Research Article

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4 + n-dimensional water and waves on four and eleven-dimensional manifolds

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Abstract: In this paper, we consider the structure of water and waves from viewpoints of two observers, one on 4-dimensional manifold and the other on 11-dimensional manifold. On a four dimensional manifold, if water contains molecules of DNA, it emits waves that by attaching to a second water, molecules give their information to it and produce new structures which are affected by the existence of DNA molecules and can be detected by PCR. Type of DNA packings in men and women are different. Consequently, their radiated waves are different and for storing their information, we need to two types of water. However on a four dimensional manifold, the structures of water are approximately the same. There is a probability that differences between various types of water could be observed in extra dimensions. On the other hand, waves that interact with water in extra dimensions can play the role of topoisomerases in biology on 11-dimensional manifold. They open packings of DNA, read it's information and transmit it to water. Properties of these topoisomerase-like waves are different from electromagnetic and gravitational waves. However, by reducing the number of dimensions from 11 to 4, these waves become similar to known waves in four dimensions. Two structures of water and wave in extra dimensions have effects in nature. For example, waters inside the egg of women and water outside it have different structures which causes to emergence of the entanglement between them. If sperm enter water outside the egg, this entanglement is broken and some holes appear inside the egg. To fill these holes, sperms are teleported from water to water inside the egg. Another effect is radiating some topoisomerase like waves of earth and sun which are helpful for plants and transcription and translation in cells. In

some cases, these waves interact with water, extract DNA from it's structure in extra dimensions and create life.

Keywords: Extra dimensions, Water, Wave, manifold

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1 Introduction

In recent years, scientists have tried to find reasons for the existence of extra dimensions. For example, some theories like string fluid cosmology and nonlinear-gravity have been proposed to relate phenomenological events to evolutions of universe in extra dimensions [1–3]. One of interesting subjects in science originating from exchanging information with extra dimensions is water memory. Water memory is the purported ability of water to retain memory of substances previously dissolved in it even after an arbitrary number of serial dilutions. It has been claimed to be a mechanism using which homeopathic remedies work, even though they are diluted to the point that no single molecule of the original substance remains [4]. The subject of "water memory" has been proposed by Benveniste and his co-authors for the first time. After that, many discussions appeared on this subject and it's applications [5–7]. From thousand years ago and before group of Benveniste, some of scientists have used of water to cure some diseases. It seems that these scientists had a method for coding molecules of water for doing some special works in human's body [8]. However, we don't have the exact information about their mechanism. A very interesting application of "Water memory" is transduction of DNA information through water. Recently, Montagnier and his collaborators have studied the capacity of some bacterial DNA sequences to radiate very low frequency electromagnetic waves in high aqueous dilutions. They have observed that the genomic DNA of most pathogenic bacteria contain sequences which are able to produce such waves [9]. In another research, authors have described the experimental conditions by which electromagnetic signals (EMS) of low frequency can be emitted by diluted aqueous solutions of

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some bacterial and viral DNAs. Also, they have shown this transduction process in living human cells exposed to EMS irradiation and suggested a quantum field theory analysis of the phenomenon [10]. In another paper, some scientists have built the responses of DNA to electromagnetic fields in different frequency ranges, and considered the properties of DNA molecules as antennas [11]. In another investigation, it has been discussed that the type of packing of DNA in chromosomes of males and females become different. This causes radiated waves from DNAs of males and females have to opposite signs and cancel the effect of each other in a pair. Using this property, scientists have proposed a mechanism to cancel the effect of extra signals, which are created by DNA in cancer cells of men or women, by extra signals which are produced by DNA in similar cells of women or men and stop the progression of the disease [12]. And in one of more newer researches, a new virus medical imaging technique has been proposed. In this technique, viruses injected or induced interior of the human body and communicate with viruses out of it. On the other hand, viruses inside the human's body can communicate with cells, take their information and send them to viruses outside the human's body [13].

In this paper, we will consider structures of water and waves from the viewpoint of two observers, one living on four dimensional manifold and another who lives on an 11-dimensional manifold. In four dimensional space time, we will study the mechanism of DNA transduction between two tubes of water. First, we will introduce two types of structures for water and it's partners in waves on a four-dimensional manifold. We put two tubes of water near each other. One tube contains DNA and water and another tube contains the pure water. Waves take the information from first water and transmit it to second water. Consequently, we can detect the properties of water in first tube by using PCR for second tube. Then, we will generalize this discussion to an 11-dimensional manifold and discuss about the structure of water and waves in extra dimensions. We will show that there are two types of structures of water which are different in extra dimensions and the same in four dimensions. These two structures help us store information of two types of waves which are radiated by DNA in men and women. Also, in extra dimensions, these waves act like topoisomerases in biology, open packings of DNAs and transmit their information. Topoisomerase-like waves have another applications too. They can be signature of the existence of water or DNA. It is wonderful that waves from the sun include these waves. It seems that in the sky there are some waters that their topoisomerase-like waves mix with radiated waves of sun. Also, the structure of sun should be re-considered

carefully. In some conditions, topoisomerase-like waves interact with water, extract it's structure from extra dimension and produce DNAs. This is because in extra dimension, the structure of water includes some molecules similar to molecules of DNA which could be recovered in four dimensions by special waves.

The outline of the paper is as follows. In section II, we will consider the structure of water and waves on 4-dimensional manifold. In section III, we will suggest a mathematical model for a DNA transduction on 4-dimensional manifold. In section IV, we consider the structures of water, waves and DNAs in extra dimensions. In section V, we calculate the energy needed for transporting particles between two states of water. In section VI, we show that topoisomerase-like waves could interact with water and extract the structure of DNA from it. In section VII, we consider some applications of water memory in medical imaging. The last section is devoted to conclusions.

2 The structure of water and waves on four dimensional manifold

In this section, we will consider the structure of water and waves from the viewpoint of an observer who lives on a 4-dimensional manifold. We also, introduce two types of coding for water and waves and show that each type only interacts with it's partner.

Molecules of water are constructed from one oxygen and two atoms of Hydrogen. This system can form a trigonal manifold (See Figure 1). To show the interaction of this system with other molecules and waves, we use a concept in string theory. We assume that electrons in atoms are paired and form scalar fields like scalar strings in string theory ($\bar{\psi}_\uparrow \psi_\downarrow \rightarrow X$). Also, each atom in one molecule interacts with other two atoms by exchanging photon (A).

Figure 1: The trigonal manifold of molecules of water

To begin, we introduce the action of triangular manifold of water [14–16]:

$$S_3 = -T_{tri} \int d^3\sigma \sqrt{\eta^{ab} g_{MN} \partial_a X^M \partial_b X^N + 2\pi l_s^2 U(F)} \quad (1)$$

$$U = \left(\sum_{n=1}^2 \frac{1}{n!} \left(-\frac{F_{1,O-H} \cdots F_{n,O-H}}{\beta^2} \right) + F_{H-H} \right)$$

$$F = F_{\mu\nu} F^{\mu\nu} \quad F_{\mu\nu} = \partial_\mu A_\nu - \partial_\nu A_\mu$$

where g_{MN} is the background metric, $X^M(\sigma^a)$'s are scalar fields which are constructed from pairing two electrons with opposite spins, σ^a 's are the manifold coordinates, $a, b = 0, 1, \dots, 3$ are world-volume indices of the manifold and $M, N = 0, 1, \dots, 11$ are eleven dimensional spacetime indices. Also, G is the nonlinear field [15] and A is the photon which exchanges between atoms. Using the method in ref [14], we can obtain the Hamiltonian for triangular manifolds:

$$H_3 = 4\pi T_{tri} \int d\sigma_3 d\sigma_2 d\sigma_1 \quad (2)$$

$$\cdot \sqrt{1 + \eta^{ab} g_{MN} \partial_a X^M \partial_b X^N} Q_{tot}$$

$$Q_{tot} = Q_{H-H} + Q_{2,O-H}$$

$$Q_{H-H} = \sqrt{1 + \frac{k_1^2}{\sigma_{1,H-H}^4}}$$

$$Q_{2,O-H} = Q_{1,O-H} \sqrt{1 + \frac{k_2^2}{Q_1 \sigma_{2,O-H}^4}}$$

$$Q_{1,O-H} = \sqrt{1 + \frac{k_1^2}{\sigma_{1,O-H}^4}}$$

By substituting $X \rightarrow \psi^\uparrow \psi_\downarrow$, we can rewrite the trigonal Hamiltonian as:

