The Scientific Journal of
CosmoIntel
ISSN 2817-6995
May 2022
Number 4

The First Scientific Journal in
T-Consciousness Research



The Effect of T-Consciousness Fields in the Domain of Physics

Mohammad Ali Taheri
Originator of T-Consciousness Theory

WWW.JOURNALOFCOSMOINTEL.COM

Interuniversal Press

This page intentionally left blank

WWW.JOURNALOFCOSMOINTEL.COM

Interuniversal Press

The Scientific Journal of Cosmointel
Vaughan, Canada

The Scientific Journal of
CosmoIntel
The First Scientific Journal in
T-Consciousness Research

NO. 4 | Apr | 2022 ISSN 2817-6995

The Effect of T-Consciousness Fields in the Domain of Physics

All intellectual property and material rights of the issue are owned by the Scientific Journal of Cosmointel.

Interuniversal Press

Table of Contents:

Editorial 6

1. General Considerations of This Issue 9

The Distinction of Taheri Consciousness Fields from Conventional Physical Fields: Evaluating the Magnetic Properties of Materials 11

Investigation of the properties of Tc-99m radioisotope and water contaminated with Tc-99m under the influence of Consciousness Fields 21

Investigating the Effect of Taheri Consciousness Fields on the Behavior of the Laser Light in Passing through an Aperture and Observing the Heisenberg Uncertainty Principle 30

The Theory of the Existence of the "Mental Body in Matter" Based on Experimental Laboratory Results and Taheri Consciousness Fields 38

WWW.JOURNALOFCOSMOINTEL.COM
WWW.COSMOINTEL.COM

Interuniversal Press

Editorial

The Effect of T-Consciousness Fields in the Domain of Physics

Mohammad Ali Taheri
Founder of T-Consciousness Theory



DOI: https://doi.org/10.61450/joci.v1i4.30

Many efforts have been made to understand consciousness and its place in existence, and numerous theories have been proposed in this field. Most research has focused on neuroscience, examining brain activity. This collection of studies explores a theory that considers consciousness not at the level of the brain, but across the vast expanse of the cosmos. To distinguish it from other theories, the term *T-Consciousness* is used.

One of the main challenges in studying T-Consciousness is testing it practically and providing experimental evidence. Its nature and functioning remain unclear. According to the T-Consciousness theory, T-Consciousness is a fundamental component of the cosmos with a non-physical nature, serving as the source of matter, energy, and information. There are also various T-Consciousness Fields with different functions, which are part of the Cosmic Consciousness Network. These fields have a non-frequency nature and cannot be measured directly with physical instruments. The effects of T-Consciousness Fields begin through brief and instantaneous attention by the announcer (*Faradarmangar*).

It should be noted that various subjects and materials can be influenced by these fields. This practical applicability has led researchers to design multiple experiments to record the effects of T-Consciousness Fields. In other words, by applying T-Consciousness Fields to living beings or inanimate matter, one can observe changes in the test samples compared to control samples not exposed to the fields.

In previous issues published in the *CosmoIntel Journal,* experiments were conducted in the field of biology, and the reported results indicated changes in the behavior of samples exposed to T-Consciousness Fields compared to the control. In these tests, there is no physical intervention in the application of T-Consciousness Fields, and the effect is applied remotely. The individual in the laboratory who records the data is unaware of the theory of T-Consciousness Fields. The proposed hypothesis is that the information transmitted from T-Consciousness Fields can lead to changes in the properties and behavior of the samples.

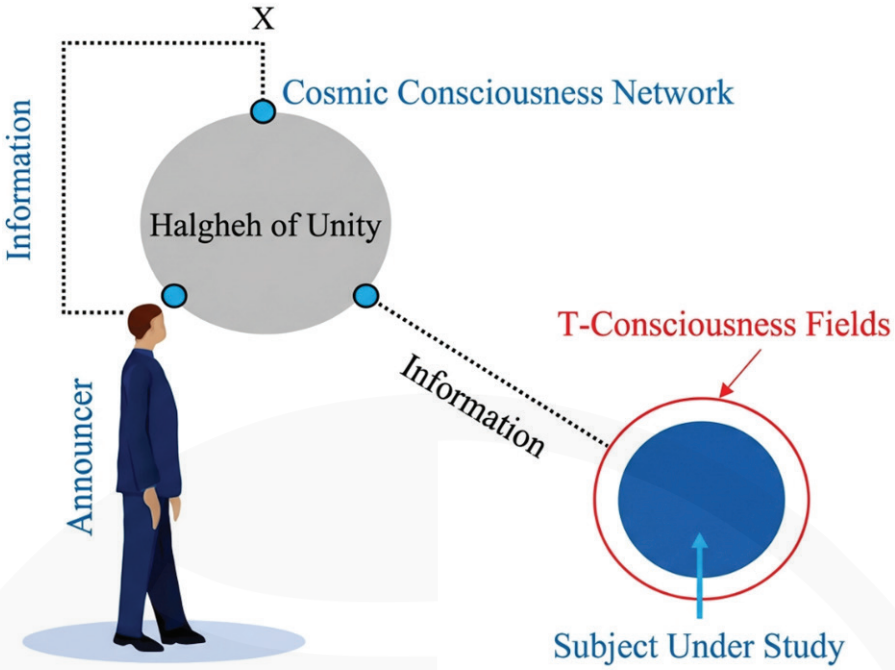
In this issue, the hypothesis of information transfer and reception by inanimate samples in the field of physics was examined. For example, the magnetic properties of nickel, alumina, and copper were studied under the influence of T-Consciousness Fields, and the results indicated effects of T-Consciousness Fields that were different from those of electromagnetic fields.

In another experiment, the effect of T-Consciousness Fields on the decay constant of radioactive materials and water contaminated with them was evaluated. The results showed that the intrinsic

radioactive properties and the half-life of the tested isotope did not change under the influence of T-Consciousness Fields. However, when the contaminated water was exposed to a T-Consciousness Field, a reduction in the isotope's half-life and purification of the water were observed.

The effects of T-Consciousness Fields were also tested using light behavior near a slit and under Heisenberg's Uncertainty [Principle], showing changes in the light diffraction pattern. Finally, in an experiment on steel, it was observed that the physical properties of samples exposed to T-Consciousness Fields differed from those of the control samples.

In general, the studies in this issue provide evidence of information being received through T-Consciousness Fields. The results raise the question: "How do inanimate materials receive and process information?" According to the theory of T-Consciousness, processing information requires the presence of a level of mind. In one of the articles in this issue, the theory of *Mind of Matter* is discussed and examined. Researchers are invited to design further experiments to investigate the effects of T-Consciousness Fields and to explore consciousness as a fundamental component of the cosmos.



A schematic of how T-Consciousness Fields are applied:

The effect of TCFs begins with connecting to the Cosmic Consciousness Network (CCN) and through the Faradarmangar (announcer). Variable T-Consciousness Fields are a subset of CCN, and by applying each TCF, specific information is transmitted. In this way, the subject of study, which can be living or non-living creatures, is exposed to this information. It should be noted that TCFs and the information do not have a material or energetic nature; therefore, they cannot be measured directly and quantitatively. However, it is possible to record and examine their effects by designing different experiments. For this purpose, the behavior or indicators measured by the researchers in the subject under study after being exposed to the TCFs are compared with the control samples (without the effect of TCFs), and the results are reported after statistical analysis.

1. General Considerations of This Issue

1. Introduction

1.1 T-Consciousness and a New Science Called Sciencefact

In the past few decades, the nature of 'consciousness' and its place in the world of science have received considerable attention, and many philosophical and scientific theories have been proposed in this regard. In the 1980s, Mohammad Ali Taheri introduced new fields with a non-material and non-energy nature, called T-Consciousness Fields (TCFs). In this view, T-Consciousness is one of the three existing elements in the universe, alongside matter and energy.

According to this theory, there are diverse T-Consciousness Fields with various functions, which are subsets of the Cosmic Internet Network known as the Cosmic Consciousness Network (CCN). The main difference between the theory of T-Consciousness Fields and other theoretical concepts presented on the subject of consciousness lies in the practical application and use of these fields. These fields can be applied to all living and non-living beings, such as plants, animals, microorganisms, materials, and so on.

In 2020, Mohammad Ali Taheri, the founder of the school of Erfan Keyhani Halgheh, introduced *Sciencefact* as a new science for examining the effects of T-Consciousness Fields on matter and energy, as one of the subsets of this school. The name 'Sciencefact' was chosen because it uses scientific research to confirm T-Consciousness Fields as an established existence (fact). Although conventional science studies only matter and energy, Sciencefact, alongside matter and energy, also explores the effects of T-Consciousness Fields (which are non-material and non-energy). By conducting repeatable laboratory research in various scientific fields, Sciencefact has created common ground between T-Consciousness Fields and conventional science.

The influence of TCFs begins with theconnection (Etesal) between the Cosmic Consciousness Network as the Whole Consciousness and the subject under study as a component. The connection is established by the mind of the Faradarmangar (a person who has been trained to assign TCFs). The human mind has the role of an intermediary (announcer) that acts with short and immediate attention to the subject under study, and the main achievement is obtained due to the effects of TCFs. These fields cannot be measured directly, but their effects can be observed on various subjects through repeatable experiments.

2-1. Methodology of Research on T-Consciousness Fields

The foundation of the initial research on 'T-Consciousness' is based on the hierarchy of *Assumption, Argument, and Proof.* In this framework, the primary assumption is that the cosmos is formed from a third element, distinct from matter and energy, called 'T-Consciousness.' The Argument states that the existence of T-Consciousness (T-Consciousness Fields) can be demonstrated through the impact it has on matter and energy (including humans, animals, plants, microorganisms, cells, materials, and so on).

The proof is the scientific confirmation of these impacts in accordance with the stated argument, which is achieved through repeatable scientific experiments.

3-1. Research Phases in the Science of Sciencefact

With the aim of proving the existence, effectiveness, and mechanism of

T-Consciousness Fields, as well as analyzing them, research phases zero to four and their respective objectives are defined as follows:

- The objective of Phase Zero is to demonstrate the existence of T-Consciousness Fields through observation of their effects.
- Phase One examines the diversity of effects produced by T-Consciousness Fields arising from 'T-Consciousness.'
- Phase Two investigates the reason for the diversity of effects of T-Consciousness Fields.
- Phase Three is responsible for examining the mechanism of the effects of T-Consciousness Fields on matter and energy.
- Phase Four draws broader conclusions, especially concerning the mind and memory of matter and their relationship with 'T-Consciousness,' and related topics.

4-1. Application of T-Consciousness Fields

The samples under study were exposed to T-Consciousness Fields in accordance with the instructions specified on the website of the T-Consciousness Fields Research Management Center[1]. A request for Connection to the Cosmic Consciousness Network, in order to use T-Consciousness Fields, can be submitted on this website in the section related to "request for *Nazar*[2]." This access is available free of charge to all individuals. Researchers may register on the mentioned website at any time to experience T-Consciousness Fields and to conduct research in this field. It is necessary to provide the research center with the precise details of the experiment. For example, the number and names of the samples and controls must be specified.

These studies were conducted in a double-blind manner, meaning that the experts have no knowledge of the theory of T-Consciousness Fields. Likewise, the individual who has established the Connection has no familiarity with the details of the research. The double-blind method is an important standard commonly used in scientific experiments in medicine and psychology that involve both theoretical and practical tests.

1. www.cosmointel.com

2. *Naẓar* or Glance, is a momentary attention (in almost no time) with the purpose of establishing an *Etesal* to the Cosmic Consciousness Network in *Erfan keyhani Halgheh* school.

The Distinction of Taheri Consciousness Fields from Conventional Physical Fields: Evaluating the Magnetic Properties of Materials

Mohammad Ali Taheri[1], Firouz Payervand[2], Farzad Ahmadkhanlou[3], Farid Semsarha[4*]

* Corresponding author: Farid Semsarha
Email: Semsarha@ut.ac.ir

1. Sciencefact R&D Department, Cosmointel Inc. Research Center, Ontario, Canada
2. Research and Development Consultant, Tehran, Iran
3. Department of Mechanical and Aerospace Engineering, University of California, Irvine, Irvine, California, United States.
4. Institute of Biochemistry and Biophysics (IBB), University of Tehran, Tehran, Iran

DOI:https://doi.org/10.61450/joci.v1i4.31

Abstract

The magnetic hysteresis loop provides important information about the magnetic properties of materials. T-Consciousness Fields have a non-physical and non-frequency nature, and their effect begins through the mind of the *announcer*. It is hypothesized that the information transmitted from these fields can lead to changes in treated samples compared with control samples. In this study, changes in the saturation magnetization of three paramagnetic and diamagnetic materials were measured under the influence of three types of T-Consciousness Fields (1, 2, and 3) and in the absence of these fields (control), using a Vibrating Sample Magnetometer (VSM). The results showed significant changes in the magnetic properties of the materials under each of the three T-Consciousness Fields. The effects included both increases and decreases in magnetization, indicating that the effects of the T-Consciousness Fields are distinct from one another. Furthermore, since saturation magnetization is an intrinsic property of matter and does not change under the application of electric and magnetic fields, the observed changes indicate that the nature and effects of T-Consciousness Fields differ from known physical fields. Further experiments are required to better understand the mechanism of action of these 'non-frequency' fields.

Keywords: T-Consciousness Fields, hysteresis loop, magnetic properties, physical fields

Introduction

The magnetic properties of materials depend on their composition and microstructure. Those properties that depend mainly on composition are considered intrinsic properties [1]. The Vibrating Sample Magnetometer (VSM) is a powerful technique introduced in 1950 to characterize the magnetic properties of materials [2].

Based on their behavior in an external magnetic field, materials are generally classified into three main types:

1. Diamagnetic materials, such as gold, which are repelled when placed in a magnetic field.

2. Paramagnetic materials, such as platinum, which can be magnetized, but their magnetization disappears when the external field is removed.

3. Ferromagnetic materials, such as iron and nickel, which exhibit the strongest magnetic behavior and remain magnetized even after the external magnetic field is removed.

New magnetic phases can be induced by applying external pressure [3], temperature [4], and an external magnetic field [5]. Technical information about the magnetic properties of materials can be obtained by studying the hysteresis loop, which describes the relationship between magnetic field strength (H) and the magnetization (M) of materials.

The magnetic properties of pure metals and nanoparticles have long been studied under various environmental conditions. For example, studies have examined saturation magnetization and its related magnetic changes in highly pure iron and nickel [6], non-magnetic oxides [7], and porous anodic aluminum (PAA) [8] at room temperature, as well as aluminum and copper at low temperatures [9].

