A Black Hole at the Center of Earth Plays the Role of the Biggest System of Telecommunication for Connecting DNAs, Dark DNAs and Molecules of Water on 4+N Dimensional Manifold

Massimo Fioranelli1,3, Alireza Sepehri1, Maria Grazia Roccia1, Cota Linda1, Chiara Rossi1, Petar Vojvodic1, Jacopo Lotti1, Victoria Barygina1, Aleksandra Vojvodic4, Uwe Wollina2, Michael Tirani5, Nguyen Van Thuong7, Torell0 Lotti8

1Department of Nuclear Physics, Sub-nuclear and Radiation, G. Marconi University, Rome, Italy; 2Clinic for Psychiatric Disorders “Dr. Laza Lazarevic”, Belgrade, Serbia; 3Department of Biomedical Experimental and Clinical Sciences, University of Florence, Florence, Italy; 4Department of Dermatology and Venerology, Military Medical Academy, Belgrade, Serbia; 5Department of Dermatology and Allergology, Städtisches Klinikum Dresden, Dresden, Germany; 6G. Marconi University, Rome, Italy; 7Vietnam National Hospital of Dermatology and Venereology, Hanoi, Vietnam; 8Department of Dermatology, University of G. Marconi, Rome, Italy

Abstract

Recently, some scientists from NASA have claimed that there may be a black hole like structure at the centre of the earth. We show that the existence of life on the earth may be a reason that this black hole like object is a black brane that has been formed from biological materials like DNA. Size of this DNA black brane is 109 times longer than the size of the earth's core and compacted interior it. By compacting this long object, a curved space-time emerges, and some properties of black holes emerge. This structure is the main cause of the emergence of the large temperature of the core, magnetic field around the earth and gravitational field for moving around the sun. Also, this structure produces some waves which act like topoisomerase in biology and read the information on DNAs. However, on the four-dimensional manifold, DNAs are contracted at least four times around various axes and waves of earth couldn't read their information. While, by adding extra dimensions on 4+n-dimensional manifolds, the separation distance between particles increases and all of the information could be recovered by waves. For this reason, each DNA has two parts which one can be seen on the four-dimensional universe, and another one has existed in extra dimensions, and only it's effects is observed. This dark part of DNA called as a dark DNA in an extra dimension. These dark DNAs not only exchange information with DNAs but also are connected with some of the molecules of water and helps them to store information and have memory. Thus, the earth is the biggest system of telecommunication which connects DNAs, dark DNAs and molecules of water.

Introduction

Black holes and their related subjects are of main puzzles in science which many scientists work on them [1]. Physics of these objects is approximately known. However, they are lost, and many cosmological detectors and telescopes try to find them. On the other hand, the concept of a black hole isn't limited to cosmology, and in some high energy colliders, some objects may emerge that change space-time [2]. These objects are known as Tev black holes or mini black holes that are formed from concentrating of a large amount of energy in a small place at large hadron collider [3, 4, 5]. Thus, some types of black hole-like structures could be observed on earth. Newly, some scientists who worked in NASA claimed that there is a black hole at the centre of the earth which is the main cause of the high temperature of the core and magnetic field around the earth [6]. This idea may change some old beliefs about the formation of the earth and solar system. In this model, the earth is a planet that has been formed around a black hole and has properties of that object in its core. In this paper, we show that this idea could have more results and help us to explore the origin of life.

One of the main questions in science is about the relation between the inner core of the earth, life,
water and waves. Each of these subjects has itself puzzles centre, and all of them together make a more main puzzle. For example, our knowledge about the inner core of the earth isn’t complete, and only limited information has been obtained from the waves of the earthquake [7], [8], [9], [10], [11]. These considerations have shown that there is equatorial anisotropy in the inner part of the Earth’s inner core [7], [8]. Also, scientists have estimated the temperature of the inner core from the melting temperature of impure iron at the pressure which iron is under at the boundary of the inner core (about 330 GPa) [9]. From these considerations, they have estimated its temperature as between 5,400 K (5,100 C; 9,300 F) and 5,700 K (5,400 C; 9,800 F). However, in 2013, some others have observed experimentally a substantially higher temperature for the melting point of iron, 6230 [10], [11]. The reason for this high temperature is unclear. However, some scientists believe that some nuclear interactions occur interior of the core that is the main cause of high temperature [12], [13], [14]. In parallel, the origin of life on the earth and its relation with evolutions of the core is unclear.

