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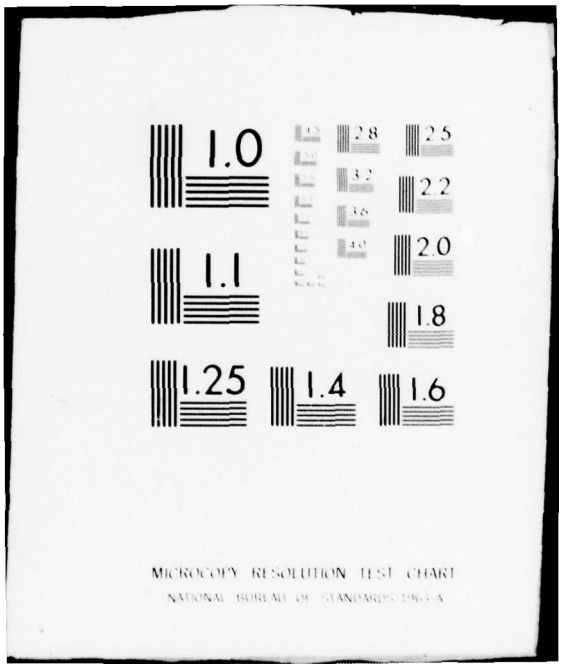
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Cirrus Particle Distribution Study, Part 3

DONALD J. VARLEY, Lt Col, USAF

11 December 1978

METEOROLOGY DIVISION PROJECT 317J
AIR FORCE GEOPHYSICS LABORATORY
HANSCOM AFB, MASSACHUSETTS 01731

AIR FORCE SYSTEMS COMMAND, USAF

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FOR THE COMMANDER

John Howard

Chief Scientist

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This report describes particle spectra in thin cirrus clouds that were sampled on 18 March 1978 southwest of Albuquerque. The sampling aircraft, an MC-130E, flew near 31,000 ft (9.4 km) and acquired cloud particle data with its three PMS spectrometer probes. Ice crystals larger than 50 (μm) – micrometer were recorded for only about 17 min, but smaller ones were measured by an axial scattering probe for several more minutes. Listings of particle concentration vs size, averaged over consecutive 30 sec intervals for 75 min, are included.

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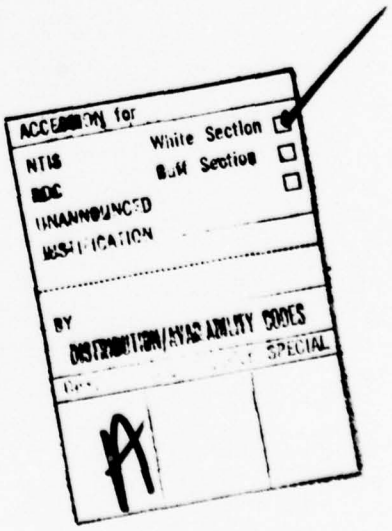

Contents

Illustrations

Cirrus Particle Distribution Study, Part 3

1. INTRODUCTION

This is the third part in a series[1] of examinations of cirriform cloud particle distributions measured by the AFGL instrumented MC-130E aircraft during flights in the western part of the United States. Most of the flights have been funded by, and the data obtained and processed for, the Air Force Weapons Laboratory. The first part outlined a brief description of previous research in cirrus particle types. It also described some of the aircraft environmental measuring capabilities and limitations, which generally prevailed during the 18 March 1978 mission described here. The second part provided cirrus particle spectra data for a sampling flight made in February 1978.

The aircraft cloud particle measurements of 18 March were made in the Albuquerque-Socorro-Truth or Consequences area of New Mexico during a 2 hr and 45 min flight that originated and terminated at Kirtland AFB at Albuquerque. The cirriform clouds that were sampled, were very thin except for a few minutes when more dense cirrus types were flown through. Slant visibility from the aircraft was 15 miles or more during much of the flight. However, even when visibility was this good or better the Particle Measuring Systems (PMS) axial scattering

(Received for publication 7 December 1978)

1. See AFGL-TR-78-0192, August 1978; and AFGL-TR-78-0248, October 1978.

probe recorded varying numbers of particles in the 2 to 30 μm range. The PMS "cloud" and "precipitation" probes also recorded some larger sized particles for two periods totalling about 17 min.

The following paragraphs outline the general weather situation on the mission day and also discuss some of the significant aspects of the data obtained.

2. SYNOPTIC SITUATION

On 18 March a nearly stationary surface high pressure cell, centered over northwestern New Mexico, was aiding in blocking the further southward penetration of a weak front over Nebraska and Wyoming. As shown in Figure 1, the front was part of a large system that was occluded from Iowa northward into Canada. A minor surface trough extended from the front southwestward over Kansas, but no significant weather was associated with it.

Aloft a ridge of high pressure extended from New Mexico to Oregon (see Figure 2). A closed low pressure circulation at 850 mb and higher, about 20 deg-degrees of longitude off the Los Angeles coast, resulted in extensive overcast conditions in California, Arizona and northwestern Mexico. Some of the higher clouds associated with this system were moving into New Mexico on the latter part of 18 March, although they were relatively thin at that time. Figures 3a and b show visible and infrared satellite views of the area of interest at about the time cirrus sampling was being attempted. Most of Texas and the eastern part of New Mexico had generally sunny skies during the day with only one to four tenths of high clouds.

Although cloud cover was extensive over the southwestern corner of the U. S., the bases were generally above 10, 000 ft over Southern California and above 15, 000 ft over Arizona. At 2200Z most New Mexico reporting stations were estimating cloud bases, where they existed, to be near 25, 000 ft (7. 6 km). The Albuquerque temperature sounding valid 19 March 0000Z (see Figure 4) indicated a slight decrease in the temperature-dewpoint spread between 7. 5 and 8. 5 km (24, 000 to 28, 000 ft) as compared to lower and higher levels. The tropopause was near 38, 000 ft (12. 5 km) MSL – about 5, 500 ft above the highest altitude attained during the flight.

No precipitation was reported during the afternoon of 18 March by stations in Arizona, New Mexico or Texas, although a few stations reported virga, and radar showed small areas of rain showers over extreme western Arizona. Surface winds were light during most of the day near Albuquerque; however, they reached gusts of 25 to 35 knots in eastern New Mexico, Texas and Oklahoma, where the pressure gradient was greater. Temperatures at the surface ranged from the high 60s to

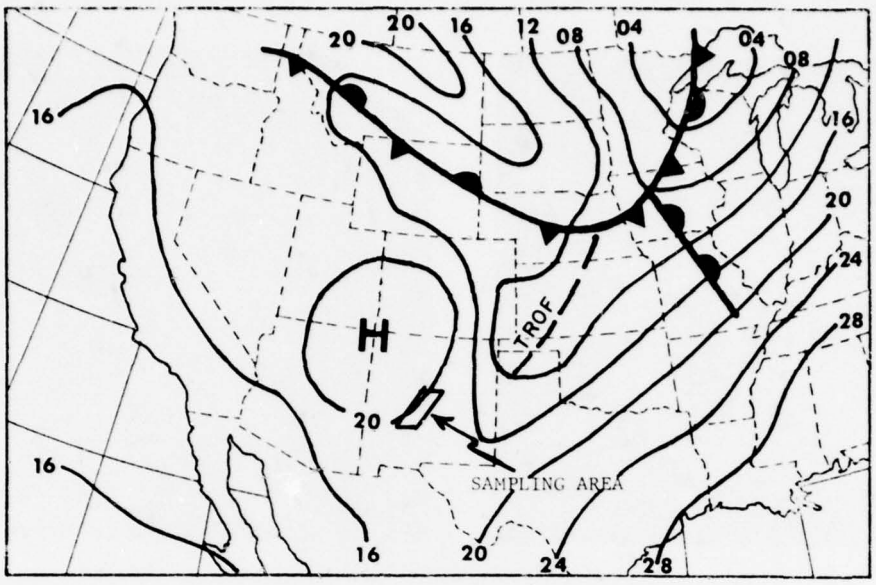

Figure 1. Synoptic Surface Analysis for 2100Z, 18 March 1978. Add 1000 millibars to isobar values

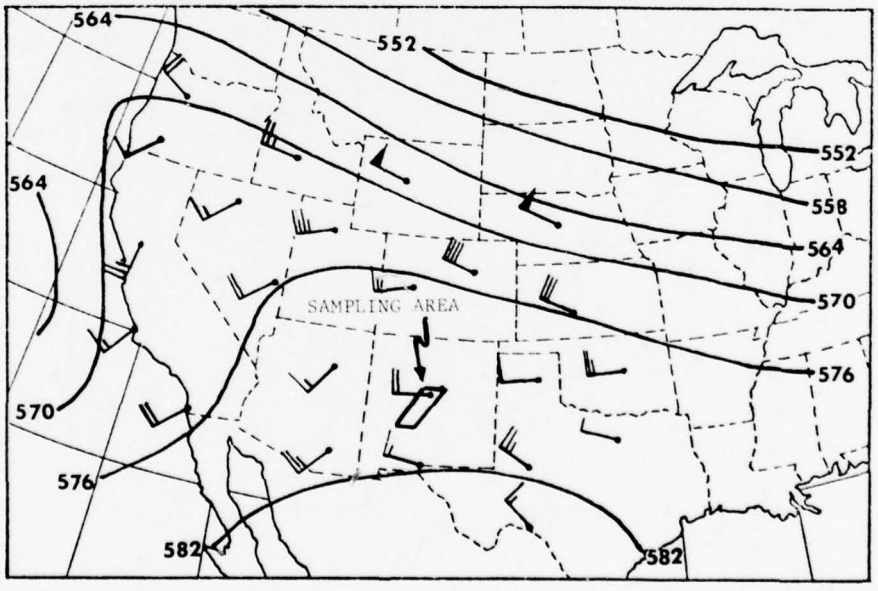

Figure 2. 500 mb Analysis for 0000Z, 19 March 1978. Contour values in tens of geopotential meters

Figure 3a. GOES East Satellite Visible Picture, 2130Z, 18 March 1978. Two-mile resolution

Figure 3b. GOES East Satellite Infrared Picture, 2200Z, 18 March 1978. Two-mile resolution

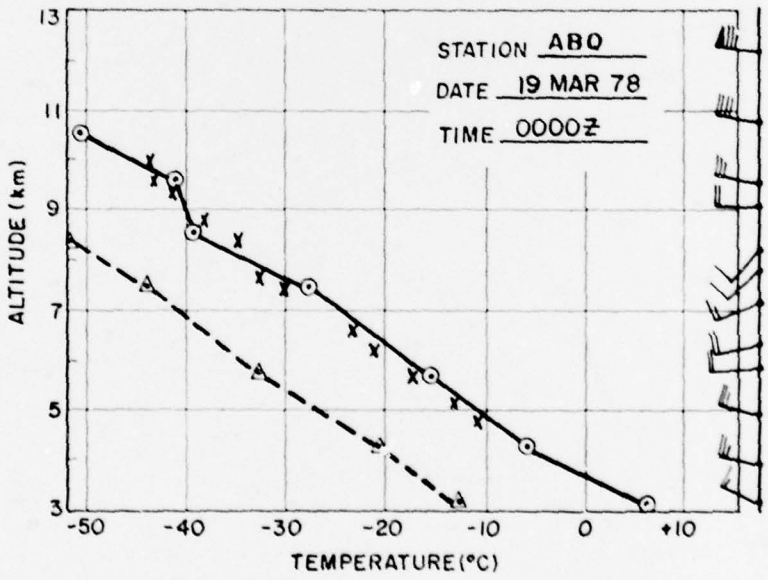

Figure 4. Portion of Albuquerque Sounding for 0000Z, 19 March 1978. Tropopause was at 38,000 ft (11.5 km) MSL. Aircraft temperature data are indicated with x's

low 80s (^{O}F) over most of Arizona and New Mexico while dewpoints were 50 to 60 degrees (F) less. Surface visibilities were 10 miles or greater throughout the Southwest during the entire day.

The following are representative surface observations at about the time (1300L) and in the area that sampling was being accomplished:

Time	Station	Clouds (100 sec ft/km)	Vsby (mi/km)	Temp (^{O}F/C)	Dewpt (^{O}F/C)	Wind (deg/kt/m sec^{-1})
2000Z	Albuquerque	250/7.6 Scattered*	60/97	68/20	9/-13	300/04/02
2000Z	Truth or Consequences	250/7.6 Broken*	50/80	75/24	15/-9	170/10/05
2200Z	Albuquerque	250/7.6 Scattered*	60/97	74/23	10/-12	360/03/01
2200Z	Truth or Consequences	250/7.6 Overcast*	50/80	77/25	17/-8	150/08/04

*Thin

3. THE FLIGHT

This sampling flight originated Saturday 18 March at 1955Z (1255L) at Kirtland AFB (Albuquerque) and landed there at 2241Z (1541L). The MC-130E flew a circuitous route southwest to a point approximately 50 miles west of Truth or Consequences and then returned to Kirtland. The aircraft was flown at levels between 31,000 and 32,000 ft (9.4 to 9.7 km) MSL during most of this mission. Although this was near its service ceiling it was slightly below the bases of most of the cirrus clouds that were observed visually during the flight. However, slightly lower cirrus bases were penetrated on two occasions for periods of 5 min or more.

The greatest amount of particle data measured by the cloud and precipitation probes (which record particles between about 26 and 310 μm, and between 400 and 4700 μm, respectively) was recorded from approximately 2131 to 2136 Z and from 2217 to 2229Z. The scattering probe, which measures particles as small as 2 μm, recorded data more frequently, even when visibility appeared to be excellent.

The following are comments recorded by the mission director in the aircraft or noted in a review of the aircraft nose camera color movie film. All times are universal (GMT).

2118:00 Under solid but thin cirrus. Socorro is 20 miles ahead (to the southwest).

2125:40 Very near Socorro.

2127:30 Within about 500 ft of cirrus bases.

2128:30 Cirrus bases appear to be lowering ahead. Should be in cloud soon.

2130:30 Halo around sun; vertical visibility to ground is excellent.

2131:10 Getting into cirrus bases. Sky darker now. More haze below.

2132:00 Replicator turned on. True airspeed: 252 kt; indicated: 150 kt.

2133:10 Particles on snowstick. Ground slightly obscured through cirrus.

2133:36 Position: 33°59'N, 107°22'W (25 mi SW of Socorro). Wind: 274°/26 kt.

2134:00 Getting out of larger particles.

2138:00 Totally overcast with thin Ci, but sun is dimly visible. Sky above is gray. No visibility restriction below. Horizontal visibility reduced to about 10 miles in the cirrus flown through the last few minutes.

2139:50 Position: 33°45'N, 107°44'W (40 mi SW of Socorro); Wind: 281°/28 kt.

2143:35 Aircraft heading: 226°. Altitude: 31,000 ft. A little cirrus at this altitude, but most is higher.

2150:00 Heading SW from Socorro. Will turn now and head NE back to Socorro.

2154:00 Altitude: 31,000 ft. Heading: 050°.

2159:30 Heading: 017°; Wind: 280°/25 kt; TAS = 234 kt.

2200:10 Under Ci, but very near bases.

2207:54 Position: 33°54'N, 107°36'W (80 mi SW of ABQ).

2213:50 Position: 34°05'N, 107°17'W (20 mi W of Socorro).

2214:50 Ci about 10 miles ahead.

2217:15 1-D cloud probe indicating particle counts.

2218:00 Just barely in Ci. Nothing on snow stick. Horizontal visibility at least 2 miles. Gray above, but blue patches in it.

2219:30 Very hazy.

2220:00 Position: 34°23'N, 106°54'W (20 miles N of Socorro).

2220:50 Most of the cirrus is off to left now. Will try to get back into it.

2221:45 Can see ground below. Visibility 15+ miles on right, about 2 miles on left.

2222:05 Light intensity particles on snow stick.

2223:30 Our cloud is hard to find.

2224:25 Cloud probe data increasing.

2227:00 Many cloud and precipitation probe updates.

2227:45 Just went through cirrus area.

2230:00 Out of all visible cloud again.

Figure 5 shows the variation with time of both altitude and outside air temperature during most of the flight while at cirrus altitudes. The highest altitude attained was approximately 32,400 ft (9.8 km) MSL at which time the outside air temperature was -42°C. The coldest temperature, -45°C, was recorded at 2120Z when the aircraft was at 31,400 ft (9.6 km) MSL.

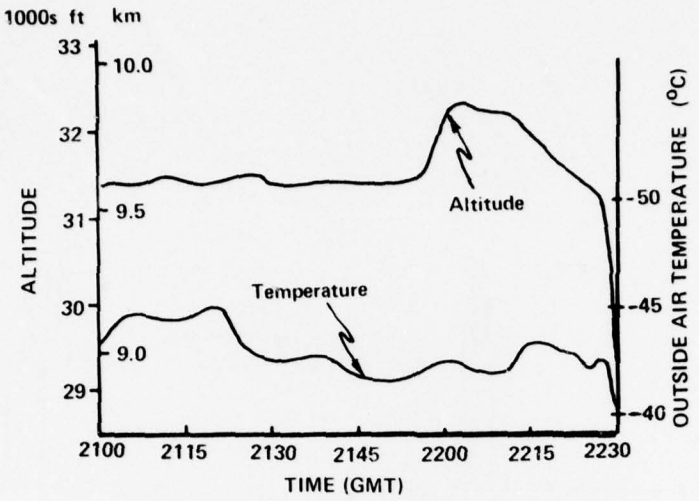

Figure 5. Variation of Aircraft Altitude and Outside Air Temperature While at Cirriform Cloud Levels

The dewpoint/frostpoint equipment was defective during the first part of the flight; however, frostpoint data are given in the listings in the appendixes for the portion of the mission after 2125Z.

4. DISCUSSION OF SAMPLING RESULTS

Figure 6 reflects the variation of ice water content (IWC)[2] for a 1-1/2 hr period during the flight when the aircraft was above 28,000 ft (8.5 km) MSL. The IWC is a calculated value based on the number and size of particles recorded by the three PMS spectrometer probes. Figure 6 provides a comparative record of times when the aircraft was passing through areas of large and small particle populations. While the scattering probe recorded varying numbers of small particles almost continuously, the larger sized particles measured by the cloud and precipitation probes were found mainly in two separate segments of the flight 46 min apart (beginning about 2131 and 2217Z).

The photographs in Figures 7 through 10 show the thinness of the cirrus that was sampled during this mission. The slant visibility to the ground is good to excellent in each case, although each photograph was taken at or within a few

2. IWC is used in this report in preference to liquid water content (LWC), which was used in Parts 1 and 2.

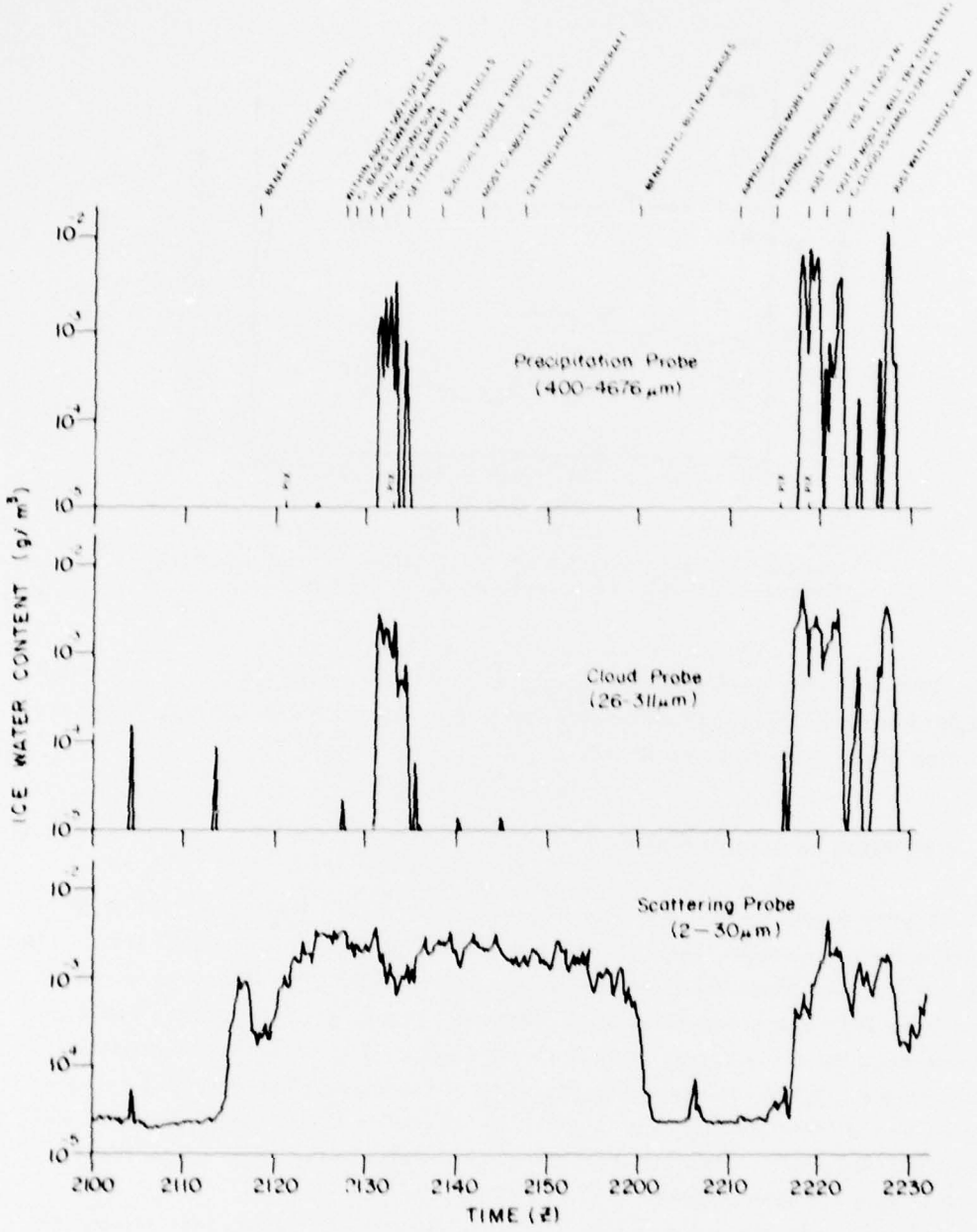

Figure 6. Variation of Ice Water Content With Time as Determined From Output of 3 PMS Spectrometer Probes. Sampling altitude: approximately 31,000 ft (9.4 km). Near Albuquerque

Figure 7. View Through Cockpit Windshield of Thin Cirrus Ahead of Aircraft at 2121Z. 31,000 ft (9.6 km) MSL. Approximately 15 miles NE of Socorro

Figure 8. Approximately 25 Miles SW of Socorro at 2133Z. 31,500 ft (9.6 km) MSL. Particles as large as 700 μm were being recorded

Figure 9. 2215Z. Approaching the second main cirrus area (slightly darker horizontal layer in middle). At 32,000 ft (9.8 km) MSL. 15 miles NW of Socorro

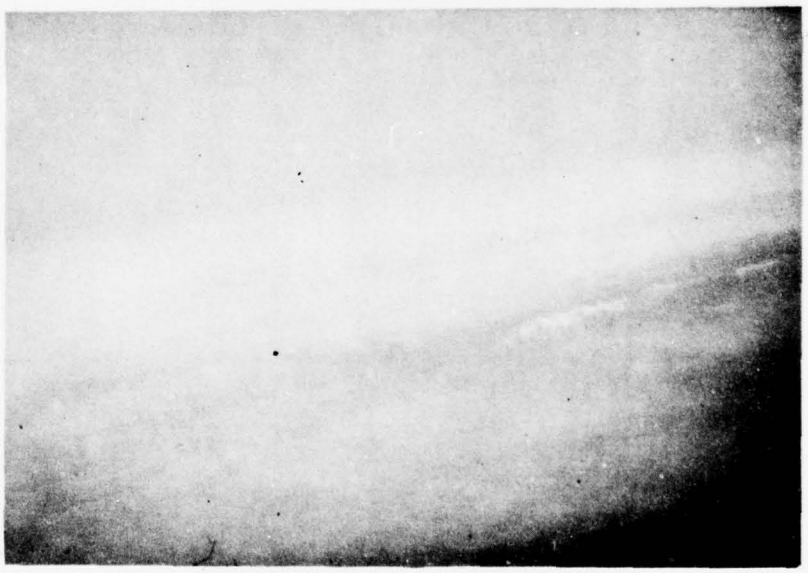

Figure 10. 2218Z. In base of thin cirrus. 31,900 ft (9.7 km) MSL. Particles as large as 1000 μm were being recorded at this time. Snow covered mountains on the middle right are approximately 10 miles distant

minutes of a time when cloud-sized or larger particles were recorded. Figures 7 and 8 reflect cloud conditions just prior to or during the first situation when the cloud and precipitation probes were activated (2131 to 2136Z). Figures 9 and 10 show the similar conditions just before or during the time they were recording the second time (from 2217 until 2229Z).

