00
915.50	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	4.47	2.86	0.00	2.86	0.00
916.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	8.93	5.71	0.00	5.71	0.00
916.50	0.00	0.00	0.00	0.00	0.00	0.00	42.00	0.00	0.00	0.00	14.96	9.95	0.00	9.95	0.00
917.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	20.99	14.48	0.00	14.48	0.00
917.20	0.00	0.00	0.00	0.00	0.00	0.00	1.80	0.00	0.00	0.00	23.40	16.38	0.00	16.38	0.00
917.50	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	21.49	15.88	0.00	15.88	0.00
918.00	0.00	0.00	0.00	0.00	0.00	0.00	6.00	0.00	0.00	0.00	18.30	14.70	0.00	14.70	0.00
918.50	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	15.11	13.12	0.00	13.12	0.00
918.90	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	12.56	11.56	0.00	11.56	0.00
919.50	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	8.74	7.51	0.00	7.51	0.00
919.90	0.00	0.00	0.00	0.00	0.00	0.00	97.00	0.00	0.00	0.00	6.19	5.07	0.00	5.07	0.00
920.40	0.00	0.00	0.00	0.00	0.00	0.00	50.75	0.00	0.00	0.00	3.00	2.31	0.00	2.31	0.00
920.96	0.00	0.00	0.00	0.00	0.00	0.00	27.64	0.00	0.00	0.00	4.39	3.41	0.00	3.41	0.00
921.50	0.00	0.00	0.00	0.00	0.00	0.00	17.00	0.00	0.00	0.00	5.73	4.49	0.00	4.49	0.00
922.00	0.00	0.00	0.00	0.00	0.00	0.00	11.00	0.00	0.00	0.00	6.97	5.51	0.00	5.51	0.00
922.50	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	8.21	6.90	0.00	6.90	0.00
922.80	0.00	0.00	0.00	0.00	0.00	0.00	58.00	0.00	0.00	0.00	8.96	7.74	0.00	7.74	0.00
923.00	0.00	0.00	0.00	0.00	0.00	0.00	17.00	0.00	0.00	0.00	9.45	8.32	0.00	8.32	0.00
923.50	0.00	0.00	0.00	0.00	0.00	0.00	18.50	0.00	0.00	0.00	8.90	5.70	0.00	5.70	0.00
923.70	0.00	0.00	0.00	0.00	0.00	0.00	19.10	0.00	0.00	0.00	11.80	10.62	0.00	10.62	0.00
924.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	16.15	13.97	0.00	13.97	0.00
924.30	0.00	0.00	0.00	0.00	0.00	0.00	15.20	0.00	0.00	0.00	20.50	17.01	0.00	17.01	0.00
924.50	0.00	0.00	0.00	0.00	0.00	0.00	12.00	0.00	0.00	0.00	23.40	20.59	0.00	20.59	0.00
925.00	0.00	0.00	0.00	0.00	0.00	0.00	22.00	0.00	0.00	0.00	18.22	15.02	0.00	15.02	0.00
925.50	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	13.03	10.03	0.00	10.03	0.00
926.00	0.00	0.00	0.00	0.00	0.00	0.00	14.00	0.00	0.00	0.00	7.85	5.60	0.00	5.60	0.00
926.20	0.00	0.00	0.00	0.00	0.00	0.00	9.60	0.00	0.00	0.00	5.77	4.00	0.00	4.00	0.00
926.40	0.00	0.00	0.00	0.00	0.00	0.00	5.20	0.00	0.00	0.00	3.70	2.48	0.00	2.48	0.00
927.00	0.00	0.00	0.00	0.00	0.00	0.00	18.00	0.00	0.00	0.00	3.90	2.67	0.00	2.67	0.00
927.60	0.00	0.00	0.00	0.00	0.00	0.00	13.20	0.00	0.00	0.00	4.10	2.86	0.00	2.86	0.00
928.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	3.46	2.45	0.00	2.45	0.00
928.50	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	3.62	2.59	0.00	2.59	0.00
929.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	4.02	2.91	0.00	2.91	0.00
930.00	0.00	0.00	0.00	0.00	0.00	0.00	29.00	0.00	0.00	0.00	3.70	2.74	0.00	2.74	0.00
930.50	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	22.28	16.69	0.00	16.69	0.00