Also, there are some puzzles about controlling life by some special dark genes which couldn’t be observed and detected by present devices. These genes have been discovered by Hargreaves and his colleagues. They have encountered a dark part of DNA when sequencing the genome of the sand rat (Psammomys obesus), a species of gerbil that lives in deserts.

In particular, they wanted to study the gerbil’s genes related to the production of insulin, to understand why this animal is particularly susceptible to type 2 diabetes. But when they looked for a gene called Pdx1 that controls the secretion of insulin, they found it was missing, as were 87 other genes surrounding it. Some of these missing genes, including Pdx1, are essential and without them, an animal cannot survive. The first clue was that, in several of the sand rat’s body tissues, they found the chemical products that the instructions from the missing genes would create. This would only be possible if the genes were present somewhere in the genome, indicating that they weren’t missing but just hidden [15]. Now, the question arises that how we can communicate with these special dark DNAs which their effects can be seen; however, they are themselves lost.

Another puzzle in science is the ability of molecules of water for exchanging information with DNAs and storing their information [16], [17], [18]. The chemical structure of water (H₂O) is very simple and has no ability to store information. Thus, how these molecules communicate with other molecules and DNAs. Also, it seems that there is a relation between molecules of water, earth and DNA. Because the water of rain has a better effect on the plants and their growth. To respond to all of these questions, we should design a model which explains the relationship between earth, water and life. To this aim, we can use ideas of scientists for the existence of a black hole at the centre of the earth. This black hole may be constructed from a DNA black brane with 109 times longer than the core of the earth which is compacted interior of the core. The number of excited states of this object is similar to the number of microstates of a black hole. However, its material is similar to the material of a DNA. This structure produces a temperature around 6000 K which is in agreement with the predicted temperature of the core. Also, this structure is the main cause of the emergence of the magnetic field around the earth and gravitational waves for moving around the sun. We show that DNA black brane of the earth is the biggest system of telecommunications which exchange waves with all DNAs and molecules of water. Also, we introduce a new type of DNAs called dark DNAs on the one-dimensional manifold. In fact, on the four-dimensional manifold, DNAs are contracted at least four times around various axes and waves of earth couldn’t read their information. However, by adding extra dimensions, the separation distance between particles increases and all of the information could be recovered by waves.

For this reason, each DNA has two parts which one can be seen on the four-dimensional universe, and another one has existed in extra dimensions, and only it’s effects can be observed. This extra dark part of DNA called as a dark DNA in an extra dimension. Waves of the earth’s DNA connect DNAs on four-dimensional universe and dark DNAs in extra dimensions and act like topoisomerases in biology. These waves are different for males and females and also different from linear waves which radiate by electronic devices.

On the other hand, experiments show that radiated waves of the earth interact with molecules of water and store information in their memory. The memory of water is in contradiction to its chemical structure (H₂O). Thus, there should be extra dark DNAs in related to the molecules of water that help them in storing information and exchanging waves with DNAs of earth. This means that molecules of water could have gender like DNAs. On the other hand, the earth could emit some special waves to molecules of water and extract DNA black brane from extra dimensions. This could be the origin of life on earth. Thus, earth, water and DNA form the best system of telecommunication which controls all evolutions of life.

The outline of the paper is as follows. In section II, we show that a DNA black brane interior of the core may be the cause of the emergence of the magnetic field, gravitational waves and high temperature. In section III, we show that the core of the earth, DNA, waves and molecules of water create...
the biggest system of telecommunication.

