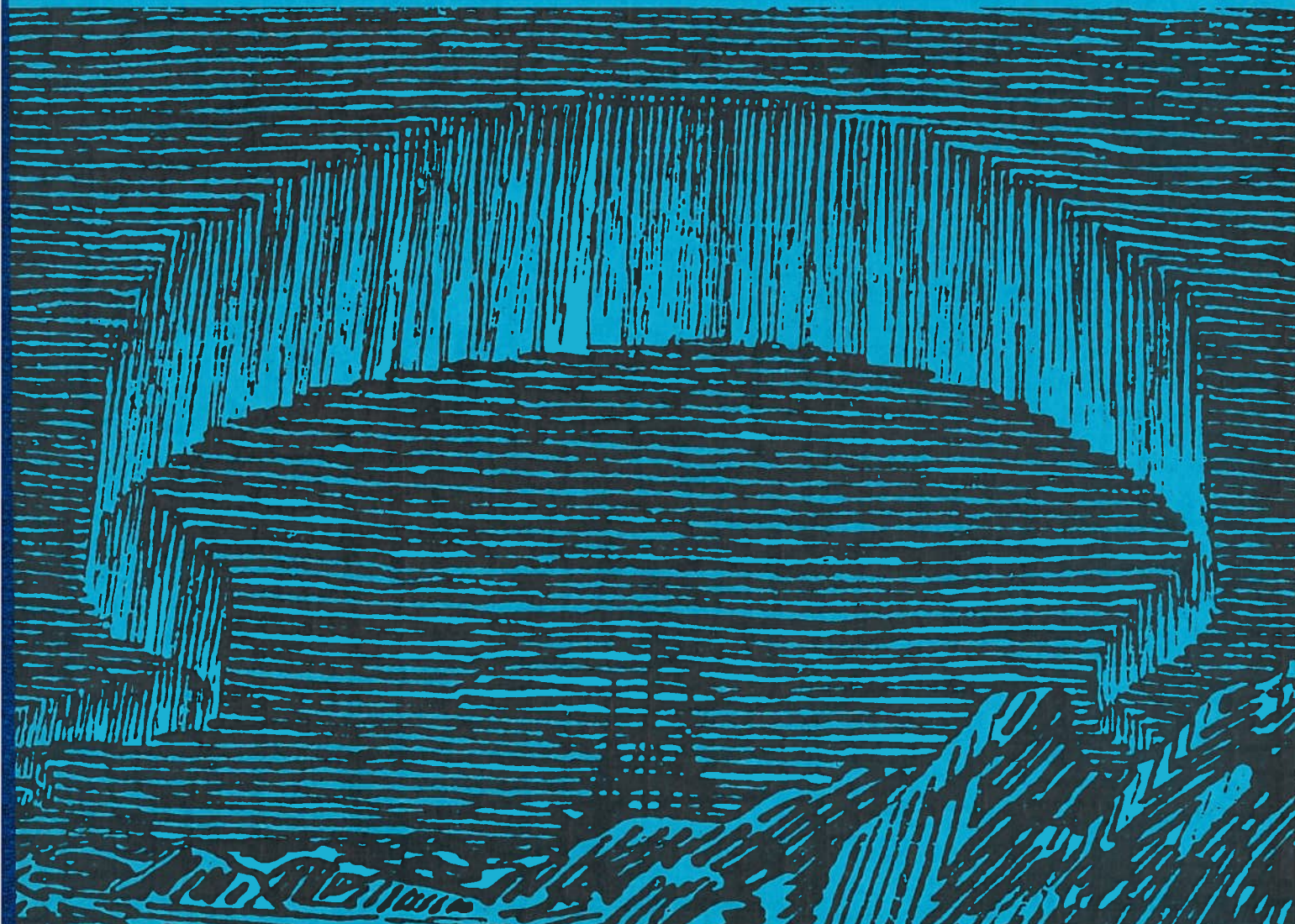


# THE AURORAL OBSERVATORY

TROMSØ

NORWAY

**MAGNETIC OBSERVATIONS  
1978**







## INTRODUCTION

This yearbook presents the results of the geomagnetic measurements carried out at The Auroral Observatory, Tromsø, Norway. The Observatory is now an institute at The University of Tromsø. Inquiries can be adressed to:

The Auroral Observatory  
P.O. Box 953  
N-9001 TROMSØ, Norway.

The Observatory is situated 2 km NW from the centre of the town. The geographical coordinates are:

Latitude:  $69^{\circ}39'.7$  N      Longitude:  $18^{\circ}56'.4$  E

Altitude: 105 m above sea level.

### Instrument Equipment

The values of hourly means etc. are based on photographic records from the following three variometers: D and H of the Askania-Bamberg type and a Z-variometer of the type La Cour.

Insensitive recordings of the three elements are obtained by a modified La Cour system.

Pulsations recordings are obtained by a Grenet system.

The following instruments have been used for base-line controll: Askania theodolit and a double magnet suspended in a silk-thread for D-measurements, for H-measurements QHM 123 and QHM 164, and for Z-measurements GeoMetric G 826 protonmagnetometer.

### Scale value determinations

The scale value of the variometers are determined by means of Helmholtz coils. The values are as follows expressed in

units pr. mm:

|         | D     | H       | Z       |
|---------|-------|---------|---------|
| Normal: | 1',45 | 5,28 nT | 6,57 nT |
| Storm:  | 3',0  | 22,2 nT | 24.0 nT |

Notes to the tables

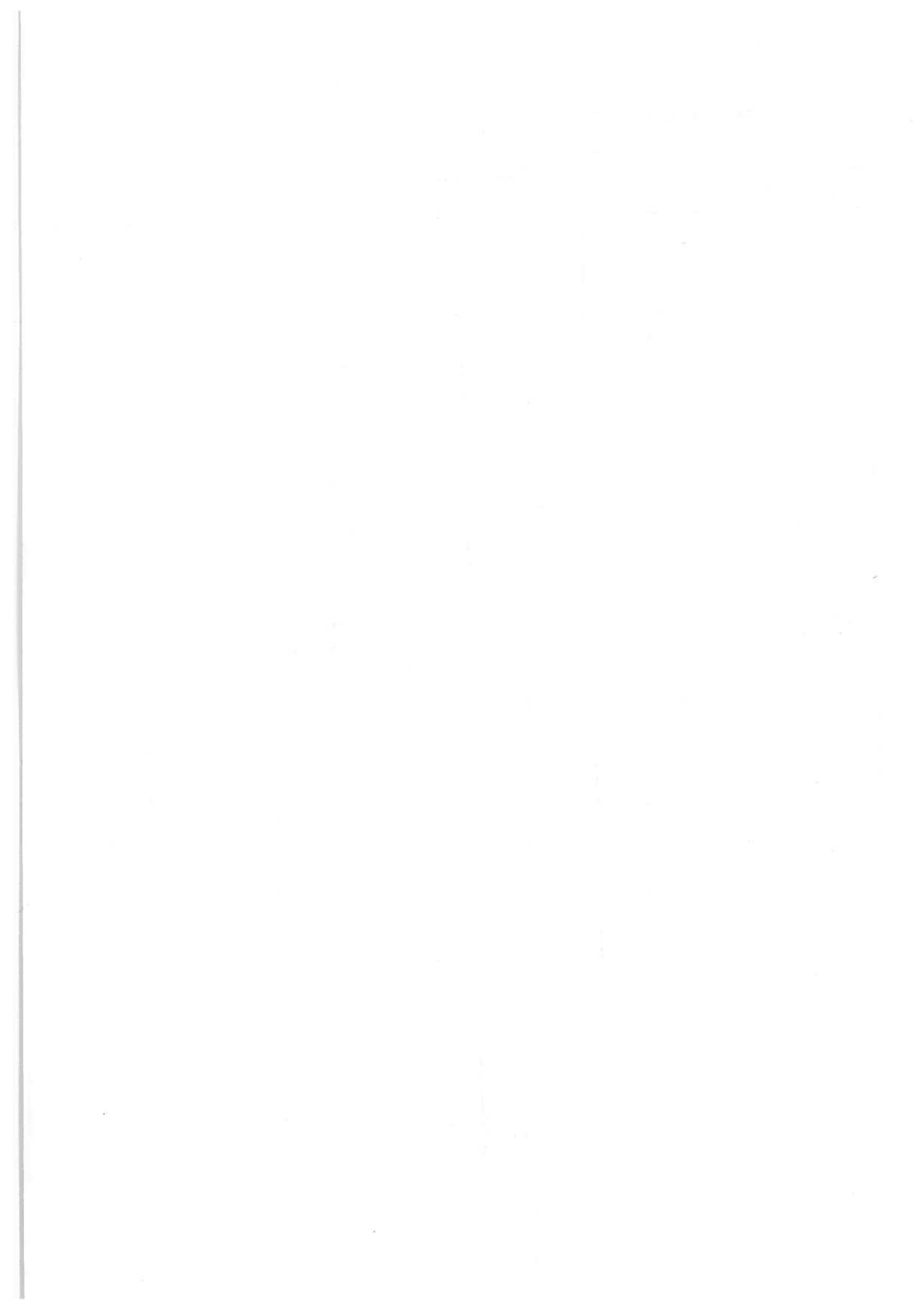
The hourly mean values are centered on the half hours. The quiet mean values are estimated from selected quiet hours only.

Universal time is used everywhere in this yearbook, and the declination is reckoned positive towards east.

Stars in the tables indicates that the values are greater than - 999.

ANNUAL MEANS OF THE MAGNETIC ELEMENTS

| Year | D         | H        | Z        | Year | D         | H        | Z        |
|------|-----------|----------|----------|------|-----------|----------|----------|
| 1930 | 4°07',7 W | 11567 nT |          | 1957 | 0°15',9 W | 11182 nT | 50868 nT |
| 31   | 3°59,6    | 49       | 50198 nT | 58   | 12',7     | 94       | 902      |
| 32   | 49,0      | 499      | 95       | 59   | 08,1      | 96       | 35       |
| 33   | 37,3      | 72       | 50203    | 60   | 03,9      | 97       | 80       |
| 34   | 25,9      | 41       | 23       | 61   | 02,1      | 214      | 51004    |
| 35   | 14,3      | 07       | 47       | 62   | 00,1 E    | 17       | 37       |
| 36   | 04,8      | 379      | 76       | 63   | 03,9 E    | 22       | 65       |
| 37   | 2°53,7    | 50       | 308      | 64   | 03,7 E    | 39       | 88       |
| 38   | 44,1      | 25       | 40       | 65   | 04,6 E    | 51       | 94       |
| 39   | 35,0      | 297      | 62       | 66   | 04,5 E    | 60       | 130      |
| 40   | 26,6      | 78       | 81       | 67   | 04,0 E    | 65       | 60       |
| 41   | 16,6      | 56       | 417      | 68   | 02,0 E    | 68       | 96       |
| 42   | 10,6      | 44       | 24       | 69   | 01,5 W    | 79       | 235      |
| 43   | 02,5      | 22       | 49       | 70   | 04,2 W    | 95       | 78       |
| 44   | 1°54,3    | 13       | 67       | 71   | 05,5 W    | 333      | 303      |
| 45   | 45,7      | 199      | 503      | 72   | 05,5 W    | 64       | 19       |
| 46   | 34,6      | 79       | 54       | 73   | 03,5 W    | 70       | 65       |
| 47   | 26,5      | 74       | 85       | 74   | 00,3 E    | 73       | 415      |
| 48   | 18,4      | 56       | 94       | 75   | 02,4 E    | 84       | 46       |
| 49   | 10,5      | 53       | 612      | 76   | 07,0 E    | 94       | 66       |
| 50   | 03,6      | 52       | 47       | 77   | 12,0      | 96       | 97       |
| 51   | 0°54,1    | 43       | 93       | 78   | 19,8      | 85       | 540      |
| 52   | 43,9      | 44       | 711      |      |           |          |          |
| 53   | 36,0      | 53       | 24       |      |           |          |          |
| 54   | 29,1      | 65       | 44       |      |           |          |          |
| 55   | 24,0      | 72       | 76       |      |           |          |          |
| 56   | 18,1      | 73       | 825      |      |           |          |          |



