Quantum Gravity:
The Spherical Energy Perturbations Symmetry of QCD Constituents Quantizes EFE as the Glue-balls

1.Background:

Yang-Mills theory, one of the most important questions is to mathematically explain the mass gap, or nonzero mass, in quantum applications of the formulas. Evidence for the mass gap has been demonstrated in physical experiments and computer-based mathematical models which appeared as physical states called the glue-balls.

In the 1960s, the scientist Peter W. Higgs hypothesis that the origin of the subatomic particles masses is a consequence of a natural mechanism due to an energy field which is possibly the lowest energy existence field. This hypothesis proved experimentally in 2012 by ATLAS and CMS experiments at CERN's LHC In the detection of the predicted particle which is the Higgs boson.
From this fact, this research test the role of simulating the effect of the particles' intrinsic properties like the quarks spin on the Higgs field as spherical energy perturbations in order to explain the QCD lattice. In QCD, we can imagine the effect of the quarks spin on the Higgs field potential energy (approximately) as a continually spherical energy perturbations $\{E_k\}$ depend on the resultant potential energy $V_\emptyset$.

2.Hypothesis:

1-The supposed model of the continuous spherical energy perturbations of the quarks' spinor fields achieves, explains and predicts the QCD lattice nature.
2- The continuous spherical energy perturbations considered as a consequence of the quarks intrinsic properties.

3.Objectives and Aims:

The research aims are:

1. To mathematically explain the QCD lattice using perturbative and lattice formulas.
2. Predict the QED and QCD degrees of freedom.

4.Methods & Procedures:

The theoretical procedures that used in this research are:

1. Deriving a lattice formulation (R_K) .
2. Deriving a perturbation formula $\{E_{K^\circ}\}$.
3. The Stress-energy-momentum tensor for an isolated continuous energy perturbations $\{E_{K^\circ\to(K+1)}\}$.
4. Obeying Einstein Field Equations and Newton's gravitational law
5. Obeying Klein-Gordon equation as a Green's function representing the Glue-balls.

1.Deriving lattice and perturbation formulas :

We can imagine the effect of the quarks spin on the Higgs field potential energy (approximately) as a continually spherical energy perturbations $\{E_k\}$ depend on the resultant potential energy $V_\emptyset$:

$$V_\emptyset = N[S_E] + \left[\sum_0^\pi S_E^2 + E_{k\,q}^2 - 2|S_E||E_{k\,q}|cos\theta\right]$$

Where S_E is the spin-rotating kinetic energy, $E_{k\,q}$ is the quarks trajectory's kinetic energy and [N] notices the uncountable number of the symmetrical "points" on a circle's half circumference. where the resultant here is the summation of the all resultants energy acting on the individual quark trajectory's kinetic energy (in a moment which approximately the particle moves at one direction which opposites one side of a sphere). This action represented on a 2D circle representing one of the circles on the surface area of a sphere.

by taking the quark model, the constituents of a hadron, like baryons are odd numbers of quarks. like a proton, the resultant potential energy will be 3-symmetrical spherical energy perturbations. For one quark it can be represented as the product of the resultant ($V_\emptyset$) and a value of a spherical surface area sequence using the ratio between any sphere (with radius R) and another sphere with Planck length radius (ℓ_p).

$$\frac{4\pi(R+n)^2}{4\pi R^2} = \frac{4\pi R^2 + 8\pi Rn + 4\pi n^2}{4\pi R^2} = 1 + \frac{2n}{R} + \frac{n^2}{R^2}$$

$$A_n = A_{\ell \mathrm{P}}\left[1 + \frac{2n}{\ell \mathrm{P}} + \frac{n^2}{(\ell \mathrm{P})^2}\right]$$

$$C_n = \pi\sqrt{\frac{A_{\ell \mathrm{P}}\left[1 + \frac{2n}{\ell \mathrm{P}} + \frac{n^2}{(\ell \mathrm{P})^2}\right]}{\pi}}$$

$$\sum_{k=0}^{k_\infty} C_n = \sum_{k=0}^{k_\infty} \pi\sqrt{\frac{A_{\ell \mathrm{P}}\left[1 + \frac{2(n+kn)}{\ell \mathrm{P}} + \frac{(n+kn)^2}{(\ell \mathrm{P})^2}\right]}{\pi}}$$

$$n = const\,,\ k \in +Z$$

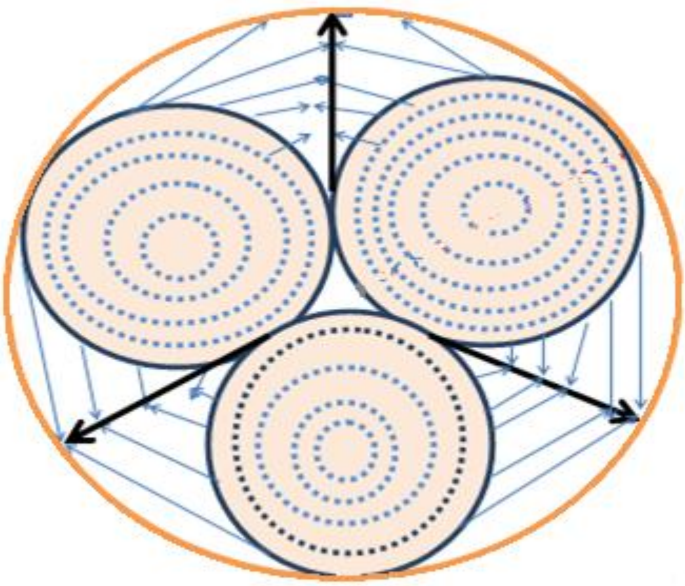
$$(\mathrm{n} + \mathrm{kn}) \equiv (\ell \mathrm{P} + k\ell \mathrm{P}) \equiv R_k$$

$$\{E_{K^\circ\rightarrow(K+1)}\}$$
$$= \quad [N[S_E]$$
$$+ \left[\sum_0^\pi S_E^2 + E_{k\,q}^2 - 2|S_E||E_{k\,q}|cos\theta\right]\left[\sum_{k=0}^{R_q} \pi\sqrt{\frac{A_{\ell P}\left[1+\frac{2(\ell P + k\ell P)}{\ell P}+\frac{(\ell P + k\ell P)^2}{(\ell P)^2}\right]}{\pi}}\right]$$

By adding the whole term of the action we need to add the term which the Spherical Energy Perturbations (SEP) collapsing into each other. And represented as the black arrows below:

$$\{E_{k^\circ}\} = \{E_{max}\}$$
$$= [N[S_E]$$
$$+ \left[\sum_0^\pi S_E^2 + E_{k\,q}^2 - 2|S_E||E_{k\,q}|cos\theta\right]\left[\sum_{k=0}^{k_2} \pi\sqrt{\frac{A_{\ell P}\left[1+\frac{2(\ell P + k\ell P)}{\ell P}+\frac{(\ell P + k\ell P)^2}{(\ell P)^2}\right]}{\pi}}\right]$$
$$+ \sum_{k_2=0}^{k_2=\pi-\theta} \prod_{\Delta E_{max}}^{\Delta E_\circ} \Delta E_\circ\, |E|_{\frac{n}{n^\circ}} \frac{\cos[\theta + k_2]}{cos\theta} \sum_{k=0}^{k_\infty} 6\pi\sqrt{\frac{A_{\ell P}\left[1+\frac{2(\ell P + k\ell P)}{\ell P}+\frac{(\ell P + k\ell P)^2}{(\ell P)^2}\right]}{\pi}}$$

k



By simulating the basic idea my mathematics we found that the action depends on a sequence, by testing this sequence if its representative enough to simulate the lattice we can consider it as a function of radius (R(k)). (deriving it directly from the surface are ratio sequence):

$$R_k = \ell\mathrm{P}\sqrt{\left[1 + \frac{2(\ell\mathrm{P} + k\ell\mathrm{P})}{\ell\mathrm{P}} + \frac{(\ell\mathrm{P} + k\ell\mathrm{P})^2}{(\ell\mathrm{P})^2}\right]}$$

And since $(\ell\mathrm{P} + k\ell\mathrm{P}) = R_k$, we can rewrite the function as:

$$R_K = \ell\mathrm{P}\sqrt{\left[2 + 2\sqrt{\left[1 + \frac{2(\ell\mathrm{P} + k\ell\mathrm{P})}{\ell\mathrm{P}} + \frac{(\ell\mathrm{P} + k\ell\mathrm{P})^2}{(\ell\mathrm{P})^2}\right]} + \frac{2(\ell\mathrm{P} + k\ell\mathrm{P})}{\ell\mathrm{P}} + \frac{(\ell\mathrm{P} + k\ell\mathrm{P})^2}{(\ell\mathrm{P})^2}\right]}$$

When k= Rp/(łp), the function (R(k)) = Rp, which equals to the proton radius according to CODATA (1).
And it's correct. We can finally take this function as a 2D spatial sequence.

Now, The two paradigms of the yang-mills theory are the perturbations and the lattice terms. So we can relate our spherical energy perturbations model and the spatial derivatives with the quantum intrinsic properties of the subatomic particles.

2-The Stress-energy-momentum tensor for an isolated continuous energy perturbations $\{E_{K^{\circ}\to(K+1)}\}$:

According to Heisenberg uncertainty principle we can derive the minimum amount of distance which the particle can move as a half of the particle's Compton wavelength. And since the Compton wavelength is associated with the particle pure energy (the spherical energy perturbations) we can replace the minimum distance term by adding the sum of all the half Compton wavelengths for each (SEP) state to simulate the whole trajectory of a proton using the supposed (SEP):

$$\Delta x \geq \frac{1}{2}\lambda_{\mathrm{e}} \Rightarrow \Delta x \geq \frac{1}{2}\frac{\hbar}{\mathrm{mc}} \Rightarrow \Delta x \geq \frac{1}{2}\frac{\hbar c}{\mathrm{E_k}}$$

$$\sum\nolimits_{mini} \Delta x \geq \sum_{\mathrm{k}=1}^{\mathrm{k}=\frac{\mathrm{R_p}}{\ell\mathrm{P}}} \frac{\hbar c}{2\mathrm{E_k}}$$