**The emergence of Magnetic Field, Gravitational Wave and High Temperature of Earth’s Core by a DNA Black Brane**

In this section, we will show that all DNAs of creatures are imaged on its core and produce a DNA black brane in it (See Figure 1). This structure has around $10^9$ times longer than the core of the earth and is compacted interior of the core. We will show that this structure is the main cause of the gravitational field, magnetic field and high temperature of the core.

Figure 1: Induced DNA black brane interior of the core by imaging all DNAs on its meta

First, we calculate Hamiltonian of one DNA and then, we generalise it to a DNA black brane. Each DNA is formed from hexagonal and pentagonal molecules (See Figure 2).

![Figure 2: Each DNA is formed from joining hexagonal and pentagonal molecules](image)

Also, each hexagonal and pentagonal molecule is formed from six or -ve strings (See Figure 3).

![Figure 3: Each hexagonal molecule is formed from joining six strings](image)

Thus, we will use the action of strings for them [20], [21]:

\[ ds^2 = -dt^2 + dr^2 + r^2(d\theta^2 + \sin^2\theta d\phi^2) + \sum_{i=1}^{6} dx_i^2 \]  

without background axes. Here, $t$ is time, $r$ is the radius of the page of DNA and $\theta$ is the angle of rotation. The action of this DNA can be given by:

\[
S = -T_{MN} \int d^4\sigma \sqrt{g^{MN}g^{\phi\psi}} + 2\pi\beta G(F)
\]

\[
G = \sum_{i=1}^{N} \frac{1}{\beta^2} (F_{\mu\nu} - F_{\nu\mu})
\]

\[
F_{\mu\nu} = \partial_{\mu}A_{\nu} - \partial_{\nu}A_{\mu}
\]

where $g_{MN}$ is the background metric, $\theta^\mu(\sigma^\nu)$’s are scalar fields which are produced by pairing electrons ($\phi = \psi_{up}$ $\psi_{down}$), $N$ is a number of exchanged photons between DNAs, $\sigma^\mu$s are the DNA coordinates, $a, b = 0, 1, \ldots 3$ are world-volume indices of DNA and $M, N = 0, 1 \ldots$, are a number of paired electrons. Also, $G$ is the nonlinear field, and $A$ is the photon which exchanges between DNAs.

Using the metric in equation (1), we can write below relations between coordinates of bulk and a DNA [20], [21]:

\[ ds^2 = -dt^2 + dr^2 + r^2(d\theta^2 + \sin^2\theta d\phi^2) + \sum_{i=1}^{6} dx_i^2 \]
Using the above relations, for this DNA in at space time, the action is given by \[20, 21\]:

\[ S = - \int d\sigma \sqrt{1 + \dot{\sigma}^2 - 2\pi^2 G(\sigma)} \]  

(4)

For this action, it has been asserted that momentum density is given by \[20, 21\]:

\[ \Pi = \frac{2\pi^2 G(\sigma)F_0}{\sqrt{1 + \dot{\sigma}^2 - 2\pi^2 G(\sigma)}} \]  

(5)

where \(\dot{\sigma}\) denotes the derivative respect to the field \((\sigma)\). On the other hand, it has been asserted that there is a relation between momentum density and \(\sigma\) \[20, 21\]:

\[ \Pi = \frac{K}{\sigma^2} \]  

(6)

Using equations (5 and 6) and assuming \((\dot{\sigma}) \ll G(\sigma)\) and also following method in \[20, 21, 22\], we can obtain:

\[ H_\alpha, \beta = \sqrt{1 + \frac{\sigma}{1 + \frac{K^2}{\sigma^4}} - \frac{1}{\sqrt{1 + \frac{K^2}{\sigma^4}}}} \]

(7)

\[ H_\beta, \alpha = \sqrt{1 + \frac{\sigma}{1 + \frac{K^2}{\sigma^4}} - \frac{1}{\sqrt{1 + \frac{K^2}{\sigma^4}}}} \]

