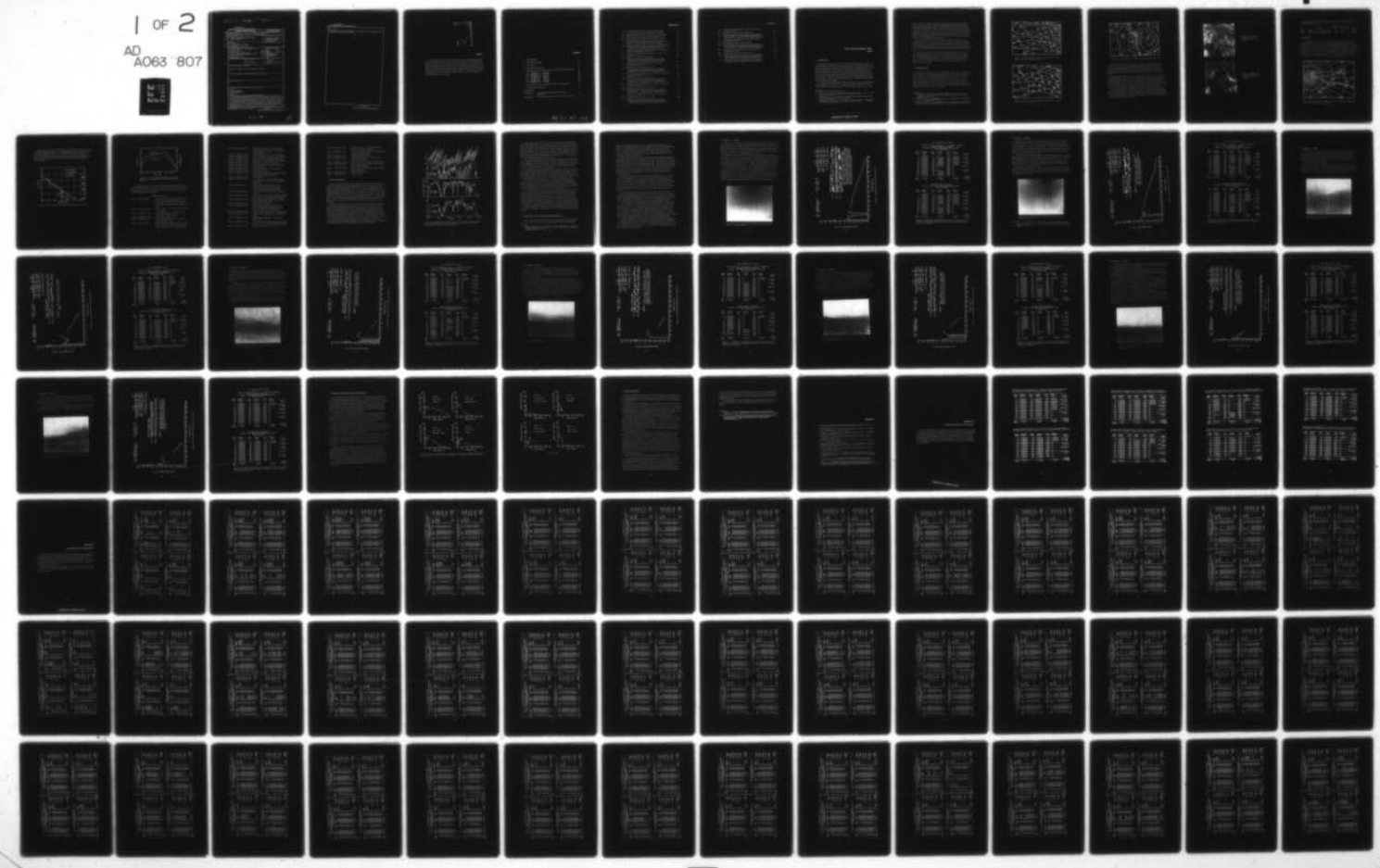
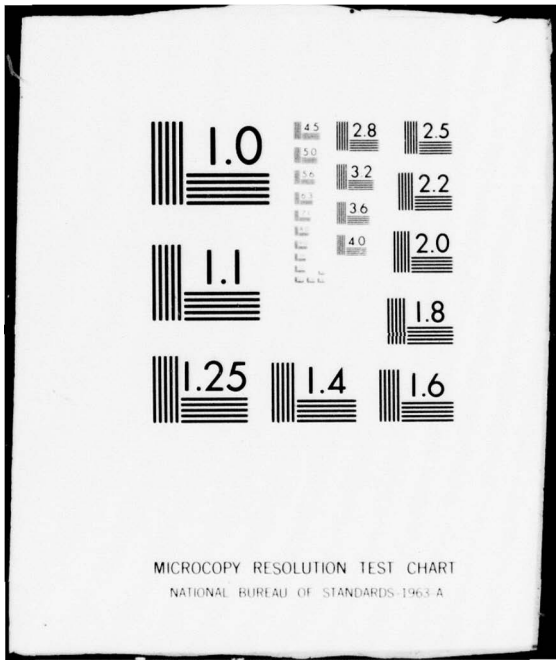
AD-A063 807 AIR FORCE GEOPHYSICS LAB HANSCOM AFB MASS F/G 4/2
CIRRUS PARTICLE DISTRIBUTION STUDY, PART 2.(U)
OCT 78 D J VARLEY, D M BROOKS
UNCLASSIFIED AFGL-TR-78-0248 NL

1 OF 2
AD A063 807




1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
4.5
5.0
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

(9) Air Force surveys in geophysics,

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE	READ INSTRUCTIONS BEFORE COMPLETING FORM
(14) 1. REPORT NUMBER: AFGL-TR-78-0248 / AFGL-HFSG-399	2. GOVT ACCESSION NO. / 3. RECIPIENT'S CATALOG NUMBER
(6) 4. TITLE (and Subtitle): CIRRUS PARTICLE DISTRIBUTION STUDY, PART 2.	5. TYPE OF REPORT & PERIOD COVERED: Scientific. Interim.
	6. PERFORMING ORG. REPORT NUMBER: AFSG No. 399
(10) 7. AUTHOR(s): D. J. Varley, Lt Col, USAF D. M. Brooks, Capt, USAF	8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS: Air Force Geophysics Laboratory (LYC) Hanscom AFB Massachusetts 01731	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS: (16) 63605F 317J0901 (17) 09
11. CONTROLLING OFFICE NAME AND ADDRESS: Air Force Geophysics Laboratory (LYC) Hanscom AFB Massachusetts 01731	(11) 12. REPORT DATE: 10 October 1978 13. NUMBER OF PAGES: 108
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office): (12) 106p.	15. SECURITY CLASS. (of this report): Unclassified 15a. DECLASSIFICATION DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Cirrus
Cirriform clouds
Particle distribution
Cloud physics

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This report presents particle spectrometer data obtained by the AFGL instrumented MC-130E aircraft during a flight through various types of cirriform clouds in the Albuquerque area on 26 February 1978. The data consist of average particle concentration figures as a function of size for consecutive 30-sec periods during the 96-min sampling mission. Additionally, data for some particular 15-sec segments of the flight are closely examined. These segments, selected to represent various cirriform conditions, as dense cirrostratus and thin cirrus, are documented with aircraft nose camera

→ next page

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

Unclassified

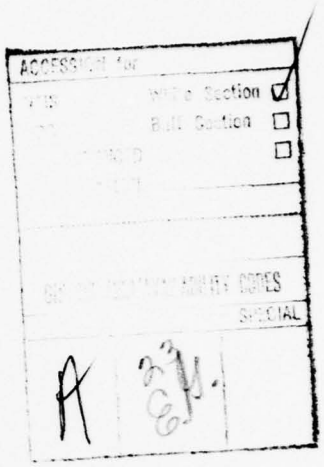
SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

409 548

A

20. (Cont)

photographs of clouds and with plots of resulting particle concentrations and calculations of liquid water content.



Preface

We greatly appreciate the assistance that the AFGL technicians and engineers, MSgt Tom Moraski, MSgt Steve Crist, and Anthony Matthews provided the Mission Director (DMB) in acquiring the data discussed in this report. Our thanks are also extended to Michael Francis and Daniel Leach of Digital Programming Services, Inc. for their aid in computer processing the aircraft sampling data; to Anthony Matthews and Barbara Main for assistance in processing auxiliary information; to Pat Sheehy for typing the manuscript; and to Dr. Arnold A. Barnes, Jr. and Dr. Robert M. Cunningham for reviewing the paper.

Contents

1. INTRODUCTION 9

2. SYNOPTIC SITUATION 10

3. THE FLIGHT 14

4. DISCUSSION OF RESULTS 18

5. EXAMPLES OF 15-SECOND AVERAGE PARTICLE DISTRIBUTIONS 20

5.1 Example No. 1: 1823:51Z 22
5.2 Example No. 2: 1825:30Z 25
5.3 Example No. 3: 1838:14Z 28
5.4 Example No. 4: 1842:07Z 31
5.5 Example No. 5: 1907:39Z 34
5.6 Example No. 6: 1908:46Z 37
5.7 Example No. 7: 1916:56Z 40
5.8 Example No. 8: 1924:04Z 43

6. EXAMPLES OF LONGER PERIOD PARTICLE DISTRIBUTIONS 46

7. CONCLUDING COMMENTS 49

REFERENCES 51

APPENDIX A: Average Particle Distributions for Varying Time Periods 53

APPENDIX B: Average Particle Distributions for 30-Second Periods 59

Illustrations

1.	The 500-mb Synoptic Chart 27 February 1978 at 0000Z	11
2.	The 300-mb Synoptic Chart 27 February 1978 at 0000Z	11
3a.	Surface Synoptic Weather Chart 26 February 1978 at 1800Z	12
3b.	Western GOES Visible Picture 1815Z, 26 February 1978	13
3c.	Western GOES IR Picture at 1845Z, 26 February 1978	13
4.	Track and Times of Sampling Aircraft on 26 February 1978 Based on Distance and Direction From Albuquerque	14
5a.	Portion of Albuquerque 1200Z Sounding on 26 February 1978	15
5b.	Variation of Aircraft Altitude and Outside Air Temperature as a Function of Time During the Sampling Mission	16
6.	Variation of Liquid Water Content With Time as Determined by Three PMS Spectrometer Probes	19
7a.	Selected 16-mm Frame 1823:51Z, Base of Cs 5.9 km MSL, Temperature -19.8°C	22
7b.	Spectrometer Particle Data for Figure 7a	23
7c.	Particle Size Distribution Averages for Two Consecutive 15-sec Intervals. The Upper One Corresponds to the Plotted Values on Figure 7b and the Photo in Figure 7a	24
8a.	Selected 16-mm Frame 1825:30Z, In Cs 6.2 km MSL, Temperature -22.3°C	25
8b.	Spectrometer Particle Data for Figure 8a	26
8c.	Particle Size Distribution Averages for Two Consecutive 15-sec Intervals. The Upper One Corresponds to the Plotted Values on Figure 8b and the Photo in Figure 8a	27
9a.	Selected 16-mm Frame 1838:14Z, Near Cs tops 7.6 km MSL, Temperature -29.9°C	28
9b.	Spectrometer Particle Data for Figure 9a	29
9c.	Particle Size Distribution Averages for Two Consecutive 15-sec Intervals. The Lower One Corresponds to the Plotted Values on Figure 9b and the Photo in Figure 9a	30
10a.	Selected 16-mm Frame 1842:07Z, Very Thin Cs 8.5 km MSL, Temperature -30.3°C	31
10b.	Spectrometer Particle Data for Figure 10a	32
10c.	Particle Size Distribution Averages for Two Consecutive 15-sec Interval[illegible] The Upper One Corresponds to the Plotted Values on Figure 10b and the Photo in Figure 10a	33
11a.	Selected 16-mm Frame 1907:39, Thin Ci 8.5 km MSL, Temperature -33.5°C	34
11b.	Spectrometer Particle Data for Figure 11a	35
11c.	Particle Size Distribution Averages for Two Consecutive 15-sec Intervals. The Upper One Corresponds to the Plotted Values on Figure 11b and the Photo in Figure 11a	36

12a.	Selected 16-mm Frame 1908:46, Thin Ci 8.5 km MSL, Temperature −33.5°C	37
12b.	Spectrometer Particle Data for Figure 12a	38
12c.	Particle Size Distribution Averages for Two Consecutive 15-sec Intervals. The Upper One Corresponds to the Plotted Values on Figure 12b and the Photo in Figure 12a	39
13a.	Selected 16-mm Frame 1916:56, Thin Ci 8.8 km MSL, Temperature −35.5°C	40
13b.	Spectrometer Particle Data for Figure 13a	41
13c.	Particle Size Distribution Averages for Two Consecutive 15-sec Intervals. The Upper One Corresponds to the Plotted Values on Figure 13b and the Photo in Figure 13a	42
14a.	Selected 16-mm Frame 1924:04, Thin Ci 8.8 km MSL, Temperature −36.1°C	43
14b.	Spectrometer Particle Data for Figure 14a	44
14c.	Particle Size Distribution Averages for Two Consecutive 15-sec Intervals. The Upper One Corresponds to the Plotted Values on Figure 14b and the Photo in Figure 14a	45
15.	Particle Concentration as Function of Size for Different Cirriform Cloud Types Samples on 26 February 1978	47

Cirrus Particle Distribution Study Part 2

1. INTRODUCTION

The AFGL instrumented MC-130E was flown 26 February 1978 on a cirrus sampling flight in the Albuquerque, New Mexico local area to obtain particle data for the Air Force Weapons Laboratory's Advanced Radiation Technology program. The purpose of this flight and of the similar 29 October 1977 flight was to acquire additional information on the typical type and concentration of ice particles in cirrus clouds. For further background information concerning cirrus data in general and the type of data available from this particular aircraft's instrumentation the reader is encouraged to review Part 1 of this study by Varley.[1] Ensuing parts will provide data from other sampling flights.

In a previous paper Knollenberg[2] reported cirrus clouds to be composed largely of bullet particles and columns. Heymsfield[3] found plates, columns, and some bullet rosettes in weak uniform cirrus, but mostly bullet rosettes in heavy uniform

(Received for publication 10 October 1978)

1. Varley, D.J. (1978) Cirrus Particle Distribution Study, Part I, AFSG, No. 394, AFGL-TR-78-0192.
2. Knollenberg, R.G. (1973) Cirrus-contrail cloud spectra studies with the Sabreliner, Atmos. Tech. (by NCAR), No. 1:52-55
3. Heymsfield, A. (1974) Ice crystal growth in deep cirrus systems. In Preprints of Conf. on Cloud Physics, Amer. Meteor. Soc. pp 311-316.

cirrus. In cirrus uncinus Heymsfield[4] detected bullet rosettes, single bullets, banded columns, and plates. Heymsfield and Knollenberg[5] collected ice crystals in different cirrus generating cells and found concentrations of crystals larger than 15 μ m to be 1×10^4 to 2.5×10^4 m^{-3}, and the water content to be from 0.106 to 0.26 g m^{-3} in cirrostratus, and 0.15 to 0.39 g m^{-3} in cirrus uncinus. They pointed out that these values were relatively large in comparison to other cirrus data, but that the cirrus generating cell, which they concentrated on, was somewhat different in that it was a mass of growing ice crystals.

Some 14 case studies of cirrus clouds were described by Hobbs et al[6] who acquired airborne data with a B-23 aircraft. They found low number concentrations of ice particles are usually associated with low ice mass concentrations and high number concentrations with high mass concentrations. They also reported that total ice mass concentration in cirrus clouds generally increases with increasing temperature.

An effort was made in our 26 February flight to collect particle data near the bases and within and near the tops of cirrus and cirrostratus clouds associated with an approaching upper level trough. No thunderstorms were in the sampling area. All PMS particle spectrometers were operative and obtained useful data. However, the formvar particle replicating device and dewpoint equipment were defective and were not used.

2. SYNOPTIC SITUATION

The upper level flow across the United States was nearly zonal on 26 February with a weak upper level trough along the West Coast, a minor ridge just east of the Rocky Mountains, and a strong west-northwesterly flow from there to the East Coast. No jet stream was in the Albuquerque area, however. Figures 1 and 2 depict the general flow at 500 and 300 mb. As shown in Figure 3a there was a strong high pressure cell (1032 mb) at the surface in the Central Plains area, a diffuse low pressure area in the western states, and a weak stationary front through the Western Plains along the lee of the Rockies.

---

4. Heymsfield, A. (1975) Cirrus uncinus generating cells and the evolution of cirriform cloud. Part I: Aircraft observations of the growth of ice phase. J. Atmos. Sci. 32:799-808.

5. Heymsfield, A., and Knollenberg, R.G. (1972) Properties of cirrus generating cells, J. Atmos. Sci. 29:1358-1366.

6. Hobbs, P.V., Radke, L.F., and Atkinson, D.G. (1975) Airborne Measurements and Observations in Cirrus Clouds, AFCRL-TR-75-0249.

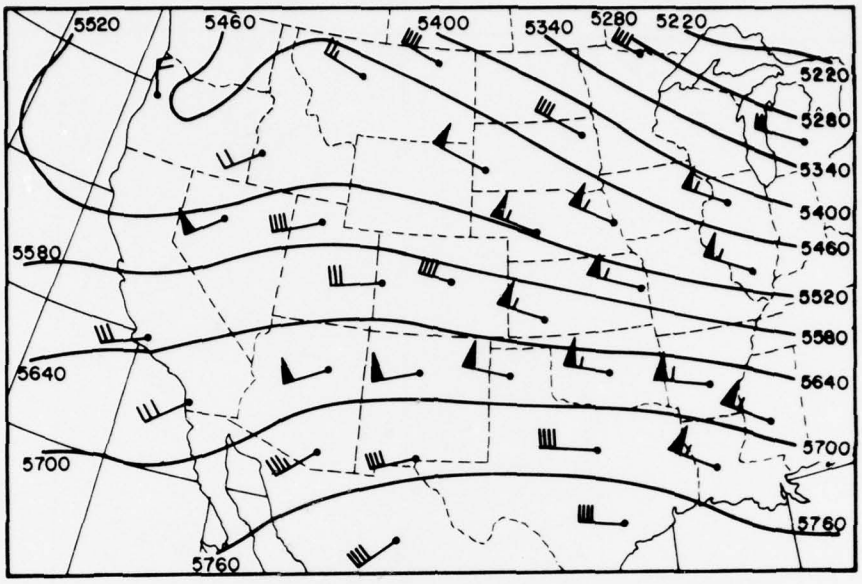


Figure 1. The 500-mb Synoptic Chart 27 February 1978 at 0000Z. Heights indicated in geopotential meters

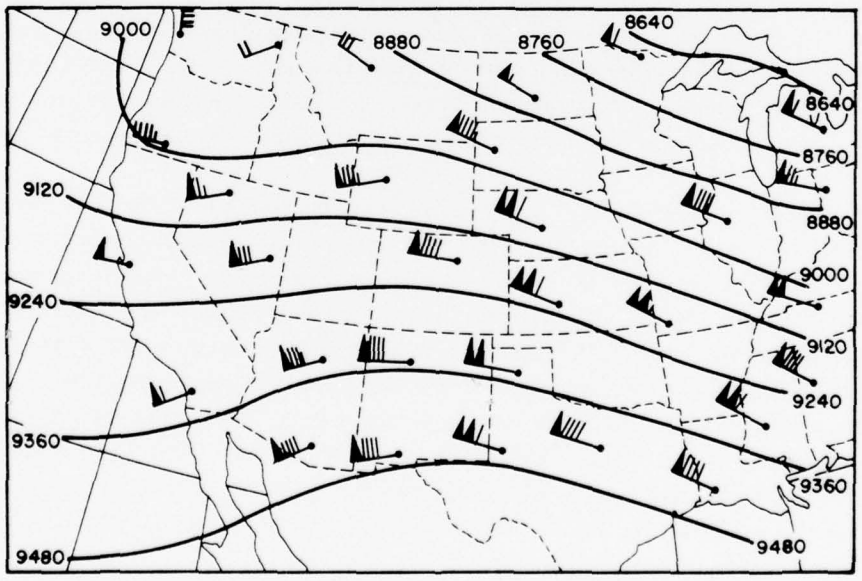


Figure 2. The 300-mb Synoptic Chart 27 February 1978 at 0000Z. Heights indicated in geopotential meters

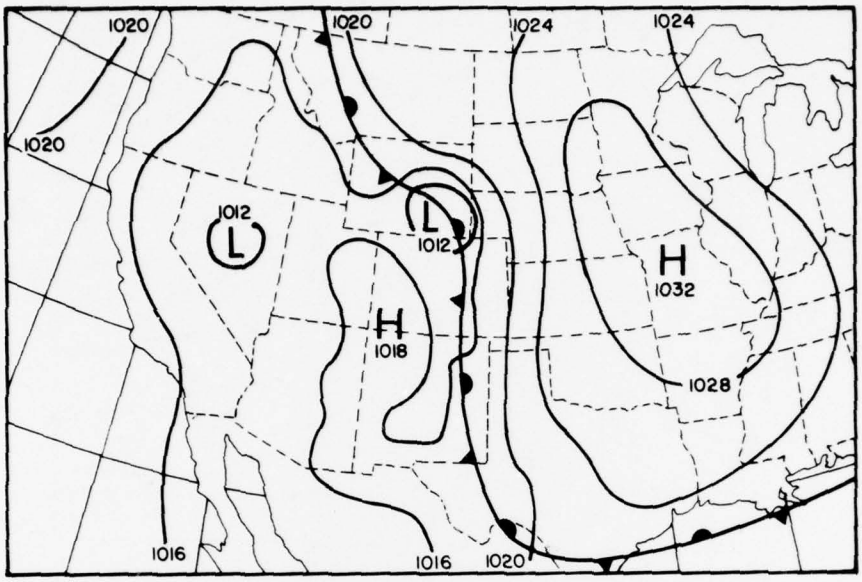


Figure 3a. Surface Synoptic Weather Chart 26 February 1978 at 1800Z

Figures 3b and 3c are visible and infrared pictures from the western GOES satellite. They show that the area east of the Rocky Mountains in Colorado and New Mexico had considerably less clouds than on the western side of that range. The lighter shading south and southwest of Utah, Colorado, and New Mexico in the infrared picture reflects the higher, colder clouds that were being advected to the east.

The cirrostratus and cirrus clouds sampled on 26 February were over south central New Mexico. They consisted of a rather deep cirrostratus layer with bases between 16,000 and 18,000 ft (4.9 - 5.5 km) and a cirrus layer based at approximately 27,000 ft (8.1 km). The cirrostratus was nearly overcast over much of the area, but varied from very thin to dense with striations. Above 29,000 ft the atmosphere was nearly cloud-free except for a few contrails of temporary nature.

Surface estimates of the cloud bases over most of Arizona, New Mexico, and Western Texas ranged from 10,000 to 25,000 ft (3.0 - 7.6 km) with little geographic trend. No weather radar echoes were reported over this large area and there were no reports of precipitation. Surface temperatures over most of New Mexico ranged from the upper 40's to lower 60's (°F).

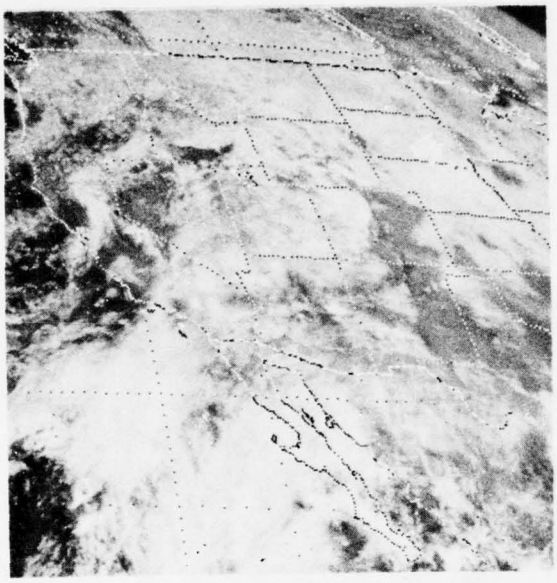


Figure 3b. Western GOES Visible Picture 1815Z, 26 February 1978. 2-mile resolution

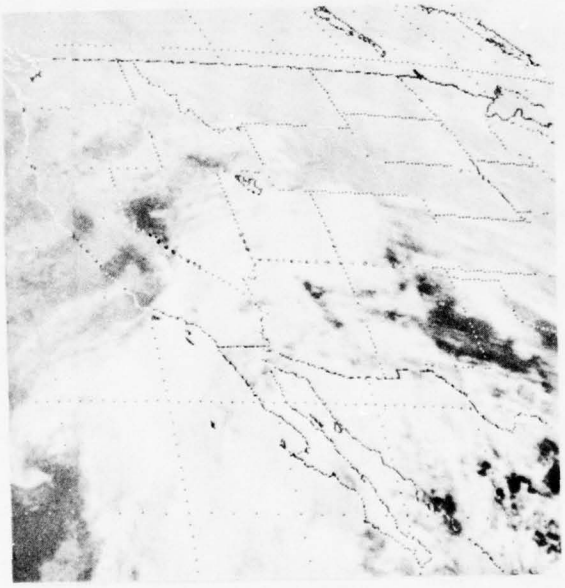


Figure 3c. Western GOES IR Picture at 1845Z, 26 February 1978. 2-mile resolution

During the time that sampling was being conducted, Albuquerque reported the following weather conditions.

Time	Clouds	Visibility (mi)	Temp (°F)	DP (°F)	Winds
1800Z	14,000 ft Sctd, Est 25,000 ft Brkn	60	57	19	190/10
1900Z	14,000 ft Sctd, Est 25,000 ft Brkn	60	59	19	210/90

3. THE FLIGHT

The sampling aircraft departed Kirtland AFB near Albuquerque at 1810 GMT (1110L) and flew generally in the area near Albuquerque that is indicated in Figure 4. The cirrostratus and cirrus clouds that were flown through, extended from 18,000 to 29,000 ft (5.5 - 8.8 km) during ascent and from 29,000 to 16,000 ft (8.8 - 4.9 km) on descent. An effort was made to record particle spectra throughout the clouds, but particularly in the thinnest portions near their bases and tops. The density of the clouds varied from dense in some areas to very thin and from uniform milky cirrostratus in the cloud interior to striated, wispy cirrus on top.

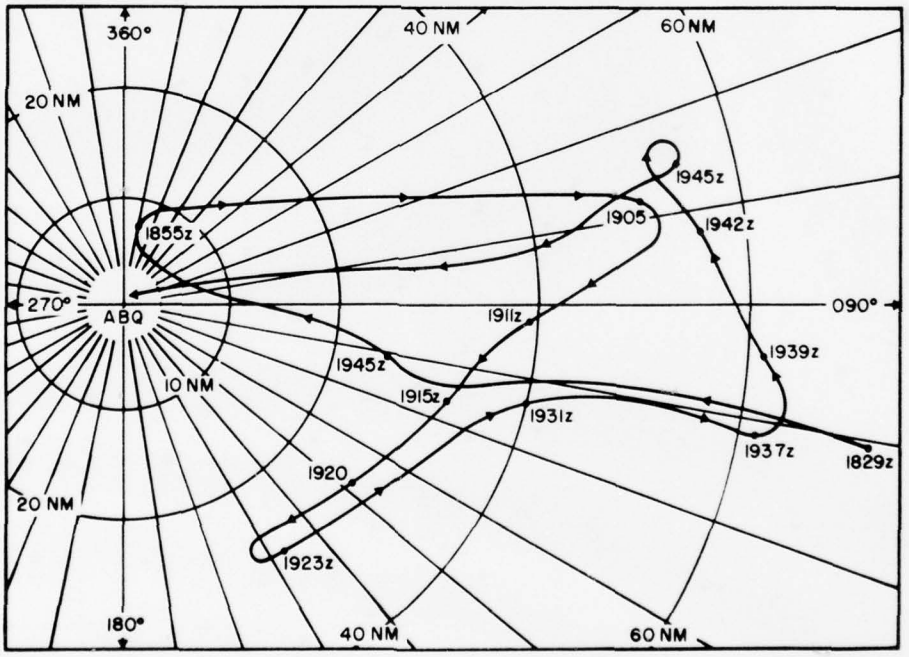


Figure 4. Track and Times of Sampling Aircraft on 26 February 1978 Based on Distance and Direction From Albuquerque

Figure 5a shows a portion of the Albuquerque temperature sounding a few hours before the sampling took place. The small temperature-dewpoint spread from approximately 6 through 9 km (19,700 - 29,500 ft) MSL reflects the presence of cirriform clouds that were later flown through. The plots of aircraft altitude and outside air temperature are shown on Figure 5b for the portion of the flight at cirrus altitudes.

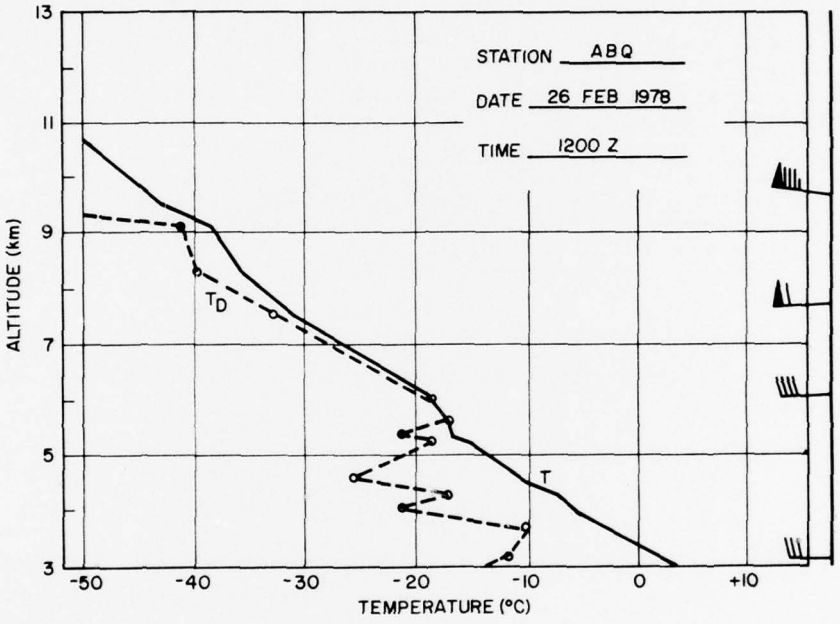


Figure 5a. Portion of Albuquerque 1200Z Sounding on 26 February 1978

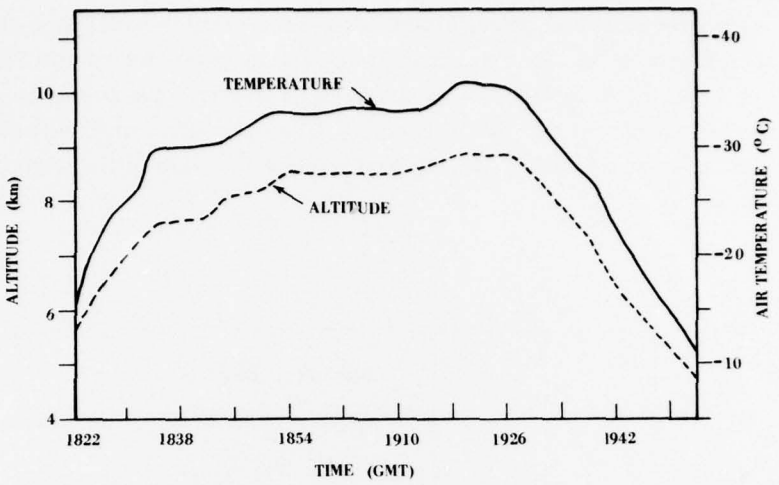


Figure 5b. Variation of Aircraft Altitude and Outside Air Temperature as a Function of Time During the Sampling Mission

The following notes are from the mission director's log or from a review of the nose camera movie film. All times are universal (GMT). Altitudes are from an altimeter set at 29.92 in. of mercury. (More accurate altitudes are given on the printout listings in the appendixes.)

Mission Directors Log

1819:35 - 15,000 ft (4.6 km).	Sun moderately to strongly visible through all areas of cloud. One tenth coverage of alto-stratus (As) and altocumulus (Ac) with bases at 15,000 ft, tops 15,800 ft. No clouds below these.
1822:35 - 18,000 ft (5.5 km).	Base of Cs layer. 2-D probe indicates presence of ice crystals.
1826:11 - 20,800 ft (6.3 km).	In Cs since 18,000 ft. Sun strongly visible. Very faint 22° halo visible above.
1827:24 - 21,500 ft (6.6 km).	Ground faintly visible below.
1828:04 - 21,800 ft (6.7 km).	Halo no longer visible. Still in Cs, with no breaks since initial entry.
1830:59 - 23,100 ft (7.0 km).	Ground still faintly visible. No breaks yet in Cs. Within about 2000 ft of tops. Blue sky visible through Cs above. More Cs below than above.

1833:50 - 24,200 ft (7.4 km).	Striations in Cs above us. Crystal habit is bullet rosette and irregular ice. Some plates also identifiable.
1834:50 - 24,700 ft (7.5 km).	Near top of Cs layer. Cs is very thin here.
1836:27 - 25,000 ft (7.6 km).	Ground no longer visible. Cs is very uniform.
1840:59 - 25,000 ft (7.6 km).	Into area of thin Cs. Just below tops of Cs.
1843:30 - 25,800 ft (7.9 km).	In tops of Cs. Ci bases above us about 1000 ft.
1845:00 - 26,400 ft (8.0 km).	Between Cs layer below and Ci above.
1850:30 - 27,200 ft (8.3 km).	Cs below and Ci above seem to merge ahead.
1851:07 - 27,500 ft (8.4 km).	Entering Ci bases.
1853:50 - 28,000 ft (8.5 km).	In very thin tenuous Ci. Bullet rosettes.
1858:30 - 28,000 ft (8.5 km).	Moderately dense Cs.
1901:00 - 28,000 ft (8.5 km).	In Cs with bullet rosettes. Sun brightly visible. Approximately 1000 ft below tops.
1904:00 - 28,000 ft (8.5 km).	Near tops of Ci.
1908:07 - 28,000 ft (8.5 km).	Very thin Ci here. Can see ground clearly through milky thin Cs below. Tops estimated at 29,000 ft.
1911:28 - 28,100 ft (8.5 km).	In thin Ci with clearly defined 22° halo. Visibility estimated at more than 5 miles. Ground clearly visible through Ci below.
1915:00 - 28,400 ft (8.6 km).	Very near top of Ci. Blue sky visible through Ci above.
1916:05 - 29,000 ft (8.8 km).	On top of most of Ci. Only some distant contrails above. Tops of Ci undulate around 29,000 ft.
1917:39 - 29,000 ft (8.8 km).	Passed through dense Ci then came out rapidly to less dense and then clear.
1919:57 - 29,000 ft (8.8 km).	Still in and out of Ci tops.
1927:00 - 29,000 ft (8.8 km).	Begin gradual descent through Ci and Cs. Skimming through tops of moderately dense cloud. Occasional hints of blue above.
1929:20 - 28,300 ft (8.6 km).	In very uniform, milky thin Ci. Just below tops.
1930:42 - 27,900 ft (8.5 km).	Unable to see through to ground. Sun brightly visible.
1931:24 - 27,500 ft (8.4 km).	Ground faintly visible below. Still in thin uniform Ci.
1933:17 - 26,500 ft (8.1 km).	At level of a break between Ci above and Cs below. A 22° halo in Ci above. Sun still brightly visible.
1936:00 - 25,800 ft (7.9 km).	Entering Cs layer on way down.

1939:48 - 23,500 ft (7.2 km).	In uniform, thin Cs. Visibility estimated at 15 miles. Descending to Cs base.
1941:12 - 22,300 ft (6.8 km).	In Cs. Clouds thin and tenuous. Sun moderately visible through clouds above.
1942:12 - 21,500 ft (6.6 km).	Back into more dense cloud.
1944:54 - 20,200 ft (6.2 km).	Emerged from dense cloud. Now very thin. Ground clearly visible.
1947:25 - 19,000 ft (5.8 km).	Dense cloud. Can no longer see blue sky above.
1948:49 - 18,300 ft (5.6 km).	Ground visible again. Cloud structure uniform. Sun moderately visible.
1950:20 - 17,700 ft (5.4 km).	Near Cs bases. Light intensity, large aggregate particles and plates.
1952:30 - 16,600 ft (5.1 km).	Below bases in clear air.
1953:07 - 16,100 ft (4.9 km).	Below all clouds.

4. DISCUSSION OF RESULTS

Figure 6 is a record of the variation of liquid-water-content (LWC) during the flight as determined by the PMS (Particle Measuring Systems, Inc.) scattering, 1-D cloud and 1-D precipitation spectrometer probes. When recording bullet rosette particles or combination of bullets, as was done in most of this flight, these probes measure particles in ranges extending from approximately 2 to 30 μm, 26 to 311 μm, and 400 to 4676 μm, respectively. These are central values of the lower and upper channels of each probe so the range is actually slightly greater. For example, the 400 μm channel records particles from approximately 250 to 550 μm in size. The plots of values in Figure 6 are based on data averaged over consecutive 15-sec intervals.

The notes at the top of Figure 6 are based on transcribed comments from the aircraft mission director's log and from a review of the 16-mm movie film from the camera in the nose of the aircraft. In general, there was good correlation between the reported frequency and density of clouds flown through and the variation of liquid water content (LWC) as determined by the precipitation probe. That is, when the mission director indicated the aircraft was in a dense cloud or in no cloud the precipitation probe LWC usually showed high or low values, respectively. This is, of course, comparable to saying there was a high number or low number of precipitation probe-sized particles present. There was less evidence of a correlation between visibility and the smaller particles recorded by the cloud probe.

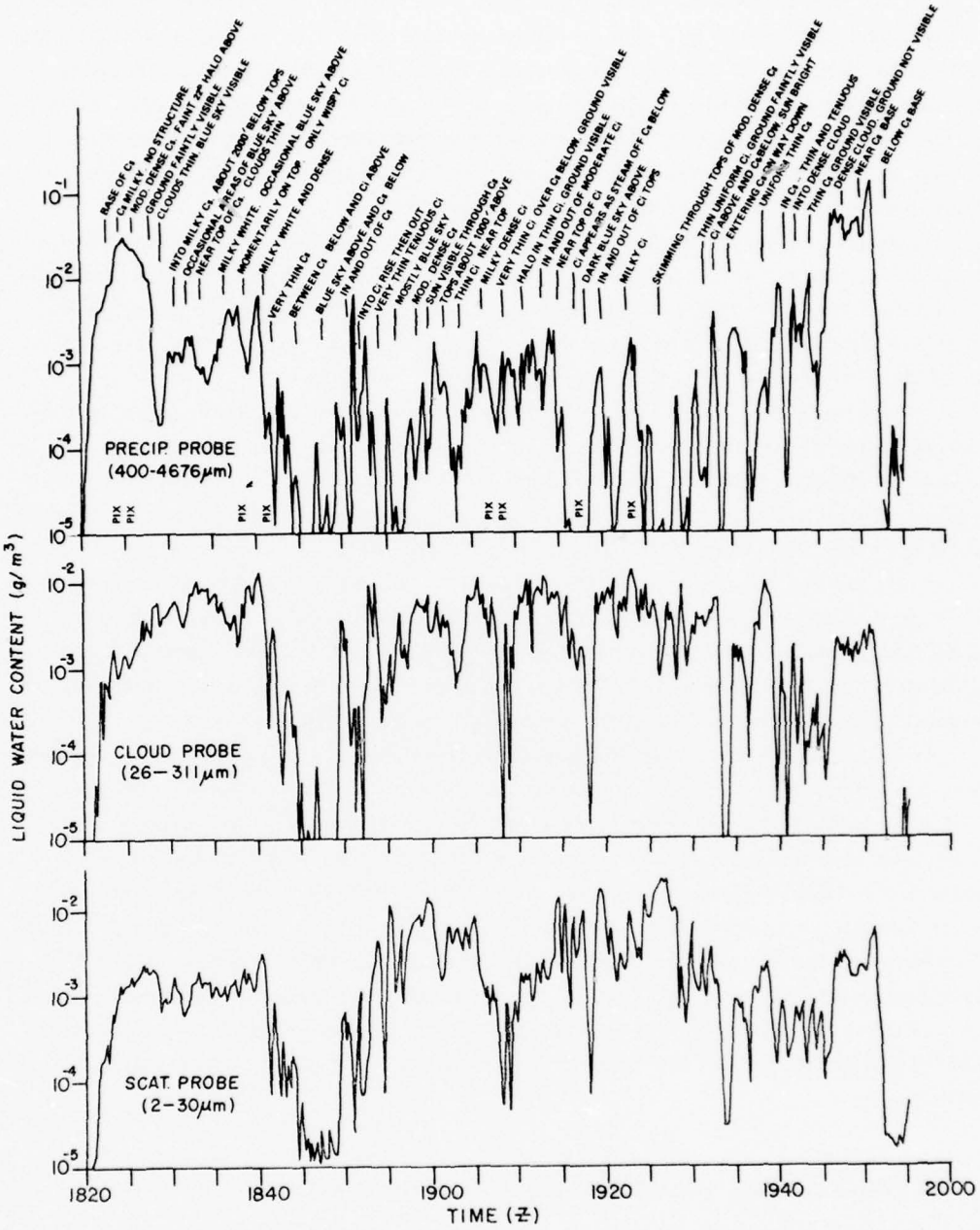


Figure 6. Variation of Liquid Water Content With Time as Determined by Three PMS Spectrometer Probes. Sampling altitude: 16,000 ft (4.8 km) to 29,000 ft (8.8 km) MSL. 26 February 1978, Albuquerque

The correlation, however, between visibility observations and precipitation probe LWC was not exact. It could possibly be improved by making more detailed visual observations and by using smaller time intervals than 15 sec to construct the curves of Figure 6. Such smaller intervals might, however, result in sampling volumes being too small and the outcome, therefore, not being significant. Similar plots of data based on 60-sec averages showed considerably poorer correlation—apparently due to the dilution of high LWC values with low ones, or vice versa, as clouds were entered and exited in rapid succession.

In determining particle habit or shape, primary dependence was placed on the PMS 2-D printouts of particle forms since the formvar replicator was not operated during this flight. Similar to the findings in our first cirrus report,[1] there were very few symetrically-shaped, text book examples of pristine columns, plates, dendrites, or other classical ice crystal shapes.

In reviewing the 2-D shadowgraph forms, the type seen most frequently from the beginning of the flight until 1823Z (5.7 km altitude) was "small snow". This type consists of agglomerates of smaller individual crystals, which together do not exceed approximately 1/2 mm in size. The particles encountered in the descending portion of the flight after 1946Z (5.8 km) were also of a small snow nature.

The particle form seen most frequently in sampling at the higher altitudes, between 5.7 and 8.8 km (1823-1946Z), was the bullet rosette. Although single columns and plates were not rare the preponderance of discernable shapes appeared to be of the rosette form. As indicated in the literature review of our first cirrus report,[1] the bullet rosette shape is common at cirrus altitudes.

For use at such cold altitudes there are few instruments available to count and size ice crystals smaller than those recorded by the PMS cloud probe (~26 μm). The PMS axial scattering probe used in the AFGL aircraft for this purpose was originally intended for use with liquid particles. As pointed out by Ryan et al,[7] since the scattering properties of ice crystals are not known, only apparent size distributions can be reported by this probe in cirrus clouds. Despite this problem it is believed the ice particle populations between 2 and approximately 30 μm that are observed by the scattering probe are reasonable estimates of their real values.

Particle distributions determined by all three probes during the 26 February 1978 flight are presented in Appendix B in terms of averages for consecutive 30-sec periods.

5. EXAMPLES OF 15-SECOND AVERAGE PARTICLE DISTRIBUTIONS

After a review of the mission director's notes, the nose camera film and the variation of LWC in Figure 6, eight segments during the flight were selected to

7. Ryan, R.T., Blau, J.H., Jr., vonThuna, P.C., and Cohen, M.L. (1972) Cloud microstructure as determined by an optical cloud particle spectrometer. J. Appl. Meteor. 11:151-156.

study further. These eight times, which are marked "PIX" on Figure 6, were chosen as representative occasions when cirriform clouds of various densities were present. Primary emphasis was on the relatively thin cirrus clouds in which Air Force Weapons Laboratory personnel had previously expressed interest; however, two occasions were also included for comparison when more dense cirrostratus clouds were being sampled.

Selected frames from the 16-mm movie nose camera are included as Figures 7a through 14a to provide visual documentation of the eight cirrus situations examined. Each of these pictures was taken simultaneously with or a few seconds before particle data were recorded by the various spectrometer probes. The figures on the pictures represent the time in hours, minutes, and seconds that were automatically projected on the film from the aircraft time code generator. The second digit of the hour was not properly projected and this position is vacant in each photo. There was no problem, however, in determining the correct hour since elapsed flight time was less than three hours.

Spectrometer particle data concurrent with each photograph time are shown in Figures 7b through 14b. The "b" figures show plots of particle number density as a function of particle size derived from data averaged over 15-sec intervals near the time the "a" figures were photographed. In the upper right hand corner the total median volume diameter (DIA) and total liquid water content (LWC) of particles recorded by each of the three probes are recorded. The diameter values are those that unfrozen particles having a mass at the median value of each probe's LWC would have.

