

Research Article

Wave Equations and Particle Propagation Model of TCM (Traditional Chinese Medicine) Qi and its Interaction with Water

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Abstract

Based on the fluid vortex theory and the assumption that the positive and negative photon components undergo double helix motion, we have proposed the wave equations and neutrino propagation model for Qi of TCM and its interaction mode with water/amino acid. These new models effectively elucidate the biochemical mechanism of TCM Qigong biotherapy, providing theoretical support for its further clinical trials. By understanding Qi from the perspective of torsion field and scalar wave, it is possible to resolve all associated issues with Qi easily. Hence, we propose that Qi, torsion field and scalar wave are synonymous. A large number of experimental studies have confirmed that Qi can be absorbed by water, induce weakly alkaline, small molecular structured water with enhanced conductivity. Moreover, by promoting free electrons in cell fluid to move into cell membrane and improving mitochondrial efficiency and antioxidant effect, Qi can lead to increased mitochondrial ATP concentration and enhanced the energy of biological field of organisms.

Keywords: TCM Qigong therapy; Energy medicine; Scalar wave; Neutrino; Torsion field

Introduction

The concept of Qi in traditional Chinese medicine refers to an objectively existing substance with energetic properties [1]. Guo Pu, et al. was the first to introduce the concept of Qi during the Jin Dynasty in China [2]. He proposed that “Qi disperses with the wind and stops with water”. In recent years, there has been a growing interest in investigating the enigmatic energy of Qi, some scholars even integrate Qi into the innovation of novel products [3]. It has been reported that several countries have successfully applied Qi in sports and achieved tangible results [4]. Due to its association with consciousness, there is currently no comprehensive theoretical model available to accurately characterize it, leading many scholars to question its existence. However, scientific experiments have demonstrated the existence of Qi and its measurability. Lee Sichen, et al. found that positive Qi (such as when Qigong teachers are mindful)

can enhance protein synthesis rates while negative Qi (such as when Qigong teachers are confused) can diminish them [5]. Furthermore, through nuclear magnetic resonance experiments, he confirmed that water is capable of absorbing energy from Qi, which leads to a disruption of hydrogen bonds between water molecules and subsequently produces smaller water molecule groups [6]. Similarly, Mr. Sasaki Masami verified the existence of Qi by measuring the conductivity of Qigong water [4], discovering that positive Qi increases water conductivity, while negative Qi decreases it; however, Qi does not affect the pH value of water. By converting Qigong water into a film and subjecting it to infrared radiation, he observed changes in the resonance state of water molecules where only binding strength increased without altering covalent bond angles and lengths. He proposed that Qi may interact with neutrons within structured water molecules, cause chemical changes and release energy activating bound electron in water to be free one, which aligns with Professor Jiang Xingliu’s hypothesis regarding extracting zero-point vacuum energy through vortex-torsion field (TF) interaction [7]. To elucidate further on this essence of Qi we aim at combining Qi with Scalar Wave (SW), TF and establishing rigorous particle propagation model and wave equations for Qi thus laying down solid theoretical groundwork for its clinical application studies.

Methods

The relation between Qi and TF and SW

Kozyrev introduced a significant concept known as Torsion Field (TF) [8]. He posited that a fixed spin should have relation to a spin field-TF like a fixed particle mass to a gravitational field and a fixed charge to an electromagnetic

field. However, due to the fact that the static force of the TF is even much smaller than the gravitational force, in his general theory of relativity Einstein chose to overlook it in order to simplify theoretical derivations. The distortion of space-time caused by TF resembles that in a gravitational field and cannot be shielded by any natural substance. Furthermore, it has been found that TF can stimulate cold nuclear fusion to extract zero-point vacuum energy [7-9]. Liang Weichich has theoretically proven how to trigger TF [10]. When an electron's spin magnetic moment S aligns with an applied magnetic field \vec{B} , simultaneously rotating at specific frequency along a large circle-orbit perpendicular to \vec{B} (Figure 1). This results in cyclotron resonance and transfer of substantial energy from \vec{B} to the electron, which is called as "coupling of particle spin with orbital revolution" underlying the generation mechanism of TF. Kozyrev, et al. invented a rotating TF generator, utilizing a nickel-manganese iron ring magnet as its crucial component [11]. As depicted in Figure 2, the magnetic field H rotates counterclockwise seen from top to bottom. When the magnetic ring is driven to rotate clockwise by the motor, it produces a right-handed TF (resulting in negative Qi). Conversely, if the magnetic ring rotates counterclockwise, it generates a left-handed TF (producing positive Qi). According to the research of Lee Sichen [11], when the magnet of Sphilmann's TF generator spins at over 3,000 rotations per minute, the spins of its magnetic molecules align neatly in rows and form a large circle along the center of the magnet. These particles (magnetic molecules) spins can create micro-holes in space-time that converge at the center of the ring magnet to form a large circular hole. The twisted space-time torn by these micro-holes will twist nearby space-time and rotate with it, forming an axial twisted space-time sword with an influence range extending up to two or three meters. Individuals sensitive to meridians can perceive tingling sensations caused by this Qi field and experience increased Qi and blood circulation within their bodies. Remarkably, even though a two-centimeter thick aluminum plate cannot block this Qi field, but wet paper by water can completely absorb it. This aligns with Guo Pu's statement: "Qi stops with water". Therefore, we may boldly hypothesize that TF is traditional Chinese medicine's Qi [1-4]. There is another entity named as SW related to Qi, which has faced similar challenges as TF. Initially, Maxwell theoretically discovered the existence of SW [12]. However, in an effort to simplify calculations, Hertz disregarded the longitudinal wave term (SW) of electromagnetic waves. Subsequently, Nikola Tesla proved the existence of SW through experiments [13]. Due to SW's exceptional characteristics such as lossless penetration of the human body, superluminal speed, absorption of free energy and lossless energy propagation [14,15], their potential and practical applications in medicine and energy areas have been widely recognized [16-20]. A careful analysis reveals that Qi, TF and SW share common traits: 1. They appear to interact with human consciousness; 2. They can convey information and energy; 3. They possess medical properties; 4. They are challenging to measure; 5. They are linked to

zero-point vacuum energy; 6. Their underlying principles remain unknown. Consequently, many scholars contend that three entities are synonymous [6-8]. By understanding Qi from the perspective of TF and SW, it is possible to resolve all associated issues with Qi easily.