(8)

where \(\frac{\pi}{4} - \theta\) is the angle between two atoms of respect to the center of hexagonal and pentagonal manifolds, and \(\phi\) is the angle between a hexagonal and a pentagonal manifold. Consequently, Hamiltonian of a DNA can be obtained as:

\[ H_{DNA} = \sum_{\alpha, \beta} \sqrt{1 + \sigma^4} \left[ 1 + \frac{K^2}{\sigma^4} \right] \left[ 1 + \frac{\sigma}{1 + \frac{K^2}{\sigma^4}} - \frac{1}{\sqrt{1 + \frac{K^2}{\sigma^4}}} \right] \]

(9)

This Hamiltonian depends on the separation distance and the angle between atoms. Topology of DNA has a direct effect on its energy, and for example, the energy of DNAs in males and females are different. By using some special values for angles between atoms, we can obtain the known energy of the earth of the above Hamiltonian:

\[ E_{Earth} = \sum_{\alpha, \beta} \sqrt{1 + \sigma^4} \left[ 1 + \frac{K^2}{\sigma^4} \right] \left[ 1 + \frac{\sigma}{1 + \frac{K^2}{\sigma^4}} - \frac{1}{\sqrt{1 + \frac{K^2}{\sigma^4}}} \right] \]

(10)

Above equation shows that Hamiltonian of bases depends on their shape, the separation distance between atoms and angles. Each DNA is coiled several times, and thus, its hexagonal and pentagonal manifolds are coiled several times around various axes (See Figure 4).

Coiling around the axes leads to the motion of electrons in various directions and emergence of the magnetic field. Thus, radiation of DNAs depend on their topology, and for this reason, radiation of chromosomes of males is different respect to radiations of chromosomes of females.

For coiled hexagonal and pentagonal manifold, we obtain:

\[ H_\alpha, \beta = \sqrt{1 + \frac{\sigma}{1 + \frac{K^2}{\sigma^4}} - \frac{1}{\sqrt{1 + \frac{K^2}{\sigma^4}}}} \]

which are rounded around axes, using Hamiltonians in (9 and 10), we can obtain below Hamiltonian:

\[ H_{Earth} = \sum_{\alpha, \beta} \sqrt{1 + \frac{\sigma}{1 + \frac{K^2}{\sigma^4}} - \frac{1}{\sqrt{1 + \frac{K^2}{\sigma^4}}}} \]

(11)

\[ \sigma' = \sigma \tan \left( \frac{\pi}{4} - \theta \right) \]

(12)

Above equation shows that DNA black brane interior of the core can produce expected gravitational energy. Thus, this theory is in agreement with known laws of physics. Now, we can assert that the magnetic of earth can be obtained by summing over exchanged electromagnetic fields between atoms:

\[ G = \left( \sum_{i=1}^{N} \frac{1}{n^2} \left( \frac{F_{ij} F_{ji}}{\beta^2} \right) \right) \]

\[ F = F_{\mu} F^{\mu} \quad F_{\mu} = \partial_\mu A_\mu - \partial_\mu A_\mu \]

\[ B_{mirth} = B_1 + B_2 + \ldots + B_n \]

(13)

\[ \text{where } R = n^2, G_{mirth} = K^2, M = \sum_{i=1}^{N} \left( \sqrt{1 + \frac{\sigma}{1 + \frac{K^2}{\sigma^4}} - \frac{1}{\sqrt{1 + \frac{K^2}{\sigma^4}}} \right) \]

(14)