$$H_3 = 4\pi T_{tri} Q_{tot} \times \int d\sigma_3 d\sigma_2 d\sigma_1 \quad (3)$$

$$\cdot \sqrt{1 + \eta^{ab} g_{MN} g_{MN} \psi_O^{M,\uparrow} \partial_a \psi_H^{M,\downarrow} \psi_H^{N,\uparrow} \partial_b \psi_O^{N,\downarrow}}$$

$$Q_{tot} = Q_{H-H} + Q_{2,O-H}$$

$$Q_{H-H} = \sqrt{1 + \frac{k_1^2}{\sigma_{1,H-H}^4}}$$

$$Q_{2,O-H} = Q_{1,O-H} \sqrt{1 + \frac{k_2^2}{Q_1 \sigma_{2,O-H}^4}}$$

$$Q_{1,O-H} = \sqrt{1 + \frac{k_1^2}{\sigma_{1,O-H}^4}}$$

where $\psi_{O/H}^{M,\uparrow/\downarrow}$ is the electronic fields of Oxygen or Hydrogen atoms. All molecules of water are not the same. Some of them are experiencing more forces of other molecules and their structures change. Some of trigonal

manifolds join to each other and construct a hexagonal manifolds. For example, using equations (2), we can write:

$$\sigma_1 \rightarrow -\bar{\sigma}_1 \quad \sigma_2 \rightarrow -\bar{\sigma}_2 \quad \sigma_3 \rightarrow -\bar{\sigma}_3 \quad (4)$$

$$\int d\sigma_3 d\sigma_2 d\sigma_1 \rightarrow - \int d\bar{\sigma}_3 d\bar{\sigma}_2 d\bar{\sigma}_1$$

$$A_0 \rightarrow \bar{A}_0 \quad A_1 \rightarrow \bar{A}_1$$

$$\Rightarrow H_3 \rightarrow -\bar{H}_3$$

For a symmetrical hexagonal manifold, the Hamiltonians of trigonal manifolds cancel the effect of each other and total Hamiltonian of system becomes zero. This system is completely stable and can't interact with other systems. For a non-symmetrical hexagonal manifold, fields are completely different and Hamiltonians can't cancel the effect of each other. Using equations (1 and 2), we have:

$$H_3 = 4\pi T_{tri} \int d\sigma_3 d\sigma_2 d\sigma_1 \quad (5)$$

$$\cdot \sqrt{1 + \eta^{ab} g_{MN} \partial_a X^M \partial_b X^N} Q_{tot}$$

$$\neq \bar{H}_3 = 4\pi T_{tri} \int d\bar{\sigma}_3 d\bar{\sigma}_2 d\bar{\sigma}_1$$

$$\cdot \sqrt{1 + \eta^{ab} g_{MN} \partial_a \bar{X}^M \partial_b \bar{X}^N} \bar{Q}_{tot}$$

Thus, total Hamiltonian of hexagonal manifolds can be obtained as:

$$H_6^{tot} = \sum_{i=1}^3 H_{3,i} - \sum_{j=1}^3 \bar{H}_{3,j} \quad (6)$$

This equation shows that if trigonal molecules join to each other and form the hexagonal manifold, the Hamiltonian of hexagonal manifold is equal to the difference between the actions and Hamiltonians of trigonal manifolds. For symmetrical manifold, total Hamiltonian is zero. While, a non-symmetrical hexagonal manifold has an active Hamiltonian and can interact with other manifolds.

Figure 2: The hexagonal structure is formed by joining trigonal molecules of water

There is a second type and in fact a partner for the Hamiltonian of hexagonal structures. We can re-write equation (6) as:

$$\bar{H}_6^{tot} = \sum_{i=1}^3 \bar{H}_{3,j} - \sum_{j=1}^3 H_{3,i} \quad (7)$$

This partner has the same structure with the hexagonal ones and emit signals with opposite sign. In fact, structures of water have a property like the gender which each gender emit different signal.

On the other hand, molecules of water can form other structures like the pentagonal or heptagonal shapes.

$$H_5^{tot} = \sum_{i=1}^3 H_{3,i} - \sum_{j=1}^2 \bar{H}_{3,j} \quad (8)$$

and

$$H_7^{tot} = \sum_{i=1}^4 H_{3,i} - \sum_{j=1}^3 \bar{H}_{3,j} \quad (9)$$

A tube of water contain all various types of these hexagonal, pentagonal and other manifolds. Totally, the Hamiltonian of N molecules of pure water can be written as:

$$H^{tot} = \sum_{i=1}^N P_{5,i} H_{5,i}^{tot} + \sum_{j=1}^N P_{7,j} H_{7,j}^{tot} + \sum_{k=1}^N P_{6,k} H_{6,k}^{tot} + \dots = \sum_{j=3}^{N-3} \sum_{i=1}^N P_{ij} H_{j,i}^{tot} \quad (10)$$

where j is the number of corners or gonals of the structures, i is the number of structures in a tube or container of water and P_{ij} is the probability for producing each structure. In fact, P_{ij} is the probability for producing i number of j -gonal structure. For example, P_{35} is the probability for producing 3 number of 5-gonal structure.

This water emit some waves that it's Hamiltonian is equal to the Hamiltonian of water. We can write:

$$H^{EM} = H^{tot} = \sum_{j=3}^{N-3} \sum_{i=1}^N P_{ij} H_{j,i}^{tot} = \sum_{j=3}^{N-3} \sum_{i=1}^N EM_{j,i}^{tot} \quad (11)$$

where $EM_{j,i}^{tot}$ is the package of information in an wave which produces j number of i -gonal structures with the Hamiltonian of $H_{j,i}^{tot}$ and probability of P_{ij} . This type of writing for the Hamiltonian of waves helps us to introduce a new information coding for waves (See Figure 3).

When packages of waves achieve to the tube or container of water, each package becomes open and gives it's information and energy to water. Then water take the structure which is defined by packages of waves. This is very similar to the process of translating or transcription in biology. This is because that water and waves can save the information in packages similar to saving of information in DNA.

Figure 3: Coding of water and waves

Another interesting point is the existence of a partner for each package of wave. Using definition in equation (7), we can write the following Hamiltonian for partner:

$$\begin{aligned} \bar{H}^{EM} &= \bar{H}^{tot} = \sum_{j=3}^{N-3} \sum_{i=1}^N P_{ij} \bar{H}_{j,i}^{tot} \\ &= \sum_{j=3}^{N-3} \sum_{i=1}^N \bar{EM}_{j,i}^{tot} \end{aligned} \quad (12)$$

where $\bar{EM}_{j,i}^{tot}$ is the partner of the package of information in a wave which produces j number of i -gonal structures with the Hamiltonian of $\bar{H}_{j,i}^{tot}$ and probability of P_{ij} . The above equation shows that each type of wave interacts with a special type of water which has the same property and ability for saving information. In fact, each water only interacts with it's partner in waves.

3 A mathematical model for a DNA transduction in four dimensional space-time

In this section, we will show that the existence of DNA changes the structure of pure water (See Figure 4). Consequently, the information coding in both water and it's radiated signal is changed. This information is transmitted by waves to other pure water and change it's structure.

