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*Ultraviolet Spectroscopy
of Planets*

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ABSTRACT

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The ultraviolet spectrum of a planet is produced by the following physical processes: (1) dayglow, the scattering of solar photons by atoms and molecules in the upper atmosphere of the planet; (2) daylight, the combination of rayleigh scattering of solar radiation and absorption by atmospheric constituents that produces the planetary albedo in the ultraviolet; and (3) electron excitation, the excitation of atoms and molecules in the upper atmosphere by auroral electrons and by photoelectrons.

A quantitative description of each of these processes is given. The atoms and molecules that are prominent in planetary ultraviolet spectra are listed. Calculations are given of planetary molecular emission spectra that are the result of optically thin and optically thick fluorescent scattering and of excitation by auroral bombardment and by photoelectrons. Rocket measurements of the dayglow spectrum of the Earth are given for the spectral region between 2000 and 4000 Å. The main spectral features are the nitric oxide gamma bands, the ionized molecular nitrogen first negative bands, and the nitrogen second positive bands. A rocket measurement of the Earth's ultraviolet albedo between 1900 and 3200 Å is also given. This spectrum shows the absorption produced by ozone in the Earth's atmosphere.

*Author***I. INTRODUCTION**

The ultraviolet spectroscopy of a planetary atmosphere is concerned with the phenomena that occur when the atmosphere is subjected to radiation from the Sun. Atoms that are in the upper atmosphere may undergo resonance reradiation when the solar radiation contains resonance lines of the same atoms. Upper atmosphere molecules may fluoresce when the solar continuum at appropriate wavelengths penetrates to the level in the atmosphere where the molecules are present. The molecules absorb energy at several wavelengths and then re-

radiate at either the same or longer wavelengths. Solar radiation at all wavelengths in the ultraviolet undergoes rayleigh scattering by the molecules in the atmosphere. The resulting spectrum contains spectral features of the incident solar radiation as well as absorption features that are produced by molecules in the planetary atmosphere. The ionization of atmospheric molecules by extreme ultraviolet solar radiation produces fast photoelectrons in the upper atmosphere. These photoelectrons may strike other atmospheric atoms or molecules and cause them to radiate.

Radiation from the Sun, in the broader definition including charged particles and magnetohydrodynamic plasma waves, directly or indirectly causes the upper atmosphere to be subjected to charged particle bombardment at large geomagnetic latitudes. This electron bombardment during an aurora causes the atoms and molecules of the upper atmosphere to radiate.

The dayglow consists of the upper atmosphere emissions that occur when the atmosphere is directly illuminated by the Sun. The phenomena producing these discrete spectral features include resonance reradiation, fluorescence, photoelectron excitation, and chemical and ionic reactions. Rayleigh scattering in the atmosphere produces daylight, and this term may be applied in the ultraviolet even when the spectrum includes absorption

features. When viewed from outside the atmosphere, this phenomenon may also be called the planetary ultraviolet albedo. The spectral emissions of the aurora are produced by charged particle bombardment while the aurora itself is controlled in some way by the geomagnetic field. Historically, it has been observed at night when the daylight is absent; however, auroral emissions may be present during the day, as well. The nightglow is produced by chemical and ionic reactions in the upper atmosphere and does not require the direct presence of solar radiation. The Sun is responsible, however, for the energy that appears in the nightglow spectral emissions. Finally, the twilight glow contains phenomena of both the dayglow and nightglow. It is the time when the lower atmosphere is in the shadow and both the fluorescence of the dayglow and the luminescence of the nightglow are present.

II. THEORY

The theory of the twilight and day airglow is treated by Chamberlain (Ref. 1). The following discussion is adapted from this work.

A. Atoms, Single-Scattering

The equation that describes the single-scattering of a photon by an atom is as follows:

$$4\pi \mathcal{I}_\lambda = \pi \mathcal{F}_\lambda \frac{\pi e^2}{mc^2} \lambda^2 f \tilde{\omega} \frac{\mathcal{N}}{\mu} \quad (1)$$

where $4\pi \mathcal{I}_\lambda$, which is a function of wavelength λ (\AA), is the emission rate, given in photon-cm⁻²-sec⁻¹ \AA^{-1} (1 rayleigh equals 10⁶ photon-cm⁻²-sec⁻¹); $\pi \mathcal{F}_\lambda$ is the solar flux, also a function of wavelength, given in photons cm⁻²-sec⁻¹ \AA^{-1} ; $\pi e^2/mc^2$ is a combination of physical constants, equal to 8.829×10^{-21} cm²- \AA , which permits the solar flux to be

expressed per wavelength interval; f is the f -value or oscillator strength of the line or multiplet; $\tilde{\omega}$ is the albedo for single-scattering and is equal to $A_j/\sum_j A_j$ for a line where A is the Einstein transition probability; \mathcal{N} is the number of atoms in the column being observed, given in atom-cm⁻², and is equal to $\int_h^\infty n dz$ when an atmosphere is viewed upward in a vertical direction, where n is the volume density of atoms in atom-cm⁻³ at height h in the atmosphere; $\mu = \cos \theta$, where θ is the angle of emergence of the scattered photon from a plane-parallel atmosphere. The emission rate $4\pi \mathcal{I}$ is usually integrated over wavelength for the line or multiplet. Chamberlain (Ref. 1) has found it convenient to define a quantity g , the number of photons scattered/sec/atom.

$$g = \pi \mathcal{F}_\lambda \frac{\pi e^2}{mc^2} \lambda^2 f \tilde{\omega} \quad (2)$$

which is convenient because emission rates may be directly converted into column densities of atoms by the following expression:

$$4\pi \mathcal{J} = g \frac{\mathcal{N}}{\mu} \quad (3)$$

B. Molecules, Single-Scattering

The single-scattering theory for atoms may readily be adapted for use with diatomic molecules. Because of the presence of vibrational band systems in molecules, particular attention must be paid to fluorescence in the formalism. Using v' to designate the vibrational level of the upper electronic state and v'' of the lower, Eq. (1) may be written for a molecular band in fluorescence as follows:

$$4\pi \mathcal{J}_{v',v''} = \pi \mathcal{F}_{ov'} \frac{\pi e^2}{mc^2} \lambda_{ov'}^2 f_{ov'} \tilde{\omega}_{v',v''} \frac{\mathcal{N}_0}{\mu} \quad (4)$$

The emission rate and albedo are written with the subscripts in the order $v'v''$ to emphasize that they are concerned with the fluorescent band in emission. The solar flux and oscillator strength have the subscripts ov' to emphasize that they are concerned with the absorption band from the lowest vibrational level of the ground electronic state. The molecule column density has the subscript o to indicate that it pertains to the number of molecules in the lowest vibrational level of the ground state. The albedo for single-scattering of the fluorescent band is as follows:

$$\tilde{\omega}_{v',v''} = \frac{A_{v',v''}}{\sum_{v''} A_{v',v''}} \quad (5)$$

where the A 's are the transition probabilities and the summation is over a v'' progression. The transition probability of a molecular band is related to the band strength through the following equation:

$$A_{v',v''} = \frac{64\pi^4}{3hc^3} \frac{\nu_{v',v''}^3}{d_{v'}} S_{v',v''} \quad (6)$$

where $S_{v',v''}$ is the band strength, $\nu_{v',v''}$ is the frequency of the band and $d_{v'}$ is the degeneracy of the upper level. The band strength is equal to the square of the electronic-vibrational matrix element for the band. When the square of the average value of the electronic transition moment R_e^2 does not vary with internuclear distance, the band strength may be written

$$S_{v',v''} = \bar{R}_e^2 q_{v',v''} \quad (7)$$

where $q_{v',v''}$ is the square of the overlap integral of the vibrational wave-functions and is called the Franck-Condon factor. When measured values of band strengths

are not available and when calculated values of Franck-Condon factors are available, if the assumption is made that R_e^2 is constant, the albedo for single-scattering may be calculated from the Franck-Condon factors from the following expression:

$$\tilde{\omega}_{v',v''} = \frac{\nu_{v',v''}^3 q_{v',v''}}{\sum_{v''} \nu_{v',v''}^3 q_{v',v''}} \quad (8)$$

The emission rate factor $g_{v',v''}$ for a molecular band is then

$$g_{v',v''} = \pi \mathcal{F}_{ov'} \frac{\pi e^2}{mc^2} \lambda_{ov'}^2 f_{ov'} \tilde{\omega}_{v',v''} \quad (9)$$

so that the emission rate may be related to the number of molecules in the oblique column through

$$4\pi \mathcal{J}_{v',v''} = g_{v',v''} \frac{\mathcal{N}_0}{\mu} \quad (10)$$

Ideally, the oscillator strength $f_{ov'}$ should be available from laboratory measurements for each absorption band under consideration. When this is not possible, the concept of an oscillator strength for the entire band system may be used by asserting that $f_{XX} = \sum_{v'} f_{ov'}$, where f_{XX} is the oscillator strength for the electronic transition from a ground state X to an excited state N . The band oscillator strength may then be obtained from the band system oscillator strength through the use of the Franck-Condon factors.

$$f_{ov'} = f_{XX} q_{ov'} \quad (11)$$

(See Ref. 2 for a discussion of the various assumptions made in this procedure.) The emission rate factor then may be written

$$g_{v',v''} = \pi \mathcal{F}_{ov'} \frac{\pi e^2}{mc^2} \lambda_{ov'}^2 f_{XX} q_{ov'} \tilde{\omega}_{v',v''} \quad (12)$$

When even a measure of the band oscillator strength is not available, it still may be useful to calculate the relative intensities of fluorescent bands. Here, the quantity $g'_{v',v''}$ is introduced as equal to

$$g'_{v',v''} = \pi \mathcal{F}_{ov'} \frac{\pi e^2}{mc^2} \lambda_{ov'}^2 q_{ov'} \tilde{\omega}_{v',v''} \quad (13)$$

where formally $g_{v',v''} = g'_{v',v''} f_{XX}$. Finally, it is useful to have a concept of the relative strength of fluorescent bands that is free from the influence of the spectral variation in solar flux. The quantity "band fluorescent cross section" $\sigma_{v',v''}$ is introduced here to be equal to

$$\sigma_{v',v''} = \frac{\pi e^2}{mc^2} \lambda_{ov'}^2 q_{ov'} \tilde{\omega}_{v',v''} \quad (14)$$

The units of this quantity are $\text{cm}^2\text{-\AA}$, and it is the product of a cross section and a wavelength interval. The electronic band system oscillator strength is not included in the band fluorescent cross section.

C. Multiple-Scattering, Optically Thin

The theory for resonance and fluorescent scattering for the case of multiple-scattering has been summarized by Chamberlain and Sobouti (Ref. 3). The following discussion is adapted from this work.

The emission rate for reflection from a plane-parallel planetary atmosphere for reradiation of the resonance band is

$$4\pi \mathcal{J}_{v'v''} = \frac{\pi \mathcal{F}_{0v'}}{\mu} \sqrt{2} \lambda'_D \tilde{\omega}_{v'v''} \frac{\mu \mu_0}{\mu + \mu_0} \times [X(\mu) X(\mu_0) - Y(\mu) Y(\mu_0)] \quad (15)$$

where the X 's and Y 's are Chandrasekhar's radiative transfer functions (Ref. 4). Here they are functions of $\tau_c/\sqrt{2}$, where τ_c is the optical depth at the center of the spectral line.

The optical depth is equal to the product of the absorption cross section and the column density of molecules. Because the absorption cross section is obtained from the f -value of the band, the optical depth may be expressed as follows:

$$\tau_c = \frac{\pi e^2}{mc^2} \frac{\lambda_{0v'}^2}{\lambda'_{Dv'}} f_{0v'} \mathcal{N}_0 \quad (16)$$

The quantity $\lambda'_{Dv'}$ is related to the doppler line width λ_D by

$$\lambda'_{Dv'} = \sqrt{\pi} \lambda_D = \sqrt{\pi} \frac{\lambda_c}{c} \sqrt{\frac{2kT}{M}} \quad (17)$$

where λ_c is the wavelength in the center of the line, c is the velocity of light, and $\sqrt{2kT/M}$ is the most probable velocity. For τ_c very small, Eq. (15) reduces to

$$4\pi \mathcal{J}_{v'v''} = \frac{\pi \mathcal{F}_{0v'}}{\mu} \sqrt{2} \lambda'_D \tilde{\omega}_{v'v''} \frac{\tau_c}{\sqrt{2}} \quad (18)$$

which in turn reduces to Eq. (4).

The emission rate for a fluorescent band for an optically thin atmosphere in reflection is

$$4\pi \mathcal{J}_{v'v''} = \pi \mathcal{F}_{0v'} \sqrt{2} \lambda'_D \tilde{\omega}_{v'v''} \frac{\mu_0}{\mu} \times \left[\frac{1 - \frac{1}{2} \tilde{\omega}_{v'v''} (\alpha^{(0)} + \beta^{(0)})}{1 - \tilde{\omega}_{v'v''}} \right] [X(\mu_0) - Y(\mu_0)] \quad (19)$$

The $\alpha^{(0)}$'s and $\beta^{(0)}$'s are zero moments of the X 's and Y 's. The X 's and Y 's are again functions of $\tau_c/\sqrt{2}$ and $\tilde{\omega}_{v'v''}$. The X and Y functions and their moments are tabulated by Sobouti (Ref. 5). For small values of $\omega_{v'v''}$, Eq. (19) reduces to

$$4\pi \mathcal{J}_{v'v''} = \pi \mathcal{F}_{0v'} \sqrt{2} \lambda'_D \tilde{\omega}_{v'v''} \frac{\mu_0}{\mu} [X(\mu_0) - Y(\mu_0)] \quad (20)$$

For small values of τ_c , Eq. (20) also reduces to Eq. (4).

D. Multiple-Scattering, Optically Thick

The expression for emission rate for a resonance reradiation band in reflection from an optically thick plane-parallel planetary atmosphere is

$$4\pi \mathcal{J}_{v'v''} = \pi \mathcal{F}_{0v'} \Delta\lambda \tilde{\omega}_{v'v''} \frac{\mu_0}{\mu + \mu_0} H(\mu) H(\mu_0) \quad (21)$$

where the H 's are tabulated by Chandrasekhar (Ref. 4). The $\Delta\lambda$ is an effective line width. The judgment to be used in selecting this value is discussed by Chamberlain and Sobouti (Ref. 3).

The emission rate for a fluorescent band in reflection from an optically thick planetary atmosphere is

$$4\pi \mathcal{J}_{v'v''} = \pi \mathcal{F}_{0v'} \frac{\Delta\lambda \tilde{\omega}_{v'v''}}{\sqrt{1 - \tilde{\omega}_{v'v''}}} \frac{\mu_0}{\mu} H(\mu_0) \quad (22)$$

The H 's are a function of $\tilde{\omega}_{v'v''}$. For small $\omega_{v'v''}$, Eq. (22) reduces to

$$4\pi \mathcal{J}_{v'v''} = \pi \mathcal{F}_{0v'} \Delta\lambda \tilde{\omega}_{v'v''} \frac{\mu_0}{\mu} H(\mu_0) \quad (23)$$

The relative intensities of both resonance and fluorescent bands from Eqs. (21) and (23) are proportional to the solar flux and the albedo for single-scattering,

$$4\pi \mathcal{J}_{v'v''} \sim \pi \mathcal{F}_{0v'} \omega_{v'v''} \quad (24)$$

The band oscillator strength is not involved because the solar flux penetrates into the optically thick atmosphere until all of the bands are saturated (Ref. 6).

E. Absorption and Rayleigh Scattering

All the molecules in the atmosphere produce rayleigh scattering of the solar radiation. In combination with ultraviolet absorption by certain of the molecules in the upper atmosphere, the rayleigh scattering produces the bulk of the planetary albedo in the middle ultraviolet. Singer (Ref. 7) first pointed out the important role played by ozone absorption in producing the Earth's albedo. This problem is treated extensively by Green (Ref. 8).

The expression for single-scattering by all the atmospheric constituents and with absorption by certain of the molecules is

$$4\pi \mathcal{J}_\lambda = \frac{\pi \mathcal{F}_\lambda}{\mu} \frac{3}{4} (1 + \cos^2 \psi) \int_h^\infty \sigma_R n_R dz \times \exp \left[- \int_h^\infty \left(\frac{1}{\mu_0} + \frac{1}{\mu} \right) \sum_i \sigma_{A_i} n_{A_i} dz \right] \quad (25)$$

where σ_R is the cross section for rayleigh scattering, n_R is the number density of molecules contributing to the rayleigh scattering, σ_{A_i} is the absorption cross section for atmospheric constituent i , n_{A_i} is the number density of this absorber, and $3/4 (1 + \cos^2 \psi)$ is the rayleigh phase function. It is related to the zenith and azimuth angles of the incident and emerging radiation by

$$\cos \psi = \mu \mu_0 + (1 - \mu^2)^{1/2} (1 - \mu_0^2)^{1/2} \cos(\phi - \phi_0) \quad (26)$$

where $\mu = \cos \theta$, θ is the zenith angle, and ϕ the azimuth angle.

F. Electron Excitation

The theory of excitation of molecular bands by electron bombardment has been discussed in Refs. 2 and 9. The expression for the excitation of a vibrational band may be written

$$4\pi \mathcal{J}_{v',v''} = I_E \sigma_E q_{0v'} \tilde{\omega}_{v',v''} \frac{\mathcal{N}_0}{\mu} \quad (27)$$

where I is the particle flux in electrons $\text{cm}^{-2}\text{-sec}^{-1}$ and is a function of electron energy; σ_E , which is also a function of electron energy, is the cross section for the excitation of an electronic state; $q_{0v'}$ is the Franck-Condon factor for excitation of the vibrational levels of the excited electronic state from the lowest vibrational level of the ground electronic state; $\tilde{\omega}_{v',v''}$ is the albedo for single-scattering of the fluorescent vibrational band (it may or may not be a transition back to the ground state); and \mathcal{N}_0/μ is the number density of molecules in the oblique column. The use of Franck-Condon factors in the excitation probability as well as in the fluorescent albedo again implies that the electronic and vibrational transition moments may be separated and that the electronic transition moment does not vary with changing internuclear distance. Cross sections for electronic excitation of several atoms and molecules of atmospheric interest have been collected by Dalgarno (Ref. 10). Cross sections of most of the electronic excitations in molecular nitrogen are given by Green and Barth (Ref. 11). When the bombarding beam of electrons is not monoenergetic, it is necessary to perform an integration or summation of the $I_E \sigma_E$'s over electron energy.

III. ATOMS AND MOLECULES IN PLANETARY SPECTRA

Atoms that may play a role in producing spectra in the upper atmospheres of Venus, the Earth, and Mars are hydrogen, oxygen, nitrogen, argon, and carbon. The wavelengths of the resonance lines of these atoms are given in Table 1. The first four are present in the Earth's upper atmosphere, and free carbon could be present in the upper atmospheres of the other planets because of the greater abundance of carbon dioxide, especially on Venus. For an atom to produce a strong planetary emission line through resonance reradiation, it is necessary that the solar spectrum contain a strong emission of the same atom. The Lyman alpha line of atomic hydrogen at 1216 Å is a strong solar feature. The resonance lines of oxygen at 1304 Å, nitrogen at 1200 Å, and carbon at 1657 Å also appear in the solar spectrum. The argon line at 1048 Å may or may not be present in the spectrum of the Sun. However, the Sun does radiate as a black body at 5500°K at this wavelength (Ref. 12). Because photoelectron bombardment may also excite atomic spectra in planetary atmosphere, other lines of these atoms may appear as well.

Molecules that may be important in producing planetary emission spectra are nitrogen, oxygen, nitric oxide, carbon monoxide, the hydroxyl radical, the cyanogen radical, and the molecular ions of nitrogen, oxygen, nitric oxide, and carbon monoxide. Band systems of these molecules that are prominent in the ultraviolet are listed in Table 2. The wavelength of the 0-0 band of each system is listed as well. Where the resonance lines of the atoms lie in the far ultraviolet, the most prominent fluorescent bands of the molecules are in the middle ultraviolet where the solar continuum is sufficiently intense to excite them. The nitrogen-oxygen systems are important in the Earth's upper atmosphere; carbon systems may be important on Mars and Venus.

Table 1. Atoms that may undergo resonance reradiation in planetary atmospheres

Atom	Nomenclature	Wavelength, Å
Argon	Resonance line	1048
Nitrogen	$^1S_0 - ^1P_{1,3,5}$ $\frac{2}{2}, \frac{2}{2}, \frac{2}{2}$	1200
Hydrogen	Lyman alpha	1216
Oxygen	$^3P_{2,1,0} - ^3S_1$	1302, 4, 6
Carbon	$^3P_{0,1,2} - ^3P_{0,1,2}$	1657

Molecules that may determine the spectral characteristics of the planetary ultraviolet albedo are ozone, oxygen, and carbon dioxide. The absorption bands and continua of these molecules determine the amount of solar radiation scattered into space by the planetary atmosphere. The wavelength regions of interest for these molecules are listed in Table 3. Ozone and oxygen are prominent in the Earth's atmosphere. Carbon dioxide may be important on the other planets.

Table 2. Molecules that may undergo fluorescence in planetary atmospheres

Molecule	Band system	Nomenclature	Wavelength, Å
Nitric oxide	Gamma	$A^2\Sigma^+ - X^2\Pi_r$	2262
	Delta	$C^2\Pi - X^2\Pi_r$	1909
	Beta	$B^2\Pi - X^2\Pi_r$	2198
Oxygen	Schumann-Runge	$B^3\Sigma_u^- - X^3\Sigma_g^-$	2026
	Herzberg	$A^3\Sigma_u^- - X^3\Sigma_g^-$	2885
Nitrogen	Vegard-Kaplan	$A^3\Sigma_u^+ - X^1\Sigma_g^+$	2010
	Lyman-Birge-Hopfield	$\sigma^1\Pi_g - X^1\Sigma_g^+$	1450
	Birge-Hopfield	$b^1\Pi_u - X^1\Sigma_g^+$	986
	Second positive	$C^3\Pi_u - B^3\Pi_g$	3370
Hydroxyl	Ultraviolet	$A^2\Sigma^+ - X^2\Pi_r$	3064
Cyanogen	Violet	$B^2\Sigma^+ - X^2\Sigma^+$	3876
Carbon monoxide	Cameron	$\sigma^3\Pi_u - X^1\Sigma^+$	2063
	Fourth positive	$A^1\Pi - X^1\Sigma^+$	1544
	Hopfield-Birge	$\sigma^3\Sigma^+ - X^1\Sigma^+$	1804
Nitrogen ion	First negative	$B^2\Sigma_u^+ - X^2\Sigma_g^+$	3911
	Second negative	$C^2\Sigma_u^+ - X^2\Sigma_g^+$	1549
Nitric oxide ion	First negative	$A^1\Pi - X^1\Sigma^+$	1368
Oxygen ion	Second negative	$A^2\Pi_u - X^2\Pi_g$	2610
Carbon monoxide ion	First negative	$B^2\Sigma^+ - X^2\Sigma^+$	2191
	Comet tail	$A^2\Pi_u - X^2\Sigma^+$	4900

Table 3. Molecules that may undergo absorption in planetary atmospheres

Molecule	Nomenclature	Wavelength, Å
Ozone	O ₃	2000-3000
Oxygen	O ₂	1250-1750
Carbon dioxide	CO ₂	1250-2000

IV. CALCULATIONS OF PLANETARY MOLECULAR SPECTRA

Spectral emission factors have been calculated for the 20-band systems listed in Table 2 using the formalism described in Section II. The emission factors for the many bands in each of the systems may be used to obtain the relative spectral intensities of a band system as they may appear in a planetary atmosphere under various conditions of excitation. Synthetic spectra may be obtained from these calculations for excitation by fluorescence in both optically thin and optically thick atmospheres and for excitation by electron bombardment from either low-energy photoelectrons or higher-energy auroral electrons.

The planetary atmospheres emission factors for each band system are listed in the Appendix in the order given in Table 2. These calculations are the result of a computer output, and the nomenclature on the printout will be identified with the symbols used in the equations in this paper. The bands are arranged in v' progressions. The first column, marked $v-vv$, meaning $v'-v''$, lists the band number. The second column, marked *LAMBDA*, is the wavelength λ of the band origin in Å. These band origins were calculated from molecular constants given by Herzberg (Ref. 13) and Wallace (Ref. 14). The wavelengths listed by Wallace (Refs. 14, 15), which are based on experimental measurements, should be used for precise identifications and not the wavelengths listed in these calculations. The third column, marked *Q*, lists the Franck-Condon factors that are identified in the equations as $q_{v',v''}$. These factors are from the work of Nicholls (Refs. 9, 16-22) and they are based on a Morse potential. The fourth column, marked *OMEGA*, is the $\omega_{v',v''}$ given in the text, the albedo for single-scattering. It has been calculated according to Eq. (8). The fifth column, marked *Q. OMEGA*, is the $q_{0v'} \tilde{\omega}_{v',v''}$ of the text. It is described by Eq. (27) and is applicable to excitation by electron bombardment. The sixth column, marked *SIGMA*, is the $\sigma_{v',v''}$ given in Eq. (14). It is the band fluorescent cross section and is a function of the molecular properties and not of the exciting radiation. The seventh column, marked *FLUX*, is the solar flux $\pi \mathcal{F}_{0v'}$ in photon-cm²-sec⁻¹-Å⁻¹. The eighth column, marked *F-NUM*, is the quantity $f_{0v'}/q_{0v'}$ or the f -value for the band system as given by Eq. (11). For the spectral regions 880-1540 and 1770-2985 Å, the calculations of Brinkman et al. (Ref. 23) were used. These calculations have been taken from the experimental work of Tousey (Ref. 24), Malitson et al. (Ref. 25), and Wilson et al. (Ref. 26); they provide 10 Å averages every 1 Å. For the spectral interval between 1540 and 1770 Å the flux was calculated by considering the Sun as a black body at

4700°K. For the spectral range above 2985 Å the solar flux values listed by Johnson (Ref. 27) were used. These values are 50 Å averages given every 50 Å. The fluorescent emission factor calculations using these last solar flux values are much less realistic than the calculations that use the 10 Å averages. The ninth column, marked *G*, gives the calculations of $g_{v',v''}$, the emission rate factor of Eq. (9). This factor determines the spectral intensity distribution in an optically thin atmosphere. When the f -value for the band system is not available, the quantity g' of Eq. (13) is calculated. The column is then marked *G-PRIME*, and the *F-NUM* column does not appear. The last column, marked *FLUX. OMEGA*, is the product of solar flux $\pi \mathcal{F}_{0v'}$ and the albedo for single-scattering $\tilde{\omega}_{v',v''}$. As shown by Eq. (24), it determines the spectral intensity distribution for an optically thick atmosphere. For certain band systems all of these emission factors are not applicable; here the calculations are abbreviated.

A. Nitric Oxide

The three bands systems of nitric oxide that are of interest in planetary atmospheres are the gamma bands, $A^2\Sigma^+-X^2\Pi_r$, the delta bands, $C^2\Pi-X^2\Pi_r$, and the beta bands, $B^2\Pi_r-X^2\Pi_r$. The calculations of the molecular emission factors for these bands are given in Section I-III of the Appendix. The f -values are from Bethke (Ref. 28). (See Nicholls, Ref. 21.) Where the measurements are missing or blended, values have been interpolated or extrapolated from the existing data. The Franck-Condon factors used here are from Nicholls (Ref. 19). The values of g , the emission rate factor, are taken from Column 9 of the calculations and are plotted as synthetic spectra in Figs. 1, 2, and 3. These figures show that for a given amount of nitric oxide, the 1-0 gamma band at 2149 Å is the most intense emission feature in single-scattering fluorescence. The emission rate factor of 7.69×10^{-6} for this band means that a column density of 1.3×10^{14} molecule-cm⁻² is required to produce an emission rate of 1 kilorayleigh (see Eq. 10). This is the amount of nitric oxide above the 90-km level in the Earth's atmosphere. The optical depth of the 1-0 band for this amount of nitric oxide may be calculated with the use of the band fluorescent cross section of Column 6. The product of the band cross section and the f -value gives a cross section of 1.5×10^{-17} cm²-Å. The effective line width of the 1-0 band may be estimated as follows: The line width λ'_D (Eq. 17) of a single rotational line is 4.0×10^{-3} Å for a nitric oxide molecule at 200°K. The number of lines in the band that are effective in the

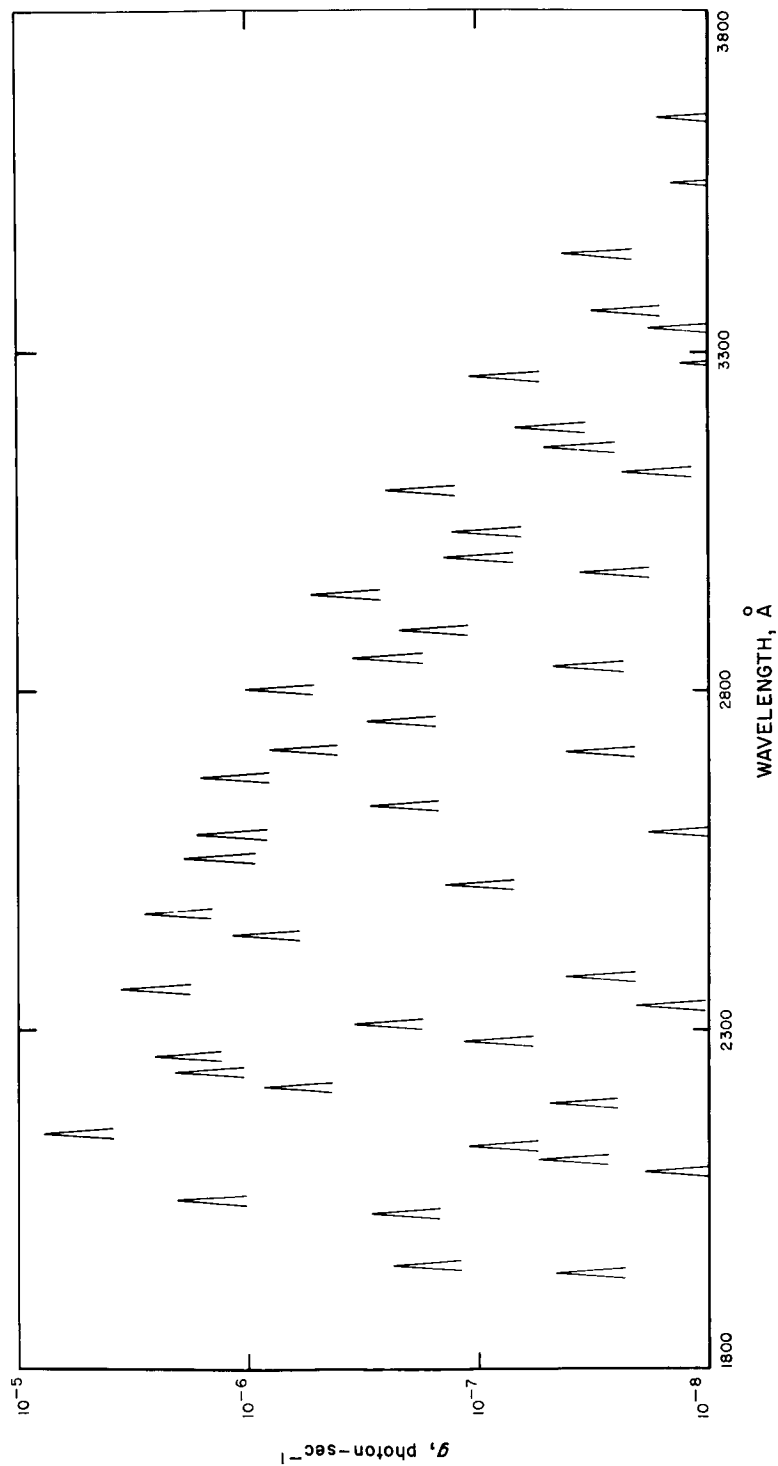


Fig. 1. Synthetic spectrum of nitric oxide gamma bands in fluorescence in optically thin atmosphere

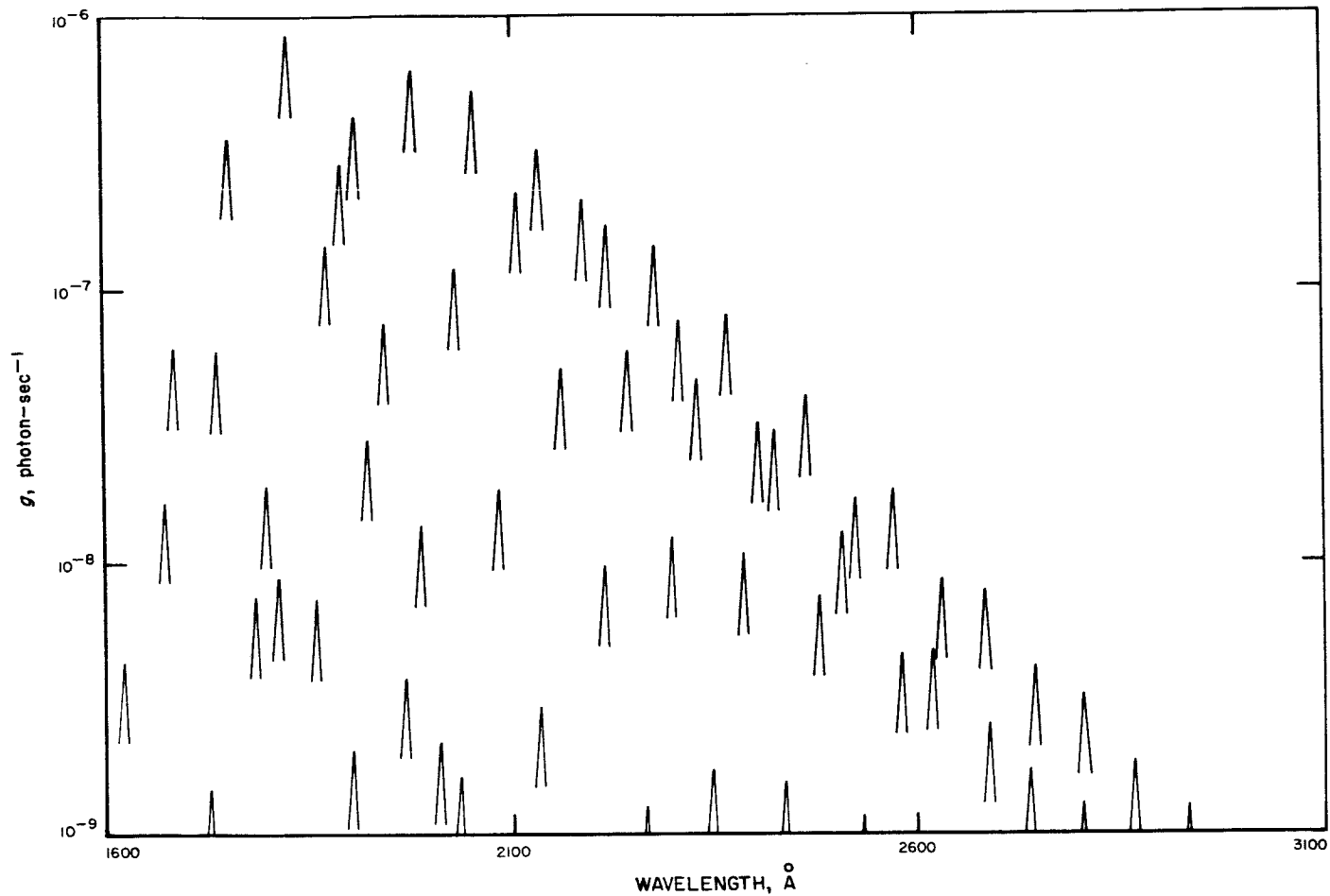


Fig. 2. Synthetic spectrum of nitric oxide delta bands in fluorescence in optically thin atmosphere

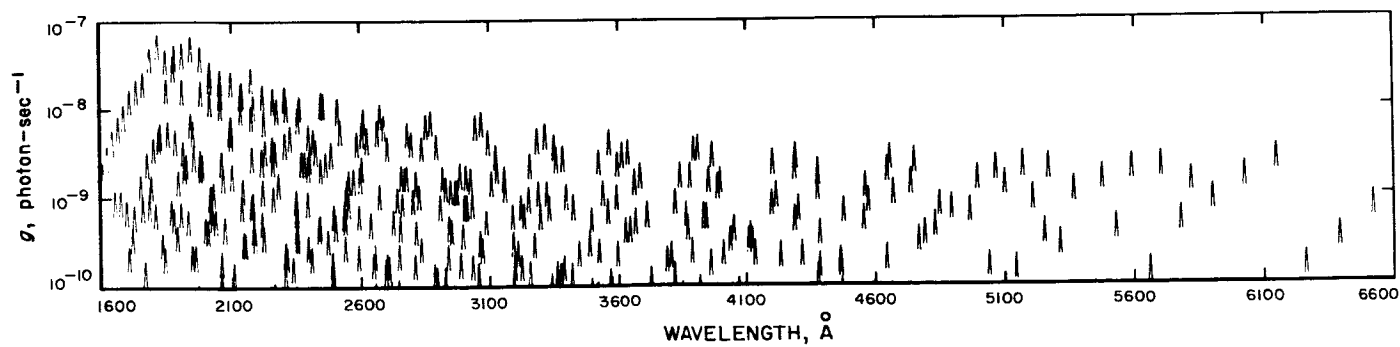


Fig. 3. Synthetic spectrum of nitric oxide beta bands in fluorescence in optically thin atmosphere

absorption of solar radiation may be estimated at 160 to give a total effective line width for the band of 6.4×10^{-1} Å. The effective cross section is then 2.3×10^{-17} cm², and the effective optical depth 3×10^{-3} . Thus, the fluorescent scattering in the Earth's atmosphere at 90 km is optically thin, and the *g* factors may be used to calculate the intensity of the fluorescence. Figure 1 gives the relative intensities of the most intense bands of the gamma system.

The *g* emission rate factors for the nitric oxide delta bands are plotted as a synthetic spectrum in Fig. 2. The most intense band in single-scattering is the 1-0 at 1826 Å. The emission rate factor of this band is approximately one order of magnitude less than the factor for the 1-0 gamma band. Thus, the amount of nitric oxide that will produce an emission rate of 1 kilorayleigh in the 1-0 gamma band will produce only 110 rayleighs in the 1-0 delta band. The nitric oxide beta bands are even weaker in fluorescence. The strongest beta band in fluorescence, the 10-0 at 1817 Å, will produce an emission rate of only 10 rayleighs for the same amount of nitric oxide considered for the gamma and delta bands. The emission rate factors of the beta bands are plotted in Fig. 3. Because *f*-numbers are available for all three of these band systems, it is possible to intercompare their relative intensities and conclude that the gamma bands are the most important spectral features in identifying nitric oxide in a planetary dayglow.

The nitric oxide gamma, delta, and beta bands illustrate different types of behavior of band systems in fluorescence. The upper electronic levels of both the gamma and delta bands have nearly the same equilibrium internuclear distance as the lower levels. Following the Franck-Condon principle, these bands reradiate most intensely at the wavelengths where they absorb the light and in relatively few bands. In contrast, the upper level of the beta bands is at a greater internuclear distance than the lower level. These bands reradiate at wavelengths longer than those where they absorb the energy; thus, the energy is spread out over many bands. Band systems with this characteristic are more difficult to detect because the available energy is spread out over a larger portion of the spectrum.

B. Oxygen

The ultraviolet band systems of molecular oxygen that are of interest in planetary atmospheres are the Schumann-

Runge system, $B^3\Sigma_u^- - X^3\Sigma_g^-$, and the Herzberg system, $A^3\Sigma_u^+ - X^3\Sigma_g^-$. The Schumann-Runge bands arise from an allowed transition, while the Herzberg bands are from a forbidden transition. The molecular emission factors for these bands are listed in Sections IV and V of the Appendix. The *f*-values for the Schumann-Runge bands are from the work of Bethke (Ref. 28). (See Nicholls, Ref. 21.) The band strengths for the Schumann-Runge system are from Nicholls (Refs. 16, 21), and the Franck-Condon factors for the Herzberg bands are from Nicholls (Ref. 22). Because of the large optical depth of these band systems in the Earth's atmosphere, synthetic spectra for optically thin and optically thick fluorescence and for electron excitation are plotted in Figs. 4-9 for both systems. A comparison may be made of optically thin and optically thick fluorescent scattering for the Schumann-Runge bands in Figs. 4 and 5. For optically thin fluorescence, the more intense bands lie at the shorter wavelengths, the most intense band being the 13-3 at 1942 Å. For optically thick fluorescence, where the solar radiation may penetrate into the atmosphere until all the vibrational levels are populated, the emission bands appear at longer wavelengths, the most intense band being the 0-13 at 3234 Å. The electron-excitation spectrum in Fig. 6 shows the emphasis on the shorter-wavelength bands. The most intense bands are the 21-1 and 21-2 at 1800 and 1851 Å, respectively.

The Herzberg bands show the same spectral characteristics as the Schumann-Runge bands for the various methods of excitation. Because the Herzberg bands arise from a forbidden transition, they would always be much less intense than the Schumann-Runge bands. Both band systems arise from transitions in which the upper level is at a greater internuclear distance than the lower. This causes the emission bands to be spread out over many wavelengths. Here, even when the absorption bands are optically thick, the fluorescence may be treated as single-scattering, because most of the energy is re-emitted at longer wavelengths. The approximation used in Eq. (24) is particularly valid under these circumstances.

The Herzberg bands that appear in the nightglow of the Earth are excited by a chemical reaction, and their relative spectral intensities are not to be compared with the excitation mechanisms used in calculating the synthetic spectra in Figs. 7-9.

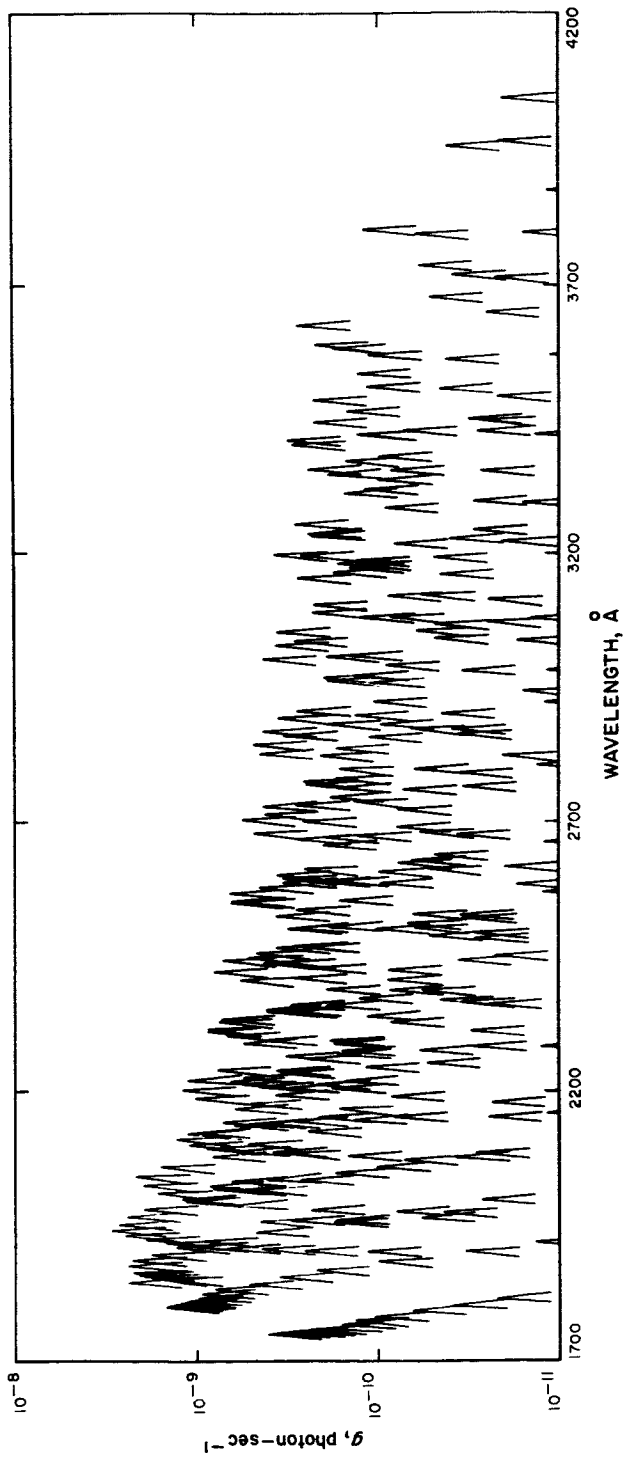


Fig. 4. Synthetic spectrum of oxygen Schumann-Runge bands in fluorescence in optically thin atmosphere

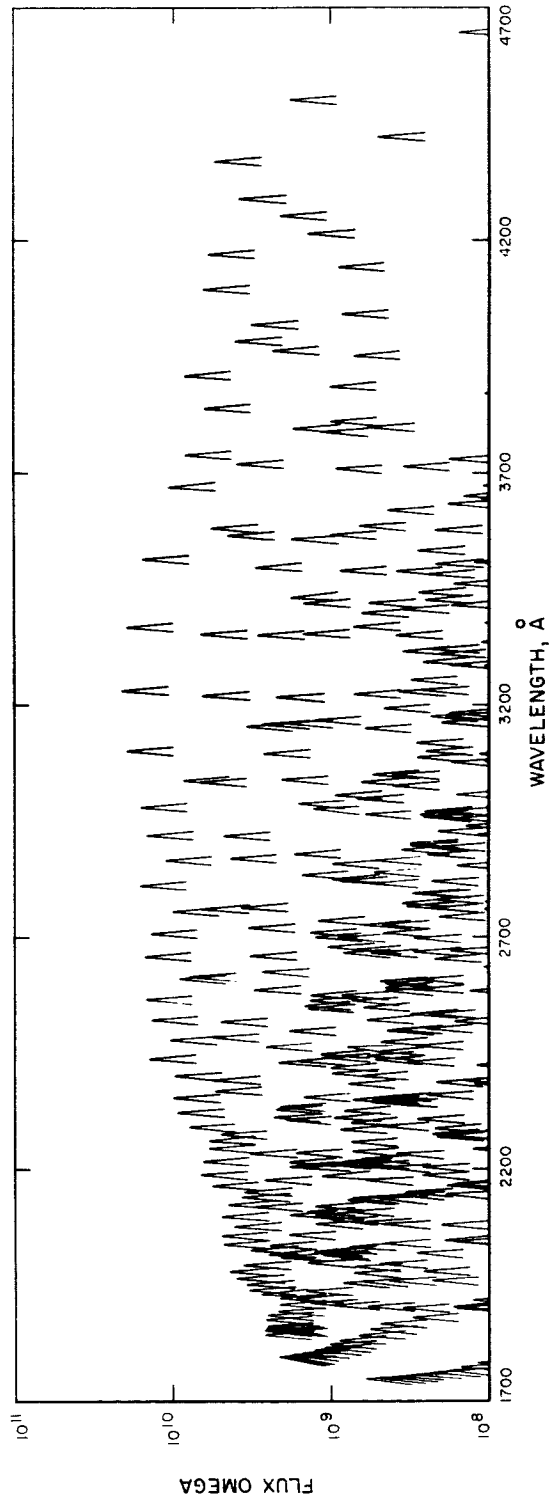


Fig. 5. Synthetic spectrum of oxygen Schumann-Runge bands in fluorescence in optically thin atmosphere

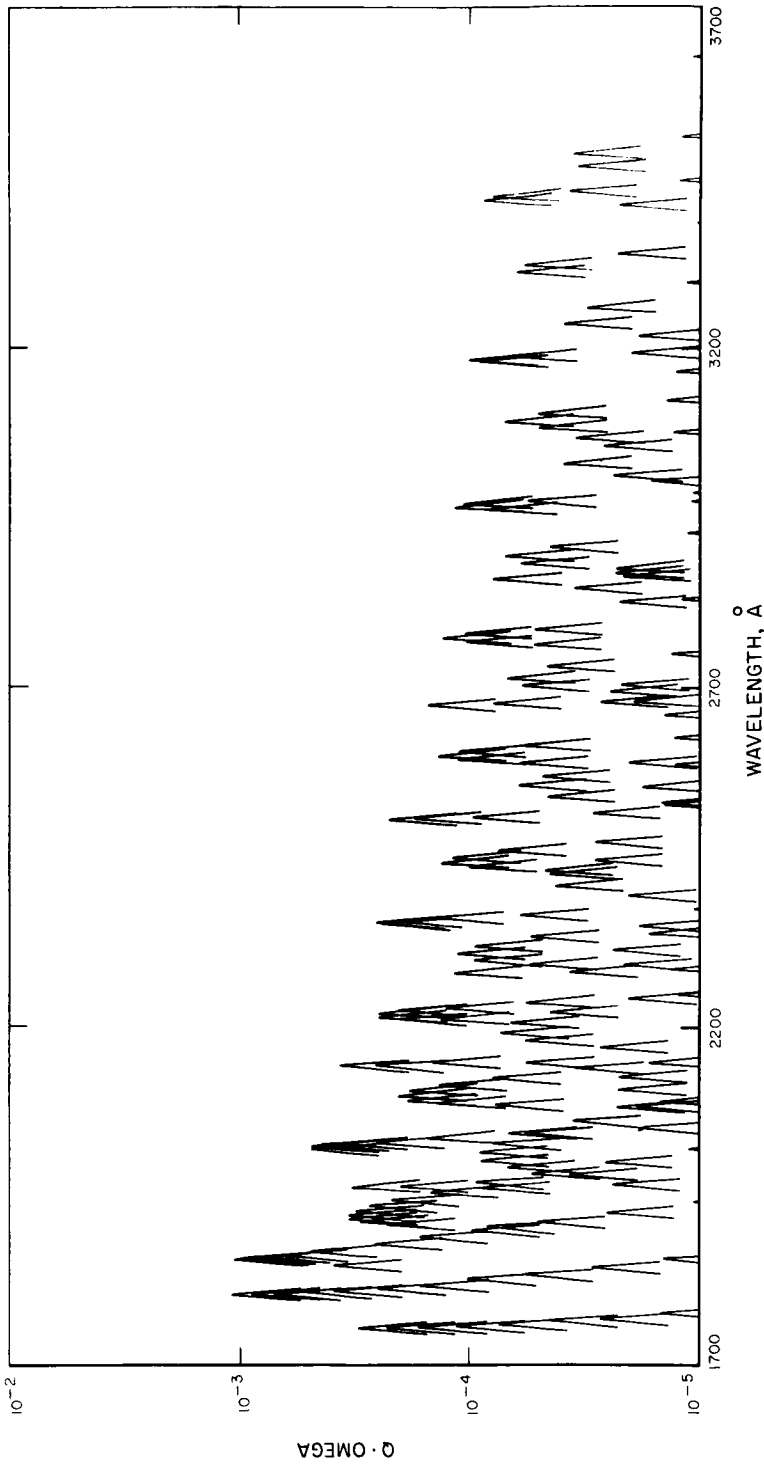


Fig. 6. Synthetic spectrum of oxygen Schumann-Runge bands as excited by electron bombardment

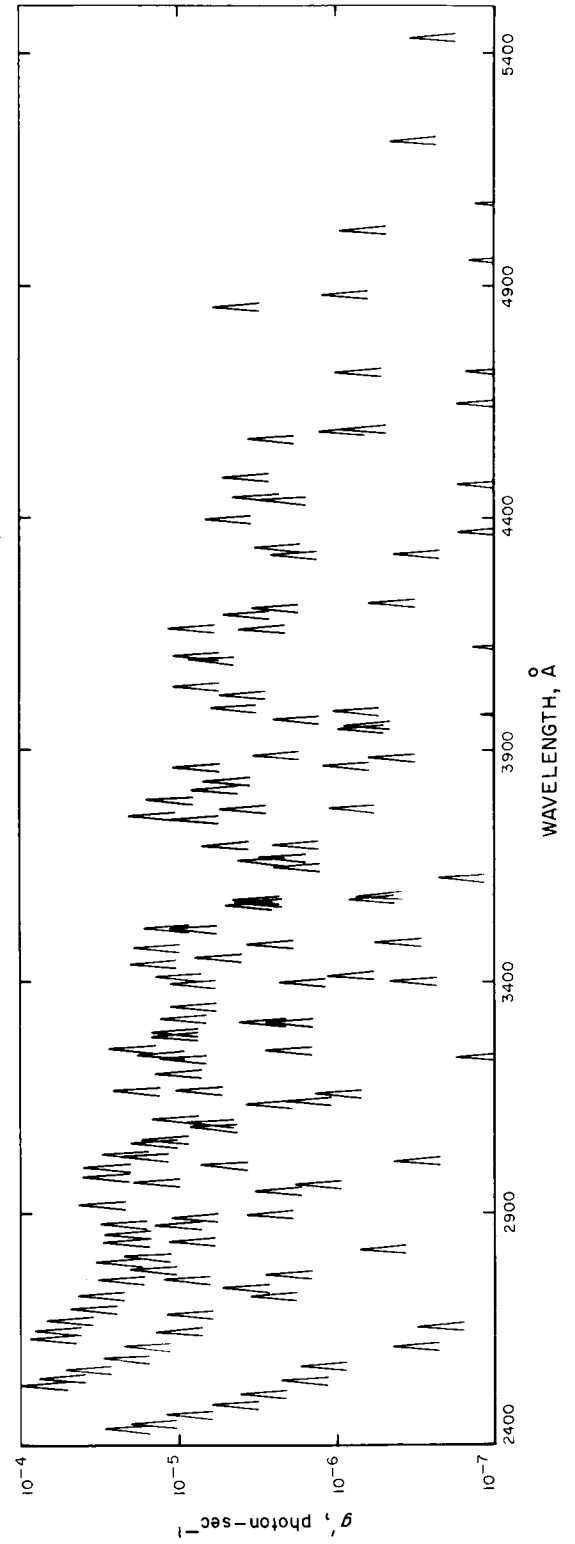


Fig. 7. Synthetic spectrum of oxygen Herzberg bands in fluorescence in optically thin atmosphere

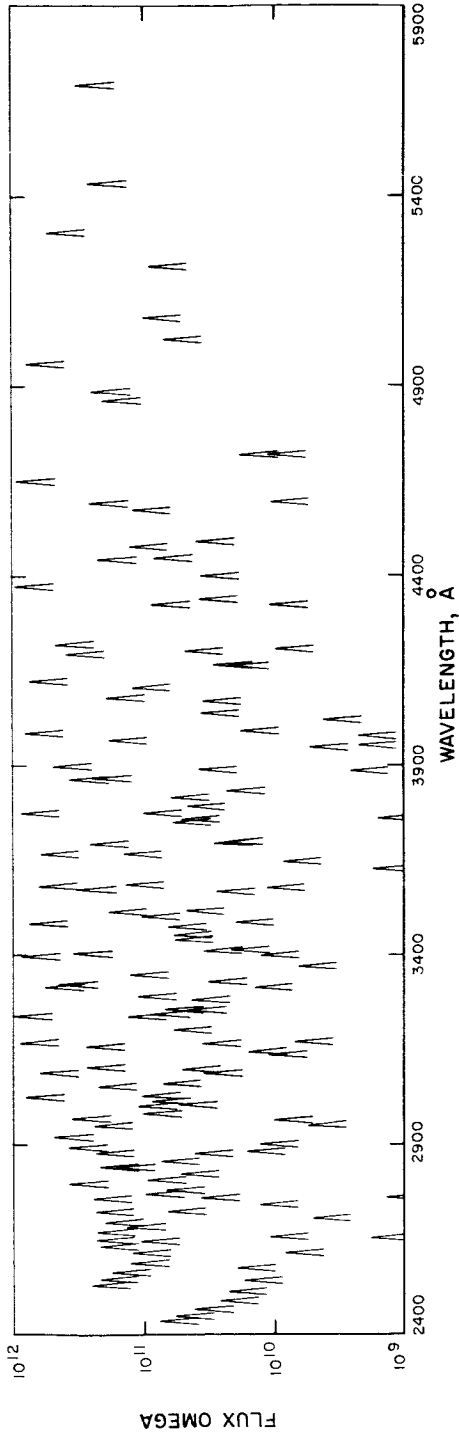


Fig. 8. Synthetic spectrum of oxygen Herzberg bands in fluorescence in optically thick atmosphere

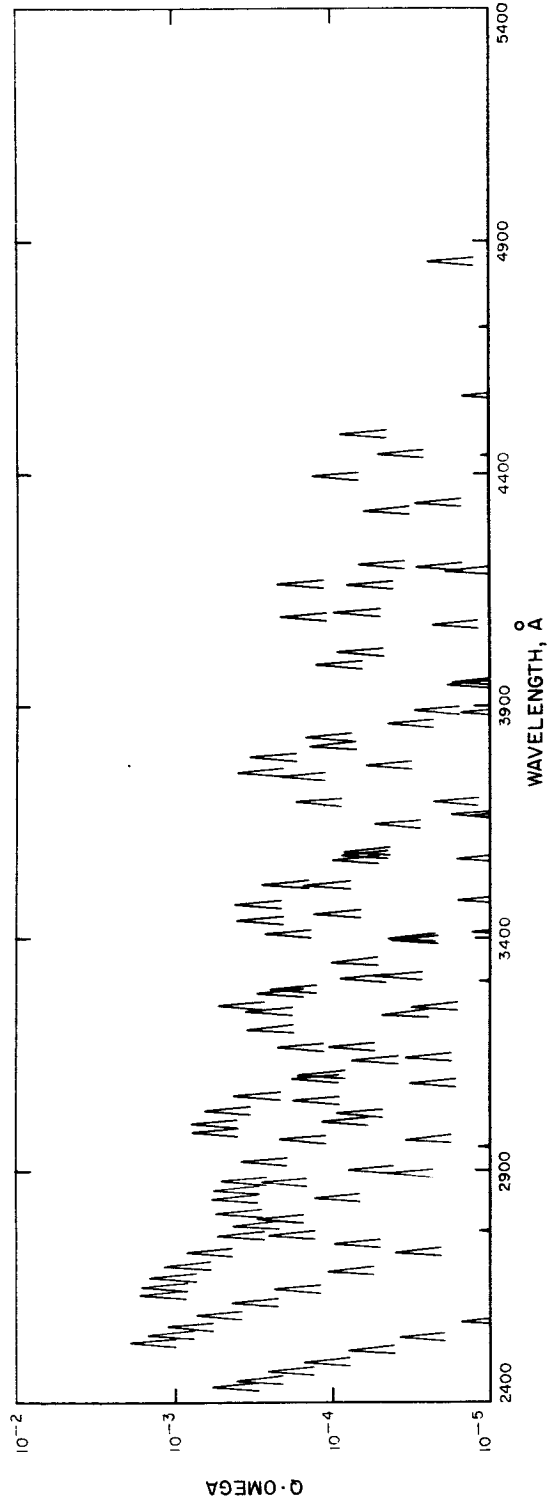


Fig. 9. Synthetic spectrum of oxygen Herzberg bands as excited by electron bombardment

C. Nitrogen

The band systems of interest in molecular nitrogen are the Vegard-Kaplan bands, $A^2\Sigma_u^+-X^1\Sigma_g^+$, the Lyman-Birge-Hopfield bands, $a^1\Pi_g-X^1\Sigma_g^+$, the Birge-Hopfield bands, $b^1\Pi_u-X^1\Sigma_g^+$, and the second positive bands, $C^3\Pi_u-B^3\Pi_g$. The first two of these transitions are forbidden as electric dipole radiation, while the last two are allowed transitions. The first three of these band systems may occur in a planetary atmosphere as the result of optically thin or optically thick fluorescence or as the result of electron bombardment. The second positive bands may be excited by electron bombardment but not by the fluorescence of solar radiation, because the transition from the ground state of molecular nitrogen to the upper state of these bands is forbidden as an electric dipole transition. The molecular emission factors for these four band systems are given in Sections VI-IX of the Appendix. The Franck-Condon factors were taken from the work of Nicholls (Refs. 9, 17).

Synthetic spectra of these band systems of molecular nitrogen are plotted in Figs. 10-19. The Vegard-Kaplan (Figs. 10-12), the Lyman-Birge-Hopfield (Figs. 13-15), and the Birge-Hopfield bands (Figs. 16-18) have spectra plotted for optically thin fluorescence, optically thick fluorescence, and electron excitation. The second positive bands (Fig. 19) have only electron excitation spectra plotted. Electronic oscillator strengths were not used for the nitrogen band systems, and the optically thin case is represented by the quantity g' of Eq. (13). These three band systems show the spectral characteristics that have been previously noted for the other band systems. The optically thick spectra show the energy degraded more to the long-wavelength end of the spectrum as compared to the optically thin spectra. The electron excitation spectra show the greatest concentration of energy toward the short-wavelength end of the spectrum. The most intense

bands for electron bombardment of nitrogen for each of the systems are: the 10-0 Vegard-Kaplan band at 1592 Å, the 3-0 Lyman-Birge-Hopfield band at 1354 Å, the 5-0 Birge-Hopfield band at 953 Å, and the 0-0 second positive band at 3370 Å. All of these systems should appear in planetary auroral spectra and in the dayglow spectra that are excited by photoelectrons.

D. Radicals

Two free radicals that are of interest in planetary atmospheres have strong band systems in the ultraviolet: the ultraviolet system of the hydroxyl radical, $A^2\Sigma^+-X^2\Pi_i$, and the violet system of the cyanogen radical, $B^2\Sigma^+-X^2\Sigma^+$. In both of these systems, the upper and lower states are at nearly the same internuclear distance, which makes the 0-0 band of the system the strongest transition. The molecular emission factors are listed in Sections X and XI of the Appendix. For hydroxyl, the f -numbers and transition probabilities are from Nicholls (Ref. 20). (See Dalby, Ref. 29.) The f -number for cyanogen is from the review by Dalby (Ref. 29), and the Franck-Condon factors are from Nicholls (Ref. 18). The 0-0 band of hydroxyl at 3064 Å has a value of g , the emission rate factor, of 8.6×10^{-4} photon-molecule⁻¹-sec⁻¹. A 1-kilorayleigh emission rate would require a column density of 1.2×10^{12} molecule-cm⁻².

The 0-0 band of cyanogen at 3876 Å has an emission rate factor of 7.3×10^{-2} photon-molecule⁻¹-sec⁻¹. A column density of 1.4×10^{10} molecule-cm⁻² is required to produce a 1-kilorayleigh emission rate for cyanogen. Synthetic spectra for these two systems are not plotted because each time they would consist only of a single band.

The 0-0 bands of both hydroxyl and cyanogen appear in the fluorescent spectra of comets.

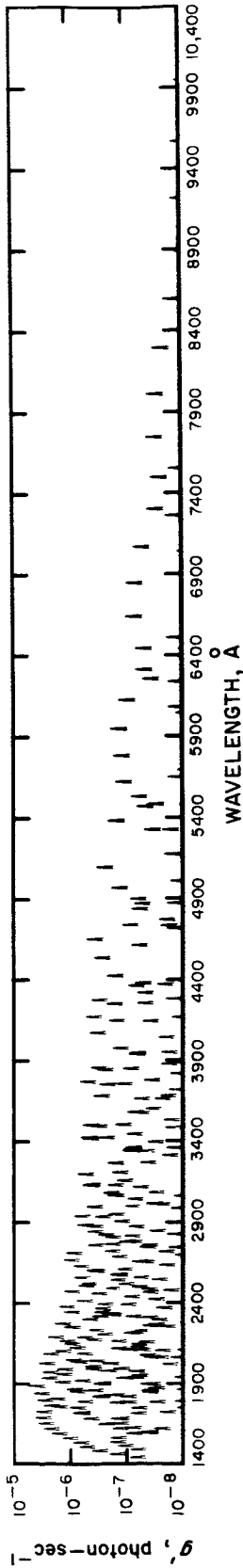


Fig. 10. Synthetic spectrum of nitrogen Vegard-Kaplan bands in fluorescence in optically thin atmosphere

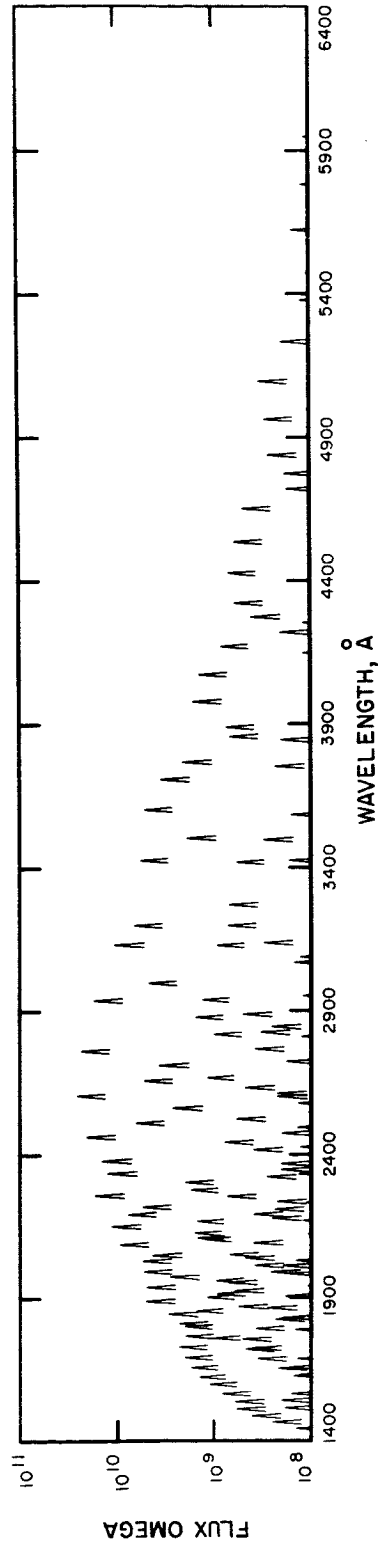


Fig. 11. Synthetic spectrum of nitrogen Vegard-Kaplan bands in fluorescence in optically thick atmosphere

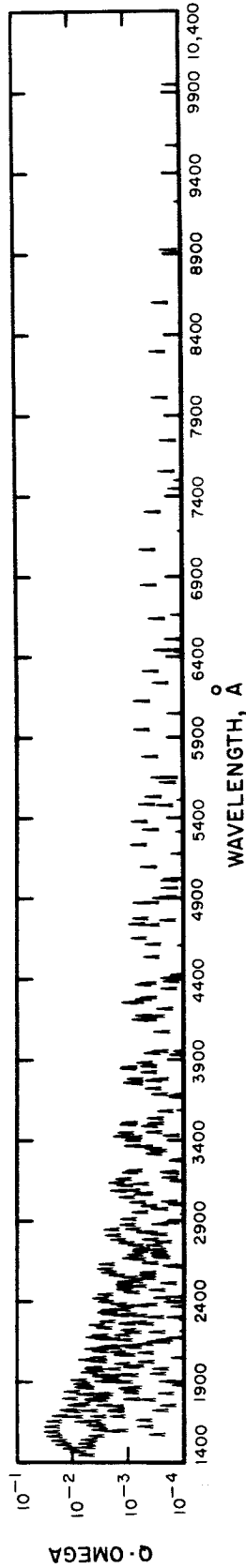


Fig. 12. Synthetic spectrum of nitrogen Vegard-Kaplan bands as excited by electron bombardment

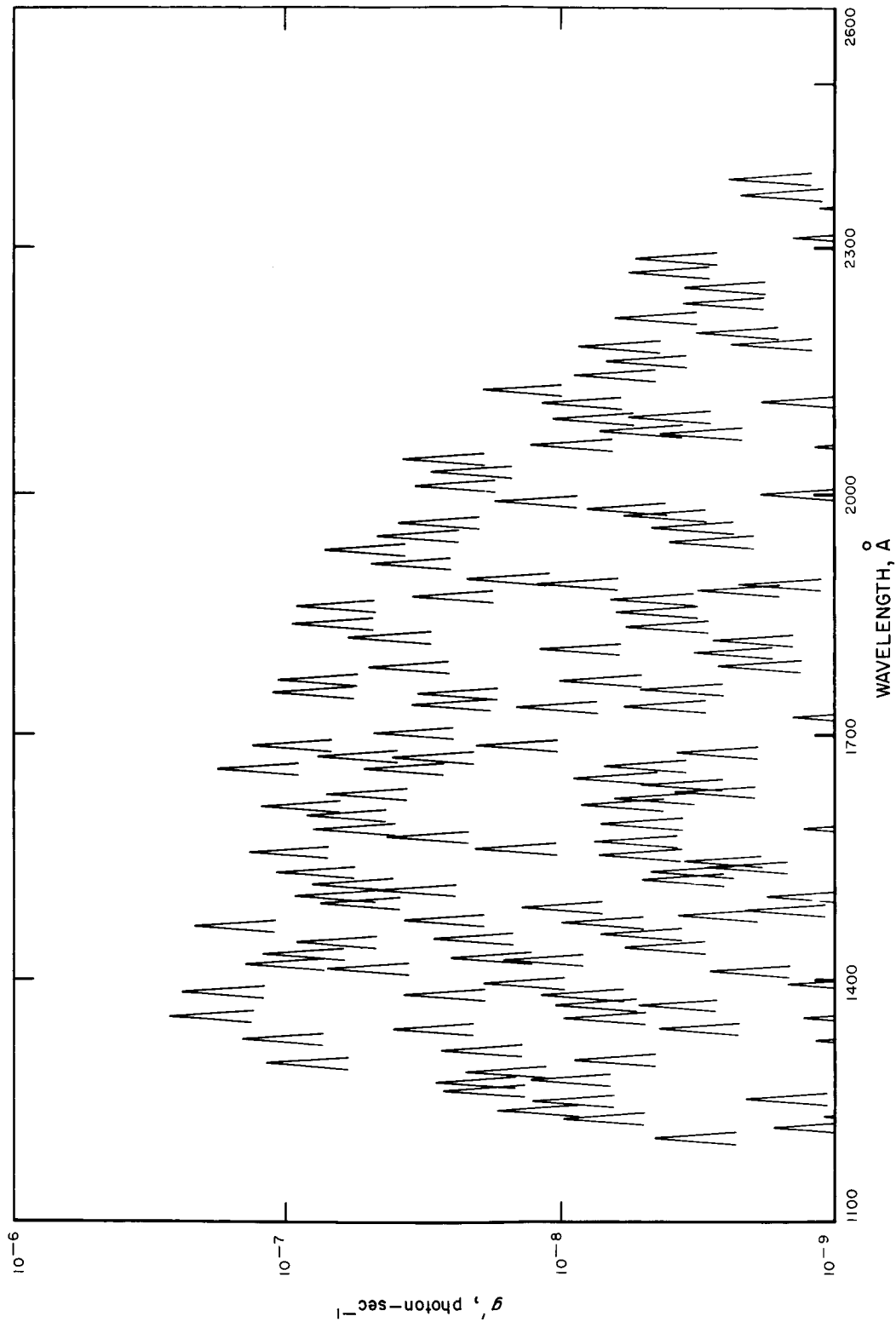


Fig. 13. Synthetic spectrum of nitrogen Lyman-Birge-Hopfield bands in fluorescence in optically thin atmosphere

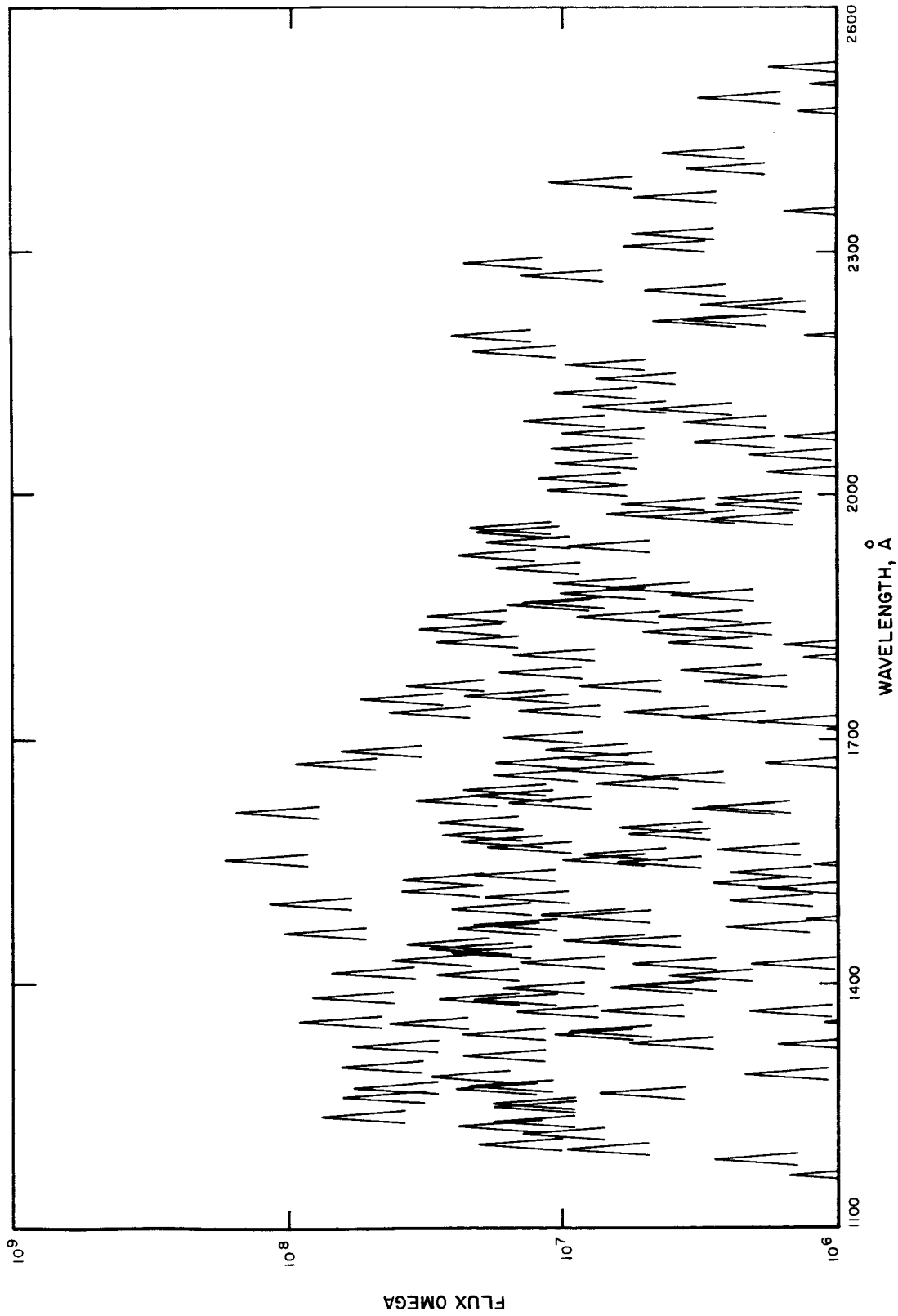


Fig. 14. Synthetic spectrum of nitrogen Lyman-Birge-Hopfield bands in fluorescence in optically thick atmosphere

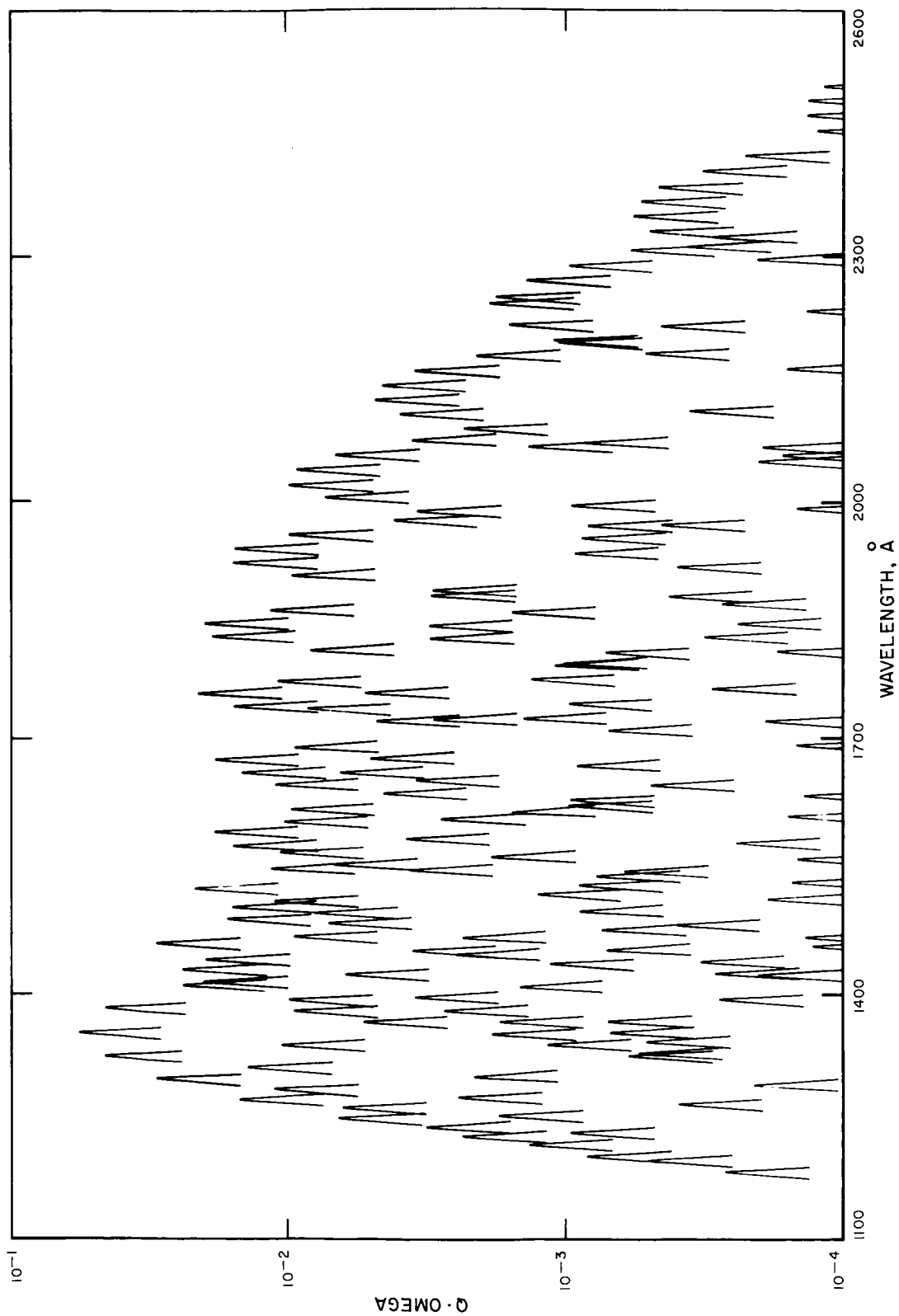


Fig. 15. Synthetic spectrum of nitrogen Lyman-Birge-Hopfield bands as excited by electron bombardment