Because of the deletion of the overlapping amount plus slightly more the C + P (cloud probe plus precipitation probe) LWC and DIA values are sometimes slightly less than the amounts indicated for either the cloud or precipitation probe individually. The two values below "Totals" on the "b" figures and on the printouts in Appendix A and B will similarly be occasionally less than their contributing components.

A few 2-D particle form examples for time approximating the 1-D data acquisition times are shown on the "b" figures. In most cases these were recorded over periods not exceeding 1 - 2 seconds. Dimensions of nearly all 2-D forms may be approximated from knowledge that the height of the vertical bars in these illustrations is 800 μm. A single exception is shown in Figure 7b where the line of 2-D forms recorded at 1951:25Z is from the PMS 2-D precipitation probe. The dimension of the vertical lines in this row is 6400 μm. The 2-D precipitation probe records only the larger sized particles and is seldom activated during cirrus flights.

Figures 7c through 14c are the PMS 1-D data printouts of particle concentration as a function of size for times corresponding to the information shown in Figures 7a and 7b through 14a and 14b. Each of these "c" figures provides data averaged over 15-sec intervals for two consecutive 15-sec periods. The "b" figures were prepared from data for one of these periods.

5.1 Example No. 1: 1823:51Z

Figures 7a, b, and c represent a situation where the aircraft was near the base of a cirrostratus (Cs) layer that varied from 6000 to 8000 ft thick. The ground was still visible below, but visibility was rapidly reduced in moving upward toward the horizon. The location of the sun was discernable above through the milky white cloud. The Figure 7a picture and that shown in Figure 8a were taken in one of the higher peaks of the LWC of the precipitation probe (see Figure 6).

Although the median volume diameter of the precipitation probe droplets (and of the total C + P value) was greater at that time than at any other shown in Figures 8 through 14 it is noteworthy that the LWC of the cloud probe was least. Apparently these particles fell from higher altitudes and grew larger by collecting or aggregating the smaller cloud-sized particles. Heymsfield[3] also found aggregation to occur in a cirrus cloud at -20°C and warmer. The temperature at 1824Z was -20°C.

The 2-D forms shown on Figure 7b were recorded approximately 1-1/2 hr after the picture and 1-D data were recorded. This substitution of later 2-D data was necessary since the 2-D equipment was not operating when the aircraft ascended through the cloud base at 1824Z. In choosing 2-D forms that were representative of the other Figure 7 data an effort was made to match 1-D spectra data on descent with those recorded on ascent at 1824Z. It is believed the 2-D particle forms in Figure 7b closely approximate those that would have been seen at that time.

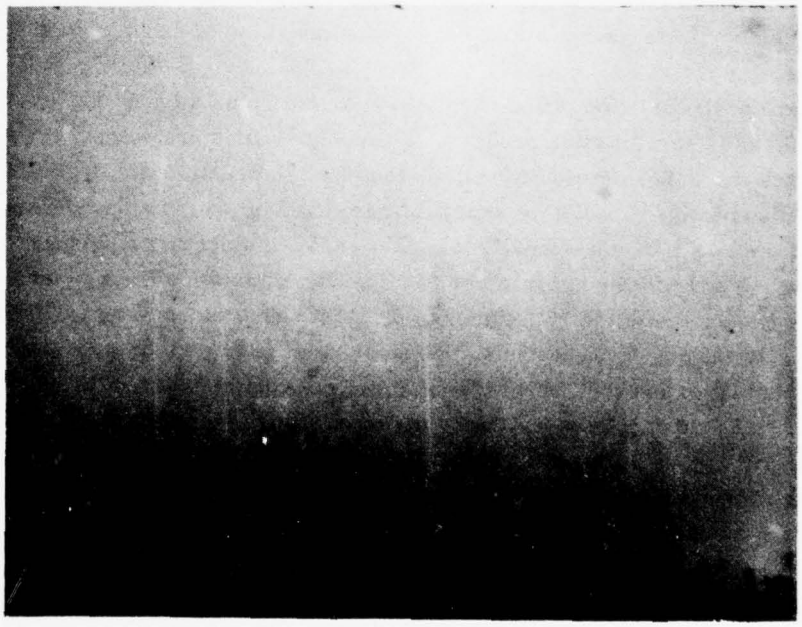


Figure 7a. Selected 16-mm Frame 1823:51Z, Base of Cs 5.9 km MSL, Temperature -19.8°C

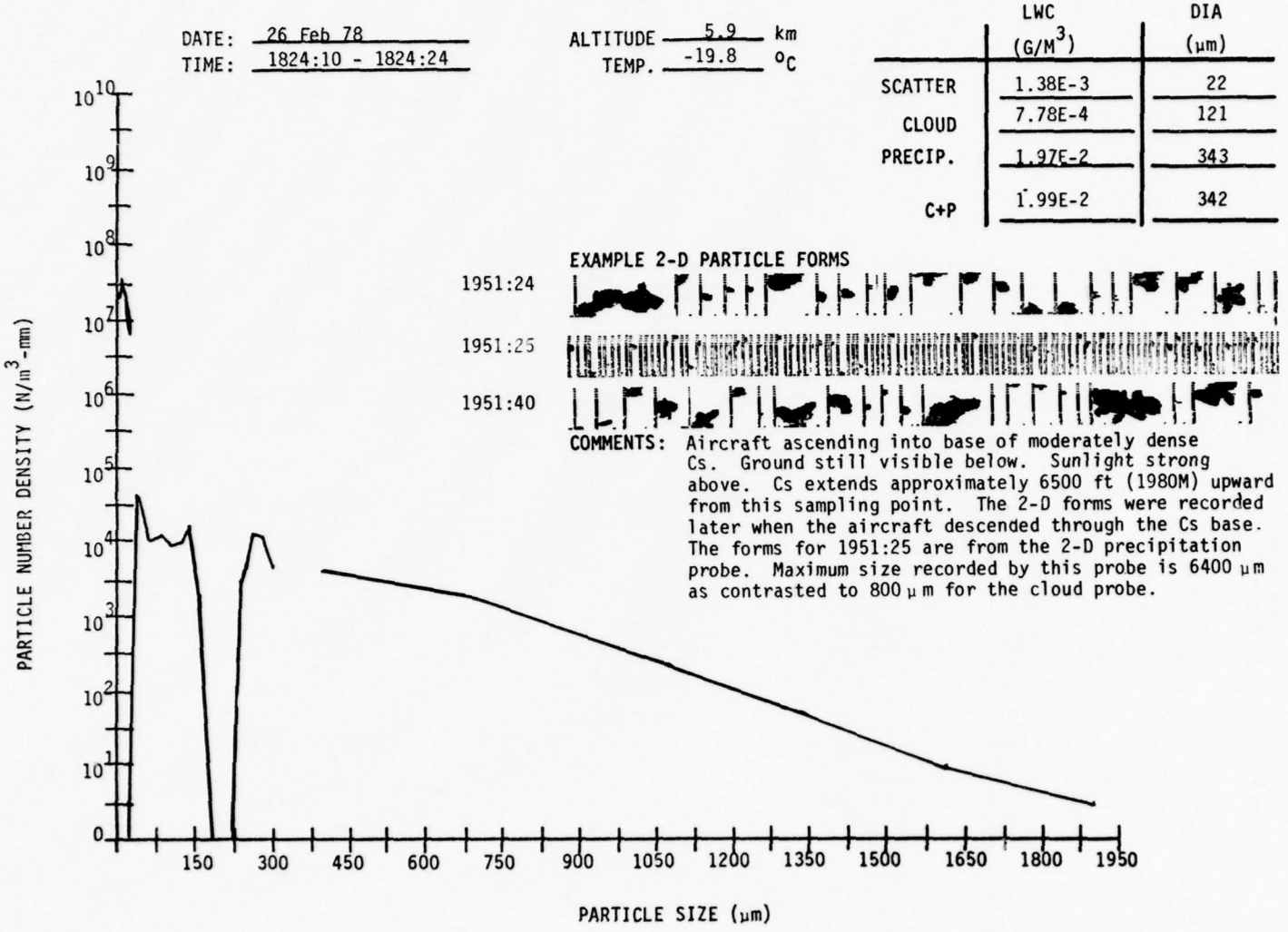


Figure 7b. Spectrometer Particle Data for Figure 7a

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 15 SECOND AVERAGING
INTERVAL START *18:24:10*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						476.0
2	3.45E+06	25	0.	400	4.02E+03	
4	7.44E+06	47	4.23E+04	706	1.78E+03	ALT (KM)
6	1.20E+07	67	1.02E+04	1011	3.24E+02	5.934
8	1.78E+07	87	1.21E+04	1316	6.17E+01	
10	2.29E+07	108	8.21E+03	1622	1.01E+01	TEMP (C)
12	3.31E+07	128	9.04E+03	1927	5.11E+00	-19.8
14	2.11E+07	148	1.67E+04	2233	1.65E+00	
16	2.51E+07	169	1.93E+03	2538	0.	DEWP (C)
18	1.82E+07	189	0.	2843	0.	
20	1.26E+07	209	0.	3149	0.	
22	2.05E+07	230	0.	3454	0.	TAS (M/S)
24	9.14E+06	250	2.80E+03	3760	0.	105.7
26	8.58E+06	271	1.26E+04	4065	0.	
28	5.12E+06	291	1.08E+04	4370	0.	
30	9.16E+06	311	4.17E+03	4676	0.	
						TOTALS
LWC	1.38E-03		7.78E-04		1.97E-02	1.99E-02
MED D	22		121		343	342

INTERVAL START *18:24:25*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						471.7
2	4.04E+06	25	0.	400	4.43E+03	
4	8.05E+06	47	1.30E+05	706	1.95E+03	ALT (KM)
6	9.21E+06	67	1.01E+04	1011	3.74E+02	5.933
8	1.44E+07	87	1.21E+04	1316	7.18E+01	
10	2.36E+07	108	8.19E+03	1622	1.31E+01	TEMP (C)
12	2.70E+07	128	1.52E+04	1927	3.08E+00	-20.4
14	2.36E+07	148	1.20E+04	2233	1.63E+00	
16	2.53E+07	169	3.95E+03	2538	1.75E+00	DEWP (C)
18	2.01E+07	189	0.	2843	0.	
20	1.49E+07	209	0.	3149	0.	
22	1.27E+07	230	5.10E+03	3454	0.	TAS (M/S)
24	8.62E+06	250	2.83E+03	3760	0.	104.9
26	6.91E+06	271	3.20E+03	4065	0.	
28	4.03E+06	291	3.65E+03	4370	0.	
30	5.19E+06	311	2.13E+04	4676	0.	
						TOTALS
LWC	1.14E-03		1.02E-03		2.21E-02	2.24E-02
MED D	21		133		347	345

Figure 7c. Particle Size Distribution Averages for Two Consecutive 15-sec Intervals. The Upper One Corresponds to the Plotted Values on Figure 7b and the Photo in Figure 7a

5.2 Example No. 2: 1825:30Z

Figures 8a, b, and c depict another moderately dense cirrostratus situation where the aircraft had moved about 0.3 km higher into the cloud than at the time recorded in Figures 7a, b, and c. Uniform milky Cs extended about 5000 ft (1.5 km) above the observer and a thin halo was around the sun which was dimly visible. The LWC measured by the precipitation probe was greater for this example than for the other seven times discussed here, while the median volume diameter was approximately the same as the Figure 7b occasion.

Although some channels of the cloud probe recorded no particles in the relatively dense cirrostratus, it is to be noted in both Figures 7b and 8b that there is a gradual but discontinuous increase in number density as particle size decreases. At the higher altitudes examined in most of the figures from Figures 9b through 14b this fairly smooth increase in concentration with diminishing size was interrupted by a second maximum in the cloud probe data.

The particle spectrum shown in Figure 8b is similar to that examined by Glass and Varley[8] during another study of cirrus conditions at the time a halo was present. Their case, however, indicated slightly fewer particles in the 50 to 100 μm range than those shown in Figure 8b.

Figure 8a. Selected 16-mm Frame 1825:30Z, In Cs 6.2 km MSL, Temperature -22.3°C

8. Glass, M., and Varley, D.J. (1978) Observations of cirrus particle characteristics occurring with halos. In Preprints of Conference on Cloud Physics and Atmospheric Electricity, Amer. Meteor. Soc. pp 126-128. Also, AFGL-TR-78-0196.

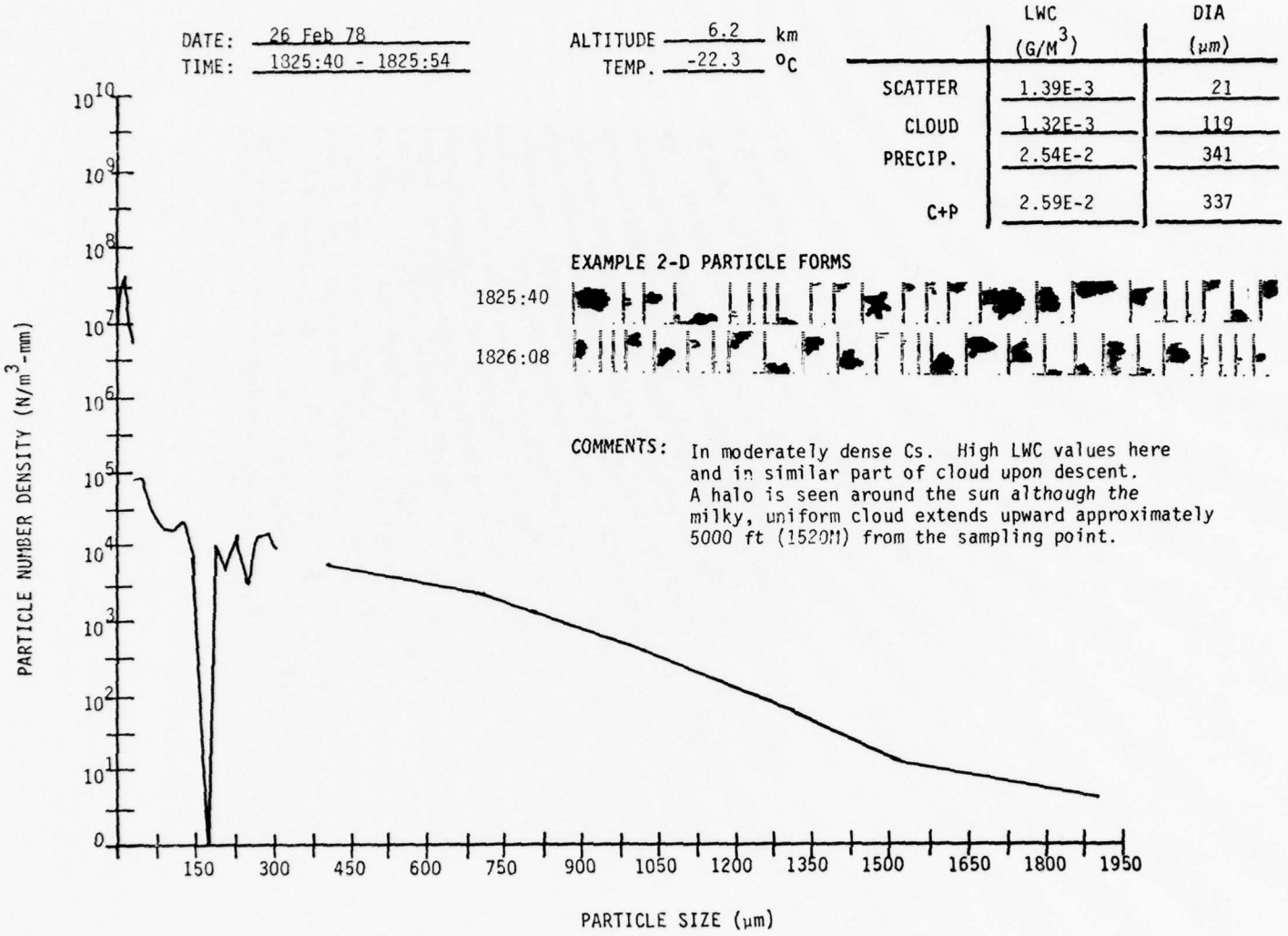


Figure 8b. Spectrometer Particle Data for Figure 8a

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 15 SECOND AVERAGING
INTERVAL START *13:25:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						453.8
2	2.30E+05	26	8.19E+04	400	5.60E+03	
4	9.22E+05	47	6.65E+04	706	2.25E+03	ALT (KM)
6	2.07E+07	67	3.03E+04	1011	4.28E+02	6.273
8	2.76E+07	87	1.81E+04	1316	5.08E+01	
10	3.68E+07	108	1.65E+04	1622	1.31E+01	TEMP (C)
12	4.20E+07	128	2.13E+04	1927	6.18E+00	-22.3
14	3.85E+07	148	7.18E+03	2233	4.92E+00	
16	2.87E+07	169	0.	2538	0.	DEWP (C)
18	2.88E+07	189	1.07E+04	2843	0.	
20	1.72E+07	209	4.65E+03	3149	0.	
22	1.03E+07	230	1.54E+04	3454	0.	TAS (M/S)
24	7.48E+05	250	2.83E+03	3760	0.	104.8
26	1.04E+07	271	1.28E+04	4065	0.	
28	6.91E+06	291	1.46E+04	4370	0.	
30	4.60E+06	311	8.51E+03	4676	0.	
						TOTALS
LWC	1.39E-03		1.32E-03		2.54E-02	2.59E-02
MED D	21		119		341	337

INTERVAL START *13:25:55*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						451.2
2	2.85E+05	26	0.	400	5.52E+03	
4	1.26E+07	47	8.59E+04	706	2.15E+03	ALT (KM)
6	1.20E+07	67	3.01E+04	1011	3.65E+02	6.321
8	2.35E+07	87	1.21E+04	1316	5.33E+01	
10	3.44E+07	108	2.04E+04	1622	7.27E+00	TEMP (C)
12	3.95E+07	128	9.09E+03	1927	5.13E+00	-22.7
14	3.26E+07	148	7.14E+03	2233	1.62E+00	
16	3.54E+07	169	1.18E+04	2538	0.	DEWP (C)
18	2.17E+07	189	2.45E+03	2843	0.	
20	1.83E+07	209	0.	3149	0.	
22	1.43E+07	230	5.04E+03	3454	0.	TAS (M/S)
24	1.26E+07	250	1.14E+04	3760	0.	105.6
26	8.55E+05	271	1.27E+04	4065	0.	
28	5.71E+05	291	1.45E+04	4370	0.	
30	1.03E+07	311	1.68E+04	4676	0.	
						TOTALS
LWC	1.58E-03		1.51E-03		2.32E-02	2.35E-02
MED D	22		123		332	330

Figure 8c. Particle Size Distribution Averages for Two Consecutive 15-sec Intervals. The Upper One Corresponds to the Plotted Values on Figure 8b and the Photo in Figure 8a

5.3 Example No. 3: 1838:14Z

The Figure 9a, b, and c series was seen or recorded about 13 min later and 1.4 km higher than that of the preceeding series. Blue sky was evident above, although the aircraft was still approximately 1000 ft (300 m) below the top of the Cs. In the direction of the horizon the cloud appeared to be fairly heavy. Each of the probes recorded the same magnitude of liquid water content though the cloud probe had a slightly greater contribution.

From the time represented by Figure 8a to that of Figure 9a the size and mass recorded by the precipitation probe had decreased significantly, while those of the cloud probe had increased. The LWC of the scatter probe also increased slightly, although visible cloud density decreased. Particle size had substantially diminished as the aircraft climbed higher toward the top of the cirrostratus layer.

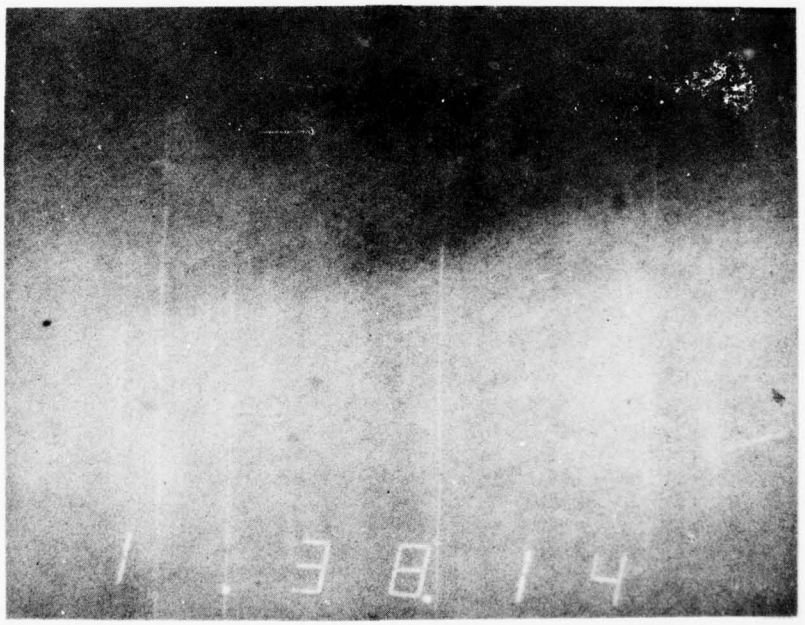


Figure 9a. Selected 16-mm Frame 1838:14Z, Near Cs tops 7.6 km MSL, Temperature -29.9°C

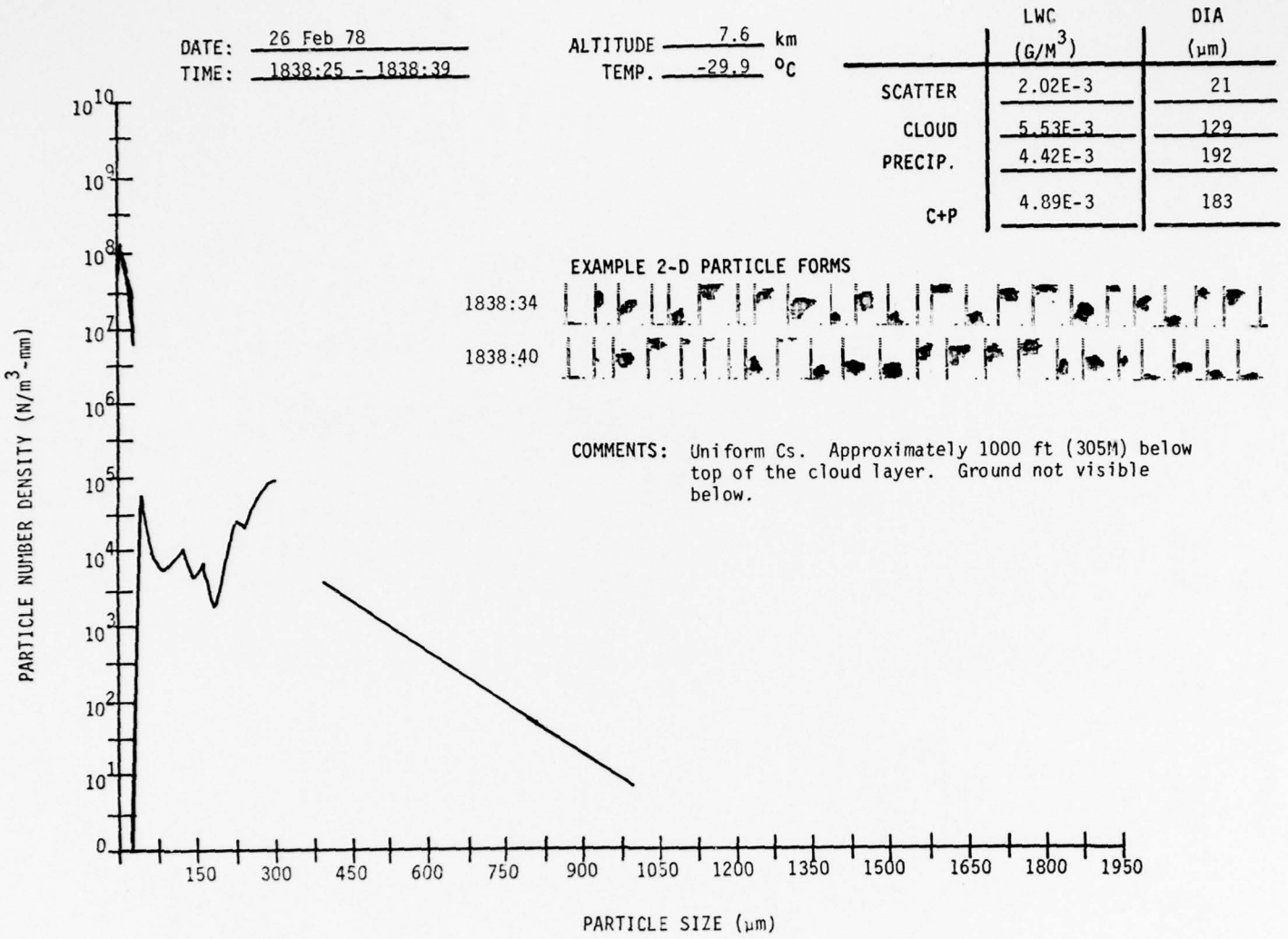


Figure 9b. Spectrometer Particle Data for Figure 9a

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 15 SECOND AVERAGING
INTERVAL START *18:38:10*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						376.3
2	5.60E+06	26	0.	400	3.48E+03	
4	5.09E+07	47	5.73E+04	706	2.46E+02	ALT (KM)
6	8.86E+07	67	8.96E+03	1011	4.65E+00	7.611
8	7.94E+07	87	2.67E+04	1316	0.	
10	4.94E+07	108	2.18E+04	1622	0.	TEMP (C)
12	3.67E+07	128	5.38E+03	1927	0.	-29.3
14	2.75E+07	148	2.12E+03	2233	0.	
16	2.70E+07	169	1.74E+03	2538	0.	DEWP (C)
18	2.85E+07	189	5.67E+03	2843	0.	
20	1.69E+07	209	2.05E+03	3149	0.	
22	1.12E+07	230	1.59E+04	3454	0.	TAS (M/S)
24	1.12E+07	250	1.01E+04	3760	0.	118.5
26	9.16E+06	271	1.98E+04	4065	0.	
28	1.22E+07	291	1.62E+04	4370	0.	
30	9.16E+06	311	4.15E+04	4676	0.	
						TOTALS
LWC	1.69E-03		2.35E-03		4.23E-03	4.61E-03
MED D	23		130		202	194

INTERVAL START *18:38:25*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						376.4
2	3.01E+07	26	0.	400	4.07E+03	
4	1.26E+08	47	5.75E+04	706	1.69E+02	ALT (KM)
6	1.23E+08	67	9.00E+03	1011	5.99E+00	7.610
8	1.03E+08	87	5.35E+03	1316	0.	
10	7.14E+07	108	7.29E+03	1622	0.	TEMP (C)
12	6.43E+07	128	1.08E+04	1927	0.	-29.9
14	4.75E+07	148	4.24E+03	2233	0.	
16	4.03E+07	169	7.00E+03	2538	0.	DEWP (C)
18	3.88E+07	189	1.89E+03	2843	0.	
20	2.04E+07	209	5.19E+03	3149	0.	
22	1.22E+07	230	2.49E+04	3454	0.	TAS (M/S)
24	1.28E+07	250	2.02E+04	3760	0.	118.4
26	1.68E+07	271	4.25E+04	4065	0.	
28	1.07E+07	291	7.45E+04	4370	0.	
30	5.10E+06	311	8.69E+04	4676	0.	
						TOTALS
LWC	2.02E-03		5.53E-03		4.42E-03	4.89E-03
MED D	21		129		192	183

Figure 9c. Particle Size Distribution Averages for Two Consecutive 15-sec Intervals. The Lower One Corresponds to the Plotted Values on Figure 9b and the Photo in Figure 9a

5.4 Example No. 4: 1842:07Z

Figures 10a, b, and c represent a time when the aircraft was in the upper portion of very thin cirrostratus. The horizon was faintly visible. Snow capped mountains about five miles distant may be seen in the lower foreground of Figure 10a. Although this figure indicates thin cirriform clouds straight ahead near the horizon the base of the cirrus layer was estimated to be more than a thousand feet above the aircraft.

The particle population recorded by each of the probes at this time was quite low. In fact, the liquid water content determined by the scattering probe was smaller at this time than at any of the other specific times studied here; the overall LWC of the "cloud plus precipitation" probes was also smallest. Even though several of the individual cloud probe channels recorded no particles this probe recorded the highest LWC measurement of the three—although it was still relatively low when compared to other cirrus situations.

The greatest contribution to the mass determined by the cloud probe was apparently made by particles in the 200 to 250 μm range according to Figure 10b. The concentration or density falls off for sizes both smaller and larger than this.

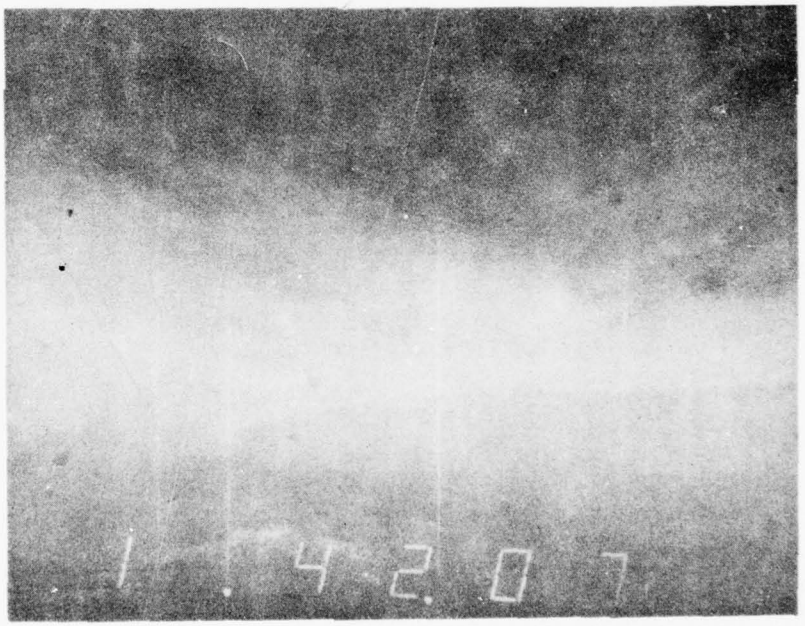


Figure 10a. Selected 16-mm Frame 1842:07Z, Very Thin Cs 8.5 km MSL, Temperature -30.3°C

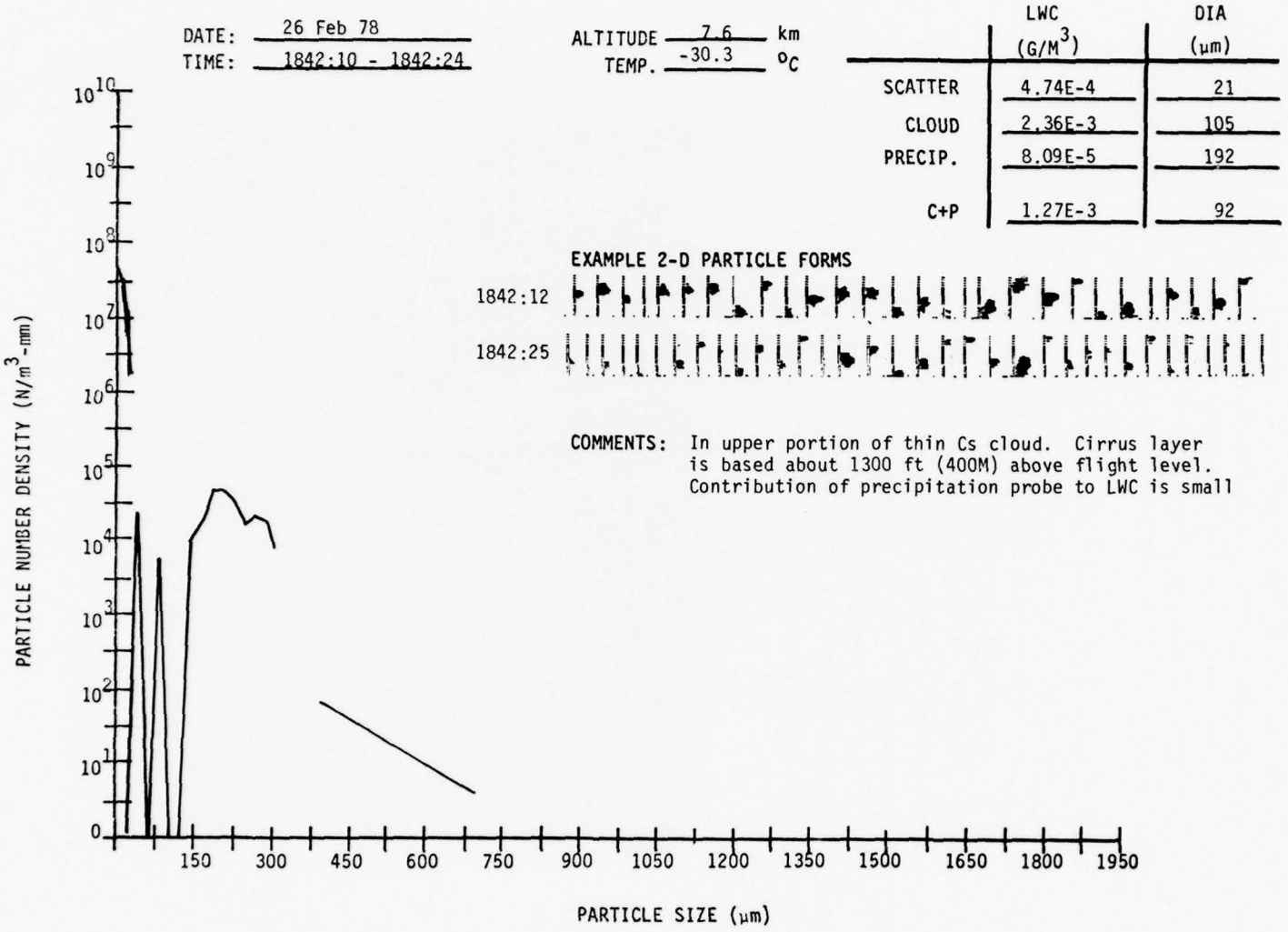


Figure 10b. Spectrometer Particle Data for Figure 10a

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 15 SECOND AVERAGING
INTERVAL START *18:42:10*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						376.7
2	3.32E+08	26	0.	400	7.47E+01	
4	4.19E+07	47	1.98E+04	706	3.44E+00	ALT (KM)
6	3.18E+07	67	0.	1011	0.	7.614
8	2.33E+07	87	5.54E+03	1316	0.	
10	2.07E+07	108	0.	1622	0.	TEMP (C)
12	1.64E+07	128	0.	1927	0.	-39.3
14	1.22E+07	148	6.80E+03	2233	0.	
16	1.01E+07	169	1.64E+04	2538	0.	DEWP (C)
18	5.30E+06	189	4.72E+04	2843	0.	
20	5.30E+06	209	4.71E+04	3149	0.	
22	4.76E+06	230	3.30E+04	3454	0.	TAS (M/S)
24	1.59E+06	250	1.57E+04	3760	0.	114.3
26	2.65E+06	271	2.06E+04	4065	0.	
28	3.17E+06	291	1.68E+04	4370	0.	
30	1.59E+06	311	7.85E+03	4676	0.	
						TOTALS
LWC	4.74E-04		2.36E-03		8.09E-05	1.27E-03
MED D	21		105		192	92

INTERVAL START *18:42:25*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						375.1
2	8.32E+08	26	0.	400	7.65E+00	
4	1.26E+07	47	0.	706	1.15E+00	ALT (KM)
6	7.35E+06	67	9.30E+03	1011	0.	7.633
8	4.22E+06	87	5.50E+03	1316	0.	
10	5.79E+06	108	3.75E+03	1622	0.	TEMP (C)
12	3.16E+06	128	8.34E+03	1927	0.	-30.3
14	5.28E+06	148	0.	2233	0.	
16	2.10E+06	169	1.81E+03	2538	0.	DEWP (C)
18	3.16E+06	189	7.80E+03	2843	0.	
20	0.	209	2.13E+03	3149	0.	
22	1.05E+06	230	9.37E+03	3454	0.	TAS (M/S)
24	5.28E+06	250	0.	3760	0.	115.1
26	5.26E+06	271	0.	4065	0.	
28	1.05E+06	291	0.	4370	0.	
30	5.27E+06	311	0.	4676	0.	
						TOTALS
LWC	1.21E-04		2.27E-04		1.20E-05	2.39E-04
MED D	22		90		230	93

Figure 10c. Particle Size Distribution Averages for Two Consecutive 15-sec Intervals. The Upper One Corresponds to the Plotted Values on Figure 10b and the Photo in Figure 10a

5.5 Example No. 5: 1907:39Z

Figure 11a shows a situation where the aircraft was in very thin cirrus at 28,000 ft (8.5 km) with cirrostratus below. Less than a minute after this photo was taken the mission director reported he could see the ground clearly through the milky, thin Cs. The tops of the thin cirrus were believed to be about 1000 ft (300 m) above flight level.

The large variation of particles in both size and shape is shown in the 2-D forms on Figure 11b. As noted there, the majority of recognizable particles appears to be composed of the bullet rosette form and vary from approximately 200 to 500 μm in their largest dimension. The mean "diameter" values shown on Figure 11b and the other "b" figures are smaller than the 2-D particle dimensions since they represent spherical "melted" droplets having the same mass as the larger frozen crystals.

As in most of the other particular cirrus cases described in this section the largest contribution to total liquid water content was made by the particles in the 26 to 311 μm range that are observed by the cloud probe.

Figure 11a. Selected 16-mm Frame 1907:39, Thin Ci 8.5 km MSL, Temperature -33.5°C

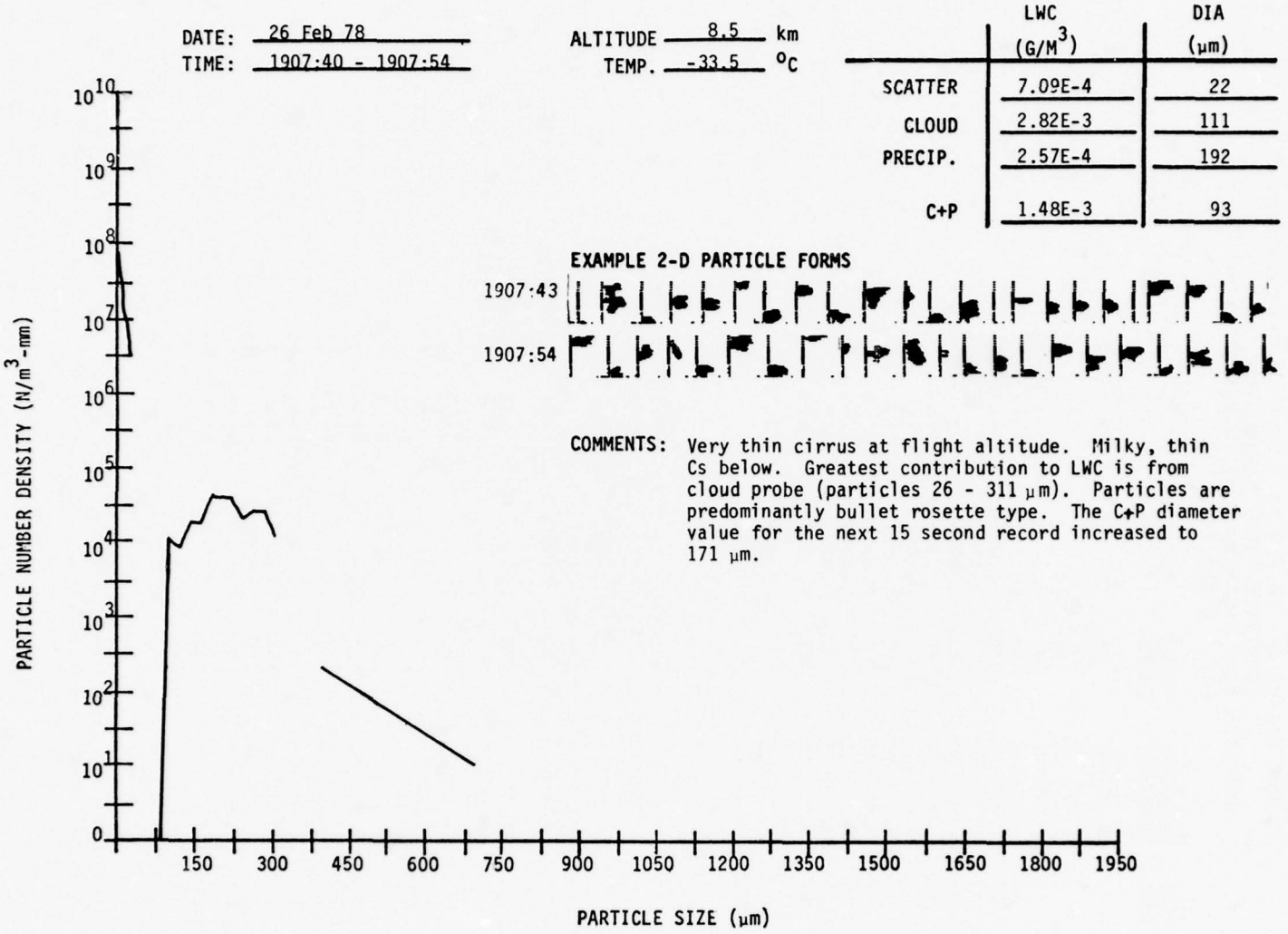


Figure 11b. Spectrometer Particle Data for Figure 11a

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 15 SECOND AVERAGING
INTERVAL START *19:07:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						331.2
2	1.73E+09	26	0.	400	2.37E+02	
4	5.50E+07	47	0.	706	1.09E+01	ALT (KM)
6	3.94E+07	67	0.	1011	0.	8.492
8	2.57E+07	87	0.	1316	0.	
10	2.48E+07	108	1.08E+04	1622	0.	TEMP (C)
12	2.42E+07	128	8.02E+03	1927	0.	-33.3
14	1.01E+07	148	1.89E+04	2233	0.	
16	1.06E+07	169	1.73E+04	2538	0.	DEWP (C)
18	1.11E+07	189	4.30E+04	2843	0.	
20	6.06E+06	209	4.08E+04	3149	0.	
22	5.55E+06	230	3.60E+04	3454	0.	TAS (M/S)
24	5.56E+06	250	2.00E+04	3760	0.	119.3
26	5.05E+06	271	2.52E+04	4065	0.	
28	3.03E+06	291	2.57E+04	4370	0.	
30	3.54E+06	311	1.12E+04	4676	0.	
						TOTALS
LWC	7.09E-04		2.82E-03		2.57E-04	1.48E-03
MED D	22		111		192	93

INTERVAL START *19:07:55*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						331.0
2	2.39E+09	26	0.	400	1.91E+02	
4	2.39E+07	47	0.	706	3.26E+00	ALT (KM)
6	9.48E+06	67	0.	1011	0.	8.496
8	4.99E+06	87	0.	1316	0.	
10	2.00E+06	108	0.	1622	0.	TEMP (C)
12	9.98E+06	128	0.	1927	0.	-33.4
14	4.99E+06	148	0.	2233	0.	
16	2.99E+06	169	0.	2538	0.	DEWP (C)
18	2.99E+06	189	0.	2843	0.	
20	3.48E+06	209	0.	3149	0.	
22	4.97E+06	230	2.22E+03	3454	0.	TAS (M/S)
24	0.	250	2.47E+03	3760	0.	120.9
26	9.97E+06	271	5.55E+03	4065	0.	
28	4.99E+06	291	0.	4370	0.	
30	0.	311	3.68E+03	4676	0.	
						TOTALS
LWC	1.27E-04		2.58E-04		1.81E-04	2.05E-04
MED D	19		120		181	171

Figure 11c. Particle Size Distribution Averages for Two Consecutive 15-sec Intervals. The Upper One Corresponds to the Plotted Values on Figure 11b and the Photo in Figure 11a

5.6 Example No. 6: 1908:46Z

The photo shown in Figure 12a was taken 1 min after that of Figure 11a. Although some wispy, thin cirrus extends before the aircraft there is blue sky above. The tops of the cirrus layer were estimated to be about 1000 ft (300 m) above the aircraft's 28,000 ft (8.5 km) flight level. The cirrostratus below was reported to be thinner than it appears in the photo, and the ground was visible through it.

Considering the relative clearness of the sky before the aircraft the 1.67×10^{-3} g m^{-3} C + P LWC value seems large; however, it is still two orders of magnitude less than Heymsfield and Knollenberg[5] found in cirrus uncinus that was presumably more dense. The C + P LWC decreased by an order of magnitude in the 15-sec sample recorded after that shown on Figure 12b.