And in Einstein special relativity, The Stress-energy-momentum tensor for an isolated particle (like a proton) is given by:

$$\boldsymbol{T_{\mu V}} = \frac{\mathbf{E}}{\mathbf{c^2}}\mathbf{v}^{\boldsymbol{\alpha}}(\mathbf{t})\mathbf{v}^{\boldsymbol{\beta}}(\mathbf{t})\boldsymbol{\delta}(\mathbf{x}-\mathbf{x}(\mathbf{t}))$$

the four-velocity vectors components can be added as a tensor:

$$\mathbf{v}^{\boldsymbol{\alpha}}(\mathbf{t})\mathbf{v}^{\boldsymbol{\beta}}(\mathbf{t}) = \boldsymbol{T_{\alpha\beta}}(\boldsymbol{y}) = \sum_{\mathbf{s,r}} \frac{\partial \mathbf{y}^{\boldsymbol{\alpha}}}{\partial \mathbf{x}^{\mathbf{r}}}\frac{\partial \mathbf{y}^{\boldsymbol{\beta}}}{\partial \mathbf{x}^{\mathbf{s}}} \cdots \boldsymbol{v}_{\mathbf{x}}^{\mathbf{r}}\boldsymbol{v}_{\mathbf{x}}^{\mathbf{s}} \cdots$$

and we can actually put the sum of minimum distances values (half Compton wavelength) according to the SEP (E(K)) values in the trajectory term.

$$\boldsymbol{T_{\mu V}} = \frac{\mathbf{E}}{\mathbf{c^2}}\boldsymbol{T_{\alpha\beta}}(\boldsymbol{y})\boldsymbol{\delta}\Big(\sum_{\mathrm{k}=1}^{\mathrm{k}=\mathrm{R_p}/\ell\mathrm{P}} \frac{\hbar c}{2\mathrm{E_k}}\Big)$$

And since the trajectory sum function term of the tress-energy tensor for isolated particle represented as Dirac-delta function. The Dirac-delta function of a function g(x) is given by:

$$\boldsymbol{\delta}\big(\boldsymbol{g}(\boldsymbol{x})\big) = \sum_{\boldsymbol{i}} \frac{\boldsymbol{\delta}(\boldsymbol{x}-\boldsymbol{x_i})}{\boldsymbol{g}(\boldsymbol{x})\boldsymbol{dx}}$$

$$\boldsymbol{\delta}\left[\sum_{\mathbf{mini}} \frac{\mathbf{hc}}{\mathbf{2E_k}}\right] = \sum_{k} \frac{\boldsymbol{\delta}[\boldsymbol{x}-\boldsymbol{k}]}{[\frac{\mathbf{hc}}{\mathbf{2E_k}}]\boldsymbol{dk}}$$

Thus,

$$\boldsymbol{T_{\mu V}} = \frac{\mathbf{E_k}}{\mathbf{c^2}} \boldsymbol{T_{\alpha\beta}}(\boldsymbol{y}) \sum_{k} \frac{\boldsymbol{\delta}[\boldsymbol{x}-\boldsymbol{k}]}{[\frac{\mathbf{hc}}{\mathbf{2E_k}}]\boldsymbol{dk}}$$

$$\boldsymbol{T_{\mu V}} = \sum_{\boldsymbol{k}} \frac{\boldsymbol{E_K}}{\boldsymbol{In(E_k)dk}} \frac{\mathbf{2}}{\boldsymbol{hc^3}} \boldsymbol{T_{\alpha\beta}}(\boldsymbol{y})\boldsymbol{\delta}[\boldsymbol{x}-\boldsymbol{k}]$$

According to Dirac-delta function definition, we obtain that the integration of the function when k = $\mathrm{R_p}/\ell\mathrm{P}$:

$$\int_0^{\mathrm{R_p}/\ell\mathrm{p}} \sum_{\boldsymbol{k}} \frac{\boldsymbol{E_K}}{\boldsymbol{In(E_k)dk}} \frac{\mathbf{2}}{\boldsymbol{hc^3}} \boldsymbol{T_{\alpha\beta}}(\boldsymbol{y})\boldsymbol{\delta}[\boldsymbol{x}-\boldsymbol{k}]\, dk = \mathrm{R_p}/\ell\mathrm{p}$$

By completing the calculations we find:

$$\frac{\boldsymbol{E_k}}{\mathbf{In\{E_k\}}} \boldsymbol{T_{\alpha\beta}}(\boldsymbol{y}) = \mathbf{2.043 * 10^7}$$

$$\boldsymbol{T_{\alpha\beta}}(\boldsymbol{y}) \frac{\boldsymbol{R_k}|\mathbf{E_k}|^3}{\mathbf{1}} = \mathbf{2.043 * 10^7}$$

$$\boldsymbol{E_k} = \frac{\mathbf{7.219 * 10\hat{}-5}}{\sqrt[3]{\boldsymbol{T_{\alpha\beta}}(\boldsymbol{y})}}$$