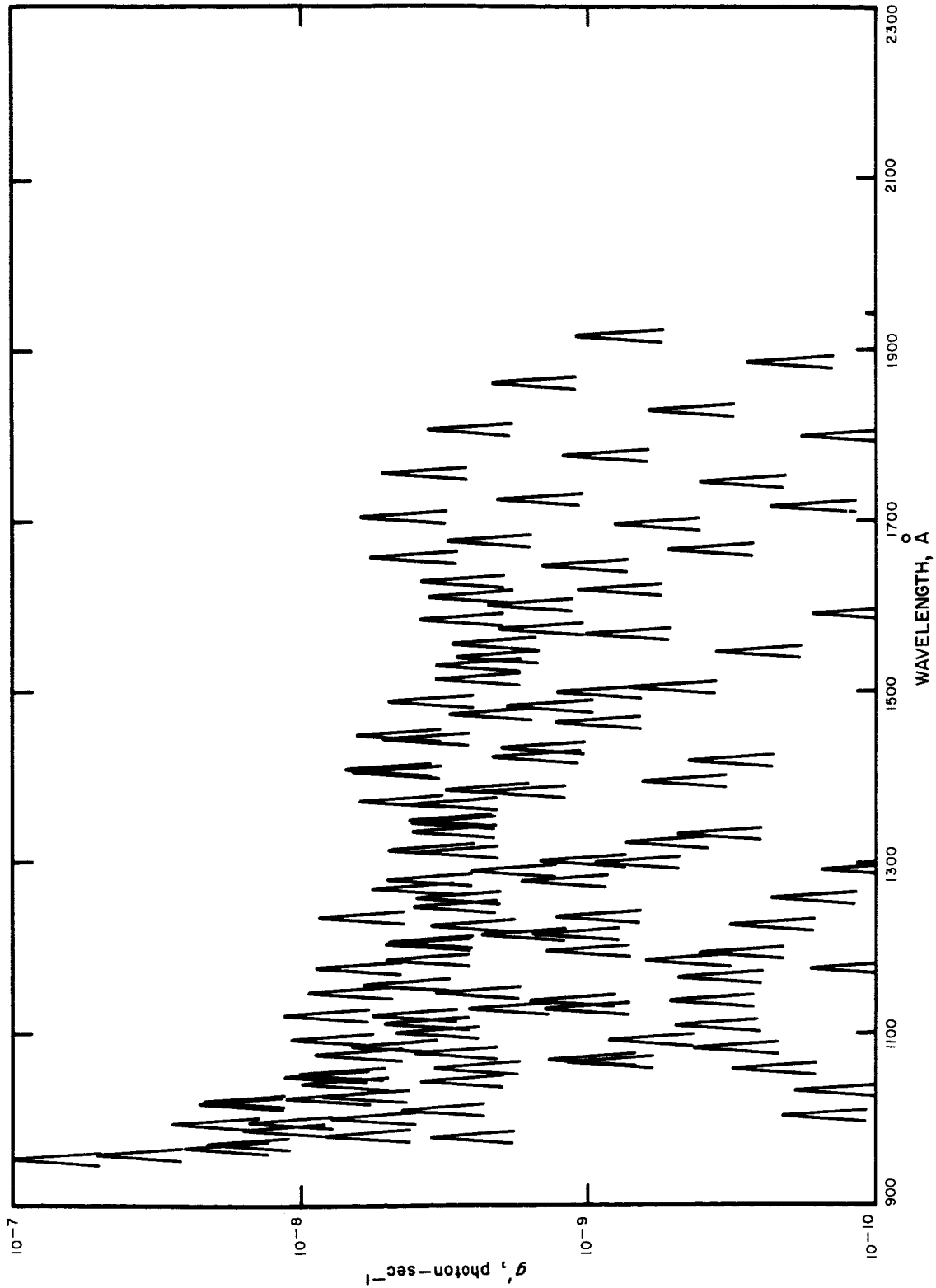


Fig. 16. Synthetic spectrum of nitrogen Birge-Hopfield bands in fluorescence in optically thin atmosphere

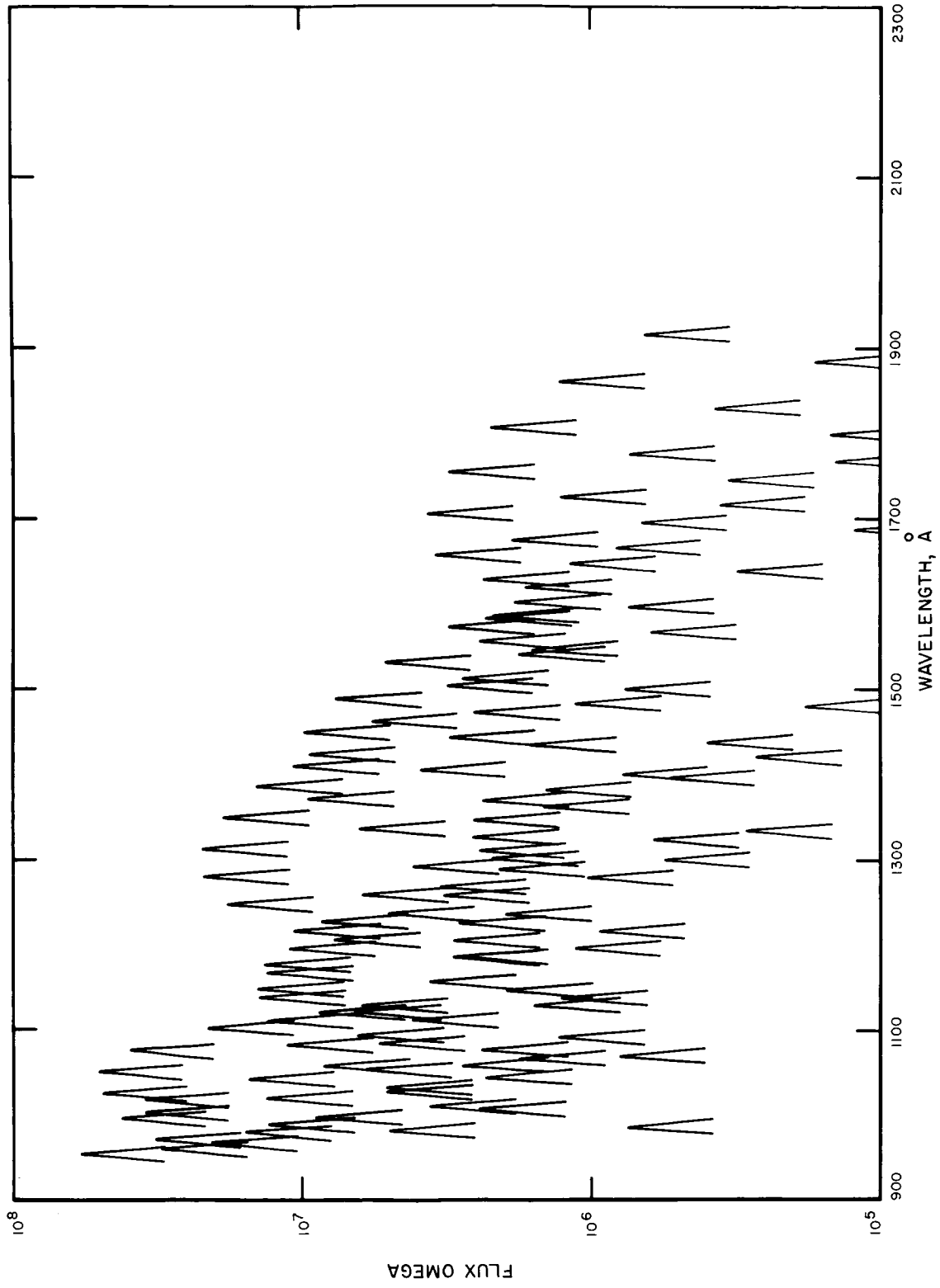


Fig. 17. Synthetic spectrum of nitrogen Birge-Hopfield bands in fluorescence in optically thick atmosphere

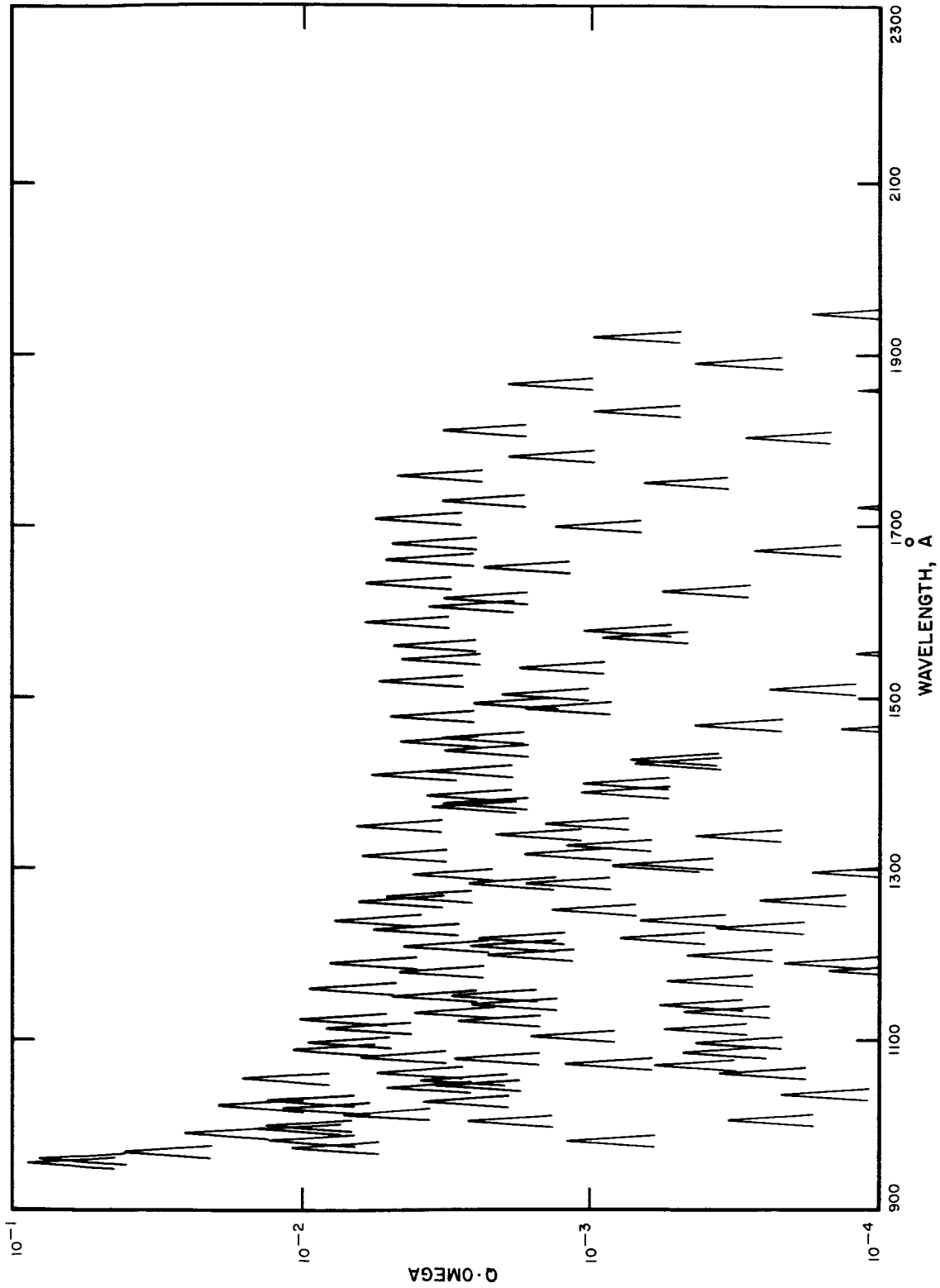


Fig. 18. Synthetic spectrum of nitrogen Birge-Hopfield bands as excited by electron bombardment

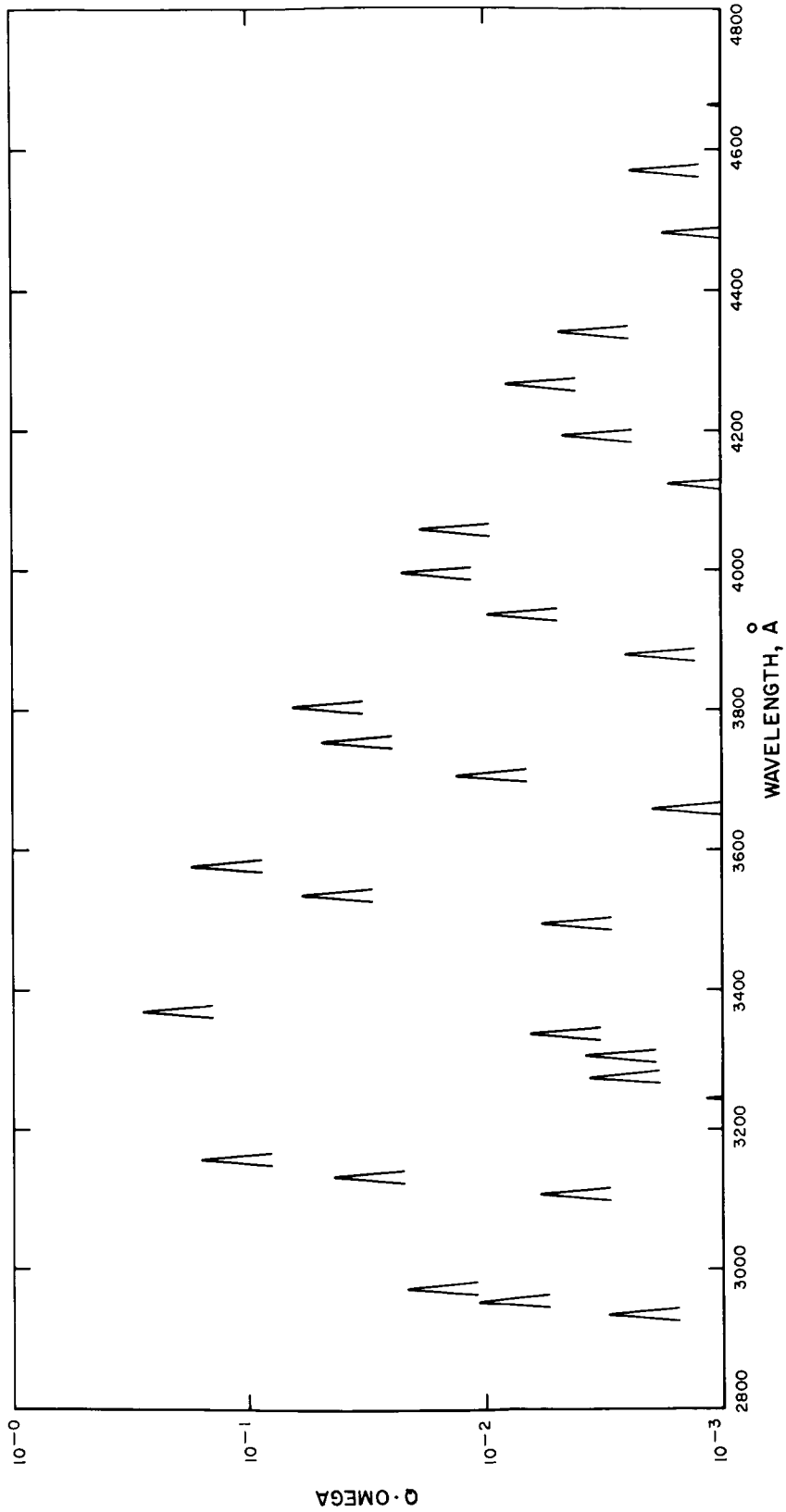


Fig. 19. Synthetic spectrum of nitrogen second positive bands as excited by electron bombardment

E. Carbon Monoxide

The molecular band systems of carbon monoxide that are of interest in planetary atmospheres are the Cameron bands, $a^3\Pi_g-X^1\Sigma^+$, the fourth positive bands, $A^1\Pi-X^1\Sigma^+$, and the Hopfield-Birge bands, $a'^3\Sigma^+-X'^1\Sigma^+$. The fourth positive bands arise from an allowed transition while the other two are from forbidden transitions. The molecular emission factors for these systems are listed in Sections XII–XIV of the Appendix. The Franck-Condon factors for these calculations were taken from Nicholls (Ref. 9).

Synthetic spectra of the carbon monoxide band systems are presented in Fig. 20–22 for optically thin fluorescence. The quantity g' of Eq. (13) is plotted. The most intense bands of each system are: the 0–1 at 2158 Å for the Cameron bands, the 1–0 at 1510 Å for the fourth positive,

and the 9–0 at 1526 Å for the Hopfield-Birge. The g' values for these last two bands are 2.2×10^{-6} and 1.0×10^{-6} , respectively. Because the fourth positive system is allowed, while the Hopfield-Birge system is forbidden, it is certain that the Hopfield-Birge will be less intense than the fourth positive in fluorescence. The g' value of the 0–1 Cameron band is 7.1×10^{-4} . The actual importance of this system compared with the fourth positive depends on how strongly the change of multiplicity required in the Cameron bands weakens the oscillator strength as compared with the fourth positive.

A recent measurement of the f -value of the fourth positive bands by Hesser and Dressler (Ref. 30) permits the calculation of g , the emission rate factor. The band oscillator strength $f_{v',v''}$ for the 1–0 is 2.02×10^{-2} , and $g_{1,0}$ be-

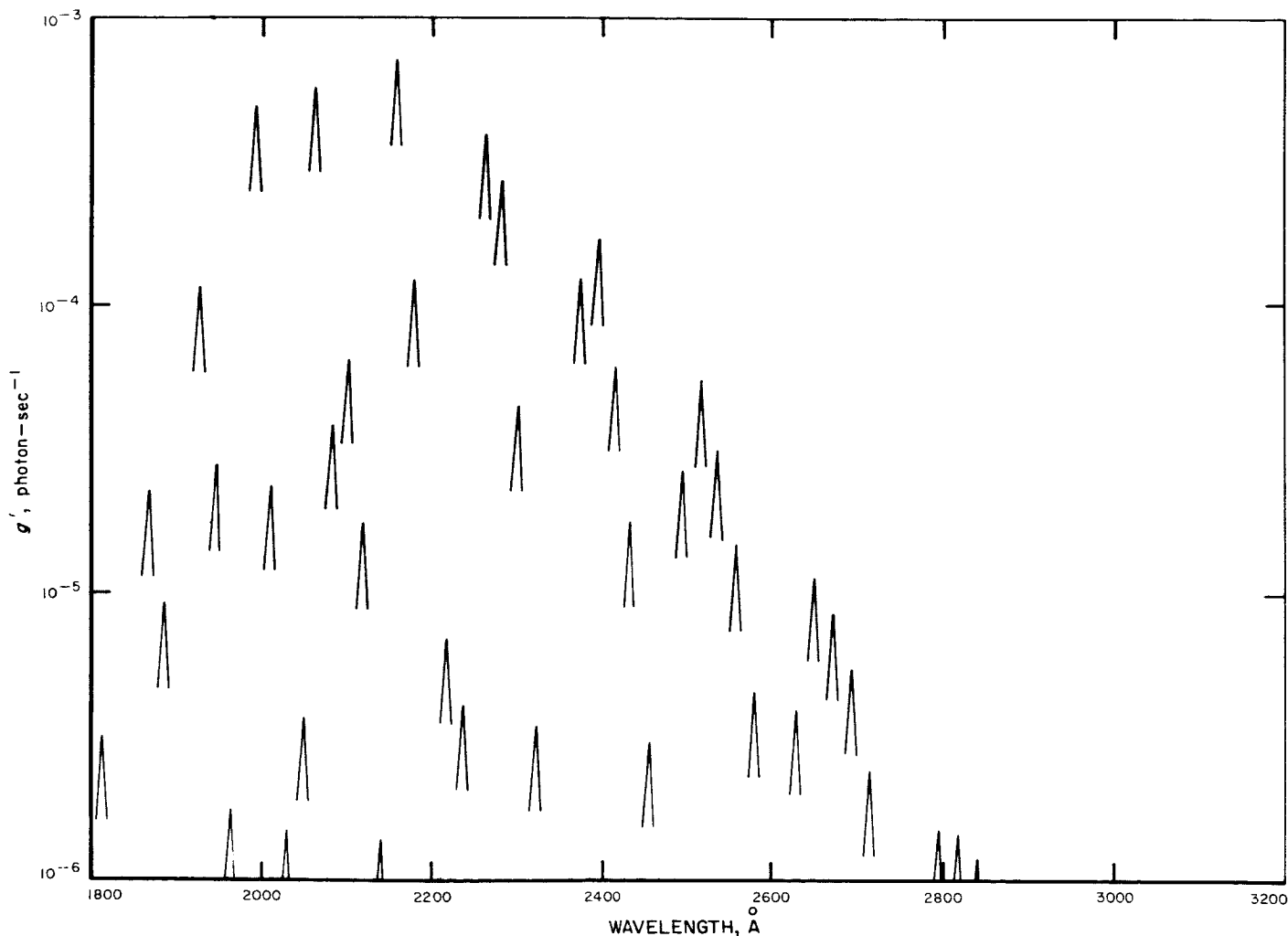


Fig. 20. Synthetic spectrum of carbon monoxide Cameron bands in fluorescence in optically thin atmosphere

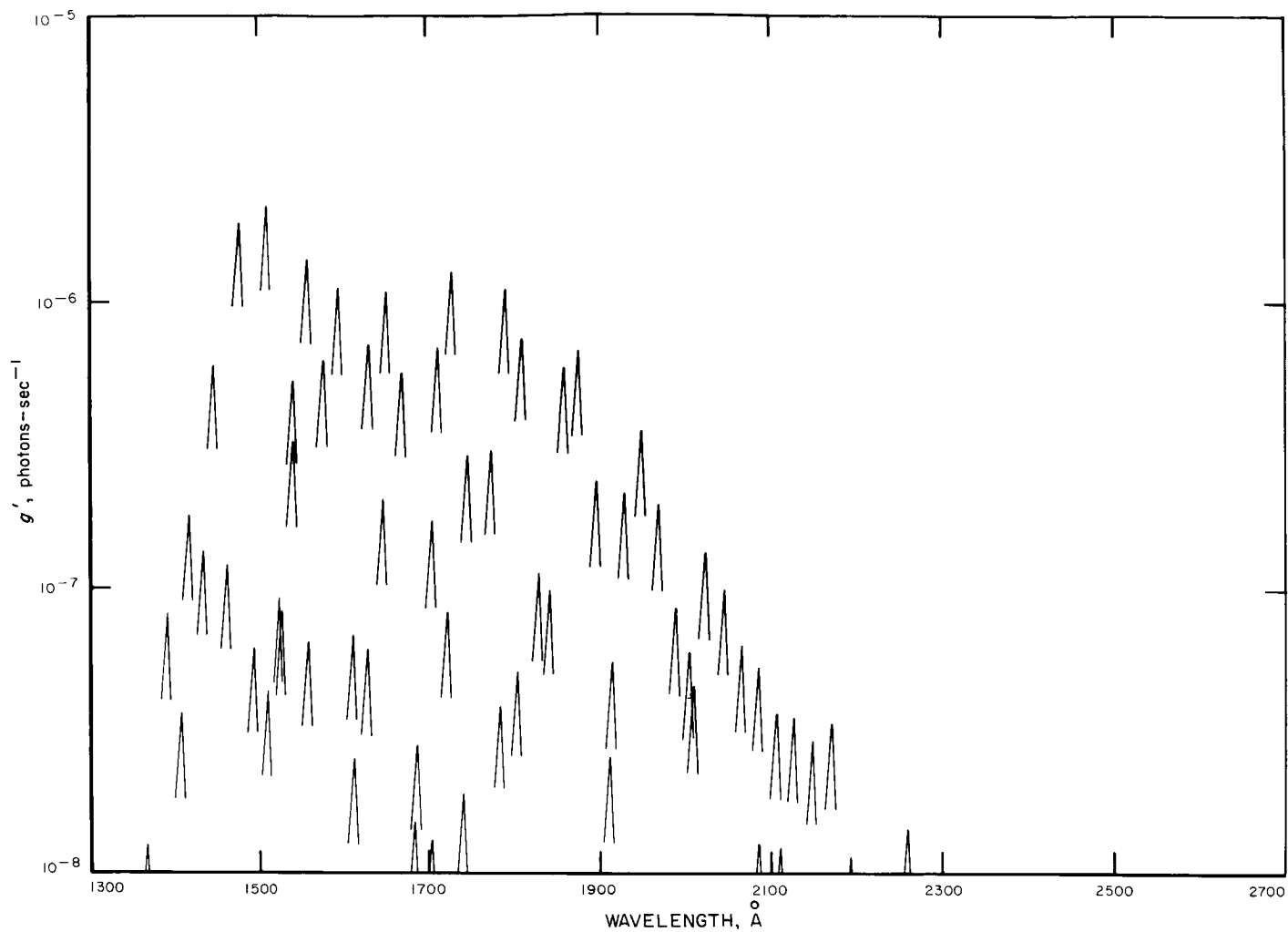


Fig. 21. Synthetic spectrum of carbon monoxide fourth positive bands in fluorescence in optically thin atmosphere

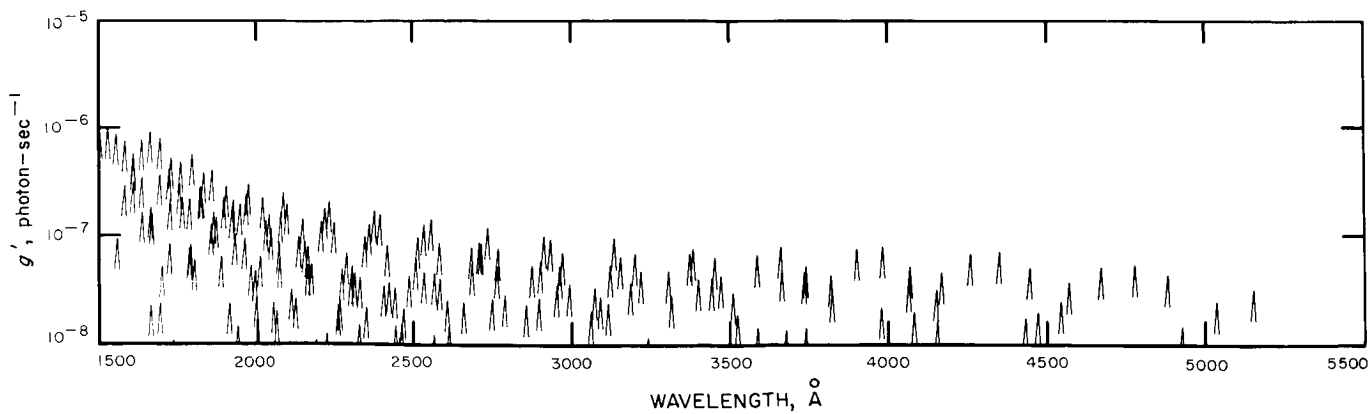


Fig. 22. Synthetic spectrum of carbon monoxide Hopfield-Birge bands in fluorescence in optically thin atmosphere

comes 2.1×10^{-7} photon-molecule⁻²-sec⁻¹. A column density of 4.8×10^{15} molecule-cm⁻² is required to produce an emission rate of 1 kilorayleigh. The amount of carbon monoxide above the mesopause on Mars should be considerably greater than this amount (Chamberlain, Ref. 31).

The optical depth in the fourth positive band may be calculated with the aid of the band fluorescent cross section from Section XIII of the Appendix and the band *f*-value. The cross section is 1.2×10^{-16} cm²-Å. Using estimates for the band line width similar to those used earlier for the nitric oxide gamma bands, the effective cross section becomes approximately 1×10^{-16} cm². The 1-0 band of the fourth positive system will be approximately unit optical depth when there are enough molecules in the column to produce an emission rate of 1 kilorayleigh.

F. Molecular Ions

A number of molecular ions that are of importance in planetary ionospheres have spectra in the ultraviolet part of the spectrum. The ones considered here are the first negative bands of molecular nitrogen, $B^2\Sigma_u^+ - X^2\Sigma_g^+$, the second negative bands of molecular nitrogen, $C^2\Sigma_u^+ - X^2\Sigma_g^+$, the first negative bands of nitric oxide, $A^1\Pi - X^1\Sigma^+$, the second negative bands of molecular oxygen, $A^2\Pi_u - X^2\Pi_g$, the first negative bands of carbon monoxide, $B^2\Sigma^+ - X^2\Sigma^+$, and the comet tail bands of carbon monoxide, $A^2\Pi_r - X^2\Sigma^+$. The molecular emission factors for these bands are given in Sections XV-XX of the Appendix. The Franck-Condon factors for the molecular nitrogen ions are from Nicholls (Refs. 9, 17); for the nitric oxide and oxygen ions, from Nicholls (unpublished); and for the carbon monoxide ions, from Nicholls (Ref. 9). All of these transitions are allowed by the rules of electric dipole radiation.

The *g'* values for these molecular ion band systems are plotted in Figs. 23-28 as synthetic spectra. The most intense band of the nitrogen first negative system (Fig. 23) is the 0-0 at 3911 Å (band head at 3914 Å) with a *g'* value of 1.4×10^0 . The most intense band of the second negative system (Fig. 24) is the 5-0 at 1337 Å with its *g'* value of 5.0×10^{-7} . This very small value for the second negative band is a reflection of the small amount of solar energy available at shorter wavelengths and of the fluorescent energy being spread out among a larger number of bands in this system than in the first negative system. Because the type of electronic transition for both band systems is the same, it is expected that the electronic oscillator strengths will be similar. Because of the large difference in *g'* values, it is unlikely that the second negative bands will play any important role in the dayglow if the wavelength region of the first negative bands is experimentally

available. A measurement of the intensity of the first negative bands will make it possible to calculate the expected intensity of the second negative. An electronic *f*-value of 3.5×10^{-2} is given by Dalby (Ref. 29) for the first negative bands. When it is combined with the *g'* value, the emission rate factor *g* becomes 4.9×10^{-2} photon-ion⁻¹-sec⁻¹. A value that is now being used, 6×10^{-2} photon-ion⁻¹-sec⁻¹ (Wallace and Nidey, Ref. 32), is probably more nearly correct, because this value was based on a detailed examination of the solar intensity across the band. As mentioned earlier, in the present work the solar spectrum is calculated in detail below 2985 Å, while at longer wavelengths 50-Å averages are used. This 6×10^{-2} value of *g* for the 0-0 first negative band indicates that a column density of 1.7×10^{10} ion-cm⁻² is needed to produce an emission rate of 1 kilorayleigh. Such a column density is present in the Earth's atmosphere.

The most intense band of the nitric oxide first negative system (Fig. 25) is the 6-0 at 1223 Å with a *g'* value of 6.5×10^{-7} . Even if the oscillator strength of this system were of the order of 10^{-1} , a column density of 10^{16} ion-cm⁻² would be necessary to produce a fluorescent emission rate of 1 kilorayleigh. Such a column density far exceeds the amount of ionized nitric oxide in the Earth's atmosphere. The reason for low value of the emission rate factor for this band system is again the low intensity of the solar radiation at such short wavelengths.

The most intense band of the second negative band of molecular oxygen (Fig. 26), the 11-1 at 2242 Å, has a *g'* value of 7.2×10^{-5} . Again, using an optimistic value for the electronic oscillator strength, a single band of this system would not produce an emission rate of more than 1 to 10 rayleighs in the Earth's atmosphere. However, for this system, the reason for the low value of the emission rate factor is that the fluorescent energy is spread among so many bands. The sum of all the radiation in this system may be detectable in the Earth's atmosphere, while it would be difficult to measure individual bands (Zipf, Ref. 33).

The most intense bands of the carbon monoxide first negative (Fig. 27) and comet tail bands (Fig. 28) are the 0-0 at 2191 Å and the 2-0 at 4264 Å, respectively. Their respective *g'* values are 7.8×10^{-3} and 5.8×10^{-1} . The band oscillator strength $f_{0,0}$, for the 0-0 first negative band is 8.2×10^{-3} (Lawrence, Ref. 34). The emission rate factor *g* for this band is then 1.2×10^{-4} photon-ion⁻¹-sec⁻¹. The oscillator strength for the comet tail bands is 2.2×10^{-3} (Dalby, Ref. 29). The emission rate factor *g* for the 2-0 band is then 1.3×10^{-3} photon-ion⁻¹-sec⁻¹. A column den-

sity of 7.7×10^{11} ion-cm⁻² is required to produce an emission rate of 1 kilorayleigh. As the name suggests, these bands have been observed in the tails of comets.

A summary of most intense bands of each system is given in Table 4. The band number and wavelength

are given for all the systems for optically thin fluorescence. When available, the emission rate factor g is given for these bands. The g' value is given for all systems that undergo fluorescence. Where appropriate, the band number and wavelength of the most intense bands are listed for optically thick fluorescence and electron excitation.

Table 4. Most intense bands

Band system	Optically thin		g photon- molecule ⁻¹ -sec ⁻¹	g'	Optically thick		Electron excitation	
	$v'-v''$	$\lambda, \text{\AA}$			$v'-v''$	$\lambda, \text{\AA}$	$v'-v''$	$\lambda, \text{\AA}$
Nitric oxide gamma	1-0	2149	7.7×10^{-6}	3.3×10^{-3}				
Nitric oxide delta	1-0	1826	8.6×10^{-7}	9.2×10^{-5}				
Nitric oxide beta	10-0	1817	7.2×10^{-8}	1.1×10^{-5}				
Oxygen Schumann-Runge	13-3	1942	2.9×10^{-9}	8.9×10^{-8}	0-13	3234	21-1	1800
Oxygen Herzberg	12-1	2528		1.0×10^{-4}	3-4	3234	12-1	2528
Nitrogen Vegard-Kaplan	4-1	1887		5.5×10^{-6}	0-5	2605	10-0	1592
Nitrogen Lyman-Birge-Hopfield	3-0	1354		2.7×10^{-7}	0-2	1554	3-0	1354
Nitrogen Birge-Hopfield	5-0	953		1.0×10^{-7}	5-0	953	5-0	953
Nitrogen second positive							0-0	3370
Hydroxyl ultraviolet	0-0	3064	8.6×10^{-4}	8.6×10^{-1}				
Cyanogen violet	0-0	3876	7.3×10^{-2}	2.5×10^0				
Carbon monoxide Cameron	0-1	2158		7.1×10^{-4}				
Carbon monoxide fourth positive	1-0	1510	2.1×10^{-7}	2.2×10^{-6}				
Carbon monoxide Hopfield-Birge	9-0	1526		1.0×10^{-6}				
Nitrogen first negative	0-0	3911	4.9×10^{-2}	1.4×10^0				
Nitrogen second negative	5-0	1337		5.0×10^{-7}				
Nitric oxide first negative	6-0	1223		6.5×10^{-7}				
Oxygen second negative	11-1	2242		7.2×10^{-5}				
Carbon monoxide first negative	0-0	2191	1.2×10^{-4}	7.8×10^{-3}				
Carbon monoxide comet tail	2-0	4264	1.3×10^{-3}	5.8×10^{-1}				

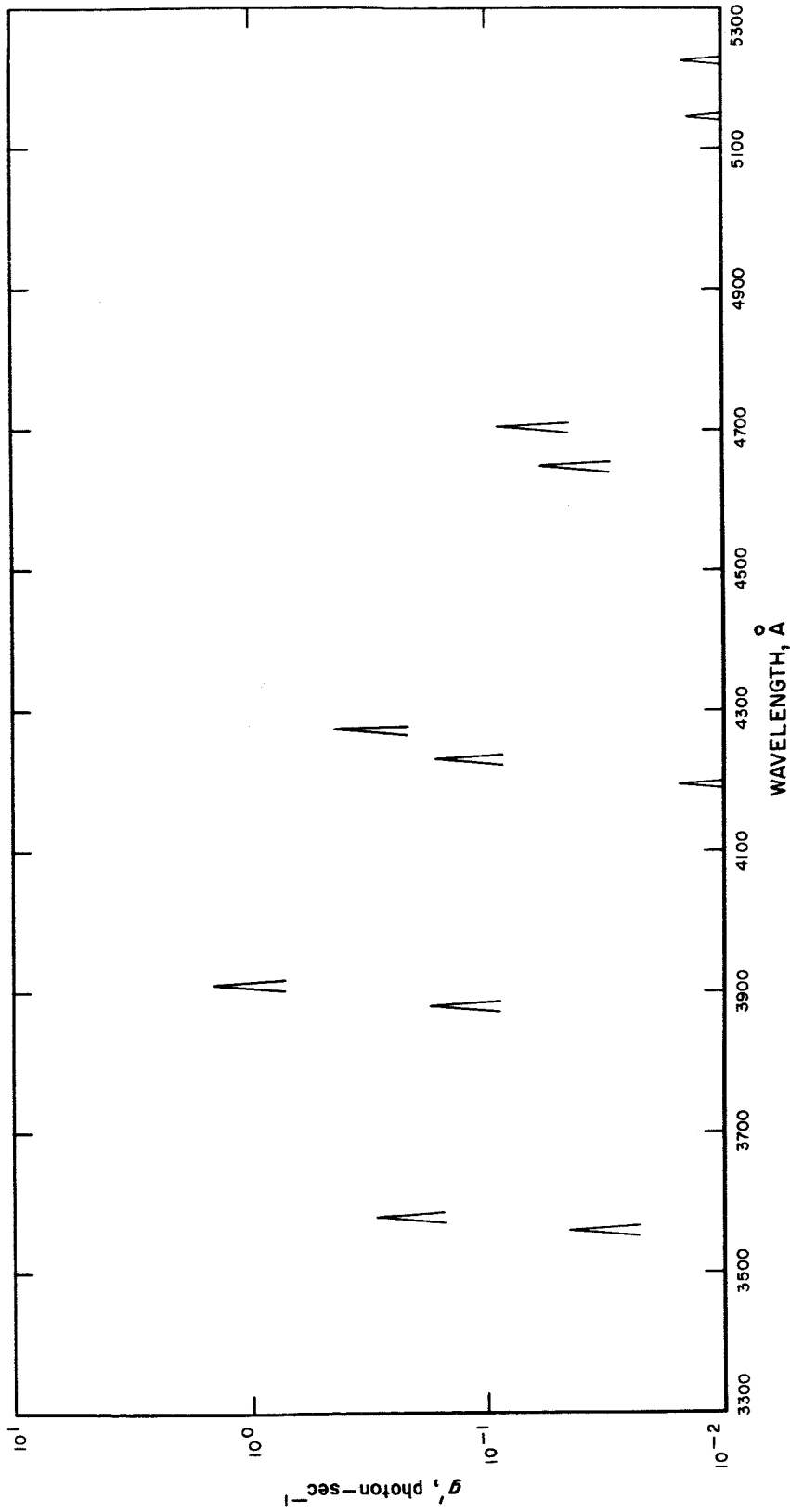


Fig. 23. Synthetic spectrum of nitrogen first negative bands in fluorescence in optically thin atmosphere

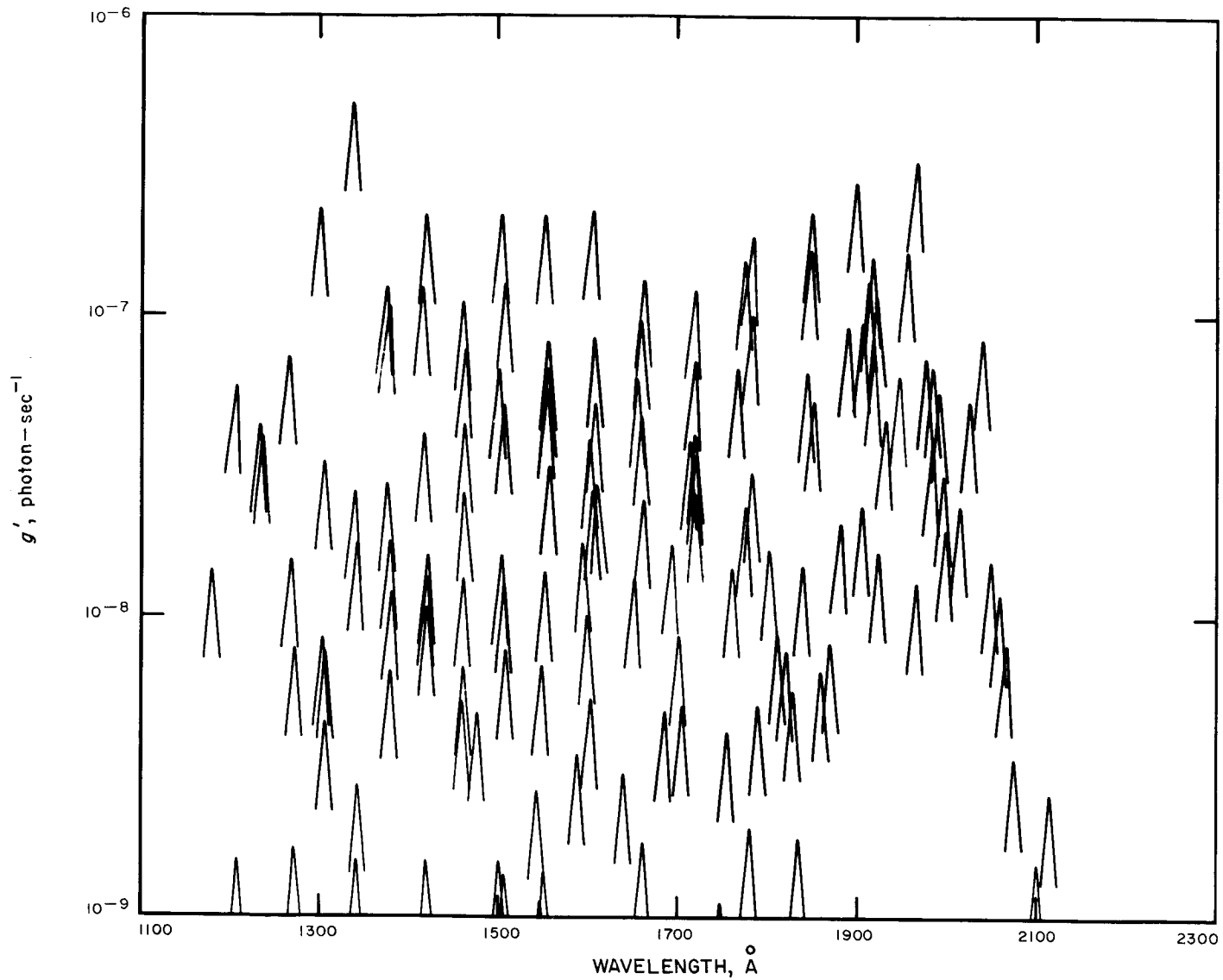


Fig. 24. Synthetic spectrum of nitrogen second negative bands in fluorescence in optically thin atmosphere

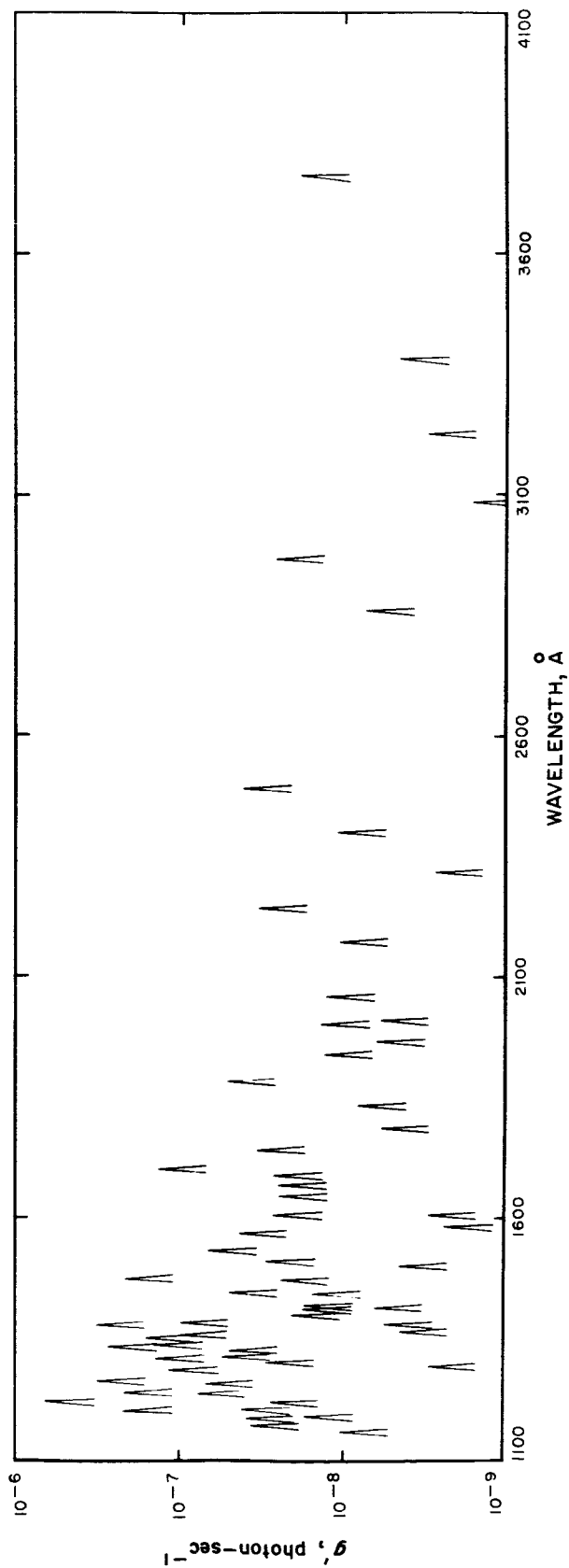


Fig. 25. Synthetic spectrum of nitric oxide first negative bands in fluorescence in optically thin atmosphere

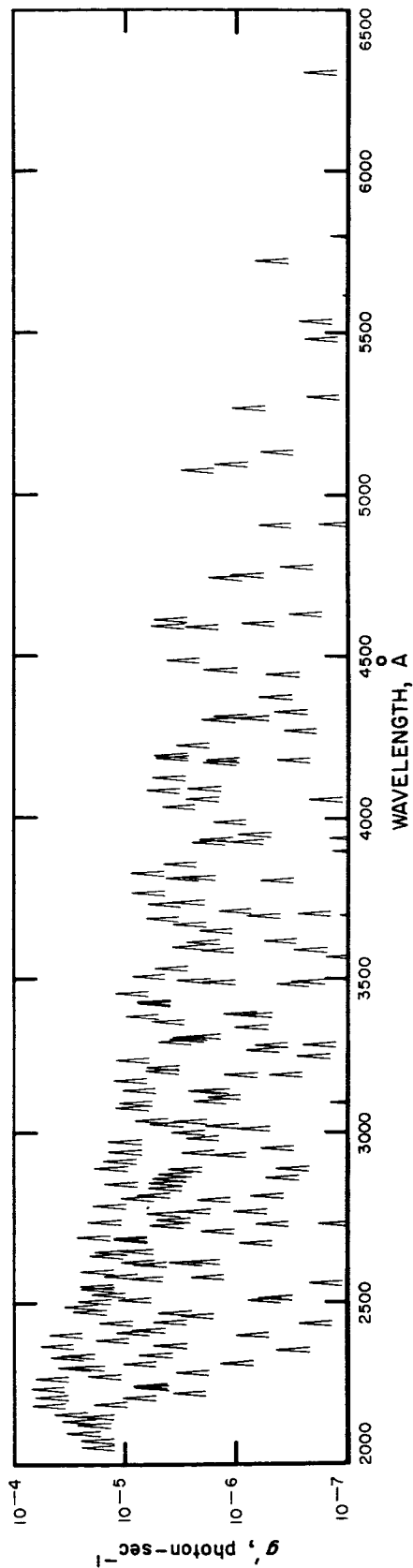


Fig. 26. Synthetic spectrum of oxygen second negative bands in fluorescence in optically thin atmosphere

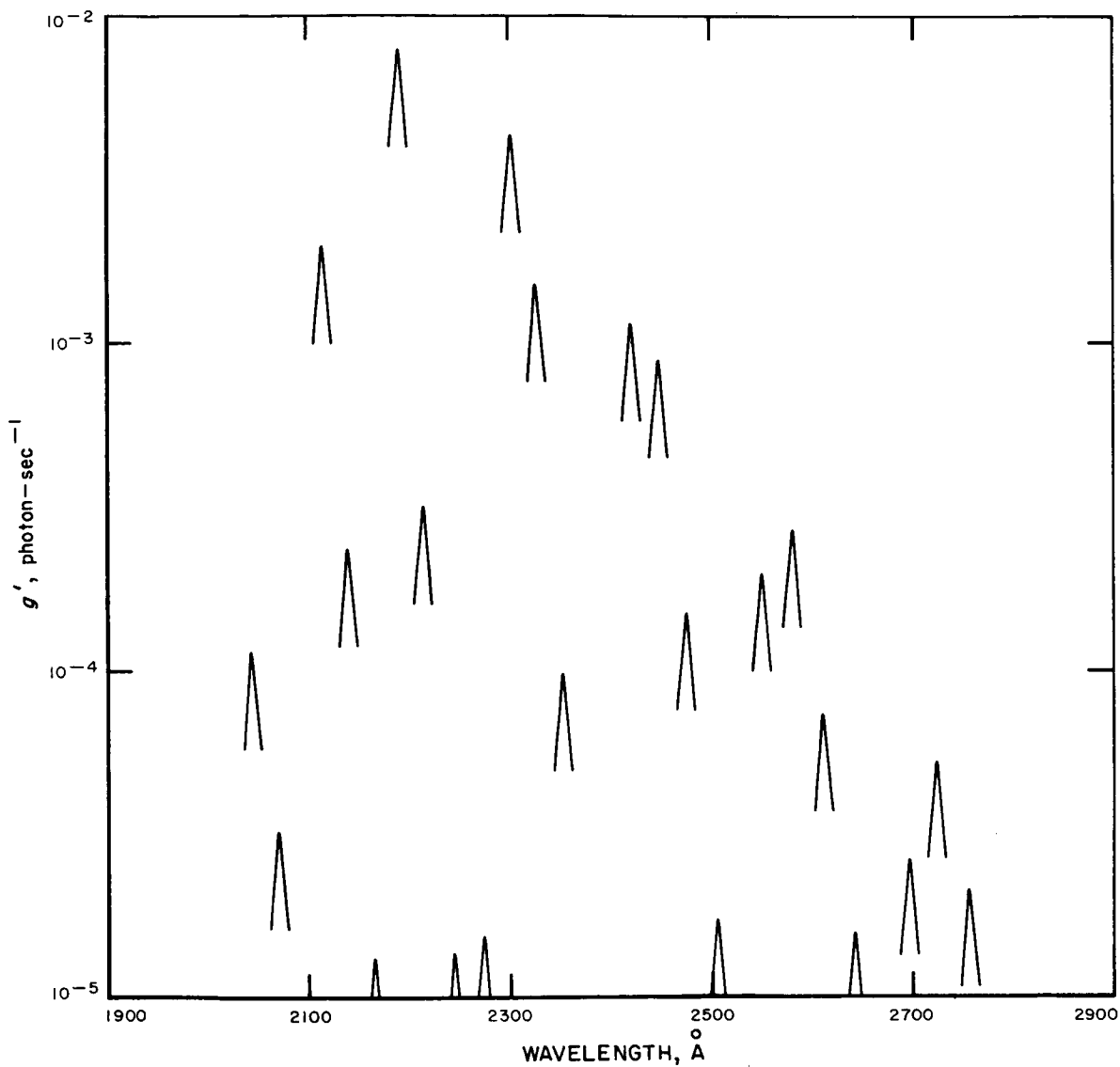


Fig. 27. Synthetic spectrum of carbon monoxide first negative bands in fluorescence in optically thin atmosphere

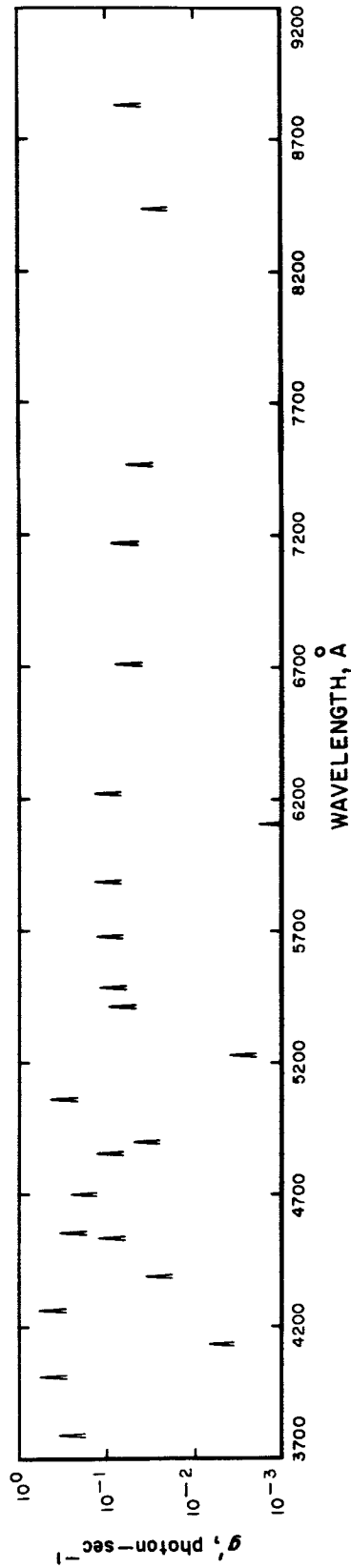


Fig. 28. Synthetic spectrum of carbon monoxide comet tail bands in fluorescence in optically thin atmosphere

V. ULTRAVIOLET SPECTRA OF EARTH

Several examples of ultraviolet spectra of the Earth's upper atmosphere are given here. These examples include excitation of the spectra by optically thin fluorescence, photoelectron excitation, and the combination of absorption and rayleigh scattering. The nitric oxide gamma bands and the nitrogen first negative bands are produced in the Earth's dayglow by the fluorescence of incident solar radiation. Both systems are optically thin. The nitrogen second positive bands are present in the dayglow of the Earth as a result of the bombardment of atmospheric nitrogen by fast photoelectrons that, in turn, have been produced by the photoionization of the upper atmosphere by extreme ultraviolet solar radiation. Absorption by ozone determines the overall spectral characteristics of the Earth's ultraviolet albedo. The rayleigh scattering retains the detailed Fraunhofer features of the solar spectrum.

Ultraviolet spectra of the limb and disk of the Earth have been obtained in a series of flights of Aerobee rockets. These experiments used an attitude-control system to point the rocket and a scanning spectrometer at the limb and the disk of the planet. The results of three of these flights are shown in Figs. 29-31.

The dayglow spectrum of the Earth between 1730 and 2730 Å is shown in Fig. 29. The nitric oxide gamma bands in fluorescence are the most prominent spectral features. This spectrum was obtained at an altitude of 146 km while the scanning spectrometer was aimed at a zenith angle of 99 deg, which enabled it to look through the limb of the atmosphere (Barth, Ref. 35). The emissions originate in the 85- to 125-km region of the atmosphere. The lower spectrum is the flight record; the upper is a synthetic spectrum calculated from the emission rate factors $g_{v'v''}$ of Section I of the Appendix. The spectral sensitivity of the rocket spectrometer is sketched behind the two spectra.

Another spectrum of the dayglow of the Earth is shown in Fig. 30. It covers the wavelength range 2000-4000 Å with a different spectral sensitivity from the previous spectrum. This spectrum was obtained from an altitude of 165 km while the spectrometer was aimed at a zenith angle of 90 deg through the horizon (Barth and Pearce, Ref. 36). The spectrometer measured spectral emissions originating from 135 km and higher. The 0-0 band of the nitrogen first negative bands is the most intense feature at 3914 Å. A rocket spectrum of this band had previously been obtained by Wallace and Nidey (Ref. 32). The spectrum in Fig. 30 also shows the 1-0 band of the nitric oxide gamma bands at 2150 Å. Both the 3914 and 2150 Å bands are produced by fluorescence. The nitrogen second positive bands also appear in this dayglow spectrum. They are the result of excitation by photoelectron bombardment. The spectral sensitivity of the rocket spectrometer is sketched behind the flight spectrum.

The ultraviolet albedo of the Earth is shown in the wavelength range 1900-3200 Å in Fig. 31. This spectrum was obtained from an attitude-controlled rocket at an altitude of 168 km while the scanning spectrometer was aimed at a zenith angle of 180 deg, directly downward at the atmosphere (Ref. 37). The lower spectrum is the flight record of the Earth's albedo. It shows solar spectral features and the absorption produced by ozone in the Earth's atmosphere. The upper spectrum is a synthetic spectrum of the incident solar radiation. The detailed Fraunhofer features may be seen in both the incident solar spectrum and the scattered daylight. The spectral sensitivity of the rocket spectrometer is sketched behind the two spectra. The Earth's albedo is given in units of kilorayleigh $(10\text{Å})^{-1}$ as an apparent emission rate. The solar flux is in units of $\text{photon}\cdot\text{cm}^{-2}\cdot\text{sec}^{-1} (10\text{Å})^{-1}$.

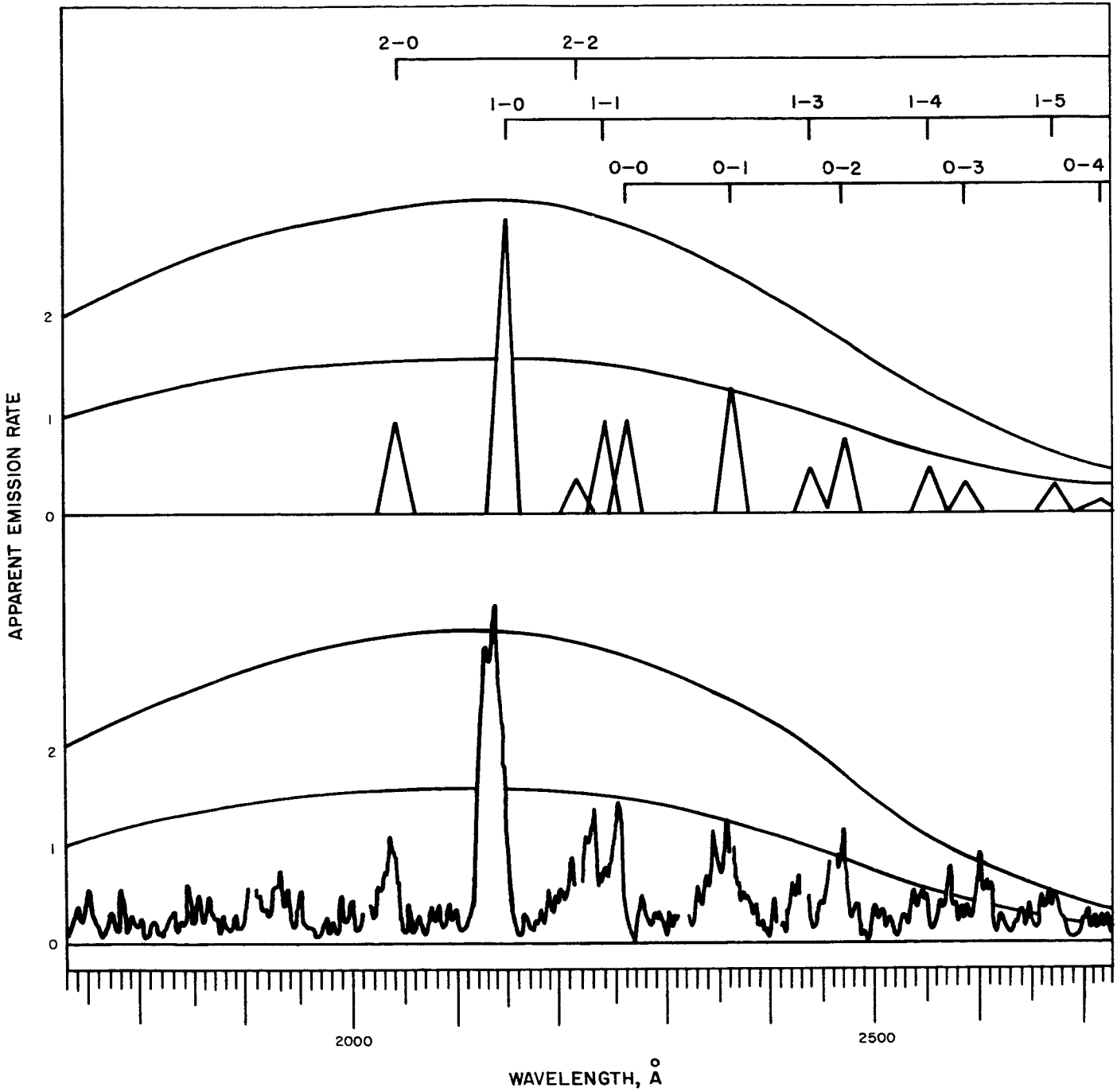


Fig. 29. Dayglow spectrum of Earth between 1730-2730 Å

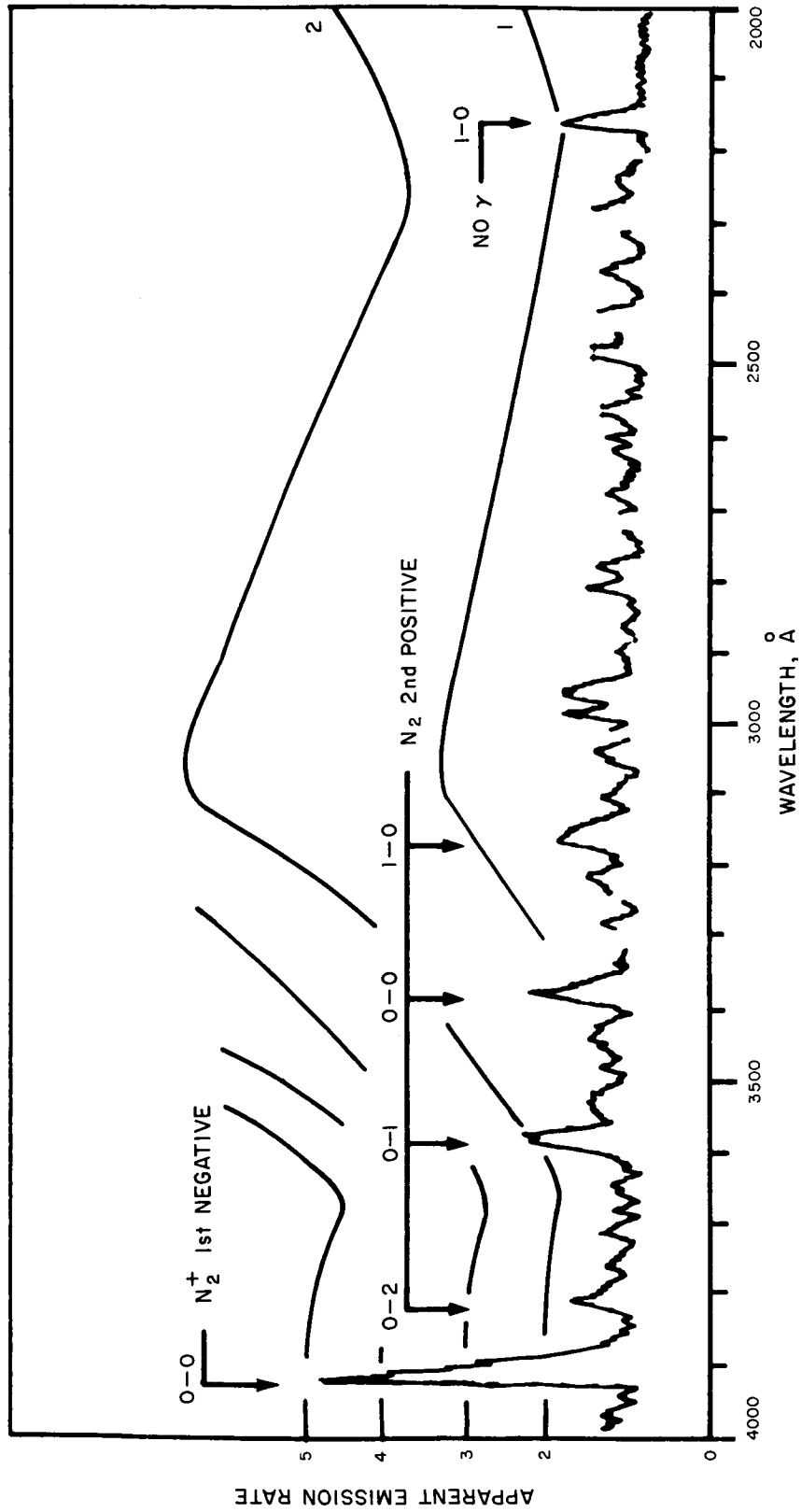


Fig. 30. Dayglow spectrum of Earth between 2000-4000 Å

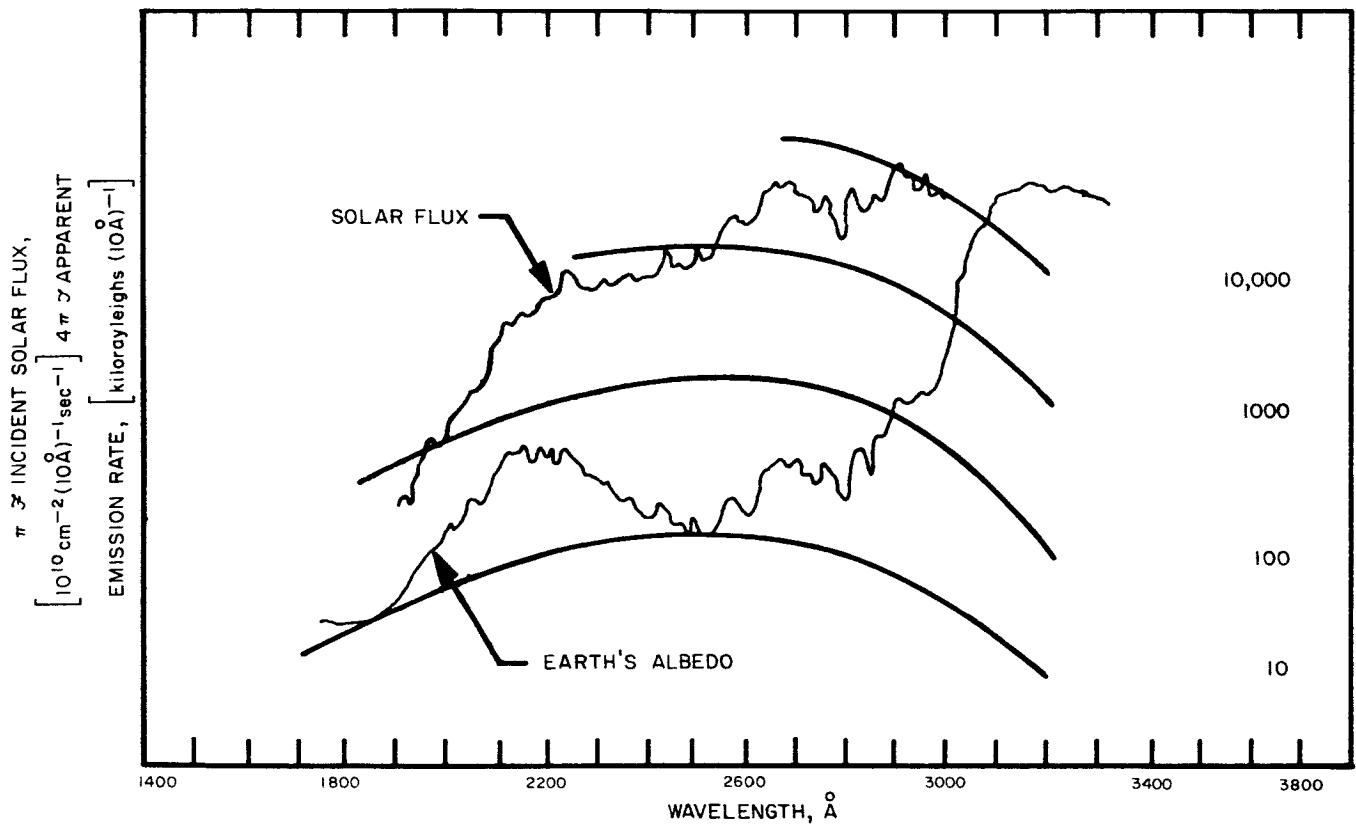


Fig. 31. Ultraviolet albedo of Earth between 1900-3200 Å

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APPENDIX
Planetary Atmospheres
Molecular Emission Factors Calculations

I. NITRIC OXIDE GAMMA BANDS

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
0 0	2262	1.67E-01	2.15E-01	3.60E-02	1.62E-15	6.02E 11	2.33E-03	2.50E-06	1.47E 11
0 1	2363	2.65E-01	2.99E-01	5.00E-02	2.26E-15	6.02E 11	2.33E-03	3.59E-06	2.04E 11
0 2	2471	2.37E-01	2.34E-01	3.92E-02	1.77E-15	6.02E 11	2.33E-03	2.81E-06	1.60E 11
0 3	2587	1.60E-01	1.37E-01	2.30E-02	1.04E-15	6.02E 11	2.33E-03	1.65E-06	9.30E 10
0 4	2713	9.01E-02	6.72E-02	1.12E-02	5.08E-16	6.02E 11	2.33E-03	6.07E-07	4.50E 10
0 5	2849	4.51E-02	2.90E-02	4.85E-03	2.19E-16	6.02E 11	2.33E-03	3.40E-07	1.90E 10
0 6	2997	2.07E-02	1.15E-02	1.92E-03	8.66E-17	6.02E 11	2.33E-03	1.30E-07	7.02E 09
0 7	3159	8.98E-03	4.24E-03	7.09E-04	3.20E-17	6.02E 11	2.33E-03	5.09E-08	2.89E 09
0 8	3336	3.72E-03	1.49E-03	2.49E-04	1.13E-17	6.02E 11	2.33E-03	1.79E-08	1.02E 09
0 9	3531	1.49E-03	5.04E-04	8.44E-05	3.01E-18	6.02E 11	2.33E-03	6.05E-09	3.44E 08
0 10	3746	5.83E-04	1.65E-04	2.76E-05	1.25E-18	6.02E 11	2.33E-03	1.90E-09	1.13E 08
0 11	3984	2.24E-04	5.29E-05	8.84E-06	3.99E-19	6.02E 11	2.33E-03	6.34E-10	3.61E 07
0 12	4249	8.53E-05	1.66E-05	2.77E-06	1.25E-19	6.02E 11	2.33E-03	1.99E-10	1.13E 07
0 13	4547	3.22E-05	5.10E-06	8.53E-07	3.85E-20	6.02E 11	2.33E-03	6.12E-11	3.40E 06
0 14	4883	1.21E-05	1.55E-06	2.59E-07	1.17E-20	6.02E 11	2.33E-03	1.86E-11	1.06E 06
1 0	2149	3.34E-01	4.69E-01	1.57E-01	6.39E-15	5.23E 11	2.30E-03	7.69E-06	2.45E 11
1 1	2239	1.02E-01	1.27E-01	4.25E-02	1.73E-15	5.23E 11	2.30E-03	2.00E-06	6.64E 10
1 2	2335	1.16E-03	1.27E-03	4.23E-04	1.72E-17	5.23E 11	2.30E-03	2.07E-08	6.62E 08
1 3	2439	7.43E-02	7.12E-02	2.30E-02	9.70E-16	5.23E 11	2.30E-03	1.17E-06	3.73E 10
1 4	2551	1.36E-01	1.14E-01	3.81E-02	1.55E-15	5.23E 11	2.30E-03	1.87E-06	5.96E 10
1 5	2671	1.33E-01	9.74E-02	3.26E-02	1.33E-15	5.23E 11	2.30E-03	1.60E-06	5.09E 10
1 6	2801	9.73E-02	6.16E-02	2.06E-02	8.39E-16	5.23E 11	2.30E-03	1.01E-06	3.22E 10
1 7	2941	5.94E-02	3.25E-02	1.09E-02	4.43E-16	5.23E 11	2.30E-03	5.32E-07	1.70E 10
1 8	3094	3.23E-02	1.52E-02	5.07E-03	2.07E-16	5.23E 11	2.30E-03	2.40E-07	7.93E 09
1 9	3261	1.61E-02	6.48E-03	2.17E-03	8.82E-17	5.23E 11	2.30E-03	1.06E-07	3.39E 09
1 10	3444	7.60E-03	2.59E-03	8.67E-04	3.53E-17	5.23E 11	2.30E-03	4.25E-08	1.36E 09
1 11	3644	3.43E-03	9.86E-04	3.30E-04	1.34E-17	5.23E 11	2.30E-03	1.62E-08	5.16E 08
1 12	3865	1.50E-03	3.61E-04	1.21E-04	4.91E-18	5.23E 11	2.30E-03	5.91E-09	1.89E 08
1 13	4109	6.37E-04	1.26E-04	4.27E-05	1.74E-18	5.23E 11	2.30E-03	2.09E-09	6.60E 07
1 14	4382	2.67E-04	4.41E-05	1.47E-05	6.01E-19	5.23E 11	2.30E-03	7.23E-10	2.31E 07
1 15	4687	1.10E-04	1.49E-05	4.98E-06	2.03E-19	5.23E 11	2.30E-03	2.44E-10	7.80E 06
1 16	5030	4.52E-05	4.95E-06	1.65E-06	6.74E-20	5.23E 11	2.30E-03	8.10E-11	2.59E 06
1 17	5420	1.65E-05	1.61E-06	5.40E-07	2.20E-20	5.23E 11	2.30E-03	2.65E-11	8.45E 05

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
2 0	2047	2.93E-01	4.46E-01	1.30E-01	4.82E-15	1.79E 11	2.34E-03	2.02E-06	7.98E 10
2 1	2129	1.80E-02	2.43E-02	7.12E-03	2.63E-16	1.79E 11	2.34E-03	1.10E-07	4.35E 09
2 2	2216	1.57E-01	1.88E-01	5.51E-02	2.04E-15	1.79E 11	2.34E-03	8.53E-07	3.37E 10
2 3	2309	7.12E-02	7.56E-02	2.21E-02	8.18E-16	1.79E 11	2.34E-03	3.43E-07	1.35E 10
2 4	2409	1.76E-04	1.65E-04	4.82E-05	1.78E-18	1.79E 11	2.34E-03	7.46E-10	2.95E 07
2 5	2515	3.73E-02	3.06E-02	8.96E-03	3.31E-16	1.79E 11	2.34E-03	1.39E-07	5.48E 09
2 6	2630	9.08E-02	6.52E-02	1.91E-02	7.05E-16	1.79E 11	2.34E-03	2.95E-07	1.17E 10
2 7	2754	1.06E-01	6.62E-02	1.94E-02	7.16E-16	1.79E 11	2.34E-03	3.00E-07	1.18E 10
2 8	2888	8.85E-02	4.80E-02	1.41E-02	5.20E-16	1.79E 11	2.34E-03	2.18E-07	8.60E 09
2 9	3032	6.10E-02	2.86E-02	8.36E-03	3.09E-16	1.79E 11	2.34E-03	1.29E-07	5.12E 09
2 10	3189	3.69E-02	1.49E-02	4.35E-03	1.61E-16	1.79E 11	2.34E-03	6.74E-08	2.66E 09
2 11	3361	2.04E-02	7.04E-03	2.08E-03	7.62E-17	1.79E 11	2.34E-03	3.19E-08	1.26E 09
2 12	3548	1.06E-02	3.10E-03	9.08E-04	3.35E-17	1.79E 11	2.34E-03	1.41E-08	5.55E 08
2 13	3753	5.23E-03	1.29E-03	3.79E-04	1.40E-17	1.79E 11	2.34E-03	5.86E-09	2.32E 08
2 14	3979	2.49E-03	5.17E-04	1.51E-04	5.59E-18	1.79E 11	2.34E-03	2.34E-09	9.25E 07
2 15	4228	1.15E-03	1.99E-04	5.83E-05	2.16E-18	1.79E 11	2.34E-03	9.03E-10	3.57E 07
2 16	4506	5.23E-04	7.47E-05	2.19E-05	8.08E-19	1.79E 11	2.34E-03	3.39E-10	1.34E 07
2 17	4816	2.34E-04	2.74E-05	8.01E-06	2.96E-19	1.79E 11	2.34E-03	1.24E-10	4.90E 06
2 18	5164	1.04E-04	9.82E-06	2.87E-06	1.06E-19	1.79E 11	2.34E-03	4.45E-11	1.76E 06
2 19	5558	4.55E-05	3.46E-06	1.01E-06	3.74E-20	1.79E 11	2.34E-03	1.57E-11	6.20E 05
2 20	6008	1.99E-05	1.20E-06	3.51E-07	1.30E-20	1.79E 11	2.34E-03	5.44E-12	2.15E 05
3 0	1935	1.47E-01	2.42E-01	3.57E-02	1.20E-15	8.22E 10	2.41E-03	2.39E-07	1.99E 10
3 1	2030	2.03E-01	2.98E-01	4.39E-02	1.48E-15	8.22E 10	2.41E-03	2.93E-07	2.45E 10
3 2	2109	4.23E-02	5.55E-02	8.17E-03	2.76E-16	8.22E 10	2.41E-03	5.46E-08	4.56E 09
3 3	2193	4.34E-02	5.06E-02	7.46E-03	2.52E-16	8.22E 10	2.41E-03	4.98E-08	4.16E 09
3 4	2283	1.13E-01	1.17E-01	1.72E-02	5.82E-16	8.22E 10	2.41E-03	1.15E-07	9.62E 09
3 5	2379	4.62E-02	4.23E-02	6.22E-03	2.10E-16	8.22E 10	2.41E-03	4.16E-08	3.47E 09
3 6	2481	9.82E-05	7.92E-05	1.17E-05	3.93E-19	8.22E 10	2.41E-03	7.79E-11	6.51E 06
3 7	2591	2.66E-02	1.88E-02	2.77E-03	9.33E-17	8.22E 10	2.41E-03	1.85E-08	1.54E 09
3 8	2709	6.89E-02	4.27E-02	6.28E-03	2.12E-16	8.22E 10	2.41E-03	4.20E-08	3.51E 09
3 9	2836	8.64E-02	4.66E-02	6.87E-03	2.32E-16	8.22E 10	2.41E-03	4.59E-08	3.63E 09
3 10	2973	7.81E-02	3.66E-02	5.39E-03	1.82E-16	8.22E 10	2.41E-03	3.60E-08	3.01E 09
3 11	3121	5.81E-02	2.35E-02	3.46E-03	1.17E-16	8.22E 10	2.41E-03	2.32E-08	1.93E 09
3 12	3282	3.80E-02	1.32E-02	1.95E-03	6.58E-17	8.22E 10	2.41E-03	1.30E-08	1.09E 09
3 13	3456	2.27E-02	6.77E-03	9.97E-04	3.36E-17	8.22E 10	2.41E-03	6.66E-09	5.56E 08
3 14	3647	1.27E-02	3.22E-03	4.74E-04	1.60E-17	8.22E 10	2.41E-03	3.17E-09	2.64E 08
3 15	3856	6.74E-03	1.45E-03	2.13E-04	7.19E-18	8.22E 10	2.41E-03	1.42E-09	1.19E 08
3 16	4085	3.45E-03	6.22E-04	9.16E-05	3.09E-18	8.22E 10	2.41E-03	6.12E-10	5.11E 07
3 17	4339	1.71E-03	2.58E-04	3.80E-05	1.28E-18	8.22E 10	2.41E-03	2.54E-10	2.12E 07
3 18	4619	8.35E-04	1.04E-04	1.53E-05	5.17E-19	8.22E 10	2.41E-03	1.02E-10	8.55E 06
3 19	4932	3.99E-04	4.09E-05	6.03E-06	2.03E-19	8.22E 10	2.41E-03	4.03E-11	3.36E 06
3 20	5283	1.89E-04	1.58E-05	2.32E-06	7.83E-20	8.22E 10	2.41E-03	1.55E-11	1.30E 06
3 21	5678	8.87E-05	5.96E-06	8.78E-07	2.96E-20	8.22E 10	2.41E-03	5.87E-12	4.90E 05
3 22	6126	4.15E-05	2.22E-06	3.27E-07	1.10E-20	8.22E 10	2.41E-03	2.18E-12	1.82E 05