Figure 12a. Selected 16-mm Frame 1908:46, Thin Ci 8.5 km MSL, Temperature -33.5°C

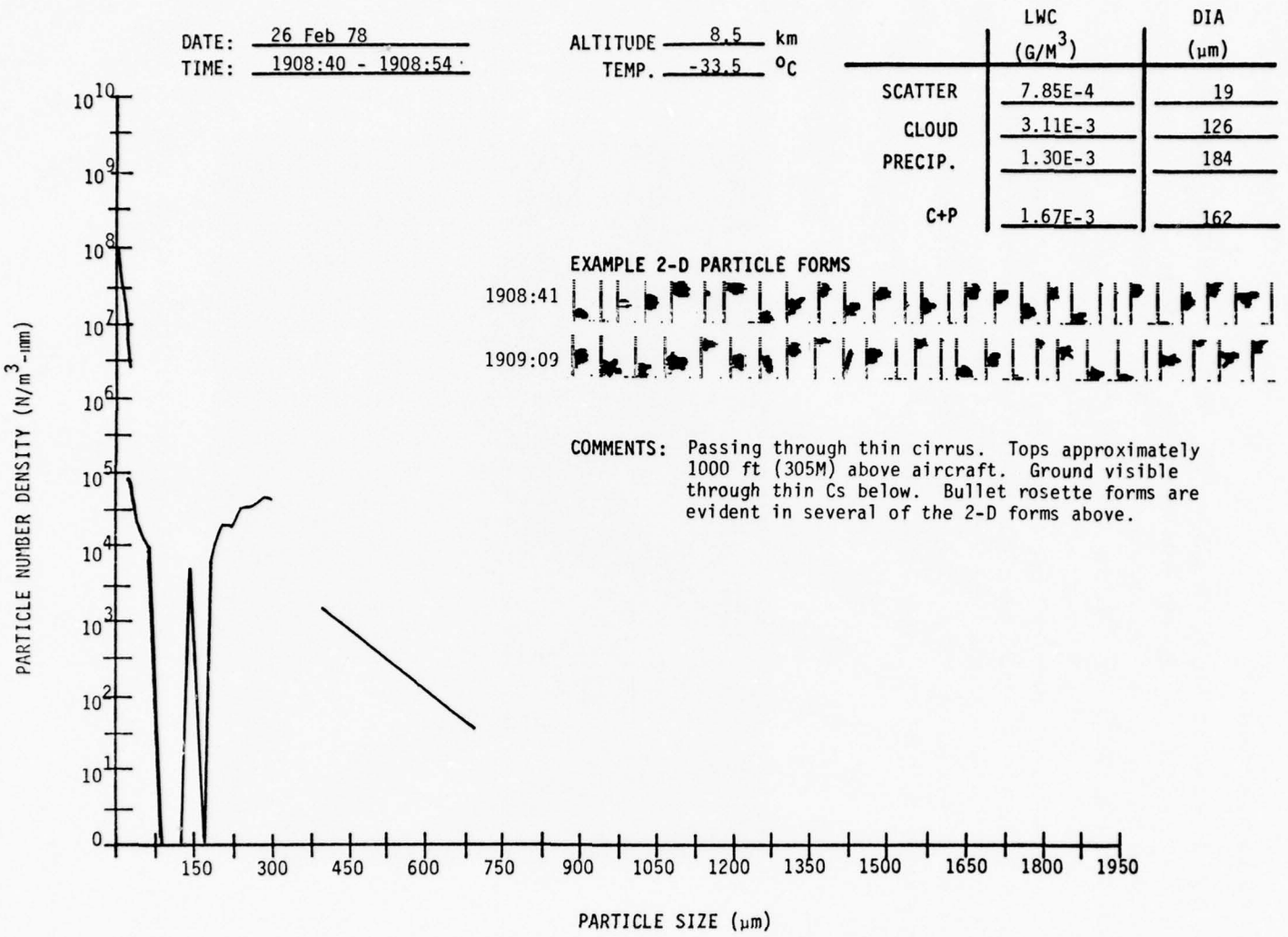


Figure 12b. Spectrometer Particle Data for Figure 12a

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 15 SECOND AVERAGING
INTERVAL START *19:08:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 330.5
2	1.58E+09	26	7.01E+04	400	1.32E+03	
4	8.01E+07	47	1.85E+04	706	3.21E+01	ALT (KM)
6	5.11E+07	67	8.65E+03	1011	0.	8.517
8	3.54E+07	87	0.	1316	0.	
10	3.74E+07	108	0.	1622	0.	TEMP (C)
12	1.82E+07	128	0.	1927	0.	-33.5
14	1.62E+07	148	4.09E+03	2233	0.	
16	2.65E+07	169	0.	2538	0.	DEWP (C)
18	1.18E+07	189	5.47E+03	2843	0.	
20	9.33E+06	209	1.59E+04	3149	0.	
22	5.89E+06	230	1.53E+04	3454	0.	TAS (M/S)
24	4.91E+06	250	2.67E+04	3760	0.	122.9
26	4.42E+06	271	3.01E+04	4065	0.	
28	3.44E+06	291	3.75E+04	4370	0.	
30	1.96E+06	311	3.64E+04	4676	0.	
						TOTALS
LWC	7.85E-04		3.11E-03		1.30E-03	1.57E-03
MED D	13		126		184	162

INTERVAL START *19:08:55*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 330.5
2	2.41E+09	26	0.	400	1.23E+02	
4	2.73E+07	47	0.	706	1.16E+01	ALT (KM)
6	3.89E+06	67	0.	1011	0.	8.507
8	3.89E+06	87	0.	1316	0.	
10	2.43E+06	108	0.	1622	0.	TEMP (C)
12	4.85E+06	128	0.	1927	0.	-33.5
14	2.43E+06	148	0.	2233	0.	
16	4.89E+06	169	0.	2538	0.	DEWP (C)
18	9.77E+06	189	0.	2843	0.	
20	4.85E+06	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	123.9
26	0.	271	2.71E+03	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	4.76E-06		4.83E-05		1.61E-04	1.61E-04
MED D	7		118		210	210

Figure 12c. Particle Size Distribution Averages for Two Consecutive 15-sec Intervals. The Upper One Corresponds to the Plotted Values on Figure 12b and the Photo in Figure 12a

5.7 Example No. 7: 1916:56Z

The photo in Figure 13a shows an example of very thin cirrus at aircraft altitude with a cirrostratus undercast. This picture was taken at 29,000 ft MSL (8.8 km), the highest altitude attained during this flight.

The 6.63×10^{-3} g m^{-3} LWC value determined by the scattering probe at this time is greater than comparable scattering probe values for the other specific seven cases considered here. It is also larger than LWC contributions determined at this particular time by the cloud and precipitation probes.

The precipitation probe recorded only a small number of particles and those were in its smallest channel, 400 μm. Since there was only one point that could be plotted a precipitation probe distribution of density-size is not graphed on Figure 13b—although a mean diameter and LWC are given. The 400 μm bullet rosette crystals measured by the precipitation probe were computed to have mean diameters of 175 μm when converted to equivalent volume droplets. This is the smallest size determined by this probe for any of the eight cases considered here.

The maximum in the cloud probe distribution near 200-250 μm that was seen in several other cirrus cases is not apparent in Figure 13b. There is instead a gradual, discontinuous decrease of concentration with increased size as was seen in the denser clouds represented by Figures 7 and 8. The cloud probe LWC is also one of the lowest examined in this series aside from those of the cirrostratus cases given in Figures 7b and 8b.

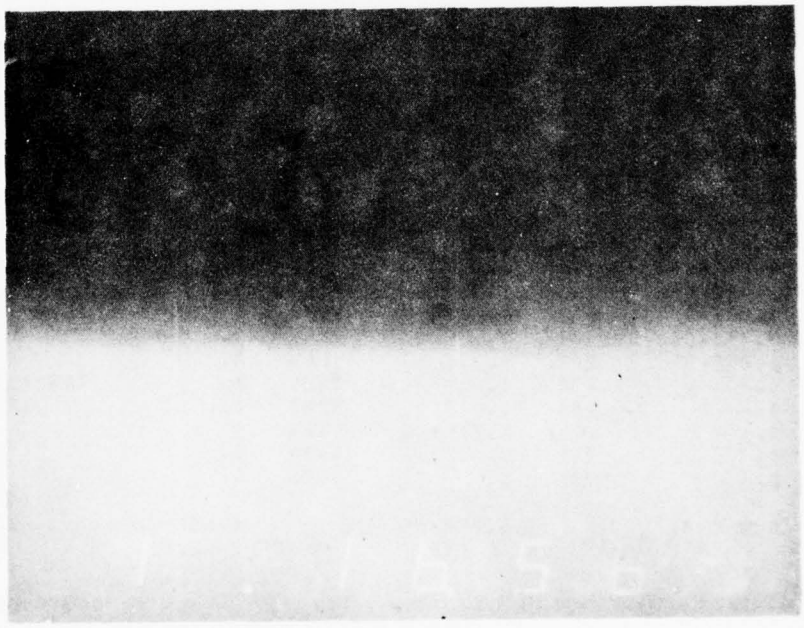


Figure 13a. Selected 16-mm Frame 1916:56, Thin Ci 8.8 km MSL, Temperature −35.5°C

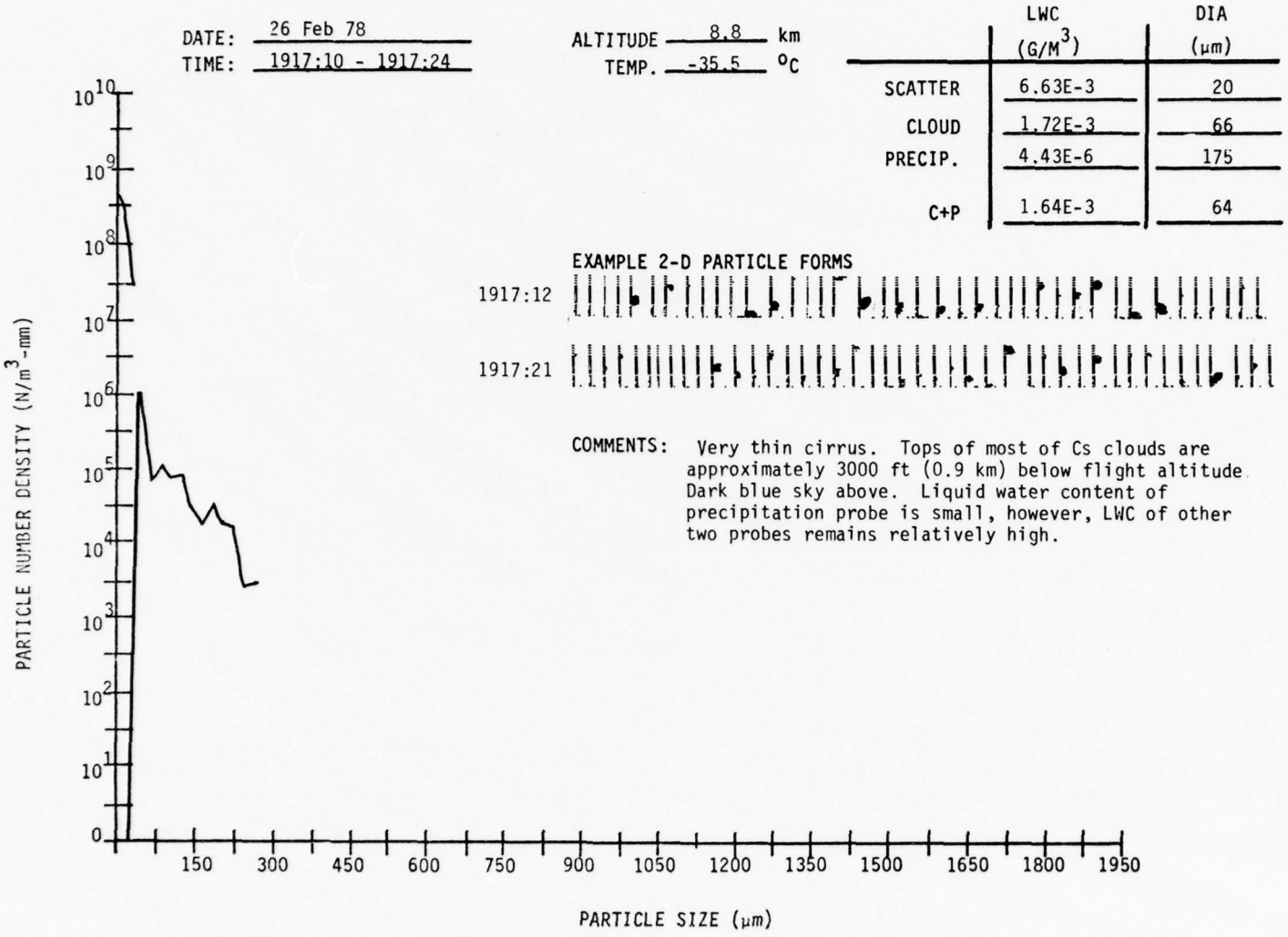


Figure 13b. Spectrometer Particle Data for Figure 13a

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 15 SECOND AVERAGING
INTERVAL START *19:17:10*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						316.4
2	3.33E+08	26	0.	400	5.13E+00	
4	3.68E+08	47	9.65E+05	706	0.	ALT (KM)
6	3.33E+08	67	6.10E+04	1011	0.	8.802
8	3.08E+08	87	1.04E+05	1316	0.	
10	2.41E+08	108	6.70E+04	1622	0.	TEMP (C)
12	1.91E+08	128	7.57E+04	1927	0.	-35.5
14	1.17E+08	148	2.67E+04	2233	0.	
16	1.81E+08	169	1.53E+04	2538	0.	DEWP (C)
18	1.40E+08	189	3.30E+04	2843	0.	
20	6.22E+07	209	1.60E+04	3149	0.	
22	4.40E+07	230	1.54E+04	3454	0.	TAS (M/S)
24	4.94E+07	250	2.44E+03	3760	0.	122.7
26	3.16E+07	271	2.75E+03	4065	0.	
28	3.61E+07	291	0.	4370	0.	
30	2.32E+07	311	0.	4676	0.	
						TOTALS
LWC	6.63E-03		1.72E-03		4.43E-06	1.64E-03
MED D	20		56		175	64

INTERVAL START *19:17:25*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						316.7
2	1.24E+08	26	0.	400	8.18E+00	
4	5.61E+08	47	1.13E+06	706	0.	ALT (KM)
6	6.60E+08	67	1.74E+05	1011	0.	8.815
8	5.79E+08	87	1.34E+05	1316	0.	
10	4.52E+08	108	3.52E+04	1622	0.	TEMP (C)
12	3.67E+08	128	5.73E+04	1927	0.	-35.4
14	2.19E+08	148	4.10E+04	2233	0.	
16	3.11E+08	169	1.01E+04	2538	0.	DEWP (C)
18	2.27E+08	189	1.64E+04	2843	0.	
20	1.08E+08	209	1.19E+04	3149	0.	
22	7.30E+07	230	4.39E+03	3454	0.	TAS (M/S)
24	5.82E+07	250	1.22E+04	3760	0.	122.5
26	4.69E+07	271	2.73E+03	4065	0.	
28	3.70E+07	291	0.	4370	0.	
30	2.17E+07	311	0.	4676	0.	
						TOTALS
LWC	9.87E-03		1.70E-03		7.08E-06	1.49E-03
MED D	18		61		175	53

Figure 13c. Particle Size Distribution Averages for Two Consecutive 15-sec Intervals. The Upper One Corresponds to the Plotted Values on Figure 13b and the Photo in Figure 13a

5.8 Example No. 8: 1924:04Z

Figure 14a shows a case of thin cirrus before the airplane at 29,000 ft MSL and a broad layer of cirrostratus beneath. The nose-camera movie film indicated the aircraft was passing in and out of thin cirrus tops frequently at this time so that LWC and particle size values changed rapidly.

The liquid water content determined by the cloud probe (in Figures 14b and14c) is the greatest of any of the eight cases discussed here; however, the range of the eight values was relatively small, varying between 0.78×10^{-3} g m^{-3} in Figure 7b and 7.35×10^{-3} in Figure 14b.

Figure 14a. Selected 16-mm Frame 1924:04, Thin Ci 8.8 km MSL, Temperature -36.1°C

DATE: 26 Feb 78
TIME: 1924:10 - 1924:24

ALTITUDE 8.8 km
TEMP. -36.1 °C

	LWC (G/M^3)	DIA (μm)
SCATTER	2.53 E-3	21
CLOUD	7.35 E-3	107
PRECIP.	4.33 E-4	178
C+P	3.82 E-3	93

EXAMPLE 2-D PARTICLE FORMS

1924:10

1924:19

COMMENTS: In and out of thin cirrus. Cloud tops are about 500 ft (150M) above flight level. The C+P DIA (diameter) value for the ensuing 15 second record dropped to 43μm from 93μm (see Fig. 14c).

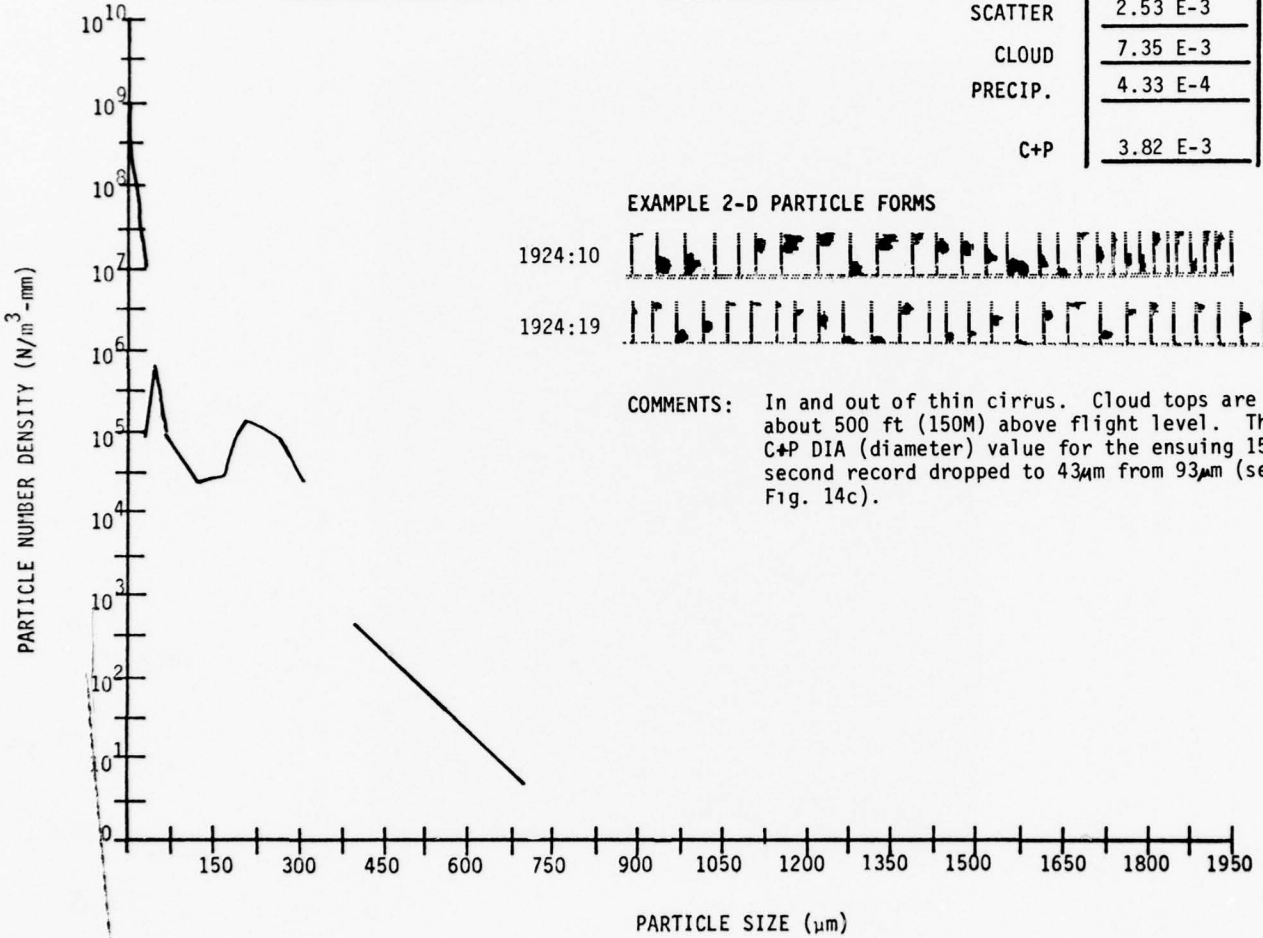


Figure 14b. Spectrometer Particle Data for Figure 14a

AFWL CIRRUS STUDY BY AFG.

FLIGHT E78-03 ON 26 FEB 78 15 SECOND AVERAGING
INTERVAL START *19:24:10*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						315.6
2	1.08E+09	26	5.95E+04	400	4.78E+02	
4	1.95E+08	47	6.01E+05	706	4.23E+00	ALT (KM)
6	1.41E+08	67	8.55E+04	1011	0.	8.820
8	1.11E+08	87	5.09E+04	1316	0.	
10	8.31E+07	108	3.46E+04	1622	0.	TEMP (C)
12	7.29E+07	128	2.06E+04	1927	0.	-36.1
14	3.98E+07	148	2.43E+04	2233	0.	
16	6.99E+07	169	2.50E+04	2538	0.	DEWP (C)
18	4.18E+07	189	7.02E+04	2843	0.	
20	2.19E+07	209	1.22E+05	3149	0.	
22	1.84E+07	230	1.08E+05	3454	0.	TAS (M/S)
24	1.46E+07	250	8.88E+04	3760	0.	124.1
26	1.36E+07	271	7.30E+04	4065	0.	
28	1.94E+07	291	3.71E+04	4370	0.	
30	8.26E+06	311	2.16E+04	4676	0.	
						TOTALS
LWC	2.53E-03		7.35E-03		4.33E-04	3.32E-03
MED D	21		107		178	93

INTERVAL START *19:24:25*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						315.3
2	7.81E+07	26	1.39E+05	400	1.17E+02	
4	4.28E+08	47	3.87E+06	706	3.18E+00	ALT (KM)
6	5.98E+08	67	5.93E+05	1011	0.	8.825
8	5.25E+08	87	3.23E+05	1316	0.	
10	4.08E+08	108	1.22E+05	1622	0.	TEMP (C)
12	3.53E+08	128	6.19E+04	1927	0.	-36.0
14	1.96E+08	148	3.46E+04	2233	0.	
16	3.04E+08	169	1.17E+04	2538	0.	DEWP (C)
18	2.51E+08	189	2.71E+04	2843	0.	
20	1.34E+08	209	1.97E+04	3149	0.	
22	1.07E+08	230	8.68E+03	3454	0.	TAS (M/S)
24	8.15E+07	250	1.21E+04	3760	0.	123.7
26	1.01E+08	271	2.44E+04	4065	0.	
28	8.64E+07	291	6.21E+03	4370	0.	
30	6.15E+07	311	3.63E+03	4676	0.	
						TOTALS
LWC	1.40E-02		4.38E-03		1.16E-04	3.65E-03
MED D	22		49		185	43

Figure 14c. Particle Size Distribution Averages for Two Consecutive 15-sec Intervals. The Upper One Corresponds to the Plotted Values on Figure 14b and the Photo in Figure 14a

6. EXAMPLES OF LONGER PERIOD PARTICLE DISTRIBUTIONS

The cloud particle data in Figures 7b and 7c through 14b and 14c are averages for 15-sec intervals during the sampling flight. In Figure 15 some examples are given of particle distributions averaged over longer periods, from 1 to 5-1/2 minutes. The time intervals selected were based on the length of time a given type of cloud was being sampled. That is, periods were sought when sampling was continuous through the same general kind of cloud conditions, for example, thin cirrus near the tops. The periods chosen were primarily based on review of the nose-camera color film and of the mission director's flight log.

It was desired to have data averages over even longer intervals than those in Figure 15, however, cirriform cloud conditions were quite variable on the day that sampling was performed. For this reason the sampling aircraft was almost continuously moving from one type of cloud to another, and was not in homogeneous cloud or non-cloud conditions for more than a few minutes at a time.

Several of the Figure 15 plots were made over time periods that encompass some of the shorter period examples shown in Figures 7 through 14. In these cases longer period particle distributions may be compared with those computed for 15-sec periods. For the examples in Figure 15 more detailed data listings of particle concentration as a function of particle size are given in Appendix A.

The specific type of cloud condition that the Figure 15 plots represent are given on each diagram. In general, the greatest particle concentrations were found in the various types of cirrostratus shown in Figures 15a, b, c, and d. The e diagram represents a time when the aircraft was flying in a nearly cloud-free "blue sky", however, even here small numbers of cloud- and precipitation-sized particles were recorded.

Figures 15f, g, and h represent thin or very thin cirrus situations as well as could be determined by the eye. The spectrometers indicated different particle distributions in each case. The f diagram differs from h in that it has a small maximum at about 200 μm. Additionally, the h figure indicates precipitation-sized particles as large as 700 μm which are not reflected in f. The Figure 15g differs from both f and h in having a significant peak in the distribution near 300 μm and a general decrease in concentration from that point as particles decrease in size.

The maximum in the concentration curves near 250 to 300 μm, that was mentioned in the previous section, is also apparent to some extent in most of the Figure 15 plots.

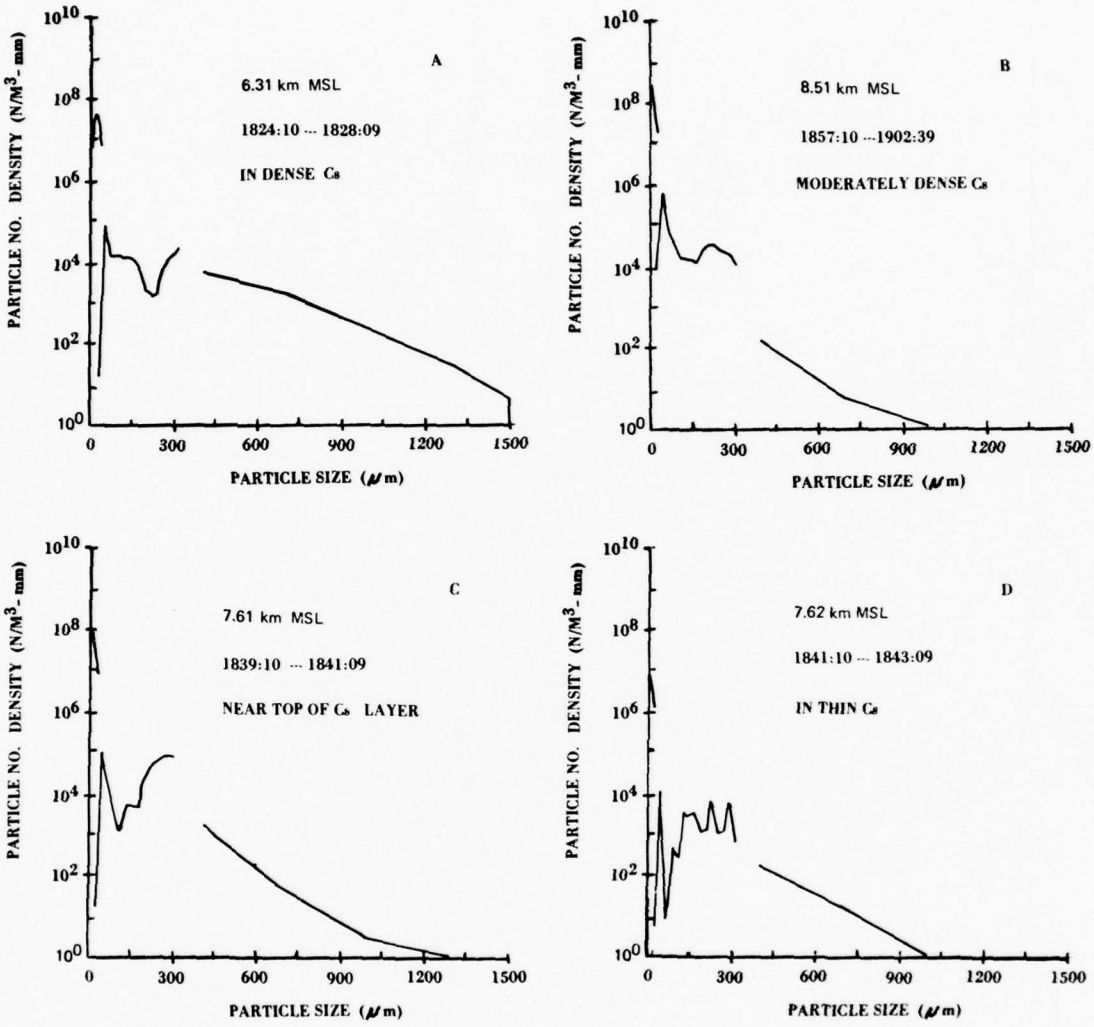


Figure 15. Particle Concentration as Function of Size for Different Cirriform Cloud Types Sampled on 26 February 1978. Data are averaged over the varying time intervals indicated

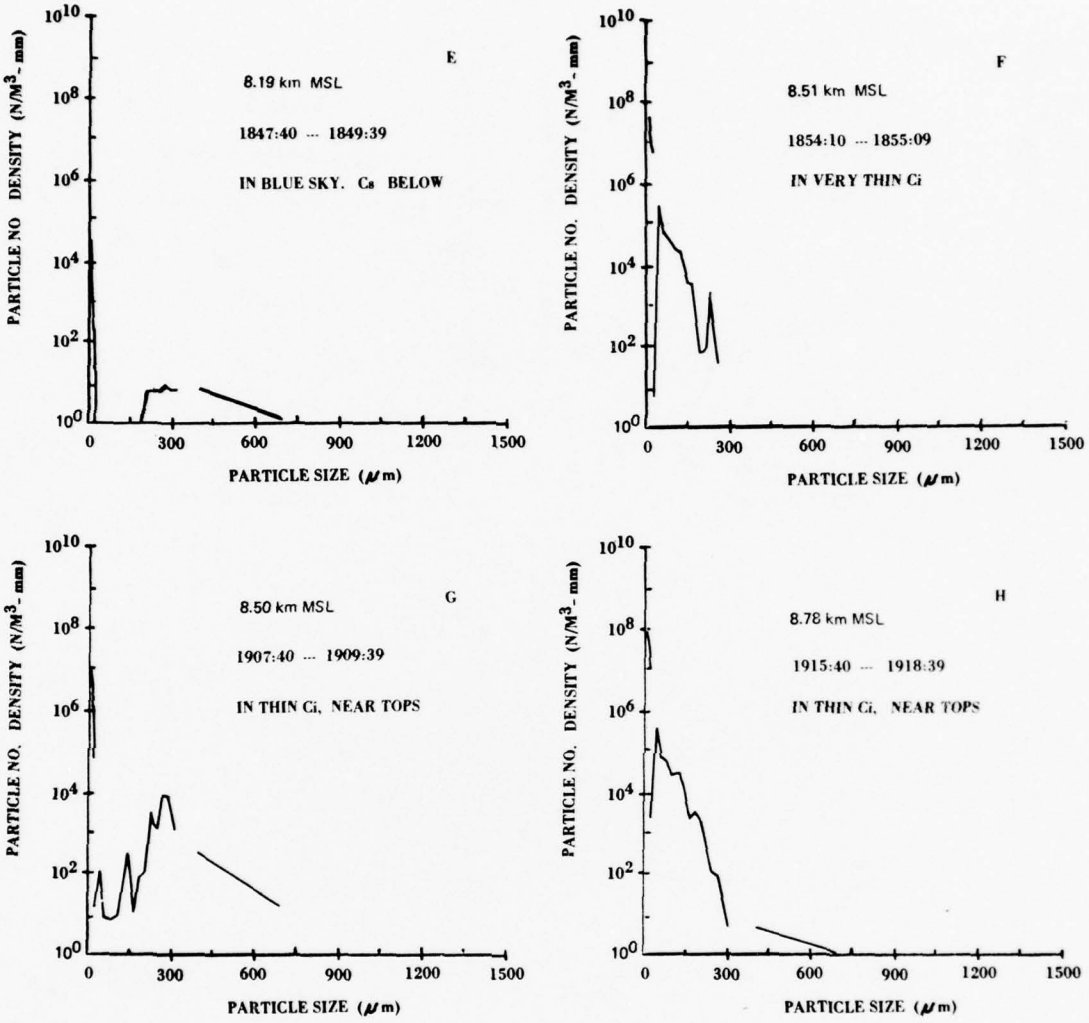


Figure 15. (Cont)

7. CONCLUDING COMMENTS

The MC-130E flight of 26 February 1978 in the Albuquerque, New Mexico area was successful in that a variety of cirrus types was available for sampling and the aircraft instrumentation, aside from the particle replicator and dew point equipment, was all operative.

Although our primary emphasis was on sampling relatively thin cirriform clouds, an extensive, more dense cirrostratus cloud layer was also sampled as the aircraft ascended to the cirrus above it. The data in this report, which were recorded during the approximately one and one-half hour flight at cirrus altitudes, will permit various comparisons of particle concentrations to be made between, for example, cirrostratus bases and tops or thicker uniform cirrostratus and fibrous cirrus.

There was a large variation in liquid water content during the flight as the aircraft passed in and out of cirriform clouds. For a short time before the aircraft ascended into the visible Cs cloud some particles as large as 1700 μ m were recorded. This was similar to the situation of rain falling to the ground from a cloud above while the surface visibility remains relatively good. The lower levels of the cirrostratus cloud had few particles in the 25 to 300 μ m range that are recorded by the PMS cloud probe. There was, however, a greater population of larger particles up to 2000 μ m in the cirrostratus.

In the cirrus clouds up to 29,000 ft (8.8 km) the highest concentration of particles was almost always in the smaller sizes measured by the scattering probe (2 - 30 μ m). This is in agreement with the results of Heymsfield[3] who studied 13 cirrus cases. With respect to mass or liquid water content, however, the scattering probe and cloud probe (26 - 311 μ m) measurements often resulted in approximately equal amounts with the cloud probe becoming dominant with denser clouds. The precipitation probe occasionally recorded a few particles as large as 1500 μ m, but liquid water computations from its measurements were usually half those of the cloud probe or less. Since the cirriform particle spectra frequently extended from 2 μ m or less to sizes in excess of 2 mm the use of all three spectrometer probes was justified on this mission.

Liquid water content measurements ranged from approximately 1×10^{-5} to 1×10^{-4} g m^{-3} in some of the thinner cirrus clouds, to 2 to 4 $\times 10^{-2}$ g m^{-3} in the base of cirrostratus and in the more dense cirrus. Past measurements in cirrus by Heymsfield and Knollenberg[5] and by Hobbs et al[6] have derived slightly higher values of LWC (or ice water content). Heymsfield and Knollenberg, however, studied primarily cirrus generating cells, and most of the measurements by Hobbs et al were made below 23,000 ft (7.0 km). According to a later study by Heymsfield[3], larger ice water content values are frequently encountered in the lowest portions of

cirrus clouds. This does not totally explain the difference in water content values in cirrus, but those reported here were determined in a manner that has previously permitted close correlations with radar derived reflectivity values (for example, Berthel[9] and Plank[10]).

Computer printouts of particle distributions as a function of size are provided in the two appendixes for the time sampling was being made at cirriform cloud altitudes.

---

9. Berthel, R.O. (1976) A Climatology of Selected Storms for Wallops Island, Virginia, 1971-1975. SAMS Report No. 4, ERP No. 563, AFGL-TR-76-0118.

10. Plank, V.G. (1977) Hydrometeor Data and Analytical-Theoretical Investigations Pertaining to the SAMS Rain Erosion Program of the 1972-73 Season at Wallops Island, Virginia, SAMS Report No. 5. ERP No. 603. AFGL-TR-77-0149.

References

1. Varley, D.J. (1978) Cirrus Particle Distribution Study, Part I, AFSG, No. 394, AFGL-TR-78-0192.

2. Knollenberg, R.G. (1973) Cirrus-contrail cloud spectra studies with the Sabreliner, Atmos. Tech. (by NCAR), No. 1:52-55.

3. Heymsfield, A. (1974) Ice crystal growth in deep cirrus systems. In Preprints of Conf. on Cloud Physics, Amer. Meteor. pp 311-316.

4. Heymsfield, A. (1975) Cirrus uncinus generating cells and the evolution of cirriform cloud. Part I: Aircraft observations of the growth of ice phase. J. Atmos. Sci. 32:799-808.

5. Heymsfield, A., and Knollenberg, R.G. (1972) Properties of cirrus generating cells, J. Atmos. Sci. 29:1358-1366.

6. Hobbs, P.V., Radke, L.F., and Atkinson, D.G. (1975) Airborne Measurements and Observations in Cirrus Clouds, AFCRL-TR-75-0249.

7. Ryan, R T., Blau, J.H., Jr., vonThuna, P.C., and Cohen, M.L. (1972) Cloud microstructure as determined by an optical cloud particle spectrometer, J. Appl. Meteor., 11:151-156.

8. Glass, M., and Varley, D.J. (1978) Observations of cirrus particle characteristics occurring with halos. In Preprints of Conference on Cloud Physics and Atmospheric Electricity, Amer. Meteor. Soc. pp 126-128. Also, AFGL-TR-78-0196.

9. Berthel, R.O. (1976) A Climatology of Selected Storms for Wallops Island, Virginia, 1971-1975. SAMS Report No. 4, ERP No. 563, AFGL-TR-76-0118.

10. Plank, V.G. (1977) Hydrometeor Data and Analytical-Theoretical Investigations Pertaining to the SAMS Rain Erosion Program of the 1972-73 Season at Wallops Island, Virginia. SAMS Report No. 5. ERP No. 603. AFGL-TR-77-0149.

Appendix A

Average Particle Distributions for Varying Time Periods

Particle concentration data are given in the following pages for some of the types of cirriform clouds that were sampled on 26 February 1978 in the Albuquerque area. The varying time periods over which the data are averaged were selected to be as long as possible while sampling a relatively homogeneous cloud type, for example, dense cirrostratus or thin cirrus. Each data listing (two per page) corresponds to one of the plots of data shown in Figure 15 in the text. The specific one is indicated near each listing.

Average particle distribution (No. /m^3--mm) for the 240-sec period beginning at 1824:10Z. Data correspond to Figure 15A in text. In dense cirrostratus.

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						451.8
2	4.99E+06	26	1.01E+04	400	6.22E+03	
4	1.20E+07	47	9.39E+04	706	1.86E+03	ALT (KM)
6	1.67E+07	67	1.86E+04	1011	2.94E+02	6.315
8	2.80E+07	87	1.78E+04	1316	4.90E+01	
10	4.40E+07	108	1.56E+04	1622	7.86E+00	TEMP (C)
12	4.66E+07	128	1.55E+04	1927	3.62E+00	-22.3
14	3.74E+07	148	1.27E+04	2233	1.42E+00	
16	3.53E+07	169	6.74E+03	2538	1.09E-01	FROSTPOINT
18	2.78E+07	189	6.13E+03	2843	1.17E-01	
20	1.74E+07	209	4.82E+03	3149	0.	
22	1.59E+07	230	5.17E+03	3454	0.	TAS (M/S)
24	1.19E+07	250	8.66E+03	3760	0.	107.0
26	1.02E+07	271	1.52E+04	4065	0.	
28	9.03E+06	291	2.07E+04	4370	0.	
30	7.23E+06	311	2.52E+04	4676	0.	
						TOTALS
LWC	1.67E-03		1.91E-03		2.09E-02	2.12E-02
MED D	22		126		319	316

Average particle distribution (No. /m^3--mm) for the 330-sec period beginning at 1857:10Z. Data correspond to Figure 15B in text. In moderately dense cirrostratus

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						330.3
2	2.18E+08	23	6.06E+04	350	3.16E+02	
4	3.88E+08	43	8.07E+05	647	1.20E+01	ALT (KM)
6	5.78E+08	62	7.76E+04	944	3.46E-01	8.510
8	4.88E+08	82	5.11E+04	1241	0.	
10	3.56E+08	102	2.26E+04	1538	0.	TEMP (C)
12	2.77E+08	122	2.67E+04	1835	0.	-36.8
14	1.64E+08	142	2.75E+04	2132	0.	
16	2.01E+08	161	2.46E+04	2429	0.	FROSTPOINT
18	1.42E+08	181	4.58E+04	2726	0.	
20	6.67E+07	201	4.93E+04	3023	0.	
22	5.83E+07	221	4.19E+04	3320	0.	TAS (M/S)
24	3.63E+07	241	2.99E+04	3617	0.	123.5
26	3.52E+07	260	2.79E+04	3914	0.	
28	2.93E+07	280	2.21E+04	4211	0.	
30	1.88E+07	300	1.38E+04	4508	0.	
						TOTALS
LWC	8.99E-03		3.77E-03		3.34E-04	2.36E-03
MED D	19		72		212	69

Average particle distribution (No. /m^3--mm) for the 120-sec period beginning at 1839:10Z. Data correspond to Figure 15C in text. Near top of cirrostratus layer.

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						376.6
2	7.83E+07	26	1.86E+04	400	2.25E+03	
4	1.25E+08	47	1.24E+05	706	1.01E+02	ALT (KM)
6	1.12E+08	67	2.05E+04	1011	4.16E+00	7.607
8	8.43E+07	87	8.18E+03	1316	1.56E-01	
10	7.25E+07	108	1.06E+04	1622	0.	TEMP (C)
12	5.49E+07	128	6.51E+03	1927	0.	-29.7
14	3.65E+07	148	5.38E+03	2233	0.	
16	3.98E+07	169	4.98E+03	2538	0.	FROSTPOINT
18	2.92E+07	189	1.63E+04	2843	0.	
20	1.90E+07	209	3.37E+04	3149	0.	
22	1.37E+07	230	6.09E+04	3454	0.	TAS (M/S)
24	1.28E+07	250	7.50E+04	3750	0.	116.6
26	1.22E+07	271	9.70E+04	4055	0.	
28	1.03E+07	291	9.82E+04	4370	0.	
30	8.75E+06	311	8.74E+04	4676	0.	
						TOTALS
LWC	1.92E-03		8.55E-03		2.48E-03	3.70E-03
MED D	22		124		194	152

Average particle distribution (No. /m^3--mm) for the 330-sec period beginning at 1841:10Z. Data correspond to Figure 15D in text. In thin cirrostratus.

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						375.9
2	6.13E+08	26	0.	400	2.70E+02	
4	2.70E+07	47	1.24E+04	706	2.88E+01	ALT (KM)
6	2.03E+07	67	1.16E+03	1011	1.52E-01	7.620
8	1.62E+07	87	3.47E+03	1316	1.59E-01	
10	1.31E+07	108	1.42E+03	1622	0.	TEMP (C)
12	1.10E+07	128	4.18E+03	1927	0.	-30.2
14	6.75E+06	148	4.70E+03	2233	0.	
16	6.89E+06	169	5.69E+03	2538	0.	FROSTPOINT
18	6.69E+06	189	1.45E+04	2843	0.	
20	3.51E+06	209	1.78E+04	3149	0.	
22	3.31E+06	230	1.60E+04	3454	0.	TAS (M/S)
24	2.26E+06	250	1.08E+04	3750	0.	114.5
26	2.33E+06	271	1.07E+04	4055	0.	
28	2.25E+06	291	8.43E+03	4370	0.	
30	1.59E+06	311	4.93E+03	4676	0.	
						TOTALS
LWC	3.88E-04		1.15E-03		3.77E-04	8.66E-04
MED D	21		110		216	102

Average particle distribution (No. /m^3--mm) for the 120-sec period beginning at 1847:40Z. Data correspond to Figure 15E in text. In blue sky with cirrostratus below.

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 346.8
2	1.49E+09	26	0.	400	9.03E+00	
4	1.28E+06	47	0.	706	2.80E-01	ALT (KM)
6	4.48E+05	67	0.	1011	0.	8.194
8	5.10E+05	87	0.	1316	0.	
10	5.73E+05	108	0.	1622	0.	TEMP (C)
12	5.06E+05	128	0.	1927	0.	-32.2
14	2.54E+05	148	0.	2233	0.	
16	1.27E+05	169	0.	2538	0.	FROSTPOINT
18	6.81E+04	189	0.	2843	0	
20	0.	209	0.	3149	0.	
22	0.	230	2.81E+02	3454	0.	TAS (M/S)
24	1.91E+05	250	3.12E+02	3760	0.	117.8
26	0.	271	7.01E+02	4065	0.	
28	0.	291	4.01E+02	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	1.89E-05		2.89E-05		9.14E-06	1.22E-05
MED D	2		119		186	168

Average particle distribution (No. /m^3--mm) for the 60-sec period beginning at 1854:10Z. Data correspond to Figure 15F in text. In very thin cirrus.

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 330.1
2	7.54E+08	26	0.	400	1.03E+00	
4	1.53E+08	47	4.04E+05	706	0.	ALT (KM)
6	2.12E+08	67	6.54E+04	1011	0.	8.515
8	1.92E+08	87	4.54E+04	1316	0.	
10	1.49E+08	108	2.92E+04	1622	0.	TEMP (C)
12	1.12E+08	128	2.29E+04	1927	0.	-33.8
14	7.55E+07	148	7.73E+03	2233	0.	
16	9.68E+07	169	5.52E+03	2538	0.	FRCSTPOINT
18	5.87E+07	189	2.75E+03	2843	0.	
20	2.74E+07	209	3.51E+03	3149	0.	
22	1.74E+07	230	3.30E+03	3454	0.	TAS (M/S)
24	1.23E+07	250	6.13E+02	3760	0.	122.1
26	1.06E+07	271	0.	4065	0.	
28	9.63E+06	291	0.	4370	0.	
30	6.91E+06	311	0.	4676	0.	
						TOTALS
LWC	2.70E-03		5.54E-04		8.89E-07	5.46E-04
MED D	18		54		175	94

Average particle distribution (No. /m^3--mm) for the 120-sec period beginning at 1907:40Z. Data correspond to Figure 15G in text. In thin cirrus, near tops.