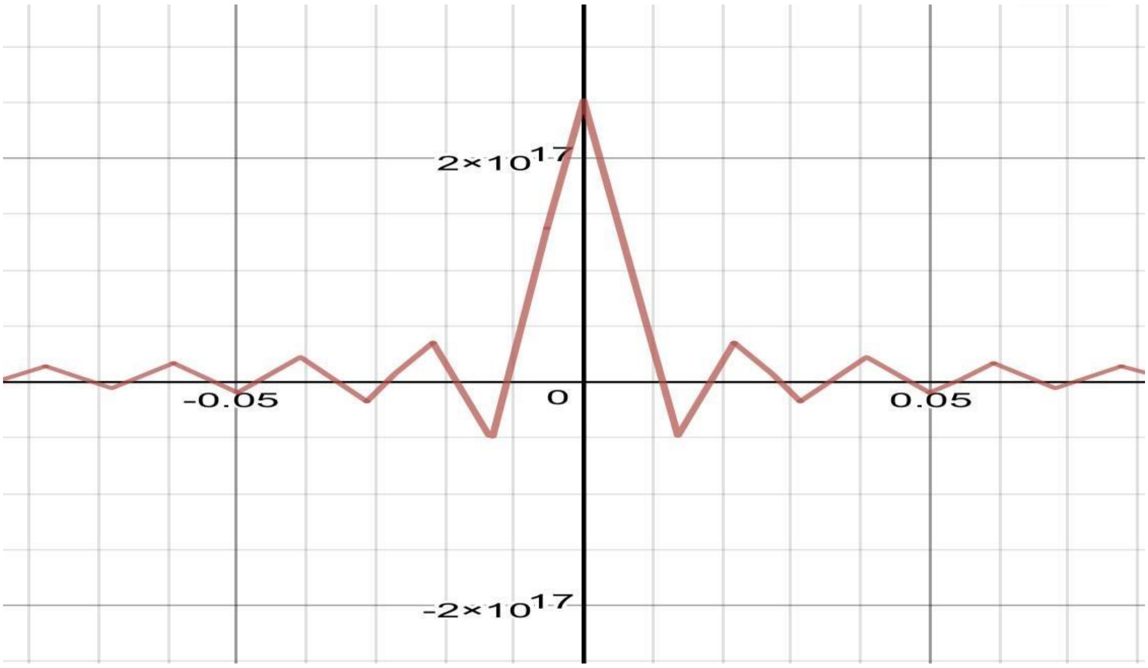
$$\boldsymbol{T_{\mu V}} = (\mathrm{R_p}/\ell\mathrm{P})|\mathbf{E_k}|^3 \frac{\mathbf{2}}{\boldsymbol{hc^3}} \boldsymbol{T_{\alpha\beta}}(\boldsymbol{y}) \sum_{\boldsymbol{k}} \boldsymbol{\delta}[\boldsymbol{x}-\boldsymbol{k}] = \sum_{k} \mathbf{2.268 * 10\hat{}15}\boldsymbol{\delta}[\boldsymbol{x}-\boldsymbol{k}]$$

And now we have the sum of the resultant values of (k) in Dirac-delta function term, we can find the above sum rule by the variable (k) summation formula of the delta function :

$$\sum_{k} \delta(x-tk) = \frac{1}{t}[1 + 2\sum_{k} \cos(\frac{2\pi xk}{t})]$$

$$\boldsymbol{T_{\mu V}} = \frac{\mathbf{1}}{\mathbf{2.268 * 10\hat{}15}}[\mathbf{1} + \mathbf{2} \sum_{\mathbf{k=0}}^{\mathrm{R_p}/\ell\mathrm{p}} \mathbf{cos}\left(\frac{\mathbf{2\pi xk}}{\mathbf{2.268 * 10^{15}}}\right)]$$

By Dirac-delta function definition, we can find that the function equals to zero everywhere except when k = 0. In fact, we can find the value of the stress-energy-momentum tensor by graphing the function.



3- Obeying Einstein Field Equations and Newton's gravitational law:

And we can finally solve Einstein Field equation by the stress-energy tensor value:

$$R_{\mu\nu} - \frac{1}{2} R g_{\mu\nu} + \Lambda g_{\mu\nu} = \frac{8\pi G}{C^4} T_{\mu\nu}$$

$$T_{\mu\nu} = 2.5175 * 10^{17}\ N/m^2$$

And now supposing that:

$$R_{\alpha} = R_{\mu\nu} - \frac{1}{2} R g_{\mu\nu} + \Lambda g_{\mu\nu} = \frac{8\pi G}{C^4} T_{\mu\nu}$$

$$R_{\alpha} = 5.210149126053 * 10^{-26}\ m/s^2$$

And the continuous spherical spatial sequence as a volume (lattice) takes the formula:

$$\mathbf{R}_{\alpha}(\mathbf{X}) = \left(\frac{4}{3}\right)\pi \left[X e^{\frac{1}{\ell P(4)}} \right]^3 + \sum_{k=0}^{k=Rp} \left[\left(\frac{4}{3}\right)\pi \left[X e^{\frac{K}{\ell P(k+3)}} \right]^3 - \left(\frac{4}{3}\right)\pi \left[X e^{\frac{K-1}{\ell P((k-1)+3)}} \right]^3 \right]$$
$$= 2.155917917884 * 10^{-44} m^3$$