The photographs of particles on replicator tape in Figure 11 show clusters of columns or "bullet rosettes" in A through F. This was the most frequently seen crystal form that could be classified. The preponderance of particles had irregular, seemingly unique forms that did not fit into any known classification system. Even the rosette particles varied widely from one to the next. The rosette in Figure 11E, for example, had crystalline extensions from some of its columnar ends, while the other rosettes shown did not. Also, the individual columns or bullets in Figure 11A emanate from a central nucleus while Figure 11F shows the columns merely bunched together.

The Figure 11G crystal is one of the many unusual forms seen that are difficult to classify. The particle in Figure 11H is also somewhat irregular, although it has some properties of a simple hexagonal prism. Many other irregular shapes were seen.

In some of the Figure 11 photographs, there are smaller particles near the main ones. These are 50 μm in size or smaller. Some are the broken product of larger particles that impacted the replicator tape, but others appear to be natural and whole.

Figures 12 and 13 show in graphical form the concentration of particles as a function of their size for 30 sec periods during the two main episodes when the cloud and precipitation probes were activated to record data.[3] In both cases the aircraft was in the base of thin cirrus clouds. Visibility was slightly restricted at these times, but the ground could still be seen some distance ahead of the aircraft.

The 3-D particle form examples on Figures 12 and 13 are from the cloud probe. The height of the vertical bars is 800 μm. This dimension may be used as a comparative measure of the horizontal and vertical size of the particles shown. In both figures, particularly Figure 13, several bullet rosettes are recognizable. A comparison of the rosette forms in the photographs of Figure 11 and in the

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3. Two data processing changes have been incorporated in the data in this part that were not in Parts 1 and 2: (1) Particles recorded by the scattering probe were previously treated as liquid droplets in determining the ice water content of that probe. The measured sizes of the particles are now multiplied by 0.9 before determining IWC. (2) Because of occasional inaccuracies in end channel counting of the cloud and precipitation probes a program has been used here that interpolates values for the largest cloud probe channels and smallest precipitation probe channel. This results in a more natural particle concentration transition from one probe to the next.

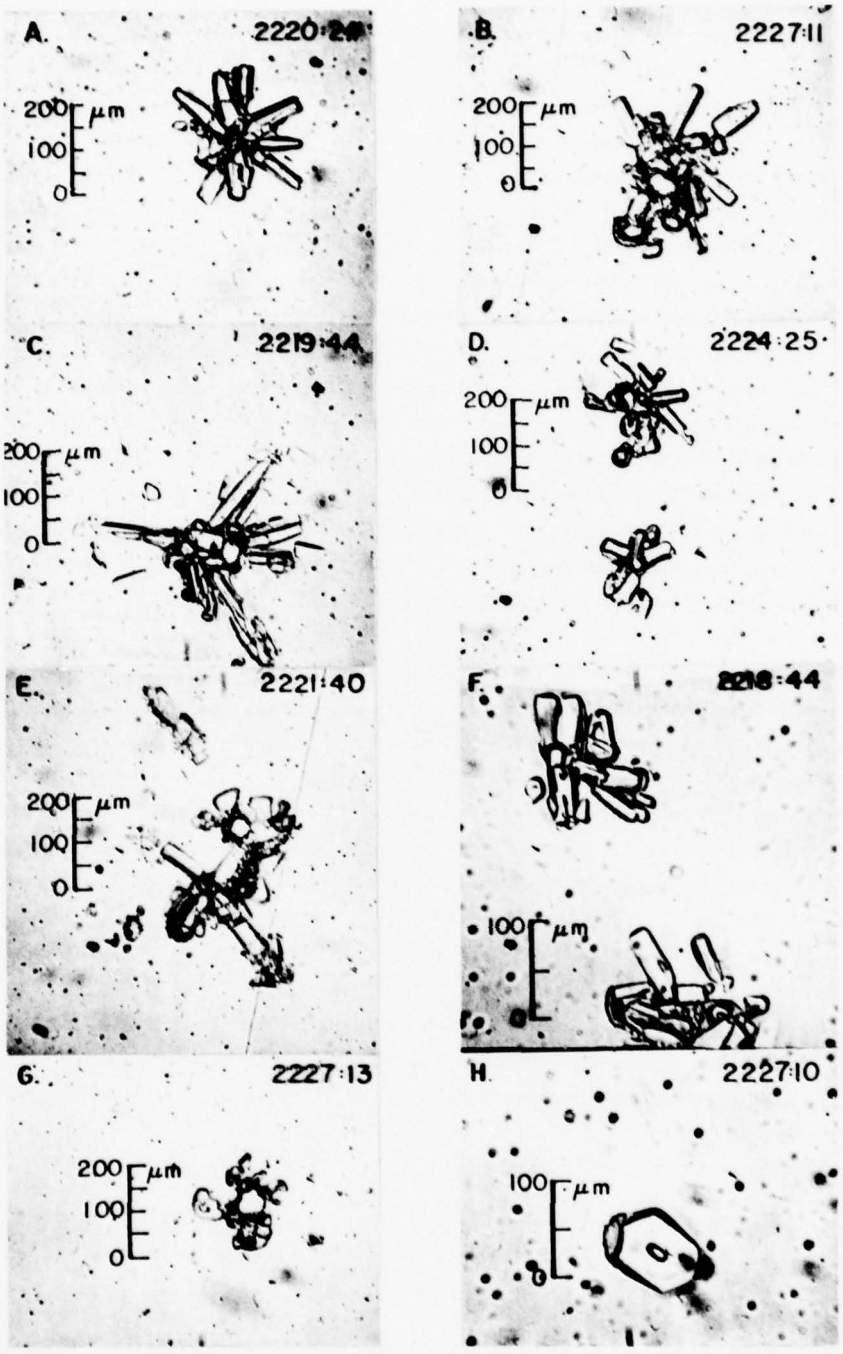

Figure 11A-H. Photomicrographs of Cirrus Particle Forms From Formvar Replicator Tape. Numbers in upper right corners are times of observation in GMT

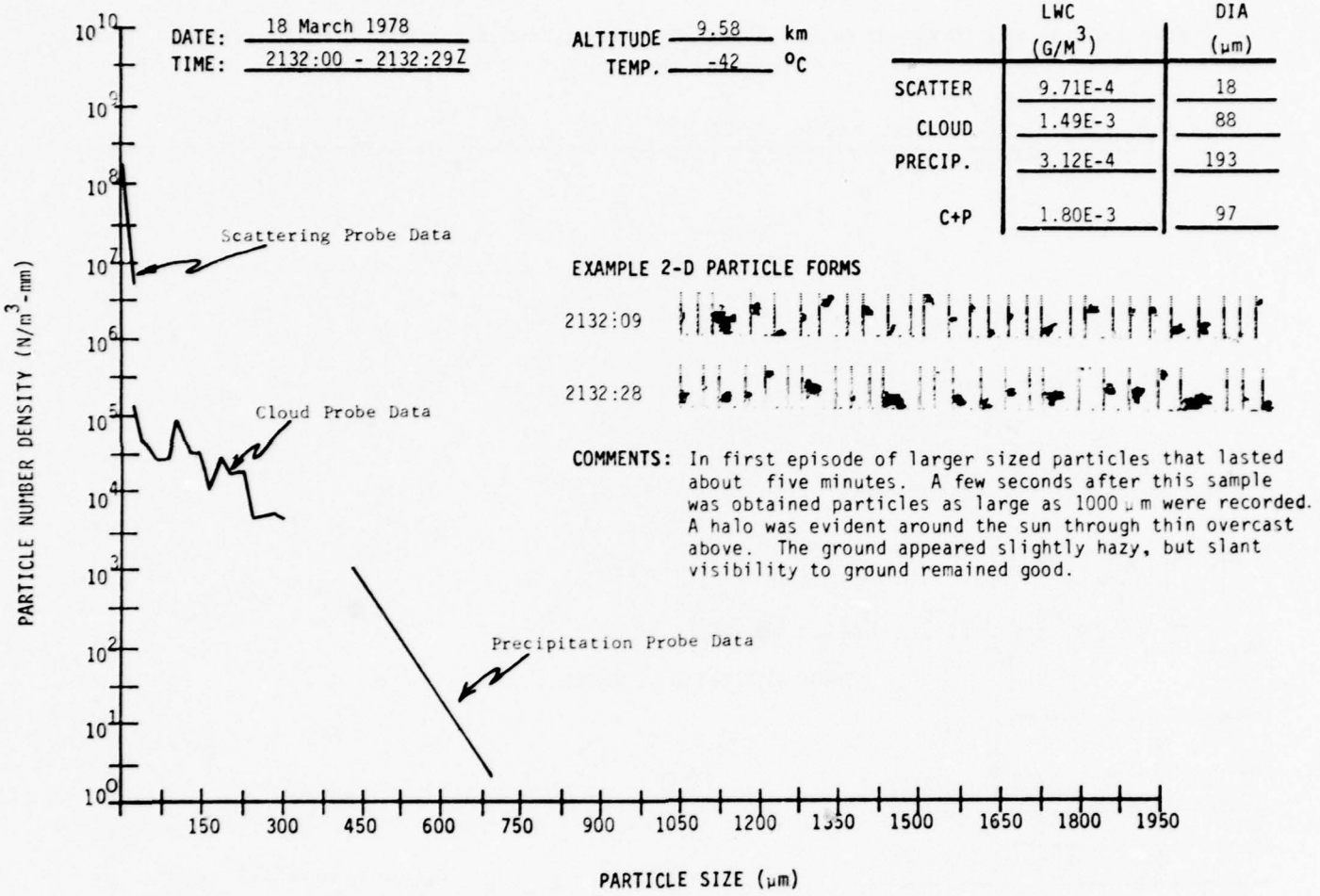

Figure 12. Average Particle Spectrum During First Time Through Base of Thin Cirrus

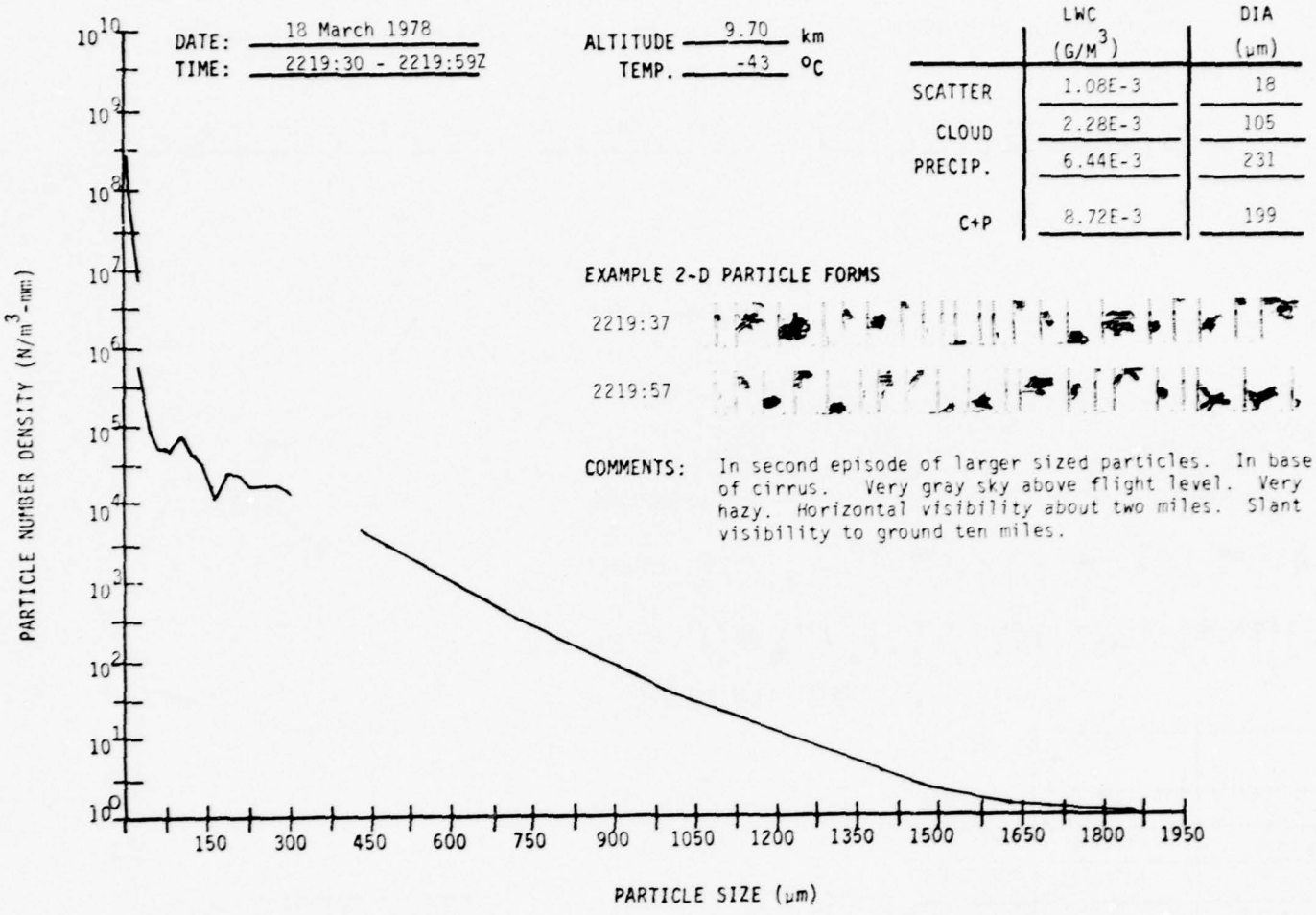

Figure 13. Average Cirrus Particle Spectrum During a Second Period of the Flight When Larger Particles were Recorded

PMS 2-D printouts on Figures 12 and 13 shows many similarities in the two types of displays.

The particular numerical data from which the plots and summarized information on Figures 12 and 13 were developed are included in Appendix B in chronological order.

The plots in Figure 14 represent average particle distributions over longer periods of time than the 30 sec intervals discussed up to this point. Plotted numerical data from the PMS 2-D probes are shown in the top two figures. These data are in general agreement with those of the 1-D instruments. Since the central value of the lowest 2-D cloud probe channel is about 60 μm (for unmelted particles), there are no 2-D data for Figures 14c and d that correspond to those of the PMS 1-D scattering probe.

Figure 14a shows the average distribution for a 3-1/2 min period during the first sampling of larger particles which began at about 2131Z. The duration of this period was determined by reviewing the printout results to find the longest possible time during which a relatively homogeneous particle population was being sampled. After the end of the 3-1/2 min the particle IWC, as calculated from cloud and precipitation probe data, fell to less than one half its previous value. The time period considered in Figure 14a includes the shorter period for which the data shown on Figure 12 are presented. The more complete listings of particle spectra data from which the Figure 14 diagrams were developed are given in Appendix A.

An average particle distribution for a 6 min period beginning at 2217Z is shown graphically in Figure 14b. This was the second significant episode during the sampling when ice crystals were recorded by the cloud and precipitation probes. The concentration and size of particles measured by the cloud probe are similar to those in Figure 14a; however, more of the larger precipitation-sized particles are indicated in the Figure 14b distribution. The mass of the particles is also slightly greater in the latter case as is shown in the first two Appendix A listings. The particle distribution data presented in Figure 13 are included in the longer period average of Figure 14b.

Figures 14c and d present graphed average particle spectra for two consecutive 15 min periods when the aircraft was in visibly cloud-free air, but when very small particles were being recorded by the scattering probe. The size and number of these particles varied as can be inferred from the variation of scatter probe IWC in Figure 6. However, it must be pointed out that only apparent size distributions can be reported for particles detected by spectrometers based on a light scattering mechanism. This is the case since the scattering properties of randomly oriented irregular ice crystals are not known.

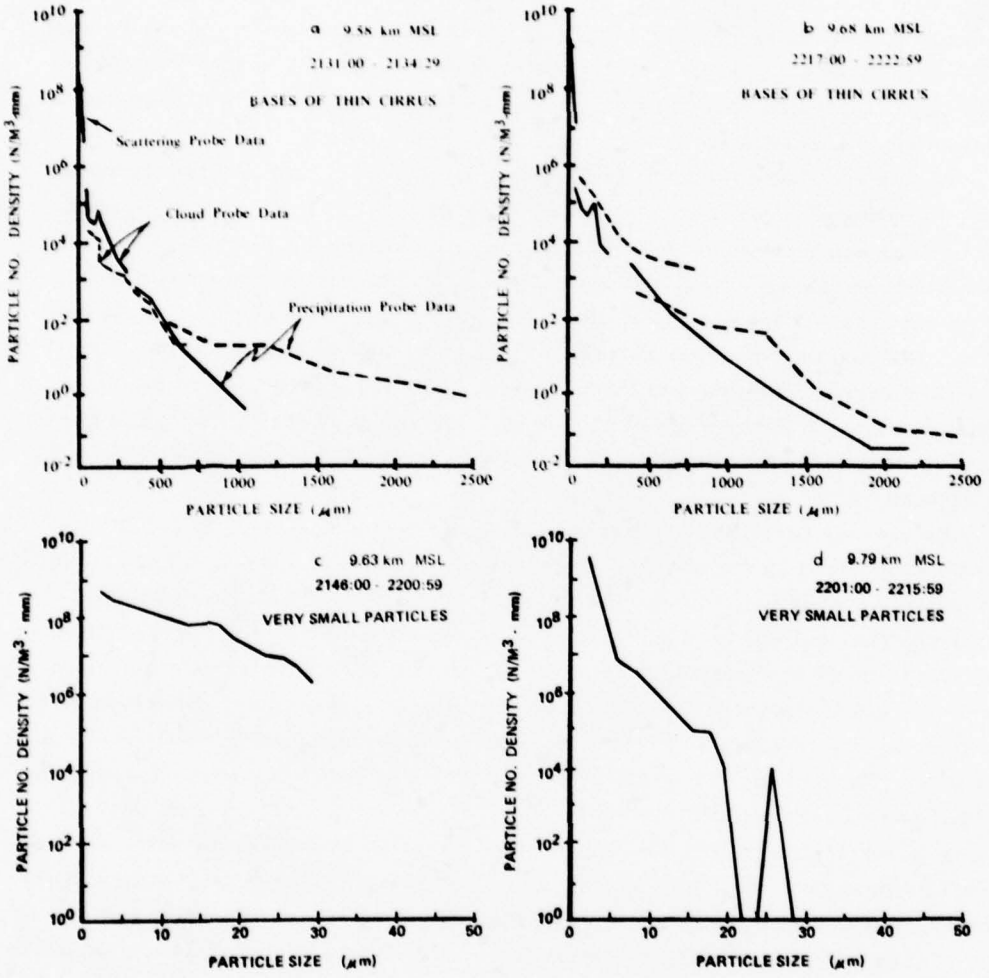

Figure 14a-d. Particle Spectra Averages for Time Intervals Indicated. Solid lines represent PMS 1-D data; dashed lines are 2-D data. Note different scales. The c and d graphs reflect 1-D scatter probe data exclusively. All times in GMT

5. CONCLUDING COMMENTS

Although there was widespread thin cirrus over New Mexico on 18 March most of that which was visible was above the service ceiling of the MC-130E sampling aircraft. Horizontal and slant visibility to the ground was 10 miles or more through most of the flight. However, the PMS scattering probe recorded varying numbers of small particles over its 2 to 30 μm measuring range during the entire time from 2100 to 2230Z when the aircraft was above 28,000 ft (8.5 km).

Two areas were found where the thin cirrus was slightly lower than elsewhere, and it was possible to penetrate the clouds for a few minutes at these locations. In both cases (2131-2136Z, and 2217-2229Z) particles were encountered that activated the cloud and precipitation probes. The ice water content calculated from the measurements of each of these probes was of the order of 10^{-3} to 10^{-2} g m^{-3} for the brief times in the cloud. The lowest horizontal visibility during these episodes was estimated at 10 miles in the first and 2 miles in the second. For both encounters the particle spectra (in Figures 14a and b) displayed a relatively smooth decrease in concentration as size increased. The greatest average particle size in any 30 sec sample was near 1000 μm in the 2131-2136Z case, and 2200 μm for the 2217-2229Z case. The number of these larger particles was very small – about one or less per cubic meter.

According to Figure 6, which shows the variation of IWC with time, the values determined from scatter probe data decreased slightly when the other two probes began recording data for the first time at 2131Z. This may indicate some of the minute particles sensed by the scatter probe aggregated to form the larger sized crystals. There was no change of outside air temperature or of altitude when the scatter probe data diminished.

When the second significant cloud was penetrated (at 2217Z) the IWC of each of the probes increased at about the same time. The initial IWC of the scatter probe in this case, however, was 1-1/2 orders of magnitude less than when the first visible cloud was entered. The decrease of scatter probe IWC, which occurred at 2200Z, appears to be correlated with an increase in altitude at about the same time. By ascending 1000 ft the aircraft moved to a level less rich in small sized particles.

Appendix A

Average Particle Distributions for Varying Time Periods

Particle concentration data are given for four periods during an 18 March 1978 sampling flight near Albuquerque. Each data listing corresponds to one of the plots of data shown in Figure 14 in the text. The specific one is indicated near each listing. All times are GMT.

Any normalized particle distribution in this appendix, with units of number/M^3-mm, may be converted to an unnormalized number of particles/M^3 by multiplying

(a) Scatter probe values by 0.002 mm.

(b) Cloud probe values by 0.020 mm.

(c) Precip probe values, except the 437 μm size, by 0.306 mm.

(d) The 437 μm precip probe value by 0.232 mm.

For example, on the top of the next page the number of 2 μm diameter particles may be obtained by multiplying 5.67×10^8 particles/M^3-mm by 0.002 mm = 1.134×10^6 particles/M^3.

Average particle distribution (No/M^3-mm) for the 210 second period beginning at 2131:00Z. Data correspond to Figure 14a in text. In bases of thin cirrus.

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						281.4
2	5.67E+08	26	2.92E+05	437	5.08E+02	
3	2.43E+08	47	4.77E+04	706	1.42E+01	ALT (KM)
5	1.49E+08	67	4.47E+04	1011	5.93E-01	9.585
7	1.10E+08	87	3.72E+04	1316	0.	
9	7.96E+07	108	7.17E+04	1622	0.	TEMP (C)
11	6.48E+07	128	3.47E+04	1927	0.	-42.4
12	4.48E+07	148	2.35E+04	2233	0.	
14	5.12E+07	169	6.90E+03	2538	0.	FROSTPOINT
16	4.29E+07	189	1.71E+04	2843	0.	-43.4
18	2.22E+07	209	1.43E+04	3149	0.	
19	1.62E+07	230	9.54E+03	3454	0.	TAS (M/S)
21	1.11E+07	250	5.78E+03	3760	0.	133.0
23	1.05E+07	271	4.46E+03	4065	0.	
25	8.83E+06	291	3.44E+03	4370	0.	
27	6.16E+06	311	2.64E+03	4676	0.	
						TOTALS
LWC	1.36E-03		1.17E-03		5.04E-04	1.67E-03
MED D	17		84		200	103

Average particle distribution (No/M^3-mm) for the 360 second period beginning at 2217:00Z. Data correspond to Figure 14b in text. In bases of thin cirrus.

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						277.5
2	1.71E+09	26	2.68E+05	437	1.44E+03	
3	2.31E+08	47	1.08E+05	706	1.06E+02	ALT (KM)
5	1.31E+08	67	7.00E+04	1011	8.93E+00	9.679
7	9.91E+07	87	4.54E+04	1316	9.19E-01	
9	6.97E+07	108	9.64E+04	1622	1.48E-01	TEMP (C)
11	5.44E+07	128	5.76E+04	1927	5.30E-02	-42.9
12	3.64E+07	148	4.28E+04	2233	5.63E-02	
14	3.92E+07	169	1.31E+04	2538	0.	FROSTPOINT
16	3.15E+07	189	2.51E+04	2843	0.	-44.8
18	1.54E+07	209	1.97E+04	3149	0.	
19	1.28E+07	230	1.47E+04	3454	0.	TAS (M/S)
21	9.54E+06	250	8.53E+03	3760	0.	125.7
23	9.51E+06	271	7.12E+03	4065	0.	
25	7.51E+06	291	5.94E+03	4370	0.	
27	1.59E+07	311	4.88E+03	4676	0.	
						TOTALS
LWC	1.31E-03		1.80E-03		1.90E-03	3.70E-03
MED D	19		85		219	145

Average particle distribution (No/M^3-mm) for the 900 second period beginning at 2146:00Z. Data correspond to Figure 14c in text. In very small particles; good visibility.

