The 1/2 Fixed Point Space and the Symmetry of N-Domain

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Abstract In this paper, we constructed a closed Space of the with a fixed point 1/2. We called it $L^{1/2}_{[0\ 1/2\ 1]}$ and we find that using the symmetry characters of this space in the Domain of Natural Number. we can give proofs of the Prime Conjectures.

Keywords $L^{1/2}_{(0\ 1/2\ 1)}$ Space Prime Conjectures

1.1/2 Fixed Point

$$N\sim\left(0\ ,\ 1\ ,\ 2\ ,\ 3\ ,\ 4\ ,\ \ldots\ldots\ldots.\right)$$

$$n\sim\left(1\ ,\ 2\ ,\ 3\ ,\ 4\ ,\ \ldots\ldots\ldots.\right)$$

$$1/2 = 1/2 \quad 0 = 1/2\text{-}1/2 \quad 1 = 1/2 + 1/2$$

$$1/2 = (1/2 + 1/2 \bullet i)(1/2 - 1/2 \bullet i)$$

$$1/2 = \frac{1}{2^2} + \frac{1}{2^3} + \cdots\cdots \frac{1}{2^n} = \sum_{n=2}^{\infty} \frac{1}{2^n}$$

$$1/2 = \lim_{n\to\infty} \sum_{i=1}^{n} Ln\left(1 + \frac{i}{n^2}\right)$$

2. $L^{1/2}_{(0,1/2\ 1)}$ Space

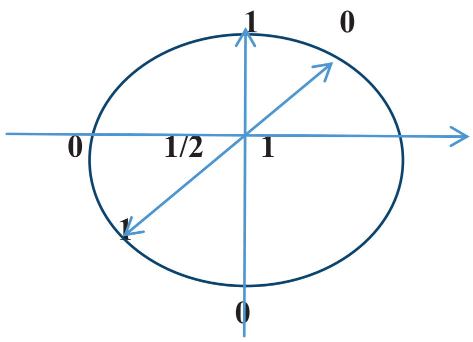


Figure.1. A $L^{1/2}_{(0\ 1/2\ 1)}$ Space

$$\tau \in N[0 \quad {}^{1}/_{2} \quad 1]N\, mod(2n)$$

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

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

$$< T >_{[0,1)} = < \tau >_{[0,1/2,1]} + < t >_{[0,1]}$$

$$\boldsymbol{LnT = N + \frac{1}{2\pi ni}}$$

The Symmetry of the N-domain

$$\boldsymbol{N \sim \left(0 , 1 , 2 , 3 , 4 , ...\right)}$$

$$\text{n}\boldsymbol{\sim \left(1 , 2 , 3 , 4 , ...\right)}$$

$$\boldsymbol{P \sim \left(2 , 3 , 5 , 7 , ...\right)}$$

$$\text{p}\boldsymbol{\sim \left(3 , 5 , 7 , ...\right)}$$

$$\boldsymbol{N \sim < n-1 , n , n+1 , 2n >}$$

$$\boldsymbol{P \sim \left(2 , p\right)}$$

$$\boldsymbol{N \sim < 0 , n , 2n > \to < 0 \quad \frac{1}{2} \quad 1 >}$$

$$\boldsymbol{N \sim < n-1 , n , n+1 > \to < 0 \quad \frac{1}{2} \quad 1 >}$$

We have

$$\sum_{N=0}^{\infty} \frac{1}{2^N} = e^{i2N\pi} - e^{ip\pi}$$

$$\frac{e^{i2\pi}+e^{i\pi}}{2} = 0, \frac{e^{i2\pi}-e^{i\pi}}{2} = 1$$

$$\frac{e^{i2n\pi}+e^{ip\pi}}{2} = 0, \quad \frac{e^{i2n\pi}-e^{ip\pi}}{2} = 1$$

$$\frac{e^{i2(n\pm1)\pi}+e^{i(p\pm2)\pi}}{2} = 0, \quad \frac{e^{i2(n\pm1)\pi}-e^{i(p\pm2)\pi}}{2} = 1$$

$$\frac{e^{i2*2n\pi}+e^{i2_p\pi}}{2} = 1, \quad \frac{e^{i2*2n\pi}-e^{i2_p\pi}}{2} = 0$$

$$\frac{e^{i(2n+1)\pi}+e^{ip\pi}}{2} = -1, \quad \frac{e^{i(2n+1)\pi}-e^{ip\pi}}{2} = 1$$

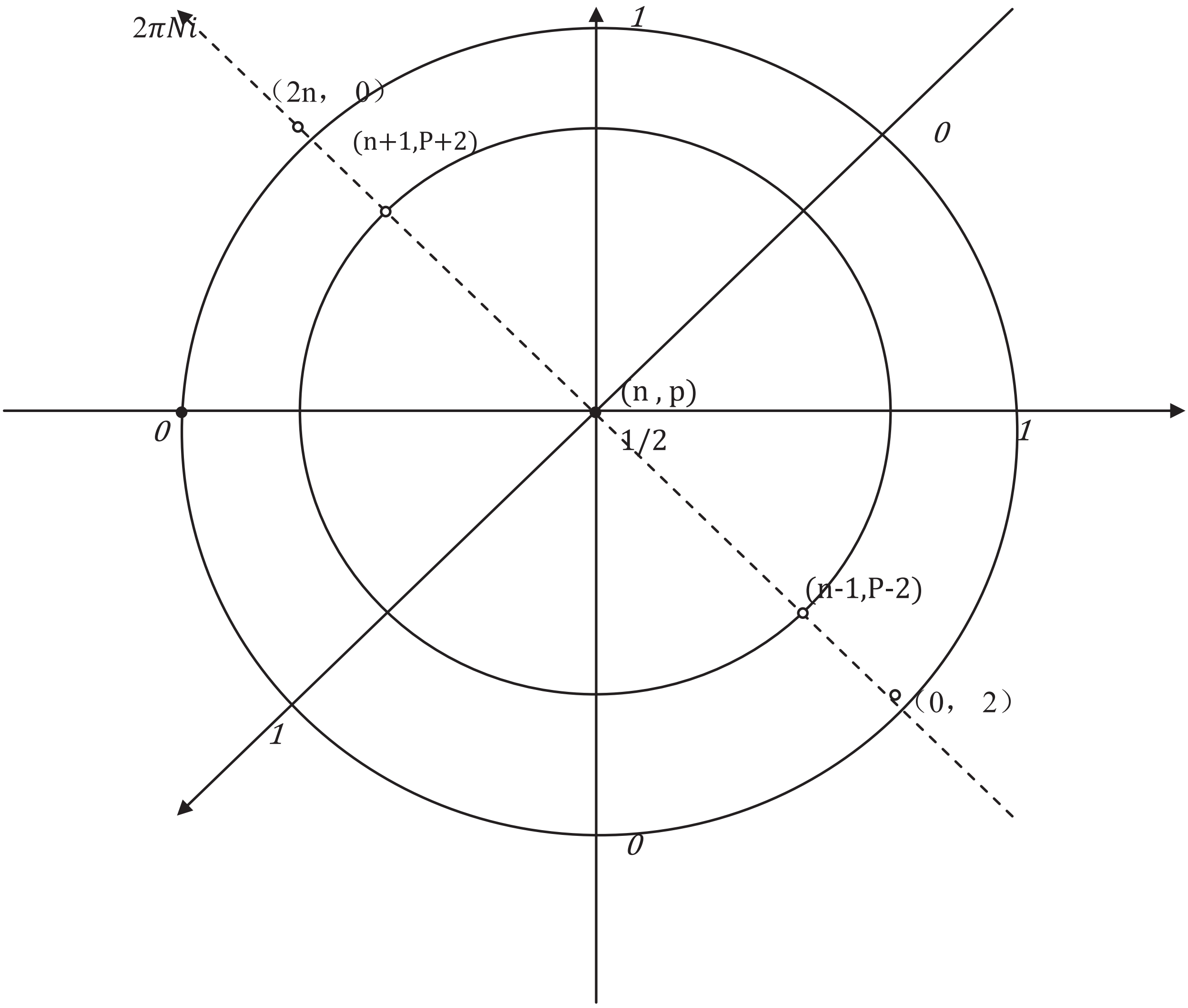
And

$$\mathbf{1} = [\boldsymbol{lnT}][\boldsymbol{lnT}]^{-1}$$

$$1+\begin{bmatrix}0 & 1 & 0\\ 0 & \frac{1}{2} & 1\\ 1 & 0 & 0\end{bmatrix}\begin{bmatrix} {}^{1}\!/_{2} & (n-1)/2-\frac{1}{2\pi\ (n\text{-}1)\ i} & n/2-\frac{1}{2\pi ni} & (n+1)/2-\frac{1}{2\pi\ (n+1)\ i} & n-\frac{1}{4\pi ni}\\ (n-1)/2+\frac{1}{2\pi\ (n\text{-}1)\ i} & {}^{1}\!/_{2} & & \cdots\cdots & \cdots\cdots\\ n/2+\frac{1}{2\pi ni} & \cdots\cdots & & 1/2 & \cdots\cdots\\ (n+1)/2+\frac{1}{2\pi\ (n+1)\ i} & \cdots\cdots & & \cdots\cdots & \cdots\cdots\\ n+\frac{1}{4\pi ni} & \cdots\cdots & & \cdots\cdots & 1/2\end{bmatrix}$$

$$= \mathbf{0}$$

n~(2,3,4......)



$$\boldsymbol{N \sim P} \rightarrow < \boldsymbol{n-1, n\ ,\ n+1, 2n} > \sim < \boldsymbol{P-2, P, P+2, 2} >$$

$$\boldsymbol{N} \sim < (\boldsymbol{2n, 0})\ ,\ (\boldsymbol{n, p})\ ,\ (\boldsymbol{0, 2}) > \rightarrow < \mathbf{0}\quad \frac{\mathbf{1}}{\mathbf{2}}\quad \mathbf{1} >$$

$$N \sim <(n-1, P-2)\ ,\ (n,p)\ ,\ (n+1, P+2)> \rightarrow <0 \quad \frac{1}{2} \quad 1>$$

$$\begin{bmatrix} 0 & p+2 & 0 \\ n-1 & p/n & n+1 \\ 2n & p-2 & 2 \end{bmatrix} \rightarrow \begin{bmatrix} 0 & 1 & 0 \\ 0 & 1/2 & 1 \\ 1 & 0 & 0 \end{bmatrix}$$

The proof of Twin Primes Conjecture

$$N \sim P$$

$$n \sim p \rightarrow <n-1, n\ ,\ n+1> \sim <p_{1(P-2)}\ ,\ p_0, p_{2(P+2)}>$$

$$N \sim <\frac{n-1}{p_2}, \frac{n}{p_0}, \frac{n+1}{p_1}> \rightarrow <0 \quad 1/2 \quad 1>$$

$$n = p_0$$

$$<n+1> - <n-1> = 2 = <p_2> - <p_1>$$

$$p_2 = p_1 + 2$$

This mean that we have infinite twin primes in N domain.

The proof of Goldbach conjecture

$$N \sim P$$

$$n = p_0$$

$$n \sim p \rightarrow <n-1, n\ ,\ n+1> \sim <p_{1(P-2)}\ ,\ p_0, p_{2(P+2)}>$$

$$N \sim <\frac{n-1}{p_2}, \frac{n}{p_0}, \frac{n+1}{p_1}> \rightarrow <0 \quad 1/2 \quad 1>$$

$$<n-1> + <n+1> = 2n = <p_1> + <p_2>$$

This is the proof of Goldbach conjecture.

The Proof of Riemann Hypothesis

$$\xi\ (s) = \sum_{n=1} \frac{1}{n^s} \qquad (s = a + bi)$$

$$\begin{bmatrix} 0 & p+2 & 0 \\ n-1 & p/n & n+1 \\ 2n & p-2 & 2 \end{bmatrix} \rightarrow \begin{bmatrix} 0 & 1 & 0 \\ 0 & 1/2 & 1 \\ 1 & 0 & 0 \end{bmatrix}$$

This is mean that the trivial zero-point of Zeta-Function is -2n (-2,-4,-6......)

this is mean that the Non-trivial zero-point of Zeta-Function $Re(s) = {}^{1}/_{2}$ **.**

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$$+\begin{bmatrix} 0 & 1 & 0 \\ 0 & \frac{1}{2} & 1 \\ 1 & 0 & 0 \end{bmatrix} \begin{bmatrix} {}^{1}/_{2} & (n-1)/2-\frac{1}{2\pi\ (n\text{-}1)\ i} & n/2-\frac{1}{2\pi ni} & (n+1)/2-\frac{1}{2\pi\ (n+1)\ i} & n-\frac{1}{4\pi ni} \\ (n-1)/2+\frac{1}{2\pi\ (n\text{-}1)\ i} & {}^{1}/_{2} & & \cdots\cdots & \cdots\cdots \\ n/2+\frac{1}{2\pi ni} & \cdots\cdots & & 1/2 & \cdots\cdots \\ (n+1)/2+\frac{1}{2\pi\ (n+1)\ i} & \cdots\cdots & & \cdots\cdots & \cdots\cdots \\ n+\frac{1}{4\pi ni} & \cdots\cdots & & \cdots\cdots & 1/2 \end{bmatrix}$$

$= \mathbf{0}$

n~(2,3,4......)

This is a Hermitian matrix, its Eigens value is all the non-trivial zeros of **Zeta Function.** The trace of matrix $t_r(A) = {}^{1}/_{2} \bullet N$.

$$\text{so } \sum_N Re(s) = {}^{1}/_{2} \bullet N$$

This is means that **all** the non-trivial zeros of Zeta Function$Re(s) = {}^{1}/_{2}$

This is the Proof of Riemann Hypothesis!