The limited changes observed have been attributed to the movement of free electrons within the metallic lattice and to alterations in the physical structure of the nanoparticle lattice resulting from the application of an external magnetic field.

Throughout history, scientists have made extensive efforts to understand existence and to explain the laws governing the physical world. These efforts have led to the development of numerous theories and laws that have fundamentally transformed humanity's understanding of nature, such as Newton's law of gravitation and Maxwell's electromagnetic equations.

Along this path, the Grand Unified Theory (GUT) represents an attempt to demonstrate the unity of the fundamental forces of nature, and quantum physics has revealed that some phenomena and physical laws exhibit behavior beyond classical and purely material descriptions [10, 11].

The term 'field' has been used in relation to known physical fields. According to Mohammad Ali Taheri's theory, there are diverse T-Consciousness Fields with various functions, which are subsets of the Cosmic Consciousness Network. These 'fields' have a non-frequency and non-physical nature. Therefore, they cannot be directly measured with quantitative instruments.

The impact of T-Consciousness Fields begins through the mind of the *announcer*, with brief and instantaneous attention directed toward the subject under study. It is possible to record the effects of T-Consciousness Fields through designed experiments and to gain indirect insight into their nature and influence. It is hypothesized that the information transmitted from these fields can produce changes in the properties and behavior of the subject under study [12].

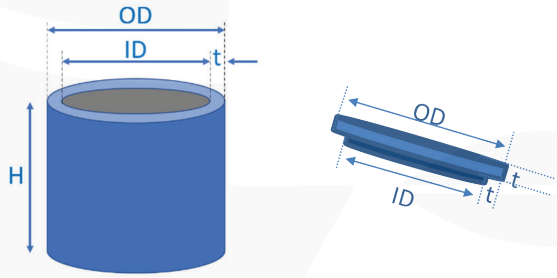
Previously, the effects of T-Consciousness Fields have been reported in experiments on animal models, plants, and microorganisms [13–15]. In this study, the effects of these fields on non-living materials were examined. This experiment also provides an opportunity to compare the effects of these fields with known physical fields. In addition, by applying three types of T-Consciousness Fields (1, 2 and 3), it is possible to evaluate the differences in their impacts and in the information transmitted under their influence.

Materials

Saturation magnetization is one of the intrinsic properties of materials. In this study, changes in the saturation magnetization of materials were measured under the influence of three types of T-Consciousness Fields, once without metallic shields and once with metallic shields of different thicknesses. Three categories of magnetic materials in powder form were examined: nickel (Ni) as a ferromagnetic material, alumina (Al_2O_3) as a pseudo-ferromagnetic material, and copper (Cu) as a diamagnetic material.

To evaluate the possible distinction between the impacts of T-Consciousness Fields and other physical fields, metallic shields of various thicknesses were used. During the experimental period, the control samples, were placed separately on a lower level, without a steel enclosure. The samples exposed to T-Consciousness Fields were placed in the upper enclosure. They were tested once without a shield and once inside cylindrical stainless-steel shields. The test specifications and settings are presented in the figure and table below.

(a)



(b)

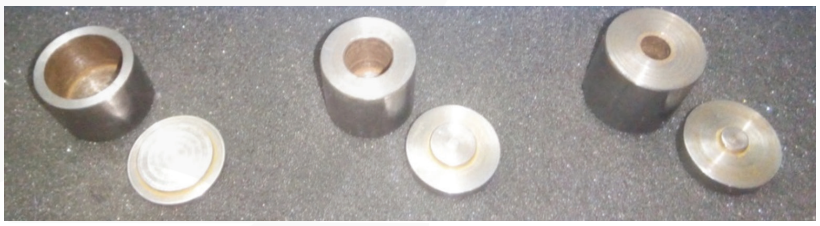


Figure 1. (a) Schematic dimensions of the cylindrical metallic shield, and (b) the three metallic shields used in this study.

Table 1. Dimensions of the cylindrical shields used in this study.

Shield Number	Material	H (mm)	OD (mm)	ID (mm)	t (mm)
0	No shield used	-	-	-	-
1	Stainless-steel	20.6	21.0	6.0	7.5
2	Stainless-steel	19.0	21.0	10.0	5.5
3	Stainless-steel	16.3	21.0	16.0	2.5

Method

Hysteresis Measurement

The magnetic properties of the samples were measured using a Vibrating Sample Magnetometer (VSM), which operates based on Faraday's law of induction. For this purpose, the sample was placed in a constant magnetic field.

The applied magnetic field strength (H) magnetizes the samples by aligning the magnetic domains or by rotating the magnetic moments of atoms or molecules in the direction of the external magnetic

field. The greater the applied magnetic field, the more strongly the sample becomes magnetized.

The magnetic moment generated in the sample produces a magnetic field around it. At this stage, when the sample vibrates, the resulting magnetic field varies with time according to Equation (1):

(1) $\emptyset = AH + B\,(4\pi - D)\,M_s \sin(\omega t)$

where A and B are geometric factors related to the coil assembly; D and M_s are the demagnetization factor and the induced magnetization, respectively; and ω is the vibration frequency of the sample.

Changes in the induced magnetic field can be observed through the induced current in the coil assembly. This induced electromotive force (emf) is proportional to the induced magnetization of the sample according to Equation (2):

(2) $emf = d\emptyset/dt = C\,(4\pi - D)\,M_s\,\omega \cos(\omega t)$

where C is a constant.

Stronger magnetization, measured using the VSM, generates more induced current. This induced current is amplified and transmitted to the data collection system, which is connected to a computer. The data is recorded using the corresponding software, which controls and stores the results.

The VSM used in this study (Figure 2, MDKB, Iran) applies the external magnetic field strength (Hc) with precision up to tenths of an Oersted (Oe) and measures magnetization (M) with accuracy up to tenths of a thousandth of an emu/g. The hysteresis curves, which represent the magnetization of the samples (M) against the applied magnetic field (Hc), are shown in Figures 3-5.



Figure 2. MDKB Setup Used in This Study

Application of T-Consciousness Fields (TCF)

Three types of T-Consciousness Fields (TCFs) were applied to the samples according to the protocol established by the CosmoIntel Research center. Further details are provided in the "Common Considerations" section of this issue.

In this study, three materials with different magnetic properties were used, and the corresponding effects of three distinct T-Consciousness Fields—TCF1, TCF2, and TCF3—on them were examined. All samples had standard laboratory-grade specifications. Magnetic properties, such as the magnetization of the samples, are presented in Table 2.

Table 2. Specifications of the materials used in this experiment

Material	Characteristic	Weight/mg
Ni	Ferromagnetic	5
Al_2O_3	Quasi-ferromagnetic	3
Cu	Diamagnetic	3

Results

The variations in the magnetization of the samples under the influence of T-Consciousness Fields, as well as in their absence (control), are presented in Table 3, and the hysteresis curves are shown in Figures 3 through 5.

Table 3. Variations in the magnetization of the samples under the influence of T-Consciousness Fields in this study

Used TCFs	Material	Treatment time/days	Interval[1] / days	Name according to CF/ shield No.[2]	M (emu/g)	ΔM	Change %
TCF_1	Ni	7	3	Ni00	54.113	0.000	0
				Ni11	57.291	3.1780	6
				Ni12	56.804	2.6910	5
				Ni13	57.783	3.6530	7
TCF_1	Al_2O_3	14	7	Alumina00	0.020	0.00	0
				Alumina11	0.0150	-0.005	-25
				Alumina12	0.00760	-0.0124	-62
				Alumina13	0.00550	-0.0145	-73
				Alumina10	0.013	-0.0070	-35
TCF_2	Al_2O_3	4	11	Alumina00	0.00283	0.000	0
				Alumina20	0.00920	0.00637	225
				Alumina21	0.01289	0.01000	355
				Alumina22	0.00188	-0.00095	-34
				Alumina23	0.04029	0.03746	1323
$TCF_1/TCF_2/TCF_3$	Al_2O_3	4	11	Alumina00	0.00283	0.000	0
				Alumina10	0.00237	-0.00046	-16
				Alumina20	0.00920	0.00637	225
				Alumina30	0.00832	0.00549	193.9
$TCF_1/TCF_2/TCF_3$	Cu	4	11	Cu00	0.00540	0.000	0
				Cu10	0.00418	-0.00122	-23
				Cu20	0.00467	-0.00073	-13.5
				Cu30	0.01692	0.01152	213

1. The time interval between the end of the treatment and the start of the VSM measurement.

2. The first and second digits represent, respectively, the numbers corresponding to the specific designation of the T-Consciousness Field and the shield used. For example, "Alumina 21" refers to an alumina sample treated with T-Consciousness Field No. 2 and shield No. 1. "Cu00" refers to a copper sample without the application of any T-Consciousness Field and without a shield, which is effectively the copper control sample.

As shown in Figure 3, applying T-Consciousness Field 1 to the nickel samples increased their magnetization. The presence of a metallic shield altered the effect of this field on the treated samples. Except for sample Ni12, increasing the shield thickness led to a decrease in the samples' magnetization.

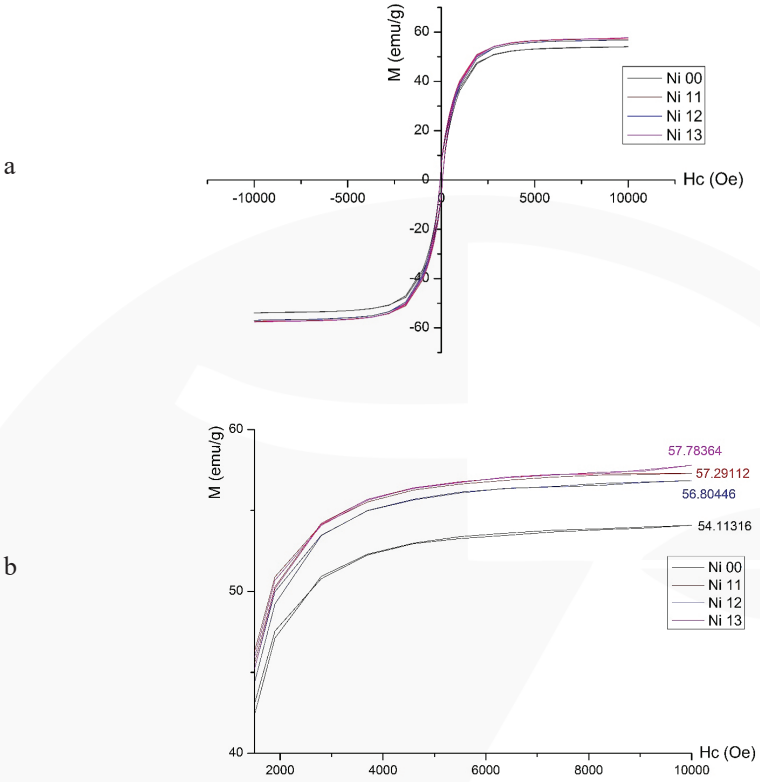


Figure 3 – Hysteresis loops of the (a) Ni samples and a magnified view of the upper section in (b). The first and second digits represent, respectively, the numbers corresponding to the specific designation of the T-Consciousness Field and the shield used. For example, Ni12 refers to a nickel sample treated with T-Consciousness Field 1 and shield number 2.

The influence of T-Consciousness Field 1 (TCF1) and two additional T-Consciousness Fields on alumina samples is depicted in Figure 4. As shown in Figure 4a, the application of TCF1 to the quasi-ferromagnetic alumina samples resulted in a reduction in their magnetization. Consistent with the results observed for Ni samples, the presence of a metal shield altered the impact of TCF1 on the alumina samples; specifically, the magnetization decreased as the shield thickness increased. Furthermore, a comparison between the control (Alumina00), the unshielded TCF1-exposed sample (Alumina10), and samples Alumina12 and Alumina13 indicates that the impact of T-Consciousness Field 1 varies according to the thickness of the shield and dictates the overall shifts in magnetization.

Figure 4b illustrates the variation in magnetization for alumina samples subjected to T-Consciousness Field 2 (TCF2) across various shielding conditions. In contrast to the behavior observed under TCF1, the alumina samples under the influence of TCF2 exhibited a diametrically opposite response; specifically, magnetization increased significantly as the shield thickness progressed, with the exception of the sample within Shield 2. Consistent with the samples' response to TCF1, the application of TCF2 within Shields 1 and 3 resulted in more pronounced shifts in magnetization. Finally, Figure 4c presents the changes in magnetization for alumina samples exposed to T-Consciousness Field 3 (TCF3) in different shields. Unlike TCF1, and to a markedly greater extent than TCF2, this field (TCF3) enhances the magnetization of the alumina samples.

