

N 7 3 - 1 2 7 2 7

**CASE FILE
COPY**

L-910904-3

Spectral Absorption Coefficients of
Argon and Silicon and Spectral
Reflectivity of Aluminum

NASA Contract No. SNPC-70

**U
A**

UNITED AIRCRAFT CORPORATION

United Aircraft Research Laboratories

EAST HARTFORD, CONNECTICUT

United Aircraft Research Laboratories



EAST HARTFORD, CONNECTICUT 06108

L-910904-3

Spectral Absorption Coefficients of
Argon and Silicon and Spectral
Reflectivity of Aluminum

NASA Contract No. SNPC-70

REPORTED BY



N. L. Krascella

APPROVED BY



A. S. Kesten, Principal Scientist
Kinetics and Environmental Sciences

DATE September, 1972

NO. OF PAGES 53

COPY NO. 28

FOREWORD

An exploratory experimental and theoretical investigation of gaseous nuclear rocket technology was conducted by the United Aircraft Research Laboratories under Contract SNPC-70 with the joint AEC-NASA Space Nuclear Systems Office. The Technical Supervisors of the Contract for NASA were Captain C. E. Franklin (USAF) of SNSO for the initial portion of the Contract performance period, and Dr. Karlheinz Thom of SNSO and Mr. Herbert J. Heppler of the NASA Lewis Research Center for the final portions. The following nine reports (including the present report) comprise the required Final Technical Report under the Contract:

1. Roman, W. C. and J. F. Jaminet: Development of RF Plasma Simulations of In-Reactor Tests of Small Models of the Nuclear Light Bulb Fuel Region. United Aircraft Research Laboratories Report L-910900-12, September 1972.
2. Klein, J. F.: Nuclear Light Bulb Propellant Heating Simulation Using a Tungsten-Particle/Argon Aerosol and Radiation from a DC Arc Surrounded by a Segmented Mirror Cavity. United Aircraft Research Laboratories Report L-910900-13, September 1972.
3. Jaminet, J. F.: Development of a Model and Test Equipment for Cold-Flow Tests at 500 Atm of Small Nuclear Light Bulb Configurations. United Aircraft Research Laboratories Report L-910900-14, September 1972.
4. Kendall, J. S. and R. C. Stoeffler: Conceptual Design Studies and Experiments Related to Cavity Exhaust Systems for Nuclear Light Bulb Configurations. United Aircraft Research Laboratories Report L-910900-15, September 1972.
5. Rodgers, R. J. and T. S. Latham: Analytical Design and Performance Studies of the Nuclear Light Bulb Engine. United Aircraft Research Laboratories Report L-910900-16, September 1972.
6. Latham, T. S. and R. J. Rodgers: Analytical Design and Performance Studies of Nuclear Furnace Tests of Small Nuclear Light Bulb Models. United Aircraft Research Laboratories Report L-910900-17, September 1972.
7. Krascella, N. L.: Spectral Absorption Coefficients of Argon and Silicon and Spectral Reflectivity of Aluminum. United Aircraft Research Laboratories Report L-910904-3, September 1972. (present report)

8. Palma, G. E.: Measurements of the UV and VUV Transmission of Optical Materials During High-Energy Electron Irradiation. United Aircraft Research Laboratories Report L-990929-3, September 1972.
9. Kendall, J. S.: Investigation of Gaseous Nuclear Rocket Technology -- Summary Technical Report. United Aircraft Research Laboratories Report L-910905-13, September 1972.

Report L-910904-3

Spectral Absorption Coefficients of
Argon and Silicon and Spectral Reflectivity
of Aluminum

TABLE OF CONTENTS

	<u>Page</u>
SUMMARY.	1
INTRODUCTION	2
ANALYSIS OF THE SPECTRAL CHARACTERISTICS OF ARGON.	3
Composition	3
Spectral Absorption Coefficients.	3
ANALYSIS OF THE SPECTRAL CHARACTERISTICS OF SILICON.	5
ANALYSIS OF THE SPECTRAL AND ANGULAR REFLECTIVITIES OF ALUMINUM.	6
REFERENCES	7
LIST OF SYMBOLS.	8
TABLES	10
FIGURES.	42

Spectral Absorption Coefficients of
Argon and Silicon and Spectral Reflectivity
of Aluminum

SUMMARY

A theoretical investigation was conducted to estimate the spectral properties of argon as a function of pressure, temperature and wave number. The spectral characteristics of the argon buffer gas exert a strong influence on radiative energy transfer in the Nuclear Furnace in-reactor test configuration of the nuclear light bulb engine. An existing computer program was modified and used to calculate the spectral absorption coefficients of argon at total pressures of 50, 100, 250, 500, 750 and 1000 atm in the temperature interval between 1000 and 30,000°K. At each pressure and temperature, spectral properties were calculated for forty-seven wave numbers in the interval between 1000 and 1,000,000 cm^{-1} .

Estimates of the spectral absorption coefficients of silicon were made as part of an evaluation of silicon vapor as a possible buffer-gas seeding agent for the reference nuclear light bulb engine. Existing cross-section data were used to calculate the spectral characteristics of silicon at twenty-four temperatures in the interval between 2000 and 10,000°K. Calculations were made for partial pressures of silicon equal to the vapor pressures up to a temperature of 3700°K and equal to 10 atm above 3700°K. Spectral data for silicon were calculated at twenty-nine wave numbers at each temperature and partial pressure.

The spectral and angular dependence of the reflectivity of aluminum was also computed for subsequent use in determining radiative transfer characteristics of both the in-reactor-test configuration and the reference engine configuration. Reflectivities of aluminum were calculated at twenty-three wave numbers between 1000 and 1,000,000 cm^{-1} for six angles of incidence between 0 and 89.9°.

INTRODUCTION

Analytical and experimental investigations of various aspects of gaseous nuclear rocket technology have recently been conducted by the Research Laboratories of United Aircraft Corporation under Contract SNPC-70 administered by the joint AEC-NASA Space Nuclear Systems Office. Of primary interest under this contract are (1) the vortex-stabilized nuclear light bulb engine concept described in Ref. 1 and (2) small-scale in-reactor tests that would be conducted by inserting a cylindrical cavity in the core of the Nuclear Furnace as described in Ref. 2. The in-reactor-test configuration is designed to demonstrate concept feasibility in a nuclear reactor without resorting to construction of the full-scale working device.

In the in-reactor test configuration, the fissioning uranium plasma is stabilized by an argon driven vortex. The argon gas also serves as a buffer between the high temperature plasma and the reflective aluminum liner which forms the peripheral wall of the cavity. To facilitate design of the in-reactor-test configuration and to assess radiative heat loads on the reflective liner, the spectral properties of argon are required as a function of temperature, pressure and wave number. One objective of the study reported herein was to make estimates of these properties over the required pressure and temperature ranges.

A second objective concerns protection of the fused silica walls of the full-scale engine in which neon buffer gas is used to drive the vortex. Without seeding of the buffer gas, approximately 15 percent of the total radiant energy emitted by the nuclear fuel and directed toward the transparent wall would be emitted in the ultraviolet region of the spectrum at wavelengths where the transparent wall structure is essentially opaque (Refs. 3 and 4). Analyses of radiative transfer have been made to evaluate various candidate buffer-gas seeding agents (Refs. 4 and 5). Oxygen-nitric oxide mixtures have been shown to reduce the emission of ultraviolet radiation by the fuel; however, large quantities of this seed gas mixture would be required to reduce the ultraviolet radiation component to an acceptable level. In addition, the absorption characteristics of an oxygen-nitric oxide seed in the visible region would result in appreciable deposition of radiant energy in the seeded buffer gas, which would impose a severe convective heat load on the buffer gas recirculation system. Silicon has been suggested as a more satisfactory buffer-gas seeding agent. Hence, it was required that the absorption characteristics of silicon be estimated as a function of wave number for the temperatures and pressures of interest in the engine.

In both the full-scale engine and the in-reactor test model, aluminum is being considered for reflective surfaces to protect critical engine components from damage by thermal radiation. Thus, the third objective of this study was to estimate the reflectivity of aluminum as a function of wavelength and angle of incidence.

ANALYSIS OF THE SPECTRAL CHARACTERISTICS OF ARGON

An existing UARL computer program was modified to enable calculation of the composition distribution and the spectral characteristics of argon as a function of temperature, pressure and wave number. The machine code is based on the "Quantum Defect Method" (Ref. 6) for ascertaining the bound-free and free-free cross-sections of atomic and ionic species. Details of the machine code and the calculational procedure are described in Ref. 7.

Composition

The composition subroutine of the machine code described in Ref. 7 was used to determine the distribution of argon species as a function of temperature and pressure. Energy levels and the corresponding statistical weight data required by the composition subroutine were obtained from Ref. 8. Three ionization species of argon were considered - - - neutral argon, singly ionized argon and doubly ionized argon. Requisite ionization potentials were obtained from Ref. 9 and were 15.775 eV for neutral argon and 27.62 eV for singly ionized argon. Typical calculated composition distributions for argon are shown in Fig. 1 as a function of temperature at a total pressure of 100 atm. Calculated argon composition distributions for other pressures are presented in Table I.

Spectral Absorption Coefficients

The basic absorption coefficient subroutine described in Ref. 7 was modified to permit estimation of the spectral properties of argon as a function of wave number at various temperatures and pressures. The cross-section data of Ref. 10 was used to determine the ground-state bound-free contribution to the absorption coefficient.

The method described in Ref. 7 treats the contribution from low-lying excited states in a continuum approximation. Since a number of the lower excited states in argon are sufficiently separated in energy, calculation of these contributors on an individual basis is warranted. A partial energy level diagram depicting the distribution of low-lying states in argon is shown in Fig. 2. It should be noted that the argon energy level distribution contains two series of energy levels, denoted by primed and unprimed symbols. The unprimed series of levels converges to the ground state of the ion at an energy 127109.9 cm^{-1} above the neutral atom ground state; the primed series of levels converges to the first excited state of the ion at an energy of 128541.3 cm^{-1} above the ground state of the neutral atom. The ionization limit for each energy level series determines the threshold value for the bound-free transitions.

The scarcity of cross-section data for the lower excited-state bound-free transitions precluded use of existing data in the machine program. Therefore, a quantum defect calculation (Ref. 6) was performed to estimate the cross-sections for the

lowest twelve excited states in argon (see Fig. 2). In the quantum defect calculation, the energy dependence of a set of orbitals on the "J" quantum number was averaged to determine a single energy for a specified principal quantum number "n" and azimuthal quantum number "l". For example, in the 4p states, for which "n" = 4 and "l" = 1, there are six levels of nearly the same energy with "J" = 0, 1, 1, 2, 2, and 3. These six levels were considered as a single 4p state with an average energy of approximately $105,600 \text{ cm}^{-1}$. All other excited states illustrated in Fig. 2 were similarly treated. A numerical summary of averaged states and the corresponding threshold wave number values for the ground state and twelve excited states is presented in Table II.

The results of the quantum defect calculation of the excited-state bound-free cross-sections are illustrated as a function of wave number in Fig. 3 for "s" states, in Fig. 4 for "p" states and in Fig. 5 for "d" states. The data of Ref. 10 for the ground-state bound-free cross-sections are also depicted in Fig. 3. These cross-section data were used in conjunction with the composition distributions to determine spectral absorption coefficients for bound-free transition in neutral argon. Additional contributions to the total absorption coefficient of argon from higher excited state and free-free transition of the ionic species were estimated by methods described in Ref. 7.

Typical spectral absorption coefficients for argon generated using the modified machine code are illustrated in Fig. 6 as a function of wave number for several temperatures at a total pressure of 50 atm. Additional spectral absorption coefficients results are tabulated in Table III for forty-seven wave numbers at temperatures between 1000 and $30,000^\circ\text{K}$ and for six pressures between 50 and 1000 atm.

ANALYSIS OF THE SPECTRAL
CHARACTERISTICS OF SILICON

A number of buffer-gas seeding materials such as hydrogen, lithium vapor and a mixture of oxygen-nitric oxide have been examined in prior radiative transfer studies (Refs. 3, 4 and 5). These have proven to be of marginal value in attenuating ultraviolet emission from the fuel region. In the present study, the spectral characteristics of silicon were computed for use in determining the efficiency of silicon vapor as a buffer-gas seeding agent.

Since silicon would be introduced into the reference engine configuration at the cool outer edge of the buffer gas region, the data of Ref. 11 was used to determine silicon vapor pressure from a temperature of approximately 1000°K up to the boiling point temperature of approximately 2900°K. These results were extrapolated up to a pressure of 10 atm where the boiling point is approximately 3700°K. At temperatures greater than 3700°K, the partial pressure of silicon vapor was taken as 10 atm. This partial pressure distribution is shown in Fig. 7. Composition distributions for silicon in terms of neutral silicon atoms, singly-ionized silicon and doubly-ionized silicon were determined using the energy levels and statistical weights tabulated in Ref. 8 and the vapor pressures shown in Fig. 7. The calculated distribution of various silicon ionization species is shown in Fig. 8 as a function of temperature.

Existing ground-state bound-free cross-section data for silicon were taken from Ref. 10. Threshold values of the bound-free cross-sections from the first two excited states in silicon are listed in Ref. 12. A numerical summary of the energy levels of the three states considered in the calculation and the threshold wave number values for the cross-sections is presented in Table IV. Since only threshold values of the cross-sections from the two excited states of silicon were available, cross-sections at higher wave numbers were estimated by extrapolation from

$$\sigma_{\omega} = A/\omega^3 \quad (1)$$

where A is a constant and ω is the wave number. The cross-section and composition results were used to calculate the absorption coefficient of silicon vapor as a function of wave number. Typical spectral results are shown in Fig. 9 for a number of temperatures.

ANALYSIS OF THE SPECTRAL AND ANGULAR REFLECTIVITIES OF ALUMINUM

The analysis of radiative heat transfer in the reference engine and in-reactor-test configurations requires knowledge of the angular and wavelength dependence of the reflectivity of aluminum. The complex refractive index is required to determine the spectral reflective properties of aluminum as a function of the angle of incidence of the impinging radiation. The analytical procedure and numerical parameters for aluminum described in Ref. 13 were used to calculate the real and imaginary parts of the complex index of refraction. The results of these calculations are shown graphically in Fig. 10 for the real part of the complex refractive index and in Fig. 11 for the imaginary part of the complex refractive index. The spectral reflectivity of aluminum was determined as a function of angle of incidence according to the following relationships:

$$r = (r_p + r_s)/2 \quad (2)$$

$$r_p = \frac{(n - 1/\cos \Psi)^2 + k^2}{(n + 1/\cos \Psi)^2 + k^2} \quad (3)$$

$$r_s = \frac{(n - \cos \Psi)^2 + k^2}{(n + \cos \Psi)^2 + k^2} \quad (4)$$

Spectral reflectivity results are plotted in Fig. 12 for several angles of incidence.

REFERENCES

1. McLafferty, G. H. and H. E. Bauer: Studies of Specific Nuclear Light Bulb and Open-Cycle Vortex-Stabilized Gaseous Nuclear Rocket Engines. UARL Report F-910093-7, prepared under Contract NASw-847, September 1967. Also issued as NASA CR-1030, 1968.
2. Latham, T. S. and H. E. Bauer: Analytical Design Studies of In-Reactor-Tests of a Nuclear Light Bulb Unit Cell. UARL Report K-910990-11, prepared under Contract SNPC-70, September 1971.
3. Krascella, N. L.: Analytical Study of the Spectral Radiant Flux Emitted from the Fuel Region of a Nuclear Light Bulb Engine. UARL Report J-910904-1, prepared under Contract SNPC-70, September 1970. Also issued as NASA CR-11110.
4. Krascella, N. L.: Theoretical Investigation of the Radiant Emission Spectrum from the Fuel Region of a Nuclear Light Bulb Engine. UARL Report H-910092-12, prepared under Contract NASw-847, October 1969.
5. Rodgers, R. J., T. S. Latham and H. E. Bauer: Analytical Studies of Nuclear Light Bulb Engine Radiant Heat Transfer and Performance Characteristics. UARL Report K-910900-10, prepared under Contract SNPC-70, September 1971.
6. Burgess, A. and M. F. Seaton: A General Formula for the Calculation of Atomic Photo-Ionization Cross-Sections. Roy. Astro. Soc., Monthly Notices, vol. 120, no. 2, 1960.
7. Krascella, N. L.: Spectral Absorption Coefficients of Helium and Neon Buffer Gases and Nitric Oxide-Oxygen Seed Gas Mixtures. UARL Report K-910904-2, prepared under Contract SNPC-70, September 1971.
8. Moore, C. E.: Atomic Energy Levels, vol. 1. Circ. Bur. Std., no. 467, June 15, 1949.
9. Drawin, H. and P. Felenbok: Data for Plasma in Local Thermodynamic Equilibrium. Gauthier-Villars (Paris), 1970.
10. Hudson, R. D. and L. J. Kieffer: Compilation of Atomic Ultraviolet Photo-absorption Cross-Sections for Wavelengths Between 3000 and 10 Å. Atomic Data, vol. 2, no. 3, May 1971.
11. Nesmeyanov, A. N.: Vapor Pressure of the Chemical Elements. Elsevier Publishing Company, 1963.
12. Rich, J. C.: Continuous Ultraviolet Absorption Coefficient by Neutral Silicon. Astrophys. J., vol. 148, April 1967.
13. Hunter, W. R.: Optical Constants of Metals in the Extreme Ultraviolet. J. Opt. Soc. Am., vol. 54, no. 2, February 1964.

LIST OF SYMBOLS

A	Constant, see Eq. (1)
a	Absorption coefficient, cm^{-1}
E	Energy, cm^{-1}
J	Total orbital angular momentum quantum number
k	Imaginary part of the complex refractive index
l	Orbital angular momentum quantum number
N	Number density, cm^{-3}
N(1,1)	Number density of neutral argon, cm^{-3}
N(1,2)	Number density of singly ionized argon, cm^{-3}
N(1,3)	Number density of doubly ionized argon, cm^{-3}
n	Principal quantum number or real part of the complex refractive index
P	Pressure, atm
P(1,1)	Partial pressure of neutral argon, atm
P(1,2)	Partial pressure of singly ionized argon, atm
P(1,3)	Partial pressure of doubly ionized argon, atm
r	Reflectivity
r_p	Reflectivity of radiation polarized parallel to plane of incidence
r_s	Reflectivity of radiation polarized perpendicular to the plane of incidence
T	Temperature, $^{\circ}\text{K}$
$\zeta(\omega)$	Quantum defect function
λ	Wavelength, μ
σ	Absorption cross-section, cm^2

LIST OF SYMBOLS (Continued)

ψ Angle of incidence, rad

ω Wave number, cm^{-1}

Subscripts

i Refers to an ionization species

t Refers to total quantities

ω Refers to spectral quantities

TABLE I

COMPOSITION DISTRIBUTIONS FOR ARGON AT A TOTAL PRESSURE = 50 ATM

TEMP (DEG K)	* *	ELECTRON PRESSURE	P(1,1)	P(1,2)	P(1,3)

1.000+03	*	0.000	5.000+01	0.000	0.000
2.000+03	*	2.344-18	5.000+01	2.344-18	0.000
4.000+03	*	4.935-08	5.000+01	4.935-08	1.823-32
6.000+03	*	1.711-04	5.000+01	1.711-04	1.959-20
8.000+03	*	1.140-02	4.998+01	1.140-02	2.679-14
1.000+04	*	1.538-01	4.969+01	1.538-01	1.590-10
1.200+04	*	9.130-01	4.817+01	9.130-01	6.085-08
1.400+04	*	3.252+00	4.350+01	3.252+00	4.688-06
1.600+04	*	7.886+00	3.423+01	7.886+00	1.263-04
1.800+04	*	1.386+01	2.229+01	1.385+01	1.612-03
2.000+04	*	1.887+01	1.227+01	1.885+01	1.193-02
2.200+04	*	2.181+01	6.437+00	2.169+01	6.006-02
2.400+04	*	2.336+01	3.503+00	2.290+01	2.293-01
2.600+04	*	2.432+01	2.058+00	2.292+01	7.019-01
2.800+04	*	2.523+01	1.295+00	2.171+01	1.758+00
3.000+04	*	2.639+01	8.226-01	1.918+01	3.608+00

TEMP (DEG K)	* *	ELECTRON DENSITY	N(1,1)	N(1,2)	N(1,3)

1.000+03	*	0.000	3.670+20	0.000	0.000
2.000+03	*	8.604+00	1.835+20	8.604+00	0.000
4.000+03	*	9.057+10	9.176+19	9.057+10	3.345-14
6.000+03	*	2.094+14	6.117+19	2.094+14	2.397-02
8.000+03	*	1.047+16	4.586+19	1.047+16	2.458+04
1.000+04	*	1.129+17	3.648+19	1.129+17	1.167+08
1.200+04	*	5.585+17	2.947+19	5.585+17	3.722+10
1.400+04	*	1.705+18	2.281+19	1.705+18	2.458+12
1.600+04	*	3.618+18	1.570+19	3.618+18	5.797+13
1.800+04	*	5.652+18	9.089+18	5.650+18	6.573+14
2.000+04	*	6.927+18	4.504+18	6.918+18	4.381+15
2.200+04	*	7.278+18	2.148+18	7.238+18	2.004+16
2.400+04	*	7.146+18	1.071+18	7.006+18	7.013+16
2.600+04	*	6.867+18	5.811+17	6.471+18	1.982+17
2.800+04	*	6.615+18	3.396+17	5.693+18	4.610+17
3.000+04	*	6.458+18	2.013+17	4.693+18	8.829+17

(Continued)

TABLE I
(CONTINUED)

COMPOSITION DISTRIBUTIONS FOR ARGON AT A TOTAL PRESSURE = 100 ATM

TEMP (DEG K)	* *	ELECTRON PRESSURE	P(1,1)	P(1,2)	P(1,3)

1.000+03	*	0.000	1.000+02	0.000	0.000
2.000+03	*	3.315-18	1.000+02	3.315-18	0.000
4.000+03	*	6.979-08	1.000+02	6.979-08	1.823-32
6.000+03	*	2.423-04	1.000+02	2.423-04	1.967-20
8.000+03	*	1.021-02	9.997+01	1.621-02	2.729-14
1.000+04	*	2.202-01	9.956+01	2.202-01	1.664-10
1.200+04	*	1.324+00	9.735+01	1.324+00	6.588-08
1.400+04	*	4.027+00	9.035+01	4.827+00	5.274-06
1.600+04	*	1.220+01	7.500+01	1.220+01	1.478-04
1.800+04	*	2.278+01	5.444+01	2.278+01	1.949-03
2.000+04	*	3.315+01	3.372+01	3.312+01	1.469-02
2.200+04	*	4.043+01	1.922+01	4.028+01	7.383-02
2.400+04	*	4.465+01	1.098+01	4.409+01	2.787-01
2.600+04	*	4.708+01	6.696+00	4.538+01	8.482-01
2.800+04	*	4.095+01	4.265+00	4.463+01	2.156+00
3.000+04	*	5.090+01	2.824+00	4.106+01	4.622+00

TEMP (DEG K)	* *	ELECTRON DENSITY	N(1,1)	N(1,2)	N(1,3)