Above equation shows that DNA black brane elements of DNA black brane. Above
equation shows that the magnetic field of the earth can be obtained by summing over magnetic fields of pentagonal and heptagonal manifolds. This magnetic field depends on the topology of DNA, and for example, for a DNA with the gender of male, the magnetic field is different respect to the DNA with the gender of female. Now, we want to obtain the temperature of the core. To this aim, we put a number of microstates of all pentagonal and hexagonal manifolds equal to the number of microstate of DNA black brane. To calculate a number of microstates, we use a normal thermal distribution which is used for Bose-Einstein correlation in statistics:

\[
N_{\text{DNA}} = N_{\text{circ}} N_{\text{hex}} N_{\text{sect}} - N_{\text{th}}
\]

\[
N_{\text{DNA}} = \int_{\text{core}} d^{4}z \frac{e^{-\frac{S_{\text{DNA}}}{\theta_{\text{DNA}}}}}{1 - e^{-\frac{\theta_{\text{DNA}}}{\theta_{\text{DNA}}}}}
\]

\[
N_{\text{circ}} = \int_{\text{core}} d^{4}z \frac{e^{-\frac{S_{\text{circ}}}{\theta_{\text{circ}}}}}{1 - e^{-\frac{\theta_{\text{circ}}}{\theta_{\text{circ}}}}}
\]

Consequently, temperature of DNA black brane or core can be obtained as:

\[
T_{\text{core}} = T_{\text{DNA, sect}} = \frac{\theta_{\text{DNA}}}{\int_{\text{core}} d^{4}z \frac{e^{-\frac{S_{\text{DNA}}}{\theta_{\text{DNA}}}}}{1 - e^{-\frac{\theta_{\text{DNA}}}{\theta_{\text{DNA}}}}} - \int_{\text{core}} d^{4}z \frac{e^{-\frac{S_{\text{circ}}}{\theta_{\text{circ}}}}}{1 - e^{-\frac{\theta_{\text{circ}}}{\theta_{\text{circ}}}}} - \int_{\text{core}} d^{4}z \frac{e^{-\frac{S_{\text{sect}}}{\theta_{\text{sect}}}}}{1 - e^{-\frac{\theta_{\text{sect}}}{\theta_{\text{sect}}}}}}
\]

This equation shows that the temperature of DNA black brane depends on the Hamiltonian of DNA black brane, Hamiltonian of hexagonal-pentagonal molecules and temperatures of each manifold.

Assuming that temperatures of hexagonal and pentagonal manifolds be constant and around the temperature of the room and using equations (12, 13 and 15), we can obtain dependency of temperature in terms of size of the core and plot it in Figure 5.

**Figure 5:** Temperature of DNA black brane in terms of its size

It is clear that for a DNA black brane with the size around 10⁹ times longer than the core of the earth, the temperature will be around 6000 K. This temperature is in agreement with predicted temperature for the core. It is concluded that a DNA black brane with 10⁹ meters which is compacted interior of core, can produce all known physics of the earth.

Formation of a System of Telecommunication by Waves, DNAs, Dark DNAs and Molecules of Water

Now, we consider the process of communications between earth, DNAs and molecules of water. In Figure 6, we show that a system like a DNA may be coiled in four dimensions. However, by adding extra strings in extra dimensions, it will be open, and its topology will be transferred to a circle.

**Figure 6:** Topology of a system by adding some extra strings in extra dimensions change and shrinks to a circle

These extra strings may be related to waves or dark DNAs in extra dimensions. We can write below relation between waves, DNAs and dark DNAs in extra dimensions:

\[
1 = N_{\text{Circle}} N_{\text{DNA, Wave}} N_{\text{Dark DNA}}
\]

where \(N_{\text{Circle}}\) is the number of microstates for a circle which is produced by joining dark.

DNA, waves and DNA. Also, \(N_{\text{DNA}}\) is the number of microstates for DNA, \(N_{\text{Dark DNA}}\) is the number of microstates for dark DNA, and \(N_{\text{Wave}}\) is the number of microstates for waves. This equation shows that waves connect DNAs in four dimensions to dark DNAs in extra dimensions and deform their topology, open their collings and transfer them to circles (See Figure 7).