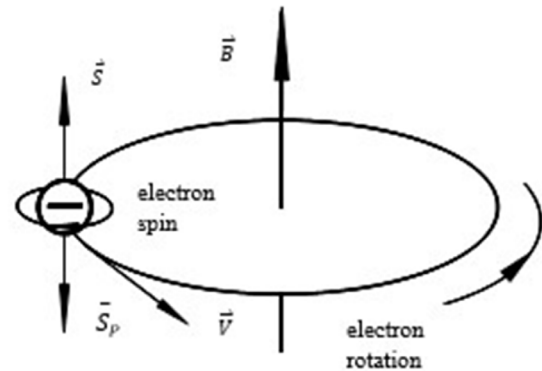


Figure 1: Schematic diagram of coupling of electron spin and orbital rotation

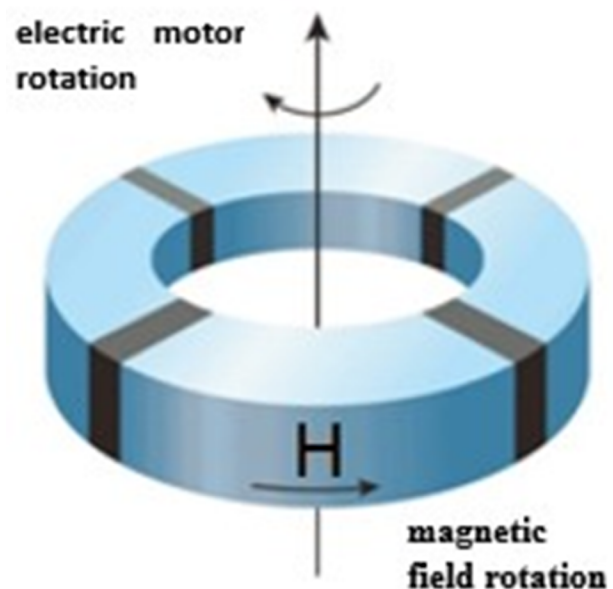


Figure 2: Schematic diagram of Sphilmann's rotary TF generator

Particle propagation model of Qi

The similarity between Qi (SW, TF) and neutrino: Neutrinos are characterized by their superluminal velocities [21] and inability to decay into other particles, possessing an infinite lifetime. Notably, neutrinos exhibit left-handedness [22] as depicted in Figure 3. Furthermore, they propagate without energy loss and possess remarkable penetration due to neatly negligible participation in electromagnetic and strong nuclear forces [23]. A lot of investigations on SWs have revealed striking similarities between them and neutrinos (Table 1). In light of the double helix structure model of photon [24], we can confidently hypothesize that neutrinos are highly plausible candidates for propagating SWs.

Table 1: The similarity of SW and neutrino

	Excellent penetration property [23]	Electromagnetic characteristics [14,15]	Lossless energy transmission	Wave-length [22]	Mass
Neutrino	The cross section action area with atomic nucleus is 10^{-43} cm^2	Weak interaction only	Energy loss of One in 10 billion	$\leq 10^{-15} \text{ m}$	Too small to detect
SW	SW frequency $\gg 10^{19} \text{ Hz}$	Non-Hertz wave	Energy is lossless	10^{-22} m	No quality

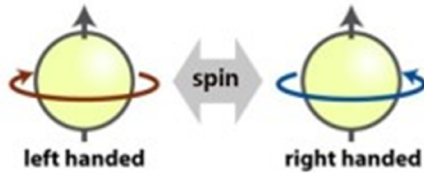


Figure 3: Left-handedness and right-handedness of neutrinos

Neutrino propagation model for Qi: Based on the hypotension that 1) a photon possesses an electric structure consisting of a positron and an electron; 2) positron and electron spire forward around propagation axis, while their core advances at the speed C along the direction of photon propagation [24], a double helix model is developed to represent photon, as illustrated in Figure 4. The left-handed photon model is depicted in Figure 4B, where positron exhibits right-handed spin while moving along a right-handed spire-orbit around the forward axis, generating left-handed Qi B_{z-} . Similarly, in Figure 4(B) electron possesses left-handed spin while moving along a left-handed spire-orbit around the forward axis, producing left-handed Qi B_{z-} . According to Qi-generation mechanism of coupling of particle spin with orbital rotation [10], positron produces the same kind of Qi as electron, i.e., $B_{z-} = B_{z+}$. The total Qi generated by the helical motions of the two kinds of photon components can be represented as $B_z = B_{z-} + B_{z+}$. The schematic diagram illustrating TEM waves and Qi (SW) generated in a vacuum