We can add some terms corresponded to the interaction of molecules of water with atoms of DNA in equation (1) and rewrite it as:

$$\begin{aligned} S_3 &= -T_{tri} \int d^3 \sigma \\ &\quad \cdot \sqrt{\eta^{ab} g_{MN} \partial_a X^M \partial_b X^N + 2\pi l_s^2 \text{bar} U(F)} \\ \bar{U} &= U \left(1 + \sum_i^N [F_{i-i,DNA} + F_{i-o,DNA} + F_{i-H,DNA}] \right) \\ U &= \left(\sum_{n=1}^2 \frac{1}{n!} \left(-\frac{F_{1,0-H} \cdot F_{n,0-H}}{\beta^2} \right) + F_{H-H} \right) \\ F &= F_{\mu\nu} F^{\mu\nu} \quad F_{\mu\nu} = \partial_\mu A_\nu - \partial_\nu A_\mu \end{aligned} \quad (13)$$

Figure 4: Changes in the structure of water around various atoms of DNA

where i is related to atoms of DNA. Above action contain the interaction of atoms of DNA with molecules of water. Following the method in [14–16] and putting $(X \rightarrow \psi_\uparrow \psi_\downarrow)$, we can rewrite the Hamiltonian of (3) as

$$\begin{aligned}
 H_{3,DNA-water} &= 4\pi T_{tri} Q_{tot} \times \int d\sigma_3 d\sigma_2 d\sigma_1 \quad (14) \\
 &\cdot \left(1 + \eta^{ab} g_{MN} g_{MN} \psi_O^{M,\uparrow} \partial_a \psi_H^{M,\downarrow} \psi_H^{N,\uparrow} \partial_b \psi_O^{N,\downarrow} \right. \\
 &\cdot \left. \left[1 + \sum_{ij} g_{MN} \psi_{i,DNA}^{M,\uparrow} \partial_a \psi_{j,DNA}^{N,\downarrow} \right] \right)^{1/2} \\
 Q_{tot} &= [Q_{H-H} + Q_{2,O-H}] \\
 &\cdot \left[1 + \sum_{i=1}^N Q_{K,O-i} + \sum_{j=1}^N Q_{K,H-j} \right] \\
 Q_{H-H} &= \sqrt{1 + \frac{k_1^2}{\sigma_{1,H-H}^4}} \\
 Q_{K,O-i} &= Q_{K-1,O-i} \sqrt{1 + \frac{k_2^2}{Q_{K-1,O-i} \sigma_{K-1,O-i}^4}} \\
 &\dots \sqrt{1 + \frac{k_2^2}{Q_{1,O-i} \sigma_{2,O-i}^4}} \\
 Q_{K,H-i} &= Q_{K-1,H-i} \sqrt{1 + \frac{k_2^2}{Q_{K-1,H-i} \sigma_{K-1,H-i}^4}} \\
 &\dots \sqrt{1 + \frac{k_2^2}{Q_{1,H-i} \sigma_{2,H-i}^4}} \\
 Q_{2,O-H} &= Q_{1,O-H} \sqrt{1 + \frac{k_2^2}{Q_{1,O-H} \sigma_{2,O-H}^4}} \\
 Q_{1,O-H} &= \sqrt{1 + \frac{k_1^2}{\sigma_{1,O-H}^4}}
 \end{aligned}$$

where i and j are the number of atoms of DNA and K is the number of electrons which are paired between DNA and atoms of water. Above equation shows that the existence of DNA change the Hamiltonian of water and consequently, has a direct effect on it's signals. This water emit some waves that carry the information about the changes produced by the DNA in the structure of initial pure water.

We can write:

$$\begin{aligned}
 H^{EM,DNA-Water} &= H^{tot,DNA-Water} \quad (15) \\
 &= \sum_{j=3}^{N-3} \sum_{i=1}^N \sum_{k=1}^M P_{ij,k} H_{j,i,k}^{tot,DNA-Water} \\
 &= \sum_{j=3}^{N-3} \sum_{i=1}^N \sum_{k=1}^M EM_{j,i,k}^{tot,DNA-Water}
 \end{aligned}$$

where $EM_{j,i,k}^{tot,DNA-Water}$ is the package of information in an wave which produces j number of i -gonal structures and k extra corners corresponded to k atoms of DNA. Also, $H_{j,i,k}^{tot,DNA-Water}$ is the Hamiltonian of these structures and $P_{ij,k}$ is the probability for producing them. When these packages of waves achieve to another pure water, form structures of initial water with some extra corners or defects which are the signature of the existence of DNA. For example, assume that a tube or container of water contains DNA molecules. These molecules change the hexagonal and pentagonal structures of water. Signals which are produced by this water contain packages which carry the information of structures of initial water. When these packages achieve to second tube of pure water, give their information to water, change structures and produce the same of structures of initial water. We can detect the structures in initial water by using the PCR or other methods.

4 The structures of water,waves and DNAs in extra dimensions

Previously in [12], it has been shown that DNAs of men and women have two different packings and their radiated waves are different. Thus,there should be two types of structures for water to store information of these two types of structures. However,we couldn't see any differences between structures of waters in four dimension. In this section, we will show that in extra dimensions,the structures of two types of water become different and these waters radiate some topoisomerase-like waves that interact with two types of DNAs, open them and read their information. In biology,

We can rewrite the action of triangle which is formed by one atom of DNA with two near atoms as [14–16]:

$$\begin{aligned}
 S_{3,DNA} &= -T_{tri} \int d^3\sigma \quad (16) \\
 &\cdot \sqrt{\eta^{ab} g_{MN} \partial_a X^M \partial_b X^N + 2\pi l_s^2 U(F) + 2\pi l_s^2 \bar{U}(\bar{F})} \\
 U &= \left(\sum_{n=1}^2 \frac{1}{n!} \left(-\frac{F_{atom1-atom2} F_{atom1-atom3}}{\beta^2} \right) + F_{atom2-atom3} \right) \\
 \bar{U} &= \left(\sum_{n=1}^2 \frac{1}{n!} \left(-\frac{\bar{F}_{atom1-atom2} \bar{F}_{atom1-atom3}}{\beta^2} \right) + \bar{F}_{atom2-atom3} \right) \\
 F &= F_{\mu\nu} F^{\mu\nu} \quad F_{\mu\nu} = \partial_\mu A_\nu - \partial_\nu A_\mu
 \end{aligned}$$

where g_{MN} is the background metric, $X^M(\sigma^a)$'s are scalar fields which are constructed from paring two electrons with opposite spins, σ^a 's are the manifold coordinates, $a, b = 0, 1, \dots, 3$ are world-volume indices of the manifold and $M, N = 0, 1, \dots, 11$ are eleven dimensional spacetime indices. Also, U is the nonlinear field [15] and A is the photon which exchanges between atoms. Also, $\bar{U}$ is the nonlinear field which is created by packings of DNA [15] and $\bar{A}$ is the photon which exchanges between atoms.

Following method in previous sections and substituting $X \rightarrow \psi^\uparrow \psi_\downarrow$, we can rewrite the trigonal Hamiltonian as:

$$\begin{aligned}
 H_{3,DNA} &= 4\pi T_{tri} \int d\sigma_{11} \dots d\sigma_1 \quad (17) \\
 &\cdot Q_{3,un-packed} \bar{Q}_{3,acked} E_{3,un-packed} \bar{E}_{3,packed} \\
 E_{3,un-packed} &= \left(1 + \eta^{ab} g_{MN} \right. \\
 &\cdot g_{MN} \psi_O^{M,\uparrow} \partial_a \psi_H^{M,\downarrow} \psi_H^{N,\uparrow} \partial_b \psi_O^{N,\downarrow} \left. \right)^{1/2} \\
 Q_{3,un-packed} &= Q_{atom2-atom3} + Q_{atom1-atom2-atom3} \\
 Q_{atom2-atom3} &= \left(1 + \frac{k_1^2}{\sigma_{1,atom2-atom3}^4} \right)^{1/2} \\
 Q_{atom1-atom2-atom3} &= Q_{atom1-atom2} \left(1 \right. \\
 &\left. + \frac{k_2^2}{Q_{atom1-atom2} \sigma_{atom2-atom3}^4} \right)^{1/2} \\
 Q_{atom1-atom2} &= \left(1 + \frac{k_1^2}{\sigma_{atom1-atom2}^4} \right)^{1/2} \\
 \bar{E}_{3,packed} &= \left(1 + \eta^{ab} g_{MN} \right. \\
 &\cdot g_{MN} \bar{\psi}_O^{M,\uparrow} \partial_a \bar{\psi}_H^{M,\downarrow} \bar{\psi}_H^{N,\uparrow} \partial_b \bar{\psi}_O^{N,\downarrow} \left. \right)^{1/2} \\
 \bar{Q}_{3,packed} &= \bar{Q}_{atom2-atom3} + \bar{Q}_{atom1-atom2-atom3} \\
 \bar{Q}_{atom2-atom3} &= \left(1 + \frac{k_1^2}{\sigma_{1,atom2-atom3}^2 \theta_{1,atom2-atom3}^2} \right)^{1/2} \\
 \bar{Q}_{atom1-atom2-atom3} &= \bar{Q}_{atom1-atom2} \left(1 \right. \\
 &\left. + \frac{k_2^2}{\bar{Q}_{atom1-atom2} \sigma_{atom2-atom3}^2 \theta_{atom2-atom3}^2} \right)^{1/2} \\
 Q_{atom1-atom2} &= \left(1 + \frac{k_1^2}{\sigma_{atom1-atom2}^2 \theta_{atom1-atom2}^2} \right)^{1/2}
 \end{aligned}$$

