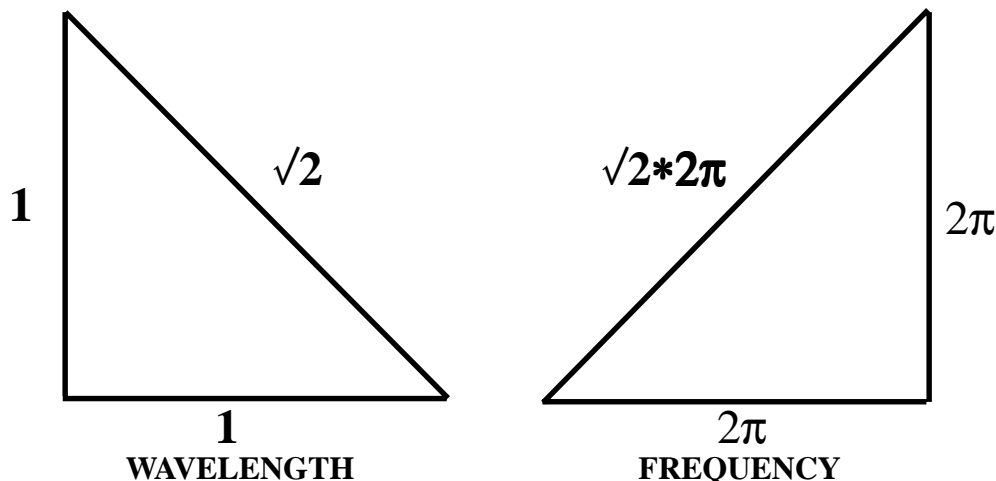


Wavelength and Frequency Primitive Units

F.H.Makinson

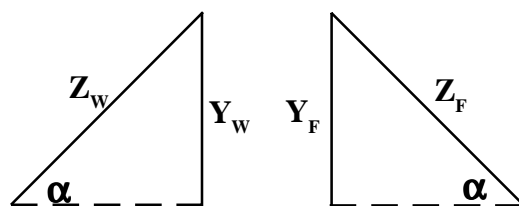
The value of 2π is a convergence point wherein it can represent both frequency and angular frequency, which allows it to represent a unit frequency (2π) in the geometric framework of a right triangle. A unit wavelength is represented by a value of 1.



The constant of proportionality between wavelength and frequency can be obtained by multiplying the vertical leg of one triangle by the hypotenuse of the other triangle. When the two products are equal the triangle pairs are mutually related, one is the inverse of the other.

Using the notation of the triangle pair on the right, the constant of proportionality, K , is determined by the formula below.

$$K = Y_w * Z_f = Y_f * Z_w$$



The above equation is valid for any angle when one leg of each triangle is maintained as a “unit wavelength” and a “unit frequency”. The vertical legs were chosen for the constant values.