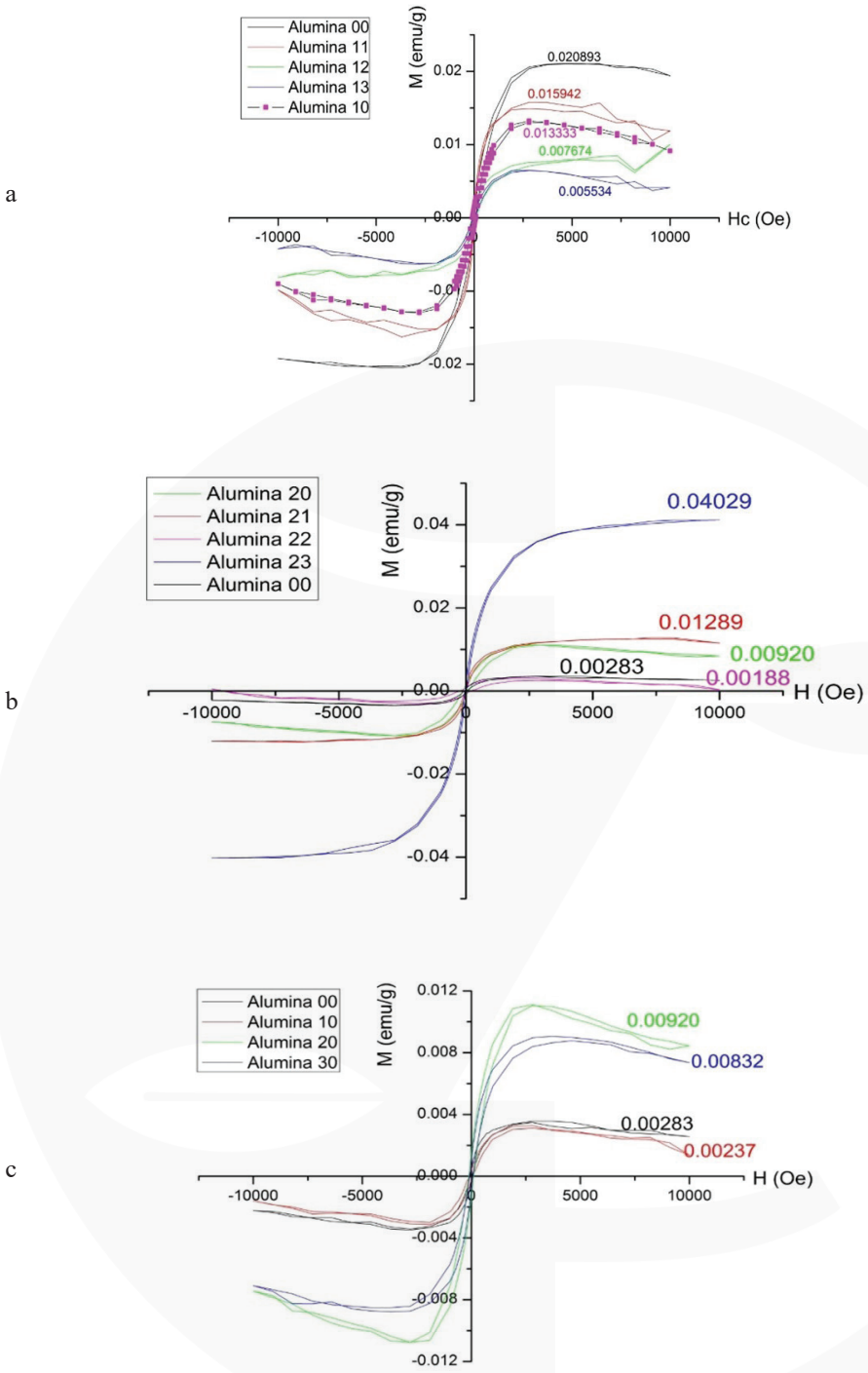


Figure 4. Hysteresis diagram of alumina samples in various shields under the influence of T-Consciousness Field 1 (a), T-Consciousness Field 2 (b), and T-Consciousness Fields 1, 2, and 3 in comparison to the control samples (c). The first and second digits respectively denote the specific T-Consciousness Field number and the applied shield number. For instance, Alumina 21 designates an alumina sample treated with T-Consciousness Field 2 utilizing Shield 1.

Figure 5 illustrates the impacts of T-Consciousness Fields 1 and 2 on copper samples. As observed, these T-Consciousness Fields exerted similar effects on the copper samples, leading to a reduction in magnetization. The influence of T-Consciousness Field 3 on both copper and alumina samples is highly comparable, resulting in a significant increase in magnetization, which stands in contrast to the effects produced by T-Consciousness Fields 1 and 2.

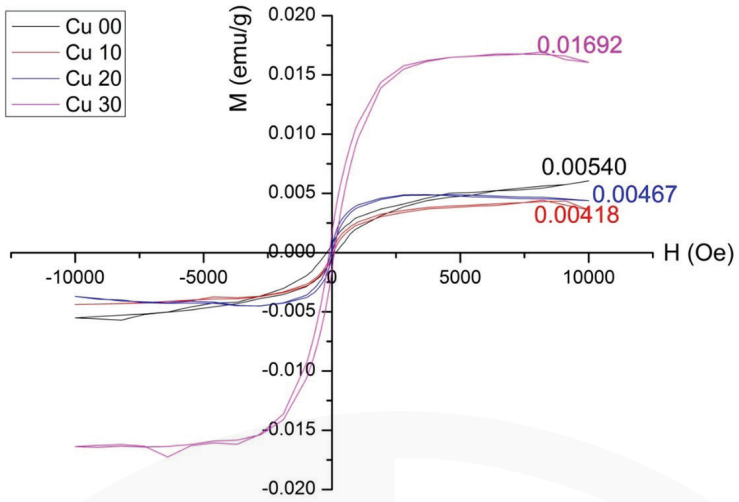


Figure 5. Hysteresis diagram of copper samples. The first and second digits respectively denote the specific T-Consciousness Field number and the applied shield number. For instance, Cu 10 designates a copper sample treated with T-Consciousness Field 1 without shielding.

Discussion

This study investigated the impacts of T-Consciousness Fields on the magnetic properties of materials. These fields have a 'non-frequency' and 'non-physical' nature. As mentioned in the introduction, it is hypothesized that the information transmitted from these T-Consciousness Fields can lead to alterations in the properties and behavior of the subject under study. The results obtained from this experiment demonstrated that the saturation magnetization of the samples under the influence of T-Consciousness Fields changed. The magnetization value of the nickel control sample (Ni00) in this study at 30°C is approximately 54.1 emu/g, which is very close to the reported value of 54.7 emu/g in the literature at this temperature. Crangle and Goodman (1971) reported that the magnetization of nickel samples at 293 K (19.9°C) is approximately 55.1 emu/g, and it increases with decreasing temperature, reaching about 58.6 emu/g at 4 K [6]. The magnetization value of the nickel sample in Shield 3 (Ni13), with the minimum thickness, reached 57.8 emu/g under the influence of T-Consciousness Field 1, which is comparable to the magnetization observed for nickel at a temperature of approximately 140 K (-133.1°C) according to Crangle and Goodman (1971).

In powder form, particularly at the nanoscale, alumina can exhibit quasi-ferromagnetic behavior at room temperature due to the presence of lattice defects, including oxygen vacancies and localized misalignments of electron spins [7, 8]. However, sintering these nanoparticles at a temperature of 1400°C and a pressure of 1 bar for one hour leads to a significant reduction in these defects and an enhancement in crystalline order; consequently, the resulting alumina mass exhibits the inherent diamagnetic behavior of bulk alumina [7, 16].

Upon the application of T-Consciousness Field 1 to the alumina samples, the magnetization of this quasi-ferromagnetic material decreased. Similar to the results obtained for the nickel samples, the presence of a metal shield altered the magnetic response of the samples to T-Consciousness Field 1; specifically, as the shield thickness increases, the magnitude of the changes in magnetization decreases. On the other hand, the unshielded sample exposed to T-Consciousness Field 1 (Alumina10) exhibits a magnetization value intermediate between those of samples Alumina11 and Alumina12. This behavior suggests that the presence of a steel shield can play a modulating role in the impact of T-Consciousness Field 1 on the alumina samples. A precise investigation into the mechanism of this effect requires further complementary studies.

Furthermore, the magnetization value of sample Alumina13 at ambient temperature was determined to be 5.534×10^{-3} emu/g, which is comparable

to the reported value of 5.3×10^{-3} emu/g for alumina nanoparticles annealed at 500°C [7]. This consistency indicates that, under the influence of T-Consciousness Field 1, alumina tends toward values closely aligning with the magnetic behavior reported for annealed alumina.

Additionally, the application of T-Consciousness Field 1 resulted in a decrease in the observed saturation magnetization of the copper samples. Since copper is inherently a diamagnetic material, this reduction can be interpreted as the magnetic response of the samples shifting toward the intrinsic diamagnetic behavior of copper. A similar behavior was also observed in the nickel and alumina samples under the influence of T-Consciousness Field 1, indicating a common trend among materials with differing magnetic properties. Given that external magnetic fields typically affect the shape of the magnetization curve and that intrinsic saturation magnetization is primarily a function of temperature and material structure [17], and furthermore, considering the constant temperature and environmental conditions throughout the experimental period, it can be concluded that the observed changes are attributable to the effects of the T-Consciousness Field. The reproducibility of the results has been verified by conducting the experiment multiple times.

In conclusion, this experiment provides evidence for the influence of T-Consciousness Fields at the level of inanimate matter. These effects are distinct from those exerted by electromagnetic fields. Based on the findings of this study, the authors recommend investigating the impact of T-Consciousness Fields on other physical properties of materials, as well as their effects on various forms of energy.

Acknowledgments

The authors would like to express their gratitude to the Department of Physics at the Iran University of Science and Technology in Tehran, Iran, for providing data collection services for this research. They also extend their appreciation to Ms. Sara Torabi for her contributions to the writing and editing of this manuscript.

References

1. Roth, S. (2001). Soft Magnetic Materials: Basics. *Encyclopedia of Materials: Science and Technology*, 8684-8687. https://doi.org/10.1016/B0-08-043152-6/01551-5

2. Foner, S. (1959). Versatile and sensitive vibrating-sample magnetometer. *Review of Scientific Instruments*, *30*(7), 548-557.

3. Kamarád, J. (2001). Magnetic systems: external pressure-induced phenomena. *Encyclopedia of Materials: Science and Technology*, 4976-4982.

4. Chaddah, P., & Roy, S. B. (2001). Vortex matter and its phase transitions. *Current science*, 1036-1042. http://www.jstor.org/stable/24105814

5. Kuwahara, H., Tomioka, Y., Asamitsu, A., Moritomo, Y., & Tokura, Y. (1995). A first-order phase transition induced by a magnetic field. *Science*, *270*(5238), 961-963. DOI: 10.1126/science.270.5238.961

6. Crangle, J., & Goodman, G. M. (1971). The magnetization of pure iron and nickel. *Proceedings of the Royal Society of London. A. Mathematical and Physical Sciences*, *321*(1547), 477-491. https://doi.org/10.1098/rspa.1971.0044

7. Sundaresan, A., Bhargavi, R., Rangarajan, N., Siddesh, U., & Rao, C. N. R. (2006). Ferromagnetism as a universal feature of nanoparticles of the otherwise nonmagnetic oxides. *Physical Review B—Condensed Matter and Materials Physics*, *74*(16), 161306. DOI: https://doi.org/10.1103/PhysRevB.74.161306

8. Sun, H. Y., Zhang, H. M., Hou, X., Liu, L. H., Wu, T. S., & Yang, S. M. (2013). Significant room temperature ferromagnetism in PAA thin films. *Journal of Materials Chemistry C*, *1*(22), 3569-3572. https://doi.org/10.1039/C3TC30462K

9. Reekie, J., & Hutchison, T. S. (1948). The Effect of Cold Working on the Magnetic Properties of Pure Metals. *Physical Review*, *74*(5), 610.

10. De Aquino, F. (1999). Theory of everything. *arXiv preprint gr-qc/9910036*.

11. Jennings, D., & Leifer, M. (2016). No return to classical reality. *Contemporary Physics*, *57*(1), 60-82.

12. Taheri, M.A (2013) Human from another outlook Interuniversal Press; 2nd Edition ISBN-13: 978-1939507006, ISBN- 10: 1939507006

13. Taheri, M. A., Torabi, S., Nabavi, N., & Semsarha, F. (2021). Influence of Faradarmani Consciousness Field (FCF) on Spatial Memory and Passive Avoidance Behavior of Scopolamine Model of Alzheimer Disease in Male Wistar Rats. *Available at SSRN 3761188*.

14. Torabi, S., Taheri, M. A., & Semsarha, F. (2020). Alleviative effects of Faradarmani Consciousness Field on Triticum aestivum L. under salinity stress. *F1000research*, *9*, 1089-1089.

15. Taheri, M. A., Zarrini, G., Torabi, S., Nabavi, N., & Semsarha, F. (2021). Influence of Fara-darmani Consciousness Field on Bacterial Population Growth. *bioRxiv*, 2021-01.

16. Yang, G., Gao, D., Zhang, J., Zhang, J., Shi, Z., & Xue, D. (2011). Evidence of vacancy-induced room temperature ferromagnetism in amorphous and crystalline Al2O3 nanoparticles. *The Journal of Physical Chemistry C*, *115*(34), 16814-16818. https://doi.org/10.1021/jp2039338

17 Gozdur, R., Gębara, P., & Chwastek, K. (2020). A Study of Temperature-Dependent Hysteresis Curves for a Magnetocaloric Composite Based on La(Fe, Mn, Si)$_{13}$-H Type Alloys. *Energies*, *13*(6), 1491. https://doi.org/10.3390/en13061491

Investigation of the properties of Tc-99m radioisotope and water contaminated with Tc-99m under the influence of Consciousness Fields

Mohammad Ali Taheri[1], Firouz Payervand[2], Farzad Ahmadkhanlou[3], Farid Semsarha[4*]

* Corresponding author: Farid Semsarha
Email: Semsarha@ut.ac.ir

1. Sciencefact R&D Department, Cosmointel Inc. Research Center, Ontario
2. Research and Development Consultant, Tehran, Iran
3.Department of Mechanical and Aerospace Engineering, University of California, Irvine, Irvine, California, United States.
4. Institute of Biochemistry and Biophysics (IBB), University of Tehran, Tehran, Iran

DOI:https://doi.org/10.61450/joci.v1i4.33

Abstract

The decay constant of radioactive materials is an intrinsic property of radioisotopes and serves as an indicator of their nature. The presence of radioactive materials in the environment, particularly in water resources, leads to radioactive contamination, which poses a serious potential threat to living ecosystems. According to Taheri's theory, T-Consciousness Fields possess a different nature from known physical fields, and previous studies have investigated their efficacy on the magnetic properties of materials and living organisms at various levels. In this study, the effects of two types of T-Consciousness Fields (1 and 2) on the radioactive properties of the technetium-99m (Tc-99m) radioisotope, as well as water contaminated with this nuclear isomer, were examined. The obtained results demonstrated that these fields do not significantly impact the radioactive properties of the Tc-99m radioisotope. However, under conditions where this nuclear isomer causes water contamination, T-Consciousness Field 2 increases the effective decay constant. In conclusion, although these fields did not alter the intrinsic characteristics of the radioisotope, their application resulted in a reduction of radioactive contamination in the aqueous environment. Further studies are recommended to comprehend the mechanism of action underlying these non-physical and non-frequency fields.

Keywords: T-Consciousness Fields, Technetium-99m (Tc-99m), Radioactive Water Contamination, Radioactive Materials, Decay Constant, Effective Half-Life.

Introduction

Radioactivity is defined as the spontaneous transformation of an atomic nucleus that results in the formation of new elements, accompanied by radiation such as alpha particles, beta particles, positrons, or gamma rays. There are two sources of radioactive contamination: 1) natural radioactivity, which originates from radioactive minerals in the Earth's crust or from interactions with atmospheric gases; and 2) artificial radioactivity, which is a byproduct of the development of atomic energy since World War II [1]. Radioactive contamination is hazardous to human life and living organisms. According to one study, the structure of microbial communities is altered under the influence of radioactive contamination. For instance, in soil with a cesium-137 contamination density of 5395.5 kilobecquerels, the number of representatives from the genera *Aeromonas*, *Pseudomonas*, and *Rhodococcus* decreased, whereas the populations of mycobacteria and fungi increased [2].