1.000+03	*	0.000	7.341+20	0.000	0.000
2.000+03	*	1.217+01	3.670+20	1.217+01	0.000
4.000+03	*	1.281+11	1.835+20	1.281+11	3.345-14
6.000+03	*	2.964+14	1.223+20	2.964+14	2.407-02
8.000+03	*	1.487+16	9.173+19	1.487+16	2.505+04
1.000+04	*	1.617+17	7.309+19	1.617+17	1.221+08
1.200+04	*	8.099+17	5.956+19	8.099+17	4.030+10
1.400+04	*	2.531+18	4.737+19	2.531+18	2.766+12
1.600+04	*	5.597+18	3.469+19	5.597+18	6.781+13
1.800+04	*	9.290+18	2.220+19	9.289+18	7.051+14
2.000+04	*	1.217+19	1.238+19	1.216+19	5.391+15
2.200+04	*	1.349+19	6.413+18	1.344+19	2.464+16
2.400+04	*	1.366+19	3.358+18	1.349+19	8.525+16
2.600+04	*	1.329+19	1.891+18	1.281+19	2.395+17
2.800+04	*	1.283+19	1.118+18	1.170+19	5.654+17
3.000+04	*	1.245+19	6.910+17	1.019+19	1.131+18

(Continued)

TABLE I
(CONTINUED)

COMPOSITION DISTRIBUTIONS FOR ARGON AT A TOTAL PRESSURE = 250 ATM

TEMP (DEG. K.)	* *	ELECTRON PRESSURE	P(1,1)	P(1,2)	P(1,3)
← ATM →					

1.000+03	*	0.000	2.500+02	0.000	0.000
2.000+03	*	5.242-18	2.500+02	5.242-18	0.000
4.000+03	*	1.104-07	2.500+02	1.104-07	1.823-32
6.000+03	*	3.837-04	2.500+02	3.837-04	1.980-20
8.000+03	*	2.582-02	2.499+02	2.582-02	2.814-14
1.000+04	*	3.550-01	2.493+02	3.550-01	1.792-10
1.200+04	*	2.174+00	2.457+02	2.174+00	7.517-08
1.400+04	*	8.155+00	2.337+02	8.155+00	6.424-06
1.600+04	*	2.157+01	2.069+02	2.157+01	1.924-04
1.800+04	*	4.304+01	1.639+02	4.304+01	2.695-03
2.000+04	*	6.769+01	1.146+02	6.765+01	2.111-02
2.200+04	*	8.862+01	7.288+01	8.840+01	1.071-01
2.400+04	*	1.028+02	4.482+01	1.020+02	3.981-01
2.600+04	*	1.116+02	2.792+01	1.093+02	1.187+00
2.800+04	*	1.173+02	1.839+01	1.113+02	2.987+00
3.000+04	*	1.221+02	1.237+01	1.091+02	6.502+00

TEMP (DEG. K.)	* *	ELECTRON DENSITY	N(1,1)	N(1,2)	N(1,3)
← CM-3 →					

1.000+03	*	0.000	1.835+21	0.000	0.000
2.000+03	*	1.924+01	9.176+20	1.924+01	0.000
4.000+03	*	2.025+11	4.588+20	2.025+11	3.346-14
6.000+03	*	4.695+14	3.059+20	4.695+14	2.423-02
8.000+03	*	2.370+16	2.294+20	2.370+16	2.582+04
1.000+04	*	2.606+17	1.830+20	2.606+17	1.315+08
1.200+04	*	1.330+18	1.503+20	1.330+18	4.598+10
1.400+04	*	4.276+18	1.225+20	4.276+18	3.369+12
1.600+04	*	9.897+18	9.491+19	9.897+18	8.829+13
1.800+04	*	1.755+19	6.685+19	1.755+19	1.099+15
2.000+04	*	2.485+19	4.208+19	2.483+19	7.747+15
2.200+04	*	2.957+19	2.432+19	2.950+19	3.572+16
2.400+04	*	3.144+19	1.371+19	3.120+19	1.218+17
2.600+04	*	3.152+19	7.884+18	3.085+19	3.352+17
2.800+04	*	3.075+19	4.821+18	2.919+19	7.831+17
3.000+04	*	2.987+19	3.026+18	2.669+19	1.591+18

(Continued)

TABLE I
(CONTINUED)

COMPOSITION DISTRIBUTIONS FOR ARGON AT A TOTAL PRESSURE = 500 ATM

TEMP	*	ELECTRON	P(1,1)	P(1,2)	P(1,3)
(DEG K)	*	PRESSURE	←-----ATM-----→		

1.000+03	*	0.000	5.000+02	0.000	0.000
2.000+03	*	7.413-18	5.000+02	7.413-18	0.000
4.000+03	*	1.561-07	5.000+02	1.561-07	1.824-32
6.000+03	*	5.435-04	5.000+02	5.435-04	1.992-20
8.000+03	*	3.678-02	4.999+02	3.678-02	2.896-14
1.000+04	*	5.111-01	4.990+02	5.111-01	1.921-10
1.200+04	*	3.130+00	4.936+02	3.130+00	8.525-08
1.400+04	*	1.220+01	4.756+02	1.220+01	7.775-06
1.600+04	*	3.334+01	4.333+02	3.334+01	2.493-04
1.800+04	*	6.935+01	3.613+02	6.935+01	3.711-03
2.000+04	*	1.144+02	2.712+02	1.143+02	3.032-02
2.200+04	*	1.566+02	1.869+02	1.563+02	1.560-01
2.400+04	*	1.687+02	1.231+02	1.876+02	5.755-01
2.600+04	*	2.105+02	8.072+01	2.071+02	1.681+00
2.800+04	*	2.251+02	5.389+01	2.168+02	4.143+00
3.000+04	*	2.361+02	3.681+01	2.162+02	8.912+00

TEMP	*	ELECTRON	N(1,1)	N(1,2)	N(1,3)
(DEG K)	*	DENSITY	←-----CM-3-----→		

1.000+03	*	0.000	3.670+21	0.000	0.000
2.000+03	*	2.721+01	1.835+21	2.721+01	0.000
4.000+03	*	2.864+11	9.176+20	2.864+11	3.347-14
6.000+03	*	6.649+14	6.117+20	6.649+14	2.437-02
8.000+03	*	3.375+16	4.587+20	3.375+16	2.657+04
1.000+04	*	3.752+17	3.663+20	3.752+17	1.411+08
1.200+04	*	1.945+18	3.020+20	1.945+18	5.215+10
1.400+04	*	6.398+18	2.494+20	6.398+18	4.077+12
1.600+04	*	1.530+19	1.988+20	1.530+19	1.144+14
1.800+04	*	2.828+19	1.473+20	2.828+19	1.514+15
2.000+04	*	4.199+19	9.956+19	4.197+19	1.113+16
2.200+04	*	5.227+19	6.235+19	5.217+19	5.206+16
2.400+04	*	5.773+19	3.766+19	5.738+19	1.760+17
2.600+04	*	5.943+19	2.279+19	5.848+19	4.746+17
2.800+04	*	5.902+19	1.413+19	5.685+19	1.086+18
3.000+04	*	5.776+19	9.007+18	5.340+19	2.181+18

(Continued)

TABLE I
(CONTINUED)

COMPOSITION DISTRIBUTIONS FOR ARGON AT A TOTAL PRESSURE = 750 ATM

TEMP (DEG K)	* *	ELECTRON PRESSURE	P(1,1)	P(1,2)	P(1,3)
←-----ATM-----→					

1.000+03	*	0.000	7.500+02	0.000	0.000
2.000+03	*	9.079-18	7.500+02	9.079-18	0.000
4.000+03	*	1.912-07	7.500+02	1.912-07	1.824-32
6.000+03	*	6.663-04	7.500+02	6.663-04	2.000-20
8.000+03	*	4.526-02	7.499+02	4.526-02	2.952-14
1.000+04	*	6.336-01	7.487+02	6.336-01	2.015-10
1.200+04	*	3.984+00	7.420+02	3.984+00	9.297-08
1.400+04	*	1.551+01	7.190+02	1.551+01	8.883-06
1.600+04	*	4.321+01	6.636+02	4.321+01	2.994-04
1.800+04	*	9.201+01	5.660+02	9.200+01	4.666-03
2.000+04	*	1.557+02	4.386+02	1.556+02	3.938-02
2.200+04	*	2.193+02	3.115+02	2.189+02	2.061-01
2.400+04	*	2.699+02	2.109+02	2.684+02	7.575-01
2.600+04	*	3.057+02	1.408+02	3.013+02	2.182+00
2.800+04	*	3.288+02	9.766+01	3.183+02	5.267+00
3.000+04	*	3.464+02	6.839+01	3.241+02	1.116+01

TEMP (DEG K)	* *	ELECTRON DENSITY	N(1,1)	N(1,2)	N(1,3)
←-----CM-3-----→					

1.000+03	*	0.000	5.506+21	0.000	0.000
2.000+03	*	3.332+01	2.753+21	3.332+01	0.000
4.000+03	*	3.508+11	1.376+21	3.508+11	3.348-14
6.000+03	*	8.152+14	9.176+20	8.152+14	2.447-02
8.000+03	*	4.154+16	6.881+20	4.154+16	2.709+04
1.000+04	*	4.651+17	5.496+20	4.651+17	1.479+08
1.200+04	*	2.437+18	4.539+20	2.437+18	5.687+10
1.400+04	*	8.133+18	3.770+20	8.133+18	4.658+12
1.600+04	*	1.983+19	3.045+20	1.983+19	1.374+14
1.800+04	*	3.752+19	2.308+20	3.752+19	1.903+15
2.000+04	*	5.715+19	1.610+20	5.712+19	1.445+16
2.200+04	*	7.319+19	1.040+20	7.305+19	6.876+16
2.400+04	*	8.256+19	6.452+19	8.210+19	2.317+17
2.600+04	*	8.632+19	3.974+19	8.508+19	6.160+17
2.800+04	*	8.621+19	2.560+19	8.344+19	1.381+18
3.000+04	*	8.476+19	1.673+19	7.930+19	2.731+18

(Continued)

TABLE I
(CONCLUDED)

COMPOSITION DISTRIBUTIONS FOR ARGON AT A TOTAL PRESSURE = 1000 ATM

TEMP (DEG K)	* *	ELECTRON PRESSURE	P(1,1)	P(1,2)	P(1,3)
←-----ATM-----→					

1.000+03	*	0.000	1.000+03	0.000	0.000
2.000+03	*	1.048-17	1.000+03	1.048-17	0.000
4.000+03	*	2.207-07	1.000+03	2.207-07	1.824-32
6.000+03	*	7.700-04	1.000+03	7.700-04	2.007-20
8.000+03	*	5.246-02	9.999+02	5.246-02	2.996-14
1.000+04	*	7.386-01	9.985+02	7.386-01	2.091-10
1.200+04	*	4.682+00	9.906+02	4.682+00	9.955-08
1.400+04	*	1.844+01	9.631+02	1.844+01	9.880-06
1.600+04	*	5.210+01	8.958+02	5.210+01	3.471-04
1.800+04	*	1.128+02	7.745+02	1.128+02	5.620-03
2.000+04	*	1.947+02	6.107+02	1.946+02	4.889-02
2.200+04	*	2.791+02	4.421+02	2.786+02	2.594-01
2.400+04	*	3.483+02	3.043+02	3.464+02	9.515-01
2.600+04	*	3.988+02	2.052+02	3.933+02	2.710+00
2.800+04	*	4.528+02	1.408+02	4.199+02	6.456+00
3.000+04	*	4.572+02	9.915+01	4.302+02	1.347+01

TEMP (DEG K)	* *	ELECTRON DENSITY	N(1,1)	N(1,2)	N(1,3)
←-----CM-3-----→					

1.000+03	*	0.000	7.341+21	0.000	0.000
2.000+03	*	3.848+01	3.670+21	3.848+01	0.000
4.000+03	*	4.051+11	1.835+21	4.051+11	3.348-14
6.000+03	*	9.421+14	1.223+21	9.421+14	2.455-02
8.000+03	*	4.814+16	9.175+20	4.814+16	2.749+04
1.000+04	*	5.422+17	7.330+20	5.422+17	1.535+08
1.200+04	*	2.864+18	6.060+20	2.864+18	6.090+10
1.400+04	*	9.667+18	5.050+20	9.667+18	5.181+12
1.600+04	*	2.391+19	4.110+20	2.390+19	1.593+14
1.800+04	*	4.599+19	3.159+20	4.598+19	2.292+15
2.000+04	*	7.145+19	2.242+20	7.142+19	1.794+16
2.200+04	*	9.313+19	1.475+20	9.296+19	8.654+16
2.400+04	*	1.065+20	9.307+19	1.060+20	2.911+17
2.600+04	*	1.126+20	5.794+19	1.111+20	7.652+17
2.800+04	*	1.135+20	3.691+19	1.101+20	1.693+18
3.000+04	*	1.119+20	2.426+19	1.053+20	3.297+18

TABLE II

LOW-LYING AVERAGE ENERGY LEVELS FOR AR I

Data from Ref. 8

$$\text{Ionization Potentials} \left\{ \begin{array}{l} \text{Unprimed Series } 127109.9 \text{ cm}^{-1} \\ \text{Primed Series } 128541.3 \text{ cm}^{-1} \end{array} \right\}$$

Level	Energy cm^{-1}	Threshold Wave Number for Bound-Free Transition cm^{-1}
Ground State	0	127109.9
4s	93371.37	33738.54
4s'	95188.33	33352.79
4p	105630.70	21479.20
4p'	107421.34	21119.96
3d	112982.54	14127.36
5s	113534.07	13575.83
3d'	114854.29	13687.01
5s'	114946.72	13594.58
5p	117021.415	10088.495
5p'	118484.84	10056.46
4d	119210.86	1899.044
6s	119712.03	7397.87

TABLE III

ABSORPTION COEFFICIENTS OF ARGON AT TOTAL PRESSURE = 50 ATM

WAVE	*	TEMPERATURES (DEG K)				
NOS.	*	1.000+03	2.000+03	4.000+03	6.000+03	8.000+03
CM-1	*	← CM-1 →				

	*	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)
1.000+03	*	0.000	0.000	0.000	1.893-10	2.869-07
1.500+03	*	0.000	0.000	0.000	8.665-11	1.292-07
2.000+03	*	0.000	0.000	0.000	5.021-11	7.362-08
4.000+03	*	0.000	0.000	0.000	1.497-11	2.042-08
6.000+03	*	0.000	0.000	0.000	8.749-12	1.102-08
8.000+03	*	0.000	1.670-32	3.492-14	3.752-08	3.571-05
1.000+04	*	0.000	1.146-32	2.396-14	2.574-08	2.449-05
1.500+04	*	0.000	1.346-30	3.483-13	1.955-07	1.366-04
2.000+04	*	0.000	7.315-31	1.886-13	1.057-07	7.373-05
2.250+04	*	0.000	4.541-29	9.521-13	2.606-07	1.342-04
2.500+04	*	0.000	4.492-29	9.077-13	2.389-07	1.197-04
2.750+04	*	0.000	4.215-29	8.288-13	2.126-07	1.045-04
3.000+04	*	0.000	3.852-29	7.405-13	1.859-07	8.995-05
3.250+04	*	0.000	3.430-29	6.481-13	1.605-07	7.700-05
3.500+04	*	0.000	1.954-26	7.071-12	5.190-07	1.497-04
3.750+04	*	0.000	1.684-26	6.135-12	4.495-07	1.291-04
4.000+04	*	0.000	1.413-26	5.198-12	3.799-07	1.084-04
4.500+04	*	0.000	1.030-26	3.791-12	2.723-07	7.629-05
5.000+04	*	0.000	6.761-27	2.429-12	1.716-07	4.759-05
5.500+04	*	0.000	4.141-27	1.423-12	1.002-07	2.801-05
6.000+04	*	0.000	1.993-27	5.977-13	4.335-08	1.286-05
6.500+04	*	0.000	1.619-27	4.447-13	3.096-08	9.000-06
7.000+04	*	0.000	1.467-27	3.746-13	2.440-08	6.746-06
7.250+04	*	0.000	1.439-27	3.575-13	2.257-08	6.076-06
7.500+04	*	0.000	1.410-27	3.405-13	2.075-08	5.407-06
7.750+04	*	0.000	1.417-27	3.343-13	1.983-08	5.036-06
8.000+04	*	0.000	1.423-27	3.281-13	1.892-08	4.666-06
8.250+04	*	0.000	1.451-27	3.290-13	1.858-08	4.475-06
8.500+04	*	0.000	1.479-27	3.300-13	1.824-08	4.284-06
8.750+04	*	0.000	1.512-27	3.335-13	1.818-08	4.198-06
9.000+04	*	0.000	1.545-27	3.370-13	1.811-08	4.113-06
9.250+04	*	0.000	1.579-27	3.410-13	1.811-08	4.053-06
9.500+04	*	0.000	1.613-27	3.449-13	1.811-08	3.993-06
9.750+04	*	0.000	1.652-27	3.501-13	1.823-08	3.981-06
1.000+05	*	0.000	1.691-27	3.553-13	1.836-08	3.969-06
1.200+05	*	0.000	2.076-27	4.188-13	2.092-08	4.350-06
1.400+05	*	1.233+04	6.166+03	3.083+03	2.055+03	1.541+03
1.600+05	*	1.325+04	6.625+03	3.313+03	2.208+03	1.656+03
1.800+05	*	1.329+04	6.644+03	3.322+03	2.215+03	1.660+03
2.000+05	*	1.255+04	6.277+03	3.138+03	2.092+03	1.568+03
2.200+05	*	1.129+04	5.645+03	2.823+03	1.882+03	1.411+03
2.600+05	*	5.609+03	2.804+03	1.402+03	9.347+02	7.007+02
3.000+05	*	2.111+03	1.055+03	5.276+02	3.518+02	2.637+02
4.000+05	*	2.892+03	1.446+03	7.231+02	4.821+02	3.614+02
5.000+05	*	4.918+02	2.459+02	1.230+02	8.197+01	6.145+01
7.500+05	*	5.065+02	2.533+02	1.266+02	8.442+01	6.329+01
1.000+06	*	3.964+02	1.982+02	9.910+01	6.607+01	4.953+01

(Continued)

TABLE III
(CONTINUED)
ABSORPTION COEFFICIENTS OF ARGON AT TOTAL PRESSURE = 50 ATM

WAVE	*	TEMPERATURES (DEG K)				
NOS.	*	1.000+04	1.200+04	1.400+04	1.600+04	1.800+04
CM-1	*	CM-1				

	*	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)
1.000+03	*	2.199-05	3.737-04	2.606-03	1.158-02	5.883-02
1.500+03	*	9.808-06	1.657-04	1.150-03	5.081-03	2.569-02
2.000+03	*	5.533-06	9.286-05	6.411-04	2.819-03	1.419-02
4.000+03	*	1.472-06	2.404-05	1.620-04	6.733-04	3.097-03
6.000+03	*	7.588-07	1.203-05	7.915-05	3.135-04	1.311-03
8.000+03	*	2.068-03	2.912-02	1.733-01	5.450-01	1.010+00
1.000+04	*	1.418-03	1.997-02	1.188-01	3.738-01	6.926-01
1.500+04	*	6.615-03	8.293-02	4.549-01	1.347+00	2.382+00
2.000+04	*	3.567-03	4.468-02	2.449-01	7.249-01	1.281+00
2.250+04	*	5.535-03	6.296-02	3.238-01	9.163-01	1.567+00
2.500+04	*	4.846-03	5.441-02	2.772-01	7.789-01	1.325+00
2.750+04	*	4.176-03	4.646-02	2.351-01	6.572-01	1.113+00
3.000+04	*	3.552-03	3.920-02	1.971-01	5.484-01	9.252-01
3.250+04	*	3.022-03	3.319-02	1.664-01	4.616-01	7.773-01
3.500+04	*	4.570-03	4.359-02	2.001-01	5.237-01	8.459-01
3.750+04	*	3.922-03	3.727-02	1.706-01	4.453-01	7.178-01
4.000+04	*	3.274-03	3.094-02	1.410-01	3.669-01	5.898-01
4.500+04	*	2.272-03	2.127-02	9.625-02	2.491-01	3.988-01
5.000+04	*	1.410-03	1.316-02	5.948-02	1.538-01	2.462-01
5.500+04	*	8.372-04	7.874-03	3.581-02	9.304-02	1.495-01
6.000+04	*	4.045-04	3.950-03	1.846-02	4.894-02	7.986-02
6.500+04	*	2.804-04	2.725-03	1.270-02	3.364-02	5.484-02
7.000+04	*	2.038-04	1.946-03	8.972-03	2.359-02	3.827-02
7.250+04	*	1.803-04	1.702-03	7.787-03	2.037-02	3.294-02
7.500+04	*	1.568-04	1.457-03	6.603-03	1.715-02	2.760-02
7.750+04	*	1.433-04	1.314-03	5.903-03	1.524-02	2.442-02
8.000+04	*	1.298-04	1.172-03	5.203-03	1.333-02	2.123-02
8.250+04	*	1.219-04	1.084-03	4.759-03	1.209-02	1.913-02
8.500+04	*	1.141-04	9.964-04	4.315-03	1.085-02	1.703-02
8.750+04	*	1.101-04	9.497-04	4.073-03	1.016-02	1.586-02
9.000+04	*	1.062-04	9.029-04	3.830-03	9.476-03	1.469-02
9.250+04	*	1.031-04	8.654-04	3.632-03	8.908-03	1.371-02
9.500+04	*	9.999-05	8.279-04	3.434-03	8.340-03	1.274-02
9.750+04	*	9.872-05	8.102-04	3.335-03	8.049-03	1.223-02
1.000+05	*	9.745-05	7.925-04	3.237-03	7.759-03	1.172-02
1.200+05	*	1.024-04	7.996-04	3.146-03	7.297-03	1.071-02
1.400+05	*	1.226+03	9.900+02	7.646+02	5.200+02	2.927+02
1.600+05	*	1.317+03	1.064+03	8.215+02	5.587+02	3.145+02
1.800+05	*	1.321+03	1.067+03	8.238+02	5.602+02	3.154+02
2.000+05	*	1.248+03	1.008+03	7.783+02	5.293+02	2.979+02
2.200+05	*	1.122+03	9.063+02	7.000+02	4.760+02	2.680+02
2.600+05	*	5.574+02	4.502+02	3.477+02	2.365+02	1.331+02
3.000+05	*	2.098+02	1.694+02	1.308+02	8.899+01	5.009+01
4.000+05	*	2.875+02	2.322+02	1.793+02	1.219+02	6.865+01
5.000+05	*	4.888+01	3.948+01	3.049+01	2.074+01	1.167+01
7.500+05	*	5.034+01	4.066+01	3.140+01	2.136+01	1.202+01
1.000+06	*	3.940+01	3.182+01	2.458+01	1.671+01	9.408+00

(Continued)

TABLE III
(CONTINUED)

