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NASA
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Information Branch

Contents

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Summary

The Stratospheric Aerosol and Gas Experiment (SAGE) was launched on February 18, 1979. It measured the solar irradiance at four wavelengths (1.00 μm, 0.60 μm, 0.45 μm, and 0.385 μm) during each sunrise and sunset encountered by the satellite. The satellite operated for about 3 years and in that time period produced a large number of profiles of aerosol extinction, ozone concentration, and nitrogen dioxide concentration between the latitudes of approximately 80°N and 80°S.

The SAGE results have been separated into two sets: one set for aerosol measurements and the other set for gas (ozone and nitrogen dioxide) measurements. Presented in this report are the SAGE aerosol measurements for the period of February 21 to December 31, 1979, covering the latitude range of 80°N to 80°S. The intent of this report is to provide, in a ready-to-use format, a representative sample of the first year of data. No attempt has been made to give any detailed geophysical explanation or analysis of these data. This report presents zonal averages, separated into sunrise and sunset events, and seasonal averages of the aerosol extinction at 1.00 μm and 0.45 μm, ratios of the aerosol extinction to the molecular extinction at 1.00 μm, and ratios of the aerosol extinction at 0.45 μm to the aerosol extinction at 1.00 μm. The averages for 1979 are shown in tables and in profile and contour plots (as a function of altitude and latitude). In addition, temperature data provided by the National Oceanic and Atmospheric Administration (NOAA) for the time and location of each SAGE measurement are averaged and shown in a similar format.

The data presented give an excellent picture of the global stratospheric aerosol distribution during 1979. Up until mid-May, both sunrise and sunset data were obtained, but then the spacecraft batteries began to noticeably degrade. The SAGE instrument continued to function perfectly, but because of the lack of power, the sunrise measurements could no longer be made continuously.

The data obtained for early 1979 are interesting because the aerosol layer was essentially unperturbed by large volcanic injections; the most recent previous large eruption was that of Volcán de Fuego in Guatemala in 1974. On April 13, 1979, however, a minor eruption of the Soufrière volcano occurred and increased the stratospheric aerosol, but by only about 2 percent. Later, an eruption by Sierra Negra (November 13, 1979) caused a significant perturbation to the stratospheric aerosol layer.

For the period prior to the eruption of Sierra Negra, typical values of the peak aerosol extinction at 1.00 μm in the main stratospheric aerosol layer were about 1×10^{-4} to 2×10^{-4} km^{-1}, whereas the peak aerosol extinction at 0.45 μm varied from about 4×10^{-4} to 8×10^{-4} km^{-1}. Calculated stratospheric optical depth values for the same period at a wavelength of 1.00 μm varied between 0.001 and 0.002 over all latitudes.

The ratio of the aerosol extinction to the molecular extinction at 1.00 μm showed a maximum value of about 4. This peak value was located in the Tropics, usually about 10 km above the tropopause, and indicated a possible source region for stratospheric aerosols. The ratio of the aerosol extinction at 0.45 μm to the aerosol extinction at 1.00 μm, which provides information about the size distribution of aerosols, also showed a relative maximum (indicating more smaller particles) immediately above the tropopause in tropical regions.

After the volcanic eruption of Sierra Negra in November 1979, the early effects of the injection of material into the lower stratosphere were only noticeable at low latitudes. Later, in 1980, the volcanic perturbation became more pronounced globally in the aerosol data.

Introduction

The Stratospheric Aerosol and Gas Experiment (SAGE) was launched on a dedicated Applications Explorer Mission satellite (AEM-2) on February 18, 1979. The satellite circled the Earth once every 97 minutes, usually entered the Earth's shadow on each orbit, and thus encountered nearly 15 sunsets and 15 sunrises per day. During each sunrise and sunset observed by the satellite, the SAGE instrument measured solar irradiance at four wavelengths until November 1981, when the spacecraft power system failed. The irradiance versus time data were telemetered to Earth and subsequently inverted to yield extinction coefficients for the stratospheric aerosol at two wavelengths and for concentrations of ozone and nitrogen dioxide.

The SAGE data results comprise a collection of profiles for aerosol extinction, ozone concentration, and nitrogen dioxide concentration taken at a large number of geographic locations. More than 12 000 profiles were obtained for each wavelength over about 3 years at latitudes ranging from 80°N to 80°S. The aerosol extinction profile at 1.00 μm has a vertical resolution of 1 km below about 25 km and a vertical resolution of 5 km above about 25 km. In comparison, the aerosol extinction profile at 0.45 μm has a vertical resolution of 3 km below about 25 km.

The SAGE aerosol data are intended to be used to study aerosol sources, sinks, and transport; the radiative and climatological effects of aerosols; the exchange of particulate matter between the stratosphere and the troposphere; the development and dispersion of volcanic layers; the occurrence of cirrus and other high clouds near the tropopause; and polar stratospheric clouds. On cloudless occasions, information can be obtained on high- to mid-tropospheric aerosols.

The data base generated by SAGE will be useful for studies of the effect of seasonal and short-term meteorological variations on the stratospheric aerosol. It should also be helpful in evaluating atmospheric chemical and microphysical processes in the formation and maintenance of the aerosol layer, and it will demonstrate the effect of volcanic activity on the stratospheric aerosol. The simultaneous measurement of ozone and nitrogen dioxide in the same air mass may aid in interpreting the importance of heterogeneous chemistry in the stratosphere. When used in conjunction with the temperature profiles, the data will permit quantification of the climatic effects of cirrus cloud layers in the lower stratosphere and upper troposphere. A number of studies using the SAGE data set (refs. 1–4) are included in the list of references.

This report presents, in a ready-to-use format, representative aerosol data and seasonally and zonally averaged aerosol data for the first calendar year of the SAGE 34-month data set. No attempt has been made to apply these results to any of the studies mentioned above. The entire data set has been archived at the National Space Sciences Data Center, NASA Goddard Space Flight Center, Greenbelt, Maryland 20771, and is available on magnetic tape.

SAGE Instrument

The SAGE instrument is a four-channel Sun photometer. Spectral discrimination is achieved by using a holographic diffraction grating, which disperses the incoming sunlight according to wavelength. The wavelengths selected were 0.385 μm, 0.45 μm, 0.60 μm, and 1.00 μm. These wavelengths were selected for the following reasons. At 0.385 μm, 0.45 μm, and 1.00 μm, absorption by stratospheric gases is quite small below about 20 km, and solar extinction in these channels is almost entirely caused by scattering by aerosol particles and air molecules. At higher stratospheric altitudes, attenuation at 0.60 μm is primarily caused by ozone, and above an altitude of about 25 km, the extinction at 0.385 μm and 0.45 μm is mainly caused by absorption by nitrogen dioxide and scattering by air molecules.

In operation, the instrument is activated just before a sunrise or sunset is encountered by the satellite. The instrument searches for the Sun and nulls the center of intensity of the solar image. A mirror then begins scanning vertically across the face of the Sun. This mirror reverses in direction each time a limb crossing occurs. Solar light is reflected from the scan mirror to the aperture of a small Cassegrainian telescope, which defines an instantaneous field of view on the horizon of about 0.5 km and focuses this light onto the diffraction grating. The intensity of light dispersed by the grating at the four wavelengths of interest is measured by four silicon diode sensors. Their output is digitized (12 bits), recorded on an onboard tape recorder, and periodically telemetered to Earth. The raw data (irradiance as a function of time) are reconstructed and inverted to yield extinction as a function of altitude for each spectral channel at each location and time of a SAGE measurement (ref. 5).

Figure 1 illustrates the viewing geometry of the satellite system. As the satellite moves toward the Earth's shadow, the tangent height (h) decreases, and the solar light reaching the instrument traverses more and more of the Earth's atmosphere. Typically, measurements are made from an altitude of about 350 km to the surface, or until the Sun is obscured by clouds. As the tangent height decreases, the tangent point (P in fig. 1) changes position because of the movement of the satellite along the orbit path during a measurement sequence. This movement may vary between 0° and about 3° in latitude, depending on the satellite-viewing geometry. In this report, the latitude and longitude corresponding to the position of the tangent point when the tangent height is 20 km (near the peak of the stratospheric aerosol extinction) are given as the SAGE profile location. A complete description of the SAGE instrument can be found in reference 6.

AEM-2 Orbit and Locations of Measurement Points

The AEM-2 orbit was inclined at 55° with an apogee of 660 km, a perigee of 548 km, and a period of 96.8 minutes. This highly precessing orbit provided measurement opportunities distributed around the Earth for latitudes from 80°N to 80°S (depending on season). The measurements were made each time the satellite entered or left the Earth's shadow, that is, during each sunrise and sunset encountered by the satellite. Because of the orbital motion of the satellite, the rotation of the Earth, and the motion of the Earth around the Sun, successive measurements were separated by about 24° in longitude and occurred at slightly different values of latitude. Since it is important to understand the sequence of measurement locations, we illustrate in figure 2 the set of sunset tangent locations for March–April 1979.

On this plot we have drawn a series of arrows showing the sequence of consecutive measurement locations. Note that the measurements run from east to west with a small change in latitude between measurements. Consequently, the locations of the measurement points trace out a spiral path winding from 70°N to 50°S in this example. Likewise, and at the same time, the sunrise measurements were being made in a northward sweep from 60°S to 70°N.

Data Products

The basic data product generated from each SAGE measurement is an extinction profile (extinction as a function of altitude) for each of the four spectral channels (1.00 μm, 0.60 μm, 0.45 μm, and 0.385 μm). These contain information on the concentrations of stratospheric aerosols, ozone, and nitrogen dioxide and on molecular density as a function of altitude, longitude, latitude, and time. A corresponding temperature profile is provided by the National Meteorological Center (NMC) of the National Oceanic and Atmospheric Administration (NOAA) for the time and location of each SAGE measurement. These profiles were constructed by interpolation from the NMC gridded global data sets (ref. 7).

The raw data consist of measurements of irradiance as a function of time. The temperature profiles are used to obtain molecular density, and the irradiance data are inverted by techniques described in reference 5 to generate extinction profiles. Profiles of aerosol extinction at 0.45 μm are further smoothed over a 3-km vertical layer. The extinction profiles are then archived at the National Space Sciences Data Center, NASA Goddard Space Flight Center, Greenbelt, Maryland 20771. The archived data products are available to interested researchers and consist of two sets of computer tapes called MERDATS (the raw radiance and temperature data tapes) and PROFILES (the inverted extinction profiles for each event). A user's guide to the SAGE PROFILES tape is available from the Aerosol Research Branch, Atmospheric Sciences Division, NASA Langley Research Center, Hampton, Virginia 23665-5225.

A sampling of the results obtained during the first year of operation of the SAGE satellite (February 21, 1979 to December 31, 1979) is presented in this report. Specifically, these results consist of (1) tables of SAGE measurement locations and dates (2) maps of measurement locations, (3) tables of average extinction and temperature profiles as a function of altitude, (4) plots of average extinction and temperature profiles, (5) daily extinction isopleths as a function of longitude and altitude, (6) plots of zonally averaged extinction and temperature data per sweep, (7) tables of seasonally averaged extinction and temperature data, (8) plots of seasonally averaged extinction and temperature data, and (9) tables of calculated optical depth per sweep at various latitudes and longitudes. The data given are for aerosols at the 1.00-μm and 0.45-μm channels.

Tables of Measurement Locations

Figure 3 gives an overview of the latitude and time coverage of the SAGE measurements for the year 1979. There are a number of interesting points to be made regarding this figure that will help in understanding the data set. First, the sunrise measurements (dashed curved lines) begin at a latitude of 50°N on February 21, move to the north, and reach a northernmost point at 58°N on March 3. The measurement locations then gradually move southward and reach a latitude of 58.5°S on April 4, then move northward again to 71°N on May 14, and so on. Likewise, the solid lines in figure 3 represent the sunset measurement locations. For convenience, a measurement "sweep" for this report is defined as the period (or set of data obtained) during a maximum-to-maximum (north-to-south or south-to-north) latitudinal measurement sequence.

Examination of figure 3 shows periods during the months of May, June, July, and November when no measurements were obtained. During these periods, the Sun, Earth, and satellite geometry is such that the satellite does not enter the shadow of the Earth and thus is unable to make either a sunrise or a sunset measurement. In June, the satellite began experiencing a power system problem. In order to allow the satellite battery system to charge fully before a measurement, data were primarily collected during sunsets after June 1979. With this technique, it was possible to extend the life of the satellite considerably, and data were obtained until November 1981.

Table I gives a summary of the measurement locations and dates for the first year of SAGE measurements. These data are presented by sweep with the sunrise data first (five sweeps) followed by the sunset data (nine sweeps). The table gives the dates corresponding to measurements made within a 10° latitude band. Thus, for example, for sunrise sweep 2, the measurements made between 50°N and 40°N were taken from March 9 to March 11.

Maps of Measurement Locations

There are 14 maps (5 sunrise and 9 sunset) in figures 4 through 17 presenting the geographic locations of the measurement points by sweep for February through December 1979. The format of these maps follows that of figure 2.

Tables of Average Extinction and Temperature Profiles

Between February and December 1979, over 5000 SAGE measurements were made, and extinction profiles were generated for each of the four irradiance channels for each measurement. Clearly, this is far too much data to be presented in a reasonably sized report. Consequently, *average* extinction profiles are presented in this report. These are evaluated for all the measurements within a latitude band of 10° during a particular sweep. Tables II–XVI contain zonally averaged profiles by month for each 10° latitude band. The sunrise events are shown first, followed by the sunset events. The following data are presented: (a) aerosol extinction at 1.00 μm, $\beta_{a,1.00}$ (units of 10^{-4} km^{-1}), (b) ratio of the aerosol extinction to the molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$, (c) aerosol extinction at 0.45 μm, $\beta_{a,0.45}$ (units of 10^{-4} km^{-1}), (d) ratio of the aerosol extinction at 0.45 μm to the aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$, (e) temperature, and (f) geopotential height of the standard pressure surfaces and the tropopause. (In addition, the last row in the aerosol extinction data at both 0.45 μm and 1.00 μm contains the calculated optical depths.) The optical depths were obtained by evaluating the integral of each aerosol extinction profile from 2 km above the tropopause to 40 km and are given in units of 10^{-4}.

Since the last major eruption to inject significant amounts of volcanic material into the stratosphere was that of Volcán de Fuego in Guatemala in 1974, the observed aerosol extinction values for the first 10 months of 1979 are representative of near-background conditions (ref. 8). During this period, typical values of the peak aerosol extinction were about 1×10^{-4} to 2×10^{-4} km^{-1} at 1.00 μm and about 4×10^{-4} to 8×10^{-4} km^{-1} at 0.45 μm. The calculated stratospheric optical depth values at a wavelength of 1.00 μm varied between 0.001 and 0.002 over all latitudes. The data also show that a relative maximum of about 4 in the ratio of the aerosol extinction to the molecular extinction at 1.00 μm is found about 10 km above the tropopause in the Tropics. This relative maximum indicates a source region of stratospheric aerosols.

Additional evidence of a source region of stratospheric aerosols is provided by the ratio of the aerosol extinction at 0.45 μm to the aerosol extinction at 1.00 μm. This ratio gives information about the size distribution of aerosols: larger values indicate that smaller particles are more prevalent, whereas smaller values indicate that larger particles are more prevalent. The relative maximum value found at low latitudes immediately above the tropopause suggests that more smaller particles are present.

On November 13, 1979, an eruption by Sierra Negra caused a significant perturbation to the aerosol layer (ref. 9). Effects of this eruption are evident at low latitudes after this date. In 1980, the volcanic material moved toward higher latitudes and became more noticeable in the data set. It should be noted that although the eruption of the Soufrière volcano occurred on April 13, 1979, the global stratospheric aerosol increased by only 2 percent (ref. 10), thus effects from this volcano are considered negligible in this report.

Plots of Average Extinction and Temperature Profiles

Plots of extinction and temperature profiles averaged over 10° latitude bands are given in figures 18 through 144. The figures are formatted with five panels each, containing (1) temperature, (2) logarithm of the aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, (3) ratio of the aerosol extinction to the molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$, (4) logarithm of the aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, and (5) ratio of the aerosol extinction at 0.45 μm to the aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$. In all cases, the ordinate gives the altitude in kilometers.

The small horizontal bars on each profile represent plus and minus one standard deviation from the mean. The sweep number, the midpoint of the latitude band over which the average is taken, and whether the events are sunrises or sunsets are noted in the legend of each figure. The heavy horizontal line extending across the five panels represents the average altitude of the tropopause for the time and latitude covered by these measurements.

Daily Isopleths

From the measurements made during a 24-hour period, one obtains 15 profiles of extinction as a function of altitude. These are obtained over the range of about 360° in longitude, and each profile is separated by 24°. It is, therefore, possible to interpolate between profiles to give a daily picture of extinction as a function of longitude and altitude. Such daily plots were generated for each day of SAGE data for (a) aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, (b) ratio of the aerosol extinction to the molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$, (c) aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, (d) ratio of the aerosol extinction at 0.45 μm to the aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$, and (e) temperature. Selected from this large number of plots is an example from each 10° latitude band for each sweep. Although the selection was arbitrary, an attempt was made to choose plots which were representative of the aerosol distribution at that latitude for each sweep. These plots are shown in figures 145 through 252.

As mentioned before, the isopleths in these plots were obtained by interpolating between vertical profiles. Consequently, the values presented are measured values only at the locations of the profiles. These locations are indicated by the tick marks along the top and the bottom of the frame; no tick mark is drawn for missed events. The interpolations were carried out, and the plots were drawn by a routine called USCONTOUR using cubic splines under a tension of 2.5.

The numbers on the curves in panels (a) and (c) give extinction in units of 10^{-5} km^{-1}. The aerosol extinction contour lines seen in panels (a) and (c) are ordered sequentially in the following manner: 1, 2, 3, 6, 10, 20, 30, 60, 100, 200, 300, 600, and 1000. Local high and low values are indicated by the symbols H and L, and the maximum or minimum values are printed under the H or L. Panel (b) gives isopleths for the ratio of the aerosol extinction to the molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$. The molecular extinction is calculated by using the temperature profiles provided by NOAA. In panel (d) the ratio of the aerosol extinction at 0.45 μm to the aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$, is given; variations in this quantity suggest variations in the size distribution of the aerosol particles. Panel (e) gives temperature isopleths in kelvin, with each contour interval separated by 3 K. Dates are indicated in days and fractions of a day. For example, March 5.96 means 11:02 p.m. on March 5. In each plot, the long vertical line represents the prime meridian, and the tropopause is indicated by crosses in circles.

The isopleth plots for 1.00 μm and 0.45 μm show that occasionally features which appear at 0.45 μm do not appear at 1.00 μm, and vice versa. The isopleths show some rather interesting variations in the aerosol extinction as a function of longitude and as a function of latitude. The most obvious changes with longitude occur from the ground to just above the tropopause; these features are associated with clouds or tropospheric haze. At higher altitudes, longitudinal variations in the aerosol extinction can often be best appreciated by noting the altitude of the lines denoted by "6.00" and "20.00" in the extinction contours for 1.00 μm and 0.45 μm, respectively. Latitudinal variations can best be appreciated by considering a given type of isopleth plot (such as aerosol extinction at 1.00 μm) and comparing the plots presented for each full sweep.

Plots of Zonally Averaged Extinction and Temperature Data

The latitudinal variation in aerosol extinction is presented in terms of a zonal average. Data were averaged in 10° latitude bands, as described earlier, for each sweep. These averages are displayed in figures 253 through 262. The individual plots in each figure are organized as follows: (a) aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, (b) ratio of the aerosol extinction to the molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$, (c) aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, (d) ratio of the aerosol extinction at 0.45 μm to the aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$, and (e) temperature. The contour intervals in parts (a) and (c) are in units of 10^{-5} km^{-1} and are ordered sequentially as follows: 1, 2, 3, 6, 10, 20, 30, 60, 100, 200, 300, 600, and 1000. In each plot, shaded diamond symbols represent the zonally averaged tropopause height, which is calculated from temperature profiles at each SAGE measurement location.

It is important to note that these figures do not give an instantaneous "snapshot" of the atmosphere because the latitudinal extremes in the plots may be separated by as much as 4 weeks, as shown in the spiral nature of the SAGE data measurements of figures 4 through 17.

Evident in the zonally averaged aerosol extinction plots for 0.45 μm and 1.00 μm is the uniform layering of the stratospheric aerosols. The extinction contours in the lower stratosphere conform to the height of the tropopause at all latitudes. A relative maximum in the zonally averaged extinction ratio at 1.00 μm is located over the Tropics at a height approximately 10 km above the tropopause and indicates a possible source region for stratospheric aerosols.

Tables of Seasonally Averaged Extinction and Temperature Data

All the data obtained during a given season have been used to generate tables of aerosol extinction as a function of altitude and latitude. Tables XVII–XX present the data for the four seasons of 1979 with sunrises and sunsets averaged together when available in a 10° latitude band. The parameters tabulated are (a) aerosol extinction at 1.00 μm, $\beta_{a,1.00}$ (including the calculated optical depth in the last row), (b) ratio of the aerosol extinction to the molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$, (c) aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, (d) ratio of the aerosol extinction at 0.45 μm to the aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$, (e) temperature, and (f) geopotential height of the standard pressure surfaces and the tropopause. In addition, the last row in the aerosol extinction data at both 0.45 μm and 1.00 μm contains the calculated optical depths. The four seasons are defined as follows: spring—the months March, April, and May; summer—the months June, July, and August; fall—the months September, October, and November; and winter—the months December, January, and February. Because the SAGE satellite system was launched at the end of February 1979, the winter season includes data from January and February 1980 for continuity purposes.

Plots of Seasonally Averaged Extinction and Temperature Data

The data from tables XVII–XX are presented as isopleth plots of extinction as functions of altitude and latitude for a given season. In figures 263 through 266, the following parameters have been plotted: (a) aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, (b) ratio of the aerosol extinction to the molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$, (c) aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, (d) ratio of the aerosol extinction at 0.45 μm to the aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$, and (e) temperature. The contour intervals in parts (a) and (c) are in units of 10^{-5} km^{-1} and are ordered sequentially in the following manner: 1, 2, 3, 6, 10, 20, 30, 60, 100, 200, 300, 600, and 1000. The tropopause is indicated by shaded diamond symbols.

Many of the features seen in these seasonal plots are also visible in the plots of zonally averaged data. With the exception of the plot for winter, which includes data from 1980, the plots show the seasonal stratospheric aerosol structure prior to the volcanic injection from Sierra Negra and are thought to be representative of the background stratospheric aerosol.

Tables of Optical Depth

Table XXI presents computed optical depth as a function of latitude and longitude. As described earlier, optical depth is the integral of the 0.45 μm and 1.00 μm aerosol extinction upward from a height 2 km above the local tropopause. Values are placed into bins of 10° in latitude and 20° in longitude per sweep and then averaged. The sunrise events are shown first (a)–(e), followed by the sunset events (f)–(n). This table shows the variability of optical depth within a latitude band; however, care should be taken in interpreting this variability during background aerosol conditions because of the limited number of SAGE observations within each bin for the short time period of one sweep.

Concluding Remarks

This report presents a summary and representative samples of the first-year aerosol data set (1979) of the Stratospheric Aerosol and Gas Experiment (SAGE). It contains tables and maps showing the dates and locations of measurements. Averages of the aerosol extinction at 1.00 μm, the aerosol extinction at 0.45 μm, the ratio of the aerosol extinction to the molecular extinction at 1.00 μm, the ratio of the aerosol extinction at 0.45 μm to the aerosol extinction at 1.00 μm, and the temperature in 10° latitude bands are presented in tables and in profile and contour plots. The data are separated into sunrise and sunset events and are presented as a function of altitude and latitude for a given sweep. Representative examples of daily isopleths of each of these quantities in 10° latitude bands are also displayed. These plots show the variation of a parameter as a function of altitude and longitude for a particular day. In addition, seasonal averages in which both sunrise and sunset measurements were combined in 10° latitude bands are presented in tabular and contour plot form. Calculated optical depth values from the aerosol extinction at 0.45 μm and 1.00 μm in latitude and longitude bins are also displayed in tables for individual sunrise or sunset sweeps.

The data obtained for early 1979 are interesting because the aerosol layer was essentially unperturbed by large volcanic injections; the most recent previous large eruption was that of Volcán de Fuego in Guatemala in 1974. On April 13, 1979, however, a minor eruption of the Soufrière volcano occurred and increased the stratospheric aerosol, but by only about 2 percent. Later, an eruption by Sierra Negra (November 13, 1979) caused a significant perturbation to the stratospheric aerosol layer.

For the period prior to the eruption of Sierra Negra, typical values of the peak aerosol extinction at 1.00 μm in the main stratospheric aerosol layer were about 1×10^{-4} to 2×10^{-4} km^{-1}, whereas the peak aerosol extinction at 0.45 μm varied from about 4×10^{-4} to 8×10^{-4} km^{-1}. Calculated stratospheric optical depth values for the same period at a wavelength of 1.00 μm varied between 0.001 and 0.002 over all latitudes.

The ratio of the aerosol extinction to the molecular extinction at 1.00 μm showed a maximum value of about 4. This peak value was located in the Tropics, usually about 10 km above the tropopause, and indicated a possible source region for stratospheric aerosols. The ratio of the aerosol extinction at 0.45 μm to the aerosol extinction at 1.00 μm, which provides information about the size distribution of aerosols, also showed a relative maximum (indicating more smaller particles immediately above the tropopause in tropical regions).

This report is intended to provide representative and summary aerosol data of the first year of SAGE measurements in a ready-to-use visual format to facilitate use in atmospheric and climatic studies.

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TABLE I. SAGE MEASUREMENT LOCATIONS AND DATES DURING 1979

(a) Sunrise

Sweep number	Latitude, deg		Measurement dates
	From	To	
1	40	50	February 21
	50	60	February 21–March 3
2	60	50	March 3–March 9
	50	40	March 9–March 11
	40	30	March 11–March 13
	30	20	March 13
	20	10	March 13–March 16
	10	0	March 16–March 17
	0	−10	March 17–March 18
	−10	−20	March 18–March 20
	−20	−30	March 20–March 22
	−30	−40	March 22–March 24
	−40	−50	March 24–March 28
	−50	−60	March 28–April 5
3	−60	−50	April 5–April 11
	−50	−40	April 11–April 14
	−40	−30	April 14–April 16
	−30	−20	April 16–April 17
	−20	−10	April 17–April 19
	−10	0	April 19–April 20
	0	10	April 20–April 22
	10	20	April 22–April 24
	20	30	April 24–April 26
	30	40	April 26–April 28
	40	50	April 28–May 2
	50	60	May 2–May 6
	60	70	May 6–May 12
	70	80	May 12–May 14
4	80	70	May 14–May 15
	70	60	May 15–May 17
	60	50	
	50	40	
	40	30	
	30	20	
	20	10	
	10	0	May 26–May 27
	0	−10	May 27–May 28
	−10	−20	May 28–May 29
	−20	−30	May 29–May 31
	−30	−40	May 31–June 3
	−40	−50	June 3–June 10
5	−50	−40	June 10–June 13
	−40	−30	
	−30	−20	
	−20	−10	
	−10	0	
	0	10	June 28–June 30
	10	20	June 30–July 1
	20	30	
	30	40	
	40	50	
	50	60	July 13–July 14
	60	70	July 14–July 21

TABLE I. Continued

(b) Sunset

Sweep number	Latitude, deg		Measurement dates
	From	To	
1	−60	−50	February 21–February 25
	−50	−40	February 25–February 28
	−40	−30	February 28–March 3
	−30	−20	March 3–March 5
	−20	−10	March 5–March 6
	−10	0	March 6–March 8
	0	10	March 8–March 9
	10	20	March 9–March 10
	20	30	March 10–March 12
	30	40	March 12–March 13
	40	50	March 13–March 15
	50	60	March 15–March 17
	60	70	March 17–March 22
2	70	60	March 22–March 28
	60	50	March 28–April 1
	50	40	April 1–April 5
	40	30	April 5–April 7
	30	20	April 7–April 9
	20	10	April 9–April 11
	10	0	April 11-April 12
	0	−10	April 12–April 14
	−10	−20	April 14–April 15
	−20	−30	April 15–April 17
	−30	−40	April 17–April 19
	−40	−50	April 19–April 24
	−50	−60	April 24–April 28
3	−60	−50	April 28–May 3
	−50	−40	May 3–May 9
	−40	−30	May 9–May 12
	−30	−20	May 12–May 14
	−20	−10	May 14–May 15
	−10	0	May 15–May 16
	0	10	
	10	20	
	20	30	
	30	40	
	40	50	
	50	60	
	60	70	May 27–May 30

TABLE I. Continued

(b) Continued

Sweep number	Latitude, deg		Measurement dates
	From	To	
4	70	60	May 30–June 6
	60	50	June 6–June 10
	50	40	June 10–June 11
	40	30	
	30	20	
	20	10	June 19–June 20
	10	0	June 20
	0	−10	
	−10	−20	
	−20	−30	June 27–June 28
	−30	−40	July 2–July 3
	−40	−50	July 3–July 11
5	−60	−50	
	−50	−40	
	−40	−30	
	−30	−20	
	−20	−10	
	−10	0	
	0	10	
	10	20	
	20	30	
	30	40	
	40	50	
	50	60	
	60	70	August 4
	70	80	August 4–August 7
6	80	70	August 7–August 10
	70	60	August 10–August 15
	60	50	August 15–August 19
	50	40	August 19–August 22
	40	30	August 22–August 24
	30	20	August 24–August 26
	20	10	August 26–August 28
	10	0	August 28–August 30
	0	−10	August 30–August 31
	−10	−20	August 31–September 2
	−20	−30	September 2–September 3
	−30	−40	September 3–September 5
	−40	−50	September 5–September 7
	−50	−60	September 7–September 12
	−60	−70	September 12–September 13

TABLE I. Concluded

(b) Concluded

Sweep number	Latitude, deg		Measurement dates
	From	To	
7	−70	−60	September 13–September 16
	−60	−50	September 16–September 24
	−50	−40	September 24–September 26
	−40	−30	September 26–September 29
	−30	−20	September 29–October 1
	−20	−10	October 1–October 3
	−10	0	October 3–October 4
	0	10	October 4–October 6
	10	20	October 6–October 7
	20	30	October 7–October 9
	30	40	October 9–October 11
	40	50	October 11–October 14
	50	60	October 14–October 20
8	60	50	October 20–October 27
	50	40	October 27–November 1
	40	30	November 1–November 4
	30	20	November 4–November 5
	20	10	November 5–November 7
	10	0	November 7
	0	−10	
	−10	−20	
	−20	−30	
	−30	−40	
	−40	−50	
	−50	−60	
	−60	−70	November 20
	−70	−80	November 20–November 21
9	−70	−60	November 21–November 28
	−60	−50	November 28–December 2
	−50	−40	December 2–December 5
	−40	−30	December 5–December 7
	−30	−20	December 7–December 10
	−20	−10	December 10–December 12
	−10	0	December 12–December 14
	0	10	December 14–December 16
	10	20	December 16–December 18
	20	30	December 18–December 20
	30	40	December 20–December 24
	40	50	December 24–December 31

TABLE II. SUNRISE ZONALLY AVERAGED EXTINCTION AND TEMPERATURE PROFILES IN 10° LATITUDE BANDS FOR FEBRUARY 1979

(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$

Altitude, km	$\beta_{a,1.00}$, 10^{-4} km^{-1}, at latitude, deg, of -	
	45.	55.
5	24.07	11.75
6	22.33	10.76
7	14.80	10.89
8	4.03	7.58
9	3.18	5.17
10	3.09	3.73
11	2.36	2.51
12	1.93	1.89
13	1.83	1.60
14	1.69	1.43
15	1.60	1.34
16	1.48	1.27
17	1.35	1.19
18	1.20	1.08
19	1.15	.97
20	1.01	.86
21	.88	.77
22	.82	.67
23	.79	.59
24	.66	.51
25	.59	.41
26	.41	.30
27	.32	.22
28	.22	.16
29	.15	.12
30	.10	.09
31	.07	.06
32	.05	.04
33	.04	.03
34	.03	.02
35	.02	.02
36	.02	.02
37	.02	.01
38	.02	.01
39	.01	.01
40	.01	.01
* TROP.+2	18.70	16.00

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE II. Continued

(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$

Altitude, km	$\beta_{a,1.00}/\beta_{m,1.00}$ at latitude, deg, of -	
	45.	55.
5	4.90	2.85
6	5.12	2.90
7	3.93	3.17
8	1.87	2.69
9	1.82	2.32
10	1.92	2.10
11	1.82	1.86
12	1.78	1.77
13	1.87	1.76
14	1.94	1.80
15	2.03	1.87
16	2.11	1.96
17	2.18	2.05
18	2.22	2.11
19	2.36	2.17
20	2.39	2.21
21	2.41	2.25
22	2.54	2.27
23	2.72	2.31
24	2.67	2.31
25	2.73	2.23
26	2.42	2.06
27	2.28	1.91
28	2.04	1.79
29	1.85	1.67
30	1.67	1.57
31	1.54	1.47
32	1.47	1.40
33	1.43	1.34
34	1.37	1.30
35	1.33	1.28
36	1.32	1.27
37	1.34	1.26
38	1.37	1.26
39	1.37	1.27
40	1.37	1.28

TABLE II. Continued

(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$

Altitude, km	$\beta_{a,0.45}$, 10^{-4} km^{-1}, at latitude, deg, of -	
	45.	55.
10	8.34	8.52
11	7.71	6.96
12	7.07	5.83
13	6.54	5.11
14	6.04	4.61
15	5.68	4.30
16	5.26	4.05
17	4.75	3.77
18	4.25	3.43
19	3.81	3.05
20	3.32	2.66
21	2.88	2.30
22	2.50	1.96
23	2.14	1.65
24	1.81	1.36
25	1.52	1.09
26	1.20	.83
27	.90	.62
28	.63	.46
29	.44	.34
30	.30	.25
31	.21	.18
32	.15	.13
33	.11	.09
34	.08	.07
35	.05	.05
36	.04	.03
37	.03	.02
38	.02	.02
39	.02	.01
40	.01	.01
*TROP.+2	62.15	48.89

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE II. Continued

(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$

Altitude, km	$\beta_{a,0.45}/\beta_{a,1.00}$ at latitude, deg, of -	
	45.	55.
10	2.86	2.57
11	3.12	2.61
12	3.39	2.77
13	3.50	2.95
14	3.48	3.06
15	3.50	3.14
16	3.51	3.18
17	3.48	3.19
18	3.43	3.17
19	3.38	3.12
20	3.28	3.06
21	3.18	2.99
22	3.02	2.89
23	2.83	2.78
24	2.71	2.70
25	2.72	2.64
26	2.74	2.59
27	2.76	2.55
28	2.70	2.52
29	2.65	2.50
30	2.61	2.51
31	2.60	2.53
32	2.59	2.54
33	2.54	2.53
34	2.40	2.46
35	2.16	2.35
36	1.89	2.22
37	1.71	2.06
38	1.63	1.88
39	1.58	1.81
40	1.47	2.05

TABLE II. Continued

(e) Temperature

Altitude, km	Temperature, K, at latitude, deg, of -	
	45.	55.
5	246.4	242.9
6	239.3	236.6
7	232.1	230.4
8	226.1	224.8
9	221.0	220.1
10	219.8	218.3
11	221.1	218.8
12	222.0	219.6
13	222.8	220.4
14	222.7	220.4
15	222.4	220.2
16	222.0	220.0
17	221.4	219.7
18	220.6	219.4
19	220.4	219.3
20	220.1	219.4
21	219.8	219.4
22	219.5	219.6
23	219.1	219.7
24	218.9	220.0
25	219.4	220.7
26	220.0	221.4
27	220.5	222.1
28	221.0	222.8
29	221.5	223.5
30	222.1	224.1

TABLE II. Continued

(e) Concluded

Altitude, km	Temperature, K, at latitude, deg, of -	
	45.	55.
31	222.6	225.0
32	223.1	226.7
33	223.5	228.3
34	224.0	229.9
35	224.4	231.6
36	225.2	233.2
37	226.9	234.9
38	228.6	236.6
39	230.3	238.2
40	232.0	239.9
41	233.7	241.6
42	235.5	243.3
43	237.6	245.1
44	239.7	246.9
45	241.9	248.7
46	244.0	250.5
47	246.1	252.3
48	247.2	253.1
49	248.1	253.6
50	249.1	254.1
51	250.0	254.5
52	250.9	255.0
53	251.9	255.5
54	252.8	256.0
55	253.8	256.5

TABLE II. Concluded

(f) Geopotential height of standard pressure surfaces

Pressure, mbar	Altitude, km, at latitude, deg, of -	
	45.	55.
1000.0	.05	.13
850.0	1.33	1.39
700.0	2.83	2.86
500.0	5.33	5.32
400.0	6.89	6.86
300.0	8.80	8.76
250.0	9.97	9.93
200.0	11.42	11.36
150.0	13.31	13.22
100.0	15.96	15.84
70.0	18.31	18.13
50.0	20.49	20.28
30.0	23.82	23.57
10.0	30.98	30.74
5.0	35.78	35.69
2.0	41.75	42.17
1.0	47.15	47.35
.4	53.55	54.08
TROP.	9.47	9.52

TABLE III. SUNRISE ZONALLY AVERAGED EXTINCTION AND TEMPERATURE PROFILES IN 10° LATITUDE BANDS FOR MARCH 1979

(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$

Altitude, km	$\beta_{a,1.00}$, 10^{-4} km^{-1}, at latitude, deg, of -										
	45.	35.	25.	15.	5.	-5.	-15.	-25.	-35.	-45.	-55.
5	8.91	12.95	18.66	6.87	5.02	6.76	9.76	6.23	4.76	5.47	6.35
6	6.85	12.61	18.66	6.25	3.03	4.58	8.08	4.93	4.06	4.80	6.63
7	5.90	14.04	20.09	5.30	2.37	5.50	5.64	3.95	3.51	4.85	5.05
8	7.76	9.84	9.73	4.10	2.95	5.73	3.00	5.81	11.90	5.85	4.41
9	4.24	7.57	5.74	7.38	2.40	5.89	5.75	4.80	7.46	4.11	3.38
10	9.38	3.86	3.50	5.93	7.41	6.53	7.35	5.83	4.70	2.84	2.11
11	5.73	2.29	2.49	3.48	7.67	6.25	3.63	3.73	3.65	2.07	2.53
12	2.30	1.74	1.90	2.87	10.79	7.17	3.14	3.01	3.33	1.55	1.58
13	1.50	1.41	1.61	2.56	21.14	12.58	6.72	4.37	3.01	1.25	1.23
14	1.34	1.25	1.45	2.08	14.40	10.03	9.94	5.92	2.23	1.10	1.24
15	1.26	1.16	1.49	1.75	16.64	14.37	6.29	1.74	1.27	1.03	1.28
16	1.22	1.18	1.38	1.58	21.28	26.06	4.11	1.00	.99	1.10	1.30
17	1.18	1.20	1.21	2.16	12.48	16.89	3.01	.93	1.04	1.22	1.26
18	1.13	1.20	1.20	1.46	4.31	10.10	1.67	.99	1.10	1.22	1.15
19	1.06	1.15	1.11	1.11	1.33	2.38	1.25	1.08	1.13	1.11	1.01
20	.99	1.04	1.03	1.09	1.05	1.13	1.12	1.12	1.05	.96	.86
21	.88	.92	.94	1.04	1.12	1.14	1.17	1.02	.92	.83	.71
22	.79	.79	.87	.96	1.08	1.11	1.07	.90	.80	.68	.56
23	.69	.68	.75	.92	1.01	1.08	1.01	.79	.66	.54	.43
24	.57	.58	.62	.89	.98	.96	.87	.67	.52	.40	.33
25	.43	.45	.51	.86	.90	.89	.78	.59	.42	.31	.25
26	.29	.35	.39	.76	.81	.84	.70	.51	.34	.23	.19
27	.21	.25	.28	.68	.74	.74	.60	.39	.27	.17	.14
28	.14	.20	.21	.59	.66	.67	.51	.31	.20	.12	.10
29	.10	.16	.18	.51	.61	.61	.42	.24	.14	.09	.07
30	.07	.12	.15	.43	.54	.52	.37	.17	.10	.06	.05
31	.05	.09	.12	.31	.42	.41	.28	.13	.07	.05	.04
32	.04	.06	.08	.21	.32	.31	.21	.09	.05	.04	.03
33	.03	.05	.06	.15	.21	.22	.14	.07	.04	.03	.02
34	.02	.03	.05	.10	.15	.15	.10	.05	.03	.02	.02
35	.02	.03	.04	.07	.10	.10	.06	.03	.02	.02	.02
36	.01	.02	.03	.05	.07	.07	.04	.02	.02	.01	.01
37	.01	.02	.02	.03	.04	.04	.03	.02	.01	.01	.01
38	.01	.01	.02	.02	.03	.03	.02	.01	.01	.01	.01
39	.01	.01	.02	.02	.03	.02	.01	.01	.01	.01	.01
40	.01	.01	.01	.01	.02	.01	.01	.01	.01	.01	.01
* TROP.+2	15.08	13.90	13.08	13.57	14.12	14.70	11.37	9.44	9.97	10.95	13.10

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE III. Continued

(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$

Altitude, km	$\beta_{a,1.00}/\beta_{m,1.00}$ at latitude, deg, of -										
	45.	35.	25.	15.	5.	-5.	-15.	-25.	-35.	-45.	-55.
5	2.41	3.06	3.97	2.13	1.83	2.12	2.61	2.02	1.77	1.87	2.01
6	2.20	3.21	4.33	2.13	1.55	1.82	2.47	1.89	1.73	1.86	2.19
7	2.18	3.77	5.05	2.07	1.48	2.14	2.14	1.80	1.70	1.97	1.99
8	2.73	3.18	3.15	1.91	1.66	2.29	1.61	2.29	3.72	2.30	2.00
9	2.03	2.87	2.43	2.88	1.61	2.51	2.47	2.20	2.83	2.03	1.87
10	3.72	2.07	1.98	2.63	3.12	2.84	3.05	2.62	2.31	1.80	1.63
11	2.86	1.73	1.80	2.09	3.42	2.96	2.13	2.17	2.15	1.67	1.87
12	1.87	1.65	1.70	2.02	4.92	3.58	2.12	2.06	2.20	1.58	1.64
13	1.70	1.61	1.68	2.03	9.37	6.00	3.69	2.82	2.23	1.54	1.58
14	1.73	1.64	1.71	1.95	7.54	5.53	5.46	3.66	2.03	1.56	1.68
15	1.80	1.69	1.84	1.91	9.76	8.54	4.20	1.90	1.69	1.61	1.82
16	1.91	1.83	1.90	1.96	13.69	16.49	3.49	1.61	1.65	1.77	1.97
17	2.01	1.98	1.93	2.57	9.64	12.86	3.02	1.67	1.80	1.99	2.09
18	2.13	2.14	2.09	2.21	4.48	9.13	2.38	1.84	1.99	2.15	2.15
19	2.24	2.28	2.19	2.13	2.31	3.28	2.23	2.09	2.20	2.22	2.18
20	2.36	2.36	2.32	2.35	2.28	2.37	2.34	2.35	2.32	2.25	2.17
21	2.41	2.42	2.42	2.54	2.64	2.66	2.67	2.47	2.36	2.26	2.13
22	2.47	2.44	2.57	2.70	2.88	2.93	2.84	2.55	2.38	2.21	2.04
23	2.50	2.46	2.58	2.94	3.09	3.23	3.05	2.61	2.36	2.13	1.94
24	2.45	2.44	2.54	3.21	3.42	3.35	3.11	2.62	2.27	1.98	1.84
25	2.29	2.33	2.51	3.51	3.61	3.59	3.23	2.67	2.20	1.90	1.75
26	2.01	2.20	2.33	3.60	3.75	3.86	3.36	2.69	2.14	1.79	1.65
27	1.85	1.99	2.13	3.76	3.95	3.99	3.41	2.54	2.04	1.66	1.55
28	1.68	1.93	2.01	3.79	4.08	4.16	3.41	2.44	1.91	1.56	1.46
29	1.58	1.88	2.01	3.79	4.32	4.37	3.35	2.31	1.76	1.47	1.39
30	1.47	1.76	2.01	3.80	4.44	4.40	3.39	2.09	1.64	1.40	1.34
31	1.39	1.64	1.88	3.32	4.13	4.13	3.13	1.95	1.53	1.35	1.30
32	1.33	1.55	1.75	2.88	3.75	3.71	2.80	1.79	1.45	1.31	1.27
33	1.28	1.48	1.65	2.55	3.17	3.21	2.47	1.66	1.38	1.27	1.25
34	1.25	1.41	1.57	2.22	2.76	2.77	2.14	1.54	1.33	1.24	1.24
35	1.22	1.36	1.51	1.95	2.38	2.38	1.89	1.45	1.28	1.22	1.23
36	1.20	1.32	1.47	1.74	2.06	2.05	1.68	1.37	1.25	1.21	1.23
37	1.19	1.29	1.43	1.60	1.81	1.80	1.51	1.32	1.22	1.20	1.23
38	1.19	1.26	1.41	1.49	1.71	1.62	1.40	1.28	1.21	1.20	1.24
39	1.20	1.24	1.39	1.42	1.78	1.50	1.34	1.25	1.21	1.19	1.26
40	1.23	1.23	1.37	1.36	1.53	1.42	1.30	1.23	1.21	1.19	1.28

TABLE III. Continued

(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$

Altitude, km	$\beta_{a,0.45}$, 10^{-4} km^{-1}, at latitude, deg, of -										
	45.	35.	25.	15.	5.	-5.	-15.	-25.	-35.	-45.	-55.
10	19.58	9.03	8.21	12.27	1.45	6.34	9.44	10.03	8.27	6.14	6.01
11	12.29	6.54	6.40	9.62	9.23	10.85	9.67	8.47	6.84	4.91	4.86
12	6.62	4.91	5.61	8.34	15.59	15.36	9.14	7.43	5.77	3.95	3.78
13	5.18	4.09	5.25	7.53	19.13	18.25	13.16	7.29	5.01	3.24	3.15
14	4.49	3.63	5.23	7.03	18.53	18.97	12.78	6.28	4.15	2.80	2.95
15	4.14	3.51	5.28	6.26	19.06	22.85	11.50	5.05	3.46	2.70	3.01
16	4.01	3.56	5.18	6.30	19.73	23.90	10.19	4.02	3.18	2.89	3.13
17	3.89	3.66	4.96	7.05	16.57	21.98	8.13	3.48	3.16	3.16	3.15
18	3.71	3.67	4.72	5.96	11.37	16.85	6.60	3.38	3.26	3.28	3.01
19	3.50	3.53	4.37	5.14	7.35	10.91	5.37	3.45	3.34	3.19	2.76
20	3.20	3.24	3.91	4.57	5.08	7.23	4.54	3.45	3.26	2.93	2.41
21	2.85	2.90	3.43	4.11	4.01	5.26	4.03	3.25	3.00	2.58	2.04
22	2.50	2.57	2.96	3.68	3.52	4.22	3.65	2.97	2.63	2.17	1.66
23	2.13	2.23	2.50	3.32	3.21	3.65	3.26	2.62	2.21	1.74	1.31
24	1.75	1.88	2.07	3.01	2.97	3.27	2.87	2.27	1.79	1.36	1.02
25	1.38	1.51	1.68	2.74	2.75	2.98	2.54	1.99	1.46	1.06	.78
26	1.03	1.17	1.31	2.46	2.58	2.73	2.26	1.71	1.19	.82	.58
27	.73	.88	1.00	2.20	2.47	2.49	2.00	1.42	.95	.61	.44
28	.52	.67	.77	1.96	2.35	2.26	1.73	1.15	.73	.46	.32
29	.37	.53	.60	1.71	2.16	2.03	1.47	.92	.55	.34	.24
30	.27	.41	.47	1.44	1.92	1.77	1.23	.72	.41	.26	.18
31	.19	.31	.36	1.14	1.59	1.47	.99	.55	.31	.19	.13
32	.14	.24	.27	.86	1.25	1.14	.76	.42	.23	.14	.09
33	.10	.17	.20	.62	.91	.84	.56	.31	.17	.10	.07
34	.07	.13	.15	.44	.64	.59	.40	.23	.12	.07	.05
35	.05	.09	.11	.31	.44	.41	.29	.17	.09	.05	.04
36	.04	.07	.08	.22	.31	.29	.21	.12	.06	.04	.03
37	.03	.05	.06	.16	.22	.21	.15	.08	.04	.03	.02
38	.02	.03	.04	.11	.16	.15	.11	.06	.03	.02	.02
39	.02	.03	.03	.08	.12	.10	.08	.04	.02	.02	.01
40	.02	.02	.02	.06	.09	.07	.05	.03	.02	.01	.01
*TROP.+2	49.36	43.29	47.61	50.52	51.29	55.52	40.79	32.12	32.08	31.79	34.28

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE III. Continued

(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$

Altitude, km	$\beta_{a,0.45}/\beta_{a,1.00}$ at latitude, deg, of -										
	45.	35.	25.	15.	5.	-5.	-15.	-25.	-35.	-45.	-55.
10	2.33	3.50	2.24	2.96	1.33	1.08	1.15	3.03	2.29	2.59	2.04
11	2.35	2.86	2.31	2.97	1.19	1.47	2.00	2.71	2.29	2.45	2.06
12	2.49	2.54	2.67	3.30	2.21	1.87	2.62	2.53	2.30	2.39	2.08
13	2.76	2.63	3.11	3.42	2.39	1.94	2.81	2.42	2.29	2.39	2.13
14	3.10	2.74	3.49	3.57	6.62	1.83	3.00	2.40	2.34	2.40	2.22
15	3.20	2.89	3.70	3.67	1.96	1.83	3.17	2.64	2.57	2.46	2.32
16	3.25	3.01	3.83	4.03	1.79	2.00	3.41	2.97	2.84	2.56	2.42
17	3.30	3.09	3.94	4.06	1.94	2.00	3.79	3.29	2.96	2.68	2.53
18	3.31	3.14	3.99	4.13	2.29	2.21	4.10	3.36	3.01	2.79	2.64
19	3.31	3.15	3.94	4.16	3.22	3.08	4.04	3.30	3.07	2.92	2.74
20	3.27	3.15	3.81	4.18	3.94	4.13	3.85	3.26	3.17	3.05	2.80
21	3.21	3.16	3.63	4.02	3.75	4.28	3.61	3.25	3.25	3.13	2.85
22	3.17	3.21	3.48	3.81	3.37	3.81	3.43	3.30	3.32	3.18	2.90
23	3.13	3.25	3.37	3.61	3.19	3.46	3.32	3.33	3.34	3.21	2.94
24	3.12	3.27	3.34	3.42	3.12	3.35	3.25	3.34	3.34	3.24	2.97
25	3.17	3.29	3.35	3.29	3.10	3.33	3.24	3.39	3.39	3.33	2.98
26	3.25	3.31	3.38	3.24	3.17	3.32	3.27	3.46	3.44	3.41	2.99
27	3.33	3.31	3.41	3.26	3.35	3.33	3.31	3.53	3.50	3.49	3.02
28	3.37	3.32	3.41	3.31	3.51	3.36	3.37	3.63	3.58	3.60	3.07
29	3.43	3.35	3.34	3.38	3.60	3.40	3.40	3.77	3.69	3.70	3.12
30	3.47	3.38	3.24	3.47	3.68	3.45	3.43	3.92	3.82	3.76	3.11
31	3.50	3.43	3.17	3.59	3.76	3.54	3.47	4.11	3.92	3.74	3.05
32	3.55	3.47	3.16	3.75	3.87	3.65	3.57	4.31	3.97	3.65	2.92
33	3.65	3.46	3.14	3.89	3.96	3.72	3.71	4.48	3.96	3.56	2.75
34	3.81	3.40	3.04	4.01	3.99	3.76	3.90	4.64	3.91	3.47	2.56
35	4.79	3.28	2.86	4.19	4.04	3.89	4.28	4.75	3.82	3.31	2.36
36	9.34	3.13	2.65	4.42	4.24	4.17	5.00	4.78	3.68	3.05	2.10
37	12.01	2.98	2.41	4.60	4.60	4.61	5.22	4.71	3.53	2.79	1.83
38	22.42	2.87	2.19	4.66	5.05	4.99	5.48	4.58	3.51	2.54	1.68
39	16.71	2.96	2.04	4.60	5.73	5.19	5.86	4.56	4.24	2.30	1.78
40	5.21	3.42	1.95	4.44	6.72	5.19	5.79	4.91	6.10	2.08	2.26

TABLE III. Continued

(e) Temperature

Altitude, km	Temperature, K, at latitude, deg, of -										
	45.	35.	25.	15.	5.	-5.	-15.	-25.	-35.	-45.	-55.
5	247.9	255.5	261.5	270.7	273.1	273.6	273.5	271.5	265.9	258.8	248.5
6	241.3	248.7	255.2	264.4	267.1	268.0	267.5	265.4	259.6	252.4	241.9
7	234.6	241.5	248.4	257.6	260.7	261.4	261.2	258.5	252.1	245.0	235.4
8	228.5	234.5	242.2	250.9	254.0	254.6	254.7	251.6	245.0	238.4	230.2
9	222.7	227.5	236.1	244.1	247.1	247.5	247.7	244.6	238.1	232.1	225.6
10	219.3	222.1	230.3	237.3	240.1	240.4	240.7	237.7	231.5	226.4	223.2
11	218.3	219.0	224.8	230.5	232.7	233.0	233.5	230.8	225.4	222.3	222.4
12	218.2	217.4	219.9	223.3	225.1	225.2	225.7	223.7	220.4	219.5	221.8
13	218.9	216.8	216.3	216.3	217.6	217.7	218.3	217.5	217.0	218.4	221.4
14	219.3	216.0	212.8	209.6	210.1	210.3	211.3	212.0	213.9	217.2	221.1
15	219.4	215.0	209.8	204.3	204.4	204.3	205.6	207.6	212.1	216.3	220.8
16	219.5	214.0	206.8	199.5	199.3	198.8	200.4	203.6	210.3	215.3	220.6
17	219.1	213.2	205.2	196.7	196.1	195.4	196.9	201.1	209.6	215.3	220.2
18	218.8	212.4	204.5	197.2	196.9	196.9	197.4	201.9	209.9	215.8	219.8
19	218.6	212.6	205.5	199.3	199.0	198.9	198.6	203.2	210.7	216.5	219.8
20	218.4	213.4	208.3	204.7	204.2	202.9	202.4	206.5	212.7	217.4	220.0
21	218.3	214.4	210.8	209.3	208.8	206.7	206.0	209.6	214.6	218.4	220.3
22	218.2	215.4	212.6	212.3	211.6	209.7	209.0	212.5	216.7	219.6	220.5
23	218.1	216.5	214.4	215.2	214.5	212.7	212.1	215.4	218.7	220.8	220.7
24	218.3	217.7	216.2	218.0	217.3	215.7	215.1	218.3	220.8	222.0	221.0
25	219.2	219.1	218.0	219.8	219.1	218.2	217.8	220.5	222.6	223.4	221.8
26	220.0	220.6	219.7	221.6	221.0	220.7	220.4	222.6	224.4	224.8	222.6
27	220.9	222.0	221.4	223.4	222.9	223.2	223.0	224.7	226.2	226.3	223.3
28	221.7	223.5	223.1	225.2	224.7	225.6	225.6	226.9	228.0	227.7	224.1
29	222.6	224.9	224.9	227.0	226.6	228.1	228.2	229.0	229.8	229.1	224.8
30	223.5	226.4	226.6	228.8	228.5	230.6	230.8	231.1	231.6	230.5	225.6

TABLE III. Continued

(e) Concluded

Altitude, km	Temperature, K, at latitude, deg, of -										
	45.	35.	25.	15.	5.	-5.	-15.	-25.	-35.	-45.	-55.
31	224.4	227.8	228.3	230.6	230.3	233.1	233.5	233.3	233.4	232.0	226.4
32	225.8	229.9	230.6	233.0	232.9	235.5	235.7	235.2	235.0	233.4	227.6
33	227.3	232.0	233.0	235.6	235.7	237.9	237.8	236.8	236.4	234.8	228.8
34	228.8	234.1	235.3	238.1	238.5	240.3	239.9	238.5	237.9	236.2	230.0
35	230.2	236.2	237.6	240.7	241.3	242.7	242.0	240.2	239.3	237.6	231.2
36	231.8	238.3	239.9	243.3	244.1	245.1	244.1	241.9	240.7	239.0	232.6
37	233.5	240.5	242.3	245.9	246.9	247.8	246.5	243.9	242.5	240.8	234.3
38	235.3	242.7	244.6	248.5	249.6	250.6	249.1	246.3	244.7	242.8	236.0
39	237.0	244.9	247.0	251.2	252.4	253.3	251.8	248.7	246.9	244.9	237.7
40	238.8	247.1	249.4	253.8	255.2	256.1	254.4	251.1	249.0	246.9	239.4
41	240.5	249.3	251.8	256.4	258.0	258.9	257.1	253.4	251.2	248.9	241.1
42	242.3	251.5	254.1	259.1	260.7	261.7	259.7	255.8	253.4	250.9	242.8
43	244.1	253.4	256.3	261.7	263.5	264.5	262.4	258.2	255.5	252.9	244.6
44	245.9	254.9	257.7	263.0	264.9	265.9	263.9	259.8	257.1	254.4	246.5
45	247.7	256.4	259.0	264.1	265.8	266.7	264.9	261.0	258.4	255.9	248.3
46	249.6	257.9	260.3	265.1	266.8	267.6	265.9	262.3	259.8	257.4	250.2
47	251.4	259.3	261.6	266.1	267.7	268.4	266.8	263.5	261.2	258.9	252.0
48	252.2	260.7	262.9	267.1	268.6	269.3	267.8	264.7	262.5	260.4	252.9
49	252.8	260.7	263.0	267.5	269.0	269.7	268.3	265.4	263.2	260.8	253.4
50	253.4	260.6	262.8	267.0	268.4	269.1	267.8	265.0	263.0	260.7	253.9
51	253.9	260.6	262.6	266.6	267.8	268.4	267.3	264.6	262.8	260.7	254.4
52	254.5	260.6	262.4	266.1	267.2	267.8	266.7	264.3	262.6	260.6	254.9
53	255.1	260.5	262.2	265.6	266.7	267.2	266.2	263.9	262.3	260.6	255.4
54	255.6	260.5	262.0	265.2	266.1	266.6	265.6	263.6	262.1	260.5	255.9
55	256.2	260.4	261.8	264.7	265.5	266.0	265.1	263.2	261.9	260.4	256.4

TABLE III. Concluded

(f) Geopotential height of standard pressure surfaces

Pressure, mbar	Altitude, km, at latitude, deg, of -										
	45.	35.	25.	15.	5.	-5.	-15.	-25.	-35.	-45.	-55.
1000.0	.12	.16	.11	.12	.09	.09	.10	.13	.13	.12	.00
850.0	1.40	1.50	1.47	1.52	1.50	1.50	1.51	1.53	1.51	1.46	1.31
700.0	2.91	3.05	3.05	3.15	3.14	3.14	3.16	3.17	3.12	3.02	2.83
500.0	5.41	5.62	5.67	5.86	5.87	5.88	5.89	5.88	5.78	5.62	5.36
400.0	6.98	7.22	7.32	7.57	7.60	7.61	7.62	7.59	7.45	7.25	6.95
300.0	8.91	9.19	9.35	9.66	9.71	9.73	9.74	9.68	9.49	9.24	8.90
250.0	10.09	10.38	10.59	10.92	10.99	11.00	11.02	10.94	10.71	10.45	10.10
200.0	11.52	11.82	12.05	12.40	12.47	12.48	12.50	12.41	12.17	11.90	11.56
150.0	13.37	13.65	13.88	14.21	14.29	14.30	14.32	14.23	14.00	13.74	13.43
100.0	15.99	16.22	16.37	16.62	16.68	16.69	16.72	16.67	16.51	16.32	16.06
70.0	18.29	18.43	18.53	18.68	18.72	18.74	18.80	18.79	18.72	18.58	18.37
50.0	20.45	20.53	20.58	20.68	20.72	20.75	20.81	20.84	20.82	20.74	20.55
30.0	23.74	23.77	23.80	23.91	23.93	23.93	23.98	24.07	24.11	24.05	23.87
10.0	30.91	30.98	31.03	31.21	31.22	31.24	31.30	31.44	31.51	31.43	31.17
5.0	35.67	36.00	36.09	36.30	36.30	36.30	36.43	36.53	36.49	36.33	35.94
2.0	42.09	42.67	42.84	43.20	43.25	43.27	43.35	43.36	43.25	43.01	42.49
1.0	47.21	47.94	48.14	48.57	48.64	48.71	48.75	48.68	48.56	48.30	47.71
.4	54.03	54.86	55.12	55.72	55.86	55.94	55.89	55.78	55.65	55.35	54.67
TROP.	10.13	10.89	12.32	14.92	16.10	16.46	16.22	15.30	13.58	11.98	10.34

TABLE IV. SUNRISE ZONALLY AVERAGED EXTINCTION AND TEMPERATURE PROFILES IN 10° LATITUDE BANDS FOR APRIL 1979

(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$

Altitude, km	$\beta_{a,1.00}$, 10^{-4} km^{-1}, at latitude, deg, of -										
	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.
5	6.81	4.50	5.08	10.11	7.81	15.14	18.50	15.01	15.85	21.48	29.96
6	4.40	5.44	4.36	10.42	6.01	9.08	15.61	19.33	20.18	14.43	28.42
7	6.12	5.34	3.21	9.32	6.83	6.03	9.93	12.16	14.23	24.85	32.96
8	7.16	2.89	2.20	10.42	6.09	7.12	7.82	9.56	9.62	19.56	18.73
9	7.23	2.06	1.94	7.53	6.35	8.73	8.25	8.57	13.17	11.82	8.48
10	4.65	1.48	1.65	5.69	9.72	6.67	4.93	6.67	9.40	16.54	4.49
11	2.95	1.39	1.46	4.51	13.04	7.23	5.67	7.00	9.58	9.30	2.98
12	1.82	1.28	1.52	3.59	7.58	8.96	7.65	5.20	6.19	4.79	2.19
13	1.11	1.13	1.58	2.53	4.27	7.60	14.98	3.75	4.30	2.41	1.82
14	1.06	1.04	4.43	2.18	9.55	8.58	13.16	2.84	1.99	1.57	1.48
15	1.12	1.02	2.59	1.91	20.33	11.07	6.69	2.10	1.50	1.35	1.32
16	1.16	1.08	1.32	2.22	13.92	10.80	3.31	1.49	1.25	1.24	1.25
17	1.19	1.13	1.04	2.92	11.84	10.57	2.04	1.30	1.17	1.22	1.20
18	1.15	1.14	1.04	2.15	3.82	5.07	1.32	1.23	1.17	1.15	1.11
19	1.04	1.14	1.11	1.28	1.31	1.72	1.21	1.25	1.09	1.11	1.06
20	.91	1.04	1.11	1.11	1.12	1.12	1.11	1.20	1.01	1.02	.98
21	.79	.89	1.01	1.04	1.11	1.10	1.04	1.00	.95	.93	.92
22	.65	.74	.90	.99	1.12	1.06	.98	.92	.90	.85	.81
23	.51	.63	.78	.92	1.08	1.00	.93	.84	.80	.72	.65
24	.37	.51	.68	.81	.97	.92	.85	.72	.65	.57	.50
25	.28	.42	.60	.76	.92	.90	.82	.64	.52	.43	.36
26	.22	.31	.49	.70	.85	.85	.75	.54	.41	.31	.27
27	.16	.25	.41	.63	.76	.77	.68	.46	.32	.23	.19
28	.11	.19	.33	.59	.70	.69	.57	.40	.26	.17	.13
29	.08	.15	.27	.55	.64	.63	.47	.32	.20	.12	.09
30	.06	.11	.22	.46	.56	.53	.36	.23	.15	.08	.07
31	.04	.08	.17	.34	.44	.39	.24	.16	.11	.06	.05
32	.03	.06	.12	.23	.29	.26	.17	.11	.08	.04	.03
33	.03	.04	.09	.16	.20	.18	.11	.07	.06	.03	.03
34	.02	.03	.06	.11	.13	.12	.07	.05	.04	.02	.02
35	.02	.02	.04	.07	.08	.08	.05	.04	.03	.02	.01
36	.02	.02	.03	.05	.05	.05	.03	.03	.02	.02	.01
37	.01	.02	.02	.03	.03	.04	.02	.02	.02	.01	.01
38	.01	.01	.02	.02	.02	.02	.02	.02	.01	.01	.01
39	.01	.01	.01	.02	.02	.02	.01	.01	.01	.01	.01
40	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
*TROP.+2	11.63	11.21	10.04	11.17	11.98	11.85	10.75	10.25	12.33	14.84	15.43

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE IV. Continued

(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$

Altitude, km	$\beta_{a,1.00}/\beta_{m,1.00}$ at latitude, deg, of -										
	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.
5	2.12	1.72	1.82	2.66	2.28	3.53	4.05	3.49	3.55	4.45	5.66
6	1.77	1.98	1.78	2.93	2.09	2.64	3.86	4.51	4.69	3.39	6.00
7	2.29	2.04	1.64	2.91	2.39	2.22	2.99	3.42	3.82	6.04	7.69
8	2.65	1.64	1.49	3.33	2.37	2.63	2.76	3.09	3.07	5.36	5.22
9	2.80	1.51	1.49	2.89	2.61	3.18	3.05	3.14	4.35	3.96	3.13
10	2.31	1.41	1.46	2.59	3.78	2.86	2.36	2.84	3.61	5.87	2.30
11	1.95	1.44	1.46	2.42	5.14	3.31	2.80	3.21	4.05	3.99	1.99
12	1.68	1.47	1.55	2.27	3.66	4.15	3.69	2.83	3.23	2.76	1.85
13	1.50	1.48	1.65	2.01	2.69	4.02	7.07	2.51	2.76	2.04	1.82
14	1.56	1.51	3.15	1.99	5.37	4.77	6.87	2.30	1.96	1.81	1.79
15	1.69	1.59	2.35	1.99	11.56	6.76	4.35	2.10	1.84	1.82	1.83
16	1.84	1.73	1.82	2.34	9.32	7.45	2.95	1.91	1.83	1.88	1.92
17	2.00	1.89	1.77	3.08	9.06	8.28	2.40	1.93	1.91	2.01	2.03
18	2.13	2.06	1.91	2.75	4.03	5.06	2.10	2.05	2.07	2.11	2.10
19	2.19	2.25	2.16	2.27	2.29	2.68	2.21	2.29	2.17	2.25	2.23
20	2.22	2.33	2.37	2.34	2.35	2.36	2.35	2.47	2.28	2.35	2.33
21	2.23	2.34	2.48	2.50	2.61	2.60	2.52	2.48	2.43	2.44	2.45
22	2.19	2.32	2.56	2.70	2.94	2.84	2.72	2.62	2.59	2.54	2.47
23	2.09	2.32	2.61	2.89	3.21	3.07	2.92	2.74	2.67	2.51	2.38
24	1.92	2.24	2.65	2.96	3.37	3.26	3.08	2.76	2.59	2.41	2.24
25	1.83	2.19	2.71	3.17	3.66	3.61	3.38	2.83	2.49	2.24	2.06
26	1.77	2.06	2.63	3.34	3.89	3.86	3.53	2.81	2.39	2.06	1.91
27	1.65	1.99	2.60	3.49	4.00	4.05	3.71	2.82	2.28	1.92	1.76
28	1.53	1.89	2.53	3.71	4.28	4.23	3.63	2.86	2.20	1.78	1.63
29	1.45	1.79	2.43	3.96	4.48	4.40	3.55	2.71	2.10	1.63	1.51
30	1.38	1.69	2.36	3.88	4.60	4.38	3.29	2.44	1.93	1.52	1.43
31	1.33	1.58	2.22	3.49	4.25	3.89	2.79	2.17	1.78	1.43	1.36
32	1.29	1.49	2.05	2.95	3.49	3.22	2.42	1.95	1.67	1.36	1.30
33	1.26	1.42	1.87	2.58	2.97	2.83	2.11	1.74	1.57	1.31	1.26
34	1.25	1.37	1.71	2.25	2.55	2.44	1.84	1.59	1.48	1.29	1.22
35	1.24	1.33	1.58	1.94	2.14	2.11	1.64	1.48	1.40	1.27	1.20
36	1.24	1.30	1.48	1.72	1.83	1.85	1.51	1.39	1.34	1.25	1.18
37	1.25	1.28	1.42	1.57	1.62	1.65	1.44	1.34	1.29	1.23	1.17
38	1.25	1.27	1.37	1.46	1.48	1.52	1.38	1.32	1.25	1.22	1.18
39	1.26	1.27	1.32	1.38	1.38	1.44	1.32	1.29	1.23	1.21	1.19
40	1.26	1.27	1.28	1.31	1.31	1.39	1.28	1.25	1.22	1.21	1.20

TABLE IV. Continued

(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$

Altitude, km	$\beta_{a,0.45}$, 10^{-4} km^{-1}, at latitude, deg, of -										
	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.
10	6.98	4.17	5.83	12.50	27.82	11.27	6.61	17.12	30.97	35.14	11.00
11	4.93	3.48	5.25	11.14	24.07	11.06	12.07	15.97	24.07	22.80	9.36
12	3.38	2.92	4.74	9.79	17.35	12.89	17.64	13.37	18.80	15.66	8.13
13	2.52	2.64	4.30	8.64	15.88	13.53	19.07	11.90	13.24	10.85	7.02
14	2.17	2.55	6.55	7.79	15.98	13.85	18.16	9.89	9.53	7.97	6.15
15	2.22	2.62	5.30	7.37	16.74	18.16	14.41	8.30	7.27	6.38	5.50
16	2.43	2.82	4.45	7.39	16.39	15.86	10.84	7.26	6.03	5.51	5.03
17	2.65	3.08	3.98	7.21	14.46	13.42	8.36	6.57	5.36	5.01	4.65
18	2.75	3.28	3.76	6.48	10.67	10.50	6.86	6.15	4.94	4.63	4.32
19	2.69	3.34	3.66	5.47	7.74	7.83	5.83	5.78	4.52	4.29	3.99
20	2.49	3.18	3.50	4.64	5.79	5.99	4.98	5.26	4.12	3.89	3.63
21	2.22	2.86	3.24	4.00	4.68	4.84	4.27	4.59	3.73	3.44	3.23
22	1.89	2.46	2.90	3.49	4.07	4.10	3.73	3.84	3.31	2.99	2.77
23	1.53	2.05	2.52	3.05	3.60	3.51	3.30	3.15	2.84	2.52	2.29
24	1.20	1.67	2.15	2.70	3.18	3.05	2.92	2.57	2.33	2.04	1.82
25	.91	1.36	1.86	2.47	2.90	2.80	2.63	2.14	1.87	1.58	1.38
26	.70	1.10	1.59	2.29	2.68	2.61	2.37	1.79	1.48	1.18	1.01
27	.53	.88	1.35	2.11	2.46	2.41	2.10	1.49	1.15	.87	.73
28	.39	.69	1.14	1.93	2.24	2.19	1.81	1.25	.90	.63	.52
29	.29	.54	.95	1.74	2.01	1.95	1.52	1.02	.71	.45	.37
30	.21	.42	.79	1.49	1.76	1.67	1.21	.80	.54	.32	.26
31	.16	.32	.64	1.20	1.45	1.34	.90	.60	.41	.23	.19
32	.11	.24	.49	.90	1.10	1.01	.65	.44	.30	.16	.13
33	.08	.18	.36	.65	.78	.72	.45	.31	.22	.11	.10
34	.06	.13	.26	.45	.54	.51	.32	.22	.16	.08	.07
35	.04	.10	.19	.32	.37	.36	.23	.16	.11	.06	.05
36	.03	.07	.14	.22	.26	.26	.16	.11	.08	.04	.04
37	.02	.05	.10	.16	.18	.19	.12	.08	.06	.03	.03
38	.02	.04	.07	.11	.13	.13	.08	.06	.04	.02	.02
39	.01	.03	.05	.08	.09	.09	.06	.04	.03	.02	.01
40	.01	.02	.04	.06	.06	.07	.04	.03	.02	.01	.01
* TROP.+2	29.03	33.86	33.65	40.34	45.23	44.66	40.76	41.74	50.40	61.12	59.00

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE IV. Continued

(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$

Altitude, km	$\beta_{a,0.45}/\beta_{a,1.00}$ at latitude, deg, of -										
	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.
10	1.82	2.65	4.64	2.33	1.46	1.75	3.21	1.98	2.43	2.78	2.29
11	1.83	2.44	4.06	2.77	3.12	1.83	3.38	2.82	2.99	2.92	2.98
12	1.77	2.26	3.55	3.21	3.80	2.23	3.84	3.22	3.27	3.22	3.51
13	1.78	2.23	3.06	3.54	2.91	2.52	3.44	3.57	3.43	3.67	3.78
14	1.87	2.30	2.85	3.78	2.91	2.67	3.38	3.90	3.84	4.18	3.93
15	1.95	2.44	2.97	3.82	2.92	2.80	3.46	4.30	4.31	4.42	3.99
16	2.08	2.60	3.22	3.92	2.94	2.83	3.49	4.61	4.54	4.30	3.96
17	2.26	2.76	3.42	4.03	3.15	3.11	3.93	4.80	4.44	4.13	3.88
18	2.44	2.90	3.48	4.03	4.01	3.27	4.28	4.84	4.31	4.00	3.82
19	2.61	3.02	3.39	3.97	4.38	3.56	4.43	4.70	4.16	3.91	3.77
20	2.74	3.12	3.29	3.92	4.38	4.09	4.29	4.50	4.05	3.81	3.69
21	2.83	3.20	3.24	3.77	4.24	4.29	4.00	4.32	3.92	3.68	3.58
22	2.91	3.24	3.23	3.54	3.76	3.93	3.78	4.10	3.77	3.59	3.52
23	2.97	3.23	3.20	3.35	3.43	3.54	3.59	3.81	3.65	3.56	3.53
24	3.04	3.22	3.14	3.25	3.22	3.25	3.39	3.55	3.57	3.57	3.60
25	3.12	3.27	3.15	3.25	3.17	3.14	3.26	3.41	3.55	3.61	3.65
26	3.13	3.34	3.21	3.28	3.18	3.12	3.18	3.32	3.54	3.64	3.67
27	3.17	3.42	3.30	3.30	3.20	3.13	3.16	3.24	3.51	3.66	3.68
28	3.24	3.48	3.39	3.30	3.19	3.14	3.18	3.22	3.48	3.64	3.70
29	3.33	3.58	3.48	3.31	3.19	3.18	3.27	3.29	3.49	3.64	3.72
30	3.35	3.70	3.60	3.37	3.24	3.25	3.38	3.44	3.55	3.68	3.75
31	3.32	3.83	3.75	3.52	3.38	3.40	3.51	3.61	3.61	3.73	3.73
32	3.22	3.91	3.86	3.68	3.55	3.58	3.65	3.74	3.66	3.71	3.71
33	3.07	3.92	3.91	3.81	3.71	3.72	3.79	3.84	3.69	3.53	3.76
34	2.86	3.83	3.95	3.92	3.83	3.84	4.07	4.01	3.68	3.29	4.04
35	2.59	3.66	4.00	4.06	4.04	4.08	4.58	4.22	3.66	3.14	4.65
36	2.30	3.42	4.04	4.33	4.46	4.46	5.20	4.42	3.61	3.16	5.22
37	2.03	3.14	4.07	4.73	5.05	4.89	5.37	4.56	3.56	3.12	6.07
38	1.80	2.88	3.97	5.33	5.52	5.20	5.45	4.31	3.47	3.03	7.18
39	1.63	2.65	3.76	6.40	5.84	5.26	6.05	3.79	3.34	3.12	7.35
40	1.52	2.43	3.57	7.89	5.91	5.17	7.29	3.40	3.16	3.31	7.24

TABLE IV. Continued

(e) Temperature

Altitude, km	Temperature, K, at latitude, deg, of -										
	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.
5	255.0	261.8	268.0	272.4	273.8	273.6	273.1	270.3	264.1	255.3	249.9
6	248.3	255.3	261.7	266.6	268.1	267.6	267.0	263.9	257.7	248.6	243.3
7	241.1	248.3	254.6	259.9	261.5	261.1	260.4	256.8	250.5	241.6	236.5
8	234.3	241.2	247.6	253.1	254.6	254.3	253.6	249.7	243.2	234.7	230.1
9	227.6	234.1	240.8	246.1	247.5	247.1	246.5	242.6	235.9	227.8	223.8
10	222.1	227.4	234.2	239.2	240.4	240.0	239.4	235.6	228.8	222.2	220.5
11	219.1	221.9	227.9	232.4	233.3	233.0	232.4	228.9	222.3	218.9	219.7
12	217.5	217.6	222.0	225.3	225.9	225.6	224.9	222.1	216.8	217.2	219.8
13	217.2	215.7	217.0	218.6	218.4	218.1	217.6	216.1	214.3	217.4	220.4
14	217.1	214.0	212.3	212.1	211.0	210.6	210.5	210.6	212.2	217.5	220.7
15	217.1	213.2	209.4	207.2	205.0	204.5	204.8	206.7	211.6	217.6	220.7
16	217.1	212.5	206.6	202.8	199.7	199.0	199.7	203.2	211.1	217.6	220.8
17	217.2	212.5	205.4	200.0	196.4	195.6	196.5	201.1	210.6	217.4	220.4
18	217.3	213.1	206.4	200.9	198.3	197.1	197.6	201.4	210.3	217.1	220.0
19	217.6	213.9	207.7	202.2	200.6	199.5	199.7	202.9	210.6	217.1	219.8
20	218.1	215.1	210.2	205.7	204.5	204.9	205.1	207.2	212.2	217.4	219.7
21	218.7	216.4	212.7	209.2	208.2	209.8	210.0	211.2	213.8	217.8	219.7
22	219.3	217.8	215.2	212.4	211.4	213.0	213.2	214.0	215.9	218.4	219.9
23	220.0	219.3	217.7	215.6	214.7	216.1	216.3	216.9	217.9	219.0	220.1
24	220.7	220.7	220.1	218.8	217.9	219.3	219.5	219.7	219.9	219.7	220.5
25	221.7	222.0	221.9	221.0	220.3	221.1	221.2	221.5	221.6	221.3	222.0
26	222.6	223.3	223.5	223.1	222.7	222.9	222.9	223.2	223.4	222.9	223.5
27	223.6	224.6	225.2	225.2	225.1	224.7	224.6	224.9	225.1	224.5	225.0
28	224.5	225.9	226.8	227.3	227.5	226.6	226.3	226.7	226.9	226.1	226.5
29	225.5	227.1	228.5	229.4	229.9	228.4	227.9	228.4	228.6	227.7	228.0
30	226.4	228.4	230.1	231.5	232.3	230.2	229.6	230.1	230.3	229.3	229.5

TABLE IV. Continued

(e) Concluded

Altitude, km	Temperature, K, at latitude, deg, of -										
	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.
31	227.3	229.7	231.8	233.6	234.7	232.0	231.3	231.9	232.1	230.9	231.0
32	228.6	231.1	233.3	235.5	236.8	234.3	233.5	233.9	234.1	233.4	233.7
33	229.9	232.5	234.7	237.1	238.7	236.9	236.0	236.0	236.3	236.1	236.5
34	231.3	233.9	236.1	238.6	240.6	239.5	238.4	238.1	238.4	238.9	239.4
35	232.6	235.4	237.5	240.2	242.4	242.0	240.9	240.3	240.6	241.6	242.2
36	233.9	236.8	238.9	241.8	244.3	244.6	243.4	242.4	242.7	244.4	245.1
37	235.8	238.7	240.8	243.8	246.6	247.2	245.9	244.6	244.9	246.8	247.4
38	237.6	240.8	243.0	246.2	249.1	249.8	248.4	247.0	247.2	249.1	249.7
39	239.5	242.8	245.2	248.6	251.7	252.3	250.9	249.3	249.4	251.4	252.0
40	241.3	244.9	247.4	251.0	254.3	254.9	253.4	251.7	251.7	253.7	254.3
41	243.2	247.0	249.6	253.5	256.9	257.5	255.9	254.0	253.9	256.0	256.6
42	245.0	249.0	251.8	255.9	259.5	260.1	258.4	256.4	256.2	258.2	258.9
43	246.8	251.0	254.0	258.3	262.0	262.7	260.9	258.7	258.5	260.5	261.2
44	248.5	252.6	255.6	259.9	263.7	264.4	262.6	260.4	260.0	261.8	262.3
45	250.3	254.1	257.0	261.1	264.7	265.3	263.6	261.5	261.2	262.9	263.4
46	252.0	255.7	258.4	262.2	265.6	266.2	264.6	262.7	262.4	264.0	264.5
47	253.7	257.3	259.9	263.4	266.6	267.1	265.6	263.9	263.6	265.1	265.6
48	254.9	258.8	261.3	264.5	267.5	268.0	266.6	265.1	264.8	266.2	266.6
49	255.2	259.0	261.8	265.2	268.2	268.7	267.3	265.9	265.5	266.6	267.0
50	255.6	259.0	261.7	264.9	267.7	268.2	266.8	265.5	265.1	266.2	266.6
51	256.0	259.1	261.5	264.5	267.2	267.6	266.3	265.1	264.7	265.8	266.1
52	256.3	259.2	261.4	264.2	266.7	267.1	265.9	264.7	264.3	265.3	265.7
53	256.7	259.2	261.3	263.9	266.2	266.6	265.4	264.3	264.0	264.9	265.2
54	257.0	259.3	261.1	263.5	265.7	266.0	265.0	263.9	263.6	264.5	264.8
55	257.4	259.4	261.0	263.2	265.2	265.5	264.5	263.5	263.2	264.0	264.3

TABLE IV. Concluded

(f) Geopotential height of standard pressure surfaces

Pressure, mbar	Altitude, km, at latitude, deg, of -										
	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.
1000.0	.05	.13	.13	.11	.10	.09	.11	.13	.14	.12	.11
850.0	1.38	1.49	1.52	1.52	1.52	1.51	1.52	1.53	1.50	1.46	1.42
700.0	2.92	3.07	3.13	3.16	3.16	3.16	3.17	3.16	3.09	3.01	2.94
500.0	5.49	5.70	5.82	5.88	5.90	5.90	5.90	5.87	5.74	5.58	5.46
400.0	7.10	7.34	7.50	7.60	7.63	7.62	7.62	7.57	7.40	7.19	7.04
300.0	9.07	9.36	9.56	9.70	9.74	9.74	9.73	9.64	9.43	9.16	8.98
250.0	10.26	10.57	10.81	10.97	11.02	11.01	11.00	10.89	10.65	10.35	10.16
200.0	11.69	12.01	12.27	12.45	12.50	12.49	12.48	12.36	12.09	11.78	11.60
150.0	13.53	13.83	14.10	14.28	14.32	14.31	14.30	14.17	13.90	13.62	13.46
100.0	16.12	16.38	16.57	16.71	16.72	16.71	16.69	16.61	16.42	16.22	16.10
70.0	18.40	18.61	18.74	18.82	18.81	18.77	18.75	18.72	18.61	18.49	18.40
50.0	20.56	20.74	20.82	20.86	20.83	20.78	20.76	20.75	20.70	20.64	20.57
30.0	23.86	24.04	24.09	24.09	24.05	24.03	24.01	24.00	23.96	23.92	23.87
10.0	31.13	31.36	31.46	31.48	31.43	31.38	31.36	31.36	31.31	31.20	31.17
5.0	35.89	36.20	36.44	36.55	36.53	36.52	36.51	36.54	36.46	36.26	36.14
2.0	42.39	42.83	43.16	43.38	43.46	43.47	43.41	43.39	43.30	43.14	43.02
1.0	47.56	48.06	48.41	48.70	48.85	48.85	48.75	48.70	48.65	48.60	48.52
.4	54.51	55.11	55.47	55.82	56.04	56.04	55.89	55.75	55.67	55.65	55.64
TROP.	11.06	12.41	15.06	16.41	16.89	16.90	16.37	15.55	12.81	10.89	10.06

TABLE V. SUNRISE ZONALLY AVERAGED EXTINCTION AND TEMPERATURE PROFILES IN 10° LATITUDE BANDS FOR MAY 1979

(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$

Altitude, km	$\beta_{a,1.00}$, 10^{-4} km^{-1}, at latitude, deg, of -									
	55.	65.	75.	65.	5.	-5.	-15.	-25.	-35.	-45.
5	26.35	24.28	27.48	19.57	0.00	0.00	9.76	5.76	4.28	5.43
6	24.33	25.19	25.35	21.45	0.00	3.72	7.35	5.75	4.37	4.55
7	28.94	22.98	21.18	19.28	0.00	8.35	10.08	4.35	4.37	6.19
8	23.30	17.59	15.71	13.22	.91	11.40	11.80	3.45	4.38	3.67
9	16.69	11.17	8.21	5.09	1.71	10.83	8.45	2.39	3.23	1.93
10	11.27	5.30	3.41	1.64	4.26	12.62	6.34	3.21	2.62	2.04
11	5.88	2.59	1.77	1.11	5.18	16.83	5.84	4.11	2.68	2.55
12	3.13	1.72	1.44	1.07	11.73	21.27	5.39	2.60	3.76	2.64
13	1.80	1.43	1.31	1.08	8.85	17.61	3.68	2.03	2.63	2.55
14	1.38	1.31	1.25	1.09	12.39	18.57	2.86	1.67	1.56	1.98
15	1.28	1.25	1.22	1.09	7.65	10.76	2.76	1.44	1.29	1.41
16	1.22	1.20	1.16	1.06	4.71	4.95	2.36	1.28	1.23	1.32
17	1.19	1.14	1.11	1.02	2.38	2.26	2.06	1.21	1.22	1.33
18	1.13	1.08	1.04	.97	1.98	1.61	1.41	1.22	1.27	1.30
19	1.05	.99	.96	.88	1.38	1.37	1.23	1.24	1.26	1.22
20	.95	.92	.86	.81	1.20	1.18	1.20	1.23	1.17	1.11
21	.88	.84	.78	.75	1.19	1.10	1.13	1.08	1.04	.97
22	.76	.74	.67	.66	1.16	1.07	1.06	.93	.88	.80
23	.62	.59	.55	.54	1.11	1.01	1.01	.79	.71	.64
24	.46	.43	.35	.37	1.00	.94	.91	.64	.55	.48
25	.33	.31	.27	.28	.96	.89	.85	.53	.43	.41
26	.24	.22	.19	.20	.88	.84	.79	.47	.34	.36
27	.17	.16	.14	.14	.80	.79	.73	.39	.29	.28
28	.12	.11	.10	.10	.74	.73	.64	.32	.24	.22
29	.08	.08	.07	.07	.64	.65	.49	.26	.20	.16
30	.06	.06	.05	.05	.51	.51	.33	.19	.14	.11
31	.04	.04	.04	.04	.33	.32	.23	.14	.10	.08
32	.03	.03	.03	.03	.22	.21	.17	.10	.07	.06
33	.02	.02	.02	.02	.12	.13	.12	.07	.05	.04
34	.02	.02	.01	.02	.07	.07	.08	.05	.04	.03
35	.01	.01	.01	.01	.04	.05	.05	.04	.03	.02
36	.01	.01	.01	.01	.03	.03	.03	.03	.02	.02
37	.01	.01	.01	.01	.02	.02	.02	.02	.02	.01
38	.01	.01	.01	.01	.01	.01	.02	.01	.01	.01
39	.01	.01	.00	.01	.01	.01	.01	.01	.01	.01
40	.01	.01	.00	.00	.01	.01	.01	.01	.01	.01
*TROP.+2	15.85	15.70	15.09	12.43	12.67	12.02	11.40	10.59	12.47	14.28

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE V. Continued

(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$

Altitude, km	$\beta_{a,1.00}/\beta_{m,1.00}$ at latitude, deg, of -									
	55.	65.	75.	65.	5.	-5.	-15.	-25.	-35.	-45.
5	5.13	4.79	5.32	4.10	0.00	0.00	2.64	1.95	1.69	1.86
6	5.24	5.41	5.47	4.82	0.00	1.61	2.32	2.05	1.79	1.81
7	6.76	5.54	5.19	4.84	0.00	2.69	3.06	1.88	1.88	2.25
8	6.15	4.92	4.52	3.93	1.21	3.60	3.66	1.77	1.97	1.81
9	5.15	3.82	3.08	2.26	1.43	3.70	3.12	1.59	1.81	1.48
10	4.17	2.52	2.00	1.48	2.20	4.57	2.76	1.91	1.74	1.59
11	2.87	1.87	1.62	1.38	2.63	6.32	2.84	2.30	1.86	1.87
12	2.17	1.69	1.59	1.43	5.26	8.53	2.89	1.92	2.38	1.99
13	1.81	1.68	1.63	1.51	4.50	8.03	2.46	1.82	2.09	2.11
14	1.74	1.72	1.70	1.60	6.60	9.37	2.30	1.77	1.76	2.00
15	1.81	1.80	1.79	1.69	4.99	6.48	2.42	1.77	1.74	1.84
16	1.89	1.89	1.87	1.79	3.73	3.93	2.41	1.80	1.82	1.93
17	2.02	1.99	1.97	1.87	2.60	2.53	2.42	1.89	1.96	2.10
18	2.13	2.08	2.05	1.96	2.62	2.34	2.17	2.06	2.17	2.25
19	2.21	2.16	2.12	2.02	2.36	2.36	2.23	2.28	2.36	2.38
20	2.29	2.25	2.17	2.10	2.43	2.41	2.43	2.51	2.49	2.46
21	2.38	2.33	2.23	2.18	2.71	2.59	2.62	2.57	2.55	2.49
22	2.39	2.36	2.24	2.20	2.99	2.84	2.80	2.59	2.55	2.45
23	2.32	2.26	2.18	2.14	3.25	3.05	3.03	2.61	2.46	2.36
24	2.15	2.06	1.88	1.92	3.40	3.26	3.16	2.52	2.33	2.18
25	1.96	1.89	1.79	1.79	3.71	3.53	3.40	2.50	2.21	2.17
26	1.80	1.75	1.64	1.66	3.89	3.79	3.62	2.55	2.13	2.21
27	1.67	1.63	1.53	1.55	4.07	4.06	3.84	2.50	2.12	2.10
28	1.55	1.51	1.45	1.45	4.32	4.31	3.89	2.46	2.07	1.99
29	1.45	1.42	1.36	1.37	4.37	4.44	3.57	2.35	2.03	1.83
30	1.38	1.35	1.30	1.31	4.11	4.15	3.06	2.19	1.86	1.69
31	1.32	1.29	1.25	1.26	3.37	3.26	2.68	1.98	1.72	1.58
32	1.28	1.25	1.22	1.22	2.81	2.70	2.45	1.83	1.60	1.49
33	1.25	1.22	1.19	1.20	2.12	2.20	2.12	1.69	1.51	1.42
34	1.23	1.19	1.16	1.18	1.75	1.80	1.84	1.57	1.42	1.36
35	1.21	1.17	1.14	1.16	1.55	1.59	1.63	1.47	1.35	1.30
36	1.19	1.16	1.13	1.15	1.41	1.45	1.49	1.38	1.30	1.25
37	1.19	1.16	1.12	1.14	1.31	1.34	1.38	1.32	1.26	1.22
38	1.19	1.16	1.12	1.13	1.23	1.27	1.31	1.27	1.23	1.20
39	1.20	1.17	1.11	1.12	1.18	1.21	1.25	1.23	1.20	1.18
40	1.21	1.19	1.11	1.11	1.14	1.18	1.20	1.20	1.18	1.19

TABLE V. Continued

(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$

Altitude, km	$\beta_{a,0.45}$, 10^{-4} km^{-1}, at latitude, deg, of -									
	55.	65.	75.	65.	5.	-5.	-15.	-25.	-35.	-45.
10	20.52	8.76	4.69	2.49	21.40	23.44	15.49	12.16	7.26	6.87
11	14.45	7.18	4.31	2.09	10.70	23.11	14.75	10.14	7.55	6.86
12	9.52	5.70	3.93	1.69	23.05	26.14	14.00	8.64	7.45	7.18
13	7.20	5.10	3.94	1.81	21.31	26.79	12.82	7.51	7.01	6.32
14	5.90	4.78	4.01	2.09	21.18	24.96	11.93	6.47	6.12	5.57
15	5.20	4.56	4.06	2.34	17.74	18.67	11.12	5.86	5.33	4.93
16	4.77	4.37	4.06	2.53	13.28	14.09	10.18	5.48	4.86	4.69
17	4.45	4.18	3.99	2.68	10.30	10.14	9.26	5.30	4.67	4.53
18	4.17	3.96	3.84	2.76	8.57	8.10	8.33	5.19	4.60	4.35
19	3.87	3.68	3.60	2.74	7.37	6.68	7.32	4.98	4.46	4.08
20	3.50	3.37	3.29	2.65	6.43	5.64	6.34	4.61	4.15	3.71
21	3.10	3.02	2.94	2.49	5.60	4.93	5.39	4.06	3.67	3.24
22	2.67	2.61	2.53	2.24	4.89	4.39	4.56	3.43	3.08	2.72
23	2.21	2.14	2.04	1.87	4.28	3.88	3.85	2.79	2.47	2.18
24	1.72	1.65	1.54	1.47	3.73	3.42	3.27	2.24	1.93	1.71
25	1.28	1.24	1.16	1.13	3.34	3.08	2.91	1.85	1.50	1.36
26	.93	.91	.86	.85	2.99	2.80	2.65	1.55	1.20	1.10
27	.67	.66	.62	.62	2.67	2.55	2.40	1.30	.97	.89
28	.47	.48	.45	.45	2.37	2.29	2.09	1.10	.80	.70
29	.34	.34	.33	.32	2.05	1.98	1.73	.91	.65	.54
30	.24	.25	.24	.23	1.66	1.62	1.35	.73	.51	.41
31	.17	.18	.17	.17	1.23	1.20	1.03	.56	.39	.31
32	.12	.13	.12	.12	.84	.81	.76	.42	.29	.23
33	.09	.09	.09	.09	.55	.54	.53	.31	.21	.16
34	.06	.06	.06	.06	.37	.37	.37	.23	.15	.12
35	.05	.05	.04	.04	.26	.26	.26	.16	.11	.08
36	.03	.03	.03	.03	.19	.18	.18	.12	.08	.06
37	.02	.02	.02	.02	.13	.13	.13	.08	.06	.04
38	.02	.02	.01	.02	.09	.09	.09	.06	.04	.03
39	.01	.01	.01	.01	.06	.06	.06	.04	.03	.02
40	.01	.01	.01	.01	.04	.04	.04	.03	.02	.02
*TROP.+2	59.06	56.07	51.36	33.66	52.19	47.40	48.93	40.13	45.53	47.30

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE V. Continued

(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$

Altitude, km	$\beta_{a,0.45}/\beta_{a,1.00}$ at latitude, deg, of -									
	55.	65.	75.	65.	5.	-5.	-15.	-25.	-35.	-45.
10	2.11	1.50	1.15	1.62	4.45	1.74	3.11	2.84	2.65	3.17
11	2.44	2.11	1.78	1.61	2.23	1.61	3.55	3.01	2.96	3.01
12	2.89	2.73	2.40	1.60	2.41	1.73	4.00	3.30	3.09	3.05
13	3.42	3.27	2.86	1.96	2.41	1.81	4.26	3.60	3.24	3.08
14	3.77	3.52	3.13	2.12	2.53	1.87	4.52	3.78	3.44	3.20
15	3.91	3.61	3.32	2.16	2.77	2.33	4.74	3.95	3.67	3.19
16	3.86	3.64	3.47	2.34	3.22	2.87	4.94	4.09	3.80	3.35
17	3.77	3.66	3.61	2.58	3.68	3.79	5.24	4.20	3.76	3.38
18	3.72	3.68	3.71	2.83	4.20	4.49	5.55	4.19	3.69	3.36
19	3.70	3.68	3.78	3.04	4.74	4.79	5.61	4.06	3.64	3.36
20	3.65	3.66	3.82	3.20	4.95	4.67	5.32	3.91	3.61	3.37
21	3.60	3.63	3.82	3.33	4.69	4.41	4.79	3.78	3.58	3.38
22	3.59	3.62	3.83	3.43	4.26	4.14	4.29	3.67	3.53	3.39
23	3.61	3.64	3.85	3.53	3.92	3.86	3.88	3.54	3.47	3.38
24	3.63	3.70	3.91	3.69	3.65	3.61	3.55	3.43	3.42	3.33
25	3.67	3.81	4.13	3.92	3.51	3.44	3.41	3.41	3.41	3.27
26	3.73	3.91	4.26	4.10	3.40	3.32	3.36	3.39	3.39	3.19
27	3.75	3.98	4.35	4.20	3.33	3.24	3.34	3.39	3.37	3.14
28	3.77	4.02	4.44	4.27	3.28	3.18	3.40	3.46	3.40	3.20
29	3.80	4.06	4.53	4.34	3.29	3.17	3.56	3.62	3.49	3.31
30	3.84	4.10	4.64	4.41	3.36	3.28	3.82	3.78	3.61	3.44
31	3.85	4.13	4.65	4.40	3.46	3.45	4.10	3.91	3.73	3.52
32	3.80	4.09	4.67	4.30	3.65	3.62	4.25	4.02	3.77	3.54
33	3.75	4.03	7.24	4.13	3.98	3.91	4.33	4.08	3.76	3.52
34	3.75	4.01	5.15	3.90	4.73	4.41	4.49	4.13	3.73	3.53
35	3.70	3.95	4.45	3.60	5.69	5.18	4.81	4.19	3.70	3.56
36	3.49	3.63	4.10	3.25	6.41	5.80	5.13	4.22	3.66	3.63
37	3.07	3.21	3.76	2.86	7.10	6.08	5.32	4.17	3.63	3.65
38	2.54	2.90	2.90	2.50	7.73	6.17	5.35	4.03	3.52	3.51
39	2.05	2.70	2.47	2.19	7.91	6.12	5.23	3.82	3.20	3.35
40	1.80	2.76	2.30	1.93	7.70	5.95	4.98	3.57	2.92	3.72

TABLE V. Continued

(e) Temperature

Altitude, km	Temperature, K, at latitude, deg, of -									
	55.	65.	75.	65.	5.	-5.	-15.	-25.	-35.	-45.
5	249.4	245.4	243.6	248.2	274.8	273.1	272.8	268.8	261.6	256.0
6	242.6	239.0	237.4	241.4	268.8	267.0	266.9	262.6	255.2	249.2
7	235.5	232.7	231.3	234.5	262.2	260.5	260.2	255.8	247.9	241.8
8	229.0	227.3	226.3	228.4	255.3	253.7	253.5	249.0	241.2	235.1
9	222.7	222.6	222.5	222.8	248.1	246.7	246.6	242.2	234.9	228.6
10	219.8	222.0	223.3	222.1	240.9	239.6	239.6	235.4	228.8	223.2
11	219.4	223.2	224.8	223.0	233.7	232.4	232.4	228.8	223.7	219.9
12	219.8	224.2	225.9	223.9	226.1	224.5	225.1	222.2	219.5	217.9
13	220.7	225.0	226.7	224.7	218.7	217.1	218.0	216.6	216.9	217.5
14	221.2	225.2	226.8	224.9	211.4	210.0	211.1	211.6	214.5	216.9
15	221.3	225.0	226.6	224.7	205.1	204.4	205.5	208.1	213.1	216.4
16	221.4	224.7	226.3	224.6	199.3	199.3	200.6	204.8	211.6	215.8
17	221.0	224.3	226.1	224.2	195.3	196.5	197.7	203.3	211.3	215.7
18	220.7	223.8	225.8	223.9	197.4	198.6	199.7	204.6	211.9	215.7
19	220.5	223.5	225.6	223.6	200.1	201.3	202.0	206.2	212.9	216.0
20	220.4	223.4	225.5	223.5	205.5	205.9	205.8	209.0	214.3	216.6
21	220.4	223.3	225.4	223.4	210.4	210.2	209.4	211.7	215.7	217.3
22	220.4	223.2	225.3	223.6	213.3	213.1	212.3	214.1	217.1	217.9
23	220.4	223.2	225.2	223.7	216.2	216.1	215.1	216.5	218.4	218.5
24	220.6	223.2	225.1	223.8	219.1	219.0	218.0	218.8	219.8	219.1
25	222.0	224.4	226.2	225.2	220.9	221.0	220.3	220.6	220.7	219.4
26	223.5	225.6	227.4	226.6	222.6	222.9	222.5	222.3	221.6	219.7
27	224.9	226.8	228.5	228.0	224.3	224.9	224.7	224.0	222.5	220.0
28	226.4	228.0	229.7	229.4	226.0	226.9	226.9	225.7	223.4	220.3
29	227.8	229.2	230.9	230.8	227.7	228.8	229.1	227.4	224.2	220.6
30	229.2	230.4	232.0	232.2	229.4	230.8	231.3	229.1	225.1	220.9

TABLE V. Continued

(e) Concluded

Altitude, km	Temperature, K, at latitude, deg, of -									
	55.	65.	75.	65.	5.	-5.	-15.	-25.	-35.	-45.
31	230.7	231.6	233.2	233.6	231.1	232.8	233.5	230.8	226.0	221.2
32	233.4	234.0	235.3	235.9	232.9	234.4	235.2	232.0	226.7	221.6
33	236.3	236.8	238.1	238.7	234.6	235.8	236.3	232.9	227.4	222.0
34	239.3	239.6	241.0	241.6	236.3	237.3	237.5	233.9	228.1	222.4
35	242.2	242.4	243.8	244.4	238.0	238.7	238.6	234.8	228.7	222.8
36	245.2	245.2	246.6	247.3	239.8	240.2	239.8	235.7	229.4	223.3
37	247.5	247.6	249.0	249.8	241.8	242.1	241.5	237.3	230.6	224.2
38	249.8	249.8	251.2	252.0	244.2	244.5	243.8	239.2	231.9	225.0
39	252.1	252.0	253.4	254.3	246.5	246.9	246.0	241.1	233.3	225.8
40	254.3	254.2	255.6	256.5	248.9	249.3	248.3	243.1	234.6	226.6
41	256.6	256.4	257.8	258.7	251.3	251.6	250.6	245.0	235.9	227.5
42	258.9	258.6	260.0	261.0	253.7	254.0	252.9	246.9	237.2	228.4
43	261.1	260.8	262.1	263.2	256.1	256.4	255.1	248.8	238.8	230.5
44	262.3	262.1	263.6	264.8	258.0	258.3	256.9	250.5	240.8	232.6
45	263.4	263.2	264.7	265.8	259.5	259.8	258.3	252.1	242.7	234.7
46	264.5	264.4	265.8	266.8	261.0	261.3	259.8	253.8	244.6	236.8
47	265.6	265.5	266.9	267.8	262.5	262.8	261.3	255.4	246.5	238.8
48	266.7	266.7	268.0	268.9	264.1	264.3	262.7	257.0	248.2	240.7
49	267.1	267.2	268.9	269.8	265.4	265.6	263.9	258.1	249.4	242.5
50	266.6	266.8	268.3	269.2	266.1	266.3	264.5	258.8	250.7	244.3
51	266.2	266.3	267.8	268.6	266.8	266.9	265.0	259.6	252.0	246.1
52	265.7	265.8	267.2	268.0	267.5	267.6	265.6	260.4	253.2	247.9
53	265.2	265.4	266.7	267.4	268.2	268.2	266.1	261.2	254.5	249.8
54	264.8	264.9	266.1	266.8	268.8	268.9	266.7	262.0	255.8	251.6
55	264.3	264.5	265.6	266.2	269.5	269.5	267.2	262.8	257.0	253.4

TABLE V. Concluded

(f) Geopotential height of standard pressure surfaces

Pressure, mbar	Altitude, km, at latitude, deg, of -									
	55.	65.	75.	65.	5.	-5.	-15.	-25.	-35.	-45.
1000.0	.14	.14	.13	.08	.10	.11	.13	.15	.16	.13
850.0	1.44	1.42	1.40	1.39	1.52	1.52	1.54	1.54	1.52	1.47
700.0	2.96	2.92	2.88	2.91	3.18	3.17	3.18	3.16	3.10	3.02
500.0	5.47	5.39	5.34	5.41	5.92	5.90	5.91	5.85	5.73	5.59
400.0	7.05	6.95	6.89	6.98	7.65	7.62	7.63	7.54	7.37	7.21
300.0	8.97	8.86	8.79	8.90	9.77	9.73	9.73	9.61	9.38	9.17
250.0	10.15	10.05	9.98	10.09	11.05	11.00	11.00	10.86	10.60	10.37
200.0	11.59	11.51	11.45	11.55	12.54	12.48	12.48	12.33	12.06	11.80
150.0	13.45	13.41	13.37	13.45	14.36	14.29	14.30	14.15	13.89	13.64
100.0	16.09	16.09	16.07	16.13	16.76	16.68	16.71	16.60	16.42	16.22
70.0	18.39	18.41	18.41	18.45	18.79	18.77	18.80	18.75	18.64	18.49
50.0	20.57	20.61	20.63	20.65	20.82	20.80	20.84	20.82	20.76	20.64
30.0	23.88	23.97	24.01	24.01	24.07	24.04	24.07	24.07	24.04	23.92
10.0	31.16	31.29	31.39	31.40	31.41	31.41	31.44	31.40	31.30	31.08
5.0	36.17	36.30	36.42	36.47	36.58	36.50	36.50	36.37	36.11	35.75
2.0	43.04	43.17	43.34	43.43	43.48	43.40	43.37	43.05	42.54	41.95
1.0	48.54	48.65	48.85	48.97	48.79	48.76	48.71	48.28	47.59	46.82
.4	55.63	55.77	56.01	56.11	55.94	55.94	55.86	55.32	54.44	53.51
TROP.	9.90	9.16	8.74	9.47	16.40	16.48	16.32	14.88	12.66	11.61

TABLE VI. SUNSET ZONALLY AVERAGED EXTINCTION AND TEMPERATURE PROFILES IN 10° LATITUDE BANDS FOR FEBRUARY 1979

(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$

Altitude, km	$\beta_{a,1.00}$, 10^{-4} km^{-1}, at latitude, deg, of -		
	-55.	-45.	-35.
5	9.32	4.56	8.09
6	7.90	7.50	9.01
7	5.17	9.93	6.55
8	2.68	7.46	6.21
9	4.23	7.08	4.63
10	6.94	6.14	3.01
11	3.74	3.91	5.55
12	2.75	2.73	5.88
13	2.19	1.99	2.82
14	1.48	1.21	1.77
15	1.24	1.05	1.10
16	1.25	1.15	1.02
17	1.24	1.23	1.06
18	1.16	1.23	1.15
19	1.03	1.16	1.20
20	.88	1.00	1.12
21	.73	.84	.98
22	.59	.70	.83
23	.46	.56	.69
24	.34	.43	.55
25	.25	.33	.45
26	.18	.25	.36
27	.13	.19	.27
28	.09	.14	.21
29	.07	.10	.15
30	.05	.07	.11
31	.04	.05	.08
32	.03	.04	.06
33	.02	.03	.04
34	.02	.02	.03
35	.02	.02	.03
36	.02	.01	.02
37	.02	.01	.02
38	.01	.01	.01
39	.01	.01	.01
40	.01	.01	.01
*TROP.+2	14.63	11.27	9.20

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE VI. Continued

(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$

Altitude, km	$\beta_{a,1.00}/\beta_{m,1.00}$ at latitude, deg, of -		
	-55.	-45.	-35.
5	2.50	1.73	2.31
6	2.41	2.39	2.63
7	2.04	2.99	2.29
8	1.59	2.70	2.38
9	2.11	2.66	2.15
10	3.04	2.79	1.74
11	2.23	2.20	2.78
12	2.07	2.01	3.13
13	1.98	1.83	2.15
14	1.78	1.60	1.81
15	1.79	1.62	1.60
16	1.92	1.78	1.66
17	2.05	1.98	1.80
18	2.15	2.15	2.03
19	2.19	2.27	2.27
20	2.18	2.28	2.40
21	2.14	2.27	2.44
22	2.08	2.24	2.44
23	1.99	2.17	2.42
24	1.83	2.05	2.32
25	1.72	1.94	2.29
26	1.60	1.84	2.19
27	1.49	1.74	2.05
28	1.41	1.62	1.94
29	1.35	1.53	1.80
30	1.30	1.44	1.68
31	1.27	1.38	1.58
32	1.25	1.33	1.49
33	1.24	1.29	1.42
34	1.24	1.26	1.38
35	1.25	1.24	1.35
36	1.26	1.22	1.33
37	1.27	1.22	1.31
38	1.28	1.23	1.30
39	1.28	1.25	1.30
40	1.29	1.26	1.29

TABLE VI. Continued

(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$

Altitude, km	$\beta_{a,0.45}$, 10^{-4} km^{-1}, at latitude, deg, of -		
	-55.	-45.	-35.
10	11.62	16.51	10.18
11	8.76	10.41	10.24
12	6.21	7.08	9.67
13	5.11	4.97	7.65
14	4.46	3.93	5.93
15	4.18	3.63	4.74
16	4.10	3.71	4.18
17	4.01	3.87	4.05
18	3.83	3.92	4.11
19	3.53	3.78	4.12
20	3.17	3.50	3.92
21	2.76	3.13	3.57
22	2.32	2.72	3.15
23	1.87	2.25	2.69
24	1.44	1.82	2.25
25	1.10	1.46	1.89
26	.83	1.15	1.56
27	.62	.90	1.25
28	.46	.69	.98
29	.34	.52	.76
30	.25	.39	.58
31	.18	.29	.44
32	.13	.21	.33
33	.10	.15	.24
34	.07	.11	.17
35	.06	.08	.12
36	.04	.06	.09
37	.04	.04	.06
38	.03	.03	.05
39	.02	.02	.04
40	.02	.02	.03
*TROP.+2	47.47	40.30	35.33

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE VI. Continued

(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$

Altitude, km	$\beta_{a,0.45}/\beta_{a,1.00}$ at latitude, deg, of -		
	-55.	-45.	-35.
10	2.33	4.70	2.48
11	2.39	3.36	2.79
12	2.49	2.80	2.89
13	2.68	2.81	3.02
14	2.87	3.01	3.16
15	3.02	3.10	3.47
16	3.21	3.20	3.71
17	3.30	3.26	3.70
18	3.35	3.30	3.61
19	3.45	3.38	3.56
20	3.60	3.52	3.57
21	3.77	3.70	3.65
22	3.90	3.88	3.78
23	4.01	3.99	3.89
24	4.11	4.11	3.99
25	4.30	4.31	4.15
26	4.51	4.49	4.32
27	4.69	4.65	4.50
28	4.89	4.82	4.70
29	5.10	4.99	4.90
30	5.22	5.13	5.09
31	5.09	5.21	5.25
32	4.78	5.21	5.36
33	4.43	5.08	5.32
34	4.11	4.82	5.11
35	3.78	4.48	4.73
36	3.43	4.15	4.25
37	3.08	3.74	3.81
38	2.90	3.25	3.46
39	2.87	2.96	3.20
40	2.80	2.81	3.05

TABLE VI. Continued

(e) Temperature

Altitude, km	Temperature, K, at latitude, deg, of -		
	-55.	-45.	-35.
31	234.7	233.7	232.8
32	236.5	235.4	234.7
33	238.7	237.4	236.4
34	240.9	239.4	238.2
35	243.1	241.4	240.0
36	245.3	243.4	241.8
37	247.5	245.5	243.9
38	249.7	247.7	246.1
39	252.0	249.8	248.4
40	254.2	252.0	250.7
41	256.5	254.2	253.0
42	258.7	256.4	255.3
43	261.0	258.6	257.5
44	262.7	260.2	259.1
45	263.9	261.4	260.3
46	265.2	262.6	261.6
47	266.4	263.8	262.8
48	267.7	265.0	264.0
49	268.9	265.9	264.7
50	268.2	265.5	264.4
51	267.5	265.1	264.1
52	266.7	264.8	263.8
53	265.9	264.4	263.4
54	265.1	264.0	263.1
55	264.3	263.6	262.8

TABLE VI. Continued

(e) Concluded

Altitude, km	Temperature, K, at latitude, deg, of -		
	-55.	-45.	-35.
5	251.5	261.4	266.8
6	245.4	255.3	260.6
7	239.1	248.3	253.8
8	233.4	241.5	247.0
9	227.8	234.7	240.2
10	224.6	228.5	233.6
11	223.6	223.6	227.3
12	223.2	220.0	221.3
13	223.2	218.3	216.4
14	223.1	216.7	211.9
15	222.9	215.8	209.6
16	222.7	214.9	207.4
17	222.3	214.8	206.7
18	221.9	215.2	207.9
19	222.2	215.9	209.4
20	223.0	217.2	211.6
21	223.7	218.5	213.7
22	224.2	220.0	215.9
23	224.7	221.5	218.0
24	225.2	223.0	220.1
25	226.5	224.5	221.9
26	227.9	226.1	223.8
27	229.3	227.6	225.6
28	230.6	229.1	227.4
29	232.0	230.6	229.2
30	233.4	232.2	231.0

TABLE VI. Concluded

(f) Geopotential height of standard pressure surfaces

Pressure, mbar	Altitude, km, at latitude, deg, of -		
	-55.	-45.	-35.
1000.0	.00	.08	.14
850.0	1.30	1.43	1.52
700.0	2.83	3.00	3.13
500.0	5.36	5.62	5.80
400.0	6.96	7.28	7.48
300.0	8.93	9.29	9.54
250.0	10.13	10.52	10.78
200.0	11.60	11.97	12.24
150.0	13.48	13.81	14.06
100.0	16.14	16.38	16.54
70.0	18.47	18.64	18.72
50.0	20.70	20.79	20.82
30.0	24.07	24.12	24.09
10.0	31.53	31.54	31.46
5.0	36.58	36.55	36.49
2.0	43.44	43.39	43.30
1.0	49.03	48.79	48.64
.4	56.12	55.93	55.74
TROP.	10.14	12.06	14.81

TABLE VII. SUNSET ZONALLY AVERAGED EXTINCTION AND TEMPERATURE PROFILES IN 10° LATITUDE BANDS FOR MARCH 1979

(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$

Altitude, km	$\beta_{a,1.00}$, 10^{-4} km^{-1}, at latitude, deg, of -										
	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.	65.	55.
5	8.83	6.71	8.85	4.99	10.81	6.73	10.18	24.66	11.51	20.37	21.80
6	6.87	31.66	8.45	5.82	8.94	5.96	11.60	20.09	11.51	17.01	20.30
7	6.14	20.53	8.69	4.28	7.08	4.96	9.81	18.17	17.09	13.23	14.77
8	6.59	11.82	7.58	5.88	10.07	4.80	6.89	18.67	11.41	8.98	11.43
9	4.95	9.55	5.28	4.64	8.67	8.31	3.71	13.12	7.34	5.84	7.64
10	6.03	11.44	4.18	5.45	10.51	4.12	2.33	7.58	4.08	3.83	4.17
11	5.26	11.50	9.31	6.51	10.29	2.27	2.36	3.37	2.46	2.64	2.65
12	5.07	15.92	12.24	7.65	6.34	1.78	1.91	1.88	1.92	1.87	2.02
13	6.58	16.40	6.88	5.33	7.29	1.58	1.52	1.40	1.52	1.56	1.62
14	3.84	22.81	6.82	17.92	3.57	1.37	1.26	1.29	1.35	1.40	1.42
15	2.47	11.70	7.42	15.16	5.26	1.14	1.15	1.20	1.24	1.28	1.33
16	1.77	10.59	8.85	16.91	5.63	1.05	1.17	1.21	1.15	1.17	1.28
17	1.47	4.83	6.68	8.55	1.69	1.06	1.18	1.23	1.12	1.09	1.24
18	1.13	2.22	3.60	2.77	1.12	1.10	1.17	1.19	1.03	.98	1.14
19	1.17	1.30	1.21	1.92	1.09	1.11	1.09	1.10	.96	.90	1.05
20	1.09	1.12	1.20	1.82	1.08	1.07	.98	1.00	.89	.81	.96
21	1.01	1.12	1.25	1.78	1.02	.97	.89	.88	.83	.75	.88
22	.90	1.08	1.18	1.14	.92	.85	.79	.71	.75	.67	.79
23	.79	.97	1.08	1.09	.86	.76	.68	.59	.66	.57	.67
24	.68	.88	.99	1.01	.89	.66	.55	.54	.54	.45	.53
25	.57	.76	.91	.94	.84	.58	.44	.45	.39	.33	.38
26	.44	.66	.81	.84	.75	.49	.35	.32	.27	.23	.29
27	.35	.55	.72	.74	.68	.42	.25	.23	.19	.17	.21
28	.28	.47	.65	.66	.58	.36	.19	.18	.14	.13	.15
29	.22	.40	.58	.57	.50	.31	.14	.14	.11	.09	.11
30	.16	.33	.51	.52	.40	.25	.10	.10	.08	.06	.08
31	.12	.27	.39	.42	.30	.19	.07	.07	.06	.05	.06
32	.09	.20	.29	.28	.21	.14	.05	.05	.04	.03	.04
33	.06	.14	.20	.20	.15	.10	.04	.04	.03	.03	.03
34	.05	.10	.14	.13	.10	.07	.03	.03	.02	.02	.02
35	.04	.07	.09	.09	.07	.05	.02	.02	.02	.02	.02
36	.03	.05	.06	.06	.05	.04	.02	.02	.01	.01	.02
37	.02	.04	.04	.04	.03	.03	.02	.01	.01	.01	.01
38	.02	.03	.03	.03	.02	.02	.01	.01	.01	.01	.01
39	.01	.02	.02	.02	.02	.02	.01	.01	.01	.01	.01
40	.01	.01	.02	.01	.01	.01	.01	.01	.01	.01	.01
*TROP.+2	8.56	9.96	11.74	13.47	11.49	11.66	14.00	14.39	15.70	15.81	16.52

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE VII. Continued

(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$

Altitude, km	$\beta_{a,1.00}/\beta_{m,1.00}$ at latitude, deg, of -										
	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.	65.	55.
5	2.44	2.11	2.39	1.83	2.76	2.08	2.61	4.82	2.78	4.19	4.43
6	2.25	7.00	2.56	2.06	2.61	2.05	3.03	4.48	3.04	4.00	4.62
7	2.23	5.12	2.76	1.87	2.41	1.99	2.94	4.61	4.48	3.63	3.92
8	2.49	3.65	2.72	2.32	3.30	2.06	2.53	5.24	3.59	3.03	3.55
9	2.22	3.38	2.32	2.15	3.16	3.11	1.92	4.38	2.87	2.50	2.93
10	2.70	4.21	2.18	2.54	3.95	2.13	1.66	3.22	2.18	2.14	2.21
11	2.64	4.50	3.99	3.08	3.89	1.72	1.78	2.12	1.84	1.91	1.90
12	2.83	6.60	5.28	3.68	3.24	1.64	1.72	1.73	1.77	1.76	1.81
13	3.63	7.55	3.76	3.13	3.86	1.65	1.67	1.64	1.73	1.75	1.76
14	2.74	11.19	4.07	9.22	2.62	1.65	1.65	1.69	1.76	1.79	1.78
15	2.27	7.02	4.84	8.83	3.80	1.63	1.69	1.74	1.81	1.84	1.86
16	2.06	7.19	6.29	10.98	4.23	1.68	1.82	1.87	1.87	1.89	1.96
17	2.04	4.34	5.54	6.78	2.17	1.80	1.97	2.03	1.99	1.97	2.08
18	1.98	2.86	3.96	3.27	1.96	1.97	2.12	2.17	2.06	2.02	2.15
19	2.21	2.33	2.22	2.94	2.13	2.18	2.23	2.27	2.16	2.08	2.24
20	2.34	2.36	2.47	3.23	2.34	2.34	2.29	2.34	2.25	2.14	2.32
21	2.46	2.62	2.82	3.63	2.52	2.45	2.39	2.38	2.36	2.23	2.42
22	2.54	2.85	3.05	3.00	2.63	2.51	2.45	2.31	2.42	2.29	2.48
23	2.58	2.96	3.24	3.28	2.83	2.60	2.46	2.28	2.46	2.27	2.46
24	2.62	3.09	3.44	3.50	3.23	2.63	2.38	2.37	2.38	2.17	2.35
25	2.58	3.15	3.65	3.75	3.48	2.69	2.29	2.35	2.18	1.99	2.14
26	2.45	3.17	3.76	3.87	3.59	2.68	2.21	2.12	1.96	1.84	2.00
27	2.37	3.15	3.91	3.98	3.75	2.72	2.02	1.93	1.80	1.72	1.85
28	2.28	3.16	4.06	4.08	3.75	2.72	1.89	1.84	1.69	1.61	1.73
29	2.17	3.17	4.24	4.14	3.77	2.71	1.78	1.77	1.61	1.51	1.62
30	2.00	3.06	4.28	4.32	3.59	2.61	1.65	1.66	1.52	1.43	1.52
31	1.86	2.98	3.97	4.13	3.26	2.43	1.54	1.55	1.45	1.36	1.44
32	1.74	2.77	3.58	3.47	2.88	2.21	1.47	1.46	1.39	1.31	1.38
33	1.64	2.45	3.08	3.02	2.53	2.01	1.41	1.40	1.33	1.28	1.33
34	1.55	2.21	2.68	2.58	2.22	1.83	1.37	1.36	1.29	1.25	1.30
35	1.48	2.00	2.30	2.20	1.96	1.69	1.34	1.32	1.26	1.24	1.28
36	1.44	1.81	1.98	1.91	1.77	1.59	1.31	1.29	1.24	1.23	1.26
37	1.40	1.67	1.76	1.70	1.63	1.51	1.30	1.27	1.22	1.23	1.26
38	1.37	1.56	1.63	1.55	1.53	1.44	1.29	1.26	1.22	1.23	1.26
39	1.34	1.47	1.54	1.45	1.46	1.40	1.29	1.26	1.22	1.24	1.27
40	1.34	1.41	1.47	1.39	1.41	1.38	1.29	1.27	1.23	1.25	1.29

TABLE VII. Continued

(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$

Altitude, km	$\beta_{a,0.45}$, 10^{-4} km^{-1}, at latitude, deg, of -										
	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.	65.	55.
10	12.73	51.26	17.50	7.11	27.48	6.82	6.83	11.90	7.99	8.49	8.87
11	14.64	37.83	16.20	8.23	19.16	6.15	5.56	8.83	6.42	6.99	7.89
12	15.58	26.84	16.65	9.06	15.43	4.86	4.61	5.75	5.27	5.77	6.03
13	16.01	27.53	16.31	11.15	11.96	4.46	4.15	4.92	4.61	4.98	5.91
14	11.93	26.88	15.98	12.93	10.59	4.20	3.78	4.28	4.18	4.45	5.28
15	9.08	22.50	15.41	13.88	9.87	4.05	3.71	4.09	3.90	4.07	4.87
16	7.21	17.33	14.84	12.00	8.91	4.04	3.84	4.14	3.70	3.77	4.60
17	5.89	11.98	11.57	8.96	7.54	4.14	3.97	4.18	3.53	3.47	4.35
18	4.95	8.53	8.16	6.72	6.22	4.23	3.95	4.04	3.32	3.15	4.03
19	4.30	6.27	6.13	5.14	5.39	4.23	3.76	3.78	3.10	2.84	3.67
20	3.77	4.85	5.14	4.41	4.87	4.06	3.45	3.42	2.87	2.54	3.30
21	3.31	3.98	4.64	4.14	4.42	3.73	3.11	2.98	2.60	2.26	2.93
22	2.88	3.44	4.29	3.95	3.96	3.33	2.76	2.54	2.29	1.96	2.55
23	2.49	3.06	3.92	3.69	3.55	2.95	2.39	2.15	1.97	1.64	2.17
24	2.17	2.78	3.54	3.39	3.20	2.59	2.03	1.83	1.62	1.31	1.76
25	1.89	2.49	3.19	3.07	2.86	2.24	1.69	1.54	1.27	1.00	1.37
26	1.62	2.22	2.87	2.80	2.54	1.91	1.35	1.24	.96	.75	1.04
27	1.36	1.98	2.58	2.55	2.25	1.62	1.04	.93	.71	.55	.78
28	1.13	1.77	2.33	2.31	1.97	1.36	.78	.71	.53	.41	.58
29	.91	1.54	2.09	2.06	1.70	1.13	.58	.55	.40	.30	.43
30	.72	1.31	1.83	1.79	1.42	.92	.43	.42	.30	.22	.31
31	.55	1.08	1.52	1.49	1.14	.72	.32	.30	.23	.16	.22
32	.41	.86	1.20	1.16	.86	.53	.23	.21	.16	.12	.16
33	.30	.66	.89	.84	.62	.38	.17	.15	.12	.08	.12
34	.22	.48	.63	.59	.43	.27	.12	.11	.08	.06	.08
35	.16	.35	.44	.41	.30	.19	.08	.08	.06	.04	.06
36	.11	.25	.30	.29	.21	.14	.06	.06	.04	.03	.04
37	.08	.18	.21	.20	.15	.10	.04	.04	.03	.02	.03
38	.06	.13	.15	.14	.11	.07	.03	.03	.02	.02	.02
39	.04	.09	.10	.10	.07	.05	.02	.02	.02	.01	.02
40	.03	.06	.07	.07	.05	.04	.02	.01	.01	.01	.01
*TROP.+2	30.31	36.76	44.70	42.37	46.83	44.72	47.25	49.64	48.63	48.85	57.66

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE VII. Continued

(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$

Altitude, km	$\beta_{a,0.45}/\beta_{a,1.00}$ at latitude, deg, of -										
	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.	65.	55.
10	2.77	2.01	2.30	.71	1.49	2.06	2.32	1.96	1.93	2.18	1.99
11	3.17	2.10	2.46	1.51	1.81	2.48	2.37	2.17	2.14	2.40	2.55
12	3.36	2.17	2.85	2.11	2.38	2.58	2.41	2.38	2.46	2.67	3.04
13	3.46	2.42	3.04	1.94	2.63	2.74	2.56	3.08	2.72	2.89	3.35
14	3.61	2.43	3.14	1.85	3.29	3.01	2.76	3.16	2.90	3.04	3.52
15	3.80	3.35	3.04	2.19	3.62	3.33	3.01	3.23	3.01	3.12	3.56
16	4.15	3.26	2.94	2.43	3.76	3.64	3.24	3.34	3.08	3.18	3.56
17	4.25	3.42	3.03	2.50	3.92	3.83	3.39	3.42	3.13	3.20	3.55
18	4.04	3.63	3.28	2.89	4.22	3.89	3.47	3.44	3.15	3.19	3.52
19	3.78	4.02	3.67	3.61	4.71	3.90	3.50	3.44	3.16	3.16	3.48
20	3.50	4.02	3.86	3.85	4.59	3.90	3.51	3.45	3.15	3.10	3.42
21	3.31	3.59	3.85	3.53	4.40	3.88	3.51	3.46	3.11	3.02	3.35
22	3.20	3.24	3.70	3.35	4.22	3.87	3.51	3.48	3.05	2.93	3.29
23	3.16	3.13	3.63	3.33	3.98	3.89	3.55	3.48	3.02	2.87	3.28
24	3.21	3.17	3.57	3.34	3.70	3.91	3.65	3.45	3.04	2.85	3.32
25	3.37	3.25	3.54	3.30	3.48	3.92	3.80	3.50	3.11	2.87	3.39
26	3.57	3.37	3.53	3.32	3.37	3.90	3.90	3.66	3.24	2.91	3.49
27	3.77	3.54	3.55	3.41	3.35	3.86	3.98	3.77	3.34	2.95	3.59
28	3.97	3.74	3.59	3.50	3.37	3.79	4.06	3.88	3.43	3.00	3.65
29	4.16	3.91	3.64	3.56	3.44	3.78	4.13	4.04	3.50	3.07	3.69
30	4.36	4.02	3.72	3.60	3.57	3.79	4.19	4.20	3.58	3.13	3.70
31	4.54	4.15	3.85	3.69	3.74	3.79	4.27	4.24	3.60	3.15	3.68
32	4.61	4.27	4.03	3.86	3.84	3.77	4.26	4.16	3.55	3.12	3.63
33	4.59	4.37	4.17	4.02	3.93	3.70	4.08	3.99	3.47	3.04	3.52
34	4.55	4.44	4.26	4.14	4.00	3.63	3.79	3.79	3.36	2.89	3.37
35	4.53	4.45	4.38	4.31	4.08	3.57	3.44	3.55	3.22	2.70	3.15
36	4.67	4.45	4.59	4.65	4.19	3.50	3.06	3.24	3.01	2.45	2.89
37	5.08	4.48	4.82	5.04	4.25	3.36	2.68	2.85	2.72	2.17	2.60
38	5.53	4.47	5.04	5.29	4.19	3.16	2.31	2.41	2.39	1.88	2.33
39	5.77	4.42	5.14	5.32	4.03	2.90	1.98	2.00	2.08	1.64	2.06
40	5.50	4.27	5.07	5.18	3.79	2.62	1.69	1.66	1.83	1.47	1.74

TABLE VII. Continued

(e) Temperature

Altitude, km	Temperature, K, at latitude, deg, of -										
	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.	65.	55.
5	271.7	273.3	273.3	273.6	269.6	264.2	254.2	249.9	243.5	241.2	244.6
6	265.8	267.7	267.6	267.7	263.4	257.7	247.7	243.5	237.2	235.0	238.1
7	259.1	261.2	261.1	260.8	256.6	250.7	240.8	236.9	230.8	228.9	231.4
8	252.2	254.5	254.4	253.9	249.7	244.0	233.9	230.8	225.0	223.7	225.5
9	245.1	247.3	247.2	246.7	242.6	237.6	227.0	224.8	220.0	219.7	220.2
10	238.0	240.2	240.0	239.5	235.6	231.2	222.4	220.7	217.8	218.8	218.1
11	230.9	233.0	232.8	232.3	228.6	225.2	219.4	219.3	218.6	219.3	218.8
12	223.6	225.4	225.2	224.8	221.4	220.0	217.5	218.8	219.5	219.9	219.6
13	216.6	217.8	217.5	217.2	214.6	215.8	216.7	218.5	220.6	220.5	220.5
14	209.9	210.1	209.6	209.6	208.0	211.8	215.9	218.1	220.9	220.4	220.6
15	205.0	203.6	203.3	203.2	203.4	208.8	215.1	217.4	220.9	220.1	220.4
16	200.6	197.6	197.7	197.3	199.1	205.8	214.4	216.8	220.9	219.8	220.2
17	198.5	194.3	194.6	194.0	197.2	204.1	213.7	216.3	220.6	219.3	219.8
18	200.1	196.8	196.8	196.0	198.2	203.6	213.1	215.7	220.3	218.8	219.3
19	202.4	199.5	199.4	199.0	200.5	204.6	213.2	215.7	220.0	218.4	218.9
20	206.2	202.8	203.2	204.1	205.3	207.8	213.9	215.8	219.8	218.1	218.4
21	209.7	206.0	206.7	208.6	209.5	210.5	214.6	216.0	219.5	217.9	218.0
22	212.6	209.1	209.7	211.7	212.2	212.6	215.5	216.3	219.2	217.7	217.7
23	215.5	212.1	212.7	214.8	214.9	214.7	216.3	216.6	218.9	217.6	217.3
24	218.4	215.1	215.6	217.7	217.5	216.8	217.3	217.3	218.8	217.7	217.3
25	220.5	217.6	218.0	219.6	219.3	218.7	218.5	218.7	219.2	218.1	217.9
26	222.6	220.0	220.3	221.4	221.1	220.6	219.7	220.2	219.6	218.5	218.4
27	224.7	222.4	222.7	223.3	223.0	222.5	220.9	221.6	219.9	218.9	219.0
28	226.7	224.9	225.1	225.1	224.8	224.4	222.1	223.1	220.3	219.3	219.6
29	228.8	227.3	227.4	227.0	226.6	226.3	223.3	224.6	220.7	219.7	220.2
30	230.9	229.7	229.8	228.8	228.4	228.2	224.5	226.0	221.0	220.2	220.8

TABLE VII. Continued

(e) Concluded

Altitude, km	Temperature, K, at latitude, deg, of -										
	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.	65.	55.
31	233.0	232.2	232.2	230.7	230.3	230.1	225.8	227.5	221.7	221.1	221.9
32	234.9	234.5	234.6	233.2	232.8	232.3	228.0	229.3	223.2	222.6	224.4
33	236.6	236.8	237.0	235.9	235.5	234.5	230.3	231.2	224.7	224.2	226.9
34	238.4	239.1	239.4	238.6	238.2	236.7	232.6	233.0	226.2	225.8	229.4
35	240.2	241.4	241.9	241.3	240.9	238.9	234.8	234.8	227.8	227.3	231.9
36	241.9	243.7	244.3	244.0	243.6	241.1	237.1	236.7	229.3	229.0	234.2
37	244.1	246.4	247.1	246.8	246.3	243.5	239.3	238.8	230.9	230.6	236.3
38	246.5	249.3	250.0	249.7	249.0	246.0	241.4	240.9	232.5	232.3	238.4
39	249.0	252.2	252.9	252.5	251.7	248.4	243.6	243.0	234.1	234.0	240.5
40	251.4	255.1	255.8	255.4	254.4	250.9	245.7	245.1	235.7	235.7	242.6
41	253.9	258.0	258.8	258.2	257.1	253.3	247.9	247.2	237.3	237.4	244.7
42	256.3	260.9	261.7	261.1	259.8	255.8	250.1	249.3	239.0	239.2	246.8
43	258.7	263.8	264.6	263.9	262.4	258.3	251.9	251.1	241.0	241.1	248.5
44	260.2	264.9	265.7	265.1	263.6	259.5	253.4	252.7	242.9	243.1	250.2
45	261.4	265.8	266.6	266.0	264.7	260.7	255.0	254.2	244.9	245.1	251.9
46	262.6	266.7	267.5	266.9	265.7	261.9	256.5	255.8	246.9	247.0	253.6
47	263.8	267.6	268.4	267.8	266.7	263.2	258.1	257.4	248.6	248.6	255.3
48	265.0	268.5	269.3	268.7	267.7	264.4	259.2	258.5	249.4	249.4	255.8
49	265.5	268.8	269.5	268.9	268.0	264.6	259.3	258.5	250.3	250.2	256.1
50	265.1	268.2	268.9	268.3	267.5	264.2	259.4	258.6	251.1	251.1	256.4
51	264.6	267.7	268.2	267.8	267.0	263.9	259.4	258.7	251.9	251.9	256.7
52	264.2	267.1	267.6	267.2	266.5	263.6	259.5	258.8	252.7	252.7	257.0
53	263.8	266.6	267.0	266.6	266.0	263.3	259.5	258.9	253.6	253.6	257.3
54	263.4	266.0	266.3	266.0	265.4	262.9	259.6	259.0	254.4	254.4	257.6
55	262.9	265.4	265.7	265.5	264.9	262.6	259.6	259.0	255.2	255.3	257.9

TABLE VII. Concluded

(f) Geopotential height of standard pressure surfaces

Pressure, mbar	Altitude, km, at latitude, deg, of -										
	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.	65.	55.
1000.0	.12	.10	.09	.09	.15	.15	.14	.15	.10	.11	.14
850.0	1.52	1.51	1.50	1.50	1.54	1.52	1.47	1.46	1.36	1.35	1.41
700.0	3.15	3.15	3.14	3.15	3.17	3.12	3.02	2.97	2.84	2.81	2.90
500.0	5.87	5.88	5.88	5.8[illegible]	5.87	5.77	5.57	5.49	5.30	5.25	5.37
400.0	7.59	7.61	7.60	7.61	7.56	7.43	7.18	7.07	6.84	6.78	6.92
300.0	9.68	9.73	9.72	9.72	9.64	9.46	9.14	9.01	8.75	8.67	8.82
250.0	10.94	11.00	10.99	10.99	10.89	10.70	10.33	10.20	9.92	9.84	9.99
200.0	12.42	12.48	12.47	12.47	12.36	12.16	11.77	11.64	11.34	11.28	11.42
150.0	14.23	14.30	14.28	14.28	14.16	13.98	13.61	13.49	13.21	13.14	13.29
100.0	16.63	16.68	16.67	16.66	16.54	16.45	16.18	16.09	15.84	15.77	15.92
70.0	18.71	18.76	18.72	18.71	18.66	18.5[illegible]	18.40	18.34	18.14	18.05	18.22
50.0	20.75	20.77	20.73	20.71	20.67	20.6[illegible]	20.52	20.48	20.31	20.21	20.38
30.0	23.97	23.94	23.91	23.91	23.88	23.84	23.77	23.73	23.61	23.48	23.65
10.0	31.32	31.22	31.19	31.18	31.17	31.09	30.94	30.95	3[illegible].75	30.56	30.73
5.0	36.41	36.21	36.15	36.20	36.20	36.21	35.87	35.81	3[illegible].44	35.25	35.44
2.0	43.25	43.13	43.10	43.13	43.10	43.01	42.49	42.40	41.77	41.56	41.94
1.0	48.55	48.56	48.55	48.54	48.52	48.33	47.75	47.65	46.80	46.59	47.18
.4	55.66	55.81	55.84	55.80	55.69	55.33	54.67	54.60	53.57	53.34	54.10
TROP.	16.17	17.02	17.09	16.97	15.78	13.60	10.68	10.37	9.42	9.10	9.51

TABLE VIII. SUNSET ZONALLY AVERAGED EXTINCTION AND TEMPERATURE PROFILES IN 10° LATITUDE BANDS FOR APRIL 1979

(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$

Altitude, km	$\beta_{a,1.00}$, 10^{-4} km^{-1}, at latitude, deg, of -										
	45.	35.	25.	15.	5.	-5.	-15.	-25.	-35.	-45.	-55.
5	21.00	25.21	14.04	11.98	10.07	11.51	6.88	10.35	5.79	4.80	8.26
6	15.87	17.28	8.94	9.64	8.11	12.23	8.95	9.77	13.80	6.56	7.13
7	11.71	12.76	10.52	7.80	6.64	7.85	8.15	8.43	7.07	6.63	3.56
8	11.67	14.16	8.57	5.84	25.81	7.13	10.32	9.22	5.57	4.22	2.39
9	8.81	13.68	9.00	4.12	29.24	8.83	3.71	5.68	3.84	3.62	1.98
10	5.07	11.19	8.24	3.14	15.79	6.44	2.77	6.60	28.70	3.18	2.37
11	5.58	7.15	6.59	3.41	23.05	6.96	7.56	7.28	9.16	3.12	2.66
12	3.32	4.54	6.21	3.69	21.52	5.64	10.74	4.30	3.37	1.99	2.39
13	1.77	3.62	4.08	3.52	16.64	3.98	7.85	2.18	2.06	2.04	1.61
14	1.40	2.63	2.14	2.56	21.78	4.11	4.45	1.98	1.32	1.51	1.39
15	1.32	1.56	1.49	2.37	15.84	7.37	4.19	1.32	1.07	1.25	1.38
16	1.26	1.17	1.14	3.15	13.59	16.88	4.09	1.14	1.07	1.25	1.39
17	1.21	1.15	1.08	2.00	6.02	6.09	4.66	1.18	1.08	1.25	1.36
18	1.18	1.15	1.07	1.38	2.76	1.68	2.37	1.07	1.14	1.23	1.30
19	1.10	1.14	1.10	1.13	1.30	1.23	1.33	1.15	1.17	1.12	1.16
20	1.03	1.08	1.09	1.05	1.11	1.08	1.15	1.13	1.09	.98	.99
21	.95	.98	1.03	1.00	1.10	1.13	1.16	1.01	.93	.81	.78
22	.86	.92	.93	.94	1.09	1.08	1.07	.91	.79	.65	.60
23	.73	.83	.83	.89	1.02	1.03	.97	.80	.63	.49	.45
24	.58	.67	.72	.83	.91	.95	.88	.67	.48	.35	.32
25	.44	.51	.64	.81	.89	.89	.82	.59	.40	.27	.24
26	.30	.38	.54	.74	.84	.82	.75	.49	.32	.20	.17
27	.22	.31	.47	.67	.77	.75	.68	.38	.24	.14	.12
28	.16	.24	.41	.58	.69	.68	.61	.34	.18	.10	.09
29	.11	.18	.36	.49	.62	.61	.56	.30	.13	.08	.07
30	.08	.13	.29	.39	.55	.55	.47	.25	.10	.06	.05
31	.06	.09	.20	.28	.44	.46	.37	.20	.07	.04	.04
32	.05	.07	.14	.19	.29	.33	.25	.14	.06	.03	.03
33	.04	.05	.10	.14	.21	.22	.18	.10	.04	.03	.02
34	.03	.04	.07	.10	.14	.15	.12	.07	.03	.02	.02
35	.03	.03	.05	.07	.09	.10	.08	.05	.03	.02	.01
36	.02	.03	.03	.05	.06	.06	.06	.04	.02	.01	.01
37	.02	.02	.03	.03	.04	.04	.04	.03	.02	.01	.01
38	.02	.02	.02	.03	.03	.03	.03	.02	.02	.01	.01
39	.01	.01	.02	.02	.02	.02	.02	.02	.01	.01	.01
40	.01	.01	.02	.02	.02	.02	.02	.01	.01	.01	.01
*TPOP.+2	15.12	12.89	11.09	10.33	11.80	11.56	11.09	10.69	11.10	12.71	13.63

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE VIII. Continued

(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$

Altitude, km	$\beta_{a,1.00}/\beta_{m,1.00}$ at latitude, deg, of -										
	45.	35.	25.	15.	5.	-5.	-15.	-25.	-35.	-45.	-55.
5	4.33	5.15	3.29	2.97	2.69	2.90	2.12	2.74	1.94	1.74	2.34
6	3.77	4.07	2.58	2.75	2.49	3.25	2.64	2.78	3.48	2.19	2.27
7	3.29	3.54	3.14	2.57	.79	2.59	2.66	2.70	2.40	2.31	1.70
8	3.58	4.16	2.91	2.31	7.03	2.6	3.29	3.05	2.24	1.93	1.53
9	3.20	4.39	3.24	2.03	8.33	3.23	1.93	2.43	1.96	1.92	1.51
10	2.43	4.12	3.30	1.88	5.30	2.79	1.77	2.87	9.32	1.91	1.69
11	2.82	3.24	3.07	2.09	8.35	3.21	3.43	3.27	3.76	2.02	1.90
12	2.22	2.62	3.21	2.32	8.52	2.97	4.84	2.53	2.23	1.75	1.92
13	1.78	2.48	2.61	2.39	7.64	2.58	4.11	1.88	1.86	1.89	1.73
14	1.73	2.23	1.98	2.16	10.85	2.87	3.00	1.95	1.64	1.77	1.75
15	1.81	1.86	1.79	2.22	9.32	4.79	3.19	1.72	1.61	1.76	1.87
16	1.90	1.78	1.71	2.87	9.01	10.98	3.43	1.73	1.72	1.89	2.02
17	2.01	1.90	1.79	2.38	5.13	5.19	4.28	1.87	1.85	2.05	2.17
18	2.15	2.05	1.92	2.14	3.23	2.39	2.94	1.95	2.06	2.20	2.30
19	2.26	2.22	2.13	2.13	2.31	2.23	2.33	2.20	2.27	2.28	2.36
20	2.38	2.37	2.34	2.28	2.35	2.31	2.39	2.40	2.39	2.30	2.35
21	2.49	2.48	2.53	2.48	2.61	2.64	2.68	2.49	2.40	2.26	2.25
22	2.57	2.64	2.63	2.65	2.90	2.87	2.84	2.59	2.39	2.18	2.12
23	2.55	2.74	2.72	2.85	3.11	3.12	2.99	2.63	2.30	2.05	1.99
24	2.45	2.65	2.76	3.05	3.24	3.32	3.14	2.63	2.17	1.87	1.83
25	2.28	2.49	2.84	3.34	3.57	3.58	3.36	2.69	2.15	1.78	1.70
26	2.05	2.31	2.82	3.52	3.86	3.79	3.52	2.62	2.07	1.69	1.59
27	1.90	2.22	2.86	3.68	4.05	4.01	3.71	2.50	1.96	1.58	1.50
28	1.76	2.14	2.90	3.71	4.20	4.21	3.84	2.57	1.83	1.49	1.44
29	1.63	1.98	2.94	3.66	4.40	4.34	4.02	2.61	1.71	1.42	1.37
30	1.54	1.80	2.81	3.45	4.50	4.53	4.00	2.56	1.61	1.36	1.32
31	1.48	1.67	2.47	3.08	4.21	4.43	3.75	2.42	1.53	1.32	1.29
32	1.44	1.57	2.23	2.67	3.50	3.84	3.18	2.18	1.47	1.28	1.26
33	1.41	1.50	2.00	2.36	3.08	3.23	2.76	1.99	1.42	1.26	1.24
34	1.41	1.46	1.79	2.11	2.64	2.78	2.39	1.82	1.38	1.25	1.22
35	1.41	1.43	1.64	1.91	2.25	2.34	2.10	1.68	1.36	1.24	1.21
36	1.41	1.41	1.54	1.75	1.96	2.00	1.89	1.58	1.35	1.24	1.21
37	1.40	1.39	1.48	1.64	1.77	1.77	1.74	1.50	1.35	1.24	1.22
38	1.40	1.38	1.44	1.56	1.63	1.63	1.63	1.44	1.35	1.26	1.24
39	1.39	1.37	1.44	1.51	1.53	1.52	1.54	1.41	1.36	1.27	1.26
40	1.39	1.37	1.45	1.49	1.47	1.45	1.48	1.40	1.36	1.29	1.28

TABLE VIII. Continued

(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$

Altitude, km	$\beta_{a,0.45}$, 10^{-4} km^{-1}, at latitude, deg, of -										
	45.	35.	25.	15.	5.	-5.	-15.	-25.	-35.	-45.	-55.
10	21.12	28.70	22.89	9.94	50.39	13.37	12.04	7.27	41.11	8.06	7.78
11	14.02	18.47	18.40	9.22	40.28	13.09	15.99	7.62	21.54	6.72	6.40
12	10.29	12.88	14.70	9.60	32.20	12.81	18.41	7.22	6.71	5.34	5.47
13	7.27	9.27	10.72	9.15	23.94	12.55	15.52	5.64	5.45	4.40	4.69
14	5.76	6.87	8.00	8.80	26.63	11.44	12.18	6.18	4.52	3.84	4.30
15	5.05	5.33	6.06	8.10	26.42	15.84	10.78	5.18	3.85	3.62	4.15
16	4.70	4.55	4.99	7.69	20.21	15.96	8.83	4.62	3.70	3.61	4.11
17	4.48	4.27	4.47	6.93	13.46	12.74	10.64	4.33	3.76	3.66	4.05
18	4.29	4.19	4.32	6.08	9.37	9.13	8.01	4.18	3.88	3.64	3.88
19	4.07	4.13	4.25	5.34	6.74	6.55	6.00	4.10	3.91	3.46	3.56
20	3.78	3.97	4.09	4.73	5.18	5.05	4.87	3.92	3.73	3.12	3.10
21	3.43	3.72	3.85	4.23	4.32	4.27	4.27	3.60	3.34	2.68	2.57
22	3.04	3.39	3.50	3.79	3.84	3.79	3.84	3.21	2.85	2.20	2.04
23	2.62	3.00	3.12	3.38	3.43	3.38	3.42	2.78	2.33	1.74	1.57
24	2.16	2.53	2.75	3.04	3.08	3.10	3.05	2.37	1.87	1.34	1.16
25	1.71	2.06	2.41	2.79	2.90	2.98	2.82	2.03	1.53	1.03	.85
26	1.29	1.64	2.10	2.57	2.78	2.84	2.62	1.74	1.25	.79	.63
27	.95	1.30	1.82	2.34	2.63	2.65	2.43	1.48	1.00	.60	.46
28	.69	1.01	1.56	2.09	2.41	2.44	2.23	1.30	.79	.45	.34
29	.51	.77	1.34	1.81	2.18	2.23	2.01	1.13	.62	.34	.25
30	.38	.58	1.13	1.52	1.93	2.03	1.74	.97	.48	.25	.19
31	.28	.43	.89	1.21	1.62	1.76	1.43	.80	.36	.19	.14
32	.21	.32	.67	.92	1.26	1.43	1.10	.62	.27	.14	.10
33	.15	.24	.49	.67	.92	1.07	.80	.46	.20	.10	.07
34	.11	.17	.35	.48	.65	.76	.56	.33	.15	.07	.05
35	.08	.13	.25	.34	.45	.53	.39	.24	.11	.05	.04
36	.06	.09	.18	.25	.31	.37	.28	.17	.08	.04	.03
37	.05	.07	.13	.18	.22	.26	.20	.12	.06	.03	.02
38	.04	.05	.09	.12	.16	.18	.14	.09	.04	.02	.02
39	.03	.04	.07	.09	.11	.13	.10	.06	.03	.02	.01
40	.02	.03	.05	.06	.08	.09	.07	.05	.03	.01	.01
*TROP.+2	57.01	48.03	42.98	41.05	44.59	44.15	41.81	38.99	39.89	38.65	42.04

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE VIII. Continued

(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$

Altitude, km	$\beta_{a,0.45}/\beta_{a,1.00}$ at latitude, deg, of -										
	45.	35.	25.	15.	5.	-5.	-15.	-25.	-35.	-45.	-55.
10	3.06	2.70	2.49	2.70	1.46	2.04	1.84	1.98	2.64	2.27	3.33
11	2.74	2.60	2.85	2.81	1.60	2.26	2.39	2.47	2.56	2.41	2.89
12	2.91	2.71	3.15	3.22	1.72	2.48	2.71	2.65	2.50	2.47	2.64
13	3.15	3.02	3.20	3.33	2.23	2.69	2.78	2.75	2.62	2.52	2.64
14	3.48	3.23	3.50	3.56	2.19	2.74	2.84	3.06	2.96	2.62	2.75
15	3.72	3.34	3.75	3.60	2.34	2.48	3.11	3.41	3.12	2.73	2.87
16	3.71	3.41	3.87	3.85	2.63	2.60	3.26	3.67	3.31	2.81	2.95
17	3.68	3.57	3.93	4.07	2.65	2.95	3.38	3.78	3.38	2.95	2.99
18	3.68	3.67	3.95	4.27	3.27	3.38	3.65	3.73	3.43	3.05	3.05
19	3.68	3.70	3.90	4.42	3.76	3.93	3.92	3.67	3.48	3.15	3.11
20	3.67	3.73	3.82	4.40	3.98	4.31	3.92	3.60	3.53	3.23	3.17
21	3.63	3.76	3.78	4.23	3.88	3.91	3.78	3.55	3.59	3.30	3.23
22	3.61	3.75	3.77	4.03	3.59	3.58	3.64	3.54	3.64	3.37	3.31
23	3.64	3.77	3.78	3.81	3.40	3.36	3.52	3.50	3.68	3.46	3.37
24	3.73	3.83	3.80	3.61	3.26	3.28	3.43	3.45	3.72	3.58	3.40
25	3.85	3.97	3.83	3.51	3.27	3.37	3.45	3.48	3.82	3.70	3.45
26	3.96	4.14	3.89	3.49	3.35	3.46	3.51	3.54	3.91	3.81	3.50
27	4.04	4.22	3.93	3.52	3.45	3.52	3.57	3.65	4.03	3.94	3.55
28	4.10	4.24	3.91	3.61	3.49	3.57	3.64	3.78	4.23	4.11	3.61
29	4.18	4.28	3.95	3.75	3.53	3.65	3.69	3.85	4.48	4.23	3.64
30	4.27	4.38	4.12	3.96	3.63	3.78	3.78	3.97	4.69	4.25	3.61
31	4.27	4.50	4.32	4.21	3.82	3.97	3.94	4.14	4.78	4.16	3.52
32	4.10	4.53	4.49	4.46	4.06	4.24	4.14	4.32	4.72	3.97	3.38
33	3.79	4.43	4.62	4.65	4.25	4.51	4.31	4.43	4.51	3.69	3.18
34	3.41	4.19	4.75	4.74	4.38	4.73	4.39	4.44	4.17	3.36	2.91
35	3.04	3.83	4.86	4.78	4.53	4.97	4.48	4.43	3.75	3.00	2.63
36	2.71	3.43	4.85	4.79	4.80	5.31	4.58	4.37	3.30	2.65	2.34
37	2.45	3.02	4.67	4.72	5.10	5.67	4.62	4.23	2.89	2.32	2.08
38	2.26	2.68	4.32	4.49	5.23	5.94	4.54	4.00	2.56	2.04	1.85
39	2.08	2.38	3.89	4.13	5.13	5.92	4.32	3.68	2.33	1.82	1.73
40	1.88	2.09	3.45	3.67	4.82	5.63	4.07	3.31	2.18	1.67	1.87

TABLE VIII. Continued

(e) Temperature

Altitude, km	Temperature, K, at latitude, deg, of -										
	45.	35.	25.	15.	5.	-5.	-15.	-25.	-35.	-45.	-55.
5	253.3	263.7	269.7	273.0	273.7	273.7	272.4	267.6	263.1	254.9	250.8
6	246.7	257.2	263.4	267.0	268.0	268.0	266.6	261.4	256.7	248.3	244.0
7	239.6	250.0	256.3	260.5	261.6	261.5	260.1	254.5	249.1	241.1	236.9
8	232.7	242.7	249.2	253.8	255.0	254.7	253.3	247.7	242.0	234.6	230.9
9	225.8	235.4	242.0	246.7	248.1	247.4	246.2	241.0	235.1	228.3	225.0
10	220.5	228.0	235.0	239.6	241.1	240.2	239.3	234.4	228.4	222.9	220.7
11	218.0	221.4	228.4	232.4	233.7	233.1	232.4	228.1	222.6	219.7	218.8
12	216.9	216.0	221.8	225.0	225.8	225.9	225.4	222.0	217.8	217.8	217.7
13	217.2	213.4	216.1	217.7	218.0	218.5	218.5	217.2	215.7	217.3	217.4
14	217.3	211.2	210.9	210.4	210.2	211.0	211.5	212.9	213.9	216.8	217.2
15	217.0	210.5	207.2	204.4	204.0	204.6	205.9	210.0	212.9	216.3	217.0
16	216.8	209.7	203.8	199.0	198.4	198.8	200.8	207.4	212.0	215.8	216.8
17	216.3	209.0	201.7	195.7	195.3	195.3	197.9	206.1	211.9	215.9	216.9
18	215.7	208.5	201.4	197.2	197.4	197.7	199.8	206.9	212.4	216.1	217.1
19	215.5	209.0	202.6	199.6	200.3	200.4	202.1	208.1	213.3	216.5	217.2
20	215.6	210.8	207.1	205.2	205.5	204.3	205.6	210.6	214.6	216.9	217.3
21	215.9	212.7	211.2	210.1	210.2	208.1	209.1	213.0	216.0	217.4	217.5
22	216.3	214.7	214.1	213.2	213.2	211.3	212.2	215.3	217.5	218.1	217.7
23	216.6	216.7	217.0	216.2	216.3	214.5	215.4	217.7	218.9	218.7	217.8
24	217.2	218.7	219.9	219.3	219.3	217.8	218.5	220.1	220.4	219.3	218.1
25	218.5	220.4	221.6	221.0	221.1	220.2	220.7	221.8	221.7	220.1	218.5
26	219.8	222.0	223.3	222.7	222.9	222.6	222.8	223.4	223.0	220.8	218.8
27	221.1	223.7	224.9	224.4	224.7	225.0	224.9	225.1	224.3	221.6	219.2
28	222.3	225.3	226.6	226.1	226.5	227.3	227.1	226.7	225.6	222.3	219.6
29	223.6	227.0	228.3	227.8	228.3	229.7	229.2	228.3	226.9	223.1	220.0
30	224.9	228.6	230.0	229.5	230.1	232.1	231.3	230.0	228.1	223.8	220.3

TABLE VIII. Continued

(e) Concluded

Altitude, km	Temperature, K, at latitude, deg, of -										
	45.	35.	25.	15.	5.	-5.	-15.	-25.	-35.	-45.	-55.
31	226.3	230.3	231.7	231.2	231.9	234.5	233.5	231.6	229.4	224.6	220.9
32	228.9	232.3	233.7	233.5	234.3	236.7	235.3	233.1	230.7	225.8	222.1
33	231.6	234.5	235.9	236.0	237.0	238.6	237.0	234.5	232.1	227.1	223.2
34	234.2	236.7	238.0	238.5	239.6	240.6	238.6	235.9	233.4	228.3	224.4
35	236.9	238.9	240.2	241.0	242.3	242.6	240.2	237.3	234.8	229.6	225.5
36	239.5	241.1	242.3	243.5	245.0	244.6	241.9	238.8	236.1	231.0	227.0
37	241.9	243.4	244.6	246.0	247.7	246.9	243.9	240.6	238.0	232.7	228.7
38	244.2	245.7	247.0	248.6	250.3	249.5	246.4	242.8	240.0	234.5	230.4
39	246.6	248.0	249.3	251.1	253.0	252.2	248.8	245.0	242.1	236.3	232.1
40	248.9	250.3	251.7	253.6	255.6	254.8	251.2	247.1	244.1	238.0	233.8
41	251.3	252.6	254.1	256.1	258.3	257.4	253.6	249.3	246.1	239.8	235.5
42	253.6	254.8	256.4	258.7	260.9	260.0	256.1	251.5	248.2	241.6	237.3
43	255.5	257.1	258.8	261.2	263.6	262.7	258.5	253.7	250.1	243.4	239.4
44	256.9	258.5	260.4	262.8	265.2	264.3	260.1	255.3	251.7	245.3	241.4
45	258.2	259.7	261.5	263.8	266.1	265.2	261.3	256.7	253.4	247.2	243.5
46	259.6	261.0	262.7	264.8	266.9	266.1	262.5	258.2	255.0	249.1	245.5
47	260.9	262.3	263.9	265.8	267.8	267.0	263.7	259.6	256.6	251.0	247.2
48	262.1	263.6	265.0	266.8	268.7	267.9	264.9	261.1	258.2	251.9	248.1
49	262.0	263.9	265.7	267.4	269.3	268.6	265.5	261.6	258.3	252.4	249.1
50	261.8	263.6	265.3	267.0	268.7	268.1	265.2	261.5	258.4	253.0	250.0
51	261.6	263.4	264.9	266.5	268.1	267.5	264.8	261.3	258.5	253.6	251.0
52	261.5	263.1	264.5	266.0	267.5	267.0	264.4	261.2	258.7	254.2	251.9
53	261.3	262.8	264.2	265.6	266.9	266.4	264.0	261.1	258.8	254.8	252.9
54	261.2	262.6	263.8	265.1	266.3	265.9	263.7	261.0	258.9	255.4	253.8
55	261.0	262.3	263.4	264.6	265.7	265.3	263.3	260.9	259.0	255.9	254.8

TABLE VIII. Concluded

(f) Geopotential height of standard pressure surfaces

Pressure, mbar	Altitude, km, at latitude, deg, of -										
	45.	35.	25.	15.	5.	-5.	-15.	-25.	-35.	-45.	-55.
1000.0	.12	.15	.13	.10	.08	.08	.11	.12	.12	.07	.01
850.0	1.44	1.51	1.53	1.51	1.49	1.50	1.51	1.51	1.48	1.38	1.31
700.0	2.96	3.10	3.16	3.16	3.14	3.15	3.15	3.13	3.07	2.93	2.84
500.0	5.53	5.74	5.85	5.89	5.88	5.88	5.87	5.80	5.71	5.49	5.37
400.0	7.13	7.40	7.55	7.61	7.61	7.62	7.60	7.49	7.37	7.10	6.96
300.0	9.09	9.43	9.62	9.72	9.73	9.73	9.70	9.55	9.39	9.07	8.90
250.0	10.27	10.64	10.87	10.99	11.01	11.01	10.97	10.80	10.60	10.27	10.09
200.0	11.70	12.08	12.33	12.47	12.49	12.49	12.45	12.27	12.05	11.71	11.52
150.0	13.54	13.88	14.15	14.29	14.31	14.31	14.27	14.09	13.86	13.54	13.36
100.0	16.13	16.39	16.59	16.68	16.69	16.71	16.69	16.58	16.40	16.13	15.95
70.0	18.38	18.57	18.70	18.76	18.75	18.79	18.79	18.75	18.63	18.40	18.23
50.0	20.51	20.64	20.73	20.78	20.78	20.81	20.82	20.84	20.76	20.55	20.38
30.0	23.76	23.88	23.97	24.01	24.02	24.02	24.05	24.11	24.04	23.83	23.66
10.0	30.92	31.18	31.33	31.35	31.37	31.40	31.42	31.47	31.36	31.03	30.77
5.0	35.81	36.27	36.50	36.50	36.47	36.51	36.52	36.45	36.21	35.74	35.36
2.0	42.51	43.05	43.35	43.41	43.44	43.45	43.35	43.16	42.81	42.15	41.62
1.0	47.87	48.38	48.66	48.77	48.84	48.85	48.66	48.41	48.03	47.23	46.62
.4	54.88	55.38	55.70	55.89	56.08	56.04	55.77	55.47	55.04	54.11	53.43
TROP.	10.58	12.56	14.75	16.72	16.92	17.12	16.97	14.80	12.63	11.16	10.60

TABLE IX. SUNSET ZONALLY AVERAGED EXTINCTION AND TEMPERATURE PROFILES IN 10° LATITUDE BANDS FOR MAY 1979

(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$

Altitude, km	$\beta_{a,1.00}$, 10^{-4} km^{-1}, at latitude, deg, of -				
	-45.	-35.	-25.	-15.	-5.
5	3.94	5.33	6.91	5.88	10.46
6	3.14	3.81	7.36	4.54	11.63
7	3.17	3.22	6.55	3.87	13.15
8	3.71	2.46	6.03	7.09	11.94
9	2.65	2.24	4.79	4.96	9.70
10	2.95	3.45	3.06	3.90	7.14
11	2.39	2.58	3.51	4.09	8.99
12	2.59	1.74	4.57	4.91	6.20
13	2.18	1.58	3.58	6.66	4.68
14	1.32	1.35	4.38	9.54	7.81
15	1.28	1.20	2.43	8.41	11.38
16	1.29	1.16	1.40	7.58	8.02
17	1.32	1.18	1.25	5.49	3.49
18	1.30	1.21	1.17	2.55	3.02
19	1.20	1.21	1.19	1.43	1.55
20	1.06	1.12	1.19	1.25	1.34
21	.90	.98	1.07	1.14	1.18
22	.72	.85	.92	1.06	1.12
23	.56	.73	.82	.98	1.04
24	.43	.59	.70	.89	.94
25	.31	.47	.59	.79	.91
26	.24	.36	.50	.71	.84
27	.18	[illegible]8	.44	.65	.78
28	.13	.24	.38	.57	.73
29	.10	.19	.29	.51	.66
30	.07	.14	.21	.40	.55
31	.05	.10	.15	.26	.36
32	.04	.07	.11	.18	.23
33	.03	.05	.08	.12	.15
34	.02	.04	.05	.08	.09
35	.02	.03	.04	.06	.06
36	.02	.02	.03	.04	.04
37	.01	.02	.02	.03	.03
38	.01	.01	.02	.02	.02
39	.01	.01	.01	.02	.01
40	.01	.01	.01	.01	.01
*TROP.+2	12.73	11.92	10.09	11.47	12.86

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE IX. Continued

(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$

Altitude, km	$\beta_{a,1.00}/\beta_{m,1.00}$ at latitude, deg, of -				
	-45.	-35.	-25.	-15.	-5.
5	1.62	1.85	2.13	1.97	2.74
6	1.56	1.67	2.35	1.83	3.11
7	1.63	1.64	2.31	1.79	3.69
8	1.84	1.54	2.36	2.65	3.70
9	1.66	1.55	2.19	2.24	3.45
10	1.83	1.98	1.86	2.10	2.98
11	1.77	1.82	2.13	2.30	3.93
12	1.97	1.64	2.60	2.73	3.17
13	1.94	1.67	2.46	3.72	2.87
14	1.68	1.66	2.98	5.12	4.64
15	1.77	1.69	2.27	5.34	6.91
16	1.91	1.78	1.86	5.52	5.67
17	2.09	1.93	1.91	4.73	3.34
18	2.25	2.12	2.01	3.04	3.50
19	2.35	2.31	2.23	2.43	2.55
20	2.40	2.43	2.46	2.50	2.61
21	2.38	2.47	2.56	2.65	2.70
22	2.30	2.50	2.60	2.84	2.93
23	2.18	2.52	2.70	3.01	3.13
24	2.05	2.44	2.70	3.16	3.30
25	1.91	2.33	2.69	3.27	3.60
26	1.80	2.18	2.69	3.38	3.83
27	1.70	2.10	2.72	3.59	4.11
28	1.62	2.08	2.73	3.66	4.40
29	1.54	2.03	2.58	3.79	4.60
30	1.46	1.87	2.34	3.55	4.47
31	1.38	1.71	2.09	2.93	3.62
32	1.33	1.60	1.91	2.52	2.99
33	1.30	1.50	1.76	2.23	2.52
34	1.27	1.44	1.63	1.98	2.10
35	1.26	1.40	1.52	1.79	1.82
36	1.26	1.36	1.45	1.63	1.63
37	1.26	1.33	1.39	1.52	1.50
38	1.28	1.31	1.35	1.43	1.41
39	1.30	1.30	1.32	1.37	1.35
40	1.33	1.30	1.29	1.31	1.30

TABLE IX. Continued

(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$

Altitude, km	$\beta_{a,0.45}$, 10^{-4} km^{-1}, at latitude, deg, of -				
	-45.	-35.	-25.	-15.	-5.
10	7.34	9.56	6.79	8.74	29.99
11	6.05	7.37	7.43	9.76	22.44
12	5.16	6.13	8.07	10.78	19.88
13	4.67	5.41	7.90	12.06	18.34
14	4.23	4.85	7.93	12.19	17.99
15	4.06	4.44	7.23	14.15	20.12
16	4.07	4.25	6.32	14.65	15.65
17	4.09	4.19	5.76	12.88	13.03
18	4.01	4.18	5.38	9.96	12.80
19	3.76	4.08	5.07	7.46	9.79
20	3.38	3.84	4.72	5.79	7.57
21	2.92	3.47	4.24	4.69	6.04
22	2.44	3.01	3.65	4.01	4.99
23	1.95	2.51	3.05	3.54	4.17
24	1.51	2.06	2.51	3.17	3.55
25	1.16	1.70	2.12	2.90	3.19
26	.89	1.40	1.81	2.64	2.93
27	.69	1.16	1.55	2.38	2.70
28	.53	.96	1.32	2.12	2.50
29	.41	.78	1.09	1.83	2.29
30	.31	.62	.86	1.47	2.00
31	.23	.47	.66	1.11	1.60
32	.16	.34	.49	.80	1.18
33	.12	.25	.36	.57	.83
34	.09	.18	.25	.40	.57
35	.06	.13	.18	.28	.39
36	.05	.10	.13	.20	.28
37	.03	.07	.09	.14	.20
38	.02	.05	.07	.10	.14
39	.02	.04	.05	.07	.09
40	.02	.03	.03	.05	.06
*TROP.+2	41.03	42.87	39.96	46.42	57.43

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE IX. Continued

(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$

Altitude, km	$\beta_{a,0.45}/\beta_{a,1.00}$ at latitude, deg, of -				
	-45.	-35.	-25.	-15.	-5.
10	3.57	2.97	2.57	2.72	3.22
11	3.06	2.91	2.97	2.95	3.18
12	2.73	3.08	3.36	3.17	3.67
13	2.67	3.27	3.46	3.31	3.65
14	2.74	3.42	3.67	3.16	3.50
15	2.91	3.50	3.78	3.24	3.60
16	3.06	3.53	3.97	3.42	3.66
17	3.10	3.53	4.26	3.80	4.15
18	3.13	3.49	4.41	4.18	4.59
19	3.17	3.48	4.29	4.23	5.09
20	3.21	3.50	4.14	4.25	5.25
21	3.27	3.54	4.01	4.03	4.91
22	3.35	3.54	3.90	3.75	4.44
23	3.41	3.49	3.73	3.61	4.03
24	3.46	3.48	3.57	3.58	3.69
25	3.54	3.62	3.55	3.64	3.54
26	3.65	3.82	3.60	3.69	3.47
27	3.74	4.00	3.67	3.71	3.44
28	3.83	4.13	3.78	3.71	3.45
29	3.93	4.24	3.92	3.72	3.56
30	3.97	4.41	4.11	3.78	3.82
31	3.95	4.58	4.34	3.98	4.20
32	3.87	4.63	4.45	4.23	4.63
33	3.70	4.54	4.43	4.36	5.00
34	3.45	4.39	4.37	4.41	5.38
35	3.16	4.23	4.31	4.49	5.90
36	2.86	3.99	4.19	4.57	6.43
37	2.54	3.67	3.98	4.58	6.73
38	2.21	3.27	3.71	4.50	6.76
39	1.92	2.91	3.42	4.31	6.54
40	1.72	2.61	3.12	4.06	6.13

TABLE IX. Continued

(e) Temperature

Altitude, km	Temperature, K, at latitude, deg, of -				
	-45.	-35.	-25.	-15.	-5.
5	256.7	262.0	269.6	273.4	274.0
6	250.0	255.4	263.7	267.5	268.3
7	242.5	248.0	256.8	260.8	261.7
8	235.7	241.0	249.9	253.9	255.0
9	229.1	234.3	243.1	246.9	248.0
10	223.1	228.0	236.3	239.9	241.0
11	219.1	222.7	229.6	232.8	233.7
12	216.9	218.4	222.6	225.4	225.9
13	216.6	216.4	216.5	218.1	218.3
14	216.5	214.6	210.8	210.9	210.9
15	216.4	213.4	207.3	205.3	204.9
16	216.4	212.3	204.2	200.3	199.6
17	216.6	212.1	202.8	197.4	196.2
18	216.8	212.5	204.0	199.3	198.0
19	217.1	213.2	205.7	201.7	200.3
20	217.4	214.4	208.7	205.5	204.7
21	217.7	215.7	211.6	209.2	209.0
22	218.0	217.0	214.3	212.3	212.1
23	218.4	218.3	216.9	215.4	215.3
24	218.7	219.6	219.6	218.4	218.5
25	219.2	220.7	221.4	220.7	220.6
26	219.7	221.7	223.1	223.0	222.7
27	220.2	222.8	224.8	225.2	224.8
28	220.7	223.9	226.5	227.5	226.9
29	221.2	224.9	228.2	229.7	229.0
30	221.7	226.0	229.9	232.0	231.1

TABLE IX. Continued

(e) Concluded

Altitude, km	Temperature, K, at latitude, deg, of -				
	-45.	-35.	-25.	-15.	-5.
31	222.2	227.1	231.6	234.2	233.1
32	223.2	228.2	233.0	236.1	235.3
33	224.3	229.3	234.3	237.8	237.4
34	225.3	230.4	235.6	239.4	239.6
35	226.3	231.5	236.9	241.1	241.8
36	227.6	232.6	238.1	242.8	243.9
37	229.2	234.4	240.0	244.8	246.3
38	230.9	236.3	242.2	247.3	248.8
39	232.6	238.1	244.4	249.7	251.4
40	234.3	240.0	246.6	252.2	253.9
41	236.0	241.9	248.8	254.7	256.4
42	237.6	243.7	250.9	257.1	259.0
43	239.6	245.6	253.1	259.6	261.5
44	241.7	247.4	254.7	261.2	263.3
45	243.7	249.2	256.2	262.4	264.3
46	245.7	251.0	257.7	263.5	265.2
47	247.7	252.8	259.1	264.6	266.2
48	248.5	254.2	260.6	265.7	267.2
49	249.4	254.6	261.0	266.5	268.0
50	250.3	255.0	260.9	266.0	267.5
51	251.2	255.4	260.8	265.6	267.0
52	252.0	255.8	260.7	265.2	266.5
53	252.9	256.2	260.7	264.7	266.0
54	253.8	256.5	260.6	264.3	265.5
55	254.7	256.9	260.5	263.9	265.0

TABLE IX. Concluded

(f) Geopotential height of standard pressure surfaces

Pressure, mbar	Altitude, km, at latitude, deg, of -				
	-45.	-35.	-25.	-15.	-5.
1000.0	.10	.14	.13	.11	.10
850.0	1.43	1.50	1.53	1.52	1.52
700.0	2.99	3.09	3.15	3.16	3.16
500.0	5.57	5.72	5.85	5.90	5.90
400.0	7.19	7.37	7.55	7.62	7.63
300.0	9.16	9.38	9.63	9.73	9.75
250.0	10.36	10.59	10.88	11.00	11.03
200.0	11.79	12.03	12.35	12.48	12.51
150.0	13.62	13.86	14.16	14.30	14.33
100.0	16.20	16.40	16.60	16.71	16.73
70.0	18.48	18.63	18.74	18.80	18.80
50.0	20.63	20.76	20.81	20.84	20.83
30.0	23.92	24.04	24.06	24.06	24.05
10.0	31.07	31.30	31.42	31.45	31.41
5.0	35.68	36.11	36.40	36.53	36.56
2.0	41.98	42.59	43.09	43.40	43.49
1.0	47.00	47.71	48.31	48.74	48.85
.4	53.83	54.63	55.36	55.89	56.01
TROP.	11.57	12.85	15.48	16.47	16.51

TABLE X. SUNSET ZONALLY AVERAGED EXTINCTION AND TEMPERATURE PROFILES IN 10° LATITUDE BANDS FOR JUNE 1979

(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$

Altitude, km	$\beta_{a,1.00}$, 10^{-4} km^{-1}, at latitude, deg, of -							
	65.	55.	45.	15.	5.	-25.	-35.	-45.
5	16.90	21.56	24.41	0.00	0.00	5.71	3.67	4.86
6	19.42	22.15	25.74	17.64	0.00	4.01	3.64	5.70
7	19.92	21.60	17.28	9.73	0.00	8.04	6.69	3.99
8	19.21	18.86	12.82	5.79	0.00	4.65	3.50	3.46
9	13.38	15.02	30.15	4.17	0.00	4.05	1.68	2.41
10	7.23	9.31	16.06	5.47	0.00	4.12	1.52	2.05
11	3.57	4.54	8.75	3.99	0.00	3.69	1.54	1.93
12	1.92	2.41	3.84	2.79	0.00	3.32	1.52	1.76
13	1.45	1.68	2.17	2.46	1.42	1.50	1.47	1.57
14	1.33	1.45	1.59	12.15	1.36	1.21	1.32	1.44
15	1.28	1.36	1.39	7.74	1.34	1.22	1.26	1.42
16	1.24	1.31	1.30	3.74	1.27	1.13	1.28	1.44
17	1.19	1.25	1.24	1.41	1.20	1.14	1.34	1.41
18	1.12	1.19	1.21	1.23	1.17	1.14	1.26	1.34
19	1.02	1.09	1.17	1.23	1.12	1.17	1.21	1.23
20	.92	.99	1.07	1.18	1.19	1.14	1.10	1.07
21	.84	.92	.99	1.09	1.23	1.03	.95	.92
22	.74	.82	.85	1.09	1.19	.90	.82	.77
23	.60	.66	.68	1.04	1.05	.78	.68	.66
24	.45	.50	.55	.88	.98	.65	.57	.58
25	.31	.35	.41	.86	.90	.58	.49	.48
26	.22	.24	.30	.80	.82	.49	.39	.38
27	.16	.18	.20	.72	.70	.40	.29	.28
28	.11	.13	.14	.61	.55	.31	.22	.20
29	.08	.09	.10	.49	.47	.22	.17	.14
30	.06	.06	.07	.33	.32	.17	.12	.10
31	.04	.05	.05	.24	.22	.12	.09	.07
32	.03	.03	.04	.17	.15	.09	.06	.05
33	.02	.03	.03	.12	.09	.07	.04	.03
34	.02	.02	.02	.08	.06	.05	.03	.03
35	.01	.02	.02	.05	.04	.03	.02	.02
36	.01	.01	.02	.03	.03	.03	.02	.02
37	.01	.01	.01	.02	.02	.02	.01	.01
38	.01	.01	.01	.02	.02	.02	.01	.01
39	.01	.01	.01	.02	.02	.02	.01	.01
40	.01	.01	.01	.02	.02	.01	.01	.01
*TROP.+2	14.64	14.58	13.06	11.01	11.63	10.09	14.81	15.20