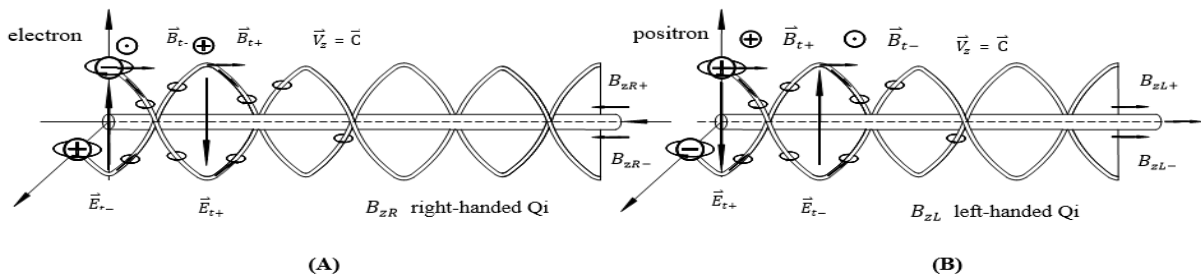


Figure 4: Right-handed and Left-handed photon structure

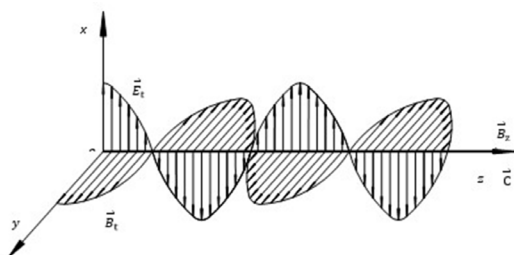


Figure 5: SW (Qi) and TEM waves in a vacuum

by positron and electron is presented in Figure 5. The right-handed photon model is illustrated in Figure 4(A), 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 Qi) and right-handed photon (producing right-handed Qi). In order to maintain the angular momentum conservation of the Qi neutrino model, the Qi particle model should consist of two neutrinos with reversely orbital rotation. Figure 6(A) represents the left-handed Qi neutrino model composed of two neutrinos with left-handed spin. The neutrino spin velocity is the speed of light, and both of them move in a left-handed large spiral orbit along the forward axis, and the axial velocity is also the speed of light. The phase difference between the two neutrinos is π , and the total Qi is B_L , representing a high energy state. The right-handed Qi neutrino model is shown in Figure 6(B), which is also composed of two neutrinos with left-handed spin, but moving in a right-handed large spiral orbit around the forward axis. Their phase difference is also π , and the total Qi is B_R , representing a low energy state. According to the right-handed rule of electromagnetic induction [25], left-handed B_L produces the left-handed electric vortex potential \vec{E}_v (Figure 7). In accordance with the vortex theory of fluid dynamics [26], vortices attract in the same spin direction and repel in the opposite spin direction. Therefore, the left-handed B_L attracts the left-handed Qi, and right-handed B_R attracts the right-handed Qi see (Figure 8).

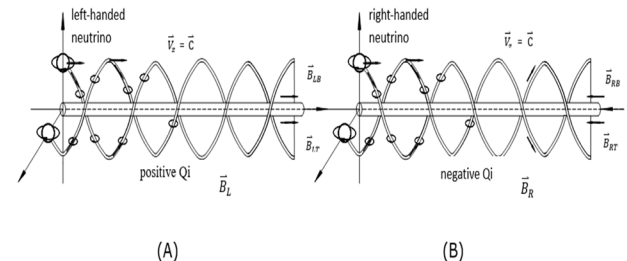


Figure 6: (A) Right-handed Qi structure (B) Left-handed Qi structure

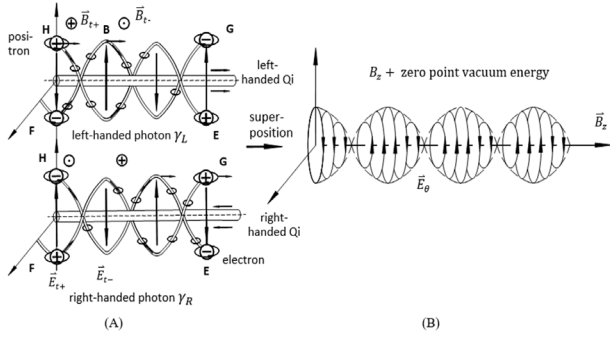


Figure 7: (A) Superposition of left-handed photon/right-handed photon (B) A schematic diagram of the propagation of SW(Qi)

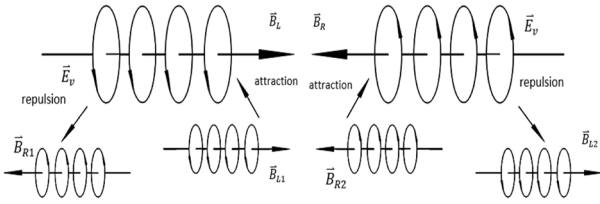


Figure 8: Spin-selectivity and interaction between Qi

Generation mechanism of Qi from particle perspective

In general, SW (Qi) is usually allowed to be neglected due to their significantly smaller amplitude compared with that of TEM wave. But in certain scenarios such as the near field [27], current Maxwell's equations fail to fully elucidate the characteristics of them. Hence, consideration must be given to SW. The generation of SW typically occurs when two coherent TEM waves with identical frequency, amplitude, propagation direction, and a phase difference π superposed in a vacuum (referred to as "source waves"). After superposition, the resulting total \vec{E}_t electromagnetic field \vec{B}_t can be shown as

$$\begin{aligned} \vec{E}_t &= \vec{E}_1 + \vec{E}_2 = \vec{E}_0 \exp[j(\vec{k} \cdot \vec{r} - \omega t)] + \vec{E}_0 \exp[j(\vec{k} \cdot \vec{r} - \omega t + \pi)] \\ &= \vec{E}_0 \exp[j(\vec{k} \cdot \vec{r} - \omega t)][1 + \exp(j\pi)] = 0, \end{aligned} \quad (1)$$

$$\begin{aligned} \vec{B}_t &= \vec{B}_1 + \vec{B}_2 = \vec{B}_0 \exp[j(\vec{k} \cdot \vec{r} - \omega t)] + \vec{B}_0 \exp[j(\vec{k} \cdot \vec{r} - \omega t + \pi)] \\ &= \vec{B}_0 \exp[j(\vec{k} \cdot \vec{r} - \omega t)][1 + \exp(j\pi)] = 0. \end{aligned} \quad (2)$$