The radioactive properties of each isotope depend on its nuclear structure and remain unchanged under typical chemical conditions; therefore, every radioactive isotope possesses its own specific and unique characteristics [3]. Different isotopes decay at varying rates, with each isotope having its own specific rate of decay. The time required for the number of radioactive atoms to decrease to half of their initial quantity is termed the half-life of the radioactive isotope. This duration serves as a measure of the decay rate and constitutes one of the defining characteristics of each radioactive isotope. The half-life of a radioactive isotope is an immutable property under normal conditions. Numerous studies have demonstrated that the decay rate of radioisotopes is independent of external conditions such as temperature, pressure, and electric fields [4, 5].

The relative decrease in the number of radioactive atoms per unit of time is referred to as the decay constant of the radioactive isotope and is defined as follows:

$$\lim_{\Delta t \to 0} \frac{\frac{\Delta N}{N}}{\Delta t} = -\lambda \quad (1)$$

where N is the number of radioactive atoms, ΔN represents the number of atoms decaying within the time interval Δt, and λ denotes the decay constant. Radioactivity is equivalent to the number of nuclei decaying per unit of time:

$$A = -\frac{dN}{dt} = \lambda N \quad (2)$$

By integrating Equation 2, it can be demonstrated that the number of radioactive atoms decreases exponentially over time, as shown in the following equation:

$$N = N_0 e^{-\lambda t} \quad (3)$$

where N_0 is the initial population size of radioactive atoms at time t=0. Consequently, radioactivity also decreases exponentially with respect to time, as illustrated in Equation 4:

$$A = A_0 e^{-\lambda t} \quad (4)$$

where A_0 is the initial radioactivity at time t=0. Now, according to the definition, the half-life (τ) can be derived from the decay constant as follows:

$$\frac{A}{A_0} = \frac{1}{2} = e^{-\lambda \tau} \quad \Rightarrow \tau = \frac{ln2}{\lambda} \quad (5)$$

Taking the natural logarithm of both sides of Equation 5 yields Equation 6:

$$\ln\left(\frac{A}{A_0}\right) = -\lambda t \quad (6)$$

Equation 6 demonstrates that if the natural logarithm of the relative radioactivity of a radioactive isotope is plotted against time and a line is fitted to the data, the slope of this line will be equal to the decay constant, λ.

Technetium (Tc) is a transition metal with the atomic number 43, a standard atomic weight of 98, and a density of 11.5 g/cm³. Tc-99m is extensively used in nuclear medicine for diagnostic studies [6], while Tc-99 is applied in academic research [7]. The use of radioisotopes in industrial production, medicine, and energy generation has been increasing in recent years; if improperly managed, this can lead to the contamination of the environment and surface waters, and consequently, the surrounding soil, plants, and animals. Furthermore, nuclear weapons testing, radioactive accidents, and the intentional or improper disposal of radioactive waste are considered other sources of radioactive contamination [8]. The disposal of nuclear waste represents one of the most serious environmental challenges. In the past, some primary and improper methods for disposing of this waste included shallow or semi-shallow land burial, which in many cases led to the leakage of toxic materials into water resources and residential areas. Consequently, these methods are now considered unsafe and obsolete [9]. In response to this challenge, a remediation technology known as bioremediation has been developed. In this method, microorganisms, particularly bacteria, are used for biological purification, such as *Deinococcus radiodurans*, which has garnered attention due to its high radiation resistance [10, 11]. Additionally, it has been reported that microalgae and aquatic plants can remove radioactive cesium, iodine, and strontium from aqueous environments contaminated with radioactive materials [12].

According to Taheri's theory, there are various T-Consciousness Fields with a non-frequency and non-physical nature that function as subsets of the Cosmic Consciousness Network. The influence of these fields is initiated through the mind of the announcer (*Faradarmangar*). Although T-Consciousness Fields cannot be measured directly using quantitative instruments, their effects can be observed in a laboratory setting [13]. This characteristic has prompted researchers to investigate the impacts of these fields by designing diverse experiments. Previous studies have reported the effects of these fields on numerous subjects, such as plants, animals, and microorganisms [14-16]. The objective of this experiment is to investigate the properties of pure Tc-99m and Tc-99m-contaminated water under the influence of T-Consciousness Fields.

Materials

The equipment used in this experiment is shown in Figure 1. This setup includes a Technetium-99m generator produced by the Atomic Energy Organization of Iran (AEOI), a CAPINTEC CRC-15R dose calibrator with a measurement accuracy of 0.8%, and vials containing radioactive materials



Figure 1. Equipment used in this study.

Methods

Application of T-Consciousness Fields

In this study, two types of T-Consciousness Fields (1 and 2) were separately applied to the Tc-99m radioisotope and samples of water contaminated with it. The application of these fields was carried out according to the protocol established by the Cosmointel Research Center[1]. Further details are provided in the shared considerations section of this issue. The duration of the T-Consciousness Fields application during the experimental period was less than 7 hours.

Test 1: Measurement of the decay constant of the Technetium-99m radioisotope

The activity of a specific quantity of the radioactive material Tc-99m is measured at various time intervals, both with and without the influence of T-Consciousness Fields Type 1 and 2. The natural logarithm of the relative activity measured over time is plotted, and the slope of the fitted line is used to calculate the half-life of the radioactive materials. Subsequently, potential changes in the half-life are monitored and evaluated.

In this experiment, vials containing Tc-99m are prepared with approximately equal initial activities, according to the experimental setup shown in Figure 1. One of the samples, serving as the control, is placed in a lead shield and receives no treatment. The second and third samples are both kept without shielding and are subjected to T-Consciousness Fields Type 1 and 2, respectively. All three samples are measured at different time intervals using the CAPINTEC CRC-15R model with a measurement accuracy of 0.8%. Next, the natural logarithm of the calculated data is plotted against time. Finally, a line is fitted to each dataset, and the slope of the line is utilized as the decay constant to calculate the half-life.

Test 2: Measurement of effective decay of Technetium-99m in contaminated water

A specific quantity of municipal water was contaminated with the radioactive material Tc-99m. Similar to Test 1, changes in the activity levels of the samples during the experimental period were measured by sampling the contents of the contaminated water containers. By examining and evaluating changes in the half-life, the effect of T-Consciousness Fields on the behavior of water contaminated with radioactive materials was measured. To this end, a specific amount of Tc-99m was first poured into a container of municipal water and stirred thoroughly to create a homogeneous mixture. Subsequently, three separate samples of equal volume were taken from the main container and placed in individual vials. The vials were labeled and numbered for subsequent tests. A 1-milliliter sample was taken from each of the vials (1 to 3), and the activity of each sample was measured using a CAPINTEC CRC-15R dose calibrator.

Following this, the first vial was placed inside a lead shield as a control and received no treatment. The second and third vials were both kept without shielding and were subjected to T-Consciousness Fields Type 1 and 2, respectively. A 1-milliliter sample was taken from each of the three vials at various time intervals, and its activity was measured with the dose calibrator. Then, the natural logarithm of the measured data was calculated and plotted against time. Finally, a line was fitted to each dataset, and the slope of the line was used as the decay coefficient to calculate the half-life. The above experiment was repeated twice, and the T-Consciousness Field treatment was performed once at the beginning of the study.

Statistical Analysis

The data obtained in this study were analyzed using a one-way ANOVA statistical test, with a significance threshold set at 0.05.

Results and Discussion

Test 1

1. www.cosmointel.com

In Figure 2, the results of the natural logarithm of the measured relative activity are plotted against time, and the slope of the line fitted to the data has been used to calculate the half-life of the radioactive materials. The calculated half-life for the Tc-99m radioisotope under various conditions is presented in Table 1. As observed, the values obtained for the Tc-99m half-life show a difference of less than 1.5% compared to the nominal half-life of this radionuclide, which is 6.01 hours.

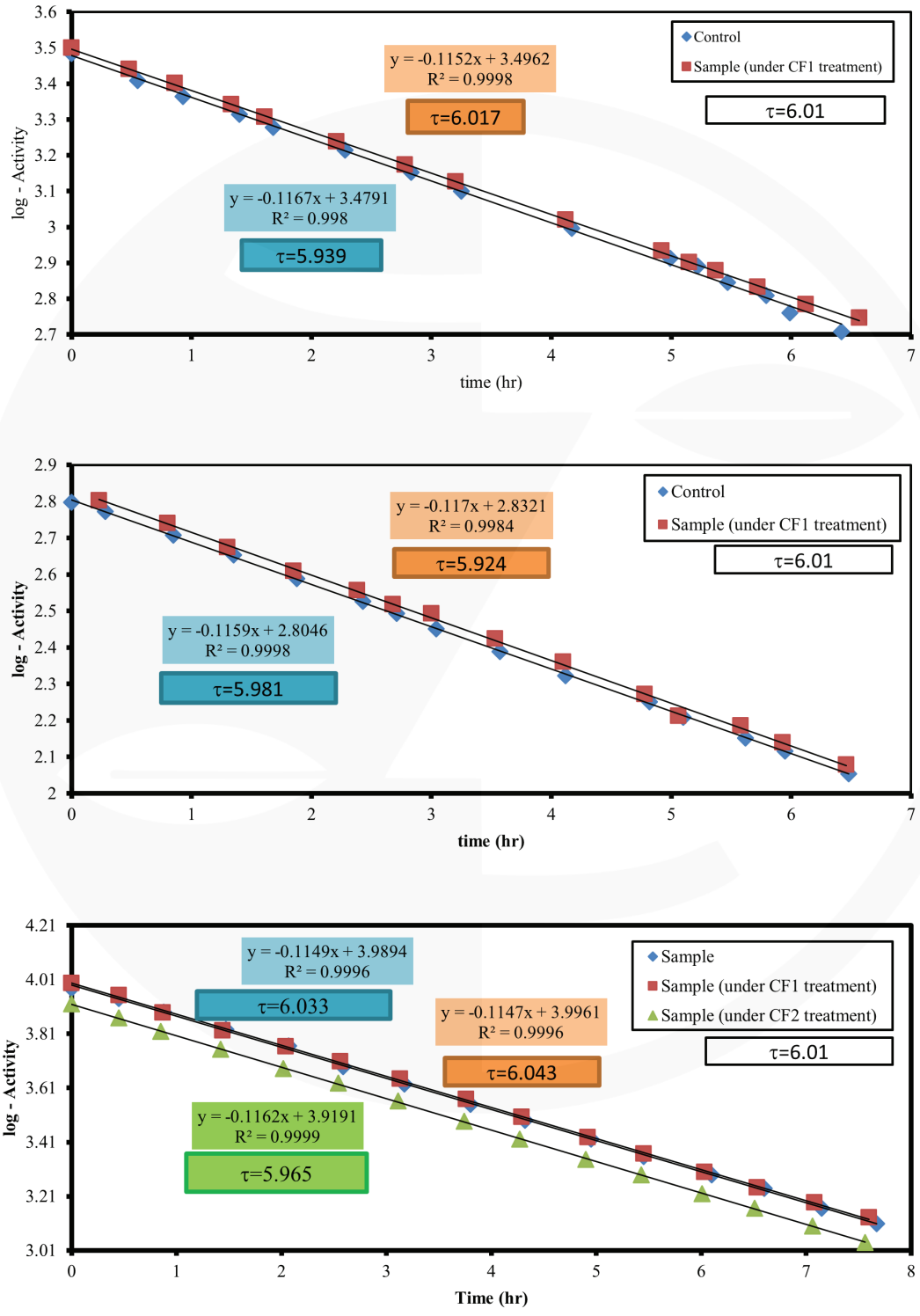


Figure 2. Logarithm of the relative activity measured over time in the control sample and the sample under the influence of T-Consciousness Fields 1 (CF1) and 2 (CF2).

Table 1. Calculation of the radioactive half-life of Tc-99m under various conditions.

Tests	Control		Sample under treatment of CF1		Sample under treatment of CF2	
	Half life (hr)	Error relative to nominal value	Half life (hr)	Error relative to nominal value	Half life (hr)	Error relative to nominal value
1	5.94	1.16	6.02	0.17	-	-
2	5.98	0.50	5.92	1.50	-	-
3	6.03	0.33	6.04	0.50	5.97	0.67

Test 2

Figure 3 illustrates the results of the natural logarithm of the measured relative activity plotted against time, where the slope of the line fitted to the data was used to calculate the half-life of the radioactive materials. The calculated half-life for the Tc-99m radioactive material under various conditions is presented in Table 2.

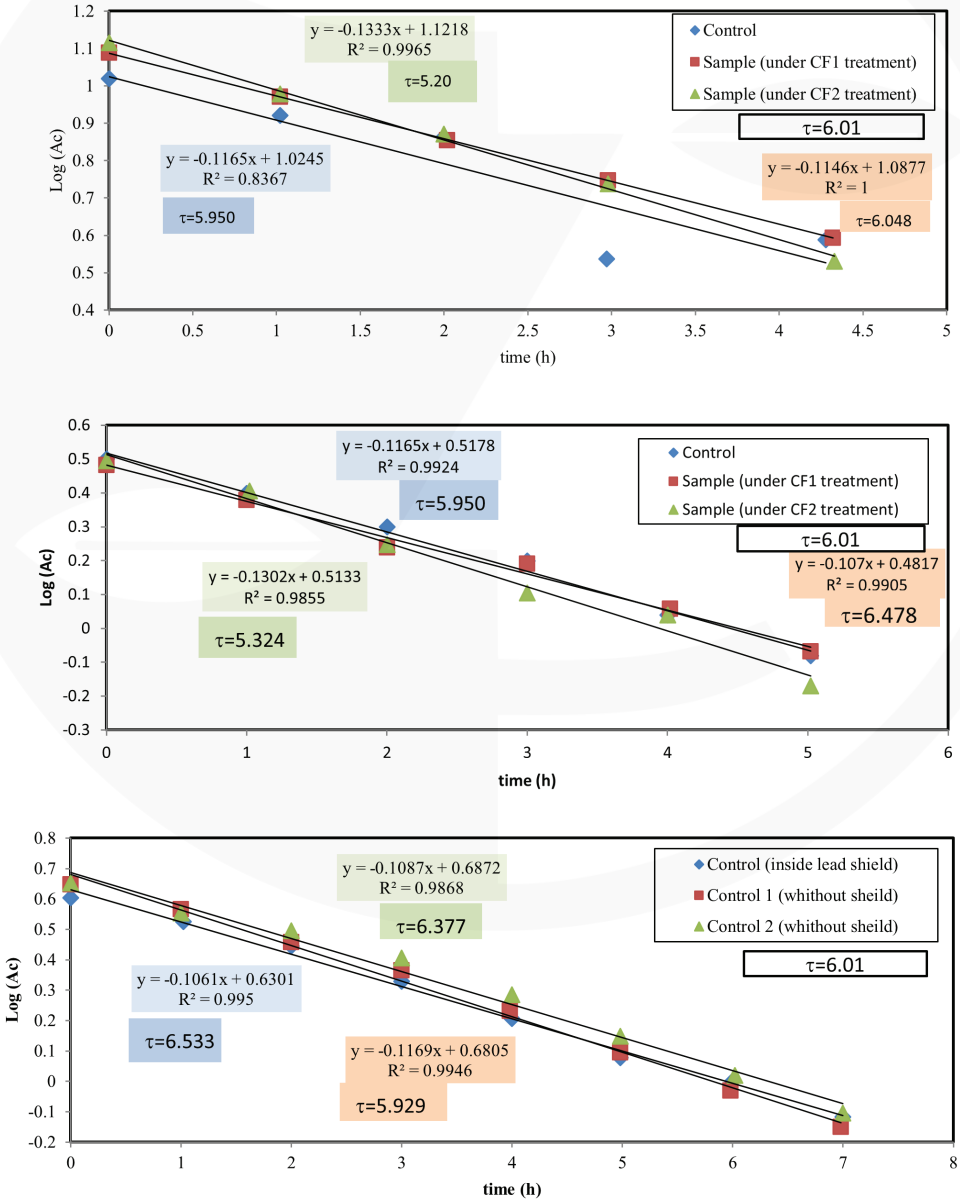


Figure 3. Logarithm of the relative activity measured in contaminated water samples over time in the control and under the influence of T-Consciousness Fields 1 (CF1) and 2 (CF2).