Where,

$$\boldsymbol{X}\boldsymbol{e}^{\frac{\boldsymbol{K}}{\ell \mathrm{P}(\boldsymbol{k}+\mathbf{3})}} : \ X \in Z^{+} = \ell \mathrm{P}(k+3) = \ R(k)$$

And now let's take the hydrogen atom, the above derivatives simulate and represent the properties of a single hadron. By applying the natural intrinsic properties of the particles on what we already derive, Like a hydrogen nucleus with one proton we can say that the product of Avogadro number and the value of Einstein Field equations for a single proton is equals to the gravitational field value for the total mass of Avogadro number times the total (spherical energy perturbations) or the (glue-balls) in a point that far away from the center of nucleus by a distance (r), which is the radius of Avogadro number times the continuous spherical spatial sequence.
Which is:

$$\mathbf{R}_{\alpha}\boldsymbol{N}_{A}\mathbf{10^{3}} = \frac{\boldsymbol{G}}{\left|\sqrt[3]{\frac{\mathbf{3}}{\mathbf{4\pi}}\mathbf{R}_{\alpha}(\mathbf{X})\boldsymbol{N}_{A}\mathbf{10^{3}}}\right|^{2}} : \boldsymbol{m} = \mathbf{1}\ kg$$

$$31.37603905189537\ldots m/s^{2} = 31.37603905189537 \ldots m/s^{2}$$

And we surely found that the two terms are equal by calculating each side individually.

4- Obeying Klein-Gordon equation as a Green's function representing the Glue-balls:

By rearranging the above equation we can find:

$$\mathbf{R}_{\alpha}\boldsymbol{N}_{A}\mathbf{10^{3}} = \frac{\boldsymbol{G}}{\left|\sqrt[3]{\frac{\mathbf{3}}{\mathbf{4}}\mathbf{R}_{\alpha}(\mathbf{X})\boldsymbol{N}_{A}\mathbf{10^{3}}}\right|^{2}}$$

$$\mathbf{R}_{\alpha}\boldsymbol{N}_{A}\mathbf{10^{3}}\left|\sqrt[3]{\frac{\mathbf{3}}{\mathbf{4\pi}}\mathbf{R}_{\alpha}(\mathbf{X})\boldsymbol{N}_{A}\mathbf{10^{3}}}\right|^{2} = \boldsymbol{G}$$

Thus,

$$\frac{8\pi G}{C^{4}}T_{\mu\nu}\boldsymbol{N}_{A}\mathbf{10^{3}}\left|\sqrt[3]{\frac{\mathbf{3}}{\mathbf{4\pi}}\mathbf{R}_{\alpha}(\mathbf{X})\boldsymbol{N}_{A}\mathbf{10^{3}}}\right|^{2} = \boldsymbol{G}$$

$$8\pi\, T_{\mu\nu}\boldsymbol{N}_{A}\mathbf{10^{3}}\left|\sqrt[3]{\frac{\mathbf{3}}{\mathbf{4\pi}}\mathbf{R}_{\alpha}(\mathbf{X})\boldsymbol{N}_{A}\mathbf{10^{3}}}\right|^{2} = C^{4}$$

$$8\pi\frac{\mathbf{E_k}}{\mathbf{c^2}}\boldsymbol{T}_{\boldsymbol{\alpha\beta}}(\boldsymbol{y})\sum_{k}\frac{\boldsymbol{\delta}[\boldsymbol{x}-\boldsymbol{k}]}{\left[\frac{\mathbf{hc}}{\mathbf{2E_k}}\right]\boldsymbol{dk}}\boldsymbol{N_A}\mathbf{10^3}\left|\sqrt[3]{\frac{\mathbf{3}}{\mathbf{4\pi}}\mathbf{R_\alpha(X)}\boldsymbol{N_A}\mathbf{10^3}}\right|^{\mathbf{2}}=C^4$$

$$8\pi\,\mathbf{m_\circ}\boldsymbol{T}_{\boldsymbol{\alpha\beta}}(\boldsymbol{y})\sum_{k}\frac{\boldsymbol{\delta}[\boldsymbol{x}-\boldsymbol{k}]}{\left[\frac{\mathbf{hc}}{\mathbf{2E_k}}\right]\boldsymbol{dk}}\boldsymbol{N_A}\mathbf{10^3}\left|\sqrt[3]{\frac{\mathbf{3}}{\mathbf{4\pi}}\mathbf{R_\alpha(X)}\boldsymbol{N_A}\mathbf{10^3}}\right|^{\mathbf{2}}=C^4\sqrt{1-\frac{v^2}{c^2}}$$