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

See page 331 for Explanation of Tables

λ	O						N ₂				O ₂				N
	⁴ S	² D	² P	⁴ P ^e	² P ^e	ION	ABS	N ₂ ⁺	N ⁺	ION	ABS	O ₂ ⁺	O ⁺	ION	ION
$\text{\AA}$	$\times 10^{-18} \text{ cm}^2$														
930.75	0.00	0.00	0.00	0.00	0.00	0.00	4.50	0.00	0.00	0.00	23.72	17.86	0.00	17.86	0.00
931.00	0.00	0.00	0.00	0.00	0.00	0.00	6.00	0.00	0.00	0.00	19.91	15.08	0.00	15.08	0.00
931.50	0.00	0.00	0.00	0.00	0.00	0.00	6.00	0.00	0.00	0.00	12.30	9.41	0.00	9.41	0.00
931.90	0.00	0.00	0.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00	19.54	15.09	0.00	15.09	0.00
932.40	0.00	0.00	0.00	0.00	0.00	0.00	8.20	0.00	0.00	0.00	28.60	22.31	0.00	22.31	0.00
933.00	0.00	0.00	0.00	0.00	0.00	0.00	7.00	0.00	0.00	0.00	23.76	18.70	0.00	18.70	0.00
933.38	0.00	0.00	0.00	0.00	0.00	0.00	4.72	0.00	0.00	0.00	20.70	16.38	0.00	16.38	0.00
933.50	0.00	0.00	0.00	0.00	0.00	0.00	4.00	0.00	0.00	0.00	19.73	15.64	0.00	15.64	0.00
934.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	15.70	12.54	0.00	12.54	0.00
934.50	0.00	0.00	0.00	0.00	0.00	0.00	11.30	0.00	0.00	0.00	11.67	9.39	0.00	9.39	0.00
935.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	7.64	6.19	0.00	6.19	0.00
935.30	0.00	0.00	0.00	0.00	0.00	0.00	12.00	0.00	0.00	0.00	5.22	4.25	0.00	4.25	0.00
935.50	0.00	0.00	0.00	0.00	0.00	0.00	7.00	0.00	0.00	0.00	3.61	2.94	0.00	2.94	0.00
936.00	0.00	0.00	0.00	0.00	0.00	0.00	6.00	0.00	0.00	0.00	7.36	6.05	0.00	6.05	0.00
936.50	0.00	0.00	0.00	0.00	0.00	0.00	6.00	0.00	0.00	0.00	13.07	10.81	0.00	10.81	0.00
937.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	18.77	15.64	0.00	15.64	0.00
937.50	0.00	0.00	0.00	0.00	0.00	0.00	7.00	0.00	0.00	0.00	24.47	20.53	0.00	20.53	0.00
937.80	0.00	0.00	0.00	0.00	0.00	0.00	20.50	0.00	0.00	0.00	27.89	23.50	0.00	23.50	0.00
937.90	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	29.03	24.50	0.00	24.50	0.00
938.50	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	35.88	30.52	0.00	30.52	0.00
939.00	0.00	0.00	0.00	0.00	0.00	0.00	148.00	0.00	0.00	0.00	41.58	35.61	0.00	35.61	0.00
939.30	0.00	0.00	0.00	0.00	0.00	0.00	106.00	0.00	0.00	0.00	45.00	38.70	0.00	38.70	0.00
939.50	0.00	0.00	0.00	0.00	0.00	0.00	78.00	0.00	0.00	0.00	43.40	36.59	0.00	36.59	0.00
940.00	0.00	0.00	0.00	0.00	0.00	0.00	27.00	0.00	0.00	0.00	39.40	31.54	0.00	31.54	0.00
940.50	0.00	0.00	0.00	0.00	0.00	0.00	29.00	0.00	0.00	0.00	35.40	26.83	0.00	26.83	0.00
941.00	0.00	0.00	0.00	0.00	0.00	0.00	18.00	0.00	0.00	0.00	31.40	22.47	0.00	22.47	0.00
941.50	0.00	0.00	0.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00	27.40	18.44	0.00	18.44	0.00
942.00	0.00	0.00	0.00	0.00	0.00	0.00	22.00	0.00	0.00	0.00	23.40	14.75	0.00	14.75	0.00
942.40	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	20.20	12.05	0.00	12.05	0.00
943.00	0.00	0.00	0.00	0.00	0.00	0.00	27.00	0.00	0.00	0.00	15.40	8.40	0.00	8.40	0.00
943.30	0.00	0.00	0.00	0.00	0.00	0.00	22.80	0.00	0.00	0.00	13.00	6.76	0.00	6.76	0.00
943.50	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	11.40	6.56	0.00	6.56	0.00
944.00	0.00	0.00	0.00	0.00	0.00	0.00	11.00	0.00	0.00	0.00	7.40	5.28	0.00	5.28	0.00
944.50	0.00	0.00	0.00	0.00	0.00	0.00	11.00	0.00	0.00	0.00	3.40	2.90	0.00	2.90	0.00
945.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	9.52	8.25	0.00	8.25	0.00
946.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	26.81	22.38	0.00	22.38	0.00
947.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	44.10	35.39	0.00	35.39	0.00
947.70	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	56.20	43.84	0.00	43.84	0.00
948.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	49.97	38.92	0.00	38.92	0.00
948.50	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	39.58	30.75	0.00	30.75	0.00
949.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	29.20	22.63	0.00	22.63	0.00
949.50	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	18.82	14.55	0.00	14.55	0.00
949.74	0.00	0.00	0.00	0.00	0.00	0.00	13.48	0.00	0.00	0.00	13.83	10.68	0.00	10.68	0.00
950.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	8.43	6.50	0.00	6.50	0.00
950.30	0.00	0.00	0.00	0.00	0.00	0.00	17.20	0.00	0.00	0.00	2.20	1.69	0.00	1.69	0.00
950.50	0.00	0.00	0.00	0.00	0.00	0.00	28.00	0.00	0.00	0.00	4.08	3.14	0.00	3.14	0.00
951.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	8.76	6.75	0.00	6.75	0.00
952.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	18.14	13.97	0.00	13.97	0.00
953.00	0.00	0.00	0.00	0.00	0.00	0.00	12.00	0.00	0.00	0.00	27.51	21.18	0.00	21.18	0.00
954.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	36.89	28.40	0.00	28.40	0.00
955.00	0.00	0.00	0.00	0.00	0.00	0.00	6.00	0.00	0.00	0.00	46.26	35.62	0.00	35.62	0.00
955.90	0.00	0.00	0.00	0.00	0.00	0.00	18.60	0.00	0.00	0.00	54.70	42.12	0.00	42.12	0.00
956.50	0.00	0.00	0.00	0.00	0.00	0.00	12.00	0.00	0.00	0.00	35.43	27.28	0.00	27.28	0.00
956.70	0.00	0.00	0.00	0.00	0.00	0.00	8.40	0.00	0.00	0.00	29.00	22.33	0.00	22.33	0.00
957.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	35.30	29.65	0.00	29.65	0.00
957.50	0.00	0.00	0.00	0.00	0.00	0.00	6.00	0.00	0.00	0.00	29.83	24.31	0.00	24.31	0.00
958.00	0.00	0.00	0.00	0.00	0.00	0.00	18.00	0.00	0.00	0.00	24.37	19.25	0.00	19.25	0.00
958.20	0.00	0.00	0.00	0.00	0.00	0.00	134.00	0.00	0.00	0.00	22.18	17.30	0.00	17.30	0.00
958.50	0.00	0.00	0.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00	18.90	14.46	0.00	14.46	0.00
958.80	0.00	0.00	0.00	0.00	0.00	0.00	62.00	0.00	0.00	0.00	15.62	11.72	0.00	11.72	0.00
959.00	0.00	0.00	0.00	0.00	0.00	0.00	47.00	0.00	0.00	0.00	13.43	9.94	0.00	9.94	0.00
959.50	0.00	0.00	0.00	0.00	0.00	0.00	21.00	0.00	0.00	0.00	7.97	5.70	0.00	5.70	0.00
960.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	2.50	1.73	0.00	1.73	0.00