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						338.6
2	2.09E+09	26	1.78E+04	400	4.95E+02	
4	4.32E+07	47	9.12E+03	706	2.17E+01	ALT (KM)
6	2.41E+07	67	1.08E+03	1011	0.	8.504
8	1.75E+07	87	6.47E+02	1316	0.	
10	1.46E+07	108	1.35E+03	1622	0.	TEMP (C)
12	9.46E+06	128	1.66E+03	1927	0.	-33.5
14	6.60E+06	148	4.18E+03	2233	0.	
16	8.20E+06	169	8.04E+03	2538	0.	FROSTPOINT
18	5.74E+06	189	7.47E+03	2843	0.	
20	3.77E+06	209	8.63E+03	3149	0.	
22	3.14E+06	230	1.03E+04	3454	0.	TAS (M/S)
24	2.10E+06	250	1.04E+04	3760	0.	122.5
26	2.34E+06	271	1.30E+04	4065	0.	
28	1.85E+06	291	1.17E+04	4370	0.	
30	1.54E+06	311	1.04E+04	4676	0.	
						TOTALS
LWC	3.83E-04		1.20E-03		5.31E-04	8.11E-04
MED D	21		120		191	147

Average particle distribution (No. /m^3--mm) for the 180-sec period beginning at 1915:40Z. Data correspond to Figure 15H in text. In thin cirrus, near tops.

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB)
						317.5
2	1.24E+09	26	7.66E+04	400	3.52E+01	
4	2.17E+08	47	6.17E+05	706	5.44E-01	ALT (KM)
6	2.00E+08	67	8.42E+04	1011	0.	8.779
8	1.78E+08	87	8.14E+04	1316	0.	
10	1.37E+08	108	4.15E+04	1622	0.	TEMP (C)
12	1.11E+08	128	4.14E+04	1927	0.	-35.4
14	6.91E+07	148	2.32E+04	2233	0.	
16	9.70E+07	169	1.28E+04	2538	0.	FROSTPOINT
18	7.57E+07	189	2.13E+04	2843	0.	
20	3.77E+07	209	1.51E+04	3149	0.	
22	2.63E+07	230	1.29E+04	3454	0.	TAS (M/S)
24	2.39E+07	250	9.04E+03	3760	0.	122.4
26	2.04E+07	271	8.33E+03	4065	0.	
28	1.91E+07	291	4.23E+03	4370	0.	
30	1.28E+07	311	1.85E+03	4676	0.	
						TOTALS
LWC	3.72E-03		1.62E-03		3.30E-05	1.24E-03
MED D	20		81		181	67

Appendix B

Average Particle Distributions for 30-Second Periods

The following pages provide cloud particle concentration data as a function of particle size for the time on 26 February 1978 when the sampling aircraft was between approximately 16,000 ft (4.9 km) and 29,000 ft (8.8 km) MSL. Varying amounts of cirrostratus were sampled up to about 26,000 ft (7.9 km). Above that the aircraft was primarily in and out of cirrus clouds. There was no extensive cloudiness above 29,000 ft MSL.

The printouts consist of data averages for consecutive 30-sec periods during the flight. For description of the printout format see the first AFGL study in this series by Varley.[1]

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 7c 30 SECOND AVERAGING

INTERVAL START *181201110*

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

TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						545.2
2	2.49E+06	26	0.	398	0.	
4	0.	49	0.	743	5.40E-01	ALT (KM)
6	0.	72	0.	1088	0.	4.929
8	0.	95	0.	1433	0.	
10	0.	118	0.	1778	0.	TEMP (C)
12	2.82E+05	141	0.	2123	0.	-12.1
14	0.	164	0.	2468	0.	
16	0.	187	0.	2813	0.	FROSTPOINT
18	0.	210	0.	3158	0.	
20	0.	233	0.	3503	0.	
22	0.	256	0.	3848	0.	TAS (M/S)
24	0.	279	0.	4193	0.	109.0
26	0.	302	0.	4538	0.	
28	0.	325	0.	4883	0.	
30	0.	348	0.	5228	0.	
						TOTALS
LWC	5.32E-07		0.		2.73E-06	2.73E-06
MED D	11		0		303	303

INTERVAL START *181201140*

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

TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						553.4
2	4.53E+06	26	0.	398	1.14E+01	
4	0.	49	0.	743	1.85E+01	ALT (KM)
6	0.	72	0.	1088	2.28E+00	5.092
8	0.	95	0.	1433	6.05E-01	
10	0.	118	0.	1778	0.	TEMP (C)
12	0.	141	0.	2123	0.	-13.2
14	0.	164	0.	2468	0.	
16	0.	187	0.	2813	0.	FROSTPOINT
18	2.83E+05	210	0.	3158	0.	
20	0.	233	0.	3503	0.	
22	0.	256	0.	3848	0.	TAS (M/S)
24	0.	279	0.	4193	0.	108.8
26	0.	302	0.	4538	0.	
28	0.	325	0.	4883	0.	
30	0.	348	0.	5228	0.	
						TOTALS
LWC	1.77E-06		0.		1.45E-04	1.45E-04
MED D	17		0		314	314

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 7c 30 SECOND AVERAGING

INTERVAL START *181211110*

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

TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						526.3
2	1.95E+06	26	0.	398	7.01E+01	
4	1.39E+06	49	0.	743	7.98E+01	ALT (KM)
6	1.11E+06	72	0.	1088	1.35E+01	5.193
8	8.31E+05	95	0.	1433	1.77E+00	
10	2.77E+05	118	1.74E+03	1778	0.	TEMP (C)
12	5.55E+05	141	0.	2123	0.	-13.9
14	0.	164	0.	2468	0.	
16	2.76E+05	187	8.36E+02	2813	0.	FROSTPOINT
18	5.53E+05	210	0.	3158	0.	
20	0.	233	0.	3503	0.	
22	2.75E+05	256	0.	3848	0.	TAS (M/S)
24	2.80E+05	279	0.	4193	0.	109.0
26	0.	302	0.	4538	0.	
28	2.75E+05	325	0.	4883	0.	
30	0.	348	0.	5228	0.	
						TOTALS
LWC	2.01E-05		2.10E-05		7.43E-04	7.64E-04
MED D	93		104		321	319

INTERVAL START *181211140*

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

TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						517.6
2	3.06E+06	26	0.	398	3.54E+02	
4	7.25E+06	49	9.22E+03	743	2.45E+02	ALT (KM)
6	6.14E+06	72	0.	1088	5.16E+01	5.316
8	5.02E+06	95	0.	1433	7.11E+00	
10	4.18E+06	118	0.	1778	0.	TEMP (C)
12	2.78E+06	141	1.30E+03	2123	0.	-14.0
14	3.06E+06	164	1.02E+03	2468	0.	
16	2.79E+06	187	0.	2813	0.	FROSTPOINT
18	2.50E+06	210	9.17E+02	3158	0.	
20	5.58E+05	233	0.	3503	0.	
22	8.35E+05	256	0.	3848	0.	TAS (M/S)
24	1.67E+06	279	0.	4193	0.	108.4
26	8.35E+05	302	0.	4538	0.	
28	8.36E+05	325	0.	4883	0.	
30	5.58E+05	349	0.	5228	0.	
						TOTALS
LWC	1.39E-04		4.61E-05		2.41E-03	2.46E-03
MED D	23		98		312	310

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *18:22:10*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						510.4
2	1.10E+06	26	0.	398	9.05E+02	
4	3.59E+06	49	0.	743	3.88E+02	ALT (KM)
6	3.86E+06	72	4.31E+03	1088	4.84E+01	5.421
8	7.59E+06	95	0.	1433	8.20E+00	
10	4.14E+06	118	1.74E+03	1778	1.86E+00	TEMP (C)
12	5.52E+06	141	0.	2123	0.	-15.7
14	4.96E+06	164	0.	2468	0.	
16	4.56E+06	187	1.88E+03	2813	0.	FROSTPOINT
18	3.31E+06	210	9.06E+02	3158	0.	
20	2.20E+06	233	0.	3503	0.	
22	2.48E+06	256	0.	3848	0.	TAS (M/S)
24	1.10E+06	279	0.	4193	0.	109.5
26	5.50E+05	302	2.71E+03	4538	0.	
28	1.65E+06	325	3.10E+03	4883	0.	
30	1.10E+06	348	1.81E+03	5228	0.	
						TOTALS
LWC	2.17E-04		4.75E-04		3.91E-03	3.97E-03
MED D	22		164		291	290

INTERVAL START *18:22:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						502.2
2	8.19E+05	26	0.	400	9.18E+02	
4	2.46E+06	47	0.	706	4.03E+02	ALT (KM)
6	3.28E+06	67	4.24E+03	1011	1.06E+02	5.540
8	4.67E+06	87	0.	1316	2.05E+01	
10	7.13E+06	108	3.70E+03	1622	1.84E+00	TEMP (C)
12	4.66E+06	128	0.	1927	1.94E+00	-16.7
14	4.65E+06	148	0.	2233	0.	
16	3.56E+06	169	0.	2538	0.	FROSTPOINT
18	6.07E+06	189	0.	2843	0.	
20	5.58E+05	209	0.	3149	0.	
22	1.36E+06	230	1.08E+03	3454	0.	TAS (M/S)
24	1.92E+06	250	2.74E+03	3760	0.	110.1
26	2.74E+06	271	0.	4065	0.	
28	5.53E+05	291	8.39E+03	4370	0.	
30	8.18E+05	311	5.62E+03	4676	0.	
						TOTALS
LWC	2.19E-04		6.76E-04		4.94E-03	4.99E-03
MED D	23		139		317	317

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *18:23:10*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						492.0
2	1.68E+06	26	0.	400	1.70E+03	
4	4.23E+06	47	4.22E+04	706	5.92E+02	ALT (KM)
6	6.21E+06	67	0.	1011	1.37E+02	5.690
8	1.10E+07	87	2.96E+03	1316	2.10E+01	
10	1.55E+07	108	2.02E+03	1622	7.87E+00	TEMP (C)
12	1.10E+07	128	3.00E+03	1927	1.53E+00	-18.1
14	9.29E+06	148	3.52E+03	2233	0.	
16	8.20E+06	169	2.88E+03	2538	0.	FROSTPOINT
18	9.28E+06	189	2.09E+03	2843	0.	
20	8.19E+06	209	2.27E+03	3149	0.	
22	5.35E+06	230	7.51E+03	3454	0.	TAS (M/S)
24	4.78E+06	250	5.51E+03	3760	0.	107.1
26	3.66E+06	271	4.71E+03	4065	0.	
28	2.54E+06	291	8.99E+03	4370	0.	
30	1.13E+06	311	6.27E+03	4676	0.	
						TOTALS
LWC	4.93E-04		7.07E-04		7.42E-03	7.60E-03
MED D	22		123		349	345

INTERVAL START *18:23:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						485.2
2	2.22E+06	26	0.	400	2.74E+03	
4	5.26E+06	47	4.15E+04	706	8.59E+02	ALT (KM)
6	6.37E+06	67	1.47E+04	1011	1.68E+02	5.794
8	1.22E+07	87	2.92E+03	1316	3.86E+01	
10	1.91E+07	108	5.94E+03	1622	4.23E+00	TEMP (C)
12	1.20E+07	128	1.46E+03	1927	4.47E+00	-18.9
14	1.14E+07	148	1.16E+03	2233	2.37E+00	
16	1.39E+07	169	0.	2538	0.	FROSTPOINT
18	8.32E+06	189	2.06E+03	2843	0.	
20	8.59E+06	209	3.35E+03	3149	0.	
22	6.10E+06	230	3.69E+03	3454	0.	TAS (M/S)
24	6.37E+06	250	5.47E+03	3760	0.	109.0
26	4.43E+06	271	1.54E+04	4065	0.	
28	1.95E+06	291	1.58E+04	4370	0.	
30	4.15E+06	311	1.44E+04	4676	0.	
						TOTALS
LWC	6.80E-04		1.23E-03		1.10E-02	1.11E-02
MED D	27		126		345	343

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *18124110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						473.8
2	3.74E+06	26	0.	400	4.23E+03	
4	7.75E+06	47	8.60E+04	706	1.86E+03	ALT (KM)
6	1.06E+07	67	1.01E+04	1011	3.49E+02	5.967
8	1.61E+07	87	1.21E+04	1316	6.67E+01	
10	2.32E+07	108	8.20E+03	1622	1.16E+01	TEMP (C)
12	3.01E+07	128	1.21E+04	1927	4.60E+00	-20.1
14	2.24E+07	149	1.43E+04	2233	1.64E+00	
16	2.52E+07	169	2.94E+03	2538	8.73E-01	FRCSTPOINT
18	1.92E+07	189	0.	2843	0.	
20	1.38E+07	209	0.	3149	0.	
22	1.66E+07	230	2.55E+03	3454	0.	TAS (M/S)
24	8.88E+06	250	2.82E+03	3760	0.	105.3
26	7.74E+06	271	7.89E+03	4065	0.	
28	4.58E+06	291	7.23E+03	4370	0.	
30	7.18E+06	311	1.27E+04	4676	0.	
						TOTALS
LWC	1.26E-03		8.96E-04		2.09E-02	2.11E-02
MED D	27		126		345	344

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *18125110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						459.5
2	3.98E+06	26	0.	400	5.50E+03	
4	1.28E+07	47	6.42E+04	706	2.35E+03	ALT (KM)
6	1.59E+07	67	1.01E+04	1011	4.78E+02	6.189
8	2.27E+07	87	2.40E+04	1316	9.50E+01	
10	4.30E+07	108	8.12E+03	1622	1.73E+01	TEMP (C)
12	4.52E+07	128	1.36E+04	1927	1.22E+01	-21.9
14	3.62E+07	149	7.11E+03	2233	4.85E+00	
16	2.93E+07	169	3.89E+03	2538	0.	FRCSTPOINT
18	2.71E+07	189	2.09E+03	2843	0.	
20	1.37E+07	209	3.46E+03	3149	0.	
22	1.48E+07	230	3.79E+03	3454	0.	TAS (M/S)
24	1.14E+07	250	5.60E+03	3760	0.	106.8
26	7.98E+06	271	3.15E+03	4065	0.	
28	8.27E+06	291	5.43E+03	4370	0.	
30	6.84E+06	311	2.32E+04	4676	0.	
						TOTALS
LWC	1.51E-03		1.14E-03		2.84E-02	2.86E-02
MED D	29		132		355	354

INTERVAL START *18124140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						466.6
2	5.97E+06	26	0.	400	5.05E+03	
4	9.68E+06	47	9.62E+04	706	2.18E+03	ALT (KM)
6	1.31E+07	67	1.01E+04	1011	4.61E+02	6.078
8	2.25E+07	87	1.50E+04	1316	9.51E+01	
10	3.27E+07	108	1.42E+04	1622	1.95E+01	TEMP (C)
12	3.53E+07	128	1.08E+04	1927	5.08E+00	-21.0
14	3.22E+07	149	1.30E+04	2233	0.	
16	3.28E+07	169	3.90E+03	2538	0.	FRCSTPOINT
18	2.34E+07	189	9.49E+03	2843	9.33E-01	
20	1.34E+07	209	2.30E+03	3149	0.	
22	1.54E+07	230	0.	3454	0.	TAS (M/S)
24	1.20E+07	250	1.40E+03	3760	0.	106.1
26	6.55E+06	271	9.50E+03	4065	0.	
28	5.41E+06	291	1.26E+04	4370	0.	
30	4.84E+06	311	2.53E+04	4676	0.	
						TOTALS
LWC	1.33E-03		1.43E-03		2.57E-02	2.60E-02
MED D	21		131		352	350

INTERVAL START *18125140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						452.6
2	2.57E+06	26	4.09E+04	400	5.56E+03	
4	1.69E+07	47	8.62E+04	706	2.20E+03	ALT (KM)
6	1.63E+07	67	3.02E+04	1011	3.96E+02	6.300
8	2.55E+07	87	1.51E+04	1316	6.20E+01	
10	3.56E+07	108	1.84E+04	1622	1.02E+01	TEMP (C)
12	4.07E+07	128	1.52E+04	1927	6.15E+00	-22.5
14	3.55E+07	149	7.16E+03	2233	3.27E+00	
16	3.21E+07	169	5.08E+03	2538	0.	FRCSTPOINT
18	2.52E+07	189	9.56E+03	2843	0.	
20	1.79E+07	209	2.33E+03	3149	0.	
22	1.23E+07	230	1.02E+04	3454	0.	TAS (M/S)
24	1.00E+07	250	7.12E+03	3760	0.	105.3
26	9.45E+06	271	1.27E+04	4065	0.	
28	6.31E+06	291	1.46E+04	4370	0.	
30	7.46E+06	311	1.27E+04	4676	0.	
						TOTALS
LWC	1.49E-03		1.41E-03		2.43E-02	2.47E-02
MED D	22		121		336	334

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *18126110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						448.7
2	6.39E+06	26	0.	400	6.68E+03	
4	1.25E+07	47	9.40E+04	706	2.12E+03	ALT (KM)
6	1.53E+07	67	2.94E+04	1011	2.97E+02	6.361
8	2.81E+07	87	1.17E+04	1316	4.74E+01	
10	4.14E+07	108	2.18E+04	1622	2.83E+00	TEMP (C)
12	4.17E+07	128	1.76E+04	1927	2.25E+00	-22.8
14	3.92E+07	148	9.24E+03	2233	7.34E-01	
16	3.28E+07	169	7.63E+03	2538	0.	FRCSTPOINT
18	2.56E+07	189	6.18E+03	2843	0.	
20	1.75E+07	209	2.25E+03	3149	0.	
22	2.11E+07	230	3.71E+03	3454	0.	TAS (M/S)
24	1.11E+07	250	1.38E+04	3760	0.	108.6
26	9.46E+06	271	1.24E+04	4065	0.	
28	1.08E+07	291	2.29E+04	4370	0.	
30	6.96E+06	311	2.26E+04	4676	0.	
						TOTALS
LWC	1.71E-03		1.89E-03		2.19E-02	2.22E-02
MED D	27		126		311	309

INTERVAL START *18126140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						442.3
2	5.86E+06	26	3.97E+04	400	8.09E+03	
4	1.62E+07	47	8.39E+04	706	1.85E+03	ALT (KM)
6	2.15E+07	67	3.93E+04	1011	2.18E+02	6.465
8	3.89E+07	87	1.17E+04	1316	1.68E+01	
10	5.70E+07	108	1.80E+04	1622	1.42E+00	TEMP (C)
12	6.51E+07	128	2.36E+04	1927	7.91E-01	-23.1
14	4.56E+07	148	1.98E+04	2233	6.00E-01	
16	4.84E+07	169	9.58E+03	2538	0.	FRCSTPOINT
18	3.83E+07	189	1.04E+04	2843	0.	
20	1.93E+07	209	7.91E+03	3149	0.	
22	1.59E+07	230	7.47E+03	3454	0.	TAS (M/S)
24	1.54E+07	250	8.28E+03	3760	0.	108.1
26	1.29E+07	271	2.64E+04	4065	0.	
28	1.54E+07	291	4.26E+04	4370	0.	
30	8.11E+06	311	3.32E+04	4676	0.	
						TOTALS
LWC	2.16E-03		2.97E-03		1.96E-02	2.01E-02
MED D	27		126		289	281

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *18127110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						437.2
2	6.71E+06	26	0.	400	7.97E+03	
4	1.48E+07	47	1.16E+05	706	1.55E+03	ALT (KM)
6	2.35E+07	67	1.48E+04	1011	1.12E+02	6.549
8	3.75E+07	87	2.35E+04	1316	7.39E+00	
10	6.38E+07	108	2.80E+04	1622	0.	TEMP (C)
12	5.59E+07	128	1.92E+04	1927	0.	-23.4
14	4.56E+07	148	1.51E+04	2233	0.	
16	3.89E+07	169	1.25E+04	2538	0.	FRCSTPOINT
18	3.44E+07	189	5.18E+03	2843	0.	
20	2.01E+07	209	1.13E+04	3149	0.	
22	1.51E+07	230	7.46E+03	3454	0.	TAS (M/S)
24	1.45E+07	250	1.66E+04	3760	0.	108.0
26	1.40E+07	271	2.79E+04	4065	0.	
28	1.26E+07	291	2.48E+04	4370	0.	
30	8.95E+06	311	3.73E+04	4676	0.	
						TOTALS
LWC	2.05E-03		2.83E-03		1.60E-02	1.66E-02
MED D	29		125		262	257

INTERVAL START *18127140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						433.6
2	4.73E+06	26	0.	400	6.70E+03	
4	1.22E+07	47	1.25E+05	706	7.72E+02	ALT (KM)
6	1.75E+07	67	4.92E+03	1011	4.31E+01	6.609
8	3.20E+07	87	2.92E+04	1316	1.33E+00	
10	5.56E+07	108	7.95E+03	1622	0.	TEMP (C)
12	5.04E+07	128	1.18E+04	1927	0.	-23.3
14	4.23E+07	148	1.62E+04	2233	0.	
16	4.28E+07	169	7.63E+03	2538	0.	FRCSTPOINT
18	2.89E+07	189	6.18E+03	2843	0.	
20	2.36E+07	209	8.99E+03	3149	0.	
22	1.56E+07	230	6.19E+03	3454	0.	TAS (M/S)
24	1.20E+07	250	1.37E+04	3760	0.	108.6
26	1.34E+07	271	2.16E+04	4065	0.	
28	8.98E+06	291	3.53E+04	4370	0.	
30	7.51E+06	311	3.50E+04	4676	0.	
						TOTALS
LWC	1.68E-03		2.74E-03		1.01E-02	1.05E-02
MED D	21		127		225	220

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *18128110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						432.2
2	5.17E+06	26	0.	400	5.08E+03	
4	1.11E+07	47	8.19E+04	706	4.12E+02	ALT (KM)
6	1.75E+07	67	1.45E+04	1011	1.81E+01	6.631
8	3.18E+07	87	3.14E+04	1316	1.98E+00	
10	5.28E+07	108	5.91E+03	1622	0.	TEMP (C)
12	5.38E+07	128	1.44E+04	1927	0.	-22.8
14	4.69E+07	148	9.01E+03	2233	0.	
16	3.21E+07	169	9.21E+03	2538	0.	FROSTPOINT
18	2.96E+07	189	6.93E+03	2843	0.	
20	1.68E+07	209	1.53E+04	3149	0.	
22	1.60E+07	230	2.53E+04	3454	0.	TAS (M/S)
24	1.58E+07	250	3.47E+04	3760	0.	111.3
26	1.31E+07	271	6.17E+04	4065	0.	
28	1.11E+07	291	5.14E+04	4370	0.	
30	7.35E+06	311	7.64E+04	4676	0.	
						TOTALS
LWC	1.88E-03		5.48E-03		6.65E-03	7.33E-03
MED D	22		126		209	199

INTERVAL START *18128140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						429.7
2	2.09E+06	26	0.	400	4.96E+02	
4	7.07E+06	47	1.28E+05	706	1.09E+01	ALT (KM)
6	1.42E+07	67	1.39E+04	1011	6.07E-01	6.672
8	2.17E+07	87	5.50E+03	1316	0.	
10	3.33E+07	108	7.45E+03	1622	0.	TEMP (C)
12	2.49E+07	128	1.24E+04	1927	0.	-22.6
14	1.83E+07	148	1.52E+04	2233	0.	
16	1.62E+07	169	2.24E+04	2538	0.	FROSTPOINT
18	1.65E+07	189	4.26E+04	2843	0.	
20	8.11E+06	209	8.02E+04	3149	0.	
22	6.82E+06	230	7.09E+04	3454	0.	TAS (M/S)
24	7.26E+06	250	4.90E+04	3760	0.	115.7
26	3.65E+06	271	4.82E+04	4065	0.	
28	4.97E+06	291	2.84E+04	4370	0.	
30	3.91E+06	311	1.35E+04	4676	0.	
						TOTALS
LWC	8.68E-04		4.56E-03		4.89E-04	2.50E-03
MED D	22		108		184	98

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *18129110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						424.4
2	1.35E+06	26	0.	400	2.09E+02	
4	7.43E+06	47	4.01E+04	706	3.47E+00	ALT (KM)
6	8.80E+06	67	1.89E+04	1011	0.	6.763
8	1.71E+07	87	1.36E+04	1316	0.	
10	2.49E+07	108	7.67E+03	1622	0.	TEMP (C)
12	2.15E+07	128	1.82E+04	1927	0.	-23.2
14	1.65E+07	148	4.19E+04	2233	0.	
16	1.41E+07	169	3.39E+04	2538	0.	FROSTPOINT
18	1.43E+07	189	4.65E+04	2843	0.	
20	7.13E+06	209	5.79E+04	3149	0.	
22	5.56E+06	230	6.59E+04	3454	0.	TAS (M/S)
24	5.06E+06	250	3.15E+04	3760	0.	114.8
26	5.58E+06	271	2.07E+04	4065	0.	
28	5.58E+06	291	1.33E+04	4370	0.	
30	6.10E+06	311	1.97E+04	4676	0.	
						TOTALS
LWC	8.70E-04		3.60E-03		1.97E-04	2.16E-03
MED D	24		103		141	93

INTERVAL START *18129140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						410.1
2	5.42E+05	26	0.	400	3.43E+02	
4	5.64E+06	47	4.03E+04	706	1.16E+01	ALT (KM)
6	1.32E+07	67	9.41E+03	1011	0.	6.868
8	2.25E+07	87	1.69E+04	1316	0.	
10	2.74E+07	108	1.72E+04	1622	0.	TEMP (C)
12	2.28E+07	128	3.41E+04	1927	0.	-24.2
14	1.31E+07	148	4.92E+04	2233	0.	
16	2.09E+07	169	3.50E+04	2538	0.	FROSTPOINT
18	1.56E+07	189	5.18E+04	2843	0.	
20	9.67E+06	209	5.21E+04	3149	0.	
22	3.76E+06	230	4.18E+04	3454	0.	TAS (M/S)
24	2.68E+06	250	4.39E+04	3760	0.	112.4
26	6.19E+06	271	3.29E+04	4065	0.	
28	5.64E+06	291	2.55E+04	4370	0.	
30	5.12E+06	311	2.38E+04	4676	0.	
						TOTALS
LWC	8.58E-04		4.20E-03		3.51E-04	2.13E-03
MED D	22		109		107	91

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *18:30:10*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						414.3
2	1.58E+06	26	0.	400	9.08E+02	
4	1.01E+07	47	1.29E+05	706	5.39E+01	ALT (KM)
6	1.67E+07	67	1.86E+04	1011	3.01E+00	6.933
8	2.19E+07	87	1.95E+04	1316	0.	
10	3.44E+07	108	9.45E+03	1622	0.	TEMP (C)
12	3.54E+07	128	3.36E+04	1927	0.	-24.7
14	2.40E+07	148	4.74E+04	2233	0.	
16	2.83E+07	169	5.09E+04	2538	0.	FROSTPOINT
18	2.49E+07	189	6.37E+04	2843	0.	
20	1.61E+07	209	5.67E+04	3149	0.	
22	1.24E+07	230	6.46E+04	3454	0.	TAS (M/S)
24	1.01E+07	250	3.66E+04	3760	0.	114.1
26	9.51E+06	271	3.67E+04	4065	0.	
28	7.93E+06	291	3.36E+04	4370	0.	
30	9.25E+06	311	4.11E+04	4676	0.	
						TOTALS
LWC	1.50E-03		5.28E-03		1.08E-03	3.33E-03
MED D	23		112		200	98

INTERVAL START *18:30:40*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						408.9
2	2.67E+06	26	0.	400	1.02E+03	
4	9.09E+06	47	7.04E+04	706	4.69E+01	ALT (KM)
6	1.20E+07	67	1.88E+04	1011	1.83E+00	7.026
8	2.54E+07	87	8.41E+03	1316	0.	
10	3.39E+07	108	1.34E+04	1622	0.	TEMP (C)
12	3.45E+07	128	1.76E+04	1927	0.	-25.3
14	2.27E+07	148	2.57E+04	2233	0.	
16	2.89E+07	169	4.04E+04	2538	0.	FROSTPOINT
18	2.57E+07	189	6.45E+04	2843	0.	
20	1.10E+07	209	7.89E+04	3149	0.	
22	1.10E+07	230	9.40E+04	3454	0.	TAS (M/S)
24	9.89E+06	250	6.07E+04	3760	0.	112.9
26	7.30E+06	271	5.65E+04	4065	0.	
28	7.23E+06	291	4.75E+04	4370	0.	
30	6.69E+06	311	1.19E+04	4676	0.	
						TOTALS
LWC	1.33E-03		5.78E-03		1.13E-03	3.67E-03
MED D	22		108		194	99

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *18:31:10*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						404.5
2	1.86E+06	26	0.	400	1.21E+03	
4	6.98E+06	47	5.99E+04	706	5.14E+01	ALT (KM)
6	1.04E+07	67	9.35E+03	1011	6.08E-01	7.104
8	2.47E+07	87	1.79E+04	1316	0.	
10	2.49E+07	108	5.67E+03	1622	0.	TEMP (C)
12	2.26E+07	128	2.81E+03	1927	0.	-25.9
14	1.94E+07	148	1.11E+03	2233	0.	
16	1.65E+07	169	4.55E+03	2538	0.	FROSTPOINT
18	1.49E+07	189	1.08E+04	2843	0.	
20	9.29E+06	209	2.25E+04	3149	0.	
22	3.98E+06	230	3.07E+04	3454	0.	TAS (M/S)
24	6.37E+06	250	3.54E+04	3760	0.	113.7
26	3.98E+06	271	4.72E+04	4065	0.	
28	6.11E+06	291	4.39E+04	4370	0.	
30	3.72E+06	311	3.35E+04	4676	0.	
						TOTALS
LWC	8.34E-04		3.91E-03		1.30E-03	1.99E-03
MED D	22		122		191	147

INTERVAL START *18:31:40*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						399.7
2	1.32E+06	26	0.	400	1.13E+03	
4	5.05E+06	47	0.	706	4.04E+01	ALT (KM)
6	1.67E+07	67	4.68E+03	1011	0.	7.188
8	2.62E+07	87	5.59E+03	1316	0.	
10	3.13E+07	108	9.43E+03	1622	0.	TEMP (C)
12	2.64E+07	128	4.21E+03	1927	0.	-26.4
14	1.41E+07	148	2.21E+03	2233	0.	
16	1.01E+07	169	6.42E+03	2538	0.	FROSTPOINT
18	1.12E+07	189	1.18E+04	2843	0.	
20	6.63E+06	209	1.63E+04	3149	0.	
22	5.07E+06	230	2.61E+04	3454	0.	TAS (M/S)
24	2.92E+06	250	5.08E+04	3760	0.	113.7
26	5.85E+06	271	3.40E+04	4065	0.	
28	3.59E+06	291	3.21E+04	4370	0.	
30	3.18E+06	311	2.95E+04	4676	0.	
						TOTALS
LWC	7.19E-04		3.42E-03		1.17E-03	1.77E-03
MED D	22		120		188	147

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *18:32:10*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						394.9
2	1.88E+06	26	0.	400	1.56E+03	
4	8.08E+06	47	7.04E+04	706	5.96E+01	ALT (KM)
6	1.32E+07	67	9.46E+03	1011	6.08E-01	7.281
8	3.45E+07	87	1.69E+04	1316	0.	
10	3.79E+07	108	1.53E+04	1622	0.	TEMP (C)
12	3.09E+07	128	9.68E+03	1927	0.	-27.2
14	1.77E+07	149	6.70E+03	2233	0.	
16	2.83E+07	169	4.56E+03	2538	0.	FRCSTPOINT
18	1.77E+07	189	2.28E+04	2843	0.	
20	1.07E+07	209	5.52E+04	3149	0.	
22	9.14E+06	230	5.96E+04	3454	0.	TAS (M/S)
24	6.72E+06	250	6.10E+04	3760	0.	112.0
26	7.00E+06	271	6.13E+04	4065	0.	
28	5.91E+06	291	6.49E+04	4370	0.	
30	6.18E+06	311	5.59E+04	4676	0.	
						TOTALS
LWC	1.12E-03		6.33E-03		1.64E-03	3.06E-03
MED D	22		121		189	119

INTERVAL START *18:32:40*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						393.0
2	2.36E+06	26	0.	400	1.75E+03	
4	8.14E+06	47	8.87E+04	706	6.33E+01	ALT (KM)
6	1.39E+07	67	9.24E+03	1011	1.20E+00	7.307
8	4.10E+07	87	5.52E+03	1316	0.	
10	4.28E+07	108	3.73E+03	1622	0.	TEMP (C)
12	4.72E+07	128	4.16E+03	1927	0.	-27.5
14	3.15E+07	149	6.56E+03	2233	0.	
16	3.36E+07	169	9.92E+03	2538	0.	FRCSTPOINT
18	2.34E+07	189	2.53E+04	2843	0.	
20	1.31E+07	209	6.36E+04	3149	0.	
22	1.26E+07	230	7.35E+04	3454	0.	TAS (M/S)
24	8.13E+06	250	9.72E+04	3760	0.	115.0
26	9.72E+06	271	9.48E+04	4065	0.	
28	7.88E+06	291	8.67E+04	4370	0.	
30	7.88E+06	311	6.80E+04	4676	0.	
						TOTALS
LWC	1.48E-03		8.03E-03		1.83E-03	3.47E-03
MED D	22		119		189	117

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *18:33:10*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						389.2
2	3.44E+06	26	0.	400	1.73E+03	
4	9.24E+06	47	9.92E+04	706	4.31E+01	ALT (KM)
6	1.77E+07	67	1.86E+04	1011	1.21E+00	7.375
8	8.93E+07	87	8.31E+03	1316	0.	
10	4.94E+07	108	7.55E+03	1622	0.	TEMP (C)
12	4.94E+07	128	5.58E+03	1927	0.	-28.0
14	3.01E+07	148	5.49E+03	2233	0.	
16	3.38E+07	169	9.96E+03	2538	0.	FRCSTPOINT
18	2.77E+07	189	3.42E+04	2843	0.	
20	1.61E+07	209	6.40E+04	3149	0.	
22	1.35E+07	230	7.63E+04	3454	0.	TAS (M/S)
24	1.35E+07	250	1.08E+05	3760	0.	114.3
26	1.37E+07	271	1.04E+05	4065	0.	
28	1.03E+07	291	9.89E+04	4370	0.	
30	7.39E+06	311	7.24E+04	4676	0.	
						TOTALS
LWC	1.75E-03		9.30E-03		1.72E-03	3.47E-03
MED D	23		120		185	105

INTERVAL START *18:33:40*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						385.5
2	8.00E+05	26	3.82E+04	400	9.34E+02	
4	9.85E+06	47	6.08E+04	706	1.27E+01	ALT (KM)
6	1.97E+07	67	1.87E+04	1011	0.	7.443
8	4.21E+07	87	1.12E+04	1316	0.	
10	5.00E+07	108	1.90E+03	1622	0.	TEMP (C)
12	4.34E+07	128	2.81E+03	1927	0.	-28.5
14	3.03E+07	148	9.95E+03	2233	0.	
16	2.85E+07	169	3.20E+04	2538	0.	FRCSTPOINT
18	2.61E+07	189	7.29E+04	2843	0.	
20	1.44E+07	209	1.08E+05	3149	0.	
22	1.31E+07	230	8.64E+04	3454	0.	TAS (M/S)
24	1.07E+07	250	1.24E+05	3760	0.	113.5
26	8.25E+06	271	9.90E+04	4065	0.	
28	8.26E+06	291	5.74E+04	4370	0.	
30	3.99E+06	311	3.55E+04	4676	0.	
						TOTALS
LWC	1.40E-03		8.32E-03		8.69E-04	3.45E-03
MED D	21		113		100	97

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *18134110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						383.0
2	2.12E+06	26	0.	400	7.84E+02	
4	1.09E+07	47	1.09E+05	706	2.88E+01	ALT (KM)
6	2.07E+07	67	3.27E+04	1011	0.	7.487
8	4.50E+07	87	1.11E+04	1316	0.	
10	5.09E+07	108	9.46E+03	1622	0.	TEMP (C)
12	4.21E+07	128	7.01E+03	1927	0.	-28.9
14	2.68E+07	148	1.10E+04	2233	0.	
16	3.17E+07	169	2.73E+04	2538	0.	FROSTPOINT
18	2.20E+07	189	7.95E+04	2843	0.	
20	1.19E+07	209	1.24E+05	3149	0.	
22	1.27E+07	230	1.15E+05	3454	0.	TAS (M/S)
24	9.54E+06	250	1.10E+05	3760	0.	113.9
26	9.80E+06	271	9.86E+04	4065	0.	
28	7.95E+06	291	5.72E+04	4370	0.	
30	6.36E+06	311	3.53E+04	4676	0.	
						TOTALS
LWC	1.43E-03		8.65E-03		8.15E-04	3.93E-03
MED D	22		112		169	97

INTERVAL START *18134140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						381.2
2	2.88E+06	26	3.75E+04	400	5.91E+02	
4	8.54E+06	47	4.93E+04	706	1.25E+01	ALT (KM)
6	2.65E+07	67	9.27E+03	1011	5.94E-01	7.522
8	4.69E+07	87	8.21E+03	1316	0.	
10	4.25E+07	108	7.45E+03	1622	0.	TEMP (C)
12	3.46E+07	128	4.17E+03	1927	0.	-29.3
14	2.12E+07	148	1.09E+04	2233	0.	
16	2.12E+07	169	1.44E+04	2538	0.	FROSTPOINT
18	1.73E+07	189	6.12E+04	2843	0.	
20	1.34E+07	209	8.15E+04	3149	0.	
22	8.14E+06	230	8.16E+04	3454	0.	TAS (M/S)
24	6.28E+06	250	5.49E+04	3760	0.	115.2
26	6.55E+06	271	5.98E+04	4065	0.	
28	6.03E+06	291	5.16E+04	4370	0.	
30	5.77E+06	311	3.88E+04	4676	0.	
						TOTALS
LWC	1.11E-03		6.21E-03		5.79E-04	2.73E-03
MED D	22		119		184	97

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *18135110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PREC PROBE	P (MB)
						378.3
2	3.41E+06	26	0.	400	8.42E+02	
4	1.10E+07	47	7.82E+04	706	7.33E+00	ALT (KM)
6	3.42E+07	67	1.38E+04	1011	5.90E-01	7.574
8	5.46E+07	87	5.48E+03	1316	0.	
10	4.63E+07	108	7.43E+03	1622	0.	TEMP (C)
12	3.63E+07	128	4.15E+03	1927	0.	-29.7
14	2.69E+07	148	1.42E+04	2233	0.	
16	2.41E+07	169	2.60E+04	2538	0.	FROSTPOINT
18	2.32E+07	189	6.11E+04	2843	0.	
20	1.07E+07	209	8.67E+04	3149	0.	
22	1.02E+07	230	9.07E+04	3454	0.	TAS (M/S)
24	8.35E+06	250	7.22E+04	3760	0.	115.6
26	8.37E+06	271	7.26E+04	4065	0.	
28	6.55E+06	291	6.46E+04	4370	0.	
30	6.29E+06	311	3.67E+04	4676	0.	
						TOTALS
LWC	1.28E-03		7.11E-03		7.71E-04	3.14E-03
MED D	22		115		179	98

INTERVAL START *18135140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						377.2
2	2.31E+06	26	0.	400	1.13E+03	
4	1.15E+07	47	1.06E+05	706	3.57E+01	ALT (KM)
6	4.20E+07	67	1.81E+04	1011	0.	7.595
8	4.03E+07	87	5.35E+03	1316	0.	
10	3.64E+07	108	1.10E+04	1622	0.	TEMP (C)
12	3.21E+07	128	4.04E+03	1927	0.	-29.9
14	2.36E+07	148	2.14E+03	2233	0.	
16	2.41E+07	169	7.04E+03	2538	0.	FROSTPOINT
18	2.05E+07	189	3.05E+04	2843	0.	
20	1.00E+07	209	4.97E+04	3149	0.	
22	7.43E+06	230	5.58E+04	3454	0.	TAS (M/S)
24	7.71E+06	250	6.08E+04	3760	0.	117.7
26	5.65E+06	271	5.99E+04	4065	0.	
28	6.49E+06	291	4.88E+04	4370	0.	
30	3.33E+06	311	1.90E+04	4676	0.	
						TOTALS
LWC	1.05E-03		4.71E-03		1.14E-03	2.50E-03
MED D	21		115		187	103

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *18136110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						376.8
2	3.52E+06	26	0.	400	1.71E+03	
4	2.34E+07	47	2.83E+04	706	4.86E+01	ALT (KM)
6	5.10E+07	67	8.85E+03	1011	1.72E+00	7.602
8	5.68E+07	87	0.	1316	0.	
10	4.50E+07	108	8.98E+03	1622	0.	TEMP (C)
12	3.29E+07	128	3.98E+03	1927	0.	-30.0
14	2.49E+07	148	7.32E+03	2233	0.	
16	2.21E+07	169	6.03E+03	2538	0.	FROSTPOINT
18	1.86E+07	189	1.21E+04	2843	0.	
20	9.30E+06	209	3.66E+04	3149	0.	
22	8.05E+06	230	4.13E+04	3454	0.	TAS (M/S)
24	6.04E+06	250	3.97E+04	3760	0.	120.1
26	7.29E+06	271	5.45E+04	4065	0.	
28	6.53E+06	291	5.27E+04	4370	0.	
30	4.52E+06	311	5.21E+04	4676	0.	
						TOTALS
LWC	1.10E-03		5.06E-03		1.74E-03	2.68E-03
MED D	21		123		187	144

INTERVAL START *18136140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						377.2
2	5.50E+06	26	0.	400	2.63E+03	
4	2.81E+07	47	7.53E+04	706	1.05E+02	ALT (KM)
6	5.59E+07	67	1.33E+04	1011	2.29E+00	7.595
8	6.74E+07	87	1.57E+04	1316	0.	
10	4.74E+07	108	1.79E+03	1622	0.	TEMP (C)
12	3.28E+07	128	3.99E+03	1927	0.	-29.9
14	2.51E+07	148	4.17E+03	2233	0.	
16	2.71E+07	169	0.	2538	0.	FROSTPOINT
18	2.83E+07	189	3.71E+03	2843	0.	
20	1.00E+07	209	1.21E+04	3149	0.	
22	9.27E+06	230	2.00E+04	3454	0.	TAS (M/S)
24	7.52E+06	250	3.22E+04	3760	0.	120.9
26	5.76E+06	271	3.06E+04	4065	0.	
28	4.76E+06	291	4.62E+04	4370	0.	
30	7.26E+06	311	3.90E+04	4676	0.	
						TOTALS
LWC	1.25E-03		3.52E-03		2.80E-03	3.24E-03
MED D	21		129		191	178

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *18137110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						377.5
2	3.01E+06	26	0.	400	3.46E+03	
4	3.19E+07	47	6.58E+04	706	1.99E+02	ALT (KM)
6	6.25E+07	67	8.82E+03	1011	5.70E+00	7.590
8	7.24E+07	87	7.67E+03	1316	0.	
10	6.01E+07	108	3.57E+03	1622	0.	TEMP (C)
12	4.16E+07	128	5.29E+03	1927	0.	-29.8
14	3.44E+07	148	1.04E+03	2233	0.	
16	2.98E+07	169	8.56E+02	2538	0.	FROSTPOINT
18	1.98E+07	189	2.77E+03	2843	0.	
20	1.38E+07	209	1.01E+04	3149	0.	
22	9.52E+06	230	1.00E+04	3454	0.	TAS (M/S)
24	1.05E+07	250	2.05E+04	3760	0.	120.4
26	1.05E+07	271	3.61E+04	4065	0.	
28	8.77E+06	291	3.81E+04	4370	0.	
30	5.52E+06	311	3.90E+04	4676	0.	
						TOTALS
LWC	1.48E-03		3.24E-03		4.02E-03	4.30E-03
MED D	23		126		198	191

INTERVAL START *18137140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						376.1
2	8.40E+06	26	0.	400	2.70E+03	
4	3.64E+07	47	6.70E+04	706	1.48E+02	ALT (KM)
6	6.12E+07	67	4.49E+03	1011	3.49E+00	7.614
8	5.82E+07	87	0.	1316	0.	
10	4.56E+07	108	9.09E+03	1622	0.	TEMP (C)
12	3.65E+07	128	5.39E+03	1927	0.	-30.0
14	2.32E+07	148	7.42E+03	2233	0.	
16	2.65E+07	169	2.62E+03	2538	0.	FROSTPOINT
18	2.27E+07	189	9.43E+02	2843	0.	
20	1.12E+07	209	6.17E+03	3149	0.	
22	9.94E+06	230	7.92E+03	3454	0.	TAS (M/S)
24	7.40E+06	250	2.81E+04	3760	0.	118.5
26	6.37E+06	271	2.41E+04	4065	0.	
28	5.10E+06	291	3.23E+04	4370	0.	
30	4.59E+06	311	4.72E+04	4676	0.	
						TOTALS
LWC	1.15E-03		2.96E-03		3.09E-03	3.34E-03
MED D	21		129		197	189