$$8\pi\,\mathbf{m_\circ}\boldsymbol{T}_{\boldsymbol{\alpha\beta}}(\boldsymbol{y})\sum_{k}\frac{\boldsymbol{\delta}[\boldsymbol{x}-\boldsymbol{k}]}{\left[\frac{\mathbf{hc}}{\mathbf{2E_k}}\right]\boldsymbol{dk}}\boldsymbol{N_A}\mathbf{10^3}\left|\sqrt[3]{\frac{\mathbf{3}}{\mathbf{4\pi}}\mathbf{R_\alpha(X)}\boldsymbol{N_A}\mathbf{10^3}}\right|^{\mathbf{2}}=\sqrt{c^8-v^2c^6}$$

$$8\pi\,\mathbf{m_\circ}\boldsymbol{T}_{\boldsymbol{\alpha\beta}}(\boldsymbol{y})\frac{\mathbf{2}}{\boldsymbol{hc}}\boldsymbol{E_k dk}\sum_{k}\boldsymbol{\delta}[\boldsymbol{x}-\boldsymbol{k}]\,\boldsymbol{N_A}\mathbf{10^3}\left|\sqrt[3]{\frac{\mathbf{3}}{\mathbf{4\pi}}\mathbf{R_\alpha(X)}\boldsymbol{N_A}\mathbf{10^3}}\right|^{\mathbf{2}}=\sqrt{c^8-v^2c^6}$$

$$\frac{\mathbf{1}}{8\pi\,\mathbf{m_\circ}\boldsymbol{T}_{\boldsymbol{\alpha\beta}}(\boldsymbol{y})\frac{\mathbf{2}}{\boldsymbol{hc}}\boldsymbol{E_k dk N_A}\mathbf{10^3}}\left[\mathbf{1}+\mathbf{2}\sum_{k}\boldsymbol{cos}\left(\frac{\boldsymbol{2\pi xk}}{8\pi\,\mathbf{m_\circ}\boldsymbol{T}_{\boldsymbol{\alpha\beta}}(\boldsymbol{y})\frac{\mathbf{2}}{\boldsymbol{hc}}\boldsymbol{E_k dk N_A}\mathbf{10^3}}\right)\right]\left|\sqrt[3]{\frac{\mathbf{3}}{\mathbf{4\pi}}\mathbf{R_\alpha(X)}\boldsymbol{N_A}\mathbf{10^3}}\right|^{\mathbf{2}}=\sqrt{c^8-v^2c^6}$$

This equation apparently shows the massive objects' "space –evacuating" or "space-effusing" procedure by their trajectories in the 4th dimension space with respect to its velocity. For example, When any 'massive' object moves at a certain speed occupies a bigger amount of space because it evacuates or effuses its absorption of space. According to the equation, the more "mass" the object gets more space-absorption. Which is identical to what we have drive from Einstein field equations. When the object moves at a certain "speed" the object's mass occupies a certain amount of space. By accelerating, the object occupies more space gradually, which means that if a massive object accelerates to high speeds which it is converting gradually into its pure energy occupies a bigger amount of space because it evacuated its stored or absorbed space. That’s apparently true because the high-speed objects or the subatomic particles with its pure energy phase in nature shows super weakly gravitational interactions because they occupied more space by evacuating the stored space gradually with the same converted amount of the "existence-phases $(mass \rightarrow energy)$" while accelerating.

When v = c, the equation equals zero. which means that the object occupied the whole space and it is identical to the space-time itself. That’s may be the reason for Einstein to consider the objects moving at the speed of light on the space-time in his special relativity. what appears with objects which nearby move at the speed of light in the vacuum that it should be massless and shows super weakly gravitational interactions.

The conclusion of the equation is:
The pure energy of an object is its mass occupied more space. Which means that the pure energy needs to absorb or store an amount of space to become a mass. Which causes gravity as a consequence.
And the "space-time" itself is a "pure energy" occupied a more space. What makes this a fact and more interesting result that we drive it directly from Newton's gravitational law and it achieves all that what we have mentioned above.

By looking for a ratio between the initial space the evacuated-space we can find:

$$\frac{C^4}{\sqrt{c^8 - v^2 c^6}} = [\frac{\sqrt{c^8 - v^2 c^6}}{C^4}]^{-1} = [\sqrt[2]{\frac{c^8 - v^2 c^6}{C^8}}]^{-1} = [\sqrt{1 - \frac{\mathrm{v}^2}{\mathrm{c}^2}}]^{-1} = \frac{1}{\sqrt{1 - \frac{\mathrm{v}^2}{\mathrm{c}^2}}} = \frac{m}{m^\circ}$$

$$\frac{C^4}{\sqrt{c^8 - v^2 c^6}} = \frac{m}{m^\circ}$$

$$m^\circ C^4 = m\sqrt{c^8 - v^2 c^6}$$

$$(m^\circ C^4)^2 = m^2 c^8 - p^2 c^6$$

$$(m^\circ C^4)^2 + p^2 c^6 = m^2 c^8$$

Dividing by c^4

$$E^2 = (m^\circ c^2)^2 + (pc)^2$$

Which achieves Einstein special relativity equations.

