ON VARIATIONS IN TRANSIT TIME OF WIRELESS SIGNAL ON THE SHORT WAVE.

by

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By comparing the reception-times of time signals, the author found the mean apparent velocity of the short wave to be 281,000 Km/sec. The velocity increases during the night as well as in the polar region, and decreases with the increase of the frequency of the wave (8,000 to 18,000 kc.). The following formula was accordingly derived :

$$t = 3.983\,E - 0.60\,Ep + 0.4\,Ej + 0.047\,(f - 11)\,E,$$

where t is the apparent transit time in units of 0.001, E the distance between the wireless station and the observatory, Ep the length of the route in the polar region, Ej the length of the route in daylight, all the distances being in units of 10° of geocentric angle, and f the frequency in mega-cycles.