ABSORPTION COEFFICIENTS OF ARGON AT TOTAL PRESSURE = 50 ATM

WAVE	*	TEMPERATURES (DEG K)				
NOS.	*	2.000+04	2.200+04	2.400+04	2.600+04	2.800+04
CM-1	*	CM-1				

	*	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)
1.000+03	*	3.114-01	1.230+00	3.672+00	8.839+00	1.775+01
1.500+03	*	1.360-01	5.377-01	1.608+00	3.875+00	7.790+00
2.000+03	*	7.517-02	2.977-01	8.913-01	2.150+00	4.327+00
4.000+03	*	1.607-02	6.534-02	2.012-01	4.976-01	1.023+00
6.000+03	*	6.408-03	2.527-02	7.700-02	1.891-01	3.865-01
8.000+03	*	1.235+00	1.162+00	9.865-01	8.322-01	7.455-01
1.000+04	*	8.465-01	7.959-01	6.729-01	5.620-01	4.942-01
1.500+04	*	2.802+00	2.541+00	2.049+00	1.572+00	1.178+00
2.000+04	*	1.507+00	1.366+00	1.100+00	8.434-01	6.303-01
2.250+04	*	1.796+00	1.595+00	1.263+00	9.516-01	6.976-01
2.500+04	*	1.512+00	1.338+00	1.056+00	7.932-01	5.793-01
2.750+04	*	1.266+00	1.117+00	8.802-01	6.605-01	4.805-01
3.000+04	*	1.049+00	9.235-01	7.259-01	5.441-01	3.966-01
3.250+04	*	8.801-01	7.736-01	6.073-01	4.544-01	3.314-01
3.500+04	*	9.287-01	7.972-01	6.141-01	4.522-01	3.246-01
3.750+04	*	7.868-01	6.745-01	5.190-01	3.795-01	2.688-01
4.000+04	*	6.449-01	5.516-01	4.232-01	3.096-01	2.190-01
4.500+04	*	4.347-01	3.709-01	2.839-01	2.073-01	1.465-01
5.000+04	*	2.684-01	2.290-01	1.754-01	1.281-01	9.048-02
5.500+04	*	1.635-01	1.399-01	1.073-01	7.851-02	5.555-02
6.000+04	*	8.836-02	7.631-02	5.901-02	4.345-02	3.091-02
6.500+04	*	6.065-02	5.236-02	4.048-02	2.980-02	2.120-02
7.000+04	*	4.219-02	3.633-02	2.803-02	2.061-02	1.464-02
7.250+04	*	3.621-02	3.112-02	2.398-02	1.761-02	1.250-02
7.500+04	*	3.024-02	2.592-02	1.993-02	1.461-02	1.035-02
7.750+04	*	2.666-02	2.279-02	1.749-02	1.280-02	9.063-03
8.000+04	*	2.308-02	1.967-02	1.506-02	1.100-02	7.773-03
8.250+04	*	2.070-02	1.757-02	1.341-02	9.769-03	6.890-03
8.500+04	*	1.832-02	1.547-02	1.176-02	8.540-03	6.007-03
8.750+04	*	1.698-02	1.429-02	1.083-02	7.843-03	5.505-03
9.000+04	*	1.564-02	1.310-02	9.894-03	7.146-03	5.003-03
9.250+04	*	1.451-02	1.211-02	9.104-03	6.553-03	4.575-03
9.500+04	*	1.339-02	1.111-02	8.313-03	5.960-03	4.147-03
9.750+04	*	1.280-02	1.058-02	7.895-03	5.646-03	3.919-03
1.000+05	*	1.221-02	1.005-02	7.476-03	5.331-03	3.692-03
1.200+05	*	1.088-02	8.763-03	6.395-03	4.484-03	3.060-03
1.400+05	*	1.377+02	5.896+01	2.536+01	1.136+01	5.272+00
1.600+05	*	1.480+02	6.334+01	2.725+01	1.220+01	5.664+00
1.800+05	*	1.484+02	6.352+01	2.732+01	1.224+01	5.680+00
2.000+05	*	1.402+02	6.001+01	2.581+01	1.156+01	5.366+00
2.200+05	*	1.261+02	5.397+01	2.322+01	1.040+01	4.826+00
2.600+05	*	6.264+01	2.681+01	1.153+01	5.166+00	2.398+00
3.000+05	*	2.357+01	1.009+01	4.341+00	1.944+00	9.027-01
4.000+05	*	3.230+01	1.383+01	5.948+00	2.663+00	1.236+00
5.000+05	*	5.494+00	2.352+00	1.012+00	4.531-01	2.103-01
7.500+05	*	5.657+00	2.421+00	1.042+00	4.664-01	2.165-01
1.000+06	*	4.427+00	1.895+00	8.150-01	3.649-01	1.694-01

(Continued)

TABLE III
(CONTINUED)

ABSORPTION COEFFICIENTS OF ARGON AT TOTAL PRESSURE = 50 ATM

WAVE NOS.	*	TEMPERATURES (DEG K)				
	*	3.000+04	0.000	0.000	0.000	0.000
CM-1	*	CM-1				

	*	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)
1.000+03	*	2.998+01	0.000	0.000	0.000	0.000
1.500+03	*	1.317+01	0.000	0.000	0.000	0.000
2.000+03	*	7.320+00	0.000	0.000	0.000	0.000
4.000+03	*	1.746+00	0.000	0.000	0.000	0.000
6.000+03	*	6.699-01	0.000	0.000	0.000	0.000
8.000+03	*	7.289-01	0.000	0.000	0.000	0.000
1.000+04	*	4.706-01	0.000	0.000	0.000	0.000
1.500+04	*	8.667-01	0.000	0.000	0.000	0.000
2.000+04	*	4.617-01	0.000	0.000	0.000	0.000
2.250+04	*	4.978-01	0.000	0.000	0.000	0.000
2.500+04	*	4.112-01	0.000	0.000	0.000	0.000
2.750+04	*	3.396-01	0.000	0.000	0.000	0.000
3.000+04	*	2.792-01	0.000	0.000	0.000	0.000
3.250+04	*	2.352-01	0.000	0.000	0.000	0.000
3.500+04	*	2.273-01	0.000	0.000	0.000	0.000
3.750+04	*	1.821-01	0.000	0.000	0.000	0.000
4.000+04	*	1.482-01	0.000	0.000	0.000	0.000
4.500+04	*	9.902-02	0.000	0.000	0.000	0.000
5.000+04	*	6.118-02	0.000	0.000	0.000	0.000
5.500+04	*	3.761-02	0.000	0.000	0.000	0.000
6.000+04	*	2.102-02	0.000	0.000	0.000	0.000
6.500+04	*	1.442-02	0.000	0.000	0.000	0.000
7.000+04	*	9.949-03	0.000	0.000	0.000	0.000
7.250+04	*	8.485-03	0.000	0.000	0.000	0.000
7.500+04	*	7.021-03	0.000	0.000	0.000	0.000
7.750+04	*	6.140-03	0.000	0.000	0.000	0.000
8.000+04	*	5.259-03	0.000	0.000	0.000	0.000
8.250+04	*	4.653-03	0.000	0.000	0.000	0.000
8.500+04	*	4.047-03	0.000	0.000	0.000	0.000
8.750+04	*	3.703-03	0.000	0.000	0.000	0.000
9.000+04	*	3.358-03	0.000	0.000	0.000	0.000
9.250+04	*	3.063-03	0.000	0.000	0.000	0.000
9.500+04	*	2.768-03	0.000	0.000	0.000	0.000
9.750+04	*	2.611-03	0.000	0.000	0.000	0.000
1.000+05	*	2.454-03	0.000	0.000	0.000	0.000
1.200+05	*	2.008-03	0.000	0.000	0.000	0.000
1.400+05	*	2.476+00	0.000	0.000	0.000	0.000
1.600+05	*	2.660+00	0.000	0.000	0.000	0.000
1.800+05	*	2.667+00	0.000	0.000	0.000	0.000
2.000+05	*	2.520+00	0.000	0.000	0.000	0.000
2.200+05	*	2.266+00	0.000	0.000	0.000	0.000
2.600+05	*	1.126+00	0.000	0.000	0.000	0.000
3.000+05	*	4.240-01	0.000	0.000	0.000	0.000
4.000+05	*	5.804-01	0.000	0.000	0.000	0.000
5.000+05	*	9.879-02	0.000	0.000	0.000	0.000
7.500+05	*	1.016-01	0.000	0.000	0.000	0.000
1.000+06	*	7.952-02	0.000	0.000	0.000	0.000

(Continued)

TABLE III
(CONTINUED)

ABSORPTION COEFFICIENTS OF ARGON AT TOTAL PRESSURE = 100 ATM

WAVE NOS.	*	TEMPERATURES (DEG K)				
CM-1	*	1.000+03	2.000+03	4.000+03	6.000+03	8.000+03

	*	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)
1.000+03	*	0.000	0.000	0.000	3.785-10	5.739-07
1.500+03	*	0.000	0.000	0.000	1.733-10	2.585-07
2.000+03	*	0.000	0.000	0.000	1.004-10	1.473-07
4.000+03	*	0.000	0.000	0.000	2.995-11	4.085-08
6.000+03	*	0.000	0.000	0.000	1.750-11	2.203-08
8.000+03	*	0.000	3.339-32	6.984-14	7.504-08	7.142-05
1.000+04	*	0.000	2.292-32	4.792-14	5.148-08	4.899-05
1.500+04	*	0.000	2.692-30	6.967-13	3.910-07	2.733-04
2.000+04	*	0.000	1.463-30	3.772-13	2.113-07	1.475-04
2.250+04	*	0.000	9.083-29	1.904-12	5.212-07	2.685-04
2.500+04	*	0.000	8.984-29	1.815-12	4.779-07	2.395-04
2.750+04	*	0.000	8.431-29	1.658-12	4.251-07	2.091-04
3.000+04	*	0.000	7.705-29	1.481-12	3.717-07	1.799-04
3.250+04	*	0.000	6.861-29	1.296-12	3.211-07	1.540-04
3.500+04	*	0.000	3.909-26	1.414-11	1.038-06	2.995-04
3.750+04	*	0.000	3.367-26	1.227-11	8.990-07	2.581-04
4.000+04	*	0.000	2.825-26	1.040-11	7.599-07	2.168-04
4.500+04	*	0.000	2.060-26	7.583-12	5.445-07	1.526-04
5.000+04	*	0.000	1.352-26	4.859-12	3.433-07	9.519-05
5.500+04	*	0.000	8.283-27	2.846-12	2.005-07	5.602-05
6.000+04	*	0.000	3.986-27	1.195-12	8.669-08	2.573-05
6.500+04	*	0.000	3.238-27	6.894-13	6.192-08	1.800-05
7.000+04	*	0.000	2.934-27	7.492-13	4.879-08	1.349-05
7.250+04	*	0.000	2.877-27	7.151-13	4.514-08	1.215-05
7.500+04	*	0.000	2.821-27	6.809-13	4.150-08	1.081-05
7.750+04	*	0.000	2.834-27	6.685-13	3.967-08	1.007-05
8.000+04	*	0.000	2.846-27	6.562-13	3.784-08	9.334-06
8.250+04	*	0.000	2.902-27	6.580-13	3.716-08	8.951-06
8.500+04	*	0.000	2.958-27	6.599-13	3.648-08	8.569-06
8.750+04	*	0.000	3.024-27	6.669-13	3.635-08	8.398-06
9.000+04	*	0.000	3.091-27	6.740-13	3.622-08	8.227-06
9.250+04	*	0.000	3.159-27	6.819-13	3.622-08	8.107-06
9.500+04	*	0.000	3.226-27	6.898-13	3.622-08	7.987-06
9.750+04	*	0.000	3.304-27	7.002-13	3.647-08	7.963-06
1.000+05	*	0.000	3.382-27	7.106-13	3.671-08	7.939-06
1.200+05	*	0.000	4.151-27	8.375-13	4.184-08	8.701-06
1.400+05	*	2.467+04	1.233+04	6.166+03	4.111+03	3.082+03
1.600+05	*	2.650+04	1.325+04	6.625+03	4.417+03	3.312+03
1.800+05	*	2.657+04	1.329+04	6.644+03	4.429+03	3.321+03
2.000+05	*	2.511+04	1.255+04	6.277+03	4.184+03	3.137+03
2.200+05	*	2.258+04	1.129+04	5.645+03	3.763+03	2.822+03
2.600+05	*	1.122+04	5.609+03	2.804+03	1.869+03	1.402+03
3.000+05	*	4.221+03	2.111+03	1.055+03	7.035+02	5.275+02
4.000+05	*	5.785+03	2.892+03	1.446+03	9.641+02	7.229+02
5.000+05	*	9.837+02	4.918+02	2.459+02	1.639+02	1.229+02
7.500+05	*	1.013+03	5.065+02	2.533+02	1.688+02	1.266+02
1.000+06	*	7.928+02	3.964+02	1.982+02	1.321+02	9.907+01

(Continued)

TABLE III
(CONTINUED)

ABSORPTION COEFFICIENTS OF ARGON AT TOTAL PRESSURE = 100 ATM

WAVE	*	TEMPERATURES (DEG K)				
NOS.	*	1.000+04	1.200+04	1.400+04	1.600+04	1.800+04
CM-1	*	CM-1				

	*	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)
1.000+03	*	4.405-05	7.551-04	5.386-03	2.452-02	1.253-01
1.500+03	*	1.965-05	3.347-04	2.376-03	1.076-02	5.472-02
2.000+03	*	1.109-05	1.876-04	1.325-03	5.970-03	3.024-02
4.000+03	*	2.950-06	4.858-05	3.352-04	1.436-03	6.659-03
6.000+03	*	1.520-06	2.431-05	1.639-04	6.727-04	2.846-03
8.000+03	*	4.143-03	5.885-02	3.600-01	1.206+00	2.482+00
1.000+04	*	2.841-03	4.036-02	2.469-01	8.269-01	1.702+00
1.500+04	*	1.325-02	1.676-01	9.448-01	2.980+00	5.854+00
2.000+04	*	7.146-03	9.029-02	5.087-01	1.604+00	3.149+00
2.250+04	*	1.109-02	1.272-01	6.726-01	2.027+00	3.850+00
2.500+04	*	9.708-03	1.100-01	5.759-01	1.723+00	3.255+00
2.750+04	*	8.367-03	9.389-02	4.884-01	1.454+00	2.735+00
3.000+04	*	7.117-03	7.921-02	4.095-01	1.213+00	2.274+00
3.250+04	*	6.054-03	6.708-02	3.456-01	1.021+00	1.910+00
3.500+04	*	9.157-03	8.809-02	4.157-01	1.159+00	2.079+00
3.750+04	*	7.858-03	7.531-02	3.543-01	9.850-01	1.764+00
4.000+04	*	6.559-03	6.253-02	2.929-01	8.116-01	1.449+00
4.500+04	*	4.553-03	4.298-02	1.999-01	5.510-01	9.800-01
5.000+04	*	2.825-03	2.659-02	1.235-01	3.403-01	6.051-01
5.500+04	*	1.677-03	1.591-02	7.437-02	2.058-01	3.674-01
6.000+04	*	8.105-04	7.982-03	3.834-02	1.083-01	1.962-01
6.500+04	*	5.618-04	5.507-03	2.639-02	7.441-02	1.348-01
7.000+04	*	4.084-04	3.932-03	1.864-02	5.218-02	9.405-02
7.250+04	*	3.613-04	3.439-03	1.618-02	4.506-02	8.094-02
7.500+04	*	3.142-04	2.945-03	1.372-02	3.795-02	6.783-02
7.750+04	*	2.871-04	2.656-03	1.226-02	3.372-02	6.000-02
8.000+04	*	2.600-04	2.368-03	1.081-02	2.948-02	5.217-02
8.250+04	*	2.443-04	2.191-03	9.885-03	2.674-02	4.701-02
8.500+04	*	2.286-04	2.014-03	8.964-03	2.400-02	4.186-02
8.750+04	*	2.207-04	1.919-03	8.460-03	2.248-02	3.898-02
9.000+04	*	2.127-04	1.825-03	7.956-03	2.096-02	3.610-02
9.250+04	*	2.065-04	1.749-03	7.545-03	1.971-02	3.370-02
9.500+04	*	2.003-04	1.673-03	7.133-03	1.845-02	3.130-02
9.750+04	*	1.978-04	1.637-03	6.928-03	1.781-02	3.005-02
1.000+05	*	1.952-04	1.601-03	6.723-03	1.716-02	2.880-02
1.200+05	*	2.052-04	1.616-03	6.535-03	1.614-02	2.632-02
1.400+05	*	2.456+03	2.001+03	1.588+03	1.150+03	7.193+02
1.600+05	*	2.638+03	2.149+03	1.706+03	1.236+03	7.728+02
1.800+05	*	2.646+03	2.155+03	1.711+03	1.239+03	7.750+02
2.000+05	*	2.500+03	2.036+03	1.617+03	1.171+03	7.321+02
2.200+05	*	2.248+03	1.831+03	1.454+03	1.053+03	6.585+02
2.600+05	*	1.117+03	9.098+02	7.222+02	5.231+02	3.271+02
3.000+05	*	4.202+02	3.424+02	2.718+02	1.969+02	1.231+02
4.000+05	*	5.759+02	4.692+02	3.725+02	2.698+02	1.687+02
5.000+05	*	9.793+01	7.979+01	6.334+01	4.588+01	2.869+01
7.500+05	*	1.009+02	8.217+01	6.523+01	4.725+01	2.954+01
1.000+06	*	7.893+01	6.430+01	5.105+01	3.697+01	2.312+01

(Continued)

TABLE III
(CONTINUED)

ABSORPTION COEFFICIENTS OF ARGON AT TOTAL PRESSURE = 100 ATM

WAVE NOS.	*	TEMPERATURES (DEG K)				
CM-1	*	2.000+04	2.200+04	2.400+04	2.600+04	2.800+04

	*	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)
1.000+03	*	6.875-01	2.820+00	8.551+00	2.070+01	4.225+01
1.500+03	*	3.002-01	1.233+00	3.744+00	9.073+00	1.854+01
2.000+03	*	1.660-01	6.827-01	2.075+00	5.034+00	1.030+01
4.000+03	*	3.560-02	1.500-01	4.686-01	1.165+00	2.434+00
6.000+03	*	1.426-02	5.811-02	1.794-01	4.428-01	9.199-01
8.000+03	*	3.434+00	3.601+00	3.263+00	2.819+00	2.499+00
1.000+04	*	2.354+00	2.467+00	2.229+00	1.913+00	1.673+00
1.500+04	*	7.798+00	7.893+00	6.852+00	5.517+00	4.305+00
2.000+04	*	4.193+00	4.243+00	3.681+00	2.962+00	2.307+00
2.250+04	*	4.997+00	4.954+00	4.225+00	3.347+00	2.564+00
2.500+04	*	4.207+00	4.156+00	3.534+00	2.790+00	2.131+00
2.750+04	*	3.523+00	3.471+00	2.945+00	2.323+00	1.769+00
3.000+04	*	2.920+00	2.869+00	2.429+00	1.913+00	1.458+00
3.250+04	*	2.449+00	2.403+00	2.032+00	1.598+00	1.218+00
3.500+04	*	2.584+00	2.477+00	2.055+00	1.591+00	1.195+00
3.750+04	*	2.189+00	2.096+00	1.737+00	1.338+00	9.962-01
4.000+04	*	1.795+00	1.714+00	1.417+00	1.091+00	8.116-01
4.500+04	*	1.210+00	1.152+00	9.509-01	7.311-01	5.428-01
5.000+04	*	7.468-01	7.116-01	5.872-01	4.516-01	3.353-01
5.500+04	*	4.549-01	4.346-01	3.594-01	2.768-01	2.059-01
6.000+04	*	2.459-01	2.371-01	1.976-01	1.532-01	1.145-01
6.500+04	*	1.688-01	1.627-01	1.356-01	1.051-01	7.856-02
7.000+04	*	1.174-01	1.129-01	9.388-02	7.267-02	5.427-02
7.250+04	*	1.008-01	9.670-02	8.030-02	6.208-02	4.632-02
7.500+04	*	8.413-02	8.053-02	6.673-02	5.150-02	3.837-02
7.750+04	*	7.418-02	7.082-02	5.858-02	4.514-02	3.359-02
8.000+04	*	6.423-02	6.112-02	5.042-02	3.878-02	2.881-02
8.250+04	*	5.760-02	5.460-02	4.490-02	3.444-02	2.553-02
8.500+04	*	5.097-02	4.808-02	3.938-02	3.011-02	2.226-02
8.750+04	*	4.724-02	4.440-02	3.626-02	2.765-02	2.040-02
9.000+04	*	4.352-02	4.072-02	3.314-02	2.520-02	1.854-02
9.250+04	*	4.039-02	3.761-02	3.049-02	2.311-02	1.696-02
9.500+04	*	3.726-02	3.451-02	2.784-02	2.102-02	1.537-02
9.750+04	*	3.562-02	3.287-02	2.644-02	1.991-02	1.453-02
1.000+05	*	3.398-02	3.124-02	2.504-02	1.880-02	1.368-02
1.200+05	*	3.028-02	2.723-02	2.141-02	1.581-02	1.134-02
1.400+05	*	3.833+02	1.832+02	8.494+01	4.005+01	1.954+01
1.600+05	*	4.118+02	1.968+02	9.125+01	4.303+01	2.099+01
1.800+05	*	4.129+02	1.974+02	9.151+01	4.315+01	2.105+01
2.000+05	*	3.901+02	1.865+02	8.645+01	4.076+01	1.989+01
2.200+05	*	3.509+02	1.677+02	7.775+01	3.666+01	1.789+01
2.600+05	*	1.743+02	8.331+01	3.863+01	1.821+01	8.887+00
3.000+05	*	6.560+01	3.135+01	1.454+01	6.856+00	3.346+00
4.000+05	*	8.989+01	4.296+01	1.992+01	9.391+00	4.582+00
5.000+05	*	1.529+01	7.307+00	3.388+00	1.598+00	7.796-01
7.500+05	*	1.574+01	7.523+00	3.488+00	1.645+00	8.023-01
1.000+06	*	1.232+01	5.888+00	2.729+00	1.287+00	6.277-01

(Continued)

TABLE III
(CONTINUED)

ABSORPTION COEFFICIENTS OF ARGON AT TOTAL PRESSURE = 100 ATM

WAVE	*	TEMPERATURES (DEG K)				
NOS.	*	3.000+04	0.000	0.000	0.000	0.000
CM-1	*	CM-1				

	*	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)
1.000+03	*	7.409+01	0.000	0.000	0.000	0.000
1.500+03	*	3.254+01	0.000	0.000	0.000	0.000
2.000+03	*	1.809+01	0.000	0.000	0.000	0.000
4.000+03	*	4.315+00	0.000	0.000	0.000	0.000
6.000+03	*	1.655+00	0.000	0.000	0.000	0.000
8.000+03	*	2.363+00	0.000	0.000	0.000	0.000
1.000+04	*	1.548+00	0.000	0.000	0.000	0.000
1.500+04	*	3.289+00	0.000	0.000	0.000	0.000
2.000+04	*	1.757+00	0.000	0.000	0.000	0.000
2.250+04	*	1.914+00	0.000	0.000	0.000	0.000
2.500+04	*	1.585+00	0.000	0.000	0.000	0.000
2.750+04	*	1.311+00	0.000	0.000	0.000	0.000
3.000+04	*	1.077+00	0.000	0.000	0.000	0.000
3.250+04	*	9.042-01	0.000	0.000	0.000	0.000
3.500+04	*	8.765-01	0.000	0.000	0.000	0.000
3.750+04	*	7.155-01	0.000	0.000	0.000	0.000
4.000+04	*	5.823-01	0.000	0.000	0.000	0.000
4.500+04	*	3.890-01	0.000	0.000	0.000	0.000
5.000+04	*	2.403-01	0.000	0.000	0.000	0.000
5.500+04	*	1.478-01	0.000	0.000	0.000	0.000
6.000+04	*	8.257-02	0.000	0.000	0.000	0.000
6.500+04	*	5.663-02	0.000	0.000	0.000	0.000
7.000+04	*	3.908-02	0.000	0.000	0.000	0.000
7.250+04	*	3.333-02	0.000	0.000	0.000	0.000
7.500+04	*	2.758-02	0.000	0.000	0.000	0.000
7.750+04	*	2.412-02	0.000	0.000	0.000	0.000
8.000+04	*	2.066-02	0.000	0.000	0.000	0.000
8.250+04	*	1.828-02	0.000	0.000	0.000	0.000
8.500+04	*	1.590-02	0.000	0.000	0.000	0.000
8.750+04	*	1.454-02	0.000	0.000	0.000	0.000
9.000+04	*	1.319-02	0.000	0.000	0.000	0.000
9.250+04	*	1.203-02	0.000	0.000	0.000	0.000
9.500+04	*	1.087-02	0.000	0.000	0.000	0.000
9.750+04	*	1.026-02	0.000	0.000	0.000	0.000
1.000+05	*	9.642-03	0.000	0.000	0.000	0.000
1.200+05	*	7.887-03	0.000	0.000	0.000	0.000
1.400+05	*	9.725+00	0.000	0.000	0.000	0.000
1.600+05	*	1.045+01	0.000	0.000	0.000	0.000
1.800+05	*	1.048+01	0.000	0.000	0.000	0.000
2.000+05	*	9.897+00	0.000	0.000	0.000	0.000
2.200+05	*	8.902+00	0.000	0.000	0.000	0.000
2.600+05	*	4.423+00	0.000	0.000	0.000	0.000
3.000+05	*	1.666+00	0.000	0.000	0.000	0.000
4.000+05	*	2.280+00	0.000	0.000	0.000	0.000
5.000+05	*	3.881-01	0.000	0.000	0.000	0.000
7.500+05	*	3.993-01	0.000	0.000	0.000	0.000
1.000+06	*	3.124-01	0.000	0.000	0.000	0.000