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

See page 331 for Explanation of Tables

λ	O						N ₂				O ₂				N
	⁴ S	² D	² P	⁴ P ^e	² P ^e	ION	ABS	N ₂ ⁺	N ⁺	ION	ABS	O ₂ ⁺	O ⁺	ION	ION
Å	$\times 10^{-18} \text{ cm}^2$														
960.50	0.00	0.00	0.00	0.00	0.00	0.00	98.00	0.00	0.00	0.00	5.95	4.17	0.00	4.17	0.00
961.00	0.00	0.00	0.00	0.00	0.00	0.00	51.00	0.00	0.00	0.00	9.39	6.68	0.00	6.68	0.00
961.50	0.00	0.00	0.00	0.00	0.00	0.00	30.00	0.00	0.00	0.00	12.84	9.27	0.00	9.27	0.00
961.90	0.00	0.00	0.00	0.00	0.00	0.00	20.40	0.00	0.00	0.00	15.60	11.40	0.00	11.40	0.00
962.50	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	9.67	7.19	0.00	7.19	0.00
962.80	0.00	0.00	0.00	0.00	0.00	0.00	5.80	0.00	0.00	0.00	6.70	5.03	0.00	5.03	0.00
963.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	9.98	7.55	0.00	7.55	0.00
964.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	26.39	20.85	0.00	20.85	0.00
965.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	42.80	35.24	0.00	35.24	0.00
965.50	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	51.00	42.84	0.00	42.84	0.00
966.00	0.00	0.00	0.00	0.00	0.00	0.00	67.00	0.00	0.00	0.00	46.04	38.11	0.00	38.11	0.00
966.50	0.00	0.00	0.00	0.00	0.00	0.00	60.00	0.00	0.00	0.00	41.08	33.50	0.00	33.50	0.00
967.00	0.00	0.00	0.00	0.00	0.00	0.00	31.00	0.00	0.00	0.00	36.12	29.02	0.00	29.02	0.00
967.50	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	31.16	24.65	0.00	24.65	0.00
968.00	0.00	0.00	0.00	0.00	0.00	0.00	27.00	0.00	0.00	0.00	26.20	20.41	0.00	20.41	0.00
969.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	16.29	12.28	0.00	12.28	0.00
969.50	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	11.33	8.40	0.00	8.40	0.00
970.00	0.00	0.00	0.00	0.00	0.00	0.00	6.00	0.00	0.00	0.00	6.37	4.65	0.00	4.65	0.00
970.40	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.40	1.73	0.00	1.73	0.00
971.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	10.74	7.43	0.00	7.43	0.00
971.50	0.00	0.00	0.00	0.00	0.00	0.00	6.00	0.00	0.00	0.00	17.70	11.81	0.00	11.81	0.00
972.00	0.00	0.00	0.00	0.00	0.00	0.00	27.00	0.00	0.00	0.00	24.65	15.87	0.00	15.87	0.00
972.50	0.00	0.00	0.00	0.00	0.00	0.00	120.00	0.00	0.00	0.00	31.60	19.59	0.00	19.59	0.00
972.90	0.00	0.00	0.00	0.00	0.00	0.00	94.40	0.00	0.00	0.00	42.80	24.31	0.00	24.31	0.00
973.50	0.00	0.00	0.00	0.00	0.00	0.00	31.00	0.00	0.00	0.00	28.85	14.14	0.00	14.14	0.00
974.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	17.23	7.32	0.00	7.32	0.00
974.50	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	5.60	2.02	0.00	2.02	0.00
975.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	18.85	10.67	0.00	10.67	0.00
975.30	0.00	0.00	0.00	0.00	0.00	0.00	3.80	0.00	0.00	0.00	26.80	18.49	0.00	18.49	0.00
975.50	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	25.86	18.27	0.00	18.27	0.00
976.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	23.52	17.58	0.00	17.58	0.00
976.50	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	21.17	16.70	0.00	16.70	0.00
977.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	18.82	15.62	0.00	15.62	0.00
977.50	0.00	0.00	0.00	0.00	0.00	0.00	8.00	0.00	0.00	0.00	16.48	13.63	0.00	13.63	0.00
978.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	14.13	11.65	0.00	11.65	0.00
978.50	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	11.78	9.68	0.00	9.68	0.00
979.00	0.00	0.00	0.00	0.00	0.00	0.00	88.00	0.00	0.00	0.00	9.44	7.73	0.00	7.73	0.00
979.50	0.00	0.00	0.00	0.00	0.00	0.00	33.00	0.00	0.00	0.00	7.09	5.79	0.00	5.79	0.00
980.00	0.00	0.00	0.00	0.00	0.00	0.00	27.00	0.00	0.00	0.00	4.75	3.86	0.00	3.86	0.00
980.50	0.00	0.00	0.00	0.00	0.00	0.00	22.00	0.00	0.00	0.00	2.40	1.94	0.00	1.94	0.00
981.00	0.00	0.00	0.00	0.00	0.00	0.00	26.00	0.00	0.00	0.00	10.20	8.37	0.00	8.37	0.00
981.50	0.00	0.00	0.00	0.00	0.00	0.00	11.00	0.00	0.00	0.00	18.01	14.97	0.00	14.97	0.00
982.00	0.00	0.00	0.00	0.00	0.00	0.00	14.00	0.00	0.00	0.00	25.81	21.74	0.00	21.74	0.00
982.50	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	33.61	28.67	0.00	28.67	0.00
983.00	0.00	0.00	0.00	0.00	0.00	0.00	23.00	0.00	0.00	0.00	41.42	35.77	0.00	35.77	0.00
983.30	0.00	0.00	0.00	0.00	0.00	0.00	18.20	0.00	0.00	0.00	46.10	40.11	0.00	40.11	0.00
983.50	0.00	0.00	0.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00	41.75	36.29	0.00	36.29	0.00
984.00	0.00	0.00	0.00	0.00	0.00	0.00	17.00	0.00	0.00	0.00	30.88	26.79	0.00	26.79	0.00
984.50	0.00	0.00	0.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00	20.02	17.32	0.00	17.32	0.00
985.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00	9.15	7.90	0.00	7.90	0.00
985.20	0.00	0.00	0.00	0.00	0.00	0.00	13.00	0.00	0.00	0.00	4.80	4.14	0.00	4.14	0.00
985.50	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	5.91	5.10	0.00	5.10	0.00
985.90	0.00	0.00	0.00	0.00	0.00	0.00	22.00	0.00	0.00	0.00	7.40	6.36	0.00	6.36	0.00
986.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.56	5.72	0.00	5.72	0.00
987.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.10	4.54	0.00	4.54	0.00
988.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	2.76	0.00	2.76	0.00
988.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.80	4.03	0.00	4.03	0.00
989.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.30	2.58	0.00	2.58	0.00
989.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.50	1.07	0.00	1.07	0.00
989.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.76	1.91	0.00	1.91	0.00
990.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.15	2.87	0.00	2.87	0.00
991.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.79	7.45	0.00	7.45	0.00
991.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.11	9.74	0.00	9.74	0.00

TABLE I. Photoionization and Photoabsorption Cross Sections for O, N₂, O₂, and N

See page 331 for Explanation of Tables

λ	O						N ₂				O ₂				N
	⁴ S	² D	² P	⁴ P ^e	² P ^e	ION	ABS	N ₂ ⁺	N ⁺	ION	ABS	O ₂ ⁺	O ⁺	ION	ION
Å	× 10 ⁻¹⁸ cm ²														
992.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.43	12.95	0.00	12.95	0.00
992.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.40	19.61	0.00	19.61	0.00
993.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.60	18.79	0.00	18.79	0.00
993.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.50	20.83	0.00	20.83	0.00
994.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.39	18.03	0.00	18.03	0.00
995.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.16	12.57	0.00	12.57	0.00
996.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.93	7.29	0.00	7.29	0.00
997.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.70	2.16	0.00	2.16	0.00
997.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.45	1.16	0.00	1.16	0.00
998.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.46	1.18	0.00	1.18	0.00
999.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.48	1.20	0.00	1.20	0.00
1000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.49	1.22	0.00	1.22	0.00
1001.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.69	2.24	0.00	2.24	0.00
1002.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.90	3.29	0.00	3.29	0.00
1003.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.10	4.37	0.00	4.37	0.00
1004.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.30	5.48	0.00	5.48	0.00
1004.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.60	4.85	0.00	4.85	0.00
1004.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.30	5.44	0.00	5.44	0.00
1005.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.41	4.65	0.00	4.65	0.00
1006.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.17	2.69	0.00	2.69	0.00
1006.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.38	1.16	0.00	1.16	0.00
1007.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.46	1.22	0.00	1.22	0.00
1007.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.82	1.51	0.00	1.51	0.00
1009.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.44	1.18	0.00	1.18	0.00
1009.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.52	1.24	0.00	1.24	0.00
1010.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.45	1.17	0.00	1.17	0.00
1010.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.43	1.15	0.00	1.15	0.00
1011.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.34	1.07	0.00	1.07	0.00
1011.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.30	1.03	0.00	1.03	0.00
1012.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.15	0.91	0.00	0.91	0.00
1012.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.08	0.84	0.00	0.84	0.00
1013.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.23	0.95	0.00	0.95	0.00
1013.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.34	1.03	0.00	1.03	0.00
1013.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.86	0.00	0.86	0.00
1015.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.48	1.12	0.00	1.12	0.00
1015.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.75	1.30	0.00	1.30	0.00
1016.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.19	0.88	0.00	0.88	0.00
1016.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.38	1.02	0.00	1.02	0.00
1016.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.08	0.79	0.00	0.79	0.00
1017.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.60	1.17	0.00	1.17	0.00
1017.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.97	0.70	0.00	0.70	0.00
1018.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.19	0.86	0.00	0.86	0.00
1018.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.52	1.09	0.00	1.09	0.00
1018.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.08	0.77	0.00	0.77	0.00
1019.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.19	0.85	0.00	0.85	0.00
1019.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.41	1.00	0.00	1.00	0.00
1020.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.28	0.90	0.00	0.90	0.00
1020.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.19	0.83	0.00	0.83	0.00
1020.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.60	1.11	0.00	1.11	0.00
1021.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40	0.97	0.00	0.97	0.00
1021.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.64	1.12	0.00	1.12	0.00
1022.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.47	1.00	0.00	1.00	0.00
1022.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.30	0.88	0.00	0.88	0.00
1023.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.64	1.09	0.00	1.09	0.00
1023.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.86	1.24	0.00	1.24	0.00
1024.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.43	0.94	0.00	0.94	0.00
1024.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.65	0.00	0.65	0.00
1025.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.45	0.94	0.00	0.94	0.00
1025.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.79	1.15	0.00	1.15	0.00
1025.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.64	1.05	0.00	1.05	0.00
1026.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.52	0.00	0.00	0.00	0.00
1027.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.11	0.00	0.00	0.00	0.00

TABLE II. Total Photoionization Cross Sections for Multiple Photoionization of O and N

See page 331 for Explanation of Tables

λ	O				N		
	O ⁺	O ⁺⁺	O ⁺⁺⁺	TOTAL	N ⁺	N ⁺⁺	TOTAL
$\text{\AA}$	$\times 10^{-18} \text{ cm}^2$						
44.02	0.1583	0.0000	0.0000	0.1583	0.0776	0.0070	0.0846
44.16	0.1592	0.0000	0.0000	0.1592	0.0778	0.0073	0.0852
44.70	0.1640	0.0110	0.0003	0.1753	0.0799	0.0077	0.0876
45.30	0.1700	0.0118	0.0003	0.1821	0.0827	0.0078	0.0905
45.66	0.1700	0.0121	0.0003	0.1824	0.0844	0.0078	0.0922
45.90	0.1700	0.0123	0.0003	0.1826	0.0855	0.0078	0.0934
46.40	0.1700	0.0124	0.0003	0.1827	0.0879	0.0079	0.0958
46.67	0.1700	0.0124	0.0003	0.1828	0.0892	0.0079	0.0971
47.70	0.1700	0.0127	0.0004	0.1830	0.0940	0.0080	0.1020
47.87	0.1709	0.0129	0.0004	0.1841	0.0948	0.0081	0.1029
49.22	0.1780	0.0143	0.0004	0.1927	0.1012	0.0088	0.1100
49.60	0.1800	0.0147	0.0004	0.1952	0.1030	0.0089	0.1120
50.36	0.1872	0.0158	0.0005	0.2035	0.1066	0.0093	0.1160
50.52	0.1888	0.0160	0.0005	0.2052	0.1074	0.0094	0.1168
50.69	0.1904	0.0162	0.0005	0.2071	0.1082	0.0095	0.1177
51.70	0.2000	0.0177	0.0005	0.2182	0.1130	0.0100	0.1230
52.30	0.2055	0.0185	0.0006	0.2245	0.1161	0.0104	0.1264
52.91	0.2110	0.0193	0.0006	0.2309	0.1192	0.0108	0.1300
53.90	0.2200	0.0207	0.0007	0.2414	0.1242	0.0114	0.1356
54.15	0.2230	0.0212	0.0007	0.2449	0.1255	0.0116	0.1371
54.42	0.2262	0.0217	0.0007	0.2487	0.1269	0.0117	0.1386
54.70	0.2296	0.0223	0.0008	0.2526	0.1283	0.0119	0.1402
55.06	0.2339	0.0230	0.0008	0.2577	0.1302	0.0121	0.1423
55.34	0.2373	0.0236	0.0008	0.2617	0.1316	0.0123	0.1439
56.08	0.2462	0.0252	0.0009	0.2722	0.1354	0.0128	0.1482
56.40	0.2500	0.0259	0.0009	0.2768	0.1370	0.0130	0.1500
56.92	0.2560	0.0270	0.0009	0.2839	0.1399	0.0136	0.1534
57.36	0.2611	0.0279	0.0009	0.2900	0.1423	0.0140	0.1563
57.56	0.2634	0.0284	0.0010	0.2927	0.1434	0.0142	0.1577
57.88	0.2671	0.0291	0.0010	0.2972	0.1452	0.0146	0.1598
58.96	0.2795	0.0316	0.0011	0.3122	0.1512	0.0157	0.1669
59.62	0.2903	0.0332	0.0011	0.3246	0.1548	0.0164	0.1713
60.30	0.3017	0.0349	0.0012	0.3378	0.1586	0.0172	0.1758
60.85	0.3108	0.0364	0.0012	0.3484	0.1616	0.0178	0.1794
61.07	0.3145	0.0370	0.0012	0.3527	0.1629	0.0180	0.1809
61.63	0.3238	0.0384	0.0013	0.3635	0.1660	0.0186	0.1846
61.90	0.3283	0.0392	0.0013	0.3688	0.1674	0.0189	0.1863
62.30	0.3345	0.0402	0.0013	0.3761	0.1698	0.0194	0.1892
62.77	0.3417	0.0414	0.0013	0.3844	0.1727	0.0199	0.1926
62.92	0.3439	0.0418	0.0014	0.3871	0.1736	0.0201	0.1937
63.16	0.3476	0.0424	0.0014	0.3913	0.1750	0.0204	0.1954
63.30	0.3497	0.0428	0.0014	0.3938	0.1759	0.0206	0.1965
63.65	0.3550	0.0437	0.0014	0.4001	0.1780	0.0210	0.1990
64.11	0.3620	0.0449	0.0014	0.4083	0.1808	0.0216	0.2023
64.38	0.3661	0.0456	0.0014	0.4131	0.1824	0.0219	0.2043
64.60	0.3694	0.0462	0.0015	0.4170	0.1838	0.0222	0.2059
65.21	0.3786	0.0478	0.0015	0.4280	0.1875	0.0229	0.2103
65.71	0.3880	0.0492	0.0015	0.4387	0.1905	0.0236	0.2141
65.85	0.3907	0.0496	0.0015	0.4418	0.1914	0.0238	0.2151
66.30	0.3994	0.0508	0.0016	0.4518	0.1941	0.0244	0.2185
67.14	0.4158	0.0531	0.0016	0.4705	0.1992	0.0256	0.2248
67.35	0.4199	0.0537	0.0016	0.4752	0.2005	0.0258	0.2264
67.60	0.4247	0.0544	0.0017	0.4808	0.2021	0.0262	0.2282
68.35	0.4393	0.0565	0.0017	0.4975	0.2066	0.0272	0.2339
68.90	0.4500	0.0580	0.0018	0.5098	0.2100	0.0280	0.2380
69.65	0.4631	0.0600	0.0018	0.5249	0.2151	0.0293	0.2444

TABLE II. Total Photoionization Cross Sections for Multiple Photoionization of O and N

