And since **B** is an angular length, the measured 'angular velocity' is effectively an angular function of a cyclotron frequency term which, for the unit gauss, gives -

$$\frac{1 \text{ gauss} * c}{2\pi} = \text{dyne}/2\pi \text{ esu} = 3.295 * 10^{8} \text{ sec}^{-1}$$

Nevertheless, throughout all of this, the gauss retains its dimensional and numerical value of 6.90652 m^{-1} =∫= ℓ^{-1}, such that, for a massbound charge - as that of the electron, where the field wave is constrained to the value W_k by the electron mass-energy structure - the cyclotron frequency for any orthogonally applied permanent magnetic field **B** of 1 gauss, is -

$$F_{cyclo} = (W_k/2\pi) * \mathbf{B} = 2.8 * 10^{6} \text{ sec}^{-1}$$

Note, then, how the structure of the occluded frequency term of the gauss parallels that of the cyclotron frequency of the electron:

$$[1 \text{ gauss} * (c/2\pi)] \propto [B * (W_k/2\pi)]$$

13. Hence, the relation between the occluded frequency term of the gauss and the cyclotron frequency of the empirical gauss measured for electrons differs solely by the Eta-Correa constant (4):

$$c/W_k = \eta = \sqrt{\alpha^{-1}} * 10$$

as can be seen from the preceding,

$$[1 \text{ gauss} * (c/2\pi)]/[B * (W_k/2\pi)] = (3.295 * 10^{8} \text{ sec}^{-1})/(2.8 * 10^{6} \text{ sec}^{-1}) =$$
$$= \eta = (\alpha^{-0.5} * 10)$$

such that the cyclotron frequency can be written either as a function of the electromagnetic limit c, or as a function of the magnetic field wave of electrons:

$$F_{cyclo} = \frac{W_k}{2\pi} * \mathbf{B} = \frac{c}{2\pi\, \eta} * \mathbf{B}$$