Table 2. Calculated half-life for the radioactive material Tc-99m in various contaminated water conditions.

Treat	Control		Sample under CF1 treatment		Sample under CF2 treatment	
	Line slope	Half-life (hr)	Line slope	Half-life (hr)	Line slope	Half-life (hr)
1	0.1165	5.95	0.1146	6.05	0.1333	5.20
2	0.1165	5.95	0.107	6.48	0.1302	5.32
3	0.1061	6.53	-	-	-	-
	0.1169	5.93	-	-	-	-
	0.1087	6.38	-	-	-	-

As observed, the contaminated water samples under the influence of T-Consciousness Field Type 2 demonstrate a shorter half-life (at least 13% and an average of 17%) compared to the other samples. A comparison of the significance of these test results is presented in Tables 3 and 4.

Table 3. Summary of the comparison between the control group and the sample under the influence of T-Consciousness Field Type 2 in the ANOVA test.

Groups	*Count*	*Sum*	*Average*	*Variance*
Control	5	30.73858532	6.147717064	0.08172
Sample under CF2 treatment	2	10.19710223	5.098551117	6.33E-05

Table 4. Results of the comparative test between the control group and the sample under the influence of T-Consciousness Field 2.

Source of Variation	*SS*	*Df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	1.572498836	1	1.572498836	24.0485	0.004459	6.607891
Within Groups	0.326943226	5	0.065388645			
Total	1.899442062	6				

Given that the half-life of the Tc-99m radioisotope in Test 1 was not affected by the T-Consciousness Fields, it appears that in this test, the effective half-life of the radioisotope in contaminated water decreased under the influence of T-Consciousness Field 2. Furthermore, the effects of this field may have led to the precipitation of the water-soluble radioisotope, a hypothesis that requires supplementary experiments.

According to Taheri's theory, it is possible to apply T-Consciousness Fields to numerous subjects, ranging from living organisms to inanimate matter. In this perspective, matter consists not only of a physical aspect—comparable to hardware—but also of a subtle, non-physical or 'software' dimension that defines the nature and properties of the physical section [13]. This software component, possessing precise information indices, directs the behavior and performance of the hardware section. As mentioned in the introduction, the application of T-Consciousness Fields is carried out without any physical intervention and through the mind of the announcer, requiring only a few seconds. Following this, changes in the control samples (without the field's effect) can be compared with the treated samples. In fact, the observation of changes in the samples under the influence of T-Consciousness Fields is attributed to the information received through these fields.

In summary, it can be stated that this study provided evidence of the influence of T-Consciousness Fields on the properties of the Tc-99m radioisotope. Since

the effects of these fields on half-life changes varied under contaminated water conditions, it appears that T-Consciousness Fields conveyed different information depending on the environmental circumstances. Further studies are required to elucidate the mechanisms of influence for these non-frequency fields.

Acknowledgements

The authors would like to express their gratitude to the Department of Physics at Sharif University of Technology, the Radiation Applications Research Center, and the Nuclear Science and Technology Research Institute, Tehran, Iran, for providing consulting services and data collection for this research work. Additionally, they would like to thank Ms. Sara Torabi for her contribution to the writing of the manuscript.

References

1. Eisenbud, M., & Weapons, V. N. (2013). 5 Sources of Radioactive Pollution. *Air Pollution and Its Effects: Air Pollution*, *1*, 121.

2. Stepanov, A. L., Tsvetnova, O. B., & Panikov, S. N. (2012). Changes in the structure of the microbial community under the influence of oil and radioactive pollution. *Eurasian Soil Science*, *45*(12), 1169-1173.

3. Schön, S. J. (2011). Nuclear/Radioactive Properties. In *Handbook of Petroleum Exploration and Production* (Vol. 8, pp. 107-148). Elsevier. https://doi.org/10.1016/S1567-8032(11)08005-0

4. Emery, G. T. (1972). Perturbation of nuclear decay rates. *Annual Review of Nuclear Science*, *22*(1), 165-202. https://doi.org/10.1146/annurev.ns.22.120172.001121

5. Pommé, S., Paepen, J., & Van Ammel, R. (2018). Linearity check of an ionisation chamber through 99 mTc half-life measurements. *Applied Radiation and Isotopes*, *140*, 171-178. https://doi.org/10.1016/j.apradiso.2018.07.004

6. Boschi, A., Uccelli, L., & Martini, P. (2019). A Picture of Modern Tc-99m Radiopharmaceuticals: Production, Chemistry, and Applications in Molecular Imaging. *Applied Sciences*, *9*(12), 2526. https://doi.org/10.3390/app9122526

7. Aaseth, J., Crisponi, G., & Anderson, O. (2016). *Chelation therapy in the treatment of metal intoxication*. Academic Press.

8. Rahman, R. O. A., Kozak, M. W., & Hung, Y. T. (2014). Chapter 16: Radioactive pollution and control. In *Handbook of environment and waste management: land and groundwater pollution control* (pp. 949-1027). https://doi.org/10.1142/9789814449175_0016

9. Leung, M. (2004). Bioremediation: techniques for cleaning up a mess. *BioTeach Journal*, *2*, 18-22.

10. Manobala, T., Shukla, S. K., Rao, T. S., & Kumar, M. D. (2019). A new uranium bioremediation approach using radio-tolerant Deinococcus radiodurans biofilm. *Journal of biosciences*, *44*(5), 122.

11. Daly, M. J. (2000). Engineering radiation-resistant bacteria for environmental biotechnology. *Current*

opinion in biotechnology, *11*(3), 280-285. https://doi.org/10.1016/S0958-1669(00)00096-3

12. Fukuda, S. Y., Iwamoto, K., Atsumi, M., Yokoyama, A., Nakayama, T., Ishida, K. I., ... & Shiraiwa, Y. (2014). Global searches for microalgae and aquatic plants that can eliminate radioactive cesium, iodine and strontium from the radio-polluted aquatic environment: a bioremediation strategy. *Journal of plant research*, *127*(1), 79-89. https://doi.org/10.1007/s10265-013-0596-9

13. Taheri, M.A (2013) Human from another outlook Interuniversal Press; 2nd Edition ISBN-13: 978-1939507006, ISBN- 10: 1939507006

14. Torabi, S., Taheri, M. A., & Semsarha, F. (2020). Alleviative effects of Faradarmani Consciousness Field on Triticum aestivum L. under salinity stress. *F1000research*, *9*, 1089-1089.

15. Taheri, M. A., Torabi, S., Nabavi, N., & Semsarha, F. (2021). Influence of Faradarmani Consciousness Field (FCF) on Spatial Memory and Passive Avoidance Behavior of Scopolamine Model of Alzheimer Disease in Male Wistar Rats. *Available at SSRN 3761188*.

16. Taheri, M. A., Zarrini, G., Torabi, S., Nabavi, N., & Semsarha, F. (2021). Influence of Fara-darmani Consciousness Field on Bacterial Population Growth. *bioRxiv*, 2021-01.

The Scientific Journal of CosmoIntel
The First Scientific Journal in T-Consciousness Research

Investigating the Effect of Taheri Consciousness Fields on the Behavior of the Laser Light in Passing through an Aperture and Observing the Heisenberg Uncertainty Principle

Mohammad Ali Taheri[1], Firouz Payervand[2], Farzad Ahmadkhanlou[3], Farid Semsarha[4*]

* Corresponding author: Farid Semsarha
Email: Semsarha@ut.ac.ir

1. Sciencefact R&D Department, Cosmointel Inc. Research Center, Ontario, Canada
2. Research and Development Consultant, Tehran, Iran
3.Department of Mechanical and Aerospace Engineering, University of California, Irvine, Irvine, California, United States.
4. Institute of Biochemistry and Biophysics (IBB), University of Tehran, Tehran, Iran

DOI:https://doi.org/10.61450/joci.v1i4.34

Abstract

Investigating the behavior of light as it passes through a slit and observing Heisenberg's Uncertainty Principle constitutes a classical experiment in the field of optics. T-Consciousness Fields possess a non-physical and non-frequency nature, and while they cannot be directly measured using quantitative instruments, it is possible to record and investigate their effects through the design of specific experiments. The present study was conducted with two primary objectives: a) to investigate the effect of T-Consciousness Fields on the diffraction pattern of laser light passing through a slit (Fraunhofer diffraction patterns), and b) to examine the impact of T-Consciousness Fields on the behavior of light and the observation of Heisenberg's Uncertainty Principle under these conditions. The results demonstrated that the application of T-Consciousness Fields to the laser light, independent of the experimental setup, does not affect the light's behavior. Conversely, applying T-Consciousness Fields to the experimental setup (the system of light passing through the slit) significantly impacts the behavior of the light during its passage; such that the uncertainty and diffraction width decrease under the influence of the T-Consciousness Field when compared to the control group. This behavior is interpreted as a reduction of the observer effect in optical studies, where the slit is considered functionally equivalent to an observer. In conclusion, this experiment provides evidence for the influence of T-Consciousness Fields on the behavior of laser light and Heisenberg's uncertainty. Further studies are required to elucidate the mechanisms and interaction dynamics of these non-frequency fields at the physical level.

Keywords: T-Consciousness Fields, Direct observation, Fraunhofer diffraction, Heisenberg's Uncertainty Principle

Introduction

In 1927, Werner Heisenberg proposed the Uncertainty Principle as a cornerstone of quantum theory [1]. This principle quickly became one of the most celebrated aspects of quantum mechanics. Previously, it was believed that knowing a particle's precise position and momentum at a given moment would allow for the prediction of its future state. Contrary to this classical mechanics perspective, Heisenberg discovered that a particle's exact position and momentum cannot be simultaneously determined. In other words, according to the Uncertainty Principle, the more precisely a particle's position is established, the less predictably its momentum can be known, and vice versa [2].

Prior to the advent of quantum mechanics, Thomas Young had explored the wave nature of light in 1801. At that time, light was thought to behave as either a wave or a particle. However, modern physics, via Young's experiment, demonstrated that light can exhibit both wave and particle behaviors. By passing light through two parallel slits in a screen, he observed an interference pattern consisting of multiple bright bands at a distance. If light were composed solely of classical particles, such a result would be impossible; the slits would simply act as a template, producing only two distinct bands of light [3].

Wave-particle duality in quantum mechanics is the concept that energy-carrying waves can behave like particles, and particles can also exhibit wave-like properties. Richard Feynman presented several experiments. In the double-slit experiment, he used a sensitive photographic detector instead of a standard screen and reported that diffraction can be observed even at low intensities, such that only a single photon is generated in the apparatus. It appears that a single photon interferes with itself and must somehow pass through both slits. He also investigated electron diffraction using double slits. As shown in Figure 1, by covering slit 1 and slit 2 separately, the intensity distributions P2 and P1 were recorded, respectively. By placing a bright light source near the slits and detecting the light scattering off the electron, it is possible to observe which slit the electron passes through. It was discovered that if an observer can determine which slit the electron has traversed, the intensity distribution will be P12=P1+P2 In other words, observing the electron as it passes through the slit can alter the resulting intensity distribution. This experiment serves as an example of the empirical fact that an observer can change the outcome of a quantum experiment [4, 5].