**Figure 7:** Dark DNA in extra dimensions

Thus, a number of microstates of waves depend on the number of microstates of DNAs and dark DNAs in extra dimensions. We can write below relation for the interaction of molecules of water with dark DNAs and waves:
Figure 8: The relation between molecules of water and dark DNAs in extra dimensions

Above equation shows that there is a big system of telecommunication which is formed by the core of the earth, DNAs, waves, molecules of water and dark DNAs in an extra dimension. This big system of telecommunication controls all evolutions of life on the earth. Also, the shape of DNAs has a direct effect on their number of microstates and consequently is in relation to a number of microstates of waves, molecules of water and dark DNAs in an extra dimension.

Some Results Of The Existence Of The Biggest System Of Telecommunication

We can write below results from our model and calculations: 1. Molecules of water are in related to dark DNAs in extra dimensions. On the other hand, dark DNAs have gender like normal DNAs.

Thus, molecules of water can have some properties like gender, and each molecule of water with the gender of the male can attract by DNAs with the gender of female and reversely, each molecule of water with the gender of a female can attract with molecules of water with the gender of male (See Figures 9 and 10).

Equation (19, 20 and 21) give this possibility that the number of microstates of molecules of water has a relation with a number of microstates of DNAs and dark DNAs. This means that by radiating some waves to molecules of water, we can increase the number of microstates of molecules of water and obtain below relation:

$$1 = N_{\text{Circle}}N_{\text{water}} = N_{\text{water}}N_{\text{wave}}N_{\text{DNA}}N_{\text{darkDNA}}N_{\text{DNA}}$$

Figure 9: Molecules of water is related to dark DNAs with the gender of female

Figure 10: Molecules of water is related to dark DNAs with the gender of male

2. Above equation shows that by radiating some waves to water, we can extract properties of DNAs. This result is in good agreement with predictions of Montagnier and his colleagues (see Figure 11).

3. DNA black brane interior of core, DNAs on the earth, dark DNAs in extra dimensions, waves and molecules of water form the best system of telecommunication (See figure 12).
Conclusions

In this paper, we have shown that the earth's core is the biggest system of telecommunication which exchanges waves with all DNAs and molecules of water. Imaging of DNAs on the interior of the metal of the core produces a DNA black brane with around 10^3 times longer than the core of the earth which is compacted and creates a structure similar to a black hole or black brane. We have shown that this DNA black brane is the main cause of high temperature of core and magnetic of earth.

Also, this structure produces gravitational fields of earth and leads to the motion of the earth around the sun. We have argued that DNA black brane of earth exchange some non-linear waves with DNAs and recover their information. The shape of these waves depends on the topology of DNAs and are different for DNAs of males and females. Each DNA is compacted several times around various axes and reading it's information is hard.

However, by adding extra dimensions to four dimensions of the universe, the separation distance between elements of DNAs increases and waves of earth could recover their information. Thus, each DNA has an extra dark part in extra dimension which we call them dark DNAs. These extra parts couldn't be observed, however, their effects can be seen. DNA black brane of the earth's core exchange waves with both dark and light parts of DNA and connect them. These waves are different for males and females and play the role of topoisomerases in biology.

On the other hand, our calculations and experiments show that these waves interact with molecules of water. However, the chemical structure of water (H_2O) is very simple and cant store any information. This means that there are some extra dark DNAs on the 4+n-dimensional manifold which are related to molecules of water and play the role of memory for it. These dark DNAs have gender like other DNAs and give properties of gender to molecules of water. On the other hand, DNA black brane of the earth could emit some special waves to molecules of water and extract dark DNAs from extra dimensions. This means that the origin of life could be a system of telecommunication which is formed by DNA black brane interior of the earth, dark DNAs, waves and molecules of water.

