

Jiang Jianzhong<sup>1</sup> and Chen Xi-Qi<sup>2</sup>

1. School of Mechanical and Engineering, Jiangnan University, Wuxi 214122, China

2. Jiangsu Food and Pharmaceutical Science College, Huaian 28137811, China

**Abstract:** In light of the double helix structure hypothesis for photon, we attempt to elucidate the generation mechanism underlying TF (Torsion Field) from both wave and particle perspectives and the enigma surrounding chiral life on Earth by proposing a neutrinopropagation model for TF, which will serve as a crucial key in unraveling the enigma of life's origins and is promising to trigger a paradigm transformation in future medical and healthcare technologies.

Key words: Chirality of life, TF, SW (Scalar Wave), neutrino-propagation model of TF, photon structure.

### 1. Preface

An in-depth analysis of our world suggests that the "God" creating lives may be associated with lefthandedness. The Chinese phrase "Heavenly Left, Earthly Right" from I Ching signifies that the coupling interaction between counterclockwise spin and counterclockwise orbital rotation of Earth creates a flourishing ecosystem on it. If the spin motion of the Earth were ceased or opposite to its counterclockwise orbit rotation, there would be no precession and consequently no seasons, making it impossible for life to evolve. Numerous analogous phenomena in nature adhere to this heavenly left-handedness principle, such as black holes, galaxies, and the Sun within our universe. Moreover, human hearts are located on their left side of human body; rare instances like conchs are referred to as sacred ones due to their unique orientation towards left-handedness. Additionally, the fundamental building blocks of life, amino acids, predominantly exhibit left-handedness.

The origin of the chirality in the context of life's evolution and its preference for a single chirality remain as two profound enigmas in the study of life's origins. Some researchers posit that crucial organic

**Corresponding author:** Jiang Jian-zhong, Ph.D., associate professor, research fields: new energy, energy medicine.

molecules essential for life may have been initially synthesized in outer space, where the chirality of them is hypothesized to be attributed to the spin effect of CPL (Circularly Polarized Light) emitted by celestial bodies. Differential absorption of chiral molecules by left- and right-handed CPL [1] results in variations in the proportions of these enantiomers within meteorite contents. Upon impacting Earth, meteorites transported original chiral organic compounds to our planet. An alternative hypothesis proposes that the chirality of biological molecules originated from CISS (Chiral-Induced Spin Selectivity) [2] which represents chiral molecules are believed to "separate" electrons based on their spin directions, adhering to principles where like directions attract and opposite directions repel. It is suggested that between 1.8 billion and 3.7 billion years ago, Earth formed extensive underwater deposits of magnetite beds under anoxic conditions; ultraviolet radiation on Earth's surface induced the generation of spin-polarized photoelectrons within uniformly magnetized magnetite material. As a result of CISS effects, selective chiral chemical reactions occurred at the surface of magnetite leading to preferential selection among different chiral organic molecules-initiating

processes contributing towards asymmetry in DNA (Deoxyribonucleic Acid), RNA (Ribonucleic Acid), amino acids etcetera. Let us assume that an external force initially imparted the tendency for molecules to be chiral. What factors contributed to the evolution of amino acids into left-handed molecules over Earth's long evolutionary process? Although some experimental evidences have only confirmed the driving mechanism behind biological organic molecule chirality in catalyzing peptide bond formation [3, 4], these research findings offer a novel perspective for comprehending the genesis of life, which means light is the source of life.

A photon being the propagating particle of light consists of a PPC (Positively Charged Photon Component) and a NPC (Negatively Charged Photon Component) which spiral around forward axial with an equal pitch and constitute a core uniformly advancing at the speed C in a vacuum along the direction of light propagation [5]. In light of this double helix structure hypothesis for photon, we attempt to elucidate Aharonov-Bohm effect [6], the generation mechanism underlying TF (Torsion Field) from both wave and particle perspectives and the enigma surrounding chiral life on Earth by proposing a neutrino-propagation model for TF. Like the mass/gravity field and charge/electromagnetic field, TF is a physical field accompanying particle spin [7]. Although Einstein chose to ignore it in his general theory of relativity due to its significantly smaller produced force compared with gravity, many unsolved mysteries in physics, such as LEM (Longitudinal Electromagnetic) wave, neutrino, and zero-point vacuum energy [8-10], seem related to it. Chiral molecules exhibit a spinselective attraction and repulsion similar to the vortex structure of TF. Therefore, analyzing life's chirality from the perspective of the vortex structure of TF and double helix structure of photons may be necessary.

