

На станции использовался ионозонд типа АИС.  
При обработке данных за сентябрь месяц  
1972 года обнаружено:

- |   |  |                                   |
|---|--|-----------------------------------|
| 1 <sup>20</sup>   | 15 <sup>00</sup>   | не включено высокое напряжение    |
| 3 <sup>20</sup>   | 09 <sup>00</sup> -10 <sup>00</sup>                       | не переключено на 18.0 МГц        |
| 4 <sup>20</sup>   | 17 <sup>00</sup>   | не было э/энергии „с“             |
| 8 <sup>20</sup>   | 08 <sup>15</sup> -13 <sup>15</sup>                       | занижено числование               |
| 12 <sup>20</sup>  | 04 <sup>00</sup> ; 05 <sup>00</sup> ; 07 <sup>00</sup>   | неисправность потенциометра       |
| 13 <sup>20</sup>  | 00-05 <sup>00</sup>                                      | часы спорт. идут плюс 2 мин       |
| 14 <sup>20</sup>  | 08 <sup>30</sup> -09 <sup>45</sup>                       | не было э/энергии „с“             |
| 21 <sup>20</sup>  | 00-05 <sup>00</sup> ; 08 <sup>00</sup> -22 <sup>00</sup> | часы спорт. идут минус 3 мин      |
| с 22 <sup>20</sup> -07 <sup>00</sup> до 29 <sup>20</sup> -08 <sup>00</sup>                                    |  | неисправный блок числования „с“   |
| с 28 <sup>20</sup> -23 <sup>00</sup> до 29 <sup>20</sup> -08 <sup>00</sup>                                    |  | не протягивалась плёнка „с“       |
| 30 <sup>20</sup>  |  | датчик сменили в 05 <sup>00</sup> |
| с 5 <sup>20</sup> -8 <sup>00</sup> , 12 <sup>20</sup> , 14 <sup>20</sup> , 19 <sup>20</sup> -20 <sup>00</sup> |  | дата сменялась на 1 час позже     |
| с 15 <sup>20</sup> -18 <sup>00</sup> ; 22 <sup>20</sup> -28 <sup>00</sup>                                     |  | дата сменялась на 2 часа позже    |

Обработка данных проведена под  
руководством Царёвой П.Г.

Заведующий станцией Герасимов В.И.

ЮФ2 МГц сентябрь 1972

АН Каз ССР

Станция Караганда

Ионосферные данные

Кем составлена Сорокан

Долгота 73°05'E

широта 49°49'N

Поясное время 75°E

Кем подсчитана Шустовой

Table with columns for days (Дни) 00-23 and rows for various ionospheric parameters (f, h, MUF, etc.)

Пробег частоты от 1.0 МГц до 18.0 МГц Станция автоматическая

№ F1 Мгц сентябрь 1972

АН КазССР

Станция Караганда (характеристика) (единицы) (месяц) (год)

# Ионосферные данные

Кем составлена Щустовой (институт)

Долгота 73°05'E широта 49°49'N

Поясное время 75°E

Кем подсчитана Щустовой

| Дни       | 00 | 01 | 02 | 03 | 04 | 05 | 06    | 07    | 08    | 09    | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18 | 19 | 20 | 21 | 22 | 23 |
|-----------|----|----|----|----|----|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|----|----|----|----|----|
| 1         |    |    |    |    |    |    | L     | L     | 4.9   | U4.9L | U5.0L | U5.0L | U5.6L | L     | L     | C     | U4.9L | L     |    |    |    |    |    |    |
| 2         |    |    |    |    |    |    |       | L     | U4.8L | U4.9L | 5.0   | U5.1L | U5.0L | U5.3L | U5.0L | U4.9L | L     | U4.0L |    |    |    |    |    |    |
| 3         |    |    |    |    |    |    |       | L     | U4.8L | L     | 5.0   | U4.9L | 5.0   | L     | U5.0L | U4.9L | U4.8L | L     |    |    |    |    |    |    |
| 4         |    |    |    |    |    |    |       | L     | U4.4L | U4.9L | U4.9L | 4.9   | 4.9   | U4.9L | U4.9L | L     | L     | C     |    |    |    |    |    |    |
| 5         |    |    |    |    |    |    | L     | L     | L     | 4.7   | 4.9   | 4.9   | U5.0L | U4.8L | U4.9L | U4.9L | L     | L     | L  |    |    |    |    |    |
| 6         |    |    |    |    |    |    |       | L     | L     | 4.6   | 4.9   | U4.8L | U5.0L | U4.9L | U4.9L | L     | L     |       |    |    |    |    |    |    |
| 7         |    |    |    |    |    |    |       | L     | L     | U4.7L | U4.7L | L     | L     | L     | 4.9   | L     | L     | L     |    |    |    |    |    |    |
| 8         |    |    |    |    |    |    |       | L     | L     | 4.6   | U4.6L | U4.8L | U5.0L | U5.0L | U4.9L | U4.6L | U4.1L |       |    |    |    |    |    |    |
| 9         |    |    |    |    |    |    | L     | L     | U4.0L | L     | U4.8L | U4.7L | U4.8L | U4.9L | U5.0L | U4.2L | U4.0L | L     |    |    |    |    |    |    |
| 10        |    |    |    |    |    |    |       |       | C     | U4.6L | U4.8L | U4.6L | U4.9L | U4.9L | U4.4L | U4.6L | U4.0L | U3.1L |    |    |    |    |    |    |
| 11        |    |    |    |    |    |    |       |       | U4.0L | U4.2L | L     | U4.8L | U4.9L | L     | L     | L     | L     | L     |    |    |    |    |    |    |
| 12        |    |    |    |    |    |    |       |       | L     | L     | L     | U4.7L | L     | L     | 4.5   | L     | 3.4   |       |    |    |    |    |    |    |
| 13        |    |    |    |    |    |    | L     | L     | L     | 4.1   | U4.9L | L     | 4.7   | L     | L     | U3.5L | U3.2L |       |    |    |    |    |    |    |
| 14        |    |    |    |    |    |    |       |       | C     | 4.1   | 4.1   | 4.1   | 4.2   | A     |       | L     |       |       |    |    |    |    |    |    |
| 15        |    |    |    |    |    |    | L     | U3.9L | U4.2L | U4.4L | U4.8L | U4.7L | U4.9L | L     | U4.3L | U4.0L | U3.1L |       |    |    |    |    |    |    |
| 16        |    |    |    |    |    |    |       |       | U4.0L | U4.4L | U4.1L | U4.4L | U4.2L | U4.9L | U4.3L | U4.1L | U4.0L |       |    |    |    |    |    |    |
| 17        |    |    |    |    |    |    |       | U2.6L | U4.0L | U4.3L | U4.3L | U4.9L | U4.3L | U4.4L | U5.0L | U3.9L | L     |       |    |    |    |    |    |    |
| 18        |    |    |    |    |    |    |       | U3.9L | U4.3L | U4.4L | U4.6L | L     | U4.5L | 4.4   | U4.0L | U4.0L | U3.0L |       |    |    |    |    |    |    |
| 19        |    |    |    |    |    |    | L     | U3.8L | U4.4L | U4.6L | U4.8L | U4.3L | U4.8L | U4.0L | U4.1L | U4.0L |       |       |    |    |    |    |    |    |
| 20        |    |    |    |    |    |    | U3.2L | L     | U4.0L | U4.7L | U4.4L | U4.6L | A     | U4.6L | U4.0L | L     | L     |       |    |    |    |    |    |    |
| 21        |    |    |    |    |    |    |       | L     | U4.5L | L     | 4.3   | U4.4L | U4.6L | U4.0L | L     |       |       |       |    |    |    |    |    |    |
| 22        |    |    |    |    |    |    |       | L     | L     | C     | L     | L     | L     | C     | L     | L     | C     | C     | C  | C  | C  | C  | C  | C  |
| 23        |    |    |    |    |    |    |       | L     | U4.2L | U4.7L | L     | L     | U4.9L | U4.0L | L     | L     |       |       |    |    |    |    |    |    |
| 24        |    |    |    |    |    |    |       | L     | U4.6L | U4.7L | 4.8   | U4.8L | U4.6L | L     | L     |       |       |       |    |    |    |    |    |    |
| 25        |    |    |    |    |    |    |       |       | U4.4L | U4.8L | U4.9L | U4.8L | U4.4L | U4.4L | C     | L     |       |       |    |    |    |    |    |    |
| 26        |    |    |    |    |    |    |       | L     | U4.5L | U4.8L | U4.8L | U4.4L | U5.0L | U4.6L | L     |       |       |       |    |    |    |    |    |    |
| 27        |    |    |    |    |    |    |       |       |       | L     | L     | U4.4L | L     | C     | U4.1L | L     |       |       |    |    |    |    |    |    |
| 28        |    |    |    |    |    |    |       | L     | L     | U4.6L | U4.9L | U4.8L | L     | C     | C     | C     | C     |       |    |    |    |    |    |    |
| 29        |    |    |    |    |    |    | C     | C     | U4.8L | U5.0L | U4.9L | U4.8L | U4.4L | U4.0L | U4.0L | L     |       |       |    |    |    |    |    |    |
| 30        |    |    |    |    |    |    |       | U3.9L | A     | U4.7L | U4.6L | U4.4L | L     | U4.8L | L     |       |       |       |    |    |    |    |    |    |
| 31        |    |    |    |    |    |    |       |       |       |       |       |       |       |       |       |       |       |       |    |    |    |    |    |    |
| * Медиана |    |    |    |    |    |    |       | U2.9L | U4.0L | 4.6   | U4.7L | U4.8L | U4.8L | U4.9L | U4.6L | U4.1L | U4.0L | U3.1L |    |    |    |    |    |    |
| † Учтено  |    |    |    |    |    |    |       | 2     | 1.2   | 2.0   | 2.6   | 2.5   | 2.4   | 2.0   | 2.1   | 1.5   | 1.1   | 5     |    |    |    |    |    |    |

ЮЕ Мпц сентябрь 1972

АН Каз ССР

Станция Караганда (характеристика) (единица) (месяц) (год)

Ионосферные данные

Кем составлена Шустовой (институт)

Долгота 73°05'E 49°49'N

Поясное время 75°E

Кем подчитана Сорокан

| Дни     | 00    | 01 | 02    | 03 | 04 | 05   | 06     | 07    | 08     | 09    | 10    | 11    | 12    | 13    | 14     | 15    | 16    | 17    | 18    | 19    | 20 | 21 | 22 | 23 |
|---------|-------|----|-------|----|----|------|--------|-------|--------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|-------|----|----|----|----|
| 1       |       |    |       |    |    | 1.10 | 1.90H  | A     | A      | A     | 3.30  | I350A | I350A | 3.50  | I345A  | I315C | 3.00  | 2.70H | 2.20  | A     |    |    |    |    |
| 2       |       |    |       |    |    | E    | 2.00H  | A     | A      | A     | A     | 3.50  | 3.50H | 3.50  | A      | A     | A     | 2.50  | A     | A     |    |    |    |    |
| 3       |       |    |       |    |    | A    | A      | A     | 2.90   | A     | A     | A     | A     | A     | A      | 3.20  | I280A | 2.50  | A     | A     |    |    |    |    |
| 4       |       |    |       |    |    | E    | 2.00H  | 2.55  | A      | A     | A     | A     | 3.50  | 3.50  | I340A  | I315A | 3.00H | I250C | A     | A     |    |    |    |    |
| 5       |       |    |       | E  | E  | E    | 1.70   | I230A | I2.80A | I310A | I330A | I340A | I340A | I340A | I320A  | 3.10  | 2.95  | 2.50  | 2.05  | A     |    |    |    |    |
| 6       |       |    |       |    |    | E    | 1.95   | I230A | 2.70   | A     | A     | 3.15  | 3.15  | A     | A      | A     | A     | A     | A     | A     |    |    |    |    |
| 7       |       |    |       |    |    | E    | 1.90H  | I240A | I280A  | I315A | I330A | 3.40  | 3.40  | 3.40  | 3.20   | 3.10  | 2.90  | 2.50  | 2.10H | E150B |    |    |    |    |
| 8       |       |    |       |    |    |      | 1.70   | 2.40  | 2.80   | A     | A     | A     | A     | A     | A      | A     | 3.00  | A     | A     | A     |    |    |    |    |
| 9       |       |    |       |    |    |      | A      | A     | A      | A     | A     | A     | A     | A     | 3.20   | 3.05  | 2.90  | 2.50  | A     | A     |    |    |    |    |
| 10      |       |    |       |    |    |      | A      | A     | 2.90   | I305A | I320A | 3.40  | 3.40  | A     | A      | A     | I280A | A     | A     | A     |    |    |    |    |
| 11      |       |    |       |    |    |      | A      | A     | A      | 3.05  | 3.20  | 3.30  | 3.40  | 3.35  | I330A  | I310A | I290A | 2.30H | A     | A     |    |    |    |    |
| 12      |       |    |       |    |    |      | 1.30   | C     | A      | A     | A     | 3.20  | 3.25  | A     | A      | A     | 2.80  | 2.20  | A     | A     |    |    |    |    |
| 13      |       |    |       |    |    |      | 1.80   | 2.30  | A      | A     | A     | A     | A     | A     | A      | A     | A     | A     | 2.20  | 1.90  |    |    |    |    |
| 14      | E110B |    |       |    |    |      | I185A  | I210A | I240A  | A     | A     | A     | A     | A     | A      | A     | A     | A     | A     | A     |    |    |    |    |
| 15      |       |    |       |    |    |      | 1.70   | 2.15H | 2.55   | A     | A     | A     | A     | A     | A      | A     | A     | A     | A     | A     |    |    |    |    |
| 16      |       |    |       |    |    |      | A      | A     | A      | A     | A     | 3.15  | 3.15  | 3.15  | I3.10A | 2.95  | 2.70H | A     | A     |       |    |    |    |    |
| 17      |       |    |       |    |    |      | 1.50   | A     | A      | A     | A     | A     | A     | 3.10  | I310A  | 2.90  | 2.50  | A     | A     |       |    |    |    |    |
| 18      |       |    |       |    |    | E    | 1.70   | A     | A      | A     | A     | A     | 3.15  | 3.15  | 3.10   | 3.00  | 2.65  | 2.15  | U130A |       |    |    |    |    |
| 19      |       |    |       |    |    |      | 1.50   | U210A | U260A  | A     | A     | U320A | U320A | A     | A      | A     | A     | U220A | A     |       |    |    |    |    |
| 20      |       |    |       |    |    | E    | A      | 2.30  | I280A  | A     | A     | A     | A     | A     | U310A  | A     | A     | 2.20  | A     |       |    |    |    |    |
| 21      |       |    |       |    |    |      | A      | A     | A      | A     | A     | U310A | U310A | U300A | A      | A     | 2.80  | 2.30  | 1.80  |       |    |    |    |    |
| 22      |       |    |       |    |    |      | 1.50   | 2.25  | 2.60   | C     | C     | C     | C     | C     | C      | C     | C     | C     | C     | C     |    |    |    |    |
| 23      |       |    |       |    |    |      | E1.70B | U205A | A      | A     | U310A | U310A | 3.20  | A     | C      | A     | 2.90  | 1.60  | A     |       |    |    |    |    |
| 24      |       |    |       |    |    |      | A      | A     | A      | A     | A     | A     | C     | C     | 3.10   | C     | A     | A     | E180B |       |    |    |    |    |
| 25      |       |    |       |    |    |      | 170H   | 2.15H | 2.55   | I290A | 3.10  | 3.10  | I310A | U310A | U305A  | C     | A     | 2.30  | A     |       |    |    |    |    |
| 26      |       |    |       |    |    |      |        | 2.30H | 2.60   | A     | A     | U310A | A     | U320A | 3.15   | I300A | I280A | 2.40  | E140B |       |    |    |    |    |
| 27      |       |    |       |    |    |      |        | A     | A      | C     | 3.10  | C     | C     | C     | C      | C     | C     | C     | A     | E190C |    |    |    |    |
| 28      |       |    |       |    |    |      | E170B  | I220A | I260A  | I290C | I310C | 3.10  | 3.10  | U310A | C      | C     | C     | C     | C     |       |    |    |    |    |
| 29      |       |    |       |    |    |      |        | C     | C      | A     | A     | A     | I315A | 3.15  | I310A  | I300A | 2.65  | A     | A     |       |    |    |    |    |
| 30      |       |    |       |    |    |      | 1.60H  | A     | U270A  | 3.00  | 3.10  | 3.05  | U305A | A     | 2.90   | 2.90  | 2.55  | 2.05  | A     |       |    | E  |    |    |
| 31      |       |    |       |    |    |      |        |       |        |       |       |       |       |       |        |       |       |       |       |       |    |    |    |    |
| Медiana | E110B |    | E160B | E  | E  | E    | 1.70   | 2.30  | 2.70   | 3.05  | 3.15  | 3.15  | 3.20  | 3.20  | 3.10   | 3.05  | 2.80  | 2.30  | 1.90  | E170B |    |    |    |    |
| Учтено  | 1     |    | 1     | 1  | 1  | 8    | 19     | 15    | 15     | 7     | 10    | 16    | 18    | 14    | 15     | 13    | 18    | 17    | 9     | 2     |    |    |    |    |