(Continued)

TABLE III
(CONTINUED)
ABSORPTION COEFFICIENTS OF ARGON AT TOTAL PRESSURE = 250 ATM

WAVE NOS.		TEMPERATURES (DEG K)				
		1.000+03	2.000+03	4.000+03	6.000+03	8.000+03
CM-1		CM-1				

	*	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)
1.000+03	*	0.000	0.000	0.000	9.464-10	1.435-06
1.500+03	*	0.000	0.000	0.000	4.332-10	6.462-07
2.000+03	*	0.000	0.000	0.000	2.510-10	3.682-07
4.000+03	*	0.000	0.000	0.000	7.487-11	1.021-07
6.000+03	*	0.000	0.000	0.000	4.374-11	5.509-08
8.000+03	*	0.000	8.348-32	1.746-13	1.876-07	1.786-04
1.000+04	*	0.000	5.731-32	1.198-13	1.287-07	1.225-04
1.500+04	*	0.000	6.729-30	1.742-12	9.775-07	6.833-04
2.000+04	*	0.000	3.657-30	9.430-13	5.283-07	3.687-04
2.250+04	*	0.000	2.271-28	4.761-12	1.303-06	6.713-04
2.500+04	*	0.000	2.246-28	4.539-12	1.195-06	5.988-04
2.750+04	*	0.000	2.108-28	4.144-12	1.063-06	5.228-04
3.000+04	*	0.000	1.926-28	3.703-12	9.293-07	4.498-04
3.250+04	*	0.000	1.715-28	3.241-12	8.027-07	3.851-04
3.500+04	*	0.000	9.772-26	3.536-11	2.595-06	7.487-04
3.750+04	*	0.000	8.418-26	3.067-11	2.247-06	6.455-04
4.000+04	*	0.000	7.063-26	2.599-11	1.900-06	5.422-04
4.500+04	*	0.000	5.150-26	1.896-11	1.361-06	3.815-04
5.000+04	*	0.000	3.380-26	1.215-11	8.582-07	2.380-04
5.500+04	*	0.000	2.071-26	7.114-12	5.012-07	1.401-04
6.000+04	*	0.000	9.964-27	2.989-12	2.167-07	6.432-05
6.500+04	*	0.000	8.095-27	2.224-12	1.548-07	4.501-05
7.000+04	*	0.000	7.335-27	1.873-12	1.220-07	3.374-05
7.250+04	*	0.000	7.194-27	1.788-12	1.129-07	3.039-05
7.500+04	*	0.000	7.052-27	1.702-12	1.037-07	2.704-05
7.750+04	*	0.000	7.084-27	1.671-12	9.917-08	2.519-05
8.000+04	*	0.000	7.116-27	1.640-12	9.460-08	2.334-05
8.250+04	*	0.000	7.255-27	1.645-12	9.290-08	2.238-05
8.500+04	*	0.000	7.394-27	1.650-12	9.119-08	2.142-05
8.750+04	*	0.000	7.561-27	1.667-12	9.088-08	2.100-05
9.000+04	*	0.000	7.727-27	1.685-12	9.056-08	2.057-05
9.250+04	*	0.000	7.896-27	1.705-12	9.056-08	2.027-05
9.500+04	*	0.000	8.066-27	1.725-12	9.056-08	1.997-05
9.750+04	*	0.000	8.260-27	1.751-12	9.117-08	1.991-05
1.000+05	*	0.000	8.455-27	1.777-12	9.178-08	1.985-05
1.200+05	*	0.000	1.038-26	2.094-12	1.046-07	2.175-05
1.400+05	*	6.166+04	3.083+04	1.542+04	1.028+04	7.706+03
1.600+05	*	6.625+04	3.313+04	1.656+04	1.104+04	8.280+03
1.800+05	*	6.644+04	3.322+04	1.661+04	1.107+04	8.303+03
2.000+05	*	6.277+04	3.138+04	1.569+04	1.046+04	7.844+03
2.200+05	*	5.645+04	2.823+04	1.411+04	9.409+03	7.055+03
2.600+05	*	2.804+04	1.402+04	7.011+03	4.674+03	3.505+03
3.000+05	*	1.055+04	5.276+03	2.638+03	1.759+03	1.319+03
4.000+05	*	1.446+04	7.231+03	3.615+03	2.410+03	1.807+03
5.000+05	*	2.459+03	1.230+03	6.148+02	4.099+02	3.073+02
7.500+05	*	2.533+03	1.266+03	6.332+02	4.221+02	3.165+02
1.000+06	*	1.982+03	9.910+02	4.955+02	3.303+02	2.477+02

(Continued)

TABLE III
(CONTINUED)

ABSORPTION COEFFICIENTS OF ARGON AT TOTAL PRESSURE = 250 ATM

WAVE	*	TEMPERATURES (DEG K)				
NOS.	*	1.000+04	1.200+04	1.400+04	1.600+04	1.800+04
CM-1	*	CM-1				

	*	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)
1.000+03	*	1.103-04	1.905-03	1.387-02	6.501-02	3.457-01
1.500+03	*	4.920-05	8.444-04	6.121-03	2.853-02	1.510-01
2.000+03	*	2.776-05	4.733-04	3.414-03	1.584-02	8.349-02
4.000+03	*	7.386-06	1.226-04	8.643-04	3.831-03	1.851-02
6.000+03	*	3.807-06	6.134-05	4.229-04	1.802-03	7.967-03
8.000+03	*	1.037-02	1.485-01	9.311-01	3.304+00	7.536+00
1.000+04	*	7.115-03	1.018-01	6.385-01	2.266+00	5.168+00
1.500+04	*	3.319-02	4.229-01	2.444+00	8.165+00	1.778+01
2.000+04	*	1.789-02	2.278-01	1.316+00	4.394+00	9.563+00
2.250+04	*	2.777-02	3.211-01	1.740+00	5.555+00	1.169+01
2.500+04	*	2.431-02	2.775-01	1.490+00	4.722+00	9.886+00
2.750+04	*	2.095-02	2.369-01	1.263+00	3.984+00	8.306+00
3.000+04	*	1.782-02	1.999-01	1.059+00	3.324+00	6.905+00
3.250+04	*	1.516-02	1.693-01	8.939-01	2.799+00	5.801+00
3.500+04	*	2.293-02	2.223-01	1.075+00	3.175+00	6.313+00
3.750+04	*	1.968-02	1.900-01	9.165-01	2.699+00	5.357+00
4.000+04	*	1.642-02	1.578-01	7.577-01	2.224+00	4.401+00
4.500+04	*	1.140-02	1.084-01	5.171-01	1.510+00	2.976+00
5.000+04	*	7.072-03	6.710-02	3.195-01	9.324-01	1.838+00
5.500+04	*	4.200-03	4.015-02	1.924-01	5.641-01	1.116+00
6.000+04	*	2.029-03	2.014-02	9.917-02	2.967-01	5.960-01
6.500+04	*	1.407-03	1.390-02	6.825-02	2.039-01	4.093-01
7.000+04	*	1.023-03	9.923-03	4.820-02	1.430-01	2.856-01
7.250+04	*	9.046-04	8.677-03	4.184-02	1.235-01	2.458-01
7.500+04	*	7.866-04	7.432-03	3.548-02	1.040-01	2.060-01
7.750+04	*	7.188-04	6.703-03	3.171-02	9.239-02	1.822-01
8.000+04	*	6.510-04	5.974-03	2.795-02	8.080-02	1.584-01
8.250+04	*	6.118-04	5.528-03	2.557-02	7.328-02	1.428-01
8.500+04	*	5.725-04	5.081-03	2.319-02	6.577-02	1.271-01
8.750+04	*	5.525-04	4.843-03	2.188-02	6.161-02	1.184-01
9.000+04	*	5.325-04	4.604-03	2.058-02	5.744-02	1.096-01
9.250+04	*	5.171-04	4.413-03	1.951-02	5.400-02	1.023-01
9.500+04	*	5.016-04	4.222-03	1.845-02	5.056-02	9.505-02
9.750+04	*	4.952-04	4.131-03	1.792-02	4.880-02	9.126-02
1.000+05	*	4.889-04	4.041-03	1.739-02	4.704-02	8.748-02
1.200+05	*	5.138-04	4.077-03	1.690-02	4.424-02	7.993-02
1.400+05	*	6.149+03	5.048+03	4.108+03	3.152+03	2.184+03
1.600+05	*	6.606+03	5.424+03	4.414+03	3.387+03	2.347+03
1.800+05	*	6.625+03	5.439+03	4.426+03	3.396+03	2.354+03
2.000+05	*	6.259+03	5.138+03	4.181+03	3.209+03	2.223+03
2.200+05	*	5.629+03	4.621+03	3.761+03	2.886+03	2.000+03
2.600+05	*	2.796+03	2.296+03	1.868+03	1.434+03	9.934+02
3.000+05	*	1.052+03	8.639+02	7.030+02	5.395+02	3.738+02
4.000+05	*	1.442+03	1.184+03	9.634+02	7.393+02	5.123+02
5.000+05	*	2.452+02	2.013+02	1.638+02	1.257+02	8.712+01
7.500+05	*	2.525+02	2.073+02	1.687+02	1.295+02	8.972+01
1.000+06	*	1.976+02	1.623+02	1.320+02	1.013+02	7.021+01

(Continued)

TABLE III
(CONTINUED)

ABSORPTION COEFFICIENTS OF ARGON AT TOTAL PRESSURE = 250 ATM

WAVE	*	TEMPERATURES (DEG K)				
NOS.	*	2.000+04	2.200+04	2.400+04	2.600+04	2.800+04
CM-1	*	CM-1				

	*	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)
1.000+03	*	2.052+00	9.022+00	2.820+01	6.877+01	1.403+02
1.500+03	*	8.963-01	3.945+00	1.235+01	3.015+01	6.158+01
2.000+03	*	4.955-01	2.184+00	6.844+00	1.673+01	3.420+01
4.000+03	*	1.065-01	4.801-01	1.546+00	3.872+00	8.083+00
6.000+03	*	4.282-02	1.863-01	5.922-01	1.472+00	3.056+00
8.000+03	*	1.195+01	1.437+01	1.446+01	1.335+01	1.206+01
1.000+04	*	8.191+00	9.847+00	9.891+00	9.091+00	8.138+00
1.500+04	*	2.714+01	3.155+01	3.057+01	2.675+01	2.211+01
2.000+04	*	1.459+01	1.696+01	1.643+01	1.436+01	1.186+01
2.250+04	*	1.739+01	1.980+01	1.886+01	1.625+01	1.322+01
2.500+04	*	1.464+01	1.661+01	1.577+01	1.355+01	1.099+01
2.750+04	*	1.226+01	1.387+01	1.315+01	1.127+01	9.123+00
3.000+04	*	1.016+01	1.147+01	1.084+01	9.286+00	7.514+00
3.250+04	*	8.522+00	9.606+00	9.072+00	7.759+00	6.277+00
3.500+04	*	8.993+00	9.900+00	9.176+00	7.728+00	6.166+00
3.750+04	*	7.619+00	8.377+00	7.755+00	6.507+00	5.162+00
4.000+04	*	6.245+00	6.852+00	6.329+00	5.307+00	4.205+00
4.500+04	*	4.210+00	4.607+00	4.247+00	3.555+00	2.813+00
5.000+04	*	2.599+00	2.845+00	2.622+00	2.196+00	1.738+00
5.500+04	*	1.583+00	1.737+00	1.605+00	1.346+00	1.067+00
6.000+04	*	8.557-01	9.478-01	8.825-01	7.449-01	5.935-01
6.500+04	*	5.873-01	6.504-01	6.054-01	5.110-01	4.071-01
7.000+04	*	4.085-01	4.512-01	4.192-01	3.533-01	2.812-01
7.250+04	*	3.507-01	3.866-01	3.586-01	3.019-01	2.400-01
7.500+04	*	2.928-01	3.219-01	2.980-01	2.504-01	1.988-01
7.750+04	*	2.582-01	2.831-01	2.616-01	2.195-01	1.741-01
8.000+04	*	2.235-01	2.443-01	2.252-01	1.886-01	1.493-01
8.250+04	*	2.004-01	2.183-01	2.005-01	1.675-01	1.323-01
8.500+04	*	1.774-01	1.922-01	1.759-01	1.464-01	1.154-01
8.750+04	*	1.644-01	1.775-01	1.619-01	1.345-01	1.057-01
9.000+04	*	1.514-01	1.628-01	1.480-01	1.225-01	9.608-02
9.250+04	*	1.406-01	1.504-01	1.361-01	1.124-01	8.786-02
9.500+04	*	1.297-01	1.379-01	1.243-01	1.022-01	7.964-02
9.750+04	*	1.240-01	1.314-01	1.181-01	9.680-02	7.527-02
1.000+05	*	1.183-01	1.249-01	1.118-01	9.140-02	7.090-02
1.200+05	*	1.054-01	1.089-01	9.563-02	7.688-02	5.876-02
1.400+05	*	1.334+03	7.323+02	3.793+02	1.947+02	1.013+02
1.600+05	*	1.433+03	7.868+02	4.075+02	2.092+02	1.088+02
1.800+05	*	1.437+03	7.890+02	4.086+02	2.098+02	1.091+02
2.000+05	*	1.358+03	7.454+02	3.861+02	1.982+02	1.031+02
2.200+05	*	1.221+03	6.704+02	3.472+02	1.783+02	9.268+01
2.600+05	*	6.066+02	3.330+02	1.725+02	8.857+01	4.605+01
3.000+05	*	2.283+02	1.253+02	6.493+01	3.334+01	1.734+01
4.000+05	*	3.128+02	1.717+02	8.895+01	4.567+01	2.374+01
5.000+05	*	5.320+01	2.921+01	1.513+01	7.769+00	4.040+00
7.500+05	*	5.478+01	3.008+01	1.558+01	7.997+00	4.157+00
1.000+06	*	4.287+01	2.354+01	1.219+01	6.257+00	3.253+00

(Continued)

TABLE III
(CONTINUED)

ABSORPTION COEFFICIENTS OF ARGON AT TOTAL PRESSURE = 250 ATM

WAVE	*	TEMPERATURES (DEG K)				
NOS.	*	3.000+04	0.000	0.000	0.000	0.000
CM-1	*	← CM-1 →				

	*	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)
1.000+03	*	2.500+02	0.000	0.000	0.000	0.000
1.500+03	*	1.098+02	0.000	0.000	0.000	0.000
2.000+03	*	6.104+01	0.000	0.000	0.000	0.000
4.000+03	*	1.456+01	0.000	0.000	0.000	0.000
6.000+03	*	5.586+00	0.000	0.000	0.000	0.000
8.000+03	*	1.124+01	0.000	0.000	0.000	0.000
1.000+04	*	7.466+00	0.000	0.000	0.000	0.000
1.500+04	*	1.778+01	0.000	0.000	0.000	0.000
2.000+04	*	9.517+00	0.000	0.000	0.000	0.000
2.250+04	*	1.044+01	0.000	0.000	0.000	0.000
2.500+04	*	8.654+00	0.000	0.000	0.000	0.000
2.750+04	*	7.165+00	0.000	0.000	0.000	0.000
3.000+04	*	5.886+00	0.000	0.000	0.000	0.000
3.250+04	*	4.931+00	0.000	0.000	0.000	0.000
3.500+04	*	4.789+00	0.000	0.000	0.000	0.000
3.750+04	*	3.958+00	0.000	0.000	0.000	0.000
4.000+04	*	3.221+00	0.000	0.000	0.000	0.000
4.500+04	*	2.152+00	0.000	0.000	0.000	0.000
5.000+04	*	1.330+00	0.000	0.000	0.000	0.000
5.500+04	*	8.174-01	0.000	0.000	0.000	0.000
6.000+04	*	4.568-01	0.000	0.000	0.000	0.000
6.500+04	*	3.133-01	0.000	0.000	0.000	0.000
7.000+04	*	2.162-01	0.000	0.000	0.000	0.000
7.250+04	*	1.844-01	0.000	0.000	0.000	0.000
7.500+04	*	1.526-01	0.000	0.000	0.000	0.000
7.750+04	*	1.334-01	0.000	0.000	0.000	0.000
8.000+04	*	1.143-01	0.000	0.000	0.000	0.000
8.250+04	*	1.011-01	0.000	0.000	0.000	0.000
8.500+04	*	8.796-02	0.000	0.000	0.000	0.000
8.750+04	*	8.046-02	0.000	0.000	0.000	0.000
9.000+04	*	7.297-02	0.000	0.000	0.000	0.000
9.250+04	*	6.657-02	0.000	0.000	0.000	0.000
9.500+04	*	6.016-02	0.000	0.000	0.000	0.000
9.750+04	*	5.675-02	0.000	0.000	0.000	0.000
1.000+05	*	5.334-02	0.000	0.000	0.000	0.000
1.200+05	*	4.363-02	0.000	0.000	0.000	0.000
1.400+05	*	5.380+01	0.000	0.000	0.000	0.000
1.600+05	*	5.780+01	0.000	0.000	0.000	0.000
1.800+05	*	5.796+01	0.000	0.000	0.000	0.000
2.000+05	*	5.475+01	0.000	0.000	0.000	0.000
2.200+05	*	4.925+01	0.000	0.000	0.000	0.000
2.600+05	*	2.447+01	0.000	0.000	0.000	0.000
3.000+05	*	9.214+00	0.000	0.000	0.000	0.000
4.000+05	*	1.261+01	0.000	0.000	0.000	0.000
5.000+05	*	2.147+00	0.000	0.000	0.000	0.000
7.500+05	*	2.209+00	0.000	0.000	0.000	0.000
1.000+06	*	1.728+00	0.000	0.000	0.000	0.000

(Continued)

TABLE III
(CONTINUED)

ABSORPTION COEFFICIENTS OF ARGON AT TOTAL PRESSURE = 500 ATM

WAVE	*	TEMPERATURES (DEG K)				
NOS.	*	1.000+03	2.000+03	4.000+03	6.000+03	8.000+03
CM-1	*	← CM-1 →				

	*	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)
1.000+03	*	0.000	0.000	0.000	1.893-09	2.870-06
1.500+03	*	0.000	0.000	0.000	8.665-10	1.293-06
2.000+03	*	0.000	0.000	0.000	5.021-10	7.364-07
4.000+03	*	0.000	0.000	0.000	1.497-10	2.043-07
6.000+03	*	0.000	0.000	0.000	8.749-11	1.102-07
8.000+03	*	0.000	1.670-31	3.492-13	3.752-07	3.572-04
1.000+04	*	0.000	1.146-31	2.396-13	2.574-07	2.450-04
1.500+04	*	0.000	1.346-29	3.483-12	1.955-06	1.367-03
2.000+04	*	0.000	7.315-30	1.886-12	1.057-06	7.375-04
2.250+04	*	0.000	4.541-28	9.521-12	2.606-06	1.343-03
2.500+04	*	0.000	4.492-28	9.077-12	2.389-06	1.198-03
2.750+04	*	0.000	4.215-28	8.288-12	2.126-06	1.046-03
3.000+04	*	0.000	3.852-28	7.405-12	1.859-06	8.997-04
3.250+04	*	0.000	3.430-28	6.481-12	1.605-06	7.702-04
3.500+04	*	0.000	1.954-25	7.071-11	5.190-06	1.498-03
3.750+04	*	0.000	1.684-25	6.135-11	4.495-06	1.291-03
4.000+04	*	0.000	1.413-25	5.198-11	3.799-06	1.084-03
4.500+04	*	0.000	1.030-25	3.791-11	2.723-06	7.631-04
5.000+04	*	0.000	6.761-26	2.429-11	1.716-06	4.760-04
5.500+04	*	0.000	4.141-26	1.423-11	1.002-06	2.802-04
6.000+04	*	0.000	1.993-26	5.977-12	4.335-07	1.287-04
6.500+04	*	0.000	1.619-26	4.447-12	3.096-07	9.003-05
7.000+04	*	0.000	1.467-26	3.746-12	2.440-07	6.748-05
7.250+04	*	0.000	1.439-26	3.575-12	2.257-07	6.078-05
7.500+04	*	0.000	1.410-26	3.405-12	2.075-07	5.408-05
7.750+04	*	0.000	1.417-26	3.343-12	1.983-07	5.038-05
8.000+04	*	0.000	1.423-26	3.281-12	1.892-07	4.668-05
8.250+04	*	0.000	1.451-26	3.290-12	1.858-07	4.476-05
8.500+04	*	0.000	1.479-26	3.300-12	1.824-07	4.285-05
8.750+04	*	0.000	1.512-26	3.335-12	1.818-07	4.200-05
9.000+04	*	0.000	1.545-26	3.370-12	1.811-07	4.114-05
9.250+04	*	0.000	1.579-26	3.410-12	1.811-07	4.054-05
9.500+04	*	0.000	1.613-26	3.449-12	1.811-07	3.994-05
9.750+04	*	0.000	1.652-26	3.501-12	1.823-07	3.982-05
1.000+05	*	0.000	1.691-26	3.553-12	1.836-07	3.970-05
1.200+05	*	0.000	2.076-26	4.188-12	2.092-07	4.351-05
1.400+05	*	1.233+05	6.166+04	3.083+04	2.055+04	1.541+04
1.600+05	*	1.325+05	6.625+04	3.313+04	2.208+04	1.656+04
1.800+05	*	1.329+05	6.644+04	3.322+04	2.215+04	1.661+04
2.000+05	*	1.255+05	6.277+04	3.138+04	2.092+04	1.569+04
2.200+05	*	1.129+05	5.645+04	2.823+04	1.882+04	1.411+04
2.600+05	*	5.609+04	2.804+04	1.402+04	9.348+03	7.010+03
3.000+05	*	2.111+04	1.055+04	5.276+03	3.518+03	2.638+03
4.000+05	*	2.892+04	1.446+04	7.231+03	4.821+03	3.615+03
5.000+05	*	4.918+03	2.459+03	1.230+03	8.197+02	6.147+02
7.500+05	*	5.065+03	2.533+03	1.266+03	8.442+02	6.331+02
1.000+06	*	3.964+03	1.982+03	9.910+02	6.607+02	4.954+02

(Continued)

TABLE III
(CONTINUED)