## 2. Theoretical and Practical Aspects of the Coupling Action Generating TF between Particle Spin and Its Orbital Rotation

Liang theoretically demonstrated that the coupling

action of electron spin with its orbital motion results in the generation of a propagating TF [11]. As shown in Fig. 1, the spin magnetic moment  $\vec{S}$  of the electron (opposite to the spin angular momentum  $\vec{S}_{P}$ ) will undergo alignment towards the direction of the external magnetic field  $\vec{B}$ . Additionally, the electron will exhibit rotational motion along a large orbit perpendicular to  $\vec{B}$  with a specific frequency. When this orbital rotation frequency coincides with that of  $\vec{B}$ , TF coherence occurs, leading to substantial transfer of energy from  $\vec{B}$  to the electron. This generation mechanism of TF is called as "coupling action of particle spin with orbital rotation". Sphilman [12], developed a TF-generator (see Fig. 2) including a crucial central component-a nickel-manganese iron ring magnet. As depicted in Fig. 3, when driven by an electric motor and rotating clockwise, it generates righthanded TF. Conversely, if rotating counterclockwise, it produces left-handed TF. When it reaches a speed exceeding 3,000 rotations per minute, individuals sensitive to meridian stimulation can perceive tingling sensations caused by TF on their palms [12]. In addition to Sphilman's and Arkimov's TF generator [7, 12], Tesla coil [13] and Rodan coil [14] are the most frequently utilized TF generators in current practice, but we must pay attention to their polarity when using them. We only need left-handed TFs.



Fig. 1 Coupling action of electron spin with its orbital rotation.



Fig. 2 Sphilman's rotary TF generator.



Fig. 3 Schematic diagram of Sphilman's rotary TF generator.

SW is the longitudinal component of electromagnetic waves and has undergone a similar historical trajectory as TF. Initially, Maxwell theoretically postulated the existence of SW [14], yet for computational simplicity, Hertz disregarded it. Subsequently, Tesla experimentally validated the presence of SW [15]. Owing to its distinctive attributes such as harmless penetration of human tissue, potential superluminality, absorption of free energy, and energy-lossless propagation [16], its potential and practical applications in medicine and energy sectors have garnered widespread recognition [17-21]. Upon meticulous examination, it becomes apparent that both TF and SW share common traits including interaction with human consciousness and challenges associated with measurement, transmission of information and energy relevant to medicine, connection to zero-point vacuum energy, and elusive fundamental principles. Consequently, numerous scholars posit them as one entity [22-24]. A comprehension of TF from SW perspective could effectively address all issues associated with it.

## 3. The Double Helix Structures of Photon and TF

Based on the hypothesis of PPC/NPC structure of photon [5], we develop a double helix model to represent photon. The left-handed photon model is depicted in left-top of Fig. 4, where a photon consists of a PPC and a NPC, with equal magnitudes of charge resulting in an overall electrically neutrality. PPC exhibits a right-handed spin while spiring along a righthanded orbit, generating left-handed TF  $B_{z+}$ . Similarly, NPC possesses a left-handed spin while moving along a left-handed orbit, producing lefthanded TF  $B_{z-}$ . According to TF-generation theory of coupling particle spin with orbital rotation [10, 11], PPC produces the same kind of TF as NPC i.e.,  $B_{z-} =$  $B_{z+}$ . The total TF generated by the helical motions of the two kinds of photon components can be represented as  $B_z = B_{z-} + B_{z+}$ . According to equation [25]  $\vec{B}_t/\mu_0\varepsilon_0 = \vec{C}\times\vec{E}_t$ , at point A, PPC and NPC intersect without colliding; at this juncture, both the electromagnetic fields  $\vec{E}_t$  and  $\vec{B}_t$  generated by the photon are zero. At point B, PPC and NPC are maximally separated from each other; consequently, both  $\vec{E}_t$  and  $\vec{B}_t$  attain their maximum negative values. Similarly at point C, where they are also maximally separated from each other and reach their maximum positive values. The schematic diagram illustrating TEM (Transverse Electromagnetic) waves generated by PPC and NPC is presented in Fig. 5.

