

I-5-P1. Morphology of Ionospheric Storms*

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Discussion

Beynon, W.J.G.: One of your diagrams for Halley Bay showed a change of fF_2 from a value of 6 Mc/s to 12 Mc/s (a four to one change in peak density) and a large elevation of the layer for a period of a few hours. Did this coincide with a magnetic bay disturbance?

Shapley, A.H.: This phenomenon occurs during moderate magnetic activity. There does not seem to be any simple connection with isolated magnetic bay disturbance.

Hultqvist, B.K.G.: I will comment on a minute detail in your talk namely the fact that you showed a curve where a variable was given in terms of dip angle. To refer to the dip angle is fairly common among ionospheric people and that is the reason why I will comment on it. I think that the reason why good agreement is often obtained is that in some parts of the earth the iso-dip lines and the projections of circles from the geomagnetic equatorial plane along the magnetic field lines (approximately the iso-field-strength curves) have very similar form (e.g. over the North American Continent). There are, however, other parts of the world where the two types of curves differ considerably (e.g. in Northern Siberia).

I think that it is very difficult to find any reason why the isoclines themselves should be of major importance in the ionosphere and that it therefore would be much more meaningful to plot the variables as function of field strength corrected geomagnetic latitude (i.e. in terms of the circles projected from the equator plane to the earth's surface).

Nagata, T.: (For discussions between Piggott and Hultqvist) The isodynamic lines of total geomagnetic force are practically in agreement with iso-dip lines.

Aono, Y.: You indicated us that f_0F_1 has a close relation with the magnetic storm in the south pole. Could you tell me whether f_0F_1 changed independently of the F_2 layer?

Shapley: Yes, independently.

References

- Appleton, E. V. and Innes, J. L.: *Nature* 130 (1932) 548.
Beckwith, V. W. and Seaton, S. L.: *Terrestrial and Atmos. Elec.* 44 (1939) 283.
Appleton, E. V. and Piggott, W. R.: *Nature* 165 (1950) 130.
Martyn, D. F.: *Proc. Roy. Soc. (London)* A 215 (1952) 130.

* Both manuscript and preprint have not been received.