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
4 0	1873	4.71E-02	8.33E-02	3.92E-03	1.21E-16	3.56E 10	2.34E-03	1.01E-08	2.97E 09
4 1	1941	2.40E-01	3.82E-01	1.80E-02	5.57E-16	3.56E 10	2.34E-03	4.64E-08	1.36E 10
4 2	2013	4.69E-02	6.68E-02	3.13E-03	9.74E-17	3.56E 10	2.34E-03	8.11E-09	2.38E 09
4 3	2090	1.22E-01	1.56E-01	7.34E-03	2.27E-16	3.56E 10	2.34E-03	1.89E-08	5.55E 09
4 4	2171	6.92E-04	7.87E-04	3.70E-05	1.15E-18	3.56E 10	2.34E-03	9.55E-11	2.80E 07
4 5	2258	6.16E-02	6.23E-02	2.93E-03	9.00E-17	3.56E 10	2.34E-03	7.56E-09	2.22E 09
4 6	2350	8.54E-02	7.66E-02	3.61E-03	1.12E-16	3.56E 10	2.34E-03	9.29E-09	2.73E 09
4 7	2448	2.84E-02	2.25E-02	1.06E-03	3.28E-17	3.56E 10	2.34E-03	2.74E-09	8.03E 08
4 8	2553	3.07E-05	2.14E-05	1.01E-06	3.12E-20	3.56E 10	2.34E-03	2.60E-12	7.63E 05
4 9	2665	2.28E-02	1.40E-02	6.58E-04	2.04E-17	3.56E 10	2.34E-03	1.70E-09	4.98E 08
4 10	2786	5.67E-02	3.05E-02	1.43E-03	4.44E-17	3.56E 10	2.34E-03	3.70E-09	1.09E 09
4 11	2916	7.28E-02	3.42E-02	1.61E-03	4.98E-17	3.56E 10	2.34E-03	4.19E-09	1.22E 09
4 12	3055	6.87E-02	2.80E-02	1.32E-03	4.08E-17	3.56E 10	2.34E-03	3.40E-09	9.98E 08
4 13	3206	5.39E-02	1.90E-02	8.96E-04	2.77E-17	3.56E 10	2.34E-03	2.31E-09	6.78E 08
4 14	3370	3.74E-02	1.14E-02	5.35E-04	1.65E-17	3.56E 10	2.34E-03	1.38E-09	4.04E 08
4 15	3547	2.37E-02	6.18E-03	2.91E-04	8.99E-18	3.56E 10	2.34E-03	7.49E-10	2.20E 08
4 16	3741	1.41E-02	3.13E-03	1.47E-04	4.56E-18	3.56E 10	2.34E-03	3.79E-10	1.11E 08
4 17	3952	7.95E-03	1.50E-03	7.03E-05	2.18E-18	3.56E 10	2.34E-03	1.82E-10	5.34E 07
4 18	4184	4.33E-03	6.88E-04	3.24E-05	1.00E-18	3.56E 10	2.34E-03	8.34E-11	2.45E 07
4 19	4438	2.29E-03	3.04E-04	1.43E-05	4.43E-19	3.56E 10	2.34E-03	3.69E-11	1.08E 07
4 20	4720	1.18E-03	1.31E-04	6.16E-06	1.91E-19	3.56E 10	2.34E-03	1.59E-11	4.66E 06
4 21	5033	6.03E-04	5.50E-05	2.59E-06	8.01E-20	3.56E 10	2.34E-03	6.67E-12	1.96E 06
4 22	5382	3.03E-04	2.26E-05	1.06E-06	3.29E-20	3.56E 10	2.34E-03	2.74E-12	8.05E 05
4 23	5774	1.51E-04	9.13E-06	4.30E-07	1.33E-20	3.56E 10	2.34E-03	1.11E-12	3.25E 05

II. NITRIC OXIDE DELTA BANDS

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
0 0	1909	1.53E-01	1.91E-01	2.93E-02	9.42E-16	4.82E 10	9.30E-03	4.22E-07	9.23E 09
0 1	1980	2.54E-01	2.85E-01	4.36E-02	1.40E-15	4.82E 10	9.30E-03	6.29E-07	1.37E 10
0 2	2055	2.38E-01	2.39E-01	3.65E-02	1.17E-15	4.82E 10	9.30E-03	5.26E-07	1.15E 10
0 3	2134	1.66E-01	1.49E-01	2.27E-02	7.31E-16	4.82E 10	9.30E-03	3.28E-07	7.16E 09
0 4	2219	9.68E-02	7.70E-02	1.18E-02	3.79E-16	4.82E 10	9.30E-03	1.70E-07	3.71E 09
0 5	2310	4.99E-02	3.52E-02	5.39E-03	1.73E-16	4.82E 10	9.30E-03	7.77E-08	1.70E 09
0 6	2406	2.36E-02	1.48E-02	2.26E-03	7.26E-17	4.82E 10	9.30E-03	3.25E-08	7.11E 08
0 7	2509	1.05E-02	5.79E-03	8.86E-04	2.85E-17	4.82E 10	9.30E-03	1.28E-08	2.79E 08
0 8	2620	4.48E-03	2.16E-03	3.31E-04	1.06E-17	4.82E 10	9.30E-03	4.77E-09	1.04E 08
0 9	2739	1.84E-03	7.80E-04	1.19E-04	3.84E-18	4.82E 10	9.30E-03	1.72E-09	3.76E 07
0 10	2866	7.41E-04	2.74E-04	4.19E-05	1.35E-18	4.82E 10	9.30E-03	6.04E-10	1.32E 07
0 11	3003	2.93E-04	9.41E-05	1.44E-05	4.63E-19	4.82E 10	9.30E-03	2.08E-10	4.54E 06
0 12	3152	1.15E-04	3.19E-05	4.88E-06	1.57E-19	4.82E 10	9.30E-03	7.03E-11	1.54E 06
0 13	3313	4.47E-05	1.07E-05	1.64E-06	5.26E-20	4.82E 10	9.30E-03	2.36E-11	5.15E 05
0 14	3488	1.73E-05	3.55E-06	5.44E-07	1.75E-20	4.82E 10	9.30E-03	7.84E-12	1.71E 05
0 15	3678	6.73E-06	1.18E-06	1.80E-07	5.79E-21	4.82E 10	9.30E-03	2.59E-12	5.67E 04
1 0	1826	3.18E-01	4.31E-01	1.37E-01	4.04E-15	2.29E 10	9.30E-03	8.59E-07	9.87E 09
1 1	1891	1.17E-01	1.42E-01	4.53E-02	1.33E-15	2.29E 10	9.30E-03	2.84E-07	3.26E 09
1 2	1959	3.42E-08	3.75E-08	1.19E-08	3.51E-22	2.29E 10	9.30E-03	7.47E-14	8.58E 02
1 3	2032	6.09E-02	5.99E-02	1.91E-02	5.61E-16	2.29E 10	9.30E-03	1.19E-07	1.37E 09
1 4	2109	1.28E-01	1.12E-01	3.58E-02	1.05E-15	2.29E 10	9.30E-03	2.24E-07	2.58E 09
1 5	2190	1.35E-01	1.06E-01	3.36E-02	9.89E-16	2.29E 10	9.30E-03	2.11E-07	2.42E 09
1 6	2277	1.03E-01	7.21E-02	2.29E-02	6.75E-16	2.29E 10	9.30E-03	1.44E-07	1.65E 09
1 7	2369	6.56E-02	4.07E-02	1.30E-02	3.81E-16	2.29E 10	9.30E-03	8.12E-08	9.32E 08
1 8	2467	3.69E-02	2.03E-02	6.46E-03	1.90E-16	2.29E 10	9.30E-03	4.05E-08	4.65E 08
1 9	2572	1.91E-02	9.25E-03	2.95E-03	8.67E-17	2.29E 10	9.30E-03	1.85E-08	2.12E 08
1 10	2684	9.28E-03	3.96E-03	1.26E-03	3.71E-17	2.29E 10	9.30E-03	7.89E-09	9.06E 07
1 11	2804	4.31E-03	1.61E-03	5.13E-04	1.51E-17	2.29E 10	9.30E-03	3.22E-09	3.69E 07
1 12	2933	1.94E-03	6.34E-04	2.02E-04	5.94E-18	2.29E 10	9.30E-03	1.27E-09	1.45E 07
1 13	3072	8.53E-04	2.43E-04	7.72E-05	2.27E-18	2.29E 10	9.30E-03	4.84E-10	5.56E 06
1 14	3222	3.69E-04	9.09E-05	2.89E-05	8.51E-19	2.29E 10	9.30E-03	1.81E-10	2.08E 06
1 15	3384	1.58E-04	3.35E-05	1.07E-05	3.14E-19	2.29E 10	9.30E-03	6.69E-11	7.68E 05
1 16	3559	6.69E-05	1.22E-05	3.89E-06	1.18E-19	2.29E 10	9.30E-03	2.44E-11	2.80E 05
1 17	3750	2.83E-05	4.42E-06	1.41E-06	4.14E-20	2.29E 10	9.30E-03	8.82E-12	1.01E 05
1 18	3958	1.20E-05	1.59E-06	5.06E-07	1.49E-20	2.29E 10	9.30E-03	3.17E-12	3.64E 04

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
2 0	1752	2.95E-01	4.30E-01	1.27E-01	3.43E-15	1.11E 10	9.30E-03	3.54E-07	4.77E 09
2 1	1811	7.98E-03	1.09E-02	3.10E-03	8.40E-17	1.11E 10	9.30E-03	8.67E-09	1.17E 08
2 2	1874	1.46E-01	1.74E-01	5.14E-02	1.39E-15	1.11E 10	9.30E-03	1.44E-07	1.94E 09
2 3	1940	8.51E-02	9.14E-02	2.69E-02	7.29E-16	1.11E 10	9.30E-03	7.53E-08	1.01E 09
2 4	2010	2.74E-03	2.65E-03	7.80E-04	2.11E-17	1.11E 10	9.30E-03	2.18E-09	2.94E 07
2 5	2084	2.58E-02	2.24E-02	6.60E-03	1.79E-16	1.11E 10	9.30E-03	1.84E-08	2.48E 08
2 6	2162	8.06E-02	6.25E-02	1.84E-02	4.99E-16	1.11E 10	9.30E-03	5.19E-08	6.94E 08
2 7	2245	1.04E-01	7.20E-02	2.12E-02	5.74E-16	1.11E 10	9.30E-03	5.93E-08	7.99E 08
2 8	2333	9.27E-02	5.73E-02	1.69E-02	4.57E-16	1.11E 10	9.30E-03	4.72E-08	6.36E 08
2 9	2426	6.72E-02	3.69E-02	1.09E-02	2.94E-16	1.11E 10	9.30E-03	3.04E-08	4.09E 08
2 10	2526	4.25E-02	2.07E-02	6.09E-03	1.65E-16	1.11E 10	9.30E-03	1.70E-08	2.29E 08
2 11	2632	2.44E-02	1.05E-02	3.09E-03	8.37E-17	1.11E 10	9.30E-03	8.64E-09	1.17E 08
2 12	2745	1.31E-02	4.97E-03	1.46E-03	3.96E-17	1.11E 10	9.30E-03	4.09E-09	5.52E 07
2 13	2866	6.70E-03	2.23E-03	6.57E-04	1.78E-17	1.11E 10	9.30E-03	1.84E-09	2.48E 07
2 14	2996	3.30E-03	9.62E-04	2.83E-04	7.67E-18	1.11E 10	9.30E-03	7.92E-10	1.07E 07
2 15	3136	1.58E-03	4.02E-04	1.18E-04	3.21E-18	1.11E 10	9.30E-03	3.31E-10	4.46E 06
2 16	3286	7.42E-04	1.64E-04	4.83E-05	1.31E-18	1.11E 10	9.30E-03	1.35E-10	1.82E 06
2 17	3448	3.44E-04	6.57E-05	1.94E-05	5.24E-19	1.11E 10	9.30E-03	5.41E-11	7.30E 05
2 18	3623	1.58E-04	2.60E-05	7.66E-06	2.07E-19	1.11E 10	9.30E-03	2.14E-11	2.88E 05
2 19	3813	7.19E-05	1.02E-05	3.00E-06	8.11E-20	1.11E 10	9.30E-03	8.38E-12	1.13E 05
2 20	4019	3.27E-05	3.95E-06	1.16E-06	3.15E-20	1.11E 10	9.30E-03	3.25E-12	4.39E 04
2 21	4243	1.49E-05	1.55E-06	4.50E-07	1.22E-20	1.11E 10	9.30E-03	1.26E-12	1.70E 04

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F- NUM	C PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
3 0	1684	1.60E-01	2.51E-01	4.03E-02	1.01E-15	6.45E 09	9.30E-03	6.04E-08	1.62E 09
3 1	1738	1.73E-01	2.47E-01	3.95E-02	9.89E-16	6.45E 09	9.30E-03	5.93E-08	1.59E 09
3 2	1796	6.08E-02	7.84E-02	1.26E-02	3.15E-16	6.45E 09	9.30E-03	1.89E-08	5.06E 08
3 3	1857	2.61E-02	3.04E-02	4.87E-03	1.22E-16	6.45E 09	9.30E-03	7.31E-09	1.96E 08
3 4	1921	1.09E-01	1.15E-01	1.85E-02	4.61E-16	6.45E 09	9.30E-03	2.77E-08	7.42E 08
3 5	1988	6.02E-02	5.72E-02	9.18E-03	2.30E-16	6.45E 09	9.30E-03	1.38E-08	3.69E 08
3 6	2059	2.80E-03	2.39E-03	3.84E-04	9.60E-18	6.45E 09	9.30E-03	5.76E-10	1.54E 07
3 7	2134	1.60E-02	1.23E-02	1.98E-03	4.94E-17	6.45E 09	9.30E-03	2.96E-09	7.95E 07
3 8	2214	5.82E-02	4.01E-02	6.43E-03	1.61E-16	6.45E 09	9.30E-03	9.64E-09	2.58E 08
3 9	2298	8.28E-02	5.10E-02	8.18E-03	2.04E-16	6.45E 09	9.30E-03	1.23E-08	3.29E 08
3 10	2387	8.09E-02	4.44E-02	7.13E-03	1.78E-16	6.45E 09	9.30E-03	1.07E-08	2.87E 08
3 11	2481	6.39E-02	3.12E-02	5.01E-03	1.25E-16	6.45E 09	9.30E-03	7.51E-09	2.01E 08
3 12	2582	4.39E-02	1.90E-02	3.05E-03	7.64E-17	6.45E 09	9.30E-03	4.58E-09	1.23E 08
3 13	2689	2.74E-02	1.05E-02	1.69E-03	4.22E-17	6.45E 09	9.30E-03	2.53E-09	6.78E 07
3 14	2803	1.59E-02	5.40E-03	8.65E-04	2.16E-17	6.45E 09	9.30E-03	1.30E-09	3.48E 07
3 15	2925	8.78E-03	2.62E-03	4.20E-04	1.05E-17	6.45E 09	9.30E-03	6.31E-10	1.69E 07
3 16	3055	4.66E-03	1.22E-03	1.96E-04	4.90E-18	6.45E 09	9.30E-03	2.94E-10	7.88E 06
3 17	3194	2.40E-03	5.51E-04	8.83E-05	2.21E-18	6.45E 09	9.30E-03	1.32E-10	3.55E 06
3 18	3344	1.21E-03	2.42E-04	3.88E-05	9.71E-19	6.45E 09	9.30E-03	5.83E-11	1.56E 06
3 19	3505	6.02E-04	1.04E-04	1.68E-05	4.19E-19	6.45E 09	9.30E-03	2.51E-11	6.74E 05
3 20	3678	2.96E-04	4.44E-05	7.12E-06	1.78E-19	6.45E 09	9.30E-03	1.07E-11	2.86E 05
3 21	3865	1.44E-04	1.87E-05	2.99E-06	7.49E-20	6.45E 09	9.30E-03	4.49E-12	1.20E 05
3 22	4068	7.02E-05	7.79E-06	1.25E-06	3.12E-20	6.45E 09	9.30E-03	1.87E-12	5.02E 04
3 23	4288	3.41E-05	3.23E-06	5.18E-07	1.30E-20	6.45E 09	9.30E-03	7.77E-13	2.08E 04

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
4 0	1621	5.70E-02	9.54E-02	5.44E-03	1.26E-16	3.71E 09	9.30E-03	4.35E-09	3.54E 08
4 1	1672	2.39E-01	3.64E-01	2.08E-02	4.82E-16	3.71E 09	9.30E-03	1.66E-08	1.35E 09
4 2	1726	2.33E-02	3.23E-02	1.84E-03	4.27E-17	3.71E 09	9.30E-03	1.47E-09	1.20E 08
4 3	1782	1.29E-01	1.63E-01	9.30E-03	2.16E-16	3.71E 09	9.30E-03	7.44E-09	6.05E 08
4 4	1840	7.26E-03	8.31E-03	4.74E-04	1.10E-17	3.71E 09	9.30E-03	3.79E-10	3.08E 07
4 5	1902	4.32E-02	4.47E-02	2.55E-03	5.92E-17	3.71E 09	9.30E-03	2.04E-09	1.66E 08
4 6	1967	6.78E-02	8.23E-02	4.69E-03	1.09E-16	3.71E 09	9.30E-03	3.75E-09	3.05E 08
4 7	2035	4.21E-02	3.56E-02	2.03E-03	4.71E-17	3.71E 09	9.30E-03	1.63E-09	1.32E 08
4 8	2108	1.67E-03	1.27E-03	7.24E-05	1.68E-18	3.71E 09	9.30E-03	5.79E-11	4.71E 06
4 9	2184	1.25E-02	8.59E-03	4.90E-04	1.14E-17	3.71E 09	9.30E-03	3.92E-10	3.19E 07
4 10	2264	4.59E-02	2.82E-02	1.61E-03	3.73E-17	3.71E 09	9.30E-03	1.29E-09	1.05E 08
4 11	2349	6.83E-02	3.76E-02	2.14E-03	4.97E-17	3.71E 09	9.30E-03	1.71E-09	1.39E 08
4 12	2439	7.05E-02	3.47E-02	1.98E-03	4.59E-17	3.71E 09	9.30E-03	1.58E-09	1.29E 08
4 13	2534	5.91E-02	2.59E-02	1.48E-03	3.43E-17	3.71E 09	9.30E-03	1.18E-09	9.62E 07
4 14	2635	4.33E-02	1.69E-02	9.63E-04	2.23E-17	3.71E 09	9.30E-03	7.71E-10	6.26E 07
4 15	2742	2.88E-02	9.97E-03	5.68E-04	1.32E-17	3.71E 09	9.30E-03	4.55E-10	3.70E 07
4 16	2856	1.79E-02	5.47E-03	3.12E-04	7.24E-18	3.71E 09	9.30E-03	2.50E-10	2.03E 07
4 17	2976	1.05E-02	2.84E-03	1.62E-04	3.76E-18	3.71E 09	9.30E-03	1.30E-10	1.06E 07
4 18	3107	5.96E-03	1.42E-03	8.08E-05	1.87E-18	3.71E 09	9.30E-03	6.47E-11	5.26E 06
4 19	3246	3.28E-03	6.84E-04	3.90E-05	9.04E-19	3.71E 09	9.30E-03	3.12E-11	2.54E 06
4 20	3394	1.76E-03	3.22E-04	1.83E-05	4.25E-19	3.71E 09	9.30E-03	1.47E-11	1.19E 06
4 21	3553	9.32E-04	1.48E-04	8.45E-06	1.96E-19	3.71E 09	9.30E-03	6.77E-12	5.50E 05
4 22	3723	4.87E-04	6.73E-05	3.84E-06	8.91E-20	3.71E 09	9.30E-03	3.07E-12	2.50E 05
4 23	3907	2.53E-04	3.02E-05	1.72E-06	4.00E-20	3.71E 09	9.30E-03	1.38E-12	1.12E 05

III. NITRIC OXIDE BETA BANDS

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	C PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
0 0	2198	2.26E-05	7.10E-05	1.61E-09	6.85E-23	6.67E 11	2.00E-03	9.14E-14	4.73E 07
0 1	2292	3.11E-04	8.59E-04	1.95E-08	8.29E-22	6.67E 11	2.00E-03	1.11E-12	5.73E 08
0 2	2394	2.05E-03	4.97E-03	1.12E-07	4.79E-21	6.67E 11	2.00E-03	6.39E-12	3.31E 09
0 3	2503	8.57E-03	1.82E-02	4.12E-07	1.76E-20	6.67E 11	2.00E-03	2.34E-11	1.21E 10
0 4	2620	2.56E-02	4.74E-02	1.07E-06	4.57E-20	6.67E 11	2.00E-03	6.10E-11	3.16E 10
0 5	2747	5.80E-02	9.31E-02	2.11E-06	8.98E-20	6.67E 11	2.00E-03	1.20E-10	6.21E 10
0 6	2885	1.03E-01	1.43E-01	3.24E-06	1.38E-19	6.67E 11	2.00E-03	1.84E-10	9.55E 10
0 7	3034	1.48E-01	1.76E-01	3.99E-06	1.70E-19	6.67E 11	2.00E-03	2.27E-10	1.18E 11
0 8	3197	1.73E-01	1.77E-01	4.00E-06	1.70E-19	6.67E 11	2.00E-03	2.27E-10	1.18E 11
0 9	3376	1.68E-01	1.45E-01	3.29E-06	1.40E-19	6.67E 11	2.00E-03	1.87E-10	9.69E 10
0 10	3572	1.35E-01	9.87E-02	2.23E-06	9.52E-20	6.67E 11	2.00E-03	1.27E-10	6.58E 10
0 11	3788	9.06E-02	5.55E-02	1.26E-06	5.35E-20	6.67E 11	2.00E-03	7.14E-11	3.70E 10
0 12	4027	5.07E-02	2.58E-02	5.85E-07	2.49E-20	6.67E 11	2.00E-03	3.33E-11	1.72E 10
0 13	4293	2.36E-02	9.93E-03	2.25E-07	9.58E-21	6.67E 11	2.00E-03	1.28E-11	6.62E 09
0 14	4591	9.10E-03	3.13E-03	7.09E-08	3.02E-21	6.67E 11	2.00E-03	4.03E-12	2.09E 09
0 15	4927	2.89E-03	8.04E-04	1.82E-08	7.75E-22	6.67E 11	2.00E-03	1.03E-12	5.36E 08
0 16	5308	7.45E-04	1.66E-04	3.76E-09	1.60E-22	6.67E 11	2.00E-03	2.14E-13	1.11E 08
0 17	5744	1.54E-04	2.71E-05	6.14E-10	2.62E-23	6.67E 11	2.00E-03	3.49E-14	1.81E 07
0 18	6247	2.51E-05	3.43E-06	7.76E-11	3.31E-24	6.67E 11	2.00E-03	4.41E-15	2.29E 06
1 0	2149	1.85E-04	5.98E-04	1.11E-07	4.51E-21	5.23E 11	2.00E-03	4.72E-12	3.12E 08
1 1	2240	2.09E-03	5.96E-03	1.10E-06	4.50E-20	5.23E 11	2.00E-03	4.70E-11	3.12E 09
1 2	2336	1.09E-02	2.75E-02	5.09E-06	2.07E-19	5.23E 11	2.00E-03	2.17E-10	1.44E 10
1 3	2440	3.49E-02	7.69E-02	1.42E-05	5.80E-19	5.23E 11	2.00E-03	6.07E-10	4.02E 10
1 4	2552	7.46E-02	1.44E-01	2.66E-05	1.09E-18	5.23E 11	2.00E-03	1.14E-09	7.53E 10
1 5	2672	1.10E-01	1.85E-01	3.43E-05	1.40E-18	5.23E 11	2.00E-03	1.46E-09	9.69E 10
1 6	2802	1.10E-01	1.60E-01	2.96E-05	1.21E-18	5.23E 11	2.00E-03	1.26E-09	8.36E 10
1 7	2943	6.43E-02	8.09E-02	1.50E-05	6.10E-19	5.23E 11	2.00E-03	6.38E-10	4.23E 10
1 8	3096	1.19E-02	1.29E-02	2.38E-06	9.70E-20	5.23E 11	2.00E-03	1.01E-10	6.72E 09
1 9	3263	4.59E-03	4.24E-03	7.84E-07	3.20E-20	5.23E 11	2.00E-03	3.34E-11	2.22E 09
1 10	3446	5.31E-02	4.16E-02	7.71E-06	3.14E-19	5.23E 11	2.00E-03	3.29E-10	2.18E 10
1 11	3646	1.16E-01	7.64E-02	1.41E-05	5.76E-19	5.23E 11	2.00E-03	6.03E-10	4.00E 10
1 12	3868	1.43E-01	7.92E-02	1.47E-05	5.97E-19	5.23E 11	2.00E-03	6.25E-10	4.14E 10
1 13	4113	1.23E-01	5.68E-02	1.05E-05	4.29E-19	5.23E 11	2.00E-03	4.48E-10	2.97E 10
1 14	4385	7.98E-02	3.03E-02	5.62E-06	2.29E-19	5.23E 11	2.00E-03	2.39E-10	1.59E 10
1 15	4691	4.00E-02	1.24E-02	2.30E-06	9.38E-20	5.23E 11	2.00E-03	9.81E-11	6.50E 09
1 16	5035	1.57E-02	3.95E-03	7.31E-07	2.98E-20	5.23E 11	2.00E-03	3.11E-11	2.06E 09
1 17	5425	4.84E-03	9.72E-04	1.80E-07	7.33E-21	5.23E 11	2.00E-03	7.67E-12	5.08E 08
1 18	5871	1.16E-03	1.84E-04	3.40E-08	1.39E-21	5.23E 11	2.00E-03	1.45E-12	9.60E 07
1 19	6386	2.13E-04	2.62E-05	4.85E-09	1.98E-22	5.23E 11	2.00E-03	2.07E-13	1.37E 07
1 20	6986	2.91E-05	2.74E-06	5.06E-10	2.06E-23	5.23E 11	2.00E-03	2.16E-14	1.43E 06

WV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	C PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
2 0	2104	7.92E-04	2.64E-03	2.09E-06	8.16E-20	3.58E 11	1.96E-03	5.73E-11	9.45E 08
2 1	2190	7.26E-03	2.15E-02	1.70E-05	6.65E-19	3.58E 11	1.96E-03	4.66E-10	7.69E 09
2 2	2283	2.97E-02	7.76E-02	6.14E-05	2.40E-18	3.58E 11	1.96E-03	1.68E-09	2.78E 10
2 3	2382	6.96E-02	1.60E-01	1.27E-04	4.94E-18	3.58E 11	1.96E-03	3.47E-09	5.72E 10
2 4	2488	9.64E-02	1.98E-01	1.57E-04	6.13E-18	3.58E 11	1.96E-03	4.30E-09	7.09E 10
2 5	2602	7.78E-02	1.37E-01	1.09E-04	4.24E-18	3.58E 11	1.96E-03	2.97E-09	4.91E 10
2 6	2725	2.23E-02	3.41E-02	2.70E-05	1.06E-18	3.58E 11	1.96E-03	7.41E-10	1.22E 10
2 7	2858	1.43E-03	1.90E-03	1.50E-06	5.88E-20	3.58E 11	1.96E-03	4.12E-11	6.80E 08
2 8	3003	4.33E-02	4.96E-02	3.93E-05	1.53E-18	3.58E 11	1.96E-03	1.08E-09	1.78E 10
2 9	3159	8.22E-02	8.09E-02	6.41E-05	2.50E-18	3.58E 11	1.96E-03	1.76E-09	2.90E 10
2 10	3330	5.69E-02	4.78E-02	3.79E-05	1.48E-18	3.58E 11	1.96E-03	1.04E-09	1.71E 10
2 11	3517	7.15E-03	5.10E-03	4.04E-06	1.58E-19	3.58E 11	1.96E-03	1.11E-10	1.83E 09
2 12	3723	1.23E-02	7.41E-03	5.87E-06	2.29E-19	3.58E 11	1.96E-03	1.61E-10	2.65E 09
2 13	3949	7.59E-02	3.82E-02	3.03E-05	1.18E-18	3.58E 11	1.96E-03	8.30E-10	1.37E 10
2 14	4200	1.30E-01	5.46E-02	4.33E-05	1.69E-18	3.58E 11	1.96E-03	1.19E-09	1.96E 10
2 15	4479	1.30E-01	4.48E-02	3.55E-05	1.39E-18	3.58E 11	1.96E-03	9.73E-10	1.60E 10
2 16	4792	8.86E-02	2.50E-02	1.98E-05	7.73E-19	3.58E 11	1.96E-03	5.42E-10	8.94E 09
2 17	5144	4.41E-02	1.00E-02	7.96E-06	3.11E-19	3.58E 11	1.96E-03	2.18E-10	3.60E 09
2 18	5544	1.64E-02	2.98E-03	2.36E-06	9.23E-20	3.58E 11	1.96E-03	6.48E-11	1.07E 09
2 19	6000	4.57E-03	6.56E-04	5.20E-07	2.03E-20	3.58E 11	1.96E-03	1.42E-11	2.35E 08
2 20	6527	9.48E-04	1.06E-04	8.37E-08	3.27E-21	3.58E 11	1.96E-03	2.29E-12	3.78E 07
2 21	7141	1.43E-04	1.22E-05	9.62E-09	3.76E-22	3.58E 11	1.96E-03	2.64E-13	4.35E 06

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
3 0	2061	2.36E-03	8.14E-03	1.92E-05	7.21E-19	1.81E 11	1.95E-03	2.54E-10	1.47E 09
3 1	2144	1.75E-02	5.35E-02	1.26E-04	4.74E-18	1.81E 11	1.95E-03	1.67E-09	9.68E 09
3 2	2232	5.45E-02	1.48E-01	3.49E-04	1.31E-17	1.81E 11	1.95E-03	4.61E-09	2.67E 10
3 3	2327	8.82E-02	2.11E-01	4.99E-04	1.87E-17	1.81E 11	1.95E-03	6.60E-09	3.82E 10
3 4	2428	7.01E-02	1.48E-01	3.49E-04	1.31E-17	1.81E 11	1.95E-03	4.62E-09	2.87E 10
3 5	2537	1.48E-02	2.74E-02	6.47E-05	2.43E-18	1.81E 11	1.95E-03	8.56E-10	4.96E 09
3 6	2654	5.98E-03	9.65E-03	2.28E-05	8.55E-19	1.81E 11	1.95E-03	3.02E-10	1.75E 09
3 7	2779	5.26E-02	7.39E-02	1.75E-04	6.54E-18	1.81E 11	1.95E-03	2.31E-09	1.34E 10
3 8	2916	6.04E-02	7.34E-02	1.74E-04	6.51E-18	1.81E 11	1.95E-03	2.30E-09	1.33E 10
3 9	3063	1.30E-02	1.36E-02	3.21E-05	1.20E-18	1.81E 11	1.95E-03	4.25E-10	2.46E 09
3 10	3224	8.00E-03	7.19E-03	1.70E-05	6.37E-19	1.81E 11	1.95E-03	2.25E-10	1.30E 09
3 11	3399	5.97E-02	4.58E-02	1.08E-04	4.06E-18	1.81E 11	1.95E-03	1.43E-09	8.30E 09
3 12	3590	6.88E-02	4.48E-02	1.06E-04	3.97E-18	1.81E 11	1.95E-03	1.40E-09	8.11E 09
3 13	3800	1.83E-02	1.01E-02	2.38E-05	8.91E-19	1.81E 11	1.95E-03	3.15E-10	1.82E 09
3 14	4032	4.76E-03	2.19E-03	5.17E-06	1.94E-19	1.81E 11	1.95E-03	6.84E-11	3.96E 08
3 15	4289	6.55E-02	2.50E-02	5.92E-05	2.22E-18	1.81E 11	1.95E-03	7.82E-10	4.53E 09
3 16	4574	1.28E-01	4.02E-02	9.51E-05	3.57E-18	1.81E 11	1.95E-03	1.26E-09	7.28E 09
3 17	4894	1.29E-01	3.32E-02	7.84E-05	2.94E-18	1.81E 11	1.95E-03	1.04E-09	6.00E 09
3 18	5255	8.42E-02	1.75E-02	4.14E-05	1.55E-18	1.81E 11	1.95E-03	5.47E-10	3.17E 09
3 19	5663	3.84E-02	6.37E-03	1.51E-05	5.65E-19	1.81E 11	1.95E-03	1.99E-10	1.15E 09
3 20	6130	1.26E-02	1.64E-03	3.89E-06	1.46E-19	1.81E 11	1.95E-03	5.14E-11	2.98E 08
3 21	6669	2.95E-03	3.00E-04	7.10E-07	2.66E-20	1.81E 11	1.95E-03	9.39E-12	5.43E 07
3 22	7296	4.89E-04	3.80E-05	8.97E-08	3.36E-21	1.81E 11	1.95E-03	1.19E-12	6.87E 06
3 23	8035	5.47E-05	3.18E-06	7.52E-09	2.82E-22	1.81E 11	1.95E-03	9.94E-14	5.76E 05

V-VV	LAMBDA A	Q	OMEGA	G.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
4 0	2020	5.53E-03	1.97E-02	1.09E-04	3.92E-18	1.42E 11	2.50E-03	1.39E-09	2.80E 09
4 1	2100	3.25E-02	1.03E-01	5.70E-04	2.05E-17	1.42E 11	2.50E-03	7.29E-09	1.46E 10
4 2	2185	7.45E-02	2.10E-01	1.16E-03	4.18E-17	1.42E 11	2.50E-03	1.48E-08	2.98E 10
4 3	2275	7.57E-02	1.89E-01	1.04E-03	3.76E-17	1.42E 11	2.50E-03	1.33E-08	2.68E 10
4 4	2372	2.19E-02	4.83E-02	2.67E-04	9.61E-18	1.42E 11	2.50E-03	3.41E-09	6.85E 09
4 5	2475	3.28E-03	6.35E-03	3.51E-05	1.26E-18	1.42E 11	2.50E-03	4.49E-10	9.02E 08
4 6	2586	4.70E-02	7.98E-02	4.41E-04	1.59E-17	1.42E 11	2.50E-03	5.64E-09	1.13E 10
4 7	2706	4.86E-02	7.21E-02	3.98E-04	1.43E-17	1.42E 11	2.50E-03	5.09E-09	1.02E 10
4 8	2835	3.92E-03	5.06E-03	2.80E-05	1.01E-18	1.42E 11	2.50E-03	3.57E-10	7.18E 08
4 9	2974	2.03E-02	2.26E-02	1.25E-04	4.51E-18	1.42E 11	2.50E-03	1.60E-09	3.21E 09
4 10	3125	5.87E-02	5.65E-02	3.13E-04	1.13E-17	1.42E 11	2.50E-03	4.00E-09	8.03E 09
4 11	3289	2.64E-02	2.17E-02	1.20E-04	4.35E-18	1.42E 11	2.50E-03	1.54E-09	3.09E 09
4 12	3468	1.62E-03	1.14E-03	6.32E-06	2.27E-19	1.42E 11	2.50E-03	8.07E-11	1.62E 08
4 13	3664	4.94E-02	2.95E-02	1.63E-04	5.88E-18	1.42E 11	2.50E-03	2.09E-09	4.19E 09
4 14	3879	6.80E-02	3.42E-02	1.89E-04	6.82E-18	1.42E 11	2.50E-03	2.42E-09	4.86E 09
4 15	4116	1.77E-02	7.45E-03	4.12E-05	1.48E-18	1.42E 11	2.50E-03	5.27E-10	1.06E 09
4 16	4379	6.95E-03	2.43E-03	1.34E-05	4.84E-19	1.42E 11	2.50E-03	1.72E-10	3.45E 08
4 17	4671	7.58E-02	2.18E-02	1.21E-04	4.35E-18	1.42E 11	2.50E-03	1.54E-09	3.10E 09
4 18	4998	1.35E-01	3.17E-02	1.75E-04	6.30E-18	1.42E 11	2.50E-03	2.24E-09	4.49E 09
4 19	5366	1.22E-01	2.32E-02	1.28E-04	4.62E-18	1.42E 11	2.50E-03	1.64E-09	3.29E 09
4 20	5784	6.99E-02	1.06E-02	5.87E-05	2.11E-18	1.42E 11	2.50E-03	7.50E-10	1.51E 09
4 21	6261	2.71E-02	3.24E-03	1.79E-05	6.45E-19	1.42E 11	2.50E-03	2.29E-10	4.60E 08
4 22	6810	7.24E-03	6.73E-04	3.72E-06	1.34E-19	1.42E 11	2.50E-03	4.76E-11	9.56E 07
4 23	7450	1.32E-03	9.36E-05	5.18E-07	1.86E-20	1.42E 11	2.50E-03	6.62E-12	1.33E 07

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
5 0	1982	1.08E-02	3.99E-02	4.31E-04	1.49E-17	9.79E 10	2.44E-03	3.56E-09	3.90E 09
5 1	2058	4.96E-02	1.63E-01	1.76E-03	6.11E-17	9.79E 10	2.44E-03	1.46E-08	1.60E 10
5 2	2140	7.98E-02	2.34E-01	2.53E-03	8.75E-17	9.79E 10	2.44E-03	2.09E-08	2.29E 10
5 3	2226	4.18E-02	1.09E-01	1.18E-03	4.08E-17	9.79E 10	2.44E-03	9.74E-09	1.07E 10
5 4	2319	3.72E-05	8.56E-05	9.25E-07	3.20E-20	9.79E 10	2.44E-03	7.65E-12	8.38E 06
5 5	2418	3.39E-02	6.88E-02	7.43E-04	2.58E-17	9.79E 10	2.44E-03	6.15E-09	6.74E 09
5 6	2524	4.82E-02	8.62E-02	9.31E-04	3.23E-17	9.79E 10	2.44E-03	7.71E-09	8.44E 09
5 7	2637	4.90E-03	7.67E-03	8.29E-05	2.87E-18	9.79E 10	2.44E-03	6.86E-10	7.51E 08
5 8	2760	1.92E-02	2.62E-02	2.83E-04	9.80E-18	9.79E 10	2.44E-03	2.34E-09	2.56E 09
5 9	2892	5.02E-02	5.97E-02	6.45E-04	2.23E-17	9.79E 10	2.44E-03	5.33E-09	5.84E 09
5 10	3034	1.23E-02	1.26E-02	1.36E-04	4.72E-18	9.79E 10	2.44E-03	1.13E-09	1.23E 09
5 11	3189	1.07E-02	9.46E-03	1.02E-04	3.54E-18	9.79E 10	2.44E-03	8.46E-10	9.26E 08
5 12	3356	5.38E-02	4.08E-02	4.41E-04	1.53E-17	9.79E 10	2.44E-03	3.65E-09	4.00E 09
5 13	3539	2.69E-02	1.74E-02	1.88E-04	6.53E-18	9.79E 10	2.44E-03	1.56E-09	1.71E 09
5 14	3740	2.04E-03	1.12E-03	1.21E-05	4.19E-19	9.79E 10	2.44E-03	1.00E-10	1.10E 08
5 15	3959	5.26E-02	2.43E-02	2.63E-04	9.10E-18	9.79E 10	2.44E-03	2.17E-09	2.38E 09
5 16	4202	6.21E-02	2.40E-02	2.60E-04	8.99E-18	9.79E 10	2.44E-03	2.15E-09	2.35E 09
5 17	4470	8.46E-03	2.72E-03	2.94E-05	1.02E-18	9.79E 10	2.44E-03	2.43E-10	2.66E 08
5 18	4769	1.95E-02	5.16E-03	5.57E-05	1.93E-18	9.79E 10	2.44E-03	4.61E-10	5.05E 08
5 19	5103	1.01E-01	2.19E-02	2.36E-04	8.19E-18	9.79E 10	2.44E-03	1.96E-09	2.14E 09
5 20	5479	1.41E-01	2.46E-02	2.66E-04	9.21E-18	9.79E 10	2.44E-03	2.20E-09	2.41E 09
5 21	5905	1.05E-01	1.46E-02	1.58E-04	5.46E-18	9.79E 10	2.44E-03	1.30E-09	1.43E 09
5 22	6392	4.86E-02	5.35E-03	5.78E-05	2.00E-18	9.79E 10	2.44E-03	4.78E-10	5.24E 08
5 23	6952	1.48E-02	1.27E-03	1.37E-05	4.75E-19	9.79E 10	2.44E-03	1.13E-10	1.24E 08

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
6 0	1945	1.63E-02	7.03E-02	1.29E-03	4.31E-17	8.52E 10	2.56E-03	9.40E-09	5.99E 09
6 1	2019	6.44E-02	2.21E-01	4.05E-03	1.35E-16	8.52E 10	2.56E-03	2.95E-08	1.88E 10
6 2	2097	6.75E-02	2.06E-01	3.79E-03	1.26E-16	8.52E 10	2.56E-03	2.76E-08	1.76E 10
6 3	2180	1.07E-02	2.92E-02	5.35E-04	1.79E-17	8.52E 10	2.56E-03	3.90E-09	2.49E 09
6 4	2269	1.38E-02	3.34E-02	6.12E-04	2.04E-17	8.52E 10	2.56E-03	4.46E-09	2.84E 09
6 5	2364	4.92E-02	1.05E-01	1.93E-03	6.44E-17	8.52E 10	2.56E-03	1.41E-08	8.97E 09
6 6	2465	1.34E-02	2.52E-02	4.62E-04	1.54E-17	8.52E 10	2.56E-03	3.36E-09	2.15E 09
6 7	2573	9.91E-03	1.64E-02	3.01E-04	1.01E-17	8.52E 10	2.56E-03	2.19E-09	1.40E 09
6 8	2689	4.51E-02	6.54E-02	1.20E-03	4.01E-17	8.52E 10	2.56E-03	8.74E-09	5.57E 09
6 9	2815	1.21E-02	1.53E-02	2.81E-04	9.38E-18	8.52E 10	2.56E-03	2.05E-09	1.31E 09
6 10	2949	1.10E-02	1.21E-02	2.22E-04	7.41E-18	8.52E 10	2.56E-03	1.62E-09	1.03E 09
6 11	3095	4.66E-02	4.43E-02	8.13E-04	2.71E-17	8.52E 10	2.56E-03	5.92E-09	3.78E 09
6 12	3253	1.22E-02	9.98E-03	1.83E-04	6.11E-18	8.52E 10	2.56E-03	1.33E-09	8.51E 08
6 13	3425	1.19E-02	8.35E-03	1.53E-04	5.11E-18	8.52E 10	2.56E-03	1.12E-09	7.12E 08
6 14	3612	5.27E-02	3.16E-02	5.80E-04	1.94E-17	8.52E 10	2.56E-03	4.22E-09	2.69E 09
6 15	3816	1.84E-02	9.35E-03	1.72E-04	5.73E-18	8.52E 10	2.56E-03	1.25E-09	7.97E 08
6 16	4041	8.03E-03	3.43E-03	6.30E-05	2.10E-18	8.52E 10	2.56E-03	4.59E-10	2.93E 08
6 17	4289	6.31E-02	2.26E-02	4.14E-04	1.38E-17	8.52E 10	2.56E-03	3.01E-09	1.92E 09
6 18	4563	4.69E-02	1.39E-02	2.55E-04	8.53E-18	8.52E 10	2.56E-03	1.86E-09	1.19E 09
6 19	4868	1.47E-04	3.60E-05	6.60E-07	2.20E-20	8.52E 10	2.56E-03	4.80E-12	3.06E 06
6 20	5209	5.02E-02	1.00E-02	1.84E-04	6.15E-18	8.52E 10	2.56E-03	1.34E-09	8.55E 08
6 21	5593	1.32E-01	2.13E-02	3.91E-04	1.30E-17	8.52E 10	2.56E-03	2.84E-09	1.81E 09
6 22	6027	1.34E-01	1.72E-02	3.16E-04	1.05E-17	8.52E 10	2.56E-03	2.30E-09	1.47E 09
6 23	6523	7.57E-02	7.70E-03	1.41E-04	4.72E-18	8.52E 10	2.56E-03	1.03E-09	6.56E 08

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F- NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
7 0	1911	2.78E-02	1.12E-01	3.11E-03	1.00E-16	5.04E 10	4.50E-03	2.27E-08	5.64E 09
7 1	1982	7.29E-02	2.63E-01	7.31E-03	2.35E-16	5.04E 10	4.50E-03	5.34E-08	1.32E 10
7 2	2057	4.38E-02	1.41E-01	3.93E-03	1.26E-16	5.04E 10	4.50E-03	2.87E-08	7.11E 09
7 3	2137	2.38E-05	6.84E-05	1.90E-06	6.13E-20	5.04E 10	4.50E-03	1.39E-11	3.45E 06
7 4	2222	3.73E-02	9.53E-02	2.65E-03	8.54E-17	5.04E 10	4.50E-03	1.94E-08	4.80E 09
7 5	2313	3.08E-02	6.98E-02	1.94E-03	6.25E-17	5.04E 10	4.50E-03	1.42E-08	3.52E 09
7 6	2410	6.86E-04	1.38E-03	3.83E-05	1.23E-18	5.04E 10	4.50E-03	2.80E-10	6.93E 07
7 7	2513	3.72E-02	6.58E-02	1.83E-03	5.90E-17	5.04E 10	4.50E-03	1.34E-08	3.32E 09
7 8	2624	2.01E-02	3.13E-02	8.70E-04	2.80E-17	5.04E 10	4.50E-03	6.35E-09	1.58E 09
7 9	2743	4.76E-03	6.47E-03	1.80E-04	5.80E-18	5.04E 10	4.50E-03	1.32E-09	3.26E 08
7 10	2871	4.07E-02	4.83E-02	1.34E-03	4.33E-17	5.04E 10	4.50E-03	9.82E-09	2.43E 09
7 11	3008	1.12E-02	1.16E-02	3.23E-04	1.04E-17	5.04E 10	4.50E-03	2.36E-09	5.84E 08
7 12	3157	1.25E-02	1.12E-02	3.11E-04	1.00E-17	5.04E 10	4.50E-03	2.27E-09	5.63E 08
7 13	3319	4.39E-02	3.37E-02	9.37E-04	3.02E-17	5.04E 10	4.50E-03	6.84E-09	1.70E 09
7 14	3494	5.91E-03	3.89E-03	1.08E-04	3.48E-18	5.04E 10	4.50E-03	7.90E-10	1.96E 08
7 15	3685	2.12E-02	1.19E-02	3.30E-04	1.06E-17	5.04E 10	4.50E-03	2.41E-09	5.98E 08
7 16	3895	5.00E-02	2.38E-02	6.61E-04	2.13E-17	5.04E 10	4.50E-03	4.83E-09	1.20E 09
7 17	4124	5.55E-03	2.22E-03	6.18E-05	1.99E-18	5.04E 10	4.50E-03	4.51E-10	1.12E 08
7 18	4377	2.55E-02	8.54E-03	2.38E-04	7.65E-18	5.04E 10	4.50E-03	1.74E-09	4.31E 08
7 19	4657	6.90E-02	1.92E-02	5.34E-04	1.72E-17	5.04E 10	4.50E-03	3.90E-09	9.67E 08
7 20	4968	2.08E-02	4.75E-03	1.32E-04	4.26E-18	5.04E 10	4.50E-03	9.66E-10	2.40E 08
7 21	5316	1.09E-02	2.04E-03	5.66E-05	1.82E-18	5.04E 10	4.50E-03	4.14E-10	1.03E 08
7 22	5707	9.96E-02	1.50E-02	4.18E-04	1.35E-17	5.04E 10	4.50E-03	3.06E-09	7.58E 08
7 23	6149	1.49E-01	1.79E-02	4.99E-04	1.61E-17	5.04E 10	4.50E-03	3.65E-09	9.04E 08

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
0 0	1878	3.84E-02	1.64E-01	6.30E-03	1.96E-16	3.48E 10	6.00E-03	4.09E-08	5.70E 09
0 1	1946	7.26E-02	2.78E-01	1.07E-02	3.32E-16	3.48E 10	6.00E-03	6.94E-08	9.67E 09
0 2	2019	1.94E-02	6.66E-02	2.56E-03	7.96E-17	3.48E 10	6.00E-03	1.66E-08	2.32E 09
0 3	2096	9.94E-03	3.05E-02	1.17E-03	3.64E-17	3.48E 10	6.00E-03	7.61E-09	1.06E 09
0 4	2178	4.40E-02	1.20E-01	4.61E-03	1.44E-16	3.48E 10	6.00E-03	3.00E-08	4.18E 09
0 5	2265	5.81E-03	1.41E-02	5.42E-04	1.69E-17	3.48E 10	6.00E-03	3.52E-09	4.91E 08
0 6	2357	1.96E-02	4.22E-02	1.62E-03	5.04E-17	3.48E 10	6.00E-03	1.05E-08	1.47E 08
0 7	2456	3.26E-02	6.20E-02	2.38E-03	7.41E-17	3.48E 10	6.00E-03	1.55E-08	2.16E 09
0 8	2562	1.01E-06	1.69E-06	6.50E-08	2.02E-21	3.48E 10	6.00E-03	4.22E-13	5.89E 04
0 9	2675	3.22E-02	4.74E-02	1.82E-03	5.67E-17	3.48E 10	6.00E-03	1.18E-08	1.65E 09
0 10	2797	1.79E-02	2.31E-02	8.87E-04	2.76E-17	3.48E 10	6.00E-03	5.76E-09	8.03E 08
0 11	2928	6.32E-03	7.10E-03	2.73E-04	8.50E-18	3.48E 10	6.00E-03	1.77E-09	2.47E 08
0 12	3069	3.87E-02	3.77E-02	1.45E-03	4.51E-17	3.48E 10	6.00E-03	9.43E-09	1.31E 09
0 13	3221	5.16E-03	4.36E-03	1.67E-04	5.21E-18	3.48E 10	6.00E-03	1.09E-09	1.52E 08
0 14	3396	2.11E-02	1.53E-02	5.90E-04	1.84E-17	3.48E 10	6.00E-03	3.83E-09	5.34E 08
0 15	3565	3.74E-02	2.33E-02	8.96E-04	2.79E-17	3.48E 10	6.00E-03	5.82E-09	8.11E 08
0 16	3760	1.36E-04	7.23E-05	2.78E-06	8.65E-20	3.48E 10	6.00E-03	1.81E-11	2.52E 06
0 17	3974	3.75E-02	1.69E-02	6.48E-04	2.02E-17	3.48E 10	6.00E-03	4.21E-09	5.87E 08
0 18	4208	3.64E-02	1.38E-02	5.30E-04	1.65E-17	3.48E 10	6.00E-03	3.44E-09	4.79E 08
0 19	4466	5.25E-04	1.66E-04	6.39E-06	1.99E-19	3.48E 10	6.00E-03	4.15E-11	5.78E 06
0 20	4752	5.35E-02	1.41E-02	5.40E-04	1.68E-17	3.48E 10	6.00E-03	3.51E-09	4.89E 08
0 21	5069	5.36E-02	1.16E-02	4.46E-04	1.39E-17	3.48E 10	6.00E-03	2.90E-09	4.04E 08
0 22	5423	3.81E-04	6.74E-05	2.59E-06	8.06E-20	3.48E 10	6.00E-03	1.68E-11	2.35E 06
0 23	5822	5.75E-02	8.23E-03	3.16E-04	9.84E-18	3.48E 10	6.00E-03	2.05E-09	2.86E 08

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
9 0	1847	4.91E-02	2.18E-01	1.07E-02	3.22E-16	2.11E 10	7.30E-03	4.96E-08	4.60E 09
9 1	1913	6.39E-02	2.55E-01	1.25E-02	3.77E-16	2.11E 10	7.30E-03	5.81E-08	5.38E 09
9 2	1983	3.66E-03	1.31E-02	6.44E-04	1.94E-17	2.11E 10	7.30E-03	2.98E-09	2.76E 08
9 3	2057	2.77E-02	8.88E-02	4.36E-03	1.31E-16	2.11E 10	7.30E-03	2.02E-08	1.87E 09
9 4	2136	3.02E-02	8.65E-02	4.25E-03	1.28E-16	2.11E 10	7.30E-03	1.97E-08	1.83E 09
9 5	2219	1.24E-03	3.17E-03	1.56E-04	4.68E-18	2.11E 10	7.30E-03	7.21E-10	6.68E 07
9 6	2308	3.55E-02	8.05E-02	3.96E-03	1.19E-16	2.11E 10	7.30E-03	1.83E-08	1.70E 09
9 7	2403	7.92E-03	1.59E-02	7.83E-04	2.36E-17	2.11E 10	7.30E-03	3.63E-09	3.36E 08
9 8	2504	1.60E-02	2.84E-02	1.40E-03	4.21E-17	2.11E 10	7.30E-03	6.48E-09	6.00E 08
9 9	2612	2.87E-02	4.49E-02	2.21E-03	6.64E-17	2.11E 10	7.30E-03	1.02E-08	9.47E 08
9 10	2728	2.84E-04	3.90E-04	1.92E-05	5.77E-19	2.11E 10	7.30E-03	8.89E-11	8.23E 06
9 11	2852	3.28E-02	3.94E-02	1.94E-03	5.82E-17	2.11E 10	7.30E-03	8.97E-09	8.31E 08
9 12	2986	1.04E-02	1.09E-02	5.34E-04	1.61E-17	2.11E 10	7.30E-03	2.48E-09	2.29E 08
9 13	3130	1.35E-02	1.23E-02	6.06E-04	1.82E-17	2.11E 10	7.30E-03	2.81E-09	2.60E 08
9 14	3286	3.38E-02	2.66E-02	1.31E-03	3.93E-17	2.11E 10	7.30E-03	6.06E-09	5.61E 08
9 15	3454	7.11E-05	4.81E-05	2.37E-06	7.12E-20	2.11E 10	7.30E-03	1.10E-11	1.02E 06
9 16	3637	3.43E-02	1.99E-02	9.77E-04	2.94E-17	2.11E 10	7.30E-03	4.53E-09	4.20E 08
9 17	3837	2.18E-02	1.08E-02	5.29E-04	1.59E-17	2.11E 10	7.30E-03	2.45E-09	2.27E 08
9 18	4054	6.44E-03	2.70E-03	1.33E-04	3.99E-18	2.11E 10	7.30E-03	6.14E-10	5.69E 07
9 19	4294	4.99E-02	1.76E-02	8.64E-04	2.60E-17	2.11E 10	7.30E-03	4.01E-09	3.71E 08
9 20	4557	1.17E-02	3.45E-03	1.69E-04	5.10E-18	2.11E 10	7.30E-03	7.85E-10	7.27E 07
9 21	4848	2.04E-02	5.01E-03	2.46E-04	7.40E-18	2.11E 10	7.30E-03	1.14E-09	1.06E 08
9 22	5171	6.94E-02	1.40E-02	6.88E-04	2.07E-17	2.11E 10	7.30E-03	3.19E-09	2.96E 08
9 23	5531	1.65E-02	2.72E-03	1.34E-04	4.02E-18	2.11E 10	7.30E-03	6.20E-10	5.74E 07

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
10 0	1817	5.88E-02	2.71E-01	1.59E-02	4.64E-16	2.40E 10	6.50E-03	7.24E-08	6.51E 09
10 1	1881	4.94E-02	2.06E-01	1.21E-02	3.52E-16	2.40E 10	6.50E-03	5.49E-08	4.94E 09
10 2	1949	3.00E-04	1.12E-03	6.59E-05	1.92E-18	2.40E 10	6.50E-03	2.99E-10	2.69E 07
10 3	2020	3.93E-02	1.32E-01	7.75E-03	2.26E-16	2.40E 10	6.50E-03	3.52E-08	3.16E 09
10 4	2096	1.05E-02	3.16E-02	1.86E-03	5.41E-17	2.40E 10	6.50E-03	8.44E-09	7.59E 08
10 5	2177	1.56E-02	4.19E-02	2.46E-03	7.16E-17	2.40E 10	6.50E-03	1.12E-08	1.00E 09
10 6	2262	2.78E-02	6.65E-02	3.91E-03	1.14E-16	2.40E 10	6.50E-03	1.77E-08	1.60E 09
10 7	2353	8.25E-04	1.75E-03	1.03E-04	3.00E-18	2.40E 10	6.50E-03	4.68E-10	4.21E 07
10 8	2450	3.18E-02	5.98E-02	3.51E-03	1.02E-16	2.40E 10	6.50E-03	1.60E-08	1.43E 09
10 9	2553	4.70E-03	7.81E-03	4.59E-04	1.34E-17	2.40E 10	6.50E-03	2.09E-09	1.87E 08
10 10	2664	1.95E-02	2.66E-02	1.68E-03	4.90E-17	2.40E 10	6.50E-03	7.64E-09	6.86E 08
10 11	2782	2.11E-02	2.72E-02	1.60E-03	4.65E-17	2.40E 10	6.50E-03	7.25E-09	6.52E 08
10 12	2909	3.63E-03	4.08E-03	2.40E-04	6.98E-18	2.40E 10	6.50E-03	1.09E-09	9.78E 07
10 13	3046	3.30E-02	3.23E-02	1.90E-03	5.53E-17	2.40E 10	6.50E-03	8.63E-09	7.75E 08
10 14	3193	1.85E-03	1.58E-03	9.27E-05	2.70E-18	2.40E 10	6.50E-03	4.21E-10	3.78E 07
10 15	3352	2.60E-02	1.91E-02	1.13E-03	3.28E-17	2.40E 10	6.50E-03	5.11E-09	4.59E 08
10 16	3524	2.04E-02	1.29E-02	7.58E-04	2.21E-17	2.40E 10	6.50E-03	3.44E-09	3.10E 08
10 17	3710	6.12E-03	3.32E-03	1.95E-04	5.68E-18	2.40E 10	6.50E-03	8.86E-10	7.96E 07
10 18	3914	4.06E-02	1.87E-02	1.10E-03	3.20E-17	2.40E 10	6.50E-03	5.00E-09	4.49E 08
10 19	4136	3.11E-03	1.22E-03	7.16E-05	2.08E-18	2.40E 10	6.50E-03	3.25E-10	2.92E 07
10 20	4380	3.05E-02	1.01E-02	5.91E-04	1.72E-17	2.40E 10	6.50E-03	2.68E-09	2.41E 08
10 21	4648	3.82E-02	1.05E-02	6.19E-04	1.80E-17	2.40E 10	6.50E-03	2.81E-09	2.53E 08
10 22	4944	8.06E-04	1.85E-04	1.08E-05	3.16E-19	2.40E 10	6.50E-03	4.93E-11	4.43E 06
10 23	5273	5.88E-02	1.11E-02	6.53E-04	1.90E-17	2.40E 10	6.50E-03	2.97E-09	2.67E 08

UT G	V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
11	0	1789	6.64E-02	3.20E-01	2.13E-02	6.00E-16	1.56E 10	5.43E-03	5.08E-08	5.00E 09
11	1	1851	3.28E-02	1.43E-01	9.49E-03	2.68E-16	1.56E 10	5.43E-03	2.27E-08	2.23E 09
11	2	1916	7.35E-03	2.88E-02	1.92E-03	5.41E-17	1.56E 10	5.43E-03	4.58E-09	4.50E 08
11	3	1985	3.83E-02	1.35E-01	8.96E-03	2.53E-16	1.56E 10	5.43E-03	2.14E-08	2.10E 09
11	4	2059	2.89E-04	9.15E-04	6.08E-05	1.71E-18	1.56E 10	5.43E-03	1.45E-10	1.43E 07
11	5	2136	2.99E-02	8.47E-02	5.62E-03	1.59E-16	1.56E 10	5.43E-03	1.34E-08	1.32E 09
11	6	2219	8.97E-03	2.27E-02	1.51E-03	4.25E-17	1.56E 10	5.43E-03	3.60E-09	3.54E 08
11	7	2306	1.53E-02	3.43E-02	2.28E-03	6.44E-17	1.56E 10	5.43E-03	5.45E-09	5.36E 08
11	8	2399	2.18E-02	4.35E-02	2.89E-03	8.16E-17	1.56E 10	5.43E-03	6.91E-09	6.79E 08
11	9	2498	3.05E-03	5.40E-03	3.59E-04	1.01E-17	1.56E 10	5.43E-03	8.58E-10	8.43E 07
11	10	2604	2.93E-02	4.58E-02	3.04E-03	8.59E-17	1.56E 10	5.43E-03	7.28E-09	7.15E 08
11	11	2716	5.15E-04	7.09E-04	4.71E-05	1.33E-18	1.56E 10	5.43E-03	1.13E-10	1.11E 07
11	12	2837	2.62E-02	3.16E-02	2.10E-03	5.92E-17	1.56E 10	5.43E-03	5.02E-09	4.93E 08
11	13	2967	9.74E-03	1.03E-02	6.84E-04	1.93E-17	1.56E 10	5.43E-03	1.63E-09	1.61E 08
11	14	3106	1.38E-02	1.27E-02	8.45E-04	2.39E-17	1.56E 10	5.43E-03	2.02E-09	1.99E 08
11	15	3257	2.52E-02	2.01E-02	1.34E-03	3.77E-17	1.56E 10	5.43E-03	3.20E-09	3.14E 08
11	16	3419	1.70E-03	1.18E-03	7.81E-05	2.20E-18	1.56E 10	5.43E-03	1.87E-10	1.83E 07
11	17	3594	3.47E-02	2.06E-02	1.37E-03	3.86E-17	1.56E 10	5.43E-03	3.27E-09	3.22E 08
11	18	3785	3.36E-03	1.71E-03	1.13E-04	3.20E-18	1.56E 10	5.43E-03	2.71E-10	2.66E 07
11	19	3992	2.66E-02	1.15E-02	7.67E-04	2.16E-17	1.56E 10	5.43E-03	1.83E-09	1.80E 08
11	20	4219	2.53E-02	9.30E-03	6.17E-04	1.74E-17	1.56E 10	5.43E-03	1.48E-09	1.45E 08
11	21	4467	5.44E-03	1.68E-03	1.12E-04	3.16E-18	1.56E 10	5.43E-03	2.67E-10	2.63E 07
11	22	4740	4.94E-02	1.28E-02	8.50E-04	2.40E-17	1.56E 10	5.43E-03	2.03E-09	2.00E 08
11	23	5042	6.81E-03	1.47E-03	9.74E-05	2.75E-18	1.56E 10	5.43E-03	2.33E-10	2.29E 07

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
12 0	1762	7.14E-02	3.58E-01	2.56E-02	7.00E-16	1.20E 10	3.25E-03	2.73E-08	4.30E 09
12 1	1822	1.77E-02	8.02E-02	5.73E-03	1.57E-16	1.20E 10	3.25E-03	6.12E-09	9.62E 08
12 2	1885	1.94E-02	7.92E-02	5.66E-03	1.55E-16	1.20E 10	3.25E-03	6.04E-09	9.50E 08
12 3	1932	2.71E-02	9.97E-02	7.12E-03	1.95E-16	1.20E 10	3.25E-03	7.60E-09	1.20E 09
12 4	2023	4.06E-03	1.34E-02	9.60E-04	2.63E-17	1.20E 10	3.25E-03	1.02E-09	1.61E 08
12 5	2098	3.06E-02	9.07E-02	6.48E-03	1.77E-16	1.20E 10	3.25E-03	6.92E-09	1.09E 09
12 6	2177	5.35E-06	1.42E-05	1.01E-06	2.78E-20	1.20E 10	3.25E-03	1.08E-12	1.70E 05
12 7	2261	2.78E-02	6.60E-02	4.71E-03	1.29E-16	1.20E 10	3.25E-03	5.03E-09	7.92E 08
12 8	2331	3.82E-03	8.07E-03	5.76E-04	1.58E-17	1.20E 10	3.25E-03	6.16E-10	9.69E 07
12 9	2446	2.00E-02	3.75E-02	2.68E-03	7.33E-17	1.20E 10	3.25E-03	2.86E-09	4.50E 08
12 10	2547	1.26E-02	2.10E-02	1.50E-03	4.10E-17	1.20E 10	3.25E-03	1.60E-09	2.52E 08
12 11	2655	9.96E-03	1.46E-02	1.04E-03	2.85E-17	1.20E 10	3.25E-03	1.11E-09	1.75E 08
12 12	2770	2.25E-02	2.90E-02	2.07E-03	5.66E-17	1.20E 10	3.25E-03	2.21E-09	3.48E 08
12 13	2894	1.94E-03	2.19E-03	1.57E-04	4.29E-18	1.20E 10	3.25E-03	1.67E-10	2.63E 07
12 14	3026	2.86E-02	2.83E-02	2.02E-03	5.54E-17	1.20E 10	3.25E-03	2.16E-09	3.40E 08
12 15	3168	4.84E-04	4.18E-04	2.98E-05	8.16E-19	1.20E 10	3.25E-03	3.18E-11	5.01E 06
12 16	3322	2.72E-02	2.03E-02	1.45E-03	3.98E-17	1.20E 10	3.25E-03	1.55E-09	2.44E 08
12 17	3487	8.51E-03	5.50E-03	3.93E-04	1.07E-17	1.20E 10	3.25E-03	4.19E-10	6.60E 07
12 18	3666	1.72E-02	9.56E-03	6.83E-04	1.87E-17	1.20E 10	3.25E-03	7.29E-10	1.15E 08
12 19	3861	2.45E-02	1.17E-02	8.34E-04	2.28E-17	1.20E 10	3.25E-03	8.90E-10	1.40E 08
12 20	4072	3.95E-03	1.60E-03	1.14E-04	3.13E-18	1.20E 10	3.25E-03	1.22E-10	1.92E 07
12 21	4303	3.94E-02	1.36E-02	9.68E-04	2.65E-17	1.20E 10	3.25E-03	1.03E-09	1.63E 08
12 22	4556	1.66E-03	4.83E-04	3.45E-05	9.44E-19	1.20E 10	3.25E-03	3.68E-11	5.79E 06
12 23	4833	3.66E-02	8.88E-03	6.34E-04	1.74E-17	1.20E 10	3.25E-03	6.77E-10	1.07E 08

UT 00	V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
13 0	1736	7.36E-02	3.84E-01	2.83E-02	7.52E-16	9.81E 09	3.00E-03	2.21E-08	3.77E 09	
13 1	1794	6.65E-03	3.15E-02	2.32E-03	6.16E-17	9.81E 09	3.00E-03	1.81E-09	3.09E 08	
13 2	1856	3.04E-02	1.30E-01	9.58E-03	2.55E-16	9.81E 09	3.00E-03	7.50E-09	1.26E 09	
13 3	1921	1.30E-02	5.00E-02	3.68E-03	9.78E-17	9.81E 09	3.00E-03	2.88E-09	4.90E 08	
13 4	1989	1.56E-02	5.49E-02	4.04E-03	1.07E-16	9.81E 09	3.00E-03	3.16E-09	5.39E 08	
13 5	2062	1.90E-02	5.93E-02	4.36E-03	1.16E-16	9.81E 09	3.00E-03	3.41E-09	5.81E 08	
13 6	2138	6.73E-03	1.88E-02	1.39E-03	3.68E-17	9.81E 09	3.00E-03	1.08E-09	1.65E 08	
13 7	2219	2.37E-02	5.93E-02	4.36E-03	1.16E-16	9.81E 09	3.00E-03	3.41E-09	5.81E 08	
13 8	2305	1.43E-03	3.20E-03	2.35E-04	6.25E-18	9.81E 09	3.00E-03	1.84E-10	3.14E 07	
13 9	2396	2.59E-02	5.15E-02	3.79E-03	1.01E-16	9.81E 09	3.00E-03	2.97E-09	5.06E 08	
13 10	2493	5.65E-05	9.96E-05	7.33E-06	1.95E-19	9.81E 09	3.00E-03	5.73E-12	9.77E 05	
13 11	2597	2.50E-02	3.90E-02	2.87E-03	7.63E-17	9.81E 09	3.00E-03	2.25E-09	3.83E 08	
13 12	2707	2.82E-03	3.88E-03	2.85E-04	7.59E-18	9.81E 09	3.00E-03	2.23E-10	3.61E 07	
13 13	2825	2.06E-02	2.50E-02	1.84E-03	4.89E-17	9.81E 09	3.00E-03	1.44E-09	2.45E 08	
13 14	2951	9.39E-03	9.99E-03	7.35E-04	1.95E-17	9.81E 09	3.00E-03	5.75E-10	9.80E 07	
13 15	3086	1.35E-02	1.26E-02	9.25E-04	2.46E-17	9.81E 09	3.00E-03	7.24E-10	1.23E 08	
13 16	3232	1.85E-02	1.50E-02	1.11E-03	2.94E-17	9.81E 09	3.00E-03	8.65E-10	1.47E 08	
13 17	3388	5.61E-03	3.94E-03	2.90E-04	7.72E-18	9.81E 09	3.00E-03	2.27E-10	3.87E 07	
13 18	3557	2.78E-02	1.69E-02	1.24E-03	3.30E-17	9.81E 09	3.00E-03	9.71E-10	1.65E 08	
13 19	3739	3.42E-04	1.79E-04	1.31E-05	3.49E-19	9.81E 09	3.00E-03	1.03E-11	1.75E 06	
13 20	3937	3.30E-02	1.48E-02	1.09E-03	2.89E-17	9.81E 09	3.00E-03	8.51E-10	1.45E 08	
13 21	4153	2.79E-03	1.06E-03	7.83E-05	2.08E-18	9.81E 09	3.00E-03	6.13E-11	1.04E 07	
13 22	4388	2.92E-02	9.46E-03	6.96E-04	1.85E-17	9.81E 09	3.00E-03	5.45E-10	9.28E 07	
13 23	4645	1.82E-02	4.97E-03	3.66E-04	9.72E-18	9.81E 09	3.00E-03	2.86E-10	4.88E 07	

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
14 0	1711	7.30E-02	3.98E-01	2.91E-02	7.51E-16	8.00E 09	2.84E-03	1.71E-08	3.19E 09
14 1	1768	9.07E-04	4.49E-03	3.28E-04	8.47E-18	8.00E 09	2.84E-03	1.92E-10	3.59E 07
14 2	1828	3.66E-02	1.64E-01	1.20E-02	3.09E-16	8.00E 09	2.84E-03	7.03E-09	1.31E 09
14 3	1891	2.83E-03	1.14E-02	8.33E-04	2.16E-17	8.00E 09	2.84E-03	4.90E-10	9.15E 07
14 4	1957	2.61E-02	9.54E-02	6.98E-03	1.80E-16	8.00E 09	2.84E-03	4.09E-09	7.63E 08
14 5	2027	5.79E-03	1.90E-02	1.39E-03	3.58E-17	8.00E 09	2.84E-03	8.14E-10	1.52E 08
14 6	2101	1.92E-02	5.67E-02	4.14E-03	1.07E-16	8.00E 09	2.84E-03	2.43E-09	4.54E 08
14 7	2179	9.62E-03	2.54E-02	1.88E-03	4.80E-17	8.00E 09	2.84E-03	1.09E-09	2.03E 08
14 8	2262	1.34E-02	3.16E-02	2.31E-03	5.97E-17	8.00E 09	2.84E-03	1.38E-09	2.53E 08
14 9	2350	1.40E-02	2.95E-02	2.16E-03	5.57E-17	8.00E 09	2.84E-03	1.27E-09	2.36E 08
14 10	2443	8.17E-03	1.53E-02	1.12E-03	2.89E-17	8.00E 09	2.84E-03	6.57E-10	1.23E 08
14 11	2542	1.85E-02	3.08E-02	2.24E-03	5.80E-17	8.00E 09	2.84E-03	1.32E-09	2.46E 08
14 12	2648	3.82E-03	5.63E-03	4.11E-04	1.06E-17	8.00E 09	2.84E-03	2.41E-10	4.50E 07
14 13	2761	2.25E-02	2.92E-02	2.13E-03	5.51E-17	8.00E 09	2.84E-03	1.25E-09	2.33E 08
14 14	2881	8.62E-04	9.86E-04	7.20E-05	1.86E-18	8.00E 09	2.84E-03	4.23E-11	7.89E 06
14 15	3010	2.52E-02	2.53E-02	1.83E-03	4.77E-17	8.00E 09	2.84E-03	1.08E-09	2.02E 08
14 16	3148	5.33E-05	4.67E-05	3.41E-06	8.82E-20	8.00E 09	2.84E-03	2.00E-12	3.74E 05
14 17	3296	2.60E-02	1.98E-02	1.43E-03	3.74E-17	8.00E 09	2.84E-03	8.50E-10	1.59E 08
14 18	3455	2.34E-03	1.55E-03	1.13E-04	2.92E-18	8.00E 09	2.84E-03	6.64E-11	1.24E 07
14 19	3628	2.38E-02	1.36E-02	9.96E-04	2.57E-17	8.00E 09	2.84E-03	5.85E-10	1.09E 08
14 20	3814	8.76E-03	4.32E-03	3.13E-04	8.15E-18	8.00E 09	2.84E-03	1.89E-10	3.46E 07
14 21	4015	1.80E-02	7.62E-03	5.56E-04	1.44E-17	8.00E 09	2.84E-03	3.27E-10	6.10E 07
14 22	4234	2.00E-02	7.22E-03	5.27E-04	1.36E-17	8.00E 09	2.84E-03	3.09E-10	5.77E 07
14 23	4473	9.00E-03	2.75E-03	2.01E-04	5.18E-18	8.00E 09	2.84E-03	1.18E-10	2.20E 07

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
15 0	1688	7.01E-02	3.97E-01	2.78E-02	6.99E-16	6.63E 09	2.50E-03	1.16E-08	2.63E 09
15 1	1743	3.47E-04	1.78E-03	1.25E-04	3.14E-18	6.63E 09	2.50E-03	5.20E-11	1.18E 07
15 2	1801	3.65E-02	1.70E-01	1.19E-02	2.99E-16	6.63E 09	2.50E-03	4.96E-09	1.13E 09
15 3	1862	7.38E-05	3.11E-04	2.18E-05	5.48E-19	6.63E 09	2.50E-03	9.08E-12	2.06E 06
15 4	1927	2.89E-02	1.10E-01	7.72E-03	1.94E-16	6.63E 09	2.50E-03	3.22E-09	7.30E 08
15 5	1994	2.95E-05	1.01E-04	7.08E-06	1.78E-19	6.63E 09	2.50E-03	2.95E-12	6.70E 05
15 6	2066	2.54E-02	7.83E-02	5.49E-03	1.38E-16	6.63E 09	2.50E-03	2.29E-09	5.19E 08
15 7	2141	4.61E-04	1.28E-03	8.96E-05	2.25E-18	6.63E 09	2.50E-03	3.73E-11	8.48E 06
15 8	2221	2.30E-02	5.70E-02	3.99E-03	1.00E-16	6.63E 09	2.50E-03	1.66E-09	3.78E 08
15 9	2306	1.51E-03	3.35E-03	2.35E-04	5.91E-18	6.63E 09	2.50E-03	9.79E-11	2.22E 07
15 10	2396	2.08E-02	4.11E-02	2.88E-03	7.25E-17	6.63E 09	2.50E-03	1.20E-09	2.73E 08
15 11	2491	3.28E-03	5.77E-03	4.05E-04	1.02E-17	6.63E 09	2.50E-03	1.69E-10	3.83E 07
15 12	2592	1.85E-02	2.89E-02	2.02E-03	5.09E-17	6.63E 09	2.50E-03	8.43E-10	1.91E 08
15 13	2700	5.85E-03	8.09E-03	5.67E-04	1.42E-17	6.63E 09	2.50E-03	2.36E-10	5.36E 07
15 14	2815	1.58E-02	1.93E-02	1.35E-03	3.40E-17	6.63E 09	2.50E-03	5.64E-10	1.28E 08
15 15	2938	9.31E-03	9.99E-03	7.00E-04	1.76E-17	6.63E 09	2.50E-03	2.92E-10	6.62E 07
15 16	3069	1.27E-02	1.20E-02	8.41E-04	2.11E-17	6.63E 09	2.50E-03	3.50E-10	7.96E 07
15 17	3210	1.37E-02	1.13E-02	7.91E-04	1.99E-17	6.63E 09	2.50E-03	3.30E-10	7.49E 07
15 18	3361	9.21E-03	6.60E-03	4.63E-04	1.16E-17	6.63E 09	2.50E-03	1.93E-10	4.38E 07
15 19	3524	1.91E-02	1.19E-02	8.34E-04	2.10E-17	6.63E 09	2.50E-03	3.48E-10	7.89E 07
15 20	3699	5.37E-03	2.89E-03	2.02E-04	5.08E-18	6.63E 09	2.50E-03	8.43E-11	1.91E 07
15 21	3889	2.54E-02	1.18E-02	8.25E-04	2.07E-17	6.63E 09	2.50E-03	3.44E-10	7.80E 07
15 22	4094	1.77E-03	7.03E-04	4.93E-05	1.24E-18	6.63E 09	2.50E-03	2.05E-11	4.66E 06
15 23	4317	3.20E-02	1.08E-02	7.58E-04	1.91E-17	6.63E 09	2.50E-03	3.16E-10	7.18E 07