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE X. Continued

(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$

Altitude, km	$\beta_{a,1.00}/\beta_{m,1.00}$ at latitude, deg, of -							
	65.	55.	45.	15.	5.	-25.	-35.	-45.
5	3.67	4.44	4.92	0.00	0.00	1.92	1.57	1.76
6	4.45	4.94	5.62	4.41	0.00	1.72	1.64	2.00
7	4.97	5.30	4.41	2.93	0.00	2.60	2.33	1.79
8	5.34	5.21	3.82	2.30	0.00	2.03	1.76	1.77
9	4.38	4.76	8.89	2.06	0.00	2.01	1.41	1.61
10	3.07	3.64	5.50	2.52	0.00	2.16	1.43	1.59
11	2.17	2.46	3.74	2.24	0.00	2.15	1.51	1.65
12	1.74	1.90	2.38	1.99	0.00	2.18	1.58	1.68
13	1.67	1.74	1.92	1.98	1.56	1.61	1.65	1.71
14	1.72	1.76	1.79	6.81	1.61	1.56	1.68	1.76
15	1.80	1.83	1.81	4.95	1.68	1.66	1.76	1.87
16	1.90	1.92	1.88	3.19	1.76	1.71	1.90	2.03
17	2.00	2.03	1.98	1.98	1.84	1.84	2.10	2.18
18	2.10	2.14	2.12	2.02	1.99	2.00	2.21	2.31
19	2.15	2.21	2.26	2.22	2.13	2.21	2.36	2.40
20	2.22	2.29	2.35	2.41	2.45	2.40	2.45	2.44
21	2.30	2.39	2.46	2.58	2.79	2.51	2.47	2.44
22	2.31	2.45	2.46	2.88	3.06	2.57	2.48	2.41
23	2.24	2.35	2.39	3.11	3.15	2.60	2.44	2.42
24	2.08	2.19	2.29	3.13	3.37	2.57	2.42	2.46
25	1.88	1.98	2.14	3.42	3.55	2.65	2.44	2.40
26	1.72	1.79	1.96	3.65	3.75	2.63	2.32	2.30
27	1.60	1.68	1.77	3.80	3.71	2.58	2.17	2.12
28	1.50	1.56	1.63	3.76	3.50	2.41	2.04	1.93
29	1.41	1.47	1.54	3.62	3.49	2.17	1.94	1.78
30	1.34	1.39	1.44	3.06	2.96	2.07	1.79	1.64
31	1.29	1.33	1.36	2.71	2.58	1.90	1.66	1.52
32	1.25	1.28	1.30	2.44	2.23	1.77	1.54	1.42
33	1.22	1.25	1.26	2.18	1.92	1.65	1.45	1.35
34	1.20	1.23	1.24	1.92	1.66	1.55	1.38	1.30
35	1.18	1.21	1.23	1.68	1.49	1.46	1.32	1.28
36	1.17	1.20	1.23	1.48	1.41	1.40	1.29	1.26
37	1.16	1.21	1.23	1.39	1.39	1.36	1.28	1.25
38	1.16	1.22	1.23	1.39	1.43	1.34	1.29	1.26
39	1.16	1.22	1.24	1.45	1.45	1.31	1.30	1.29
40	1.16	1.21	1.26	1.46	1.45	1.29	1.29	1.32

TABLE X. Continued

(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$

Altitude, km	$\beta_{a,0.45}$, 10^{-4} km^{-1}, at latitude, deg, of -							
	65.	55.	45.	15.	5.	-25.	-35.	-45.
10	12.20	18.30	32.14	13.84	0.00	11.60	4.50	5.77
11	9.31	13.53	22.72	12.49	0.00	9.23	4.10	5.60
12	6.89	9.74	14.59	11.14	0.00	6.57	4.16	5.32
13	5.86	7.65	10.46	10.13	2.60	5.64	4.12	4.82
14	5.37	6.59	7.85	11.60	2.15	4.97	4.05	4.53
15	5.17	6.05	6.62	9.81	3.80	4.65	3.97	4.43
16	5.00	5.71	6.06	8.10	3.99	4.54	3.99	4.41
17	4.79	5.38	5.75	6.67	4.30	4.47	4.06	4.32
18	4.48	5.00	5.42	5.78	4.54	4.35	4.05	4.13
19	4.12	4.56	4.99	5.27	4.74	4.16	3.89	3.82
20	3.75	4.11	4.50	4.84	4.79	3.87	3.58	3.41
21	3.36	3.67	4.03	4.52	4.73	3.48	3.15	2.94
22	2.91	3.22	3.50	4.21	4.43	3.03	2.71	2.46
23	2.41	2.68	2.91	3.77	3.91	2.57	2.29	2.07
24	1.88	2.10	2.35	3.36	3.40	2.19	1.93	1.74
25	1.41	1.57	1.85	3.05	2.94	1.96	1.62	1.45
26	1.02	1.15	1.40	2.74	2.54	1.74	1.35	1.19
27	.74	.84	1.02	2.40	2.19	1.52	1.10	.94
28	.52	.61	.74	2.05	1.88	1.28	.89	.73
29	.37	.45	.53	1.71	1.58	1.04	.70	.55
30	.27	.33	.39	1.40	1.23	.82	.54	.40
31	.19	.25	.29	1.11	.93	.64	.40	.29
32	.14	.18	.21	.83	.69	.48	.30	.21
33	.10	.13	.15	.58	.50	.36	.22	.15
34	.07	.09	.10	.40	.35	.27	.16	.11
35	.05	.07	.07	.28	.24	.20	.11	.07
36	.04	.05	.05	.20	.17	.14	.08	.05
37	.02	.03	.03	.14	.12	.10	.06	.04
38	.02	.02	.02	.10	.08	.07	.04	.03
39	.01	.02	.02	.07	.06	.05	.03	.02
40	.01	.01	.01	.05	.04	.03	.02	.02
*TROP.+2	58.80	62.60	58.51	42.54	43.16	36.85	48.03	47.74

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE X. Continued

(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$

Altitude, km	$\beta_{a,0.45}/\beta_{a,1.00}$ at latitude, deg, of -							
	65.	55.	45.	15.	5.	-25.	-35.	-45.
10	1.40	1.80	2.36	2.78	0.00	2.75	2.91	2.70
11	2.08	2.53	2.82	3.18	0.00	3.05	2.67	2.88
12	2.76	3.20	3.02	3.57	0.00	3.21	2.72	2.98
13	3.44	3.83	3.67	4.03	1.89	3.46	2.78	2.97
14	3.82	4.21	4.19	3.17	1.65	3.71	2.90	3.00
15	3.97	4.32	4.43	3.40	2.63	3.83	2.99	3.05
16	4.02	4.32	4.51	3.67	2.87	3.89	3.06	3.08
17	4.04	4.29	4.53	4.00	3.26	3.87	3.13	3.10
18	4.03	4.24	4.46	4.35	3.66	3.78	3.21	3.12
19	4.03	4.18	4.32	4.41	3.98	3.64	3.28	3.15
20	4.04	4.10	4.19	4.22	4.03	3.51	3.31	3.19
21	4.03	4.05	4.16	4.08	3.96	3.41	3.31	3.19
22	4.03	4.05	4.18	3.95	3.85	3.35	3.32	3.16
23	4.07	4.09	4.21	3.76	3.66	3.29	3.32	3.11
24	4.13	4.15	4.28	3.64	3.47	3.28	3.32	3.07
25	4.24	4.27	4.41	3.59	3.28	3.43	3.36	3.08
26	4.36	4.41	4.56	3.50	3.16	3.63	3.45	3.17
27	4.43	4.52	4.72	3.42	3.17	3.90	3.62	3.32
28	4.46	4.60	4.84	3.42	3.31	4.22	3.84	3.53
29	4.48	4.73	4.95	3.57	3.51	4.54	4.04	3.75
30	4.50	4.91	5.14	3.93	3.70	4.83	4.19	3.93
31	4.49	5.05	5.36	4.38	3.99	5.05	4.33	4.12
32	4.41	5.03	5.55	4.64	4.38	5.21	4.49	4.33
33	4.23	4.92	5.67	4.61	4.89	5.35	4.62	4.51
34	3.95	4.92	5.67	4.66	5.48	5.47	4.70	4.64
35	3.62	4.95	5.31	4.99	6.44	5.51	4.73	4.80
36	3.29	4.62	4.36	5.71	6.79	5.38	4.69	4.46
37	3.00	4.51	3.82	6.55	5.39	4.97	4.48	3.63
38	2.66	6.14	5.33	6.96	4.01	4.48	4.26	3.43
39	2.47	9.03	11.99	6.49	3.17	4.04	4.69	4.14
40	3.07	9.37	20.14	5.06	2.63	3.64	5.11	6.71

TABLE X. Continued

(e) Temperature

Altitude, km	Temperature, K, at latitude, deg, of -							
	65.	55.	45.	15.	5.	-25.	-35.	-45.
5	252.2	256.3	262.7	273.4	*****	267.9	254.3	252.2
6	245.8	249.7	256.2	267.2	*****	262.1	247.5	245.2
7	239.0	242.7	249.0	260.6	*****	255.4	240.5	237.7
8	232.7	235.9	241.6	254.0	*****	248.6	234.2	231.5
9	226.5	229.2	234.2	247.3	*****	241.8	228.1	225.5
10	223.8	224.6	227.1	240.6	*****	235.2	223.6	221.2
11	223.6	222.5	221.6	233.6	*****	228.8	220.9	219.1
12	224.2	221.8	218.1	226.1	*****	222.3	219.1	218.0
13	225.0	222.4	218.2	218.8	*****	216.8	218.1	217.5
14	225.6	222.7	218.5	211.4	*****	211.8	217.1	216.9
15	225.5	222.7	218.6	205.9	*****	208.7	216.1	216.3
16	225.5	222.6	218.7	201.1	*****	205.8	215.1	215.7
17	225.3	222.4	218.5	198.0	*****	204.6	214.9	215.2
18	225.0	222.0	217.9	199.5	*****	205.7	214.9	214.7
19	224.8	221.8	217.7	201.5	*****	207.2	215.2	214.7
20	224.8	222.1	218.5	206.6	*****	209.9	215.8	215.0
21	224.9	222.4	219.2	211.3	*****	212.4	216.4	215.3
22	225.2	222.9	220.1	213.9	*****	214.6	216.9	215.6
23	225.4	223.5	221.1	216.5	*****	216.7	217.5	215.9
24	225.7	224.0	222.0	219.0	*****	218.8	218.0	216.1
25	226.9	225.5	223.7	220.8	*****	220.5	218.5	216.3
26	228.3	227.2	225.7	222.6	*****	222.1	218.9	216.5
27	229.7	228.9	227.6	224.3	*****	223.7	219.4	216.7
28	231.1	230.6	229.6	226.0	*****	225.3	219.8	216.9
29	232.6	232.3	231.6	227.7	*****	226.9	220.3	217.1
30	234.0	234.0	233.5	229.5	*****	228.5	220.7	217.3

TABLE X. Continued

(e) Concluded

Altitude, km	Temperature, K, at latitude, deg, of -							
	65.	55.	45.	15.	5.	-25.	-35.	-45.
31	235.4	235.8	235.5	231.2	*****	230.1	221.2	217.6
32	237.4	237.8	237.7	233.0	*****	231.7	222.2	218.3
33	240.4	240.6	240.2	235.0	*****	233.3	223.1	219.1
34	243.4	243.4	242.8	237.0	*****	234.8	224.1	219.9
35	246.4	246.1	245.4	239.0	*****	236.4	225.1	220.6
36	249.5	248.9	248.0	241.0	*****	237.9	226.3	221.9
37	252.3	251.6	250.5	243.3	*****	240.0	227.9	223.4
38	254.6	253.9	252.8	245.7	*****	242.3	229.5	224.9
39	256.9	256.2	255.1	248.2	*****	244.6	231.1	226.5
40	259.2	258.4	257.4	250.7	*****	246.9	232.7	228.0
41	261.4	260.7	259.7	253.2	*****	249.2	234.3	229.5
42	263.7	263.0	262.0	255.7	*****	251.5	235.9	231.5
43	266.0	265.2	264.3	258.2	*****	253.7	238.0	233.7
44	268.1	267.4	266.4	259.8	*****	255.2	240.0	236.0
45	268.9	268.3	267.3	260.9	*****	256.6	242.1	238.2
46	269.8	269.2	268.2	262.0	*****	258.0	244.2	240.4
47	270.7	270.1	269.1	263.1	*****	259.5	246.1	242.1
48	271.6	271.0	270.0	264.3	*****	260.9	247.1	243.5
49	272.5	271.8	270.9	264.9	*****	261.2	248.2	244.9
50	272.5	271.8	270.8	264.6	*****	261.2	249.2	246.3
51	271.7	271.1	270.1	264.3	*****	261.1	250.2	247.7
52	271.0	270.4	269.4	264.1	*****	261.0	251.2	249.1
53	270.2	269.6	268.7	263.8	*****	260.9	252.2	250.5
54	269.4	268.9	268.1	263.5	*****	260.8	253.2	251.9
55	268.7	268.1	267.4	263.2	*****	260.7	254.2	253.3

TABLE X. Concluded

(f) Geopotential height of standard pressure surfaces

Pressure, mbar	Altitude, km, at latitude, deg, of -							
	65.	55.	45.	15.	5.	-25.	-35.	-45.
1000.0	.11	.11	.13	.11	.13	.16	.12	.09
850.0	1.42	1.45	1.50	1.54	1.55	1.55	1.46	1.41
700.0	2.95	3.01	3.09	3.20	3.19	3.15	3.01	2.95
500.0	5.48	5.58	5.72	5.92	5.92	5.83	5.57	5.50
400.0	7.08	7.19	7.38	7.64	7.65	7.52	7.17	7.08
300.0	9.03	9.17	9.39	9.75	9.77	9.59	9.13	9.03
250.0	10.23	10.37	10.60	11.03	11.04	10.84	10.33	10.22
200.0	11.69	11.83	12.04	12.51	12.51	12.31	11.78	11.65
150.0	13.59	13.71	13.88	14.33	14.32	14.13	13.63	13.49
100.0	16.28	16.37	16.50	16.74	16.71	16.59	16.21	16.08
70.0	18.61	18.66	18.74	18.83	18.81	18.76	18.47	18.34
50.0	20.83	20.85	20.89	20.87	20.85	20.83	20.61	20.47
30.0	24.22	24.21	24.21	24.12	24.10	24.09	23.88	23.72
10.0	31.68	31.65	31.64	31.47	31.46	31.40	31.01	30.75
5.0	36.83	36.85	36.84	36.50	0.00	36.34	35.65	35.30
2.0	43.88	43.89	43.86	43.32	0.00	43.04	41.91	41.42
1.0	49.47	49.45	49.37	48.66	0.00	48.29	46.87	46.27
.4	56.68	56.61	56.52	55.82	0.00	55.35	53.65	52.95
TROP.	9.83	10.53	11.82	16.64	16.18	14.97	10.86	10.84

TABLE XI. SUNSET ZONALLY AVERAGED EXTINCTION AND TEMPERATURE PROFILES IN 10° LATITUDE BANDS FOR JULY 1979

(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$

Altitude, km	$\beta_{a,1.00}$, 10^{-4} km^{-1}, at latitude, deg, of -	
	65.	75.
5	15.07	9.38
6	11.93	14.68
7	18.21	8.30
8	17.55	5.67
9	8.57	3.20
10	6.98	1.92
11	5.83	1.19
12	5.75	.99
13	5.75	.97
14	4.06	1.01
15	2.72	1.10
16	2.29	1.15
17	1.77	1.10
18	1.39	1.01
19	1.32	.93
20	1.21	.85
21	1.07	.74
22	.92	.59
23	.78	.42
24	.64	.30
25	.50	.21
26	.37	.15
27	.26	.10
28	.18	.07
29	.13	.05
30	.09	.04
31	.06	.03
32	.04	.02
33	.03	.02
34	.02	.02
35	.02	.01
36	.01	.01
37	.01	.01
38	.01	.01
39	.01	.01
40	.01	.01
*TROP.+2	25.27	11.29

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE XI. Continued

(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$

Altitude, km	$\beta_{a,1.00}/\beta_{m,1.00}$ at latitude, deg, of -	
	65.	75.
5	3.41	2.53
6	3.12	3.69
7	4.70	2.65
8	4.98	2.27
9	3.10	1.80
10	3.01	1.55
11	2.93	1.39
12	3.23	1.39
13	3.58	1.44
14	3.09	1.54
15	2.66	1.69
16	2.63	1.83
17	2.45	1.92
18	2.33	1.98
19	2.47	2.05
20	2.56	2.12
21	2.60	2.12
22	2.61	2.03
23	2.58	1.86
24	2.50	1.72
25	2.36	1.56
26	2.19	1.47
27	1.97	1.38
28	1.77	1.32
29	1.63	1.27
30	1.52	1.24
31	1.43	1.21
32	1.35	1.19
33	1.29	1.17
34	1.24	1.16
35	1.21	1.15
36	1.18	1.14
37	1.17	1.14
38	1.18	1.14
39	1.20	1.14
40	1.20	1.14

TABLE XI. Continued

(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$

Altitude, km	$\beta_{a,0.45}$, 10^{-4} km^{-1}, at latitude, deg, of -	
	65.	75.
10	22.87	5.18
11	21.55	4.00
12	22.32	2.83
13	19.70	1.97
14	16.25	1.87
15	13.04	2.10
16	10.48	2.40
17	8.62	2.62
18	7.48	2.71
19	6.83	2.69
20	6.35	2.53
21	5.81	2.26
22	5.20	1.94
23	4.54	1.61
24	3.81	1.27
25	3.08	.96
26	2.41	.71
27	1.78	.51
28	1.25	.37
29	.86	.27
30	.58	.20
31	.39	.14
32	.26	.10
33	.18	.07
34	.12	.05
35	.09	.04
36	.06	.03
37	.04	.02
38	.03	.02
39	.02	.01
40	.01	.01
*TROP.+2	118.07	30.45

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE XI. Continued

(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$

Altitude, km	$\beta_{a,0.45}/\beta_{a,1.00}$ at latitude, deg, of -	
	65.	75.
10	2.29	3.84
11	2.55	3.31
12	3.01	2.77
13	3.43	1.97
14	3.61	1.80
15	3.64	1.92
16	3.69	2.16
17	3.80	2.42
18	4.01	2.67
19	4.28	2.88
20	4.47	3.02
21	4.63	3.13
22	4.80	3.34
23	4.95	3.68
24	5.05	4.02
25	5.19	4.31
26	5.39	4.53
27	5.56	4.65
28	5.65	4.71
29	5.65	4.70
30	5.52	4.59
31	5.30	4.40
32	5.07	4.16
33	4.86	3.85
34	4.69	3.51
35	4.48	3.14
36	4.18	2.78
37	3.70	2.44
38	3.07	2.13
39	2.40	1.87
40	1.88	1.65

TABLE XI. Continued

(e) Temperature

Altitude, km	Temperature, K, at latitude, deg, of -	
	65.	75.
5	257.7	256.3
6	251.4	249.8
7	244.3	242.7
8	237.3	235.4
9	230.3	228.2
10	225.4	224.0
11	223.6	223.9
12	223.7	225.3
13	224.8	226.8
14	225.8	227.8
15	225.9	227.9
16	226.1	228.1
17	226.1	228.0
18	226.1	227.9
19	226.0	227.8
20	226.1	227.8
21	226.1	227.8
22	226.5	228.2
23	226.9	228.6
24	227.3	228.9
25	228.4	230.0
26	229.9	231.4
27	231.4	232.9
28	233.0	234.4
29	234.5	235.9
30	236.0	237.3

TABLE XI. Continued

(e) Concluded

Altitude, km	Temperature, K, at latitude, deg, of -	
	65.	75.
31	237.5	238.8
32	239.1	240.3
33	241.4	242.6
34	243.7	244.9
35	246.0	247.2
36	248.3	249.5
37	250.6	251.8
38	252.8	254.1
39	255.0	256.3
40	257.2	258.5
41	259.4	260.8
42	261.6	263.0
43	263.8	265.2
44	266.0	267.5
45	267.3	268.9
46	268.4	269.9
47	269.5	271.0
48	270.6	272.1
49	271.7	273.1
50	272.2	273.8
51	271.5	273.0
52	270.7	272.2
53	269.9	271.3
54	269.2	270.5
55	268.4	269.7

TABLE XI. Concluded

(f) Geopotential height of standard pressure surfaces

Pressure, mbar	Altitude, km, at latitude, deg, of -	
	65.	75.
1000.0	.07	.04
850.0	1.41	1.37
700.0	2.97	2.93
500.0	5.56	5.50
400.0	7.18	7.12
300.0	9.17	9.10
250.0	10.37	10.29
200.0	11.83	11.76
150.0	13.74	13.67
100.0	16.43	16.39
70.0	18.76	18.72
50.0	21.00	20.97
30.0	24.41	24.42
10.0	31.95	31.95
5.0	37.16	37.22
2.0	44.18	44.27
1.0	49.69	49.80
.4	56.89	57.02
TROP.	10.57	10.17

TABLE XII. SUNSET ZONALLY AVERAGED EXTINCTION AND TEMPERATURE PROFILES IN 10° LATITUDE BANDS FOR AUGUST 1979

(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$

Altitude, km	$\beta_{a,1.00}$, 10^{-4} km^{-1}, at latitude, deg, of -									
	75.	65.	55.	45.	35.	25.	15.	5.	-5.	-15.
5	12.07	13.02	14.36	10.69	16.83	12.61	9.14	13.82	10.68	9.78
6	12.51	16.88	11.68	8.70	15.60	9.42	7.41	9.72	7.78	7.56
7	14.06	15.35	12.27	6.67	9.29	5.43	7.32	7.14	5.66	5.68
8	13.57	12.65	12.25	6.42	5.92	3.53	4.25	7.12	3.66	4.56
9	11.72	9.25	8.68	5.26	4.61	2.83	3.32	8.52	6.19	4.09
10	4.49	4.24	4.53	3.31	6.52	2.53	5.55	5.31	5.17	3.82
11	1.93	2.00	2.61	2.39	5.91	10.57	7.30	5.65	3.73	4.15
12	1.21	1.24	1.55	1.87	3.99	11.32	11.03	15.44	5.95	3.94
13	1.06	1.15	1.32	1.48	2.22	4.16	8.13	7.68	6.21	3.49
14	1.11	1.15	1.22	1.22	1.36	1.51	6.98	7.17	5.02	2.54
15	1.19	1.22	1.25	1.16	1.17	3.07	7.47	6.38	3.63	1.60
16	1.21	1.23	1.23	1.09	1.09	2.17	4.93	3.25	2.48	1.21
17	1.17	1.22	1.23	1.09	1.08	1.37	1.96	1.94	1.45	1.13
18	1.09	1.15	1.19	1.15	1.09	1.12	1.23	1.17	1.15	1.15
19	1.00	1.06	1.11	1.16	1.14	1.11	1.12	1.12	1.20	1.18
20	.89	.95	1.03	1.12	1.11	1.10	1.17	1.11	1.18	1.18
21	.76	.80	.91	1.02	.99	1.02	1.18	1.11	1.11	1.11
22	.59	.62	.74	.90	.92	.93	1.15	1.11	1.05	1.06
23	.43	.47	.57	.75	.83	.86	1.06	1.08	1.05	1.02
24	.29	.32	.40	.58	.68	.74	.99	1.02	1.05	.97
25	.20	.23	.26	.42	.55	.68	.93	1.01	1.03	.92
26	.14	.16	.19	.31	.47	.60	.83	.94	.97	.80
27	.10	.11	.13	.24	.39	.52	.74	.81	.85	.69
28	.07	.08	.09	.17	.29	.41	.64	.68	.72	.62
29	.05	.06	.07	.12	.21	.30	.47	.44	.45	.41
30	.04	.04	.05	.09	.16	.22	.32	.26	.24	.25
31	.03	.03	.04	.07	.12	.17	.24	.18	.17	.18
32	.02	.02	.03	.05	.09	.12	.17	.13	.12	.12
33	.02	.02	.02	.04	.06	.09	.12	.09	.08	.09
34	.01	.02	.02	.04	.05	.07	.09	.07	.06	.06
35	.01	.01	.01	.03	.04	.05	.06	.05	.04	.04
36	.01	.01	.01	.02	.03	.03	.04	.04	.03	.03
37	.01	.01	.01	.02	.02	.03	.03	.03	.02	.02
38	.01	.01	.01	.02	.02	.02	.02	.02	.02	.02
39	.01	.01	.01	.02	.02	.02	.02	.02	.01	.02
40	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
*TROP.+2	11.73	12.28	12.92	11.24	9.81	9.83	11.63	11.26	11.48	11.41

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE XII. Continued

(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$

Altitude, km	$\beta_{a,1.00}/\beta_{m,1.00}$ at latitude, deg, of -									
	75.	65.	55.	45.	35.	25.	15.	5.	-5.	-15.
5	2.91	3.04	3.33	2.74	3.76	3.08	2.50	3.28	2.76	2.61
6	3.23	4.06	3.08	2.58	3.87	2.73	2.37	2.76	2.42	2.37
7	3.80	4.09	3.46	2.33	2.86	2.08	2.50	2.44	2.14	2.15
8	4.04	3.85	3.75	2.44	2.32	1.79	1.95	2.61	1.79	2.02
9	3.93	3.29	3.16	2.31	2.17	1.71	1.83	3.14	2.59	2.03
10	2.27	2.18	2.27	1.93	2.73	1.71	.58	1.31	2.44	2.07
11	1.64	1.65	1.83	1.75	2.84	4.36	.36	2.80	2.17	2.30
12	1.47	1.48	1.58	1.67	2.42	4.99	.89	6.44	3.16	2.40
13	1.49	1.52	1.58	1.61	1.89	2.63	4.25	4.07	3.49	2.39
14	1.60	1.61	1.63	1.58	1.62	1.67	4.22	4.27	3.26	2.14
15	1.74	1.75	1.75	1.64	1.62	2.66	4.88	4.32	2.89	1.84
16	1.88	1.88	1.86	1.71	1.67	2.28	3.92	2.96	2.47	1.74
17	1.98	2.01	1.99	1.82	1.78	1.95	2.37	2.33	2.01	1.82
18	2.06	2.10	2.11	2.00	1.93	1.94	2.03	1.99	1.98	1.99
19	2.13	2.19	2.21	2.19	2.14	2.11	2.15	2.14	2.22	2.21
20	2.17	2.24	2.30	2.35	2.32	2.32	2.44	2.37	2.43	2.45
21	2.15	2.20	2.35	2.46	2.41	2.47	2.73	2.64	2.61	2.61
22	2.04	2.09	2.28	2.50	2.54	2.58	3.01	2.94	2.81	2.82
23	1.88	1.94	2.15	2.47	2.64	2.72	3.17	3.23	3.15	3.08
24	1.68	1.74	1.93	2.33	2.58	2.76	3.41	3.49	3.53	3.33
25	1.56	1.62	1.73	2.14	2.51	2.90	3.63	3.90	3.93	3.62
26	1.46	1.51	1.60	1.99	2.51	2.98	3.77	4.16	4.25	3.66
27	1.38	1.42	1.50	1.91	2.45	3.00	3.90	4.19	4.33	3.70
28	1.31	1.35	1.42	1.73	2.26	2.83	3.93	4.10	4.32	3.80
29	1.26	1.29	1.35	1.62	2.06	2.59	3.51	3.35	3.37	3.16
30	1.22	1.25	1.30	1.53	1.94	2.36	3.01	2.64	2.53	2.53
31	1.19	1.21	1.26	1.46	1.80	2.18	2.76	2.29	2.28	2.27
32	1.17	1.19	1.23	1.42	1.69	2.03	2.47	2.07	2.02	2.04
33	1.15	1.17	1.21	1.40	1.60	1.86	2.22	1.89	1.83	1.85
34	1.13	1.16	1.20	1.40	1.53	1.73	2.00	1.76	1.69	1.69
35	1.12	1.15	1.19	1.40	1.48	1.62	1.82	1.65	1.57	1.58
36	1.12	1.14	1.18	1.38	1.44	1.52	1.67	1.57	1.48	1.49
37	1.12	1.14	1.19	1.36	1.41	1.45	1.56	1.50	1.41	1.44
38	1.12	1.15	1.20	1.36	1.39	1.41	1.48	1.44	1.36	1.41
39	1.13	1.16	1.21	1.37	1.37	1.37	1.42	1.41	1.33	1.41
40	1.14	1.18	1.22	1.38	1.37	1.36	1.36	1.39	1.31	1.42

TABLE XII. Continued

(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$

Altitude, km	$\beta_{a,0.45}$, 10^{-4} km^{-1}, at latitude, deg, of -									
	75.	65.	55.	45.	35.	25.	15.	5.	-5.	-15.
10	5.72	5.97	8.30	9.04	15.23	12.98	4.37	9.18	4.48	15.07
11	4.32	4.51	6.42	6.41	11.67	12.41	8.76	10.73	11.10	14.86
12	3.11	3.37	4.80	5.29	8.53	11.85	11.68	11.80	15.51	13.74
13	2.71	2.89	4.02	4.54	6.39	8.15	12.41	12.14	15.58	11.70
14	2.77	2.89	3.78	4.10	5.13	5.99	11.37	12.86	13.85	9.78
15	3.09	3.14	3.84	3.90	4.36	6.21	10.72	11.23	10.95	7.93
16	3.40	3.40	4.00	3.90	4.06	5.33	8.79	8.28	8.62	6.92
17	3.56	3.55	4.11	3.99	3.96	4.77	6.58	6.62	6.89	6.30
18	3.58	3.54	4.05	4.09	3.91	4.43	5.13	5.47	5.86	5.86
19	3.46	3.40	3.84	4.07	3.81	4.19	4.35	4.83	5.25	5.45
20	3.18	3.12	3.53	3.89	3.60	3.97	3.96	4.47	4.78	4.96
21	2.76	2.73	3.15	3.58	3.31	3.68	3.78	4.20	4.33	4.44
22	2.26	2.28	2.68	3.18	3.02	3.40	3.59	3.91	3.91	3.97
23	1.74	1.79	2.15	2.72	2.74	3.11	3.36	3.60	3.56	3.55
24	1.27	1.34	1.61	2.23	2.41	2.81	3.18	3.33	3.30	3.20
25	.90	.97	1.17	1.76	2.09	2.53	3.07	3.14	3.14	2.94
26	.63	.69	.85	1.37	1.81	2.27	2.95	2.91	2.92	2.66
27	.44	.50	.61	1.05	1.54	2.00	2.74	2.60	2.60	2.35
28	.31	.36	.45	.79	1.25	1.69	2.40	2.20	2.17	1.98
29	.23	.26	.33	.59	.99	1.37	1.98	1.72	1.66	1.55
30	.16	.19	.25	.45	.77	1.09	1.55	1.27	1.19	1.14
31	.12	.14	.18	.34	.58	.85	1.18	.93	.85	.81
32	.08	.10	.13	.26	.44	.64	.88	.68	.63	.57
33	.06	.07	.09	.20	.33	.47	.63	.49	.47	.39
34	.04	.05	.07	.15	.24	.34	.45	.36	.35	.27
35	.03	.04	.05	.12	.18	.25	.32	.26	.26	.19
36	.02	.03	.04	.09	.13	.18	.22	.18	.19	.13
37	.02	.02	.03	.07	.09	.12	.16	.13	.14	.09
38	.01	.02	.02	.05	.07	.09	.11	.09	.10	.07
39	.01	.01	.01	.04	.05	.06	.08	.06	.08	.05
40	.01	.01	.01	.03	.04	.05	.05	.04	.05	.03
*TROP.+2	37.31	37.77	44.13	41.23	35.17	37.78	41.69	40.80	41.96	43.57

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE XII. Continued

(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$

Altitude, km	$\beta_{a,0.45}/\beta_{a,1.00}$ at latitude, deg, of -									
	75.	65.	55.	45.	35.	25.	15.	5.	-5.	-15.
10	1.41	1.83	1.85	3.18	4.10	2.33	1.15	2.23	2.69	3.29
11	1.64	1.92	2.10	2.75	3.62	2.56	2.17	2.45	3.07	3.78
12	1.91	2.11	2.38	2.74	3.14	2.79	2.84	2.61	3.15	4.00
13	2.23	2.30	2.71	2.85	2.99	2.96	2.82	2.88	3.56	4.12
14	2.42	2.45	2.92	3.04	3.10	3.24	3.23	3.06	3.78	4.41
15	2.63	2.60	3.07	3.25	3.29	3.40	3.22	3.16	3.85	4.74
16	2.86	2.79	3.22	3.44	3.46	3.66	3.42	3.47	4.10	5.17
17	3.08	2.97	3.37	3.55	3.52	3.65	3.48	3.77	4.38	5.31
18	3.30	3.11	3.44	3.59	3.51	3.68	3.50	4.12	4.55	5.07
19	3.49	3.23	3.47	3.58	3.44	3.74	3.55	4.13	4.43	4.69
20	3.61	3.33	3.48	3.56	3.37	3.70	3.46	4.03	4.17	4.31
21	3.71	3.44	3.53	3.55	3.31	3.64	3.32	3.80	3.91	3.99
22	3.82	3.62	3.63	3.59	3.31	3.64	3.24	3.58	3.65	3.73
23	3.95	3.78	3.75	3.68	3.39	3.68	3.20	3.37	3.39	3.49
24	4.06	3.94	3.89	3.82	3.51	3.71	3.23	3.22	3.17	3.31
25	4.15	4.06	4.07	4.01	3.69	3.74	3.37	3.17	3.10	3.28
26	4.14	4.12	4.24	4.19	3.87	3.80	3.55	3.17	3.08	3.31
27	4.12	4.17	4.34	4.35	4.05	3.93	3.73	3.24	3.11	3.38
28	4.15	4.24	4.44	4.50	4.28	4.11	3.90	3.42	3.23	3.49
29	4.19	4.34	4.57	4.68	4.54	4.36	4.14	3.72	3.50	3.72
30	4.17	4.41	4.65	4.82	4.73	4.67	4.45	4.19	3.95	4.06
31	4.06	4.39	4.64	4.91	4.85	4.95	4.72	4.70	4.49	4.35
32	3.88	4.25	4.52	4.93	4.93	5.11	4.84	5.01	4.88	4.40
33	3.61	4.01	4.30	4.76	4.91	5.15	4.85	5.14	5.25	4.32
34	3.29	3.69	4.06	4.42	4.76	5.10	4.83	5.12	5.61	4.25
35	2.93	3.35	3.96	4.03	4.52	4.98	4.83	4.98	5.87	4.19
36	2.55	3.10	4.46	3.74	4.19	4.87	4.82	4.74	6.07	3.98
37	2.18	2.95	5.89	3.69	3.81	4.87	4.74	4.44	6.20	3.66
38	1.84	2.86	4.01	3.68	3.42	5.08	4.52	4.08	6.29	3.29
39	1.55	2.82	2.76	3.42	3.06	5.34	4.28	3.67	6.24	2.93
40	1.35	2.79	2.39	3.03	2.76	5.41	4.02	3.27	5.98	2.61

TABLE XII. Continued

(e) Temperature

Altitude, km	Temperature, K, at latitude, deg, of -									
	75.	65.	55.	45.	35.	25.	15.	5.	-5.	-15.
5	255.6	257.3	259.8	268.3	271.8	273.4	273.0	272.2	272.6	271.9
6	249.2	250.8	253.3	262.3	265.4	267.0	266.9	266.4	266.6	265.8
7	242.3	243.8	246.2	255.3	258.8	260.6	260.2	259.8	260.0	258.8
8	235.2	236.6	239.2	248.3	252.2	254.0	253.3	253.1	253.2	251.7
9	228.1	229.4	232.2	241.4	245.6	247.1	246.1	246.2	246.2	244.6
10	223.3	224.6	226.7	234.7	239.0	240.2	238.9	239.2	239.2	237.6
11	222.9	223.2	223.9	228.5	232.5	233.1	231.8	232.1	232.1	230.8
12	224.4	223.8	223.0	223.7	226.3	225.8	224.2	224.5	224.7	223.7
13	225.9	225.0	223.3	220.4	220.6	219.0	216.9	217.2	217.5	217.1
14	227.1	225.9	223.5	217.7	215.4	212.6	210.1	210.1	210.4	210.7
15	227.4	226.1	223.2	216.2	211.8	208.0	205.5	205.1	205.5	206.5
16	227.7	226.2	222.9	214.9	208.8	204.1	201.7	201.0	201.2	203.0
17	227.9	226.2	222.8	213.7	206.6	201.6	199.7	198.9	199.3	201.5
18	227.8	226.1	222.8	213.0	207.1	202.9	201.4	200.8	202.0	204.1
19	227.9	226.0	222.9	212.6	207.8	204.4	203.7	203.4	204.8	206.7
20	227.9	226.1	223.0	214.3	210.9	208.5	208.7	208.3	207.8	209.4
21	228.0	226.1	223.2	216.1	214.1	212.5	213.3	212.8	210.7	212.0
22	228.3	226.4	223.7	217.8	216.2	214.9	215.4	215.0	213.1	214.2
23	228.5	226.7	224.2	219.5	218.3	217.3	217.5	217.1	215.4	216.3
24	228.8	227.0	224.7	221.2	220.4	219.7	219.7	219.3	217.8	218.4
25	229.8	228.0	225.9	222.8	222.1	221.5	221.5	221.2	219.8	220.3
26	231.3	229.5	227.4	224.4	223.7	223.2	223.2	223.0	221.7	222.1
27	232.9	230.9	228.9	226.0	225.3	224.9	225.0	224.8	223.7	223.9
28	234.5	232.4	230.4	227.6	226.9	226.6	226.8	226.6	225.7	225.7
29	236.0	233.8	231.9	229.2	228.5	228.3	228.5	228.4	227.6	227.5
30	237.6	235.3	233.4	230.8	230.0	230.0	230.3	230.2	229.6	229.3

TABLE XII. Continued

(e) Concluded

Altitude, km	Temperature, K, at latitude, deg, of -									
	75.	65.	55.	45.	35.	25.	15.	5.	-5.	-15.
31	239.1	236.8	234.9	232.4	231.6	231.6	232.1	232.0	231.5	231.1
32	240.7	238.3	236.5	234.1	233.2	233.2	233.7	233.8	233.4	232.9
33	243.0	240.5	238.6	235.8	234.9	234.7	235.3	235.5	235.2	234.6
34	245.4	242.8	240.7	237.6	236.5	236.2	236.9	237.2	237.1	236.3
35	247.7	245.1	242.8	239.3	238.2	237.6	238.5	238.9	238.9	238.0
36	250.0	247.3	244.9	241.1	239.9	239.1	240.1	240.6	240.7	239.7
37	252.3	249.6	247.0	242.9	241.6	240.9	242.3	242.8	242.9	241.8
38	254.5	251.7	249.1	245.0	243.8	243.2	244.7	245.2	245.3	244.2
39	256.7	253.9	251.1	247.0	246.0	245.4	247.1	247.7	247.7	246.6
40	258.9	256.0	253.2	249.1	248.1	247.7	249.6	250.2	250.2	249.0
41	261.2	258.2	255.2	251.2	250.3	250.0	252.0	252.6	252.6	251.4
42	263.4	260.3	257.3	253.2	252.5	252.3	254.5	255.1	255.1	253.7
43	265.6	262.4	259.4	255.3	254.6	254.5	256.9	257.6	257.5	256.1
44	267.8	264.6	261.3	257.1	256.4	256.2	258.4	259.1	259.0	257.6
45	269.1	265.7	262.6	258.5	257.8	257.6	259.7	260.3	260.2	258.9
46	270.2	266.9	263.8	259.9	259.1	258.9	261.0	261.5	261.4	260.2
47	271.2	268.0	265.1	261.2	260.5	260.3	262.3	262.8	262.6	261.5
48	272.2	269.2	266.4	262.6	261.9	261.7	263.6	264.0	263.8	262.8
49	273.2	270.3	267.6	263.8	262.8	262.4	264.1	264.5	264.4	263.2
50	273.9	270.7	267.6	263.6	262.7	262.2	263.8	264.2	264.1	263.0
51	273.1	270.0	267.1	263.3	262.5	262.1	263.5	263.9	263.8	262.8
52	272.3	269.3	266.6	263.1	262.3	261.9	263.2	263.6	263.5	262.6
53	271.5	268.7	266.1	262.8	262.1	261.7	262.9	263.3	263.2	262.4
54	270.7	268.0	265.6	262.6	261.9	261.6	262.6	263.0	262.9	262.2
55	269.9	267.4	265.1	262.3	261.7	261.4	262.3	262.7	262.6	262.0

TABLE XII. Concluded

(f) Geopotential height of standard pressure surfaces

Pressure, mbar	Altitude, km, at latitude, deg, of -									
	75.	65.	55.	45.	35.	25.	15.	5.	-5.	-15.
1000.0	.09	.08	.07	.13	.12	.10	.09	.10	.10	.12
850.0	1.41	1.42	1.42	1.52	1.53	1.52	1.51	1.51	1.51	1.52
700.0	2.95	2.98	2.99	3.14	3.17	3.18	3.15	3.15	3.16	3.16
500.0	5.52	5.56	5.59	5.82	5.88	5.91	5.88	5.87	5.88	5.88
400.0	7.13	7.18	7.23	7.50	7.59	7.63	7.61	7.59	7.60	7.59
300.0	9.10	9.16	9.22	9.56	9.69	9.74	9.71	9.70	9.71	9.68
250.0	10.30	10.36	10.43	10.80	10.95	11.01	10.98	10.97	10.98	10.94
200.0	11.75	11.82	11.89	12.27	12.44	12.49	12.45	12.44	12.45	12.42
150.0	13.66	13.72	13.78	14.12	14.29	14.32	14.26	14.25	14.27	14.23
100.0	16.38	16.42	16.45	16.68	16.78	16.76	16.67	16.65	16.67	16.65
70.0	18.73	18.76	18.77	18.89	18.92	18.89	18.80	18.79	18.79	18.80
50.0	20.98	21.00	20.97	21.01	21.01	20.96	20.87	20.85	20.85	20.87
30.0	24.41	24.40	24.35	24.33	24.30	24.22	24.13	24.11	24.09	24.12
10.0	31.99	31.92	31.81	31.72	31.67	31.58	31.50	31.48	31.42	31.45
5.0	37.20	37.06	36.93	36.80	36.74	36.58	36.41	36.42	36.43	36.40
2.0	44.27	44.04	43.82	43.58	43.49	43.31	43.19	43.23	43.23	43.16
1.0	49.84	49.54	49.26	48.88	48.74	48.56	48.50	48.56	48.54	48.46
.4	57.08	56.72	56.36	55.92	55.78	55.65	55.70	55.74	55.67	55.59
TROP.	10.38	10.46	10.67	12.93	15.09	15.95	16.41	16.66	16.54	16.05

TABLE XIII. SUNSET ZONALLY AVERAGED EXTINCTION AND TEMPERATURE PROFILES IN 10° LATITUDE BANDS FOR SEPTEMBER 1979

(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$

Altitude, km	$\beta_{a,1.00}$, 10^{-4} km^{-1}, at latitude, deg, of -				
	-25.	-35.	-45.	-55.	-65.
5	16.00	10.25	4.66	6.42	4.98
6	14.39	6.43	9.82	6.73	10.07
7	8.73	5.11	7.15	5.68	18.76
8	5.20	4.40	9.67	4.17	14.16
9	4.18	3.92	9.29	5.00	7.87
10	3.20	4.47	5.82	4.53	8.04
11	2.52	3.01	5.06	3.58	5.10
12	2.10	2.40	2.87	2.74	3.40
13	1.63	1.77	1.91	2.45	2.58
14	1.40	1.53	1.71	2.23	2.44
15	1.27	1.41	1.61	2.06	2.23
16	1.20	1.35	1.56	1.84	1.89
17	1.22	1.38	1.53	1.59	1.49
18	1.30	1.39	1.40	1.31	1.13
19	1.33	1.31	1.26	1.06	.98
20	1.27	1.18	1.12	.83	.63
21	1.13	1.06	1.00	.65	.40
22	1.05	.93	.84	.52	.31
23	.91	.78	.68	.39	.23
24	.77	.61	.54	.28	.16
25	.66	.49	.44	.20	.12
26	.56	.38	.33	.14	.09
27	.45	.33	.23	.11	.07
28	.34	.26	.16	.08	.05
29	.24	.18	.11	.06	.04
30	.18	.13	.08	.04	.03
31	.12	.10	.06	.03	.02
32	.09	.07	.04	.02	.02
33	.06	.05	.03	.02	.02
34	.05	.04	.02	.01	.02
35	.03	.03	.02	.01	.01
36	.03	.02	.02	.01	.01
37	.02	.02	.01	.01	.01
38	.02	.01	.01	.01	.01
39	.01	.01	.01	.01	.01
40	.01	.01	.01	.00	.01
*TROP.+2	12.61	14.95	17.65	18.14	18.70

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE XIII. Continued

(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$

Altitude, km	$\beta_{a,1.00}/\beta_{m,1.00}$ at latitude, deg, of -				
	-25.	-35.	-45.	-55.	-65.
5	3.57	2.63	1.74	2.02	1.77
6	3.53	2.13	2.77	2.21	2.57
7	2.70	2.00	2.37	2.16	4.98
8	2.14	1.98	3.17	1.92	4.30
9	2.04	1.97	3.37	2.33	3.10
10	1.89	2.27	2.69	2.36	3.41
11	1.80	1.97	2.67	2.26	2.77
12	1.76	1.90	2.10	2.12	2.40
13	1.67	1.76	1.88	2.18	2.25
14	1.67	1.77	1.92	2.26	2.40
15	1.71	1.83	2.02	2.37	2.49
16	1.78	1.93	2.15	2.43	2.48
17	1.93	2.11	2.32	2.45	2.37
18	2.17	2.31	2.41	2.40	2.22
19	2.42	2.45	2.48	2.33	2.25
20	2.59	2.53	2.54	2.21	1.95
21	2.67	2.62	2.60	2.12	1.72
22	2.83	2.67	2.57	2.04	1.65
23	2.86	2.62	2.50	1.93	1.56
24	2.85	2.49	2.39	1.78	1.46
25	2.88	2.39	2.31	1.64	1.41
26	2.84	2.27	2.17	1.56	1.36
27	2.74	2.29	1.94	1.49	1.32
28	2.54	2.19	1.77	1.41	1.28
29	2.29	1.95	1.62	1.35	1.26
30	2.08	1.82	1.51	1.30	1.24
31	1.86	1.70	1.42	1.27	1.23
32	1.75	1.60	1.36	1.24	1.23
33	1.63	1.51	1.31	1.21	1.23
34	1.54	1.43	1.29	1.20	1.23
35	1.45	1.37	1.27	1.18	1.23
36	1.39	1.32	1.27	1.17	1.23
37	1.35	1.30	1.27	1.17	1.24
38	1.32	1.28	1.27	1.16	1.29
39	1.29	1.27	1.27	1.17	1.36
40	1.27	1.26	1.28	1.18	1.40

TABLE XIII. Continued

(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$

Altitude, km	$\beta_{a,0.45}$, 10^{-4} km^{-1}, at latitude, deg, of -				
	-25.	-35.	-45.	-55.	-65.
10	7.78	9.82	18.58	14.89	19.16
11	7.98	9.06	13.76	12.96	15.75
12	7.75	8.45	10.45	12.00	13.18
13	7.11	6.71	8.38	11.04	11.09
14	6.65	5.89	6.97	9.91	9.89
15	6.33	5.35	6.17	8.81	8.65
16	6.20	5.16	5.75	7.64	7.33
17	6.17	5.11	5.43	6.47	5.99
18	6.04	5.01	5.00	5.33	4.77
19	5.70	4.74	4.49	4.27	3.70
20	5.19	4.32	3.98	3.34	2.69
21	4.57	3.84	3.47	2.58	1.86
22	3.96	3.31	2.96	1.95	1.30
23	3.37	2.79	2.46	1.45	.90
24	2.84	2.31	2.02	1.06	.61
25	2.44	1.91	1.64	.77	.42
26	2.07	1.56	1.28	.55	.29
27	1.72	1.25	.96	.40	.21
28	1.38	.99	.70	.28	.14
29	1.05	.76	.52	.20	.10
30	.79	.58	.38	.15	.07
31	.58	.43	.27	.10	.05
32	.43	.32	.19	.07	.04
33	.31	.23	.14	.05	.03
34	.22	.17	.10	.04	.02
35	.16	.12	.07	.03	.01
36	.12	.09	.05	.02	.01
37	.08	.06	.03	.01	.01
38	.06	.04	.02	.01	.01
39	.04	.03	.02	.01	.00
40	.03	.02	.01	.00	.00
*TROP.+2	53.07	55.83	66.47	75.80	73.74

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE XIII. Continued

(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$

Altitude, km	$\beta_{a,0.45}/\beta_{a,1.00}$ at latitude, deg, of -				
	-25.	-35.	-45.	-55.	-65.
10	2.37	2.55	3.15	3.48	2.72
11	3.08	2.92	3.15	3.68	3.07
12	3.60	3.21	3.36	4.08	3.54
13	4.05	3.35	3.60	4.34	3.86
14	4.51	3.51	3.73	4.36	3.98
15	4.82	3.64	3.71	4.26	3.95
16	4.98	3.71	3.64	4.16	3.96
17	4.93	3.72	3.62	4.11	4.06
18	4.69	3.69	3.58	4.08	4.14
19	4.39	3.66	3.56	4.07	4.23
20	4.16	3.64	3.55	4.07	4.28
21	3.97	3.62	3.54	4.06	4.21
22	3.83	3.59	3.54	4.00	4.09
23	3.72	3.60	3.58	3.87	3.89
24	3.67	3.70	3.65	3.74	3.61
25	3.73	3.87	3.75	3.64	3.42
26	3.83	3.98	3.86	3.52	3.17
27	3.96	4.03	3.97	3.37	2.97
28	4.11	4.11	4.15	3.24	2.85
29	4.25	4.22	4.35	3.15	2.73
30	4.40	4.39	4.52	3.07	2.48
31	4.54	4.47	4.61	2.99	2.14
32	4.62	4.51	4.57	2.89	1.81
33	4.59	4.52	4.34	2.82	1.54
34	4.52	4.42	3.93	2.75	1.30
35	4.44	4.24	3.45	2.62	1.07
36	4.29	3.96	3.01	2.38	.90
37	4.01	3.64	2.64	1.99	.81
38	3.76	3.30	2.29	1.53	.79
39	3.45	2.98	1.95	1.26	.77
40	3.10	2.67	1.65	1.43	.72

TABLE XIII. Continued

(e) Temperature

Altitude, km	Temperature, K, at latitude, deg, of -				
	-25.	-35.	-45.	-55.	-65.
5	264.2	257.7	249.2	241.7	238.5
6	257.9	250.9	242.5	235.1	232.3
7	251.0	243.5	235.4	228.5	226.2
8	244.4	236.9	229.5	222.4	220.2
9	238.2	230.6	223.8	217.3	215.1
10	232.2	225.2	220.2	214.0	211.8
11	226.6	221.4	218.8	212.5	209.9
12	221.4	218.8	218.0	211.6	208.5
13	217.4	217.6	217.8	210.9	207.3
14	213.7	216.4	217.5	210.4	206.7
15	211.8	215.6	217.3	210.0	206.1
16	210.0	214.8	217.0	210.7	204.7
17	209.4	214.9	217.2	212.1	203.2
18	210.1	215.4	217.3	213.3	202.7
19	211.2	216.1	217.5	213.4	202.5
20	213.1	217.0	217.7	213.5	203.2
21	214.9	217.8	218.0	213.9	204.1
22	216.3	218.7	218.4	214.2	205.1
23	217.8	219.5	218.8	214.6	207.1
24	219.2	220.4	219.3	215.7	209.8
25	220.7	221.5	220.2	216.9	212.4
26	222.2	222.6	221.0	218.1	215.1
27	223.7	223.7	221.9	219.3	217.7
28	225.2	224.9	222.7	220.5	220.4
29	226.7	226.0	223.6	221.7	223.0
30	228.2	227.1	224.4	222.9	225.3

TABLE XIII. Continued

(e) Concluded

Altitude, km	Temperature, K, at latitude, deg, of -				
	-25.	-35.	-45.	-55.	-65.
31	229.8	228.2	225.3	224.3	227.5
32	231.3	229.5	226.6	225.8	229.7
33	232.9	230.8	227.8	227.3	231.9
34	234.5	232.1	229.0	228.8	234.5
35	236.1	233.4	230.3	230.5	238.4
36	237.8	234.7	231.8	232.9	242.2
37	239.8	236.6	233.8	235.3	246.1
38	242.0	238.5	235.7	237.7	250.0
39	244.2	240.5	237.6	240.1	253.9
40	246.4	242.4	239.5	242.5	257.8
41	248.6	244.4	241.4	244.8	260.4
42	250.8	246.3	243.3	246.9	262.0
43	253.0	248.2	245.1	248.7	263.6
44	254.4	249.8	247.0	250.6	265.2
45	255.9	251.5	248.8	252.5	266.8
46	257.3	253.2	250.7	254.4	268.2
47	258.8	254.9	252.5	255.4	267.7
48	260.2	256.4	253.2	255.7	267.2
49	260.6	256.6	253.7	256.0	266.7
50	260.5	256.8	254.2	256.4	266.3
51	260.5	257.0	254.7	256.7	265.8
52	260.4	257.3	255.2	257.0	265.3
53	260.4	257.5	255.7	257.4	264.8
54	260.3	257.7	256.2	257.7	264.3
55	260.3	257.9	256.7	258.0	263.8

TABLE XIII. Concluded

(f) Geopotential height of standard pressure surfaces

Pressure, mbar	Altitude, km, at latitude, deg, of -				
	-25.	-35.	-45.	-55.	-65.
1000.0	.17	.16	.04	.11	-.14
850.0	1.55	1.51	1.35	1.42	1.11
700.0	3.14	3.08	2.87	2.94	2.58
500.0	5.79	5.67	5.38	5.46	5.00
400.0	7.45	7.29	6.96	7.04	6.53
300.0	9.49	9.26	8.89	8.98	8.41
250.0	10.72	10.47	10.08	10.17	9.56
200.0	12.19	11.91	11.51	11.60	10.94
150.0	14.02	13.75	13.36	13.46	12.70
100.0	16.53	16.32	15.95	16.06	15.16
70.0	18.74	18.58	18.23	18.35	17.27
50.0	20.85	20.73	20.39	20.51	19.28
30.0	24.13	24.03	23.68	23.81	22.34
10.0	31.44	31.32	30.88	31.04	9.28
5.0	36.32	36.11	35.53	35.74	3.76
2.0	42.99	42.66	41.96	42.31	0.45
1.0	48.26	47.86	47.09	47.57	5.89
.4	55.34	54.84	54.03	54.61	53.24
TROP.	13.91	11.62	10.23	10.24	9.50

TABLE XIV. SUNSET ZONALLY AVERAGED EXTINCTION AND TEMPERATURE PROFILES IN 10° LATITUDE BANDS FOR OCTOBER 1979

(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$

Altitude, km	$\beta_{a,1.00}$, 10^{-4} km^{-1}, at latitude, deg, of -								
	-5.	5.	15.	25.	35.	45.	55.	45.	35.
5	12.75	21.46	10.96	8.96	13.06	17.19	12.85	6.94	6.38
6	13.14	1.39	28.42	8.73	9.45	11.76	14.12	5.57	8.97
7	15.70	12.32	4.61	6.72	9.73	12.64	8.88	5.95	13.20
8	10.43	21.72	3.87	5.04	10.22	14.14	7.30	8.79	18.84
9	8.23	11.51	22.80	3.67	6.95	9.24	6.44	9.27	14.06
10	7.59	9.87	17.82	2.76	7.21	6.55	4.11	7.84	13.45
11	5.83	8.19	12.10	2.06	3.88	4.37	2.92	3.11	8.16
12	5.73	12.50	13.04	3.49	3.28	3.40	2.35	1.79	2.53
13	5.57	3.91	9.52	3.22	7.61	2.68	1.47	1.40	1.17
14	7.21	2.01	10.78	2.28	7.28	1.60	1.39	1.23	1.00
15	9.22	3.38	7.08	1.73	2.33	1.30	1.42	1.23	1.00
16	9.14	3.46	7.29	1.52	1.57	1.30	1.45	1.30	1.10
17	5.59	2.53	4.61	1.24	1.25	1.34	1.45	1.36	1.27
18	3.19	1.76	2.21	1.23	1.28	1.33	1.37	1.38	1.37
19	1.51	1.30	1.32	1.20	1.23	1.27	1.26	1.32	1.34
20	1.20	1.17	1.17	1.15	1.21	1.14	1.09	1.20	1.25
21	1.07	1.14	1.15	1.10	1.11	.98	.89	1.01	1.08
22	1.05	1.12	1.12	1.04	.97	.79	.70	.80	.92
23	1.10	1.07	1.06	.94	.78	.62	.53	.60	.73
24	1.06	1.05	.99	.80	.63	.46	.40	.45	.53
25	1.03	.99	.95	.74	.52	.34	.29	.33	.39
26	.96	.94	.88	.66	.47	.25	.21	.24	.31
27	.82	.85	.80	.57	.38	.19	.15	.18	.26
28	.58	.57	.71	.46	.29	.14	.11	.13	.19
29	.32	.33	.55	.38	.20	.10	.08	.10	.15
30	.20	.24	.37	.28	.14	.07	.05	.07	.12
31	.15	.17	.24	.21	.11	.05	.04	.05	.09
32	.10	.12	.17	.15	.08	.04	.03	.04	.07
33	.07	.08	.12	.11	.06	.03	.02	.03	.05
34	.05	.06	.08	.08	.05	.02	.02	.02	.04
35	.04	.04	.06	.05	.04	.02	.01	.02	.03
36	.03	.03	.04	.04	.03	.01	.01	.02	.02
37	.02	.02	.03	.03	.02	.01	.01	.01	.02
38	.02	.02	.02	.02	.02	.01	.01	.01	.01
39	.02	.01	.02	.01	.01	.01	.01	.01	.01
40	.01	.01	.01	.01	.01	.01	.01	.01	.01
*TROP.+2	10.62	10.57	11.57	10.35	10.97	14.61	14.99	12.83	11.50

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE XIV. Continued

(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$

Altitude, km	$\beta_{a,1.00}/\beta_{m,1.00}$ at latitude, deg, of -								
	-5.	5.	15.	25.	35.	45.	55.	45.	35.
5	3.10	4.63	2.80	2.47	3.11	3.80	3.06	2.11	2.03
6	3.46	.10	6.16	2.58	2.71	3.07	3.53	1.98	2.62
7	4.24	3.56	1.93	2.34	2.97	3.47	2.69	2.20	3.70
8	3.34	5.86	-.10	2.12	3.30	4.12	2.63	2.95	5.12
9	3.06	3.90	6.98	1.91	2.74	3.28	2.62	3.38	4.52
10	3.13	3.74	5.92	1.77	3.07	2.83	2.18	3.19	4.68
11	2.81	3.65	4.79	1.64	2.22	2.40	1.97	1.99	3.53
12	3.02	5.30	5.60	2.28	2.20	2.27	1.88	1.66	1.89
13	3.22	2.52	4.79	2.30	4.06	2.17	1.67	1.60	1.48
14	4.28	1.91	5.75	2.04	4.29	1.81	1.74	1.62	1.48
15	5.87	2.81	4.66	1.92	2.26	1.78	1.89	1.73	1.56
16	6.41	3.05	5.43	1.94	2.01	1.92	2.06	1.90	1.72
17	4.94	2.77	4.18	1.91	1.96	2.10	2.22	2.09	1.97
18	3.68	2.45	2.80	2.07	2.15	2.28	2.35	2.30	2.23
19	2.53	2.30	2.32	2.24	2.30	2.42	2.44	2.45	2.41
20	2.45	2.42	2.41	2.41	2.52	2.49	2.45	2.55	2.56
21	2.53	2.65	2.66	2.61	2.63	2.49	2.38	2.53	2.60
22	2.79	2.92	2.93	2.80	2.67	2.41	2.26	2.43	2.61
23	3.20	3.19	3.15	2.92	2.60	2.30	2.12	2.25	2.50
24	3.52	3.53	3.39	2.93	2.52	2.12	1.99	2.10	2.29
25	3.86	3.81	3.70	3.10	2.48	1.96	1.83	1.96	2.13
26	4.16	4.17	3.94	3.19	2.56	1.84	1.70	1.82	2.05
27	4.14	4.32	4.14	3.20	2.46	1.75	1.60	1.73	2.04
28	3.60	3.62	4.27	3.08	2.30	1.63	1.50	1.62	1.89
29	2.68	2.77	3.96	3.02	2.07	1.54	1.41	1.54	1.84
30	2.27	2.49	3.30	2.75	1.90	1.45	1.35	1.46	1.75
31	2.08	2.22	2.74	2.52	1.77	1.39	1.30	1.40	1.66
32	1.88	2.01	2.44	2.28	1.67	1.34	1.26	1.36	1.60
33	1.72	1.81	2.17	2.06	1.59	1.29	1.24	1.32	1.54
34	1.61	1.66	1.95	1.88	1.52	1.25	1.22	1.30	1.47
35	1.54	1.55	1.77	1.72	1.47	1.22	1.21	1.28	1.39
36	1.49	1.46	1.63	1.59	1.44	1.20	1.20	1.26	1.33
37	1.45	1.39	1.53	1.49	1.40	1.18	1.19	1.24	1.29
38	1.42	1.34	1.46	1.41	1.36	1.17	1.19	1.24	1.25
39	1.39	1.30	1.43	1.36	1.33	1.16	1.19	1.24	1.24
40	1.36	1.26	1.41	1.31	1.29	1.16	1.19	1.27	1.27

TABLE XIV. Continued

(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$

Altitude, km	$\beta_{a,0.45}$, 10^{-4} km^{-1}, at latitude, deg, of -								
	-5.	5.	15.	25.	35.	45.	55.	45.	35.
10	15.89	19.91	30.77	3.95	9.33	12.69	8.14	12.20	26.01
11	16.12	15.69	28.85	7.45	10.22	9.33	6.60	8.07	19.61
12	16.36	14.80	26.92	10.38	10.91	6.91	5.83	5.99	11.57
13	17.94	12.37	19.54	11.07	11.75	5.82	5.47	5.18	8.00
14	20.02	10.54	15.85	10.24	11.20	5.30	5.42	4.74	5.97
15	20.43	9.71	12.51	9.22	9.25	5.12	5.43	4.71	5.14
16	17.83	8.51	12.13	8.14	7.63	5.11	5.40	4.87	5.05
17	14.12	7.66	9.91	7.13	6.67	5.10	5.21	5.01	5.27
18	10.82	6.74	7.82	6.40	6.04	4.95	4.85	4.95	5.42
19	8.30	5.92	6.32	5.76	5.47	4.65	4.34	4.66	5.24
20	6.42	5.23	5.38	5.15	4.92	4.17	3.71	4.15	4.78
21	5.09	4.62	4.79	4.59	4.31	3.58	3.04	3.49	4.12
22	4.18	4.05	4.30	4.00	3.65	2.95	2.41	2.80	3.41
23	3.54	3.59	3.83	3.42	2.97	2.33	1.85	2.16	2.71
24	3.10	3.35	3.43	2.93	2.42	1.79	1.38	1.62	2.07
25	2.79	3.17	3.15	2.59	2.00	1.36	1.01	1.21	1.58
26	2.50	2.88	2.92	2.30	1.68	1.03	.74	.90	1.23
27	2.16	2.48	2.68	2.01	1.38	.78	.54	.68	.99
28	1.74	1.98	2.39	1.71	1.11	.59	.40	.52	.79
29	1.31	1.50	1.99	1.44	.87	.45	.29	.40	.64
30	.96	1.12	1.55	1.19	.66	.34	.22	.30	.53
31	.71	.83	1.17	.94	.50	.25	.16	.22	.43
32	.51	.61	.87	.72	.38	.18	.11	.17	.33
33	.36	.44	.63	.53	.28	.13	.08	.12	.25
34	.26	.32	.45	.39	.21	.10	.06	.09	.18
35	.19	.23	.32	.28	.15	.07	.04	.06	.13
36	.13	.17	.22	.20	.11	.05	.03	.05	.10
37	.09	.12	.16	.14	.08	.03	.02	.03	.07
38	.07	.08	.11	.10	.06	.02	.02	.02	.05
39	.05	.06	.08	.07	.04	.02	.01	.02	.04
40	.03	.04	.05	.05	.03	.01	.01	.01	.03
*TROP.+2	39.85	39.18	45.04	42.05	46.16	52.95	53.35	46.48	46.02

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE XIV. Continued

(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$

Altitude, km	$\beta_{a,0.45}/\beta_{a,1.00}$ at latitude, deg, of -								
	-5.	5.	15.	25.	35.	45.	55.	45.	35.
10	1.63	3.20	1.52	2.27	1.84	2.69	2.84	2.84	2.02
11	3.09	3.01	2.19	3.23	2.79	2.96	2.83	2.79	2.86
12	4.54	3.35	2.86	3.98	3.52	3.42	3.09	2.92	3.24
13	4.00	3.71	3.08	4.42	3.93	3.59	3.38	3.26	3.98
14	3.95	3.79	2.97	4.78	4.23	3.80	3.64	3.54	5.03
15	4.00	4.13	3.03	5.13	4.49	3.92	3.75	3.66	5.15
16	3.90	4.00	3.22	5.31	4.71	3.95	3.72	3.72	4.53
17	4.08	3.84	3.45	5.28	4.88	3.92	3.66	3.73	4.28
18	4.41	3.89	3.87	5.14	4.73	3.84	3.58	3.70	4.15
19	4.67	4.07	4.12	4.83	4.44	3.77	3.50	3.63	4.04
20	4.85	4.19	4.30	4.47	4.16	3.72	3.45	3.55	3.93
21	4.51	4.00	4.19	4.17	3.94	3.70	3.42	3.50	3.81
22	3.89	3.64	3.91	3.89	3.81	3.71	3.43	3.47	3.73
23	3.33	3.35	3.65	3.65	3.73	3.72	3.44	3.48	3.70
24	2.96	3.23	3.44	3.51	3.71	3.78	3.44	3.49	3.72
25	2.76	3.20	3.36	3.49	3.72	3.87	3.42	3.52	3.79
26	2.69	3.15	3.34	3.52	3.73	3.95	3.42	3.56	3.84
27	2.76	3.19	3.38	3.57	3.76	4.02	3.46	3.60	3.91
28	3.01	3.43	3.49	3.67	3.93	4.13	3.52	3.69	3.97
29	3.48	3.91	3.68	3.85	4.19	4.30	3.61	3.82	4.08
30	4.09	4.44	3.99	4.11	4.43	4.45	3.69	3.92	4.28
31	4.51	4.74	4.41	4.35	4.61	4.51	3.71	3.91	4.47
32	4.61	4.89	4.81	4.56	4.67	4.49	3.67	3.82	4.46
33	4.65	5.04	4.98	4.68	4.61	4.41	3.55	3.63	4.38
34	4.62	5.18	5.03	4.74	4.46	4.27	3.38	3.41	4.38
35	4.48	5.24	5.07	4.82	4.21	4.03	3.18	3.21	4.59
36	4.21	5.22	5.10	4.91	3.89	3.72	3.03	3.06	4.85
37	3.86	5.14	5.07	4.96	3.60	3.36	3.35	2.92	4.51
38	3.49	4.99	4.96	4.91	3.37	2.95	3.44	2.67	3.95
39	3.16	4.78	4.62	4.76	3.22	2.49	2.23	2.28	3.51
40	2.90	4.50	4.15	4.48	3.09	2.03	2.09	1.91	3.15

TABLE XIV. Continued

(e) Temperature

Altitude, km	Temperature, K, at latitude, deg, of -								
	-5.	5.	15.	25.	35.	45.	55.	45.	35.
5	*****	*****	272.9	270.5	266.0	256.1	251.8	258.8	265.4
6	*****	*****	267.2	264.3	260.2	249.4	245.3	252.2	258.7
7	*****	*****	260.7	257.1	253.3	242.3	238.5	244.9	251.2
8	*****	*****	254.1	249.9	246.3	235.7	232.3	238.1	244.0
9	*****	*****	247.1	242.7	239.1	229.2	226.1	231.3	236.9
10	*****	*****	240.0	235.6	232.1	224.4	222.4	225.2	230.2
11	*****	*****	232.3	228.5	225.6	221.4	220.8	220.5	224.1
12	*****	*****	224.4	222.0	220.5	219.3	220.0	216.9	218.7
13	*****	*****	217.1	216.2	216.7	218.3	219.7	215.4	215.0
14	*****	*****	210.4	210.8	213.3	217.5	219.4	214.3	211.8
15	*****	*****	205.9	207.7	211.6	216.9	219.0	213.7	210.2
16	*****	*****	202.5	205.2	210.0	216.4	218.6	213.1	208.6
17	*****	*****	200.3	204.1	209.5	216.3	218.2	212.8	207.8
18	*****	*****	201.4	205.6	210.2	216.2	217.7	212.7	207.6
19	*****	*****	203.1	207.3	211.1	216.2	217.4	212.8	208.0
20	*****	*****	206.7	209.9	212.5	216.3	217.1	213.0	209.5
21	*****	*****	210.2	212.5	213.9	216.5	216.9	213.5	211.0
22	*****	*****	212.6	214.4	215.2	216.9	216.8	214.2	212.9
23	*****	*****	215.1	216.4	216.5	217.4	216.7	214.8	214.7
24	*****	*****	217.5	218.4	217.8	217.8	216.8	215.6	216.5
25	*****	*****	219.6	220.1	219.3	218.8	217.5	216.8	218.3
26	*****	*****	221.6	221.9	220.8	219.8	218.2	218.1	220.2
27	*****	*****	223.7	223.6	222.4	220.8	219.0	219.3	222.1
28	*****	*****	225.7	225.3	223.9	221.8	219.7	220.5	223.9
29	*****	*****	227.8	227.1	225.4	222.8	220.5	221.7	225.8
30	*****	*****	229.8	228.8	226.9	223.7	221.2	222.9	227.6

TABLE XIV. Continued

(e) Concluded

Altitude, km	Temperature, K, at latitude, deg, of -								
	-5.	5.	15.	25.	35.	45.	55.	45.	35.
31	*****	*****	231.9	230.5	228.4	224.7	222.0	224.2	229.5
32	*****	*****	233.7	232.3	230.0	226.3	223.4	225.8	231.0
33	*****	*****	235.5	233.9	231.7	228.0	224.9	227.4	232.4
34	*****	*****	237.2	235.6	233.3	229.7	226.3	229.0	233.8
35	*****	*****	238.9	237.3	234.9	231.4	227.7	230.6	235.2
36	*****	*****	240.7	239.0	236.6	233.1	229.3	232.4	236.6
37	*****	*****	242.9	241.2	238.7	235.0	231.1	234.4	238.9
38	*****	*****	245.4	243.6	240.9	236.9	232.9	236.5	241.2
39	*****	*****	247.9	246.0	243.1	238.9	234.7	238.6	243.5
40	*****	*****	250.4	248.3	245.3	240.8	236.6	240.7	245.8
41	*****	*****	253.0	250.7	247.5	242.7	238.4	242.8	248.1
42	*****	*****	255.5	253.1	249.8	244.7	240.2	244.9	250.3
43	*****	*****	258.0	255.5	251.9	246.5	242.1	246.7	252.4
44	*****	*****	259.4	256.9	253.4	248.3	244.0	248.4	254.0
45	*****	*****	260.7	258.2	255.0	250.0	245.9	250.2	255.5
46	*****	*****	261.9	259.6	256.5	251.8	247.9	251.9	257.1
47	*****	*****	263.1	260.9	258.1	253.6	249.8	253.7	258.6
48	*****	*****	264.3	262.2	259.6	254.7	250.5	254.6	260.1
49	*****	*****	264.7	262.5	259.7	255.1	251.2	255.0	260.0
50	*****	*****	264.4	262.4	259.7	255.4	252.0	255.4	260.0
51	*****	*****	264.0	262.3	259.7	255.8	252.7	255.8	260.0
52	*****	*****	263.7	262.1	259.7	256.2	253.4	256.2	260.0
53	*****	*****	263.4	262.0	259.7	256.5	254.1	256.6	260.0
54	*****	*****	263.1	261.8	259.7	256.9	254.8	257.0	260.0
55	*****	*****	262.8	261.7	259.7	257.2	255.6	257.4	259.9

TABLE XIV. Concluded

(f) Geopotential height of standard pressure surfaces

Pressure, mbar	Altitude, km, at latitude, deg, of -								
	-5.	5.	15.	25.	35.	45.	55.	45.	35.
1000.0	.10	.10	.10	.12	.12	.11	.08	.14	.15
850.0	1.51	1.51	1.53	1.53	1.50	1.44	1.38	1.49	1.53
700.0	3.15	3.15	3.18	3.17	3.10	3.00	2.91	3.07	3.13
500.0	5.89	5.89	5.90	5.88	5.76	5.57	5.45	5.68	5.79
400.0	7.62	7.62	7.63	7.58	7.44	7.18	7.04	7.32	7.45
300.0	9.75	9.74	9.74	9.65	9.49	9.16	8.99	9.32	9.48
250.0	11.02	11.02	11.01	10.90	10.73	10.36	10.19	10.53	10.71
200.0	12.50	12.51	12.50	12.38	12.19	11.81	11.63	11.96	12.16
150.0	14.31	14.32	14.31	14.19	14.02	13.66	13.49	13.77	13.97
100.0	16.70	16.71	16.71	16.63	16.52	16.24	16.10	16.31	16.47
70.0	18.79	18.79	18.79	18.76	18.71	18.50	18.38	18.52	18.64
50.0	20.83	20.82	20.83	20.83	20.80	20.64	20.53	20.62	20.70
30.0	24.04	24.04	24.05	24.09	24.05	23.91	23.79	23.85	23.91
10.0	31.36	31.36	31.36	31.38	31.30	31.10	30.89	31.00	31.14
5.0	0.00	0.00	36.36	36.31	36.20	35.91	35.58	35.86	36.08
2.0	0.00	0.00	43.17	43.05	42.83	42.40	41.94	42.39	42.72
1.0	0.00	0.00	48.46	48.31	48.06	47.56	47.00	47.58	47.95
.4	0.00	0.00	55.61	55.43	55.07	54.43	53.81	54.46	54.93
TROP.	17.07	17.13	16.80	16.28	14.51	11.08	10.32	12.47	13.41

TABLE XV. SUNSET ZONALLY AVERAGED EXTINCTION AND TEMPERATURE PROFILES IN 10° LATITUDE BANDS FOR NOVEMBER 1979

(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$

Altitude, km	$\beta_{a,1.00}$, 10^{-4} km^{-1}, at latitude, deg, of -					
	25.	15.	5.	-75.	-65.	-55.
5	8.53	12.40	0.00	7.87	3.86	9.44
6	6.72	6.72	0.00	6.56	3.82	13.02
7	5.54	3.79	0.00	2.93	3.35	9.00
8	10.76	3.08	0.00	3.64	3.49	9.83
9	14.82	2.40	0.00	2.49	2.66	7.62
10	16.18	2.09	0.00	1.87	2.10	4.14
11	6.45	13.58	1.08	1.77	1.74	2.82
12	1.90	30.53	1.51	1.72	1.68	2.66
13	1.51	3.31	1.77	1.48	1.46	2.07
14	1.45	2.30	27.93	1.20	1.27	1.55
15	4.42	1.68	28.69	.98	1.13	1.30
16	2.97	1.48	21.70	.80	.98	1.19
17	1.73	8.23	2.08	.68	.88	1.09
18	1.11	4.37	1.49	.57	.81	.97
19	1.19	1.60	1.23	.47	.74	.84
20	1.19	1.23	1.09	.43	.65	.71
21	1.13	1.18	1.01	.38	.56	.62
22	1.07	1.10	1.00	.34	.46	.53
23	.98	1.03	1.02	.31	.38	.42
24	.87	.97	.97	.26	.32	.33
25	.80	.93	.94	.20	.26	.29
26	.71	.85	.87	.16	.20	.23
27	.64	.76	.73	.12	.14	.17
28	.55	.65	.48	.09	.11	.12
29	.41	.43	.32	.07	.08	.09
30	.27	.25	.23	.05	.06	.06
31	.19	.18	.16	.04	.04	.05
32	.14	.13	.12	.03	.03	.04
33	.10	.09	.08	.02	.03	.03
34	.07	.06	.06	.02	.02	.02
35	.05	.04	.04	.02	.02	.02
36	.03	.03	.03	.01	.01	.02
37	.02	.02	.02	.01	.01	.01
38	.02	.01	.02	.01	.01	.01
39	.01	.01	.01	.01	.01	.01
40	.01	.01	.01	.01	.01	.01
*TROP.+2	11.48	12.19	10.46	11.08	12.47	14.34

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE XV. Continued

(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$

Altitude, km	$\beta_{a,1.00}/\beta_{m,1.00}$ at latitude, deg, of -					
	25.	15.	5.	-75.	-65.	-55.
5	2.38	3.02	0.00	2.25	1.63	2.52
6	2.22	2.21	0.00	2.17	1.69	3.36
7	2.11	1.77	0.00	1.60	1.67	2.75
8	3.44	1.69	0.00	1.85	1.80	3.25
9	4.72	1.60	0.00	1.65	1.70	2.94
10	5.55	1.59	0.00	1.58	1.63	2.20
11	2.94	5.60	1.31	1.64	1.62	1.97
12	1.66	11.47	1.54	1.74	1.70	2.08
13	1.61	2.30	1.71	1.74	1.71	1.97
14	1.67	2.03	12.66	1.70	1.73	1.86
15	3.39	1.86	15.94	1.67	1.75	1.84
16	2.76	1.88	13.34	1.64	1.76	1.90
17	2.20	7.48	2.41	1.63	1.80	1.96
18	1.95	4.62	2.25	1.61	1.85	2.00
19	2.21	2.60	2.25	1.59	1.91	2.00
20	2.46	2.50	2.33	1.63	1.92	2.00
21	2.65	2.72	2.49	1.64	1.92	2.01
22	2.87	2.92	2.74	1.67	1.88	2.00
23	3.02	3.14	3.11	1.72	1.86	1.92
24	3.13	3.38	3.39	1.69	1.82	1.85
25	3.31	3.68	3.74	1.62	1.77	1.86
26	3.41	3.90	3.98	1.57	1.69	1.78
27	3.54	4.05	3.90	1.49	1.58	1.67
28	3.56	4.05	3.22	1.43	1.50	1.56
29	3.20	3.37	2.79	1.38	1.43	1.47
30	2.74	2.63	2.47	1.34	1.37	1.40
31	2.43	2.34	2.24	1.30	1.32	1.34
32	2.19	2.12	2.01	1.27	1.28	1.30
33	1.98	1.92	1.82	1.24	1.26	1.28
34	1.79	1.74	1.68	1.22	1.24	1.26
35	1.64	1.57	1.56	1.20	1.22	1.24
36	1.51	1.44	1.48	1.19	1.21	1.24
37	1.42	1.35	1.40	1.17	1.20	1.24
38	1.34	1.29	1.35	1.16	1.20	1.25
39	1.28	1.27	1.31	1.15	1.20	1.26
40	1.25	1.25	1.27	1.15	1.20	1.27

TABLE XV. Continued

(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$

Altitude, km	$\beta_{a,0.45}$, 10^{-4} km^{-1}, at latitude, deg, of -					
	25.	15.	5.	-75.	-65.	-55.
10	29.20	3.27	.00	3.66	3.73	10.02
11	16.43	4.75	1.79	3.38	3.74	9.27
12	6.92	6.24	2.49	3.11	3.75	8.72
13	6.35	6.82	3.23	2.91	3.49	7.01
14	5.77	6.96	62.99	2.63	3.31	5.70
15	10.73	6.61	40.16	2.31	3.16	4.81
16	8.79	5.99	24.07	2.03	3.01	4.27
17	7.16	17.30	8.78	1.79	2.86	3.86
18	6.06	11.64	5.89	1.58	2.70	3.47
19	5.47	7.90	4.68	1.43	2.52	3.07
20	5.05	5.85	4.04	1.34	2.29	2.69
21	4.61	4.78	3.65	1.26	2.02	2.34
22	4.13	4.16	3.39	1.16	1.74	1.99
23	3.61	3.75	3.19	1.06	1.47	1.65
24	3.12	3.40	2.98	.92	1.23	1.35
25	2.74	3.10	2.76	.78	1.02	1.12
26	2.46	2.82	2.51	.65	.83	.91
27	2.19	2.50	2.19	.51	.66	.72
28	1.90	2.14	1.83	.40	.51	.55
29	1.57	1.74	1.50	.30	.39	.42
30	1.25	1.33	1.21	.22	.29	.31
31	.96	1.00	.94	.16	.22	.23
32	.71	.73	.71	.12	.17	.17
33	.51	.53	.52	.08	.12	.12
34	.36	.39	.38	.06	.09	.09
35	.26	.30	.27	.04	.07	.06
36	.19	.23	.20	.03	.05	.04
37	.13	.17	.14	.02	.04	.03
38	.09	.12	.10	.02	.03	.02
39	.06	.08	.07	.01	.02	.02
40	.04	.05	.05	.01	.02	.02
*TROP.+2	46.84	48.45	37.37	28.11	38.29	51.95

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE XV. Continued

(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$

Altitude, km	$\beta_{a,0.45}/\beta_{a,1.00}$ at latitude, deg, of -					
	25.	15.	5.	-75.	-65.	-55.
10	2.58	1.40	1.03	1.87	2.01	2.32
11	2.75	1.66	1.37	1.87	2.04	2.48
12	3.22	1.92	1.72	1.86	2.06	2.68
13	3.73	2.07	2.07	1.97	2.18	2.89
14	4.10	2.41	2.34	2.14	2.39	3.11
15	4.08	3.85	2.55	2.32	2.64	3.33
16	4.20	4.45	2.59	2.51	2.87	3.52
17	4.31	3.78	3.35	2.67	3.07	3.59
18	4.36	3.45	3.39	2.74	3.20	3.64
19	4.44	3.53	3.60	2.85	3.27	3.67
20	4.34	3.87	3.59	3.05	3.36	3.70
21	4.10	4.02	3.49	3.21	3.48	3.76
22	3.90	3.79	3.35	3.30	3.61	3.81
23	3.71	3.62	3.20	3.40	3.71	3.85
24	3.53	3.49	3.06	3.51	3.79	3.87
25	3.45	3.39	2.99	3.68	3.90	3.93
26	3.44	3.34	3.00	3.89	4.05	4.03
27	3.48	3.34	3.19	4.04	4.22	4.19
28	3.61	3.48	3.62	4.13	4.36	4.38
29	3.86	3.86	4.28	4.13	4.42	4.54
30	4.24	4.46	5.01	4.03	4.41	4.62
31	4.65	5.08	5.57	3.85	4.34	4.60
32	4.91	5.40	5.89	3.62	4.19	4.47
33	5.00	5.57	6.10	3.37	3.99	4.31
34	5.07	6.02	6.27	3.09	3.76	4.12
35	5.21	7.03	6.41	2.85	3.49	3.69
36	5.40	8.59	6.41	2.64	3.12	3.18
37	5.57	10.51	6.26	2.46	2.75	2.72
38	5.64	12.90	5.98	2.27	2.45	2.30
39	5.56	13.04	5.59	2.07	2.28	2.12
40	5.28	9.71	5.19	1.88	2.39	2.14

TABLE XV. Continued

(e) Continued

Altitude, km	Temperature, K, at latitude, deg, of -					
	25.	15.	5.	-75.	-65.	-55.
5	270.8	273.2	273.2	240.6	244.3	247.5
6	264.6	266.9	267.3	234.3	237.9	240.7
7	257.8	260.5	260.8	228.1	231.6	233.8
8	250.9	254.0	254.1	222.2	225.8	228.2
9	243.7	247.4	247.1	218.4	221.2	223.1
10	236.7	240.5	240.0	217.8	219.5	220.3
11	229.9	232.8	232.6	219.3	220.5	220.5
12	223.0	224.9	224.9	220.8	221.9	221.2
13	216.6	216.9	217.2	222.2	223.3	222.2
14	210.5	208.9	209.6	223.7	224.7	223.2
15	205.9	202.6	203.3	225.3	226.2	224.2
16	201.6	196.9	197.5	226.6	227.4	225.2
17	199.5	194.4	194.7	227.7	228.2	225.8
18	200.8	197.8	197.8	228.8	228.9	226.5
19	202.7	201.3	201.1	230.0	229.6	226.9
20	206.3	205.1	205.0	231.3	230.2	227.3
21	209.6	208.6	208.7	232.3	230.9	227.8
22	212.2	211.5	211.4	233.2	231.6	228.4
23	214.8	214.3	214.1	234.2	232.3	229.0
24	217.4	217.2	216.8	235.2	233.0	229.6
25	219.4	219.4	219.2	236.7	234.5	231.3
26	221.4	221.7	221.5	238.2	236.0	233.0
27	223.4	224.0	223.8	239.7	237.5	234.7
28	225.4	226.2	226.1	241.2	239.1	236.4
29	227.4	228.5	228.5	242.7	240.6	238.0
30	229.4	230.8	230.8	244.2	242.1	239.7

TABLE XV. Continued

(e) Concluded

Altitude, km	Temperature, K, at latitude, deg, of -					
	25.	15.	5.	-75.	-65.	-55.
31	231.4	233.1	233.1	245.7	243.6	241.4
32	233.3	235.1	235.1	247.3	245.3	243.3
33	235.3	237.0	237.1	248.9	247.2	245.6
34	237.2	238.9	239.0	250.5	249.1	247.8
35	239.2	240.9	240.9	252.1	251.1	250.0
36	241.1	242.8	242.8	253.7	253.0	252.2
37	243.5	245.2	245.2	255.5	255.0	254.5
38	246.1	247.9	247.8	257.8	257.3	256.7
39	248.6	250.6	250.4	260.1	259.5	259.0
40	251.1	253.3	253.0	262.4	261.8	261.3
41	253.7	255.9	255.7	264.7	264.0	263.6
42	256.2	258.6	258.3	267.0	266.3	265.8
43	258.8	261.3	260.9	269.2	268.5	268.1
44	260.1	262.6	262.3	271.3	270.7	270.1
45	261.3	263.6	263.4	272.3	271.7	270.9
46	262.4	264.7	264.4	273.4	272.7	271.8
47	263.6	265.7	265.5	274.5	273.7	272.6
48	264.8	266.7	266.5	275.5	274.7	273.5
49	265.1	267.0	267.0	276.6	275.7	274.3
50	264.8	266.5	266.5	276.4	275.9	274.2
51	264.4	266.1	266.1	275.5	274.9	273.3
52	264.1	265.6	265.6	274.5	274.0	272.5
53	263.7	265.2	265.2	273.6	273.1	271.6
54	263.4	264.8	264.8	272.7	272.2	270.8
55	263.0	264.3	264.3	271.7	271.3	269.9

TABLE XV. Concluded

(f) Geopotential height of standard pressure surfaces

Pressure, mbar	Altitude, km, at latitude, deg, of -					
	25.	15.	5.	-75.	-65.	-55.
1000.0	.11	.08	.08	-.10	-.06	-.04
850.0	1.52	1.50	1.49	1.16	1.21	1.26
700.0	3.16	3.15	3.14	2.62	2.70	2.77
500.0	5.87	5.89	5.87	5.06	5.17	5.27
400.0	7.57	7.61	7.60	6.60	6.72	6.84
300.0	9.66	9.73	9.71	8.49	8.64	8.77
250.0	10.91	11.01	10.99	9.65	9.82	9.95
200.0	12.39	12.48	12.47	11.08	11.26	11.39
150.0	14.20	14.29	14.28	12.94	13.13	13.27
100.0	16.62	16.66	16.66	15.61	15.82	15.93
70.0	18.73	18.69	18.72	17.98	18.20	18.31
50.0	20.76	20.73	20.75	20.26	20.48	20.56
30.0	23.98	23.93	23.95	23.77	23.96	24.00
10.0	31.28	31.24	31.26	31.54	31.68	31.62
5.0	36.28	36.32	36.38	36.67	36.80	36.66
2.0	43.09	43.19	43.26	43.79	43.93	43.77
1.0	48.42	48.51	48.59	49.39	49.54	49.41
.4	55.56	55.69	55.73	56.84	56.95	56.80
TROP.	15.64	16.42	16.55	9.18	9.47	9.95

TABLE XVI. SUNSET ZONALLY AVERAGED EXTINCTION AND TEMPERATURE PROFILES IN 10° LATITUDE BANDS FOR DECEMBER 1979

(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$

Altitude, km	$\beta_{a,1.00}$, 10^{-4} km^{-1}, at latitude, deg, of -										
	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.
5	9.23	3.74	9.38	6.73	5.87	10.94	3.63	5.40	5.91	10.26	9.14
6	15.01	3.23	7.18	7.96	4.56	7.41	4.50	5.01	4.97	8.66	10.36
7	15.22	3.47	7.19	6.22	4.20	5.96	25.16	3.50	8.13	5.70	13.78
8	11.11	4.48	6.41	6.93	3.52	5.59	17.71	4.50	8.20	5.74	6.73
9	7.84	6.05	8.35	5.01	4.72	7.43	8.82	2.28	4.63	5.08	3.83
10	5.03	5.07	10.13	7.88	8.47	8.14	17.61	6.08	2.55	2.88	2.36
11	2.47	2.80	7.18	11.23	10.21	8.16	22.01	7.85	3.25	1.94	2.03
12	2.21	2.23	6.00	5.83	11.27	7.59	13.13	8.04	6.11	1.71	1.80
13	1.78	1.75	3.45	5.00	13.27	11.70	16.62	8.18	9.81	1.69	1.86
14	1.49	1.44	2.71	6.60	12.64	11.05	14.52	9.88	4.61	1.68	1.95
15	1.37	1.30	2.48	5.37	13.95	13.02	10.71	7.69	2.25	1.86	2.03
16	1.33	1.30	1.68	3.67	8.07	11.92	13.58	4.49	2.34	2.03	2.03
17	1.22	1.22	1.38	2.52	6.03	8.13	8.20	3.92	2.99	1.98	1.78
18	1.11	1.13	1.26	2.22	5.20	7.35	4.75	3.58	2.85	1.66	1.44
19	.98	1.00	1.16	1.46	2.77	3.86	3.38	2.13	1.72	1.35	1.26
20	.82	.88	1.03	1.18	1.52	1.90	2.19	1.35	1.19	1.16	1.11
21	.63	.78	.92	1.06	1.06	1.11	1.12	1.09	1.07	.99	.99
22	.51	.66	.80	.93	1.00	.99	1.02	1.09	.96	.86	.88
23	.40	.52	.68	.81	.97	.95	.97	1.08	.89	.72	.79
24	.35	.40	.54	.64	.86	.93	.93	1.04	.82	.60	.67
25	.29	.33	.43	.58	.83	.87	.86	.96	.73	.54	.54
26	.24	.27	.34	.51	.78	.75	.72	.78	.62	.41	.41
27	.18	.21	.26	.45	.65	.56	.51	.54	.46	.30	.29
28	.13	.15	.19	.36	.51	.42	.35	.33	.30	.21	.20
29	.09	.11	.14	.28	.39	.32	.25	.22	.20	.15	.14
30	.07	.08	.10	.20	.29	.24	.18	.15	.14	.10	.10
31	.05	.06	.07	.14	.21	.17	.13	.10	.09	.07	.07
32	.04	.04	.05	.10	.16	.12	.09	.07	.06	.05	.05
33	.03	.03	.04	.07	.11	.08	.07	.05	.04	.04	.03
34	.02	.03	.03	.05	.08	.06	.05	.04	.03	.03	.02
35	.02	.02	.02	.04	.06	.04	.04	.03	.02	.02	.02
36	.02	.02	.02	.03	.04	.03	.03	.02	.02	.02	.01
37	.01	.01	.01	.02	.03	.02	.02	.02	.01	.02	.01
38	.01	.01	.01	.02	.02	.02	.02	.01	.01	.01	.01
39	.01	.01	.01	.01	.02	.01	.02	.01	.01	.01	.01
40	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
*TROP.+2	13.38	12.74	11.48	10.46	11.66	13.39	12.99	14.36	17.24	16.69	18.88

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE XVI. Continued

(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$

Altitude, km	$\beta_{a,1.00}/\beta_{m,1.00}$ at latitude, deg, of -										
	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.
5	2.50	1.60	2.53	2.10	1.96	2.82	1.56	1.88	1.95	2.66	2.39
6	3.73	1.58	2.21	2.45	1.83	2.35	1.83	1.91	1.90	2.52	2.84
7	4.02	1.70	2.44	2.25	1.85	2.23	6.35	1.70	2.62	2.13	3.69
8	3.48	2.01	2.43	2.55	1.79	2.27	4.97	2.03	2.82	2.27	2.48
9	2.99	2.55	3.10	2.22	2.18	2.87	3.21	1.38	2.16	2.26	1.96
10	2.44	2.43	3.72	3.22	3.38	3.22	6.05	2.72	1.72	1.80	1.68
11	1.83	1.91	3.28	4.48	4.20	3.57	7.89	3.45	2.03	1.62	1.68
12	1.87	1.85	3.14	3.06	5.13	3.62	5.63	3.83	3.27	1.64	1.70
13	1.82	1.78	2.42	3.02	6.25	5.84	7.75	4.27	4.98	1.73	1.85
14	1.81	1.75	2.30	4.05	6.78	5.98	7.49	5.45	3.11	1.84	2.04
15	1.87	1.79	2.37	3.82	8.20	7.77	6.59	4.95	2.23	2.09	2.26
16	1.99	1.92	2.07	3.23	5.75	7.97	9.07	3.70	2.51	2.37	2.46
17	2.06	2.01	2.05	2.82	5.14	6.52	6.64	3.79	3.25	2.55	2.50
18	2.12	2.09	2.13	2.89	5.34	7.09	4.88	4.00	3.48	2.53	2.42
19	2.16	2.14	2.23	2.49	3.74	4.80	4.41	3.14	2.77	2.47	2.45
20	2.13	2.17	2.30	2.44	2.80	3.22	3.59	2.64	2.48	2.49	2.49
21	2.01	2.21	2.37	2.54	2.54	2.59	2.61	2.60	2.59	2.50	2.57
22	1.96	2.20	2.40	2.60	2.74	2.72	2.77	2.91	2.70	2.53	2.63
23	1.88	2.11	2.42	2.65	3.00	2.96	3.01	3.25	2.86	2.50	2.70
24	1.88	1.99	2.31	2.56	3.12	3.30	3.28	3.56	3.02	2.48	2.70
25	1.87	1.96	2.24	2.66	3.41	3.54	3.50	3.79	3.11	2.55	2.60
26	1.81	1.92	2.14	2.70	3.66	3.56	3.43	3.66	3.13	2.41	2.42
27	1.70	1.82	2.03	2.76	3.58	3.26	3.02	3.16	2.82	2.21	2.18
28	1.59	1.70	1.88	2.66	3.38	2.99	2.62	2.55	2.39	1.99	1.95
29	1.49	1.59	1.73	2.50	3.13	2.78	2.37	2.20	2.12	1.80	1.78
30	1.42	1.51	1.62	2.24	2.83	2.57	2.16	1.98	1.90	1.66	1.64
31	1.35	1.44	1.53	2.03	2.61	2.32	1.97	1.77	1.70	1.54	1.52
32	1.31	1.38	1.45	1.84	2.36	2.07	1.80	1.61	1.54	1.45	1.42
33	1.28	1.34	1.39	1.69	2.11	1.87	1.68	1.49	1.43	1.37	1.35
34	1.26	1.30	1.35	1.57	1.91	1.71	1.58	1.42	1.35	1.32	1.30
35	1.24	1.28	1.31	1.48	1.75	1.60	1.50	1.36	1.31	1.30	1.26
36	1.23	1.26	1.28	1.41	1.64	1.52	1.44	1.32	1.28	1.29	1.24
37	1.23	1.25	1.26	1.36	1.56	1.46	1.40	1.29	1.25	1.29	1.22
38	1.26	1.25	1.25	1.33	1.50	1.41	1.37	1.27	1.24	1.29	1.22
39	1.26	1.25	1.25	1.33	1.43	1.37	1.37	1.26	1.23	1.29	1.23
40	1.28	1.25	1.27	1.32	1.36	1.34	1.40	1.24	1.22	1.29	1.25

TABLE XVI. Continued

(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$

Altitude, km	$\beta_{a,0.45}$, 10^{-4} km^{-1}, at latitude, deg, of -										
	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.
10	8.04	9.07	17.87	20.02	10.90	8.73	32.24	11.06	6.74	5.66	5.61
11	7.05	7.94	16.59	19.85	14.95	12.59	20.32	10.60	8.12	5.38	5.61
12	6.59	7.08	14.86	21.18	17.06	11.97	18.59	10.90	9.64	5.37	5.79
13	5.77	5.92	14.02	22.35	18.44	15.33	17.35	12.50	11.10	5.96	6.39
14	5.15	5.04	13.10	23.05	20.25	15.18	17.82	13.48	11.21	6.78	6.97
15	4.77	4.49	11.15	21.30	22.80	17.43	15.79	15.02	11.44	7.64	7.25
16	4.54	4.20	8.69	17.16	22.02	18.94	16.00	16.51	12.83	8.06	6.99
17	4.30	3.99	6.73	13.38	20.65	17.99	16.35	17.01	13.58	7.60	6.19
18	3.97	3.78	5.37	9.98	17.76	16.23	14.82	14.81	11.95	6.44	5.20
19	3.54	3.51	4.48	7.16	12.96	12.80	12.54	10.79	8.96	5.22	4.30
20	3.04	3.18	3.87	5.30	8.33	8.81	9.08	7.25	6.33	4.20	3.55
21	2.53	2.84	3.41	4.30	5.51	5.63	5.89	5.10	4.66	3.39	2.94
22	2.07	2.48	3.00	3.63	4.12	3.90	4.13	3.99	3.64	2.74	2.46
23	1.68	2.07	2.55	3.07	3.38	3.07	3.27	3.44	3.04	2.23	2.06
24	1.36	1.68	2.11	2.59	2.96	2.68	2.83	3.10	2.65	1.84	1.72
25	1.12	1.40	1.76	2.27	2.76	2.45	2.56	2.81	2.33	1.54	1.42
26	.93	1.15	1.45	1.99	2.57	2.26	2.28	2.45	2.02	1.26	1.14
27	.74	.92	1.17	1.72	2.29	2.01	1.92	1.99	1.67	1.02	.88
28	.58	.72	.91	1.43	1.96	1.72	1.53	1.51	1.30	.80	.66
29	.44	.55	.70	1.16	1.63	1.41	1.18	1.08	.97	.60	.49
30	.32	.41	.52	.91	1.30	1.12	.89	.76	.70	.44	.35
31	.24	.30	.39	.69	1.01	.85	.66	.54	.50	.33	.25
32	.17	.22	.28	.52	.76	.64	.48	.38	.36	.24	.18
33	.12	.16	.21	.38	.56	.47	.35	.27	.26	.17	.13
34	.09	.12	.15	.27	.41	.34	.25	.19	.19	.13	.09
35	.06	.08	.11	.20	.30	.25	.18	.14	.13	.09	.06
36	.05	.06	.08	.14	.21	.18	.14	.09	.09	.06	.05
37	.03	.04	.06	.10	.15	.14	.10	.07	.06	.04	.03
38	.03	.03	.04	.08	.11	.10	.08	.05	.04	.03	.02
39	.02	.02	.03	.06	.08	.08	.06	.03	.03	.02	.01
40	.02	.02	.02	.04	.05	.05	.04	.03	.02	.02	.01
*TROP.+2	48.00	45.78	49.16	44.81	49.74	49.98	50.24	59.36	76.20	62.03	62.17

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE XVI. Continued

(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$

Altitude, km	$\beta_{a,0.45}/\beta_{a,1.00}$ at latitude, deg, of -										
	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.
10	2.43	2.99	2.23	2.46	1.51	1.34	1.32	2.72	1.97	2.37	2.37
11	2.55	2.90	2.89	3.01	1.99	1.88	.85	2.27	2.51	2.63	2.66
12	2.83	2.84	3.38	3.66	2.23	1.76	1.79	2.09	3.09	2.97	3.00
13	3.06	2.98	3.70	4.31	2.64	2.22	1.81	2.28	3.45	3.39	3.33
14	3.20	3.14	4.03	4.76	2.75	2.73	2.35	2.65	3.93	3.73	3.51
15	3.33	3.22	4.13	4.79	3.12	3.09	1.79	3.27	4.57	3.91	3.55
16	3.46	3.28	4.17	4.66	3.36	3.39	2.52	3.87	4.95	3.90	3.54
17	3.56	3.32	4.16	4.67	3.76	2.84	3.04	4.30	4.79	3.80	3.49
18	3.62	3.40	4.01	4.62	3.95	2.92	3.15	4.44	4.53	3.70	3.43
19	3.66	3.50	3.83	4.39	3.97	3.20	3.37	4.41	4.38	3.63	3.33
20	3.73	3.58	3.72	4.12	4.00	3.48	3.65	4.38	4.35	3.54	3.15
21	3.85	3.68	3.72	4.02	4.06	3.61	3.74	4.14	4.15	3.36	2.95
22	3.96	3.82	3.76	3.92	3.90	3.57	3.63	3.62	3.72	3.20	2.78
23	3.97	3.93	3.78	3.85	3.57	3.19	3.39	3.24	3.43	3.09	2.65
24	3.88	4.02	3.82	3.83	3.35	2.93	3.12	3.06	3.32	3.04	2.61
25	3.85	4.17	4.00	3.92	3.35	2.91	3.11	3.07	3.30	3.05	2.64
26	3.94	4.28	4.21	3.99	3.45	3.12	3.31	3.25	3.42	3.14	2.75
27	4.13	4.40	4.41	4.06	3.61	3.50	3.68	3.59	3.65	3.33	2.90
28	4.35	4.57	4.63	4.17	3.86	3.93	4.10	4.06	4.00	3.59	3.06
29	4.56	4.73	4.88	4.37	4.14	4.30	4.47	4.49	4.40	3.82	3.19
30	4.67	4.80	5.07	4.62	4.36	4.54	4.72	4.73	4.69	4.01	3.30
31	4.69	4.83	5.15	4.89	4.57	4.77	4.87	4.88	4.98	4.20	3.42
32	4.59	4.89	5.13	5.13	4.76	5.04	4.96	5.11	5.37	4.37	3.55
33	4.39	35.00	5.06	5.26	4.95	5.28	4.99	5.34	5.70	4.47	3.72
34	4.13	12.83	4.91	5.30	5.16	5.50	4.96	5.53	5.78	4.46	3.92
35	3.81	6.11	4.76	5.29	5.32	5.66	4.88	5.44	5.60	4.38	3.98
36	3.45	4.40	4.65	5.27	5.33	5.74	4.78	4.99	5.20	4.29	3.88
37	3.02	3.70	4.49	5.16	5.14	6.12	4.64	4.45	4.68	4.35	3.56
38	2.49	3.50	4.08	4.87	4.85	6.58	4.28	3.96	4.11	5.41	3.18
39	2.14	3.97	3.45	4.68	4.61	6.35	3.77	3.56	3.56	8.38	2.81
40	2.02	5.36	2.87	5.13	4.60	6.24	3.28	3.24	3.10	11.03	2.32

TABLE XVI. Continued

(e) Temperature

Altitude, km	Temperature, K, at latitude, deg, of -										
	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.
5	250.7	255.1	264.7	271.0	273.1	273.5	273.1	271.4	265.2	256.6	250.3
6	244.0	248.6	258.5	265.1	267.4	267.9	267.5	265.5	259.1	250.3	243.7
7	237.1	241.7	251.1	257.8	260.9	261.5	261.1	258.7	252.0	243.3	236.7
8	231.2	235.2	244.1	250.5	254.3	254.9	254.5	251.8	245.2	236.7	230.3
9	225.4	228.9	237.3	243.2	247.2	247.8	247.4	244.7	238.5	230.2	223.9
10	220.8	224.0	230.9	236.0	240.1	240.7	240.2	237.6	231.8	224.6	219.4
11	219.3	221.1	225.1	229.0	232.7	233.3	232.7	230.3	225.6	220.7	217.7
12	219.1	219.4	219.9	222.4	225.2	225.5	224.9	222.9	220.2	217.9	216.9
13	220.0	219.0	216.4	216.6	217.7	217.8	217.3	216.2	216.0	216.3	216.9
14	221.0	218.7	213.3	211.4	210.3	210.2	209.8	209.9	212.1	214.8	216.6
15	221.9	218.7	211.7	207.7	204.3	203.7	203.7	204.9	209.2	213.5	216.2
16	222.8	218.7	210.1	204.3	198.8	197.6	198.0	200.3	206.3	212.3	215.7
17	223.3	219.0	209.7	202.5	195.8	194.0	195.0	198.0	204.8	211.7	215.2
18	223.9	219.4	210.2	203.4	197.9	195.9	197.4	199.4	204.7	211.3	214.8
19	224.4	220.0	211.1	204.7	200.3	198.2	200.2	201.5	205.6	211.5	214.4
20	224.9	220.8	213.0	207.8	204.1	202.3	204.2	205.3	208.2	212.2	214.1
21	225.6	221.8	214.9	210.7	207.7	206.2	207.9	208.9	210.7	213.1	213.8
22	226.3	222.9	216.9	213.2	210.8	209.6	211.2	211.8	212.7	214.1	213.6
23	227.0	224.0	218.8	215.8	214.0	213.0	214.4	214.7	214.8	215.0	213.4
24	227.8	225.2	220.8	218.3	217.1	216.4	217.6	217.6	216.9	216.0	213.3
25	229.6	227.1	223.1	220.6	219.5	218.8	219.8	219.8	218.9	217.0	213.4
26	231.4	229.1	225.4	222.9	221.8	221.2	222.1	222.1	220.9	218.0	213.6
27	233.3	231.0	227.7	225.2	224.2	223.6	224.4	224.4	223.0	218.9	213.7
28	235.1	233.0	229.9	227.5	226.5	226.1	226.7	226.6	225.0	219.9	213.9
29	236.9	234.9	232.2	229.7	228.8	228.5	228.9	228.9	227.0	220.9	214.0
30	238.8	236.9	234.5	232.0	231.2	230.9	231.2	231.2	229.0	221.9	214.2

TABLE XVI. Continued

(e) Concluded

Altitude, km	Temperature, K, at latitude, deg, of -										
	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.
31	240.6	238.8	236.8	234.3	233.5	233.4	233.5	233.4	231.1	222.9	215.2
32	242.6	240.9	239.0	236.4	235.5	235.3	235.3	235.3	232.8	224.7	217.0
33	244.8	243.2	241.0	238.4	237.4	237.0	237.0	236.9	234.5	226.5	218.8
34	247.0	245.5	243.0	240.5	239.2	238.7	238.7	238.6	236.2	228.3	220.6
35	249.3	247.8	245.0	242.5	241.0	240.4	240.4	240.3	237.9	230.1	222.4
36	251.5	250.0	247.1	244.5	242.8	242.2	242.1	242.0	239.6	232.2	224.7
37	253.7	252.3	249.3	246.8	245.1	244.4	244.2	244.3	242.0	234.6	226.9
38	256.0	254.7	251.7	249.4	247.7	246.9	246.8	246.8	244.6	236.9	229.2
39	258.3	257.0	254.1	251.9	250.2	249.4	249.3	249.4	247.1	239.3	231.4
40	260.6	259.4	256.6	254.5	252.8	252.0	251.8	252.0	249.6	241.6	233.7
41	262.9	261.7	259.0	257.1	255.4	254.5	254.4	254.5	252.1	244.0	235.9
42	265.2	264.1	261.4	259.6	258.0	257.1	256.9	257.1	254.6	246.4	238.1
43	267.6	266.4	263.9	262.2	260.5	259.6	259.5	259.7	257.0	248.2	240.2
44	269.4	268.2	265.5	263.7	262.1	261.1	261.0	261.0	258.3	249.9	242.4
45	270.2	269.0	266.4	264.6	263.2	262.3	262.1	262.2	259.6	251.7	244.5
46	271.0	269.8	267.3	265.6	264.2	263.4	263.2	263.3	260.9	253.4	246.7
47	271.8	270.5	268.1	266.5	265.3	264.5	264.3	264.4	262.2	255.2	247.9
48	272.6	271.3	269.0	267.4	266.4	265.6	265.5	265.6	263.5	255.8	248.9
49	273.5	272.1	269.9	268.1	266.9	266.1	265.9	265.9	263.5	256.1	249.8
50	273.2	271.7	269.3	267.6	266.5	265.7	265.5	265.5	263.2	256.4	250.8
51	272.4	271.0	268.7	267.1	266.1	265.3	265.1	265.1	263.0	256.7	251.8
52	271.6	270.3	268.1	266.6	265.6	264.9	264.6	264.7	262.7	257.0	252.8
53	270.9	269.5	267.5	266.1	265.2	264.5	264.2	264.3	262.5	257.3	253.7
54	270.1	268.8	266.9	265.6	264.8	264.1	263.8	263.9	262.2	257.6	254.7
55	269.3	268.1	266.3	265.1	264.3	263.6	263.4	263.5	262.0	258.0	255.7

TABLE XVI. Concluded

(f) Geopotential height of standard pressure surfaces

Pressure, mbar	Altitude, km, at latitude, deg, of -									
	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.
1000.0	.06	.14	.12	.10	.09	.09	.13	.14	.17	.15
850.0	1.40	1.51	1.52	1.51	1.50	1.51	1.53	1.52	1.50	1.47
700.0	2.95	3.10	3.15	3.15	3.15	3.15	3.16	3.11	3.05	3.02
500.0	5.51	5.75	5.86	5.88	5.88	5.88	5.88	5.77	5.63	5.58
400.0	7.12	7.42	7.57	7.61	7.61	7.61	7.59	7.44	7.25	7.19
300.0	9.10	9.45	9.65	9.72	9.73	9.72	9.68	9.49	9.23	9.16
250.0	10.30	10.68	10.90	10.99	11.01	11.00	10.94	10.72	10.44	10.35
200.0	11.75	12.14	12.37	12.47	12.49	12.48	12.41	12.18	11.88	11.78
150.0	13.60	13.96	14.18	14.29	14.31	14.29	14.22	14.00	13.71	13.62
100.0	16.20	16.47	16.63	16.68	16.69	16.67	16.63	16.48	16.26	16.18
70.0	18.49	18.68	18.77	18.78	18.77	18.72	18.71	18.61	18.45	18.38
50.0	20.68	20.78	20.82	20.80	20.77	20.74	20.74	20.67	20.55	20.49
30.0	24.04	24.07	24.06	24.00	23.96	23.95	23.95	23.88	23.78	23.72
10.0	31.57	31.51	31.43	31.35	31.30	31.27	31.26	31.15	30.89	30.69
5.0	36.58	36.54	36.43	36.45	36.43	36.42	36.32	36.08	35.57	35.25
2.0	43.64	43.53	43.35	43.33	43.29	43.27	43.16	42.83	42.06	41.56
1.0	49.24	49.03	48.79	48.69	48.61	48.55	48.48	48.14	47.23	46.59
.4	56.58	56.28	56.01	55.82	55.70	55.66	55.62	55.25	54.23	53.49
TROP.	11.13	13.43	15.84	16.80	16.61	16.55	15.62	13.67	11.65	11.10

TABLE XVII. SEASONALLY AVERAGED EXTINCTION AND TEMPERATURE DATA FOR SPRING 1979

(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$

Altitude, km	$\beta_{a,1.00}$, 10^{-4} km^{-1}, at latitude, deg, of -													
	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.	65.	75.
5	7.15	4.84	5.78	7.01	8.37	8.67	8.81	12.36	12.70	16.67	15.82	16.12	20.41	27.48
6	6.84	4.73	6.41	6.34	10.87	7.34	6.18	10.74	12.40	15.64	12.89	16.64	20.10	25.35
7	4.46	4.98	4.81	5.30	9.39	7.90	2.06	7.97	10.70	12.82	12.73	16.02	18.26	21.18
8	3.64	4.68	5.53	5.40	9.10	7.69	9.28	6.72	8.27	10.37	13.16	11.69	13.64	15.71
9	2.84	3.70	3.85	4.05	6.65	7.30	9.80	6.70	8.30	10.08	8.91	7.63	8.63	8.21
10	2.21	3.15	7.67	4.48	6.01	7.72	8.79	5.09	6.12	7.26	9.94	4.91	4.77	3.41
11	2.58	2.61	4.02	4.28	5.91	10.35	10.76	5.05	5.23	5.93	6.82	3.04	2.77	1.77
12	1.90	2.10	3.09	3.53	6.85	9.59	12.29	5.39	4.34	4.05	3.62	2.11	1.80	1.44
13	1.38	1.82	2.16	3.50	6.77	7.90	12.80	8.13	3.14	3.07	1.94	1.61	1.47	1.31
14	1.30	1.31	1.56	3.71	7.91	9.23	15.19	6.59	2.17	1.94	1.45	1.40	1.35	1.25
15	1.32	1.20	1.16	1.99	5.69	12.88	14.04	4.23	1.65	1.40	1.31	1.30	1.26	1.22
16	1.34	1.23	1.08	1.32	5.25	14.18	14.40	3.21	1.28	1.20	1.24	1.24	1.18	1.16
17	1.30	1.26	1.11	1.18	3.86	9.03	8.68	2.01	1.18	1.17	1.21	1.19	1.12	1.11
18	1.21	1.24	1.16	1.10	2.07	4.41	3.62	1.35	1.15	1.17	1.16	1.10	1.04	1.04
19	1.07	1.14	1.18	1.16	1.30	1.53	1.56	1.15	1.16	1.12	1.10	1.01	.95	.96
20	.91	1.00	1.10	1.14	1.15	1.17	1.25	1.08	1.12	1.03	1.02	.92	.86	.86
21	.74	.84	.95	1.03	1.12	1.16	1.24	1.03	1.00	.95	.93	.83	.80	.78
22	.58	.68	.82	.91	1.06	1.12	1.09	.96	.91	.87	.84	.74	.70	.67
23	.44	.53	.68	.79	.97	1.06	1.03	.91	.81	.77	.71	.64	.58	.55
24	.33	.39	.53	.67	.87	.96	.94	.86	.70	.62	.57	.52	.44	.35
25	.25	.30	.43	.58	.79	.91	.90	.83	.61	.49	.43	.40	.31	.27
26	.18	.22	.34	.48	.71	.83	.83	.75	.51	.38	.31	.29	.22	.19
27	.13	.16	.27	.39	.63	.75	.78	.68	.44	.29	.22	.21	.16	.14
28	.10	.12	.21	.33	.56	.69	.70	.58	.38	.23	.16	.16	.12	.10
29	.07	.09	.16	.26	.48	.62	.61	.49	.32	.18	.11	.12	.08	.07
30	.05	.06	.12	.20	.39	.53	.54	.39	.24	.13	.08	.08	.06	.05
31	.04	.05	.08	.15	.30	.40	.42	.27	.17	.09	.06	.06	.04	.04
32	.03	.04	.06	.11	.21	.28	.29	.19	.12	.07	.04	.04	.03	.03
33	.02	.03	.04	.08	.15	.19	.25	.13	.09	.05	.03	.03	.02	.02
34	.02	.02	.03	.06	.10	.13	.25	.09	.06	.04	.03	.02	.02	.01
35	.02	.02	.03	.04	.07	.08	.25	.06	.04	.03	.02	.02	.01	.01
36	.01	.02	.02	.03	.05	.05	.25	.04	.03	.02	.02	.01	.01	.01
37	.01	.01	.02	.02	.03	.04	.26	.03	.02	.02	.02	.01	.01	.01
38	.01	.01	.01	.02	.02	.02	.25	.02	.02	.01	.01	.01	.01	.01
39	.01	.01	.01	.01	.02	.02	.24	.02	.01	.01	.01	.01	.01	.00
40	.01	.01	.01	.01	.01	.01	.28	.01	.01	.01	.01	.01	.01	.00
* TROP.+2	13.37	12.22	10.79	9.88	11.00	12.26	12.79	11.11	11.10	13.33	15.07	16.25	15.35	15.09

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE XVII. Continued

(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$

Altitude, km	$\beta_{a,1.00}/\beta_{m,1.00}$ at latitude, deg, of -													
	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.	65.	75.
5	2.15	1.77	1.93	2.15	2.38	2.41	2.47	3.03	3.08	3.70	3.50	3.53	4.20	5.32
6	2.22	1.85	2.15	2.15	3.01	2.33	2.13	2.95	3.23	3.79	3.23	3.95	4.55	5.47
7	1.88	2.00	1.95	2.06	2.91	2.61	1.33	2.60	3.15	3.54	3.53	4.21	4.63	5.19
8	1.82	2.05	2.24	2.21	3.03	2.74	3.14	2.51	2.83	3.29	3.93	3.62	4.06	4.52
9	1.73	1.93	1.95	2.01	2.67	2.84	3.45	2.67	3.08	3.52	3.23	2.93	3.19	3.08
10	1.65	1.89	3.18	2.26	2.68	3.18	3.44	2.41	2.70	3.02	3.89	2.42	2.39	2.00
11	1.88	1.84	2.25	2.34	2.85	4.29	4.42	2.56	2.65	2.88	3.21	2.02	1.94	1.62
12	1.75	1.79	2.12	2.25	3.42	4.38	5.35	2.91	2.54	2.47	2.34	1.84	1.72	1.59
13	1.64	1.79	1.89	2.42	3.71	4.15	6.09	4.27	2.26	2.27	1.85	1.76	1.70	1.63
14	1.71	1.67	1.74	2.71	4.52	5.20	7.87	3.95	2.00	1.94	1.76	1.77	1.74	1.70
15	1.84	1.73	1.65	2.04	3.93	7.69	8.34	3.15	1.87	1.80	1.81	1.84	1.81	1.79
16	1.99	1.87	1.72	1.81	4.11	9.43	9.54	2.89	1.80	1.81	1.89	1.93	1.89	1.87
17	2.12	2.05	1.86	1.86	3.67	7.22	6.96	2.40	1.86	1.93	2.01	2.04	1.97	1.97
18	2.21	2.20	2.06	1.96	2.70	4.57	3.92	2.12	2.00	2.08	2.13	2.12	2.05	2.05
19	2.25	2.28	2.27	2.20	2.30	2.50	2.54	2.16	2.20	2.22	2.25	2.20	2.11	2.12
20	2.24	2.32	2.39	2.40	2.39	2.41	2.52	2.33	2.39	2.33	2.36	2.27	2.18	2.17
21	2.18	2.30	2.42	2.50	2.62	2.68	2.82	2.51	2.49	2.44	2.45	2.35	2.27	2.23
22	2.07	2.23	2.43	2.57	2.81	2.94	2.91	2.68	2.60	2.55	2.53	2.40	2.31	2.24
23	1.96	2.12	2.41	2.62	2.99	3.19	3.12	2.89	2.69	2.62	2.51	2.41	2.25	2.18
24	1.83	1.97	2.30	2.63	3.10	3.36	3.32	3.11	2.72	2.55	2.43	2.34	2.10	1.88
25	1.73	1.86	2.24	2.64	3.26	3.62	3.61	3.40	2.78	2.43	2.27	2.19	1.92	1.79
26	1.62	1.76	2.14	2.61	3.39	3.83	3.82	3.54	2.74	2.30	2.05	2.01	1.77	1.64
27	1.53	1.64	2.05	2.54	3.51	4.01	4.10	3.71	2.75	2.17	1.90	1.87	1.65	1.53
28	1.45	1.55	1.97	2.50	3.59	4.23	4.25	3.70	2.76	2.08	1.76	1.75	1.55	1.45
29	1.38	1.47	1.86	2.41	3.63	4.41	4.35	3.65	2.72	1.97	1.63	1.64	1.45	1.36
30	1.33	1.41	1.73	2.25	3.51	4.43	4.47	3.47	2.55	1.82	1.53	1.54	1.38	1.30
31	1.29	1.35	1.61	2.09	3.20	4.01	4.13	3.03	2.29	1.68	1.45	1.45	1.32	1.25
32	1.27	1.31	1.52	1.92	2.82	3.46	3.48	2.63	2.08	1.59	1.39	1.38	1.27	1.22
33	1.25	1.28	1.44	1.77	2.47	2.94	3.57	2.31	1.87	1.50	1.35	1.33	1.24	1.19
34	1.23	1.26	1.39	1.64	2.17	2.52	3.95	2.04	1.70	1.44	1.33	1.29	1.22	1.16
35	1.22	1.24	1.35	1.53	1.92	2.15	4.37	1.82	1.58	1.39	1.32	1.26	1.20	1.14
36	1.22	1.24	1.32	1.45	1.73	1.87	4.95	1.66	1.49	1.35	1.30	1.24	1.19	1.13
37	1.23	1.24	1.29	1.39	1.58	1.66	5.89	1.55	1.43	1.32	1.29	1.23	1.19	1.12
38	1.24	1.25	1.29	1.35	1.48	1.53	6.24	1.47	1.39	1.30	1.28	1.23	1.19	1.12
39	1.26	1.27	1.28	1.31	1.40	1.44	7.06	1.41	1.37	1.29	1.28	1.24	1.19	1.11
40	1.28	1.28	1.28	1.29	1.35	1.37	9.05	1.37	1.35	1.28	1.28	1.25	1.20	1.11

TABLE XVII. Continued

(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$

Altitude, km	$\beta_{a,0.45}$, 10^{-4} km^{-1}, at latitude, deg, of -													
	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.	65.	75.
10	6.69	7.26	13.81	9.36	16.44	19.34	15.48	11.02	15.20	20.53	24.94	10.52	9.01	4.69
11	5.47	5.88	9.59	9.05	15.52	18.44	16.81	11.49	13.23	15.19	16.56	8.36	7.26	4.31
12	4.44	4.74	6.31	8.70	14.26	17.66	18.18	13.17	10.88	11.77	11.44	6.70	5.77	3.93
13	3.75	4.03	5.43	8.35	14.28	17.51	17.75	12.96	9.12	8.74	8.12	5.63	5.01	3.94
14	3.49	3.57	4.66	7.64	13.33	17.21	18.72	12.25	7.53	6.67	6.29	4.98	4.58	4.01
15	3.46	3.42	4.08	6.31	12.60	18.17	19.70	10.38	6.33	5.38	5.34	4.58	4.32	4.06
16	3.52	3.49	3.85	5.36	11.42	17.22	16.72	8.81	5.65	4.75	4.85	4.31	4.10	4.06
17	3.51	3.59	3.85	4.79	9.95	14.53	12.90	7.58	5.24	4.47	4.56	4.05	3.88	3.99
18	3.36	3.60	3.91	4.46	7.85	11.15	9.44	6.38	5.04	4.31	4.30	3.75	3.62	3.84
19	3.07	3.42	3.90	4.25	6.19	8.01	6.81	5.50	4.84	4.09	4.03	3.41	3.33	3.60
20	2.69	3.10	3.70	3.98	5.06	6.04	5.27	4.81	4.52	3.80	3.70	3.06	3.03	3.29
21	2.25	2.69	3.34	3.60	4.31	4.93	4.42	4.24	4.09	3.47	3.30	2.71	2.71	2.94
22	1.81	2.24	2.88	3.16	3.76	4.26	3.91	3.76	3.58	3.11	2.90	2.35	2.36	2.53
23	1.41	1.79	2.40	2.70	3.31	3.75	3.49	3.35	3.07	2.70	2.47	1.99	1.95	2.04
24	1.08	1.39	1.95	2.28	2.94	3.33	3.12	3.00	2.62	2.26	2.02	1.62	1.53	1.54
25	.81	1.07	1.60	1.95	2.66	3.04	2.89	2.72	2.23	1.83	1.59	1.27	1.16	1.16
26	.60	.82	1.31	1.67	2.42	2.80	2.71	2.47	1.89	1.45	1.20	.96	.85	.86
27	.45	.62	1.06	1.41	2.19	2.56	2.54	2.21	1.59	1.13	.88	.71	.62	.62
28	.33	.47	.85	1.19	1.96	2.33	2.35	1.94	1.34	.88	.64	.53	.45	.45
29	.25	.36	.67	.98	1.70	2.09	2.13	1.67	1.12	.68	.46	.39	.33	.33
30	.18	.27	.52	.80	1.43	1.82	1.89	1.37	.91	.51	.34	.29	.24	.24
31	.13	.20	.39	.62	1.14	1.50	1.60	1.07	.70	.38	.25	.21	.17	.17
32	.10	.14	.29	.47	.87	1.15	1.37	.79	.52	.28	.18	.15	.12	.12
33	.07	.10	.21	.35	.64	.83	1.26	.57	.37	.21	.13	.11	.09	.09
34	.05	.08	.15	.25	.45	.58	1.21	.41	.27	.15	.09	.08	.06	.06
35	.04	.06	.11	.18	.32	.40	1.16	.29	.19	.11	.07	.05	.05	.04
36	.03	.04	.08	.13	.23	.28	1.11	.21	.14	.08	.05	.04	.03	.03
37	.02	.03	.06	.09	.16	.20	1.04	.15	.10	.06	.04	.03	.02	.02
38	.02	.02	.04	.07	.12	.14	.99	.10	.07	.04	.03	.02	.02	.01
39	.01	.02	.03	.05	.08	.10	.95	.07	.05	.03	.02	.01	.01	.01
40	.01	.01	.02	.03	.06	.07	.90	.05	.04	.02	.02	.01	.01	.01
*TROP.+2	37.54	36.97	38.15	35.82	41.71	48.18	45.30	43.20	44.19	49.41	57.41	54.11	52.04	51.36

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE XVII. Continued

(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$

Altitude, km	$\beta_{a,0.45}/\beta_{a,1.00}$ at latitude, deg, of -													
	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.	65.	75.
10	2.54	2.76	2.67	2.92	2.24	1.83	.92	2.80	2.18	2.77	2.75	2.30	1.79	1.15
11	2.39	2.59	2.67	3.02	2.67	2.39	1.58	2.94	2.68	2.74	2.70	2.55	2.19	1.78
12	2.30	2.46	2.70	3.08	3.03	2.88	2.10	3.38	2.97	2.80	2.92	2.88	2.63	2.40
13	2.33	2.45	2.79	3.12	3.22	2.67	2.31	3.30	3.19	3.01	3.27	3.14	3.04	2.86
14	2.43	2.53	2.97	3.22	3.31	2.67	3.33	3.46	3.51	3.27	3.66	3.32	3.27	3.13
15	2.54	2.64	3.16	3.42	3.55	2.68	2.37	3.56	3.83	3.53	3.86	3.40	3.36	3.32
16	2.63	2.76	3.34	3.68	3.66	2.78	2.52	3.73	4.08	3.69	3.83	3.42	3.42	3.47
17	2.72	2.86	3.39	3.87	3.87	3.05	2.69	4.00	4.22	3.74	3.77	3.41	3.46	3.61
18	2.80	2.95	3.39	3.86	4.10	3.54	3.09	4.24	4.27	3.75	3.72	3.39	3.48	3.71
19	2.88	3.04	3.41	3.74	4.22	4.04	3.61	4.40	4.20	3.72	3.69	3.35	3.48	3.78
20	2.95	3.12	3.45	3.61	4.14	4.35	4.01	4.33	4.09	3.69	3.64	3.30	3.46	3.82
21	3.00	3.20	3.50	3.51	3.86	4.22	3.92	4.12	4.01	3.66	3.56	3.23	3.42	3.82
22	3.06	3.27	3.53	3.46	3.59	3.86	3.61	3.91	3.92	3.62	3.52	3.16	3.38	3.83
23	3.11	3.33	3.53	3.40	3.43	3.59	3.39	3.70	3.81	3.59	3.51	3.11	3.37	3.85
24	3.14	3.40	3.54	3.35	3.34	3.43	3.25	3.50	3.71	3.61	3.54	3.10	3.41	3.91
25	3.17	3.50	3.64	3.39	3.35	3.38	3.22	3.37	3.68	3.67	3.62	3.11	3.49	4.13
26	3.19	3.59	3.75	3.47	3.40	3.37	3.25	3.31	3.66	3.74	3.69	3.15	3.58	4.26
27	3.23	3.68	3.86	3.56	3.45	3.38	3.32	3.31	3.63	3.77	3.75	3.19	3.64	4.35
28	3.29	3.80	3.99	3.68	3.53	3.39	3.38	3.36	3.60	3.78	3.78	3.22	3.68	4.44
29	3.33	3.90	4.14	3.81	3.60	3.43	3.44	3.46	3.64	3.81	3.83	3.25	3.73	4.53
30	3.31	3.94	4.31	3.97	3.70	3.53	3.54	3.60	3.75	3.88	3.90	3.29	3.77	4.64
31	3.23	3.89	4.45	4.14	3.85	3.70	3.68	3.77	3.87	3.96	3.92	3.30	3.78	4.65
32	3.10	3.77	4.50	4.27	4.00	3.90	3.87	3.95	3.97	3.99	3.86	3.27	3.73	4.67
33	2.92	3.58	4.45	4.33	4.13	4.09	4.03	4.10	4.03	3.94	3.68	3.23	3.62	7.24
34	2.70	3.34	4.30	4.36	4.24	4.28	4.17	4.27	4.11	3.81	3.46	3.17	3.48	5.15
35	2.46	3.05	4.08	4.38	4.40	4.55	4.40	4.52	4.19	3.61	3.42	3.10	3.29	4.45
36	2.20	2.75	3.79	4.40	4.65	4.92	4.74	4.82	4.23	3.38	4.09	2.98	2.99	4.10
37	1.93	2.44	3.48	4.40	4.80	5.31	5.12	4.90	4.17	3.14	4.43	2.83	2.64	3.76
38	1.75	2.16	3.20	4.34	4.94	5.59	5.40	4.87	3.90	2.93	6.15	2.70	2.31	2.90
39	1.76	1.92	3.11	4.22	5.12	5.69	5.51	4.96	3.50	2.75	5.07	2.56	2.05	2.47
40	2.10	1.74	3.29	4.05	5.24	5.58	5.51	5.25	3.14	2.65	3.01	2.61	1.91	2.30

TABLE XVII. Continued

(e) Temperature

Altitude, km	Temperature, K, at latitude, deg, of -													
	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.	65.	75.
5	249.4	256.3	264.0	269.6	273.0	273.6	273.6	272.3	268.0	260.8	252.9	244.6	245.0	243.6
6	242.8	249.6	257.6	263.5	267.1	267.9	267.8	266.2	261.6	254.3	246.3	238.2	238.7	237.4
7	236.0	242.3	250.3	256.7	260.6	261.3	261.2	259.5	254.6	247.1	239.3	231.7	232.3	231.3
8	230.5	235.7	243.3	249.8	253.9	254.5	254.4	252.7	247.6	239.9	232.6	225.8	226.8	226.3
9	225.3	229.2	236.5	242.9	246.8	247.4	247.4	245.7	240.7	232.8	225.9	220.7	222.1	222.5
10	222.2	223.5	229.9	236.1	239.8	240.3	240.3	238.7	234.0	226.1	220.9	218.6	220.8	223.3
11	221.0	219.8	224.1	229.4	232.8	233.0	233.0	231.7	227.5	220.7	218.4	219.2	221.5	224.8
12	220.2	217.7	219.2	222.7	225.4	225.5	225.4	224.3	221.3	216.5	217.4	219.9	222.2	225.9
13	219.8	217.2	216.3	216.9	218.2	217.9	217.9	217.1	216.0	214.7	217.7	220.7	222.9	226.7
14	219.5	216.8	213.6	211.5	211.2	210.4	210.3	210.0	211.1	213.2	217.8	220.9	223.1	226.8
15	219.3	216.4	212.2	207.8	205.5	204.4	204.2	204.4	207.6	212.5	217.7	220.9	222.9	226.6
16	219.1	216.1	210.7	204.4	200.3	198.9	198.7	199.4	204.3	211.7	217.6	220.6	222.7	226.3
17	218.9	216.2	210.4	202.9	197.3	195.7	195.3	196.4	202.4	211.1	217.2	220.5	222.2	226.1
18	218.7	216.5	211.0	204.3	199.0	197.6	197.0	197.5	202.2	210.6	216.8	220.2	221.8	225.8
19	218.8	216.9	211.9	206.1	201.1	200.0	199.6	199.7	203.5	210.9	216.7	220.0	221.5	225.6
20	219.0	217.3	213.5	208.9	204.7	204.1	204.9	205.1	207.5	212.3	216.8	219.9	221.3	225.5
21	219.2	217.9	215.1	211.6	208.3	207.9	209.6	209.9	211.1	213.7	217.1	219.8	221.2	225.4
22	219.4	218.5	216.8	214.2	211.3	211.0	212.6	212.9	213.7	215.4	217.4	219.8	221.2	225.3
23	219.6	219.1	218.5	216.8	214.4	214.1	215.6	215.9	216.3	217.1	217.8	219.7	221.2	225.2
24	219.9	219.8	220.2	219.3	217.5	217.2	218.7	219.0	218.9	218.7	218.4	219.9	221.4	225.1
25	220.5	220.6	221.6	221.2	219.8	219.5	220.5	220.7	220.6	220.3	219.7	220.7	222.3	226.2
26	221.1	221.4	223.1	223.0	222.1	221.8	222.3	222.4	222.4	221.9	221.1	221.4	223.2	227.4
27	221.7	222.2	224.5	224.7	224.4	224.1	224.1	224.1	224.1	223.4	222.4	222.1	224.1	228.5
28	222.3	223.0	225.9	226.5	226.7	226.4	225.9	225.9	225.9	225.0	223.7	222.8	225.0	229.7
29	222.9	223.8	227.4	228.3	228.9	228.8	227.7	227.6	227.6	226.6	225.1	223.6	225.9	230.9
30	223.5	224.6	228.8	230.1	231.2	231.1	229.5	229.3	229.4	228.2	226.4	224.3	226.8	232.0

TABLE XVII. Continued

(e) Concluded

Altitude, km	Temperature, K, at latitude, deg, of -													
	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.	65.	75.
31	224.2	225.4	230.2	231.9	233.5	233.4	231.3	231.0	231.1	229.7	227.7	225.2	227.7	233.2
32	225.4	226.6	231.6	233.5	235.5	235.6	233.7	233.3	233.2	231.8	230.1	227.1	230.0	235.3
33	226.6	227.8	233.0	234.9	237.3	237.8	236.4	235.8	235.4	234.0	232.6	229.1	232.3	238.1
34	227.8	229.0	234.4	236.4	239.1	240.0	239.1	238.4	237.5	236.2	235.0	231.1	234.6	241.0
35	229.0	230.2	235.8	237.8	240.9	242.2	241.7	240.9	239.7	238.3	237.5	233.1	236.9	243.8
36	230.4	231.5	237.2	239.3	242.7	244.4	244.4	243.4	241.9	240.5	239.9	235.0	239.2	246.6
37	232.1	233.3	239.0	241.2	244.8	246.8	247.0	246.0	244.2	242.7	242.1	236.9	241.2	249.0
38	233.8	235.1	241.1	243.4	247.4	249.5	249.7	248.5	246.6	245.0	244.3	238.8	243.2	251.2
39	235.5	236.9	243.2	245.6	249.9	252.2	252.4	251.1	248.9	247.2	246.5	240.6	245.2	253.4
40	237.2	238.7	245.2	247.9	252.4	254.9	255.1	253.6	251.3	249.5	248.7	242.5	247.2	255.6
41	238.9	240.5	247.3	250.1	254.9	257.6	257.8	256.2	253.7	251.7	251.0	244.4	249.2	257.8
42	240.6	242.3	249.4	252.4	257.4	260.3	260.4	258.7	256.1	253.9	253.2	246.3	251.2	260.0
43	242.5	244.1	251.4	254.6	260.0	262.9	263.1	261.3	258.4	256.2	255.1	248.0	253.0	262.1
44	244.4	245.9	252.9	256.2	261.6	264.5	264.7	262.8	259.9	257.5	256.4	249.6	254.4	263.6
45	246.4	247.8	254.5	257.6	262.7	265.4	265.6	263.8	261.1	258.8	257.8	251.3	255.8	264.7
46	248.3	249.6	256.0	258.9	263.7	266.3	266.5	264.9	262.3	260.2	259.1	253.0	257.3	265.8
47	250.2	251.4	257.5	260.3	264.8	267.3	267.4	265.9	263.5	261.5	260.5	254.6	258.7	266.9
48	250.9	252.5	259.1	261.7	265.9	268.2	268.3	266.9	264.7	262.8	261.8	255.5	260.0	268.0
49	251.6	253.0	259.4	262.2	266.6	268.7	268.8	267.4	265.3	263.1	261.7	255.8	260.0	268.9
50	252.3	253.6	259.4	262.1	266.1	268.2	268.3	267.0	264.9	262.8	261.6	256.2	260.1	268.3
51	253.0	254.1	259.4	261.9	265.7	267.6	267.7	266.5	264.6	262.6	261.5	256.5	260.1	267.8
52	253.7	254.6	259.5	261.7	265.3	267.1	267.2	266.0	264.2	262.4	261.4	256.8	260.1	267.2
53	254.3	255.2	259.5	261.6	264.8	266.5	266.6	265.6	263.9	262.2	261.2	257.2	260.2	266.7
54	255.0	255.7	259.6	261.4	264.4	265.9	266.0	265.1	263.5	262.0	261.1	257.5	260.2	266.1
55	255.7	256.3	259.6	261.3	264.0	265.4	265.5	264.6	263.2	261.8	261.0	257.8	260.2	265.6

TABLE XVII. Concluded

(f) Geopotential height of standard pressure surfaces

Pressure, mbar	Altitude, km, at latitude, deg, of -													
	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.	65.	75.
1000.0	-.01	.09	.14	.13	.11	.09	.09	.11	.13	.15	.12	.11	.11	.13
850.0	1.29	1.41	1.50	1.52	1.52	1.51	1.50	1.52	1.52	1.50	1.44	1.38	1.39	1.40
700.0	2.80	2.97	3.10	3.15	3.16	3.15	3.15	3.16	3.14	3.08	2.98	2.87	2.88	2.88
500.0	5.32	5.54	5.75	5.85	5.89	5.89	5.89	5.89	5.82	5.69	5.53	5.33	5.35	5.34
400.0	6.90	7.16	7.41	7.54	7.61	7.62	7.61	7.60	7.51	7.33	7.12	6.89	6.90	6.89
300.0	8.85	9.14	9.43	9.62	9.72	9.73	9.73	9.70	9.57	9.34	9.08	8.79	8.81	8.79
250.0	10.04	10.34	10.66	10.87	10.99	11.01	11.01	10.97	10.81	10.55	10.27	9.97	9.99	9.98
200.0	11.49	11.77	12.11	12.34	12.47	12.49	12.49	12.45	12.28	11.98	11.69	11.40	11.44	11.45
150.0	13.35	13.60	13.93	14.16	14.30	14.31	14.30	14.26	14.10	13.80	13.54	13.27	13.33	13.37
100.0	15.96	16.19	16.45	16.61	16.70	16.70	16.69	16.66	16.55	16.33	16.14	15.90	15.99	16.07
70.0	18.26	18.46	18.67	18.76	18.80	18.77	18.74	18.73	18.67	18.53	18.40	18.21	18.29	18.41
50.0	20.43	20.61	20.78	20.83	20.83	20.79	20.76	20.74	20.70	20.62	20.54	20.38	20.48	20.63
30.0	23.73	23.91	24.06	24.08	24.04	23.99	23.99	23.98	23.94	23.87	23.82	23.69	23.80	24.01
10.0	30.92	31.13	31.40	31.44	31.40	31.33	31.31	31.31	31.26	31.15	31.02	30.88	31.05	31.39
5.0	35.58	35.84	36.29	36.44	36.48	36.40	36.41	36.44	36.42	36.22	35.96	35.67	35.94	36.42
2.0	41.95	42.27	42.93	43.17	43.35	43.34	43.36	43.34	43.25	42.98	42.67	42.19	42.60	43.34
1.0	47.03	47.38	48.16	48.43	48.70	48.75	48.75	48.70	48.56	48.29	48.02	47.40	47.91	48.85
.4	53.89	54.28	55.19	55.49	55.84	55.96	55.96	55.84	55.59	55.27	55.01	54.29	54.88	56.01
TROP.	10.29	11.45	13.29	15.30	16.60	16.78	16.74	16.15	14.60	12.03	10.61	9.52	9.29	8.74

TABLE XVIII. SEASONALLY AVERAGED EXTINCTION AND TEMPERATURE DATA FOR SUMMER 1979

(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$

Altitude, km	$\beta_{a,1.00}$, 10^{-4} km^{-1}, at latitude, deg, of -												
	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.	65.	75.
5	4.68	3.69	5.71	12.46	10.63	11.04	9.16	12.61	16.83	13.74	17.24	16.95	11.70
6	4.67	3.27	4.20	9.71	7.67	8.06	9.29	9.42	15.60	13.94	16.09	17.03	12.81
7	3.88	4.79	7.81	5.34	5.75	5.96	8.33	5.43	9.29	9.50	16.87	16.42	13.14
8	3.41	3.82	4.46	4.25	4.22	5.90	6.99	3.53	5.92	8.42	16.01	15.71	12.23
9	3.20	2.76	3.88	4.32	6.53	9.20	4.27	2.83	4.61	14.35	12.03	11.20	10.34
10	2.49	2.31	3.95	5.00	5.50		5.05	2.53	6.52	9.72	7.16	6.11	4.12
11	2.67	2.02	3.54	5.65	3.97	5.83	7.75	10.57	5.91	5.39	3.81	2.75	1.83
12	2.24	2.83	3.19	6.05	5.92	12.68	10.65	11.32	3.99	2.83	2.20	1.62	1.18
13	1.88	2.25	1.44	5.60	6.00	5.95	6.44	4.16	2.22	1.82	1.65	1.40	1.05
14	1.58	1.53	1.16	3.69	4.84	4.52	6.04	1.51	1.36	1.40	1.44	1.28	1.10
15	1.41	1.28	4.00	1.90	3.63	4.03	5.44	3.07	1.17	1.27	1.36	1.24	1.17
16	1.39	1.24	3.76	1.29	2.49	2.35	3.42	2.17	1.09	1.20	1.30	1.23	1.21
17	1.38	1.27	1.77	1.18	1.45	1.54	1.63	1.37	1.08	1.16	1.26	1.19	1.16
18	1.34	1.26	1.13	1.22	1.15	1.10	1.15	1.12	1.09	1.18	1.21	1.11	1.07
19	1.24	1.23	1.15	1.18	1.19	1.10	1.07	1.11	1.14	1.16	1.11	1.03	.99
20	1.08	1.13	1.12	1.19	1.17	1.12	1.12	1.10	1.11	1.09	1.02	.93	.89
21	.92	.99	1.02	1.11	1.10	1.11	1.14	1.02	.99	1.00	.93	.82	.75
22	.76	.84	.91	1.07	1.05	1.10	1.11	.93	.92	.87	.80	.68	.59
23	.61	.69	.80	1.04	1.05	1.08	1.03	.86	.83	.71	.63	.53	.43
24	.49	.56	.66	1.01	1.04	1.01	.98	.74	.68	.56	.47	.39	.29
25	.40	.46	.59	.98	1.02	.98	.91	.68	.55	.41	.33	.27	.20
26	.34	.36	.49	.90	.97	.91	.81	.60	.47	.30	.23	.19	.14
27	.27	.29	.40	.82	.85	.80	.73	.52	.39	.22	.17	.14	.10
28	.20	.22	.31	.73	.73	.68	.63	.41	.29	.15	.12	.10	.07
29	.14	.18	.22	.53	.45	.48	.47	.30	.21	.11	.08	.07	.05
30	.10	.13	.17	.27	.25	.30	.33	.22	.16	.08	.06	.05	.04
31	.07	.09	.12	.20	.18	.20	.24	.17	.12	.06	.04	.04	.03
32	.05	.07	.09	.14	.12	.13	.17	.12	.09	.04	.03	.03	.02
33	.04	.05	.07	.09	.08	.09	.12	.09	.06	.03	.02	.02	.02
34	.03	.04	.05	.07	.06	.06	.08	.07	.05	.03	.02	.02	.01
35	.02	.03	.03	.05	.04	.04	.06	.05	.04	.02	.02	.01	.01
36	.02	.02	.03	.03	.03	.03	.04	.03	.03	.02	.01	.01	.01
37	.01	.02	.02	.03	.02	.02	.03	.03	.02	.02	.01	.01	.01
38	.01	.01	.02	.02	.02	.02	.02	.02	.02	.01	.01	.01	.01
39	.01	.01	.01	.02	.01	.01	.02	.02	.02	.01	.01	.01	.01
40	.01	.01	.01	.02	.01	.01	.01	.01	.01	.01	.01	.01	.01
*TROP.+2	14.95	13.70	10.31	11.90	11.44	11.19	11.22	9.83	9.81	12.06	14.24	13.22	11.67

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE XVIII. Continued

(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$

Altitude, km	$\beta_{a,1.00}/\beta_{m,1.00}$ at latitude, deg, of -												
	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.	65.	75.
5	1.74	1.58	1.92	3.06	2.75	2.82	2.50	3.08	3.76	3.22	3.78	3.70	2.86
6	1.82	1.58	1.76	2.76	2.40	2.46	2.74	2.73	3.87	3.52	3.86	4.05	3.29
7	1.77	1.95	2.55	2.08	2.16	2.20	2.70	2.08	2.86	2.88	4.37	4.29	3.61
8	1.76	1.84	1.99	1.96	1.92	2.33	2.56	1.79	2.32	2.87	4.58	4.52	3.74
9	1.80	1.69	1.97	2.09	2.67	3.34	2.07	1.71	2.17	4.72	4.00	3.80	3.59
10	1.71	1.65	2.11	2.41	2.53	.06	2.43	1.71	2.73	3.72	3.02	2.72	2.17
11	1.90	1.65	2.11	2.78	2.25	2.85	3.50	4.36	2.84	2.69	2.22	1.89	1.60
12	1.86	2.05	2.13	3.15	3.15	5.47	4.80	4.99	2.42	2.01	1.82	1.62	1.46
13	1.84	1.95	1.58	3.23	3.41	3.37	3.53	2.63	1.89	1.76	1.73	1.63	1.48
14	1.83	1.76	1.54	2.65	3.18	3.05	3.79	1.67	1.62	1.69	1.74	1.68	1.59
15	1.86	1.75	3.16	1.98	2.89	3.09	3.81	2.66	1.62	1.73	1.82	1.76	1.73
16	2.00	1.85	3.26	1.78	2.48	2.41	3.02	2.28	1.67	1.80	1.91	1.88	1.87
17	2.16	2.02	2.24	1.84	2.01	2.06	2.13	1.95	1.78	1.90	2.03	1.98	1.98
18	2.31	2.19	1.99	2.05	1.97	1.93	1.96	1.94	1.93	2.06	2.14	2.07	2.05
19	2.42	2.36	2.19	2.22	2.21	2.12	2.08	2.11	2.14	2.22	2.23	2.15	2.12
20	2.45	2.47	2.38	2.46	2.43	2.37	2.36	2.32	2.32	2.35	2.32	2.21	2.16
21	2.44	2.51	2.49	2.62	2.60	2.63	2.67	2.47	2.41	2.46	2.40	2.23	2.15
22	2.38	2.50	2.58	2.84	2.81	2.92	2.92	2.58	2.54	2.48	2.40	2.19	2.04
23	2.30	2.44	2.63	3.13	3.14	3.21	3.12	2.72	2.64	2.43	2.29	2.09	1.87
24	2.23	2.38	2.60	3.44	3.51	3.45	3.37	2.76	2.58	2.31	2.11	1.91	1.69
25	2.18	2.32	2.68	3.77	3.91	3.79	3.59	2.90	2.51	2.14	1.91	1.75	1.56
26	2.17	2.21	2.63	4.00	4.24	4.05	3.70	2.98	2.51	1.98	1.74	1.62	1.46
27	2.07	2.12	2.57	4.23	4.33	4.15	3.86	3.00	2.45	1.83	1.63	1.51	1.38
28	1.92	2.01	2.40	4.35	4.32	4.10	3.87	2.83	2.26	1.68	1.52	1.42	1.31
29	1.77	1.95	2.16	3.83	3.41	3.57	3.52	2.59	2.06	1.58	1.43	1.35	1.26
30	1.63	1.81	2.06	2.69	2.56	2.88	3.06	2.36	1.94	1.48	1.36	1.29	1.22
31	1.53	1.68	1.89	2.44	2.30	2.45	2.71	2.18	1.80	1.41	1.31	1.25	1.19
32	1.44	1.57	1.76	2.16	2.03	2.13	2.41	2.03	1.69	1.36	1.27	1.22	1.17
33	1.37	1.49	1.65	1.93	1.83	1.88	2.15	1.86	1.60	1.33	1.24	1.20	1.15
34	1.32	1.41	1.54	1.75	1.69	1.72	1.93	1.73	1.53	1.31	1.22	1.18	1.14
35	1.28	1.35	1.45	1.61	1.57	1.60	1.75	1.62	1.48	1.31	1.20	1.17	1.13
36	1.25	1.30	1.40	1.51	1.48	1.51	1.61	1.52	1.44	1.30	1.20	1.16	1.12
37	1.23	1.29	1.36	1.46	1.41	1.44	1.51	1.45	1.41	1.29	1.20	1.15	1.12
38	1.23	1.26	1.33	1.44	1.36	1.39	1.44	1.41	1.39	1.29	1.21	1.15	1.12
39	1.23	1.25	1.30	1.45	1.33	1.35	1.40	1.37	1.37	1.30	1.21	1.16	1.13
40	1.24	1.24	1.29	1.45	1.31	1.33	1.35	1.36	1.37	1.31	1.21	1.17	1.14

TABLE XVIII. Continued

(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$

Altitude, km	$\beta_{a,0.45}$, 10^{-4} km^{-1}, at latitude, deg, of -												
	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.	65.	75.
10	8.35	5.01	11.10	22.70	5.80	11.11	4.11	12.98	15.23	20.50	15.94	8.80	5.64
11	7.47	5.47	8.84	20.78	11.46	10.46	11.93	12.41	11.67	14.05	12.07	6.74	4.28
12	6.83	5.76	6.33	18.85	15.21	10.57	15.34	11.85	8.53	9.78	8.85	5.01	3.07
13	5.91	5.65	5.52	15.24	15.14	9.43	12.22	8.15	6.39	7.46	7.18	4.29	2.60
14	5.26	5.16	5.24	12.01	13.54	8.53	10.31	5.99	5.13	5.97	6.26	3.97	2.65
15	4.87	4.63	5.48	9.22	10.84	7.49	8.49	6.21	4.36	5.26	5.73	3.93	2.95
16	4.70	4.34	5.45	7.33	8.61	6.10	6.51	5.33	4.06	4.97	5.40	3.98	3.26
17	4.55	4.27	5.12	6.34	6.91	5.14	5.02	4.77	3.96	4.86	5.14	3.97	3.43
18	4.34	4.24	4.73	5.82	5.87	4.51	4.16	4.43	3.91	4.75	4.83	3.86	3.46
19	4.01	4.12	4.35	5.42	5.25	4.20	3.75	4.19	3.81	4.52	4.45	3.66	3.35
20	3.56	3.84	3.94	5.02	4.77	4.02	3.54	3.97	3.60	4.19	4.04	3.38	3.09
21	3.04	3.39	3.49	4.59	4.31	3.85	3.43	3.68	3.31	3.79	3.62	3.02	2.69
22	2.50	2.88	3.02	4.19	3.89	3.66	3.28	3.40	3.02	3.33	3.15	2.62	2.22
23	2.01	2.37	2.56	3.83	3.55	3.40	3.08	3.11	2.74	2.81	2.59	2.14	1.72
24	1.60	1.91	2.19	3.53	3.28	3.15	2.90	2.81	2.41	2.28	2.01	1.65	1.27
25	1.29	1.54	1.95	3.31	3.12	2.95	2.80	2.53	2.09	1.80	1.50	1.23	.91
26	1.04	1.24	1.74	3.08	2.91	2.74	2.70	2.27	1.81	1.38	1.10	.90	.64
27	.82	1.01	1.51	2.79	2.59	2.46	2.50	2.00	1.54	1.03	.80	.64	.45
28	.64	.81	1.27	2.41	2.17	2.11	2.20	1.69	1.25	.76	.58	.46	.32
29	.49	.65	1.03	1.94	1.66	1.69	1.83	1.37	.99	.56	.42	.33	.23
30	.36	.50	.81	1.42	1.20	1.26	1.44	1.09	.77	.41	.31	.24	.17
31	.27	.38	.63	1.00	.86	.91	1.09	.85	.58	.31	.23	.17	.12
32	.19	.28	.48	.69	.63	.65	.80	.64	.44	.23	.16	.12	.09
33	.14	.21	.36	.47	.47	.46	.57	.47	.33	.17	.12	.09	.06
34	.10	.15	.27	.32	.35	.33	.40	.34	.24	.13	.08	.06	.04
35	.07	.11	.20	.23	.26	.24	.28	.25	.18	.09	.06	.04	.03
36	.05	.08	.14	.16	.19	.17	.20	.18	.13	.07	.04	.03	.02
37	.04	.06	.10	.11	.14	.12	.14	.12	.09	.05	.03	.02	.02
38	.03	.04	.07	.07	.10	.08	.10	.09	.07	.04	.02	.02	.01
39	.02	.03	.05	.05	.07	.06	.07	.06	.05	.03	.02	.01	.01
40	.01	.02	.03	.04	.05	.04	.05	.05	.04	.02	.01	.01	.01
* TROP.+2	49.14	47.14	37.48	46.21	41.79	37.90	37.42	37.78	35.17	48.81	59.05	46.02	36.37

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE XVIII. Continued

(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$

Altitude, km	$\beta_{a,0.45}/\beta_{a,1.00}$ at latitude, deg, of -												
	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.	65.	75.
10	3.03	2.64	2.92	3.85	2.66	2.31	1.13	2.33	4.10	2.71	2.00	1.52	1.76
11	3.05	2.80	2.92	3.78	3.00	2.29	2.31	2.56	3.62	2.75	2.46	1.81	1.87
12	3.09	2.88	5.81	3.72	3.08	2.40	2.73	2.79	3.14	2.86	2.91	2.14	2.03
13	3.14	2.98	3.35	3.60	3.48	2.54	2.23	2.96	2.99	3.24	3.41	2.57	2.20
14	3.24	3.11	3.58	3.80	3.73	2.74	3.09	3.24	3.10	3.61	3.72	2.81	2.33
15	3.27	3.25	3.70	4.24	3.81	2.84	2.89	3.40	3.29	3.83	3.86	2.97	2.53
16	3.31	3.37	3.76	4.80	4.07	3.08	2.88	3.66	3.46	3.96	3.94	3.14	2.76
17	3.30	3.40	3.75	5.04	4.37	3.30	2.90	3.65	3.52	4.03	3.98	3.29	2.99
18	3.29	3.40	3.69	4.86	4.56	3.58	2.99	3.68	3.51	4.02	3.97	3.41	3.21
19	3.29	3.42	3.70	4.57	4.45	3.64	3.11	3.74	3.44	3.95	3.93	3.52	3.40
20	3.30	3.44	3.67	4.32	4.18	3.60	3.10	3.70	3.37	3.87	3.89	3.60	3.53
21	3.29	3.44	3.45	4.09	3.91	3.49	3.04	3.64	3.31	3.86	3.88	3.67	3.63
22	3.28	3.42	3.33	3.90	3.64	3.36	3.01	3.64	3.31	3.88	3.93	3.79	3.75
23	3.25	3.40	3.25	3.68	3.38	3.21	2.99	3.68	3.39	3.94	4.00	3.92	3.91
24	3.20	3.37	3.24	3.50	3.17	3.09	3.01	3.71	3.51	4.04	4.08	4.03	4.06
25	3.13	3.36	3.39	3.45	3.10	3.06	3.14	3.74	3.69	4.20	4.22	4.15	4.17
26	3.08	3.39	3.60	3.44	3.08	3.07	3.31	3.80	3.87	4.36	4.37	4.25	4.19
27	3.08	3.47	3.88	3.46	3.10	3.12	3.47	3.93	4.05	4.51	4.47	4.30	4.19
28	3.17	3.59	4.21	3.53	3.22	3.25	3.62	4.11	4.28	4.65	4.56	4.35	4.22
29	3.31	3.73	4.52	3.77	3.48	3.47	3.83	4.36	4.54	4.79	4.68	4.43	4.26
30	3.44	3.86	4.81	4.20	3.93	3.82	4.11	4.67	4.73	4.95	4.81	4.48	4.23
31	3.56	3.98	5.01	4.67	4.46	4.20	4.36	4.95	4.85	5.10	4.87	4.46	4.11
32	3.67	4.07	5.16	4.79	4.84	4.50	4.52	5.11	4.93	5.21	4.80	4.34	3.92
33	3.72	4.09	5.29	4.70	5.21	4.76	4.56	5.15	4.91	5.19	4.66	4.12	3.65
34	3.72	4.09	5.40	4.61	5.57	4.97	4.60	5.10	4.76	5.04	4.57	3.83	3.32
35	3.77	4.08	5.44	4.58	5.84	5.10	4.68	4.98	4.52	4.67	4.54	3.49	2.96
36	3.76	4.04	5.30	4.39	6.05	5.06	4.79	4.87	4.19	4.04	4.55	3.19	2.58
37	3.58	3.94	4.90	4.00	6.17	4.83	4.84	4.87	3.81	3.73	5.08	2.93	2.22
38	3.50	3.79	4.42	3.51	6.21	4.52	4.74	5.08	3.42	4.49	5.15	2.67	1.88
39	3.95	3.76	3.99	3.11	6.10	4.19	4.48	5.34	3.06	7.77	6.20	2.50	1.60
40	6.99	3.76	3.61	2.92	5.81	3.86	4.07	5.41	2.76	11.75	6.25	2.79	1.40

TABLE XVIII. Continued

(e) Temperature

Altitude, km	Temperature, K, at latitude, deg, of -												
	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.	65.	75.
5	252.8	257.8	268.1	272.1	272.7	272.8	273.4	273.4	271.8	265.5	257.8	256.4	255.7
6	245.9	251.2	262.4	266.3	266.7	267.0	267.3	267.0	265.4	259.2	251.3	249.9	249.3
7	238.5	244.0	255.6	259.4	260.1	260.5	260.8	260.6	258.8	252.0	244.3	242.9	242.3
8	232.1	237.6	248.9	252.4	253.3	253.8	254.1	254.0	252.2	244.9	237.4	236.1	235.2
9	225.8	231.3	242.1	245.4	246.3	246.8	247.1	247.1	245.6	237.7	230.5	229.2	228.1
10	221.1	226.0	235.4	238.3	239.3	239.8	240.1	240.2	239.0	230.8	225.5	224.9	223.4
11	218.9	222.0	229.0	231.3	232.1	232.5	232.8	233.1	232.5	224.8	223.1	223.9	223.1
12	217.9	219.0	222.4	224.2	224.7	224.9	225.1	225.8	226.3	220.7	222.3	224.5	224.5
13	217.7	217.3	216.9	217.3	217.5	217.4	217.7	219.0	220.6	219.1	222.8	225.5	226.1
14	217.4	215.7	211.8	210.6	210.4	210.1	210.5	212.6	215.4	217.9	223.1	226.3	227.2
15	217.0	214.6	208.6	206.0	205.4	204.9	205.2	208.0	211.8	217.3	222.9	226.3	227.5
16	216.5	213.5	205.7	202.1	201.2	200.5	200.7	204.1	208.8	216.7	222.8	226.3	227.8
17	216.2	213.4	204.4	200.5	199.2	198.1	198.2	201.6	206.6	216.3	222.6	226.2	227.9
18	216.0	213.8	205.7	203.4	201.9	200.1	200.2	202.9	207.1	215.9	222.4	226.0	227.9
19	216.0	214.4	207.2	206.3	204.6	202.7	202.8	204.4	207.8	215.9	222.3	225.9	227.9
20	216.3	215.4	209.9	209.1	207.7	207.7	207.8	208.5	210.9	217.0	222.5	226.0	227.9
21	216.5	216.3	212.4	211.8	210.7	212.3	212.5	212.5	214.1	218.1	222.7	226.1	228.0
22	216.9	217.3	214.6	213.9	213.0	214.7	214.9	214.9	216.2	219.3	223.3	226.5	228.3
23	217.2	218.2	216.7	216.0	215.4	217.0	217.2	217.3	218.3	220.5	223.8	226.8	228.5
24	217.4	219.1	218.8	218.1	217.8	219.3	219.5	219.7	220.4	221.8	224.3	227.2	228.8
25	217.6	219.7	220.5	220.0	219.8	221.2	221.3	221.5	222.1	223.4	225.7	228.3	229.8
26	217.7	220.3	222.1	221.9	221.8	222.9	223.1	223.2	223.7	225.3	227.3	229.8	231.4
27	217.8	220.9	223.7	223.7	223.7	224.7	224.8	224.9	225.3	227.1	228.9	231.3	232.9
28	218.0	221.6	225.3	225.6	225.7	226.5	226.5	226.6	226.9	228.9	230.6	232.8	234.5
29	218.1	222.2	226.9	227.5	227.7	228.3	228.2	228.3	228.5	230.8	232.2	234.4	236.0
30	218.2	222.8	228.5	229.3	229.6	230.1	230.0	230.0	230.0	232.6	233.8	235.9	237.5

TABLE XVIII. Continued

(e) Concluded

Altitude, km	Temperature, K, at latitude, deg, of -												
	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.	65.	75.
31	218.4	223.4	230.1	231.2	231.6	231.9	231.7	231.6	231.6	234.4	235.5	237.4	239.1
32	219.1	224.3	231.7	233.0	233.5	233.7	233.4	233.2	233.2	236.4	237.3	239.0	240.7
33	219.7	225.3	233.3	234.7	235.3	235.5	235.2	234.7	234.9	238.7	239.8	241.6	242.9
34	220.4	226.2	234.8	236.5	237.1	237.3	237.0	236.2	236.5	241.0	242.3	244.1	245.2
35	221.1	227.2	236.4	238.2	238.9	239.1	238.8	237.6	238.2	243.3	244.8	246.7	247.5
36	222.1	228.2	237.9	240.0	240.7	240.9	240.6	239.1	239.9	245.5	247.3	249.2	249.8
37	223.4	229.8	240.0	242.1	242.9	243.1	242.7	240.9	241.6	247.8	249.8	251.8	252.1
38	224.7	231.4	242.3	244.6	245.4	245.5	245.2	243.2	243.8	250.0	252.0	254.0	254.3
39	225.9	233.0	244.6	247.0	247.8	248.0	247.6	245.4	246.0	252.2	254.2	256.3	256.5
40	227.2	234.6	246.9	249.4	250.2	250.4	250.1	247.7	248.1	254.5	256.4	258.5	258.8
41	228.5	236.2	249.2	251.9	252.7	252.9	252.5	250.0	250.3	256.7	258.6	260.7	261.0
42	230.2	237.8	251.5	254.3	255.1	255.3	255.0	252.3	252.5	258.9	260.8	262.9	263.2
43	232.5	239.7	253.7	256.7	257.6	257.8	257.4	254.5	254.6	261.1	263.0	265.2	265.4
44	234.7	241.7	255.2	258.2	259.1	259.3	259.0	256.2	256.4	263.1	265.0	267.4	267.7
45	236.9	243.7	256.6	259.4	260.3	260.5	260.2	257.6	257.8	264.1	266.1	268.6	269.0
46	239.2	245.7	258.0	260.6	261.5	261.7	261.5	258.9	259.1	265.2	267.1	269.6	270.1
47	240.9	247.7	259.5	261.9	262.7	262.9	262.7	260.3	260.5	266.3	268.1	270.6	271.1
48	242.4	248.8	260.9	263.1	263.9	264.2	263.9	261.7	261.9	267.3	269.2	271.6	272.1
49	243.9	249.6	261.2	263.5	264.4	264.7	264.5	262.4	262.8	268.4	270.2	272.6	273.2
50	245.4	250.5	261.2	263.3	264.1	264.4	264.2	262.2	262.7	268.1	270.2	273.1	273.9
51	246.8	251.3	261.1	263.0	263.8	264.1	263.9	262.1	262.5	267.6	269.6	272.3	273.1
52	248.3	252.1	261.0	262.8	263.6	263.8	263.6	261.9	262.3	267.1	268.9	271.5	272.3
53	249.8	253.0	260.9	262.5	263.3	263.5	263.3	261.7	262.1	266.6	268.3	270.7	271.4
54	251.3	253.8	260.8	262.2	263.0	263.2	263.0	261.6	261.9	266.0	267.6	269.9	270.6
55	252.8	254.7	260.7	262.0	262.7	262.9	262.7	261.4	261.7	265.5	267.0	269.2	269.8

TABLE XVIII. Concluded

(f) Geopotential height of standard pressure surfaces

Pressure, mbar	Altitude, km, at latitude, deg, of -												
	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.	65.	75.
1000.0	.09	.15	.16	.12	.10	.10	.09	.10	.12	.13	.10	.09	.08
850.0	1.42	1.49	1.54	1.52	1.51	1.52	1.51	1.52	1.53	1.51	1.44	1.43	1.40
700.0	2.96	3.06	3.15	3.15	3.16	3.16	3.16	3.16	3.17	3.11	3.00	2.98	2.95
500.0	5.50	5.65	5.84	5.88	5.88	5.89	5.89	5.91	5.88	5.76	5.59	5.55	5.52
400.0	7.10	7.27	7.53	7.59	7.60	7.61	7.62	7.63	7.59	7.42	7.21	7.17	7.13
300.0	9.05	9.26	9.60	9.69	9.71	9.72	9.73	9.74	9.69	9.45	9.19	9.14	9.10
250.0	10.23	10.47	10.85	10.95	10.98	11.00	11.01	11.01	10.95	10.67	10.40	10.35	10.30
200.0	11.67	11.91	12.32	12.42	12.46	12.47	12.48	12.49	12.44	12.12	11.85	11.81	11.76
150.0	13.51	13.75	14.14	14.24	14.27	14.28	14.30	14.32	14.29	13.97	13.74	13.72	13.66
100.0	16.10	16.31	16.60	16.65	16.67	16.68	16.70	16.76	16.78	16.56	16.40	16.42	16.38
70.0	18.37	18.55	18.76	18.78	18.79	18.80	18.81	18.89	18.92	18.79	18.71	18.76	18.73
50.0	20.51	20.68	20.83	20.86	20.85	20.85	20.87	20.96	21.01	20.94	20.90	20.99	20.98
30.0	23.78	23.96	24.09	24.10	24.09	24.11	24.13	24.22	24.30	24.26	24.26	24.40	24.41
10.0	30.86	31.16	31.40	31.43	31.42	31.47	31.49	31.56	31.67	31.67	31.72	31.93	31.98
5.0	35.45	35.89	36.34	36.40	36.43	36.45	36.46	36.58	36.74	36.83	36.89	37.12	37.21
2.0	41.56	42.21	43.04	43.17	43.23	43.26	43.27	43.31	43.49	43.76	43.87	44.18	44.27
1.0	46.39	47.20	48.29	48.47	48.54	48.58	48.57	48.56	48.74	49.20	49.38	49.73	49.82
.4	53.03	54.00	55.35	55.60	55.68	55.76	55.74	55.65	55.78	56.31	56.52	56.95	57.05
TROP.	10.98	11.74	15.02	16.27	16.55	16.69	16.49	15.95	15.09	12.21	10.60	10.28	10.35

TABLE XIX. SEASONALLY AVERAGED EXTINCTION AND TEMPERATURE DATA FOR FALL 1979

(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$

Altitude, km	$\beta_{a,1.00}$, 10^{-4} km^{-1}, at latitude, deg, of -													
	-75.	-65.	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.
5	7.87	3.97	7.68	8.08	13.26	15.40	11.36	12.75	21.46	11.82	8.81	9.50	11.84	12.85
6	6.56	4.74	10.42	10.11	9.50	12.76	11.21	13.14	1.39	15.40	8.00	9.21	8.55	14.12
7	2.93	5.69	6.04	8.84	6.50	8.59	7.28	15.70	12.32	4.12	6.33	11.47	9.49	8.88
8	3.64	5.39	5.55	8.18	9.90	6.63	5.11	10.43	21.72	.89	6.87	14.76	11.61	7.30
9	2.49	3.67	5.70	6.72	6.80	5.23	4.18	8.23	11.51	15.15	7.23	10.80	9.25	6.44
10	1.87	3.26	4.40	4.55	5.47	4.44	3.90	7.59	9.87	12.58	6.89	10.44	7.15	4.11
11	1.77	2.42	3.91	3.90	5.45	3.25	4.91	5.83	7.18	12.59	3.52	5.94	3.71	2.92
12	1.72	2.02	3.38	2.52	3.73	3.15	5.25	5.73	10.93	18.87	2.98	2.92	2.48	2.35
13	1.48	1.70	2.57	1.85	2.52	2.18	4.83	5.57	3.61	7.82	2.69	4.58	1.95	1.47
14	1.20	1.52	2.11	1.67	1.78	1.71	4.10	7.21	8.49	8.66	1.97	4.32	1.39	1.39
15	.98	1.36	1.84	1.59	1.50	1.51	4.13	9.22	11.82	6.00	2.79	1.71	1.26	1.42
16	.80	1.18	1.66	1.56	1.46	1.31	2.91	9.14	7.67	6.13	2.09	1.35	1.30	1.45
17	.68	1.01	1.47	1.54	1.46	1.25	2.35	5.59	2.37	5.46	1.43	1.26	1.35	1.45
18	.57	.88	1.29	1.43	1.47	1.33	3.01	3.19	1.66	2.78	1.18	1.32	1.36	1.37
19	.47	.80	1.13	1.27	1.40	1.40	1.89	1.51	1.27	1.40	1.20	1.28	1.30	1.26
20	.43	.65	.84	1.12	1.25	1.30	1.33	1.20	1.14	1.19	1.16	1.23	1.17	1.09
21	.38	.52	.65	.99	1.10	1.15	1.13	1.07	1.09	1.16	1.11	1.10	.99	.89
22	.34	.43	.52	.83	.96	1.02	1.07	1.05	1.07	1.12	1.05	.94	.80	.70
23	.31	.35	.40	.67	.80	.87	1.02	1.10	1.05	1.05	.96	.76	.61	.53
24	.26	.28	.29	.54	.64	.73	.98	1.06	1.02	.99	.83	.59	.45	.40
25	.20	.23	.22	.43	.52	.60	.89	1.03	.97	.95	.76	.46	.33	.29
26	.16	.17	.17	.33	.40	.51	.73	.96	.92	.87	.68	.40	.25	.21
27	.12	.13	.12	.24	.31	.42	.60	.82	.80	.79	.60	.32	.19	.15
28	.09	.09	.09	.17	.25	.32	.49	.58	.54	.70	.49	.24	.14	.11
29	.07	.07	.06	.13	.18	.23	.32	.32	.33	.52	.39	.18	.10	.08
30	.05	.05	.05	.09	.12	.16	.21	.20	.23	.34	.28	.13	.07	.05
31	.04	.04	.04	.06	.09	.11	.15	.15	.17	.22	.20	.10	.05	.04
32	.03	.03	.03	.05	.06	.08	.11	.10	.12	.16	.15	.07	.04	.03
33	.02	.02	.02	.03	.05	.06	.08	.07	.08	.11	.10	.06	.03	.02
34	.02	.02	.02	.02	.03	.04	.05	.05	.06	.08	.07	.04	.02	.02
35	.02	.02	.01	.02	.03	.03	.04	.04	.04	.05	.05	.03	.02	.01
36	.01	.01	.01	.02	.02	.02	.03	.03	.03	.04	.04	.02	.01	.01
37	.01	.01	.01	.01	.01	.02	.02	.02	.02	.03	.03	.02	.01	.01
38	.01	.01	.01	.01	.01	.01	.02	.02	.02	.02	.02	.01	.01	.01
39	.01	.01	.01	.01	.01	.01	.01	.02	.01	.02	.01	.01	.01	.01
40	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
*TROP.+2	11.08	13.79	18.14	17.06	14.62	11.25	11.37	10.62	10.53	11.64	10.80	11.33	13.40	14.99

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE XIX. Continued

(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$

Altitude, km	$\beta_{a,1.00}/\beta_{m,1.00}$ at latitude, deg, of -													
	-75.	-65.	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.
5	2.25	1.64	2.23	2.29	3.13	3.49	2.86	3.10	4.63	2.93	2.44	2.53	2.92	3.06
6	2.17	1.82	2.88	2.80	2.69	3.27	3.05	3.46	.10	3.79	2.45	2.66	2.50	3.53
7	1.60	2.18	2.20	2.75	2.28	2.69	2.46	4.24	3.56	1.84	2.27	3.34	2.87	2.69
8	1.85	2.25	2.26	2.83	3.20	2.48	2.14	3.34	5.86	.67	2.54	4.26	3.57	2.63
9	1.65	1.97	2.48	2.70	2.68	2.30	2.04	3.06	3.90	4.97	2.81	3.71	3.33	2.62
10	1.58	1.98	2.31	2.31	2.54	2.25	2.10	3.13	3.74	4.47	2.93	3.91	3.00	2.18
11	1.64	1.85	2.36	2.29	2.76	2.02	2.54	2.81	3.32	5.06	2.08	2.85	2.18	1.97
12	1.74	1.84	2.36	1.97	2.36	2.12	2.86	3.02	4.77	7.55	2.08	2.05	1.92	1.88
13	1.74	1.83	2.22	1.84	2.08	1.88	2.92	3.22	2.40	4.11	2.08	2.64	1.84	1.67
14	1.70	1.87	2.19	1.89	1.88	1.80	2.83	4.28	4.60	4.82	1.90	2.97	1.70	1.74
15	1.67	1.91	2.21	1.99	1.87	1.82	3.11	5.87	7.18	4.10	2.50	1.93	1.75	1.89
16	1.64	1.92	2.28	2.14	1.99	1.83	2.71	6.41	5.42	4.72	2.26	1.87	1.91	2.06
17	1.63	1.92	2.33	2.31	2.16	1.94	2.66	4.94	2.64	4.96	2.02	1.96	2.10	2.22
18	1.61	1.93	2.36	2.41	2.35	2.18	3.63	3.68	2.38	3.28	2.02	2.19	2.29	2.35
19	1.59	1.98	2.39	2.47	2.51	2.46	2.91	2.53	2.28	2.40	2.23	2.35	2.44	2.44
20	1.63	1.93	2.21	2.52	2.58	2.61	2.61	2.45	2.39	2.44	2.43	2.54	2.53	2.45
21	1.64	1.87	2.10	2.57	2.65	2.68	2.63	2.53	2.59	2.68	2.63	2.62	2.51	2.38
22	1.67	1.83	2.03	2.53	2.69	2.76	2.83	2.79	2.86	2.93	2.83	2.64	2.42	2.26
23	1.72	1.79	1.92	2.46	2.65	2.76	3.04	3.20	3.16	3.14	2.96	2.55	2.27	2.12
24	1.69	1.74	1.79	2.36	2.55	2.74	3.31	3.52	3.48	3.39	3.01	2.41	2.11	1.99
25	1.62	1.69	1.71	2.28	2.47	2.69	3.48	3.86	3.78	3.70	3.18	2.31	1.96	1.83
26	1.57	1.62	1.62	2.14	2.35	2.67	3.39	4.16	4.10	3.93	3.27	2.32	1.83	1.70
27	1.49	1.53	1.54	1.96	2.24	2.61	3.30	4.14	4.16	4.12	3.34	2.26	1.74	1.60
28	1.43	1.45	1.45	1.81	2.14	2.46	3.20	3.60	3.47	4.21	3.27	2.11	1.63	1.50
29	1.38	1.39	1.38	1.69	1.95	2.23	2.70	2.68	2.78	3.81	3.09	1.96	1.54	1.41
30	1.34	1.34	1.33	1.57	1.78	2.01	2.32	2.27	2.48	3.12	2.75	1.83	1.46	1.35
31	1.30	1.30	1.28	1.47	1.66	1.82	2.12	2.08	2.23	2.63	2.48	1.72	1.40	1.30
32	1.27	1.27	1.25	1.39	1.55	1.69	1.91	1.88	2.01	2.35	2.24	1.64	1.35	1.26
33	1.24	1.25	1.23	1.33	1.47	1.57	1.75	1.72	1.82	2.11	2.03	1.57	1.31	1.24
34	1.22	1.24	1.21	1.29	1.40	1.48	1.63	1.61	1.67	1.90	1.84	1.50	1.28	1.22
35	1.20	1.22	1.20	1.26	1.35	1.40	1.54	1.54	1.55	1.72	1.68	1.44	1.25	1.21
36	1.19	1.21	1.20	1.24	1.30	1.35	1.47	1.49	1.47	1.58	1.56	1.39	1.23	1.20
37	1.17	1.21	1.20	1.23	1.27	1.31	1.42	1.45	1.40	1.48	1.46	1.35	1.21	1.19
38	1.16	1.22	1.20	1.22	1.25	1.27	1.39	1.42	1.34	1.42	1.38	1.31	1.21	1.19
39	1.15	1.23	1.21	1.22	1.24	1.25	1.37	1.39	1.30	1.39	1.33	1.29	1.21	1.19
40	1.15	1.25	1.22	1.23	1.24	1.23	1.35	1.36	1.27	1.37	1.29	1.28	1.22	1.19