We can extend these calculations to hexagonal and pentagonal manifolds:

$$\begin{aligned}
 H_{6/5,DNA} &= 4\pi T_{tri} \int d\sigma_{11} \dots d\sigma_1 Q_{6/5,un-packed} \quad (18) \\
 &\cdot \bar{Q}_{6/5,acked} E_{6/5,un-packed} \bar{E}_{6/5,packed} \\
 E_{6/5,un-packed} &= \left(1 + \eta^{ab} g_{MN} \right. \\
 &\cdot g_{MN} \psi_O^{M,\uparrow} \partial_a \psi_H^{M,\downarrow} \psi_H^{N,\uparrow} \partial_b \psi_O^{N,\downarrow} \left. \right)^{1/2}
 \end{aligned}$$

$$\begin{aligned}
 Q_{6/5,un-packed} &= \Sigma_{ij} Q_{atom,i-atom,j} \\
 &+ \Sigma_{ijk} Q_{atom,i-atom,j-atom,k} \\
 Q_{atom,i-atom,j} &= \left(1 + \frac{k_1^2}{\sigma_{1,atom,i-atom,j}^4} \right)^{1/2} \\
 Q_{atom,i-atom,j-atom,k} &= Q_{atom,i-atom,j} \left(1 \right. \\
 &\left. + \frac{k_2^2}{Q_{atom,i-atom,j} \sigma_{atom,i-atom,j}^4} \right)^{1/2} \\
 Q_{atom,i-atom,j} &= \left(1 + \frac{k_1^2}{\sigma_{atom,i-atom,j}^4} \right)^{1/2} \\
 \bar{E}_{6,packed} &= \left(1 + \eta^{ab} g_{MN} g_{MN} \bar{\psi}_O^{M,\uparrow} \partial_a \bar{\psi}_H^{M,\downarrow} \bar{\psi}_H^{N,\uparrow} \partial_b \bar{\psi}_O^{N,\downarrow} \right)^{1/2} \\
 \bar{Q}_{6/5,packed} &= \Sigma_{ij} \bar{Q}_{atom,i-atom,j} + \Sigma_{ijk} \bar{Q}_{atom,i-atom,j-atom,k} \\
 \bar{Q}_{atom,i-atom,j} &= \left(1 + \frac{k_1^2}{\sigma_{1,atom,i-atom,j}^2 \theta_{1,atom,i-atom,j}^2} \right)^{1/2} \\
 \bar{Q}_{atom,i-atom,j-atom,k} &= \bar{Q}_{atom,i-atom,j} \left(1 \right. \\
 &\left. + \frac{k_2^2}{\bar{Q}_{atom,i-atom,j} \sigma_{atom,j-atom,k}^2 \theta_{atom,j-atom,k}^2} \right)^{1/2} \\
 Q_{atom,i-atom,j} &= \left(1 + \frac{k_1^2}{\sigma_{atom,i-atom,j}^2 \theta_{atom,i-atom,j}^2} \right)^{1/2}
 \end{aligned}$$

Each DNA has various pentagonal, hexagonal and in some packings, trigonal manifolds (See Figure 5). Thus, we can write Hamiltonian of a DNA summing over Hamiltonians of all manifolds in equations (17,18):

$$\begin{aligned}
 H_{DNA} &= 4\pi T_{tri} \int d\sigma_{11} \dots d\sigma_1 \Sigma_{n,m,X,Y}^w \quad (19) \\
 &\Pi_{a,b,c=1}^N P^{DNA}(a, b, c, n, m, X, Y) \\
 &\Pi_{i=1}^n Q_{6,un-packed,i} \Pi_{j=1}^m \bar{Q}_{6,packed,j} \\
 &\Pi_{k=1}^X E_{6,un-packed,k} \Pi_{l=1}^Y \bar{E}_{6,packed,l} \times \\
 &\Pi_{i=1}^n Q_{5,un-packed,i} \Pi_{j=1}^m \bar{Q}_{5,packed,j} \\
 &\Pi_{k=1}^X E_{5,un-packed,k} \Pi_{l=1}^Y \bar{E}_{5,packed,l} \times \\
 &\Pi_{i=1}^n Q_{3,un-packed,i} \Pi_{j=1}^m \bar{Q}_{3,packed,j} \\
 &\Pi_{k=1}^X E_{3,un-packed,k} \Pi_{l=1}^Y \bar{E}_{3,packed,l}
 \end{aligned}$$

where $P(a, b, c, n, m, X, Y)$ is the probability for producing a hexagonal, b pentagonal and c trigonal manifolds with n un-packed photons, m packed photons, X un-packed fermions and Y packed fermions. To open this complicated system, we need some waves which play the role of topoisomerase in biology. These waves should open the structure of DNA, read its information and transmit it to water. When, topoisomerase-like waves achieve to DNA, excite it and total topology and Hamiltonian tends to a constant number (See Figure 6). We can write:

Figure 5: Pentagonal and hexagonal manifolds of a DNA

Figure 6: Topoisomerase-like waves join to DNA and topology of system becomes simple

$$H_{DNA} + H_{wave} = 1 \rightarrow \quad (20)$$

$$\begin{aligned}
 H_{wave,extra} &= 4\pi T_{tri} \int d\sigma_{11} \dots d\sigma_1 \Sigma_{n,m,X,Y}^w \Pi_{a,b,c=1}^N \\
 &\times \left[\left(p^{wave,4-dimension}(a,b,c,n,m,X,Y) \right. \right. \\
 &H^{wave,4-dimension}(a,b,c,n,m,X,Y)^{-1} \\
 &\times \Pi_{i=1}^n \Pi_{j=1}^m \Pi_{k=1}^X \Pi_{l=1}^Y \delta(\sigma_{nX}^2 - \theta_{mY}^2) \\
 &- p^{DNA}(a,b,c,n,m,X,Y) \Pi_{i=1}^n Q_{6,un-packed,i} \\
 &\Pi_{j=1}^m \bar{Q}_{6,packed,j} \Pi_{k=1}^X E_{6,un-packed,k} \Pi_{l=1}^Y \bar{E}_{6,packed,l} \\
 &\times \Pi_{i=1}^n Q_{5,un-packed,i} \Pi_{j=1}^m \bar{Q}_{5,packed,j} \\
 &\Pi_{k=1}^X E_{5,un-packed,k} \Pi_{l=1}^Y \bar{E}_{5,packed,l} \\
 &\times \Pi_{i=1}^n Q_{3,un-packed,i} \Pi_{j=1}^m \bar{Q}_{3,packed,j} \\
 &\left. \left. \Pi_{k=1}^X E_{3,un-packed,k} \Pi_{l=1}^Y \bar{E}_{3,packed,l} \right] \right]
 \end{aligned}$$

where $H^{wave,4-dimension}(a,b,c,n,m,X,Y)$ is the Hamiltonian of structures of wave that can be seen in four dimensions. Also, $H_{wave,extra}$ is the Hamiltonian of structures of waves in extra dimensions. These waves act like topoisomers in biology. When these waves achieve to DNA, excited it and the Hamiltonian and topology of system tends to one. In these conditions, all information of DNA can be recovered and stored in waves. This wave can exchange information with water so. Thus, we can obtain the structure of water in extra dimension as:

$$H_{water} = H_{wave} \rightarrow \quad (21)$$

$$\begin{aligned}
 H_{water,extra} &= 4\pi T_{tri} \int d\sigma_{11} \dots d\sigma_1 \Sigma_{n,m,X,Y}^w \Pi_{a,b,c=1}^N \\
 &\times \left[\left(p^{water,4-dimension}(a,b,c,n,m,X,Y) \right. \right. \\
 &H^{water,4-dimension}(a,b,c,n,m,X,Y)^{-1} \\
 &\times \Pi_{i=1}^n \Pi_{j=1}^m \Pi_{k=1}^X \Pi_{l=1}^Y \delta(\sigma_{nX}^2 - \theta_{mY}^2) \\
 &- p^{DNA}(a,b,c,n,m,X,Y) \Pi_{i=1}^n Q_{6,un-packed,i} \\
 &\Pi_{j=1}^m \bar{Q}_{6,packed,j} \Pi_{k=1}^X E_{6,un-packed,k} \Pi_{l=1}^Y \bar{E}_{6,packed,l} \\
 &\times \Pi_{i=1}^n Q_{5,un-packed,i} \Pi_{j=1}^m \bar{Q}_{5,packed,j} \\
 &\Pi_{k=1}^X E_{5,un-packed,k} \Pi_{l=1}^Y \bar{E}_{5,packed,l} \\
 &\times \Pi_{i=1}^n Q_{3,un-packed,i} \Pi_{j=1}^m \bar{Q}_{3,packed,j} \\
 &\left. \left. \Pi_{k=1}^X E_{3,un-packed,k} \Pi_{l=1}^Y \bar{E}_{3,packed,l} \right] \right]
 \end{aligned}$$

where $H^{water,4-dimension}(a,b,c,n,m,X,Y)$ is the Hamiltonian of structures of water that can be seen in four dimensions. Also, $H_{water,extra}$ is the Hamiltonian of structures of water in extra dimensions. Types of packings of DNAs in women is different from types of packings of DNAs in men. Thus, we can write:

$$H_{water,women} = H_{wave,women} \rightarrow \quad (22)$$

$$\begin{aligned}
 H_{water,extra,women} &= 4\pi T_{tri} \int d\sigma_{11} \dots d\sigma_1 \Sigma_{n,m,X,Y}^w \Pi_{a,b,c=1}^N \\
 &\times \left[\left(p^{water,4-dimension}(a,b,c,n,m,X,Y) \right. \right. \\
 &H^{water,4-dimension}(a,b,c,n,m,X,Y)^{-1} \\
 &\times \Pi_{i=1}^n \Pi_{j=1}^m \Pi_{k=1}^X \Pi_{l=1}^Y \delta(\sigma_{nX}^2 - \theta_{mY}^2) \\
 &- p^{DNA,women}(a,b,c,n,m,X,Y) \\
 &\Pi_{i=1}^n Q_{6,un-packed,i,women} \\
 &\times \Pi_{j=1}^m \bar{Q}_{6,packed,j,women} \Pi_{k=1}^X E_{6,un-packed,k,women} \\
 &\Pi_{l=1}^Y \bar{E}_{6,packed,l,women} \\
 &\times \Pi_{i=1}^n Q_{5,un-packed,i,women} \Pi_{j=1}^m \bar{Q}_{5,packed,j} \\
 &\times \Pi_{k=1}^X E_{5,un-packed,k,women} \Pi_{l=1}^Y \bar{E}_{5,packed,l,women} \\
 &\times \Pi_{i=1}^n Q_{3,un-packed,i,women} \Pi_{j=1}^m \bar{Q}_{3,packed,j,women} \\
 &\left. \left. \Pi_{k=1}^X E_{3,un-packed,k,women} \Pi_{l=1}^Y \bar{E}_{3,packed,l,women} \right] \right]
 \end{aligned}$$

Figure 7: The structure of two waters in extra dimensions

$$\begin{aligned}
 H_{\text{water,Men}} &= H_{\text{wave,Men}} \rightarrow \\
 H_{\text{water,extra,Men}} &= 4\pi T_{\text{tri}} \int d\sigma_{11} \dots d\sigma_1 \Sigma_{n,m,X,Y}^w \Pi_{a,b,c=1}^N \\
 &\times \left[\left(P^{\text{water,4-dimension}}(a,b,c,n,m,X,Y) \right. \right. \\
 &\quad \left. \left. H^{\text{water,4-dimension}}(a,b,c,n,m,X,Y) \right)^{-1} \right. \\
 &\quad \times \Pi_{i=1}^n \Pi_{j=1}^m \Pi_{k=1}^X \Pi_{l=1}^Y \delta(\sigma_{nX}^2 - \theta_{mY}^2) \\
 &\quad - P^{\text{DNA,Men}}(a,b,c,n,m,X,Y) \\
 &\quad \Pi_{i=1}^n Q_{6,\text{un-packed},i,\text{Men}} \Pi_{j=1}^m \bar{Q}_{6,\text{packed},j,\text{Men}} \\
 &\quad \times \Pi_{k=1}^X E_{6,\text{un-packed},k,\text{Men}} \Pi_{l=1}^Y \bar{E}_{6,\text{packed},l,\text{Men}} \\
 &\quad \times \Pi_{i=1}^n Q_{5,\text{un-packed},i,\text{Men}} \Pi_{j=1}^m \bar{Q}_{5,\text{packed},j,\text{Men}} \\
 &\quad \Pi_{k=1}^X E_{5,\text{un-packed},k,\text{Men}} \Pi_{l=1}^Y \bar{E}_{5,\text{packed},l,\text{Men}} \\
 &\quad \times \Pi_{i=1}^n Q_{3,\text{un-packed},i,\text{Men}} \Pi_{j=1}^m \bar{Q}_{3,\text{packed},j,\text{Men}} \\
 &\quad \left. \times \Pi_{k=1}^X E_{3,\text{un-packed},k,\text{Men}} \Pi_{l=1}^Y \bar{E}_{3,\text{packed},l,\text{Men}} \right]
 \end{aligned} \quad (23)$$

Above results show that there are two types of structures for water (See Figure 7). However, these structures are the same in four dimensions and different in extra dimensions. For this reason, an observer on four dimensional manifold can only observe the same structure for all waters.

5 Transporting particles between two waters via extra dimensions

In this section, we will show that two waters with different structures could be highly entangled. If any particle enters into this entangled system, the amount of entanglement decreases. Nature will oppose with this new condition and provide needed energy for transporting that particle via extra dimension. For example, we consider teleporting of sperms into eggs. Previously, we have shown that water interact with a DNA by exchanging topoisomerase-like waves and stores it's energy. However, water inside the

egg confronts with half of an structure of DNA. Thus,we have:

$$H_{\text{egg}} = H_{\text{sperm}}^{-1} H_{\text{DNA}} \quad (24)$$

$$\begin{aligned}
 H_{\text{egg}} &= 4\pi T_{\text{tri}} \int d\sigma_{11} \dots d\sigma_1 \Sigma_{n,m,X,Y}^w \Pi_{a,b,c=1}^{N/2} P^{\text{egg}}(a,b,c,n,m,X,Y) \\
 &\times \Pi_{i=1}^{n/2} Q_{6,\text{un-packed},i,\text{egg}} \Pi_{j=1}^{m/2} \bar{Q}_{6,\text{packed},j,\text{egg}} \\
 &\Pi_{k=1}^{X/2} E_{6,\text{un-packed},k,\text{egg}} \Pi_{l=1}^{Y/2} \bar{E}_{6,\text{packed},l,\text{egg}} \\
 &\times \Pi_{i=1}^n Q_{5,\text{un-packed},i,\text{egg}} \Pi_{j=1}^m \bar{Q}_{5,\text{packed},j,\text{egg}} \\
 &\Pi_{k=1}^{X/2} E_{5,\text{un-packed},k,\text{egg}} \Pi_{l=1}^{Y/2} \bar{E}_{5,\text{packed},l/2} \\
 &\times \Pi_{i=1}^{n/2} Q_{3,\text{un-packed},i,\text{egg}} \Pi_{j=1}^{m/2} \bar{Q}_{3,\text{packed},j,\text{egg}} \\
 &\Pi_{k=1}^{X/2} E_{3,\text{un-packed},k,\text{egg}} \Pi_{l=1}^Y \bar{E}_{3,\text{packed},l,\text{egg}}
 \end{aligned}$$