Here, the electric field components of the two source waves are denoted as \vec{E}_1 and \vec{E}_2 respectively, while their corresponding magnetic field components are represented by \vec{B}_1 and \vec{B}_2 . From Eq. (1) and Eq. (2), after superposition \vec{E}_t and \vec{B}_t become zero, seemingly vanish into vacuum. However, in accordance with the principle of energy conservation, all energy of source waves is actually transferred to the SW B_z . This energy transfer can be explained by definitions of magnetic vector potential \vec{A} and scalar potential φ [28].

$$\vec{B}_t = \vec{B}_1 + \vec{B}_2 = \nabla \times (\vec{A}_1 + \vec{A}_2) = 0, \text{ i.e., } \vec{A} = \vec{A}_1 + \vec{A}_2 = \nabla\psi \neq 0, \quad (3)$$

$$\vec{E}_t = \vec{E}_1 + \vec{E}_2 = -\nabla\varphi - \frac{\partial\vec{A}}{\partial t} = 0, \text{ and } \nabla\varphi = -\frac{\partial\vec{A}}{\partial t} = -\nabla\frac{\partial\psi}{\partial t} \neq 0, \text{ that is,}$$

$$\varphi = -\frac{\partial\psi}{\partial t} \neq 0. \quad (4)$$

Here, ψ represents a scalar field known as the "zero-point vacuum energy field" [29], "torsion field" [30], or "neutrino field". This phenomenon can be mutually corroborated by the Aharov-Bohm effect [31], which highlights the significance of \vec{A} and φ in comparison to \vec{E}_t and \vec{B}_t . Our photonic structure model can effectively elucidate the essence of

this phenomenon. The superposition of two source waves is equivalent to the superposition of a left-handed photon γ_L and a right-handed photon γ_R . As depicted in Figure 7, at points E and H, positrons from γ_L meet with electrons from γ_R ; conversely, at points G and F, electrons from γ_L encounter positrons from γ_R . Their superposition leads to an annihilation involving positrons/electrons [32], giving rise to B_z and releasing substantial zero-point vacuum energy. This reaction can be mathematically expressed as follows

$$\gamma_R + \gamma_L \rightarrow SW B_z + \text{zero point vacuum energy}. \quad (5)$$

At this stage, although source TEM fields \vec{E}_t and \vec{B}_t vanish in space, both magnetic vector potential \vec{A} and scalar potential φ still persist and consist of SW (Qi); where

$$\vec{A} = \nabla\psi, \varphi = -\frac{\partial\psi}{\partial t} \text{ and } \psi \text{ is a scalar field related to SW (Qi).}$$

Generation mechanism of Qi from wave perspective

In the previous part, we explored the generation mechanism of SW (Qi) from the perspective of particle. Next, we will explore the SW (Qi) from the perspective of wave and analyze the physical nature of Qi's ability to absorb zero-point vacuum energy. The scalar potential φ and magnetic vector potential [28] \vec{A} of electromagnetic fields in a stationary vacuum can be expressed as $\varphi = \varphi_0 \exp[j(\vec{k} \cdot \vec{r} - \omega t)]$ and $\vec{A} = \vec{A}_0 \exp[j(\vec{k} \cdot \vec{r} - \omega t)]$, where \vec{k} is wave vector and

$$\vec{k} = \frac{\omega \vec{c}}{c^2}. \quad (5.1)$$

From Lorentz gauge [28], it is given that

$$\varphi = \frac{c^2}{\omega} \vec{k} \cdot \vec{A}. \quad (6)$$

According to the relations [28] of electromagnetic fields with φ and \vec{A} as well as Eq.(5.1), Eq.(6), it is obtained that

$$\begin{aligned} \vec{E} &= -\nabla\varphi - \frac{\partial\vec{A}}{\partial t} = j\vec{k}\varphi + j\omega\vec{A} = -j\frac{c^2}{\omega}[\vec{k}(\vec{k} \cdot \vec{A}) - (\vec{k} \cdot \vec{k})\vec{A}] \\ &= -\frac{c^2}{\omega}\vec{k}(\nabla \times \vec{A}) = -\frac{c^2}{\omega} \cdot \frac{\omega}{c} \cdot \frac{\vec{c}}{c} \times \vec{B} \\ &= -\vec{c} \times \vec{B}. \end{aligned} \quad (7)$$