foEs МГц сентябрь 1972

Станция Караганда (характеристика) (единицы) (месяц) (год)

Долгота 73°05'E широта 49°49'N

# Ионосферные данные

Поясное время 75°E

АН Каз ССР

Кем составлена Пужесаевой

Кем подсчитана Щустовой

| Дни | 00    | 01    | 02    | 03    | 04    | 05    | 06    | 07    | 08    | 09    | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20     | 21    | 22    | 23    |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|
| 1   | E1.5B | E1.1B | E1.1B | E     | E1.1B | G     | 2.0   | 2.7   | 3.3   | 3.4   | 4.4   | J4.6X | 4.0   | 3.6   | 3.5   | C     | 3.2   | 3.0   | 2.4   | 4.4   | 1.7    | 1.2   | 2.0   | J3.3X |
| 2   | E     | E     | E     | E     | 2.0   | G     | G     | 3.0   | 3.0   | J3.3X | 3.4   | G     | G     | G     | 3.6   | 3.4   | J3.6X | 2.8   | 2.6   | 2.1   | 3.0    | 1.8   | E1.5B | E1.5B |
| 3   | E1.5B | E1.1B | E     | E     | 1.5   | 1.6   | J5.0X | 6.0   | J5.0X | 5.8   | J3.8X | J4.1X | 4.8   | J5.9X | 3.6   | 3.2   | 4.9   | 3.8   | J6.3X | J8.0X | 1.5    | J4.0X | 2.2   | 2.8   |
| 4   | 2.4   | J2.2X | 3.0   | E     | E     | G     | G     | G     | 3.4   | 3.2   | D3.2R | 4.2   | 3.5   | 3.4   | J4.3X | 3.7   | 2.5G  | C     | 2.1   | 1.4   | 1.5    | J2.3X | 1.2   | 1.5   |
| 5   | E1.3B | E1.2B | 2.0   | 2.0   | G     | G     | 1.6G  | 2.6   | 3.4   | 3.3   | 3.3   | D5.9R | D3.0R | 3.4   | D3.3R | 3.3   | 3.2   | 2.6   | 2.7   | J2.3X | 1.1    | E     | E     | E     |
| 6   | E     | E     | E     | E     | E1.3B | G     | G     | D2.4R | 3.0   | 3.2   | 3.4   | 3.6   | 2.6   | 2.3   | 3.3   | 4.8   | 3.2   | 3.4   | 2.6   | 1.5   | 2.2    | E     | E1.1B | E1.2B |
| 7   | E1.5B | E     | E1.3B | E1.3B | E     | G     | G     | 2.7   | 3.0   | 3.3   | J3.8X | 3.7   | 2.2G  | 2.4G  | 2.0G  | 2.2G  | 1.9G  | 2.0G  | 1.7G  | G     | E1.7B  | E1.8B | E2.0B | E2.0B |
| 8   | E2.0B | E1.9B | C     | C     | E1.6B | E1.6B | G     | G     | 3.0   | 3.3   | D3.7R | D3.7R | D3.5R | 3.5   | 3.6   | 3.3   | 3.4   | 2.7   | 2.8   | 3.7   | J3.6X  | J3.5X | 1.9   | 3.6   |
| 9   | E     | E1.5B | 2.1   | 2.8   | E1.5B | E1.6B | 2.0   | D2.7R | 3.2   | 3.6   | 3.3   | 3.4   | 3.6   | 3.4   | G     | G     | 1.8G  | 2.0G  | 2.1   | 2.9H  | 2.9    | 2.0   | 2.0   | E     |
| 10  | 1.5   | E1.4B | E     | E     | E1.2B | E     | 2.0   | 2.9   | C     | 3.2   | 3.4   | 3.4   | G     | 4.2   | 3.7   | 3.4   | 3.0   | 2.6   | 2.4   | 2.2   | 2.2    | 1.7   | E1.6B | E1.1B |
| 11  | 1.8   | 2.3   | 2.2   | 2.4   | E     | E     | 1.7   | 2.9   | 3.0   | 3.0G  | 3.3   | 3.1G  | 2.2G  | J3.6X | 3.3   | 3.2   | 3.0   | 2.4   | 2.1   | 1.8   | E1.6B  | E1.5B | E     | E1.2B |
| 12  | E1.5B | E     | E1.5B | E     | C     | C     | G     | C     | 3.2   | J4.1X | J3.8X | 3.3   | 3.3   | 3.5   | 3.3   | J3.7X | J2.9X | 2.6   | 2.2   | 2.2   | 1.5    | E     | E1.3B | 2.6   |
| 13  | E1.2B | E     | E     | E     | E     | 2.5   | 1.5G  | 2.1   | 2.8   | 3.1   | 3.1   | 3.4   | 3.5   | J3.9X | 3.7   | J4.1X | D2.7R | 1.5G  | 3.3   | E1.6B | AJ2.6X | J2.5X | J2.5X |       |
| 14  | E1.6B | G     | E1.2B | E     | E     | 2.0   | 3.1   | 3.1   | J4.2X | 3.4   | 3.5   | J4.0X | J6.3X | J5.0X | 3.4   | 4.3   | 4.0   | J3.6X | 4.2   | 3.6   | 2.3    | 2.5   | 1.5   |       |
| 15  | J2.4X | 3.2   | 3.4   | 3.0   | 3.3   | 2.4   | 1.5G  | 2.3   | 3.0   | 3.4   | 3.8   | 3.6   | 3.5   | 3.2   | 3.4   | 3.3   | 4.4   | 2.7   | 2.0   | 1.5   | E1.3B  | 2.4   | 2.3   | 1.5   |
| 16  | E     | 2.1   | 2.0   | 2.0   | E1.1B | E     | 3.2   | 2.8   | 3.3   | 3.0   | 3.2   | J3.6X | 3.5   | 3.3   | 3.3   | G     | G     | 2.3   | 1.8   | 1.7   | J2.1X  | 2.0   | 3.5   | 2.4   |
| 17  | 2.4   | B     | E     | E     | E     | E     | G     | 2.3   | 3.4   | 3.4   | 3.5   | J5.3X | D3.4R | D3.4R | 3.1   | 3.0   | 3.3   | 3.4   | 3.6   | 2.5   | 2.5    | 1.6   | E1.5B | 1.6   |
| 18  | E1.8B | 2.2   | 2.0   | E     | E     | G     | G     | 4.8   | 2.9   | 3.0   | 3.2   | 3.3   | 3.2   | 3.3   | 3.4   | 3.4   | 3.0   | 2.5   | 1.8   | E1.5B | 1.8    | E     | E     | E1.4B |
| 19  | E1.9B | E     | E     | 1.8   | E     | E     | G     | 2.3   | 3.5   | J3.5X | 3.5   | 3.3   | 3.5   | J4.5X | 3.4   | 3.3   | 3.1   | 2.7   | 2.0   | 3.3   | 4.8    | 2.5   | 2.0   | 2.0   |
| 20  | 1.8   | 2.5   | 1.5   | 2.2   | E     | 1.3G  | 2.0   | 2.0G  | 2.9   | 3.2   | 4.0   | 3.8   | 4.0   | J8.5X | 3.5   | 3.3   | 3.5   | J2.5X | 2.0   | 2.5   | 2.5    | J3.3X | E1.5B | E2.0B |
| 21  | 3.3   | 3.3   | J3.3X | J2.3X | 2.6   | J2.5X | 3.1   | 3.3   | 3.2   | 3.2   | 3.2   | 3.4   | 3.8   | 3.9   | 3.5   | 3.2   | G     | G     | J2.5X | J2.7X | 2.8    | E1.2B | E1.8B | E1.5B |
| 22  | E1.2B | 2.0   | 2.0   | J3.4X | J2.6X | 2.3   | G     | 1.2G  | G     | 3.1   | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C      | C     | C     | C     |
| 23  | C     | C     | C     | C     | C     | C     | G     | D2.2C | D3.4C | D3.5C | D3.4C | D3.5C | D3.4C | D3.2C | C     | D3.0C | 1.7G  | D2.4C | D2.1C | D2.5C | J3.6X  | E2.0B | E1.8B | E1.9B |
| 24  | E1.9B | D3.1C | 1.9   | 2.0   | E1.2B | E1.3B | 2.1   | D2.4C | 3.3   | 3.2   | D3.2C | D3.7C | G     | G     | 3.2   | G     | 3.2   | 3.4   | G     | E1.2B | E1.9B  | E1.9B | E1.9B | E2.0B |
| 25  | E1.9B | E1.4B | E     | E1.2B | E1.2B | E     | G     | 2.4   | 5.0   | D3.6C | D3.8C | D3.8C | D3.7C | D3.9C | D3.7C | C     | 3.5   | 2.0G  | D1.7C | 2.0   | E1.9B  | E1.9B | 3.2   | E2.0B |
| 26  | E1.9B | E1.9B | E1.9B | 2.1   | 2.3   | 2.1   | 2.0   | G     | 3.0   | 4.2   | 4.2   | 3.3   | D3.4C | D3.4C | C     | 3.1   | 2.9   | 1.9G  | G     | E1.8B | E1.8B  | E1.9B | E1.8B | E1.9B |
| 27  | E1.9B | C     | E1.6B | E1.7B | 2.3   | 2.3   | 2.3   | E2.3C | 3.2   | D3.2C | D3.3C | D3.2C | D3.4C | 4.4   | D3.2C | D3.0C | 1.9   | 2.3   | G     | 2.2   | E3.0C  | E1.8C | E1.9C | E2.0C |
| 28  | E1.9C | E1.9C | E1.8C | E1.4B | 2.1   | E1.4B | G     | D2.2C | 3.0   | C     | D3.4C | 4.3   | D3.2C | D3.8C | C     | C     | C     | C     | C     | C     | C      | C     | C     | C     |
| 29  | C     | C     | C     | C     | C     | C     | C     | C     | C     | 3.0   | 3.2   | 3.7   | 3.4   | 3.4   | 3.3   | 3.8   | 3.5G  | 3.0   | 2.1   | 2.2   | 2.4    | E1.5B | E1.9B | E1.6B |
| 30  | E2.0B | E1.8B | E1.4B | E     | E     | E     | G     | 2.5   | 3.2   | 4.0   | 3.6   | 3.5   | 3.8   | 3.8   | 3.1   | 3.0   | 1.7G  | 2.0G  | 2.1   | 2.5   | E1.5B  | G     | E1.4B | E2.0B |
| 31  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |        |       |       |       |

| Медиа  | 00   | 01   | 02   | 03   | 04   | 05  | 06   | 07   | 08  | 09  | 10   | 11  | 12   | 13   | 14  | 15  | 16   | 17   | 18   | 19  | 20   | 21    | 22    | 23    |     |
|--------|------|------|------|------|------|-----|------|------|-----|-----|------|-----|------|------|-----|-----|------|------|------|-----|------|-------|-------|-------|-----|
| Медиа  | E1.8 | E1.7 | E1.5 | E1.4 | E1.2 | G   | 1.5G | U2.6 | 3.2 | 3.3 | U3.5 | 3.6 | U3.5 | U3.5 | 3.4 | 3.3 | U3.1 | U2.6 | U2.2 | 2.2 | U2.0 | E1.9B | E1.8B | E1.9B |     |
| Учтено | 2.8  | 2.6  | 2.7  | 2.7  | 2.7  | 2.7 | 2.9  | 2.8  | 2.8 | 2.9 | 2.9  | 2.9 | 2.9  | 2.9  | 2.6 | 2.6 | 2.8  | 2.7  | 2.8  | 2.8 | 2.7  | 2.8   | 2.8   | 2.8   |     |
| В.КВ   | E1.2 | E    | 2.2  | E    | 2.0  | E   | 2.1  | E    | 2.0 | E   | 1.6  | G   | 2.0  | 2.2  | 2.9 | 3.0 | 3.4  | 3.2  | 3.6  | 3.3 | 3.9  | 3.4   | 4.0   | 3.1   | 3.8 |
| Ч.КВ   | E1.2 | E    | 2.2  | E    | 2.0  | E   | 2.1  | E    | 2.0 | E   | 1.6  | G   | 2.0  | 2.2  | 2.9 | 3.0 | 3.4  | 3.2  | 3.6  | 3.3 | 3.9  | 3.4   | 4.0   | 3.1   | 3.8 |

Пробег частоты от 1.0 Мгц до 18.0 Мгц Станция автоматическая (ручная, автоматическая)

ИВЕС Мгц сентябрь 1972

АН Каз ССР

Станция Караганда (характеристика) (единицы) (месяц) (год)  
 Долгота 73°05'E широта 49°49'N

Ионосферные данные

Кем составлена Сорокан (институт)  
 Кем подсчитана Дужесаровой

| Дни     | 00    | 01    | 02    | 03    | 04    | 05    | 06   | 07    | 08  | 09    | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17   | 18   | 19    | 20    | 21    | 22    | 23    |
|---------|-------|-------|-------|-------|-------|-------|------|-------|-----|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|-------|
| 1       | E1.5B | E     | E1.1B | E     | E1.1B | G     | 2.0  | 2.7   | 3.3 | 3.4   | 4.0   | 3.9   | 3.6   | 3.6   | 3.5   | C     | 3.2   | 3.0  | 2.4  | 3.4   | 1.7   | E     | E     | 2.0   |
| 2       | E     | E     | E     | E     | E     | G     | G    | 2.8   | 3.0 | 3.3   | 3.4   | G     | G     | G     | 3.5   | 3.4   | 3.0   | 2.8  | 2.6  | 1.9   | 2.0   | 1.6   | E1.5B | E1.5B |
| 3       | E1.5B | E1.1B | E     | E     | 1.5   | 1.6   | 4.8  | 2.9   | 4.1 | 5.0   | 3.5   | 3.8   | 4.0   | 4.5   | 3.6   | G     | 3.5   | 3.5  | 5.2  | 3.0   | 1.3   | 3.0   | 1.9   | 2.0   |
| 4       | 2.0   | 1.9   | 2.1   | E     | E     | G     | G    | G     | 3.0 | 3.2   | D3.2R | 3.4   | 3.5   | 3.4G  | 3.5   | 3.2   | G     | C    | 2.2  | 1.4   | 1.5   | 2.1   | 1.2   | 1.5   |
| 5       | E1.3B | E1.2B | E     | G     | G     | G     | G    | 2.6   | 3.0 | 3.2   | 3.3   | D3.4R | D3.4R | 3.4   | D3.3R | 2.1G  | 2.0G  | 2.6  | 1.7  | 1.4   | 1.1   | E     | E     | E     |
| 6       | E     | E     | E     | E     | E1.3B | G     | G    | D2.4R | 3.0 | 3.2   | 3.4   | 3.6   | 3.6   | 2.3G  | 3.3   | 4.3   | 3.1   | 3.3  | 2.6  | 1.5   | E     | E     | E1.1B | E1.2B |
| 7       | E1.5B | E     | E1.3B | E1.3B | E     | G     | G    | 2.7   | 3.0 | 3.3   | 3.4   | G     | 2.2G  | 1.7G  | 1.9G  | 2.2G  | 1.8G  | 1.9G | 1.7G | G     | E1.7B | E1.8B | E2.0B | E2.0B |
| 8       | E2.0B | E1.9B | C     | C     | E1.6B | E1.6B | G    | G     | 3.0 | 3.3   | D3.7R | D3.9R | D3.5R | 3.4   | 3.3   | 3.3   | 3.0   | 2.7  | 2.8  | 3.0   | 3.0   | 3.2   | 1.8   | 2.1   |
| 9       | E     | E1.5B | E1.7B | 1.9   | E1.5B | E1.6B | 2.0  | D2.7R | 3.1 | 3.6   | 3.3   | 3.4   | 3.6   | 3.4   | G     | G     | 1.8G  | 2.0G | 2.1  | 2.6   | 2.0   | 1.9   | 1.8   | E     |
| 10      | 1.5   | E1.4B | E     | E     | E1.2B | E     | 2.0  | 2.9   | G   | 3.0   | 3.4   | G     | G     | 3.7   | 3.3   | 3.0   | 3.0   | 2.6  | 2.2  | 1.7   | 2.0   | 1.5   | E1.6B | E1.1B |
| 11      | 1.8   | 1.7   | E1.5B | 1.6   | E     | E     | 1.7  | 2.7   | 3.0 | G     | G     | G     | 2.1G  | 2.9G  | 3.2   | 3.0   | 2.9   | 2.4  | 2.0  | 1.8   | E1.6B | E1.5B | E     | E1.2B |
| 12      | E1.5B | E     | E1.5B | C     | C     | G     | C    | 3.0   | 3.4 | 3.4   | 3.3   | 3.3   | 3.5   | 3.0   | 2.8   | 2.3G  | 2.6   | 2.1  | 1.4  | 1.5   | E     | E1.3B | 2.0   |       |
| 13      | E1.2B | E     | E     | E     | E     | G     | G    | 2.8   | 3.1 | 3.1   | 3.4   | 3.5   | 3.6   | 3.6   | 3.0   | 2.7   | D1.5G | 1.3G | 1.6  | A     | 2.2   | 1.6   | 2.3   |       |
| 14      | G     | E1.6B | E1.2B | E     | E     | 2.0   | 3.1  | 2.8   | 2.9 | 3.0   | 3.5   | 3.3   | 3.9   | A     | 3.4   | 3.6   | 3.1   | 2.9  | 3.8  | 3.0   | 2.3   | A     | 1.5   |       |
| 15      | 2.0   | A     | A     | 1.9   | 1.9   | 1.3   | 1.5G | 2.3   | 3.0 | 3.3   | 3.7   | 3.6   | 3.5   | 3.2   | 3.4   | 3.3   | 3.0   | 2.6  | 1.9  | 1.5   | E1.3B | 1.6   | 1.6   | 1.5   |
| 16      | E     | E1.3B | E1.5B | E1.2B | E1.1B | E     | 2.3  | 2.8   | 2.8 | 3.0   | 3.1   | 3.3   | 3.4   | 3.3   | 3.3   | G     | G     | 2.3  | 1.8  | 1.7   | 1.7   | 1.5   | 3.0   | 1.8   |
| 17      | 1.6   | B     | E     | E     | E     | E     | G    | 2.3   | 3.1 | 3.4   | 3.5   | 4.0   | D3.4R | D3.4R | 3.1   | 3.0   | 3.0   | 3.0  | 2.9  | 1.9   | 2.0   | 1.6   | E1.5B | 1.6   |
| 18      | E1.8B | 1.6   | E1.5B | E     | E     | G     | G    | 3.8   | 2.9 | 3.0   | 3.2   | 3.2   | 3.2   | 3.3   | 3.2   | 3.2   | 3.0   | 2.5  | 1.8  | E1.5B | 1.8   | E     | E     | E1.4B |
| 19      | E1.9B | E     | E     | 1.6   | E     | E     | G    | 2.3   | 3.0 | 3.0   | 3.5   | 3.3   | 3.5   | 4.2   | 3.3   | 3.3   | 3.1   | 2.7  | 2.0  | 2.7   | 3.7   | 2.0   | 1.9   | 1.8   |
| 20      | 1.7   | 2.0   | 1.5   | 1.9   | E     | G     | 1.6  | G     | 2.8 | 3.0   | 3.7   | 3.8   | 4.0   | 7.6   | 3.5   | 3.4   | 2.7   | 2.2  | 2.0  | 1.9   | 1.8   | 3.0   | E1.5B | E1.9B |
| 21      | 3.0   | 1.9   | 2.8   | 1.6   | 1.6   | 1.6   | 2.2  | 2.8   | 3.0 | 3.1   | 3.2   | 3.4   | 3.6   | 3.3   | 3.4   | 3.2   | G     | G    | 1.6G | 2.2   | 2.0   | E1.2B | E1.8B | E1.5B |
| 22      | E1.2B | E1.4B | E     | 3.2   | 1.8   | E     | G    | 1.2G  | G   | C     | C     | C     | C     | C     | C     | C     | C     | C    | C    | C     | C     | C     | C     | C     |
| 23      | C     | C     | C     | C     | C     | C     | G    | D2.2G | 3.4 | 3.5   | 3.4   | 3.5   | 3.4   | 3.2   | C     | 3.0   | 1.7G  | 2.4  | 2.1  | D2.5G | 2.4   | E2.0B | E1.8B | E1.9B |
| 24      | E1.9B | D3.1G | 1.9   | 2.0   | E1.2B | E1.3B | 2.0  | D2.4G | 3.3 | 3.0   | D3.2G | D3.7G | G     | G     | G     | G     | 3.0   | 3.0  | G    | E1.2B | E1.9B | E1.9B | E1.9B | E2.0B |
| 25      | E1.9B | E1.4B | E     | E1.2B | E1.2B | E     | G    | 2.4   | 4.3 | D3.6G | D3.8G | D3.8G | D3.7G | D3.9G | D3.7G | C     | 3.0   | 2.0G | 1.7  | 2.0   | E1.9B | E1.9B | 3.0   | E2.0B |
| 26      | E1.9B | E1.9B | E1.9B | 2.0   | 2.3   | E1.8B | 1.7  | G     | 3.0 | 4.0   | 3.9   | G     | D3.4G | D3.4G | C     | 3.1   | 2.9   | 1.9G | G    | E1.8B | E1.8B | E1.9B | E1.8B | E1.9B |
| 27      | E1.9B | C     | E1.6B | E1.7B | 1.8   | 1.8   | 1.9  | D2.3G | 3.0 | D3.2G | D3.3G | D3.2G | D3.4G | 4.0   | D3.2G | D3.0G | 1.9   | 2.3  | G    | 2.0   | E3.0G | E1.8G | E1.9G | E2.0G |
| 28      | E1.9G | E1.9G | E1.8G | E1.4B | 1.8   | E1.4B | G    | D2.2G | G   | C     | D3.4G | 4.1   | D3.2G | D3.8G | C     | C     | C     | C    | C    | C     | C     | C     | C     | C     |
| 29      | C     | C     | C     | C     | C     | C     | C    | C     | C   | 3.0   | 3.2   | 3.6   | 3.4   | 3.2   | 3.0   | 3.0   | 1.9G  | 2.2  | 1.8  | 2.2   | E1.4B | E1.5B | E1.9B | E1.6B |
| 30      | E2.0B | E1.8B | E1.4B | E     | E     | E     | G    | 2.0   | 3.2 | 4.0   | G     | 3.4   | 3.6   | 3.2   | 3.1   | 3.0   | 1.7G  | 1.7G | 1.6  | 1.9   | E1.5B | G     | E1.4B | E2.0B |
| 31      |       |       |       |       |       |       |      |       |     |       |       |       |       |       |       |       |       |      |      |       |       |       |       |       |
| Медиана | E1.6B | E1.4B | E1.2B | E1.3B | E1.1B | G     | G    | U2.6  | 3.0 | 3.2   | 3.4   | U3.4  | U3.4  | 3.4   | 3.3   | 3.0   | 2.9   | 2.5  | 2.0  | 1.9   | U1.7  | E1.7  | E1.6  | E1.8B |
| Учено   | 28    | 25    | 26    | 27    | 27    | 27    | 29   | 28    | 28  | 28    | 29    | 29    | 29    | 29    | 25    | 26    | 28    | 27   | 28   | 28    | 27    | 28    | 27    | 28    |

Пробег частоты от 1.0 Мгц до 18.0 Мгц Станция автоматическая (ручная, автоматическая)

Мин Мгц сентябрь 1972

АН Каз ССР

Станция Караганда (характеристика) (единицы) (месяц) (год)