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						279.4
2	5.36E+08	26	0.	437	0.	
3	3.01E+08	47	0.	706	0.	ALT (KM)
5	2.12E+08	67	0.	1011	0.	9.633
7	1.61E+08	87	8.10E+01	1316	0.	
9	1.14E+08	108	0.	1622	0.	TEMP (C)
11	8.80E+07	128	0.	1927	0.	-41.8
12	5.91E+07	148	0.	2233	0.	
14	6.67E+07	169	0.	2538	0.	FROSTPOINT
16	5.35E+07	189	0.	2843	0.	-49.2
18	2.31E+07	209	0.	3149	0.	
19	1.45E+07	230	0.	3454	0.	TAS (M/S)
21	8.33E+06	250	0.	3760	0.	129.1
23	7.05E+06	271	0.	4065	0.	
25	4.00E+06	291	0.	4370	0.	
27	1.53E+06	311	0.	4676	0.	
						TOTALS
LWC	1.33E-03		1.11E-07		0.	1.11E-07
MED D	15		50		0	50

Average particle distribution (No/M^3-mm) for the 900 second period beginning at 2201:00Z. Data correspond to Figure 14d in text. In very small particles; good visibility.

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						272.7
2	3.53E+09	26	0.	437	0.	
3	1.08E+08	47	6.58E+02	706	0.	ALT (KM)
5	6.25E+06	67	0.	1011	0.	9.793
7	3.13E+06	87	0.	1316	0.	
9	1.17E+06	108	0.	1622	0.	TEMP (C)
11	5.01E+05	128	0.	1927	0.	-42.4
12	1.82E+05	148	0.	2233	0.	
14	8.56E+04	169	0.	2538	0.	FROSTPOINT
16	7.60E+04	189	0.	2843	0.	-48.7
18	9.32E+03	209	0.	3149	0.	
19	0.	230	0.	3454	0.	TAS (M/S)
21	0.	250	0.	3760	0.	114.7
23	9.53E+03	271	0.	4065	0.	
25	0.	291	0.	4370	0.	
27	0.	311	0.	4676	0.	
						TOTALS
LWC	4.15E-05		2.60E-07		0.	2.60E-07
MED D	2		33		0	33

Appendix B

Average Particle Distributions for 30-second Periods

The following pages provide cloud particle concentration data as a function of particle size for a time on 18 March 1978 when the sampling aircraft was generally above 29,000 ft (8.8 km) MSL. Data averages are given for consecutive 30-sec periods from 2115Z through 2230Z.

Any normalized particle distribution figure in this appendix, with units of number/M^3 - mm, may be converted to an unnormalized number of particles/M^3 by multiplying

(a) Scatter probe values by 0.002 mm.

(b) Cloud probe values by 0.020 mm.

(c) Precip probe values, except the 437 μm size, by 0.306 mm.

(d) The 437 μm precip probe value by 0.232 mm.

For example, for the distribution beginning at 2115:00Z on the next page the number of 20 μm diameter particles may be obtained by multiplying 4.97×10^6 particles/M^3-mm by .002 mm = 9.94×10^3 particles/M^3.

AFWL CIRRUS STUDY BY AFGL

FLIGHT F78-07 ON 18 MAR 78 30 SECOND AVERAGING

INTERVAL START: *21:15:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						281.2
2	1.23E+09	26	0.	437	0.	
4	1.73E+08	47	0.	706	0.	ALT (KM)
6	8.65E+07	67	0.	1011	0.	9.590
8	5.34E+07	87	0.	1316	0.	
10	3.88E+07	108	0.	1622	0.	TEMP (C)
12	1.94E+07	128	0.	1927	0.	-44.6
14	1.56E+07	148	0.	2233	0.	
16	1.13E+07	169	0.	2538	0.	DEWPOINT
18	9.28E+06	189	0.	2843	0.	
20	4.97E+06	209	0.	3149	0.	
22	1.24E+05	230	0.	3454	0.	TAS (M/S)
24	4.97E+05	250	0.	3760	0.	121.5
26	4.97E+05	271	0.	4065	0.	
28	4.98E+05	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.77E-04		0.		0.	0.
MED D	13		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT F78-07 ON 18 MAR 78 30 SECOND AVERAGING

INTERVAL START: *21:16:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						281.2
2	4.98E+08	26	0.	437	0.	
4	2.17E+08	47	0.	706	0.	ALT (KM)
6	1.32E+08	67	0.	1011	0.	9.589
8	1.03E+08	87	0.	1316	0.	
10	7.55E+07	108	0.	1622	0.	TEMP (C)
12	5.85E+07	128	0.	1927	0.	-43.1
14	3.63E+07	148	0.	2233	0.	
16	4.34E+07	169	0.	2538	0.	DEWPOINT
18	2.89E+07	189	0.	2843	0.	
20	1.25E+07	209	0.	3149	0.	
22	6.37E+06	230	0.	3454	0.	TAS (M/S)
24	5.63E+06	250	0.	3760	0.	123.2
26	2.45E+06	271	0.	4065	0.	
28	1.71E+06	291	0.	4370	0.	
30	1.96E+06	311	0.	4676	0.	
						TOTALS
LWC	8.41E-04		0.		0.	0.
MED D	15		0		0	0

INTERVAL START: *21:15:30*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						280.9
2	6.75E+08	26	0.	437	0.	
4	2.26E+08	47	0.	706	0.	ALT (KM)
6	1.31E+08	67	0.	1011	0.	9.597
8	8.69E+07	87	0.	1316	0.	
10	6.24E+07	108	0.	1622	0.	TEMP (C)
12	4.57E+07	128	0.	1927	0.	-43.6
14	3.14E+07	148	0.	2233	0.	
16	2.86E+07	169	0.	2538	0.	DEWPOINT
18	1.53E+07	183	0.	2843	0.	
20	4.94E+06	209	0.	3149	0.	
22	3.94E+05	230	0.	3454	0.	TAS (M/S)
24	1.73E+06	250	0.	3760	0.	122.3
26	3.87E+05	271	0.	4065	0.	
28	4.94E+05	291	0.	4370	0.	
30	2.46E+05	311	0.	4676	0.	
						TOTALS
LWC	5.09E-04		0.		0.	0.
MED D	13		0		0	0

INTERVAL START: *21:16:30*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						280.9
2	4.75E+08	26	0.	437	0.	
4	2.31E+08	47	0.	706	0.	ALT (KM)
6	1.42E+08	67	0.	1011	0.	9.597
8	1.09E+08	87	0.	1316	0.	
10	7.36E+07	108	0.	1622	0.	TEMP (C)
12	5.27E+07	128	0.	1927	0.	-43.7
14	2.93E+07	148	0.	2233	0.	
16	4.39E+07	169	0.	2538	0.	DEWPOINT
18	3.44E+07	189	0.	2843	0.	
20	1.24E+07	209	0.	3149	0.	
22	7.88E+06	230	0.	3454	0.	TAS (M/S)
24	3.66E+06	250	0.	3760	0.	123.8
26	5.12E+06	271	0.	4065	0.	
28	1.71E+06	291	0.	4370	0.	
30	1.22E+06	311	0.	4676	0.	
						TOTALS
LWC	8.58E-04		0.		0.	0.
MED D	15		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT F78-07 ON 16 MAR 78 30 SECOND AVERAGING

INTERVAL START: 21:17:00

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.0
2	5.94E+03	25	0.	437	0.	
4	2.24E+03	47	0.	706	0.	ALT (KM)
6	1.35E+03	67	0.	1011	0.	9.595
8	1.01E+03	87	0.	1316	0.	
10	7.04E+02	108	0.	1622	0.	TEMP (C)
12	5.10E+02	128	0.	1927	0.	-44.6
14	3.56E+02	148	0.	2233	0.	
16	3.87E+02	169	0.	2538	0.	DEWPOINT
18	2.82E+02	189	0.	2843	0.	
20	1.45E+02	209	0.	3149	0.	
22	3.92E+05	230	0.	3454	0.	IAS (M/S)
24	4.41E+05	250	0.	3760	0.	123.1
26	1.71E+05	271	0.	4065	0.	
28	4.91E+05	291	0.	4370	0.	
30	7.35E+05	311	0.	4676	0.	
						TOTALS
LWC	7.31E-06		0.		0.	0.
MED D	14		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT F78-07 ON 16 MAR 78 30 SECOND AVERAGING

INTERVAL START: 21:18:00

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.4
2	2.03E+03	25	0.	437	0.	
4	1.32E+03	47	0.	706	0.	ALT (KM)
6	5.93E+02	67	0.	1011	0.	9.585
8	3.96E+02	87	0.	1316	0.	
10	2.65E+02	108	0.	1622	0.	TEMP (C)
12	1.84E+02	128	0.	1927	0.	-45.1
14	1.11E+02	148	0.	2233	0.	
16	7.82E+05	169	0.	2538	0.	DEWPOINT
18	6.56E+05	189	0.	2843	0.	
20	2.27E+05	209	0.	3149	0.	
22	7.58E+05	230	0.	3454	0.	IAS (M/S)
24	2.52E+05	250	0.	3760	0.	119.7
26	5.04E+05	271	0.	4065	0.	
28	2.52E+05	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	1.99E-04		0.		0.	0.
MED D	12		0		0	0

INTERVAL START: 21:17:30

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.5
2	1.53E+03	25	0.	437	0.	
4	1.56E+03	47	0.	706	0.	ALT (KM)
6	7.33E+02	67	0.	1011	0.	9.582
8	5.19E+02	87	0.	1316	0.	
10	3.08E+02	108	0.	1622	0.	TEMP (C)
12	2.21E+02	128	0.	1927	0.	-45.0
14	9.93E+05	148	0.	2233	0.	
16	3.68E+05	169	0.	2538	0.	DEWPOINT
18	6.95E+05	189	0.	2843	0.	
20	3.72E+05	209	0.	3149	0.	
22	1.74E+05	230	0.	3454	0.	IAS (M/S)
24	4.96E+05	250	0.	3760	0.	121.6
26	2.50E+05	271	0.	4065	0.	
28	2.48E+05	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.34E-04		0.		0.	0.
MED D	12		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT F78-07 ON 16 MAR 78 30 SECOND AVERAGING

INTERVAL START: 21:18:30

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.7
2	2.03E+03	25	0.	437	0.	
4	1.50E+03	47	0.	706	0.	ALT (KM)
6	6.18E+02	67	0.	1011	0.	9.579
8	4.58E+02	87	0.	1316	0.	
10	2.68E+02	108	0.	1622	0.	TEMP (C)
12	2.25E+02	128	0.	1927	0.	-44.8
14	9.37E+05	148	0.	2233	0.	
16	1.14E+02	169	0.	2538	0.	DEWPOINT
18	6.87E+05	189	0.	2843	0.	
20	2.03E+05	209	0.	3149	0.	
22	7.61E+05	230	0.	3454	0.	IAS (M/S)
24	2.53E+05	250	0.	3760	0.	119.3
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.02E-04		0.		0.	0.
MED D	11		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING

INTERVAL START: *21:19:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						281.7
2	1.72E+03	26	0.	437	0.	
4	1.55E+03	47	0.	706	0.	ALT (KM)
6	7.33E+07	67	0.	1011	0.	9.577
8	4.76E+07	87	0.	1316	0.	
10	3.05E+07	108	0.	1622	0.	TEMP (C)
12	2.37E+07	128	0.	1927	0.	-44.6
14	1.13E+07	148	0.	2233	0.	
16	1.64E+07	169	0.	2538	0.	DEWPOINT
18	9.07E+06	189	0.	2843	0.	--
20	2.51E+06	209	0.	3149	0.	
22	1.26E+06	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	119.9
26	0.	271	0.	4065	0.	
28	2.52E+05	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.48E-04		0.		0.	0.
MED D	13		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING

INTERVAL START: *21:20:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						281.1
2	1.24E+03	26	0.	437	0.	
4	1.86E+08	47	0.	706	0.	ALT (KM)
6	8.48E+07	67	0.	1011	0.	9.593
8	6.39E+07	87	0.	1316	0.	
10	4.20E+07	108	0.	1622	0.	TEMP (C)
12	2.93E+07	128	0.	1927	0.	-46.1
14	1.96E+07	148	0.	2233	0.	
16	1.64E+07	169	0.	2538	0.	FROSTPOINT
18	1.49E+07	189	0.	2843	0.	
20	4.47E+06	209	0.	3149	0.	
22	2.76E+06	230	0.	3454	0.	TAS (M/S)
24	1.49E+06	250	0.	3760	0.	121.4
26	1.49E+06	271	0.	4065	0.	
28	2.48E+05	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	3.74E-04		0.		0.	0.
MED D	14		0		0	0

INTERVAL START: *21:19:30*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						281.3
2	1.71E+03	26	0.	437	0.	
4	1.48E+03	47	0.	706	0.	ALT (KM)
6	6.15E+07	67	0.	1011	0.	9.588
8	5.22E+07	87	0.	1316	0.	
10	3.21E+07	108	0.	1622	0.	TEMP (C)
12	2.44E+07	128	0.	1927	0.	-45.1
14	1.53E+07	148	0.	2233	0.	
16	1.36E+07	169	0.	2538	0.	DEWPOINT
18	8.28E+06	189	0.	2843	0.	--
20	1.75E+06	209	0.	3149	0.	
22	7.53E+05	230	0.	3454	0.	TAS (M/S)
24	7.51E+05	250	0.	3760	0.	120.3
26	2.68E+05	271	0.	4065	0.	
28	5.02E+05	291	0.	4370	0.	
30	0.	311	0.	4675	0.	
						TOTALS
LWC	2.53E-04		0.		0.	0.
MED D	12		0		0	0

INTERVAL START: *21:20:30*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						281.0
2	5.82E+08	26	0.	437	0.	
4	2.11E+03	47	0.	706	0.	ALT (KM)
6	1.26E+08	67	0.	1011	0.	9.594
8	9.46E+07	87	0.	1316	0.	
10	6.59E+07	108	0.	1622	0.	TEMP (C)
12	4.74E+07	128	0.	1927	0.	-44.9
14	3.93E+07	148	0.	2233	0.	
16	3.68E+07	169	0.	2538	0.	FROSTPOINT
18	2.59E+07	189	0.	2843	0.	--
20	1.13E+07	209	0.	3149	0.	
22	7.41E+06	230	0.	3454	0.	TAS (M/S)
24	2.71E+06	250	0.	3760	0.	122.3
26	4.28E+06	271	0.	4065	0.	
28	9.86E+05	291	0.	4370	0.	
30	0.	311	0.	4675	0.	
						TOTALS
LWC	7.31E-04		0.		0.	0.
MED D	15		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT F73-07 ON 18 MAR 73 30 SECOND AVERAGING

INTERVAL START: 21:21:00

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.5
2	6.90E+03	25	0.	437	0.	
4	2.07E+03	47	0.	706	0.	ALT (KM)
6	1.16E+03	67	0.	1011	0.	9.607
8	8.91E+07	87	0.	1316	0.	
10	6.42E+07	108	0.	1622	0.	TEMP (C)
12	4.61E+07	128	0.	1927	0.	-44.3
14	3.38E+07	148	0.	2233	0.	
16	3.83E+07	169	0.	2538	0.	FROSTPOINT
18	3.12E+07	183	0.	2843	0.	
20	1.15E+07	209	0.	3149	0.	
22	1.20E+07	230	0.	3454	0.	TAS (M/S)
24	5.61E+06	250	0.	3760	0.	123.7
26	4.39E+06	271	0.	4065	0.	
28	3.65E+06	291	0.	4370	0.	
30	1.71E+06	311	0.	4676	0.	
						TOTALS
LWC	8.88E-04		0.		0.	0.
MED D	16		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT F73-07 ON 18 MAR 73 30 SECOND AVERAGING

INTERVAL START: 21:22:00

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.7
2	2.35E+03	25	0.	437	0.	
4	2.39E+03	47	0.	706	0.	ALT (KM)
6	1.78E+03	67	0.	1011	0.	9.602
8	1.29E+03	87	0.	1316	0.	
10	8.95E+07	108	0.	1622	0.	TEMP (C)
12	7.85E+07	128	0.	1927	0.	-44.7
14	5.03E+07	148	0.	2233	0.	
16	6.40E+07	169	0.	2538	0.	FROSTPOINT
18	6.03E+07	183	0.	2843	0.	
20	2.85E+07	209	0.	3149	0.	
22	1.61E+07	230	0.	3454	0.	TAS (M/S)
24	1.46E+07	250	0.	3760	0.	124.2
26	1.14E+07	271	0.	4065	0.	
28	7.05E+06	291	0.	4370	0.	
30	2.19E+06	311	0.	4676	0.	
						TOTALS
LWC	1.61E-03		0.		0.	0.
MED D	16		0		0	0

INTERVAL START: 21:21:30

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.8
2	5.06E+03	25	0.	437	0.	
4	2.20E+03	47	0.	706	0.	ALT (KM)
6	1.44E+03	67	0.	1011	0.	9.601
8	1.07E+03	87	0.	1316	0.	
10	7.72E+07	108	0.	1622	0.	TEMP (C)
12	6.01E+07	128	0.	1927	0.	-44.7
14	4.67E+07	148	0.	2233	0.	
16	4.45E+07	169	0.	2538	0.	FROSTPOINT
18	3.54E+07	183	0.	2843	0.	
20	1.59E+07	209	0.	3149	0.	
22	1.00E+07	230	0.	3454	0.	TAS (M/S)
24	6.58E+06	250	0.	3760	0.	123.5
26	5.37E+06	271	0.	4065	0.	
28	2.93E+06	291	0.	4370	0.	
30	1.71E+06	311	0.	4676	0.	
						TOTALS
LWC	1.02E-03		0.		0.	0.
MED D	15		0		0	0

INTERVAL START: 21:22:30

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.3
2	2.48E+03	25	0.	437	0.	
4	2.36E+03	47	0.	706	0.	ALT (KM)
6	1.67E+03	67	0.	1011	0.	9.612
8	1.44E+03	87	0.	1316	0.	
10	9.23E+07	108	0.	1622	0.	TEMP (C)
12	8.88E+07	128	0.	1927	0.	-43.5
14	5.38E+07	148	0.	2233	0.	
16	6.56E+07	169	0.	2538	0.	FROSTPOINT
18	4.83E+07	183	0.	2843	0.	
20	2.36E+07	209	0.	3149	0.	
22	1.57E+07	230	0.	3454	0.	TAS (M/S)
24	1.04E+07	250	0.	3760	0.	125.1
26	3.17E+06	271	0.	4065	0.	
28	5.79E+06	291	0.	4370	0.	
30	2.41E+06	311	0.	4676	0.	
						TOTALS
LWC	1.47E-03		0.		0.	0.
MED D	16		0		0	0

AFML CIRRUS STUDY BY AFGL

FLIGHT F78-07 ON 18 MAR 78 30 SECOND AVERAGING

INTERVAL START: *21:23:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.2
2	2.49E+03	26	0.	437	0.	
4	2.43E+03	47	0.	706	0.	ALT (KM)
6	1.77E+03	67	0.	1011	0.	9.613
8	1.51E+03	87	0.	1315	0.	
10	1.04E+03	108	0.	1622	0.	TEMP (C)
12	9.75E+07	128	0.	1927	0.	-43.1
14	6.62E+07	148	0.	2233	0.	
15	8.19E+07	159	0.	2538	0.	FROSTPOINT
18	7.33E+07	183	0.	2843	0.	
20	3.69E+07	209	0.	3149	0.	
22	2.51E+07	230	0.	3454	0.	TAS (M/S)
24	1.46E+07	250	0.	3760	0.	126.0
26	1.49E+07	271	0.	4065	0.	
28	1.10E+07	291	0.	4370	0.	
30	7.67E+05	311	0.	4676	0.	
						TOTALS
LWC	2.16E-03		0.		6.78E-21	6.78E-21
MED D	17		0		0	0

AFML CIRRUS STUDY BY AFGL

FLIGHT F78-07 ON 18 MAR 78 30 SECOND AVERAGING

INTERVAL START: *21:24:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 279.9
2	3.98E+03	26	0.	437	0.	
4	2.29E+03	47	0.	706	0.	ALT (KM)
6	1.57E+03	67	0.	1011	0.	9.620
8	1.47E+03	87	0.	1316	0.	
10	1.03E+03	108	0.	1622	0.	TEMP (C)
12	8.70E+07	128	0.	1927	0.	-43.1
14	6.31E+07	148	0.	2233	0.	
16	8.43E+07	169	0.	2538	0.	FROSTPOINT
18	7.59E+07	189	0.	2843	0.	
20	3.59E+07	209	0.	3149	0.	
22	2.53E+07	230	0.	3454	0.	TAS (M/S)
24	1.70E+07	250	0.	3760	0.	127.7
26	1.80E+07	271	0.	4065	0.	
28	8.97E+05	291	0.	4370	0.	
30	4.72E+05	311	0.	4676	0.	
						TOTALS
LWC	2.12E-03		0.		4.17E-20	4.17E-20
MED D	17		0		0	0

INTERVAL START: *21:23:30*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 279.8
2	1.88E+03	26	0.	437	0.	
4	2.51E+03	47	0.	706	0.	ALT (KM)
6	1.56E+03	67	0.	1011	0.	9.623
8	1.28E+03	87	0.	1316	0.	
10	9.57E+07	108	0.	1622	0.	TEMP (C)
12	7.88E+07	128	0.	1927	0.	-43.2
14	5.31E+07	148	0.	2233	0.	
16	6.79E+07	169	0.	2538	0.	FROSTPOINT
18	6.03E+07	189	0.	2843	0.	
20	3.50E+07	209	0.	3149	0.	
22	2.24E+07	230	0.	3454	0.	TAS (M/S)
24	1.38E+07	250	0.	3760	0.	126.8
26	1.33E+07	271	0.	4065	0.	
28	9.29E+05	291	0.	4370	0.	
30	4.28E+05	311	0.	4676	0.	
						TOTALS
LWC	1.83E-03		0.		3.39E-21	3.39E-21
MED D	17		0		0	0

INTERVAL START: *21:24:30*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 279.9
2	1.16E+03	26	0.	437	9.52E-01	
4	2.52E+03	47	0.	706	1.54E+00	ALT (KM)
6	2.31E+03	67	0.	1011	0.	9.621
8	1.93E+03	87	0.	1316	0.	
10	1.54E+03	108	0.	1622	0.	TEMP (C)
12	1.38E+03	128	0.	1927	0.	-43.2
14	1.03E+03	148	0.	2233	0.	
16	1.19E+03	169	0.	2538	0.	FROSTPOINT
18	1.02E+03	189	0.	2843	0.	
20	5.35E+07	209	0.	3149	0.	
22	3.98E+07	230	0.	3454	0.	TAS (M/S)
24	2.62E+07	250	0.	3760	0.	128.1
26	2.00E+07	271	0.	4065	0.	
28	1.30E+07	291	0.	4370	0.	
30	5.18E+05	311	0.	4676	0.	
						TOTALS
LWC	2.99E-03		0.		8.88E-06	8.88E-06
MED D	17		0		301	301

AFWL CIRRUS STUDY BY AFGL

FLIGHT F78-07 ON 16 MAR 78 30 SECOND AVERAGING

INTERVAL START: *21:25:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 279.9
2	1.12E+03	25	0.	437	0.	
4	2.59E+03	47	0.	706	0.	ALT (KM)
6	2.16E+03	67	0.	1011	0.	9.622
8	1.90E+03	87	0.	1316	0.	
10	1.23E+03	108	0.	1622	0.	TEMP (C)
12	1.26E+03	128	0.	1927	0.	-43.1
14	9.95E+07	148	0.	2233	0.	
16	1.17E+08	169	0.	2538	0.	FROSTPOINT
18	1.00E+08	189	0.	2843	0.	-49.4
20	4.80E+07	209	0.	3149	0.	
22	3.34E+07	230	0.	3454	0.	TAS (M/S)
24	2.54E+07	250	0.	3760	0.	128.4
26	2.12E+07	271	0.	4065	0.	
28	1.81E+07	291	0.	4370	0.	
30	5.64E+06	311	0.	4676	0.	
						TOTALS
LWC	2.94E-03		0.		3.39E-21	3.39E-21
MED D	17		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT F78-07 ON 16 MAR 78 30 SECOND AVERAGING

