This paper is a mathematical continuation to a previous paper
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Calculating Discrete Time Location Force

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The wave emitted from a particle

$$\Psi = \sum_{k=0}^{\infty} \varphi(k, t)$$

For a particular value of k

$$\varphi_1 = \frac{A \cdot Sin(\omega t)}{r^2}$$

Interacts with a second wave at its source

$$\varphi_2 = A \cdot Sin(\omega t + \phi)$$

Where

$$\phi(t) = \frac{2\pi \cdot \left(r_1 + \dot{r} \cdot t + \frac{1}{2}\ddot{r} \cdot t^2\right)}{\lambda}$$

$$\omega = 2\pi \cdot f = \frac{2\pi \cdot c}{\lambda}$$

$$\phi(t) = \frac{\omega \cdot \left(r_1 + \dot{r} \cdot t + \frac{1}{2}\ddot{r} \cdot t^2\right)}{c}$$

A force interaction would then be

$$F = -\varphi_1 \cdot \varphi_2$$

And the average force would be

$$F_\tau = \frac{-A^2}{\tau}\int_0^\tau \frac{Sin(\omega t)\cdot Sin(\omega t + \phi)}{r^2}dt$$

Where

$$\omega \cdot \tau = 2\pi$$

$$F_\tau = \frac{-\omega A^2}{2\pi}\int_0^\tau \frac{Sin(\omega t)\cdot Sin(\omega t + \phi)}{r^2}dt$$

If ϕ is taken as a constant, the average force over 1 period would be

$$F_\tau = \frac{-\omega A^2}{2r^2}Cos(\phi)$$

$$F_\tau = \frac{-\omega A^2}{2r^2}\cdot Cos\left(\frac{\omega r}{c}\right)$$

Energy is therefore

$$E_\tau = \frac{-\omega A^2}{2}\int \frac{1}{r^2}\cdot Cos\left(\frac{\omega}{c}\cdot r\right)\cdot dr$$

$$E_\tau = \frac{i\cdot\omega^2\cdot A^2}{4\cdot c}\cdot\left[\Gamma\left(-1\,, i\cdot\frac{\omega}{c}r\right) - \Gamma\left(-1\,,-i\cdot\frac{\omega}{c}r\right)\right]$$

The total average force on the particle is

$$\mathrm{F}_{total} = \frac{-1}{2r^2}\sum_{k=1}^{n} \omega_k \cdot {A_k}^2 \cdot Cos\left(\frac{\omega_k r}{c} + \phi_k\right)$$

Where

$$\omega_k = \frac{\omega_{max}}{k}$$

$$\phi_k = \frac{2\pi}{k} \cdot l$$

$$l = 0,1,2,3 \ldots$$

The particle will constantly be trying to find a location in space where

$$\mathrm{E}_{total} \to 0$$

And therefore

$$\Delta\mathrm{F}_{total} \to 0$$

This location is the Discrete Time Location.

Sample values within DTL for basic particles

Electrons

$$A_1 = b_1$$

$$A_2 = b_2\ ;\ \phi_2 = 0$$

$$A_{3+} = 0$$

Positrons

$$A_1 = b_1$$

$$A_2 = b_2\ ;\ \phi_2 = \pi$$

$$A_{3+} = 0$$

Quarks

$$A_1 = b_x$$

$$A_2 = \pm\frac{b_2}{3}, \pm 2\cdot\frac{b_2}{3};\ \phi_2 = 0, \pi$$

$$A_3 = b_3\ ;\ \phi_2 = 0, 2\frac{\pi}{3}, 4\frac{\pi}{3}$$

*note it may turn out that because of the wave balance, all values of A_k are identical and the $\frac{\omega_k r}{c}$ component may be what is controlling the macroscopic understanding of constants.