References

1. Hawking SW, Ellis GF. The large scale structure of space-time. Cambridge university press, 1973. https://doi.org/10.1017/CBO9780511524646
2. Hawking SW. Virtual black holes. Physical Review D. 1996; 53(6):3099-3107. https://doi.org/10.1103/PhysRevD.53.3099
3. Dimopoulos S, Landsberg G. Black holes at the large hadron collider. Physical Review Letters. 2001; 87(16):161602. https://doi.org/10.1103/PhysRevLett.87.161602
4. Giddings SB, Thomas S. High energy colliders as black hole factories: The end of short-distance physics. Physical Review D. 2002; 65(5):056010. https://doi.org/10.1103/PhysRevD.65.056010
5. CMS Collaboration. JHEP. 2018; 11:042. arxiv: 1805.06013.
6. Riorfio L. Scientist Claims Theres a Black Hole in Center of the Earth, May 3, 2019. https://mysteriousuniverse.org/2019/05/scientist-claims-theres-a-black-hole-in-center-of-the-earth.
7. Wang T, Song X, Xia HH. Equatorial anisotropy in the inner part of Earth’s inner core from autocorrelation of earthquake coda. Nature Geoscience. 2015; 8(3):224. https://doi.org/10.1038/ngeo2354
8. Thuclic H, Pham TS. New Constraints on the Earth’s Core From Global Correlation Wavefield. In EGU General Assembly Conference Abstracts. 2018; 20:5834.
9. Souriau A, Souriau M. Ellipticity and density at the inner core boundary from subcritical PKKP and PcP data. Geophysical Journal International. 1989; 98(1):39-54. https://doi.org/10.1111/j.1365-246X.1989.tb05512.x
10. Alfe D, Gillan MJ, Price GD. Temperature and composition of the Earth's core. Contemporary Physics. 2007; 48(2):63-80. https://doi.org/10.1080/00107510701529653
11. Anzellini S, Dewaele A, Mezouar M, Lobaye P, Morard G. Melting of iron at Earth's inner core boundary based on fast X-ray diffraction. Science. 2013; 340(6131):464-6. https://doi.org/10.1126/science.1235114
12. Fukushima M. Possible generation of heat from nuclear fusion in Earth's inner core. Scientific reports. 2016; 6:37740. PMCID:PMC5120317
13. de Meijer RJ, van Westrenen WS. Afr J Sci. (in the press).
14. Schuiling RD. Is there a Nuclear Reactor at the Center of the Earth? In: Dye S.T. (eds) Neutrinophysics: Proceedings of Neutrinophysics Sciences 2005. Springer, New York, NY, 2006.
15. Hargreaves A. The hunt for dark DNA - New Scientist. 2018; 237:3168. https://doi.org/10.1016/S0262-4079(18)30440-8
16. Davenas E, Beauvais F, Amara J, et al. Human basophil degranulation triggered by very dilute antiserum against IgE. Nature. 1988; 333(6176):8168. https://doi.org/10.1038/333816a0
17. Montagner L, Assa J, Ferris S, Lavalle C. Electromagnetic signals are produced by aqueous nanostructures derived from bacterial DNA sequences. Interdiscip Sci Comput. Life Sci. 2009; 1:81-90. https://doi.org/10.1007/s12539-009-0036-7
18. Montagner L, Giudice ED, Alissa J, Lavalle E, 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. https://doi.org/10.3109/15368378.2015.1036072 PMid:26098921

19. Sepehri A, Fioranelli M, Rocca MG, Shoorvazi S. The relation between Tsallis-entropy of DNA-Branes exterior and interior of shell. Physica A: Statistical Mechanics and its Applications. 2019; 524:73-88. https://doi.org/10.1016/j.physa.2019.03.003

20. Grignani G, Harmark T, Marini A, Obers NA, Marta Orselli. JHEP. 2011; 1106:058. https://doi.org/10.1007/JHEP06(2011)058

21. Grignani G, Harmark T, Marini A, Obers NA, Orselli M. Nucl Phys. 2011; B851:462-480. https://doi.org/10.1016/j.nuclphysb.2011.06.002

22. Sepehri A, Rahaman F, Capozziello S, Ali AF, Pradhan A. Eur Phys J. 2016; 5:231.