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *18:38:10*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						378.3
2	1.78E+07	26	0.	400	3.77E+03	
4	8.82E+07	47	5.74E+04	706	2.07E+02	ALT (KM)
6	1.06E+08	67	8.98E+03	1011	5.82E+00	7.611
8	9.17E+07	97	1.60E+04	1316	0.	
10	6.04E+07	108	1.45E+04	1622	0.	TEMP (C)
12	5.05E+07	128	8.08E+03	1927	0.	-29.9
14	3.75E+07	148	3.18E+03	2233	0.	
16	3.36E+07	169	4.37E+03	2538	0.	FRCSTPOINT
18	3.36E+07	189	3.78E+03	2843	0.	
20	1.86E+07	209	4.12E+03	3149	0.	
22	1.17E+07	230	2.04E+04	3454	0.	TAS (M/S)
24	1.20E+07	250	1.51E+04	3760	0.	118.5
26	1.30E+07	271	3.12E+04	4065	0.	
28	1.15E+07	291	4.53E+04	4370	0.	
30	7.13E+06	311	6.42E+04	4676	0.	
						TOTALS
LWC	1.88E-03		3.94E-03		4.33E-03	4.75E-03
MED D	22		130		197	188

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *18:39:10*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						375.1
2	9.14E+07	26	0.	400	1.11E+03	
4	1.06E+08	47	7.71E+04	706	1.45E+01	ALT (KM)
6	8.76E+07	67	1.81E+04	1011	5.85E-01	7.634
8	6.63E+07	97	2.69E+03	1316	0.	
10	5.88E+07	108	9.16E+03	1622	0.	TEMP (C)
12	4.31E+07	128	6.78E+03	1927	0.	-29.8
14	3.09E+07	148	6.41E+03	2233	0.	
16	3.08E+07	169	6.17E+03	2538	0.	FRCSTPOINT
18	2.29E+07	189	2.19E+04	2843	0.	
20	1.54E+07	209	4.77E+04	3149	0.	
22	9.50E+06	230	7.65E+04	3454	0.	TAS (M/S)
24	1.00E+07	250	9.00E+04	3760	0.	117.6
26	8.22E+06	271	1.14E+05	4065	0.	
28	7.56E+06	291	7.18E+04	4370	0.	
30	6.68E+06	311	5.51E+04	4676	0.	
						TOTALS
LWC	1.47E-03		7.91E-03		1.04E-03	2.56E-03
MED D	21		119		190	182

INTERVAL START *18:38:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						376.4
2	6.63E+07	26	0.	400	2.21E+03	
4	1.13E+08	47	7.70E+04	706	5.56E+01	ALT (KM)
6	9.53E+07	67	1.35E+04	1011	1.17E+00	7.610
8	7.20E+07	97	2.69E+03	1316	0.	
10	5.35E+07	108	9.15E+03	1622	0.	TEMP (C)
12	4.66E+07	128	8.13E+03	1927	0.	-29.9
14	3.36E+07	148	4.26E+03	2233	0.	
16	3.07E+07	169	4.59E+03	2538	0.	FRCSTPOINT
18	2.49E+07	189	1.52E+04	2843	0.	
20	1.61E+07	209	2.90E+04	3149	0.	
22	1.41E+07	230	3.54E+04	3454	0.	TAS (M/S)
24	1.36E+07	250	5.97E+04	3760	0.	117.9
26	8.46E+06	271	7.84E+04	4065	0.	
28	8.20E+06	291	6.02E+04	4370	0.	
30	8.20E+06	311	7.21E+04	4676	0.	
						TOTALS
LWC	1.65E-03		6.33E-03		2.19E-03	3.04E-03
MED D	22		124		189	195

INTERVAL START *18:39:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						376.8
2	1.07E+08	26	0.	400	1.10E+03	
4	1.01E+08	47	1.26E+05	706	1.23E+01	ALT (KM)
6	7.82E+07	67	1.82E+04	1011	0.	7.603
8	6.41E+07	97	2.71E+03	1316	0.	
10	5.76E+07	108	0.	1622	0.	TEMP (C)
12	4.41E+07	128	1.37E+03	1927	0.	-29.6
14	3.02E+07	148	4.30E+03	2233	0.	
16	3.25E+07	169	3.54E+03	2538	0.	FRCSTPOINT
18	2.22E+07	189	2.01E+04	2843	0.	
20	1.08E+07	209	4.28E+04	3149	0.	
22	8.78E+06	230	6.77E+04	3454	0.	TAS (M/S)
24	1.06E+07	250	7.65E+04	3760	0.	117.0
26	1.08E+07	271	9.18E+04	4065	0.	
28	8.77E+06	291	9.84E+04	4370	0.	
30	5.68E+06	311	6.31E+04	4676	0.	
						TOTALS
LWC	1.47E-03		7.94E-03		1.01E-03	2.35E-03
MED D	22		122		179	183

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *1814011O*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						377.1
2	3.01E+07	26	0.	400	3.17E+03	
4	1.60E+08	47	1.46E+05	706	1.11E+02	ALT (KM)
6	1.60E+08	67	1.37E+04	1011	4.15E+00	7.596
8	1.22E+08	87	1.09E+04	1316	0.	
10	9.60E+07	108	1.48E+04	1622	0.	TEMP (C)
12	7.58E+07	128	8.23E+03	1927	0.	-29.6
14	4.91E+07	148	3.24E+03	2233	0.	
16	5.24E+07	169	6.23E+03	2538	0.	FROSTPOINT
18	3.97E+07	189	1.06E+04	2843	0.	
20	3.01E+07	209	3.15E+04	3149	0.	
22	2.13E+07	230	7.26E+04	3454	0.	TAS (M/S)
24	1.74E+07	250	9.49E+04	3760	0.	116.3
26	1.97E+07	271	1.33E+05	4065	0.	
28	1.38E+07	291	1.55E+05	4370	0.	
30	1.35E+07	311	1.48E+05	4676	0.	
						TOTALS
LWC	2.76E-03		1.25E-02		3.32E-03	4.63E-03
MED D	22		126		189	157

INTERVAL START *1814014O*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						377.3
2	8.47E+07	26	7.43E+04	400	3.60E+03	
4	1.32E+08	47	1.47E+05	706	2.66E+02	ALT (KM)
6	1.21E+08	67	3.22E+04	1011	1.19E+01	7.593
8	9.69E+07	87	1.64E+04	1316	6.25E-01	
10	7.75E+07	108	1.86E+04	1622	0.	TEMP (C)
12	5.81E+07	128	9.67E+03	1927	0.	-29.8
14	3.60E+07	148	7.60E+03	2233	0.	
16	4.33E+07	169	3.57E+03	2538	0.	FROSTPOINT
18	3.21E+07	189	1.26E+04	2843	0.	
20	1.96E+07	209	1.27E+04	3149	0.	
22	1.54E+07	230	2.67E+04	3454	0.	TAS (M/S)
24	1.33E+07	250	3.86E+04	3760	0.	119.9
26	1.02E+07	271	4.93E+04	4065	0.	
28	1.07E+07	291	6.79E+04	4370	0.	
30	9.14E+06	311	8.32E+04	4676	0.	
						TOTALS
LWC	1.58E-03		5.90E-03		4.56E-03	5.27E-03
MED D	21		128		206	191

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *1814111O*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						377.6
2	5.32E+08	26	0.	400	5.62E+02	
4	3.28E+07	47	1.08E+04	706	7.36E+01	ALT (KM)
6	2.49E+07	67	0.	1011	6.87E-01	7.588
8	2.12E+07	87	5.56E+03	1316	6.75E-01	
10	1.30E+07	108	1.88E+03	1622	0.	TEMP (C)
12	1.37E+07	128	5.60E+03	1927	0.	-30.2
14	7.14E+06	148	1.10E+03	2233	0.	
16	8.20E+06	169	1.81E+03	2538	0.	FROSTPOINT
18	8.47E+06	189	2.94E+03	2843	0.	
20	5.62E+06	209	3.20E+03	3149	0.	
22	2.64E+06	230	3.54E+03	3454	0.	TAS (M/S)
24	1.89E+06	250	9.14E+03	3760	0.	113.8
26	1.85E+06	271	1.18E+04	4065	0.	
28	1.85E+06	291	1.01E+04	4370	0.	
30	7.92E+05	311	3.91E+03	4676	0.	
						TOTALS
LWC	3.67E-04		7.98E-04		6.62E-04	5.92E-04
MED D	19		120		227	209

INTERVAL START *1814114O*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						377.6
2	3.54E+08	26	0.	400	1.76E+02	
4	3.96E+07	47	2.01E+04	706	1.63E+01	ALT (KM)
6	2.91E+07	67	0.	1011	0.	7.587
8	2.30E+07	87	2.81E+03	1316	0.	
10	2.14E+07	108	1.91E+03	1622	0.	TEMP (C)
12	1.66E+07	128	4.24E+03	1927	0.	-30.2
14	9.69E+06	148	1.22E+04	2233	0.	
16	1.02E+07	169	1.10E+04	2538	0.	FROSTPOINT
18	1.13E+07	189	2.77E+04	2843	0.	
20	4.81E+06	209	4.32E+04	3149	0.	
22	6.42E+06	230	3.80E+04	3454	0.	TAS (M/S)
24	5.62E+06	250	2.64E+04	3760	0.	113.8
26	5.35E+06	271	2.08E+04	4065	0.	
28	3.74E+06	291	1.36E+04	4370	0.	
30	3.21E+06	311	1.19E+04	4676	0.	
						TOTALS
LWC	6.89E-04		2.45E-03		2.29E-04	1.31E-03
MED D	23		108		209	95

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *1814210*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						375.9
2	5.82E+08	25	0.	400	4.12E+01	
4	2.72E+07	47	9.92E+03	706	2.30E+00	ALT (KM)
6	1.96E+07	67	4.65E+03	1011	0.	7.618
8	1.38E+07	87	5.52E+03	1316	0.	
10	1.32E+07	108	1.87E+03	1622	0.	TEMP (C)
12	9.79E+05	128	4.17E+03	1927	0.	-30.3
14	6.36E+06	148	4.40E+03	2233	0.	
16	6.08E+06	169	9.08E+03	2538	0.	FROSTPOINT
18	4.23E+06	189	2.75E+04	2843	0.	
20	2.85E+06	209	2.46E+04	3149	0.	
22	2.91E+06	231	2.12E+04	3454	0.	TAS (M/S)
24	1.06E+06	250	7.85E+03	3760	0.	114.5
26	1.59E+06	271	1.03E+04	4065	0.	
28	2.11E+06	291	8.41E+03	4370	0.	
30	1.06E+06	311	3.92E+03	4676	0.	
						TOTALS
LWC	2.98E-04		1.29E-03		4.65E-05	7.54E-04
MED D	21		103		195	92

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *1814310*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						360.1
2	9.66E+08	26	0.	400	2.34E+02	
4	1.12E+07	47	0.	706	1.94E+01	ALT (KM)
6	8.16E+06	67	4.48E+03	1011	0.	7.765
8	4.34E+06	87	0.	1316	0.	
10	4.59E+06	108	0.	1622	0.	TEMP (C)
12	3.31E+06	128	0.	1927	0.	-30.0
14	1.02E+06	148	2.12E+03	2233	0.	
16	2.56E+06	169	0.	2538	0.	FROSTPOINT
18	1.54E+06	189	0.	2843	0.	
20	5.09E+05	209	1.03E+03	3149	0.	
22	7.64E+05	230	2.27E+03	3454	0.	TAS (M/S)
24	7.68E+05	250	2.51E+03	3760	0.	118.3
26	2.56E+05	271	0.	4065	0.	
28	1.02E+06	291	1.63E+03	4370	0.	
30	2.54E+05	311	7.55E+03	4676	0.	
						TOTALS
LWC	1.06E-04		3.22E-04		2.95E-04	3.48E-04
MED D	21		134		205	190

INTERVAL START *1814210*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						372.4
2	9.86E+08	25	0.	400	3.03E+02	
4	8.78E+06	47	9.66E+03	706	2.30E+01	ALT (KM)
6	7.48E+06	67	0.	1011	0.	7.685
8	6.72E+06	87	0.	1316	0.	
10	4.91E+06	108	0.	1622	0.	TEMP (C)
12	3.87E+06	128	2.73E+03	1927	0.	-30.1
14	3.61E+06	148	1.07E+03	2233	0.	
16	3.10E+06	169	8.82E+02	2538	0.	FROSTPOINT
18	2.32E+06	189	0.	2843	0.	
20	1.84E+06	209	0.	3149	0.	
22	1.29E+06	230	1.16E+03	3454	0.	TAS (M/S)
24	5.15E+05	250	0.	3760	0.	116.9
26	5.15E+05	271	0.	4065	0.	
28	1.29E+06	291	1.65E+03	4370	0.	
30	1.29E+06	311	0.	4676	0.	
						TOTALS
LWC	1.75E-04		6.99E-05		3.71E-04	4.04E-04
MED D	22		123		203	194

INTERVAL START *1814140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						362.8
2	9.52E+08	26	0.	400	1.03E+02	
4	1.68E+07	47	9.68E+03	706	1.12E+01	ALT (KM)
6	7.70E+06	67	0.	1011	0.	7.865
8	7.44E+06	87	0.	1316	0.	
10	5.39E+06	108	0.	1622	0.	TEMP (C)
12	3.33E+06	128	1.56E+03	1927	0.	-29.9
14	3.33E+06	148	1.07E+03	2233	0.	
16	2.56E+06	169	8.83E+02	2538	0.	FROSTPOINT
18	2.56E+06	189	9.54E+02	2843	0.	
20	1.28E+06	209	2.07E+03	3149	0.	
22	1.02E+06	230	2.26E+03	3454	0.	TAS (M/S)
24	1.03E+06	250	2.53E+03	3760	0.	117.2
26	1.03E+06	271	5.68E+03	4065	0.	
28	7.73E+05	291	8.16E+03	4370	0.	
30	2.58E+05	311	3.76E+03	4676	0.	
						TOTALS
LWC	1.44E-04		4.85E-04		7E-05	1.59E-04
MED D	20		129		179	131

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *1814410*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						358.1
2	9.58E+08	26	0.	400	7.35E+01	
4	8.80E+06	47	0.	706	2.81E+00	ALT (KM)
6	4.40E+06	67	0.	1011	0.	7.956
8	5.44E+06	87	2.72E+03	1316	0.	
10	5.18E+06	108	0.	1622	0.	TEMP (C)
12	3.62E+06	128	0.	1927	0.	-30.1
14	1.56E+06	148	1.08E+03	2233	0.	
16	2.33E+06	169	0.	2538	0.	FRCSTPOINT
18	1.82E+06	189	9.62E+02	2843	0.	
20	2.59E+05	209	0.	3149	0.	
22	5.18E+05	230	0.	3454	0.	TAS (M/S)
24	2.60E+05	250	1.28E+03	3760	0.	116.5
26	1.04E+06	271	4.33E+03	4065	0.	
28	2.59E+05	291	1.65E+03	4370	0.	
30	2.60E+05	311	1.92E+03	4676	0.	
						TOTALS
LWC	9.41E-05		1.98E-04		7.69E-05	5.11E-05
MED D	18		121		189	174

INTERVAL START *1814410*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE *

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						359.0
2	1.17E+09	26	0.	400	3.80E+01	
4	2.62E+06	47	9.84E+03	706	3.40E+00	ALT (KM)
6	1.05E+06	67	0.	1011	0.	8.016
8	2.35E+06	87	0.	1316	0.	
10	1.05E+06	108	0.	1622	0.	TEMP (C)
12	1.57E+06	128	0.	1927	0.	-30.5
14	1.05E+06	148	0.	2233	0.	
16	5.23E+05	169	0.	2538	0.	FRCSTPOINT
18	2.62E+05	189	9.71E+02	2843	0.	
20	0.	209	1.06E+03	3149	0.	
22	2.62E+05	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	119.8
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	2.62E+05	311	0.	4676	0.	
						TOTALS
LWC	3.26E-05		1.89E-05		4.89E-05	6.78E-05
MED D	11		87		208	169

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *1814510*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						354.1
2	1.31E+09	26	0.	400	8.68E+00	
4	1.04E+06	47	0.	706	1.70E+00	ALT (KM)
6	1.05E+06	67	0.	1011	0.	8.033
8	2.62E+05	87	0.	1316	0.	
10	5.24E+05	108	0.	1622	0.	TEMP (C)
12	7.85E+05	128	0.	1927	0.	-30.7
14	5.22E+05	148	0.	2233	0.	
16	2.62E+05	169	8.99E+02	2538	0.	FRCSTPOINT
18	0.	189	0.	2843	0.	
20	2.62E+05	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	1.29E+03	3760	0.	115.8
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	2.62E+05	311	0.	4676	0.	
						TOTALS
LWC	2.56E-05		2.29E-05		1.56E-05	2.02E-05
MED D	12		198		246	206

INTERVAL START *1814510*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						354.1
2	1.32E+09	26	0.	400	1.62E+00	
4	2.60E+05	47	0.	706	0.	ALT (KM)
6	0.	67	0.	1011	0.	8.034
8	0.	87	0.	1316	0.	
10	0.	108	0.	1622	0.	TEMP (C)
12	2.61E+05	128	0.	1927	0.	-31.1
14	2.60E+05	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FRCSTPOINT
18	0.	189	9.66E+02	2843	0.	
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	2.59E+05	250	0.	3760	0.	116.2
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	1.60E-05		6.20E-06		1.40E-06	7.60E-06
MED D	2		34		175	85

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *1814610*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						353.5
2	1.46E+09	26	0.	400	0.	
4	0.	47	0.	706	0.	ALT (KM)
6	0.	67	0.	1011	0.	8.045
8	0.	87	0.	1316	0.	
10	0.	108	0.	1622	0.	TEMP (C)
12	0.	128	0.	1927	0.	-31.5
14	0.	148	0.	2233	0.	
16	2.60E+05	169	0.	2538	0.	FRCSTPOINT
18	0.	189	0.	2843	0.	
20	0.	209	0.	3149	0.	
22	2.59E+05	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	116.4
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	1.62E-05		0.		0.	0.
MED D	2		0		0	0

INTERVAL START *1814640*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						352.6
2	1.49E+09	26	0.	400	5.35E-01	
4	2.53E+05	47	0.	706	0.	ALT (KM)
6	0.	67	0.	1011	0.	8.063
8	2.60E+05	87	0.	1316	0.	
10	2.59E+05	108	0.	1622	0.	TEMP (C)
12	0.	128	0.	1927	0.	-31.7
14	0.	148	0.	2233	0.	
16	2.59E+05	169	0.	2538	0.	FRCSTPOINT
18	5.15E+05	189	0.	2843	0.	
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	117.0
26	0.	271	0.	4065	0.	
28	0.	291	1.64E+03	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	1.71E-05		3.63E-05		4.62E-07	4.62E-07
MED D	2		127		179	179

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *1814710*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						350.0
2	1.35E+09	26	0.	400	3.07E+01	
4	1.02E+06	47	0.	706	1.22E+01	ALT (KM)
6	5.11E+05	67	0.	1011	5.83E-01	8.097
8	2.55E+05	87	0.	1316	0.	
10	0.	108	0.	1622	0.	TEMP (C)
12	2.55E+05	128	0.	1927	0.	-31.7
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FRCSTPOINT
18	0.	189	0.	2843	0.	
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	118.1
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	2.55E+05	311	0.	4676	0.	
						TOTALS
LWC	1.93E-05		0.		9.25E-05	9.25E-05
MED D	2		0		287	287

INTERVAL START *1814740*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						348.3
2	1.52E+09	26	0.	400	0.	
4	5.14E+05	47	0.	706	0.	ALT (KM)
6	0.	67	0.	1011	0.	8.147
8	0.	87	0.	1316	0.	
10	0.	108	0.	1622	0.	TEMP (C)
12	0.	128	0.	1927	0.	-31.9
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FRCSTPOINT
18	0.	189	0.	2843	0.	
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	117.7
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	1.28E-05		0.		0.	0.
MED D	2		0		0	0

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *18148110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						346.2
2	1.47E+09	26	0.	400	2.19E+01	
4	1.03E+06	47	0.	706	1.12E+01	ALT (KM)
6	7.74E+05	67	0.	1011	0.	8.189
8	5.15E+05	87	0.	1316	0.	
10	5.15E+05	108	0.	1622	0.	TEMP (C)
12	2.58E+05	128	0.	1927	0.	-32.1
14	2.58E+05	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FRCSTPOINT
18	0.	189	0.	2843	0.	
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	2.58E+05	250	0.	3760	0.	117.2
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	1.87E-05		0.		2.43E-05	2.43E-05
MED D	2		0		194	194

INTERVAL START *18148140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						344.9
2	1.60E+09	26	0.	400	5.33E+00	
4	1.28E+06	47	0.	706	0.	ALT (KM)
6	5.14E+05	67	0.	1011	0.	8.215
8	5.14E+05	87	0.	1316	0.	
10	5.13E+05	108	0.	1622	0.	TEMP (C)
12	0.	128	0.	1927	0.	-32.3
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FRCSTPOINT
18	0.	189	0.	2843	0.	
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	117.8
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	1.45E-05		0.		4.61E-06	4.61E-06
MED D	2		0		179	179

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *18149110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						344.0
2	1.34E+09	26	0.	400	1.36E+01	
4	3.79E+06	47	0.	706	0.	ALT (KM)
6	2.78E+06	67	0.	1011	0.	8.233
8	2.27E+06	87	0.	1316	0.	
10	1.77E+06	108	0.	1622	0.	TEMP (C)
12	1.77E+06	128	0.	1927	0.	-32.5
14	7.57E+05	148	0.	2233	0.	
16	5.05E+05	169	0.	2538	0.	FRCSTPOINT
18	1.01E+06	189	0.	2843	0.	
20	0.	209	1.02E+03	3149	0.	
22	0.	230	1.12E+03	3454	0.	TAS (M/S)
24	5.05E+05	250	1.25E+03	3760	0.	118.9
26	0.	271	5.61E+03	4065	0.	
28	0.	291	1.60E+03	4370	0.	
30	2.52E+05	311	1.87E+03	4676	0.	
						TOTALS
LWC	4.33E-05		2.25E-04		1.18E-05	3.25E-05
MED D	16		120		175	102

INTERVAL START *18149140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						343.5
2	6.32E+08	26	0.	400	3.11E+02	
4	4.01E+07	47	2.82E+04	706	5.43E-01	ALT (KM)
6	3.38E+07	67	8.83E+03	1011	0.	8.244
8	2.66E+07	87	7.89E+03	1316	0.	
10	1.63E+07	108	0.	1622	0.	TEMP (C)
12	1.93E+07	128	1.33E+03	1927	0.	-32.6
14	1.30E+07	148	0.	2233	0.	
16	1.15E+07	169	1.72E+03	2538	0.	FRCSTPOINT
18	7.27E+06	189	1.21E+04	2843	0.	
20	5.26E+06	209	1.52E+04	3149	0.	
22	7.26E+06	230	4.12E+04	3454	0.	TAS (M/S)
24	2.01E+06	250	3.59E+04	3760	0.	120.6
26	3.50E+06	271	4.45E+04	4065	0.	
28	3.51E+06	291	4.13E+04	4370	0.	
30	3.25E+06	311	2.23E+04	4676	0.	
						TOTALS
LWC	6.04E-04		3.52E-03		2.72E-04	9.68E-04
MED D	22		120		176	101

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *18150110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						343.4
2	8.00E+08	26	0.	400	1.95E+02	
4	3.07E+07	47	1.85E+04	706	1.06E+00	ALT (KM)
6	1.84E+07	67	0.	1011	0.	8.244
8	1.99E+07	87	2.57E+03	1316	0.	
10	1.11E+07	108	3.49E+03	1622	0.	TEMP (C)
12	9.58E+06	128	0.	1927	0.	-32.7
14	7.61E+06	149	0.	2233	0.	
16	7.37E+06	169	0.	2538	0.	FROSTPOINT
18	6.38E+06	189	1.82E+03	2843	0.	
20	2.95E+06	209	4.95E+03	3149	0.	
22	9.80E+05	230	1.42E+04	3454	0.	TAS (M/S)
24	2.45E+06	250	1.58E+04	3760	0.	122.8
26	2.71E+06	271	1.91E+04	4065	0.	
28	2.70E+06	291	2.03E+04	4370	0.	
30	2.21E+06	311	2.37E+04	4676	0.	
						TOTALS
LWC	3.90E-04		1.88E-03		1.74E-04	4.00E-04
MED D	23		126		177	103

INTERVAL START *18150140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						343.8
2	1.26E+09	26	0.	400	3.91E+01	
4	6.02E+06	47	9.04E+03	706	0.	ALT (KM)
6	3.63E+06	67	0.	1011	0.	8.237
8	3.19E+06	87	0.	1316	0.	
10	4.82E+05	108	0.	1622	0.	TEMP (C)
12	1.21E+06	128	0.	1927	0.	-32.8
14	1.45E+06	148	0.	2233	0.	
16	1.69E+06	169	8.19E+02	2538	0.	FROSTPOINT
18	1.21E+06	189	0.	2843	0.	
20	0.	209	2.94E+03	3149	0.	
22	0.	230	3.23E+03	3454	0.	TAS (M/S)
24	4.82E+05	250	1.20E+03	3760	0.	125.6
26	7.27E+05	271	2.67E+03	4065	0.	
28	7.23E+05	291	3.07E+03	4370	0.	
30	4.81E+05	311	3.60E+03	4676	0.	
						TOTALS
LWC	8.55E-05		2.98E-04		3.38E-05	1.01E-04
MED D	29		123		175	101

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *18151110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						344.4
2	1.25E+09	26	0.	400	5.62E+02	
4	1.18E+07	47	8.88E+03	706	1.66E+02	ALT (KM)
6	6.93E+06	67	4.13E+03	1011	4.66E+00	8.226
8	8.57E+06	87	0.	1316	1.53E+00	
10	3.92E+06	108	1.67E+03	1622	0.	TEMP (C)
12	4.62E+06	128	0.	1927	0.	-32.7
14	3.15E+06	148	0.	2233	0.	
16	3.51E+06	169	0.	2538	0.	FROSTPOINT
18	2.04E+06	189	0.	2843	0.	
20	1.81E+06	209	0.	3149	0.	
22	1.34E+06	230	0.	3454	0.	TAS (M/S)
24	1.87E+06	250	0.	3760	0.	130.4
26	1.41E+06	271	1.31E+03	4065	0.	
28	2.34E+05	291	0.	4370	0.	
30	7.03E+05	311	5.23E+03	4676	0.	
						TOTALS
LWC	1.74E-04		1.76E-04		1.38E-03	1.39E-03
MED D	21		135		277	276

INTERVAL START *18151140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						342.8
2	7.74E+08	26	0.	400	1.86E+03	
4	5.90E+07	47	3.52E+04	706	3.05E+02	ALT (KM)
6	4.40E+07	67	8.25E+03	1011	7.49E+00	8.256
8	3.26E+07	87	0.	1316	0.	
10	2.06E+07	108	5.01E+03	1622	0.	TEMP (C)
12	1.99E+07	128	1.24E+03	1927	0.	-32.7
14	1.50E+07	149	9.75E+02	2233	0.	
16	1.52E+07	169	8.04E+02	2538	0.	FROSTPOINT
18	1.03E+07	189	1.74E+03	2843	0.	
20	4.45E+06	209	0.	3149	0.	
22	3.98E+06	230	2.08E+03	3454	0.	TAS (M/S)
24	6.56E+06	250	2.30E+03	3760	0.	128.9
26	3.05E+06	271	2.60E+03	4065	0.	
28	3.28E+06	291	2.97E+03	4370	0.	
30	2.34E+06	311	0.	4676	0.	
						TOTALS
LWC	6.34E-04		2.21E-04		3.15E-03	3.23E-03
MED D	21		114		240	236

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *18152110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						338.9
2	1.25E+09	26	0.	400	2.31E+02	
4	9.64E+06	47	0.	706	1.52E+01	ALT (KM)
6	6.99E+06	67	0.	1011	0.	8.336
8	4.34E+06	87	2.52E+03	1316	0.	
10	3.87E+06	108	0.	1622	0.	TEMP (C)
12	4.34E+06	128	0.	1927	0.	-33.2
14	1.68E+06	148	0.	2233	0.	
16	2.18E+06	169	0.	2538	0.	FROSTPOINT
18	4.83E+05	189	1.79E+03	2843	0.	
20	7.23E+05	209	9.61E+02	3149	0.	
22	9.69E+05	230	2.15E+03	3454	0.	TAS (M/S)
24	4.80E+05	250	0.	3760	0.	125.7
26	4.83E+05	271	2.69E+03	4065	0.	
28	9.66E+05	291	0.	4370	0.	
30	7.23E+05	311	3.59E+03	4676	0.	
						TOTALS
LWC	1.19E-04		1.92E-04		2.72E-04	3.18E-04
MED D	22		132		199	183

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *18153110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						331.8
2	2.64E+08	26	1.80E+05	400	2.64E+02	
4	1.34E+08	47	6.06E+05	706	2.71E+00	ALT (KM)
6	9.83E+07	67	1.02E+05	1011	0.	8.497
8	8.93E+07	87	4.48E+04	1316	0.	
10	6.70E+07	108	1.97E+04	1622	0.	TEMP (C)
12	6.44E+07	128	5.31E+03	1927	0.	-33.5
14	3.82E+07	148	3.14E+03	2233	0.	
16	4.83E+07	169	6.04E+03	2538	0.	FROSTPOINT
18	3.67E+07	189	2.51E+04	2843	0.	
20	1.69E+07	209	4.66E+04	3149	0.	
22	1.69E+07	230	5.68E+04	3454	0.	TAS (M/S)
24	1.23E+07	250	5.32E+04	3760	0.	119.9
26	1.66E+07	271	5.57E+04	4065	0.	
28	1.18E+07	291	3.34E+04	4370	0.	
30	1.13E+07	311	2.97E+04	4676	0.	
						TOTALS
LWC	2.27E-03		4.97E-03		2.41E-04	1.92E-03
MED D	22		114		179	94

INTERVAL START *18152140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						339.0
2	7.63E+08	26	0.	400	1.23E+03	
4	8.47E+07	47	6.47E+04	706	3.93E+01	ALT (KM)
6	6.06E+07	67	4.37E+03	1011	5.56E-01	8.415
8	4.69E+07	87	0.	1316	0.	
10	3.52E+07	108	3.51E+03	1622	0.	TEMP (C)
12	3.25E+07	128	0.	1927	0.	-33.9
14	2.41E+07	148	2.05E+03	2233	0.	
16	1.99E+07	169	0.	2538	0.	FROSTPOINT
18	1.63E+07	189	4.58E+03	2843	0.	
20	9.61E+06	209	8.99E+03	3149	0.	
22	5.67E+06	230	1.32E+04	3454	0.	TAS (M/S)
24	4.44E+06	250	3.91E+04	3760	0.	123.2
26	5.68E+06	271	5.08E+04	4065	0.	
28	3.21E+06	291	7.67E+04	4370	0.	
30	3.95E+06	311	4.93E+04	4676	0.	
						TOTALS
LWC	8.97E-04		4.79E-03		1.24E-03	1.53E-03
MED D	20		126		186	188

INTERVAL START *18153140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.6
2	1.35E+08	26	3.55E+04	400	1.73E+02	
4	1.80E+08	47	9.64E+05	706	1.63E+00	ALT (KM)
6	1.81E+08	67	1.40E+05	1011	0.	6.505
8	1.40E+08	87	9.14E+04	1316	0.	
10	1.15E+08	108	4.08E+04	1622	0.	TEMP (C)
12	8.60E+07	128	5.00E+04	1927	0.	-33.7
14	6.25E+07	148	6.52E+04	2233	0.	
16	6.85E+07	169	5.04E+04	2538	0.	FROSTPOINT
18	5.56E+07	189	8.49E+04	2843	0.	
20	4.16E+07	209	1.19E+05	3149	0.	
22	2.62E+07	230	1.02E+05	3454	0.	TAS (M/S)
24	2.49E+07	250	6.39E+04	3760	0.	121.2
26	2.34E+07	271	3.74E+04	4065	0.	
28	2.74E+07	291	3.01E+04	4370	0.	
30	2.24E+07	311	1.66E+04	4676	0.	
						TOTALS
LWC	3.92E-03		6.78E-03		1.58E-04	4.18E-03
MED D	23		100		178	89

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *18154110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.2
2	9.17E+08	26	0.	400	2.06E+00	
4	4.09E+07	47	2.14E+05	706	0.	ALT (KM)
6	3.32E+07	67	6.55E+04	1011	0.	8.513
8	2.97E+07	87	4.16E+04	1316	0.	
10	2.48E+07	108	3.54E+04	1622	0.	TEMP (C)
12	1.49E+07	128	2.75E+04	1927	0.	-33.9
14	1.12E+07	148	1.44E+04	2233	0.	
16	1.64E+07	169	9.35E+03	2538	0.	FRCSTPOINT
18	7.44E+06	189	5.50E+03	2843	0.	
20	5.45E+06	209	7.01E+03	3149	0.	
22	3.72E+06	230	5.51E+03	3454	0.	TAS (M/S)
24	2.73E+06	250	1.23E+03	3760	0.	121.9
26	2.97E+06	271	0.	4065	0.	
28	3.97E+06	291	0.	4370	0.	
30	3.22E+06	311	0.	4676	0.	
						TOTALS
LWC	5.98E-04		6.26E-04		1.78E-06	6.10E-04
MED D	21		65		175	64

INTERVAL START *18154140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.0
2	5.91E+08	26	0.	400	0.	
4	2.85E+08	47	5.93E+05	706	0.	ALT (KM)
6	3.92E+08	67	6.53E+04	1011	0.	8.518
8	3.53E+08	87	4.93E+04	1316	0.	
10	2.73E+08	108	2.29E+04	1622	0.	TEMP (C)
12	2.09E+08	128	1.83E+04	1927	0.	-33.7
14	1.40E+08	148	1.03E+03	2233	0.	
16	1.69E+08	169	1.70E+03	2538	0.	FRCSTPOINT
18	1.10E+08	189	0.	2843	0.	
20	4.93E+07	209	0.	3149	0.	
22	3.11E+07	230	1.10E+03	3454	0.	TAS (M/S)
24	2.19E+07	250	0.	3760	0.	122.9
26	1.82E+07	271	0.	4065	0.	
28	1.53E+07	291	0.	4370	0.	
30	1.06E+07	311	0.	4676	0.	
						TOTALS
LWC	4.81E-03		4.82E-04		0.	4.82E-04
MED D	17		39		0	39

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *18155110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						329.8
2	8.01E+07	26	1.05E+05	400	1.92E+02	
4	3.75E+08	47	7.94E+05	706	3.20E+00	ALT (KM)
6	6.66E+08	67	5.63E+04	1011	0.	8.521
8	6.12E+07	87	3.35E+04	1316	0.	
10	4.70E+08	108	1.58E+04	1622	0.	TEMP (C)
12	3.83E+08	128	2.22E+04	1927	0.	-33.8
14	2.42E+08	148	1.44E+04	2233	0.	
16	3.18E+08	169	6.77E+03	2538	0.	FRCSTPOINT
18	2.44E+08	189	8.22E+03	2843	0.	
20	1.04E+08	209	4.97E+03	3149	0.	
22	6.80E+07	230	5.46E+03	3454	0.	TAS (M/S)
24	4.91E+07	250	2.43E+03	3760	0.	122.7
26	3.84E+07	271	4.10E+03	4065	0.	
28	3.15E+07	291	1.56E+03	4370	0.	
30	2.21E+07	311	7.28E+03	4676	0.	
						TOTALS
LWC	9.58E-03		1.10E-03		1.81E-04	9.44E-04
MED D	19		72		181	63

INTERVAL START *18155140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						329.8
2	1.15E+09	26	0.	400	1.99E+01	
4	5.99E+07	47	4.59E+05	706	0.	ALT (KM)
6	4.06E+07	67	6.02E+04	1011	0.	8.521
8	3.55E+07	87	3.00E+04	1316	0.	
10	3.25E+07	108	1.74E+04	1622	0.	TEMP (C)
12	2.32E+07	128	1.16E+04	1927	0.	-34.0
14	1.71E+07	148	9.14E+03	2233	0.	
16	2.20E+07	169	3.36E+03	2538	0.	FRCSTPOINT
18	1.79E+07	189	8.14E+03	2843	0.	
20	1.20E+07	209	4.93E+03	3149	0.	
22	6.84E+06	230	2.17E+03	3454	0.	TAS (M/S)
24	7.09E+06	250	2.41E+03	3760	0.	123.4
26	6.85E+06	271	0.	4065	0.	
28	8.87E+06	291	1.55E+03	4370	0.	
30	7.34E+06	311	3.64E+03	4676	0.	
						TOTALS
LWC	1.17E-03		6.80E-04		1.72E-05	5.31E-04
MED D	23		67		175	53

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *18156110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						329.8
2	4.54E+08	26	6.94E+04	400	1.26E+01	
4	1.88E+08	47	9.83E+05	706	0.	ALT (KM)
6	1.81E+08	67	1.66E+05	1011	0.	8.521
8	1.56E+08	87	9.91E+04	1316	0.	
10	1.20E+08	108	5.70E+04	1622	0.	TEMP (C)
12	9.56E+07	128	5.12E+04	1927	0.	-33.9
14	6.08E+07	148	4.03E+04	2233	0.	
16	7.80E+07	169	3.07E+04	2538	0.	FROSTPOINT
18	6.57E+07	189	5.02E+04	2843	0.	
20	3.92E+07	209	4.11E+04	3149	0.	
22	2.96E+07	230	2.48E+04	3454	0.	TAS (M/S)
24	2.35E+07	250	1.91E+04	3760	0.	124.5
26	2.13E+07	271	1.21E+04	4065	0.	
28	2.35E+07	291	6.17E+03	4370	0.	
30	2.03E+07	311	5.39E+03	4676	0.	
						TOTALS
LWC	3.87E-03		2.96E-03		1.09E-05	2.20E-03
MED D	22		85		175	75

INTERVAL START *18156140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.1
2	6.48E+08	26	3.43E+04	400	7.48E+00	
4	1.21E+08	47	6.49E+05	706	0.	ALT (KM)
6	1.07E+08	67	6.34E+04	1011	0.	8.515
8	9.24E+07	87	7.05E+04	1316	0.	
10	6.79E+07	108	2.57E+04	1622	0.	TEMP (C)
12	5.50E+07	128	2.41E+04	1927	0.	-33.8
14	3.91E+07	148	1.70E+04	2233	0.	
16	4.39E+07	169	1.57E+04	2538	0.	FROSTPOINT
18	4.06E+07	189	1.87E+04	2843	0.	
20	2.38E+07	209	2.33E+04	3149	0.	
22	1.92E+07	230	1.60E+04	3454	0.	TAS (M/S)
24	1.27E+07	250	9.94E+03	3760	0.	129.7
26	1.87E+07	271	4.01E+03	4065	0.	
28	1.56E+07	291	1.53E+03	4370	0.	
30	1.06E+07	311	0.	4676	0.	
						TOTALS
LWC	2.41E-03		1.36E-03		6.47E-06	1.18E-03
MED D	22		81		175	73

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *18157110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.4
2	3.63E+08	26	0.	400	4.52E+00	
4	2.21E+08	47	1.18E+06	706	5.20E-01	ALT (KM)
6	2.17E+08	67	1.53E+05	1011	0.	8.506
8	1.90E+08	87	7.85E+04	1316	0.	
10	1.47E+08	108	2.41E+04	1622	0.	TEMP (C)
12	1.25E+08	128	2.55E+04	1927	0.	-33.8
14	7.49E+07	148	1.30E+04	2233	0.	
16	1.03E+08	169	8.25E+03	2538	0.	FROSTPOINT
18	8.86E+07	189	6.24E+03	2843	0.	
20	4.56E+07	209	1.17E+04	3149	0.	
22	4.23E+07	230	6.42E+03	3454	0.	TAS (M/S)
24	2.59E+07	250	5.95E+03	3760	0.	125.1
26	3.62E+07	271	1.33E+03	4065	0.	
28	3.02E+07	291	1.53E+03	4370	0.	
30	1.93E+07	311	1.78E+03	4676	0.	
						TOTALS
LWC	4.94E-03		1.31E-03		6.41E-06	1.13E-03
MED D	22		51		218	44

INTERVAL START *18157140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.7
2	8.53E+07	26	7.00E+04	400	1.51E+02	
4	3.43E+08	47	1.53E+06	706	5.05E+00	ALT (KM)
6	3.87E+08	67	1.21E+05	1011	0.	8.502
8	3.11E+08	87	9.50E+04	1316	0.	
10	2.42E+08	108	4.19E+04	1622	0.	TEMP (C)
12	2.05E+08	128	2.59E+04	1927	0.	-33.5
14	1.31E+08	148	1.12E+04	2233	0.	
16	1.65E+08	169	1.85E+04	2538	0.	FROSTPOINT
18	1.36E+08	189	2.00E+04	2843	0.	
20	6.93E+07	209	3.57E+04	3149	0.	
22	6.09E+07	230	2.51E+04	3454	0.	TAS (M/S)
24	3.52E+07	250	1.45E+04	3760	0.	123.4
26	4.09E+07	271	1.63E+04	4065	0.	
28	3.94E+07	291	1.40E+04	4370	0.	
30	2.67E+07	311	1.09E+04	4676	0.	
						TOTALS
LWC	7.05E-03		2.95E-03		1.59E-04	2.00E-03
MED D	21		93		189	68

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *18158110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.9
2	7.26E+07	25	7.07E+04	400	1.86E+02	
4	4.12E+08	47	1.01E+06	706	2.15E+00	ALT (KM)
6	4.87E+08	67	8.73E+04	1011	0.	8.499
8	4.02E+08	87	7.29E+04	1316	0.	
10	3.11E+08	108	1.77E+04	1622	0.	TEMP (C)
12	2.41E+08	128	2.75E+04	1927	0.	-33.4
14	1.45E+08	148	2.79E+04	2233	0.	
16	1.99E+08	169	3.06E+04	2538	0.	FRCSTPOINT
18	1.47E+08	189	7.72E+04	2843	0.	
20	7.58E+07	209	9.42E+04	3149	0.	
22	6.10E+07	230	9.15E+04	3454	0.	TAS (M/S)
24	4.74E+07	250	4.65E+04	3760	0.	121.8
26	4.96E+07	271	4.27E+04	4065	0.	
28	4.04E+07	291	2.68E+04	4370	0.	
30	2.95E+07	311	9.18E+03	4676	0.	
						TOTALS
LWC	7.39E-03		5.50E-03		1.71E-04	3.41E-03
MED D	21		100		179	90

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *18159110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.6
2	3.94E+07	25	1.06E+05	400	1.40E+02	
4	5.90E+08	47	8.37E+05	706	2.15E+00	ALT (KM)
6	1.17E+09	67	5.24E+04	1011	0.	8.505
8	1.02E+09	87	4.43E+04	1316	0.	
10	7.38E+08	108	2.12E+04	1622	0.	TEMP (C)
12	5.66E+08	128	5.24E+04	1927	0.	-33.3
14	3.44E+08	148	6.19E+04	2233	0.	
16	4.25E+08	169	5.44E+04	2538	0.	FRCSTPOINT
18	2.78E+08	189	9.18E+04	2843	0.	
20	1.23E+08	209	7.61E+04	3149	0.	
22	8.92E+07	230	5.95E+04	3454	0.	TAS (M/S)
24	6.09E+07	250	5.14E+04	3760	0.	121.9
26	5.15E+07	271	2.34E+04	4065	0.	
28	4.14E+07	291	2.04E+04	4370	0.	
30	2.53E+07	311	3.67E+03	4676	0.	
						TOTALS
LWC	1.27E-02		4.74E-03		1.31E-04	3.17E-03
MED D	19		95		181	85

INTERVAL START *18158140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.8
2	7.59E+07	25	7.13E+04	400	5.28E+01	
4	4.17E+08	47	1.16E+06	706	0.	ALT (KM)
6	5.18E+08	67	1.10E+05	1011	0.	8.500
8	4.07E+08	87	6.81E+04	1316	0.	
10	3.14E+08	108	4.63E+04	1622	0.	TEMP (C)
12	2.41E+08	128	4.48E+04	1927	0.	-33.4
14	1.55E+08	148	8.62E+04	2233	0.	
16	2.01E+08	169	7.28E+04	2538	0.	FRCSTPOINT
18	1.54E+08	189	1.23E+05	2843	0.	
20	7.59E+07	209	1.08E+05	3149	0.	
22	5.59E+07	230	6.21E+04	3454	0.	TAS (M/S)
24	3.87E+07	250	2.98E+04	3760	0.	121.0
26	4.52E+07	271	2.50E+04	4065	0.	
28	4.34E+07	291	1.43E+04	4370	0.	
30	2.05E+07	311	5.54E+03	4676	0.	
						TOTALS
LWC	7.60E-03		5.29E-03		4.57E-05	4.00E-03
MED D	20		90		179	84