Since neutrinos are assumed to serve as propagation particles for TF [24] and their TF force is significantly weaker than that of electromagnetic forces produced by  $\vec{B}_t$ [9]; thus  $|\vec{B}_z| \ll |\vec{B}_t|$ , that is, in normal condition  $B_z$  is negligible compared with  $B_t$ . The right-handed photon model is illustrated in left-bottom of Fig. 4, with a similar principle analysis as left-handed photon. Based on the aforementioned analysis, photons can be categorized into two groups based on their spin direction: left-handed photon (producing left-handed TF) and right-handed photon (producing right-handed TF).



Fig. 4 Superposition of left-handed photon/right-handed photon.



Fig. 5 The propagation mode of TF (SW) in a vacuum.

In light of the structures of photons in Fig. 4, in order to maintain the angular momentum conservation, TFneutrino model should be composed of two reversely orbital rotating neutrinos. The left-handed TF-neutrino model is shown in Fig. 6. The neutrino spin is lefthanded, and both of them move in a left-handed large spiral orbit along the forward axis. Their phase difference is  $\pi$ , and the total left-handed TF generated is  $B_L$ , representing a high energy state. The righthanded TF-neutrino model is shown in Fig. 7, which is also composed of two neutrinos with left-handed spin, but spiring in a right-handed orbit. Their phase difference is also  $\pi$ , and the total right-handed TF generated is  $B_R$ , representing a low energy state. According to the rule of electromagnetic induction,  $B_L$ (scalar magnetic field) produces the left-handed electric vortex potential  $\vec{E}_{v}$  (vortex electric field, see Fig. 8). According to the vortex theory of fluid dynamics [26], vortices attract in same spin and repel in opposite spin. Therefore,  $B_L$  attracts left-handed TF and repels right-handed TF, while  $B_R$  attracts righthanded TF and repels left-handed TF (see Fig. 8).



Fig. 6 Left-handed TF.

Fig. 7 Right-handed TF.

Double Helix Particle Models of Photon/Torsion Field and Their Relationships with Chirality of Life on Earth



Fig. 8 Spin-selectivity and interaction between TFs.

# 4. Wave Equations and Propagation Mode of TF

In general, SW is usually allowed to be neglected due to its significantly smaller amplitude compared with that of TEM waves. But in certain scenarios such as near field [27], current Maxwell's equations fail to fully elucidate the characteristics of it. Hence, consideration must be given to SW. The generation of TF typically occurs when two coherent light waves  $\vec{E}_1/\vec{B}_1$  and  $\vec{E}_2/\vec{B}_2$  (referred to as "source waves") with identical frequency, amplitude, opposite propagation direction, and a phase difference of  $\pi$  superposed in a vacuum [18]. After superposition, their resulting electromagnetic fields  $\vec{E}$  and  $\vec{B}$  become zero, giving the impression that energy has vanished. According to Aharonov-Bohm effect [6], the magnetic vector potential  $\overline{A}$  and electromagnetic scalar potential  $\varphi$  have not disappeared. As per Poynting theorem of SW [28], the total energy  $E_T$  of the source waves should convert to SWs  $(\vec{B}_z/\vec{E}_{\theta})$  energy  $E_P$ , i.e.,

$$B_{z} = \sqrt{B_{1}^{2} + B_{2}^{2}} = \sqrt{1 + \exp^{2}(j\pi)} B_{0} \exp\left[j\left(\vec{k} + \vec{r} - \omega t\right)\right]$$
$$= \sqrt{2}B_{0} \exp\left[j\left(\frac{\omega}{c} z - \omega t\right)\right] = \sqrt{2}B_{1} \neq 0 \quad (1)$$