ABSORPTION COEFFICIENTS OF ARGON AT TOTAL PRESSURE = 500 ATM

WAVE	*	TEMPERATURES (DEG K)				
NOS.	*	1.000+04	1.200+04	1.400+04	1.600+04	1.800+04
CM-1	*	CM-1				

	*	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)
1.000+03	*	2.208-04	3.828-03	2.818-02	1.353-01	7.661-01
1.500+03	*	9.848-05	1.697-03	1.243-02	5.941-02	3.347-01
2.000+03	*	5.556-05	9.510-04	6.936-03	3.298-02	1.850-01
4.000+03	*	1.478-05	2.463-04	1.757-03	7.988-03	4.101-02
6.000+03	*	7.619-06	1.233-04	8.597-04	3.761-03	1.765-02
8.000+03	*	2.076-02	2.984-01	1.895+00	6.935+00	1.667+01
1.000+04	*	1.424-02	2.047-01	1.299+00	4.756+00	1.143+01
1.500+04	*	6.643-02	8.498-01	4.974+00	1.714+01	3.933+01
2.000+04	*	3.581-02	4.578-01	2.678+00	9.223+00	2.116+01
2.250+04	*	5.558-02	6.452-01	3.541+00	1.166+01	2.587+01
2.500+04	*	4.866-02	5.576-01	3.031+00	9.911+00	2.187+01
2.750+04	*	4.193-02	4.761-01	2.571+00	8.361+00	1.838+01
3.000+04	*	3.567-02	4.017-01	2.156+00	6.977+00	1.528+01
3.250+04	*	3.034-02	3.401-01	1.819+00	5.874+00	1.283+01
3.500+04	*	4.589-02	4.467-01	2.188+00	6.663+00	1.397+01
3.750+04	*	3.938-02	3.819-01	1.865+00	5.665+00	1.185+01
4.000+04	*	3.287-02	3.171-01	1.542+00	4.668+00	9.737+00
4.500+04	*	2.282-02	2.179-01	1.052+00	3.169+00	6.584+00
5.000+04	*	1.416-02	1.348-01	6.503-01	1.957+00	4.065+00
5.500+04	*	8.406-03	8.068-02	3.915-01	1.184+00	2.469+00
6.000+04	*	4.062-03	4.048-02	2.018-01	6.227-01	1.318+00
6.500+04	*	2.815-03	2.792-02	1.389-01	4.280-01	9.054-01
7.000+04	*	2.047-03	1.994-02	9.810-02	3.001-01	6.319-01
7.250+04	*	1.811-03	1.744-02	8.515-02	2.592-01	5.438-01
7.500+04	*	1.574-03	1.493-02	7.220-02	2.183-01	4.557-01
7.750+04	*	1.439-03	1.347-02	6.454-02	1.939-01	4.031-01
8.000+04	*	1.303-03	1.200-02	5.689-02	1.696-01	3.505-01
8.250+04	*	1.224-03	1.111-02	5.204-02	1.538-01	3.159-01
8.500+04	*	1.146-03	1.021-02	4.719-02	1.380-01	2.812-01
8.750+04	*	1.106-03	9.731-03	4.453-02	1.293-01	2.619-01
9.000+04	*	1.066-03	9.252-03	4.188-02	1.206-01	2.426-01
9.250+04	*	1.035-03	8.868-03	3.972-02	1.133-01	2.264-01
9.500+04	*	1.004-03	8.484-03	3.755-02	1.061-01	2.103-01
9.750+04	*	9.913-04	8.302-03	3.647-02	1.024-01	2.019-01
1.000+05	*	9.785-04	8.121-03	3.539-02	9.872-02	1.935-01
1.200+05	*	1.028-03	8.193-03	3.440-02	9.284-02	1.768-01
1.400+05	*	1.231+04	1.014+04	8.360+03	6.616+03	4.833+03
1.600+05	*	1.322+04	1.090+04	8.982+03	7.108+03	5.192+03
1.800+05	*	1.326+04	1.093+04	9.007+03	7.128+03	5.207+03
2.000+05	*	1.253+04	1.033+04	8.510+03	6.734+03	4.919+03
2.200+05	*	1.127+04	9.287+03	7.654+03	6.057+03	4.424+03
2.600+05	*	5.597+03	4.613+03	3.802+03	3.009+03	2.198+03
3.000+05	*	2.106+03	1.736+03	1.431+03	1.132+03	8.270+02
4.000+05	*	2.886+03	2.379+03	1.961+03	1.552+03	1.133+03
5.000+05	*	4.908+02	4.046+02	3.334+02	2.639+02	1.927+02
7.500+05	*	5.055+02	4.166+02	3.434+02	2.717+02	1.985+02
1.000+06	*	3.956+02	3.261+02	2.687+02	2.127+02	1.553+02

(Continued)

TABLE III
(CONTINUED)

ABSORPTION COEFFICIENTS OF ARGON AT TOTAL PRESSURE = 500 ATM

WAVE	*	TEMPERATURES (DEG K)				
NOS.	*	2.000+04	2.200+04	2.400+04	2.600+04	2.800+04
CM-1	*	CM-1				

	*	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)
1.000+03	*	4.972+00	2.324+01	7.489+01	1.837+02	3.737+02
1.500+03	*	2.172+00	1.016+01	3.279+01	8.053+01	1.640+02
2.000+03	*	1.200+00	5.626+00	1.818+01	4.469+01	9.108+01
4.000+03	*	2.580-01	1.237+00	4.105+00	1.034+01	2.153+01
6.000+03	*	1.037-01	4.800-01	1.573+00	3.932+00	8.138+00
8.000+03	*	2.848+01	3.723+01	4.061+01	3.997+01	3.774+01
1.000+04	*	1.952+01	2.551+01	2.778+01	2.723+01	2.552+01
1.500+04	*	6.468+01	8.172+01	8.594+01	8.052+01	7.050+01
2.000+04	*	3.478+01	4.393+01	4.618+01	4.324+01	3.783+01
2.250+04	*	4.145+01	5.129+01	5.302+01	4.892+01	4.220+01
2.500+04	*	3.489+01	4.303+01	4.434+01	4.080+01	3.510+01
2.750+04	*	2.922+01	3.593+01	3.695+01	3.395+01	2.914+01
3.000+04	*	2.422+01	2.970+01	3.048+01	2.796+01	2.399+01
3.250+04	*	2.031+01	2.488+01	2.550+01	2.336+01	2.004+01
3.500+04	*	2.143+01	2.564+01	2.579+01	2.327+01	1.969+01
3.750+04	*	1.816+01	2.170+01	2.180+01	1.960+01	1.651+01
4.000+04	*	1.489+01	1.775+01	1.779+01	1.599+01	1.345+01
4.500+04	*	1.003+01	1.193+01	1.194+01	1.071+01	8.995+00
5.000+04	*	6.195+00	7.368+00	7.372+00	6.614+00	5.557+00
5.500+04	*	3.774+00	4.500+00	4.512+00	4.055+00	3.412+00
6.000+04	*	2.040+00	2.455+00	2.481+00	2.244+00	1.898+00
6.500+04	*	1.400+00	1.685+00	1.702+00	1.539+00	1.302+00
7.000+04	*	9.737-01	1.169+00	1.179+00	1.064+00	8.992-01
7.250+04	*	8.358-01	1.001+00	1.008+00	9.094-01	7.675-01
7.500+04	*	6.979-01	8.338-01	8.377-01	7.544-01	6.359-01
7.750+04	*	6.153-01	7.333-01	7.354-01	6.612-01	5.566-01
8.000+04	*	5.327-01	6.329-01	6.330-01	5.680-01	4.774-01
8.250+04	*	4.777-01	5.653-01	5.637-01	5.045-01	4.231-01
8.500+04	*	4.228-01	4.978-01	4.944-01	4.411-01	3.689-01
8.750+04	*	3.919-01	4.597-01	4.552-01	4.051-01	3.381-01
9.000+04	*	3.610-01	4.216-01	4.160-01	3.691-01	3.073-01
9.250+04	*	3.350-01	3.895-01	3.827-01	3.384-01	2.810-01
9.500+04	*	3.091-01	3.573-01	3.495-01	3.078-01	2.547-01
9.750+04	*	2.955-01	3.404-01	3.319-01	2.916-01	2.407-01
1.000+05	*	2.819-01	3.234-01	3.143-01	2.753-01	2.267-01
1.200+05	*	2.512-01	2.820-01	2.688-01	2.316-01	1.879-01
1.400+05	*	3.179+03	1.897+03	1.066+03	5.866+02	3.238+02
1.600+05	*	3.416+03	2.038+03	1.146+03	6.303+02	3.479+02
1.800+05	*	3.425+03	2.044+03	1.149+03	6.320+02	3.488+02
2.000+05	*	3.236+03	1.931+03	1.085+03	5.971+02	3.296+02
2.200+05	*	2.910+03	1.736+03	9.761+02	5.370+02	2.964+02
2.600+05	*	1.446+03	8.626+02	4.849+02	2.668+02	1.473+02
3.000+05	*	5.441+02	3.247+02	1.825+02	1.004+02	5.544+01
4.000+05	*	7.456+02	4.448+02	2.500+02	1.376+02	7.592+01
5.000+05	*	1.268+02	7.566+01	4.253+01	2.340+01	1.292+01
7.500+05	*	1.306+02	7.790+01	4.379+01	2.409+01	1.330+01
1.000+06	*	1.022+02	6.096+01	3.427+01	1.885+01	1.040+01

(Continued)

TABLE III
(CONTINUED)

ABSORPTION COEFFICIENTS OF ARGON AT TOTAL PRESSURE = 500 ATM

WAVE NOS.	*	TEMPERATURES (DEG K)				
	*	3.000+04	0.000	0.000	0.000	0.000
CM-1	*	CM-1				

	*	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)
1.000+03	*	6.629+02	0.000	0.000	0.000	0.000
1.500+03	*	2.911+02	0.000	0.000	0.000	0.000
2.000+03	*	1.618+02	0.000	0.000	0.000	0.000
4.000+03	*	3.861+01	0.000	0.000	0.000	0.000
6.000+03	*	1.481+01	0.000	0.000	0.000	0.000
8.000+03	*	3.577+01	0.000	0.000	0.000	0.000
1.000+04	*	2.388+01	0.000	0.000	0.000	0.000
1.500+04	*	5.930+01	0.000	0.000	0.000	0.000
2.000+04	*	3.177+01	0.000	0.000	0.000	0.000
2.250+04	*	3.493+01	0.000	0.000	0.000	0.000
2.500+04	*	2.897+01	0.000	0.000	0.000	0.000
2.750+04	*	2.400+01	0.000	0.000	0.000	0.000
3.000+04	*	1.971+01	0.000	0.000	0.000	0.000
3.250+04	*	1.650+01	0.000	0.000	0.000	0.000
3.500+04	*	1.603+01	0.000	0.000	0.000	0.000
3.750+04	*	1.331+01	0.000	0.000	0.000	0.000
4.000+04	*	1.083+01	0.000	0.000	0.000	0.000
4.500+04	*	7.235+00	0.000	0.000	0.000	0.000
5.000+04	*	4.470+00	0.000	0.000	0.000	0.000
5.500+04	*	2.748+00	0.000	0.000	0.000	0.000
6.000+04	*	1.536+00	0.000	0.000	0.000	0.000
6.500+04	*	1.053+00	0.000	0.000	0.000	0.000
7.000+04	*	7.269-01	0.000	0.000	0.000	0.000
7.250+04	*	6.200-01	0.000	0.000	0.000	0.000
7.500+04	*	5.130-01	0.000	0.000	0.000	0.000
7.750+04	*	4.486-01	0.000	0.000	0.000	0.000
8.000+04	*	3.842-01	0.000	0.000	0.000	0.000
8.250+04	*	3.400-01	0.000	0.000	0.000	0.000
8.500+04	*	2.957-01	0.000	0.000	0.000	0.000
8.750+04	*	2.705-01	0.000	0.000	0.000	0.000
9.000+04	*	2.454-01	0.000	0.000	0.000	0.000
9.250+04	*	2.238-01	0.000	0.000	0.000	0.000
9.500+04	*	2.023-01	0.000	0.000	0.000	0.000
9.750+04	*	1.908-01	0.000	0.000	0.000	0.000
1.000+05	*	1.793-01	0.000	0.000	0.000	0.000
1.200+05	*	1.467-01	0.000	0.000	0.000	0.000
1.400+05	*	1.809+02	0.000	0.000	0.000	0.000
1.600+05	*	1.943+02	0.000	0.000	0.000	0.000
1.800+05	*	1.949+02	0.000	0.000	0.000	0.000
2.000+05	*	1.841+02	0.000	0.000	0.000	0.000
2.200+05	*	1.656+02	0.000	0.000	0.000	0.000
2.600+05	*	8.227+01	0.000	0.000	0.000	0.000
3.000+05	*	3.098+01	0.000	0.000	0.000	0.000
4.000+05	*	4.241+01	0.000	0.000	0.000	0.000
5.000+05	*	7.218+00	0.000	0.000	0.000	0.000
7.500+05	*	7.427+00	0.000	0.000	0.000	0.000
1.000+06	*	5.810+00	0.000	0.000	0.000	0.000

(Continued)

TABLE III
(CONTINUED)

ABSORPTION COEFFICIENTS OF ARGON AT TOTAL PRESSURE = 750 ATM

WAVE		TEMPERATURES (DEG K)				
NOS.	*	1.000+03	2.000+03	4.000+03	6.000+03	8.000+03
CM-1	*	CM-1				

	*	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)
1.000+03	*	0.000	0.000	0.000	2.839-09	4.305-06
1.500+03	*	0.000	0.000	0.000	1.300-09	1.939-06
2.000+03	*	0.000	0.000	0.000	7.531-10	1.105-06
4.000+03	*	0.000	0.000	0.000	2.246-10	3.065-07
6.000+03	*	0.000	0.000	0.000	1.312-10	1.653-07
8.000+03	*	0.000	2.504-31	5.238-13	5.628-07	5.358-04
1.000+04	*	0.000	1.719-31	3.594-13	3.861-07	3.675-04
1.500+04	*	0.000	2.019-29	5.225-12	2.933-06	2.050-03
2.000+04	*	0.000	1.097-29	2.829-12	1.585-06	1.106-03
2.250+04	*	0.000	6.812-28	1.428-11	3.909-06	2.014-03
2.500+04	*	0.000	6.738-28	1.362-11	3.584-06	1.797-03
2.750+04	*	0.000	6.323-28	1.243-11	3.188-06	1.569-03
3.000+04	*	0.000	5.779-28	1.111-11	2.788-06	1.350-03
3.250+04	*	0.000	5.146-28	9.722-12	2.408-06	1.155-03
3.500+04	*	0.000	2.932-25	1.061-10	7.786-06	2.246-03
3.750+04	*	0.000	2.525-25	9.202-11	6.742-06	1.937-03
4.000+04	*	0.000	2.119-25	7.798-11	5.699-06	1.627-03
4.500+04	*	0.000	1.545-25	5.687-11	4.084-06	1.145-03
5.000+04	*	0.000	1.014-25	3.644-11	2.574-06	7.141-04
5.500+04	*	0.000	6.212-26	2.134-11	1.504-06	4.203-04
6.000+04	*	0.000	2.989-26	8.966-12	6.502-07	1.930-04
6.500+04	*	0.000	2.429-26	6.671-12	4.644-07	1.351-04
7.000+04	*	0.000	2.201-26	5.619-12	3.659-07	1.012-04
7.250+04	*	0.000	2.158-26	5.363-12	3.386-07	9.117-05
7.500+04	*	0.000	2.116-26	5.107-12	3.112-07	8.113-05
7.750+04	*	0.000	2.125-26	5.014-12	2.975-07	7.557-05
8.000+04	*	0.000	2.135-26	4.921-12	2.838-07	7.002-05
8.250+04	*	0.000	2.177-26	4.935-12	2.787-07	6.715-05
8.500+04	*	0.000	2.218-26	4.949-12	2.736-07	6.428-05
8.750+04	*	0.000	2.268-26	5.002-12	2.726-07	6.300-05
9.000+04	*	0.000	2.318-26	5.055-12	2.717-07	6.172-05
9.250+04	*	0.000	2.369-26	5.114-12	2.717-07	6.081-05
9.500+04	*	0.000	2.420-26	5.174-12	2.717-07	5.991-05
9.750+04	*	0.000	2.478-26	5.252-12	2.735-07	5.973-05
1.000+05	*	0.000	2.536-26	5.330-12	2.753-07	5.956-05
1.200+05	*	0.000	3.113-26	6.281-12	3.138-07	6.527-05
1.400+05	*	1.850+05	9.250+04	4.625+04	3.083+04	2.312+04
1.600+05	*	1.988+05	9.938+04	4.969+04	3.313+04	2.484+04
1.800+05	*	1.993+05	9.965+04	4.983+04	3.322+04	2.491+04
2.000+05	*	1.883+05	9.415+04	4.707+04	3.138+04	2.353+04
2.200+05	*	1.694+05	8.468+04	4.234+04	2.823+04	2.117+04
2.600+05	*	8.413+04	4.206+04	2.103+04	1.402+04	1.051+04
3.000+05	*	3.166+04	1.583+04	7.915+03	5.276+03	3.957+03
4.000+05	*	4.339+04	2.169+04	1.085+04	7.231+03	5.423+03
5.000+05	*	7.378+03	3.689+03	1.844+03	1.230+03	9.221+02
7.500+05	*	7.598+03	3.799+03	1.899+03	1.266+03	9.496+02
1.000+06	*	5.946+03	2.973+03	1.487+03	9.910+02	7.432+02

(Continued)

TABLE III
(CONTINUED)

ABSORPTION COEFFICIENTS OF ARGON AT TOTAL PRESSURE = 750 ATM

WAVE		TEMPERATURES (DEG K)				
NOS.	*	1.000+04	1.200+04	1.400+04	1.600+04	1.800+04
CM-1	*	← CM-1 →				

	*	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)
1.000+03	*	3.313-04	5.753-03	4.258-02	2.080-01	1.249+00
1.500+03	*	1.478-04	2.550-03	1.879-02	9.129-02	5.457-01
2.000+03	*	8.337-05	1.429-03	1.048-02	5.068-02	3.016-01
4.000+03	*	2.218-05	3.702-04	2.654-03	1.227-02	6.668-02
6.000+03	*	1.143-05	1.853-04	1.299-03	5.776-03	2.862-02
8.000+03	*	3.116-02	4.486-01	2.865+00	1.063+01	2.617+01
1.000+04	*	2.137-02	3.076-01	1.964+00	7.289+00	1.795+01
1.500+04	*	9.968-02	1.277+00	7.519+00	2.627+01	6.173+01
2.000+04	*	5.374-02	6.882-01	4.048+00	1.414+01	3.321+01
2.250+04	*	8.339-02	9.698-01	5.353+00	1.787+01	4.060+01
2.500+04	*	7.301-02	8.382-01	4.583+00	1.519+01	3.433+01
2.750+04	*	6.292-02	7.157-01	3.886+00	1.282+01	2.884+01
3.000+04	*	5.353-02	6.038-01	3.259+00	1.069+01	2.398+01
3.250+04	*	4.553-02	5.113-01	2.750+00	9.003+00	2.014+01
3.500+04	*	6.886-02	6.714-01	3.308+00	1.021+01	2.192+01
3.750+04	*	5.910-02	5.740-01	2.820+00	8.684+00	1.860+01
4.000+04	*	4.933-02	4.766-01	2.331+00	7.154+00	1.528+01
4.500+04	*	3.424-02	3.276-01	1.591+00	4.857+00	1.033+01
5.000+04	*	2.124-02	2.027-01	9.831-01	3.000+00	6.381+00
5.500+04	*	1.261-02	1.213-01	5.919-01	1.815+00	3.875+00
6.000+04	*	6.095-03	6.084-02	3.051-01	9.544-01	2.070+00
6.500+04	*	4.225-03	4.198-02	2.100-01	6.559-01	1.421+00
7.000+04	*	3.071-03	2.997-02	1.483-01	4.600-01	9.918-01
7.250+04	*	2.717-03	2.621-02	1.287-01	3.973-01	8.536-01
7.500+04	*	2.363-03	2.245-02	1.091-01	3.345-01	7.153-01
7.750+04	*	2.159-03	2.025-02	9.757-02	2.972-01	6.327-01
8.000+04	*	1.955-03	1.805-02	8.600-02	2.599-01	5.501-01
8.250+04	*	1.837-03	1.670-02	7.867-02	2.357-01	4.958-01
8.500+04	*	1.720-03	1.535-02	7.133-02	2.116-01	4.415-01
8.750+04	*	1.660-03	1.463-02	6.732-02	1.982-01	4.111-01
9.000+04	*	1.599-03	1.391-02	6.331-02	1.848-01	3.807-01
9.250+04	*	1.553-03	1.333-02	6.004-02	1.737-01	3.554-01
9.500+04	*	1.507-03	1.275-02	5.676-02	1.626-01	3.301-01
9.750+04	*	1.487-03	1.248-02	5.513-02	1.570-01	3.169-01
1.000+05	*	1.468-03	1.221-02	5.350-02	1.513-01	3.038-01
1.200+05	*	1.543-03	1.232-02	5.201-02	1.423-01	2.776-01
1.400+05	*	1.847+04	1.525+04	1.264+04	1.014+04	7.586+03
1.600+05	*	1.984+04	1.638+04	1.358+04	1.090+04	8.150+03
1.800+05	*	1.990+04	1.643+04	1.362+04	1.093+04	8.173+03
2.000+05	*	1.880+04	1.552+04	1.286+04	1.032+04	7.721+03
2.200+05	*	1.691+04	1.396+04	1.157+04	9.283+03	6.944+03
2.600+05	*	8.398+03	6.935+03	5.748+03	4.612+03	3.450+03
3.000+05	*	3.160+03	2.610+03	2.163+03	1.735+03	1.298+03
4.000+05	*	4.331+03	3.576+03	2.964+03	2.378+03	1.779+03
5.000+05	*	7.365+02	6.081+02	5.040+02	4.044+02	3.025+02
7.500+05	*	7.585+02	6.263+02	5.191+02	4.165+02	3.115+02
1.000+06	*	5.936+02	4.901+02	4.062+02	3.259+02	2.438+02

(Continued)

TABLE III
(CONTINUED)