TABLE XIX. Continued

(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$

Altitude, km	$\beta_{a,0.45}$, 10^{-4} km^{-1}, at latitude, deg, of -													
	-75.	-65.	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.
10	3.66	6.76	15.38	14.19	17.03	10.30	13.69	15.89	20.13	21.60	11.72	17.98	12.46	8.14
11	3.38	6.16	13.16	11.70	14.75	11.48	14.29	16.12	13.71	20.82	10.45	14.76	8.67	6.60
12	3.11	5.63	12.26	9.57	12.05	11.56	14.85	16.36	13.04	20.03	9.27	11.23	6.39	5.83
13	2.91	5.11	10.63	8.09	10.15	9.88	14.08	17.94	11.06	16.07	9.60	9.99	5.45	5.47
14	2.63	4.71	9.07	7.04	8.14	8.58	12.74	20.02	23.65	13.63	8.56	8.74	4.98	5.42
15	2.31	4.33	7.79	6.41	7.02	7.75	11.54	20.43	19.86	11.33	9.81	7.32	4.89	5.43
16	2.03	3.93	6.72	6.07	6.52	7.11	10.41	17.83	12.10	10.90	8.40	6.42	4.98	5.40
17	1.79	3.53	5.78	5.78	6.21	6.69	9.26	14.12	8.05	11.65	7.14	6.02	5.05	5.21
18	1.58	3.15	4.93	5.35	5.89	6.33	8.11	10.82	6.43	8.83	6.27	5.75	4.95	4.85
19	1.43	2.77	4.10	4.82	5.42	5.84	6.85	8.30	5.46	6.73	5.65	5.36	4.65	4.34
20	1.34	2.37	3.25	4.25	4.82	5.21	5.72	6.42	4.79	5.50	5.11	4.86	4.16	3.71
21	1.26	1.98	2.54	3.66	4.18	4.51	4.75	5.09	4.27	4.79	4.59	4.22	3.53	3.04
22	1.16	1.64	1.98	3.09	3.56	3.85	3.98	4.18	3.80	4.27	4.06	3.53	2.86	2.41
23	1.06	1.35	1.52	2.55	2.97	3.26	3.42	3.54	3.45	3.81	3.49	2.85	2.23	1.85
24	.92	1.10	1.15	2.08	2.45	2.74	3.03	3.10	3.21	3.42	3.00	2.26	1.69	1.38
25	.78	.90	.88	1.67	2.02	2.30	2.73	2.79	3.02	3.14	2.65	1.81	1.27	1.01
26	.65	.72	.67	1.32	1.63	1.94	2.40	2.50	2.75	2.89	2.36	1.47	.96	.74
27	.51	.56	.49	1.01	1.29	1.60	2.07	2.16	2.38	2.63	2.08	1.20	.72	.54
28	.40	.43	.36	.76	1.01	1.29	1.69	1.74	1.93	2.32	1.79	.96	.55	.40
29	.30	.33	.27	.57	.77	.99	1.30	1.31	1.50	1.93	1.50	.76	.42	.29
30	.22	.25	.19	.43	.58	.75	.97	.96	1.15	1.49	1.21	.60	.32	.22
31	.16	.19	.14	.32	.43	.55	.70	.71	.87	1.12	.95	.47	.24	.16
32	.12	.14	.10	.23	.31	.40	.50	.51	.64	.83	.72	.36	.17	.11
33	.08	.10	.07	.16	.23	.29	.35	.36	.47	.60	.53	.27	.13	.08
34	.06	.08	.05	.12	.16	.21	.25	.26	.34	.43	.38	.20	.09	.06
35	.04	.06	.04	.08	.12	.15	.18	.19	.25	.31	.27	.14	.07	.04
36	.03	.04	.03	.06	.09	.11	.13	.13	.18	.23	.19	.10	.05	.03
37	.02	.03	.02	.04	.06	.07	.09	.09	.13	.16	.14	.07	.03	.02
38	.02	.03	.01	.03	.04	.05	.06	.07	.09	.11	.10	.05	.02	.02
39	.01	.02	.01	.02	.03	.04	.05	.05	.06	.08	.07	.04	.02	.01
40	.01	.02	.01	.01	.02	.02	.03	.03	.04	.05	.05	.03	.01	.01
*TROP.+2	28.11	45.79	71.72	67.10	59.79	46.58	41.42	39.85	38.64	45.72	43.94	46.72	49.15	53.35

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE XIX. Continued

(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$

Altitude, km	$\beta_{a,0.45}/\beta_{a,1.00}$ at latitude, deg, of -													
	-75.	-65.	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.
10	1.87	2.15	3.29	3.05	2.40	2.59	2.83	1.63	3.41	1.48	2.37	1.93	2.76	2.84
11	1.87	2.25	3.30	3.27	3.27	3.42	3.34	3.09	2.78	2.01	3.07	2.82	2.87	2.83
12	1.86	2.36	3.58	3.53	3.64	3.89	3.81	4.54	3.12	2.55	3.73	3.38	3.14	3.09
13	1.97	2.54	3.84	3.78	3.86	4.34	4.11	4.00	3.48	2.80	4.20	3.95	3.40	3.38
14	2.14	2.73	3.97	3.91	4.05	4.73	4.39	3.95	3.43	2.83	4.52	4.60	3.65	3.64
15	2.32	2.92	4.00	3.90	4.22	5.03	4.76	4.00	3.60	3.19	4.71	4.80	3.77	3.75
16	2.51	3.11	3.99	3.85	4.28	5.17	5.11	3.90	3.67	3.47	4.88	4.63	3.82	3.72
17	2.67	3.28	3.96	3.82	4.20	5.09	5.19	4.08	3.67	3.53	4.90	4.60	3.81	3.66
18	2.74	3.40	3.95	3.80	4.07	4.77	4.98	4.41	3.71	3.76	4.84	4.46	3.76	3.58
19	2.85	3.48	3.96	3.79	3.95	4.37	4.55	4.67	3.89	3.96	4.67	4.25	3.69	3.50
20	3.05	3.56	3.96	3.78	3.86	4.08	4.15	4.85	3.97	4.18	4.42	4.05	3.63	3.45
21	3.21	3.64	3.96	3.75	3.78	3.89	3.90	4.51	3.82	4.14	4.14	3.88	3.59	3.42
22	3.30	3.71	3.94	3.75	3.72	3.79	3.65	3.89	3.54	3.88	3.90	3.77	3.57	3.43
23	3.40	3.75	3.89	3.78	3.70	3.73	3.36	3.33	3.29	3.64	3.67	3.72	3.58	3.44
24	3.51	3.75	3.82	3.82	3.76	3.72	3.20	2.96	3.17	3.46	3.52	3.71	3.61	3.44
25	3.68	3.80	3.77	3.88	3.89	3.77	3.21	2.76	3.12	3.37	3.48	3.75	3.67	3.42
26	3.89	3.86	3.71	3.97	4.01	3.86	3.33	2.69	3.10	3.34	3.49	3.78	3.73	3.42
27	4.04	3.95	3.66	4.07	4.11	3.95	3.52	2.76	3.19	3.37	3.54	3.83	3.78	3.46
28	4.13	4.03	3.63	4.21	4.23	4.06	3.70	3.01	3.50	3.49	3.65	3.95	3.88	3.52
29	4.13	4.06	3.62	4.38	4.38	4.20	3.89	3.48	4.04	3.73	3.85	4.14	4.03	3.61
30	4.03	4.00	3.59	4.55	4.56	4.38	4.16	4.09	4.65	4.11	4.16	4.36	4.15	3.69
31	3.85	3.87	3.52	4.67	4.71	4.55	4.36	4.51	5.04	4.59	4.47	4.54	4.17	3.71
32	3.62	3.68	3.40	4.68	4.80	4.68	4.39	4.61	5.26	4.97	4.70	4.57	4.11	3.67
33	3.37	3.46	3.27	4.58	4.83	4.74	4.38	4.65	5.43	5.13	4.80	4.50	3.97	3.55
34	3.09	3.23	3.13	4.40	4.78	4.79	4.36	4.62	5.58	5.29	4.87	4.42	3.78	3.38
35	2.85	2.97	2.86	4.15	4.65	4.82	4.27	4.48	5.67	5.59	4.97	4.39	3.57	3.18
36	2.64	2.65	2.50	3.94	4.45	4.72	4.07	4.21	5.66	6.02	5.10	4.34	3.35	3.03
37	2.46	2.33	2.10	3.86	4.27	4.47	3.83	3.86	5.56	6.50	5.20	4.03	3.11	3.35
38	2.27	2.10	1.70	3.80	4.10	4.17	3.58	3.49	5.36	7.05	5.20	3.64	2.79	3.44
39	2.07	1.96	1.49	3.85	3.66	3.79	3.31	3.16	5.08	6.84	5.08	3.35	2.37	2.23
40	1.88	2.03	1.59	5.38	2.95	3.39	3.01	2.90	4.76	5.62	4.80	3.12	1.96	2.09

TABLE XIX. Continued

(e) Temperature

Altitude, km	Temperature, K, at latitude, deg, of -													
	-75.	-65.	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.
5	240.6	243.1	243.2	250.5	259.8	266.8	272.0	261.8	273.3	273.0	270.6	265.7	257.6	251.8
6	234.3	236.7	236.5	243.9	253.5	260.7	266.4	261.8	267.9	267.1	264.4	259.5	251.0	245.3
7	228.1	230.5	229.9	237.1	246.2	253.9	259.6	261.8	261.6	260.7	257.4	252.4	243.8	238.5
8	222.2	224.6	223.9	231.0	239.3	247.1	252.6	261.8	254.9	254.1	250.3	245.2	237.0	232.3
9	218.4	220.0	218.9	225.1	232.7	240.4	245.4	261.8	247.8	247.2	243.1	238.0	230.4	226.1
10	217.8	217.9	216.0	221.2	226.9	233.9	238.3	261.8	240.6	240.1	236.0	231.2	224.9	222.4
11	219.3	218.4	215.1	219.6	222.6	227.8	231.3	261.8	232.8	232.4	229.0	224.9	220.8	220.8
12	220.8	219.2	214.8	218.8	219.6	222.0	224.0	261.8	224.8	224.5	222.4	219.7	217.9	220.0
13	222.2	220.1	214.6	218.6	217.8	217.3	217.2	261.8	217.1	217.1	216.3	215.9	216.7	219.7
14	223.7	221.1	214.6	218.3	216.1	212.9	210.6	261.8	209.8	210.0	210.7	212.6	215.7	219.4
15	225.3	222.1	214.6	217.9	214.9	210.3	206.2	261.8	204.3	205.0	207.0	211.0	215.1	219.0
16	226.6	223.1	215.9	217.6	213.7	208.0	202.5	261.8	199.8	201.0	203.8	209.4	214.5	218.6
17	227.7	224.4	218.6	217.5	213.9	207.4	201.0	261.8	197.2	198.7	202.3	208.7	214.3	218.2
18	228.8	225.7	221.4	217.4	215.1	209.2	204.1	261.8	199.4	200.4	203.7	209.0	214.2	217.7
19	230.0	226.3	221.9	217.6	216.1	211.0	207.1	261.8	201.9	202.6	205.5	209.6	214.3	217.4
20	231.3	226.9	222.1	217.8	217.0	212.9	209.8	261.8	205.8	206.3	208.5	211.1	214.5	217.1
21	232.3	227.5	222.5	218.1	217.8	214.8	212.3	261.8	209.3	209.8	211.3	212.5	214.8	216.9
22	233.2	228.3	223.0	218.5	218.7	216.2	214.4	261.8	212.0	212.3	213.6	214.1	215.4	216.8
23	234.2	229.0	223.5	219.0	219.5	217.7	216.5	261.8	214.6	214.9	215.8	215.6	215.9	216.7
24	235.2	229.9	224.3	219.5	220.4	219.1	218.6	261.8	217.2	217.4	218.0	217.2	216.6	216.8
25	236.7	231.6	225.8	220.4	221.5	220.6	220.5	261.8	219.4	219.5	219.8	218.8	217.7	217.5
26	238.2	233.2	227.2	221.3	222.6	222.2	222.2	261.8	221.6	221.7	221.7	220.5	218.8	218.2
27	239.7	234.8	228.7	222.2	223.7	223.7	224.0	261.8	223.8	223.8	223.5	222.2	219.9	219.0
28	241.2	236.5	230.2	223.1	224.9	225.2	225.7	261.8	226.0	225.9	225.4	223.9	221.0	219.7
29	242.7	238.1	231.6	224.0	226.0	226.8	227.5	261.8	228.1	228.0	227.2	225.6	222.2	220.5
30	244.2	239.8	233.1	224.8	227.1	228.3	229.3	261.8	230.3	230.1	229.0	227.2	223.3	221.2

TABLE XIX. Continued

(e) Concluded

Altitude, km	Temperature, K, at latitude, deg, of -													
	-75.	-65.	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.
31	245.7	241.4	234.6	225.8	228.2	229.8	231.0		232.5	232.2	230.9	228.9	224.4	222.0
32	247.3	243.3	236.5	227.1	229.5	231.4	232.7		234.6	234.1	232.7	230.5	226.0	223.4
33	248.9	245.2	238.4	228.5	230.8	233.0	234.4		236.6	236.0	234.5	232.0	227.7	224.9
34	250.5	247.2	240.4	229.9	232.1	234.7	236.1		238.7	237.8	236.3	233.5	229.3	226.3
35	252.1	249.2	242.3	231.3	233.4	236.3	237.8		240.7	239.7	238.1	235.1	230.9	227.7
36	253.7	251.1	244.3	232.9	234.7	237.9	239.4		242.8	241.5	239.9	236.6	232.7	229.3
37	255.5	253.4	246.6	234.9	236.6	240.0	241.5		245.2	243.9	242.1	238.8	234.7	231.1
38	257.8	255.8	248.9	236.9	238.5	242.2	243.8		247.8	246.4	244.6	241.0	236.7	232.9
39	260.1	258.3	251.2	238.8	240.5	244.4	246.2		250.4	249.0	247.0	243.3	238.7	234.7
40	262.4	260.7	253.5	240.8	242.4	246.6	248.5		253.0	251.6	249.4	245.5	240.7	236.6
41	264.7	263.1	255.9	242.8	244.4	248.9	250.9		255.7	254.2	251.9	247.8	242.7	238.4
42	267.0	265.6	258.2	244.8	246.3	251.1	253.2		258.3	256.8	254.3	250.0	244.8	240.2
43	269.2	268.0	260.2	246.6	248.2	253.3	255.6		260.9	259.4	256.8	252.1	246.6	242.1
44	271.3	269.8	261.5	248.3	249.8	254.7	257.1		262.3	260.8	258.1	253.7	248.4	244.0
45	272.3	270.9	262.7	250.1	251.5	256.2	258.4		263.4	261.9	259.4	255.2	250.1	245.9
46	273.4	271.9	264.0	251.9	253.2	257.6	259.7		264.4	263.0	260.7	256.8	251.9	247.9
47	274.5	273.0	265.3	253.7	254.9	259.1	261.1		265.5	264.2	262.0	258.3	253.6	249.8
48	275.5	274.1	266.5	254.4	256.4	260.5	262.4		266.5	265.3	263.2	259.9	254.7	250.5
49	276.6	275.2	266.5	254.8	256.6	260.8	262.9		267.0	265.6	263.6	259.9	255.0	251.2
50	276.4	274.5	266.1	255.2	256.8	260.8	262.7		266.5	265.3	263.3	259.9	255.4	252.0
51	275.5	273.6	265.7	255.6	257.0	260.7	262.5		266.1	264.9	263.1	259.9	255.8	252.7
52	274.5	272.8	265.3	256.0	257.3	260.6	262.3		265.6	264.5	262.9	259.8	256.2	253.4
53	273.6	271.9	264.9	256.4	257.5	260.6	262.2		265.2	264.2	262.7	259.8	256.6	254.1
54	272.7	271.0	264.6	256.8	257.7	260.5	262.0		264.8	263.8	262.4	259.8	256.9	254.8
55	271.7	270.2	264.2	257.2	257.9	260.4	261.8		264.3	263.4	262.2	259.8	257.3	255.6

TABLE XIX. Concluded

(f) Geopotential height of standard pressure surfaces

Pressure, mbar	Altitude, km, at latitude, deg, of -													
	-75.	-65.	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.
1000.0	-.05	-.06	.01	.08	.14	.12	.10	.10	.10	.13	.14	.14	.12	.16
850.0	1.23	1.22	1.32	1.42	1.52	1.53	1.51	1.51	1.51	1.53	1.51	1.48	1.42	1.44
700.0	2.72	2.71	2.84	2.99	3.12	3.16	3.16	3.15	3.15	3.16	3.11	3.04	2.94	2.95
500.0	5.18	5.19	5.37	5.58	5.79	5.88	5.89	5.88	5.88	5.88	5.76	5.61	5.46	5.44
400.0	6.74	6.75	6.97	7.21	7.47	7.59	7.61	7.61	7.61	7.59	7.43	7.23	7.04	7.01
300.0	8.67	8.68	8.93	9.20	9.52	9.68	9.73	9.73	9.73	9.69	9.48	9.21	8.98	8.94
250.0	9.87	9.89	10.13	10.42	10.76	10.93	11.00	11.01	11.00	10.96	10.72	10.42	10.16	10.11
200.0	11.36	11.38	11.60	11.87	12.22	12.41	12.48	12.49	12.49	12.43	12.19	11.86	11.59	11.51
150.0	13.30	13.31	13.49	13.72	14.04	14.22	14.30	14.31	14.30	14.25	14.01	13.70	13.43	13.30
100.0	16.05	16.05	16.16	16.32	16.54	16.66	16.70	16.69	16.69	16.65	16.49	16.26	16.03	15.83
70.0	18.46	18.46	18.51	18.59	18.74	18.79	18.78	18.77	18.73	18.71	18.63	18.47	18.29	18.01
50.0	20.76	20.74	20.74	20.77	20.85	20.84	20.79	20.76	20.74	20.73	20.68	20.57	20.42	20.08
30.0	24.26	24.23	24.17	24.13	24.13	24.07	23.98	23.94	23.93	23.92	23.89	23.80	23.66	23.23
10.0	32.02	31.96	31.78	31.66	31.57	31.44	31.30	31.22	31.21	31.18	31.13	30.99	30.66	30.34
5.0	37.10	36.96	36.73	36.61	36.52	36.37	36.26	36.21	36.22	36.15	36.05	35.78	35.31	35.40
2.0	44.32	44.12	43.80	43.62	43.45	43.25	43.10	43.03	43.04	42.95	42.81	42.38	41.70	42.24
1.0	50.03	49.81	49.42	49.19	48.92	48.66	48.45	48.30	48.36	48.30	48.13	47.63	46.83	47.71
.4	57.54	57.30	56.83	56.53	56.18	55.91	55.65	55.43	55.50	55.44	55.24	54.65	53.73	54.72
TROP.	8.98	9.19	10.14	11.53	13.72	15.90	16.85	16.73	16.73	16.33	14.18	11.44	10.39	11.06

TABLE XX. SEASONALLY AVERAGED EXTINCTION AND TEMPERATURE DATA FOR WINTER 1979

(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$

Altitude, km	$\beta_{a,1.00}$, 10^{-4} km^{-1}, at latitude, deg, of -													
	-75.	-65.	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.
5	10.08	5.42	6.43	7.42	9.66	6.91	10.26	13.50	7.14	7.38	11.61	8.49	9.45	15.37
6	11.70	9.09	7.68	8.09	8.38	7.01	7.66	10.48	6.51	6.00	9.37	8.88	9.12	10.14
7	10.78	6.89	8.00	5.70	6.67	5.84	5.70	8.82	15.14	5.04	9.38	10.65	10.31	5.91
8	8.27	5.57	6.59	6.37	4.80	5.81	6.13	6.57	10.69	5.48	7.59	10.70	5.72	6.10
9	5.31	4.79	5.82	9.57	7.05	6.16	6.68	6.52	6.68	5.25	5.23	10.29	3.92	8.94
10	3.51	3.72	4.54	7.34	7.56	6.26	6.31	5.15	10.27	5.14	2.97	4.89	3.60	11.45
11	2.61	2.74	3.16	5.44	5.11	8.04	8.46	7.86	14.09	5.49	2.81	2.93	2.89	6.50
12	2.26	2.34	2.58	3.87	5.55	5.01	8.62	8.22	10.05	5.48	3.67	2.47	2.33	4.34
13	2.02	2.13	2.20	2.07	2.88	4.26	10.96	10.60	12.71	5.49	5.18	2.19	2.24	3.25
14	1.74	1.87	1.94	1.75	2.27	4.87	11.61	11.75	13.75	8.36	2.91	2.11	2.22	3.03
15	1.45	1.56	1.76	1.64	2.06	3.94	11.45	13.64	8.99	7.68	1.89	2.23	2.23	2.73
16	1.22	1.30	1.58	1.61	1.74	2.87	7.44	14.17	9.50	4.62	1.99	2.36	2.11	2.44
17	1.07	1.12	1.35	1.50	1.66	2.16	5.25	10.39	5.80	3.44	2.42	2.20	1.85	2.18
18	.99	1.00	1.17	1.33	1.60	2.11	4.37	6.84	3.72	2.92	2.54	1.86	1.54	2.02
19	.87	.88	1.01	1.11	1.35	1.74	2.84	3.66	3.22	2.62	2.03	1.48	1.32	1.59
20	.77	.78	.88	.96	1.10	1.38	2.05	2.92	3.01	2.19	1.50	1.22	1.15	1.08
21	.64	.69	.74	.83	.93	1.09	1.51	2.29	2.08	1.38	1.18	1.06	1.01	.87
22	.52	.56	.62	.70	.81	.92	1.12	1.37	1.31	1.08	1.02	.93	.88	.75
23	.41	.44	.50	.57	.70	.81	.96	1.04	1.03	1.03	.93	.78	.74	.52
24	.33	.34	.39	.44	.56	.68	.87	.98	.97	.96	.82	.64	.60	.34
25	.24	.25	.30	.34	.46	.60	.83	.90	.88	.82	.67	.51	.48	.22
26	.17	.19	.22	.26	.36	.52	.76	.77	.74	.62	.51	.37	.35	.16
27	.12	.13	.16	.20	.28	.45	.63	.63	.54	.42	.37	.26	.25	.11
28	.09	.09	.12	.15	.21	.37	.50	.49	.38	.26	.24	.18	.17	.07
29	.06	.07	.08	.11	.15	.28	.39	.38	.28	.18	.17	.13	.12	.05
30	.04	.05	.06	.08	.11	.20	.29	.28	.20	.12	.12	.09	.08	.03
31	.03	.04	.04	.06	.08	.14	.21	.20	.15	.08	.08	.06	.06	.02
32	.02	.03	.03	.04	.06	.10	.15	.14	.11	.06	.05	.04	.04	.02
33	.02	.02	.02	.03	.04	.07	.11	.10	.08	.04	.04	.03	.03	.01
34	.01	.02	.02	.02	.03	.05	.08	.07	.06	.03	.03	.02	.02	.01
35	.01	.01	.02	.02	.02	.04	.05	.05	.04	.02	.02	.02	.02	.01
36	.01	.01	.01	.02	.02	.03	.04	.04	.03	.02	.02	.02	.01	.00
37	.01	.01	.01	.01	.01	.02	.03	.03	.02	.02	.01	.01	.01	.00
38	.01	.01	.01	.01	.01	.01	.02	.02	.02	.01	.01	.01	.01	.00
39	.00	.01	.01	.01	.01	.01	.02	.01	.01	.01	.01	.01	.01	.00
40	.00	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.00
*TROP.+2	16.54	16.85	16.27	13.85	12.02	10.83	12.55	15.73	14.43	12.55	15.46	18.83	19.86	19.75

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE XX. Continued

(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$

Altitude, km	$\beta_{a,1.00}/\beta_{m,1.00}$ at latitude, deg, of -													
	-75.	-65.	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.
5	2.62	1.86	2.00	2.21	2.58	2.12	2.69	3.24	2.14	2.20	2.88	2.36	2.46	3.43
6	3.10	2.64	2.38	2.46	2.47	2.27	2.40	2.92	2.19	2.09	2.68	2.58	2.62	2.78
7	3.19	2.41	2.60	2.14	2.33	2.17	2.14	2.80	4.17	2.01	2.89	3.09	3.02	2.16
8	2.91	2.28	2.49	2.39	2.04	2.30	2.38	2.48	3.40	2.24	2.69	3.38	2.27	2.35
9	2.40	2.27	2.51	3.43	2.78	2.52	2.67	2.64	2.67	2.27	2.30	3.54	1.99	3.22
10	2.08	2.14	2.34	3.07	3.05	2.76	2.77	2.33	3.93	2.44	1.84	2.38	2.04	4.21
11	1.94	1.98	2.08	2.74	2.62	3.49	3.66	3.49	5.41	2.72	1.90	1.95	1.96	3.09
12	1.95	1.98	2.02	2.42	2.97	2.77	4.03	3.84	4.56	2.94	2.35	1.93	1.91	2.66
13	1.99	2.04	2.02	1.90	2.18	2.71	5.36	5.33	6.15	3.21	3.11	1.96	2.03	2.48
14	1.99	2.06	2.05	1.89	2.08	3.24	6.26	6.24	7.18	4.81	2.35	2.07	2.19	2.61
15	1.96	2.03	2.11	1.97	2.13	3.06	6.88	8.11	5.65	4.95	2.04	2.32	2.39	2.70
16	1.94	2.00	2.16	2.12	2.11	2.73	5.40	9.32	6.64	3.74	2.28	2.62	2.52	2.78
17	1.96	2.00	2.15	2.21	2.25	2.55	4.58	8.00	4.97	3.39	2.82	2.75	2.56	2.86
18	2.02	2.02	2.16	2.25	2.42	2.80	4.64	6.63	4.05	3.45	3.23	2.73	2.52	3.01
19	2.04	2.05	2.17	2.23	2.41	2.76	3.82	4.62	4.25	3.65	3.11	2.62	2.52	2.84
20	2.06	2.07	2.18	2.24	2.36	2.67	3.45	4.51	4.61	3.64	2.87	2.58	2.55	2.47
21	2.02	2.09	2.16	2.27	2.37	2.57	3.16	4.27	3.96	2.98	2.74	2.61	2.59	2.40
22	1.97	2.03	2.14	2.25	2.42	2.58	2.92	3.35	3.23	2.88	2.80	2.67	2.62	2.41
23	1.89	1.95	2.07	2.18	2.43	2.66	2.97	3.16	3.13	3.12	2.94	2.64	2.60	2.15
24	1.81	1.84	1.96	2.07	2.36	2.63	3.12	3.42	3.39	3.35	3.02	2.58	2.52	1.87
25	1.69	1.73	1.87	1.98	2.30	2.70	3.39	3.61	3.54	3.37	2.93	2.48	2.40	1.68
26	1.58	1.62	1.76	1.89	2.21	2.75	3.59	3.65	3.50	3.10	2.74	2.28	2.21	1.58
27	1.48	1.51	1.64	1.79	2.09	2.76	3.51	3.52	3.15	2.66	2.47	2.06	1.99	1.47
28	1.40	1.42	1.53	1.67	1.97	2.69	3.36	3.34	2.79	2.23	2.15	1.86	1.80	1.37
29	1.32	1.35	1.44	1.56	1.82	2.50	3.16	3.10	2.52	1.97	1.94	1.70	1.66	1.29
30	1.27	1.29	1.37	1.48	1.69	2.27	2.85	2.81	2.31	1.79	1.75	1.57	1.54	1.24
31	1.22	1.25	1.32	1.41	1.58	2.06	2.61	2.54	2.10	1.63	1.60	1.47	1.45	1.20
32	1.19	1.22	1.27	1.35	1.49	1.87	2.34	2.28	1.93	1.52	1.48	1.39	1.37	1.16
33	1.16	1.19	1.24	1.31	1.41	1.71	2.10	2.05	1.78	1.44	1.38	1.33	1.31	1.13
34	1.14	1.18	1.21	1.28	1.35	1.59	1.90	1.86	1.66	1.38	1.32	1.29	1.27	1.11
35	1.13	1.17	1.20	1.26	1.31	1.49	1.75	1.70	1.57	1.34	1.28	1.26	1.24	1.09
36	1.13	1.16	1.20	1.24	1.28	1.41	1.62	1.57	1.49	1.31	1.26	1.25	1.22	1.08
37	1.11	1.16	1.21	1.22	1.25	1.35	1.53	1.48	1.42	1.29	1.24	1.24	1.20	1.07
38	1.11	1.16	1.23	1.22	1.23	1.31	1.46	1.41	1.37	1.27	1.22	1.23	1.20	1.07
39	1.10	1.19	1.24	1.23	1.23	1.29	1.39	1.36	1.34	1.26	1.21	1.23	1.20	1.09
40	1.10	1.25	1.24	1.23	1.24	1.27	1.32	1.32	1.33	1.25	1.20	1.23	1.21	1.13

TABLE XX. Continued

(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$

Altitude, km	$\beta_{a,0.45}$, 10^{-4} km^{-1}, at latitude, deg, of -													
	-75.	-65.	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.
10	9.58	10.15	11.81	15.67	16.15	14.39	8.44	8.48	19.85	10.75	8.56	8.92	9.61	22.54
11	9.23	9.86	10.79	12.83	13.89	16.39	15.46	13.13	16.51	10.93	8.78	9.37	9.01	20.76
12	8.88	9.57	10.34	10.27	12.62	17.28	19.00	14.55	16.16	11.29	9.11	9.56	8.71	18.99
13	8.02	8.75	9.56	8.61	11.82	17.19	18.69	17.41	17.51	12.68	9.54	9.87	9.04	17.93
14	6.83	7.53	8.62	7.53	11.08	16.91	19.36	18.02	16.39	13.85	9.62	10.39	9.17	16.22
15	5.63	6.19	7.56	7.07	10.08	15.67	20.31	19.74	14.51	13.89	10.07	10.87	8.97	14.15
16	4.74	5.07	6.45	6.48	8.98	13.47	19.26	20.42	14.30	13.64	11.26	10.82	8.25	12.11
17	4.14	4.24	5.38	5.83	7.97	11.66	17.29	18.68	14.10	14.01	12.19	9.82	7.13	10.22
18	3.69	3.64	4.49	5.10	6.85	9.94	15.65	17.86	13.94	13.96	11.69	8.09	5.87	8.33
19	3.30	3.20	3.79	4.38	5.67	8.06	12.98	15.95	13.76	12.58	9.82	6.32	4.75	6.41
20	2.93	2.84	3.22	3.74	4.65	6.29	9.84	13.71	12.31	10.03	7.52	4.90	3.83	4.72
21	2.55	2.49	2.75	3.21	3.86	4.94	7.23	10.68	9.55	7.31	5.63	3.84	3.10	3.45
22	2.19	2.13	2.31	2.74	3.24	3.94	5.32	7.56	6.79	5.32	4.29	3.05	2.52	2.51
23	1.81	1.75	1.89	2.26	2.69	3.19	4.07	5.32	4.88	4.08	3.40	2.44	2.05	1.79
24	1.45	1.39	1.51	1.81	2.21	2.64	3.31	4.00	3.76	3.29	2.77	1.96	1.65	1.23
25	1.12	1.09	1.21	1.46	1.82	2.27	2.87	3.23	3.08	2.72	2.27	1.57	1.32	.82
26	.85	.83	.95	1.16	1.50	1.97	2.55	2.76	2.59	2.20	1.85	1.23	1.03	.56
27	.63	.62	.73	.90	1.21	1.70	2.24	2.40	2.13	1.71	1.46	.95	.79	.38
28	.45	.45	.55	.69	.96	1.42	1.92	2.04	1.70	1.26	1.11	.72	.59	.27
29	.32	.33	.41	.52	.75	1.16	1.60	1.69	1.32	.90	.82	.53	.43	.19
30	.23	.24	.30	.39	.57	.91	1.28	1.33	1.00	.63	.59	.39	.31	.14
31	.16	.17	.22	.29	.42	.70	.99	1.02	.74	.45	.43	.28	.22	.10
32	.11	.12	.16	.21	.31	.52	.75	.76	.55	.33	.31	.21	.16	.07
33	.08	.08	.11	.15	.23	.38	.56	.55	.40	.24	.22	.15	.11	.05
34	.05	.06	.08	.11	.17	.28	.41	.40	.29	.17	.16	.11	.08	.03
35	.04	.04	.06	.08	.12	.20	.29	.28	.21	.12	.11	.08	.06	.02
36	.03	.03	.04	.06	.08	.14	.21	.20	.15	.08	.08	.05	.04	.01
37	.02	.02	.03	.04	.06	.10	.15	.15	.11	.06	.05	.04	.03	.01
38	.01	.02	.02	.03	.04	.07	.11	.11	.08	.04	.04	.03	.02	.01
39	.01	.01	.01	.02	.03	.05	.07	.07	.06	.03	.03	.02	.01	.00
40	.01	.01	.01	.02	.02	.04	.05	.05	.04	.02	.02	.01	.01	.00
*TROP.+2	65.08	66.01	66.21	56.25	52.60	47.07	54.38	70.79	62.21	56.10	70.46	79.47	72.55	91.67

*This row of data gives the optical depth in units of 10^{-4} at 2 km above the tropopause at the indicated latitudes.

TABLE XX. Continued

(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$

Altitude, km	$\beta_{a,0.45}/\beta_{a,1.00}$ at latitude, deg, of -													
	-75.	-65.	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.
10	2.66	2.73	2.87	2.73	2.75	2.24	1.48	1.67	1.32	2.56	2.46	2.25	2.75	3.41
11	3.22	3.30	3.27	2.96	3.13	3.14	2.47	2.40	1.83	2.73	3.02	3.01	3.10	4.06
12	3.78	3.87	3.77	3.12	3.61	3.71	2.94	2.56	2.44	2.92	3.57	3.57	3.49	4.71
13	3.96	4.08	4.12	3.43	4.00	4.19	3.03	2.77	2.43	3.14	3.97	4.12	3.80	5.13
14	3.90	4.02	4.26	3.73	4.41	4.51	3.18	2.93	2.68	3.46	4.45	4.52	3.96	5.31
15	3.78	3.88	4.22	3.97	4.64	4.69	3.52	2.97	2.47	3.86	4.98	4.67	3.98	5.12
16	3.73	3.76	4.07	3.95	4.67	4.82	3.74	3.25	2.95	4.29	5.30	4.60	3.92	4.84
17	3.74	3.67	3.91	3.85	4.56	4.94	4.08	3.26	3.46	4.76	5.22	4.41	3.80	4.56
18	3.75	3.61	3.79	3.80	4.34	4.87	4.25	3.64	3.84	4.99	4.96	4.21	3.66	4.28
19	3.78	3.59	3.69	3.79	4.14	4.61	4.30	3.99	4.07	4.90	4.72	4.03	3.48	4.06
20	3.86	3.63	3.66	3.81	4.06	4.36	4.26	4.28	4.16	4.73	4.57	3.81	3.26	3.95
21	3.97	3.71	3.67	3.84	4.02	4.27	4.27	4.35	4.17	4.57	4.37	3.54	3.04	3.83
22	4.15	3.81	3.71	3.91	3.96	4.15	4.20	4.36	4.19	4.34	4.02	3.29	2.88	3.64
23	4.29	3.92	3.75	3.97	3.89	3.96	4.00	4.25	4.14	3.95	3.66	3.13	2.80	3.51
24	4.39	4.03	3.80	4.03	3.85	3.80	3.71	3.96	3.84	3.58	3.46	3.10	2.79	3.52
25	4.51	4.18	3.94	4.16	3.94	3.80	3.52	3.64	3.59	3.48	3.45	3.16	2.86	3.52
26	4.67	4.33	4.12	4.27	4.08	3.85	3.48	3.59	3.62	3.64	3.62	3.30	2.98	3.45
27	4.79	4.48	4.31	4.37	4.24	3.93	3.58	3.78	3.86	3.99	3.91	3.51	3.15	3.43
28	4.87	4.61	4.49	4.51	4.44	4.06	3.80	4.07	4.20	4.40	4.21	3.73	3.32	3.47
29	4.91	4.71	4.64	4.67	4.68	4.25	4.05	4.37	4.53	4.73	4.52	3.94	3.45	3.58
30	4.93	4.81	4.73	4.79	4.91	4.50	4.27	4.62	4.74	4.93	4.80	4.14	3.55	3.74
31	4.89	4.88	4.76	4.87	5.07	4.78	4.51	4.83	4.88	5.11	5.08	4.30	3.61	3.89
32	4.73	4.74	4.72	4.95	5.16	5.03	4.72	5.04	4.97	5.30	5.36	4.42	3.67	3.93
33	4.46	4.52	4.58	20.01	5.19	5.23	4.92	5.19	5.01	5.38	5.55	4.43	3.72	3.85
34	4.09	4.20	4.35	8.83	5.13	5.39	5.10	5.33	4.97	5.33	5.54	4.32	3.76	3.72
35	3.65	3.84	4.06	5.34	5.00	5.45	5.23	5.46	4.87	5.11	5.29	4.14	3.69	3.57
36	3.21	3.61	3.75	4.35	4.81	5.42	5.30	5.56	4.78	4.66	4.89	3.92	3.50	3.35
37	2.77	3.56	3.60	4.17	4.55	5.37	5.33	5.81	4.68	4.12	4.40	3.74	3.16	2.89
38	2.33	3.27	3.64	6.15	4.15	5.21	5.43	6.01	4.48	3.60	3.88	3.96	2.78	2.24
39	1.94	2.44	3.94	7.24	3.65	5.01	5.37	5.82	4.25	3.15	3.41	4.94	2.42	1.60
40	1.64	2.23	4.50	5.71	3.45	5.07	5.06	5.68	4.25	2.85	3.27	5.80	2.02	1.10

TABLE XX. Continued

(e) Temperature

Altitude, km	Temperature, K, at latitude, deg, of -													
	-75.	-65.	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.
5	244.2	245.1	251.2	258.0	266.6	271.8	273.2	273.3	273.2	271.6	264.9	256.2	250.0	247.6
6	238.4	239.0	244.8	251.7	260.5	265.8	267.4	267.6	267.6	265.6	258.8	249.8	243.4	241.3
7	233.0	233.3	238.3	244.8	253.3	258.7	260.9	261.2	261.2	259.0	252.0	243.0	236.5	235.1
8	228.4	228.8	232.8	238.3	246.4	251.5	254.2	254.6	254.6	252.2	245.4	236.5	230.2	228.5
9	225.6	225.8	227.5	231.9	239.5	244.3	247.2	247.6	247.5	245.2	238.9	230.1	224.0	221.9
10	226.3	226.2	224.4	226.6	232.8	237.1	240.1	240.5	240.5	238.2	232.6	224.7	219.7	216.5
11	227.7	227.4	223.6	222.9	226.6	230.2	232.9	233.1	233.1	231.2	226.7	220.9	218.1	213.6
12	228.9	228.4	223.4	220.3	220.9	223.3	225.4	225.4	225.5	224.1	221.3	218.3	217.6	212.1
13	229.9	229.2	223.7	219.2	216.7	217.1	218.0	217.7	217.8	217.1	216.7	217.0	217.7	211.7
14	230.5	229.8	224.0	218.3	213.0	211.3	210.6	210.1	210.3	210.4	212.3	215.6	217.5	211.6
15	231.0	230.2	224.3	217.9	211.0	207.2	204.5	203.6	203.9	204.9	209.1	214.4	217.2	211.6
16	231.5	230.6	224.6	217.5	209.1	203.4	199.0	197.6	198.1	199.7	205.9	213.1	216.8	211.5
17	231.7	230.6	224.8	217.7	208.5	201.3	195.7	193.9	194.7	196.9	204.2	212.3	216.3	210.7
18	231.9	230.6	225.0	218.2	209.3	202.5	197.5	195.6	196.6	198.4	204.0	211.6	215.7	209.9
19	232.1	230.7	225.3	218.9	210.4	204.0	199.6	197.7	199.0	200.6	204.9	211.7	215.4	209.8
20	232.2	230.7	225.7	219.9	212.6	207.2	203.3	201.7	203.1	204.3	207.7	212.5	215.2	209.6
21	232.5	230.9	226.2	221.1	214.7	210.2	206.9	205.5	206.9	207.8	210.2	213.4	215.1	210.1
22	233.1	231.5	227.0	222.4	216.8	212.8	210.0	208.8	210.0	210.6	212.2	214.5	215.0	210.7
23	233.6	232.1	227.9	223.8	218.8	215.5	213.2	212.2	213.1	213.4	214.2	215.5	215.0	211.2
24	234.2	232.7	228.8	225.1	220.9	218.1	216.3	215.5	216.2	216.1	216.2	216.7	215.1	213.3
25	235.4	234.1	230.3	226.9	223.0	220.4	218.6	217.8	218.4	218.3	218.3	218.1	215.7	215.8
26	236.8	235.6	232.0	228.8	225.2	222.7	220.9	220.1	220.7	220.4	220.3	219.6	216.2	218.2
27	238.2	237.1	233.6	230.7	227.4	224.9	223.2	222.4	223.0	222.6	222.4	221.0	216.7	220.7
28	239.7	238.6	235.3	232.6	229.6	227.2	225.5	224.7	225.3	224.8	224.4	222.5	217.2	223.2
29	241.1	240.2	236.9	234.5	231.8	229.5	227.9	227.0	227.5	227.0	226.5	223.9	217.7	225.7
30	242.5	241.7	238.6	236.4	234.0	231.7	230.2	229.4	229.8	229.2	228.5	225.4	218.3	228.2

TABLE XX. Continued

(e) Concluded

Altitude, km	Temperature, K, at latitude, deg, of -													
	-75.	-65.	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.
31	244.0	243.2	240.3	238.4	236.2	234.0	232.5	231.7	232.1	231.4	230.6	226.8	219.3	230.9
32	245.4	244.8	242.0	240.3	238.2	236.0	234.4	233.5	234.0	233.4	232.4	228.6	221.4	233.8
33	247.7	247.0	244.1	242.4	240.0	237.8	236.1	235.3	235.8	235.3	234.2	230.3	223.6	236.6
34	250.1	249.1	246.3	244.4	241.8	239.6	237.9	237.0	237.6	237.3	236.0	232.0	225.7	239.5
35	252.4	251.3	248.4	246.5	243.5	241.3	239.6	238.8	239.3	239.3	237.8	233.8	227.8	242.4
36	254.8	253.4	250.5	248.5	245.3	243.1	241.3	240.5	241.1	241.3	239.6	235.7	230.0	245.3
37	257.1	255.6	252.7	250.7	247.4	245.4	243.8	243.0	243.6	243.6	242.2	238.0	232.2	248.2
38	259.5	257.9	254.9	253.0	249.8	248.0	246.5	245.8	246.2	246.0	244.7	240.3	234.4	251.2
39	261.8	260.2	257.2	255.3	252.2	250.6	249.2	248.5	248.8	248.4	247.3	242.7	236.6	254.2
40	264.2	262.5	259.5	257.7	254.7	253.2	251.9	251.2	251.4	250.8	249.9	245.0	238.8	257.1
41	266.5	264.8	261.8	260.0	257.1	255.8	254.7	254.0	254.0	253.2	252.5	247.4	241.0	260.1
42	268.9	267.1	264.0	262.3	259.5	258.5	257.4	256.7	256.6	255.6	255.0	249.7	243.1	263.0
43	271.2	269.3	266.3	264.7	262.0	261.1	260.1	259.4	259.2	257.9	257.3	251.6	245.0	264.5
44	273.6	271.6	268.3	266.4	263.6	262.5	261.4	260.7	260.3	258.9	258.6	253.2	246.9	265.6
45	274.9	272.7	269.2	267.3	264.6	263.5	262.5	261.9	261.4	259.9	259.9	254.7	248.8	266.7
46	275.7	273.5	270.1	268.2	265.5	264.5	263.7	263.1	262.5	260.9	261.2	256.3	250.7	267.7
47	276.5	274.4	271.0	269.0	266.5	265.5	264.8	264.3	263.6	261.9	262.4	257.9	252.4	268.8
48	277.3	275.2	271.8	269.9	267.5	266.6	266.0	265.5	264.7	262.9	263.7	258.9	253.0	269.3
49	278.1	276.1	272.7	270.8	268.3	267.1	266.3	265.6	264.9	263.1	263.6	259.0	253.6	268.7
50	278.9	276.6	272.6	270.4	267.8	266.7	265.9	265.2	264.6	262.9	263.4	259.1	254.1	268.1
51	277.9	275.6	271.9	269.7	267.3	266.2	265.5	264.8	264.3	262.7	263.1	259.1	254.7	267.5
52	276.9	274.7	271.1	269.1	266.8	265.8	265.1	264.4	264.0	262.5	262.8	259.2	255.3	266.9
53	275.9	273.8	270.4	268.4	266.3	265.3	264.6	264.1	263.7	262.3	262.6	259.3	255.9	266.3
54	274.9	272.9	269.6	267.8	265.7	264.9	264.2	263.7	263.4	262.1	262.3	259.4	256.4	265.7
55	273.8	271.9	268.9	267.2	265.2	264.4	263.8	263.3	263.1	261.9	262.1	259.5	257.0	265.1

TABLE XX. Concluded

(f) Geopotential height of standard pressure surfaces

Pressure, mbar	Altitude, km, at latitude, deg, of -													
	-75.	-65.	-55.	-45.	-35.	-25.	-15.	-5.	5.	15.	25.	35.	45.	55.
1000.0	-.05	-.06	.01	.08	.14	.12	.10	.10	.10	.13	.14	.14	.12	.16
850.0	1.23	1.22	1.32	1.42	1.52	1.53	1.51	1.51	1.51	1.53	1.51	1.48	1.42	1.44
700.0	2.72	2.71	2.84	2.99	3.12	3.16	3.16	3.15	3.15	3.16	3.11	3.04	2.94	2.95
500.0	5.18	5.19	5.37	5.58	5.79	5.88	5.89	5.88	5.88	5.88	5.76	5.61	5.46	5.44
400.0	6.74	6.75	6.97	7.21	7.47	7.59	7.61	7.61	7.61	7.59	7.43	7.23	7.04	7.01
300.0	8.67	8.66	8.93	9.20	9.52	9.68	9.73	9.73	9.73	9.69	9.48	9.21	8.98	8.94
250.0	9.87	9.89	10.13	10.42	10.76	10.93	11.00	11.01	11.00	10.96	10.72	10.42	10.16	10.11
200.0	11.36	11.38	11.60	11.87	12.22	12.41	12.48	12.49	12.49	12.43	12.19	11.86	11.59	11.51
150.0	13.30	13.31	13.49	13.72	14.04	14.22	14.30	14.31	14.30	14.25	14.01	13.70	13.43	13.30
100.0	16.05	16.05	16.16	16.32	16.54	16.66	16.70	16.69	16.69	16.65	16.49	16.26	16.03	15.83
70.0	18.46	18.46	18.51	18.59	18.74	18.79	18.78	18.77	18.73	18.71	18.63	18.47	18.29	18.01
50.0	20.76	20.74	20.74	20.77	20.85	20.84	20.79	20.76	20.74	20.73	20.68	20.57	20.42	20.08
30.0	24.26	24.23	24.17	24.13	24.13	24.07	23.98	23.94	23.93	23.92	23.89	23.80	23.66	23.23
10.0	32.02	31.96	31.78	31.66	31.57	31.44	31.30	31.22	31.21	31.18	31.13	30.99	30.66	30.34
5.0	37.10	36.96	36.73	36.61	36.52	36.37	36.26	36.21	36.22	36.15	36.05	35.78	35.31	35.40
2.0	44.32	44.12	43.80	43.62	43.45	43.25	43.10	43.03	43.04	42.95	42.81	42.38	41.70	42.24
1.0	50.03	49.81	49.42	49.19	48.92	48.66	48.45	48.30	48.36	48.30	48.13	47.63	46.83	47.71
.4	57.54	57.30	56.83	56.53	56.18	55.91	55.65	55.43	55.50	55.44	55.24	54.65	53.73	54.72
TROP.	8.98	9.19	10.14	11.53	13.72	15.90	16.85	16.73	16.73	16.33	14.18	11.44	10.39	11.06

TABLE XXI. AVERAGE OPTICAL DEPTH IN 10° LATITUDE AND 20° LONGITUDE BINS

(a) Sweep 1, sunrise

Latitude, deg	Optical depth, 10^{-4}, at longitude, deg, of -																	
	-170	-150	-130	-110	-90	-70	-50	-30	-10	10	30	50	70	90	110	130	150	170
	At 1.00 µm																	
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
55	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
45	18.4	19.1	19.0	16.0	15.9	17.8	18.7	17.9	15.4	15.6	16.1	13.9	13.5	14.6	17.4	17.4	17.8	19.6
35	17.6	20.6	20.4	*****	20.9	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	19.5	19.1
25	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
15	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
5	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-5	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-15	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-25	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-35	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-45	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-55	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
	At 0.45 µm																	
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
55	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
45	*****	*****	*****	47.0	*****	61.0	65.3	*****	41.7	43.4	50.2	43.2	40.9	53.4	*****	*****	*****	*****
35	51.1	83.6	66.8	*****	69.3	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
25	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	58.7
15	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
5	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-5	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-15	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-25	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-35	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-45	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-55	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****

TABLE XXI. Continued

(b) Sweep 2, sunrise

Latitude, deg	Optical depth, 10^{-4}, at longitude, deg, of -																	
	-170	-150	-130	-110	-90	-70	-50	-30	-10	10	30	50	70	90	110	130	150	170
	At 1.00 µm																	
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
55	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
45	19.1	17.3	16.2	14.9	16.3	15.8	15.3	16.9	16.3	16.4	18.3	15.9	15.0	16.7	17.4	19.8	18.3	21.5
35	17.1	16.6	13.3	12.7	17.2	16.8	*****	16.6	10.8	15.2	*****	12.4	*****	17.9	15.9	15.4	19.0	12.8
25	17.2	*****	*****	16.2	13.6	15.5	10.9	13.7	12.0	13.8	15.1	16.1	15.3	15.3	14.6	14.8	16.8	*****
15	12.4	15.7	*****	15.0	10.8	*****	*****	*****	*****	*****	*****	*****	*****	13.3	11.6	*****	14.4	13.7
5	15.1	15.8	13.0	13.2	*****	11.3	12.2	18.3	13.7	13.3	*****	*****	11.9	12.6	10.9	12.6	12.1	*****
- 5	*****	47.1	12.9	12.7	11.1	*****	13.3	13.4	13.9	13.4	15.5	11.4	*****	32.2	*****	*****	14.9	*****
-15	15.3	12.5	13.6	13.5	29.4	22.0	11.7	*****	14.4	12.1	17.5	*****	24.2	*****	20.7	12.8	13.9	16.9
-25	11.9	*****	*****	10.1	11.0	14.4	10.3	11.9	*****	9.8	11.2	11.7	11.0	10.3	11.7	12.2	13.0	15.5
-35	10.2	9.7	9.3	*****	9.8	10.8	10.0	9.6	8.7	*****	11.6	9.4	10.3	9.7	8.6	9.4	10.8	10.5
-45	10.4	10.4	9.9	9.8	9.5	9.7	10.4	11.4	10.6	10.3	9.7	*****	9.3	11.2	10.7	10.6	10.6	12.1
-55	10.9	9.4	12.1	13.1	11.5	10.1	10.3	11.8	12.5	12.3	10.5	10.7	11.2	13.2	11.8	11.9	11.2	10.6
-65	12.7	13.5	14.3	12.5	12.0	14.5	13.0	14.0	13.8	13.3	15.3	15.0	13.8	14.5	14.7	14.8	12.6	12.8
-75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
	At 0.45 µm																	
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
55	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
45	*****	48.2	50.1	43.5	52.6	44.8	*****	*****	49.8	47.6	64.3	50.7	*****	47.2	*****	*****	*****	*****
35	48.2	55.4	40.5	42.5	50.1	57.8	*****	55.6	33.3	50.7	*****	36.1	*****	59.8	52.9	44.5	*****	56.0
25	40.8	*****	*****	54.2	29.4	46.8	39.9	42.9	29.4	33.9	47.2	57.4	51.7	51.0	38.9	48.3	62.9	*****
15	38.1	64.7	*****	55.7	40.5	*****	*****	*****	*****	*****	*****	*****	*****	49.8	43.6	*****	55.3	49.8
5	55.4	56.7	52.1	55.1	*****	42.2	47.4	80.2	56.5	54.4	*****	*****	79.6	53.8	45.7	33.5	40.3	*****
- 5	*****	87.8	41.8	54.3	42.9	*****	58.5	58.6	56.7	33.4	38.8	65.2	*****	112.0	*****	*****	29.4	*****
-15	83.2	75.5	51.8	56.5	91.7	77.1	33.3	*****	54.5	50.5	37.5	*****	72.4	*****	76.5	39.9	39.9	59.1
-25	51.2	*****	*****	37.8	48.0	48.7	46.2	44.0	*****	35.0	42.1	40.7	40.2	35.2	43.2	42.1	38.4	54.6
-35	36.8	34.1	28.9	*****	33.1	33.5	36.3	35.3	29.4	*****	19.0	35.2	39.8	35.2	26.6	32.7	38.5	36.6
-45	31.9	31.6	29.9	26.2	27.2	37.5	36.0	38.5	36.1	34.1	38.2	*****	26.8	35.0	38.2	30.8	31.1	34.2
-55	29.4	25.4	38.2	35.3	35.9	28.0	26.6	38.1	36.9	39.0	29.7	31.9	25.8	37.3	32.8	35.7	33.5	30.4
-65	36.1	35.8	*****	31.0	31.2	*****	33.0	*****	33.0	32.2	*****	40.6	35.9	42.6	41.3	40.4	34.1	34.5
-75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****

TABLE XXI. Continued

(c) Sweep 3, sunrise

Latitude, deg	Optical depth, 10^{-4}, at longitude, deg, of -																	
	-170	-150	-130	-110	-90	-70	-50	-30	-10	10	30	50	70	90	110	130	150	170
									At 1.00 μm									
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	16.4	14.0	15.4	16.8	14.5	14.1	15.8	16.7	17.8	16.9	16.9	14.9	16.3	18.6	18.7	17.7	17.8	16.1
55	15.2	16.1	16.9	16.6	15.2	15.0	15.2	17.6	18.3	18.4	17.7	15.1	15.9	15.8	17.9	16.3	15.5	16.0
45	17.6	16.8	15.2	17.2	17.9	15.8	15.2	13.3	17.9	19.9	14.3	12.3	13.5	15.6	16.5	15.7	15.4	17.5
35	18.2	18.0	16.8	15.1	17.4	13.0	16.2	13.6	12.8	18.7	14.1	13.0	13.7	13.1	21.1	16.8	16.9	15.0
25	11.3	16.6	13.6	11.7	14.4	13.1	14.1	13.0	14.5	14.0	11.1	13.1	11.1	12.1	15.2	14.8	12.6	9.5
15	10.7	10.6	11.0	9.9	10.9	12.5	13.2	11.3	10.9	10.4	10.1	9.1	12.1	11.5	9.2	9.9	9.3	11.6
5	11.3	11.3	11.3	11.5	11.7	*****	14.7	11.7	11.7	10.4	10.1	11.6	12.0	10.9	10.4	11.3	11.4	11.9
−5	12.0	12.2	11.9	*****	12.2	11.9	11.7	13.1	13.0	13.5	12.1	28.7	12.9	11.4	12.1	12.9	12.3	12.2
−15	12.5	12.7	12.5	12.3	11.8	12.8	12.7	12.5	11.6	12.5	13.0	12.9	12.5	*****	13.6	11.3	12.8	12.2
−25	*****	11.3	*****	11.3	10.8	*****	12.3	12.3	12.3	11.5	12.7	12.0	11.7	11.2	12.9	11.7	10.3	12.3
−35	11.4	10.5	9.9	15.9	14.1	9.0	9.5	10.2	9.5	9.5	*****	11.5	12.4	9.0	9.9	13.9	11.4	11.0
−45	11.4	11.7	12.3	13.8	11.2	11.0	11.7	13.2	*****	11.4	9.1	13.3	9.4	9.6	10.7	12.4	12.5	13.5
−55	13.5	10.6	13.0	14.3	10.4	10.7	12.0	13.3	8.7	11.2	12.8	*****	11.3	12.6	13.0	12.6	12.5	12.1
−65	12.6	12.6	13.5	13.1	13.4	11.7	27.3	13.7	14.5	13.0	12.5	14.2	13.8	13.8	13.5	13.8	14.9	12.0
−75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
									At 0.45 μm									
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	65.8	47.7	53.3	61.4	46.3	46.0	50.7	*****	*****	*****	*****	42.0	*****	*****	*****	65.5	*****	*****
55	54.2	60.3	61.3	*****	62.1	55.4	57.9	*****	*****	*****	*****	51.1	50.5	*****	*****	51.3	51.6	67.5
45	63.4	64.1	60.1	58.7	*****	61.5	49.7	47.2	*****	*****	56.4	53.1	51.2	58.3	63.6	58.6	55.5	64.8
35	*****	93.6	76.3	63.8	72.9	53.1	58.6	50.5	64.0	74.0	55.8	46.4	64.6	48.8	102.6	59.0	64.5	68.6
25	47.2	68.3	55.7	48.8	62.3	51.8	62.5	57.5	67.4	76.2	46.8	54.5	39.9	47.9	66.5	55.9	65.4	38.2
15	41.5	44.4	45.8	45.5	45.0	65.0	54.4	47.4	44.3	41.7	39.7	36.0	51.9	46.0	31.7	39.7	34.9	47.2
5	38.8	44.6	48.5	43.8	30.6	*****	61.4	45.3	55.1	38.4	32.2	48.1	46.1	44.8	41.2	46.6	48.7	52.7
−5	45.8	50.0	46.6	*****	42.1	37.4	50.9	50.2	51.9	54.7	34.1	85.2	43.6	35.9	43.3	61.8	55.0	46.8
−15	45.4	43.3	51.8	56.9	39.1	45.6	43.9	43.1	49.0	42.2	34.4	60.6	82.9	*****	46.1	41.9	44.4	45.6
−25	*****	35.9	*****	40.0	39.6	*****	53.2	46.7	61.5	47.6	47.5	53.2	48.1	38.4	46.5	44.1	35.9	39.2
−35	38.6	21.0	29.8	56.8	41.4	31.6	31.2	38.2	30.3	35.8	*****	43.0	47.9	33.1	36.9	49.7	16.3	35.3
−45	31.8	40.8	31.8	42.5	29.3	34.4	35.3	40.8	*****	34.0	28.7	43.8	31.4	34.2	32.6	41.1	27.8	43.1
−55	30.0	26.2	34.1	41.0	24.8	24.1	30.5	36.9	22.2	33.0	31.0	*****	22.6	31.6	32.5	27.3	28.5	31.7
−65	33.5	31.6	31.2	30.7	30.0	29.1	81.2	32.0	34.8	29.1	27.2	*****	30.4	*****	36.9	36.0	*****	26.7
−75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****

TABLE XXI. Continued

(d) Sweep 4, sunrise

Latitude, deg	Optical depth, 10^{-4}, at longitude, deg, of -																	
	-170	-150	-130	-110	-90	-70	-50	-30	-10	10	30	50	70	90	110	130	150	170
	At 1.00 µm																	
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	14.6	13.6	14.4	13.9	14.6	13.4	15.5	16.2	15.8	15.7	16.5	16.0	15.3	18.1	21.1	16.6	*****	17.2
55	14.0	14.1	14.1	13.4	12.9	*****	13.3	13.3	12.2	*****	12.8	10.7	15.3	11.5	13.1	13.2	13.5	*****
45	*****	*****	*****	*****	*****	*****	*****	9.6	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
35	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
25	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
15	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
5	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−5	*****	*****	*****	*****	*****	13.4	13.2	13.6	14.8	*****	*****	*****	*****	13.9	12.3	*****	*****	*****
−15	12.8	13.1	12.8	12.9	*****	*****	*****	*****	*****	12.2	*****	12.0	*****	11.9	13.4	12.8	*****	12.7
−25	11.9	12.1	11.4	11.7	*****	11.8	*****	11.9	11.4	10.9	*****	12.0	10.5	*****	12.9	15.0	*****	14.2
−35	10.4	11.6	13.2	9.5	*****	12.6	13.7	*****	12.5	12.2	*****	12.1	10.4	10.4	8.2	10.4	*****	10.0
−45	12.8	13.8	11.2	13.3	*****	12.2	13.0	15.1	13.2	15.5	*****	12.9	13.2	13.0	13.3	12.6	*****	14.3
−55	15.1	16.6	16.0	14.0	15.4	15.7	16.2	15.3	16.4	15.2	13.1	16.8	13.5	15.6	15.0	16.0	15.4	15.3
−65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
	At 0.45 µm																	
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	50.6	47.7	48.4	42.5	46.4	42.1	50.7	*****	*****	*****	*****	*****	48.2	*****	*****	57.7	*****	*****
55	33.2	*****	38.5	36.1	36.7	*****	40.7	*****	23.2	*****	35.5	42.9	52.7	28.9	34.1	40.8	*****	*****
45	*****	*****	*****	*****	*****	*****	*****	14.2	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
35	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
25	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
15	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
5	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−5	*****	*****	*****	*****	*****	56.8	51.8	57.6	54.3	*****	*****	*****	*****	70.9	53.0	*****	*****	*****
−15	51.2	57.1	55.5	58.0	*****	*****	*****	*****	*****	48.8	*****	49.4	*****	55.8	44.3	47.5	*****	37.9
−25	48.8	55.7	55.2	48.5	*****	52.9	*****	45.0	51.9	45.5	*****	46.1	44.1	*****	53.0	76.1	*****	59.2
−35	33.4	46.1	53.6	38.4	*****	53.3	52.0	*****	52.6	45.5	*****	50.8	31.6	38.2	32.8	39.2	*****	36.8
−45	41.8	48.4	40.0	45.7	*****	44.4	55.8	53.8	49.2	62.0	*****	44.3	48.7	48.7	46.7	47.7	*****	50.9
−55	50.9	60.2	57.2	40.9	44.6	56.5	51.7	52.8	*****	52.0	36.6	65.8	43.0	52.7	52.1	59.7	56.7	53.1
−65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****

TABLE XXI. Continued

(e) Sweep 5, sunrise

Latitude, deg	Optical depth, 10^{-4}, at longitude, deg, of -																	
	-170	-150	-130	-110	-90	-70	-50	-30	-10	10	30	50	70	90	110	130	150	170
	At 1.00 μm																	
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
55	11.7	12.2	12.1	12.2	12.7	13.0	12.3	12.3	12.9	12.8	12.0	12.2	11.4	11.3	13.1	13.8	13.3	12.2
45	*****	13.0	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
35	*****	*****	*****	*****	11.7	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
25	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
15	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
5	*****	*****	10.1	9.9	12.0	11.6	*****	12.4	9.2	10.6	12.0	12.6	*****	10.5	12.3	10.9	*****	*****
-5	11.6	11.4	11.6	*****	*****	11.0	10.9	11.4	11.7	*****	*****	*****	*****	*****	11.7	*****	11.0	11.8
-15	11.2	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-25	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-35	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-45	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-55	14.0	19.1	15.1	*****	15.7	16.5	13.1	17.2	*****	13.8	18.6	17.1	13.7	14.2	*****	*****	*****	18.4
-65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
	At 0.45 μm																	
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
55	37.3	36.0	34.7	35.4	33.7	34.7	35.1	36.7	38.8	39.1	35.1	31.5	33.0	38.8	47.5	44.1	39.4	32.4
45	*****	38.0	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
35	*****	*****	*****	*****	34.0	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
25	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
15	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
5	*****	*****	39.5	22.9	43.3	33.4	*****	33.6	22.1	39.6	44.9	41.2	*****	27.2	39.9	14.9	*****	*****
-5	25.1	29.1	41.0	*****	*****	37.6	36.3	38.7	36.6	*****	*****	*****	*****	*****	34.6	*****	30.5	26.4
-15	40.6	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-25	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-35	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-45	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-55	45.4	67.0	54.6	*****	48.1	61.7	39.2	58.9	*****	44.2	70.5	62.3	53.2	38.8	*****	*****	*****	61.0
-65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
-75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****

TABLE XXI. Continued

(f) Sweep 1, sunset

Latitude, deg	Optical depth, 10^{-4}, at longitude, deg, of -																	
	-170	-150	-130	-110	-90	-70	-50	-30	-10	10	30	50	70	90	110	130	150	170
	At 1.00 µm																	
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
55	16.5	15.6	15.7	12.9	13.1	12.7	12.2	16.7	17.6	20.8	14.7	16.3	16.2	16.7	18.3	18.8	17.9	15.0
45	19.4	16.1	18.0	17.7	12.4	15.2	15.2	13.7	15.4	15.6	15.1	15.8	16.1	19.8	15.1	17.2	21.4	16.9
35	*****	*****	*****	*****	17.2	*****	18.1	12.5	16.5	*****	16.0	*****	14.2	14.1	*****	*****	*****	*****
25	12.3	15.7	15.0	*****	*****	15.9	15.9	15.1	12.3	*****	*****	14.6	15.3	15.5	15.2	16.3	*****	14.8
15	11.9	15.1	15.4	12.3	11.3	11.2	11.9	11.3	15.3	*****	13.7	12.3	9.2	14.2	8.7	*****	9.8	14.5
5	*****	*****	*****	*****	*****	11.5	12.5	11.7	11.8	11.8	*****	*****	11.6	*****	*****	*****	*****	*****
- 5	*****	11.5	11.8	11.3	11.7	12.4	*****	11.9	12.3	13.3	12.3	28.0	*****	*****	12.5	12.6	12.5	12.6
-15	12.2	12.1	12.1	11.8	11.5	12.6	13.1	12.6	12.4	11.8	11.8	*****	13.6	12.3	12.7	11.4	13.8	11.9
-25	12.3	10.9	11.2	*****	10.9	10.9	9.4	10.7	10.1	11.2	8.9	10.1	9.9	11.3	9.5	11.5	9.8	10.1
-35	9.4	8.9	7.5	10.1	9.1	8.6	10.2	8.4	9.3	8.3	7.7	9.4	9.4	8.4	9.1	7.9	10.1	10.1
-45	12.9	8.7	11.0	8.7	8.2	8.6	12.2	9.6	11.2	11.5	9.2	8.6	6.8	11.0	8.0	8.5	9.8	11.2
-55	11.8	9.5	13.5	11.8	12.4	13.1	13.0	10.9	11.8	13.0	11.4	11.7	12.1	12.0	10.3	13.7	11.6	10.9
-65	12.1	12.9	12.3	12.2	15.1	14.8	12.7	13.1	14.1	14.6	13.9	14.5	15.5	12.8	15.2	14.3	10.3	10.3
-75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
	At 0.45 µm																	
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
55	*****	41.8	43.3	31.7	28.8	34.3	48.7	*****	55.3	*****	*****	*****	*****	39.6	*****	*****	*****	48.3
45	77.5	60.0	54.4	46.8	32.2	44.6	48.0	41.9	41.9	37.4	*****	40.6	44.0	*****	35.1	49.4	*****	62.6
35	*****	*****	*****	*****	73.1	*****	59.6	39.0	53.6	*****	56.0	*****	45.0	46.1	*****	*****	*****	*****
25	38.5	55.9	56.3	*****	*****	54.3	55.0	41.6	42.6	*****	*****	45.0	52.8	52.6	51.2	55.9	*****	51.5
15	47.7	54.4	42.3	51.8	44.3	40.3	43.1	38.7	64.8	*****	54.8	47.2	31.1	55.7	31.4	*****	39.9	56.0
5	*****	*****	*****	*****	*****	44.1	52.9	43.9	48.9	55.0	*****	*****	50.3	*****	*****	*****	*****	*****
- 5	*****	55.6	45.8	45.7	41.8	34.7	*****	41.5	44.8	57.1	46.1	51.4	*****	*****	47.7	41.7	48.2	24.3
-15	51.7	57.6	48.1	43.0	47.0	48.6	46.3	46.4	44.5	44.4	44.2	*****	60.1	37.0	45.7	44.8	49.2	39.5
-25	44.1	40.6	42.3	*****	20.7	37.5	29.7	47.7	39.0	42.4	47.3	38.5	36.4	48.0	33.1	42.6	41.7	39.2
-35	26.2	30.2	23.5	39.6	30.8	31.7	37.2	28.0	37.2	28.8	29.5	36.9	33.6	26.7	37.8	29.4	34.2	39.8
-45	51.6	31.7	55.4	33.6	31.2	24.6	48.5	36.0	41.9	44.6	39.3	31.9	25.7	38.4	30.8	34.1	36.6	42.5
-55	40.8	33.1	46.8	45.8	48.2	48.2	47.6	36.7	43.7	43.7	40.3	45.6	42.6	43.4	29.9	34.7	42.6	38.4
-65	40.5	42.5	38.3	43.3	55.7	54.1	36.2	42.4	42.1	51.3	46.6	*****	45.8	69.6	*****	54.0	32.8	32.8
-75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****

TABLE XXI. Continued

(g) Sweep 2, sunset

Latitude, deg	Optical depth, 10^{-4}, at longitude, deg, of -																	
	-170	-150	-130	-110	-90	-70	-50	-30	-10	10	30	50	70	90	110	130	150	170
	At 1.00 μm																	
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
55	18.5	16.6	16.7	18.9	20.2	17.9	14.0	13.6	15.7	16.0	17.6	17.6	17.2	17.8	16.0	17.6	19.2	18.1
45	15.3	16.0	21.1	19.4	18.2	17.5	18.1	15.4	16.6	18.0	17.5	15.5	15.4	17.9	17.7	18.3	17.2	19.4
35	15.1	13.5	13.7	18.6	17.3	13.3	15.9	15.2	16.0	16.8	15.1	13.9	15.4	13.9	15.2	19.2	16.9	15.5
25	13.5	13.7	15.0	12.2	14.5	11.2	11.5	15.3	13.3	14.9	12.4	10.3	13.4	14.9	14.3	13.4	13.5	12.4
15	12.0	10.6	10.0	9.3	10.8	11.2	10.7	12.5	9.7	11.6	11.2	10.7	13.8	17.9	10.7	10.9	11.9	13.0
5	*****	12.7	11.3	11.9	10.9	11.1	10.7	10.9	10.4	10.4	9.8	9.8	*****	9.7	11.1	10.6	10.9	10.7
− 5	12.3	12.1	11.8	11.8	15.6	*****	12.9	12.3	*****	11.6	12.1	12.8	23.1	12.6	11.4	10.6	11.9	12.7
−15	*****	11.2	11.2	11.5	12.0	*****	12.9	12.1	11.5	*****	*****	12.7	14.0	*****	*****	*****	13.9	*****
−25	12.3	11.3	10.9	10.7	*****	*****	12.6	11.5	10.0	11.1	12.2	10.7	12.0	11.6	10.3	16.1	11.4	11.8
−35	13.6	11.2	10.1	11.3	10.6	9.2	9.3	*****	13.2	10.3	8.7	13.0	11.6	9.9	10.0	10.8	14.3	11.4
−45	16.1	13.3	11.0	10.2	12.9	10.3	11.7	10.6	11.3	11.8	10.6	11.1	12.6	12.4	11.1	10.8	13.3	10.8
−55	11.7	12.0	12.6	12.4	11.9	12.6	12.0	13.7	12.9	12.7	12.9	13.0	13.2	13.7	13.3	13.2	12.7	12.6
−65	14.1	13.7	14.3	21.6	14.0	12.9	13.3	12.5	14.6	14.2	13.7	13.7	16.5	15.9	15.8	14.9	13.6	12.7
−75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
	At 0.45 μm																	
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
55	62.3	54.1	56.4	*****	*****	*****	43.3	43.3	*****	48.3	62.5	68.1	*****	*****	*****	*****	*****	55.3
45	49.9	49.3	*****	63.1	*****	*****	74.2	62.3	69.3	60.6	57.0	56.6	54.0	*****	*****	66.4	*****	*****
35	51.1	54.5	62.7	*****	66.6	41.0	54.5	54.5	63.6	70.2	57.6	50.3	51.6	52.5	53.4	83.4	58.4	49.8
25	52.7	61.4	63.4	44.6	68.5	41.3	41.8	58.4	57.7	63.1	41.6	36.4	46.2	55.2	50.5	43.6	52.3	38.3
15	51.7	43.1	40.6	31.7	46.0	34.1	44.5	52.1	27.0	43.5	46.0	39.9	62.8	74.5	41.2	39.9	43.4	51.7
5	*****	46.4	47.5	41.1	45.5	43.4	43.4	43.3	45.9	46.3	41.0	38.4	*****	41.7	39.2	48.2	45.0	30.0
− 5	37.9	44.9	50.4	37.2	56.9	*****	45.6	58.7	*****	52.7	49.8	47.2	75.8	37.9	41.8	47.0	40.6	48.6
−15	*****	53.2	40.5	48.0	50.9	*****	47.9	53.6	50.2	*****	*****	45.4	55.9	*****	*****	*****	42.8	*****
−25	37.3	45.1	38.7	44.1	*****	*****	52.6	47.0	35.2	38.4	49.1	39.8	49.4	46.1	34.2	67.8	35.4	42.2
−35	50.8	40.5	34.8	37.3	39.8	32.8	35.4	*****	43.5	33.7	32.9	46.0	40.7	37.8	37.2	41.8	48.4	48.8
−45	73.6	46.3	41.9	43.2	49.1	37.7	46.8	31.7	37.6	43.9	38.1	37.5	42.4	38.2	41.3	38.4	48.3	34.0
−55	37.0	40.0	40.0	37.4	35.3	44.3	48.2	39.4	45.5	39.3	39.5	40.0	38.5	42.7	39.6	37.0	40.0	35.5
−65	38.4	43.5	44.0	87.7	41.4	34.0	50.5	32.8	48.6	46.4	41.6	45.1	*****	*****	*****	46.6	39.2	33.7
−75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****

TABLE XXI. Continued

(h) Sweep 3, sunset

Latitude, deg	Optical depth, 10^{-4}, at longitude, deg, of -																	
	-170	-150	-130	-110	-90	-70	-50	-30	-10	10	30	50	70	90	110	130	150	170
									At 1.00 μm									
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
55	14.0	14.7	14.6	12.9	16.9	18.2	18.4	17.0	14.6	14.1	13.3	14.3	16.4	16.2	15.9	13.9	15.2	15.8
45	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
35	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
25	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
15	*****	*****	*****	*****	*****	*****	11.7	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
5	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−5	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	13.1	*****	*****	*****	*****	*****	*****
−15	14.4	13.5	13.7	*****	12.0	12.1	12.6	12.0	18.9	*****	*****	*****	17.7	12.0	13.0	*****	13.6	27.5
−25	12.7	11.5	11.6	*****	10.7	11.8	11.4	11.1	10.3	*****	11.7	10.5	11.4	*****	14.9	*****	*****	11.0
−35	10.5	11.0	11.9	*****	12.1	11.7	12.5	9.1	8.5	*****	10.4	7.8	7.9	9.7	9.8	*****	11.2	12.0
−45	9.9	12.5	13.6	14.2	12.8	10.7	12.2	12.6	10.4	13.2	14.0	13.3	11.5	12.8	14.3	13.3	14.3	14.0
−55	13.0	13.2	12.4	13.5	15.4	13.2	13.3	15.0	12.5	13.7	14.1	15.2	13.5	12.7	13.1	11.8	13.7	13.5
−65	13.8	14.2	13.2	14.6	14.8	16.2	13.8	14.3	16.4	15.1	14.1	14.9	13.2	13.5	13.6	14.2	11.6	13.1
−75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
									At 0.45 μm									
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
55	64.7	51.8	50.6	45.3	77.5	85.0	85.7	82.0	46.1	50.7	47.1	55.0	62.8	58.3	59.7	50.1	69.2	65.8
45	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
35	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
25	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
15	*****	*****	*****	*****	*****	*****	61.8	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
5	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−5	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	45.3	*****	*****	*****	*****	*****	*****
−15	59.9	64.9	69.6	*****	50.0	62.8	59.3	44.9	85.4	*****	*****	*****	85.8	44.9	58.8	*****	43.5	119.4
−25	61.7	39.0	45.5	*****	40.2	50.9	38.4	48.2	40.8	*****	34.7	43.1	53.9	*****	95.7	*****	*****	47.9
−35	40.3	42.8	40.9	*****	48.4	48.3	52.2	37.2	33.8	*****	38.1	30.1	32.2	40.5	39.2	*****	36.5	49.8
−45	33.4	45.0	58.2	50.1	43.2	38.7	47.7	48.3	37.7	50.2	47.4	46.7	40.6	44.3	54.3	45.5	54.3	50.2
−55	32.8	48.9	33.2	46.7	36.4	44.0	43.9	49.8	32.3	45.3	49.0	55.3	41.5	35.2	37.9	38.7	50.8	49.3
−65	38.1	37.1	40.3	43.3	47.6	56.7	39.7	40.9	53.6	46.8	47.6	43.1	32.4	41.2	40.8	47.2	35.7	39.4
−75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****

TABLE XXI. Continued

(i) Sweep 4, sunset

Latitude, deg	Optical depth, 10^{-4}, at longitude, deg, of -																	
	-170	-150	-130	-110	-90	-70	-50	-30	-10	10	30	50	70	90	110	130	150	170
	At 1.00 μm																	
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
55	14.7	15.0	16.0	16.8	15.3	16.5	16.1	15.0	14.1	12.8	13.8	15.9	15.8	15.4	16.7	17.1	16.2	14.5
45	14.7	17.5	16.0	20.6	16.5	14.9	14.3	13.8	16.5	13.6	13.0	16.5	17.2	13.6	14.3	16.0	16.3	14.3
35	15.0	14.9	13.3	*****	22.3	9.3	11.3	14.5	13.8	13.8	13.2	12.4	15.5	13.2	12.3	12.9	16.9	14.1
25	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
15	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
5	*****	*****	*****	*****	*****	*****	*****	*****	12.0	9.8	12.9	*****	*****	*****	*****	*****	*****	*****
−5	*****	*****	*****	*****	*****	*****	12.6	11.8	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−15	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−25	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−35	11.7	11.1	10.2	11.4	13.0	12.8	*****	13.1	10.2	8.8	10.3	9.7	9.5	10.0	10.4	11.4	9.6	11.1
−45	14.2	14.6	13.1	*****	*****	*****	14.1	15.8	17.2	12.7	18.8	*****	17.9	16.4	13.9	16.9	16.1	*****
−55	16.4	14.8	17.4	13.3	15.6	16.7	15.4	16.2	15.7	16.8	15.5	16.1	20.1	16.4	15.9	17.7	15.2	17.0
−65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
	At 0.45 μm																	
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
55	59.4	60.5	62.2	62.4	64.4	67.0	66.0	62.3	51.9	50.8	48.2	56.9	67.0	65.6	*****	65.4	*****	56.8
45	54.6	81.2	74.9	102.2	74.4	59.6	59.3	56.6	80.5	59.9	52.8	72.4	72.2	53.8	64.6	67.5	68.7	56.9
35	66.7	75.7	58.5	*****	159.1	39.5	47.0	75.7	55.7	72.6	49.4	55.7	70.1	47.7	47.8	54.4	90.2	56.0
25	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
15	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
5	*****	*****	*****	*****	*****	*****	*****	*****	51.8	41.2	42.7	*****	*****	*****	*****	*****	*****	*****
−5	*****	*****	*****	*****	*****	*****	49.3	41.8	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−15	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−25	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−35	36.4	29.0	36.1	42.3	49.0	46.0	*****	53.0	38.2	32.8	39.7	36.2	36.3	39.4	39.1	44.8	36.2	42.2
−45	43.4	40.9	39.8	*****	*****	*****	45.7	51.2	59.4	43.5	67.9	*****	63.8	61.5	40.9	52.6	52.3	*****
−55	51.9	41.7	59.0	36.6	42.3	52.6	46.9	53.5	46.4	54.6	51.3	52.2	72.2	48.4	55.0	62.1	45.6	56.1
−65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****

TABLE XXI. Continued

(j) Sweep 5, sunset

Latitude, deg	Optical depth, 10^{-4}, at longitude, deg, of -																	
	-170	-150	-130	-110	-90	-70	-50	-30	-10	10	30	50	70	90	110	130	150	170
									At 1.00 μm									
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	11.3	*****	12.2	*****	12.3	11.7	11.5	12.0	11.8	12.6	12.0	11.4	11.8	11.6	11.5	11.8	10.9	11.3
55	10.2	9.9	11.5	12.1	*****	36.9	10.5	121.1	*****	47.2	31.3	*****	*****	*****	10.5	11.7	10.0	*****
45	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
35	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
25	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
15	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
5	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−5	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−15	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−25	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−35	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−45	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−55	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
									At 0.45 μm									
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	32.4	*****	33.6	*****	33.7	33.6	35.4	37.4	37.3	36.8	30.4	28.9	32.2	36.4	41.0	30.5	29.3	30.3
55	27.9	28.0	32.1	30.2	*****	309.3	23.8	401.4	*****	314.8	273.5	*****	*****	*****	10.5	32.4	22.1	*****
45	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
35	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
25	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
15	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
5	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−5	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−15	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−25	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−35	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−45	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−55	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****

TABLE XXI. Continued

(k) Sweep 6, sunset

Latitude, deg	Optical depth, 10^{-4}, at longitude, deg, of -																	
	-170	-150	-130	-110	-90	-70	-50	-30	-10	10	30	50	70	90	110	130	150	170
									At 1.00 μm									
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	12.5	11.7	11.6	12.8	14.0	13.1	12.4	12.5	12.4	12.6	13.0	12.4	12.5	11.7	11.6	12.1	12.2	12.2
55	13.1	12.5	12.0	12.5	13.7	13.2	13.8	14.1	14.1	12.5	12.0	13.2	12.2	11.2	12.8	13.5	12.7	13.1
45	14.4	12.8	12.7	11.9	12.6	14.4	15.0	12.2	13.7	14.5	11.4	14.1	14.6	13.0	13.2	15.6	13.3	13.0
35	13.1	12.7	12.4	13.3	12.7	*****	10.9	10.7	*****	11.9	12.6	11.2	11.1	*****	*****	*****	10.0	11.2
25	9.7	12.3	10.8	9.6	*****	10.3	11.9	11.1	10.2	11.1	9.7	8.6	11.3	9.6	8.4	8.8	11.0	11.3
15	*****	11.2	9.8	9.9	11.7	12.5	11.0	9.8	9.7	10.5	9.8	9.7	*****	12.0	8.7	9.6	10.1	*****
5	11.6	11.8	10.7	11.7	12.8	13.5	*****	*****	*****	*****	11.7	11.6	11.6	12.1	13.4	*****	12.7	12.2
- 5	11.2	11.0	10.9	10.7	12.0	12.4	12.4	11.7	12.3	11.7	12.4	11.8	11.5	*****	11.7	12.8	*****	12.1
-15	10.5	11.0	11.5	11.2	12.0	*****	13.0	12.1	11.4	11.9	11.6	12.7	13.2	11.7	12.9	12.5	12.0	12.1
-25	10.8	*****	10.6	11.3	10.9	11.7	12.9	13.3	12.6	12.2	12.6	12.0	*****	*****	*****	*****	12.9	11.4
-35	13.4	13.2	*****	12.7	13.4	16.0	13.0	12.7	*****	14.2	11.3	10.8	10.8	16.8	*****	13.3	12.7	14.6
-45	16.0	14.8	19.2	*****	15.5	14.1	18.6	14.8	15.8	13.0	16.3	15.8	15.8	12.4	*****	*****	*****	12.9
-55	15.6	15.6	18.3	19.8	16.8	16.3	17.6	19.1	21.1	21.1	19.4	22.5	15.4	16.8	18.6	18.1	19.0	17.3
-65	18.3	18.8	19.2	19.6	20.1	18.2	17.3	16.9	19.5	18.3	19.6	19.6	18.4	18.4	20.8	19.7	19.4	19.4
-75	14.0	14.9	23.4	23.2	*****	*****	23.3	18.2	19.3	20.0	*****	22.5	18.8	*****	19.1	23.3	*****	20.3
									At 0.45 μm									
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	39.9	37.1	33.8	40.6	53.1	40.0	40.2	44.0	37.9	38.7	46.9	36.1	34.9	32.2	39.0	40.6	39.1	36.9
55	41.0	36.3	37.6	42.1	48.6	43.3	40.8	43.4	44.6	34.2	36.0	39.1	34.0	26.5	40.0	42.6	38.4	41.0
45	50.9	45.5	37.4	37.8	44.2	46.0	52.4	44.7	51.6	49.4	38.6	41.4	45.5	40.5	45.9	66.2	46.5	42.8
35	51.7	45.8	48.8	50.3	48.4	*****	32.5	43.1	*****	41.3	45.4	36.3	45.3	*****	*****	*****	34.6	41.2
25	31.7	54.5	38.5	35.4	*****	21.4	40.5	45.0	41.0	48.6	41.7	32.7	45.2	26.1	31.6	23.1	46.3	40.4
15	*****	43.4	37.7	40.3	44.1	49.5	42.3	37.5	37.0	43.5	37.6	35.6	*****	46.8	34.5	35.1	35.1	*****
5	47.0	45.1	45.2	45.9	29.1	46.3	*****	*****	*****	*****	49.8	49.2	39.0	55.8	45.0	*****	33.7	39.6
- 5	41.9	43.3	38.6	37.9	41.4	42.9	46.3	42.4	42.3	45.5	46.7	48.2	42.1	*****	40.7	43.4	*****	54.6
-15	36.2	42.5	44.9	40.7	53.3	*****	50.5	47.2	42.3	42.3	44.5	51.1	47.1	45.1	44.9	44.5	37.1	40.9
-25	37.4	*****	40.7	43.8	43.0	46.1	47.6	52.2	44.8	51.5	51.0	50.9	*****	*****	*****	*****	47.9	45.2
-35	57.1	54.2	*****	53.5	66.3	79.4	50.6	51.7	*****	55.1	45.3	48.3	41.0	64.5	*****	65.8	54.2	52.7
-45	54.3	51.9	74.6	*****	51.4	59.9	69.8	50.8	63.8	43.8	42.0	60.5	70.7	48.8	*****	*****	*****	48.0
-55	47.6	56.9	59.1	74.8	57.4	87.9	69.2	81.6	77.5	94.9	68.6	70.1	57.6	64.8	74.5	59.4	73.3	59.1
-65	68.8	72.2	82.8	*****	*****	73.6	75.2	73.2	78.5	74.2	89.5	*****	81.9	*****	*****	78.6	77.5	*****
-75	45.3	57.2	121.5	99.9	*****	*****	95.1	61.9	71.2	102.3	*****	115.4	71.4	*****	87.6	*****	*****	81.3

TABLE XXI. Continued

(l) Sweep 7, sunset

Latitude, deg	Optical depth, 10^{-4}, at longitude, deg, of -																	
	-170	-150	-130	-110	-90	-70	-50	-30	-10	10	30	50	70	90	110	130	150	170
	At 1.00 μm																	
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
55	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
45	17.0	16.9	15.4	13.9	14.7	14.9	16.2	15.2	13.4	14.7	14.9	13.6	12.9	14.7	17.0	17.0	15.5	16.8
35	14.3	14.8	12.1	10.9	17.2	15.9	11.6	*****	15.7	14.5	*****	13.0	13.2	43.5	13.4	15.4	14.3	12.4
25	10.1	9.1	10.2	13.2	16.7	*****	10.4	10.0	15.1	12.2	15.3	*****	*****	*****	*****	*****	7.5	11.6
15	10.0	10.9	*****	10.7	11.2	11.2	11.8	12.1	9.9	11.1	11.3	10.5	10.3	*****	*****	*****	*****	*****
5	*****	11.7	12.2	11.6	12.8	11.7	12.4	*****	12.6	11.7	*****	10.7	11.5	*****	11.4	12.0	12.8	14.8
-5	*****	*****	*****	11.2	10.4	11.1	*****	11.2	11.3	11.1	10.9	*****	10.7	9.8	11.5	12.3	12.1	*****
-15	11.4	10.4	10.5	*****	*****	13.5	10.2	10.9	10.8	11.0	*****	11.2	10.9	11.1	12.0	12.0	11.7	15.6
-25	25.3	10.5	11.7	11.2	10.0	10.2	11.9	10.2	8.9	*****	11.0	8.7	8.2	10.2	11.5	9.1	24.3	10.6
-35	11.5	10.8	*****	11.7	10.1	12.8	9.5	8.4	*****	11.0	8.6	9.4	14.8	8.3	9.5	*****	*****	12.5
-45	10.8	14.6	15.6	16.7	16.8	16.0	9.0	11.9	15.1	17.4	15.9	17.6	*****	18.0	16.4	15.7	13.1	13.4
-55	19.8	16.9	18.7	17.4	16.0	17.2	14.4	13.6	16.2	18.7	19.9	*****	21.8	17.4	18.8	21.9	*****	14.1
-65	18.9	*****	18.3	20.3	*****	68.1	*****	26.9	20.5	19.4	21.1	14.1	*****	*****	18.4	20.3	18.3	21.8
-75	*****	*****	*****	24.4	27.0	24.2	*****	39.9	18.1	18.0	17.8	17.6	18.6	20.3	*****	16.3	*****	*****
	At 0.45 μm																	
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
55	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
45	65.1	66.5	57.4	45.3	53.8	*****	60.2	66.9	62.0	56.9	58.1	35.1	58.6	52.4	64.3	65.6	53.0	62.5
35	54.5	57.1	48.2	43.6	*****	64.1	42.1	*****	62.2	52.5	*****	50.5	43.4	58.4	60.2	58.0	57.7	49.7
25	37.7	42.1	49.5	62.1	65.2	*****	45.7	31.7	61.6	52.4	61.9	*****	*****	*****	*****	*****	30.2	46.7
15	29.1	49.2	*****	42.4	46.6	39.3	53.7	62.5	39.5	51.5	46.6	42.5	39.4	*****	*****	*****	*****	*****
5	*****	51.0	42.4	45.0	62.0	55.8	47.6	*****	53.7	43.2	*****	44.2	46.1	*****	51.8	49.0	43.5	41.7
-5	*****	*****	*****	43.9	42.0	40.1	*****	41.8	50.2	30.4	53.1	*****	46.7	27.1	45.6	46.3	44.1	*****
-15	46.2	41.9	39.3	*****	*****	50.9	35.2	47.7	43.4	45.3	*****	43.6	42.2	42.1	41.6	42.2	37.0	61.8
-25	77.4	41.8	50.7	40.7	36.3	33.6	44.6	40.9	35.1	*****	41.2	34.0	34.9	41.5	43.6	32.3	84.2	26.2
-35	38.2	47.5	*****	50.2	41.4	59.2	37.8	38.1	*****	46.6	31.9	37.8	65.8	32.4	43.1	*****	*****	47.5
-45	42.4	59.9	60.5	73.3	87.4	71.8	34.4	47.9	69.6	80.8	60.0	75.1	*****	77.3	68.5	65.2	50.5	63.1
-55	80.5	60.9	75.0	68.5	69.3	72.5	59.2	53.8	62.9	74.0	82.8	*****	92.4	66.1	93.7	97.3	*****	55.7
-65	75.7	*****	102.7	99.7	*****	170.0	*****	159.8	95.0	85.0	99.3	54.5	*****	*****	64.5	77.3	59.4	101.5
-75	*****	*****	*****	88.3	89.7	95.9	*****	150.0	69.2	70.7	74.3	79.5	77.1	89.9	*****	69.4	*****	*****

TABLE XXI. Continued

(m) Sweep 8, sunset

Latitude, deg	Optical depth, 10^{-4}, at longitude, deg, of -																	
	-170	-150	-130	-110	-90	-70	-50	-30	-10	10	30	50	70	90	110	130	150	170
	At 1.00 μm																	
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
55	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
45	14.9	16.9	15.8	13.2	17.6	12.8	14.1	13.6	15.8	14.4	18.8	17.3	15.3	13.5	15.9	15.7	18.5	16.6
35	13.6	*****	11.3	16.5	13.2	15.2	11.9	12.0	11.9	14.3	13.2	13.2	12.8	13.5	10.8	14.1	17.8	13.8
25	*****	*****	11.8	*****	*****	10.6	11.9	12.7	*****	11.6	13.4	11.4	11.9	14.1	*****	*****	*****	*****
15	*****	*****	*****	*****	*****	*****	*****	*****	12.9	*****	11.2	12.0	12.0	12.1	10.9	*****	*****	*****
5	*****	*****	*****	*****	*****	11.4	11.7	11.2	11.0	*****	*****	*****	*****	*****	13.8	*****	26.8	*****
− 5	10.9	10.2	11.4	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	11.6	11.3	*****	10.1	12.2
−15	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−25	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−35	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−45	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−55	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−75	9.5	*****	*****	*****	*****	*****	*****	*****	13.0	9.3	*****	11.4	17.0	14.6	13.4	*****	10.0	10.9
	At 0.45 μm																	
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
55	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
45	53.9	58.4	57.3	40.9	59.8	33.3	49.2	38.2	58.8	50.4	72.5	59.1	61.2	45.0	48.9	55.2	67.3	73.7
35	44.8	*****	41.4	63.8	40.6	58.7	41.5	48.1	44.9	54.5	41.8	48.0	45.9	52.3	38.8	53.7	72.0	56.7
25	*****	*****	47.3	*****	*****	33.3	50.3	63.5	*****	49.1	50.9	47.5	48.1	58.5	*****	*****	*****	*****
15	*****	*****	*****	*****	*****	*****	*****	*****	52.5	*****	43.5	48.3	48.0	48.0	48.9	*****	*****	*****
5	*****	*****	*****	*****	*****	46.0	32.7	44.1	44.6	*****	*****	*****	*****	*****	52.8	*****	101.6	*****
− 5	45.7	35.4	41.4	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	42.2	37.4	*****	35.9	38.6
−15	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−25	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−35	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−45	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−55	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
−75	18.6	*****	*****	*****	*****	*****	*****	*****	*****	21.9	*****	29.9	49.2	41.3	36.0	*****	24.5	21.9

TABLE XXI. Concluded

(n) Sweep 9, sunset

Latitude, deg	Optical depth, 10^{-4}, at longitude, deg, of -																	
	-170	-150	-130	-110	-90	-70	-50	-30	-10	10	30	50	70	90	110	130	150	170
									At 1.00 μm									
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
55	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
45	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
35	22.1	19.7	18.1	17.4	18.2	19.8	21.2	21.3	17.3	21.2	19.2	19.8	19.1	19.2	18.6	20.6	20.6	20.7
25	15.1	16.6	16.0	22.9	16.2	19.9	17.0	15.2	17.9	17.0	14.3	16.8	17.4	18.2	16.5	21.4	13.8	17.9
15	17.2	15.1	16.3	30.5	19.4	14.6	*****	15.8	19.4	23.4	18.3	16.7	*****	18.1	20.3	15.5	11.6	15.4
5	15.6	18.4	12.6	28.7	*****	11.4	14.9	23.3	20.1	15.1	11.4	10.7	*****	12.0	10.6	*****	*****	*****
-5	12.9	25.9	35.9	11.7	11.6	13.4	12.2	*****	9.3	10.9	10.7	16.1	10.8	13.2	9.9	13.5	13.3	13.8
-15	14.6	10.6	38.5	13.3	42.6	9.6	*****	10.6	9.7	8.4	9.7	11.5	10.5	10.8	21.3	17.8	18.3	*****
-25	11.0	9.2	*****	9.5	21.9	13.1	14.0	11.7	10.6	12.8	11.7	10.1	11.4	10.9	11.0	9.7	*****	14.6
-35	11.9	12.0	10.5	10.0	15.5	9.4	11.3	10.6	12.2	10.0	13.0	10.6	12.7	9.7	8.9	8.1	9.7	20.8
-45	11.3	12.9	11.4	13.9	12.3	13.7	10.2	10.7	11.2	13.1	12.0	13.0	11.3	10.2	12.6	13.3	11.9	*****
-55	12.6	12.0	13.0	12.9	13.9	14.5	13.3	15.0	14.0	12.8	14.1	12.8	13.5	15.0	13.2	12.8	*****	13.6
-65	22.4	15.7	15.9	12.0	13.1	15.1	13.7	12.3	12.2	16.0	14.2	16.2	15.2	13.6	14.7	17.2	15.0	14.9
-75	10.1	18.7	10.5	13.8	13.6	13.5	13.6	10.5	11.9	12.5	12.4	14.7	14.1	14.8	14.4	14.7	14.1	13.2
									At 0.45 μm									
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
55	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
45	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
35	74.3	57.1	46.1	52.5	60.5	69.2	*****	76.1	49.2	69.7	62.4	66.1	58.3	67.2	59.3	72.9	72.7	69.2
25	51.0	71.0	50.8	108.8	63.0	79.1	53.7	48.8	61.0	54.0	48.5	62.4	59.1	72.2	53.9	90.2	41.0	69.3
15	81.7	79.0	77.8	153.1	40.2	51.5	*****	68.0	108.3	127.9	85.2	70.1	*****	98.3	103.3	76.6	41.7	57.3
5	79.7	78.5	44.5	144.6	*****	40.2	45.5	108.0	101.3	38.1	24.3	41.2	*****	45.0	40.6	*****	*****	*****
-5	35.0	131.2	161.2	46.9	44.9	55.9	49.7	*****	36.5	37.4	39.3	51.6	31.8	47.5	48.3	59.3	31.5	39.5
-15	47.3	25.8	185.0	70.0	92.3	28.6	*****	57.4	45.9	15.3	15.8	46.4	37.8	44.6	68.7	86.4	61.2	*****
-25	31.3	30.0	*****	50.5	127.2	55.7	88.1	56.6	60.7	24.9	29.1	27.8	55.1	37.6	40.0	37.0	*****	44.0
-35	55.6	50.9	42.8	18.7	68.1	32.2	51.7	70.6	62.4	43.3	64.6	52.9	59.1	50.1	39.0	29.3	38.4	96.5
-45	48.1	45.6	50.4	54.4	50.9	66.2	30.7	45.4	30.4	102.2	80.7	60.0	38.9	39.6	49.1	45.5	47.8	*****
-55	44.8	35.1	46.5	47.9	49.9	43.3	56.4	58.5	48.5	47.8	54.6	44.3	38.0	54.3	46.2	43.5	*****	50.8
-65	108.8	56.1	57.6	40.2	42.5	51.0	44.6	42.0	39.2	66.8	47.1	57.5	49.5	43.2	*****	*****	*****	50.2
-75	24.7	110.5	29.1	39.5	35.8	36.9	39.0	*****	35.6	35.4	32.2	43.0	42.0	45.1	*****	43.0	*****	38.9

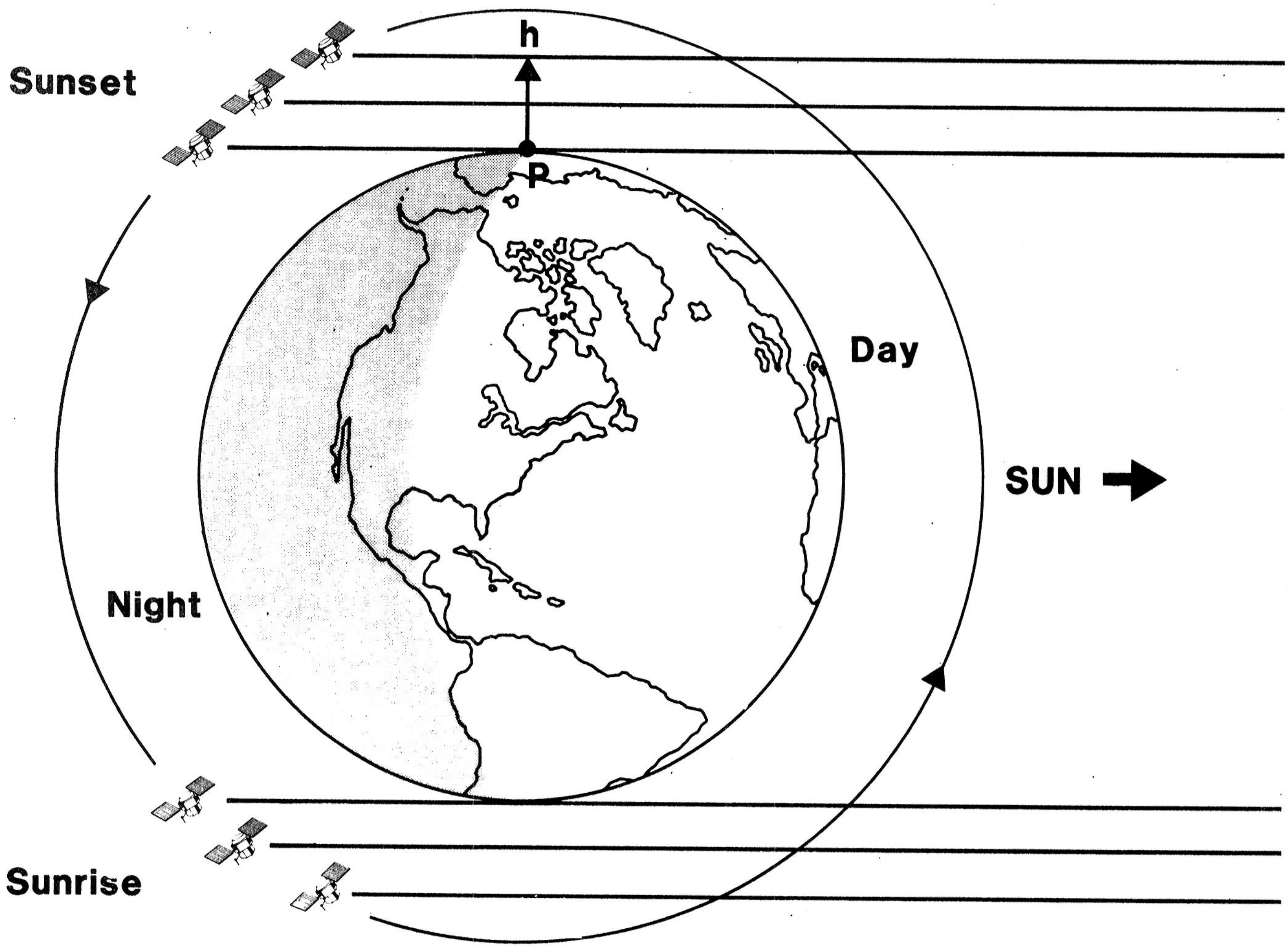


Figure 1. Viewing geometry of the SAGE satellite system during a sunset and a sunrise. The tangent height h is located at point P at the surface.

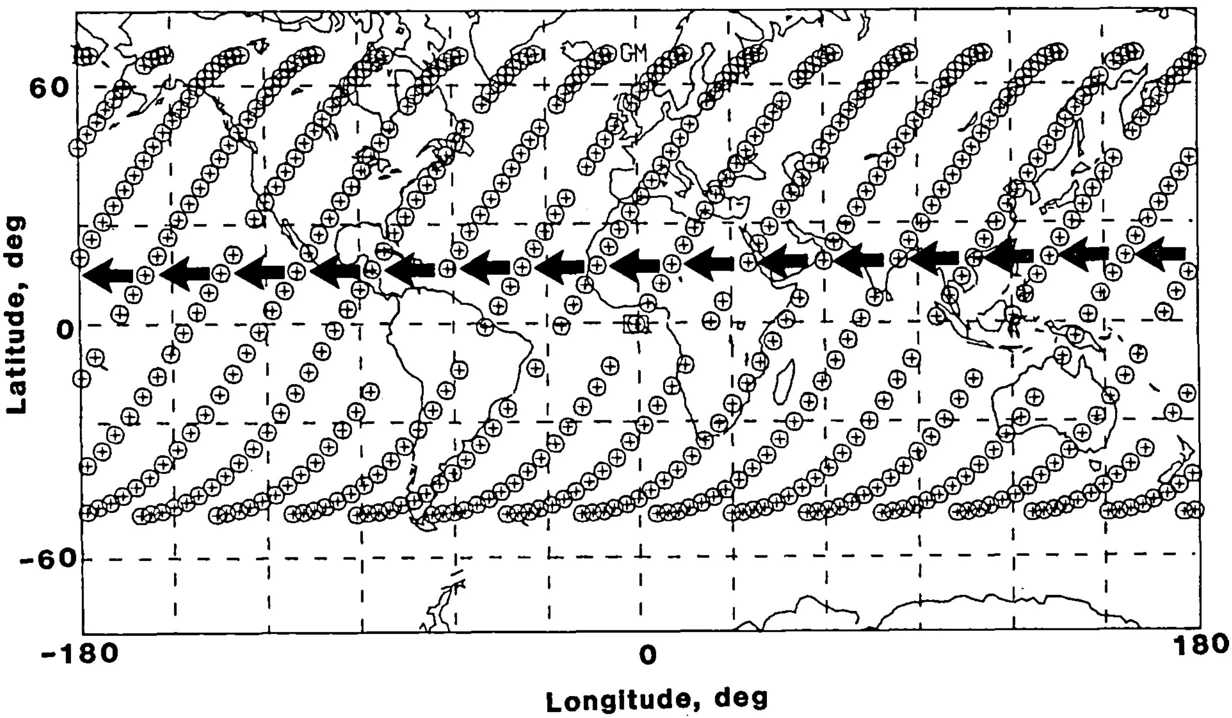


Figure 2. Example of a set of satellite sunset tangent height locations for March–April 1979. Arrows show direction of successive measurements.

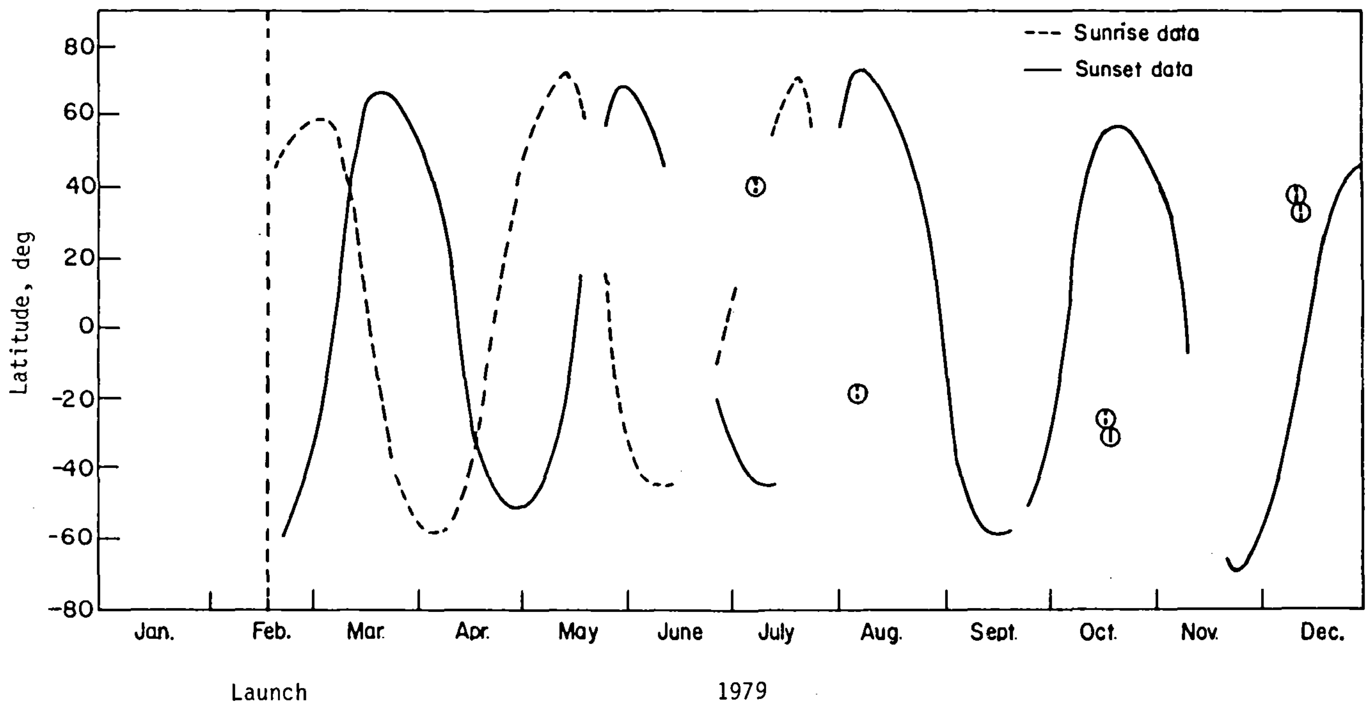


Figure 3. Latitudinal coverage of SAGE tangent locations for 1979. Solid lines represent sunset measurements, and dashed lines represent sunrise measurements.

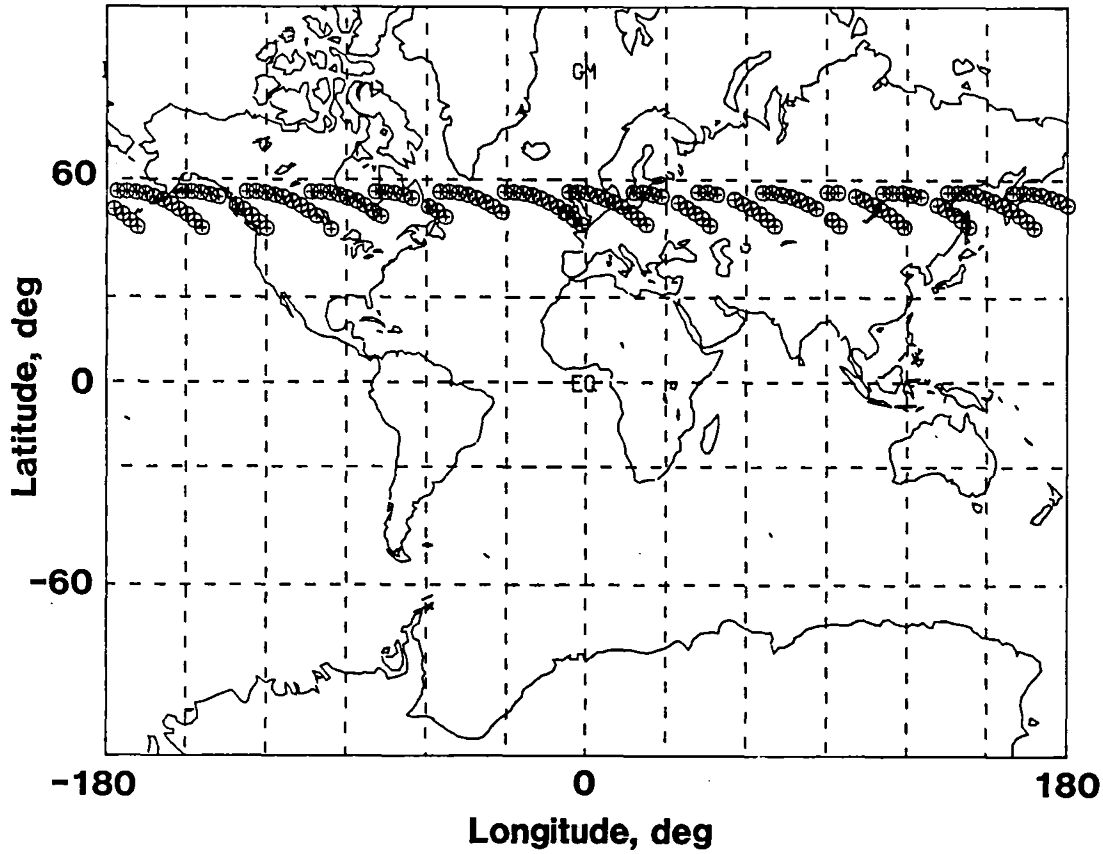


Figure 4. Map of measurement locations for sweep 1, sunrise events, February 21–March 3, 1979.

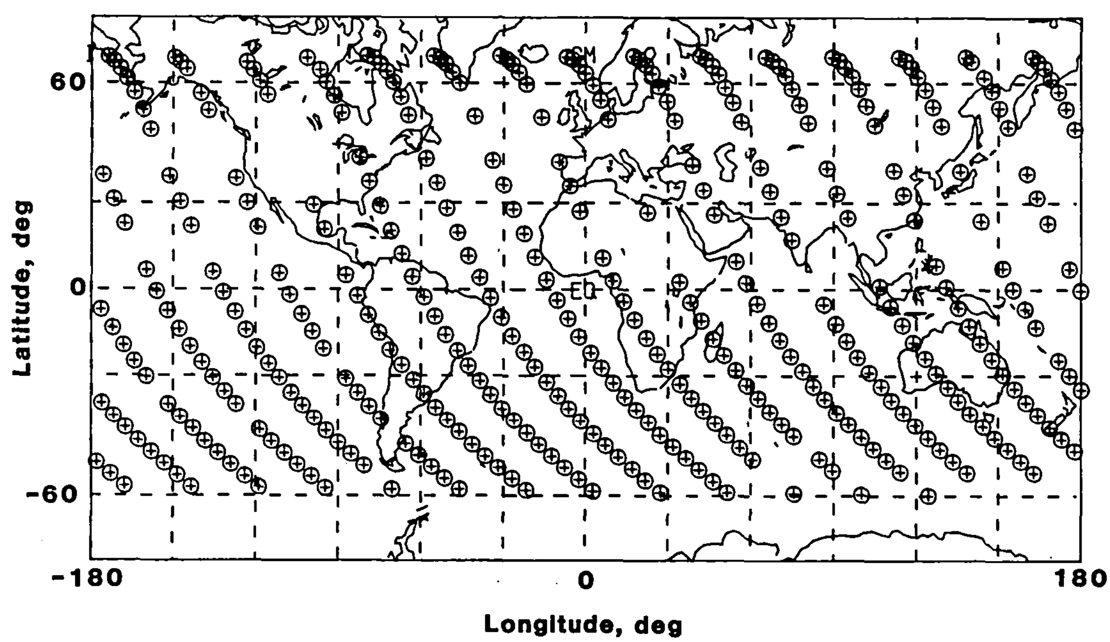


Figure 5. Map of measurement locations for sweep 1, sunset events, February 21–March 21, 1979.

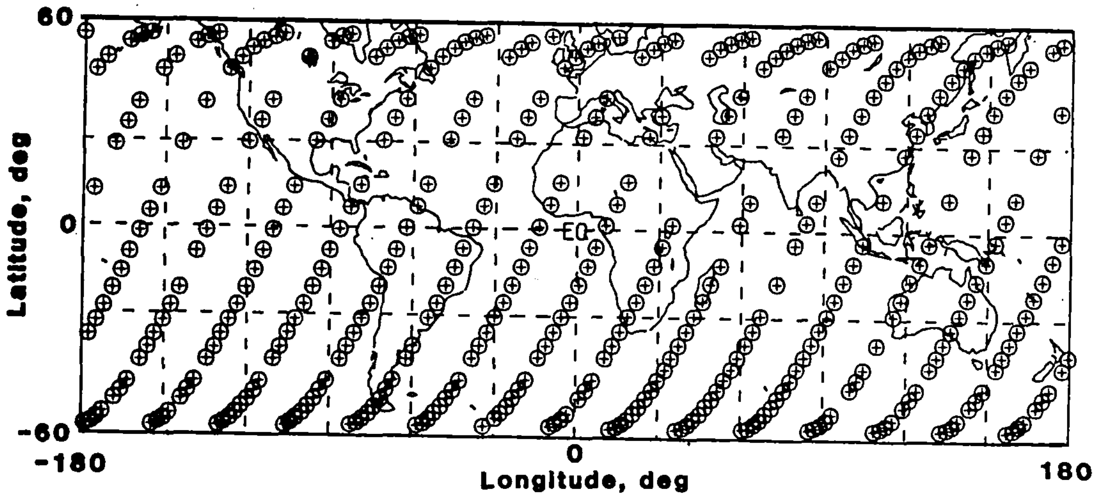


Figure 6. Map of measurement locations for sweep 2, sunrise events, March 4–April 5, 1979.

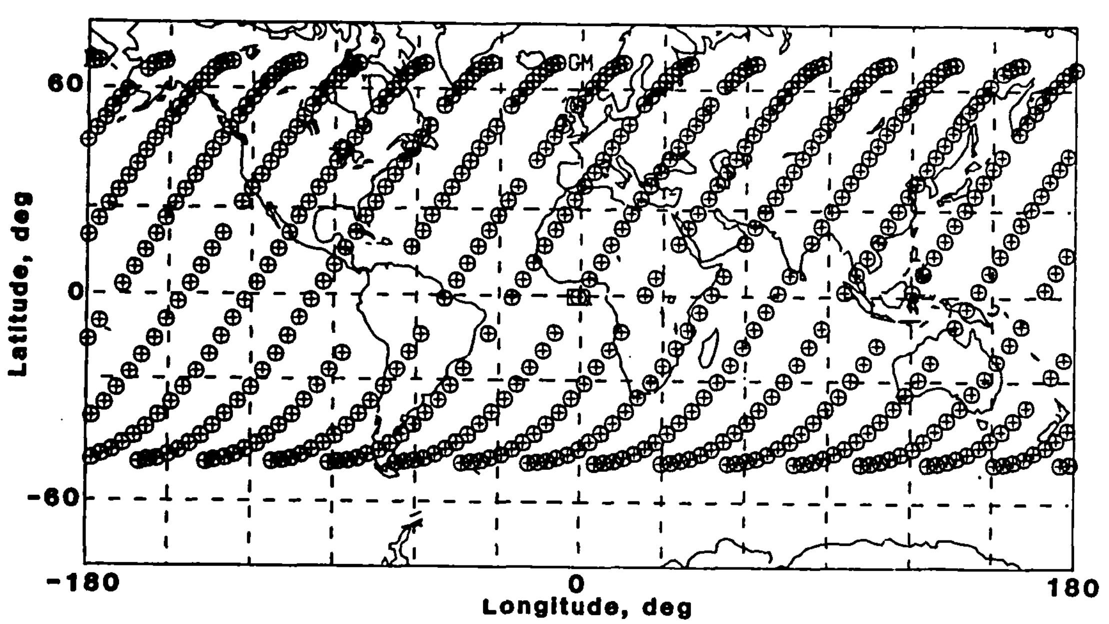


Figure 7. Map of measurement locations for sweep 2, sunset events, March 22–April 28, 1979.

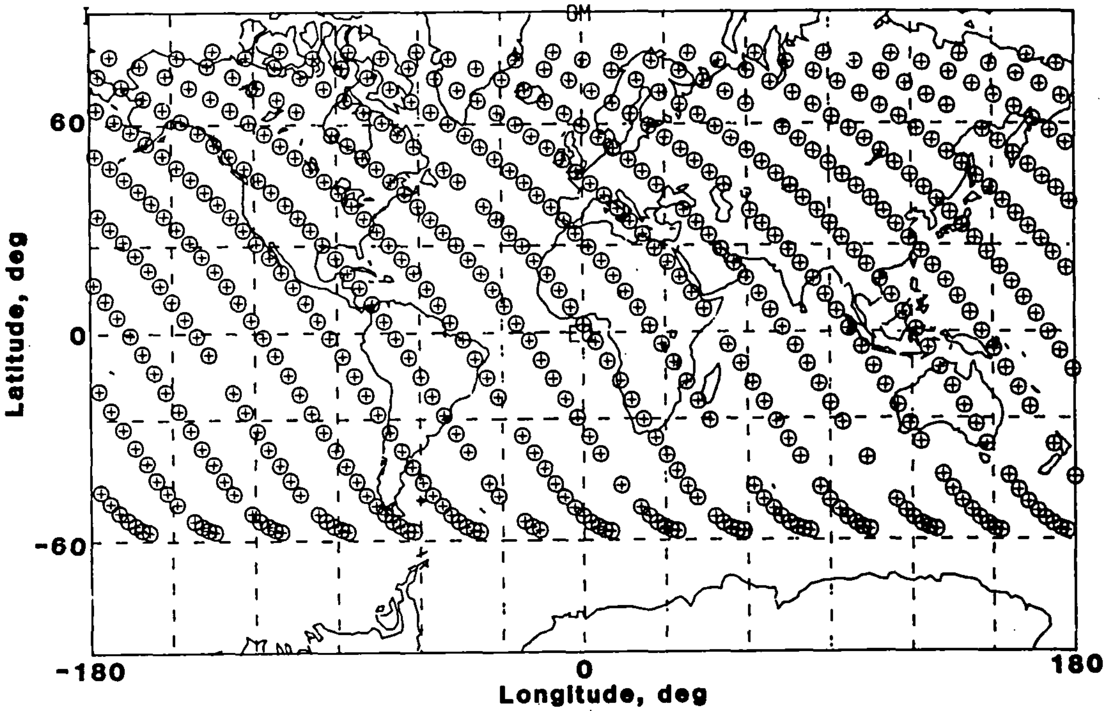


Figure 8. Map of measurement locations for sweep 3, sunrise events, April 6–March 14, 1979.

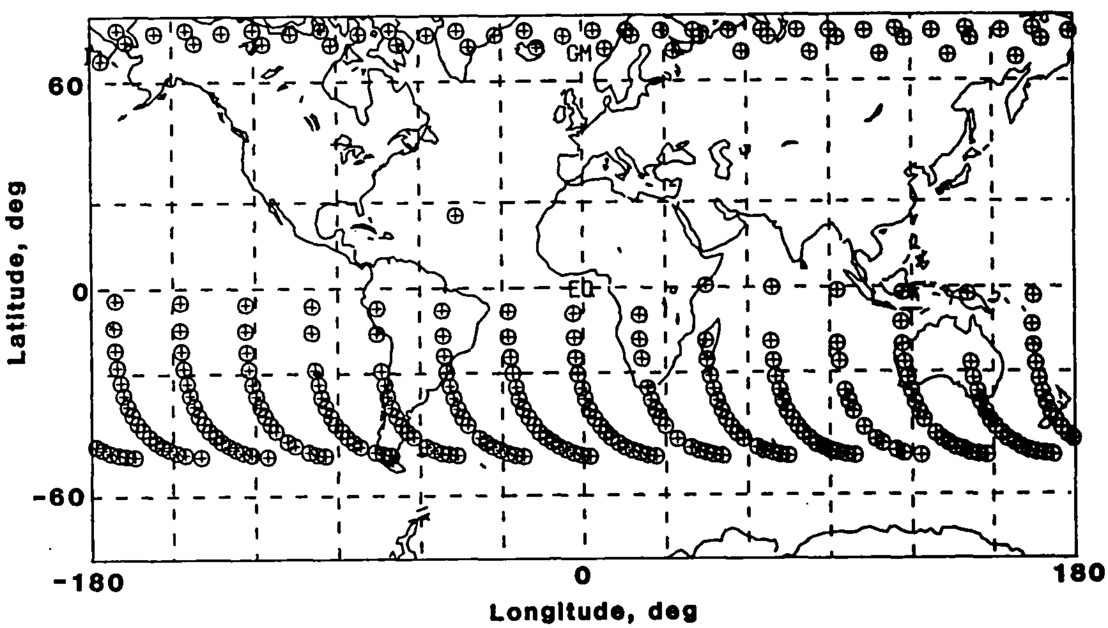


Figure 9. Map of measurement locations for sweep 3, sunset events, April 29–May 30, 1979.

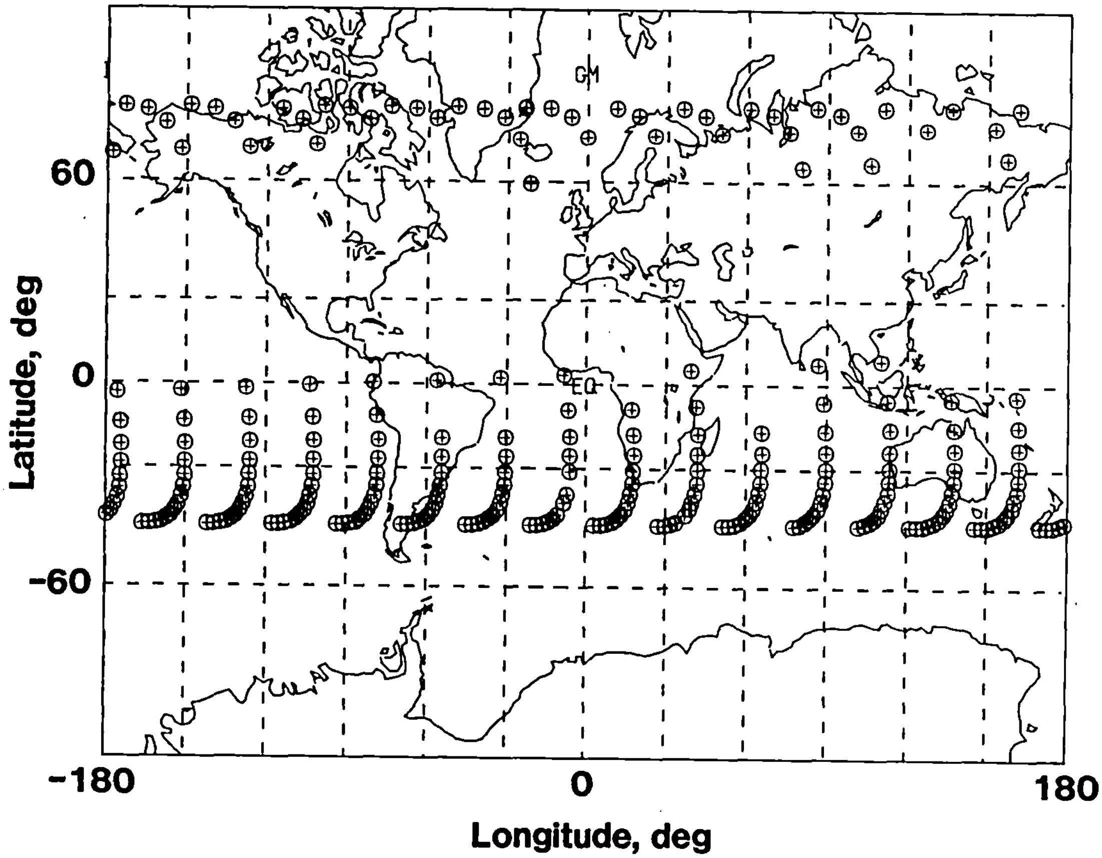


Figure 10. Map of measurement locations for sweep 4, sunrise events, May 15–June 10, 1979.

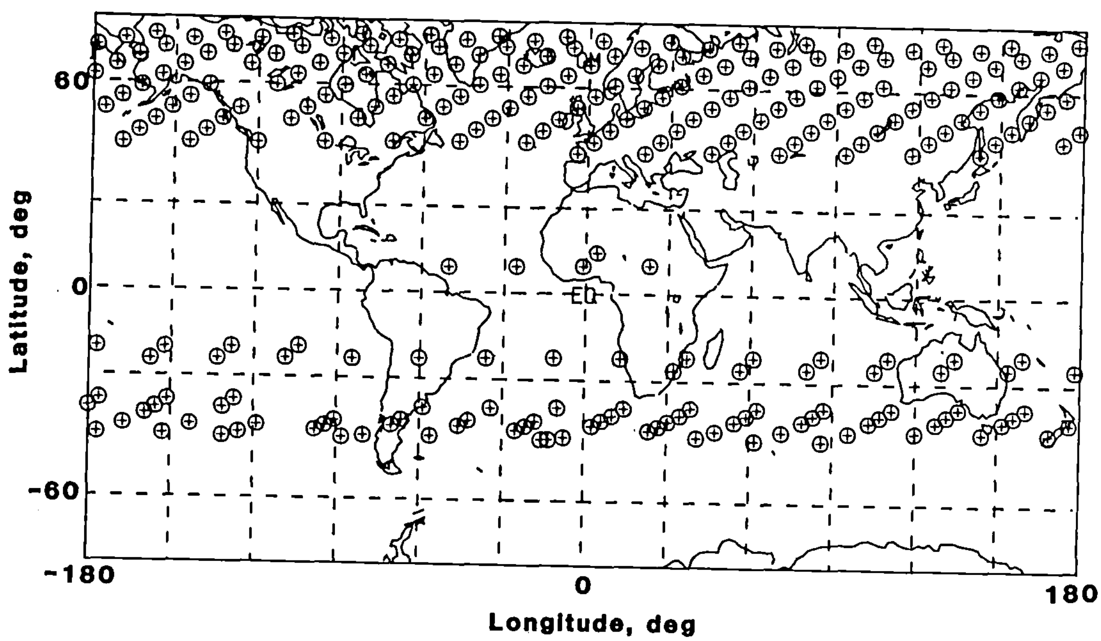


Figure 11. Map of measurement locations for sweep 4, sunset events, May 31–July 11, 1979.

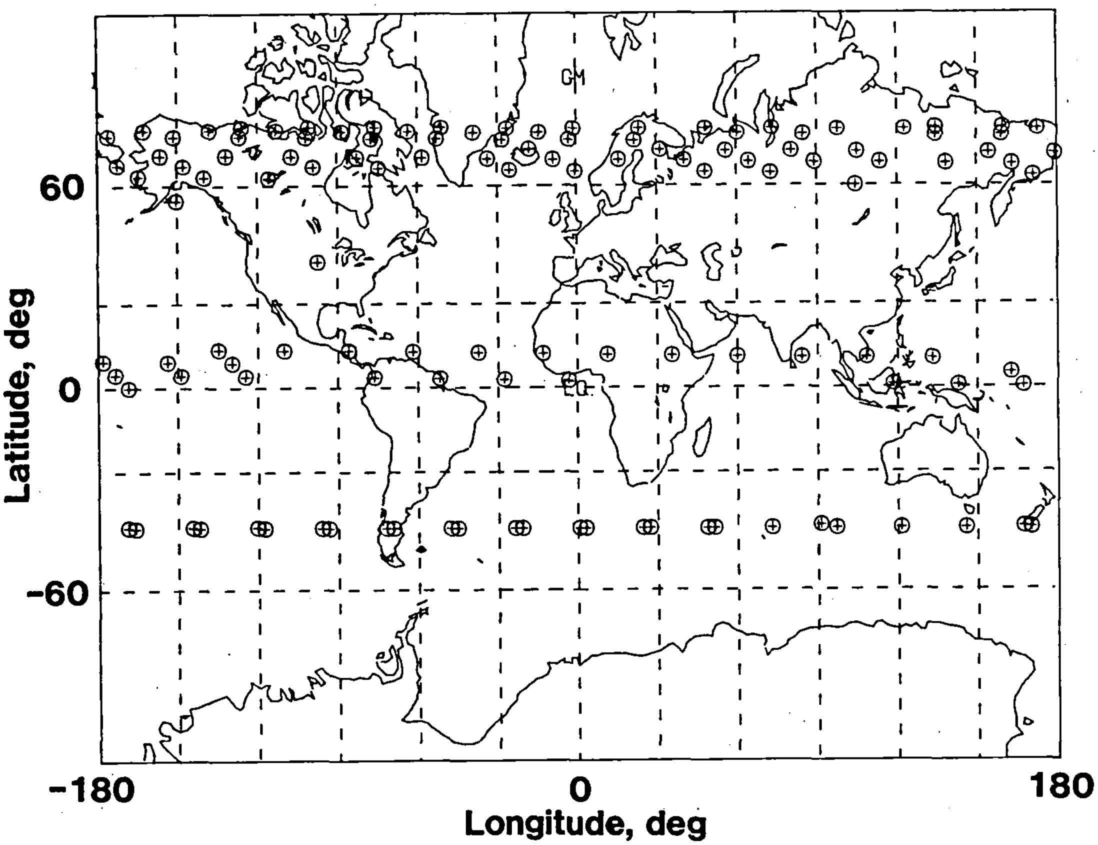


Figure 12. Map of measurement locations for sweep 5, sunrise events, June 11–July 20, 1979.

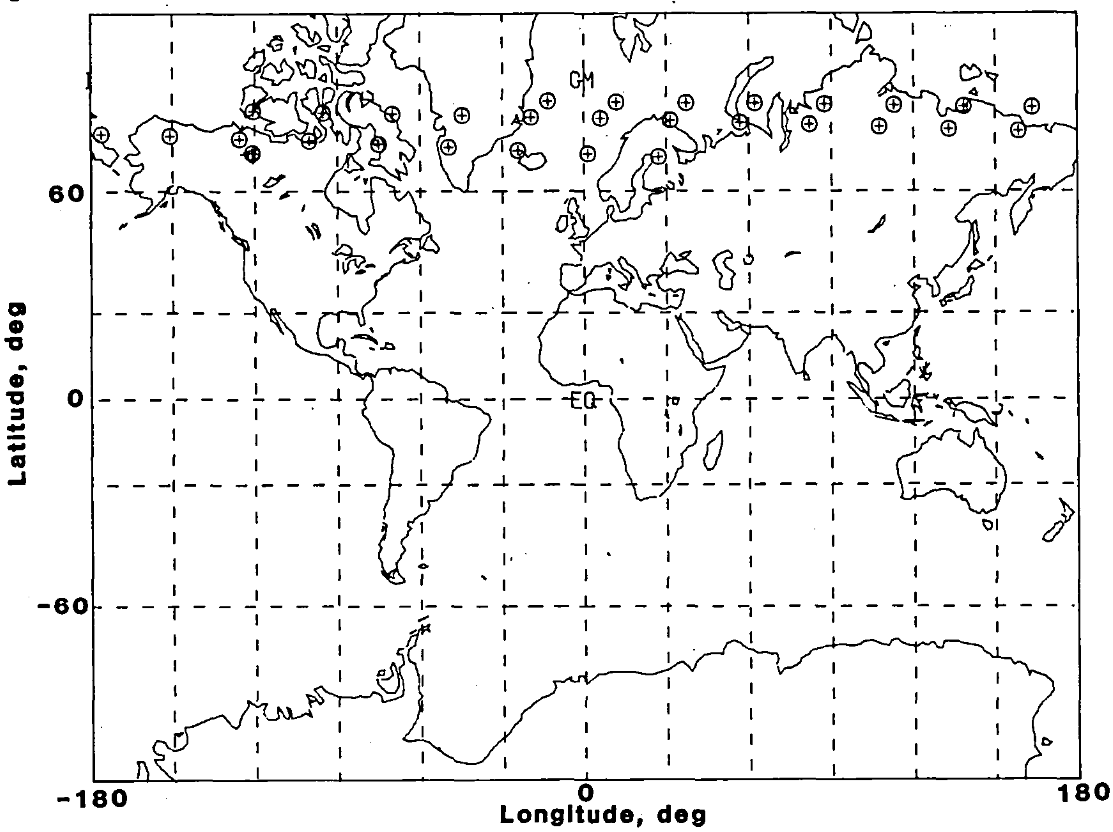


Figure 13. Map of measurement locations for sweep 5, sunset events, July 12–August 6, 1979.

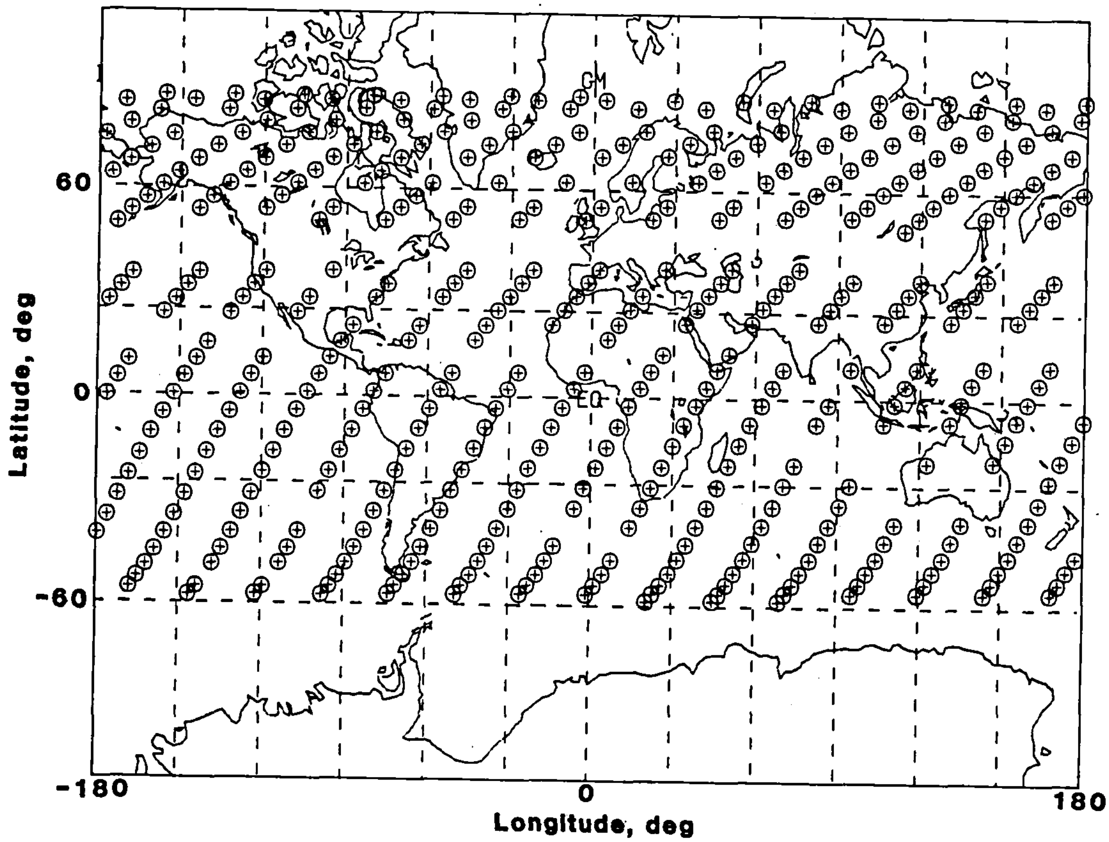


Figure 14. Map of measurement locations for sweep 6, sunset events, August 6–September 13, 1979.

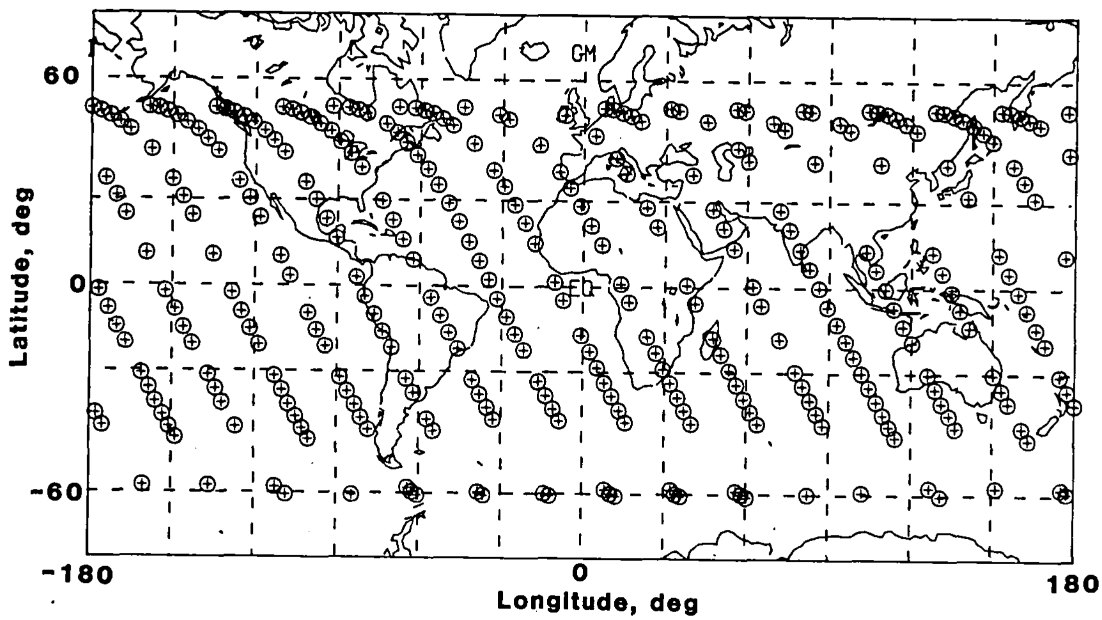


Figure 15. Map of measurement locations for sweep 7, sunset events, September 14–October 20, 1979.

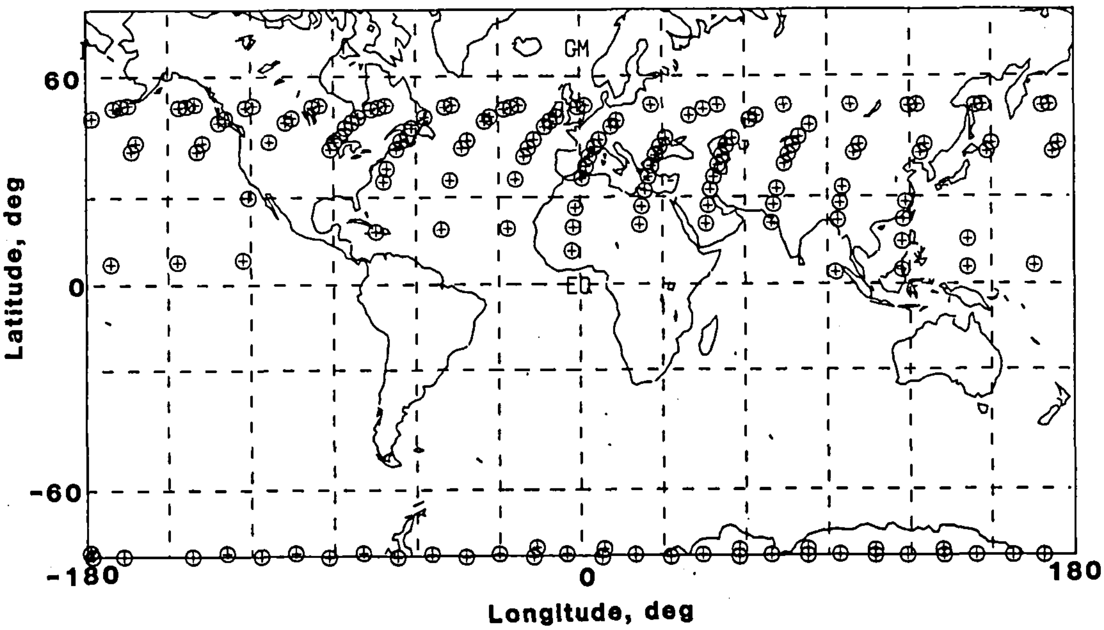


Figure 16. Map of measurement locations for sweep 8, sunset events, October 21–November 21, 1979.

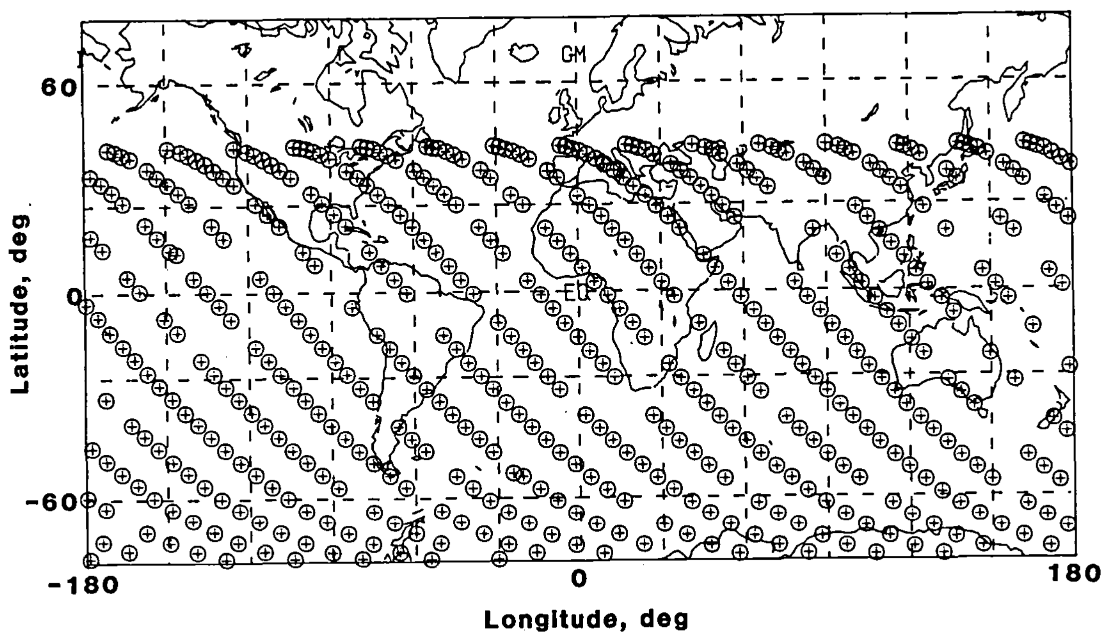


Figure 17. Map of measurement locations for sweep 9, sunset events, November 22–December 31, 1979.

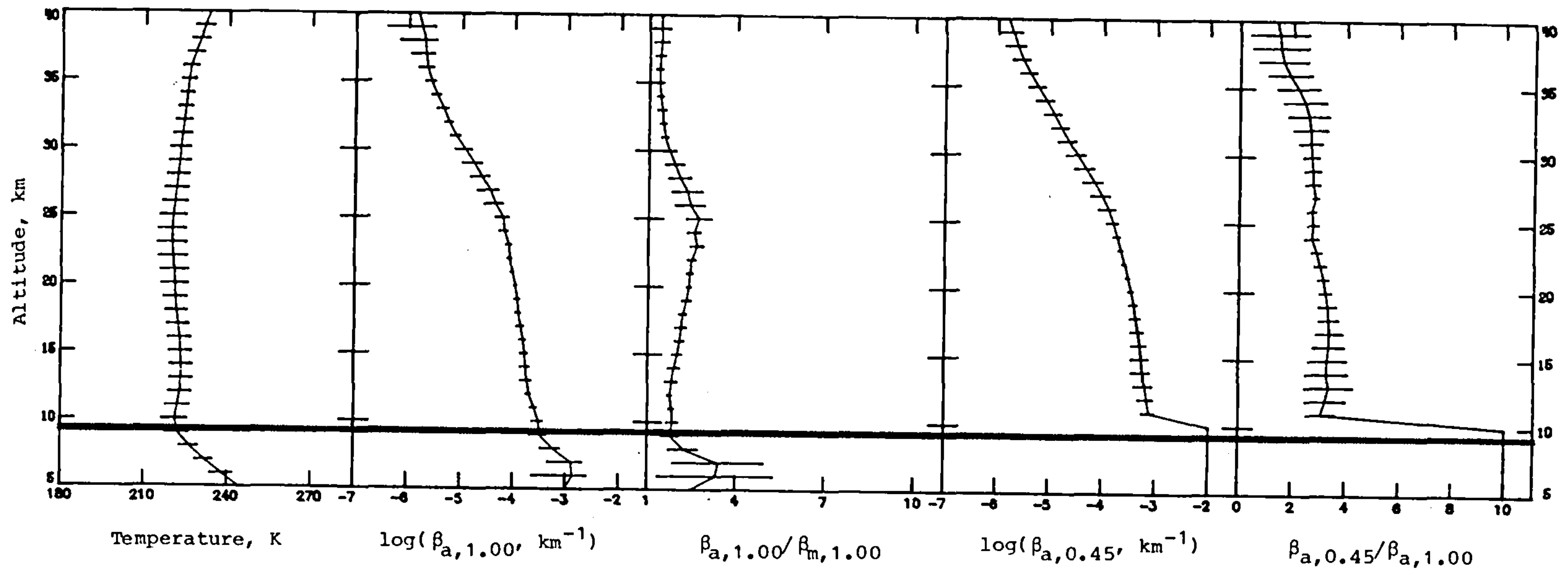


Figure 18. Average extinction and temperature profiles for latitude 45°N, February 21, 1979. Sunrise events; sweep 1.

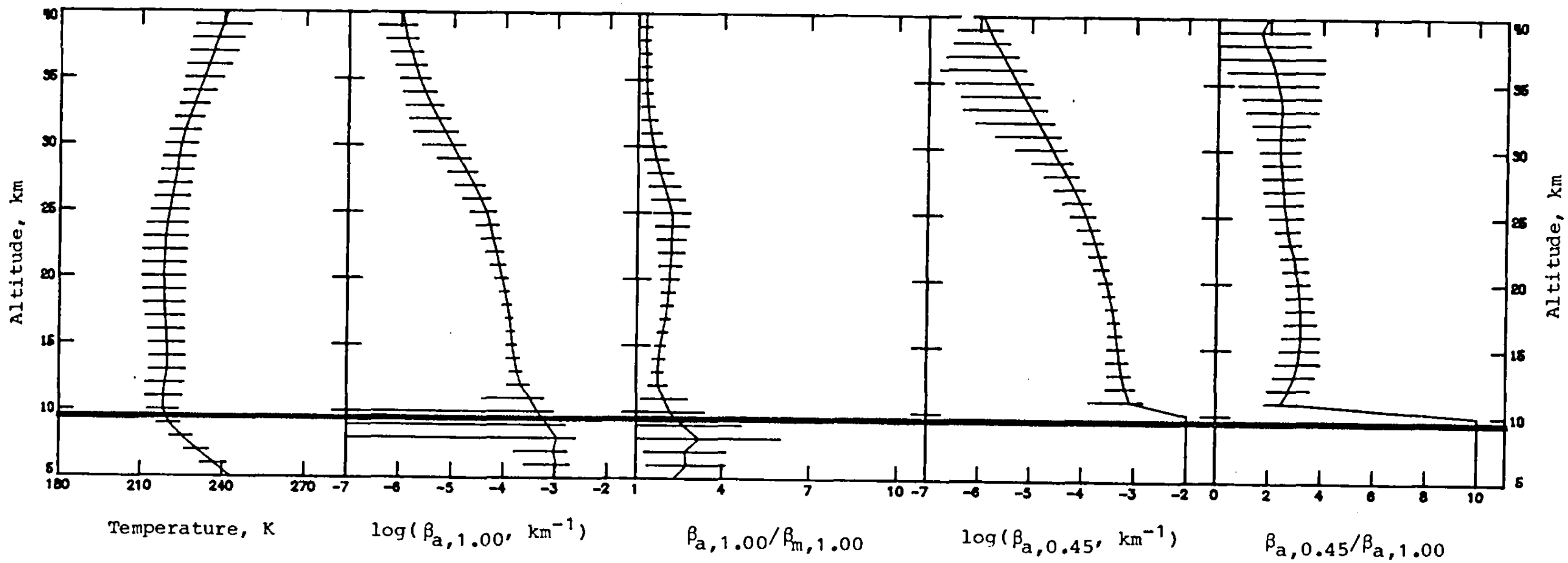


Figure 19. Average extinction and temperature profiles for latitude 55°N, February 21–March 3, 1979. Sunrise events; sweep 1.

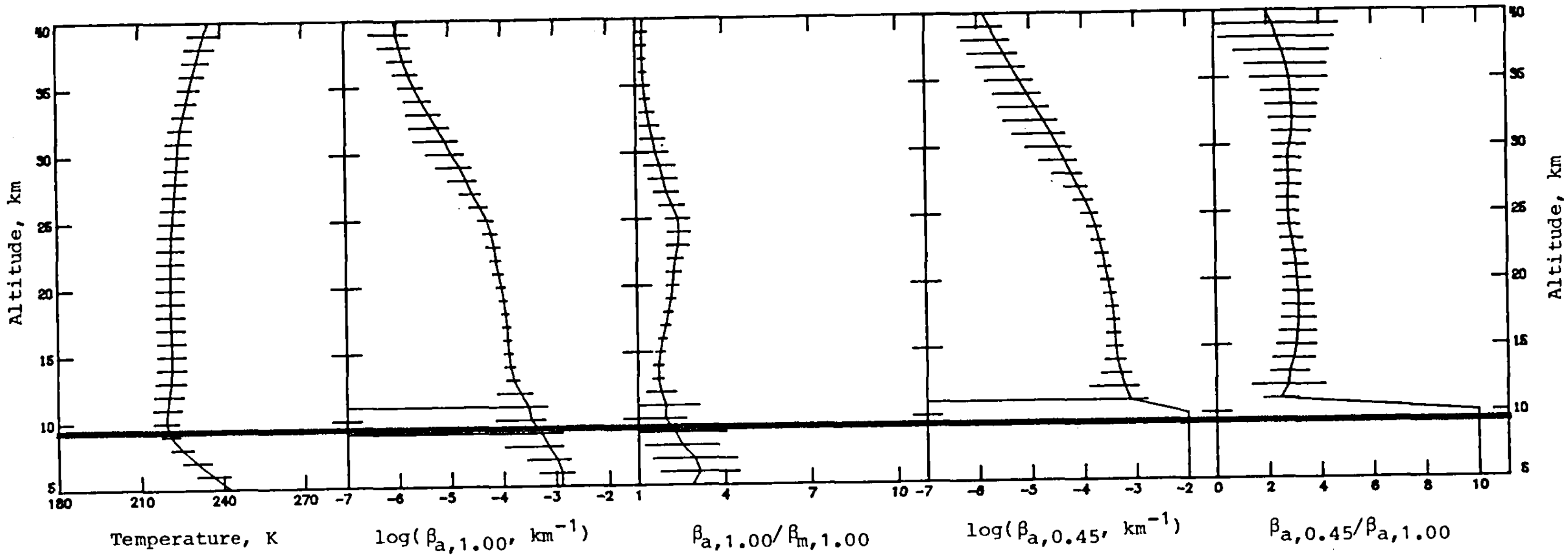


Figure 20. Average extinction and temperature profiles for latitude 55°N, March 3–March 9, 1979. Sunrise events; sweep 2.

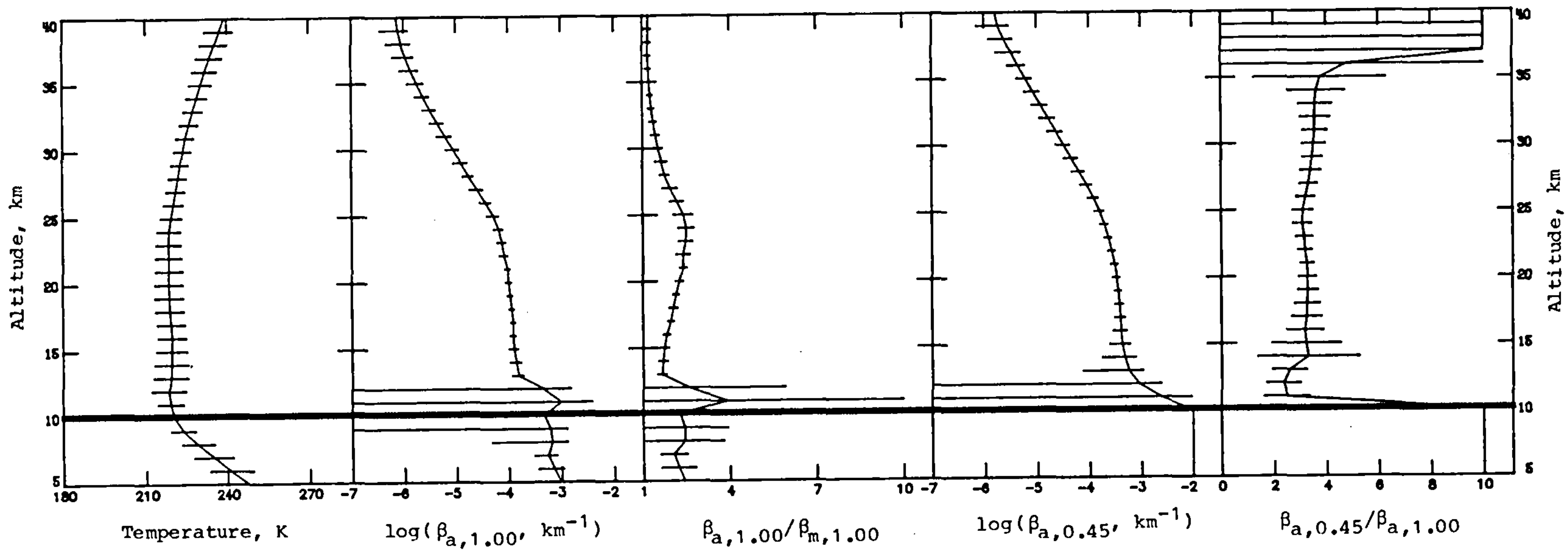


Figure 21. Average extinction and temperature profiles for latitude 45°N, March 9–March 11, 1979. Sunrise events; sweep 2.

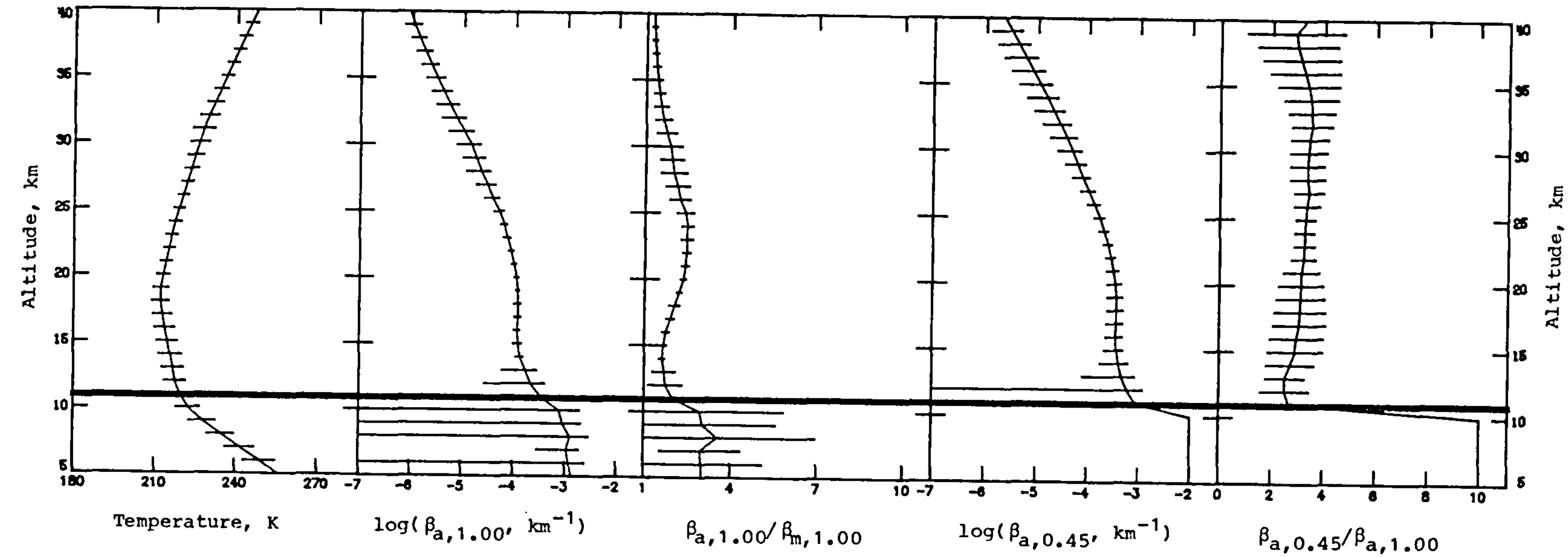


Figure 22. Average extinction and temperature profiles for latitude 35°N, March 11–March 13, 1979. Sunrise events; sweep 2.

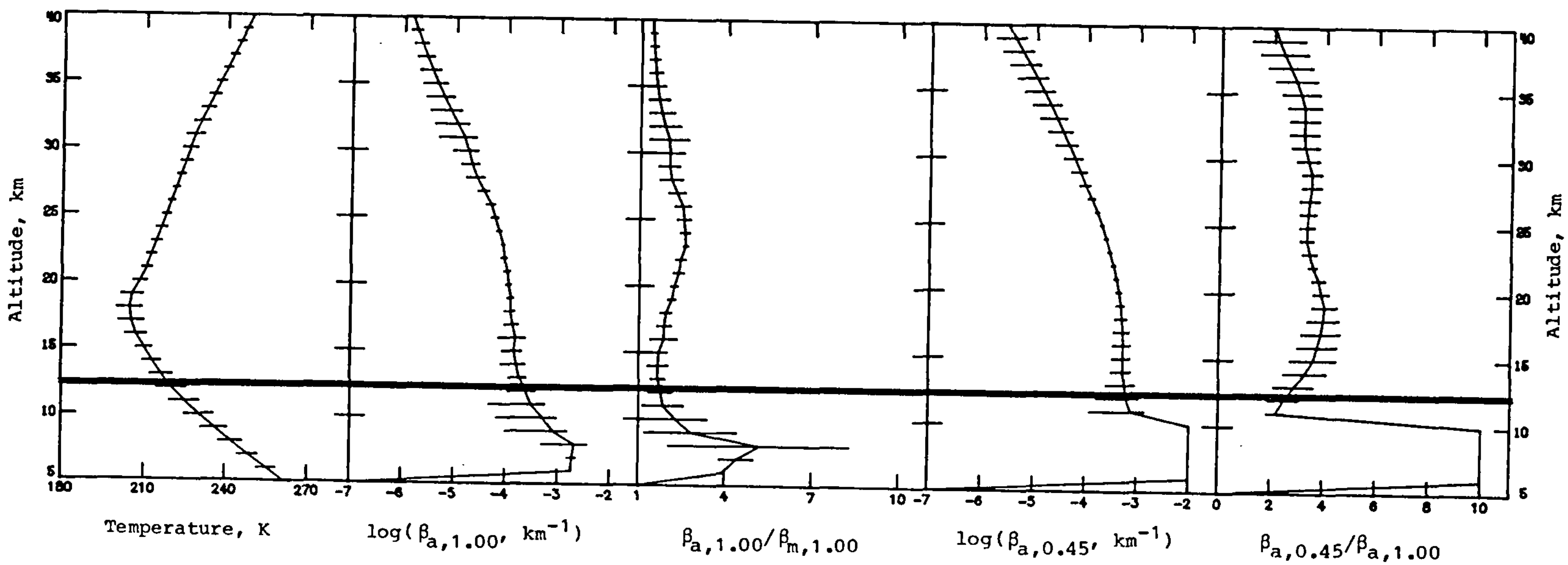


Figure 23. Average extinction and temperature profiles for latitude 25°N, March 13, 1979. Sunrise events; sweep 2.

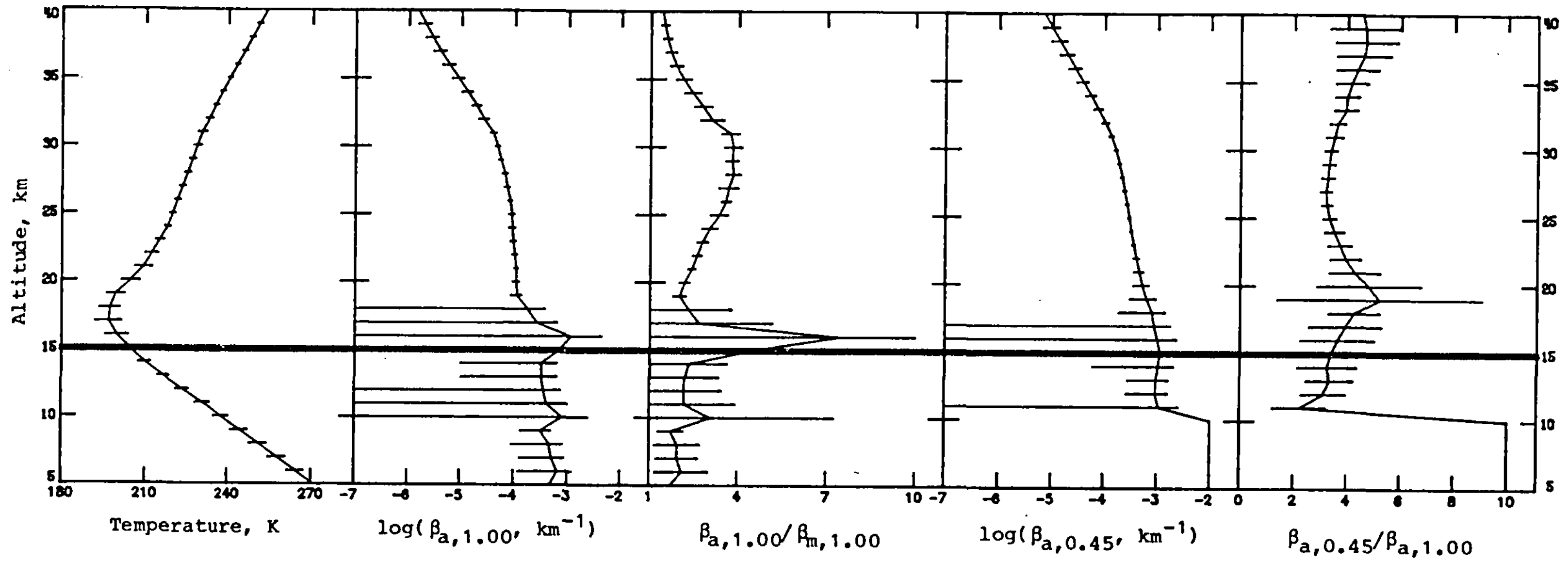


Figure 24. Average extinction and temperature profiles for latitude 15°N, March 13–March 16, 1979. Sunrise events; sweep 2.

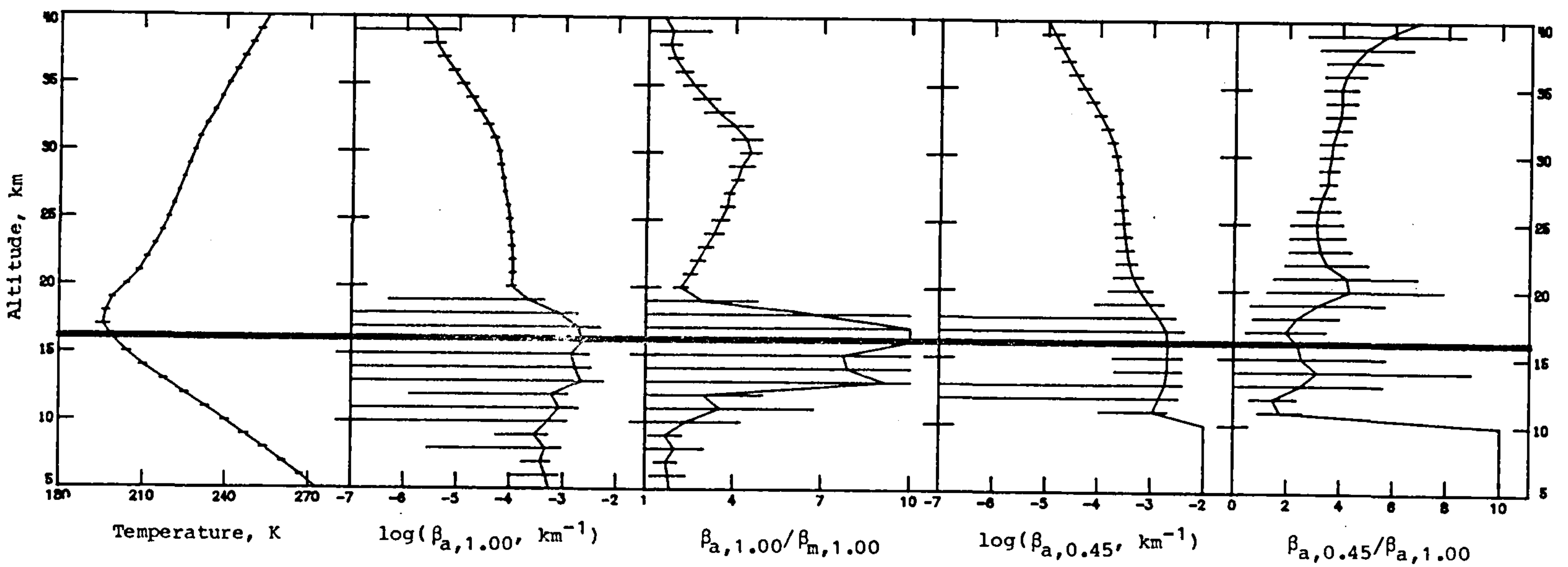


Figure 25. Average extinction and temperature profiles for latitude 5°N, March 16–March 17, 1979. Sunrise events; sweep 2.

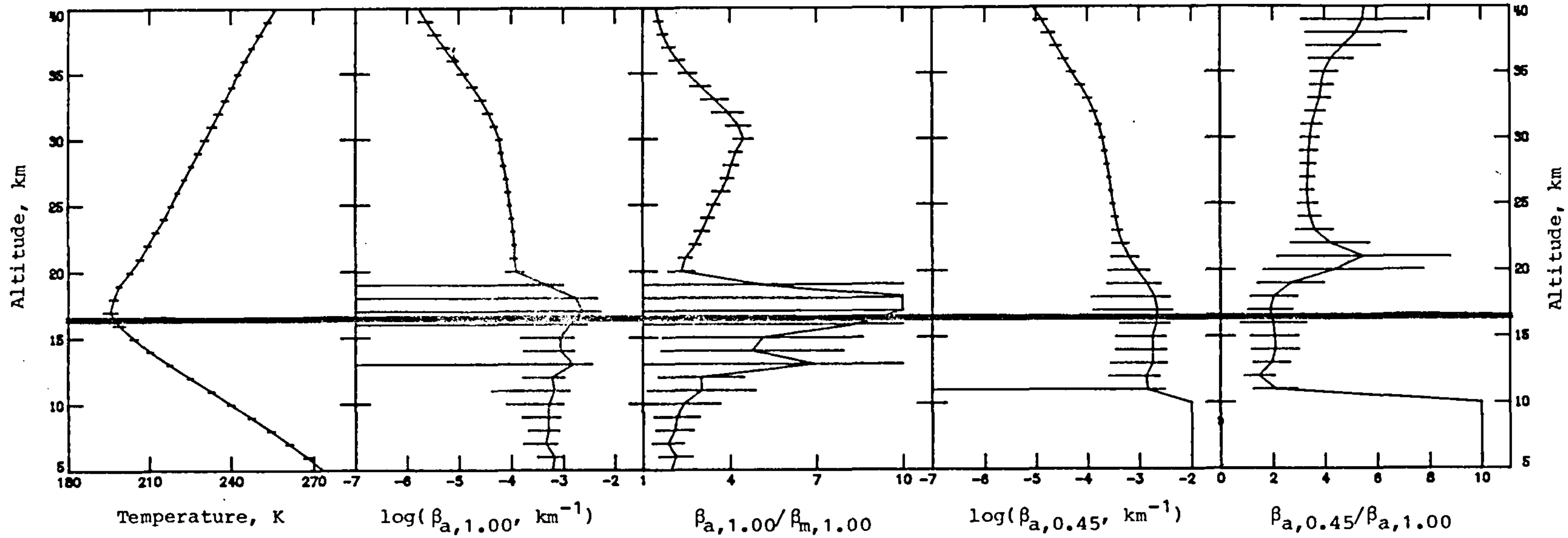


Figure 26. Average extinction and temperature profiles for latitude 5°S, March 17–March 18, 1979. Sunrise events; sweep 2.

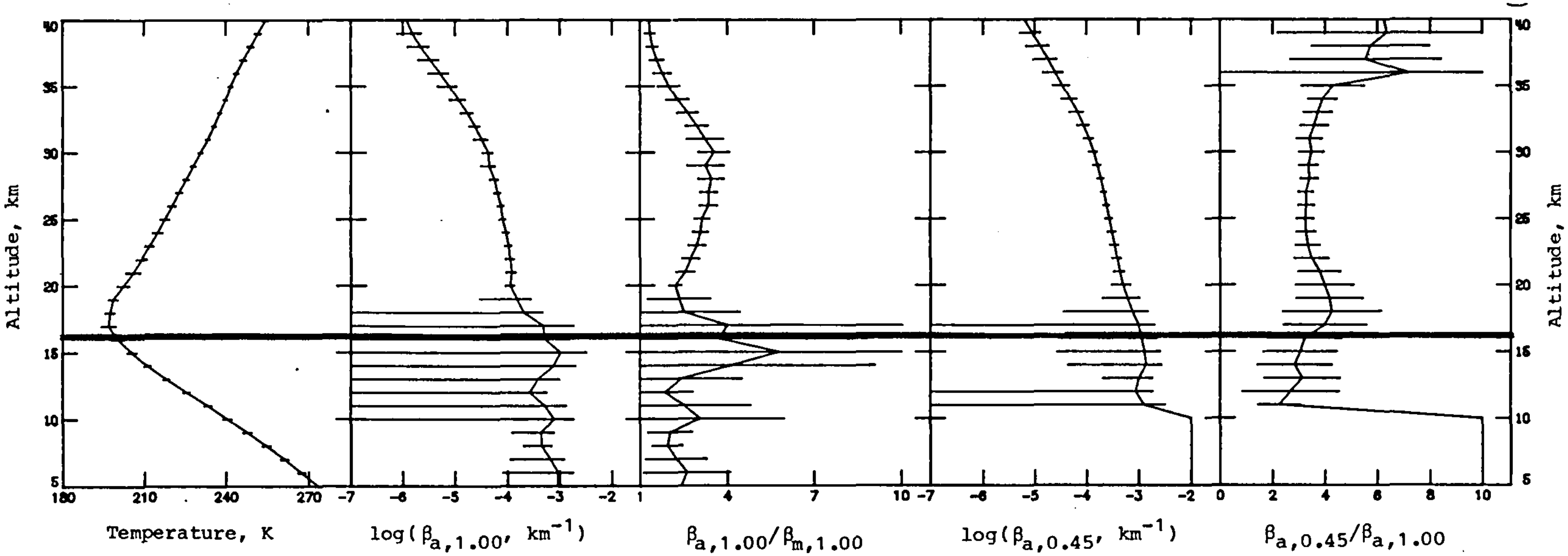


Figure 27. Average extinction and temperature profiles for latitude 15°S, March 18–March 20, 1979. Sunrise events; sweep 2.