INTERVAL START: *21:26:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 279.7
2	1.03E+03	25	0.	437	0.	
4	2.42E+03	47	0.	706	0.	ALT (KM)
6	2.03E+03	67	0.	1011	0.	9.626
8	1.81E+03	87	0.	1316	0.	
10	1.47E+03	108	0.	1622	0.	TEMP (C)
12	1.17E+03	128	0.	1927	0.	-42.7
14	9.82E+07	148	0.	2233	0.	
16	1.15E+08	169	0.	2538	0.	FROSTPOINT
18	1.02E+08	189	0.	2843	0.	-49.4
20	4.80E+07	209	0.	3149	0.	
22	2.94E+07	230	0.	3454	0.	TAS (M/S)
24	2.03E+07	250	0.	3760	0.	126.3
26	2.08E+07	271	0.	4065	0.	
28	7.86E+06	291	0.	4370	0.	
30	4.52E+06	311	0.	4676	0.	
						TOTALS
LWC	2.65E-03		0.		0.	0.
MED D	16		0		0	0

INTERVAL START: *21:25:30*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 279.9
2	1.16E+03	25	0.	437	0.	
4	2.48E+03	47	0.	706	0.	ALT (KM)
6	2.08E+03	67	0.	1011	0.	9.622
8	1.90E+03	87	0.	1316	0.	
10	1.51E+03	108	0.	1622	0.	TEMP (C)
12	1.23E+03	128	0.	1927	0.	-43.0
14	8.75E+07	148	0.	2233	0.	
16	1.12E+08	169	0.	2538	0.	FROSTPOINT
18	1.07E+08	189	0.	2843	0.	-49.4
20	5.14E+07	209	0.	3149	0.	
22	3.94E+07	230	0.	3454	0.	TAS (M/S)
24	2.59E+07	250	0.	3760	0.	128.0
26	1.87E+07	271	0.	4065	0.	
28	1.06E+07	291	0.	4370	0.	
30	5.42E+06	311	0.	4676	0.	
						TOTALS
LWC	2.84E-03		0.		0.	0.
MED D	17		0		0	0

INTERVAL START: *21:26:30*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.1
2	1.18E+03	25	0.	437	0.	
4	2.49E+03	47	0.	706	0.	ALT (KM)
6	2.12E+03	67	0.	1011	0.	9.615
8	1.81E+03	87	0.	1316	0.	
10	1.48E+03	108	0.	1622	0.	TEMP (C)
12	1.16E+03	128	0.	1927	0.	-42.7
14	1.02E+03	148	0.	2233	0.	
16	1.12E+03	169	0.	2538	0.	FROSTPOINT
18	1.09E+03	189	0.	2843	0.	-49.4
20	4.77E+07	209	0.	3149	0.	
22	3.73E+07	230	0.	3454	0.	TAS (M/S)
24	2.10E+07	250	0.	3760	0.	127.8
26	2.34E+07	271	0.	4065	0.	
28	1.35E+07	291	0.	4370	0.	
30	5.14E+06	311	0.	4676	0.	
						TOTALS
LWC	2.92E-03		0.		0.	0.
MED D	17		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 16 MAR 78 30 SECOND AVERAGING
INTERVAL START: *21:27:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.2
2	1.09E+08	26	0.	437	0.	
4	2.38E+08	47	0.	706	0.	ALT (KM)
6	2.25E+08	67	0.	1011	0.	9.614
8	1.91E+08	87	0.	1316	0.	
10	1.50E+08	108	0.	1622	0.	TEMP (C)
12	1.27E+08	128	0.	1927	0.	-42.8
14	9.64E+07	148	0.	2233	0.	
16	1.12E+08	169	0.	2538	0.	FROSTPOINT
18	1.17E+08	189	0.	2843	0.	-49.4
20	5.82E+07	209	0.	3149	0.	
22	3.47E+07	230	0.	3454	0.	TAS (M/S)
24	3.07E+07	250	0.	3760	0.	123.6
26	2.14E+07	271	0.	4065	0.	
28	1.49E+07	291	0.	4370	0.	
30	5.82E+06	311	0.	4676	0.	
						TOTALS
LWC	3.10E-03		0.		0.	0.
MED D	17		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 16 MAR 78 30 SECOND AVERAGING
INTERVAL START: *21:28:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.1
2	1.33E+08	26	0.	437	0.	
4	2.54E+08	47	0.	706	0.	ALT (KM)
6	1.73E+08	67	0.	1011	0.	9.617
8	1.53E+08	87	0.	1316	0.	
10	1.28E+08	108	0.	1622	0.	TEMP (C)
12	1.07E+08	128	0.	1927	0.	-42.9
14	7.13E+07	148	0.	2233	0.	
16	8.45E+07	169	0.	2538	0.	FROSTPOINT
18	7.73E+07	189	0.	2843	0.	-49.4
20	3.73E+07	209	0.	3149	0.	
22	2.96E+07	230	0.	3454	0.	TAS (M/S)
24	1.71E+07	250	0.	3760	0.	130.4
26	1.06E+07	271	0.	4065	0.	
28	9.02E+06	291	0.	4370	0.	
30	5.10E+06	311	0.	4676	0.	
						TOTALS
LWC	2.15E-03		0.		0.	0.
MED D	16		0		0	0

INTERVAL START: *21:27:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 279.6
2	1.31E+08	26	5.63E+04	437	0.	
4	2.38E+08	47	0.	706	0.	ALT (KM)
6	2.28E+08	67	0.	1011	0.	9.627
8	1.87E+08	87	2.44E+03	1316	0.	
10	1.33E+08	108	0.	1622	0.	TEMP (C)
12	1.13E+08	128	0.	1927	0.	-43.0
14	8.45E+07	148	0.	2233	0.	
16	1.01E+08	169	0.	2538	0.	FROSTPOINT
18	1.02E+08	189	0.	2843	0.	-49.4
20	5.42E+07	209	0.	3149	0.	
22	3.96E+07	230	0.	3454	0.	TAS (M/S)
24	2.49E+07	250	0.	3760	0.	129.3
26	2.05E+07	271	0.	4065	0.	
28	1.61E+07	291	0.	4370	0.	
30	1.23E+07	311	0.	4676	0.	
						TOTALS
LWC	3.02E-03		1.18E-05		6.78E-21	1.18E-05
MED D	18		24		0	24

INTERVAL START: *21:28:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.0
2	1.43E+08	26	0.	437	0.	
4	2.47E+08	47	0.	706	0.	ALT (KM)
6	1.76E+08	67	0.	1011	0.	9.594
8	1.49E+08	87	0.	1316	0.	
10	1.16E+08	108	0.	1622	0.	TEMP (C)
12	9.51E+07	128	0.	1927	0.	-42.7
14	6.93E+07	148	0.	2233	0.	
16	8.68E+07	169	0.	2538	0.	FROSTPOINT
18	7.32E+07	189	0.	2843	0.	-49.4
20	3.41E+07	209	0.	3149	0.	
22	2.40E+07	230	0.	3454	0.	TAS (M/S)
24	1.43E+07	250	0.	3760	0.	130.8
26	1.32E+07	271	0.	4065	0.	
28	8.77E+06	291	0.	4370	0.	
30	2.08E+06	311	0.	4676	0.	
						TOTALS
LWC	1.98E-03		0.		0.	0.
MED D	16		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E79-07 ON 16 MAR 79 30 SECOND AVERAGING

INTERVAL START: 21:29:00

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	1.15E+08	25	0.	437	0.
4	2.44E+08	47	0.	706	0.
6	2.11E+08	67	0.	1011	0.
8	1.78E+08	87	0.	1316	0.
10	1.34E+08	108	0.	1622	0.
12	1.07E+08	128	1.20E+03	1927	0.
14	8.34E+07	148	0.	2233	0.
16	9.40E+07	169	0.	2538	0.
18	8.12E+07	183	0.	2843	0.
20	3.48E+07	209	0.	3149	0.
22	2.71E+07	230	0.	3454	0.
24	1.39E+07	250	0.	3760	0.
26	1.14E+07	271	0.	4065	0.
28	7.58E+06	291	0.	4370	0.
30	2.27E+06	311	0.	4676	0.
LWC	2.03E-03		3.53E-06		0.
MED D	16		65		0

P (MB)	281.6
ALT (KM)	9.580
TEMP (C)	-42.6
FROSTPOINT	-49.4
IAS (M/S)	133.0
TOTALS	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E79-07 ON 16 MAR 79 30 SECOND AVERAGING

INTERVAL START: 21:29:30

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	1.29E+08	25	0.	437	0.
4	2.49E+08	47	0.	706	0.
6	2.01E+08	67	0.	1011	0.
8	1.65E+08	87	0.	1316	0.
10	1.21E+08	108	0.	1622	0.
12	9.44E+07	128	0.	1927	0.
14	7.83E+07	148	0.	2233	0.
16	8.12E+07	169	0.	2538	0.
18	7.88E+07	183	0.	2843	0.
20	3.94E+07	209	0.	3149	0.
22	2.32E+07	230	0.	3454	0.
24	1.27E+07	250	0.	3760	0.
26	1.07E+07	271	0.	4065	0.
28	5.24E+06	291	0.	4370	0.
30	2.58E+06	311	0.	4676	0.
LWC	1.94E-03		0.		0.
MED D	16		0		0

P (MB)	281.6
ALT (KM)	9.582
TEMP (C)	-43.0
FROSTPOINT	-49.2
IAS (M/S)	132.7
TOTALS	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E79-07 ON 16 MAR 79 30 SECOND AVERAGING

INTERVAL START: 21:30:00

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	1.18E+08	25	0.	437	0.
4	2.44E+08	47	0.	706	0.
6	2.06E+08	67	0.	1011	0.
8	1.73E+08	87	0.	1316	0.
10	1.23E+08	108	0.	1622	0.
12	1.07E+08	128	0.	1927	0.
14	8.22E+07	148	0.	2233	0.
16	9.58E+07	169	0.	2538	0.
18	8.56E+07	183	0.	2843	0.
20	3.50E+07	209	0.	3149	0.
22	2.57E+07	230	0.	3454	0.
24	1.39E+07	250	0.	3760	0.
26	1.34E+07	271	0.	4065	0.
28	5.69E+06	291	0.	4370	0.
30	2.05E+06	311	0.	4676	0.
LWC	2.09E-03		0.		0.
MED D	16		0		0

P (MB)	281.6
ALT (KM)	9.580
TEMP (C)	-42.7
FROSTPOINT	-46.0
IAS (M/S)	132.7
TOTALS	0

INTERVAL START: 21:30:30

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	1.07E+08	25	0.	437	0.
4	2.67E+08	47	0.	706	0.
6	2.31E+08	67	0.	1011	0.
8	1.85E+08	87	0.	1316	0.
10	1.41E+08	108	0.	1622	0.
12	1.18E+08	128	0.	1927	0.
14	9.06E+07	148	0.	2233	0.
16	1.00E+08	169	0.	2538	0.
18	8.24E+07	183	0.	2843	0.
20	4.27E+07	209	0.	3149	0.
22	2.53E+07	230	0.	3454	0.
24	1.78E+07	250	0.	3760	0.
26	1.16E+07	271	0.	4065	0.
28	7.77E+06	291	0.	4370	0.
30	3.20E+06	311	0.	4676	0.
LWC	2.25E-03		0.		0.
MED D	16		0		0

P (MB)	281.7
ALT (KM)	9.579
TEMP (C)	-42.5
FROSTPOINT	-44.1
IAS (M/S)	132.3
TOTALS	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E73-07 ON 16 MAR 78 30 SECOND AVERAGING
INTERVAL START: *21:31:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.3
2	1.90E+03	26	1.30E+05	437	4.53E+02	
4	2.33E+03	47	3.45E+04	706	0.	ALT (KM)
6	2.02E+03	67	4.04E+04	1011	0.	9.573
8	1.63E+03	87	3.36E+04	1316	0.	
10	1.28E+03	108	2.20E+04	1622	0.	TEMP (C)
12	1.13E+03	128	2.54E+04	1927	0.	-42.4
14	8.03E+02	148	1.43E+04	2233	0.	
16	9.77E+02	169	3.13E+03	2538	0.	FROSTPOINT
18	9.80E+02	189	1.35E+04	2843	0.	-44.8
20	4.75E+02	209	9.28E+03	3149	0.	
22	3.24E+02	230	7.14E+03	3454	0.	TAS (M/S)
24	2.38E+02	250	0.	3760	0.	132.2
26	2.17E+02	271	4.53E+02	4065	0.	
28	1.46E+02	291	9.07E+02	4370	0.	
30	6.61E+06	311	8.25E+02	4676	0.	
						TOTALS
LWC	2.74E-03		6.79E-04		3.87E-04	1.07E-03
MED D	17		71		191	94

INTERVAL START: *21:31:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.7
2	3.68E+03	26	6.37E+05	437	2.85E+02	
4	2.22E+03	47	9.45E+04	706	4.95E-01	ALT (KM)
6	1.46E+03	67	1.08E+05	1011	0.	9.579
8	1.07E+03	87	9.50E+04	1316	0.	
10	7.72E+02	108	1.86E+05	1622	0.	TEMP (C)
12	5.92E+02	128	1.00E+05	1927	0.	-42.3
14	4.13E+02	148	6.06E+04	2233	0.	
16	5.15E+02	169	1.25E+04	2538	0.	FROSTPOINT
18	4.11E+02	189	3.05E+04	2843	0.	-45.3
20	2.12E+02	209	2.31E+04	3149	0.	
22	1.90E+02	230	9.12E+03	3454	0.	TAS (M/S)
24	1.33E+02	250	7.30E+03	3760	0.	132.2
26	1.35E+02	271	6.27E+03	4065	0.	
28	1.33E+02	291	4.97E+03	4370	0.	
30	7.31E+06	311	3.34E+03	4676	0.	
						TOTALS
LWC	1.63E-03		2.21E-03		2.08E-04	2.42E-03
MED D	19		71		192	74

AFWL CIRRUS STUDY BY AFGL

FLIGHT E73-07 ON 16 MAR 78 30 SECOND AVERAGING
INTERVAL START: *21:32:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.6
2	7.04E+03	26	1.62E+05	437	3.82E+02	
4	1.97E+03	47	4.28E+04	706	1.97E+00	ALT (KM)
6	1.12E+03	67	2.81E+04	1011	0.	9.588
8	7.65E+07	87	3.10E+04	1316	0.	
10	5.33E+07	108	3.10E+04	1622	0.	TEMP (C)
12	4.05E+07	128	3.01E+04	1927	0.	-42.2
14	3.01E+07	148	3.13E+04	2233	0.	
16	3.20E+07	169	1.02E+04	2538	0.	FROSTPOINT
18	2.74E+07	189	2.79E+04	2843	0.	-44.3
20	1.39E+07	209	1.66E+04	3149	0.	
22	1.23E+07	230	2.02E+04	3454	0.	TAS (M/S)
24	6.64E+06	250	5.61E+03	3760	0.	132.3
26	7.31E+06	271	5.49E+03	4065	0.	
28	4.80E+06	291	5.38E+03	4370	0.	
30	4.57E+06	311	3.72E+03	4676	0.	
						TOTALS
LWC	9.71E-04		1.49E-03		3.12E-04	1.80E-03
MED D	18		88		193	97

INTERVAL START: *21:32:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.4
2	4.63E+03	26	7.81E+03	437	1.51E+03	
4	2.15E+03	47	1.20E+05	706	9.44E+01	ALT (KM)
6	1.18E+03	67	4.61E+04	1011	4.15E+00	9.586
8	8.91E+07	87	3.59E+04	1316	0.	
10	6.06E+07	108	5.36E+04	1622	0.	TEMP (C)
12	5.18E+07	128	1.33E+04	1927	0.	-42.4
14	3.49E+07	148	9.66E+03	2233	0.	
16	4.17E+07	169	3.30E+03	2538	0.	FROSTPOINT
18	2.99E+07	189	1.69E+04	2843	0.	-43.0
20	1.60E+07	209	1.75E+04	3149	0.	
22	8.44E+06	230	1.01E+04	3454	0.	TAS (M/S)
24	8.20E+06	250	1.13E+04	3760	0.	132.5
26	8.65E+06	271	8.75E+03	4065	0.	
28	7.97E+06	291	6.79E+03	4370	0.	
30	8.20E+06	311	5.51E+03	4676	0.	
						TOTALS
LWC	1.19E-03		1.44E-03		1.79E-03	3.23E-03
MED D	18		97		211	154

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING
INTERVAL START: *21:33:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.3
2	6.56E+08	26	4.20E+06	437	3.32E+02	
4	2.02E+08	47	2.55E+04	706	2.47E+00	ALT (KM)
6	9.79E+07	67	5.19E+04	1011	0.	9.583
8	7.66E+07	87	2.36E+04	1316	0.	
10	4.78E+07	108	2.31E+04	1622	0.	TEMP (C)
12	4.15E+07	128	2.39E+04	1927	0.	-42.5
14	2.72E+07	148	2.35E+04	2233	0.	
16	3.17E+07	169	7.77E+03	2538	0.	FROSTPOINT
18	2.36E+07	189	1.93E+04	2843	0.	-42.1
20	1.11E+07	209	2.47E+04	3149	0.	
22	9.97E+05	230	1.61E+04	3454	0.	TAS (M/S)
24	6.79E+05	250	1.46E+04	3760	0.	133.3
26	4.31E+05	271	8.66E+03	4065	0.	
28	6.12E+05	291	5.15E+03	4370	0.	
30	5.21E+05	311	3.50E+03	4676	0.	
						TOTALS
LWC	9.81E-04		1.50E-03		3.26E-04	1.83E-03
MED D	18		97		193	104

INTERVAL START: *21:33:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.0
2	6.13E+08	26	3.21E+04	437	0.	
4	2.18E+08	47	8.46E+03	706	0.	ALT (KM)
6	1.16E+08	67	2.77E+04	1011	0.	9.595
8	7.67E+07	87	2.36E+04	1316	0.	
10	5.91E+07	108	4.65E+04	1622	0.	TEMP (C)
12	4.21E+07	128	2.02E+04	1927	0.	-42.5
14	2.70E+07	148	1.22E+04	2233	0.	
16	2.95E+07	169	5.40E+03	2538	0.	FROSTPOINT
18	2.11E+07	189	4.17E+03	2843	0.	-41.9
20	1.35E+07	209	3.64E+03	3149	0.	
22	6.75E+05	230	1.00E+03	3454	0.	TAS (M/S)
24	4.49E+05	250	1.11E+03	3760	0.	134.2
26	4.72E+05	271	0.	4065	0.	
28	3.37E+05	291	0.	4370	0.	
30	3.37E+05	311	0.	4676	0.	
						TOTALS
LWC	7.81E-04		3.78E-04		1.36E-20	3.78E-04
MED D	16		65		0	65

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING
INTERVAL START: *21:34:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.2
2	5.48E+08	26	6.41E+04	437	4.45E+02	
4	2.24E+08	47	6.44E+03	706	0.	ALT (KM)
6	1.35E+08	67	1.13E+04	1011	0.	9.590
8	9.51E+07	87	1.65E+04	1316	0.	
10	6.92E+07	108	3.37E+04	1622	0.	TEMP (C)
12	5.62E+07	128	2.38E+04	1927	0.	-42.4
14	3.84E+07	148	1.31E+04	2233	0.	
16	3.48E+07	169	5.40E+03	2538	0.	FROSTPOINT
18	2.65E+07	189	7.49E+03	2843	0.	-42.7
20	1.55E+07	209	5.44E+03	3149	0.	
22	1.21E+07	230	9.37E+02	3454	0.	TAS (M/S)
24	5.62E+05	250	0.	3760	0.	134.4
26	5.17E+05	271	4.45E+02	4065	0.	
28	4.94E+05	291	8.89E+02	4370	0.	
30	3.14E+05	311	8.09E+02	4676	0.	
						TOTALS
LWC	9.78E-04		4.17E-04		3.80E-04	7.97E-04
MED D	15		71		191	133

INTERVAL START: *21:34:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.7
2	4.57E+08	26	3.21E+04	437	2.10E+02	
4	2.17E+08	47	1.59E+04	706	0.	ALT (KM)
6	1.43E+08	67	1.53E+04	1011	0.	9.602
8	1.09E+08	87	2.13E+04	1316	0.	
10	7.77E+07	108	3.70E+04	1622	0.	TEMP (C)
12	6.01E+07	128	1.91E+04	1927	0.	-42.6
14	3.71E+07	148	8.44E+03	2233	0.	
16	4.08E+07	169	7.70E+02	2538	0.	FROSTPOINT
18	3.85E+07	189	4.18E+03	2843	0.	-43.8
20	1.61E+07	209	8.20E+03	3149	0.	
22	1.04E+07	230	3.01E+03	3454	0.	TAS (M/S)
24	6.57E+05	250	2.24E+03	3760	0.	133.0
26	7.47E+05	271	9.71E+02	4065	0.	
28	4.74E+05	291	4.20E+02	4370	0.	
30	2.48E+05	311	3.82E+02	4676	0.	
						TOTALS
LWC	1.08E-03		4.20E-04		1.78E-04	6.00E-04
MED D	16		73		191	93

AFML CIRRUS STUDY BY AFGL

FLIGHT F78-07 ON 18 MAR 78 30 SECOND AVERAGING

INTERVAL START: *21:35:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.4
2	3.56E+08	26	3.28E+04	437	0.	
4	2.57E+08	47	0.	706	0.	ALT (KM)
6	1.58E+08	67	0.	1011	0.	9.608
8	1.23E+08	87	0.	1316	0.	
10	8.52E+07	108	0.	1622	0.	TEMP (C)
12	5.50E+07	128	0.	1927	0.	-42.8
14	3.73E+07	148	0.	2233	0.	
16	4.47E+07	169	0.	2538	0.	FROSTPOINT
18	3.44E+07	189	0.	2843	0.	-44.3
20	1.19E+07	209	0.	3149	0.	
22	9.40E+06	230	0.	3454	0.	TAS (M/S)
24	4.81E+06	250	0.	3760	0.	131.8
26	2.75E+06	271	0.	4065	0.	
28	3.89E+06	291	0.	4370	0.	
30	5.04E+06	311	0.	4676	0.	
						TOTALS
LWC	1.00E-03		4.17E-06		0.	4.17E-06
MED D	15		22		0	22

INTERVAL START: *21:35:30*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.7
2	1.87E+08	26	6.56E+04	437	0.	
4	2.78E+08	47	8.53E+03	706	0.	ALT (KM)
6	1.97E+08	67	4.05E+03	1011	0.	9.602
8	1.61E+08	87	9.64E+03	1316	0.	
10	1.11E+08	108	0.	1622	0.	TEMP (C)
12	8.18E+07	128	0.	1927	0.	-42.7
14	6.09E+07	148	0.	2233	0.	
16	6.92E+07	169	0.	2538	0.	FROSTPOINT
18	6.11E+07	189	0.	2843	0.	-44.0
20	2.51E+07	209	0.	3149	0.	
22	1.15E+07	230	0.	3454	0.	TAS (M/S)
24	1.06E+07	250	0.	3760	0.	131.4
26	9.43E+06	271	0.	4065	0.	
28	5.29E+06	291	0.	4370	0.	
30	2.53E+06	311	0.	4676	0.	
						TOTALS
LWC	1.54E-03		2.83E-05		0.	2.83E-05
MED D	16		44		0	44

AFML CIRRUS STUDY BY AFGL

FLIGHT F78-07 ON 18 MAR 78 30 SECOND AVERAGING

INTERVAL START: *21:36:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.7
2	1.46E+08	26	0.	437	0.	
4	2.91E+08	47	0.	706	0.	ALT (KM)
6	2.36E+08	67	0.	1011	0.	9.602
8	1.82E+08	87	0.	1316	0.	
10	1.37E+08	108	0.	1622	0.	TEMP (C)
12	1.05E+08	128	0.	1927	0.	-43.0
14	7.60E+07	148	0.	2233	0.	
16	7.81E+07	169	0.	2538	0.	FROSTPOINT
18	6.98E+07	189	8.52E+02	2843	0.	-43.3
20	2.79E+07	209	0.	3149	0.	
22	2.12E+07	230	0.	3454	0.	TAS (M/S)
24	1.61E+07	250	0.	3760	0.	131.1
26	8.29E+06	271	0.	4065	0.	
28	7.37E+06	291	0.	4370	0.	
30	3.22E+06	311	0.	4676	0.	
						TOTALS
LWC	1.90E-03		5.47E-06		0.	5.47E-06
MED D	16		84		0	84