For complete DNA, topoisomerase-like waves join to it and make it's topology simple. In these condition, the Hamiltonian of system tends to one. However, if these waves join to non-complete structures like DNA, system can't be stable and some extra energy is produced. We can write:

$$H_{\text{tot}} = H_{\text{DNA}} + H_{\text{wave}} = 1 \quad (25)$$

$$H_{\text{tot,egg}} = H_{\text{egg}} + H_{\text{wave,egg}} = 1 - H_{\text{sperm}}^{-1} \rightarrow$$

$$H_{\text{wave,egg}} = H_{\text{water,egg}}$$

$$H_{\text{tot,egg}} = H_{\text{egg}} + H_{\text{water,egg}} = 1 - H_{\text{sperm}}^{-1}$$

we can write the same results for sperms and write:

$$H_{\text{tot}} = H_{\text{DNA}} + H_{\text{wave}} = 1 \quad (26)$$

$$H_{\text{tot,sperm}} = H_{\text{sperm}} + H_{\text{wave,sperm}} = 1 - H_{\text{egg}}^{-1} \rightarrow$$

$$H_{\text{wave,sperm}} = H_{\text{water,sperm}}$$

$$H_{\text{tot,sperm}} = H_{\text{sperm}} + H_{\text{water,sperm}} = 1 - H_{\text{egg}}^{-1}$$

When waters of men which include sperms achieve to waters of women inside the body of egg, some topoisomerase-like waves are exchanged and a highly entangled state is emerged. We can obtain:

$$H_{\text{tot,entangled}} = H_{\text{tot,sperm}} \otimes H_{\text{tot,egg}} \quad (27)$$

$$= H_{\text{DNA}} + H_{\text{water}} + H_{\text{teleport}}$$

$$\begin{aligned}
 H_{\text{teleport}} &= H_{\text{egg}} H_{\text{water,sperm}} + H_{\text{sperm}} H_{\text{water,egg}} \\
 &\quad - H_{\text{egg}}^{-1} - H_{\text{sperm}}^{-1}
 \end{aligned}$$

Above equation shows that for transporting a particle like sperm from one water to another water, we need to huge amount of energy. This energy depends on the energy of entanglement and also the energy of waters and particles.

The differences in structures of waters have very useful applications. One of it's applications, is fusion of

sperms and eggs. For example, when water of men which contains sperms achieve to water of women which includes egg, they become highly entangled. However some of sperms and egg are in opposed with these entanglements. In these conditions, sperm with opposite behaviour is repelled and teleported. into egg. On the other hand, waters inside and outside of egg are highly entangled. When sperms try to break this entanglement, some holes are emerged in the water of egg. These holes are in fact, topoisomerase-like waves that are radiated by sperms. These holes have the structure of sperm. To fill these holes, sperm is teleported into the egg (See Figure 8). Another application of differences between structures of waters is determining the gender of fetus in a pregnant woman. If we measure the amount of repelled water by the body of a women in normal condition and compare it with the repelled water in time of pregnant, we can guess the gender of her fetus. Woman with the gender of male, repel less amount of water with structure of male and women with fetus of gender of female, repel more amount of water with structure of male. Thus, different structures of waters have the main role in medical imaging. On the other hand, earth and sun radiate some topoisomerase like waves that have the main role in growing plants and translation and transcription in cells. The origin of these waves unclear, however it seems that some of them are radiated from liquids in

Figure 8: Sperm teleports into the egg

Figure 9: Water around the egg has different structure respect to water around sperm

the core of earth. The origin of radiated topoisomerase-like waves from sun may be some waters in the sky that their waves mix with waves of sun. Also, we should re-consider the structure of sun so. The radiated waves from earth and sun produce some holes of fields in the earth and sky that may be helpful for teleporting of particles. This is because that these holes should be filled by another fields or matters and for this reason, some particles should be transferred into them. In future, we can use of these holes for new technique for transferring particles.

For separating waters, we can use of the interaction of body of men and women with them. This is because that DNAs of men attract waters with different structure respect to DNAs of women (See Figure 9). As a result, most of waters which are going out of the body of women have different structures respect to waters which are going of the body of men. Thus, we can assure that structures of most of these waters are different. Another way is using of waters which include sperms in men and waters which include eggs. They have different structures. Because, they interact with sperms and eggs by exchanging topoisomerase-like waves. These waves have different structures which are originated from differences in structures of waters. Another interesting way for separating waters is applying waves of sun and earth which include some topoisomerase like waves. The origin of these waves may be the existence of water or DNA in structures of earth or some objects in sky. These waves are the same of waves which are produced by men and women. We can apply these waves for separating two types of water. These waves separate waters inside a container.

6 The emergence of life in pure water

In this section, we will show that in some conditions, topoisomerase-like waves interact with water, extract the structure of DNA from it and produce life (See Figure 10). This is because that the structure of water in extra dimension includes the structure of DNA. If some waves could reverse the structure of water and replace the structure of water in four dimension by the structure of water in extra dimensions, they can produce DNA and the life.

Previously, in equations (22,23), we have shown that the structure of waves and waters have a direct relation with the structure of DNA. Thus, if a wave could reverse the structure of water, the structure of DNA is appeared in

Figure 10: The DNA-like structure of water in extra dimensions

four dimension and life is emerged. We have:

$$H_{\text{water,women}} + H_{\text{wave,reverse,women}} = H_{\text{DNA,women}} \quad (28)$$

and

$$H_{\text{water,men}} + H_{\text{wave,reverse,men}} = H_{\text{DNA,men}} \quad (29)$$

Solving above equations, we can obtain the Hamiltonian of waves as:

$$\begin{aligned}
 H_{\text{wave,reverse,women}} = & 4\pi T_{\text{tri}} \int d\sigma_{11} \dots d\sigma_1 \Sigma_{n,m,X,Y}^w \Pi_{a,b,c=1}^N \quad (30) \\
 & \times \left(\left[p^{\text{DNA,women}}(a, b, c, n, m, X, Y) \right. \right. \\
 & \Pi_{i=1}^n Q_{6,\text{un-packed},i,\text{women}} \times \Pi_{j=1}^m \bar{Q}_{6,\text{packed},j,\text{women}} \\
 & \Pi_{k=1}^X E_{6,\text{un-packed},k,\text{women}} \Pi_{l=1}^Y \bar{E}_{6,\text{packed},l,\text{women}} \\
 & \times \Pi_{i=1}^n Q_{5,\text{un-packed},i,\text{women}} \Pi_{j=1}^m \bar{Q}_{5,\text{packed},j} \\
 & \times \Pi_{k=1}^X E_{5,\text{un-packed},k,\text{women}} \Pi_{l=1}^Y \bar{E}_{5,\text{packed},l,\text{women}} \\
 & \times \Pi_{i=1}^n Q_{3,\text{un-packed},i,\text{women}} \Pi_{j=1}^m \bar{Q}_{3,\text{packed},j,\text{women}} \\
 & \left. \Pi_{k=1}^X E_{3,\text{un-packed},k,\text{women}} \Pi_{l=1}^Y \bar{E}_{3,\text{packed},l,\text{women}} \right] \\
 & - 1 \Big] \times \left[\Pi_{i=1}^n \Pi_{j=1}^m \Pi_{k=1}^X \Pi_{l=1}^Y \delta(\sigma_{nX}^2 - \theta_{mY}^2) \right) \\
 & - \left[\left(p^{\text{water,4-dimension}}(a, b, c, n, m, X, Y) \right. \right. \\
 & \left. \left. H^{\text{water,4-dimension}}(a, b, c, n, m, X, Y) \right)^{-1} \right] \\
 & \times \left[p^{\text{DNA,women}}(a, b, c, n, m, X, Y) \right. \\
 & \Pi_{i=1}^n Q_{6,\text{un-packed},i,\text{women}} \\
 & \times \Pi_{j=1}^m \bar{Q}_{6,\text{packed},j,\text{women}} \Pi_{k=1}^X E_{6,\text{un-packed},k,\text{women}} \\
 & \Pi_{l=1}^Y \bar{E}_{6,\text{packed},l,\text{women}} \\
 & \times \Pi_{i=1}^n Q_{5,\text{un-packed},i,\text{women}} \Pi_{j=1}^m \bar{Q}_{5,\text{packed},j} \\
 & \times \Pi_{k=1}^X E_{5,\text{un-packed},k,\text{women}} \Pi_{l=1}^Y \bar{E}_{5,\text{packed},l,\text{women}} \\
 & \times \Pi_{i=1}^n Q_{3,\text{un-packed},i,\text{women}} \Pi_{j=1}^m \bar{Q}_{3,\text{packed},j,\text{women}} \\
 & \left. \left. \Pi_{k=1}^X E_{3,\text{un-packed},k,\text{women}} \Pi_{l=1}^Y \bar{E}_{3,\text{packed},l,\text{women}} \right] \right]
 \end{aligned}$$