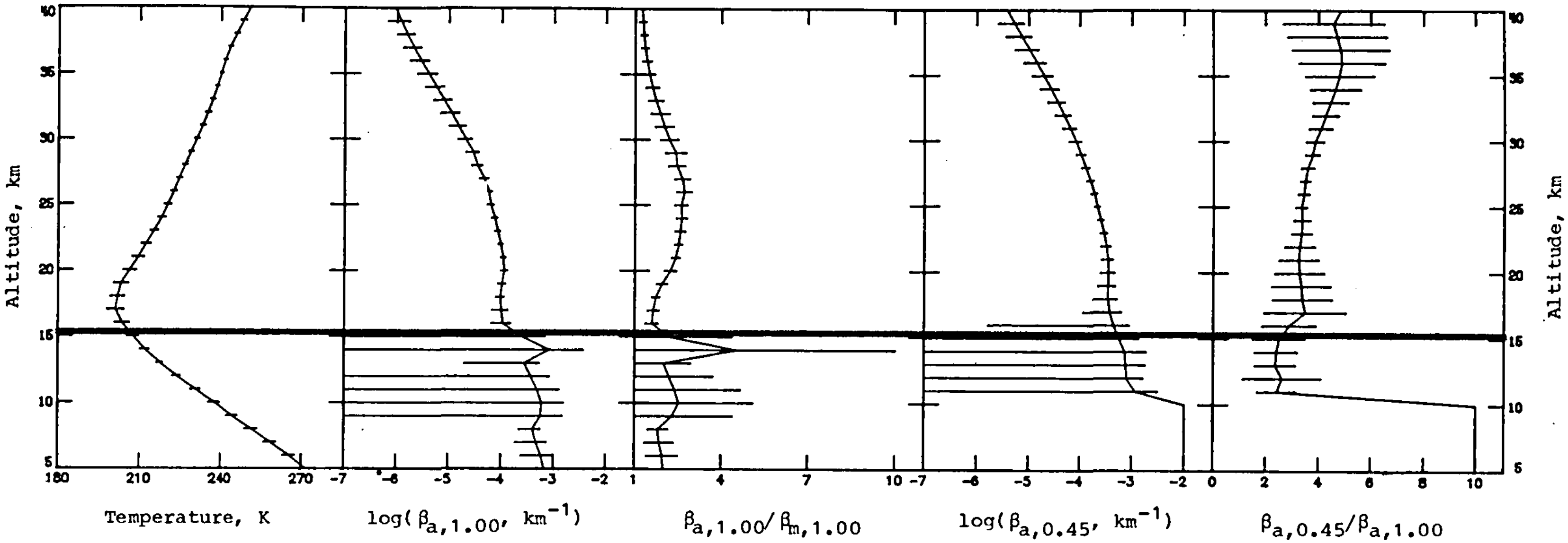


Figure 28. Average extinction and temperature profiles for latitude 25°S, March 20–March 22, 1979. Sunrise events; sweep 2.

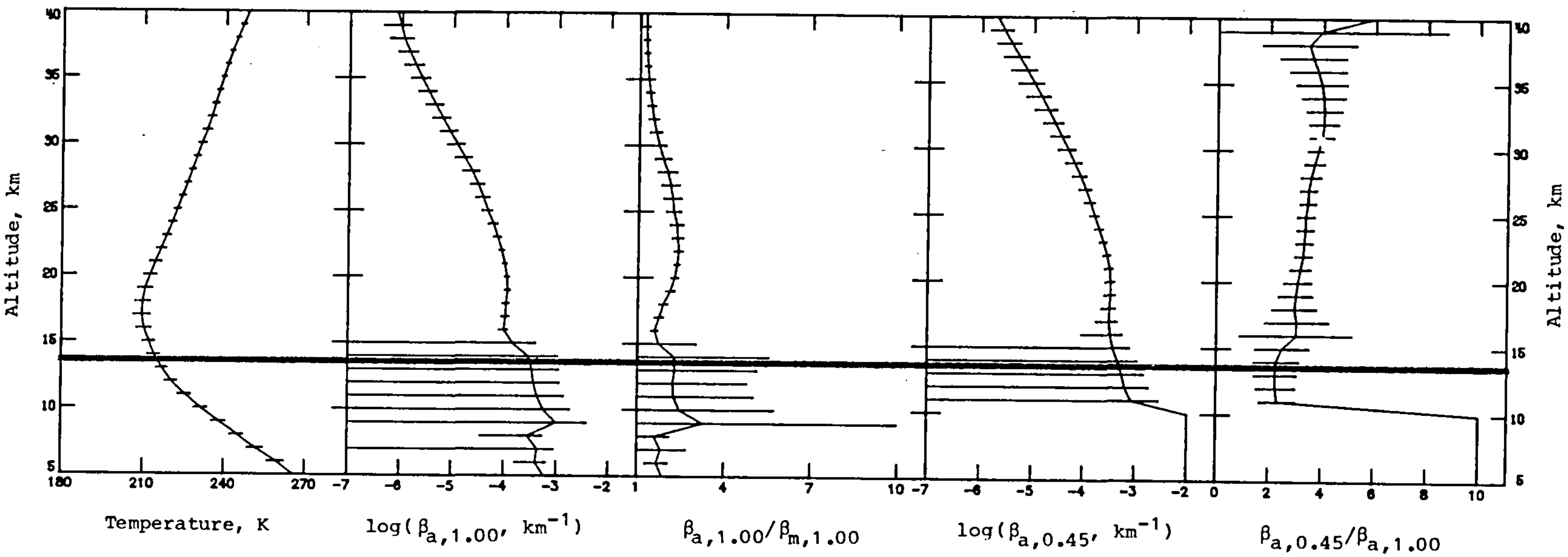


Figure 29. Average extinction and temperature profiles for latitude 35°S, March 22–March 24, 1979. Sunrise events; sweep 2.

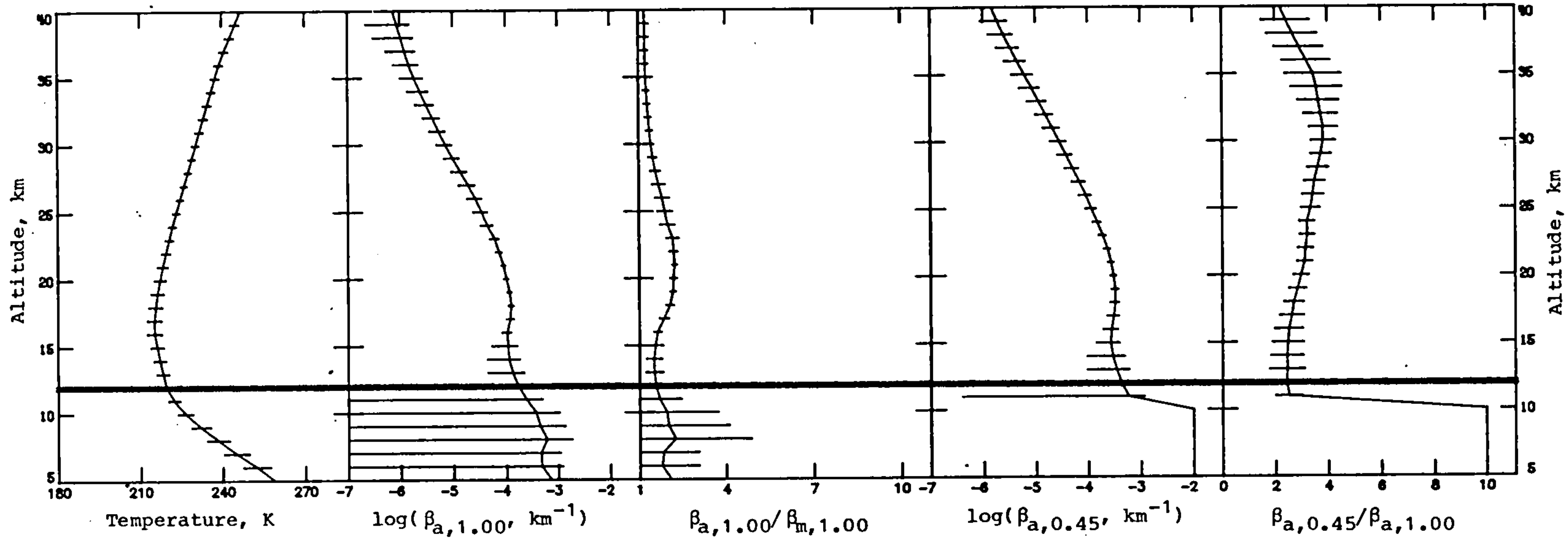


Figure 30. Average extinction and temperature profiles for latitude 45°S, March 24–March 28, 1979. Sunrise events; sweep 2.

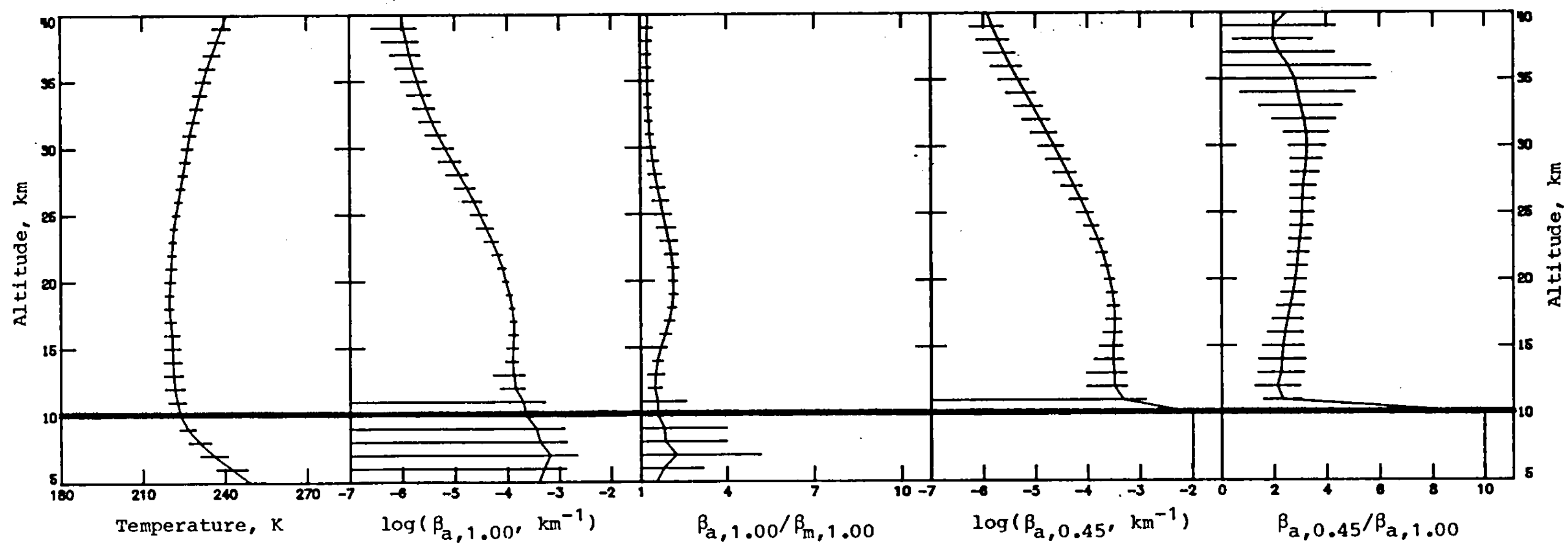


Figure 31. Average extinction and temperature profiles for latitude 55°S, March 28–April 5, 1979. Sunrise events; sweep 2.

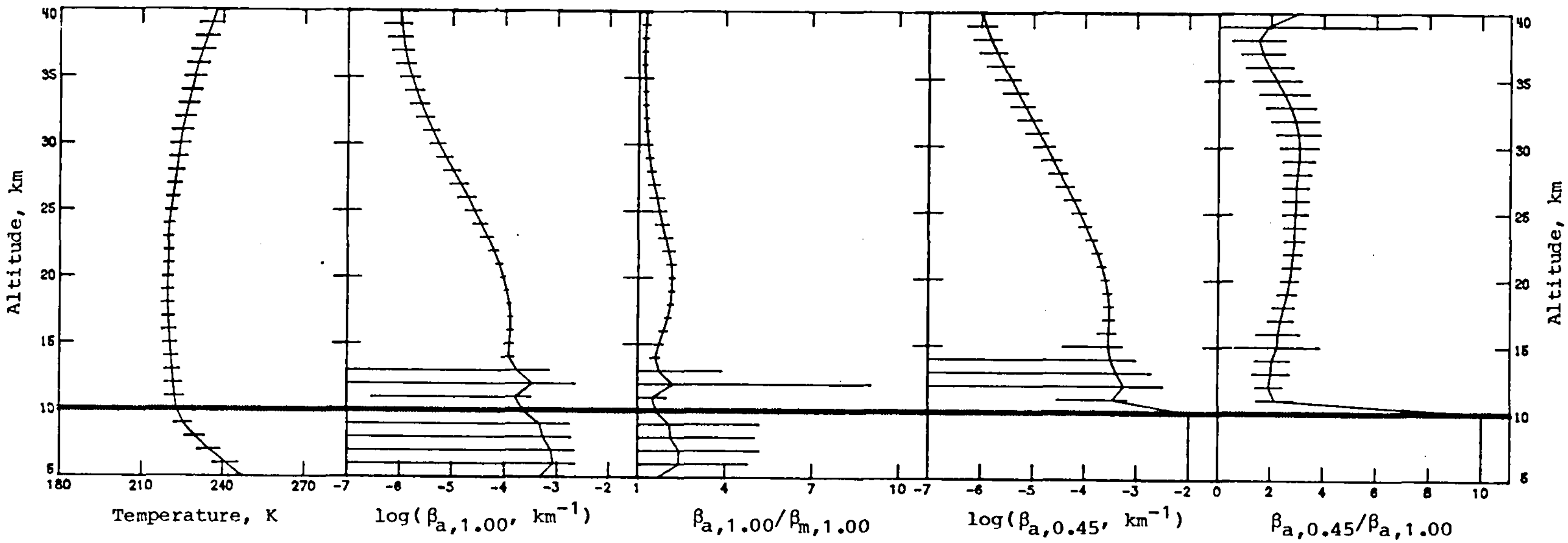


Figure 32. Average extinction and temperature profiles for latitude 55°S, April 5–April 11, 1979. Sunrise events; sweep 3.

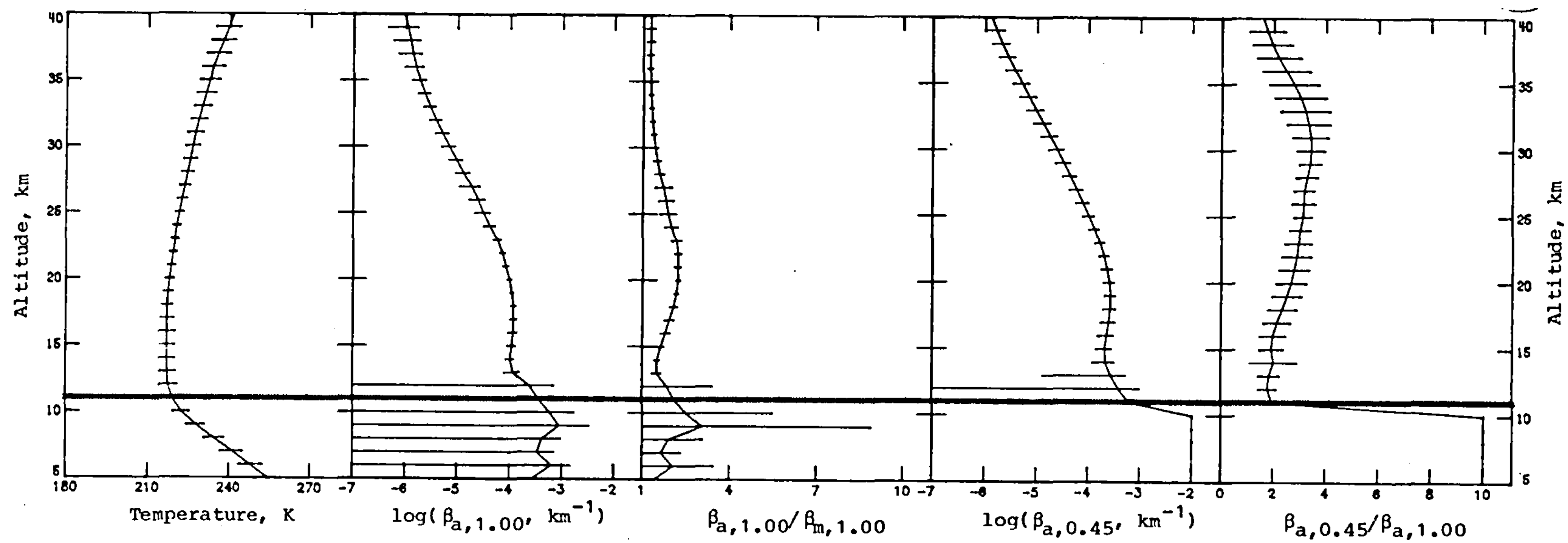


Figure 33. Average extinction and temperature profiles for latitude 45°S, April 11–April 14, 1979. Sunrise events; sweep 3.

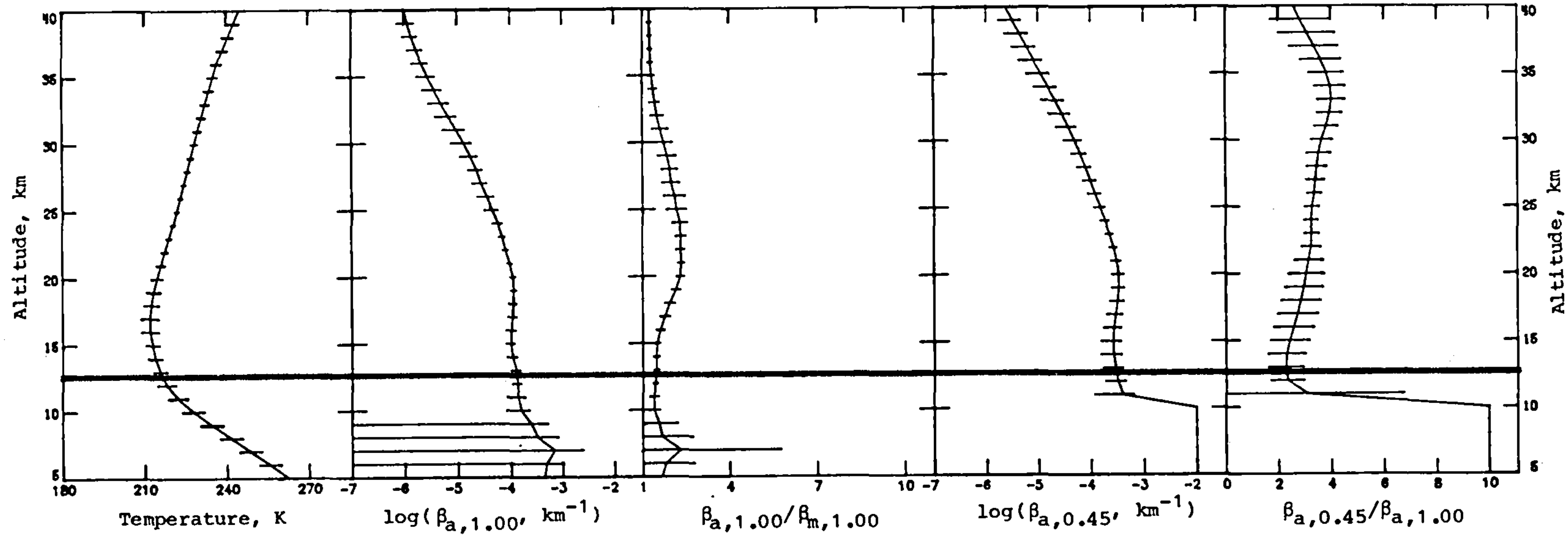


Figure 34. Average extinction and temperature profiles for latitude 35°S, April 14–April 16, 1979. Sunrise events; sweep 3.

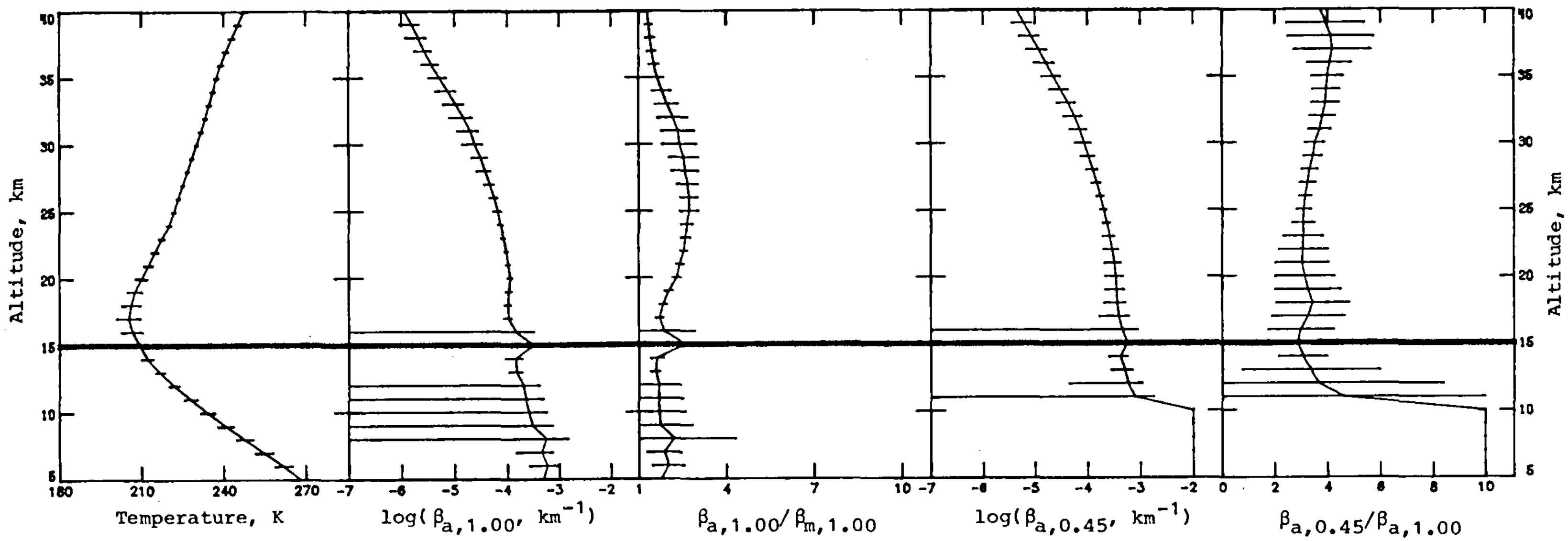


Figure 35. Average extinction and temperature profiles for latitude 25°S, April 16–April 17, 1979. Sunrise events; sweep 3.

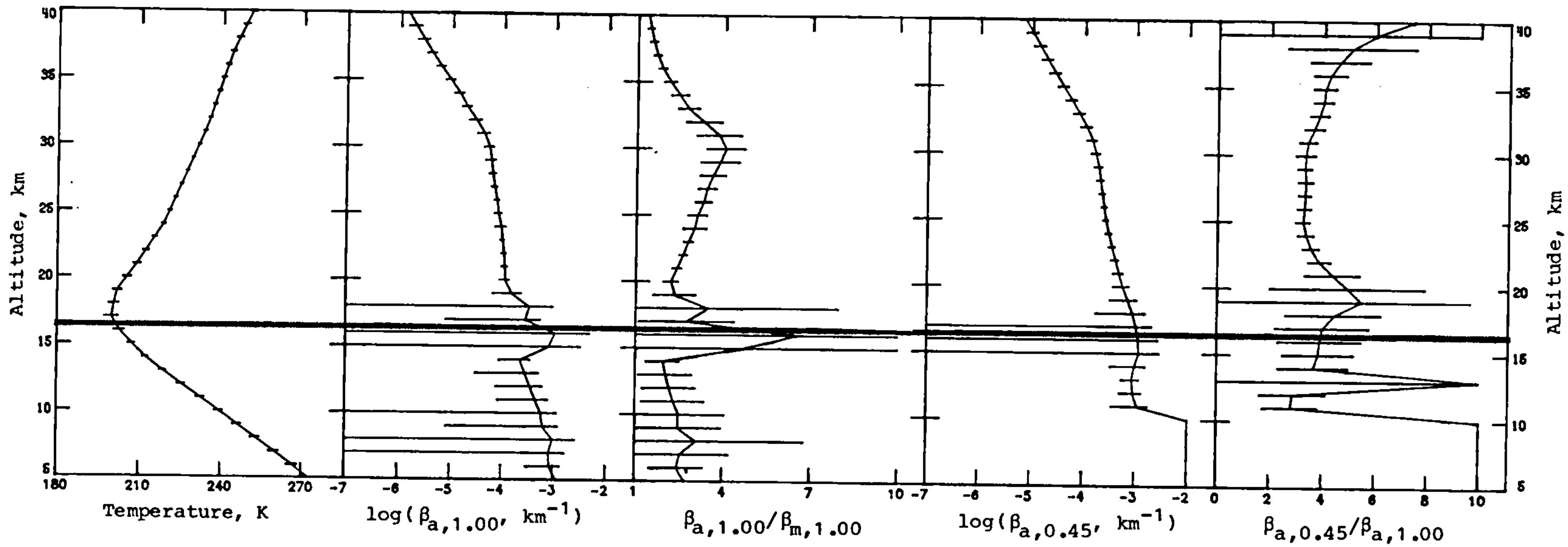


Figure 36. Average extinction and temperature profiles for latitude 15°S, April 17–April 19, 1979. Sunrise events; sweep 3.

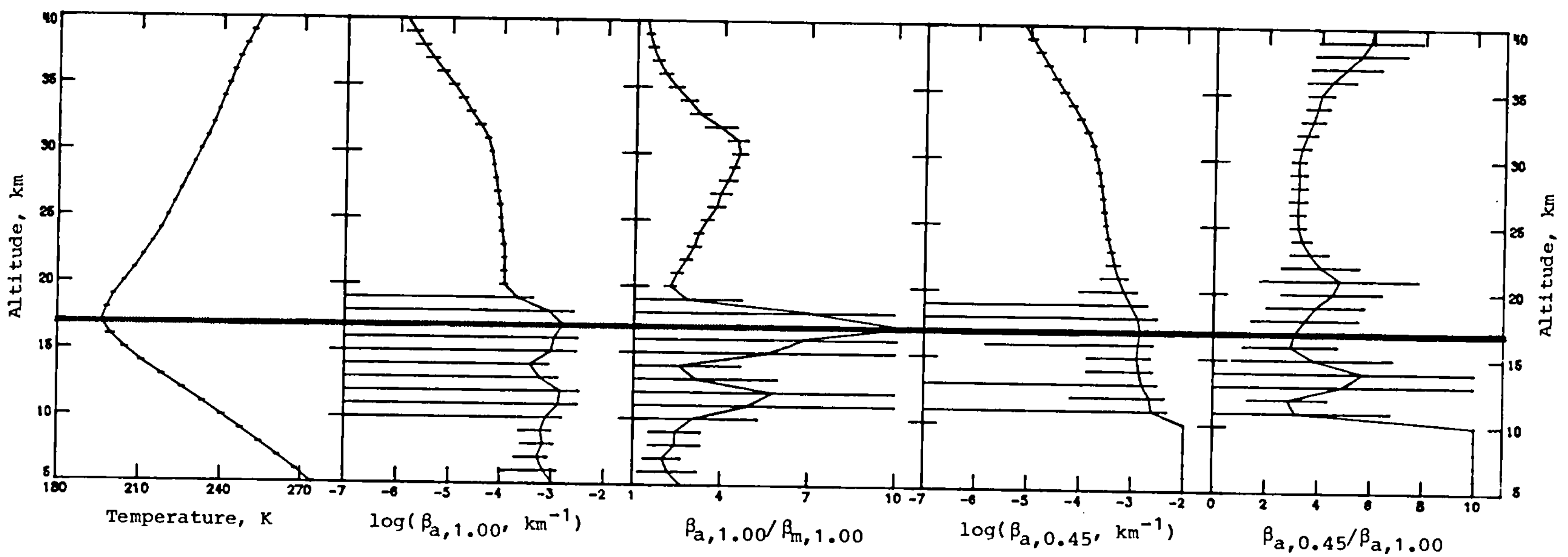


Figure 37. Average extinction and temperature profiles for latitude 5°S, April 19–April 20, 1979. Sunrise events; sweep 3.

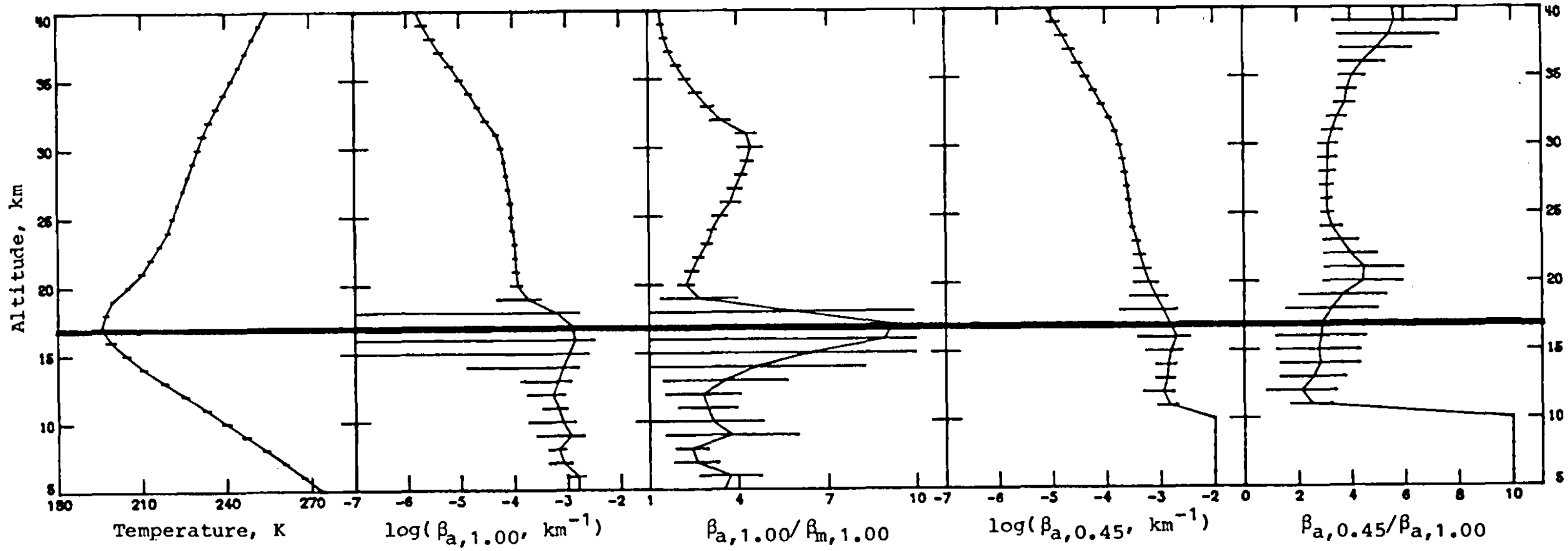


Figure 38. Average extinction and temperature profiles for latitude 5°N, April 20–April 22, 1979. Sunrise events; sweep 3.

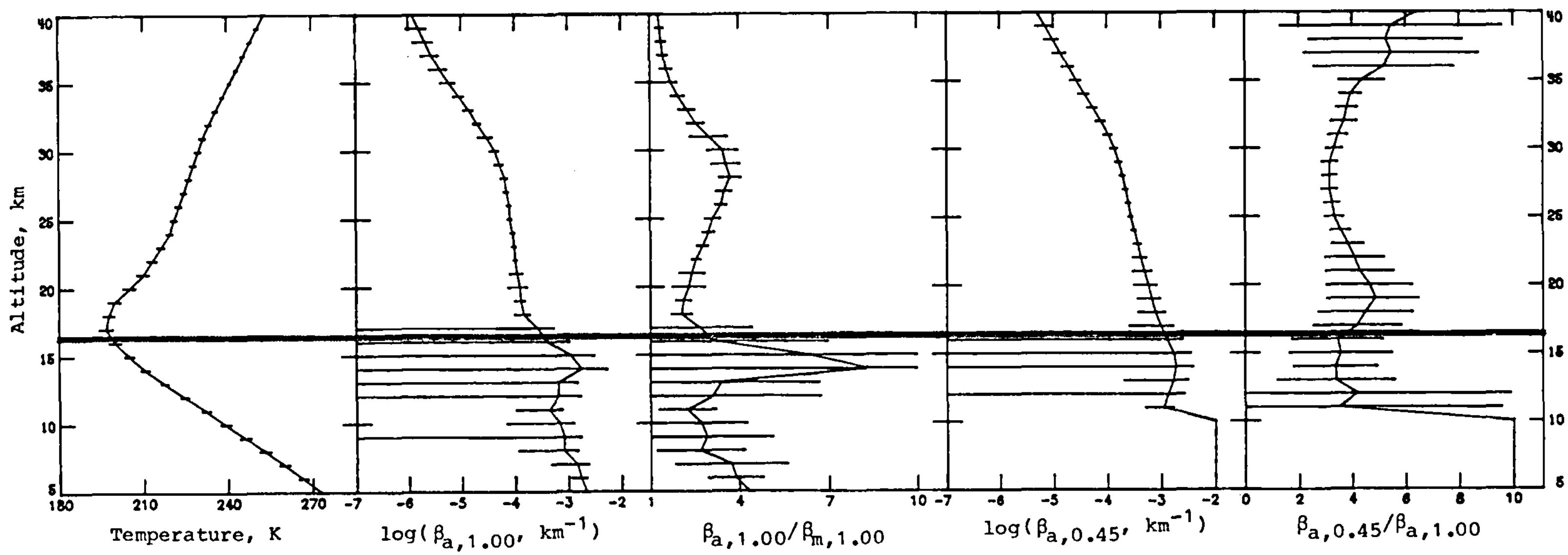


Figure 39. Average extinction and temperature profiles for latitude 15°N, April 22–April 24, 1979. Sunrise events; sweep 3.

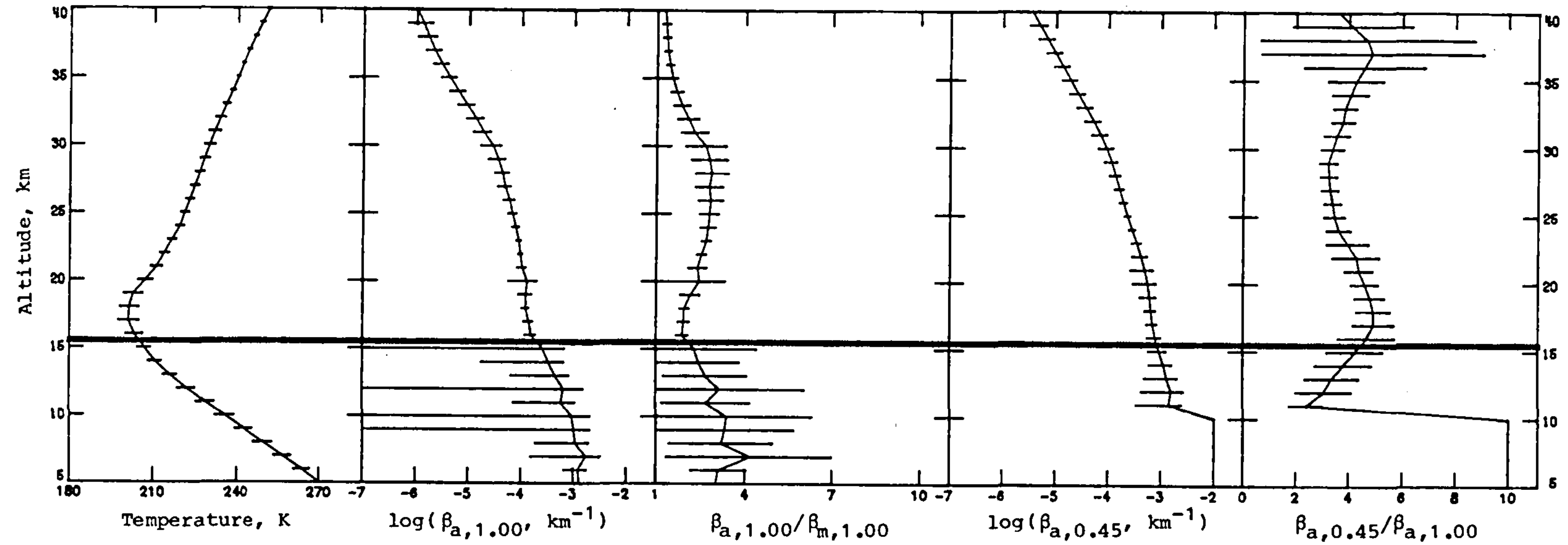


Figure 40. Average extinction and temperature profiles for latitude 25°N, April 24–April 26, 1979. Sunrise events; sweep 3.

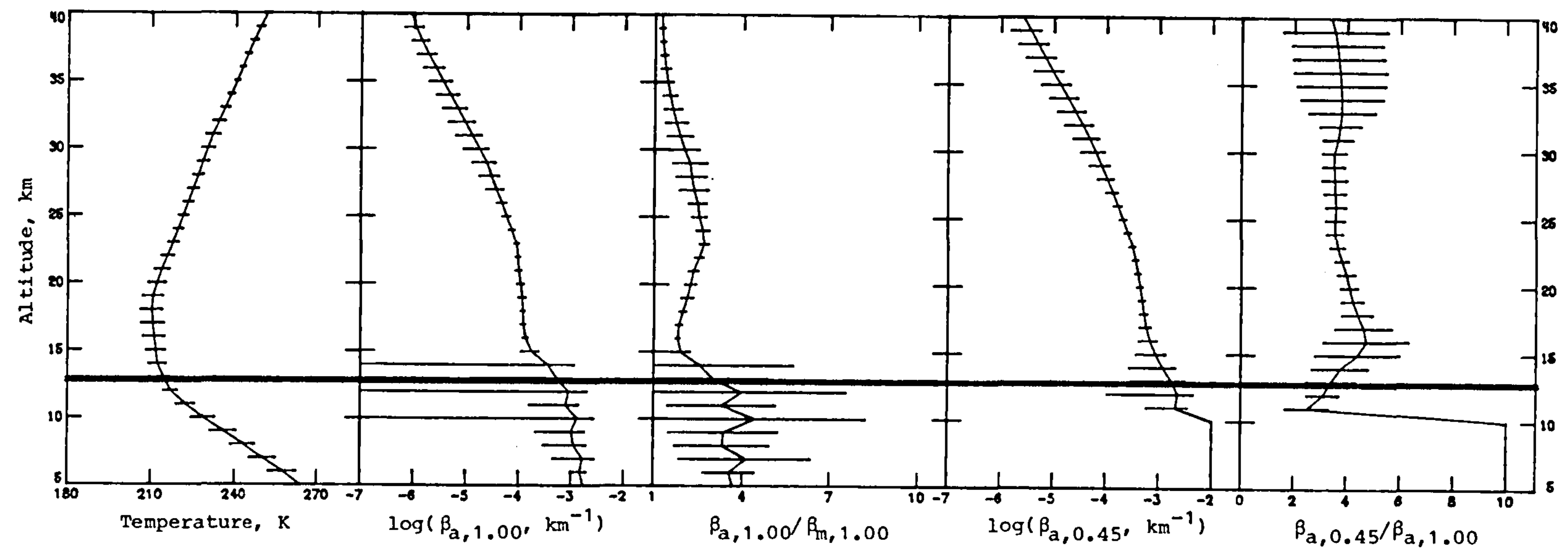


Figure 41. Average extinction and temperature profiles for latitude 35°N, April 26–April 28, 1979. Sunrise events; sweep 3.

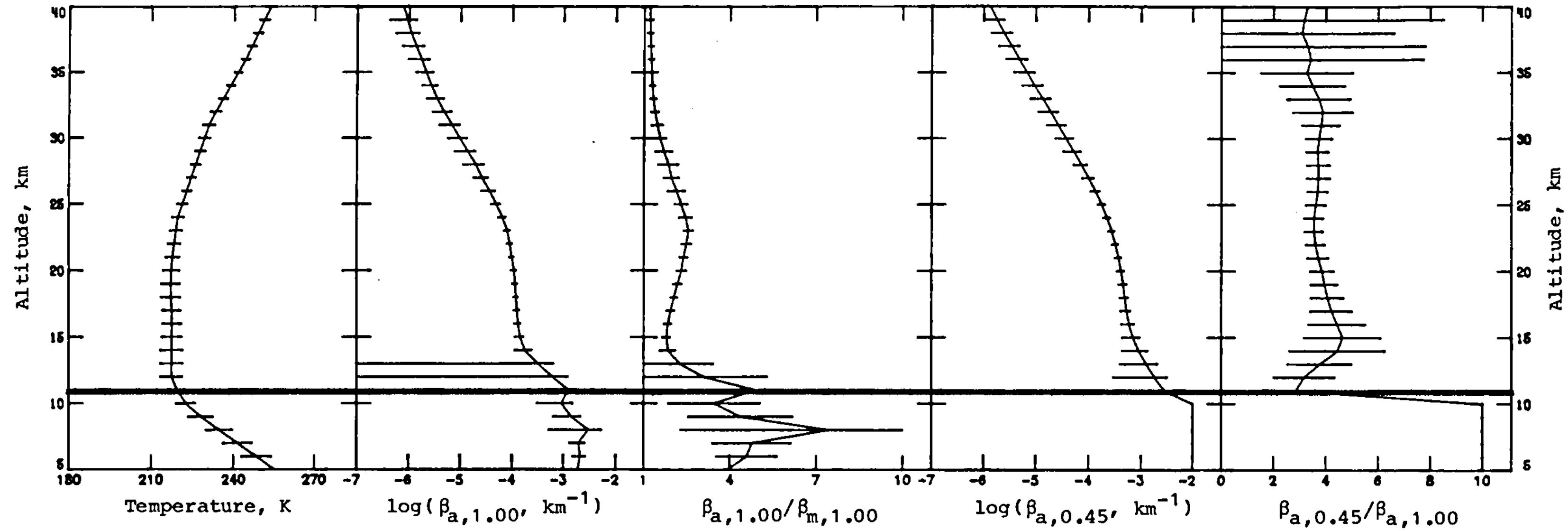


Figure 42. Average extinction and temperature profiles for latitude 45°N, April 28–May 2, 1979. Sunrise events; sweep 3.

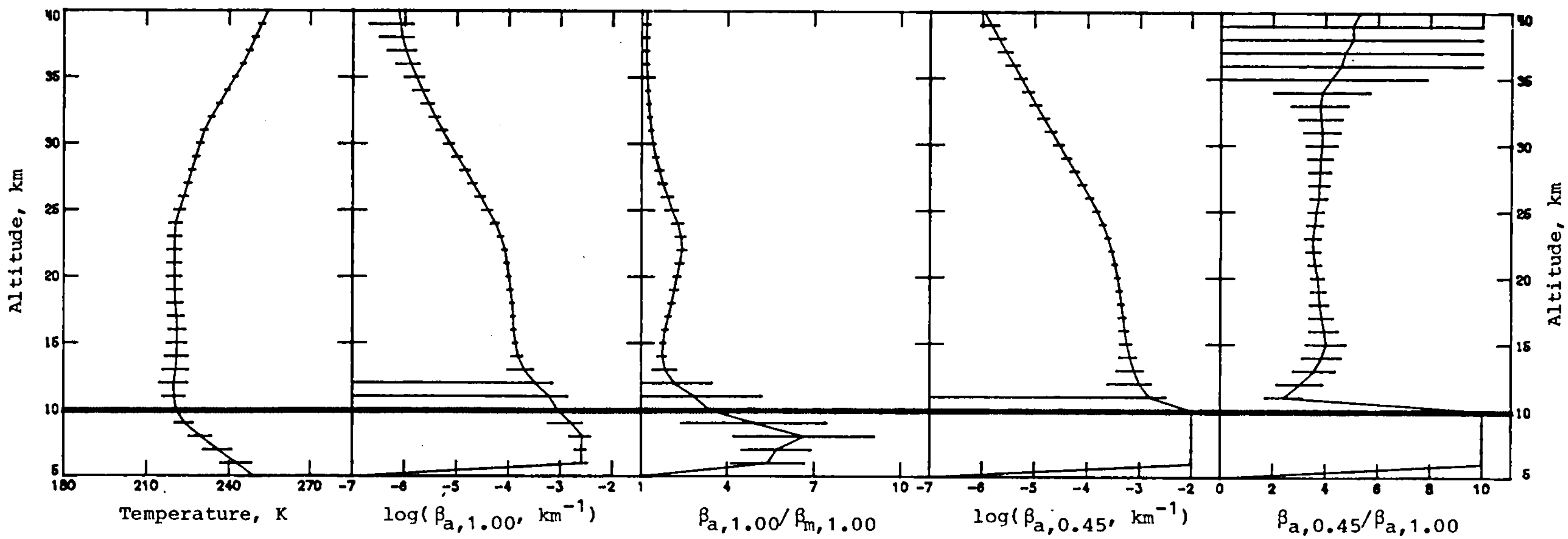


Figure 43. Average extinction and temperature profiles for latitude 55°N, May 2–May 6, 1979. Sunrise events; sweep 3.

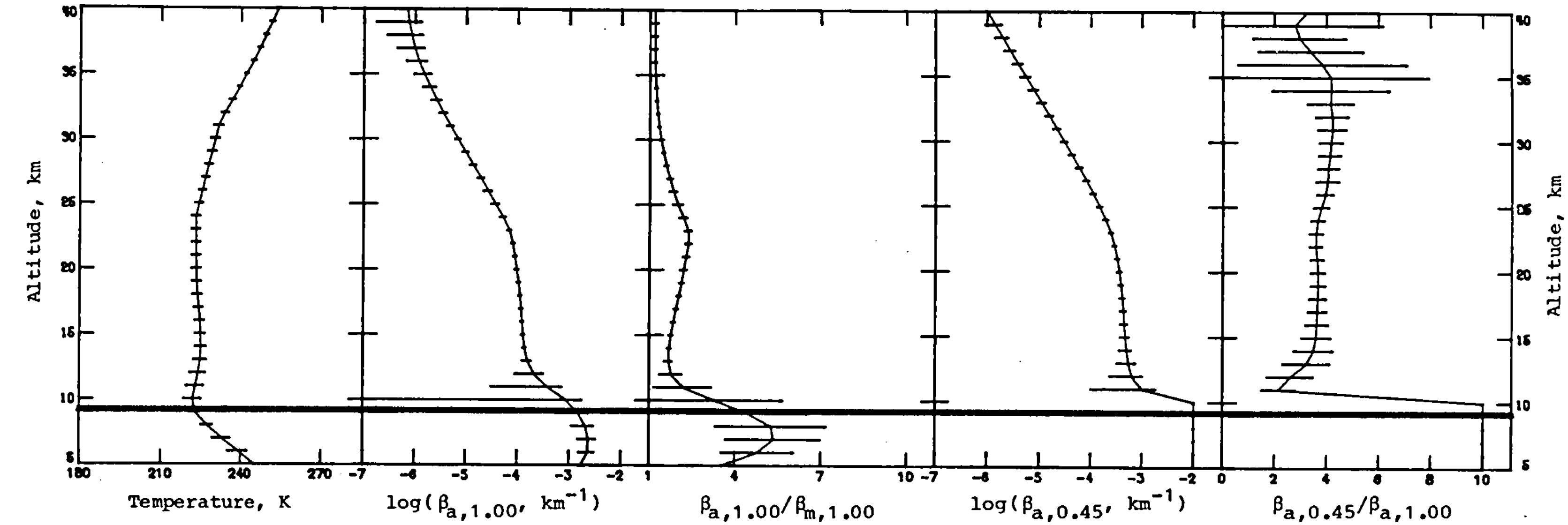


Figure 44. Average extinction and temperature profiles for latitude 65°N, May 6–May 12, 1979. Sunrise events; sweep 3.

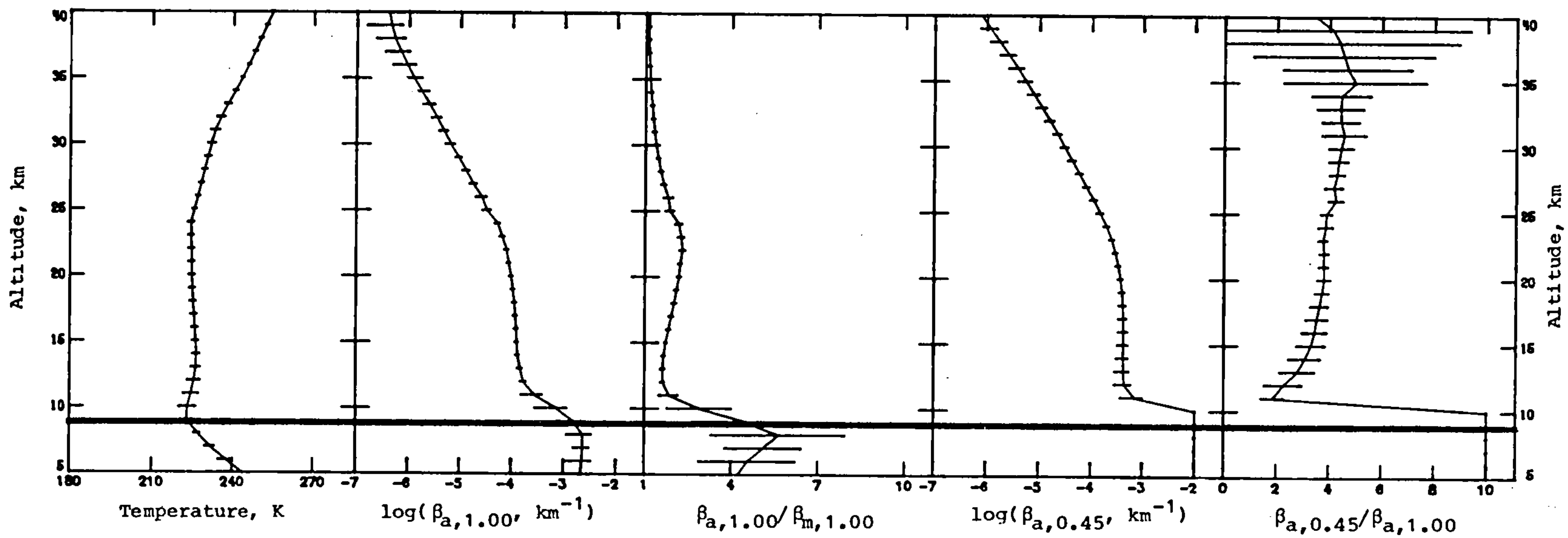


Figure 45. Average extinction and temperature profiles for latitude 75°N, May 12–May 14, 1979. Sunrise events; sweep 3.

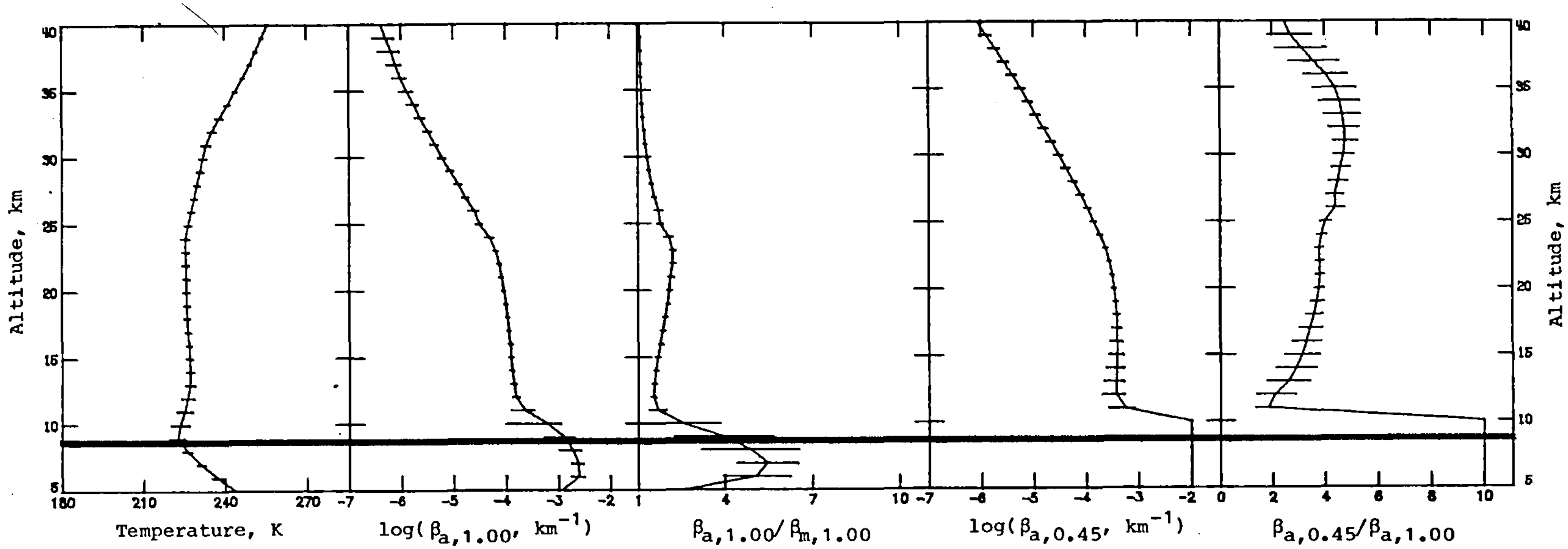


Figure 46. Average extinction and temperature profiles for latitude 75°N, May 14–May 15, 1979. Sunrise events; sweep 4.

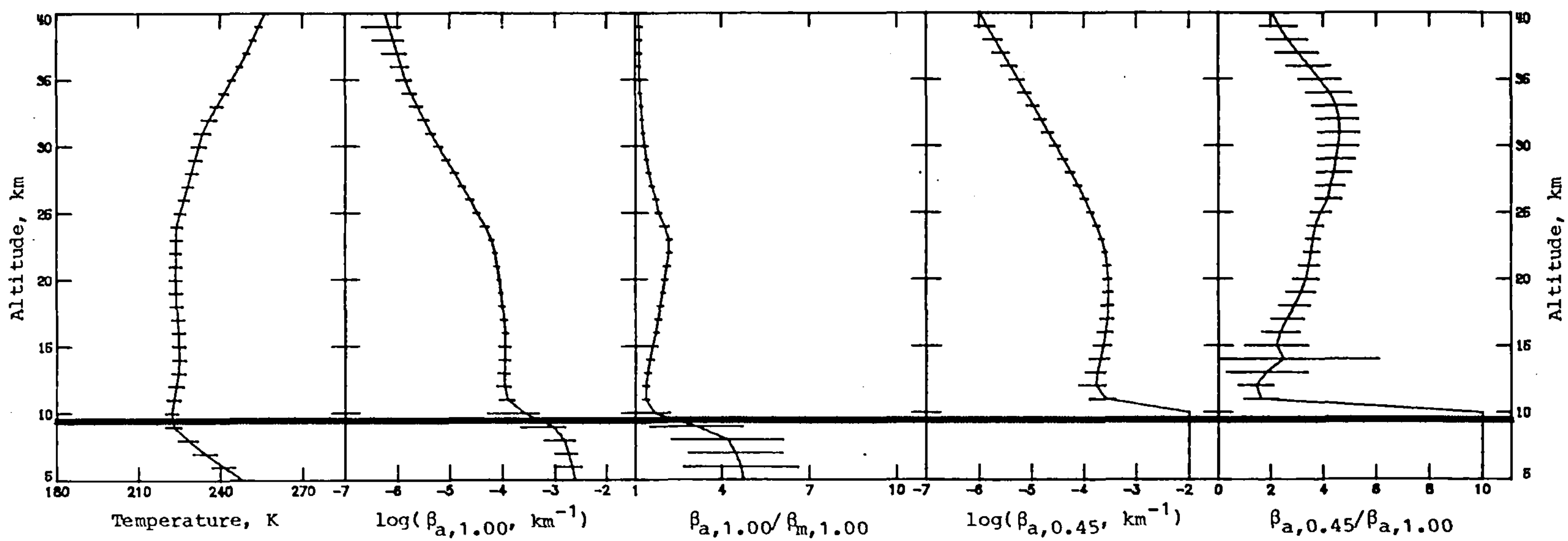


Figure 47. Average extinction and temperature profiles for latitude 65°N, May 15–May 17, 1979. Sunrise events; sweep 4.

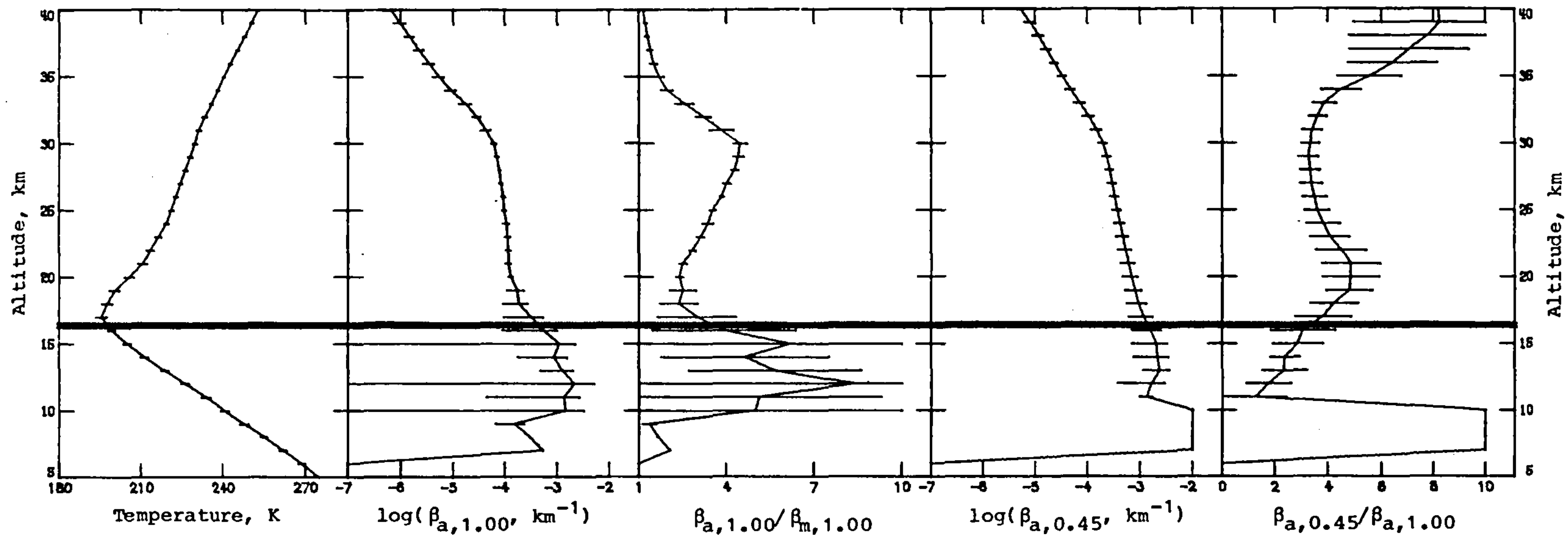


Figure 48. Average extinction and temperature profiles for latitude 5°N, May 26–May 27, 1979. Sunrise events; sweep 4.

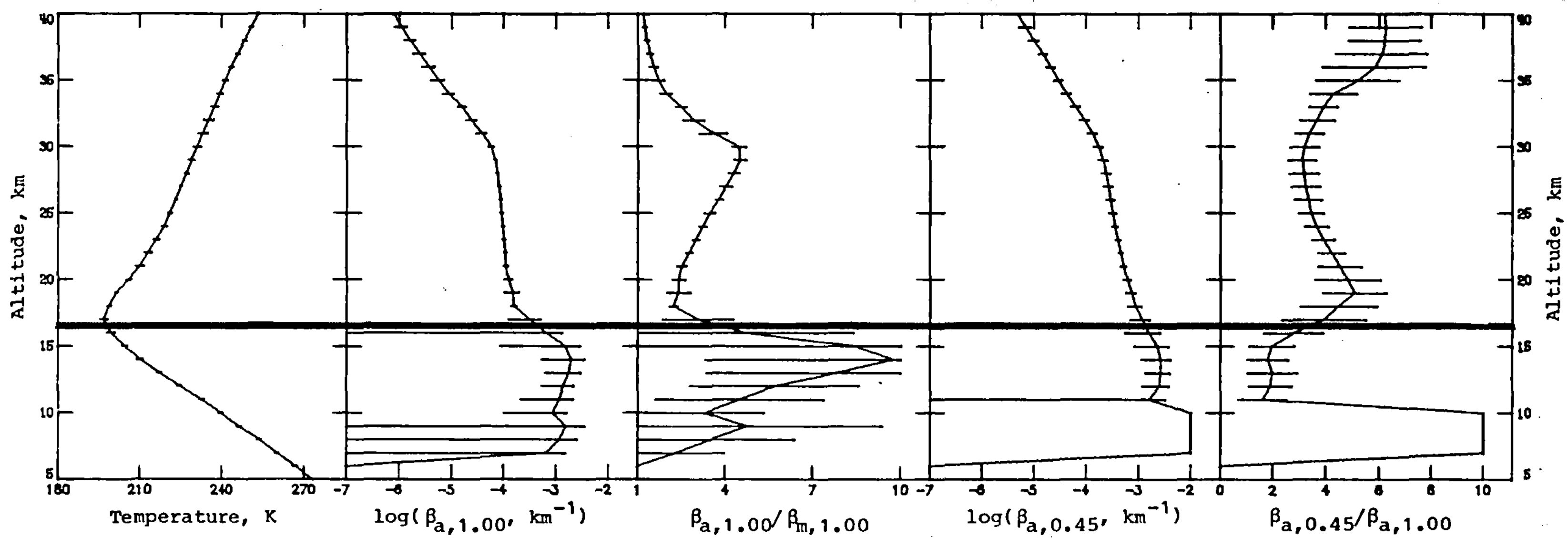


Figure 49. Average extinction and temperature profiles for latitude 5°S, May 27–May 28, 1979. Sunrise events; sweep 4.

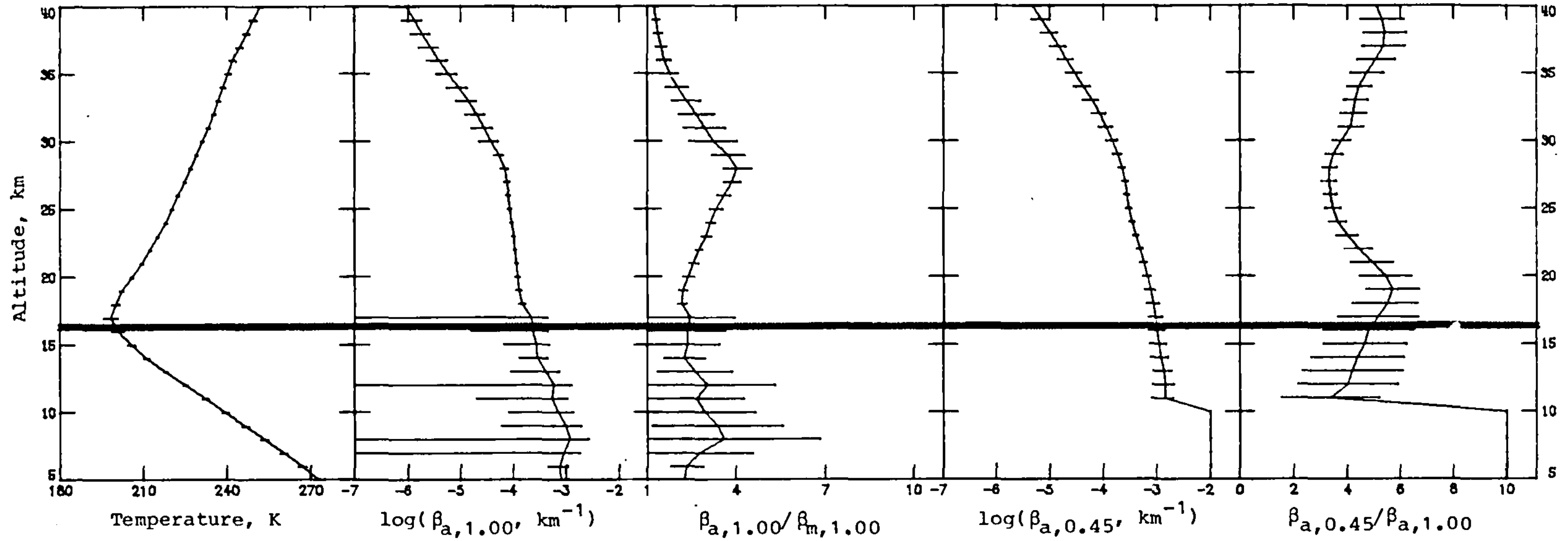


Figure 50. Average extinction and temperature profiles for latitude 15°S, May 28–May 29, 1979. Sunrise events; sweep 4.

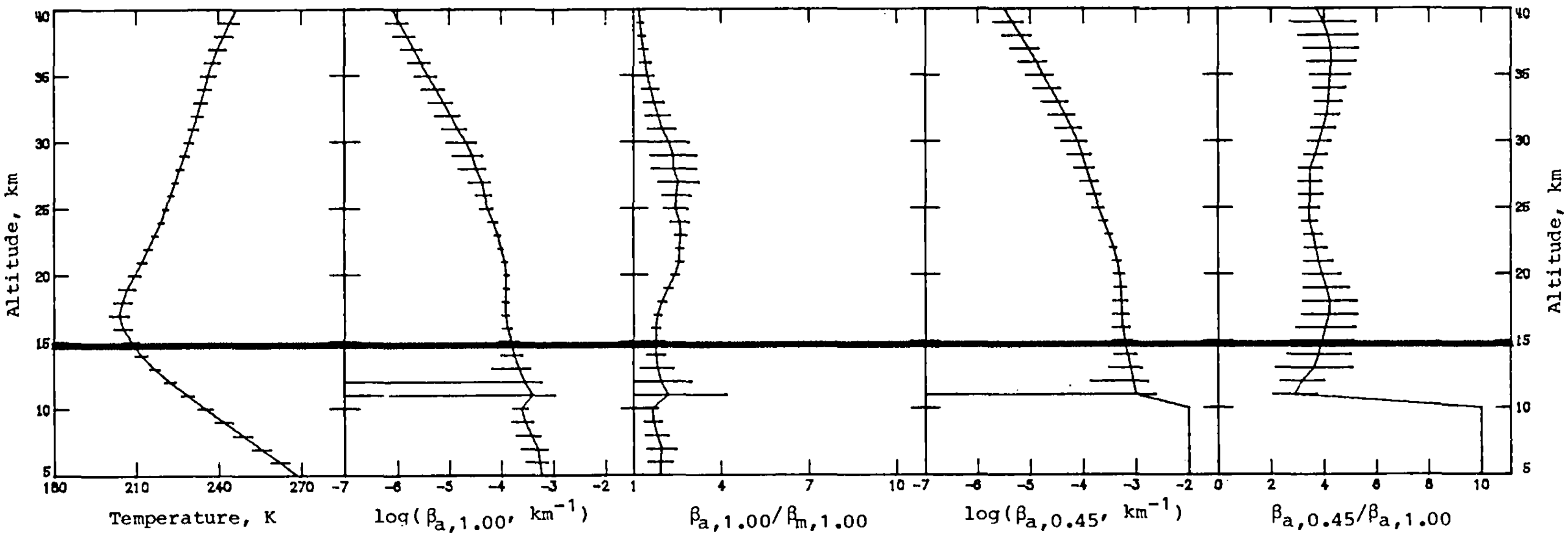


Figure 51. Average extinction and temperature profiles for latitude 25°S, May 29–May 31, 1979. Sunrise events; sweep 4.

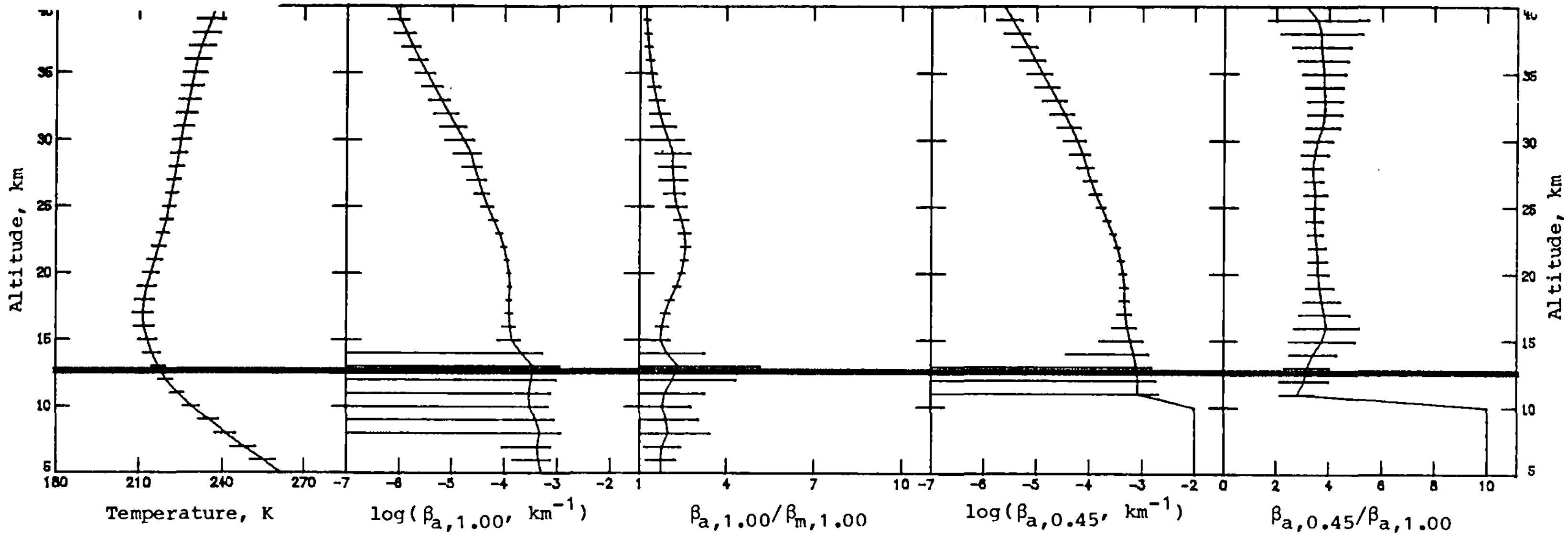


Figure 52. Average extinction and temperature profiles for latitude 35°S, May 31–June 3, 1979. Sunrise events; sweep 4.

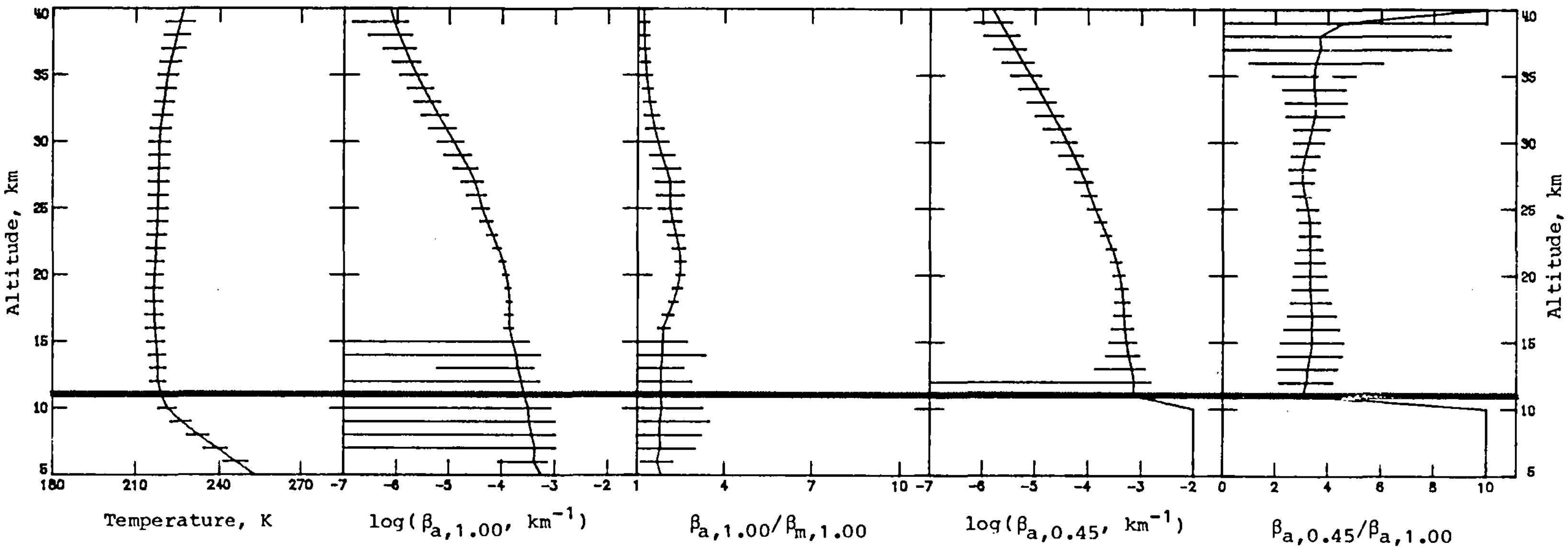


Figure 53. Average extinction and temperature profiles for latitude 45°S, June 3–June 10, 1979. Sunrise events; sweep 4.

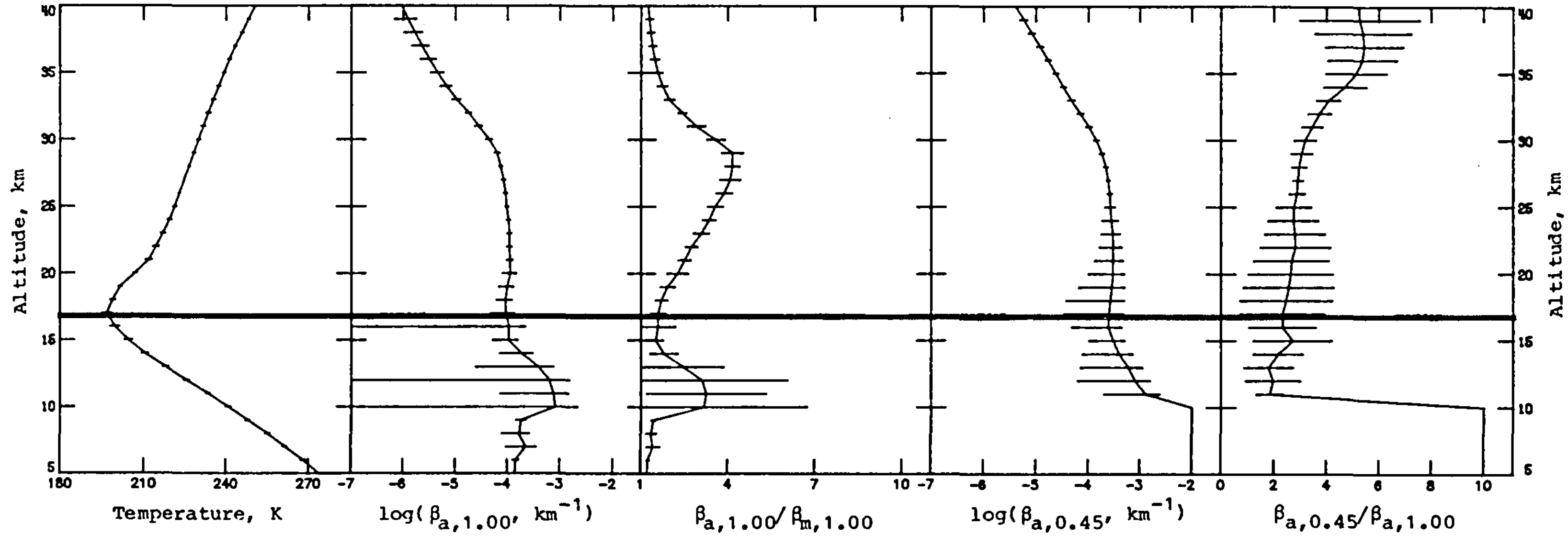


Figure 54. Average extinction and temperature profiles for latitude 5°N, June 28–June 30, 1979. Sunrise events; sweep 5.

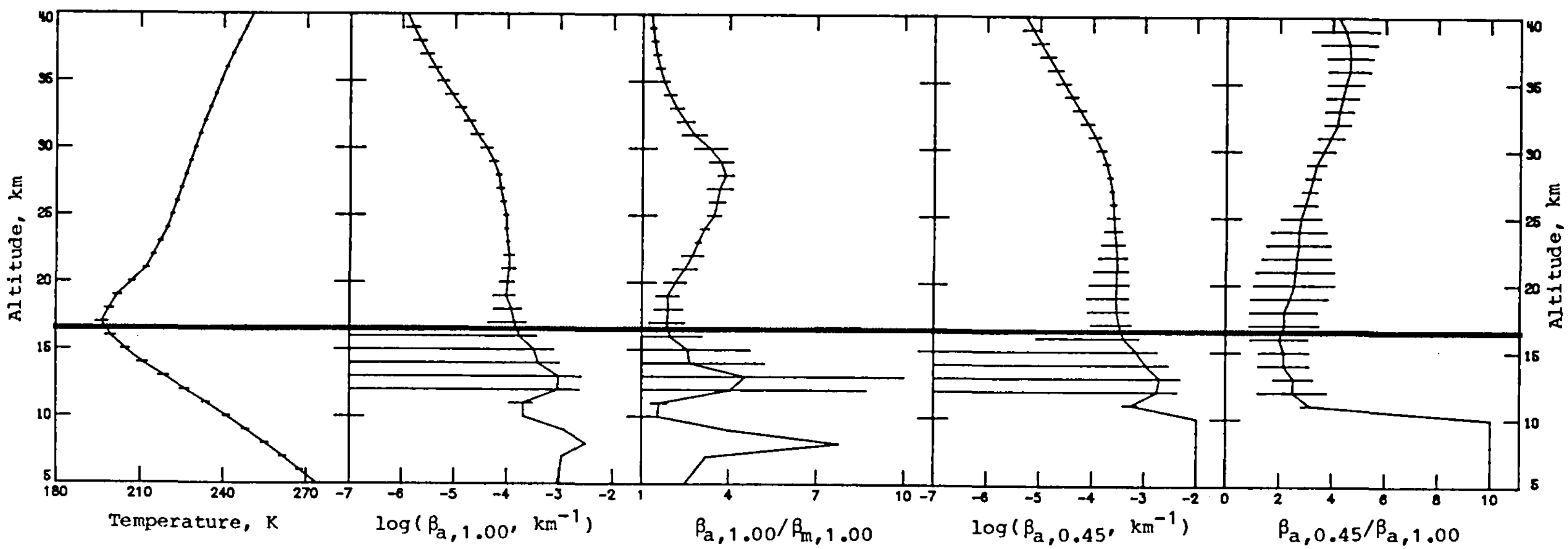


Figure 55. Average extinction and temperature profiles for latitude 15°N, June 30–July 1, 1979. Sunrise events; sweep 5.

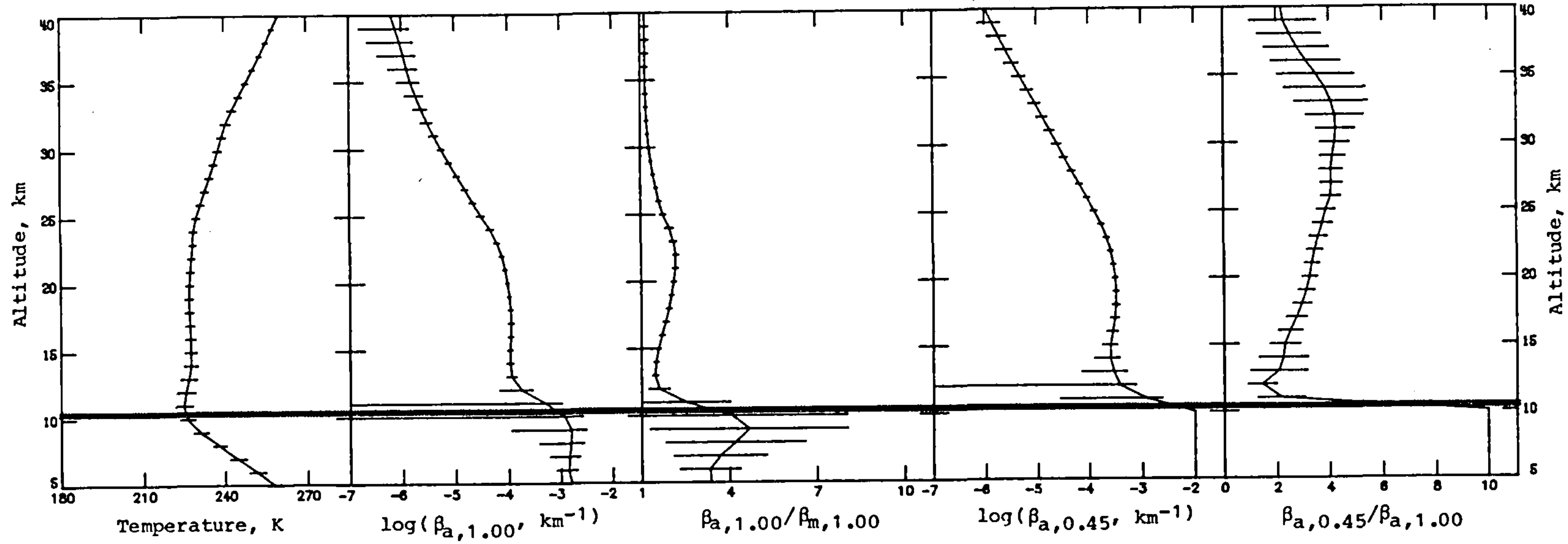


Figure 56. Average extinction and temperature profiles for latitude 65°N, July 14–July 21, 1979. Sunrise events; sweep 5.

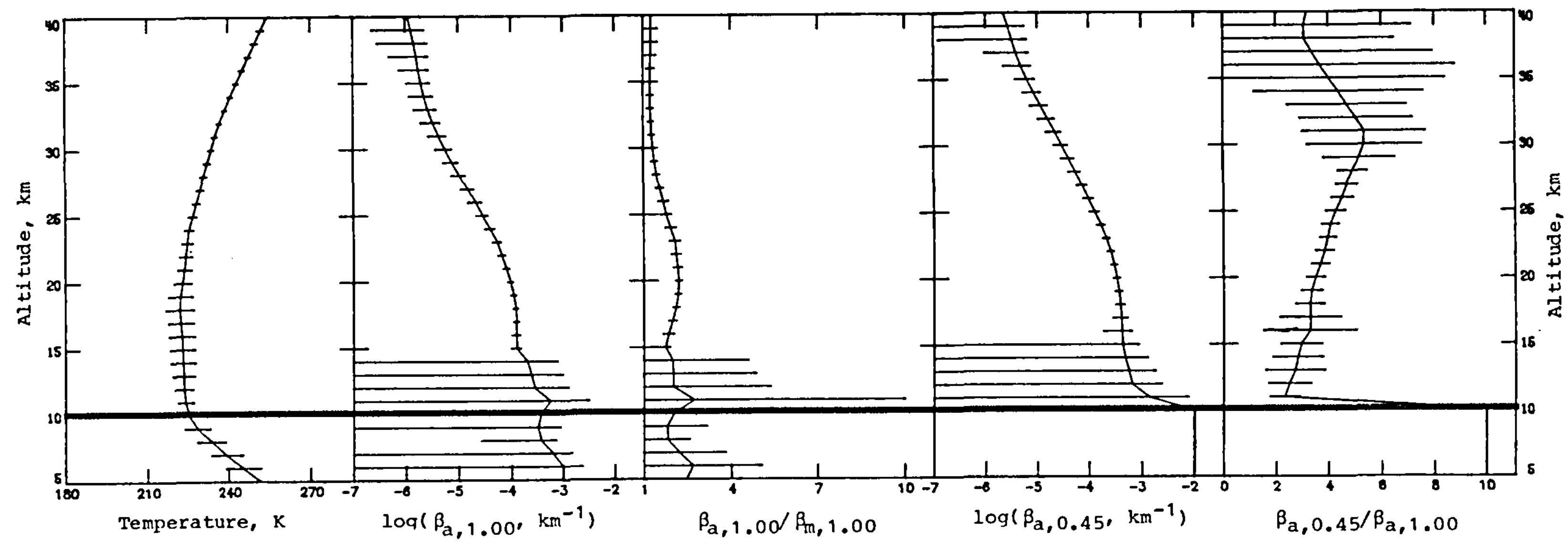


Figure 57. Average extinction and temperature profiles for latitude 55°S, February 21–February 25, 1979. Sunset events; sweep 1.

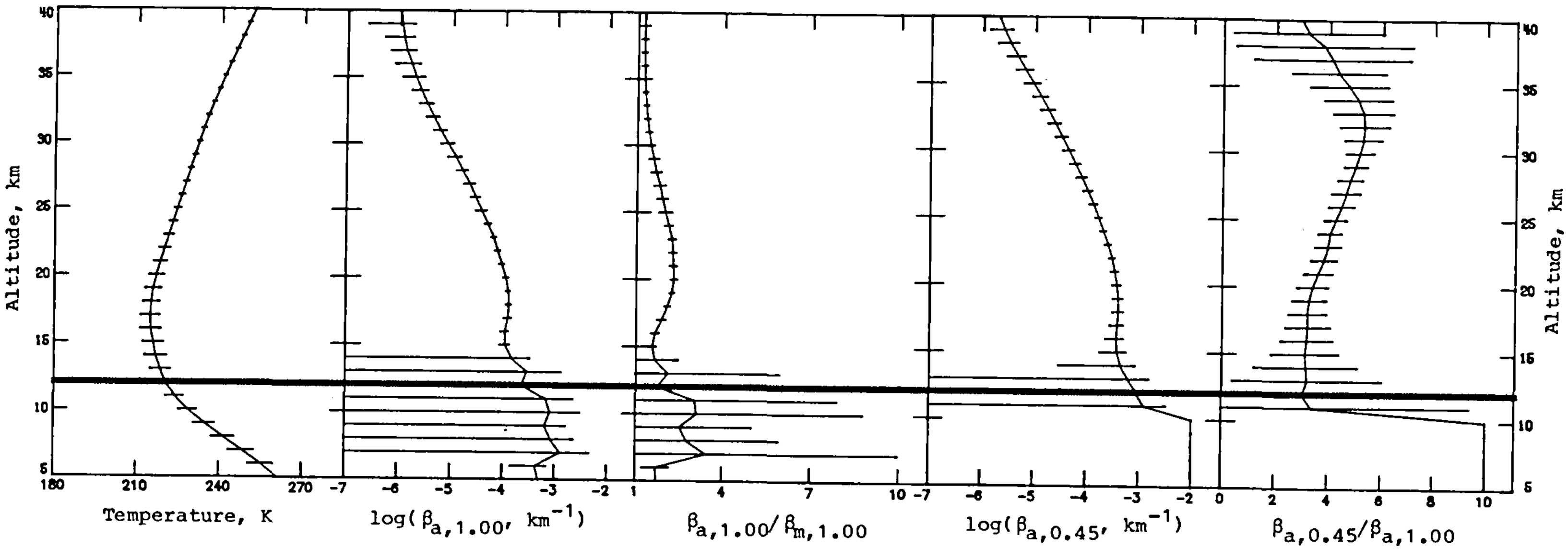


Figure 58. Average extinction and temperature profiles for latitude 45°S, February 25–February 28, 1979. Sunset events; sweep 1.

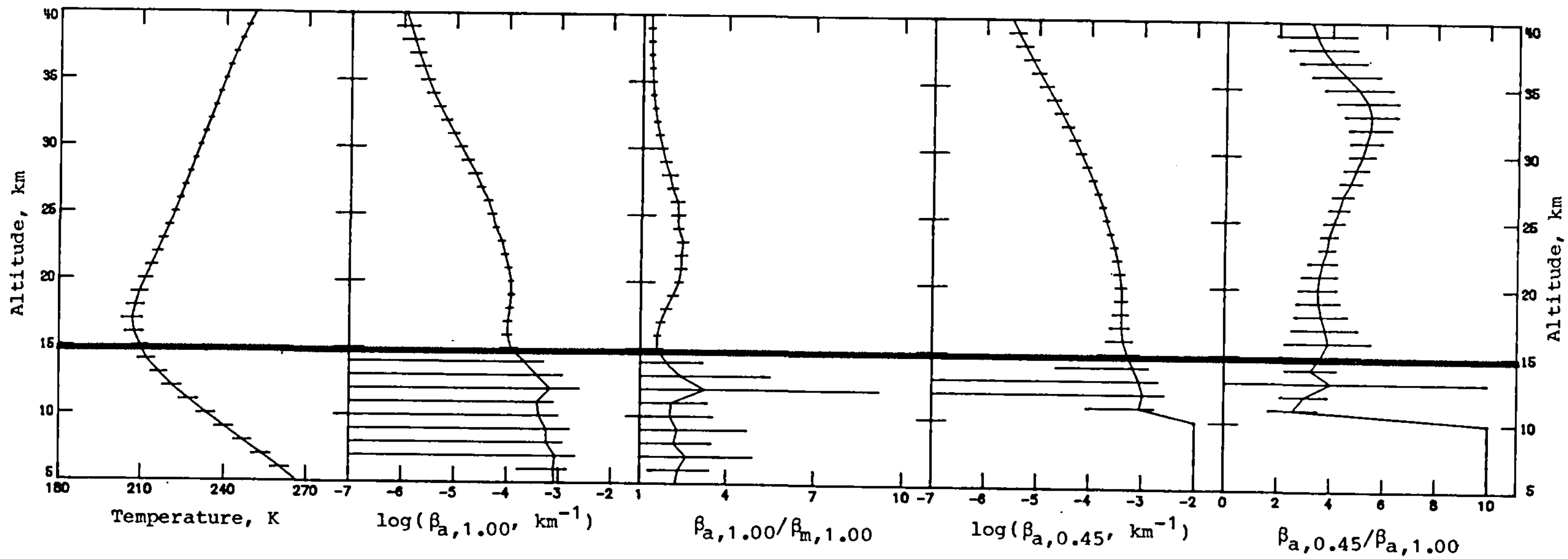


Figure 59. Average extinction and temperature profiles for latitude 35°S, February 28–March 3, 1979. Sunset events; sweep 1.

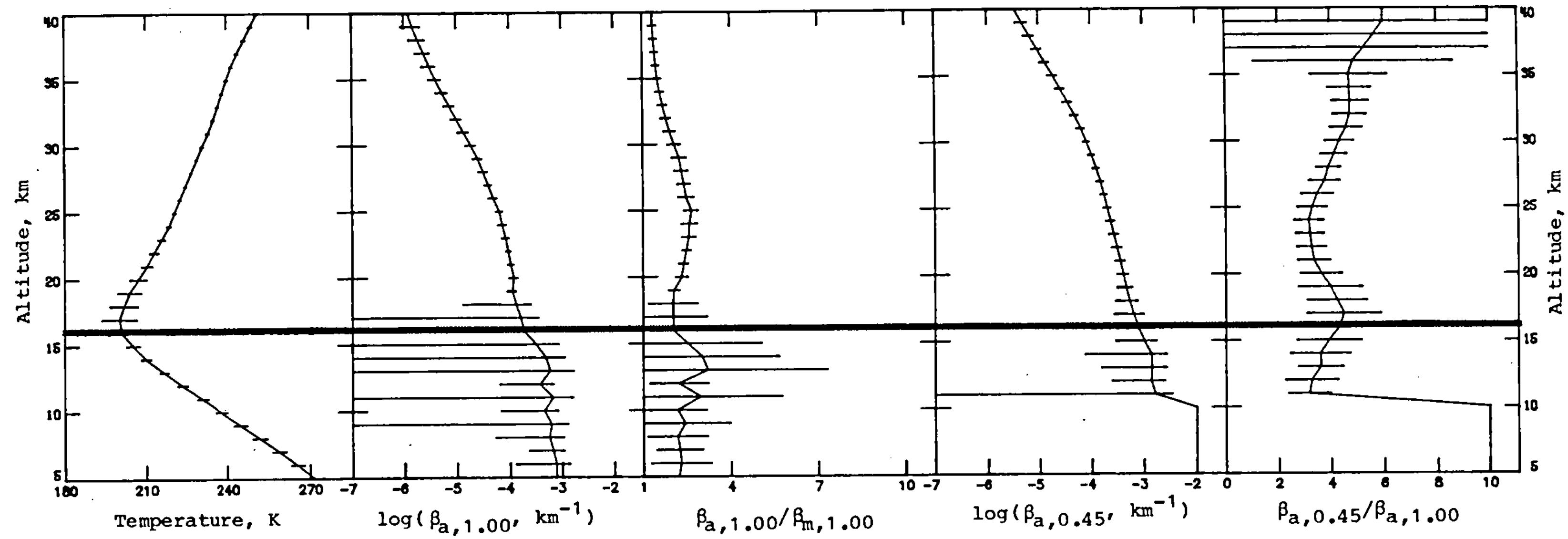


Figure 60. Average extinction and temperature profiles for latitude 25°S, March 3–March 5, 1979. Sunset events; sweep 1.

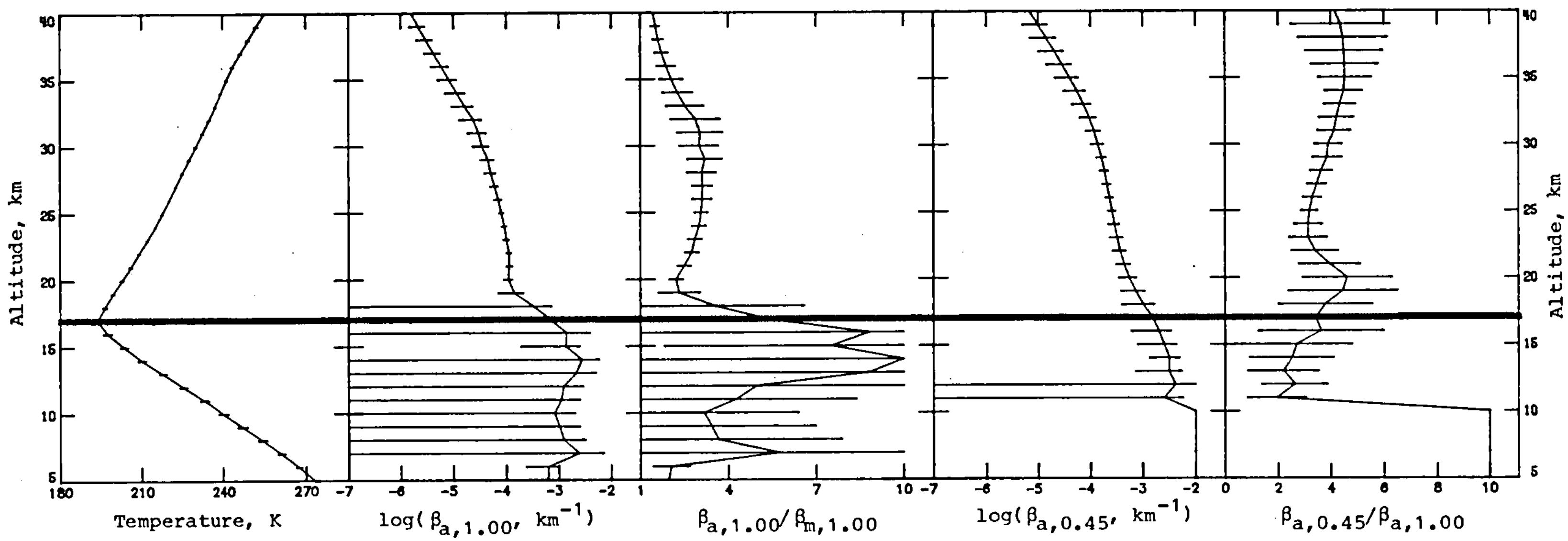


Figure 61. Average extinction and temperature profiles for latitude 15°S, March 5–March 6, 1979. Sunset events; sweep 1.

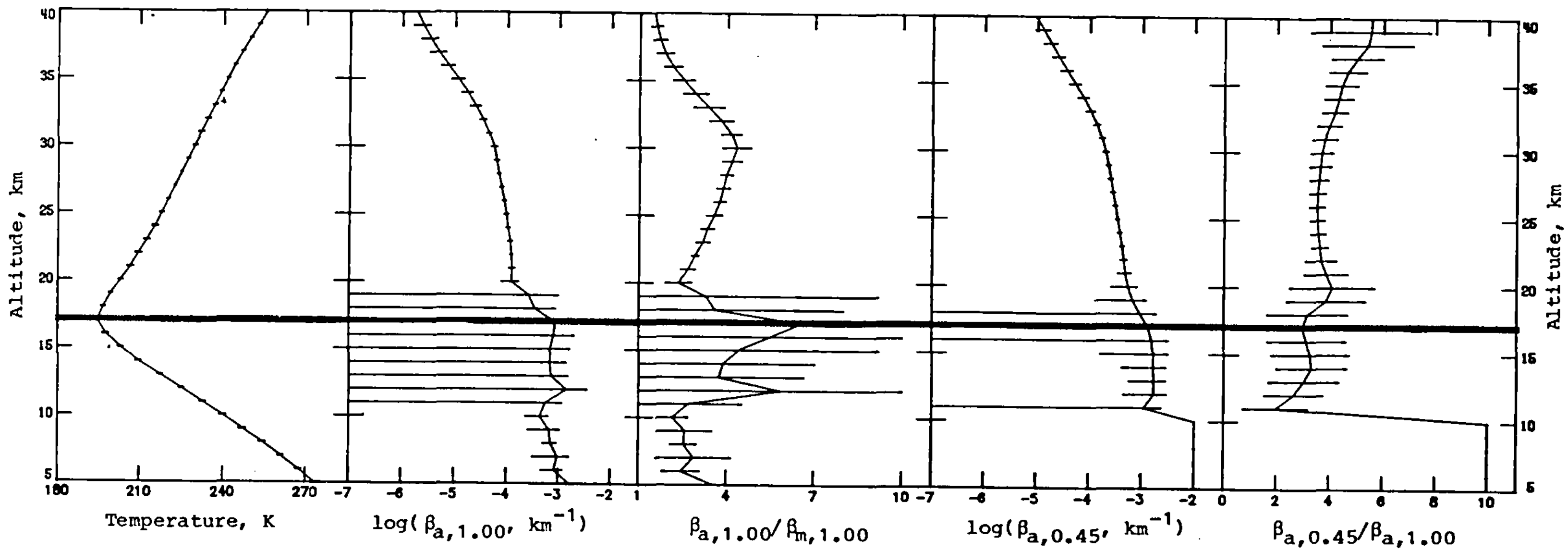


Figure 62. Average extinction and temperature profiles for latitude 5°S, March 6–March 8, 1979. Sunset events; sweep 1.

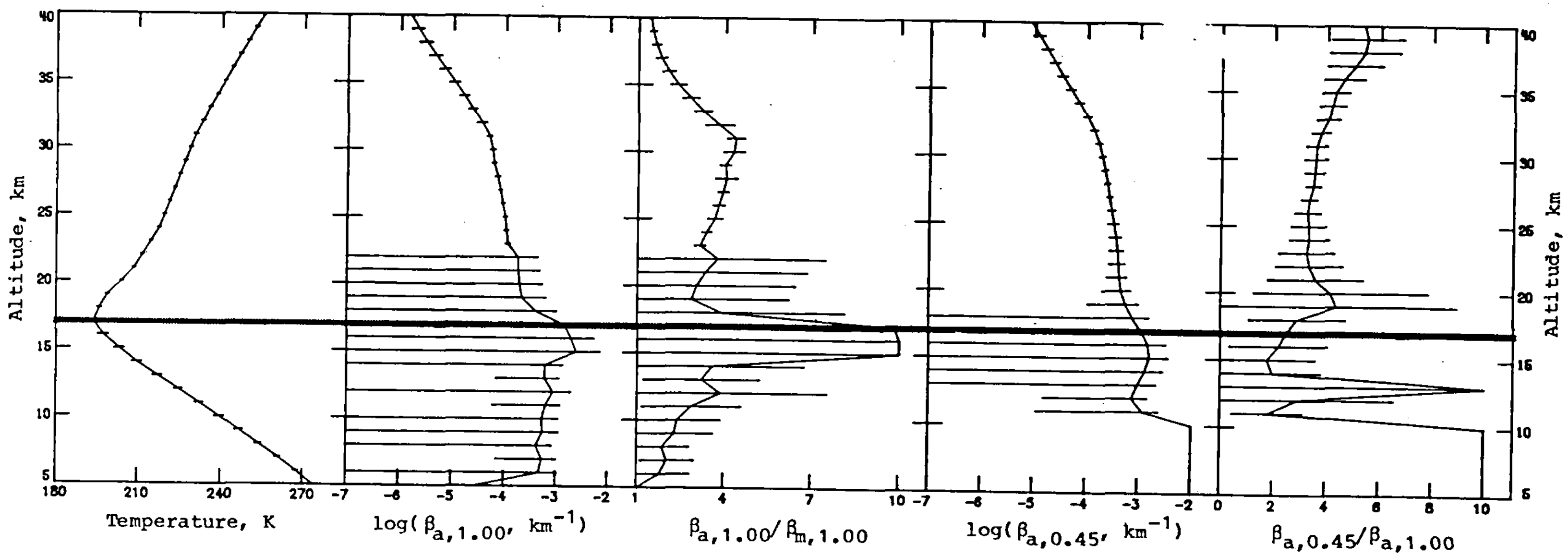


Figure 63. Average extinction and temperature profiles for latitude 5°N, March 8–March 9, 1979. Sunset events; sweep 1.

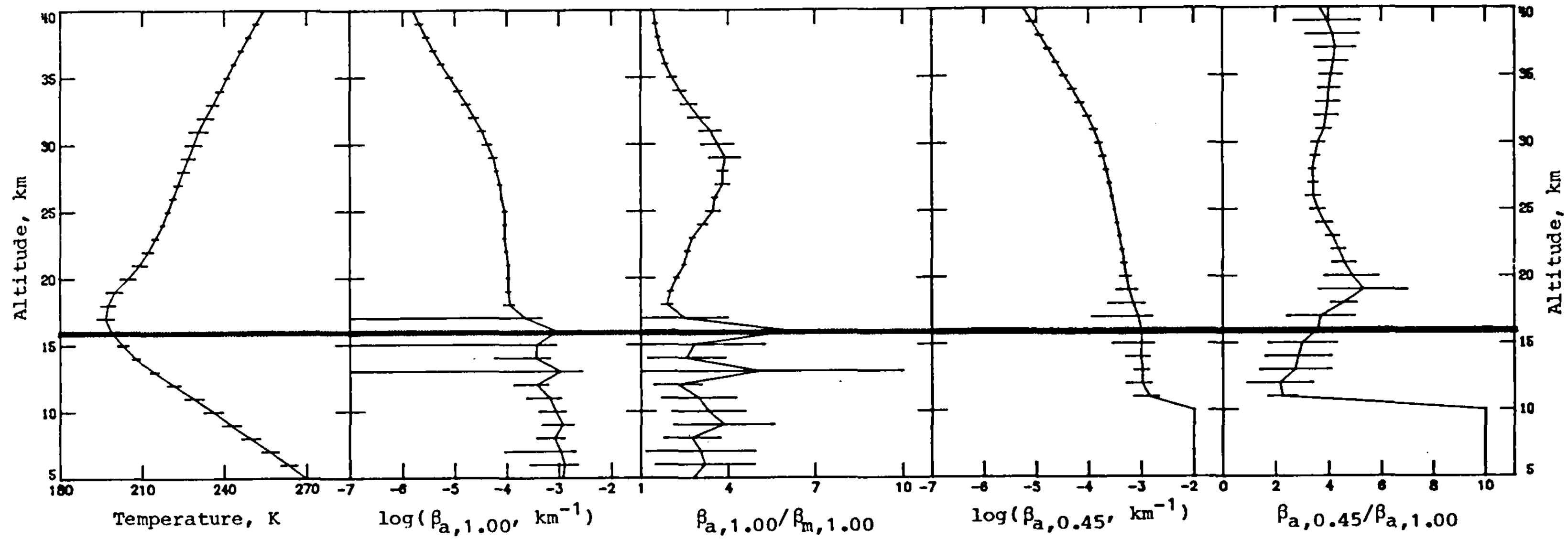


Figure 64. Average extinction and temperature profiles for latitude 15°N, March 9–March 10, 1979. Sunset events; sweep 1.

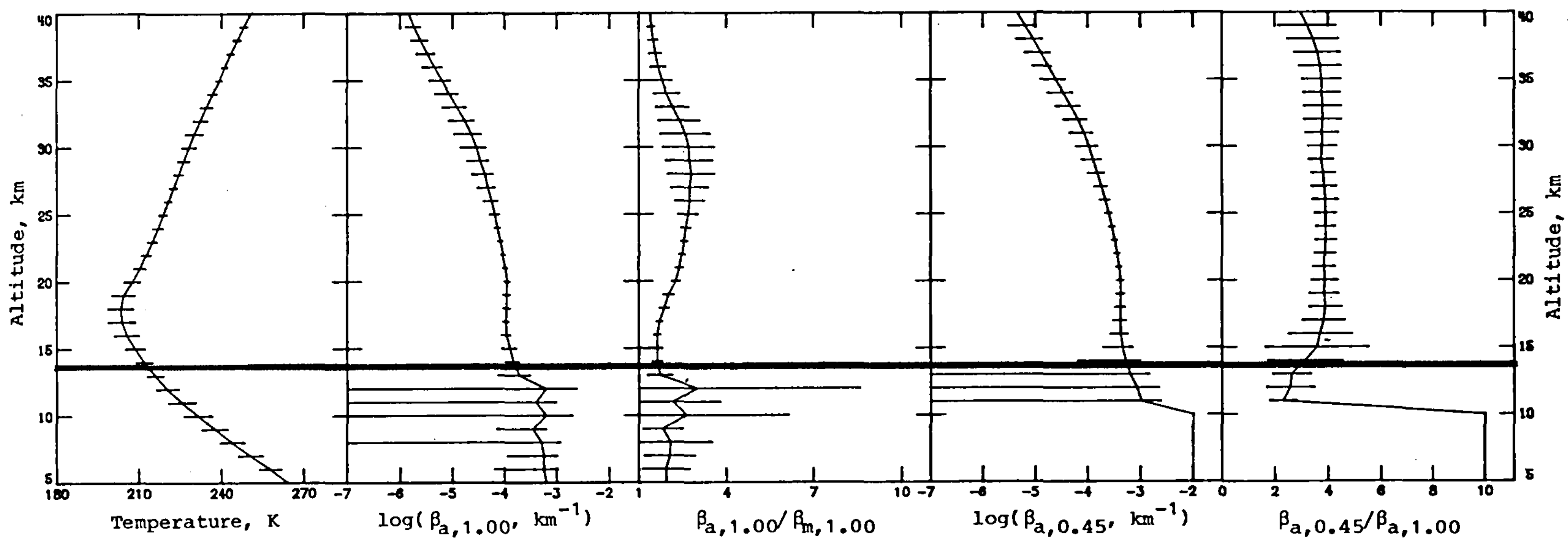


Figure 65. Average extinction and temperature profiles for latitude 25°N, March 10–March 12, 1979. Sunset events; sweep 1.

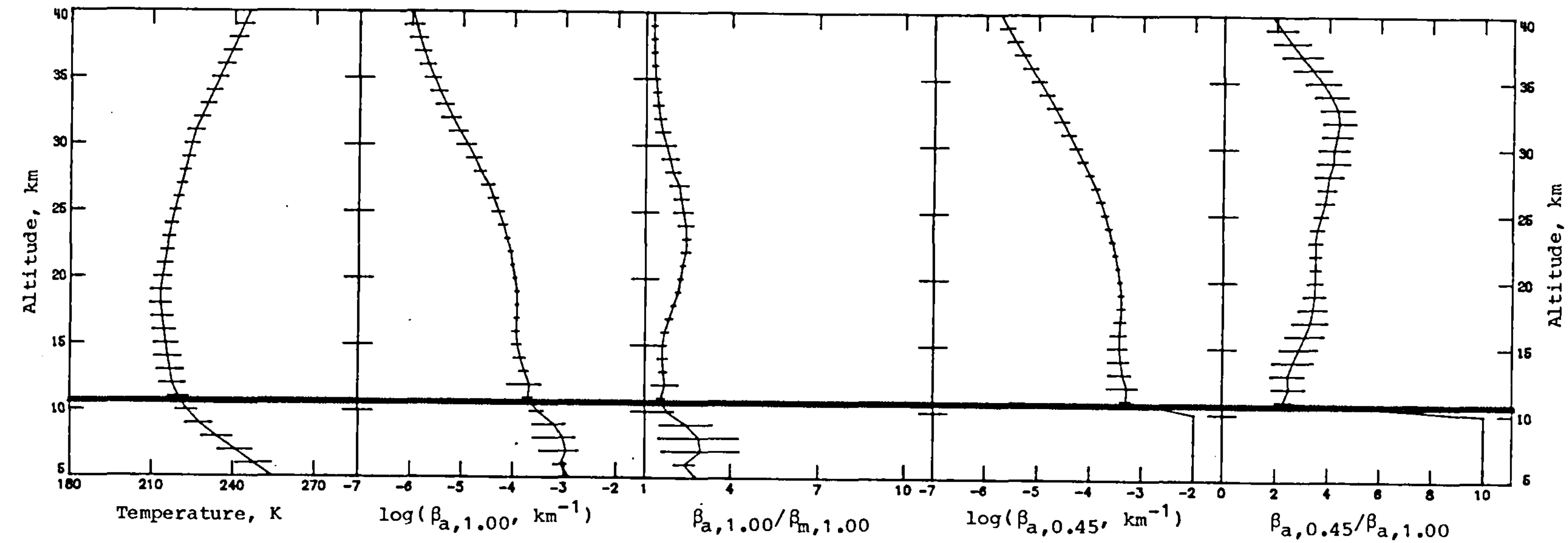


Figure 66. Average extinction and temperature profiles for latitude 35°N, March 12–March 13, 1979. Sunset events; sweep 1.

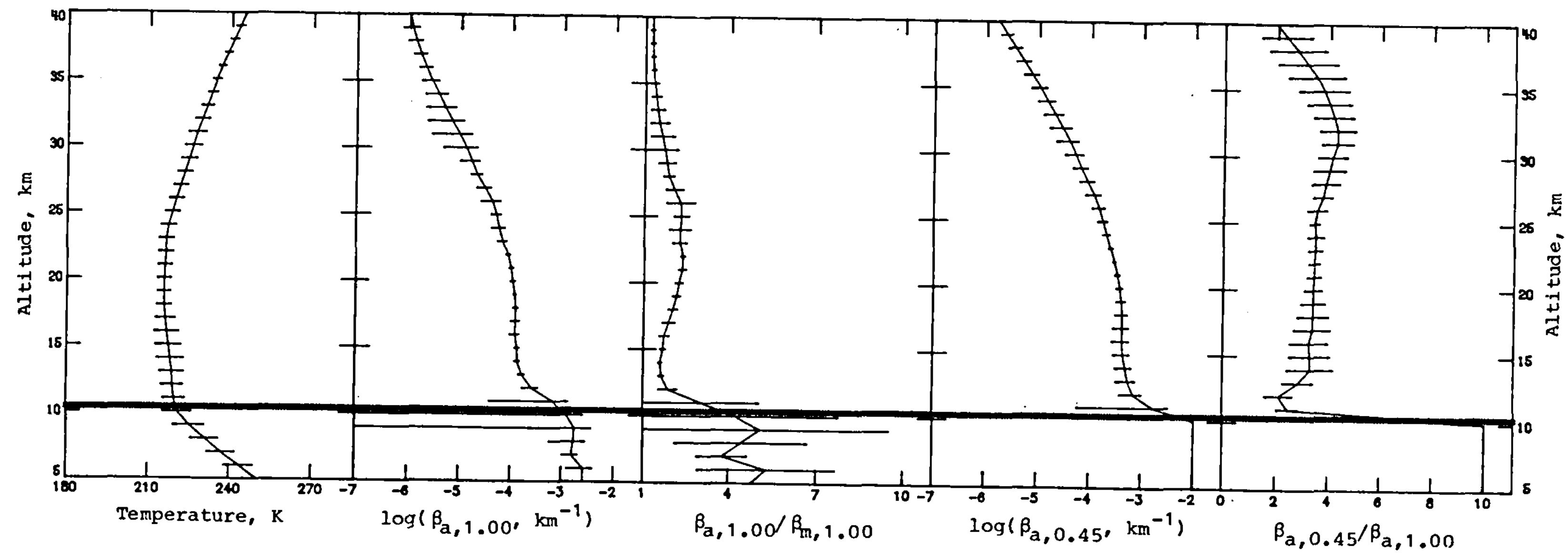


Figure 67. Average extinction and temperature profiles for latitude 45°N, March 13–March 15, 1979. Sunset events; sweep 1.

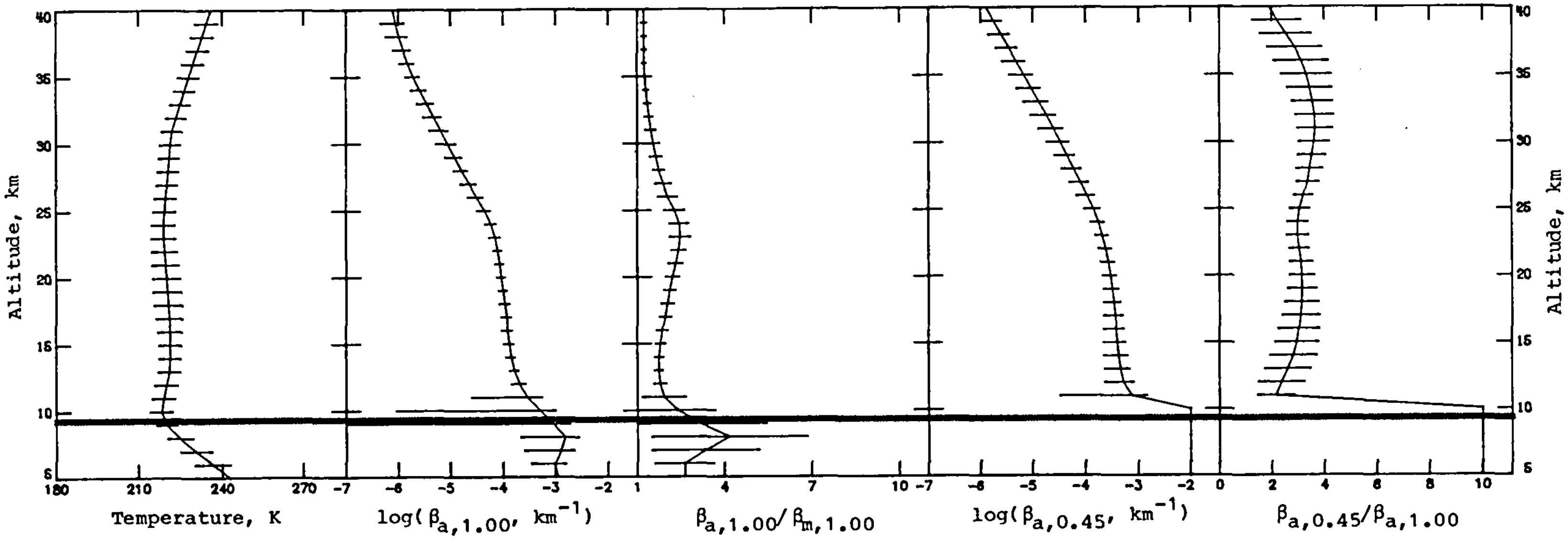


Figure 68. Average extinction and temperature profiles for latitude 55°N, March 15–March 17, 1979. Sunset events; sweep 1.

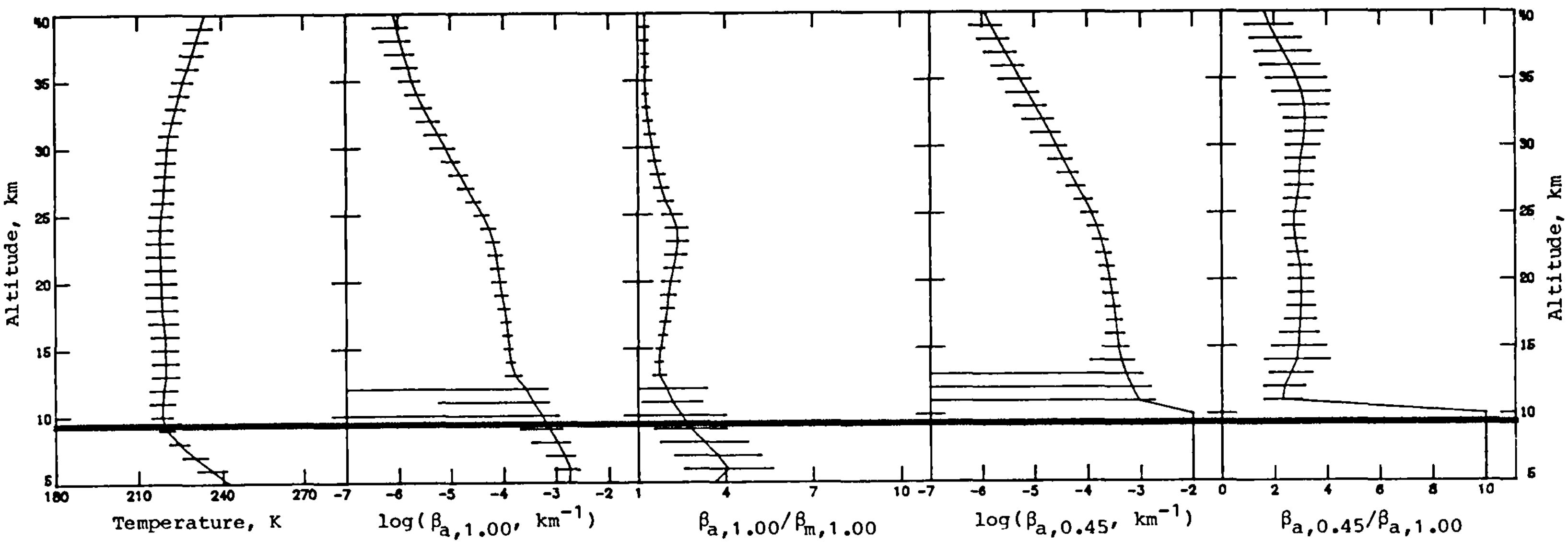


Figure 69. Average extinction and temperature profiles for latitude 65°N, March 17–March 22, 1979. Sunset events; sweep 1.

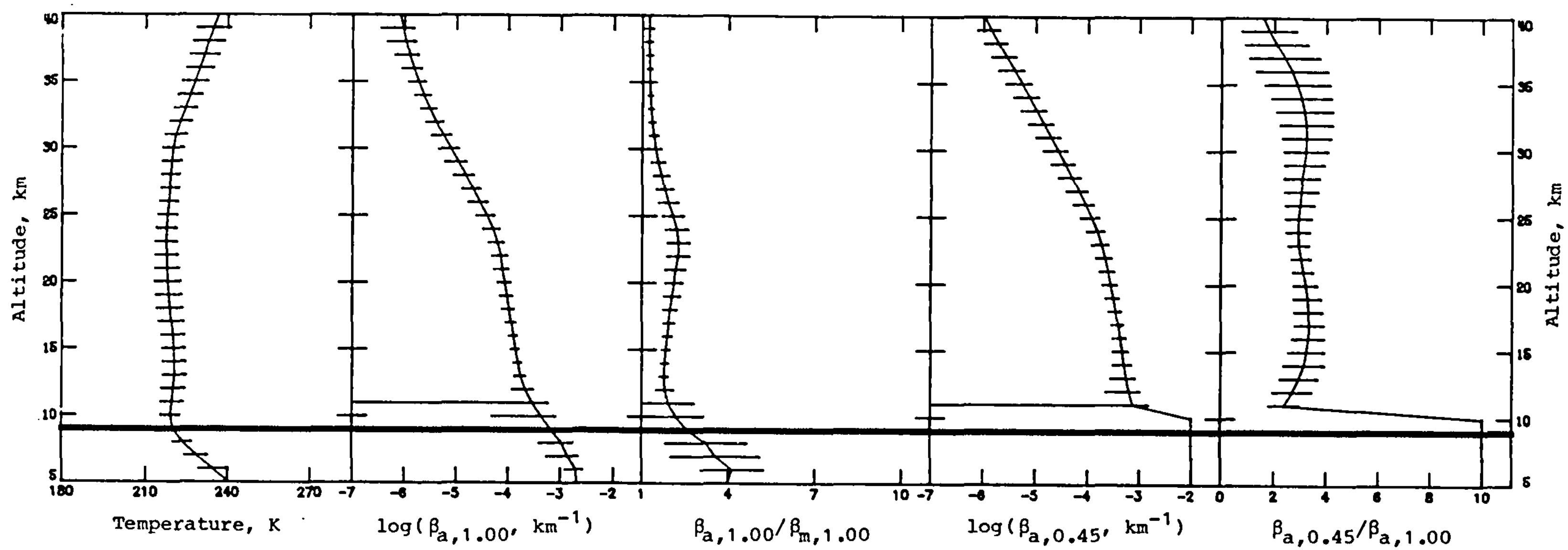


Figure 70. Average extinction and temperature profiles for latitude 65°N, March 22–March 28, 1979. Sunset events; sweep 2.

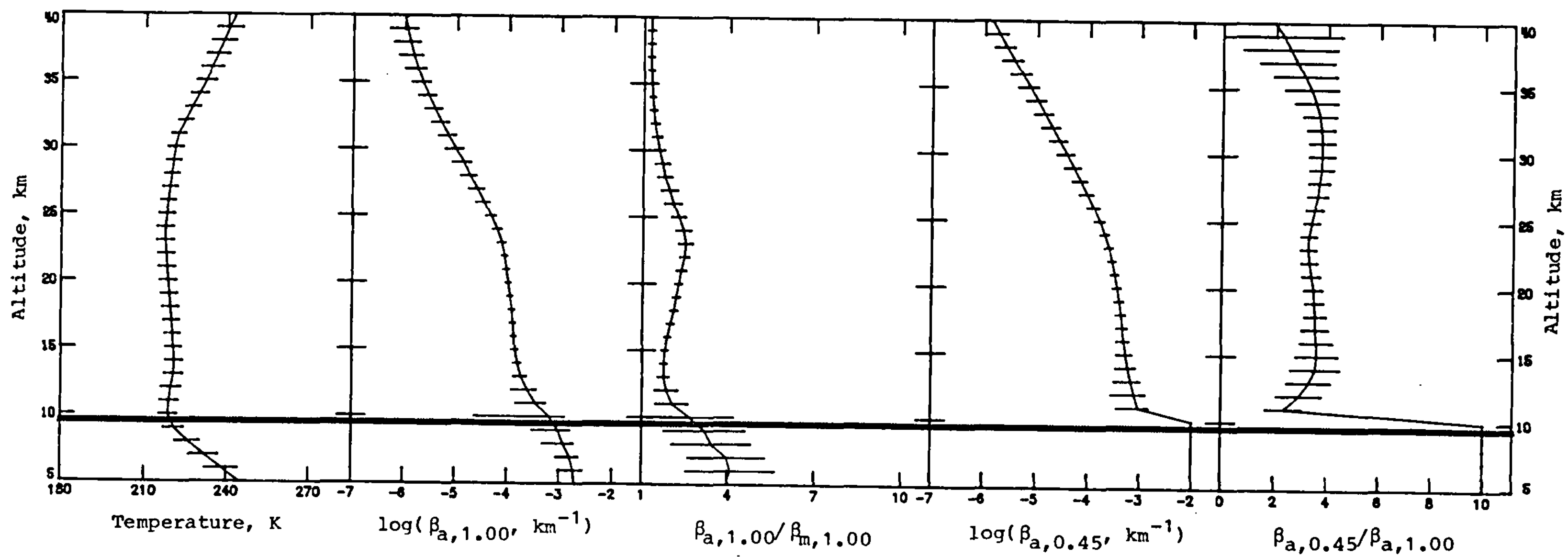


Figure 71. Average extinction and temperature profiles for latitude 55°N, March 28–April 1, 1979. Sunset events; sweep 2.

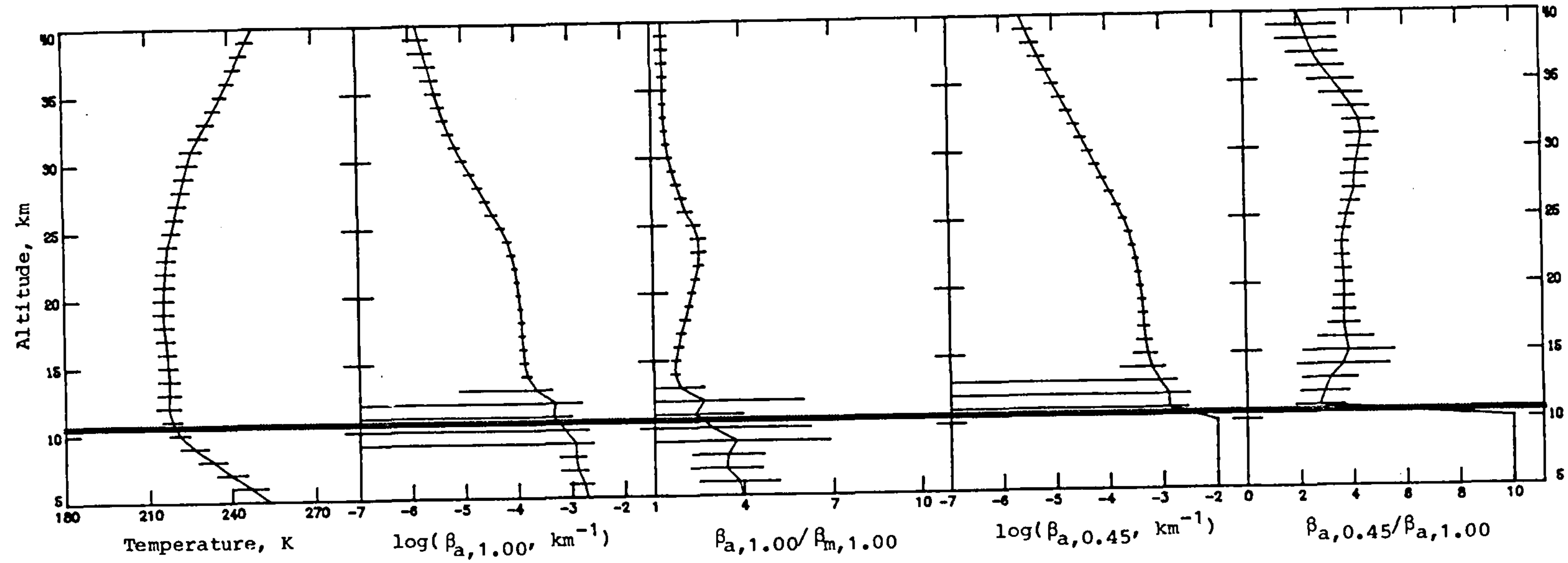


Figure 72. Average extinction and temperature profiles for latitude 45°N, April 1–April 5, 1979. Sunset events; sweep 2.

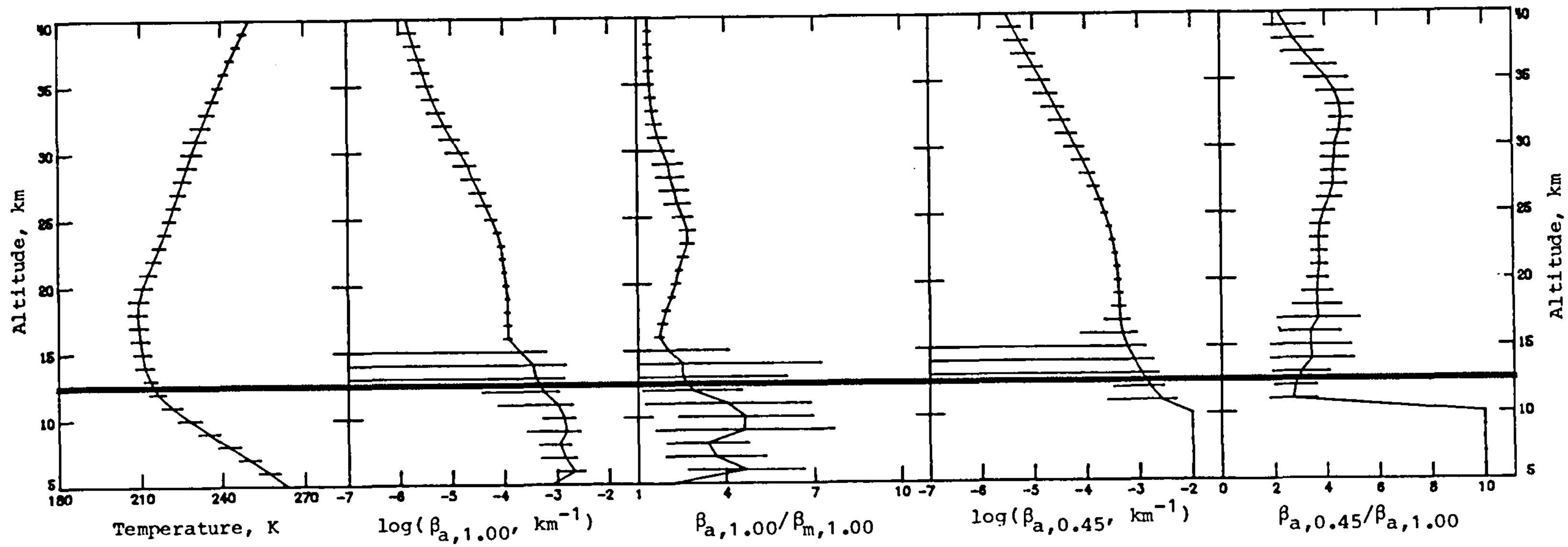


Figure 73. Average extinction and temperature profiles for latitude 35°N, April 5–April 7, 1979. Sunset events; sweep 2.

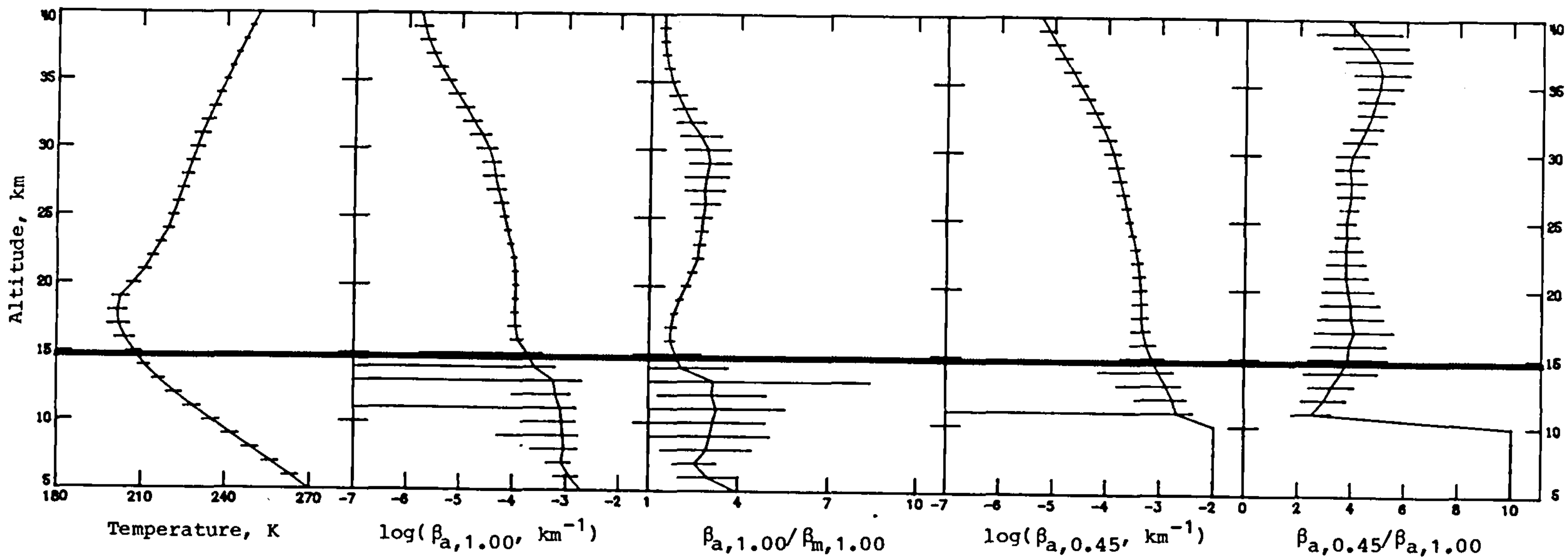


Figure 74. Average extinction and temperature profiles for latitude 25°N, April 7–April 9, 1979. Sunset events; sweep 2.

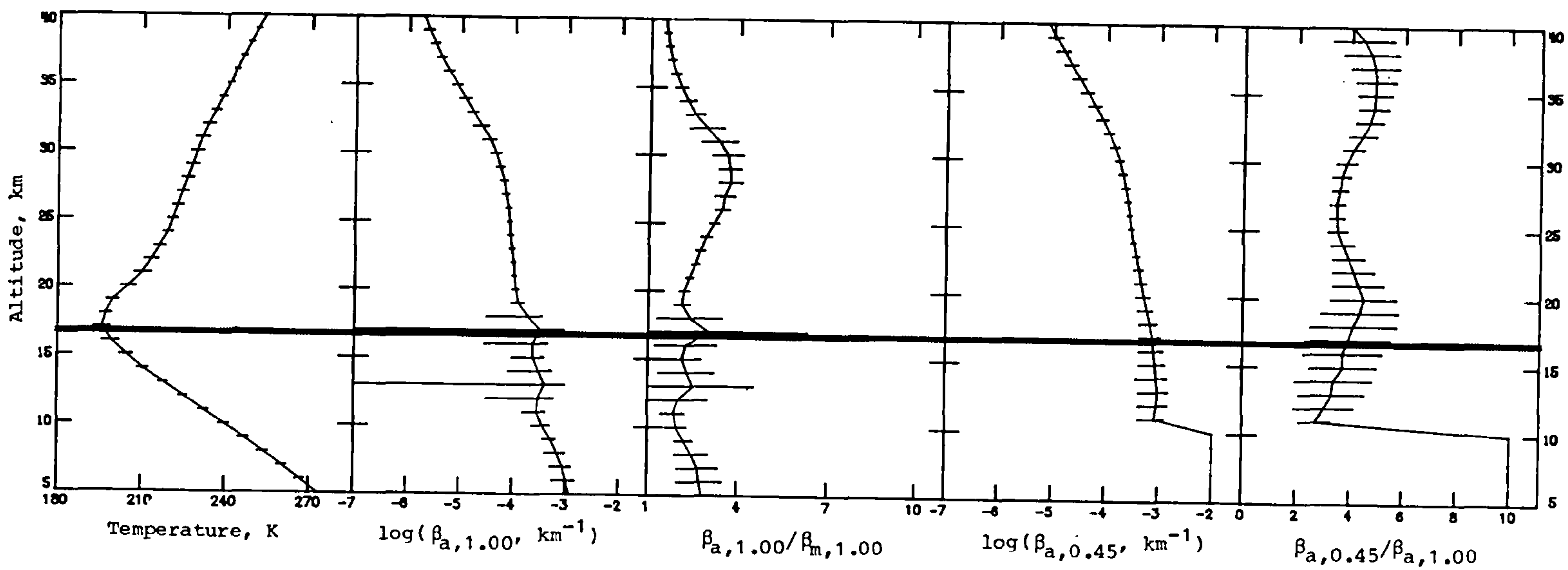


Figure 75. Average extinction and temperature profiles for latitude 15°N, April 9–April 11, 1979. Sunset events; sweep 2.

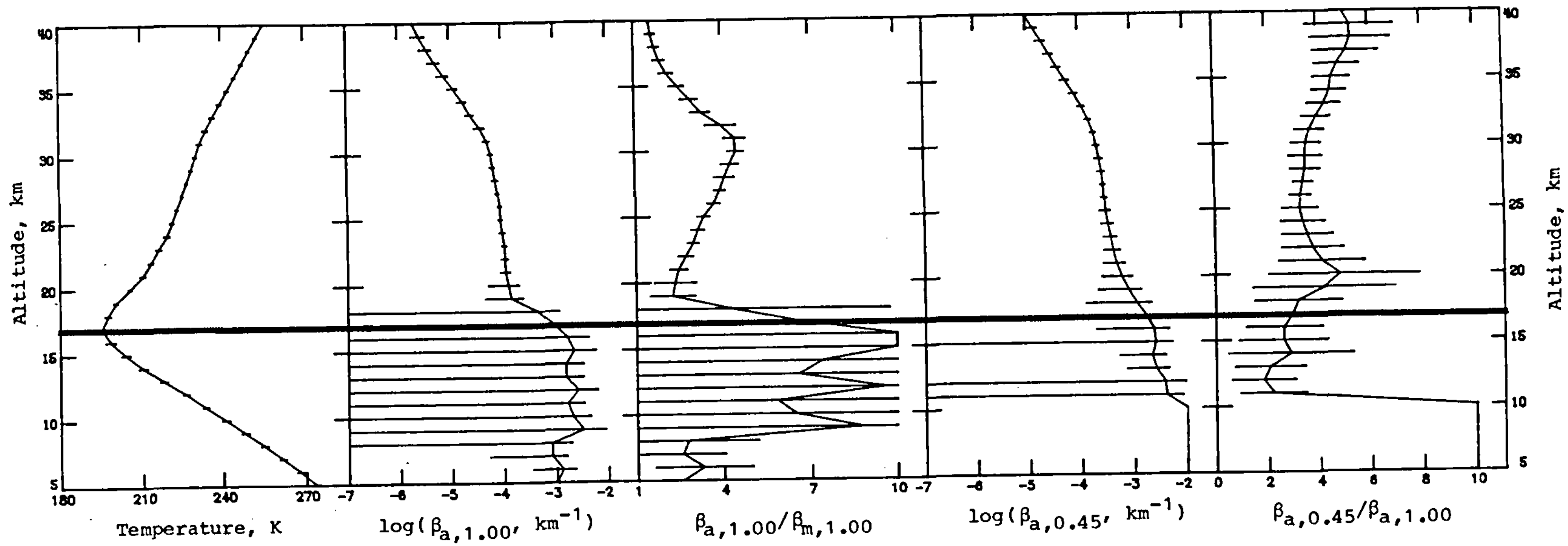


Figure 76. Average extinction and temperature profiles for latitude 5°N, April 11–April 12, 1979. Sunset events; sweep 2.

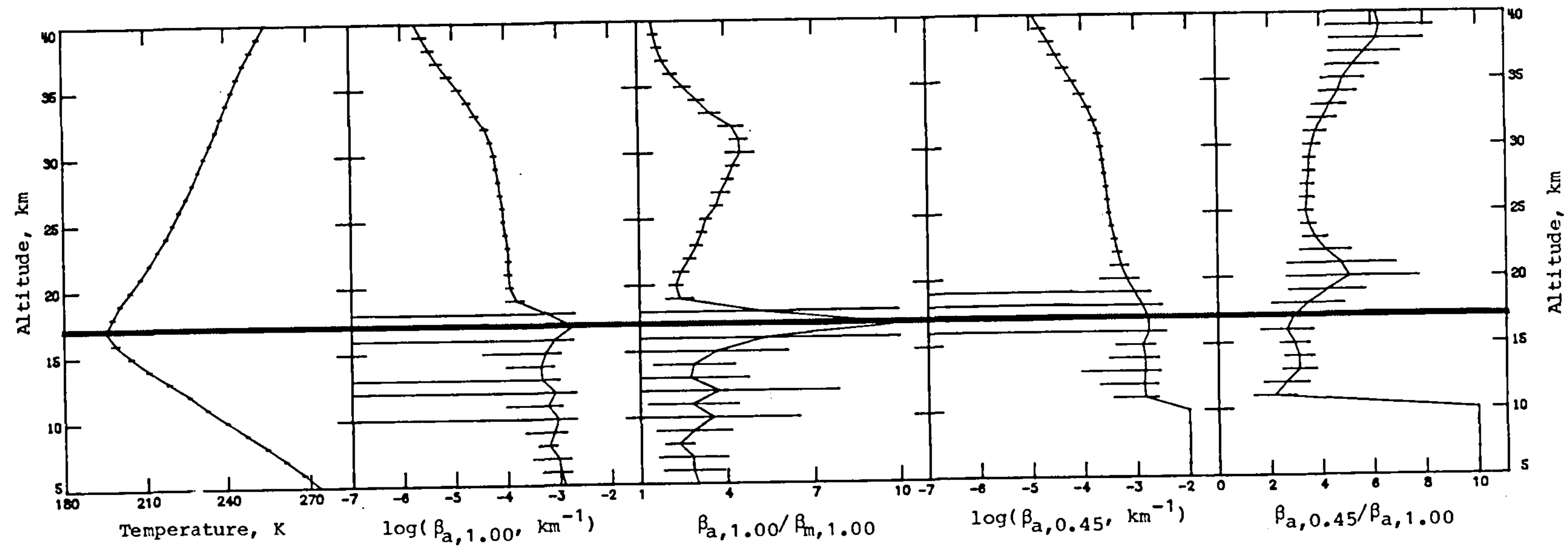


Figure 77. Average extinction and temperature profiles for latitude 5°S, April 12–April 14, 1979. Sunset events; sweep 2.

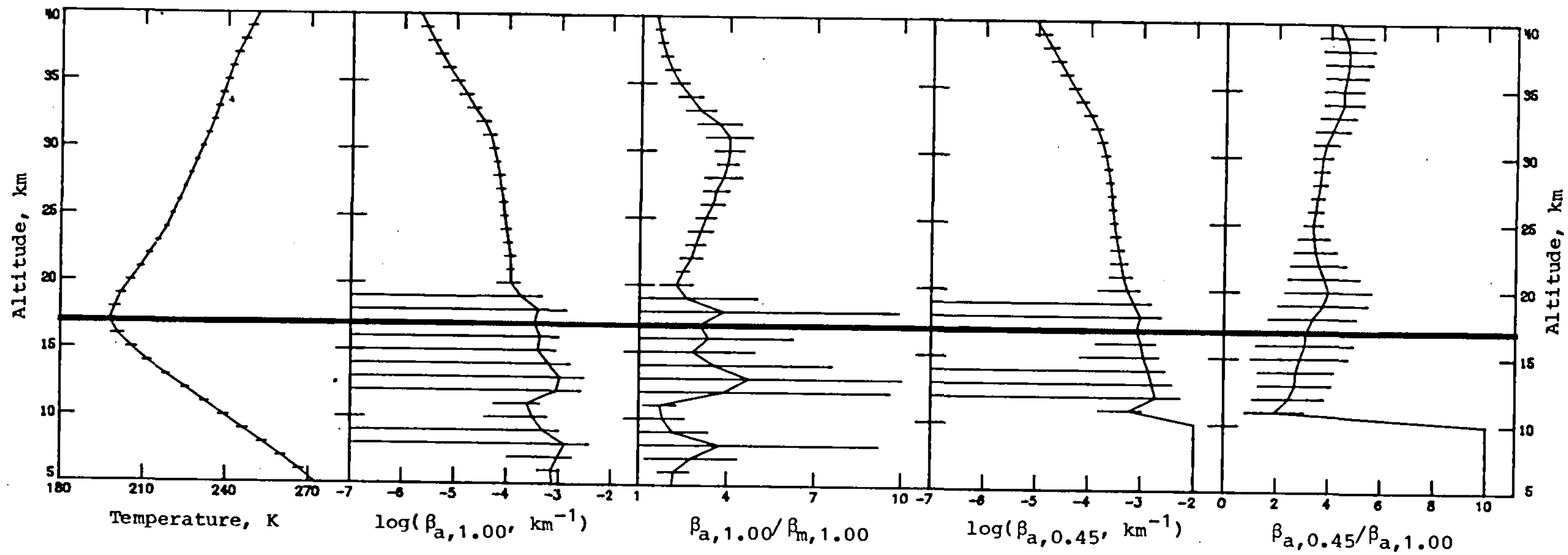


Figure 78. Average extinction and temperature profiles for latitude 15°S, April 14–April 15, 1979. Sunset events; sweep 2.

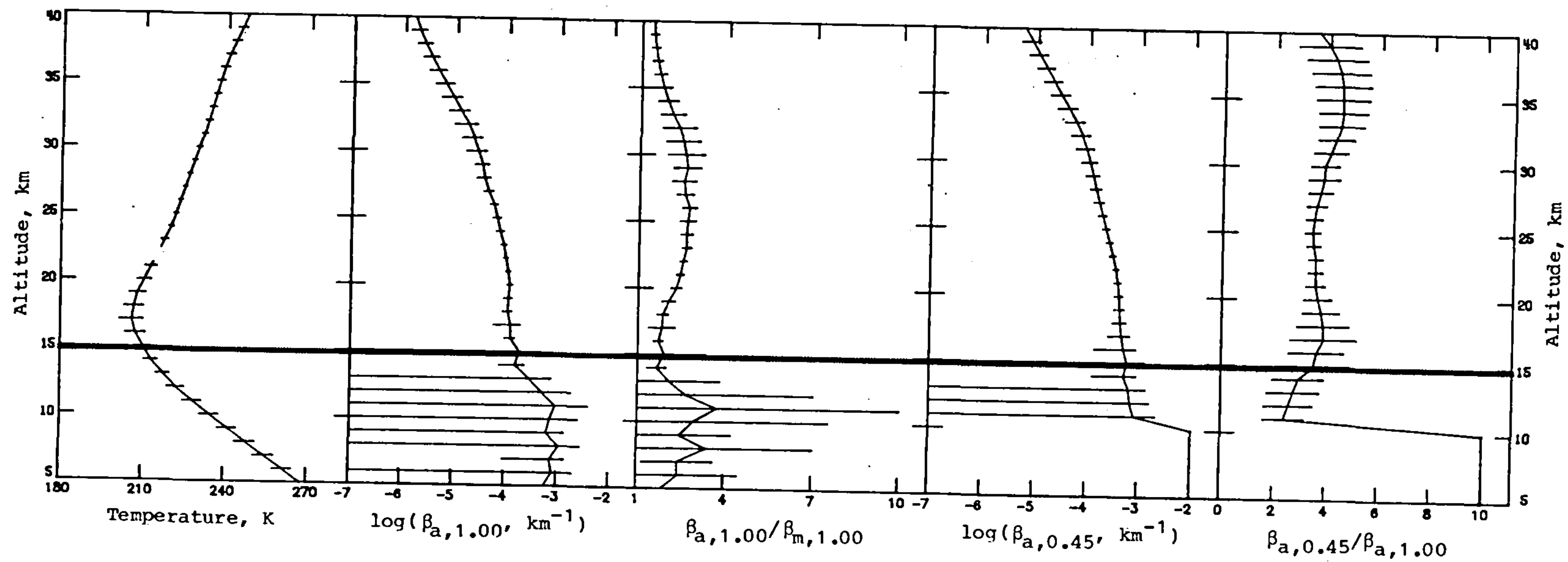


Figure 79. Average extinction and temperature profiles for latitude 25°S, April 15–April 17, 1979. Sunset events; sweep 2.

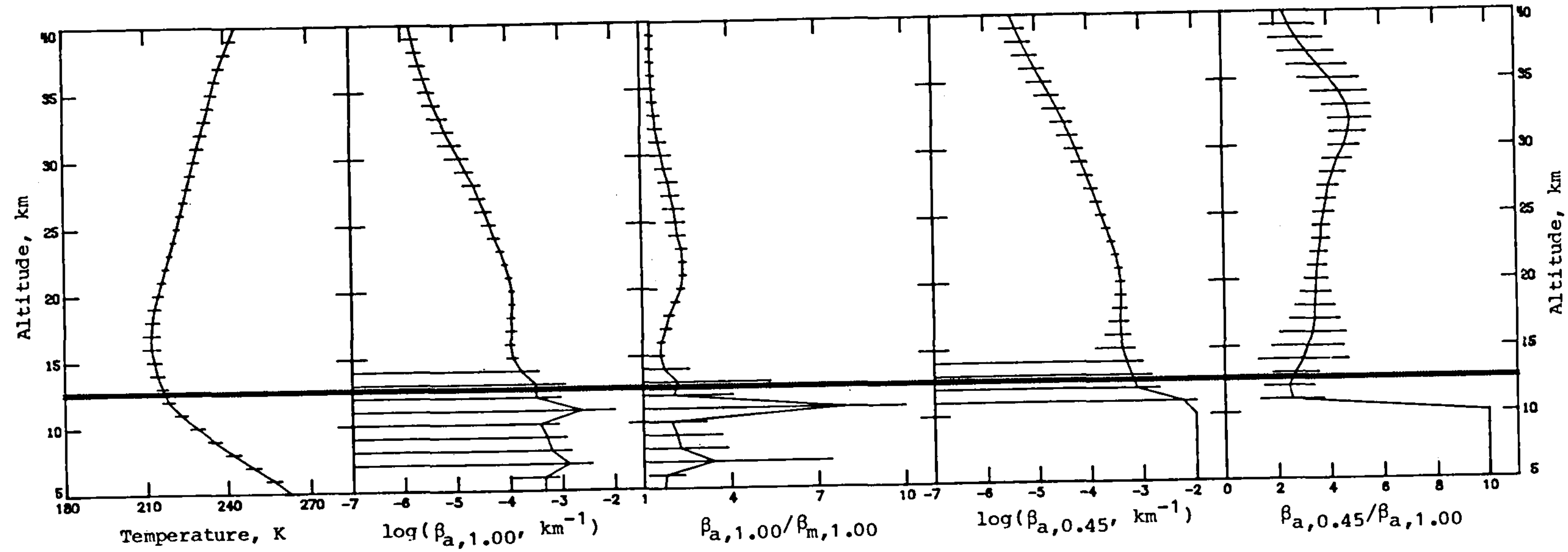


Figure 80. Average extinction and temperature profiles for latitude 35°S, April 17–April 19, 1979. Sunset events; sweep 2.

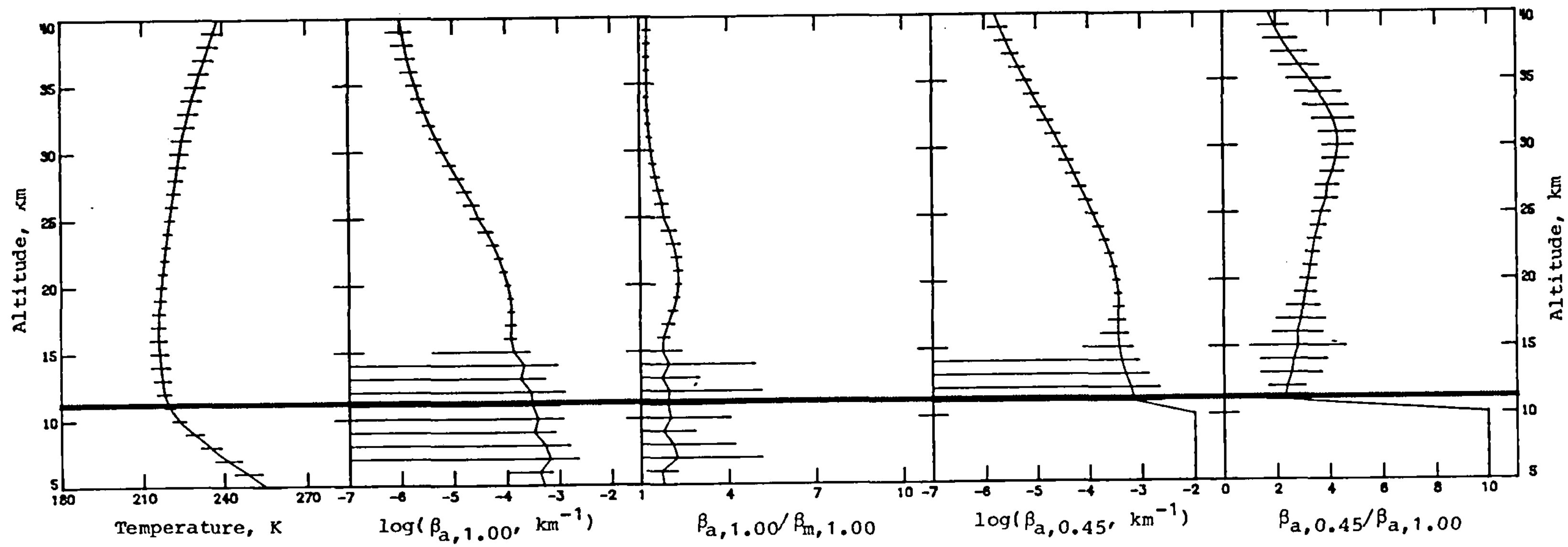


Figure 81. Average extinction and temperature profiles for latitude 45°S, April 19–April 24, 1979. Sunset events; sweep 2.

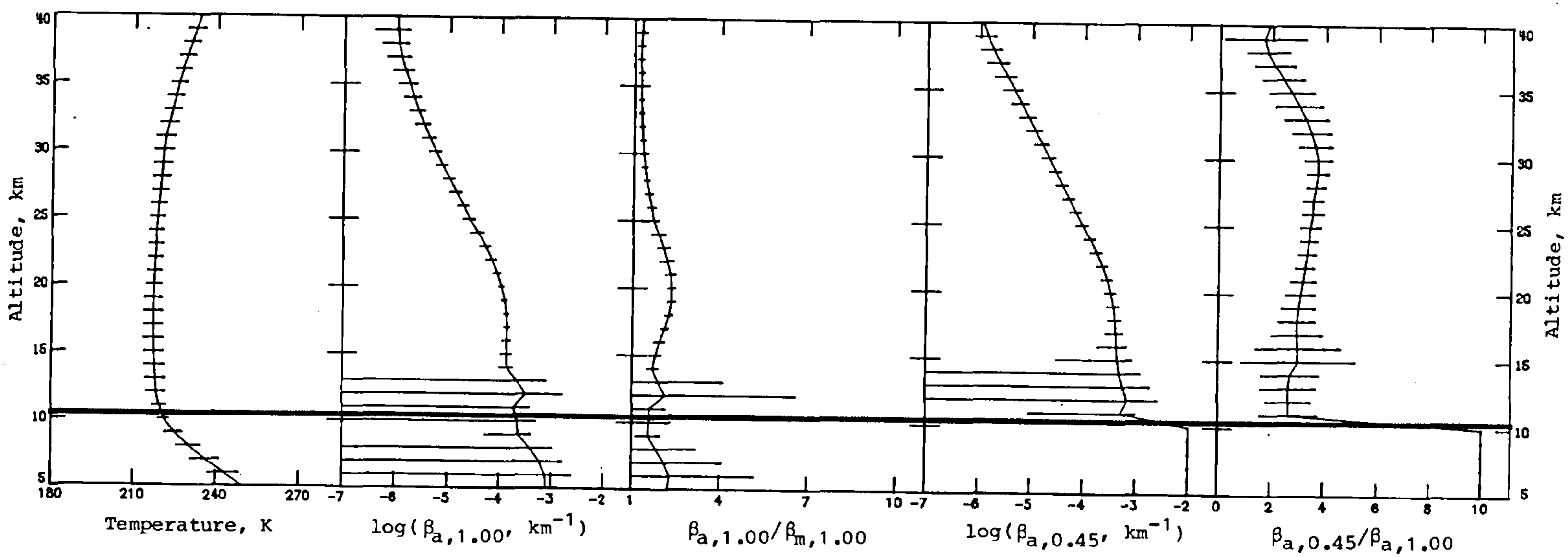


Figure 82. Average extinction and temperature profiles for latitude 55°S, April 24–April 28, 1979. Sunset events; sweep 2.

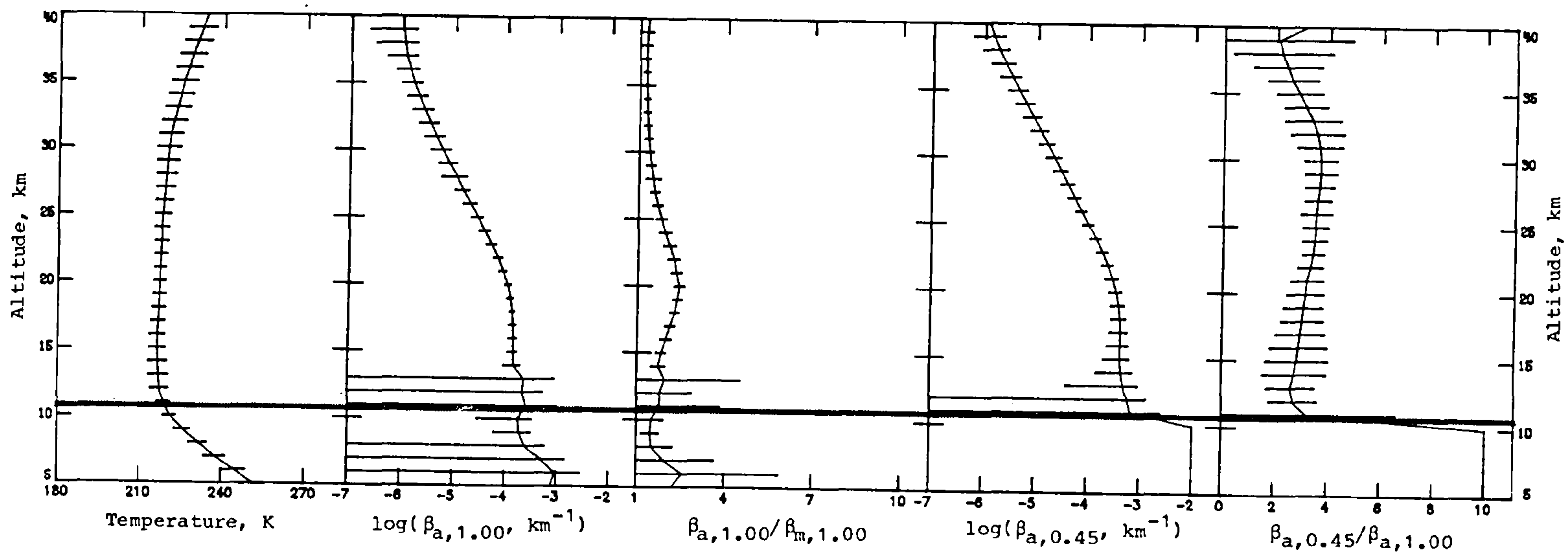


Figure 83. Average extinction and temperature profiles for latitude 55°S, April 28–May 3, 1979. Sunset events; sweep 3.

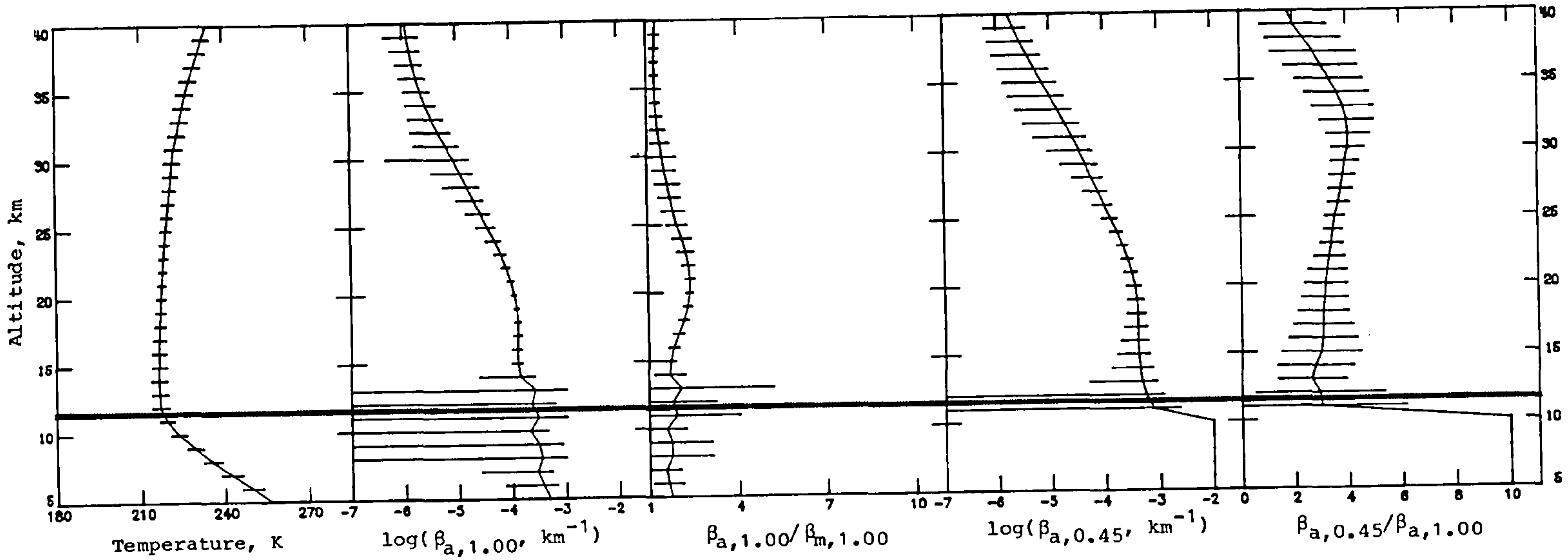


Figure 84. Average extinction and temperature profiles for latitude 45°S, May 3–May 9, 1979. Sunset events; sweep 3.

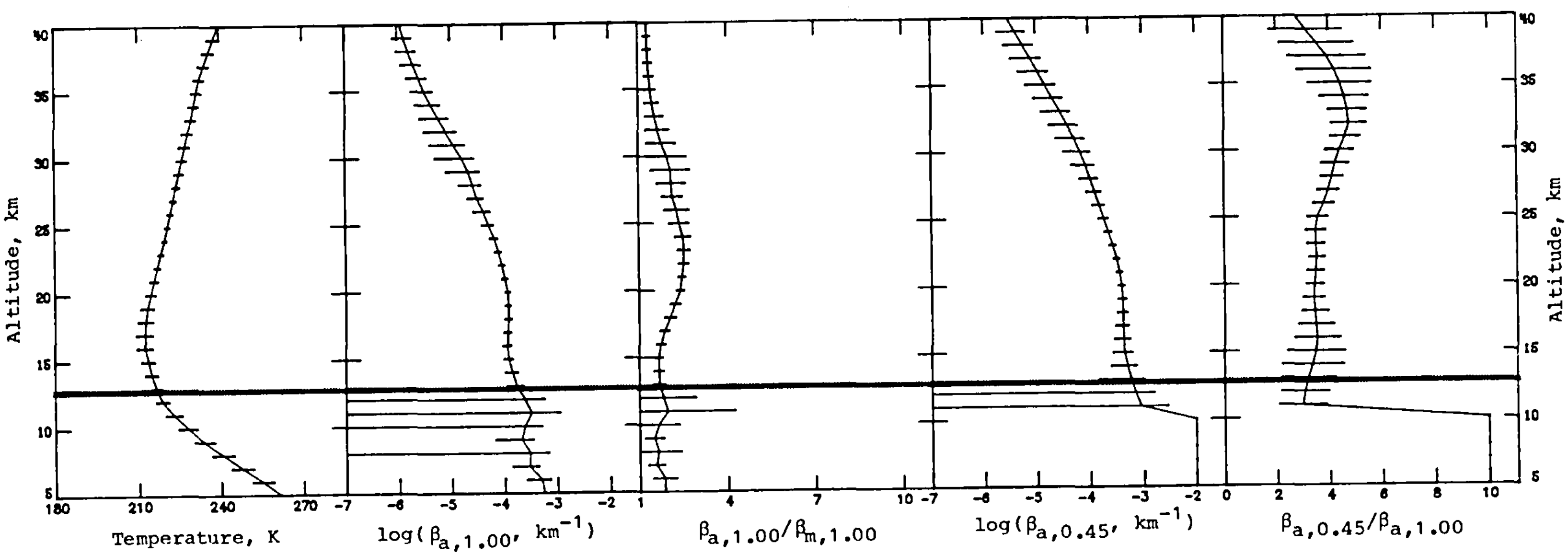


Figure 85. Average extinction and temperature profiles for latitude 35°S, May 9–May 12, 1979. Sunset events; sweep 3.

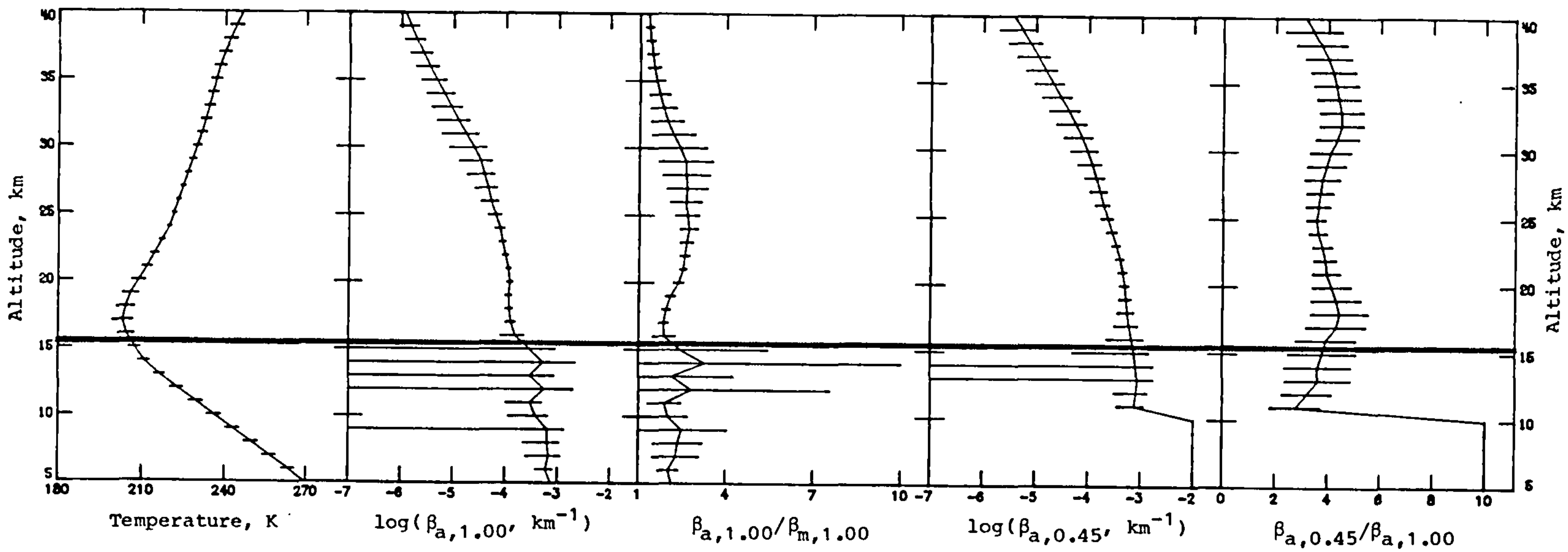


Figure 86. Average extinction and temperature profiles for latitude 25°S, May 12–May 14, 1979. Sunset events; sweep 3.

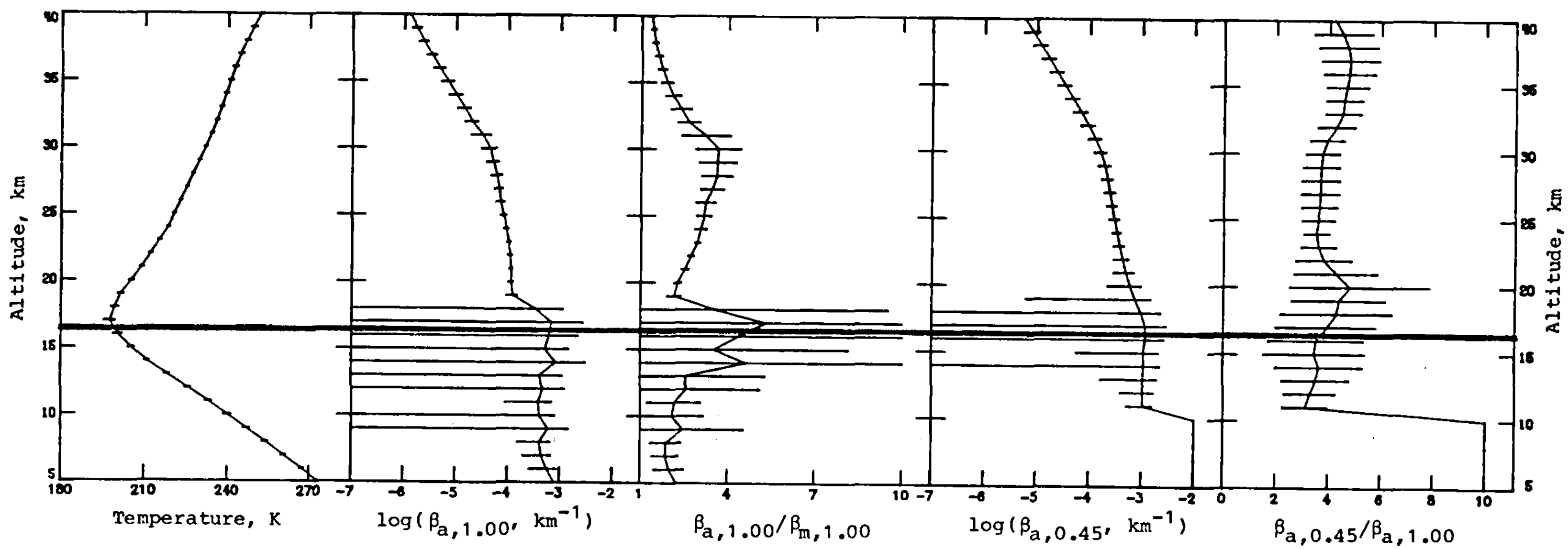


Figure 87. Average extinction and temperature profiles for latitude 15°S, May 14–May 15, 1979. Sunset events; sweep 3.

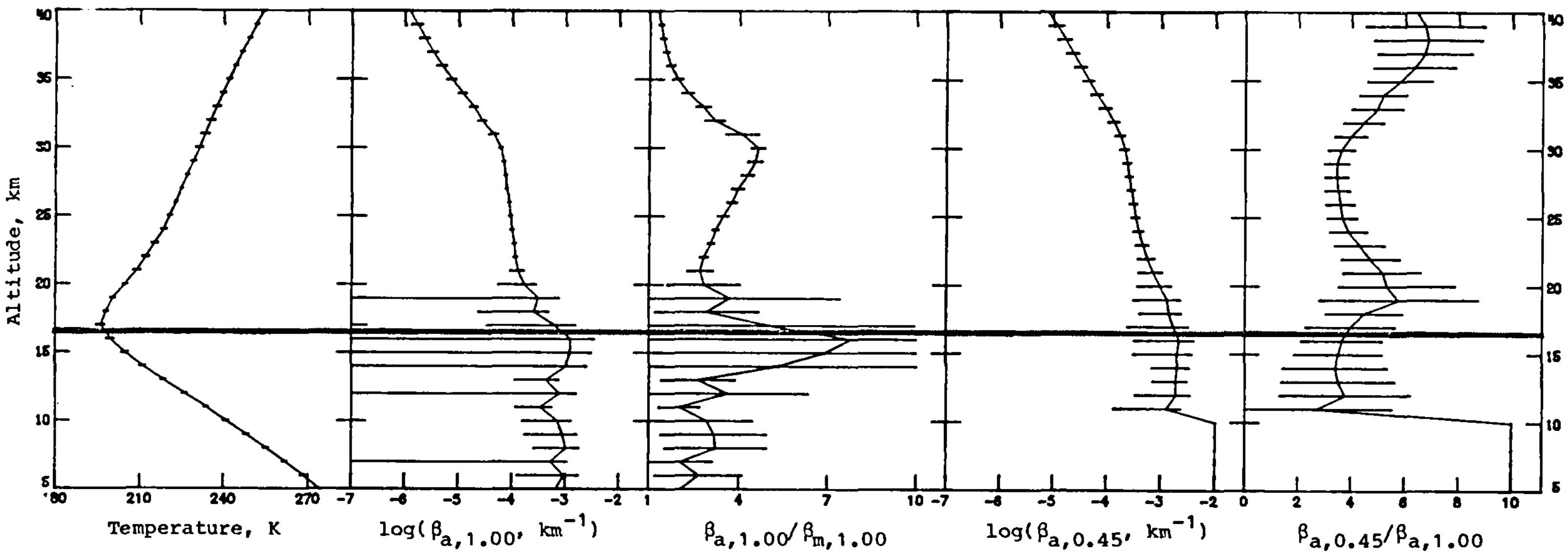


Figure 88. Average extinction and temperature profiles for latitude 5°S, May 15–May 16, 1979. Sunset events; sweep 3.

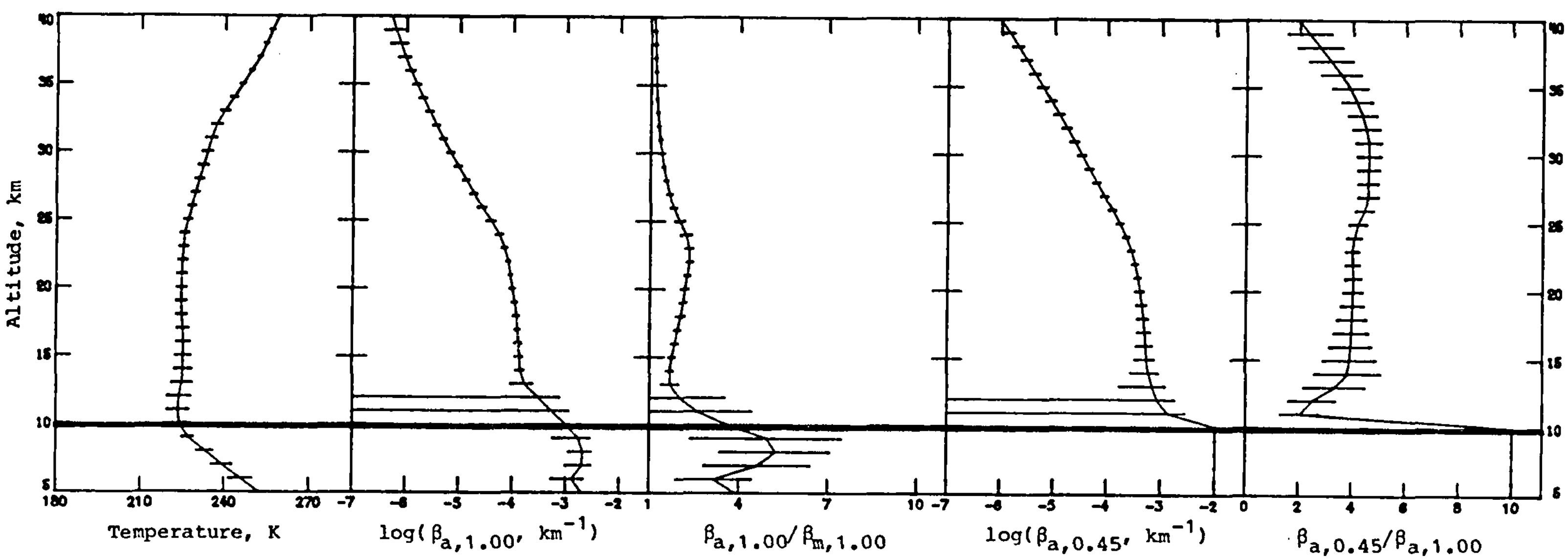


Figure 89. Average extinction and temperature profiles for latitude 65°N, May 27–May 30, 1979. Sunset events; sweep 3.

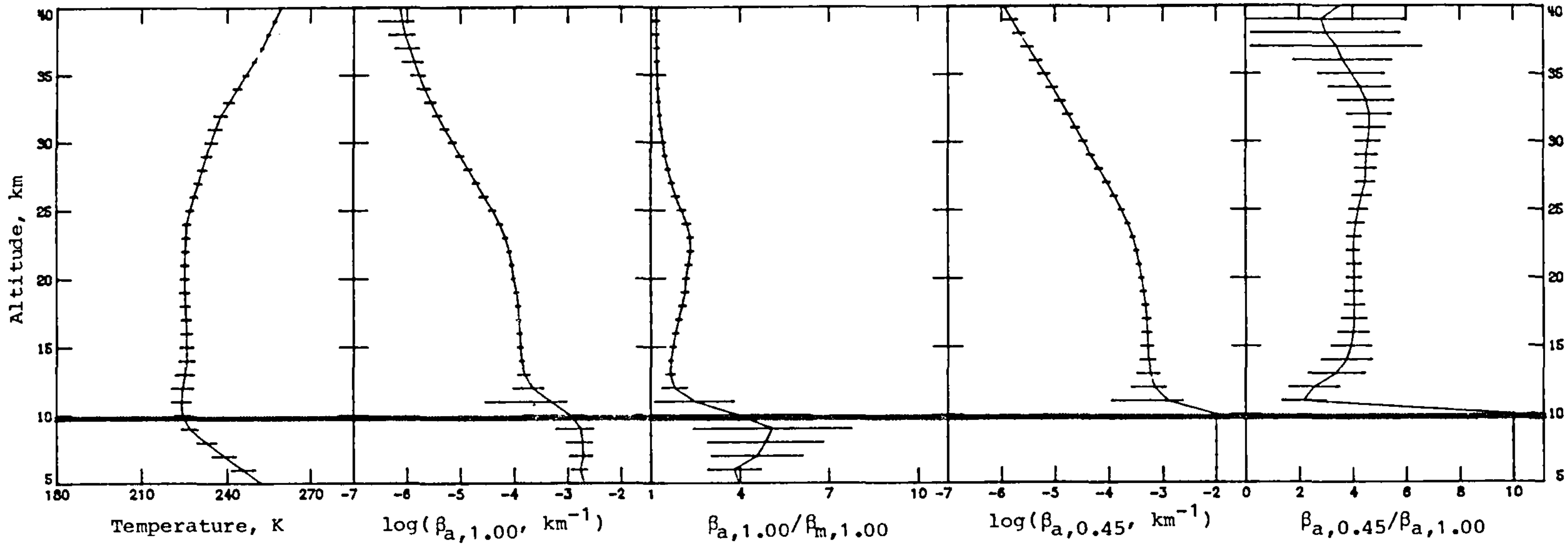


Figure 90. Average extinction and temperature profiles for latitude 65°N, May 30–June 6, 1979. Sunset events; sweep 4.

