

$L_{1/2}$ Space , Rieman Hypothesis and Unified Field Theory

Yajun Liu*

South China University of Technology, Guangzhou P.R. China 510640
e-mail:yajun@scut.edu.cn

Abstract

This model have a entropy form and just provide a probability to start the combination the basic structure Time-Space with energy to the whole Universal we can observe.

$L_{1/2}$ Space coordinate system

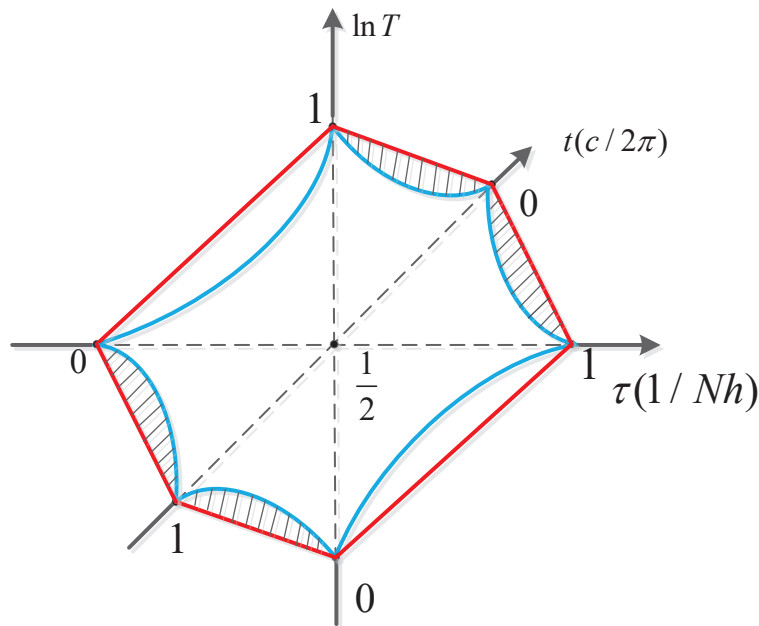


Figure.1. Unit a $L_{1/2}$ space

$$T \in (e^{2\pi i} = 1, e = \lim_{n \rightarrow \infty} (1 + \frac{1}{N})^N)$$

$$\tau \in N \bmod(2)$$

$$t \in \left\langle \frac{e^{i2\pi} + e^{i\pi}}{2} = 0, \frac{e^{i2\pi} - e^{i\pi}}{2} = 1 \right\rangle$$

$$\langle T \rangle_{[0,1]} = \langle \tau \rangle_{[0,1]} + \langle t \rangle_{[0,1]}$$

$$LnT = N + \frac{\rho}{2\pi i}$$

The Proof of Riemann Hypothesis

$$\begin{bmatrix} 0 & 1 & 0 \\ 0 & \frac{1}{2} & 1 \\ 1 & 0 & 0 \end{bmatrix} \rightarrow \ln T = N + \frac{\rho}{2\pi i} \rightarrow \begin{bmatrix} \frac{1}{2} & \sqrt{1 - \frac{1}{\pi^2} - \frac{1}{\pi}i} & \dots \\ \sqrt{1 - \frac{1}{\pi^2} + \frac{1}{\pi}i} & \frac{1}{2} & \dots \\ \dots & \dots & \frac{1}{2} \dots \end{bmatrix} \quad (N \times N)$$

This is a Hermitian matrix, its Eigens value is all the non-trivial zeros of Zeta Function. The trace of matrix $t_r(A) = N/2$. **SO this is a Proof of Riemann Hypothesis!**

The Geometry Structure of time-space with energy

We can see in Fig.1, a unit $\ln T - \langle 1/Nh \rangle - \langle C/2\pi a_F \rangle$ with a 1/2 Symmetry connects the Time-Space and Energy together. C as the velocity of Light, h is Planck constant and a_F is Acceleration or the Intensity of field (m/s^2).

And then we obtain as:

$$\ln T = Nh + \frac{C}{2\pi a_F} \quad (1)$$

Fig. 2 shows the picture uniting the gravitation and Electric-Magnetics field in the space with energy in 2D space and a $L_{1/2}$ space.

$$S_{E_0} \sim \frac{hc}{2\pi} \quad (2)$$

$$1/a_F \sim 4\pi N \frac{h}{c} \quad (3)$$

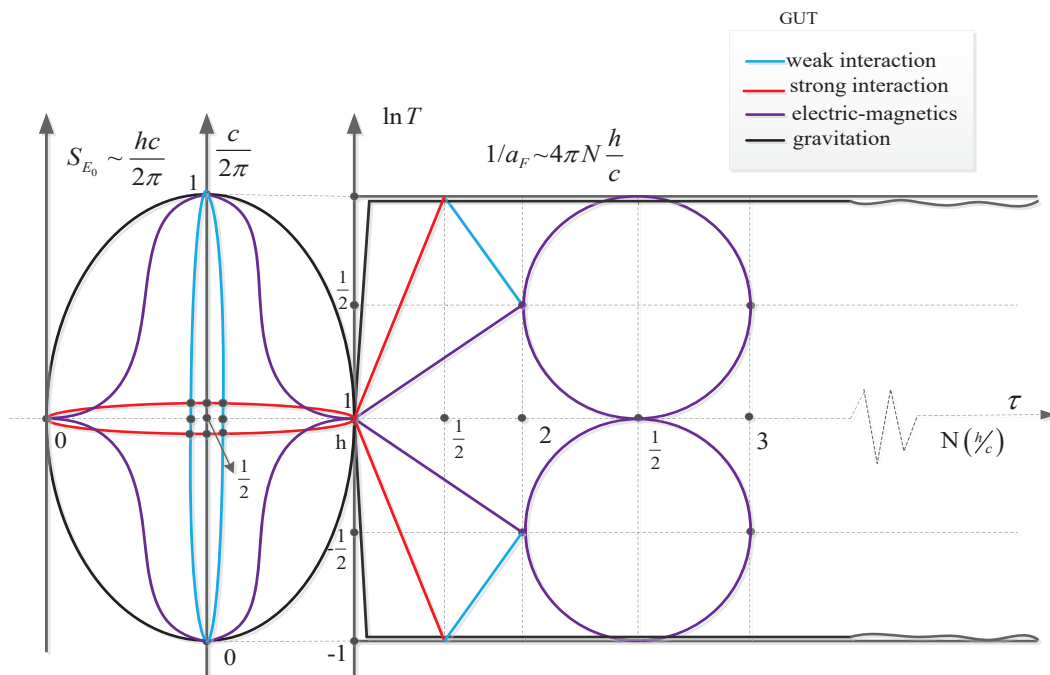


Figure.2. Uniting the gravitation and Electric-Magnetics field

The basic unit of the Space-Time with Energy in our model is $S_{E_0} \sim \frac{hc}{2\pi}$ and we get the following:

$$1/a_F \sim 4\pi N \frac{h}{c}$$

we can consider the $1/a_F$ as the curvature of the Space-Time with Energy !

This model have a **entropy form** and just provide a probability to start the combination the basic structure Time-Space with energy to the whole Universal we can observe!!!