

### The magnetic wave function intrinsic to massfree charge

Test-typing the 728 coil is a good exercise in reviewing the fundamental aetherometric relations, but now we come to the subject matter we actually sought - which is another contention of our AToS, namely, that the wavespeed we determine as an electric function  $W_V$ , since it is the aetherometric equivalent of the action of an electric potential (For massfree waves, the true electromotive force of a potential is simply the product of the superimposition of electric wavespeeds of the same magnitude), is also a wavespeed that applies to the magnetic wave function of massfree charge. In other words, the very wave function that corresponds to the electric voltage function of massfree charge, and which gives rise to the capacitative electric field wave of massbound charge having the characteristic frequency  $F_A$  -

$$W_{2^\circ} = f = W_{2^\circ} = \lambda_{y1} \mathbf{E} = n \lambda_{y1} F_A = C_{2^\circ} F_A$$

can also be written as a massfree magnetic wave function referred to frequency  $F_B$ :

$$W_{v2^\circ} = \lambda_{y1} \mathbf{E} = \lambda_M F_B$$

We defer the demonstration of this equivalence to the next communication (3). Let us note here, however, that if we apply to it our present example of the TC728 and attempt to compute the value of the massfree magnetic wavelength that we denoted above as  $\lambda_M$ , we obtain:

$$\lambda_M = W_{v2^\circ}/F_B = (3.453 \cdot 10^9 \text{ m sec}^{-1}) / (9.556 \cdot 10^6 \text{ sec}^{-1}) = 361 \text{ m}$$

which is a value very close to the experimentally measured length of the TC728 coil ( $\ell_C = 366\text{m}$ ). This suggests that the massfree magnetic wave function can in fact be written as:

$$W_{2^\circ} = \lambda_{y1} \mathbf{E} = \ell_C F_B$$

The equality of these two wave functions for massfree charge opens a whole new chapter in the history of our knowledge of non-electromagnetic radiation - since our previous paper and the present one confirm that, as Tesla once claimed (4), the electric excitation set-up in induction coils can indeed travel at speeds greater than those of light (in our TC728 example - 11.6 times  $c$  (5)). Furthermore, what applies to the speed of propagation of the electric excitation also applies to the speed of propagation of the magnetic excitation in the same coils, such that both magnetic and electric wavespeeds of massfree charge are identical, even if their physical constituents are different.