Eq. (1) represents the wave equation of  $B_z$ . It is essential to consider  $B_z$  under this condition to ensure energy conservation. Modified Gaussian magnetic law of SW in a vacuum can be derived as based on Eq. (1).

$$\nabla \cdot \vec{B} = \nabla \cdot \vec{B}_z = j \frac{\omega}{C} B_z \neq 0$$
 (2)

while Gaussian law of SW in a vacuum can be given as

$$\nabla \cdot \vec{E} = \nabla \cdot \vec{E}_z = \frac{\rho}{\varepsilon_0} = 0 \tag{3}$$

$$E_z = 0 \tag{4}$$

Total current law and Faraday's law of electromagnetic induction in a vacuum can be modified as

$$\frac{1}{\mu_{0}\varepsilon_{0}}\nabla \times \vec{B} = \frac{1}{\mu_{0}\varepsilon_{0}}\nabla \times \vec{B}_{t} + \frac{1}{\mu_{0}\varepsilon_{0}}\nabla \times \vec{B}_{z}$$

$$= \partial \vec{E}/\partial t \qquad (5.1)$$

$$= \partial \vec{E}_{t}/\partial t + \partial \vec{E}_{\theta}/\partial t = \partial \vec{E}_{t}/\partial t + \vec{E}_{\theta}/\tau_{2}$$

$$\nabla \times \vec{E} = \nabla \times \vec{E}_{t} + \nabla \times \vec{E}_{\theta} = -\partial \vec{B}/\partial t$$

$$= -\partial \vec{B}_{t}/\partial t - \partial \vec{B}_{z}/\partial t \qquad (6.1)$$

$$= -\partial \vec{B}_{t}/\partial t - \vec{B}_{z}/\tau_{2}$$

Here,  $\tau_2$  are the time attenuation constants for electric vortex potential [29]. The fundamental equations governing TEM waves in a vacuum can be formulated as

$$\nabla \times \vec{B}_t / \mu \varepsilon = \partial \vec{E}_t / \partial t \tag{5.2}$$

$$7 \times \overline{E}_t = -\partial \overline{B}_t / \partial t$$
 (6.2)

Subtracting Eqs. (5.1) from (5.2) and Eqs. (6.1) from (6.2) results in that the fundamental equations governing  $\vec{B}_z/\vec{E}_{\theta}$  are shown as

$$\frac{1}{\mu_0 \varepsilon_0} \nabla \times \vec{B}_z = \vec{E}_\theta / \tau_2 = \partial \vec{E}_\theta / \partial t$$
 (5.3)

$$\nabla \times \vec{E}_{\theta} = -\vec{B}_z/\tau_2 = -\partial \vec{B}_z/\partial t \qquad (6.3)$$

which have the plane solutions shown as Eqs. (1) and (7).

$$\vec{E}_{\theta} = \sqrt{2} CB_{z0} \exp\left[j \left(\frac{\omega}{c}z - \omega t\right)\right] \vec{e}_{\theta}$$
(7)

Herein,  $\omega$  is the frequency of the LEM wave  $\vec{B}_z/\vec{E}_{\theta}$  [29],  $\mu_0$  and  $\varepsilon_0$  are the vacuum permeability

and vacuum dielectric constant. The propagation mode for  $\vec{E}_{\theta}$  and  $\vec{B}_z$  is depicted in Fig.5, illustrating that  $\vec{E}_{\theta}$  and  $\vec{B}_z$  have the same phase angle and propagate along the positive *z*-axis at a phase velocity c. Eqs. (1) and (7) disclose the electromagnetic induction law that scalar magnetic field  $\vec{B}_z$  and vortex electric field  $\vec{E}_{\theta}$ can mutually transform in a vacuum.