Ионосферные данные

Кем составлена Шустовой

Долгота 73°05' E широта 49°49' N

Поясное время 75° E

Кем подсчитана Шустовой

| Дни     | 00    | 01    | 02    | 03  | 04    | 05  | 06  | 07  | 08          | 09          | 10          | 11          | 12          | 13          | 14          | 15  | 16  | 17    | 18  | 19    | 20          | 21    | 22  | 23  |
|---------|-------|-------|-------|-----|-------|-----|-----|-----|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----|-----|-------|-----|-------|-------------|-------|-----|-----|
| 1       | 1.5   | 1.0   | 1.1   | 1.0 | 1.1   | 1.1 | 1.0 | 1.0 | 1.0         | 1.0         | 1.0         | 1.1         | 1.2         | 1.1         | 1.0         | C   | 1.1 | 1.0   | 1.0 | 1.0   | 1.0         | 1.0   | 1.0 | 1.0 |
| 2       | 1.0   | 1.0   | 1.0   | 1.0 | 1.0   | 1.0 | 1.1 | 1.0 | 1.0         | 1.0         | 1.0         | 1.2         | 1.0         | 1.0         | 1.0         | 1.0 | 1.1 | 1.0   | 1.0 | 1.0   | 1.5         | 1.0   | 1.5 | 1.5 |
| 3       | 1.5   | 1.1   | 1.0   | 1.0 | 1.0   | 1.0 | 1.0 | 1.0 | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.1         | 1.2         | 1.0 | 1.0 | 1.0   | 1.0 | 1.0   | 1.0         | 1.0   | 1.0 | 1.0 |
| 4       | 1.0   | 1.0   | 1.0   | 1.0 | 1.0   | 1.0 | 1.0 | 1.0 | 1.0         | 1.0         | 1.0         | 1.1         | 1.2         | 1.1         | 1.0         | 1.1 | 1.0 | 1.0   | 1.0 | 1.0   | 1.0         | 1.0   | 1.0 | 1.0 |
| 5       | 1.3   | 1.2   | 1.0   | 1.0 | 1.0   | 1.0 | 1.0 | 1.0 | 1.0         | 1.0         | 1.0         | 1.2         | 1.0         | 1.0         | 1.0         | 1.0 | 1.0 | 1.0   | 1.0 | 1.0   | 1.0         | 1.0   | 1.0 | 1.0 |
| 6       | 1.0   | 1.0   | 1.0   | 1.0 | 1.3   | 1.0 | 1.2 | 1.2 | 1.0         | 1.2         | 1.3         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0 | 1.0 | 1.0   | 1.0 | 1.0   | 1.0         | 1.0   | 1.1 | 1.2 |
| 7       | 1.5   | 1.0   | 1.3   | 1.3 | 1.0   | 1.0 | 1.0 | 1.2 | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.1         | 1.2 | 1.0 | 1.2   | 1.0 | 1.5   | 1.7         | 1.8   | 2.0 | 2.0 |
| 8       | 2.0   | 1.9   | C     | C   | 1.6   | 1.6 | 1.3 | 1.3 | 1.2         | 1.2         | 1.7         | 2.0         | 1.0         | 1.7         | 1.0         | 1.0 | 1.0 | 1.0   | 1.0 | 1.0   | 1.6         | 1.6   | 1.3 | 1.3 |
| 9       | 1.0   | 1.5   | 1.7   | 1.0 | 1.5   | 1.6 | 1.0 | 1.1 | 1.3         | 1.7         | 1.7         | 1.7         | 1.7         | 1.0         | 1.0         | 1.0 | 1.0 | 1.0   | 1.0 | 1.0   | 1.0         | 1.0   | 1.3 | 1.0 |
| 10      | 1.0   | 1.4   | 1.0   | 1.0 | 1.2   | 1.0 | 1.0 | 1.0 | 1.1         | 1.0         | 1.2         | 1.0         | 1.2         | 1.2         | 1.0         | 1.0 | 1.0 | 1.0   | 1.0 | 1.5   | 1.5         | 1.0   | 1.6 | 1.1 |
| 11      | 1.0   | 1.0   | 1.5   | 1.0 | 1.0   | 1.0 | 1.0 | 1.0 | 1.0         | 1.1         | 1.1         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0 | 1.0 | 1.0   | 1.0 | 1.0   | 1.6         | 1.5   | 1.0 | 1.2 |
| 12      | 1.5   | 1.0   | 1.0   | 1.5 | C     | C   | 1.2 | C   | 1.2         | 1.0         | 1.0         | 1.7         | 1.6         | 1.3         | 1.0         | 1.0 | 1.0 | 1.0   | 1.0 | 1.0   | 1.0         | 1.0   | 1.3 | 1.0 |
| 13      | 1.2   | 1.0   | 1.0   | 1.0 | 1.0   | 1.0 | 1.0 | 1.0 | 1.2         | 1.1         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.2 | 1.1 | 1.0   | 1.0 | 1.6   | 1.1         | 1.0   | 1.0 | 1.0 |
| 14      | 1.1   | 1.6   | 1.6   | 1.2 | 1.0   | 1.0 | 1.0 | 1.0 | 1.0         | 1.2         | 1.0         | 1.1         | 1.0         | 1.3         | 1.0         | 1.0 | 1.0 | 1.0   | 1.0 | 1.0   | 1.0         | 1.0   | 1.5 | 1.0 |
| 15      | 1.0   | 1.0   | 1.0   | 1.0 | 1.0   | 1.0 | 1.0 | 1.0 | 1.2         | 1.0         | 1.0         | 1.0         | 1.2         | 1.2         | 1.3         | 1.0 | 1.0 | 1.0   | 1.0 | 1.0   | 1.3         | 1.0   | 1.0 | 1.0 |
| 16      | 1.0   | 1.3   | 1.5   | 1.2 | 1.1   | 1.0 | 1.0 | 1.0 | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.4         | 1.0 | 1.0 | 1.0   | 1.0 | 1.0   | 1.0         | 1.0   | 1.8 | 1.0 |
| 17      | 1.0   | 1.2   | 1.0   | 1.0 | 1.0   | 1.0 | 1.0 | 1.0 | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0 | 1.0 | 1.0   | 1.0 | 1.0   | 1.0         | 1.0   | 1.5 | 1.2 |
| 18      | 1.8   | 1.0   | 1.5   | 1.0 | 1.0   | 1.0 | 1.0 | 1.0 | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0 | 1.0 | 1.0   | 1.1 | 1.5   | 1.0         | 1.0   | 1.0 | 1.4 |
| 19      | 1.9   | 1.0   | 1.0   | 1.0 | 1.0   | 1.0 | 1.0 | 1.0 | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0 | 1.0 | 1.0   | 1.0 | 1.0   | 1.0         | 1.0   | 1.5 | 1.0 |
| 20      | 1.5   | 1.0   | 1.0   | 1.0 | 1.0   | 1.0 | 1.0 | 1.0 | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0 | 1.0 | 1.0   | 1.0 | 1.0   | 1.0         | 1.0   | 1.5 | 1.9 |
| 21      | 1.1   | 1.0   | 1.0   | 1.0 | 1.0   | 1.0 | 1.0 | 1.0 | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0 | 1.0 | 1.0   | 1.0 | 1.0   | 1.3         | 1.2   | 1.8 | 1.5 |
| 22      | 1.2   | 1.4   | 1.0   | 1.0 | 1.0   | 1.0 | 1.0 | 1.0 | 1.0         | E1.6C       | C E4.0C     | E4.0C E4.0C | E1.9C E1.4C | E3.1C E1.9C | E3.0C E3.0C | C   | C   | C     | C   | C     | C           | C     | C   | C   |
| 23      | C     | C     | C     | C   | E1.9C | C   | 1.7 | 1.3 | 1.6         | 1.8         | 1.7         | 1.8         | 1.9         | 1.5         | E1.9C       | 1.2 | 1.2 | 1.2   | 1.9 | 1.9   | 1.2         | 2.0   | 1.8 | 1.9 |
| 24      | 1.9   | 1.6   | 1.2   | 1.2 | 1.2   | 1.3 | 1.2 | 1.4 | 1.3         | 1.9         | 1.9         | 1.8         | 1.8         | 1.7         | 1.4         | 1.2 | 1.0 | 1.3   | 1.8 | 1.2   | 1.9         | 1.9   | 1.9 | 2.0 |
| 25      | 1.9   | 1.4   | 1.0   | 1.2 | 1.2   | 1.0 | 1.2 | 1.2 | 1.4         | 2.0         | 1.8         | 1.9         | 1.8         | 1.7         | 1.7         | C   | 1.0 | 1.8   | 1.0 | 1.9   | 1.9         | 1.9   | 1.8 | 2.0 |
| 26      | 1.9   | 1.9   | 1.9   | 1.0 | 1.0   | 1.8 | 1.0 | 1.0 | 1.8         | 1.2         | 1.8         | 2.0         | 1.7         | 1.8         | 1.7         | 1.1 | 1.1 | 1.1   | 1.4 | 1.8   | 1.8         | 1.9   | 1.8 | 1.9 |
| 27      | 1.9   | C     | 1.6   | 1.7 | 1.0   | 1.0 | 1.0 | 1.0 | 1.9         | E3.0C       | E2.0C E1.9C | E2.0C E1.4C | 1.2         | 1.1         | 1.0         | 1.0 | 1.2 | E1.9C | 1.0 | E3.0C | E1.8C E1.9C | E2.0C | C   |     |
| 28      | E1.9C | E1.9C | E1.8C | 1.4 | 1.0   | 1.4 | 1.7 | 1.3 | E1.9C E1.8C | E1.8C E1.8C | E1.8C E1.9C | E1.8C       | C           | C           | C           | C   | C   | C     | C   | C     | C           | C     | C   | C   |
| 29      | C     | C     | C     | C   | C     | C   | C   | C   | C           | 1.9         | 2.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0 | 1.0 | 1.0   | 1.0 | 1.0   | 1.4         | 1.5   | 1.9 | 1.6 |
| 30      | 3.0   | 1.8   | 1.4   | 1.0 | 1.0   | 1.0 | 1.0 | 1.0 | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0 | 1.0 | 1.0   | 1.0 | 1.0   | 1.5         | 1.0   | 1.4 | 2.0 |
| 31      |       |       |       |     |       |     |     |     |             |             |             |             |             |             |             |     |     |       |     |       |             |       |     |     |
| Медиана | 1.4   | 1.1   | 1.0   | 1.0 | 1.0   | 1.0 | 1.0 | 1.0 | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0         | 1.0 | 1.0 | 1.0   | 1.0 | 1.0   | 1.1         | 1.0   | 1.5 | 1.2 |
| Учено   | 28    | 27    | 27    | 27  | 28    | 27  | 29  | 28  | 29          | 30          | 29          | 30          | 30          | 30          | 29          | 27  | 29  | 29    | 29  | 29    | 28          | 28    | 28  | 28  |

Пробег частоты от 1.0 Мгц до 18.0 Мгц СВК Станция автоматическая (ручная, автоматическая)

(M3000) F2 сентябрь 1972

АН Каз ССР

Станция Караганда (характеристика) (единицы, месяц) (год)

# Ионосферные данные

Кем составлена Шустовой (институт)

Долгота 73°05'E

широта 49°49'N

Поясное время 75°E

Кем подсчитана Дужесаровой

| Дни | 00     | 01     | 02     | 03     | 04     | 05     | 06     | 07     | 08     | 09     | 10     | 11     | 12     | 13     | 14     | 15     | 16     | 17     | 18     | 19     | 20     | 21     | 22     | 23     |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1   | 2.85   | 2.60   | 2.60   | 2.60   | 2.65   | 2.80   | J310S  | S      | 3.05   | R      | 3.10   | J300S  | 2.90   | 2.80   | 2.90   | C      | 2.95   | 3.10   | 3.00   | 3.00   | 2.90   | J295S  | S      | 2.80   |
| 2   | S      | 2.65   | J260S  | 2.70   | 2.65   | J2.80S | S      | 3.15   | J3.05S | S      | 2.90   | 2.90   | 2.95   | 2.85   | 2.90   | 2.85   | 2.80   | J2.90S | J3.00S | J300S  | 3.05   | S      | J2.80S | 2.55   |
| 3   | 2.60   | 2.55   | S      | 2.70   | 2.70   | 2.70   | R      | J3.10R | 3.10   | J2.85R | J3.00S | 2.90   | 3.05   | 2.90   | 2.90   | 3.05   | U3.05R | 3.05   | 3.05   | 3.10   | 2.95   | S      | 3.00   | 2.85   |
| 4   | 2.65   | J2.65S | 2.60   | 2.60   | 2.55   | 2.65   | 2.95   | S      | 3.00   | 2.95   | 3.00   | 3.00   | J3.00S | 2.95   | 3.10   | 3.05   | 3.10   | C      | J3.10S | 2.95   | U3.00S | S      | 3.00   | 2.80   |
| 5   | J2.80S | 2.75   | 2.75   | 2.75   | 2.65   | J2.70S | 3.05   | S      | 3.00   | J3.00S | 2.95   | J2.95S | 2.90   | 3.00   | 2.95   | 3.00   | 3.15   | 3.10   | J3.10S | 3.00   | S      | S      | 2.90   | J2.80S |
| 6   | 2.70   | 2.80   | S      | 2.70   | 2.70   | 2.90   | 3.15   | S      | 2.90   | 3.00   | 2.95   | J2.95R | U2.95R | 2.90   | 2.95   | 2.95   | 3.05   | 3.05   | J3.15S | 2.95   | S      | S      | S      | 2.90   |
| 7   | 2.80   | J2.75S | 2.65   | 2.70   | 2.75   | J2.80S | 3.15   | S      | 3.10   | 3.10   | 3.10   | 2.95   | 2.95   | 2.90   | 3.00   | 3.00   | 3.00   | 3.10   | J3.10S | J3.00S | S      | S      | S      | S      |
| 8   | S      | S      | C      | C      | J2.80S | J2.85S | S      | S      | S      | R      | R      | 3.00   | 2.95   | 3.00   | 3.05   | 3.05   | 3.15   | 3.05   | J3.00S | 3.05   | J2.90S | S      | S      | U2.90S |
| 9   | 2.70   | 2.70   | 2.60   | 2.60   | U2.65S | 2.85   | U3.10S | J3.20S | 3.15   | 3.00   | 3.15   | J3.10S | 2.95   | J3.05S | 2.95   | J3.10R | 3.05   | 3.05   | 3.05   | J3.10S | S      | S      | 3.00   | S      |
| 10  | 2.80   | 2.80   | 2.80   | 2.75   | 2.70   | 2.90   | S      | S      | C      | 3.15   | S      | 3.10   | 3.00   | 3.05   | 2.95   | 3.00   | 3.10   | 3.05   | J3.05S | J305S  | S      | S      | 3.05   | S      |
| 11  | 2.70   | 2.65   | 2.75   | 2.70   | 2.70   | 2.80   | 3.20   | 3.10   | 3.15   | 3.05   | 3.00   | J3.10S | 3.00   | J290S  | 3.10   | 2.95   | 3.10   | 3.10   | 3.20   | S      | S      | 2.90   | 2.95   | 2.80   |
| 12  | 2.70   | 2.80   | 2.85   | S      | C      | C      | 3.10   | C      | J3.15S | 3.10   | C      | S      | S      | 3.00   | S      | J3.20S | J3.25S | S      | 3.15   | S      | S      | S      | 3.15   | 2.90   |
| 13  | 2.85   | 2.80   | 2.80   | J2.80S | J2.70S | 2.90   | 3.30   | S      | 3.35   | 3.10   | S      | S      | 3.10   | J3.20S | 2.95   | J305S  | 3.15   | 3.30   | 3.35   | S      | A      | S      | 2.65   | S      |
| 14  | 2.80   | S      | U2.50S | 2.65   | 2.40   | 2.80   | 2.80   | A      | 3.00   | C      | C      | 2.35   | S      | 2.90   | A      | 3.15   | 2.80   | 3.00   | U2.95S | 3.00   | 3.00   | J2.85S | A      | S      |
| 15  | S      | A      | A      | 2.70   | 2.70   | 2.95   | 3.20   | S      | 2.80   | S      | S      | 2.80   | 3.05   | 2.85   | 2.80   | 2.95   | 3.10   | J305S  | S      | S      | 2.90   | 2.85   | 2.80   | 2.80   |
| 16  | 2.80   | 2.70   | 2.80   | J2.85S | J3.00S | 2.85   | 3.00   | S      | 3.15   | 3.15   | J305R  | 3.30   | 2.95   | 2.95   | 3.00   | 3.10   | 3.05   | 3.10   | J3.15S | S      | 3.05   | J2.95S | 2.85   | 2.75   |
| 17  | 2.50   | S      | 2.80   | 2.70   | 3.00   | 2.80   | J3.00S | 3.35   | 3.05   | S      | J3.10S | 3.00   | 2.80   | 3.10   | 3.05   | 3.15   | 3.10   | 3.15   | 3.15   | 3.05   | S      | S      | S      | 2.80   |
| 18  | 2.70   | 2.65   | 2.60   | J2.60S | J2.80S | 2.80   | 3.15   | 3.30   | S      | J3.15S | J3.15S | 3.05   | 2.95   | 3.05   | J3.15R | 3.10   | 3.05   | 3.10   | 3.30   | S      | S      | J3.15S | 2.95   | J2.70S |
| 19  | S      | S      | 2.65   | J2.75S | 2.75   | 2.80   | 3.15   | S      | 3.15   | 3.10   | 3.30   | 3.15   | 3.15   | 3.05   | 3.05   | 3.15   | 3.15   | 3.05   | 3.30   | S      | S      | S      | S      | 2.80   |
| 20  | 2.80   | 2.70   | S      | 2.70   | 2.80   | 2.85   | S      | S      | S      | 3.15   | S      | 3.15   | 2.95   | 3.10   | 3.10   | J3.10S | 3.15   | J3.15S | J3.10S | S      | 3.00   | 3.05   | 3.00   | 2.90   |
| 21  | S      | J2.65S | J2.65S | J2.75S | 2.85   | 3.25   | S      | 3.30   | 3.10   | S      | 3.10   | 3.05   | J3.00S | 3.05   | 3.10   | 3.15   | S      | J3.15S | S      | S      | S      | 3.10   | 3.05   |        |
| 22  | J3.05S | J2.85S | J2.70S | 2.65   | S      | J2.80S | 3.35   | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      |
| 23  | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      |
| 24  | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      |
| 25  | C      | C      | J2.75S | C      | J2.65S | U2.65S | 3.00   | C      | C      | C      | C      | C      | C      | C      | C      | C      | 3.05   | C      | C      | C      | C      | C      | C      | C      |
| 26  | C      | J2.65S | S      | 2.70   | J2.80S | S      | S      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      |
| 27  | C      | C      | C      | 2.65   | C      | 2.65   | 2.95   | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      |
| 28  | C      | C      | C      | C      | C      | C      | 3.10   | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      |
| 29  | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | C      | S      | S      | 3.10   | S      | 3.10   | 3.25   | J3.15S | S      | S      | S      | S      | S      | S      |
| 30  | S      | S      | S      | S      | S      | S      | S      | J3.25S | 3.30   | S      | S      | J3.10S | 3.05   | S      | S      | S      | 3.15   | J3.20S | S      | S      | S      | 3.15   | 3.10   | 3.05   |
| 31  |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |

|         |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |        |      |      |        |      |      |
|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------|------|------|--------|------|------|
| Диап.   | 0.10 | 0.15 | 0.20 | 0.05 | 0.15 | 0.05 | 0.15 | 0.20 | 0.15 | 0.15 | 0.10 | 0.15 | 0.10 | 0.15 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10   | 0.05 | 0.10 | 0.20   | 0.20 | 0.10 |
| Медиана | 2.80 | 2.70 | 2.65 | 2.70 | 2.70 | 2.80 | 3.10 | 3.20 | 3.10 | 3.10 | 3.10 | 3.00 | 2.95 | 3.00 | 3.00 | 3.05 | 3.10 | 3.10 | J3.10S | 3.00 | 3.00 | J2.95S | 3.00 | 2.80 |
| Учено   | 1.7  | 1.8  | 1.8  | 2.2  | 2.2  | 2.3  | 2.0  | 7    | 1.8  | 1.5  | 1.3  | 2.0  | 2.0  | 2.2  | 1.9  | 2.1  | 2.4  | 2.0  | 2.0    | 1.2  | 9    | 8      | 1.5  | 1.7  |
| В.кв.   | 2.80 | 2.80 | 2.65 | 2.80 | 2.80 | 2.85 | 3.00 | 3.15 | 3.10 | 3.30 | 3.00 | 3.15 | 3.00 | 3.10 | 2.95 | 3.10 | 2.95 | 3.05 | 3.05   | 3.05 | 3.15 | 3.00   | 2.90 | 2.80 |

Пробег частоты от 1.0 МГц до 18.0 МГц 20 СВЧ Станция автоматическая (ручная, автоматическая)

(M3000) F1 сентябрь 1972

АН Каз ССР (институт)

Станция Караганда (характеристика) (единицы) (месяц) (год)

# Ионосферные данные

Кем составлена Сорокан

Долгота 73°05'E широта 49°49'N

Поясное время 75°E

Кем подсчитана Щустовой

| Дни     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09   | 10   | 11   | 12   | 13   | 14   | 15 | 16   | 17   | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|----|----|----|----|----|----|----|----|------|------|------|------|------|------|----|------|------|----|----|----|----|----|----|
| 1       |    |    |    |    |    |    | L  | L  | A  | L    | A    | L    | L    | L    | L    | L  | C    | L    | L  |    |    |    |    |    |
| 2       |    |    |    |    |    |    |    | L  | L  | L    | 3.60 | L    | L    | L    | L    | L  | L    | L    |    |    |    |    |    |    |
| 3       |    |    |    |    |    |    |    | L  | A  | L    | A    | L    | A    | L    | L    | L  | A    | L    |    |    |    |    |    |    |
| 4       |    |    |    |    |    |    |    | L  | L  | L    | L    | 3.70 | 3.60 | L    | L    | L  | L    | C    |    |    |    |    |    |    |
| 5       |    |    |    |    |    |    | L  | L  | L  | 3.70 | 3.70 | 3.55 | L    | L    | L    | L  | L    | L    | L  |    |    |    |    |    |
| 6       |    |    |    |    |    |    |    | L  | L  | 3.60 | 3.50 | L    | L    | L    | L    | L  | L    |      |    |    |    |    |    |    |
| 7       |    |    |    |    |    |    |    | L  | L  | L    | L    | L    | L    | L    | 3.45 | L  | L    | L    |    |    |    |    |    |    |
| 8       |    |    |    |    |    |    |    | L  | L  | 3.65 | A    | L    | L    | L    | L    | L  | L    |      |    |    |    |    |    |    |
| 9       |    |    |    |    |    |    | L  | L  | L  | L    | L    | L    | L    | L    | L    | L  | A    | L    |    |    |    |    |    |    |
| 10      |    |    |    |    |    |    |    |    | C  | L    | L    | L    | L    | L    | L    | L  | L    | L    |    |    |    |    |    |    |
| 11      |    |    |    |    |    |    |    |    | L  | L    | L    | L    | L    | L    | L    | L  | L    | L    |    |    |    |    |    |    |
| 12      |    |    |    |    |    |    |    |    | L  | L    | L    | L    | L    | L    | L    | A  | L    | 3.90 |    |    |    |    |    |    |
| 13      |    |    |    |    |    |    |    | L  | L  | L    | 4.15 | L    | L    | 3.95 | L    | L  | L    | L    |    |    |    |    |    |    |
| 14      |    |    |    |    |    |    |    |    |    | C    | 3.40 | A    | A    | A    | A    | A  | L    |      |    |    |    |    |    |    |
| 15      |    |    |    |    |    |    |    | L  | L  | A    | L    | A    | L    | L    | L    | L  | L    | L    |    |    |    |    |    |    |
| 16      |    |    |    |    |    |    |    |    | L  | L    | L    | L    | L    | L    | L    | L  | L    | L    |    |    |    |    |    |    |
| 17      |    |    |    |    |    |    |    | A  | A  | A    | A    | A    | A    | L    | L    | L  | L    | L    |    |    |    |    |    |    |
| 18      |    |    |    |    |    |    |    |    | L  | L    | L    | L    | L    | L    | 3.30 | A  | A    | A    |    |    |    |    |    |    |
| 19      |    |    |    |    |    |    |    | L  | L  | L    | L    | L    | L    | L    | A    | L  | L    | L    |    |    |    |    |    |    |
| 20      |    |    |    |    |    |    |    | L  | L  | L    | A    | L    | L    | L    | A    | L  | L    | L    | L  |    |    |    |    |    |
| 21      |    |    |    |    |    |    |    |    |    | L    | L    | L    | 4.00 | L    | L    | L  | L    | L    |    |    |    |    |    |    |
| 22      |    |    |    |    |    |    |    |    | L  | L    | C    | C    | C    | L    | C    | C  | L    | L    |    |    |    |    |    |    |
| 23      |    |    |    |    |    |    |    |    | L  | A    | C    | L    | L    | C    | C    | L  | L    | L    |    |    |    |    |    |    |
| 24      |    |    |    |    |    |    |    |    | L  | L    | C    | C    | B    | B    | L    | L  | L    | L    |    |    |    |    |    |    |
| 25      |    |    |    |    |    |    |    |    |    | L    | A    | A    | A    | A    | A    | A  | C    | L    |    |    |    |    |    |    |
| 26      |    |    |    |    |    |    |    |    | L  | A    | A    | C    | C    | C    | C    | L  | L    | L    |    |    |    |    |    |    |
| 27      |    |    |    |    |    |    |    |    |    |      | C    | C    | L    | L    | C    | L  | L    | L    |    |    |    |    |    |    |
| 28      |    |    |    |    |    |    |    |    | L  | L    | L    | L    | C    | L    | C    | C  | C    | C    |    |    |    |    |    |    |
| 29      |    |    |    |    |    |    |    | C  | C  | L    | L    | L    | L    | L    | L    | L  | L    | L    |    |    |    |    |    |    |
| 30      |    |    |    |    |    |    |    |    | L  | A    | L    | A    | A    | L    | L    | L  | L    | L    |    |    |    |    |    |    |
| 31      |    |    |    |    |    |    |    |    |    |      |      |      |      |      |      |    |      |      |    |    |    |    |    |    |
| Медiana |    |    |    |    |    |    |    |    |    | 3.65 | 3.60 | 3.65 | 3.80 | 3.95 | 3.40 |    | 3.90 |      |    |    |    |    |    |    |
| Учено   |    |    |    |    |    |    |    |    |    | 3    | 5    | 2    | 2    | 1    | 2    |    | 1    |      |    |    |    |    |    |    |

Пробег частоты от 1.0 Мгц до 18.0 Мгц СВК Станция автоматическая (ручная, автоматическая)

к'Г км сентябрь 1972

Станция Караганда (характеристика) (единицы) (месяц) (год)  
Долгота 73°05'E широта 49°49'N

