RECOMMENDATION ITU-R P.369-6

REFERENCE ATMOSPHERE FOR REFRACTION

(Question ITU-R 201/3)

(1959-1963-1966-1978-1982-1990-1992-1994)

The ITU Radiocommunication Assembly,

considering

a) that the long-term mean dependence of the refractive index n of the atmosphere at radio frequencies upon the height h is well expressed by an exponential law:

$$n(h) = 1 + a \times \exp(-b\,h) \quad (1)$$

where:

a and b: parameters which can be determined statistically for different climates;

b) that there is a need for a common reference to facilitate comparisons of calculations,

recommends

1. that the reference atmosphere for refraction be computed by means of the following formula:

$$n(h) = 1 + N_0 \times 10^{-6} \times \exp(-h / h_0) \quad (2)$$

where:

$N_0 = 315$: average value of atmospheric refractivity extrapolated to sea level (N-units) (see Recommendation ITU-R P.453)

$h_0 = 7.35$ km, and

h: height above sea level (km).