Multiplying both sides of Eq.(7) by ∇ operator and considering \vec{C} as constant vectors, we can obtain in a vacuum

$$\begin{aligned} \nabla \times \vec{E} &= \nabla \times (-\vec{c} \times \vec{B}) = -\frac{\partial\vec{B}}{\partial t} - (\nabla \cdot \vec{B})\vec{c} \\ &= -\frac{\partial\vec{B}}{\partial t} - \frac{\vec{B}}{\tau_2}, \end{aligned} \quad (7.1)$$

$$\nabla \times \vec{E}_z = -\frac{\partial\vec{B}_z}{\partial t} - (\nabla \cdot \vec{B})\vec{c} = 0, \quad (7.2)$$

$$\nabla \times \vec{E}_t = -\frac{\partial\vec{B}_t}{\partial t}. \quad (8)$$

According to the total current law in a vacuum, it is given that

$$\begin{aligned} \frac{1}{\mu_0\epsilon_0} \nabla \times \vec{B} &= \frac{\partial\vec{E}}{\partial t} - (\nabla \cdot \vec{E})\vec{v}_e = \frac{\partial\vec{E}}{\partial t} - \frac{\rho}{\epsilon_0}\vec{v}_e = \frac{\partial\vec{E}}{\partial t} + \frac{1}{\epsilon_0}\vec{J} = \frac{\partial\vec{E}}{\partial t} + \frac{\sigma_0}{\epsilon_0}\vec{E} \\ &= \frac{\partial\vec{E}}{\partial t} + \frac{\vec{E}}{\tau_1} = \frac{\partial\vec{E}}{\partial t}. \end{aligned} \quad (9)$$

and

$$\nabla \cdot \vec{E} = jkE_z = 0, \text{ i.e., } E_z = 0. \quad (10)$$

Here, σ_0, ϵ_0 are electric conductivity and dielectric constant in a vacuum, and τ_1, τ_2 are the decay time of eddy current and electric vortex potential caused by TEM wave in the wave propagation medium [14].

According to Eq. (7.1), Eq. (9), and energy equation and energy conservation law of electromagnetic wave [28] in a vacuum region Ω , the total energy E_T from the two columns of source waves should be equal to the SW energy E_p after their superposition, i.e.,

$$\begin{aligned} E_T &= \int_{\Omega} -\epsilon_0 \frac{\partial(E_1^2 + E_2^2)}{\partial t} d\Omega = \int_{\Omega} 2j\omega\epsilon_0 (E_1^2 + E_2^2) d\Omega = E_p \\ &= \int_{\Omega} -\frac{1}{2\mu_0} \frac{\partial(B_z^2)}{\partial t} - \frac{\epsilon_0}{2} \frac{\partial(E_z^2)}{\partial t} d\Omega \\ &= dW/dt + \int_{\Omega} \frac{1}{\mu_0} (\nabla \cdot \vec{B}_z)(\vec{B}_z \cdot \vec{C}) d\Omega \\ &+ \int_{\Omega} \frac{1}{\mu_0} \nabla \cdot (\vec{E}_z \times \vec{B}_z) d\Omega \\ &= \int_{\Omega} \frac{1}{\mu_0} (\nabla \cdot \vec{B}_z)(\vec{B}_z \cdot \vec{C}) d\Omega = \int_{\Omega} \frac{1}{\mu_0} j\omega B_z^2 d\Omega \\ &= \int_{\Omega} -\frac{B_z}{\mu_0} \frac{\partial B_z}{\partial t} d\Omega. \end{aligned} \quad (11)$$

Here, dW/dt represents the work performed by the electromagnetic force on all free charges within Ω per unit time, there is no charge in a vacuum, i.e., $dW/dt = 0$; ∇

$(\vec{E}_z \times \vec{B}_z) = \nabla(0 \times \vec{B}_z) = 0$. Therefore, $B_z^2 = 2\mu_0\epsilon_0(E_1^2 + E_2^2)$, that is,

$$\begin{aligned} B_z &= \frac{1.414}{C} \sqrt{E_1^2 + E_2^2} = \frac{\sqrt{2 + 2 \exp^2(j\pi)}}{C} E_0 \exp\left[j\left(\frac{\omega}{C}z - \omega t\right)\right] \\ &= 2B_0 \exp\left[j\left(\frac{\omega}{C}z - \omega t\right)\right] \\ &= B_{z0} \exp\left[j\left(\frac{\omega}{C}z - \omega t\right)\right], \end{aligned} \quad (12)$$

$$\begin{aligned} \frac{\partial^2 B_z}{\partial z^2} - \mu_0\epsilon_0 \frac{\partial^2 B_z}{\partial t^2} &= 0, \quad (12.1) \\ E_z/E_T &= \frac{1}{2\mu_0} \Omega \omega_p B_{z0}^2 / (2\Omega \omega \epsilon_0 E_0^2) = \frac{B_{z0}^2 \omega_p C^2}{4E_0^2 \omega} \\ &= \frac{\omega_p}{\omega} = \frac{\hbar \omega_p}{\hbar \omega}. \end{aligned} \quad (13)$$

From Eq.(7.2) and $\tau_2 = \frac{\mu_0 \sigma_0}{k_0^2}$ [4] in a vacuum, it is given that

$$\frac{\partial \vec{B}_z}{\partial t} = -\frac{\vec{B}_z}{\tau_2} = (\nabla \cdot \vec{B}) \vec{C} = -\frac{k_0^2}{\mu_0 \sigma_0} \vec{B}_z. \quad (14)$$

Combining Eq.(14) with Eq.(12) gives that

$$\frac{\partial B_z}{\partial t} = -\frac{B_z}{\tau_2} = -\frac{k_0^2}{\mu_0 \sigma_0} B_z = -j\omega_p B_z.$$

Therefore, the frequency of B_z is obtained as

$$|\omega_p| = \frac{1}{\tau_2} = \frac{k_0^2}{\mu_0 \sigma_0}. \quad (15)$$

Here, μ_0 denotes vacuum magnetic permeability, and k_0 is a constant related to TEM wave frequency.