In Fig.4, the superposition of two columns of source waves in a vacuum results in the generation of  $\vec{B}_z/\vec{E}_{\theta}$ , which is equivalent to the superposition of a lefthanded photon  $\gamma_L$  and a right-handed photon  $\gamma_R$ . As depicted in Fig. 4, at points E and H, PPCs from  $\gamma_L$ meet with NPCs from  $\gamma_R$ ; while at points G and F, NPCs from  $\gamma_L$  encounter PPCs from  $\gamma_R$ . Their superposition leads to an annihilation between PPCs/NPCs [30], giving rise to  $\vec{B}_z/\vec{E}_{\theta}$  and substantial zero-point vacuum energy. This reaction can be mathematically expressed as follows

 $\gamma_R + \gamma_L \rightarrow \vec{B}_z / \vec{E}_{\theta} + \text{zero point vacuum energy}$ (8)

According to the law of electromagnetic induction,  $\vec{B}_z$  can produce electric vortex  $\vec{E}_{\theta}$  whose vortex motion interacts with zero-point vacuum energy field to form a entangled TF coherence (resonance) that might generate high-energy rays, neutrons, and high-energy particles at its vortex center and extract free energy, accompanied by highly directed cold fusion [31-33]. This process exemplifies the mechanism through which TF harnesses free energy from the vacuum energy field.

# 5. The Enigma of Chirality in Living Organisms and Its Relation to TF

In fundamental life processes such as photosynthesis and respiration whose underlying mechanism involves electron transfer, these processes rely on protein enzymes to facilitate electron transfer, which are composed of chains of amino acid molecules with uniform chirality. The protein molecular chains in living organisms on Earth exhibit a levorotatory nature; when there is an increased presence of right-handed

spin electrons within the cell, they induce a levorotatory motion along the amino acid molecule chains, resulting in the generation of right-handed TF  $B_{\rm R}$  and subsequent illness in the organism. If a TF therapy device is currently being employed, the biological organism will receive the left-handed TF  $B_{\rm L}$ carrying drug/nutrient information and free energy through the tunneling nanotubes [34, 35] in its cell membrane as a biological waveguide. Subsequently,  $B_{\rm L}$  induces a left-handed electric vortex potential  $E_{\rm v}$ on the chain of ATP synthase (see Fig. 9).  $\vec{E}_{v}$  attracts left-handed free electrons in the cellular fluid along this chain to form a left-spiral movement, thereby increasing ionization speed, hydrogen ion (proton) concentration, and potential energy within the cellular which disrupts ATP/ADP concentration fluid. equilibrium within mitochondria and enhances ATP synthesis reaction rates. Additionally, accumulation of free electrons in cell membranes stimulates ATP synthase activity, accelerating ATP synthesis rates and improving mitochondrial ATP/ADP ratios to maintain high-energy states (see Fig. 9). Conversely, righthanded TF  $B_{\rm R}$  reduces mitochondrial ATP/ADP ratios leading to low-energy states.

Due to the left-handed nature of electrons in biological systems, the amino acid molecular chain must exhibit left-handed chirality in order to generate a left-handed TF and sustain organisms healthy. Failure to maintain consistent chirality in this long chain can lead to disruptions in energy and information transmission within the organisms; if this long chain adopts righthanded chirality, the organism will be unable to produce vital information and will ultimately perish. Proteins and DNA long chains are mutually complementary and essential for sustaining and replicating life. The production of the former relies on information preserved by the latter, while the latter also depends on the former for self-replication completion. When manufacturing proteins, DNA should employ a mirror image method due to the left-handed nature of amino acid molecular long chains, necessitating that DNA itself be right-handed.



Fig. 9 ATP/ADP mutual conversion in mitochondria of cells under the action of TFs.

Our TF-neutrino model and its interaction mode with amino acid long chain can offer a comprehensive solution to the enigma of life's chirality on Earth. Light consists of PPCs and NPCs spinning accompanied by substantial spiral-orbital movement along the forward axis. Left-handed light (see Fig. 4) enerates left-handed TF, while right-handed light (see Fig. 4) produces right-handed TF. Consequently, two distinct types of photons/TFs emerge. During the initial stages of the Big Bang, the two types of photons/TFs were evenly distributed throughout the universe. However, Earth where left-handed TF predominates due to its orbital rotation and spin being left-handed has a preference for attracting left-handed photons/TFs and repelling righthanded ones. Consequently, under irradiation from lefthanded photons/TFs, according to CISS principles, amino acid molecules tend to exhibit bias towards one chirality—specifically left-handness with corresponding DNA favoring right-handness. This provides an ultimate explanation for life's chirality mystery.

