SOME IONOSPHERIC F LAYER CHARACTERISTICS AT BAGUIO

The sounding of the ionosphere at the Manila Observatory station in Baguio began in 1952. Since that time tremendous advances have been made in our knowledge of the ionized region of the upper atmosphere between about sixty and six hundred kilometers vertically upward. Not only have there been increases in knowledge spurred on by rocket and satellite observations but there have also been modifications in the early interpretations of ionospheric data. To give one example, a dozen years ago, too great an emphasis was placed on the concept of discrete layers. This meaning has been consonant with the strong evidence of the sounding methods and besides it has proved a profitable conception if not overemphasized. It is now realized that the density of electric charges varies not discretely but continuously so that the "layers" of earlier days are better understood as "ledges" in the variation of ionization with height. The older terminology nevertheless is entrenched and remains fruitful for our descriptions of the upper atmospheric regions where positive and negative electric charges are present in quantities sufficient to affect the propagation of radio waves.

It is convenient to divide the ionosphere into three regions named after the three letters: D, E, and F. The D region is considered, because of its essentially absorbing characteristic, a separate region located approximately between 60 and 90 kilometers. Above this is the E region, extending up to 160 kilometers. This is capable of reflecting the lower frequencies of short wave radio communications. The F region, of special interest in this paper, is found above the E region and may extend up to five or six hundred kilometers. The density of ionization above the F layer decreases with height.