# Ионосферные данные

Поясное время 75°E

АН Каз ССР (институт)  
Кем составлена Щустовой  
Кем подсчитана Щустовой

| Дни     | 00    | 01    | 02    | 03    | 04    | 05    | 06    | 07    | 08    | 09    | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    | 21    | 22    | 23    |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1       | E250B | E280E | E290B | E290E | E295B | 275   | 250   | 230   | E225A | 240   | E235A | 205   | 200   | 210   | 190   | I200C | 235   | 240   | 240   | E250A | E240A | E235E | E240E | E270A |
| 2       | E270E | E280E | E280E | E270E | E280E | 275   | 235   | 225   | 235   | 215   | 205   | 200   | 195   | 195   | 195   | 220   | 215   | 250   | 240   | 230   | E235A | E220A | E240E | E205B |
| 3       | E300E | E300B | E290E | E290E | E265A | E280A | E285A | E230A | I235A | I235A | 205   | 195   | I195A | I210A | 200   | 240   | I245A | I250A | E255A | E230A | E235A | E265A | E245A | E250A |
| 4       | E295A | E300A | E330A | E300E | E290E | 290   | 250   | 230   | 215   | 215   | 215   | 200   | 195   | 190   | 225   | 215   | 225   | I235C | 245   | 245   | E230A | E235A | E230A | E240A |
| 5       | E275B | E280E | E275E | E275E | E275E | 285   | 250   | 230   | 215   | 215   | 210   | 200   | 190   | 195   | 210   | 220   | 230   | 235   | 240   | 230   | E225A | E235E | E230E | E255E |
| 6       | E285E | E255E | E295E | E275E | E280B | 260   | 230   | I230A | 230   | 210   | 205   | 205   | 190   | 195   | 195   | I220A | 230   | I240A | 240   | 230   | E230E | E245E | E245E | E235B |
| 7       | E265B | E270E | E305B | E285E | E275E | 260   | 230   | 230   | 210   | 220   | 210   | 195   | 195H  | 205   | 215   | 210   | 240   | 245   | 245   | 230   | E225E | E225B | E225E | E250B |
| 8       | E250B | E280B | C     | C     | E280B | E260B | 225   | 240   | 220   | 220   | I210A | 205   | 200   | 200   | 195   | 210   | 235   | 235   | 250   | E245A | E250A | E255A | E240A | E250A |
| 9       | E265E | E285E | E305B | E315A | E290B | E250B | 260   | 240   | 230   | I220A | 205   | 200   | 190   | 180   | 210   | 230   | I235A | 240   | 245   | E225A | E235A | E240A | E245A | E260E |
| 10      | E270A | E270E | E265E | E275E | E280B | E250E | 235   | 230   | C     | 230   | 205   | 190   | 195   | 200   | 205   | 215H  | 235   | 245   | 245   | E230A | E240A | E230A | E230E | E235B |
| 11      | E280A | E305A | E290B | E285A | E265E | E285E | 240   | 230   | 220   | 210   | 205   | 195   | 205   | 205   | 210   | 210   | 240   | 245   | 225   | E220E | E245B | E240E | E245E | E250B |
| 12      | E275E | E260E | E250E | E275E | C     | C     | 230   | C     | 225   | I210A | 200H  | 210   | E200A | 200   | I200A | 225   | 215   | I235A | 240   | 215   | E235A | E230E | E230E | E250A |
| 13      | E260B | E260E | E255E | E265E | E280E | E255E | 225   | 230   | 230   | 205   | 190   | 190   | I200A | 230   | I230A | E240A | 200   | 230   | 215   | E225B | A     | E360A | E305A | E350A |
| 14      | E295B | E395E | E340B | E290B | E375E | E305E | E320E | E295A | 250   | I260C | 265   | E265A | I260A | I265A | I265A | 270   | E250A | E265A | E275A | E280A | E270A | E280A | A     | E315A |
| 15      | E320A | A     | A     | E350A | E330A | E275A | 235   | 225   | 230   | I215A | 220   | I205A | 200   | 205   | I230A | 235   | 230   | 240   | 245   | E210A | E250B | E255A | E250E | E260A |
| 16      | E275E | E280E | E255E | E270E | E235B | E260E | E255A | E245A | 235   | 215   | 200   | 195   | 195   | 205   | 225   | 205   | 230   | 235   | 225   | E220A | E245A | E250A | E295A | E280A |
| 17      | E330A | E310E | E280E | E295E | E245E | E275E | E255E | I225A | I215A | I235A | I225A | I200A | 200   | 200   | 200   | 205   | I245A | E225A | E245A | E225A | E245A | E235A | E235E | E245A |
| 18      | E300B | E305A | E300E | E295E | E270E | E265E | 255   | I240A | 225   | 215   | 200   | 200   | 215   | 200   | 205   | I215A | I225A | I210A | 225   | E225B | E235A | E225E | E235E | E275B |
| 19      | E300B | E290E | E290E | E295A | E270E | E250E | 230   | 230   | 220   | 220   | 205   | 205   | 185   | I200A | 195   | 235   | 240   | 230   | 225   | E230A | E260A | E250A | E250A | E260A |
| 20      | E295A | E295A | E280A | E295A | E265E | E260E | 235   | 230   | 210   | 210   | I210A | 210   | 210   | I220A | 210   | 220   | 215   | 240   | 225   | E225A | E245A | E255A | E245B | E250E |
| 21      | E315A | E295A | E365A | E315A | E300A | E280A | 230   | 230   | 225   | 205   | 220   | 200   | 200   | 200   | 190   | 210   | 240   | 235   | 225   | E240A | E260A | E250E | E240B | E235E |
| 22      | E230B | E250B | E260E | E380A | E295A | E275E | 240   | 230   | 235   | E250C | C     | E225C | E215C | E240C | E235C | 200   | I240C | 250   | E225C | E235C | C     | C     | C     | C     |
| 23      | C     | C     | C     | C     | E300C | C     | 250   | 230   | 240   | I235C | E205C | I235C | I245C | I240C | I230C | 235   | 240   | E235C | E235C | E250C | E330A | E265E | E250B | E265E |
| 24      | E275E | E340C | E295A | E295A | E280E | E275B | 250   | 230   | I215A | 230   | I220C | I210C | I210E | I210B | 205   | 230   | 240   | I235A | 235   | E235E | E250B | E250E | E255B | E290E |
| 25      | E305B | E290B | E270E | E305B | E280E | E295E | 265   | 245   | I235A | 230   | E240A | E220A | E210A | E215A | E230A | C     | E215A | 235   | 220   | E250A | E250B | E240E | E265A | E245E |
| 26      | E255E | E300B | E305E | E310A | E310A | E295B | 235   | 230   | 240   | I235A | I225A | E240C | E225C | E200C | 240   | 235   | 230   | I235C | 230   | E225E | E240E | E250E | E260B | E300E |
| 27      | E310B | C     | E295E | E300B | E295A | E300A | E270A | 240   | 230   | I230A | I235C | I220C | 220   | I225A | 235   | 225   | I215A | 235   | 225   | E230A | E240C | E255C | E270C | E305C |
| 28      | E300C | E300C | E305C | E295E | E300A | E275B | 240   | 220   | I230A | 225   | 230   | I220A | I205C | E215C | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     |
| 29      | C     | C     | C     | C     | C     | C     | C     | C     | C     | 225   | 220   | 205   | 205   | 200   | 195   | 220   | 225   | 230   | 215   | E245A | E240E | E230E | E255B | E290E |
| 30      | E315B | E325B | E300B | E275E | E260E | E255E | 235   | 225   | 225   | I210A | 205   | I195A | E180A | 200   | 200   | 215   | 225   | 220   | 220   | E225A | E225E | E215A | E225B | E240B |
| 31      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Диап.   | -     | -     | -     | -     | -     | -     | 20    | 5     | 10    | 15    | 15    | 10    | 10    | 15    | 25    | 25    | 15    | 10    | 15    | -     | -     | -     | -     | -     |
| Медiana | E280E | E290  | E290  | E295  | E280  | E275  | U240  | 230   | 225   | 220   | U210  | U205  | U200  | U200  | U210  | 220   | 230   | 235   | U230  | E230A | E240A | E240A | E245E | E255  |
| Учено   | 28    | 26    | 26    | 27    | 28    | 27    | 29    | 28    | 28    | 30    | 29    | 30    | 30    | 30    | 29    | 28    | 29    | 29    | 29    | 29    | 27    | 28    | 27    | 28    |
| б.к.в.  | E270  | E280  | E300  | E275  | E300E | E270  | E295E | E260  | E285E | 230   | 235   | 220   | 230   | 215   | 230   | 205   | 220   | 200   | 210   | 195   | 205   | 200   | 215   | 200   |

Пробег частоты от 1.0 Мгц до 18.0 Мгц. Станция автоматическая (ручная, автоматическая)

h'F2 км сентябрь 1972

(характеристика) (единицы) (месяц) (год)

Станция

Караганда

# Ионосферные данные

АН Каз ССР

Институт

Кем составлена

Шустовой

Долгота

73°05'E

широта

49°49'N

Поясное время

75°E

Кем подсчитана

Думесаровой

| Дни     | 00 | 01 | 02 | 03 | 04 | 05  | 06 | 07    | 08    | 09    | 10    | 11  | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19  | 20    | 21 | 22 | 23 |
|---------|----|----|----|----|----|-----|----|-------|-------|-------|-------|-----|-------|-------|-------|-------|-------|-------|-------|-----|-------|----|----|----|
| 1       |    |    |    |    |    | 255 |    | L     | 275   | 245   | 255   | 280 | 290   | L     | L     | I2750 | 280   | 245   |       |     |       |    |    |    |
| 2       |    |    |    |    |    |     |    | L     | 255   | 265   | 270   | 285 | 290   | 295   | 285   | 270   | L     | 265   |       |     |       |    |    |    |
| 3       |    |    |    |    |    |     |    | 255   | 255   | 305   | 270   | 285 | 280   | U290L | 295   | 260   | 270   | 265   |       |     |       |    |    |    |
| 4       |    |    |    |    |    |     |    | 250   | 275   | 290   | 285   | 275 | 270   | 290   | 275   | 275   | 265   | I2550 |       |     |       |    |    |    |
| 5       |    |    |    |    |    | 270 |    | L     | 290   | 270   | 265   | 270 | 285   | 275   | 285   | 285   | 255   | 255   | E235G |     |       |    |    |    |
| 6       |    |    |    |    |    |     |    | 240   | U325L | 280   | 280   | 270 | 280   | 290   | 290   | 280   | 275   |       |       |     |       |    |    |    |
| 7       |    |    |    |    |    |     |    | 235   | 265   | 275   | 270   | 275 | 270   | 295   | 275   |       | L     | 250   |       |     |       |    |    |    |
| 8       |    |    |    |    |    |     |    | 240   | 265   | 270   | 250   | 255 | U285L | 280   | 270   | 270   | 250   |       |       |     |       |    |    |    |
| 9       |    |    |    |    |    | 260 |    | 245   | 250   | 280   | 255   | 255 | 270   | 255   | 275   | 255   | 270   | U270L |       |     |       |    |    |    |
| 10      |    |    |    |    |    |     |    |       | C     | 255   | 265   | 255 | 275   | 270   | L     | 275   | 255   | 245   |       |     |       |    |    |    |
| 11      |    |    |    |    |    |     |    |       | 255   | U270L | U270L | 265 | 260   | 275   | 255   | 260   | 260   | 245   |       |     |       |    |    |    |
| 12      |    |    |    |    |    |     |    |       | 240   | 250   | 265   | 250 | L     | 275   | 255   | 245   | 245   |       |       |     |       |    |    |    |
| 13      |    |    |    |    |    |     |    | 230   | 240   | 260   | 250   | 255 | 260   | 250   | U275L | 265   | 260   | 230   |       |     |       |    |    |    |
| 14      |    |    |    |    |    |     |    |       |       |       | 630   | 475 | 340   | 335   | I340A | I320A | L     |       |       |     |       |    |    |    |
| 15      |    |    |    |    |    |     |    | 235   | 250   | 275   | 280   | 320 | 295   | 310   | 300   | 280   | 255   | 255   |       |     |       |    |    |    |
| 16      |    |    |    |    |    |     |    |       | 250   | 250   | L     | 240 | L     | 280   | 255   | 250   | 270   |       |       |     |       |    |    |    |
| 17      |    |    |    |    |    |     |    | 240   | 295   | 280   | 255   | 270 | 275   | 255   | 280   | 245   | U265L |       |       |     |       |    |    |    |
| 18      |    |    |    |    |    |     |    |       | 270   | 255   | 255   | 255 | L     | 265   | 250   | 245   | 270   | E240G |       |     |       |    |    |    |
| 19      |    |    |    |    |    |     |    | E220G | 250   | 280   | 240   | 245 | 245   | 255   | 255   | 250   | 245   |       |       |     |       |    |    |    |
| 20      |    |    |    |    |    |     |    | E220G | L     | L     | 260   | 255 | 250   | I260A | 250   | I     | 250   | E230G |       |     |       |    |    |    |
| 21      |    |    |    |    |    |     |    |       |       | 255   | 255   | 245 | 260   | 245   | 255   | 240   | 245   |       |       |     |       |    |    |    |
| 22      |    |    |    |    |    |     |    |       | 245   | 255   | I260C | 260 | 245   | 250   | I265C | 265   | 250   |       |       |     |       |    |    |    |
| 23      |    |    |    |    |    |     |    |       | 240   | 245   | 260   | 245 | 260   | U270L | 255   | I     | 245   |       |       |     |       |    |    |    |
| 24      |    |    |    |    |    |     |    |       | U270L | 280   | 265   | 270 | 270   | 255   | 250   | 240   |       |       |       |     |       |    |    |    |
| 25      |    |    |    |    |    |     |    | 245   |       | U265L | 270   | 265 | 265   | L     | 255   | I255C | L     |       |       |     |       |    |    |    |
| 26      |    |    |    |    |    |     |    |       | 250   | 260   | 255   | 250 | 250   | 280   | 250   | L     |       |       |       |     |       |    |    |    |
| 27      |    |    |    |    |    |     |    |       |       |       | 255   | 260 | U255L | 260   | I250C | 245   | 255   |       |       |     |       |    |    |    |
| 28      |    |    |    |    |    |     |    |       | 230   | 245   | 245   | 245 | 240   | L     | C     | C     | C     | C     |       |     |       |    |    |    |
| 29      |    |    |    |    |    |     |    |       |       | 270   | 265   | 240 | 245   | 235   | L     | L     | L     |       |       |     |       |    |    |    |
| 30      |    |    |    |    |    |     |    |       | 230   | I235A | 230   | 250 | 245   | L     | 245   | L     |       |       |       |     |       |    |    |    |
| 31      |    |    |    |    |    |     |    |       |       |       |       |     |       |       |       |       |       |       |       |     |       |    |    |    |
| диап.   |    |    |    |    |    |     |    |       | -     | 15    | 25    | 25  | 15    | 20    | 30    | 40    | 25    | 30    | 20    | 15  | -     |    |    |    |
| Медiana |    |    |    |    |    |     |    |       | 260   | 240   | 255   | 265 | 260   | 260   | 270   | 270   | 260   | 260   | 255   | 250 | E235G |    |    |    |
| Учено   |    |    |    |    |    |     |    |       | 3     | 12    | 23    | 27  | 29    | 30    | 27    | 26    | 26    | 23    | 21    | 13  | 1     |    |    |    |

В.Н. КРБ

Пробег частоты от 1.0 Мгц до 18.0 Мгц 20 ВЧК Станция автоматическая (ручная, автоматическая)

К'E км сентябрь 1972

Станция Караганда (характеристика) (единицы) (месяц) (год)  
 Долгота 73°05'E широта 49°49'N