ABSORPTION COEFFICIENTS OF ARGON AT TOTAL PRESSURE = 750 ATM

WAVE NOS.	*	TEMPERATURES (DEG K)				
	*	2.000+04	2.200+04	2.400+04	2.600+04	2.800+04
CM-1	*	CM-1				

	*	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)
1.000+03	*	8.715+00	4.288+01	1.409+02	3.462+02	6.939+02
1.500+03	*	3.806+00	1.875+01	6.169+01	1.518+02	3.045+02
2.000+03	*	2.104+00	1.038+01	3.419+01	8.423+01	1.691+02
4.000+03	*	4.517-01	2.281+00	7.723+00	1.949+01	3.997+01
6.000+03	*	1.812-01	8.848-01	2.959+00	7.411+00	1.511+01
8.000+03	*	4.630+01	6.355+01	7.254+01	7.428+01	7.176+01
1.000+04	*	3.174+01	4.354+01	4.960+01	5.060+01	4.854+01
1.500+04	*	1.051+02	1.394+02	1.533+02	1.496+02	1.344+02
2.000+04	*	5.655+01	7.495+01	8.239+01	8.031+01	7.212+01
2.250+04	*	6.739+01	8.752+01	9.459+01	9.086+01	8.047+01
2.500+04	*	5.672+01	7.341+01	7.911+01	7.577+01	6.694+01
2.750+04	*	4.750+01	6.131+01	6.593+01	6.305+01	5.556+01
3.000+04	*	3.937+01	5.068+01	5.438+01	5.193+01	4.574+01
3.250+04	*	3.302+01	4.245+01	4.550+01	4.339+01	3.821+01
3.500+04	*	3.485+01	4.375+01	4.602+01	4.322+01	3.755+01
3.750+04	*	2.952+01	3.702+01	3.889+01	3.640+01	3.148+01
4.000+04	*	2.420+01	3.028+01	3.174+01	2.969+01	2.565+01
4.500+04	*	1.631+01	2.036+01	2.130+01	1.989+01	1.716+01
5.000+04	*	1.007+01	1.257+01	1.315+01	1.228+01	1.060+01
5.500+04	*	6.135+00	7.677+00	8.049+00	7.531+00	6.507+00
6.000+04	*	3.316+00	4.189+00	4.426+00	4.167+00	3.620+00
6.500+04	*	2.276+00	2.874+00	3.036+00	2.858+00	2.483+00
7.000+04	*	1.583+00	1.994+00	2.103+00	1.977+00	1.715+00
7.250+04	*	1.359+00	1.708+00	1.799+00	1.689+00	1.464+00
7.500+04	*	1.135+00	1.423+00	1.495+00	1.401+00	1.213+00
7.750+04	*	1.000+00	1.251+00	1.312+00	1.228+00	1.062+00
8.000+04	*	8.661-01	1.080+00	1.129+00	1.055+00	9.104-01
8.250+04	*	7.767-01	9.646-01	1.006+00	9.370-01	8.070-01
8.500+04	*	6.873-01	8.494-01	8.821-01	8.192-01	7.036-01
8.750+04	*	6.370-01	7.844-01	8.121-01	7.523-01	6.448-01
9.000+04	*	5.868-01	7.194-01	7.421-01	6.854-01	5.860-01
9.250+04	*	5.446-01	6.645-01	6.828-01	6.286-01	5.359-01
9.500+04	*	5.024-01	6.096-01	6.235-01	5.717-01	4.857-01
9.750+04	*	4.803-01	5.807-01	5.921-01	5.415-01	4.591-01
1.000+05	*	4.583-01	5.518-01	5.608-01	5.114-01	4.324-01
1.200+05	*	4.083-01	4.811-01	4.796-01	4.301-01	3.584-01
1.400+05	*	5.168+03	3.236+03	1.902+03	1.089+03	6.176+02
1.600+05	*	5.553+03	3.477+03	2.044+03	1.171+03	6.635+02
1.800+05	*	5.568+03	3.487+03	2.049+03	1.174+03	6.653+02
2.000+05	*	5.261+03	3.294+03	1.936+03	1.109+03	6.285+02
2.200+05	*	4.732+03	2.963+03	1.741+03	9.973+02	5.653+02
2.600+05	*	2.350+03	1.472+03	8.651+02	4.955+02	2.809+02
3.000+05	*	8.846+02	5.539+02	3.256+02	1.865+02	1.057+02
4.000+05	*	1.212+03	7.590+02	4.461+02	2.555+02	1.448+02
5.000+05	*	2.061+02	1.291+02	7.588+01	4.346+01	2.464+01
7.500+05	*	2.123+02	1.329+02	7.812+01	4.474+01	2.536+01
1.000+06	*	1.661+02	1.040+02	6.113+01	3.501+01	1.984+01

(Continued)

TABLE III
(CONTINUED)

ABSORPTION COEFFICIENTS OF ARGON AT TOTAL PRESSURE = 750 ATM

WAVE NOS.	TEMPERATURES (DEG K)				
CM-1	3.000+04	0.000	0.000	0.000	0.000
CM-1	CM-1				
*****	*****	*****	*****	*****	*****
	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)
1.000+03	1.218+03	0.000	0.000	0.000	0.000
1.500+03	5.350+02	0.000	0.000	0.000	0.000
2.000+03	2.974+02	0.000	0.000	0.000	0.000
4.000+03	7.095+01	0.000	0.000	0.000	0.000
6.000+03	2.722+01	0.000	0.000	0.000	0.000
8.000+03	6.921+01	0.000	0.000	0.000	0.000
1.000+04	4.627+01	0.000	0.000	0.000	0.000
1.500+04	1.161+02	0.000	0.000	0.000	0.000
2.000+04	6.219+01	0.000	0.000	0.000	0.000
2.250+04	6.842+01	0.000	0.000	0.000	0.000
2.500+04	5.676+01	0.000	0.000	0.000	0.000
2.750+04	4.701+01	0.000	0.000	0.000	0.000
3.000+04	3.861+01	0.000	0.000	0.000	0.000
3.250+04	3.232+01	0.000	0.000	0.000	0.000
3.500+04	3.141+01	0.000	0.000	0.000	0.000
3.750+04	2.610+01	0.000	0.000	0.000	0.000
4.000+04	2.124+01	0.000	0.000	0.000	0.000
4.500+04	1.419+01	0.000	0.000	0.000	0.000
5.000+04	8.766+00	0.000	0.000	0.000	0.000
5.500+04	5.389+00	0.000	0.000	0.000	0.000
6.000+04	3.012+00	0.000	0.000	0.000	0.000
6.500+04	2.066+00	0.000	0.000	0.000	0.000
7.000+04	1.425+00	0.000	0.000	0.000	0.000
7.250+04	1.216+00	0.000	0.000	0.000	0.000
7.500+04	1.006+00	0.000	0.000	0.000	0.000
7.750+04	8.798-01	0.000	0.000	0.000	0.000
8.000+04	7.535-01	0.000	0.000	0.000	0.000
8.250+04	6.667-01	0.000	0.000	0.000	0.000
8.500+04	5.799-01	0.000	0.000	0.000	0.000
8.750+04	5.305-01	0.000	0.000	0.000	0.000
9.000+04	4.811-01	0.000	0.000	0.000	0.000
9.250+04	4.389-01	0.000	0.000	0.000	0.000
9.500+04	3.967-01	0.000	0.000	0.000	0.000
9.750+04	3.742-01	0.000	0.000	0.000	0.000
1.000+05	3.517-01	0.000	0.000	0.000	0.000
1.200+05	2.877-01	0.000	0.000	0.000	0.000
1.400+05	3.547+02	0.000	0.000	0.000	0.000
1.600+05	3.811+02	0.000	0.000	0.000	0.000
1.800+05	3.821+02	0.000	0.000	0.000	0.000
2.000+05	3.610+02	0.000	0.000	0.000	0.000
2.200+05	3.247+02	0.000	0.000	0.000	0.000
2.600+05	1.613+02	0.000	0.000	0.000	0.000
3.000+05	6.075+01	0.000	0.000	0.000	0.000
4.000+05	8.317+01	0.000	0.000	0.000	0.000
5.000+05	1.415+01	0.000	0.000	0.000	0.000
7.500+05	1.456+01	0.000	0.000	0.000	0.000
1.000+06	1.139+01	0.000	0.000	0.000	0.000

(Continued)

TABLE III
(CONTINUED)

ABSORPTION COEFFICIENTS OF ARGON AT TOTAL PRESSURE = 1000 ATM

WAVE		TEMPERATURES (DEG K)				
NOS.	*	1.000+03	2.000+03	4.000+03	6.000+03	8.000+03
CM-1	*	CM-1				

	*	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)
1.000+03	*	0.000	0.000	0.000	3.785-09	5.740-06
1.500+03	*	0.000	0.000	0.000	1.733-09	2.585-06
2.000+03	*	0.000	0.000	0.000	1.004-09	1.473-06
4.000+03	*	0.000	0.000	0.000	2.995-10	4.086-07
6.000+03	*	0.000	0.000	0.000	1.750-10	2.204-07
8.000+03	*	0.000	3.339-31	6.984-13	7.504-07	7.144-04
1.000+04	*	0.000	2.292-31	4.792-13	5.148-07	4.900-04
1.500+04	*	0.000	2.692-29	6.967-12	3.910-06	2.733-03
2.000+04	*	0.000	1.463-29	3.772-12	2.113-06	1.475-03
2.250+04	*	0.000	9.083-28	1.904-11	5.212-06	2.686-03
2.500+04	*	0.000	8.984-28	1.815-11	4.779-06	2.395-03
2.750+04	*	0.000	8.431-28	1.658-11	4.251-06	2.091-03
3.000+04	*	0.000	7.705-28	1.481-11	3.717-06	1.800-03
3.250+04	*	0.000	6.861-28	1.296-11	3.211-06	1.540-03
3.500+04	*	0.000	3.909-25	1.414-10	1.038-05	2.995-03
3.750+04	*	0.000	3.367-25	1.227-10	8.990-06	2.582-03
4.000+04	*	0.000	2.825-25	1.040-10	7.599-06	2.169-03
4.500+04	*	0.000	2.060-25	7.583-11	5.445-06	1.526-03
5.000+04	*	0.000	1.352-25	4.859-11	3.433-06	9.521-04
5.500+04	*	0.000	8.283-26	2.846-11	2.005-06	5.604-04
6.000+04	*	0.000	3.986-26	1.195-11	8.670-07	2.573-04
6.500+04	*	0.000	3.238-26	8.894-12	6.192-07	1.801-04
7.000+04	*	0.000	2.934-26	7.492-12	4.879-07	1.350-04
7.250+04	*	0.000	2.877-26	7.151-12	4.514-07	1.216-04
7.500+04	*	0.000	2.821-26	6.809-12	4.150-07	1.082-04
7.750+04	*	0.000	2.834-26	6.685-12	3.967-07	1.008-04
8.000+04	*	0.000	2.846-26	6.562-12	3.784-07	9.336-05
8.250+04	*	0.000	2.902-26	6.580-12	3.716-07	8.953-05
8.500+04	*	0.000	2.958-26	6.599-12	3.648-07	8.571-05
8.750+04	*	0.000	3.024-26	6.669-12	3.635-07	8.400-05
9.000+04	*	0.000	3.091-26	6.740-12	3.622-07	8.229-05
9.250+04	*	0.000	3.159-26	6.819-12	3.622-07	8.109-05
9.500+04	*	0.000	3.226-26	6.898-12	3.622-07	7.988-05
9.750+04	*	0.000	3.304-26	7.002-12	3.647-07	7.965-05
1.000+05	*	0.000	3.382-26	7.106-12	3.671-07	7.941-05
1.200+05	*	0.000	4.151-26	8.375-12	4.184-07	8.703-05
1.400+05	*	2.467+05	1.233+05	6.166+04	4.111+04	3.083+04
1.600+05	*	2.650+05	1.325+05	6.625+04	4.417+04	3.312+04
1.800+05	*	2.657+05	1.329+05	6.644+04	4.429+04	3.321+04
2.000+05	*	2.511+05	1.255+05	6.277+04	4.184+04	3.138+04
2.200+05	*	2.258+05	1.129+05	5.645+04	3.763+04	2.822+04
2.600+05	*	1.122+05	5.609+04	2.804+04	1.870+04	1.402+04
3.000+05	*	4.221+04	2.111+04	1.055+04	7.035+03	5.276+03
4.000+05	*	5.785+04	2.892+04	1.446+04	9.641+03	7.230+03
5.000+05	*	9.837+03	4.918+03	2.459+03	1.639+03	1.229+03
7.500+05	*	1.013+04	5.065+03	2.533+03	1.688+03	1.266+03
1.000+06	*	7.928+03	3.964+03	1.982+03	1.321+03	9.909+02

(Continued)

TABLE III
(CONTINUED)

ABSORPTION COEFFICIENTS OF ARGON AT TOAL PRESSURE = 1000 ATM

WAVE	*	TEMPERATURES (DEG K)				
NOS.	*	1.000+04	1.200+04	1.400+04	1.600+04	1.800+04
CM-1	*	CM-1				

	*	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)
1.000+03	*	4.418-04	7.680-03	5.703-02	2.825-01	1.795+00
1.500+03	*	1.971-04	3.405-03	2.516-02	1.240-01	7.839-01
2.000+03	*	1.112-04	1.908-03	1.404-02	6.884-02	4.333-01
4.000+03	*	2.958-05	4.942-04	3.555-03	1.665-02	9.545-02
6.000+03	*	1.525-05	2.473-04	1.740-03	7.831-03	4.082-02
8.000+03	*	4.155-02	5.989-01	3.837+00	1.435+01	3.582+01
1.000+04	*	2.850-02	4.107-01	2.632+00	9.843+00	2.456+01
1.500+04	*	1.329-01	1.705+00	1.007+01	3.547+01	8.449+01
2.000+04	*	7.167-02	9.188-01	5.423+00	1.909+01	4.545+01
2.250+04	*	1.112-01	1.295+00	7.170+00	2.413+01	5.557+01
2.500+04	*	9.737-02	1.119+00	6.139+00	2.051+01	4.699+01
2.750+04	*	8.391-02	9.555-01	5.206+00	1.731+01	3.948+01
3.000+04	*	7.138-02	8.061-01	4.365+00	1.444+01	3.282+01
3.250+04	*	6.072-02	6.826-01	3.684+00	1.216+01	2.757+01
3.500+04	*	9.184-02	8.964-01	4.432+00	1.379+01	3.000+01
3.750+04	*	7.881-02	7.663-01	3.777+00	1.173+01	2.546+01
4.000+04	*	6.579-02	6.363-01	3.123+00	9.661+00	2.092+01
4.500+04	*	4.566-02	4.373-01	2.131+00	6.559+00	1.415+01
5.000+04	*	2.833-02	2.706-01	1.317+00	4.050+00	8.734+00
5.500+04	*	1.682-02	1.619-01	7.929-01	2.450+00	5.304+00
6.000+04	*	8.129-03	8.123-02	4.087-01	1.289+00	2.833+00
6.500+04	*	5.634-03	5.604-02	2.813-01	8.858-01	1.945+00
7.000+04	*	4.096-03	4.001-02	1.987-01	6.211-01	1.358+00
7.250+04	*	3.623-03	3.499-02	1.724-01	5.364-01	1.168+00
7.500+04	*	3.151-03	2.997-02	1.462-01	4.517-01	9.790-01
7.750+04	*	2.879-03	2.703-02	1.307-01	4.014-01	8.660-01
8.000+04	*	2.608-03	2.409-02	1.152-01	3.510-01	7.530-01
8.250+04	*	2.450-03	2.229-02	1.054-01	3.183-01	6.786-01
8.500+04	*	2.293-03	2.049-02	9.556-02	2.857-01	6.042-01
8.750+04	*	2.213-03	1.953-02	9.019-02	2.676-01	5.627-01
9.000+04	*	2.133-03	1.857-02	8.482-02	2.495-01	5.211-01
9.250+04	*	2.071-03	1.780-02	8.043-02	2.346-01	4.864-01
9.500+04	*	2.009-03	1.702-02	7.604-02	2.196-01	4.518-01
9.750+04	*	1.984-03	1.666-02	7.385-02	2.120-01	4.338-01
1.000+05	*	1.958-03	1.630-02	7.167-02	2.043-01	4.158-01
1.200+05	*	2.058-03	1.644-02	6.967-02	1.922-01	3.799-01
1.400+05	*	2.463+04	2.036+04	1.693+04	1.369+04	1.038+04
1.600+05	*	2.646+04	2.187+04	1.819+04	1.471+04	1.116+04
1.800+05	*	2.653+04	2.193+04	1.824+04	1.475+04	1.119+04
2.000+05	*	2.507+04	2.072+04	1.723+04	1.394+04	1.057+04
2.200+05	*	2.255+04	1.864+04	1.550+04	1.254+04	9.505+03
2.600+05	*	1.120+04	9.258+03	7.699+03	6.227+03	4.722+03
3.000+05	*	4.215+03	3.484+03	2.897+03	2.343+03	1.777+03
4.000+05	*	5.776+03	4.774+03	3.971+03	3.211+03	2.435+03
5.000+05	*	9.822+02	8.119+02	6.752+02	5.461+02	4.141+02
7.500+05	*	1.012+03	8.361+02	6.954+02	5.624+02	4.264+02
1.000+06	*	7.916+02	6.544+02	5.442+02	4.401+02	3.337+02

(Continued)

TABLE III
(CONTINUED)

ABSORPTION COEFFICIENTS OF ARGON AT TOTAL PRESSURE = 1000 ATM

WAVE	*	TEMPERATURES (DEG K)				
NOS.	*	2.000+04	2.200+04	2.400+04	2.600+04	2.800+04
CM-1	*	CM-1				

	*	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)
1.000+03	*	1.340+01	6.848+01	2.282+02	5.609+02	1.120+03
1.500+03	*	5.851+00	2.995+01	9.993+01	2.459+02	4.913+02
2.000+03	*	3.234+00	1.658+01	5.539+01	1.364+02	2.729+02
4.000+03	*	6.934-01	3.642+00	1.251+01	3.158+01	6.449+01
6.000+03	*	2.775-01	1.412+00	4.791+00	1.201+01	2.438+01
8.000+03	*	6.497+01	9.179+01	1.080+02	1.139+02	1.131+02
1.000+04	*	4.454+01	6.288+01	7.385+01	7.756+01	7.650+01
1.500+04	*	1.475+02	2.013+02	2.280+02	2.287+02	2.114+02
2.000+04	*	7.932+01	1.082+02	1.225+02	1.228+02	1.134+02
2.250+04	*	9.453+01	1.263+02	1.406+02	1.389+02	1.265+02
2.500+04	*	7.957+01	1.060+02	1.176+02	1.158+02	1.052+02
2.750+04	*	6.664+01	8.850+01	9.802+01	9.640+01	8.735+01
3.000+04	*	5.523+01	7.316+01	8.084+01	7.939+01	7.192+01
3.250+04	*	4.632+01	6.128+01	6.764+01	6.634+01	6.008+01
3.500+04	*	4.888+01	6.315+01	6.841+01	6.607+01	5.904+01
3.750+04	*	4.142+01	5.343+01	5.782+01	5.564+01	4.949+01
4.000+04	*	3.395+01	4.370+01	4.718+01	4.539+01	4.032+01
4.500+04	*	2.288+01	2.938+01	3.166+01	3.040+01	2.697+01
5.000+04	*	1.413+01	1.814+01	1.955+01	1.878+01	1.666+01
5.500+04	*	8.606+00	1.108+01	1.196+01	1.151+01	1.023+01
6.000+04	*	4.651+00	6.046+00	6.579+00	6.370+00	5.691+00
6.500+04	*	3.193+00	4.148+00	4.513+00	4.369+00	3.903+00
7.000+04	*	2.221+00	2.878+00	3.125+00	3.021+00	2.696+00
7.250+04	*	1.906+00	2.466+00	2.673+00	2.582+00	2.301+00
7.500+04	*	1.592+00	2.053+00	2.222+00	2.142+00	1.906+00
7.750+04	*	1.403+00	1.806+00	1.950+00	1.877+00	1.669+00
8.000+04	*	1.215+00	1.559+00	1.679+00	1.612+00	1.431+00
8.250+04	*	1.090+00	1.392+00	1.495+00	1.432+00	1.269+00
8.500+04	*	9.641-01	1.226+00	1.311+00	1.252+00	1.106+00
8.750+04	*	8.937-01	1.132+00	1.207+00	1.150+00	1.014+00
9.000+04	*	8.232-01	1.038+00	1.103+00	1.048+00	9.212-01
9.250+04	*	7.640-01	9.591-01	1.015+00	9.608-01	8.424-01
9.500+04	*	7.048-01	8.799-01	9.268-01	8.738-01	7.635-01
9.750+04	*	6.738-01	8.382-01	8.802-01	8.277-01	7.216-01
1.000+05	*	6.428-01	7.965-01	8.336-01	7.816-01	6.797-01
1.200+05	*	5.728-01	6.943-01	7.129-01	6.574-01	5.633-01
1.400+05	*	7.250+03	4.671+03	2.828+03	1.665+03	9.708+02
1.600+05	*	7.790+03	5.019+03	3.038+03	1.789+03	1.043+03
1.800+05	*	7.811+03	5.033+03	3.046+03	1.794+03	1.046+03
2.000+05	*	7.380+03	4.755+03	2.878+03	1.695+03	9.880+02
2.200+05	*	6.637+03	4.276+03	2.589+03	1.524+03	8.886+02
2.600+05	*	3.297+03	2.124+03	1.286+03	7.574+02	4.415+02
3.000+05	*	1.241+03	7.995+02	4.840+02	2.851+02	1.662+02
4.000+05	*	1.700+03	1.095+03	6.631+02	3.905+02	2.276+02
5.000+05	*	2.892+02	1.863+02	1.128+02	6.643+01	3.873+01
7.500+05	*	2.978+02	1.918+02	1.161+02	6.838+01	3.986+01
1.000+06	*	2.330+02	1.501+02	9.087+01	5.351+01	3.119+01

(Continued)

TABLE III
(CONCLUDED)

ABSORPTION COEFFICIENTS OF ARGON AT TOTAL PRESSURE = 1000 ATM

WAVE NOS.	*	TEMPERATURES (DEG K)				
	*	3.000+04	0.000	0.000	0.000	0.000
CM-1	*	CM-1				

	*	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)	A(TOTAL)
1.000+03	*	1.941+03	0.000	0.000	0.000	0.000
1.500+03	*	8.525+02	0.000	0.000	0.000	0.000
2.000+03	*	4.739+02	0.000	0.000	0.000	0.000
4.000+03	*	1.131+02	0.000	0.000	0.000	0.000
6.000+03	*	4.337+01	0.000	0.000	0.000	0.000
8.000+03	*	1.107+02	0.000	0.000	0.000	0.000
1.000+04	*	7.404+01	0.000	0.000	0.000	0.000
1.500+04	*	1.859+02	0.000	0.000	0.000	0.000
2.000+04	*	9.960+01	0.000	0.000	0.000	0.000
2.250+04	*	1.096+02	0.000	0.000	0.000	0.000
2.500+04	*	9.090+01	0.000	0.000	0.000	0.000
2.750+04	*	7.529+01	0.000	0.000	0.000	0.000
3.000+04	*	6.184+01	0.000	0.000	0.000	0.000
3.250+04	*	5.176+01	0.000	0.000	0.000	0.000
3.500+04	*	5.031+01	0.000	0.000	0.000	0.000
3.750+04	*	4.180+01	0.000	0.000	0.000	0.000
4.000+04	*	3.402+01	0.000	0.000	0.000	0.000
4.500+04	*	2.272+01	0.000	0.000	0.000	0.000
5.000+04	*	1.404+01	0.000	0.000	0.000	0.000
5.500+04	*	8.632+00	0.000	0.000	0.000	0.000
6.000+04	*	4.824+00	0.000	0.000	0.000	0.000
6.500+04	*	3.308+00	0.000	0.000	0.000	0.000
7.000+04	*	2.283+00	0.000	0.000	0.000	0.000
7.250+04	*	1.947+00	0.000	0.000	0.000	0.000
7.500+04	*	1.611+00	0.000	0.000	0.000	0.000
7.750+04	*	1.409+00	0.000	0.000	0.000	0.000
8.000+04	*	1.207+00	0.000	0.000	0.000	0.000
8.250+04	*	1.068+00	0.000	0.000	0.000	0.000
8.500+04	*	9.288-01	0.000	0.000	0.000	0.000
8.750+04	*	8.497-01	0.000	0.000	0.000	0.000
9.000+04	*	7.706-01	0.000	0.000	0.000	0.000
9.250+04	*	7.029-01	0.000	0.000	0.000	0.000
9.500+04	*	6.353-01	0.000	0.000	0.000	0.000
9.750+04	*	5.993-01	0.000	0.000	0.000	0.000
1.000+05	*	5.633-01	0.000	0.000	0.000	0.000
1.200+05	*	4.607-01	0.000	0.000	0.000	0.000
1.400+05	*	5.681+02	0.000	0.000	0.000	0.000
1.600+05	*	6.104+02	0.000	0.000	0.000	0.000
1.800+05	*	6.120+02	0.000	0.000	0.000	0.000
2.000+05	*	5.782+02	0.000	0.000	0.000	0.000
2.200+05	*	5.200+02	0.000	0.000	0.000	0.000
2.600+05	*	2.584+02	0.000	0.000	0.000	0.000
3.000+05	*	9.730+01	0.000	0.000	0.000	0.000
4.000+05	*	1.332+02	0.000	0.000	0.000	0.000
5.000+05	*	2.267+01	0.000	0.000	0.000	0.000
7.500+05	*	2.333+01	0.000	0.000	0.000	0.000
1.000+06	*	1.825+01	0.000	0.000	0.000	0.000