See page 331 for Explanation of Tables

λ	O				N		
	O ⁺	O ⁺⁺	O ⁺⁺⁺	TOTAL	N ⁺	N ⁺⁺	TOTAL
$\text{\AA}$	$\times 10^{-18} \text{ cm}^2$						
70.00	0.4692	0.0610	0.0018	0.5320	0.2174	0.0299	0.2473
70.54	0.4787	0.0624	0.0018	0.5430	0.2211	0.0309	0.2519
70.75	0.4824	0.0630	0.0018	0.5472	0.2225	0.0312	0.2537
71.00	0.4867	0.0637	0.0019	0.5523	0.2242	0.0317	0.2558
71.94	0.5032	0.0662	0.0019	0.5713	0.2305	0.0333	0.2638
72.19	0.5076	0.0669	0.0019	0.5764	0.2322	0.0338	0.2660
72.31	0.5097	0.0672	0.0019	0.5788	0.2330	0.0340	0.2670
72.63	0.5153	0.0681	0.0019	0.5853	0.2352	0.0345	0.2697
72.80	0.5182	0.0686	0.0019	0.5888	0.2363	0.0348	0.2712
73.55	0.5327	0.0710	0.0020	0.6057	0.2417	0.0361	0.2778
74.21	0.5456	0.0732	0.0020	0.6209	0.2464	0.0373	0.2837
74.44	0.5501	0.0740	0.0020	0.6261	0.2480	0.0377	0.2857
74.83	0.5578	0.0753	0.0020	0.6351	0.2508	0.0384	0.2892
75.03	0.5617	0.0760	0.0020	0.6397	0.2523	0.0387	0.2910
75.29	0.5668	0.0769	0.0020	0.6457	0.2541	0.0392	0.2933
75.46	0.5701	0.0775	0.0021	0.6496	0.2554	0.0395	0.2948
75.73	0.5754	0.0784	0.0021	0.6558	0.2573	0.0399	0.2972
76.01	0.5808	0.0793	0.0021	0.6623	0.2593	0.0404	0.2997
76.48	0.5900	0.0810	0.0021	0.6731	0.2627	0.0412	0.3039
76.83	0.5969	0.0822	0.0021	0.6812	0.2652	0.0418	0.3070
76.94	0.5990	0.0826	0.0021	0.6837	0.2660	0.0420	0.3080
77.30	0.6061	0.0838	0.0021	0.6920	0.2686	0.0427	0.3112
77.50	0.6100	0.0845	0.0021	0.6967	0.2700	0.0430	0.3130
77.74	0.6155	0.0854	0.0021	0.7031	0.2719	0.0434	0.3153
78.56	0.6345	0.0884	0.0022	0.7250	0.2784	0.0448	0.3232
78.70	0.6377	0.0889	0.0022	0.7287	0.2795	0.0451	0.3245
79.08	0.6465	0.0903	0.0022	0.7389	0.2825	0.0457	0.3282
79.48	0.6557	0.0917	0.0022	0.7496	0.2856	0.0464	0.3320
79.76	0.6622	0.0928	0.0022	0.7571	0.2878	0.0469	0.3347
80.00	0.6677	0.0936	0.0022	0.7635	0.2897	0.0473	0.3370
80.21	0.6725	0.0944	0.0022	0.7691	0.2914	0.0477	0.3391
80.55	0.6804	0.0957	0.0022	0.7782	0.2940	0.0483	0.3423
80.94	0.6894	0.0971	0.0022	0.7887	0.2971	0.0490	0.3461
81.16	0.6945	0.0979	0.0022	0.7946	0.2989	0.0493	0.3482
81.58	0.7042	0.0995	0.0022	0.8058	0.3022	0.0501	0.3522
81.94	0.7125	0.1008	0.0022	0.8155	0.3050	0.0507	0.3557
82.10	0.7162	0.1014	0.0022	0.8198	0.3063	0.0510	0.3572
82.43	0.7238	0.1027	0.0022	0.8286	0.3089	0.0515	0.3604
82.67	0.7293	0.1036	0.0022	0.8351	0.3108	0.0519	0.3627
83.25	0.7403	0.1052	0.0022	0.8477	0.3158	0.0529	0.3688
83.42	0.7434	0.1057	0.0022	0.8513	0.3173	0.0532	0.3706
83.67	0.7481	0.1064	0.0022	0.8567	0.3195	0.0536	0.3732
84.00	0.7542	0.1074	0.0022	0.8638	0.3225	0.0542	0.3767
84.26	0.7591	0.1081	0.0022	0.8694	0.3247	0.0546	0.3794
84.50	0.7636	0.1088	0.0022	0.8745	0.3269	0.0551	0.3819
84.72	0.7677	0.1094	0.0022	0.8792	0.3288	0.0554	0.3842
84.86	0.7703	0.1098	0.0022	0.8823	0.3300	0.0557	0.3857
85.16	0.7759	0.1107	0.0021	0.8887	0.3327	0.0562	0.3889
85.50	0.7822	0.1117	0.0021	0.8960	0.3357	0.0567	0.3924
85.69	0.7857	0.1122	0.0021	0.9001	0.3374	0.0571	0.3944
85.87	0.7891	0.1127	0.0021	0.9039	0.3389	0.0574	0.3963
86.23	0.7958	0.1137	0.0021	0.9117	0.3421	0.0580	0.4001
86.40	0.7990	0.1142	0.0021	0.9153	0.3436	0.0583	0.4019
86.77	0.8059	0.1153	0.0021	0.9233	0.3469	0.0589	0.4058
86.98	0.8098	0.1159	0.0021	0.9278	0.3487	0.0593	0.4080
87.30	0.8158	0.1168	0.0021	0.9346	0.3515	0.0598	0.4113

TABLE II. Total Photoionization Cross Sections for Multiple Photoionization of O and N

See page 331 for Explanation of Tables

λ	O				N		
	O ⁺	O ⁺⁺	O ⁺⁺⁺	TOTAL	N ⁺	N ⁺⁺	TOTAL
$\text{\AA}$	$\times 10^{-18} \text{ cm}^2$						
87.61	0.8215	0.1177	0.0021	0.9413	0.3543	0.0603	0.4146
88.10	0.8307	0.1191	0.0020	0.9518	0.3586	0.0612	0.4197
88.42	0.8366	0.1200	0.0020	0.9587	0.3614	0.0617	0.4231
88.60	0.8400	0.1206	0.0020	0.9626	0.3630	0.0620	0.4250
88.90	0.8471	0.1215	0.0020	0.9706	0.3660	0.0624	0.4285
89.14	0.8527	0.1223	0.0020	0.9769	0.3685	0.0628	0.4313
89.70	0.8659	0.1240	0.0020	0.9918	0.3742	0.0636	0.4378
90.14	0.8762	0.1254	0.0020	1.0035	0.3786	0.0643	0.4429
90.45	0.8835	0.1263	0.0019	1.0118	0.3818	0.0647	0.4465
90.71	0.8896	0.1271	0.0019	1.0187	0.3844	0.0651	0.4495
91.00	0.8965	0.1280	0.0019	1.0264	0.3874	0.0655	0.4529
91.48	0.9078	0.1295	0.0019	1.0392	0.3922	0.0662	0.4585
91.69	0.9127	0.1302	0.0019	1.0447	0.3944	0.0665	0.4609
91.81	0.9155	0.1305	0.0019	1.0479	0.3956	0.0667	0.4623
92.09	0.9221	0.1314	0.0019	1.0554	0.3984	0.0671	0.4655
92.55	0.9329	0.1328	0.0018	1.0676	0.4031	0.0678	0.4709
92.81	0.9391	0.1336	0.0018	1.0745	0.4057	0.0682	0.4739
93.61	0.9579	0.1360	0.0018	1.0957	0.4138	0.0694	0.4832
94.07	0.9687	0.1374	0.0017	1.1079	0.4185	0.0700	0.4885
94.25	0.9729	0.1380	0.0017	1.1127	0.4203	0.0703	0.4906
94.39	0.9762	0.1384	0.0017	1.1164	0.4218	0.0705	0.4923
94.81	0.9861	0.1397	0.0017	1.1275	0.4260	0.0711	0.4971
95.37	0.9993	0.1414	0.0016	1.1423	0.4317	0.0720	0.5037
95.51	1.0024	0.1418	0.0016	1.1458	0.4333	0.0722	0.5054
95.81	1.0088	0.1426	0.0016	1.1531	0.4367	0.0726	0.5093
96.05	1.0140	0.1433	0.0016	1.1589	0.4394	0.0730	0.5124
96.49	1.0235	0.1445	0.0016	1.1696	0.4444	0.0737	0.5181
96.83	1.0308	0.1455	0.0015	1.1778	0.4483	0.0742	0.5225
97.12	1.0370	0.1463	0.0015	1.1848	0.4516	0.0746	0.5262
97.51	1.0454	0.1474	0.0015	1.1943	0.4560	0.0752	0.5312
97.87	1.0532	0.1484	0.0015	1.2030	0.4601	0.0758	0.5359
98.12	1.0585	0.1491	0.0015	1.2091	0.4630	0.0761	0.5391
98.23	1.0609	0.1494	0.0014	1.2117	0.4642	0.0763	0.5405
98.50	1.0667	0.1501	0.0014	1.2183	0.4673	0.0767	0.5440
98.88	1.0749	0.1512	0.0014	1.2275	0.4716	0.0773	0.5489
99.44	1.0869	0.1527	0.0014	1.2410	0.4780	0.0781	0.5562
99.71	1.0927	0.1535	0.0013	1.2475	0.4811	0.0785	0.5596
99.99	1.0988	0.1542	0.0013	1.2543	0.4843	0.0790	0.5633
100.54	1.1106	0.1558	0.0013	1.2676	0.4906	0.0798	0.5704
100.96	1.1196	0.1569	0.0012	1.2778	0.4953	0.0804	0.5758
101.57	1.1328	0.1586	0.0012	1.2925	0.5023	0.0814	0.5837
102.15	1.1453	0.1602	0.0011	1.3065	0.5089	0.0823	0.5912
103.01	1.1638	0.1625	0.0010	1.3273	0.5187	0.0836	0.6023
103.15	1.1668	0.1629	0.0010	1.3307	0.5203	0.0838	0.6041
103.30	1.1700	0.1633	0.0010	1.3343	0.5220	0.0840	0.6060
103.58	1.1766	0.1640	0.0010	1.3415	0.5255	0.0844	0.6099
103.94	1.1850	0.1649	0.0010	1.3508	0.5300	0.0849	0.6148
104.23	1.1918	0.1656	0.0009	1.3583	0.5336	0.0852	0.6188
104.76	1.2042	0.1669	0.0009	1.3720	0.5402	0.0859	0.6261
105.23	1.2152	0.1681	0.0009	1.3842	0.5460	0.0866	0.6326
106.25	1.2390	0.1706	0.0008	1.4104	0.5587	0.0879	0.6466
106.57	1.2465	0.1714	0.0008	1.4187	0.5627	0.0884	0.6511
106.93	1.2550	0.1722	0.0008	1.4280	0.5672	0.0888	0.6560
107.80	1.2753	0.1743	0.0007	1.4503	0.5780	0.0900	0.6680
108.05	1.2812	0.1749	0.0007	1.4568	0.5813	0.0904	0.6717
108.46	1.2908	0.1759	0.0006	1.4673	0.5866	0.0911	0.6777