INTERVAL START: *21:36:30*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.0
2	1.54E+08	26	0.	437	0.	
4	2.65E+08	47	0.	706	0.	ALT (KM)
6	2.36E+08	67	0.	1011	0.	9.594
8	1.94E+08	87	0.	1316	0.	
10	1.38E+08	108	0.	1622	0.	TEMP (C)
12	1.13E+08	128	0.	1927	0.	-42.7
14	7.53E+07	148	0.	2233	0.	
16	9.66E+07	169	0.	2538	0.	FROSTPOINT
18	7.84E+07	189	0.	2843	0.	-42.7
20	3.75E+07	209	0.	3149	0.	
22	2.43E+07	230	0.	3454	0.	TAS (M/S)
24	1.69E+07	250	0.	3760	0.	130.5
26	1.27E+07	271	0.	4065	0.	
28	8.55E+06	291	0.	4370	0.	
30	4.86E+06	311	0.	4676	0.	
						TOTALS
LWC	2.21E-03		0.		0.	0.
MED D	16		0		0	0

AFAL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 16 MAR 78 30 SECOND AVERAGING
INTERVAL START:*21:37:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.1
2	1.47E+03	25	0.	437	0.	
4	2.89E+03	47	0.	706	0.	ALT (KM)
6	2.26E+03	67	0.	1011	0.	9.593
8	1.62E+03	87	0.	1316	0.	
10	1.22E+03	106	0.	1622	0.	TEMP (C)
12	1.05E+03	126	1.22E+03	1927	0.	-42.4
14	7.25E+07	146	0.	2233	0.	
16	8.89E+07	169	0.	2538	0.	FROSTPOINT
18	6.83E+07	189	0.	2843	0.	-42.6
20	3.53E+07	209	0.	3149	0.	
22	1.80E+07	230	0.	3454	0.	TAS (M/S)
24	1.20E+07	250	0.	3760	0.	130.3
26	8.31E+05	271	0.	4065	0.	
28	4.85E+05	291	0.	4370	0.	
30	2.31E+05	311	0.	4676	0.	
						TOTALS
LWC	1.82E-03		3.59E-06		0.	3.59E-06
MED D	16		65	0		65

AFAL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 16 MAR 78 30 SECOND AVERAGING
INTERVAL START:*21:36:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.9
2	1.21E+03	25	0.	437	0.	
4	2.66E+03	47	0.	706	0.	ALT (KM)
6	2.37E+03	67	0.	1011	0.	9.597
8	1.93E+03	87	0.	1316	0.	
10	1.36E+03	106	0.	1622	0.	TEMP (C)
12	1.14E+03	126	0.	1927	0.	-42.5
14	8.85E+07	146	0.	2233	0.	
16	1.01E+08	169	0.	2538	0.	FROSTPOINT
18	8.43E+07	189	0.	2843	0.	-43.1
20	4.23E+07	209	0.	3149	0.	
22	2.61E+07	230	0.	3454	0.	TAS (M/S)
24	1.50E+07	250	0.	3760	0.	130.5
26	1.48E+07	271	0.	4065	0.	
28	9.25E+05	291	0.	4370	0.	
30	5.32E+05	311	0.	4676	0.	
						TOTALS
LWC	2.35E-03		0.		0.	0.
MED D	16		0	0		0

INTERVAL START:*21:37:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.0
2	1.31E+03	25	0.	437	0.	
4	2.71E+03	47	0.	706	0.	ALT (KM)
6	2.39E+03	67	0.	1011	0.	9.593
8	1.90E+03	87	0.	1316	0.	
10	1.31E+03	106	0.	1622	0.	TEMP (C)
12	1.15E+03	126	0.	1927	0.	-42.6
14	8.09E+07	146	0.	2233	0.	
16	9.65E+07	169	0.	2538	0.	FROSTPOINT
18	8.78E+07	189	0.	2843	0.	-42.9
20	4.18E+07	209	0.	3149	0.	
22	2.57E+07	230	0.	3454	0.	TAS (M/S)
24	1.49E+07	250	0.	3760	0.	130.6
26	1.34E+07	271	0.	4065	0.	
28	8.94E+05	291	0.	4370	0.	
30	3.93E+05	311	0.	4676	0.	
						TOTALS
LWC	2.24E-03		0.		0.	0.
MED D	16		0	0		0

INTERVAL START:*21:36:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.9
2	1.17E+03	25	0.	437	0.	
4	2.73E+03	47	0.	706	0.	ALT (KM)
6	2.20E+03	67	0.	1011	0.	9.598
8	1.85E+03	87	0.	1316	0.	
10	1.43E+03	106	0.	1622	0.	TEMP (C)
12	1.18E+03	126	0.	1927	0.	-42.7
14	8.88E+07	146	0.	2233	0.	
16	9.80E+07	169	0.	2538	0.	FROSTPOINT
18	9.18E+07	189	0.	2843	0.	-42.8
20	3.93E+07	209	0.	3149	0.	
22	2.77E+07	230	0.	3454	0.	TAS (M/S)
24	1.80E+07	250	0.	3760	0.	130.6
26	1.20E+07	271	0.	4065	0.	
28	5.78E+05	291	0.	4370	0.	
30	3.93E+05	311	0.	4676	0.	
						TOTALS
LWC	2.28E-03		0.		0.	0.
MED D	16		0	0		0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING
INTERVAL START: *21:39:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.9
2	1.16E+08	26	0.	437	0.	
4	2.67E+08	47	0.	706	0.	ALT (KM)
6	2.33E+08	67	4.06E+03	1011	0.	9.597
8	2.13E+08	87	0.	1316	0.	
10	1.48E+08	108	0.	1622	0.	TEMP (C)
12	1.32E+08	128	0.	1927	0.	-42.7
14	1.01E+08	148	0.	2233	0.	
15	1.08E+08	159	0.	2538	0.	FROSTPOINT
18	1.09E+08	183	0.	2843	0.	-42.2
20	4.92E+07	209	0.	3149	0.	
22	3.51E+07	230	0.	3454	0.	TAS (M/S)
24	2.13E+07	250	0.	3760	0.	130.6
26	1.83E+07	271	0.	4065	0.	
28	1.16E+07	291	0.	4370	0.	
30	3.01E+06	311	0.	4676	0.	
						TOTALS
LWC	2.77E-03		3.30E-06		0.	3.30E-06
MED D	16		42		0	42

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING
INTERVAL START: *21:40:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.3
2	2.19E+08	26	0.	437	0.	
4	2.78E+08	47	1.76E+04	706	0.	ALT (KM)
6	2.15E+08	67	0.	1011	0.	9.588
8	1.57E+08	87	0.	1316	0.	
10	1.20E+08	108	0.	1622	0.	TEMP (C)
12	8.58E+07	128	0.	1927	0.	-42.4
14	6.33E+07	148	0.	2233	0.	
15	7.50E+07	159	0.	2538	0.	FROSTPOINT
18	5.65E+07	183	0.	2843	0.	-42.4
20	2.11E+07	209	0.	3149	0.	
22	2.16E+07	230	0.	3454	0.	TAS (M/S)
24	7.73E+06	250	0.	3760	0.	128.8
26	7.03E+06	271	0.	4065	0.	
28	4.45E+06	291	0.	4370	0.	
30	1.64E+06	311	0.	4676	0.	
						TOTALS
LWC	1.52E-03		6.36E-06		0.	6.96E-06
MED D	15		33		0	33

INTERVAL START: *21:39:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.1
2	1.30E+08	26	0.	437	0.	
4	2.68E+08	47	0.	706	0.	ALT (KM)
6	2.21E+08	67	0.	1011	0.	9.592
8	1.75E+08	87	0.	1316	0.	
10	1.36E+08	108	0.	1622	0.	TEMP (C)
12	1.05E+08	128	0.	1927	0.	-42.6
14	7.52E+07	148	0.	2233	0.	
15	9.61E+07	159	0.	2538	0.	FROSTPOINT
18	6.99E+07	183	0.	2843	0.	-42.0
20	2.81E+07	209	0.	3149	0.	
22	2.37E+07	230	0.	3454	0.	TAS (M/S)
24	1.30E+07	250	0.	3760	0.	130.1
26	1.04E+07	271	0.	4065	0.	
28	4.64E+06	291	0.	4370	0.	
30	2.09E+06	311	0.	4676	0.	
						TOTALS
LWC	1.89E-03		0.		0.	0.
MED D	16		0		0	0

INTERVAL START: *21:40:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.4
2	1.97E+08	26	0.	437	0.	
4	2.89E+08	47	0.	706	0.	ALT (KM)
6	2.14E+08	67	0.	1011	0.	9.585
8	1.71E+08	87	0.	1316	0.	
10	1.27E+08	108	0.	1622	0.	TEMP (C)
12	8.93E+07	128	0.	1927	0.	-42.2
14	6.85E+07	148	0.	2233	0.	
15	7.30E+07	159	0.	2538	0.	FROSTPOINT
18	6.53E+07	183	0.	2843	0.	-43.4
20	2.66E+07	209	0.	3149	0.	
22	1.74E+07	230	0.	3454	0.	TAS (M/S)
24	9.89E+06	250	0.	3760	0.	128.2
26	8.00E+06	271	0.	4065	0.	
28	4.23E+06	291	0.	4370	0.	
30	9.40E+06	311	0.	4676	0.	
						TOTALS
LWC	1.60E-03		0.		0.	0.
MED D	15		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING
INTERVAL START: *21:41:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.2
2	1.23E+03	26	0.	437	0.	
4	2.93E+03	47	0.	706	0.	ALT (KM)
6	2.47E+03	67	0.	1011	0.	9.590
8	1.96E+03	87	0.	1316	0.	
10	1.48E+03	108	0.	1622	0.	TEMP (C)
12	1.31E+03	128	0.	1927	0.	-42.3
14	8.71E+07	148	0.	2233	0.	
16	1.12E+03	169	0.	2538	0.	FROSTPOINT
18	8.87E+07	189	0.	2843	0.	-44.6
20	3.76E+07	209	0.	3149	0.	
22	2.56E+07	230	0.	3454	0.	TAS (M/S)
24	1.48E+07	250	0.	3760	0.	128.6
26	8.22E+06	271	0.	4065	0.	
28	4.46E+06	291	0.	4370	0.	
30	1.41E+06	311	0.	4676	0.	
						TOTALS
LWC	2.15E-03		0.		0.	0.
MED D	15		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING
INTERVAL START: *21:42:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.9
2	1.24E+03	26	0.	437	0.	
4	2.85E+03	47	0.	706	0.	ALT (KM)
6	2.44E+03	67	0.	1011	0.	9.596
8	1.96E+03	87	0.	1316	0.	
10	1.37E+03	108	0.	1622	0.	TEMP (C)
12	1.21E+03	128	0.	1927	0.	-42.5
14	9.04E+07	148	0.	2233	0.	
16	1.09E+03	169	0.	2538	0.	FROSTPOINT
18	9.76E+07	189	0.	2843	0.	-43.9
20	3.66E+07	209	0.	3149	0.	
22	2.54E+07	230	0.	3454	0.	TAS (M/S)
24	1.84E+07	250	0.	3760	0.	129.3
26	1.38E+07	271	0.	4065	0.	
28	7.00E+06	291	0.	4370	0.	
30	3.03E+06	311	0.	4676	0.	
						TOTALS
LWC	2.35E-03		0.		0.	0.
MED D	16		0		0	0

INTERVAL START: *21:41:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.0
2	1.28E+03	26	0.	437	0.	
4	2.76E+03	47	0.	706	0.	ALT (KM)
6	2.48E+03	67	0.	1011	0.	9.595
8	1.94E+03	87	0.	1316	0.	
10	1.52E+03	108	0.	1622	0.	TEMP (C)
12	1.35E+03	128	0.	1927	0.	-42.5
14	8.76E+07	148	0.	2233	0.	
16	1.12E+03	169	0.	2538	0.	FROSTPOINT
18	9.43E+07	189	0.	2843	0.	-45.0
20	3.75E+07	209	0.	3149	0.	
22	2.93E+07	230	0.	3454	0.	TAS (M/S)
24	2.24E+07	250	0.	3760	0.	129.9
26	1.58E+07	271	0.	4065	0.	
28	9.08E+06	291	0.	4370	0.	
30	3.96E+06	311	0.	4676	0.	
						TOTALS
LWC	2.53E-03		0.		0.	0.
MED D	16		0		0	0

INTERVAL START: *21:42:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.0
2	1.23E+03	26	0.	437	0.	
4	2.79E+03	47	0.	706	0.	ALT (KM)
6	2.19E+03	67	0.	1011	0.	9.595
8	1.76E+03	87	0.	1316	0.	
10	1.42E+03	108	0.	1622	0.	TEMP (C)
12	1.05E+03	128	0.	1927	0.	-42.5
14	7.64E+07	148	0.	2233	0.	
16	8.61E+07	169	0.	2538	0.	FROSTPOINT
18	8.12E+07	189	0.	2843	0.	-42.9
20	3.62E+07	209	0.	3149	0.	
22	2.34E+07	230	0.	3454	0.	TAS (M/S)
24	1.42E+07	250	0.	3760	0.	130.1
26	1.46E+07	271	0.	4065	0.	
28	6.27E+06	291	0.	4370	0.	
30	4.17E+06	311	0.	4676	0.	
						TOTALS
LWC	2.11E-03		0.		0.	0.
MED D	16		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E76-07 ON 16 MAR 76 30 SECOND AVERAGING
INTERVAL START: *21:43:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.9
2	1.41E+03	25	0.	437	0.	
4	2.85E+03	47	0.	706	0.	ALT (KM)
6	2.35E+03	67	0.	1011	0.	9.595
8	1.86E+03	87	0.	1316	0.	
10	1.36E+03	106	0.	1622	0.	TEMP (C)
12	1.10E+03	126	0.	1927	0.	-42.6
14	7.84E+07	146	0.	2233	0.	
16	8.42E+07	169	0.	2536	0.	FROSTPOINT
18	7.42E+07	189	0.	2843	0.	-42.6
20	3.37E+07	209	0.	3149	0.	
22	2.21E+07	230	0.	3454	0.	TAS (M/S)
24	1.28E+07	250	0.	3760	0.	128.8
26	9.31E+06	271	0.	4065	0.	
28	6.98E+06	291	0.	4370	0.	
30	4.19E+06	311	0.	4676	0.	
						TOTALS
LWC	1.98E-03		0.		0.	0.
MED D	16		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E76-07 ON 16 MAR 76 30 SECOND AVERAGING
INTERVAL START: *21:44:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.4
2	1.64E+03	25	0.	437	0.	
4	2.71E+03	47	0.	706	0.	ALT (KM)
6	2.30E+03	67	0.	1011	0.	9.585
8	1.87E+03	87	0.	1316	0.	
10	1.48E+03	106	0.	1622	0.	TEMP (C)
12	1.16E+03	126	0.	1927	0.	-41.8
14	8.59E+07	146	0.	2233	0.	
16	1.03E+08	169	0.	2536	0.	FROSTPOINT
18	1.04E+08	189	0.	2843	0.	-44.0
20	4.76E+07	209	0.	3149	0.	
22	3.52E+07	230	0.	3454	0.	TAS (M/S)
24	2.36E+07	250	0.	3760	0.	128.6
26	1.62E+07	271	0.	4065	0.	
28	1.13E+07	291	0.	4370	0.	
30	1.64E+06	311	0.	4676	0.	
						TOTALS
LWC	2.62E-03		0.		0.	0.
MED D	16		0		0	0

INTERVAL START: *21:43:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.1
2	1.34E+03	25	0.	437	0.	
4	2.78E+03	47	0.	706	0.	ALT (KM)
6	2.31E+03	67	0.	1011	0.	9.592
8	1.82E+03	87	0.	1316	0.	
10	1.36E+03	106	0.	1622	0.	TEMP (C)
12	1.10E+03	126	0.	1927	0.	-42.3
14	8.64E+07	146	0.	2233	0.	
16	9.41E+07	169	0.	2536	0.	FROSTPOINT
18	8.12E+07	189	0.	2843	0.	-42.6
20	3.54E+07	209	0.	3149	0.	
22	2.32E+07	230	0.	3454	0.	TAS (M/S)
24	1.53E+07	250	0.	3760	0.	128.7
26	1.01E+07	271	0.	4065	0.	
28	5.87E+06	291	0.	4370	0.	
30	1.18E+06	311	0.	4676	0.	
						TOTALS
LWC	2.03E-03		0.		0.	0.
MED D	16		0		0	0

INTERVAL START: *21:44:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.2
2	1.38E+03	25	0.	437	0.	
4	2.87E+03	47	0.	706	0.	ALT (KM)
6	2.39E+03	67	0.	1011	0.	9.590
8	1.90E+03	87	0.	1316	0.	
10	1.34E+03	106	0.	1622	0.	TEMP (C)
12	1.10E+03	126	0.	1927	0.	-41.8
14	8.61E+07	146	0.	2233	0.	
16	9.32E+07	169	0.	2536	0.	FROSTPOINT
18	8.79E+07	189	0.	2843	0.	-46.6
20	3.55E+07	209	0.	3149	0.	
22	2.54E+07	230	0.	3454	0.	TAS (M/S)
24	1.74E+07	250	0.	3760	0.	128.7
26	1.08E+07	271	0.	4065	0.	
28	4.70E+06	291	0.	4370	0.	
30	1.88E+06	311	0.	4676	0.	
						TOTALS
LWC	2.07E-03		0.		0.	0.
MED D	16		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT F78-07 ON 16 MAR 78 30 SECOND AVERAGING

INTERVAL START: *21:45:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						281.4
2	2.04E+08	26	0.	437	0.	
4	2.72E+08	47	1.77E+04	706	0.	ALT (KM)
6	2.19E+08	67	0.	1011	0.	9.086
8	1.63E+08	87	0.	1316	0.	
10	1.16E+08	108	0.	1622	0.	TEMP (C)
12	9.84E+07	128	0.	1927	0.	-41.6
14	6.87E+07	148	0.	2233	0.	
16	7.56E+07	169	0.	2538	0.	FROSTPOINT
18	6.90E+07	189	0.	2843	0.	-48.7
20	3.32E+07	209	0.	3149	0.	
22	1.81E+07	230	0.	3454	0.	TAS (M/S)
24	1.44E+07	250	0.	3760	0.	126.2
26	8.24E+06	271	0.	4065	0.	
28	5.65E+06	291	0.	4370	0.	
30	2.12E+06	311	0.	4676	0.	
						TOTALS
LWC	1.77E-03		7.00E-06		0.	7.00E-06
MED D	16		33		0	33

INTERVAL START: *21:45:30*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						281.2
2	2.32E+08	26	0.	437	0.	
4	2.87E+08	47	0.	706	0.	ALT (KM)
6	2.07E+08	67	0.	1011	0.	9.091
8	1.61E+08	87	0.	1316	0.	
10	1.11E+08	108	0.	1622	0.	TEMP (C)
12	9.60E+07	128	0.	1927	0.	-41.8
14	6.71E+07	148	0.	2233	0.	
16	6.97E+07	169	0.	2538	0.	FROSTPOINT
18	5.80E+07	189	0.	2843	0.	-49.4
20	2.69E+07	209	0.	3149	0.	
22	1.74E+07	230	0.	3454	0.	TAS (M/S)
24	9.38E+06	250	0.	3760	0.	128.6
26	6.61E+06	271	0.	4065	0.	
28	4.63E+06	291	0.	4370	0.	
30	1.88E+06	311	0.	4676	0.	
						TOTALS
LWC	1.57E-03		0.		0.	0.
MED D	16		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT F78-07 ON 16 MAR 78 30 SECOND AVERAGING

INTERVAL START: *21:46:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						280.9
2	2.33E+08	26	0.	437	0.	
4	2.69E+08	47	0.	706	0.	ALT (KM)
6	2.02E+08	67	0.	1011	0.	9.596
8	1.60E+08	87	0.	1316	0.	
10	1.18E+08	108	0.	1622	0.	TEMP (C)
12	8.18E+07	128	0.	1927	0.	-42.2
14	6.29E+07	148	0.	2233	0.	
16	6.54E+07	169	0.	2538	0.	FROSTPOINT
18	4.91E+07	189	0.	2843	0.	-49.1
20	2.57E+07	209	0.	3149	0.	
22	1.75E+07	230	0.	3454	0.	TAS (M/S)
24	1.05E+07	250	0.	3760	0.	129.2
26	8.88E+06	271	0.	4065	0.	
28	4.91E+06	291	0.	4370	0.	
30	1.87E+06	311	0.	4676	0.	
						TOTALS
LWC	1.51E-03		0.		0.	0.
MED D	16		0		0	0

INTERVAL START: *21:46:30*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						280.8
2	1.72E+08	26	0.	437	0.	
4	2.98E+08	47	0.	706	0.	ALT (KM)
6	2.20E+08	67	0.	1011	0.	9.593
8	1.73E+08	87	0.	1316	0.	
10	1.29E+08	108	0.	1622	0.	TEMP (C)
12	1.02E+08	128	0.	1927	0.	-41.5
14	6.20E+07	148	0.	2233	0.	
16	7.64E+07	169	0.	2538	0.	FROSTPOINT
18	6.02E+07	189	0.	2843	0.	-48.0
20	2.20E+07	209	0.	3149	0.	
22	1.81E+07	230	0.	3454	0.	TAS (M/S)
24	1.04E+07	250	0.	3760	0.	130.4
26	4.86E+06	271	0.	4065	0.	
28	2.78E+06	291	0.	4370	0.	
30	1.33E+06	311	0.	4676	0.	
						TOTALS
LWC	1.52E-03		0.		0.	0.
MED D	16		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING
INTERVAL START: 21:47:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						280.9
2	2.28E+03	26	0.	437	0.	
4	2.85E+03	47	0.	706	0.	ALT (KM)
6	2.28E+03	67	0.	1011	0.	9.597
8	1.63E+03	87	0.	1316	0.	
10	1.13E+03	108	0.	1622	0.	TEMP (C)
12	1.02E+03	128	0.	1927	0.	-41.5
14	5.77E+07	148	0.	2233	0.	
16	5.86E+07	169	0.	2538	0.	FROSTPOINT
18	5.15E+07	189	0.	2843	0.	-48.7
20	2.31E+07	209	0.	3149	0.	
22	1.27E+07	230	0.	3454	0.	TAS (M/S)
24	7.38E+06	250	0.	3760	0.	130.8
26	6.46E+06	271	0.	4065	0.	
28	3.23E+06	291	0.	4370	0.	
30	2.31E+06	311	0.	4676	0.	
						TOTALS
LWC	1.42E-03		0.		0.	0.
MED D	15		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING
INTERVAL START: 21:48:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						280.8
2	1.44E+03	26	0.	437	0.	
4	2.92E+03	47	0.	706	0.	ALT (KM)
6	2.47E+03	67	0.	1011	0.	9.601
8	2.05E+03	87	2.43E+03	1315	0.	
10	1.47E+03	108	0.	1622	0.	TEMP (C)
12	1.03E+03	128	0.	1927	0.	-41.5
14	7.27E+07	148	0.	2233	0.	
16	8.60E+07	169	0.	2538	0.	FROSTPOINT
18	7.91E+07	189	0.	2843	0.	-48.4
20	3.44E+07	209	0.	3149	0.	
22	2.22E+07	230	0.	3454	0.	TAS (M/S)
24	1.08E+07	250	0.	3760	0.	130.9
26	8.30E+06	271	0.	4065	0.	
28	5.07E+06	291	0.	4370	0.	
30	1.39E+06	311	0.	4676	0.	
						TOTALS
LWC	1.90E-03		3.34E-06		0.	3.34E-06
MED D	15		50		0	50

INTERVAL START: 21:47:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						281.0
2	2.03E+03	26	0.	437	0.	
4	2.86E+03	47	0.	706	0.	ALT (KM)
6	2.12E+03	67	0.	1011	0.	9.595
8	1.64E+03	87	0.	1316	0.	
10	1.13E+03	108	0.	1622	0.	TEMP (C)
12	8.14E+07	128	0.	1927	0.	-41.5
14	5.92E+07	148	0.	2233	0.	
16	6.52E+07	169	0.	2538	0.	FROSTPOINT
18	5.64E+07	189	0.	2843	0.	-48.4
20	2.55E+07	209	0.	3149	0.	
22	1.02E+07	230	0.	3454	0.	TAS (M/S)
24	1.04E+07	250	0.	3760	0.	130.2
26	1.07E+07	271	0.	4065	0.	
28	5.43E+06	291	0.	4370	0.	
30	1.19E+06	311	0.	4676	0.	
						TOTALS
LWC	1.53E-03		0.		0.	0.
MED D	16		0		0	0