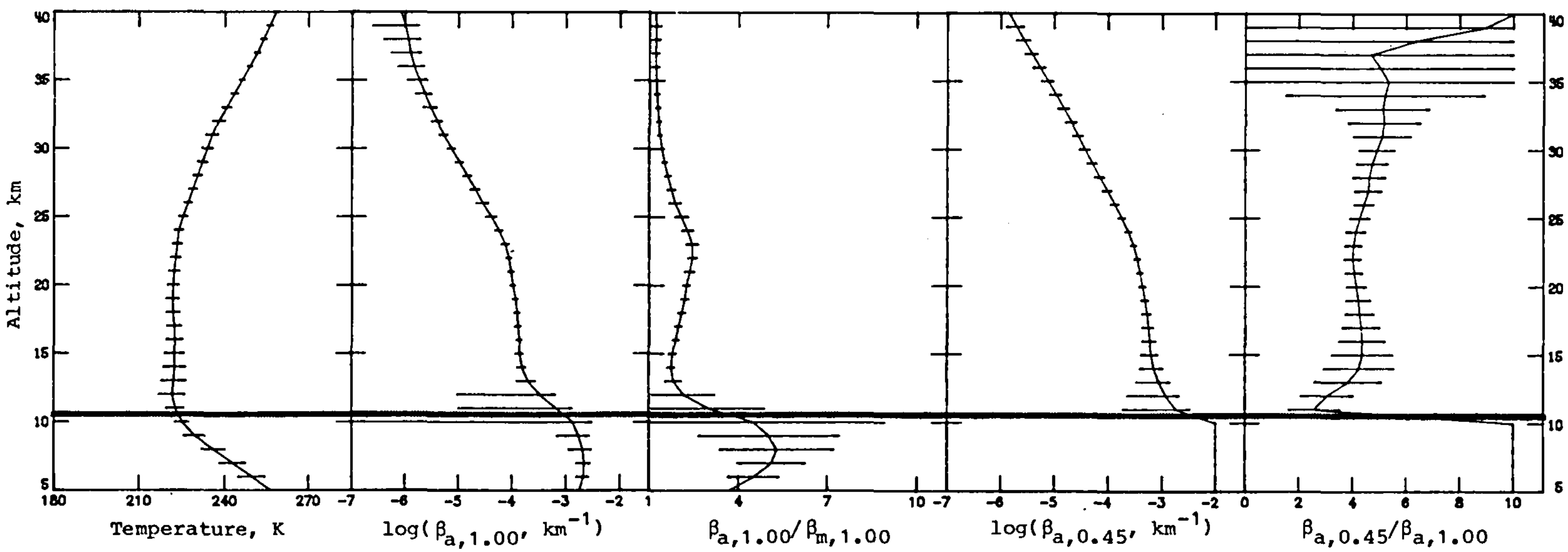


Figure 91. Average extinction and temperature profiles for latitude 55°N, June 6–June 10, 1979. Sunset events; sweep 4.

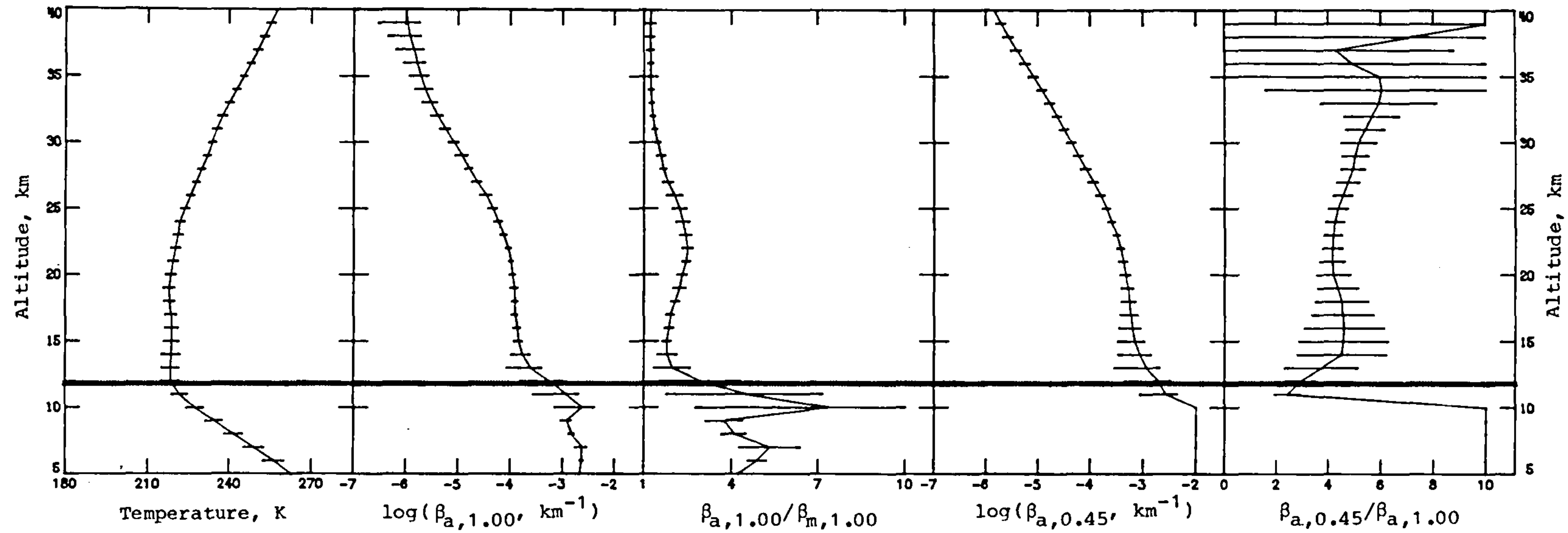


Figure 92. Average extinction and temperature profiles for latitude 45°N, June 10–June 11, 1979. Sunset events; sweep 4.

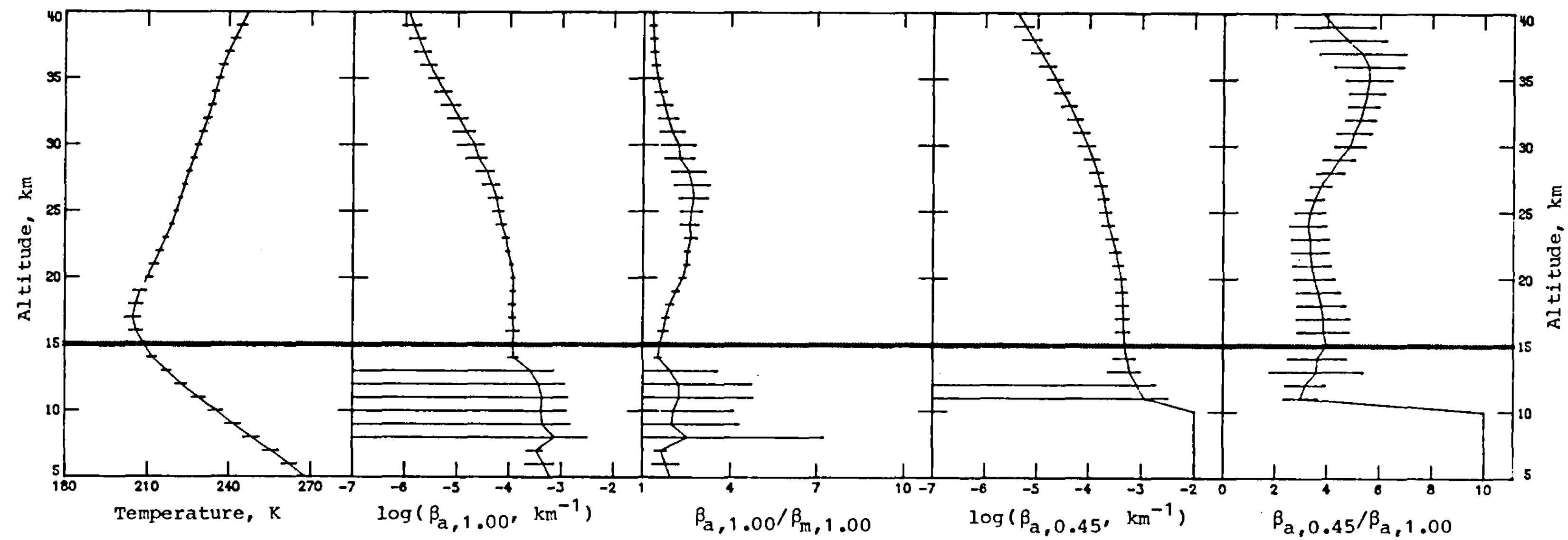


Figure 93. Average extinction and temperature profiles for latitude 25°S, June 27–June 28, 1979. Sunset events; sweep 4.

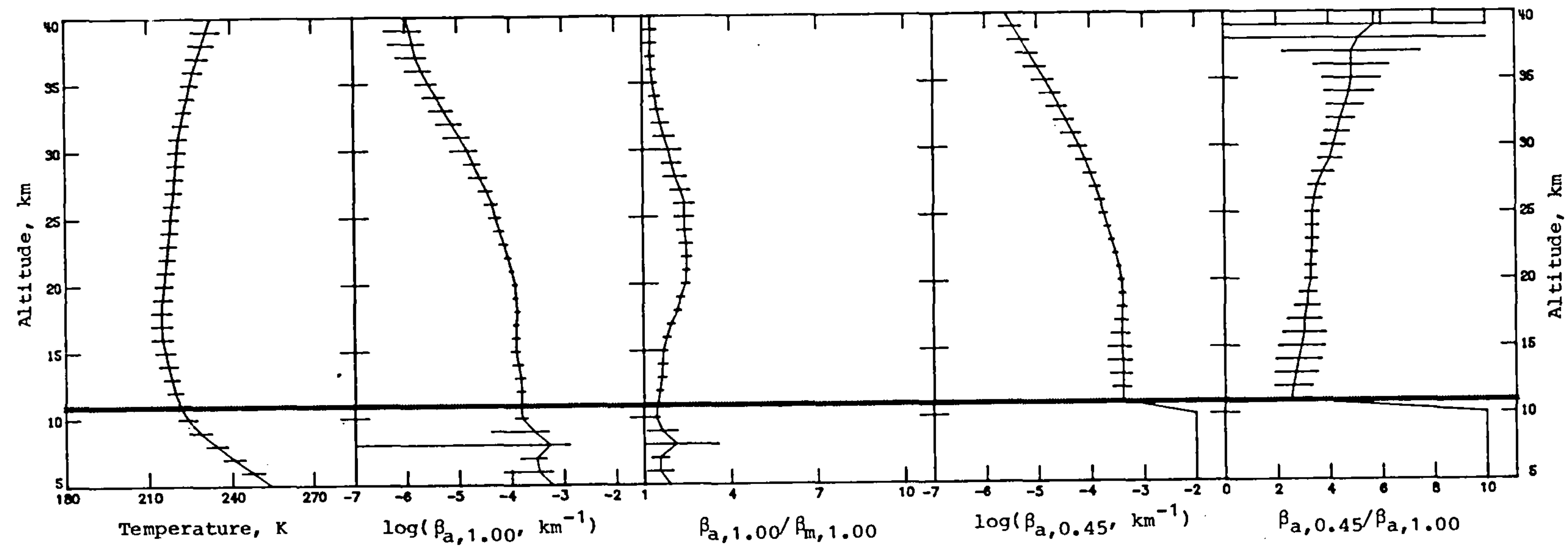


Figure 94. Average extinction and temperature profiles for latitude 35°S, July 2–July 3, 1979. Sunset events; sweep 4.

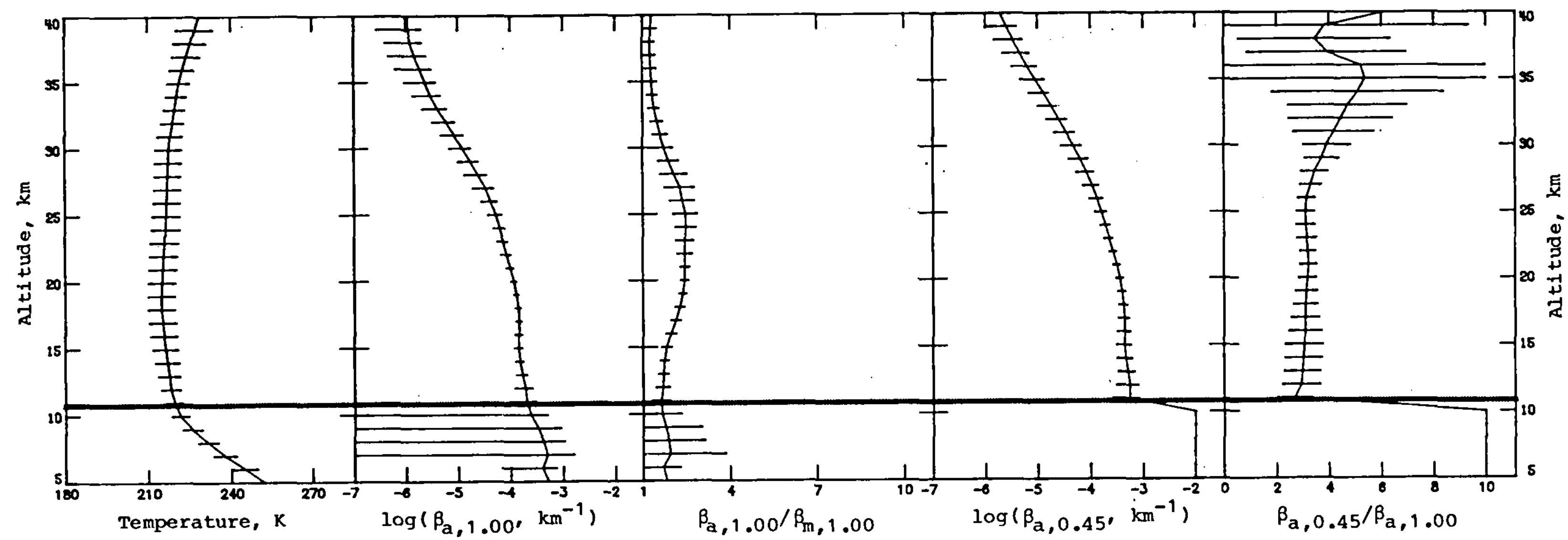


Figure 95. Average extinction and temperature profiles for latitude 45°S, July 3–July 11, 1979. Sunset events; sweep 4.

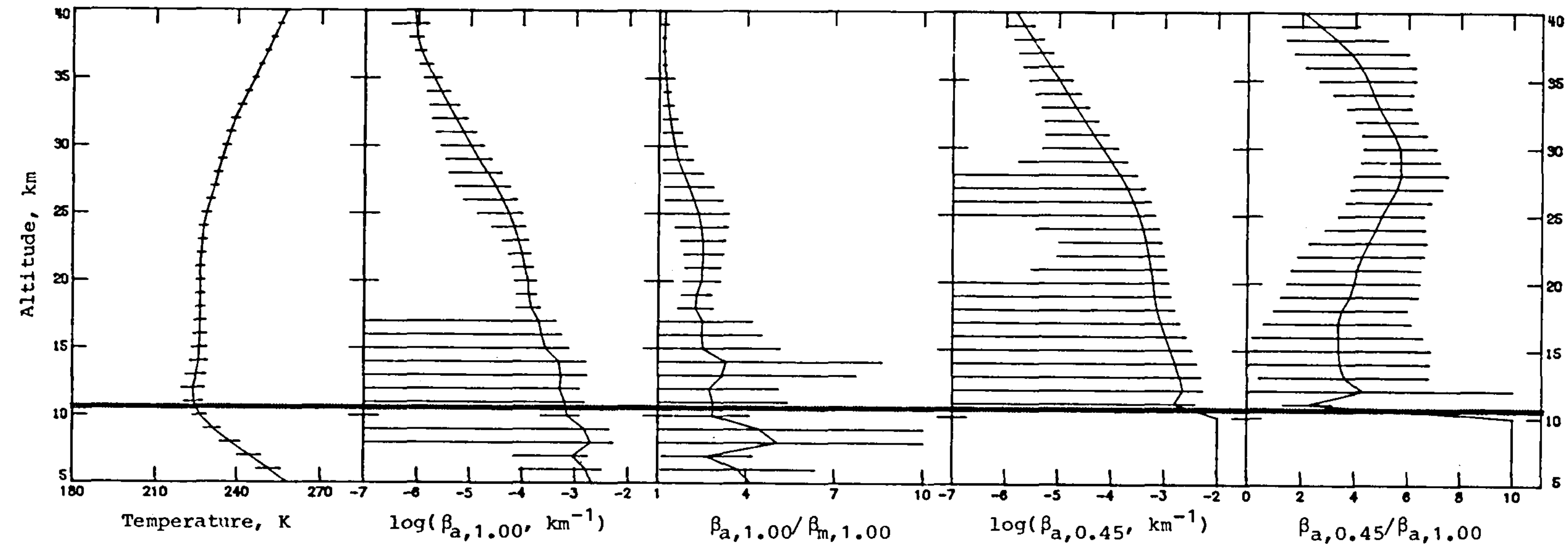


Figure 96. Average extinction and temperature profiles for latitude 65°N, August 4, 1979. Sunset events; sweep 5.

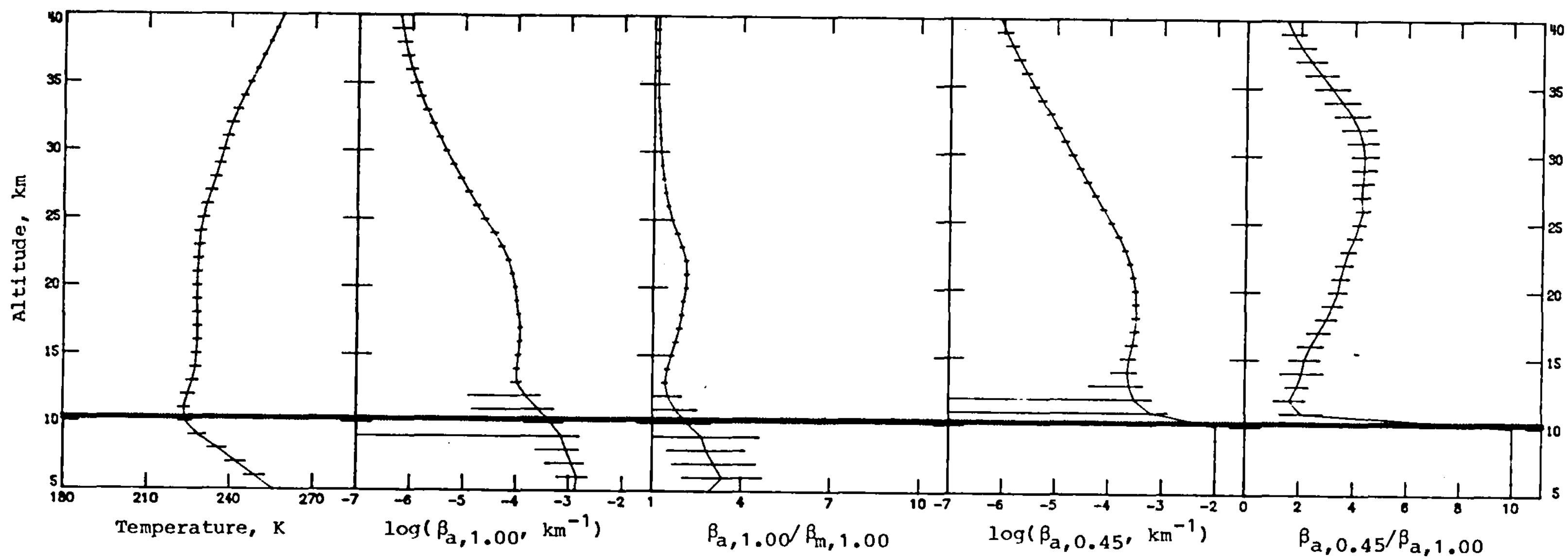


Figure 97. Average extinction and temperature profiles for latitude 75°N, August 4–August 7, 1979. Sunset events; sweep 5.

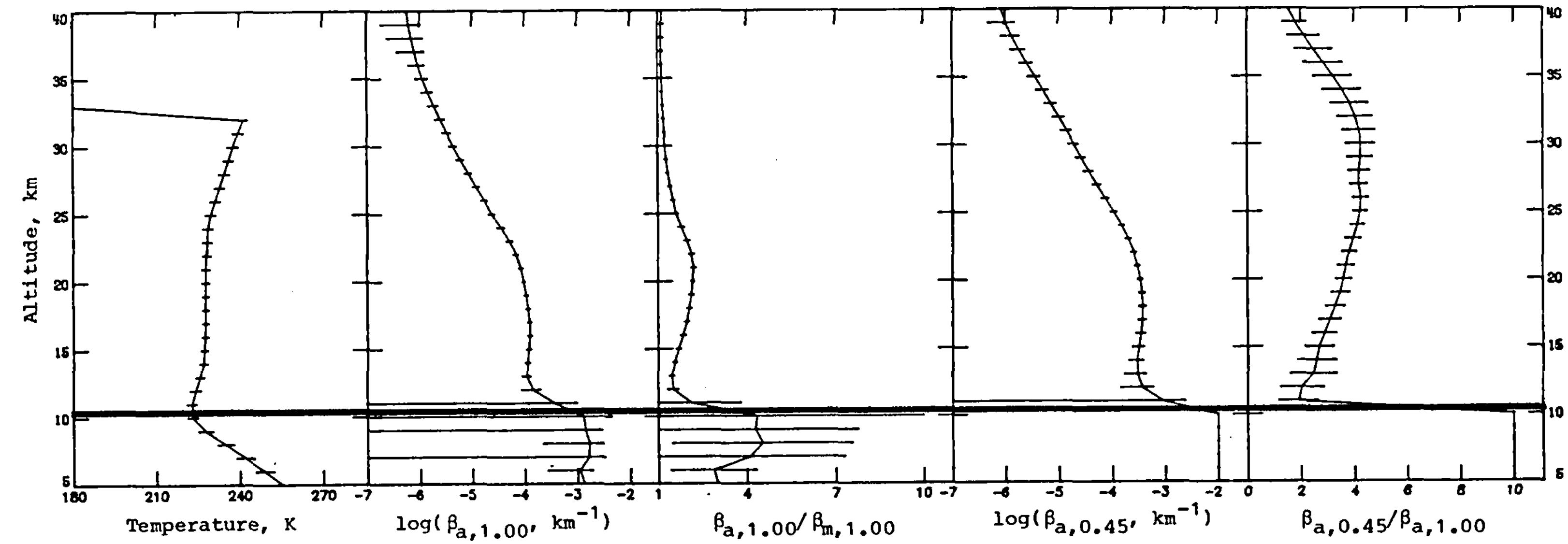


Figure 98. Average extinction and temperature profiles for latitude 75°N, August 7–August 10, 1979. Sunset events; sweep 6.

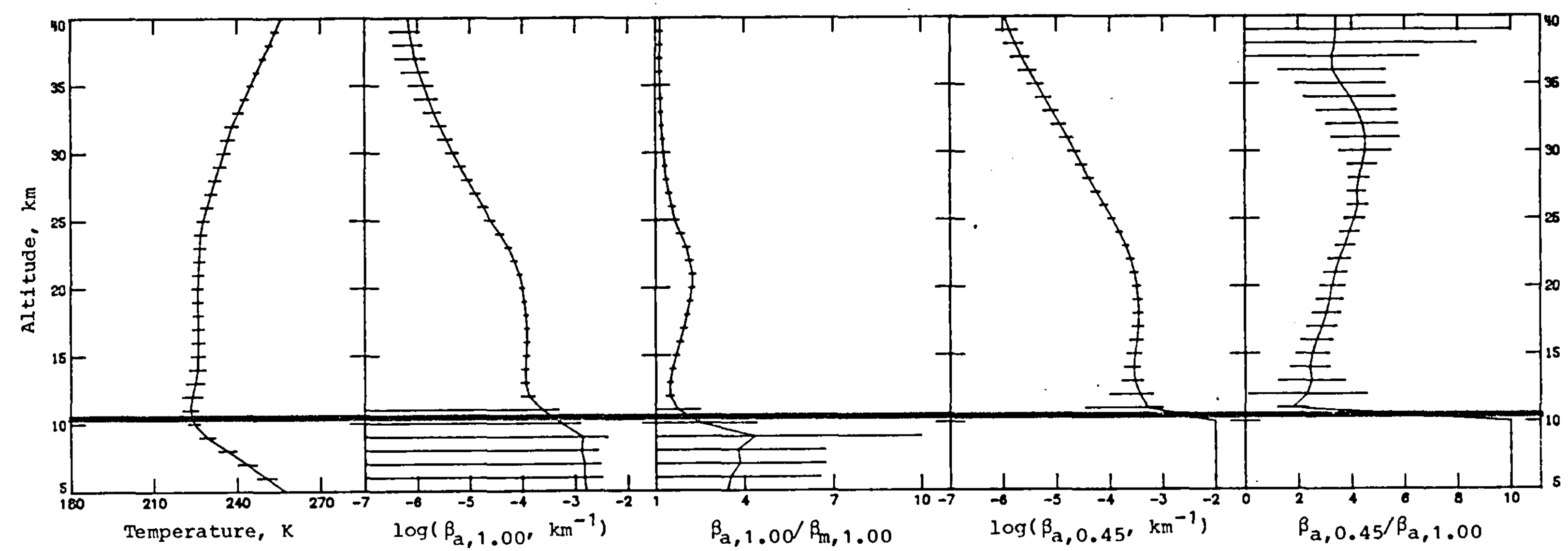


Figure 99. Average extinction and temperature profiles for latitude 65°N, August 10–August 15, 1979. Sunset events; sweep 6.

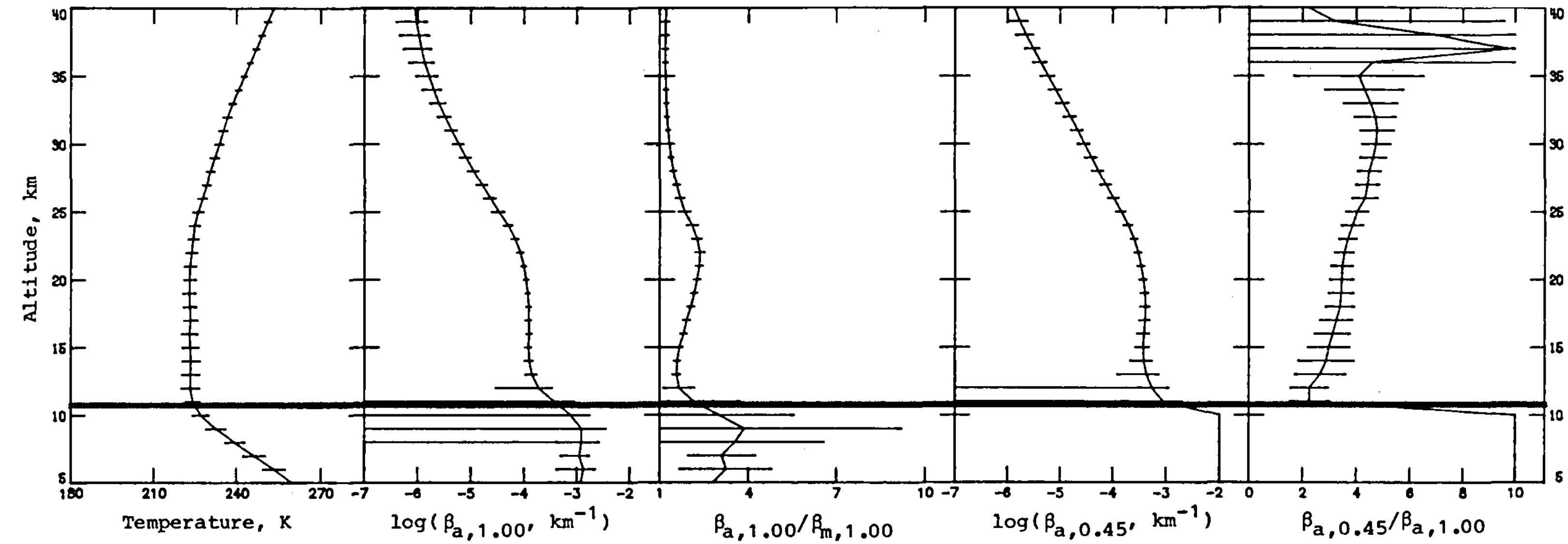


Figure 100. Average extinction and temperature profiles for latitude 55°N, August 15–August 19, 1979. Sunset events; sweep 6.

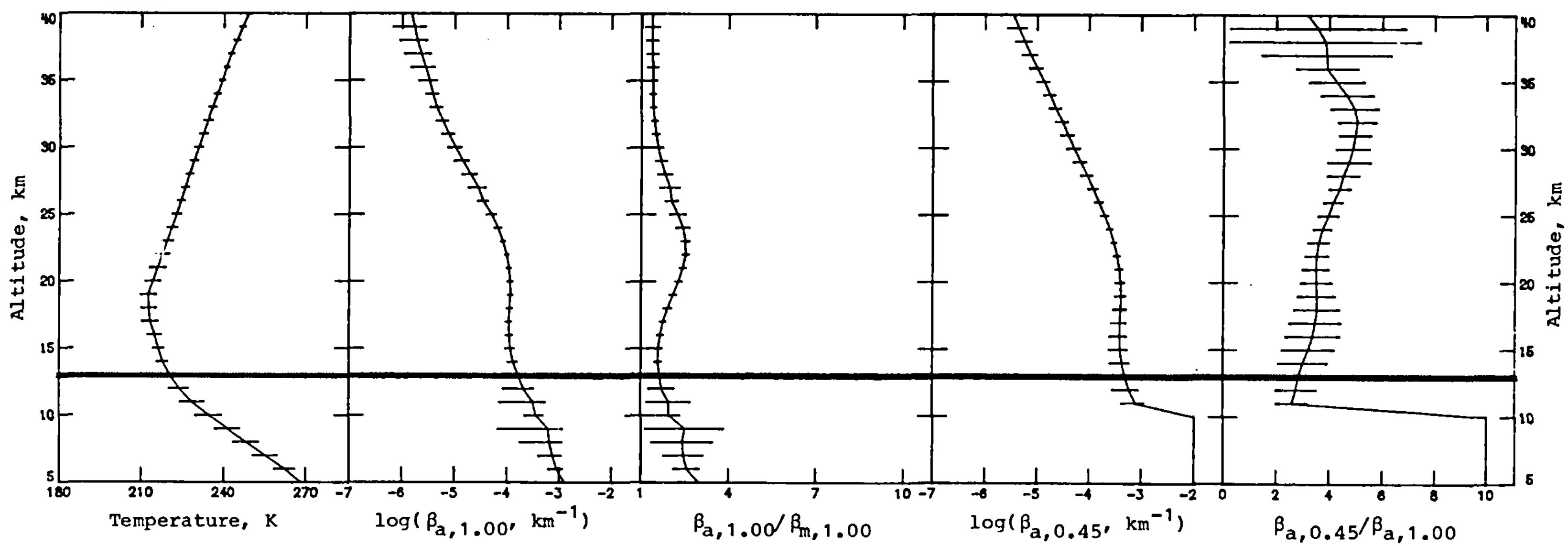


Figure 101. Average extinction and temperature profiles for latitude 45°N, August 19–August 22, 1979. Sunset events; sweep 6.

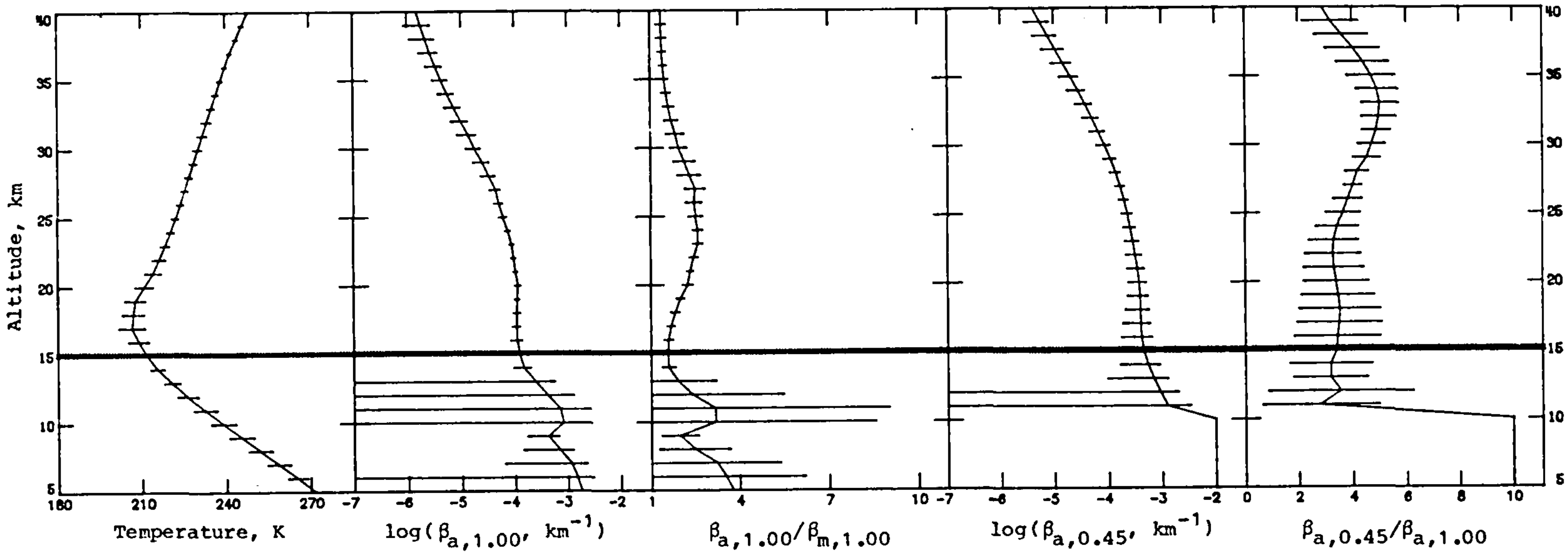


Figure 102. Average extinction and temperature profiles for latitude 35°N, August 22–August 24, 1979. Sunset events; sweep 6.

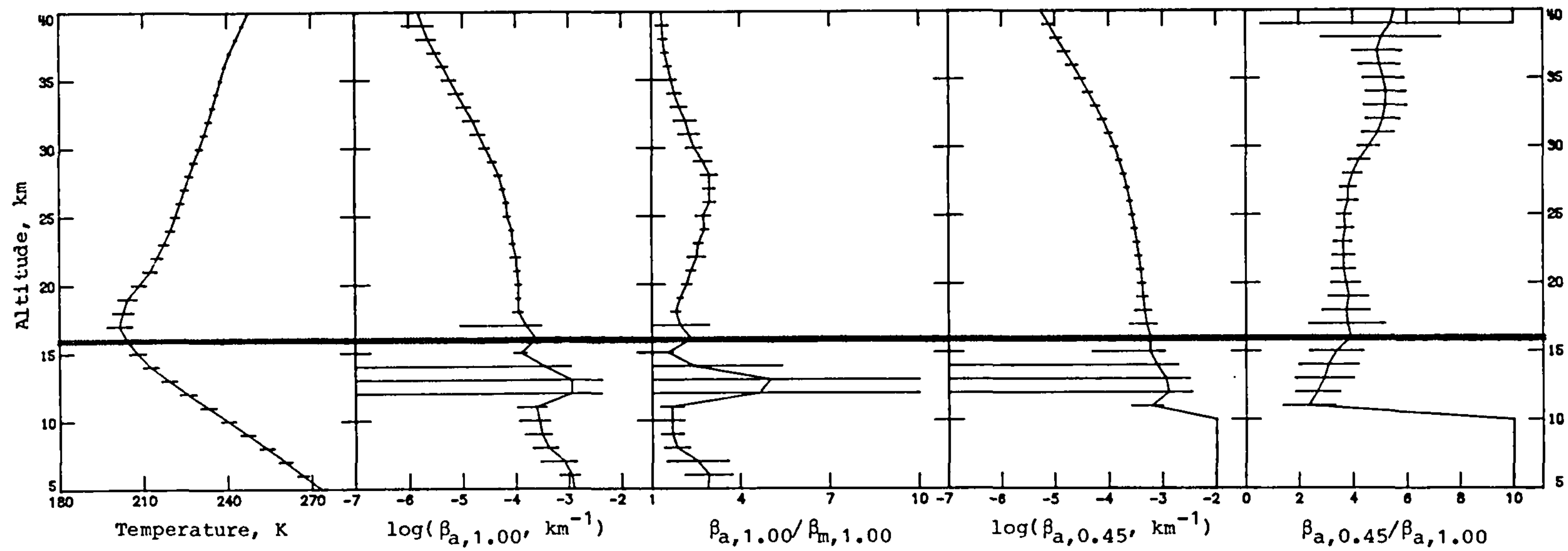


Figure 103. Average extinction and temperature profiles for latitude 25°N, August 24–August 26, 1979. Sunset events; sweep 6.

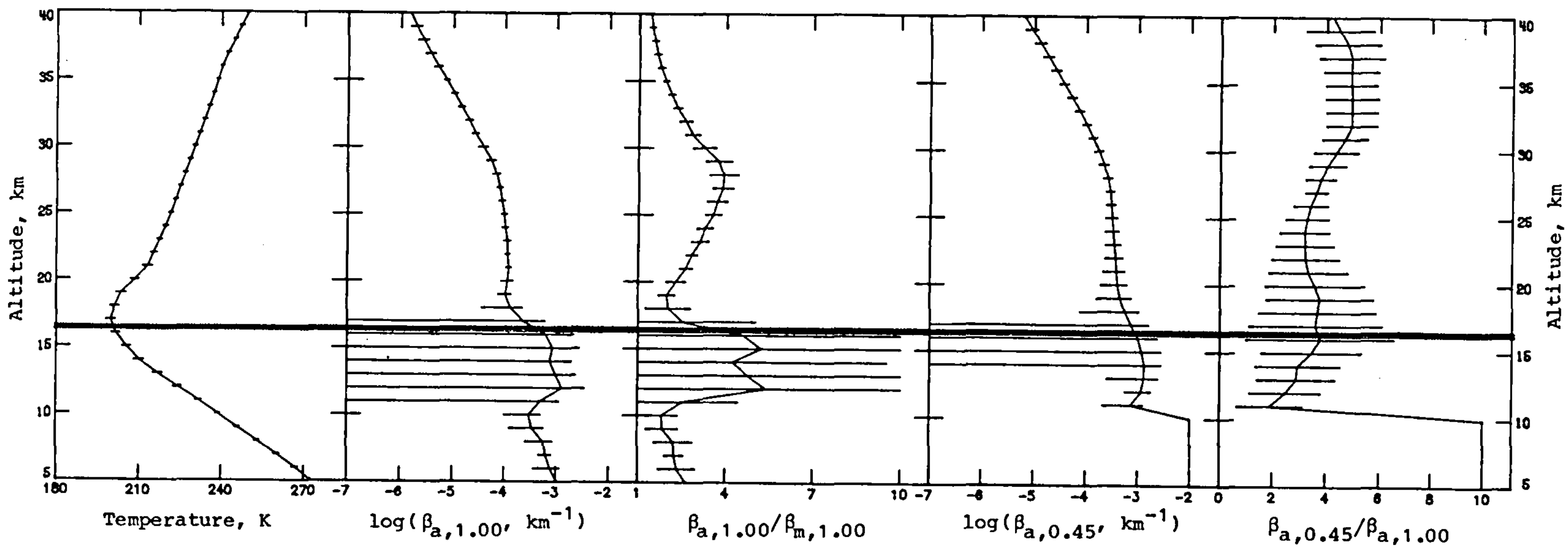


Figure 104. Average extinction and temperature profiles for latitude 15°N, August 26–August 28, 1979. Sunset events; sweep 6.

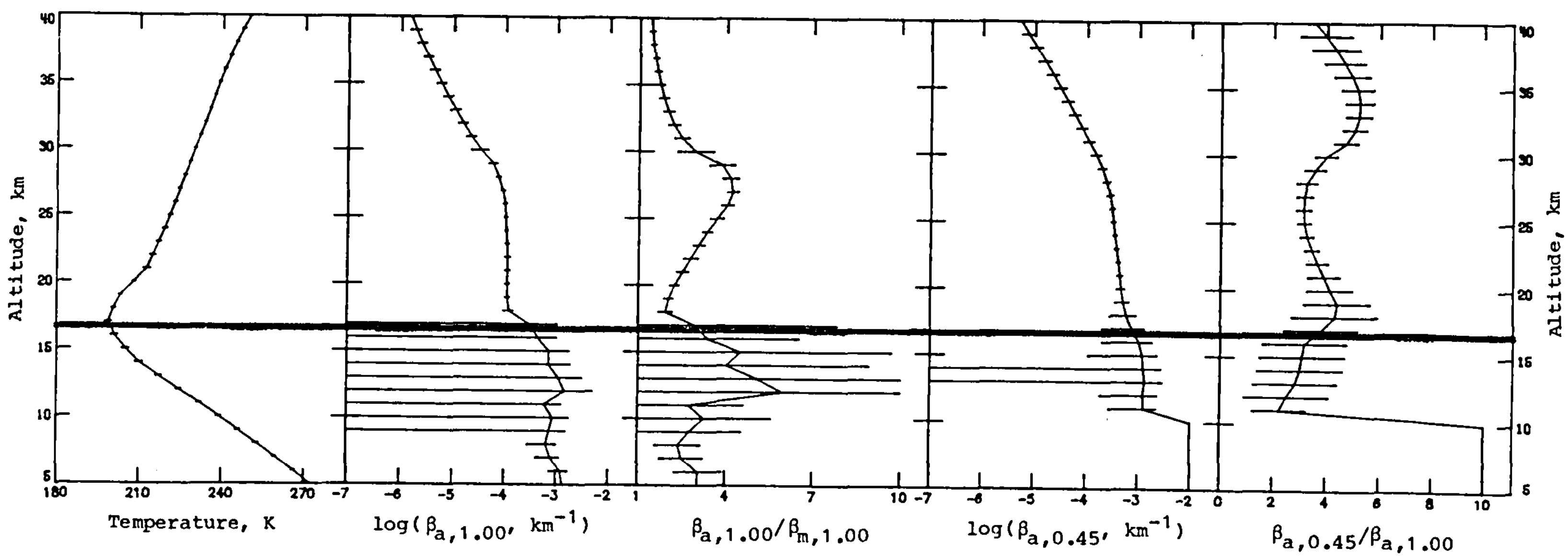


Figure 105. Average extinction and temperature profiles for latitude 5°N, August 28–August 30, 1979. Sunset events; sweep 6.

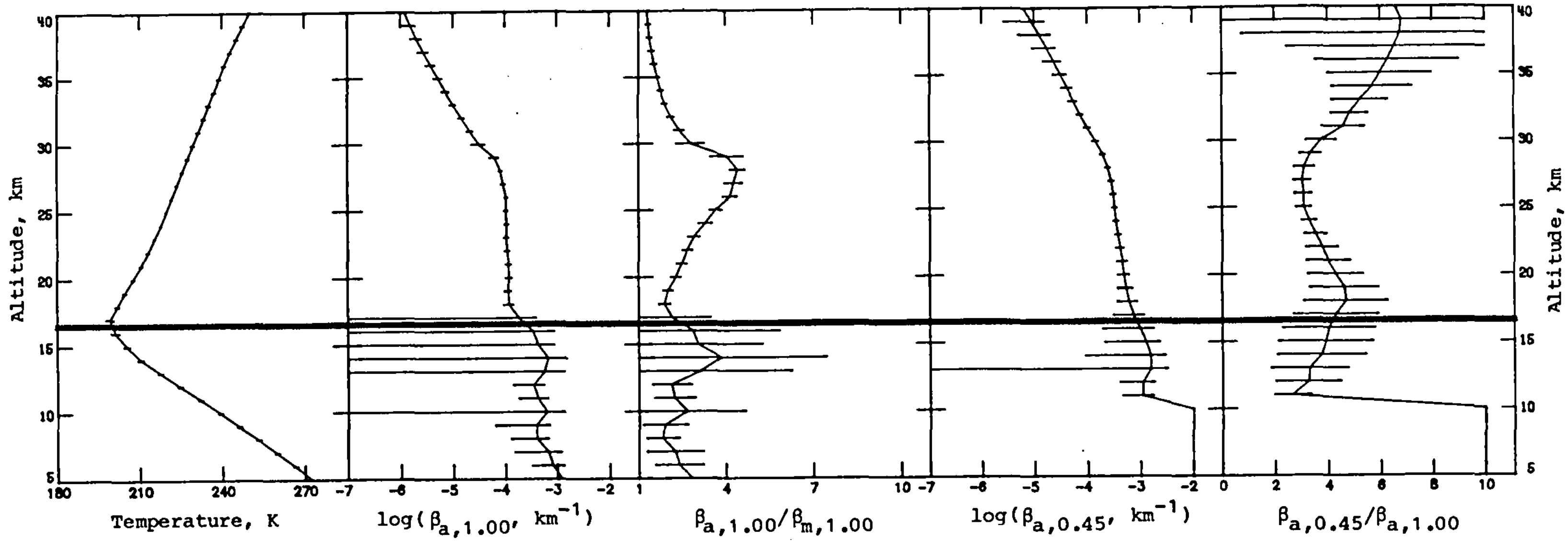


Figure 106. Average extinction and temperature profiles for latitude 5°S, August 30–August 31, 1979. Sunset events; sweep 6.

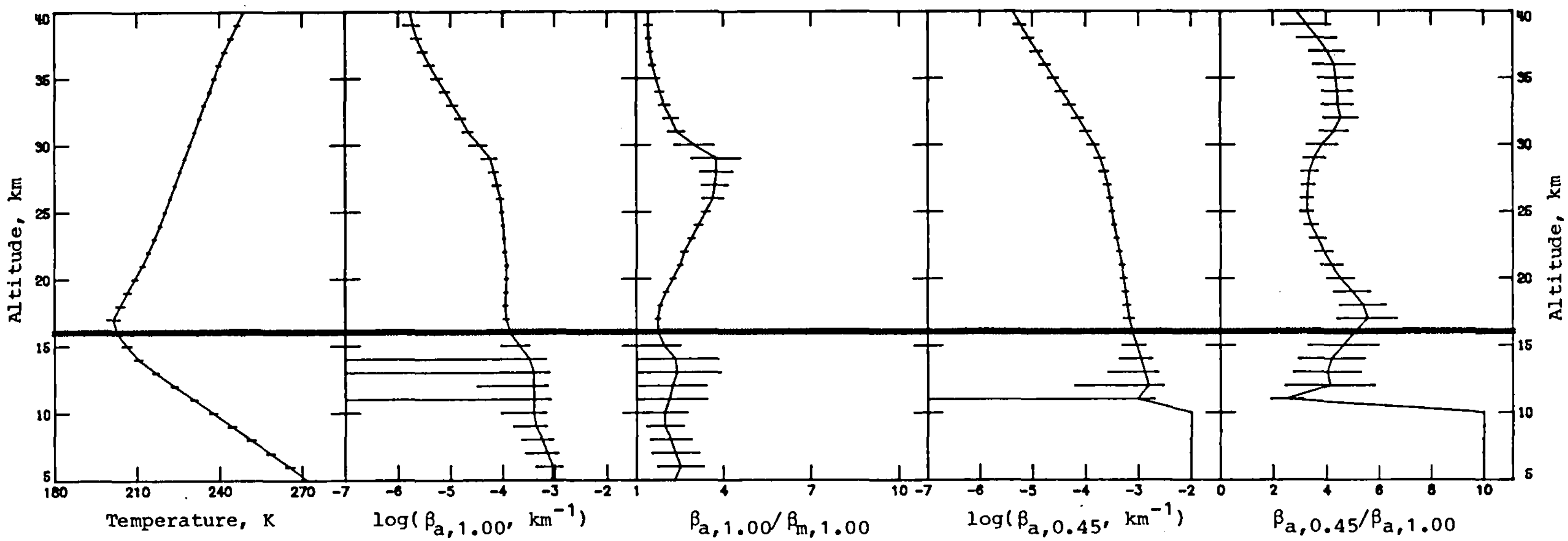


Figure 107. Average extinction and temperature profiles for latitude 15°S, August 31–September 2, 1979. Sunset events; sweep 6.

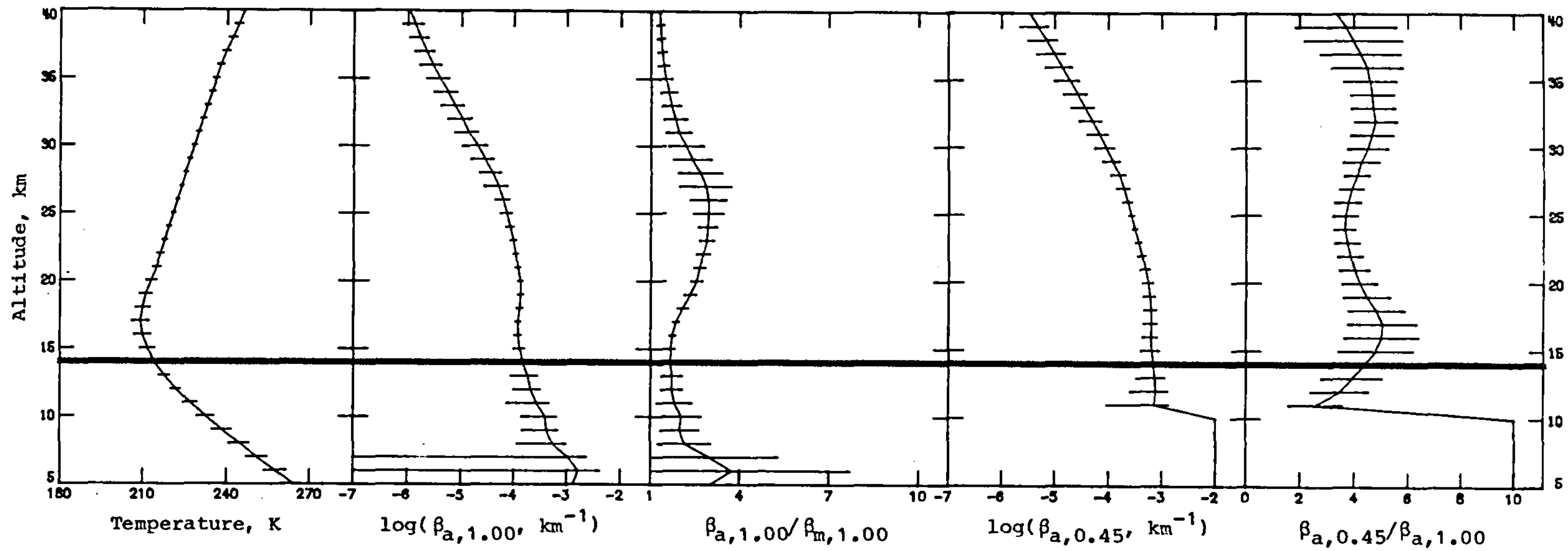


Figure 108. Average extinction and temperature profiles for latitude 25°S, September 2–September 3, 1979. Sunset events; sweep 6.

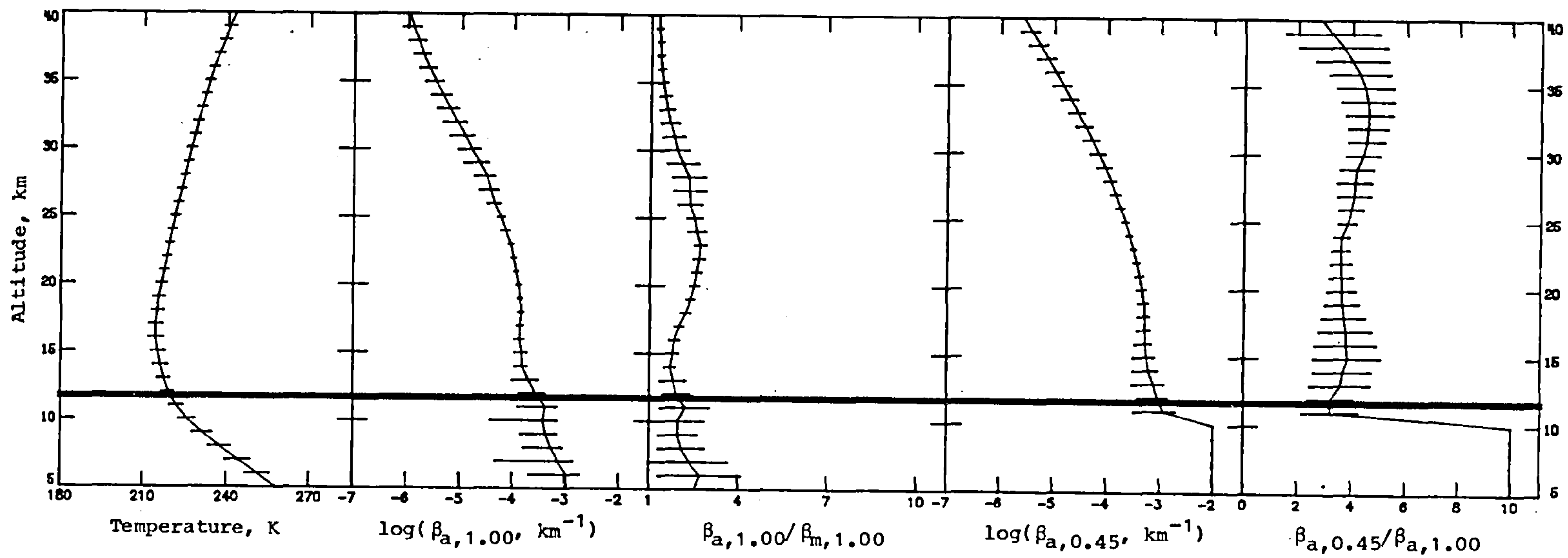


Figure 109. Average extinction and temperature profiles for latitude 35°S, September 3–September 5, 1979. Sunset events; sweep 6.

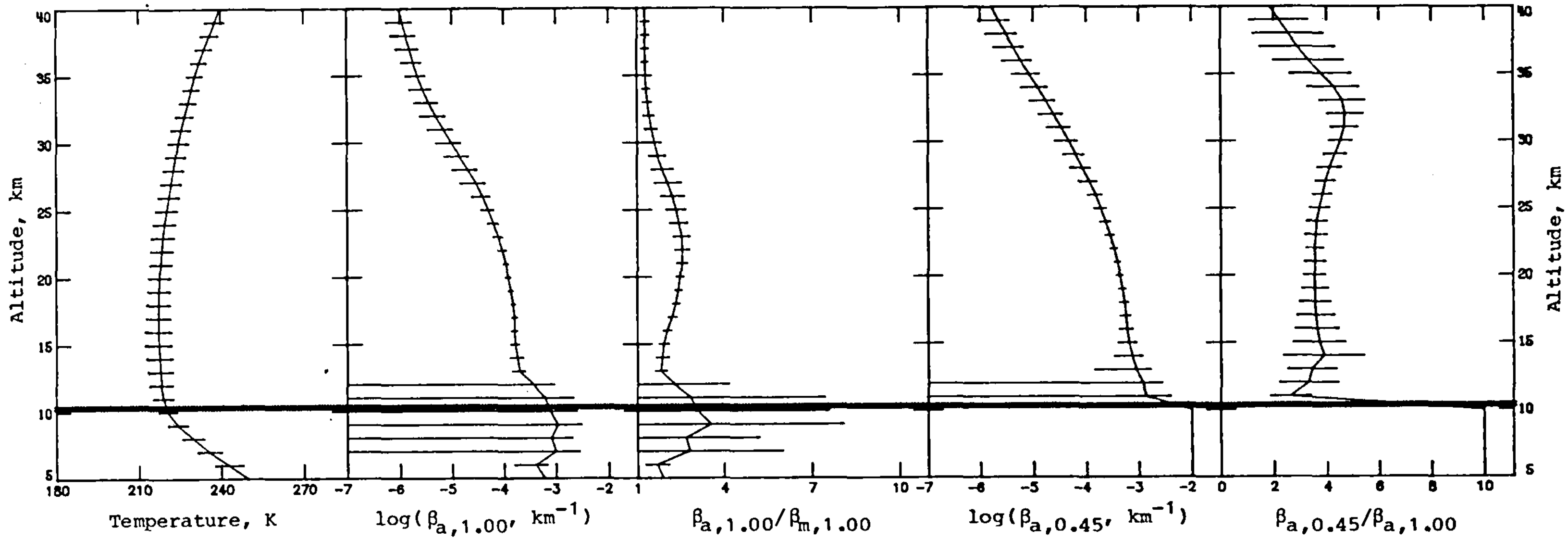


Figure 110. Average extinction and temperature profiles for latitude 45°S, September 5–September 7, 1979. Sunset events; sweep 6.

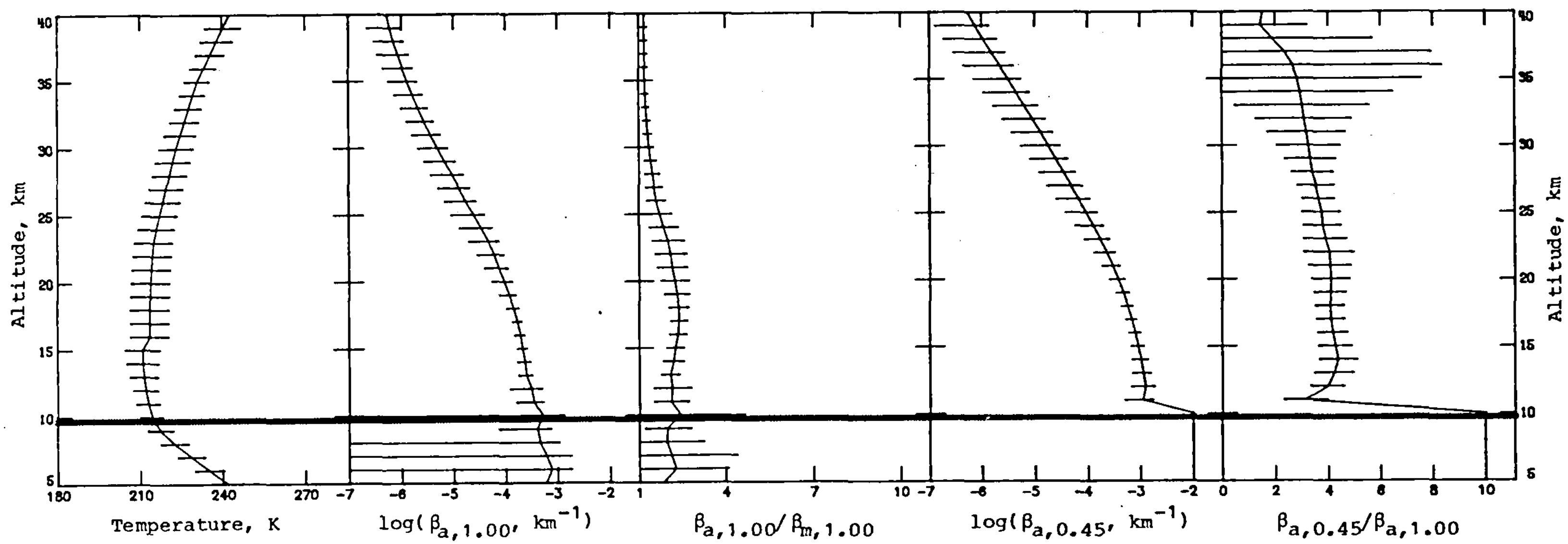


Figure 111. Average extinction and temperature profiles for latitude 55°S, September 7–September 12, 1979. Sunset events; sweep 6.

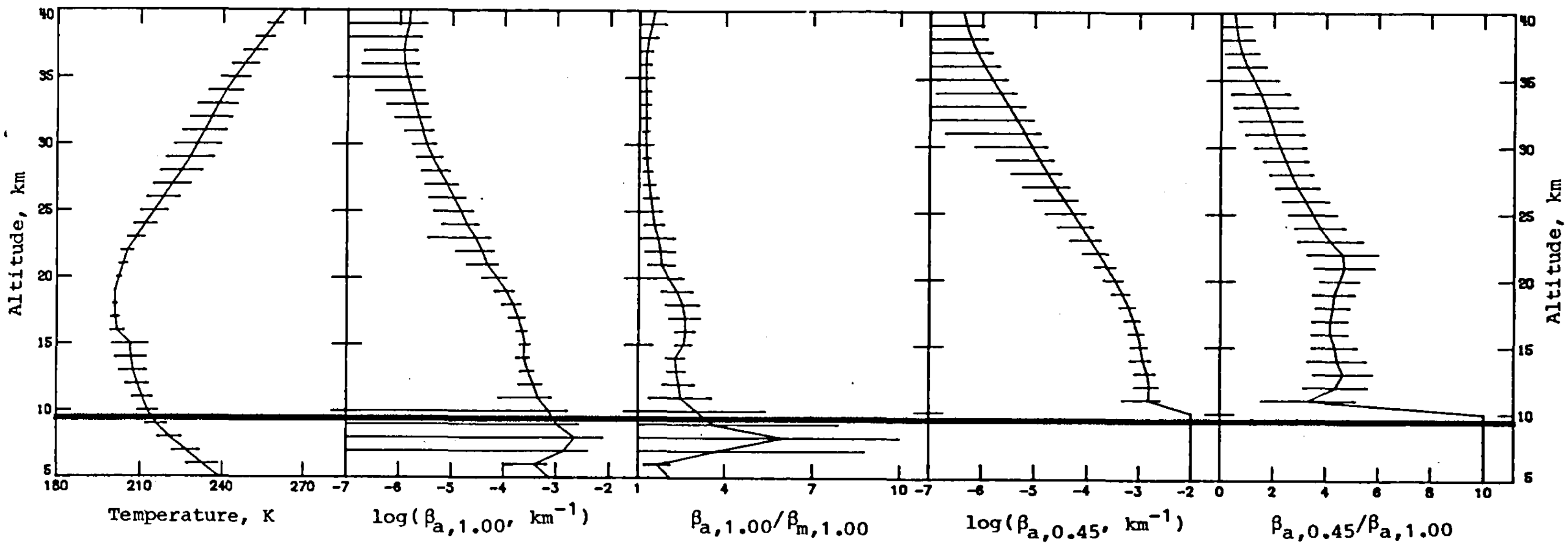


Figure 112. Average extinction and temperature profiles for latitude 65°S, September 12–September 13, 1979. Sunset events; sweep 6.

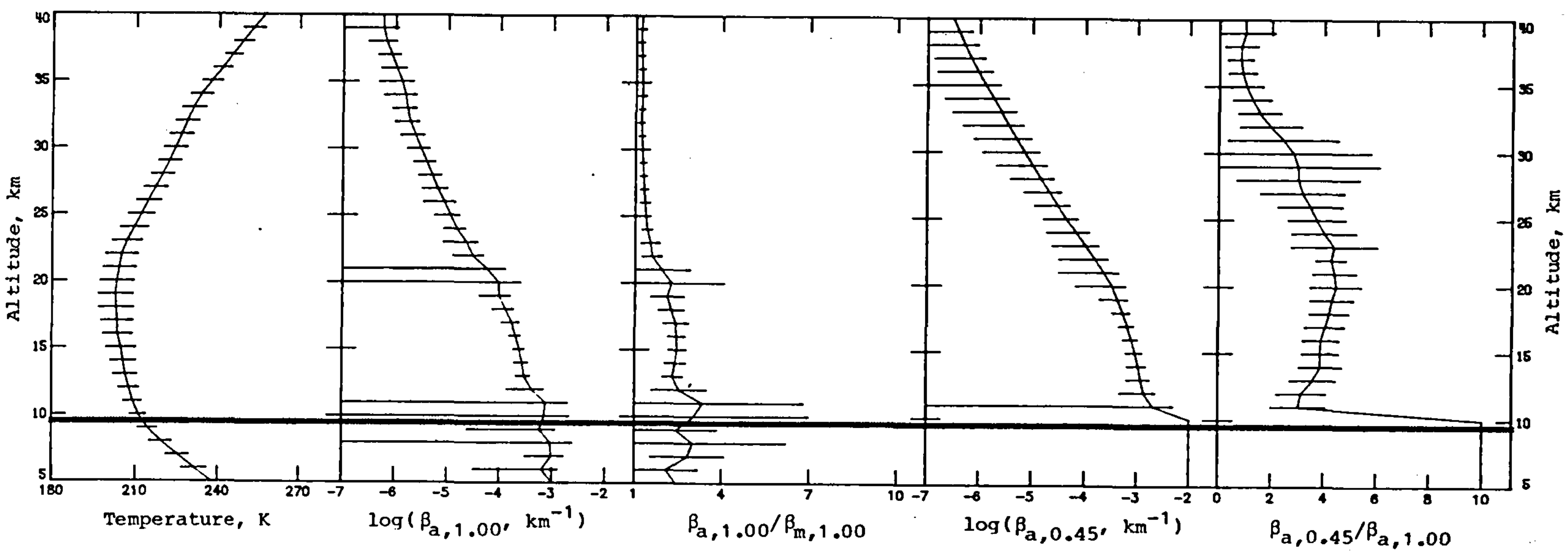


Figure 113. Average extinction and temperature profiles for latitude 65°S, September 13–September 16, 1979. Sunset events; sweep 7.

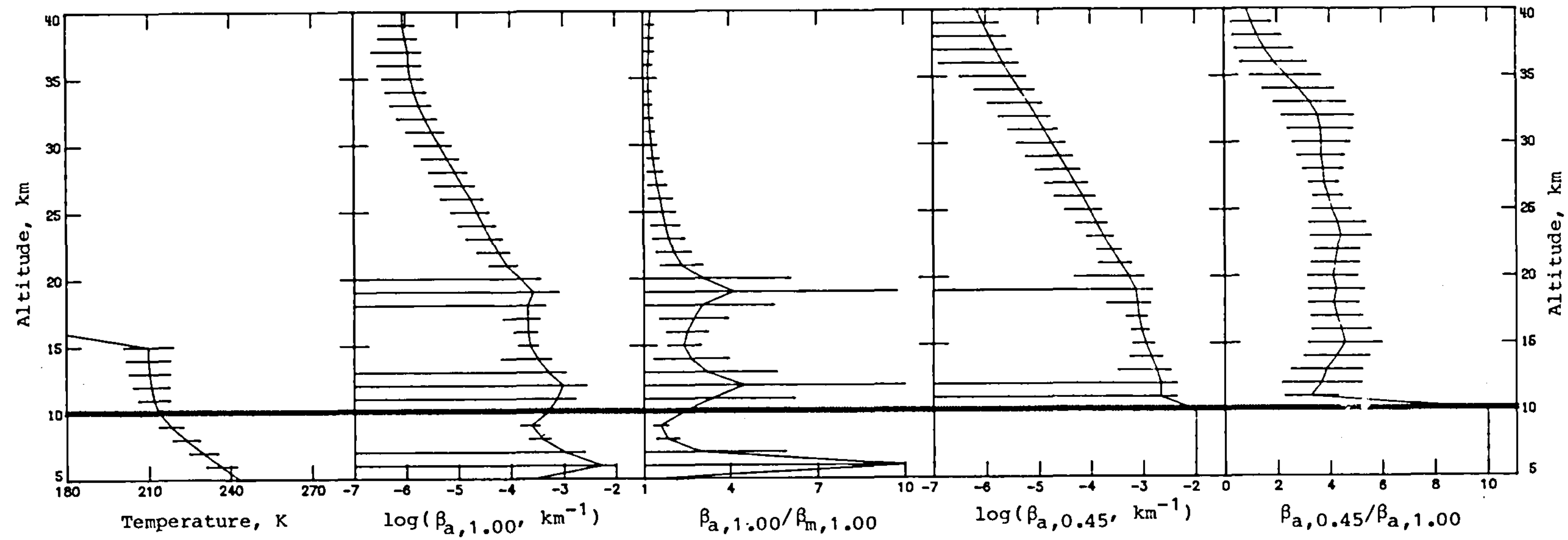


Figure 114. Average extinction and temperature profiles for latitude 55°S, September 16–September 24, 1979. Sunset events; sweep 7.

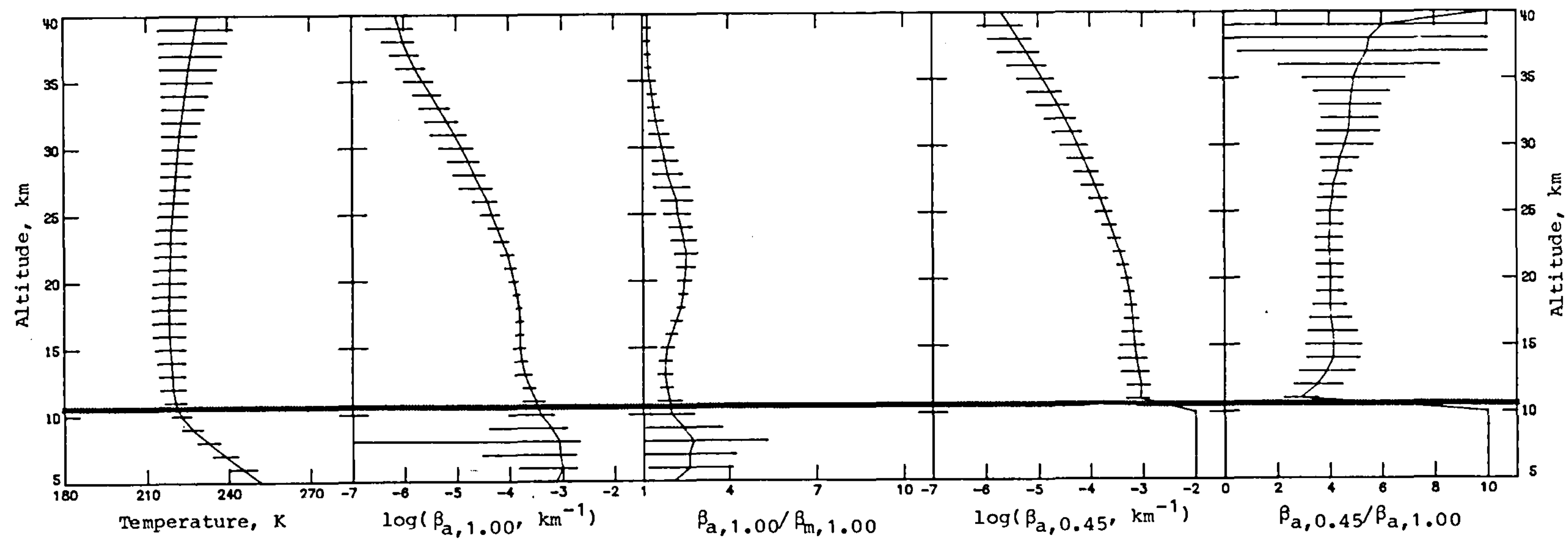


Figure 115. Average extinction and temperature profiles for latitude 45°S, September 24–September 26, 1979. Sunset events; sweep 7.

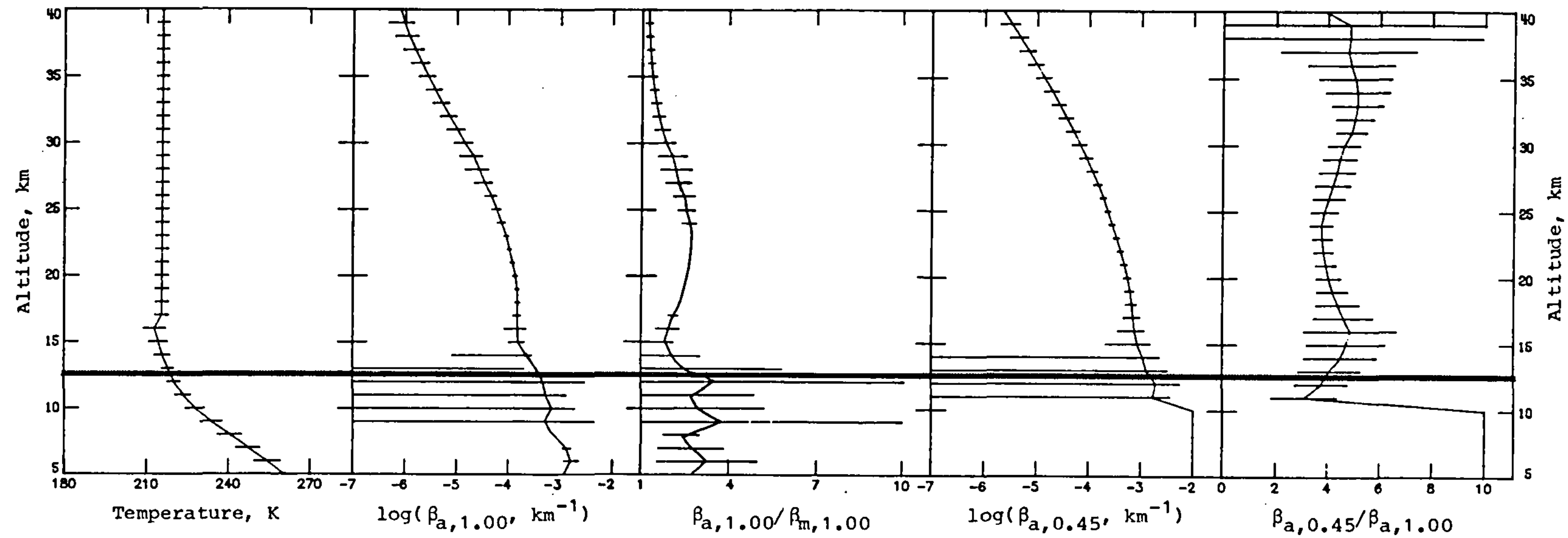


Figure 116. Average extinction and temperature profiles for latitude 35°S, September 26–September 29, 1979. Sunset events; sweep 7.

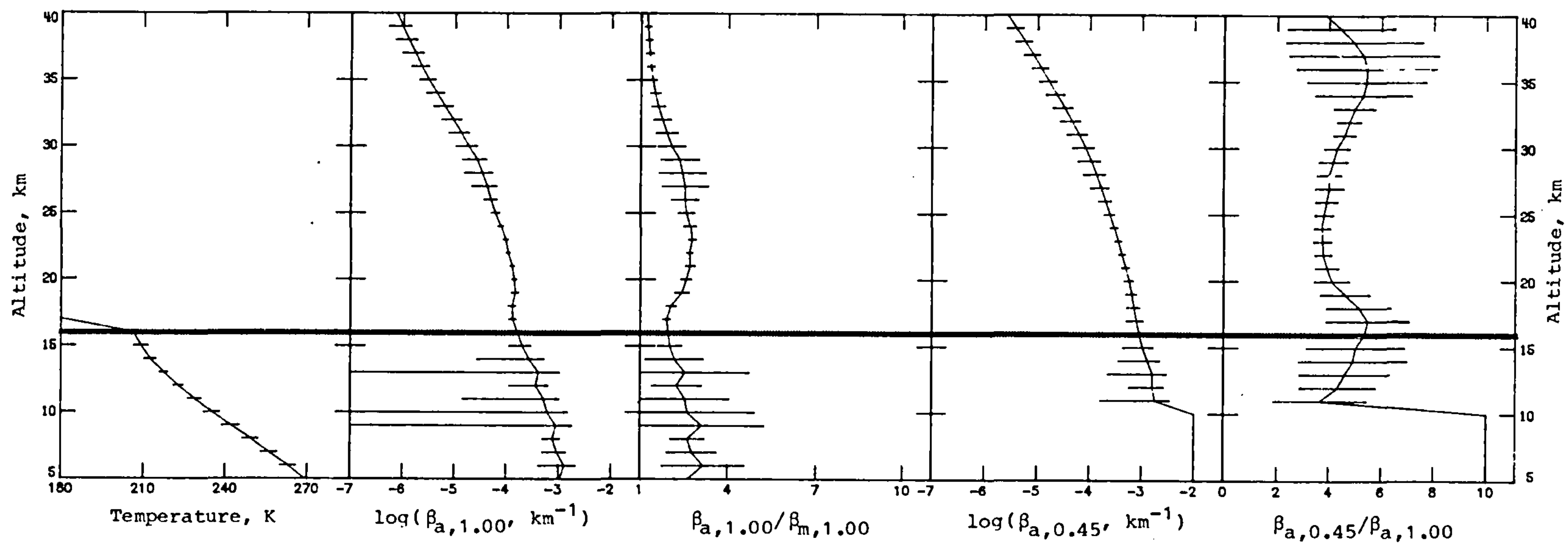


Figure 117. Average extinction and temperature profiles for latitude 25°S, September 29–October 1, 1979. Sunset events; sweep 7.

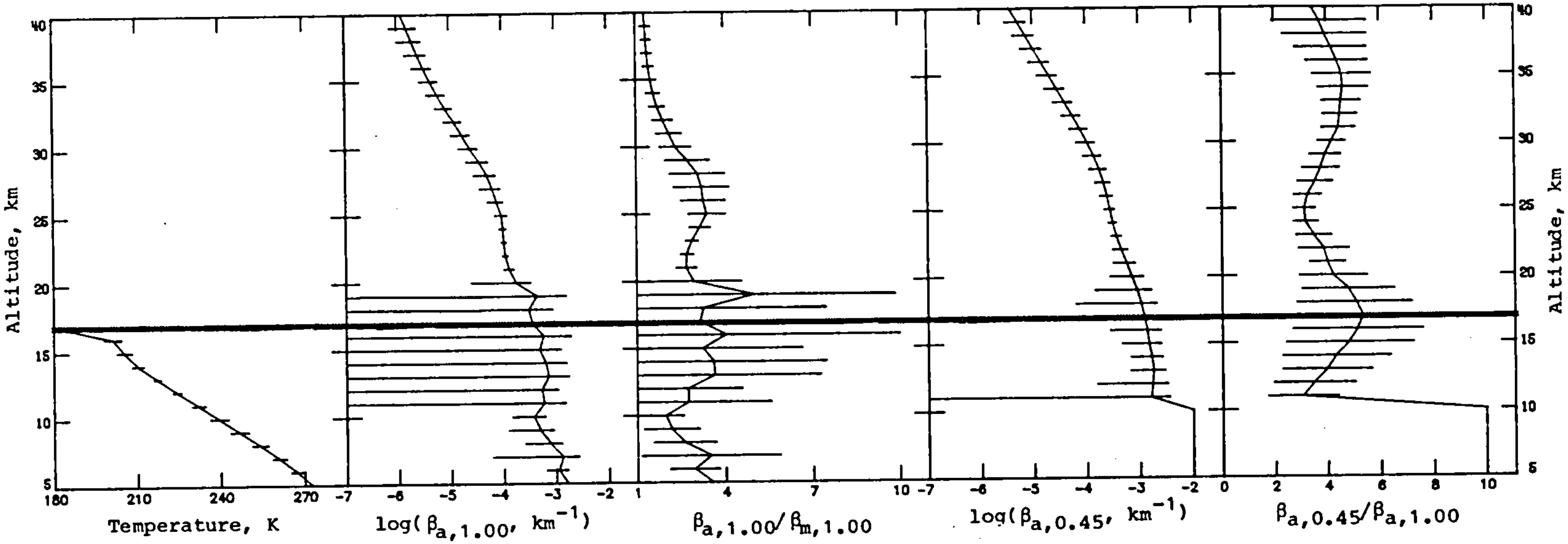


Figure 118. Average extinction and temperature profiles for latitude 15°S, October 1–October 3, 1979. Sunset events; sweep 7.

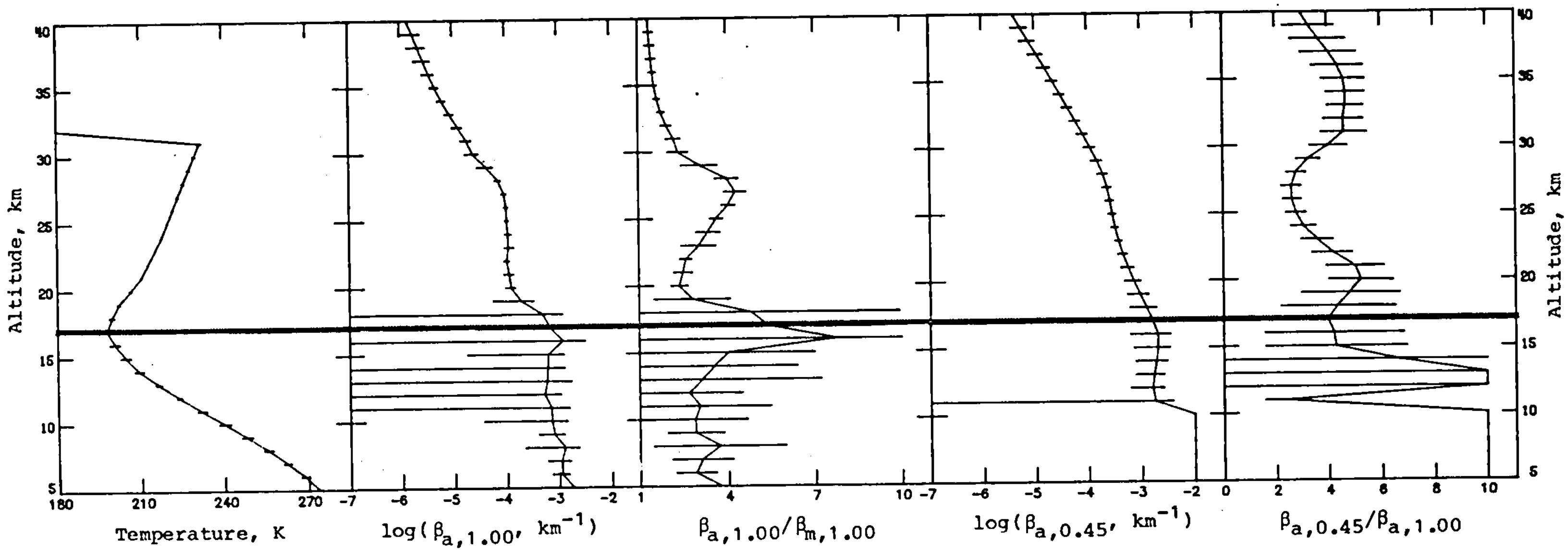


Figure 119. Average extinction and temperature profiles for latitude 5°S, October 3–October 4, 1979. Sunset events; sweep 7.

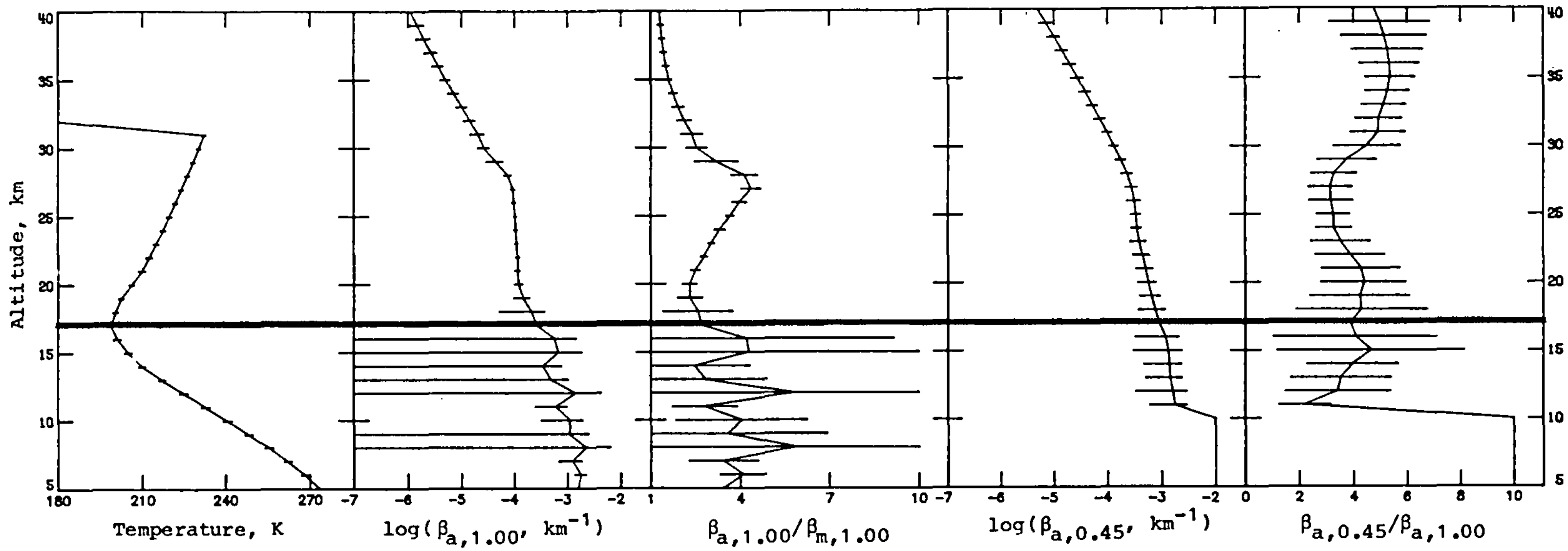


Figure 120. Average extinction and temperature profiles for latitude 5°N, October 4–October 6, 1979. Sunset events; sweep 7.

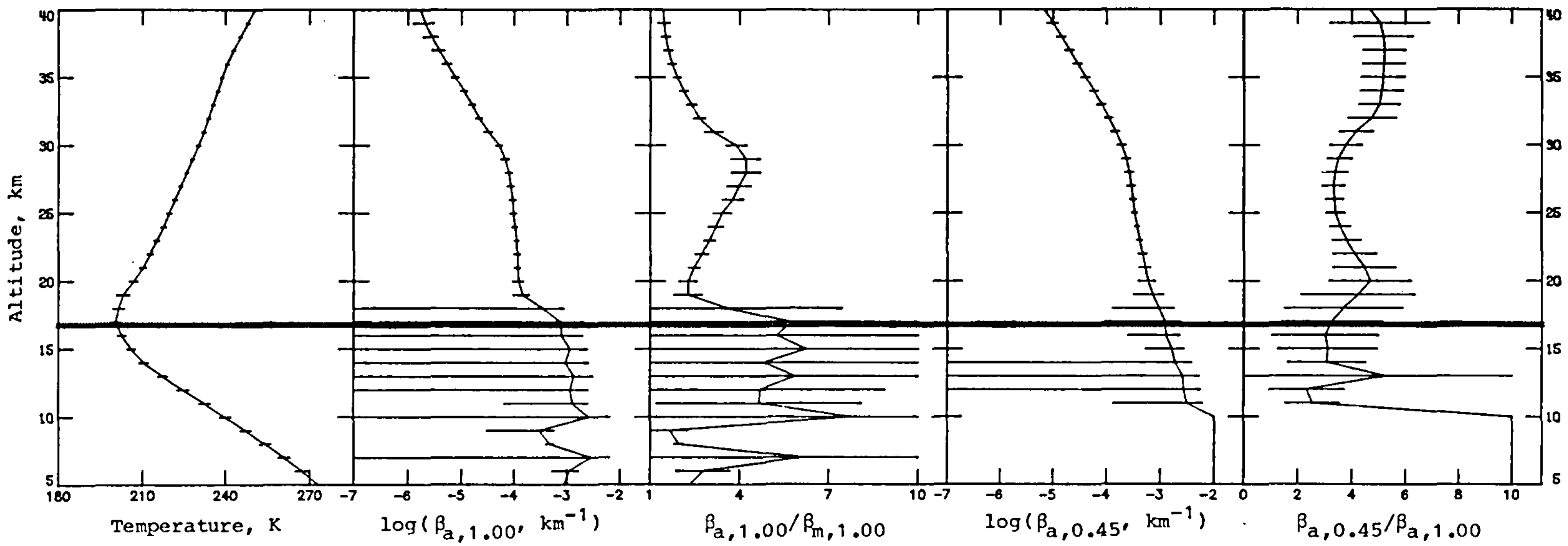


Figure 121. Average extinction and temperature profiles for latitude 15°N, October 6–October 7, 1979. Sunset events; sweep 7.

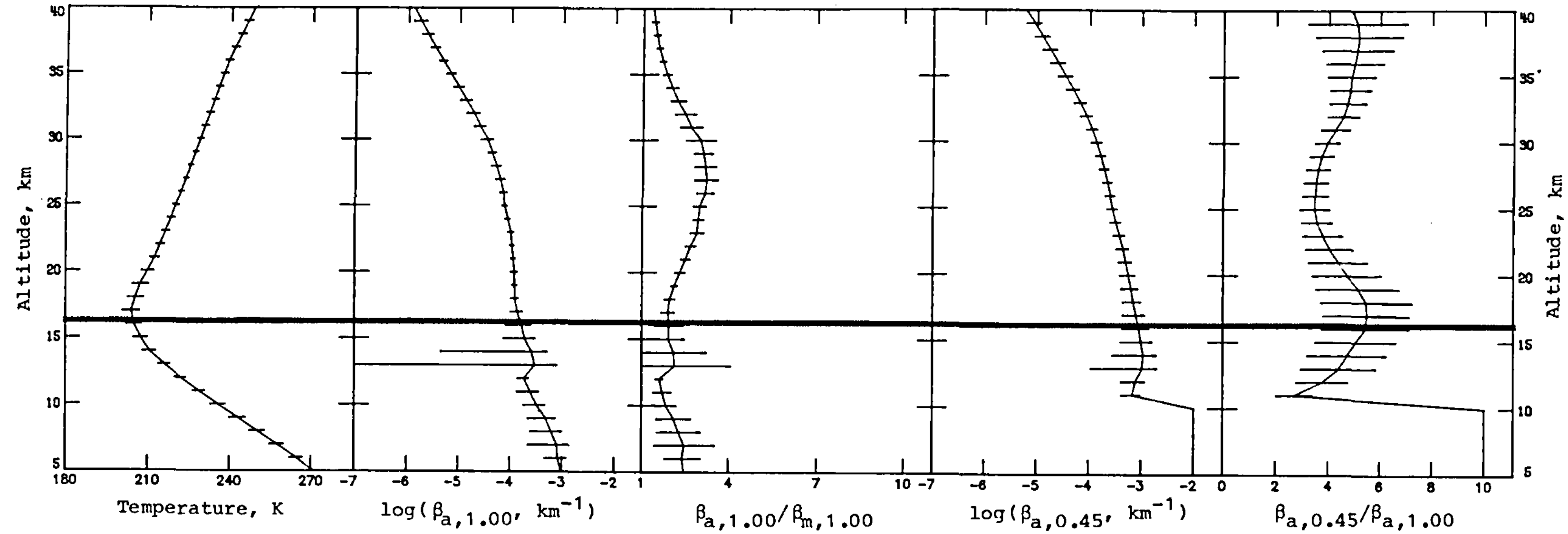


Figure 122. Average extinction and temperature profiles for latitude 25°N, October 7–October 9, 1979. Sunset events; sweep 7.

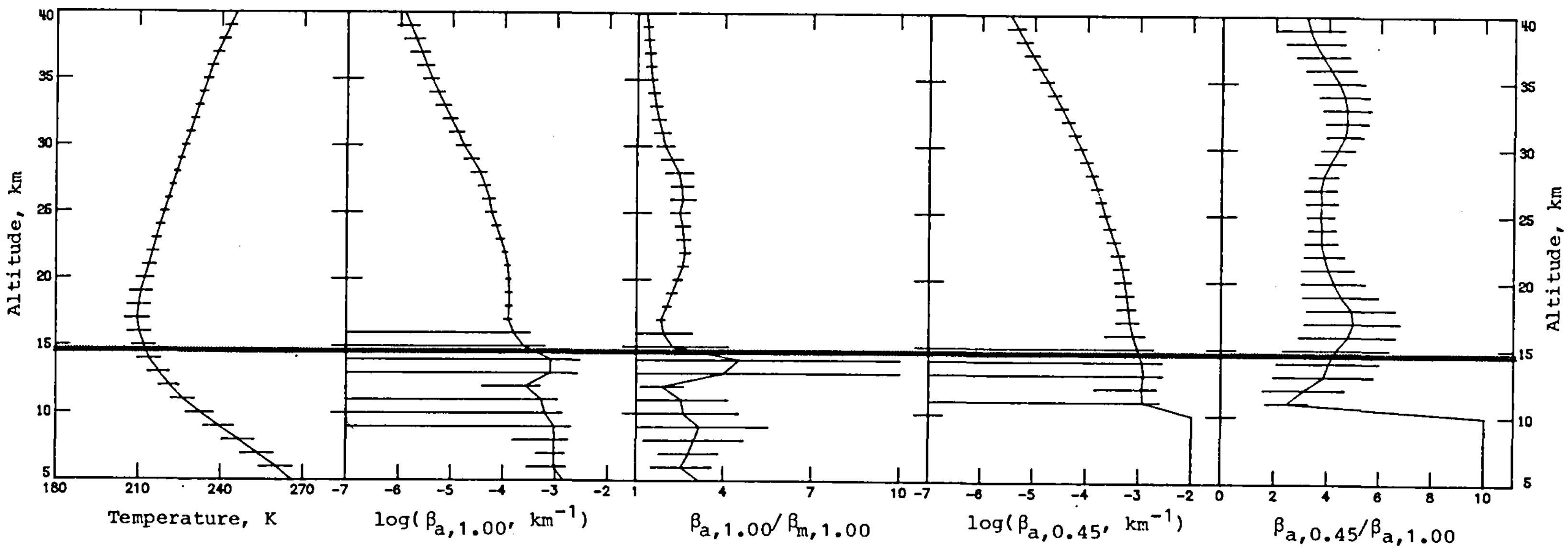


Figure 123. Average extinction and temperature profiles for latitude 35°N, October 9–October 11, 1979. Sunset events; sweep 7.

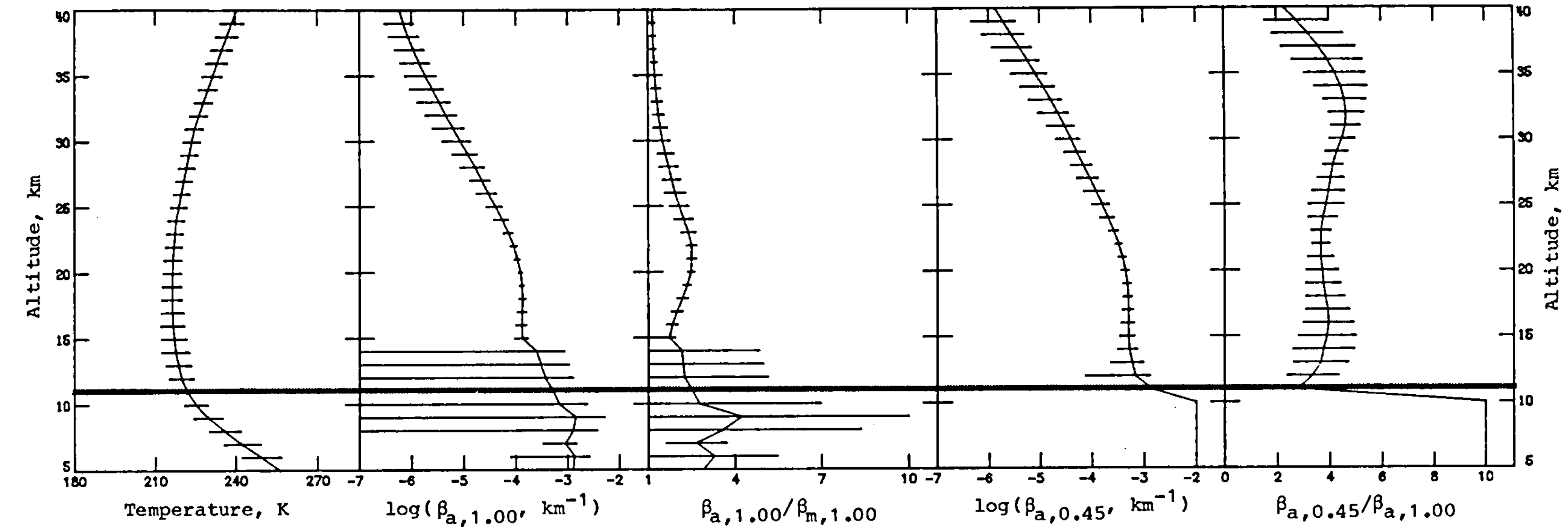


Figure 124. Average extinction and temperature profiles for latitude 45°N, October 11–October 14, 1979. Sunset events; sweep 7.

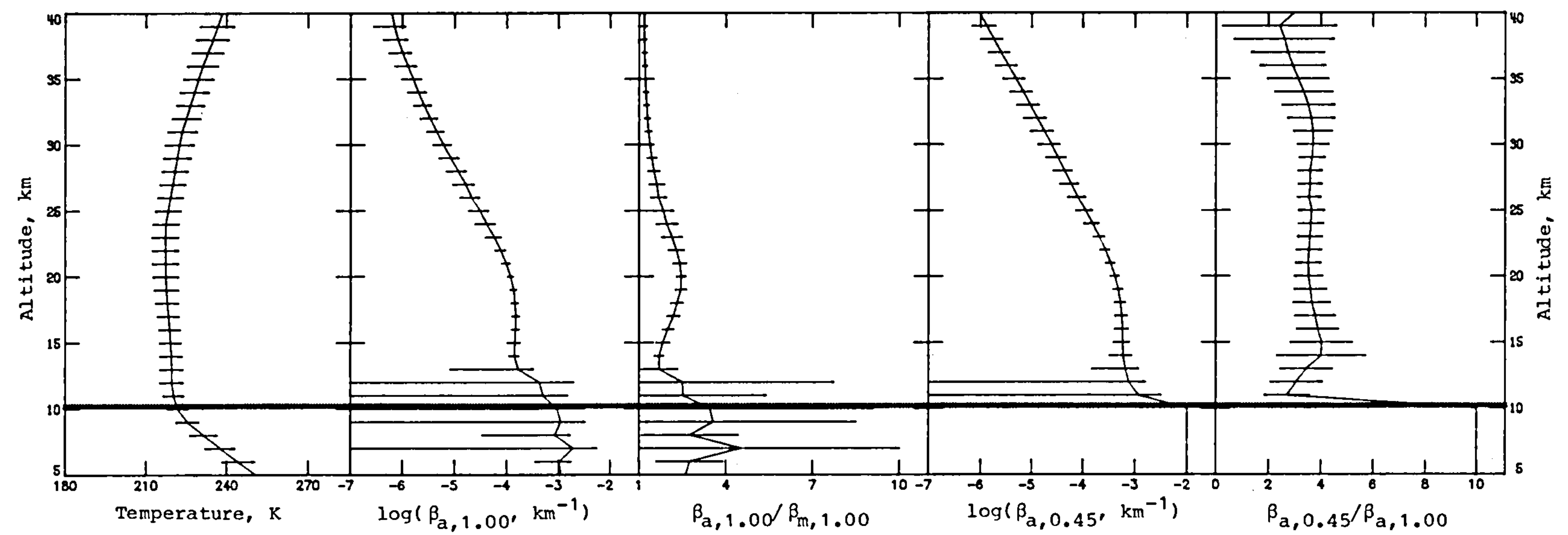


Figure 125. Average extinction and temperature profiles for latitude 55°N, October 14–October 20, 1979. Sunset events; sweep 7.

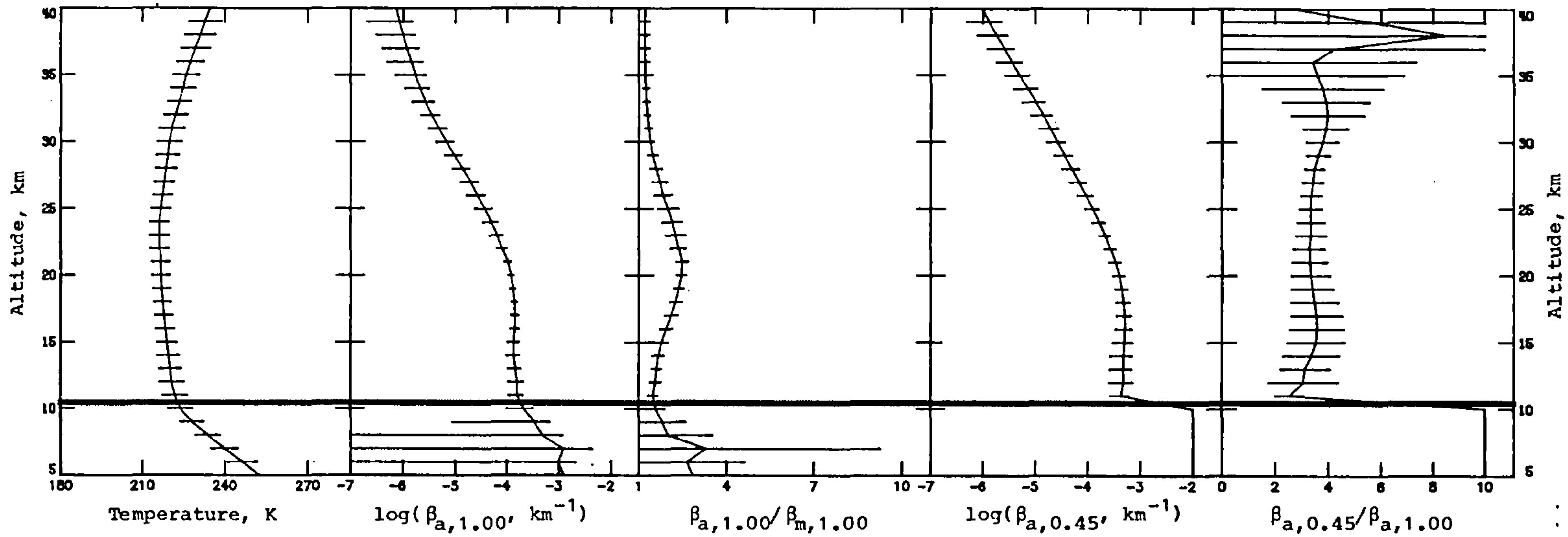


Figure 126. Average extinction and temperature profiles for latitude 55°N, October 20–October 27, 1979. Sunset events; sweep 8.

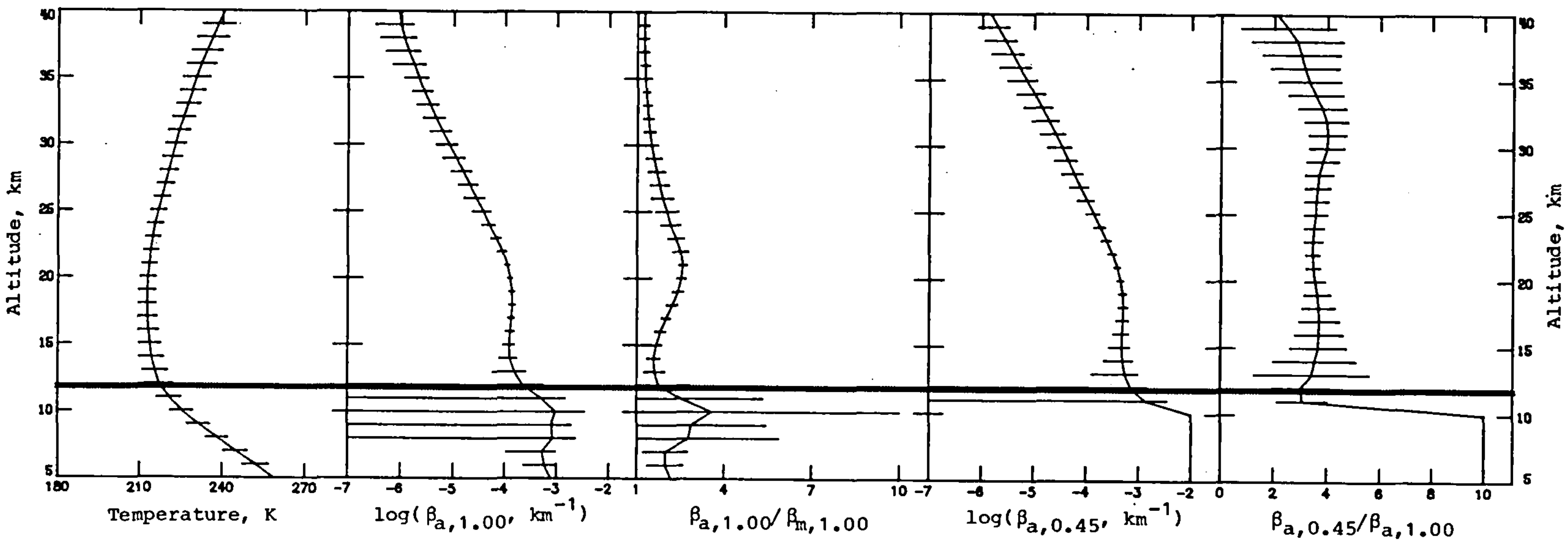


Figure 127. Average extinction and temperature profiles for latitude 45°N, October 27–November 1, 1979. Sunset events; sweep 8.

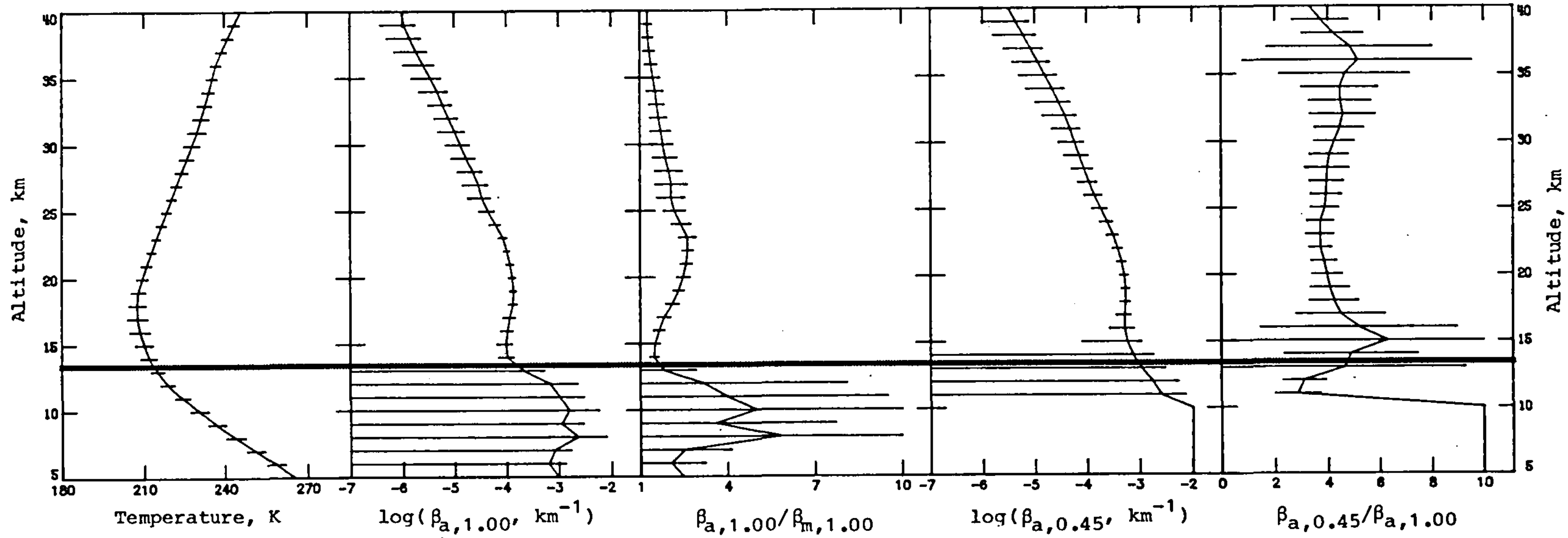


Figure 128. Average extinction and temperature profiles for latitude 35°N, November 1–November 4, 1979. Sunset events; sweep 8.

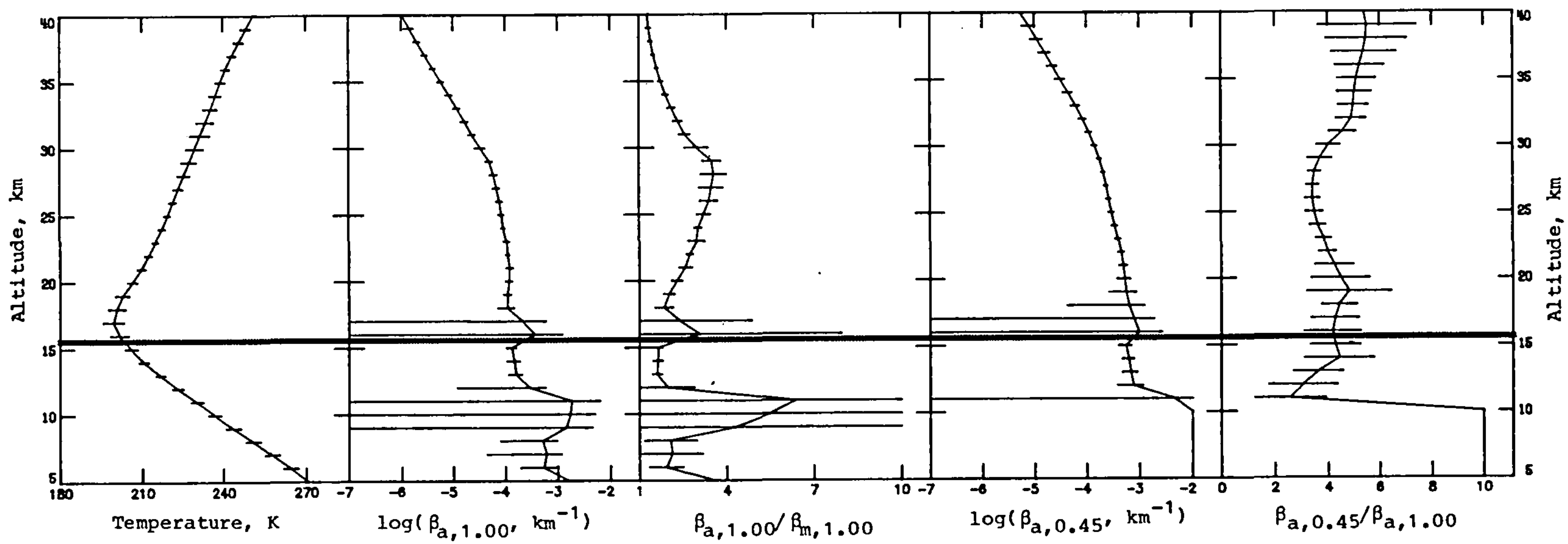


Figure 129. Average extinction and temperature profiles for latitude 25°N, November 4–November 5, 1979. Sunset events; sweep 8.

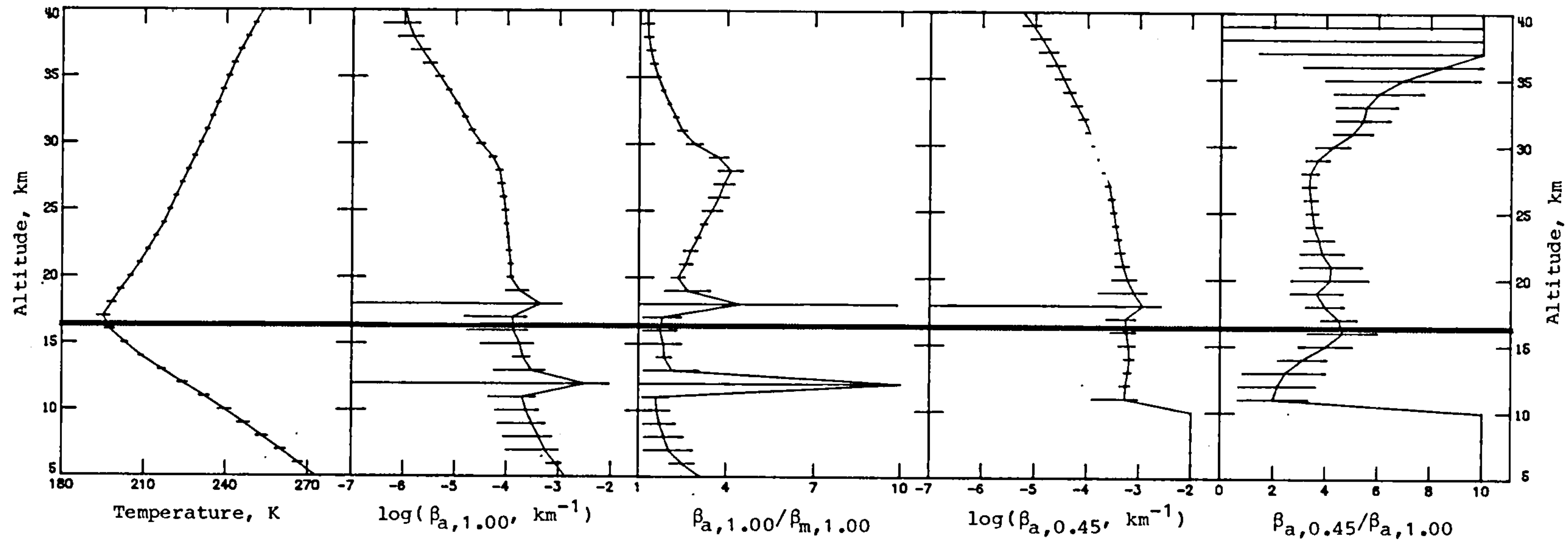


Figure 130. Average extinction and temperature profiles for latitude 15°N, November 5–November 7, 1979. Sunset events; sweep 8.

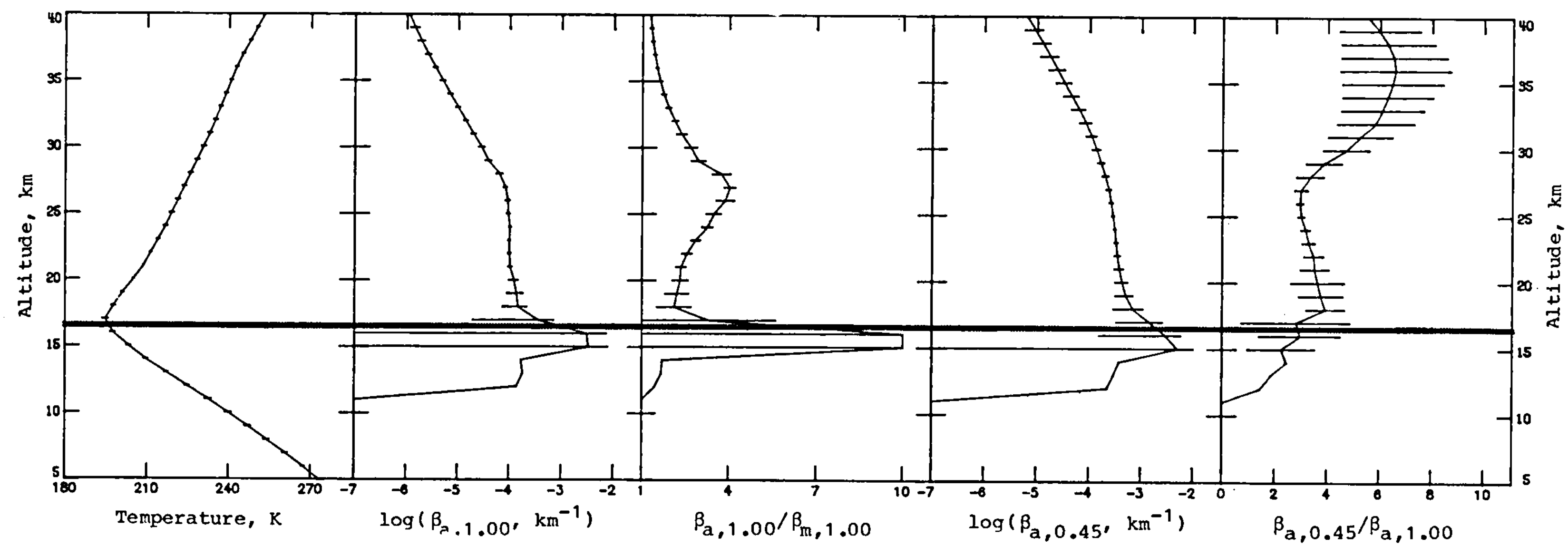


Figure 131. Average extinction and temperature profiles for latitude 5°N, November 7, 1979. Sunset events; sweep 8.

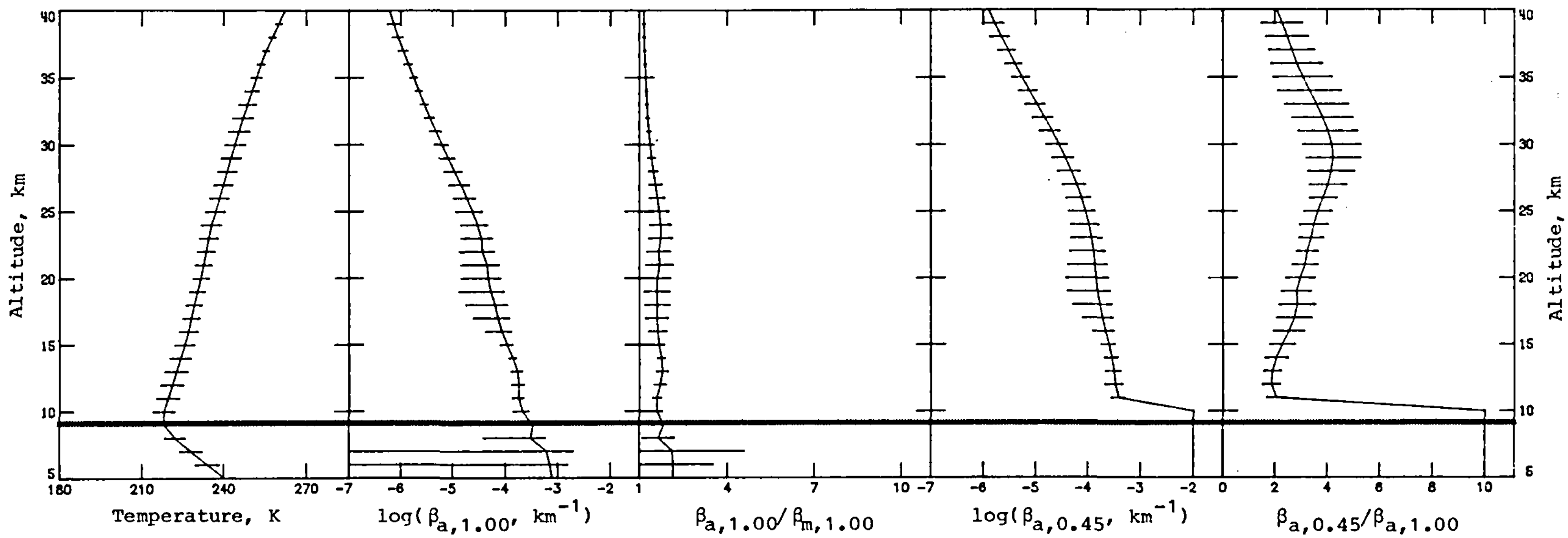


Figure 132. Average extinction and temperature profiles for latitude 75°S, November 20–November 21, 1979. Sunset events; sweep 8.

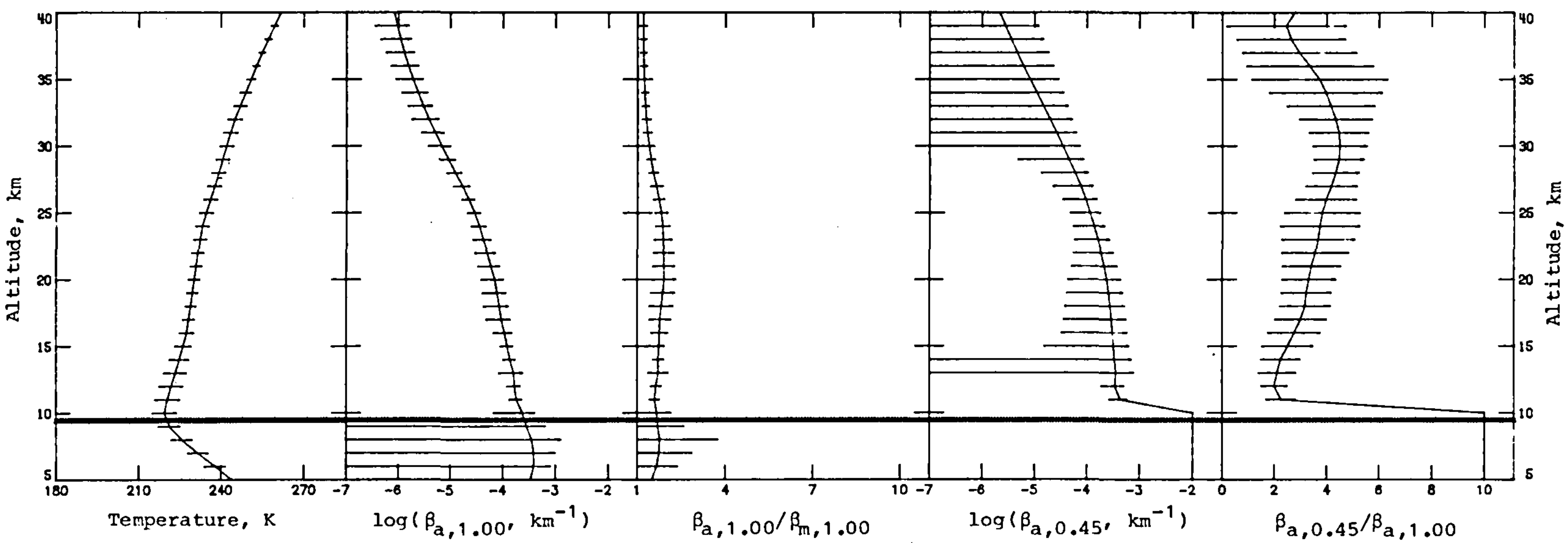


Figure 133. Average extinction and temperature profiles for latitude 65°S, November 21–November 28, 1979. Sunset events; sweep 9.

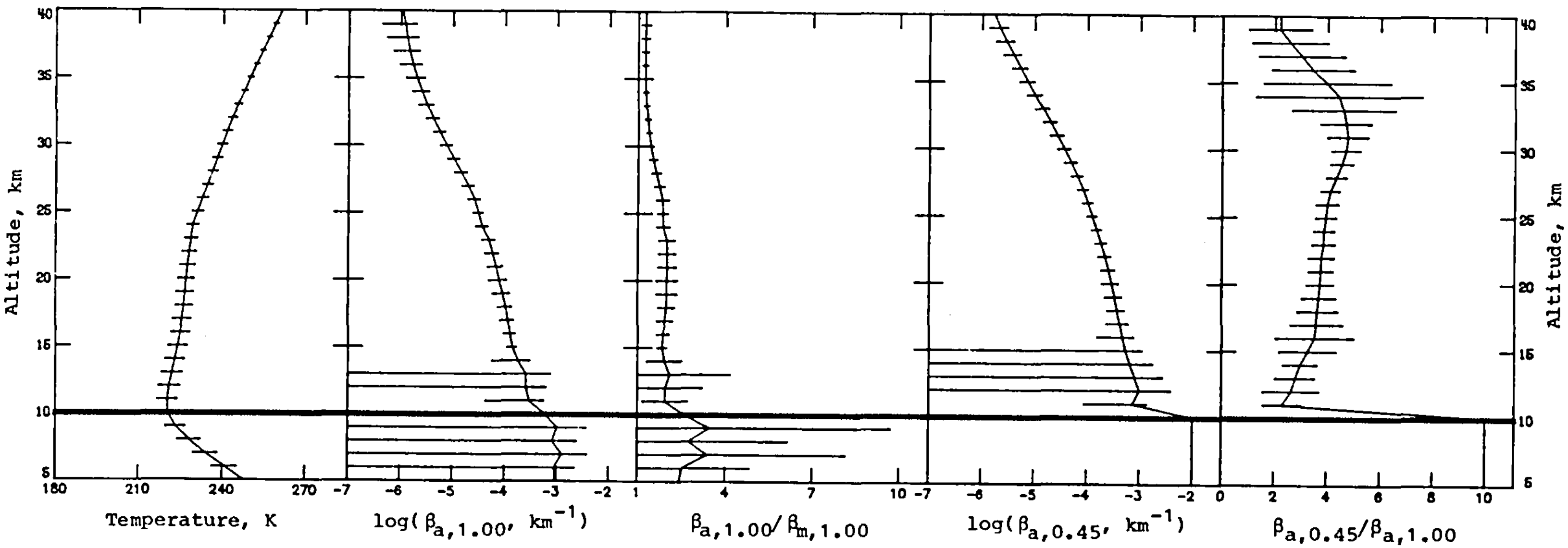


Figure 134. Average extinction and temperature profiles for latitude 55°S, November 28–December 2, 1979.
Sunset events; sweep 9.

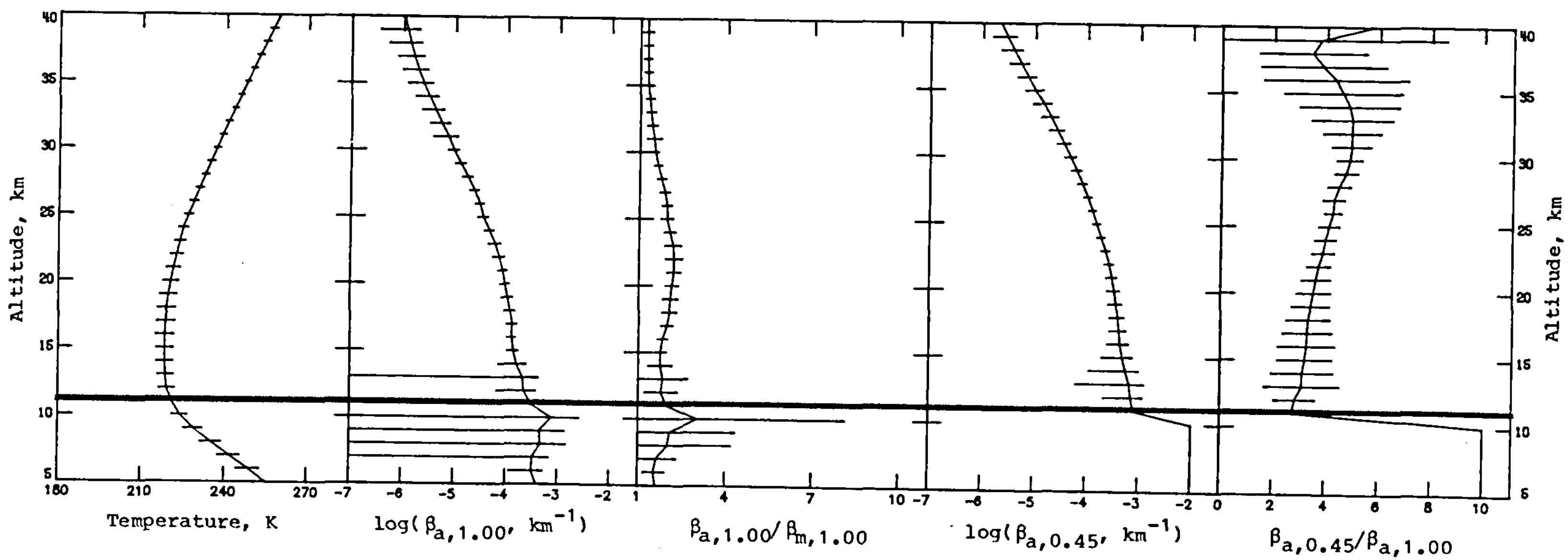


Figure 135. Average extinction and temperature profiles for latitude 45°S, December 2–December 5, 1979.
Sunset events; sweep 9.

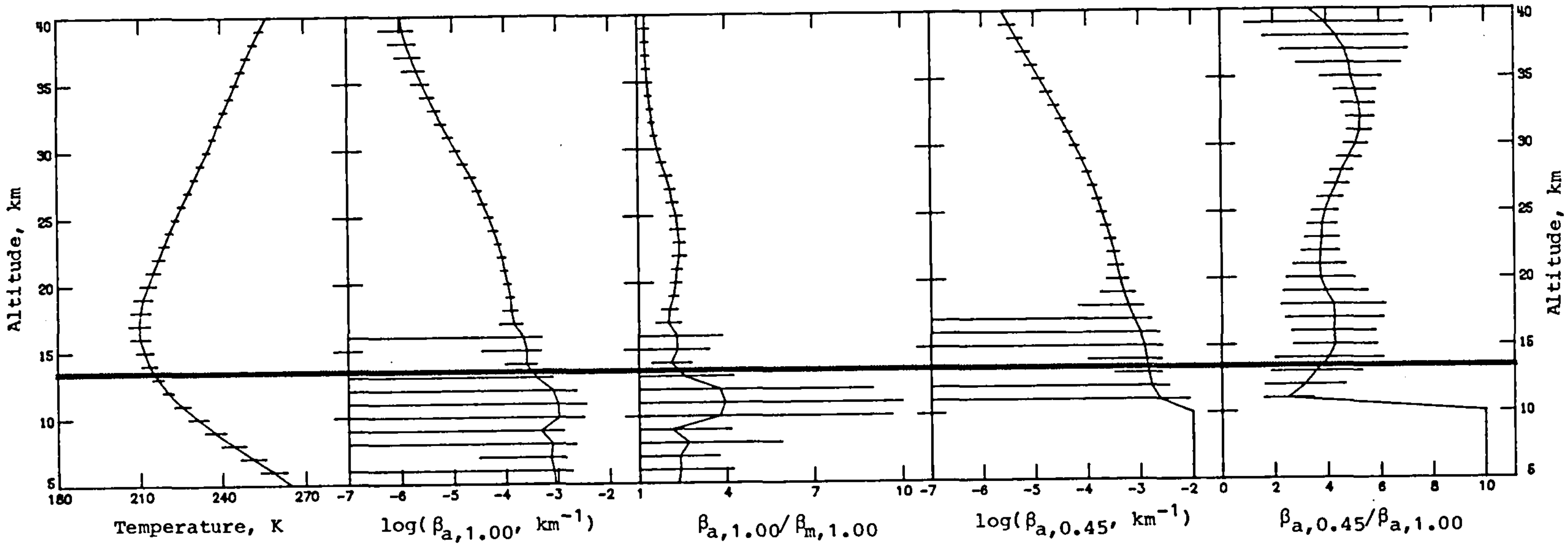


Figure 136. Average extinction and temperature profiles for latitude 35°S, December 5–December 7, 1979. Sunset events; sweep 9.

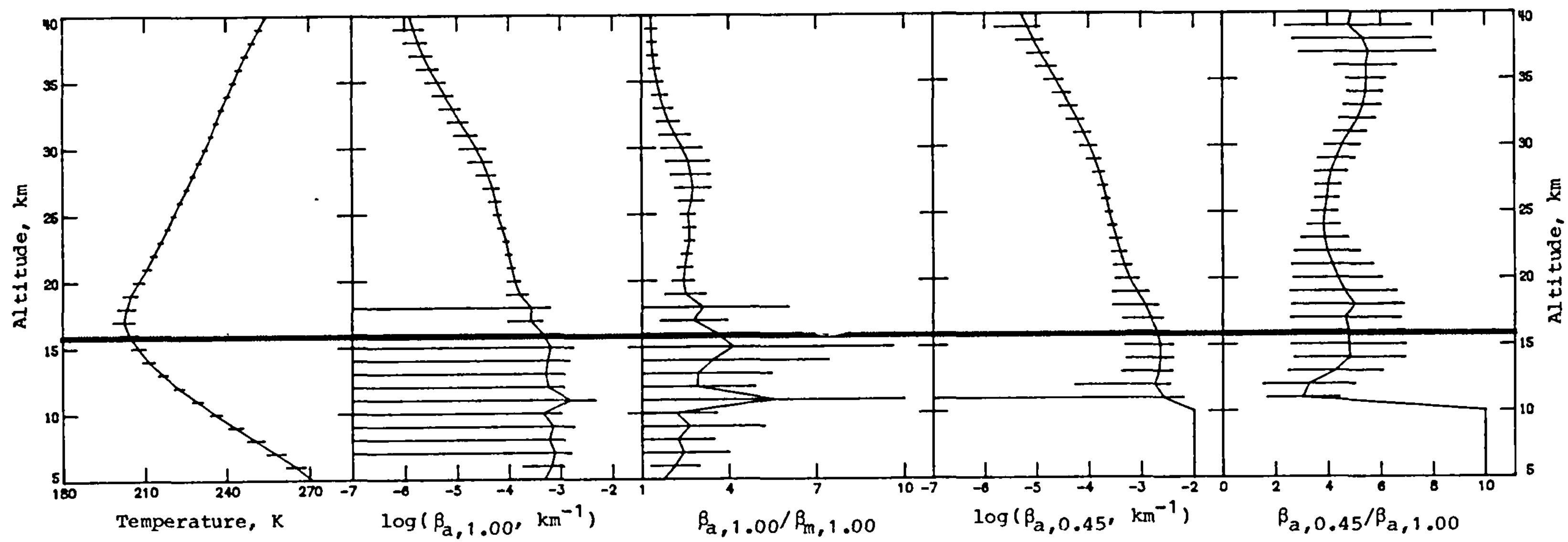


Figure 137. Average extinction and temperature profiles for latitude 25°S, December 7–December 10, 1979. Sunset events; sweep 9.

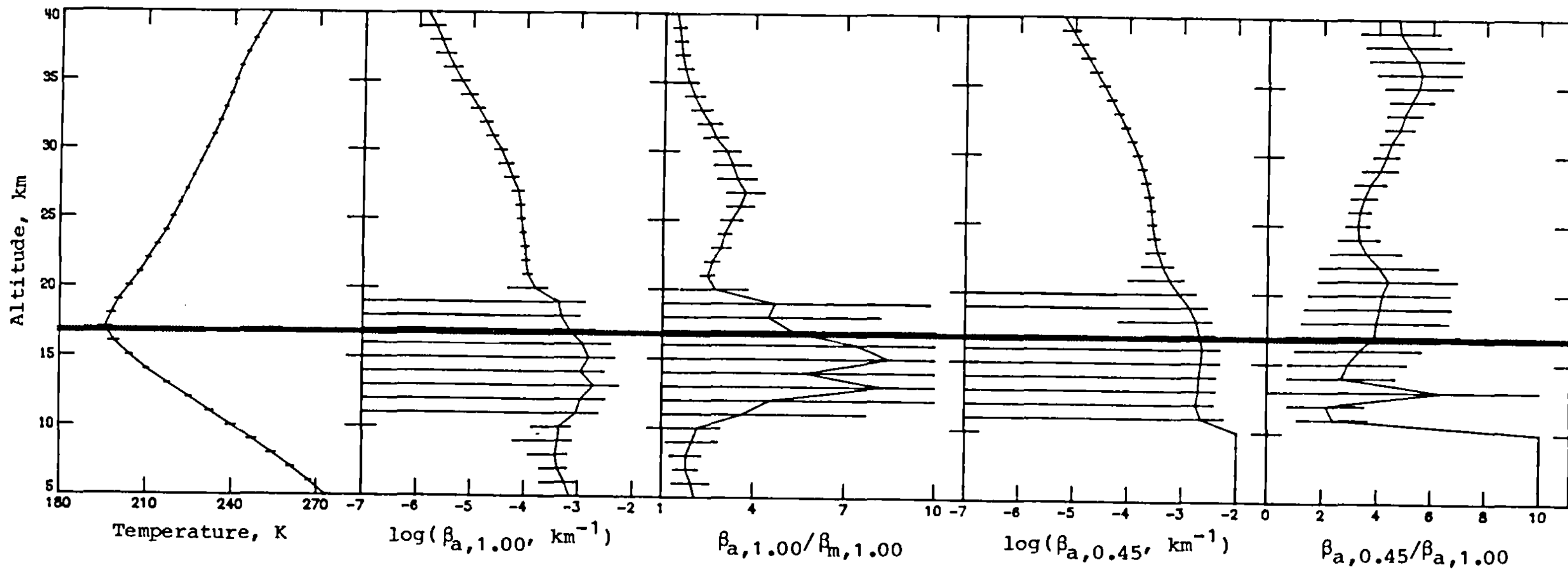


Figure 138. Average extinction and temperature profiles for latitude 15°S, December 10–December 12, 1979. Sunset events; sweep 9.

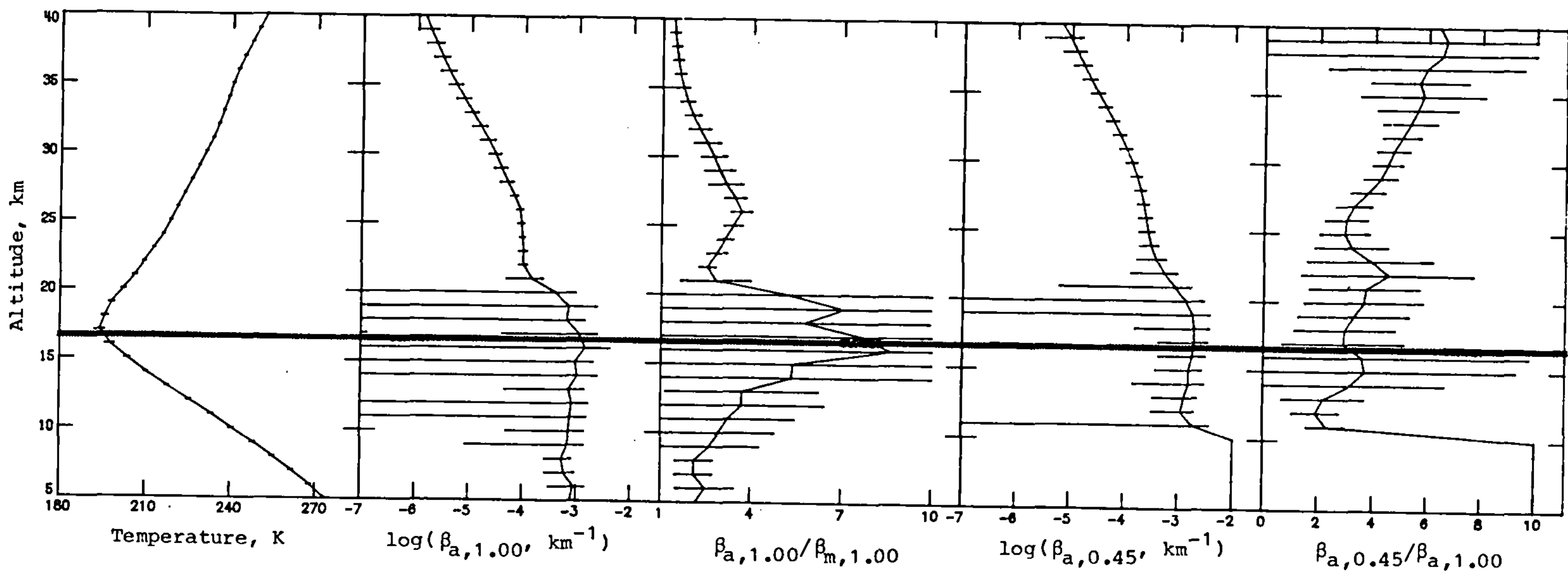


Figure 139. Average extinction and temperature profiles for latitude 5°S, December 12–December 14, 1979. Sunset events; sweep 9.

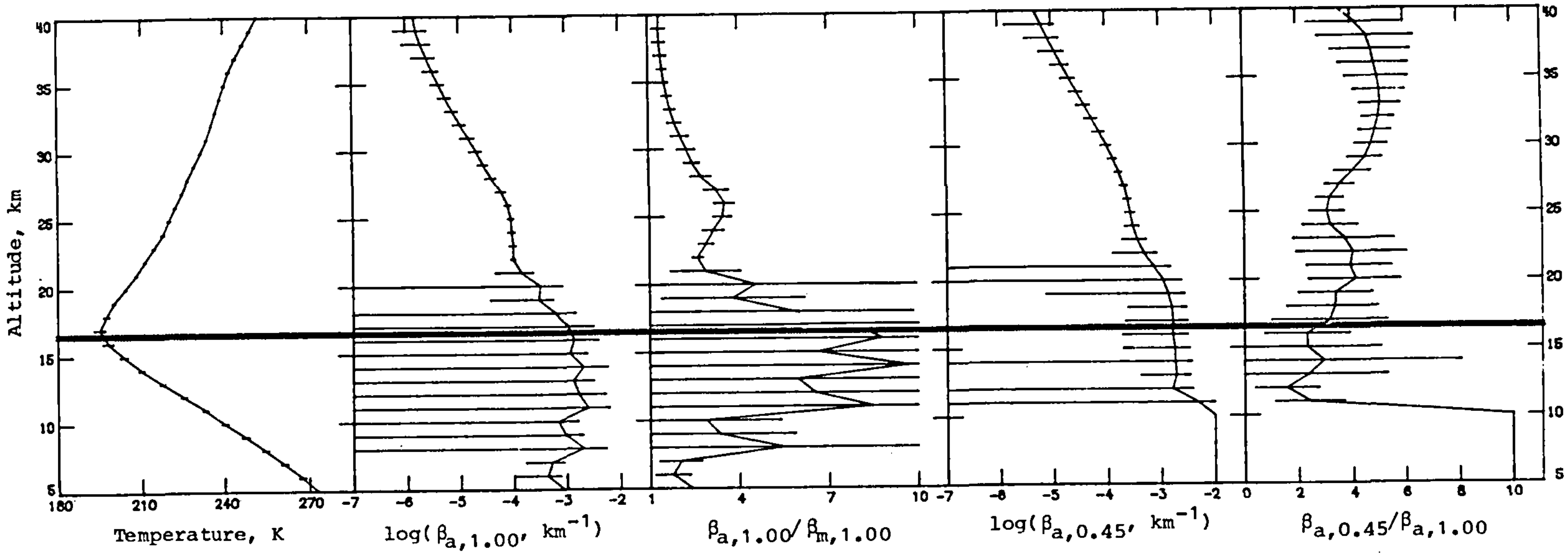


Figure 140. Average extinction and temperature profiles for latitude 5°N, December 14–December 16, 1979. Sunset events; sweep 9.

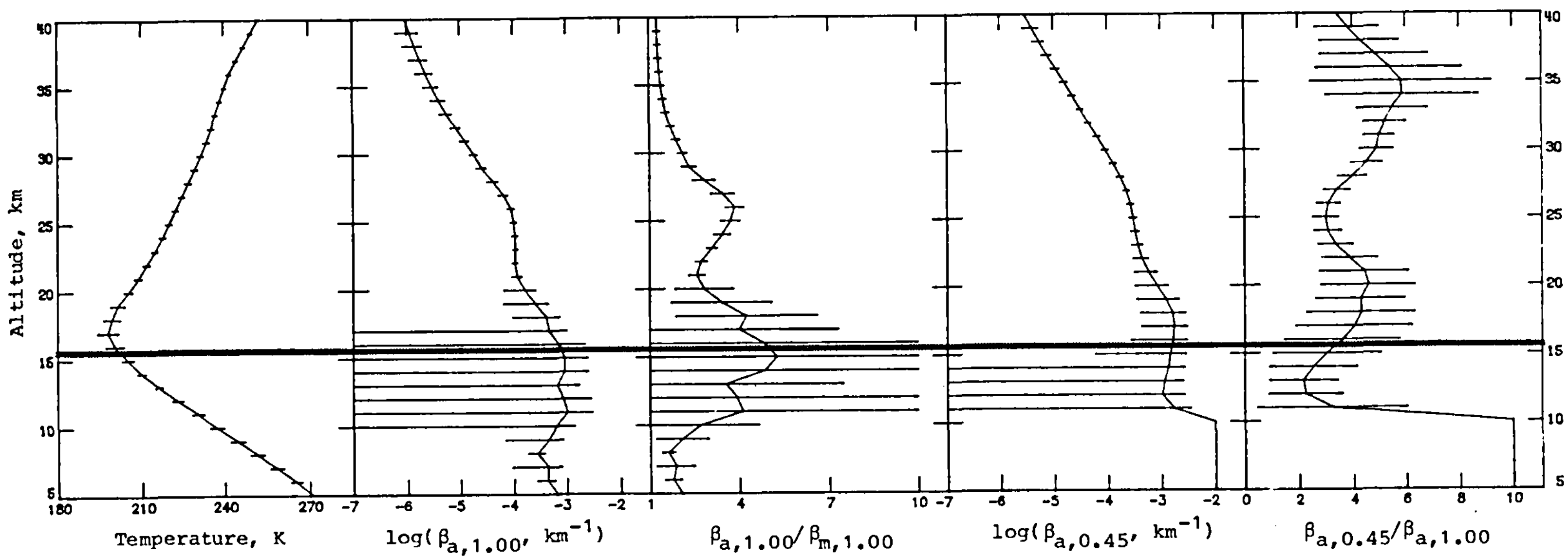


Figure 141. Average extinction and temperature profiles for latitude 15°N, December 16–December 18, 1979. Sunset events; sweep 9.

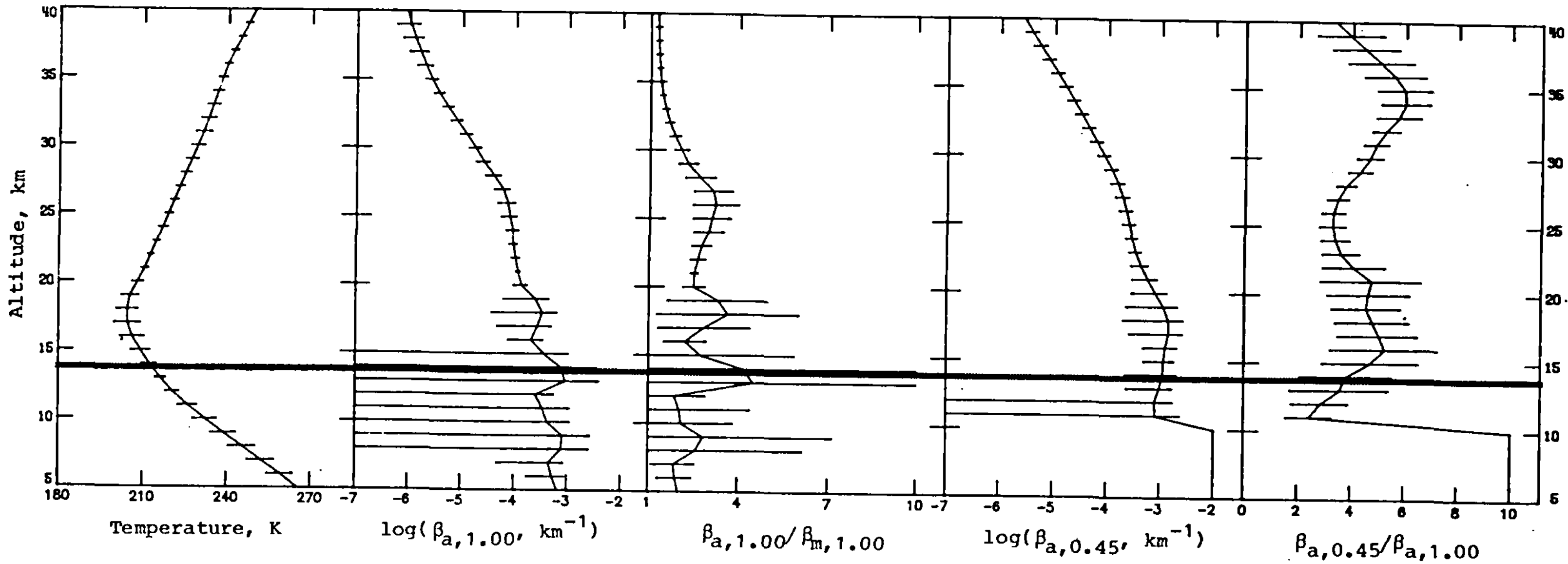


Figure 142. Average extinction and temperature profiles for latitude 25°N, December 18–December 20, 1979. Sunset events; sweep 9.

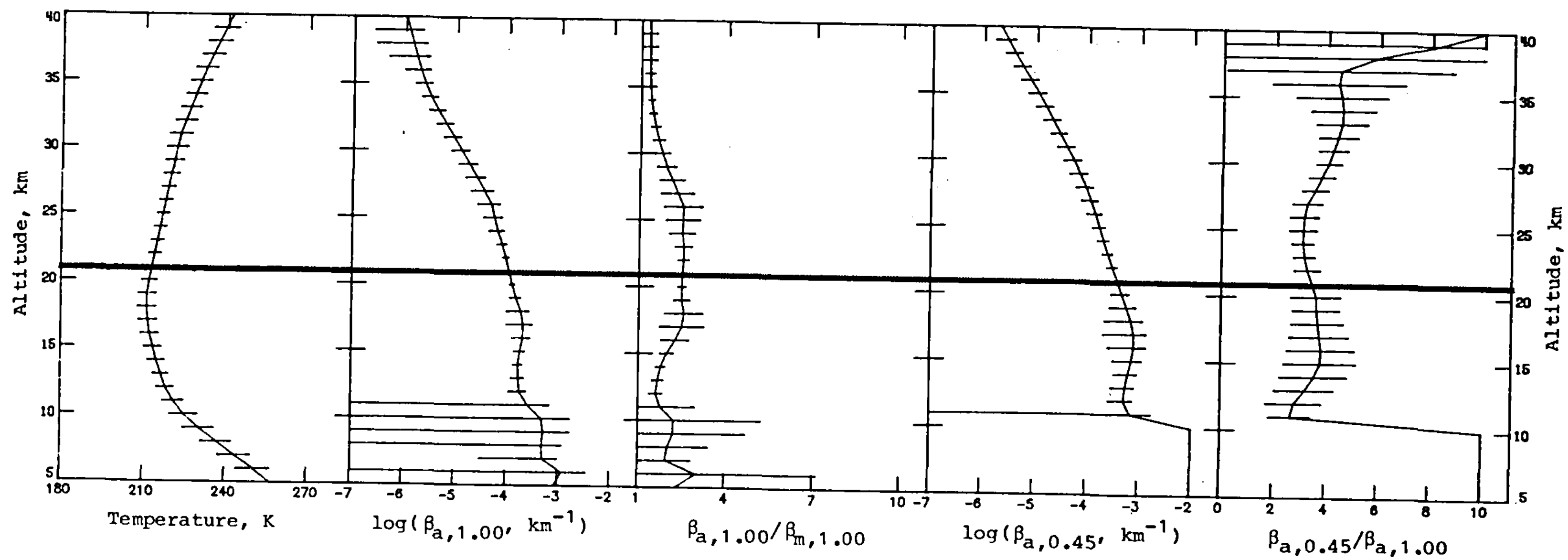


Figure 143. Average extinction and temperature profiles for latitude 35°N, December 20–December 24, 1979. Sunset events; sweep 9.

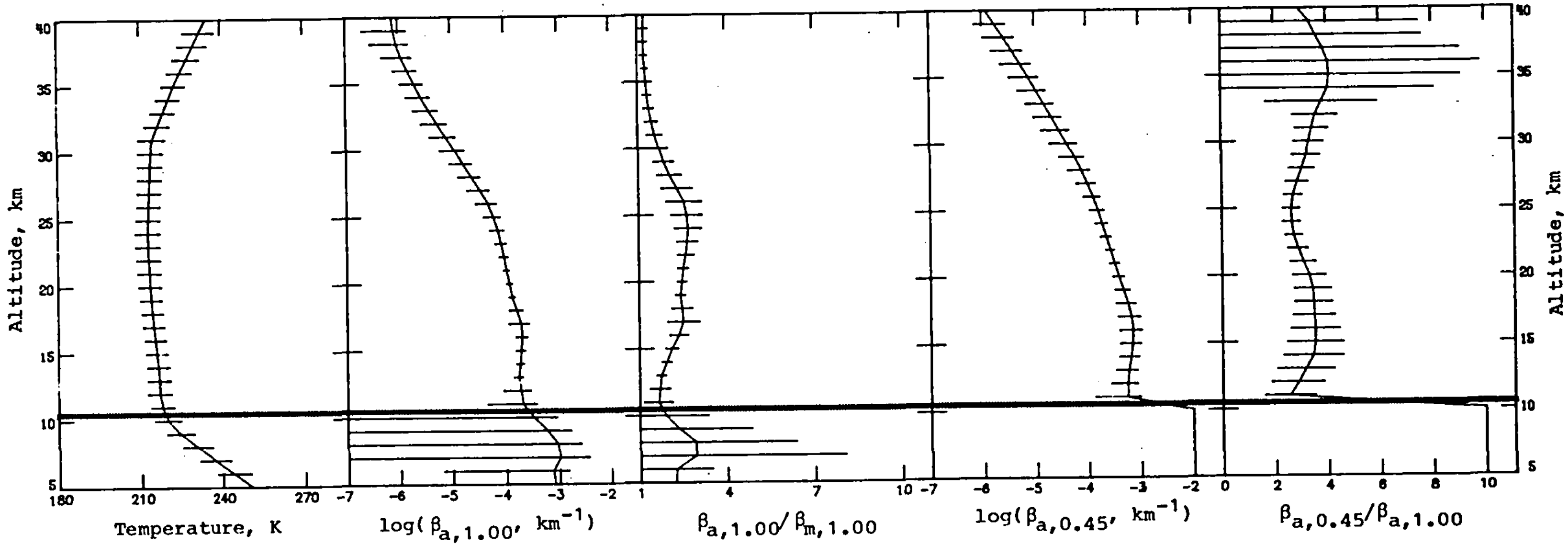
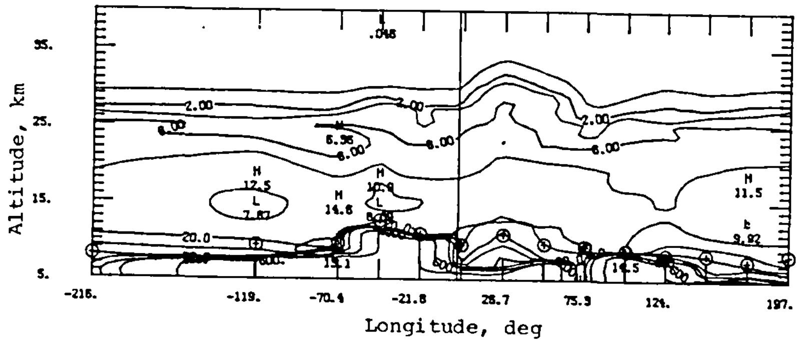
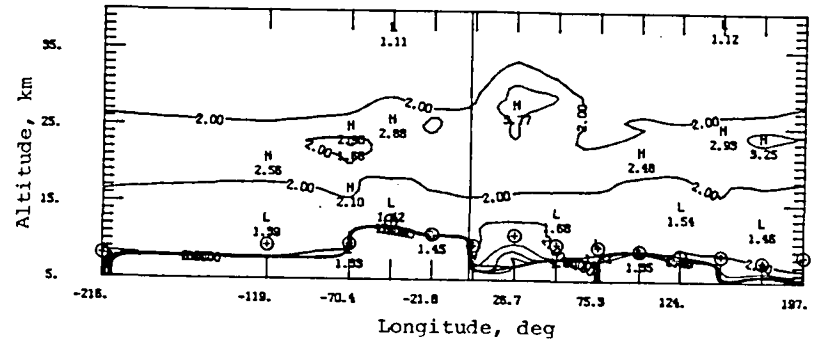


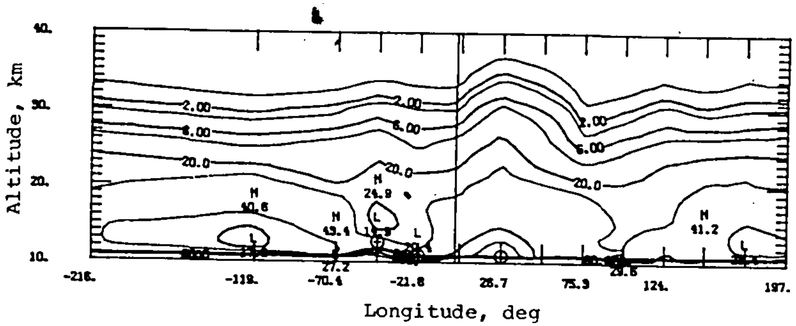
Figure 144. Average extinction and temperature profiles for latitude 45°N, December 24–December 31, 1979. Sunset events; sweep 9.



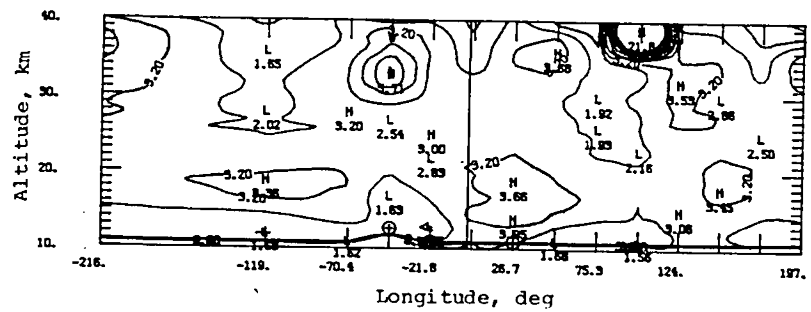
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



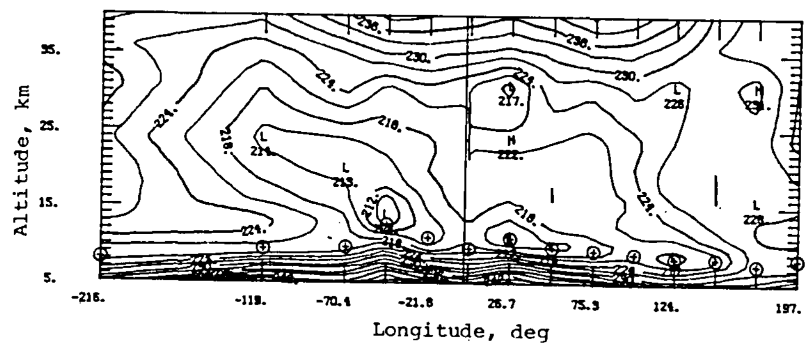
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

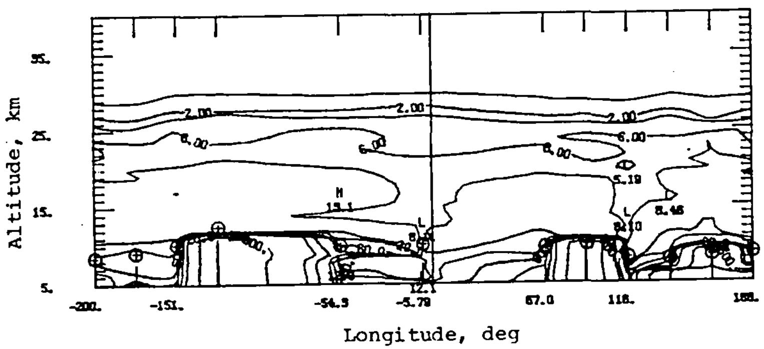


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

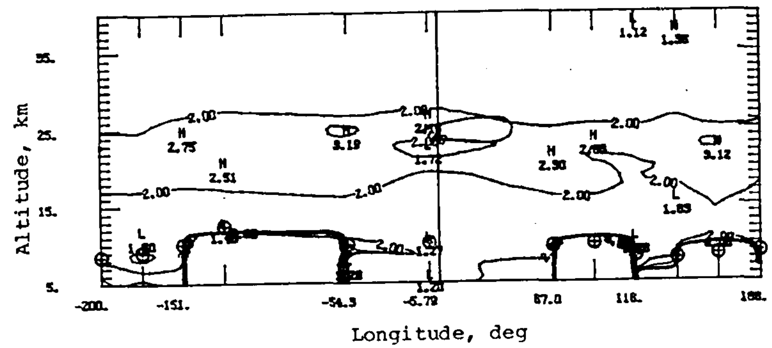


(e) Temperature (kelvin).

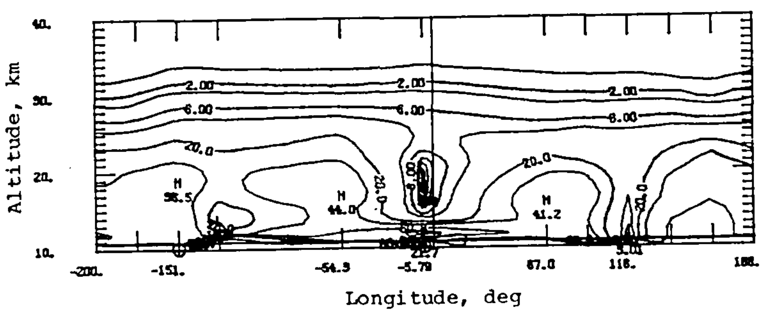
Figure 145. Extinction and temperature isopleths for sweep 2, sunrise events, March 6.73–March 7.88, 1979, at 55.7°N to 54.0°N.



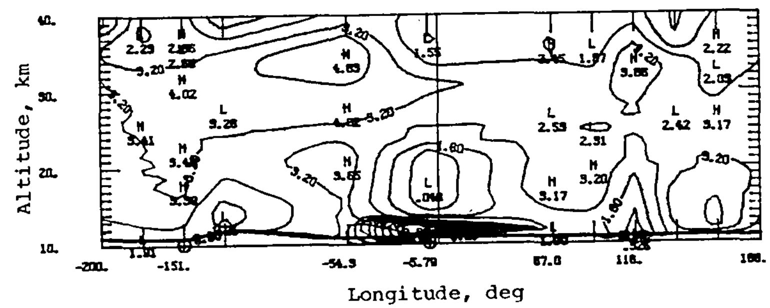
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



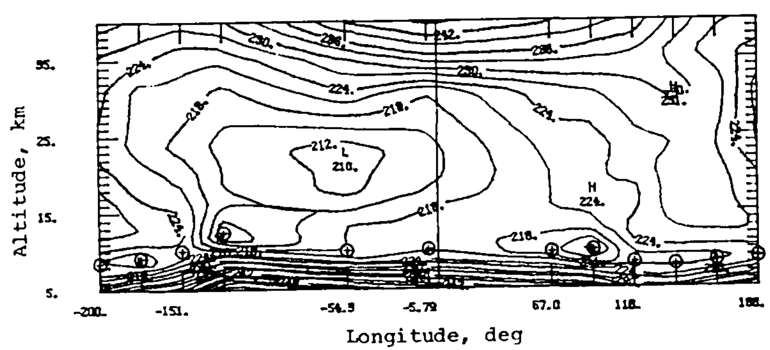
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

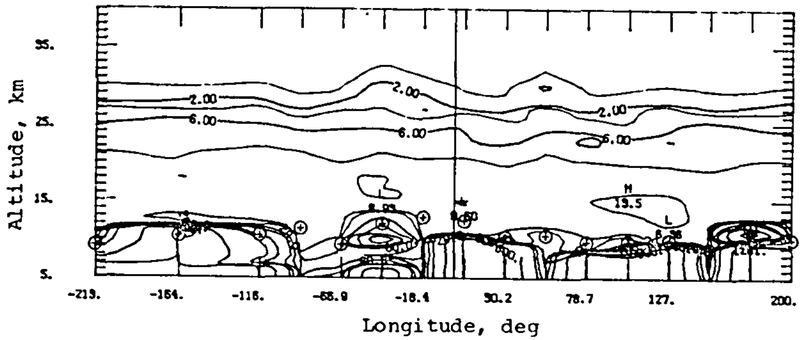


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

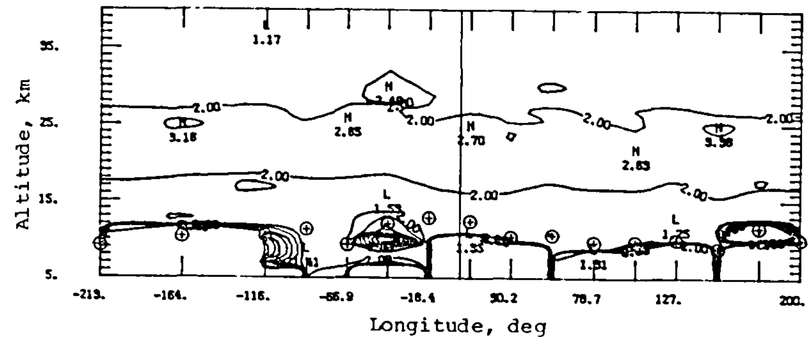


(e) Temperature (kelvin).

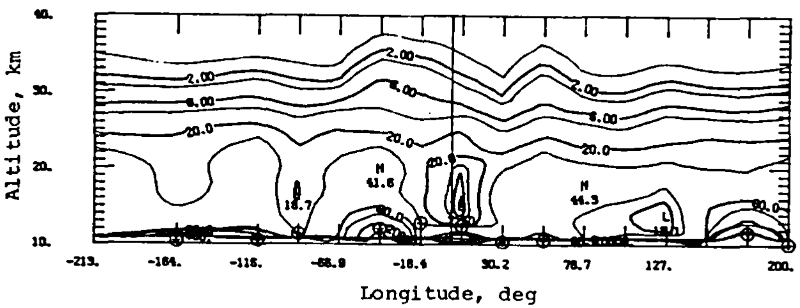
Figure 146. Extinction and temperature isopleths for sweep 2, sunrise events, March 8.75–March 9.83, 1979, at 52.2°N to 49.1°N.



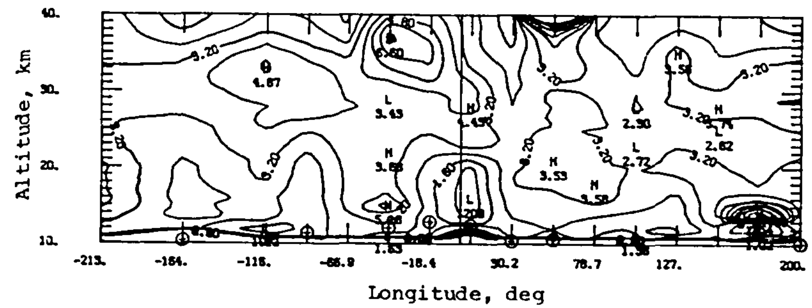
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



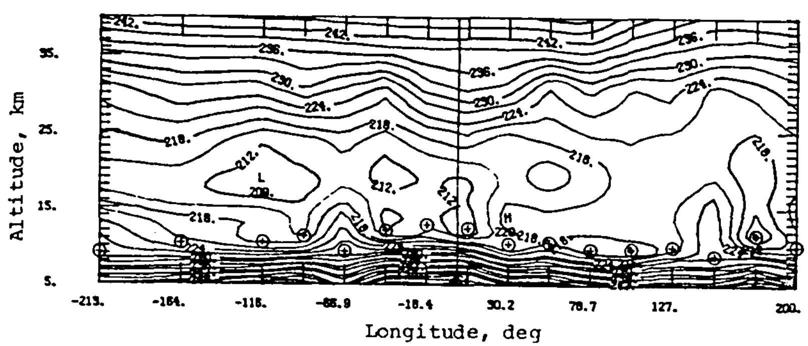
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

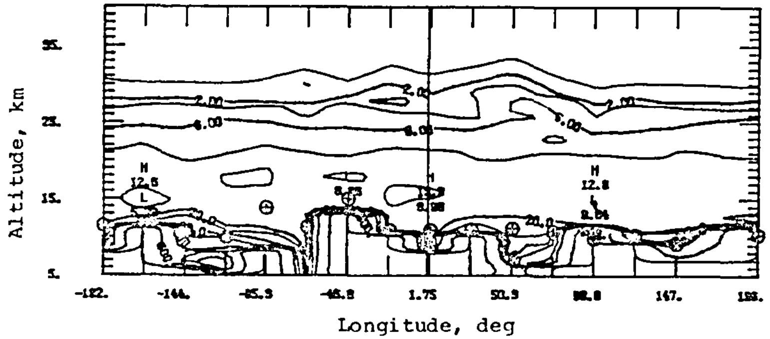


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

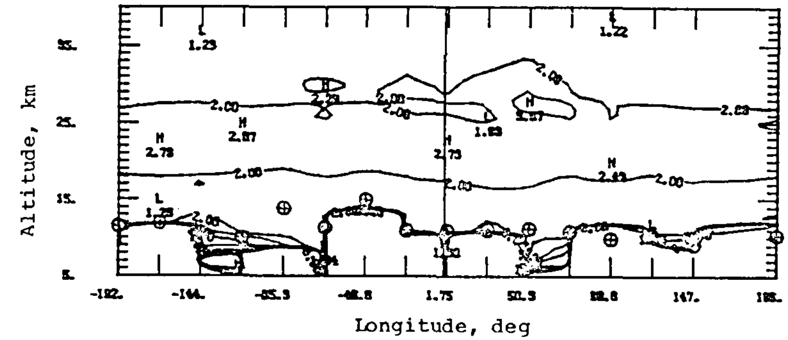


(e) Temperature (kelvin).

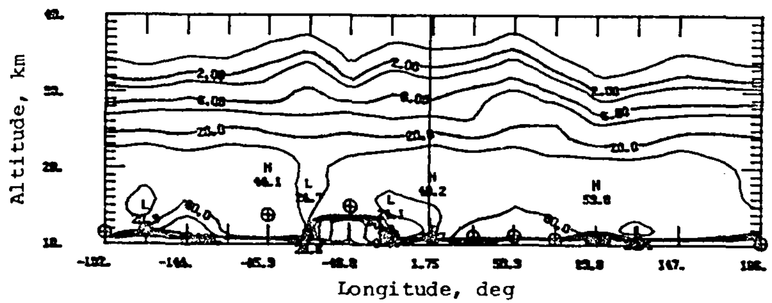
Figure 147. Extinction and temperature isopleths for sweep 2, sunrise events, March 11.71–March 12.85, 1979, at 41.2°N to 34.5°N.



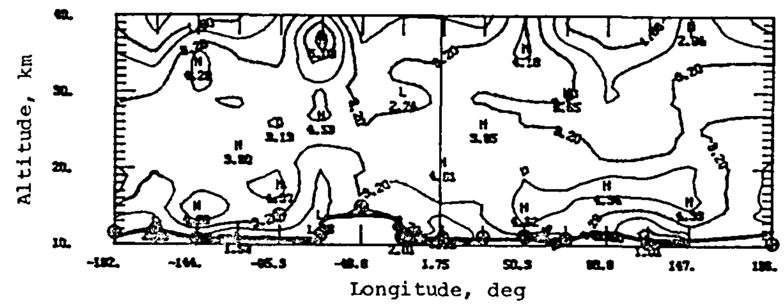
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



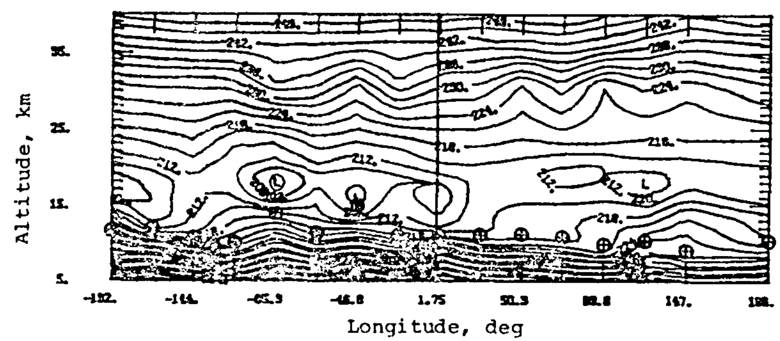
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

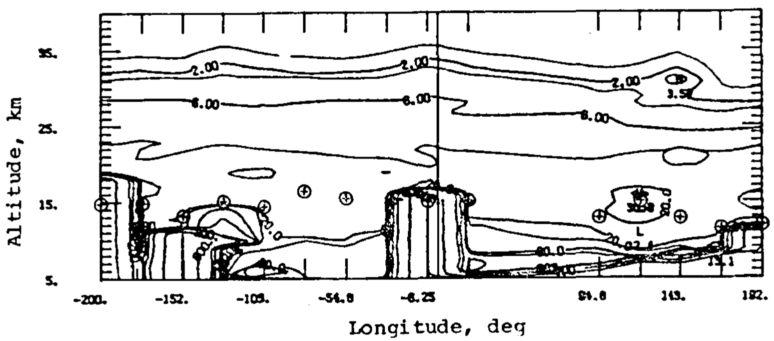


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

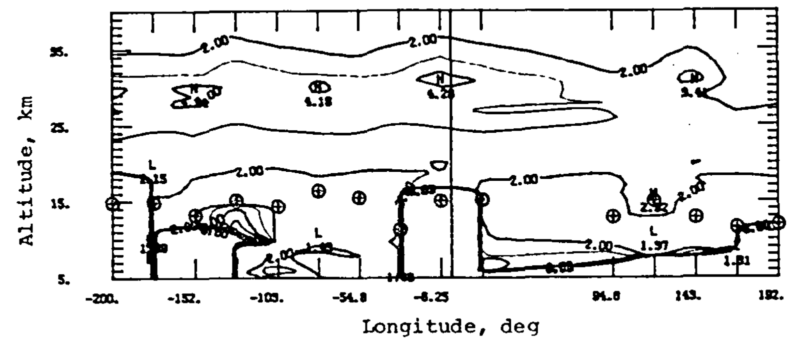


(e) Temperature (kelvin).

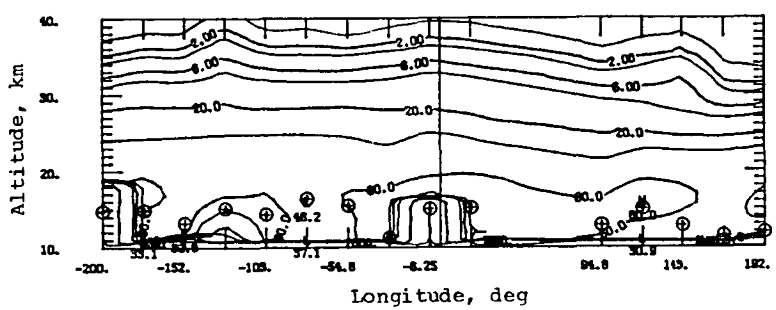
Figure 148. Extinction and temperature isopleths for sweep 2, sunrise events, March 12.72–March 13.79, 1979, at 36.4°N to 28.1°N.