TROMSØ. DECLINATION. D=0 DEG. E + TABULAR QUANTITIES EXPRESSED IN TENTH OF MINUTES.  
HOURLY MEAN VALUES

JANUARY 1978

| DAY  | 1    | 2   | 3    | 4    | 5    | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23   | 24  | 25  | 26  | 27 | 28 | 29 | 30 | 31 |
|------|------|-----|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|----|----|----|----|----|
| 1    | 156  | 170 | 141  | 141  | 127  | 127 | 141 | 127 | 98  | 127 | 98  | 83  | 112 | 127 | 127 | 112 | 93  | 141 | 98  | 98  | 199 | 330 | 257  | 185 | 142 |     |    |    |    |    |    |
| 2    | 185  | 156 | 344  | 214  | 199  | 170 | 141 | 141 | 156 | 112 | 127 | 112 | 112 | 127 | 127 | 141 | 141 | 141 | 127 | 185 | 170 | 127 | 112  | 154 |     |     |    |    |    |    |    |
| 3    | 141  | 170 | 156  | 141  | 141  | 141 | 141 | 141 | 141 | 127 | 127 | 127 | 112 | 98  | 83  | 33  | 98  | 127 | 69  | 170 | 286 | 127 | 141  | 134 |     |     |    |    |    |    |    |
| 4    | 135  | 330 | 489  | 1011 | 1101 | 504 | 214 | 257 | 243 | 127 | 257 | 228 | 223 | 373 | 98  | 141 | 170 | 69  | 243 | 576 | 69  | 366 | 533  | 243 | 352 |     |    |    |    |    |    |
| 5    | 1374 | 939 | 1156 | 311  | 431  | 460 | 243 | 185 | 98  | 33  | 98  | 112 | 127 | 141 | 141 | 127 | 112 | 69  | 127 | 112 | 93  | 98  | 141  | 170 | 289 |     |    |    |    |    |    |
| 6    | 170  | 301 | 692  | 721  | 460  | 214 | 170 | 156 | 156 | 141 | 141 | 156 | 141 | 141 | 127 | 141 | 127 | 141 | 156 | 214 | 228 | 156 | 185  | 98  | 69  | 219 |    |    |    |    |    |
| 7    | 170  | 185 | 135  | 170  | 156  | 156 | 170 | 185 | 156 | 141 | 141 | 156 | 170 | 156 | 315 | 301 | 141 | 141 | 141 | 112 | 199 | 214 | 243  | 178 |     |     |    |    |    |    |    |
| 8    | 576  | 359 | 301  | 170  | 141  | 141 | 127 | 156 | 127 | 112 | 112 | 98  | 127 | 141 | 112 | 135 | 83  | 127 | 127 | 127 | 156 | 156 | 301  | 199 | 177 |     |    |    |    |    |    |
| 9    | 243  | 170 | 185  | 170  | 141  | 141 | 127 | 141 | 170 | 127 | 98  | 98  | 112 | 127 | 156 | 170 | 141 | 243 | 127 | 112 | 431 | 576 | 1084 | 504 | 233 |     |    |    |    |    |    |
| 10   | 576  | 721 | 513  | 573  | 257  | 141 | 127 | 112 | 127 | 141 | 141 | 141 | 141 | 127 | 98  | 83  | 141 | 33  | 127 | 112 | 170 | 199 | 214  | 156 | 209 |     |    |    |    |    |    |
| 11   | 156  | 156 | 156  | 170  | 170  | 156 | 141 | 127 | 141 | 127 | 112 | 127 | 98  | 127 | 112 | 156 | 127 | 141 | 156 | 156 | 170 | 141 | 156  | 156 | 143 |     |    |    |    |    |    |
| 12   | 170  | 170 | 127  | 156  | 141  | 170 | 156 | 156 | 141 | 141 | 141 | 141 | 141 | 141 | 141 | 141 | 141 | 141 | 141 | 127 | 185 | 135 | 243  | 170 | 154 |     |    |    |    |    |    |
| 13   | 156  | 156 | 141  | 83   | 156  | 127 | 127 | 127 | 98  | 112 | 98  | 83  | 69  | 69  | 54  | 69  | 112 | 127 | 141 | 141 | 257 | 330 | 344  | 359 | 147 |     |    |    |    |    |    |
| 14   | 156  | 156 | 141  | 141  | 141  | 141 | 141 | 141 | 127 | 112 | 98  | 112 | 127 | 127 | 141 | 141 | 141 | 141 | 141 | 141 | 156 | 127 | 109  | 185 | 140 |     |    |    |    |    |    |
| 15   | 156  | 141 | 141  | 141  | 141  | 141 | 141 | 141 | 141 | 127 | 127 | 127 | 112 | 112 | 127 | 127 | 141 | 141 | 141 | 141 | 141 | 156 | 127  | 109 | 185 | 140 |    |    |    |    |    |
| 16   | 156  | 156 | 141  | 141  | 156  | 156 | 141 | 141 | 127 | 127 | 127 | 98  | 33  | 112 | 25  | -13 | -3  | -32 | 170 | 112 | 141 | 141 | 243  | 504 | 131 |     |    |    |    |    |    |
| 17   | 533  | 359 | 373  | 286  | 156  | 127 | 141 | 141 | 127 | 127 | 127 | 605 | 575 | 504 | 504 | 504 | 562 | 141 | 156 | 156 | 243 | 185 | 243  | 446 | 305 |     |    |    |    |    |    |
| 18   | 236  | 518 | 383  | 373  | 272  | 185 | 127 | 112 | 112 | 83  | 98  | 69  | 25  | 25  | 40  | 112 | 141 | 141 | 156 | 156 | 156 | 170 | 156  | 156 | 169 |     |    |    |    |    |    |
| 19   | 199  | 228 | 344  | 243  | 185  | 170 | 170 | 141 | 127 | 141 | 127 | 112 | 112 | 33  | 98  | 112 | 141 | 127 | 156 | 156 | 185 | 243 | 243  | 214 | 169 |     |    |    |    |    |    |
| 20   | 141  | 127 | 141  | 156  | 156  | 170 | 156 | 127 | 98  | 112 | 112 | 127 | 127 | 127 | 127 | 127 | 127 | 141 | 141 | 141 | 156 | 156 | 141  | 141 | 136 |     |    |    |    |    |    |
| 21   | 141  | 141 | 141  | 141  | 141  | 141 | 156 | 156 | 141 | 141 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 141 | 141 | 141 | 156 | 141 | 156  | 170 | 156 | 141 |    |    |    |    |    |
| 22   | 156  | 156 | 170  | 141  | 141  | 141 | 156 | 141 | 127 | 112 | 98  | 98  | 112 | 127 | 127 | 127 | 127 | 141 | 141 | 141 | 156 | 141 | 156  | 141 | 141 | 137 |    |    |    |    |    |
| 23   | 141  | 127 | 127  | 127  | 141  | 141 | 141 | 141 | 141 | 127 | 112 | 112 | 127 | 127 | 127 | 127 | 127 | 98  | 112 | 112 | 141 | 127 | 156  | 156 | 130 |     |    |    |    |    |    |
| 24   | 135  | 170 | 156  | 156  | 141  | 156 | 156 | 141 | 156 | 127 | 112 | 98  | 98  | 98  | 83  | 54  | -18 | -47 | 83  | 112 | 127 | 127 | 156  | 156 | 115 |     |    |    |    |    |    |
| 25   | 156  | 156 | 156  | 156  | 156  | 141 | 112 | 127 | 112 | 127 | 127 | 83  | 40  | -18 | 40  | 69  | 69  | 54  | 69  | 54  | 141 | 199 | 170  | 112 | 108 |     |    |    |    |    |    |
| 26   | 257  | 431 | 156  | 214  | 199  | 185 | 141 | 141 | 141 | 156 | 141 | 112 | 141 | 127 | 112 | 127 | 112 | 127 | 112 | 127 | 112 | 141 | 156  | 141 | 141 | 163 |    |    |    |    |    |
| 27   | 185  | 170 | 135  | 199  | 170  | 170 | 156 | 156 | 156 | 141 | 141 | 127 | 127 | 127 | 127 | 141 | 141 | 141 | 141 | 170 | 170 | 156 | 199  | 199 | 158 |     |    |    |    |    |    |
| 28   | 156  | 156 | 156  | 141  | 156  | 156 | 156 | 141 | 141 | 127 | 98  | 98  | 112 | 33  | 69  | 40  | 170 | 127 | 69  | 54  | 112 | 127 | 98   | 120 |     |     |    |    |    |    |    |
| 29   | 214  | 243 | 257  | 127  | 257  | 286 | 112 | 98  | 98  | 112 | 98  | 98  | 127 | 127 | 214 | 98  | -76 | 141 | 127 | 141 | 170 | 228 | 286  | 214 | 158 |     |    |    |    |    |    |
| 30   | 185  | 170 | 156  | 199  | 214  | 228 | 141 | 214 | 112 | 272 | 214 | 112 | 141 | 127 | 127 | 141 | 141 | 156 | 156 | 141 | 315 | 69  | 156  | 141 | 167 |     |    |    |    |    |    |
| 31   | 286  | 315 | 373  | 243  | 243  | 214 | 156 | 127 | 83  | 112 | 54  | 83  | 112 | 83  | 83  | 25  | 40  | 236 | -3  | -3  | -47 | 141 | 214  | 228 | 143 |     |    |    |    |    |    |
| MEAN | 256  | 255 | 267  | 230  | 216  | 184 | 149 | 146 | 134 | 131 | 125 | 130 | 132 | 134 | 125 | 131 | 125 | 125 | 135 | 141 | 163 | 209 | 231  | 273 | 170 |     |    |    |    |    |    |

TROMSØ. DECLINATION. D=0 DEG. E + TABULAR QUANTITIES EXPRESSED IN TENTH OF MINUTES.  
HOURLY MEAN VALUES

FEBRUARY 1978

| DAY | 1   | 2   | 3     | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15   | 16   | 17   | 18   | 19   | 20   | 21  | 22  | 23  | 24  | 25  | 26  | 27  | 28 |
|-----|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|----|
| 1   | 402 | 257 | 272   | 272 | 214 | 243 | 141 | 112 | 112 | 127 | 83  | 83  | 98  | 98  | 69   | 98   | 69   | 199  | 257  | 170  | 141 | 141 | 127 | 431 | 175 |     |     |    |
| 2   | 431 | 286 | 141   | 257 | 214 | 228 | 170 | 127 | 98  | 98  | 112 | 112 | 127 | 141 | 156  | 141  | 127  | 141  | 127  | 112  | -3  | 475 | 417 | 181 |     |     |     |    |
| 3   | 344 | 315 | 228   | 170 | 156 | 185 | 141 | 127 | 156 | 141 | 98  | 54  | 83  | 54  | 25   | 69   | 98   | -76  | 98   | 112  | 199 | 286 | 272 | 315 | 152 |     |     |    |
| 4   | 431 | 576 | 170   | 214 | 228 | 214 | 141 | 156 | 141 | 141 | 141 | 112 | 112 | 83  | 112  | 127  | 98   | 127  | 127  | 170  | 199 | 141 | 170 | 199 | 180 |     |     |    |
| 5   | 199 | 257 | 518   | 562 | 315 | 243 | 199 | 141 | 112 | 141 | 98  | 69  | 69  | 40  | 40   | 243  | 112  | -18  | 54   | 315  | 228 | 228 | 301 | 344 | 270 |     |     |    |
| 6   | 315 | 373 | 170   | 156 | 185 | 214 | 199 | 156 | 112 | 112 | 112 | 127 | 112 | 83  | 69   | 54   | 40   | -105 | -192 | 11   | 98  | 156 | 141 | 156 | 118 |     |     |    |
| 7   | 185 | 185 | 135   | 185 | 170 | 170 | 185 | 185 | 185 | 170 | 156 | 127 | 127 | 127 | 127  | 93   | -3   | 83   | 112  | 127  | 127 | 112 | 140 |     |     |     |     |    |
| 8   | 185 | 185 | 257   | 199 | 199 | 185 | 185 | 156 | 127 | 127 | 112 | 83  | 98  | 83  | 69   | 54   | -105 | -163 | -3   | 69   | 141 | 199 | 359 | 359 | 131 |     |     |    |
| 9   | 243 | 185 | 170   | 156 | 170 | 170 | 185 | 170 | 141 | 127 | 112 | 127 | 54  | 127 | -192 | -119 | 98   | -18  | 40   | -3   | 141 | 243 | 301 | 272 | 120 |     |     |    |
| 10  | 243 | 257 | 156   | 170 | 141 | 156 | 156 | 141 | 156 | 141 | 127 | 112 | 112 | 112 | 112  | 127  | 127  | 112  | 98   | 127  | 141 | 141 | 141 | 141 | 143 |     |     |    |
| 11  | 141 | 156 | 141   | 156 | 156 | 170 | 156 | 156 | 156 | 127 | 112 | 112 | 127 | 127 | 141  | 141  | 141  | 141  | 127  | 127  | 141 | 156 | 170 | 141 | 141 | 142 |     |    |
| 12  | 141 | 141 | 141   | 156 | 156 | 170 | 170 | 135 | 170 | 141 | 127 | 112 | 112 | 112 | 112  | 98   | 40   | 69   | 40   | 286  | 417 | 141 | 141 | 143 |     |     |     |    |
| 13  | 170 | 199 | 311   | 330 | 272 | 228 | 170 | 156 | 141 | 156 | 141 | 127 | 127 | 127 | 127  | 83   | 40   | 54   | 69   | 98   | 156 | 156 | 156 | 154 |     |     |     |    |
| 14  | 199 | 272 | 199   | 185 | 170 | 185 | 185 | 199 | 135 | 141 | 170 | 141 | 112 | 112 | 112  | 25   | 11   | 25   | 112  | 141  | 156 | 141 | 141 | 136 |     |     |     |    |
| 15  | 344 | 518 | 228   | 286 | 228 | 315 | 185 | 330 | 388 | 402 | 576 | 286 | 170 | 141 | 127  | 141  | 170  | 156  | 156  | 141  | 185 | 170 | 156 | 170 | 250 |     |     |    |
| 16  | 141 | 127 | 199   | 228 | 214 | 214 | 214 | 199 | 170 | 185 | 170 | 141 | 112 | 127 | 127  | 127  | 69   | 25   | 54   | -105 | 25  | 127 | 286 | 388 | 460 | 160 |     |    |
| 17  | 591 | 573 | 359   | 344 | 228 | 199 | 185 | 199 | 185 | 170 | 141 | 112 | 127 | 127 | 127  | 141  | 127  | 156  | 141  | 127  | 156 | 141 | 170 | 199 | 185 | 228 | 205 |    |
| 18  | 272 | 257 | 228   | 214 | 214 | 156 | 141 | 156 | 141 | 112 | 112 | 98  | 98  | 69  | 98   | 127  | 141  | 156  | 214  | 127  | 243 | 156 | 127 | 170 | 159 |     |     |    |
| 19  | 257 | 330 | 431   | 388 | 257 | 170 | 156 | 170 | 185 | 141 | 112 | 98  | 83  | 69  | 83   | -32  | 11   | 11   | 25   | -3   | 83  | 170 | 199 | 170 | 148 |     |     |    |
| 20  | 574 | 373 | 243   | 301 | 243 | 170 | 141 | 98  | 98  | 127 | 112 | 83  | 69  | 69  | 127  | 98   | 83   | 11   | 25   | 40   | 170 | 83  | 301 | 301 | 161 |     |     |    |
| 21  | 272 | 315 | 286   | 243 | 170 | 185 | 170 | 156 | 156 | 170 | 112 | 127 | 83  | 98  | 69   | 98   | 127  | -61  | -47  | -5   | 98  | 112 | 315 | 272 | 146 |     |     |    |
| 22  | 228 | 301 | 721   | 576 | 402 | 243 | 69  | 141 | 156 | 156 | 141 | 112 | 33  | 83  | 54   | -61  | -76  | 40   | 98   | 127  | 98  | 214 | 286 | 518 | 196 |     |     |    |
| 23  | 272 | 185 | 170   | 185 | 170 | 170 | 156 | 156 | 141 | 156 | 141 | 127 | 127 | 112 | 127  | 127  | 127  | 141  | 127  | 127  | 141 | 127 | 170 | 228 | 228 | 158 |     |    |
| 24  | 185 | 199 | 214</ |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |      |      |     |     |     |     |     |     |     |    |