TABLE II. Total Photoionization Cross Sections for Multiple Photoionization of O and N
See page 331 for Explanation of Tables

λ	O				N		
	O ⁺	O ⁺⁺	O ⁺⁺⁺	TOTAL	N ⁺	N ⁺⁺	TOTAL
$\text{\AA}$	$\times 10^{-18} \text{ cm}^2$						
109.50	1.3151	0.1783	0.0006	1.4940	0.6002	0.0928	0.6930
109.98	1.3263	0.1794	0.0005	1.5063	0.6065	0.0936	0.7000
110.56	1.3399	0.1808	0.0005	1.5212	0.6140	0.0945	0.7086
110.76	1.3446	0.1812	0.0005	1.5263	0.6167	0.0948	0.7115
111.16	1.3540	0.1822	0.0004	1.5365	0.6219	0.0955	0.7174
112.70	1.3900	0.1856	0.0003	1.5759	0.6420	0.0980	0.7400
113.80	1.4153	0.1878	0.0003	1.6033	0.6579	0.0996	0.7575
114.09	1.4220	0.1883	0.0003	1.6106	0.6621	0.1001	0.7621
114.24	1.4254	0.1886	0.0002	1.6143	0.6642	0.1003	0.7645
115.39	1.4519	0.1908	0.0002	1.6429	0.6809	0.1020	0.7828
115.80	1.4613	0.1916	0.0002	1.6531	0.6868	0.1026	0.7894
116.75	1.4832	0.1933	0.0002	1.6767	0.7005	0.1040	0.8045
117.20	1.4935	0.1941	0.0002	1.6879	0.7070	0.1047	0.8117
118.10	1.5142	0.1958	0.0002	1.7102	0.7200	0.1060	0.8260
120.00	1.5580	0.1991	0.0001	1.7572	0.7490	0.1089	0.8579
120.40	1.5672	0.1998	0.0001	1.7670	0.7551	0.1095	0.8646
121.15	1.5844	0.2010	0.0001	1.7855	0.7665	0.1107	0.8772
121.79	1.5992	0.2021	0.0001	1.8013	0.7763	0.1116	0.8879
122.70	1.6201	0.2036	0.0000	1.8237	0.7902	0.1130	0.9032
123.50	1.6385	0.2048	0.0000	1.8433	0.8024	0.1142	0.9166
124.00	1.6500	0.2056	0.0000	1.8556	0.8100	0.1150	0.9250
125.00	1.6797	0.2072	0.0000	1.8869	0.8269	0.1165	0.9435
127.65	1.7584	0.2110	0.0000	1.9695	0.8718	0.1206	0.9924
129.87	1.8244	0.2139	0.0000	2.0383	0.9093	0.1240	1.0334
130.00	1.8283	0.2140	0.0000	2.0423	0.9115	0.1242	1.0358
130.30	1.8372	0.2144	0.0000	2.0515	0.9166	0.1247	1.0413
130.50	1.8431	0.2146	0.0000	2.0577	0.9200	0.1250	1.0450
131.02	1.8586	0.2152	0.0000	2.0737	0.9285	0.1257	1.0543
131.21	1.8642	0.2154	0.0000	2.0796	0.9317	0.1260	1.0576
135.00	1.9768	0.2189	0.0000	2.1958	0.9940	0.1312	1.1251
136.21	2.0128	0.2199	0.0000	2.2326	1.0139	0.1328	1.1467
136.45	2.0199	0.2200	0.0000	2.2399	1.0178	0.1332	1.1510
137.80	2.0600	0.2209	0.0000	2.2809	1.0400	0.1350	1.1750
140.00	2.0523	0.2151	0.0000	2.2675	1.0807	0.1383	1.2190
141.20	2.0481	0.2120	0.0000	2.2602	1.1030	0.1400	1.2430
144.21	2.0376	0.2042	0.0000	2.2419	1.1587	0.1445	1.3032
145.00	2.0349	0.2022	0.0000	2.2371	1.1733	0.1457	1.3190
145.90	2.0317	0.1999	0.0000	2.2316	1.1900	0.1470	1.3370
148.38	2.0231	0.1936	0.0000	2.2167	1.2418	0.1503	1.3921
150.00	2.0174	0.1895	0.0000	2.2069	1.2756	0.1524	1.4280
150.10	2.0171	0.1892	0.0000	2.2063	1.2777	0.1525	1.4302
152.15	2.0099	0.1841	0.0000	2.1940	1.3205	0.1552	1.4757
152.84	2.0075	0.1823	0.0000	2.1899	1.3349	0.1562	1.4911
154.18	2.0029	0.1790	0.0000	2.1818	1.3629	0.1579	1.5208
155.00	2.0000	0.1769	0.0000	2.1769	1.3800	0.1590	1.5390
157.73	2.1766	0.1864	0.0000	2.3631	1.4887	0.1627	1.6514
158.37	2.2181	0.1885	0.0000	2.4066	1.5141	0.1636	1.6777
159.94	2.3196	0.1934	0.0000	2.5130	1.5766	0.1657	1.7424
160.37	2.3475	0.1947	0.0000	2.5421	1.5938	0.1663	1.7601
164.13	2.5908	0.2048	0.0000	2.7956	1.7434	0.1714	1.9148
165.00	2.6471	0.2069	0.0000	2.8540	1.7781	0.1726	1.9507
165.30	2.6665	0.2076	0.0000	2.8741	1.7900	0.1730	1.9630
167.50	2.8088	0.2123	0.0000	3.0211	1.8571	0.1754	2.0325
168.17	2.8522	0.2136	0.0000	3.0658	1.8776	0.1762	2.0537
168.55	2.8768	0.2143	0.0000	3.0911	1.8892	0.1766	2.0657
168.92	2.9007	0.2150	0.0000	3.1157	1.9004	0.1770	2.0774

TABLE II. Total Photoionization Cross Sections for Multiple Photoionization of O and N