With reference to the basic equations of vacuum TEM wave

$$\nabla \times \vec{E}_t = -\frac{\partial \vec{B}_t}{\partial t} \quad \text{and} \quad \frac{1}{\mu_0 \epsilon_0} \nabla \times \vec{B}_t = \frac{\partial \vec{E}_t}{\partial t}$$

vacuum electric longitudinal wave equation can be expressed as

$$\begin{aligned} \nabla \times \vec{E} &= -\frac{\vec{B}_z}{\tau_2} = -\frac{1}{\tau_2} B_{z0} \vec{e}_z \exp\left[j\left(\frac{\omega_p}{C}z - \omega_p t\right)\right] \\ &= \nabla \times (\vec{E}_r + \vec{E}_\theta + \vec{E}_z). \end{aligned} \quad (15.1)$$

From Eq.(10), it is obtained that $\nabla \cdot \vec{E} = jkE_z = 0$, i.e., E is passive, and then we have

$$\vec{E}_r = 0, \quad \vec{E}_z = 0. \quad (15.2)$$

Substituting Eq. (15.2) into Eq. (15.1) gives

$$\frac{\partial E_\theta}{\partial r} \vec{e}_z = \frac{\partial E_\theta}{\partial z} \vec{e}_z = -\frac{\vec{B}_z}{\tau_2} = -\frac{B_{z0}}{\tau_2} \vec{e}_z \exp\left[j\left(\frac{\omega_p}{C}z - \omega_p t\right)\right], \quad (15.2)$$

and

$$\begin{aligned} E_\theta &= \frac{CB_{z0}}{\omega_p \tau_2} \exp\left[j\left(\frac{\omega}{C}z - \omega t - \frac{\pi}{2}\right)\right] \\ &= CB_{z0} \exp\left[j\left(\frac{\omega}{C}z - \omega t - \frac{\pi}{2}\right)\right]. \end{aligned} \quad (15.3)$$

Eq. (12) and Eq. (15.3) are the plane solutions of wave equations of Qi in a vacuum. A schematic diagram of the propagation of Qi is shown in Figure 7(B), where the electromagnetic longitudinal wave E_θ and B_z are interconverted and forward propagating along the z-axis at the speed of light C.

In Eq. (15), taking $\sigma_0=0$ gives $\omega_p = \infty \gg \omega$ in a vacuum, which means the SW energy E_z is significantly greater than the total energy E_T of source TEM waves and B_z must derive additional energy produced by the annihilation of positrons/electrons in a vacuum. The energy flow chart of SW (Qi) is illustrated in Figure 9(A). The energy produced by the annihilation of positrons/electrons is called as ‘‘zero-point vacuum energy’’. Synthesizing above analysis and derivation, we surprisingly find that the unification of wave-particle duality of light is achieved when examined at the level of Qi.

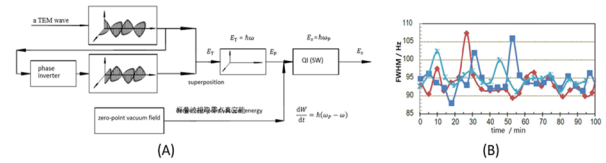


Figure 9: (A) Energy flow chart of SW(Qi), (B) The changes of O17 half height and width of physiological saline after direct irradiation of Qi field [6]

The impact of Qi on the electrical conductivity of water

The degree of water ionization is influenced by temperature, pressure, solute concentration, acidity and alkalinity, as well as other factors such as electromagnetic fields and light. Ultraviolet rays can increase water ionization through photolysis reaction. Positive gas (left-handed SW B_L) entering water provides energy for the ionization process and forms a left-handed vortex potential channel (vortex induced electric field E_v , (Figure 10). The free electrons (hydroxide ions) with left-handed spin in water are attracted by E_v to make left-handed movement along this spiral channel, thus accelerating the ionization of water molecules and increasing the concentration of hydrogen ions in water. Moreover, this vortex movement is also coherent with TF to extract the zero point energy, producing high-energy rays, neutrons and high-energy particles in the vortex center, accompanied by highly directional cold nuclear fusion [9,31]. On the one

hand, the huge energy released by this process first breaks the fragile hydrogen bonds between water molecules (bond energy 23 kJ/mol, 0.24 eV) and produces small molecule groups of water. At the same time, it enhances the HO-H covalent bond energy of water molecules (bond energy 492 kJ/mol, 5.10 eV) [4]. On the other hand, it makes the bound electrons of water molecules be extremely active and become free electrons [4]. The increase of free electron concentration will weaken the ionization of water molecules, and finally form an ionization equilibrium state, which can increase the conductivity of water without affecting the PH value, and finally form high conductivity, weak alkaline-small molecule group-high energy state water. If negative Qi (SW B_R) enters water, B_R produces a right-handed vortex potential (Figure 10) channel in water, which is a heat-absorbing process that respells free electrons, accelerating the reverse ionization process of water molecules, reducing the concentration of free electrons and hydrogen ions in water, decreasing water conductivity, and causing the water to be in a low energy state. Mr. Sasaki Masami proved the existence of Qi by measuring the conductivity of Qigong water [4]. His experimental results are shown in Figures 11 and 12: The conductivity of water treated by positive Qi is increased and the resistivity is decreased (Figure 11); the conductivity of water without Qi is basically unchanged (Figure 12).