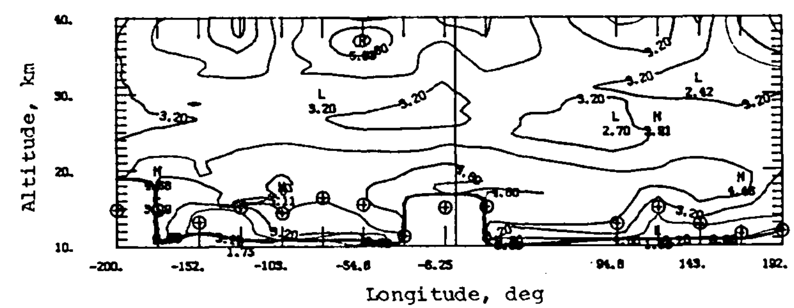
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



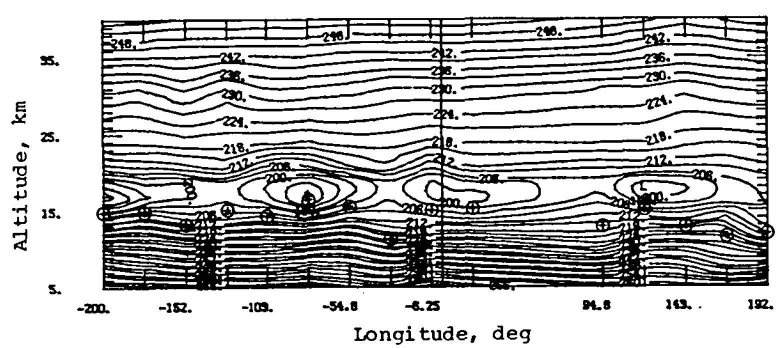
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

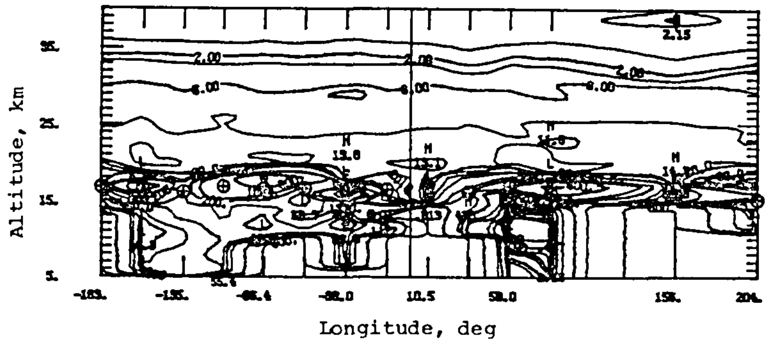


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

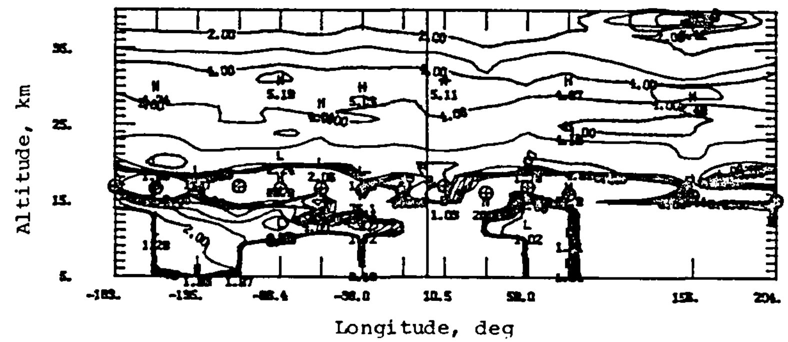


(e) Temperature (kelvin).

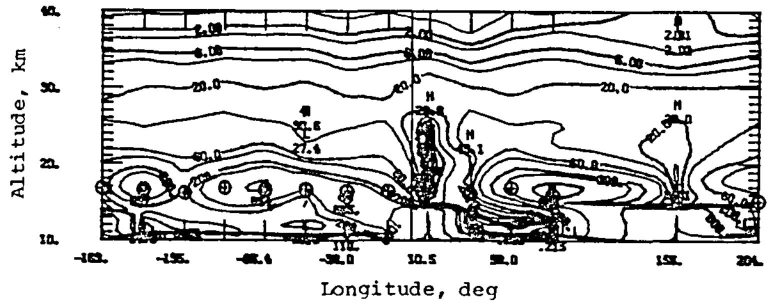
Figure 149. Extinction and temperature isopleths for sweep 2, sunrise events, March 13.73–March 15.81, 1979, at 28.5°N to 12.4°N.



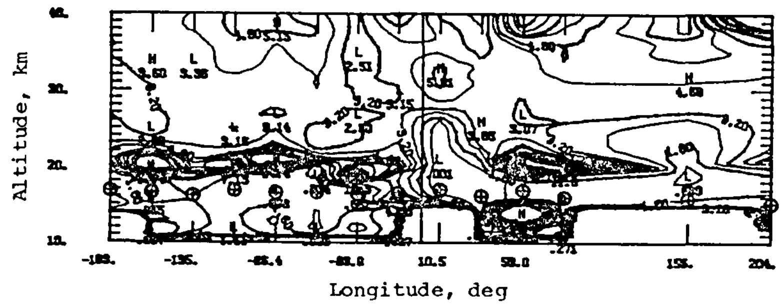
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



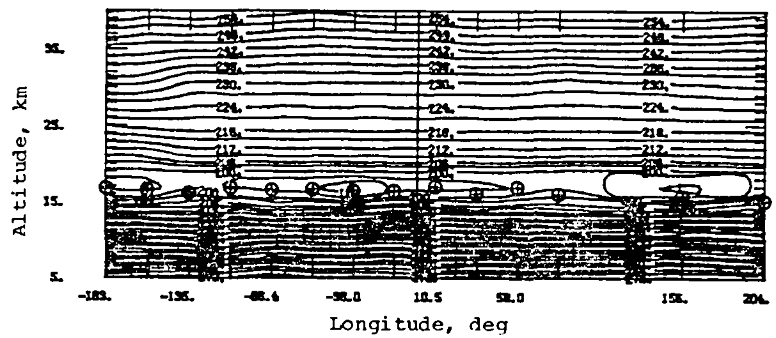
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

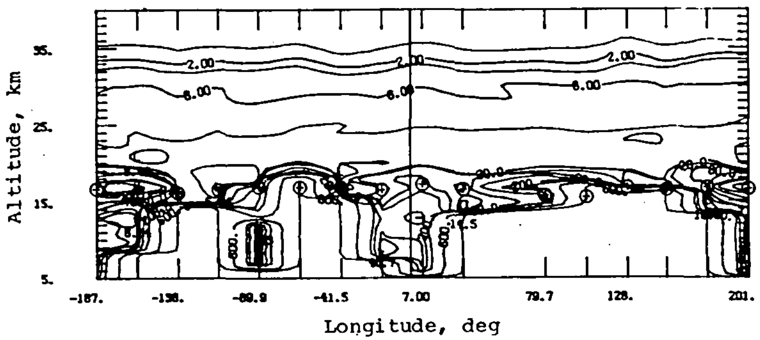


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

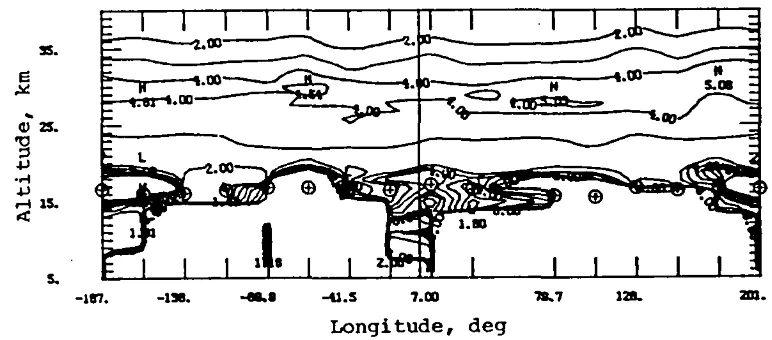


(e) Temperature (kelvin).

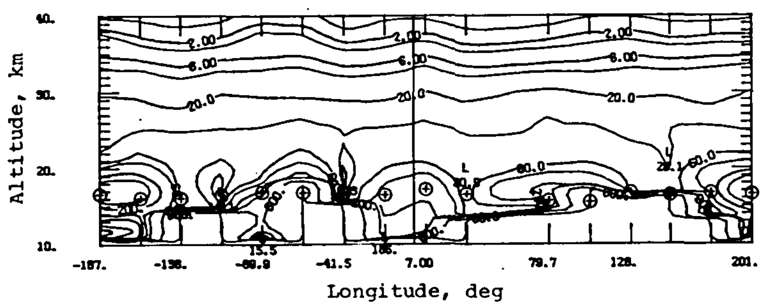
Figure 150. Extinction and temperature isopleths for sweep 2, sunrise events, March 16.69–March 17.76, 1979, at 5.4°N to 2.9°S.



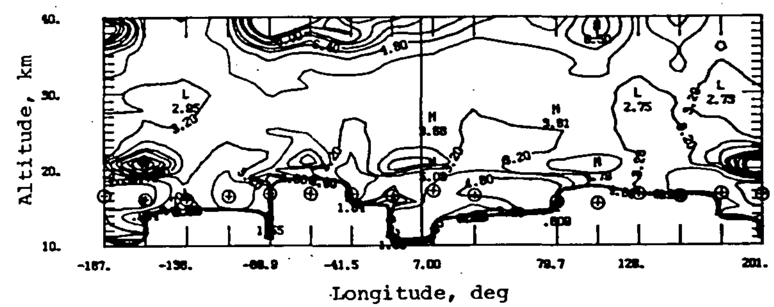
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



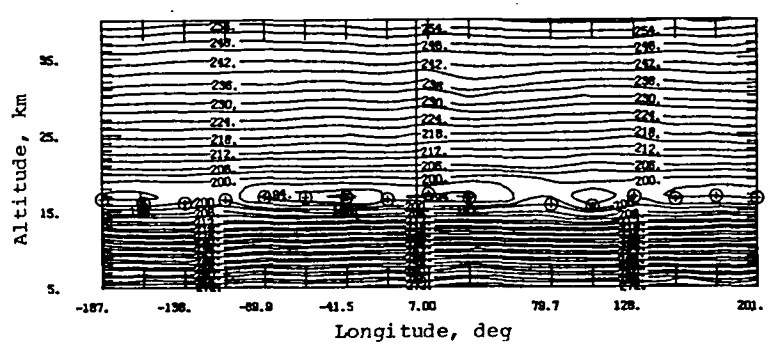
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

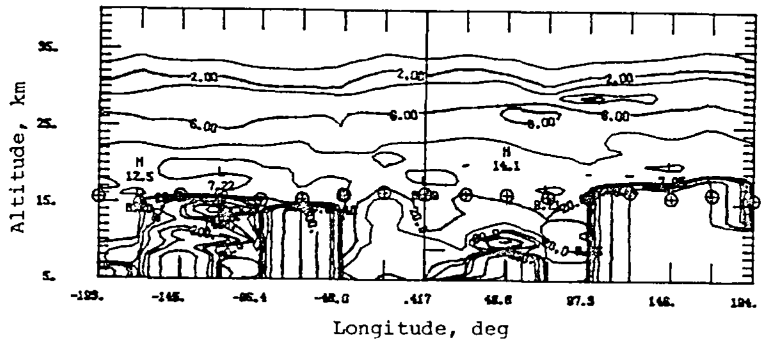


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

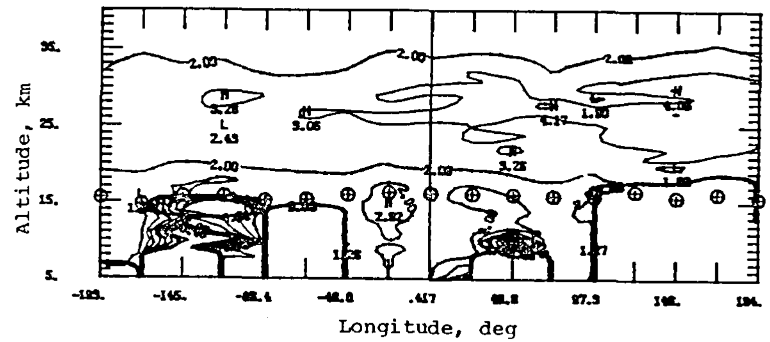


(e) Temperature (kelvin).

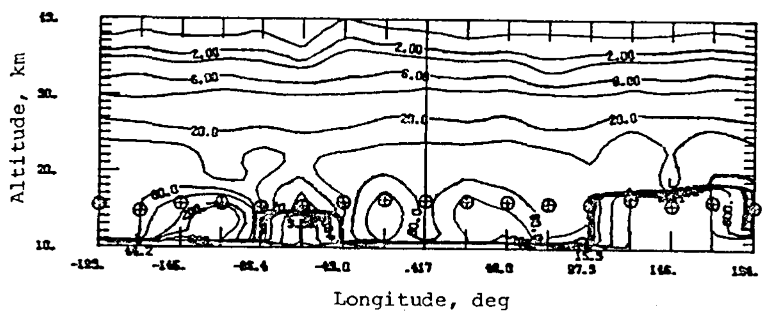
Figure 151. Extinction and temperature isopleths for sweep 2, sunrise events, March 17.70–March 18.77, 1979, at 2.3°S to 10.1°S.



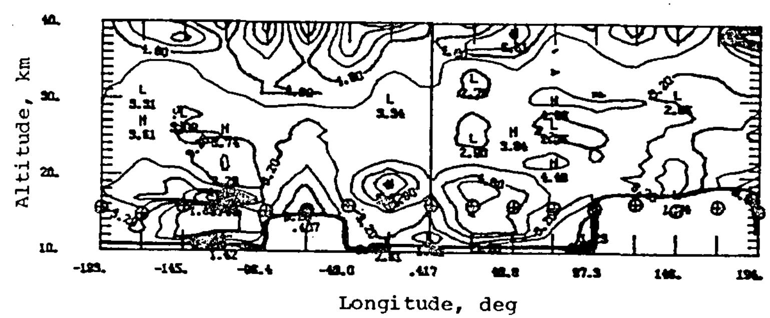
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



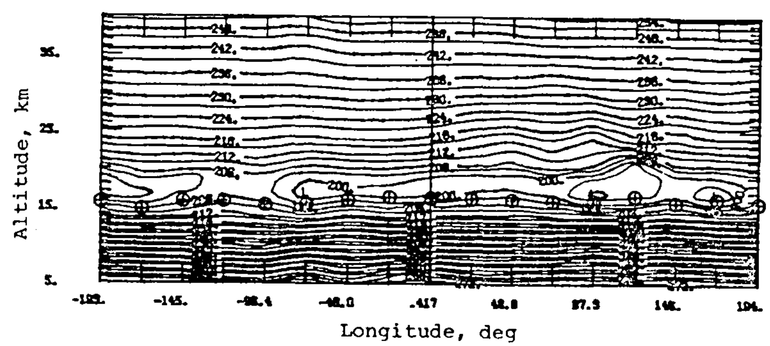
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

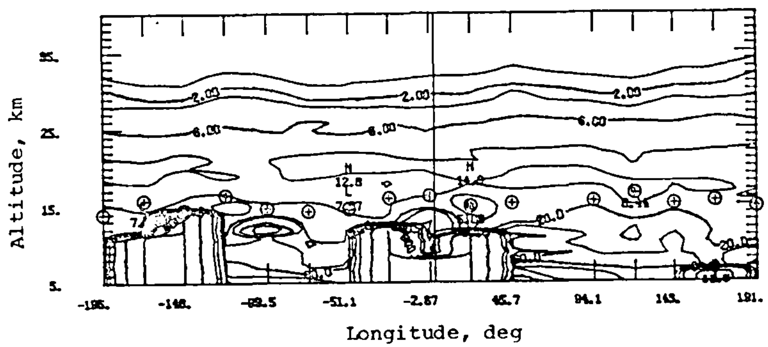


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

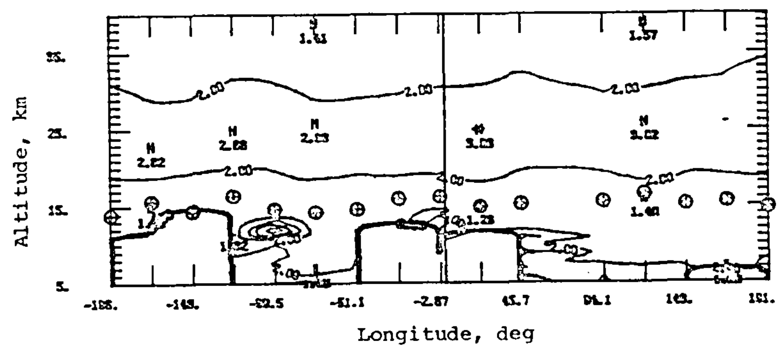


(e) Temperature (kelvin).

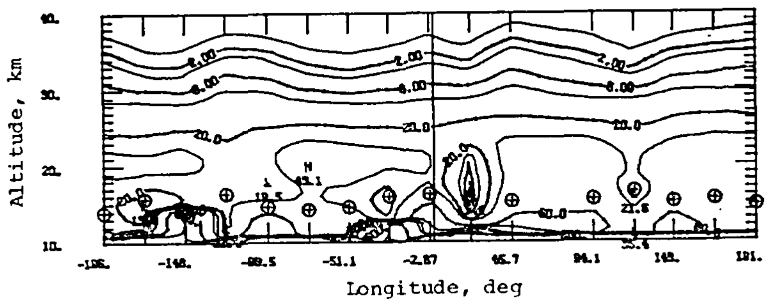
Figure 152. Extinction and temperature isopleths for sweep 2, sunrise events, March 19.71–March 20.79, 1979, at 16.4°S to 22.8°S.



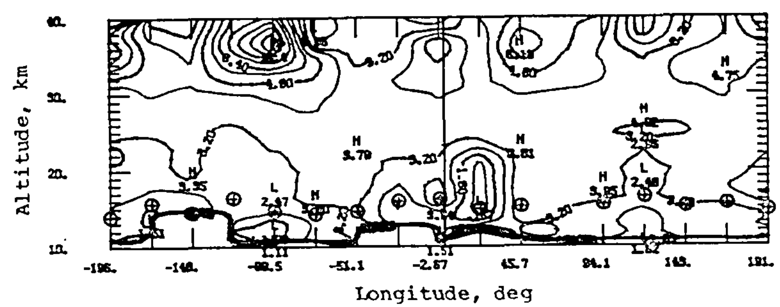
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



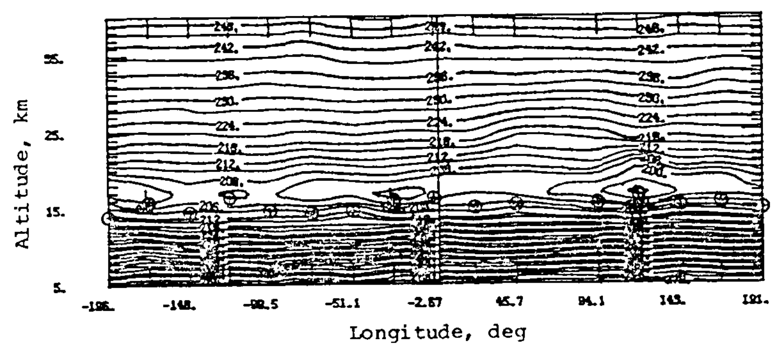
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

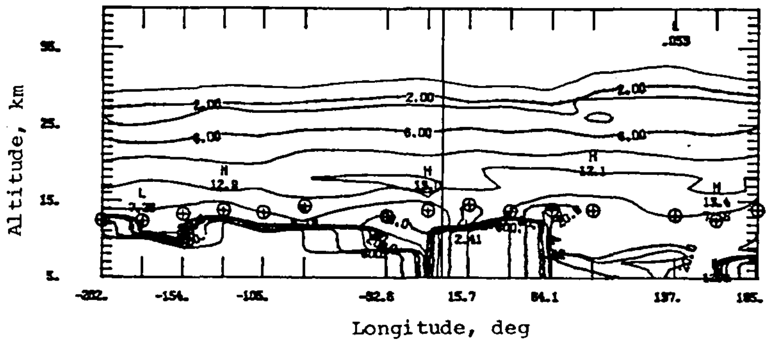


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

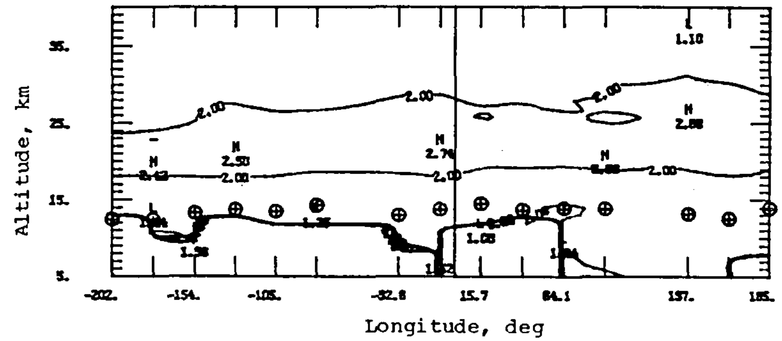


(e) Temperature (kelvin).

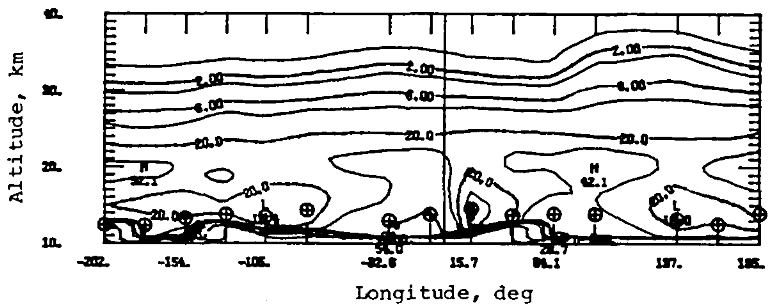
Figure 153. Extinction and temperature isopleths for sweep 2, sunrise events, March 20.72–March 21.80, 1979, at 22.4°S to 28.1°S.



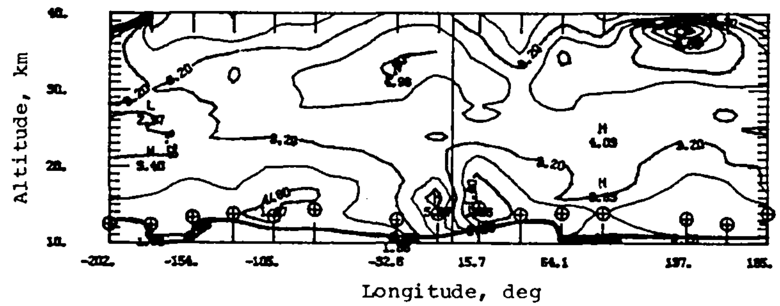
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



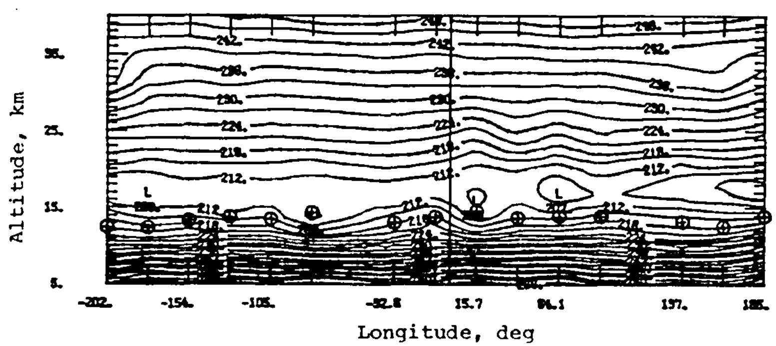
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

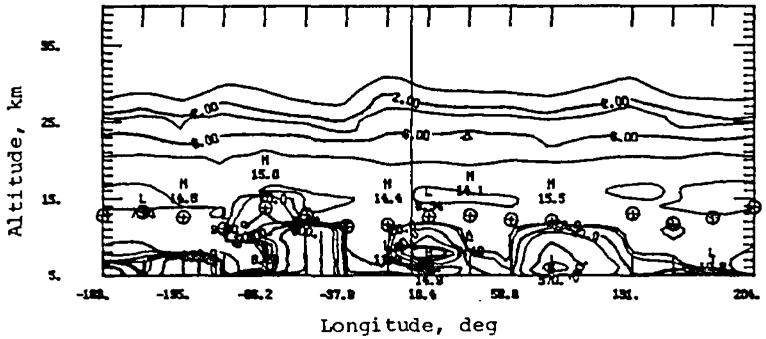


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

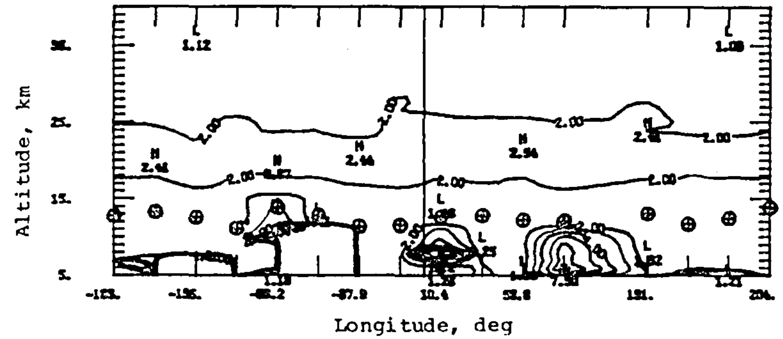


(e) Temperature (kelvin).

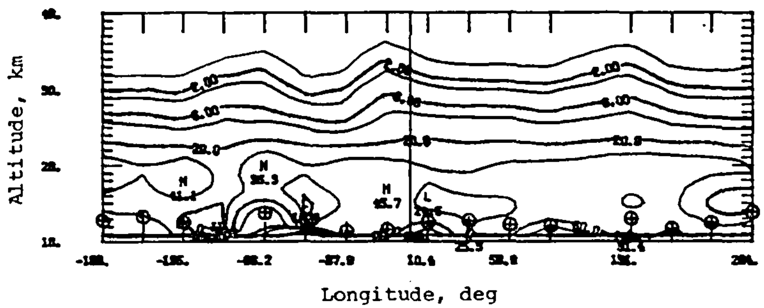
Figure 154. Extinction and temperature isopleths for sweep 2, sunrise events, March 22.74–March 23.82, 1979, at 32.6°S to 37.1°S.



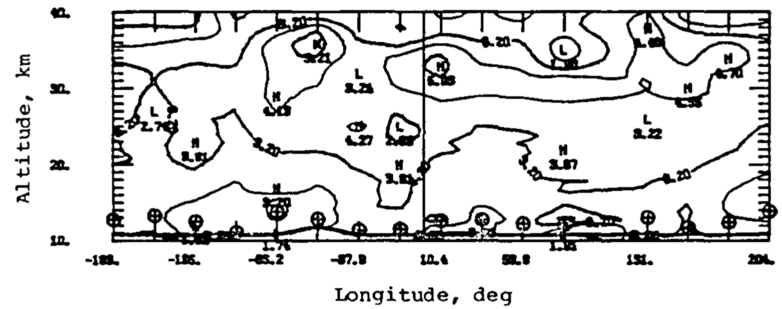
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



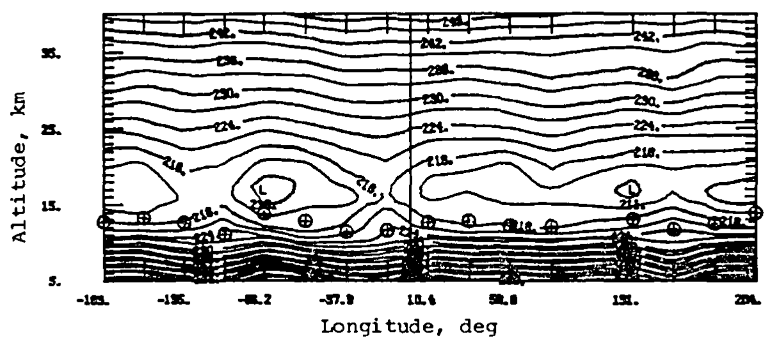
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

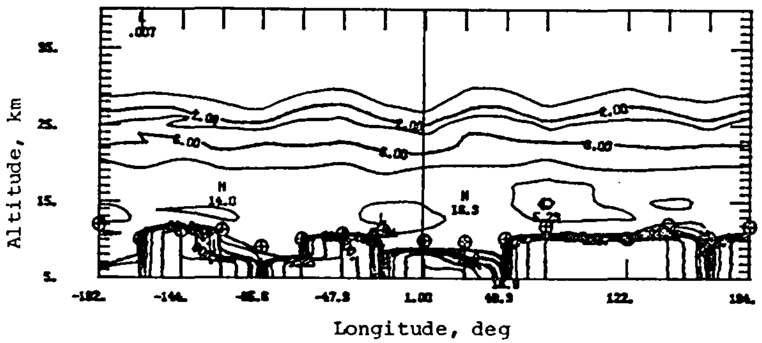


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

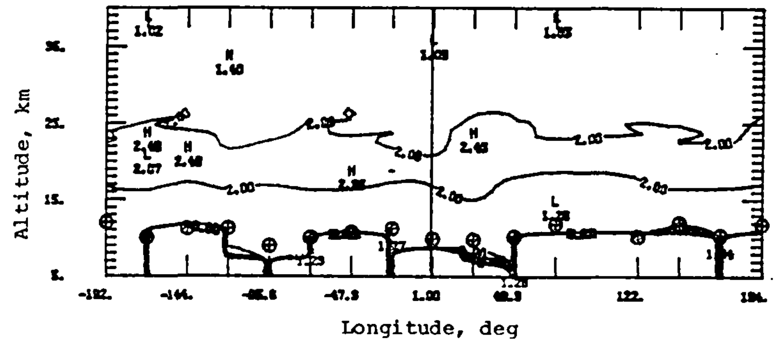


(e) Temperature (kelvin).

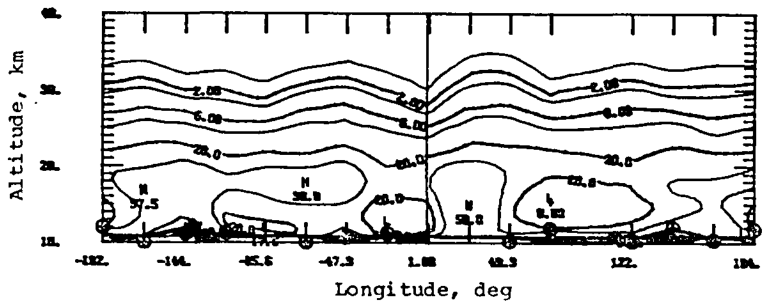
Figure 155. Extinction and temperature isopleths for sweep 2, sunrise events, March 24.69–March 25.77, 1979, at 40.3°S to 43.8°S.



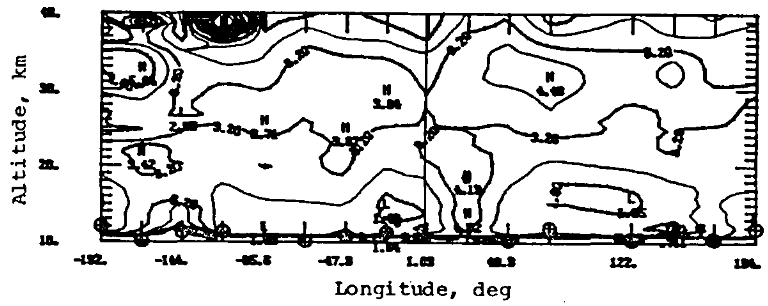
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



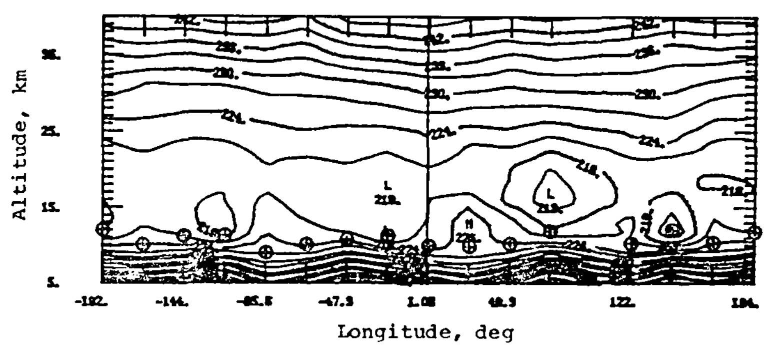
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

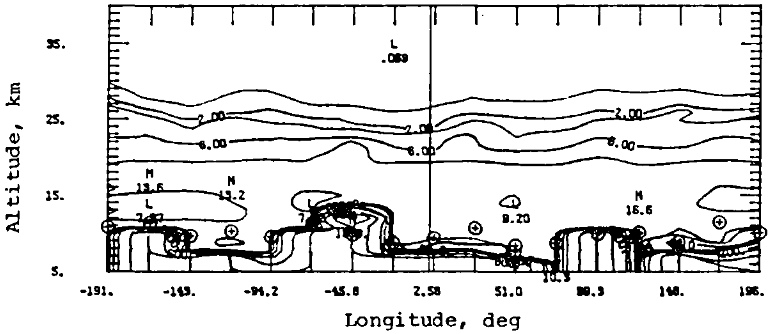


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

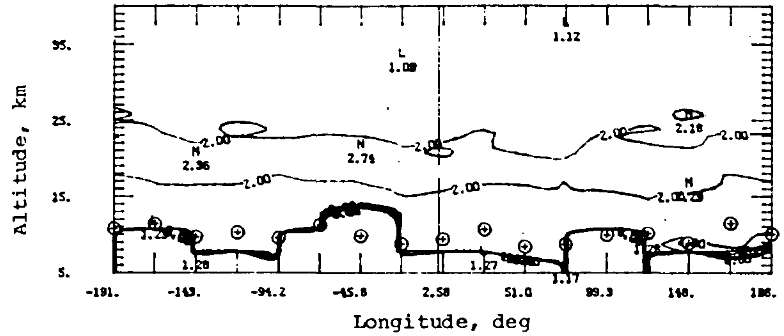


(e) Temperature (kelvin).

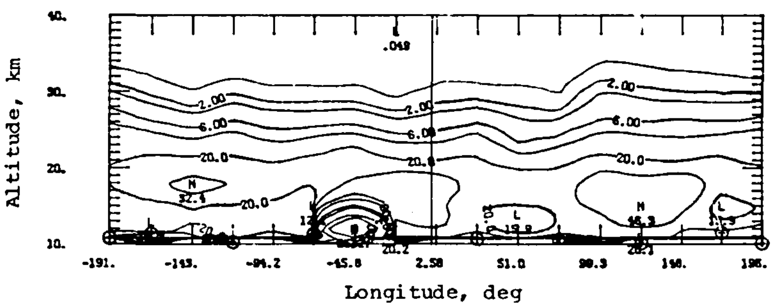
Figure 156. Extinction and temperature isopleths for sweep 2, sunrise events, March 28.72–March 29.80, 1979, at 51.2°S to 53.2°S.



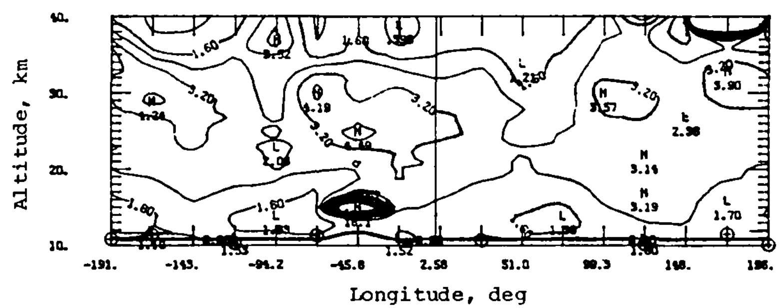
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



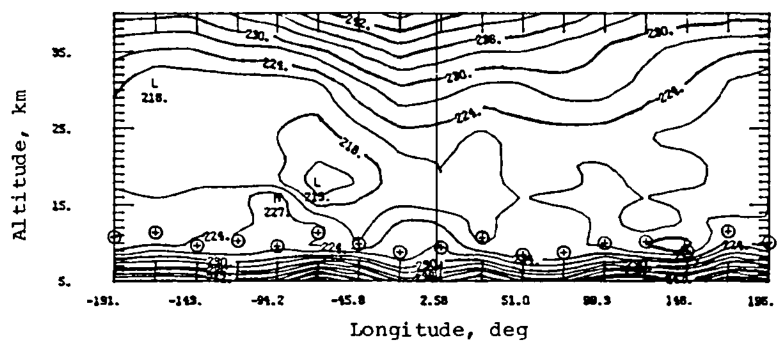
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

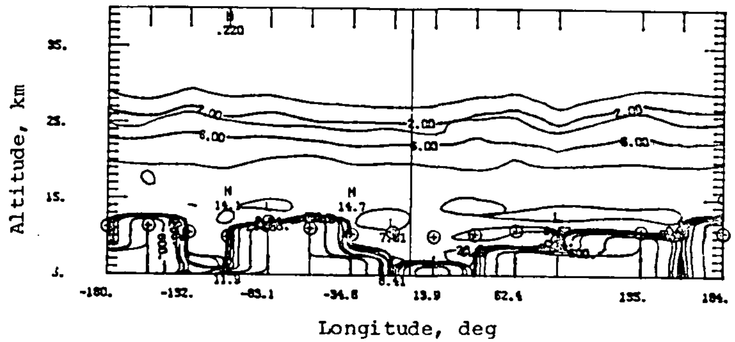


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

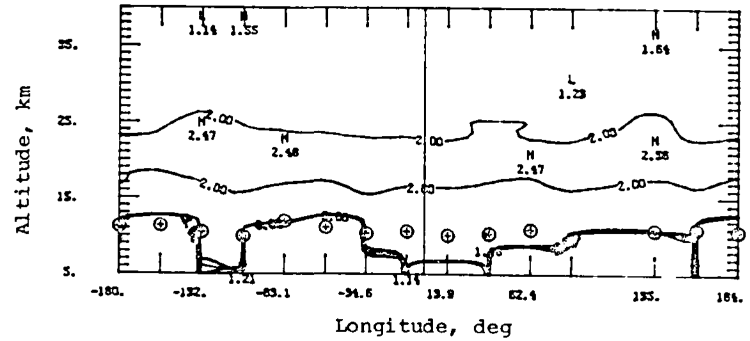


(e) Temperature (kelvin).

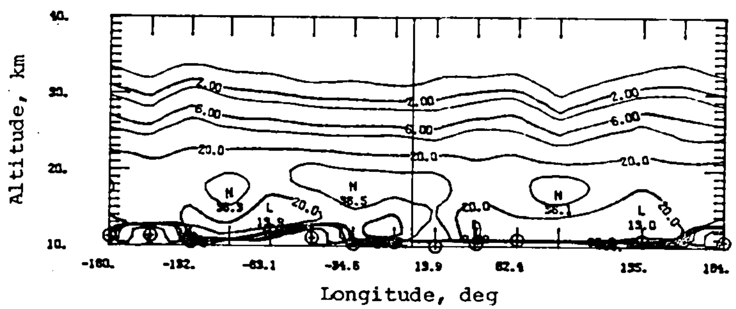
Figure 157. Extinction and temperature isopleths for sweep 3, sunrise events, April 7.73–April 8.81, 1979, at 57.3°S to 56.1°S.



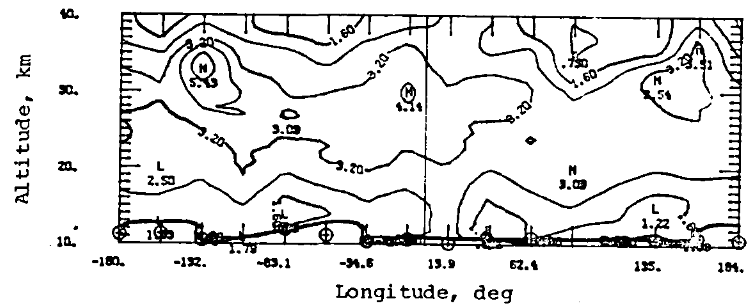
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



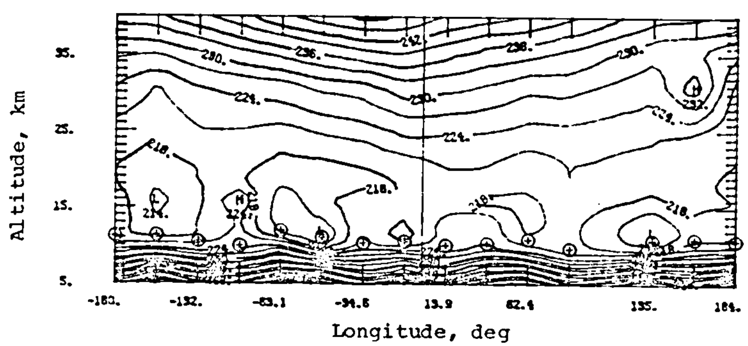
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

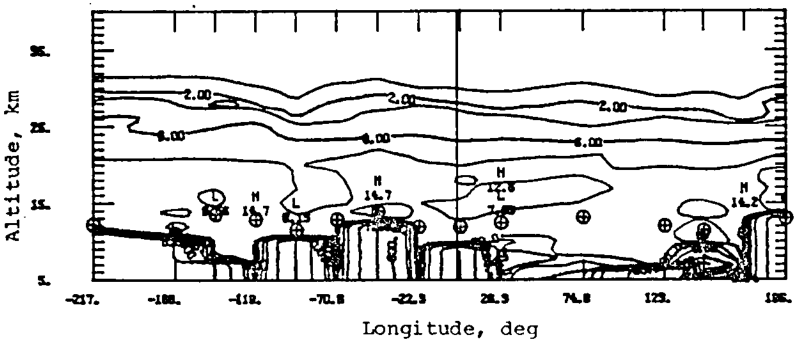


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

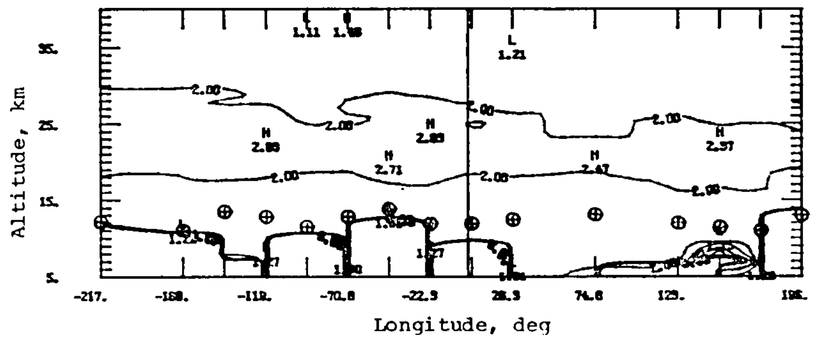


(e) Temperature (kelvin).

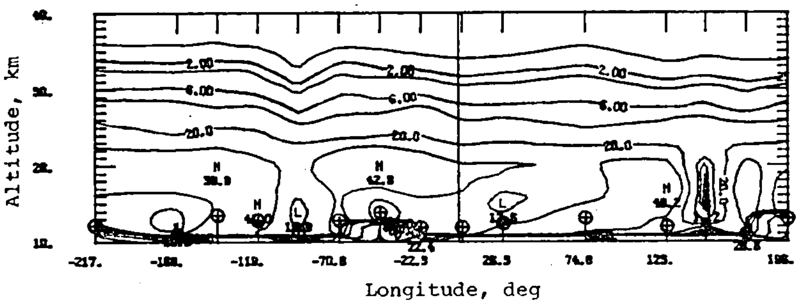
Figure 158. Extinction and temperature isopleths for sweep 3, sunrise events, April 11.77–April 12.77, 1979, at 49.9°S to 46.6°S.



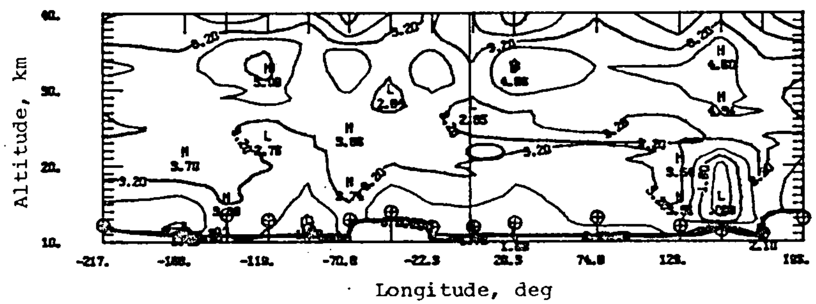
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



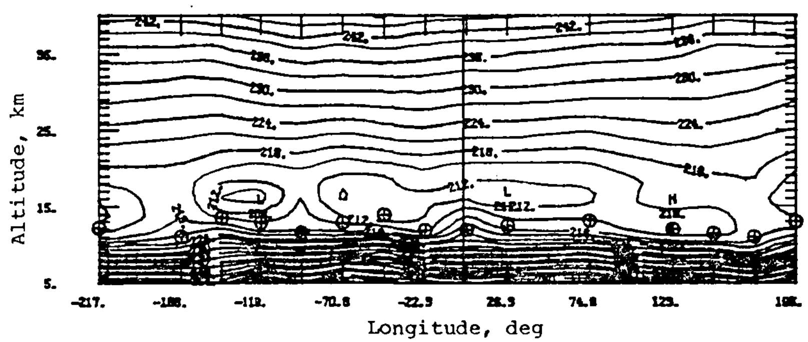
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

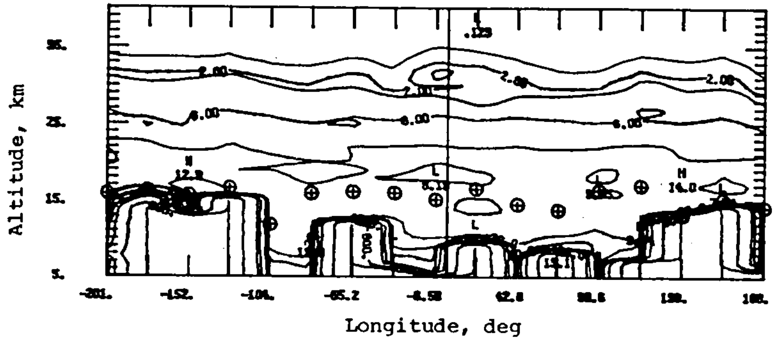


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

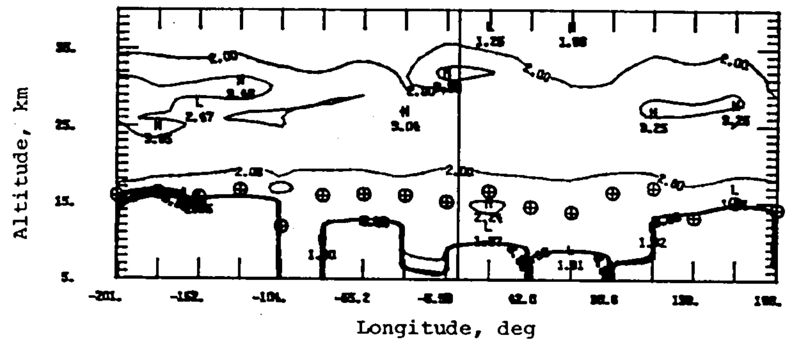


(e) Temperature (kelvin).

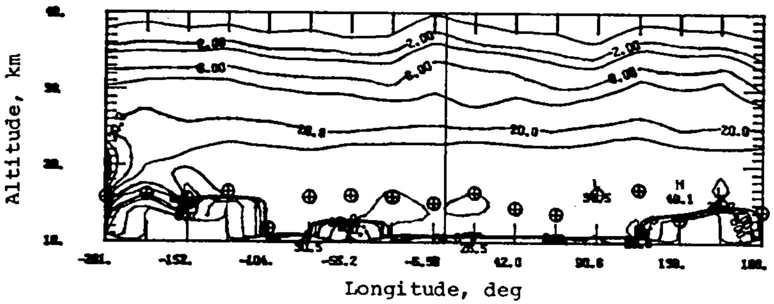
Figure 159. Extinction and temperature isopleths for sweep 3, sunrise events, April 14.72–April 15.87, 1979, at 38.2°S to 32.1°S.



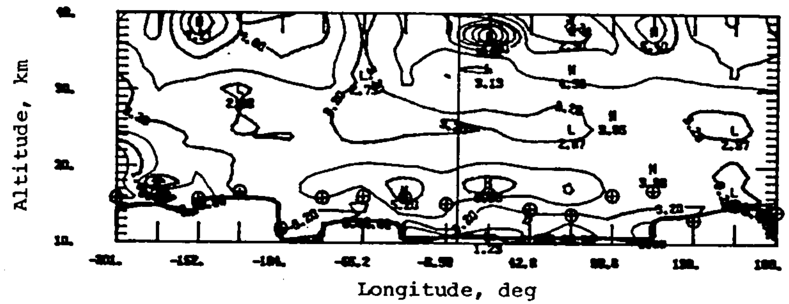
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



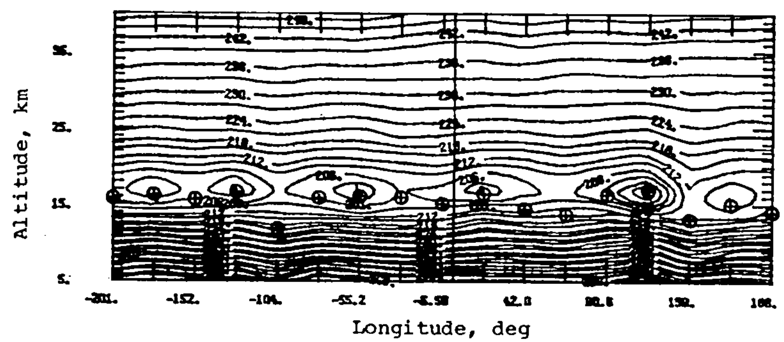
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

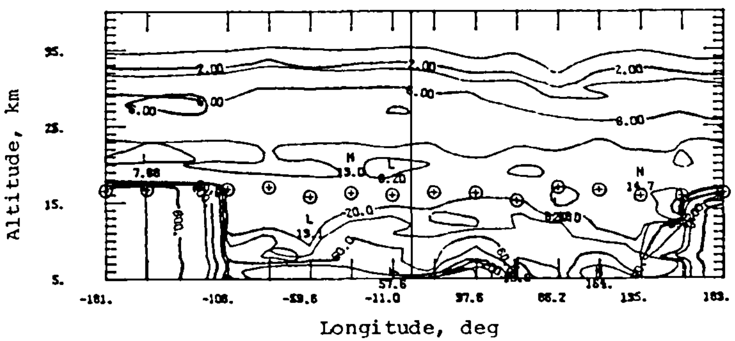


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

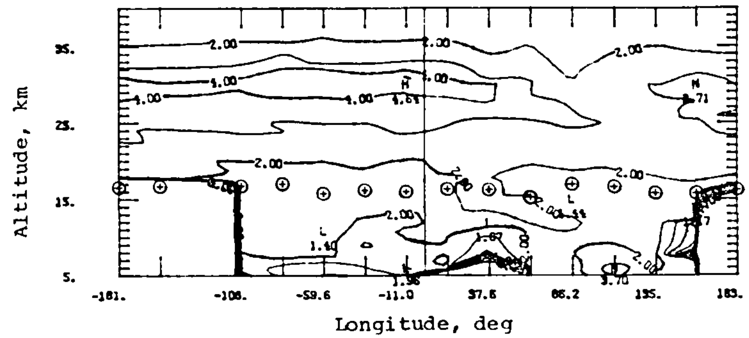


(e) Temperature (kelvin).

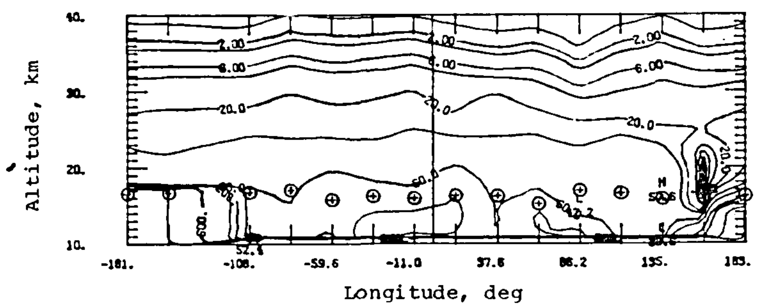
Figure 160. Extinction and temperature isopleths for sweep 3, sunrise events, April 16.74–April 17.82, 1979, at 26.9°S to 20.0°S.



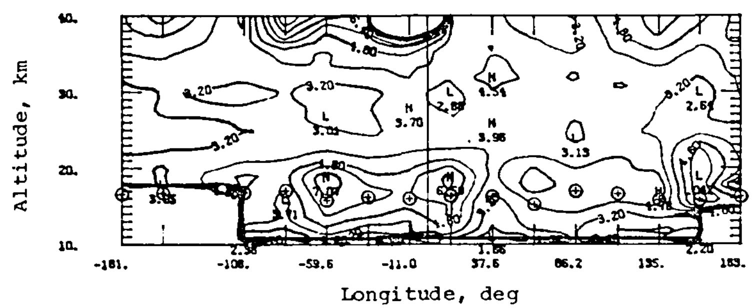
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



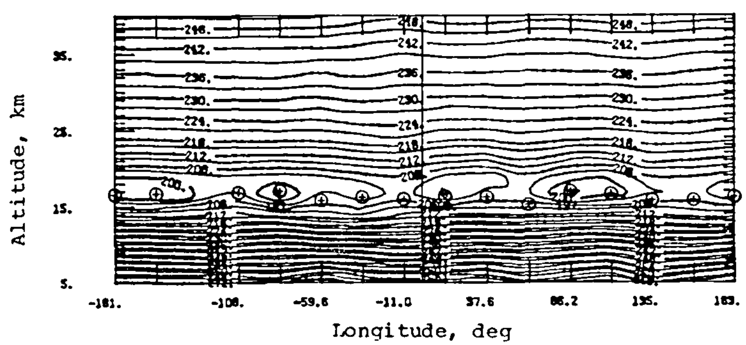
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

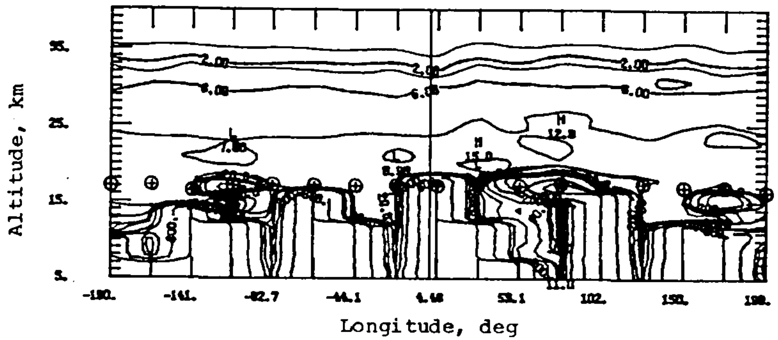


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

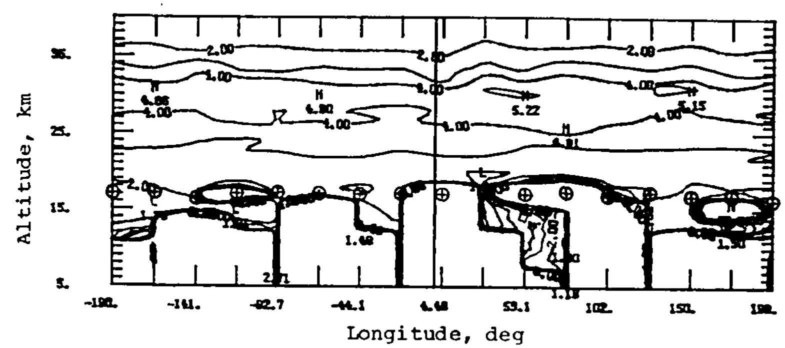


(e) Temperature (kelvin).

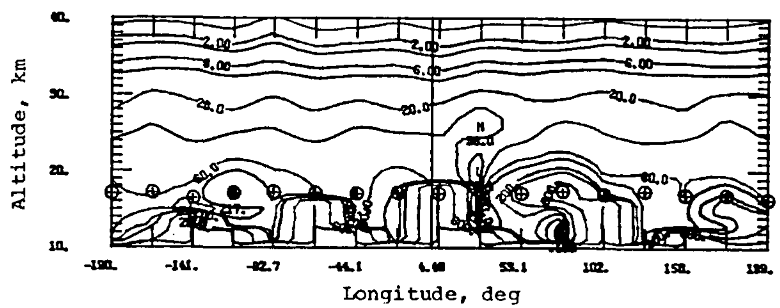
Figure 161. Extinction and temperature isopleths for sweep 3, sunrise events, April 17.75–April 18.76, 1979, at 20.5°S to 13.8°S.



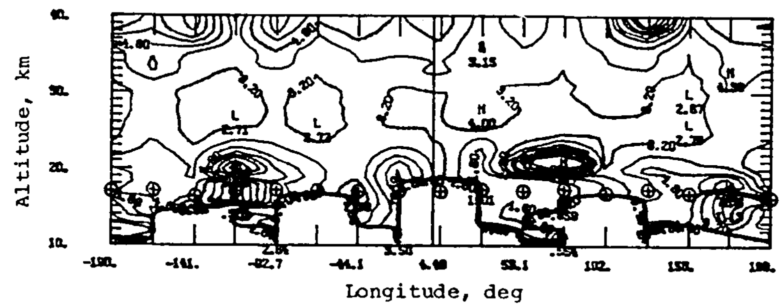
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



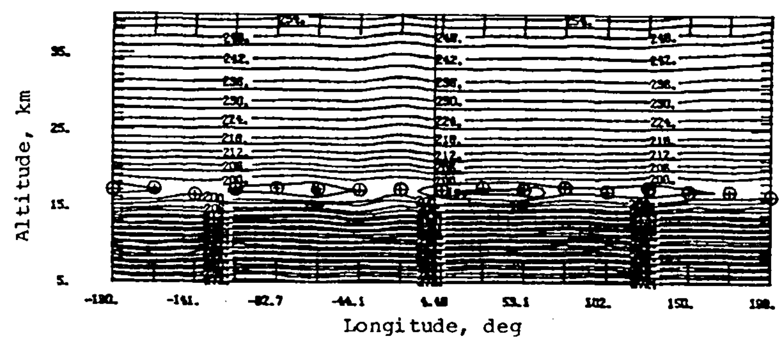
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

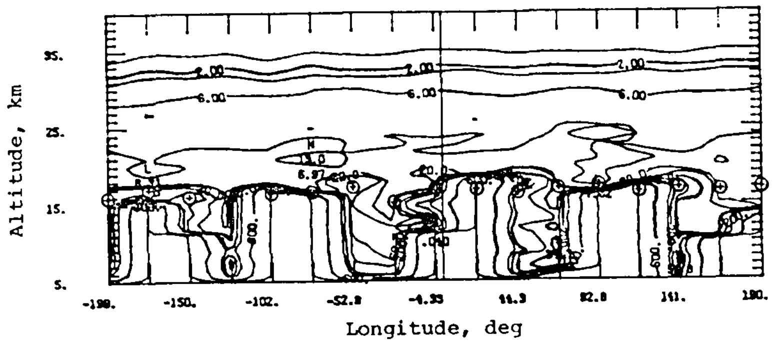


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

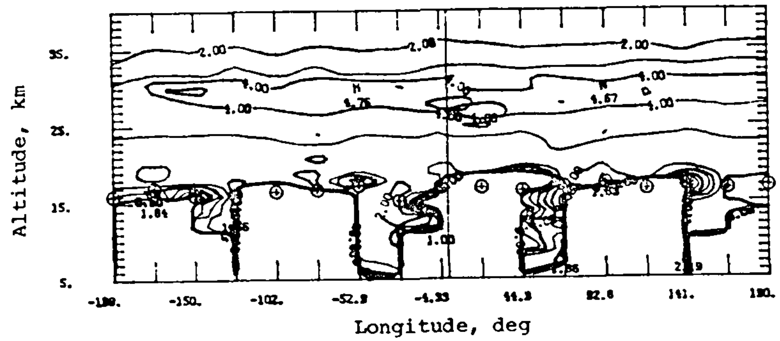


(e) Temperature (kelvin).

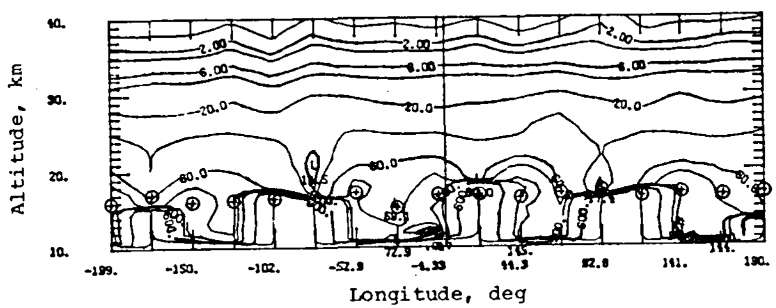
Figure 162. Extinction and temperature isopleths for sweep 3, sunrise events, April 19.70–April 20.78, 1979, at 7.5°S to 0.4°S.



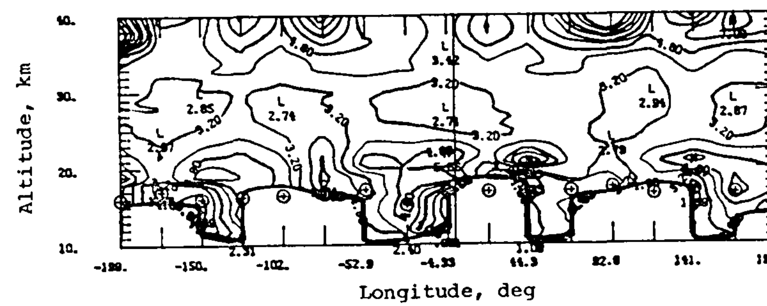
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



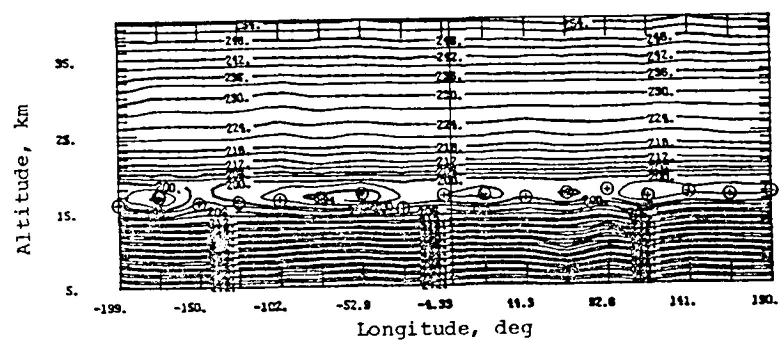
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

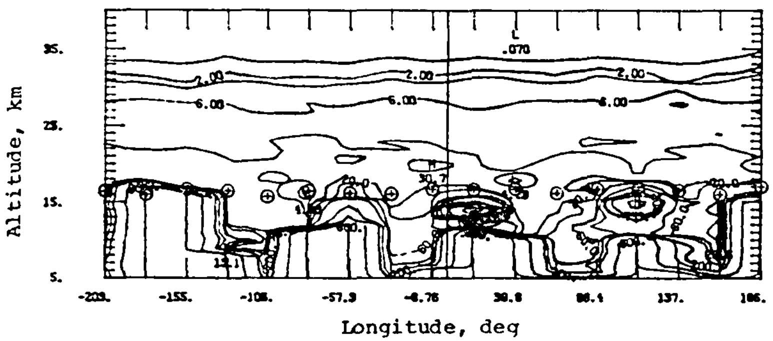


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

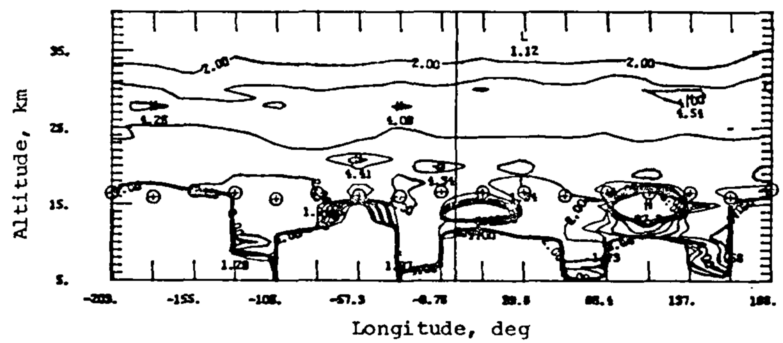


(e) Temperature (kelvin).

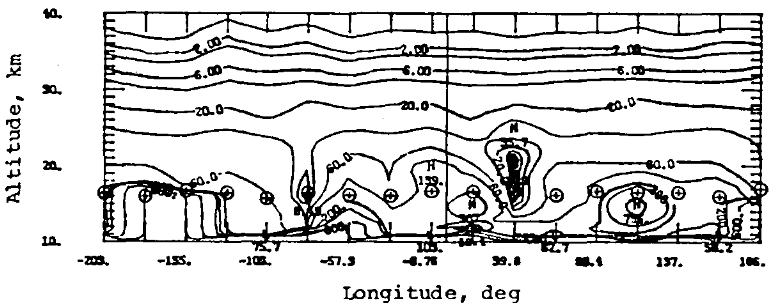
Figure 163. Extinction and temperature isopleths for sweep 3, sunrise events, April 21.72–April 22.79, 1979, at 5.5°N to 11.9°N.



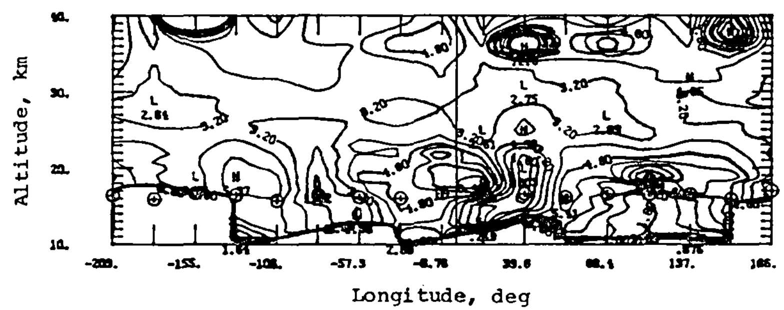
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



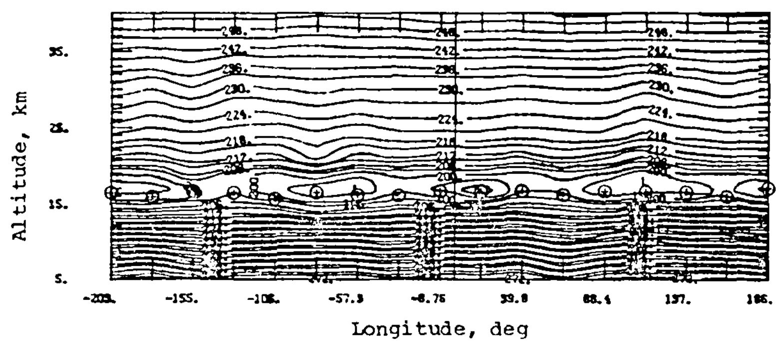
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

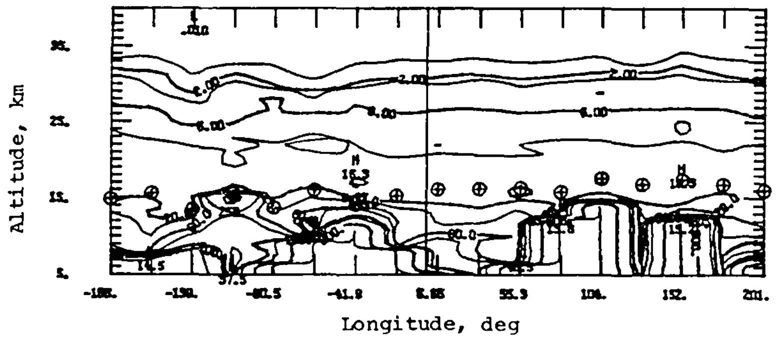


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

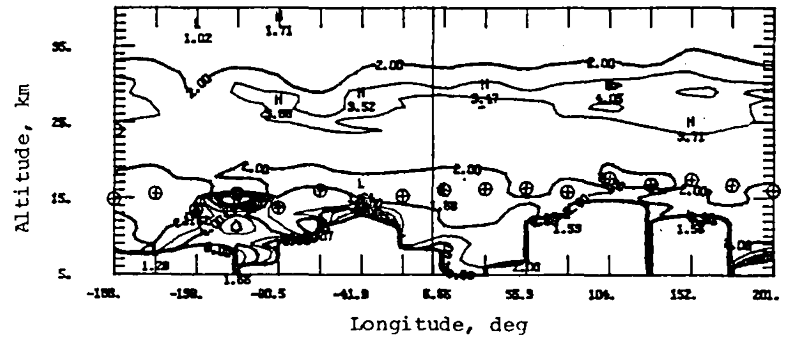


(e) Temperature (kelvin).

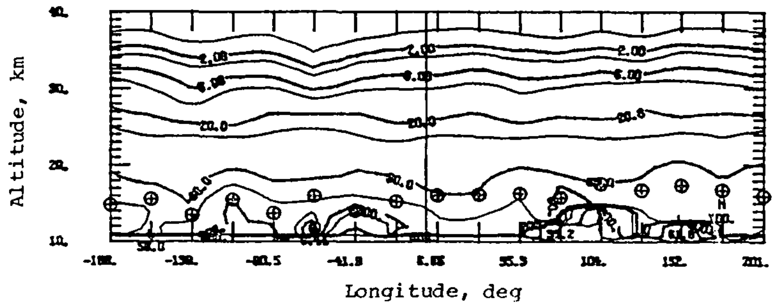
Figure 164. Extinction and temperature isopleths for sweep 3, sunrise events, April 22.73–April 23.80, 1979, at 11.5°N to 17.5°N.



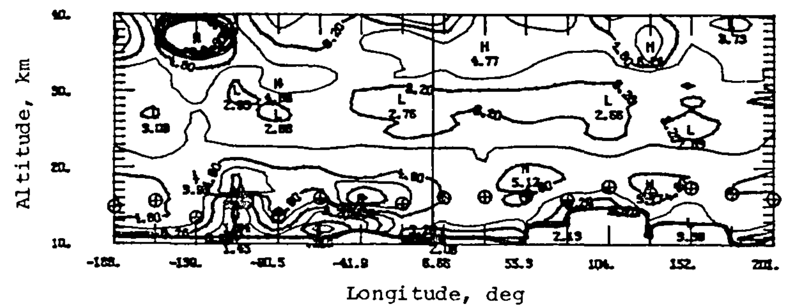
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



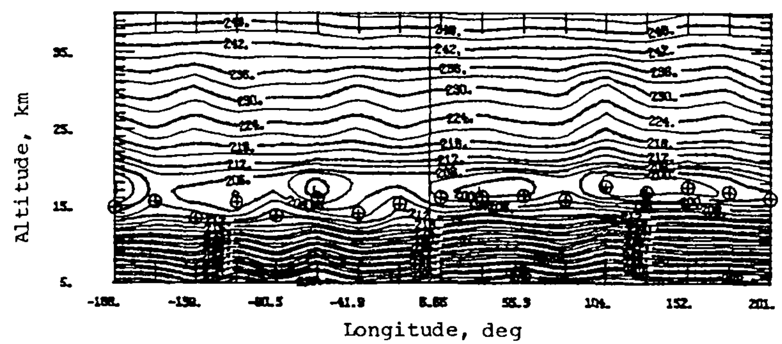
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

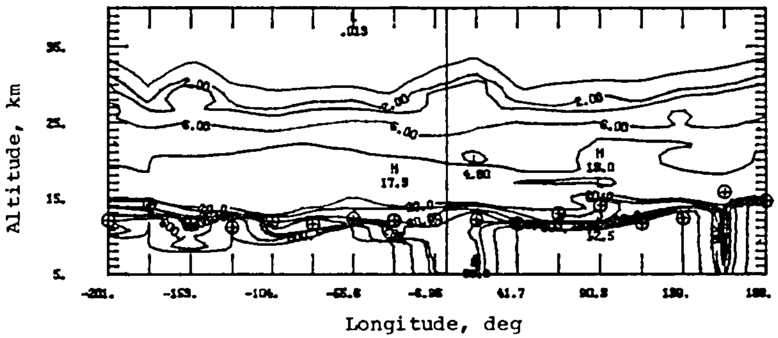


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

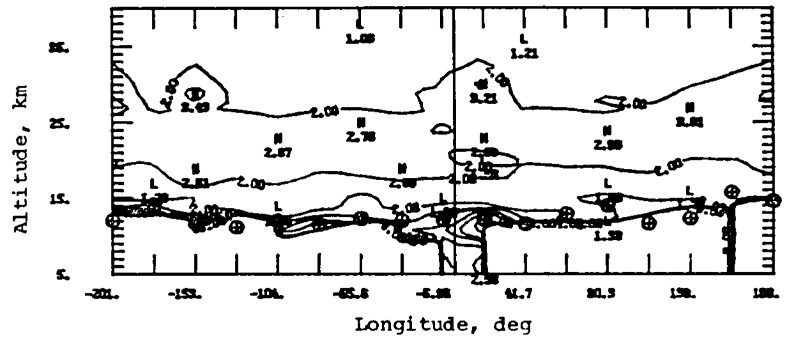


(e) Temperature (kelvin).

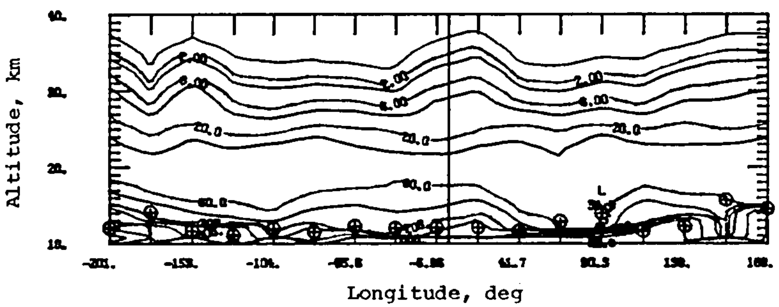
Figure 165. Extinction and temperature isopleths for sweep 3, sunrise events, April 24.67–April 25.75, 1979, at 22.0°N to 27.1°N.



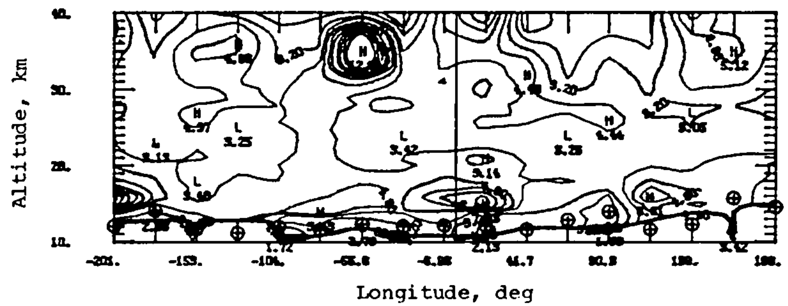
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



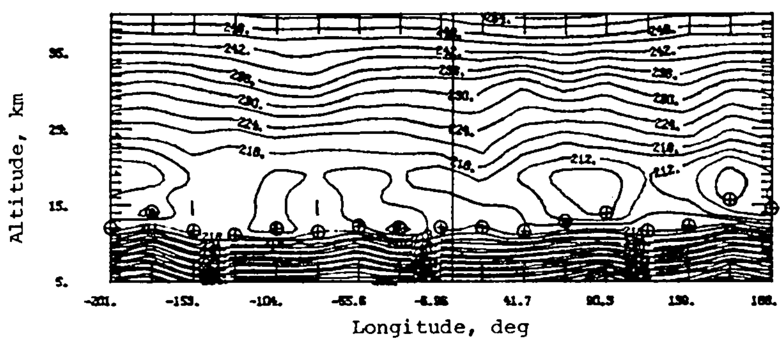
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

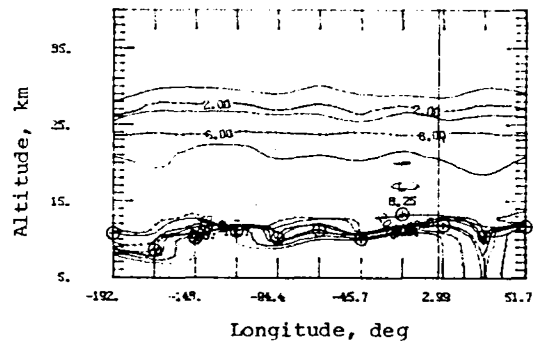


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

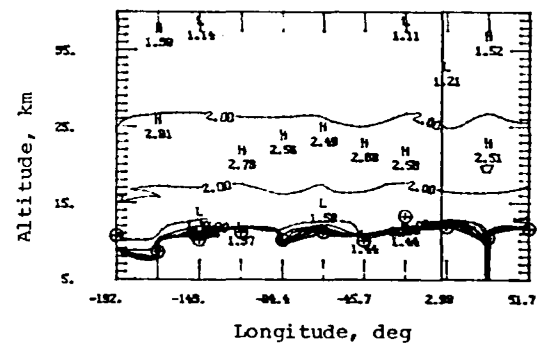


(e) Temperature (kelvin).

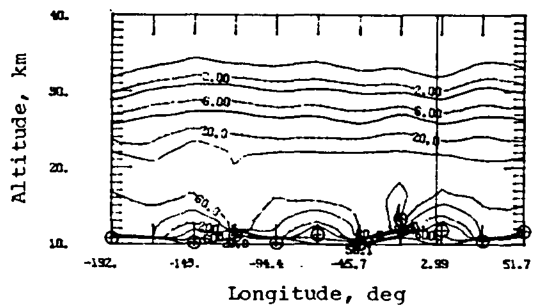
Figure 166. Extinction and temperature isopleths for sweep 3, sunrise events, April 27.70–April 28.77, 1979, at 35.4°N to 39.4°N.



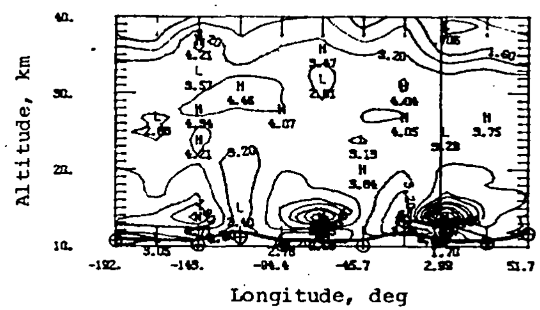
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



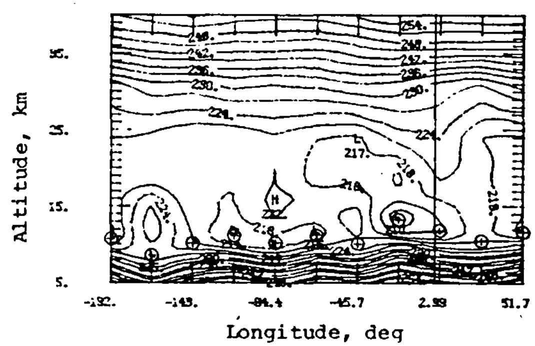
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

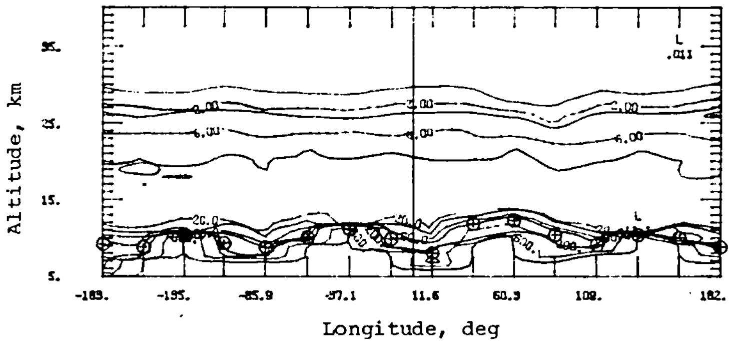


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

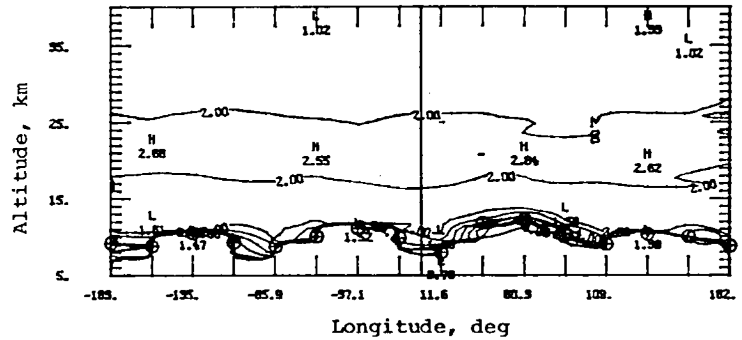


(e) Temperature (kelvin).

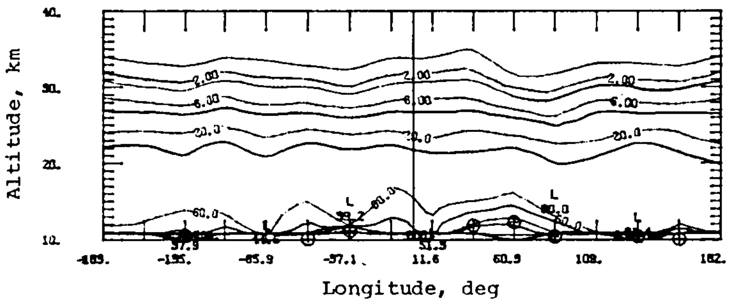
Figure 167. Extinction and temperature isopleths for sweep 3, sunrise events, May 1.06–May 1.73, 1979, at 46.9°N to 48.8°N.



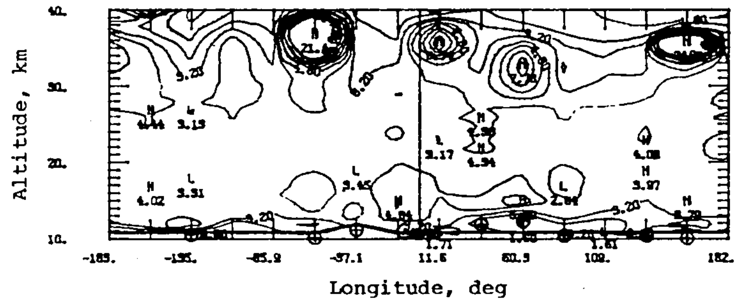
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



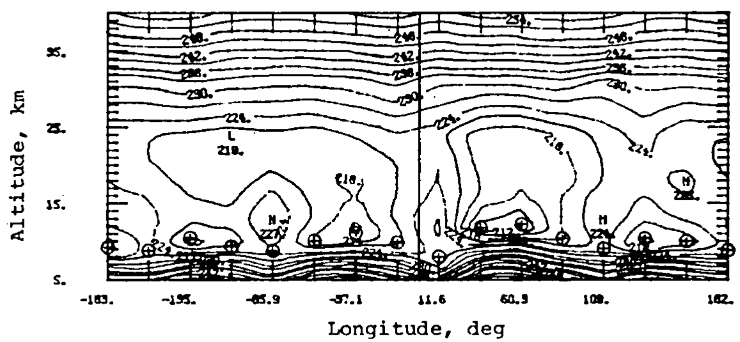
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

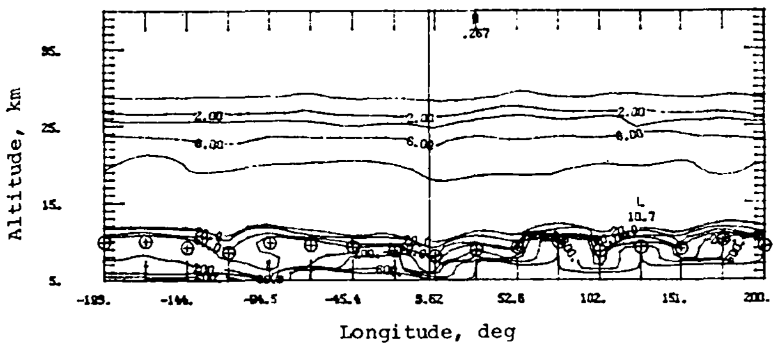


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

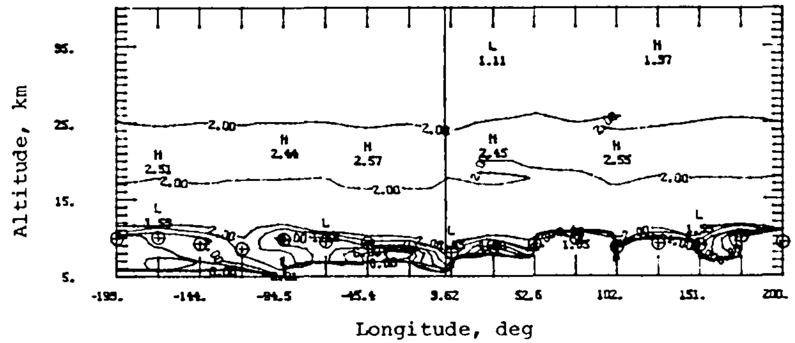


(e) Temperature (kelvin).

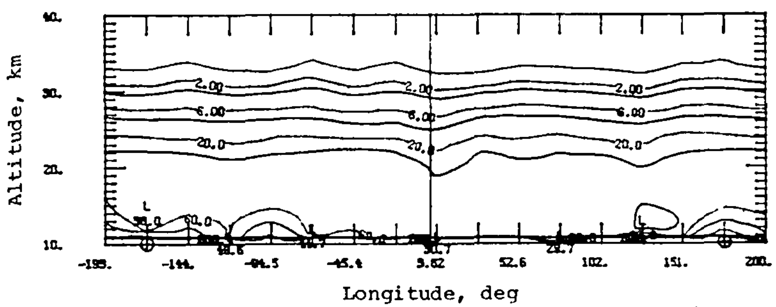
Figure 168. Extinction and temperature isopleths for sweep 3, sunrise events, May 3.68–May 4.69, 1979, at 54.0°N to 56.5°N.



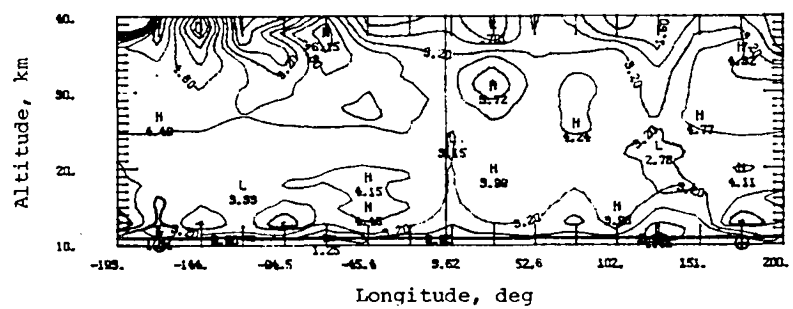
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



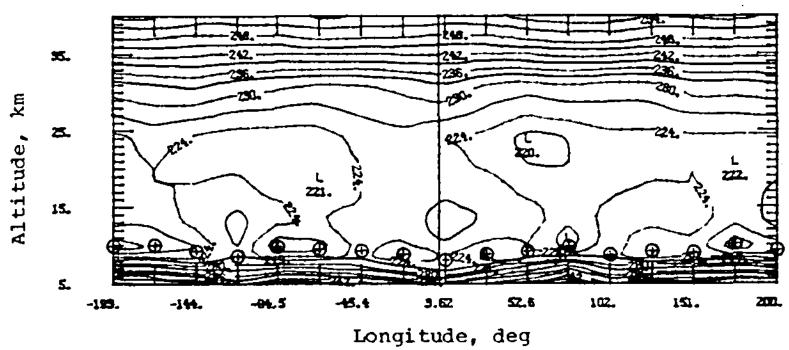
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

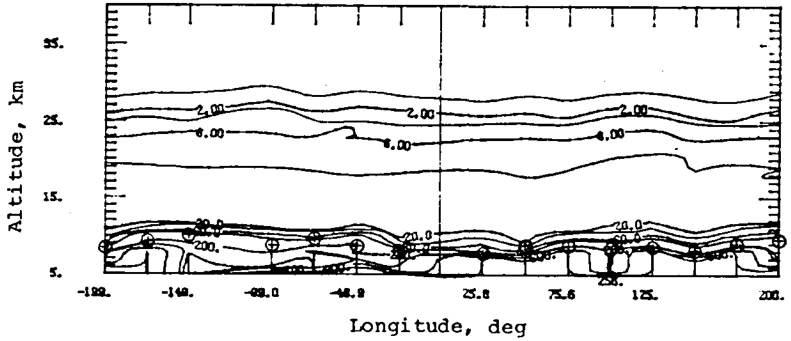


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

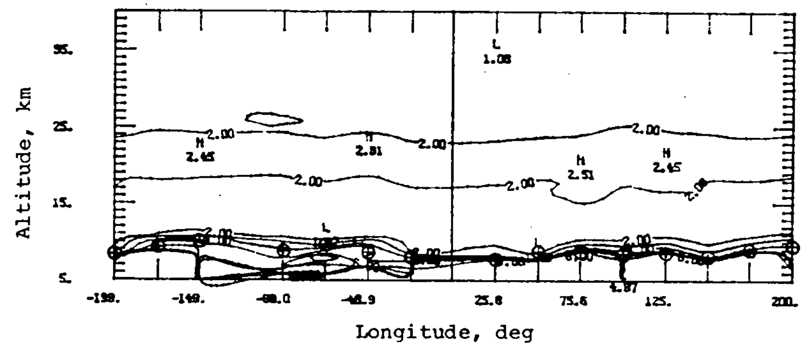


(e) Temperature (kelvin).

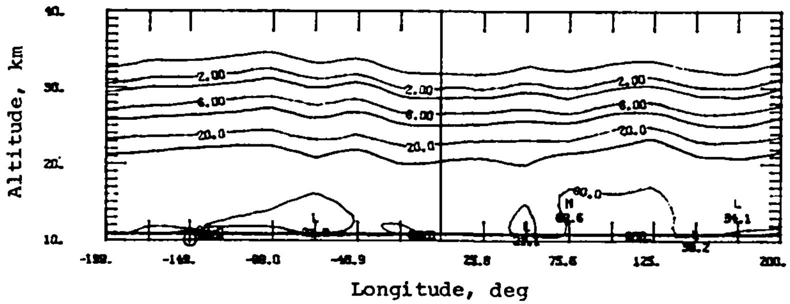
Figure 169. Extinction and temperature isopleths for sweep 3, sunrise events, May 8.58–May 9.65, 1979, at 64.5°N to 66.3°N.



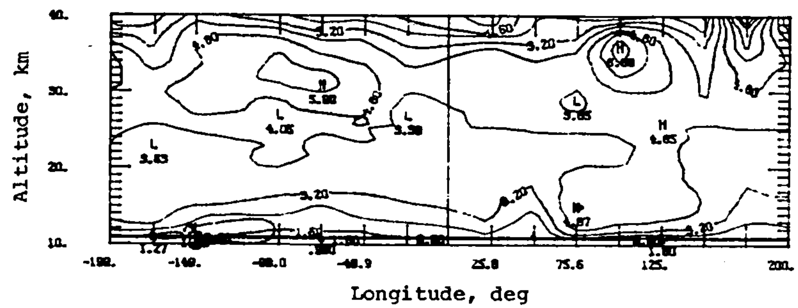
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



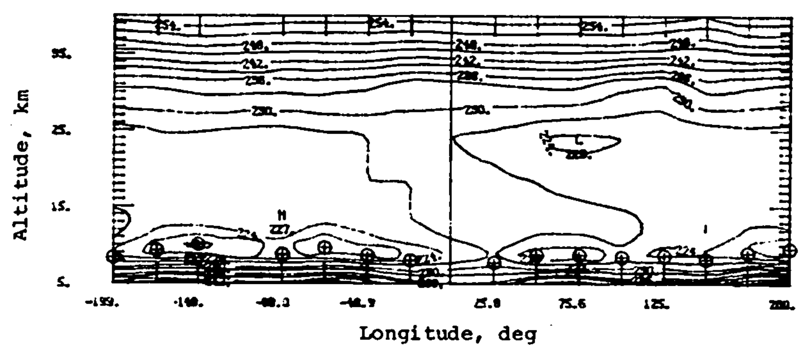
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

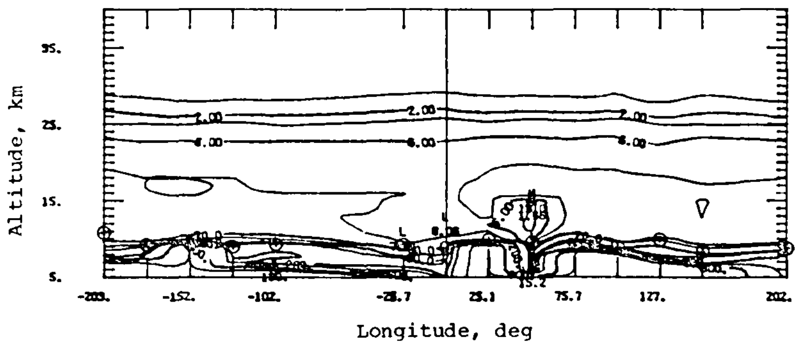


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

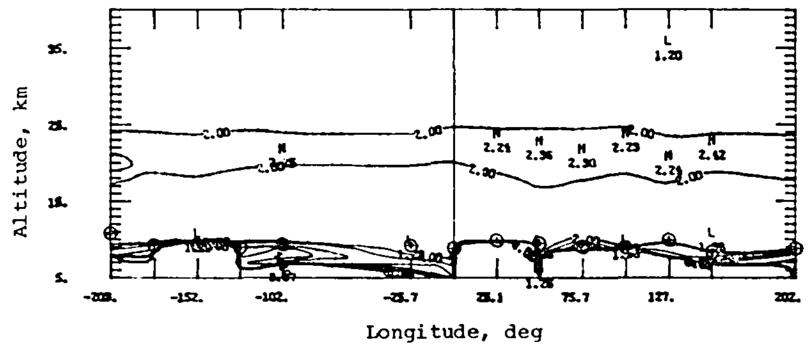


(e) Temperature (kelvin).

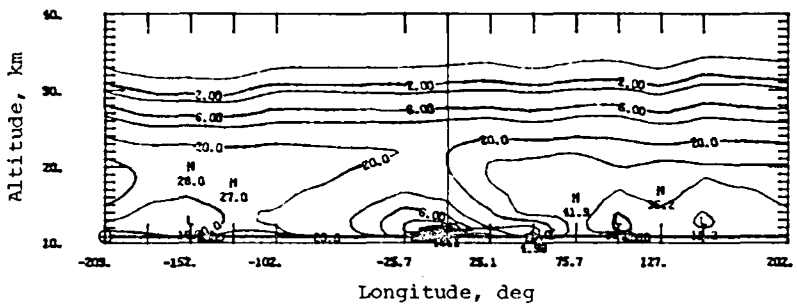
Figure 170. Extinction and temperature isopleths for sweep 3, sunrise events, May 13.48–May 14.56, 1979, at 71.0°N to 71.3°N.



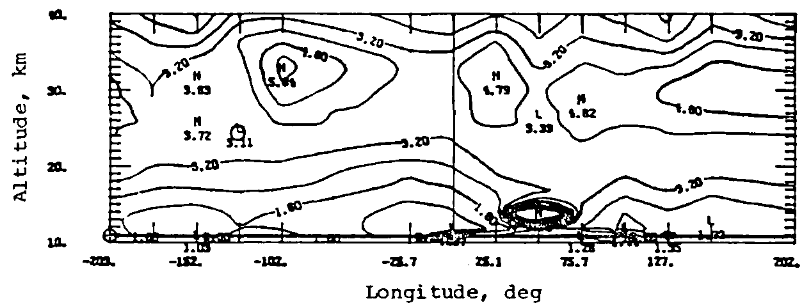
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



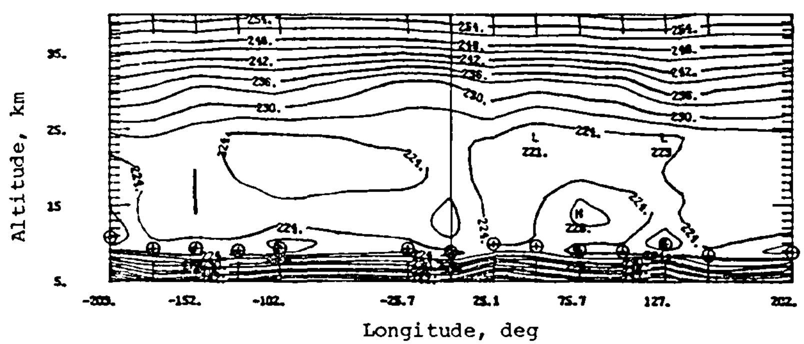
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

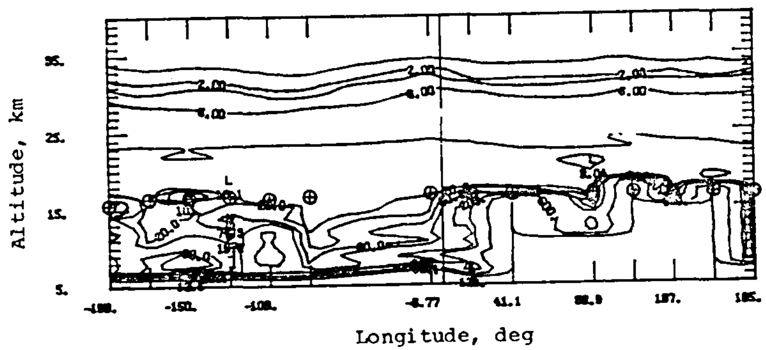


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

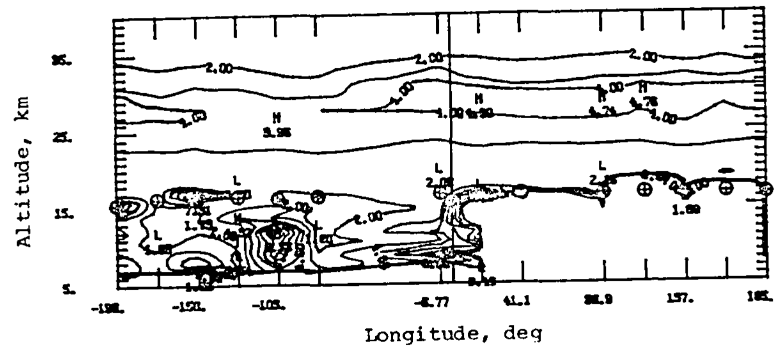


(e) Temperature (kelvin).

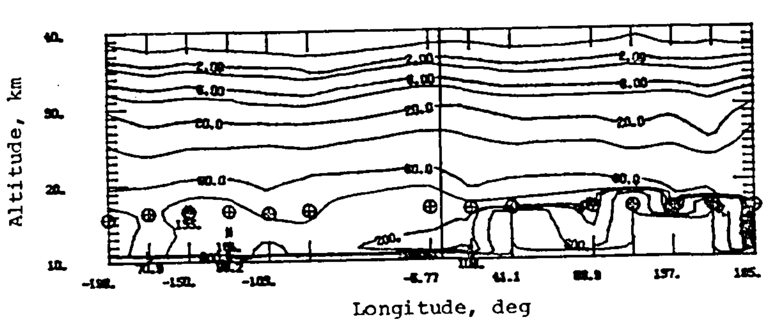
Figure 171. Extinction and temperature isopleths for sweep 4, sunrise events, May 16.37–May 17.44, 1979, at 69.2°N to 64.5°N.



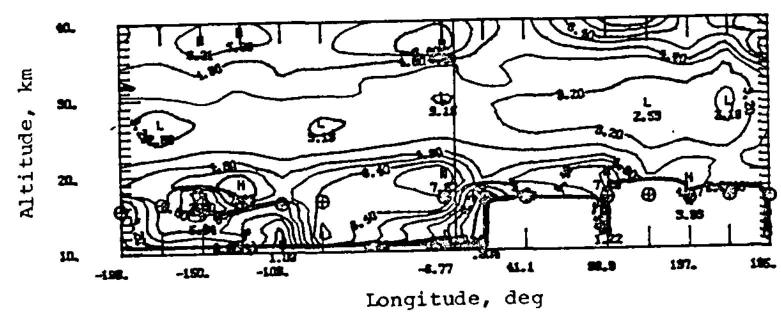
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



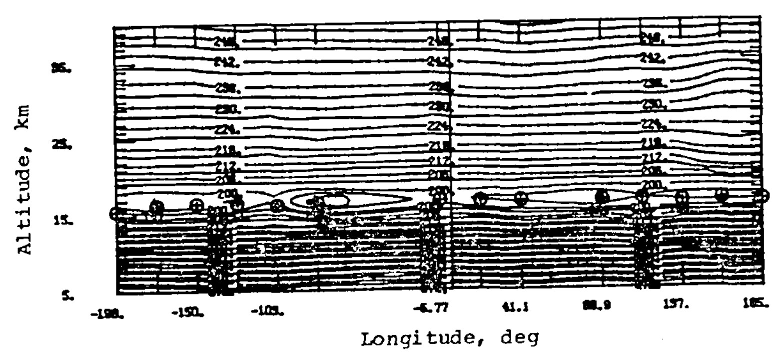
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

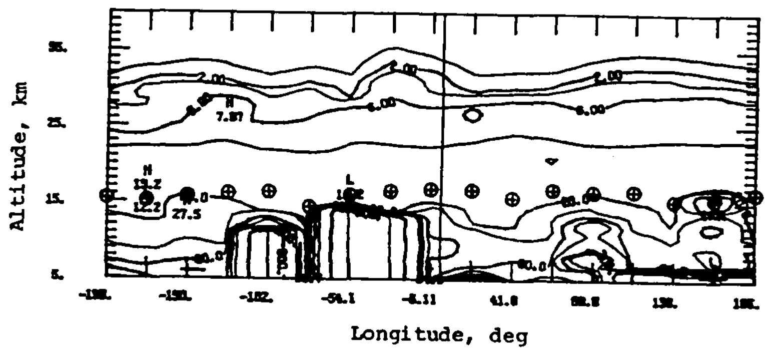


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

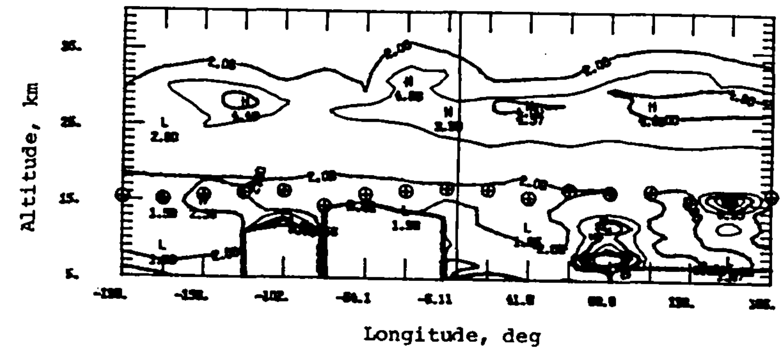


(e) Temperature (kelvin).

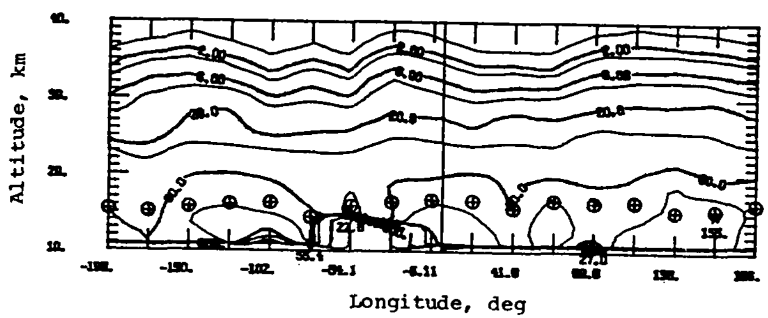
Figure 172. Extinction and temperature isopleths for sweep 4, sunrise events, May 27.74–May 28.81, 1979, at 3.7°S to 15.3°S.



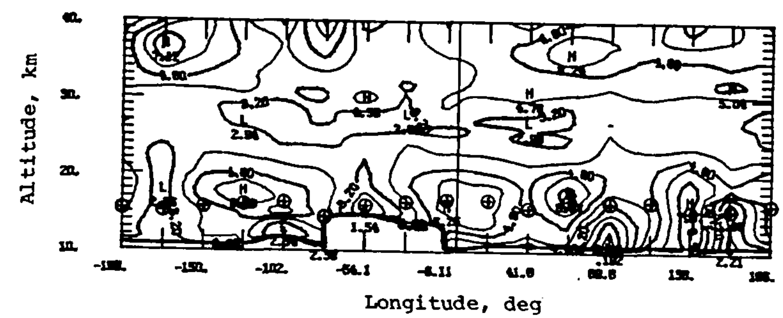
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



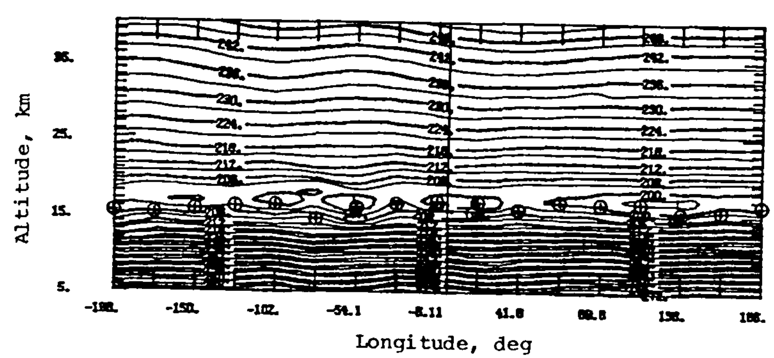
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

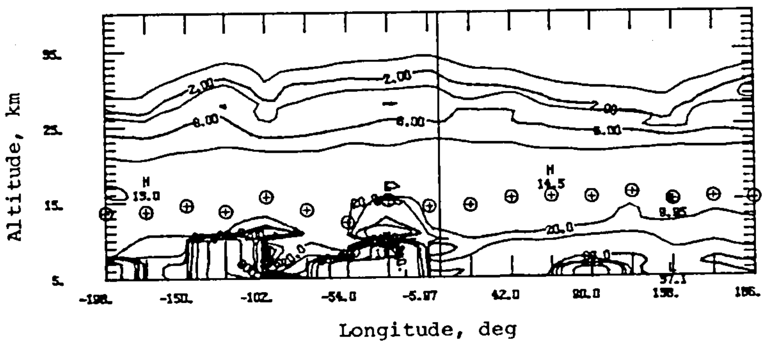


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

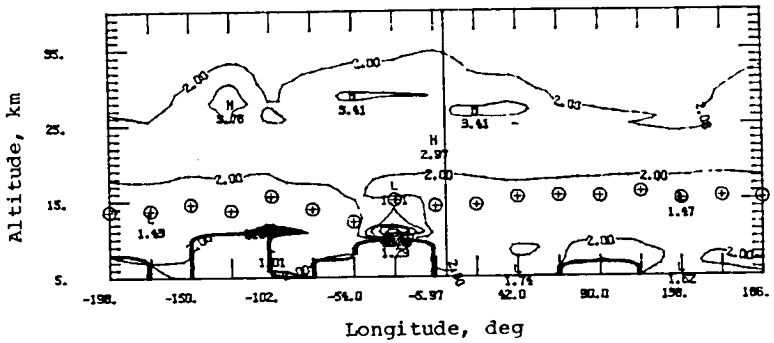


(e) Temperature (kelvin).

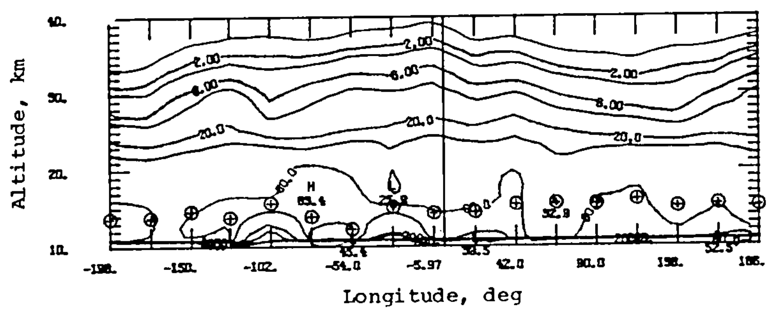
Figure 173. Extinction and temperature isopleths for sweep 4, sunrise events, May 28.75–May 29.82, 1979, at 14.7°S to 23.0°S.



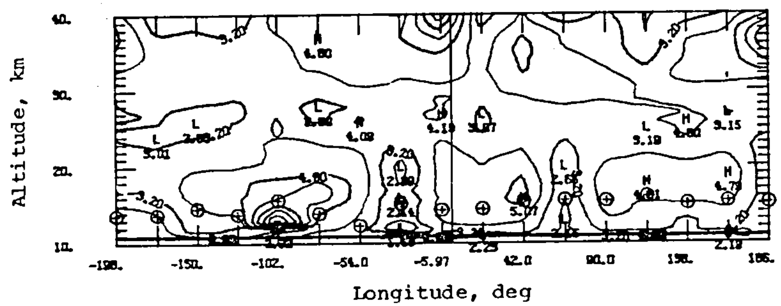
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



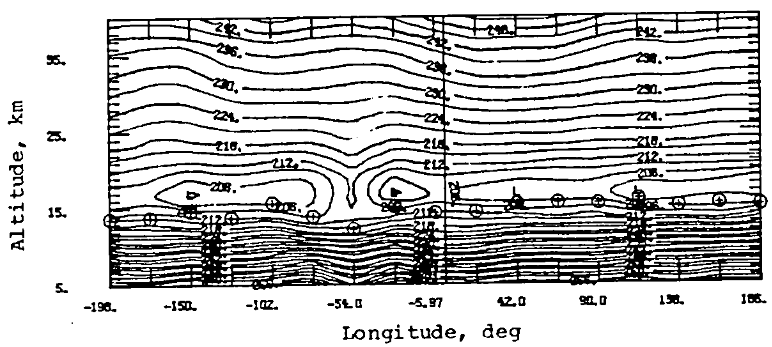
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

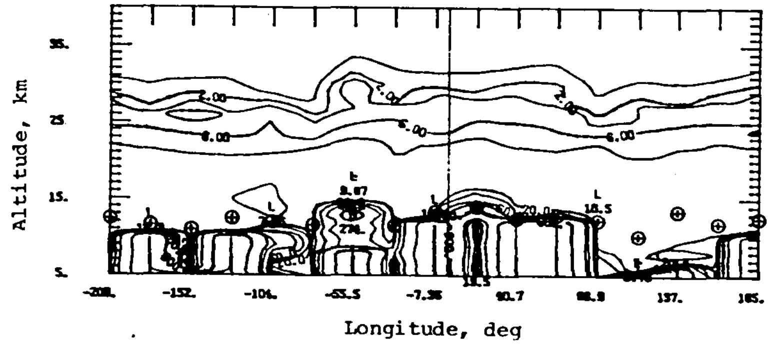


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

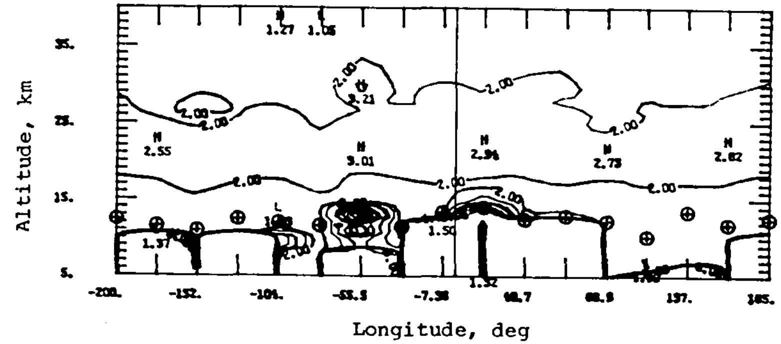


(e) Temperature (kelvin).

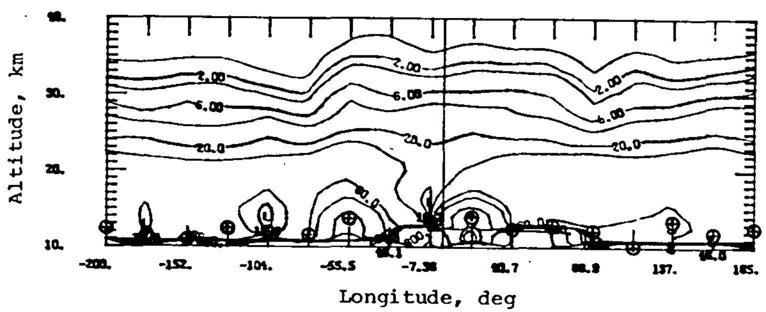
Figure 174. Extinction and temperature isopleths for sweep 4, sunrise events, May 29.76–May 30.83, 1979, at 22.6°S to 28.8°S.



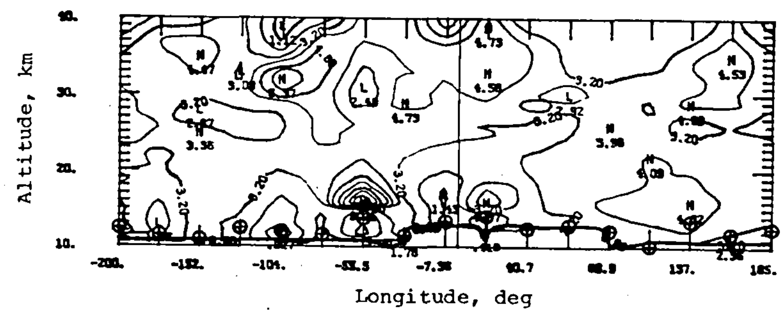
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



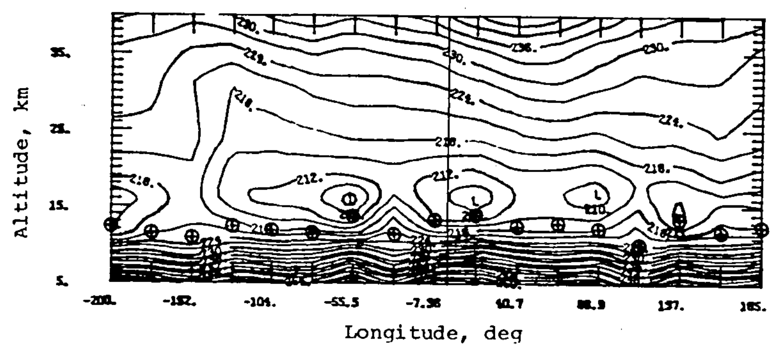
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

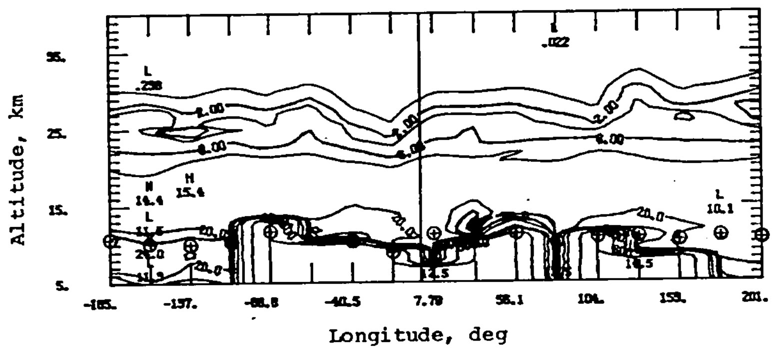


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

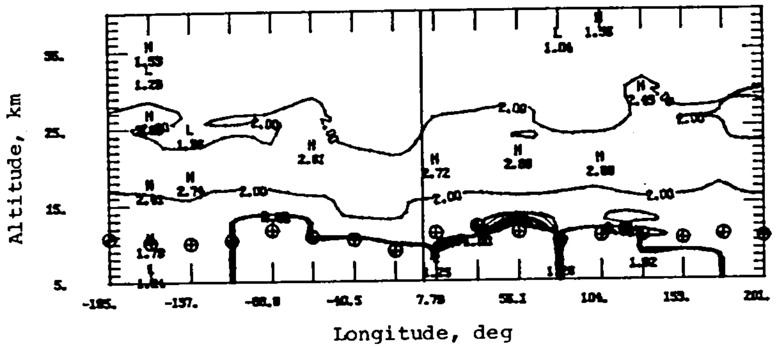


(e) Temperature (kelvin).

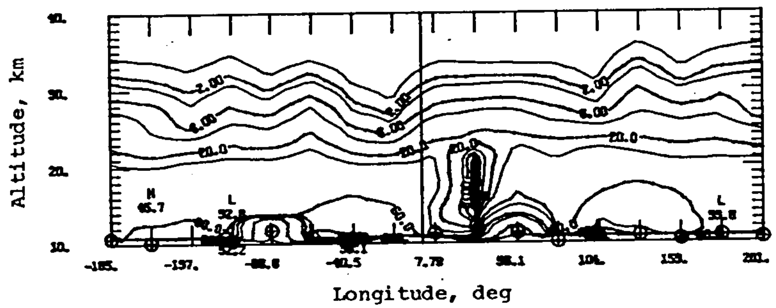
Figure 175. Extinction and temperature isopleths for sweep 4, sunrise events, June 1.78–June 2.86, 1979, at 36.5°S to 39.4°S.



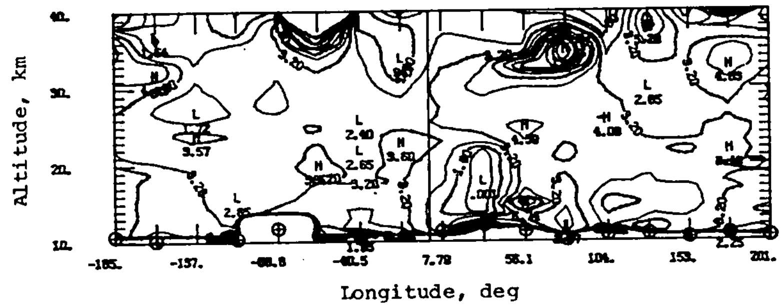
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



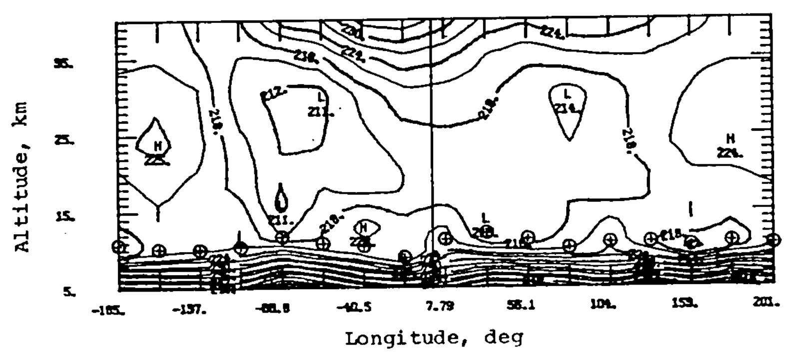
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

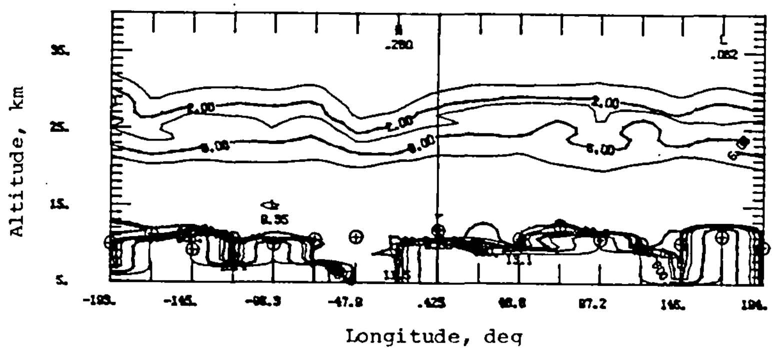


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

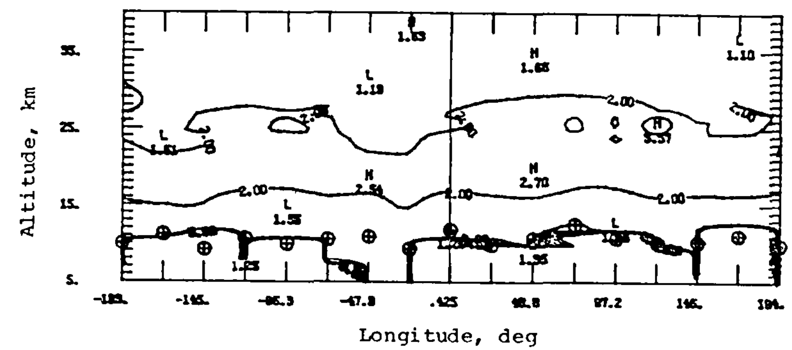


(e) Temperature (kelvin).

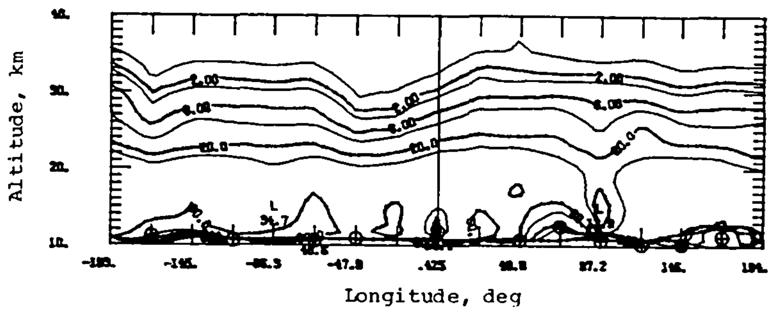
Figure 176. Extinction and temperature isopleths for sweep 4, sunrise events, June 7.76–June 8.83, 1979, at 45.9°S to 46.3°S.



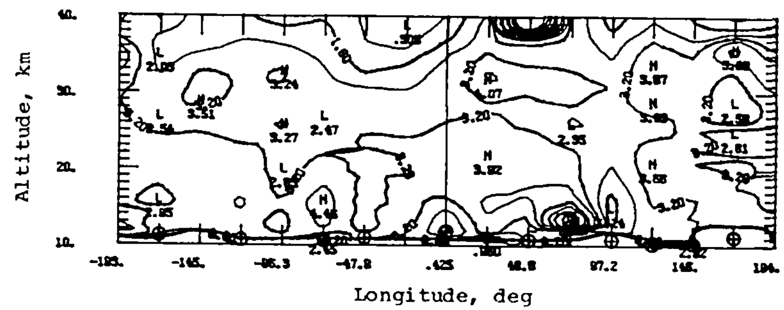
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



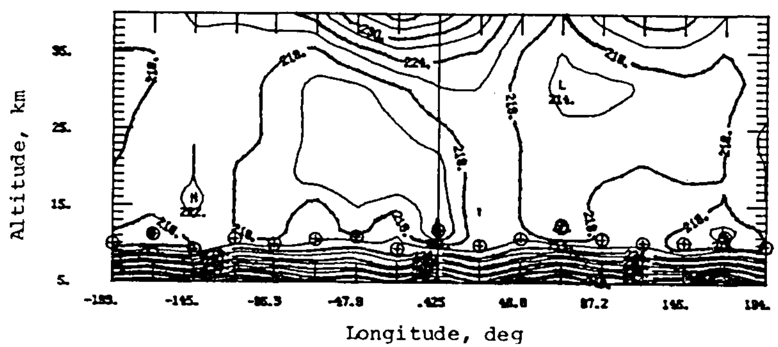
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

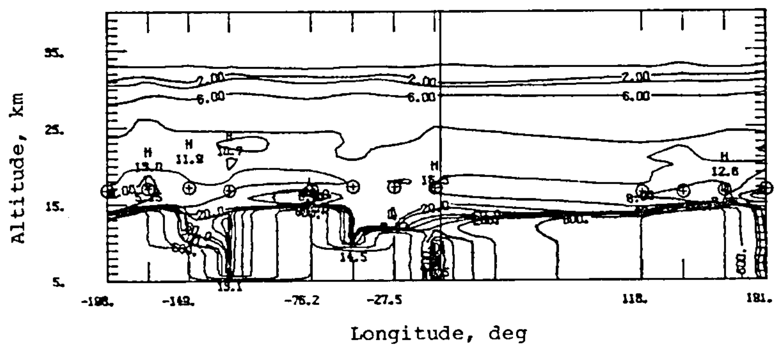


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

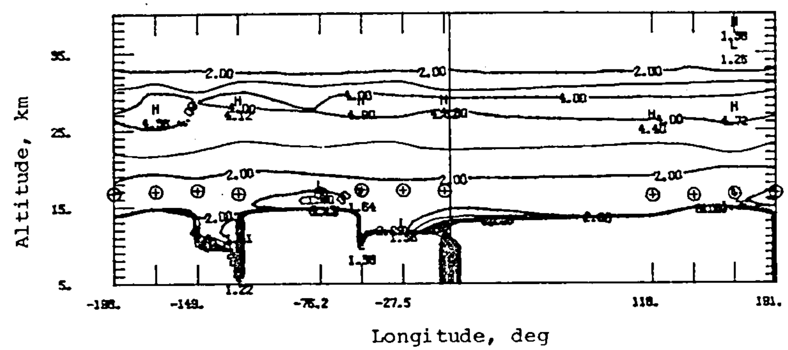


(e) Temperature (kelvin).

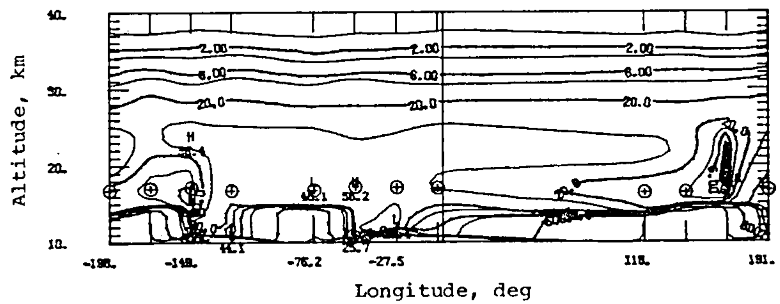
Figure 177. Extinction and temperature isopleths for sweep 5, sunrise events, June 10.78–June 11.86, 1979, at 46.5°S to 46.2°S.



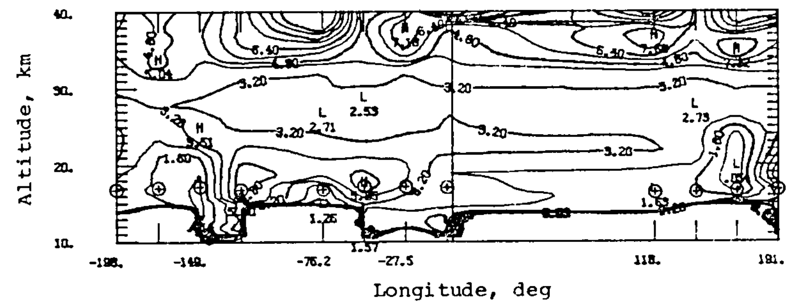
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



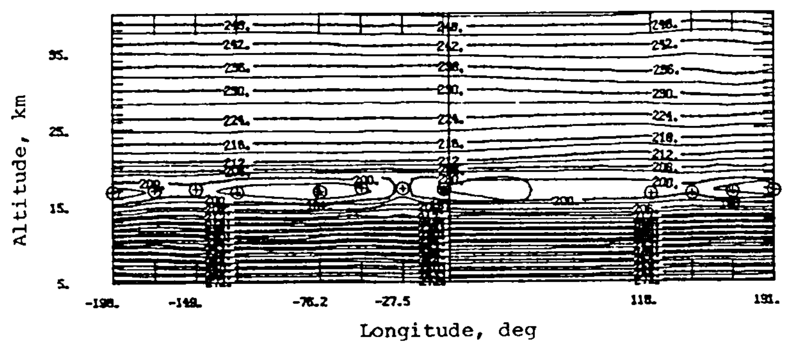
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

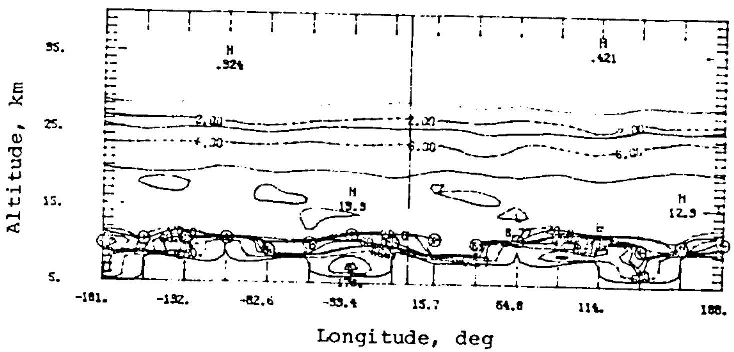


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

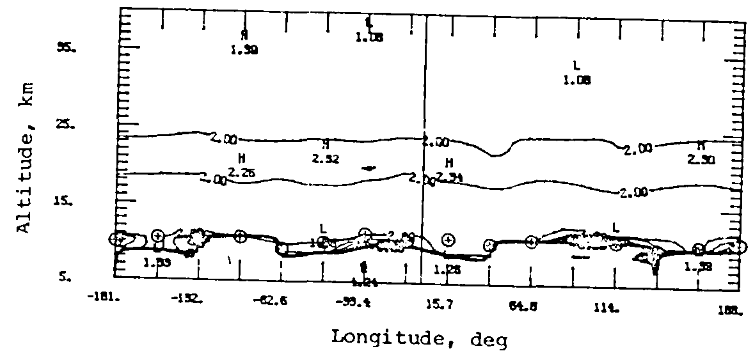


(e) Temperature (kelvin).

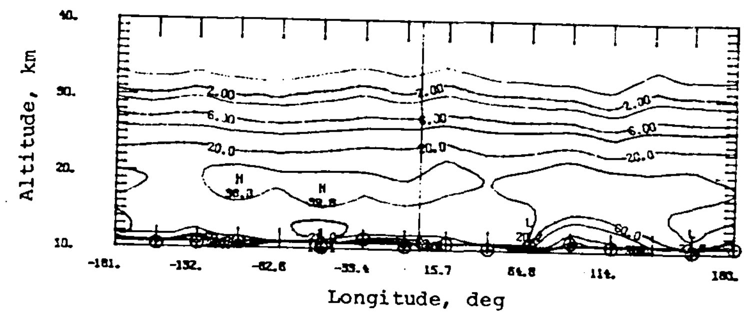
Figure 178. Extinction and temperature isopleths for sweep 5, sunrise events, June 28.72–June 29.79, 1979, at 0.2°S to 5.2°N.



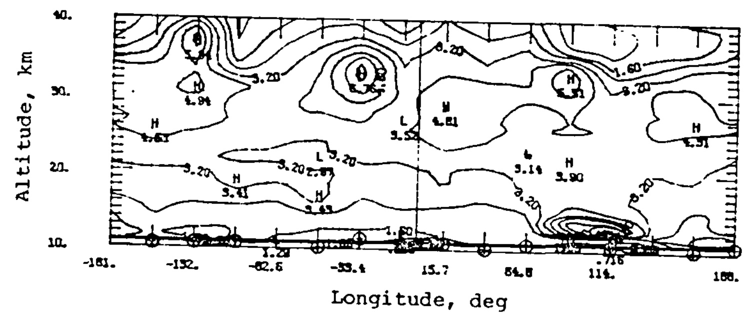
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



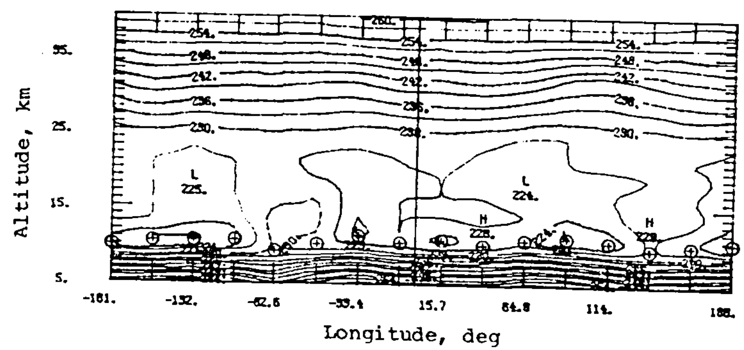
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

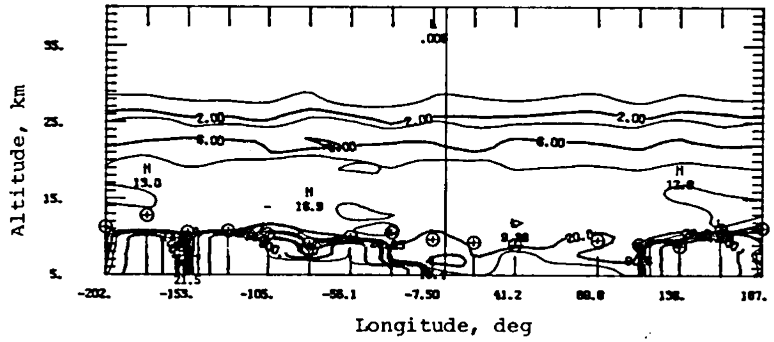


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

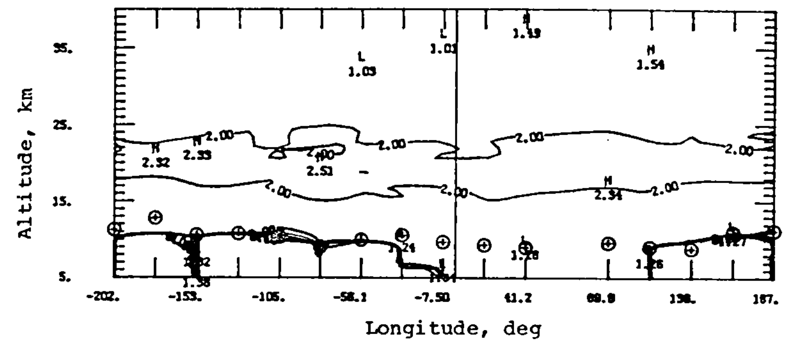


(e) Temperature (kelvin).

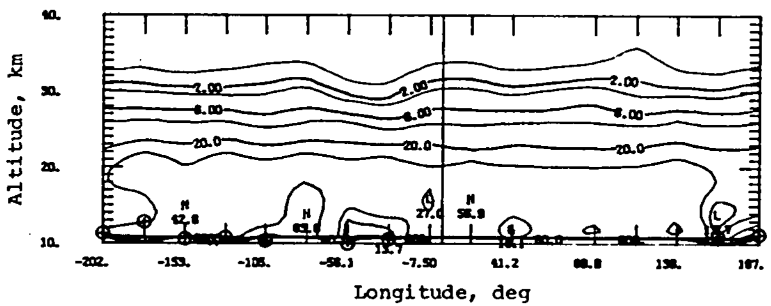
Figure 179. Extinction and temperature isopleths for sweep 5, sunrise events, July 16.59–July 17.59, 1979, at 63.7°N to 65.4°N.



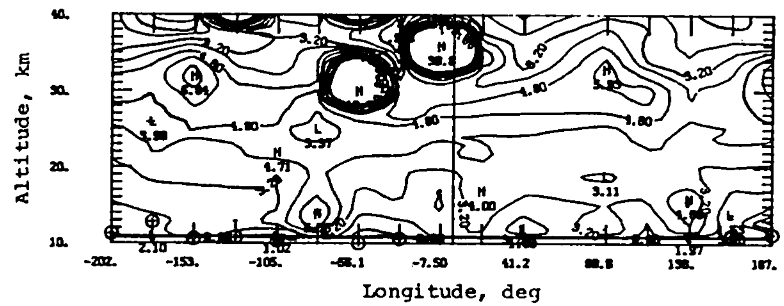
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



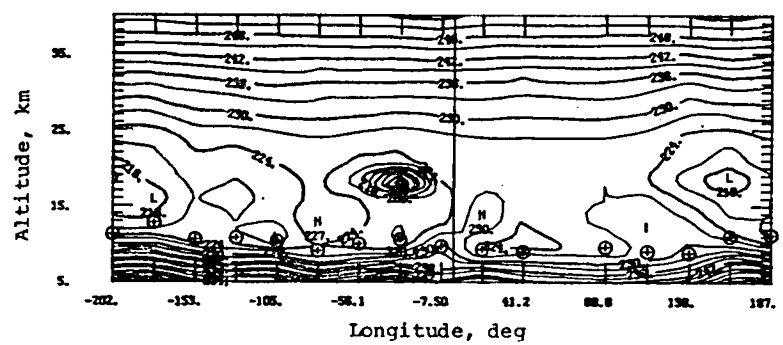
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

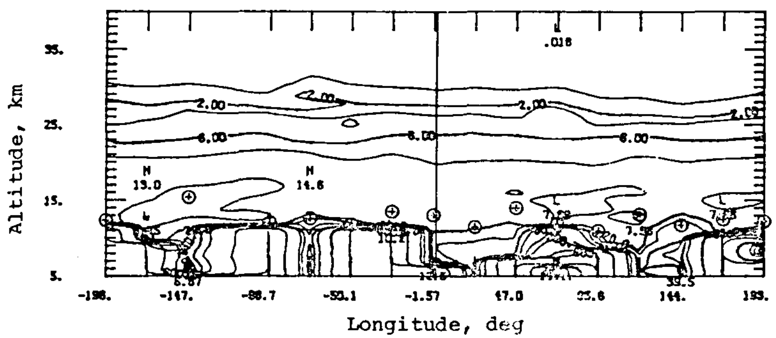


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

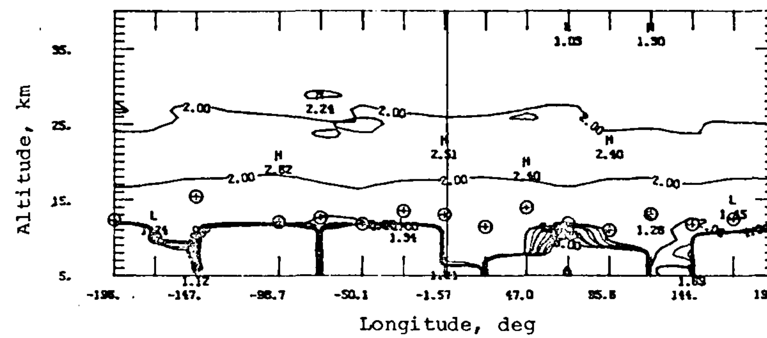


(e) Temperature (kelvin).

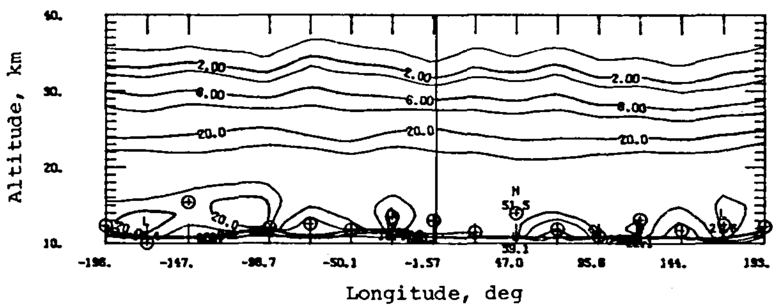
Figure 180. Extinction and temperature isopleths for sweep 1, sunset events, February 23.28–February 25.38, 1979, at 55.9°S to 53.3°S.



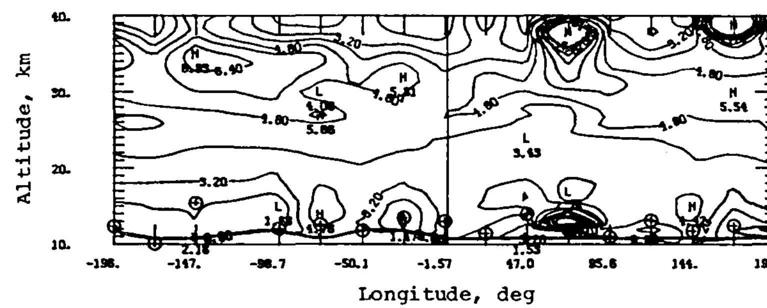
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



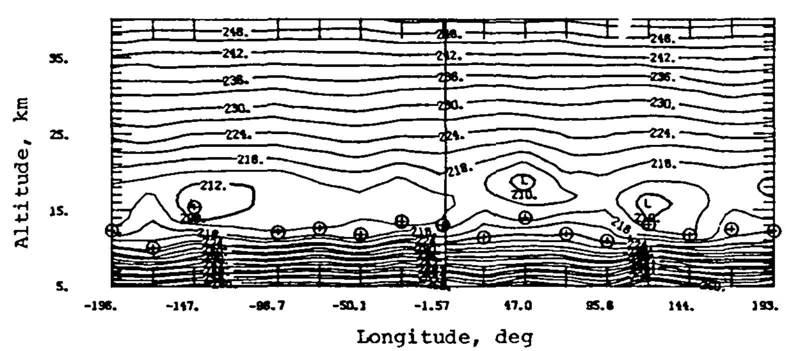
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

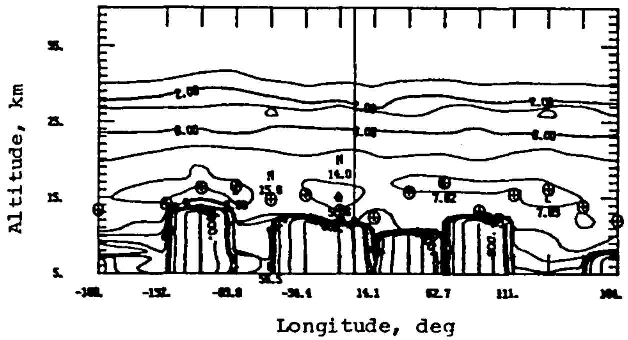


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

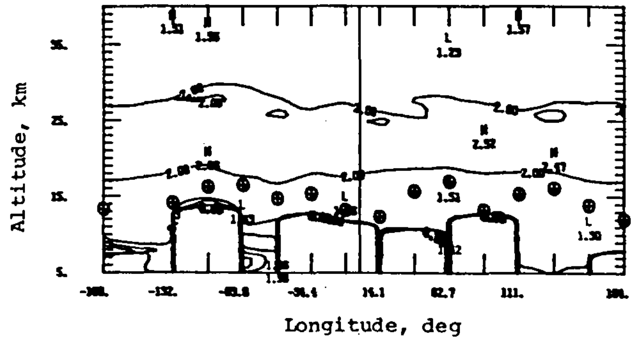


(e) Temperature (kelvin).

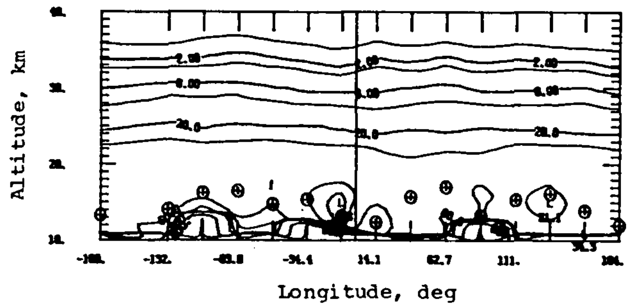
Figure 181. Extinction and temperature isopleths for sweep 1, sunset events, February 27.25–February 28.32, 1979, at 45.2°S to 41.6°S.



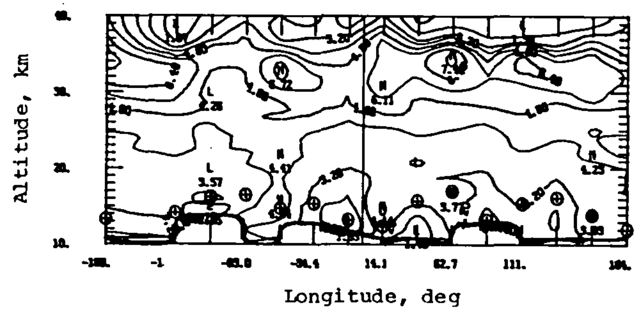
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



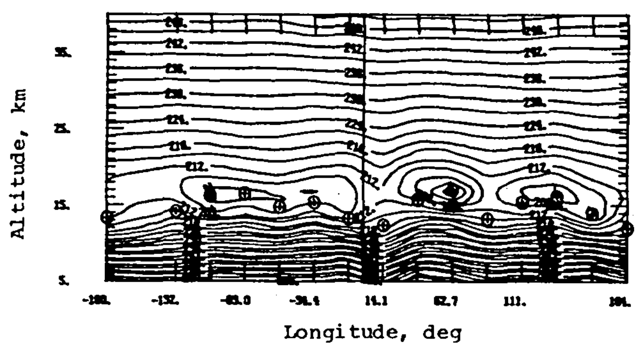
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

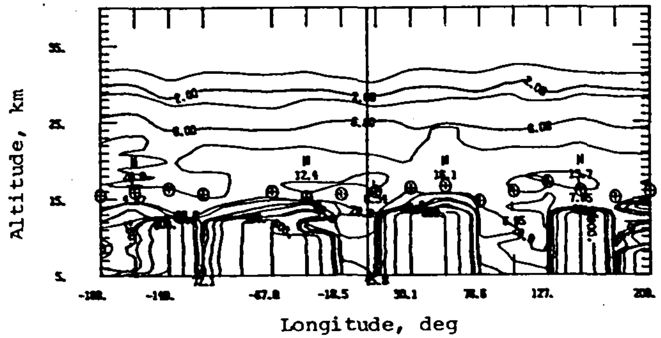


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

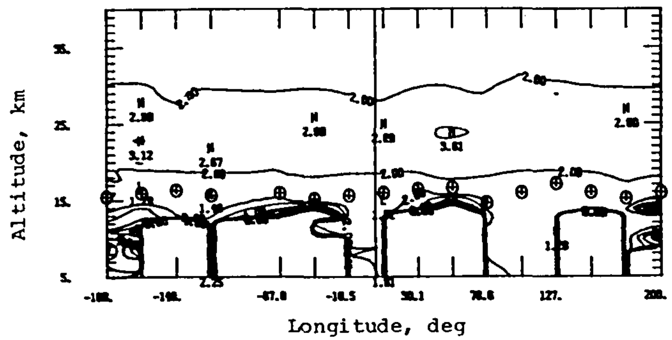


(e) Temperature (kelvin).

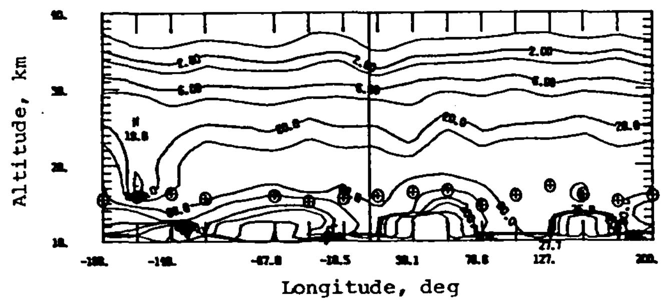
Figure 182. Extinction and temperature isopleths for sweep 1, sunset events, March 1.27–March 2.27, 1979, at 38.2°S to 34.3°S.



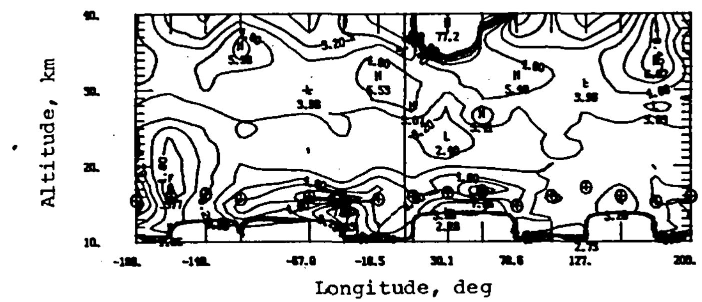
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



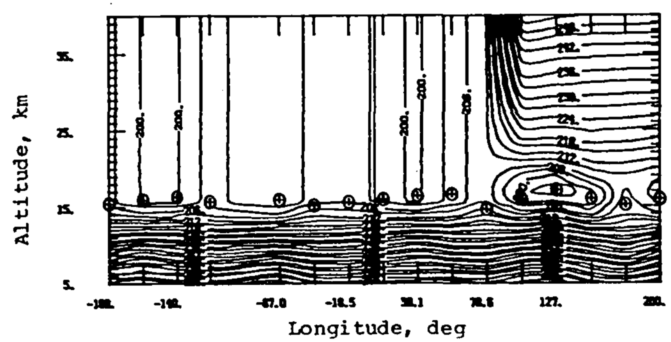
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

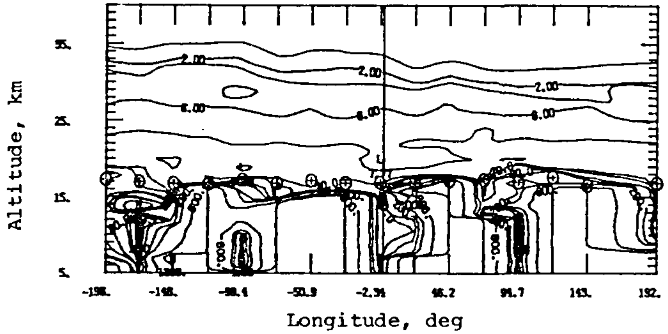


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

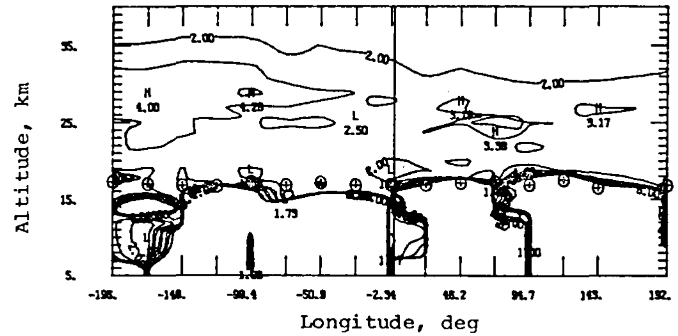


(e) Temperature (kelvin).

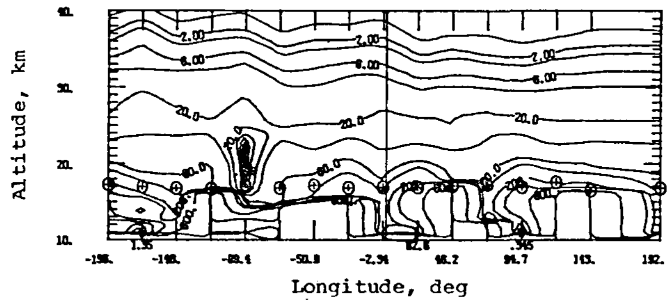
Figure 183. Extinction and temperature isopleths for sweep 1, sunset events, March 3.22–March 4.29, 1979, at 30.2°S to 25.0°S.



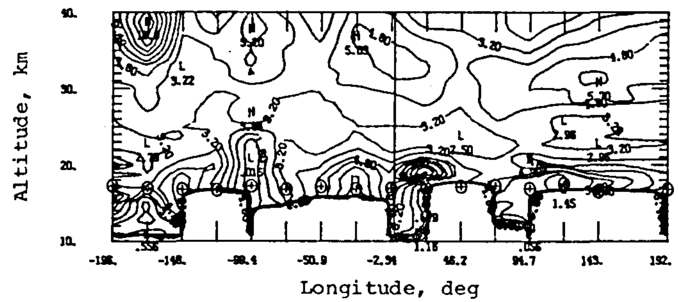
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



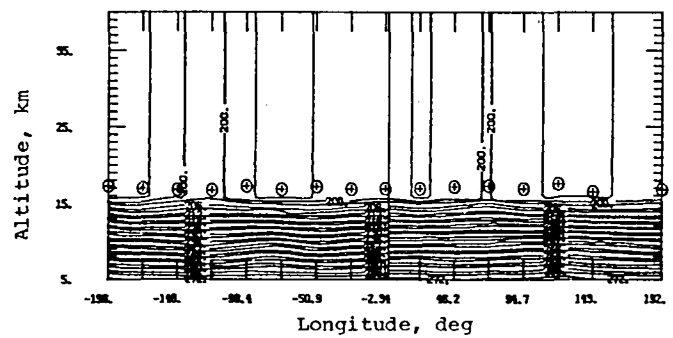
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

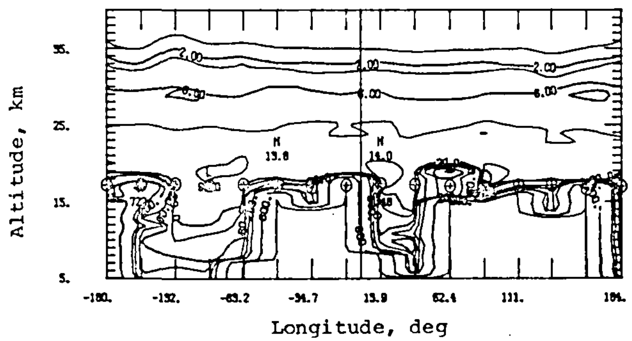


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

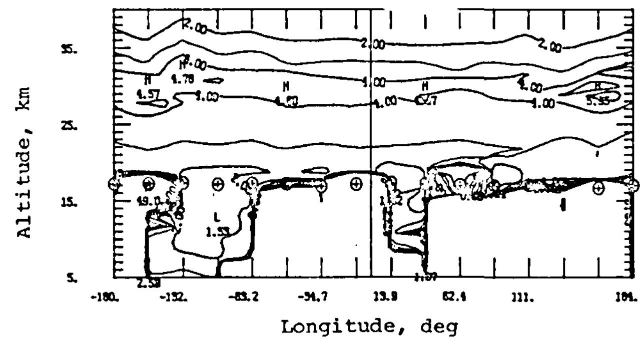


(e) Temperature (kelvin).

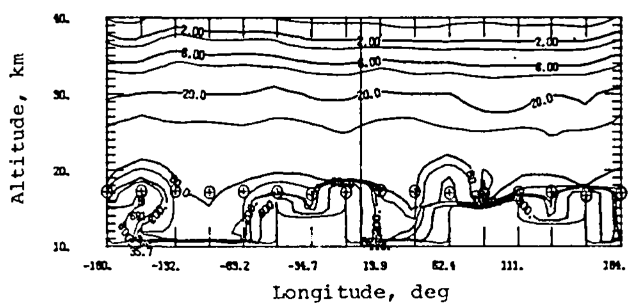
Figure 184. Extinction and temperature isopleths for sweep 1, sunset events, March 5.23–March 6.31, 1979, at 20.0°S to 13.7°S.



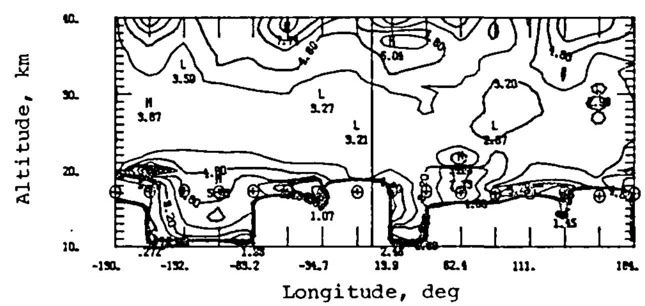
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



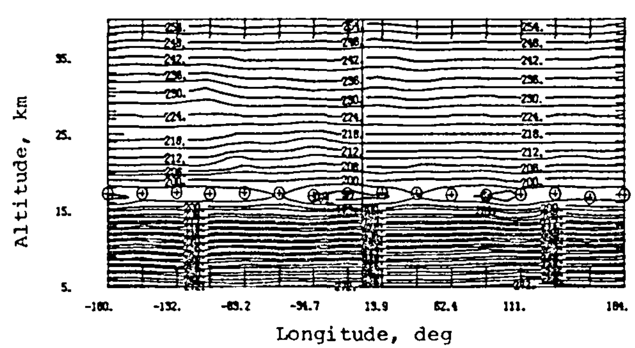
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

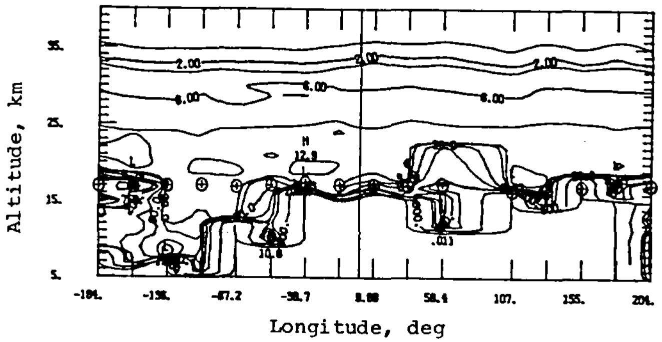


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

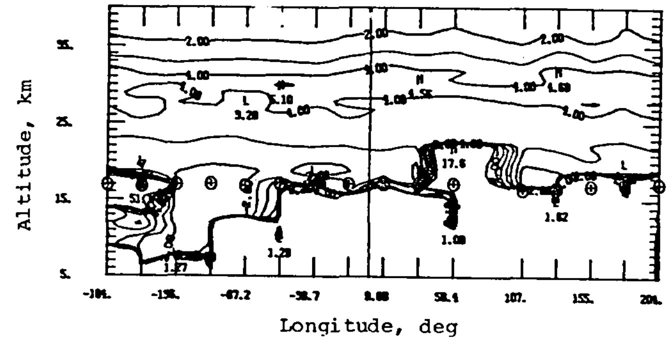


(e) Temperature (kelvin).

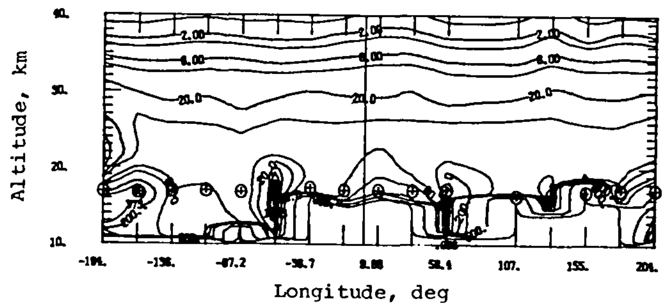
Figure 185. Extinction and temperature isopleths for sweep 1, sunset events, March 7.25–March 8.26, 1979, at 7.6°S to 0.5°S.



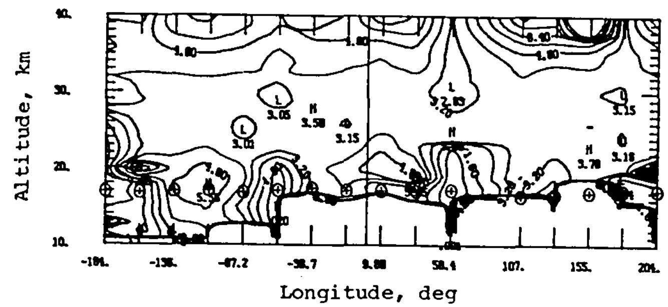
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



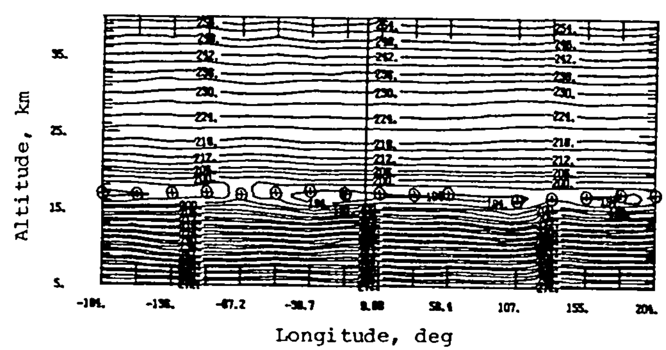
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

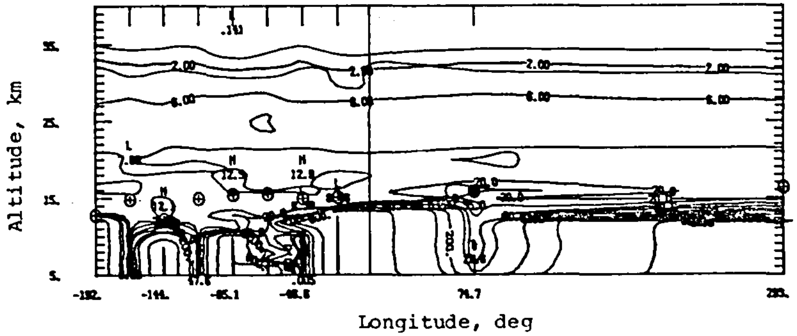


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

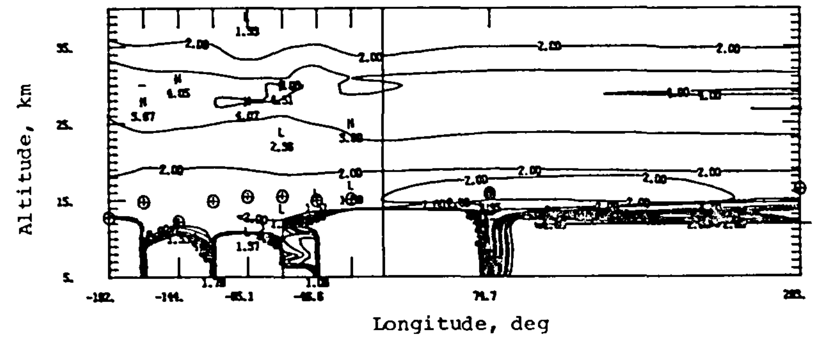


(e) Temperature (kelvin).

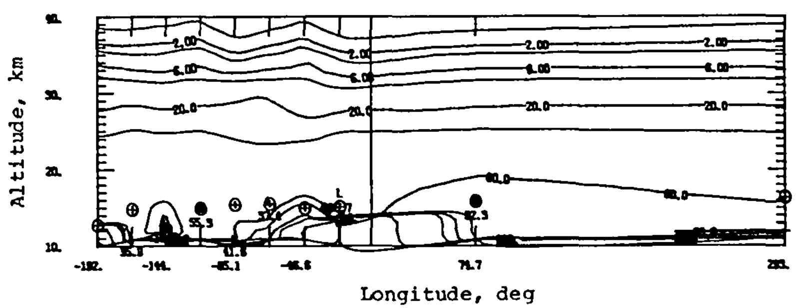
Figure 186. Extinction and temperature isopleths for sweep 1, sunset events, March 8.19–March 9.27, 1979, at 1.0°S to 7.2°N.



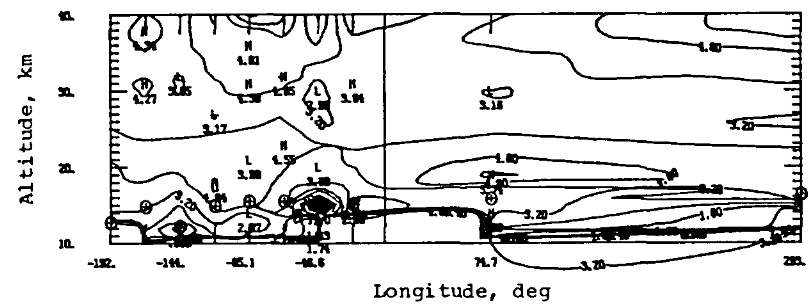
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



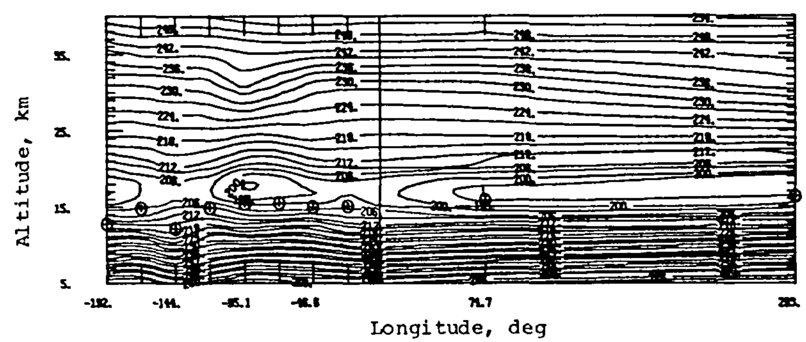
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

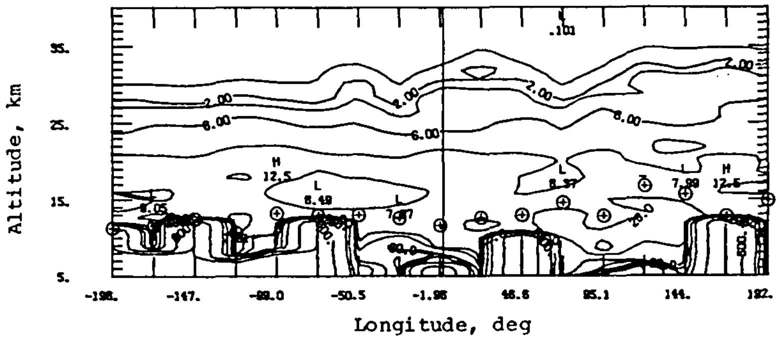


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

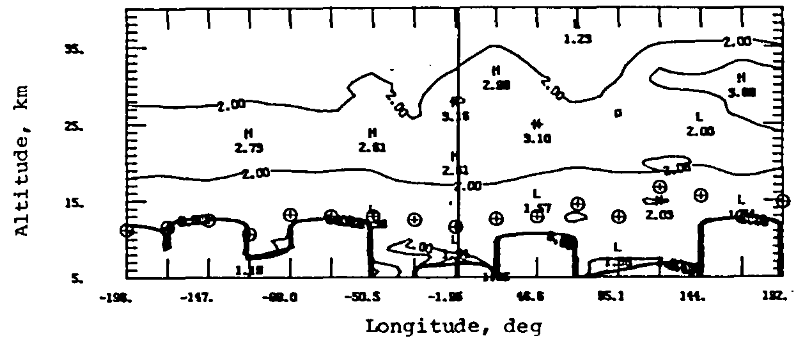


(e) Temperature (kelvin).

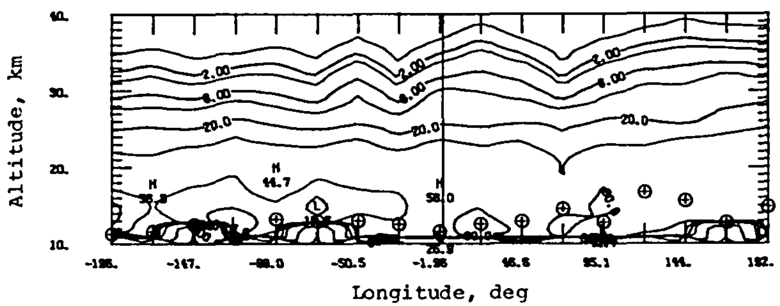
Figure 187. Extinction and temperature isopleths for sweep 1, sunset events, March 9.94–March 11.29, 1979, at 12.5°N to 23.5°N.



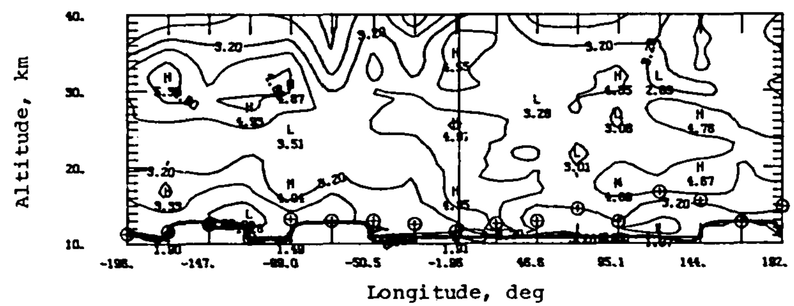
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



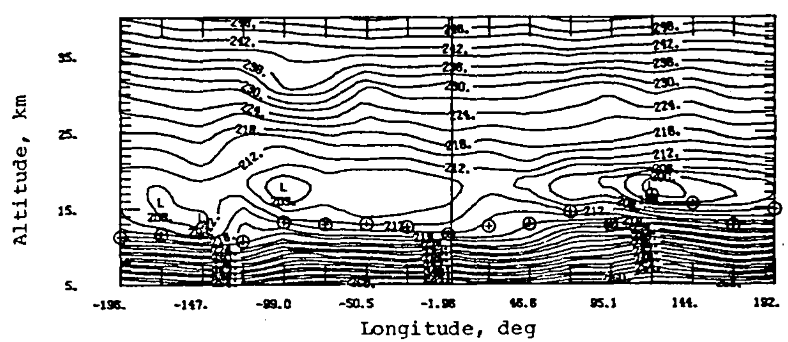
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

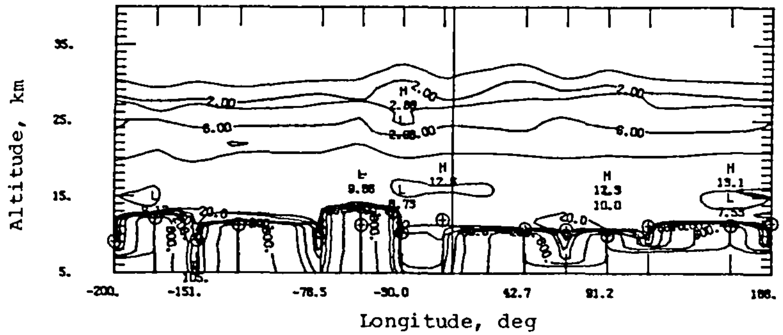


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

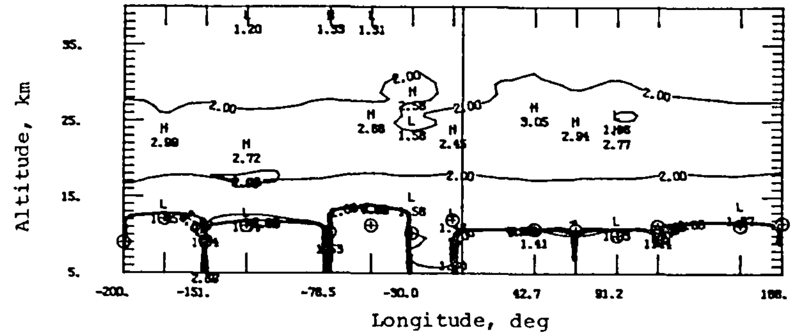


(e) Temperature (kelvin).

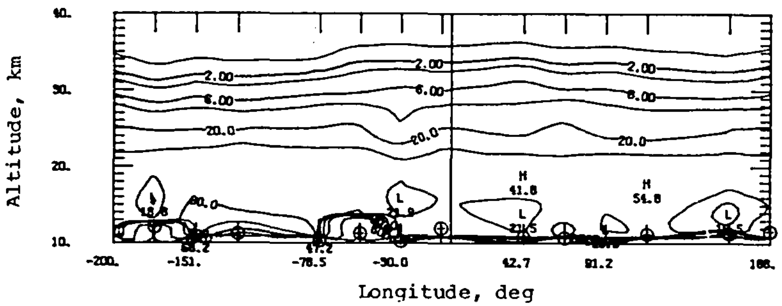
Figure 188. Extinction and temperature isopleths for sweep 1, sunset events, March 11.22–March 12.30, 1979, at 22.9°N to 31.5°N.



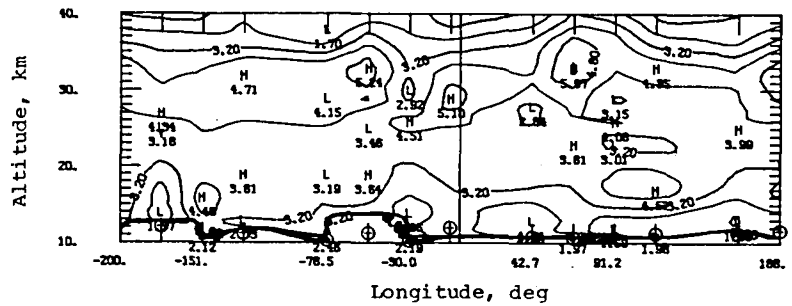
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



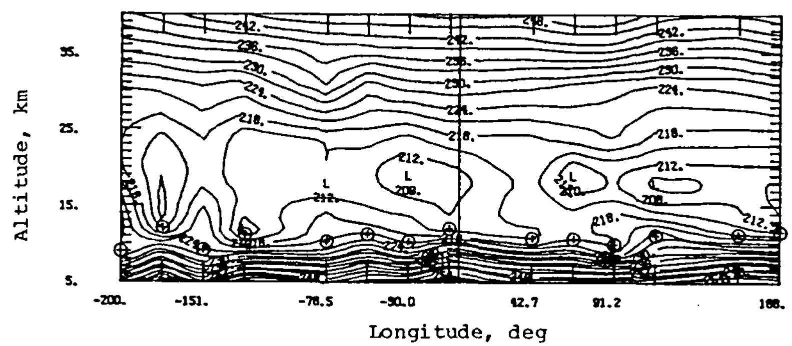
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

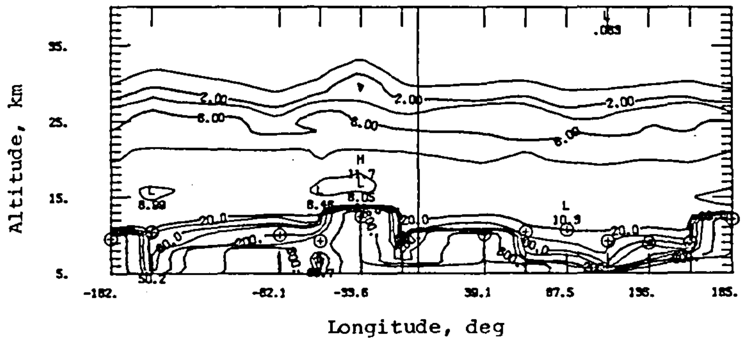


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

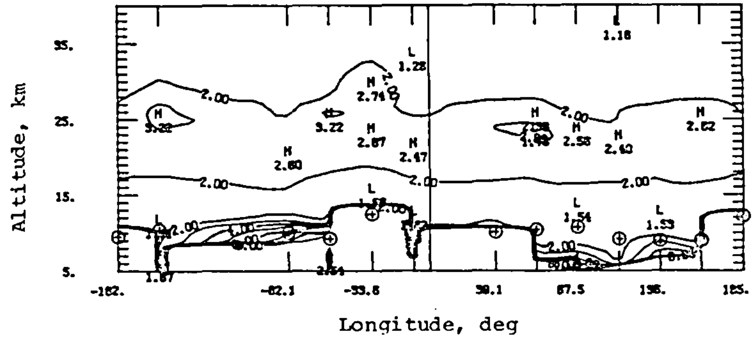


(e) Temperature (kelvin).

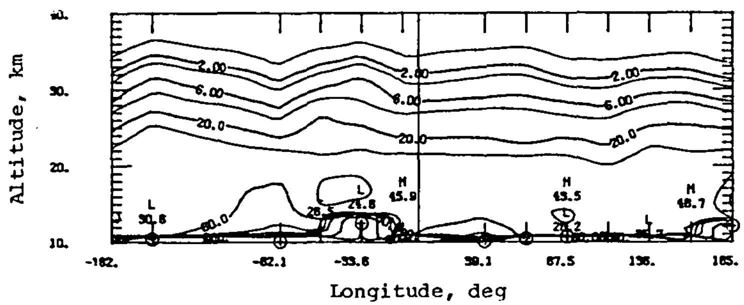
Figure 189. Extinction and temperature isopleths for sweep 1, sunset events, March 12.23–March 13.31, 1979, at 31.0°N to 39.0°N.



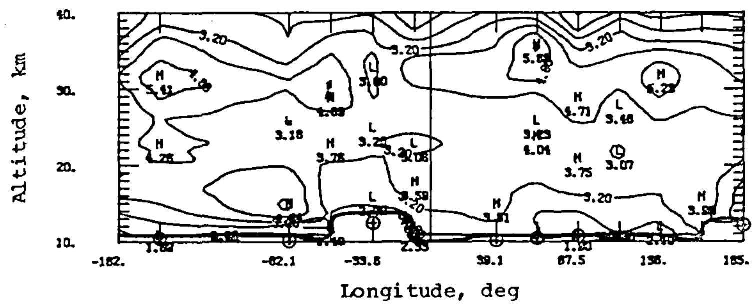
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



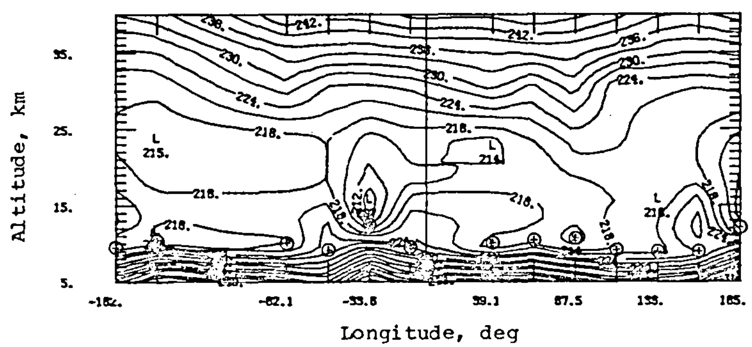
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

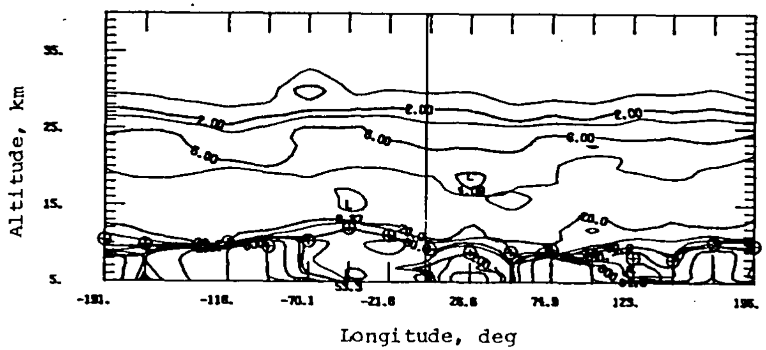


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

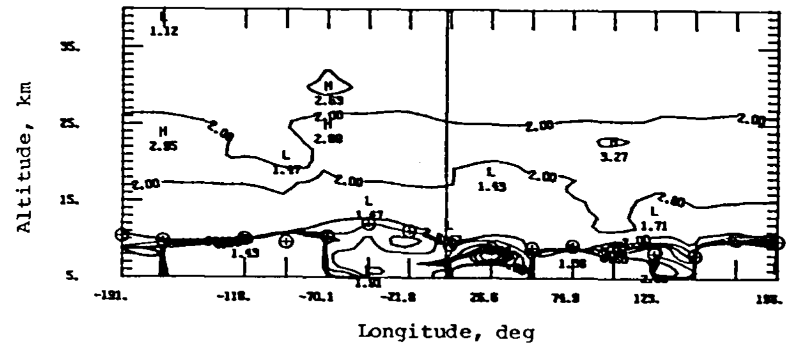


(e) Temperature (kelvin).

