General Physics Notes (08132026):

We'll relate the Green's function solution to the delta.

$$\nabla^2 G(x,x') = -4\pi\delta(x-x') \tag{1}$$

This is the point solution to the static charge field basically.

$$\Phi = \frac{1}{4\pi\epsilon_0}\int \rho(x')G(x,x')\partial^3 x' + \frac{1}{4\pi}\oint [G(x,x')\left(\frac{\partial\phi'}{\partial n'}\right) - \phi(x')\left(\frac{\partial G(x,x')}{\partial n'}\right)]\partial a \tag{2}$$

We are investigating the normal components to the surface. Image charges are an alternative. This will come later. Now we need to understand the charge inside a spherical shell of charge. Basically, the field at some position away from a conducting sphere.

$$\Phi(x) = \frac{q}{4\pi\epsilon_0|x-r|} + \frac{q'}{4\pi\epsilon_0|x-r'|} \tag{3}$$

Roughly, of course, because the new field has to involve the zeta calculus. We need to take into account many changing variables such as $v = HD$ inflation, punctuated equilibrium, entropy increase, and unity from multiplicity of states. Somehow, we have to find field forms from these. I like to image Hilbert's space filling curve with A.I. and map it to a Fourier basis of zetas.

One of the nice things about the Green's function solution is that it is helpful in the wave equation. Second order differential equations build recursion. Zeta calculus in the second order solution just adds a Taylor like expansion or a series expansion (usually polynomial) to the elementary solutions.

$$(\nabla^2 + k(t)^2)G(x,x') = -4\pi\delta(x-x')\zeta(x,t) \tag{4}$$

Adding metadata to the functional wave equation is something that makes waves thermodynamic entities really. We are connecting the non-conserved photon number to some inherent part of the universe.