INTERVAL START *18159140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.2
2	4.48E+07	25	7.05E+04	400	2.99E+02	
4	8.14E+08	47	3.70E+05	706	9.66E+00	ALT (KM)
6	1.73E+09	67	2.60E+04	1011	0.	8.512
8	1.43E+09	87	6.19E+04	1316	0.	
10	9.96E+08	108	3.69E+04	1622	0.	TEMP (C)
12	7.11E+08	128	4.94E+04	1927	0.	-33.4
14	3.09E+08	148	6.35E+04	2233	0.	
16	4.34E+08	169	4.56E+04	2538	0.	FRCSTPOINT
18	2.54E+08	189	7.94E+04	2843	0.	
20	1.01E+08	209	7.37E+04	3149	0.	
22	7.34E+07	230	5.04E+04	3454	0.	TAS (M/S)
24	5.22E+07	250	3.65E+04	3760	0.	122.6
26	4.28E+07	271	3.84E+04	4065	0.	
28	2.86E+07	291	2.82E+04	4370	0.	
30	1.85E+07	311	2.01E+04	4676	0.	
						TOTALS
LWC	1.25E-02		5.01E-03		3.04E-04	2.94E-03
MED D	18		103		187	87

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *19100110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						329.8
2	9.40E+07	26	6.98E+04	400	1.04E+02	
4	6.34E+08	47	2.83E+05	706	2.11E+00	ALT (KM)
6	1.08E+09	67	4.28E+04	1011	0.	8.520
8	9.36E+08	87	2.64E+04	1316	0.	
10	6.66E+08	108	3.12E+04	1622	0.	TEMP (C)
12	5.04E+08	128	4.88E+04	1927	0.	-33.8
14	2.92E+08	148	2.53E+04	2233	0.	
16	3.43E+08	169	2.75E+04	2538	0.	FROSTPOINT
18	2.16E+08	189	5.13E+04	2843	0.	
20	9.22E+07	209	3.63E+04	3149	0.	
22	4.94E+07	230	3.24E+04	3454	0.	TAS (M/S)
24	3.60E+07	250	1.56E+04	3760	0.	124.2
26	2.99E+07	271	1.35E+04	4065	0.	
28	1.92E+07	291	1.54E+04	4370	0.	
30	9.74E+06	311	5.40E+03	4676	0.	
						TOTALS
LWC	9.14E-03		2.57E-03		1.00E-04	1.72E-03
MED D	16		96		182	85

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *19101110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.0
2	6.96E+08	26	6.88E+04	400	7.87E+02	
4	1.04E+09	47	2.88E+05	706	2.78E+01	ALT (KM)
6	7.04E+07	67	4.21E+04	1011	1.09E+00	8.518
8	6.20E+07	87	4.26E+04	1316	0.	
10	4.96E+07	108	8.54E+03	1622	0.	TEMP (C)
12	3.59E+07	128	1.26E+03	1927	0.	-34.6
14	2.71E+07	148	1.98E+03	2233	0.	
16	2.62E+07	169	1.63E+03	2538	0.	FROSTPOINT
18	3.00E+07	189	5.33E+03	2843	0.	
20	1.44E+07	209	1.16E+04	3149	0.	
22	1.22E+07	230	2.55E+04	3454	0.	TAS (M/S)
24	1.08E+07	250	3.91E+04	3760	0.	126.1
26	1.00E+07	271	3.05E+04	4065	0.	
28	9.34E+06	291	3.96E+04	4370	0.	
30	8.87E+06	311	2.13E+04	4676	0.	
						TOTALS
LWC	1.63E-03		3.22E-03		8.24E-04	1.49E-03
MED D	22		120		189	124

INTERVAL START *19100140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						329.6
2	3.67E+08	26	3.40E+04	400	8.85E+02	
4	1.90E+08	47	9.38E+05	706	5.96E+01	ALT (KM)
6	1.56E+08	67	5.46E+04	1011	2.72E+00	8.526
8	1.46E+08	87	3.50E+04	1316	0.	
10	1.01E+08	108	1.76E+04	1622	0.	TEMP (C)
12	7.69E+07	128	8.84E+03	1927	0.	-34.6
14	5.29E+07	148	6.98E+03	2233	0.	
16	6.67E+07	169	7.41E+03	2538	0.	FROSTPOINT
18	5.93E+07	189	3.46E+04	2843	0.	
20	3.28E+07	209	6.23E+04	3149	0.	
22	2.70E+07	230	6.91E+04	3454	0.	TAS (M/S)
24	2.63E+07	250	5.90E+04	3760	0.	126.3
26	1.84E+07	271	6.24E+04	4065	0.	
28	1.67E+07	291	3.84E+04	4370	0.	
30	1.12E+07	311	2.65E+04	4676	0.	
						TOTALS
LWC	3.09E-03		5.40E-03		1.09E-03	3.01E-03
MED D	21		113		203	100

INTERVAL START *19101140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.3
2	2.76E+08	26	0.	400	4.86E+02	
4	2.82E+08	47	7.62E+05	706	1.07E+01	ALT (KM)
6	2.94E+08	67	6.48E+04	1011	0.	8.511
8	2.58E+08	87	1.53E+04	1316	0.	
10	1.98E+08	108	1.74E+03	1622	0.	TEMP (C)
12	1.60E+08	128	3.90E+03	1927	0.	-34.3
14	1.02E+08	148	2.05E+03	2233	0.	
16	1.34E+08	169	2.53E+03	2538	0.	FROSTPOINT
18	9.44E+07	189	1.36E+04	2843	0.	
20	5.07E+07	209	2.70E+04	3149	0.	
22	3.52E+07	230	2.83E+04	3454	0.	TAS (M/S)
24	3.09E+07	250	2.30E+04	3760	0.	123.4
26	2.99E+07	271	3.27E+04	4065	0.	
28	2.50E+07	291	2.49E+04	4370	0.	
30	1.69E+07	311	2.72E+04	4676	0.	
						TOTALS
LWC	5.05E-03		3.24E-03		4.71E-04	1.51E-03
MED D	20		110		183	97

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *19102110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.1
2	2.88E+08	26	1.06E+05	400	3.83E+02	
4	2.65E+08	47	9.25E+05	706	1.18E+01	ALT (KM)
6	2.46E+08	67	9.99E+04	1011	0.	8.514
8	2.14E+08	87	2.85E+04	1316	0.	
10	1.60E+08	108	5.28E+03	1622	0.	TEMP (C)
12	1.49E+08	128	5.21E+03	1927	0.	-34.2
14	9.02E+07	148	2.05E+03	2233	0.	
16	1.10E+08	169	8.45E+02	2538	0.	FROSTPOINT
18	1.02E+08	189	1.82E+03	2843	0.	
20	4.25E+07	209	4.98E+03	3149	0.	
22	4.24E+07	230	1.10E+04	3454	0.	TAS (M/S)
24	3.33E+07	250	7.30E+03	3760	0.	122.5
26	3.30E+07	271	2.05E+04	4065	0.	
28	2.86E+07	291	2.19E+04	4370	0.	
30	2.00E+07	311	2.61E+04	4676	0.	
						TOTALS
LWC	5.17E-03		2.21E-03		3.87E-04	1.10E-03
MED D	21		121		186	87

INTERVAL START *19102140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.4
2	3.69E+08	26	3.52E+04	400	1.22E+02	
4	2.77E+08	47	9.82E+05	706	1.61E+00	ALT (KM)
6	3.03E+08	67	9.56E+04	1011	0.	8.509
8	2.70E+08	87	6.73E+04	1316	0.	
10	2.03E+08	108	2.29E+04	1622	0.	TEMP (C)
12	1.80E+08	128	1.30E+04	1927	0.	-34.2
14	1.11E+08	148	3.08E+03	2233	0.	
16	1.35E+08	169	2.54E+03	2538	0.	FROSTPOINT
18	1.06E+08	189	9.14E+02	2843	0.	
20	5.85E+07	209	9.97E+02	3149	0.	
22	3.85E+07	230	2.19E+03	3454	0.	TAS (M/S)
24	3.25E+07	250	2.44E+03	3760	0.	122.3
26	2.99E+07	271	4.11E+03	4065	0.	
28	2.62E+07	291	1.96E+03	4370	0.	
30	1.48E+07	311	9.13E+03	4676	0.	
						TOTALS
LWC	5.23E-03		1.10E-03		1.13E-04	8.25E-04
MED D	20		93		180	40

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *19103110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.5
2	3.00E+08	26	3.53E+04	400	5.58E+01	
4	2.70E+08	47	9.57E+05	706	5.36E-01	ALT (KM)
6	3.02E+08	67	9.16E+04	1011	0.	8.507
8	2.30E+08	87	6.23E+04	1316	0.	
10	1.86E+08	108	2.65E+04	1622	0.	TEMP (C)
12	1.35E+08	128	1.96E+04	1927	0.	-34.2
14	9.57E+07	148	6.18E+03	2233	0.	
16	1.31E+08	169	2.54E+03	2538	0.	FROSTPOINT
18	9.49E+07	189	5.51E+03	2843	0.	
20	5.04E+07	209	9.98E+02	3149	0.	
22	4.28E+07	230	1.10E+03	3454	0.	TAS (M/S)
24	3.64E+07	250	0.	3760	0.	122.1
26	3.22E+07	271	1.36E+03	4065	0.	
28	3.19E+07	291	0.	4370	0.	
30	1.95E+07	311	3.67E+03	4676	0.	
						TOTALS
LWC	5.37E-03		8.73E-04		5.08E-05	8.00E-04
MED D	21		44		179	46

INTERVAL START *19103140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.7
2	3.17E+08	26	0.	400	8.36E+01	
4	2.64E+08	47	6.73E+05	706	1.08E+00	ALT (KM)
6	2.55E+08	67	4.38E+04	1011	0.	8.503
8	2.30E+08	87	3.14E+04	1316	0.	
10	1.58E+08	108	2.31E+04	1622	0.	TEMP (C)
12	1.32E+08	128	2.11E+04	1927	0.	-34.0
14	9.56E+07	148	4.05E+04	2233	0.	
16	1.22E+08	169	1.97E+04	2538	0.	FROSTPOINT
18	9.41E+07	189	2.96E+04	2843	0.	
20	4.53E+07	209	2.42E+04	3149	0.	
22	3.79E+07	230	1.99E+04	3454	0.	TAS (M/S)
24	2.99E+07	250	1.47E+04	3760	0.	121.3
26	3.06E+07	271	1.24E+04	4065	0.	
28	2.89E+07	291	7.89E+03	4370	0.	
30	1.92E+07	311	9.21E+03	4676	0.	
						TOTALS
LWC	4.59E-03		2.18E-03		7.74E-05	1.40E-03
MED D	21		95		180	80

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *19104:10*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.7
2	3.71E+08	26	3.58E+04	400	2.45E+02	
4	2.30E+08	47	5.57E+05	706	2.73E+00	ALT (KM)
6	1.91E+08	67	4.43E+04	1011	0.	8.503
8	1.71E+08	87	2.11E+04	1316	0.	
10	1.38E+08	108	1.44E+04	1622	0.	TEMP (C)
12	1.07E+08	128	4.52E+04	1927	0.	-34.0
14	7.05E+07	148	7.43E+04	2233	0.	
16	9.41E+07	169	9.15E+04	2538	0.	FRCSTPOINT
18	6.82E+07	189	1.27E+05	2843	0.	
20	4.25E+07	209	1.41E+05	3149	0.	
22	3.12E+07	230	7.95E+04	3454	0.	TAS (M/S)
24	2.42E+07	250	7.09E+04	3760	0.	119.9
26	2.39E+07	271	3.50E+04	4065	0.	
28	2.37E+07	291	2.24E+04	4370	0.	
30	1.66E+07	311	9.34E+03	4676	0.	
						TOTALS
LWC	4.02E-03		6.44E-03		2.25E-04	4.30E-03
MED D	21		96		179	86

INTERVAL START *19104:40*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						331.3
2	1.66E+08	26	1.08E+05	400	3.45E+02	
4	4.47E+08	47	6.92E+05	706	1.10E+01	ALT (KM)
6	4.76E+08	67	4.01E+04	1011	0.	6.490
8	4.21E+08	87	3.18E+04	1316	0.	
10	3.08E+08	108	4.69E+04	1622	0.	TEMP (C)
12	2.74E+08	128	8.07E+04	1927	0.	-33.8
14	1.67E+08	148	1.07E+05	2233	0.	
16	2.17E+08	169	7.02E+04	2538	0.	FRCSTPOINT
18	1.65E+08	189	1.15E+05	2843	0.	
20	7.71E+07	209	8.28E+04	3149	0.	
22	5.84E+07	230	4.72E+04	3454	0.	TAS (M/S)
24	4.63E+07	250	3.37E+04	3760	0.	119.4
26	3.64E+07	271	4.91E+04	4065	0.	
28	3.21E+07	291	3.37E+04	4370	0.	
30	1.90E+07	311	2.43E+04	4676	0.	
						TOTALS
LWC	7.55E-03		6.10E-03		3.50E-04	3.69E-03
MED D	13		100		187	89

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *19105:10*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						332.1
2	4.86E+08	26	1.09E+05	400	5.05E+02	
4	2.18E+08	47	4.01E+05	706	8.28E+00	ALT (KM)
6	1.91E+08	67	5.82E+04	1011	0.	8.473
8	1.55E+08	87	1.47E+04	1316	0.	
10	1.17E+08	108	3.26E+04	1622	0.	TEMP (C)
12	9.06E+07	128	3.09E+04	1927	0.	-33.6
14	6.04E+07	148	4.54E+04	2233	0.	
16	8.38E+07	169	5.75E+04	2538	0.	FRCSTPOINT
18	6.12E+07	189	1.16E+05	2843	0.	
20	3.35E+07	209	1.48E+05	3149	0.	
22	3.25E+07	230	1.46E+05	3454	0.	TAS (M/S)
24	2.18E+07	250	1.03E+05	3760	0.	118.9
26	2.64E+07	271	9.03E+04	4065	0.	
28	2.41E+07	291	7.58E+04	4370	0.	
30	1.80E+07	311	2.63E+04	4676	0.	
						TOTALS
LWC	3.85E-03		9.92E-03		4.76E-04	4.94E-03
MED D	22		108		191	93

INTERVAL START *19105:40*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						332.3
2	8.51E+08	26	0.	400	1.41E+03	
4	1.21E+08	47	9.64E+04	706	7.41E+01	ALT (KM)
6	9.27E+07	67	0.	1011	1.17E+00	8.469
8	8.44E+07	87	1.08E+04	1316	0.	
10	5.03E+07	108	1.81E+03	1622	0.	TEMP (C)
12	4.54E+07	128	2.72E+03	1927	0.	-33.9
14	2.72E+07	148	5.34E+03	2233	0.	
16	3.59E+07	169	1.50E+04	2538	0.	FRCSTPOINT
18	2.72E+07	189	6.09E+04	2843	0.	
20	1.21E+07	209	7.47E+04	3149	0.	
22	1.00E+07	230	7.99E+04	3454	0.	TAS (M/S)
24	6.94E+06	250	5.32E+04	3760	0.	117.7
26	7.97E+06	271	5.70E+04	4065	0.	
28	1.00E+07	291	4.73E+04	4370	0.	
30	4.36E+06	311	4.38E+04	4676	0.	
						TOTALS
LWC	1.43E-03		6.05E-03		1.58E-03	3.63E-03
MED D	20		116		195	102

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19106:10*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						332.2
2	1.19E+09	26	0.	400	5.59E+02	
4	8.91E+07	47	8.71E+04	706	3.25E+01	ALT (KM)
6	5.46E+07	67	4.54E+03	1011	5.89E-01	6.472
8	5.28E+07	87	2.71E+03	1316	0.	
10	3.30E+07	108	9.18E+03	1622	0.	TEMP (C)
12	3.37E+07	128	6.79E+03	1927	0.	-34.1
14	2.27E+07	148	1.18E+04	2233	0.	
16	2.58E+07	169	2.30E+04	2538	0.	FROSTPOINT
18	1.44E+07	189	4.96E+04	2843	0.	
20	1.13E+07	209	5.31E+04	3149	0.	
22	8.50E+06	230	6.30E+04	3454	0.	TAS (M/S)
24	7.22E+06	250	3.82E+04	3760	0.	117.2
26	6.44E+06	271	5.01E+04	4065	0.	
28	7.73E+06	291	2.62E+04	4370	0.	
30	2.83E+06	311	1.91E+04	4676	0.	
						TOTALS
LWC	1.09E-03		4.22E-03		6.45E-04	2.34E-03
MED D	21		112		197	98

INTERVAL START *19106:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						332.0
2	1.39E+09	26	0.	400	7.50E+02	
4	8.71E+07	47	1.93E+04	706	3.69E+01	ALT (KM)
6	5.06E+07	67	4.52E+03	1011	1.76E+00	8.477
8	4.57E+07	87	5.38E+03	1316	0.	
10	3.13E+07	108	1.83E+03	1622	0.	TEMP (C)
12	2.80E+07	128	0.	1927	0.	-34.1
14	1.34E+07	148	3.20E+03	2233	0.	
16	2.16E+07	169	1.06E+04	2538	0.	FROSTPOINT
18	1.54E+07	189	4.09E+04	2843	0.	
20	7.56E+06	209	6.64E+04	3149	0.	
22	8.22E+06	230	5.71E+04	3454	0.	TAS (M/S)
24	5.14E+06	250	6.60E+04	3760	0.	117.4
26	4.88E+06	271	4.42E+04	4065	0.	
28	6.88E+06	291	2.61E+04	4370	0.	
30	4.36E+06	311	2.09E+04	4676	0.	
						TOTALS
LWC	9.62E-04		4.39E-03		8.48E-04	2.38E-03
MED D	22		111		198	100

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19107:10*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						331.4
2	1.27E+09	26	7.26E+04	400	4.59E+02	
4	9.32E+07	47	2.87E+04	706	1.27E+01	ALT (KM)
6	6.83E+07	67	1.35E+04	1011	0.	8.487
8	5.20E+07	87	5.36E+03	1316	0.	
10	3.36E+07	108	0.	1622	0.	TEMP (C)
12	2.78E+07	128	2.68E+03	1927	0.	-33.9
14	1.81E+07	148	2.22E+04	2233	0.	
16	2.17E+07	169	1.83E+04	2538	0.	FROSTPOINT
18	1.27E+07	189	4.52E+04	2843	0.	
20	9.93E+06	209	6.59E+04	3149	0.	
22	6.63E+06	230	7.24E+04	3454	0.	TAS (M/S)
24	6.37E+06	250	5.04E+04	3760	0.	118.5
26	5.60E+06	271	4.39E+04	4065	0.	
28	5.35E+06	291	3.89E+04	4370	0.	
30	4.08E+06	311	2.08E+04	4676	0.	
						TOTALS
LWC	9.59E-04		4.78E-03		4.57E-04	2.31E-03
MED D	21		112		185	97

INTERVAL START *19107:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						331.1
2	2.06E+09	26	0.	400	2.14E+02	
4	3.65E+07	47	0.	706	7.13E+00	ALT (KM)
6	2.44E+07	67	0.	1011	0.	8.494
8	1.54E+07	87	0.	1316	0.	
10	1.34E+07	108	5.42E+03	1622	0.	TEMP (C)
12	1.26E+07	128	4.01E+03	1927	0.	-33.4
14	5.30E+06	148	9.47E+03	2233	0.	
16	6.80E+06	169	8.67E+03	2538	0.	FROSTPOINT
18	7.06E+06	189	2.15E+04	2843	0.	
20	4.77E+06	209	2.04E+04	3149	0.	
22	3.02E+06	230	1.91E+04	3454	0.	TAS (M/S)
24	2.70E+06	250	1.12E+04	3760	0.	120.4
26	3.02E+06	271	1.54E+04	4065	0.	
28	1.76E+06	291	1.28E+04	4370	0.	
30	1.77E+06	311	7.44E+03	4676	0.	
						TOTALS
LWC	4.18E-04		1.54E-03		2.19E-04	8.40E-04
MED D	21		113		187	96

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *19108110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.7
2	2.46E+09	26	0.	400	1.95E+02	
4	1.83E+07	47	0.	706	2.09E+01	ALT (KM)
6	3.96E+06	67	0.	1011	0.	8.502
8	4.20E+06	87	2.59E+03	1316	0.	
10	3.70E+06	108	0.	1622	0.	TEMP (C)
12	1.48E+06	123	1.31E+03	1927	0.	-33.4
14	9.86E+05	143	0.	2233	0.	
16	1.97E+06	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	
20	2.46E+05	209	0.	3149	0.	
22	1.24E+06	230	1.10E+03	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	121.9
26	2.46E+05	271	1.37E+03	4065	0.	
28	2.49E+05	291	1.57E+03	4370	0.	
30	9.86E+05	311	0.	4676	0.	
						TOTALS
LWC	9.67E-05		7.86E-05		2.68E-04	2.87E-04
MED D	21		121		214	207

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *19109110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.0
2	1.93E+09	26	0.	400	8.19E+02	
4	5.08E+07	47	2.72E+04	706	3.26E+01	ALT (KM)
6	3.32E+07	67	0.	1011	0.	8.516
8	2.81E+07	87	0.	1316	0.	
10	1.62E+07	108	0.	1622	0.	TEMP (C)
12	1.21E+07	128	0.	1927	0.	-33.6
14	8.70E+06	148	1.00E+03	2233	0.	
16	8.23E+06	169	0.	2538	0.	FROSTPOINT
18	8.47E+06	189	0.	2843	0.	
20	3.87E+06	209	0.	3149	0.	
22	4.84E+06	230	1.07E+03	3454	0.	TAS (M/S)
24	2.66E+06	250	1.31E+04	3760	0.	124.0
26	3.39E+06	271	2.02E+04	4065	0.	
28	2.91E+06	291	1.38E+04	4370	0.	
30	2.42E+06	311	1.61E+04	4676	0.	
						TOTALS
LWC	5.14E-04		1.32E-03		8.63E-04	8.89E-04
MED D	22		125		190	187

INTERVAL START *19108140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.9
2	2.00E+09	26	3.51E+04	400	7.24E+02	
4	5.37E+07	47	9.23E+03	706	2.19E+01	ALT (KM)
6	2.75E+07	67	4.33E+03	1011	0.	8.507
8	1.98E+07	87	0.	1316	0.	
10	1.99E+07	108	0.	1622	0.	TEMP (C)
12	9.34E+06	128	0.	1927	0.	-33.9
14	9.33E+06	148	2.05E+03	2233	0.	
16	1.35E+07	169	0.	2538	0.	FROSTPOINT
18	6.39E+06	189	2.73E+03	2843	0.	
20	4.51E+06	209	7.95E+03	3149	0.	
22	2.95E+06	230	7.64E+03	3454	0.	TAS (M/S)
24	2.46E+06	250	1.34E+04	3760	0.	123.4
26	2.21E+06	271	1.64E+04	4065	0.	
28	1.72E+06	291	1.87E+04	4370	0.	
30	9.82E+05	311	1.82E+04	4676	0.	
						TOTALS
LWC	4.16E-04		1.58E-03		7.29E-04	9.16E-04
MED D	19		125		186	186

INTERVAL START *19109140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.0
2	1.66E+09	26	0.	400	8.47E+02	
4	7.78E+07	47	4.54E+04	706	1.52E+01	ALT (KM)
6	4.71E+07	67	0.	1011	5.53E-01	8.516
8	3.55E+07	87	2.53E+03	1316	0.	
10	2.66E+07	108	0.	1622	0.	TEMP (C)
12	2.37E+07	128	1.28E+03	1927	0.	-33.6
14	1.11E+07	148	1.00E+03	2233	0.	
16	1.60E+07	169	0.	2538	0.	FROSTPOINT
18	8.46E+06	189	6.26E+03	2843	0.	
20	9.18E+06	209	1.27E+04	3149	0.	
22	3.87E+06	230	2.79E+04	3454	0.	TAS (M/S)
24	3.14E+06	250	3.10E+04	3760	0.	124.9
26	3.38E+06	271	5.91E+04	4065	0.	
28	3.38E+06	291	3.83E+04	4370	0.	
30	2.91E+06	311	3.94E+04	4676	0.	
						TOTALS
LWC	6.59E-04		3.84E-03		8.13E-04	1.29E-03
MED D	20		122		182	139

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *19110:10*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						329.9
2	1.06E+09	26	3.44E+04	400	6.03E+02	
4	1.28E+08	47	7.24E+04	706	9.96E+00	ALT (KM)
6	8.20E+07	67	4.25E+03	1011	0.	8.519
8	6.63E+07	87	1.27E+04	1316	0.	
10	4.92E+07	108	1.03E+04	1622	0.	TEMP (C)
12	4.32E+07	128	2.17E+04	1927	0.	-33.6
14	2.65E+07	148	4.01E+04	2233	0.	
16	2.77E+07	169	4.96E+04	2538	0.	FROSTPOINT
18	2.70E+07	189	9.74E+04	2843	0.	
20	1.37E+07	209	9.26E+04	3149	0.	
22	1.25E+07	230	7.40E+04	3454	0.	TAS (M/S)
24	1.11E+07	250	6.43E+04	3760	0.	125.2
26	7.48E+06	271	5.89E+04	4065	0.	
28	9.16E+06	291	3.52E+04	4370	0.	
30	8.20E+06	311	3.04E+04	4676	0.	
						TOTALS
LWC	1.56E-03		6.32E-03		5.69E-04	3.32E-03
MED D	22		109		181	93

INTERVAL START *19110:40*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.1
2	9.25E+08	26	2.07E+05	400	6.88E+02	
4	1.55E+08	47	5.45E+04	706	1.79E+01	ALT (KM)
6	9.65E+07	67	1.28E+04	1011	0.	8.515
8	8.66E+07	87	5.07E+03	1316	0.	
10	6.53E+07	108	1.72E+04	1622	0.	TEMP (C)
12	4.83E+07	128	3.42E+04	1927	0.	-33.5
14	2.66E+07	148	5.12E+04	2233	0.	
16	3.41E+07	169	7.29E+04	2538	0.	FROSTPOINT
18	2.88E+07	189	1.18E+05	2843	0.	
20	1.60E+07	209	1.29E+05	3149	0.	
22	1.45E+07	230	1.06E+05	3454	0.	TAS (M/S)
24	7.50E+06	250	8.01E+04	3760	0.	124.9
26	6.77E+06	271	7.26E+04	4065	0.	
28	9.42E+06	291	4.92E+04	4370	0.	
30	5.80E+06	311	2.87E+04	4676	0.	
						TOTALS
LWC	1.55E-03		8.06E-03		6.80E-04	4.45E-03
MED D	21		107		185	93

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *19111:10*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.2
2	9.72E+08	26	1.74E+05	400	8.56E+02	
4	1.43E+08	47	1.28E+05	706	2.23E+01	ALT (KM)
6	1.03E+08	67	4.32E+03	1011	5.59E-01	8.513
8	8.03E+07	87	7.69E+03	1316	0.	
10	5.91E+07	108	2.78E+04	1622	0.	TEMP (C)
12	4.22E+07	128	3.22E+04	1927	0.	-33.5
14	2.83E+07	148	3.14E+04	2233	0.	
16	4.25E+07	169	4.35E+04	2538	0.	FROSTPOINT
18	2.44E+07	189	9.03E+04	2843	0.	
20	1.64E+07	209	8.68E+04	3149	0.	
22	1.29E+07	230	9.44E+04	3454	0.	TAS (M/S)
24	1.03E+07	250	6.76E+04	3760	0.	124.8
26	8.55E+06	271	7.20E+04	4065	0.	
28	8.30E+06	291	5.74E+04	4370	0.	
30	6.83E+06	311	3.98E+04	4676	0.	
						TOTALS
LWC	1.61E-03		7.51E-03		9.54E-04	3.77E-03
MED D	21		113		185	96

INTERVAL START *19111:40*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.6
2	1.59E+09	26	7.04E+04	400	1.08E+03	
4	9.77E+07	47	4.62E+04	706	3.47E+01	ALT (KM)
6	6.65E+07	67	1.73E+04	1011	1.68E+00	8.505
8	4.92E+07	87	0.	1316	0.	
10	3.50E+07	108	5.26E+03	1622	0.	TEMP (C)
12	3.25E+07	128	2.41E+03	1927	0.	-33.5
14	1.65E+07	148	1.33E+04	2233	0.	
16	2.26E+07	169	9.30E+03	2538	0.	FROSTPOINT
18	1.92E+07	189	3.38E+04	2843	0.	
20	7.88E+06	209	5.64E+04	3149	0.	
22	9.10E+06	230	5.04E+04	3454	0.	TAS (M/S)
24	6.64E+06	250	4.87E+04	3760	0.	122.8
26	6.39E+06	271	3.29E+04	4065	0.	
28	5.41E+06	291	4.38E+04	4370	0.	
30	5.17E+06	311	2.73E+04	4676	0.	
						TOTALS
LWC	1.07E-03		4.36E-03		1.12E-03	2.52E-03
MED D	21		119		188	103

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19112110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.8
2	8.48E+08	26	2.13E+05	400	1.41E+03	
4	1.65E+08	47	7.46E+04	706	6.25E+01	ALT (KM)
6	1.13E+08	67	3.93E+04	1011	1.13E+00	8.501
8	9.70E+07	87	5.20E+03	1316	0.	
10	6.80E+07	108	8.86E+03	1622	0.	TEMP (C)
12	5.58E+07	128	3.41E+04	1927	0.	-33.5
14	3.72E+07	148	5.37E+04	2233	0.	
16	4.49E+07	169	5.11E+04	2538	0.	FRCSTPOINT
18	3.47E+07	189	1.53E+05	2843	0.	
20	1.89E+07	209	1.31E+05	3149	0.	
22	1.51E+07	230	1.16E+05	3454	0.	TAS (M/S)
24	1.44E+07	250	6.98E+04	3760	0.	121.7
26	1.41E+07	271	5.79E+04	4065	0.	
28	9.43E+06	291	4.88E+04	4370	0.	
30	6.69E+06	311	4.05E+04	4676	0.	
						TOTALS
LWC	1.96E-03		8.22E-03		1.53E-03	5.55E-03
MED D	21		106		192	96

INTERVAL START *19112140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.7
2	1.07E+09	26	3.56E+04	400	7.05E+02	
4	1.52E+08	47	1.12E+05	706	1.19E+01	ALT (KM)
6	1.05E+08	67	1.32E+04	1011	0.	8.502
8	8.68E+07	87	1.83E+04	1316	0.	
10	6.36E+07	108	1.07E+04	1622	0.	TEMP (C)
12	4.77E+07	128	1.98E+04	1927	0.	-33.9
14	3.17E+07	148	4.05E+04	2233	0.	
16	4.32E+07	169	3.94E+04	2538	0.	FRCSTPOINT
18	3.59E+07	189	1.33E+05	2843	0.	
20	1.90E+07	209	1.27E+05	3149	0.	
22	1.67E+07	230	1.29E+05	3454	0.	TAS (M/S)
24	1.10E+07	250	9.24E+04	3760	0.	121.0
26	1.12E+07	271	9.43E+04	4065	0.	
28	1.20E+07	291	5.54E+04	4370	0.	
30	6.99E+06	311	3.33E+04	4676	0.	
						TOTALS
LWC	1.52E-03		8.96E-03		6.67E-04	4.51E-03
MED D	21		109		181	94

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19113110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						331.2
2	1.05E+09	26	1.75E+05	400	5.21E+02	
4	1.41E+08	47	6.50E+04	706	9.55E+00	ALT (KM)
6	9.18E+07	67	1.30E+04	1011	0.	6.493
8	7.60E+07	87	1.20E+04	1316	0.	
10	5.71E+07	108	1.23E+04	1622	0.	TEMP (C)
12	4.53E+07	128	3.64E+04	1927	0.	-33.5
14	2.63E+07	148	8.80E+04	2233	0.	
16	3.79E+07	169	5.82E+04	2538	0.	FRCSTPOINT
18	2.46E+07	189	1.15E+05	2843	0.	
20	1.23E+07	209	1.31E+05	3149	0.	
22	1.53E+07	230	9.64E+04	3454	0.	TAS (M/S)
24	1.11E+07	250	7.18E+04	3760	0.	122.7
26	1.20E+07	271	6.23E+04	4065	0.	
28	8.36E+06	291	3.76E+04	4370	0.	
30	9.13E+06	311	2.37E+04	4676	0.	
						TOTALS
LWC	1.74E-03		7.35E-03		4.91E-04	4.23E-03
MED D	22		104		191	91

INTERVAL START *19113140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						330.8
2	8.68E+08	26	1.07E+05	400	8.78E+02	
4	1.74E+08	47	1.41E+05	706	3.85E+01	ALT (KM)
6	1.16E+08	67	5.29E+04	1011	0.	8.542
8	1.05E+08	87	3.66E+04	1316	0.	
10	7.30E+07	108	2.67E+04	1622	0.	TEMP (C)
12	5.80E+07	128	5.40E+04	1927	0.	-33.8
14	3.80E+07	148	6.02E+04	2233	0.	
16	5.10E+07	169	4.53E+04	2538	0.	FRCSTPOINT
18	3.45E+07	189	7.86E+04	2843	0.	
20	2.15E+07	209	6.97E+04	3149	0.	
22	1.85E+07	230	7.22E+04	3454	0.	TAS (M/S)
24	1.33E+07	250	6.91E+04	3760	0.	121.9
26	1.57E+07	271	7.49E+04	4065	0.	
28	1.42E+07	291	4.12E+04	4370	0.	
30	8.99E+06	311	1.85E+04	4676	0.	
						TOTALS
LWC	2.27E-03		6.61E-03		9.42E-04	3.83E-03
MED D	22		109		191	94

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19114110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						326.4
2	4.64E+08	26	7.20E+04	400	1.54E+03	
4	3.41E+08	47	1.41E+06	706	7.87E+01	ALT (KM)
6	3.62E+08	67	1.55E+05	1011	1.72E+00	8.592
8	3.17E+08	87	9.77E+04	1316	0.	
10	2.56E+08	108	5.38E+04	1622	0.	TEMP (C)
12	1.98E+08	128	8.37E+04	1927	0.	-34.1
14	1.27E+08	148	5.55E+04	2233	0.	
16	1.69E+08	169	4.49E+04	2538	0.	FRCSTPOINT
18	1.37E+08	189	6.71E+04	2843	0.	
20	7.99E+07	209	5.70E+04	3149	0.	
22	5.97E+07	230	5.26E+04	3454	0.	TAS (M/S)
24	3.98E+07	250	5.59E+04	3760	0.	120.0
26	4.21E+07	271	4.76E+04	4065	0.	
28	3.90E+07	291	3.68E+04	4370	0.	
30	2.44E+07	311	4.47E+04	4676	0.	
						TOTALS
LWC	7.10E-03		6.78E-03		1.73E-03	4.84E-03
MED D	21		108		195	94

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19115110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						321.9
2	3.10E+08	26	2.16E+05	400	1.68E+02	
4	3.58E+08	47	1.39E+06	706	2.74E+00	ALT (KM)
6	3.55E+08	67	2.66E+05	1011	0.	8.685
8	3.18E+08	87	2.56E+05	1316	0.	
10	2.28E+08	108	8.80E+04	1622	0.	TEMP (C)
12	1.86E+08	128	9.58E+04	1927	0.	-34.8
14	1.24E+08	148	6.50E+04	2233	0.	
16	1.65E+08	169	3.37E+04	2538	0.	FRCSTPOINT
18	1.40E+08	189	6.16E+04	2843	0.	
20	7.39E+07	209	5.49E+04	3149	0.	
22	5.39E+07	230	3.36E+04	3454	0.	TAS (M/S)
24	4.43E+07	250	3.60E+04	3760	0.	119.9
26	4.68E+07	271	2.66E+04	4065	0.	
28	4.15E+07	291	2.40E+04	4370	0.	
30	2.82E+07	311	3.74E+03	4676	0.	
						TOTALS
LWC	7.24E-03		4.87E-03		1.58E-04	3.42E-03
MED D	21		87		181	71

INTERVAL START *19114140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						324.0
2	9.15E+08	26	1.80E+05	400	1.09E+03	
4	3.11E+08	47	1.11E+06	706	7.56E+01	ALT (KM)
6	4.56E+08	67	1.11E+05	1011	1.72E+00	8.642
8	3.79E+08	87	1.01E+05	1316	6.07E-01	
10	3.10E+08	108	5.03E+04	1622	0.	TEMP (C)
12	2.35E+08	128	3.73E+04	1927	0.	-34.6
14	1.54E+08	148	4.72E+04	2233	0.	
16	2.26E+08	169	2.16E+04	2538	0.	FRCSTPOINT
18	1.70E+08	189	3.55E+04	2843	0.	
20	8.56E+07	209	5.30E+04	3149	0.	
22	6.11E+07	230	3.36E+04	3454	0.	TAS (M/S)
24	4.50E+07	250	2.74E+04	3760	0.	119.8
26	4.34E+07	271	2.52E+04	4065	0.	
28	4.14E+07	291	3.20E+04	4370	0.	
30	2.42E+07	311	2.61E+04	4676	0.	
						TOTALS
LWC	8.08E-03		4.49E-03		1.35E-03	3.58E-03
MED D	20		105		203	94

INTERVAL START *19115140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						320.6
2	1.58E+09	26	3.58E+04	400	1.57E+02	
4	1.63E+08	47	1.80E+05	706	2.72E+00	ALT (KM)
6	6.17E+07	67	3.95E+04	1011	0.	8.713
8	6.75E+07	87	3.93E+04	1316	0.	
10	4.70E+07	108	2.66E+04	1622	0.	TEMP (C)
12	3.20E+07	128	1.84E+04	1927	0.	-35.0
14	2.73E+07	148	2.18E+04	2233	0.	
16	3.20E+07	169	1.80E+04	2538	0.	FRCSTPOINT
18	2.68E+07	189	4.16E+04	2843	0.	
20	1.43E+07	209	5.05E+04	3149	0.	
22	1.05E+07	230	4.78E+04	3454	0.	TAS (M/S)
24	9.74E+06	250	3.58E+04	3760	0.	121.2
26	1.13E+07	271	3.75E+04	4065	0.	
28	8.76E+06	291	1.90E+04	4370	0.	
30	9.01E+06	311	1.11E+04	4676	0.	
						TOTALS
LWC	1.61E-03		3.56E-03		1.49E-04	1.81E-03
MED D	22		107		181	91

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19116110*
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	6.86E+08	26	2.12E+05	400	1.39E+01	
4	2.47E+08	47	9.78E+05	706	0.	ALT (KM)
6	2.16E+08	67	1.40E+05	1011	0.	8.754
8	1.84E+08	87	1.69E+05	1316	0.	
10	1.42E+08	108	1.03E+05	1622	0.	TEMP (C)
12	1.27E+08	128	1.06E+05	1927	0.	-35.1
14	7.58E+07	148	6.09E+04	2233	0.	
16	1.12E+08	169	3.23E+04	2538	0.	FROSTPOINT
18	8.72E+07	189	4.41E+04	2843	0.	
20	4.51E+07	209	1.90E+04	3149	0.	
22	3.59E+07	230	1.21E+04	3454	0.	TAS (M/S)
24	3.25E+07	250	4.90E+03	3760	0.	121.9
26	3.02E+07	271	4.13E+03	4065	0.	
28	2.83E+07	291	4.77E+03	4370	0.	
30	2.13E+07	311	0.	4676	0.	
						TOTALS
LWC	4.87E-03		2.51E-03		1.20E-05	2.28E-03
MED D	22		57		175	65

INTERVAL START *19116140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						317.3
2	7.36E+08	26	1.06E+05	400	0.	
4	1.90E+08	47	7.87E+05	706	0.	ALT (KM)
6	1.41E+08	67	1.17E+05	1011	0.	8.783
8	1.30E+08	87	8.90E+04	1316	0.	
10	1.00E+08	108	4.57E+04	1622	0.	TEMP (C)
12	7.69E+07	128	2.48E+04	1927	0.	-35.3
14	5.52E+07	148	1.54E+04	2233	0.	
16	6.56E+07	169	1.10E+04	2538	0.	FROSTPOINT
18	6.06E+07	189	1.10E+04	2843	0.	
20	2.54E+07	209	2.99E+03	3149	0.	
22	2.34E+07	230	3.29E+03	3454	0.	TAS (M/S)
24	1.90E+07	250	0.	3760	0.	122.4
26	1.75E+07	271	0.	4065	0.	
28	1.92E+07	291	0.	4370	0.	
30	1.26E+07	311	0.	4676	0.	
						TOTALS
LWC	3.05E-03		9.58E-04		0.	9.58E-04
MED D	22		50		0	90

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19117110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						316.3
2	2.29E+08	26	0.	400	6.65E+00	
4	4.64E+08	47	1.05E+06	706	0.	ALT (KM)
6	4.97E+08	67	1.17E+05	1011	0.	8.804
8	4.44E+08	87	1.19E+05	1316	0.	
10	3.46E+08	108	5.11E+04	1622	0.	TEMP (C)
12	2.79E+08	128	6.65E+04	1927	0.	-35.4
14	1.68E+08	148	3.39E+04	2233	0.	
16	2.46E+08	169	1.27E+04	2538	0.	FROSTPOINT
18	1.84E+08	189	2.47E+04	2843	0.	
20	8.36E+07	209	1.40E+04	3149	0.	
22	5.85E+07	230	9.88E+03	3454	0.	TAS (M/S)
24	5.38E+07	250	7.30E+03	3760	0.	122.3
26	3.90E+07	271	2.74E+03	4065	0.	
28	3.65E+07	291	0.	4370	0.	
30	2.25E+07	311	0.	4676	0.	
						TOTALS
LWC	8.25E-03		1.71E-03		5.76E-06	1.56E-03
MED D	19		64		175	61

INTERVAL START *19117140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						315.9
2	1.49E+09	26	7.04E+04	400	0.	
4	2.41E+08	47	4.99E+05	706	0.	ALT (KM)
6	2.32E+08	67	6.94E+04	1011	0.	8.813
8	2.10E+08	87	2.64E+04	1316	0.	
10	1.62E+08	108	1.05E+04	1622	0.	TEMP (C)
12	1.26E+08	128	1.43E+04	1927	0.	-35.6
14	7.51E+07	148	3.07E+03	2233	0.	
16	1.09E+08	169	2.53E+03	2538	0.	FROSTPOINT
18	8.03E+07	189	0.	2843	0.	
20	4.16E+07	209	9.95E+02	3149	0.	
22	2.56E+07	230	0.	3454	0.	TAS (M/S)
24	2.29E+07	250	0.	3760	0.	122.0
26	1.85E+07	271	0.	4065	0.	
28	1.65E+07	291	0.	4370	0.	
30	7.63E+06	311	0.	4676	0.	
						TOTALS
LWC	3.66E-03		3.99E-04		0.	3.99E-04
MED D	19		37		0	37

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19:18:10*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						315.8
2	2.85E+09	26	0.	400	0.	
4	3.11E+07	47	5.47E+04	706	0.	ALT (KM)
6	9.46E+06	67	1.71E+04	1011	0.	8.815
8	8.49E+06	87	1.53E+04	1316	0.	
10	5.82E+06	108	3.46E+03	1622	0.	TEMP (C)
12	5.58E+06	128	1.16E+04	1927	0.	-35.5
14	2.91E+06	148	2.02E+03	2233	0.	
16	4.37E+06	169	0.	2538	0.	FRCSTPOINT
18	3.40E+06	189	2.70E+03	2843	0.	
20	7.28E+05	209	0.	3149	0.	
22	1.46E+06	230	0.	3454	0.	TAS (M/S)
24	1.94E+06	250	0.	3760	0.	124.1
26	1.21E+06	271	0.	4065	0.	
28	1.21E+06	291	0.	4370	0.	
30	2.43E+06	311	0.	4676	0.	
						TOTALS
LWC	2.66E-04		1.23E-04		0.	1.23E-04
MED D	23		59		0	59

INTERVAL START *19:18:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						315.8
2	2.97E+08	26	1.38E+05	400	8.21E+01	
4	4.05E+08	47	2.50E+06	706	0.	ALT (KM)
6	5.32E+08	67	3.28E+05	1011	0.	8.816
8	4.40E+08	87	2.54E+05	1316	0.	
10	3.39E+08	108	7.77E+04	1622	0.	TEMP (C)
12	2.87E+08	128	5.37E+04	1927	0.	-36.0
14	1.79E+08	148	4.53E+04	2233	0.	
16	2.47E+08	169	2.82E+04	2538	0.	FRCSTPOINT
18	2.02E+08	189	7.25E+04	2843	0.	
20	1.17E+08	209	4.39E+04	3149	0.	
22	9.51E+07	230	2.58E+04	3454	0.	TAS (M/S)
24	6.85E+07	250	2.74E+04	3760	0.	124.8
26	7.18E+07	271	2.01E+04	4065	0.	
28	6.48E+07	291	1.07E+04	4370	0.	
30	4.26E+07	311	1.79E+03	4676	0.	
						TOTALS
LWC	1.11E-02		4.41E-03		7.11E-05	3.45E-03
MED D	21		78		175	59

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19:19:10*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						315.9
2	6.13E+07	26	3.44E+05	400	2.78E+02	
4	4.94E+08	47	3.69E+06	706	7.35E+00	ALT (KM)
6	7.42E+08	67	2.89E+05	1011	0.	8.814
8	6.39E+08	87	1.90E+05	1316	0.	
10	5.24E+08	108	5.16E+04	1622	0.	TEMP (C)
12	4.17E+08	128	3.57E+04	1927	0.	-35.9
14	2.76E+08	148	2.71E+04	2233	0.	
16	3.71E+08	169	1.74E+04	2538	0.	FRCSTPOINT
18	3.19E+08	189	3.66E+04	2843	0.	
20	1.68E+08	209	3.51E+04	3149	0.	
22	1.44E+08	230	1.82E+04	3454	0.	TAS (M/S)
24	1.10E+08	250	1.91E+04	3760	0.	125.1
26	1.03E+08	271	3.08E+04	4065	0.	
28	9.24E+07	291	1.07E+04	4370	0.	
30	6.78E+07	311	2.15E+04	4676	0.	
						TOTALS
LWC	1.67E-02		4.77E-03		2.75E-04	3.41E-03
MED D	21		80		185	45

INTERVAL START *19:19:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						315.8
2	6.61E+07	26	3.46E+05	400	6.65E+02	
4	4.67E+08	47	3.52E+06	706	3.05E+01	ALT (KM)
6	6.73E+08	67	4.05E+05	1011	0.	8.815
8	5.51E+08	87	2.26E+05	1316	0.	
10	4.33E+08	108	6.91E+04	1622	0.	TEMP (C)
12	3.71E+08	128	6.65E+04	1927	0.	-35.9
14	2.30E+08	148	3.52E+04	2233	0.	
16	3.37E+08	169	2.99E+04	2538	0.	FRCSTPOINT
18	2.67E+08	189	3.49E+04	2843	0.	
20	1.41E+08	209	3.51E+04	3149	0.	
22	1.14E+08	230	4.08E+04	3454	0.	TAS (M/S)
24	9.75E+07	250	3.94E+04	3760	0.	124.8
26	9.84E+07	271	3.09E+04	4065	0.	
28	8.92E+07	291	3.53E+04	4370	0.	
30	6.17E+07	311	2.51E+04	4676	0.	
						TOTALS
LWC	1.48E-02		6.24E-03		7.20E-04	4.39E-03
MED D	27		93		192	60

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19120110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						315.7
2	6.31E+08	26	3.79E+05	400	5.60E+02	
4	2.23E+08	47	5.90E+05	706	9.44E+00	ALT (KM)
6	1.79E+08	67	1.28E+05	1011	0.	8.817
8	1.33E+08	87	1.29E+05	1316	0.	
10	1.12E+08	108	7.76E+04	1622	0.	TEMP (C)
12	8.61E+07	128	8.17E+04	1927	0.	-35.9
14	4.57E+07	148	7.63E+04	2233	0.	
16	7.88E+07	169	4.55E+04	2538	0.	FRCSTPOINT
18	6.04E+07	189	9.84E+04	2843	0.	
20	3.02E+07	209	1.04E+05	3149	0.	
22	2.54E+07	230	8.80E+04	3454	0.	TAS (M/S)
24	2.49E+07	250	9.06E+04	3760	0.	125.0
26	2.42E+07	271	5.90E+04	4065	0.	
28	1.98E+07	291	3.37E+04	4370	0.	
30	1.48E+07	311	3.04E+04	4676	0.	
						TOTALS
LWC	3.46E-03		7.87E-03		5.29E-04	4.49E-03
MED D	22		105		281	88

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19121110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						315.4
2	1.41E+09	26	3.41E+05	400	9.95E+00	
4	1.15E+08	47	9.98E+04	706	0.	ALT (KM)
6	7.76E+07	67	3.38E+04	1011	0.	8.823
8	5.89E+07	87	6.03E+04	1316	0.	
10	4.41E+07	108	9.73E+04	1622	0.	TEMP (C)
12	3.71E+07	128	1.48E+05	1927	0.	-35.9
14	2.08E+07	148	9.46E+04	2233	0.	
16	2.76E+07	169	8.17E+04	2538	0.	FRCSTPOINT
18	2.35E+07	189	7.46E+04	2843	0.	
20	1.10E+07	209	3.98E+04	3149	0.	
22	1.44E+07	230	1.92E+04	3454	0.	TAS (M/S)
24	8.14E+06	250	5.93E+03	3760	0.	126.1
26	1.03E+07	271	2.66E+03	4065	0.	
28	7.43E+06	291	1.53E+03	4370	0.	
30	6.54E+06	311	0.	4676	0.	
						TOTALS
LWC	1.43E-03		2.66E-03		8.61E-06	2.53E-03
MED D	22		78		175	76

INTERVAL START *19120140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						315.9
2	3.63E+08	26	5.84E+05	400	1.27E+02	
4	2.66E+08	47	8.86E+05	706	1.05E+00	ALT (KM)
6	2.49E+08	67	2.33E+05	1011	0.	8.822
8	1.93E+08	87	2.45E+05	1316	0.	
10	1.61E+08	108	1.61E+05	1622	0.	TEMP (C)
12	1.15E+08	128	1.62E+05	1927	0.	-35.8
14	8.17E+07	148	1.19E+05	2233	0.	
16	1.01E+08	169	9.83E+04	2538	0.	FRCSTPOINT
18	8.77E+07	189	1.63E+05	2843	0.	
20	5.23E+07	209	1.05E+05	3149	0.	
22	4.29E+07	230	7.93E+04	3454	0.	TAS (M/S)
24	3.57E+07	250	6.08E+04	3760	0.	125.3
26	3.78E+07	271	4.16E+04	4065	0.	
28	3.25E+07	291	2.91E+04	4370	0.	
30	3.03E+07	311	1.43E+04	4676	0.	
						TOTALS
LWC	5.50E-03		8.16E-03		1.15E-04	5.64E-03
MED D	23		90		178	81

INTERVAL START *19121140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						315.5
2	6.92E+08	26	2.39E+05	400	8.93E+00	
4	1.59E+08	47	1.78E+05	706	0.	ALT (KM)
6	1.42E+08	67	1.47E+05	1011	0.	8.822
8	1.07E+08	87	1.88E+05	1316	0.	
10	8.76E+07	108	2.33E+05	1622	0.	TEMP (C)
12	7.24E+07	128	2.60E+05	1927	0.	-35.8
14	4.20E+07	148	1.79E+05	2233	0.	
16	5.90E+07	169	8.28E+04	2538	0.	FRCSTPOINT
18	4.39E+07	189	1.06E+05	2843	0.	
20	2.46E+07	209	6.66E+04	3149	0.	
22	2.56E+07	230	2.97E+04	3454	0.	TAS (M/S)
24	1.39E+07	250	1.06E+04	3760	0.	126.4
26	2.08E+07	271	1.19E+04	4065	0.	
28	1.72E+07	291	1.51E+03	4370	0.	
30	1.48E+07	311	3.54E+03	4676	0.	
						TOTALS
LWC	2.86E-03		4.91E-03		7.73E-06	4.43E-03
MED D	22		75		175	73

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19122140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB) 315.4
2	7.36E+08	26	3.43E+05	400	2.99E+01	
4	1.70E+08	47	8.12E+04	706	0.	ALT (KM)
6	1.03E+08	67	7.61E+04	1011	0.	8.823
8	8.86E+07	87	1.06E+05	1316	0.	
10	7.25E+07	108	1.37E+05	1622	0.	TEMP (C)
12	5.38E+07	128	2.03E+05	1927	0.	-36.0
14	3.65E+07	148	1.66E+05	2233	0.	
16	4.30E+07	169	8.90E+04	2538	0.	FRCSTPOINT
18	3.07E+07	189	1.32E+05	2843	0.	
20	1.83E+07	209	9.32E+04	3149	0.	
22	1.70E+07	230	3.31E+04	3454	0.	TAS (M/S)
24	1.66E+07	250	1.78E+04	3760	0.	125.7
26	1.42E+07	271	1.60E+04	4065	0.	
28	1.25E+07	291	9.15E+03	4370	0.	
30	9.12E+06	311	7.12E+03	4676	0.	
						TOTALS
LWC	2.13E-03		5.19E-03		2.59E-05	4.28E-03
MED D	22		83		175	79

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19123140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB) 315.6
2	1.12E+09	26	0.	400	1.09E+03	
4	1.67E+08	47	6.84E+05	706	2.60E+01	ALT (KM)
6	1.46E+08	67	7.70E+04	1011	1.12E+00	8.820
8	1.27E+08	87	4.33E+04	1316	0.	
10	1.05E+08	108	2.08E+04	1622	0.	TEMP (C)
12	7.77E+07	128	2.10E+04	1927	0.	-36.1
14	4.93E+07	148	8.10E+03	2233	0.	
16	7.17E+07	169	5.85E+03	2538	0.	FRCSTPOINT
18	4.81E+07	189	5.41E+03	2843	0.	
20	2.79E+07	209	1.28E+04	3149	0.	
22	2.50E+07	230	1.30E+04	3454	0.	TAS (M/S)
24	2.04E+07	250	3.13E+04	3760	0.	124.1
26	2.24E+07	271	5.81E+04	4065	0.	
28	1.72E+07	291	5.42E+04	4370	0.	
30	1.21E+07	311	1.80E+04	4676	0.	
						TOTALS
LWC	3.66E-03		4.01E-03		1.08E-03	1.93E-03
MED D	22		120		185	125

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19122140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB) 314.7
2	2.80E+08	26	3.10E+05	400	6.55E+02	
4	3.55E+08	47	1.92E+06	706	6.30E+00	ALT (KM)
6	3.81E+08	67	2.59E+05	1011	5.51E-01	8.817
8	3.20E+08	87	1.85E+05	1316	0.	
10	2.58E+08	108	9.30E+04	1622	0.	TEMP (C)
12	2.11E+08	128	5.23E+04	1927	0.	-36.1
14	1.29E+08	148	3.41E+04	2233	0.	
16	1.93E+08	169	2.40E+04	2538	0.	FRCSTPOINT
18	1.43E+08	189	8.14E+04	2843	0.	
20	8.72E+07	209	1.23E+05	3149	0.	
22	6.86E+07	230	1.50E+05	3454	0.	TAS (M/S)
24	5.89E+07	250	1.17E+05	3760	0.	129.1
26	5.26E+07	271	1.07E+05	4065	0.	
28	4.49E+07	291	9.20E+04	4370	0.	
30	3.77E+07	311	4.29E+04	4676	0.	
						TOTALS
LWC	8.42E-03		1.18E-02		6.04E-04	5.66E-03
MED D	22		109		179	91

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19123140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB) 315.7
2	4.09E+08	26	1.04E+05	400	1.62E+03	
4	2.54E+08	47	9.40E+05	706	1.69E+01	ALT (KM)
6	2.26E+08	67	2.05E+05	1011	1.67E+00	8.818
8	1.76E+08	87	1.61E+05	1316	0.	
10	1.36E+08	108	8.32E+04	1622	0.	TEMP (C)
12	1.18E+08	128	2.62E+04	1927	0.	-36.1
14	6.83E+07	148	1.62E+04	2233	0.	
16	9.84E+07	169	6.66E+03	2538	0.	FRCSTPOINT
18	6.86E+07	189	3.24E+04	2843	0.	
20	3.87E+07	209	7.56E+04	3149	0.	
22	4.08E+07	230	8.64E+04	3454	0.	TAS (M/S)
24	3.21E+07	250	9.36E+04	3760	0.	124.2
26	3.23E+07	271	1.01E+05	4065	0.	
28	2.21E+07	291	1.17E+05	4370	0.	
30	1.75E+07	311	7.39E+04	4676	0.	
						TOTALS
LWC	4.39E-03		1.06E-02		1.50E-03	4.41E-03
MED D	22		119		180	98

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19124110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						315.5
2	5.79E+08	26	1.04E+05	400	2.97E+02	
4	3.12E+08	47	2.23E+06	706	3.70E+00	ALT (KM)
6	3.70E+08	67	3.39E+05	1011	0.	8.823
8	3.18E+08	87	1.87E+05	1316	0.	
10	2.46E+08	108	7.83E+04	1622	0.	TEMP (C)
12	2.13E+08	128	4.12E+04	1927	0.	-56.0
14	1.13E+08	148	2.94E+04	2233	0.	
16	1.87E+08	169	1.84E+04	2538	0.	FRCSTPOINT
18	1.47E+08	189	4.87E+04	2843	0.	
20	7.73E+07	209	7.08E+04	3149	0.	
22	6.29E+07	230	5.84E+04	3454	0.	TAS (M/S)
24	4.8CE+07	250	5.05E+04	3760	0.	123.9
26	5.73E+07	271	4.87E+04	4065	0.	
28	5.29E+07	291	2.17E+04	4370	0.	
30	3.49E+07	311	1.26E+04	4676	0.	
						TOTALS
LWC	6.25E-03		5.87E-03		2.75E-04	3.74E-03
MED D	22		97		180	77

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19125110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						315.5
2	1.47E+08	26	4.18E+05	400	9.30E+01	
4	4.02E+08	47	2.17E+06	706	1.06E+00	ALT (KM)
6	5.36E+08	67	2.45E+05	1011	0.	6.822
8	4.81E+08	87	2.17E+05	1316	0.	
10	3.59E+08	108	9.92E+04	1622	0.	TEMP (C)
12	3.03E+08	128	1.03E+05	1927	0.	-35.7
14	1.64E+08	148	7.71E+04	2233	0.	
16	2.75E+08	169	4.10E+04	2538	0.	FRCSTPOINT
18	1.98E+08	189	5.50E+04	2843	0.	
20	1.13E+08	209	4.82E+04	3149	0.	
22	9.90E+07	230	3.24E+04	3454	0.	TAS (M/S)
24	6.72E+07	250	1.44E+04	3760	0.	123.9
26	6.76E+07	271	1.48E+04	4065	0.	
28	6.57E+07	291	1.23E+04	4370	0.	
30	4.41E+07	311	1.26E+04	4676	0.	
						TOTALS
LWC	1.13E-02		4.62E-03		8.55E-05	3.63E-03
MED D	21		77		179	66

INTERVAL START *19124140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						315.5
2	1.54E+08	26	1.74E+05	400	8.58E+01	
4	3.75E+08	47	2.77E+06	706	5.31E-01	ALT (KM)
6	4.20E+08	67	4.61E+05	1011	0.	8.823
8	3.99E+08	87	2.72E+05	1316	0.	
10	2.68E+08	108	1.24E+05	1622	0.	TEMP (C)
12	2.43E+08	128	1.02E+05	1927	0.	-35.9
14	1.47E+08	148	8.55E+04	2233	0.	
16	2.05E+08	169	4.86E+04	2538	0.	FRCSTPOINT
18	1.51E+08	189	7.51E+04	2843	0.	
20	9.20E+07	209	7.91E+04	3149	0.	
22	8.27E+07	230	5.00E+04	3454	0.	TAS (M/S)
24	5.92E+07	250	4.23E+04	3760	0.	123.4
26	6.09E+07	271	2.72E+04	4065	0.	
28	5.75E+07	291	1.09E+04	4370	0.	
30	4.92E+07	311	5.44E+03	4676	0.	
						TOTALS
LWC	9.64E-03		6.12E-03		7.67E-05	4.72E-03
MED D	22		81		177	67

INTERVAL START *19125140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						315.6
2	5.90E+07	26	1.39E+05	400	8.88E+01	
4	5.67E+08	47	2.14E+06	706	1.50E+00	ALT (KM)
6	8.59E+08	67	2.06E+05	1011	0.	8.819
8	7.94E+08	87	1.61E+05	1316	0.	
10	6.36E+08	108	7.31E+04	1622	0.	TEMP (C)
12	5.30E+08	128	7.09E+04	1927	0.	-35.6
14	3.28E+08	148	4.67E+04	2233	0.	
16	4.86E+08	169	2.76E+04	2538	0.	FRCSTPOINT
18	3.54E+08	189	4.97E+04	2843	0.	
20	1.80E+08	209	3.64E+04	3149	0.	
22	1.45E+08	230	1.84E+04	3454	0.	TAS (M/S)
24	1.09E+08	250	2.29E+04	3760	0.	123.8
26	8.93E+07	271	1.08E+04	4065	0.	
28	9.37E+07	291	1.24E+04	4370	0.	
30	5.47E+07	311	5.41E+03	4676	0.	
						TOTALS
LWC	1.75E-02		3.70E-03		8.43E-05	2.85E-03
MED D	29		77		182	68

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19126110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						315.9
2	4.89E+07	26	1.05E+05	400	2.53E+00	
4	5.42E+08	47	1.08E+06	706	0.	ALT (KM)
6	1.57E+09	67	8.61E+04	1011	0.	8.812
8	1.76E+09	87	3.08E+04	1316	0.	
10	1.34E+09	108	2.44E+04	1622	0.	TEMP (C)
12	1.07E+09	128	2.58E+04	1927	0.	-35.7
14	6.17E+08	148	8.13E+03	2233	0.	
16	9.14E+08	169	8.40E+03	2538	0.	FROSTPOINT
18	6.22E+08	189	4.53E+03	2843	0.	
20	2.47E+08	209	6.91E+03	3149	0.	
22	1.64E+08	230	1.09E+03	3454	0.	TAS (M/S)
24	9.31E+07	250	0.	3760	0.	123.6
26	7.45E+07	271	1.36E+03	4065	0.	
28	5.08E+07	291	0.	4370	0.	
30	2.96E+07	311	0.	4676	0.	
						TOTALS
LWC	2.28E-02		8.78E-04		2.19E-06	8.56E-04
MED D	17		38		175	37

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19127110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						316.0
2	7.31E+07	26	4.24E+05	400	8.73E+00	
4	4.99E+08	47	1.44E+06	706	0.	ALT (KM)
6	1.20E+09	67	2.44E+05	1011	0.	8.811
8	1.20E+09	87	2.62E+05	1316	0.	
10	9.00E+08	108	1.68E+05	1622	0.	TEMP (C)
12	7.18E+08	128	1.62E+05	1927	0.	-35.8
14	4.16E+08	148	9.46E+04	2233	0.	
16	6.10E+08	169	5.85E+04	2538	0.	FROSTPOINT
18	4.26E+08	189	7.69E+04	2843	0.	
20	1.74E+08	209	3.40E+04	3149	0.	
22	1.13E+08	230	3.74E+04	3454	0.	TAS (M/S)
24	7.15E+07	250	1.34E+04	3760	0.	122.1
26	6.55E+07	271	4.12E+03	4065	0.	
28	5.22E+07	291	6.28E+03	4370	0.	
30	3.76E+07	311	5.51E+03	4676	0.	
						TOTALS
LWC	1.69E-02		4.42E-03		7.56E-06	3.87E-03
MED D	18		72		175	67

INTERVAL START *19126140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						316.1
2	7.04E+07	26	3.51E+04	400	3.07E+00	
4	5.49E+08	47	1.50E+06	706	0.	ALT (KM)
6	1.53E+09	67	1.43E+05	1011	0.	8.808
8	1.83E+09	87	1.71E+05	1316	0.	
10	1.21E+09	108	6.15E+04	1622	0.	TEMP (C)
12	9.71E+08	128	4.93E+04	1927	0.	-35.7
14	5.68E+08	148	3.08E+04	2233	0.	
16	8.50E+08	169	1.39E+04	2538	0.	FROSTPOINT
18	5.22E+08	189	2.10E+04	2843	0.	
20	2.28E+08	209	8.98E+03	3149	0.	
22	1.41E+08	230	1.10E+04	3454	0.	TAS (M/S)
24	8.79E+07	250	1.22E+03	3760	0.	122.6
26	8.32E+07	271	1.36E+03	4065	0.	
28	5.37E+07	291	1.98E+03	4370	0.	
30	3.45E+07	311	0.	4676	0.	
						TOTALS
LWC	2.12E-02		1.75E-03		2.66E-06	1.68E-03
MED D	17		54		175	92

INTERVAL START *19127140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						316.4
2	1.72E+08	26	3.53E+04	400	5.07E+00	
4	4.67E+08	47	1.35E+06	706	0.	ALT (KM)
6	6.14E+08	67	1.69E+05	1011	0.	8.803
8	5.08E+08	87	1.16E+05	1316	0.	
10	3.66E+08	108	8.77E+04	1622	0.	TEMP (C)
12	3.22E+08	128	1.25E+05	1927	0.	-35.9
14	1.76E+08	148	8.91E+04	2233	0.	
16	2.76E+08	169	4.47E+04	2538	0.	FROSTPOINT
18	2.20E+08	189	5.01E+04	2843	0.	
20	1.00E+08	209	3.77E+04	3149	0.	
22	8.29E+07	230	2.07E+04	3454	0.	TAS (M/S)
24	5.69E+07	250	6.05E+03	3760	0.	123.0
26	5.23E+07	271	2.75E+03	4065	0.	
28	4.57E+07	291	4.64E+03	4370	0.	
30	2.53E+07	311	1.80E+03	4676	0.	
						TOTALS
LWC	9.80E-03		3.11E-03		4.38E-06	2.83E-03
MED D	20		71		175	69

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *19:28:10*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						319.3
2	1.42E+09	26	6.82E+04	400	4.68E+01	
4	2.24E+08	47	5.92E+05	706	5.16E-01	ALT (KM)
6	2.66E+08	67	6.28E+04	1011	0.	8.741
8	2.49E+08	87	1.00E+04	1316	0.	
10	1.92E+08	108	1.87E+04	1622	0.	TEMP (C)
12	1.60E+08	128	5.01E+03	1927	0.	-35.6
14	9.93E+07	148	7.95E+03	2233	0.	
16	1.42E+08	169	2.45E+03	2538	0.	FROSTPOINT
18	1.09E+08	189	8.79E+02	2843	0.	
20	5.79E+07	209	2.87E+03	3149	0.	
22	3.71E+07	230	3.19E+03	3454	0.	TAS (M/S)
24	2.75E+07	250	2.34E+03	3760	0.	126.8
26	2.94E+07	271	3.95E+03	4065	0.	
28	2.25E+07	291	4.52E+03	4370	0.	
30	1.15E+07	311	3.51E+03	4676	0.	
						TOTALS
LWC	4.85E-03		7.96E-04		4.29E-05	5.40E-04
MED D	19		70		179	42

INTERVAL START *19:28:40*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						322.3
2	1.19E+09	26	1.02E+05	400	2.40E+02	
4	1.40E+08	47	6.26E+04	706	1.55E+01	ALT (KM)
6	8.80E+07	67	0.	1011	0.	8.676
8	6.38E+07	87	9.99E+03	1316	0.	
10	5.42E+07	108	1.67E+04	1622	0.	TEMP (C)
12	3.76E+07	128	5.79E+04	1927	0.	-35.0
14	2.40E+07	148	5.94E+04	2233	0.	
16	3.26E+07	169	5.72E+04	2538	0.	FROSTPOINT
18	2.26E+07	189	1.30E+05	2843	0.	
20	1.36E+07	209	9.42E+04	3149	0.	
22	1.07E+07	230	8.35E+04	3454	0.	TAS (M/S)
24	9.51E+06	250	6.34E+04	3760	0.	128.7
26	9.04E+06	271	5.81E+04	4065	0.	
28	9.04E+06	291	3.02E+04	4370	0.	
30	7.66E+06	311	1.23E+04	4676	0.	
						TOTALS
LWC	1.51E-03		6.26E-03		2.15E-04	3.54E-03
MED D	22		103		177	89

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *19:29:10*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						326.2
2	2.35E+09	26	6.92E+04	400	1.05E+01	
4	6.54E+07	47	3.65E+04	706	0.	ALT (KM)
6	3.05E+07	67	2.57E+04	1011	0.	8.595
8	2.69E+07	87	3.58E+04	1316	0.	
10	1.50E+07	108	3.30E+04	1622	0.	TEMP (C)
12	1.53E+07	128	3.60E+04	1927	0.	-34.2
14	9.69E+06	148	2.43E+04	2233	0.	
16	1.31E+07	169	1.08E+04	2538	0.	FROSTPOINT
18	8.48E+06	189	2.86E+04	2843	0.	
20	7.27E+06	209	2.62E+04	3149	0.	
22	4.84E+06	230	9.61E+03	3454	0.	TAS (M/S)
24	3.67E+06	250	8.32E+03	3760	0.	124.9
26	4.13E+06	271	5.35E+03	4065	0.	
28	3.88E+06	291	4.60E+03	4370	0.	
30	3.16E+06	311	1.78E+03	4676	0.	
						TOTALS
LWC	6.46E-04		1.29E-03		9.08E-06	5.35E-04
MED D	22		89		175	82

INTERVAL START *19:29:40*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						328.5
2	4.78E+08	26	7.04E+04	400	1.59E+01	
4	2.52E+08	47	9.41E+05	706	0.	ALT (KM)
6	2.04E+08	67	1.36E+05	1011	0.	8.548
8	1.72E+08	87	1.12E+05	1316	0.	
10	1.37E+08	108	8.48E+04	1622	0.	TEMP (C)
12	1.20E+08	128	7.08E+04	1927	0.	-33.8
14	6.78E+07	148	4.44E+04	2233	0.	
16	1.03E+08	169	2.56E+04	2538	0.	FROSTPOINT
18	8.46E+07	189	1.84E+04	2843	0.	
20	4.54E+07	209	2.61E+04	3149	0.	
22	3.67E+07	230	1.43E+04	3454	0.	TAS (M/S)
24	3.18E+07	250	8.63E+03	3760	0.	122.8
26	3.77E+07	271	2.77E+03	4065	0.	
28	2.65E+07	291	6.34E+03	4370	0.	
30	2.41E+07	311	3.70E+03	4676	0.	
						TOTALS
LWC	4.89E-03		2.24E-03		1.30E-05	1.84E-03
MED D	22		71		175	64

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *19:30:10*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						331.7
2	9.22E+08	26	3.22E+05	400	5.54E+01	
4	1.46E+08	47	2.25E+05	706	5.49E-01	ALT (KM)
6	8.90E+07	67	7.06E+04	1011	0.	8.483
8	6.66E+07	87	5.50E+04	1316	0.	
10	5.48E+07	108	8.04E+04	1622	0.	TEMP (C)
12	4.43E+07	128	8.74E+04	1927	0.	-33.2
14	2.63E+07	148	7.30E+04	2233	0.	
16	4.38E+07	169	3.62E+04	2538	0.	FROSTPOINT
18	3.08E+07	189	5.49E+04	2843	0.	
20	1.55E+07	209	4.77E+04	3149	0.	
22	1.70E+07	230	3.57E+04	3454	0.	TAS (M/S)
24	9.02E+06	250	2.11E+04	3760	0.	120.4
26	1.05E+07	271	1.68E+04	4065	0.	
28	1.50E+07	291	1.12E+04	4370	0.	
30	7.76E+06	311	5.57E+03	4676	0.	
						TOTALS
LWC	1.87E-03		3.30E-03		5.05E-05	2.35E-03
MED D	22		90		179	81

INTERVAL START *19:30:40*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						335.4
2	1.37E+09	26	7.15E+04	400	4.73E+02	
4	9.68E+07	47	6.58E+04	706	3.27E+01	ALT (KM)
6	5.45E+07	67	4.42E+03	1011	1.14E+00	8.406
8	5.45E+07	87	1.06E+04	1316	0.	
10	3.80E+07	108	2.69E+04	1622	0.	TEMP (C)
12	2.79E+07	128	3.59E+04	1927	0.	-32.9
14	2.06E+07	148	4.50E+04	2233	0.	
16	2.44E+07	169	3.62E+04	2538	0.	FROSTPOINT
18	1.91E+07	189	5.40E+04	2843	0.	
20	1.11E+07	209	6.30E+04	3149	0.	
22	8.79E+06	230	2.80E+04	3454	0.	TAS (M/S)
24	7.53E+06	250	3.60E+04	3760	0.	120.1
26	8.54E+06	271	1.54E+04	4065	0.	
28	6.29E+06	291	2.71E+04	4370	0.	
30	5.03E+06	311	1.49E+04	4676	0.	
						TOTALS
LWC	1.17E-03		3.54E-03		5.80E-04	2.33E-03
MED D	22		109		203	91

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *19:31:10*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						339.7
2	1.04E+09	26	1.78E+05	400	1.02E+02	
4	1.63E+08	47	5.85E+05	706	8.65E+00	ALT (KM)
6	9.89E+07	67	1.01E+05	1011	5.68E-01	8.319
8	8.37E+07	87	6.53E+04	1316	0.	
10	6.97E+07	108	2.49E+04	1622	0.	TEMP (C)
12	5.35E+07	128	5.53E+04	1927	0.	-32.4
14	2.81E+07	148	5.39E+04	2233	0.	
16	4.56E+07	169	4.70E+04	2538	0.	FROSTPOINT
18	3.39E+07	189	7.85E+04	2843	0.	
20	2.02E+07	209	5.85E+04	3149	0.	
22	1.64E+07	230	3.55E+04	3454	0.	TAS (M/S)
24	1.45E+07	250	1.85E+04	3760	0.	121.1
26	1.47E+07	271	1.11E+04	4065	0.	
28	1.37E+07	291	9.53E+03	4370	0.	
30	9.47E+06	311	9.23E+03	4676	0.	
						TOTALS
LWC	2.15E-03		3.36E-03		1.37E-04	2.58E-03
MED D	22		89		212	84

INTERVAL START *19:31:40*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						343.2
2	9.63E+08	26	2.51E+05	400	5.26E+01	
4	1.48E+08	47	2.93E+05	706	5.48E-01	ALT (KM)
6	1.00E+08	67	9.76E+04	1011	0.	6.249
8	8.44E+07	87	1.11E+05	1316	0.	
10	6.46E+07	108	8.98E+04	1622	0.	TEMP (C)
12	5.13E+07	128	1.22E+05	1927	0.	-31.9
14	3.37E+07	148	9.20E+04	2233	0.	
16	4.25E+07	169	5.34E+04	2538	0.	FROSTPOINT
18	3.22E+07	189	9.56E+04	2843	0.	
20	1.76E+07	209	7.19E+04	3149	0.	
22	1.61E+07	230	3.68E+04	3454	0.	TAS (M/S)
24	1.46E+07	250	2.97E+04	3760	0.	120.4
26	1.56E+07	271	1.25E+04	4065	0.	
28	1.53E+07	291	7.98E+03	4370	0.	
30	1.13E+07	311	3.71E+03	4676	0.	
						TOTALS
LWC	2.22E-03		4.10E-03		4.81E-05	3.22E-03
MED D	23		86		179	81

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19132110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						346.5
2	7.35E+08	26	1.08E+05	400	2.26E+02	
4	1.75E+08	47	3.29E+05	706	2.72E+00	ALT (KM)
6	1.20E+08	67	6.63E+04	1011	0.	8.183
8	8.74E+07	87	1.39E+05	1316	0.	
10	6.96E+07	108	5.72E+04	1622	0.	TEMP (C)
12	6.36E+07	128	9.25E+04	1927	0.	-31.7
14	3.26E+07	148	5.51E+04	2233	0.	
16	4.83E+07	169	4.55E+04	2538	0.	FROSTPOINT
18	3.81E+07	189	8.25E+04	2843	0.	
20	2.13E+07	209	7.28E+04	3149	0.	
22	1.93E+07	230	5.01E+04	3454	0.	TAS (M/S)
24	1.55E+07	250	4.45E+04	3760	0.	120.6
26	1.78E+07	271	2.78E+04	4065	0.	
28	1.63E+07	291	3.18E+04	4370	0.	
30	1.08E+07	311	1.11E+04	4676	0.	
						TOTALS
LWC	2.44E-03		5.04E-03		2.09E-04	3.12E-03
MED D	23		98		179	85

INTERVAL START *19132140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						349.7
2	1.02E+09	26	0.	400	2.84E+03	
4	1.37E+08	47	9.36E+04	706	1.64E+02	ALT (KM)
6	8.50E+07	67	2.64E+04	1011	4.55E+00	8.120
8	5.68E+07	87	9.23E+03	1316	0.	
10	4.94E+07	108	5.34E+03	1622	0.	TEMP (C)
12	3.94E+07	128	8.59E+03	1927	0.	-31.3
14	2.04E+07	148	4.15E+03	2233	0.	
16	3.29E+07	169	2.56E+03	2538	0.	FROSTPOINT
18	2.07E+07	189	1.76E+04	2843	0.	
20	1.67E+07	209	3.02E+04	3149	0.	
22	8.47E+06	230	3.44E+04	3454	0.	TAS (M/S)
24	8.23E+06	250	3.70E+04	3760	0.	121.1
26	7.73E+06	271	5.96E+04	4065	0.	
28	8.48E+06	291	6.33E+04	4370	0.	
30	6.48E+06	311	4.80E+04	4676	0.	
						TOTALS
LWC	1.39E-03		5.16E-03		3.29E-03	4.16E-03
MED D	21		123		198	174

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19133110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						353.9
2	3.11E+09	26	0.	400	3.62E+02	
4	3.81E+07	47	0.	706	5.41E+01	ALT (KM)
6	8.70E+06	67	0.	1011	1.70E+00	8.037
8	8.70E+06	87	2.61E+03	1316	0.	
10	5.72E+06	108	3.55E+03	1622	0.	TEMP (C)
12	3.73E+06	128	0.	1927	0.	-30.8
14	3.23E+06	148	0.	2233	0.	
16	3.48E+06	169	0.	2538	0.	FROSTPOINT
18	1.99E+06	189	9.22E+02	2843	0.	
20	2.74E+06	209	0.	3149	0.	
22	1.24E+06	230	1.11E+03	3454	0.	TAS (M/S)
24	4.97E+05	250	0.	3760	0.	121.4
26	9.96E+05	271	4.14E+03	4065	0.	
28	7.46E+05	291	0.	4370	0.	
30	2.49E+05	311	0.	4676	0.	
						TOTALS
LWC	1.71E-04		1.03E-04		5.92E-04	6.21E-04
MED D	19		116		235	229

INTERVAL START *19133140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						357.1
2	3.50E+09	26	0.	400	1.57E+00	
4	3.19E+07	47	0.	706	0.	ALT (KM)
6	0.	67	0.	1011	0.	7.976
8	5.06E+05	87	0.	1316	0.	
10	0.	108	0.	1622	0.	TEMP (C)
12	0.	128	0.	1927	0.	-30.7
14	0.	148	0.	2233	0.	
16	0.	169	0.	2538	0.	FROSTPOINT
18	0.	189	0.	2843	0.	
20	0.	209	0.	3149	0.	
22	0.	230	0.	3454	0.	TAS (M/S)
24	0.	250	0.	3760	0.	119.6
26	0.	271	0.	4065	0.	
28	0.	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	3.17E-05		0.		1.36E-06	1.36E-06
MED D	7		0		175	175

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19134110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						360.8
2	3.19E+09	26	0.	400	2.15E+02	
4	3.64E+07	47	1.89E+04	706	4.17E+01	ALT (KM)
6	8.83E+06	67	4.44E+03	1011	1.73E+00	7.909
8	5.30E+06	87	0.	1316	0.	
10	5.80E+06	108	0.	1622	0.	TEMP (C)
12	3.03E+06	128	2.67E+03	1927	0.	-29.8
14	2.02E+06	148	0.	2233	0.	
16	2.52E+06	169	8.66E+02	2538	0.	FRCSTPOINT
18	1.77E+06	189	6.54E+03	2843	0.	
20	7.56E+05	209	4.07E+03	3149	0.	
22	1.01E+06	230	1.01E+04	3454	0.	TAS (M/S)
24	2.52E+05	250	1.12E+04	3760	0.	119.5
26	2.52E+05	271	1.40E+03	4065	0.	
28	1.01E+06	291	3.20E+03	4370	0.	
30	5.05E+05	311	1.87E+03	4676	0.	
						TOTALS
LWC	1.36E-04		5.15E-04		4.07E-04	6.17E-04
MED D	18		108		254	179

INTERVAL START *19134140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						364.1
2	1.97E+09	26	0.	400	1.25E+03	
4	9.82E+07	47	4.74E+04	706	1.54E+02	ALT (KM)
6	5.56E+07	67	3.11E+04	1011	4.61E+00	7.840
8	3.61E+07	87	2.65E+04	1316	0.	
10	3.03E+07	108	2.52E+04	1622	0.	TEMP (C)
12	2.17E+07	128	2.27E+04	1927	0.	-29.2
14	1.44E+07	148	1.47E+04	2233	0.	
16	2.02E+07	169	7.80E+03	2538	0.	FRCSTPOINT
18	1.52E+07	189	1.59E+04	2843	0.	
20	7.83E+06	209	1.53E+04	3149	0.	
22	4.55E+06	230	1.79E+04	3454	0.	TAS (M/S)
24	5.81E+06	250	4.99E+03	3760	0.	119.6
26	5.56E+06	271	1.40E+04	4065	0.	
28	5.05E+06	291	9.82E+03	4370	0.	
30	5.05E+06	311	1.12E+04	4676	0.	
						TOTALS
LWC	9.08E-04		1.56E-03		1.87E-03	2.60E-03
MED D	27		112		224	179

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19135110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						368.2
2	2.06E+09	26	0.	400	1.56E+03	
4	7.14E+07	47	5.69E+04	706	1.96E+02	ALT (KM)
6	3.99E+07	67	1.33E+04	1011	1.21E+01	7.764
8	3.66E+07	87	5.30E+03	1316	0.	
10	3.23E+07	108	5.40E+03	1622	0.	TEMP (C)
12	1.62E+07	128	1.07E+04	1927	0.	-28.7
14	1.36E+07	149	4.20E+03	2233	0.	
16	1.77E+07	169	6.92E+03	2538	0.	FRCSTPOINT
18	1.43E+07	189	7.48E+03	2843	0.	
20	8.06E+06	209	6.12E+03	3149	0.	
22	5.55E+06	230	1.12E+04	3454	0.	TAS (M/S)
24	3.28E+06	250	6.23E+03	3760	0.	119.7
26	5.81E+06	271	7.02E+03	4065	0.	
28	5.81E+06	291	9.61E+03	4370	0.	
30	1.51E+06	311	2.24E+04	4676	0.	
						TOTALS
LWC	7.83E-04		1.33E-03		2.45E-03	2.80E-03
MED D	21		128		229	212

INTERVAL START *19135140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						371.5
2	2.54E+09	26	0.	400	1.35E+03	
4	7.42E+07	47	9.48E+03	706	1.08E+02	ALT (KM)
6	3.95E+07	67	4.46E+03	1011	5.20E+00	7.701
8	2.69E+07	87	1.06E+04	1316	0.	
10	2.28E+07	108	1.80E+03	1622	0.	TEMP (C)
12	1.62E+07	128	5.35E+03	1927	0.	-28.5
14	1.04E+07	148	4.21E+03	2233	0.	
16	1.19E+07	169	0.	2538	0.	FROSTPOINT
18	9.11E+06	189	0.	2843	0.	
20	5.06E+06	209	3.07E+03	3149	0.	
22	3.04E+06	230	4.50E+03	3454	0.	TAS (M/S)
24	3.80E+06	250	6.25E+03	3760	0.	119.3
26	3.03E+06	271	1.97E+04	4065	0.	
28	3.79E+06	291	1.45E+04	4370	0.	
30	2.79E+06	311	2.06E+04	4676	0.	
						TOTALS
LWC	5.93E-04		1.45E-03		1.75E-03	1.88E-03
MED D	21		127		208	201

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19136110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						374.4
2	2.69E+09	26	0.	400	6.79E+02	
4	4.73E+07	47	0.	706	8.68E+01	ALT (KM)
6	1.54E+07	67	4.47E+03	1011	5.18E+00	7.646
8	1.67E+07	87	2.65E+03	1316	0.	
10	9.62E+06	108	3.62E+03	1622	0.	TEMP (C)
12	7.85E+06	128	0.	1927	0.	-28.6
14	3.54E+06	148	0.	2233	0.	
16	5.32E+06	169	0.	2538	0.	FRCSTPOINT
18	3.04E+06	189	9.32E+02	2843	0.	
20	2.03E+06	209	1.02E+03	3149	0.	
22	2.79E+06	230	1.13E+03	3454	0.	TAS (M/S)
24	2.02E+06	250	0.	3760	0.	119.4
26	1.77E+06	271	2.81E+03	4065	0.	
28	1.27E+06	291	6.44E+03	4370	0.	
30	1.27E+06	311	7.53E+03	4676	0.	
						TOTALS
LWC	2.89E-04		4.39E-04		1.07E-03	1.11E-03
MED D	21		131		230	225

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19137110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						362.8
2	1.47E+09	26	1.08E+05	400	5.59E+01	
4	8.30E+07	47	9.46E+04	706	5.40E-01	ALT (KM)
6	6.43E+07	67	2.66E+04	1011	0.	7.491
8	4.41E+07	87	5.81E+04	1316	0.	
10	3.48E+07	108	7.19E+04	1622	0.	TEMP (C)
12	2.95E+07	128	7.99E+04	1927	0.	-28.6
14	1.59E+07	148	7.66E+04	2233	0.	
16	2.22E+07	169	3.29E+04	2538	0.	FRCSTPOINT
18	1.79E+07	189	6.08E+04	2843	0.	
20	1.03E+07	209	4.18E+04	3149	0.	
22	9.08E+06	230	1.91E+04	3454	0.	TAS (M/S)
24	6.81E+06	250	1.12E+04	3760	0.	119.7
26	7.82E+06	271	1.54E+04	4065	0.	
28	7.82E+06	291	1.12E+04	4370	0.	
30	4.29E+06	311	1.68E+04	4676	0.	
						TOTALS
LWC	1.13E-03		3.09E-03		5.10E-05	2.01E-03
MED D	29		91		179	81

INTERVAL START *19136140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						378.2
2	2.15E+09	26	7.16E+04	400	3.75E+02	
4	6.31E+07	47	1.51E+05	706	5.19E+01	ALT (KM)
6	3.19E+07	67	4.42E+04	1011	3.44E+00	7.576
8	2.34E+07	87	5.53E+04	1316	0.	
10	1.81E+07	108	2.51E+04	1622	0.	TEMP (C)
12	1.68E+07	128	1.19E+04	1927	0.	-28.9
14	8.29E+06	148	4.18E+03	2233	0.	
16	1.31E+07	169	2.58E+03	2538	0.	FRCSTPOINT
18	1.46E+07	189	2.79E+03	2843	0.	
20	5.02E+06	209	4.06E+03	3149	0.	
22	5.78E+06	230	2.23E+03	3454	0.	TAS (M/S)
24	5.27E+06	250	1.24E+03	3760	0.	120.2
26	5.02E+06	271	0.	4065	0.	
28	4.27E+06	291	0.	4370	0.	
30	3.77E+06	311	3.72E+03	4676	0.	
						TOTALS
LWC	7.40E-04		4.93E-04		6.18E-04	9.92E-04
MED D	23		64		236	196

INTERVAL START *19137140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						306.4
2	1.07E+09	26	1.10E+05	400	4.95E+01	
4	1.22E+08	47	2.89E+04	706	1.11E+00	ALT (KM)
6	7.97E+07	67	5.86E+04	1011	0.	7.427
8	6.20E+07	87	5.09E+04	1316	0.	
10	4.66E+07	108	9.67E+04	1622	0.	TEMP (C)
12	3.95E+07	128	1.46E+05	1927	0.	-28.1
14	2.90E+07	148	1.37E+05	2233	0.	
16	3.56E+07	169	7.83E+04	2538	0.	FRCSTPOINT
18	2.41E+07	189	1.26E+05	2843	0.	
20	1.59E+07	209	7.46E+04	3149	0.	
22	1.28E+07	230	3.88E+04	3454	0.	TAS (M/S)
24	1.20E+07	250	1.90E+04	3760	0.	117.9
26	1.20E+07	271	9.99E+03	4065	0.	
28	1.15E+07	291	3.77E+03	4370	0.	
30	7.44E+06	311	1.88E+03	4676	0.	
						TOTALS
LWC	1.72E-03		4.14E-03		4.81E-05	3.62E-03
MED D	23		84		183	81

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19138110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						389.9
2	8.95E+08	26	2.59E+05	400	3.13E+02	
4	1.50E+08	47	8.75E+04	706	5.11E+00	ALT (KM)
6	9.65E+07	67	1.38E+04	1011	0.	7.362
8	8.45E+07	87	1.09E+04	1316	0.	
10	6.67E+07	108	1.67E+04	1622	0.	TEMP (C)
12	4.76E+07	128	1.92E+04	1927	0.	-27.7
14	3.26E+07	149	8.21E+04	2233	0.	
16	3.72E+07	169	7.13E+04	2538	0.	FRCSTPOINT
18	3.22E+07	189	1.56E+05	2843	0.	
20	1.74E+07	209	2.01E+05	3149	0.	
22	1.82E+07	230	1.20E+05	3454	0.	TAS (M/S)
24	1.12E+07	250	6.80E+04	3760	0.	116.2
26	1.30E+07	271	6.65E+04	4065	0.	
28	1.25E+07	291	2.31E+04	4370	0.	
30	9.11E+06	311	2.70E+04	4676	0.	
						TOTALS
LWC	1.99E-03		8.25E-03		2.95E-04	5.15E-03
MED D	22		100		181	91