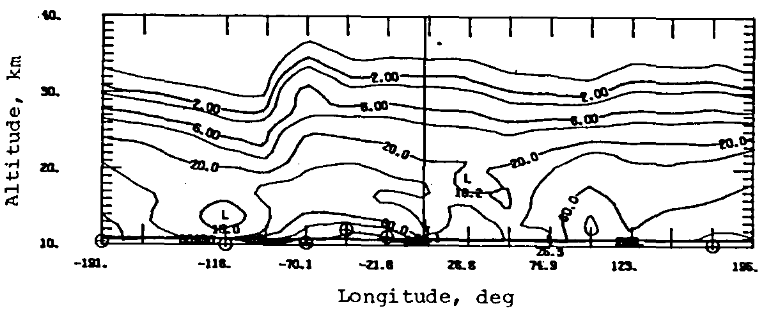
Figure 190. Extinction and temperature isopleths for sweep 1, sunset events, March 13.24–March 15.26, 1979, at 38.5°N to 50.6°N.



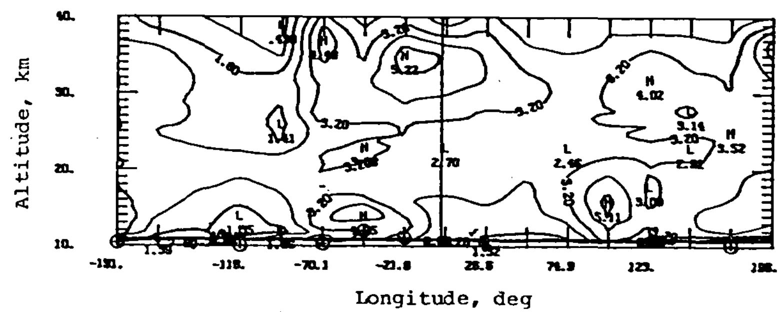
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



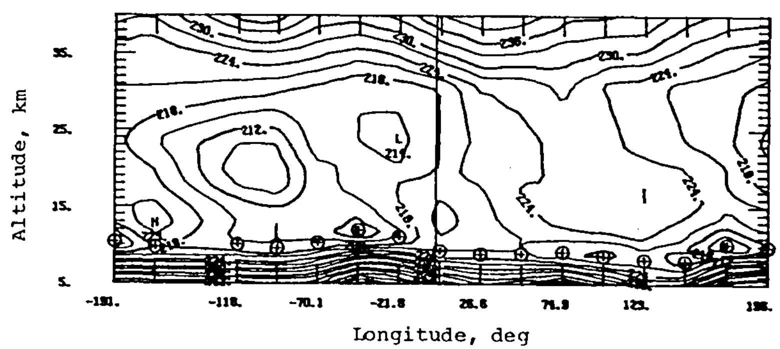
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

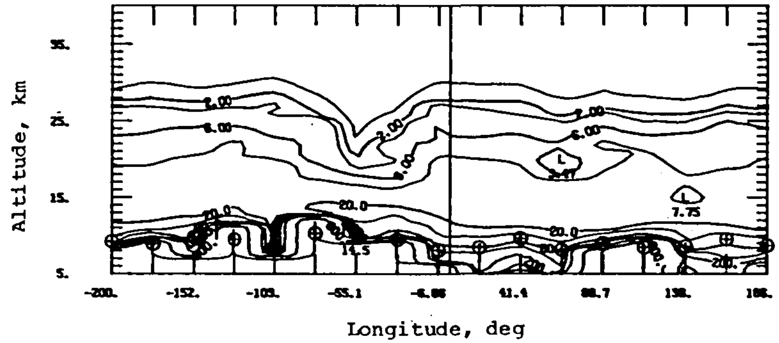


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

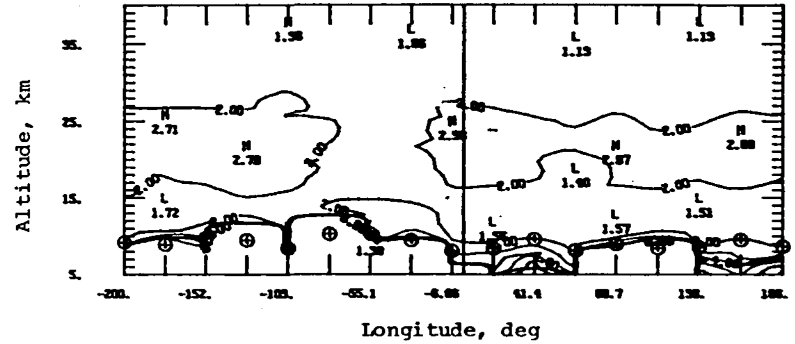


(e) Temperature (kelvin).

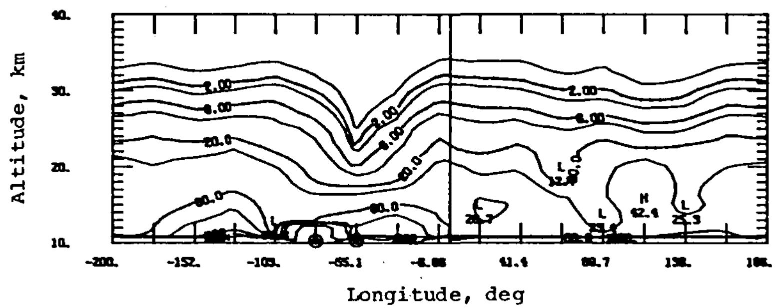
Figure 191. Extinction and temperature isopleths for sweep 1, sunset events, March 17.21–March 18.28, 1979, at 58.3°N to 60.9°N.



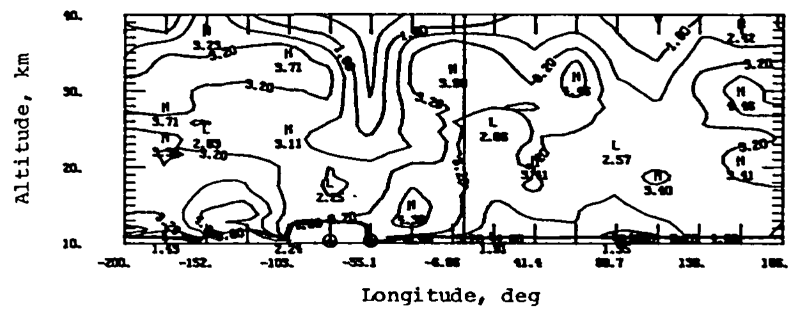
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



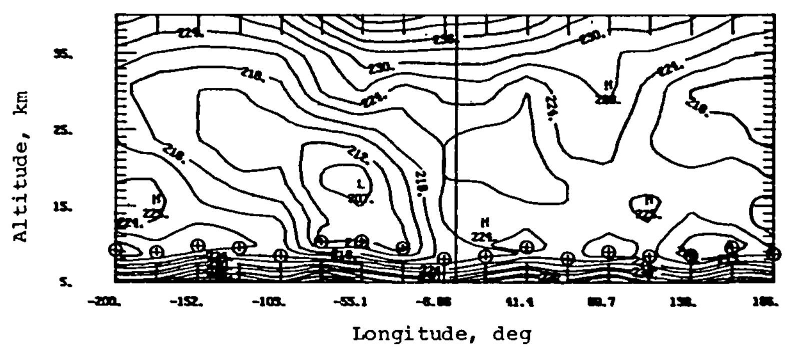
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

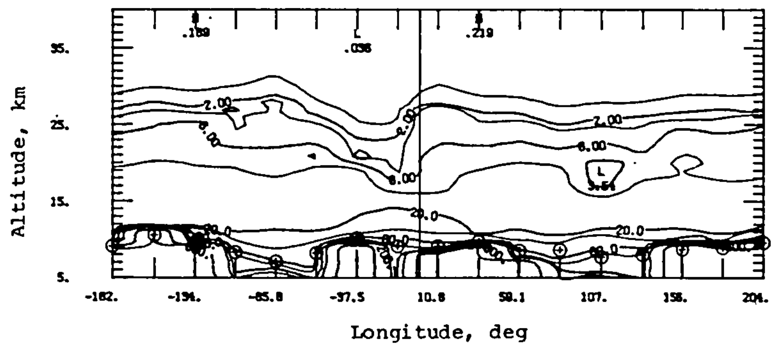


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

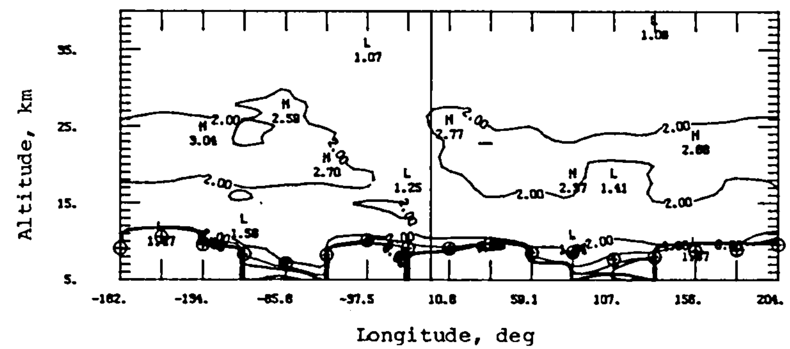


(e) Temperature (kelvin).

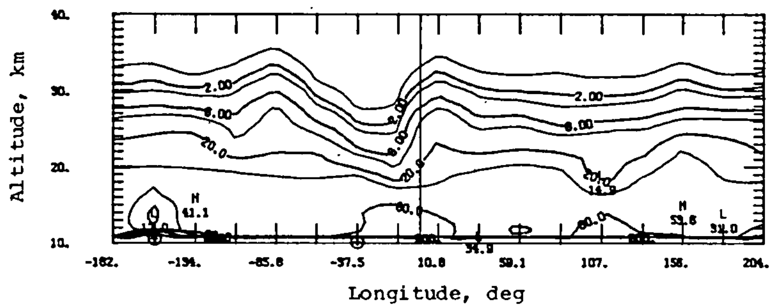
Figure 192. Extinction and temperature isopleths for sweep 1, sunset events, March 21.24–March 22.32, 1979, at 64.4°N to 64.6°N.



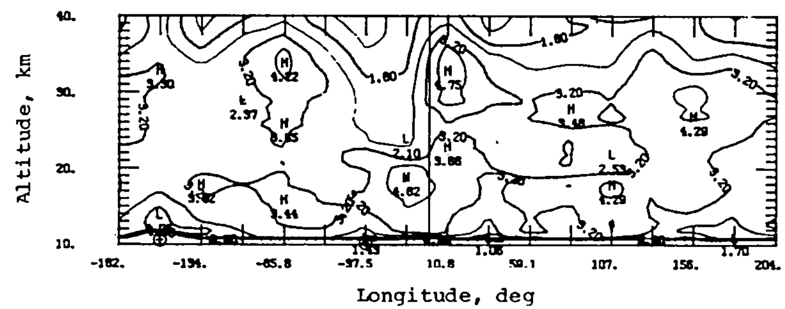
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



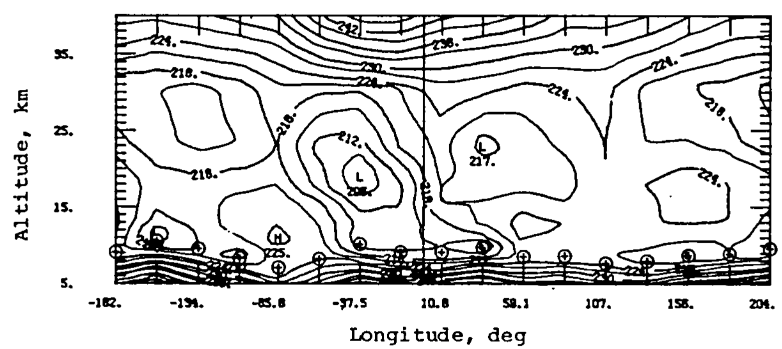
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

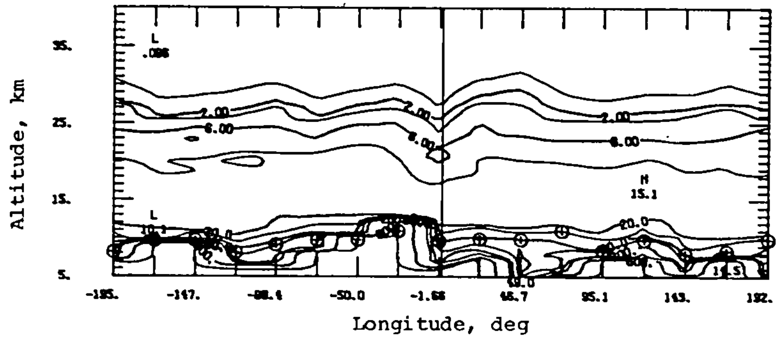


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

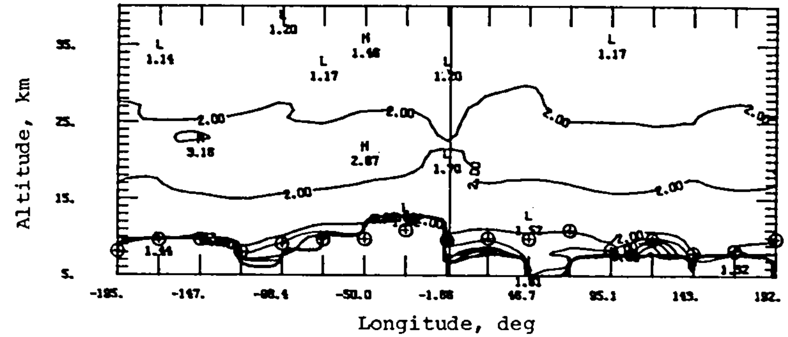


(e) Temperature (kelvin).

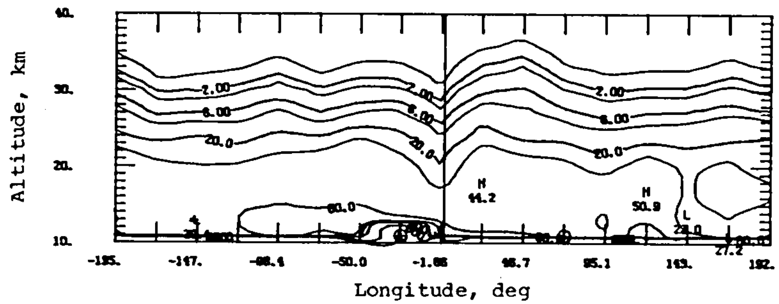
Figure 193. Extinction and temperature isopleths for sweep 2, sunset events, March 24.20–March 25.27, 1979, at 64.0°N to 63.2°N.



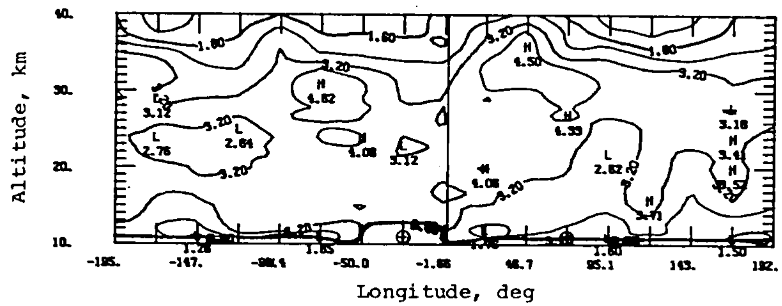
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



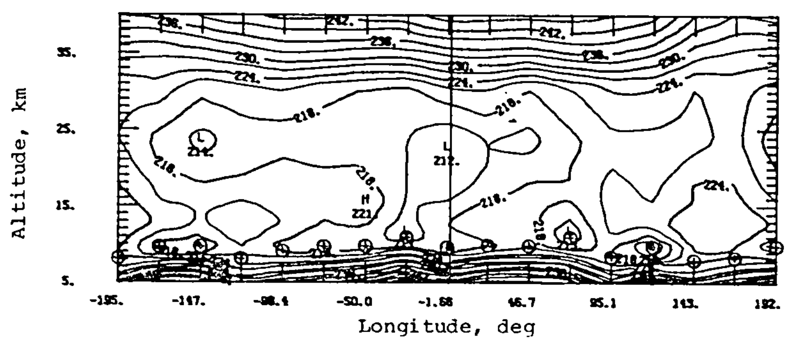
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

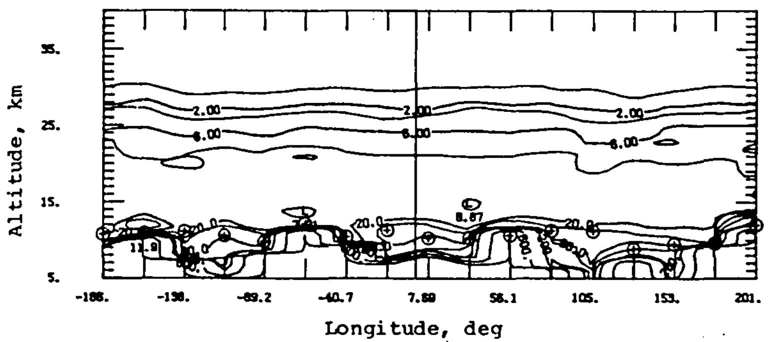


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

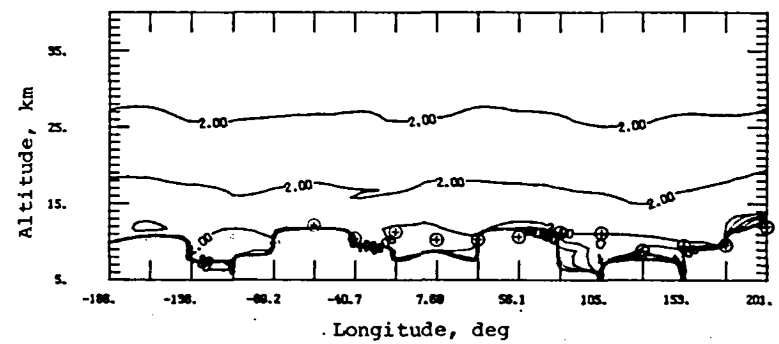


(e) Temperature (kelvin).

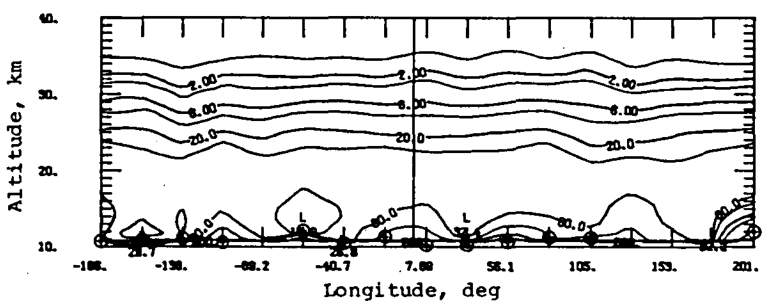
Figure 194. Extinction and temperature isopleths for sweep 2, sunset events, March 29.24–March 30.31, 1979, at 58.0°N to 56.0°N.



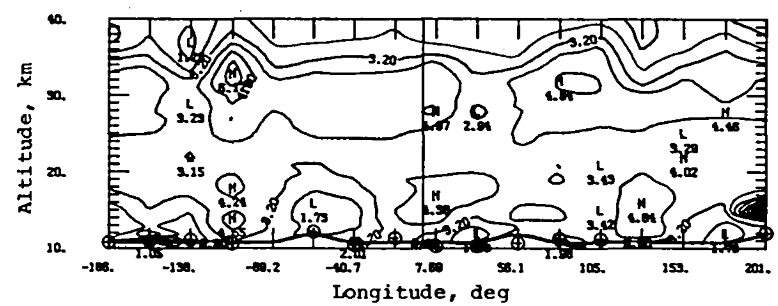
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



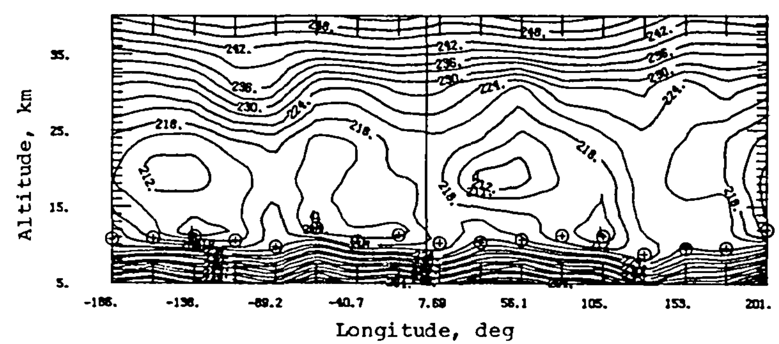
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

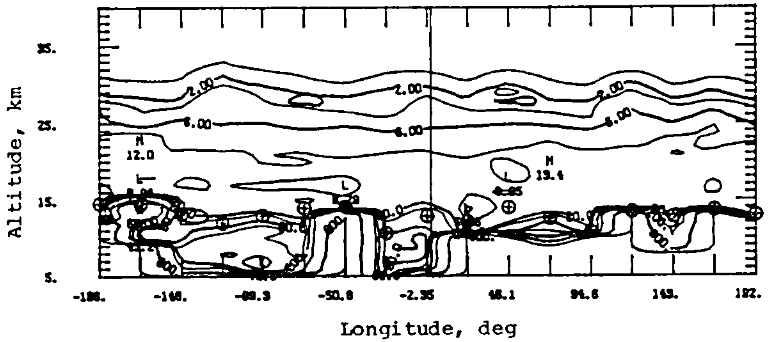


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

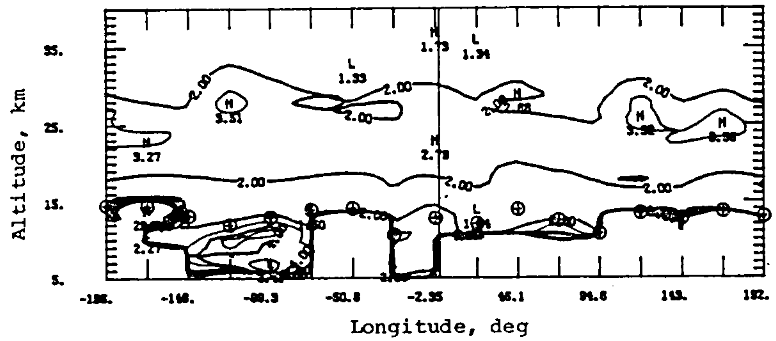


(e) Temperature (kelvin).

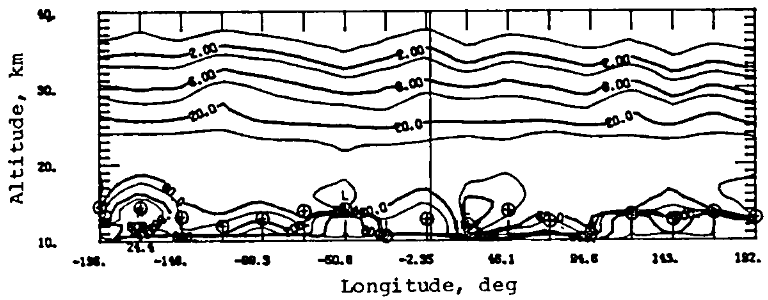
Figure 195. Extinction and temperature isopleths for sweep 2, sunset events, April 3.21–April 4.28, 1979, at 46.1°N to 42.7°N.



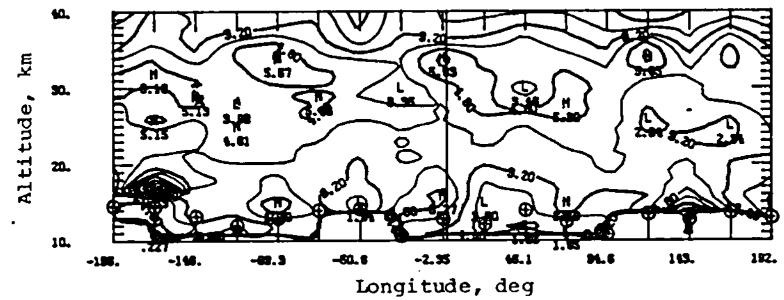
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



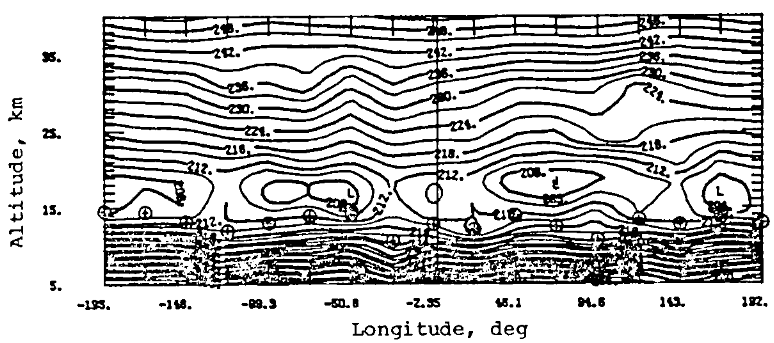
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

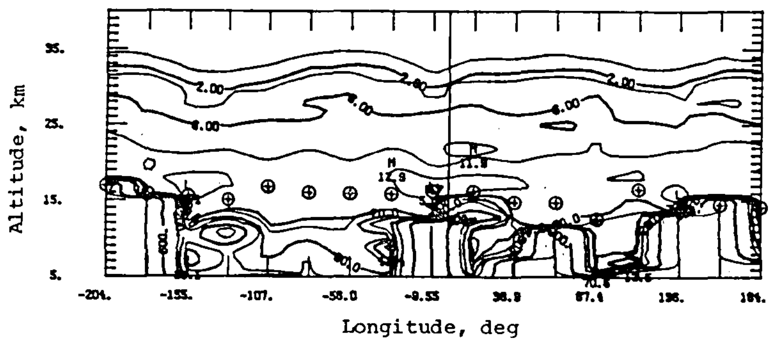


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

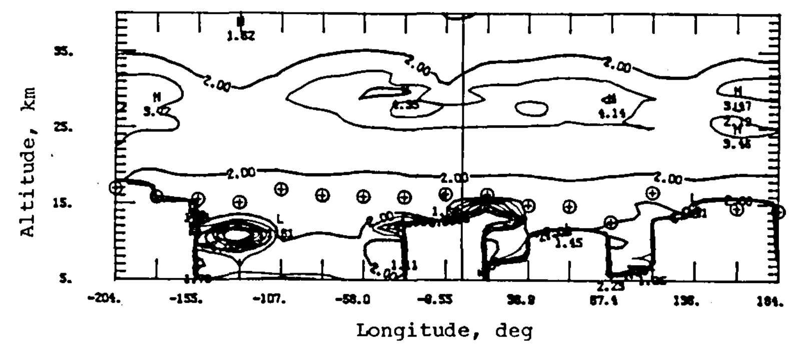


(e) Temperature (kelvin).

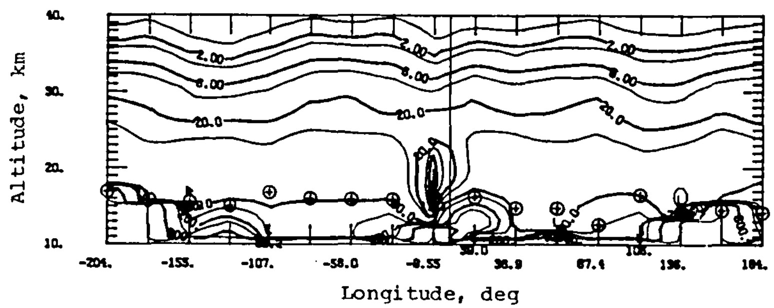
Figure 196. Extinction and temperature isopleths for sweep 2, sunset events, April 6.23–April 7.31, 1979, at 35.3°N to 30.6°N.



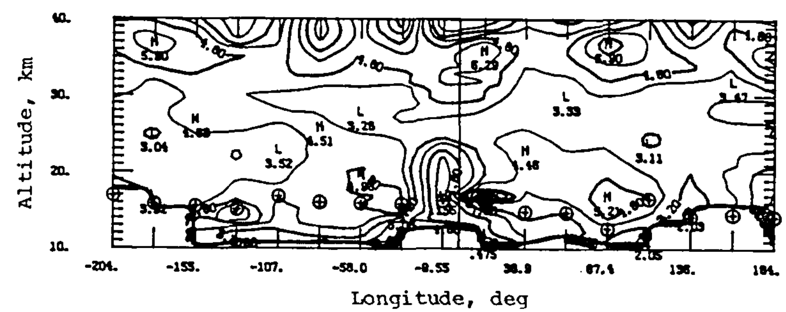
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



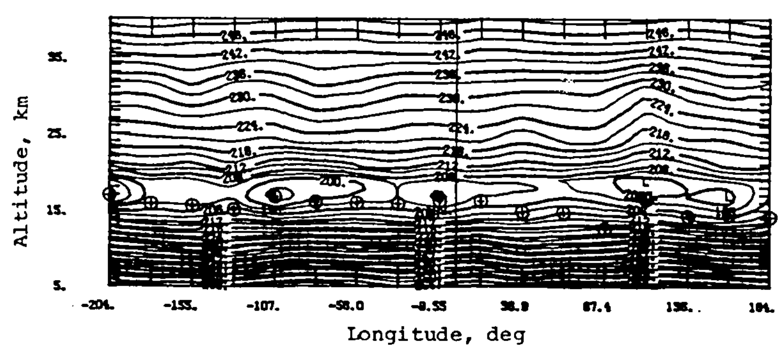
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

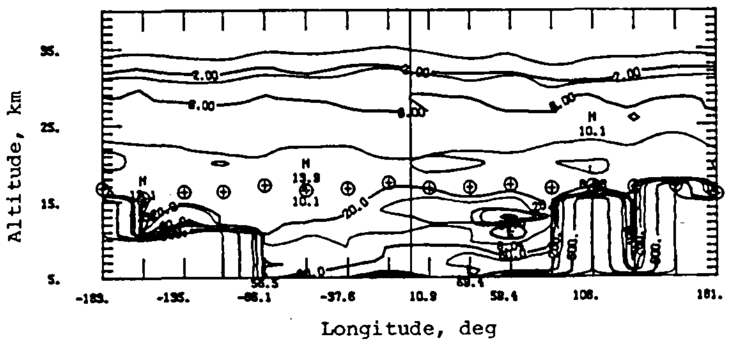


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

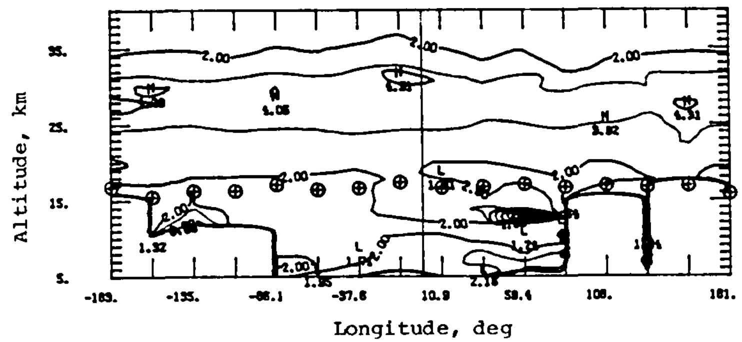


(e) Temperature (kelvin).

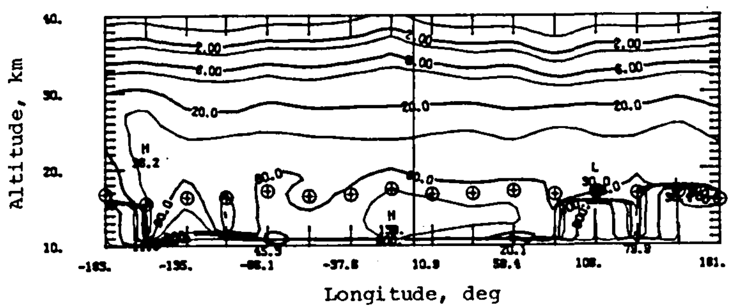
Figure 197. Extinction and temperature isopleths for sweep 2, sunset events, April 8.25–April 9.33, 1979, at 26.1°N to 20.5°N.



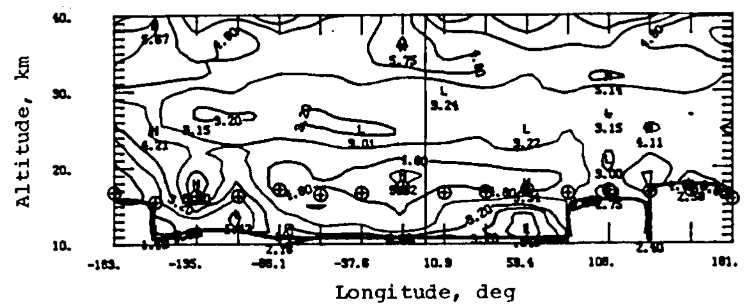
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



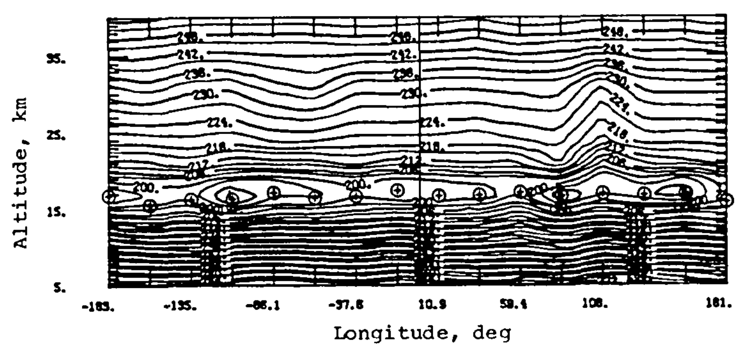
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

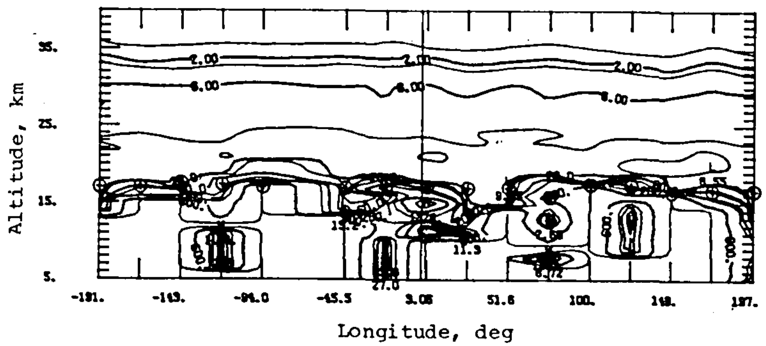


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

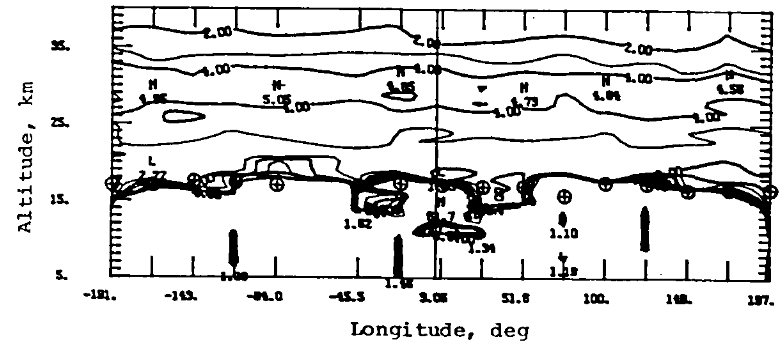


(e) Temperature (kelvin).

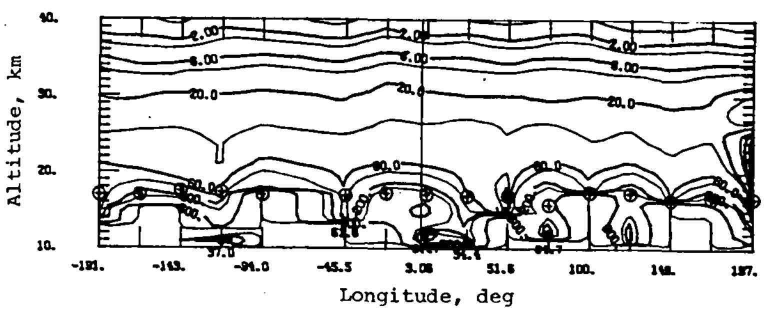
Figure 198. Extinction and temperature isopleths for sweep 2, sunset events, April 9.26–April 10.27, 1979, at 20.9°N to 15.2°N.



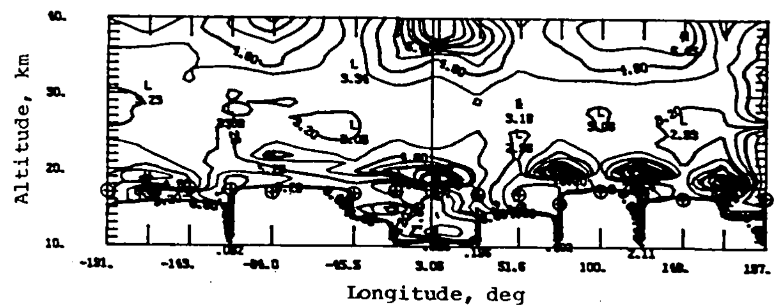
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



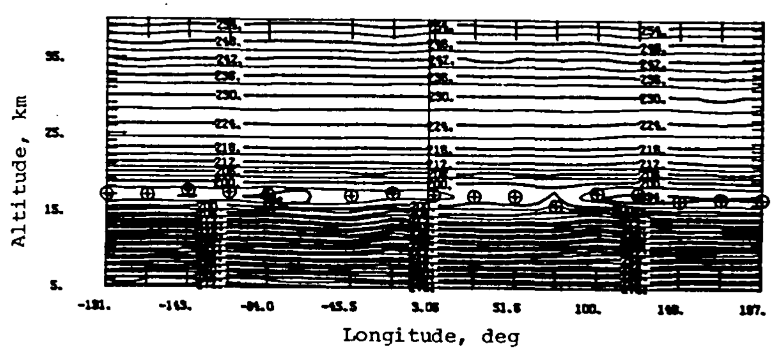
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

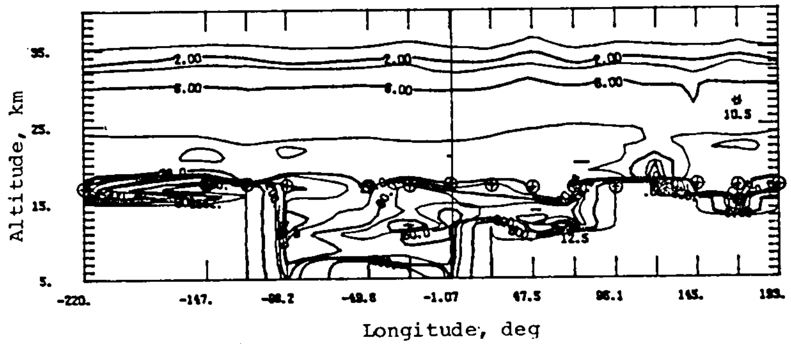


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

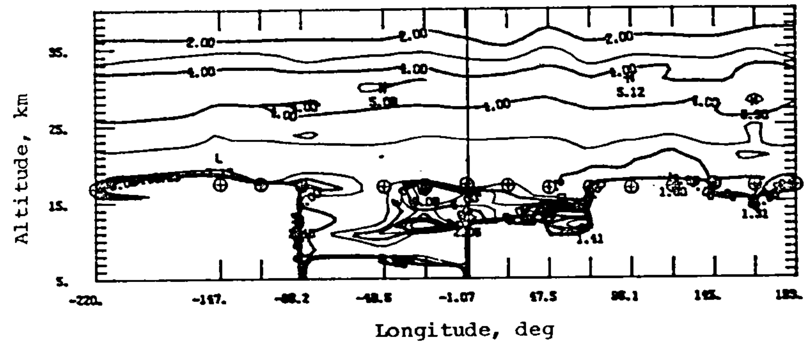


(e) Temperature (kelvin).

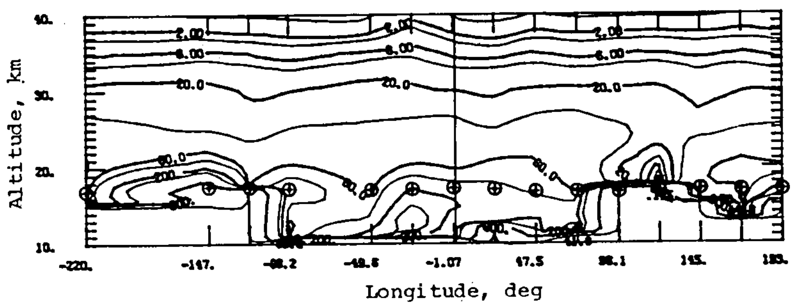
Figure 199. Extinction and temperature isopleths for sweep 2, sunset events, April 11.21–April 12.28, 1979, at 9.5°N to 2.7°S.



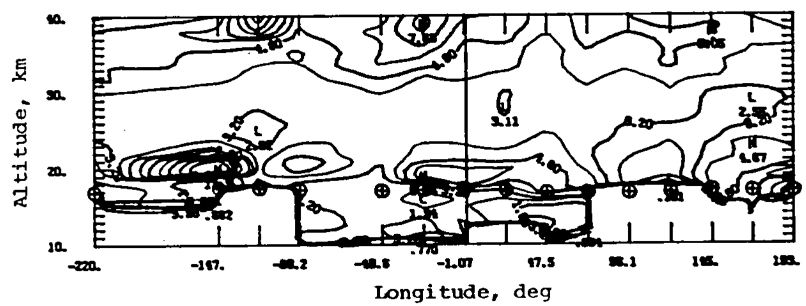
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



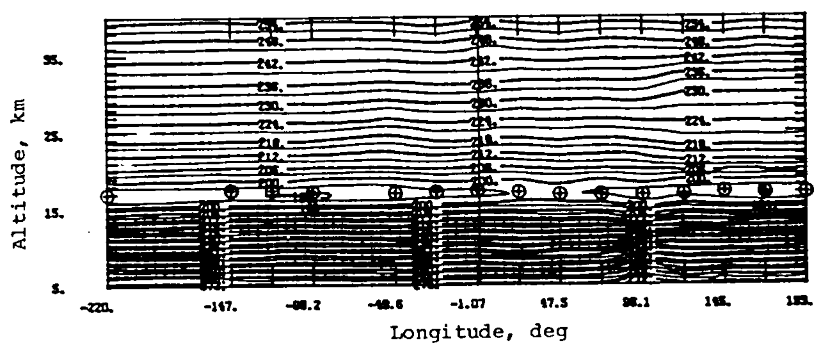
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

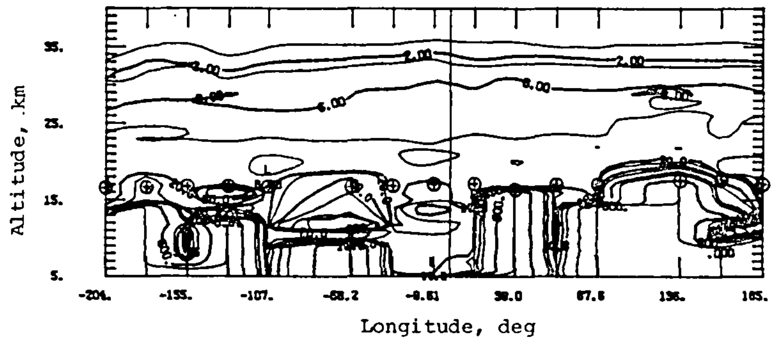


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

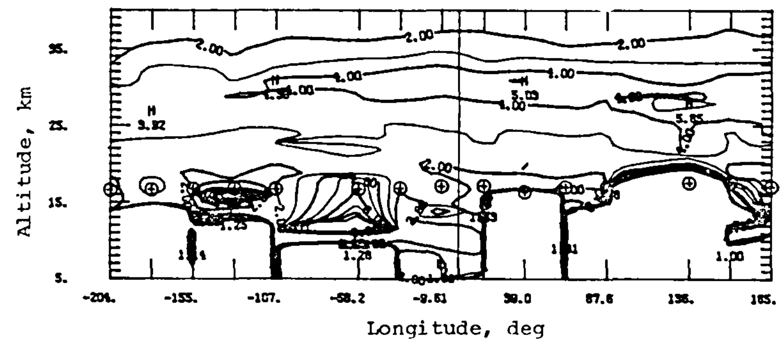


(e) Temperature (kelvin).

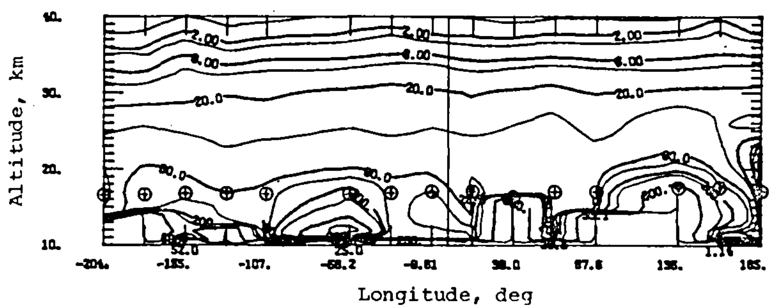
Figure 200. Extinction and temperature isopleths for sweep 2, sunset events, April 12.22–April 13.36, 1979, at 3.2°N to 4.3°S.



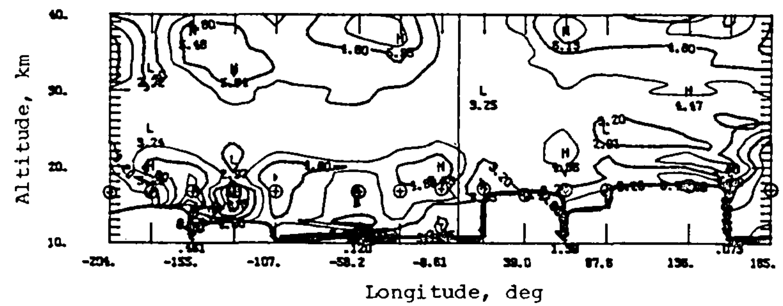
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



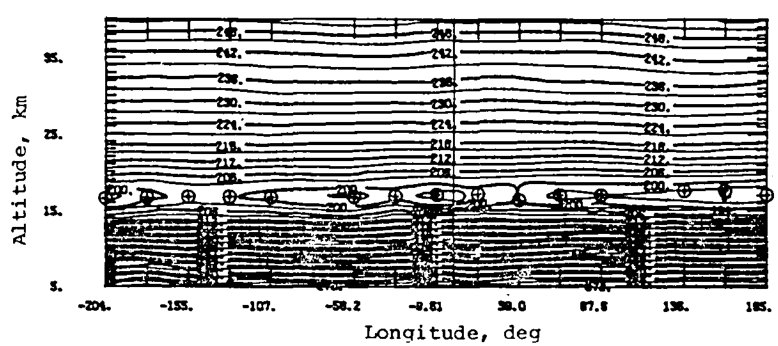
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

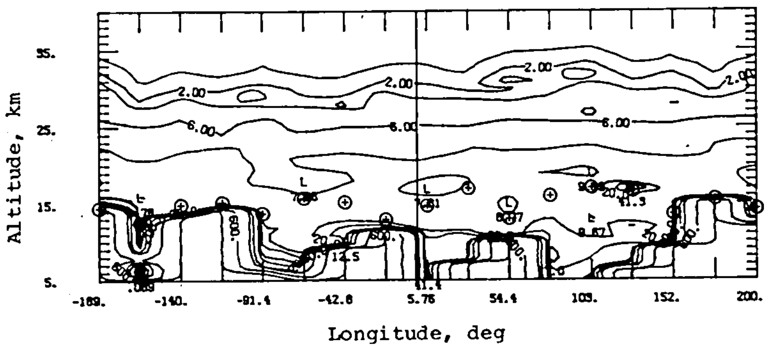


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

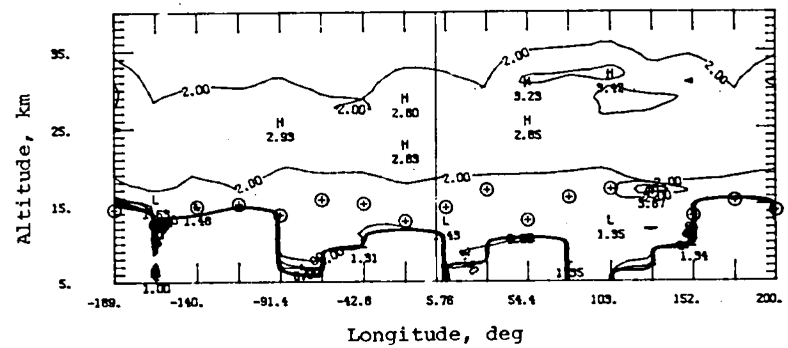


(e) Temperature (kelvin).

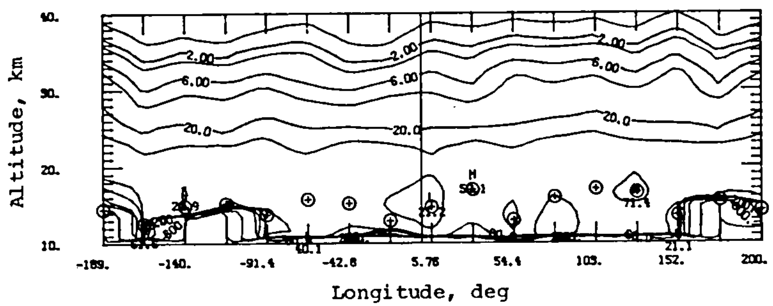
Figure 201. Extinction and temperature isopleths for sweep 2, sunset events, April 14.23–April 15.31, 1979, at 10.1°S to 17.0°S.



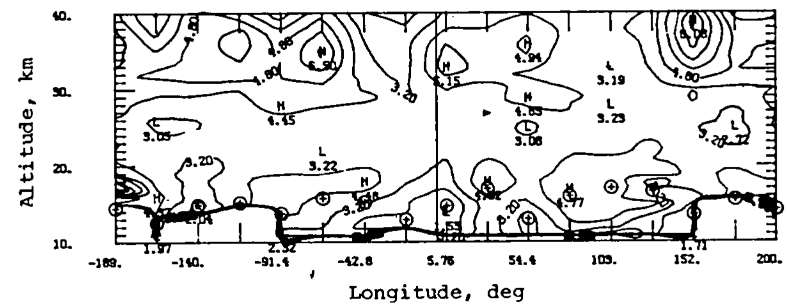
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



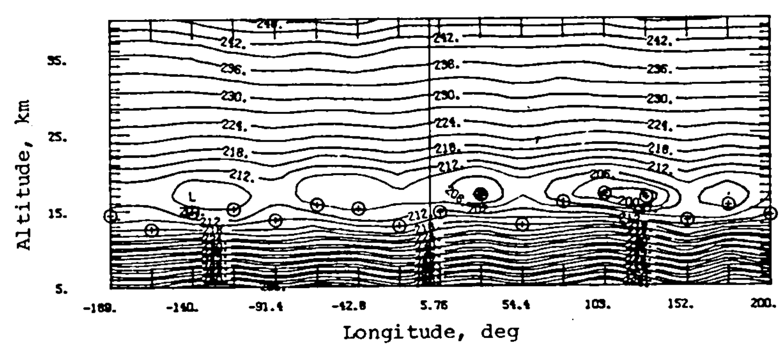
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

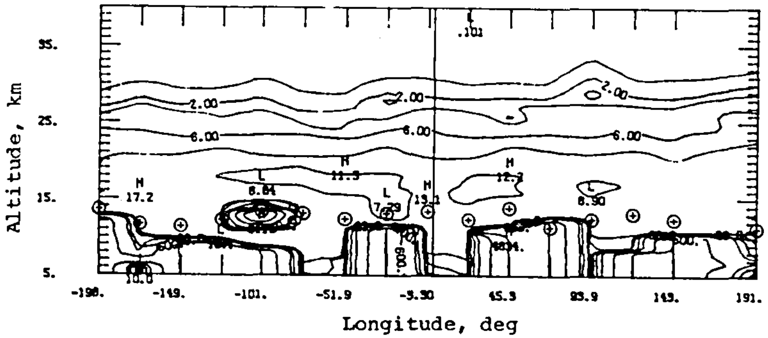


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

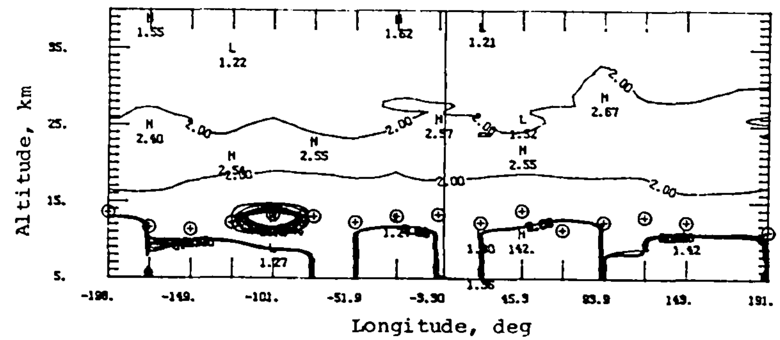


(e) Temperature (kelvin).

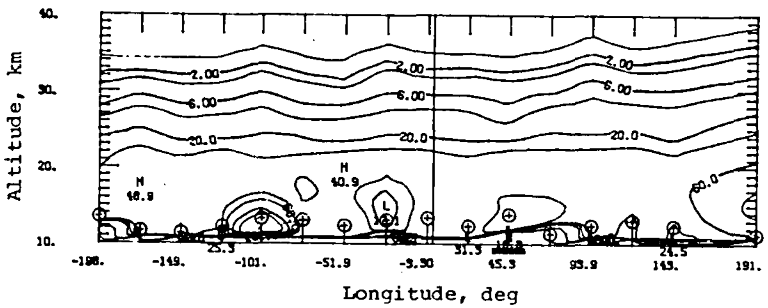
Figure 202. Extinction and temperature isopleths for sweep 2, sunset events, April 16.18–April 17.26, 1979, at 22.4°S to 28.4°S.



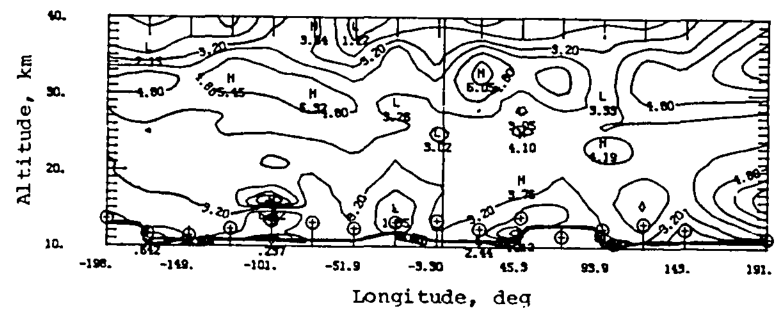
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



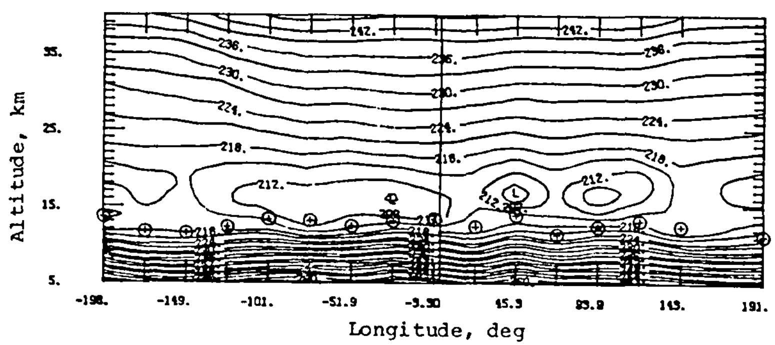
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

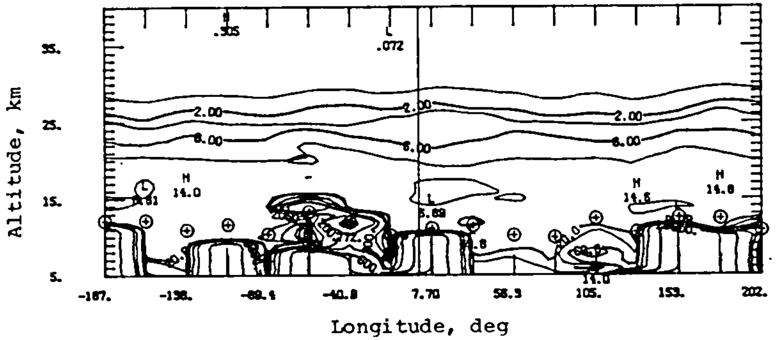


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

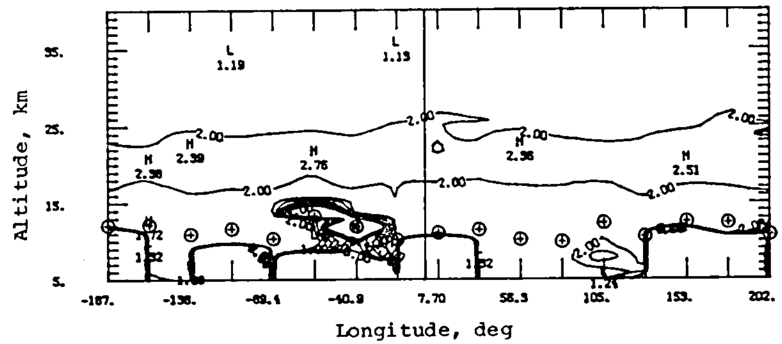


(e) Temperature (kelvin).

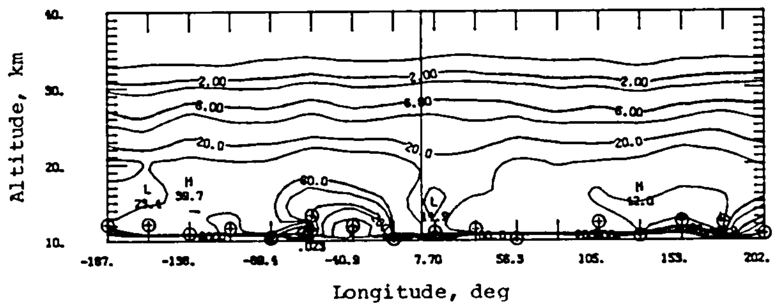
Figure 203. Extinction and temperature isopleths for sweep 2, sunset events, April 18.20–April 19.28, 1979, at 33.1°S to 37.7°S.



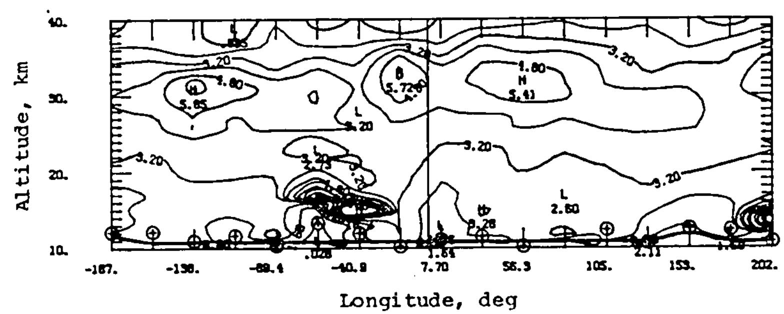
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



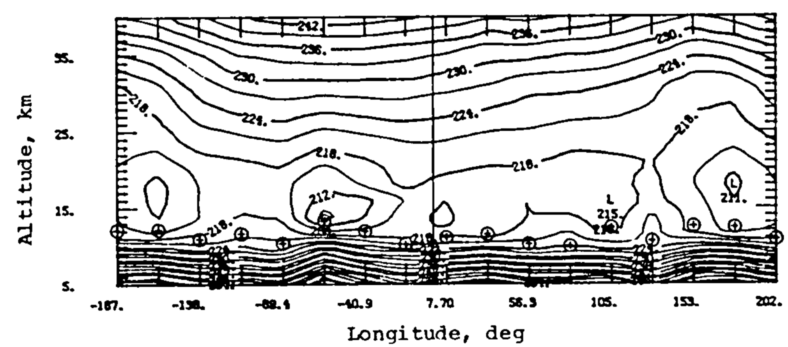
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

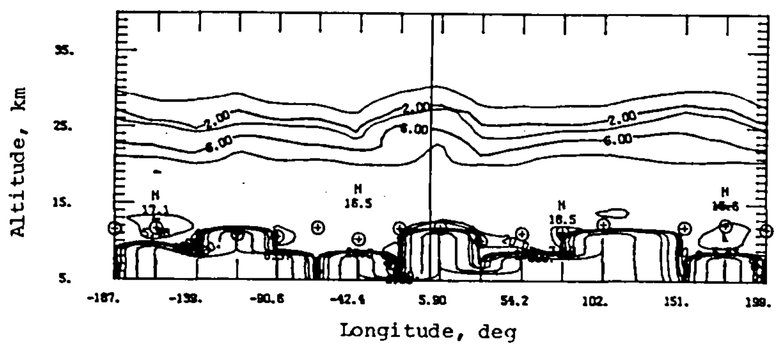


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

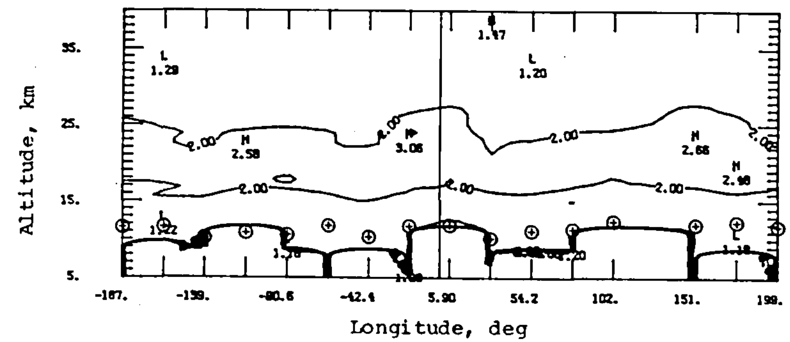


(e) Temperature (kelvin).

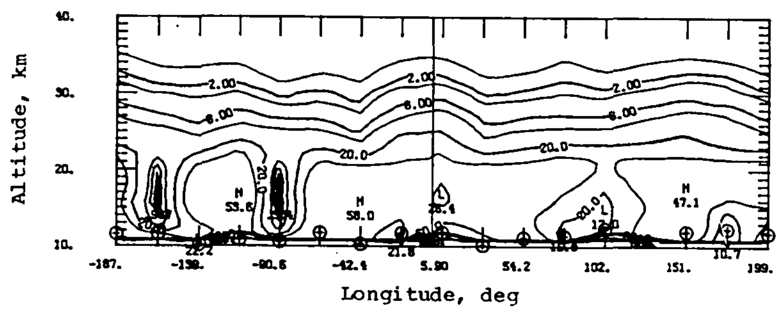
Figure 204. Extinction and temperature isopleths for sweep 2, sunset events, April 21.16–April 22.23, 1979, at 43.8°S to 46.4°S.



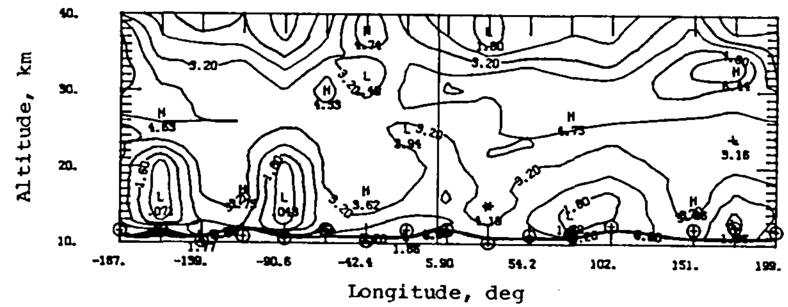
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



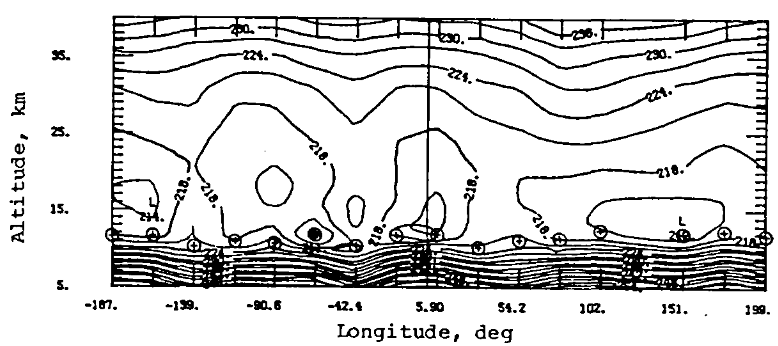
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

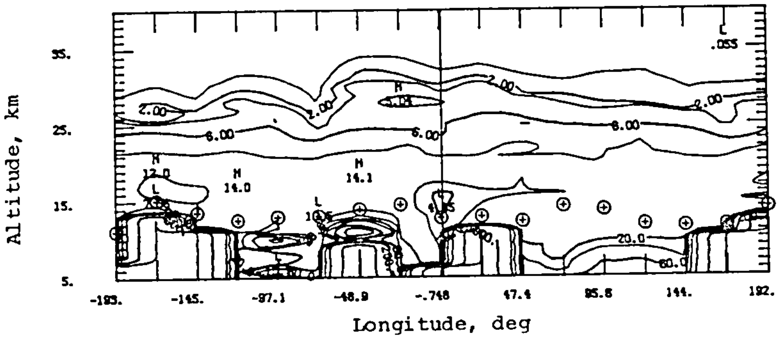


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

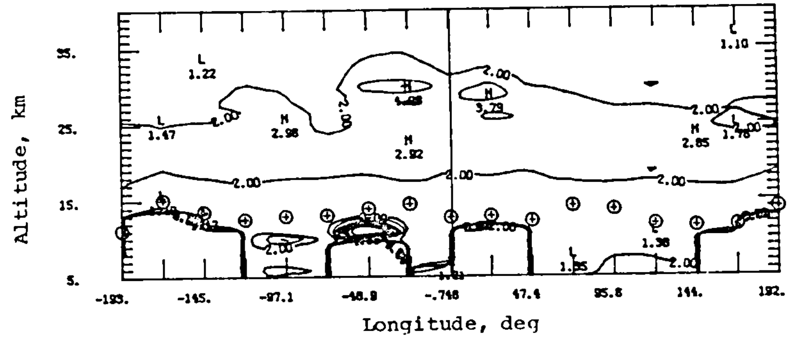


(e) Temperature (kelvin).

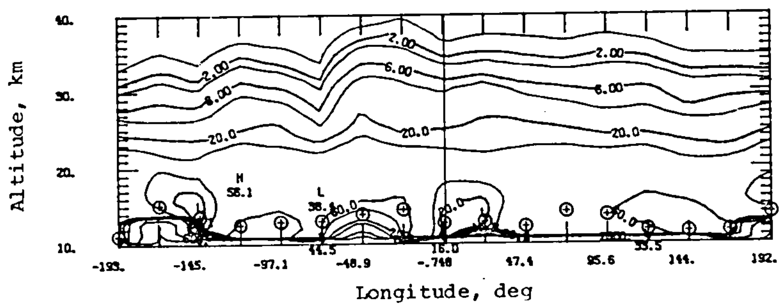
Figure 205. Extinction and temperature isopleths for sweep 3, sunset events, May 7.15–May 8.22, 1979, at 46.0°S to 44.0°S.



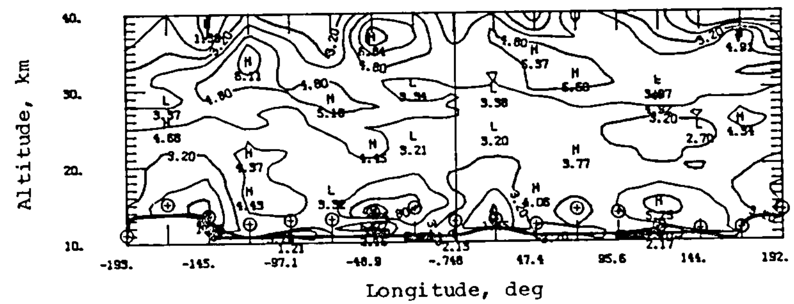
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



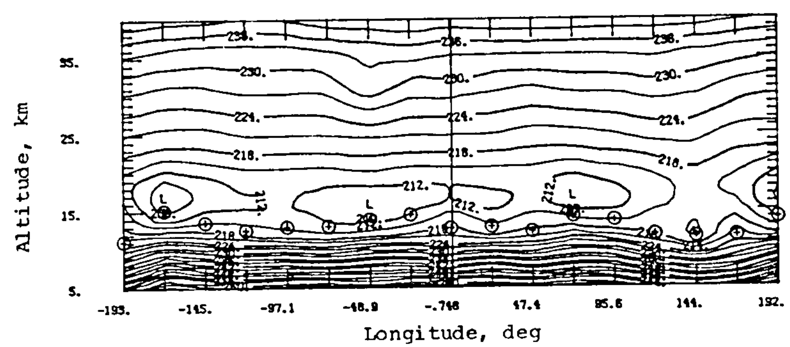
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

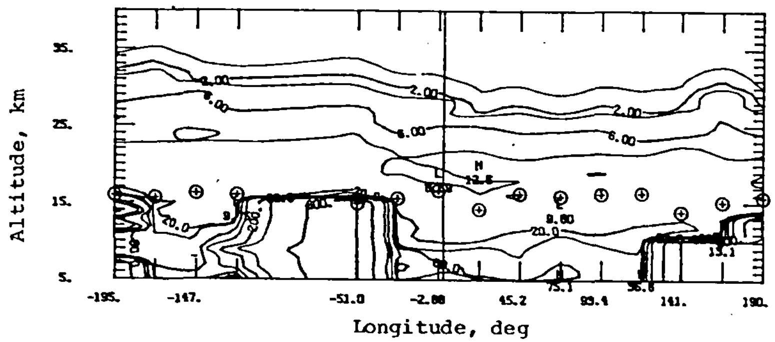


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

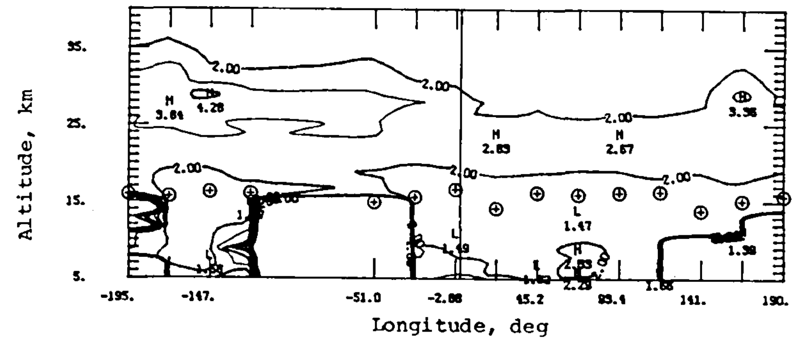


(e) Temperature (kelvin).

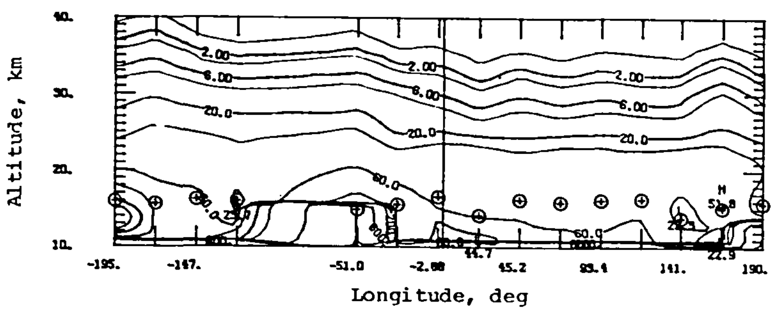
Figure 206. Extinction and temperature isopleths for sweep 3, sunset events, May 11.18–May 12.25, 1979, at 36.4°S to 32.2°S.



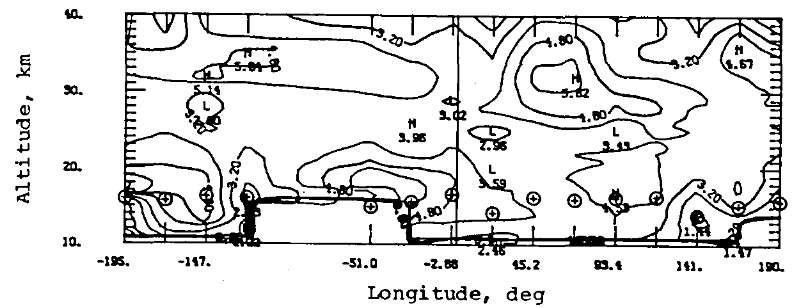
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



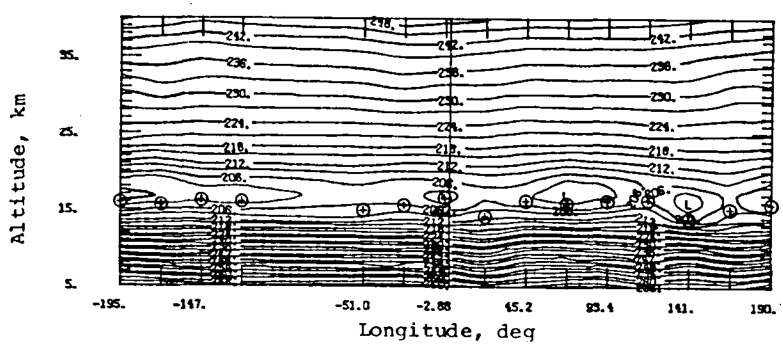
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

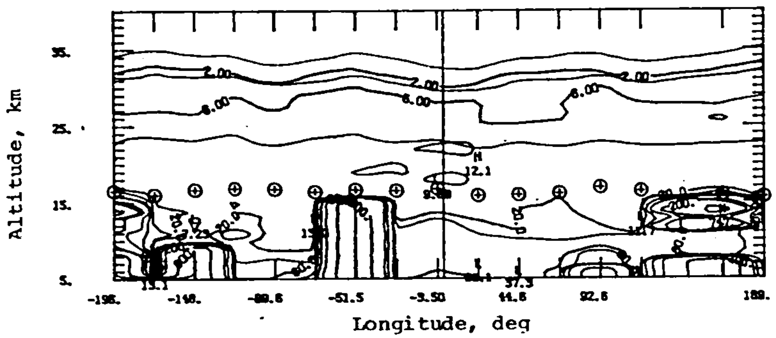


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

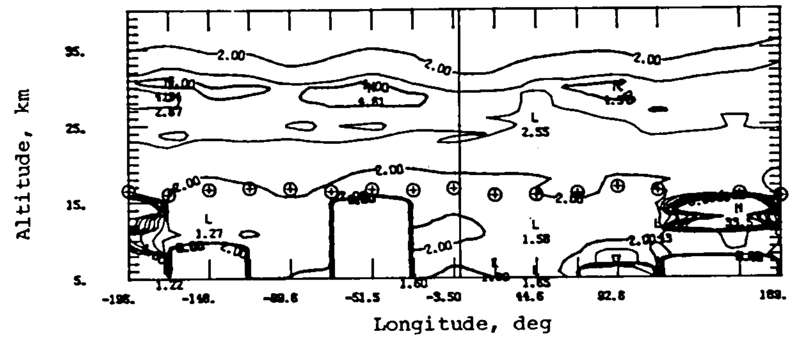


(e) Temperature (kelvin).

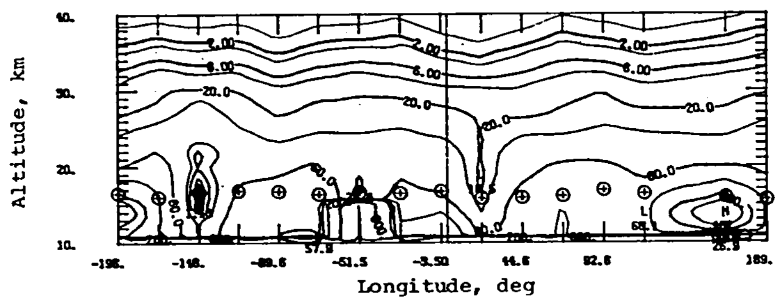
Figure 207. Extinction and temperature isopleths for sweep 3, sunset events, May 13.19–May 14.27, 1979, at 28.0°S to 21.7°S.



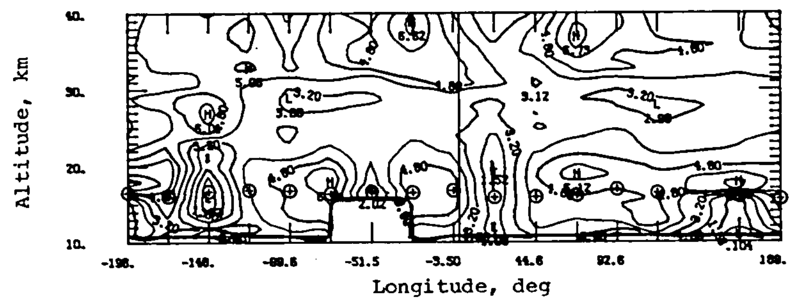
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



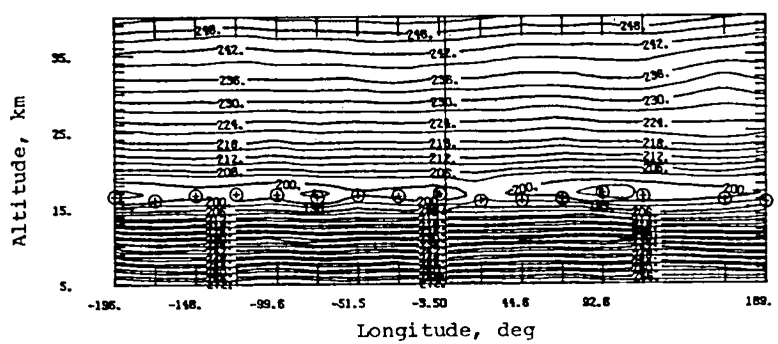
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

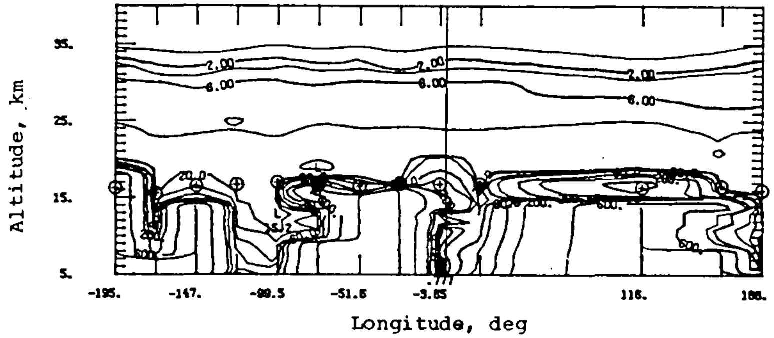


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

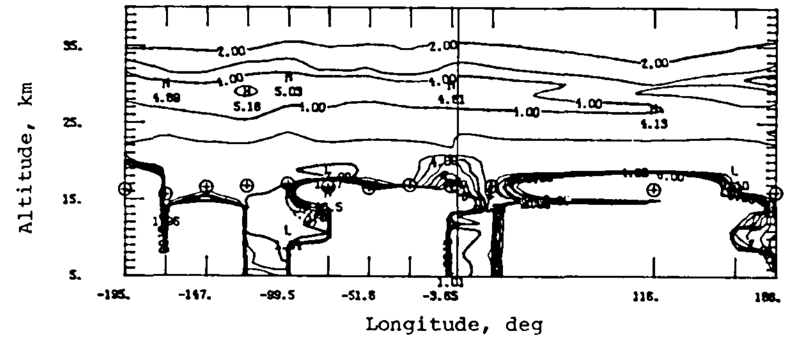


(e) Temperature (kelvin).

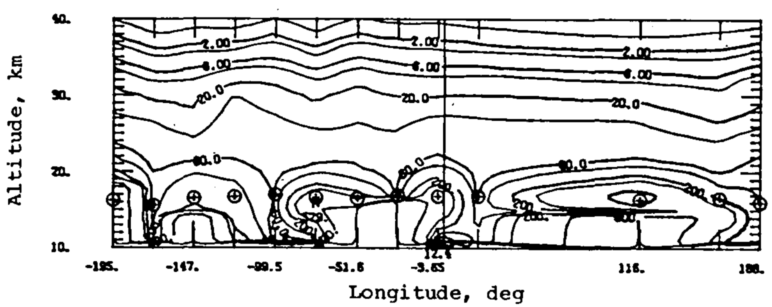
Figure 208. Extinction and temperature isopleths for sweep 3, sunset events, May 14.20–May 15.28, 1979, at 22.1°S to 14.0°S.



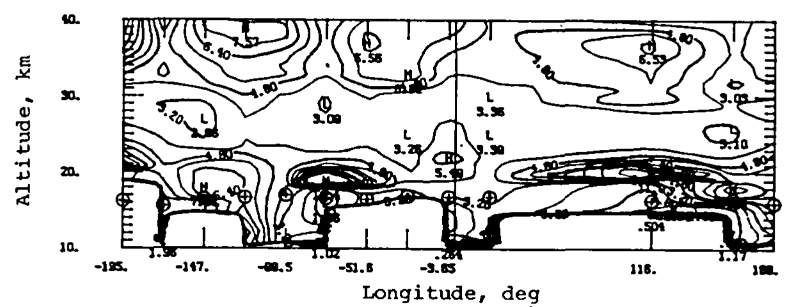
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



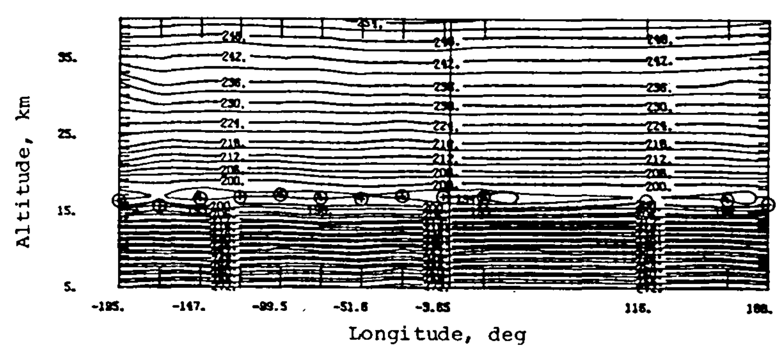
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

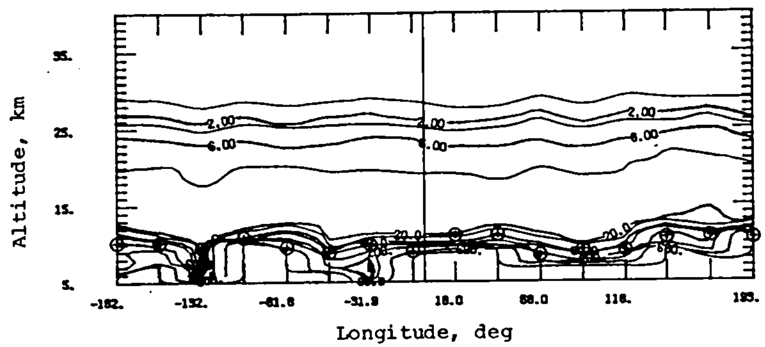


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

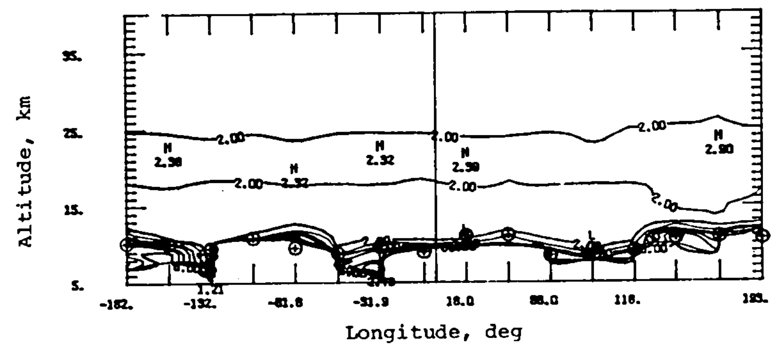


(e) Temperature (kelvin).

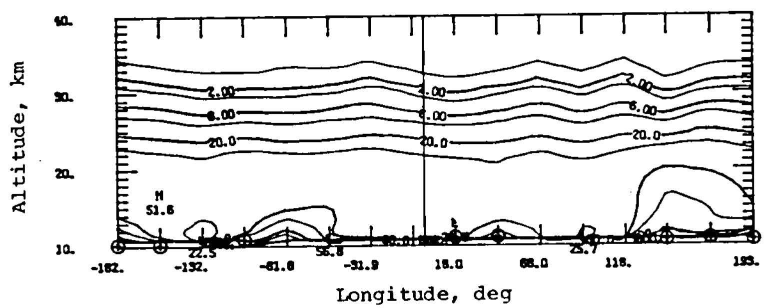
Figure 209. Extinction and temperature isopleths for sweep 3, sunset events, May 15.21–May 16.29, 1979, at 14.6°S to 3.6°S.



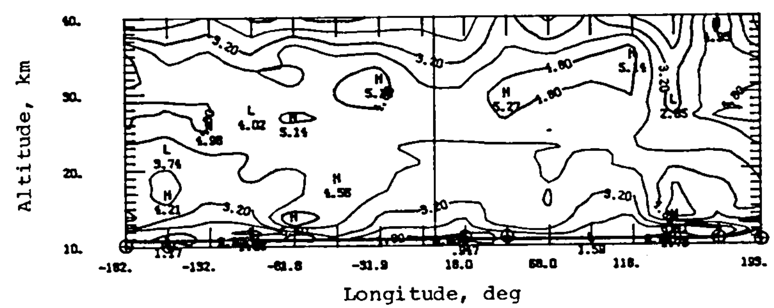
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



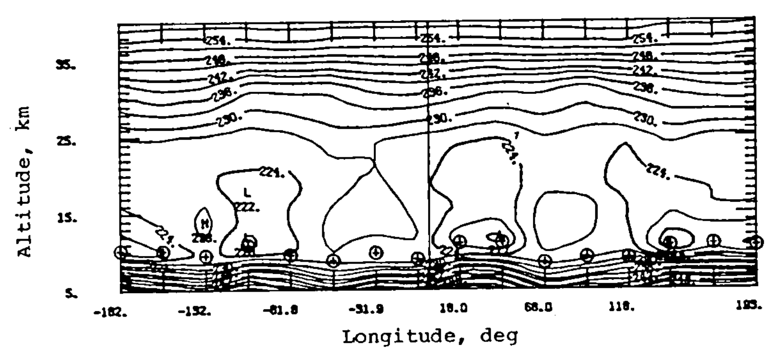
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

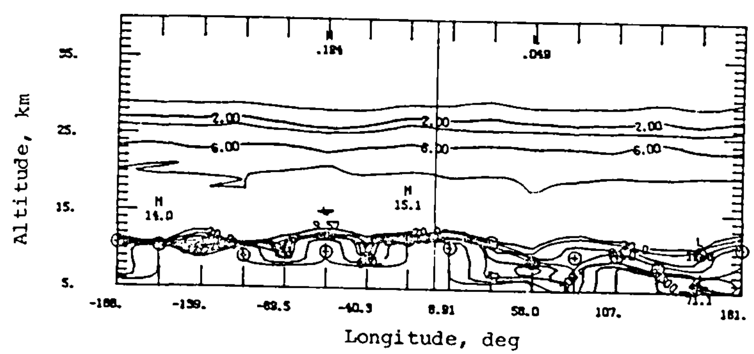


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

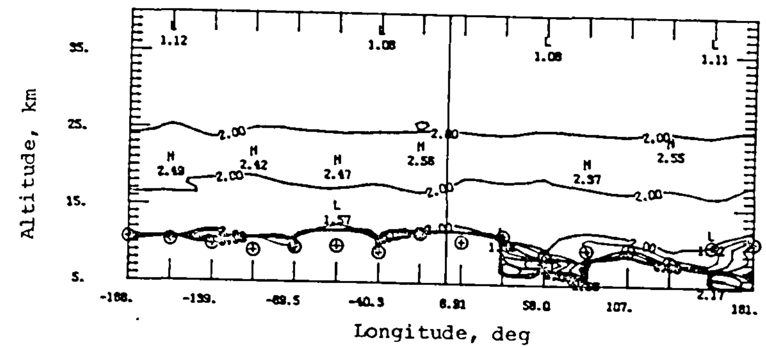


(e) Temperature (kelvin).

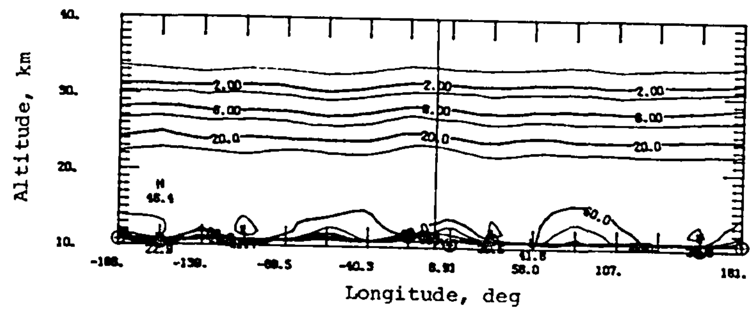
Figure 210. Extinction and temperature isopleths for sweep 3, sunset events, May 28.53–May 29.54, 1979, at 66.5°N to 67.8°N.



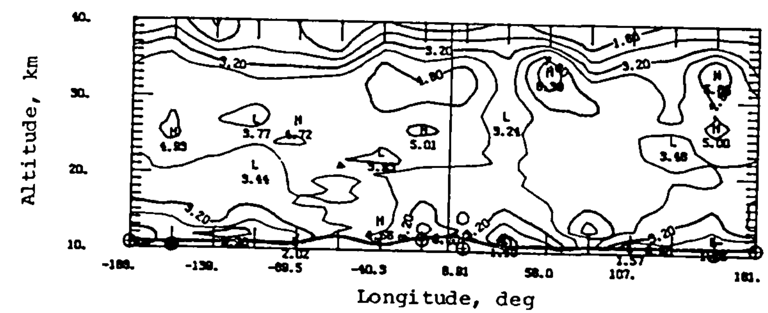
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



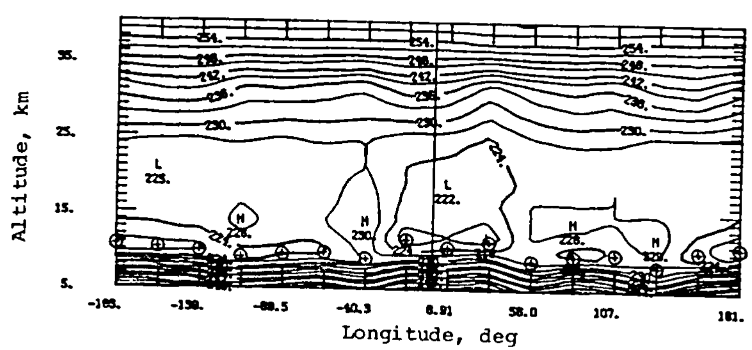
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

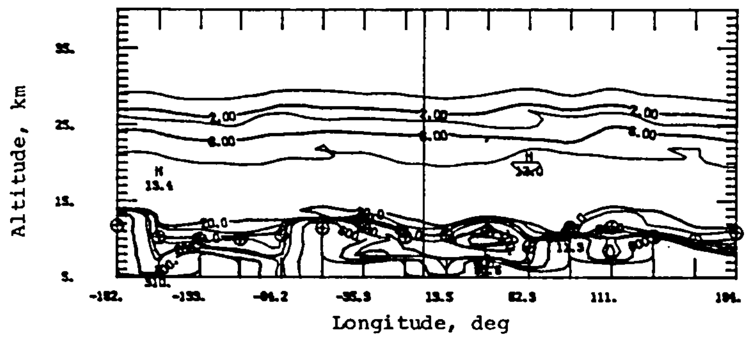


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

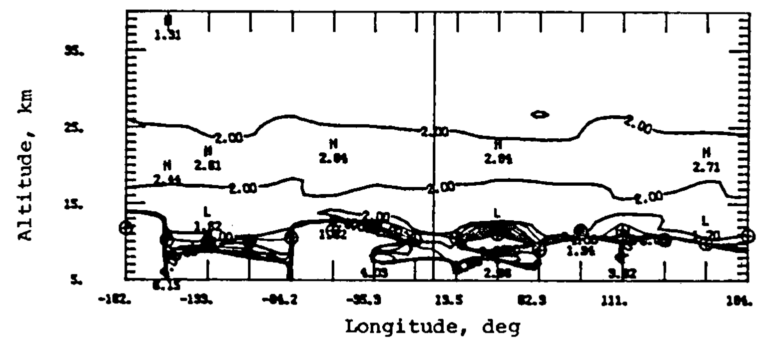


(e) Temperature (kelvin).

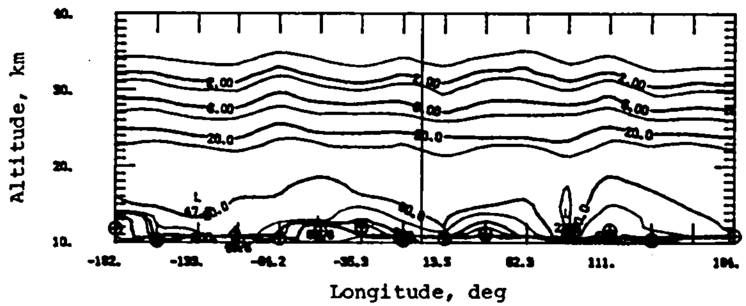
Figure 211. Extinction and temperature isopleths for sweep 4, sunset events, June 2.43–June 3.44, 1979, at 66.0°N to 64.7°N.



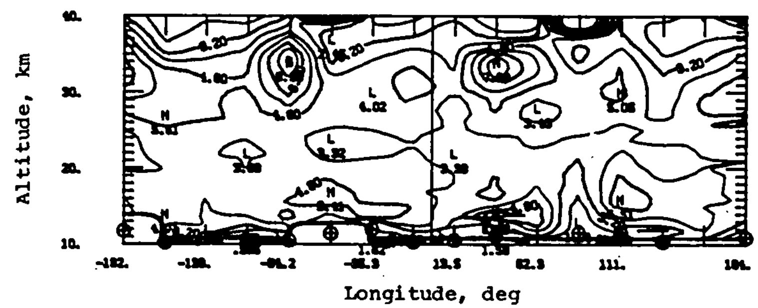
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



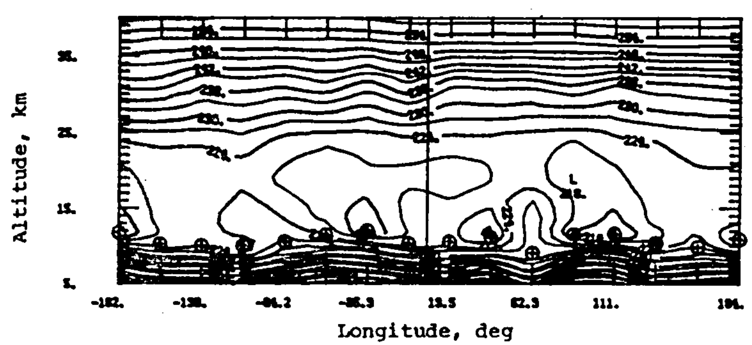
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

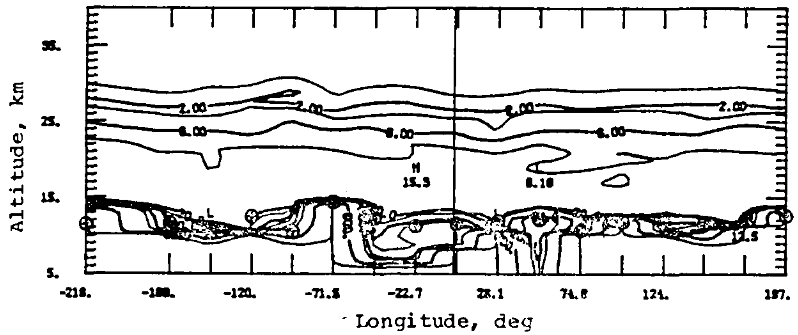


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

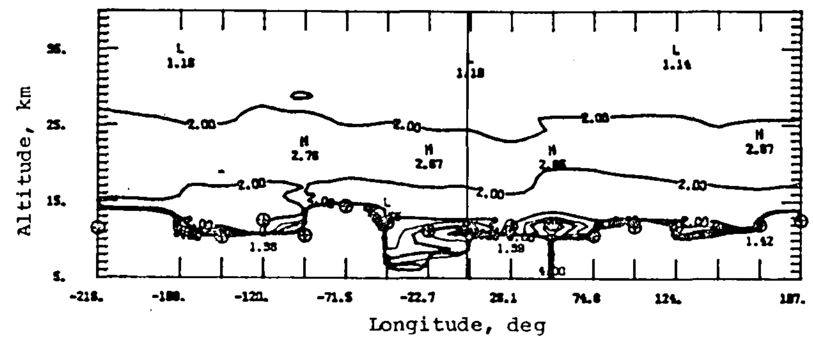


(e) Temperature (kelvin).

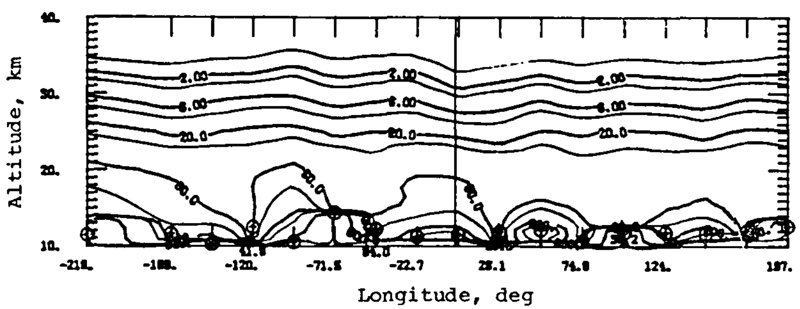
Figure 212. Extinction and temperature isopleths for sweep 4, sunset events, June 8.34–June 9.35, 1979, at 55.1°N to 52.6°N.



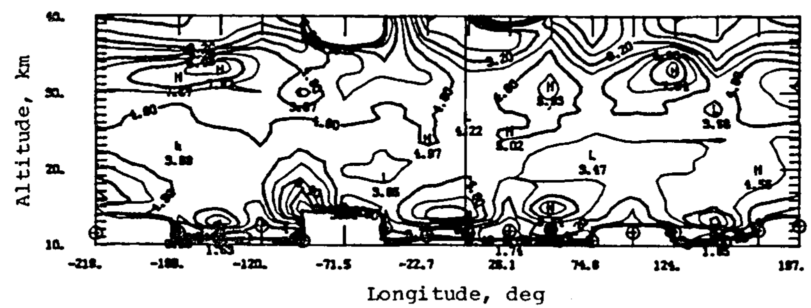
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



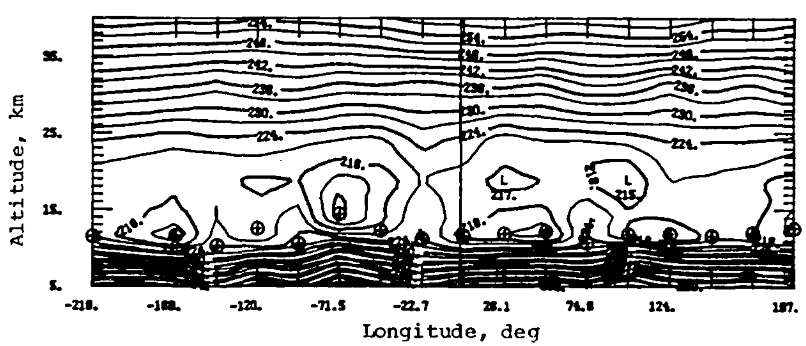
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

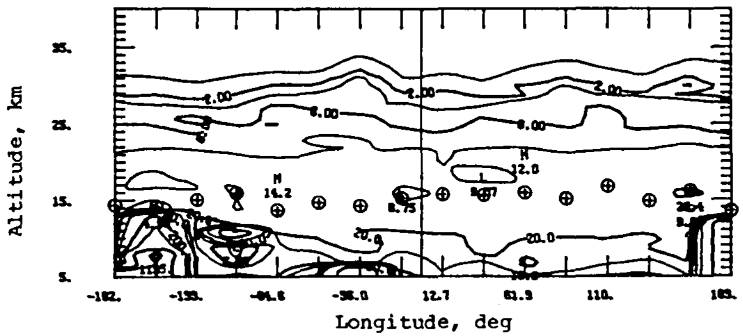


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

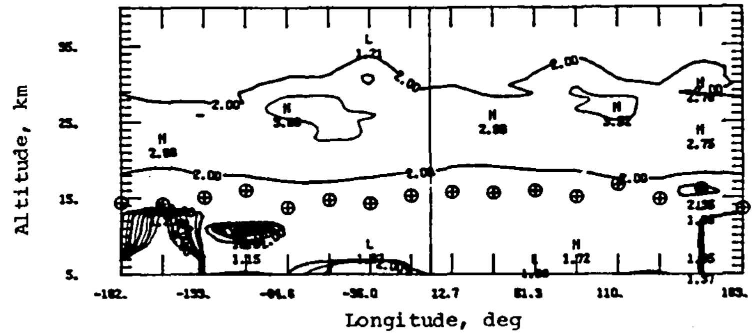


(e) Temperature (kelvin).

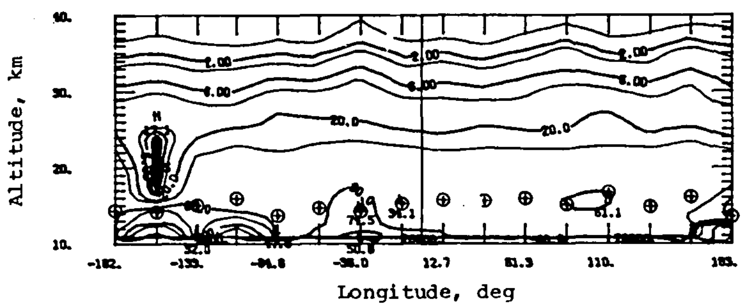
Figure 213. Extinction and temperature isopleths for sweep 4, sunset events, June 10.29–June 11.43, 1979, at 50.1°N to 46.8°N.



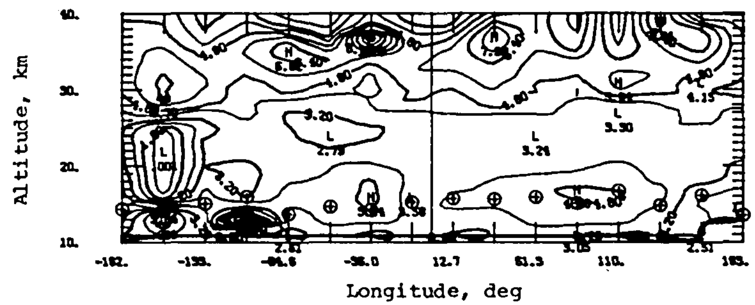
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



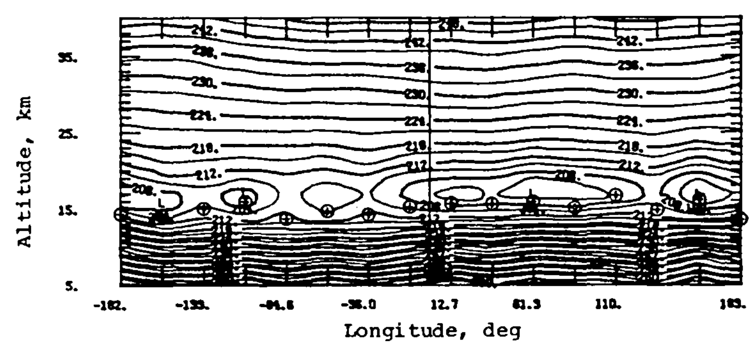
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

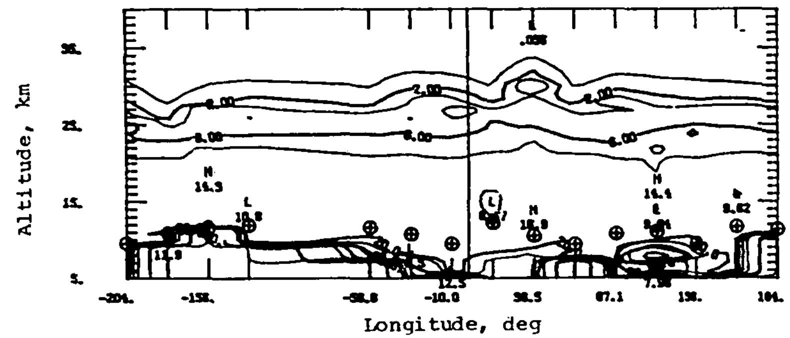


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

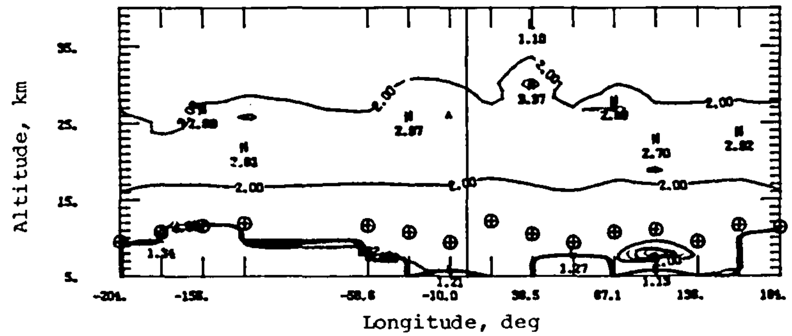


(e) Temperature (kelvin).

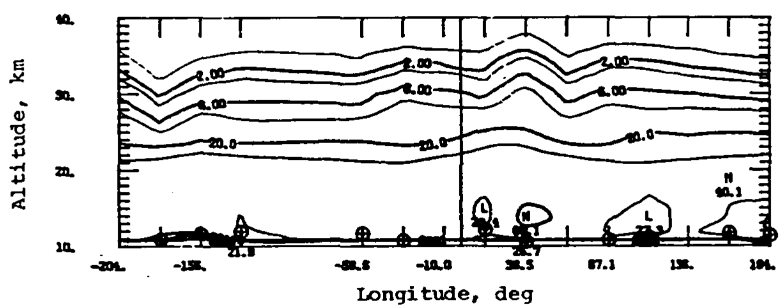
Figure 214. Extinction and temperature isopleths for sweep 4, sunset events, June 27.22–June 28.23, 1979, at 20.9°S to 25.0°S.



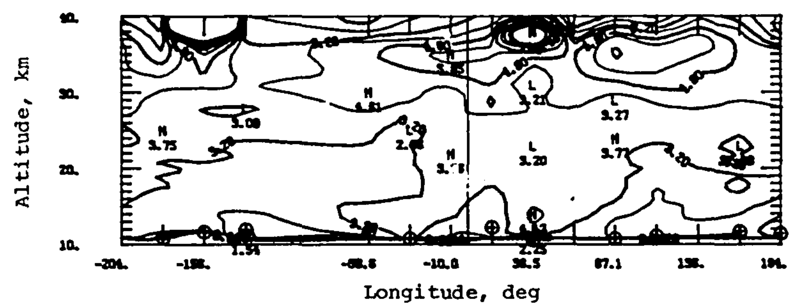
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



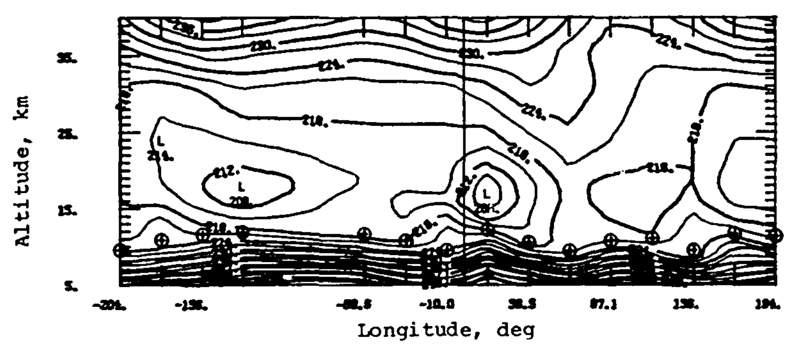
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

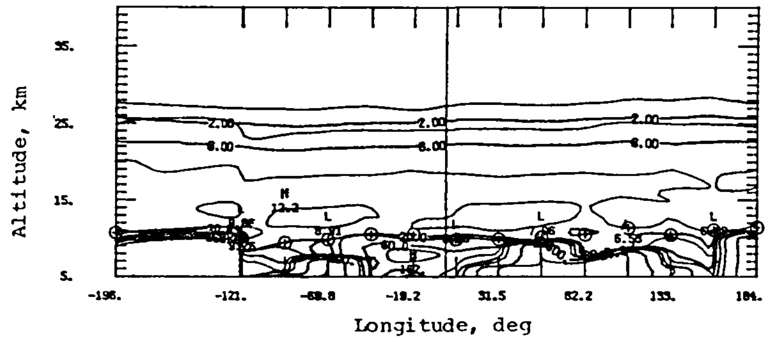


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

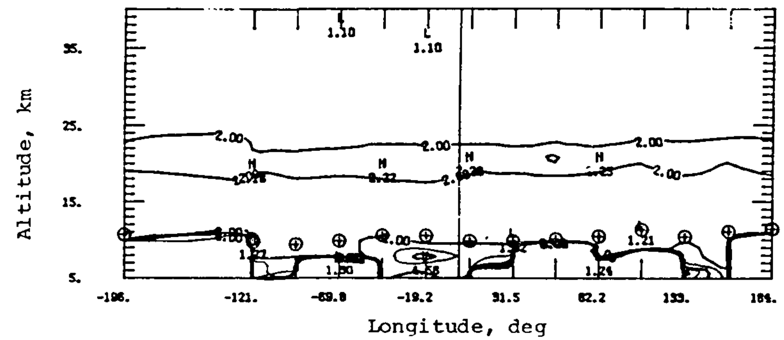


(e) Temperature (kelvin).

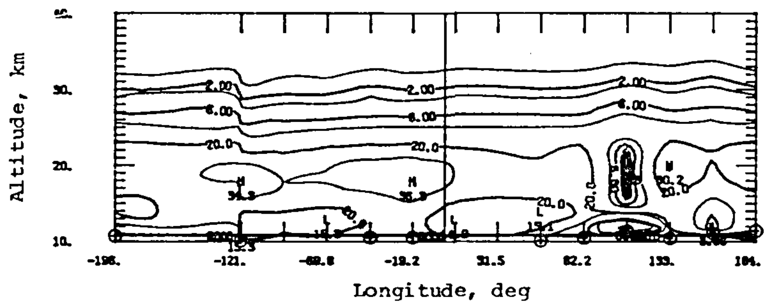
Figure 215. Extinction and temperature isopleths for sweep 4, sunset events, July 2.19–July 3.26, 1979, at 37.2°S to 39.5°S.



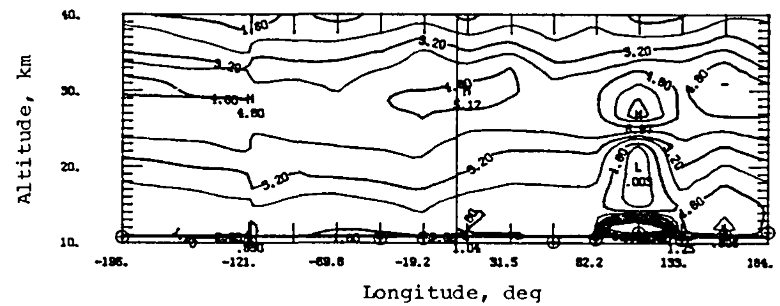
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



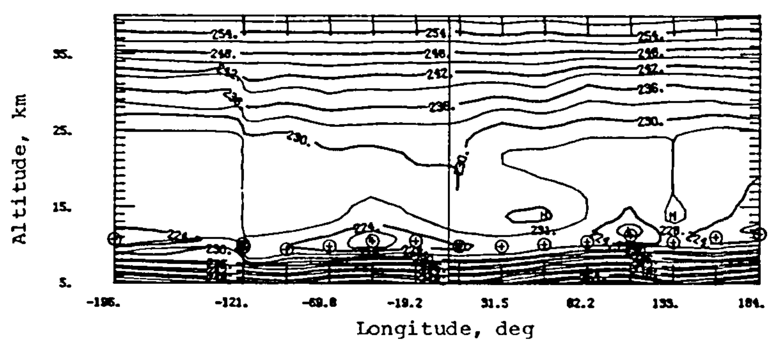
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

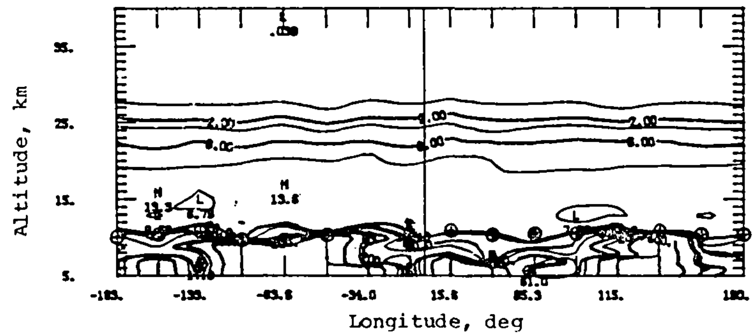


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

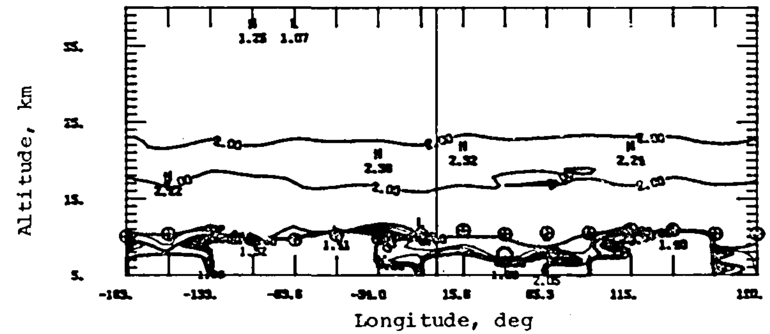


(e) Temperature (kelvin).

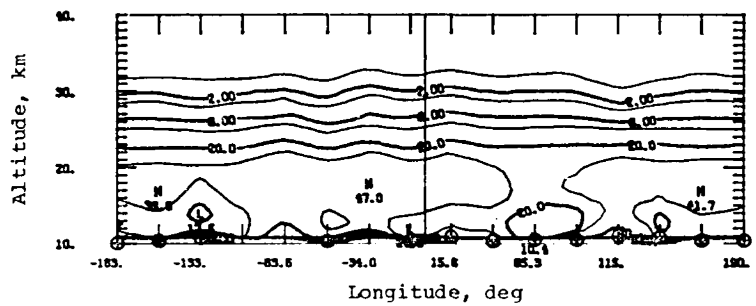
Figure 216. Extinction and temperature isopleths for sweep 5, sunset events, August 4.59–August 5.60, 1979, at 68.9°N to 72.0°N.



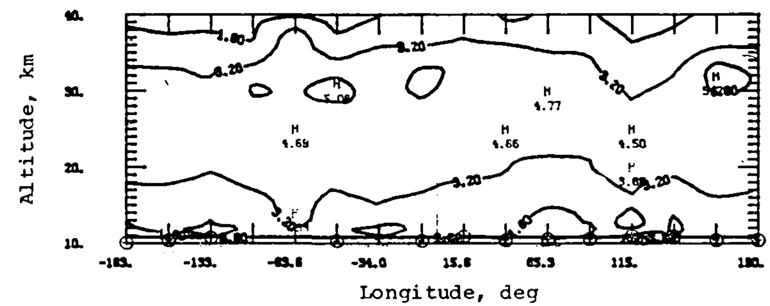
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



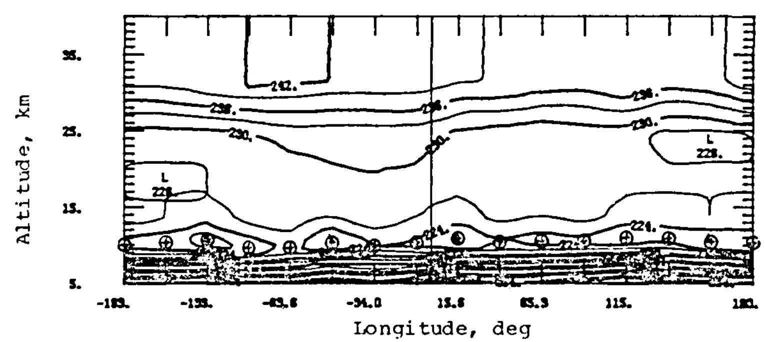
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

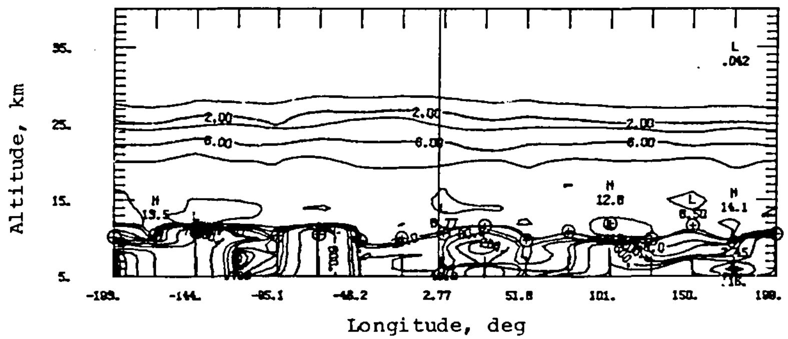


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

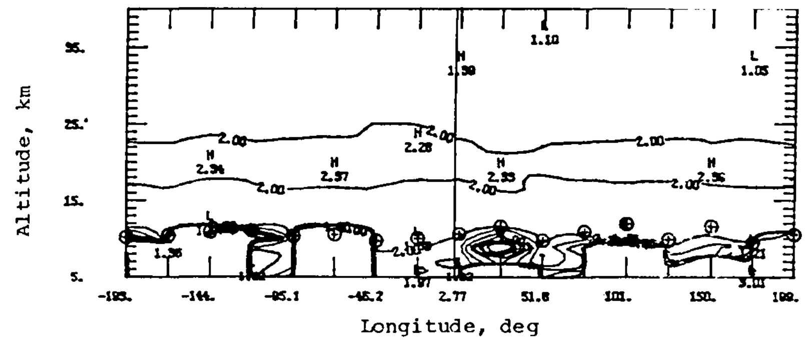


(e) Temperature (kelvin).

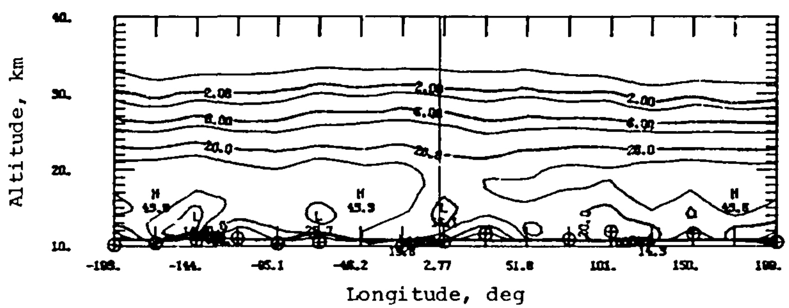
Figure 217. Extinction and temperature isopleths for sweep 6, sunset events, August 8.42–August 9.42, 1979, at 72.4°N to 71.3°N.



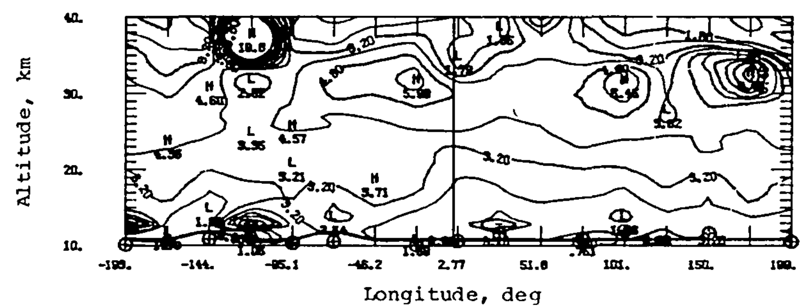
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



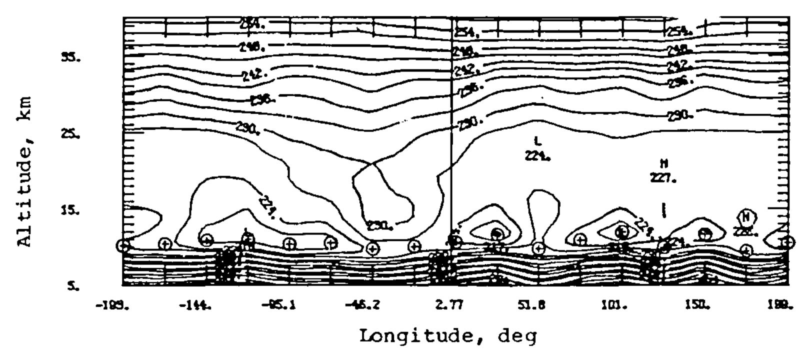
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

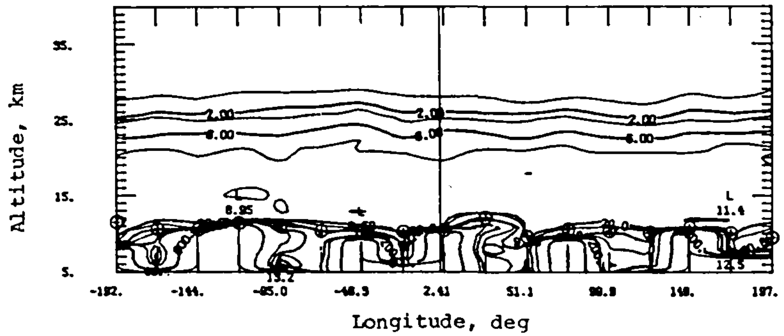


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

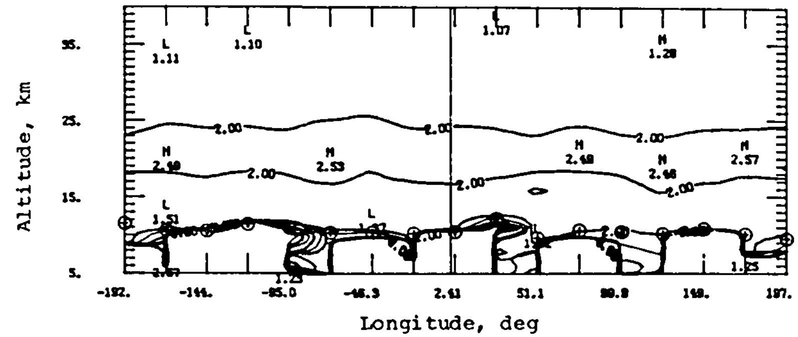


(e) Temperature (kelvin).

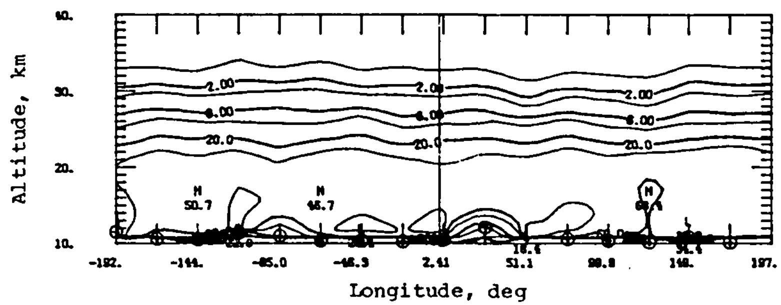
Figure 218. Extinction and temperature isopleths for sweep 6, sunset events, August 12.31–August 13.38, 1979, at 66.6°N to 64.5°N.



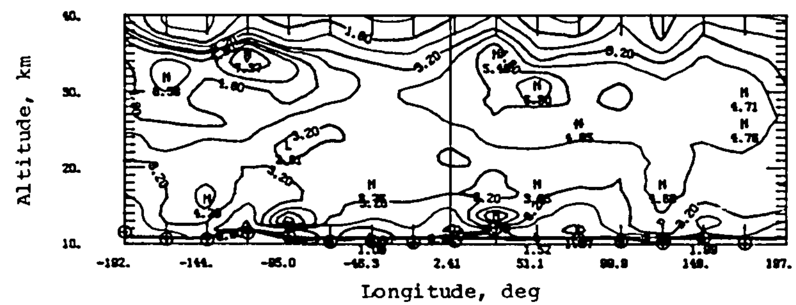
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



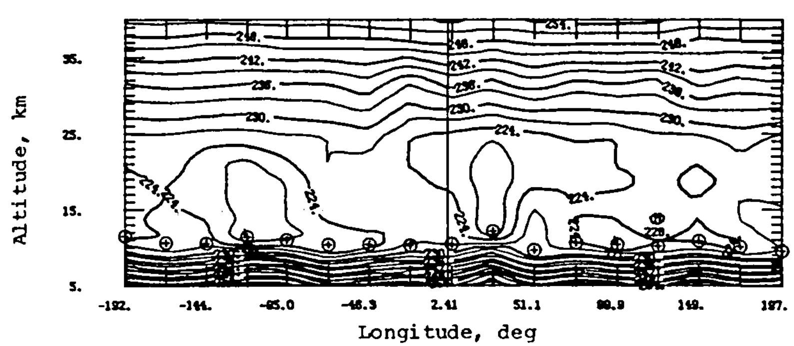
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

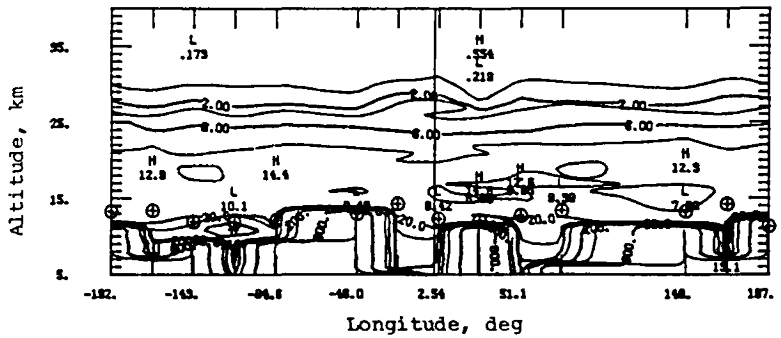


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

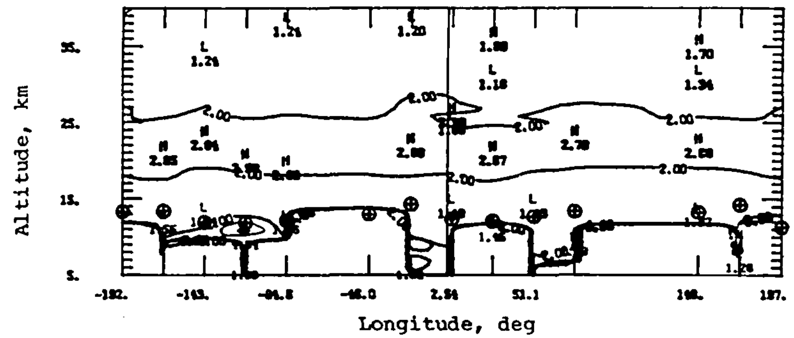


(e) Temperature (kelvin).

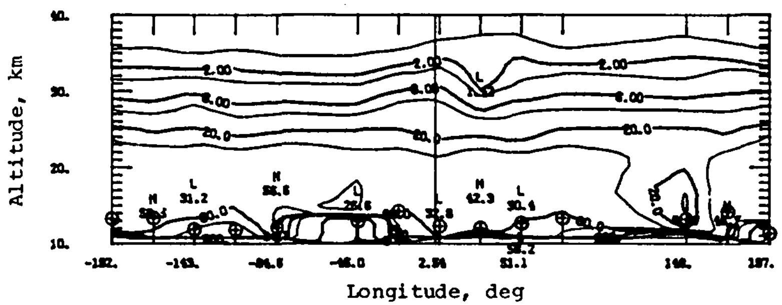
Figure 219. Extinction and temperature isopleths for sweep 6, sunset events, August 16.27–August 17.35, 1979, at 58.1°N to 55.5°N.



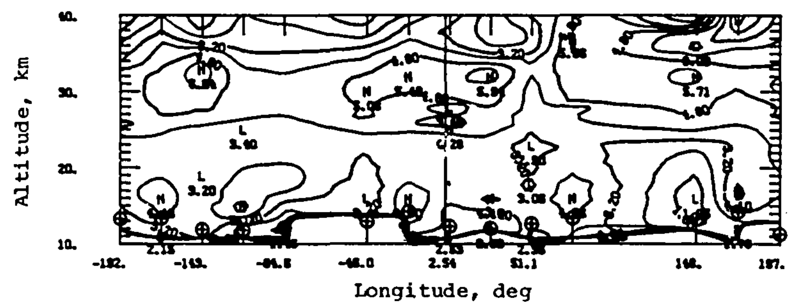
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



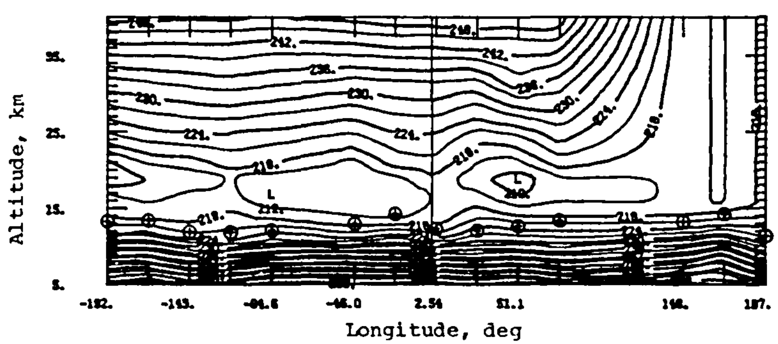
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

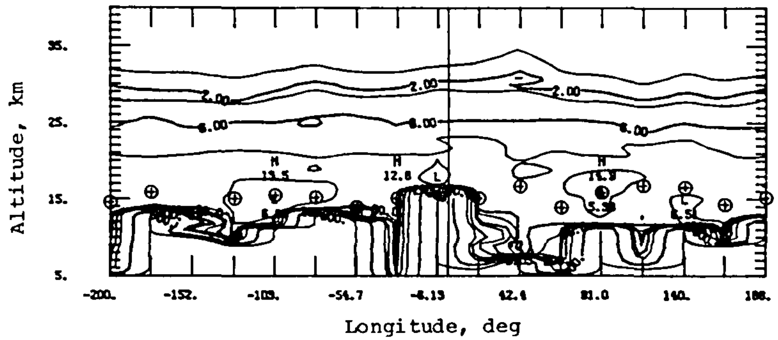


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

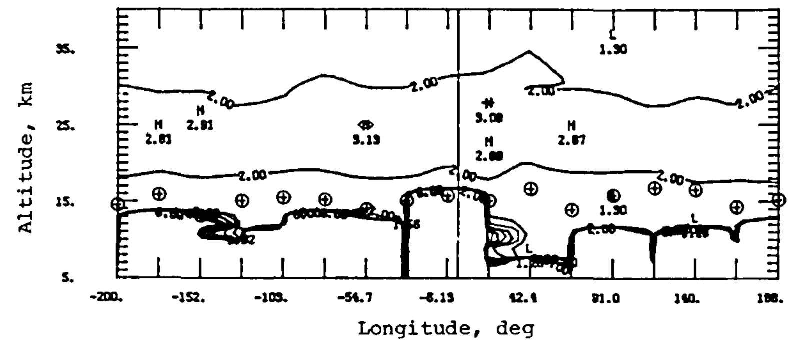


(e) Temperature (kelvin).

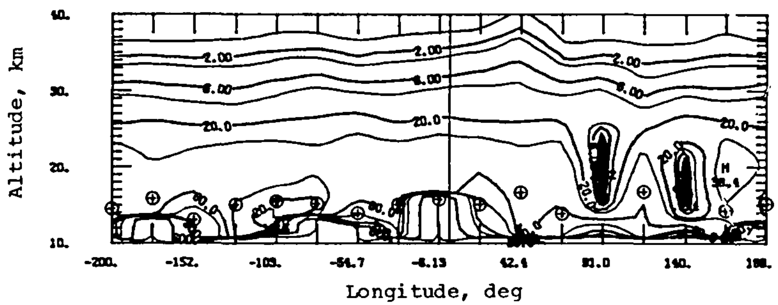
Figure 220. Extinction and temperature isopleths for sweep 6, sunset events, August 21.24–August 22.31, 1979, at 44.1°N to 40.3°N.



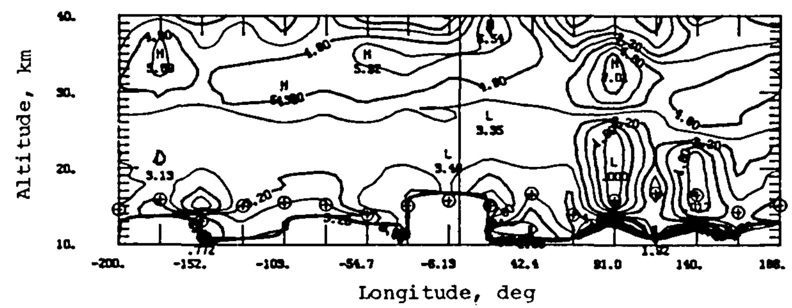
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



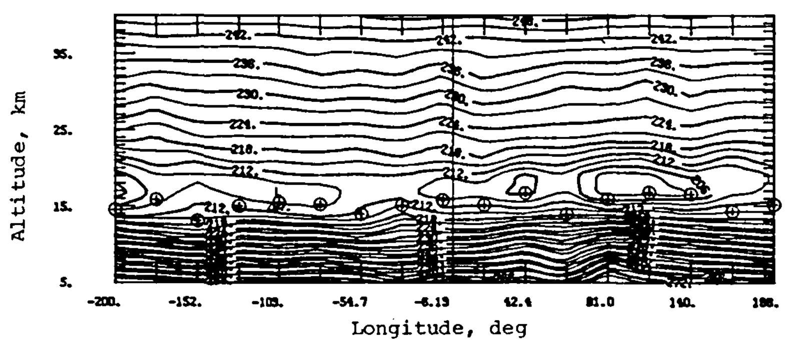
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

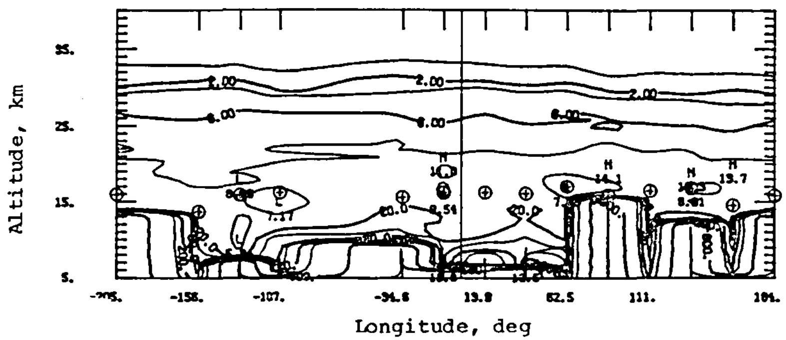


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

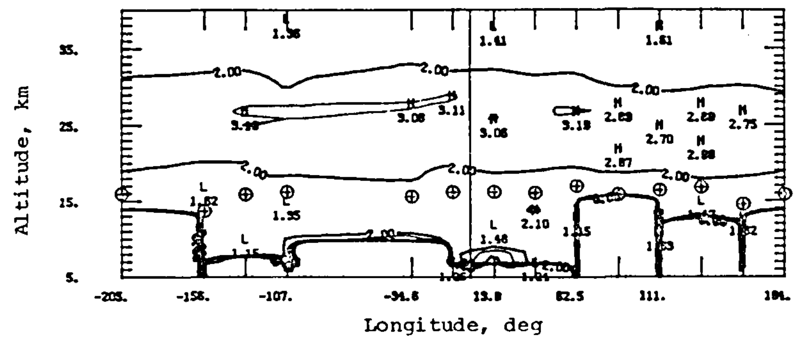


(e) Temperature (kelvin).

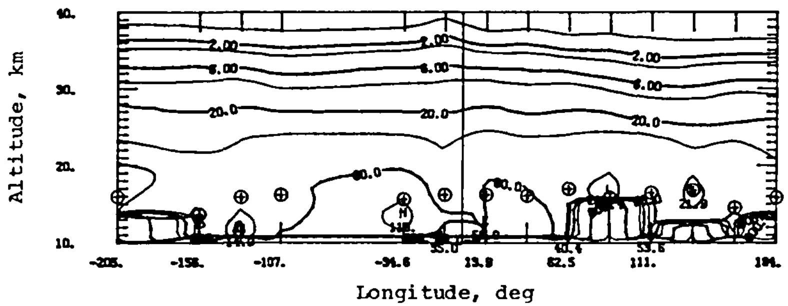
Figure 221. Extinction and temperature isopleths for sweep 6, sunset events, August 23.26–August 24.33, 1979 at 36.8°N to 32.4°N.



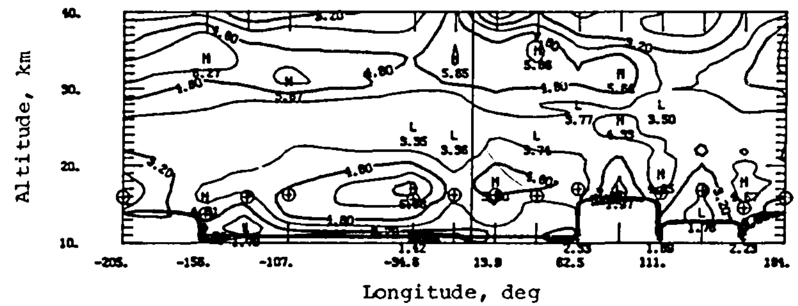
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



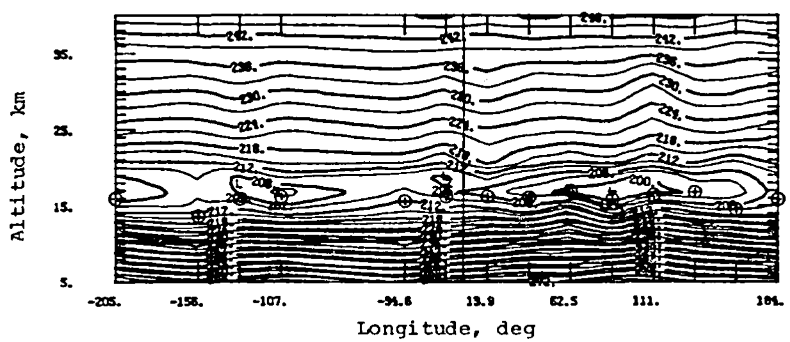
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

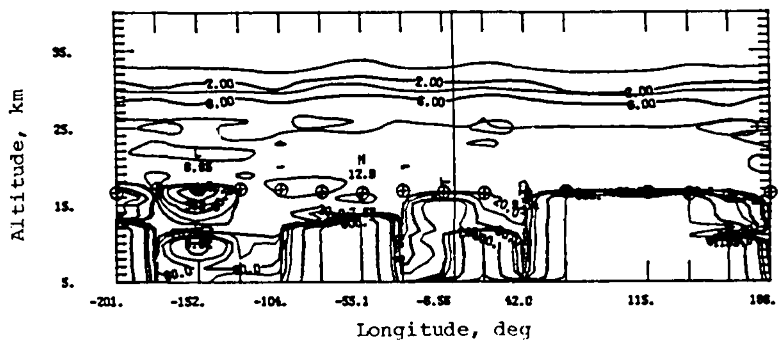


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

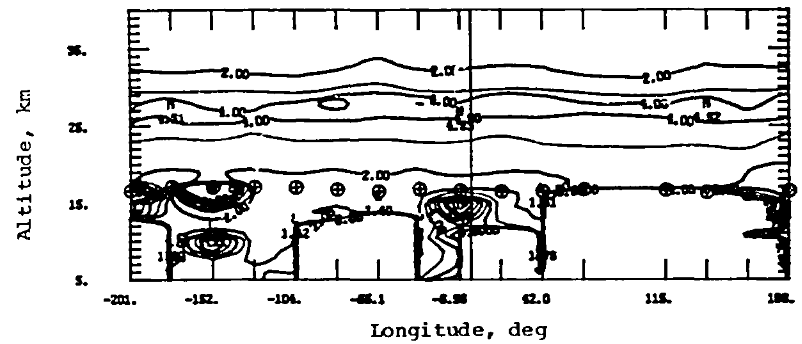


(e) Temperature (kelvin).

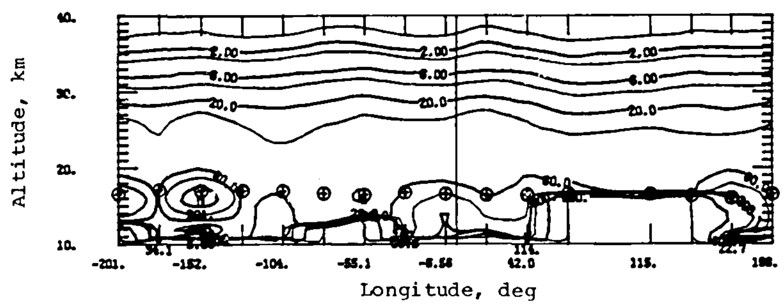
Figure 222. Extinction and temperature isopleths for sweep 6, sunset events, August 24.26–August 25.34, 1979, at 32.6°N to 27.8°N.



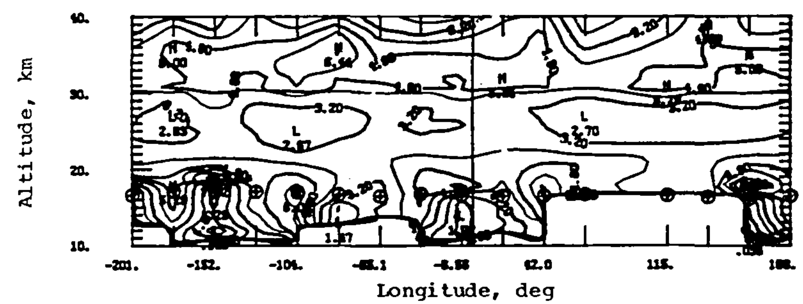
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



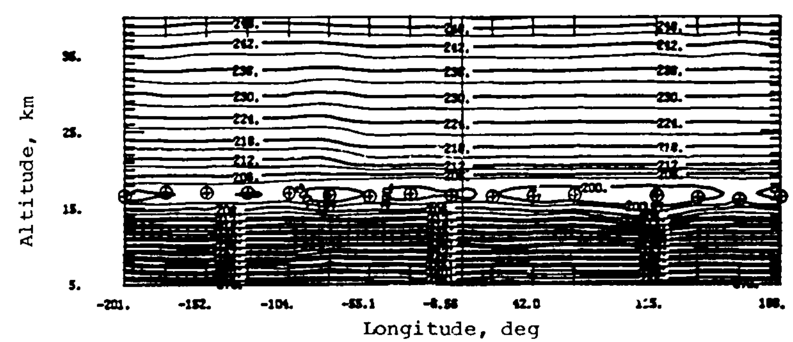
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

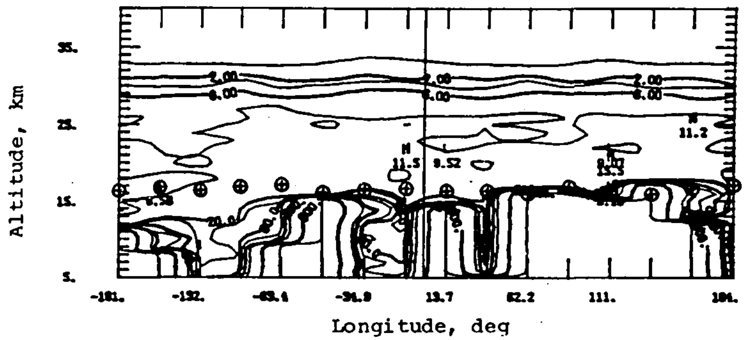


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

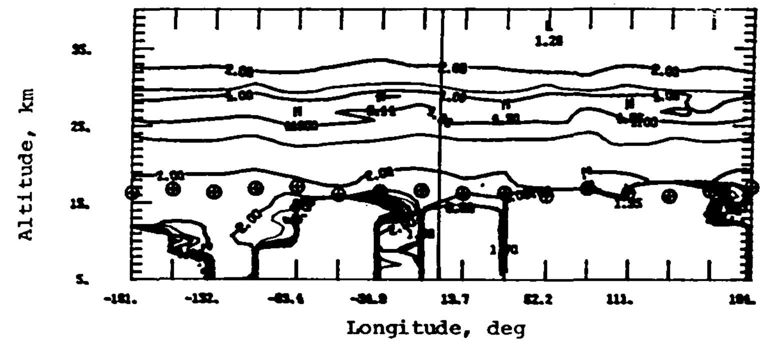


(e) Temperature (kelvin).

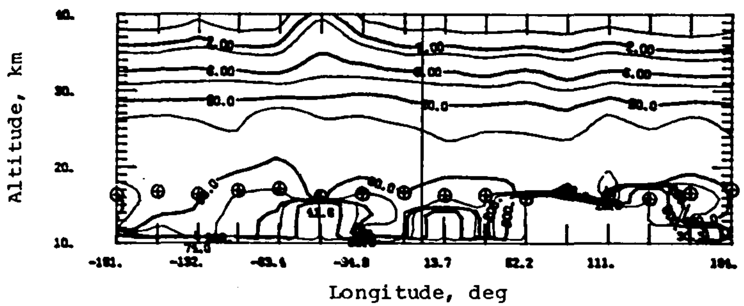
Figure 223. Extinction and temperature isopleths for sweep 6, sunset events, August 29.23–August 30.31, 1979, at 6.3°N to 0.8°S.



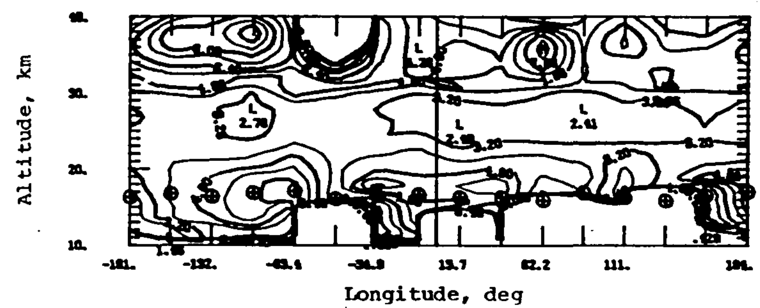
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



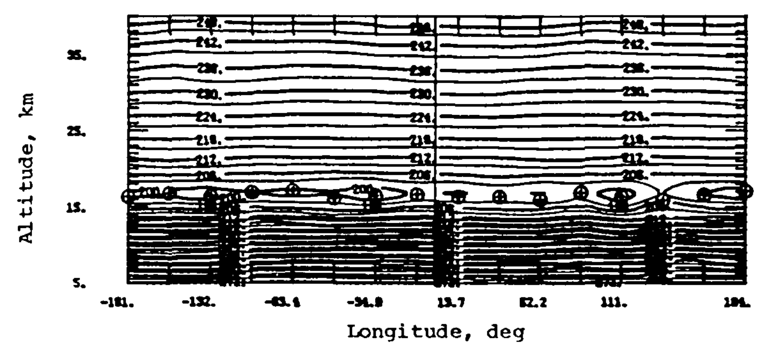
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

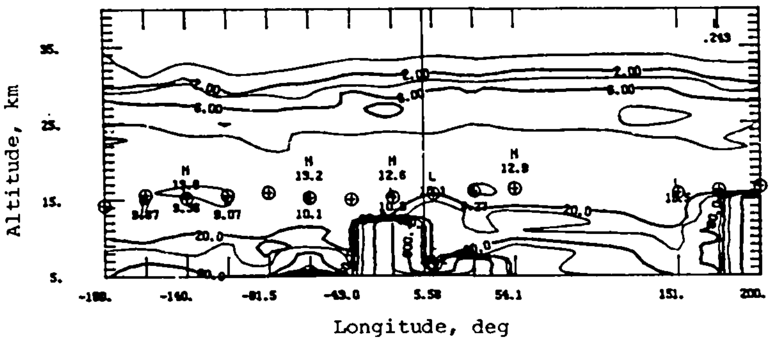


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

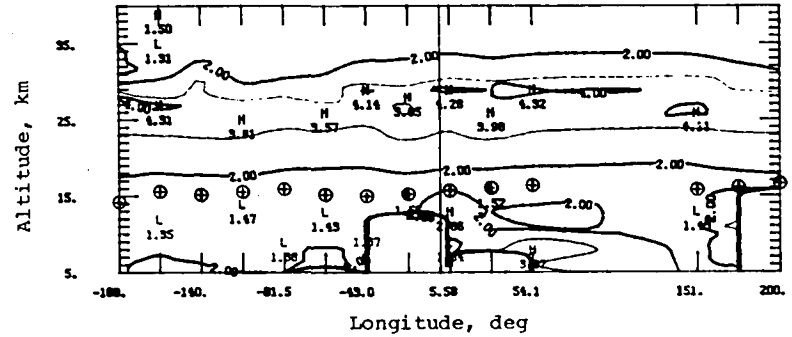


(e) Temperature (kelvin).

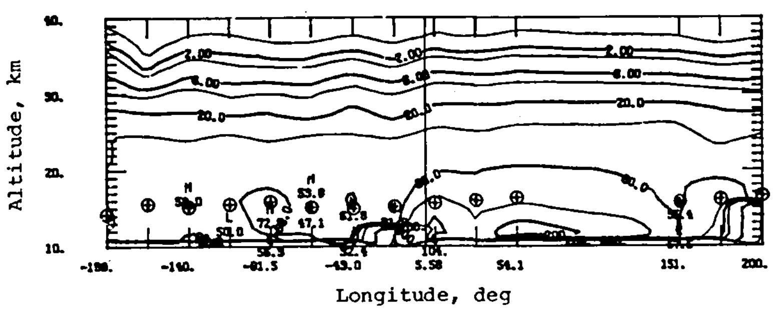
Figure 224. Extinction and temperature isopleths for sweep 6, sunset events, August 30.24–August 31.25, 1979, at 0.3°S to 7.3°S.



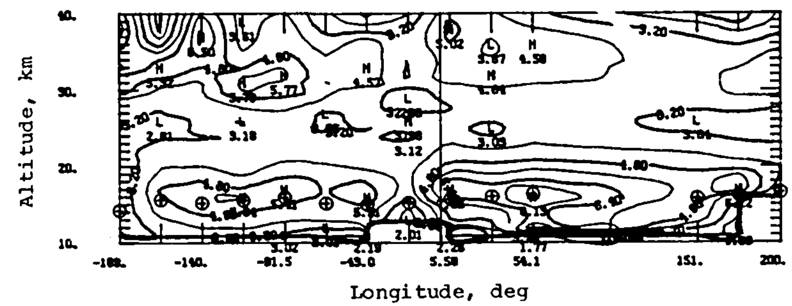
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



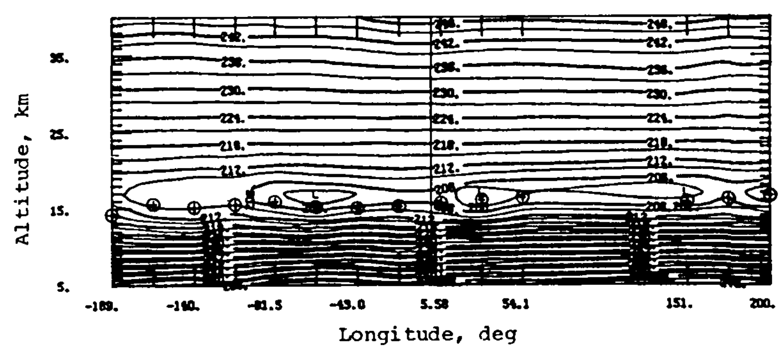
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

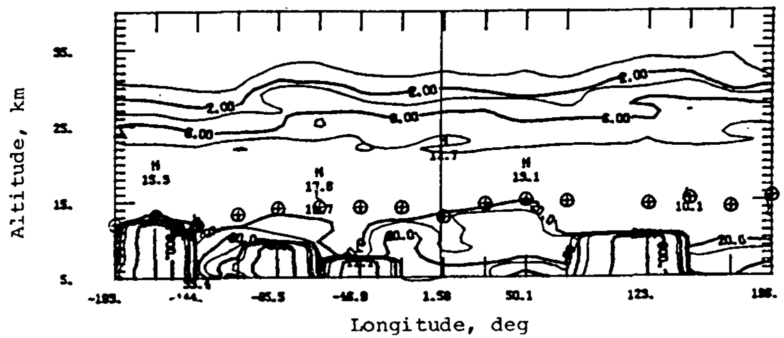


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

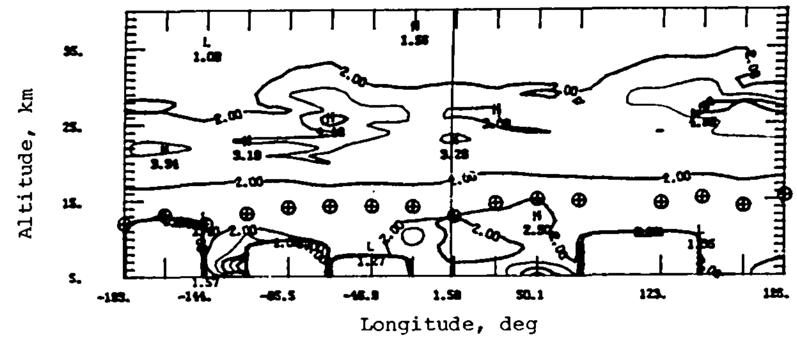


(e) Temperature (kelvin).

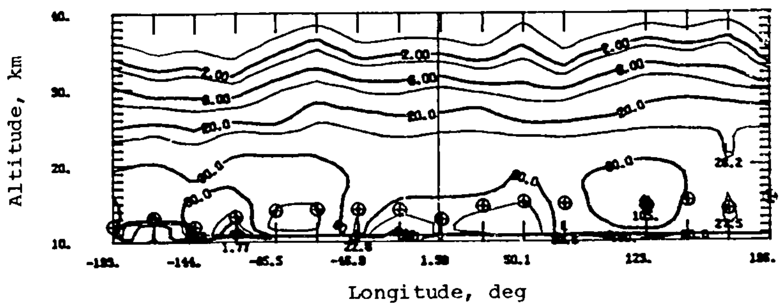
Figure 225. Extinction and temperature isopleths for sweep 6, sunset events, September 1.19–September 2.27, 1979, at 13.9°S to 21.5°S.



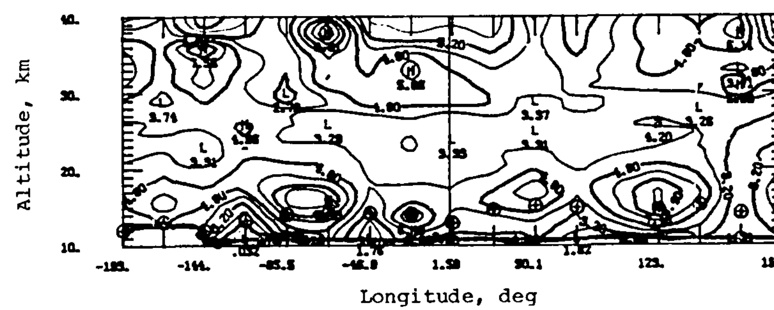
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



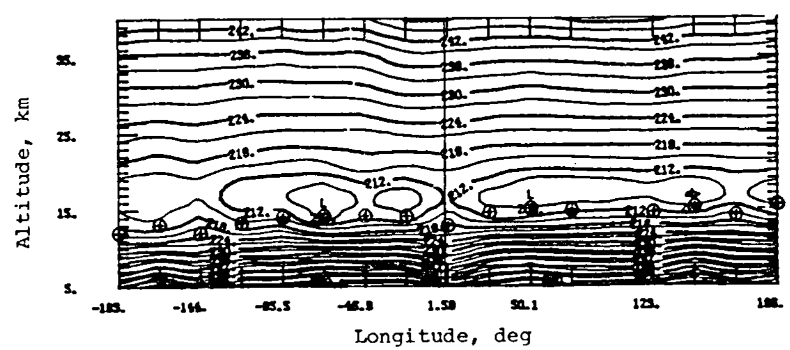
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

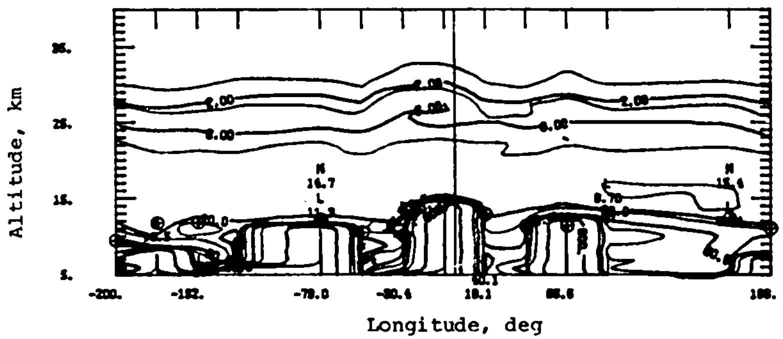


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

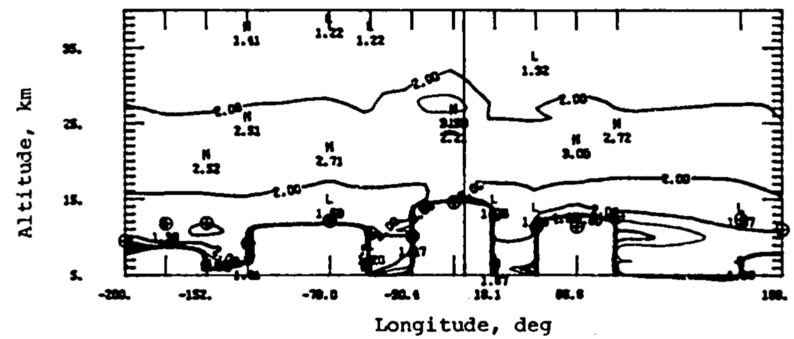


(e) Temperature (kelvin).

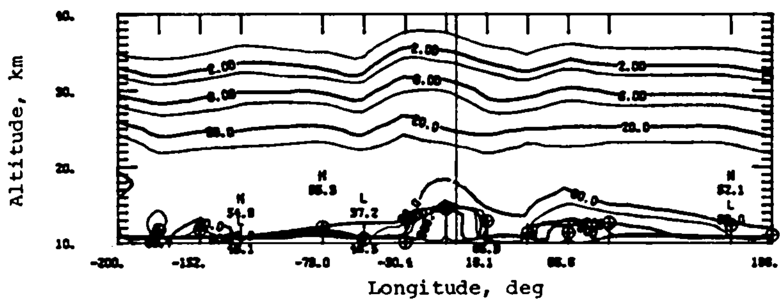
Figure 226. Extinction and temperature isopleths for sweep 6, sunset events, September 2.20–September 3.27, 1979, at 21.0°S to 28.4°S.



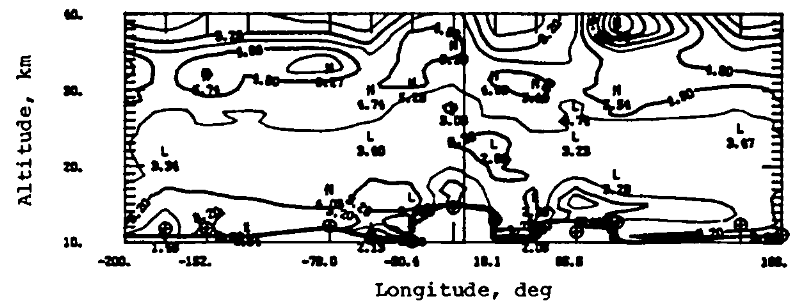
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



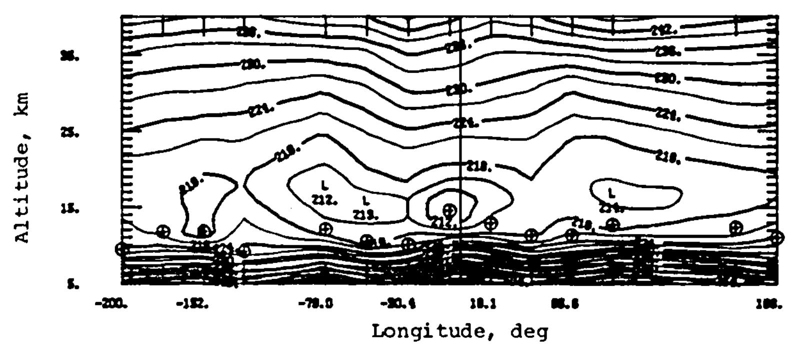
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

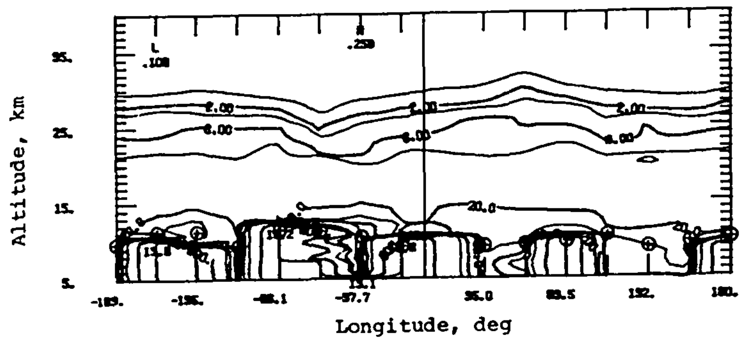


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

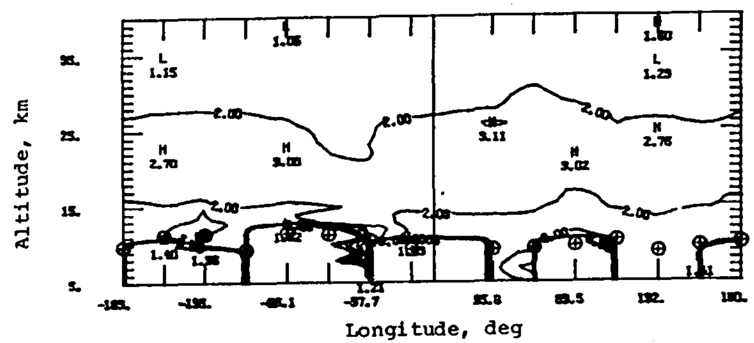


(e) Temperature (kelvin).

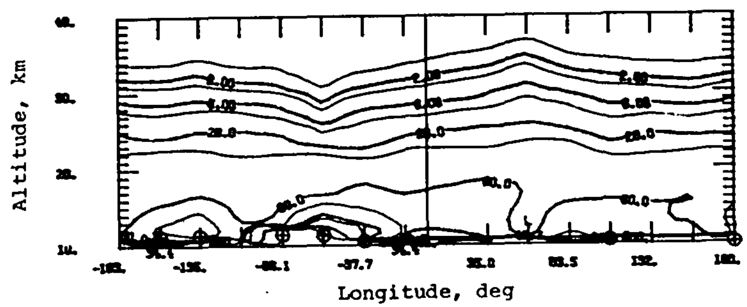
Figure 227. Extinction and temperature isopleths for sweep 6, sunset events, September 4.22–September 5.29, 1979, at 34.3°S to 40.5°S.



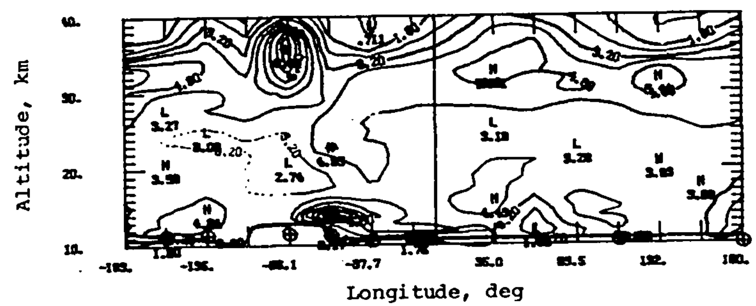
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



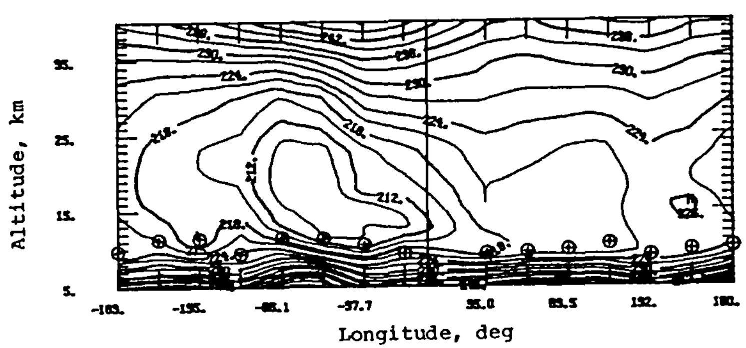
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

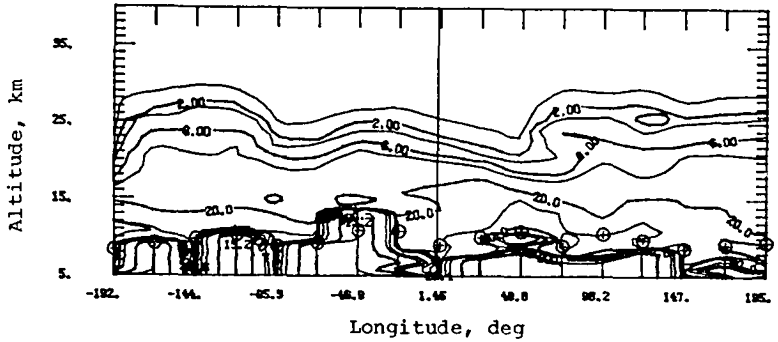


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

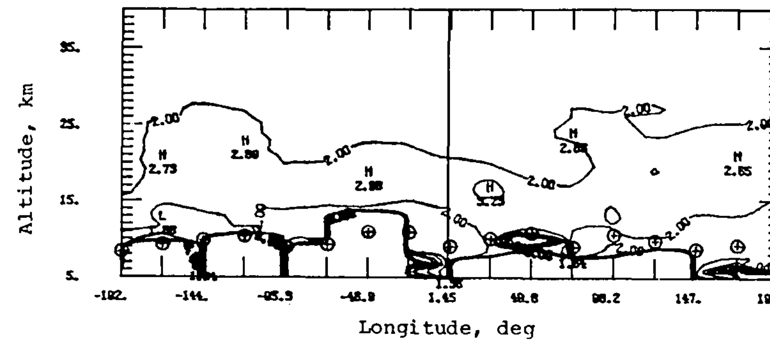


(e) Temperature (kelvin).

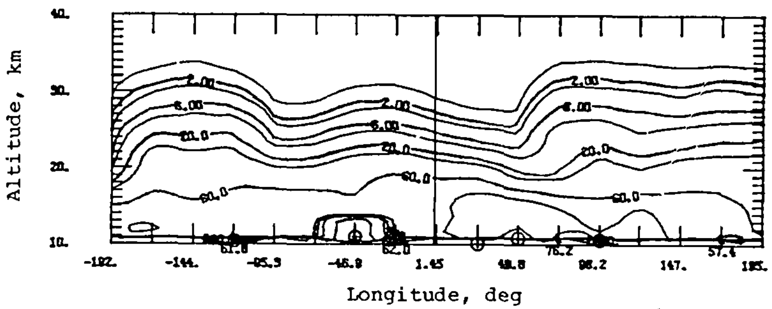
Figure 228. Extinction and temperature isopleths for sweep 6, sunset events, September 6.23–September 7.24, 1979, at 45.1°S to 49.2°S.



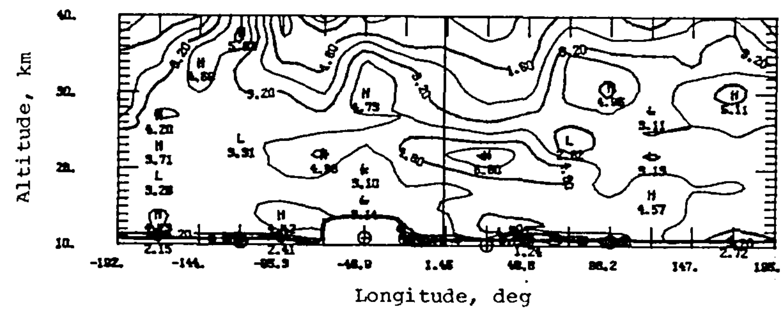
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



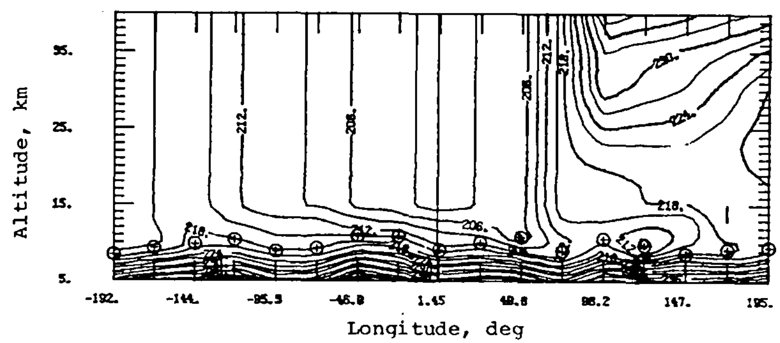
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

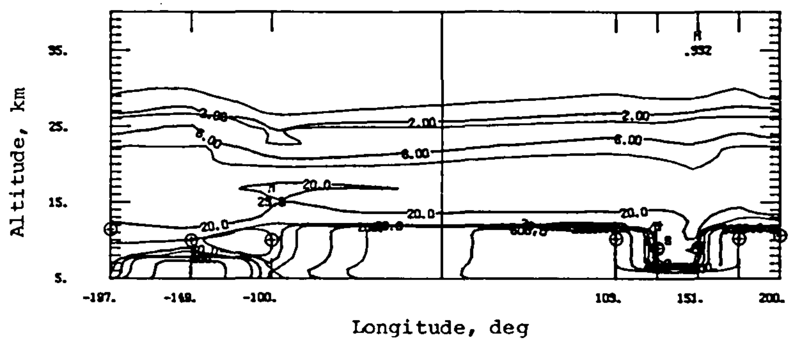


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

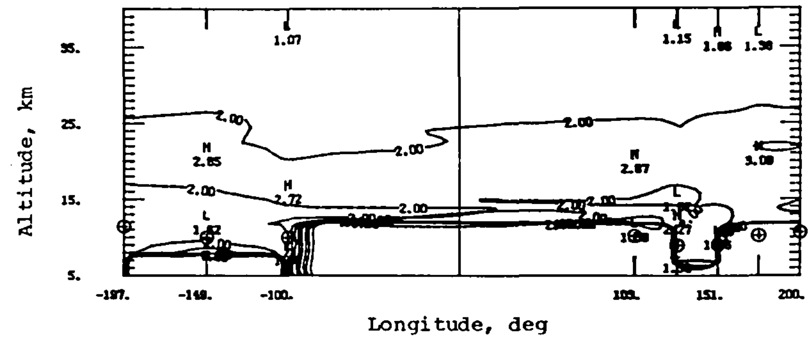


(e) Temperature (kelvin).

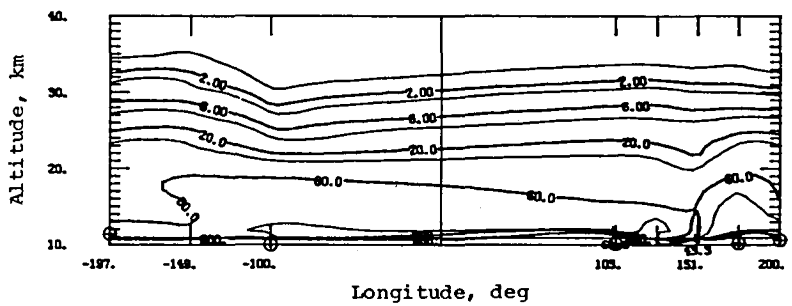
Figure 229. Extinction and temperature isopleths for sweep 6, sunset events, September 9.19–September 10.25, 1979, at 55.1°S to 57.3°S.