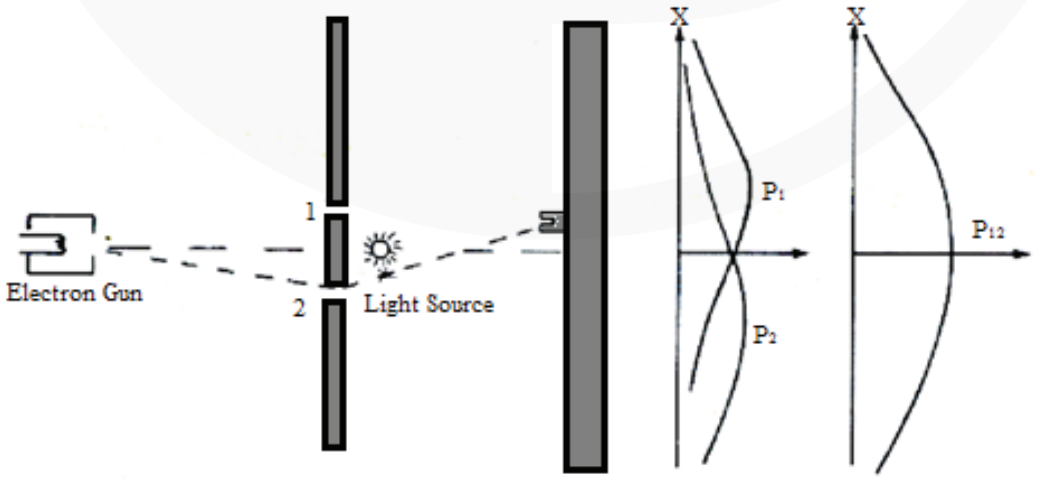


Figure 1. Observing electrons with sufficient light

Laser light diffraction pattern from an aperture

When a parallel, coherent, and monochromatic beam of light, with a wavelength significantly smaller than the aperture, passes through a slit of width *d*, a diffraction pattern characterized by a primary maximum and several secondary maxima is formed on the screen (Figure 2). According to the Kirchhoff diffraction formula, the intensity as a function of the diffraction angle (α) is expressed as follows:

(1) $$I\ (\alpha) = I(0) \cdot (\frac{\sin \beta}{\beta})^2$$

where β is a parameter dependent on the slit width, diffraction angle, and wavelength (λ):

(2) $$\beta = \frac{\pi d}{\lambda} \cdot \sin \alpha$$

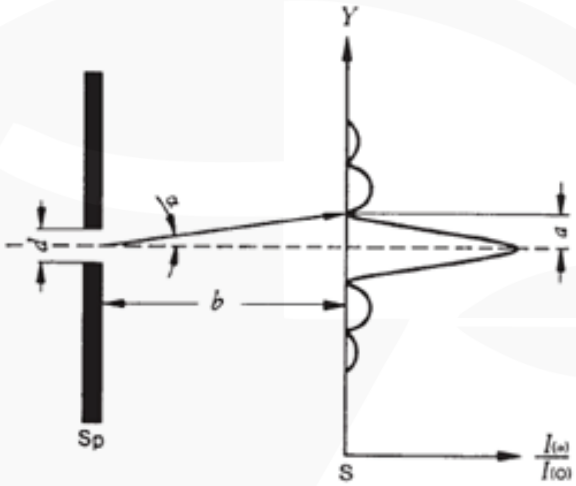


Figure 2. Far-field Fraunhofer diffraction

Heisenberg's Uncertainty Principle

Heisenberg's Uncertainty Principle states that two canonically conjugate variables, such as position and momentum, cannot be precisely measured simultaneously. Here, the uncertainty in position (y) and momentum (p) is defined by the standard deviation as follows:

(3) $$\triangle y \cdot \triangle p \geq \frac{h}{4\pi}$$

where 'h' is Planck's constant. For a photon beam passing through a slit of width 'd':

(4) $$\triangle y = d$$

When photons prior to the slit move exclusively perpendicular to the diaphragm plane, for instance, in the x-direction, they will acquire a component in the y-direction after passing through the slit. It is appropriate to define Δpy as the difference between the initial momentum and the momentum at the central maximum of the momentum distribution [6]:

(5) $$\Delta p_y = \frac{h}{\lambda} \sin \alpha_1$$

Furthermore, based on the Kirchhoff diffraction formula, the angle of the first minimum, α1, can be derived as follows:

(6) $$\sin \alpha_1 = \frac{\lambda}{d}$$

Combining Equations 4, 5, and 6 leads to the following equation:

(7) $$\Delta y \cdot \Delta p_y = h$$

Equation 7 can be considered a derived criterion for the specific case of Heisenberg's Uncertainty Principle. In this experiment, the angle α1 is determined through the position of the first minimum (Figure 3).

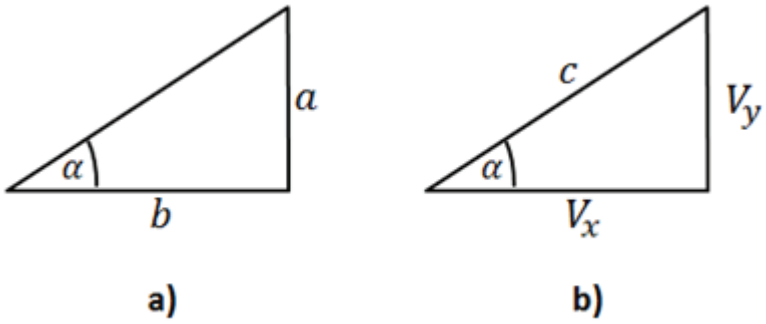


Figure 3. Geometry of diffraction from a slit: (a) path and (b) velocity component of a photon

(8) $$\tan \alpha_1 = \frac{a}{b}$$

Consequently, from a theoretical standpoint and with an emphasis on conducting a simple set of experiments, Equation 6 can be rewritten as it is applied in light diffraction [6]:

(9) $$\frac{d}{\lambda}\sin(arc\tan\frac{a}{b}) = 1$$

Equation 9 incorporates the Kirchhoff diffraction formula and implicitly includes the Heisenberg's Uncertainty criterion. Therefore, in this study, we refer to Equation 9 as the Kirchhoff-Heisenberg-Pasic criterion.

T-Consciousness Fields

Humans have always been curious to comprehend the world around them, and in this pursuit, numerous efforts have been made that led to the recognition of various laws and fields, such as gravitational, electromagnetic, and electric fields. The term 'field' is frequently used in physics theories. Approximately four decades ago, Mohammad Ali Taheri introduced a distinct field named the 'T-Consciousness Field' within the framework of the theory of T-Consciousness Fields, which are fundamentally different from all known physical fields. According to this theory, T-Consciousness, which serves as one of the three constituent elements of the universe, is neither matter nor energy; however, it possesses the capability to directly influence matter and energy through specific fields known as T-Consciousness Fields. T-Consciousness Fields are a subcategory of the Cosmic Consciousness Network [7].

The effect of T-Consciousness Fields is initiated through the brief and momentary attention of the 'announcer'. These fields can be applied to a wide spectrum of subjects, ranging from living organisms to inanimate matter, and their effects can be recorded and analyzed in a laboratory setting. Consequently, although the direct and quantitative measurement of T-Consciousness Fields is impossible due to their non-frequency nature, their effects can be indirectly revealed by designing specific experiments to examine their interactions with matter and energy. In previous studies conducted by the authors of the current research, the impact of T-Consciousness Fields on the phenomenon of radioactivity [8] and the distinction of these fields from other physical fields [9] have been reported. The objective of the present study is to investigate the influence of T-Consciousness Fields on the behavior of laser light passing through a slit and the observation of Heisenberg's Uncertainty Principle.

Materials and Methods

Application of T-Consciousness Fields

In this experiment, T-Consciousness Fields were applied to the samples based on the protocol established at the Cosmointel Research Center[1]. Further details are provided in the Shared Considerations section of this issue. In this study, two distinct T-Consciousness Fields, Type 1 (TCF1) and Type 2 (TCF2), were applied separately for one

1.www.cosmointel.com

minute (the test duration), once to the laser light and again to the light-slit test setup.

Equipment

In this experiment, the following components and equipment were utilized, as shown in Figure 4:

- He-Ne laser light source with a wavelength of 632.8 micrometers, a power of 100 mW, and a spot diameter of 5 mm
- Beam attenuator
- Slits with widths of 20 and 30 micrometers
- Slit holder
- Special optical bench with a length of 500 mm
- Caliper with a resolution of 0.1 mm

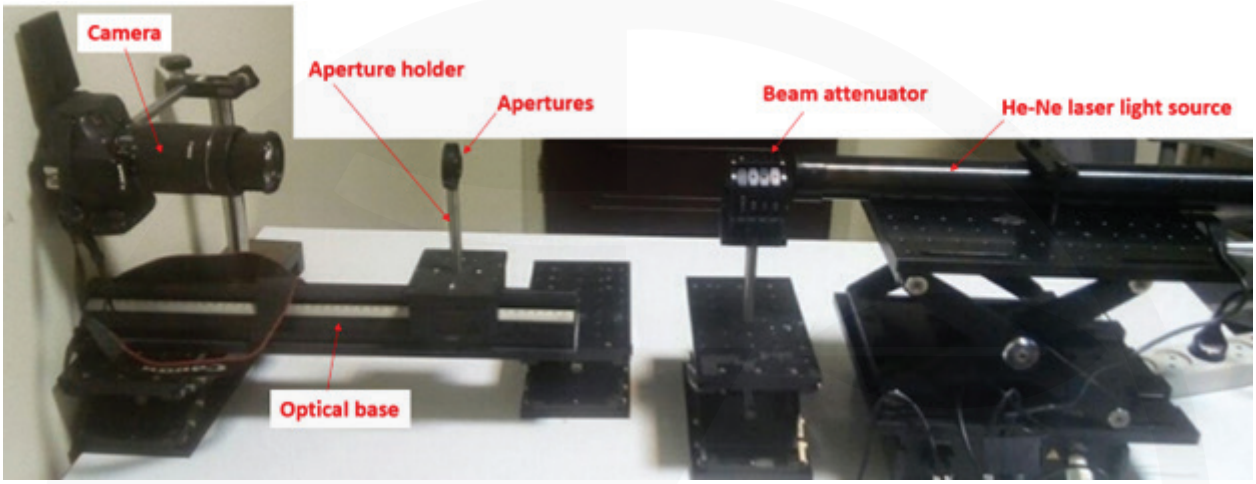


Figure 4. Experimental setup for measuring the intensity distribution of diffraction patterns

The slit with various widths is placed in the path of the laser beam. The diffraction patterns generated by the slit are measured for four different cases under four distinct boundary conditions: 1- Baseline, without the influence of T-Consciousness Fields; 2- Treatment of the laser light with TCF1; 3- Treatment of the setup (light-slit) with TCF1; 4- Treatment of the laser light with TCF2. In these experiments, recording the position of the left minimum and the primary right maximum is sufficient to determine the diffraction angle. Ultimately, the momentum uncertainty is calculated using the single-slit diffraction patterns with different widths to observe Heisenberg's Uncertainty Principle.

Statistical Analysis

The data obtained in this study were analyzed using a one-way ANOVA statistical test, and a limit of 0.05 was considered as the threshold of significance.

Results and Discussion

In this experiment, slits with widths of 20 and 30 micrometers were placed in the path of the laser beam. The diffraction patterns formed by the slits were displayed on a screen (Figure 5). The position of the first minimum for all four conditions mentioned in the methodology section with specific boundary conditions was measured using a caliper. The obtained results are shown in Table 1.

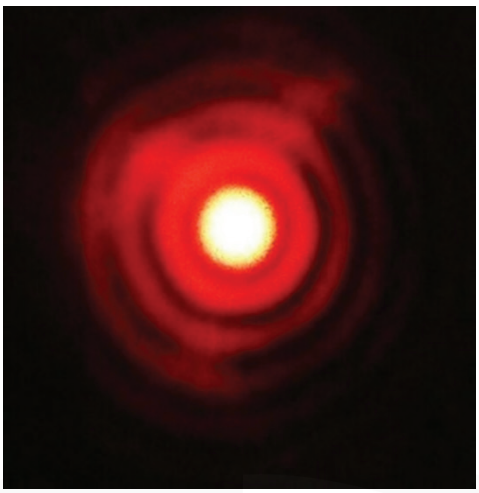


Figure 5. An example of diffraction patterns formed by the slits.

Table 1. Measured values under control conditions and under the influence of T-Consciousness Fields(CF).

Test condition	**Apertures width**	**The first minimum parameters**		**Kirchhoff-Heisenberg-Pasic Criterion**	**Diffraction pattern broadening criterion**
	d (micron)	a (mm)	b (mm)	$\frac{d}{\lambda}\sin\left(\arctan\frac{a}{b}\right)$	$\frac{a}{b}$
Case 1 (baseline): without CF treatment	30	6.3	400	0.7466	**0.0158**
	30	3.9	200	0.9243	**0.0195**
	20	11	255	1.3621	**0.0431**
	20	6.1	145	1.3284	**0.0421**
Case 2: with CF1 treatment on the laser beam	30	4.4	250	0.8343	**0.0176**
	30	5.3	310	0.8104	**0.0171**
	30	6.8	400	0.8058	**0.017**
	30	3.7	200	0.8769	**0.0185**
	20	10	235	1.3437	**0.0426**
	20	6.3	145	1.3719	**0.0434**
	20	10.5	255	1.3003	**0.0412**
	20	6.1	145	1.3284	**0.0421**
Case 3: with CF1 treatment on test set up	30	6.3	400	0.7466	**0.0158**
	30	3.2	200	0.7584	**0.016**
	20	5.4	145	1.1762	**0.0372**
	20	4.6	120	1.2107	**0.0383**
Case 4: with CF2 treatment on the laser beam	30	6.5	400	0.7703	**0.0163**
	30	6.5	400	0.7703	**0.0163**
	30	3.5	200	0.8295	**0.0175**
	20	5.4	145	1.1762	**0.0372**
	20	5	120	1.3158	**0.0417**

To determine the difference between the results in Case 1 or baseline (without the application of T-Consciousness Fields) and Cases 2, 3, and 4 (with the application of T-Consciousness Fields), the differences in the measurement data for the Kirchhoff-Heisenberg-Pasic criterion (the product of position and momentum uncertainties) and the diffraction pattern spread criterion (a/b) are shown in Tables 2 and 3.

Table 2. Differences between the control results (Case 1) and treatment cases for the Kirchhoff-Heisenberg-Pasic criterion

Apertures width/ d (micron)	CF1 treatment on laser beam (%)	CF1 treatment on experiment set up (%)	CF2 treatment on laser beam (%)
30	0.4309	9.9288	**5.4362**
20	0.6820	11.2841*	**7.3778**

*: Significant difference, p-value < 0.05

Table 3. Differences between the control results (Case 1) and treated samples for the diffraction pattern spread criterion (a/b)

Apertures width/ d (micron)	CF1 treatment on laser beam (%)	CF1 treatment on experiment set up (%)	CF2 treatment on laser beam (%)
30	0.5666	9.9150	**5.3824**
20	0.6455	11.3850*	**7.3944**

*: Significant difference, p-value < 0.05

As observed in the data in Tables 2 and 3, the application of T-Consciousness Fields 1 and 2 to the laser light does not have a significant effect on the Kirchhoff-Heisenberg-Pasic criterion, nor on the diffraction pattern spread criterion. However, applying T-Consciousness Field 1 to the experimental setup with the 20-micron slit significantly reduces the Kirchhoff-Heisenberg-Pasic criterion and the diffraction pattern spread criterion by approximately 11%. Conversely, the difference between the intended criteria and the control for the 30-micron slit is not significant based on the ANOVA test.

As mentioned in the introduction, there are diverse T-Consciousness Fields with various functions. In this study, two types of these fields were applied to a physical system. The observed results indicate that the effects of T-Consciousness Fields 1 and 2 are distinct from one another. This study provided the opportunity to investigate the influence of T-Consciousness Fields, which possess a non-physical nature, on the behavior of optical photons passing through a slit. This classical experiment and the measurement of the Kirchhoff-Heisenberg-Pasic criterion yield specific values, and by applying T-Consciousness Fields and comparing them with the field-free or control state, the changes can be compared.