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
16 0	1666	6.53E-02	3.87E-01	2.53E-02	6.19E-16	5.52E 09	2.50E-03	8.54E-09	2.14E 09
16 1	1719	3.93E-03	2.12E-02	1.38E-03	3.38E-17	5.52E 09	2.50E-03	4.67E-10	1.17E 08
16 2	1776	3.11E-02	1.52E-01	9.92E-03	2.43E-16	5.52E 09	2.50E-03	3.35E-09	8.38E 08
16 3	1835	4.15E-03	1.84E-02	1.20E-03	2.94E-17	5.52E 09	2.50E-03	4.05E-10	1.01E 08
16 4	1898	2.38E-02	9.52E-02	6.22E-03	1.52E-16	5.52E 09	2.50E-03	2.10E-09	5.25E 08
16 5	1963	3.63E-03	1.31E-02	8.57E-04	2.10E-17	5.52E 09	2.50E-03	2.90E-10	7.24E 07
16 6	2033	2.11E-02	6.88E-02	4.49E-03	1.10E-16	5.52E 09	2.50E-03	1.52E-09	3.80E 08
16 7	2106	2.88E-03	8.45E-03	5.52E-04	1.35E-17	5.52E 09	2.50E-03	1.86E-10	4.66E 07
16 8	2183	2.02E-02	5.31E-02	3.47E-03	8.50E-17	5.52E 09	2.50E-03	1.17E-09	2.93E 08
16 9	2265	2.09E-03	4.94E-03	3.22E-04	7.89E-18	5.52E 09	2.50E-03	1.09E-10	2.72E 07
16 10	2351	2.02E-02	4.25E-02	2.77E-03	6.79E-17	5.52E 09	2.50E-03	9.37E-10	2.34E 08
16 11	2443	1.35E-03	2.54E-03	1.66E-04	4.06E-18	5.52E 09	2.50E-03	5.60E-11	1.40E 07
16 12	2540	2.06E-02	3.44E-02	2.25E-03	5.51E-17	5.52E 09	2.50E-03	7.60E-10	1.90E 08
16 13	2644	7.10E-04	1.05E-03	6.87E-05	1.68E-18	5.52E 09	2.50E-03	2.32E-11	5.81E 06
16 14	2754	2.14E-02	2.81E-02	1.84E-03	4.49E-17	5.52E 09	2.50E-03	6.20E-10	1.55E 08
16 15	2871	2.33E-04	2.69E-04	1.76E-05	4.31E-19	5.52E 09	2.50E-03	5.94E-12	1.49E 06
16 16	2996	2.25E-02	2.29E-02	1.49E-03	3.65E-17	5.52E 09	2.50E-03	5.04E-10	1.26E 08
16 17	3130	4.56E-06	4.07E-06	2.66E-07	6.51E-21	5.52E 09	2.50E-03	8.98E-14	2.25E 04
16 18	3274	2.36E-02	1.84E-02	1.20E-03	2.95E-17	5.52E 09	2.50E-03	4.07E-10	1.02E 08
16 19	3428	1.81E-04	1.23E-04	8.03E-06	1.97E-19	5.52E 09	2.50E-03	2.72E-12	6.80E 05
16 20	3594	2.48E-02	1.46E-02	9.57E-04	2.34E-17	5.52E 09	2.50E-03	3.23E-10	8.08E 07
16 21	3772	1.07E-03	5.46E-04	3.57E-05	8.74E-19	5.52E 09	2.50E-03	1.21E-11	3.02E 06
16 22	3965	2.58E-02	1.13E-02	7.40E-04	1.81E-17	5.52E 09	2.50E-03	2.50E-10	6.25E 07
16 23	4174	3.30E-03	1.24E-03	8.13E-05	1.99E-18	5.52E 09	2.50E-03	2.75E-11	6.87E 06

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F- NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
17 0	1644	5.94E-02	3.66E-01	2.17E-02	5.18E-16	4.57E 09	2.50E-03	5.92E-09	1.67E 09
17 1	1697	1.01E-02	5.69E-02	3.38E-03	8.07E-17	4.57E 09	2.50E-03	9.22E-10	2.60E 08
17 2	1752	2.26E-02	1.15E-01	6.85E-03	1.63E-16	4.57E 09	2.50E-03	1.67E-09	5.27E 08
17 3	1809	1.20E-02	5.54E-02	3.29E-03	7.85E-17	4.57E 09	2.50E-03	8.97E-10	2.53E 08
17 4	1870	1.43E-02	6.01E-02	3.57E-03	8.51E-17	4.57E 09	2.50E-03	9.72E-10	2.75E 08
17 5	1934	1.23E-02	4.67E-02	2.77E-03	6.61E-17	4.57E 09	2.50E-03	7.55E-10	2.13E 08
17 6	2001	1.10E-02	3.76E-02	2.23E-03	5.33E-17	4.57E 09	2.50E-03	6.09E-10	1.72E 08
17 7	2072	1.22E-02	3.77E-02	2.24E-03	5.34E-17	4.57E 09	2.50E-03	6.10E-10	1.72E 08
17 8	2146	9.46E-03	2.62E-02	1.56E-03	3.71E-17	4.57E 09	2.50E-03	4.24E-10	1.20E 08
17 9	2225	1.20E-02	3.00E-02	1.78E-03	4.24E-17	4.57E 09	2.50E-03	4.85E-10	1.37E 08
17 10	2309	8.80E-03	1.96E-02	1.16E-03	2.78E-17	4.57E 09	2.50E-03	3.17E-10	8.96E 07
17 11	2397	1.19E-02	2.36E-02	1.40E-03	3.35E-17	4.57E 09	2.50E-03	3.82E-10	1.08E 08
17 12	2491	8.66E-03	1.54E-02	9.12E-04	2.17E-17	4.57E 09	2.50E-03	2.48E-10	7.02E 07
17 13	2590	1.17E-02	1.85E-02	1.10E-03	2.62E-17	4.57E 09	2.50E-03	3.00E-10	8.47E 07
17 14	2696	8.89E-03	1.24E-02	7.38E-04	1.76E-17	4.57E 09	2.50E-03	2.01E-10	5.68E 07
17 15	2808	1.17E-02	1.45E-02	8.58E-04	2.05E-17	4.57E 09	2.50E-03	2.34E-10	6.60E 07
17 16	2928	9.46E-03	1.03E-02	6.13E-04	1.46E-17	4.57E 09	2.50E-03	1.67E-10	4.72E 07
17 17	3056	1.16E-02	1.12E-02	6.64E-04	1.58E-17	4.57E 09	2.50E-03	1.81E-10	5.11E 07
17 18	3193	1.04E-02	8.76E-03	5.20E-04	1.58E-17	4.57E 09	2.50E-03	1.42E-10	4.00E 07
17 19	3339	1.16E-02	8.55E-03	5.08E-04	1.24E-17	4.57E 09	2.50E-03	1.38E-10	3.91E 07
17 20	3496	1.18E-02	7.60E-03	4.51E-04	1.21E-17	4.57E 09	2.50E-03	1.23E-10	3.47E 07
17 21	3665	1.15E-02	6.40E-03	3.80E-04	1.08E-17	4.57E 09	2.50E-03	1.04E-10	2.92E 07
17 22	3846	1.40E-02	6.76E-03	4.01E-04	9.06E-18	4.57E 09	2.50E-03	1.09E-10	3.09E 07
17 23	4042	1.11E-02	4.61E-03	2.73E-04	6.52E-18	4.57E 09	2.50E-03	7.45E-11	2.11E 07

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM#2.A	FLUX PHOTONS CM#2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM#2.A.SEC
10 0	1624	5.27E-02	3.30E-01	1.70E-02	4.14E-16	3.01E 09	2.50E-03	3.95E-09	1.29E 09
10 1	1675	1.75E-02	1.02E-01	5.30E-03	1.25E-16	3.01E 09	2.50E-03	1.19E-09	3.00E 08
10 2	1728	1.37E-02	7.25E-02	3.83E-03	0.90E-17	3.01E 09	2.50E-03	0.40E-10	2.76E 08
10 3	1705	1.99E-02	9.60E-02	5.06E-03	1.10E-16	3.01E 09	2.50E-03	1.12E-09	3.66E 08
10 4	1844	5.47E-03	2.39E-02	1.26E-03	2.94E-17	3.01E 09	2.50E-03	2.00E-10	9.12E 07
10 5	1906	2.00E-02	7.93E-02	4.10E-03	9.74E-17	3.01E 09	2.50E-03	9.27E-10	3.02E 08
10 6	1971	2.45E-03	0.70E-03	4.63E-04	1.00E-17	3.01E 09	2.50E-03	1.03E-10	3.34E 07
10 7	2039	1.97E-02	6.36E-02	3.36E-03	7.01E-17	3.01E 09	2.50E-03	7.44E-10	2.42E 08
10 8	2112	1.12E-03	3.25E-03	1.72E-04	3.99E-18	3.01E 09	2.50E-03	3.00E-11	1.24E 07
10 9	2188	1.94E-02	5.07E-02	2.67E-03	6.22E-17	3.01E 09	2.50E-03	5.93E-10	1.93E 08
10 10	2269	4.77E-04	1.12E-03	5.91E-05	1.30E-18	3.01E 09	2.50E-03	1.31E-11	4.27E 06
10 11	2354	1.92E-02	4.04E-02	2.13E-03	4.96E-17	3.01E 09	2.50E-03	4.72E-10	1.54E 08
10 12	2444	1.65E-04	3.10E-04	1.63E-05	3.00E-19	3.01E 09	2.50E-03	3.62E-12	1.10E 06
10 13	2540	1.93E-02	3.23E-02	1.70E-03	3.90E-17	3.01E 09	2.50E-03	3.77E-10	1.23E 08
10 14	2641	2.06E-05	4.26E-05	2.25E-06	5.22E-20	3.01E 09	2.50E-03	4.90E-13	1.62E 05
10 15	2749	1.96E-02	2.59E-02	1.36E-03	3.17E-17	3.01E 09	2.50E-03	3.02E-10	9.05E 07
10 16	2864	1.50E-06	1.75E-06	9.25E-08	2.15E-21	3.01E 09	2.50E-03	2.05E-14	6.60E 03
10 17	2986	2.01E-02	2.07E-02	1.09E-03	2.53E-17	3.01E 09	2.50E-03	2.43E-10	7.91E 07
10 18	3116	5.12E-05	4.64E-05	2.45E-06	5.69E-20	3.01E 09	2.50E-03	5.42E-13	1.77E 05
10 19	3256	2.10E-02	1.67E-02	0.80E-04	2.03E-17	3.01E 09	2.50E-03	1.95E-10	6.36E 07
10 20	3405	1.55E-04	1.08E-04	5.69E-06	1.32E-19	3.01E 09	2.50E-03	1.26E-12	4.11E 05
10 21	3565	2.23E-02	1.35E-02	7.10E-04	1.65E-17	3.01E 09	2.50E-03	1.57E-10	5.13E 07
10 22	3737	2.04E-04	1.49E-04	7.80E-06	1.03E-19	3.01E 09	2.50E-03	1.75E-12	5.69E 05
10 23	3921	2.41E-02	1.09E-02	5.77E-04	1.34E-17	3.01E 09	2.50E-03	1.20E-10	4.17E 07

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
19 0	1604	4.59E-02	3.08E-01	1.41E-02	3.21E-16	3.18E 09	2.50E-03	2.55E-09	9.78E 08
19 1	1654	2.46E-02	1.50E-01	6.90E-03	1.57E-16	3.18E 09	2.50E-03	1.25E-09	4.78E 08
19 2	1706	6.25E-03	3.48E-02	1.60E-03	3.63E-17	3.18E 09	2.50E-03	2.89E-10	1.11E 08
19 3	1761	2.52E-02	1.28E-01	5.86E-03	1.33E-16	3.18E 09	2.50E-03	1.06E-09	4.05E 08
19 4	1818	5.64E-04	2.60E-03	1.19E-04	2.71E-18	3.18E 09	2.50E-03	2.15E-11	8.26E 06
19 5	1879	2.27E-02	9.48E-02	4.35E-03	9.89E-17	3.18E 09	2.50E-03	7.86E-10	3.01E 08
19 6	1942	8.82E-05	3.33E-04	1.53E-05	3.48E-19	3.18E 09	2.50E-03	2.76E-12	1.06E 06
19 7	2009	2.00E-02	6.82E-02	3.13E-03	7.11E-17	3.18E 09	2.50E-03	5.65E-10	2.17E 08
19 8	2079	1.05E-03	3.23E-03	1.48E-04	3.37E-18	3.18E 09	2.50E-03	2.68E-11	1.03E 07
19 9	2153	1.75E-02	4.84E-02	2.22E-03	5.05E-17	3.18E 09	2.50E-03	4.01E-10	1.54E 08
19 10	2231	2.50E-03	6.23E-03	2.86E-04	6.50E-18	3.18E 09	2.50E-03	5.17E-11	1.98E 07
19 11	2313	1.53E-02	3.41E-02	1.57E-03	3.56E-17	3.18E 09	2.50E-03	2.83E-10	1.08E 08
19 12	2400	4.18E-03	8.37E-03	3.84E-04	8.73E-18	3.18E 09	2.50E-03	6.94E-11	2.66E 07
19 13	2493	1.33E-02	2.37E-02	1.09E-03	2.48E-17	3.18E 09	2.50E-03	1.97E-10	7.55E 07
19 14	2590	6.04E-03	9.61E-03	4.41E-04	1.00E-17	3.18E 09	2.50E-03	7.97E-11	3.06E 07
19 15	2694	1.15E-02	1.62E-02	7.46E-04	1.69E-17	3.18E 09	2.50E-03	1.35E-10	5.17E 07
19 16	2804	8.07E-03	1.01E-02	4.65E-04	1.06E-17	3.18E 09	2.50E-03	8.40E-11	3.22E 07
19 17	2921	9.80E-03	1.09E-02	5.00E-04	1.13E-17	3.18E 09	2.50E-03	9.02E-11	3.46E 07
19 18	3045	1.03E-02	1.01E-02	4.63E-04	1.05E-17	3.18E 09	2.50E-03	8.37E-11	3.21E 07
19 19	3178	8.21E-03	7.08E-03	3.25E-04	7.38E-18	3.18E 09	2.50E-03	5.87E-11	2.25E 07
19 20	3320	1.28E-02	9.66E-03	4.43E-04	1.01E-17	3.18E 09	2.50E-03	8.01E-11	3.07E 07
19 21	3472	6.75E-03	4.46E-03	2.05E-04	4.65E-18	3.18E 09	2.50E-03	3.70E-11	1.42E 07
19 22	3635	1.55E-02	8.94E-03	4.11E-04	9.33E-18	3.18E 09	2.50E-03	7.41E-11	2.84E 07
19 23	3809	5.44E-03	2.72E-03	1.25E-04	2.84E-18	3.18E 09	2.50E-03	2.26E-11	8.66E 06

IV. OXYGEN SCHUMANN-RUNGE BANDS

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
0 0	2026	3.36E-09	1.43E-08	4.87E-17	1.76E-30	1.41E 11	8.70E-02	2.16E-20	2.04E 03
0 1	2092	9.71E-08	3.80E-07	1.28E-15	4.63E-29	1.41E 11	8.70E-02	5.67E-19	5.35E 04
0 2	2161	1.35E-06	4.79E-06	1.61E-14	5.83E-28	1.41E 11	8.70E-02	7.16E-18	6.75E 05
0 3	2234	1.20E-05	3.86E-05	1.30E-13	4.71E-27	1.41E 11	8.70E-02	5.77E-17	5.45E 06
0 4	2311	7.71E-05	2.24E-04	7.53E-13	2.73E-26	1.41E 11	8.70E-02	3.34E-16	3.16E 07
0 5	2392	3.79E-04	9.91E-04	3.33E-12	1.21E-25	1.41E 11	8.70E-02	1.48E-15	1.40E 08
0 6	2477	1.48E-03	3.49E-03	1.17E-11	4.25E-25	1.41E 11	8.70E-02	5.21E-15	4.91E 08
0 7	2567	4.72E-03	9.99E-03	3.36E-11	1.22E-24	1.41E 11	8.70E-02	1.49E-14	1.41E 09
0 8	2663	1.25E-02	2.38E-02	7.99E-11	2.90E-24	1.41E 11	8.70E-02	3.55E-14	3.35E 09
0 9	2764	2.80E-02	4.75E-02	1.60E-10	5.79E-24	1.41E 11	8.70E-02	7.10E-14	6.70E 09
0 10	2871	5.33E-02	8.06E-02	2.71E-10	9.82E-24	1.41E 11	8.70E-02	1.20E-13	1.14E 10
0 11	2984	8.67E-02	1.17E-01	3.93E-10	1.42E-23	1.41E 11	8.70E-02	1.74E-13	1.65E 10
0 12	3105	1.21E-01	1.45E-01	4.88E-10	1.77E-23	1.41E 11	8.70E-02	2.17E-13	2.05E 10
0 13	3234	1.46E-01	1.55E-01	5.22E-10	1.89E-23	1.41E 11	8.70E-02	2.32E-13	2.19E 10
0 14	3371	1.53E-01	1.43E-01	4.80E-10	1.74E-23	1.41E 11	8.70E-02	2.13E-13	2.01E 10
0 15	3518	1.38E-01	1.13E-01	3.81E-10	1.38E-23	1.41E 11	8.70E-02	1.69E-13	1.60E 10
0 16	3674	1.07E-01	7.75E-02	2.61E-10	9.44E-24	1.41E 11	8.70E-02	1.16E-13	1.09E 10
0 17	3842	7.21E-02	4.55E-02	1.53E-10	5.54E-24	1.41E 11	8.70E-02	6.80E-14	6.42E 09
0 18	4022	4.16E-02	2.29E-02	7.70E-11	2.79E-24	1.41E 11	8.70E-02	3.42E-14	3.23E 09
0 19	4216	2.05E-02	9.80E-03	3.30E-11	1.19E-24	1.41E 11	8.70E-02	1.46E-14	1.38E 09
0 20	4424	8.60E-03	3.55E-03	1.20E-11	4.33E-25	1.41E 11	8.70E-02	5.31E-15	5.01E 08
0 21	4649	3.04E-03	1.08E-03	3.64E-12	1.32E-25	1.41E 11	8.70E-02	1.62E-15	1.53E 08

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
1 0	1998	3.97E-08	1.77E-07	7.03E-15	2.48E-28	1.12E 11	8.50E-02	2.36E-18	1.99E 04
1 1	2062	1.04E-06	4.22E-06	1.67E-13	5.90E-27	1.12E 11	8.50E-02	5.61E-17	4.72E 05
1 2	2130	1.29E-05	4.78E-05	1.90E-12	6.68E-26	1.12E 11	8.50E-02	6.36E-16	5.35E 06
1 3	2200	1.02E-04	3.42E-04	1.36E-11	4.78E-25	1.12E 11	8.50E-02	4.55E-15	3.83E 07
1 4	2275	5.72E-04	1.73E-03	6.87E-11	2.42E-24	1.12E 11	8.50E-02	2.30E-14	1.94E 08
1 5	2353	2.41E-03	6.59E-03	2.61E-10	9.21E-24	1.12E 11	8.50E-02	8.76E-14	7.38E 08
1 6	2436	7.89E-03	1.95E-02	7.72E-10	2.72E-23	1.12E 11	8.50E-02	2.59E-13	2.18E 09
1 7	2523	2.05E-02	4.55E-02	1.81E-09	6.36E-23	1.12E 11	8.50E-02	6.05E-13	5.10E 09
1 8	2615	4.26E-02	8.50E-02	3.37E-09	1.19E-22	1.12E 11	8.50E-02	1.13E-12	9.52E 09
1 9	2712	7.08E-02	1.27E-01	5.02E-09	1.77E-22	1.12E 11	8.50E-02	1.68E-12	1.42E 10
1 10	2815	9.27E-02	1.48E-01	5.88E-09	2.07E-22	1.12E 11	8.50E-02	1.97E-12	1.66E 10
1 11	2924	9.20E-02	1.31E-01	5.20E-09	1.83E-22	1.12E 11	8.50E-02	1.74E-12	1.47E 10
1 12	3040	6.29E-02	7.97E-02	3.16E-09	1.11E-22	1.12E 11	8.50E-02	1.06E-12	8.93E 09
1 13	3163	2.18E-02	2.46E-02	9.76E-10	3.44E-23	1.12E 11	8.50E-02	3.27E-13	2.75E 09
1 14	3295	1.03E-04	1.02E-04	4.06E-12	1.43E-25	1.12E 11	8.50E-02	1.36E-15	1.15E 07
1 15	3434	1.83E-02	1.61E-02	6.40E-10	2.25E-23	1.12E 11	8.50E-02	2.15E-13	1.81E 09
1 16	3584	6.70E-02	5.19E-02	2.06E-09	7.26E-23	1.12E 11	8.50E-02	6.91E-13	5.81E 09
1 17	3743	1.14E-01	7.73E-02	3.07E-09	1.08E-22	1.12E 11	8.50E-02	1.03E-12	8.66E 09
1 18	3914	1.30E-01	7.73E-02	3.07E-09	1.08E-22	1.12E 11	8.50E-02	1.03E-12	8.66E 09
1 19	4097	1.12E-01	5.81E-02	2.30E-09	8.12E-23	1.12E 11	8.50E-02	7.73E-13	6.50E 09
1 20	4294	7.60E-02	3.42E-02	1.36E-09	4.78E-23	1.12E 11	8.50E-02	4.55E-13	3.83E 09
1 21	4505	4.14E-02	1.61E-02	6.40E-10	2.25E-23	1.12E 11	8.50E-02	2.15E-13	1.81E 09
2 0	1972	2.44E-07	1.18E-06	2.89E-13	9.92E-27	1.00E 11	9.45E-02	9.37E-17	1.18E 05
2 1	2034	5.79E-06	2.56E-05	6.25E-12	2.14E-25	1.00E 11	9.45E-02	2.03E-15	2.56E 06
2 2	2100	6.47E-05	2.60E-04	6.35E-11	2.18E-24	1.00E 11	9.45E-02	2.06E-14	2.60E 07
2 3	2169	4.52E-04	1.65E-03	4.03E-10	1.38E-23	1.00E 11	9.45E-02	1.31E-13	1.65E 08
2 4	2241	2.20E-03	7.28E-03	1.78E-09	6.10E-23	1.00E 11	9.45E-02	5.76E-13	7.28E 08
2 5	2317	7.89E-03	2.36E-02	5.76E-09	1.98E-22	1.00E 11	9.45E-02	1.87E-12	2.36E 09
2 6	2397	2.14E-02	5.78E-02	1.41E-08	4.84E-22	1.00E 11	9.45E-02	4.57E-12	5.78E 09
2 7	2481	4.42E-02	1.08E-01	2.63E-08	9.02E-22	1.00E 11	9.45E-02	8.52E-12	1.08E 10
2 8	2570	6.90E-02	1.51E-01	3.69E-08	1.27E-21	1.00E 11	9.45E-02	1.20E-11	1.51E 10
2 9	2664	7.82E-02	1.54E-01	3.76E-08	1.29E-21	1.00E 11	9.45E-02	1.22E-11	1.54E 10
2 10	2763	5.80E-02	1.02E-01	2.50E-08	8.57E-22	1.00E 11	9.45E-02	8.10E-12	1.02E 10
2 11	2868	2.00E-02	3.15E-02	7.70E-09	2.64E-22	1.00E 11	9.45E-02	2.50E-12	3.15E 09
2 12	2980	7.35E-07	1.03E-06	2.52E-13	8.66E-27	1.00E 11	9.45E-02	8.19E-17	1.03E 05
2 13	3098	2.14E-02	2.68E-02	6.54E-09	2.24E-22	1.00E 11	9.45E-02	2.12E-12	2.68E 09
2 14	3224	6.07E-02	6.75E-02	1.65E-08	5.65E-22	1.00E 11	9.45E-02	5.34E-12	6.75E 09
2 15	3358	6.96E-02	6.84E-02	1.67E-08	5.73E-22	1.00E 11	9.45E-02	5.42E-12	6.84E 09
2 16	3500	3.56E-02	3.09E-02	7.53E-09	2.58E-22	1.00E 11	9.45E-02	2.44E-12	3.09E 09
2 17	3652	1.92E-03	1.47E-03	3.59E-10	1.23E-23	1.00E 11	9.45E-02	1.16E-13	1.47E 08
2 18	3815	1.54E-02	1.03E-02	2.51E-09	8.62E-23	1.00E 11	9.45E-02	8.15E-13	1.03E 09
2 19	3988	7.00E-02	4.11E-02	1.00E-08	3.44E-22	1.00E 11	9.45E-02	3.25E-12	4.11E 09
2 20	4174	1.18E-01	6.05E-02	1.48E-08	5.07E-22	1.00E 11	9.45E-02	4.79E-12	6.05E 09
2 21	4374	1.25E-01	5.54E-02	1.35E-08	4.64E-22	1.00E 11	9.45E-02	4.38E-12	5.54E 09

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
3 0	1947	1.04E-06	5.69E-06	5.94E-12	1.99E-25	8.44E 10	7.12E-02	1.19E-15	4.80E 05
3 1	2008	2.24E-05	1.12E-04	1.16E-10	3.90E-24	8.44E 10	7.12E-02	2.34E-14	9.42E 06
3 2	2072	2.25E-04	1.02E-03	1.06E-09	3.55E-23	8.44E 10	7.12E-02	2.14E-13	8.60E 07
3 3	2139	1.39E-03	5.71E-03	5.95E-09	1.99E-22	8.44E 10	7.12E-02	1.20E-12	4.82E 06
3 4	2209	5.84E-03	2.19E-02	2.28E-08	7.62E-22	8.44E 10	7.12E-02	4.58E-12	1.84E 09
3 5	2283	1.77E-02	5.99E-02	6.24E-08	2.09E-21	8.44E 10	7.12E-02	1.26E-11	5.05E 09
3 6	2360	3.90E-02	1.19E-01	1.25E-07	4.17E-21	8.44E 10	7.12E-02	2.50E-11	1.01E 10
3 7	2442	6.19E-02	1.71E-01	1.79E-07	5.98E-21	8.44E 10	7.12E-02	3.59E-11	1.45E 10
3 8	2528	6.72E-02	1.68E-01	1.75E-07	5.84E-21	8.44E 10	7.12E-02	3.51E-11	1.41E 10
3 9	2619	4.26E-02	9.55E-02	9.96E-08	3.33E-21	8.44E 10	7.12E-02	2.00E-11	8.06E 09
3 10	2715	8.03E-03	1.62E-02	1.69E-08	5.64E-22	8.44E 10	7.12E-02	3.39E-12	1.37E 09
3 11	2817	3.64E-03	6.57E-03	6.86E-09	2.29E-22	8.44E 10	7.12E-02	1.38E-12	5.55E 08
3 12	2924	3.54E-02	5.71E-02	5.96E-08	1.99E-21	8.44E 10	7.12E-02	1.20E-11	4.82E 09
3 13	3038	5.62E-02	8.08E-02	8.42E-08	2.82E-21	8.44E 10	7.12E-02	1.69E-11	6.82E 09
3 14	3159	3.19E-02	4.08E-02	4.25E-08	1.42E-21	8.44E 10	7.12E-02	8.55E-12	3.44E 09
3 15	3287	1.13E-03	1.28E-03	1.34E-09	4.47E-23	8.44E 10	7.12E-02	2.69E-13	1.08E 08
3 16	3423	1.78E-02	1.78E-02	1.86E-08	6.23E-22	8.44E 10	7.12E-02	3.74E-12	1.51E 09
3 17	3569	5.94E-02	5.27E-02	5.49E-08	1.84E-21	8.44E 10	7.12E-02	1.10E-11	4.44E 09
3 18	3724	5.97E-02	4.66E-02	4.86E-08	1.63E-21	8.44E 10	7.12E-02	9.78E-12	3.94E 09
3 19	3889	1.77E-02	1.21E-02	1.27E-08	4.23E-22	8.44E 10	7.12E-02	2.54E-12	1.02E 09
3 20	4066	1.90E-03	1.14E-03	1.19E-09	3.98E-23	8.44E 10	7.12E-02	2.39E-13	9.63E 07
3 21	4255	4.69E-02	2.46E-02	2.56E-08	8.57E-22	8.44E 10	7.12E-02	5.15E-12	2.07E 09
4 0	1924	3.48E-06	1.94E-05	6.73E-11	2.20E-24	5.72E 10	7.88E-02	9.92E-15	1.11E 06
4 1	1984	6.79E-05	3.45E-04	1.20E-09	3.92E-23	5.72E 10	7.88E-02	1.77E-13	1.97E 07
4 2	2046	6.09E-04	2.82E-03	9.82E-09	3.21E-22	5.72E 10	7.88E-02	1.45E-12	1.61E 08
4 3	2111	3.31E-03	1.40E-02	4.85E-08	1.59E-21	5.72E 10	7.88E-02	7.15E-12	7.98E 08
4 4	2179	1.20E-02	4.60E-02	1.60E-07	5.23E-21	5.72E 10	7.88E-02	2.36E-11	2.63E 09
4 5	2251	3.03E-02	1.05E-01	3.67E-07	1.20E-20	5.72E 10	7.88E-02	5.40E-11	6.03E 09
4 6	2327	5.31E-02	1.67E-01	5.81E-07	1.90E-20	5.72E 10	7.88E-02	8.56E-11	9.55E 09
4 7	2406	6.12E-02	1.74E-01	6.06E-07	1.98E-20	5.72E 10	7.88E-02	8.92E-11	9.96E 09
4 8	2489	3.94E-02	1.01E-01	3.52E-07	1.15E-20	5.72E 10	7.88E-02	5.18E-11	5.79E 09
4 9	2578	6.59E-03	1.53E-02	5.31E-08	1.73E-21	5.72E 10	7.88E-02	7.82E-12	8.73E 08
4 10	2670	4.80E-03	10.00E-03	3.48E-08	1.14E-21	5.72E 10	7.88E-02	5.12E-12	5.72E 08
4 11	2768	3.55E-02	6.63E-02	2.31E-07	7.54E-21	5.72E 10	7.88E-02	3.40E-11	3.79E 09
4 12	2872	4.55E-02	7.61E-02	2.65E-07	8.65E-21	5.72E 10	7.88E-02	3.90E-11	4.36E 09
4 13	2982	1.52E-02	2.27E-02	7.90E-08	2.58E-21	5.72E 10	7.88E-02	1.16E-11	1.30E 09
4 14	3098	1.52E-03	2.03E-03	7.05E-09	2.30E-22	5.72E 10	7.88E-02	1.04E-12	1.16E 08
4 15	3222	3.36E-02	3.98E-02	1.38E-07	4.52E-21	5.72E 10	7.88E-02	2.04E-11	2.28E 09
4 16	3353	4.98E-02	5.24E-02	1.82E-07	5.95E-21	5.72E 10	7.88E-02	2.68E-11	2.99E 09
4 17	3492	1.69E-02	1.57E-02	5.47E-08	1.79E-21	5.72E 10	7.88E-02	8.05E-12	8.99E 08
4 18	3640	2.12E-03	1.74E-03	6.06E-09	1.98E-22	5.72E 10	7.88E-02	8.93E-13	9.97E 07
4 19	3798	4.18E-02	3.02E-02	1.05E-07	3.44E-21	5.72E 10	7.88E-02	1.55E-11	1.73E 09
4 20	3966	6.48E-02	4.12E-02	1.43E-07	4.68E-21	5.72E 10	7.88E-02	2.11E-11	2.35E 09
4 21	4146	2.80E-02	1.56E-02	5.42E-08	1.77E-21	5.72E 10	7.88E-02	7.98E-12	8.91E 08

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
5 0	1902	9.66E-06	5.68E-05	5.49E-10	1.75E-23	4.22E 10	7.51E-02	5.55E-14	2.40E 06
5 1	1961	1.71E-04	9.20E-04	8.88E-09	2.84E-22	4.22E 10	7.51E-02	8.99E-13	3.88E 07
5 2	2021	1.37E-03	6.74E-03	6.51E-08	2.08E-21	4.22E 10	7.51E-02	6.59E-12	2.84E 08
5 3	2085	6.56E-03	2.93E-02	2.83E-07	9.04E-21	4.22E 10	7.51E-02	2.86E-11	1.24E 09
5 4	2152	2.04E-02	8.29E-02	8.00E-07	2.56E-20	4.22E 10	7.51E-02	8.10E-11	3.50E 09
5 5	2221	4.22E-02	1.56E-01	1.51E-06	4.81E-20	4.22E 10	7.51E-02	1.53E-10	6.59E 09
5 6	2295	5.65E-02	1.89E-01	1.83E-06	5.84E-20	4.22E 10	7.51E-02	1.85E-10	8.00E 09
5 7	2372	4.27E-02	1.30E-01	1.25E-06	3.99E-20	4.22E 10	7.51E-02	1.27E-10	5.46E 09
5 8	2453	1.02E-02	2.80E-02	2.71E-07	8.64E-21	4.22E 10	7.51E-02	2.74E-11	1.18E 09
5 9	2539	2.31E-03	5.71E-03	5.51E-08	1.76E-21	4.22E 10	7.51E-02	5.58E-12	2.41E 08
5 10	2629	2.98E-02	6.61E-02	6.38E-07	2.04E-20	4.22E 10	7.51E-02	6.46E-11	2.79E 09
5 11	2724	4.00E-02	8.02E-02	7.75E-07	2.47E-20	4.22E 10	7.51E-02	7.84E-11	3.39E 09
5 12	2824	1.15E-02	2.07E-02	1.99E-07	6.37E-21	4.22E 10	7.51E-02	2.02E-11	8.72E 08
5 13	2930	3.12E-03	5.02E-03	4.85E-08	1.55E-21	4.22E 10	7.51E-02	4.91E-12	2.12E 08
5 14	3042	3.42E-02	4.93E-02	4.76E-07	1.52E-20	4.22E 10	7.51E-02	4.81E-11	2.08E 09
5 15	3161	3.61E-02	4.63E-02	4.47E-07	1.43E-20	4.22E 10	7.51E-02	4.52E-11	1.95E 09
5 16	3287	3.72E-03	4.24E-03	4.10E-08	1.31E-21	4.22E 10	7.51E-02	4.15E-12	1.79E 08
5 17	3421	1.36E-02	1.38E-02	1.33E-07	4.24E-21	4.22E 10	7.51E-02	1.35E-11	5.81E 08
5 18	3563	4.76E-02	4.26E-02	4.12E-07	1.32E-20	4.22E 10	7.51E-02	4.17E-11	1.80E 09
5 19	3714	2.84E-02	2.24E-02	2.17E-07	6.92E-21	4.22E 10	7.51E-02	2.19E-11	9.46E 08
5 20	3875	1.24E-05	8.63E-06	8.34E-11	2.66E-24	4.22E 10	7.51E-02	8.44E-15	3.64E 05
5 21	4046	3.39E-02	2.07E-02	2.00E-07	6.39E-21	4.22E 10	7.51E-02	2.03E-11	8.75E 08
6 0	1482	2.32E-05	1.40E-04	3.25E-09	1.01E-22	3.62E 10	7.48E-02	2.75E-13	5.06E 06
6 1	1939	3.74E-04	2.06E-03	4.78E-08	1.49E-21	3.62E 10	7.48E-02	4.04E-12	7.44E 07
6 2	1999	2.68E-03	1.35E-02	3.13E-07	9.80E-21	3.62E 10	7.48E-02	2.64E-11	4.88E 08
6 3	2081	1.12E-02	5.14E-02	1.19E-06	3.73E-20	3.62E 10	7.48E-02	1.01E-10	1.86E 09
6 4	2126	2.96E-02	1.23E-01	2.87E-06	8.97E-20	3.62E 10	7.48E-02	2.43E-10	4.47E 09
6 5	2194	4.93E-02	1.87E-01	4.35E-06	1.36E-19	3.62E 10	7.48E-02	3.68E-10	6.78E 09
6 6	2266	4.77E-02	1.65E-01	3.82E-06	1.19E-19	3.62E 10	7.48E-02	3.23E-10	5.96E 09
6 7	2341	1.87E-02	5.87E-02	1.36E-06	4.26E-20	3.62E 10	7.48E-02	1.15E-10	2.12E 09
6 8	2420	2.45E-05	6.94E-05	1.61E-09	5.04E-23	3.62E 10	7.48E-02	1.37E-13	2.51E 06
6 9	2503	2.03E-02	5.18E-02	1.20E-06	3.76E-20	3.62E 10	7.48E-02	1.02E-10	1.88E 09
6 10	2591	3.75E-02	8.67E-02	2.01E-06	6.29E-20	3.62E 10	7.48E-02	1.70E-10	3.14E 09
6 11	2683	1.42E-02	2.94E-02	6.83E-07	2.14E-20	3.62E 10	7.48E-02	5.78E-11	1.07E 09
6 12	2780	1.54E-03	2.88E-03	6.68E-08	2.09E-21	3.62E 10	7.48E-02	5.66E-12	1.04E 08
6 13	2883	2.92E-02	4.89E-02	1.14E-06	3.55E-20	3.62E 10	7.48E-02	9.62E-11	1.77E 09
6 14	2991	3.05E-02	4.57E-02	1.06E-06	3.32E-20	3.62E 10	7.48E-02	8.99E-11	1.66E 09
6 15	3106	1.69E-03	2.26E-03	5.26E-08	1.64E-21	3.62E 10	7.48E-02	4.45E-12	8.19E 07
6 16	3228	1.68E-02	2.00E-02	4.65E-07	1.45E-20	3.62E 10	7.48E-02	3.94E-11	7.25E 08
6 17	3356	4.00E-02	4.25E-02	9.87E-07	3.08E-20	3.62E 10	7.48E-02	8.35E-11	1.54E 09
6 18	3493	1.17E-02	1.10E-02	2.56E-07	7.99E-21	3.62E 10	7.48E-02	2.16E-11	3.98E 08
6 19	3638	6.05E-03	5.04E-03	1.17E-07	3.66E-21	3.62E 10	7.48E-02	9.91E-12	1.82E 08
6 20	3792	4.37E-02	3.22E-02	7.47E-07	2.34E-20	3.62E 10	7.48E-02	6.32E-11	1.16E 09
6 21	3956	3.14E-02	2.03E-02	4.72E-07	1.48E-20	3.62E 10	7.48E-02	4.00E-11	7.36E 08

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
7 0	1864	4.97E-05	3.16E-04	1.57E-08	4.81E-22	2.93E 10	7.15E-02	1.01E-12	9.25E 06
7 1	1919	7.26E-04	4.22E-03	2.10E-07	6.43E-21	2.93E 10	7.15E-02	1.35E-11	1.24E 08
7 2	1977	4.66E-03	2.48E-02	1.23E-06	3.78E-20	2.93E 10	7.15E-02	7.91E-11	7.26E 08
7 3	2038	1.70E-02	8.25E-02	4.10E-06	1.26E-19	2.93E 10	7.15E-02	2.63E-10	2.42E 09
7 4	2102	3.76E-02	1.66E-01	8.27E-06	2.54E-19	2.93E 10	7.15E-02	5.31E-10	4.88E 09
7 5	2169	4.90E-02	1.98E-01	9.82E-06	3.01E-19	2.93E 10	7.15E-02	6.30E-10	5.79E 09
7 6	2239	3.10E-02	1.13E-01	5.64E-06	1.73E-19	2.93E 10	7.15E-02	3.62E-10	3.32E 09
7 7	2312	2.88E-03	9.60E-03	4.77E-07	1.46E-20	2.93E 10	7.15E-02	3.06E-11	2.81E 08
7 8	2389	8.96E-03	2.70E-02	1.34E-06	4.11E-20	2.93E 10	7.15E-02	8.62E-11	7.91E 08
7 9	2470	3.32E-02	9.06E-02	4.50E-06	1.38E-19	2.93E 10	7.15E-02	2.89E-10	2.65E 09
7 10	2555	2.09E-02	5.16E-02	2.57E-06	7.86E-20	2.93E 10	7.15E-02	1.65E-10	1.51E 09
7 11	2645	3.29E-07	7.31E-07	3.64E-11	1.11E-24	2.93E 10	7.15E-02	2.33E-15	2.14E 04
7 12	2739	2.10E-02	4.20E-02	2.09E-06	6.39E-20	2.93E 10	7.15E-02	1.34E-10	1.23E 09
7 13	2839	3.00E-02	5.40E-02	2.68E-06	8.22E-20	2.93E 10	7.15E-02	1.72E-10	1.58E 09
7 14	2944	3.01E-03	4.85E-03	2.41E-07	7.39E-21	2.93E 10	7.15E-02	1.55E-11	1.42E 08
7 15	3055	1.31E-02	1.88E-02	9.35E-07	2.87E-20	2.93E 10	7.15E-02	6.01E-11	5.51E 08
7 16	3173	3.44E-02	4.42E-02	2.20E-06	6.74E-20	2.93E 10	7.15E-02	1.41E-10	1.30E 09
7 17	3297	8.00E-03	9.18E-03	4.56E-07	1.40E-20	2.93E 10	7.15E-02	2.93E-11	2.69E 08
7 18	3429	8.61E-03	8.78E-03	4.36E-07	1.34E-20	2.93E 10	7.15E-02	2.80E-11	2.57E 08
7 19	3569	3.85E-02	3.48E-02	1.73E-06	5.31E-20	2.93E 10	7.15E-02	1.11E-10	1.02E 09
7 20	3717	1.47E-02	1.18E-02	5.86E-07	1.80E-20	2.93E 10	7.15E-02	3.76E-11	3.45E 08
7 21	3874	5.00E-03	3.53E-03	1.76E-07	5.38E-21	2.93E 10	7.15E-02	1.13E-11	1.03E 08
8 0	1846	9.66E-05	6.28E-04	6.07E-08	1.82E-21	2.10E 10	7.00E-02	2.68E-12	1.32E 07
8 1	1901	1.28E-03	7.63E-03	7.38E-07	2.22E-20	2.10E 10	7.00E-02	3.26E-11	1.60E 08
8 2	1958	7.34E-03	4.00E-02	3.87E-06	1.16E-19	2.10E 10	7.00E-02	1.71E-10	8.40E 08
8 3	2018	2.32E-02	1.16E-01	1.12E-05	3.36E-19	2.10E 10	7.00E-02	4.94E-10	2.43E 09
8 4	2080	4.26E-02	1.94E-01	1.87E-05	5.63E-19	2.10E 10	7.00E-02	8.27E-10	4.06E 09
8 5	2145	4.16E-02	1.72E-01	1.66E-05	5.01E-19	2.10E 10	7.00E-02	7.36E-10	3.62E 09
8 6	2214	1.39E-02	5.24E-02	5.06E-06	1.52E-19	2.10E 10	7.00E-02	2.24E-10	1.10E 09
8 7	2286	7.47E-04	2.56E-03	2.47E-07	7.44E-21	2.10E 10	7.00E-02	1.09E-11	5.38E 07
8 8	2361	2.31E-02	7.17E-02	6.93E-06	2.08E-19	2.10E 10	7.00E-02	3.06E-10	1.51E 09
8 9	2440	2.83E-02	7.97E-02	7.70E-06	2.32E-19	2.10E 10	7.00E-02	3.40E-10	1.67E 09
8 10	2523	3.14E-03	8.01E-03	7.74E-07	2.33E-20	2.10E 10	7.00E-02	3.42E-11	1.68E 08
8 11	2610	1.03E-02	2.38E-02	2.30E-06	6.90E-20	2.10E 10	7.00E-02	1.01E-10	4.99E 08
8 12	2702	2.97E-02	6.17E-02	5.96E-06	1.79E-19	2.10E 10	7.00E-02	2.63E-10	1.29E 09
8 13	2799	7.90E-03	1.47E-02	1.42E-06	4.28E-20	2.10E 10	7.00E-02	6.29E-11	3.09E 08
8 14	2901	6.21E-03	1.04E-02	1.00E-06	3.02E-20	2.10E 10	7.00E-02	4.44E-11	2.18E 08
8 15	3009	3.03E-02	4.55E-02	4.40E-06	1.32E-19	2.10E 10	7.00E-02	1.94E-10	9.56E 08
8 16	3123	1.01E-02	1.36E-02	1.32E-06	3.96E-20	2.10E 10	7.00E-02	5.81E-11	2.86E 08
8 17	3244	5.73E-03	6.86E-03	6.63E-07	1.99E-20	2.10E 10	7.00E-02	2.93E-11	1.44E 08
8 18	3371	3.28E-02	3.50E-02	3.38E-06	1.02E-19	2.10E 10	7.00E-02	1.50E-10	7.36E 08
8 19	3506	1.10E-02	1.04E-02	1.01E-06	3.03E-20	2.10E 10	7.00E-02	4.45E-11	2.19E 08
8 20	3649	6.91E-03	5.82E-03	5.62E-07	1.69E-20	2.10E 10	7.00E-02	2.49E-11	1.22E 08
8 21	3801	3.78E-02	2.81E-02	2.72E-06	8.18E-20	2.10E 10	7.00E-02	1.20E-10	5.91E 08

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
9 0	1831	1.73E-04	1.18E-03	2.04E-07	6.02E-21	2.36E 10	6.35E-02	9.02E-12	2.77E 07
9 1	1884	2.09E-03	1.30E-02	2.25E-06	6.66E-20	2.36E 10	6.35E-02	9.97E-11	3.07E 08
9 2	1940	1.07E-02	6.08E-02	1.05E-05	3.11E-19	2.36E 10	6.35E-02	4.66E-10	1.43E 09
9 3	1999	2.91E-02	1.52E-01	2.63E-05	7.77E-19	2.36E 10	6.35E-02	1.16E-09	3.58E 09
9 4	2060	4.34E-02	2.07E-01	3.58E-05	1.06E-18	2.36E 10	6.35E-02	1.59E-09	4.88E 09
9 5	2124	2.97E-02	1.29E-01	2.23E-05	6.60E-19	2.36E 10	6.35E-02	9.90E-10	3.04E 09
9 6	2191	2.83E-03	1.12E-02	1.94E-06	5.73E-20	2.36E 10	6.35E-02	8.59E-11	2.64E 08
9 7	2262	8.79E-03	3.17E-02	5.48E-06	1.62E-19	2.36E 10	6.35E-02	2.43E-10	7.47E 08
9 8	2335	2.93E-02	9.59E-02	1.66E-05	4.91E-19	2.36E 10	6.35E-02	7.36E-10	2.26E 09
9 9	2412	1.31E-02	3.90E-02	6.75E-06	2.00E-19	2.36E 10	6.35E-02	2.99E-10	9.20E 08
9 10	2494	1.40E-03	3.76E-03	6.52E-07	1.93E-20	2.36E 10	6.35E-02	2.89E-11	8.88E 07
9 11	2579	2.42E-02	5.88E-02	1.02E-05	3.01E-19	2.36E 10	6.35E-02	4.51E-10	1.39E 09
9 12	2669	1.65E-02	3.62E-02	6.26E-06	1.85E-19	2.36E 10	6.35E-02	2.78E-10	8.54E 08
9 13	2763	5.81E-04	1.15E-03	1.99E-07	5.87E-21	2.36E 10	6.35E-02	8.80E-12	2.71E 07
9 14	2863	2.38E-02	4.23E-02	7.32E-06	2.17E-19	2.36E 10	6.35E-02	3.24E-10	9.98E 08
9 15	2968	1.61E-02	2.56E-02	4.43E-06	1.31E-19	2.36E 10	6.35E-02	1.97E-10	6.05E 08
9 16	3079	1.29E-03	1.85E-03	3.20E-07	9.46E-21	2.36E 10	6.35E-02	1.42E-11	4.36E 07
9 17	3196	2.69E-02	3.44E-02	5.95E-06	1.76E-19	2.36E 10	6.35E-02	2.64E-10	8.11E 08
9 18	3319	1.34E-02	1.53E-02	2.64E-06	7.81E-20	2.36E 10	6.35E-02	1.17E-10	3.60E 08
9 19	3450	3.99E-03	4.05E-03	7.00E-07	2.07E-20	2.36E 10	6.35E-02	3.10E-11	9.55E 07
9 20	3588	3.18E-02	2.87E-02	4.97E-06	1.47E-19	2.36E 10	6.35E-02	2.20E-10	6.77E 08
9 21	3735	9.48E-03	7.58E-03	1.31E-06	3.88E-20	2.36E 10	6.35E-02	5.82E-11	1.79E 08
10 0	1816	2.89E-04	2.06E-03	5.95E-07	1.73E-20	2.36E 10	5.40E-02	2.21E-11	4.85E 07
10 1	1869	3.17E-03	2.07E-02	5.98E-06	1.74E-19	2.36E 10	5.40E-02	2.22E-10	4.88E 08
10 2	1924	1.44E-02	8.60E-02	2.49E-05	7.24E-19	2.36E 10	5.40E-02	9.23E-10	2.03E 09
10 3	1982	3.37E-02	1.84E-01	5.34E-05	1.55E-18	2.36E 10	5.40E-02	1.98E-09	4.35E 09
10 4	2042	4.00E-02	2.00E-01	5.79E-05	1.68E-18	2.36E 10	5.40E-02	2.15E-09	4.72E 09
10 5	2105	1.70E-02	7.77E-02	2.25E-05	6.54E-19	2.36E 10	5.40E-02	8.34E-10	1.83E 09
10 6	2171	9.68E-05	4.03E-04	1.17E-07	3.40E-21	2.36E 10	5.40E-02	4.33E-12	9.52E 06
10 7	2240	1.90E-02	7.22E-02	2.09E-05	6.08E-19	2.36E 10	5.40E-02	7.74E-10	1.70E 09
10 8	2312	2.43E-02	8.38E-02	2.43E-05	7.06E-19	2.36E 10	5.40E-02	9.00E-10	1.98E 09
10 9	2388	1.73E-03	5.43E-03	1.57E-06	4.57E-20	2.36E 10	5.40E-02	5.83E-11	1.28E 08
10 10	2467	1.19E-02	3.38E-02	9.79E-06	2.85E-19	2.36E 10	5.40E-02	3.63E-10	7.98E 08
10 11	2551	2.39E-02	6.12E-02	1.77E-05	5.16E-19	2.36E 10	5.40E-02	6.57E-10	1.45E 09
10 12	2639	1.97E-03	4.57E-03	1.32E-06	3.85E-20	2.36E 10	5.40E-02	4.90E-11	1.08E 08
10 13	2731	1.27E-02	2.66E-02	7.69E-06	2.24E-19	2.36E 10	5.40E-02	2.85E-10	6.28E 08
10 14	2828	2.25E-02	4.23E-02	1.22E-05	3.56E-19	2.36E 10	5.40E-02	4.54E-10	9.98E 08
10 15	2930	4.55E-04	7.70E-04	2.23E-07	6.48E-21	2.36E 10	5.40E-02	8.26E-12	1.82E 07
10 16	3038	1.80E-02	2.73E-02	7.89E-06	2.30E-19	2.36E 10	5.40E-02	2.93E-10	6.43E 08
10 17	3152	1.90E-02	2.59E-02	7.48E-06	2.18E-19	2.36E 10	5.40E-02	2.77E-10	6.10E 08
10 18	3273	4.16E-04	5.05E-04	1.46E-07	4.26E-21	2.36E 10	5.40E-02	5.42E-12	1.19E 07
10 19	3400	2.54E-02	2.76E-02	7.98E-06	2.32E-19	2.36E 10	5.40E-02	2.96E-10	6.51E 08
10 20	3534	1.24E-02	1.20E-02	3.47E-06	1.01E-19	2.36E 10	5.40E-02	1.29E-10	2.83E 08
10 21	3676	5.50E-03	4.72E-03	1.36E-06	3.97E-20	2.36E 10	5.40E-02	5.06E-11	1.11E 08

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC	
11	0	1804	4.55E-04	3.33E-03	1.52E-06	4.35E-20	1.87E 10	4.75E-02	3.87E-11	6.23E 07
11	1	1856	4.54E-03	3.05E-02	1.39E-05	3.98E-19	1.87E 10	4.75E-02	3.54E-10	5.70E 08
11	2	1910	1.83E-02	1.13E-01	5.13E-05	1.47E-18	1.87E 10	4.75E-02	1.31E-09	2.11E 09
11	3	1967	3.64E-02	2.06E-01	9.36E-05	2.69E-18	1.87E 10	4.75E-02	2.39E-09	3.85E 09
11	4	2026	3.33E-02	1.72E-01	7.82E-05	2.24E-18	1.87E 10	4.75E-02	1.99E-09	3.21E 09
11	5	2088	6.90E-03	3.25E-02	1.48E-05	4.25E-19	1.87E 10	4.75E-02	3.78E-10	6.09E 08
11	6	2153	4.15E-03	1.79E-02	8.13E-06	2.33E-19	1.87E 10	4.75E-02	2.07E-10	3.34E 08
11	7	2220	2.48E-02	9.73E-02	4.43E-05	1.27E-18	1.87E 10	4.75E-02	1.13E-09	1.82E 09
11	8	2291	1.53E-02	4.76E-02	2.17E-05	6.22E-19	1.87E 10	4.75E-02	5.52E-10	8.90E 08
11	9	2366	9.76E-04	3.16E-03	1.44E-06	4.13E-20	1.87E 10	4.75E-02	3.67E-11	5.92E 07
11	10	2444	2.12E-02	6.24E-02	2.84E-05	8.16E-19	1.87E 10	4.75E-02	7.25E-10	1.17E 09
11	11	2526	1.21E-02	3.22E-02	1.46E-05	4.20E-19	1.87E 10	4.75E-02	3.74E-10	6.02E 08
11	12	2612	1.90E-03	4.59E-03	2.09E-06	6.00E-20	1.87E 10	4.75E-02	5.33E-11	8.58E 07
11	13	2702	2.23E-02	4.86E-02	2.21E-05	6.34E-19	1.87E 10	4.75E-02	5.63E-10	9.08E 08
11	14	2797	7.21E-03	1.41E-02	6.44E-06	1.85E-19	1.87E 10	4.75E-02	1.64E-10	2.64E 08
11	15	2897	6.46E-03	1.14E-02	5.19E-06	1.49E-19	1.87E 10	4.75E-02	1.32E-10	2.13E 08
11	16	3003	2.30E-02	3.65E-02	1.66E-05	4.77E-19	1.87E 10	4.75E-02	4.24E-10	6.83E 08
11	17	3114	1.47E-03	2.10E-03	9.55E-07	2.74E-20	1.87E 10	4.75E-02	2.43E-11	3.92E 07
11	18	3231	1.58E-02	2.02E-02	9.18E-06	2.63E-19	1.87E 10	4.75E-02	2.34E-10	3.77E 08
11	19	3355	1.84E-02	2.09E-02	9.51E-06	2.73E-19	1.87E 10	4.75E-02	2.43E-10	3.91E 08
11	20	3486	7.99E-04	8.11E-04	3.69E-07	1.06E-20	1.87E 10	4.75E-02	9.40E-12	1.52E 07
11	21	3624	2.62E-02	2.36E-02	1.08E-05	3.09E-19	1.87E 10	4.75E-02	2.74E-10	4.42E 08
12	0	1793	6.79E-04	5.19E-03	3.52E-06	9.99E-20	1.54E 10	4.16E-02	6.40E-11	7.99E 07
12	1	1844	6.16E-03	4.32E-02	2.93E-05	8.32E-19	1.54E 10	4.16E-02	5.33E-10	6.65E 08
12	2	1898	2.20E-02	1.42E-01	9.62E-05	2.73E-18	1.54E 10	4.16E-02	1.75E-09	2.18E 09
12	3	1954	3.69E-02	2.18E-01	1.48E-04	4.20E-18	1.54E 10	4.16E-02	2.69E-09	3.36E 09
12	4	2012	2.48E-02	1.34E-01	9.09E-05	2.98E-18	1.54E 10	4.16E-02	1.65E-09	2.06E 09
12	5	2073	1.20E-03	5.92E-03	4.02E-06	1.14E-19	1.54E 10	4.16E-02	7.30E-11	9.12E 07
12	6	2137	1.13E-02	5.08E-02	3.45E-05	9.77E-19	1.54E 10	4.16E-02	6.26E-10	7.82E 08
12	7	2204	2.37E-02	9.76E-02	6.63E-05	1.88E-18	1.54E 10	4.16E-02	1.20E-09	1.50E 09
12	8	2273	3.73E-03	1.40E-02	9.49E-06	2.69E-19	1.54E 10	4.16E-02	1.72E-10	2.19E 08
12	9	2347	8.04E-03	2.74E-02	1.86E-05	5.27E-19	1.54E 10	4.16E-02	3.58E-10	4.21E 08
12	10	2423	2.11E-02	6.53E-02	4.44E-05	1.26E-18	1.54E 10	4.16E-02	8.06E-10	1.01E 09
12	11	2504	1.80E-03	5.06E-03	3.43E-06	9.74E-20	1.54E 10	4.16E-02	6.24E-11	7.79E 07
12	12	2588	1.18E-02	2.98E-02	2.02E-05	5.74E-19	1.54E 10	4.16E-02	3.68E-10	4.59E 08
12	13	2677	1.76E-02	4.03E-02	2.74E-05	7.76E-19	1.54E 10	4.16E-02	4.97E-10	6.21E 08
12	14	2771	1.06E-05	2.20E-05	1.49E-08	4.23E-22	1.54E 10	4.16E-02	2.71E-13	3.38E 05
12	15	2869	1.87E-02	3.48E-02	2.36E-05	6.70E-19	1.54E 10	4.16E-02	4.29E-10	5.36E 08
12	16	2972	9.78E-03	1.64E-02	1.11E-05	3.16E-19	1.54E 10	4.16E-02	2.02E-10	2.52E 08
12	17	3081	4.56E-03	6.85E-03	4.65E-06	1.32E-19	1.54E 10	4.16E-02	8.45E-11	1.06E 08
12	18	3196	2.22E-02	2.99E-02	2.03E-05	5.76E-19	1.54E 10	4.16E-02	3.68E-10	4.61E 08
12	19	3317	1.14E-03	1.37E-03	9.33E-07	2.64E-20	1.54E 10	4.16E-02	1.69E-11	2.11E 07
12	20	3444	1.71E-02	1.84E-02	1.25E-05	3.55E-19	1.54E 10	4.16E-02	2.27E-10	2.64E 08
12	21	3579	1.49E-02	1.43E-02	9.73E-06	2.76E-19	1.54E 10	4.16E-02	1.77E-10	2.21E 08

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
13 0	1783	9.68E-04	7.77E-03	7.52E-06	2.11E-19	1.49E 10	3.29E-02	1.03E-10	1.16E 08
13 1	1834	7.98E-03	5.89E-02	5.70E-05	1.60E-18	1.49E 10	3.29E-02	7.84E-10	8.78E 08
13 2	1887	2.52E-02	1.71E-01	1.65E-04	4.64E-18	1.49E 10	3.29E-02	2.27E-09	2.55E 09
13 3	1942	3.53E-02	2.19E-01	2.12E-04	5.95E-18	1.49E 10	3.29E-02	2.92E-09	3.27E 09
13 4	2000	1.62E-02	9.20E-02	8.90E-05	2.50E-18	1.49E 10	3.29E-02	1.22E-09	1.37E 09
13 5	2060	1.21E-04	6.28E-04	6.08E-07	1.70E-20	1.49E 10	3.29E-02	8.35E-12	9.36E 06
13 6	2123	1.76E-02	8.39E-02	8.12E-05	2.28E-18	1.49E 10	3.29E-02	1.12E-09	1.25E 09
13 7	2189	1.75E-02	7.60E-02	7.35E-05	2.06E-18	1.49E 10	3.29E-02	1.01E-09	1.13E 09
13 8	2258	1.48E-05	5.85E-05	5.66E-08	1.59E-21	1.49E 10	3.29E-02	7.78E-13	8.72E 05
13 9	2330	1.58E-02	5.69E-02	5.51E-05	1.54E-18	1.49E 10	3.29E-02	7.57E-10	8.48E 08
13 10	2406	1.34E-02	4.38E-02	4.24E-05	1.19E-18	1.49E 10	3.29E-02	5.82E-10	6.52E 08
13 11	2485	7.27E-04	2.16E-03	2.09E-06	5.85E-20	1.49E 10	3.29E-02	2.87E-11	3.21E 07
13 12	2568	1.88E-02	5.05E-02	4.88E-05	1.37E-18	1.49E 10	3.29E-02	6.72E-10	7.52E 08
13 13	2656	6.18E-03	1.50E-02	1.45E-05	4.07E-19	1.49E 10	3.29E-02	2.00E-10	2.24E 08
13 14	2748	6.37E-03	1.40E-02	1.35E-05	3.79E-19	1.49E 10	3.29E-02	1.86E-10	2.08E 08
13 15	2844	1.85E-02	3.67E-02	3.55E-05	9.96E-19	1.49E 10	3.29E-02	4.88E-10	5.47E 08
13 16	2946	1.57E-04	2.80E-04	2.71E-07	7.60E-21	1.49E 10	3.29E-02	3.73E-12	4.17E 06
13 17	3053	1.70E-02	2.72E-02	2.63E-05	7.37E-19	1.49E 10	3.29E-02	3.61E-10	4.05E 08
13 18	3165	9.35E-03	1.34E-02	1.30E-05	3.64E-19	1.49E 10	3.29E-02	1.79E-10	2.00E 08
13 19	3284	5.33E-03	6.86E-03	6.63E-06	1.86E-19	1.49E 10	3.29E-02	9.12E-11	1.02E 08
13 20	3409	2.08E-02	2.38E-02	2.31E-05	6.47E-19	1.49E 10	3.29E-02	3.17E-10	3.55E 08
13 21	3541	1.11E-04	1.14E-04	1.11E-07	3.10E-21	1.49E 10	3.29E-02	1.52E-12	1.70E 06
14 0	1775	1.32E-03	1.11E-02	1.46E-05	4.07E-19	1.35E 10	2.45E-02	1.35E-10	1.49E 08
14 1	1825	9.93E-03	7.64E-02	1.01E-04	2.81E-18	1.35E 10	2.45E-02	9.29E-10	1.03E 09
14 2	1878	2.77E-02	1.95E-01	2.59E-04	7.19E-18	1.35E 10	2.45E-02	2.38E-09	2.64E 09
14 3	1933	3.18E-02	2.06E-01	2.72E-04	7.57E-18	1.35E 10	2.45E-02	2.50E-09	2.78E 09
14 4	1990	8.81E-03	5.23E-02	6.92E-05	1.92E-18	1.35E 10	2.45E-02	6.36E-10	7.06E 08
14 5	2049	2.59E-03	1.41E-02	1.86E-05	5.17E-19	1.35E 10	2.45E-02	1.71E-10	1.90E 08
14 6	2112	2.09E-02	1.04E-01	1.37E-04	3.82E-18	1.35E 10	2.45E-02	1.26E-09	1.40E 09
14 7	2177	9.60E-03	4.35E-02	5.76E-05	1.60E-18	1.35E 10	2.45E-02	5.29E-10	5.88E 08
14 8	2245	2.26E-03	9.34E-03	1.24E-05	3.43E-19	1.35E 10	2.45E-02	1.14E-10	1.26E 08
14 9	2316	1.90E-02	7.14E-02	9.45E-05	2.63E-18	1.35E 10	2.45E-02	8.69E-10	9.65E 08
14 10	2391	4.63E-03	1.58E-02	2.09E-05	5.82E-19	1.35E 10	2.45E-02	1.93E-10	2.14E 08
14 11	2470	6.86E-03	2.13E-02	2.82E-05	7.83E-19	1.35E 10	2.45E-02	2.59E-10	2.88E 08
14 12	2552	1.68E-02	4.74E-02	6.27E-05	1.74E-18	1.35E 10	2.45E-02	5.77E-10	6.40E 08
14 13	2638	9.83E-05	2.50E-04	3.31E-07	9.21E-21	1.35E 10	2.45E-02	3.05E-12	3.38E 06
14 14	2729	1.53E-02	3.52E-02	4.66E-05	1.29E-18	1.35E 10	2.45E-02	4.28E-10	4.75E 08
14 15	2824	8.27E-03	1.72E-02	2.27E-05	6.32E-19	1.35E 10	2.45E-02	2.09E-10	2.32E 08
14 16	2924	4.62E-03	8.65E-03	1.14E-05	3.18E-19	1.35E 10	2.45E-02	1.05E-10	1.17E 08
14 17	3029	1.78E-02	3.00E-02	3.97E-05	1.10E-18	1.35E 10	2.45E-02	3.65E-10	4.05E 08
14 18	3140	7.58E-05	1.14E-04	1.51E-07	4.21E-21	1.35E 10	2.45E-02	1.39E-12	1.55E 06
14 19	3257	1.74E-02	2.35E-02	3.11E-05	8.64E-19	1.35E 10	2.45E-02	2.86E-10	3.17E 08
14 20	3380	6.57E-03	7.96E-03	1.05E-05	2.93E-19	1.35E 10	2.45E-02	9.68E-11	1.08E 08
14 21	3509	8.58E-03	9.29E-03	1.23E-05	3.41E-19	1.35E 10	2.45E-02	1.13E-10	1.25E 08

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
15 0	1768	1.74E-03	1.50E-02	2.62E-05	7.23E-19	1.18E 10	1.87E-02	1.59E-10	1.77E 08
15 1	1818	1.19E-02	9.45E-02	1.65E-04	4.55E-18	1.18E 10	1.87E-02	1.00E-09	1.11E 09
15 2	1846	2.92E-02	2.21E-01	3.85E-04	1.06E-17	1.18E 10	1.87E-02	2.35E-09	2.61E 09
15 3	1925	2.70E-02	1.80E-01	3.14E-04	8.68E-18	1.18E 10	1.87E-02	1.91E-09	2.13E 09
15 4	1981	3.56E-03	2.18E-02	3.80E-05	1.05E-18	1.18E 10	1.87E-02	2.32E-10	2.57E 08
15 5	2041	6.90E-03	3.87E-02	6.75E-05	1.86E-18	1.18E 10	1.87E-02	4.11E-10	4.57E 08
15 6	2102	2.04E-02	1.05E-01	1.82E-04	5.03E-18	1.18E 10	1.87E-02	1.11E-09	1.23E 09
15 7	2167	3.28E-03	1.53E-02	2.68E-05	7.38E-19	1.18E 10	1.87E-02	1.63E-10	1.81E 08
15 8	2235	7.63E-03	3.26E-02	5.68E-05	1.57E-18	1.18E 10	1.87E-02	3.46E-10	3.84E 08
15 9	2305	1.65E-02	6.41E-02	1.12E-04	3.08E-18	1.18E 10	1.87E-02	6.81E-10	7.57E 08
15 10	2379	2.03E-04	7.20E-04	1.25E-06	3.46E-20	1.18E 10	1.87E-02	7.64E-12	8.49E 06
15 11	2457	1.36E-02	4.36E-02	7.61E-05	2.10E-18	1.18E 10	1.87E-02	4.63E-10	5.15E 08
15 12	2538	9.11E-03	2.65E-02	4.63E-05	1.28E-18	1.18E 10	1.87E-02	2.82E-10	3.13E 08
15 13	2624	2.84E-03	7.49E-03	1.31E-05	3.60E-19	1.18E 10	1.87E-02	7.95E-11	8.83E 07
15 14	2713	1.67E-02	3.99E-02	6.96E-05	1.92E-18	1.18E 10	1.87E-02	4.24E-10	4.71E 08
15 15	2807	5.83E-04	1.26E-03	2.19E-06	6.04E-20	1.18E 10	1.87E-02	1.53E-11	1.48E 07
15 16	2906	1.37E-02	2.65E-02	4.62E-05	1.28E-18	1.18E 10	1.87E-02	2.81E-10	3.13E 08
15 17	3010	7.90E-03	1.38E-02	2.41E-05	6.64E-19	1.18E 10	1.87E-02	1.46E-10	1.63E 08
15 18	3120	5.18E-03	8.13E-03	1.42E-05	3.91E-19	1.18E 10	1.87E-02	8.63E-11	9.60E 07
15 19	3235	1.62E-02	2.28E-02	3.98E-05	1.10E-18	1.18E 10	1.87E-02	2.42E-10	2.69E 08
15 20	3356	1.32E-04	1.66E-04	2.90E-07	7.99E-21	1.18E 10	1.87E-02	1.76E-12	1.96E 06
15 21	3484	1.86E-02	2.09E-02	3.65E-05	1.01E-18	1.18E 10	1.87E-02	2.22E-10	2.47E 08
16 0	1763	2.22E-03	2.03E-02	4.51E-05	1.24E-18	1.10E 10	1.43E-02	1.94E-10	2.23E 08
16 1	1813	1.39E-02	1.16E-01	2.58E-04	7.08E-18	1.10E 10	1.43E-02	1.11E-09	1.28E 09
16 2	1865	2.97E-02	2.29E-01	5.10E-04	1.40E-17	1.10E 10	1.43E-02	2.20E-09	2.52E 09
16 3	1919	2.16E-02	1.53E-01	3.40E-04	9.32E-18	1.10E 10	1.43E-02	1.47E-09	1.68E 09
16 4	1975	7.01E-04	4.55E-03	1.01E-05	2.77E-19	1.10E 10	1.43E-02	4.36E-11	5.00E 07
16 5	2034	1.14E-02	6.77E-02	1.50E-04	4.13E-18	1.10E 10	1.43E-02	6.49E-10	7.44E 08
16 6	2095	1.69E-02	9.20E-02	2.05E-04	5.61E-18	1.10E 10	1.43E-02	8.82E-10	1.01E 09
16 7	2159	2.40E-04	1.19E-03	2.65E-06	7.26E-20	1.10E 10	1.43E-02	1.14E-11	1.31E 07
16 8	2226	1.27E-02	5.77E-02	1.28E-04	3.52E-18	1.10E 10	1.43E-02	5.53E-10	6.35E 08
16 9	2296	1.06E-02	4.38E-02	9.74E-05	2.67E-18	1.10E 10	1.43E-02	4.20E-10	4.82E 08
16 10	2370	1.27E-03	4.78E-03	1.06E-05	2.92E-19	1.10E 10	1.43E-02	4.59E-11	5.26E 07
16 11	2447	1.60E-02	5.44E-02	1.21E-04	3.32E-18	1.10E 10	1.43E-02	5.22E-10	5.99E 08
16 12	2527	2.15E-03	6.68E-03	1.48E-05	4.06E-19	1.10E 10	1.43E-02	6.39E-11	7.32E 07
16 13	2612	9.55E-03	2.68E-02	5.95E-05	1.63E-18	1.10E 10	1.43E-02	2.57E-10	2.94E 08
16 14	2701	1.07E-02	2.70E-02	6.01E-05	1.65E-18	1.10E 10	1.43E-02	2.59E-10	2.97E 08
16 15	2794	1.71E-03	3.91E-03	8.69E-06	2.38E-19	1.10E 10	1.43E-02	3.75E-11	4.30E 07
16 16	2892	1.59E-02	3.27E-02	7.28E-05	2.00E-18	1.10E 10	1.43E-02	3.14E-10	3.60E 08
16 17	2995	4.45E-04	8.27E-04	1.84E-06	5.05E-20	1.10E 10	1.43E-02	7.94E-12	9.10E 06
16 18	3103	1.39E-02	2.32E-02	5.17E-05	1.42E-18	1.10E 10	1.43E-02	2.23E-10	2.56E 08
16 19	3217	5.65E-03	8.47E-03	1.88E-05	5.17E-19	1.10E 10	1.43E-02	8.13E-11	9.32E 07
16 20	3337	7.73E-03	1.04E-02	2.31E-05	6.33E-19	1.10E 10	1.43E-02	9.96E-11	1.14E 08
16 21	3464	1.29E-02	1.55E-02	3.46E-05	9.48E-19	1.10E 10	1.43E-02	1.49E-10	1.71E 08

V-V	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F- NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
17 0	1759	2.75E-03	2.65E-02	7.29E-05	1.99E-18	1.10E 10	1.06E-02	2.32E-10	2.91E 08
17 1	1808	1.56E-02	1.38E-01	3.81E-04	1.04E-17	1.10E 10	1.06E-02	1.21E-09	1.52E 09
17 2	1860	2.93E-02	2.38E-01	6.57E-04	1.79E-17	1.10E 10	1.06E-02	2.09E-09	2.62E 09
17 3	1914	1.62E-02	1.21E-01	3.34E-04	9.11E-18	1.10E 10	1.06E-02	1.06E-09	1.33E 09
17 4	1970	1.85E-05	1.27E-04	3.50E-07	9.54E-21	1.10E 10	1.06E-02	1.11E-12	1.40E 06
17 5	2028	1.48E-02	9.31E-02	2.56E-04	7.00E-18	1.10E 10	1.06E-02	8.16E-10	1.02E 09
17 6	2089	1.20E-02	6.88E-02	1.89E-04	5.17E-18	1.10E 10	1.06E-02	6.03E-10	7.56E 08
17 7	2153	5.34E-04	2.80E-03	7.70E-06	2.10E-19	1.10E 10	1.06E-02	2.45E-11	3.08E 07
17 8	2220	1.54E-02	7.35E-02	2.02E-04	5.53E-18	1.10E 10	1.06E-02	6.44E-10	8.08E 08
17 9	2289	4.64E-03	2.02E-02	5.56E-05	1.52E-18	1.10E 10	1.06E-02	1.77E-10	2.22E 08
17 10	2362	5.66E-03	2.24E-02	6.18E-05	1.69E-18	1.10E 10	1.06E-02	1.97E-10	2.47E 08
17 11	2439	1.33E-02	4.80E-02	1.32E-04	3.61E-18	1.10E 10	1.06E-02	4.21E-10	5.28E 08
17 12	2519	2.81E-05	9.18E-05	2.53E-07	6.90E-21	1.10E 10	1.06E-02	8.05E-13	1.01E 06
17 13	2603	1.39E-02	4.13E-02	1.14E-04	3.11E-18	1.10E 10	1.06E-02	3.62E-10	4.54E 08
17 14	2691	3.31E-03	8.96E-03	2.47E-05	6.74E-19	1.10E 10	1.06E-02	7.86E-11	9.86E 07
17 15	2784	7.99E-03	1.94E-02	5.34E-05	1.46E-18	1.10E 10	1.06E-02	1.70E-10	2.13E 08
17 16	2881	1.02E-02	2.23E-02	6.14E-05	1.68E-18	1.10E 10	1.06E-02	1.95E-10	2.45E 08
17 17	2983	2.00E-03	3.95E-03	1.09E-05	2.97E-19	1.10E 10	1.06E-02	3.46E-11	4.34E 07
17 18	3091	1.48E-02	2.62E-02	7.22E-05	1.97E-18	1.10E 10	1.06E-02	2.30E-10	2.88E 08
17 19	3204	1.43E-05	2.28E-05	6.27E-08	1.71E-21	1.10E 10	1.06E-02	2.00E-13	2.51E 05
17 20	3323	1.51E-02	2.15E-02	5.92E-05	1.61E-18	1.10E 10	1.06E-02	1.88E-10	2.36E 08
17 21	3448	2.36E-03	3.02E-03	8.31E-06	2.27E-19	1.10E 10	1.06E-02	2.64E-11	3.32E 07
18 0	1756	3.32E-03	3.36E-02	1.11E-04	3.03E-18	1.10E 10	8.00E-03	2.67E-10	3.69E 08
18 1	1805	1.72E-02	1.60E-01	5.31E-04	1.45E-17	1.10E 10	8.00E-03	1.27E-09	1.76E 09
18 2	1856	2.81E-02	2.40E-01	7.97E-04	2.17E-17	1.10E 10	8.00E-03	1.91E-09	2.64E 09
18 3	1910	1.13E-02	8.88E-02	2.95E-04	8.02E-18	1.10E 10	8.00E-03	7.05E-10	9.76E 08
18 4	1966	1.00E-03	7.21E-03	2.39E-05	6.51E-19	1.10E 10	8.00E-03	5.73E-11	7.93E 07
18 5	2024	1.66E-02	1.10E-01	3.64E-04	9.90E-18	1.10E 10	8.00E-03	8.71E-10	1.21E 09
18 6	2085	7.02E-03	4.24E-02	1.41E-04	3.83E-18	1.10E 10	8.00E-03	3.37E-10	4.67E 08
18 7	2148	3.10E-03	1.71E-02	5.68E-05	1.54E-18	1.10E 10	8.00E-03	1.36E-10	1.88E 08
18 8	2215	1.49E-02	7.51E-02	2.49E-04	6.79E-18	1.10E 10	8.00E-03	5.97E-10	8.27E 08
18 9	2284	6.70E-04	3.99E-03	1.33E-05	3.61E-19	1.10E 10	8.00E-03	3.17E-11	4.39E 07
18 10	2357	1.02E-02	4.26E-02	1.42E-04	3.85E-18	1.10E 10	8.00E-03	3.39E-10	4.69E 08
18 11	2433	7.96E-03	3.03E-02	1.01E-04	2.73E-18	1.10E 10	8.00E-03	2.41E-10	3.33E 08
18 12	2513	2.54E-03	8.75E-03	2.91E-05	7.90E-19	1.10E 10	8.00E-03	6.95E-11	9.63E 07
18 13	2596	1.33E-02	4.15E-02	1.38E-04	3.75E-18	1.10E 10	8.00E-03	3.30E-10	4.57E 08
18 14	2684	3.87E-05	1.10E-04	3.64E-07	9.89E-21	1.10E 10	8.00E-03	8.70E-13	1.20E 06
18 15	2776	1.27E-02	3.26E-02	1.08E-04	2.94E-18	1.10E 10	8.00E-03	2.59E-10	3.58E 08
18 16	2873	3.04E-03	7.03E-03	2.33E-05	6.35E-19	1.10E 10	8.00E-03	5.59E-11	7.73E 07
18 17	2974	8.36E-03	1.74E-02	5.78E-05	1.57E-18	1.10E 10	8.00E-03	1.38E-10	1.91E 08
18 18	3081	8.27E-03	1.55E-02	5.14E-05	1.40E-18	1.10E 10	8.00E-03	1.23E-10	1.70E 08
18 19	3193	3.63E-03	6.10E-03	2.02E-05	5.51E-19	1.10E 10	8.00E-03	4.85E-11	6.71E 07
18 20	3311	1.28E-02	1.93E-02	6.39E-05	1.74E-18	1.10E 10	8.00E-03	1.53E-10	2.12E 08
18 21	3436	6.64E-04	8.96E-04	2.98E-06	8.09E-20	1.10E 10	8.00E-03	7.12E-12	9.86E 06