TABLE IV

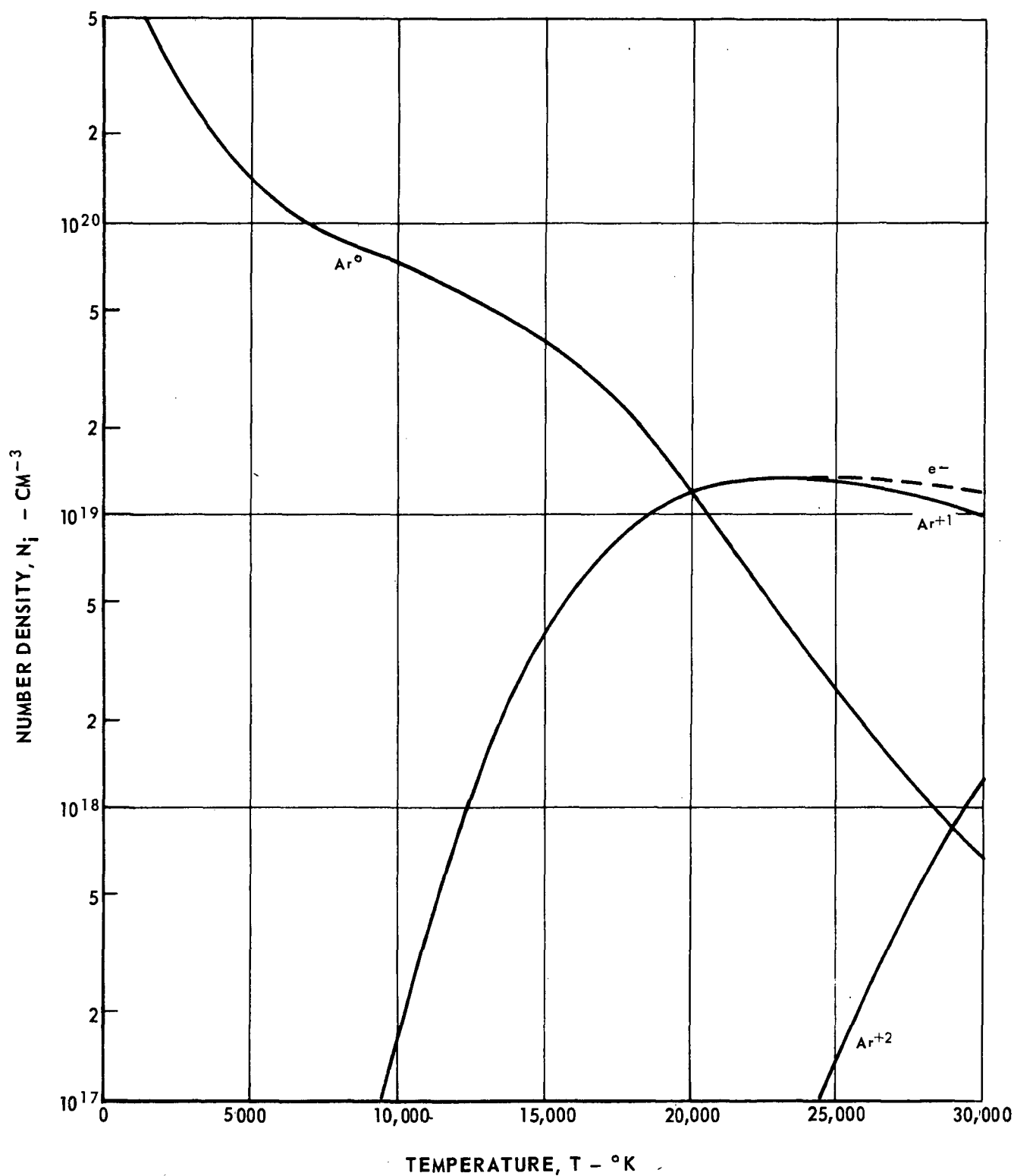
LOW-LYING ENERGY LEVELS FOR SI I

Data from Ref. 8

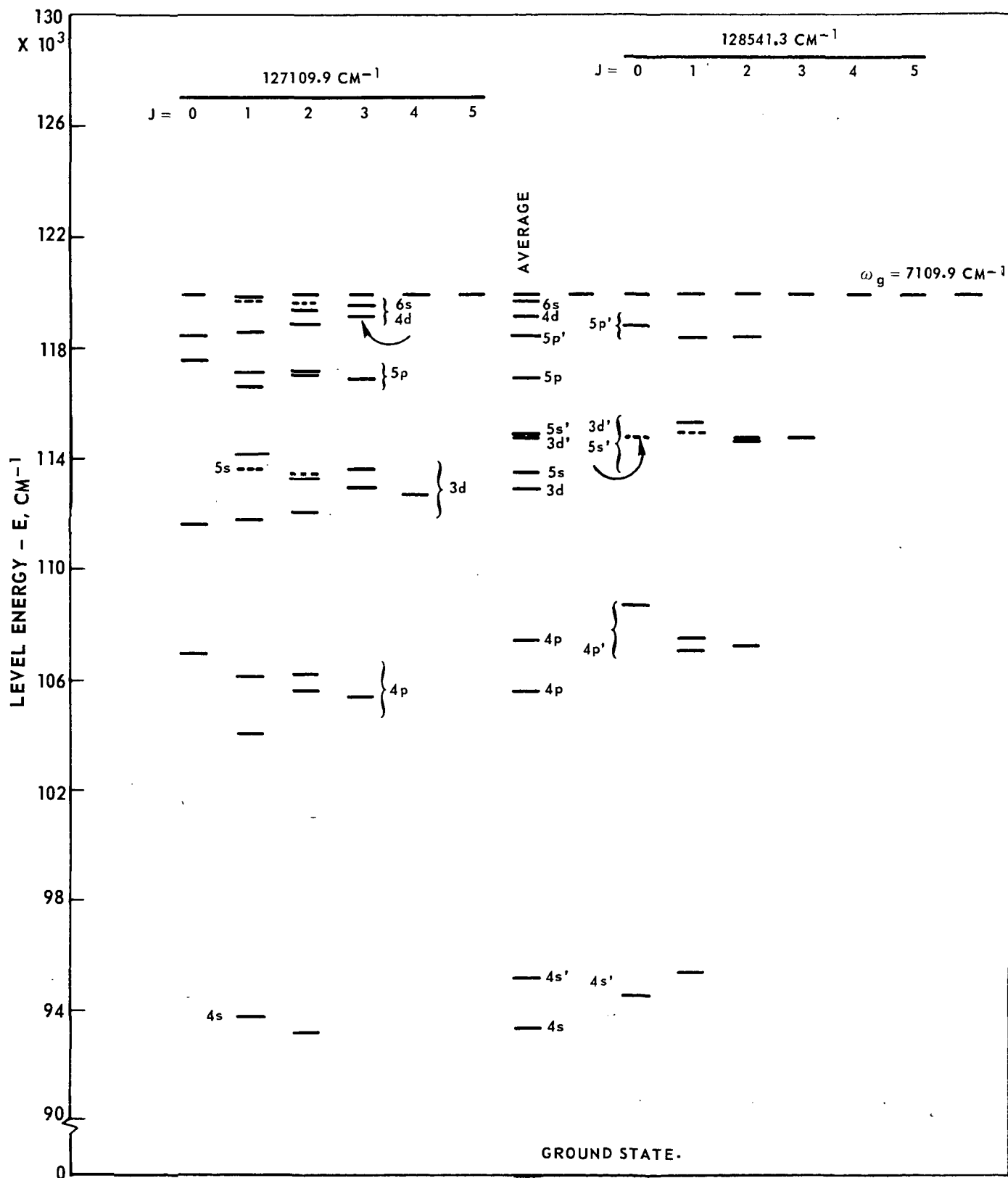
Ionization Potential: 65743.0 cm^{-1}

Level	Energy cm^{-1}	Threshold Wave Number for Bound-Free Transition cm^{-1}
$3p^2 \ 3P$	0	65743.0
$3p^2 \ 1D$	6298.8	59344.2
$3p^2 \ 1S$	15394.24	50348.8

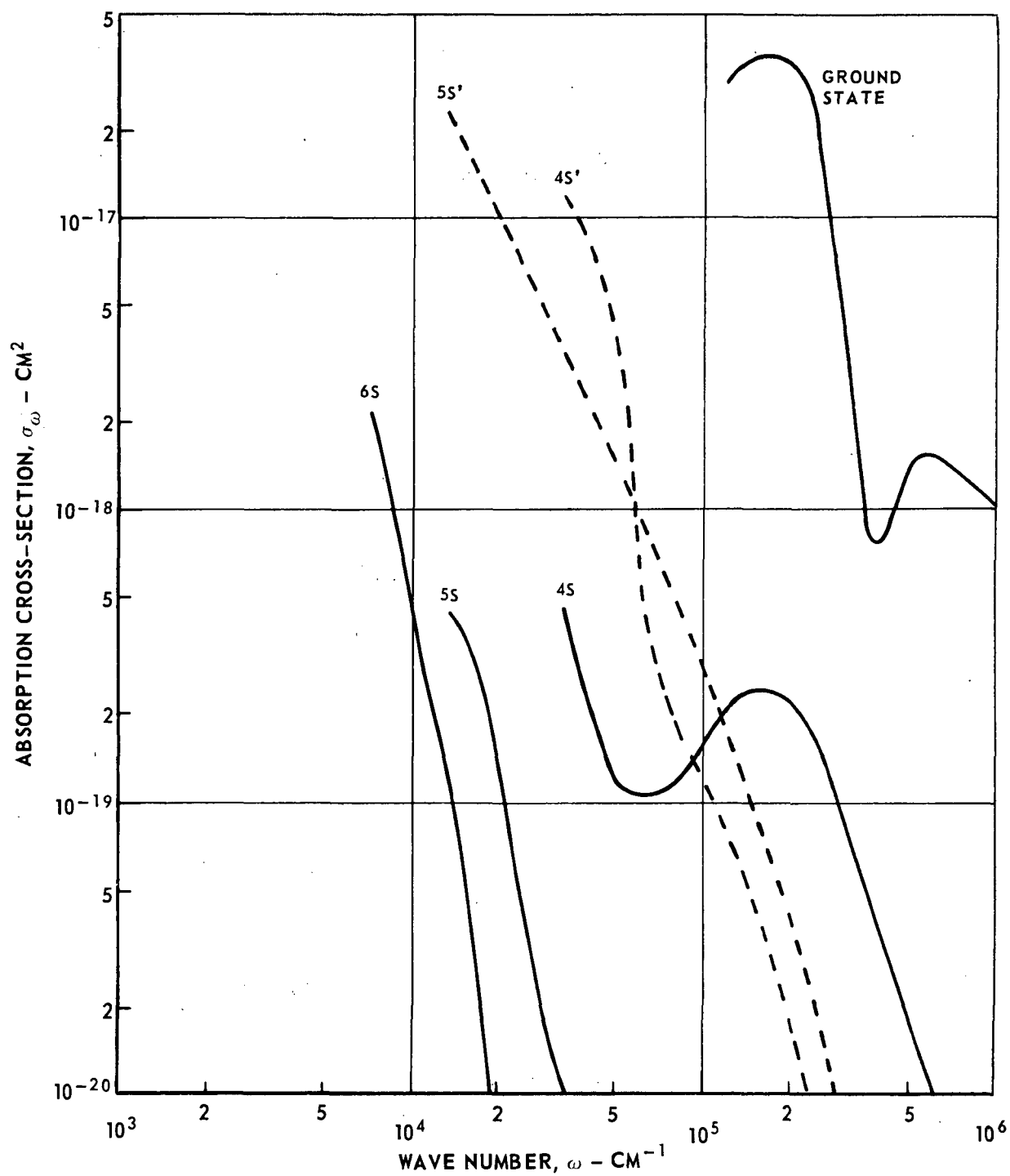
NUMBER DENSITY DISTRIBUTION FOR ARGON AS A FUNCTION OF TEMPERATURE
AT A TOTAL PRESSURE OF 100 ATM