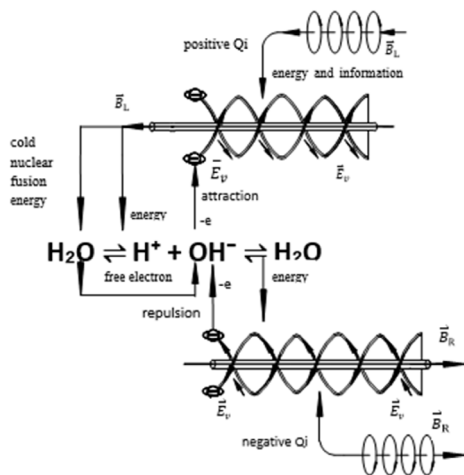


Figure 10: Schematic diagram of the influence of Qi on water conductivity

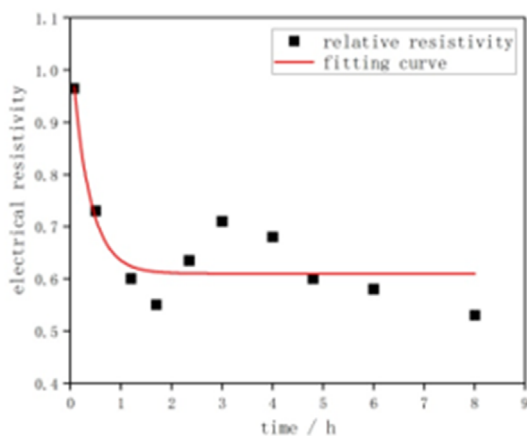


Figure 11: The conductivity of water with positive Qi

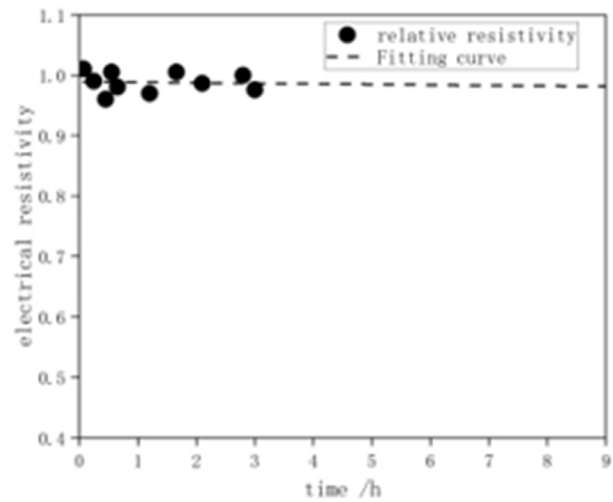


Figure 12: The conductivity of water without Qi

The interaction between Qi and cell fluid/ATP synthase in living organisms

ATP (adenosine triphosphate) in mitochondria is a crucial cellular energy source. When ATP is hydrolyzed back to ADP (adenosine diphosphate) and Pi (inorganic phosphate), energy is released to drive many biochemical processes within the cell, thereby stimulating, balancing and enhancing the energy of the biological field of life and restoring the body's health. Therefore, the alteration of the ATP/ADP ratio is intricately linked to apoptosis, cellular autophagy, energy metabolism, and numerous other pathways, and is frequently utilized as a key indicator of cellular activity. Electron transfer plays a central role in fundamental life processes such as photosynthesis and respiration, facilitated by proteases composed of long chains connected by left-handed amino acid molecules. When the living organism consumes positive Qigong water (containing the left-handed Qi B_L) or receives drug or nutritional information and energy carried by B_L , B_L induces a left-handed electric vortex potential E_v channel on the long chain of ATP synthase. E_v attracts left-handed free electrons in the cellular fluid to move along this long chain. Simultaneously, enrichment of free electrons on the cell membrane improves catalytic efficiency of ATP synthase, then accelerates ATP synthesis (Figure 13). This leads to an increased ATP/ADP ratio in cell and a high-energy state for the organism. When positive energy is insufficient in the living body, which will produces right-handed Qi B_R in the center of the long chain of ATP synthase, which produces right-handed electric vortex potential E_v . E_v repels the left-handed free electrons and promoting them to move from the long chain to cell liquid. Meanwhile, the release of free electrons also decreases the catalytic efficiency of ATP synthase, which accelerates the chemical reaction speed of ATP hydrolysis, and then reducing the concentration ratio of ATP/ADP in mitochondria, so that the living body is in a low energy state. Additionally, some studies [33,34] have shown that there are numerous tunnel nanotubes in the cell membrane, through which mitochondrial connections act as biological signal waveguides to facilitate the exchange of energy and information between cells *via* electrical or

magnetic means. These findings also support the interaction mechanism between Qi and water/ATP synthase in living organisms.

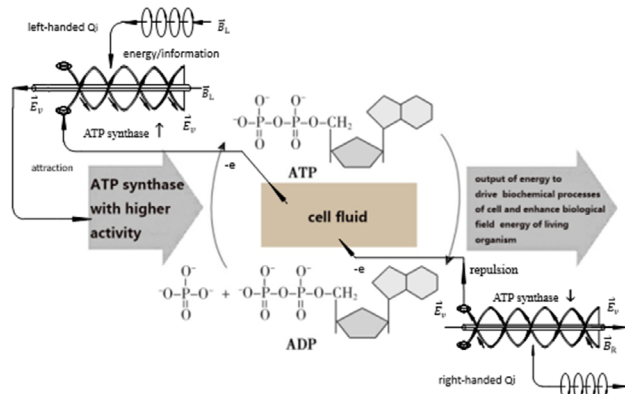


Figure 13: ATP/ADP mutual conversion in mitochondria of cells under the action of Qi

Validation of the increasing concentration of ATP in the mitochondria generated by positive Qi

Schnabl H, et al. conducted a study using a Tesla SW generator (10 mW, 6.7 MHz, (Figure 14) to investigate the effects of Qi (SW) on plant growth [33,34]. Their research revealed that the left-handed SW (positive Qi) signal led to a 40% increase in ATP content in the mitochondria of *Ephorbia pulcherrima* (10 mW, 90 seconds, red columns in contrast to blue controls, (Figure 14). Additionally, it extended their lifespan by almost 10%. They observed the noticeable difference in color between treated/untreated flowers at the same stage. Two *Ephorbia pulcherrima* flowers (treated/untreated) taken from the same plant initially had identical red colors; however, only the flowers exposed to SWs transitioned from red to deep violet (Figure 15).