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	C PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
19 0	1753	3.91E-03	4.16E-02	1.63E-04	4.41E-18	1.00E 10	7.00E-03	3.09E-10	4.16E 08
19 1	1803	1.85E-02	1.81E-01	7.07E-04	1.92E-17	1.00E 10	7.00E-03	1.34E-09	1.81E 09
19 2	1854	2.61E-02	2.35E-01	9.20E-04	2.49E-17	1.00E 10	7.00E-03	1.75E-09	2.35E 09
19 3	1907	7.17E-03	5.94E-02	2.32E-04	6.29E-18	1.00E 10	7.00E-03	4.41E-10	5.94E 08
19 4	1963	3.01E-03	2.28E-02	8.93E-05	2.42E-18	1.00E 10	7.00E-03	1.70E-10	2.28E 08
19 5	2021	1.66E-02	1.16E-01	4.51E-04	1.22E-17	1.00E 10	7.00E-03	8.57E-10	1.16E 09
19 6	2082	3.12E-03	1.99E-02	7.76E-05	2.10E-18	1.00E 10	7.00E-03	1.47E-10	1.99E 08
19 7	2145	6.50E-03	3.78E-02	1.48E-04	4.01E-18	1.00E 10	7.00E-03	2.81E-10	3.78E 08
19 8	2211	1.21E-02	6.43E-02	2.51E-04	6.81E-18	1.00E 10	7.00E-03	4.77E-10	6.43E 08
19 9	2280	6.05E-03	2.93E-04	1.14E-06	3.11E-20	1.00E 10	7.00E-03	2.17E-12	2.93E 06
19 10	2353	1.26E-02	5.57E-02	2.18E-04	5.91E-18	1.00E 10	7.00E-03	4.14E-10	5.57E 08
19 11	2428	2.99E-03	1.20E-02	4.68E-05	1.27E-18	1.00E 10	7.00E-03	8.89E-11	1.20E 08
19 12	2508	6.92E-03	2.52E-02	9.84E-05	2.67E-18	1.00E 10	7.00E-03	1.87E-10	2.52E 08
19 13	2591	8.93E-03	2.95E-02	1.15E-04	3.12E-18	1.00E 10	7.00E-03	2.19E-10	2.95E 08
19 14	2670	1.65E-03	4.92E-03	1.92E-05	5.21E-19	1.00E 10	7.00E-03	3.65E-11	4.92E 07
19 15	2770	1.25E-02	3.38E-02	1.32E-04	3.58E-18	1.00E 10	7.00E-03	2.50E-10	3.38E 08
19 16	2866	9.40E-06	2.29E-05	8.96E-08	2.43E-21	1.00E 10	7.00E-03	1.70E-13	2.29E 05
19 17	2967	1.25E-02	2.74E-02	1.07E-04	2.90E-18	1.00E 10	7.00E-03	2.03E-10	2.74E 08
19 18	3074	1.70E-03	3.35E-03	1.31E-05	3.55E-19	1.00E 10	7.00E-03	2.49E-11	3.35E 07
19 19	3186	1.01E-02	1.79E-02	6.98E-05	1.89E-18	1.00E 10	7.00E-03	1.33E-10	1.79E 08
19 20	4932	5.10E-03	2.44E-03	9.53E-06	2.59E-19	1.00E 10	7.00E-03	1.81E-11	2.44E 07
19 21	3427	6.88E-03	9.81E-03	3.83E-05	1.04E-18	1.00E 10	7.00E-03	7.28E-11	9.81E 07
20 0	1752	4.50E-03	4.99E-02	2.25E-04	6.08E-18	1.00E 10	6.00E-03	3.65E-10	4.99E 08
20 1	1801	1.94E-02	1.99E-01	8.93E-04	2.42E-17	1.00E 10	6.00E-03	1.45E-09	1.99E 09
20 2	1852	2.37E-02	2.22E-01	1.00E-03	2.71E-17	1.00E 10	6.00E-03	1.63E-09	2.22E 09
20 3	1905	4.01E-03	3.46E-02	1.56E-04	4.22E-18	1.00E 10	6.00E-03	2.53E-10	3.46E 08
20 4	1961	5.43E-03	4.30E-02	1.93E-04	5.23E-18	1.00E 10	6.00E-03	3.14E-10	4.30E 08
20 5	2019	1.52E-02	1.10E-01	4.94E-04	1.34E-17	1.00E 10	6.00E-03	8.03E-10	1.10E 09
20 6	2079	7.75E-04	5.14E-03	2.31E-05	6.26E-19	1.00E 10	6.00E-03	3.76E-11	5.14E 07
20 7	2142	9.50E-03	5.77E-02	2.59E-04	7.02E-18	1.00E 10	6.00E-03	4.21E-10	5.77E 08
20 8	2208	8.22E-03	4.55E-02	2.05E-04	5.54E-18	1.00E 10	6.00E-03	3.33E-10	4.55E 08
20 9	2277	1.62E-03	8.17E-03	3.68E-05	9.95E-19	1.00E 10	6.00E-03	5.97E-11	8.17E 07
20 10	2350	1.24E-02	5.68E-02	2.56E-04	6.92E-18	1.00E 10	6.00E-03	4.15E-10	5.68E 08
20 11	2425	3.12E-04	1.30E-03	5.87E-06	1.59E-19	1.00E 10	6.00E-03	9.53E-12	1.30E 07
20 12	2505	1.03E-02	3.92E-02	1.76E-04	4.78E-18	1.00E 10	6.00E-03	2.87E-10	3.92E 08
20 13	2588	3.92E-03	1.35E-02	6.08E-05	1.65E-18	1.00E 10	6.00E-03	9.88E-11	1.35E 08
20 14	2675	5.72E-03	1.78E-02	8.02E-05	2.17E-18	1.00E 10	6.00E-03	1.30E-10	1.78E 08
20 15	2766	8.40E-03	2.37E-02	1.06E-04	2.88E-18	1.00E 10	6.00E-03	1.73E-10	2.37E 08
20 16	2862	1.90E-03	4.83E-03	2.17E-05	5.89E-19	1.00E 10	6.00E-03	3.53E-11	4.83E 07
20 17	2963	1.14E-02	2.61E-02	1.17E-04	3.18E-18	1.00E 10	6.00E-03	1.91E-10	2.61E 08
20 18	3069	1.42E-04	2.92E-04	1.32E-06	3.56E-20	1.00E 10	6.00E-03	2.14E-12	2.92E 06
20 19	3180	1.24E-02	2.30E-02	1.03E-04	2.80E-18	1.00E 10	6.00E-03	1.68E-10	2.30E 08
20 20	3297	2.60E-04	4.33E-04	1.95E-06	5.27E-20	1.00E 10	6.00E-03	3.16E-12	4.33E 06
20 21	3421	1.20E-02	1.80E-02	8.08E-05	2.19E-18	1.00E 10	6.00E-03	1.31E-10	1.80E 08

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	F-NUM	G PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
21 0	1751	5.07E-03	5.94E-02	3.01E-04	8.15E-18	1.00E 10	5.00E-03	4.07E-10	5.94E 08
21 1	1800	2.00E-02	2.16E-01	1.10E-03	2.96E-17	1.00E 10	5.00E-03	1.48E-09	2.16E 09
21 2	1851	2.09E-02	2.08E-01	1.05E-03	2.85E-17	1.00E 10	5.00E-03	1.42E-09	2.08E 09
21 3	1904	1.84E-03	1.67E-02	8.48E-05	2.29E-18	1.00E 10	5.00E-03	1.15E-10	1.67E 08
21 4	1960	7.76E-03	6.47E-02	3.28E-04	8.88E-18	1.00E 10	5.00E-03	4.44E-10	6.47E 08
21 5	2017	1.27E-02	9.75E-02	4.95E-04	1.34E-17	1.00E 10	5.00E-03	6.69E-10	9.75E 08
21 6	2078	2.27E-06	1.59E-05	8.05E-08	2.18E-21	1.00E 10	5.00E-03	1.09E-13	1.59E 05
21 7	2141	1.14E-02	7.27E-02	3.69E-04	9.98E-18	1.00E 10	5.00E-03	4.99E-10	7.27E 08
21 8	2207	4.50E-03	2.63E-02	1.33E-04	3.61E-18	1.00E 10	5.00E-03	1.80E-10	2.63E 08
21 9	2276	4.32E-03	2.30E-02	1.17E-04	3.16E-18	1.00E 10	5.00E-03	1.58E-10	2.30E 08
21 10	2348	9.95E-03	4.83E-02	2.45E-04	6.63E-18	1.00E 10	5.00E-03	3.31E-10	4.83E 08
21 11	2423	2.88E-04	1.27E-03	6.46E-06	1.75E-19	1.00E 10	5.00E-03	8.73E-12	1.27E 07
21 12	2502	1.13E-02	4.52E-02	2.29E-04	6.20E-18	1.00E 10	5.00E-03	3.10E-10	4.52E 08
21 13	2585	6.98E-04	2.54E-03	1.29E-05	3.48E-19	1.00E 10	5.00E-03	1.74E-11	2.54E 07
21 14	2672	9.21E-03	3.03E-02	1.54E-04	4.16E-18	1.00E 10	5.00E-03	2.08E-10	3.03E 08
21 15	2763	3.56E-03	1.06E-02	5.37E-05	1.45E-18	1.00E 10	5.00E-03	7.27E-11	1.06E 08
21 16	2859	5.99E-03	1.61E-02	8.17E-05	2.21E-18	1.00E 10	5.00E-03	1.10E-10	1.61E 08
21 17	2960	6.82E-03	1.65E-02	8.38E-05	2.27E-18	1.00E 10	5.00E-03	1.13E-10	1.65E 08
21 18	3066	3.17E-03	6.91E-03	3.51E-05	9.48E-19	1.00E 10	5.00E-03	4.74E-11	6.91E 07
21 19	3177	9.43E-03	1.85E-02	9.37E-05	2.53E-18	1.00E 10	5.00E-03	1.27E-10	1.85E 08
21 20	3294	1.31E-03	2.30E-03	1.17E-05	3.16E-19	1.00E 10	5.00E-03	1.58E-11	2.30E 07
21 21	3417	1.12E-02	1.76E-02	8.93E-05	2.42E-18	1.00E 10	5.00E-03	1.21E-10	1.76E 08

V. OXYGEN HERZBERG BANDS

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
0 0	2885	2.43E-06	1.13E-05	2.73E-11	2.01E-24	5.37E 12	1.08E-11	6.05E 07
0 1	3021	4.43E-05	1.79E-04	4.35E-10	3.19E-23	5.37E 12	1.72E-10	9.62E 08
0 2	3168	3.82E-04	1.34E-03	3.25E-09	2.39E-22	5.37E 12	1.28E-09	7.20E 09
0 3	3327	2.07E-03	6.27E-03	1.52E-08	1.12E-21	5.37E 12	6.00E-09	3.36E 10
0 4	3499	7.90E-03	2.06E-02	4.99E-08	3.66E-21	5.37E 12	1.97E-08	1.10E 11
0 5	3688	2.27E-02	5.04E-02	1.22E-07	8.99E-21	5.37E 12	4.83E-08	2.71E 11
0 6	3894	5.08E-02	9.60E-02	2.33E-07	1.71E-20	5.37E 12	9.19E-08	5.16E 11
0 7	4120	9.13E-02	1.46E-01	3.53E-07	2.60E-20	5.37E 12	1.39E-07	7.82E 11
0 8	4370	1.34E-01	1.79E-01	4.35E-07	3.19E-20	5.37E 12	1.71E-07	9.62E 11
0 9	4647	1.63E-01	1.81E-01	4.39E-07	3.22E-20	5.37E 12	1.73E-07	9.72E 11
0 10	4955	1.65E-01	1.52E-01	3.68E-07	2.70E-20	5.37E 12	1.45E-07	8.14E 11
0 11	5300	1.41E-01	1.06E-01	2.57E-07	1.89E-20	5.37E 12	1.01E-07	5.69E 11
0 12	5689	1.02E-01	6.20E-02	1.50E-07	1.10E-20	5.37E 12	5.93E-08	3.33E 11
1 0	2817	1.80E-05	1.03E-04	1.85E-09	1.30E-22	3.97E 12	5.15E-10	4.10E 08
1 1	2947	2.85E-04	1.43E-03	2.57E-08	1.80E-21	3.97E 12	7.15E-09	5.68E 09
1 2	3086	2.09E-03	9.12E-03	1.64E-07	1.15E-20	3.97E 12	4.55E-08	3.62E 10
1 3	3236	9.31E-03	3.53E-02	6.34E-07	4.44E-20	3.97E 12	1.76E-07	1.40E 11
1 4	3400	2.82E-02	9.22E-02	1.66E-06	1.16E-19	3.97E 12	4.60E-07	3.66E 11
1 5	3577	6.07E-02	1.70E-01	3.06E-06	2.14E-19	3.97E 12	8.51E-07	6.77E 11
1 6	3771	9.44E-02	2.26E-01	4.06E-06	2.84E-19	3.97E 12	1.13E-06	8.98E 11
1 7	3983	1.03E-01	2.10E-01	3.78E-06	2.65E-19	3.97E 12	1.05E-06	8.35E 11
1 8	4216	7.31E-02	1.25E-01	2.25E-06	1.58E-19	3.97E 12	6.26E-07	4.98E 11
1 9	4473	2.38E-02	3.42E-02	6.14E-07	4.30E-20	3.97E 12	1.71E-07	1.36E 11
1 10	4758	1.24E-05	1.48E-05	2.66E-10	1.86E-23	3.97E 12	7.39E-11	5.87E 07
1 11	5075	2.73E-02	2.68E-02	4.81E-07	3.37E-20	3.97E 12	1.34E-07	1.06E 11
1 12	5431	8.56E-02	6.86E-02	1.23E-06	8.63E-20	3.97E 12	3.43E-07	2.72E 11
2 0	2757	7.12E-05	4.08E-04	2.90E-08	1.95E-21	3.42E 12	6.66E-09	1.40E 09
2 1	2880	9.82E-04	4.94E-03	3.51E-07	2.36E-20	3.42E 12	8.06E-08	1.69E 10
2 2	3013	6.09E-03	2.68E-02	1.90E-06	1.28E-19	3.42E 12	4.37E-07	9.15E 10
2 3	3157	2.23E-02	8.50E-02	6.05E-06	4.06E-19	3.42E 12	1.39E-06	2.91E 11
2 4	3312	5.24E-02	1.73E-01	1.23E-05	8.27E-19	3.42E 12	2.83E-06	5.93E 11
2 5	3480	8.10E-02	2.31E-01	1.64E-05	1.10E-18	3.42E 12	3.76E-06	7.89E 11
2 6	3663	7.75E-02	1.90E-01	1.35E-05	9.04E-19	3.42E 12	3.09E-06	6.48E 11
2 7	3863	3.63E-02	7.56E-02	5.38E-06	3.61E-19	3.42E 12	1.23E-06	2.59E 11
2 8	4081	1.28E-03	2.26E-03	1.61E-07	1.08E-20	3.42E 12	3.69E-08	7.74E 09
2 9	4322	1.80E-02	2.69E-02	1.91E-06	1.28E-19	3.42E 12	4.38E-07	9.18E 10
2 10	4587	6.42E-02	8.00E-02	5.69E-06	3.81E-19	3.42E 12	1.30E-06	2.73E 11
2 11	4881	7.40E-02	7.65E-02	5.44E-06	3.65E-19	3.42E 12	1.25E-06	2.61E 11
2 12	5210	3.31E-02	2.81E-02	2.00E-06	1.34E-19	3.42E 12	4.59E-07	9.61E 10

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
3 0	2702	2.01E-04	1.26E-03	2.52E-07	1.62E-20	4.16E 12	6.75E-08	5.23E 09
3 1	2821	2.41E-03	1.33E-02	2.66E-06	1.72E-19	4.16E 12	7.14E-07	5.52E 10
3 2	2949	1.27E-02	6.11E-02	1.22E-05	7.89E-19	4.16E 12	3.20E-06	2.54E 11
3 3	3086	3.75E-02	1.58E-01	3.17E-05	2.04E-18	4.16E 12	8.49E-06	6.57E 11
3 4	3234	6.69E-02	2.44E-01	4.90E-05	3.16E-18	4.16E 12	1.31E-05	1.02E 12
3 5	3394	6.84E-02	2.16E-01	4.33E-05	2.79E-18	4.16E 12	1.16E-05	8.99E 11
3 6	3568	3.02E-02	8.22E-02	1.65E-05	1.06E-18	4.16E 12	4.42E-06	3.42E 11
3 7	3757	1.69E-04	3.94E-04	7.90E-08	5.09E-21	4.16E 12	2.12E-08	1.64E 09
3 8	3964	2.37E-02	4.70E-02	9.42E-06	6.07E-19	4.16E 12	2.52E-06	1.95E 11
3 9	4190	5.87E-02	9.86E-02	1.98E-05	1.27E-18	4.16E 12	5.30E-06	4.10E 11
3 10	4439	4.05E-02	5.73E-02	1.15E-05	7.40E-19	4.16E 12	3.08E-06	2.38E 11
3 11	4714	2.40E-03	2.83E-03	5.68E-07	3.66E-20	4.16E 12	1.52E-07	1.18E 10
3 12	5019	1.82E-02	1.77E-02	3.56E-06	2.29E-19	4.16E 12	9.54E-07	7.38E 10
4 0	2654	4.52E-04	2.87E-03	1.30E-06	8.06E-20	3.86E 12	3.11E-07	1.11E 10
4 1	2768	4.74E-03	2.65E-02	1.20E-05	7.45E-19	3.86E 12	2.87E-06	1.02E 11
4 2	2891	2.10E-02	1.03E-01	4.67E-05	2.90E-18	3.86E 12	1.12E-05	3.99E 11
4 3	3023	4.99E-02	2.15E-01	9.70E-05	6.03E-18	3.86E 12	2.33E-05	8.29E 11
4 4	3165	6.46E-02	2.42E-01	1.09E-04	6.80E-18	3.86E 12	2.62E-05	9.35E 11
4 5	3318	3.74E-02	1.22E-01	5.49E-05	3.41E-18	3.86E 12	1.32E-05	4.69E 11
4 6	3484	1.90E-03	5.33E-03	2.41E-06	1.50E-19	3.86E 12	5.77E-07	2.06E 10
4 7	3664	1.63E-02	3.95E-02	1.78E-05	1.11E-18	3.86E 12	4.28E-06	1.52E 11
4 8	3860	4.91E-02	1.01E-01	4.58E-05	2.84E-18	3.86E 12	1.10E-05	3.91E 11
4 9	4075	3.02E-02	5.31E-02	2.40E-05	1.49E-18	3.86E 12	5.75E-06	2.05E 11
4 10	4310	1.02E-04	1.52E-04	6.87E-08	4.27E-21	3.86E 12	1.65E-08	5.87E 08
4 11	4569	2.69E-02	3.35E-02	1.51E-05	9.40E-19	3.86E 12	3.63E-06	1.29E 11
4 12	4855	5.38E-02	5.59E-02	2.52E-05	1.57E-18	3.86E 12	6.05E-06	2.16E 11
5 0	2611	8.64E-04	5.86E-03	5.07E-06	3.05E-19	1.46E 12	4.45E-07	8.56E 09
5 1	2722	7.92E-03	4.75E-02	4.10E-05	2.47E-18	1.46E 12	3.60E-06	6.93E 10
5 2	2840	2.96E-02	1.56E-01	1.35E-04	8.11E-18	1.46E 12	1.18E-05	2.28E 11
5 3	2967	5.55E-02	2.56E-01	2.22E-04	1.33E-17	1.46E 12	1.95E-05	3.74E 11
5 4	3104	4.89E-02	1.98E-01	1.71E-04	1.03E-17	1.46E 12	1.50E-05	2.89E 11
5 5	3251	1.07E-02	3.76E-02	3.25E-05	1.96E-18	1.46E 12	2.85E-06	5.49E 10
5 6	3411	5.02E-03	1.53E-02	1.32E-05	7.94E-19	1.46E 12	1.16E-06	2.23E 10
5 7	3583	3.82E-02	1.00E-01	8.67E-05	5.22E-18	1.46E 12	7.62E-06	1.46E 11
5 8	3770	3.23E-02	7.29E-02	6.30E-05	3.79E-18	1.46E 12	5.53E-06	1.06E 11
5 9	3975	8.41E-04	1.62E-03	1.40E-06	8.42E-20	1.46E 12	1.23E-07	2.36E 09
5 10	4198	2.14E-02	3.49E-02	3.02E-05	1.82E-18	1.46E 12	2.65E-06	5.10E 10
5 11	4443	4.38E-02	6.04E-02	5.22E-05	3.14E-18	1.46E 12	4.58E-06	8.81E 10
5 12	4714	1.16E-02	1.34E-02	1.16E-05	6.98E-19	1.46E 12	1.02E-06	1.96E 10
6 0	2573	1.46E-03	1.07E-02	1.56E-05	9.13E-19	1.88E 12	1.72E-06	2.01E 10
6 1	2681	1.17E-02	7.59E-02	1.11E-04	6.48E-18	1.88E 12	1.22E-05	1.43E 11
6 2	2795	3.68E-02	2.10E-01	3.07E-04	1.79E-17	1.88E 12	3.37E-05	3.94E 11
6 3	2918	5.33E-02	2.67E-01	3.90E-04	2.28E-17	1.88E 12	4.29E-05	5.02E 11
6 4	3051	2.87E-02	1.26E-01	1.84E-04	1.07E-17	1.88E 12	2.02E-05	2.37E 11
6 5	3193	1.74E-04	6.68E-04	9.76E-07	5.70E-20	1.88E 12	1.07E-07	1.26E 09
6 6	3346	2.15E-02	7.16E-02	1.05E-04	6.12E-18	1.88E 12	1.15E-05	1.35E 11
6 7	3512	3.69E-02	1.06E-01	1.55E-04	9.06E-18	1.88E 12	1.70E-05	1.99E 11
6 8	3692	6.48E-03	1.60E-02	2.35E-05	1.37E-18	1.88E 12	2.58E-06	3.02E 10
6 9	3887	1.00E-02	2.12E-02	3.10E-05	1.81E-18	1.88E 12	3.41E-06	3.99E 10
6 10	4101	3.79E-02	6.84E-02	10.00E-05	5.84E-18	1.88E 12	1.10E-05	1.29E 11
6 11	4335	1.36E-02	2.09E-02	3.05E-05	1.78E-18	1.88E 12	3.35E-06	3.93E 10
6 12	4591	4.62E-03	5.95E-03	8.69E-06	5.08E-19	1.88E 12	9.55E-07	1.12E 10

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
7 0	2540	2.24E-03	1.72E-02	3.85E-05	2.19E-18	1.04E 12	2.28E-06	1.78E 10
7 1	2644	1.58E-02	1.07E-01	2.40E-04	1.36E-17	1.04E 12	1.42E-05	1.11E 11
7 2	2756	4.13E-02	2.48E-01	5.55E-04	3.16E-17	1.04E 12	3.29E-05	2.57E 11
7 3	2876	4.50E-02	2.37E-01	5.32E-04	3.03E-17	1.04E 12	3.15E-05	2.47E 11
7 4	3004	1.18E-02	5.46E-02	1.22E-04	6.97E-18	1.04E 12	7.24E-06	5.68E 10
7 5	3142	3.92E-03	1.59E-02	3.56E-05	2.02E-18	1.04E 12	2.11E-06	1.65E 10
7 6	3290	3.21E-02	1.13E-01	2.53E-04	1.44E-17	1.04E 12	1.50E-05	1.17E 11
7 7	3450	1.96E-02	6.00E-02	1.34E-04	7.65E-18	1.04E 12	7.96E-06	6.24E 10
7 8	3624	6.56E-04	1.73E-03	3.88E-06	2.21E-19	1.04E 12	2.30E-07	1.80E 09
7 9	3812	2.80E-02	6.34E-02	1.42E-04	8.09E-18	1.04E 12	8.41E-06	6.59E 10
7 10	4017	2.18E-02	4.22E-02	9.46E-05	5.38E-18	1.04E 12	5.60E-06	4.39E 10
7 11	4241	3.36E-04	5.52E-04	1.24E-06	7.04E-20	1.04E 12	7.32E-08	5.74E 08
7 12	4486	2.88E-02	3.99E-02	8.95E-05	5.10E-18	1.04E 12	5.30E-06	4.15E 10
8 0	2511	3.18E-03	2.57E-02	8.16E-05	4.54E-18	9.14E 11	4.15E-06	2.35E 10
8 1	2613	1.96E-02	1.41E-01	4.47E-04	2.49E-17	9.14E 11	2.27E-05	1.29E 11
8 2	2722	4.28E-02	2.72E-01	8.63E-04	4.80E-17	9.14E 11	4.39E-05	2.48E 11
8 3	2838	3.36E-02	1.88E-01	5.97E-04	3.32E-17	9.14E 11	3.04E-05	1.72E 11
8 4	2963	2.29E-03	1.13E-02	3.58E-05	1.99E-18	9.14E 11	1.82E-06	1.03E 10
8 5	3097	1.36E-02	5.86E-02	1.86E-04	1.04E-17	9.14E 11	9.47E-06	5.36E 10
8 6	3241	3.03E-02	1.14E-01	3.62E-04	2.01E-17	9.14E 11	1.84E-05	1.04E 11
8 7	3397	4.44E-03	1.45E-02	4.60E-05	2.56E-18	9.14E 11	2.34E-06	1.32E 10
8 8	3565	1.12E-02	3.17E-02	1.01E-04	5.60E-18	9.14E 11	5.12E-06	2.89E 10
8 9	3747	2.86E-02	6.97E-02	2.21E-04	1.23E-17	9.14E 11	1.13E-05	6.37E 10
8 10	3945	2.93E-03	6.11E-03	1.94E-05	1.08E-18	9.14E 11	9.87E-07	5.58E 09
8 11	4160	1.46E-02	2.59E-02	8.23E-05	4.58E-18	9.14E 11	4.18E-06	2.37E 10
8 12	4396	2.82E-02	4.25E-02	1.35E-04	7.50E-18	9.14E 11	6.86E-06	3.88E 10
9 0	2486	4.22E-03	3.69E-02	1.56E-04	8.48E-18	7.39E 11	6.27E-06	2.72E 10
9 1	2586	2.30E-02	1.78E-01	7.52E-04	4.10E-17	7.39E 11	3.03E-05	1.32E 11
9 2	2693	4.14E-02	2.85E-01	1.20E-03	6.55E-17	7.39E 11	4.84E-05	2.10E 11
9 3	2806	2.21E-02	1.34E-01	5.67E-04	3.09E-17	7.39E 11	2.28E-05	9.93E 10
9 4	2928	4.56E-05	2.44E-04	1.03E-06	5.61E-20	7.39E 11	4.14E-08	1.80E 08
9 5	3059	2.18E-02	1.02E-01	4.31E-04	2.35E-17	7.39E 11	1.74E-05	7.54E 10
9 6	3200	2.05E-02	8.41E-02	3.55E-04	1.93E-17	7.39E 11	1.43E-05	6.21E 10
9 7	3351	4.69E-05	1.67E-04	7.05E-07	3.84E-20	7.39E 11	2.84E-08	1.24E 08
9 8	3514	2.19E-02	6.77E-02	2.86E-04	1.56E-17	7.39E 11	1.15E-05	5.00E 10
9 9	3691	1.56E-02	4.17E-02	1.76E-04	9.59E-18	7.39E 11	7.09E-06	3.08E 10
9 10	3883	1.60E-03	3.66E-03	1.54E-05	8.41E-19	7.39E 11	6.22E-07	2.70E 09
9 11	4092	2.59E-02	5.07E-02	2.14E-04	1.17E-17	7.39E 11	8.61E-06	3.74E 10
9 12	4320	9.29E-03	1.55E-02	6.52E-05	3.56E-18	7.39E 11	2.63E-06	1.14E 10
10 0	2465	5.30E-03	5.03E-02	2.67E-04	1.43E-17	8.52E 11	1.22E-05	4.29E 10
10 1	2563	2.55E-02	2.15E-01	1.14E-03	6.11E-17	8.52E 11	5.21E-05	1.83E 11
10 2	2668	3.78E-02	2.83E-01	1.50E-03	8.04E-17	8.52E 11	6.85E-05	2.41E 11
10 3	2779	1.25E-02	8.29E-02	4.40E-04	2.36E-17	8.52E 11	2.01E-05	7.06E 10
10 4	2899	2.67E-03	1.56E-02	8.27E-05	4.43E-18	8.52E 11	3.78E-06	1.33E 10
10 5	3027	2.49E-02	1.28E-01	6.77E-04	3.63E-17	8.52E 11	3.09E-05	1.09E 11
10 6	3165	9.73E-03	4.36E-02	2.31E-04	1.24E-17	8.52E 11	1.06E-05	3.72E 10
10 7	3312	4.44E-03	1.74E-02	9.21E-05	4.94E-18	8.52E 11	4.20E-06	1.48E 10
10 8	3472	2.37E-02	8.05E-02	4.27E-04	2.29E-17	8.52E 11	1.95E-05	6.85E 10
10 9	3644	3.56E-03	1.04E-02	5.54E-05	2.97E-18	8.52E 11	2.53E-06	8.90E 09
10 10	3831	1.14E-02	2.89E-02	1.53E-04	8.21E-18	8.52E 11	7.00E-06	2.46E 10
10 11	4035	2.08E-02	4.51E-02	2.39E-04	1.28E-17	8.52E 11	1.09E-05	3.84E 10
10 12	4256	1.26E-05	2.33E-05	1.23E-07	6.62E-21	8.52E 11	5.64E-09	1.98E 07

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
11 0	2447	6.36E-03	6.50E-02	4.14E-04	2.18E-17	9.26E 11	2.02E-05	6.02E 10
11 1	2544	2.70E-02	2.46E-01	1.56E-03	8.26E-17	9.26E 11	7.65E-05	2.28E 11
11 2	2647	3.27E-02	2.64E-01	1.68E-03	8.88E-17	9.26E 11	8.22E-05	2.45E 11
11 3	2757	5.73E-03	4.09E-02	2.60E-04	1.38E-17	9.26E 11	1.27E-05	3.79E 10
11 4	2875	7.32E-03	4.61E-02	2.93E-04	1.55E-17	9.26E 11	1.44E-05	4.27E 10
11 5	3000	2.31E-02	1.28E-01	8.13E-04	4.30E-17	9.26E 11	3.98E-05	1.18E 11
11 6	3135	2.53E-03	1.23E-02	7.81E-05	4.12E-18	9.26E 11	3.82E-06	1.14E 10
11 7	3281	1.14E-02	4.85E-02	3.09E-04	1.63E-17	9.26E 11	1.51E-05	4.49E 10
11 8	3437	1.78E-02	6.54E-02	4.16E-04	2.20E-17	9.26E 11	2.04E-05	6.06E 10
11 9	3606	3.72E-05	1.19E-04	7.55E-07	3.99E-20	9.26E 11	3.69E-08	1.10E 08
11 10	3789	1.91E-02	5.25E-02	3.34E-04	1.77E-17	9.26E 11	1.63E-05	4.86E 10
11 11	3988	8.69E-03	2.05E-02	1.30E-04	6.89E-18	9.26E 11	6.38E-06	1.90E 10
11 12	4204	5.48E-03	1.10E-02	7.02E-05	3.71E-18	9.26E 11	3.44E-06	1.02E 10
12 0	2433	7.34E-03	8.02E-02	5.89E-04	3.07E-17	9.77E 11	3.00E-05	7.84E 10
12 1	2528	2.77E-02	2.69E-01	1.98E-03	1.03E-16	9.77E 11	1.01E-04	2.63E 11
12 2	2630	2.71E-02	2.34E-01	1.72E-03	8.98E-17	9.77E 11	8.78E-05	2.29E 11
12 3	2739	1.78E-03	1.37E-02	1.00E-04	5.23E-18	9.77E 11	5.11E-06	1.33E 10
12 4	2855	1.18E-02	7.96E-02	5.84E-04	3.05E-17	9.77E 11	2.98E-05	7.78E 10
12 5	2979	1.82E-02	1.08E-01	7.96E-04	4.16E-17	9.77E 11	4.06E-05	1.06E 11
12 6	3112	2.64E-05	1.38E-04	1.01E-06	5.28E-20	9.77E 11	5.16E-08	1.35E 08
12 7	3255	1.63E-02	7.44E-02	5.46E-04	2.85E-17	9.77E 11	2.78E-05	7.27E 10
12 8	3409	9.46E-03	3.76E-02	2.76E-04	1.44E-17	9.77E 11	1.41E-05	3.67E 10
12 9	3575	3.54E-03	1.22E-02	8.95E-05	4.67E-18	9.77E 11	4.57E-06	1.19E 10
12 10	3755	1.89E-02	5.62E-02	4.13E-04	2.15E-17	9.77E 11	2.10E-05	5.49E 10
12 11	3950	9.35E-04	2.39E-03	1.75E-05	9.15E-19	9.77E 11	8.94E-07	2.33E 09
12 12	4162	1.43E-02	3.12E-02	2.29E-04	1.20E-17	9.77E 11	1.17E-05	3.05E 10

VI. NITROGEN VEGARD-KAPLAN BANDS

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
0 0	2010	5.90E-04	1.51E-03	8.93E-07	3.18E-20	1.29E 11	4.11E-09	1.95E 08
0 1	2109	5.34E-03	1.19E-02	7.00E-06	2.49E-19	1.29E 11	3.22E-08	1.53E 09
0 2	2216	2.29E-02	4.37E-02	2.58E-05	9.20E-19	1.29E 11	1.19E-07	5.64E 09
0 3	2334	6.17E-02	1.01E-01	5.96E-05	2.13E-18	1.29E 11	2.74E-07	1.30E 10
0 4	2463	1.18E-01	1.64E-01	9.68E-05	3.45E-18	1.29E 11	4.45E-07	2.12E 10
0 5	2605	1.69E-01	1.99E-01	1.17E-04	4.18E-18	1.29E 11	5.40E-07	2.57E 10
0 6	2762	1.89E-01	1.87E-01	1.10E-04	3.94E-18	1.29E 11	5.08E-07	2.42E 10
0 7	2937	1.70E-01	1.40E-01	8.26E-05	2.95E-18	1.29E 11	3.80E-07	1.81E 10
0 8	3133	1.25E-01	8.47E-02	5.00E-05	1.78E-18	1.29E 11	2.30E-07	1.09E 10
0 9	3353	7.58E-02	4.19E-02	2.47E-05	8.80E-19	1.29E 11	1.14E-07	5.40E 09
0 10	3604	3.83E-02	1.70E-02	1.01E-05	3.58E-19	1.29E 11	4.62E-08	2.20E 09
0 11	3890	1.62E-02	5.74E-03	3.39E-06	1.21E-19	1.29E 11	1.56E-08	7.40E 08
0 12	4220	5.78E-03	1.60E-03	9.45E-07	3.37E-20	1.29E 11	4.35E-09	2.07E 08
0 13	4606	1.74E-03	3.71E-04	2.19E-07	7.79E-21	1.29E 11	1.01E-09	4.78E 07
0 14	5061	4.41E-04	7.09E-05	4.18E-08	1.49E-21	1.29E 11	1.92E-10	9.14E 06
0 15	5608	9.44E-05	1.11E-05	6.58E-09	2.34E-22	1.29E 11	3.02E-11	1.44E 06
0 16	6276	1.70E-05	1.43E-06	8.45E-10	3.01E-23	1.29E 11	3.89E-12	1.85E 05
1 0	1954	3.32E-03	9.10E-03	3.02E-05	1.02E-18	8.07E 10	8.21E-08	7.35E 08
1 1	2047	2.28E-02	5.43E-02	1.80E-04	6.07E-18	8.07E 10	4.90E-07	4.39E 09
1 2	2148	6.92E-02	1.43E-01	4.74E-04	1.60E-17	8.07E 10	1.29E-06	1.15E 10
1 3	2258	1.19E-01	2.12E-01	7.03E-04	2.37E-17	8.07E 10	1.91E-06	1.71E 10
1 4	2379	1.22E-01	1.85E-01	6.13E-04	2.07E-17	8.07E 10	1.67E-06	1.49E 10
1 5	2511	6.38E-02	8.25E-02	2.74E-04	9.21E-18	8.07E 10	7.44E-07	6.65E 09
1 6	2657	6.26E-03	6.82E-03	2.26E-05	7.62E-19	8.07E 10	6.15E-08	5.51E 08
1 7	2818	1.40E-02	1.27E-02	4.23E-05	1.42E-18	8.07E 10	1.15E-07	1.03E 09
1 8	2998	7.87E-02	5.97E-02	1.98E-04	6.67E-18	8.07E 10	5.38E-07	4.82E 09
1 9	3200	1.37E-01	8.55E-02	2.84E-04	9.56E-18	8.07E 10	7.71E-07	6.90E 09
1 10	3427	1.45E-01	7.37E-02	2.44E-04	8.23E-18	8.07E 10	6.64E-07	5.95E 09
1 11	3684	1.10E-01	4.50E-02	1.49E-04	5.03E-18	8.07E 10	4.06E-07	3.63E 09
1 12	3979	6.40E-02	2.08E-02	6.90E-05	2.32E-18	8.07E 10	1.87E-07	1.68E 09
1 13	4321	2.96E-02	7.51E-03	2.49E-05	8.40E-19	8.07E 10	6.78E-08	6.06E 08
1 14	4719	1.11E-02	2.16E-03	7.17E-06	2.41E-19	8.07E 10	1.95E-08	1.74E 08
1 15	5191	3.41E-03	4.99E-04	1.65E-06	5.57E-20	8.07E 10	4.50E-09	4.02E 07
1 16	5758	8.63E-04	9.25E-05	3.07E-07	1.03E-20	8.07E 10	8.34E-10	7.46E 06
1 17	6452	1.81E-04	1.37E-05	4.56E-08	1.54E-21	8.07E 10	1.24E-10	1.11E 06
1 18	7321	3.12E-05	1.63E-06	5.40E-09	1.82E-22	8.07E 10	1.47E-11	1.31E 05

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
2 0	1901	9.98E-03	2.92E-02	2.91E-04	9.30E-18	4.19E 10	3.90E-07	1.22E 09
2 1	1990	5.08E-02	1.30E-01	1.30E-03	4.14E-17	4.19E 10	1.73E-06	5.45E 09
2 2	2085	1.03E-01	2.30E-01	2.29E-03	7.31E-17	4.19E 10	3.06E-06	9.63E 09
2 3	2189	9.73E-02	1.87E-01	1.86E-03	5.95E-17	4.19E 10	2.49E-06	7.83E 09
2 4	2302	2.92E-02	4.82E-02	4.81E-04	1.53E-17	4.19E 10	6.43E-07	2.02E 09
2 5	2425	2.16E-03	3.05E-03	3.04E-05	9.70E-19	4.19E 10	4.07E-08	1.28E 08
2 6	2561	5.47E-02	6.56E-02	6.54E-04	2.09E-17	4.19E 10	8.74E-07	2.75E 09
2 7	2711	8.92E-02	9.02E-02	9.00E-04	2.87E-17	4.19E 10	1.20E-06	3.78E 09
2 8	2877	4.62E-02	3.90E-02	3.89E-04	1.24E-17	4.19E 10	5.20E-07	1.64E 09
2 9	3062	8.84E-04	6.20E-04	6.18E-06	1.97E-19	4.19E 10	8.27E-09	2.60E 07
2 10	3269	2.96E-02	1.70E-02	1.70E-04	5.42E-18	4.19E 10	2.27E-07	7.14E 08
2 11	3503	1.00E-01	4.69E-02	4.68E-04	1.49E-17	4.19E 10	6.25E-07	1.96E 09
2 12	3769	1.38E-01	5.18E-02	5.17E-04	1.65E-17	4.19E 10	6.91E-07	2.17E 09
2 13	4073	1.20E-01	3.56E-02	3.55E-04	1.13E-17	4.19E 10	4.75E-07	1.49E 09
2 14	4426	7.47E-02	1.74E-02	1.73E-04	5.52E-18	4.19E 10	2.31E-07	7.27E 08
2 15	4838	3.57E-02	6.34E-03	6.33E-05	2.02E-18	4.19E 10	8.46E-08	2.66E 08
2 16	5327	1.34E-02	1.79E-03	1.78E-05	5.69E-19	4.19E 10	2.38E-08	7.49E 07
2 17	5916	4.05E-03	3.94E-04	3.93E-06	1.25E-19	4.19E 10	5.25E-09	1.65E 07
2 18	6638	9.88E-04	6.80E-05	6.78E-07	2.16E-20	4.19E 10	9.06E-10	2.85E 06
2 19	7545	1.96E-04	9.19E-06	9.17E-08	2.92E-21	4.19E 10	1.23E-10	3.85E 05
3 0	1853	2.13E-02	6.66E-02	1.42E-03	4.30E-17	2.40E 10	1.03E-06	1.60E 09
3 1	1936	7.85E-02	2.15E-01	4.58E-03	1.39E-16	2.40E 10	3.33E-06	5.15E 09
3 2	2027	9.77E-02	2.33E-01	4.97E-03	1.51E-16	2.40E 10	3.61E-06	5.59E 09
3 3	2125	3.33E-02	6.89E-02	1.47E-03	4.45E-17	2.40E 10	1.07E-06	1.65E 09
3 4	2231	2.54E-03	4.54E-03	9.69E-05	2.93E-18	2.40E 10	7.04E-08	1.09E 08
3 5	2347	5.62E-02	8.63E-02	1.84E-03	5.58E-17	2.40E 10	1.34E-06	2.07E 09
3 6	2474	6.39E-02	8.39E-02	1.79E-03	5.42E-17	2.40E 10	1.30E-06	2.01E 09
3 7	2613	8.56E-03	9.53E-03	2.03E-04	6.16E-18	2.40E 10	1.48E-07	2.29E 08
3 8	2767	1.70E-02	1.59E-02	3.39E-04	1.03E-17	2.40E 10	2.47E-07	3.82E 08
3 9	2938	7.32E-02	5.73E-02	1.22E-03	3.70E-17	2.40E 10	8.89E-07	1.38E 09
3 10	3128	6.18E-02	4.01E-02	8.55E-04	2.59E-17	2.40E 10	6.22E-07	9.63E 08
3 11	3342	7.60E-03	4.05E-03	8.63E-05	2.61E-18	2.40E 10	6.27E-08	9.71E 07
3 12	3583	1.52E-02	6.57E-03	1.40E-04	4.24E-18	2.40E 10	1.02E-07	1.58E 08
3 13	3857	8.38E-02	2.90E-02	6.19E-04	1.87E-17	2.40E 10	4.50E-07	6.97E 08
3 14	4172	1.31E-01	3.60E-02	7.67E-04	2.32E-17	2.40E 10	5.58E-07	8.64E 08
3 15	4536	1.20E-01	2.55E-02	5.43E-04	1.65E-17	2.40E 10	3.95E-07	6.11E 08
3 16	4963	7.54E-02	1.23E-02	2.61E-04	7.92E-18	2.40E 10	1.90E-07	2.94E 08
3 17	5470	3.54E-02	4.30E-03	9.17E-05	2.78E-18	2.40E 10	6.67E-08	1.03E 08
3 18	6082	1.29E-02	1.14E-03	2.42E-05	7.34E-19	2.40E 10	1.76E-08	2.73E 07
3 19	6835	3.69E-03	2.30E-04	4.90E-06	1.48E-19	2.40E 10	3.56E-09	5.51E 06
3 20	7782	8.44E-04	3.56E-05	7.59E-07	2.30E-20	2.40E 10	5.52E-10	8.54E 05
3 21	9011	1.55E-04	4.21E-06	8.97E-08	2.72E-21	2.40E 10	6.52E-11	1.01E 05

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
4 0	1808	3.64E-02	1.21E-01	4.41E-03	1.27E-16	1.93E 10	2.45E-06	2.34E 09
4 1	1887	9.33E-02	2.73E-01	9.93E-03	2.86E-16	1.93E 10	5.53E-06	5.26E 09
4 2	1973	6.00E-02	1.53E-01	5.59E-03	1.61E-16	1.93E 10	3.11E-06	2.96E 09
4 3	2065	3.71E-04	8.28E-04	3.02E-05	8.70E-19	1.93E 10	1.68E-08	1.60E 07
4 4	2166	4.11E-02	7.94E-02	2.89E-03	8.34E-17	1.93E 10	1.61E-06	1.53E 09
4 5	2275	5.76E-02	9.61E-02	3.50E-03	1.01E-16	1.93E 10	1.95E-06	1.85E 09
4 6	2394	4.63E-03	6.62E-03	2.41E-04	6.95E-18	1.93E 10	1.34E-07	1.28E 08
4 7	2524	2.55E-02	3.12E-02	1.14E-03	3.27E-17	1.93E 10	6.32E-07	6.02E 08
4 8	2668	6.33E-02	6.55E-02	2.39E-03	6.88E-17	1.93E 10	1.33E-06	1.26E 09
4 9	2826	1.92E-02	1.67E-02	6.07E-04	1.75E-17	1.93E 10	3.38E-07	3.22E 08
4 10	3002	7.13E-03	5.18E-03	1.89E-04	5.44E-18	1.93E 10	1.05E-07	9.99E 07
4 11	3198	6.27E-02	3.77E-02	1.37E-03	3.96E-17	1.93E 10	7.64E-07	7.28E 08
4 12	3418	6.31E-02	3.11E-02	1.13E-03	3.26E-17	1.93E 10	6.30E-07	6.00E 08
4 13	3666	9.38E-03	3.74E-03	1.36E-04	3.93E-18	1.93E 10	7.58E-08	7.22E 07
4 14	3949	1.38E-02	4.40E-03	1.60E-04	4.62E-18	1.93E 10	8.91E-08	8.49E 07
4 15	4274	8.29E-02	2.09E-02	7.60E-04	2.19E-17	1.93E 10	4.23E-07	4.03E 08
4 16	4651	1.30E-01	2.54E-02	9.24E-04	2.66E-17	1.93E 10	5.14E-07	4.89E 08
4 17	5094	1.15E-01	1.71E-02	6.23E-04	1.80E-17	1.93E 10	3.47E-07	3.30E 08
4 18	5621	6.96E-02	7.70E-03	2.80E-04	8.09E-18	1.93E 10	1.56E-07	1.49E 08
4 19	6257	3.09E-02	2.48E-03	9.04E-05	2.61E-18	1.93E 10	5.03E-08	4.79E 07
4 20	7043	1.05E-02	5.92E-04	2.15E-05	6.21E-19	1.93E 10	1.20E-08	1.14E 07
4 21	8034	2.79E-03	1.06E-04	3.85E-06	1.11E-19	1.93E 10	2.14E-09	2.04E 06
4 22	9325	5.84E-04	1.41E-05	5.15E-07	1.48E-20	1.93E 10	2.87E-10	2.73E 05
5 0	1765	5.29E-02	1.87E-01	9.90E-03	2.72E-16	1.09E 10	2.97E-06	2.04E 09
5 1	1841	8.96E-02	2.80E-01	1.48E-02	4.07E-16	1.09E 10	4.43E-06	3.05E 09
5 2	1923	2.01E-02	5.51E-02	2.91E-03	8.01E-17	1.09E 10	8.74E-07	6.00E 08
5 3	2011	1.46E-02	3.51E-02	1.86E-03	5.11E-17	1.09E 10	5.57E-07	3.83E 08
5 4	2106	5.87E-02	1.22E-01	6.48E-03	1.78E-16	1.09E 10	1.94E-06	1.33E 09
5 5	2209	1.22E-02	2.21E-02	1.17E-03	3.22E-17	1.09E 10	3.51E-07	2.41E 08
5 6	2321	1.69E-02	2.63E-02	1.39E-03	3.83E-17	1.09E 10	4.17E-07	2.87E 08
5 7	2443	5.46E-02	7.29E-02	3.86E-03	1.06E-16	1.09E 10	1.16E-06	7.95E 08
5 8	2577	1.06E-02	1.21E-02	6.41E-04	1.76E-17	1.09E 10	1.92E-07	1.32E 08
5 9	2724	1.64E-02	1.58E-02	8.37E-04	2.30E-17	1.09E 10	2.51E-07	1.72E 08
5 10	2887	5.87E-02	4.75E-02	2.51E-03	6.91E-17	1.09E 10	7.53E-07	5.18E 08
5 11	3068	2.02E-02	1.36E-02	7.19E-04	1.98E-17	1.09E 10	2.16E-07	1.48E 08
5 12	3270	6.59E-03	3.67E-03	1.94E-04	5.34E-18	1.09E 10	5.82E-08	4.00E 07
5 13	3497	6.14E-02	2.80E-02	1.48E-03	4.07E-17	1.09E 10	4.44E-07	3.05E 08
5 14	3753	5.83E-02	2.15E-02	1.14E-03	3.12E-17	1.09E 10	3.41E-07	2.34E 08
5 15	4046	5.91E-03	1.74E-03	9.19E-05	2.53E-18	1.09E 10	2.75E-08	1.89E 07
5 16	4382	1.98E-02	4.59E-03	2.43E-04	6.67E-18	1.09E 10	7.27E-08	5.00E 07
5 17	4773	9.21E-02	1.65E-02	8.73E-04	2.40E-17	1.09E 10	2.62E-07	1.80E 08
5 18	5232	1.30E-01	1.77E-02	9.38E-04	2.58E-17	1.09E 10	2.81E-07	1.93E 08
5 19	5780	1.07E-01	1.07E-02	5.69E-04	1.56E-17	1.09E 10	1.70E-07	1.17E 08
5 20	6443	5.94E-02	4.32E-03	2.29E-04	6.29E-18	1.09E 10	6.86E-08	4.71E 07
5 21	7263	2.42E-02	1.23E-03	6.52E-05	1.79E-18	1.09E 10	1.95E-08	1.34E 07
5 22	8302	7.51E-03	2.55E-04	1.35E-05	3.72E-19	1.09E 10	4.05E-09	2.78E 06
5 23	9662	1.80E-03	3.88E-05	2.05E-06	5.65E-20	1.09E 10	6.16E-10	4.23E 05

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
6 0	1726	6.80E-02	2.56E-01	1.74E-02	4.57E-16	9.10E 09	4.16E-06	2.33E 09
6 1	1798	7.08E-02	2.35E-01	1.60E-02	4.21E-16	9.10E 09	3.83E-06	2.14E 09
6 2	1876	8.38E-04	2.45E-03	1.67E-04	4.39E-18	9.10E 09	3.99E-08	2.23E 07
6 3	1960	4.23E-02	1.09E-01	7.39E-03	1.94E-16	9.10E 09	1.77E-06	9.90E 08
6 4	2050	3.40E-02	7.64E-02	5.19E-03	1.36E-16	9.10E 09	1.24E-06	6.95E 08
6 5	2147	2.63E-03	5.14E-03	3.49E-04	9.18E-18	9.10E 09	8.35E-08	4.68E 07
6 6	2253	4.77E-02	8.06E-02	5.48E-03	1.44E-16	9.10E 09	1.31E-06	7.34E 08
6 7	2368	1.64E-02	2.39E-02	1.62E-03	4.27E-17	9.10E 09	3.89E-07	2.17E 08
6 8	2494	1.16E-02	1.45E-02	9.86E-04	2.59E-17	9.10E 09	2.36E-07	1.32E 08
6 9	2632	5.01E-02	5.31E-02	3.61E-03	9.50E-17	9.10E 09	8.64E-07	4.84E 08
6 10	2783	9.74E-03	8.74E-03	5.94E-04	1.56E-17	9.10E 09	1.42E-07	7.95E 07
6 11	2951	1.73E-02	1.30E-02	8.85E-04	2.33E-17	9.10E 09	2.12E-07	1.18E 08
6 12	3137	5.58E-02	3.49E-02	2.38E-03	6.24E-17	9.10E 09	5.68E-07	3.18E 08
6 13	3345	1.46E-02	7.52E-03	5.11E-04	1.34E-17	9.10E 09	1.22E-07	6.85E 07
6 14	3580	1.13E-02	4.77E-03	3.24E-04	8.52E-18	9.10E 09	7.76E-08	4.34E 07
6 15	3845	6.53E-02	2.22E-02	1.51E-03	3.97E-17	9.10E 09	3.61E-07	2.02E 08
6 16	4147	4.83E-02	1.31E-02	8.89E-04	2.34E-17	9.10E 09	2.13E-07	1.19E 08
6 17	4495	1.14E-03	2.43E-04	1.65E-05	4.34E-19	9.10E 09	3.95E-09	2.21E 06
6 18	4900	3.37E-02	5.53E-03	3.76E-04	9.88E-18	9.10E 09	8.99E-08	5.03E 07
6 19	5377	1.07E-01	1.33E-02	9.03E-04	2.37E-17	9.10E 09	2.16E-07	1.21E 08
6 20	5947	1.29E-01	1.19E-02	8.06E-04	2.12E-17	9.10E 09	1.93E-07	1.08E 08
6 21	6639	9.34E-02	6.17E-03	4.20E-04	1.10E-17	9.10E 09	1.00E-07	5.62E 07
6 22	7497	4.66E-02	2.14E-03	1.45E-04	3.82E-18	9.10E 09	3.48E-08	1.95E 07
6 23	8588	1.70E-02	5.20E-04	3.54E-05	9.30E-19	9.10E 09	8.46E-09	4.73E 06
7 0	1689	7.94E-02	3.17E-01	2.52E-02	6.33E-16	6.70E 09	4.24E-06	2.12E 09
7 1	1758	4.54E-02	1.61E-01	1.28E-02	3.21E-16	6.70E 09	2.15E-06	1.08E 09
7 2	1833	5.26E-03	1.65E-02	1.31E-03	3.29E-17	6.70E 09	2.20E-07	1.10E 08
7 3	1912	5.15E-02	1.42E-01	1.13E-02	2.83E-16	6.70E 09	1.90E-06	9.50E 08
7 4	1998	5.40E-03	1.30E-02	1.03E-03	2.60E-17	6.70E 09	1.75E-07	8.73E 07
7 5	2090	2.80E-02	5.91E-02	4.69E-03	1.18E-16	6.70E 09	7.91E-07	3.96E 08
7 6	2191	3.24E-02	5.93E-02	4.70E-03	1.18E-16	6.70E 09	7.94E-07	3.97E 08
7 7	2299	1.71E-03	2.71E-03	2.15E-04	5.41E-18	6.70E 09	3.62E-08	1.81E 07
7 8	2417	4.31E-02	5.87E-02	4.66E-03	1.17E-16	6.70E 09	7.86E-07	3.93E 08
7 9	2547	1.31E-02	1.52E-02	1.21E-03	3.04E-17	6.70E 09	2.04E-07	1.02E 08
7 10	2689	1.41E-02	1.40E-02	1.11E-03	2.79E-17	6.70E 09	1.87E-07	9.35E 07
7 11	2845	4.63E-02	3.87E-02	3.08E-03	7.74E-17	6.70E 09	5.19E-07	2.60E 08
7 12	3017	4.79E-03	3.35E-03	2.66E-04	6.70E-18	6.70E 09	4.49E-08	2.25E 07
7 13	3210	2.45E-02	1.42E-02	1.13E-03	2.85E-17	6.70E 09	1.91E-07	9.54E 07
7 14	3424	5.17E-02	2.48E-02	1.97E-03	4.95E-17	6.70E 09	3.32E-07	1.66E 08
7 15	3666	6.14E-03	2.40E-03	1.90E-04	4.79E-18	6.70E 09	3.21E-08	1.61E 07
7 16	3940	2.23E-02	7.00E-03	5.56E-04	1.40E-17	6.70E 09	9.38E-08	4.69E 07
7 17	4253	6.89E-02	1.72E-02	1.37E-03	3.44E-17	6.70E 09	2.31E-07	1.15E 08
7 18	4614	3.27E-02	6.41E-03	5.09E-04	1.28E-17	6.70E 09	8.59E-08	4.30E 07
7 19	5035	8.22E-04	1.24E-04	9.84E-06	2.48E-19	6.70E 09	1.66E-09	8.31E 05
7 20	5531	5.59E-02	6.36E-03	5.05E-04	1.27E-17	6.70E 09	8.52E-08	4.26E 07
7 21	6124	1.22E-01	1.02E-02	8.09E-04	2.04E-17	6.70E 09	1.36E-07	6.82E 07
7 22	6847	1.22E-01	7.29E-03	5.79E-04	1.46E-17	6.70E 09	9.77E-08	4.89E 07
7 23	7746	7.63E-02	3.16E-03	2.51E-04	6.31E-18	6.70E 09	4.23E-08	2.12E 07
7 24	8893	3.33E-02	9.12E-04	7.24E-05	1.82E-18	6.70E 09	1.22E-08	6.11E 06

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
8 0	1655	8.59E-02	3.64E-01	3.12E-02	7.54E-16	5.03E 09	3.79E-06	1.83E 09
8 1	1721	2.21E-02	8.30E-02	7.13E-03	1.72E-16	5.03E 09	8.66E-07	4.17E 08
8 2	1792	2.23E-02	7.44E-02	6.39E-03	1.54E-16	5.03E 09	7.76E-07	3.74E 08
8 3	1868	3.80E-02	1.12E-01	9.61E-03	2.32E-16	5.03E 09	1.17E-06	5.63E 08
8 4	1950	1.93E-03	5.00E-03	4.30E-04	1.04E-17	5.03E 09	5.22E-08	2.52E 07
8 5	2038	4.20E-02	9.53E-02	8.18E-03	1.98E-16	5.03E 09	9.94E-07	4.79E 08
8 6	2133	4.18E-03	8.27E-03	7.11E-04	1.72E-17	5.03E 09	8.63E-08	4.16E 07
8 7	2236	2.70E-02	4.64E-02	3.98E-03	9.62E-17	5.03E 09	4.84E-07	2.33E 08
8 8	2347	2.57E-02	3.82E-02	3.28E-03	7.91E-17	5.03E 09	3.98E-07	1.92E 08
8 9	2469	4.07E-03	5.19E-03	4.46E-04	1.08E-17	5.03E 09	5.42E-08	2.61E 07
8 10	2602	4.15E-02	4.52E-02	3.88E-03	9.37E-17	5.03E 09	4.71E-07	2.27E 08
8 11	2748	6.30E-03	5.82E-03	5.00E-04	1.21E-17	5.03E 09	6.07E-08	2.93E 07
8 12	2909	2.18E-02	1.70E-02	1.46E-03	3.53E-17	5.03E 09	1.78E-07	8.57E 07
8 13	3087	4.00E-02	2.61E-02	2.24E-03	5.41E-17	5.03E 09	2.72E-07	1.31E 08
8 14	3285	3.60E-04	1.95E-04	1.67E-05	4.04E-19	5.03E 09	2.03E-09	9.80E 05
8 15	3507	3.61E-02	1.61E-02	1.38E-03	3.33E-17	5.03E 09	1.68E-07	8.08E 07
8 16	3757	4.23E-02	1.53E-02	1.31E-03	3.17E-17	5.03E 09	1.60E-07	7.69E 07
8 17	4040	2.62E-04	7.62E-05	6.55E-06	1.58E-19	5.03E 09	7.95E-10	3.83E 05
8 18	4365	3.94E-02	9.08E-03	7.80E-04	1.88E-17	5.03E 09	9.47E-08	4.57E 07
8 19	4739	6.57E-02	1.18E-02	1.02E-03	2.45E-17	5.03E 09	1.23E-07	5.95E 07
8 20	5176	1.46E-02	2.02E-03	1.74E-04	4.20E-18	5.03E 09	2.11E-08	1.02E 07
8 21	5693	1.11E-02	1.16E-03	9.95E-05	2.40E-18	5.03E 09	1.21E-08	5.83E 06
8 22	6312	8.42E-02	6.42E-03	5.52E-04	1.33E-17	5.03E 09	6.70E-08	3.23E 07
8 23	7068	1.30E-01	7.09E-03	6.09E-04	1.47E-17	5.03E 09	7.40E-08	3.57E 07
8 24	8011	1.07E-01	3.99E-03	3.43E-04	8.27E-18	5.03E 09	4.16E-08	2.01E 07
8 25	9220	5.70E-02	1.40E-03	1.20E-04	2.89E-18	5.03E 09	1.46E-08	7.02E 06
9 0	1622	8.73E-02	3.92E-01	3.42E-02	7.94E-16	3.75E 09	2.98E-06	1.47E 09
9 1	1686	6.43E-03	2.57E-02	2.25E-03	5.21E-17	3.75E 09	1.96E-07	9.65E 07
9 2	1754	3.84E-02	1.36E-01	1.19E-02	2.76E-16	3.75E 09	1.04E-06	5.11E 08
9 3	1827	1.65E-02	5.19E-02	4.53E-03	1.05E-16	3.75E 09	3.94E-07	1.95E 08
9 4	1905	1.81E-02	5.03E-02	4.39E-03	1.02E-16	3.75E 09	3.82E-07	1.89E 08
9 5	1989	2.89E-02	7.04E-02	6.15E-03	1.43E-16	3.75E 09	5.35E-07	2.64E 08
9 6	2079	3.76E-03	8.02E-03	7.00E-04	1.63E-17	3.75E 09	6.10E-08	3.01E 07
9 7	2177	3.70E-02	6.87E-02	5.99E-03	1.39E-16	3.75E 09	5.22E-07	2.58E 08
9 8	2282	8.85E-04	1.43E-03	1.25E-04	2.89E-18	3.75E 09	1.08E-08	5.35E 06
9 9	2397	3.11E-02	4.32E-02	3.77E-03	8.76E-17	3.75E 09	3.29E-07	1.62E 08
9 10	2522	1.59E-02	1.90E-02	1.66E-03	3.85E-17	3.75E 09	1.44E-07	7.12E 07
9 11	2659	1.08E-02	1.10E-02	9.63E-04	2.24E-17	3.75E 09	8.39E-08	4.14E 07
9 12	2810	3.76E-02	3.25E-02	2.84E-03	6.59E-17	3.75E 09	2.47E-07	1.22E 08
9 13	2976	6.33E-04	4.60E-04	4.02E-05	9.32E-19	3.75E 09	3.50E-09	1.72E 06
9 14	3159	3.28E-02	1.99E-02	1.74E-03	4.04E-17	3.75E 09	1.52E-07	7.48E 07
9 15	3364	2.81E-02	1.41E-02	1.23E-03	2.87E-17	3.75E 09	1.07E-07	5.30E 07
9 16	3594	2.26E-03	9.33E-04	8.15E-05	1.89E-18	3.75E 09	7.09E-09	3.50E 06
9 17	3852	4.75E-02	1.59E-02	1.39E-03	3.23E-17	3.75E 09	1.21E-07	5.97E 07
9 18	4146	2.60E-02	7.00E-03	6.11E-04	1.42E-17	3.75E 09	5.32E-08	2.62E 07
9 19	4482	3.79E-03	8.06E-04	7.03E-05	1.63E-18	3.75E 09	6.12E-09	3.02E 06
9 20	4871	5.77E-02	9.57E-03	8.36E-04	1.94E-17	3.75E 09	7.27E-08	3.59E 07
9 21	5326	5.11E-02	6.48E-03	5.66E-04	1.31E-17	3.75E 09	4.93E-08	2.43E 07
9 22	5864	1.52E-03	1.44E-04	1.26E-05	2.92E-19	3.75E 09	1.09E-09	5.40E 05
9 23	6511	3.56E-02	2.47E-03	2.16E-04	5.01E-18	3.75E 09	1.88E-08	9.27E 06
9 24	7303	1.12E-01	5.51E-03	4.81E-04	1.12E-17	3.75E 09	4.19E-08	2.06E 07
9 25	8295	1.28E-01	4.31E-03	3.76E-04	8.73E-18	3.75E 09	3.27E-08	1.62E 07
9 26	9571	8.57E-02	1.87E-03	1.64E-04	3.80E-18	3.75E 09	1.42E-08	7.03E 06

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
10 0	1592	8.43E-02	4.01E-01	3.38E-02	7.56E-16	2.82E 09	2.13E-06	1.13E 09
10 1	1653	2.05E-04	8.71E-04	7.35E-05	1.64E-18	2.82E 09	4.63E-09	2.46E 06
10 2	1718	4.53E-02	1.71E-01	1.44E-02	3.22E-16	2.82E 09	9.09E-07	4.82E 08
10 3	1788	2.25E-03	7.56E-03	6.38E-04	1.42E-17	2.82E 09	4.02E-08	2.13E 07
10 4	1863	3.35E-02	9.93E-02	8.38E-03	1.87E-16	2.82E 09	5.28E-07	2.80E 08
10 5	1943	8.05E-03	2.10E-02	1.78E-03	3.97E-17	2.82E 09	1.12E-07	5.94E 07
10 6	2029	2.24E-02	5.14E-02	4.34E-03	9.70E-17	2.82E 09	2.73E-07	1.45E 08
10 7	2122	1.84E-02	3.69E-02	3.11E-03	6.95E-17	2.82E 09	1.96E-07	1.04E 08
10 8	2222	9.74E-03	1.70E-02	1.44E-03	3.21E-17	2.82E 09	9.04E-08	4.80E 07
10 9	2331	3.03E-02	4.58E-02	3.86E-03	8.63E-17	2.82E 09	2.43E-07	1.29E 08
10 10	2449	5.29E-04	6.90E-04	5.82E-05	1.30E-18	2.82E 09	3.67E-09	1.95E 06
10 11	2578	3.47E-02	3.89E-02	3.28E-03	7.32E-17	2.82E 09	2.07E-07	1.10E 08
10 12	2719	5.38E-03	5.13E-03	4.32E-04	9.67E-18	2.82E 09	2.73E-08	1.45E 07
10 13	2875	2.22E-02	1.79E-02	1.51E-03	3.37E-17	2.82E 09	9.52E-08	5.05E 07
10 14	3046	2.76E-02	1.87E-02	1.58E-03	3.53E-17	2.82E 09	9.94E-08	5.27E 07
10 15	3235	1.94E-03	1.10E-03	9.28E-05	2.07E-18	2.82E 09	5.85E-09	3.10E 06
10 16	3447	4.14E-02	1.94E-02	1.63E-03	3.65E-17	2.82E 09	1.03E-07	5.46E 07
10 17	3684	1.22E-02	4.68E-03	3.95E-04	8.82E-18	2.82E 09	2.49E-08	1.32E 07
10 18	3952	1.46E-02	4.55E-03	3.83E-04	8.57E-18	2.82E 09	2.42E-08	1.28E 07
10 19	4257	5.04E-02	1.25E-02	1.06E-03	2.36E-17	2.82E 09	6.66E-08	3.54E 07
10 20	4606	8.06E-03	1.58E-03	1.33E-04	2.98E-18	2.82E 09	8.40E-09	4.46E 06
10 21	5010	2.09E-02	3.18E-03	2.68E-04	5.99E-18	2.82E 09	1.69E-08	8.96E 06
10 22	5484	6.75E-02	7.84E-03	6.62E-04	1.48E-17	2.82E 09	4.17E-08	2.21E 07
10 23	6046	2.72E-02	2.36E-03	1.99E-04	4.44E-18	2.82E 09	1.25E-08	6.65E 06
10 24	6723	3.61E-03	2.28E-04	1.92E-05	4.30E-19	2.82E 09	1.21E-09	6.43E 05
10 25	7554	7.14E-02	3.18E-03	2.68E-04	5.99E-18	2.82E 09	1.69E-08	8.96E 06
10 26	8598	1.30E-01	3.93E-03	3.31E-04	7.40E-18	2.82E 09	2.09E-08	1.11E 07
10 27	9949	1.14E-01	2.21E-03	1.87E-04	4.17E-18	2.82E 09	1.18E-08	6.24E 06

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
11 0	1563	7.81E-02	3.94E-01	3.08E-02	6.63E-16	2.14E 09	1.42E-06	8.43E 08
11 1	1622	2.02E-03	9.10E-03	7.11E-04	1.53E-17	2.14E 09	3.28E-08	1.95E 07
11 2	1685	4.18E-02	1.68E-01	1.31E-02	2.83E-16	2.14E 09	6.06E-07	3.60E 08
11 3	1752	9.89E-04	3.54E-03	2.77E-04	5.96E-18	2.14E 09	1.28E-08	7.58E 06
11 4	1824	3.53E-02	1.12E-01	8.76E-03	1.89E-16	2.14E 09	4.04E-07	2.40E 08
11 5	1900	1.68E-05	4.72E-05	3.69E-06	7.95E-20	2.14E 09	1.70E-10	1.01E 05
11 6	1983	3.26E-02	8.05E-02	6.29E-03	1.35E-16	2.14E 09	2.90E-07	1.72E 08
11 7	2071	1.24E-03	2.69E-03	2.10E-04	4.53E-18	2.14E 09	9.70E-09	5.76E 06
11 8	2167	2.83E-02	5.37E-02	4.19E-03	9.03E-17	2.14E 09	1.93E-07	1.15E 08
11 9	2270	7.17E-03	1.18E-02	9.21E-04	1.99E-17	2.14E 09	4.25E-08	2.52E 07
11 10	2382	1.96E-02	2.80E-02	2.19E-03	4.71E-17	2.14E 09	1.01E-07	5.99E 07
11 11	2504	1.89E-02	2.32E-02	1.81E-03	3.91E-17	2.14E 09	8.36E-08	4.97E 07
11 12	2637	7.22E-03	7.59E-03	5.93E-04	1.28E-17	2.14E 09	2.73E-08	1.62E 07
11 13	2782	3.20E-02	2.86E-02	2.23E-03	4.81E-17	2.14E 09	1.03E-07	6.12E 07
11 14	2942	5.83E-06	4.41E-06	3.44E-07	7.42E-21	2.14E 09	1.59E-11	9.43E 03
11 15	3119	3.33E-02	2.12E-02	1.65E-03	3.56E-17	2.14E 09	7.62E-08	4.53E 07
11 16	3315	1.24E-02	6.53E-03	5.10E-04	1.10E-17	2.14E 09	2.35E-08	1.40E 07
11 17	3534	1.38E-02	6.03E-03	4.71E-04	1.01E-17	2.14E 09	2.17E-08	1.29E 07
11 18	3780	3.94E-02	1.41E-02	1.10E-03	2.37E-17	2.14E 09	5.06E-08	3.01E 07
11 19	4057	8.01E-04	2.31E-04	1.80E-05	3.89E-19	2.14E 09	8.32E-10	4.94E 05
11 20	4373	3.44E-02	7.92E-03	6.19E-04	1.33E-17	2.14E 09	2.85E-08	1.69E 07
11 21	4736	3.86E-02	7.00E-03	5.47E-04	1.18E-17	2.14E 09	2.52E-08	1.50E 07
11 22	5157	3.04E-05	4.26E-06	3.33E-07	7.18E-21	2.14E 09	1.54E-11	9.12E 03
11 23	5651	4.66E-02	4.97E-03	3.88E-04	8.37E-18	2.14E 09	1.79E-08	1.06E 07
11 24	6238	5.91E-02	4.69E-03	3.66E-04	7.90E-18	2.14E 09	1.69E-08	1.00E 07
11 25	6948	5.26E-03	3.02E-04	2.36E-05	5.08E-19	2.14E 09	1.09E-09	6.46E 05
11 26	7822	2.73E-02	1.10E-03	8.58E-05	1.85E-18	2.14E 09	3.96E-09	2.35E 06
11 27	8924	1.08E-01	2.93E-03	2.29E-04	4.93E-18	2.14E 09	1.06E-08	6.27E 06

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
12 0	1536	6.99E-02	3.73E-01	2.61E-02	5.43E-16	1.65E 09	8.96E-07	6.16E 08
12 1	1593	9.01E-03	4.32E-02	3.02E-03	6.28E-17	1.65E 09	1.04E-07	7.12E 07
12 2	1653	3.14E-02	1.35E-01	9.40E-03	1.96E-16	1.65E 09	3.23E-07	2.22E 08
12 3	1718	9.42E-03	3.60E-02	2.51E-03	5.23E-17	1.65E 09	8.63E-08	5.94E 07
12 4	1787	2.49E-02	8.46E-02	5.91E-03	1.23E-16	1.65E 09	2.03E-07	1.40E 08
12 5	1860	7.43E-03	2.23E-02	1.56E-03	3.25E-17	1.65E 09	5.35E-08	3.68E 07
12 6	1939	2.48E-02	6.58E-02	4.59E-03	9.56E-17	1.65E 09	1.58E-07	1.09E 08
12 7	2024	4.20E-03	9.81E-03	6.86E-04	1.43E-17	1.65E 09	2.35E-08	1.62E 07
12 8	2115	2.72E-02	5.56E-02	3.89E-03	8.09E-17	1.65E 09	1.33E-07	9.18E 07
12 9	2213	9.85E-04	1.76E-03	1.23E-04	2.56E-18	1.65E 09	4.22E-09	2.90E 06
12 10	2320	2.96E-02	4.59E-02	3.21E-03	6.68E-17	1.65E 09	1.10E-07	7.58E 07
12 11	2435	2.60E-04	3.48E-04	2.43E-05	5.06E-19	1.65E 09	8.35E-10	5.74E 05
12 12	2561	2.85E-02	3.29E-02	2.30E-03	4.78E-17	1.65E 09	7.89E-08	5.43E 07
12 13	2698	5.87E-03	5.79E-03	4.05E-04	8.42E-18	1.65E 09	1.39E-08	9.55E 06
12 14	2848	2.02E-02	1.69E-02	1.18E-03	2.46E-17	1.65E 09	4.05E-08	2.79E 07
12 15	3013	2.00E-02	1.41E-02	9.88E-04	2.06E-17	1.65E 09	3.39E-08	2.33E 07
12 16	3196	6.00E-03	3.56E-03	2.49E-04	5.17E-18	1.65E 09	8.54E-09	5.87E 06
12 17	3399	3.53E-02	1.74E-02	1.21E-03	2.53E-17	1.65E 09	4.17E-08	2.87E 07
12 18	3625	8.74E-04	3.55E-04	2.48E-05	5.17E-19	1.65E 09	8.52E-10	5.86E 05
12 19	3880	3.14E-02	1.04E-02	7.27E-04	1.51E-17	1.65E 09	2.49E-08	1.72E 07
12 20	4168	2.40E-02	6.41E-03	4.48E-04	9.32E-18	1.65E 09	1.54E-08	1.06E 07
12 21	4496	4.70E-03	1.00E-03	6.99E-05	1.46E-18	1.65E 09	2.40E-09	1.65E 06
12 22	4874	4.88E-02	8.16E-03	5.70E-04	1.19E-17	1.65E 09	1.96E-08	1.35E 07
12 23	5313	1.62E-02	2.09E-03	1.46E-04	3.04E-18	1.65E 09	5.01E-09	3.45E 06
12 24	5829	1.22E-02	1.20E-03	8.35E-05	1.74E-18	1.65E 09	2.87E-09	1.97E 06
12 25	6443	6.57E-02	4.75E-03	3.32E-04	6.91E-18	1.65E 09	1.14E-08	7.84E 06
12 26	7188	3.35E-02	1.74E-03	1.22E-04	2.54E-18	1.65E 09	4.18E-09	2.88E 06
12 27	8108	1.81E-03	6.56E-05	4.58E-06	9.54E-20	1.65E 09	1.57E-10	1.08E 05