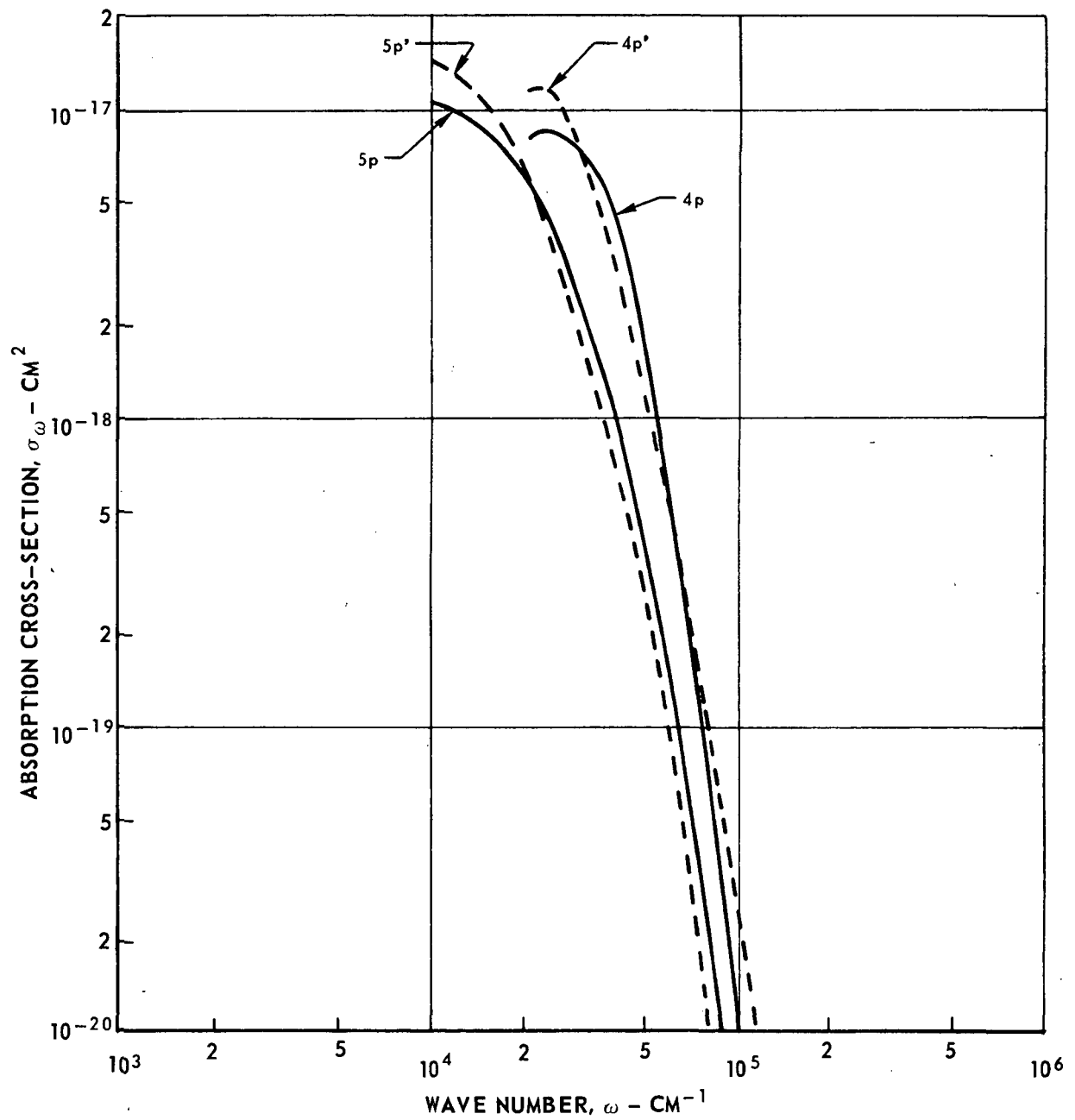
LOW-LYING EXCITED STATES OF ARGON



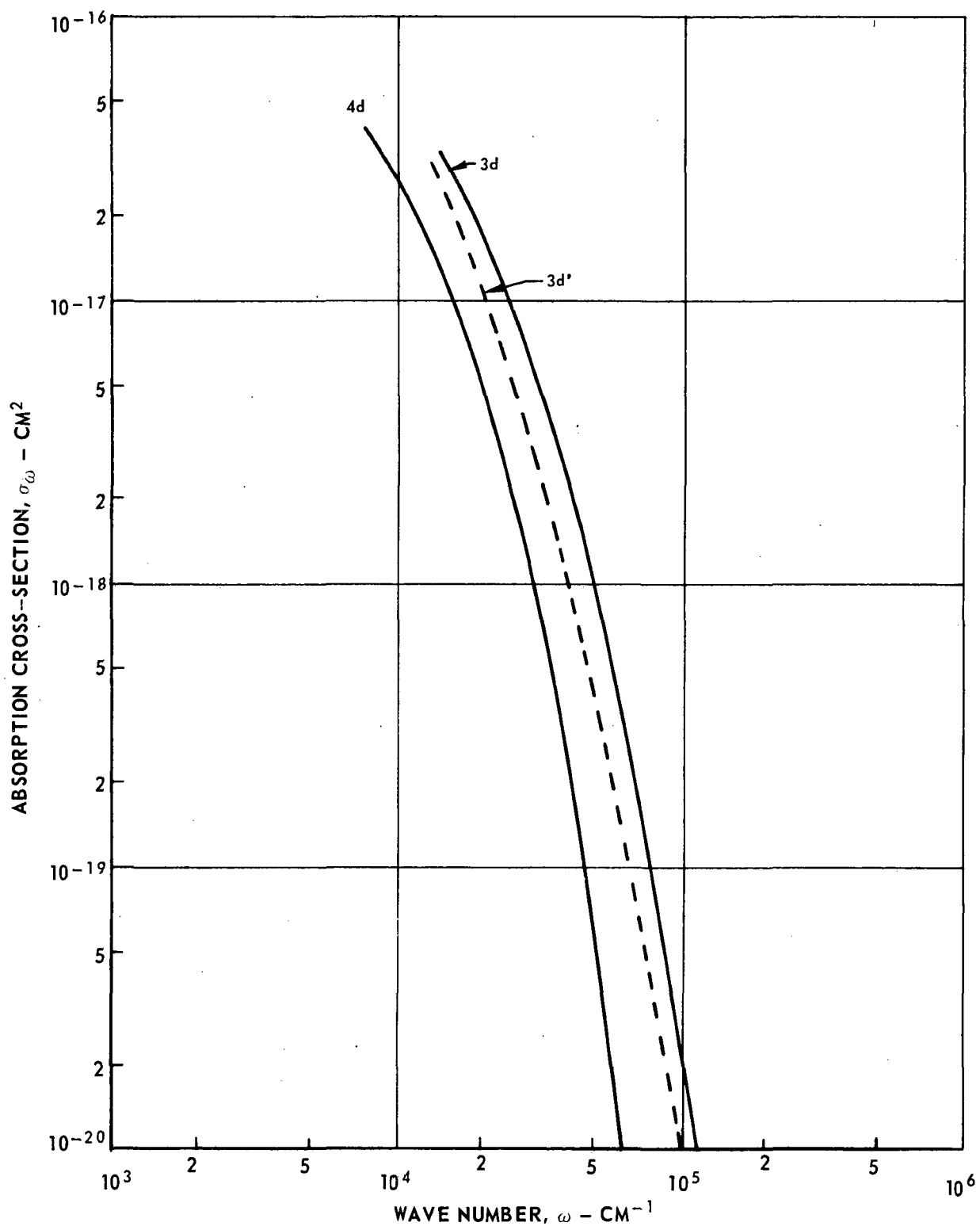
BOUND-FREE CROSS-SECTION OF ARGON I "s" LEVELS
AS A FUNCTION OF WAVE NUMBER



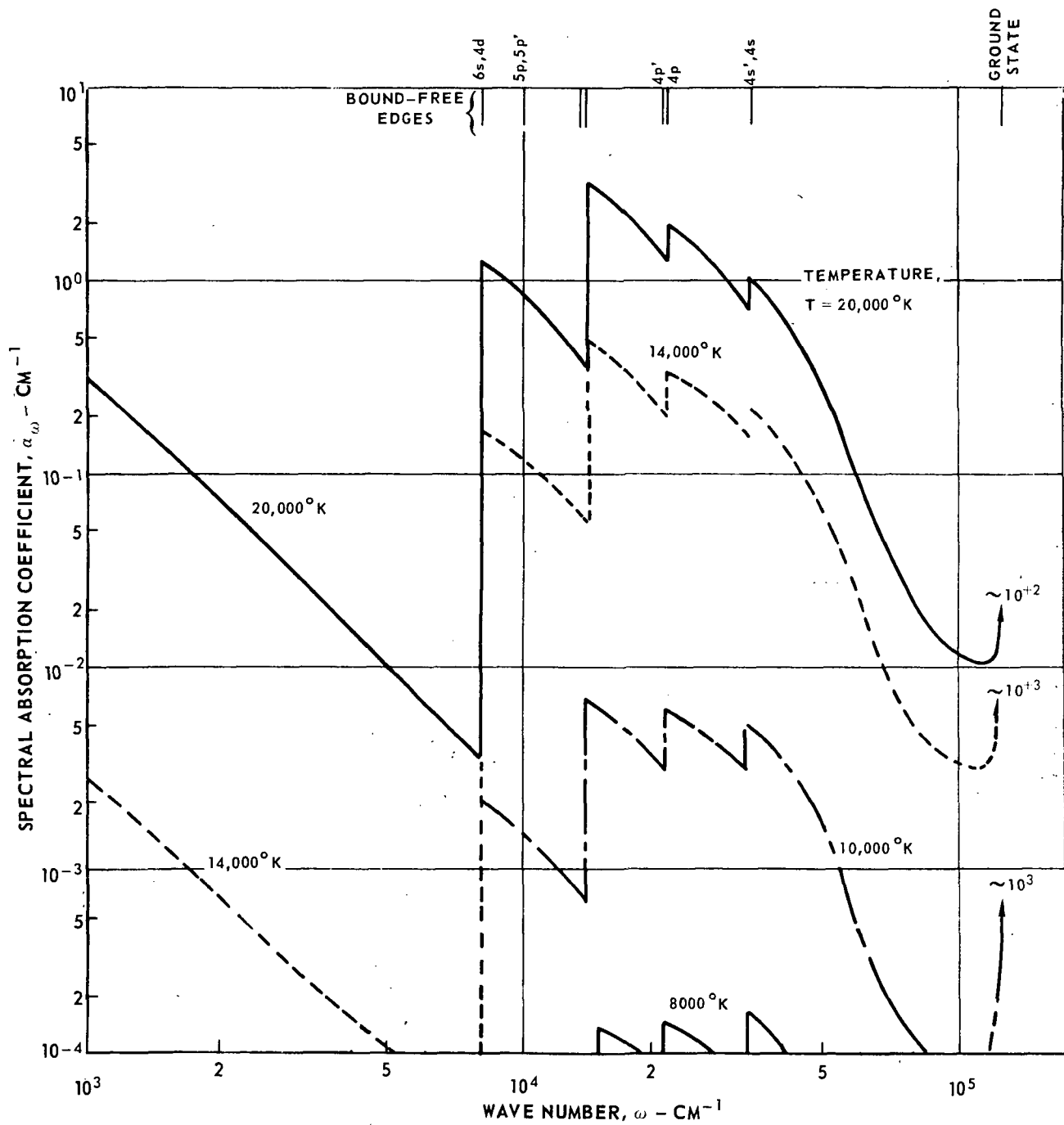
BOUND-FREE CROSS-SECTION OF ARGON I "p" LEVELS
AS A FUNCTION OF WAVE NUMBER



BOUND-FREE CROSS-SECTION OF ARGON I "d" LEVELS
AS A FUNCTION OF WAVE NUMBER

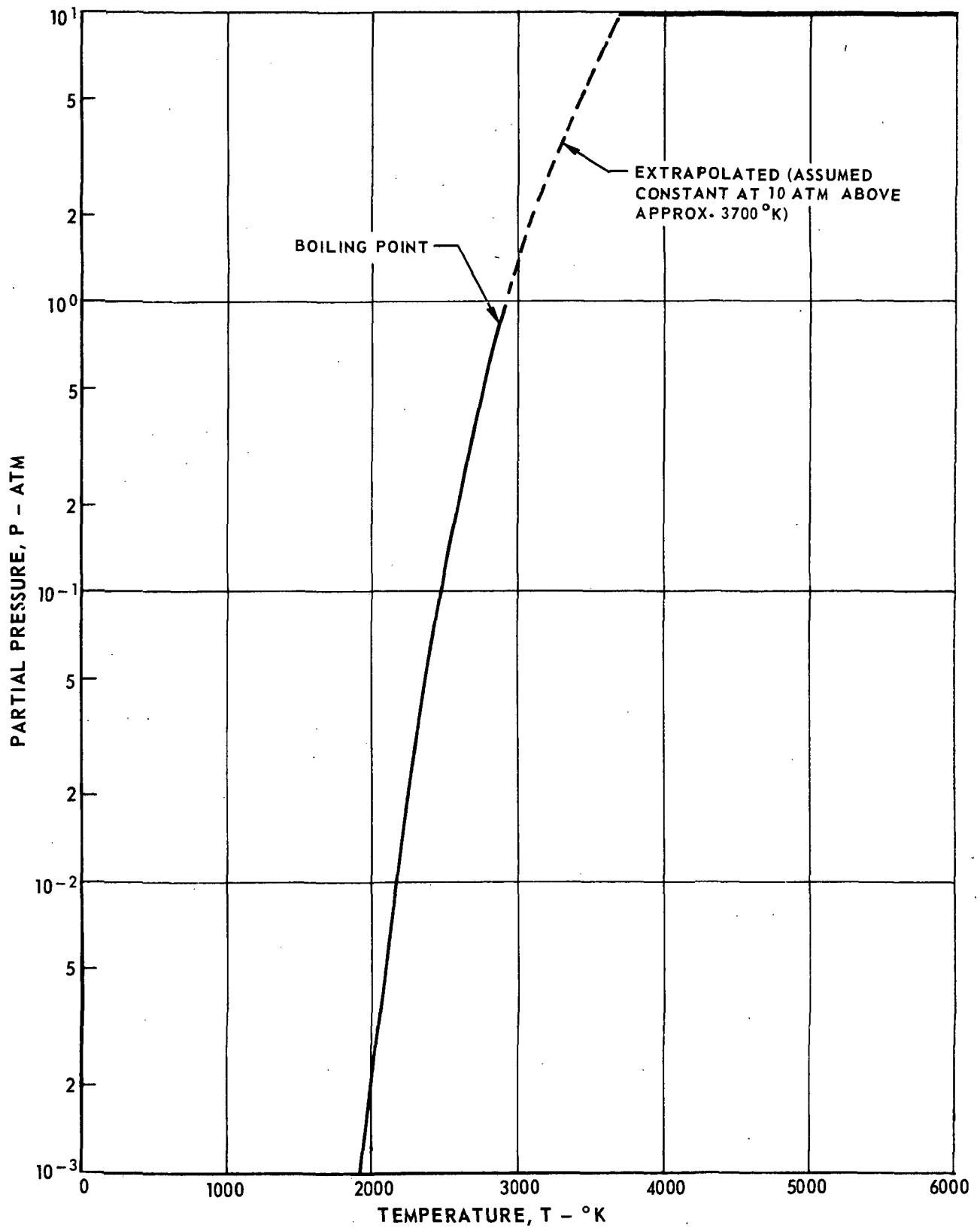


SPECTRAL ABSORPTION COEFFICIENTS OF ARGON FOR VARIOUS TEMPERATURES
AT A TOTAL PRESSURE OF 50 ATM



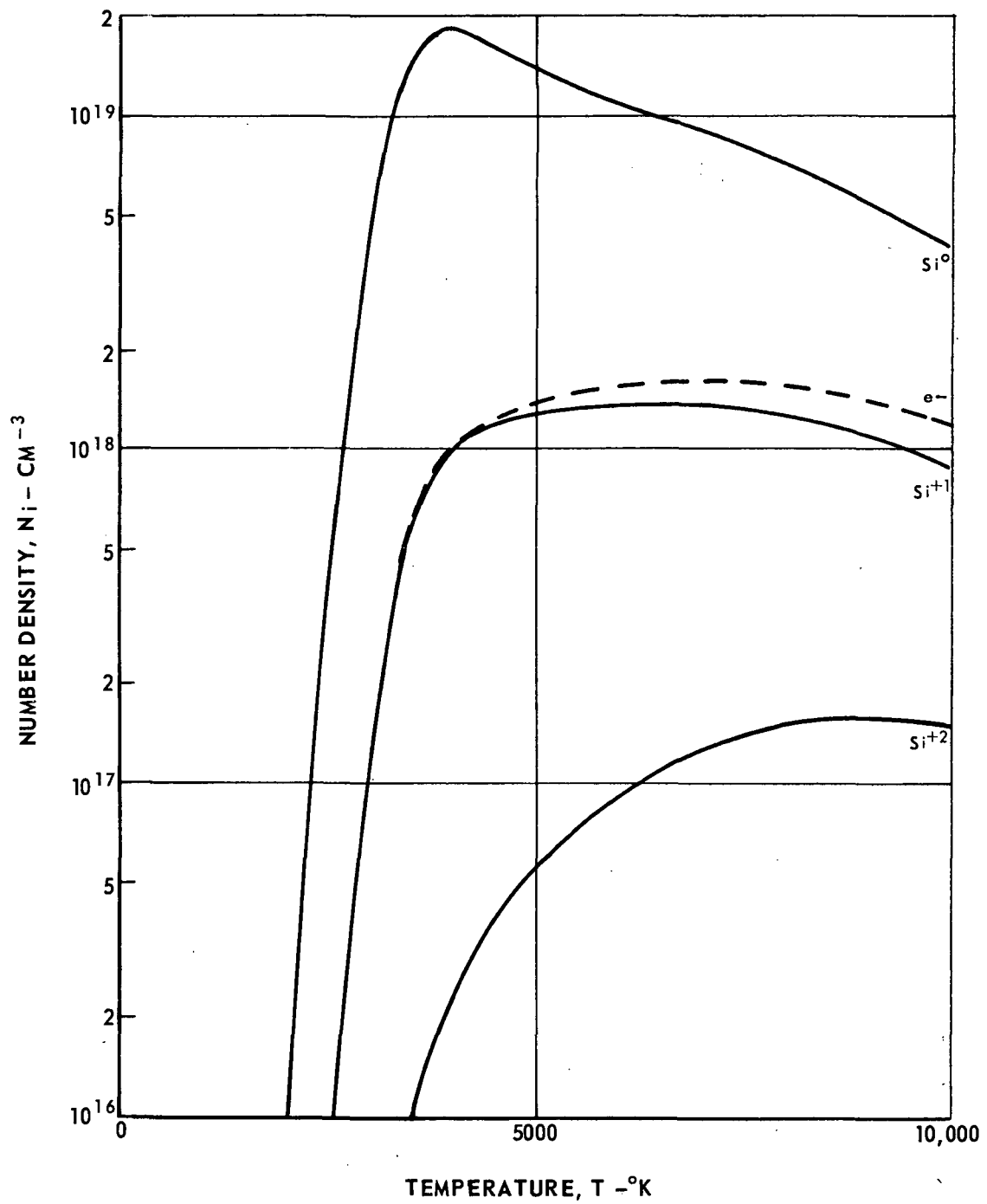
PARTIAL PRESSURE DISTRIBUTION FOR SILICON VAPOR AS A FUNCTION OF TEMPERATURE

REF. 11



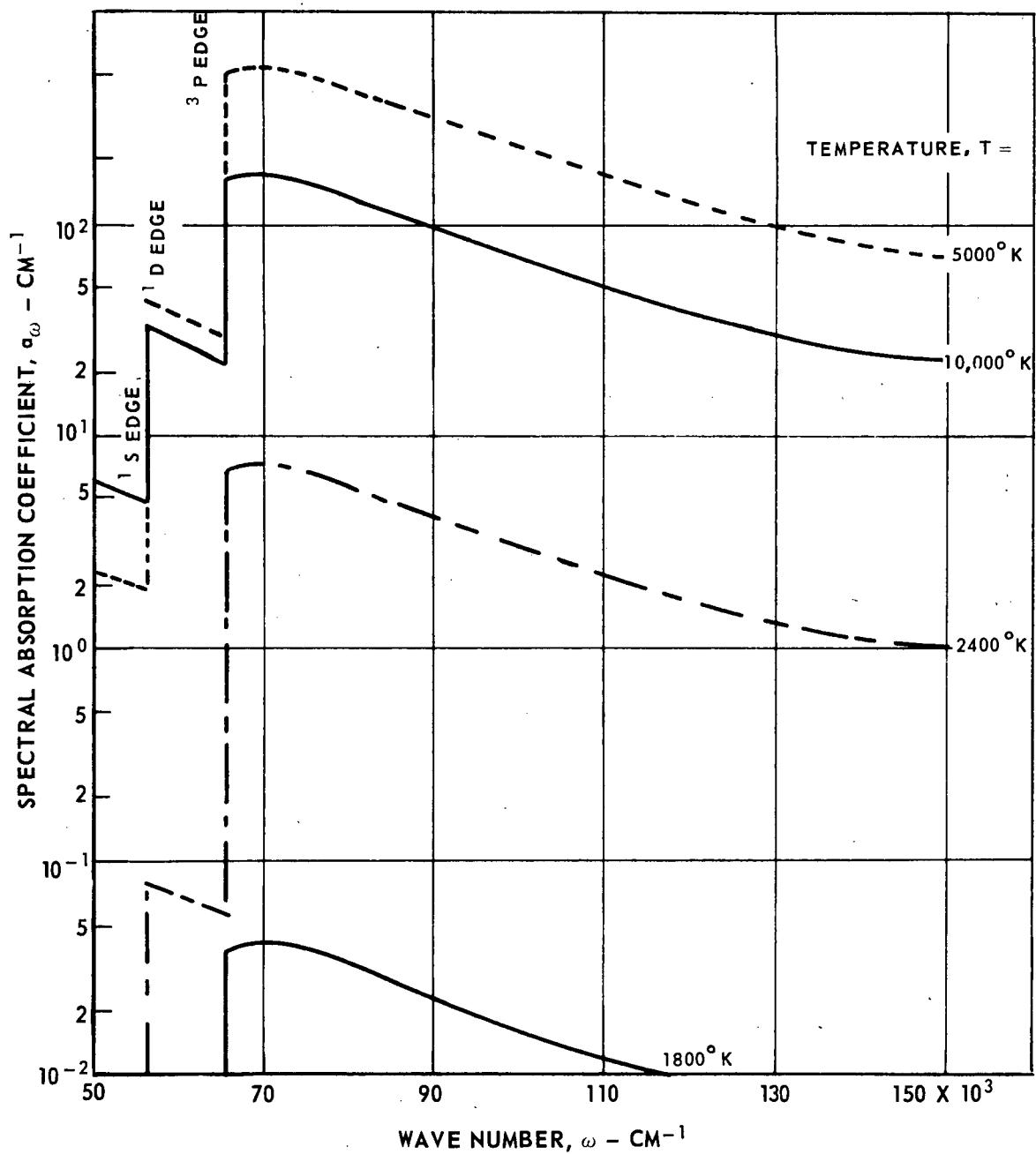
NUMBER DENSITY DISTRIBUTION FOR SILICON AS A FUNCTION OF TEMPERATURE

SEE FIG. 7 FOR PRESSURE DISTRIBUTION

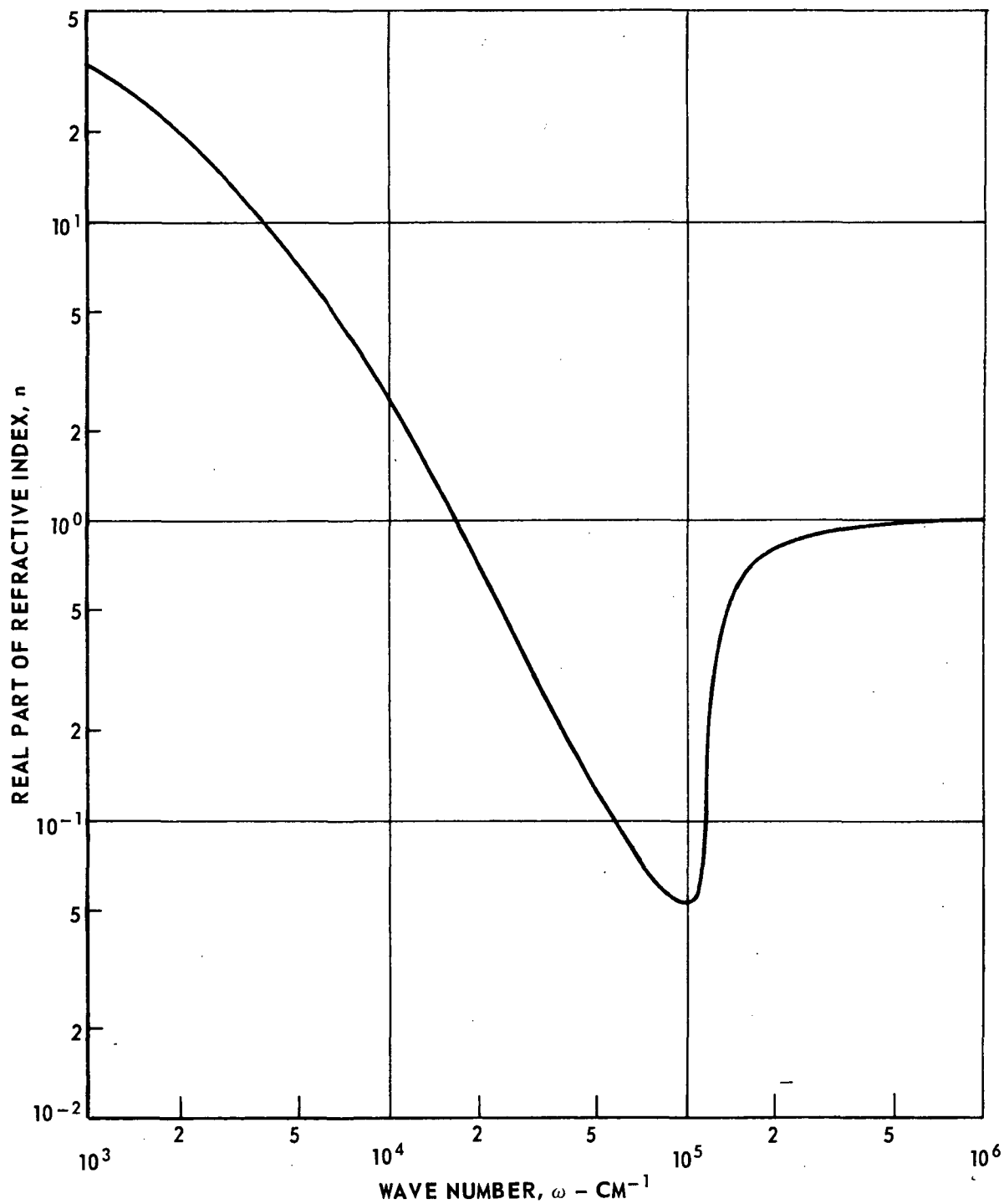


SPECTRAL ABSORPTION COEFFICIENTS OF SILICON VAPOR AT VARIOUS TEMPERATURES

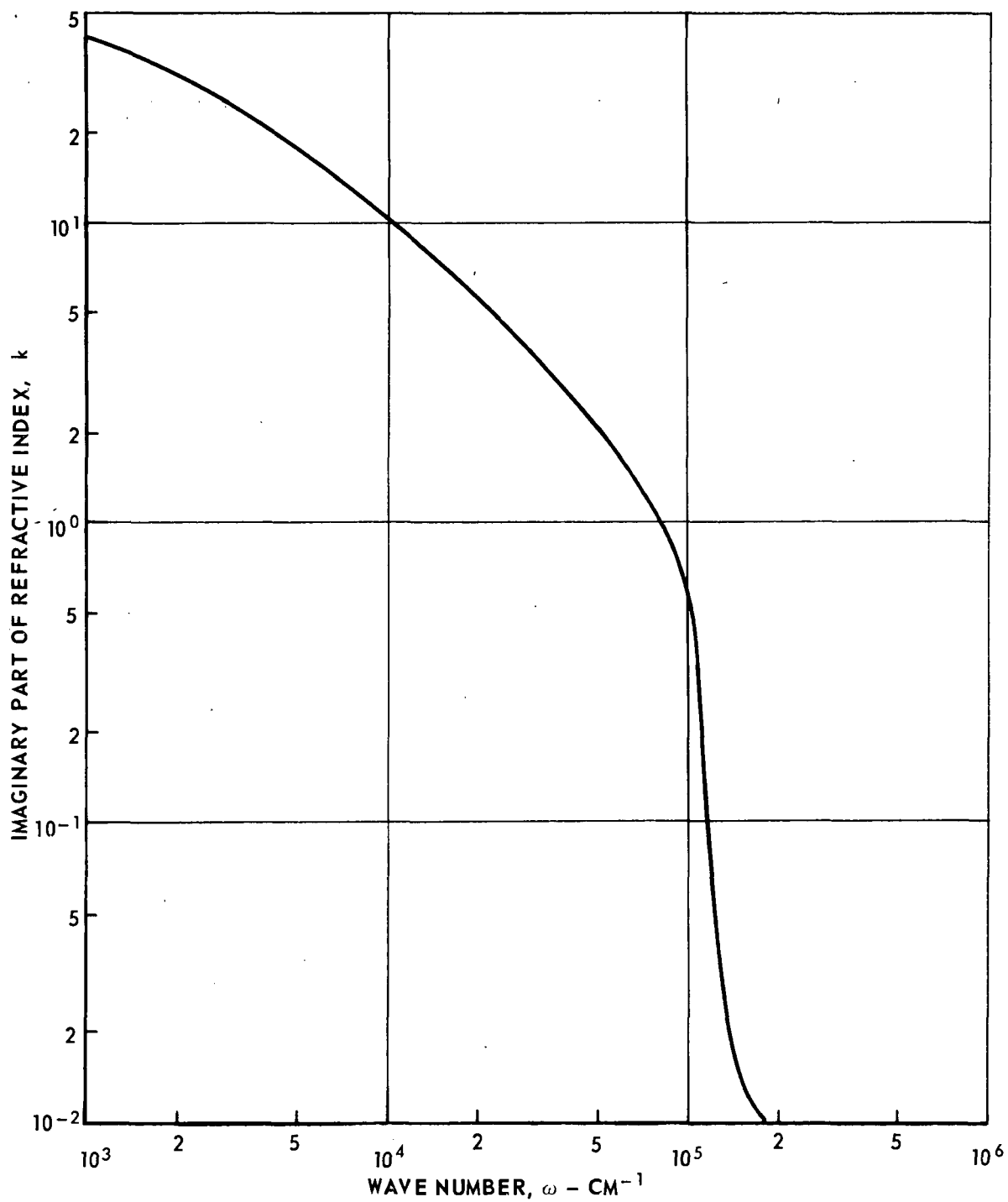
SEE FIG. 8 FOR NUMBER DENSITY DISTRIBUTION



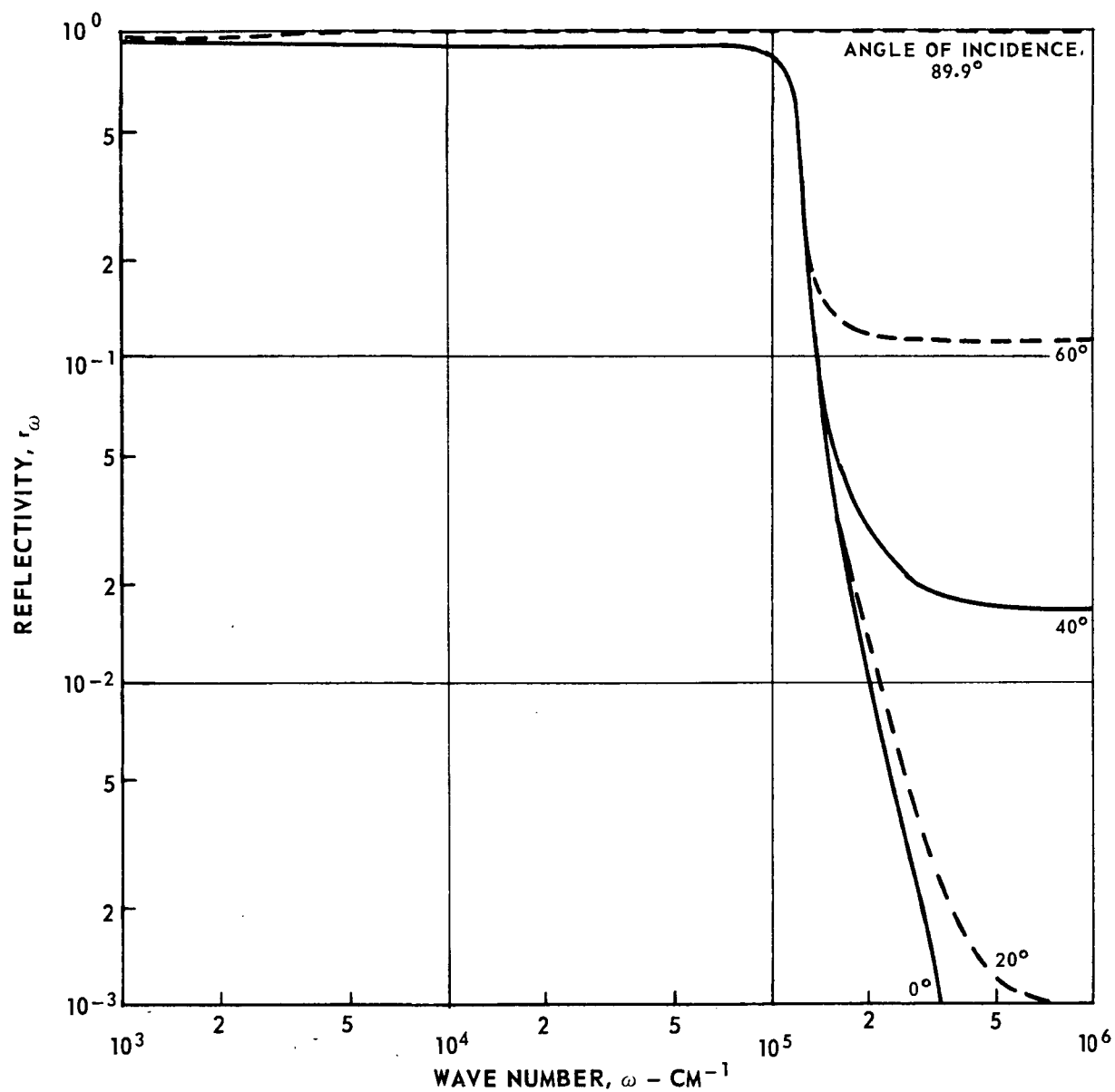
CALCULATED REAL PART OF THE REFRACTIVE INDEX OF ALUMINUM
AS A FUNCTION OF WAVE NUMBER



CALCULATED IMAGINARY PART OF THE REFRACTIVE INDEX OF ALUMINUM
AS A FUNCTION OF WAVE NUMBER



SPECTRAL REFLECTIVITY OF ALUMINUM FOR VARIOUS ANGLES OF INCIDENCE



**United
Aircraft
Research
Laboratories**



UNITED AIRCRAFT CORPORATION

EAST HARTFORD, CONNECTICUT 06108