See page 331 for Explanation of Tables

λ	O				N		
	O ⁺	O ⁺⁺	O ⁺⁺⁺	TOTAL	N ⁺	N ⁺⁺	TOTAL
$\text{\AA}$	$\times 10^{-18} \text{ cm}^2$						
169.70	2.9512	0.2164	0.0000	3.1675	1.9242	0.1778	2.1021
170.00	2.9706	0.2169	0.0000	3.1875	1.9334	0.1782	2.1116
171.06	3.0392	0.2186	0.0000	3.2577	1.9657	0.1793	2.1451
172.12	3.1078	0.2201	0.0000	3.3279	1.9981	0.1805	2.1786
172.92	3.1595	0.2212	0.0000	3.3807	2.0225	0.1814	2.2039
173.08	3.1699	0.2214	0.0000	3.3913	2.0274	0.1816	2.2089
174.53	3.2637	0.2230	0.0000	3.4868	2.0716	0.1832	2.2548
175.00	3.2941	0.2235	0.0000	3.5176	2.0859	0.1837	2.2696
175.24	3.3096	0.2238	0.0000	3.5334	2.0933	0.1840	2.2772
175.47	3.3245	0.2240	0.0000	3.5485	2.1003	0.1842	2.2845
177.10	3.4300	0.2253	0.0000	3.6553	2.1500	0.1860	2.3360
177.22	3.4341	0.2253	0.0000	3.6594	2.1540	0.1861	2.3401
178.02	3.4615	0.2249	0.0000	3.6864	2.1804	0.1869	2.3674
179.27	3.5043	0.2241	0.0000	3.7284	2.2218	0.1882	2.4100
179.74	3.5204	0.2238	0.0000	3.7442	2.2374	0.1887	2.4261
180.00	3.5293	0.2237	0.0000	3.7530	2.2460	0.1890	2.4349
180.40	3.5430	0.2234	0.0000	3.7664	2.2592	0.1894	2.4486
180.71	3.5536	0.2232	0.0000	3.7768	2.2694	0.1897	2.4592
181.14	3.5683	0.2229	0.0000	3.7912	2.2837	0.1902	2.4738
182.16	3.6032	0.2222	0.0000	3.8254	2.3174	0.1912	2.5086
182.39	3.6111	0.2220	0.0000	3.8331	2.3250	0.1914	2.5165
183.45	3.6474	0.2211	0.0000	3.8685	2.3601	0.1925	2.5526
183.91	3.6632	0.2207	0.0000	3.8839	2.3753	0.1930	2.5683
184.10	3.6697	0.2206	0.0000	3.8902	2.3816	0.1932	2.5748
184.52	3.6840	0.2202	0.0000	3.9042	2.3955	0.1936	2.5892
184.76	3.6923	0.2200	0.0000	3.9122	2.4035	0.1939	2.5973
185.00	3.7005	0.2198	0.0000	3.9202	2.4114	0.1941	2.6055
185.21	3.7077	0.2196	0.0000	3.9272	2.4183	0.1943	2.6127
186.60	3.7553	0.2182	0.0000	3.9735	2.4643	0.1958	2.6601
186.87	3.7645	0.2179	0.0000	3.9824	2.4733	0.1961	2.6693
187.95	3.8015	0.2168	0.0000	4.0183	2.5090	0.1972	2.7062
188.23	3.8111	0.2165	0.0000	4.0276	2.5183	0.1975	2.7157
188.70	3.8272	0.2160	0.0000	4.0431	2.5338	0.1979	2.7318
190.00	3.8717	0.2145	0.0000	4.0861	2.5768	0.1993	2.7761
190.70	3.8956	0.2136	0.0000	4.1093	2.6000	0.2000	2.8000
191.04	3.9073	0.2132	0.0000	4.1205	2.6111	0.2001	2.8112
191.29	3.9158	0.2129	0.0000	4.1287	2.6193	0.2002	2.8195
192.38	3.9531	0.2115	0.0000	4.1646	2.6549	0.2006	2.8556
192.80	3.9675	0.2109	0.0000	4.1784	2.6687	0.2008	2.8695
193.50	3.9915	0.2100	0.0000	4.2015	2.6916	0.2011	2.8926
195.00	4.0428	0.2078	0.0000	4.2507	2.7406	0.2016	2.9423
195.13	4.0473	0.2076	0.0000	4.2549	2.7449	0.2017	2.9466
196.52	4.0949	0.2055	0.0000	4.3004	2.7903	0.2022	2.9925
196.63	4.0987	0.2054	0.0000	4.3040	2.7939	0.2022	2.9962
197.41	4.1254	0.2041	0.0000	4.3295	2.8194	0.2025	3.0220
198.53	4.1637	0.2023	0.0000	4.3660	2.8561	0.2030	3.0590
200.00	4.2140	0.1998	0.0000	4.4138	2.9042	0.2035	3.1077
201.10	4.2517	0.1979	0.0000	4.4496	2.9401	0.2039	3.1441
202.05	4.2842	0.1961	0.0000	4.4803	2.9712	0.2043	3.1755
202.64	4.3044	0.1950	0.0000	4.4994	2.9905	0.2045	3.1950
203.78	4.3435	0.1928	0.0000	4.5363	3.0278	0.2049	3.2327
204.25	4.3595	0.1919	0.0000	4.5515	3.0431	0.2051	3.2483
204.89	4.3815	0.1906	0.0000	4.5721	3.0641	0.2054	3.2694
206.26	4.4284	0.1878	0.0000	4.6162	3.1089	0.2059	3.3148
206.38	4.4325	0.1876	0.0000	4.6201	3.1128	0.2059	3.3187
206.60	4.4400	0.1871	0.0000	4.6271	3.1200	0.2060	3.3260

TABLE II. Total Photoionization Cross Sections for Multiple Photoionization of O and N