TROMSØ. DECLINATION, D=0 DEG. E + TABULAR QUANTITIES EXPRESSED IN TENTH OF MINUTES.  
HOURLY MEAN VALUES

MAY 1973

| DAY  | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23  | 24   | 25  | 26  | 27  | 28  | 29 | 30 | 31  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|-----|------|-----|-----|-----|-----|----|----|-----|
| 1    | 372 | 256 | 242 | 358 | 575 | 648 | 314 | 169 | 169 | 213 | -4  | 126 | 662 | 648 | 271 | 53   | 97   | 82   | 10   | -338 | -468 | -381 | -77 | -106 |     |     |     |     |    |    | 162 |
| 2    | 561 | -33 | 503 | 575 | 503 | 503 | 314 | 285 | 358 | 619 | 235 | 416 | 343 | 517 | 242 | 39   | -294 | -541 | -294 | -135 | 32   | -106 | 256 | 503  | 575 |     |     |     |    |    | 355 |
| 3    | 271 | 445 | 430 | 575 | 535 | 314 | 285 | 358 | 619 | 235 | 416 | 343 | 517 | 242 | 39  | -294 | -541 | -294 | -135 | 32   | -106 | 256  | 503 | 575  |     |     |     |     |    |    | 237 |
| 4    | 68  | 575 | 285 | 430 | 358 | 720 | 474 | 532 | 633 | 372 | 445 | 397 | 397 | 285 | 140 | 111  | -33  | -33  | 10   | 58   | 169  | 184  | 198 | 227  |     |     |     |     |    |    | 291 |
| 5    | 213 | 213 | 242 | 227 | 213 | 227 | 227 | 227 | 213 | 169 | 140 | 140 | 140 | 155 | 155 | 167  | 169  | 169  | 155  | 111  | 68   | 242  | 242 |      |     |     |     |     |    |    | 185 |
| 6    | 242 | 256 | 271 | 285 | 271 | 285 | 271 | 256 | 242 | 198 | 155 | 140 | 126 | 155 | 140 | 126  | 155  | 167  | 184  | 184  | 169  | 169  | 155 | 111  | 68  | 242 | 242 |     |    |    | 202 |
| 7    | 271 | 300 | 242 | 285 | 271 | 242 | 213 | 134 | 169 | 140 | 126 | 97  | 97  | 111 | 126 | 140  | 111  | 126  | 39   | 97   | 126  | 155  | 169 | 155  | 111 | 68  | 242 | 242 |    |    | 168 |
| 8    | 213 | 198 | 213 | 242 | 256 | 271 | 256 | 227 | 213 | 198 | 169 | 169 | 184 | 53  | 53  | 39   | 10   | 24   | 68   | 53   | 97   | 126  | 169 | 242  |     |     |     |     |    |    | 155 |
| 9    | 227 | 271 | 590 | 749 | 575 | 329 | 430 | 648 | 430 | 619 | 735 | 430 | 314 | 242 | -48 | -222 | -265 | -149 | -120 | -4   | 155  | 155  | 184 | 242  |     |     |     |     |    |    | 273 |
| 10   | 256 | 256 | 256 | 271 | 271 | 271 | 256 | 242 | 198 | 155 | 126 | 126 | 126 | 126 | 140 | 140  | 140  | 155  | 126  | 140  | 97   | 256  | 401 | 271  |     |     |     |     |    |    | 200 |
| 11   | 416 | 445 | 545 | 532 | 575 | 546 | 343 | 184 | 184 | 155 | 169 | 126 | 97  | 24  | 111 | 63   | 24   | -4   | 10   | 24   | 82   | 213  | 358 | 401  |     |     |     |     |    |    | 234 |
| 12   | 691 | 662 | 546 | 387 | 329 | 314 | 213 | 169 | 227 | 184 | 155 | 82  | 97  | 24  | 59  | 10   | 24   | -91  | -48  | -4   | 169  | 184  | 169 | 343  |     |     |     |     |    |    | 203 |
| 13   | 572 | 503 | 358 | 285 | 285 | 271 | 256 | 227 | 184 | 140 | 111 | 97  | 97  | 32  | 111 | 111  | 126  | 126  | 126  | 126  | 126  | 140  | 242 | 271  |     |     |     |     |    |    | 198 |
| 14   | 459 | 517 | 401 | 358 | 397 | 285 | 198 | 198 | 169 | 169 | 126 | 92  | 68  | 92  | 82  | 39   | -4   | -48  | -33  | 39   | 213  | 155  | 184 | 387  |     |     |     |     |    |    | 188 |
| 15   | 314 | 242 | 242 | 242 | 242 | 242 | 227 | 193 | 155 | 126 | 97  | 68  | 97  | 111 | 97  | 126  | 82   | 68   | 82   | 111  | 126  | 155  | 169 |      |     |     |     |     |    |    | 153 |
| 16   | 184 | 198 | 213 | 242 | 242 | 213 | 227 | 198 | 169 | 140 | 126 | 111 | 126 | 126 | 111 | 82   | 39   | 68   | 111  | 97   | 97   | 126  | 169 |      |     |     |     |     |    |    | 149 |
| 17   | 213 | 227 | 227 | 256 | 271 | 256 | 213 | 155 | 155 | 155 | 126 | 111 | 97  | 111 | 126 | 140  | 155  | 140  | 155  | 111  | 82   | 184  | 256 |      |     |     |     |     |    |    | 173 |
| 18   | 300 | 256 | 300 | 314 | 256 | 213 | 242 | 227 | 198 | 155 | 140 | 97  | 82  | 97  | 82  | 68   | 39   | 39   | 53   | 68   | 97   | 111  | 169 |      |     |     |     |     |    |    | 157 |
| 19   | 198 | 198 | 193 | 213 | 227 | 242 | 242 | 213 | 193 | 155 | 97  | 82  | 82  | 82  | 111 | 126  | 140  | 140  | 126  | 140  | 140  | 140  | 155 |      |     |     |     |     |    |    | 158 |
| 20   | 169 | 256 | 242 | 256 | 227 | 227 | 256 | 227 | 169 | 140 | 82  | 68  | 82  | 97  | 140 | 140  | 126  | 82   | -4   | 10   | 68   | 126  |     |      |     |     |     |     |    |    | 149 |
| 21   | 227 | 227 | 256 | 329 | 242 | 285 | 256 | 227 | 169 | 126 | 97  | 32  | 63  | 97  | 32  | 97   | 111  | 111  | 82   | -120 | -135 | 10   | 97  |      |     |     |     |     |    |    | 165 |
| 22   | 517 | 372 | 358 | 474 | 416 | 343 | 285 | 227 | 184 | 140 | 92  | 68  | 68  | 24  | -48 | -91  | -410 | -251 | -120 | -91  | 39   | 111  | 213 |      |     |     |     |     |    |    | 135 |
| 23   | 343 | 532 | 749 | 735 | 546 | 430 | 329 | 271 | 155 | 126 | 126 | 111 | 63  | 32  | 82  | 68   | -4   | 53   | -4   | 24   | -62  | 126  |     |      |     |     |     |     |    |    | 220 |
| 24   | 430 | 720 | 474 | 285 | 300 | 329 | 256 | 242 | 227 | 169 | 92  | 97  | 111 | -33 | 68  | 39   | 68   | 10   | 82   | 68   | 111  | 169  |     |      |     |     |     |     |    |    | 197 |
| 25   | 532 | 558 | 314 | 285 | 300 | 271 | 242 | 256 | 184 | 169 | 155 | 126 | 77  | 140 | 97  | 82   | 32   | 111  | 97   | 32   | 111  | 184  |     |      |     |     |     |     |    |    | 216 |
| 26   | 445 | 503 | 416 | 300 | 285 | 271 | 256 | 242 | 227 | 169 | 140 | 140 | 53  | 53  | 68  | 39   | 68   | 39   | 53   | 97   | 169  | 140  |     |      |     |     |     |     |    |    | 190 |
| 27   | 242 | 227 | 227 | 256 | 271 | 285 | 271 | 242 | 193 | 169 | 126 | 82  | 63  | 32  | 32  | 97   | 111  | 97   | 82   | 111  | 126  | 169  |     |      |     |     |     |     |    |    | 171 |
| 28   | 285 | 285 | 285 | 271 | 285 | 271 | 256 | 242 | 213 | 198 | 155 | 97  | 24  | -19 | -33 | -19  | -19  | 24   | 39   | 126  | 126  | 140  |     |      |     |     |     |     |    |    | 149 |
| 29   | 256 | 285 | 242 | 213 | 213 | 213 | 227 | 213 | 193 | 169 | 111 | 68  | 59  | 10  | 24  | 68   | 82   | 111  | 97   | 68   | 10   | 55   |     |      |     |     |     |     |    |    | 137 |
| 30   | 155 | 358 | 793 | 575 | 720 | 474 | 372 | 358 | 227 | 169 | 126 | 97  | 39  | 10  | 24  | 68   | 111  | 97   | 140  | 126  | 126  | 140  |     |      |     |     |     |     |    |    | 232 |
| 31   | 271 | 546 | 503 | 300 | 285 | 314 | 256 | 227 | 227 | 169 | 155 | 126 | 111 | 97  | 32  | 111  | 126  | 140  | 126  | 126  | 126  | 140  |     |      |     |     |     |     |    |    | 204 |
| MEAN | 313 | 343 | 360 | 358 | 345 | 326 | 288 | 271 | 252 | 212 | 177 | 140 | 146 | 117 | 82  | 59   | 51   | 42   | 49   | 57   | 75   | 132  |     |      |     |     |     |     |    |    | 194 |

TROMSØ. DECLINATION, D=0 DEG. E + TABULAR QUANTITIES EXPRESSED IN TENTH OF MINUTES.  
HOURLY MEAN VALUES

JUNE 1978

| DAY | 1    | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12   | 13  | 14  | 15   | 16  | 17   | 18   | 19   | 20   | 21  | 22  | 23  | 24 | 25 | 26 | 27 | 28 | 29 | 30 |     |
|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|------|-----|------|------|------|------|-----|-----|-----|----|----|----|----|----|----|----|-----|
| 1   | 213  | 213 | 227 | 213 | 271 | 242 | 242 | 227 | 213 | 155 | 140 | 140  | 126 | 140 | 140  | 140 | 140  | 140  | 126  | 155  | 184 | 169 | 285 |    |    |    |    |    |    |    | 182 |
| 2   | 235  | 227 | 213 | 227 | 213 | 271 | 242 | 227 | 111 | 271 | 474 | -106 | -91 | -33 | -149 | -62 | -222 | -410 | -657 | -193 | -91 | 82  | 140 |    |    |    |    |    |    |    | 50  |
| 3   | 430  | 648 | 532 | 401 | 416 | 529 | 235 | 271 | 227 | 198 | 82  | 82   | 39  | 68  | 97   | 97  | 97   | 53   | 53   | 97   | 140 | 169 |     |    |    |    |    |    |    |    | 218 |
| 4   | 242  | 329 | 346 | 488 | 358 | 271 | 271 | 242 | 227 | 184 | 126 | 97   | -48 | -62 | 24   | 39  | -4   | 10   | 10   | 39   | 97  | 329 |     |    |    |    |    |    |    |    | 202 |
| 5   | 503  | 459 | 474 | 358 | 648 | 604 | 430 | 227 | 213 | 184 | 140 | 97   | 68  | 68  | 82   | 97  | 97   | 82   | 32   | 97   | 82  | 32  |     |    |    |    |    |    |    |    | 233 |
| 6   | 416  | 401 | 387 | 329 | 300 | 285 | 285 | 242 | 227 | 140 | 111 | 111  | 68  | 111 | 126  | 126 | 111  | 111  | 82   | 32   | 184 | 271 |     |    |    |    |    |    |    |    | 212 |
| 7   | 793  | 561 | 430 | 314 | 285 | 329 | 227 | 227 | 193 | 140 | 82  | 53   | 39  | 53  | 68   | 82  | 63   | -4   | 82   | 24   | 126 | 140 |     |    |    |    |    |    |    |    | 201 |
| 8   | 329  | 445 | 488 | 430 | 372 | 343 | 256 | 184 | 184 | 155 | 111 | 82   | 24  | 53  | 97   | 68  | 10   | 59   | 53   | 97   | 126 | 155 |     |    |    |    |    |    |    |    | 185 |
| 9   | 198  | 213 | 227 | 227 | 213 | 242 | 242 | 256 | 227 | 184 | 184 | 126  | 111 | 82  | 97   | 111 | 126  | 155  | 167  | 169  | 169 | 184 |     |    |    |    |    |    |    |    | 180 |
| 10  | 242  | 227 | 271 | 256 | 256 | 242 | 242 | 256 | 285 | 198 | 126 | 97   | 82  | 10  | 39   | -19 | -4   | -77  | -19  | 97   | 155 | 155 |     |    |    |    |    |    |    |    | 144 |
| 11  | 358  | 387 | 343 | 532 | 546 | 329 | 372 | 271 | 285 | 155 | 126 | 140  | 111 | 111 | 155  | 140 | 111  | 126  | 126  | 140  | 140 | 169 |     |    |    |    |    |    |    |    | 231 |
| 12  | 184  | 198 | 227 | 256 | 256 | 242 | 271 | 242 | 213 | 184 | 155 | 169  | 169 | 68  | 53   | 39  | 10   | 24   | -4   | 97   | 155 | 169 |     |    |    |    |    |    |    |    | 157 |
| 13  | 198  | 256 | 285 | 271 | 285 | 300 | 300 | 285 | 242 | 184 | 140 | 82   | 63  | 82  | 97   | 111 | 126  | 126  | 126  | 97   | 140 | 169 |     |    |    |    |    |    |    |    | 180 |
| 14  | 198  | 198 | 213 | 227 | 242 | 256 | 242 | 213 | 169 | 140 | 97  | 97   | 97  | 126 | 140  | 126 | 82   | 111  | 82   | 82   | 111 | 140 |     |    |    |    |    |    |    |    | 161 |
| 15  | 227  | 343 | 387 | 271 | 256 | 242 | 227 | 227 | 184 | 155 | 140 | 126  | 126 | 53  | 97   | 97  | 63   | 97   | 111  | 126  | 140 | 184 |     |    |    |    |    |    |    |    | 176 |
| 16  | 213  | 198 | 227 | 227 | 242 | 227 | 213 | 213 | 227 | 198 | 155 | 111  | 32  | 68  | 68   | 82  | 111  | 32   | 68   | 53   | 169 | 155 |     |    |    |    |    |    |    |    | 157 |
| 17  | 358  | 387 | 271 | 256 | 242 | 242 | 242 | 193 | 169 | 155 | 97  | 68   | 82  | 68  | 82   | 39  | 10   | 39   | 53   | 82   | 111 | 184 |     |    |    |    |    |    |    |    | 160 |
| 18  | 329  | 329 | 358 | 343 | 314 | 314 | 300 | 242 | 169 | 169 | 126 | 82   | 97  | 53  | 68   | 169 | 53   | 53   | -4   | 24   | 140 | 126 |     |    |    |    |    |    |    |    | 180 |
| 19  | 314  | 314 | 430 | 445 | 314 | 329 | 285 | 242 | 169 | 155 | 126 | 53   | 24  | 39  | 24   | 10  | 10   | 10   | 10   | 39   | 39  | 39  |     |    |    |    |    |    |    |    | 170 |
| 20  | 1010 | 591 | 271 | 271 | 314 | 285 | 227 |     |     |     |     |      |     |     |      |     |      |      |      |      |     |     |     |    |    |    |    |    |    |    |     |

