Considering the results observed for the 20-micron slit, comparing the control values with the third case—where the experimental setup was under the influence of T-Consciousness Field 1—revealed significant changes for both the Kirchhoff-Heisenberg-Pasic criterion and the diffraction pattern spread. In this experiment, the slit acts as an observer in quantum physics, and its presence in the light's path leads to the spreading of the diffraction pattern and an increase in uncertainty. Thus, the reduction in the Kirchhoff-Heisenberg-Pasic criterion and the spread criterion of the diffraction pattern for the 20-micron slit, as a result of the impact of T-Consciousness Field 1 on the experimental setup, indicates a decrease in the interaction between the light and the slit; or, in other words, a reduction in the observer effect.

In summary, it can be stated that this study provided evidence of the influence of T-Consciousness Fields, which have a non-physical and non-frequency nature, on a strictly physical system. Based on Taheri's theory, this behavioral change is explained by the transmission of information from T-Consciousness Fields and its reception and processing by the mind of matter. To elucidate the mechanism of influence of these fields and their interaction with matter and energy, further studies are required.

Acknowledgements

The authors would like to thank the Department of Physics at the University of Hamedan, Iran, for facilitating the data collection, as well as Ms. Torabi for her contribution to writing and editing the article.

References

1. Cassidy, D. C. (1992). Uncertainty. The life and science of Werner Heisenberg. *New York: Freeman*.

2. Uffink, J. B., & Hilgevoord, J. (2001). The uncertainty principle. In E. N. Zalta (Ed), *The Standford Encyclopedia of Philosophy (Winter ed.)*

3. Ball, P. (2018), Two slits and one hell of a quantum conundrum. *Nature, 560*(7717), 165-166.

4. Branson, J. (2002). Quantum physics (UCSD Physics 130).

5. FRS, D. R. (2018). I Don't Understand Quantum Physics.

6. Pašić S, Gamulin O, Tocilj Z. (2006). A simple experimental checking of Heisenberg's uncertainty relations. *Fizika A*. *15*(2):73-84.

7. Taheri, M.A (2013) Human from another outlook Interuniversal Press; 2nd Edition ISBN-13: 978-1939507006, ISBN- 10: 1939507006.

8. Taheri, M. A., Payervand, F., Ahmadkhanlou, F., Torabi, S., & Semsarha, F. (2021). Distinction of Consciousness Fields According to Taheri from Other Conventional Physical Fields: Evaluating the Magnetic Properties of Materials. PREPRINT (Version 3) available at Research Square [https://doi.org/10.21203/rs.3.rs-618789/v3]

9. Taheri, M. A., Payervand, F., Ahmadkhanlou, F., Torabi, S., & Semsarha, F. (2021). Investigation of the properties of Tc-99m radioisotope and water contaminated with Tc-99m under the influence of Consciousness Fields. Available at SSRN 3917935. https://ssrn.com/abstract=3917935 or http://dx.doi.org/10.2139/ssrn.3917935

The Scientific Journal of CosmoIntel
The First Scientific Journal in T-Consciousness Research

The Theory of the Existence of the "Mental Body in Matter" Based on Experimental Laboratory Results and Taheri Consciousness Fields

Mohammad Ali Taheri[1], Firouz Payervand[2], Farzad Ahmadkhanlou[3], Farid Semsarha[4*]

* Corresponding author: Farid Semsarha
Email: Semsarha@ut.ac.ir

1. Sciencefact R&D Department, Cosmointel Inc. Research Center, Ontario, Canada
2. Research and Development Consultant, Tehran, Iran
3.Department of Mechanical and Aerospace Engineering, University of California, Irvine, Irvine, California, United States.
4. Institute of Biochemistry and Biophysics (IBB), University of Tehran, Tehran, Iran

Abstract

For several years, the application of T-Consciousness Fields, introduced by Mohammad Ali Taheri, has attracted the attention of researchers familiar with this theory from various disciplines, including medical sciences, basic biological sciences, chemistry, and physics. The objective of the present study was to investigate the mechanism by which T-Consciousness Fields influence the properties/behavior of matter, using the empirical laboratory results of related and previous studies conducted by the same authors. To this end, the present study raises a key question, “Why and how did the properties/behavior of materials change under the influence of the T-Consciousness Field?” After considering several possible explanations and examining existing experimental evidence—such as the fact that the T-Consciousness Field did not lead to a decrease or increase in the energy level of the matter or a change in its structure, a novel and original theory is proposed, based on experimental results and within the broader framework of the theory of T-Consciousness Fields. This view holds that: The manifestation of different properties/behavior of matter upon exposure to T-Consciousness Fields indicates that in addition to its Physical Mody (the material and energy content constituting it), matter essentially requires a Mental Body. According to this theory, the Mental Body of Matter encompasses information (pertaining to every single constituent component of the system, its formation process, and all its equilibrium and non-equilibrium states) and mental states that have emerged during the process of the matter's formation and its arrival at its current state (its equilibrium state). The function of the Mental Body of Matter is to retain the aforementioned items (information, etc.), interact with the T-Consciousness Field, accept new mental states, and furthermore, exhibit behavior proportionate to the new mental state. To summarize this study, it can be said that based on this theory (which is strictly grounded in repeatable experimental laboratory results) the impact of a T-Consciousness Field, from the perspective of the T-Consciousness Field theory, is equivalent to the ‘application’ of one of the mental states within the coordinates of the mind of matter; and from the perspective of matter, it is equivalent to the manifestation of a ‘behavior’ consistent with its experienced nature. Furthermore, it can be stated that this process occurs without the need to supply or extract energy, or to alter the structure and arrangement of the matter.

Keywords: Mind of Matter, Behavior of matter, Mental Body, Mohammad Ali Taheri, T-Consciousness Fields

Theory of T-Consciousness Fields

Humans have always been curious to understand the world around them and, thus far, have made numerous efforts to discover and explain various physical laws. One of the concepts frequently used in physics is the concept of 'Field'; fields such as the electromagnetic field, electric field, and magnetic field. Approximately four decades ago, Mohammad Ali Taheri introduced a distinct field named the 'T-Consciousness Field.' According to this theory, T-Consciousness, serving as one of the three constituent elements in the universe—despite being neither matter nor energy—exerts direct effects on matter and energy through distinct fields called 'T-Consciousness Fields' (Figure 1). T-Consciousness Fields are a subcategory of the Cosmic Consciousness Network and possess diverse functions [1].

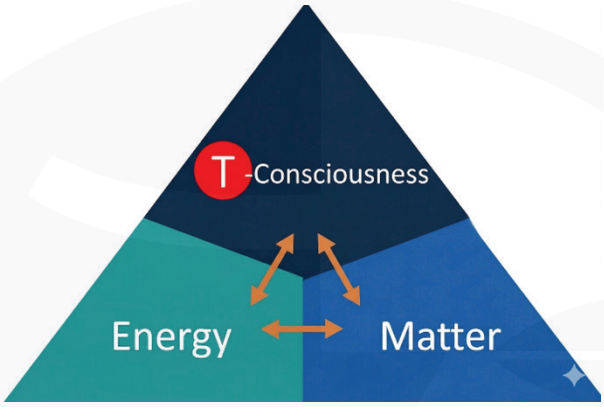


Figure 1. The relationship among T-Consciousness, matter, and energy in the theory of T-Consciousness according to Taheri's approach.

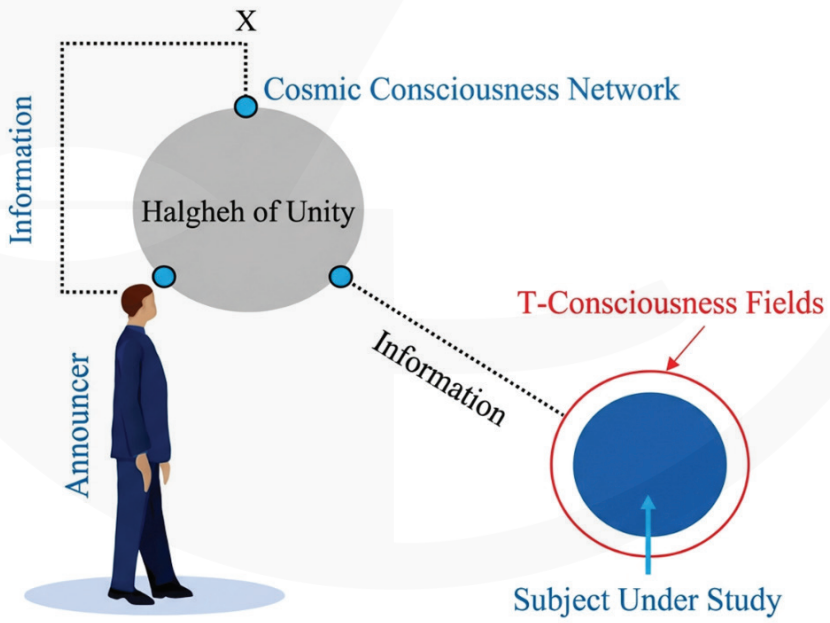


Figure 2. The 'announcer' and the formation of the initial 'Connection' and the effect of the T-Consciousness Field.

In this perspective, as previously explained, T-Consciousness is a fundamental component of the cosmos alongside matter and energy, though each of these three also possesses an anti-component. In other words, just as matter and antimatter are defined in the world of science, in Taheri's theory, in addition to T-Consciousness, anti-T-Consciousness is also introduced. Furthermore, T-Consciousness in Taheri's theory entails further classifications and functions, including 'Constant T-Consciousness,'

'Variable T-Consciousness,' and so on. Considering the practical aspect of this theory, various definitions and functions such as 'T-Consciousness Bond,' 'Interuniversal Connection of Particles,' 'T-Consciousness Charge,' 'Shared Mind,' 'T-Consciousness Conception,' etc., have also been proposed for the first time and have been subjected to various field experiments for several decades. In this view, the transfer of information through T-Consciousness Fields can lead to changes in the subjects affected by these fields. Therefore, in order to make a distinction between this theory and other theories proposed in the field of consciousness, the keyword 'T-Consciousness' is used in studies related to T-Consciousness Fields.

T-Consciousness has a non-physical and non-frequency nature; therefore, it is not directly measurable and cannot be quantified. The influence of these fields is initiated through the mind of the announcer via a brief and momentary focus on the subject under study. It is possible to record and investigate the effects of these fields in a laboratory by designing diverse experiments. In 2020, Taheri coined the term 'Sciencefact' for this approach, which uses scientific tools and methods to reveal the effects of T-Consciousness (which has a non-physical nature).

The Concept of Mind in the World of Science and Philosophy Up Until Now

Mind is a concept that has consistently fascinated and, indeed, perplexed humanity. Due to the internal and perceptual nature of the mind, its existence is the only thing one can be certain of; however, why and how it came into being, and what its nature is, are questions that still lack clear empirical answers. Theorizing about the mind goes back as far as the history of reflective human thought. The mind-body relationship is one of the primary issues in the philosophy of mind, with a history spanning several millennia. Besides philosophy, other disciplines such as neuroscience, cognitive science, artificial intelligence, computer science, and psychology also address the mind-body issue. In neuroscience, keywords such as thought, perception, memory, learning, and intelligence are considered alongside the mind and as parts of its function [2].

In the psychological approach to the mind and related theories, the mind is understood as the capacity and ability to encounter the mental states of others [3]. According to the theory of mind, the ability in humans to perceive and understand the mental states of others, begins between the ages of three to four and reaches its complete form at the age of five [4]. Since the early 1980s, there has been significant interest in the theory of mind, its cognitive foundations, and how it develops. According to functionalism approach in philosophy of mind, people act on the basis of different mental states—such as intentions, desires, beliefs, hopes, and so on, regardless of what such states are made of. All of these states arise from mental content that has been shown to play an important, functional role in the person's behavioral output [5].

In the philosophy of mind, the mind-body issue is addressed by relying on scientific attainments such as experimental psychology, artificial intelligence, and biology, and special attention is paid to subjects such as awareness and the nature of specific mental states [6]. Additionally, dimensions of the mind including mental events, mental functions, mental properties, consciousness, the ontology of the mind, the nature of thought, and the relationship of the mind with the body are studied.

Broadly speaking, drawing on philosophers' positions regarding the mind–body issue and their accounts of particular phenomena like feelings, desires, beliefs, awareness, and other mental states, humans may be classified into two categories [7]; One group separates the origin of mental states, such as feelings, beliefs, desires, awareness, and so forth, from the body (the brain, and are called dualists), while the other group considers the body to be the source of mental states (and are known as monists). According to dualism, mental states and bodily states are two separate substances with their own exclusive characteristics. Monism, however, considers mental and bodily states to be of one kind, merely exhibiting two aspects. The physicalist account of monism is the dominant theory in contemporary philosophy of mind. Behaviorism, mind-brain identity theory, and functionalism are among the approaches of this account. Behaviorism

and the mind-brain identity theory reduce mental states to behavior and brain states, respectively.

Functionalism, rather than addressing the essence of the mental entity, focuses on the role and function of the mind. According to this theory, regardless of the nature and modality of mental states, what is important is the functional role of these states in relation to one another. From a functionalist perspective, mental states and events are behavioral capacities that act as causal mediators between the sensory inputs of a cognizer and their subsequent behavior [8]. Based on this theory, what makes a mental state the kind of state it is (such as pain, the smell of violets, or the belief that bears are dangerous) are the functional relations that mental state has with sensory stimuli, behavioral responses, and other psychological states. It is worth noting that in most theories, only humans are considered to possess a mind [9, 10]. Nevertheless, in some theories, the existence of a mind in animals has also been proposed [11, 12].

In another theory, the mind is considered a universal property of 'matter' [13]. In the Panpsychism approach, mind is regarded as a fundamental and all-pervasive aspect of existence. This perspective has a long history in both Eastern and Western philosophical traditions and is today a part of analytic philosophy, serving for its proponents as an appealing kind of shortcut between physicalism (a physical basis for mental processes) and dualism (the separation of mind from matter). According to this approach, the idea that mind and matter are fundamentally different (dualism) leaves a gap in the operational relationship between the mind and the brain; conversely, the simplistic physicalist approach of a uniformly material universe fails to provide an account for the emergence and manifestation of consciousness at the animal and human levels. The difference between Panpsychism and physicalism is that, according to the former, the fundamental components of the material universe also encompass very primitive forms of awareness, from which the most complex awareness experiences of humans and animals arise [14].

Matter and Its Properties in the World of Science

The properties of matter are characteristics that can be sensed (seen, heard, smelled, and touched), measured, or tested. Attributes such as mass, density, conductivity, flexibility, hardness, softness, color, and heat of combustion are properties of matter. Various classifications exist for material properties, but generally, the properties of a substance are divided into two categories: physical and chemical properties [15].