# Ионосферные данные

Поясное время 75°E

АН Каз ССР

Кем составлена Сорокан (институт)  
 Кем подсчитана Сорокан

| Дни     | 00 | 01 | 02 | 03 | 04 | 05 | 06    | 07    | 08    | 09    | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19 | 20 | 21 | 22 | 23 |
|---------|----|----|----|----|----|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|----|----|----|----|
| 1       |    |    |    |    |    | B  | 110H  | 105   | 105   | 105   | 100   | 100   | 100   | 100   | 100   | 100   | 105   | 110H  | E125A | E  |    |    |    |    |
| 2       |    |    |    |    |    | E  | E120B | 110   | 105   | 105   | 100   | 100   | 100   | 100   | 100   | 100   | 100   | 115   | A     | A  |    |    |    |    |
| 3       |    |    |    |    |    | A  | E120E | 105   | 105   | 105   | 100   | 100   | 100   | 100   | 100   | 105   | 105   | 105   | 110   | A  |    |    |    |    |
| 4       |    |    |    |    |    | E  | E120E | 105   | 105   | 100   | 100   | 100   | 100   | 100   | 100   | 105   | I105A | I110C | E125A | A  |    |    |    |    |
| 5       |    |    |    | E  | E  | E  | E125E | 115   | 105   | 105   | 105   | 100   | 100   | 100   | 100   | 110   | 110   | U110A | A     | A  |    |    |    |    |
| 6       |    |    |    |    |    | E  | E125B | 110   | 105   | 105   | 105   | 100   | 100   | 100   | 100   | 100   | 100   | 110   | E     | E  | A  |    |    |    |
| 7       |    |    |    |    |    | E  | E125E | 110   | 105   | 105   | 105   | 100   | U110A | 105   | 105   | I105A | 110   | E115A | A     | B  |    |    |    |    |
| 8       |    |    |    |    |    |    | B     | 110   | 105   | 105   | 105   | 105   | 105   | 100   | 100   | 100   | 100   | 100   | A     | A  |    |    |    |    |
| 9       |    |    |    |    |    |    | E     | 115   | 110   | 110   | 105   | 105   | 105   | 100   | 100   | 100   | E110A | A     | A     | A  |    |    |    |    |
| 10      |    |    |    |    |    |    | E     | 110   | 100   | 100   | 100   | 105   | 105   | 105   | 105   | 105   | E110A | E115A | A     | A  |    |    |    |    |
| 11      |    |    |    |    |    |    | E120E | 110   | 105   | 105   | 105   | 105   | U105A | E120A | U105A | 110   | U105A | E120A | A     | A  |    |    |    |    |
| 12      |    |    |    |    |    |    | B     | C     | 110   | 105   | 105   | 100   | 105   | 105   | 100   | I105A | E125A | E125A | A     | A  |    |    |    |    |
| 13      |    |    |    |    |    |    | E125E | 105   | 105   | 105   | 105   | 100   | 100   | 105   | 105   | 105   | 110   | I120A | A     |    |    |    |    |    |
| 14      | B  |    | B  |    |    |    | E     | E110A | 110   | 105   | 105   | 105   | 100   | 100   | 100   | 105   | E     | E     | E     |    |    |    |    |    |
| 15      |    |    |    |    |    |    | A     | U115A | 110   | 105   | 105   | 105   | 100   | 100   | 100   | 105   | 105   | 110   | A     |    |    |    |    |    |
| 16      |    |    |    |    |    |    | A     | A     | 105   | 105   | 105   | 105   | 100   | 100   | 100   | 100   | 105H  | 110   | E     |    |    |    |    |    |
| 17      |    |    |    |    |    |    | E     | 105   | 105   | 105   | 100   | 100   | 100   | 100   | 100   | 100   | 105   | 115   | E     |    |    |    |    |    |
| 18      |    |    |    |    |    | E  | 115   | 110   | 105   | 105   | 105   | 100   | 100   | 100   | 100   | 100   | 100   | 110   | B     |    |    |    |    |    |
| 19      |    |    |    |    |    |    | E     | 110   | 105   | 105   | 100   | 100   | 100   | 100   | 100   | 105   | 105   | A     | A     |    |    |    |    |    |
| 20      |    |    |    |    |    | E  |       | 110   | 105   | 105   | 105   | 100   | 100   | 100   | 100   | 100   | E110A | E115A | A     |    |    |    |    |    |
| 21      |    |    |    |    |    |    | A     | E120A | 110   | 105   | 105   | 100   | U100A | 100   | 100   | 100   | 105   | 105   | A     |    |    |    |    |    |
| 22      |    |    |    |    |    |    | E     | E115A | 105   | 105   | I110C | I110C | I110C | I110C | 110   | 105   | C     | E125C | C     |    |    |    |    |    |
| 23      |    |    |    |    |    |    | B     | 110H  | 110   | 110   | 110   | I105C | 110   | 105   | 105   | E115A | E120A | A     |       |    |    |    |    |    |
| 24      |    |    |    |    |    |    | A     | E125B | 110   | 110   | 105   | 110   | 105   | 105   | U105A | 105   | A     | A     | B     |    |    |    |    |    |
| 25      |    |    |    |    |    |    | B     | E125B | 115   | 110   | 105   | 105   | 105   | 105   | 105   | I105C | 105   | I110A | A     |    |    |    |    |    |
| 26      |    |    |    |    |    |    |       | E120B | I110B | 105   | 105   | 105   | 105   | 105   | 105   | 105   | 105   | A     | B     |    |    |    |    |    |
| 27      |    |    |    |    |    |    |       | A     | 115   | I110C | 110   | 110   | 105   | 105   | 105   | 100   | E115A | A     | C     |    |    |    |    |    |
| 28      |    |    |    |    |    |    | B     | A     | I105C | I110C | 110   | 105   | 105   | 105   | C     | C     | C     | C     |       |    |    |    |    |    |
| 29      |    |    |    |    |    |    |       | C     | C     | 110   | 110   | 100   | 95    | 95    | 95    | 100   | 105   | A     | A     |    |    |    |    |    |
| 30      |    |    |    |    |    |    | E     | E110A | 100   | 100   | 100   | 100   | 100   | 100   | 100   | 100   | U110A | A     | A     |    | E  |    |    |    |
| 31      |    |    |    |    |    |    |       |       |       |       |       |       |       |       |       |       |       |       |       |    |    |    |    |    |
| Медiana |    |    |    | E  | E  | E  | E125E | 110   | 105   | 105   | 105   | 100   | 100   | 100   | 100   | 105   | 105   | 110   | E125  | E  |    |    |    |    |
| Учтено  |    |    |    | 1  | 1  | 7  | 17    | 25    | 29    | 30    | 30    | 30    | 30    | 30    | 29    | 29    | 27    | 21    | 6     | 1  |    |    |    |    |

Пробег частоты от 1.0 Мгц до 18.0 Мгц 20 с/к Станция автоматическая (ручная, автоматическая)

h'Es км сентябрь 1972

АН КазССР

Станция *Караганда* (характеристика) (единицы) (месяц) (год)

Ионосферные данные

Кем составлена *Сорокан* (институт)

Долгота *73°05'E* широта *49°49'N*

Поясное время *75°E*

Кем подсчитана *Думесаровой*

| Дни | 00  | 01  | 02  | 03  | 04  | 05    | 06    | 07    | 08    | 09    | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20   | 21   | 22   | 23  |     |
|-----|-----|-----|-----|-----|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|-----|-----|
| 1   | B   | E   | B   | E   | B   | G     | E145G | E135G | 115   | E130G | 115   | 110   | 115   | 125   | 125   | C     | E120G | E140G | E135G | 125   | 120  | 120  | 115  | 105 |     |
| 2   | E   | E   | E   | E   | 100 | G     | G     | 125   | 1 20  | 120   | 110   | G     | G     | G     | 120   | E165G | 120   | E140G | E145G | 100   | 100  | 100  | B    | B   |     |
| 3   | B   | B   | E   | E   | 125 | 125   | 115   | 115   | 110   | 110   | 110   | 105   | 105   | 105   | E130G | 100   | 120   | 120   | 115   | 105   | 105  | 105  | 105  | 100 |     |
| 4   | 100 | 100 | 100 | E   | E   | G     | G     | G     | 110   | 105   | 105   | 105   | 105   | 100   | 100   | 100   | 100   | C     | 120   | 115   | 105  | 105  | 105  | 105 |     |
| 5   | B   | B   | 100 | 100 | G   | G     | 125   | 115   | 1 10  | 110   | 110   | 105   | 105   | E140G | E175G | 100   | 100   | E150G | 100   | 95    | 115  | E    | E    | E   |     |
| 6   | E   | E   | E   | E   | B   | G     | G     | 115   | E155G | E140G | 115   | 115   | 110   | 100   | E175G | 105   | E135G | 120   | 120   | 115   | 115  | E    | B    | B   |     |
| 7   | B   | E   | B   | B   | E   | G     | G     | E150G | E140G | 120   | 120   | 100   | 100   | 100   | E125G | 100   | 100   | 110   | 100   | G     | B    | B    | B    | B   |     |
| 8   | B   | B   | C   | C   | B   | B     | G     | G     | E145G | E120G | E120G | E120G | E115G | 115   | 100   | 105   | 105   | 105   | E130G | 120   | 115  | 115  | 110  | 105 |     |
| 9   | E   | B   | 100 | 100 | B   | B     | E130G | E130G | 125   | 120   | E125G | 110   | 120   | 120   | G     | G     | 100   | 100   | 130   | 120H  | 100  | 100  | 100  | E   |     |
| 10  | 105 | B   | E   | E   | B   | E     | E135G | E130G | C     | E135G | 115   | 100   | G     | 120   | E140G | E135G | 120   | E145G | E130G | 120   | 115  | 110  | R    | B   |     |
| 11  | 100 | 100 | 100 | 100 | E   | E     | 125   | 115   | 115   | 110   | 105   | 105   | 100   | 100   | 125   | 125   | E185G | E150G | E135G | 120   | B    | B    | E    | B   |     |
| 12  | B   | E   | E   | B   | C   | C     | G     | C     | 120   | 110   | 110   | 120   | 105   | 110   | 100   | 105   | 100   | E150G | 125   | 100   | 100  | E    | B    | 110 |     |
| 13  | B   | E   | E   | E   | E   | 100   | 120   | E155G | 120   | E130G | E145G | E130G | 120   | 110   | 105   | 105   | 110   | 100   | 105   | B     | 120  | 125  | 120  | 120 |     |
| 14  | G   | B   | G   | B   | E   | E     | E225G | E165G | E150G | 110   | 115   | 110   | 105   | 105   | 105   | E190G | 105   | 100   | 100   | 100   | 100  | 100  | 115  | 115 |     |
| 15  | 110 | 105 | 105 | 105 | 105 | 105   | 105   | E150G | E130G | 110   | 110   | 115   | 115   | 110   | 110   | 105   | 105   | 105   | 105   | 105   | 100  | B    | 105H | 105 | 100 |
| 16  | E   | 100 | 100 | 100 | B   | E     | 105   | 105   | 105   | 110   | 110   | 115   | 105   | 115   | 120   | E175G | 115   | G     | G     | E145G | 125  | 120  | 115  | 100 |     |
| 17  | 100 | B   | E   | E   | E   | E     | G     | E135G | 115   | 110   | 115   | 105   | 120   | 125   | 120   | E140G | E170G | 130   | 120   | 120   | 115  | 115  | B    | 110 |     |
| 18  | B   | 110 | 100 | E   | E   | G     | G     | 110   | 110   | 105   | E130G | E130G | 110   | 105   | 100   | 100   | E200G | E180G | E135G | B     | 125  | E    | E    | B   |     |
| 19  | B   | E   | E   | 105 | E   | E     | G     | 110   | 115   | 110   | 105   | E140G | 125   | 120   | 120   | E170G | E150G | 130   | 100H  | 100   | 100H | 100H | 100H | 105 |     |
| 20  | 105 | 100 | 105 | 105 | E   | E130G | 120   | 110   | 120   | 115   | 105   | 120   | 115   | 110   | 120   | 120   | E130G | 100   | E140G | 100H  | 100H | 120  | B    | B   |     |
| 21  | 105 | 100 | 100 | 100 | 100 | 100   | 100   | 115   | 110   | 115   | 110   | 125   | 115   | 110   | 110   | 115   | G     | G     | 105   | 100   | 100  | B    | B    | B   |     |
| 22  | B   | 100 | 105 | 105 | 105 | G     | 105   | G     | E145G | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C    | C    | C    | C   |     |
| 23  | C   | C   | C   | C   | C   | C     | G     | E150G | 125   | 120   | 125   | 125   | 120   | E130G | C     | 115   | 100   | E145G | 125   | 120   | 115  | B    | B    | B   |     |
| 24  | B   | 105 | 110 | 110 | B   | B     | 120   | 125   | 120   | 120   | 115   | 110   | G     | G     | 105   | G     | 100   | 100   | G     | B     | B    | B    | B    | B   |     |
| 25  | B   | B   | E   | B   | B   | E     | G     | E130G | 115   | 120   | 115   | 115   | 115   | 130   | 115   | C     | 110   | 105   | 115   | 120   | B    | B    | 120  | B   |     |
| 26  | B   | B   | B   | 105 | 105 | 100   | 100   | G     | 125   | 120   | 125   | 125   | E125G | 120   | C     | 105   | 105   | 100   | G     | B     | B    | B    | B    | B   |     |
| 27  | B   | C   | B   | B   | 100 | 100   | 100   | E140G | 120   | 125   | 120   | 120   | E130G | 120   | E130G | 120   | 105   | E145G | C     | 105   | C    | C    | C    | C   |     |
| 28  | C   | C   | C   | B   | 100 | B     | G     | E145G | E130G | C     | 125   | 115   | 125   | 120   | C     | C     | C     | C     | C     | C     | C    | C    | C    | C   |     |
| 29  | C   | C   | C   | C   | C   | C     | C     | C     | C     | 120   | 120   | 100   | 100   | 100   | 125   | 115   | 90    | 90    | 90    | 90    | 90   | B    | B    | B   |     |
| 30  | B   | B   | B   | E   | E   | E     | G     | 115   | 110   | 100   | 110   | 105   | 100   | 100   | 100   | E120G | E140G | 90    | 90    | 90    | 90   | B    | G    | B   | B   |
| 31  |     |     |     |     |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |      |      |     |     |

|         |     |     |     |     |     |     |      |     |      |      |      |     |      |     |      |      |      |      |      |     |     |     |     |     |
|---------|-----|-----|-----|-----|-----|-----|------|-----|------|------|------|-----|------|-----|------|------|------|------|------|-----|-----|-----|-----|-----|
| Медиана | 105 | 100 | 100 | 105 | 105 | 105 | U115 | 125 | U120 | U115 | U115 | 115 | U110 | 110 | U115 | U110 | U110 | U115 | U115 | 105 | 110 | 105 | 110 | 105 |
| Учено   | 7   | 9   | 11  | 11  | 8   | 8   | 15   | 25  | 27   | 29   | 29   | 28  | 26   | 27  | 25   | 23   | 26   | 26   | 25   | 23  | 20  | 14  | 11  | 11  |