INTERVAL START: 21:48:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						281.1
2	1.55E+03	26	0.	437	0.	
4	2.65E+03	47	0.	706	0.	ALT (KM)
6	2.30E+03	67	0.	1011	0.	9.593
8	1.65E+03	87	0.	1316	0.	
10	1.29E+03	108	0.	1622	0.	TEMP (C)
12	1.05E+03	128	0.	1927	0.	-41.5
14	7.40E+07	148	0.	2233	0.	
16	8.14E+07	169	0.	2538	0.	FROSTPOINT
18	5.66E+07	189	0.	2843	0.	-48.4
20	3.12E+07	209	0.	3149	0.	
22	1.92E+07	230	0.	3454	0.	TAS (M/S)
24	1.32E+07	250	0.	3760	0.	130.5
26	1.02E+07	271	0.	4065	0.	
28	6.01E+06	291	0.	4370	0.	
30	3.00E+06	311	0.	4676	0.	
						TOTALS
LWC	1.85E-03		0.		0.	0.
MED D	16		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E73-07 ON 18 MAR 73 30 SECOND AVERAGING
INTERVAL START:*21:49:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.9
2	1.77E+03	26	0.	437	0.	
4	2.73E+03	47	0.	706	0.	ALT (KM)
6	2.23E+03	67	0.	1011	0.	9.595
8	1.65E+03	87	0.	1316	0.	
10	1.19E+03	108	0.	1622	0.	TEMP (C)
12	1.04E+03	128	0.	1927	0.	-41.6
14	6.74E+07	148	0.	2233	0.	
16	7.21E+07	169	0.	2538	0.	FROSTPOINT
18	6.81E+07	189	0.	2843	0.	-49.4
20	2.97E+07	209	0.	3149	0.	
22	1.63E+07	230	0.	3454	0.	IAS (M/S)
24	9.04E+06	250	0.	3760	0.	130.2
26	8.34E+06	271	0.	4065	0.	
28	3.01E+06	291	0.	4370	0.	
30	6.96E+06	311	0.	4676	0.	
						TOTALS
LWC	1.81E-03		0.		0.	0.
MED D	15		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E73-07 ON 18 MAR 73 30 SECOND AVERAGING
INTERVAL START:*21:50:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.9
2	2.87E+03	26	0.	437	0.	
4	2.70E+03	47	0.	706	0.	ALT (KM)
6	1.90E+03	67	0.	1011	0.	9.597
8	1.53E+03	87	0.	1316	0.	
10	1.11E+03	108	0.	1622	0.	TEMP (C)
12	8.01E+07	128	0.	1927	0.	-41.5
14	5.51E+07	148	0.	2233	0.	
16	6.20E+07	169	0.	2538	0.	FROSTPOINT
18	4.54E+07	189	0.	2843	0.	-49.4
20	2.11E+07	209	0.	3149	0.	
22	1.41E+07	230	0.	3454	0.	IAS (M/S)
24	7.18E+06	250	0.	3760	0.	130.4
26	7.18E+06	271	0.	4065	0.	
28	4.17E+06	291	0.	4370	0.	
30	6.96E+06	311	0.	4676	0.	
						TOTALS
LWC	1.31E-03		0.		0.	0.
MED D	15		0		0	0

INTERVAL START:*21:49:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.9
2	2.21E+03	26	0.	437	0.	
4	2.78E+03	47	0.	706	0.	ALT (KM)
6	1.99E+03	67	0.	1011	0.	9.598
8	1.54E+03	87	0.	1316	0.	
10	1.14E+03	108	0.	1622	0.	TEMP (C)
12	8.37E+07	128	0.	1927	0.	-41.6
14	6.75E+07	148	0.	2233	0.	
16	6.56E+07	169	0.	2538	0.	FROSTPOINT
18	5.40E+07	189	0.	2843	0.	-49.4
20	2.67E+07	209	0.	3149	0.	
22	1.60E+07	230	0.	3454	0.	IAS (M/S)
24	8.81E+06	250	0.	3760	0.	130.2
26	8.95E+06	271	0.	4065	0.	
28	2.08E+06	291	0.	4370	0.	
30	2.32E+06	311	0.	4676	0.	
						TOTALS
LWC	1.45E-03		0.		0.	0.
MED D	15		0		0	0

INTERVAL START:*21:50:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.8
2	1.73E+03	26	0.	437	0.	
4	2.83E+03	47	0.	706	0.	ALT (KM)
6	2.24E+03	67	0.	1011	0.	9.599
8	1.74E+03	87	0.	1316	0.	
10	1.27E+03	108	0.	1622	0.	TEMP (C)
12	1.11E+03	128	0.	1927	0.	-41.7
14	7.13E+07	148	0.	2233	0.	
16	8.34E+07	169	0.	2538	0.	FROSTPOINT
18	6.74E+07	189	0.	2843	0.	-49.4
20	2.76E+07	209	0.	3149	0.	
22	1.92E+07	230	0.	3454	0.	IAS (M/S)
24	8.34E+06	250	0.	3760	0.	130.4
26	8.11E+06	271	0.	4065	0.	
28	2.55E+06	291	0.	4370	0.	
30	1.62E+06	311	0.	4676	0.	
						TOTALS
LWC	1.67E-03		0.		0.	0.
MED D	15		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING
INTERVAL START:*21:51:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.9
2	1.25E+08	26	0.	437	0.	
4	2.82E+08	47	0.	706	0.	ALT (KM)
6	2.33E+08	67	0.	1011	0.	9.595
8	1.95E+08	87	0.	1316	0.	
10	1.58E+08	108	0.	1622	0.	TEMP (C)
12	1.10E+08	128	0.	1927	0.	-41.7
14	8.47E+07	148	0.	2233	0.	
16	1.15E+08	169	0.	2538	0.	FROSTPOINT
18	9.95E+07	189	0.	2843	0.	-48.4
20	4.01E+07	209	0.	3149	0.	
22	2.85E+07	230	0.	3454	0.	TAS (M/S)
24	1.67E+07	250	0.	3760	0.	130.2
26	1.62E+07	271	0.	4065	0.	
28	1.30E+07	291	0.	4370	0.	
30	3.25E+06	311	0.	4676	0.	
						TOTALS
LWC	2.53E-03		0.		0.	0.
MED D	16		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING
INTERVAL START:*21:52:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.8
2	1.64E+08	26	0.	437	0.	
4	2.89E+08	47	0.	706	0.	ALT (KM)
6	2.10E+08	67	0.	1011	0.	9.599
8	1.65E+08	87	0.	1316	0.	
10	1.18E+08	108	0.	1622	0.	TEMP (C)
12	9.41E+07	128	0.	1927	0.	-41.7
14	7.29E+07	148	0.	2233	0.	
16	7.06E+07	169	0.	2538	0.	FROSTPOINT
18	5.67E+07	189	0.	2843	0.	-48.1
20	2.88E+07	209	0.	3149	0.	
22	1.64E+07	230	0.	3454	0.	TAS (M/S)
24	1.01E+07	250	0.	3760	0.	130.8
26	6.23E+06	271	0.	4065	0.	
28	4.33E+06	291	0.	4370	0.	
30	2.08E+06	311	0.	4676	0.	
						TOTALS
LWC	1.57E-03		0.		0.	0.
MED D	15		0		0	0

INTERVAL START:*21:51:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.9
2	1.50E+08	26	0.	437	0.	
4	3.06E+08	47	0.	706	0.	ALT (KM)
6	2.29E+08	67	0.	1011	0.	9.597
8	1.82E+08	87	0.	1316	0.	
10	1.28E+08	108	0.	1622	0.	TEMP (C)
12	1.13E+08	128	0.	1927	0.	-41.7
14	7.77E+07	148	0.	2233	0.	
16	9.51E+07	169	0.	2538	0.	FROSTPOINT
18	6.82E+07	189	0.	2843	0.	-49.0
20	3.65E+07	209	0.	3149	0.	
22	2.58E+07	230	0.	3454	0.	TAS (M/S)
24	9.9+E+06	250	0.	3760	0.	130.6
26	9.25E+06	271	0.	4065	0.	
28	6.25E+06	291	0.	4370	0.	
30	2.5+E+06	311	0.	4676	0.	
						TOTALS
LWC	1.92E-03		0.		0.	0.
MED D	16		0		0	0

INTERVAL START:*21:52:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.9
2	1.75E+08	26	0.	437	0.	
4	2.71E+08	47	0.	706	0.	ALT (KM)
6	2.00E+08	67	0.	1011	0.	9.598
8	1.64E+08	87	0.	1316	0.	
10	1.11E+08	108	0.	1622	0.	TEMP (C)
12	8.32E+07	128	0.	1927	0.	-41.7
14	6.53E+07	148	0.	2233	0.	
16	7.12E+07	169	0.	2538	0.	FROSTPOINT
18	5.59E+07	189	0.	2843	0.	-47.8
20	2.67E+07	209	0.	3149	0.	
22	1.71E+07	230	0.	3454	0.	TAS (M/S)
24	8.53E+06	250	0.	3760	0.	131.0
26	8.07E+06	271	0.	4065	0.	
28	4.84E+06	291	0.	4370	0.	
30	1.38E+06	311	0.	4676	0.	
						TOTALS
LWC	1.57E-03		0.		0.	0.
MED D	16		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 16 MAR 78 30 SECOND AVERAGING
INTERVAL START:*21:53:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 260.8
2	2.46E+08	25	0.	437	0.	
4	2.65E+08	47	0.	706	0.	ALT (KM)
6	2.07E+08	67	0.	1011	0.	9.599
8	1.48E+08	87	0.	1316	0.	
10	1.15E+08	108	0.	1622	0.	TEMP (C)
12	9.34E+07	128	0.	1927	0.	-41.6
14	6.62E+07	148	0.	2233	0.	
16	7.00E+07	169	0.	2538	0.	FROSTPOINT
18	6.04E+07	189	0.	2843	0.	-48.2
20	2.26E+07	209	0.	3149	0.	
22	1.42E+07	230	0.	3454	0.	TAS (M/S)
24	9.38E+06	250	0.	3760	0.	131.8
26	9.15E+06	271	0.	4065	0.	
28	3.28E+06	291	0.	4370	0.	
30	2.52E+06	311	0.	4676	0.	
						TOTALS
LWC	1.53E-03		0.		0.	0.
MED D	15		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 16 MAR 78 30 SECOND AVERAGING
INTERVAL START:*21:54:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.1
2	1.99E+08	25	0.	437	0.	
4	2.78E+08	47	0.	706	0.	ALT (KM)
6	2.08E+08	67	0.	1011	0.	9.091
8	1.69E+08	87	0.	1316	0.	
10	1.31E+08	108	0.	1622	0.	TEMP (C)
12	8.44E+07	128	0.	1927	0.	-41.4
14	5.75E+07	148	0.	2233	0.	
16	8.01E+07	169	0.	2538	0.	FROSTPOINT
18	5.69E+07	189	0.	2843	0.	-49.4
20	3.03E+07	209	0.	3149	0.	
22	1.75E+07	230	0.	3454	0.	TAS (M/S)
24	1.25E+07	250	0.	3760	0.	132.7
26	8.73E+06	271	0.	4065	0.	
28	5.63E+06	291	0.	4370	0.	
30	2.06E+06	311	0.	4676	0.	
						TOTALS
LWC	1.63E-03		0.		0.	0.
MED D	16		0		0	0

INTERVAL START:*21:53:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.0
2	1.45E+08	26	0.	437	0.	
4	2.93E+08	47	0.	706	0.	ALT (KM)
6	2.26E+08	67	0.	1011	0.	9.595
8	1.65E+08	87	0.	1316	0.	
10	1.27E+08	108	0.	1622	0.	TEMP (C)
12	9.57E+07	128	0.	1927	0.	-41.5
14	6.63E+07	148	0.	2233	0.	
16	7.63E+07	169	0.	2538	0.	FROSTPOINT
18	5.81E+07	189	0.	2843	0.	-48.2
20	2.48E+07	209	0.	3149	0.	
22	1.66E+07	230	0.	3454	0.	TAS (M/S)
24	9.11E+06	250	0.	3760	0.	132.6
26	1.14E+07	271	0.	4065	0.	
28	6.38E+06	291	0.	4370	0.	
30	2.96E+06	311	0.	4676	0.	
						TOTALS
LWC	1.68E-03		0.		0.	0.
MED D	16		0		0	0

INTERVAL START:*21:54:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.9
2	3.53E+08	26	0.	437	0.	
4	2.52E+08	47	0.	706	0.	ALT (KM)
6	1.79E+08	67	0.	1011	0.	9.597
8	1.33E+08	87	0.	1316	0.	
10	8.99E+07	108	0.	1622	0.	TEMP (C)
12	6.34E+07	128	0.	1927	0.	-41.5
14	4.23E+07	148	0.	2233	0.	
16	5.20E+07	169	0.	2538	0.	FROSTPOINT
18	4.32E+07	189	0.	2843	0.	-49.4
20	1.39E+07	209	0.	3149	0.	
22	8.40E+06	230	0.	3454	0.	TAS (M/S)
24	6.13E+06	250	0.	3760	0.	132.9
26	5.59E+06	271	0.	4065	0.	
28	2.27E+06	291	0.	4370	0.	
30	1.13E+06	311	0.	4676	0.	
						TOTALS
LWC	1.06E-03		0.		0.	0.
MED D	15		0		0	0

AFML CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING

INTERVAL START: *21:55:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 260.8
2	4.89E+03	26	0.	437	0.	
4	2.58E+03	47	0.	706	0.	ALT (KM)
6	1.58E+03	67	0.	1011	0.	9.600
8	1.24E+03	87	0.	1316	0.	
10	7.34E+02	106	0.	1622	0.	TEMP (C)
12	5.11E+02	126	0.	1927	0.	-41.5
14	3.38E+02	146	0.	2233	0.	
16	3.83E+02	169	0.	2538	0.	FROSTPOINT
18	2.67E+02	184	0.	2843	0.	-49.4
20	3.12E+02	209	0.	3149	0.	
22	8.67E+02	230	0.	3454	0.	TAS (M/S)
24	2.96E+03	250	0.	3760	0.	132.4
26	2.51E+03	271	0.	4065	0.	
28	1.82E+03	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	7.44E-04		0.		0.	0.
MED D	14		0		0	0

AFML CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING

INTERVAL START: *21:56:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 260.5
2	3.87E+03	26	0.	437	0.	
4	2.50E+03	47	0.	706	0.	ALT (KM)
6	1.84E+03	67	0.	1011	0.	9.607
8	1.34E+03	87	0.	1316	0.	
10	8.23E+02	106	0.	1622	0.	TEMP (C)
12	6.27E+02	126	0.	1927	0.	-41.6
14	4.71E+02	146	0.	2233	0.	
16	4.43E+02	169	0.	2538	0.	FROSTPOINT
18	4.08E+02	189	0.	2843	0.	-49.4
20	1.64E+02	209	0.	3149	0.	
22	8.72E+02	230	0.	3454	0.	TAS (M/S)
24	7.12E+03	250	0.	3760	0.	131.5
26	4.13E+03	271	0.	4065	0.	
28	2.07E+03	291	0.	4370	0.	
30	9.18E+03	311	0.	4676	0.	
						TOTALS
LWC	1.03E-03		0.		0.	0.
MED D	15		0		0	0

INTERVAL START: *21:55:30*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 260.6
2	2.38E+03	26	0.	437	0.	
4	2.83E+03	47	0.	706	0.	ALT (KM)
6	1.97E+03	67	0.	1011	0.	9.604
8	1.44E+03	87	0.	1316	0.	
10	9.86E+02	106	0.	1622	0.	TEMP (C)
12	8.44E+02	126	0.	1927	0.	-41.6
14	4.35E+02	146	0.	2233	0.	
16	5.42E+02	169	0.	2538	0.	FROSTPOINT
18	4.10E+02	189	0.	2843	0.	-49.4
20	2.01E+02	209	0.	3149	0.	
22	9.38E+02	230	0.	3454	0.	TAS (M/S)
24	4.35E+03	250	0.	3760	0.	132.0
26	5.26E+03	271	0.	4065	0.	
28	2.97E+03	291	0.	4370	0.	
30	6.86E+03	311	0.	4676	0.	
						TOTALS
LWC	1.11E-03		0.		0.	0.
MED D	15		0		0	0

INTERVAL START: *21:56:30*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 260.5
2	2.66E+03	26	0.	437	0.	
4	2.67E+03	47	0.	706	0.	ALT (KM)
6	1.85E+03	67	0.	1011	0.	9.608
8	1.42E+03	87	0.	1316	0.	
10	9.15E+02	106	0.	1622	0.	TEMP (C)
12	6.81E+02	126	0.	1927	0.	-41.6
14	4.82E+02	146	0.	2233	0.	
16	5.39E+02	169	0.	2538	0.	FROSTPOINT
18	4.31E+02	189	0.	2843	0.	-49.4
20	1.67E+02	209	0.	3149	0.	
22	1.15E+02	230	0.	3454	0.	TAS (M/S)
24	8.71E+03	250	0.	3760	0.	131.7
26	4.82E+03	271	0.	4065	0.	
28	3.44E+03	291	0.	4370	0.	
30	8.14E+03	311	0.	4676	0.	
						TOTALS
LWC	1.14E-03		0.		0.	0.
MED D	15		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 16 MAR 78 30 SECOND AVERAGING
INTERVAL START: *21:57:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	5.92E+08	25	0.	437	0.
4	2.58E+08	47	0.	706	0.
6	1.56E+08	67	0.	1011	0.
8	1.15E+08	87	0.	1316	0.
10	7.73E+07	108	0.	1622	0.
12	5.78E+07	128	0.	1927	0.
14	3.89E+07	148	0.	2233	0.
16	4.03E+07	169	0.	2538	0.
18	3.17E+07	189	0.	2843	0.
20	1.47E+07	209	0.	3149	0.
22	7.69E+06	230	0.	3454	0.
24	3.72E+06	250	0.	3760	0.
26	3.03E+06	271	0.	4065	0.
28	2.33E+06	291	0.	4370	0.
30	4.64E+06	311	0.	4676	0.

P (MB) 278.0
ALT (KM) 8.643
TEMP (C) -41.8
FROSTPOINT -43.4
TAS (M/S) 123.4

TOTALS

LWC	8.15E-04	0.	0.	0.
MED D	15	0	0	0

INTERVAL START: *21:57:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	5.14E+08	25	0.	437	0.
4	2.70E+08	47	0.	706	0.
6	1.62E+08	67	0.	1011	0.
8	1.14E+08	87	0.	1316	0.
10	8.30E+07	108	0.	1622	0.
12	6.40E+07	128	0.	1927	0.
14	3.58E+07	148	0.	2233	0.
16	4.58E+07	169	0.	2538	0.
18	3.84E+07	189	0.	2843	0.
20	1.66E+07	209	0.	3149	0.
22	8.53E+06	230	0.	3454	0.
24	5.94E+06	250	0.	3760	0.
26	3.09E+06	271	0.	4065	0.
28	2.37E+06	291	0.	4370	0.
30	9.47E+06	311	0.	4676	0.

P (MB) 278.2
ALT (KM) 8.667
TEMP (C) -42.1
FROSTPOINT -43.4
TAS (M/S) 127.5

TOTALS

LWC	9.60E-04	0.	0.	0.
MED D	15	0	0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 16 MAR 78 30 SECOND AVERAGING
INTERVAL START: *21:58:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	4.62E+08	25	0.	437	0.
4	2.86E+08	47	0.	706	0.
6	1.81E+08	67	0.	1011	0.
8	1.40E+08	87	0.	1316	0.
10	1.04E+08	108	0.	1622	0.
12	7.81E+07	128	0.	1927	0.
14	4.22E+07	148	0.	2233	0.
16	5.54E+07	169	0.	2538	0.
18	3.98E+07	189	0.	2843	0.
20	1.34E+07	209	0.	3149	0.
22	1.37E+07	230	0.	3454	0.
24	7.67E+06	250	0.	3760	0.
26	5.03E+06	271	0.	4065	0.
28	3.53E+06	291	0.	4370	0.
30	1.92E+06	311	0.	4676	0.

P (MB) 277.1
ALT (KM) 8.687
TEMP (C) -42.3
FROSTPOINT -43.4
TAS (M/S) 123.9

TOTALS

LWC	1.18E-03	0.	0.	0.
MED D	15	0	0	0

INTERVAL START: *21:58:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	8.58E+08	25	0.	437	0.
4	2.64E+08	47	0.	706	0.
6	1.50E+08	67	0.	1011	0.
8	1.05E+08	87	0.	1316	0.
10	6.71E+07	108	0.	1622	0.
12	5.29E+07	128	0.	1927	0.
14	4.22E+07	148	0.	2233	0.
16	3.66E+07	169	0.	2538	0.
18	2.42E+07	189	0.	2843	0.
20	7.32E+06	209	0.	3149	0.
22	3.42E+06	230	0.	3454	0.
24	1.95E+06	250	0.	3760	0.
26	1.95E+06	271	0.	4065	0.
28	1.46E+06	291	0.	4370	0.
30	0.	311	0.	4676	0.