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
13 0	1510	6.07E-02	3.42E-01	2.08E-02	4.18E-16	1.71E 09	7.15E-07	5.86E 08
13 1	1565	1.82E-02	9.21E-02	5.59E-03	1.12E-16	1.71E 09	1.92E-07	1.57E 08
13 2	1624	1.90E-02	8.62E-02	5.23E-03	1.05E-16	1.71E 09	1.80E-07	1.47E 08
13 3	1686	2.06E-02	8.35E-02	5.07E-03	1.02E-16	1.71E 09	1.75E-07	1.43E 08
13 4	1752	1.12E-02	4.03E-02	2.45E-03	4.92E-17	1.71E 09	8.42E-08	6.89E 07
13 5	1823	2.00E-02	6.42E-02	3.90E-03	7.85E-17	1.71E 09	1.34E-07	1.10E 08
13 6	1899	9.63E-03	2.73E-02	1.66E-03	3.34E-17	1.71E 09	5.71E-08	4.67E 07
13 7	1980	1.81E-02	4.53E-02	2.75E-03	5.53E-17	1.71E 09	9.46E-08	7.74E 07
13 8	2067	1.11E-02	2.45E-02	1.49E-03	2.99E-17	1.71E 09	5.12E-08	4.19E 07
13 9	2161	1.48E-02	2.84E-02	1.73E-03	3.47E-17	1.71E 09	5.94E-08	4.86E 07
13 10	2262	1.52E-02	2.55E-02	1.55E-03	3.12E-17	1.71E 09	5.33E-08	4.36E 07
13 11	2372	9.78E-03	1.43E-02	8.65E-04	1.74E-17	1.71E 09	2.98E-08	2.44E 07
13 12	2490	2.15E-02	2.71E-02	1.64E-03	3.31E-17	1.71E 09	5.65E-08	4.63E 07
13 13	2620	3.79E-03	4.10E-03	2.49E-04	5.00E-18	1.71E 09	8.56E-09	7.00E 06
13 14	2761	2.83E-02	2.61E-02	1.59E-03	3.19E-17	1.71E 09	5.46E-08	4.47E 07
13 15	2916	2.49E-05	1.95E-05	1.19E-06	2.39E-20	1.71E 09	4.08E-11	3.34E 04
13 16	3087	3.06E-02	2.02E-02	1.23E-03	2.47E-17	1.71E 09	4.22E-08	3.46E 07
13 17	3276	4.96E-03	2.74E-03	1.67E-04	3.35E-18	1.71E 09	5.73E-09	4.69E 06
13 18	3486	2.18E-02	10.00E-03	6.07E-04	1.22E-17	1.71E 09	2.09E-08	1.71E 07
13 19	3721	2.29E-02	8.65E-03	5.25E-04	1.06E-17	1.71E 09	1.81E-08	1.48E 07
13 20	3985	4.39E-03	1.35E-03	8.18E-05	1.65E-18	1.71E 09	2.81E-09	2.30E 06
13 21	4284	4.05E-02	1.00E-02	6.08E-04	1.22E-17	1.71E 09	2.09E-08	1.71E 07
13 22	4626	5.06E-03	9.94E-04	6.03E-05	1.21E-18	1.71E 09	2.08E-09	1.70E 06
13 23	5020	2.52E-02	3.87E-03	2.35E-04	4.73E-18	1.71E 09	8.09E-09	6.62E 06
13 24	5478	4.37E-02	5.17E-03	3.14E-04	6.32E-18	1.71E 09	1.08E-08	8.84E 06
13 25	6017	5.01E-04	4.47E-05	2.71E-06	5.46E-20	1.71E 09	9.33E-11	7.64E 04
13 26	6662	4.11E-02	2.70E-03	1.64E-04	3.30E-18	1.71E 09	5.64E-09	4.61E 06
13 27	7445	6.17E-02	2.91E-03	1.77E-04	3.55E-18	1.71E 09	6.07E-09	4.97E 06

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
14 0	1486	5.15E-02	3.08E-01	1.58E-02	3.09E-16	1.37E 09	4.23E-07	4.21E 08
14 1	1540	2.71E-02	1.45E-01	7.49E-03	1.46E-16	1.37E 09	2.00E-07	1.99E 08
14 2	1596	8.49E-03	4.10E-02	2.11E-03	4.11E-17	1.37E 09	5.63E-08	5.61E 07
14 3	1656	2.87E-02	1.24E-01	6.38E-03	1.24E-16	1.37E 09	1.70E-07	1.70E 08
14 4	1720	1.92E-03	7.42E-03	3.82E-04	7.44E-18	1.37E 09	1.02E-08	1.02E 07
14 5	1788	2.73E-02	9.37E-02	4.82E-03	9.40E-17	1.37E 09	1.29E-07	1.28E 08
14 6	1861	5.70E-04	1.73E-03	8.93E-05	1.74E-18	1.37E 09	2.38E-09	2.37E 06
14 7	1939	2.61E-02	7.01E-02	3.61E-03	7.03E-17	1.37E 09	9.64E-08	9.60E 07
14 8	2022	4.33E-04	1.03E-03	5.29E-05	1.03E-18	1.37E 09	1.41E-09	1.41E 06
14 9	2112	2.53E-02	5.26E-02	2.71E-03	5.28E-17	1.37E 09	7.23E-08	7.21E 07
14 10	2209	9.61E-04	1.75E-03	9.00E-05	1.75E-18	1.37E 09	2.40E-09	2.40E 06
14 11	2313	2.44E-02	3.86E-02	1.99E-03	3.88E-17	1.37E 09	5.31E-08	5.29E 07
14 12	2426	2.83E-03	3.88E-03	2.00E-04	3.90E-18	1.37E 09	5.34E-09	5.32E 06
14 13	2548	2.21E-02	2.62E-02	1.35E-03	2.63E-17	1.37E 09	3.60E-08	3.59E 07
14 14	2682	7.44E-03	7.56E-03	3.89E-04	7.59E-18	1.37E 09	1.04E-08	1.04E 07
14 15	2828	1.69E-02	1.46E-02	7.53E-04	1.47E-17	1.37E 09	2.01E-08	2.00E 07
14 16	2988	1.61E-02	1.18E-02	6.09E-04	1.19E-17	1.37E 09	1.63E-08	1.62E 07
14 17	3165	8.29E-03	5.13E-03	2.64E-04	5.15E-18	1.37E 09	7.05E-09	7.03E 06
14 18	3361	2.75E-02	1.42E-02	7.32E-04	1.43E-17	1.37E 09	1.95E-08	1.95E 07
14 19	3578	5.71E-04	2.44E-04	1.26E-05	2.45E-19	1.37E 09	3.36E-10	3.35E 05
14 20	3822	3.39E-02	1.19E-02	6.14E-04	1.20E-17	1.37E 09	1.64E-08	1.63E 07
14 21	4096	5.18E-03	1.48E-03	7.60E-05	1.48E-18	1.37E 09	2.03E-09	2.02E 06
14 22	4408	2.31E-02	5.28E-03	2.72E-04	5.30E-18	1.37E 09	7.26E-09	7.23E 06
14 23	4763	3.00E-02	5.45E-03	2.81E-04	5.47E-18	1.37E 09	7.49E-09	7.47E 06
14 24	5174	1.50E-03	2.12E-04	1.09E-05	2.13E-19	1.37E 09	2.91E-10	2.90E 05
14 25	5653	4.61E-02	5.01E-03	2.58E-04	5.03E-18	1.37E 09	6.88E-09	6.86E 06
14 26	6218	2.02E-02	1.64E-03	8.46E-05	1.65E-18	1.37E 09	2.26E-09	2.25E 06
14 27	6895	9.61E-03	5.75E-04	2.96E-05	5.77E-19	1.37E 09	7.90E-10	7.87E 05

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
15 0	1464	4.28E-02	2.70E-01	1.15E-02	2.18E-16	9.38E 08	2.05E-07	2.53E 08
15 1	1515	3.42E-02	1.94E-01	8.31E-03	1.57E-16	9.38E 08	1.47E-07	1.82E 08
15 2	1570	2.04E-03	1.04E-02	4.45E-04	8.41E-18	9.38E 08	7.89E-09	9.76E 06
15 3	1628	3.11E-02	1.42E-01	6.08E-03	1.15E-16	9.38E 08	1.08E-07	1.33E 08
15 4	1690	2.87E-04	1.18E-03	5.03E-05	9.51E-19	9.38E 08	8.92E-10	1.10E 06
15 5	1755	2.56E-02	9.35E-02	4.00E-03	7.56E-17	9.38E 08	7.09E-08	8.77E 07
15 6	1826	2.21E-03	7.18E-03	3.07E-04	5.81E-18	9.38E 08	5.45E-09	6.74E 06
15 7	1900	2.19E-02	6.31E-02	2.70E-03	5.10E-17	9.38E 08	4.78E-08	5.91E 07
15 8	1981	3.62E-03	9.21E-03	3.94E-04	7.45E-18	9.38E 08	6.99E-09	8.64E 06
15 9	2066	2.04E-02	4.57E-02	1.95E-03	3.69E-17	9.38E 08	3.47E-08	4.28E 07
15 10	2159	3.83E-03	7.51E-03	3.21E-04	6.07E-18	9.38E 08	5.70E-09	7.04E 06
15 11	2258	2.09E-02	3.58E-02	1.53E-03	2.89E-17	9.38E 08	2.71E-08	3.35E 07
15 12	2366	2.85E-03	4.25E-03	1.82E-04	3.44E-18	9.38E 08	3.23E-09	3.99E 06
15 13	2482	2.29E-02	2.95E-02	1.26E-03	2.39E-17	9.38E 08	2.24E-08	2.77E 07
15 14	2609	1.15E-03	1.28E-03	5.47E-05	1.03E-18	9.38E 08	9.69E-10	1.20E 06
15 15	2747	2.56E-02	2.44E-02	1.05E-03	1.98E-17	9.38E 08	1.85E-08	2.29E 07
15 16	2898	1.30E-06	1.05E-06	4.50E-08	8.51E-22	9.38E 08	7.98E-13	9.87E 02
15 17	3064	2.72E-02	1.87E-02	7.99E-04	1.51E-17	9.38E 08	1.42E-08	1.75E 07
15 18	3247	2.16E-03	1.25E-03	5.34E-05	1.01E-18	9.38E 08	9.47E-10	1.17E 06
15 19	3450	2.42E-02	1.16E-02	4.97E-04	9.40E-18	9.38E 08	8.82E-09	1.09E 07
15 20	3675	1.14E-02	4.54E-03	1.94E-04	3.67E-18	9.38E 08	3.44E-09	4.26E 06
15 21	3928	1.37E-02	4.46E-03	1.91E-04	3.61E-18	9.38E 08	3.39E-09	4.19E 06
15 22	4214	2.80E-02	7.39E-03	3.16E-04	5.98E-18	9.38E 08	5.60E-09	6.93E 06
15 23	4538	1.23E-03	2.59E-04	1.11E-05	2.10E-19	9.38E 08	1.97E-10	2.43E 05
15 24	4909	3.89E-02	6.50E-03	2.78E-04	5.25E-18	9.38E 08	4.93E-09	6.09E 06
15 25	5338	8.19E-03	1.06E-03	4.55E-05	8.60E-19	9.38E 08	8.07E-10	9.98E 05
15 26	5839	2.12E-02	2.10E-03	9.01E-05	1.70E-18	9.38E 08	1.60E-09	1.97E 06
15 27	6432	4.50E-02	3.34E-03	1.43E-04	2.70E-18	9.38E 08	2.53E-09	3.13E 06

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
16 0	1442	3.50E-02	2.33E-01	8.17E-03	1.50E-16	5.88E 08	8.81E-08	1.37E 08
16 1	1492	3.88E-02	2.34E-01	8.18E-03	1.50E-16	5.88E 08	8.82E-08	1.37E 08
16 2	1545	8.71E-08	4.72E-07	1.65E-08	3.03E-22	5.88E 08	1.78E-13	2.78E 02
16 3	1602	2.80E-02	1.36E-01	4.77E-03	8.76E-17	5.88E 08	5.15E-08	8.02E 07
16 4	1661	4.83E-03	2.11E-02	7.38E-04	1.35E-17	5.88E 08	7.96E-09	1.24E 07
16 5	1725	1.75E-02	6.84E-02	2.39E-03	4.39E-17	5.88E 08	2.58E-08	4.02E 07
16 6	1792	1.05E-02	3.63E-02	1.27E-03	2.33E-17	5.88E 08	1.37E-08	2.14E 07
16 7	1864	1.11E-02	3.44E-02	1.20E-03	2.21E-17	5.88E 08	1.30E-08	2.02E 07
16 8	1941	1.39E-02	3.80E-02	1.33E-03	2.44E-17	5.88E 08	1.44E-08	2.24E 07
16 9	2024	7.91E-03	1.91E-02	6.68E-04	1.23E-17	5.88E 08	7.20E-09	1.12E 07
16 10	2112	1.56E-02	3.31E-02	1.16E-03	2.13E-17	5.88E 08	1.25E-08	1.95E 07
16 11	2208	6.83E-03	1.27E-02	4.44E-04	8.15E-18	5.88E 08	4.79E-09	7.46E 06
16 12	2310	1.60E-02	2.60E-02	9.10E-04	1.67E-17	5.88E 08	9.82E-09	1.53E 07
16 13	2421	7.45E-03	1.05E-02	3.67E-04	6.74E-18	5.88E 08	3.96E-09	6.17E 06
16 14	2542	1.52E-02	1.86E-02	6.49E-04	1.19E-17	5.88E 08	7.00E-09	1.09E 07
16 15	2672	9.90E-03	1.04E-02	3.63E-04	6.66E-18	5.88E 08	3.92E-09	6.10E 06
16 16	2815	1.28E-02	1.15E-02	4.02E-04	7.38E-18	5.88E 08	4.34E-09	6.76E 06
16 17	2971	1.46E-02	1.12E-02	3.91E-04	7.17E-18	5.88E 08	4.21E-09	6.56E 06
16 18	3143	8.43E-03	5.43E-03	1.90E-04	3.49E-18	5.88E 08	2.05E-09	3.19E 06
16 19	3333	2.18E-02	1.18E-02	4.11E-04	7.55E-18	5.88E 08	4.44E-09	6.91E 06
16 20	3543	2.83E-03	1.27E-03	4.45E-05	8.17E-19	5.88E 08	4.80E-10	7.48E 05
16 21	3778	2.92E-02	1.08E-02	3.80E-04	6.97E-18	5.88E 08	4.10E-09	6.38E 06
16 22	4041	6.96E-05	2.11E-05	7.39E-07	1.36E-20	5.88E 08	7.97E-12	1.24E 04
16 23	4338	3.09E-02	7.58E-03	2.65E-04	4.87E-18	5.88E 08	2.86E-09	4.46E 06
16 24	4676	8.50E-03	1.66E-03	5.82E-05	1.07E-18	5.88E 08	6.28E-10	9.78E 05
16 25	5063	1.88E-02	2.90E-03	1.01E-04	1.86E-18	5.88E 08	1.09E-09	1.70E 06
16 26	5512	3.20E-02	3.83E-03	1.34E-04	2.46E-18	5.88E 08	1.44E-09	2.25E 06
16 27	6037	8.24E-04	7.49E-05	2.62E-06	4.81E-20	5.88E 08	2.83E-11	4.40E 04

VII. NITROGEN LYMAN-BIRGE-HOPFIELD BANDS

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
0 0	1450	4.31E-02	5.75E-02	2.48E-03	4.60E-17	6.39E 08	2.94E-08	3.67E 07
0 1	1501	1.52E-01	1.82E-01	7.87E-03	1.46E-16	6.39E 08	9.33E-08	1.17E 08
0 2	1555	2.48E-01	2.68E-01	1.16E-02	2.14E-16	6.39E 08	1.37E-07	1.71E 08
0 3	1612	2.49E-01	2.42E-01	1.04E-02	1.94E-16	6.39E 08	1.24E-07	1.55E 08
0 4	1672	1.73E-01	1.51E-01	6.50E-03	1.21E-16	6.39E 08	7.70E-08	9.62E 07
0 5	1736	8.81E-02	6.84E-02	2.95E-03	5.47E-17	6.39E 08	3.50E-08	4.37E 07
0 6	1805	3.40E-02	2.35E-02	1.01E-03	1.88E-17	6.39E 08	1.20E-08	1.50E 07
0 7	1878	1.02E-02	6.24E-03	2.69E-04	5.00E-18	6.39E 08	3.19E-09	3.99E 06
0 8	1956	2.39E-03	1.30E-03	5.60E-05	1.04E-18	6.39E 08	6.64E-10	8.30E 05
0 9	2040	4.45E-04	2.13E-04	9.20E-06	1.71E-19	6.39E 08	1.09E-10	1.36E 05
0 10	2130	6.59E-05	2.77E-05	1.20E-06	2.22E-20	6.39E 08	1.42E-11	1.77E 04
0 11	2227	7.74E-06	2.85E-06	1.23E-07	2.28E-21	6.39E 08	1.46E-12	1.82E 03
1 0	1416	1.16E-01	1.69E-01	1.96E-02	3.47E-16	4.10E 08	1.42E-07	6.92E 07
1 1	1464	1.93E-01	2.54E-01	2.95E-02	5.22E-16	4.10E 08	2.14E-07	1.04E 08
1 2	1515	8.05E-02	9.54E-02	1.11E-02	1.96E-16	4.10E 08	8.04E-08	3.91E 07
1 3	1569	4.02E-04	4.29E-04	4.98E-05	8.81E-19	4.10E 08	3.61E-10	1.76E 05
1 4	1627	8.73E-02	8.37E-02	9.72E-03	1.72E-16	4.10E 08	7.05E-08	3.43E 07
1 5	1688	1.85E-01	1.59E-01	1.85E-02	3.27E-16	4.10E 08	1.34E-07	6.51E 07
1 6	1752	1.75E-01	1.34E-01	1.56E-02	2.76E-16	4.10E 08	1.13E-07	5.51E 07
1 7	1821	1.03E-01	7.05E-02	8.20E-03	1.45E-16	4.10E 08	5.94E-08	2.89E 07
1 8	1894	4.25E-02	2.58E-02	3.00E-03	5.30E-17	4.10E 08	2.17E-08	1.06E 07
1 9	1973	1.29E-02	6.92E-03	8.05E-04	1.42E-17	4.10E 08	5.84E-09	2.84E 06
1 10	2057	2.97E-03	1.41E-03	1.64E-04	2.89E-18	4.10E 08	1.19E-09	5.77E 05
1 11	2147	5.27E-04	2.19E-04	2.55E-05	4.51E-19	4.10E 08	1.85E-10	9.00E 04
1 12	2244	7.25E-05	2.65E-05	3.08E-06	5.44E-20	4.10E 08	2.23E-11	1.08E 04
1 13	2349	7.76E-06	2.47E-06	2.87E-07	5.08E-21	4.10E 08	2.08E-12	1.01E 03
2 0	1384	1.71E-01	2.70E-01	4.63E-02	7.83E-16	3.04E 08	2.38E-07	8.22E 07
2 1	1430	9.68E-02	1.39E-01	2.37E-02	4.01E-16	3.04E 08	1.22E-07	4.21E 07
2 2	1479	3.28E-03	4.24E-03	7.26E-04	1.23E-17	3.04E 08	3.73E-09	1.29E 06
2 3	1530	1.07E-01	1.26E-01	2.15E-02	3.63E-16	3.04E 08	1.10E-07	3.82E 07
2 4	1584	8.60E-02	9.05E-02	1.55E-02	2.62E-16	3.04E 08	7.96E-08	2.75E 07
2 5	1642	8.55E-04	8.09E-04	1.38E-04	2.34E-18	3.04E 08	7.11E-10	2.46E 05
2 6	1703	6.45E-02	5.46E-02	9.36E-03	1.58E-16	3.04E 08	4.81E-08	1.66E 07
2 7	1768	1.64E-01	1.24E-01	2.13E-02	3.59E-16	3.04E 08	1.09E-07	3.77E 07
2 8	1837	1.61E-01	1.09E-01	1.87E-02	3.15E-16	3.04E 08	9.58E-08	3.31E 07
2 9	1911	9.41E-02	5.64E-02	9.66E-03	1.63E-16	3.04E 08	4.96E-08	1.71E 07
2 10	1990	3.72E-02	1.98E-02	3.38E-03	5.72E-17	3.04E 08	1.74E-08	6.00E 06
2 11	2074	1.06E-02	4.97E-03	8.52E-04	1.44E-17	3.04E 08	4.38E-09	1.51E 06
2 12	2164	2.25E-03	9.30E-04	1.59E-04	2.69E-18	3.04E 08	8.18E-10	2.83E 05
2 13	2261	3.63E-04	1.31E-04	2.25E-05	3.80E-19	3.04E 08	1.16E-10	3.99E 04
2 14	2366	4.46E-05	1.41E-05	2.41E-06	4.08E-20	3.04E 08	1.24E-11	4.28E 03
2 15	2479	4.18E-06	1.15E-06	1.97E-07	3.32E-21	3.04E 08	1.01E-12	3.49E 02

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
3 0	1354	1.83E-01	3.14E-01	5.77E-02	9.32E-16	2.88E 08	2.68E-07	9.05E 07
3 1	1398	1.21E-02	1.89E-02	3.46E-03	5.59E-17	2.88E 08	1.61E-08	5.43E 06
3 2	1444	7.55E-02	1.07E-01	1.95E-02	3.16E-16	2.88E 08	9.10E-08	3.07E 07
3 3	1493	6.93E-02	8.84E-02	1.62E-02	2.62E-16	2.88E 08	7.56E-08	2.55E 07
3 4	1545	3.61E-03	4.15E-03	7.62E-04	1.23E-17	2.88E 08	3.55E-09	1.20E 06
3 5	1600	9.51E-02	9.87E-02	1.81E-02	2.93E-16	2.88E 08	8.43E-08	2.84E 07
3 6	1658	6.58E-02	6.14E-02	1.13E-02	1.82E-16	2.88E 08	5.24E-08	1.77E 07
3 7	1719	1.48E-04	1.24E-04	2.27E-05	3.67E-19	2.88E 08	1.06E-10	3.57E 04
3 8	1784	7.84E-02	5.86E-02	1.08E-02	1.74E-16	2.88E 08	5.01E-08	1.69E 07
3 9	1854	1.63E-01	1.09E-01	2.00E-02	3.23E-16	2.88E 08	9.30E-08	3.13E 07
3 10	1928	1.43E-01	8.48E-02	1.56E-02	2.52E-16	2.88E 08	7.25E-08	2.44E 07
3 11	2007	7.52E-02	3.95E-02	7.25E-03	1.17E-16	2.88E 08	3.38E-08	1.14E 07
3 12	2091	2.68E-02	1.24E-02	2.28E-03	3.69E-17	2.88E 08	1.06E-08	3.58E 06
3 13	2182	6.82E-03	2.79E-03	5.12E-04	8.28E-18	2.88E 08	2.38E-09	8.04E 05
3 14	2279	1.28E-03	4.61E-04	8.46E-05	1.37E-18	2.88E 08	3.94E-10	1.33E 05
3 15	2384	1.81E-04	5.68E-05	1.04E-05	1.68E-19	2.88E 08	4.85E-11	1.64E 04
3 16	2496	1.92E-05	5.24E-06	9.61E-07	1.55E-20	2.88E 08	4.48E-12	1.51E 03
4 0	1325	1.60E-01	2.97E-01	4.76E-02	7.37E-16	1.95E 08	1.44E-07	5.79E 07
4 1	1367	6.39E-03	1.08E-02	1.73E-03	2.68E-17	1.95E 08	5.22E-09	2.10E 06
4 2	1412	9.66E-02	1.48E-01	2.37E-02	3.68E-16	1.95E 08	7.17E-08	2.89E 07
4 3	1459	5.81E-04	8.08E-04	1.29E-04	2.01E-18	1.95E 08	3.91E-10	1.58E 05
4 4	1508	7.74E-02	9.74E-02	1.56E-02	2.42E-16	1.95E 08	4.72E-08	1.90E 07
4 5	1560	3.74E-02	4.24E-02	6.80E-03	1.05E-16	1.95E 08	2.05E-08	8.27E 06
4 6	1615	1.69E-02	1.73E-02	2.77E-03	4.29E-17	1.95E 08	8.37E-09	3.37E 06
4 7	1673	9.67E-02	8.90E-02	1.43E-02	2.21E-16	1.95E 08	4.31E-08	1.73E 07
4 8	1735	3.62E-02	2.98E-02	4.78E-03	7.41E-17	1.95E 08	1.44E-08	5.82E 06
4 9	1801	9.17E-03	6.77E-03	1.08E-03	1.68E-17	1.95E 08	3.28E-09	1.32E 06
4 10	1870	1.08E-01	7.15E-02	1.15E-02	1.77E-16	1.95E 08	3.46E-08	1.39E 07
4 11	1945	1.63E-01	9.53E-02	1.53E-02	2.37E-16	1.95E 08	4.62E-08	1.86E 07
4 12	2024	1.18E-01	6.13E-02	9.82E-03	1.52E-16	1.95E 08	2.97E-08	1.20E 07
4 13	2109	5.30E-02	2.44E-02	3.91E-03	6.06E-17	1.95E 08	1.18E-08	4.76E 06
4 14	2199	1.63E-02	6.62E-03	1.06E-03	1.64E-17	1.95E 08	3.20E-09	1.29E 06
4 15	2297	3.60E-03	1.28E-03	2.05E-04	3.18E-18	1.95E 08	6.20E-10	2.50E 05
4 16	2401	5.81E-04	1.81E-04	2.90E-05	4.49E-19	1.95E 08	8.76E-11	3.53E 04
4 17	2514	6.96E-05	1.89E-05	3.03E-06	4.69E-20	1.95E 08	9.14E-12	3.68E 03
4 18	2636	6.17E-06	1.45E-06	2.33E-07	3.61E-21	1.95E 08	7.03E-13	2.83E 02

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
5 0	1298	1.21E-01	2.43E-01	2.95E-02	4.39E-16	2.67E 08	1.17E-07	6.49E 07
5 1	1339	4.71E-02	8.59E-02	1.04E-02	1.55E-16	2.67E 08	4.14E-08	2.29E 07
5 2	1381	4.67E-02	7.76E-02	9.42E-03	1.40E-16	2.67E 08	3.74E-08	2.07E 07
5 3	1426	3.39E-02	5.12E-02	6.22E-03	9.25E-17	2.67E 08	2.47E-08	1.37E 07
5 4	1473	5.67E-02	7.77E-02	9.43E-03	1.40E-16	2.67E 08	3.74E-08	2.07E 07
5 5	1523	8.36E-03	1.04E-02	1.26E-03	1.87E-17	2.67E 08	5.00E-09	2.77E 06
5 6	1575	7.88E-02	8.83E-02	1.07E-02	1.59E-16	2.67E 08	4.26E-08	2.36E 07
5 7	1631	7.91E-03	7.99E-03	9.70E-04	1.44E-17	2.67E 08	3.85E-09	2.13E 06
5 8	1689	4.67E-02	4.25E-02	5.15E-03	7.66E-17	2.67E 08	2.05E-08	1.13E 07
5 9	1751	8.54E-02	6.96E-02	8.45E-03	1.26E-16	2.67E 08	3.35E-08	1.86E 07
5 10	1817	7.96E-03	5.81E-03	7.05E-04	1.05E-17	2.67E 08	2.80E-09	1.55E 06
5 11	1887	3.91E-02	2.55E-02	3.09E-03	4.60E-17	2.67E 08	1.23E-08	6.80E 06
5 12	1962	1.40E-01	8.13E-02	9.87E-03	1.47E-16	2.67E 08	3.92E-08	2.17E 07
5 13	2041	1.50E-01	7.71E-02	9.36E-03	1.39E-16	2.67E 08	3.72E-08	2.06E 07
5 14	2126	8.72E-02	3.97E-02	4.82E-03	7.17E-17	2.67E 08	1.91E-08	1.06E 07
5 15	2217	3.26E-02	1.31E-02	1.59E-03	2.37E-17	2.67E 08	6.32E-09	3.50E 06
5 16	2314	8.44E-03	2.98E-03	3.62E-04	5.38E-18	2.67E 08	1.44E-09	7.96E 05
5 17	2419	1.57E-03	4.85E-04	5.88E-05	8.75E-19	2.67E 08	2.34E-10	1.29E 05
5 18	2531	2.12E-04	5.71E-05	6.93E-06	1.03E-19	2.67E 08	2.75E-11	1.52E 04
5 19	2653	2.09E-05	4.91E-06	5.96E-07	8.86E-21	2.67E 08	2.36E-12	1.31E 03
6 0	1273	8.29E-02	1.79E-01	1.48E-02	2.12E-16	1.36E 08	2.88E-08	2.43E 07
6 1	1312	8.54E-02	1.68E-01	1.39E-02	1.99E-16	1.36E 08	2.71E-08	2.29E 07
6 2	1352	4.54E-03	8.16E-03	6.76E-04	9.66E-18	1.36E 08	1.31E-09	1.11E 06
6 3	1395	7.29E-02	1.19E-01	9.89E-03	1.41E-16	1.36E 08	1.92E-08	1.62E 07
6 4	1440	2.80E-03	4.16E-03	3.45E-04	4.92E-18	1.36E 08	6.70E-10	5.65E 05
6 5	1488	6.35E-02	8.57E-02	7.10E-03	1.01E-16	1.36E 08	1.38E-08	1.17E 07
6 6	1538	1.48E-02	1.81E-02	1.50E-03	2.15E-17	1.36E 08	2.92E-09	2.47E 06
6 7	1591	4.04E-02	4.46E-02	3.70E-03	5.29E-17	1.36E 08	7.19E-09	6.07E 06
6 8	1646	5.50E-02	5.48E-02	4.54E-03	6.49E-17	1.36E 08	8.83E-09	7.45E 06
6 9	1705	2.01E-03	1.80E-03	1.49E-04	2.13E-18	1.36E 08	2.90E-10	2.45E 05
6 10	1768	7.87E-02	6.34E-02	5.25E-03	7.50E-17	1.36E 08	1.02E-08	8.62E 06
6 11	1834	5.14E-02	3.71E-02	3.07E-03	4.39E-17	1.36E 08	5.97E-09	5.04E 06
6 12	1904	1.63E-03	1.05E-03	8.68E-05	1.24E-18	1.36E 08	1.69E-10	1.43E 05
6 13	1979	8.72E-02	5.00E-02	4.14E-03	5.92E-17	1.36E 08	8.05E-09	6.80E 06
6 14	2059	1.57E-01	7.99E-02	6.62E-03	9.47E-17	1.36E 08	1.29E-08	1.09E 07
6 15	2144	1.22E-01	5.51E-02	4.57E-03	6.53E-17	1.36E 08	8.88E-09	7.50E 06
6 16	2235	5.63E-02	2.24E-02	1.86E-03	2.66E-17	1.36E 08	3.61E-09	3.05E 06
6 17	2332	1.72E-02	6.03E-03	5.00E-04	7.15E-18	1.36E 08	9.72E-10	8.21E 05
6 18	2437	3.67E-03	1.13E-03	9.35E-05	1.34E-18	1.36E 08	1.82E-10	1.53E 05
6 19	2549	5.60E-04	1.50E-04	1.25E-05	1.78E-19	1.36E 08	2.42E-11	2.05E 04
6 20	2670	6.18E-05	1.44E-05	1.20E-06	1.71E-20	1.36E 08	2.32E-12	1.96E 03
6 21	2801	4.91E-06	9.93E-07	8.23E-08	1.18E-21	1.36E 08	1.60E-13	1.35E 02

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
7 0	1249	5.23E-02	1.21E-01	6.35E-03	8.73E-17	1.45E 08	1.27E-08	1.76E 07
7 1	1286	9.97E-02	2.12E-01	1.11E-02	1.52E-16	1.45E 08	2.21E-08	3.07E 07
7 2	1325	5.80E-03	1.12E-02	5.88E-04	8.09E-18	1.45E 08	1.17E-09	1.63E 06
7 3	1367	5.66E-02	1.00E-01	5.24E-03	7.21E-17	1.45E 08	1.04E-08	1.45E 07
7 4	1410	1.72E-02	2.77E-02	1.45E-03	1.99E-17	1.45E 08	2.89E-09	4.01E 06
7 5	1455	4.69E-02	6.88E-02	3.60E-03	4.95E-17	1.45E 08	7.18E-09	9.98E 06
7 6	1503	1.28E-02	1.70E-02	8.89E-04	1.22E-17	1.45E 08	1.77E-09	2.46E 06
7 7	1553	5.73E-02	6.91E-02	3.61E-03	4.97E-17	1.45E 08	7.20E-09	1.00E 07
7 8	1606	1.04E-03	1.13E-03	5.93E-05	8.15E-19	1.45E 08	1.18E-10	1.64E 05
7 9	1663	6.75E-02	6.64E-02	3.47E-03	4.78E-17	1.45E 08	6.93E-09	9.63E 06
7 10	1722	1.54E-02	1.36E-02	7.12E-04	9.79E-18	1.45E 08	1.42E-09	1.97E 06
7 11	1785	3.21E-02	2.55E-02	1.33E-03	1.84E-17	1.45E 08	2.66E-09	3.70E 06
7 12	1851	8.35E-02	5.95E-02	3.11E-03	4.28E-17	1.45E 08	6.21E-09	8.63E 06
7 13	1922	1.20E-02	7.61E-03	3.98E-04	5.47E-18	1.45E 08	7.94E-10	1.10E 06
7 14	1997	3.20E-02	1.81E-02	9.48E-04	1.30E-17	1.45E 08	1.89E-09	2.63E 06
7 15	2076	1.34E-01	6.76E-02	3.53E-03	4.86E-17	1.45E 08	7.05E-09	9.80E 06
7 16	2162	1.48E-01	6.62E-02	3.46E-03	4.76E-17	1.45E 08	6.90E-09	9.60E 06
7 17	2253	8.57E-02	3.39E-02	1.77E-03	2.44E-17	1.45E 08	3.53E-09	4.91E 06
7 18	2350	3.12E-02	1.08E-02	5.67E-04	7.81E-18	1.45E 08	1.13E-09	1.57E 06
7 19	2454	7.67E-03	2.34E-03	1.23E-04	1.69E-18	1.45E 08	2.45E-10	3.40E 05
7 20	2566	1.32E-03	3.54E-04	1.85E-05	2.55E-19	1.45E 08	3.69E-11	5.13E 04
7 21	2687	1.63E-04	3.79E-05	1.98E-06	2.73E-20	1.45E 08	3.95E-12	5.49E 03
7 22	2818	1.43E-05	2.88E-06	1.51E-07	2.07E-21	1.45E 08	3.01E-13	4.18E 02
8 0	1226	3.11E-02	7.50E-02	2.33E-03	3.09E-17	3.15E 08	9.74E-09	2.36E 07
8 1	1262	9.22E-02	2.04E-01	6.34E-03	8.40E-17	3.15E 08	2.65E-08	6.42E 07
8 2	1300	3.37E-02	6.83E-02	2.12E-03	2.81E-17	3.15E 08	8.87E-09	2.15E 07
8 3	1339	1.83E-02	3.38E-02	1.05E-03	1.39E-17	3.15E 08	4.39E-09	1.06E 07
8 4	1381	5.34E-02	9.02E-02	2.80E-03	3.72E-17	3.15E 08	1.17E-08	2.84E 07
8 5	1424	4.21E-03	6.47E-03	2.01E-04	2.67E-18	3.15E 08	8.41E-10	2.04E 06
8 6	1470	5.44E-02	7.61E-02	2.37E-03	3.14E-17	3.15E 08	9.88E-09	2.40E 07
8 7	1518	4.75E-03	6.03E-03	1.87E-04	2.49E-18	3.15E 08	7.83E-10	1.90E 06
8 8	1569	5.03E-02	5.79E-02	1.80E-03	2.39E-17	3.15E 08	7.52E-09	1.82E 07
8 9	1622	4.75E-02	4.95E-02	1.54E-03	2.04E-17	3.15E 08	6.42E-09	1.56E 07
8 10	1679	3.14E-02	2.95E-02	9.18E-04	1.22E-17	3.15E 08	3.84E-09	9.30E 06
8 11	1738	5.36E-02	4.53E-02	1.41E-03	1.87E-17	3.15E 08	5.89E-09	1.43E 07
8 12	1801	1.04E-03	7.93E-04	2.46E-05	3.27E-19	3.15E 08	1.03E-10	2.50E 05
8 13	1868	7.32E-02	4.99E-02	1.55E-03	2.06E-17	3.15E 08	6.48E-09	1.57E 07
8 14	1939	4.95E-02	3.02E-02	9.38E-04	1.24E-17	3.15E 08	3.92E-09	9.50E 06
8 15	2014	1.94E-03	1.06E-03	3.29E-05	4.36E-19	3.15E 08	1.37E-10	3.33E 05
8 16	2094	8.91E-02	4.31E-02	1.34E-03	1.78E-17	3.15E 08	5.60E-09	1.36E 07
8 17	2180	1.55E-01	6.67E-02	2.08E-03	2.75E-17	3.15E 08	8.67E-09	2.10E 07
8 18	2271	1.16E-01	4.42E-02	1.37E-03	1.82E-17	3.15E 08	5.74E-09	1.39E 07
8 19	2368	5.09E-02	1.70E-02	5.30E-04	7.03E-18	3.15E 08	2.21E-09	5.37E 06
8 20	2472	1.45E-02	4.28E-03	1.33E-04	1.76E-18	3.15E 08	5.55E-10	1.35E 06
8 21	2584	2.84E-03	7.33E-04	2.28E-05	3.02E-19	3.15E 08	9.51E-11	2.31E 05
8 22	2705	3.90E-04	8.77E-05	2.73E-06	3.61E-20	3.15E 08	1.14E-11	2.76E 04
8 23	2834	3.77E-05	7.36E-06	2.29E-07	3.04E-21	3.15E 08	9.56E-13	2.32E 03

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
9 0	1204	1.76E-02	4.71E-02	8.31E-04	1.06E-17	4.18E 08	4.45E-09	1.97E 07
9 1	1239	7.35E-02	1.80E-01	3.18E-03	4.06E-17	4.18E 08	1.70E-08	7.53E 07
9 2	1275	6.11E-02	1.37E-01	2.42E-03	3.10E-17	4.18E 08	1.29E-08	5.73E 07
9 3	1314	1.31E-04	2.70E-04	4.77E-06	6.10E-20	4.18E 08	2.55E-11	1.13E 05
9 4	1353	5.48E-02	1.03E-01	1.82E-03	2.33E-17	4.18E 08	9.73E-09	4.31E 07
9 5	1395	9.23E-03	1.59E-02	2.80E-04	3.58E-18	4.18E 08	1.50E-09	6.63E 06
9 6	1439	3.97E-02	6.21E-02	1.10E-03	1.40E-17	4.18E 08	5.86E-09	2.60E 07
9 7	1485	1.59E-02	2.26E-02	3.98E-04	5.10E-18	4.18E 08	2.13E-09	9.44E 06
9 8	1534	3.87E-02	5.00E-02	8.82E-04	1.13E-17	4.18E 08	4.72E-09	2.09E 07
9 9	1585	1.17E-02	1.37E-02	2.43E-04	3.10E-18	4.18E 08	1.30E-09	5.75E 06
9 10	1639	5.07E-02	5.38E-02	9.49E-04	1.21E-17	4.18E 08	5.08E-09	2.25E 07
9 11	1695	1.25E-03	1.19E-03	2.10E-05	2.69E-19	4.18E 08	1.13E-10	4.99E 05
9 12	1755	6.31E-02	5.44E-02	9.60E-04	1.23E-17	4.18E 08	5.13E-09	2.27E 07
9 13	1819	1.24E-02	9.61E-03	1.70E-04	2.17E-18	4.18E 08	9.07E-10	4.02E 06
9 14	1886	3.44E-02	2.39E-02	4.22E-04	5.40E-18	4.18E 08	2.26E-09	10.00E 06
9 15	1957	7.85E-02	4.89E-02	8.62E-04	1.10E-17	4.18E 08	4.61E-09	2.04E 07
9 16	2032	7.58E-03	4.21E-03	7.43E-05	9.51E-19	4.18E 08	3.97E-10	1.76E 06
9 17	2112	4.04E-02	2.00E-02	3.52E-04	4.51E-18	4.18E 08	1.88E-09	8.35E 06
9 18	2198	1.40E-01	6.16E-02	1.09E-03	1.39E-17	4.18E 08	5.81E-09	2.57E 07
9 19	2289	1.42E-01	5.51E-02	9.73E-04	1.25E-17	4.18E 08	5.20E-09	2.31E 07
9 20	2386	7.58E-02	2.60E-02	4.59E-04	5.87E-18	4.18E 08	2.45E-09	1.09E 07
9 21	2490	2.52E-02	7.62E-03	1.34E-04	1.72E-18	4.18E 08	7.19E-10	3.19E 06
9 22	2602	5.61E-03	1.49E-03	2.62E-05	3.36E-19	4.18E 08	1.40E-10	6.21E 05
9 23	2722	8.61E-04	1.99E-04	3.51E-06	4.49E-20	4.18E 08	1.88E-11	8.32E 04
9 24	2851	9.19E-05	1.85E-05	3.26E-07	4.17E-21	4.18E 08	1.74E-12	7.73E 03
9 25	2990	6.80E-06	1.19E-06	2.09E-08	2.68E-22	4.18E 08	1.12E-13	4.95E 02
10 0	1184	9.66E-03	2.76E-02	2.67E-04	3.30E-18	9.93E 07	3.27E-10	2.74E 06
10 1	1217	5.29E-02	1.39E-01	1.34E-03	1.66E-17	9.93E 07	1.65E-09	1.38E 07
10 2	1253	7.38E-02	1.78E-01	1.72E-03	2.13E-17	9.93E 07	2.11E-09	1.77E 07
10 3	1289	9.75E-03	2.16E-02	2.08E-04	2.58E-18	9.93E 07	2.56E-10	2.14E 06
10 4	1328	2.80E-02	5.66E-02	5.47E-04	6.76E-18	9.93E 07	6.72E-10	5.62E 06
10 5	1368	3.92E-02	7.25E-02	7.01E-04	8.67E-18	9.93E 07	8.61E-10	7.20E 06
10 6	1410	5.08E-03	8.59E-03	8.30E-05	1.03E-18	9.93E 07	1.02E-10	8.53E 05
10 7	1454	4.74E-02	7.31E-02	7.06E-04	8.73E-18	9.93E 07	8.67E-10	7.26E 06
10 8	1501	9.42E-04	1.32E-03	1.28E-05	1.58E-19	9.93E 07	1.57E-11	1.31E 05
10 9	1550	4.93E-02	6.28E-02	6.07E-04	7.51E-18	9.93E 07	7.45E-10	6.24E 06
10 10	1601	1.84E-03	2.13E-03	2.06E-05	2.54E-19	9.93E 07	2.53E-11	2.11E 05
10 11	1655	4.90E-02	5.13E-02	4.95E-04	6.13E-18	9.93E 07	6.08E-10	5.09E 06
10 12	1712	1.15E-02	1.09E-02	1.05E-04	1.30E-18	9.93E 07	1.29E-10	1.08E 06
10 13	1772	3.56E-02	3.03E-02	2.92E-04	3.62E-18	9.93E 07	3.59E-10	3.01E 06
10 14	1836	4.50E-02	3.45E-02	3.33E-04	4.12E-18	9.93E 07	4.09E-10	3.42E 06
10 15	1903	3.78E-03	2.60E-03	2.51E-05	3.10E-19	9.93E 07	3.08E-11	2.58E 05
10 16	1974	7.62E-02	4.69E-02	4.53E-04	5.60E-18	9.93E 07	5.56E-10	4.66E 06
10 17	2050	3.78E-02	2.08E-02	2.01E-04	2.48E-18	9.93E 07	2.46E-10	2.06E 06
10 18	2130	7.25E-03	3.55E-03	3.43E-05	4.24E-19	9.93E 07	4.22E-11	3.53E 05
10 19	2216	1.05E-01	4.59E-02	4.43E-04	5.48E-18	9.93E 07	5.44E-10	4.55E 06
10 20	2307	1.55E-01	5.98E-02	5.78E-04	7.15E-18	9.93E 07	7.10E-10	5.94E 06
10 21	2404	1.03E-01	3.52E-02	3.40E-04	4.21E-18	9.93E 07	4.18E-10	3.50E 06
10 22	2508	4.05E-02	1.22E-02	1.18E-04	1.45E-18	9.93E 07	1.44E-10	1.21E 06
10 23	2619	1.03E-02	2.71E-03	2.62E-05	3.24E-19	9.93E 07	3.22E-11	2.69E 05
10 24	2739	1.77E-03	4.07E-04	3.94E-06	4.87E-20	9.93E 07	4.83E-12	4.04E 04
10 25	2867	2.08E-04	4.19E-05	4.04E-07	5.00E-21	9.93E 07	4.97E-13	4.16E 03
10 26	3006	1.69E-05	2.94E-06	2.84E-08	3.51E-22	9.93E 07	3.49E-14	2.92E 02

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
11 0	1164	5.15E-03	1.57E-02	8.08E-05	9.67E-19	9.56E 07	9.24E-11	1.50E 06
11 1	1197	3.57E-02	9.92E-02	5.10E-04	6.11E-18	9.56E 07	5.84E-10	9.48E 06
11 2	1231	7.16E-02	1.85E-01	9.53E-04	1.14E-17	9.56E 07	1.09E-09	1.77E 07
11 3	1266	3.20E-02	7.60E-02	3.91E-04	4.68E-18	9.56E 07	4.47E-10	7.26E 06
11 4	1303	4.55E-03	9.90E-03	5.10E-05	6.10E-19	9.56E 07	5.83E-11	9.47E 05
11 5	1342	4.92E-02	9.81E-02	5.05E-04	6.04E-18	9.56E 07	5.77E-10	9.37E 06
11 6	1383	4.90E-03	8.94E-03	4.60E-05	5.50E-19	9.56E 07	5.26E-11	8.55E 05
11 7	1425	3.45E-02	5.74E-02	2.95E-04	3.53E-18	9.56E 07	3.38E-10	5.49E 06
11 8	1470	1.74E-02	2.64E-02	1.36E-04	1.63E-18	9.56E 07	1.56E-10	2.53E 06
11 9	1516	2.52E-02	3.48E-02	1.79E-04	2.14E-18	9.56E 07	2.05E-10	3.33E 06
11 10	1566	2.26E-02	2.83E-02	1.46E-04	1.74E-18	9.56E 07	1.67E-10	2.71E 06
11 11	1617	2.70E-02	3.07E-02	1.58E-04	1.89E-18	9.56E 07	1.81E-10	2.94E 06
11 12	1672	1.84E-02	1.90E-02	9.76E-05	1.17E-18	9.56E 07	1.12E-10	1.81E 06
11 13	1729	4.10E-02	3.82E-02	1.96E-04	2.35E-18	9.56E 07	2.25E-10	3.65E 06
11 14	1789	5.26E-03	4.42E-03	2.28E-05	2.72E-19	9.56E 07	2.60E-11	4.23E 05
11 15	1853	6.13E-02	4.64E-02	2.39E-04	2.85E-18	9.56E 07	2.73E-10	4.43E 06
11 16	1921	4.70E-03	3.20E-03	1.65E-05	1.97E-19	9.56E 07	1.88E-11	3.06E 05
11 17	1992	4.67E-02	2.84E-02	1.46E-04	1.75E-18	9.56E 07	1.67E-10	2.72E 06
11 18	2068	6.87E-02	3.74E-02	1.93E-04	2.30E-18	9.56E 07	2.20E-10	3.58E 06
11 19	2149	1.17E-03	5.68E-04	2.92E-06	3.50E-20	9.56E 07	3.34E-12	5.43E 04
11 20	2234	6.14E-02	2.65E-02	1.37E-04	1.63E-18	9.56E 07	1.56E-10	2.54E 06
11 21	2325	1.51E-01	5.78E-02	2.98E-04	3.56E-18	9.56E 07	3.40E-10	5.53E 06
11 22	2422	1.29E-01	4.39E-02	2.26E-04	2.70E-18	9.56E 07	2.58E-10	4.20E 06
11 23	2526	6.04E-02	1.81E-02	9.30E-05	1.11E-18	9.56E 07	1.06E-10	1.73E 06
11 24	2637	1.76E-02	4.63E-03	2.38E-05	2.85E-19	9.56E 07	2.72E-11	4.43E 05
11 25	2756	3.39E-03	7.82E-04	4.02E-06	4.81E-20	9.56E 07	4.60E-12	7.47E 04
11 26	2884	4.43E-04	8.90E-05	4.58E-07	5.48E-21	9.56E 07	5.24E-13	8.51E 03
11 27	3021	3.92E-05	6.86E-06	3.53E-08	4.22E-22	9.56E 07	4.04E-14	6.56E 02

VIII. NITROGEN BIRGE-HOPFIELD BANDS

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
0 0	986	4.39E-03	7.18E-03	3.15E-05	2.70E-19	1.04E 08	2.81E-11	7.46E 05
0 1	1009	1.56E-02	2.37E-02	1.04E-04	8.93E-19	1.04E 08	9.29E-11	2.47E 06
0 2	1033	3.53E-02	5.02E-02	2.20E-04	1.89E-18	1.04E 08	1.96E-10	5.22E 06
0 3	1058	6.15E-02	8.14E-02	3.57E-04	3.06E-18	1.04E 08	3.18E-10	8.46E 06
0 4	1083	8.92E-02	1.10E-01	4.82E-04	4.13E-18	1.04E 08	4.30E-10	1.14E 07
0 5	1110	1.12E-01	1.29E-01	5.64E-04	4.83E-18	1.04E 08	5.03E-10	1.34E 07
0 6	1138	1.25E-01	1.33E-01	5.85E-04	5.02E-18	1.04E 08	5.22E-10	1.39E 07
0 7	1166	1.26E-01	1.25E-01	5.47E-04	4.69E-18	1.04E 08	4.88E-10	1.30E 07
0 8	1196	1.16E-01	1.06E-01	4.66E-04	3.99E-18	1.04E 08	4.15E-10	1.10E 07
0 9	1227	9.76E-02	8.28E-02	3.63E-04	3.11E-18	1.04E 08	3.24E-10	8.61E 06
0 10	1259	7.59E-02	5.96E-02	2.61E-04	2.24E-18	1.04E 08	2.33E-10	6.20E 06
0 11	1292	5.46E-02	3.97E-02	1.74E-04	1.49E-18	1.04E 08	1.55E-10	4.13E 06
0 12	1326	3.65E-02	2.45E-02	1.08E-04	9.22E-19	1.04E 08	9.59E-11	2.55E 06
0 13	1362	2.27E-02	1.41E-02	6.18E-05	5.30E-19	1.04E 08	5.51E-11	1.47E 06
0 14	1399	1.32E-02	7.54E-03	3.31E-05	2.84E-19	1.04E 08	2.95E-11	7.84E 05
0 15	1438	7.14E-03	3.76E-03	1.65E-05	1.41E-19	1.04E 08	1.47E-11	3.91E 05
0 16	1479	3.60E-03	1.74E-03	7.65E-06	6.56E-20	1.04E 08	6.82E-12	1.81E 05
0 17	1521	1.69E-03	7.53E-04	3.31E-06	2.83E-20	1.04E 08	2.95E-12	7.84E 04
0 18	1564	7.41E-04	3.03E-04	1.33E-06	1.14E-20	1.04E 08	1.19E-12	3.15E 04
0 19	1610	3.02E-04	1.13E-04	4.97E-07	4.26E-21	1.04E 08	4.43E-13	1.18E 04
0 20	1657	1.14E-04	3.93E-05	1.73E-07	1.48E-21	1.04E 08	1.54E-13	4.09E 03
0 21	1707	4.02E-05	1.27E-05	5.55E-08	4.76E-22	1.04E 08	4.95E-14	1.32E 03
0 22	1759	1.31E-05	3.76E-06	1.65E-08	1.42E-22	1.04E 08	1.47E-14	3.92E 02
0 23	1813	3.93E-06	1.03E-06	4.53E-09	3.88E-23	1.04E 08	4.04E-15	1.07E 02
0 24	1869	1.09E-06	2.61E-07	1.14E-09	9.80E-24	1.04E 08	1.02E-15	2.71E 01

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
1 0	979	2.66E-02	4.52E-02	1.20E-03	1.02E-17	3.51E 08	3.57E-09	1.59E 07
1 1	1002	6.33E-02	1.00E-01	2.67E-03	2.26E-17	3.51E 08	7.93E-09	3.53E 07
1 2	1025	9.69E-02	1.43E-01	3.81E-03	3.22E-17	3.51E 08	1.13E-08	5.03E 07
1 3	1050	1.07E-01	1.47E-01	3.90E-03	3.30E-17	3.51E 08	1.16E-08	5.16E 07
1 4	1075	8.78E-02	1.13E-01	2.99E-03	2.53E-17	3.51E 08	8.88E-09	3.95E 07
1 5	1101	5.09E-02	6.08E-02	1.62E-03	1.37E-17	3.51E 08	4.79E-09	2.13E 07
1 6	1129	1.62E-02	1.79E-02	4.77E-04	4.03E-18	3.51E 08	1.41E-09	6.29E 06
1 7	1157	2.57E-04	2.65E-04	7.04E-06	5.96E-20	3.51E 08	2.09E-11	9.30E 04
1 8	1186	8.44E-03	8.07E-03	2.15E-04	1.81E-18	3.51E 08	6.37E-10	2.83E 06
1 9	1216	3.37E-02	2.99E-02	7.95E-04	6.72E-18	3.51E 08	2.36E-09	1.05E 07
1 10	1248	6.29E-02	5.16E-02	1.37E-03	1.16E-17	3.51E 08	4.07E-09	1.81E 07
1 11	1280	8.37E-02	6.36E-02	1.69E-03	1.43E-17	3.51E 08	5.02E-09	2.23E 07
1 12	1314	9.04E-02	6.35E-02	1.69E-03	1.43E-17	3.51E 08	5.01E-09	2.23E 07
1 13	1349	8.34E-02	5.42E-02	1.44E-03	1.22E-17	3.51E 08	4.27E-09	1.90E 07
1 14	1386	6.78E-02	4.06E-02	1.08E-03	9.13E-18	3.51E 08	3.20E-09	1.43E 07
1 15	1424	4.93E-02	2.72E-02	7.24E-04	6.12E-18	3.51E 08	2.15E-09	9.56E 06
1 16	1463	3.24E-02	1.65E-02	4.38E-04	3.71E-18	3.51E 08	1.30E-09	5.79E 06
1 17	1505	1.94E-02	9.09E-03	2.42E-04	2.04E-18	3.51E 08	7.17E-10	3.19E 06
1 18	1547	1.06E-02	4.58E-03	1.22E-04	1.03E-18	3.51E 08	3.61E-10	1.61E 06
1 19	1592	5.34E-03	2.11E-03	5.61E-05	4.74E-19	3.51E 08	1.66E-10	7.41E 05
1 20	1638	2.46E-03	8.92E-04	2.37E-05	2.00E-19	3.51E 08	7.04E-11	3.13E 05
1 21	1687	1.04E-03	3.46E-04	9.20E-06	7.78E-20	3.51E 08	2.73E-11	1.22E 05
1 22	1737	4.05E-04	1.23E-04	3.28E-06	2.77E-20	3.51E 08	9.72E-12	4.32E 04
1 23	1790	1.45E-04	4.02E-05	1.07E-06	9.03E-21	3.51E 08	3.17E-12	1.41E 04
1 24	1845	4.72E-05	1.20E-05	3.19E-07	2.69E-21	3.51E 08	9.46E-13	4.21E 03
1 25	1903	1.41E-05	3.26E-06	8.67E-08	7.33E-22	3.51E 08	2.57E-13	1.15E 03
2 0	972	7.85E-02	1.39E-01	1.09E-02	9.10E-17	2.34E 08	2.13E-08	3.25E 07
2 1	995	1.11E-01	1.84E-01	1.44E-02	1.20E-16	2.34E 08	2.82E-08	4.30E 07
2 2	1018	9.69E-02	1.49E-01	1.17E-02	9.79E-17	2.34E 08	2.29E-08	3.50E 07
2 3	1042	4.54E-02	6.52E-02	5.12E-03	4.27E-17	2.34E 08	9.99E-09	1.53E 07
2 4	1067	5.73E-03	7.67E-03	6.02E-04	5.02E-18	2.34E 08	1.18E-09	1.80E 06
2 5	1093	4.44E-03	5.53E-03	4.34E-04	3.62E-18	2.34E 08	8.47E-10	1.29E 06
2 6	1120	3.21E-02	3.72E-02	2.92E-03	2.44E-17	2.34E 08	5.71E-09	8.72E 06
2 7	1148	5.79E-02	6.24E-02	4.90E-03	4.08E-17	2.34E 08	9.56E-09	1.46E 07
2 8	1176	5.87E-02	5.87E-02	4.61E-03	3.84E-17	2.34E 08	8.99E-09	1.37E 07
2 9	1206	3.61E-02	3.35E-02	2.63E-03	2.19E-17	2.34E 08	5.13E-09	7.83E 06
2 10	1237	9.89E-03	8.50E-03	6.67E-04	5.57E-18	2.34E 08	1.30E-09	1.99E 06
2 11	1269	7.28E-05	5.79E-05	4.55E-06	3.79E-20	2.34E 08	8.88E-12	1.36E 04
2 12	1302	1.29E-02	9.50E-03	7.46E-04	6.22E-18	2.34E 08	1.46E-09	2.22E 06
2 13	1337	3.98E-02	2.71E-02	2.13E-03	1.78E-17	2.34E 08	4.16E-09	6.35E 06
2 14	1373	6.61E-02	4.16E-02	3.27E-03	2.72E-17	2.34E 08	6.37E-09	9.73E 06
2 15	1410	8.04E-02	4.67E-02	3.66E-03	3.06E-17	2.34E 08	7.15E-09	1.09E 07
2 16	1449	7.93E-02	4.25E-02	3.33E-03	2.78E-17	2.34E 08	6.51E-09	9.94E 06
2 17	1489	6.67E-02	3.29E-02	2.58E-03	2.15E-17	2.34E 08	5.04E-09	7.70E 06
2 18	1531	4.91E-02	2.23E-02	1.75E-03	1.46E-17	2.34E 08	3.41E-09	5.21E 06
2 19	1574	3.20E-02	1.33E-02	1.05E-03	8.74E-18	2.34E 08	2.05E-09	3.12E 06
2 20	1620	1.87E-02	7.17E-03	5.63E-04	4.70E-18	2.34E 08	1.10E-09	1.68E 06
2 21	1667	9.89E-03	3.47E-03	2.72E-04	2.27E-18	2.34E 08	5.32E-10	8.12E 05
2 22	1717	4.72E-03	1.52E-03	1.19E-04	9.94E-19	2.34E 08	2.33E-10	3.55E 05
2 23	1768	2.05E-03	6.02E-04	4.73E-05	3.94E-19	2.34E 08	9.23E-11	1.41E 05
2 24	1822	8.04E-04	2.16E-04	1.70E-05	1.42E-19	2.34E 08	3.32E-11	5.06E 04
2 25	1878	2.87E-04	7.04E-05	5.53E-06	4.61E-20	2.34E 08	1.08E-11	1.65E 04
2 26	1936	9.26E-05	2.08E-05	1.63E-06	1.36E-20	2.34E 08	3.18E-12	4.86E 03
2 27	1997	2.70E-05	5.52E-06	4.33E-07	3.61E-21	2.34E 08	8.45E-13	1.29E 03

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
3 0	966	1.50E-01	2.76E-01	4.13E-02	3.40E-16	7.53E 07	2.56E-08	2.08E 07
3 1	988	1.00E-01	1.72E-01	2.58E-02	2.12E-16	7.53E 07	1.60E-08	1.30E 07
3 2	1011	3.00E-02	4.82E-02	7.21E-03	5.93E-17	7.53E 07	4.47E-09	3.63E 06
3 3	1035	2.34E-04	3.51E-04	5.25E-05	4.32E-19	7.53E 07	3.25E-11	2.64E 04
3 4	1059	2.66E-02	3.72E-02	5.57E-03	4.58E-17	7.53E 07	3.45E-09	2.80E 06
3 5	1085	5.53E-02	7.20E-02	1.08E-02	8.86E-17	7.53E 07	6.67E-09	5.42E 06
3 6	1111	4.63E-02	5.61E-02	8.39E-03	6.90E-17	7.53E 07	5.20E-09	4.22E 06
3 7	1138	1.53E-02	1.72E-02	2.58E-03	2.12E-17	7.53E 07	1.60E-09	1.30E 06
3 8	1167	1.45E-05	1.52E-05	2.27E-06	1.87E-20	7.53E 07	1.41E-12	1.14E 03
3 9	1196	1.56E-02	1.51E-02	2.26E-03	1.86E-17	7.53E 07	1.40E-09	1.14E 06
3 10	1226	4.23E-02	3.81E-02	5.69E-03	4.69E-17	7.53E 07	3.53E-09	2.87E 06
3 11	1258	5.17E-02	4.32E-02	6.46E-03	5.31E-17	7.53E 07	4.00E-09	3.25E 06
3 12	1290	3.60E-02	2.79E-02	4.17E-03	3.43E-17	7.53E 07	2.58E-09	2.10E 06
3 13	1324	1.13E-02	8.10E-03	1.21E-03	9.97E-18	7.53E 07	7.50E-10	6.10E 05
3 14	1360	3.06E-07	2.03E-07	3.03E-08	2.49E-22	7.53E 07	1.88E-14	1.53E 01
3 15	1396	1.16E-02	7.08E-03	1.06E-03	8.71E-18	7.53E 07	6.56E-10	5.33E 05
3 16	1434	3.84E-02	2.16E-02	3.23E-03	2.66E-17	7.53E 07	2.00E-09	1.63E 06
3 17	1474	6.44E-02	3.34E-02	5.00E-03	4.11E-17	7.53E 07	3.10E-09	2.52E 06
3 18	1515	7.73E-02	3.70E-02	5.53E-03	4.55E-17	7.53E 07	3.43E-09	2.79E 06
3 19	1557	7.44E-02	3.27E-02	4.89E-03	4.03E-17	7.53E 07	3.03E-09	2.46E 06
3 20	1602	6.01E-02	2.43E-02	3.64E-03	2.99E-17	7.53E 07	2.25E-09	1.83E 06
3 21	1648	4.21E-02	1.56E-02	2.34E-03	1.92E-17	7.53E 07	1.45E-09	1.18E 06
3 22	1696	2.59E-02	8.80E-03	1.32E-03	1.08E-17	7.53E 07	8.16E-10	6.63E 05
3 23	1746	1.41E-02	4.40E-03	6.58E-04	5.41E-18	7.53E 07	4.08E-10	3.31E 05
3 24	1799	6.86E-03	1.96E-03	2.93E-04	2.41E-18	7.53E 07	1.82E-10	1.48E 05
3 25	1853	2.99E-03	7.81E-04	1.17E-04	9.61E-19	7.53E 07	7.24E-11	5.88E 04
3 26	1910	1.17E-03	2.79E-04	4.17E-05	3.43E-19	7.53E 07	2.58E-11	2.10E 04
3 27	1970	4.10E-04	8.92E-05	1.33E-05	1.10E-19	7.53E 07	8.27E-12	6.72E 03

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
4 0	959	2.04E-01	3.94E-01	8.05E-02	6.54E-16	7.85E 07	5.13E-08	3.09E 07
4 1	981	3.56E-02	6.41E-02	1.31E-02	1.06E-16	7.85E 07	8.35E-09	5.03E 06
4 2	1004	9.78E-04	1.64E-03	3.36E-04	2.73E-18	7.85E 07	2.14E-10	1.29E 05
4 3	1027	4.13E-02	6.47E-02	1.32E-02	1.07E-16	7.85E 07	8.44E-09	5.08E 06
4 4	1052	5.38E-02	7.86E-02	1.61E-02	1.30E-16	7.85E 07	1.02E-08	6.17E 06
4 5	1077	2.27E-02	3.09E-02	6.31E-03	5.13E-17	7.85E 07	4.02E-09	2.42E 06
4 6	1103	1.94E-05	2.46E-05	5.04E-06	4.09E-20	7.85E 07	3.21E-12	1.93E 03
4 7	1129	1.73E-02	2.04E-02	4.17E-03	3.39E-17	7.85E 07	2.66E-09	1.60E 06
4 8	1157	4.27E-02	4.68E-02	9.58E-03	7.77E-17	7.85E 07	6.10E-09	3.68E 06
4 9	1186	3.84E-02	3.92E-02	8.01E-03	6.50E-17	7.85E 07	5.10E-09	3.07E 06
4 10	1216	1.26E-02	1.19E-02	2.44E-03	1.98E-17	7.85E 07	1.55E-09	9.36E 05
4 11	1247	1.02E-04	8.92E-05	1.82E-05	1.48E-19	7.85E 07	1.16E-11	7.00E 03
4 12	1279	1.61E-02	1.31E-02	2.67E-03	2.17E-17	7.85E 07	1.70E-09	1.03E 06
4 13	1312	4.07E-02	3.07E-02	6.27E-03	5.09E-17	7.85E 07	3.99E-09	2.41E 06
4 14	1347	4.64E-02	3.23E-02	6.60E-03	5.35E-17	7.85E 07	4.20E-09	2.53E 06
4 15	1383	2.82E-02	1.81E-02	3.71E-03	3.01E-17	7.85E 07	2.36E-09	1.42E 06
4 16	1420	5.78E-03	3.43E-03	7.02E-04	5.70E-18	7.85E 07	4.47E-10	2.70E 05
4 17	1459	1.22E-03	6.70E-04	1.37E-04	1.11E-18	7.85E 07	8.74E-11	5.26E 04
4 18	1499	1.96E-02	9.90E-03	2.02E-03	1.64E-17	7.85E 07	1.29E-09	7.77E 05
4 19	1541	4.84E-02	2.25E-02	4.60E-03	3.74E-17	7.85E 07	2.93E-09	1.77E 06
4 20	1584	7.04E-02	3.01E-02	6.16E-03	5.00E-17	7.85E 07	3.93E-09	2.36E 06
4 21	1629	7.61E-02	2.99E-02	6.11E-03	4.96E-17	7.85E 07	3.90E-09	2.35E 06
4 22	1676	6.64E-02	2.40E-02	4.90E-03	3.98E-17	7.85E 07	3.12E-09	1.88E 06
4 23	1725	4.88E-02	1.62E-02	3.30E-03	2.68E-17	7.85E 07	2.10E-09	1.27E 06
4 24	1776	3.09E-02	9.38E-03	1.92E-03	1.56E-17	7.85E 07	1.22E-09	7.36E 05
4 25	1830	1.71E-02	4.75E-03	9.72E-04	7.89E-18	7.85E 07	6.19E-10	3.73E 05
4 26	1885	8.35E-03	2.12E-03	4.33E-04	3.52E-18	7.85E 07	2.76E-10	1.66E 05
4 27	1943	3.60E-03	8.35E-04	1.71E-04	1.39E-18	7.85E 07	1.09E-10	6.55E 04

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
5 0	953	2.11E-01	4.25E-01	8.95E-02	7.17E-16	1.41E 08	1.01E-07	5.99E 07
5 1	975	1.53E-04	2.88E-04	6.06E-05	4.86E-19	1.41E 08	6.85E-11	4.06E 04
5 2	997	3.66E-02	6.44E-02	1.36E-02	1.09E-16	1.41E 08	1.53E-08	9.09E 06
5 3	1020	5.67E-02	9.31E-02	1.96E-02	1.57E-16	1.41E 08	2.22E-08	1.31E 07
5 4	1044	1.06E-02	1.63E-02	3.44E-03	2.76E-17	1.41E 08	3.89E-09	2.30E 06
5 5	1069	4.02E-03	5.75E-03	1.21E-03	9.71E-18	1.41E 08	1.37E-09	8.11E 05
5 6	1094	3.46E-02	4.61E-02	9.72E-03	7.79E-17	1.41E 08	1.10E-08	6.51E 06
5 7	1121	3.89E-02	4.83E-02	1.02E-02	8.15E-17	1.41E 08	1.15E-08	6.81E 06
5 8	1148	1.24E-02	1.43E-02	3.02E-03	2.42E-17	1.41E 08	3.41E-09	2.02E 06
5 9	1176	6.71E-04	7.19E-04	1.51E-04	1.21E-18	1.41E 08	1.71E-10	1.01E 05
5 10	1206	2.12E-02	2.11E-02	4.45E-03	3.57E-17	1.41E 08	5.03E-09	2.98E 06
5 11	1236	3.98E-02	3.68E-02	7.75E-03	6.20E-17	1.41E 08	8.75E-09	5.18E 06
5 12	1268	2.84E-02	2.43E-02	5.12E-03	4.10E-17	1.41E 08	5.78E-09	3.43E 06
5 13	1300	5.03E-03	3.99E-03	8.41E-04	6.74E-18	1.41E 08	9.50E-10	5.63E 05
5 14	1334	2.84E-03	2.08E-03	4.39E-04	3.51E-18	1.41E 08	4.96E-10	2.94E 05
5 15	1369	2.50E-02	1.70E-02	3.58E-03	2.86E-17	1.41E 08	4.04E-09	2.39E 06
5 16	1406	4.40E-02	2.76E-02	5.82E-03	4.66E-17	1.41E 08	6.58E-09	3.90E 06
5 17	1444	3.81E-02	2.21E-02	4.65E-03	3.72E-17	1.41E 08	5.25E-09	3.11E 06
5 18	1483	1.50E-02	8.02E-03	1.69E-03	1.35E-17	1.41E 08	1.91E-09	1.13E 06
5 19	1524	2.29E-04	1.13E-04	2.38E-05	1.91E-19	1.41E 08	2.69E-11	1.59E 04
5 20	1567	9.63E-03	4.37E-03	9.20E-04	7.37E-18	1.41E 08	1.04E-09	6.16E 05
5 21	1611	3.71E-02	1.55E-02	3.26E-03	2.61E-17	1.41E 08	3.68E-09	2.18E 06
5 22	1657	6.40E-02	2.45E-02	5.17E-03	4.14E-17	1.41E 08	5.84E-09	3.46E 06
5 23	1705	7.56E-02	2.66E-02	5.61E-03	4.49E-17	1.41E 08	6.33E-09	3.75E 06
5 24	1755	6.95E-02	2.24E-02	4.73E-03	3.79E-17	1.41E 08	5.34E-09	3.16E 06
5 25	1807	5.25E-02	1.55E-02	3.28E-03	2.62E-17	1.41E 08	3.70E-09	2.19E 06
5 26	1861	3.36E-02	9.11E-03	1.92E-03	1.54E-17	1.41E 08	2.17E-09	1.28E 06
5 27	1917	1.86E-02	4.59E-03	9.68E-04	7.76E-18	1.41E 08	1.09E-09	6.48E 05

IX. NITROGEN SECOND POSITIVE BANDS

V-VV	LAMBDA A	Q	OMEGA	$q'_{ov'}$	Q. OMEGA
0- 0	3370	4.49E-01	5.18E-01	.549	2.84E-01
0- 1	3576	3.29E-01	3.18E-01	.549	1.75E-01
0- 2	3804	1.47E-01	1.18E-01	.549	6.48E-02
0- 3	4058	5.23E-02	3.45E-02	.549	1.89E-02
0- 4	4343	1.63E-02	8.81E-03	.549	4.84E-03
0- 5	4665	4.73E-03	2.06E-03	.549	1.13E-03
0- 6	5032	1.30E-03	4.51E-04	.549	2.48E-04
0- 7	5452	3.46E-04	9.44E-05	.549	5.18E-05
0- 8	5938	9.04E-05	1.91E-05	.549	1.05E-05
0- 9	6508	2.33E-05	3.74E-06	.549	2.05E-06
1- 0	3157	3.90E-01	5.18E-01	.308	1.60E-01
1- 1	3337	1.87E-02	2.10E-02	.308	6.47E-03
1- 2	3535	2.04E-01	1.93E-01	.308	5.94E-02
1- 3	3753	2.00E-01	1.58E-01	.308	4.87E-02
1- 4	3996	1.12E-01	7.36E-02	.308	2.27E-02
1- 5	4267	4.84E-02	2.60E-02	.308	8.01E-03
1- 6	4571	1.79E-02	7.83E-03	.308	2.41E-03
1- 7	4916	6.02E-03	2.12E-03	.308	6.53E-04
1- 8	5308	1.90E-03	5.32E-04	.308	1.64E-04
1- 9	5758	5.77E-04	1.26E-04	.308	3.88E-05
1-10	6280	1.70E-04	2.87E-05	.308	8.84E-06
1-11	6893	4.93E-05	6.28E-06	.308	1.93E-06
1-12	7622	1.41E-05	1.33E-06	.308	4.10E-07
2- 0	2973	1.35E-01	2.04E-01	.105	2.14E-02
2- 1	3132	3.22E-01	4.16E-01	.105	4.37E-02
2- 2	3305	3.30E-02	3.63E-02	.105	3.81E-03
2- 3	3495	5.96E-02	5.53E-02	.105	5.81E-03
2- 4	3705	1.61E-01	1.26E-01	.105	1.32E-02
2- 5	3937	1.43E-01	9.28E-02	.105	9.74E-03
2- 6	4194	8.30E-02	4.46E-02	.105	4.68E-03
2- 7	4482	3.86E-02	1.70E-02	.105	1.78E-03
2- 8	4806	1.56E-02	5.59E-03	.105	5.87E-04
2- 9	5172	5.79E-03	1.66E-03	.105	1.74E-04
2-10	5590	2.02E-03	4.58E-04	.105	4.81E-05
2-11	6070	6.74E-04	1.19E-04	.105	1.25E-05
2-12	6628	2.18E-04	2.97E-05	.105	3.12E-06
2-13	7284	6.93E-05	7.12E-06	.105	7.48E-07
2-14	8065	2.17E-05	1.64E-06	.105	1.72E-07

V-VV	LAMBDA A	Q	OMEGA	$q'_{ov'}$	Q. OMEGA
3- 0	2811	2.36E-02	4.02E-02	.029	1.17E-03
3- 1	2953	2.51E-01	3.69E-01	.029	1.07E-02
3- 2	3107	1.63E-01	2.05E-01	.029	5.94E-03
3- 3	3274	1.18E-01	1.27E-01	.029	3.68E-03
3- 4	3456	1.84E-03	1.68E-03	.029	4.87E-05
3- 5	3658	8.89E-02	6.86E-02	.029	1.99E-03
3- 6	3880	1.34E-01	8.70E-02	.029	2.52E-03
3- 7	4125	1.06E-01	5.72E-02	.029	1.66E-03
3- 8	4398	6.16E-02	2.74E-02	.029	7.95E-04
3- 9	4702	2.98E-02	1.08E-02	.029	3.13E-04
3-10	5045	1.28E-02	3.77E-03	.029	1.09E-04
3-11	5433	5.09E-03	1.20E-03	.029	3.48E-05
3-12	5876	1.91E-03	3.56E-04	.029	1.03E-05
3-13	6385	6.89E-04	1.00E-04	.029	2.90E-06
3-14	6977	2.42E-04	2.69E-05	.029	7.80E-07
3-15	7673	8.30E-05	6.94E-06	.029	2.01E-07
4- 0	2669	2.19E-03	4.16E-03	.007	2.91E-05
4- 1	2796	6.96E-02	1.15E-01	.007	8.05E-04
4- 2	2934	3.03E-01	4.34E-01	.007	3.04E-03
4- 3	3083	4.75E-02	5.86E-02	.007	4.10E-04
4- 4	3244	1.57E-01	1.66E-01	.007	1.16E-03
4- 5	3421	1.42E-02	1.28E-02	.007	8.96E-05
4- 6	3614	2.94E-02	2.25E-02	.007	1.58E-04
4- 7	3825	9.95E-02	6.42E-02	.007	4.49E-04
4- 8	4059	1.10E-01	5.96E-02	.007	4.17E-04
4- 9	4317	8.92E-02	3.60E-02	.007	2.52E-04
4-10	4604	4.61E-02	1.71E-02	.007	1.20E-04
4-11	4925	2.29E-02	6.93E-03	.007	4.85E-05
4-12	5286	1.93E-02	2.52E-03	.007	1.76E-05
4-13	5695	4.33E-03	8.47E-04	.007	5.93E-06
4-14	6161	1.73E-03	2.67E-04	.007	1.87E-06
4-15	6698	6.67E-04	8.01E-05	.007	5.61E-07
4-16	7321	2.50E-04	2.30E-05	.007	1.61E-07
4-17	8053	9.23E-05	6.38E-06	.007	4.47E-08
4-18	8925	3.35E-05	1.70E-06	.007	1.19E-08

X. HYDROXYL ULTRAVIOLET BANDS

V-VV	LAMBDA A	Q	OMEGA	FLUX	f _{ovl}	G
0-0	3064	.91	.998	1.0E 13	1.0E-03	8.6E-04
0-1	3428	.09	.002	1.0E 13	1.0E-03	1.7E-06
1-0	2811	.09	.34	4.0E 12	2.5E-04	2.4E-05
1-1	3122	.72	.66	4.0E 12	2.5E-04	4.7E-05
1-2	3484	.19	.001	4.0E 12	2.5E-04	7.0E-08

XI. CYANOGEN VIOLET BANDS

V-VV	LAMBDA A	Q	OMEGA	FLUX	f_{ov}	G
0-0	3876	9.09E-01	9.29E-01	2.20E 13	3.0E-02	7.4E-02
0-1	4210	8.40E-02	6.70E-02	2.20E 13	3.0E-02	5.3E-03
0-2	4600	6.95E-03	4.25E-03	2.20E 13	3.0E-02	3.4E-04
1-0	3582	8.98E-02	1.14E-01	2.09E 13	3.0E-02	7.3E-04
1-1	3864	7.57E-01	7.67E-01	2.09E 13	3.0E-02	4.9E-03
1-2	4191	1.35E-01	1.07E-01	2.09E 13	3.0E-02	6.8E-04