by rearranging the space-evacuating equation to an individual velocity function. We find:

$$v = \sqrt[2]{c^2 - (\frac{\left(\left(\frac{\mathbf{1}}{8\pi\, \mathbf{m}_\circ \boldsymbol{T}_{\alpha\beta}(\boldsymbol{y}) \frac{\mathbf{2}}{\boldsymbol{hc}} \boldsymbol{E}_k \boldsymbol{dkN}_A \mathbf{10^3}} [\mathbf{1} + \mathbf{2} \sum_k \boldsymbol{cos}\left(\frac{\boldsymbol{2\pi xk}}{8\pi\, \mathbf{m}_\circ \boldsymbol{T}_{\alpha\beta}(\boldsymbol{y}) \frac{\mathbf{2}}{\boldsymbol{hc}} \boldsymbol{E}_k \boldsymbol{dkN}_A \mathbf{10^3}}\right)]\right] | \sqrt[3]{\frac{\mathbf{3}}{\mathbf{4\pi}} \mathbf{R}_\alpha(\mathbf{X}) \boldsymbol{N}_A \mathbf{10^3} |}^{\mathbf{-2}}]\right)^{\mathbf{2}}}{\boldsymbol{c^6}}}$$

So, we obtain:

$$\mathrm{v}_{(\mathrm{T}_{\mu\nu}, \lambda_e)} = \sum_{\mathrm{k}}^{\mathrm{k}=(\mathrm{R_p}/\ell \mathrm{P})} \mathrm{v_k}$$

Now, we can see if the above function is considered as a Green's function for the Klein-Golden equation:

$$(\Box_x + \mathrm{m}^2) G_{(x,y)} = -\delta(x - y)$$

where x,y are two points in Minkowski space.

$$(\Box_x + \mathrm{m}^2) G_{(x,y)} = -\delta(\sum (x - y))$$

Replacing the trajectory term by the continuum Compton wavelengths:

$$(\Box_x + \mathrm{m}^2) \mathrm{v}_{(\mathrm{T}_{\mu\nu}, \lambda_e)} = -\delta(\sum_k \frac{hc}{2E_k})$$

$$(\Box_x + m^2)v_{(T_{\mu v},\lambda_e)} = -\sum_k \frac{\boldsymbol{\delta[x-k]}}{[\frac{\mathbf{hc}}{\mathbf{2E_k}}]\boldsymbol{dk}}$$

$$(\Box_x + m^2)v_{(T_{\mu v},\lambda_e)} = \frac{\mathbf{1}}{-\frac{\mathbf{2}}{\boldsymbol{hc}}\boldsymbol{E_k dk}}\ [\mathbf{1+2}\sum_k \boldsymbol{cos}\left(\frac{\boldsymbol{2\pi xk}}{-\frac{\mathbf{2}}{\boldsymbol{hc}}\boldsymbol{E_k dk}}\right)]$$

$$\left[\left[\frac{\partial^2}{\partial t^2} - \Delta\right] + m^2\right] v_{(T_{\mu v},\lambda_e)} = \frac{\mathbf{1}}{-\frac{\mathbf{2}}{\boldsymbol{hc}}\boldsymbol{E_k dk}}\ [\mathbf{1+2}\sum_k \boldsymbol{cos}\left(\frac{\boldsymbol{2\pi xk}}{-\frac{\mathbf{2}}{\boldsymbol{hc}}\boldsymbol{E_k dk}}\right)]$$

By returning back to our steps to find the value of the Stress-energy-momentum tensor, we find that:

$$-\frac{T_{\mu v}c^2}{(R_p/\ell P)|\mathbf{E_k}|^3} = \frac{\mathbf{1}}{-\frac{\mathbf{2}}{\boldsymbol{hc}}\boldsymbol{E_k dk}}\ [\mathbf{1+2}\sum_k \boldsymbol{cos}\left(\frac{\boldsymbol{2\pi xk}}{-\frac{\mathbf{2}}{\boldsymbol{hc}}\boldsymbol{E_k dk}}\right)]$$

So,

$$v_{(T_{\mu v},\lambda_e)}\left(\frac{\partial^2}{\partial t^2} - \Delta + m^2\right) = -\frac{T_{\mu v}c^2}{(R_p/\ell P)|\mathbf{E_k}|^3}$$

$$v_{(T_{\mu v},\lambda_e)}\left(-\frac{\partial^2}{\partial t^2} + \Delta - m^2\right) = \frac{T_{\mu v}c^2}{(R_p/\ell P)|\mathbf{E_k}|^3}$$

And since the term:

$$v_{(T_{\mu v},\lambda_e)}m^2 \approx 0$$

We obtain:

$$\frac{T_{\mu v}c^2}{(R_p/\ell P)|\mathbf{E_k}|^3} + \frac{\partial^2}{\partial t^2}v_{(T_{\mu v},\lambda_e)} = \Delta\, v_{(T_{\mu v},\lambda_e)}$$