P (MB) 278.6
ALT (KM) 8.724
TEMP (C) -42.5
FROSTPOINT -43.4
TAS (M/S) 123.9

TOTALS

LWC	6.38E-04	0.	0.	0.
MED D	14	0	0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 16 MAR 78 30 SECOND AVERAGING
INTERVAL START:*21:59:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 274.8
2	9.30E+08	26	0.	437	0.	
4	2.52E+08	47	0.	706	0.	ALT (KM)
6	1.36E+08	67	0.	1011	0.	9.742
8	1.02E+08	87	0.	1316	0.	
10	6.54E+07	108	0.	1622	0.	TEMP (C)
12	4.72E+07	128	0.	1927	0.	-42.8
14	2.78E+07	148	0.	2233	0.	
16	2.36E+07	169	0.	2538	0.	FROSTPOINT
18	1.70E+07	189	0.	2843	0.	-49.4
20	5.90E+06	209	0.	3149	0.	
22	2.70E+06	230	0.	3454	0.	TAS (M/S)
24	9.83E+05	250	0.	3760	0.	122.7
26	1.23E+06	271	0.	4065	0.	
28	4.92E+05	291	0.	4370	0.	
30	7.36E+05	311	0.	4676	0.	
						TOTALS
LWC	5.08E-04		0.		0.	0.
MED D	13		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 16 MAR 78 30 SECOND AVERAGING
INTERVAL START:*22:00:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 272.9
2	1.90E+08	26	0.	437	0.	
4	2.10E+08	47	0.	706	0.	ALT (KM)
6	1.02E+08	67	0.	1011	0.	9.787
8	5.91E+07	87	0.	1316	0.	
10	4.28E+07	108	0.	1622	0.	TEMP (C)
12	2.80E+07	128	0.	1927	0.	-42.6
14	1.54E+07	148	0.	2233	0.	
16	1.43E+07	169	0.	2538	0.	FROSTPOINT
18	4.77E+06	189	0.	2843	0.	-49.4
20	7.50E+06	209	0.	3149	0.	
22	5.03E+05	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	113.6
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.42E-04		0.		0.	0.
MED D	11		0		0	0

INTERVAL START:*21:59:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 274.0
2	1.18E+08	26	0.	437	0.	
4	2.50E+08	47	0.	706	0.	ALT (KM)
6	1.38E+08	67	0.	1011	0.	9.762
8	9.58E+07	87	0.	1316	0.	
10	5.62E+07	108	0.	1622	0.	TEMP (C)
12	4.40E+07	128	0.	1927	0.	-42.8
14	2.64E+07	148	0.	2233	0.	
16	2.68E+07	169	0.	2538	0.	FROSTPOINT
18	1.57E+07	189	0.	2843	0.	-49.4
20	4.23E+06	209	0.	3149	0.	
22	1.74E+06	230	0.	3454	0.	TAS (M/S)
24	7.46E+05	250	0.	3760	0.	121.3
26	7.46E+05	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	4.49E-04		0.		0.	0.
MED D	13		0		0	0

INTERVAL START:*22:00:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 272.1
2	2.94E+08	26	0.	437	0.	
4	1.35E+08	47	0.	706	0.	ALT (KM)
6	3.72E+07	67	0.	1011	0.	9.807
8	2.32E+07	87	0.	1316	0.	
10	9.43E+06	108	0.	1622	0.	TEMP (C)
12	4.34E+06	128	0.	1927	0.	-42.4
14	2.54E+06	148	0.	2233	0.	
16	3.05E+06	169	0.	2538	0.	FROSTPOINT
18	5.08E+05	189	0.	2843	0.	-49.4
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	118.2
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	6.98E-05		0.		0.	0.
MED D	7		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 16 MAR 78 30 SECOND AVERAGING
INTERVAL START:*22:01:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						271.5
2	3.12E+03	26	0.	437	0.	
4	1.16E+08	47	0.	706	0.	ALT (KM)
6	2.64E+07	67	0.	1011	0.	9.822
8	1.69E+07	87	0.	1316	0.	
10	6.67E+05	108	0.	1622	0.	TEMP (C)
12	2.31E+05	128	0.	1927	0.	-42.4
14	7.70E+05	148	0.	2233	0.	
16	1.03E+05	169	0.	2538	0.	FROSTPOINT
18	2.57E+05	189	0.	2843	0.	-49.4
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	117.6
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	4.98E-05		0.		0.	0.
MED D	4		0		0	0

INTERVAL START:*22:01:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						271.0
2	3.12E+03	26	0.	437	0.	
4	9.75E+07	47	0.	706	0.	ALT (KM)
6	1.06E+07	67	0.	1011	0.	9.834
8	4.13E+05	87	0.	1316	0.	
10	1.81E+05	108	0.	1622	0.	TEMP (C)
12	1.03E+06	128	0.	1927	0.	-42.4
14	2.59E+05	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-49.4
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	116.8
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	3.05E-05		0.		0.	0.
MED D	2		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 16 MAR 78 30 SECOND AVERAGING
INTERVAL START:*22:02:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						270.6
2	3.22E+03	26	0.	437	0.	
4	7.12E+07	47	0.	706	0.	ALT (KM)
6	2.09E+05	67	0.	1011	0.	9.843
8	0.	87	0.	1316	0.	
10	5.21E+05	108	0.	1622	0.	TEMP (C)
12	0.	128	0.	1927	0.	-42.4
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-49.4
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	115.8
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.39E-05		0.		0.	0.
MED D	1		0		0	0

INTERVAL START:*22:02:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						269.9
2	3.23E+03	26	0.	437	0.	
4	7.87E+07	47	0.	706	0.	ALT (KM)
6	0.	67	0.	1011	0.	9.859
8	0.	87	0.	1316	0.	
10	0.	108	0.	1622	0.	TEMP (C)
12	0.	128	0.	1927	0.	-42.3
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-43.4
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	113.2
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.39E-05		0.		0.	0.
MED D	1		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING
INTERVAL START:*22:03:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 270.7
2	3.30E+03	26	0.	437	0.	
4	6.25E+07	47	0.	706	0.	ALT (KM)
6	0.	67	0.	1011	0.	9.841
8	0.	87	0.	1316	0.	
10	0.	108	0.	1622	0.	TEMP (C)
12	0.	128	0.	1927	0.	-+?.0
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-49.4
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	112.7
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.42E-05		0.		0.	0.
MED D	1		0		0	0

INTERVAL START:*22:03:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 272.1
2	3.25E+03	26	0.	437	0.	
4	8.21E+07	47	0.	706	0.	ALT (KM)
6	0.	67	0.	1011	0.	9.807
8	0.	87	0.	1316	0.	
10	0.	108	0.	1622	0.	TEMP (C)
12	0.	128	0.	1927	0.	-42.0
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-+9.4
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	11+.4
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.38E-05		0.		0.	0.
MED D	1		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING
INTERVAL START:*22:04:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 271.+
2	3.35E+03	26	0.	+37	0.	
4	8.34E+07	47	0.	706	0.	ALT (KM)
6	0.	67	0.	1011	0.	9.824
8	0.	87	0.	1316	0.	
10	0.	108	0.	1622	0.	TEMP (C)
12	0.	128	0.	1927	0.	-42.1
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-+3.+
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	113.0
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.45E-05		0.		0.	0.
MED D	1		0		0	0

INTERVAL START:*22:04:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 272.5
2	3.32E+03	26	0.	437	0.	
4	8.66E+07	47	0.	706	0.	ALT (KM)
6	0.	67	0.	1011	0.	9.798
8	0.	87	0.	1316	0.	
10	0.	108	0.	1622	0.	TEMP (C)
12	0.	128	0.	1927	0.	-+1.9
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-43.4
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	113.7
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4675	0.	
						TOTALS
LWC	2.45E-05		0.		0.	0.
MED D	1		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT F78-07 ON 18 MAR 78 30 SECOND AVERAGING

INTERVAL START:*22:05:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						272.1
2	3.33E+03	26	0.	437	0.	
4	6.53E+07	47	0.	706	0.	ALT (KM)
6	0.	67	0.	1011	0.	9.306
8	0.	87	0.	1316	0.	
10	0.	108	0.	1622	0.	TEMP (C)
12	0.	128	0.	1927	0.	-42.0
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-49.4
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	112.9
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.45E-05		0.		0.	0.
MED D	1		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT F78-07 ON 18 MAR 78 30 SECOND AVERAGING

INTERVAL START:*22:06:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						275.6
2	2.91E+03	26	0.	437	0.	
4	1.29E+03	47	9.71E+03	706	0.	ALT (KM)
6	2.95E+07	67	0.	1011	0.	9.723
8	1.61E+07	87	0.	1316	0.	
10	6.56E+06	108	0.	1622	0.	TEMP (C)
12	3.54E+06	128	0.	1927	0.	-42.1
14	1.76E+06	148	0.	2233	0.	
16	1.00E+06	169	0.	2538	0.	FROSTPOINT
18	1.26E+05	189	0.	2843	0.	-49.4
20	2.49E+05	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	119.3
26	2.55E+05	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	6.23E-05		3.84E-05		0.	3.84E-06
MED D	6		33		0	33

INTERVAL START:*22:05:30*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						271.7
2	3.43E+03	26	0.	437	0.	
4	8.88E+07	47	0.	706	0.	ALT (KM)
6	0.	67	0.	1011	0.	9.817
8	0.	87	0.	1316	0.	
10	0.	108	0.	1622	0.	TEMP (C)
12	0.	128	0.	1927	0.	-42.3
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-49.4
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	111.3
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.53E-05		0.		0.	0.
MED D	1		0		0	0

INTERVAL START:*22:06:30*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						274.0
2	3.05E+03	26	0.	437	0.	
4	1.01E+08	47	0.	706	0.	ALT (KM)
6	1.65E+07	67	0.	1011	0.	9.761
8	9.32E+05	87	0.	1316	0.	
10	3.62E+05	108	0.	1622	0.	TEMP (C)
12	5.17E+05	128	0.	1927	0.	-42.5
14	2.58E+05	148	0.	2233	0.	
16	2.57E+05	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-49.4
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	116.7
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	3.48E-05		0.		0.	0.
MED D	2		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 16 MAR 78 30 SECOND AVERAGING
INTERVAL START: *22:07:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 273.1
2	3.13E+03	26	0.	437	0.	
4	9.92E+07	47	0.	706	0.	ALT (KM)
6	2.88E+06	67	0.	1011	0.	9.783
8	1.04E+06	87	0.	1315	0.	
10	5.22E+05	108	0.	1622	0.	TEMP (C)
12	0.	128	0.	1927	0.	-42.4
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-49.4
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	114.9
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.52E-05		0.		0.	0.
MED D	2		0		0	0

INTERVAL START: *22:07:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 272.5
2	3.13E+03	26	0.	437	0.	
4	9.76E+07	47	0.	706	0.	ALT (KM)
6	5.29E+06	67	0.	1011	0.	9.798
8	0.	87	0.	1316	0.	
10	0.	108	0.	1622	0.	TEMP (C)
12	0.	128	0.	1927	0.	-42.2
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-49.4
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	114.1
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.40E-05		0.		0.	0.
MED D	2		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 16 MAR 78 30 SECOND AVERAGING
INTERVAL START: *22:08:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 272.4
2	3.22E+03	26	0.	437	0.	
4	8.95E+07	47	1.00E+04	706	0.	ALT (KM)
6	0.	67	0.	1011	0.	9.800
8	0.	87	0.	1316	0.	
10	0.	108	0.	1622	0.	TEMP (C)
12	0.	128	0.	1927	0.	-42.1
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-49.4
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	113.4
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.40E-05		3.36E-06		0.	3.96E-06
MED D	2		33		0	33

INTERVAL START: *22:08:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 272.5
2	3.12E+03	26	0.	437	0.	
4	9.49E+07	47	0.	706	0.	ALT (KM)
6	0.	67	0.	1011	0.	9.798
8	0.	87	0.	1316	0.	
10	0.	108	0.	1622	0.	TEMP (C)
12	0.	128	0.	1927	0.	-42.0
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-49.4
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	113.3
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.37E-05		0.		0.	0.
MED D	2		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING
INTERVAL START:*22:09:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 271.3
2	3.19E+03	26	0.	437	0.	
4	9.61E+07	47	0.	706	0.	ALT (KM)
6	0.	67	0.	1011	0.	9.813
8	0.	87	0.	1316	0.	
10	0.	108	0.	1622	0.	TEMP (C)
12	0.	128	0.	1927	0.	-42.2
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-49.4
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	112.6
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.42E-05		0.		0.	0.
MED D	2		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING
INTERVAL START:*22:10:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 272.2
2	3.15E+03	26	0.	437	0.	
4	9.43E+07	47	0.	706	0.	ALT (KM)
6	0.	67	0.	1011	0.	9.805
8	0.	87	0.	1316	0.	
10	0.	108	0.	1622	0.	TEMP (C)
12	0.	128	0.	1927	0.	-41.9
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-49.4
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	112.4
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.39E-05		0.		0.	0.
MED D	2		0		0	0

INTERVAL START:*22:09:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 271.3
2	3.19E+03	26	0.	437	0.	
4	8.77E+07	47	0.	706	0.	ALT (KM)
6	0.	67	0.	1011	0.	9.811
8	0.	87	0.	1316	0.	
10	0.	108	0.	1622	0.	TEMP (C)
12	0.	128	0.	1927	0.	-42.2
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-49.4
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	112.3
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.38E-05		0.		0.	0.
MED D	1		0		0	0

INTERVAL START:*22:10:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 272.1
2	3.27E+03	26	0.	437	0.	
4	8.61E+07	47	0.	706	0.	ALT (KM)
6	0.	67	0.	1011	0.	9.807
8	0.	87	0.	1316	0.	
10	0.	108	0.	1622	0.	TEMP (C)
12	0.	128	0.	1927	0.	-41.9
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-49.4
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	112.3
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.42E-05		0.		0.	0.
MED D	1		0		0	0

AFAL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 16 MAR 78 30 SECOND AVERAGING
INTERVAL START:*22:11:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 274.0
2	3.03E+03	26	0.	437	0.	
4	9.55E+07	47	0.	706	0.	ALT (KM)
6	2.57E+05	67	0.	1011	0.	9.761
8	1.80E+06	87	0.	1316	0.	
10	2.56E+05	108	0.	1622	0.	TEMP (C)
12	2.57E+05	128	0.	1927	0.	-42.1
14	2.58E+05	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-49.4
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	115.6
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.57E-05		0.		0.	0.
MED D	2		0		0	0

INTERVAL START:*22:11:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 274.4
2	3.02E+03	26	0.	437	0.	
4	9.76E+07	47	0.	706	0.	ALT (KM)
6	7.01E+05	67	0.	1011	0.	9.751
8	2.87E+05	87	0.	1316	0.	
10	7.60E+05	108	0.	1622	0.	TEMP (C)
12	2.59E+05	128	0.	1927	0.	-42.0
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-49.4
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	115.5
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.64E-05		0.		0.	0.
MED D	2		0		0	0

AFAL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 16 MAR 78 30 SECOND AVERAGING
INTERVAL START:*22:12:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 274.1
2	3.10E+03	26	0.	437	0.	
4	9.75E+07	47	0.	706	0.	ALT (KM)
6	1.05E+05	67	0.	1011	0.	9.753
8	5.25E+05	87	0.	1316	0.	
10	2.63E+05	108	0.	1622	0.	TEMP (C)
12	2.63E+05	128	0.	1927	0.	-42.2
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-49.4
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	115.1
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.46E-05		0.		0.	0.
MED D	2		0		0	0

INTERVAL START:*22:12:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 273.7
2	3.03E+03	26	0.	437	0.	
4	9.96E+07	47	0.	706	0.	ALT (KM)
6	4.19E+05	67	0.	1011	0.	9.768
8	1.83E+06	87	0.	1316	0.	
10	7.68E+05	108	0.	1622	0.	TEMP (C)
12	0.	128	0.	1927	0.	-42.8
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-49.4
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	115.1
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.54E-05		0.		0.	0.
MED D	2		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E73-07 ON 16 MAR 78 30 SECOND AVERAGING
INTERVAL START:*22:13:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						273.8
2	3.05E+03	26	0.	437	0.	
4	1.06E+08	47	0.	706	0.	ALT (KM)
6	5.48E+05	67	0.	1011	0.	9.765
8	2.34E+05	87	0.	1316	0.	
10	2.63E+05	108	0.	1622	0.	TEMP (C)
12	2.60E+05	128	0.	1927	0.	-43.1
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-49.4
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	115.4
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.62E-05		0.		0.	0.
MED D	2		0		0	0

INTERVAL START:*22:13:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						273.9
2	3.05E+03	26	0.	437	0.	
4	9.72E+07	47	0.	706	0.	ALT (KM)
6	5.49E+05	67	0.	1011	0.	9.764
8	1.83E+05	87	0.	1316	0.	
10	2.62E+05	108	0.	1622	0.	TEMP (C)
12	7.84E+05	128	0.	1927	0.	-43.0
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-47.9
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	115.2
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.63E-05		0.		0.	0.
MED D	2		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E73-07 ON 16 MAR 78 30 SECOND AVERAGING
INTERVAL START:*22:14:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						273.9
2	3.01E+03	26	0.	437	0.	
4	9.92E+07	47	0.	706	0.	ALT (KM)
6	3.91E+05	67	0.	1011	0.	9.765
8	1.64E+05	87	0.	1316	0.	
10	2.65E+05	108	0.	1622	0.	TEMP (C)
12	2.60E+05	128	0.	1927	0.	-43.0
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-45.6
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	115.1
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.51E-05		0.		0.	0.
MED D	2		0		0	0

INTERVAL START:*22:14:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						273.7
2	3.00E+03	26	0.	437	0.	
4	1.17E+08	47	0.	706	0.	ALT (KM)
6	1.33E+07	67	0.	1011	0.	9.769
8	6.25E+05	87	0.	1316	0.	
10	2.08E+05	108	0.	1622	0.	TEMP (C)
12	1.55E+05	128	0.	1927	0.	-43.1
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-44.1
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	116.0
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	3.23E-05		0.		0.	0.
MED D	2		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT F78-07 ON 16 MAR 78 30 SECOND AVERAGING

INTERVAL START: *22:15:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 273.7
2	2.98E+03	26	0.	437	0.	
4	1.18E+03	47	0.	706	0.	ALT (KM)
6	1.55E+07	67	0.	1011	0.	9.763
8	8.29E+05	87	0.	1316	0.	
10	3.88E+05	108	0.	1622	0.	TEMP (C)
12	2.33E+05	128	0.	1927	0.	-43.3
14	1.23E+05	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-44.0
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	116.5
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	3.83E-05		0.		0.	0.
MED D	3		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT F78-07 ON 16 MAR 78 30 SECOND AVERAGING

INTERVAL START: *22:16:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 273.9
2	3.00E+03	26	0.	437	0.	
4	1.09E+03	47	0.	706	0.	ALT (KM)
6	1.04E+07	67	9.14E+03	1011	0.	9.763
8	7.01E+05	87	2.74E+03	1316	0.	
10	3.64E+05	108	9.29E+03	1622	0.	TEMP (C)
12	1.55E+05	128	4.11E+03	1927	0.	-43.1
14	5.13E+05	148	0.	2233	0.	
16	1.04E+06	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-45.4
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	116.2
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	7.81E+05	311	0.	4676	0.	
						TOTALS
LWC	5.34E-05		4.27E-05		0.	4.27E-05
MED D	7		58		0	58

INTERVAL START: *22:15:30*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 274.0
2	2.95E+03	26	0.	437	0.	
4	1.19E+03	47	0.	706	0.	ALT (KM)
6	2.00E+07	67	0.	1011	0.	9.762
8	8.54E+05	87	0.	1316	0.	
10	2.59E+05	108	0.	1622	0.	TEMP (C)
12	0.	128	0.	1927	0.	-43.3
14	2.60E+05	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	5.20E+05	189	0.	2843	0.	-44.6
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	116.5
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	3.53E-05		0.		0.	0.
MED D	2		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT F78-07 ON 16 MAR 78 30 SECOND AVERAGING

INTERVAL START: *22:16:30*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 273.9
2	2.98E+03	26	0.	437	0.	
4	1.09E+03	47	0.	706	0.	ALT (KM)
6	6.53E+06	67	0.	1011	0.	9.764
8	3.92E+05	87	0.	1316	0.	
10	7.83E+05	108	0.	1622	0.	TEMP (C)
12	0.	128	0.	1927	0.	-42.8
14	2.62E+05	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	-45.8
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	115.5
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.73E-05		0.		0.	0.
MED D	2		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING
INTERVAL START: *22:17:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 273.9
2	2.85E+03	26	3.77E+04	437	0.	
4	1.22E+03	47	4.35E+04	706	0.	ALT (KM)
6	2.82E+07	67	6.37E+04	1011	0.	9.763
8	2.09E+07	87	4.16E+04	1316	0.	
10	1.66E+07	108	1.62E+05	1622	0.	TEMP (C)
12	1.19E+07	128	9.63E+04	1927	0.	-42.6
14	7.65E+06	148	6.15E+04	2233	0.	
16	6.60E+06	169	1.63E+04	2538	0.	FROSTPOINT
18	5.55E+06	189	2.25E+04	2843	0.	-45.7
20	1.58E+06	209	4.27E+03	3149	0.	
22	2.64E+06	230	2.36E+03	3454	0.	TAS (M/S)
24	7.91E+05	250	1.30E+03	3760	0.	114.5
26	4.49E+05	271	0.	4065	0.	
28	1.85E+05	291	0.	4370	0.	
30	2.11E+05	311	0.	4676	0.	
						TOTALS
LWC	3.00E-04		1.32E-03		0.	1.32E-03
MED D	20		65		0	65

INTERVAL START: *22:17:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 273.8
2	2.75E+03	26	0.	437	2.01E+03	
4	1.40E+03	47	1.39E+05	706	0.	ALT (KM)
6	4.11E+07	67	3.27E+04	1011	0.	9.766
8	3.20E+07	87	2.78E+04	1316	0.	
10	2.49E+07	108	1.40E+05	1622	0.	TEMP (C)
12	1.83E+07	128	7.97E+04	1927	0.	-42.5
14	1.14E+07	148	5.61E+04	2233	0.	
16	1.09E+07	169	3.45E+04	2538	0.	FROSTPOINT
18	6.61E+06	189	6.17E+04	2843	0.	-45.0
20	2.92E+06	209	2.79E+04	3149	0.	
22	3.16E+06	230	2.24E+04	3454	0.	TAS (M/S)
24	1.33E+06	250	3.93E+03	3760	0.	114.1
26	1.32E+06	271	3.97E+03	4065	0.	
28	3.44E+05	291	4.01E+03	4370	0.	
30	1.85E+05	311	3.64E+03	4676	0.	
						TOTALS
LWC	3.45E-04		2.38E-03		1.71E-03	4.10E-03
MED D	17		81		191	104

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING
INTERVAL START: *22:18:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 273.8
2	2.55E+03	26	1.30E+05	437	7.39E+03	
4	1.74E+03	47	2.10E+05	706	0.	ALT (KM)
6	7.15E+07	67	8.45E+04	1011	0.	9.767
8	5.52E+07	87	6.96E+04	1316	0.	
10	3.55E+07	108	1.83E+05	1622	0.	TEMP (C)
12	2.67E+07	128	1.26E+05	1927	0.	-42.7
14	1.73E+07	148	8.77E+04	2233	0.	
16	1.76E+07	169	3.39E+04	2538	0.	FROSTPOINT
18	1.09E+07	189	5.93E+04	2843	0.	-44.3
20	8.54E+06	209	5.18E+04	3149	0.	
22	4.54E+06	230	4.62E+04	3454	0.	TAS (M/S)
24	3.74E+05	250	2.24E+04	3760	0.	113.2
26	3.47E+05	271	1.82E+04	4065	0.	
28	4.27E+05	291	1.48E+04	4370	0.	
30	4.00E+05	311	1.34E+04	4676	0.	
						TOTALS
LWC	5.89E-04		4.22E-03		6.32E-03	1.05E-02
MED D	18		90		191	157

INTERVAL START: *22:18:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 275.6
2	2.54E+03	26	1.48E+05	437	3.87E+02	
4	1.54E+03	47	6.73E+04	706	3.45E+01	ALT (KM)
6	4.87E+07	67	1.07E+05	1011	2.87E+00	9.723
8	3.63E+07	87	7.18E+04	1316	1.21E+00	
10	2.44E+07	108	1.16E+05	1622	0.	TEMP (C)
12	1.75E+07	128	7.49E+04	1927	0.	-43.1
14	1.14E+07	148	3.38E+04	2233	0.	
16	1.30E+07	169	8.54E+03	2538	0.	FROSTPOINT
18	7.60E+06	189	2.13E+04	2843	0.	-43.3
20	4.82E+06	209	1.77E+04	3149	0.	
22	4.55E+06	230	1.15E+04	3454	0.	TAS (M/S)
24	3.57E+06	250	6.40E+03	3760	0.	113.7
26	2.03E+06	271	3.02E+03	4065	0.	
28	2.03E+06	291	1.42E+03	4370	0.	
30	2.78E+06	311	1.19E+03	4676	0.	
						TOTALS
LWC	4.08E-04		1.50E-03		5.63E-04	2.07E-03
MED D	18		71		226	88

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 16 MAR 78 30 SECOND AVERAGING
INTERVAL START: *22:19:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 276.3
2	1.66E+08	26	4.18E+05	437	3.23E+03	
4	2.00E+08	47	1.65E+05	706	5.21E+02	ALT (KM)
6	1.04E+08	67	9.10E+04	1011	4.23E+01	9.707
8	6.73E+07	87	4.36E+04	1316	4.14E+00	
10	5.69E+07	108	1.03E+05	1622	0.	TEMP (C)
12	4.52E+07	128	4.02E+04	1927	0.	-43.3
14	2.62E+07	148	3.25E+04	2233	0.	
16	2.62E+07	169	6.73E+03	2538	0.	FROSTPOINT
18	1.93E+07	189	8.13E+03	2843	0.	-47.9
20	9.58E+06	209	1.49E+04	3149	0.	
22	8.84E+06	230	1.32E+04	3454	0.	TAS (M/S)
24	7.13E+06	250	1.82E+04	3760	0.	123.0
26	5.90E+06	271	1.26E+04	4065	0.	
28	4.67E+06	291	6.73E+03	4370	0.	
30	3.66E+06	311	7.60E+03	4676	0.	
						TOTALS
LWC	8.41E-04		1.85E-03		5.94E-03	7.88E-03
MED D	17		99		253	214

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 16 MAR 78 30 SECOND AVERAGING
INTERVAL START: *22:20:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 276.1
2	9.36E+08	26	3.35E+04	437	6.62E+02	
4	2.37E+08	47	6.75E+04	706	3.10E+01	ALT (KM)
6	1.43E+08	67	3.26E+04	1011	2.14E+00	9.684
8	1.09E+08	87	1.34E+04	1316	0.	
10	8.05E+07	108	5.29E+04	1622	0.	TEMP (C)
12	5.41E+07	128	3.56E+04	1927	0.	-43.1
14	4.30E+07	148	2.41E+04	2233	0.	
16	4.18E+07	169	6.34E+03	2538	0.	FROSTPOINT
18	4.21E+07	189	1.37E+04	2843	0.	-44.9
20	1.85E+07	209	1.41E+04	3149	0.	
22	1.34E+07	230	1.34E+04	3454	0.	TAS (M/S)
24	1.16E+07	250	9.20E+03	3760	0.	130.6
26	1.18E+07	271	6.91E+03	4065	0.	
28	7.62E+06	291	5.19E+03	4370	0.	
30	1.23E+07	311	4.04E+03	4676	0.	
						TOTALS
LWC	1.51E-03		1.26E-03		9.09E-04	2.17E-03
MED D	19		95		203	126