XII. CARBON MONOXIDE CAMERON BANDS

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
0 0	2063	2.66E-01	3.13E-01	8.33E-02	3.13E-15	1.83E 11	5.72E-04	5.72E 10
0 1	2158	3.78E-01	3.88E-01	1.03E-01	3.88E-15	1.83E 11	7.10E-04	7.10E 10
0 2	2262	2.40E-01	2.13E-01	5.68E-02	2.13E-15	1.83E 11	3.91E-04	3.91E 10
0 3	2374	8.95E-02	6.89E-02	1.84E-02	6.90E-16	1.83E 11	1.26E-04	1.26E 10
0 4	2496	2.20E-02	1.46E-02	3.89E-03	1.46E-16	1.83E 11	2.67E-05	2.67E 09
0 5	2630	3.79E-03	2.15E-03	5.72E-04	2.15E-17	1.83E 11	3.93E-06	3.93E 08
0 6	2777	4.68E-04	2.25E-04	6.00E-05	2.25E-18	1.83E 11	4.13E-07	4.13E 07
0 7	2938	4.24E-05	1.72E-05	4.58E-06	1.72E-19	1.83E 11	3.15E-08	3.15E 06
1 0	1993	3.19E-01	4.23E-01	1.35E-01	4.72E-15	1.04E 11	4.91E-04	4.40E 10
1 1	2082	2.88E-02	3.34E-02	1.07E-02	3.74E-16	1.04E 11	3.89E-05	3.48E 09
1 2	2178	1.03E-01	1.05E-01	3.34E-02	1.17E-15	1.04E 11	1.22E-04	1.09E 10
1 3	2281	2.65E-01	2.34E-01	7.47E-02	2.62E-15	1.04E 11	2.72E-04	2.44E 10
1 4	2394	1.92E-01	1.46E-01	4.67E-02	1.64E-15	1.04E 11	1.70E-04	1.52E 10
1 5	2517	7.24E-02	4.76E-02	1.52E-02	5.32E-16	1.04E 11	5.53E-05	4.95E 09
1 6	2651	1.71E-02	9.61E-03	3.06E-03	1.07E-16	1.04E 11	1.12E-05	9.99E 08
1 7	2798	2.72E-03	1.30E-03	4.15E-04	1.45E-17	1.04E 11	1.51E-06	1.35E 08
1 8	2959	3.04E-04	1.23E-04	3.92E-05	1.37E-18	1.04E 11	1.43E-07	1.28E 07
1 9	3139	2.43E-05	8.25E-06	2.63E-06	9.22E-20	1.04E 11	9.59E-09	8.58E 05
2 0	1928	2.19E-01	3.26E-01	7.13E-02	2.34E-15	4.87E 10	1.14E-04	1.59E 10
2 1	2011	5.14E-02	6.74E-02	1.48E-02	4.84E-16	4.87E 10	2.36E-05	3.28E 09
2 2	2101	1.59E-01	1.84E-01	4.02E-02	1.32E-15	4.87E 10	6.42E-05	8.94E 09
2 3	2197	7.53E-05	7.57E-05	1.66E-05	5.43E-19	4.87E 10	2.65E-08	3.69E 06
2 4	2301	1.46E-01	1.28E-01	2.80E-02	9.20E-16	4.87E 10	4.48E-05	6.24E 09
2 5	2415	2.34E-01	1.77E-01	3.87E-02	1.27E-15	4.87E 10	6.19E-05	8.62E 09
2 6	2538	1.36E-01	8.90E-02	1.95E-02	6.39E-16	4.87E 10	3.11E-05	4.33E 09
2 7	2672	4.37E-02	2.44E-02	5.35E-03	1.75E-16	4.87E 10	8.54E-06	1.19E 09
2 8	2819	8.85E-03	4.21E-03	9.22E-04	3.02E-17	4.87E 10	1.47E-06	2.05E 08
2 9	2981	1.21E-03	4.87E-04	1.07E-04	3.49E-18	4.87E 10	1.70E-07	2.37E 07
2 10	3160	1.15E-04	3.89E-05	8.52E-06	2.79E-19	4.87E 10	1.36E-08	1.90E 06
2 11	3359	7.77E-06	2.19E-06	4.79E-07	1.57E-20	4.87E 10	7.65E-10	1.07E 05

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
3 0	1869	1.14E-01	1.90E-01	2.16E-02	6.66E-16	3.39E 10	2.26E-05	6.43E 09
3 1	1947	1.59E-01	2.33E-01	2.66E-02	8.19E-16	3.39E 10	2.78E-05	7.91E 09
3 2	2030	9.78E-03	1.27E-02	1.45E-03	4.45E-17	3.39E 10	1.51E-06	4.30E 08
3 3	2120	1.29E-01	1.47E-01	1.68E-02	5.16E-16	3.39E 10	1.75E-05	4.98E 09
3 4	2217	5.86E-02	5.84E-02	6.65E-03	2.05E-16	3.39E 10	6.94E-06	1.98E 09
3 5	2322	3.36E-02	2.91E-02	3.32E-03	1.02E-16	3.39E 10	3.46E-06	9.87E 08
3 6	2435	2.00E-01	1.50E-01	1.71E-02	5.26E-16	3.39E 10	1.78E-05	5.08E 09
3 7	2559	1.89E-01	1.23E-01	1.40E-02	4.30E-16	3.39E 10	1.46E-05	4.15E 09
3 8	2694	8.27E-02	4.59E-02	5.23E-03	1.61E-16	3.39E 10	5.47E-06	1.56E 09
3 9	2841	2.12E-02	1.00E-02	1.14E-03	3.52E-17	3.39E 10	1.19E-06	3.40E 08
3 10	3004	3.52E-03	1.41E-03	1.61E-04	4.95E-18	3.39E 10	1.68E-07	4.78E 07
3 11	3183	3.96E-04	1.33E-04	1.52E-05	4.68E-19	3.39E 10	1.59E-08	4.52E 06
3 12	3381	3.10E-05	8.71E-06	9.92E-07	3.06E-20	3.39E 10	1.04E-09	2.95E 05
4 0	1814	5.03E-02	9.33E-02	4.70E-03	1.36E-16	2.33E 10	3.17E-06	2.17E 09
4 1	1887	1.63E-01	2.68E-01	1.35E-02	3.91E-16	2.33E 10	9.11E-06	6.23E 09
4 2	1965	3.58E-02	5.21E-02	2.62E-03	7.61E-17	2.33E 10	1.77E-06	1.21E 09
4 3	2050	8.40E-02	1.08E-01	5.42E-03	1.57E-16	2.33E 10	3.67E-06	2.51E 09
4 4	2140	3.61E-02	4.07E-02	2.05E-03	5.95E-17	2.33E 10	1.39E-06	9.48E 08
4 5	2238	1.22E-01	1.20E-01	6.04E-03	1.75E-16	2.33E 10	4.09E-06	2.80E 09
4 6	2343	4.21E-04	3.62E-04	1.82E-05	5.29E-19	2.33E 10	1.23E-08	8.43E 06
4 7	2457	1.21E-01	8.98E-02	4.52E-03	1.31E-16	2.33E 10	3.06E-06	2.09E 09
4 8	2581	2.10E-01	1.35E-01	6.79E-03	1.97E-16	2.33E 10	4.59E-06	3.14E 09
4 9	2716	1.28E-01	7.04E-02	3.54E-03	1.03E-16	2.33E 10	2.40E-06	1.64E 09
4 10	2864	4.15E-02	1.95E-02	9.82E-04	2.85E-17	2.33E 10	6.64E-07	4.54E 08
4 11	3026	8.32E-03	3.32E-03	1.67E-04	4.85E-18	2.33E 10	1.13E-07	7.73E 07
4 12	3205	1.10E-03	3.70E-04	1.86E-05	5.41E-19	2.33E 10	1.26E-08	8.62E 06
4 13	3404	9.98E-05	2.79E-05	1.41E-06	4.08E-20	2.33E 10	9.51E-10	6.51E 05
4 14	3625	6.24E-06	1.45E-06	7.28E-08	2.11E-21	2.33E 10	4.93E-11	3.37E 04
5 0	1763	2.00E-02	4.11E-02	8.24E-04	2.26E-17	1.10E 10	2.49E-07	4.53E 08
5 1	1832	1.11E-01	2.02E-01	4.06E-03	1.11E-16	1.10E 10	1.22E-06	2.23E 09
5 2	1906	1.12E-01	1.82E-01	3.64E-03	9.98E-17	1.10E 10	1.10E-06	2.00E 09
5 3	1985	1.17E-03	1.69E-03	3.38E-05	9.26E-19	1.10E 10	1.02E-08	1.85E 07
5 4	2069	1.13E-01	1.43E-01	2.87E-03	7.85E-17	1.10E 10	8.64E-07	1.57E 09
5 5	2160	8.55E-05	9.53E-05	1.91E-06	5.23E-20	1.10E 10	5.76E-10	1.05E 06
5 6	2258	1.17E-01	1.14E-01	2.28E-03	6.25E-17	1.10E 10	6.87E-07	1.25E 09
5 7	2364	3.51E-02	2.99E-02	5.98E-04	1.64E-17	1.10E 10	1.80E-07	3.29E 08
5 8	2479	4.37E-02	3.23E-02	6.46E-04	1.77E-17	1.10E 10	1.95E-07	3.55E 08
5 9	2603	1.91E-01	1.22E-01	2.44E-03	6.69E-17	1.10E 10	7.36E-07	1.34E 09
5 10	2739	1.68E-01	9.19E-02	1.84E-03	5.05E-17	1.10E 10	5.55E-07	1.01E 09
5 11	2887	6.96E-02	3.26E-02	6.52E-04	1.79E-17	1.10E 10	1.97E-07	3.58E 08
5 12	3050	1.69E-02	6.71E-03	1.34E-04	3.68E-18	1.10E 10	4.05E-08	7.38E 07
5 13	3229	2.63E-03	8.80E-04	1.76E-05	4.83E-19	1.10E 10	5.31E-09	9.68E 06
5 14	3427	2.74E-04	7.66E-05	1.53E-06	4.21E-20	1.10E 10	4.63E-10	8.43E 05
5 15	3648	1.95E-05	4.51E-06	9.04E-08	2.48E-21	1.10E 10	2.73E-11	4.96E 04

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
6 0	1715	7.44E-03	1.69E-02	1.26E-04	3.26E-10	8.27E 09	2.70E-08	1.40E 08
6 1	1781	6.02E-02	1.22E-01	9.09E-04	2.36E-17	8.27E 09	1.95E-07	1.01E 09
6 2	1850	1.27E-01	2.29E-01	1.71E-03	4.43E-17	8.27E 09	3.66E-07	1.90E 09
6 3	1925	3.51E-02	5.63E-02	4.19E-04	1.09E-17	8.27E 09	9.00E-08	4.66E 08
6 4	2004	4.11E-02	5.84E-02	4.35E-04	1.13E-17	8.27E 09	9.33E-08	4.83E 08
6 5	2090	7.24E-02	9.09E-02	6.76E-04	1.76E-17	8.27E 09	1.45E-07	7.52E 08
6 6	2181	3.07E-02	3.39E-02	2.52E-04	6.54E-18	8.27E 09	5.41E-08	2.80E 08
6 7	2280	6.28E-02	6.07E-02	4.52E-04	1.17E-17	8.27E 09	9.70E-08	5.02E 08
6 8	2386	8.65E-02	7.29E-02	5.43E-04	1.41E-17	8.27E 09	1.16E-07	6.03E 08
6 9	2501	3.19E-03	2.33E-03	1.73E-05	4.50E-19	8.27E 09	3.72E-09	1.93E 07
6 10	2626	1.41E-01	8.92E-02	6.64E-04	1.72E-17	8.27E 09	1.42E-07	7.38E 08
6 11	2762	1.92E-01	1.05E-01	7.78E-04	2.02E-17	8.27E 09	1.67E-07	8.65E 08
6 12	2911	1.03E-01	4.81E-02	3.58E-04	9.28E-18	8.27E 09	7.68E-08	3.97E 08
6 13	3073	3.05E-02	1.20E-02	8.95E-05	2.32E-18	8.27E 09	1.92E-08	9.95E 07
6 14	3253	5.57E-03	1.85E-03	1.38E-05	3.58E-19	8.27E 09	2.96E-09	1.53E 07
6 15	3451	6.66E-04	1.86E-04	1.38E-06	3.59E-20	8.27E 09	2.97E-10	1.54E 06
6 16	3671	5.37E-05	1.24E-05	9.25E-08	2.40E-21	8.27E 09	1.98E-11	1.03E 05
7 0	1671	2.64E-03	6.60E-03	1.74E-05	4.30E-19	5.78E 09	2.48E-09	3.82E 07
7 1	1733	2.86E-02	6.41E-02	1.69E-04	4.17E-18	5.78E 09	2.41E-08	3.71E 08
7 2	1799	9.65E-02	1.93E-01	5.10E-04	1.26E-17	5.78E 09	7.27E-08	1.12E 09
7 3	1870	9.09E-02	1.62E-01	4.28E-04	1.06E-17	5.78E 09	6.10E-08	9.38E 08
7 4	1945	2.87E-04	4.56E-04	1.20E-06	2.97E-20	5.78E 09	1.72E-10	2.64E 06
7 5	2025	8.19E-02	1.15E-01	3.04E-04	7.50E-18	5.78E 09	4.33E-08	6.66E 08
7 6	2111	1.88E-02	2.33E-02	6.15E-05	1.52E-18	5.78E 09	8.76E-09	1.35E 08
7 7	2203	7.54E-02	8.23E-02	2.17E-04	5.36E-18	5.78E 09	3.10E-08	4.76E 08
7 8	2302	1.30E-02	1.25E-02	3.29E-05	8.11E-19	5.78E 09	4.69E-09	7.20E 07
7 9	2409	1.11E-01	9.26E-02	2.44E-04	6.02E-18	5.78E 09	3.48E-08	5.35E 08
7 10	2524	7.73E-03	5.61E-03	1.48E-05	3.65E-19	5.78E 09	2.11E-09	3.24E 07
7 11	2650	7.93E-02	4.98E-02	1.31E-04	3.24E-18	5.78E 09	1.87E-08	2.88E 08
7 12	2786	1.94E-01	1.05E-01	2.76E-04	6.81E-18	5.78E 09	3.94E-08	6.05E 08
7 13	2935	1.38E-01	6.38E-02	1.69E-04	4.15E-18	5.78E 09	2.40E-08	3.69E 08
7 14	3098	4.97E-02	1.95E-02	5.16E-05	1.27E-18	5.78E 09	7.34E-09	1.13E 08
7 15	3277	1.07E-02	3.54E-03	9.34E-06	2.30E-19	5.78E 09	1.33E-09	2.04E 07
7 16	3475	1.47E-03	4.08E-04	1.08E-06	2.65E-20	5.78E 09	1.53E-10	2.36E 06
7 17	3695	1.34E-04	3.09E-05	8.17E-08	2.01E-21	5.78E 09	1.16E-11	1.79E 05
7 18	3941	8.20E-06	1.56E-06	4.13E-09	1.02E-22	5.78E 09	5.88E-13	9.04E 03

XIII. CARBON MONOXIDE FOURTH POSITIVE BANDS

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
0 0	1544	1.13E-01	1.39E-01	1.57E-02	3.30E-16	1.63E 09	5.38E-07	2.26E 08
0 1	1597	2.61E-01	2.89E-01	3.27E-02	6.88E-16	1.63E 09	1.12E-06	4.71E 08
0 2	1653	2.85E-01	2.84E-01	3.22E-02	6.78E-16	1.63E 09	1.10E-06	4.64E 08
0 3	1712	1.96E-01	1.76E-01	2.00E-02	4.20E-16	1.63E 09	6.85E-07	2.88E 08
0 4	1775	9.60E-02	7.75E-02	8.77E-03	1.85E-16	1.63E 09	3.01E-07	1.26E 08
0 5	1842	3.55E-02	2.57E-02	2.91E-03	6.12E-17	1.63E 09	9.97E-08	4.19E 07
0 6	1912	1.03E-02	6.67E-03	7.55E-04	1.59E-17	1.63E 09	2.59E-08	1.09E 07
0 7	1988	2.43E-03	1.40E-03	1.58E-04	3.32E-18	1.63E 09	5.42E-09	2.27E 06
0 8	2068	4.69E-04	2.39E-04	2.71E-05	5.70E-19	1.63E 09	9.29E-10	3.90E 05
0 9	2154	7.53E-05	3.40E-05	3.85E-06	8.10E-20	1.63E 09	1.32E-10	5.54E 04
0 10	2246	1.02E-05	4.04E-06	4.58E-07	9.63E-21	1.63E 09	1.57E-11	6.59E 03
1 0	1510	2.16E-01	2.91E-01	6.30E-02	1.27E-15	1.71E 09	2.17E-06	4.98E 08
1 1	1560	1.55E-01	1.89E-01	4.09E-02	8.23E-16	1.71E 09	1.41E-06	3.24E 08
1 2	1614	3.05E-03	3.37E-03	7.28E-04	1.47E-17	1.71E 09	2.51E-08	5.76E 06
1 3	1670	7.64E-02	7.62E-02	1.65E-02	3.31E-16	1.71E 09	5.66E-07	1.30E 08
1 4	1730	1.93E-01	1.73E-01	3.75E-02	7.53E-16	1.71E 09	1.29E-06	2.96E 08
1 5	1793	1.86E-01	1.50E-01	3.23E-02	6.51E-16	1.71E 09	1.11E-06	2.56E 08
1 6	1860	1.08E-01	7.82E-02	1.69E-02	3.40E-16	1.71E 09	5.81E-07	1.34E 08
1 7	1931	4.45E-02	2.87E-02	6.20E-03	1.25E-16	1.71E 09	2.13E-07	4.90E 07
1 8	2007	1.38E-02	7.93E-03	1.71E-03	3.45E-17	1.71E 09	5.90E-08	1.36E 07
1 9	2087	3.37E-03	1.72E-03	3.72E-04	7.49E-18	1.71E 09	1.28E-08	2.95E 06
1 10	2174	6.66E-04	3.01E-04	6.51E-05	1.31E-18	1.71E 09	2.24E-09	5.15E 05
1 11	2266	1.08E-04	4.31E-05	9.33E-06	1.88E-19	1.71E 09	3.21E-10	7.38E 04
1 12	2365	1.46E-05	5.12E-06	1.11E-06	2.22E-20	1.71E 09	3.80E-11	8.75E 03
2 0	1478	2.30E-01	3.41E-01	7.83E-02	1.51E-15	1.26E 09	1.90E-06	4.29E 08
2 1	1526	1.22E-02	1.64E-02	3.77E-03	7.25E-17	1.26E 09	9.14E-08	2.06E 07
2 2	1577	9.01E-02	1.10E-01	2.53E-02	4.86E-16	1.26E 09	6.13E-07	1.38E 08
2 3	1631	1.16E-01	1.28E-01	2.94E-02	5.67E-16	1.26E 09	7.14E-07	1.61E 08
2 4	1687	5.08E-03	5.05E-03	1.16E-03	2.24E-17	1.26E 09	2.82E-08	6.37E 06
2 5	1747	5.72E-02	5.12E-02	1.18E-02	2.27E-16	1.26E 09	2.86E-07	6.45E 07
2 6	1811	1.65E-01	1.33E-01	3.05E-02	5.88E-16	1.26E 09	7.41E-07	1.67E 08
2 7	1878	1.67E-01	1.20E-01	2.77E-02	5.33E-16	1.26E 09	6.71E-07	1.52E 08
2 8	1950	9.96E-02	6.42E-02	1.48E-02	2.84E-16	1.26E 09	3.58E-07	8.09E 07
2 9	2026	4.13E-02	2.37E-02	5.46E-03	1.05E-16	1.26E 09	1.32E-07	2.99E 07
2 10	2107	1.28E-02	6.55E-03	1.51E-03	2.90E-17	1.26E 09	3.66E-08	8.25E 06
2 11	2194	3.12E-03	1.41E-03	3.24E-04	6.24E-18	1.26E 09	7.87E-09	1.78E 06
2 12	2287	6.07E-04	2.43E-04	5.58E-05	1.07E-18	1.26E 09	1.35E-09	3.06E 05
2 13	2386	9.67E-05	3.40E-05	7.82E-06	1.51E-19	1.26E 09	1.90E-10	4.29E 04
2 14	2493	1.27E-05	3.93E-06	9.03E-07	1.74E-20	1.26E 09	2.19E-11	4.95E 03

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
3 0	1447	1.81E-01	2.94E-01	5.33E-02	9.85E-16	6.10E 08	6.01E-07	1.79E 08
3 1	1494	2.05E-02	3.02E-02	5.48E-03	1.01E-16	6.10E 08	6.18E-08	1.84E 07
3 2	1543	1.17E-01	1.57E-01	2.84E-02	5.26E-16	6.10E 08	3.21E-07	9.57E 07
3 3	1594	6.45E-04	7.84E-04	1.42E-04	2.63E-18	6.10E 08	1.60E-09	4.78E 05
3 4	1648	8.96E-02	9.84E-02	1.78E-02	3.30E-16	6.10E 08	2.01E-07	6.00E 07
3 5	1705	8.42E-02	8.35E-02	1.51E-02	2.80E-16	6.10E 08	1.71E-07	5.09E 07
3 6	1766	4.71E-04	4.21E-04	7.63E-05	1.41E-18	6.10E 08	8.61E-10	2.57E 05
3 7	1830	6.77E-02	5.43E-02	9.85E-03	1.82E-16	6.10E 08	1.11E-07	3.31E 07
3 8	1898	1.59E-01	1.14E-01	2.07E-02	3.83E-16	6.10E 08	2.34E-07	6.97E 07
3 9	1970	1.49E-01	9.57E-02	1.73E-02	3.21E-16	6.10E 08	1.96E-07	5.83E 07
3 10	2046	8.45E-02	4.85E-02	8.80E-03	1.63E-16	6.10E 08	9.92E-08	2.96E 07
3 11	2128	3.37E-02	1.72E-02	3.12E-03	5.77E-17	6.10E 08	3.52E-08	1.05E 07
3 12	2215	1.01E-02	4.58E-03	8.30E-04	1.53E-17	6.10E 08	9.35E-09	2.79E 06
3 13	2308	2.37E-03	9.49E-04	1.72E-04	3.18E-18	6.10E 08	1.94E-09	5.79E 05
3 14	2408	4.46E-04	1.57E-04	2.85E-05	5.27E-19	6.10E 08	3.21E-10	9.59E 04
3 15	2515	6.84E-05	2.12E-05	3.84E-06	7.09E-20	6.10E 08	4.33E-11	1.29E 04
3 16	2630	8.65E-06	2.34E-06	4.24E-07	7.84E-21	6.10E 08	4.78E-12	1.43E 03
4 0	1419	1.19E-01	2.11E-01	2.50E-02	4.45E-16	4.03E 08	1.79E-07	8.49E 07
4 1	1464	8.73E-02	1.41E-01	1.68E-02	2.98E-16	4.03E 08	1.20E-07	5.69E 07
4 2	1510	3.44E-02	5.06E-02	6.02E-03	1.07E-16	4.03E 08	4.31E-08	2.04E 07
4 3	1560	5.76E-02	7.70E-02	9.14E-03	1.62E-16	4.03E 08	6.55E-08	3.10E 07
4 4	1612	6.66E-02	8.06E-02	9.57E-03	1.70E-16	4.03E 08	6.86E-08	3.25E 07
4 5	1666	6.17E-03	6.76E-03	8.03E-04	1.43E-17	4.03E 08	5.75E-09	2.72E 06
4 6	1724	9.80E-02	9.70E-02	1.15E-02	2.05E-16	4.03E 08	8.25E-08	3.91E 07
4 7	1785	5.14E-02	4.58E-02	5.44E-03	9.67E-17	4.03E 08	3.90E-08	1.85E 07
4 8	1849	2.72E-03	2.18E-03	2.59E-04	4.60E-18	4.03E 08	1.85E-09	8.78E 05
4 9	1918	8.91E-02	6.40E-02	7.61E-03	1.35E-16	4.03E 08	5.45E-08	2.58E 07
4 10	1990	1.57E-01	1.01E-01	1.20E-02	2.13E-16	4.03E 08	8.57E-08	4.06E 07
4 11	2067	1.29E-01	7.41E-02	8.80E-03	1.56E-16	4.03E 08	6.30E-08	2.98E 07
4 12	2150	6.76E-02	3.45E-02	4.10E-03	7.28E-17	4.03E 08	2.93E-08	1.39E 07
4 13	2237	2.53E-02	1.14E-02	1.36E-03	2.42E-17	4.03E 08	9.74E-09	4.61E 06
4 14	2331	7.17E-03	2.87E-03	3.41E-04	6.06E-18	4.03E 08	2.44E-09	1.16E 06
4 15	2431	1.60E-03	5.64E-04	6.70E-05	1.19E-18	4.03E 08	4.79E-10	2.27E 05
4 16	2538	2.86E-04	8.86E-05	1.05E-05	1.87E-19	4.03E 08	7.54E-11	3.57E 04
4 17	2653	4.17E-05	1.13E-05	1.34E-06	2.39E-20	4.03E 08	9.62E-12	4.56E 03
4 18	2777	5.00E-06	1.18E-06	1.40E-07	2.49E-21	4.03E 08	1.01E-12	4.76E 02

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
5 0	1393	6.88E-02	1.33E-01	9.17E-03	1.57E-16	5.23E 08	8.20E-08	6.96E 07
5 1	1435	1.23E-01	2.17E-01	1.50E-02	2.56E-16	5.23E 08	1.34E-07	1.14E 08
5 2	1480	3.24E-04	5.21E-04	3.59E-05	6.14E-19	5.23E 08	3.21E-10	2.72E 05
5 3	1528	9.13E-02	1.34E-01	9.21E-03	1.58E-16	5.23E 08	8.24E-08	6.99E 07
5 4	1577	1.38E-05	1.84E-05	1.27E-06	2.17E-20	5.23E 08	1.14E-11	9.64E 03
5 5	1630	8.24E-02	9.94E-02	6.84E-03	1.17E-16	5.23E 08	6.12E-08	5.20E 07
5 6	1685	2.27E-02	2.48E-02	1.71E-03	2.92E-17	5.23E 08	1.53E-08	1.30E 07
5 7	1743	3.16E-02	3.11E-02	2.14E-03	3.67E-17	5.23E 08	1.92E-08	1.63E 07
5 8	1805	9.44E-02	8.39E-02	5.78E-03	9.88E-17	5.23E 08	5.17E-08	4.39E 07
5 9	1870	2.11E-02	1.69E-02	1.16E-03	1.99E-17	5.23E 08	1.04E-08	8.82E 06
5 10	1939	1.80E-02	1.29E-02	8.90E-04	1.52E-17	5.23E 08	7.96E-09	6.76E 06
5 11	2012	1.13E-01	7.25E-02	4.99E-03	8.54E-17	5.23E 08	4.47E-08	3.79E 07
5 12	2089	1.51E-01	8.65E-02	5.95E-03	1.02E-16	5.23E 08	5.33E-08	4.52E 07
5 13	2172	1.08E-01	5.50E-02	3.79E-03	6.48E-17	5.23E 08	3.39E-08	2.88E 07
5 14	2260	5.12E-02	2.32E-02	1.59E-03	2.73E-17	5.23E 08	1.43E-08	1.21E 07
5 15	2354	1.77E-02	7.09E-03	4.88E-04	8.35E-18	5.23E 08	4.37E-09	3.71E 06
5 16	2454	4.69E-03	1.66E-03	1.14E-04	1.95E-18	5.23E 08	1.02E-09	8.67E 05
5 17	2562	9.81E-04	3.05E-04	2.10E-05	3.59E-19	5.23E 08	1.88E-10	1.59E 05
5 18	2678	1.65E-04	4.49E-05	3.09E-06	5.29E-20	5.23E 08	2.77E-11	2.35E 04
5 19	2802	2.27E-05	5.38E-06	3.71E-07	6.34E-21	5.23E 08	3.32E-12	2.82E 03
6 0	1368	3.67E-02	7.73E-02	2.83E-03	4.68E-17	2.69E 08	1.26E-08	2.08E 07
6 1	1409	1.16E-01	2.24E-01	8.20E-03	1.35E-16	2.69E 08	3.64E-08	6.01E 07
6 2	1452	3.21E-02	5.65E-02	2.07E-03	3.42E-17	2.69E 08	9.20E-09	1.52E 07
6 3	1498	4.22E-02	6.77E-02	2.48E-03	4.10E-17	2.69E 08	1.10E-08	1.82E 07
6 4	1545	4.29E-02	6.26E-02	2.30E-03	3.79E-17	2.69E 08	1.02E-08	1.68E 07
6 5	1596	4.23E-02	5.61E-02	2.06E-03	3.39E-17	2.69E 08	9.13E-09	1.51E 07
6 6	1649	2.18E-02	2.62E-02	9.61E-04	1.59E-17	2.69E 08	4.26E-09	7.05E 06
6 7	1704	7.29E-02	7.94E-02	2.91E-03	4.80E-17	2.69E 08	1.29E-08	2.13E 07
6 8	1763	5.93E-04	5.83E-04	2.14E-05	3.53E-19	2.69E 08	9.50E-11	1.57E 05
6 9	1825	6.35E-02	5.63E-02	2.07E-03	3.41E-17	2.69E 08	9.17E-09	1.51E 07
6 10	1891	7.28E-02	5.81E-02	2.13E-03	3.52E-17	2.69E 08	9.46E-09	1.55E 07
6 11	1960	2.43E-03	1.74E-03	6.39E-05	1.05E-18	2.69E 08	2.84E-10	4.68E 05
6 12	2034	4.55E-02	2.91E-02	1.07E-03	1.76E-17	2.69E 08	4.74E-09	7.84E 06
6 13	2112	1.32E-01	7.56E-02	2.77E-03	4.58E-17	2.69E 08	1.23E-08	2.03E 07
6 14	2195	1.39E-01	7.06E-02	2.59E-03	4.27E-17	2.69E 08	1.15E-08	1.90E 07
6 15	2283	8.58E-02	3.89E-02	1.43E-03	2.35E-17	2.69E 08	6.33E-09	1.05E 07
6 16	2378	3.67E-02	1.47E-02	5.40E-04	8.90E-18	2.69E 08	2.40E-09	3.96E 06
6 17	2479	1.17E-02	4.12E-03	1.51E-04	2.50E-18	2.69E 08	6.71E-10	1.11E 06
6 18	2587	2.86E-03	8.91E-04	3.27E-05	5.39E-19	2.69E 08	1.45E-10	2.40E 05
6 19	2703	5.58E-04	1.52E-04	5.59E-06	9.22E-20	2.69E 08	2.48E-11	4.10E 04
6 20	2828	8.78E-05	2.09E-05	7.68E-07	1.27E-20	2.69E 08	3.41E-12	5.63E 03
6 21	2962	1.13E-05	2.33E-06	8.56E-08	1.41E-21	2.69E 08	3.80E-13	6.28E 02

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
7 0	1344	1.84E-02	4.22E-02	7.78E-04	1.24E-17	1.91E 08	2.37E-09	8.06E 06
7 1	1384	8.81E-02	1.85E-01	3.40E-03	5.43E-17	1.91E 08	1.04E-08	3.53E 07
7 2	1426	7.35E-02	1.41E-01	2.60E-03	4.14E-17	1.91E 08	7.91E-09	2.69E 07
7 3	1470	2.23E-03	3.91E-03	7.21E-05	1.15E-18	1.91E 08	2.20E-10	7.47E 05
7 4	1516	7.39E-02	1.18E-01	2.18E-03	3.47E-17	1.91E 08	6.62E-09	2.25E 07
7 5	1564	4.27E-05	6.20E-05	1.14E-06	1.82E-20	1.91E 08	3.48E-12	1.19E 04
7 6	1615	6.99E-02	9.23E-02	1.70E-03	2.71E-17	1.91E 08	5.18E-09	1.76E 07
7 7	1668	2.90E-03	3.48E-03	6.41E-05	1.02E-18	1.91E 08	1.95E-10	6.64E 05
7 8	1724	5.82E-02	6.31E-02	1.16E-03	1.86E-17	1.91E 08	3.54E-09	1.21E 07
7 9	1784	3.75E-02	3.68E-02	6.78E-04	1.08E-17	1.91E 08	2.06E-09	7.02E 06
7 10	1846	1.01E-02	8.93E-03	1.65E-04	2.62E-18	1.91E 08	5.01E-10	1.71E 06
7 11	1912	8.28E-02	6.59E-02	1.21E-03	1.94E-17	1.91E 08	3.70E-09	1.26E 07
7 12	1982	4.05E-02	2.89E-02	5.33E-04	8.49E-18	1.91E 08	1.62E-09	5.52E 06
7 13	2056	2.74E-03	1.75E-03	3.23E-05	5.15E-19	1.91E 08	9.84E-11	3.35E 05
7 14	2135	7.86E-02	4.49E-02	8.28E-04	1.32E-17	1.91E 08	2.52E-09	8.58E 06
7 15	2219	1.41E-01	7.20E-02	1.33E-03	2.12E-17	1.91E 08	4.04E-09	1.38E 07
7 16	2308	1.20E-01	5.44E-02	1.00E-03	1.60E-17	1.91E 08	3.05E-09	1.04E 07
7 17	2403	6.49E-02	2.60E-02	4.80E-04	7.65E-18	1.91E 08	1.46E-09	4.97E 06
7 18	2504	2.50E-02	8.85E-03	1.63E-04	2.60E-18	1.91E 08	4.96E-10	1.69E 06
7 19	2613	7.25E-03	2.26E-03	4.17E-05	6.64E-19	1.91E 08	1.27E-10	4.32E 05
7 20	2729	1.64E-03	4.50E-04	8.29E-06	1.32E-19	1.91E 08	2.52E-11	8.59E 04
7 21	2854	2.97E-04	7.11E-05	1.31E-06	2.09E-20	1.91E 08	3.99E-12	1.36E 04
7 22	2989	4.34E-05	9.04E-06	1.67E-07	2.66E-21	1.91E 08	5.07E-13	1.73E 03
8 0	1322	8.90E-03	2.21E-02	1.97E-04	3.03E-18	1.66E 08	5.04E-10	3.67E 06
8 1	1361	5.84E-02	1.33E-01	1.18E-03	1.83E-17	1.66E 08	3.03E-09	2.21E 07
8 2	1401	9.10E-02	1.90E-01	1.69E-03	2.61E-17	1.66E 08	4.33E-09	3.15E 07
8 3	1443	9.90E-03	1.89E-02	1.68E-04	2.60E-18	1.66E 08	4.31E-10	3.14E 06
8 4	1488	4.46E-02	7.79E-02	6.93E-04	1.07E-17	1.66E 08	1.77E-09	1.29E 07
8 5	1534	3.28E-02	5.22E-02	4.64E-04	7.16E-18	1.66E 08	1.19E-09	8.66E 06
8 6	1583	2.97E-02	4.31E-02	3.83E-04	5.91E-18	1.66E 08	9.81E-10	7.15E 06
8 7	1634	3.06E-02	4.03E-02	3.59E-04	5.53E-18	1.66E 08	9.18E-10	6.69E 06
8 8	1688	4.27E-02	5.10E-02	4.53E-04	6.99E-18	1.66E 08	1.16E-09	8.46E 06
8 9	1745	9.84E-03	1.06E-02	9.47E-05	1.46E-18	1.66E 08	2.42E-10	1.77E 06
8 10	1805	6.82E-02	6.67E-02	5.93E-04	9.15E-18	1.66E 08	1.52E-09	1.11E 07
8 11	1868	6.08E-03	5.36E-03	4.77E-05	7.35E-19	1.66E 08	1.22E-10	8.89E 05
8 12	1935	4.08E-02	3.23E-02	2.88E-04	4.44E-18	1.66E 08	7.37E-10	5.37E 06
8 13	2005	7.80E-02	5.55E-02	4.94E-04	7.62E-18	1.66E 08	1.27E-09	9.22E 06
8 14	2080	1.18E-02	7.56E-03	6.73E-05	1.04E-18	1.66E 08	1.72E-10	1.25E 06
8 15	2160	2.24E-02	1.28E-02	1.14E-04	1.76E-18	1.66E 08	2.91E-10	2.12E 06
8 16	2244	1.09E-01	5.54E-02	4.93E-04	7.60E-18	1.66E 08	1.26E-09	9.20E 06
8 17	2333	1.39E-01	6.29E-02	5.60E-04	8.63E-18	1.66E 08	1.43E-09	1.04E 07
8 18	2429	9.83E-02	3.94E-02	3.51E-04	5.41E-18	1.66E 08	8.98E-10	6.54E 06
8 19	2531	4.66E-02	1.65E-02	1.47E-04	2.27E-18	1.66E 08	3.76E-10	2.74E 06
8 20	2640	1.61E-02	5.04E-03	4.49E-05	6.92E-19	1.66E 08	1.15E-10	8.37E 05
8 21	2757	4.28E-03	1.17E-03	1.04E-05	1.61E-19	1.66E 08	2.67E-11	1.95E 05
8 22	2882	8.92E-04	2.14E-04	1.90E-06	2.94E-20	1.66E 08	4.88E-12	3.55E 04
8 23	3017	1.49E-04	3.11E-05	2.77E-07	4.27E-21	1.66E 08	7.09E-13	5.17E 03
8 24	3162	2.01E-05	3.65E-06	3.24E-08	5.00E-22	1.66E 08	8.31E-14	6.05E 02

XIV. CARBON MONOXIDE HOPFIELD-BIRGE BANDS

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
0 0	1804	1.56E-04	3.92E-04	6.12E-08	1.76E-21	1.87E 10	3.29E-11	7.33E 06
0 1	1877	1.63E-03	3.63E-03	5.67E-07	1.63E-20	1.87E 10	3.05E-10	6.79E 07
0 2	1954	8.18E-03	1.62E-02	2.52E-06	7.25E-20	1.87E 10	1.36E-09	3.02E 08
0 3	2038	2.64E-02	4.60E-02	7.17E-06	2.06E-19	1.87E 10	3.85E-09	8.59E 08
0 4	2127	6.10E-02	9.35E-02	1.46E-05	4.19E-19	1.87E 10	7.84E-09	1.75E 09
0 5	2223	1.08E-01	1.45E-01	2.26E-05	6.50E-19	1.87E 10	1.22E-08	2.71E 09
0 6	2327	1.52E-01	1.78E-01	2.77E-05	7.96E-19	1.87E 10	1.49E-08	3.32E 09
0 7	2440	1.73E-01	1.76E-01	2.75E-05	7.90E-19	1.87E 10	1.48E-08	3.30E 09
0 8	2562	1.64E-01	1.44E-01	2.25E-05	6.45E-19	1.87E 10	1.21E-08	2.69E 09
0 9	2695	1.30E-01	9.81E-02	1.53E-05	4.40E-19	1.87E 10	8.22E-09	1.83E 09
0 10	2841	8.71E-02	5.61E-02	8.75E-06	2.51E-19	1.87E 10	4.70E-09	1.05E 09
0 11	3000	4.95E-02	2.71E-02	4.22E-06	1.21E-19	1.87E 10	2.27E-09	5.06E 08
0 12	3176	2.40E-02	1.10E-02	1.72E-06	4.95E-20	1.87E 10	9.26E-10	2.07E 08
0 13	3371	9.93E-03	3.82E-03	5.97E-07	1.71E-20	1.87E 10	3.20E-10	7.15E 07
0 14	3588	3.50E-03	1.12E-03	1.75E-07	5.02E-21	1.87E 10	9.38E-11	2.09E 07
0 15	3831	1.05E-03	2.77E-04	4.32E-08	1.24E-21	1.87E 10	2.32E-11	5.17E 06
0 16	4104	2.69E-04	5.75E-05	8.97E-09	2.58E-22	1.87E 10	4.82E-12	1.07E 06
0 17	4415	5.82E-05	9.97E-06	1.56E-09	4.47E-23	1.87E 10	8.36E-13	1.87E 05
0 18	4770	1.05E-05	1.43E-06	2.24E-10	6.43E-24	1.87E 10	1.20E-13	2.68E 04
1 0	1766	1.08E-03	2.84E-03	3.06E-06	8.43E-20	1.12E 10	9.44E-10	3.19E 07
1 1	1835	8.87E-03	2.09E-02	2.25E-05	6.18E-19	1.12E 10	6.93E-09	2.34E 08
1 2	1910	3.37E-02	7.04E-02	7.58E-05	2.09E-18	1.12E 10	2.34E-08	7.88E 08
1 3	1989	7.69E-02	1.42E-01	1.53E-04	4.21E-18	1.12E 10	4.72E-08	1.59E 09
1 4	2074	1.15E-01	1.87E-01	2.01E-04	5.54E-18	1.12E 10	6.20E-08	2.09E 09
1 5	2166	1.11E-01	1.59E-01	1.71E-04	4.72E-18	1.12E 10	5.29E-08	1.78E 09
1 6	2264	6.17E-02	7.73E-02	8.32E-05	2.29E-18	1.12E 10	2.56E-08	8.66E 08
1 7	2370	9.74E-03	1.06E-02	1.15E-05	3.15E-19	1.12E 10	3.53E-09	1.19E 08
1 8	2486	5.91E-03	5.60E-03	6.02E-06	1.66E-19	1.12E 10	1.86E-09	6.27E 07
1 9	2611	5.42E-02	4.44E-02	4.78E-05	1.31E-18	1.12E 10	1.47E-08	4.97E 08
1 10	2747	1.12E-01	7.88E-02	8.48E-05	2.33E-18	1.12E 10	2.61E-08	8.82E 08
1 11	2896	1.37E-01	8.20E-02	8.82E-05	2.43E-18	1.12E 10	2.72E-08	9.18E 08
1 12	3060	1.20E-01	6.07E-02	6.54E-05	1.80E-18	1.12E 10	2.02E-08	6.80E 08
1 13	3240	8.08E-02	3.45E-02	3.72E-05	1.02E-18	1.12E 10	1.15E-08	3.87E 08
1 14	3440	4.37E-02	1.56E-02	1.68E-05	4.62E-19	1.12E 10	5.18E-09	1.75E 08
1 15	3663	1.93E-02	5.71E-03	6.14E-06	1.69E-19	1.12E 10	1.89E-09	6.39E 07
1 16	3912	7.01E-03	1.70E-03	1.83E-06	5.05E-20	1.12E 10	5.65E-10	1.91E 07
1 17	4193	2.11E-03	4.17E-04	4.48E-07	1.23E-20	1.12E 10	1.38E-10	4.67E 06
1 18	4512	5.26E-04	8.33E-05	8.97E-08	2.47E-21	1.12E 10	2.77E-11	9.33E 05
1 19	4877	1.08E-04	1.36E-05	1.46E-08	4.02E-22	1.12E 10	4.51E-12	1.52E 05
1 20	5298	1.83E-05	1.79E-06	1.93E-09	5.30E-23	1.12E 10	5.93E-13	2.00E 04

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
2 0	1730	3.90E-03	1.08E-02	4.23E-05	1.12E-18	9.37E 09	1.05E-08	1.02E 08
2 1	1797	2.50E-02	6.20E-02	2.42E-04	6.38E-18	9.37E 09	5.98E-08	5.80E 08
2 2	1868	6.91E-02	1.53E-01	5.96E-04	1.57E-17	9.37E 09	1.47E-07	1.43E 09
2 3	1943	1.03E-01	2.02E-01	7.90E-04	2.09E-17	9.37E 09	1.95E-07	1.90E 09
2 4	2025	8.10E-02	1.40E-01	5.48E-04	1.45E-17	9.37E 09	1.36E-07	1.32E 09
2 5	2112	2.12E-02	3.24E-02	1.27E-04	3.34E-18	9.37E 09	3.13E-08	3.04E 08
2 6	2205	2.33E-03	3.12E-03	1.22E-05	3.21E-19	9.37E 09	3.01E-09	2.92E 07
2 7	2306	4.69E-02	5.50E-02	2.15E-04	5.67E-18	9.37E 09	5.32E-08	5.16E 08
2 8	2415	8.28E-02	8.45E-02	3.30E-04	8.71E-18	9.37E 09	8.16E-08	7.92E 08
2 9	2533	5.49E-02	4.86E-02	1.90E-04	5.00E-18	9.37E 09	4.69E-08	4.55E 08
2 10	2661	6.95E-03	5.30E-03	2.07E-05	5.46E-19	9.37E 09	5.12E-09	4.97E 07
2 11	2800	1.05E-02	6.88E-03	2.69E-05	7.10E-19	9.37E 09	6.65E-09	6.45E 07
2 12	2953	6.69E-02	3.73E-02	1.46E-04	3.85E-18	9.37E 09	3.60E-08	3.50E 08
2 13	3121	1.19E-01	5.61E-02	2.19E-04	5.78E-18	9.37E 09	5.42E-08	5.26E 08
2 14	3306	1.25E-01	4.97E-02	1.94E-04	5.12E-18	9.37E 09	4.80E-08	4.66E 08
2 15	3511	9.33E-02	3.10E-02	1.21E-04	3.19E-18	9.37E 09	2.99E-08	2.90E 08
2 16	3739	5.30E-02	1.46E-02	5.69E-05	1.50E-18	9.37E 09	1.41E-08	1.37E 08
2 17	3995	2.37E-02	5.34E-03	2.09E-05	5.51E-19	9.37E 09	5.16E-09	5.01E 07
2 18	4284	8.49E-03	1.55E-03	6.06E-06	1.60E-19	9.37E 09	1.50E-09	1.46E 07
2 19	4611	2.46E-03	3.60E-04	1.41E-06	3.71E-20	9.37E 09	3.48E-10	3.38E 06
2 20	4986	5.76E-04	6.68E-05	2.61E-07	6.88E-21	9.37E 09	6.45E-11	6.26E 05
2 21	5420	1.09E-04	9.84E-06	3.84E-08	1.01E-21	9.37E 09	9.50E-12	9.22E 04
2 22	5927	1.65E-05	1.14E-06	4.45E-09	1.18E-22	9.37E 09	1.10E-12	1.07E 04
3 0	1696	9.90E-03	2.89E-02	2.86E-04	7.26E-18	7.03E 09	5.11E-08	2.03E 08
3 1	1760	4.82E-02	1.26E-01	1.25E-03	3.17E-17	7.03E 09	2.23E-07	8.85E 08
3 2	1828	9.23E-02	2.15E-01	2.13E-03	5.40E-17	7.03E 09	3.80E-07	1.51E 09
3 3	1901	7.75E-02	1.61E-01	1.59E-03	4.04E-17	7.03E 09	2.84E-07	1.13E 09
3 4	1978	1.61E-02	2.97E-02	2.94E-04	7.45E-18	7.03E 09	5.24E-08	2.08E 08
3 5	2061	6.92E-03	1.12E-02	1.11E-04	2.83E-18	7.03E 09	1.99E-08	7.90E 07
3 6	2150	5.59E-02	8.01E-02	7.93E-04	2.01E-17	7.03E 09	1.42E-07	5.63E 08
3 7	2246	6.00E-02	7.53E-02	7.46E-04	1.89E-17	7.03E 09	1.33E-07	5.30E 08
3 8	2349	1.13E-02	1.24E-02	1.23E-04	3.11E-18	7.03E 09	2.19E-08	8.71E 07
3 9	2460	9.03E-03	8.63E-03	8.55E-05	2.17E-18	7.03E 09	1.52E-08	6.07E 07
3 10	2581	5.93E-02	4.91E-02	4.86E-04	1.23E-17	7.03E 09	8.67E-08	3.45E 08
3 11	2712	6.84E-02	4.88E-02	4.83E-04	1.23E-17	7.03E 09	8.62E-08	3.43E 08
3 12	2855	2.15E-02	1.32E-02	1.30E-04	3.31E-18	7.03E 09	2.32E-08	9.25E 07
3 13	3012	1.64E-03	8.52E-04	8.44E-06	2.14E-19	7.03E 09	1.51E-09	5.99E 06
3 14	3184	4.77E-02	2.10E-02	2.08E-04	5.29E-18	7.03E 09	3.72E-08	1.48E 08
3 15	3373	1.08E-01	3.99E-02	3.95E-04	1.00E-17	7.03E 09	7.05E-08	2.81E 08
3 16	3584	1.24E-01	3.83E-02	3.80E-04	9.64E-18	7.03E 09	6.77E-08	2.70E 08
3 17	3818	9.53E-02	2.44E-02	2.41E-04	6.12E-18	7.03E 09	4.30E-08	1.71E 08
3 18	4081	5.37E-02	1.13E-02	1.11E-04	2.83E-18	7.03E 09	1.99E-08	7.91E 07
3 19	4377	2.32E-02	3.94E-03	3.91E-05	9.91E-19	7.03E 09	6.97E-09	2.77E 07
3 20	4714	7.87E-03	1.07E-03	1.06E-05	2.69E-19	7.03E 09	1.89E-09	7.52E 06
3 21	5099	2.11E-03	2.26E-04	2.24E-06	5.69E-20	7.03E 09	4.00E-10	1.59E 06
3 22	5546	4.48E-04	3.74E-05	3.70E-07	9.40E-21	7.03E 09	6.61E-11	2.63E 05
3 23	6067	7.52E-05	4.79E-06	4.74E-08	1.20E-21	7.03E 09	8.46E-12	3.37E 04

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
4 0	1664	1.98E-02	6.06E-02	1.20E-03	2.93E-17	5.42E 09	1.59E-07	3.28E 08
4 1	1725	7.13E-02	1.96E-01	3.87E-03	9.46E-17	5.42E 09	5.13E-07	1.06E 09
4 2	1791	8.68E-02	2.13E-01	4.22E-03	1.03E-16	5.42E 09	5.58E-07	1.16E 09
4 3	1860	2.82E-02	6.17E-02	1.22E-03	2.98E-17	5.42E 09	1.62E-07	3.35E 08
4 4	1934	2.82E-03	5.50E-03	1.09E-04	2.65E-18	5.42E 09	1.44E-08	2.98E 07
4 5	2014	4.95E-02	8.56E-02	1.69E-03	4.13E-17	5.42E 09	2.24E-07	4.64E 08
4 6	2099	4.91E-02	7.50E-02	1.48E-03	3.62E-17	5.42E 09	1.96E-07	4.06E 08
4 7	2190	3.04E-03	4.09E-03	8.09E-05	1.98E-18	5.42E 09	1.07E-08	2.22E 07
4 8	2288	2.25E-02	2.66E-02	5.25E-04	1.28E-17	5.42E 09	6.95E-08	1.44E 08
4 9	2393	5.93E-02	6.11E-02	1.21E-03	2.95E-17	5.42E 09	1.60E-07	3.31E 08
4 10	2507	2.62E-02	2.35E-02	4.64E-04	1.13E-17	5.42E 09	6.15E-08	1.27E 08
4 11	2631	1.13E-03	8.75E-04	1.73E-05	4.22E-19	5.42E 09	2.29E-09	4.74E 06
4 12	2765	4.45E-02	2.97E-02	5.88E-04	1.43E-17	5.42E 09	7.78E-08	1.61E 08
4 13	2912	6.84E-02	3.91E-02	7.73E-04	1.89E-17	5.42E 09	1.02E-07	2.12E 08
4 14	3072	2.64E-02	1.28E-02	2.54E-04	6.20E-18	5.42E 09	3.36E-08	6.96E 07
4 15	3248	7.00E-04	2.88E-04	5.70E-06	1.39E-19	5.42E 09	7.54E-10	1.56E 06
4 16	3443	4.53E-02	1.57E-02	3.10E-04	7.57E-18	5.42E 09	4.10E-08	8.49E 07
4 17	3659	1.07E-01	3.09E-02	6.11E-04	1.49E-17	5.42E 09	8.09E-08	1.67E 08
4 18	3899	1.22E-01	2.91E-02	5.76E-04	1.41E-17	5.42E 09	7.62E-08	1.58E 08
4 19	4169	9.05E-02	1.76E-02	3.49E-04	8.52E-18	5.42E 09	4.62E-08	9.56E 07
4 20	4473	4.82E-02	7.61E-03	1.50E-04	3.67E-18	5.42E 09	1.99E-08	4.12E 07
4 21	4819	1.93E-02	2.44E-03	4.82E-05	1.18E-18	5.42E 09	6.38E-09	1.32E 07
4 22	5215	5.96E-03	5.94E-04	1.17E-05	2.87E-19	5.42E 09	1.55E-09	3.22E 06
4 23	5674	1.43E-03	1.10E-04	2.18E-06	5.33E-20	5.42E 09	2.89E-10	5.98E 05
4 24	6211	2.65E-04	1.56E-05	3.09E-07	7.55E-21	5.42E 09	4.09E-11	8.47E 04
5 0	1633	3.31E-02	1.07E-01	3.52E-03	8.29E-17	4.12E 09	3.42E-07	4.39E 08
5 1	1692	8.52E-02	2.47E-01	8.16E-03	1.92E-16	4.12E 09	7.91E-07	1.02E 09
5 2	1755	5.71E-02	1.48E-01	4.90E-03	1.15E-16	4.12E 09	4.75E-07	6.10E 08
5 3	1822	8.29E-04	1.92E-03	6.36E-05	1.50E-18	4.12E 09	6.16E-09	7.92E 06
5 4	1893	3.37E-02	6.97E-02	2.30E-03	5.42E-17	4.12E 09	2.23E-07	2.87E 08
5 5	1969	5.08E-02	9.34E-02	3.09E-03	7.27E-17	4.12E 09	3.00E-07	3.85E 08
5 6	2050	4.55E-03	7.41E-03	2.45E-04	5.77E-18	4.12E 09	2.38E-08	3.05E 07
5 7	2137	2.13E-02	3.05E-02	1.01E-03	2.38E-17	4.12E 09	9.80E-08	1.26E 08
5 8	2230	5.11E-02	6.47E-02	2.14E-03	5.03E-17	4.12E 09	2.07E-07	2.66E 08
5 9	2330	1.16E-02	1.29E-02	4.25E-04	1.00E-17	4.12E 09	4.12E-08	5.29E 07
5 10	2438	1.07E-02	1.04E-02	3.44E-04	8.09E-18	4.12E 09	3.33E-08	4.28E 07
5 11	2555	5.32E-02	4.47E-02	1.48E-03	3.48E-17	4.12E 09	1.43E-07	1.84E 08
5 12	2682	3.01E-02	2.19E-02	7.25E-04	1.71E-17	4.12E 09	7.03E-08	9.03E 07
5 13	2819	3.58E-04	2.24E-04	7.42E-06	1.75E-19	4.12E 09	7.19E-10	9.24E 05
5 14	2970	4.15E-02	2.23E-02	7.36E-04	1.73E-17	4.12E 09	7.14E-08	9.17E 07
5 15	3134	6.59E-02	3.00E-02	9.93E-04	2.34E-17	4.12E 09	9.63E-08	1.24E 08
5 16	3315	2.27E-02	8.73E-03	2.89E-04	6.79E-18	4.12E 09	2.80E-08	3.60E 07
5 17	3514	2.17E-03	7.03E-04	2.32E-05	5.47E-19	4.12E 09	2.25E-09	2.89E 06
5 18	3735	5.44E-02	1.46E-02	4.84E-04	1.14E-17	4.12E 09	4.69E-08	6.03E 07
5 19	3982	1.14E-01	2.53E-02	8.36E-04	1.97E-17	4.12E 09	8.11E-08	1.04E 08
5 20	4259	1.19E-01	2.15E-02	7.13E-04	1.68E-17	4.12E 09	6.91E-08	8.88E 07
5 21	4571	8.02E-02	1.18E-02	3.90E-04	9.17E-18	4.12E 09	3.78E-08	4.85E 07
5 22	4927	3.86E-02	4.53E-03	1.50E-04	3.53E-18	4.12E 09	1.45E-08	1.87E 07
5 23	5334	1.38E-02	1.28E-03	4.23E-05	9.95E-19	4.12E 09	4.10E-09	5.27E 06
5 24	5806	3.75E-03	2.69E-04	8.89E-06	2.09E-19	4.12E 09	8.62E-10	1.11E 06

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
6 0	1604	4.83E-02	1.63E-01	7.89E-03	1.79E-16	3.18E 09	5.69E-07	5.19E 08
6 1	1661	8.48E-02	2.58E-01	1.25E-02	2.83E-16	3.18E 09	9.01E-07	8.22E 08
6 2	1722	2.28E-02	6.23E-02	3.01E-03	6.82E-17	3.18E 09	2.17E-07	1.98E 08
6 3	1786	9.65E-03	2.37E-02	1.14E-03	2.59E-17	3.18E 09	8.25E-08	7.52E 07
6 4	1854	5.24E-02	1.15E-01	5.54E-03	1.26E-16	3.18E 09	4.00E-07	3.65E 08
6 5	1927	1.50E-02	2.93E-02	1.42E-03	3.22E-17	3.18E 09	1.02E-07	9.33E 07
6 6	2005	1.06E-02	1.84E-02	8.89E-04	2.02E-17	3.18E 09	6.42E-08	5.86E 07
6 7	2088	4.68E-02	7.19E-02	3.47E-03	7.88E-17	3.18E 09	2.51E-07	2.29E 08
6 8	2177	1.15E-02	1.56E-02	7.54E-04	1.71E-17	3.18E 09	5.44E-08	4.97E 07
6 9	2272	1.18E-02	1.41E-02	6.81E-04	1.55E-17	3.18E 09	4.91E-08	4.48E 07
6 10	2375	4.72E-02	4.93E-02	2.38E-03	5.40E-17	3.18E 09	1.72E-07	1.57E 08
6 11	2485	1.36E-02	1.23E-02	5.95E-04	1.35E-17	3.18E 09	4.30E-08	3.92E 07
6 12	2605	9.12E-03	7.21E-03	3.48E-04	7.90E-18	3.18E 09	2.51E-08	2.29E 07
6 13	2734	5.08E-02	3.47E-02	1.67E-03	3.80E-17	3.18E 09	1.21E-07	1.10E 08
6 14	2875	2.64E-02	1.55E-02	7.49E-04	1.70E-17	3.18E 09	5.41E-08	4.93E 07
6 15	3029	1.39E-03	7.01E-04	3.38E-05	7.69E-19	3.18E 09	2.44E-09	2.23E 06
6 16	3198	4.69E-02	2.00E-02	9.66E-04	2.19E-17	3.18E 09	6.98E-08	6.37E 07
6 17	3383	6.11E-02	2.21E-02	1.06E-03	2.42E-17	3.18E 09	7.69E-08	7.01E 07
6 18	3587	1.34E-02	4.05E-03	1.96E-04	4.44E-18	3.18E 09	1.41E-08	1.29E 07
6 19	3814	8.61E-03	2.17E-03	1.05E-04	2.38E-18	3.18E 09	7.56E-09	6.90E 06
6 20	4068	7.27E-02	1.51E-02	7.28E-04	1.65E-17	3.18E 09	5.26E-08	4.80E 07
6 21	4352	1.22E-01	2.07E-02	1.00E-03	2.27E-17	3.18E 09	7.22E-08	6.59E 07
6 22	4673	1.10E-01	1.51E-02	7.27E-04	1.65E-17	3.18E 09	5.25E-08	4.79E 07
6 23	5038	6.50E-02	7.10E-03	3.43E-04	7.79E-18	3.18E 09	2.48E-08	2.26E 07
6 24	5457	2.73E-02	2.35E-03	1.13E-04	2.57E-18	3.18E 09	8.18E-09	7.47E 06
7 0	1577	6.32E-02	2.25E-01	1.42E-02	3.12E-16	2.43E 09	7.59E-07	5.48E 08
7 1	1632	7.07E-02	2.28E-01	1.44E-02	3.15E-16	2.43E 09	7.66E-07	5.53E 08
7 2	1690	2.40E-03	6.95E-03	4.39E-04	9.64E-18	2.43E 09	2.34E-08	1.69E 07
7 3	1752	3.41E-02	8.86E-02	5.60E-03	1.23E-16	2.43E 09	2.99E-07	2.15E 08
7 4	1818	3.67E-02	8.54E-02	5.40E-03	1.18E-16	2.43E 09	2.88E-07	2.08E 08
7 5	1888	3.59E-04	7.47E-04	4.72E-05	1.04E-18	2.43E 09	2.52E-09	1.81E 06
7 6	1962	3.90E-02	7.22E-02	4.56E-03	10.00E-17	2.43E 09	2.43E-07	1.75E 08
7 7	2042	2.06E-02	3.38E-02	2.14E-03	4.69E-17	2.43E 09	1.14E-07	8.22E 07
7 8	2126	5.33E-03	7.76E-03	4.90E-04	1.07E-17	2.43E 09	2.61E-08	1.88E 07
7 9	2217	4.19E-02	5.38E-02	3.40E-03	7.45E-17	2.43E 09	1.81E-07	1.31E 08
7 10	2315	1.18E-02	1.33E-02	8.40E-04	1.84E-17	2.43E 09	4.48E-08	3.23E 07
7 11	2420	1.13E-02	1.12E-02	7.06E-04	1.55E-17	2.43E 09	3.76E-08	2.72E 07
7 12	2533	4.44E-02	3.82E-02	2.42E-03	5.30E-17	2.43E 09	1.29E-07	9.29E 07
7 13	2656	9.80E-03	7.32E-03	4.62E-04	1.01E-17	2.43E 09	2.46E-08	1.78E 07
7 14	2788	1.32E-02	8.51E-03	5.38E-04	1.18E-17	2.43E 09	2.87E-08	2.07E 07
7 15	2933	5.06E-02	2.80E-02	1.77E-03	3.88E-17	2.43E 09	9.44E-08	6.81E 07
7 16	3090	1.74E-02	8.25E-03	5.21E-04	1.14E-17	2.43E 09	2.78E-08	2.00E 07
7 17	3263	6.44E-03	2.59E-03	1.64E-04	3.59E-18	2.43E 09	8.72E-09	6.29E 06
7 18	3453	5.65E-02	1.92E-02	1.21E-03	2.66E-17	2.43E 09	6.47E-08	4.67E 07
7 19	3663	5.06E-02	1.44E-02	9.10E-04	2.00E-17	2.43E 09	4.85E-08	3.50E 07
7 20	3896	3.27E-03	7.74E-04	4.89E-05	1.07E-18	2.43E 09	2.61E-09	1.88E 06
7 21	4156	2.49E-02	4.86E-03	3.07E-04	6.74E-18	2.43E 09	1.64E-08	1.18E 07
7 22	4447	9.68E-02	1.54E-02	9.72E-04	2.13E-17	2.43E 09	5.18E-08	3.74E 07
7 23	4777	1.26E-01	1.61E-02	1.02E-03	2.24E-17	2.43E 09	5.44E-08	3.92E 07
7 24	5152	9.41E-02	9.62E-03	6.08E-04	1.33E-17	2.43E 09	3.24E-08	2.34E 07

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
0 0	1551	7.56E-02	2.07E-01	2.17E-02	4.60E-16	1.90E 09	8.75E-07	5.45E 08
0 1	1604	4.87E-02	1.67E-01	1.26E-02	2.68E-16	1.90E 09	5.09E-07	3.17E 08
0 2	1660	2.37E-03	7.32E-03	5.54E-04	1.17E-17	1.90E 09	2.23E-08	1.39E 07
0 3	1720	4.76E-02	1.33E-01	1.00E-02	2.13E-16	1.90E 09	4.04E-07	2.52E 08
0 4	1783	9.97E-03	2.49E-02	1.88E-03	3.99E-17	1.90E 09	7.59E-08	4.73E 07
0 5	1851	1.85E-02	4.14E-02	3.13E-03	6.64E-17	1.90E 09	1.26E-07	7.86E 07
0 6	1922	3.51E-02	7.00E-02	5.29E-03	1.12E-16	1.90E 09	2.13E-07	1.33E 08
0 7	1998	1.41E-07	2.50E-07	1.89E-08	4.01E-22	1.90E 09	7.61E-13	4.75E 02
0 8	2079	3.36E-02	5.29E-02	4.00E-03	8.49E-17	1.90E 09	1.61E-07	1.01E 08
0 9	2166	1.85E-02	2.58E-02	1.95E-03	4.13E-17	1.90E 09	7.85E-08	4.89E 07
0 10	2259	6.06E-03	7.44E-03	5.62E-04	1.19E-17	1.90E 09	2.27E-08	1.41E 07
0 11	2359	3.94E-02	4.25E-02	3.21E-03	6.82E-17	1.90E 09	1.30E-07	8.08E 07
0 12	2466	7.40E-03	6.98E-03	5.28E-04	1.12E-17	1.90E 09	2.13E-08	1.33E 07
0 13	2582	1.63E-02	1.34E-02	1.01E-03	2.14E-17	1.90E 09	4.07E-08	2.54E 07
0 14	2708	4.11E-02	2.93E-02	2.22E-03	4.70E-17	1.90E 09	8.93E-08	5.57E 07
0 15	2844	3.54E-03	2.18E-03	1.65E-04	3.50E-18	1.90E 09	6.64E-09	4.14E 06
0 16	2992	2.28E-02	1.21E-02	9.13E-04	1.94E-17	1.90E 09	3.68E-08	2.29E 07
0 17	3153	4.76E-02	2.15E-02	1.62E-03	3.45E-17	1.90E 09	6.55E-08	4.08E 07
0 18	3330	6.27E-03	2.40E-03	1.82E-04	3.86E-18	1.90E 09	7.32E-09	4.57E 06
0 19	3525	1.93E-02	6.24E-03	4.72E-04	1.00E-17	1.90E 09	1.90E-08	1.19E 07
0 20	3740	6.42E-02	1.74E-02	1.31E-03	2.78E-17	1.90E 09	5.29E-08	3.30E 07
0 21	3979	3.22E-02	7.23E-03	5.47E-04	1.16E-17	1.90E 09	2.20E-08	1.37E 07
0 22	4246	6.17E-04	1.14E-04	8.63E-06	1.83E-19	1.90E 09	3.48E-10	2.17E 05
0 23	4545	5.39E-02	8.13E-03	6.15E-04	1.30E-17	1.90E 09	2.48E-08	1.54E 07
0 24	4883	1.19E-01	1.45E-02	1.10E-03	2.33E-17	1.90E 09	4.42E-08	2.75E 07
9 0	1526	8.40E-02	3.39E-01	2.85E-02	5.85E-16	1.75E 09	1.02E-06	5.93E 08
9 1	1578	2.61E-02	9.55E-02	8.02E-03	1.65E-16	1.75E 09	2.88E-07	1.67E 08
9 2	1632	1.65E-02	5.45E-02	4.58E-03	9.40E-17	1.75E 09	1.64E-07	9.53E 07
9 3	1690	4.07E-02	1.21E-01	1.02E-02	2.09E-16	1.75E 09	3.65E-07	2.12E 08
9 4	1751	9.26E-05	2.47E-04	2.08E-05	4.27E-19	1.75E 09	7.47E-10	4.33E 05
9 5	1815	3.69E-02	8.84E-02	7.43E-03	1.53E-16	1.75E 09	2.67E-07	1.55E 08
9 6	1884	9.76E-03	2.09E-02	1.76E-03	3.61E-17	1.75E 09	6.32E-08	3.66E 07
9 7	1957	1.62E-02	3.10E-02	2.60E-03	5.35E-17	1.75E 09	9.36E-08	5.42E 07
9 8	2035	3.02E-02	5.14E-02	4.32E-03	8.87E-17	1.75E 09	1.55E-07	8.99E 07
9 9	2118	2.34E-04	3.54E-04	2.97E-05	6.10E-19	1.75E 09	1.07E-09	6.19E 05
9 10	2207	3.34E-02	4.45E-02	3.74E-03	7.69E-17	1.75E 09	1.35E-07	7.80E 07
9 11	2302	1.22E-02	1.43E-02	1.20E-03	2.47E-17	1.75E 09	4.33E-08	2.51E 07
9 12	2404	1.10E-02	1.13E-02	9.51E-04	1.95E-17	1.75E 09	3.42E-08	1.98E 07
9 13	2514	3.63E-02	3.28E-02	2.75E-03	5.65E-17	1.75E 09	9.89E-08	5.73E 07
9 14	2633	1.83E-03	1.43E-03	1.20E-04	2.47E-18	1.75E 09	4.33E-09	2.51E 06
9 15	2762	2.57E-02	1.75E-02	1.47E-03	3.02E-17	1.75E 09	5.28E-08	3.06E 07
9 16	2901	3.32E-02	1.95E-02	1.64E-03	3.37E-17	1.75E 09	5.89E-08	3.42E 07
9 17	3053	1.12E-06	5.64E-07	4.74E-08	9.74E-22	1.75E 09	1.70E-12	9.87E 02
9 18	3218	3.65E-02	1.57E-02	1.32E-03	2.71E-17	1.75E 09	4.75E-08	2.75E 07
9 19	3400	3.67E-02	1.34E-02	1.13E-03	2.31E-17	1.75E 09	4.05E-08	2.35E 07
9 20	3599	8.43E-06	2.59E-06	2.18E-07	4.47E-21	1.75E 09	7.83E-12	4.54E 03
9 21	3820	4.02E-02	1.03E-02	8.68E-04	1.78E-17	1.75E 09	3.12E-08	1.81E 07
9 22	4065	6.05E-02	1.29E-02	1.08E-03	2.23E-17	1.75E 09	3.90E-08	2.26E 07
9 23	4339	1.06E-02	1.86E-03	1.56E-04	3.20E-18	1.75E 09	5.60E-09	3.25E 06
9 24	4646	1.55E-02	2.22E-03	1.86E-04	3.83E-18	1.75E 09	6.69E-09	3.88E 06

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
10 0	1502	8.76E-02	3.69E-01	3.24E-02	6.45E-16	1.53E 09	9.86E-07	5.65E 08
10 1	1552	9.18E-03	3.51E-02	3.07E-03	6.12E-17	1.53E 09	9.37E-08	5.37E 07
10 2	1605	3.33E-02	1.15E-01	1.01E-02	2.01E-16	1.53E 09	3.08E-07	1.76E 08
10 3	1661	2.17E-02	6.79E-02	5.95E-03	1.18E-16	1.53E 09	1.81E-07	1.04E 08
10 4	1720	1.10E-02	3.10E-02	2.72E-03	5.42E-17	1.53E 09	8.29E-08	4.75E 07
10 5	1782	3.27E-02	8.25E-02	7.23E-03	1.44E-16	1.53E 09	2.20E-07	1.26E 08
10 6	1848	3.33E-04	7.53E-04	6.60E-05	1.31E-18	1.53E 09	2.01E-09	1.15E 06
10 7	1919	3.33E-02	6.74E-02	5.91E-03	1.18E-16	1.53E 09	1.80E-07	1.03E 08
10 8	1993	5.47E-03	9.87E-03	8.65E-04	1.72E-17	1.53E 09	2.64E-08	1.51E 07
10 9	2073	1.97E-02	3.16E-02	2.77E-03	5.51E-17	1.53E 09	8.43E-08	4.83E 07
10 10	2158	2.29E-02	3.26E-02	2.86E-03	5.69E-17	1.53E 09	8.71E-08	4.99E 07
10 11	2249	2.66E-03	3.34E-03	2.93E-04	5.83E-18	1.53E 09	8.92E-09	5.11E 06
10 12	2346	3.38E-02	3.74E-02	3.28E-03	6.53E-17	1.53E 09	9.99E-08	5.73E 07
10 13	2451	4.41E-03	4.28E-03	3.75E-04	7.47E-18	1.53E 09	1.14E-08	6.55E 06
10 14	2564	2.02E-02	1.71E-02	1.50E-03	2.99E-17	1.53E 09	4.57E-08	2.62E 07
10 15	2685	2.86E-02	2.11E-02	1.85E-03	3.68E-17	1.53E 09	5.63E-08	3.23E 07
10 16	2817	3.83E-04	2.45E-04	2.15E-05	4.28E-19	1.53E 09	6.55E-10	3.75E 05
10 17	2960	3.61E-02	1.99E-02	1.75E-03	3.48E-17	1.53E 09	5.32E-08	3.05E 07
10 18	3115	1.90E-02	8.98E-03	7.87E-04	1.57E-17	1.53E 09	2.40E-08	1.37E 07
10 19	3285	6.00E-03	2.42E-03	2.12E-04	4.22E-18	1.53E 09	6.46E-09	3.70E 06
10 20	3471	4.71E-02	1.61E-02	1.41E-03	2.81E-17	1.53E 09	4.30E-08	2.46E 07
10 21	3676	1.77E-02	5.10E-03	4.47E-04	8.90E-18	1.53E 09	1.36E-08	7.80E 06
10 22	3902	8.20E-03	1.97E-03	1.73E-04	3.44E-18	1.53E 09	5.27E-09	3.02E 06
10 23	4153	6.01E-02	1.20E-02	1.05E-03	2.09E-17	1.53E 09	3.20E-08	1.84E 07
10 24	4434	4.01E-02	6.57E-03	5.76E-04	1.15E-17	1.53E 09	1.75E-08	1.01E 07

XV. NITROGEN FIRST NEGATIVE BANDS

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
0 0	3911	6.51E-01	7.25E-01	4.72E-01	6.37E-14	2.25E 13	1.43E 00	1.63E 13
0 1	4275	2.59E-01	2.21E-01	1.44E-01	1.94E-14	2.25E 13	4.37E-01	4.97E 12
0 2	4706	7.02E-02	4.49E-02	2.92E-02	3.94E-15	2.25E 13	8.88E-02	1.01E 12
0 3	5225	1.60E-02	7.48E-03	4.87E-03	6.57E-16	2.25E 13	1.48E-02	1.68E 11
0 4	5862	3.30E-03	1.09E-03	7.11E-04	9.59E-17	2.25E 13	2.16E-03	2.46E 10
0 5	6660	6.34E-04	1.43E-04	9.32E-05	1.26E-17	2.25E 13	2.83E-04	3.22E 09
0 6	7692	1.15E-04	1.69E-05	1.10E-05	1.49E-18	2.25E 13	3.35E-05	3.81E 08
0 7	9075	2.00E-05	1.78E-06	1.16E-06	1.57E-19	2.25E 13	3.53E-06	4.02E 07
1 0	3579	3.01E-01	4.15E-01	1.25E-01	1.41E-14	2.09E 13	2.95E-01	8.67E 12
1 1	3881	2.23E-01	2.40E-01	7.24E-02	8.18E-15	2.09E 13	1.71E-01	5.02E 12
1 2	4233	2.86E-01	2.38E-01	7.17E-02	8.10E-15	2.09E 13	1.69E-01	4.97E 12
1 3	4649	1.32E-01	8.31E-02	2.51E-02	2.83E-15	2.09E 13	5.92E-02	1.74E 12
1 4	5146	4.27E-02	1.98E-02	5.96E-03	6.74E-16	2.09E 13	1.41E-02	4.13E 11
1 5	5751	1.14E-02	3.78E-03	1.14E-03	1.29E-16	2.09E 13	2.69E-03	7.90E 10
1 6	6504	2.70E-03	6.19E-04	1.87E-04	2.11E-17	2.09E 13	4.41E-04	1.29E 10
1 7	7467	5.86E-04	8.88E-05	2.68E-05	3.03E-18	2.09E 13	6.32E-05	1.86E 09
1 8	8738	1.18E-04	1.12E-05	3.38E-06	3.82E-19	2.09E 13	7.98E-06	2.34E 08
2 0	3304	4.54E-02	7.55E-02	3.43E-03	3.30E-16	1.91E 13	6.30E-03	1.44E 12
2 1	3560	4.06E-01	5.40E-01	2.45E-02	2.36E-15	1.91E 13	4.51E-02	1.03E 13
2 2	3854	5.06E-02	5.31E-02	2.41E-03	2.32E-16	1.91E 13	4.43E-03	1.01E 12
2 3	4195	2.29E-01	1.86E-01	8.45E-03	8.14E-16	1.91E 13	1.55E-02	3.56E 12
2 4	4595	1.65E-01	1.02E-01	4.64E-03	4.47E-16	1.91E 13	8.54E-03	1.95E 12
2 5	5072	7.11E-02	3.27E-02	1.48E-03	1.43E-16	1.91E 13	2.73E-03	6.25E 11
2 6	5649	2.36E-02	7.87E-03	3.57E-04	3.44E-17	1.91E 13	6.57E-04	1.50E 11
2 7	6361	6.69E-03	1.56E-03	7.08E-05	6.82E-18	1.91E 13	1.30E-04	2.98E 10
2 8	7262	1.70E-03	2.66E-04	1.21E-05	1.16E-18	1.91E 13	2.22E-05	5.08E 09
2 9	8436	3.93E-04	3.93E-05	1.78E-06	1.72E-19	1.91E 13	3.28E-06	7.51E 08

XVI. NITROGEN SECOND NEGATIVE BANDS

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
0 0	1549	1.12E-02	1.58E-02	1.76E-04	3.73E-18	1.86E 09	6.94E-09	2.94E 07
0 1	1603	6.96E-02	8.89E-02	9.92E-04	2.10E-17	1.86E 09	3.91E-08	1.65E 08
0 2	1660	1.86E-01	2.13E-01	2.38E-03	5.04E-17	1.86E 09	9.38E-08	3.97E 08
0 3	1721	2.76E-01	2.85E-01	3.18E-03	6.74E-17	1.86E 09	1.25E-07	5.31E 08
0 4	1784	2.51E-01	2.33E-01	2.60E-03	5.50E-17	1.86E 09	1.02E-07	4.33E 08
0 5	1852	1.44E-01	1.19E-01	1.33E-03	2.81E-17	1.86E 09	5.23E-08	2.21E 08
0 6	1924	5.08E-02	3.75E-02	4.18E-04	8.86E-18	1.86E 09	1.65E-08	6.97E 07
0 7	2000	1.04E-02	6.84E-03	7.63E-05	1.62E-18	1.86E 09	3.01E-09	1.27E 07
0 8	2081	1.05E-03	6.10E-04	6.81E-06	1.44E-19	1.86E 09	2.68E-10	1.14E 06
0 9	2168	2.89E-05	1.49E-05	1.67E-07	3.53E-21	1.86E 09	6.56E-12	2.78E 04
1 0	1502	3.77E-02	5.74E-02	2.17E-03	4.31E-17	1.53E 09	6.59E-08	8.79E 07
1 1	1552	1.39E-01	1.91E-01	7.21E-03	1.43E-16	1.53E 09	2.19E-07	2.92E 08
1 2	1606	1.59E-01	1.98E-01	7.47E-03	1.49E-16	1.53E 09	2.27E-07	3.03E 08
1 3	1662	3.67E-02	4.12E-02	1.56E-03	3.09E-17	1.53E 09	4.73E-08	6.31E 07
1 4	1721	2.27E-02	2.30E-02	8.66E-04	1.72E-17	1.53E 09	2.64E-08	3.51E 07
1 5	1784	1.79E-01	1.63E-01	6.13E-03	1.22E-16	1.53E 09	1.87E-07	2.49E 08
1 6	1851	2.40E-01	1.95E-01	7.36E-03	1.46E-16	1.53E 09	2.24E-07	2.99E 08
1 7	1921	1.40E-01	1.02E-01	3.85E-03	7.65E-17	1.53E 09	1.17E-07	1.56E 08
1 8	1996	4.03E-02	2.61E-02	9.85E-04	1.96E-17	1.53E 09	3.00E-08	4.00E 07
1 9	2075	5.09E-03	2.93E-03	1.11E-04	2.20E-18	1.53E 09	3.37E-09	4.49E 06
1 10	2160	1.55E-04	7.93E-05	2.99E-06	5.95E-20	1.53E 09	9.10E-11	1.21E 05
1 11	2250	2.80E-06	1.27E-06	4.78E-08	9.51E-22	1.53E 09	1.46E-12	1.94E 03
2 0	1457	7.19E-02	1.17E-01	8.45E-03	1.58E-16	7.50E 08	1.19E-07	8.81E 07
2 1	1504	1.45E-01	2.15E-01	1.54E-02	2.89E-16	7.50E 08	2.17E-07	1.61E 08
2 2	1554	4.18E-02	5.62E-02	4.04E-03	7.56E-17	7.50E 08	5.67E-08	4.21E 07
2 3	1607	2.18E-02	2.66E-02	1.91E-03	3.57E-17	7.50E 08	2.68E-08	1.99E 07
2 4	1663	1.19E-01	1.31E-01	9.39E-03	1.76E-16	7.50E 08	1.32E-07	9.80E 07
2 5	1721	3.50E-02	3.47E-02	2.50E-03	4.67E-17	7.50E 08	3.51E-08	2.60E 07
2 6	1783	3.38E-02	3.01E-02	2.16E-03	4.05E-17	7.50E 08	3.04E-08	2.26E 07
2 7	1848	2.09E-01	1.67E-01	1.20E-02	2.25E-16	7.50E 08	1.69E-07	1.25E 08
2 8	1917	2.20E-01	1.57E-01	1.13E-02	2.12E-16	7.50E 08	1.59E-07	1.18E 08
2 9	1991	8.90E-02	5.70E-02	4.10E-03	7.67E-17	7.50E 08	5.75E-08	4.27E 07
2 10	2068	1.40E-02	7.99E-03	5.74E-04	1.08E-17	7.50E 08	8.06E-09	5.99E 06
2 11	2151	4.58E-04	2.33E-04	1.67E-05	3.13E-19	7.50E 08	2.35E-10	1.74E 05
2 12	2238	1.51E-05	6.78E-06	4.88E-07	9.13E-21	7.50E 08	6.85E-12	5.09E 03
2 13	2332	6.41E-06	2.56E-06	1.84E-07	3.44E-21	7.50E 08	2.58E-12	1.92E 03