## 6. Experimental Findings on the Interactions between TFs and Living Organisms in Medical Treatments

The huge potential and practical application values of TF in the field of medical treatment have been widely recognized and emphasized. Numerous researchers and institutions are employing specially designed devices to generate and transmit TF while studying their effects on living organisms. TF can penetrate organisms harmlessly and directly convey the free energy and drug information to cells. Ebbers and Meyl [36] utilized TF as a carrier to transmit biochemical information about clotrimazole (a fungicide) to yeast in order to inhibit



Fig. 10 Double helix structure of DNA.

its growth. They discovered that it was approximately half as effective as direct drug application. Schnabl and Meyl [13] found that TF exhibits distinctive energetic properties and could increase ATP (Adenosine Triphosphate) content 40% in Epomoea chrysanthemum mitochondria, thereby extending the flowering period by nearly 10%. TF can also stimulate the body's natural analgesic mechanism, reducing chronic pain discomfort [37]; enhancing the immune system [21], being applicable for treating AIDS, cancer, bacterial/viral diseases; and improving blood circulation [38]. Moreover, TF exhibits immense potential for application in psychological disorders and stress relief [39]; Priore applied for a patent for a TF treatment device which proved capable of curing cancer, leukemia, various infectious diseases [40]. These research findings confirm the close correlation between TF and life, highlighting its pivotal role in the origin of life.

### 7. Discussion

The current stagnation in theoretical research regarding TF stems from Maxwell's equations neglecting electromagnetic waves' scalar term [22]. Our proposed TF models provide guidance for developing therapeutic equipment based on TF as well as its clinical applications. TF serves as a conduit for communication between our personal biological field and the zero point vacuum field, facilitating the elevation of human thought dimension. Professor Lee [10, 12] from Taiwan University discovered that a two-centimeter thick aluminum plate is unable to block TF, while wet paper by water completely absorbs it—aligning with Guo Pu's statement from Jin Dynasty: "Chi" stops when it crosses water. Therefore, TF is essentially equivalent to traditional Chinese medicine's concept of "Chi" [10, 41-43]. As further theoretical research and clinical verification progress concerning TF, mysteries surrounding related phenomena such as Qigong, meditation, and fasting will gradually unravel. This will enable us to better comprehend these enigmatic energies (zero-point vacuum energy, or TF energy), thereby enhancing healthcare methods leading to an improved quality of life. Interestingly, upon comparing the double helix structure of DNA, we are astounded to discover that the structure of DNA bears a striking resemblance to right-handed TF (see Figs.7 and 10), which shows nature's remarkable precision and suggests that "Heavenly Left, Earthly Right" might be applicable to everything from cosmic bodies to human cells and there are still many uncovered secrets between TF and human body-energy system.

### 8. Conclusion

Our structure models for photon and TF offer a fundamental explanation for the Aharonov-Bohm effect, the generation mechanism of TF and the chiral mystery of life on Earth, which provide valuable theoretical insights for further research on the electromagnetic characteristics and energy conversion modes of TF. Moreover, based on our TF-neutrino model and interaction model between TFs, we demonstrate the mechanism how TF absorbs the zeropoint vacuum energy from both wave and particle perspectives. Despite the initial focus of Tesla's research on the TF for wireless energy transmission, its potential implications in the origins of life present a truly compelling area of study. Life on Earth consists of left-handed amino acid-based organisms, and according to TF coherence principles, right-handed molecules generating corresponding right-handed TFs are essentially "waste" or potentially harmful to terrestrial life. Thus, chiral amino acid molecules determine our existence on Earth. Research into the TF's influence on producing "left-handed" chirality in evolving life forms may offer insights into unraveling the mystery of life's origins and could potentially

catalyze a crucial aspect in future medical and healthcare advancements.

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## **Competing Interests**

Authors declare that they have no competing interests.

### **Data and Materials Availability**

All data are available in the main text or the supplementary materials.

### **Ethical Approval Statement**

The study did not require ethical approval.

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