INTERVAL START: *22:19:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 276.5
2	1.40E+08	26	5.10E+05	437	4.23E+03	
4	2.06E+08	47	9.58E+04	706	3.36E+02	ALT (KM)
6	1.17E+08	67	4.62E+04	1011	4.17E+01	9.701
8	8.91E+07	87	4.25E+04	1316	4.58E+00	
10	6.24E+07	108	6.80E+04	1622	1.20E+00	TEMP (C)
12	5.12E+07	128	3.35E+04	1927	6.36E-01	-43.4
14	2.78E+07	148	2.58E+04	2233	6.75E-01	
16	3.72E+07	169	9.63E+03	2538	0.	FROSTPOINT
18	2.41E+07	189	2.39E+04	2843	0.	-44.1
20	1.43E+07	209	2.22E+04	3149	0.	
22	1.07E+07	230	1.70E+04	3454	0.	TAS (M/S)
24	7.14E+06	250	1.42E+04	3760	0.	125.6
26	7.87E+06	271	1.48E+04	4065	0.	
28	5.96E+06	291	1.94E+04	4370	0.	
30	7.39E+06	311	1.29E+04	4676	0.	
						TOTALS
LWC	1.08E-03		2.28E-03		6.44E-03	8.72E-03
MED D	18		105		231	199

INTERVAL START: *22:20:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 276.9
2	7.30E+08	26	5.20E+05	437	2.12E+02	
4	2.43E+08	47	5.86E+04	706	0.	ALT (KM)
6	1.54E+08	67	3.24E+04	1011	0.	9.644
8	1.23E+08	87	4.79E+04	1316	0.	
10	8.60E+07	108	8.11E+04	1622	5.76E-01	TEMP (C)
12	6.60E+07	128	4.62E+04	1927	0.	-43.0
14	5.22E+07	148	3.04E+04	2233	0.	
16	4.65E+07	169	9.39E+03	2538	0.	FROSTPOINT
18	4.72E+07	189	1.27E+04	2843	0.	-45.8
20	1.85E+07	209	1.47E+04	3149	0.	
22	1.64E+07	230	6.08E+03	3454	0.	TAS (M/S)
24	1.32E+07	250	1.13E+03	3760	0.	132.3
26	1.07E+07	271	6.33E+02	4065	0.	
28	7.75E+06	291	4.24E+02	4370	0.	
30	8.66E+07	311	3.86E+02	4676	0.	
						TOTALS
LWC	3.16E-03		1.05E-03		2.14E-04	1.26E-03
MED D	26		66		201	72

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING
INTERVAL START:*22:21:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						280.2
2	6.80E+03	25	2.25E+05	437	2.50E+02	
4	2.45E+03	47	7.61E+04	706	4.63E-01	ALT (KM)
6	1.70E+03	67	7.63E+04	1011	0.	9.614
8	1.19E+03	87	3.54E+04	1316	0.	
10	8.68E+02	106	8.30E+04	1622	0.	TEMP (C)
12	6.93E+02	126	5.59E+04	1927	0.	-42.8
14	4.93E+02	146	3.93E+04	2233	0.	
16	5.22E+02	169	6.41E+03	2538	0.	FROSTPOINT
18	4.25E+02	183	1.75E+04	2843	0.	-46.4
20	2.05E+02	203	1.73E+04	3149	0.	
22	1.68E+02	230	9.01E+03	3454	0.	TAS (M/S)
24	1.21E+02	250	4.44E+03	3760	0.	134.2
26	1.24E+02	271	4.26E+03	4065	0.	
28	1.21E+02	291	4.08E+03	4370	0.	
30	1.98E+02	311	2.77E+03	4676	0.	
						TOTALS
LWC	1.87E-03		1.35E-03		1.83E-04	1.53E-03
MED D	20		77		132	85

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING
INTERVAL START:*22:22:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						281.0
2	6.40E+03	25	6.43E+05	437	2.75E+03	
4	2.57E+03	47	2.13E+05	706	2.76E+02	ALT (KM)
6	1.83E+03	67	7.13E+04	1011	1.82E+01	9.595
8	1.44E+03	87	6.55E+04	1316	1.10E+00	
10	9.98E+02	105	7.28E+04	1622	0.	TEMP (C)
12	7.34E+02	126	3.47E+04	1927	0.	-42.7
14	4.77E+02	146	3.39E+04	2233	0.	
16	5.54E+02	169	6.53E+03	2538	0.	FROSTPOINT
18	4.36E+02	183	2.26E+04	2843	0.	-44.9
20	2.37E+02	203	2.10E+04	3149	0.	
22	2.04E+02	230	1.31E+04	3454	0.	TAS (M/S)
24	1.61E+02	250	1.01E+04	3760	0.	132.9
26	1.59E+02	271	9.34E+03	4065	0.	
28	1.23E+02	291	9.60E+03	4370	0.	
30	1.14E+02	311	8.06E+03	4676	0.	
						TOTALS
LWC	1.84E-03		1.49E-03		3.34E-03	5.93E-03
MED D	19		91		226	183

INTERVAL START:*22:21:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						280.4
2	5.17E+03	25	2.25E+05	437	6.71E+02	
4	2.42E+03	47	6.77E+04	706	1.03E+01	ALT (KM)
6	1.68E+03	67	1.11E+05	1011	0.	9.608
8	1.34E+03	87	5.44E+04	1316	0.	
10	8.65E+02	106	8.03E+04	1622	0.	TEMP (C)
12	7.10E+02	126	5.92E+04	1927	0.	-42.7
14	5.11E+02	148	5.71E+04	2233	0.	
16	5.88E+02	169	1.39E+04	2538	0.	FROSTPOINT
18	5.20E+02	183	3.34E+04	2843	0.	-46.2
20	2.64E+02	203	2.62E+04	3149	0.	
22	2.16E+02	230	2.20E+04	3454	0.	TAS (M/S)
24	1.65E+02	250	8.91E+03	3760	0.	134.0
26	1.76E+02	271	7.44E+03	4065	0.	
28	1.51E+02	291	6.22E+03	4370	0.	
30	1.22E+02	311	4.56E+03	4676	0.	
						TOTALS
LWC	2.05E-03		2.07E-03		6.12E-04	2.68E-03
MED D	19		86		136	97

INTERVAL START:*22:22:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						281.0
2	8.52E+03	25	6.34E+04	437	7.33E+02	
4	2.53E+03	47	0.	706	0.	ALT (KM)
6	1.73E+03	67	1.13E+04	1011	0.	9.595
8	1.29E+03	87	0.	1316	0.	
10	8.27E+02	106	3.23E+03	1622	0.	TEMP (C)
12	7.73E+02	126	3.51E+03	1927	0.	-42.8
14	4.20E+02	148	0.	2233	0.	
16	4.93E+02	169	2.33E+03	2538	0.	FROSTPOINT
18	3.55E+02	183	3.33E+03	2843	0.	-42.9
20	1.49E+02	203	2.74E+03	3149	0.	
22	1.36E+02	230	0.	3454	0.	TAS (M/S)
24	6.78E+05	250	2.25E+03	3760	0.	133.6
26	8.15E+06	271	1.32E+03	4065	0.	
28	2.49E+05	291	1.47E+03	4370	0.	
30	6.13E+06	311	1.33E+03	4676	0.	
						TOTALS
LWC	1.21E-03		2.24E-04		6.26E-04	8.50E-04
MED D	16		111		181	173

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING
INTERVAL START: *22:23:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 280.8
2	1.54E+03	25	0.	437	0.	
4	2.42E+03	47	0.	706	0.	ALT (KM)
6	1.34E+03	67	0.	1011	0.	9.600
8	1.03E+03	87	0.	1316	0.	
10	7.51E+02	106	0.	1622	0.	TEMP (C)
12	4.68E+02	126	0.	1927	0.	-42.3
14	2.70E+02	146	9.37E+02	2233	0.	
16	2.54E+02	169	0.	2538	0.	FROSTPOINT
18	1.66E+02	183	0.	2843	0.	-42.0
20	4.27E+06	209	0.	3149	0.	
22	4.50E+06	230	0.	3454	0.	TAS (M/S)
24	2.70E+06	250	0.	3760	0.	134.4
26	2.25E+06	271	0.	4065	0.	
28	4.50E+06	291	0.	4370	0.	
30	2.24E+06	311	0.	4676	0.	
						TOTALS
LWC	5.48E-04		3.71E-06		3.39E-21	3.71E-06
MED D	13		71		0	71

INTERVAL START: *22:23:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.4
2	1.64E+03	26	0.	437	0.	
4	2.11E+03	47	0.	706	0.	ALT (KM)
6	1.21E+03	67	0.	1011	0.	9.565
8	7.85E+02	87	4.79E+03	1316	0.	
10	4.83E+02	108	9.78E+03	1622	0.	TEMP (C)
12	3.48E+02	128	3.93E+03	1927	0.	-42.9
14	2.34E+02	148	4.73E+03	2233	0.	
16	2.48E+02	169	0.	2538	0.	FROSTPOINT
18	1.68E+02	189	9.35E+02	2843	0.	-42.6
20	3.87E+06	209	0.	3149	0.	
22	5.25E+06	230	1.01E+03	3454	0.	TAS (M/S)
24	1.80E+06	250	0.	3760	0.	132.9
26	2.95E+06	271	0.	4065	0.	
28	1.37E+06	291	0.	4370	0.	
30	1.14E+06	311	0.	4676	0.	
						TOTALS
LWC	5.24E-04		7.28E-06		0.	7.28E-06
MED D	14		67		0	67

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING
INTERVAL START: *22:24:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.7
2	7.52E+03	25	9.90E+04	437	1.23E+02	
4	2.85E+03	47	3.49E+04	706	5.05E-01	ALT (KM)
6	1.63E+03	67	1.63E+04	1011	0.	9.579
8	1.24E+03	87	7.30E+03	1316	0.	
10	8.47E+02	106	1.49E+04	1622	0.	TEMP (C)
12	5.78E+02	126	1.22E+04	1927	0.	-43.0
14	4.63E+02	146	1.54E+04	2233	0.	
16	4.81E+02	169	4.75E+03	2538	0.	FROSTPOINT
18	4.24E+02	184	6.39E+03	2843	0.	-43.5
20	2.06E+02	209	6.44E+03	3149	0.	
22	1.41E+02	230	2.06E+03	3454	0.	TAS (M/S)
24	9.72E+05	250	1.14E+03	3760	0.	130.5
26	6.10E+05	271	1.24E+03	4065	0.	
28	6.71E+05	291	1.35E+03	4370	0.	
30	4.40E+05	311	9.58E+02	4676	0.	
						TOTALS
LWC	1.32E-03		4.33E-04		8.13E-05	5.24E-04
MED D	17		83		193	89

INTERVAL START: *22:24:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.3
2	9.78E+03	25	3.33E+04	437	0.	
4	2.65E+03	47	0.	706	0.	ALT (KM)
6	1.70E+03	67	1.54E+04	1011	0.	9.587
8	1.23E+03	87	0.	1316	0.	
10	8.66E+02	106	1.16E+04	1622	0.	TEMP (C)
12	5.61E+02	126	6.16E+03	1927	0.	-42.9
14	3.95E+02	146	6.78E+03	2233	0.	
16	4.07E+02	169	1.50E+03	2538	0.	FROSTPOINT
18	3.77E+02	189	2.39E+03	2843	0.	-43.5
20	1.32E+02	209	9.43E+02	3149	0.	
22	1.04E+02	230	1.04E+03	3454	0.	TAS (M/S)
24	7.41E+05	250	0.	3760	0.	130.8
26	5.80E+05	271	0.	4065	0.	
28	8.23E+05	291	0.	4370	0.	
30	1.38E+05	311	0.	4676	0.	
						TOTALS
LWC	1.02E-03		1.31E-04		3.38E-21	1.31E-04
MED D	15		69		0	69

AFML CIRRUS STUDY BY AFGL

FLIGHT F78-07 ON 18 MAR 78 30 SECOND AVERAGING

INTERVAL START: *22:25:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 282.3
2	8.66E+03	25	0.	437	0.	
4	2.89E+03	47	0.	706	0.	ALT (KM)
6	1.80E+03	67	0.	1011	0.	9.565
8	1.34E+03	87	0.	1316	0.	
10	7.78E+07	108	0.	1622	0.	TEMP (C)
12	7.62E+07	128	0.	1927	0.	-42.6
14	3.79E+07	148	0.	2233	0.	
16	4.10E+07	169	0.	2538	0.	FROSTPOINT
18	3.45E+07	189	0.	2843	0.	-43.2
20	1.44E+07	209	0.	3149	0.	
22	1.18E+07	230	0.	3454	0.	TAS (M/S)
24	6.25E+05	250	0.	3760	0.	130.5
26	7.19E+05	271	0.	4065	0.	
28	7.63E+05	291	0.	4370	0.	
30	4.18E+05	311	0.	4676	0.	
						TOTALS
LWC	1.18E-03		0.		0.	0.
MED D	15		0		0	0

AFML CIRRUS STUDY BY AFGL

FLIGHT F78-07 ON 18 MAR 78 30 SECOND AVERAGING

INTERVAL START: *22:26:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 282.0
2	8.22E+03	25	0.	437	0.	
4	2.97E+03	47	8.34E+03	706	0.	ALT (KM)
6	1.80E+03	67	2.09E+04	1011	0.	9.571
8	1.29E+03	87	7.49E+03	1316	0.	
10	9.15E+07	108	5.09E+03	1622	0.	TEMP (C)
12	6.53E+07	128	2.51E+03	1927	0.	-42.7
14	4.02E+07	148	1.38E+03	2233	0.	
16	4.85E+07	169	0.	2938	0.	FROSTPOINT
18	3.09E+07	189	8.30E+02	2843	0.	-43.0
20	1.62E+07	209	0.	3149	0.	
22	1.07E+07	230	0.	3454	0.	TAS (M/S)
24	6.65E+05	250	0.	3760	0.	127.1
26	5.23E+05	271	0.	4065	0.	
28	2.61E+05	291	0.	4370	0.	
30	3.09E+05	311	0.	4676	0.	
						TOTALS
LWC	1.06E-03		6.23E-05		0.	6.23E-05
MED D	15		54		0	54

INTERVAL START: *22:25:30*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.9
2	1.19E+03	25	0.	437	0.	
4	2.74E+03	47	0.	706	0.	ALT (KM)
6	1.45E+03	67	0.	1011	0.	9.574
8	1.01E+03	87	0.	1316	0.	
10	6.37E+07	108	0.	1622	0.	TEMP (C)
12	4.94E+07	128	0.	1927	0.	-42.8
14	3.16E+07	148	0.	2233	0.	
16	3.02E+07	169	0.	2538	0.	FROSTPOINT
18	1.95E+07	189	0.	2843	0.	-43.2
20	9.50E+06	209	0.	3149	0.	
22	7.12E+06	230	0.	3454	0.	TAS (M/S)
24	3.09E+06	250	0.	3760	0.	126.9
26	3.56E+06	271	0.	4065	0.	
28	2.13E+06	291	0.	4370	0.	
30	2.61E+06	311	0.	4676	0.	
						TOTALS
LWC	7.31E-04		0.		0.	0.
MED D	15		0		0	0

INTERVAL START: *22:26:30*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 281.8
2	5.72E+03	26	6.75E+04	437	2.50E+02	
4	2.81E+03	47	5.33E+04	706	0.	ALT (KM)
6	1.89E+03	67	7.08E+04	1011	0.	9.576
8	1.48E+03	87	2.73E+04	1316	0.	
10	1.08E+03	108	7.59E+04	1622	0.	TEMP (C)
12	6.93E+07	128	2.00E+04	1927	0.	-42.6
14	5.16E+07	148	1.77E+04	2233	0.	
16	5.04E+07	169	6.49E+03	2538	0.	FROSTPOINT
18	4.68E+07	189	4.38E+03	2843	0.	-43.0
20	2.01E+07	209	5.74E+03	3149	0.	
22	2.01E+07	230	2.10E+03	3454	0.	TAS (M/S)
24	1.18E+07	250	1.17E+03	3760	0.	127.6
26	1.18E+07	271	7.65E+02	4065	0.	
28	1.09E+07	291	5.00E+02	4370	0.	
30	6.86E+06	311	4.55E+02	4676	0.	
						TOTALS
LWC	1.64E-03		5.97E-04		2.14E-04	8.11E-04
MED D	18		63		191	74

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING

INTERVAL START: *22:27:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						281.8
2	3.57E+03	26	6.38E+05	437	1.77E+03	
4	2.41E+03	47	1.59E+05	706	1.22E+02	ALT (KM)
6	1.64E+03	67	1.58E+05	1011	1.39E+01	9.577
8	1.19E+03	87	7.17E+04	1316	3.34E+00	
10	7.49E+02	108	1.40E+05	1622	5.35E-01	TEMP (C)
12	6.15E+02	128	8.10E+04	1927	2.52E+00	-42.5
14	4.55E+02	148	5.40E+04	2233	6.69E-01	
16	4.79E+02	169	1.70E+04	2538	0.	FROSTPOINT
18	3.84E+02	189	4.01E+04	2843	0.	-43.4
20	2.62E+02	209	2.95E+04	3149	0.	
22	1.58E+02	230	3.14E+04	3454	0.	TAS (M/S)
24	1.23E+02	250	1.05E+04	3760	0.	128.1
26	1.23E+02	271	8.88E+03	4065	0.	
28	1.13E+02	291	7.53E+03	4370	0.	
30	7.78E+01	311	6.15E+03	4676	0.	
						TOTALS
LWC	1.58E-03		2.66E-03		2.78E-03	5.46E-03
MED D	18		84		234	144

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-07 ON 18 MAR 78 30 SECOND AVERAGING

INTERVAL START: *22:28:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						280.6
2	1.21E+03	26	1.30E+05	437	4.81E+02	
4	2.49E+03	47	3.42E+04	706	0.	ALT (KM)
6	1.36E+03	67	4.81E+04	1011	0.	9.686
8	9.70E+02	87	1.43E+04	1316	0.	
10	6.42E+02	108	3.25E+04	1622	0.	TEMP (C)
12	4.26E+02	128	1.80E+04	1927	0.	-42.9
14	2.64E+02	148	1.33E+04	2233	0.	
16	3.01E+02	169	4.58E+03	2538	0.	FROSTPOINT
18	2.78E+02	189	7.59E+03	2843	0.	-44.3
20	1.23E+02	209	9.20E+03	3149	0.	
22	8.43E+01	230	4.05E+03	3454	0.	TAS (M/S)
24	8.43E+01	250	2.25E+03	3760	0.	132.5
26	5.69E+01	271	1.47E+03	4065	0.	
28	4.78E+01	291	9.53E+02	4370	0.	
30	2.73E+01	311	8.75E+02	4676	0.	
						TOTALS
LWC	9.04E-04		5.59E-04		4.11E-04	9.70E-04
MED D	17		79		191	113

INTERVAL START: *22:27:30*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						281.2
2	7.82E+03	26	1.02E+05	437	4.72E+03	
4	2.45E+03	47	2.34E+05	706	5.23E+02	ALT (KM)
6	1.91E+03	67	1.05E+05	1011	4.72E+01	9.591
8	1.36E+03	87	3.63E+04	1316	7.84E+00	
10	9.65E+02	108	6.40E+04	1622	1.18E+00	TEMP (C)
12	8.52E+02	128	5.22E+04	1927	6.29E-01	-42.6
14	4.25E+02	148	5.15E+04	2233	0.	
16	5.51E+02	169	6.65E+03	2538	0.	FROSTPOINT
18	4.68E+02	189	3.23E+04	2843	0.	-43.6
20	1.95E+02	209	3.15E+04	3149	0.	
22	1.77E+02	230	2.04E+04	3454	0.	TAS (M/S)
24	1.45E+02	250	7.91E+03	3760	0.	131.6
26	1.29E+02	271	1.11E+04	4065	0.	
28	1.36E+02	291	1.56E+04	4370	0.	
30	9.21E+01	311	1.32E+04	4676	0.	
						TOTALS
LWC	1.76E-03		2.60E-03		7.53E-03	1.01E-02
MED D	18		94		235	203

INTERVAL START: *22:28:30*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						281.4
2	2.11E+03	26	0.	437	0.	
4	2.01E+03	47	0.	706	0.	ALT (KM)
6	8.46E+02	67	0.	1011	0.	9.585
8	5.11E+02	87	0.	1316	0.	
10	3.14E+02	108	1.62E+03	1622	0.	TEMP (C)
12	1.94E+02	128	0.	1927	0.	-42.7
14	9.93E+01	148	1.89E+03	2233	0.	
16	1.13E+02	169	0.	2538	0.	FROSTPOINT
18	6.79E+01	189	0.	2843	0.	-45.9
20	9.06E+01	209	9.17E+02	3149	0.	
22	1.14E+02	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	133.9
26	4.55E+01	271	0.	4065	0.	
28	2.27E+01	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.17E-04		1.85E-05		3.39E-21	1.85E-05
MED D	11		73		0	73

AFML CIRRUS STUDY BY AFGL

FLIGHT EF8-07 ON 18 MAR 78 30 SECOND AVERAGING
INTERVAL START:*22:29:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 297.6
2	2.24E+03	26	0.	437	0.	
4	1.64E+08	47	0.	706	0.	ALT (KM)
6	6.08E+07	67	0.	1011	0.	9.216
8	4.89E+07	87	0.	1316	0.	
10	3.03E+07	108	0.	1622	0.	TEMP (C)
12	1.90E+07	128	0.	1927	0.	-40.7
14	1.07E+07	148	0.	2233	0.	
16	1.04E+07	169	0.	2538	0.	FROSTPOINT
18	5.75E+06	189	0.	2843	0.	-47.8
20	6.39E+06	209	0.	3149	0.	
22	4.23E+06	230	0.	3454	0.	TAS (M/S)
24	4.22E+06	250	0.	3760	0.	141.5
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	1.91E-04		0.		0.	0.
MED D	11		0		0	0

AFML CIRRUS STUDY BY AFGL

FLIGHT EF8-07 ON 18 MAR 78 30 SECOND AVERAGING
INTERVAL START:*22:30:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 341.8
2	2.19E+03	26	0.	437	0.	
4	1.52E+08	47	0.	706	0.	ALT (KM)
6	5.67E+07	67	0.	1011	0.	8.278
8	3.54E+07	87	0.	1316	0.	
10	2.31E+07	108	0.	1622	0.	TEMP (C)
12	1.29E+07	128	1.08E+03	1927	0.	-34.9
14	7.37E+06	148	0.	2233	0.	
16	7.17E+06	169	0.	2538	0.	FROSTPOINT
18	4.71E+06	189	0.	2843	0.	-43.4
20	1.43E+06	209	0.	3149	0.	
22	6.14E+05	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	147.5
26	0.	271	0.	4065	0.	
28	4.09E+05	291	0.	4370	0.	
30	2.66E+06	311	0.	4676	0.	
						TOTALS
LWC	2.13E-04		3.19E-05		3.39E-21	3.13E-06
MED D	14		65		0	65

INTERVAL START:*22:29:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 318.7
2	2.19E+03	26	0.	437	0.	
4	1.56E+08	47	0.	706	0.	ALT (KM)
6	5.83E+07	67	0.	1011	0.	8.755
8	3.99E+07	87	0.	1316	0.	
10	2.47E+07	108	0.	1622	0.	TEMP (C)
12	1.83E+07	128	0.	1927	0.	-38.3
14	9.34E+06	148	0.	2233	0.	
16	7.05E+06	169	0.	2538	0.	FROSTPOINT
18	4.56E+06	189	0.	2843	0.	-48.9
20	2.07E+06	209	0.	3149	0.	
22	1.04E+06	230	0.	3454	0.	TAS (M/S)
24	6.23E+05	250	0.	3760	0.	145.5
26	6.22E+05	271	0.	4065	0.	
28	2.07E+05	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	1.90E-04		0.		0.	0.
MED D	12		0		0	0

INTERVAL START:*22:30:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 363.8
2	2.07E+03	26	0.	437	0.	
4	1.68E+08	47	0.	706	0.	ALT (KM)
6	7.27E+07	67	3.66E+03	1011	0.	7.847
8	4.71E+07	87	0.	1316	0.	
10	3.04E+07	108	0.	1622	0.	TEMP (C)
12	1.73E+07	128	0.	1927	0.	-32.4
14	1.12E+07	148	0.	2233	0.	
16	1.20E+07	169	0.	2538	0.	FROSTPOINT
18	4.85E+06	189	0.	2843	0.	-49.4
20	1.48E+06	209	0.	3149	0.	
22	6.39E+05	230	0.	3454	0.	TAS (M/S)
24	6.32E+05	250	0.	3760	0.	142.9
26	6.38E+05	271	0.	4065	0.	
28	2.13E+05	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	2.13E-04		2.97E-05		0.	2.97E-06
MED D	12		42		0	42