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
3 0	1414	1.02E-01	1.78E-01	1.82E-02	3.21E-16	4.04E 08	1.30E-07	7.20E 07
3 1	1459	9.81E-02	1.56E-01	1.59E-02	2.81E-16	4.04E 08	1.14E-07	6.31E 07
3 2	1506	1.61E-04	2.33E-04	2.37E-05	4.19E-19	4.04E 08	1.69E-10	9.40E 04
3 3	1556	8.50E-02	1.12E-01	1.14E-02	2.01E-16	4.04E 08	8.11E-08	4.51E 07
3 4	1608	3.18E-02	3.79E-02	3.86E-03	6.82E-17	4.04E 08	2.75E-08	1.53E 07
3 5	1663	3.17E-02	3.41E-02	3.48E-03	6.14E-17	4.04E 08	2.48E-08	1.38E 07
3 6	1720	1.02E-01	9.89E-02	1.01E-02	1.78E-16	4.04E 08	7.20E-08	4.00E 07
3 7	1781	3.16E-03	2.77E-03	2.82E-04	4.98E-18	4.04E 08	2.01E-09	1.12E 06
3 8	1845	1.14E-01	8.97E-02	9.15E-03	1.61E-16	4.04E 08	6.52E-08	3.62E 07
3 9	1913	2.55E-01	1.80E-01	1.84E-02	3.24E-16	4.04E 08	1.31E-07	7.28E 07
3 10	1984	1.48E-01	9.37E-02	9.55E-03	1.69E-16	4.04E 08	6.81E-08	3.78E 07
3 11	2060	2.87E-02	1.62E-02	1.66E-03	2.92E-17	4.04E 08	1.18E-08	6.56E 06
3 12	2140	9.85E-04	4.97E-04	5.07E-05	8.95E-19	4.04E 08	3.61E-10	2.01E 05
3 13	2225	5.68E-05	2.55E-05	2.60E-06	4.59E-20	4.04E 08	1.85E-11	1.03E 04
3 14	2316	1.93E-05	7.70E-06	7.86E-07	1.39E-20	4.04E 08	5.60E-12	3.11E 03
4 0	1375	1.20E-01	2.23E-01	2.68E-02	4.47E-16	2.81E 08	1.25E-07	6.28E 07
4 1	1417	4.21E-02	7.17E-02	8.59E-03	1.43E-16	2.81E 08	4.03E-08	2.01E 07
4 2	1461	3.00E-02	4.65E-02	5.57E-03	9.29E-17	2.81E 08	2.61E-08	1.31E 07
4 3	1508	6.40E-02	9.04E-02	1.08E-02	1.81E-16	2.81E 08	5.08E-08	2.54E 07
4 4	1557	4.34E-03	5.56E-03	6.67E-04	1.11E-17	2.81E 08	3.12E-09	1.56E 06
4 5	1608	7.86E-02	9.15E-02	1.10E-02	1.83E-16	2.81E 08	5.14E-08	2.57E 07
4 6	1662	3.03E-03	3.19E-03	3.87E-04	6.38E-18	2.81E 08	1.79E-09	8.98E 05
4 7	1718	7.60E-02	7.26E-02	8.70E-03	1.45E-16	2.81E 08	4.08E-08	2.04E 07
4 8	1778	4.87E-02	4.20E-02	5.03E-03	8.39E-17	2.81E 08	2.36E-08	1.18E 07
4 9	1840	3.37E-02	2.62E-02	3.14E-03	5.23E-17	2.81E 08	1.47E-08	7.36E 06
4 10	1907	2.42E-01	1.69E-01	2.03E-02	3.38E-16	2.81E 08	9.50E-08	4.75E 07
4 11	1976	2.06E-01	1.29E-01	1.55E-02	2.59E-16	2.81E 08	7.27E-08	3.64E 07
4 12	2050	4.90E-02	2.75E-02	3.30E-03	5.50E-17	2.81E 08	1.55E-08	7.74E 06
4 13	2128	1.71E-03	8.59E-04	1.03E-04	1.72E-18	2.81E 08	4.82E-10	2.41E 05
4 14	2211	1.69E-04	7.59E-05	9.10E-06	1.52E-19	2.81E 08	4.26E-11	2.13E 04
4 15	2298	4.61E-05	1.84E-05	2.20E-06	3.67E-20	2.81E 08	1.03E-11	5.16E 03
5 0	1337	1.24E-01	2.45E-01	3.03E-02	4.78E-16	1.06E 09	5.07E-07	2.60E 08
5 1	1377	7.42E-03	1.35E-02	1.66E-03	2.62E-17	1.06E 09	2.78E-08	1.43E 07
5 2	1419	6.33E-02	1.05E-01	1.30E-02	2.05E-16	1.06E 09	2.17E-07	1.11E 08
5 3	1463	1.40E-02	2.12E-02	2.62E-03	4.13E-17	1.06E 09	4.38E-08	2.24E 07
5 4	1508	4.74E-02	6.54E-02	8.09E-03	1.28E-16	1.06E 09	1.35E-07	6.93E 07
5 5	1557	2.46E-02	3.08E-02	3.82E-03	6.02E-17	1.06E 09	6.38E-08	3.27E 07
5 6	1607	3.58E-02	4.08E-02	5.05E-03	7.96E-17	1.06E 09	8.44E-08	4.33E 07
5 7	1660	4.50E-02	4.65E-02	5.76E-03	9.08E-17	1.06E 09	9.63E-08	4.93E 07
5 8	1715	2.01E-02	1.88E-02	2.33E-03	3.67E-17	1.06E 09	3.89E-08	2.00E 07
5 9	1774	8.61E-02	7.31E-02	9.04E-03	1.43E-16	1.06E 09	1.51E-07	7.75E 07
5 10	1835	1.16E-03	8.91E-04	1.10E-04	1.74E-18	1.06E 09	1.84E-09	9.45E 05
5 11	1899	1.98E-01	1.37E-01	1.69E-02	2.67E-16	1.06E 09	2.83E-07	1.45E 08
5 12	1967	2.56E-01	1.59E-01	1.97E-02	3.11E-16	1.06E 09	3.30E-07	1.69E 08
5 13	2039	7.39E-02	4.13E-02	5.10E-03	8.05E-17	1.06E 09	8.53E-08	4.37E 07
5 14	2115	2.53E-03	1.26E-03	1.56E-04	2.47E-18	1.06E 09	2.62E-09	1.34E 06
5 15	2195	4.27E-04	1.91E-04	2.37E-05	3.73E-19	1.06E 09	3.96E-10	2.03E 05
5 16	2279	9.15E-05	3.66E-05	4.53E-06	7.14E-20	1.06E 09	7.57E-11	3.88E 04
5 17	2369	4.39E-06	1.56E-06	1.93E-07	3.05E-21	1.06E 09	3.23E-12	1.66E 03

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
6 0	1301	1.16E-01	2.43E-01	2.82E-02	4.22E-16	5.44E 08	2.29E-07	1.32E 08
6 1	1339	5.67E-04	1.09E-03	1.27E-04	1.89E-18	5.44E 08	1.03E-09	5.94E 05
6 2	1379	6.54E-02	1.16E-01	1.34E-02	2.00E-16	5.44E 08	1.09E-07	6.28E 07
6 3	1420	1.00E-03	1.62E-03	1.88E-04	2.81E-18	5.44E 08	1.53E-09	8.82E 05
6 4	1463	5.69E-02	8.41E-02	9.75E-03	1.46E-16	5.44E 08	7.92E-08	4.57E 07
6 5	1508	1.10E-03	1.48E-03	1.71E-04	2.56E-18	5.44E 08	1.39E-09	8.04E 05
6 6	1556	5.77E-02	7.10E-02	8.23E-03	1.23E-16	5.44E 08	6.69E-08	3.86E 07
6 7	1605	5.48E-04	6.13E-04	7.11E-05	1.06E-18	5.44E 08	5.78E-10	3.34E 05
6 8	1657	6.59E-02	6.71E-02	7.78E-03	1.16E-16	5.44E 08	6.32E-08	3.65E 07
6 9	1711	8.37E-05	7.73E-05	8.96E-06	1.34E-19	5.44E 08	7.28E-11	4.20E 04
6 10	1768	8.35E-02	6.98E-02	8.10E-03	1.21E-16	5.44E 08	6.58E-08	3.80E 07
6 11	1828	7.95E-03	6.02E-03	6.98E-04	1.04E-17	5.44E 08	5.68E-09	3.28E 06
6 12	1891	1.43E-01	9.81E-02	1.14E-02	1.70E-16	5.44E 08	9.24E-08	5.34E 07
6 13	1957	2.94E-01	1.81E-01	2.10E-02	3.14E-16	5.44E 08	1.71E-07	9.87E 07
6 14	2027	1.02E-01	5.65E-02	6.56E-03	9.79E-17	5.44E 08	5.33E-08	3.08E 07
6 15	2100	3.25E-03	1.63E-03	1.88E-04	2.82E-18	5.44E 08	1.53E-09	8.84E 05
6 16	2178	9.47E-04	4.24E-04	4.92E-05	7.35E-19	5.44E 08	4.00E-10	2.31E 05
6 17	2259	1.55E-04	6.23E-05	7.23E-06	1.08E-19	5.44E 08	5.87E-11	3.39E 04
6 18	2345	1.52E-05	5.45E-06	6.32E-07	9.44E-21	5.44E 08	5.14E-12	2.97E 03
7 0	1267	1.01E-01	2.24E-01	2.26E-02	3.21E-16	2.27E 08	7.29E-08	5.09E 07
7 1	1303	1.29E-02	2.62E-02	2.65E-03	3.76E-17	2.27E 08	8.53E-09	5.96E 06
7 2	1341	4.32E-02	8.10E-02	8.19E-03	1.16E-16	2.27E 08	2.63E-08	1.84E 07
7 3	1380	2.15E-02	3.70E-02	3.74E-03	5.30E-17	2.27E 08	1.20E-08	8.40E 06
7 4	1421	2.67E-02	4.20E-02	4.25E-03	6.02E-17	2.27E 08	1.37E-08	9.54E 06
7 5	1463	2.92E-02	4.22E-02	4.26E-03	6.04E-17	2.27E 08	1.37E-08	9.57E 06
7 6	1508	1.84E-02	2.43E-02	2.45E-03	3.48E-17	2.27E 08	7.89E-09	5.51E 06
7 7	1554	3.66E-02	4.41E-02	4.46E-03	6.32E-17	2.27E 08	1.43E-08	1.00E 07
7 8	1603	1.50E-02	1.65E-02	1.66E-03	2.36E-17	2.27E 08	5.35E-09	3.74E 06
7 9	1653	4.47E-02	4.47E-02	4.51E-03	6.40E-17	2.27E 08	1.45E-08	1.01E 07
7 10	1706	1.72E-02	1.57E-02	1.58E-03	2.25E-17	2.27E 08	5.10E-09	3.56E 06
7 11	1762	5.42E-02	4.48E-02	4.52E-03	6.41E-17	2.27E 08	1.46E-08	1.02E 07
7 12	1821	3.15E-02	2.36E-02	2.38E-03	3.37E-17	2.27E 08	7.66E-09	5.35E 06
7 13	1882	9.26E-02	6.28E-02	6.34E-03	8.99E-17	2.27E 08	2.04E-08	1.43E 07
7 14	1946	3.19E-01	1.95E-01	1.97E-02	2.80E-16	2.27E 08	6.35E-08	4.44E 07
7 15	2014	1.31E-01	7.25E-02	7.32E-03	1.04E-16	2.27E 08	2.36E-08	1.65E 07
7 16	2085	3.68E-03	1.84E-03	1.86E-04	2.63E-18	2.27E 08	5.97E-10	4.17E 05
7 17	2153	1.89E-03	8.49E-04	8.57E-05	1.21E-18	2.27E 08	2.76E-10	1.93E 05
7 18	2238	2.27E-04	5.15E-05	9.25E-06	1.31E-19	2.27E 08	2.97E-11	2.08E 04
7 19	2321	4.35E-05	1.57E-05	1.59E-06	2.25E-20	2.27E 08	5.11E-12	3.57E 03
7 20	2408	3.93E-06	1.27E-06	1.28E-07	1.82E-21	2.27E 08	4.13E-13	2.89E 02

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
8 0	1235	8.31E-02	1.95E-01	1.62E-02	2.18E-16	2.01E 08	4.37E-08	3.91E 07
8 1	1269	3.19E-02	6.88E-02	5.72E-03	7.70E-17	2.01E 08	1.55E-08	1.38E 07
8 2	1305	1.74E-02	3.45E-02	2.87E-03	3.86E-17	2.01E 08	7.76E-09	6.94E 06
8 3	1342	4.31E-02	7.87E-02	6.54E-03	8.80E-17	2.01E 08	1.77E-08	1.58E 07
8 4	1380	2.18E-03	3.66E-03	3.04E-04	4.09E-18	2.01E 08	8.23E-10	7.36E 05
8 5	1421	4.59E-02	7.07E-02	5.87E-03	7.91E-17	2.01E 08	1.59E-08	1.42E 07
8 6	1462	3.75E-04	5.30E-04	4.40E-05	5.92E-19	2.01E 08	1.19E-10	1.06E 05
8 7	1506	4.42E-02	5.71E-02	4.74E-03	6.38E-17	2.01E 08	1.28E-08	1.15E 07
8 8	1552	5.34E-03	6.31E-03	5.24E-04	7.06E-18	2.01E 08	1.42E-09	1.27E 06
8 9	1599	4.14E-02	4.47E-02	3.72E-03	5.00E-17	2.01E 08	1.01E-08	8.99E 06
8 10	1649	1.36E-02	1.34E-02	1.11E-03	1.50E-17	2.01E 08	3.01E-09	2.69E 06
8 11	1701	4.25E-02	3.81E-02	3.17E-03	4.26E-17	2.01E 08	8.57E-09	7.66E 06
8 12	1755	2.27E-02	1.85E-02	1.54E-03	2.07E-17	2.01E 08	4.16E-09	3.72E 06
8 13	1812	5.30E-02	3.93E-02	3.27E-03	4.40E-17	2.01E 08	8.84E-09	7.90E 06
8 14	1871	5.34E-02	3.60E-02	2.99E-03	4.02E-17	2.01E 08	8.09E-09	7.23E 06
8 15	1934	3.33E-01	2.03E-01	1.69E-02	2.27E-16	2.01E 08	4.57E-08	4.08E 07
8 16	1999	1.60E-01	8.83E-02	7.33E-03	9.87E-17	2.01E 08	1.98E-08	1.77E 07
8 17	2068	3.62E-03	1.81E-02	1.50E-04	2.02E-18	2.01E 08	4.07E-10	3.64E 05
8 18	2140	3.46E-03	1.56E-03	1.29E-04	1.74E-18	2.01E 08	3.50E-10	3.13E 05
8 19	2215	2.82E-04	1.15E-04	9.53E-06	1.28E-19	2.01E 08	2.58E-11	2.31E 04
8 20	2295	1.07E-04	3.90E-05	3.24E-06	4.37E-20	2.01E 08	8.77E-12	7.85E 03
8 21	2378	4.02E-06	1.32E-06	1.10E-07	1.48E-21	2.01E 08	2.97E-13	2.66E 02
9 0	1205	6.53E-02	1.61E-01	1.05E-02	1.34E-16	4.32E 08	5.81E-08	6.95E 07
9 1	1237	4.85E-02	1.10E-01	7.20E-03	9.22E-17	4.32E 08	3.98E-08	4.77E 07
9 2	1271	2.24E-03	4.71E-03	3.07E-04	3.94E-18	4.32E 08	1.70E-09	2.03E 06
9 3	1306	4.67E-02	9.03E-02	5.90E-03	7.55E-17	4.32E 08	3.26E-08	3.90E 07
9 4	1342	4.28E-03	7.63E-03	4.98E-04	6.38E-18	4.32E 08	2.75E-09	3.30E 06
9 5	1380	3.07E-02	5.02E-02	3.28E-03	4.20E-17	4.32E 08	1.81E-08	2.17E 07
9 6	1420	1.98E-02	2.98E-02	1.94E-03	2.49E-17	4.32E 08	1.08E-08	1.29E 07
9 7	1461	1.36E-02	1.88E-02	1.22E-03	1.57E-17	4.32E 08	6.77E-09	8.10E 06
9 8	1504	3.53E-02	4.48E-02	2.92E-03	3.74E-17	4.32E 08	1.62E-08	1.93E 07
9 9	1548	2.69E-03	3.12E-03	2.04E-04	2.61E-18	4.32E 08	1.13E-09	1.35E 06
9 10	1595	4.62E-02	4.90E-02	3.20E-03	4.10E-17	4.32E 08	1.77E-08	2.12E 07
9 11	1643	1.01E-04	9.76E-05	6.37E-06	8.16E-20	4.32E 08	3.52E-11	4.22E 04
9 12	1694	5.43E-02	4.81E-02	3.14E-03	4.02E-17	4.32E 08	1.74E-08	2.08E 07
9 13	1747	3.85E-03	3.11E-03	2.03E-04	2.60E-18	4.32E 08	1.12E-09	1.34E 06
9 14	1802	6.36E-02	4.68E-02	3.05E-03	3.91E-17	4.32E 08	1.69E-08	2.02E 07
9 15	1860	2.73E-02	1.83E-02	1.19E-03	1.53E-17	4.32E 08	6.60E-09	7.89E 06
9 16	1920	3.40E-01	2.07E-01	1.35E-02	1.73E-16	4.32E 08	7.46E-08	8.93E 07
9 17	1984	1.87E-01	1.03E-01	6.73E-03	8.62E-17	4.32E 08	3.72E-08	4.46E 07
9 18	2050	2.98E-03	1.49E-03	9.74E-05	1.25E-18	4.32E 08	5.39E-10	6.45E 05
9 19	2119	5.86E-03	2.66E-03	1.73E-04	2.22E-18	4.32E 08	9.59E-10	1.15E 06
9 20	2192	2.88E-04	1.18E-04	7.70E-06	9.87E-20	4.32E 08	4.26E-11	5.10E 04
9 21	2268	2.31E-04	8.53E-05	5.56E-06	7.13E-20	4.32E 08	3.08E-11	3.68E 04

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
10 0	1176	4.94E-02	1.28E-01	6.31E-03	7.70E-17	1.86E 08	1.43E-08	2.38E 07
10 1	1207	5.83E-02	1.40E-01	6.90E-03	8.41E-17	1.86E 08	1.56E-08	2.60E 07
10 2	1239	1.02E-03	2.25E-03	1.11E-04	1.35E-18	1.86E 08	2.52E-10	4.18E 05
10 3	1272	3.42E-02	6.98E-02	3.45E-03	4.21E-17	1.86E 08	7.83E-09	1.30E 07
10 4	1306	2.14E-02	4.04E-02	2.00E-03	2.43E-17	1.86E 08	4.53E-09	7.51E 06
10 5	1342	7.84E-03	1.36E-02	6.73E-04	8.21E-18	1.86E 08	1.53E-09	2.53E 06
10 6	1380	3.66E-02	5.87E-02	2.90E-03	3.54E-17	1.86E 08	6.58E-09	1.09E 07
10 7	1418	2.01E-04	2.96E-04	1.46E-05	1.79E-19	1.86E 08	3.32E-11	5.51E 04
10 8	1459	3.43E-02	4.65E-02	2.30E-03	2.80E-17	1.86E 08	5.21E-09	8.64E 06
10 9	1501	1.09E-02	1.36E-02	6.70E-04	8.18E-18	1.86E 08	1.52E-09	2.52E 06
10 10	1544	2.06E-02	2.35E-02	1.16E-03	1.42E-17	1.86E 08	2.64E-09	4.38E 06
10 11	1590	2.99E-02	3.13E-02	1.55E-03	1.89E-17	1.86E 08	3.51E-09	5.82E 06
10 12	1637	6.86E-03	6.57E-03	3.25E-04	3.96E-18	1.86E 08	7.37E-10	1.22E 06
10 13	1687	4.89E-02	4.28E-02	2.12E-03	2.58E-17	1.86E 08	4.80E-09	7.97E 06
10 14	1738	3.92E-04	3.14E-04	1.55E-05	1.89E-19	1.86E 08	3.52E-11	5.84E 04
10 15	1792	6.24E-02	4.56E-02	2.25E-03	2.75E-17	1.86E 08	5.11E-09	8.48E 06
10 16	1848	1.21E-02	8.05E-03	3.98E-04	4.85E-18	1.86E 08	9.03E-10	1.50E 06
10 17	1906	3.42E-01	2.08E-01	1.03E-02	1.25E-16	1.86E 08	2.33E-08	3.86E 07
10 18	1967	2.11E-01	1.16E-01	5.75E-03	7.02E-17	1.86E 08	1.31E-08	2.17E 07
10 19	2031	1.86E-03	9.32E-04	4.60E-05	5.62E-19	1.86E 08	1.04E-10	1.73E 05
10 20	2097	9.29E-03	4.23E-03	2.09E-04	2.55E-18	1.86E 08	4.74E-10	7.87E 05
10 21	2167	2.17E-04	8.97E-05	4.43E-06	5.41E-20	1.86E 08	1.01E-11	1.67E 04

XVII. NITRIC OXIDE FIRST NEGATIVE BANDS

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
0 0	1368	2.17E-02	4.59E-02	9.97E-04	1.65E-17	2.69E 08	4.43E-09	1.24E 07
0 1	1414	9.62E-02	1.85E-01	4.01E-03	6.62E-17	2.69E 08	1.78E-08	4.96E 07
0 2	1513	1.96E-01	3.06E-01	6.65E-03	1.10E-16	2.69E 08	2.96E-08	8.24E 07
0 3	1690	2.44E-01	2.74E-01	5.95E-03	9.83E-17	2.69E 08	2.64E-08	7.37E 07
0 4	2001	2.10E-01	1.42E-01	3.09E-03	5.10E-17	2.69E 08	1.37E-08	3.83E 07
0 5	2591	1.33E-01	4.14E-02	9.00E-04	1.49E-17	2.69E 08	4.00E-09	1.11E 07
0 6	3995	6.44E-02	5.47E-03	1.19E-04	1.96E-18	2.69E 08	5.28E-10	1.47E 06
1 0	1340	6.43E-02	1.81E-01	1.16E-02	1.84E-16	7.62E 08	1.41E-07	1.38E 08
1 1	1383	1.62E-01	4.14E-01	2.66E-02	4.22E-16	7.62E 08	3.21E-07	3.16E 08
1 2	1478	1.33E-01	2.79E-01	1.79E-02	2.84E-16	7.62E 08	2.16E-07	2.13E 08
1 3	1647	2.14E-02	3.25E-02	2.09E-03	3.31E-17	7.62E 08	2.52E-08	2.47E 07
1 4	1940	1.81E-02	1.68E-02	1.08E-03	1.71E-17	7.62E 08	1.30E-08	1.28E 07
1 5	2490	1.21E-01	5.29E-02	3.40E-03	5.39E-17	7.62E 08	4.10E-08	4.03E 07
1 6	3760	1.84E-01	2.34E-02	1.50E-03	2.38E-17	7.62E 08	1.81E-08	1.78E 07
2 0	1313	1.07E-01	3.48E-01	3.71E-02	5.65E-16	2.48E 08	1.40E-07	8.62E 07
2 1	1355	1.34E-01	3.97E-01	4.24E-02	6.44E-16	2.48E 08	1.60E-07	9.84E 07
2 2	1446	1.58E-02	3.86E-02	4.12E-03	6.27E-17	2.48E 08	1.55E-08	9.57E 06
2 3	1607	3.69E-02	6.55E-02	7.00E-03	1.06E-16	2.48E 08	2.64E-08	1.63E 07
2 4	1885	1.13E-01	1.25E-01	1.33E-02	2.02E-16	2.48E 08	5.02E-08	3.09E 07
2 5	2400	5.00E-02	2.67E-02	2.85E-03	4.34E-17	2.48E 08	1.08E-08	6.62E 06
2 6	3558	1.47E-03	2.40E-04	2.56E-05	3.90E-19	2.48E 08	9.67E-11	5.96E 04
3 0	1288	1.32E-01	4.94E-01	6.52E-02	9.55E-16	1.16E 08	1.11E-07	5.73E 07
3 1	1328	6.44E-02	2.20E-01	2.90E-02	4.25E-16	1.16E 08	4.93E-08	2.55E 07
3 2	1416	1.01E-02	2.84E-02	3.74E-03	5.48E-17	1.16E 08	6.36E-09	3.29E 06
3 3	1570	9.21E-02	1.90E-01	2.51E-02	3.68E-16	1.16E 08	4.27E-08	2.21E 07
3 4	1834	2.76E-02	3.58E-02	4.73E-03	6.93E-17	1.16E 08	8.03E-09	4.16E 06
3 5	2317	1.87E-02	1.20E-02	1.59E-03	2.32E-17	1.16E 08	2.70E-09	1.39E 06
3 6	3380	9.63E-02	1.99E-02	2.63E-03	3.85E-17	1.16E 08	4.47E-09	2.31E 06
4 0	1265	1.36E-01	5.75E-01	7.83E-02	1.11E-15	2.88E 08	3.18E-07	1.66E 08
4 1	1303	1.38E-02	5.31E-02	7.23E-03	1.02E-16	2.88E 08	2.94E-08	1.53E 07
4 2	1387	5.55E-02	1.77E-01	2.42E-02	3.41E-16	2.88E 08	9.82E-08	5.11E 07
4 3	1535	5.07E-02	1.20E-01	1.63E-02	2.30E-16	2.88E 08	6.63E-08	3.45E 07
4 4	1787	7.03E-03	1.05E-02	1.43E-03	2.02E-17	2.88E 08	5.82E-09	3.03E 06
4 5	2243	7.80E-02	5.90E-02	8.04E-03	1.13E-16	2.88E 08	3.27E-08	1.70E 07
4 6	3224	2.14E-02	5.45E-03	7.43E-04	1.05E-17	2.88E 08	3.02E-09	1.57E 06

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
5 0	1243	1.25E-01	5.93E-01	7.38E-02	1.01E-15	2.14E 08	2.15E-07	1.27E 08
5 1	1280	9.02E-05	3.93E-04	4.90E-05	6.67E-19	2.14E 08	1.43E-10	8.41E 04
5 2	1361	7.44E-02	2.70E-01	3.36E-02	4.58E-16	2.14E 08	9.79E-08	5.77E 07
5 3	1503	4.54E-03	1.22E-02	1.52E-03	2.07E-17	2.14E 08	4.44E-09	2.62E 06
5 4	1743	5.32E-02	9.17E-02	1.14E-02	1.56E-16	2.14E 08	3.33E-08	1.96E 07
5 5	2174	3.27E-02	2.90E-02	3.62E-03	4.93E-17	2.14E 08	1.05E-08	6.21E 06
5 6	3024	1.41E-02	4.40E-03	5.48E-04	7.46E-18	2.14E 08	1.60E-09	9.41E 05
6 0	1223	1.05E-01	5.55E-01	5.82E-02	7.67E-16	8.49E 08	6.52E-07	4.72E 08
6 1	1259	1.21E-02	5.87E-02	6.15E-03	8.11E-17	8.49E 08	6.89E-08	4.98E 07
6 2	1337	5.69E-02	2.31E-01	2.42E-02	3.19E-16	8.49E 08	2.71E-07	1.96E 08
6 3	1474	6.73E-03	2.04E-02	2.14E-03	2.82E-17	8.49E 08	2.39E-08	1.73E 07
6 4	1704	5.77E-02	1.13E-01	1.18E-02	1.56E-16	8.49E 08	1.33E-07	9.59E 07
6 5	2114	4.31E-05	4.42E-05	4.63E-06	6.11E-20	8.49E 08	5.19E-11	3.75E 04
6 6	2965	5.79E-02	2.15E-02	2.26E-03	2.98E-17	8.49E 08	2.53E-08	1.83E 07
7 0	1204	8.30E-02	4.90E-01	4.07E-02	5.21E-16	4.18E 08	2.18E-07	2.05E 08
7 1	1239	3.23E-02	1.75E-01	1.45E-02	1.86E-16	4.18E 08	7.77E-08	7.31E 07
7 2	1315	2.74E-02	1.24E-01	1.03E-02	1.32E-16	4.18E 08	5.52E-08	5.20E 07
7 3	1447	3.26E-02	1.11E-01	9.21E-03	1.18E-16	4.18E 08	4.92E-08	4.64E 07
7 4	1669	2.47E-02	5.48E-02	4.55E-03	5.83E-17	4.18E 08	2.44E-08	2.29E 07
7 5	2060	2.40E-02	2.84E-02	2.36E-03	3.01E-17	4.18E 08	1.26E-08	1.19E 07
7 6	2859	3.71E-02	1.64E-02	1.36E-03	1.74E-17	4.18E 08	7.27E-09	6.85E 06
8 0	1187	6.30E-02	4.16E-01	2.62E-02	3.26E-16	1.18E 08	3.85E-08	4.90E 07
8 1	1221	4.90E-02	2.97E-01	1.87E-02	2.33E-16	1.18E 08	2.75E-08	3.51E 07
8 2	1295	6.42E-03	3.26E-02	2.06E-03	2.56E-17	1.18E 08	3.02E-09	3.85E 06
8 3	1423	4.86E-02	1.86E-01	1.17E-02	1.46E-16	1.18E 08	1.72E-08	2.20E 07
8 4	1636	1.66E-03	4.19E-03	2.64E-04	3.29E-18	1.18E 08	3.88E-10	4.94E 05
8 5	2011	4.62E-02	6.27E-02	3.96E-03	4.92E-17	1.18E 08	5.81E-09	7.40E 06
8 6	2765	3.32E-03	1.73E-03	1.09E-04	1.36E-18	1.18E 08	1.60E-10	2.04E 05
9 0	1173	4.65E-02	3.40E-01	1.58E-02	1.92E-16	1.88E 08	3.61E-08	6.40E 07
9 1	1206	5.81E-02	3.91E-01	1.82E-02	2.21E-16	1.88E 08	4.15E-08	7.35E 07
9 2	1277	3.10E-07	1.76E-06	8.17E-08	9.92E-22	1.88E 08	1.86E-13	3.31E 02
9 3	1401	4.52E-02	1.94E-01	9.02E-03	1.09E-16	1.88E 08	2.06E-08	3.65E 07
9 4	1608	4.31E-03	1.22E-02	5.69E-04	6.90E-18	1.88E 08	1.30E-09	2.30E 06
9 5	1968	3.78E-02	5.85E-02	2.72E-03	3.30E-17	1.88E 08	6.20E-09	1.10E 07
9 6	2686	5.96E-03	3.63E-03	1.69E-04	2.05E-18	1.88E 08	3.85E-10	6.83E 05
10 0	1160	3.36E-02	2.72E-01	9.15E-03	1.09E-16	9.59E 07	1.04E-08	2.61E 07
10 1	1192	5.96E-02	4.45E-01	1.49E-02	1.77E-16	9.59E 07	1.70E-08	4.27E 07
10 2	1262	4.60E-03	2.89E-02	9.71E-04	1.15E-17	9.59E 07	1.11E-09	2.77E 06
10 3	1383	3.04E-02	1.45E-01	4.87E-03	5.78E-17	9.59E 07	5.55E-09	1.39E 07
10 4	1584	1.98E-02	6.29E-02	2.11E-03	2.51E-17	9.59E 07	2.40E-09	6.03E 06
10 5	1933	1.57E-02	2.74E-02	9.21E-04	1.09E-17	9.59E 07	1.05E-09	2.63E 06
10 6	2620	2.66E-02	1.87E-02	6.28E-04	7.46E-18	9.59E 07	7.15E-10	1.79E 06

XVIII. OXYGEN SECOND NEGATIVE BANDS

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
0 0	2610	3.01E-06	1.43E-05	4.32E-11	2.60E-24	1.37E 12	3.56E-12	1.96E 07
0 1	2742	5.33E-05	2.19E-04	6.59E-10	3.96E-23	1.37E 12	5.43E-11	3.00E 08
0 2	2886	4.48E-04	1.58E-03	4.75E-09	2.86E-22	1.37E 12	3.92E-10	2.16E 09
0 3	3042	2.37E-03	7.15E-03	2.15E-08	1.29E-21	1.37E 12	1.77E-09	9.80E 09
0 4	3212	8.92E-03	2.28E-02	6.87E-08	4.13E-21	1.37E 12	5.66E-09	3.13E 10
0 5	3399	2.52E-02	5.45E-02	1.64E-07	9.86E-21	1.37E 12	1.35E-08	7.47E 10
0 6	3604	5.58E-02	1.01E-01	3.04E-07	1.83E-20	1.37E 12	2.51E-08	1.38E 11
0 7	3832	9.89E-02	1.49E-01	4.49E-07	2.70E-20	1.37E 12	3.70E-08	2.04E 11
0 8	4084	1.43E-01	1.78E-01	5.35E-07	3.22E-20	1.37E 12	4.41E-08	2.43E 11
0 9	4365	1.70E-01	1.73E-01	5.21E-07	3.13E-20	1.37E 12	4.29E-08	2.37E 11
0 10	4681	1.68E-01	1.38E-01	4.17E-07	2.51E-20	1.37E 12	3.43E-08	1.90E 11
0 11	5038	1.38E-01	9.14E-02	2.75E-07	1.65E-20	1.37E 12	2.27E-08	1.25E 11
0 12	5444	9.48E-02	4.98E-02	1.50E-07	9.01E-21	1.37E 12	1.23E-08	6.82E 10
0 13	5909	5.44E-02	2.24E-02	6.73E-08	4.05E-21	1.37E 12	5.55E-09	3.06E 10
0 14	6448	2.61E-02	8.25E-03	2.48E-08	1.49E-21	1.37E 12	2.05E-09	1.13E 10
0 15	7078	1.04E-02	2.48E-03	7.47E-09	4.49E-22	1.37E 12	6.15E-10	3.40E 09
1 0	2552	2.37E-05	1.18E-04	2.81E-09	1.61E-22	1.21E 12	1.95E-10	1.43E 08
1 1	2678	3.62E-04	1.56E-03	3.70E-08	2.13E-21	1.21E 12	2.57E-09	1.89E 09
1 2	2815	2.55E-03	9.48E-03	2.25E-07	1.29E-20	1.21E 12	1.56E-08	1.15E 10
1 3	2963	1.10E-02	3.51E-02	8.33E-07	4.79E-20	1.21E 12	5.80E-08	4.25E 10
1 4	3124	3.24E-02	8.78E-02	2.09E-06	1.20E-19	1.21E 12	1.45E-07	1.06E 11
1 5	3301	6.75E-02	1.55E-01	3.69E-06	2.12E-19	1.21E 12	2.56E-07	1.88E 11
1 6	3494	1.01E-01	1.96E-01	4.64E-06	2.67E-19	1.21E 12	3.23E-07	2.37E 11
1 7	3708	1.04E-01	1.70E-01	4.03E-06	2.32E-19	1.21E 12	2.80E-07	2.05E 11
1 8	3943	6.68E-02	9.03E-02	2.14E-06	1.23E-19	1.21E 12	1.49E-07	1.09E 11
1 9	4205	1.62E-02	1.80E-02	4.29E-07	2.46E-20	1.21E 12	2.98E-08	2.18E 10
1 10	4497	1.77E-03	1.62E-03	3.84E-08	2.20E-21	1.21E 12	2.67E-09	1.95E 09
1 11	4826	4.28E-02	3.15E-02	7.49E-07	4.30E-20	1.21E 12	5.21E-08	3.82E 10
1 12	5197	1.07E-01	6.29E-02	1.49E-06	8.59E-20	1.21E 12	1.04E-07	7.62E 10
1 13	5619	1.43E-01	6.70E-02	1.59E-06	9.14E-20	1.21E 12	1.11E-07	8.10E 10
1 14	6104	1.33E-01	4.83E-02	1.15E-06	6.60E-20	1.21E 12	7.98E-08	5.85E 10
1 15	6666	9.17E-02	2.56E-02	6.09E-07	3.50E-20	1.21E 12	4.24E-08	3.10E 10
2 0	2498	9.96E-05	5.41E-04	5.39E-08	2.97E-21	1.09E 12	3.23E-09	5.90E 08
2 1	2619	1.30E-03	6.15E-03	6.13E-07	3.37E-20	1.09E 12	3.68E-08	6.71E 09
2 2	2749	7.70E-03	3.14E-02	3.13E-06	1.72E-19	1.09E 12	1.88E-07	3.42E 10
2 3	2890	2.68E-02	9.40E-02	9.36E-06	5.15E-19	1.09E 12	5.62E-07	1.02E 11
2 4	3044	5.98E-02	1.80E-01	1.79E-05	9.86E-19	1.09E 12	1.07E-06	1.96E 11
2 5	3211	8.67E-02	2.22E-01	2.21E-05	1.22E-18	1.09E 12	1.33E-06	2.42E 11
2 6	3394	7.54E-02	1.63E-01	1.63E-05	8.96E-19	1.09E 12	9.76E-07	1.78E 11
2 7	3595	2.84E-02	5.17E-02	5.15E-06	2.84E-19	1.09E 12	3.09E-07	5.64E 10
2 8	3816	3.93E-07	5.99E-07	5.97E-11	3.29E-24	1.09E 12	3.58E-12	6.53E 05
2 9	4061	2.96E-02	3.74E-02	3.73E-06	2.05E-19	1.09E 12	2.24E-07	4.08E 10
2 10	4332	7.49E-02	7.81E-02	7.77E-06	4.28E-19	1.09E 12	4.67E-07	8.51E 10
2 11	4636	6.74E-02	5.73E-02	5.71E-06	3.14E-19	1.09E 12	3.43E-07	6.25E 10
2 12	4978	1.77E-02	1.22E-02	1.21E-06	6.67E-20	1.09E 12	7.27E-08	1.33E 10
2 13	5364	3.03E-03	1.67E-03	1.66E-07	9.14E-21	1.09E 12	9.96E-09	1.82E 09
2 14	5804	5.48E-02	2.38E-02	2.37E-06	1.30E-19	1.09E 12	1.42E-07	2.59E 10
2 15	6310	1.21E-01	4.08E-02	4.06E-06	2.24E-19	1.09E 12	2.44E-07	4.44E 10

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
3 0	2448	2.95E-04	1.69E-03	4.98E-07	2.63E-20	8.84E 11	2.33E-08	1.49E 09
3 1	2564	3.32E-03	1.65E-02	4.88E-06	2.58E-19	8.84E 11	2.28E-07	1.46E 10
3 2	2689	1.63E-02	7.04E-02	2.08E-05	1.10E-18	8.84E 11	9.72E-07	6.23E 10
3 3	2824	4.51E-02	1.68E-01	4.96E-05	2.62E-18	8.84E 11	2.32E-06	1.48E 11
3 4	2970	7.39E-02	2.36E-01	6.98E-05	3.69E-18	8.84E 11	3.26E-06	2.09E 11
3 5	3129	6.67E-02	1.82E-01	5.38E-05	2.85E-18	8.84E 11	2.52E-06	1.61E 11
3 6	3302	2.20E-02	5.13E-02	1.51E-05	8.01E-19	8.84E 11	7.08E-07	4.53E 10
3 7	3492	7.49E-04	1.47E-03	4.35E-07	2.30E-20	8.84E 11	2.03E-08	1.30E 09
3 8	3700	3.58E-02	5.92E-02	1.75E-05	9.25E-19	8.84E 11	8.17E-07	5.23E 10
3 9	3930	6.19E-02	8.55E-02	2.52E-05	1.33E-18	8.84E 11	1.18E-06	7.55E 10
3 10	4184	2.78E-02	3.18E-02	9.39E-06	4.97E-19	8.84E 11	4.39E-07	2.81E 10
3 11	4467	2.40E-04	2.26E-04	6.67E-08	3.53E-21	8.84E 11	3.12E-09	2.00E 08
3 12	4783	3.84E-02	2.94E-02	8.67E-06	4.59E-19	8.84E 11	4.05E-07	2.60E 10
3 13	5138	7.40E-02	4.57E-02	1.35E-05	7.14E-19	8.84E 11	6.31E-07	4.04E 10
3 14	5541	4.07E-02	2.00E-02	5.91E-06	3.13E-19	8.84E 11	2.76E-07	1.77E 10
3 15	6000	4.49E-04	1.74E-04	5.14E-08	2.72E-21	8.84E 11	2.40E-09	1.54E 08
4 0	2402	6.96E-04	4.09E-03	2.84E-06	1.45E-19	6.63E 11	9.60E-08	2.71E 09
4 1	2513	6.72E-03	3.45E-02	2.40E-05	1.22E-18	6.63E 11	8.10E-07	2.29E 10
4 2	2633	2.74E-02	1.22E-01	8.49E-05	4.32E-18	6.63E 11	2.86E-06	8.09E 10
4 3	2762	5.88E-02	2.27E-01	1.58E-04	8.05E-18	6.63E 11	5.33E-06	1.51E 11
4 4	2902	6.64E-02	2.21E-01	1.54E-04	7.84E-18	6.63E 11	5.20E-06	1.47E 11
4 5	3053	2.93E-02	8.37E-02	5.82E-05	2.96E-18	6.63E 11	1.96E-06	5.55E 10
4 6	3218	6.79E-07	1.66E-06	1.15E-09	5.88E-23	6.63E 11	3.90E-11	1.10E 06
4 7	3398	2.80E-02	5.80E-02	4.04E-05	2.05E-18	6.63E 11	1.36E-06	3.85E 10
4 8	3595	5.19E-02	9.10E-02	6.33E-05	3.22E-18	6.63E 11	2.14E-06	6.03E 10
4 9	3811	1.80E-02	2.64E-02	1.84E-05	9.36E-19	6.63E 11	6.20E-07	1.75E 10
4 10	4050	3.14E-03	3.85E-03	2.68E-06	1.36E-19	6.63E 11	9.03E-08	2.55E 09
4 11	4314	4.44E-02	4.51E-02	3.13E-05	1.59E-18	6.63E 11	1.06E-06	2.99E 10
4 12	4608	4.74E-02	3.95E-02	2.74E-05	1.40E-18	6.63E 11	9.26E-07	2.62E 10
4 13	4937	4.58E-03	3.10E-03	2.16E-06	1.10E-19	6.63E 11	7.27E-08	2.05E 09
4 14	5307	1.91E-02	1.04E-02	7.23E-06	3.68E-19	6.63E 11	2.44E-07	6.89E 09
4 15	5727	6.84E-02	2.96E-02	2.06E-05	1.05E-18	6.63E 11	6.95E-07	1.96E 10
5 0	2358	1.39E-03	8.53E-03	1.18E-05	5.80E-19	7.64E 11	4.43E-07	6.52E 09
5 1	2465	1.15E-02	6.19E-02	8.58E-05	4.21E-18	7.64E 11	3.22E-06	4.73E 10
5 2	2581	3.84E-02	1.80E-01	2.50E-04	1.23E-17	7.64E 11	9.37E-06	1.38E 11
5 3	2705	6.26E-02	2.55E-01	3.54E-04	1.74E-17	7.64E 11	1.33E-05	1.95E 11
5 4	2838	4.39E-02	1.55E-01	2.15E-04	1.05E-17	7.64E 11	8.05E-06	1.18E 11
5 5	2983	3.94E-03	1.20E-02	1.66E-05	8.15E-19	7.64E 11	6.22E-07	9.15E 09
5 6	3141	1.40E-02	3.64E-02	5.05E-05	2.48E-18	7.64E 11	1.89E-06	2.78E 10
5 7	3312	4.54E-02	1.01E-01	1.40E-04	6.86E-18	7.64E 11	5.24E-06	7.71E 10
5 8	3498	2.13E-02	4.01E-02	5.56E-05	2.73E-18	7.64E 11	2.09E-06	3.07E 10
5 9	3703	1.45E-03	2.30E-03	3.18E-06	1.56E-19	7.64E 11	1.19E-07	1.75E 09
5 10	3928	3.73E-02	4.97E-02	6.89E-05	3.38E-18	7.64E 11	2.58E-06	3.80E 10
5 11	4176	3.57E-02	3.95E-02	5.48E-05	2.69E-18	7.64E 11	2.05E-06	3.02E 10
5 12	4451	5.35E-04	4.90E-04	6.79E-07	3.33E-20	7.64E 11	2.55E-08	3.74E 08
5 13	4757	2.85E-02	2.14E-02	2.96E-05	1.45E-18	7.64E 11	1.11E-06	1.63E 10
5 14	5100	5.13E-02	3.12E-02	4.33E-05	2.12E-18	7.64E 11	1.62E-06	2.39E 10
5 15	5486	9.74E-03	4.76E-03	6.59E-06	3.24E-19	7.64E 11	2.47E-07	3.64E 09

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
6 0	2318	2.43E-03	1.57E-02	3.81E-05	1.81E-18	7.83E 11	1.42E-06	1.23E 10
6 1	2421	1.73E-02	9.79E-02	2.38E-04	1.13E-17	7.83E 11	8.83E-06	7.66E 10
6 2	2532	4.70E-02	2.33E-01	5.65E-04	2.68E-17	7.83E 11	2.10E-05	1.82E 11
6 3	2652	5.58E-02	2.41E-01	5.85E-04	2.77E-17	7.83E 11	2.17E-05	1.89E 11
6 4	2780	1.96E-02	7.34E-02	1.78E-04	8.45E-18	7.83E 11	6.62E-06	5.75E 10
6 5	2919	1.55E-03	5.01E-03	1.22E-05	5.77E-19	7.83E 11	4.52E-07	3.92E 09
6 6	3069	3.36E-02	9.35E-02	2.27E-04	1.08E-17	7.83E 11	8.43E-06	7.32E 10
6 7	3233	3.09E-02	7.36E-02	1.79E-04	8.47E-18	7.83E 11	6.63E-06	5.76E 10
6 8	3410	2.57E-04	5.21E-04	1.27E-06	6.01E-20	7.83E 11	4.70E-08	4.08E 08
6 9	3604	2.52E-02	4.33E-02	1.05E-04	4.98E-18	7.83E 11	3.90E-06	3.39E 10
6 10	3817	3.49E-02	5.05E-02	1.23E-04	5.82E-18	7.83E 11	4.56E-06	3.96E 10
6 11	4051	1.36E-03	1.65E-03	4.01E-06	1.90E-19	7.83E 11	1.49E-07	1.29E 09
6 12	4309	2.34E-02	2.35E-02	5.71E-05	2.71E-18	7.83E 11	2.12E-06	1.84E 10
6 13	4596	4.02E-02	3.33E-02	8.09E-05	3.84E-18	7.83E 11	3.00E-06	2.61E 10
6 14	4915	3.02E-03	2.05E-03	4.98E-06	2.36E-19	7.83E 11	1.85E-07	1.60E 09
6 15	5273	2.27E-02	1.25E-02	3.03E-05	1.43E-18	7.83E 11	1.12E-06	9.75E 09
7 0	2280	3.85E-03	2.58E-02	9.91E-05	4.55E-18	7.80E 11	3.55E-06	2.01E 10
7 1	2380	2.34E-02	1.38E-01	5.30E-04	2.43E-17	7.80E 11	1.90E-05	1.07E 11
7 2	2487	5.12E-02	2.64E-01	1.02E-03	4.66E-17	7.80E 11	3.64E-05	2.06E 11
7 3	2602	4.19E-02	1.89E-01	7.27E-04	3.33E-17	7.80E 11	2.60E-05	1.47E 11
7 4	2726	3.96E-03	1.55E-02	5.97E-05	2.74E-18	7.80E 11	2.14E-06	1.21E 10
7 5	2860	1.37E-02	4.66E-02	1.79E-04	8.22E-18	7.80E 11	6.41E-06	3.63E 10
7 6	3004	3.69E-02	1.08E-01	4.16E-04	1.91E-17	7.80E 11	1.49E-05	8.43E 10
7 7	3160	8.16E-03	2.05E-02	7.90E-05	3.62E-18	7.80E 11	2.83E-06	1.60E 10
7 8	3329	9.55E-03	2.05E-02	7.90E-05	3.63E-18	7.80E 11	2.83E-06	1.60E 10
7 9	3514	3.52E-02	6.43E-02	2.47E-04	1.14E-17	7.80E 11	8.85E-06	5.02E 10
7 10	3716	7.01E-03	1.08E-02	4.17E-05	1.91E-18	7.80E 11	1.49E-06	8.46E 09
7 11	3937	1.22E-02	1.59E-02	6.11E-05	2.80E-18	7.80E 11	2.19E-06	1.24E 10
7 12	4181	3.64E-02	3.95E-02	1.52E-04	6.98E-18	7.80E 11	5.44E-06	3.08E 10
7 13	4450	4.50E-03	4.06E-03	1.56E-05	7.16E-19	7.80E 11	5.58E-07	3.16E 09
7 14	4749	1.80E-02	1.33E-02	5.13E-05	2.35E-18	7.80E 11	1.83E-06	1.04E 10
7 15	5082	3.97E-02	2.40E-02	9.24E-05	4.24E-18	7.80E 11	3.31E-06	1.87E 10
8 0	2245	5.61E-03	3.99E-02	2.24E-04	9.95E-18	8.45E 11	8.41E-06	3.37E 10
8 1	2342	2.92E-02	1.83E-01	1.02E-03	4.56E-17	8.45E 11	3.85E-05	1.54E 11
8 2	2446	5.07E-02	2.78E-01	1.56E-03	6.95E-17	8.45E 11	5.87E-05	2.35E 11
8 3	2557	2.60E-02	1.25E-01	7.02E-04	3.12E-17	8.45E 11	2.64E-05	1.06E 11
8 4	2676	9.97E-05	4.18E-04	2.35E-06	1.04E-19	8.45E 11	8.82E-08	3.53E 08
8 5	2805	2.64E-02	9.63E-02	5.40E-04	2.40E-17	8.45E 11	2.03E-05	8.14E 10
8 6	2943	2.47E-02	7.79E-02	4.37E-04	1.95E-17	8.45E 11	1.64E-05	6.58E 10
8 7	3093	3.56E-05	9.67E-05	5.43E-07	2.41E-20	8.45E 11	2.04E-08	8.17E 07
8 8	3255	2.59E-02	6.03E-02	3.39E-04	1.51E-17	8.45E 11	1.27E-05	5.10E 10
8 9	3431	1.93E-02	3.84E-02	2.15E-04	9.58E-18	8.45E 11	8.10E-06	3.24E 10
8 10	3624	1.61E-03	2.72E-03	1.52E-05	6.78E-19	8.45E 11	5.73E-07	2.29E 09
8 11	3834	3.08E-02	4.39E-02	2.47E-04	1.10E-17	8.45E 11	9.26E-06	3.71E 10
8 12	4064	1.18E-02	1.41E-02	7.92E-05	3.52E-18	8.45E 11	2.98E-06	1.19E 10
8 13	4318	7.82E-03	7.80E-03	4.38E-05	1.95E-18	8.45E 11	1.65E-06	6.59E 09
8 14	4599	3.51E-02	2.90E-02	1.63E-04	7.23E-18	8.45E 11	6.11E-06	2.45E 10
8 15	4911	4.59E-03	3.12E-03	1.75E-05	7.78E-19	8.45E 11	6.57E-07	2.63E 09

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
9 0	2212	7.65E-03	5.74E-02	4.39E-04	1.90E-17	5.61E 11	1.06E-05	3.22E 10
9 1	2306	3.40E-02	2.25E-01	1.72E-03	7.43E-17	5.61E 11	4.17E-05	1.26E 11
9 2	2407	4.59E-02	2.67E-01	2.05E-03	8.84E-17	5.61E 11	4.96E-05	1.50E 11
9 3	2514	1.25E-02	6.38E-02	4.88E-04	2.11E-17	5.61E 11	1.10E-05	3.58E 10
9 4	2630	5.01E-03	2.24E-02	1.71E-04	7.39E-18	5.61E 11	4.15E-06	1.26E 10
9 5	2754	3.10E-02	1.21E-01	9.23E-04	3.99E-17	5.61E 11	2.24E-05	6.77E 10
9 6	2887	9.41E-03	3.17E-02	2.43E-04	1.05E-17	5.61E 11	5.88E-06	1.78E 10
9 7	3031	7.39E-03	2.15E-02	1.65E-04	7.11E-18	5.61E 11	3.99E-06	1.21E 10
9 8	3187	2.83E-02	7.10E-02	5.43E-04	2.35E-17	5.61E 11	1.32E-05	3.98E 10
9 9	3356	2.63E-03	5.65E-03	4.32E-05	1.87E-18	5.61E 11	1.05E-06	3.17E 09
9 10	3539	1.65E-02	3.02E-02	2.31E-04	9.98E-18	5.61E 11	5.60E-06	1.70E 10
9 11	3739	2.29E-02	3.55E-02	2.72E-04	1.17E-17	5.61E 11	6.59E-06	1.99E 10
9 12	3958	2.43E-04	3.18E-04	2.43E-06	1.05E-19	5.61E 11	5.89E-08	1.78E 08
9 13	4199	2.78E-02	3.05E-02	2.34E-04	1.01E-17	5.61E 11	5.66E-06	1.71E 10
9 14	4464	1.20E-02	1.09E-02	8.37E-05	3.61E-18	5.61E 11	2.03E-06	6.13E 09
9 15	4757	8.20E-03	6.19E-03	4.73E-05	2.04E-18	5.61E 11	1.15E-06	3.47E 09
10 0	2182	9.85E-03	7.73E-02	7.62E-04	3.20E-17	6.16E 11	1.97E-05	4.76E 10
10 1	2273	3.73E-02	2.59E-01	2.55E-03	1.07E-16	6.16E 11	6.59E-05	1.59E 11
10 2	2371	3.84E-02	2.35E-01	2.31E-03	9.70E-17	6.16E 11	5.98E-05	1.44E 11
10 3	2475	3.76E-03	2.02E-02	1.99E-04	8.35E-18	6.16E 11	5.15E-06	1.24E 10
10 4	2587	1.33E-02	6.26E-02	6.17E-04	2.59E-17	6.16E 11	1.60E-05	3.86E 10
10 5	2707	2.67E-02	1.10E-01	1.08E-03	4.55E-17	6.16E 11	2.80E-05	6.77E 10
10 6	2835	8.41E-04	3.01E-03	2.96E-05	1.24E-18	6.16E 11	7.66E-07	1.85E 09
10 7	2974	1.84E-02	5.72E-02	5.63E-04	2.36E-17	6.16E 11	1.46E-05	3.52E 10
10 8	3124	1.75E-02	4.68E-02	4.61E-04	1.94E-17	6.16E 11	1.19E-05	2.88E 10
10 9	3286	1.44E-03	3.30E-03	3.25E-05	1.37E-18	6.16E 11	8.42E-07	2.03E 09
10 10	3462	2.55E-02	5.01E-02	4.93E-04	2.07E-17	6.16E 11	1.28E-05	3.08E 10
10 11	3653	5.23E-03	8.74E-03	8.61E-05	3.62E-18	6.16E 11	2.23E-06	5.39E 09
10 12	3862	1.28E-02	1.81E-02	1.78E-04	7.49E-18	6.16E 11	4.61E-06	1.12E 10
10 13	4090	2.24E-02	2.67E-02	2.63E-04	1.11E-17	6.16E 11	6.81E-06	1.65E 10
10 14	4341	2.78E-04	2.77E-04	2.72E-06	1.14E-19	6.16E 11	7.05E-08	1.70E 08
10 15	4618	2.75E-02	2.28E-02	2.25E-04	9.43E-18	6.16E 11	5.81E-06	1.40E 10
11 0	2153	1.21E-02	1.00E-01	1.21E-03	4.96E-17	5.10E 11	2.53E-05	5.12E 10
11 1	2242	3.89E-02	2.86E-01	3.46E-03	1.41E-16	5.10E 11	7.21E-05	1.46E 11
11 2	2337	2.96E-02	1.92E-01	2.32E-03	9.49E-17	5.10E 11	4.84E-05	9.78E 10
11 3	2439	1.94E-04	1.11E-03	1.34E-05	5.49E-19	5.10E 11	2.80E-07	5.66E 08
11 4	2547	2.03E-02	1.02E-01	1.23E-03	5.05E-17	5.10E 11	2.57E-05	5.21E 10
11 5	2663	1.76E-02	7.73E-02	9.35E-04	3.83E-17	5.10E 11	1.95E-05	3.94E 10
11 6	2787	1.12E-03	4.29E-03	5.18E-05	2.12E-18	5.10E 11	1.08E-06	2.19E 09
11 7	2921	2.35E-02	7.81E-02	9.45E-04	3.87E-17	5.10E 11	1.97E-05	3.99E 10
11 8	3066	5.32E-03	1.53E-02	1.85E-04	7.57E-18	5.10E 11	3.86E-06	7.80E 09
11 9	3222	1.08E-02	2.68E-02	3.24E-04	1.33E-17	5.10E 11	6.77E-06	1.37E 10
11 10	3391	1.94E-02	4.12E-02	4.99E-04	2.04E-17	5.10E 11	1.04E-05	2.10E 10
11 11	3574	3.50E-04	6.35E-04	7.68E-06	3.14E-19	5.10E 11	1.60E-07	3.24E 08
11 12	3773	2.33E-02	3.59E-02	4.34E-04	1.78E-17	5.10E 11	9.06E-06	1.83E 10
11 13	3991	5.10E-03	6.65E-03	8.04E-05	3.29E-18	5.10E 11	1.68E-06	3.39E 09
11 14	4230	1.31E-02	1.44E-02	1.74E-04	7.11E-18	5.10E 11	3.63E-06	7.33E 09
11 15	4492	1.97E-02	1.80E-02	2.18E-04	8.91E-18	5.10E 11	4.54E-06	9.18E 09

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
12 0	2127	1.42E-02	1.26E-01	1.80E-03	7.18E-17	3.81E 11	2.74E-05	4.81E 10
12 1	2214	3.89E-02	3.06E-01	4.36E-03	1.74E-16	3.81E 11	6.63E-05	1.17E 11
12 2	2306	2.09E-02	1.46E-01	2.07E-03	8.27E-17	3.81E 11	3.15E-05	5.54E 10
12 3	2405	7.60E-04	4.67E-03	6.64E-05	2.65E-18	3.81E 11	1.01E-06	1.78E 09
12 4	2510	2.37E-02	1.28E-01	1.83E-03	7.28E-17	3.81E 11	2.78E-05	4.88E 10
12 5	2623	8.47E-03	4.01E-02	5.71E-04	2.28E-17	3.81E 11	8.68E-06	1.53E 10
12 6	2743	6.79E-03	2.81E-02	4.00E-04	1.60E-17	3.81E 11	6.08E-06	1.07E 10
12 7	2873	2.06E-02	7.41E-02	1.06E-03	4.21E-17	3.81E 11	1.61E-05	2.82E 10
12 8	3012	6.97E-05	2.18E-04	3.10E-06	1.24E-19	3.81E 11	4.71E-08	8.29E 07
12 9	3163	1.89E-02	5.09E-02	7.24E-04	2.89E-17	3.81E 11	1.10E-05	1.94E 10
12 10	3325	7.49E-03	1.74E-02	2.47E-04	9.88E-18	3.81E 11	3.76E-06	6.62E 09
12 11	3502	8.19E-03	1.63E-02	2.32E-04	9.26E-18	3.81E 11	3.53E-06	6.21E 09
12 12	3693	1.85E-02	3.13E-02	4.46E-04	1.78E-17	3.81E 11	6.79E-06	1.19E 10
12 13	3901	4.42E-04	6.35E-04	9.04E-06	3.61E-19	3.81E 11	1.37E-07	2.42E 08
12 14	4129	2.25E-02	2.73E-02	3.88E-04	1.55E-17	3.81E 11	5.90E-06	1.04E 10
12 15	4379	2.97E-03	3.02E-03	4.30E-05	1.72E-18	3.81E 11	6.54E-07	1.15E 09
13 0	2102	1.62E-02	1.53E-01	2.48E-03	9.66E-17	3.57E 11	3.45E-05	5.46E 10
13 1	2187	3.75E-02	3.15E-01	5.10E-03	1.99E-16	3.57E 11	7.09E-05	1.12E 11
13 2	2277	1.34E-02	9.99E-02	1.62E-03	6.31E-17	3.57E 11	2.25E-05	3.57E 10
13 3	2373	3.81E-03	2.50E-02	4.05E-04	1.58E-17	3.57E 11	5.64E-06	8.93E 09
13 4	2476	2.32E-02	1.34E-01	2.18E-03	8.48E-17	3.57E 11	3.03E-05	4.80E 10
13 5	2585	2.33E-03	1.19E-02	1.92E-04	7.49E-18	3.57E 11	2.67E-06	4.23E 09
13 6	2702	1.31E-02	5.84E-02	9.46E-04	3.69E-17	3.57E 11	1.32E-05	2.09E 10
13 7	2828	1.32E-02	5.12E-02	8.29E-04	3.23E-17	3.57E 11	1.15E-05	1.83E 10
13 8	2963	2.32E-03	7.83E-03	1.27E-04	4.94E-18	3.57E 11	1.76E-06	2.80E 09
13 9	3109	5.09E-04	5.67E-02	9.18E-04	3.58E-17	3.57E 11	1.28E-05	2.02E 10
13 10	3266	5.09E-04	1.28E-03	2.08E-05	8.10E-19	3.57E 11	2.89E-07	4.58E 08
13 11	3335	1.66E-02	3.60E-02	5.82E-04	2.27E-17	3.57E 11	8.11E-06	1.28E 10
13 12	3619	6.98E-03	1.29E-02	2.09E-04	8.16E-18	3.57E 11	2.91E-06	4.62E 09
13 13	3819	8.58E-03	1.35E-02	2.19E-04	8.53E-18	3.57E 11	3.05E-06	4.83E 09
13 14	4037	1.61E-02	2.14E-02	3.47E-04	1.35E-17	3.57E 11	4.83E-06	7.66E 09
13 15	4275	1.54E-03	1.73E-03	2.81E-05	1.09E-18	3.57E 11	3.91E-07	6.19E 08
14 0	2079	1.78E-02	1.79E-01	3.19E-03	1.22E-16	2.11E 11	2.57E-05	3.77E 10
14 1	2162	3.50E-02	3.12E-01	5.56E-03	2.12E-16	2.11E 11	4.48E-05	6.58E 10
14 2	2250	7.64E-03	6.04E-02	1.08E-03	4.11E-17	2.11E 11	8.68E-06	1.27E 10
14 3	2344	7.73E-03	5.41E-02	9.66E-04	3.68E-17	2.11E 11	7.77E-06	1.14E 10
14 4	2444	1.98E-02	1.22E-01	2.18E-03	8.33E-17	2.11E 11	1.76E-05	2.58E 10
14 5	2551	4.59E-05	2.49E-04	4.45E-06	1.70E-19	2.11E 11	3.58E-08	5.25E 07
14 6	2665	1.70E-02	8.09E-02	1.44E-03	5.51E-17	2.11E 11	1.16E-05	1.71E 10
14 7	2787	5.81E-03	2.42E-02	4.31E-04	1.65E-17	2.11E 11	3.47E-06	5.10E 09
14 8	2918	8.00E-03	2.90E-02	5.18E-04	1.98E-17	2.11E 11	4.17E-06	6.12E 09
14 9	3059	1.38E-02	4.36E-02	7.77E-04	2.97E-17	2.11E 11	6.26E-06	9.19E 09
14 10	3210	1.31E-03	3.57E-03	6.38E-05	2.43E-18	2.11E 11	5.13E-07	7.54E 08
14 11	3374	1.78E-02	4.18E-02	7.46E-04	2.85E-17	2.11E 11	6.01E-06	8.82E 09
14 12	3552	3.48E-04	7.00E-04	1.25E-05	4.77E-19	2.11E 11	1.01E-07	1.48E 08
14 13	3744	1.64E-02	2.81E-02	5.02E-04	1.91E-17	2.11E 11	4.04E-06	5.93E 09
14 14	3953	4.71E-03	6.86E-03	1.22E-04	4.67E-18	2.11E 11	9.86E-07	1.45E 09
14 15	4182	1.10E-02	1.36E-02	2.43E-04	9.26E-18	2.11E 11	1.95E-06	2.87E 09

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
15 0	2058	1.92E-02	2.04E-01	3.91E-03	1.46E-16	1.76E 11	2.57E-05	3.59E 10
15 1	2139	3.17E-02	3.01E-01	5.76E-03	2.15E-16	1.76E 11	3.79E-05	5.30E 10
15 2	2225	3.63E-03	3.06E-02	5.86E-04	2.19E-17	1.76E 11	3.85E-06	5.38E 09
15 3	2317	1.13E-02	8.48E-02	1.62E-03	6.07E-17	1.76E 11	1.07E-05	1.49E 10
15 4	2414	1.50E-02	9.91E-02	1.90E-03	7.09E-17	1.76E 11	1.25E-05	1.74E 10
15 5	2519	8.57E-04	4.98E-03	9.54E-05	3.57E-18	1.76E 11	6.28E-07	8.77E 08
15 6	2630	1.74E-02	8.89E-02	1.70E-03	6.36E-17	1.76E 11	1.12E-05	1.56E 10
15 7	2749	1.22E-03	5.47E-03	1.05E-04	3.91E-18	1.76E 11	6.89E-07	9.62E 08
15 8	2876	1.29E-02	5.02E-02	9.62E-04	3.59E-17	1.76E 11	6.33E-06	8.84E 09
15 9	3013	6.74E-03	2.29E-02	4.39E-04	1.64E-17	1.76E 11	2.89E-06	4.03E 09
15 10	3160	6.44E-03	1.89E-02	3.63E-04	1.36E-17	1.76E 11	2.39E-06	3.33E 09
15 11	3319	1.27E-02	3.22E-02	6.16E-04	2.30E-17	1.76E 11	4.05E-06	5.66E 09
15 12	3490	1.62E-03	3.55E-03	6.80E-05	2.54E-18	1.76E 11	4.47E-07	6.24E 08
15 13	3676	1.63E-02	3.06E-02	5.85E-04	2.19E-17	1.76E 11	3.85E-06	5.38E 09
15 14	3877	2.27E-06	3.62E-06	6.93E-08	2.59E-21	1.76E 11	4.56E-10	6.37E 05
15 15	4096	1.69E-02	2.29E-02	4.38E-04	1.64E-17	1.76E 11	2.88E-06	4.03E 09

XIX. CARBON MONOXIDE FIRST NEGATIVE BANDS

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
0 0	2191	5.31E-01	5.80E-01	3.08E-01	1.31E-14	6.01E 11	7.84E-03	3.48E 11
0 1	2302	3.39E-01	3.19E-01	1.70E-01	7.19E-15	6.01E 11	4.32E-03	1.92E 11
0 2	2422	1.04E-01	8.40E-02	4.46E-02	1.89E-15	6.01E 11	1.14E-03	5.05E 10
0 3	2553	2.14E-02	1.48E-02	7.85E-03	3.33E-16	6.01E 11	2.00E-04	8.88E 09
0 4	2697	3.38E-03	1.98E-03	1.05E-03	4.46E-17	6.01E 11	2.68E-05	1.19E 09
0 5	2856	4.33E-04	2.13E-04	1.13E-04	4.80E-18	6.01E 11	2.89E-06	1.28E 08
0 6	3032	4.65E-05	1.91E-05	1.02E-05	4.31E-19	6.01E 11	2.59E-07	1.15E 07
0 7	3228	4.28E-06	1.46E-06	7.76E-07	3.29E-20	6.01E 11	1.98E-08	8.78E 05
1 0	2114	3.13E-01	3.95E-01	1.24E-01	4.87E-15	4.11E 11	2.00E-03	1.63E 11
1 1	2216	5.65E-02	6.21E-02	1.94E-02	7.64E-16	4.11E 11	3.14E-04	2.55E 10
1 2	2327	3.18E-01	3.02E-01	9.42E-02	3.71E-15	4.11E 11	1.53E-03	1.24E 11
1 3	2448	2.17E-01	1.77E-01	5.52E-02	2.18E-15	4.11E 11	8.95E-04	7.27E 10
1 4	2580	7.49E-02	5.21E-02	1.63E-02	6.42E-16	4.11E 11	2.64E-04	2.14E 10
1 5	2725	1.75E-02	1.03E-02	3.23E-03	1.27E-16	4.11E 11	5.23E-05	4.24E 09
1 6	2885	3.09E-03	1.54E-03	4.80E-04	1.89E-17	4.11E 11	7.78E-06	6.31E 08
1 7	3062	4.38E-04	1.82E-04	5.70E-05	2.24E-18	4.11E 11	9.23E-07	7.49E 07
1 8	3258	5.16E-05	1.78E-05	5.57E-06	2.20E-19	4.11E 11	9.03E-08	7.33E 06
1 9	3478	5.17E-06	1.47E-06	4.59E-07	1.81E-20	4.11E 11	7.43E-09	6.03E 05
2 0	2044	1.11E-01	1.63E-01	1.82E-02	6.69E-16	1.73E 11	1.16E-04	2.82E 10
2 1	2139	2.58E-01	3.28E-01	3.66E-02	1.35E-15	1.73E 11	2.33E-04	5.68E 10
2 2	2242	1.76E-02	1.95E-02	2.17E-03	8.01E-17	1.73E 11	1.39E-05	3.37E 09
2 3	2354	1.46E-01	1.40E-01	1.56E-02	5.74E-16	1.73E 11	9.94E-05	2.42E 10
2 4	2476	2.55E-01	2.09E-01	2.33E-02	8.60E-16	1.73E 11	1.49E-04	3.62E 10
2 5	2610	1.47E-01	1.03E-01	1.15E-02	4.24E-16	1.73E 11	7.33E-05	1.78E 10
2 6	2756	5.01E-02	2.98E-02	3.32E-03	1.23E-16	1.73E 11	2.12E-05	5.16E 09
2 7	2917	1.20E-02	6.05E-03	6.74E-04	2.48E-17	1.73E 11	4.30E-06	1.05E 09
2 8	3095	2.23E-03	9.37E-04	1.04E-04	3.85E-18	1.73E 11	6.66E-07	1.62E 08
2 9	3293	3.33E-04	1.16E-04	1.30E-05	4.78E-19	1.73E 11	8.27E-08	2.01E 07
2 10	3514	4.15E-05	1.19E-05	1.33E-06	4.90E-20	1.73E 11	8.48E-09	2.06E 06
2 11	3762	4.39E-06	1.03E-06	1.15E-07	4.22E-21	1.73E 11	7.30E-10	1.78E 05
3 0	1980	3.25E-02	5.45E-02	1.77E-03	6.13E-17	9.85E 10	6.03E-06	5.37E 09
3 1	2070	1.98E-01	2.92E-01	9.47E-03	3.28E-16	9.85E 10	3.23E-05	2.87E 10
3 2	2166	9.13E-02	1.17E-01	3.80E-03	1.32E-16	9.85E 10	1.30E-05	1.15E 10
3 3	2271	1.23E-01	1.37E-01	4.45E-03	1.54E-16	9.85E 10	1.52E-05	1.35E 10
3 4	2384	1.73E-02	1.66E-02	5.40E-04	1.87E-17	9.85E 10	1.84E-06	1.64E 09
3 5	2507	1.93E-01	1.59E-01	5.18E-03	1.79E-16	9.85E 10	1.76E-05	1.57E 10
3 6	2642	2.01E-01	1.42E-01	4.61E-03	1.60E-16	9.85E 10	1.57E-05	1.40E 10
3 7	2789	1.01E-01	6.07E-02	1.97E-03	6.82E-17	9.85E 10	6.72E-06	5.98E 09
3 8	2952	3.31E-02	1.68E-02	5.45E-04	1.89E-17	9.85E 10	1.86E-06	1.65E 09
3 9	3131	7.97E-03	3.39E-03	1.10E-04	3.81E-18	9.85E 10	3.75E-07	3.34E 08
3 10	3330	1.51E-03	5.32E-04	1.73E-05	5.98E-19	9.85E 10	5.89E-08	5.24E 07
3 11	3553	2.33E-04	6.76E-05	2.20E-06	7.59E-20	9.85E 10	7.48E-09	6.66E 06
3 12	3803	3.00E-05	7.11E-06	2.31E-07	7.99E-21	9.85E 10	7.87E-10	7.00E 05
3 13	4086	3.29E-06	6.28E-07	2.04E-08	7.06E-22	9.85E 10	6.95E-11	6.19E 04

XX. CARBON MONOXIDE COMET TAIL BANDS

V-VV	LAMBDA A	Q	OMEGA	Q.OMEGA	SIGMA CM**2.A	FLUX PHOTONS CM**2.A.SEC	G-PRIME PHOTONS SEC	FLUX.OMEGA PHOTONS CM**2.A.SEC
0 0	4900	4.20E-02	1.10E-01	4.62E-03	9.79E-16	4.92E 13	4.82E-02	5.41E 12
0 1	5487	1.49E-01	2.78E-01	1.17E-02	2.47E-15	4.92E 13	1.22E-01	1.37E 13
0 2	6223	2.46E-01	3.15E-01	1.32E-02	2.80E-15	4.92E 13	1.38E-01	1.55E 13
0 3	7170	2.49E-01	2.08E-01	8.74E-03	1.85E-15	4.92E 13	9.11E-02	1.02E 13
0 4	8436	1.74E-01	8.93E-02	3.75E-03	7.95E-16	4.92E 13	3.91E-02	4.39E 12
1 0	4557	1.13E-01	3.33E-01	3.76E-02	6.89E-15	5.02E 13	3.46E-01	1.67E 13
1 1	5061	1.91E-01	4.11E-01	4.64E-02	8.50E-15	5.02E 13	4.27E-01	2.06E 13
1 2	5680	8.30E-02	1.26E-01	1.43E-02	2.61E-15	5.02E 13	1.31E-01	6.34E 12
1 3	6459	-0.	-0.	-0.	-0.	5.02E 13	-0.	-0.
1 4	7469	8.40E-02	5.62E-02	6.35E-03	1.16E-15	5.02E 13	5.84E-02	2.82E 12
1 5	8829	1.83E-01	7.41E-02	8.38E-03	1.53E-15	5.02E 13	7.70E-02	3.72E 12
2 0	4264	1.66E-01	5.47E-01	9.08E-02	1.46E-14	4.00E 13	5.83E-01	2.19E 13
2 1	4702	9.90E-02	2.43E-01	4.04E-02	6.48E-15	4.00E 13	2.59E-01	9.73E 12
2 2	5232	2.00E-03	3.57E-03	5.92E-04	9.50E-17	4.00E 13	3.80E-03	1.43E 11
2 3	5886	1.04E-01	1.30E-01	2.16E-02	3.47E-15	4.00E 13	1.39E-01	5.21E 12
2 4	6713	8.90E-02	7.52E-02	1.25E-02	2.00E-15	4.00E 13	8.01E-02	3.01E 12
2 5	7792	10.00E-04	5.40E-04	8.97E-05	1.44E-17	4.00E 13	5.76E-04	2.16E 10
3 0	4011	1.80E-01	6.89E-01	1.24E-01	1.76E-14	3.25E 13	5.72E-01	2.24E 13
3 1	4396	1.50E-02	4.36E-02	7.85E-03	1.11E-15	3.25E 13	3.62E-02	1.42E 12
3 2	4856	7.10E-02	1.53E-01	2.76E-02	3.91E-15	3.25E 13	1.27E-01	4.98E 12
3 3	5414	7.20E-02	1.12E-01	2.02E-02	2.86E-15	3.25E 13	9.31E-02	3.64E 12
3 4	6106	2.00E-03	2.17E-03	3.91E-04	5.54E-17	3.25E 13	1.80E-03	7.05E 10
4 0	3790	1.59E-01	7.28E-01	1.16E-01	1.47E-14	2.39E 13	3.50E-01	1.74E 13
4 1	4132	4.00E-03	1.41E-02	2.25E-03	2.85E-16	2.39E 13	6.80E-03	3.38E 11
4 2	4536	9.60E-02	2.56E-01	4.08E-02	5.16E-15	2.39E 13	1.23E-01	6.13E 12
4 3	5019	10.00E-04	1.97E-03	3.13E-04	3.97E-17	2.39E 13	9.49E-04	4.71E 10