TROMSO. HORIZONTAL INTENSITY. H=11300 + TABULAR QUANTITIES EXPRESSED IN GAMMA.  
HOURLY MEAN VALUES

JULY 1978

| DAY  | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21   | 22   | 23  | 24   | 25  | 26  | 27  | 28  | 29  | 30  | 31  |
|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|------|-----|-----|-----|-----|-----|-----|-----|
| 1    | 117  | 112  | 112  | 101  | 107  | 96   | 91   | 85  | 75  | 85  | 135 | 59  | 80  | 143 | 122 | 159 | 154 | 122 | 101 | 112 | 107  | 101  | 101 | 101  | 101 | 101 | 101 | 101 | 101 | 101 | 107 |
| 2    | 72   | -22  | 30   | 104  | 109  | 109  | 93   | 93  | 77  | 77  | 130 | 93  | 99  | 114 | 120 | 125 | 146 | 146 | 183 | 173 | 146  | 130  | 67  | 35   |     |     |     |     |     |     | 102 |
| 3    | -19  | 17   | 64   | 96   | 96   | 106  | 101  | 96  | 91  | 91  | 106 | 112 | 122 | 153 | 159 | 180 | 186 | 180 | 180 | 143 | 128  | 96   | 101 | -40  |     |     |     |     |     |     | 105 |
| 4    | -220 | -510 | -141 | 38   | 144  | 86   | 27   | 75  | 117 | 96  | 112 | 112 | 165 | 249 | 439 | 223 | 281 | 191 | 123 | 149 | 73   | 133  | 54  | 149  |     |     |     |     |     |     | 90  |
| 5    | -591 | -591 | -544 | -248 | -512 | -301 | -142 | -21 | 94  | 100 | 137 | 253 | 295 | 374 | 438 | 385 | 316 | 279 | 232 | 94  | 126  | 100  | 73  | 63   |     |     |     |     |     |     | 12  |
| 6    | 43   | 107  | 123  | 123  | 112  | 101  | 91   | 91  | 71  | 86  | 91  | 107 | 101 | 107 | 117 | 255 | 307 | 302 | 202 | 170 | 138  | 112  | 123 | 117  |     |     |     |     |     |     | 134 |
| 7    | 55   | -13  | -45  | 96   | 108  | 102  | 97   | 92  | 36  | 76  | 102 | 160 | 160 | 171 | 366 | 287 | 213 | 240 | 176 | 118 | 44   | 23   | -39 | -145 |     |     |     |     |     |     | 105 |
| 8    | -110 | -221 | -210 | -78  | -36  | 85   | 95   | 116 | 122 | 106 | 101 | 116 | 143 | 132 | 159 | 359 | 269 | 259 | 233 | 190 | 180  | 148  | 95  | 58   |     |     |     |     |     |     | 96  |
| 9    | 46   | -133 | 30   | 120  | 120  | 109  | 104  | 98  | 38  | 78  | 83  | 99  | 136 | 115 | 146 | 252 | 278 | 199 | 162 | 146 | 125  | 104  | 62  | 35   |     |     |     |     |     |     | 108 |
| 10   | 65   | 92   | 97   | 102  | 71   | 102  | 92   | 86  | 65  | 60  | 92  | 125 | 155 | 113 | 145 | 160 | 182 | 137 | 187 | 145 | 129  | 60   | 39  | 23   |     |     |     |     |     |     | 107 |
| 11   | 50   | -39  | 34   | 92   | 118  | 118  | 92   | 92  | 97  | 97  | 97  | 134 | 108 | 123 | 123 | 134 | 155 | 139 | 129 | 129 | 118  | 108  | 108 | 108  |     |     |     |     |     |     | 102 |
| 12   | 102  | 108  | 103  | 108  | 97   | 102  | 92   | 92  | 81  | 76  | 76  | 86  | 102 | 102 | 123 | 139 | 171 | 192 | 166 | 150 | 145  | 139  | 71  | 76   |     |     |     |     |     |     | 112 |
| 13   | -2   | -55  | -76  | -50  | 36   | 102  | 97   | 60  | 60  | 92  | 113 | 102 | 150 | 197 | 261 | 234 | 208 | 176 | 160 | 150 | 129  | 13   | 23  | -92  |     |     |     |     |     |     | 89  |
| 14   | -172 | -162 | -304 | 12   | -51  | -146 | 49   | 49  | 35  | 170 | 212 | 292 | 434 | 566 | 572 | 408 | 249 | 138 | 181 | 59  | -82  | 35   | 64  | 138  |     |     |     |     |     |     | 115 |
| 15   | 123  | 107  | 96   | 96   | 96   | 91   | 86   | 86  | 80  | 80  | 80  | 80  | 80  | 80  | 80  | 80  | 80  | 80  | 80  | 80  | 80   | 80   | 80  | 80   |     |     |     |     |     |     | 97  |
| 16   | 17   | -151 | 1    | 96   | 107  | 101  | 101  | 96  | 86  | 80  | 86  | 86  | 96  | 123 | 144 | 149 | 154 | 149 | 128 | 128 | 117  | 91   | 43  | 64   |     |     |     |     |     |     | 87  |
| 17   | 49   | 12   | 59   | 80   | 80   | 101  | 107  | 91  | 80  | 91  | 107 | 59  | 36  | 96  | 107 | 133 | 128 | 123 | 149 | 131 | 149  | 123  | 101 | 75   |     |     |     |     |     |     | 98  |
| 18   | -3   | -98  | 23   | 91   | 117  | 107  | 101  | 96  | 96  | 86  | 86  | 101 | 138 | 96  | 160 | 339 | 460 | 355 | 292 | 191 | 64   | -103 | -35 | -45  |     |     |     |     |     |     | 113 |
| 19   | -51  | -98  | 33   | 107  | 86   | 101  | 80   | 86  | 91  | 96  | 64  | 86  | 101 | 96  | 123 | 175 | 165 | 144 | 117 | 107 | 107  | 107  | 96  | 112  |     |     |     |     |     |     | 88  |
| 20   | 103  | 108  | 93   | 93   | 77   | 82   | 77   | 87  | 93  | 93  | 93  | 103 | 98  | 114 | 108 | 108 | 124 | 130 | 135 | 140 | 124  | 93   | 40  | 29   |     |     |     |     |     |     | 97  |
| 21   | -53  | 0    | 79   | 100  | 105  | 110  | 100  | 79  | 73  | 94  | 121 | 115 | 131 | 105 | 105 | 110 | 115 | 131 | 131 | 142 | 131  | 126  | 121 | 105  |     |     |     |     |     |     | 98  |
| 22   | 109  | 95   | -43  | -27  | 25   | 85   | 104  | 109 | 95  | 99  | 95  | 120 | 95  | 99  | 120 | 136 | 157 | 162 | 162 | 152 | 136  | 136  | 93  | 30   |     |     |     |     |     |     | 97  |
| 23   | 42   | 89   | 100  | 68   | 57   | 73   | 105  | 105 | 94  | 94  | 89  | 100 | 89  | 105 | 100 | 115 | 121 | 152 | 184 | 139 | 26   | -79  | -99 | -95  |     |     |     |     |     |     | 76  |
| 24   | -90  | 14   | 83   | 136  | 130  | 115  | 99   | 83  | 83  | 93  | 93  | 93  | 104 | 115 | 157 | 141 | 146 | 183 | 173 | 78  | 35   | 67   | 4   | -133 |     |     |     |     |     |     | 83  |
| 25   | -228 | -90  | 72   | 136  | 109  | 99   | 104  | 99  | 109 | 109 | 104 | 120 | 133 | 136 | 104 | 88  | 93  | 120 | 141 | 46  | -170 | -180 | -64 | 55   |     |     |     |     |     |     | 55  |
| 26   | -78  | -41  | 27   | 64   | 85   | 106  | 111  | 101 | 95  | 35  | 85  | 106 | 116 | 132 | 137 | 132 | 132 | 122 | 127 | 132 | 132  | 101  | 37  | 27   |     |     |     |     |     |     | 86  |
| 27   | 101  | 116  | 122  | 122  | 111  | 101  | 95   | 90  | 85  | 79  | 79  | 90  | 111 | 122 | 116 | 111 | 106 | 111 | 127 | 137 | 127  | 127  | 90  | -120 |     |     |     |     |     |     | 98  |
| 28   | -36  | 43   | 116  | 111  | 95   | 79   | 90   | 95  | 101 | 95  | 101 | 122 | 132 | 111 | 101 | 111 | 111 | 116 | 122 | 116 | 116  | 116  | 116 | 116  |     |     |     |     |     |     | 100 |
| 29   | 116  | 116  | 116  | 116  | 106  | 101  | 85   | 79  | 74  | 79  | 85  | 79  | 101 | 132 | 137 | 137 | 148 | 169 | 169 | 164 | 143  | 106  | 16  | -4   |     |     |     |     |     |     | 107 |
| 30   | 15   | 84   | 79   | 115  | 121  | 121  | 115  | 100 | 79  | 84  | 79  | 105 | 115 | 121 | 142 | 152 | 153 | 152 | 142 | 137 | 137  | 121  | 110 | 105  |     |     |     |     |     |     | 112 |
| 31   | 106  | 106  | 111  | 111  | 111  | 106  | 101  | 95  | 79  | 85  | 85  | 90  | 95  | 101 | 111 | 116 | 127 | 132 | 137 | 143 | 137  | 127  | 115 | 95   |     |     |     |     |     |     | 109 |
| MEAN | -10  | -23  | 11   | 71   | 70   | 79   | 35   | 36  | 86  | 91  | 101 | 115 | 131 | 148 | 175 | 183 | 183 | 171 | 159 | 159 | 103  | 81   | 56  | 32   |     |     |     |     |     |     | 97  |

TROMSO. HORIZONTAL INTENSITY. H=11300 + TABULAR QUANTITIES EXPRESSED IN GAMMA.  
HOURLY MEAN VALUES

AUGUST 1978

| DAY | 1    | 2    | 3    | 4    | 5    | 6    | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21   | 22   | 23   | 24   | 25 | 26 | 27 | 28 | 29 | 30 | 31  |
|-----|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|----|----|----|----|----|----|-----|
| 1   | 94   | 100  | 89   | 94   | 100  | 105  | 94  | 84  | 79  | 68  | 79  | 115 | 84  | 110 | 121 | 126 | 89  | 89  | 168 | 168 | 142  | 110  | 84   | 20   |    |    |    |    |    |    | 100 |
| 2   | 72   | 115  | 125  | 115  | 104  | 99   | 93  | 83  | 78  | 78  | 83  | 93  | 99  | 109 | 115 | 120 | 125 | 125 | 125 | 141 | 130  | 83   | 93   | 88   |    |    |    |    |    |    | 103 |
| 3   | 50   | 61   | 98   | 108  | 108  | 108  | 98  | 98  | 93  | 71  | 98  | 135 | 108 | 130 | 161 | 203 | 309 | 288 | 177 | 130 | 151  | 98   | 77   | 3    |    |    |    |    |    |    | 123 |
| 4   | -397 | -355 | -239 | -155 | 24   | 108  | 98  | 82  | 98  | 119 | 135 | 161 | 132 | 108 | 172 | 183 | 240 | 203 | 219 | 98  | 35   | 110  | 130  | 108  |    |    |    |    |    |    | 61  |
| 5   | 102  | 102  | 39   | -81  | -2   | 55   | 55  | 65  | 36  | 86  | 129 | 176 | 224 | 271 | 271 | 314 | 298 | 255 | 76  | -18 | -213 | -171 | 23   | 7    |    |    |    |    |    |    | 89  |
| 6   | -71  | 23   | 76   | 23   | 23   | -29  | 55  | 76  | 102 | 76  | 71  | 102 | 208 | 261 | 345 | 319 | 255 | 182 | 102 | 50  | 97   | 81   | 55   | -23  |    |    |    |    |    |    | 102 |
| 7   | -186 | 29   | 93   | 103  | 103  | 103  | 93  | 82  | 66  | 71  | 71  | 77  | 98  | 124 | 135 | 130 | 140 | 114 | 119 | 135 | 66   | -7   | 8    | 61   |    |    |    |    |    |    | 76  |
| 8   | 83   | 62   | 67   | 93   | 107  | 104  | 93  | 85  | 83  | 83  | 88  | 104 | 130 | 136 | 146 | 157 | 133 | 124 | 146 | 130 | 99   | 83   | 93   | 78   |    |    |    |    |    |    | 109 |
| 9   | 83   | 88   | 104  | 109  | 98   | 73   | 88  | 93  | 83  | 78  | 93  | 99  | 93  | 125 | 146 | 152 | 157 | 157 | 152 | 136 | 125  | 104  | 72   | 67   |    |    |    |    |    |    | 107 |
| 10  | 25   | 62   | 38   | 88   | 109  | 107  | 104 | 99  | 93  | 93  | 99  | 109 | 125 | 157 | 215 | 220 | 173 | 178 | 204 | 183 | 141  | 67   | -11  | 67   |    |    |    |    |    |    | 116 |
| 11  | 71   | 35   | 3    | 82   | 108  | 108  | 98  | 87  | 82  | 77  | 71  | 93  | 119 | 177 | 151 | 246 | 357 | 246 | 209 | 193 | 151  | 114  | 103  | 114  |    |    |    |    |    |    | 129 |
| 12  | 113  | 108  | 39   | -145 | -182 | -118 | -2  | 81  | 81  | 113 | 145 | 129 | 182 | 113 | 92  | 155 | 203 | 203 | 208 | 145 | 39   | -155 | 18   | 81   |    |    |    |    |    |    | 68  |
| 13  | 6    | -67  | -156 | 64   | 123  | 101  | 91  | 80  | 86  | 86  | 149 | 191 | 223 | 181 | 123 | 149 | 202 | 154 | 144 | 133 | 38   | 12   | 49   | 49   |    |    |    |    |    |    | 92  |
| 14  | -110 | -15  | 90   | 101  | 106  | 95   | 95  | 101 | 85  | 74  | 74  | 85  | 95  | 95  | 111 | 106 | 111 | 111 | 122 | 132 | 127  | 111  | 101  | 101  |    |    |    |    |    |    | 87  |
| 15  | 101  | 106  | 106  | 106  | 101  | 101  | 95  | 85  | 74  | 74  | 79  | 90  | 85  | 95  | 122 | 116 | 138 | 159 | 159 | 127 | 116  | 111  | 95   | 85   |    |    |    |    |    |    | 105 |
| 16  | 101  | 106  | 111  | 106  | 106  | 101  | 95  | 90  | 79  | 74  | 69  | 74  | 85  | 111 | 127 | 138 | 122 | 116 | 127 | 143 | 132  | 95   | 64   | -20  |    |    |    |    |    |    | 98  |
| 17  | 50   | 55   | 76   | 113  | 113  | 113  | 102 | 86  | 71  | 76  | 113 | 155 | 234 | 182 | 145 | 203 | 171 | 160 | 113 | 108 | 118  | 86   | 60   | 71   |    |    |    |    |    |    | 115 |
| 18  | 21   | -104 | 58   | 95   | 106  | 101  | 95  | 85  | 79  | 74  | 90  | 101 | 101 | 155 | 127 | 132 | 143 | 196 | 11  | -67 | 106  | 11   | -411 | -279 |    |    |    |    |    |    | 42  |
| 19  | 55   | 50   | 129  | 118  | 108  | 102  | 97  | 86  | 86  | 81  | 118 | 97  | 150 | 187 | 192 | 182 | 145 | 113 | 129 | 97  | 76   | 97   | 92   | 92   |    |    |    |    |    |    |     |