and

$$\begin{aligned}
 H_{\text{wave,reverse,men}} = & 4\pi T_{\text{tri}} \int d\sigma_{11} \dots d\sigma_1 \Sigma_{n,m,X,Y}^w \Pi_{a,b,c=1}^N \quad (31) \\
 & \times \left(\left[p^{\text{DNA,men}}(a, b, c, n, m, X, Y) \right. \right. \\
 & \Pi_{i=1}^n Q_{6,\text{un-packed},i,\text{men}} \times \Pi_{j=1}^m \bar{Q}_{6,\text{packed},j,\text{men}} \\
 & \Pi_{k=1}^X E_{6,\text{un-packed},k,\text{men}} \Pi_{l=1}^Y \bar{E}_{6,\text{packed},l,\text{men}} \\
 & \times \Pi_{i=1}^n Q_{5,\text{un-packed},i,\text{men}} \Pi_{j=1}^m \bar{Q}_{5,\text{packed},j} \\
 & \times \Pi_{k=1}^X E_{5,\text{un-packed},k,\text{men}} \Pi_{l=1}^Y \bar{E}_{5,\text{packed},l,\text{men}} \\
 & \times \Pi_{i=1}^n Q_{3,\text{un-packed},i,\text{men}} \Pi_{j=1}^m \bar{Q}_{3,\text{packed},j,\text{men}} \\
 & \left. \Pi_{k=1}^X E_{3,\text{un-packed},k,\text{men}} \Pi_{l=1}^Y \bar{E}_{3,\text{packed},l,\text{men}} \right] - 1 \Big] \\
 & \times \left[\Pi_{i=1}^n \Pi_{j=1}^m \Pi_{k=1}^X \Pi_{l=1}^Y \delta(\sigma_{nX}^2 - \theta_{mY}^2) \right) \\
 & - \left[\left(p^{\text{water,4-dimension}}(a, b, c, n, m, X, Y) \right. \right. \\
 & \left. \left. H^{\text{water,4-dimension}}(a, b, c, n, m, X, Y) \right)^{-1} \right] \\
 & \times \left[p^{\text{DNA,men}}(a, b, c, n, m, X, Y) \right. \\
 & \Pi_{i=1}^n Q_{6,\text{un-packed},i,\text{men}} \\
 & \times \Pi_{j=1}^m \bar{Q}_{6,\text{packed},j,\text{men}} \Pi_{k=1}^X E_{6,\text{un-packed},k,\text{men}} \\
 & \Pi_{l=1}^Y \bar{E}_{6,\text{packed},l,\text{men}} \\
 & \times \Pi_{i=1}^n Q_{5,\text{un-packed},i,\text{men}} \Pi_{j=1}^m \bar{Q}_{5,\text{packed},j} \\
 & \times \Pi_{k=1}^X E_{5,\text{un-packed},k,\text{men}} \Pi_{l=1}^Y \bar{E}_{5,\text{packed},l,\text{men}} \\
 & \times \Pi_{i=1}^n Q_{3,\text{un-packed},i,\text{men}} \Pi_{j=1}^m \bar{Q}_{3,\text{packed},j,\text{men}} \\
 & \left. \left. \Pi_{k=1}^X E_{3,\text{un-packed},k,\text{men}} \Pi_{l=1}^Y \bar{E}_{3,\text{packed},l,\text{men}} \right] \right]
 \end{aligned}$$

Above equations show that for extracting the structure of DNA from pure waters, we need to some special waves. These waves send the structure of waters into extra dimension and recover it's structure from extra dimension. This can be the main reason for the emergence of life.

7 The water medical imaging

In this section, we will show that water can be applied in medical imaging techniques. This is because that water has the memory and can save information. When water comes out of human's body, we can uncover many mysteries about events interior of body.

Previously, we have discussed that the structures of waters which interact with cells of males and exchange information with them should be different from the structures of waters that communicate with cells of females. We can use of this fact in determining the gender of fetus (See Figure 11). We can compare properties of waters that come out of pregnant women. Type of radiated waves of two waters and their shapes are completely different. In additional, waters that come out of the body of a pregnant with fetus of male are more close to base state. Reversely,

waters that come out of the body of a pregnant with the fetus of female are more close to acid state.

Another application of water memory is concerns the events inside of human's body. Each molecule of water can exchange information with DNA of a cell. On the other hand, each part of human's body has different structure and properties. These properties can be transmitted to molecules of water (See Figure 12). By analysing properties of molecules of water, we can determine that each molecule comes out from which part of body. Then, by comparing radiations of these molecules with radiations of molecules in normal conditions, we can consider evolutions of that part of human's body and determine the defects or states of cells.

Figure 11: Determining the gender by using the water imaging technique

Figure 12: Considering the events interior of human's body by using the water imaging technique

8 Summary and Discussion

In this research, we have considered the structures of water and waves from viewpoints of two observers, one on four dimensional manifold and another on a 11-dimensional manifold. On a four dimensional manifold, we have shown that water has two types of special information codes like the coding of DNA and protein. These structures are needed such that water could exchange information with two types of packings in DNAs in men and women. On the other hand, waves have two special information codes like the coding of protein or DNA. Each type of coding in water has a partner in wave. When, a wave attracts to the water, exchange it's information with it and codings of both of them are changed. In a DNA transduction, two tubes of water are placed near each other. One tube includes DNA molecules and another is pure. The coding of first tube which contains DNA is different from pure water. Waves transmit the information coding of first water and save them in some packages. These packages transmit information to second water and some structures are produced which are similar to the structures of initial water. Consequently, the information coding of second water is changed and take properties of DNA which can be detected by PCR.

Another interesting aspect of this model, was considering the structures of water and waves on 11-dimensional manifold. Previously in [12], it has been shown that DNA of men and women have two different packings and their radiated waves are different. Thus, there should be two types of structures for water to store information for these two types of structures. However, we couldn't see any differences between structures of waters on four dimensional manifold. For this reason, we have used extra dimensions. We have shown that in extra dimensions, the structures of two types of water become different and these waters radiate some topoisomerase-like waves that interact with two types of DNA, open them and read their information.

In nature, there are various mechanism for separating water. For example, cells in men absorb water with different structure respect to cells in women. Thus, most of water which are repelled with the body of women have different structures respect to waters which are repelled by the body of men. We can use these repelled waters of the body of men and women as the separated waters with two different structures. Also, waters which include sperms in men have different structures respect to waters which include eggs (See Figure 9). This is because that these waters exchange topoisomerase-like waves with cells of men and women and take their structures. In addition to these, we

can use radiated waves of the earth and sun for separating waters. Waves of sun and earth include some topoisomerase like waves. These waves have two different structures corresponding to DNAs of men and women. We can use of these waves for separating two types of water. If we put a container with two connected tubes of water in front of sun, waves interact with waters and separate them in two separated tubes.