And now let's test the equation fundamentally, the squared divergence term is always bigger than the Jerk term by $\frac{T_{\mu v}c^2}{(R_p/\ell P)|\mathbf{E_k}|^3}$

And by returning to the velocity function we find:

$$\frac{\partial^2}{\partial t^2}v_{(T_{\mu v},\lambda_e)} \to 0$$

Which means the jerk term vanishes. So we obtain:

$$\Delta\, v_{(T_{\mu v},\lambda_e)} = \frac{T_{\mu v}c^2}{(R_p/\ell P)|\mathbf{E_k}|^3}$$

$$v_{(T_{\mu v},\lambda_e)} = \sqrt{c^2 - \frac{\left[8\pi\, \mathbf{m_\circ}\boldsymbol{N_A}\mathbf{10^3}\frac{T_{\mu v}c^2}{(R_p/\ell P)|\mathbf{E_k}|^3}|\sqrt[3]{\frac{\mathbf{3}}{\mathbf{4\pi}}\mathbf{R_\alpha(X)}\boldsymbol{N_A}\mathbf{10^3}|}^{2}\right]^2}{c^6}}$$

$$v_{(T_{\mu v},\lambda_e)} = \sqrt{c^2 - \lambda^2/c^6}$$

$$\lambda = \left[8\pi\, \mathbf{m}_{\circ} \boldsymbol{N_A} \mathbf{10^3} \frac{\mathrm{T}_{\mu\nu} c^2}{(\mathrm{R_p}/\ell\mathrm{P})|\mathbf{E_k}|^3} | \sqrt[3]{\frac{\mathbf{3}}{\mathbf{4\pi}} \mathbf{R}_\alpha(\mathbf{X}) \boldsymbol{N_A} \mathbf{10^3} |}^{\,2} \right]$$

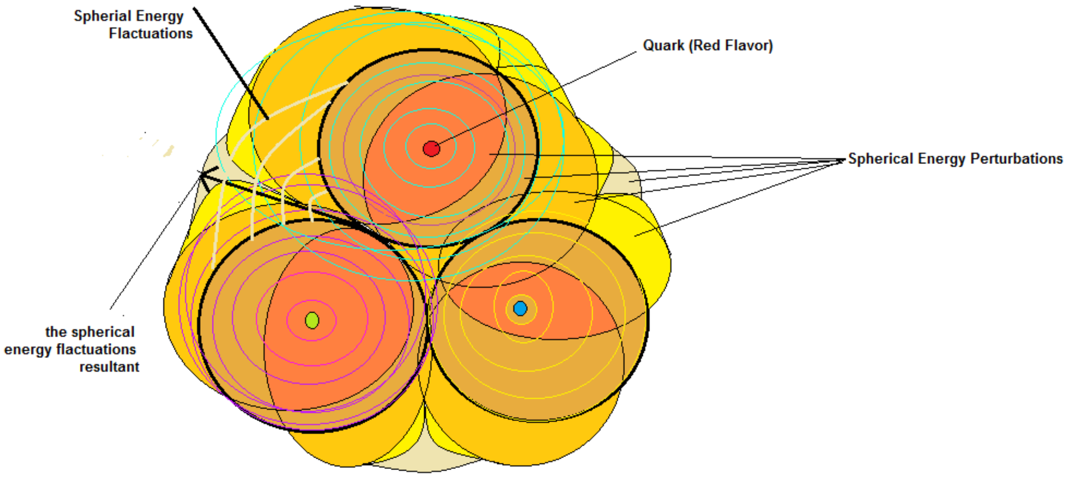
And that’s "should" be the speed of a "free" isolated hydrogen's proton through its space-time (as we defined the mass in a 4 dimension-space, we can also simulate the energy in that model, obeying as we prove that when $\mathrm{v}_{(\mathrm{T}_{\mu\nu},\lambda_e)} = c$ the "object" becomes identical to the space-time, which means that it’s the space-time itself.

therefore,

$$\Delta\, \mathrm{v}_{(\mathrm{T}_{\mu\nu},\lambda_e)} = \frac{\sqrt{c^8 - \mathrm{v}_{(\mathrm{T}_{\mu\nu},\lambda_e)}{}^2 c^6}}{8\pi\, \mathbf{m}_{\circ} \boldsymbol{N_A} \mathbf{10^3} | \sqrt[3]{\frac{\mathbf{3}}{\mathbf{4\pi}} \mathbf{R}_\alpha(\mathbf{X}) \boldsymbol{N_A} \mathbf{10^3} |}^{\,2}} \rightarrow \frac{\mathrm{T}_{\mu\nu} c^2}{(\mathrm{R_p}/\ell\mathrm{P})|\mathbf{E_k}|^3}$$

Which means the terms that we actually derive satisfy Klein-Gordon equation as a Green's function. So the calculation is apparently true.

So we end up with the whole model:



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