

IZMIRAN - Ionospheric weather: Monthly Tables of Ionospheric Characteristics, Moscow

Data five-character Format

A five symbol URSI format is used in the Tables. In all tables except Es types the first three symbols give the numerical value of the parameter. The fourth symbol is a qualifying letter and the fifth is a descriptive letter.

Qualifying letters are used to indicate the nature or degree of uncertainty in a value. They are always accompanied by a descriptive letter with the possible exception of the median value.

Descriptive letters are used to indicate the presence of a phenomenon or the reason for the use of a qualifying letter. Where only a descriptive letter appears in the five symbol group, a numerical value has not been possible within the limits imposed by the qualifying letters.

Qualifying Letters

Letter	Description
A	Less than. Used only in fbEs tables, when fbEs is probably large.
D	Actual value greater than the given numerical value by between 5 and 20%.
E	Actual value less than the given numerical value by between 5 and 20%.
I	Missing value replaced by an interpolated value.
J	Ordinary component deduced from the extraordinary component.
M	Interpretation of measurements questionable because ordinary and extraordinary components are not distinguishable.
O	Extraordinary component deduced from ordinary component. Used in fxI tables only.
T	Actual observation is inconsistent. The value has been determined from a sequence of observations.
U	Doubtful value with an uncertainty of between 2 and 5%.
Z	Measurement deduced from the third magneto-ionic component (Z).

Descriptive letters for spread-F types:

Letter	Description
F	Frequency spread present. Is used in foF2 and fxI tables only.
P	Polar spur present. Is used in fxI table only.
Q	Range spread present. Is used mainly in h'F and h'F2 tables, but appears occasionally in foF2 and fxI tables.

Descriptive Letters

Letter	Description
A	Measurement influenced by, or impossible because of, the presence of a lower layer.
B	Measurement influenced by, or impossible because of, absorption near f_{min} .
C	Measurement influenced by, or impossible because of, any non-ionospheric reason. For example equipment failure, local transmitters, rain and snow static.
D	Measurement influenced by, or impossible because of, the upper limit of frequency range recorded.
E	Measurement influenced by, or impossible because of, the lower limit of frequency range recorded.
F	Measurement influenced by, or impossible because of, the presence of spread echoes.
G	Measurement influenced by, or impossible because of, the electron density being too small for accurate observation.
H	Measurement influenced by, or impossible because of, the presence of stratification.
K	Indicates particle E present.
L	Measurement influenced or impossible because the trace has no sufficiently definite cusp. Used in foF1, M(3000)F1 and h'F2 tables only.
M	Measurement influenced or impossible because the ordinary and extraordinary components are not distinguishable.
N	Measurement influenced or impossible because of conditions which cannot be interpreted.
O	Refers to the ordinary component.
P	Spur-type spread-F present. Used in fxI tables only.
Q	Measurement influenced by, or impossible because of, the presence of range spread.
R	Measurement influenced by, or impossible because of, absorption near a critical frequency.
S	Measurement influenced by, or impossible because of, atmospheric or broadcast interference.
T	Actual observation is inconsistent. The value has been determined from a sequence of observations.
V	Measurement influenced by the presence of a forked trace.
W	Measurement influenced or impossible because the echo lies outside the height range recorded.
X	Indicates no spread-F present. Used only in fxI tables.
Y	Measurement influenced by, or impossible because of, the presence of lacuna or a severe F layer tilt.
Z	Indicates the presence of the third magneto-ionic component (Z).

Es Type Tables

In the Es type table, the first letter denotes the type of layer from which foEs has been evaluated. This letter is followed by the number of multiple reflections from the layer. Other Es layers are recorded in order of number of multiples.

Es Types

Letter	Description
F	A clean Es trace which shows no appreciable increase of height with frequency. Observed at night-time only.
L	A flat Es trace below the normal E or particle E minimum virtual height.
C	An Es trace showing a relatively symmetrical cusp at or below the critical frequency of the normal E or particle E layer.
H	An Es trace showing a discontinuity in height with the normal E or particle E layer trace at or above the critical frequency. The cusp is not symmetrical.
Q	An Es trace which is diffuse and non-blanketing over a wide frequency range.
R	An Es trace showing an increase in virtual height at the high frequency end but which becomes partially transparent below foEs.
K	Denotes the presence of a particle E layer, similar in appearance to normal E, which obscures higher layers up to its critical frequency.
A	Denotes all types of very spread Es traces. The typical pattern shows a well-defined flat or gradually rising lower edge with stratified or diffuse traces present above it.
S	A diffuse Es trace whose virtual height rises steadily with frequency.
D	A weak diffuse trace at or below 95 km associated with high absorption and consequently high fmin.
N	An Es trace which does not fall into any of the standard categories above.