Results

According to our Qi field model, left-handed Qi can induce a left-handed electric vortex potential E_v on the long chain of amino acid molecules within organisms. E_v attracts more cell membrane-bound electrons to convert into free electrons, which results in accelerating the transformation of plant polyphenol molecules such as anthocyanins from phenolic state (red) to chinoidal state (deep violet) (Figure 15). The release of free electrons simultaneously enhances mitochondrial efficiency and antioxidant effects while improving overall energy levels in plants-an important biochemical function given that mitochondria serve as cellular “energy stores,” with their product ATP being essential for all life processes (Figures 16 and 17). However, further clinical validation is necessary to confirm these study results.

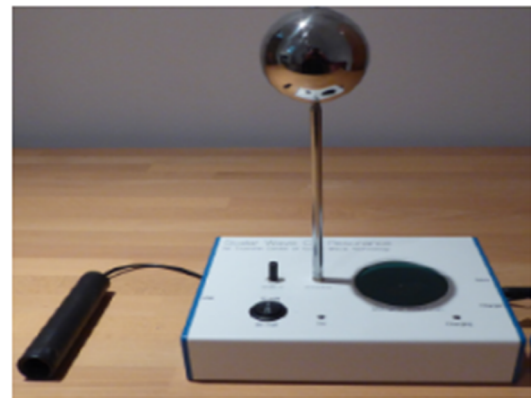


Figure 14: Tesla coil SW generator

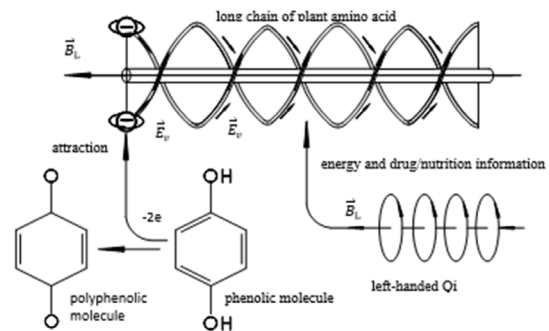


Figure 15: Transition from the phenolic to the chinoidal stage within plant polyphenolic molecules such as the anthocyanins generated by left-handed Qi

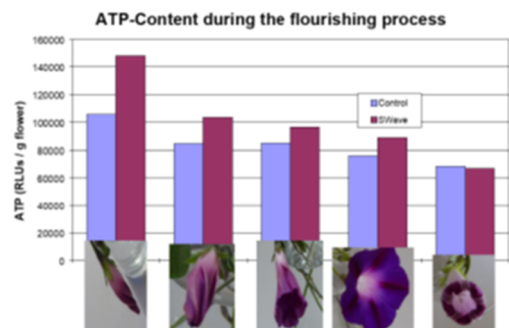


Figure 16: The ATP-level in the buds increased by 40% due to SW-treatment (10 mW, 90 sec, red columns in contrast to blue controls)



Figure 17: The SW-treated flower (right) shows a deep violet colour in contrast to the control (left, red), which reflects a change from a phenolic to a chinoidal stage of antocyanidines

Discussion

The concept of Qi in traditional Chinese medicine is essentially synonymous with SW and TF. As theoretical research and clinical applications of Qi deepen, the enigma surrounding Qi-related practices such as meditation, mindfulness, and fasting will gradually be unveiled. This will help us better understand these mysterious energies, improving healthcare methods and enhancing quality of life. It has been observed that the structure of negative Qi closely resembles that of DNA, suggesting numerous undisclosed connections between Qi and human energy systems. Further development in utilizing Qi for medical treatment and healthcare technology holds potential for revolutionary progress in medicine and healthcare. However, rigorous scientific validation along with multidisciplinary collaboration are essential prerequisites for ethical practice when employing Qi technology and instruments. By adhering to these measures we can truly harness the complexity of Qi for mankind's benefit.

Conclusion

Our new models for wave equation and neutrino propagation model of Qi offer a fundamental explanation for the electromagnetic and energetic characteristics of Qi. Moreover, based on photon-positron/electron model, we demonstrate the generation mechanism of Qi and how Qi absorb huge zero-point vacuum energy in a vacuum from both wave and particle perspectives. A large number of experimental studies have confirmed that Qi can be absorbed by water and induce weakly alkaline, small molecular structured water with enhanced conductivity. What's more, by attracting left-handed free electrons in the cellular fluid to move into cell membrane and improving mitochondrial efficiency and antioxidant effect, positive Qi can result in increasing mitochondrial ATP concentration and enhancing the energy of biological field of organisms, which unveil that Qi will potentially become a crucial aspect in future medical advancements.

Acknowledgement

None.

Conflict of Interest

The authors whose names are listed immediately below certify that they have no affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers' bureaus; membership, employment, consultancies, stock ownership, or other equity interest; and expert testimony or patent-licensing arrangements), or non-financial interest (such as personal or professional relationships, affiliations, knowledge or beliefs) in the subject matter or materials discussed in this manuscript. The authors whose names are listed immediately below report the following details of affiliation or involvement in an organization or entity with a financial or non-financial interest in the subject matter or materials discussed in this manuscript. Please specify the nature of the conflict on a separate sheet of paper if the space below is inadequate.

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Author Contributions

All members have contributed equally to the writing of this manuscript.

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