INTERVAL START *19138140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						394.5
2	9.62E+08	26	7.49E+04	400	5.66E+02	
4	1.24E+08	47	1.08E+05	706	1.54E+01	ALT (KM)
6	8.79E+07	67	9.24E+03	1011	1.20E+00	7.279
8	7.22E+07	87	1.38E+04	1316	0.	
10	5.49E+07	108	5.62E+03	1622	0.	TEMP (C)
12	4.20E+07	128	2.78E+04	1927	0.	-27.2
14	3.05E+07	149	4.04E+04	2233	0.	
16	3.99E+07	169	6.04E+04	2538	0.	FRCSTPOINT
18	3.67E+07	189	1.46E+05	2843	0.	
20	2.10E+07	209	1.17E+05	3149	0.	
22	1.02E+07	230	7.23E+04	3454	0.	TAS (M/S)
24	9.72E+06	250	7.26E+04	3760	0.	115.0
26	1.10E+07	271	4.52E+04	4065	0.	
28	1.21E+07	291	3.17E+04	4370	0.	
30	7.61E+06	311	3.89E+04	4676	0.	
						TOTALS
LWC	1.78E-03		6.92E-03		5.79E-04	3.92E-03
MED D	22		106		187	91

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19139110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						408.7
2	2.37E+09	26	3.74E+04	400	2.62E+02	
4	5.23E+07	47	9.68E+03	706	2.75E+01	ALT (KM)
6	2.77E+07	67	9.26E+03	1011	0.	7.171
8	2.49E+07	87	2.75E+03	1316	0.	
10	1.91E+07	108	3.74E+03	1622	0.	TEMP (C)
12	1.42E+07	128	2.78E+03	1927	0.	-26.7
14	1.05E+07	149	4.37E+03	2233	0.	
16	8.90E+06	169	1.35E+04	2538	0.	FRCSTPOINT
18	6.53E+06	189	3.11E+04	2843	0.	
20	5.78E+06	209	4.49E+04	3149	0.	
22	3.40E+06	230	3.96E+04	3454	0.	TAS (M/S)
24	4.97E+06	250	2.59E+04	3760	0.	116.8
26	2.36E+06	271	3.06E+04	4065	0.	
28	4.19E+06	291	9.97E+03	4370	0.	
30	3.67E+06	311	9.73E+03	4676	0.	
						TOTALS
LWC	6.02E-04		2.52E-03		3.56E-04	1.48E-03
MED D	23		108		213	97

INTERVAL START *19139140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						409.0
2	2.78E+09	26	0.	400	6.71E+02	
4	3.51E+07	47	0.	706	1.79E+02	ALT (KM)
6	1.03E+07	67	4.55E+03	1011	2.15E+01	7.025
8	7.73E+06	87	2.70E+03	1316	1.86E+01	
10	9.28E+06	108	0.	1622	6.54E-01	TEMP (C)
12	5.09E+06	128	0.	1927	0.	-25.5
14	4.30E+06	149	3.21E+03	2233	0.	
16	3.62E+06	169	0.	2538	0.	FRCSTPOINT
18	2.84E+06	189	9.56E+02	2843	8.41E-01	
20	1.55E+06	209	0.	3149	0.	
22	1.55E+06	230	0.	3454	0.	TAS (M/S)
24	5.19E+05	250	0.	3760	0.	117.2
26	1.03E+06	271	0.	4065	0.	
28	1.03E+06	291	0.	4370	0.	
30	5.15E+05	311	0.	4676	0.	
						TOTALS
LWC	1.68E-04		2.63E-05		2.09E-03	2.11E-03
MED D	19		71		319	313

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19140110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						417.0
2	1.83E+09	26	0.	400	2.01E+01	
4	7.53E+07	47	2.97E+04	706	4.99E+02	ALT (KM)
6	4.67E+07	67	0.	1011	9.72E+01	6.887
8	3.62E+07	87	8.29E+03	1316	2.27E+01	
10	2.73E+07	108	3.74E+03	1622	4.67E+00	TEMP (C)
12	2.18E+07	128	4.16E+03	1927	1.41E+00	-24.4
14	1.34E+07	148	2.19E+03	2233	7.41E-01	
16	1.68E+07	169	8.96E+02	2538	0.	FROSTPOINT
18	1.36E+07	189	9.72E+02	2843	0.	
20	4.13E+06	209	1.07E+03	3149	0.	
22	5.77E+06	230	0.	3454	0.	TAS (M/S)
24	4.45E+06	250	6.45E+03	3760	0.	115.1
26	4.59E+06	271	5.84E+03	4065	0.	
28	4.20E+06	291	6.67E+03	4370	0.	
30	2.89E+06	311	1.36E+04	4676	0.	
						TOTALS
LWC	7.46E-04		7.82E-04		6.67E-03	6.74E-03
MED D	21		130		332	330

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19141110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						431.8
2	2.86E+09	26	3.79E+04	400	3.87E+01	
4	3.09E+07	47	9.99E+03	706	1.74E+00	ALT (KM)
6	1.04E+07	67	1.41E+04	1011	0.	6.639
8	1.01E+07	87	1.12E+04	1316	0.	
10	5.33E+06	108	7.60E+03	1622	0.	TEMP (C)
12	8.79E+06	128	4.23E+03	1927	0.	-22.8
14	5.33E+06	148	6.65E+03	2233	0.	
16	5.60E+06	169	3.65E+03	2538	0.	FROSTPOINT
18	5.33E+06	189	8.87E+03	2843	0.	
20	1.87E+06	209	1.07E+04	3149	0.	
22	2.13E+06	230	7.10E+03	3454	0.	TAS (M/S)
24	1.60E+06	250	0.	3760	0.	113.2
26	1.33E+06	271	4.44E+03	4065	0.	
28	1.60E+06	291	1.69E+03	4370	0.	
30	1.33E+06	311	0.	4676	0.	
						TOTALS
LWC	2.89E-04		4.49E-04		4.17E-05	3.74E-04
MED D	21		93		191	89

INTERVAL START *19140140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						424.9
2	2.75E+09	26	0.	400	9.19E+02	
4	3.75E+07	47	9.99E+03	706	2.97E+02	ALT (KM)
6	2.05E+07	67	0.	1011	6.30E+01	6.754
8	1.33E+07	87	0.	1316	9.57E+00	
10	1.04E+07	108	0.	1622	4.04E+00	TEMP (C)
12	9.30E+06	128	0.	1927	1.43E+00	-23.4
14	6.64E+06	148	0.	2233	1.51E+00	
16	8.50E+06	169	0.	2538	8.12E-01	FROSTPOINT
18	5.84E+06	189	0.	2843	0.	
20	4.26E+06	209	1.07E+03	3149	0.	
22	2.66E+06	230	0.	3454	0.	TAS (M/S)
24	2.13E+06	250	0.	3760	0.	113.6
26	2.13E+06	271	2.95E+03	4065	0.	
28	2.13E+06	291	5.05E+03	4370	0.	
30	1.59E+06	311	1.97E+03	4676	0.	
						TOTALS
LWC	3.85E-04		2.31E-04		4.14E-03	4.16E-03
MED D	21		127		364	363

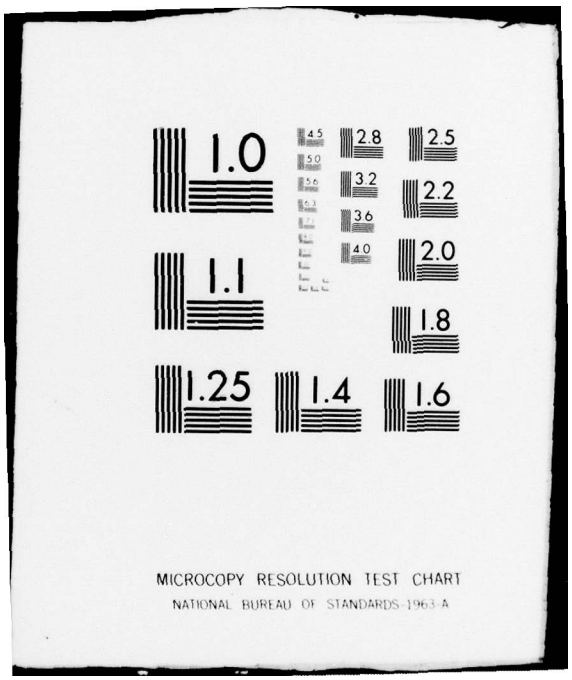
INTERVAL START *19141140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						437.3
2	2.23E+09	26	0.	400	1.14E+03	
4	5.71E+07	47	3.05E+04	706	2.82E+02	ALT (KM)
6	3.08E+07	67	0.	1011	2.22E+01	6.547
8	2.20E+07	87	2.85E+03	1316	2.01E+00	
10	1.98E+07	108	1.91E+03	1622	0.	TEMP (C)
12	1.91E+07	128	8.71E+03	1927	0.	-23.2
14	9.08E+06	148	3.35E+03	2233	0.	
16	1.65E+07	169	8.32E+03	2538	0.	FROSTPOINT
18	1.01E+07	189	1.30E+04	2843	0.	
20	6.86E+06	209	2.16E+04	3149	0.	
22	4.40E+06	230	3.58E+03	3454	0.	TAS (M/S)
24	4.10E+06	250	1.20E+04	3760	0.	110.4
26	4.94E+06	271	1.05E+04	4065	0.	
28	3.28E+06	291	6.92E+03	4370	0.	
30	3.96E+06	311	4.03E+03	4676	0.	
						TOTALS
LWC	6.81E-04		1.03E-03		2.69E-03	3.09E-03
MED D	22		111		278	290

AD-A063 807 AIR FORCE GEOPHYSICS LAB HANSCOM AFB MASS F/G 4/2
CIRRUS PARTICLE DISTRIBUTION STUDY, PART 2.(U)
OCT 78 D J VARLEY, D M BROOKS
UNCLASSIFIED AFGL-TR-78-0248 NL

2 OF 2
AD A063 807

END
DATE FILMED
3-79
DDC


1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
4.5
5.0
5.6
6.3
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *19142110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						442.1
2	2.59E+09	26	0.	400	1.34E+03	
4	5.73E+07	47	3.22E+04	706	4.72E+02	ALT (KM)
6	2.48E+07	67	1.01E+04	1011	5.44E+01	6.470
8	2.02E+07	87	9.02E+03	1316	6.14E+00	
10	1.82E+07	108	2.04E+03	1622	7.18E-01	TEMP (C)
12	1.74E+07	128	3.02E+03	1927	0.	-22.9
14	1.05E+07	148	0.	2233	0.	
16	1.11E+07	169	0.	2538	0.	FRCSTPOINT
18	9.69E+06	189	2.12E+03	2843	0.	
20	3.70E+06	209	2.31E+03	3149	0.	
22	2.00E+06	230	3.80E+03	3454	0.	TAS (M/S)
24	3.43E+06	250	1.41E+03	3760	0.	105.9
26	3.69E+06	271	4.77E+03	4065	0.	
28	2.84E+06	291	5.46E+03	4370	0.	
30	3.14E+06	311	2.12E+03	4676	0.	
						TOTALS
LWC	5.54E-04		4.04E-04		4.38E-03	4.50E-03
MED D	22		120		304	300

INTERVAL START *19142140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						447.6
2	2.69E+09	26	0.	400	9.19E+02	
4	4.96E+07	47	4.29E+04	706	2.46E+02	ALT (KM)
6	2.54E+07	67	1.01E+04	1011	2.91E+01	6.379
8	2.33E+07	87	1.80E+04	1316	2.72E+00	
10	1.25E+07	108	2.05E+03	1622	0.	TEMP (C)
12	1.45E+07	128	1.51E+03	1927	0.	-22.6
14	8.27E+06	148	3.55E+03	2233	0.	
16	1.31E+07	169	1.95E+03	2538	0.	FRCSTPOINT
18	1.06E+07	189	2.12E+03	2843	0.	
20	3.93E+06	209	1.14E+03	3149	0.	
22	3.42E+06	230	2.55E+03	3454	0.	TAS (M/S)
24	1.14E+06	250	4.25E+03	3760	0.	106.2
26	4.29E+06	271	4.78E+03	4065	0.	
28	2.86E+06	291	7.28E+03	4370	0.	
30	1.72E+06	311	6.36E+03	4676	0.	
						TOTALS
LWC	5.09E-04		6.13E-04		2.45E-03	2.58E-03
MED D	20		124		291	284

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *19143110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						452.5
2	3.08E+09	26	0.	400	3.99E+02	
4	2.64E+07	47	1.04E+04	706	3.13E+02	ALT (KM)
6	8.33E+06	67	4.90E+03	1011	4.19E+01	6.308
8	6.39E+06	87	0.	1316	4.88E+00	
10	5.83E+06	108	1.98E+03	1622	7.05E-01	TEMP (C)
12	5.64E+06	128	0.	1927	0.	-22.3
14	4.17E+06	148	0.	2233	0.	
16	5.23E+06	169	2.85E+03	2538	0.	FRCSTPOINT
18	3.06E+06	189	0.	2843	0.	
20	1.12E+06	209	0.	3149	0.	
22	1.39E+06	230	2.47E+03	3454	0.	TAS (M/S)
24	1.11E+06	250	0.	3760	0.	108.7
26	1.11E+06	271	1.54E+03	4065	0.	
28	8.36E+05	291	1.76E+03	4370	0.	
30	1.11E+06	311	0.	4676	0.	
						TOTALS
LWC	2.15E-04		1.20E-04		2.57E-03	2.62E-03
MED D	13		116		327	324

INTERVAL START *19143140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						457.2
2	2.24E+09	26	0.	400	1.43E+03	
4	4.43E+07	47	3.12E+04	706	1.12E+03	ALT (KM)
6	3.35E+07	67	0.	1011	1.43E+02	6.227
8	2.41E+07	87	2.91E+03	1316	9.37E+00	
10	2.10E+07	108	0.	1622	7.01E-01	TEMP (C)
12	1.47E+07	128	4.39E+03	1927	0.	-21.8
14	7.20E+06	148	4.61E+03	2233	0.	
16	1.08E+07	169	1.90E+03	2538	0.	FRCSTPOINT
18	9.14E+06	189	3.08E+03	2843	0.	
20	7.48E+06	209	1.12E+03	3149	0.	
22	6.09E+06	230	0.	3454	0.	TAS (M/S)
24	5.53E+06	250	1.37E+03	3760	0.	108.9
26	4.15E+06	271	1.53E+03	4065	0.	
28	4.98E+06	291	3.52E+03	4370	0.	
30	5.82E+06	311	2.04E+03	4676	0.	
						TOTALS
LWC	7.80E-04		2.66E-04		8.86E-03	8.95E-03
MED D	24		123		323	322

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 76 30 SECOND AVERAGING

INTERVAL START *19144110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						461.8
2	2.93E+09	26	3.97E+04	400	5.01E+02	
4	2.95E+07	47	0.	706	1.63E+02	ALT (KM)
6	1.50E+07	67	0.	1011	3.17E+01	6.154
8	1.25E+07	87	0.	1316	2.00E+01	
10	1.03E+07	108	0.	1622	0.	TEMP (C)
12	4.73E+06	128	0.	1927	0.	-21.4
14	4.73E+06	149	2.32E+03	2233	0.	
16	5.28E+06	169	3.82E+03	2538	0.	FRCSTPOINT
18	4.73E+06	189	5.14E+03	2843	0.	
20	3.62E+06	209	3.47E+03	3149	0.	
22	3.34E+06	230	2.48E+03	3454	0.	TAS (M/S)
24	8.35E+05	250	1.37E+03	3760	0.	108.6
26	1.67E+06	271	3.09E+03	4065	0.	
28	8.35E+05	291	3.53E+03	4370	0.	
30	5.57E+05	311	2.06E+03	4676	0.	
						TOTALS
LWC	2.66E-04		3.31E-04		1.71E-03	1.83E-03
MED D	19		118		315	304

INTERVAL START *19144140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						468.9
2	2.83E+09	26	0.	400	2.60E+02	
4	1.67E+07	47	0.	706	6.79E+01	ALT (KM)
6	8.96E+06	67	0.	1011	1.26E+00	6.043
8	1.89E+06	87	0.	1316	0.	
10	2.49E+07	108	0.	1622	0.	TEMP (C)
12	3.60E+06	128	0.	1927	0.	-20.9
14	5.51E+06	149	1.16E+03	2233	0.	
16	1.94E+06	169	0.	2538	0.	FRCSTPOINT
18	1.10E+06	189	1.01E+03	2843	0.	
20	1.11E+06	209	3.44E+03	3149	0.	
22	5.54E+05	230	1.21E+03	3454	0.	TAS (M/S)
24	2.78E+05	250	0.	3760	0.	109.8
26	8.30E+05	271	1.54E+03	4065	0.	
28	1.10E+06	291	0.	4370	0.	
30	0.	311	2.02E+03	4676	0.	
						TOTALS
LWC	5.64E-04		1.35E-04		5.64E-04	6.16E-04
MED D	5		119		286	295

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 76 30 SECOND AVERAGING

INTERVAL START *19145110*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						474.5
2	3.00E+09	26	0.	400	2.34E+02	
4	1.68E+07	47	1.03E+04	706	1.07E+02	ALT (KM)
6	9.90E+06	67	0.	1011	2.76E+01	5.957
8	4.13E+06	87	2.06E+03	1316	1.37E+00	
10	2.75E+06	108	1.97E+03	1622	0.	TEMP (C)
12	3.57E+06	128	2.91E+03	1927	0.	-20.3
14	1.65E+06	149	0.	2233	0.	
16	1.38E+06	169	9.42E+02	2538	0.	FRCSTPOINT
18	2.20E+06	189	1.02E+03	2843	0.	
20	2.20E+06	209	2.22E+03	3149	0.	
22	1.65E+06	230	0.	3454	0.	TAS (M/S)
24	5.51E+05	250	1.35E+03	3760	0.	109.9
26	0.	271	3.04E+03	4065	0.	
28	1.38E+06	291	0.	4370	0.	
30	0.	311	0.	4676	0.	
						TOTALS
LWC	1.41E-04		1.74E-04		1.51E-03	1.56E-03
MED D	19		110		326	322

INTERVAL START *19145140*

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

TYPE: BULL-ROSE

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						477.5
2	2.65E+09	26	0.	398	2.36E+02	
4	2.89E+07	49	0.	743	4.27E+02	ALT (KM)
6	1.19E+07	72	0.	1088	2.18E+02	5.910
8	9.37E+06	95	0.	1433	7.67E+01	
10	9.37E+06	118	9.38E+03	1778	6.19E-01	TEMP (C)
12	4.13E+06	141	2.75E+03	2123	0.	-19.9
14	3.86E+06	164	1.01E+03	2468	7.35E-01	
16	5.51E+06	187	0.	2813	0.	FRCSTPOINT
18	3.03E+06	210	2.04E+03	3158	0.	
20	2.76E+06	233	2.22E+03	3503	0.	
22	1.65E+06	256	1.73E+03	3848	0.	TAS (M/S)
24	1.65E+06	279	0.	4193	0.	109.6
26	2.48E+06	302	1.36E+03	4538	0.	
28	5.51E+05	325	0.	4883	0.	
30	2.76E+05	348	0.	5228	0.	
						TOTALS
LWC	2.36E-04		1.64E-04		5.92E-03	6.02E-03
MED D	20		90		309	301

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *191461*10*

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

TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						481.3
2	1.43E+09	26	0.	398	3.56E+02	
4	8.12E+07	49	5.48E+04	743	6.30E+02	ALT (KM)
6	6.28E+07	72	8.53E+03	1088	8.03E+02	5.852
8	5.54E+07	95	1.28E+04	1433	6.36E+02	
10	4.58E+07	118	6.93E+03	1778	2.11E+02	TEMP (C)
12	4.69E+07	141	7.70E+03	2123	4.70E+01	-19.1
14	3.27E+07	164	2.02E+03	2468	1.11E+01	
16	3.39E+07	187	0.	2813	2.96E+00	FRCSTPOINT
18	3.18E+07	210	4.49E+03	3158	3.17E+00	
20	1.85E+07	233	5.99E+03	3503	0.	
22	1.56E+07	256	4.33E+03	3848	9.25E-01	TAS (M/S)
24	1.21E+07	279	0.	4193	1.01E+00	110.2
26	1.12E+07	302	5.40E+03	4538	0.	
28	1.07E+07	325	3.09E+03	4883	1.24E+00	
30	1.15E+07	348	0.	5228	1.39E+00	
						TOTALS
LWC	1.89E-03		1.01E-03		3.45E-02	3.51E-02
MED D	23		137		464	462

INTERVAL START *191461140*

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

TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						489.7
2	1.04E+09	26	3.49E+04	398	5.10E+02	
4	1.11E+08	49	2.74E+04	743	7.26E+02	ALT (KM)
6	8.43E+07	72	2.17E+04	1088	9.96E+02	5.786
8	7.39E+07	95	7.66E+03	1433	9.49E+02	
10	6.37E+07	118	1.05E+04	1778	3.05E+02	TEMP (C)
12	5.21E+07	141	6.51E+03	2123	7.79E+01	-18.4
14	3.59E+07	164	8.19E+03	2468	1.55E+01	
16	5.66E+07	187	2.54E+03	2813	1.52E+00	FRCSTPOINT
18	3.69E+07	210	1.19E+04	3158	7.98E-01	
20	2.23E+07	233	5.96E+03	3503	1.73E+00	
22	1.84E+07	256	5.46E+03	3848	0.	TAS (M/S)
24	1.75E+07	279	7.23E+03	4193	1.04E+00	108.9
26	1.76E+07	302	4.10E+03	4538	0.	
28	1.36E+07	325	7.80E+03	4883	1.27E+00	
30	1.44E+07	348	3.60E+03	5228	1.43E+00	
						TOTALS
LWC	2.50E-03		2.02E-03		4.72E-02	4.80E-02
MED D	23		147		468	467

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING

INTERVAL START *191471*10*

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

TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						490.6
2	9.18E+08	26	0.	398	4.80E+02	
4	1.16E+08	49	4.80E+04	743	9.39E+02	ALT (KM)
6	9.36E+07	72	8.93E+03	1088	1.54E+03	5.712
8	7.99E+07	95	1.60E+04	1433	7.46E+02	
10	7.05E+07	118	1.10E+04	1778	1.44E+02	TEMP (C)
12	5.86E+07	141	9.51E+03	2123	4.26E+01	-17.5
14	4.58E+07	164	4.21E+03	2468	1.17E+01	
16	5.24E+07	187	2.65E+03	2813	1.53E+00	FRCSTPOINT
18	4.11E+07	210	8.60E+03	3158	0.	
20	2.84E+07	233	5.19E+03	3503	0.	
22	2.44E+07	256	3.46E+03	3848	0.	TAS (M/S)
24	1.97E+07	279	2.59E+03	4193	0.	104.3
26	1.63E+07	302	7.14E+03	4538	0.	
28	1.48E+07	325	3.27E+03	4883	0.	
30	1.57E+07	348	3.78E+03	5228	0.	
						TOTALS
LWC	2.73E-03		1.59E-03		4.29E-02	4.36E-02
MED D	23		149		430	428

INTERVAL START *191471140*

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

TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						496.5
2	9.73E+08	26	3.75E+04	398	7.53E+02	
4	1.28E+08	49	4.93E+04	743	2.00E+03	ALT (KM)
6	9.65E+07	72	2.32E+04	1088	1.83E+03	5.624
8	8.20E+07	95	8.27E+03	1433	5.68E+02	
10	6.98E+07	118	1.69E+04	1778	8.65E+01	TEMP (C)
12	6.00E+07	141	2.36E+04	2123	2.19E+01	-16.9
14	4.27E+07	164	1.42E+04	2468	1.35E+01	
16	5.91E+07	187	3.60E+03	2813	7.99E-01	FRCSTPOINT
18	3.59E+07	210	7.80E+03	3158	0.	
20	2.61E+07	233	4.25E+03	3503	0.	
22	2.02E+07	256	5.83E+03	3848	9.99E-01	TAS (M/S)
24	1.84E+07	279	2.59E+03	4193	0.	101.7
26	1.40E+07	302	4.39E+03	4538	0.	
28	1.13E+07	325	3.35E+03	4883	0.	
30	1.66E+07	348	1.95E+03	5228	0.	
						TOTALS
LWC	2.56E-03		1.66E-03		4.61E-02	4.71E-02
MED D	23		140		400	397

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19148110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						501.2
2	1.21E+09	26	3.72E+04	398	1.99E+03	
4	9.83E+07	49	1.96E+04	743	2.88E+03	ALT (KM)
6	8.02E+07	72	9.23E+03	1088	8.01E+02	5.554
8	6.34E+07	95	8.23E+03	1433	5.87E+01	
10	4.33E+07	118	9.34E+03	1778	1.33E+01	TEMP (C)
12	4.29E+07	141	1.39E+04	2123	6.32E+00	-16.7
14	2.55E+07	164	1.09E+04	2468	2.24E+00	
16	3.49E+07	187	6.30E+03	2813	0.	FROSTPOINT
18	2.75E+07	210	1.45E+04	3158	0.	
20	1.36E+07	233	4.25E+03	3503	0.	
22	1.54E+07	256	6.98E+03	3848	0.	TAS (M/S)
24	1.27E+07	279	1.30E+03	4193	0.	101.9
26	1.01E+07	302	2.91E+03	4538	0.	
28	7.69E+06	325	0.	4883	0.	
30	9.20E+06	348	1.95E+03	5228	0.	
						TOTALS
LWC	1.88E-03		1.37E-03		2.83E-02	2.94E-02
MED D	22		121		332	328

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19149110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						510.3
2	9.54E+08	26	0.	398	1.34E+03	
4	1.18E+08	49	2.86E+04	743	2.85E+03	ALT (KM)
6	9.58E+07	72	2.23E+04	1088	1.54E+03	5.422
8	8.06E+07	95	1.60E+04	1433	3.77E+02	
10	5.83E+07	118	1.27E+04	1778	9.28E+01	TEMP (C)
12	4.79E+07	141	1.61E+04	2123	2.53E+01	-16.0
14	3.76E+07	164	1.06E+04	2468	1.23E+01	
16	3.79E+07	187	8.71E+03	2813	2.31E+00	FROSTPOINT
18	2.96E+07	210	7.54E+03	3158	8.23E-01	
20	1.82E+07	233	9.25E+03	3503	0.	
22	1.92E+07	256	2.27E+03	3848	0.	TAS (M/S)
24	1.55E+07	279	6.29E+03	4193	0.	105.2
26	1.46E+07	302	0.	4538	0.	
28	1.12E+07	325	0.	4883	0.	
30	1.18E+07	348	1.87E+03	5228	0.	
						TOTALS
LWC	2.11E-03		1.37E-03		4.47E-02	4.57E-02
MED D	23		122		388	376

INTERVAL START *19148140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						509.8
2	1.15E+09	26	0.	398	1.54E+03	
4	9.86E+07	49	9.72E+03	743	2.55E+03	ALT (KM)
6	8.06E+07	72	0.	1088	1.11E+03	5.487
8	7.32E+07	95	1.09E+04	1433	2.55E+02	
10	4.20E+07	118	1.85E+04	1778	3.86E+01	TEMP (C)
12	4.14E+07	141	1.37E+04	2123	9.69E+00	-16.4
14	2.01E+07	164	8.81E+03	2468	2.94E+00	
16	3.53E+07	187	2.55E+03	2813	0.	FROSTPOINT
18	2.22E+07	210	7.67E+03	3158	0.	
20	1.93E+07	233	1.05E+03	3503	0.	
22	1.31E+07	256	6.88E+03	3848	0.	TAS (M/S)
24	1.17E+07	279	3.82E+03	4193	0.	103.4
26	1.02E+07	302	2.86E+03	4538	0.	
28	9.35E+06	325	4.90E+03	4883	0.	
30	7.00E+06	348	1.90E+03	5228	0.	
						TOTALS
LWC	1.62E-03		1.45E-03		3.32E-02	3.39E-02
MED D	22		140		361	358

INTERVAL START *19149140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						515.8
2	9.42E+08	26	0.	398	1.65E+03	
4	1.13E+08	49	3.78E+04	743	2.65E+03	ALT (KM)
6	1.03E+08	72	8.87E+03	1088	1.26E+03	5.354
8	7.00E+07	95	5.34E+03	1433	2.83E+02	
10	6.37E+07	118	1.27E+04	1778	6.96E+01	TEMP (C)
12	4.92E+07	141	1.47E+04	2123	2.10E+01	-15.3
14	3.74E+07	164	9.45E+03	2468	7.90E+00	
16	4.77E+07	187	8.71E+03	2813	1.53E+00	FROSTPOINT
18	3.26E+07	210	7.53E+03	3158	8.19E-01	
20	1.94E+07	233	6.13E+03	3503	3.79E-01	
22	1.60E+07	256	9.01E+03	3848	0.	TAS (M/S)
24	1.06E+07	279	3.72E+03	4193	0.	105.6
26	1.14E+07	302	4.22E+03	4538	0.	
28	1.14E+07	325	8.82E+03	4883	0.	
30	1.14E+07	348	5.68E+03	5228	0.	
						TOTALS
LWC	2.03E-03		2.22E-03		3.83E-02	3.93E-02
MED D	22		149		371	368

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19150110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						520.2
2	7.22E+08	26	0.	398	2.40E+03	
4	1.59E+08	49	5.83E+04	743	3.65E+03	ALT (KM)
6	1.23E+08	72	1.36E+04	1088	1.70E+03	5.280
8	1.14E+08	95	1.36E+04	1433	4.50E+02	
10	8.81E+07	119	1.66E+04	1778	1.06E+02	TEMP (C)
12	5.69E+07	141	2.59E+04	2123	4.80E+01	-14.6
14	5.55E+07	164	1.18E+04	2469	2.22E+01	
16	6.04E+07	187	1.15E+04	2813	4.74E+00	FRCSTPOINT
18	4.41E+07	210	8.62E+03	3158	0.	
20	2.83E+07	233	6.27E+03	3503	0.	
22	2.54E+07	256	5.87E+03	3848	0.	TAS (M/S)
24	1.69E+07	279	1.10E+03	4193	0.	103.6
26	2.16E+07	302	2.88E+03	4538	0.	
28	1.66E+07	325	3.28E+03	4883	0.	
30	1.66E+07	348	7.65E+03	5228	0.	
						TOTALS
LWC	3.00E-03		2.26E-03		5.53E-02	5.66E-02
MED D	22		137		377	374

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19151110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						531.0
2	1.16E+09	26	0.	398	1.44E+03	
4	9.88E+07	49	9.04E+04	743	1.52E+03	ALT (KM)
6	7.25E+07	72	2.87E+04	1088	8.20E+02	5.115
8	9.98E+07	95	8.94E+03	1433	2.92E+02	
10	4.80E+07	118	5.79E+03	1778	9.27E+01	TEMP (C)
12	4.44E+07	141	7.16E+03	2123	3.13E+01	-13.8
14	3.39E+07	164	6.75E+03	2468	1.55E+01	
16	3.92E+07	187	4.64E+03	2813	5.76E+00	FROSTPOINT
18	3.09E+07	210	5.02E+03	3158	8.87E-01	
20	1.89E+07	233	3.28E+03	3503	9.46E-01	
22	1.74E+07	256	3.60E+03	3848	0.	TAS (M/S)
24	1.44E+07	279	2.67E+03	4193	1.12E+00	98.6
26	1.74E+07	302	3.01E+03	4538	0.	
28	1.19E+07	325	3.45E+03	4883	1.37E+00	
30	1.04E+07	348	2.01E+03	5228	1.55E+00	
						TOTALS
LWC	2.06E-03		1.18E-03		3.09E-02	3.15E-02
MED D	23		140		400	397

INTERVAL START *19150140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						526.1
2	3.78E+08	26	0.	398	2.10E+03	
4	2.34E+08	49	6.99E+04	743	4.15E+03	ALT (KM)
6	2.03E+08	72	4.20E+04	1088	3.15E+03	5.195
8	1.75E+08	95	1.11E+04	1433	1.27E+03	
10	1.42E+08	119	3.01E+04	1778	4.86E+02	TEMP (C)
12	1.16E+08	141	1.53E+04	2123	1.94E+02	-14.1
14	9.32E+07	164	1.65E+04	2468	8.24E+01	
16	1.02E+08	187	1.46E+04	2813	3.98E+01	FRCSTPOINT
18	8.29E+07	210	1.87E+04	3158	1.89E+01	
20	5.24E+07	233	1.71E+04	3503	3.71E+00	
22	4.86E+07	256	4.68E+03	3848	1.99E+00	TAS (M/S)
24	4.28E+07	279	6.94E+03	4193	3.29E+00	101.0
26	4.37E+07	302	2.92E+03	4538	0.	
28	3.23E+07	325	0.	4883	1.38E+00	
30	2.49E+07	348	3.98E+03	5228	1.53E+00	
						TOTALS
LWC	5.58E-03		2.44E-03		1.15E-01	1.17E-01
MED D	23		123		432	430

INTERVAL START *19151140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						537.4
2	2.21E+09	26	0.	398	3.06E+02	
4	1.63E+07	49	1.01E+04	743	2.71E+02	ALT (KM)
6	1.65E+07	72	4.76E+03	1088	1.30E+02	5.036
8	1.19E+07	95	2.83E+03	1433	4.93E+01	
10	7.32E+06	118	1.93E+03	1778	2.40E+01	TEMP (C)
12	6.41E+06	141	2.85E+03	2123	7.25E+00	-13.3
14	5.19E+06	164	0.	2468	4.62E+00	
16	6.71E+06	187	0.	2813	4.21E-01	FROSTPOINT
18	3.97E+06	210	0.	3158	8.80E-01	
20	2.75E+06	233	0.	3503	0.	
22	3.36E+06	256	0.	3848	0.	TAS (M/S)
24	3.36E+06	279	1.33E+03	4193	0.	99.0
26	2.74E+06	302	1.50E+03	4538	0.	
28	1.89E+06	325	1.71E+03	4883	0.	
30	1.22E+06	348	2.00E+03	5228	0.	
						TOTALS
LWC	3.53E-04		4.03E-04		5.52E-03	5.58E-03
MED D	22		184		408	406

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19152:10*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						542.1
2	2.63E+09	26	0.	398	1.62E+01	
4	1.22E+06	49	0.	743	2.28E+01	ALT (KM)
6	6.07E+05	72	0.	1088	1.17E+01	4.972
8	6.09E+05	95	0.	1433	8.40E+00	
10	6.07E+05	118	0.	1778	1.36E+00	TEMP (C)
12	0.	141	0.	2123	1.44E+00	-12.8
14	0.	164	2.24E+03	2468	7.69E-01	
16	9.11E+05	187	0.	2813	8.16E-01	FRCSTPOINT
18	6.07E+05	210	0.	3158	0.	
20	0.	233	0.	3503	0.	
22	0.	256	0.	3848	0.	TAS (M/S)
24	6.07E+05	279	0.	4193	0.	99.6
26	6.07E+05	302	0.	4538	0.	
28	0.	325	0.	4883	0.	
30	0.	348	0.	5228	0.	
						TOTALS
LWC	5.09E-05		2.51E-05		6.25E-04	6.50E-04
MED D	15		97		456	456

INTERVAL START *19152:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						546.0
2	2.69E+09	26	0.	398	0.	
4	2.99E+05	49	0.	743	0.	ALT (KM)
6	0.	72	0.	1088	6.03E-01	4.918
8	0.	95	0.	1433	6.45E-01	
10	0.	118	0.	1778	0.	TEMP (C)
12	0.	141	0.	2123	0.	-12.4
14	0.	164	0.	2468	0.	
16	0.	187	0.	2813	0.	FRCSTPOINT
18	0.	210	0.	3158	0.	
20	0.	233	0.	3503	0.	
22	0.	256	0.	3848	0.	TAS (M/S)
24	0.	279	0.	4193	0.	100.6
26	0.	302	0.	4538	0.	
28	0.	325	0.	4883	0.	
30	0.	348	0.	5228	0.	
						TOTALS
LWC	2.26E-05		0.		1.87E-05	1.87E-05
MED D	2		0		490	490

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19153:10*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						550.0
2	2.36E+09	26	0.	398	0.	
4	0.	49	0.	743	1.69E+00	ALT (KM)
6	2.93E+05	72	0.	1088	1.18E+00	4.863
8	0.	95	0.	1433	0.	
10	0.	118	0.	1778	0.	TEMP (C)
12	0.	141	0.	2123	0.	-11.8
14	0.	164	0.	2468	0.	
16	0.	187	0.	2813	0.	FRCSTPOINT
18	0.	210	0.	3158	0.	
20	0.	233	0.	3503	0.	
22	0.	256	0.	3848	0.	TAS (M/S)
24	0.	279	0.	4193	0.	103.0
26	0.	302	0.	4538	0.	
28	0.	325	0.	4883	0.	
30	0.	348	0.	5228	0.	
						TOTALS
LWC	1.99E-05		0.		2.13E-05	2.13E-05
MED D	2		0		363	363

INTERVAL START *19153:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB)
						552.7
2	2.07E+09	26	0.	398	2.55E+00	
4	2.85E+05	49	0.	743	4.90E+00	ALT (KM)
6	0.	72	0.	1088	5.78E+00	4.826
8	0.	95	0.	1433	1.19E+00	
10	0.	118	0.	1778	0.	TEMP (C)
12	0.	141	0.	2123	0.	-11.4
14	0.	164	0.	2468	0.	
16	0.	187	0.	2813	0.	FRCSTPOINT
18	0.	210	0.	3158	0.	
20	0.	233	0.	3503	0.	
22	0.	256	0.	3848	0.	TAS (M/S)
24	0.	279	0.	4193	0.	100.6
26	0.	302	0.	4538	0.	
28	0.	325	0.	4883	0.	
30	0.	348	0.	5228	0.	
						TOTALS
LWC	1.74E-05		0.		1.13E-04	1.13E-04
MED D	2		0		387	387

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19154110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB) 557.6
2	1.69E+09	26	0.	398	8.32E+00	
4	7.51E+05	49	0.	743	9.71E+00	ALT (KM)
6	1.02E+06	72	0.	1088	1.56E+00	4.760
8	1.02E+06	95	0.	1433	0.	
10	5.14E+05	118	0.	1778	0.	TEMP (C)
12	0.	141	0.	2123	0.	-11.0
14	0.	164	0.	2468	0.	
16	5.03E+05	187	0.	2813	0.	FRCSTPOINT
18	0.	210	0.	3158	0.	
20	0.	233	0.	3503	0.	
22	0.	256	0.	3848	0.	TAS (M/S)
24	2.37E+05	279	0.	4193	0.	122.5
26	0.	302	0.	4538	0.	
28	0.	325	0.	4883	0.	
30	0.	348	0.	5228	0.	
						TOTALS
LWC	2.11E-05		0.		7.71E-05	7.71E-05
MED D	7		0		309	309

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19155110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB) 570.5
2	1.88E+09	26	0.	398	3.07E+01	
4	2.50E+06	49	0.	743	2.99E+01	ALT (KM)
6	2.16E+06	72	3.40E+03	1088	1.40E+01	4.588
8	1.71E+06	95	0.	1433	3.22E+00	
10	1.08E+06	118	0.	1778	0.	TEMP (C)
12	4.32E+05	141	1.00E+03	2123	0.	-9.2
14	8.62E+05	164	0.	2468	0.	
16	6.46E+05	187	0.	2813	0.	FRCSTPOINT
18	2.17E+05	210	0.	3158	0.	
20	8.68E+05	233	0.	3503	0.	
22	4.32E+05	256	0.	3848	0.	TAS (M/S)
24	0.	279	0.	4193	0.	140.7
26	0.	302	0.	4538	0.	
28	0.	325	0.	4883	0.	
30	0.	348	0.	5228	0.	
						TOTALS
LWC	3.79E-05		1.35E-05		4.00E-04	4.14E-04
MED D	12		42		356	352

INTERVAL START *19154140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB) 564.6
2	1.90E+09	26	0.	398	4.16E+00	
4	0.	49	0.	743	4.35E+00	ALT (KM)
6	8.94E+05	72	1.06E+04	1088	2.29E+00	4.666
8	0.	95	0.	1433	0.	
10	0.	118	0.	1778	0.	TEMP (C)
12	6.71E+05	141	0.	2123	0.	-10.0
14	0.	164	0.	2468	0.	
16	2.28E+05	187	0.	2813	0.	FRCSTPOINT
18	2.22E+05	210	0.	3158	0.	
20	0.	233	0.	3503	0.	
22	0.	256	0.	3848	0.	TAS (M/S)
24	0.	279	0.	4193	0.	134.0
26	0.	302	0.	4538	0.	
28	0.	325	0.	4883	0.	
30	2.23E+05	348	0.	5228	0.	
						TOTALS
LWC	2.59E-05		1.74E-05		5.24E-05	6.98E-05
MED D	7		51		346	307

INTERVAL START *19155140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB) 576.0
2	1.68E+09	26	0.	398	3.10E+00	
4	0.	49	0.	743	1.22E+00	ALT (KM)
6	2.10E+05	72	3.25E+03	1088	4.20E-01	4.515
8	0.	95	0.	1433	0.	
10	0.	118	0.	1778	0.	TEMP (C)
12	2.12E+05	141	0.	2123	0.	-8.4
14	0.	164	0.	2468	0.	
16	0.	187	0.	2813	0.	FRCSTPOINT
18	0.	210	0.	3158	0.	
20	2.12E+05	233	0.	3503	0.	
22	0.	256	0.	3848	0.	TAS (M/S)
24	0.	279	0.	4193	0.	143.9
26	0.	302	0.	4538	0.	
28	0.	325	0.	4883	0.	
30	0.	348	0.	5228	0.	
						TOTALS
LWC	1.63E-05		5.32E-06		1.49E-05	2.02E-05
MED D	2		91		306	264

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19156110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB) 581.6
2	1.62E+09	26	0.	398	1.55E+00	
4	2.11E+05	49	0.	743	0.	ALT (KM)
6	0.	72	0.	1088	0.	4.442
8	0.	95	0.	1433	0.	
10	0.	118	0.	1778	0.	TEMP (C)
12	0.	141	0.	2123	0.	-8.0
14	0.	164	0.	2468	0.	
16	0.	187	0.	2813	0.	FRCSTPOINT
18	0.	210	0.	3158	0.	
20	0.	233	0.	3503	0.	
22	0.	256	0.	3848	0.	TAS (M/S)
24	0.	279	0.	4193	0.	142.1
26	0.	302	0.	4538	0.	
28	0.	325	0.	4883	0.	
30	0.	348	0.	5228	0.	
						TOTALS
LWC	1.36E-05		0.		2.08E-06	2.08E-06
MED D	2		0		194	194

AFWL CIRRUS STUDY BY AFGL

FLIGHT E78-03 ON 26 FEB 78 30 SECOND AVERAGING
INTERVAL START *19157110*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB) 641.2
2	1.40E+09	26	2.51E+04	398	1.95E+01	
4	2.80E+05	49	0.	743	8.83E+00	ALT (KM)
6	0.	72	9.35E+03	1088	8.06E-01	3.696
8	0.	95	0.	1433	0.	
10	0.	118	2.53E+03	1778	0.	TEMP (C)
12	0.	141	0.	2123	4.75E-01	-1.8
14	0.	164	0.	2468	0.	
16	0.	187	0.	2813	0.	FRCSTPOINT
18	0.	210	0.	3158	0.	
20	0.	233	0.	3503	0.	
22	0.	256	0.	3848	0.	TAS (M/S)
24	0.	279	0.	4193	0.	150.5
26	0.	302	0.	4538	0.	
28	0.	325	0.	4883	0.	
30	0.	348	0.	5228	0.	
						TOTALS
LWC	1.17E-05		3.24E-05		9.92E-05	1.32E-04
MED D	2		55		306	270

INTERVAL START *19158140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB) 607.9
2	1.45E+09	26	2.57E+04	398	7.94E+00	
4	0.	49	0.	743	1.97E+00	ALT (KM)
6	0.	72	6.43E+03	1088	1.66E+00	4.105
8	0.	95	1.90E+03	1433	4.36E-01	
10	0.	118	0.	1778	0.	TEMP (C)
12	0.	141	0.	2123	0.	-5.1
14	0.	164	0.	2468	0.	
16	0.	187	0.	2813	0.	FRCSTPOINT
18	0.	210	0.	3158	0.	
20	0.	233	0.	3503	0.	
22	0.	256	0.	3848	0.	TAS (M/S)
24	0.	279	0.	4193	0.	147.0
26	0.	302	0.	4538	0.	
28	0.	325	0.	4883	0.	
30	0.	348	0.	5228	0.	
						TOTALS
LWC	1.22E-05		2.05E-05		4.69E-05	8.74E-05
MED D	1		52		383	279

INTERVAL START *19157140*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: SMALL SNOW

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	P (MB) 675.2
2	1.28E+09	26	0.	398	1.87E+01	
4	0.	49	6.61E+03	743	5.39E+00	ALT (KM)
6	0.	72	2.50E+04	1088	8.12E-01	3.294
8	0.	95	1.86E+03	1433	4.25E-01	
10	0.	118	0.	1778	0.	TEMP (C)
12	0.	141	9.27E+02	2123	0.	.7
14	0.	164	0.	2468	0.	
16	0.	187	0.	2813	0.	FRCSTPOINT
18	0.	210	0.	3158	0.	
20	0.	233	0.	3503	0.	
22	0.	256	0.	3848	0.	TAS (M/S)
24	0.	279	0.	4193	0.	151.1
26	0.	302	0.	4538	0.	
28	0.	325	0.	4883	0.	
30	0.	348	0.	5228	0.	
						TOTALS
LWC	1.07E-05		5.85E-05		6.91E-05	1.28E-04
MED D	2		52		288	163