See page 331 for Explanation of Tables

λ	O				N		
	O ⁺	O ⁺⁺	O ⁺⁺⁺	TOTAL	N ⁺	N ⁺⁺	TOTAL
$\text{\AA}$	$\times 10^{-18} \text{ cm}^2$						
207.46	4.4676	0.1847	0.0000	4.6523	3.1475	0.2054	3.3529
208.33	4.4956	0.1822	0.0000	4.6778	3.1753	0.2048	3.3801
209.63	4.5373	0.1784	0.0000	4.7157	3.2168	0.2039	3.4207
209.78	4.5422	0.1779	0.0000	4.7201	3.2216	0.2038	3.4254
209.93	4.5470	0.1775	0.0000	4.7245	3.2264	0.2037	3.4301
211.32	4.5916	0.1733	0.0000	4.7649	3.2708	0.2027	3.4735
212.14	4.6180	0.1707	0.0000	4.7887	3.2970	0.2022	3.4991
213.78	4.6707	0.1655	0.0000	4.8362	3.3494	0.2010	3.5504
214.75	4.7018	0.1624	0.0000	4.8642	3.3825	0.1994	3.5819
215.00	4.7099	0.1615	0.0000	4.8714	3.3911	0.1989	3.5900
215.16	4.7150	0.1610	0.0000	4.8760	3.3965	0.1987	3.5952
216.88	4.7703	0.1552	0.0000	4.9255	3.4554	0.1957	3.6511
217.00	4.7741	0.1548	0.0000	4.9289	3.4595	0.1955	3.6550
218.19	4.8123	0.1507	0.0000	4.9630	3.5002	0.1935	3.6937
219.09	4.8412	0.1475	0.0000	4.9888	3.5310	0.1920	3.7229
220.00	4.8705	0.1443	0.0000	5.0148	3.5621	0.1904	3.7525
221.26	4.9110	0.1397	0.0000	5.0507	3.6052	0.1882	3.7935
221.40	4.9155	0.1392	0.0000	5.0547	3.6100	0.1880	3.7980
221.82	4.9290	0.1376	0.0000	5.0666	3.6213	0.1871	3.8084
223.26	4.9752	0.1322	0.0000	5.1075	3.6599	0.1841	3.8440
223.72	4.9900	0.1305	0.0000	5.1205	3.6722	0.1832	3.8554
224.74	5.0228	0.1266	0.0000	5.1493	3.6996	0.1811	3.8807
225.00	5.0311	0.1256	0.0000	5.1567	3.7066	0.1805	3.8871
225.12	5.0350	0.1251	0.0000	5.1600	3.7098	0.1803	3.8901
227.01	5.0957	0.1176	0.0000	5.2133	3.7605	0.1764	3.9369
227.19	5.1015	0.1169	0.0000	5.2183	3.7653	0.1760	3.9413
227.47	5.1105	0.1157	0.0000	5.2262	3.7729	0.1754	3.9483
228.70	5.1500	0.1107	0.0000	5.2607	3.8059	0.1729	3.9787
229.60	5.1789	0.1070	0.0000	5.2859	3.8300	0.1710	4.0010
230.00	5.1917	0.1053	0.0000	5.2970	3.8445	0.1699	4.0145
230.65	5.2126	0.1026	0.0000	5.3152	3.8682	0.1681	4.0363
231.55	5.2415	0.0987	0.0000	5.3403	3.9009	0.1657	4.0666
232.60	5.2753	0.0942	0.0000	5.3695	3.9391	0.1628	4.1019
233.84	5.3151	0.0887	0.0000	5.4038	3.9842	0.1594	4.1436
234.38	5.3324	0.0863	0.0000	5.4188	4.0038	0.1580	4.1618
235.00	5.3524	0.0836	0.0000	5.4359	4.0264	0.1563	4.1826
235.55	5.3700	0.0811	0.0000	5.4511	4.0464	0.1548	4.2011
237.33	5.4272	0.0729	0.0000	5.5001	4.1111	0.1499	4.2610
238.40	5.4616	0.0679	0.0000	5.5295	4.1500	0.1470	4.2970
239.87	5.5088	0.0609	0.0000	5.5698	4.2005	0.1424	4.3429
240.00	5.5130	0.0603	0.0000	5.5733	4.2050	0.1420	4.3470
240.71	5.5358	0.0569	0.0000	5.5927	4.2294	0.1398	4.3692
241.74	5.5689	0.0519	0.0000	5.6208	4.2648	0.1366	4.4014
243.03	5.6103	0.0455	0.0000	5.6558	4.3092	0.1325	4.4417
243.86	5.6370	0.0413	0.0000	5.6783	4.3377	0.1299	4.4676
244.92	5.6711	0.0360	0.0000	5.7070	4.3741	0.1266	4.5008
245.94	5.7038	0.0307	0.0000	5.7346	4.4092	0.1234	4.5326
246.24	5.7135	0.0292	0.0000	5.7427	4.4195	0.1225	4.5420
246.91	5.7350	0.0257	0.0000	5.7607	4.4425	0.1204	4.5629
247.18	5.7437	0.0243	0.0000	5.7680	4.4518	0.1196	4.5714
248.00	5.7700	0.0200	0.0000	5.7900	4.4800	0.1170	4.5970
249.18	5.8124	0.0000	0.0000	5.8124	4.5235	0.1126	4.6362
250.00	5.8419	0.0000	0.0000	5.8419	4.5538	0.1096	4.6634
251.10	5.8814	0.0000	0.0000	5.8814	4.5944	0.1056	4.6999
251.95	5.9119	0.0000	0.0000	5.9119	4.6257	0.1024	4.7282
252.17	5.9198	0.0000	0.0000	5.9198	4.6338	0.1016	4.7355

TABLE II. Total Photoionization Cross Sections for Multiple Photoionization of O and N
See page 331 for Explanation of Tables

λ	O				N		
	O ⁺	O ⁺⁺	O ⁺⁺⁺	TOTAL	N ⁺	N ⁺⁺	TOTAL
$\text{\AA}$	$\times 10^{-18} \text{ cm}^2$						
253.78	5.9777	0.0000	0.0000	5.9777	4.6932	0.0957	4.7889
254.40	6.0000	0.0000	0.0000	6.0000	4.7162	0.0934	4.8096
255.00	6.0160	0.0000	0.0000	6.0160	4.7383	0.0912	4.8294
256.32	6.0514	0.0000	0.0000	6.0514	4.7870	0.0863	4.8733
256.64	6.0600	0.0000	0.0000	6.0600	4.7988	0.0851	4.8839
257.16	6.0739	0.0000	0.0000	6.0739	4.8179	0.0832	4.9011
257.39	6.0801	0.0000	0.0000	6.0801	4.8264	0.0824	4.9088
258.30	6.1044	0.0000	0.0000	6.1044	4.8600	0.0790	4.9390
259.50	6.1366	0.0000	0.0000	6.1366	4.9029	0.0746	4.9775
260.00	6.1500	0.0000	0.0000	6.1500	4.9207	0.0728	4.9935
261.05	6.1867	0.0000	0.0000	6.1867	4.9582	0.0689	5.0271
262.99	6.2546	0.0000	0.0000	6.2546	5.0275	0.0618	5.0893
264.24	6.2984	0.0000	0.0000	6.2984	5.0721	0.0573	5.1294
264.80	6.3180	0.0000	0.0000	6.3180	5.0921	0.0552	5.1473
265.00	6.3250	0.0000	0.0000	6.3250	5.0993	0.0545	5.1538
269.50	6.4825	0.0000	0.0000	6.4825	5.2600	0.0380	5.2980
270.00	6.5000	0.0000	0.0000	6.5000	5.2771	0.0363	5.3134
270.50	6.5175	0.0000	0.0000	6.5175	5.2942	0.0347	5.3289
271.99	6.5696	0.0000	0.0000	6.5696	5.3452	0.0297	5.3749
272.64	6.5924	0.0000	0.0000	6.5924	5.3674	0.0275	5.3950
274.19	6.6466	0.0000	0.0000	6.6466	5.4204	0.0224	5.4428
275.00	6.6750	0.0000	0.0000	6.6750	5.4482	0.0197	5.4678
275.35	6.6873	0.0000	0.0000	6.6873	5.4601	0.0185	5.4786
275.67	6.6985	0.0000	0.0000	6.6985	5.4711	0.0174	5.4885
276.15	6.7152	0.0000	0.0000	6.7152	5.4875	0.0158	5.5033
276.77	6.7369	0.0000	0.0000	6.7369	5.5087	0.0138	5.5225
277.00	6.7450	0.0000	0.0000	6.7450	5.5166	0.0130	5.5296
277.27	6.7544	0.0000	0.0000	6.7544	5.5258	0.0121	5.5379
278.40	6.7940	0.0000	0.0000	6.7940	5.5645	0.0083	5.5728
280.00	6.8500	0.0000	0.0000	6.8500	5.6192	0.0030	5.6222
280.90	6.8995	0.0000	0.0000	6.8995	5.6270	0.0000	5.6270
281.41	6.9276	0.0000	0.0000	6.9276	5.6423	0.0000	5.6423
284.15	7.0782	0.0000	0.0000	7.0782	5.7245	0.0000	5.7245
285.00	7.1250	0.0000	0.0000	7.1250	5.7500	0.0000	5.7500
285.70	7.1635	0.0000	0.0000	7.1635	5.7710	0.0000	5.7710
285.85	7.1718	0.0000	0.0000	7.1718	5.7755	0.0000	5.7755
288.36	7.3098	0.0000	0.0000	7.3098	5.8508	0.0000	5.8508
289.17	7.3544	0.0000	0.0000	7.3544	5.8751	0.0000	5.8751
290.00	7.4000	0.0000	0.0000	7.4000	5.9000	0.0000	5.9000
290.69	7.4104	0.0000	0.0000	7.4104	5.9276	0.0000	5.9276
291.63	7.4245	0.0000	0.0000	7.4245	5.9652	0.0000	5.9652
292.00	7.4300	0.0000	0.0000	7.4300	5.9800	0.0000	5.9800
292.78	7.4417	0.0000	0.0000	7.4417	6.0112	0.0000	6.0112
295.00	7.4750	0.0000	0.0000	7.4750	6.1000	0.0000	6.1000
295.57	7.4836	0.0000	0.0000	7.4836	6.1228	0.0000	6.1228
296.17	7.4926	0.0000	0.0000	7.4926	6.1468	0.0000	6.1468
299.50	7.5425	0.0000	0.0000	7.5425	6.2800	0.0000	6.2800