Пробег частоты от *1.0* Мгц до *18.0* Мгц *20* *авк* Станция *автоматическая*

Типы Es сентябрь 1972

Станция Караганда  
 Долгота 73°05'E широта 49°49'N

Ионосферные данные

Поясное время 75°E

АН Каз ССР

Кем составлена Ду жесаровой

Кем подсчитана

| Дни     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07   | 08     | 09     | 10     | 11   | 12   | 13       | 14   | 15     | 16     | 17     | 18   | 19   | 20   | 21 | 22 | 23 |
|---------|----|----|----|----|----|----|----|------|--------|--------|--------|------|------|----------|------|--------|--------|--------|------|------|------|----|----|----|
| 1       |    |    |    |    |    |    | C1 | C1   | C2     | C1     | C2     | C2   | C2L1 | C1L1     | C1L1 |        | H1C1   | C2C3L1 | C3   | F2   | F1   | F1 | F6 |    |
| 2       |    |    |    |    | F1 |    |    | C1   | C1L1   | C1     | C2L1   |      |      | C1       | H1   | C1     | C1L1   | C2L1   | L3   | F3   | F1   |    |    |    |
| 3       |    |    |    |    | F1 | L2 |    | C3   | C3     | C2     | C3     | C3   | C3   | C1       | L1   | C3     | C3     | C5     | L1   | F1   | F4   | F2 | F3 |    |
| 4       | F1 | F2 | F2 |    |    |    |    |      | C1     | C2     | C4     | C3   | C2   | L1       | C3   | L3H1   | L3     |        | C4L1 | L1   | F2   | F2 | F1 | F1 |
| 5       |    |    | F1 | L1 |    |    |    | C2   | C3L1   | C2     | C1     | C2   | L1C2 | C2       | C1L1 | C1H1L2 | L2     | L3     | C1L2 | L3   | L2   | F1 |    |    |
| 6       |    |    |    |    |    |    |    | C1   | C1H1   | H1C2L1 | C1     | C2   | C2L1 | L1L2C1H1 | C3   | C2     | C4     | C3     | L3   | F2   |      |    |    |    |
| 7       |    |    |    |    |    |    |    | L3C3 | H1C3L1 | L1H2C3 | L1H2C2 | L2   | L2   | L1       | L2C1 | L2     | L1     | L1     |      |      |      |    |    |    |
| 8       |    |    |    |    |    |    |    |      | C1     | C2     | C1     | C1   | C2L1 | C1       | C3L1 | C2L1   | C3L1   | C3L1   | C3L1 | C4L1 | F3   | F2 | F1 | F2 |
| 9       |    |    | F1 | F3 |    |    |    | C3   | C2     | C3     | C2     | C1L1 | C2   | C1       |      |        | L2     | L3     | C3L1 | L3   | F4   | F2 | F1 |    |
| 10      | F1 |    |    |    |    |    |    | C2   | C2L1   |        | C1     | C2   | L1   |          | C1   | C1     | C1L1   | C1L1   | C1L1 | C2L1 | L1   | F1 | F1 |    |
| 11      | F1 | F1 | F1 | F2 |    |    |    | C3   | C3     | C2     | C2     | C2   | C2L2 | L2H1     | L3   | C1L2   | C1L2C1 | L2H1   | C2L3 | C3L1 | C1L1 |    |    |    |
| 12      |    |    |    |    |    |    |    |      | C1     | C3     | C2L1   | C1   | C2   | C3L1     | C2L1 | L2C1   | L4     | C1L4   | C1L2 | L2   | F1   |    |    | F2 |
| 13      |    |    |    |    | F2 |    |    | C2   | C3H1   | C1L1   | C2L1   | C1H1 | H2C2 | C2       | C2   | C4     | C3     | C1L1   | L2   | L1   | F3   | F4 | F1 | F2 |
| 14      |    |    |    |    |    |    |    | H2C3 | H3C2   | H1C1   | C1     | C1   | C2L1 | C2L1     | C3   | C3     | H2C1   | C4     | C4   | F3   | F3   | F3 | F2 | F1 |
| 15      | F3 | F3 | F5 | F4 | F3 | F3 |    | L2   | C1L1   | C2     | C2     | C3   | C2L1 | C2       | C2L1 | C3     | C3     | C4     | C3   | L4   | F1   | F2 | F1 | F2 |
| 16      |    | F1 | F1 | F1 |    |    |    | L3   | L2C2   | C1     | C1     | C1   | C2   | C2       | H1   | C3     |        |        | C1   | C2   | F1   | F2 | F1 | F2 |
| 17      | F1 |    |    |    |    |    |    |      | C1     | C3L1   | C3     | C3   | C3   | C1       | C1   | C2L1   | C1     | H2L1   | C2   | C4   | F1   | F2 | F1 | F1 |
| 18      | F2 | F1 |    |    |    |    |    |      | C3     | C2     | C1     | C1H1 | C1H2 | C1       | L2   | L1     | L2     | H1     | H1C1 | C1   | F1   |    |    |    |
| 19      |    |    |    | F1 |    |    |    |      | C1     | C2     | C2     | C3   | C1L1 | C2L1     | C3L1 | C2L1   | H1L1   | H2C2   | C2L1 | L3   | F3   | F2 | F1 | F2 |
| 20      | F1 | F1 | F1 | F3 |    | L2 | L1 | C2   | C1     | C2     | C3     | C2L1 | C2   | C4       | C2   | C2L2   | L1C1H1 | L2     | C2L1 | F2   | F1   | F3 |    |    |
| 21      | F2 | F2 | F4 | F1 | F2 | F2 |    | L2   | C3L1   | C2L1   | C1     | C1   | C1L2 | C2L2     | C2   | C2     | C2     |        | L1   | F3   | F2   |    |    |    |
| 22      |    | F1 | F1 | F7 | F7 | F1 |    |      | L1     |        | C1     |      |      |          |      |        |        |        |      |      |      |    |    |    |
| 23      |    |    |    |    |    |    |    |      | C1     | C1     | C1     | C1   | C1   | C1       | C1   |        | C1L1   | L1     | C1L1 | C1L1 | F1   | F3 |    |    |
| 24      |    | F1 | F3 | F1 |    |    |    | L1   | C1L1   | C1     | C1     | C1   | C1   |          | L1   |        | L1     | L1     |      |      |      |    |    |    |
| 25      |    |    |    |    |    |    |    |      | C1     | C2     | C2     | C1   | C1   | C1       | C1   | C1     |        | L2     | L1   | L1   | F1   |    |    | F1 |
| 26      |    |    |    | F1 | F3 | F1 | F1 |      | C1     | C1     | C1     | C1   | C1   | C1       | C1   |        | C1H1   | L1     |      |      |      |    |    |    |
| 27      |    |    |    |    | F1 | F1 | F2 |      | C1L1   | C1     | C1     | C2   | C1   | C1       | C1   | C1H1   | C1     | L2     | C1L1 |      | F1   |    |    |    |
| 28      |    |    |    |    | F1 |    |    |      | C1L1   | C2     |        | C2   | C1   | C1       | C1   |        |        |        |      |      |      |    |    |    |
| 29      |    |    |    |    |    |    |    |      |        | C1     | C1     | C3L1 | C1L1 | C1L1     | C1L1 | C1L1   | L2     | L2     | L2   | F1   | F1   |    |    |    |
| 30      |    |    |    |    |    |    |    |      | C3     | C1L1   | C3L1   | C3L1 | C2L1 | C3L1     | C2L1 | C1L1   | C1L1   | L2     | L2   | L1   | F1   |    |    |    |
| 31      |    |    |    |    |    |    |    |      |        |        |        |      |      |          |      |        |        |        |      |      |      |    |    |    |
| Медиана |    |    |    |    |    |    |    |      |        |        |        |      |      |          |      |        |        |        |      |      |      |    |    |    |
| Учено   |    |    |    |    |    |    |    |      |        |        |        |      |      |          |      |        |        |        |      |      |      |    |    |    |

Пробег частоты от 1.0 Мгц до 18.0 Мгц. 20 ВВК Станция автоматическая (ручная, автоматическая)

№р F2 км сентябрь 1972

Станция Караганда (характеристика) (единицы) (месяц) (год)  
 Долгота 73°05'E широта 49°49'N

# Ионосферные данные

Поясное время 75°E

АН Каз ССР

Кем составлена Дужесаровой (институт)  
 Кем подсчитана Дужесаровой

| Дни     | 00    | 01    | 02    | 03    | 04    | 05    | 06    | 07    | 08    | 09    | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    | 21    | 22    | 23    |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1       | 340   | 395   | 395   | 395   | 385   | 355   | J295S | S     | 300   | R     | 290   | J305S | 330   | 345   | 325   | C     | 315   | 295   | 305   | 305   | 325   | J315S | S     | 350   |
| 2       | S     | 385   | J390S | 365   | 380   | J355S | S     | 285   | J300S | S     | 325   | 330   | 320   | 335   | 325   | 335   | 350   | J325S | J305S | J305S | 300   | S     | J355S | 405   |
| 3       | 400   | 405   | S     | 370   | 370   | 365   | R     | U290R | 295   | J335R | J310S | 325   | 300   | 330   | 325   | 300   | J300R | 300   | 300   | 290   | 315   | S     | 310   | 335   |
| 4       | 385   | J385S | 395   | 390   | 405   | 375   | 315   | S     | 305   | 315   | 310   | 310   | J310S | 315   | 295   | 300   | 290   | C     | J290S | 315   | J305S | S     | 305   | 345   |
| 5       | J355S | 360   | 360   | 360   | 375   | J370S | 300   | S     | 310   | J305S | 320   | J315S | 325   | 310   | 320   | 310   | 285   | 295   | J290S | 310   | S     | S     | 330   | J345S |
| 6       | 370   | 350   | S     | 365   | 370   | 325   | 280   | S     | 330   | 305   | 320   | J320R | J320R | 325   | 315   | 320   | 300   | 300   | J285S | 315   | S     | S     | S     | 330   |
| 7       | 355   | J360S | 380   | 370   | 360   | J355S | 285   | S     | 290   | 290   | 290   | 320   | 320   | 330   | 305   | 305   | 305   | 290   | J295S | J305S | S     | S     | S     | S     |
| 8       | S     | S     | C     | C     | J355S | J340S | S     | S     | S     | R     | 265   | 305   | 320   | 305   | 300   | 300   | 285   | 300   | J305S | 300   | J325S | S     | S     | J330S |
| 9       | 365   | 365   | 400   | 390   | J380S | 335   | J290S | J275S | 280   | 305   | 285   | J295S | 320   | J300S | 315   | J295R | 300   | 300   | 300   | J290S | S     | S     | 310   | S     |
| 10      | 350   | 345   | 355   | 360   | 365   | 330   | S     | S     | C     | 280   | S     | 295   | 305   | 300   | 320   | 305   | 290   | 300   | J300S | J300S | S     | S     | 300   | S     |
| 11      | 365   | 380   | 360   | 370   | 370   | 355   | 275   | 290   | 285   | 300   | 305   | J295S | 310   | J330S | 290   | 315   | 290   | 290   | 275   | S     | S     | 325   | 320   | 350   |
| 12      | 365   | 345   | 335   | S     | C     | C     | 290   | C     | J285S | 290   | C     | S     | S     | 310   | S     | J275S | J270S | S     | 280   | S     | S     | S     | 280   | 330   |
| 13      | 340   | 345   | 355F  | J355S | J370S | 325   | 260   | S     | 255   | 290   | S     | S     | 290   | J275S | 315   | J300S | 285   | 260   | 255   | S     | A     | S     | 380   | S     |
| 14      | 355   | S     | U415S | 375   | 450   | 355   | 355   | A     | 310   | C     | C     | 465   | S     | 330   | A     | 280   | 350   | 310   | U345S | 305   | 305   | J335S | A     | S     |
| 15      | S     | A     | A     | 365   | 365   | 320   | 275   | S     | 355   | S     | S     | 345   | 300   | 340   | 350   | 320   | 290   | J300S | S     | S     | 330   | 335   | 345   | 350   |
| 16      | 350   | 370   | 345   | J340S | J310S | 335   | 300   | S     | 280   | 280   | J300R | 260   | 315   | 315   | 305   | 290   | 300   | 290   | J285S | S     | 300   | J320S | 335   | 360   |
| 17      | 415   | S     | 355   | 365   | 305   | 350   | J305S | 255   | 300   | S     | J290S | 305   | 350   | 290   | 300   | 285   | 295   | 285   | 280   | 300   | S     | S     | S     | 350   |
| 18      | 365   | 385   | 390   | J400S | J345S | 345   | 280   | 265   | S     | J285S | J280S | 300   | 320   | 300   | J280R | 290   | 300   | 290   | 260   | S     | S     | J285S | 315   | J370S |
| 19      | S     | S     | 385   | J360S | 360   | 350   | 280   | S     | 280   | 290   | 265   | 280   | 280   | 300   | 300   | 285   | 280   | 300   | 265   | S     | S     | S     | S     | 345   |
| 20      | 355   | 365   | S     | 365   | 355   | 335   | S     | S     | S     | 285   | S     | 280   | 320   | 290   | 290   | J295S | 280   | J285S | J295S | S     | 310   | 300   | 305   | 330   |
| 21      | S     | 375   | J380S | 385   | J360S | 340   | 270   | S     | 265   | 290   | S     | 290   | 300   | J305S | 300   | 295   | 280   | S     | J280S | S     | S     | S     | 295   | 300   |
| 22      | J300S | J335S | J365S | 380   | S     | J350S | 285   | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     |
| 23      | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     |
| 24      | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     |
| 25      | C     | C     | J360S | C     | J385S | U380S | 305   | C     | C     | C     | C     | C     | C     | C     | C     | C     | 300   | C     | C     | C     | C     | C     | C     | C     |
| 26      | C     | J385S | S     | 365   | J355S | S     | S     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     |
| 27      | C     | C     | C     | 380   | C     | 385   | 320   | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     |
| 28      | C     | C     | C     | C     | C     | C     | 295   | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     |
| 29      | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | C     | S     | S     | 290   | S     | 290   | 270   | J280S | S     | S     | S     | S     | S     | S     |
| 30      | S     | S     | S     | S     | S     | S     | S     | J270S | J260S | S     | S     | J290S | 300   | S     | S     | S     | 280   | J275S | S     | S     | S     | 285   | 295   | 300   |
| 31      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Медиана | 355   | 365   | 365   | 370   | 370   | 350   | 290   | 275   | 290   | 290   | 300   | 305   | 315   | 310   | 305   | 300   | 290   | 295   | J290S | 305   | 310   | J315S | 310   | 345   |
| Учено   | 17    | 18    | 18    | 22    | 22    | 23    | 20    | 7     | 18    | 15    | 13    | 20    | 20    | 22    | 19    | 21    | 24    | 20    | 20    | 12    | 9     | 8     | 15    | 17    |

Пробег частоты от 1.0 МГц до 18.0 МГц 20 СВЧ Станция автоматическая (ручная, автоматическая)