FROMSØ. DECLINATION. D=0 DEG. E + TABULAR QUANTITIES EXPRESSED IN TENTH OF MINUTES.  
HOURLY MEAN VALUES

|                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| JANUARY 1978   | 256 | 255 | 267 | 230 | 216 | 184 | 149 | 146 | 134 | 131 | 125 | 130 | 132 | 134 | 125 | 131 | 125 | 125 | 135 | 141 | 163 | 209 | 231 | 203 | 170 |
| FEBRUARY 1978  | 279 | 287 | 275 | 273 | 224 | 203 | 165 | 158 | 156 | 149 | 142 | 110 | 98  | 99  | 92  | 89  | 94  | 73  | 75  | 101 | 138 | 180 | 251 | 252 | 165 |
| MARCH 1978     | 246 | 333 | 309 | 292 | 257 | 213 | 202 | 197 | 185 | 161 | 126 | 95  | 73  | 68  | 67  | 34  | 94  | 78  | 92  | 136 | 164 | 187 | 204 | 243 | 171 |
| APRIL 1978     | 358 | 373 | 401 | 393 | 319 | 270 | 254 | 220 | 203 | 165 | 136 | 104 | 88  | 76  | 75  | 71  | 51  | 73  | 69  | 94  | 105 | 156 | 263 | 313 | 193 |
| MAY 1978       | 313 | 343 | 360 | 358 | 345 | 325 | 288 | 271 | 252 | 212 | 177 | 140 | 146 | 117 | 32  | 59  | 31  | 42  | 49  | 57  | 75  | 132 | 212 | 269 | 194 |
| JUNE 1978      | 364 | 395 | 402 | 359 | 332 | 316 | 289 | 244 | 224 | 184 | 147 | 96  | 69  | 51  | 57  | 55  | 50  | 18  | 12  | 58  | 93  | 162 | 206 | 313 | 188 |
| JULY 1978      | 332 | 358 | 381 | 327 | 311 | 296 | 285 | 261 | 215 | 181 | 142 | 115 | 98  | 96  | 97  | 68  | 38  | 98  | 89  | 89  | 103 | 142 | 197 | 255 | 191 |
| AUGUST 1978    | 308 | 320 | 321 | 328 | 304 | 291 | 276 | 254 | 229 | 186 | 167 | 127 | 104 | 113 | 104 | 108 | 103 | 115 | 102 | 124 | 153 | 195 | 252 | 280 | 203 |
| SEPTEMBER 1978 | 316 | 289 | 302 | 305 | 319 | 273 | 254 | 262 | 246 | 217 | 187 | 162 | 134 | 137 | 135 | 122 | 106 | 110 | 156 | 153 | 182 | 240 | 279 | 295 | 216 |
| OCTOBER 1978   | 351 | 343 | 338 | 289 | 278 | 263 | 255 | 243 | 230 | 204 | 176 | 147 | 134 | 130 | 138 | 155 | 149 | 163 | 176 | 195 | 212 | 270 | 325 | 324 | 229 |
| NOVEMBER 1978  | 340 | 338 | 291 | 262 | 253 | 238 | 232 | 229 | 223 | 222 | 207 | 181 | 169 | 179 | 165 | 175 | 171 | 153 | 163 | 231 | 251 | 253 | 339 | 355 | 233 |
| DECEMBER 1978  | 300 | 316 | 303 | 271 | 252 | 229 | 214 | 219 | 215 | 206 | 198 | 187 | 176 | 171 | 186 | 175 | 186 | 188 | 187 | 214 | 221 | 253 | 252 | 280 | 225 |
| MEAN 1978      | 314 | 329 | 320 | 307 | 285 | 259 | 230 | 226 | 210 | 185 | 161 | 133 | 118 | 114 | 110 | 108 | 100 | 104 | 101 | 133 | 153 | 198 | 251 | 281 | 190 |

FROMSØ. HORIZONTAL INTENSITY. H=11300 + TABULAR QUANTITIES EXPRESSED IN GAMMA.  
HOURLY MEAN VALUES

|                |     |     |     |     |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
|----------------|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| JANUARY 1978   | -15 | 23  | 35  | 55  | 74 | 95 | 98  | 101 | 107 | 113 | 118 | 116 | 117 | 117 | 128 | 126 | 136 | 134 | 109 | 89  | 81  | 22  | 2   | 24  | 83 |
| FEBRUARY 1978  | -4  | 7   | 36  | 54  | 73 | 84 | 101 | 101 | 101 | 108 | 123 | 122 | 129 | 158 | 164 | 174 | 167 | 168 | 120 | 85  | 56  | 26  | 0   | -18 | 89 |
| MARCH 1978     | 12  | -21 | 2   | 33  | 68 | 87 | 100 | 96  | 99  | 98  | 109 | 125 | 145 | 172 | 185 | 185 | 172 | 130 | 114 | 65  | 40  | 49  | 21  | 1   | 87 |
| APRIL 1978     | -97 | -62 | -49 | -11 | 44 | 70 | 90  | 99  | 96  | 94  | 96  | 116 | 141 | 168 | 181 | 194 | 199 | 177 | 136 | 79  | 12  | -19 | -62 | -47 | 68 |
| MAY 1978       | -37 | -11 | 26  | 45  | 31 | 54 | 83  | 92  | 100 | 109 | 134 | 160 | 180 | 187 | 188 | 180 | 176 | 156 | 135 | 108 | 67  | 34  | -28 | -48 | 88 |
| JUNE 1978      | -45 | -18 | -8  | 19  | 41 | 70 | 74  | 79  | 93  | 99  | 124 | 154 | 177 | 190 | 206 | 204 | 206 | 201 | 148 | 121 | 99  | 37  | -6  | -30 | 93 |
| JULY 1978      | -10 | -28 | 11  | 71  | 70 | 79 | 85  | 86  | 86  | 91  | 101 | 113 | 131 | 148 | 175 | 183 | 183 | 171 | 159 | 139 | 108 | 81  | 56  | 32  | 97 |
| AUGUST 1978    | -7  | 11  | 32  | 45  | 58 | 69 | 85  | 82  | 80  | 81  | 94  | 115 | 148 | 160 | 170 | 173 | 186 | 162 | 131 | 108 | 66  | 38  | 13  | -3  | 87 |
| SEPTEMBER 1978 | 23  | 52  | 62  | 52  | 42 | 67 | 83  | 77  | 86  | 83  | 94  | 116 | 123 | 146 | 159 | 167 | 143 | 123 | 113 | 85  | 51  | 5   | -15 | 7   | 81 |
| OCTOBER 1978   | -15 | 14  | 41  | 73  | 83 | 95 | 89  | 96  | 96  | 90  | 97  | 105 | 122 | 146 | 150 | 144 | 128 | 123 | 105 | 81  | 43  | 12  | -16 | -6  | 78 |
| NOVEMBER 1978  | 0   | 18  | 43  | 73  | 86 | 93 | 100 | 101 | 99  | 102 | 112 | 120 | 124 | 134 | 144 | 124 | 137 | 128 | 98  | 61  | 35  | 11  | -14 | -15 | 79 |
| DECEMBER 1978  | 28  | 23  | 39  | 41  | 64 | 89 | 99  | 101 | 97  | 98  | 98  | 107 | 111 | 117 | 116 | 123 | 133 | 97  | 103 | 89  | 58  | 50  | 57  | 38  | 83 |
| MEAN 1978      | -13 | 0   | 22  | 46  | 61 | 78 | 90  | 93  | 95  | 97  | 108 | 122 | 137 | 153 | 164 | 165 | 164 | 147 | 123 | 93  | 60  | 29  | 0   | -5  | 85 |

TROMSØ. VERTICAL INTENSITY. Z=51400 + TABULAR QUANTITIES EXPRESSED IN GAMMA.  
HOURLY MEAN VALUES

|                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| JANUARY 1978   | 140 | 124 | 110 | 90  | 86  | 95  | 101 | 106 | 110 | 114 | 120 | 126 | 124 | 120 | 111 | 111 | 106 | 107 | 112 | 121 | 113 | 131 | 109 | 119 | 113 |
| FEBRUARY 1978  | 135 | 130 | 136 | 104 | 93  | 92  | 98  | 110 | 113 | 127 | 128 | 131 | 133 | 125 | 136 | 121 | 112 | 82  | 92  | 113 | 135 | 158 | 160 | 134 | 120 |
| MARCH 1978     | 150 | 167 | 148 | 117 | 95  | 96  | 108 | 119 | 128 | 134 | 136 | 138 | 142 | 146 | 159 | 135 | 126 | 122 | 111 | 128 | 134 | 142 | 159 | 149 | 132 |
| APRIL 1978     | 219 | 207 | 188 | 113 | 96  | 103 | 116 | 129 | 137 | 139 | 145 | 145 | 149 | 140 | 145 | 118 | 117 | 126 | 123 | 124 | 157 | 180 | 178 | 200 | 146 |
| MAY 1978       | 203 | 180 | 164 | 162 | 143 | 148 | 149 | 153 | 150 | 143 | 134 | 129 | 120 | 107 | 119 | 125 | 125 | 133 | 135 | 151 | 153 | 188 | 198 | 210 | 151 |
| JUNE 1978      | 175 | 159 | 136 | 108 | 106 | 103 | 123 | 124 | 134 | 143 | 144 | 159 | 162 | 162 | 150 | 140 | 139 | 124 | 118 | 128 | 141 | 154 | 173 | 193 | 142 |
| JULY 1978      | 179 | 144 | 113 | 109 | 119 | 131 | 127 | 127 | 128 | 131 | 134 | 140 | 144 | 149 | 131 | 120 | 134 | 140 | 135 | 135 | 135 | 153 | 159 | 161 | 137 |
| AUGUST 1978    | 147 | 148 | 124 | 120 | 107 | 131 | 131 | 133 | 141 | 134 | 137 | 149 | 153 | 146 | 136 | 136 | 137 | 141 | 137 | 146 | 148 | 157 | 153 | 158 | 140 |
| SEPTEMBER 1978 | 161 | 145 | 144 | 138 | 144 | 121 | 129 | 145 | 147 | 151 | 151 | 142 | 146 | 127 | 131 | 123 | 139 | 134 | 130 | 139 | 167 | 183 | 177 | 182 | 146 |
| OCTOBER 1978   | 159 | 135 | 135 | 133 | 136 | 134 | 137 | 143 | 148 | 153 | 155 | 157 | 163 | 162 | 153 | 157 | 155 | 151 | 152 | 158 | 167 | 172 | 164 | 169 | 152 |
| NOVEMBER 1978  | 163 | 150 | 142 | 132 | 142 | 147 | 150 | 158 | 165 | 159 | 157 | 155 | 155 | 159 | 149 | 127 | 105 | 120 | 147 | 156 | 164 | 165 | 184 | 173 | 151 |
| DECEMBER 1978  | 162 | 143 | 131 | 128 | 129 | 127 | 141 | 148 | 155 | 161 | 162 | 161 | 156 | 157 | 150 | 139 | 141 | 135 | 142 | 133 | 147 | 142 | 144 | 161 | 146 |
| MEAN 1978      | 166 | 153 | 137 | 121 | 117 | 120 | 126 | 134 | 139 | 141 | 142 | 145 | 146 | 142 | 138 | 129 | 128 | 127 | 128 | 136 | 147 | 160 | 163 | 168 | 140 |

TROMSØ. DECLINATION. D=0 DEG. E + TABULAR QUANTITIES EXPRESSED IN TENTH OF MINUTES.  
QUIET MEAN VALUES.

|                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| JANUARY 1978   | 148 | 148 | 149 | 146 | 146 | 144 | 147 | 143 | 143 | 139 | 128 | 127 | 129 | 130 | 135 | 136 | 139 | 143 | 144 | 148 | 155 | 153 | 150 | 145 | 141 |     |
| FEBRUARY 1978  | 144 | 155 | 155 | 164 | 181 | 192 | 192 | 179 | 153 |     |     |     | 125 | 123 | 122 | 127 | 131 | 132 | 129 | 132 | 144 | 147 | 146 | 150 | 147 | 142 |
| MARCH 1978     | 172 | 174 | 178 | 184 | 183 | 190 | 197 | 197 | 177 |     |     |     |     |     |     | 141 | 140 | 141 | 142 | 146 | 144 | 148 | 162 | 162 | 168 | 163 |
| APRIL 1978     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 144 |
| MAY 1978       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 167 |
| JUNE 1978      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 139 |
| JULY 1978      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 172 |
| AUGUST 1978    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 191 |
| SEPTEMBER 1978 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 199 |
| OCTOBER 1978   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 201 |
| NOVEMBER 1978  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 214 |
| DECEMBER 1978  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 207 |
| MEAN 1978      | 204 | 203 | 207 | 214 | 221 | 224 | 221 | 213 | 203 | 189 | 163 | 148 | 140 | 142 | 151 | 162 | 160 | 160 | 160 | 165 | 174 | 180 | 189 | 195 | 181 |     |

TROMSØ. HORIZONTAL INTENSITY. H=11300 + TABULAR QUANTITIES EXPRESSED IN GAMMA.  
QUIET MEAN VALUES.