Two waters of men and women have very useful applications. For example, when water of men which contains sperms achieve to water of women which includes egg, they become highly entangled. However some of sperms and egg are in opposition with these entanglements. In these conditions, sperm with opposite behaviour is repelled and teleported. into egg. On the other hand, waters inside and outside of egg are highly entangled. When sperms try to break this entanglement, some holes emerge in the water of egg. These holes are in fact, topoisomerase-like waves that are radiated by sperms. These holes have the structure of sperm. To fill these holes, sperm is teleported into the egg (See Figure 8). Another application of difference between structures of waters is application of them in medical imaging. In normal conditions, body of women repel some waters and body of women repel other waters. For a pregnant woman with fetus of gender of male, some of waters corresponded to men are absorbed. However, a pregnant with fetus of gender of female repel more waters of men. This difference in absorbing or repelling waters, we can use in determining of gender of fetus.

Another application of two structures for water and waves is radiating two types of topoisomerase-like waves from earth and sun or other objects in the sky. The origin of these waves are unclear. About earth, it seems that the liquid in it's core produce these types of waves. These waves are needed for activity of cells and growing plants. Also, these waves help in exchanging information between DNAs and contribute in transcription and translation. About radiated topoisomerase-like waves from sun, we guess that there are some waters in the sky that their waves mix with radiated waves of sun. Although, the structure of sun itself is yet questionable. The radiated waves from sun and earth create a medium that some points of it are holes and empty of fields. To fill these holes, particles could be teleported to them. From this point, we can use for transferring of objects and fields in future.

In some conditions, topoisomerase-like waves interact with water, extract the structure of DNA from it and produce life. This is because that the structure of water in extra dimension includes the structure of DNA. If some waves could reverse the structure of water and replace the struc-

ture of water in four dimension by the structure of water in extra dimensions, they can produce DNA and the life.

Maybe question arises is there a relation between string theory or other theories in 11-dimensional space-time and DNA in biology. To answer this question, we have shown that DNA has been constructed from pentagonal and hexagonal molecules. From this viewpoint, DNA is similar to graphene which has been constructed from hexagonal molecules. Many papers have considered the gravitational effects or stringy structures of graphene. In some of them, a similarity between wormhole-like tubes in graphene system and gravitational wormholes in cosmology has been found [17]. The same results can be obtained for hexagonal and pentagonal molecules of DNA. Thus, string theory can help us to understand the structure and properties of DNA. On the other hand, DNA is an object that it's structure is packed and it's molecules are coiled three or four times in a small place. This may generate a curved space-time around this molecule and gravitational effects become important. For this reason, we can use non-linear theories [20] for understanding the nature of DNA.

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References

- [1] Capozziello S., Gionti S.J.G, Vernier D., String duality transformations in $f(R)$ gravity from Noether symmetry approach, JCAP, 2016, 1601, 015.
- [2] Capozziello S., Lambiase G., Capaldo R., String Dilaton Fluid Cosmology, Int.J.Mod.Phys.D, 1999, 8:213-227.
- [3] Corda C., Space-time can be neither discrete nor continuous, Mod. Phys. Lett. A, 2018, 33, 1850069. Corda C., The Mössbauer rotor experiment and the general theory of relativity, Ann. Phys., 2016, 368, 258.
- [4] Benveniste J., From water memory to digital biology, Network, 1999.
- [5] Jerman I., Ružič R., Krašovec R., Škarja M., Mogilnicki L., Electrical Transfer of Molecule Information into Water, Its Storage, and Bioeffects on Plants and Bacteria, Electromagnetic Biology and Medicine, 2009, Volume 24 (3), 341-353. <https://doi.org/10.1080/15368370500381620>. Langone J., The Water That Lost Its Memory, 1988, Time Magazine. Re-

- trieved 2007-06-05.
- [6] Cowan M.L., Bruner B.D., Huse N., et al., Ultrafast memory loss and energy redistribution in the hydrogen bond network of liquid H₂O, *Nature.*, 2005, 434 (7030): 199–202. doi: 10.1038/nature03383. PMID15758995.
 - [7] Dayenas E., Beauvais F., Amara J., Oberbaum M., Robinson B., Miadonna A., Tedeschit A., Pomeranz B., Fortner P., Belon P., Sainte-Laudy J., Poitevin B., Benveniste J., Human basophil degranulation triggered by very dilute antiserum against IgE, *Nature.*, 1988, 333(6176):816–818., doi: 10.1038/333816a0. PMID 2455231. Retrieved 2007-06-05. Francis Beauvais, Memory of water and blinding, *Homeopathy*, 2008, 97(1):41-42.
 - [8] Majlesi M., Seas lights (Bahar Al-Anvar), Published by Institute of Vafa in Beirut, Volume 45, Page: 196 And Volume 63, Page: 471 And Volume 63, Page: 476. Ali Mousa Reza, Medicine of Reza -Zahabieh, 720, Edited by N.A.Sadeghi, Published by institute of Meraji, Tehran, 2002.
 - [9] Montagnier L., Aïssa J., Ferris S., Lavallée C., Electromagnetic signals are produced by aqueous nanostructures derived from bacterial DNA sequences, *Interdiscip. Sci. Comput. Life Sci.* 2009, 1, 81 - 90. doi: 10.1007/s12539-009-0036-7.
 - [10] Montagnier L., Giudice E.D., Aïssa J., Lavallee C., Motschwiller S., Capolupo A., Polcari A., Romano P., Tedeschi A., Vitiello G., Transduction of DNA information through water and electromagnetic waves. *Electromagnetic Biology and Medicine.*, 2015, 34:106 - 112. doi: 10.3109/15368378.2015.1036072.
 - [11] Blank M., Goodman R., DNA is a fractal antenna in electromagnetic fields. *Int J Radiat Biol.* 2011, 87(4):409 - 415. doi: 10.3109/09553002.2011.538130.
 - [12] Sepehri A., A mathematical model for DNA, *Int. J. Geom. Methods Mod. Phys.*, 14, 1750152, 2017, doi: 10.301142/S0219887817501523.
 - [13] Fioranelli M., Sepehri A., A mathematical model for the virus medical imaging, *Int. J. Geom. Methods Mod. Phys.*, 2018, Vol.15, NO.07, 1850121, <https://doi.org/10.1142/S0219887818501219>.
 - [14] Sepehri A., Pincak R., Bamba K., Capozziello S., Saridakis E. N., Current density and conductivity through modified gravity in the graphene with defects, *International Journal of Modern Physics D*, 2017, 26, no.09, 1750094. arXiv:1607.01499 [gr-qc]
 - [15] Grignani G., Harmark T., Marini A., Obers N.A., Orselli M., Heating up the Blon, *JHEP*, 2011, 1106: 058.
 - [16] Sepehri A., Rahaman F., Capozziello S., Ali A.F., Pradhan A., Emergence and oscillation of cosmic space by joining M1-branes, *Eur. Phys. J. C.*, 2016, 76 no.5, 231.
 - [17] Gonzalez J., Herrero J., Graphene wormholes: A condensed matter illustration of Dirac fermions in curved space, *Nucl.Phys.B*, 2010, 825:426-443
 - [18] Dandoloﬀ R., Saxena A., Jensen B., Geometry induced potential on a 2D-section of a wormhole: catenoid, *Phys.Rev. A*, 2010, 81, 014102, 10.1103/PhysRevA.81.014102. arXiv:0912.2225 [quant-ph]
 - [19] Bamba K., Capozziello S., Nojiri S. and Odintsov S. D., Dark energy cosmology: the equivalent description via different theoretical models and cosmography tests, *Astrophys. Space Sci.*, 2012, 342, 155. arXiv:1205.3421 [gr-qc]
 - [20] Bamba K. and Odintsov S. D., Inflationary cosmology in modified gravity theories, *Symmetry*, 2015, 7, 1, 220. arXiv:1503.00442 [hep-th]