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# **Research Article**

# EFFECT OF GRAVITATIONAL WAVE ON DNA BASE

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# ARTICLE INFO ABSTRACT

Article History: Received 17<sup>th</sup> November, 2016 Received in revised form 21<sup>th</sup> December, 2016 Accepted 28<sup>th</sup> January, 2017 Published online 28<sup>th</sup> February, 2017 In this paper, gravitational wave theory and variable field theory are used. The quantitative effects of gravitational waves on DNA bases were proposed by mathematical modeling analysis, and the conversion principle of base A, T, G and C was proposed. It is clarified that gravitational waves play a key role in genetic inheritance.

#### Key Words:

Gene; DNA base; gravitational wave.

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## **INTRODUCTION**

DNA composition of genetic instructions. Guide the development of biological and life function. Is the need to construct intracellular proteins with RNA. Genes are DNA fragments with genetic information, some play their own role in the structure, and some involved in the regulation of genetic information. The number of adenine numbers is equal to the number of thymine (A = T), the number of guanine is equal to the number of cytosine (G = C), and the sum of the number of purines is equal to the sum of the pyrimidine numbers. To meet the principle of complementary base matching. In the following, the relationship between gravitational waves [1] and bases is described in terms of gravitational wave energy.

#### Theoretical preparation and definition preparation

Generation and propagation trajectory theorem of gravitational waves

**Theorem 1:** (Gravitational waves existence theory) [2,3,4,5,6,7] : There are A, B two points. A is the wave source of gravitational field, and B is a point in the gravitational field. The existence of energy rotational motion (including proton, neutron, atomic nucleus or planet) at A is the necessary and sufficient condition of the existence of gravitational waves at B. Direction is the bidirection of the path tangent at point B, and the limit of the convergence direction is A point.

Prove : Let say the distance of A and B is r, if A, B are stationary points, it only exists the physical factor of "distance r", do not form elements of waves. Only the rotational

movement can generate speed and energy. That is the speed of B point Vb and the angular velocity of A point  $d_{"}$  have a functional relationship.

 $Vb = f(d_{\pi}, r)$ , when time  $\Delta t \to 0$ , angular velocity  $\Delta_{\pi} \to 0_{\pm}$  and

$$Vb = \frac{dr}{dt} = \lim_{\Delta_{x} \to 0} \frac{[f(_{y} + \Delta_{y}), r] - [f(_{y}), r]}{\Delta_{y}}$$

We have a conclusion that A is the wave source of gravitation, and point B exists the gravitational wave emitted from wave source A.

**Theorem 2** (Gravitational wave stability theory) [2,3,4,5,6,7] : A is a gravitational wave source, B is a point in gravitational field of A. The necessary and sufficient conditions of stable gravitational wave at B point is

$$\frac{dr}{d_{"}} = b$$
, (b is a constant).

Prove : According to Theory 1,

$$Vb = \frac{dr}{dt} = \lim_{\Delta_{r} \to 0} \frac{[f(_{u} + \Delta_{u}), r] - [f(_{u}), r]}{\Delta_{u}}$$

The necessary and sufficient conditions of stable gravitational wave is that the speed of B point is stable ;

The necessary and sufficient conditions of stable speed at B point are that the angular velocity of A point is stable;

The necessary and sufficient conditions of stable angular velocity of A point is that the angular velocity of A point and speed of B point is proportional.

 $\frac{Vb}{d_{"}} = \frac{dr}{d_{"}} = b$ , (b is a constant) and,

$$r = a + b_{\pi} \tag{1}$$

formula (1) is the equations of gravitational waves, that is the track of gravitational waves.

*Inference of theorem 2* : If a gravitational wave track meet Archimedean spiral, this must be stable gravitational waves.

There is,  $r = a + b_{\pi}$ .

r is the distance of A to B; a is the spiral length of A to B; b is the distance between the spirals.

#### The existence theorem of potential difference

In the relatively stable gravitational wave field, if there is a rotation of the line, then there exists the following theorem.

**Theorem 3**: The potentials at each point on an independent rotation line are equal and homomorphic.

In the relatively stable gravitational wave field, there are two different rays emanating from the same point A, each having two points B and C, respectively.

**Theorem 4:** The two rays AB and AC at point A rotate at the same time in the clockwise (or anticlockwise) direction, and the potential difference between A and B is generated according to the entanglement of the helix trajectory and the electron. Similarly, a potential difference between A and C is also generated. And the entanglement force at point A and B is small.

*Inference of theory 4:* there is a plane gravitational wave field, then the maximum potential difference is the gradient direction of the gravitational wave center of the normal direction.

*Definition:* The potential difference of the adenine base itself is defined as "one unit" of the biological potential difference.

#### Zhe Yin 's DNA base theorem

Any creatures are affected by the gravitational waves of the earth and the gravitational waves of the sun. The nuclei are in almost closed cells, and the density of the nuclei is relatively high. The biological DNA can ignore the action of the gravitational waves of the earth and only consider the action of the solar gravitational waves. Two deoxynucleotides chain, the role of gravitational waves, the parallel coiled to form a double helix structure. Two hydrogen bonds can be formed between the bases A and T, and three hydrogen bonds can be formed between G and C, so that two polydeoxygenucleotides form complementary double chains.

Assume that a gravitational wave plane and a DNA cross plane, in the gravitational wave direction followed by a1, a2, a3, a4 four points. The normal direction of the cross plane is the direction of the potential from high to low, then the DNA satisfies the right hand spiral. The normal direction of the cross plane is the direction of the potential from low to high, then the DNA satisfies the left hand spiral.

**Theorem 1**: The effect of solar gravitational waves determines the helical direction of DNA. Gravitational wave plane intersects DNA. The normal direction of the intersecting plane is the direction of the potential from high to low, then the DNA satisfies the right hand spiral. The normal direction of the intersecting plane is the direction from low to high, then the DAN satisfies the left hand helix.

According to the inference of the theorem 2, the stable fourpoint a1, a2, a3, a4 on the gravitational wave line satisfy the Archimedes spiral equation,

 $r = a + b_{\pi}$ . That is, "1, "2, "3, "4 And equidistant r. Make,

A1 equation : 
$$r = a + b_{n_1}$$
, A2 equation :  $r = a + b_{n_2}$ ,

A3 equation : 
$$r = a + b_{\#_3}$$
, A4 equation :  $r = a + b_{\#_4}$ 

Base adenine A, basal thymine T, base guanine G, basal cytosine C. Base pair A-T, G-C no longer the same plane, so the conditions to form a spiral.

Have the following theorem:

**Theorem 2**: DNA four bases C, A, T, G, there are two base pairs of A-T, G-C. Four base states are stable. The two pairs of DNA base molecular weight is equal, the same power, the opposite direction of potential. Have a symmetrical relationship. Corresponding to four angles 2kf + 0, 2kf + f/2, 2kf + f, 2kf + 3f/2, k = 0,1,2,3..., there are four DNA base gravitational wave helical equations:

Base C equation : r = a + b(2kf + 0), Base A equation : r = a + b(2kf + f/2).

Base T equation : r = a + b(2kf + f), Base G equation : r = a + b(2kf + 3f / 2)

**Inference of theory 2 (DNA binding law)**: four DNA base potential flow direction is equal to the gravitational wave direction, from A to T, from G to C direction. Where A and G at the highest potential, the opposite direction of potential. According to the gravitational wave equation of theorem 2, there are four base transformation relations:

A + A = T	T+A=G	C+A=A	G+A=C
A+T=G	T+T=C	C+T=T	G+T=A
A+C=A	T+C=T	C+C=C	G+C=G
A+G=C	T+G=A	C+G=G	G+G=T

**Theorem 3:** Assuming a base chain  $C \rightarrow A \rightarrow T \rightarrow G \rightarrow C$ , If base C binds to each base of the base chain, the base chain is unchanged.

If base A binds to each base of the base chain, the base chain moves forward by one, forming  $A \rightarrow T \rightarrow G \rightarrow C \rightarrow A$ .

If base T binds to each base of the base chain, then A becomes G, G becomes A, T becomes C, and C becomes T.

If base G binds to each base of the base chain, the base chain moves back one by one to  $G \rightarrow C \rightarrow A \rightarrow T \rightarrow G$ .

The enamine structure in C is mutated to form an imine, which is then hydrolyzed to ketone, i.e., U (spontaneous deamination). For frequencies with short half-lives, the frequency is not high, and for several long-lived Trna and rRNA, several base changes have no significant effect on the overall structure. But after all has an impact. DNA is a genetic material, so by a stable T instead of U. DNA transcription process undermines the stability of the double helix structure. T is methylated U.

**Theorem 4:** Gravitational waves before the rotation of the spiral between the C, A, T, G is stable. Damage of Gravitational Wave at T at Transcription. (T variable U, the molecular weight imbalance between the two base pairs, the energy flow imbalance, U acts as C, and the entanglement between the two spins disappears). Resulting in DNA at both ends of the potential difference becomes zero, linear DNA into a curve RNA. Base T disappeared, the 5 'end of the mRNA transcribed was G, and the 3' end was A, which was consistent with the law of gravitational wave circulation.

**Theorem 5:** First, the decomposition of T, followed by RNA transcription.

Theorem 6: DNA gene data is a quaternary number.

**Theorem 7:** T decomposition, U methylation process is the genetic variation process (evolution process). A, G information is the traditional information inheritance process (genetic process).

# CONCLUSION

In this paper, we studied the relationship between gravitational wave and DNA four bases. Solve the four bases of the mutual conversion relationship. The key role of gravitational wave in genetic inheritance was elucidated.

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