|                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| JANUARY 1978   | 110 | 109 | 110 | 111 | 112 | 112 | 112 | 111 | 110 | 108 | 108 | 109 | 110 | 111 | 111 | 111 | 109 | 109 | 110 | 111 | 110 | 109 | 109 | 108 | 110 |
| FEBRUARY 1978  | 107 | 109 | 113 | 112 | 111 | 112 | 110 | 108 | 107 | 98  | 97  | 99  |     |     |     |     | 109 | 110 | 108 | 107 | 107 | 107 | 106 | 108 |     |
| MARCH 1978     | 109 | 111 | 111 | 111 | 112 | 112 | 110 | 114 |     | 82  | 80  | 85  |     |     |     | 107 | 109 | 112 | 111 | 104 | 106 | 107 | 108 | 115 | 108 |
| APRIL 1978     | 117 | 115 | 114 | 113 | 113 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 114 |
| MAY 1978       |     |     |     |     |     | 94  | 90  | 88  | 89  |     |     |     |     |     |     |     | 141 | 143 | 144 |     |     |     |     |     | 113 |
| JUNE 1978      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| JULY 1978      | 112 | 112 | 112 | 112 | 105 | 103 |     |     | 82  | 86  | 85  | 88  |     |     |     |     | 124 | 119 | 116 | 113 | 112 | 114 |     | 108 |     |
| AUGUST 1978    | 105 | 107 | 110 | 109 | 108 | 105 | 94  |     |     |     |     |     |     |     |     |     | 127 | 128 | 125 | 108 | 104 |     |     | 109 |     |
| SEPTEMBER 1978 | 102 | 104 | 103 | 103 | 101 | 98  | 95  | 83  |     | 69  | 68  | 65  |     |     | 86  | 97  | 107 | 106 | 109 | 108 | 105 | 104 | 101 | 100 |     |
| OCTOBER 1978   | 101 | 104 | 103 | 105 | 108 | 107 | 105 | 99  |     | 75  | 76  | 78  | 87  |     |     | 103 | 103 | 101 | 104 | 107 | 106 | 88  | 92  | 100 |     |
| NOVEMBER 1978  | 100 | 103 | 103 | 100 | 100 | 99  | 98  | 97  | 93  | 88  | 88  | 86  | 94  | 98  | 103 |     | 105 | 104 | 97  | 99  | 98  | 94  | 97  | 97  |     |
| DECEMBER 1978  | 98  | 99  | 102 | 102 | 102 | 104 | 103 | 102 | 99  | 96  | 95  | 95  | 97  | 99  | 102 | 103 | 105 | 106 | 106 | 106 | 108 | 106 | 100 | 99  | 101 |
| MEAN 1978      | 105 | 107 | 108 | 107 | 107 | 106 | 105 | 104 | 102 | 96  | 95  | 96  | 102 | 105 | 107 | 107 | 106 | 108 | 108 | 108 | 107 | 104 | 103 | 105 |     |

TROMSØ. VERTICAL INTENSITY. Z=51400 + TABULAR QUANTITIES EXPRESSED IN GAMMA.  
QUIET MEAN VALUES.

|                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| JANUARY 1978   | 115 | 115 | 116 | 117 | 117 | 117 | 117 | 117 | 115 | 116 | 118 | 120 | 121 | 121 | 121 | 122 | 123 | 124 | 125 | 122 | 123 | 118 | 116 | 115 | 119 |
| FEBRUARY 1978  | 117 | 116 | 116 | 122 | 121 | 124 | 126 | 126 | 126 | 127 | 125 | 127 | 127 | 123 | 124 | 127 | 130 | 131 | 131 | 134 | 128 | 123 | 123 | 118 | 125 |
| MARCH 1978     | 125 | 128 | 128 | 127 | 127 | 127 | 127 | 125 | 126 | 131 | 130 | 133 | 134 | 137 | 135 | 132 | 131 | 128 | 126 | 126 | 125 | 126 | 123 | 125 | 123 |
| APRIL 1978     | 131 | 135 | 138 | 139 | 139 | 137 | 134 | 133 | 133 | 132 | 131 | 128 | 125 |     |     |     |     | 126 | 130 | 128 | 131 | 133 |     | 134 |     |
| MAY 1978       | 145 | 146 | 144 | 140 | 139 | 140 | 139 | 136 | 138 | 140 | 156 | 157 | 162 | 162 | 162 |     |     |     | 135 | 134 | 132 | 135 | 136 | 137 | 141 |
| JUNE 1978      | 140 | 137 | 136 | 133 | 129 | 131 | 133 | 131 | 135 | 136 | 133 | 131 | 129 |     |     |     | 144 | 140 | 136 | 136 | 141 | 141 | 141 | 135 |     |
| JULY 1978      | 137 | 137 | 134 | 129 | 129 | 127 | 127 | 128 | 126 | 126 | 124 | 124 | 130 | 138 | 139 | 139 | 138 | 135 | 133 | 132 | 133 | 134 | 137 | 138 | 131 |
| AUGUST 1978    | 133 | 135 | 134 | 136 | 135 | 134 | 132 | 129 | 128 | 127 | 126 | 128 | 126 | 127 | 139 | 137 | 135 | 137 | 131 | 128 | 132 | 129 | 128 | 130 | 131 |
| SEPTEMBER 1978 | 141 | 141 | 140 | 142 | 143 | 142 | 142 | 140 | 141 | 141 | 140 | 140 | 135 | 136 | 134 | 143 | 142 | 145 | 144 | 145 | 147 | 136 | 132 | 135 | 141 |
| OCTOBER 1978   | 148 | 149 | 148 | 146 | 146 | 146 | 147 | 148 | 147 | 150 | 149 | 147 | 153 | 153 | 152 | 156 | 156 | 155 | 152 | 153 | 153 | 150 | 149 | 147 | 149 |
| NOVEMBER 1978  | 152 | 152 | 152 | 152 | 152 | 153 | 152 | 153 | 156 | 161 | 160 | 160 | 158 | 158 | 160 | 161 | 169 | 153 | 159 | 160 | 158 | 151 | 148 | 145 | 156 |
| DECEMBER 1978  | 152 | 150 | 149 | 150 | 148 | 147 | 148 | 149 | 148 | 152 | 154 | 153 | 154 | 155 | 154 | 154 | 155 | 155 | 155 | 153 | 155 | 152 | 154 | 153 | 152 |
| MEAN 1978      | 138 | 137 | 136 | 136 | 136 | 135 | 135 | 135 | 135 | 137 | 136 | 139 | 141 | 142 | 143 | 143 | 143 | 141 | 139 | 139 | 139 | 136 | 137 | 136 | 138 |

TROMSØ.

K-INDICES FOR THREE-HOUR INTERVAL  
RANGE 2000 GAMMA FOR K=9.

JANUARY 1978

Table with 10 columns of data for January 1978, rows 1-31.

FEBRUARY 1978

Table with 10 columns of data for February 1978, rows 1-28.

MARCH 1978

Table with 10 columns of data for March 1978, rows 1-31.

APRIL 1978

Table with 10 columns of data for April 1978, rows 1-30.

TROMSØ.

K-INDICES FOR THREE-HOUR INTERVAL  
RANGE 2000 GAMMA FOR K=9.

MAY 1978

Table with 10 columns of data for May 1978, rows 1-31.

JUNE 1978

Table with 10 columns of data for June 1978, rows 1-30.

JULY 1978

Table with 10 columns of data for July 1978, rows 1-31.

AUGUST 1978

Table with 10 columns of data for August 1978, rows 1-31.



FROMS.

K-INDICES FOR THREE-HOUR INTERVAL  
RANGE 2000 GAMMA FOR K=9.

SEPTEMBER 1978

|    |   |   |   |   |   |   |   |    |
|----|---|---|---|---|---|---|---|----|
| 1  | 4 | 5 | 4 | 3 | 3 | 3 | 5 | 29 |
| 2  | 5 | 5 | 4 | 3 | 3 | 3 | 5 | 31 |
| 3  | 4 | 3 | 2 | 3 | 3 | 3 | 5 | 27 |
| 4  | 3 | 2 | 2 | 2 | 2 | 2 | 5 | 21 |
| 5  | 3 | 0 | 0 | 2 | 3 | 2 | 3 | 17 |
| 6  | 4 | 3 | 3 | 4 | 3 | 1 | 1 | 20 |
| 7  | 0 | 1 | 0 | 1 | 1 | 2 | 3 | 10 |
| 8  | 6 | 7 | 3 | 2 | 1 | 1 | 1 | 22 |
| 9  | 2 | 2 | 2 | 5 | 4 | 4 | 5 | 29 |
| 10 | 5 | 1 | 1 | 3 | 3 | 2 | 2 | 21 |
| 11 | 2 | 0 | 0 | 2 | 5 | 5 | 5 | 24 |
| 12 | 3 | 3 | 2 | 3 | 4 | 3 | 3 | 25 |
| 13 | 4 | 2 | 1 | 2 | 2 | 2 | 2 | 17 |
| 14 | 3 | 2 | 0 | 1 | 1 | 1 | 0 | 09 |
| 15 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 05 |
| 16 | 4 | 1 | 0 | 1 | 2 | 1 | 3 | 13 |
| 17 | 2 | 2 | 2 | 1 | 0 | 0 | 2 | 12 |
| 18 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 03 |
| 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00 |
| 20 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 07 |
| 21 | 2 | 3 | 2 | 2 | 1 | 3 | 1 | 0  |
| 22 | 1 | 2 | 1 | 2 | 5 | 5 | 2 | 21 |
| 23 | 3 | 2 | 1 | 2 | 3 | 3 | 5 | 25 |
| 24 | 2 | 2 | 1 | 0 | 3 | 4 | 4 | 21 |
| 25 | 3 | 3 | 3 | 5 | 4 | 5 | 4 | 32 |
| 26 | 3 | 5 | 4 | 4 | 5 | 5 | 4 | 35 |
| 27 | 5 | 5 | 4 | 4 | 3 | 6 | 6 | 39 |
| 28 | 5 | 5 | 4 | 5 | 5 | 3 | 5 | 39 |
| 29 | 5 | 7 | 4 | 3 | 5 | 6 | 3 | 35 |
| 30 | 2 | 3 | 3 | 3 | 2 | 2 | 3 | 21 |

OCTOBER 1978

|    |   |   |   |   |   |   |   |    |    |
|----|---|---|---|---|---|---|---|----|----|
| 1  | 4 | 2 | 1 | 3 | 3 | 3 | 5 | 6  | 27 |
| 2  | 3 | 3 | 1 | 3 | 4 | 3 | 5 | 4  | 25 |
| 3  | 4 | 2 | 2 | 2 | 2 | 2 | 4 | 3  | 21 |
| 4  | 5 | 2 | 3 | 3 | 4 | 3 | 3 | 5  | 28 |
| 5  | 6 | 2 | 1 | 1 | 2 | 3 | 5 | 0  | 18 |
| 6  | 1 | 0 | 0 | 0 | 1 | 3 | 2 | 4  | 11 |
| 7  | 3 | 0 | 1 | 1 | 1 | 0 | 0 | 1  | 07 |
| 8  | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 5  | 15 |
| 9  | 2 | 1 | 0 | 2 | 2 | 2 | 2 | 4  | 15 |
| 10 | 5 | 5 | 2 | 3 | 3 | 0 | 3 | 4  | 25 |
| 11 | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 3  | 14 |
| 12 | 2 | 0 | 0 | 2 | 5 | 4 | 5 | 5  | 23 |
| 13 | 3 | 1 | 1 | 1 | 0 | 3 | 3 | 13 | 13 |
| 14 | 2 | 1 | 0 | 0 | 0 | 3 | 3 | 2  | 11 |
| 15 | 2 | 0 | 0 | 1 | 1 | 1 | 0 | 1  | 06 |
| 16 | 3 | 2 | 0 | 0 | 1 | 0 | 0 | 2  | 08 |
| 17 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 3  | 08 |
| 18 | 5 | 5 | 4 | 3 | 3 | 4 | 6 | 5  | 35 |
| 19 | 6 | 3 | 4 | 3 | 3 | 3 | 6 | 5  | 33 |
| 20 | 3 | 2 | 1 | 2 | 3 | 3 | 4 | 2  | 20 |
| 21 | 1 | 2 | 1 | 1 | 3 | 3 | 4 | 5  | 20 |
| 22 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 1  | 24 |
| 23 | 0 | 3 | 0 | 2 | 2 | 2 | 3 | 5  | 15 |
| 24 | 3 | 3 | 1 | 0 | 0 | 1 | 3 | 3  | 14 |
| 25 | 0 | 1 | 0 | 1 | 3 | 4 | 3 | 1  | 13 |
| 26 | 1 | 2 | 1 | 1 | 4 | 3 | 5 | 7  | 24 |
| 27 | 5 | 3 | 4 | 3 | 3 | 3 | 3 | 4  | 28 |
| 28 | 3 | 3 | 3 | 2 | 3 | 3 | 2 | 5  | 24 |
| 29 | 5 | 2 | 0 | 2 | 5 | 6 | 4 | 3  | 27 |
| 30 | 2 | 2 | 2 | 4 | 4 | 5 | 6 | 5  | 30 |
| 31 | 3 | 4 | 2 | 1 | 4 | 4 | 5 | 5  | 28 |

NOVEMBER 1978

|    |   |   |   |   |   |   |   |   |    |
|----|---|---|---|---|---|---|---|---|----|
| 1  | 3 | 4 | 2 | 4 | 3 | 2 | 4 | 5 | 27 |
| 2  | 0 | 0 | 0 | 3 | 3 | 4 | 3 | 4 | 17 |
| 3  | 4 | 3 | 2 | 2 | 2 | 2 | 5 | 5 | 25 |
| 4  | 3 | 0 | 0 | 0 | 2 | 2 | 0 | 4 | 11 |
| 5  | 4 | 4 | 1 | 1 | 1 | 0 | 2 | 0 | 13 |
| 6  | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 04 |
| 7  | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 7 | 10 |
| 8  | 4 | 4 | 2 | 2 | 1 | 2 | 2 | 3 | 20 |
| 9  | 3 | 3 | 2 | 2 | 1 | 1 | 0 | 1 | 13 |
| 10 | 2 | 2 | 0 | 1 | 1 | 4 | 5 | 5 | 20 |
| 11 | 3 | 3 | 3 | 1 | 1 | 2 | 5 | 5 | 23 |
| 12 | 6 | 4 | 4 | 6 | 4 | 3 | 6 | 6 | 39 |
| 13 | 5 | 5 | 3 | 3 | 3 | 5 | 5 | 3 | 32 |
| 14 | 2 | 0 | 0 | 0 | 4 | 4 | 5 | 2 | 17 |
| 15 | 4 | 5 | 2 | 1 | 2 | 3 | 4 | 2 | 23 |
| 16 | 2 | 2 | 1 | 2 | 2 | 2 | 3 | 2 | 16 |
| 17 | 3 | 0 | 0 | 1 | 2 | 0 | 3 | 3 | 12 |
| 18 | 3 | 1 | 0 | 0 | 0 | 2 | 3 | 3 | 12 |
| 19 | 4 | 3 | 1 | 2 | 3 | 3 | 2 | 2 | 20 |
| 20 | 3 | 3 | 2 | 2 | 4 | 5 | 5 | 6 | 30 |
| 21 | 5 | 3 | 3 | 3 | 3 | 2 | 5 | 5 | 29 |
| 22 | 6 | 4 | 3 | 3 | 4 | 5 | 4 | 4 | 33 |
| 23 | 3 | 1 | 1 | 3 | 3 | 5 | 3 | 2 | 22 |
| 24 | 4 | 2 | 1 | 2 | 5 | 6 | 6 | 5 | 31 |
| 25 | 3 | 3 | 4 | 3 | 5 | 7 | 5 | 6 | 36 |
| 26 | 5 | 4 | 4 | 3 | 3 | 5 | 6 | 4 | 34 |
| 27 | 4 | 4 | 3 | 3 | 4 | 5 | 5 | 5 | 33 |
| 28 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 2 | 12 |
| 29 | 2 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 06 |
| 30 | 2 | 0 | 0 | 0 | 1 | 1 | 3 | 5 | 12 |