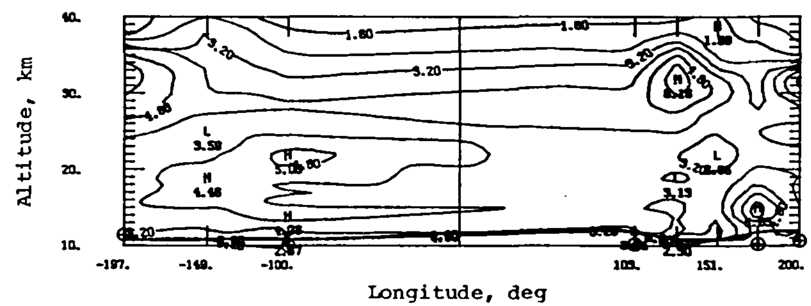
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



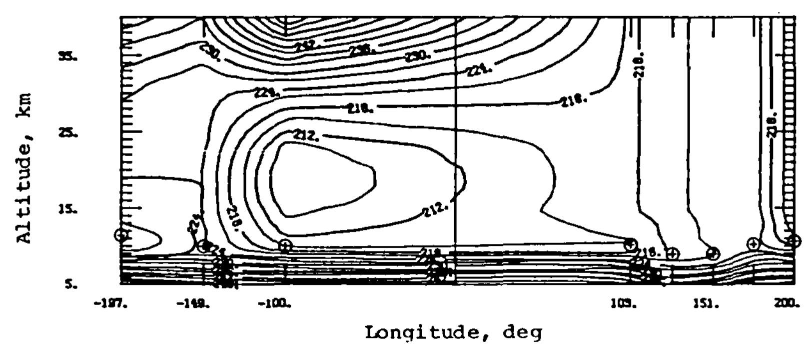
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

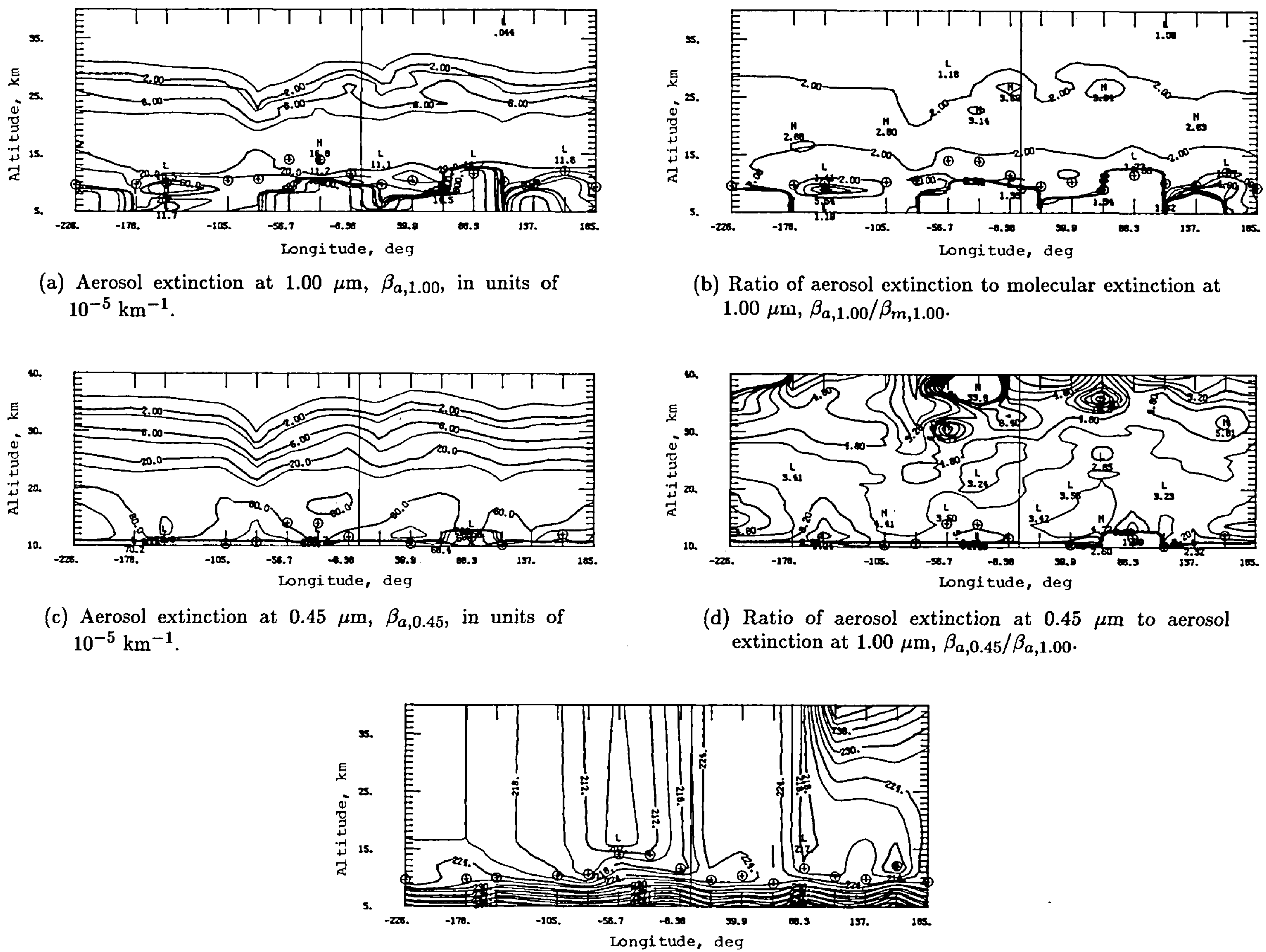


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.



(e) Temperature (kelvin).

Figure 230. Extinction and temperature isopleths for sweep 7, sunset events, September 18.18–September 24.29, 1979, at 58.9°S to 48.2°S.



(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.

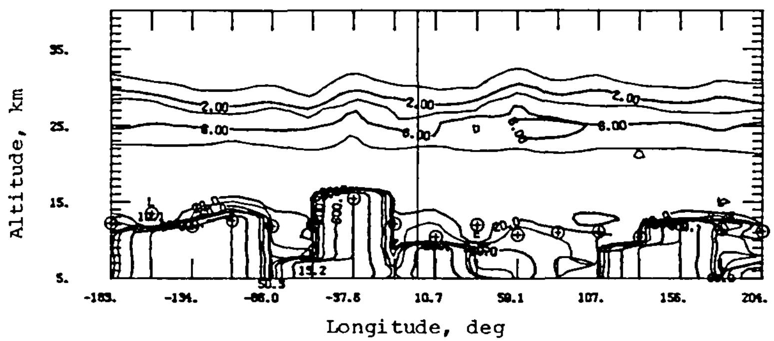
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.

(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

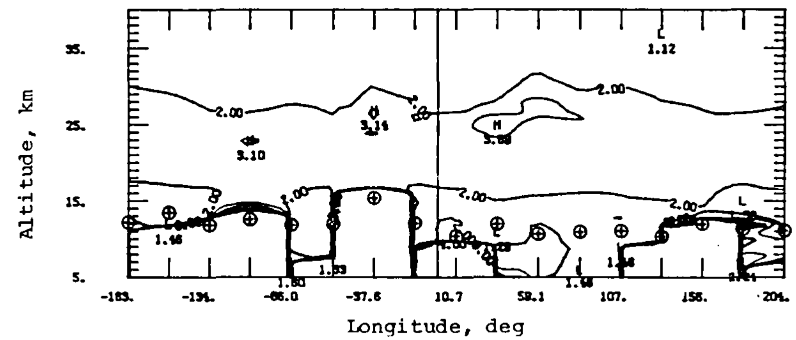
(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

(e) Temperature (kelvin).

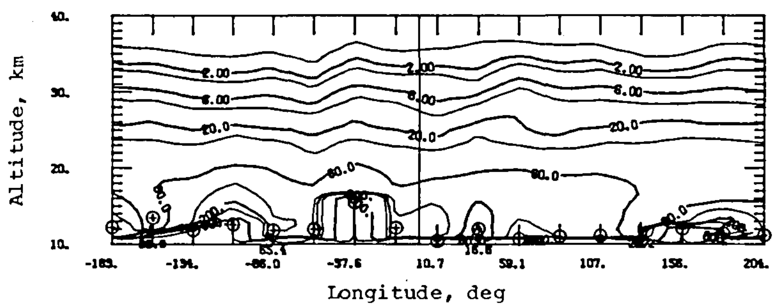
Figure 231. Extinction and temperature isopleths for sweep 7, sunset events, September 25.23–September 26.38, 1979, at 45.6°S to 42.1°S.



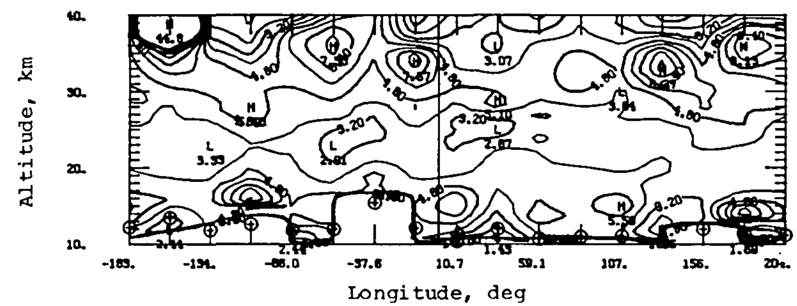
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



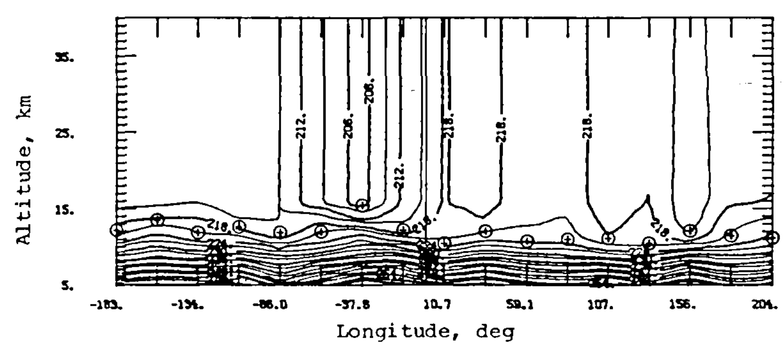
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

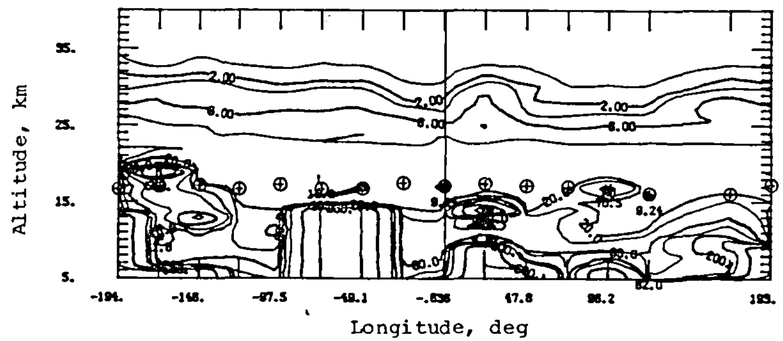


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

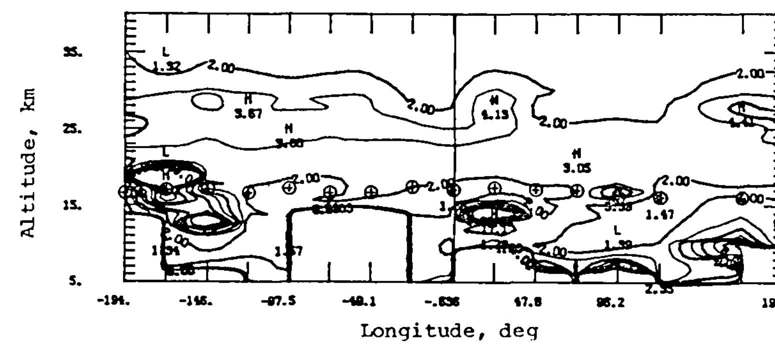


(e) Temperature (kelvin).

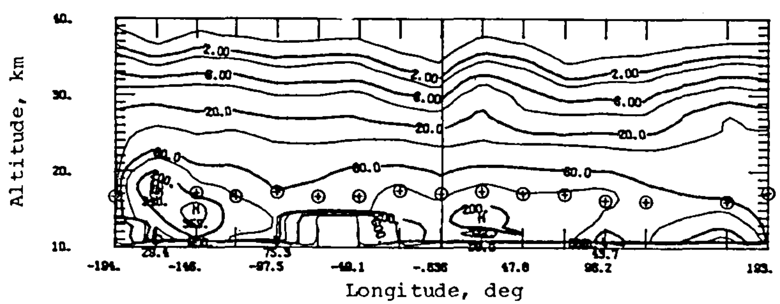
Figure 232. Extinction and temperature isopleths for sweep 7, sunset events, September 27.18–September 28.26, 1979, at 39.3°S to 35.1°S.



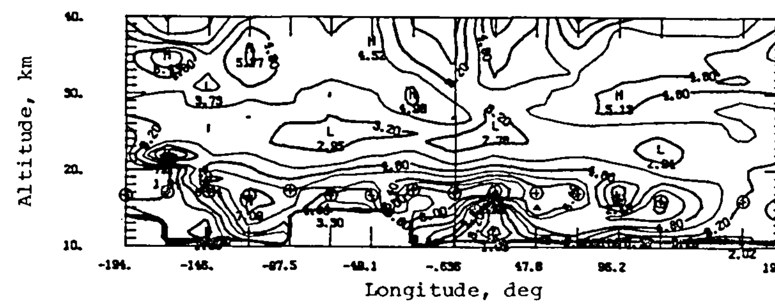
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



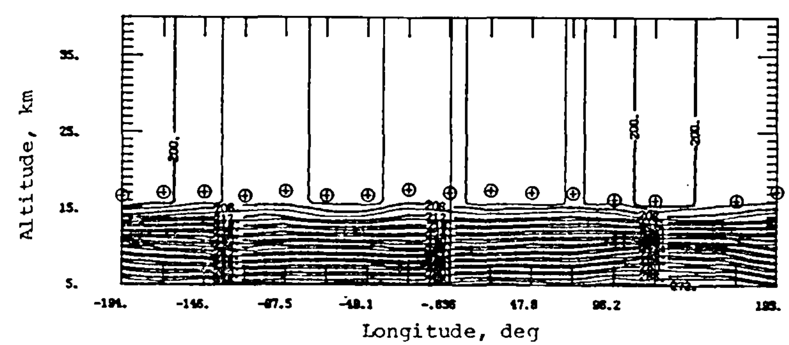
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

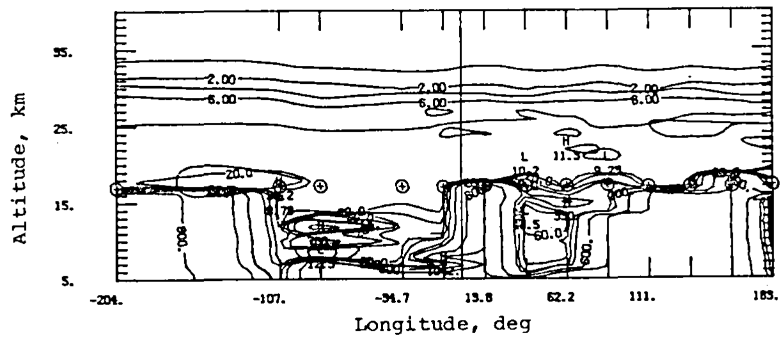


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

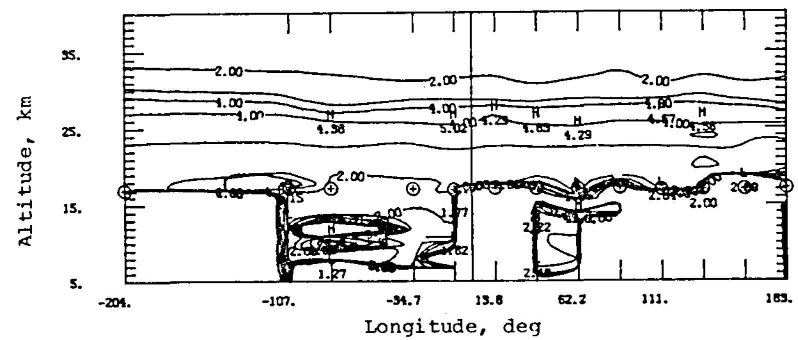


(e) Temperature (kelvin).

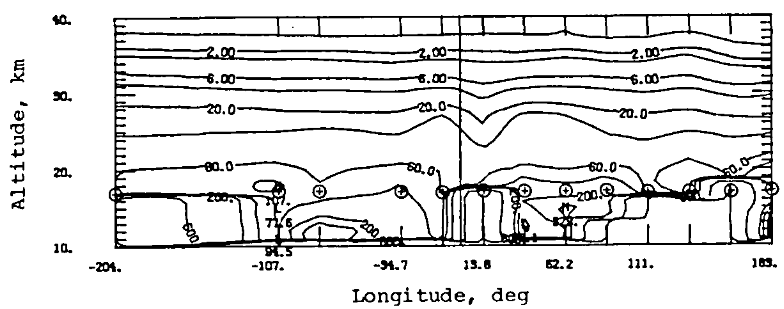
Figure 233. Extinction and temperature isopleths for sweep 7, sunset events, October 1.21–October 2.29, 1979, at 20.9°S to 14.7°S.



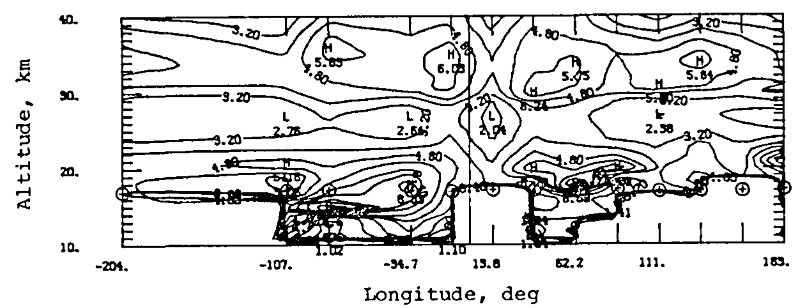
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



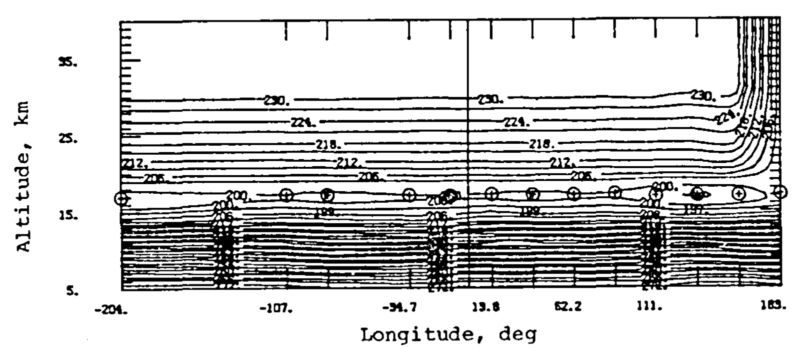
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

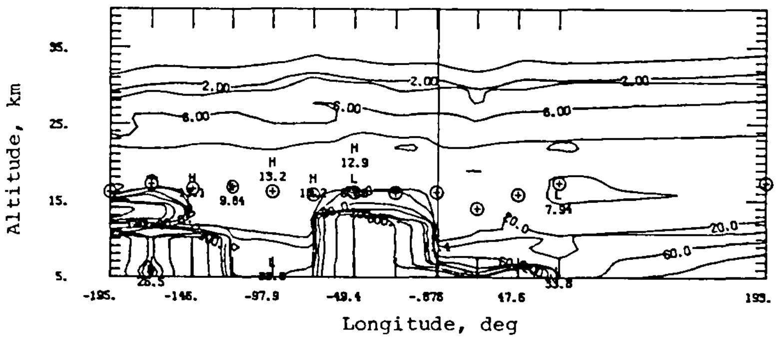


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

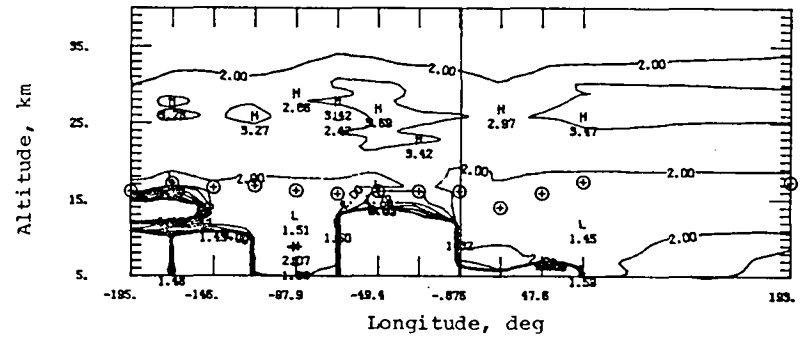


(e) Temperature (kelvin).

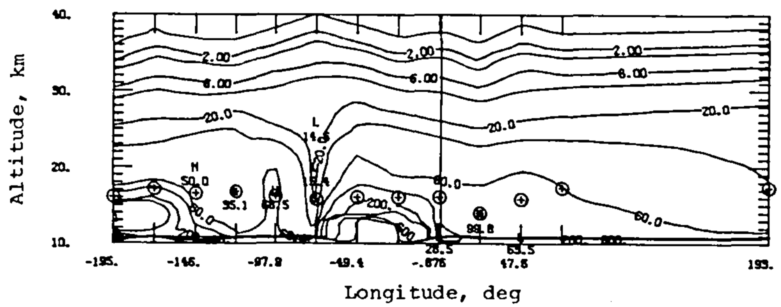
Figure 234. Extinction and temperature isopleths for sweep 7, sunset events, October 4.23–October 5.31, 1979, at 2.1°S to 5.4°N.



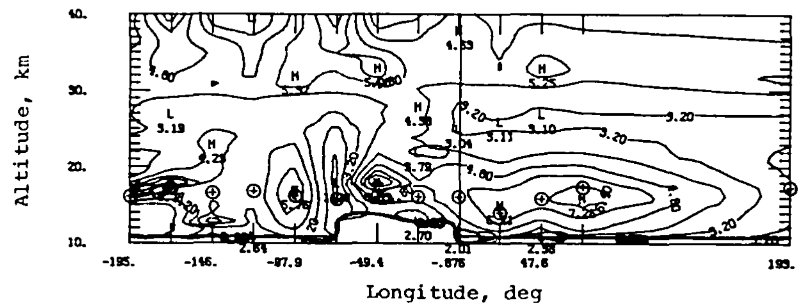
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



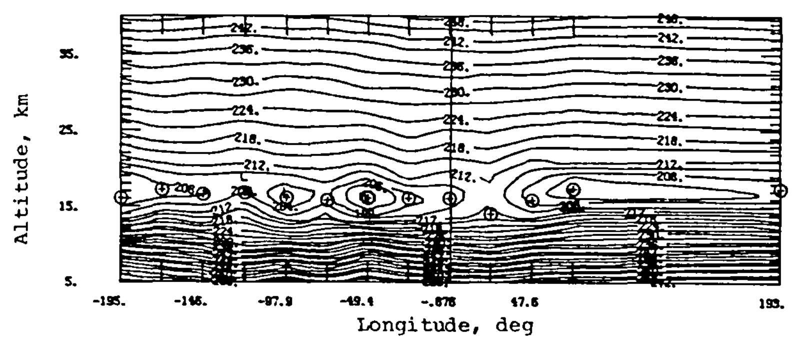
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

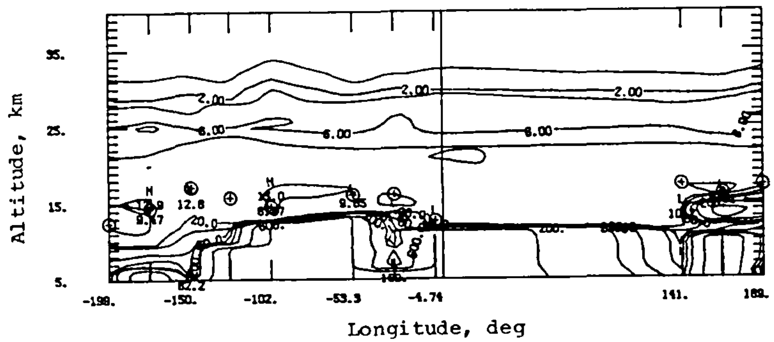


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

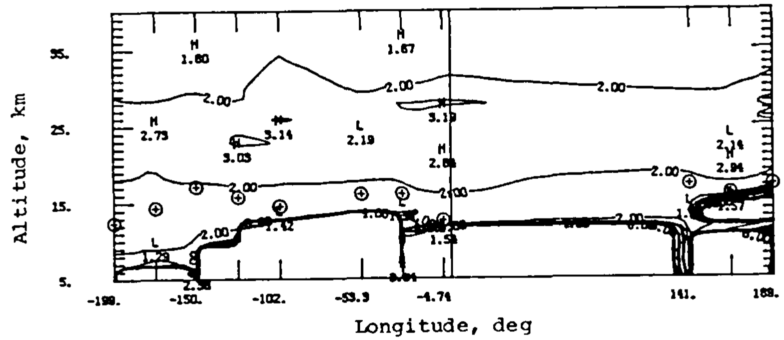


(e) Temperature (kelvin).

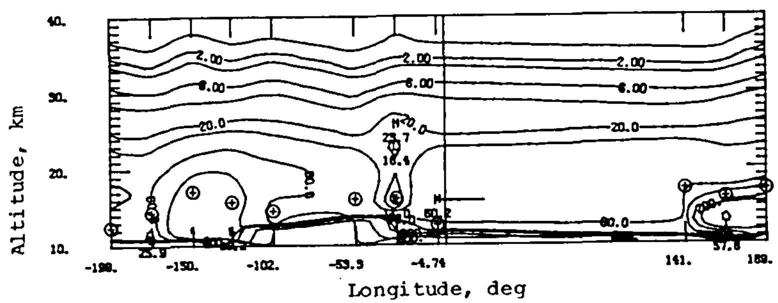
Figure 235. Extinction and temperature isopleths for sweep 7, sunset events, October 8.20–October 9.27, 1979, at 25.1°N to 31.4°N.



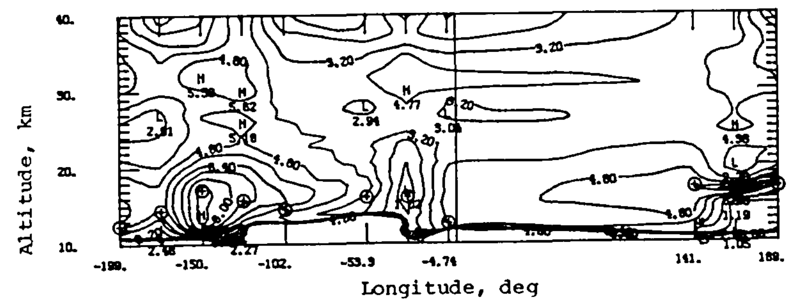
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



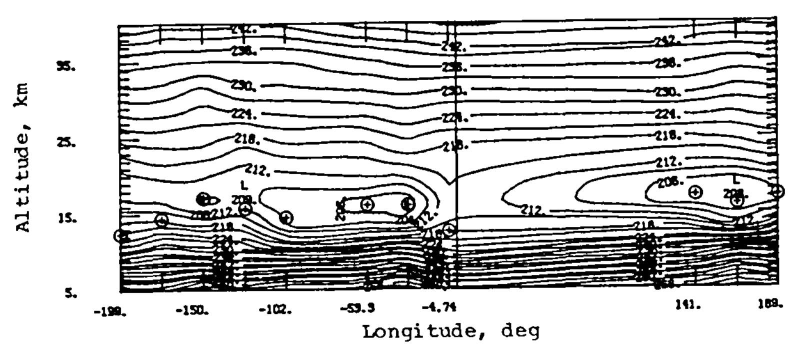
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

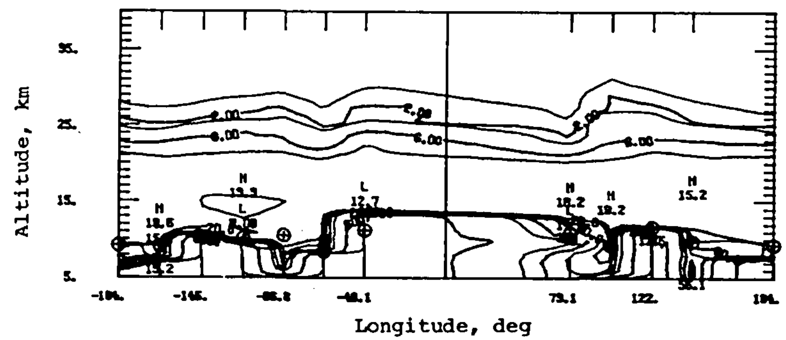


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

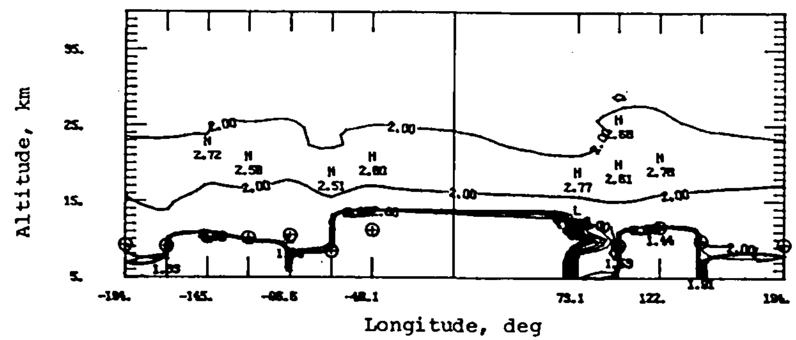


(e) Temperature (kelvin).

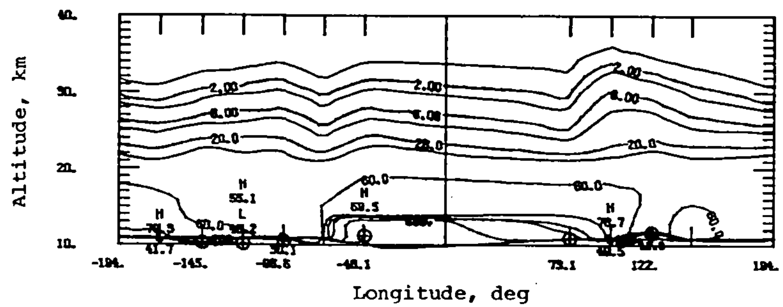
Figure 236. Extinction and temperature isopleths for sweep 7, sunset events, October 9.21–October 10.28, 1979, at 31.0°N to 36.6°N.



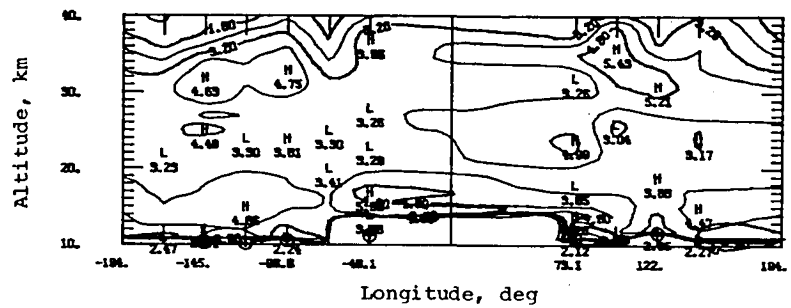
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



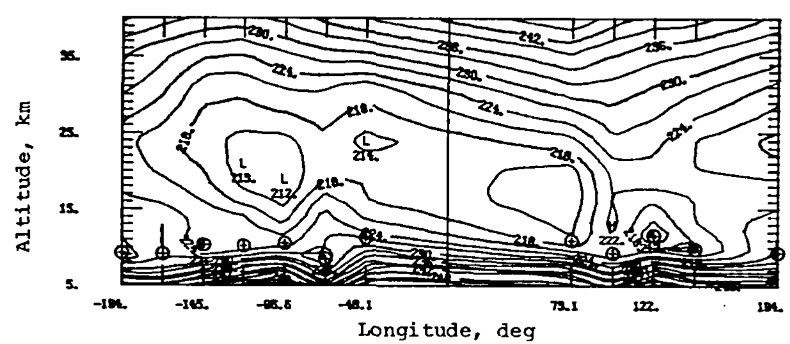
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

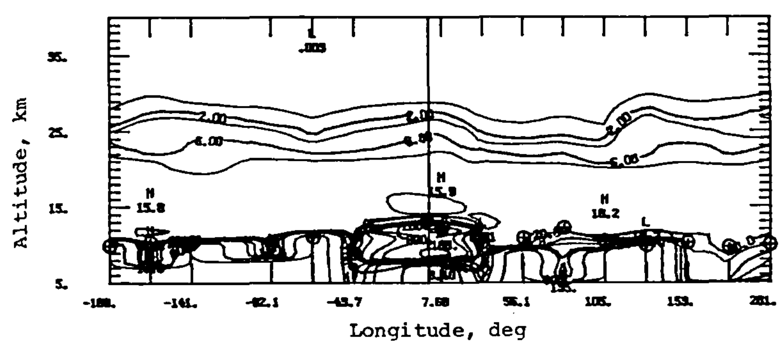


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

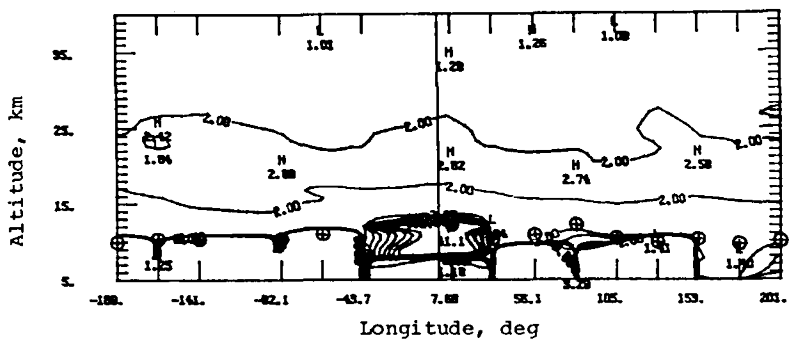


(e) Temperature (kelvin).

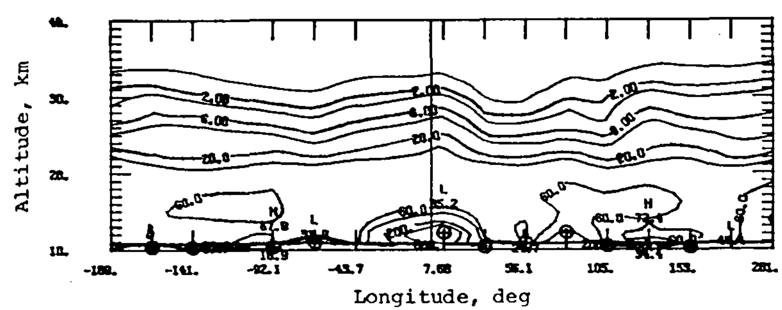
Figure 237. Extinction and temperature isopleths for sweep 7, sunset events, October 14.18–October 15.25, 1979, at 49.4°N to 51.3°N.



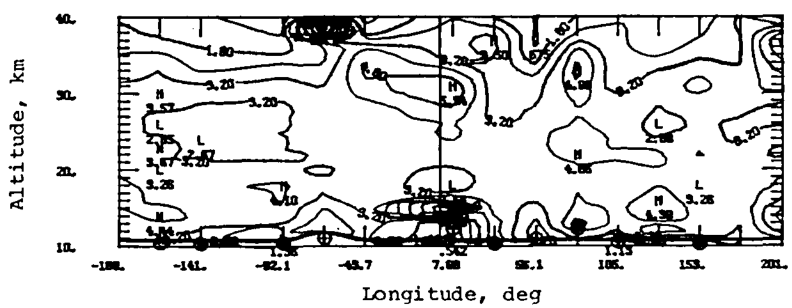
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



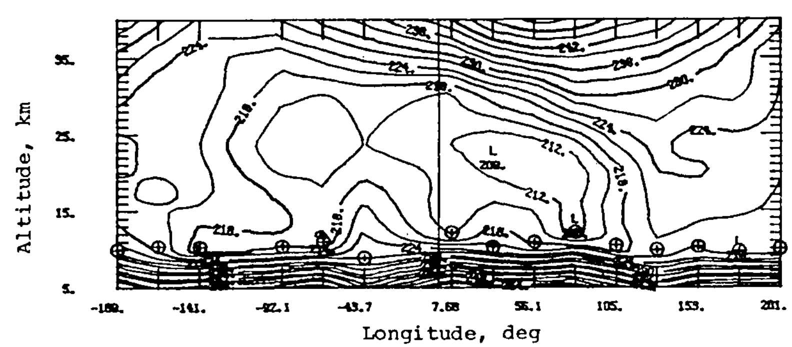
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

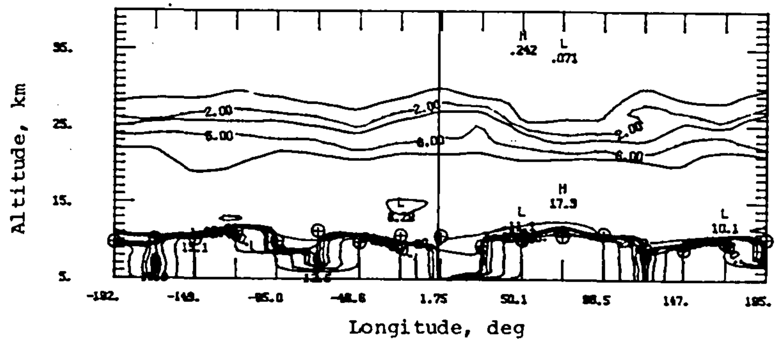


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

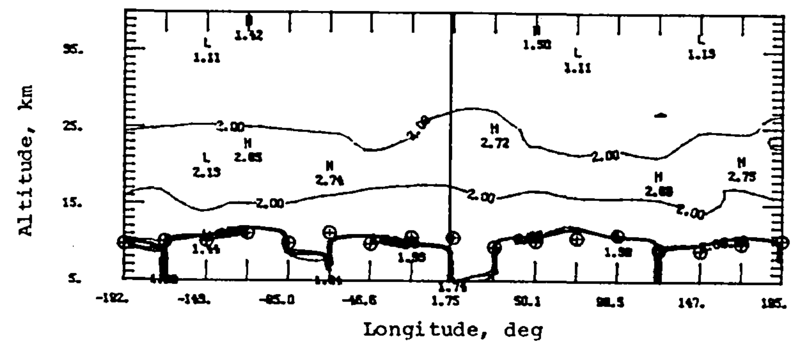


(e) Temperature (kelvin).

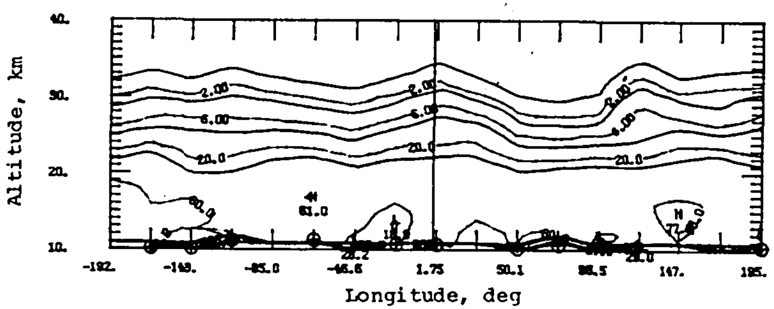
Figure 238. Extinction and temperature isopleths for sweep 7, sunset events, October 19.14–October 21.21, 1979, at 54.4°N to 54.5°N.



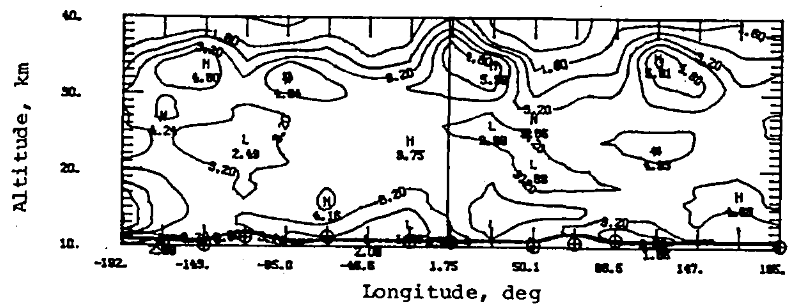
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



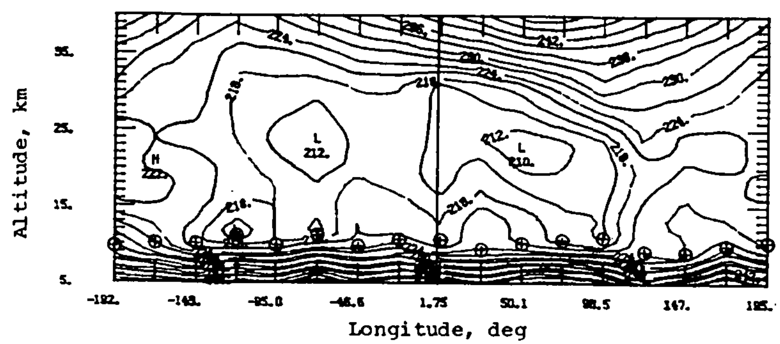
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

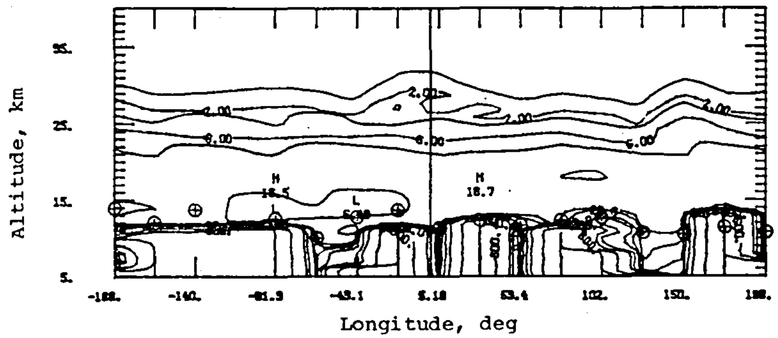


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

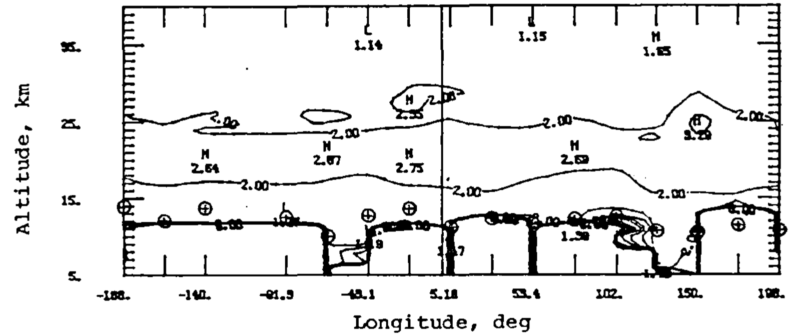


(e) Temperature (kelvin).

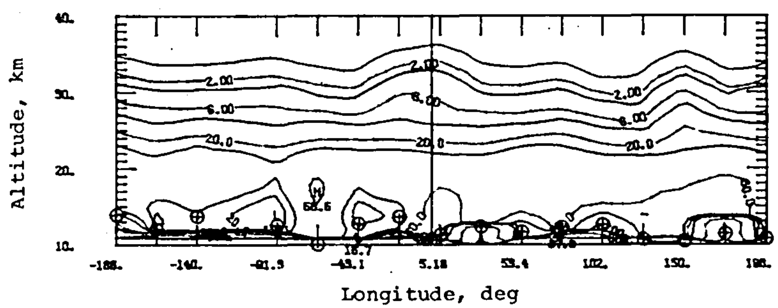
Figure 239. Extinction and temperature isopleths for sweep 8, sunset events, October 21.16–October 22.23, 1979, at 54.5°N to 54.2°N.



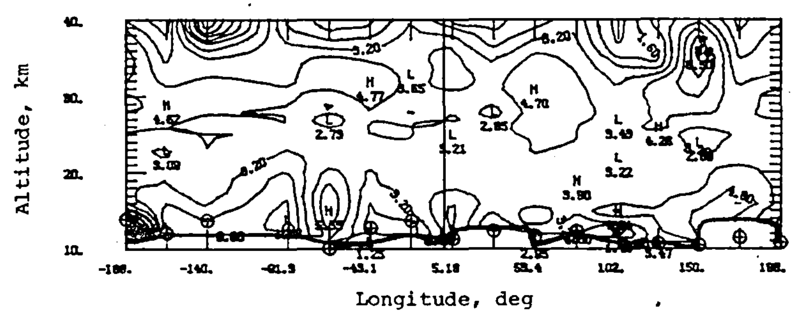
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



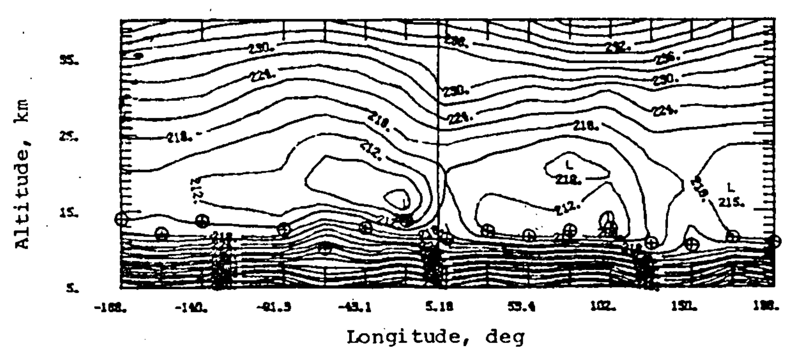
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

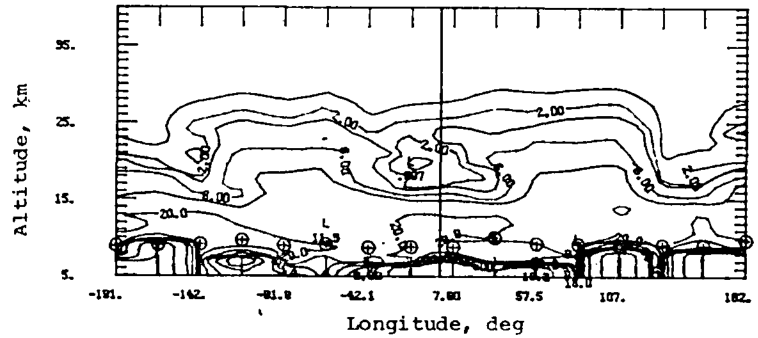


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

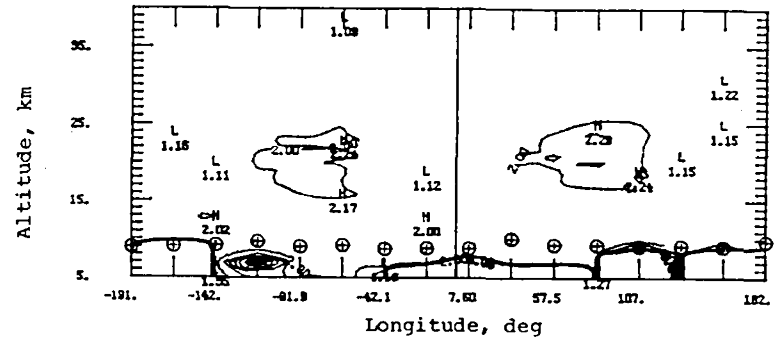


(e) Temperature (kelvin).

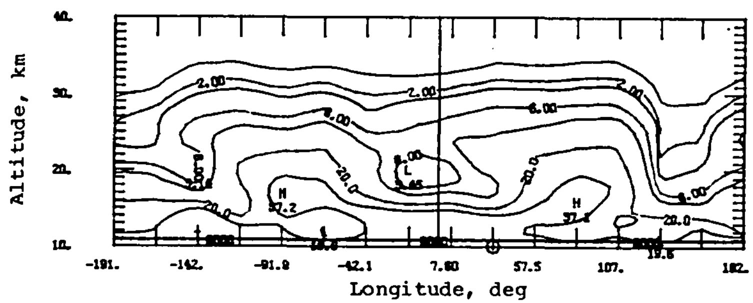
Figure 240. Extinction and temperature isopleths for sweep 8, sunset events, October 30.15–October 31.22, 1979, at 45.6°N to 43.2°N.



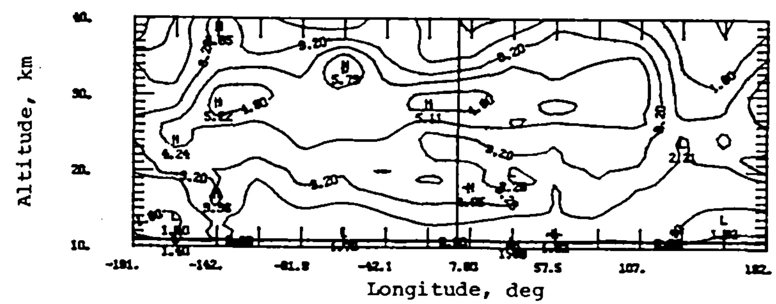
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



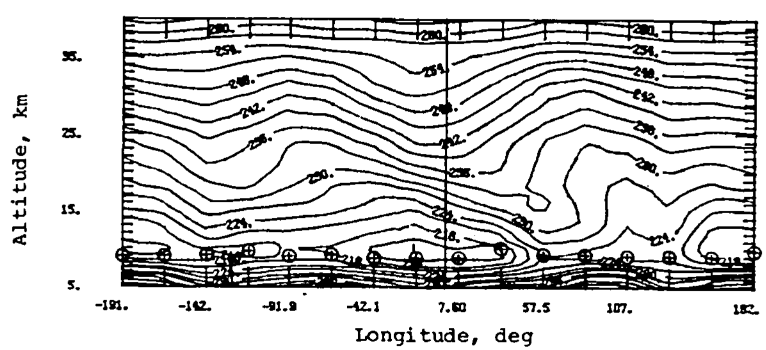
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

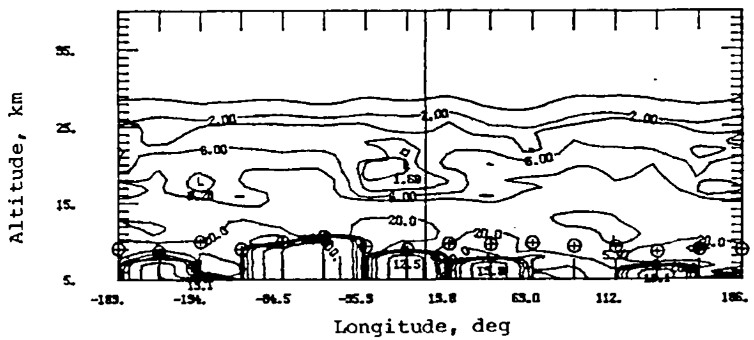


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

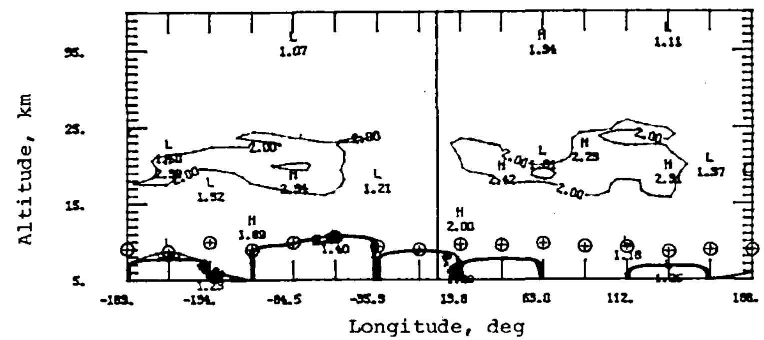


(e) Temperature (kelvin).

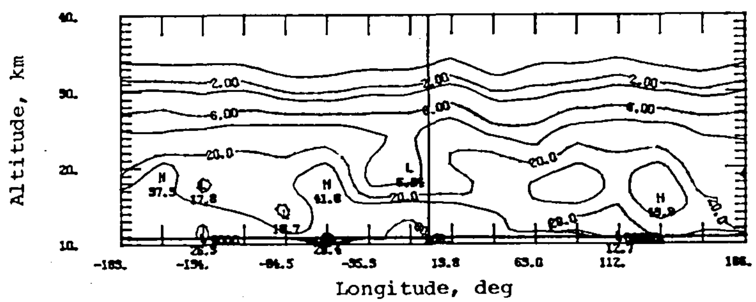
Figure 241. Extinction and temperature isopleths for sweep 8, sunset events, November 20.51–November 21.52, 1979, at 70.0°S to 70.0°S.



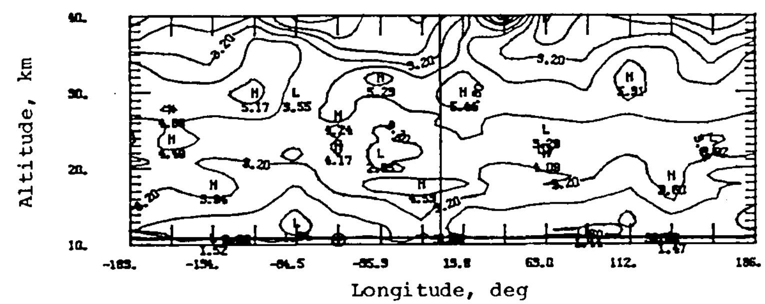
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



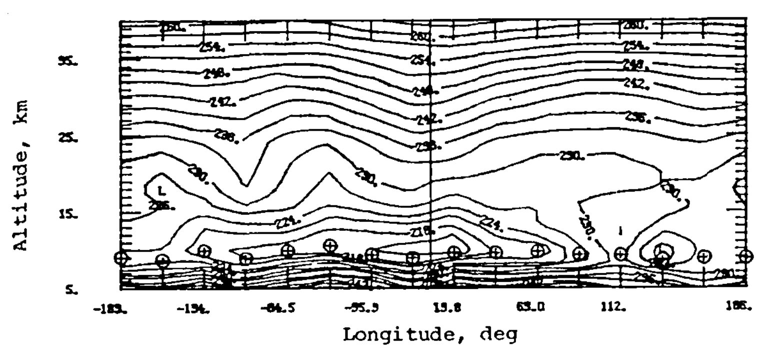
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

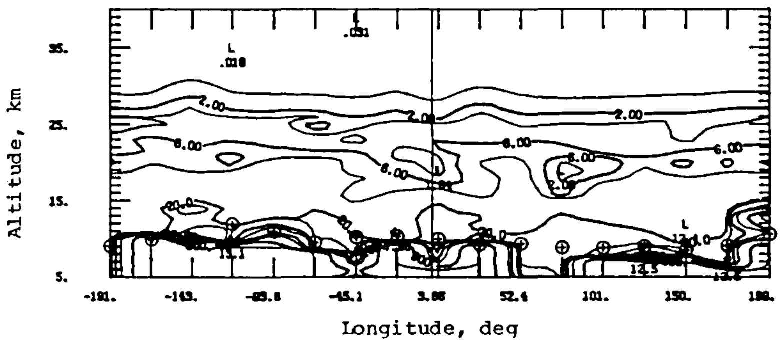


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

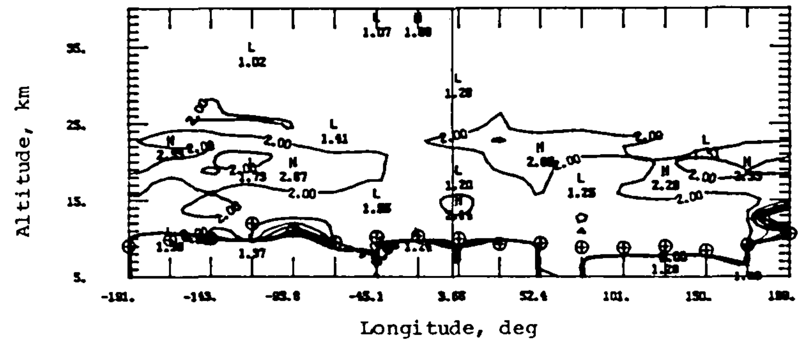


(e) Temperature (kelvin).

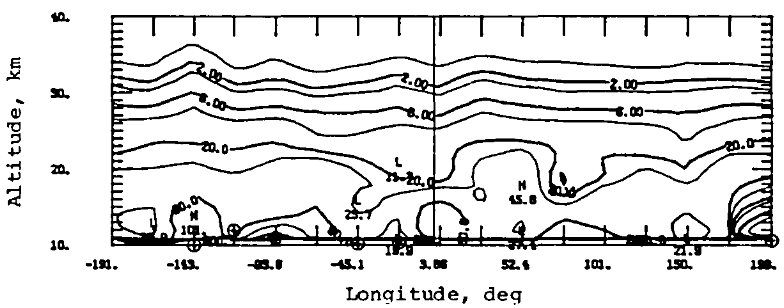
Figure 242. Extinction and temperature isopleths for sweep 9, sunset events, November 24.40–November 25.41, 1979, at 67.2°S to 65.6°S.



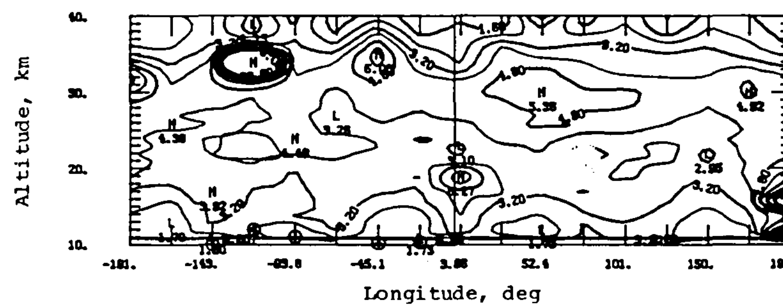
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



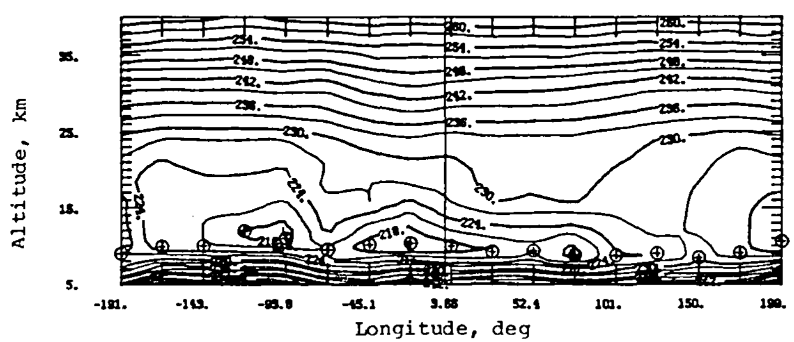
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

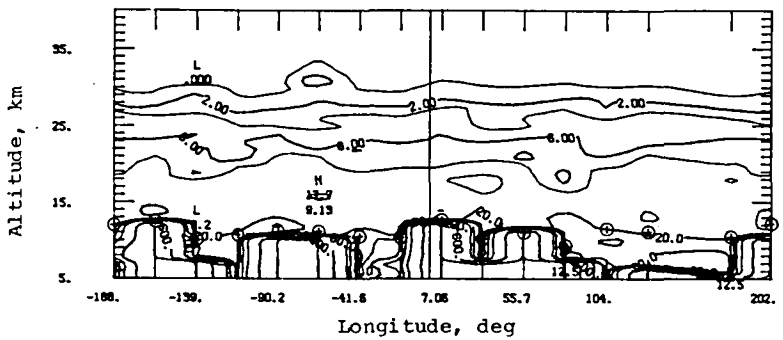


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

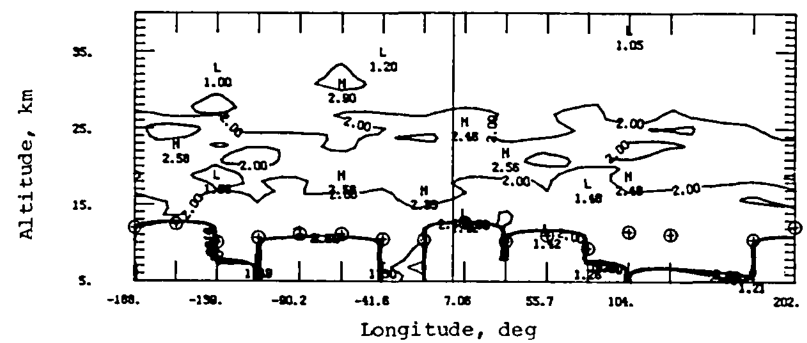


(e) Temperature (kelvin).

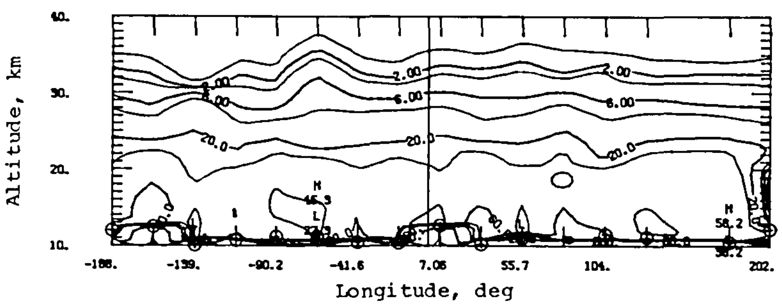
Figure 243. Extinction and temperature isopleths for sweep 9, sunset events, November 29.30–November 30.37, 1979, at 57.5°S to 54.8°S.



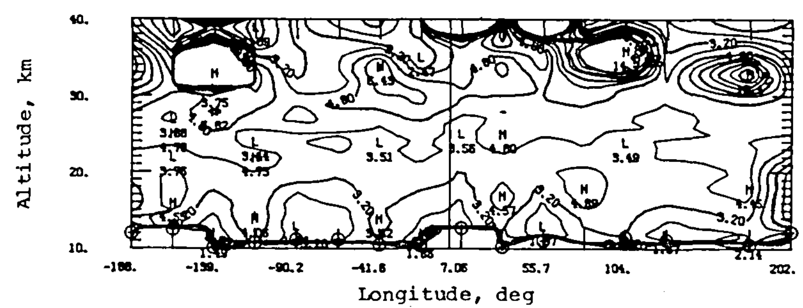
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



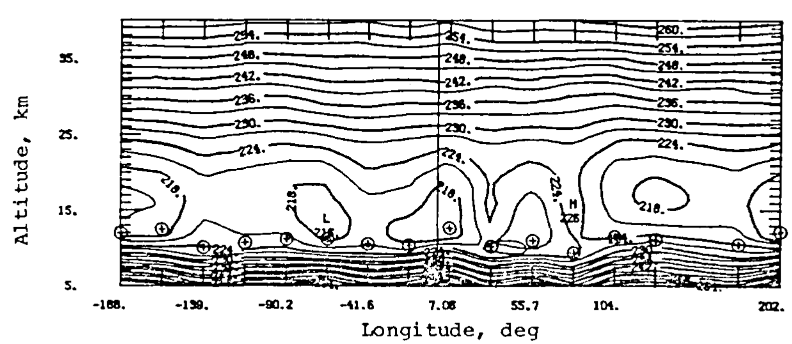
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

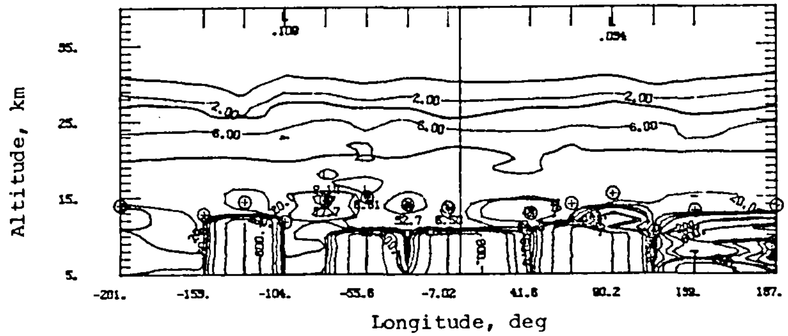


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

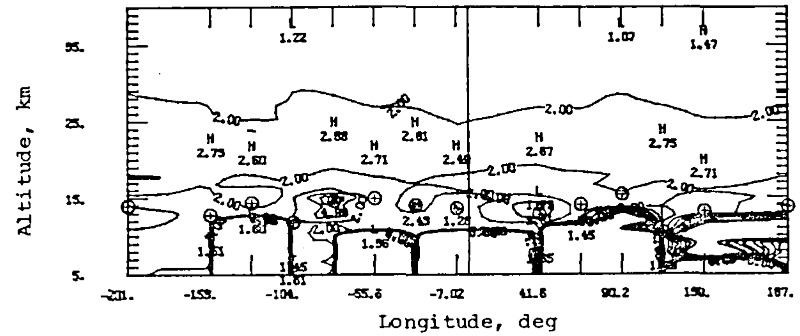


(e) Temperature (kelvin).

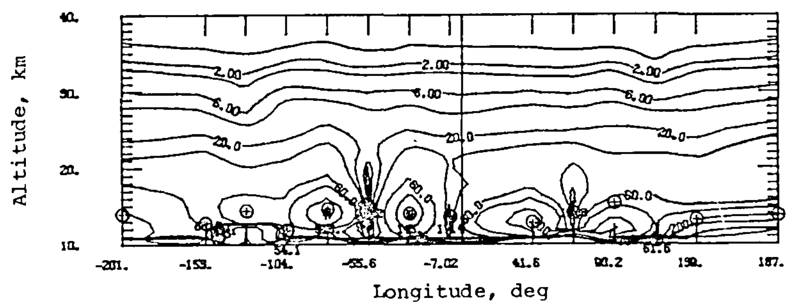
Figure 244. Extinction and temperature isopleths for sweep 9, sunset events, December 3.25–December 4.33, 1979, at 46.5°S to 43.0°S.



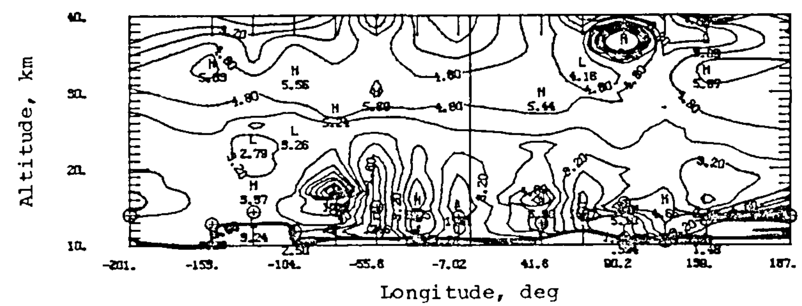
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



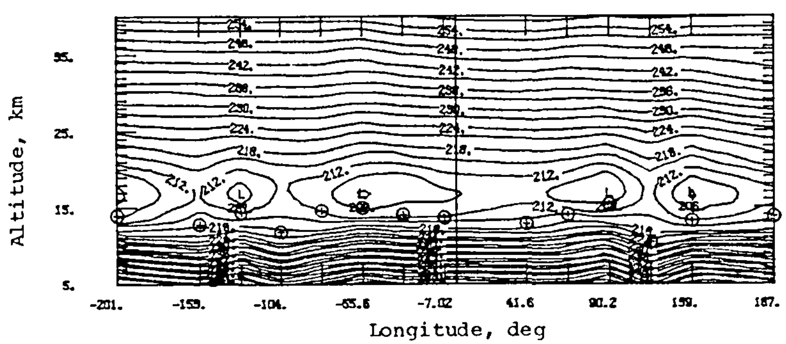
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

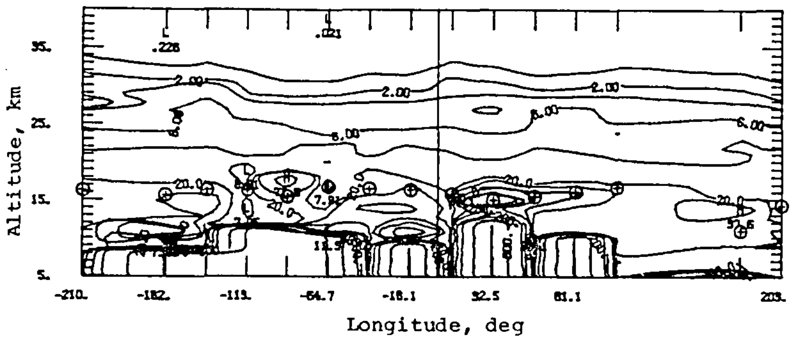


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

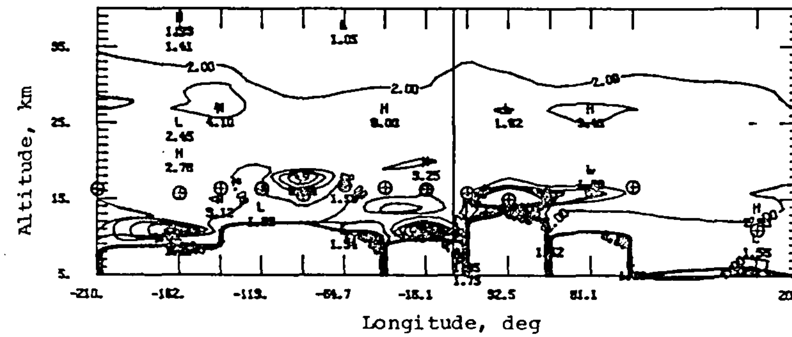


(e) Temperature (kelvin).

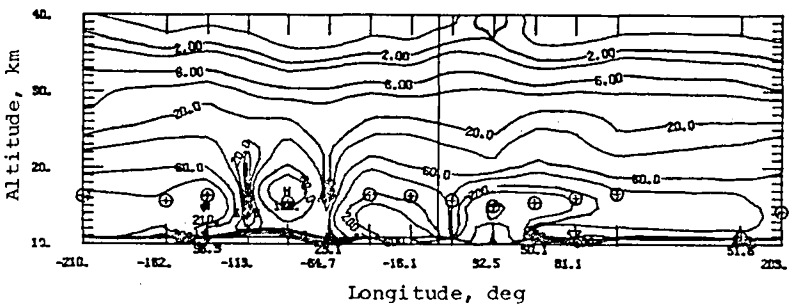
Figure 245. Extinction and temperature isopleths for sweep 9, sunset events, December 6.27–December 7.35, 1979, at 36.1°S to 31.9°S.



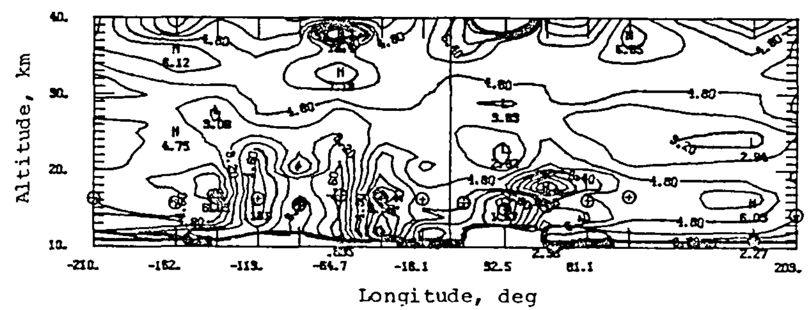
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



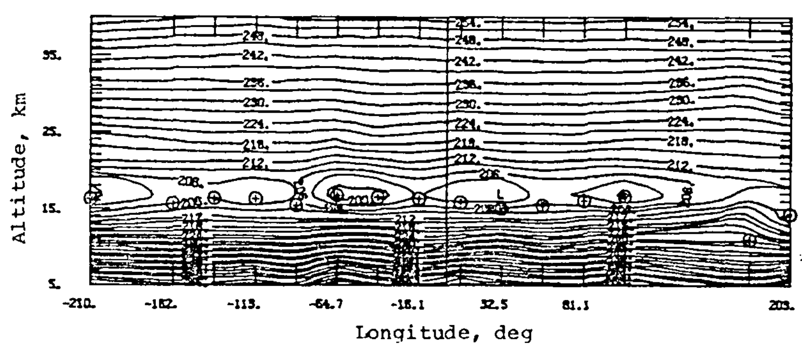
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

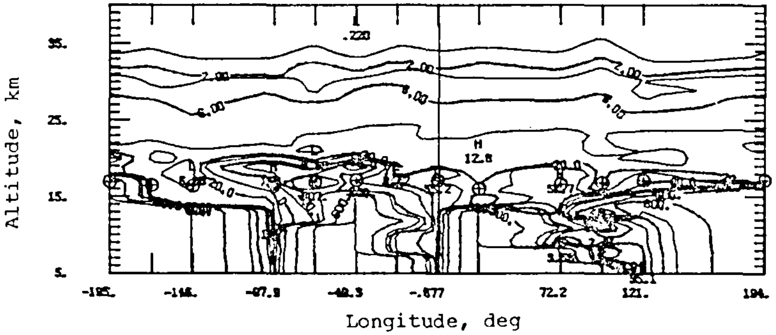


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

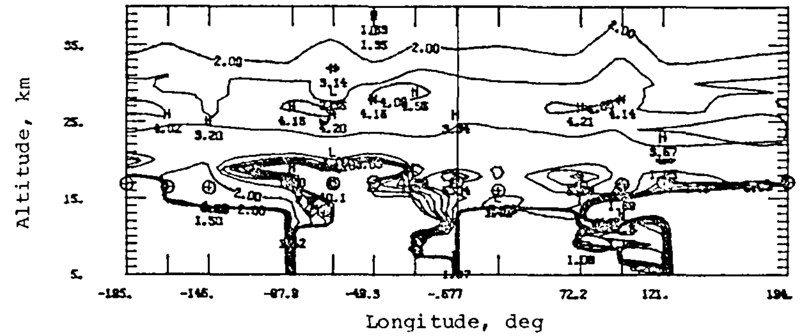


(e) Temperature (kelvin).

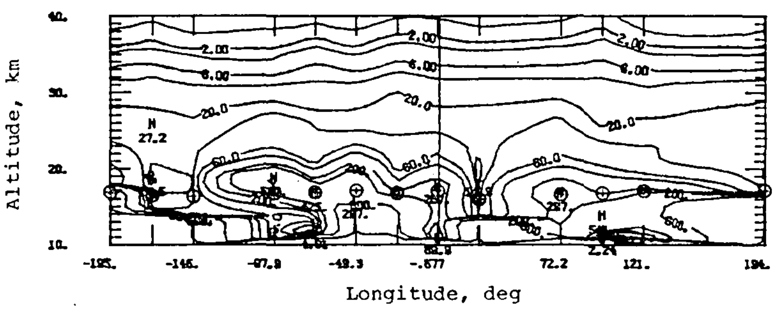
Figure 246. Extinction and temperature isopleths for sweep 9, sunset events, December 8.22–December 9.36, 1979, at 28.2°S to 23.2°S.



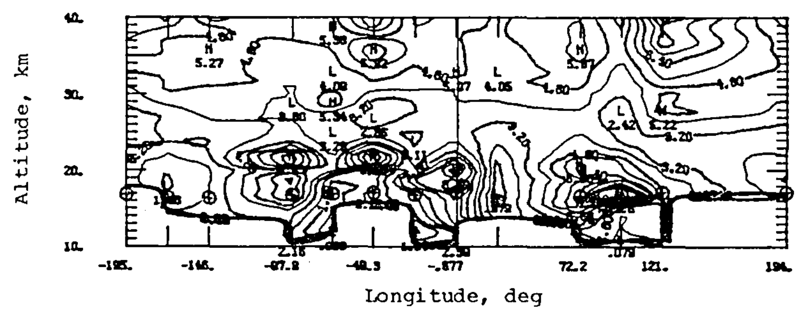
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



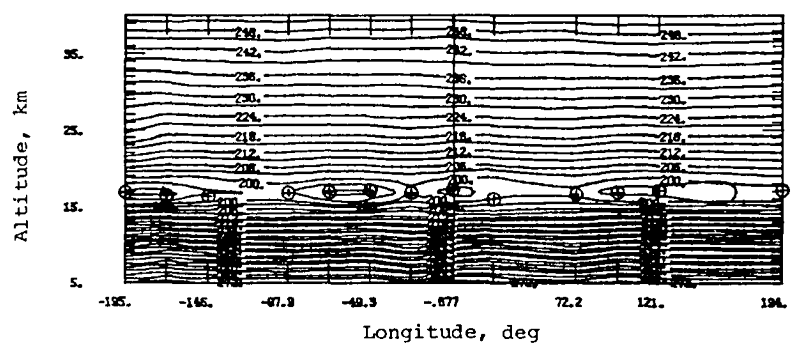
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

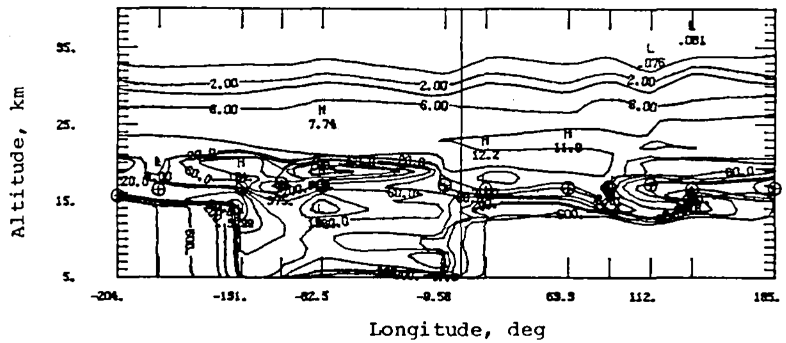


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

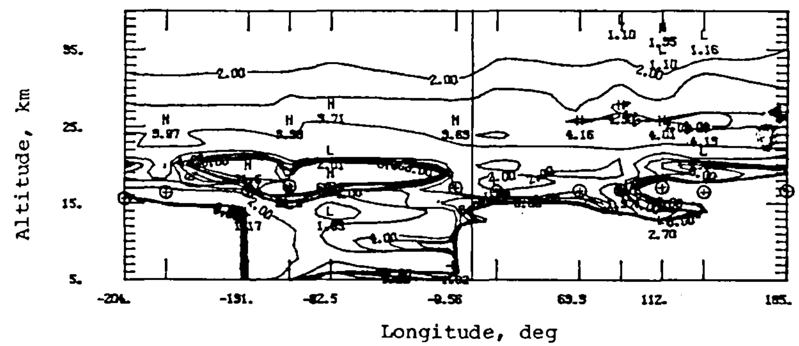


(e) Temperature (kelvin).

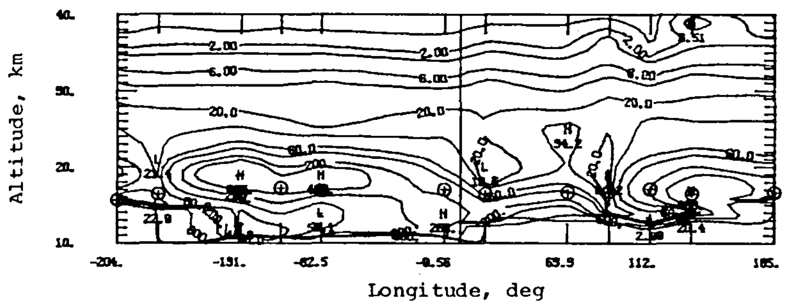
Figure 247. Extinction and temperature isopleths for sweep 9, sunset events, December 10.23–December 11.30, 1979, at 19.2°S to 14.0°S.



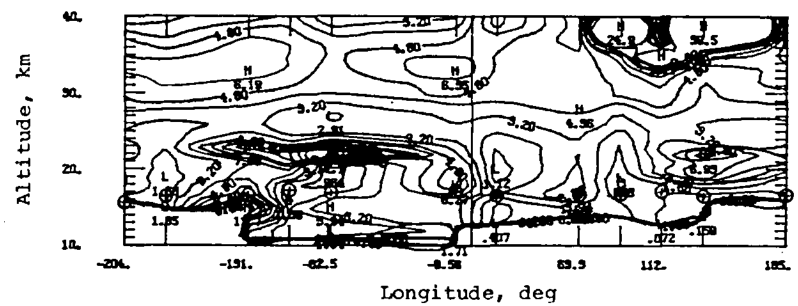
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



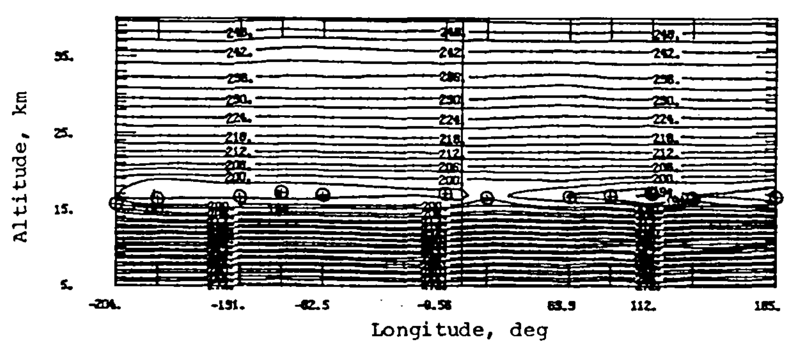
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

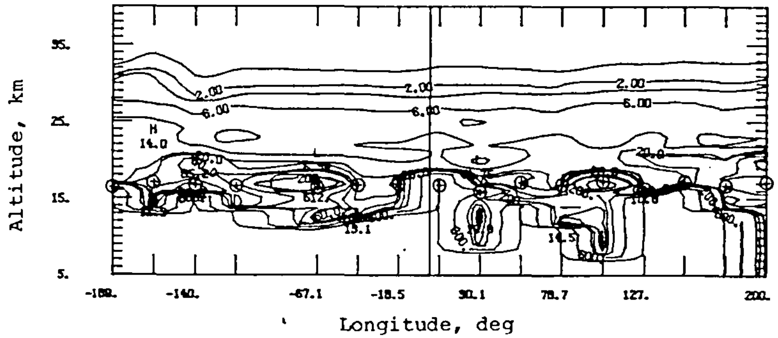


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

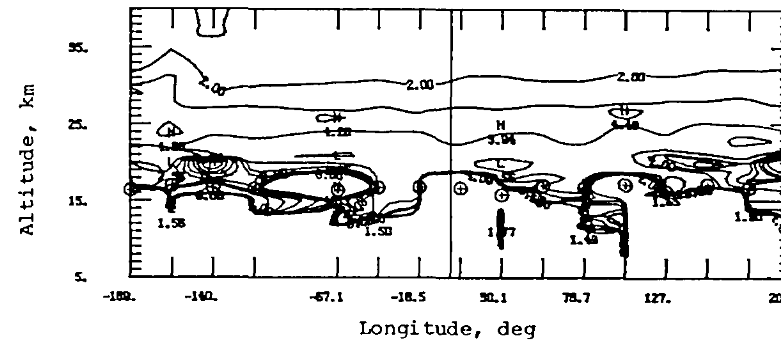


(e) Temperature (kelvin).

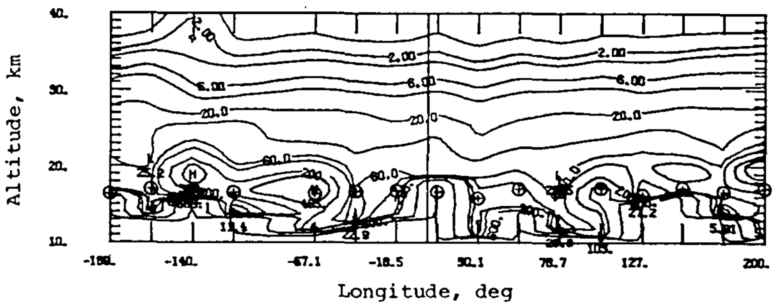
Figure 248. Extinction and temperature isopleths for sweep 9, sunset events, December 12.24–December 13.32, 1979, at 9.3°S to 3.8°S.



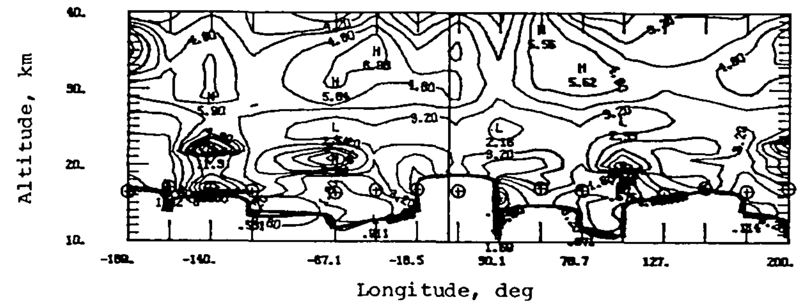
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



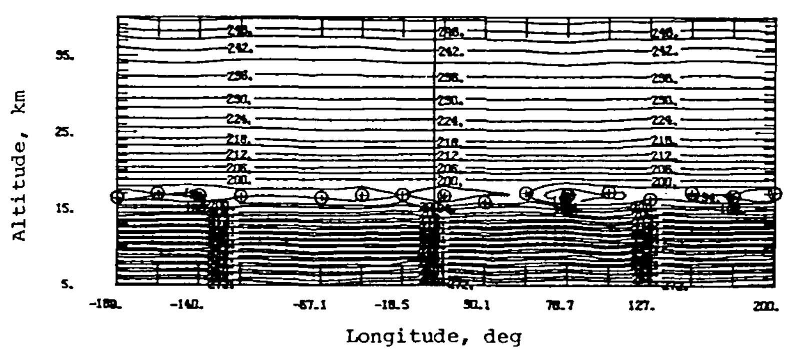
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

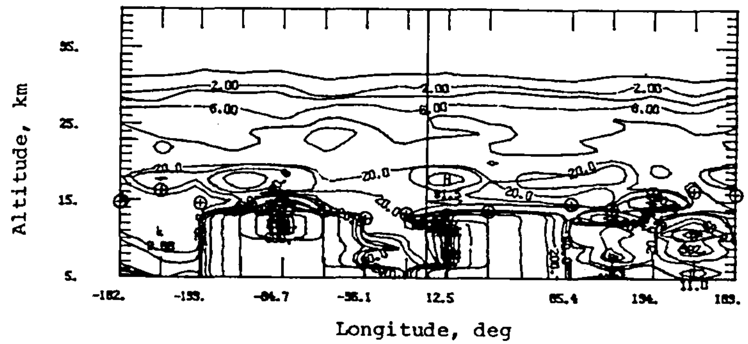


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

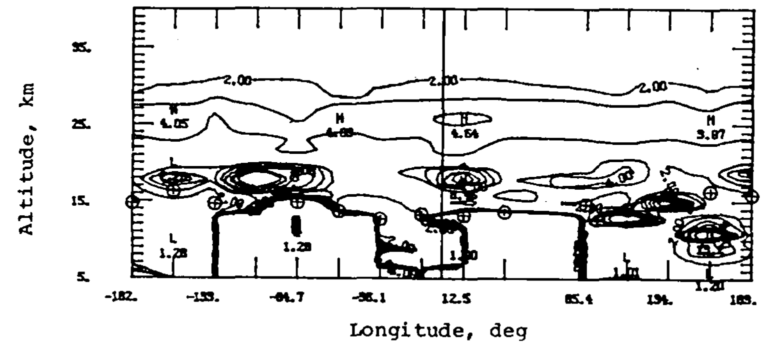


(e) Temperature (kelvin).

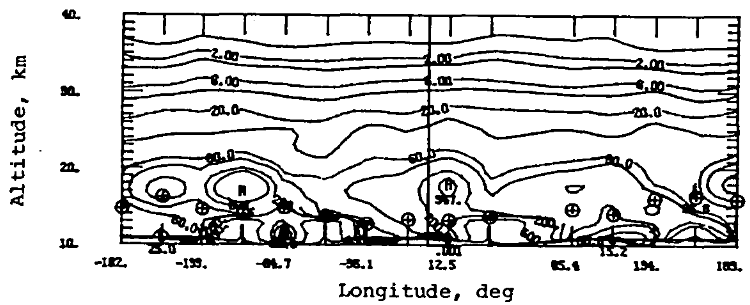
Figure 249. Extinction and temperature isopleths for sweep 9, sunset events, December 14.19–December 15.26, 1979, at 0.7°N to 6.1°N.



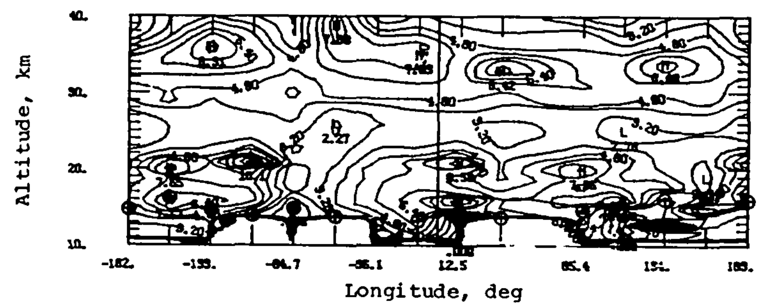
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



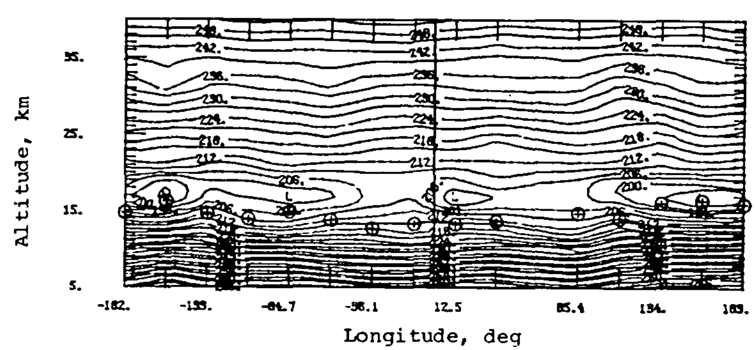
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

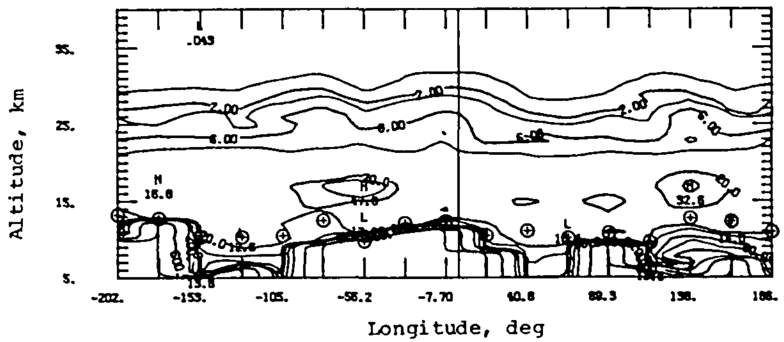


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

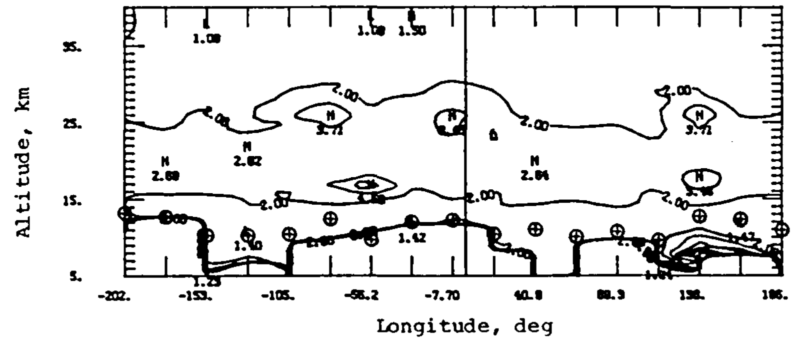


(e) Temperature (kelvin).

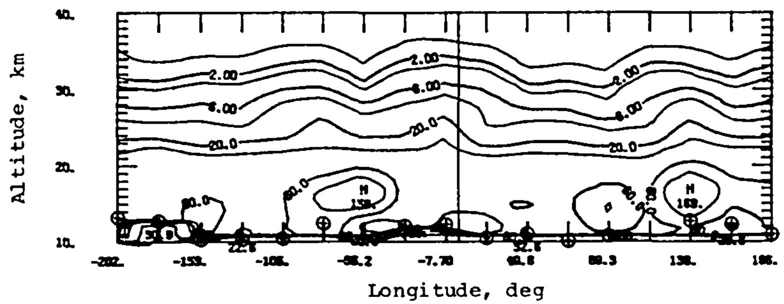
Figure 250. Extinction and temperature isopleths for sweep 9, sunset events, December 18.22–December 19.22, 1979, at 20.1°N to 24.3°N.



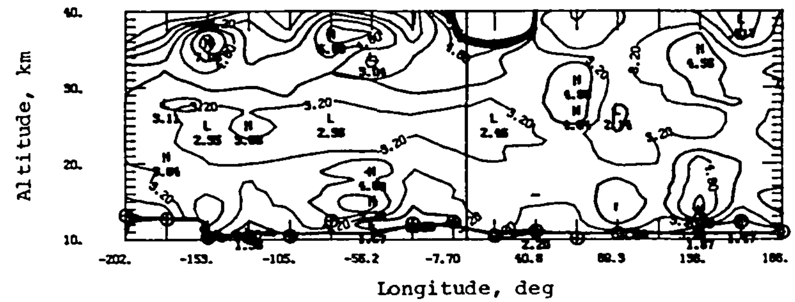
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



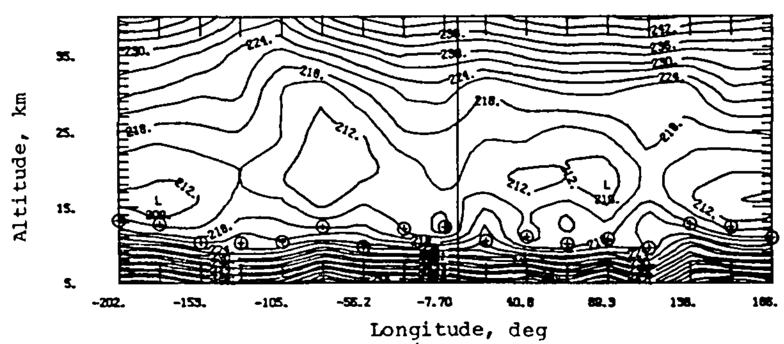
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

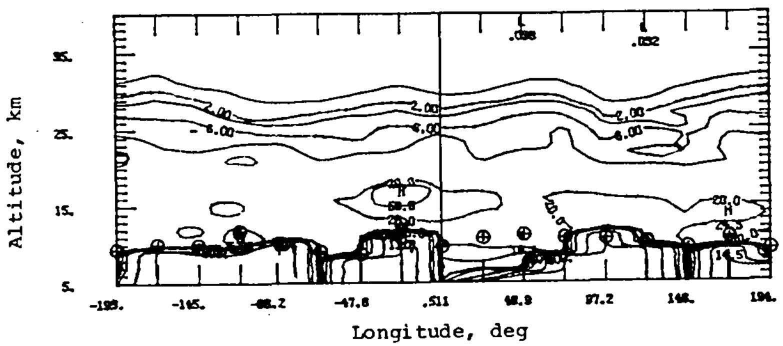


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

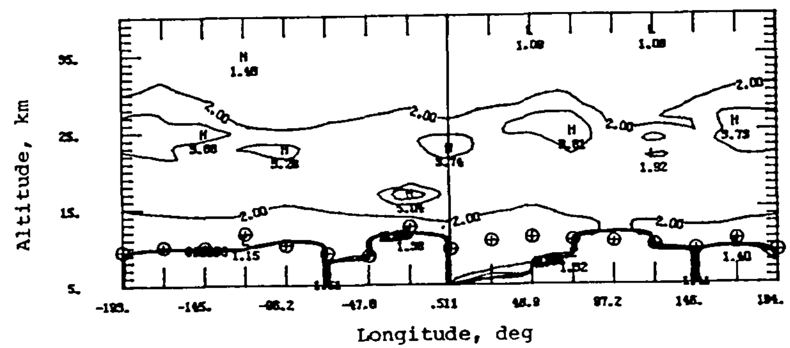


(e) Temperature (kelvin).

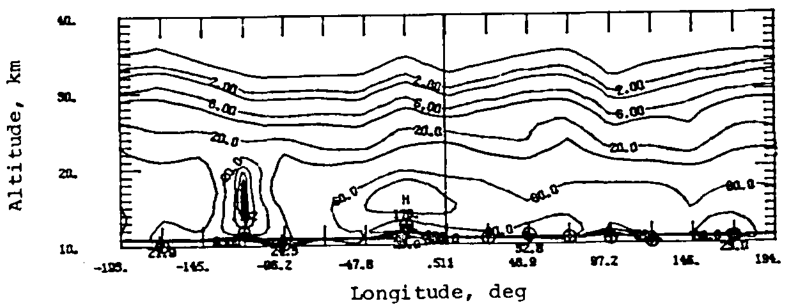
Figure 251. Extinction and temperature isopleths for sweep 9, sunset events, December 23.18–December 24.25, 1979, at 36.7°N to 39.1°N.



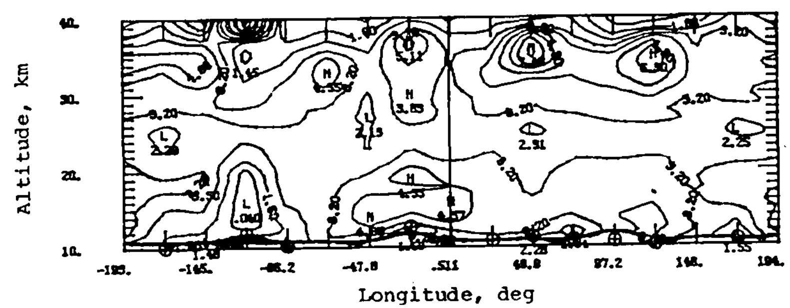
(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.



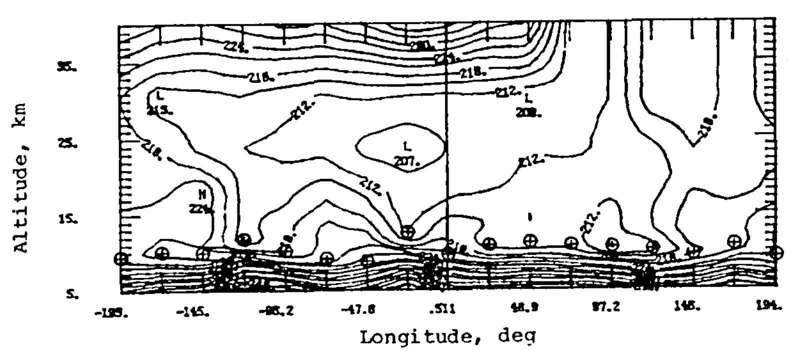
(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.



(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

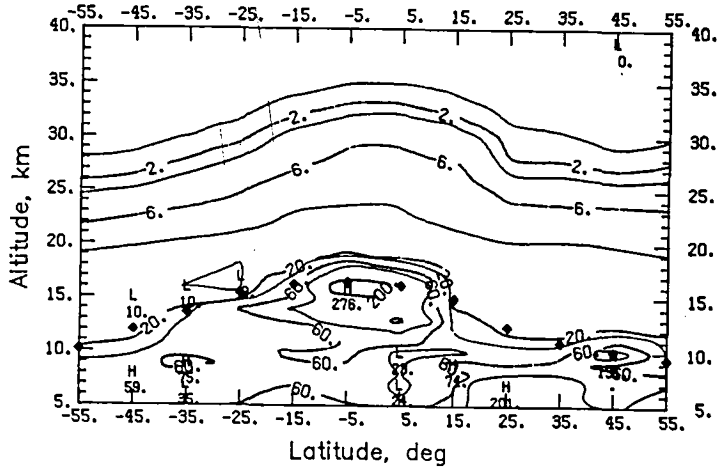


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

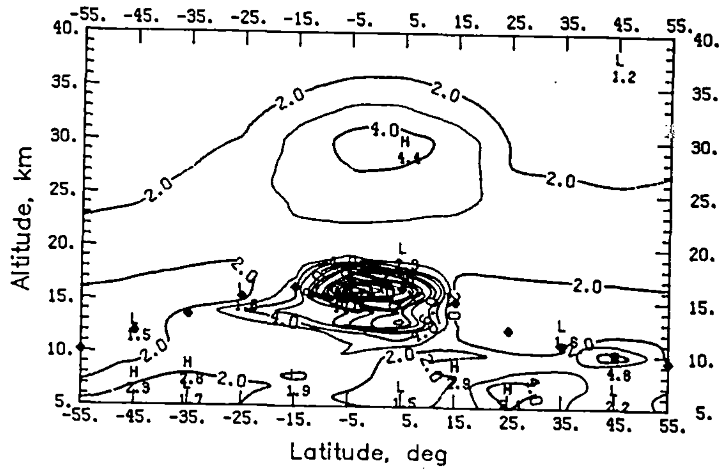


(e) Temperature (kelvin).

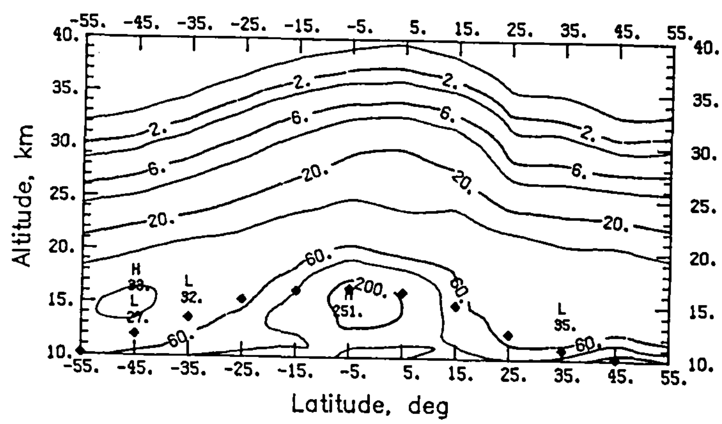
Figure 252. Extinction and temperature isopleths for sweep 9, sunset events, December 28.14–December 29.22, 1979, at 44.6°N to 45.4°N.



(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.

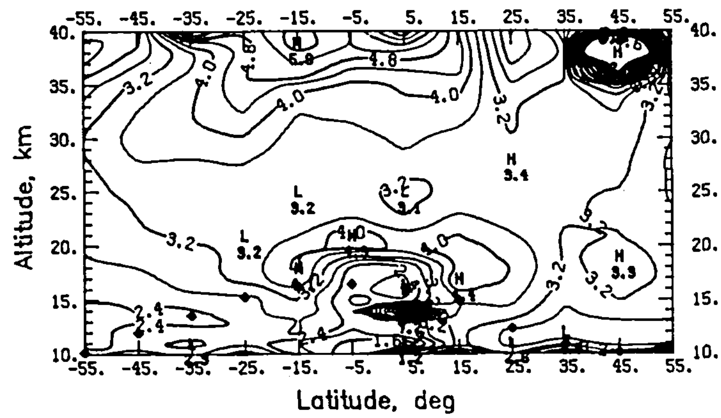


(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.

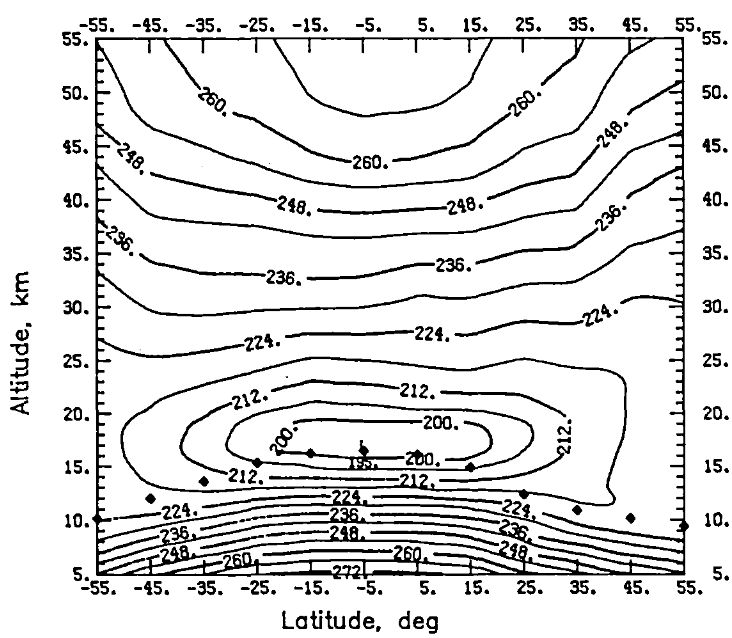


(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

Figure 253. Zonally averaged extinction and temperature data for sweep 2, sunrise events, March 3–April 5, 1979.

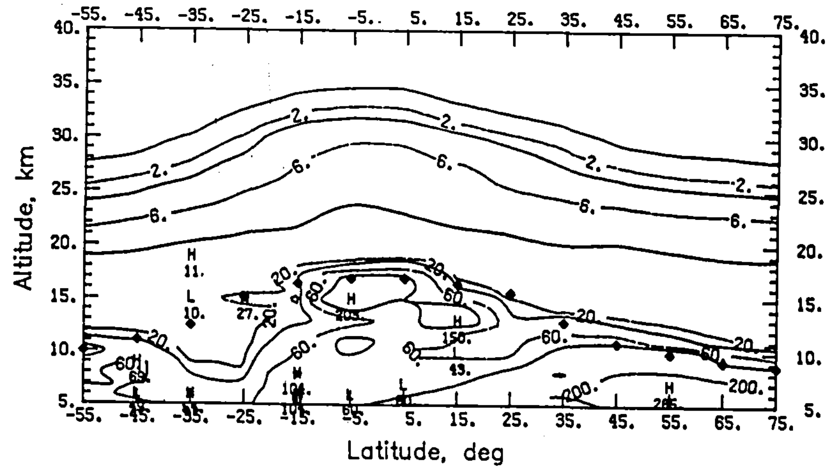


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

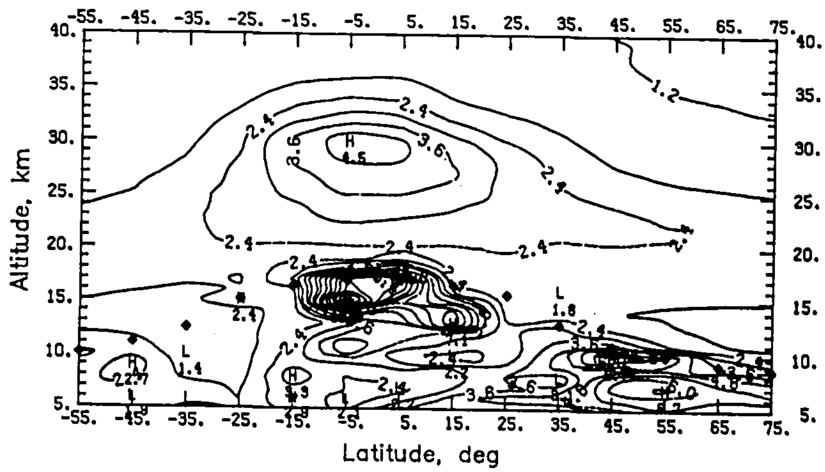


(e) Temperature (kelvin).

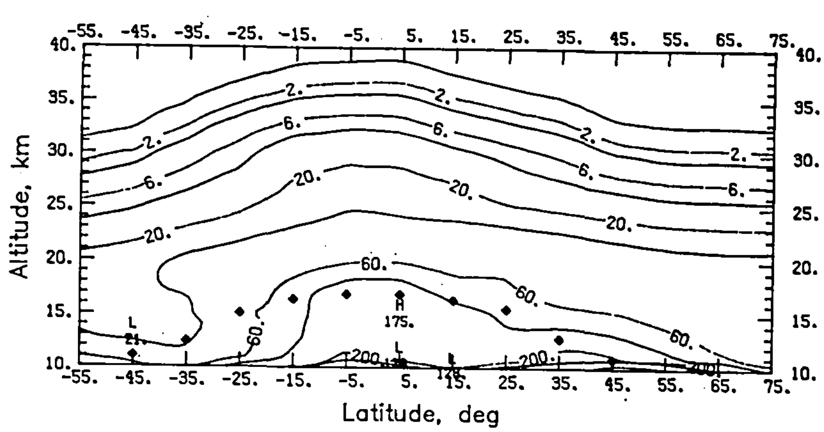
Figure 253. Concluded.



(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.

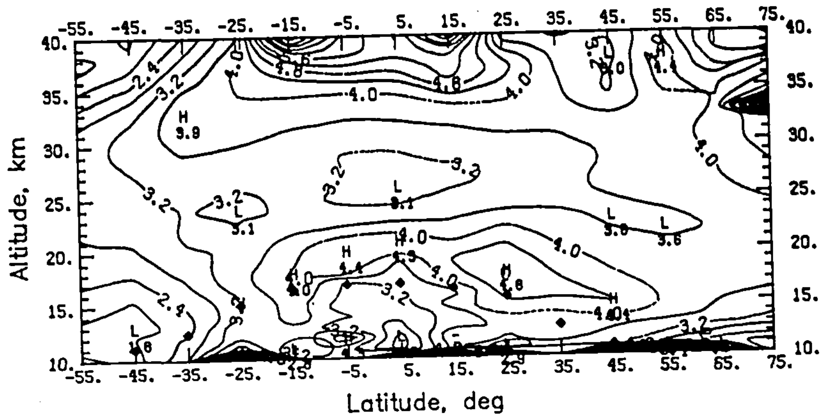


(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.

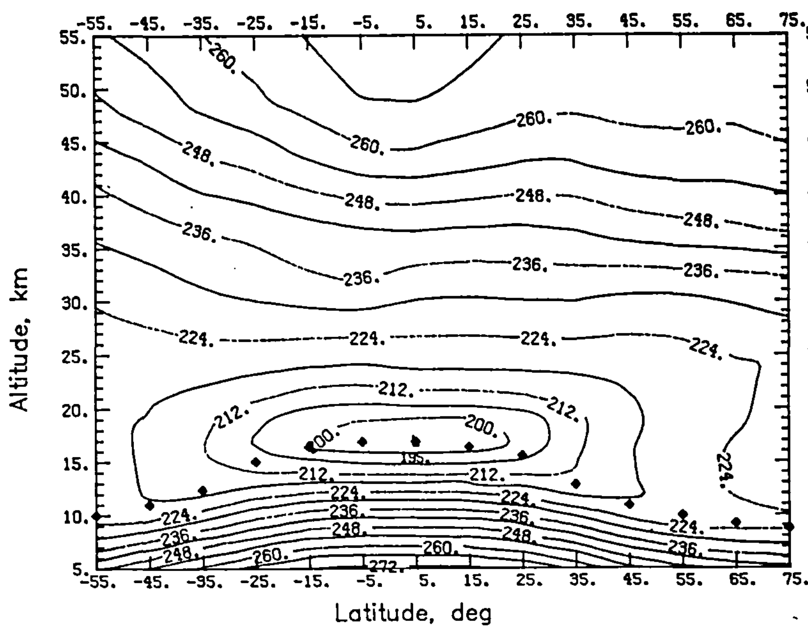


(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

Figure 254. Zonally averaged extinction and temperature data for sweep 3, sunrise events, April 5–May 14, 1979.

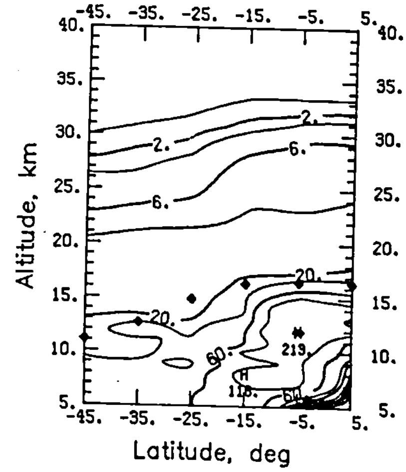


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

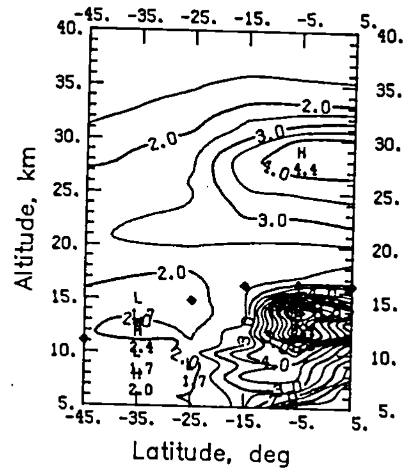


(e) Temperature (kelvin).

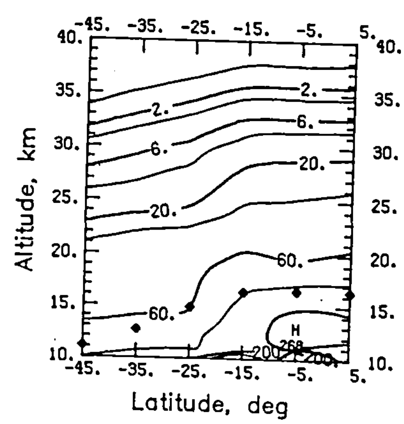
Figure 254. Concluded.



(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.

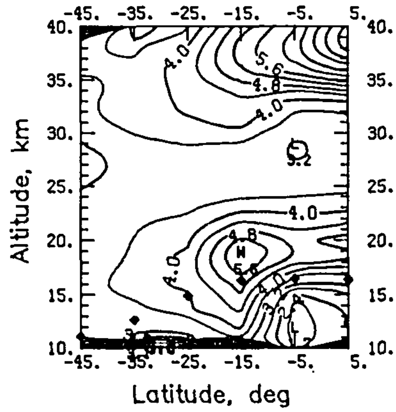


(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.

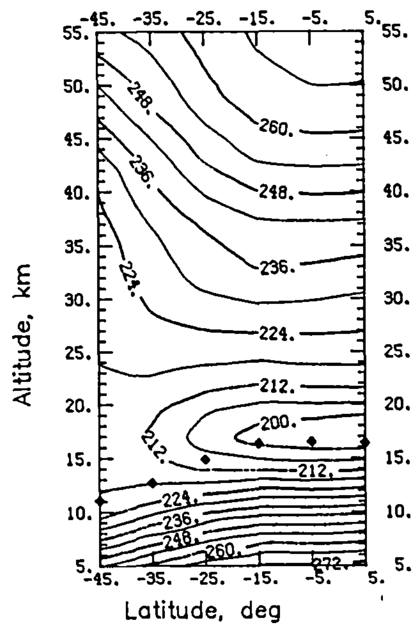


(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

Figure 255. Zonally averaged extinction and temperature data for sweep 4, sunrise events, May 14–June 10, 1979.

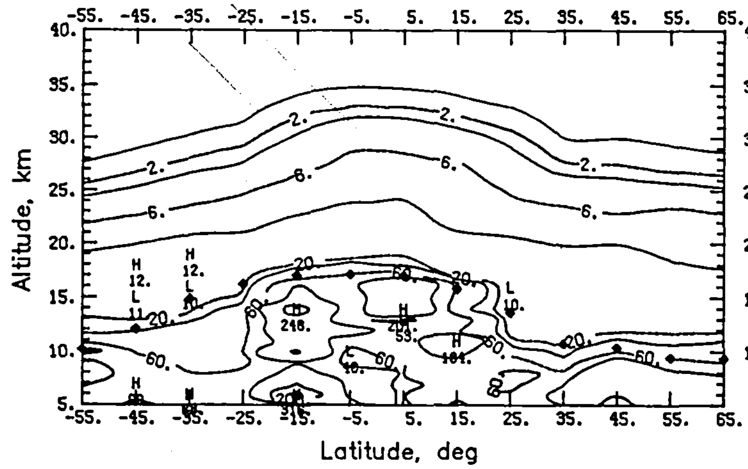


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

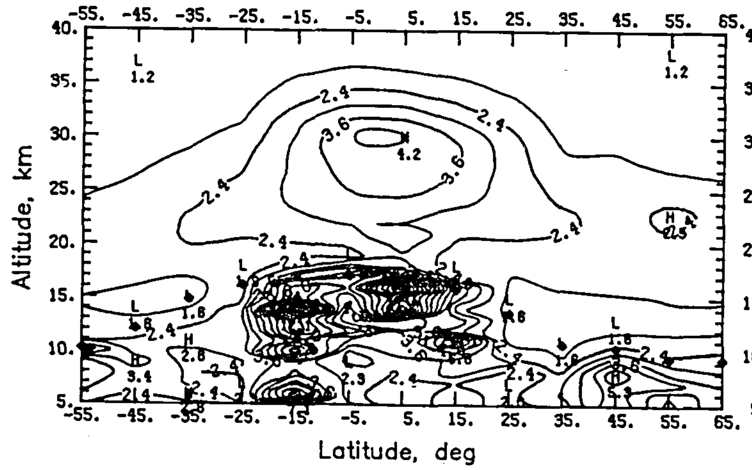


(e) Temperature (kelvin).

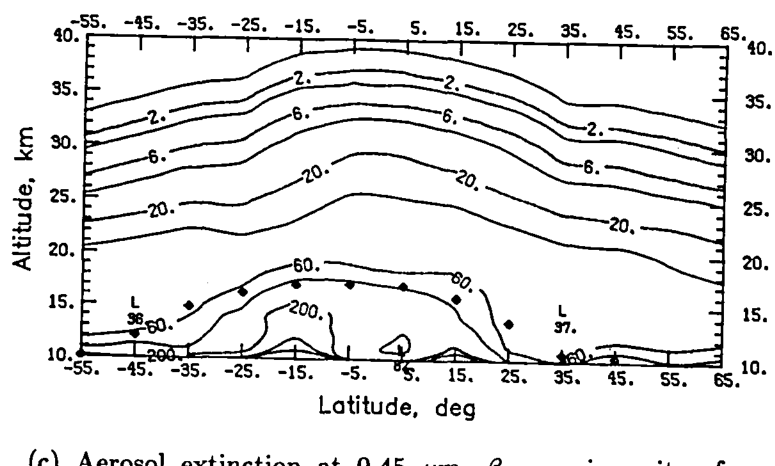
Figure 255. Concluded.



(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.

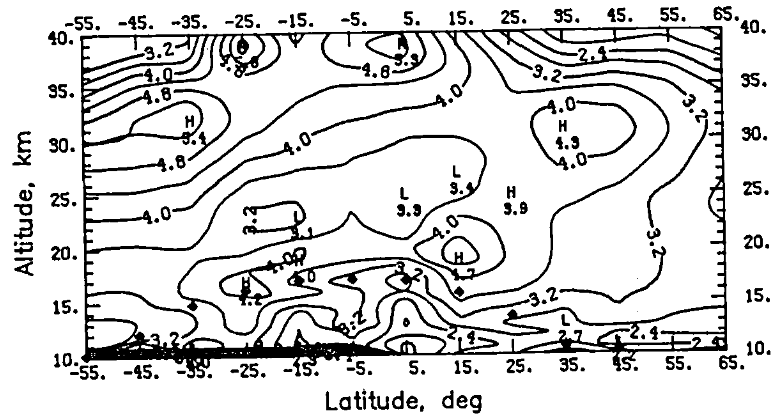


(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.

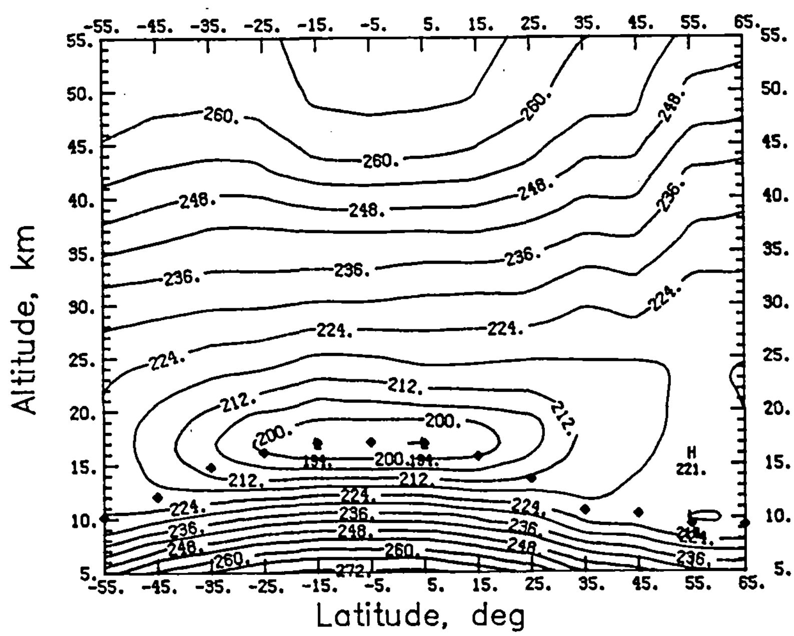


(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

Figure 256. Zonally averaged extinction and temperature data for sweep 1, sunset events, February 21–March 22, 1979.

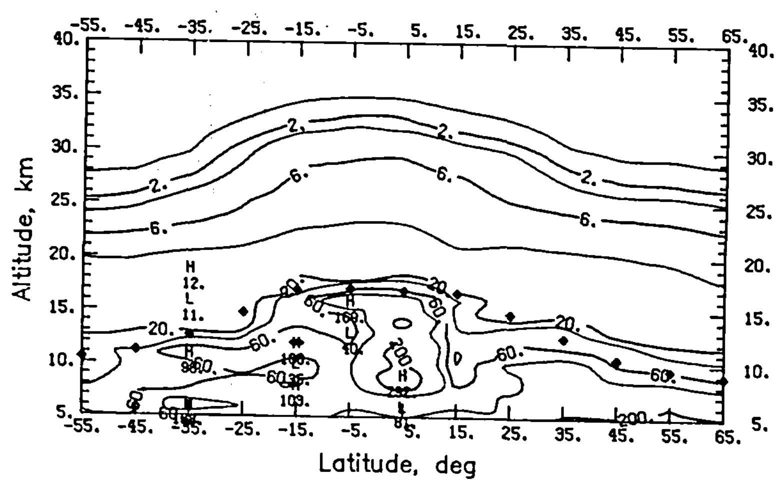


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

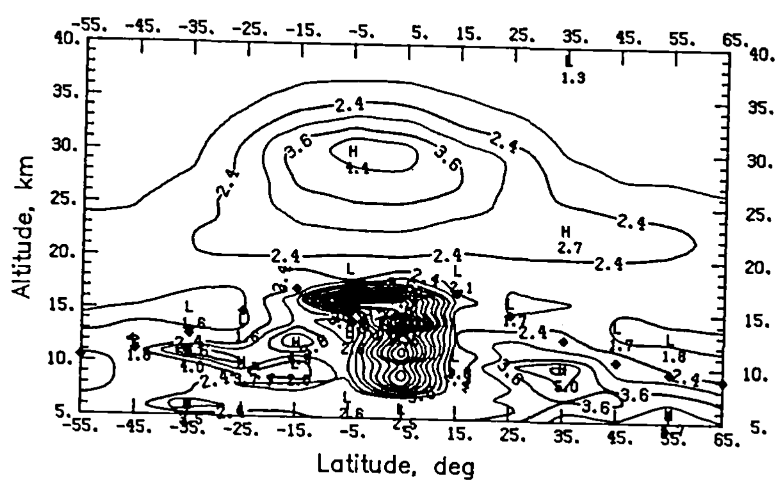


(e) Temperature (kelvin).

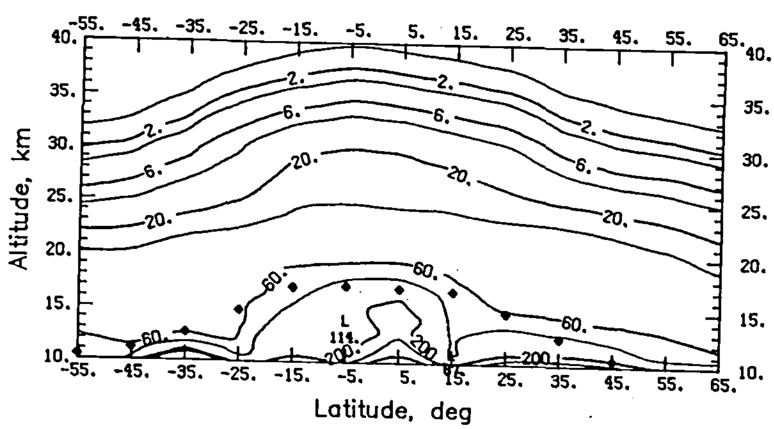
Figure 256. Concluded.



(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.

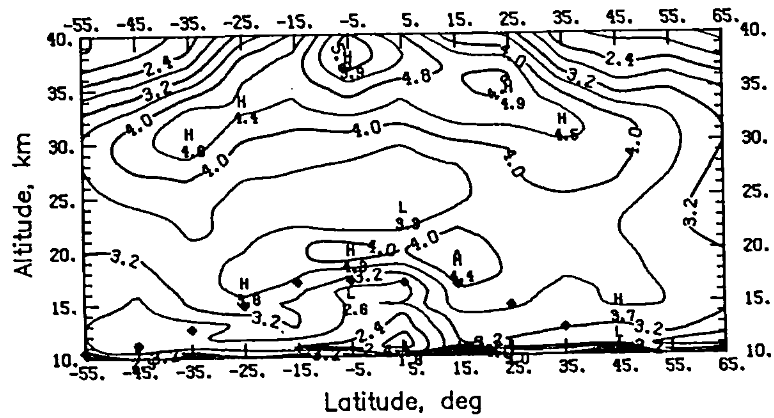


(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.

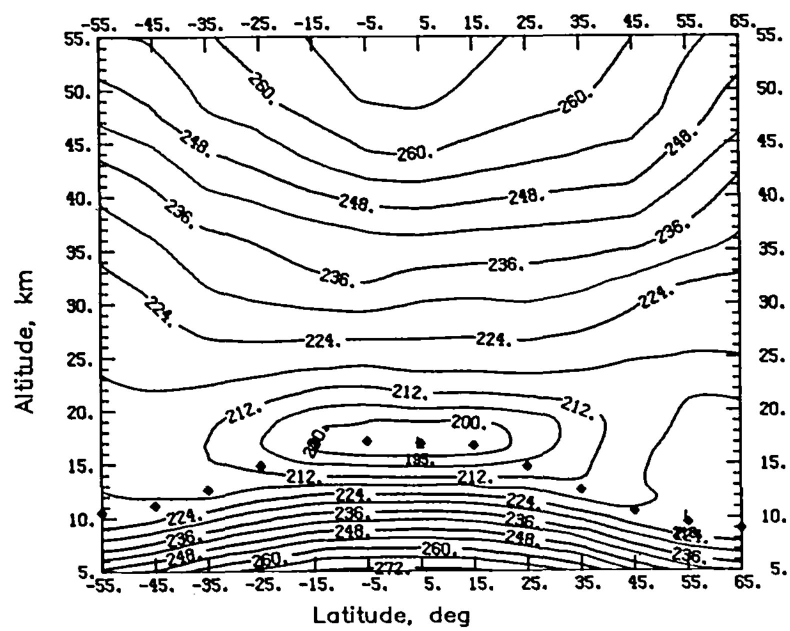


(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

Figure 257. Zonally averaged extinction and temperature data for sweep 2, sunset events, March 22–April 28, 1979.

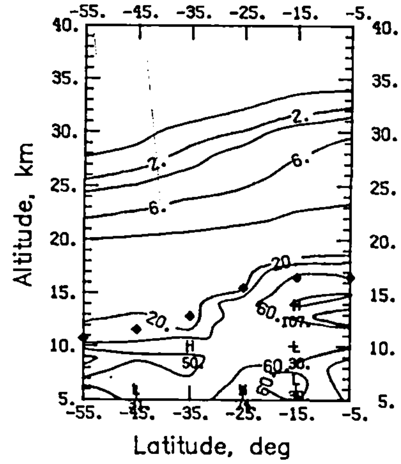


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

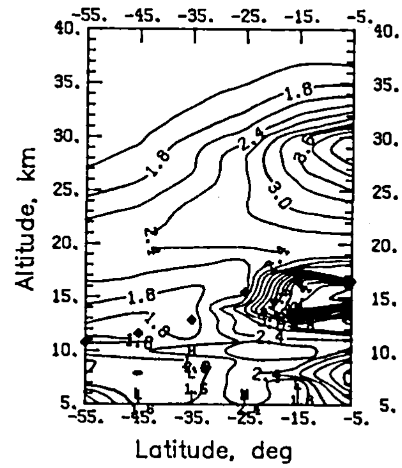


(e) Temperature (kelvin).

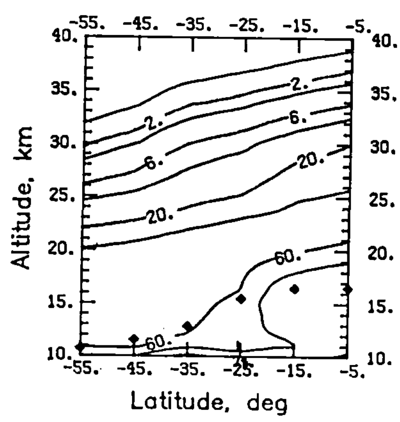
Figure 257. Concluded.



(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.

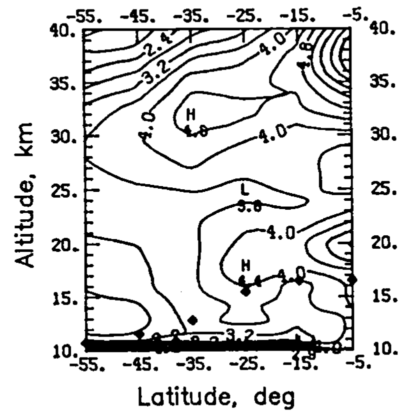


(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.

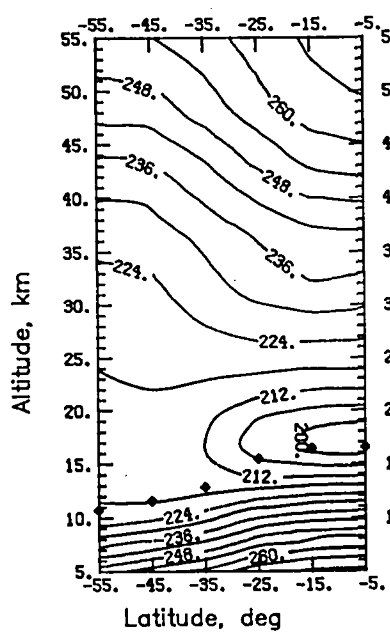


(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

Figure 258. Zonally averaged extinction and temperature data for sweep 3, sunset events, April 28–May 30, 1979.

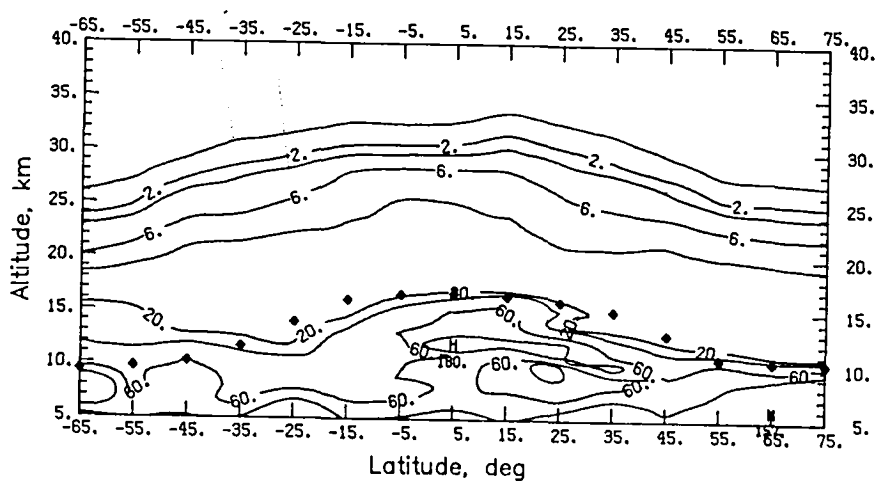


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

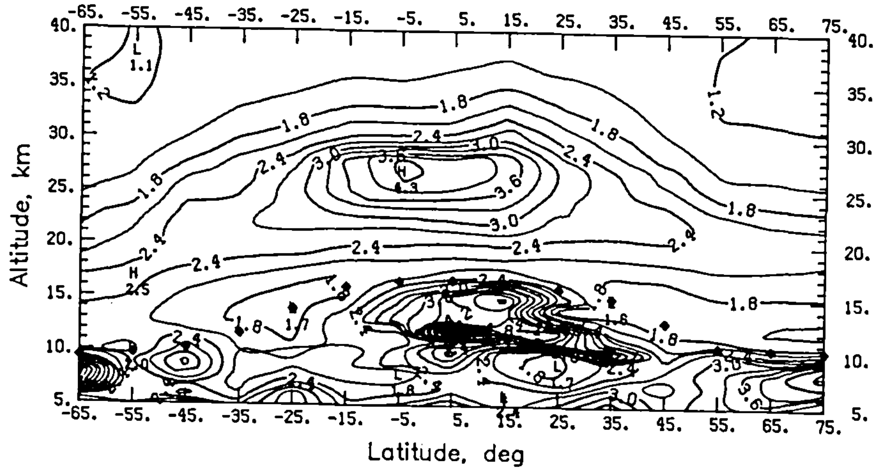


(e) Temperature (kelvin).

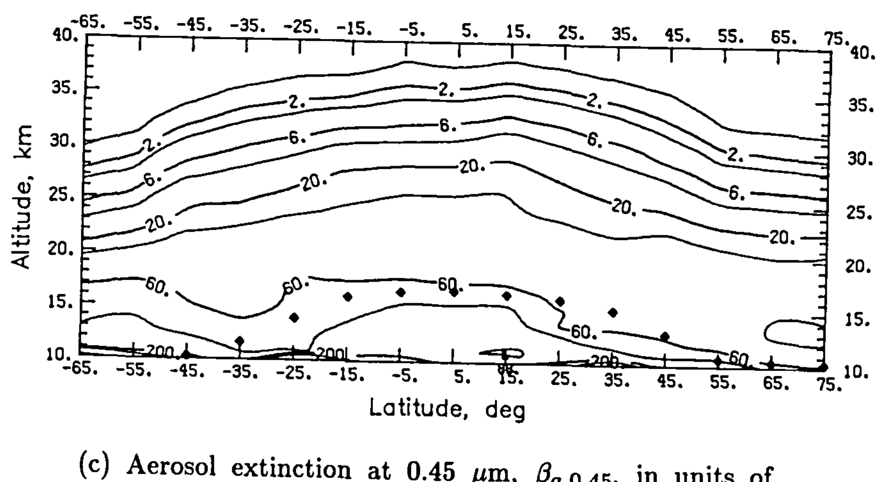
Figure 258. Concluded.



(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.

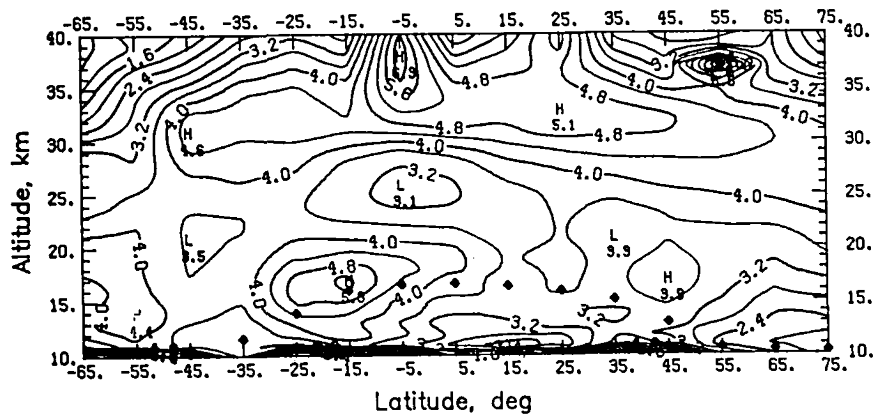


(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.

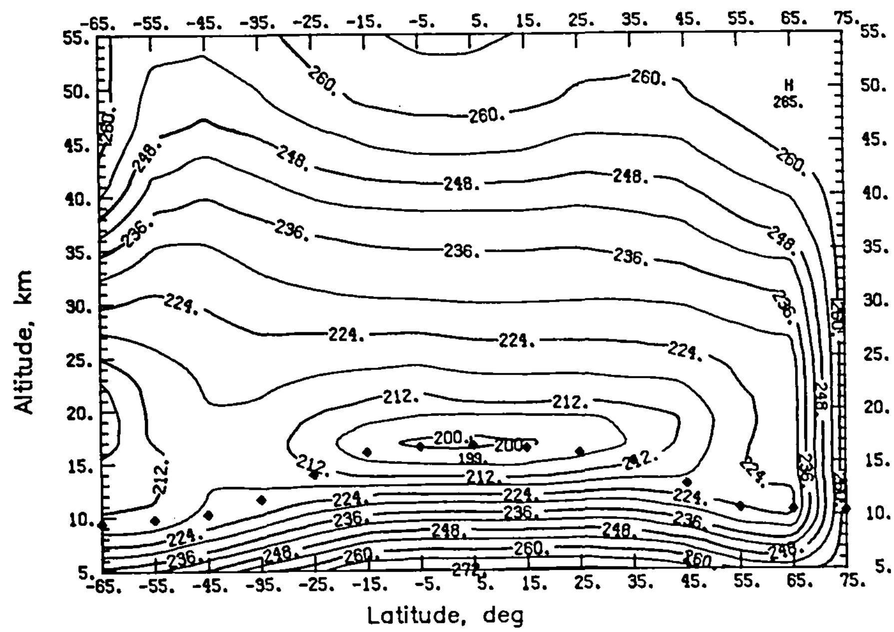


(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

Figure 259. Zonally averaged extinction and temperature data for sweep 6, sunset events, August 7–September 13, 1979.

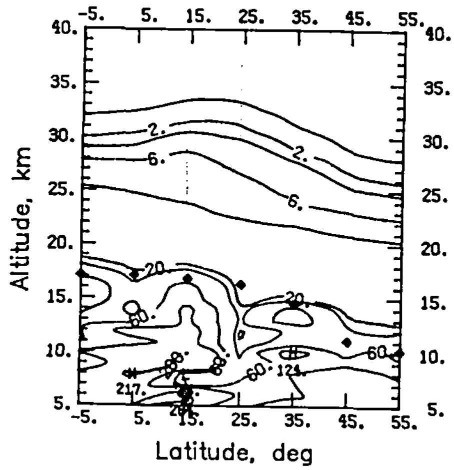


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

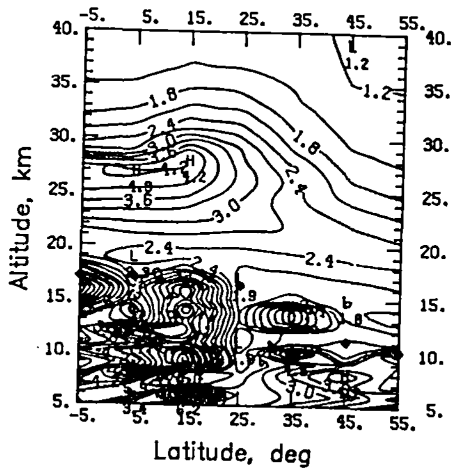


(e) Temperature (kelvin).

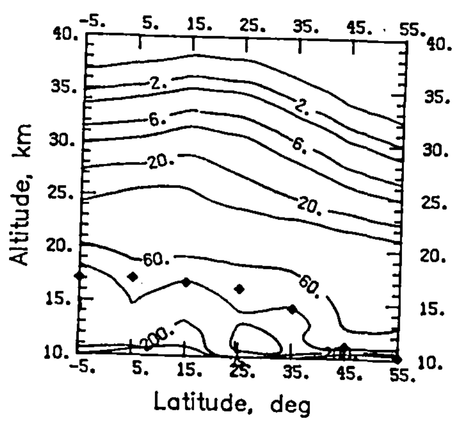
Figure 259. Concluded.



(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.

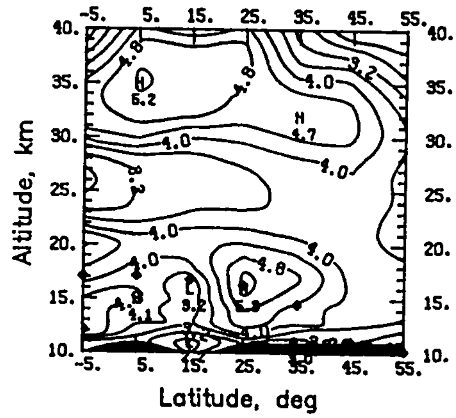


(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.

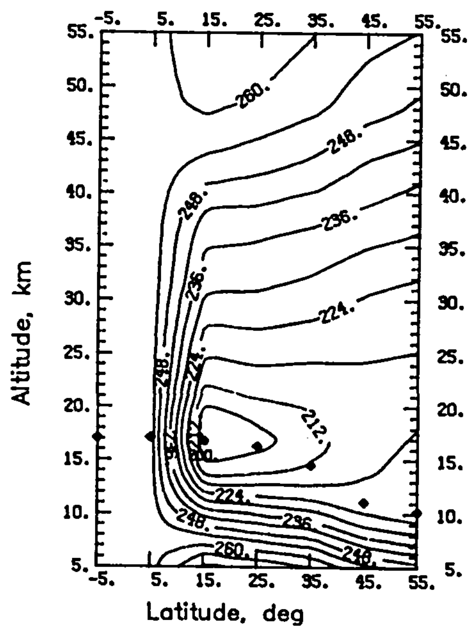


(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

Figure 260. Zonally averaged extinction and temperature data for sweep 7, sunset events, September 13–October 20, 1979.

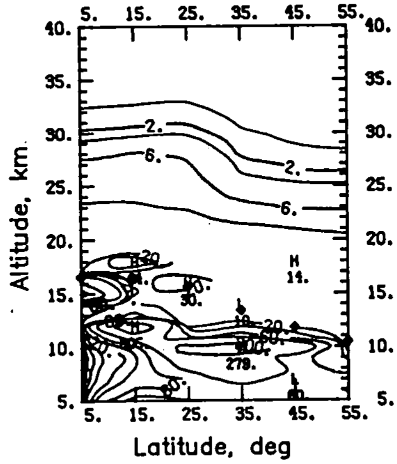


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

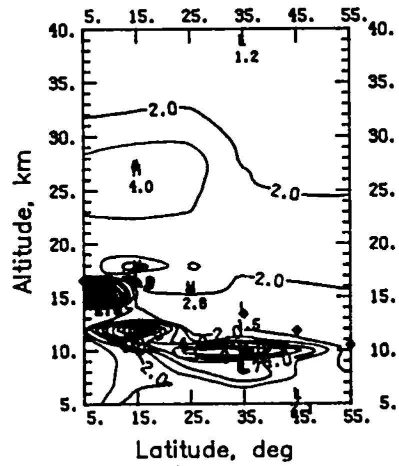


(e) Temperature (kelvin).

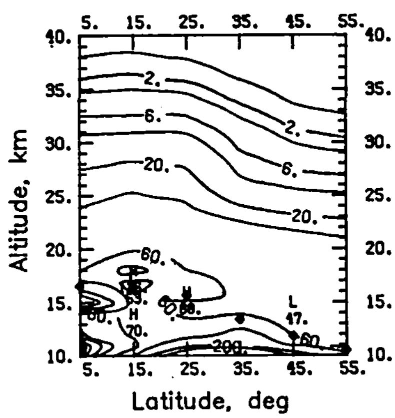
Figure 260. Concluded.



(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.

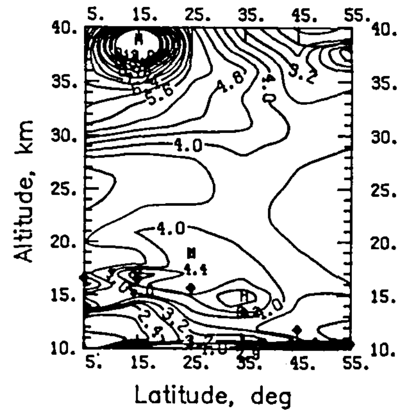


(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.

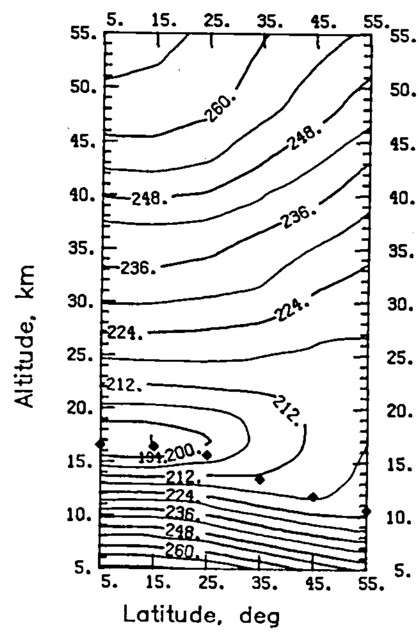


(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

Figure 261. Zonally averaged extinction and temperature data for sweep 8, sunset events, October 20–November 21, 1979.

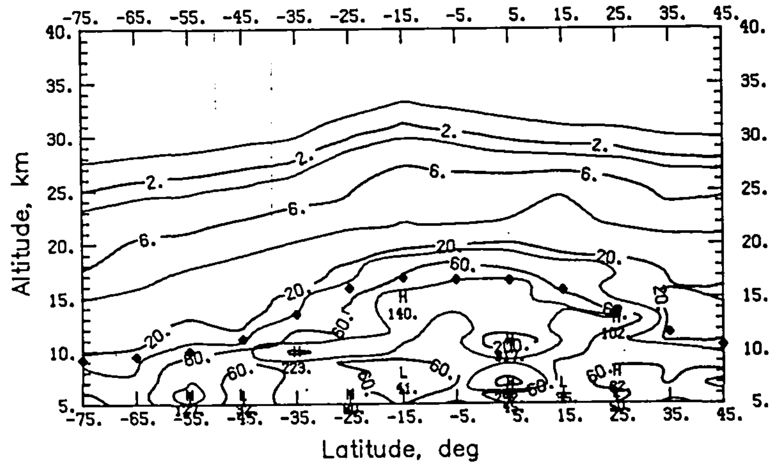


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

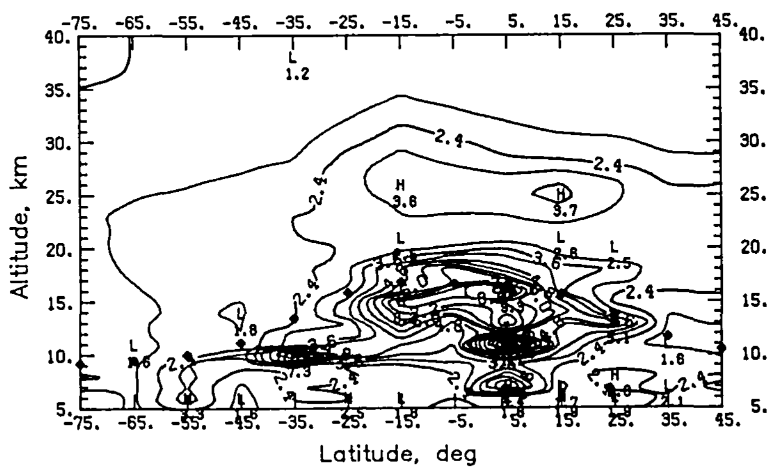


(e) Temperature (kelvin).

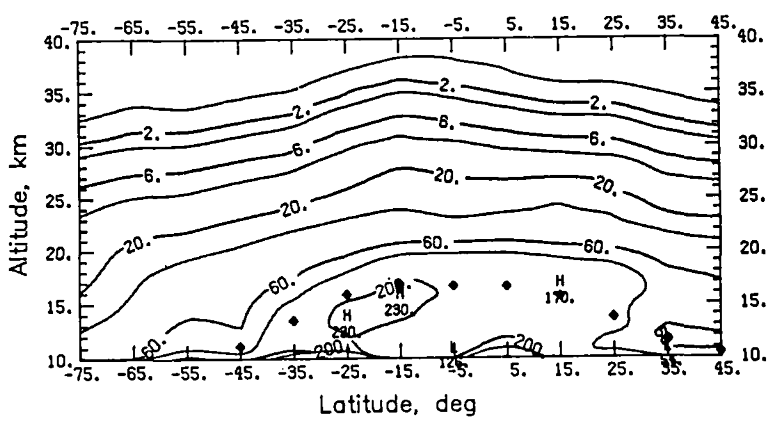
Figure 261. Concluded.



(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.

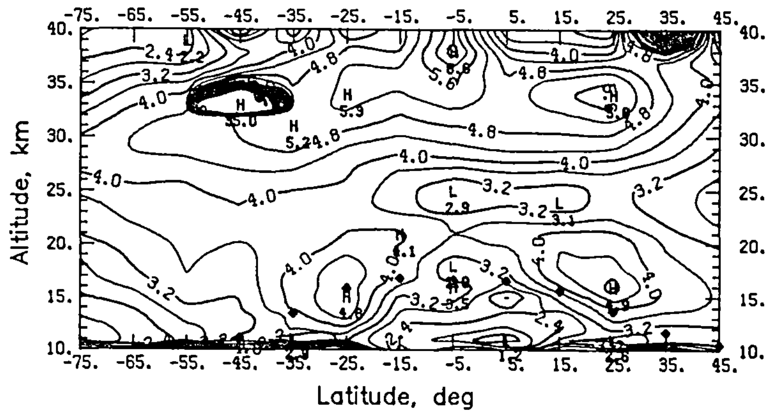


(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.

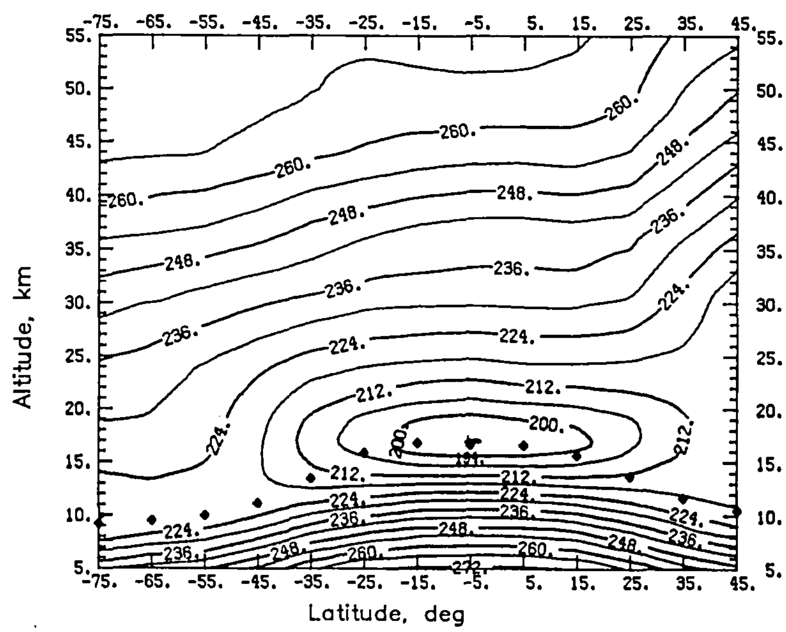


(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

Figure 262. Zonally averaged extinction and temperature data for sweep 9, sunset events, November 21–December 31, 1979.

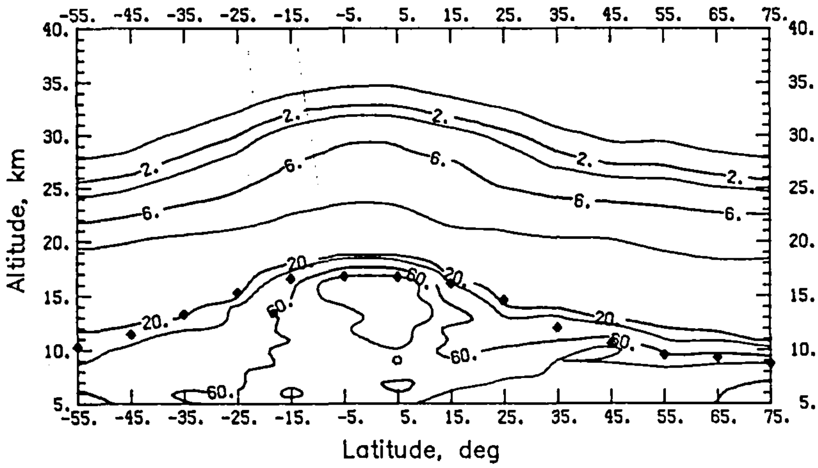


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

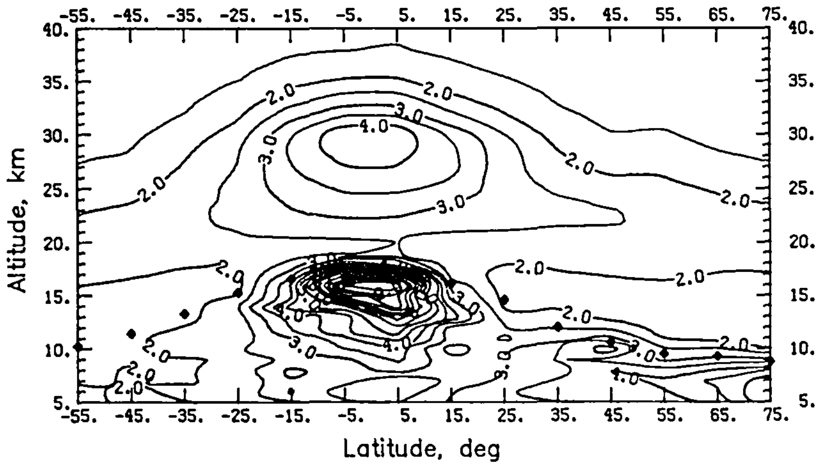


(e) Temperature (kelvin).

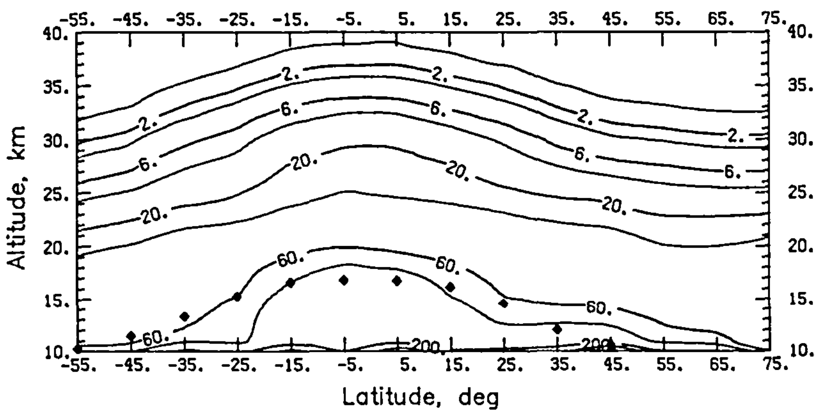
Figure 262. Concluded.



(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.

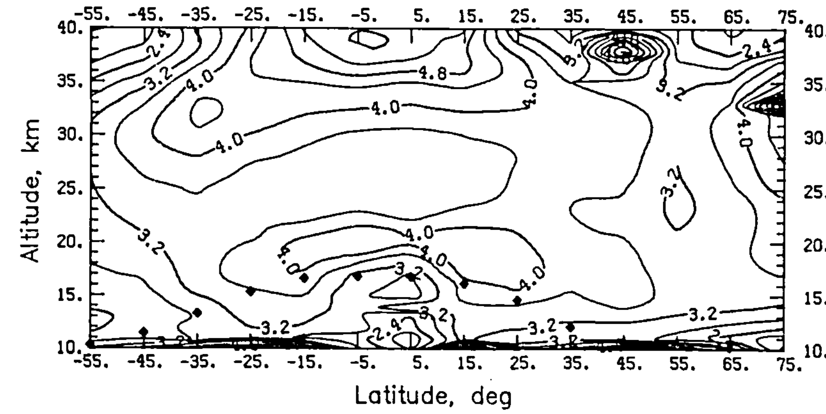


(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.

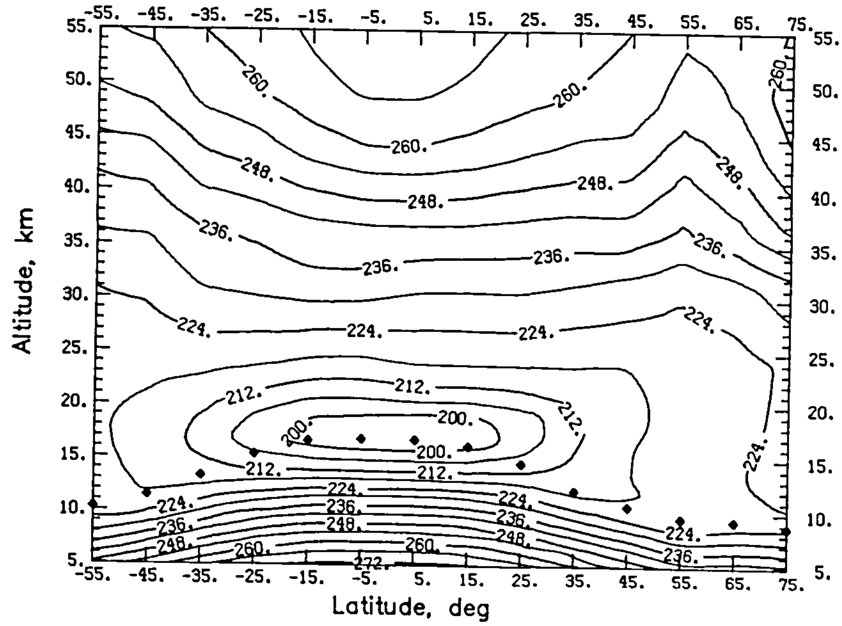


(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

Figure 263. Seasonally averaged extinction and temperature data for spring 1979.

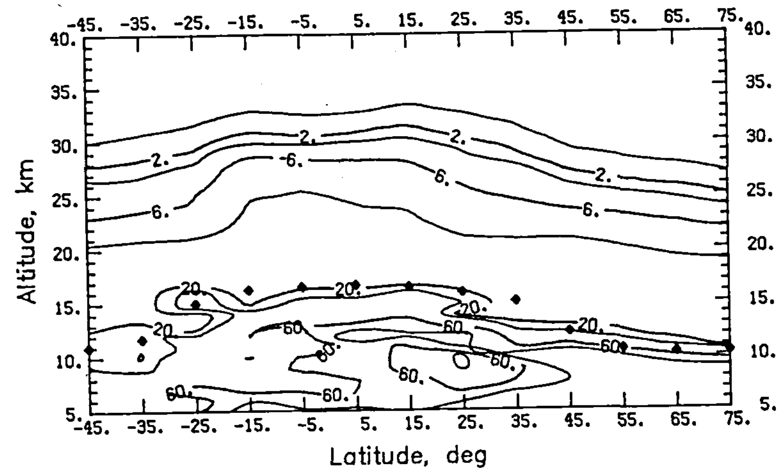


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

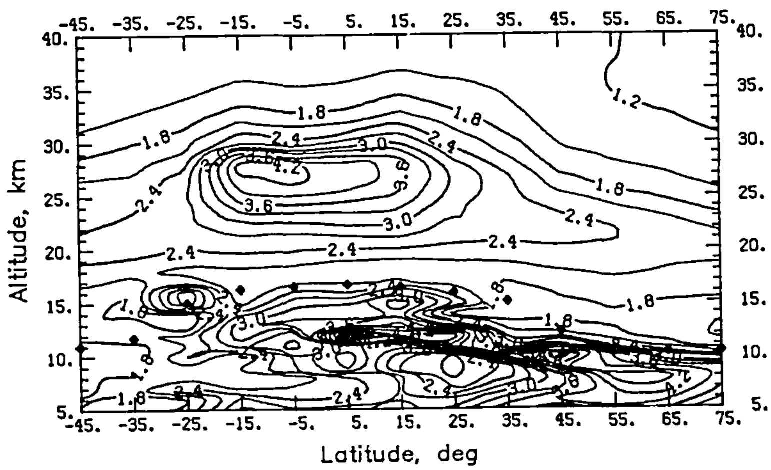


(e) Temperature (kelvin).

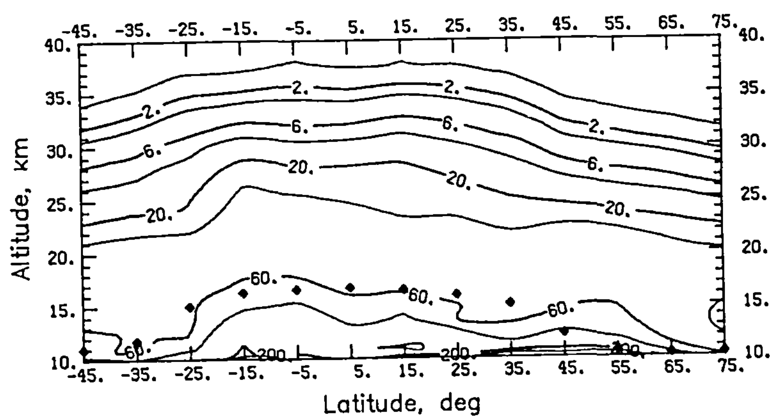
Figure 263. Concluded.



(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.

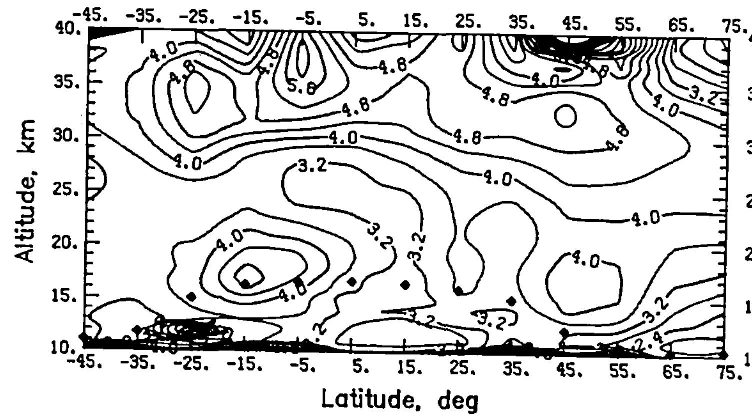


(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.

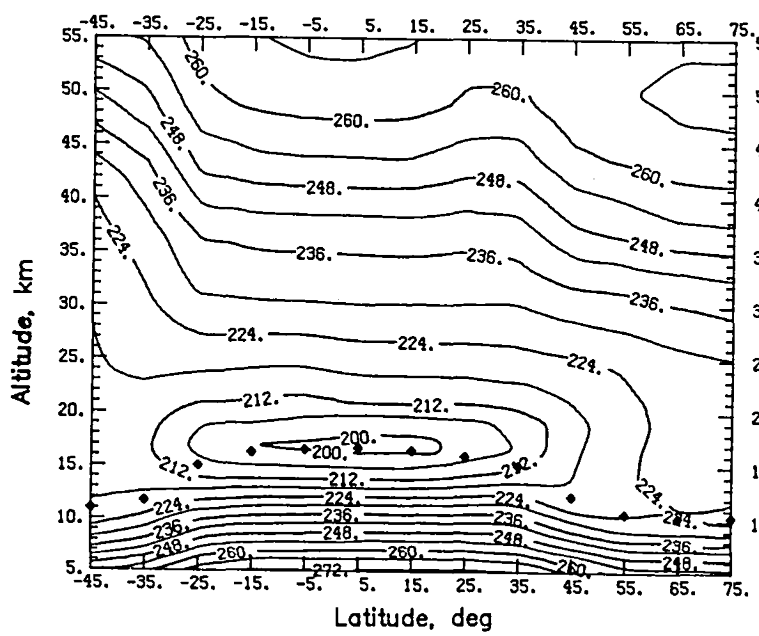


(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

Figure 264. Seasonally averaged extinction and temperature data for summer 1979.

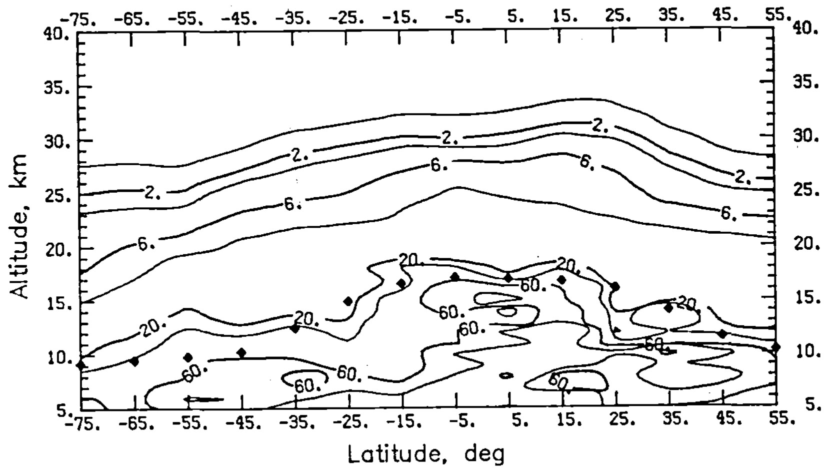


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

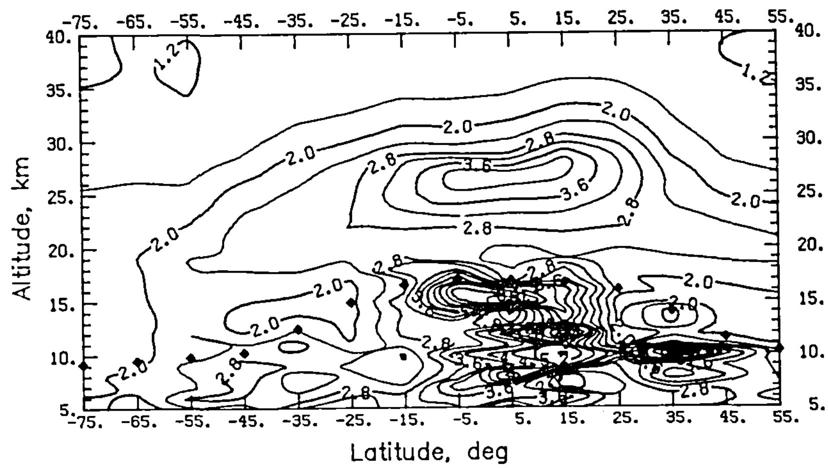


(e) Temperature (kelvin).

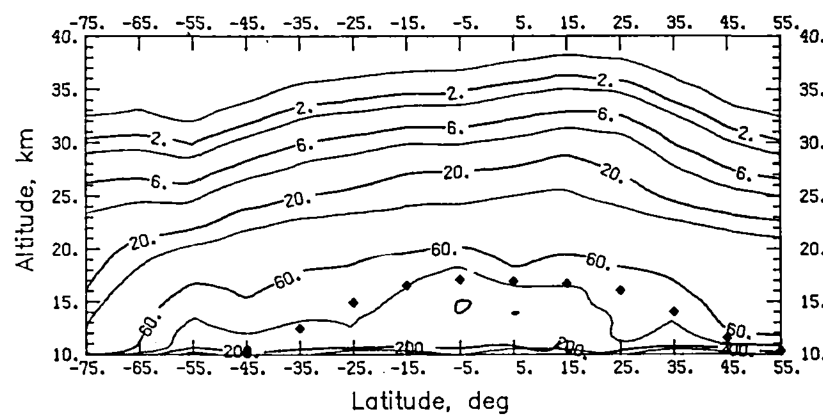
Figure 264. Concluded.



(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.

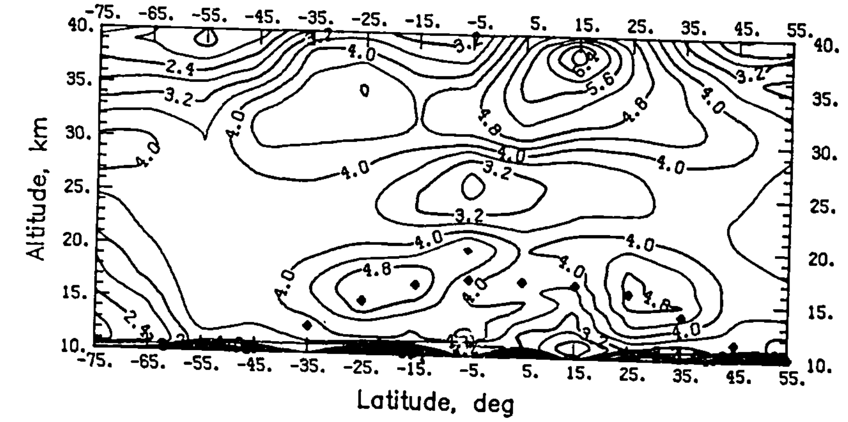


(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.

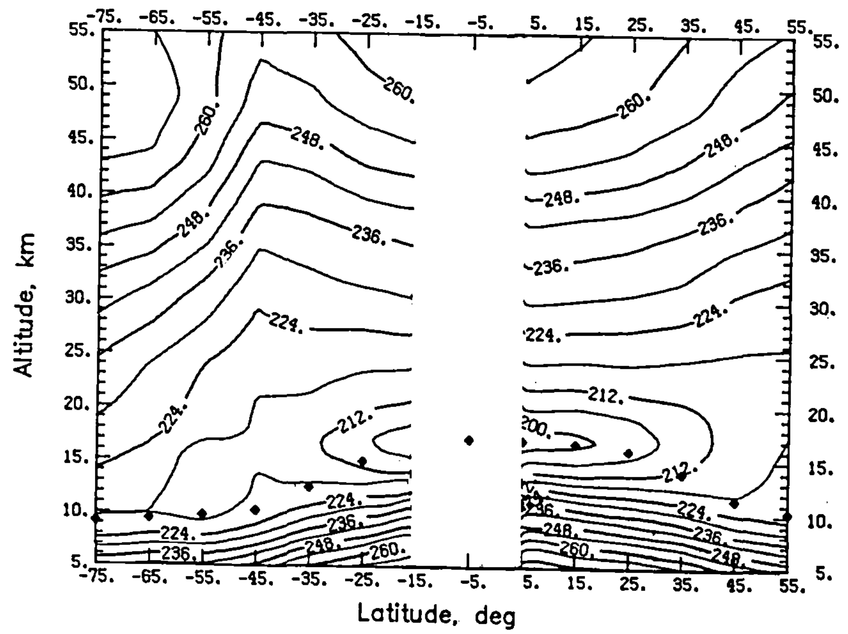


(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

Figure 265. Seasonally averaged extinction and temperature data for fall 1979.

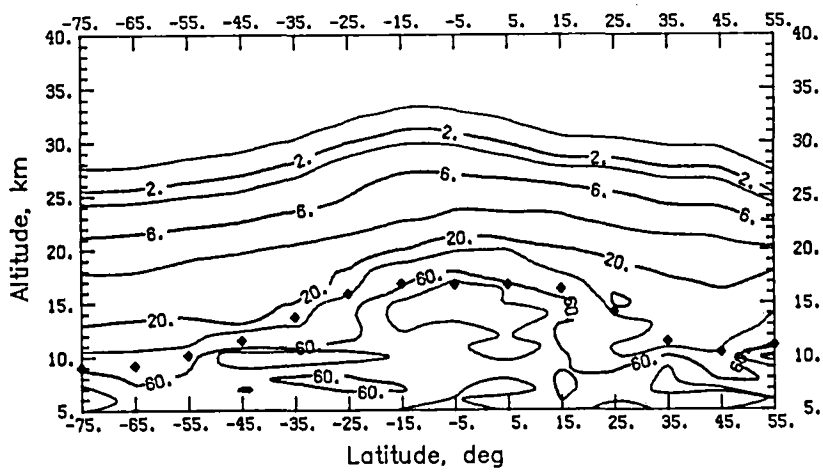


(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.

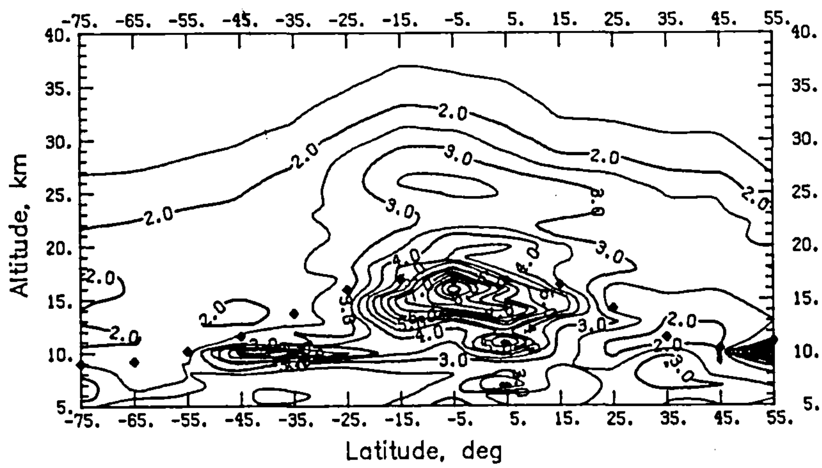


(e) Temperature (kelvin).

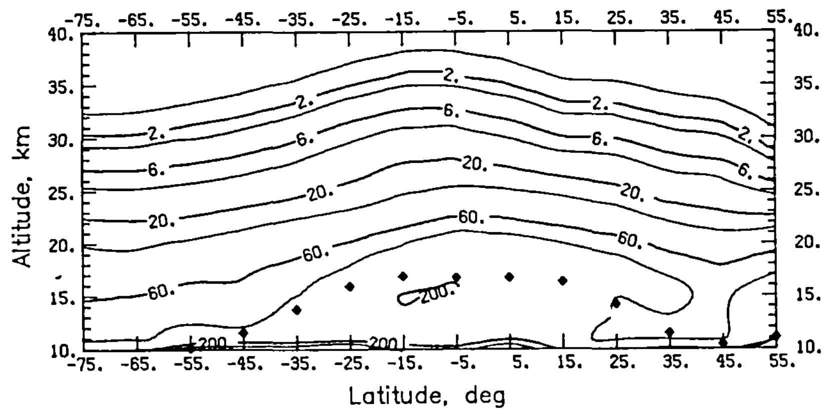
Figure 265. Concluded.



(a) Aerosol extinction at 1.00 μm, $\beta_{a,1.00}$, in units of 10^{-5} km^{-1}.

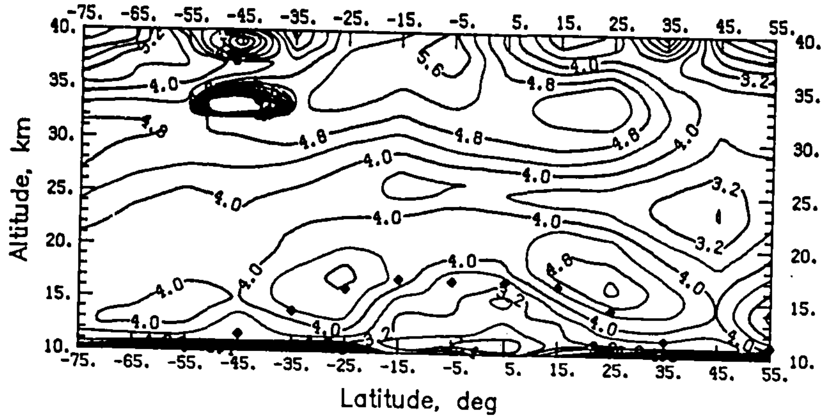


(b) Ratio of aerosol extinction to molecular extinction at 1.00 μm, $\beta_{a,1.00}/\beta_{m,1.00}$.

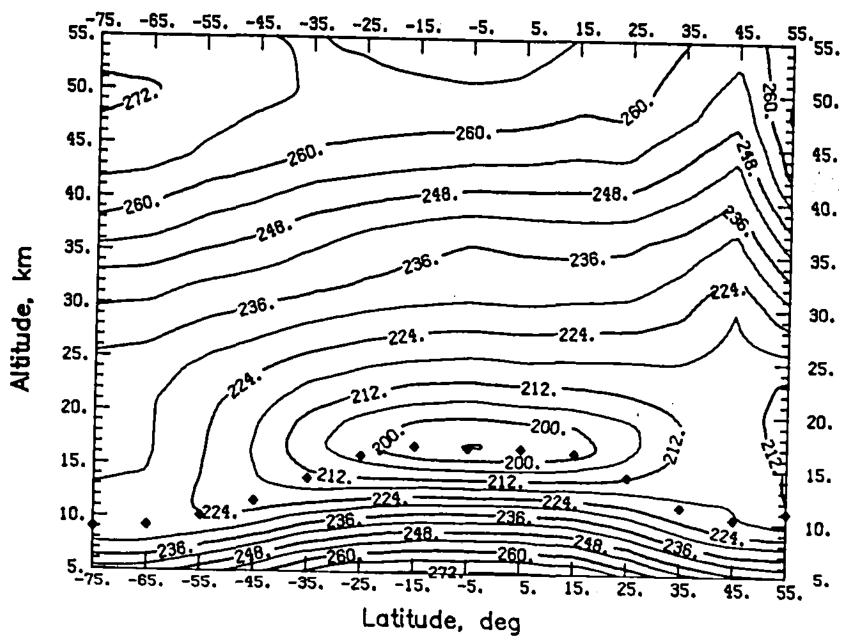


(c) Aerosol extinction at 0.45 μm, $\beta_{a,0.45}$, in units of 10^{-5} km^{-1}.

Figure 266. Seasonally averaged extinction and temperature data for winter 1979.



(d) Ratio of aerosol extinction at 0.45 μm to aerosol extinction at 1.00 μm, $\beta_{a,0.45}/\beta_{a,1.00}$.



(e) Temperature (kelvin).

Figure 266. Concluded.

Standard Bibliographic Page

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16. Abstract

The Stratospheric Aerosol and Gas Experiment (SAGE) satellite system, launched on February 18, 1979, provides profiles of aerosol extinction, ozone concentration, and nitrogen dioxide concentration between about 80°N and 80°S. This report presents zonal averages, separated into sunrise and sunset events, and seasonal averages of the aerosol extinction at 1.00 μm and 0.45 μm, ratios of the aerosol extinction to the molecular extinction at 1.00 μm, and ratios of the aerosol extinction at 0.45 μm to the aerosol extinction at 1.00 μm. The averages for 1979 are shown in tables and in profile and contour plots (as a function of altitude and latitude). In addition, temperature data provided by the National Oceanic and Atmospheric Administration (NOAA) for the time and location of each SAGE measurement are averaged and shown in a similar format. Typical values of the peak aerosol extinction were 1×10^{-4} to 2×10^{-4} km^{-1} at 1.00 μm and 4×10^{-4} to 8×10^{-4} km^{-1} at 0.45 μm before the eruption of Sierra Negra in November 1979. Optical depth values for the 1.00-μm channel varied between 0.001 and 0.002 over all latitudes. No attempt has been made in this report to give any detailed explanations or interpretations of these data. The intent of this report is to provide, in a ready-to-use format, zonal and seasonal averages of aerosol extinction data for the first calendar year of the SAGE data set to be used in atmospheric and climatic studies.

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