

$$W_v = \mathbf{E}H^{-1} = F_{\text{cyclo}} * (2\pi B^{-1})$$

Under these conditions, F_{cyclo} reduces to \mathbf{E} , the electric wave frequency, and $2\pi B^{-1}$ to H^{-1} . There is therefore no distinction possible between the magnetic or internal wave function and the electric, voltage or external wave function of a swing of massfree electric energy in Space absent Matter. However, in an induction coil, the assembled massfree waves interact with the metallic matter of the secondary coil to induce an oscillating current of massbound charges. What, then, is the F_{cyclo} function in such an apparatus?

Undoubtedly, such a function is related to the inductive or ‘magnetodynamic’ field of an induction coil, just as the capacitative or ‘electrostatic’ field of such a coil is directly related, not to the wave frequency \mathbf{E} , but to the capacitative oscillation frequency $F_A = \mathbf{E}/n = W_v/C$ (in volts per farad) (2). The essential contribution of our AToS in this respect is the determination of the cyclotron frequency of massfree waves in the form of being both a constituent of the voltage wavespeed W_{v2° , and a constituent of the acceleration term whose reciprocal yields the inductance L_{2° . Beginning with the latter, we have previously (2-3) shown how the reciprocal of the measured inductance of a coil yields the ‘magnetodynamic’ frequency F_B :

$$F_B = (L_{2^\circ\text{act}} * W_{v2^\circ})^{-1} = (4\pi^2 L_{2^\circ} W_{v2^\circ})^{-1}$$

In one of the previous reports (3), we then proceeded to show how the term F_B was also a function of the total wound wire length of the coil, ℓ_C , when the voltage wave function was considered.

$$W_{v2^\circ} = F_B \ell_C$$

Accordingly, we had directly derived the reciprocal of the actual or measured inductance as an acceleration term suspended in all its constituents:

$$L_{2^\circ\text{act}}^{-1} = W_{v2^\circ} F_B = \ell_C F_B^2 = \ell \tau^{-2} = a'$$

and also

$$L_{2^\circ}^{-1} = 4\pi^2 L_{2^\circ\text{act}}^{-1} = W_{v2^\circ} F_B 4\pi^2 = 4\pi^2 F_B^2 \ell_c = \ell \tau^{-2} = a'$$

But this term for inductive acceleration differed precisely from the intrinsic acceleration a_w of the massfree waves in Space devoid of Matter, as, for massfree waves, this is given instead by the relation: