The following is intended to give a glimpse into my claim that I have achieve quantifying the properties of charged particles and spacetime to obtain a model of the universe where the pieces fit together so well that in my opinion there is no doubt that this model is a major breakthrough.

The following are excerpts from the revised book. They are not intended to be self-explanatory. Instead, the intention is to glimpse the approach and level that has been achieved. My contention is that I have reduced the properties of particles to 4 different types of wave amplitudes and strains of spacetime. These 4 types of amplitude (2 oscillating and 2 non-oscillating) create the properties of a particle's electric and gravitational field. These amplitudes achieve the electric field's correct energy density and forces between charged particles. The gravitational amplitudes create not only the correct gravitational forces, but also the correct curvature of spacetime. Most recently, the implied energy density of a particle's gravitational field also explains the mechanics behind how particles create curved spacetime.

From chapter 5

Strain Amplitude – A_β: The strain amplitude of the wave depicted in figures 5-3 and 5-4 is just the maximum slope of these waves. The dashed line in figure 5-3 represents the maximum slope which occurs when the sine wave crosses zero. This maximum slope can be a dimensionless number if the "X" and "Y" axis have the same units which cancel when expressing slope.

This dimensionless maximum slope will be designated the "rotar's strain amplitude" and designated with the symbol A_β. Therefore, one way of expressing a rotar's strain amplitude is with the ratio of lengths or with ratios of frequencies.

$A_\beta = L_p/\lambda\!\!\!^{-}_c$ = strain amplitude expressed with length ratio
$A_\beta = \omega_c/\omega_p = T_p\omega_c$ strain amplitude expressed using frequency and time

From chapter 10

A rotar is attempting to radiate away its energy to the surrounding sea of vacuum energy. The few fundamental particles that are stable exist at one of the few special frequencies that generate canceling waves in vacuum energy eliminating the loss of energy. Even though the loss of energy is eliminated, there are four residual effects that show that a battle has taken place. These 4 residual effects are really combined into a distortion of spacetime with oscillating and non-oscillating components, but for analysis it is convenient to separate them into component parts.

1) There is non-oscillating strain in spacetime responsible for gravity and spacetime curvature (discussed in chapters 6 and 8). This strain has been designated as the gravitational magnitude β, but to make a designation A_G in keeping with other amplitude terms we will also designate the non-oscillating term as $A_G = \beta = A_\beta^2/\mathcal{N}$.

2) There is an oscillating nonlinear effect associated with gravity and illustrated in figure 8-3 as the small amplitude waves on the line designated "nonlinear component". This oscillating component of gravity has previously been shown to have amplitude of A_β^2 at distance $\lambda\!\!\!^{-}_c$. It will be proposed that this gravitational oscillating term external to $\lambda\!\!\!^{-}_c$ has amplitude $A_g = A_\beta^2/\mathcal{N}^2$. This gives energy density to a gravitational field (calculated later)
3) There are standing waves (associated with the electric field) remaining in the vacuum energy that surrounds the rotar. These standing waves are at the rotar's Compton frequency ω_c and have the oscillating amplitude $A_e = \sqrt{\alpha} A_\beta/\mathcal{N}^2$.
4) It is proposed that there is a non-oscillating term associated with the electric field with amplitude $A_{\mathbb{E}} = \sqrt{\alpha} A_\beta/\mathcal{N} = \underline{\mathbb{V}}$. This non-oscillating component is what we usually consider to be an electron's electric field. Here is the reasoning.

The following is a summary of the electromagnetic and gravitational amplitudes generated by a fundamental particle with charge e. For example, an electron has energy $E_i = 8.2\times10^{-14}$ J. This means that it has dimensionless strain amplitude $A_\beta \approx 4.18\times10^{-23}$ and reduced Compton wavelength $\lambda\!\!\!^{-}_c = 3.86\times10^{-13}$ m. Distance from the electron is specified as the number $\mathcal{N}$ of reduced Compton wavelengths.

$A_e = \sqrt{\alpha}\,\frac{A_\beta}{\mathcal{N}^2} = \sqrt{\alpha}\,\frac{L_p \lambda\!\!\!^{-}_c}{r^2}$ = electromagnetic standing wave amplitude oscillating at ω_c (charge e)

$A_{\mathbb{E}} = \sqrt{\alpha}\,\frac{A_\beta}{\mathcal{N}} = \sqrt{\alpha}\,\frac{L_p}{r} = \underline{\mathbb{V}}$ = electromagnetic non-oscillating strain amplitude (charge e)

$A_g = \frac{A_\beta^2}{\mathcal{N}^2} = \frac{L_p^2}{r^2}$ = gravitational standing wave amplitude oscillating at $2\omega_c$

$A_G = \frac{A_\beta^2}{\mathcal{N}} = \frac{Gm}{c^2 r} = \beta$ = gravitational non-oscillating strain amplitude (spacetime curvature)

The introduction of A_e, $A_{\mathbb{E}}$, A_g and A_G is merely a case of giving new symbol designations to the concepts previously discussed. We just derived $A_e = \sqrt{\alpha} A_\beta/\mathcal{N}^2$ as the amplitude required to produce the energy density of an electric field associated with energy density $U = (\frac{1}{2})\,\varepsilon_o \mathbb{E}^2$ (numerical constant ½ is ignored). $A_G = A_\beta^2/\mathcal{N} = \beta$ is the non-oscillating amplitude required to produce the gravitational field of a rotar. $A_{\mathbb{E}}$ is the symbol given to the non-oscillating strain developed in chapter 9. A_g is the symbol given to the oscillating component of gravity previously discussed and depicted in figures 8-1 and 8-3. The oscillating component of gravity A_g will be examined in more detail at the end of this chapter and shown to give energy density to a gravitational field. The picture that emerges is that both the electric/magnetic field and the gravitational field of a rotar such as an electron possess an oscillating component and a non-oscillating component. The oscillating components give energy density to these fields but the Planck amplitude oscillations are undetectable. However, the oscillating components are essential because they create the non-oscillating strains that we easily detect.

In summary, wonderful things happen when we analyze the effect that these various types of strain amplitudes are placed into the spacetime field with interactive energy density U_i.

$$U_i = k\frac{c^2\omega^2}{G} = k\frac{F_p}{\lambda\!\!\!^{-2}}$$

U_i is the interactive energy density of spacetime

It is possible to see the mechanics behind matter curving spacetime. These are not dry equations. It is possible to conceptually understand how matter curves spacetime. Also it is possible to understand how black holes are produced. There are no singularities in black holes. In fact, the matter is converted almost entirely to photons. Also, there is no true event horizon. However, if the rate of time slows by a tremendous factor such as 10^{20} times, we could not tell the difference between being stopped and being almost infinitely slowed.