DECEMBER 1978

|    |   |   |   |   |   |   |   |   |    |
|----|---|---|---|---|---|---|---|---|----|
| 1  | 3 | 3 | 2 | 3 | 2 | 2 | 3 | 4 | 22 |
| 2  | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 04 |
| 3  | 3 | 0 | 0 | 0 | 0 | 3 | 4 | 3 | 13 |
| 4  | 2 | 1 | 1 | 1 | 1 | 4 | 6 | 4 | 20 |
| 5  | 4 | 3 | 2 | 0 | 0 | 2 | 2 | 3 | 16 |
| 6  | 1 | 1 | 1 | 0 | 0 | 2 | 3 | 2 | 10 |
| 7  | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 02 |
| 8  | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 2 | 06 |
| 9  | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 02 |
| 10 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 02 |
| 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00 |
| 12 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 06 |
| 13 | 5 | 4 | 1 | 0 | 0 | 1 | 2 | 3 | 16 |
| 14 | 5 | 4 | 5 | 3 | 2 | 2 | 4 | 3 | 28 |
| 15 | 4 | 6 | 3 | 3 | 3 | 3 | 2 | 3 | 27 |
| 16 | 2 | 3 | 2 | 3 | 2 | 4 | 4 | 4 | 24 |
| 17 | 3 | 3 | 2 | 0 | 2 | 0 | 0 | 4 | 14 |
| 18 | 5 | 3 | 4 | 4 | 5 | 7 | 6 | 5 | 39 |
| 19 | 5 | 4 | 4 | 3 | 5 | 4 | 5 | 5 | 35 |
| 20 | 5 | 4 | 3 | 3 | 4 | 5 | 6 | 6 | 36 |
| 21 | 4 | 4 | 3 | 2 | 2 | 4 | 2 | 2 | 23 |
| 22 | 3 | 5 | 2 | 4 | 3 | 4 | 5 | 5 | 31 |
| 23 | 3 | 3 | 2 | 1 | 1 | 2 | 2 | 0 | 14 |
| 24 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 3 | 07 |
| 25 | 4 | 3 | 2 | 2 | 5 | 5 | 2 | 3 | 26 |
| 26 | 3 | 3 | 2 | 3 | 2 | 2 | 4 | 3 | 22 |
| 27 | 5 | 5 | 3 | 1 | 2 | 3 | 4 | 3 | 26 |
| 28 | 3 | 2 | 1 | 0 | 1 | 6 | 5 | 4 | 22 |
| 29 | 3 | 2 | 1 | 1 | 2 | 6 | 6 | 5 | 26 |
| 30 | 5 | 6 | 4 | 2 | 2 | 3 | 6 | 5 | 33 |
| 31 | 6 | 4 | 3 |   |   |   |   |   | 13 |

JANUARY 1979

|                      |      |      |       |   |
|----------------------|------|------|-------|---|
| SUDDEN COMMENCEMENTS |      |      |       |   |
| 3                    | 2042 | SSC* | - **  | B |
| 5                    | 1629 | SSC* | ** -  | A |
| 7                    | 2126 | SSC  | - +   | B |
| 9                    | 1624 | SSC* | -+ -+ | B |
| 30                   | 2024 | SSC* | - -+  | A |

FEBRUARY 1979

|                      |      |      |       |   |
|----------------------|------|------|-------|---|
| SUDDEN COMMENCEMENTS |      |      |       |   |
| 1                    | 2212 | SSC  | - -   | B |
| 14                   | 2148 | SSC* | -* -+ | A |
| 23                   | 2112 | SSC  | - +   | B |
| 25                   | 1927 | SSC  | + -   | A |

MARCH 1978

|                      |      |      |      |   |
|----------------------|------|------|------|---|
| SUDDEN COMMENCEMENTS |      |      |      |   |
| 8                    | 1438 | SSC* | ** - | A |
| 15                   | 0118 | SSC  | - +  | A |
| 26                   | 0206 | SSC  | - +  | A |
| 26                   | 2330 | SSC  | - +  | A |
| 29                   | 2112 | SSC  | - +  | A |

APRIL 1978

|                      |      |      |       |   |
|----------------------|------|------|-------|---|
| SUDDEN COMMENCEMENTS |      |      |       |   |
| 2                    | 1904 | SSC* | ** -  | A |
| 10                   | 1307 | SSC* | ** -  | A |
| 10                   | 2157 | SSC* | -+ +  | A |
| 14                   | 1901 | SSC* | -+ ** | A |
| 17                   | 2345 | SSC  | + -   | A |
| 19                   | 2348 | SSC  | - +   | A |
| 22                   | 2214 | SSC  | + -   | A |
| 23                   | 1937 | SSC* | - -*  | A |
| 24                   | 2254 | SSC  | - +   | A |
| 27                   | 2110 | SSC* | - +   | A |

JANUARY 1978

|      |      |    |     |   |
|------|------|----|-----|---|
| BAYS |      |    |     |   |
| 7    | 1503 | BP | + - | B |
| 19   | 0025 | B  | - + | B |
| 24   | 1545 | BS | + - | A |

FEBRUARY 1978

|      |      |    |     |   |
|------|------|----|-----|---|
| BAYS |      |    |     |   |
| 11   | 0013 | B  | - - | B |
| 14   | 0109 | BS | - + | B |

MARCH 1978

|      |      |    |     |   |
|------|------|----|-----|---|
| BAYS |      |    |     |   |
| 6    | 1133 | BP | + - | B |
| 3    | 1212 | BS | + - | A |
| 15   | 1506 | BS | + + | B |
| 25   | 1224 | BS | + - | B |

APRIL 1978

|      |      |    |     |   |
|------|------|----|-----|---|
| BAYS |      |    |     |   |
| 4    | 1550 | BS | + - | B |
| 6    | 2254 | BP | - + | A |
| 23   | 1402 | BS | + - | B |

JANUARY 1978

|                 |      |     |      |   |
|-----------------|------|-----|------|---|
| SUDDEN IMPULSES |      |     |      |   |
| 6               | 0214 | SI  | - +  | B |
| 12              | 1949 | SI* | ** + | B |

FEBRUARY 1978

|                 |      |    |     |   |
|-----------------|------|----|-----|---|
| SUDDEN IMPULSES |      |    |     |   |
| 13              | 2003 | SI | - - | A |
| 18              | 2007 | SI | - + | B |
| 18              | 2237 | SI | - - | B |

MARCH 1978

|                 |      |    |     |   |
|-----------------|------|----|-----|---|
| SUDDEN IMPULSES |      |    |     |   |
| 7               | 2212 | SI | - + | B |
| 20              | 2013 | SI | - + | A |
| 26              | 1248 | SI | + - | B |

APRIL 1978

|                 |      |     |       |   |
|-----------------|------|-----|-------|---|
| SUDDEN IMPULSES |      |     |       |   |
| 7               | 2012 | SI  | ** +  | B |
| 7               | 2200 | SI  | - -   | A |
| 19              | 1845 | SI* | -+ ** | B |
| 27              | 1548 | SI  | + +   | A |
| 28              | 1954 | SI* | - -*  | B |

MAY 1978  
SUDDEN COMMENCEMENTS

|              |       |   |
|--------------|-------|---|
| 5 2109 SSC*  | - -*  | A |
| 10 2059 SSC  | - -   | B |
| 14 1933 SSC  | - +   | A |
| 21 2024 SSC* | - -*  | B |
| 29 1833 SSC* | ++ -* | A |

MAY 1978  
BAYS

|            |     |   |
|------------|-----|---|
| 13 1209 B  | +   | B |
| 23 1121 BS | + - | A |
| 23 1622 BS | + - | A |
| 31 1159 BS | + - | A |

MAY 1978  
SUDDEN IMPULSES

|            |      |   |
|------------|------|---|
| 6 2137 SI* | - ++ | B |
| 7 0046 SI  | - +  | A |
| 25 1212 SI | + -  | B |

JUNE 1978  
SUDDEN COMMENCEMENTS

|              |       |   |
|--------------|-------|---|
| 4 1957 SSC*  | -* -* | A |
| 5 2203 SSC*  | - **  | A |
| 10 0827 SSC  | + +   | A |
| 18 2024 SSC  | + -   | B |
| 22 1700 SSC* | ++    | B |
| 27 2000 SSC* | - **  | B |
| 29 2110 SSC* | -* ** | A |

JUNE 1978  
BAYS

|            |     |   |
|------------|-----|---|
| 27 1211 BS | + - | A |
|------------|-----|---|

JUNE 1978  
SUDDEN IMPULSES

|            |      |   |
|------------|------|---|
| 3 1915 SI  | + -  | B |
| 4 1212 SI* | + -* | B |
| 10 1800 SI | + -  | B |

JULY 1978  
SUDDEN COMMENCEMENTS

|              |       |   |
|--------------|-------|---|
| 3 2306 SSC*  | -* -* | A |
| 4 2244 SSC   | - +   | A |
| 13 1926 SSC* | ** -* | A |
| 16 2134 SSC* | -* ** | B |
| 20 2006 SSC* | + **  | B |
| 24 1912 SSC* | - -*  | A |
| 25 1930 SSC  | + -   | B |

JULY 1978  
BAYS

NONE

JULY 1978  
SUDDEN IMPULSES

|           |     |   |
|-----------|-----|---|
| 3 1810 SI | + + | B |
|-----------|-----|---|

AUGUST 1978  
SUDDEN COMMENCEMENTS

|              |      |   |
|--------------|------|---|
| 2 2033 SSC*  | -* - | A |
| 13 2018 SSC* | - -* | B |
| 18 1242 SSC* | ** + | A |
| 18 2143 SSC  | - +  | A |
| 27 0246 SSC* | + -* | A |

AUGUST 1978  
BAYS

|            |     |   |
|------------|-----|---|
| 1 1046 B   | +   | C |
| 11 1453 BS | + - | C |
| 25 1303 BS | + - | A |

AUGUST 1978  
SUDDEN IMPULSES

|           |     |   |
|-----------|-----|---|
| 7 2034 SI | + - | B |
|-----------|-----|---|

SEPTEMBER 1978  
SUDDEN COMMENCEMENTS

|              |       |   |
|--------------|-------|---|
| 1 1924 SSC   | - +   | B |
| 7 2357 SSC   | - +   | A |
| 11 1911 SSC  | - +   | B |
| 15 2320 SSC* | - -*  | B |
| 20 1928 SSC  | + -   | A |
| 25 0718 SSC* | -* -* | A |
| 27 1648 SSC  | - +   | B |

SEPTEMBER 1978  
BAYS

NONE

SEPTEMBER 1978  
SUDDEN IMPULSES

|           |     |   |
|-----------|-----|---|
| 1 2103 SI | - - | A |
|-----------|-----|---|

OCTOBER 1978  
SUDDEN COMMENCEMENTS

|              |       |   |
|--------------|-------|---|
| 6 2112 SSC   | - -   | B |
| 10 2112 SSC  | - +   | B |
| 12 2054 SSC  | - +   | B |
| 17 1912 SSC* | -* -* | A |
| 26 2139 SSC* | - -*  | A |
| 27 2054 SSC  | - -   | A |

OCTOBER 1978  
BAYS

|          |     |   |
|----------|-----|---|
| 5 1652 B | + - | C |
|----------|-----|---|

OCTOBER 1978  
SUDDEN IMPULSES

|            |     |   |
|------------|-----|---|
| 8 2215 SI  | + + | A |
| 11 2100 SI | - - | B |

NOVEMBER 1978  
SUDDEN COMMENCEMENTS

|              |      |   |
|--------------|------|---|
| 2 2305 SSC*  | - ** | B |
| 4 2225 SSC   | - +  | A |
| 11 2009 SSC* | - -* | A |
| 24 1407 SSC  | + +  | B |
| 30 2125 SSC  | - +  | B |

NOVEMBER 1978  
BAYS

|             |     |   |
|-------------|-----|---|
| 30 0131 BPS | - - | A |
|-------------|-----|---|

NOVEMBER 1978  
SUDDEN IMPULSES

|             |      |   |
|-------------|------|---|
| 22 2102 SI* | - -* | A |
| 30 1930 SI  | + +  | A |

DECEMBER 1978  
SUDDEN COMMENCEMENTS

|              |       |   |
|--------------|-------|---|
| 3 2015 SSC   | - -   | B |
| 4 1936 SSC   | - +   | B |
| 5 2126 SSC   | - +   | B |
| 14 0127 SSC* | + -*  | A |
| 15 0300 SSC* | - -*  | B |
| 17 2145 SSC  | - -   | B |
| 25 1212 SSC* | -* -* | A |
| 28 2108 SSC  | - -   | B |
| 30 1854 SSC  | - +   | A |

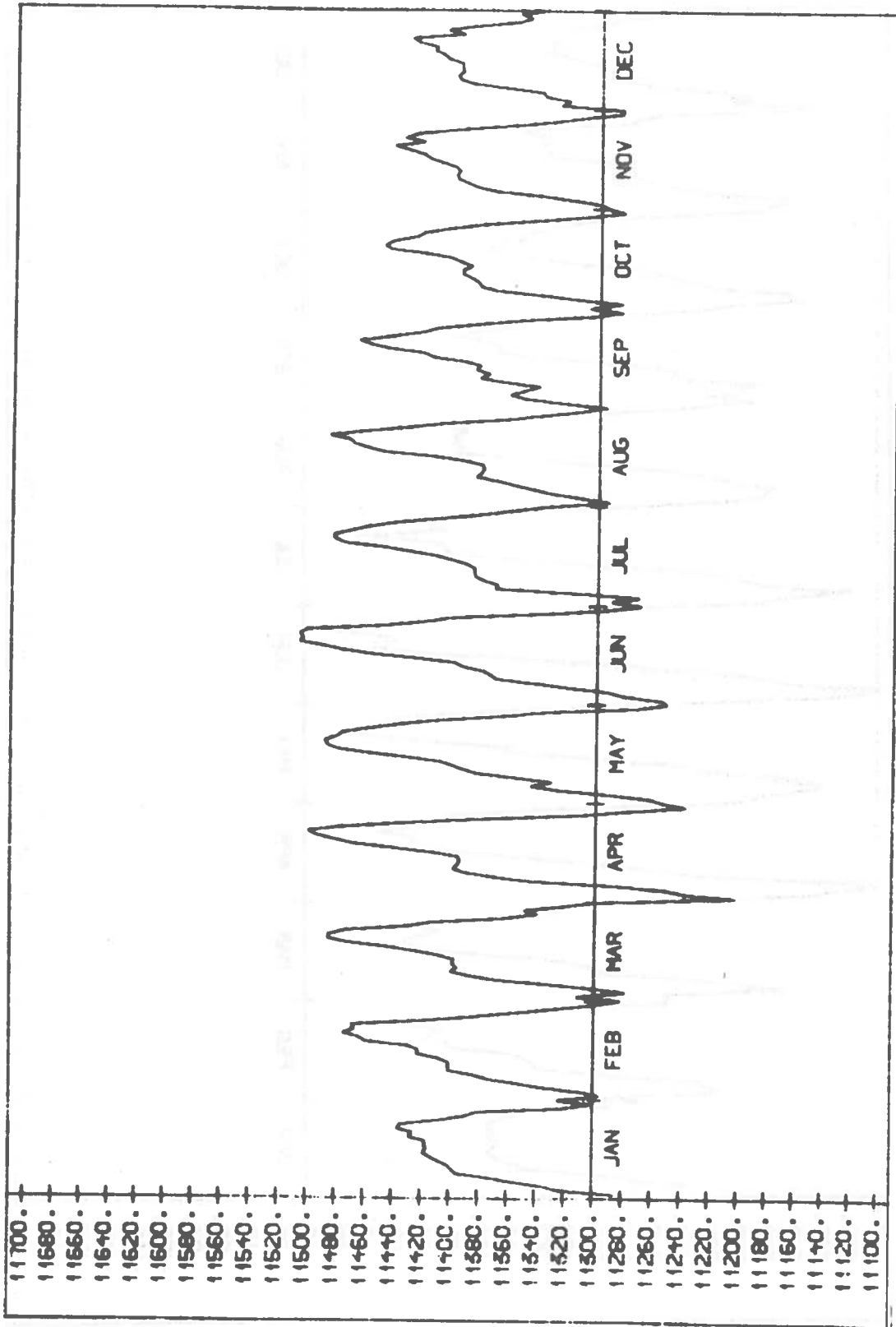
DECEMBER 1978  
BAYS

|           |   |   |
|-----------|---|---|
| 3 1645 BP | + | B |
|-----------|---|---|

DECEMBER 1978  
SUDDEN IMPULSES

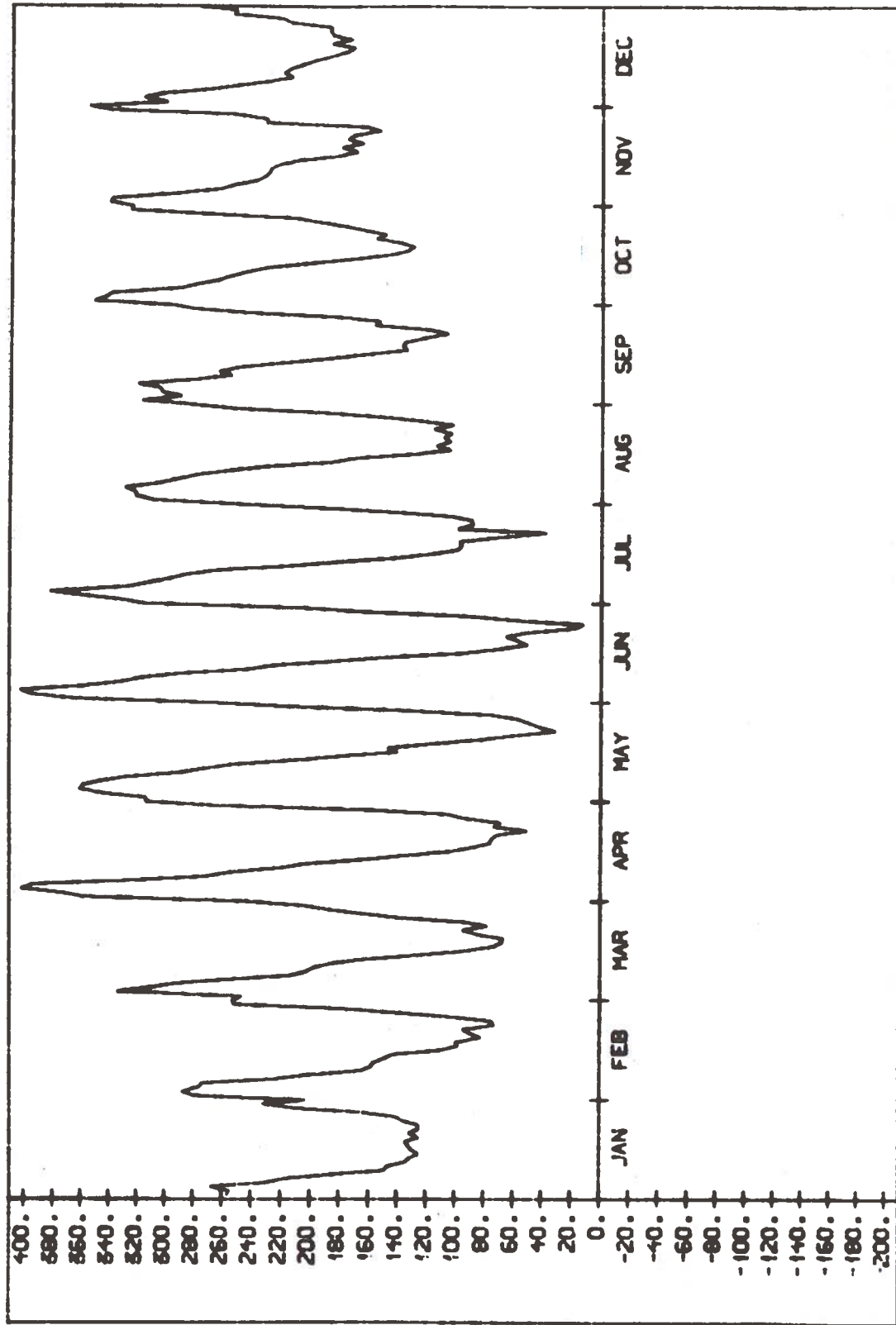
NONE

# TROMSØ 1978



HORIZONTAL INTENSITY: EXPRESSED IN GAMMA.  
HOURLY MEAN VALUES.

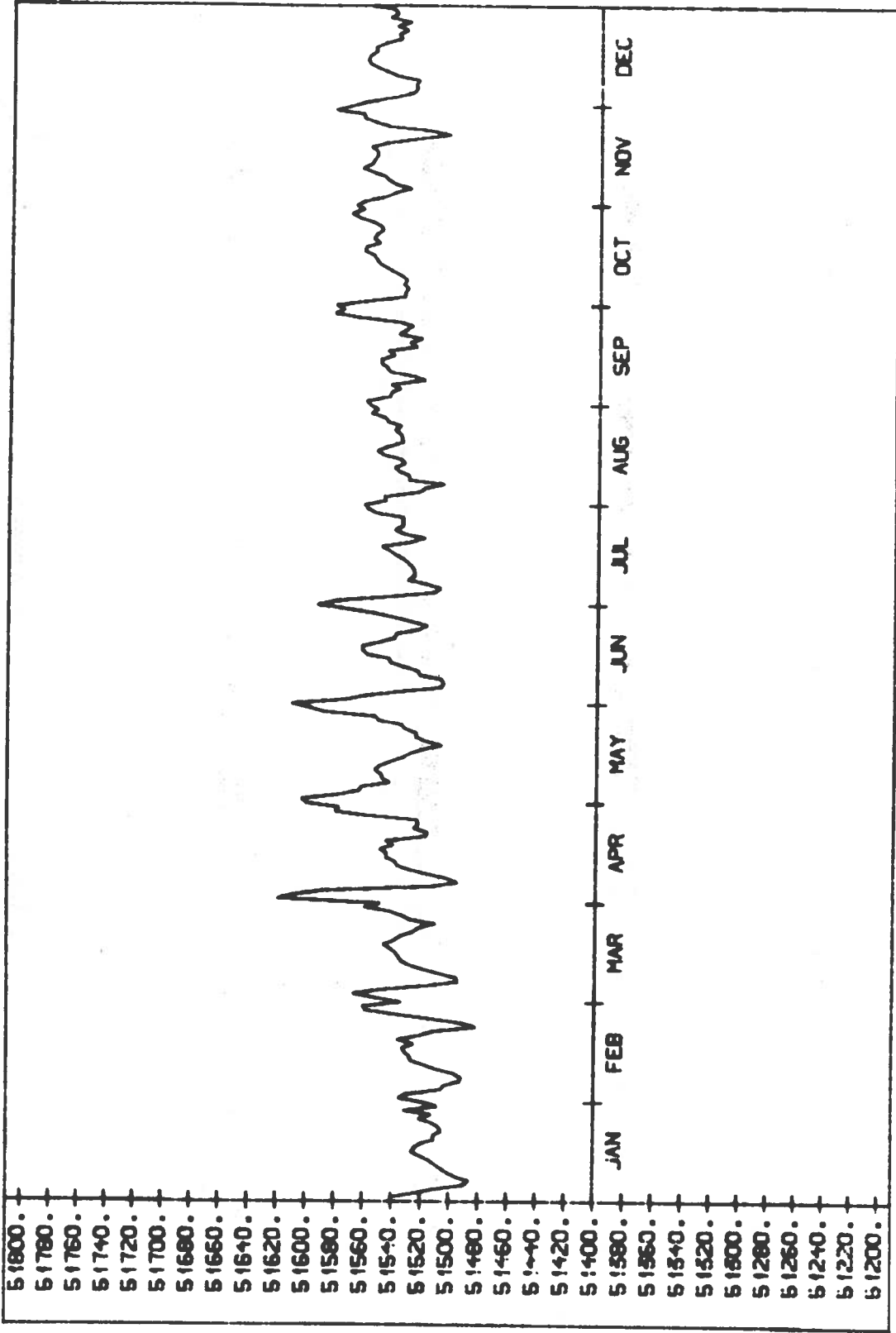
# TROMSØ 1978



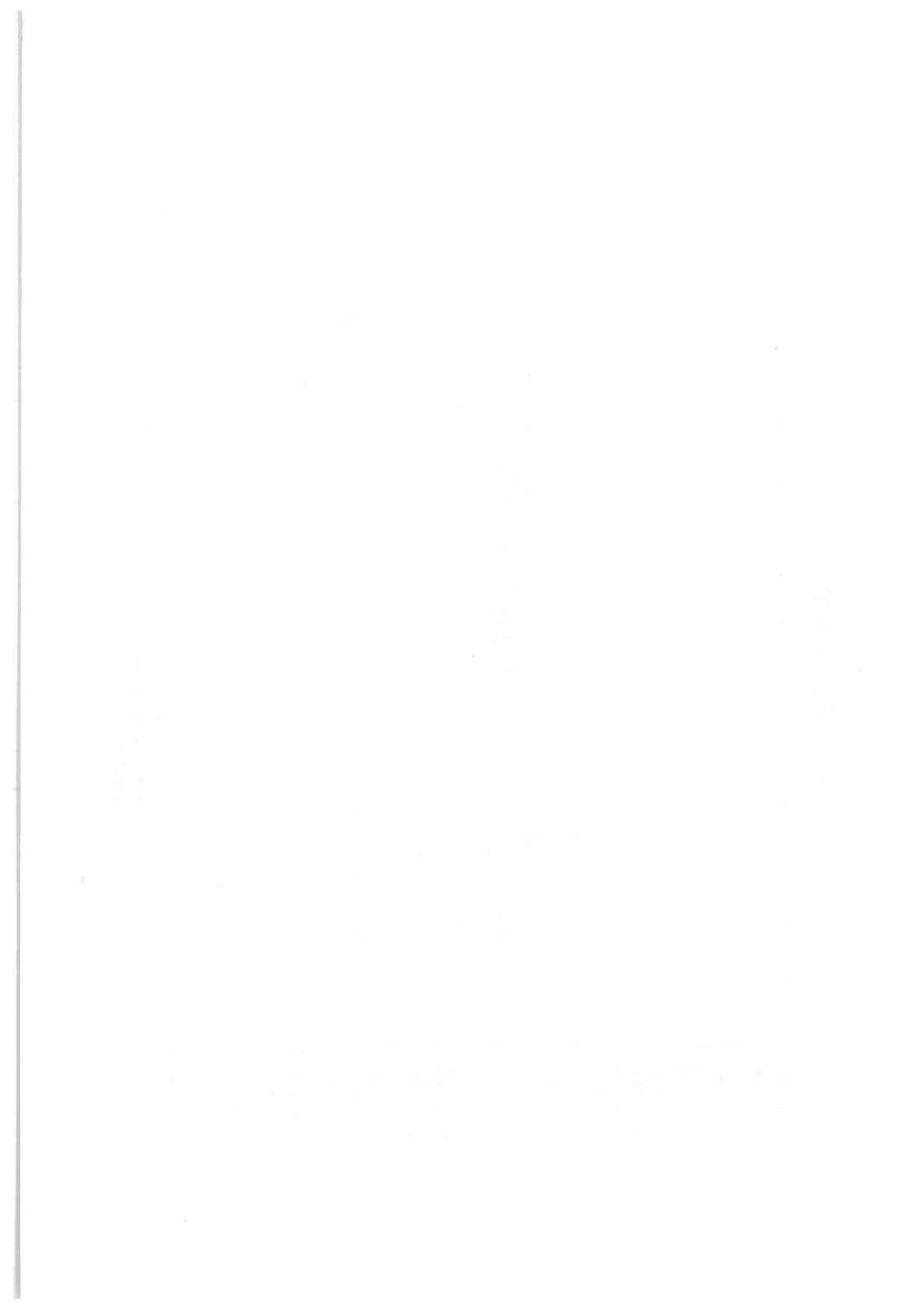
DECLINATION; EXPRESSED IN TENTH OF MINUTES E.  
HOURLY MEAN VALUES.



# TROMSØ 1978



VERTICAL INTENSITY; EXPRESSED IN GAMMA.  
HOURLY MEAN VALUES.





...the first of these is the fact that the ...

...the second is the fact that the ...

...the third is the fact that the ...

...the fourth is the fact that the ...

...the fifth is the fact that the ...

...the sixth is the fact that the ...

...the seventh is the fact that the ...

...the eighth is the fact that the ...

...the ninth is the fact that the ...

...the tenth is the fact that the ...

...the eleventh is the fact that the ...

...the twelfth is the fact that the ...

...the thirteenth is the fact that the ...

...the fourteenth is the fact that the ...

...the fifteenth is the fact that the ...

...the sixteenth is the fact that the ...

...the seventeenth is the fact that the ...

...the eighteenth is the fact that the ...

...the nineteenth is the fact that the ...

...the twentieth is the fact that the ...

...the twenty-first is the fact that the ...

...the twenty-second is the fact that the ...