Characteristics of matter that can be measured and observed without altering the primary composition of the substance are considered physical properties. Features such as mass, volume, density, boiling point, and conductivity are among the physical properties of materials. It is noteworthy that the mechanical properties of matter are themselves considered a type of physical property, illustrating the behavior of materials under the application of force. Chemical properties are observable during or after a chemical reaction. Characteristics such as reactivity, surface energy, corrosion resistance, toxicity, and flammability are considered chemical properties of matter.

At first glance, it seems the difference between materials is that each contains various elements and chemical compounds. However, it is observed that materials with identical constituent elements and compounds, such as diamond and graphite, can be distinct from one another and possess different properties; conversely, it is possible for materials with different elements and compounds to exhibit similar characteristics. Factors such as the nature of the material, its atomic structure, and ultimately its size significantly impact its properties. Generally, the determining factors of a material's properties include its constituent elements and the bonding between atoms, as well as the structure and microstructure of the materials [16].

To explain the macroscopic behavior of materials under the influence of external factors (such as pressure, temperature, electric field, magnetic field, etc.), matter must be viewed as a thermodynamic system within a reversible thermodynamic cycle. There is a relationship between the properties of materials and their thermodynamic properties; for instance, by differentiating free enthalpy and

Gibbs free energy with respect to external factors, one can arrive at the internal characteristics of the body's state [17]. Figure 3 illustrates the general model of factors affecting the macroscopic properties/behavior of materials, including material composition, environmental/manufacturing factors and conditions, as well as the structure of the materials.

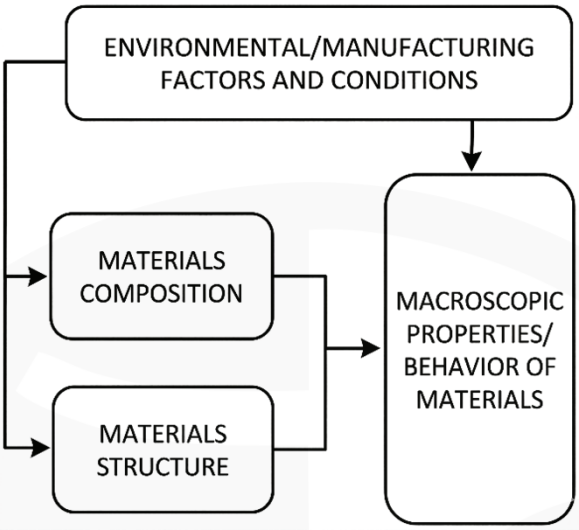


Figure 3. General model of factors affecting the macroscopic properties/behavior of materials

Review of the Results of Tests Treating Materials with T-Consciousness Fields

The results of tests investigating the magnetic [18] and mechanical [19] properties of materials indicate that the properties of materials changed under the influence of the T-Consciousness Field. Despite being at ambient temperature (20 to 25°C), the materials exhibited behavior distinct from their typical ambient temperature behavior.

In these tests, it was observed that the composition (type and amount of constituent elements) of the materials influenced by the T-Consciousness Field remained unchanged in the absence of external influences (pressure, temperature, electric field, magnetic field, etc.) and at ambient temperature. The observations were as follows:

1. In the Vibrating Sample Magnetometry (VSM) measurements, the nickel sample exhibited [magnetic] behavior—persisting even three days after exposure to the T-Consciousness Field—consistent with what would normally be expected at approximately −133°C, despite no detectable cooling or temperature drop in the material [18].

2. The behavior of alumina in the Vibrating-Sample Magnetometer (VSM) test, was equivalent to its behavior at a temperature of approximately 500°C, persisting even seven days after exposure to the T-Consciousness Field. This is while no signs of heating were observed in the material [18].

3. The behavior of ST-37 steel components in the tensile test was equivalent to their behavior at a temperature between 600 to 800°C, persisting even four days after exposure to the T-Consciousness Field. This is while no signs of heating were observed in the components [19].

Key Question and Proposed Answers

As explained before, in conventional experimental science, the physical properties of materials change because of external factors as well as the material's own structure. But in the tests mentioned, no external factors were applied, and the conditions were the same for both the control samples and the samples exposed to the T-Consciousness Field. So a key question comes up—one that could help build a theory about how the T-Consciousness Field affects materials:

"Why and how did the properties/behavior of materials change under the influence of the T-Consciousness Field?"

Answers: Answer 1:

One of the possible answers to this question is that the effect of the T-Consciousness Field is accompanied by a decrease or increase in the energy level within the matter, and by cooling or heating the matter, it has caused a change in the property/behavior of the material.

If we assume this explanation is correct, the large temperature difference between the two observed states of the materials in the three tests leads to two expectations: first, the temperature change in the material should be clearly visible; and second, after the T-Consciousness Field treatment ends, the material should slowly return to balance with the room temperature and show its normal room-temperature behavior again. But in none of the tests were any signs of the material getting colder or hotter observed. In all the experiments, the change in the material's behavior caused by the T-Consciousness Field exposure was still clearly visible even several days later. Therefore, the effect of T-Consciousness Field **cannot** be explained by **a rise or reduction** in the matter's **energy state**, and it cannot have produced changes in the matter's properties or behavior through **heating or cooling.**

Answer 2:

Another possible answer to this question is that the T-Consciousness Field has caused a change in the property/behavior of the matter by altering the structure of the material.

A - Properties of Nickel and its behavior in the first experiment

The crystal structure of nickel is typically in the fcc form; it is also possible to conceive an hcp crystal structure for nickel during specific manufacturing processes at higher temperatures. However, it should be noted that the magnetization capabilities of nickel in the form of hcp crystals are weaker than its fcc crystalline form [20]. Considering that in the respective tests, the saturation magnetization of nickel increased under the influence of the T-Consciousness Field, therefore, the crystal structure of nickel could not have transformed into hcp. In other words, the effect of the T-Consciousness Field could not have manifested as a change in the structure of nickel, thereby causing the change in the property/behavior of the material.

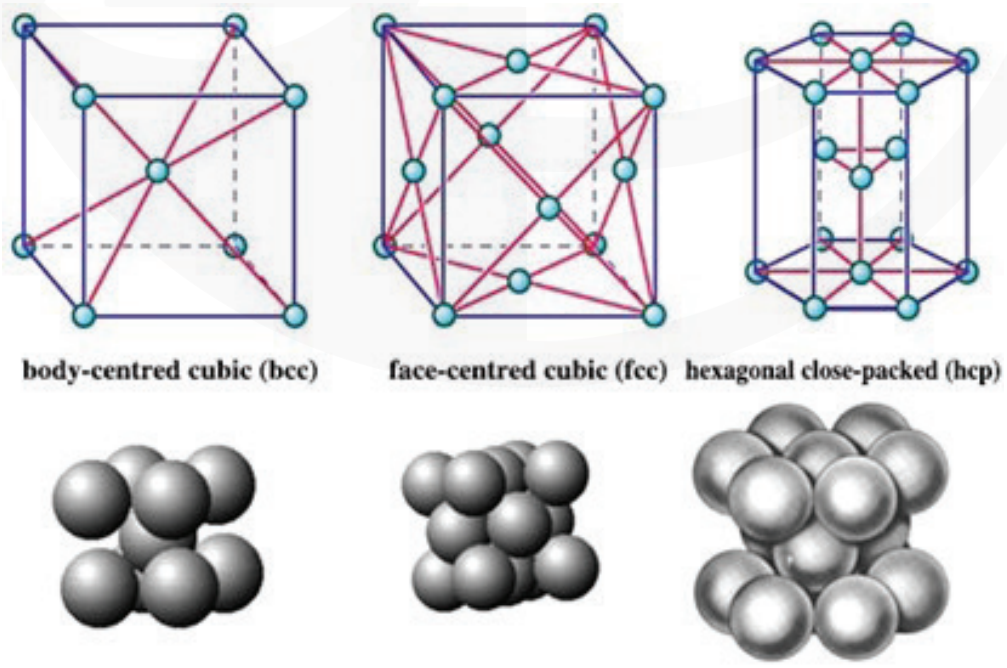


Figure 4. Metallic crystal structures: FCC and HCP (Image adapted from qsstudy.com/chemistry)

B - Properties and behavior of Alumina in the second experiment

Regarding alumina, it should be noted that the typical form of aluminum oxide crystals is alpha (α) alumina. In this form, the oxygen ions are close-packed hexagonal (hcp), and the Al^{3+} ions occupy two-thirds of the octahedral interstitial sites. At the center of this structure, Al^{3+} is octahedral. Alumina also exists in other crystalline forms, which are named according to Greek letters. Each of these forms has its own specific crystal structure and characteristics. All these forms are generated after heating alumina, are unstable, and ultimately transform into the α form [21].

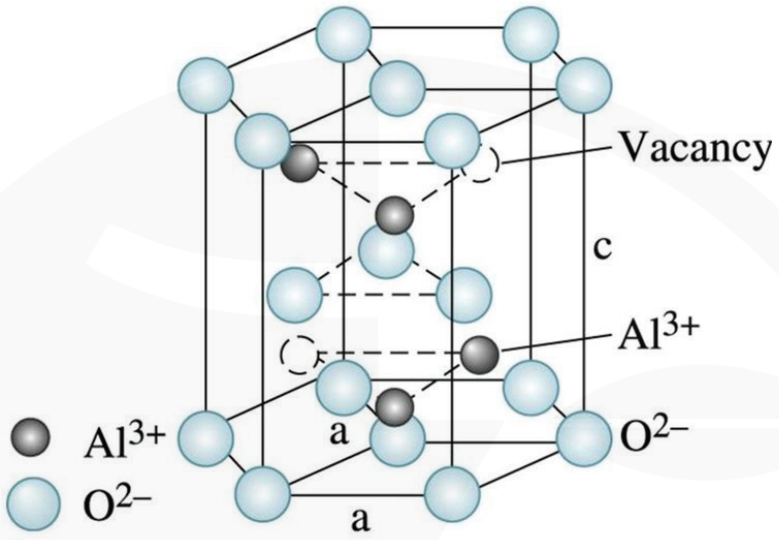


Figure 5. Crystal structure of alpha-alumina [22]

Considering that in the respective tests, the saturation magnetization of alumina decreased under the influence of the T-Consciousness Field, and the behavior of alumina post-treatment was equivalent to its behavior at approximately 500°C, one could hypothesize that the crystal structure of alumina might have changed to something other than α. However, since this hypothetical new crystal structure is unstable, upon the cessation of the T-Consciousness Field application, the crystal structure of the material should revert to the α state, and the material influenced by the T-Consciousness Field should also exhibit properties/behavior similar to the control sample. Yet, in none of the tests did this occur, and even several days after the test and the termination of the T-Consciousness Field treatment, the change in the property/behavior of the material remained completely evident and stable. Therefore, the effect of the T-Consciousness Field cannot manifest as a change in the structure of alumina and cause the change in the property/behavior of the material.

C - Properties of Carbon Steel in the third experiment

Regarding carbon steel, it must be stated that this steel possesses allotropic properties. Up to a temperature of about 700°C, it has a bcc crystal structure (alpha steel); thereafter, up to a temperature of approximately 1150°C, it takes an fcc crystal structure (gamma steel); subsequently, it reverts to a bcc crystal structure (delta steel), maintaining this crystal structure up to roughly 1500°C (prior to melting) [23].

Obviously, by altering the type of the steel's crystal lattice, its properties/behavior also undergo changes. For instance, by transforming the steel's structure from the bcc state to the fcc state, its volume increases, its thermal and electrical conductivity diminish, and its magnetic properties are eliminated. It is worth noting that with a change in the temperature of the steel, the microstructure (shape, size, and arrangement of the steel grains) also changes. Given that in the respective tests, the Young's modulus of ST-37 carbon steel decreased

under the influence of the T-Consciousness Field, and the steel's behavior post-treatment was equivalent to its behavior at a temperature of approximately 600 to 800°C, one could hypothesize that the crystal structure and microstructure of the steel might have changed from alpha to gamma. However, since this hypothetical new crystal structure is specific to high temperatures and is unstable, after the cessation of the T-Consciousness Field treatment, the crystal structure and microstructure of the material should revert to the alpha state, and the material under the influence of the T-Consciousness Field should exhibit properties/behavior similar to the material in the control group. Meanwhile, the test results of the components do not indicate such an outcome, and in all tests, even several days after the experimental period, the change in the material's property/behavior was completely evident. Therefore, the effect of the T-Consciousness Field cannot manifest as a change in the structure and microstructure of the steel and cause the change in the property/behavior of the material.

Answer 3: The theory of how the properties/behavior of materials are influenced by T-Consciousness Fields: Based on a previous article called "The Distinction of Taheri Consciousness Fields from Conventional Physical Fields: Evaluating the Magnetic Properties of Materials," it has already been demonstrated that the T-Consciousness Field is not a field of the same nature as an electric field, a magnetic field, or an electromagnetic field [18].

Therefore, it is fundamentally not composed of energy and cannot transfer energy to matter. Thus, the third answer that can be provided to the above question, within the framework of the **theory of the T-Consciousness Field's impact on material properties/behavior**, is that materials also possess a level of **mind** (a Mental Body) that functions similarly to a mind, and the **T-Consciousness Field alters their behavior by changing the mental state of the materials**. Currently, instead of delving into the essence of the mental entity, we focus on the role and function of the mind in matter. The concept of mind at the level of matter is proposed based on the results obtained from experimental studies up to today, while taking the following points and considerations into account:

1. In order for materials to exhibit different properties/behavior under the influence of a T-Consciousness Field, they must, in addition to a physical body (the matter and energy content constituting the material), possess a Mental Body.

2. The Mental Body of matter includes: A) Information and B) Other data of the mental state.

A) *Information* encompasses the details of every single constituent component of the system, its formation process, and all its equilibrium and non-equilibrium states.

B) Other mental states that have emerged during the material's formation process and its arrival at its current condition (its equilibrium state). The function of the Mental Body is to retain the aforementioned items (information, data, etc.), interact with the T-Consciousness Field, accept new mental states, and concurrently issue behavior commensurate with the new mental state.

Based on this model, the information related to the newly requested mental state exists within the matter's Mental Body in the form of a type of memory; in other words, the matter—considering every single constituent component, its formation process, and all its equilibrium and non-equilibrium states—has already experienced the requested mental state in some form along its evolutionary path. It is clear that the impact of the T-Consciousness Field, from the perspective of the T-Consciousness Field, is equivalent to selecting one of the mental states within the coordinates of the mind of matter, and from the perspective of matter, it is equivalent to the manifestation of a behavior consistent with its experienced nature; this process occurs without the need for energy (supplying or extracting) and without changes in the structure and arrangement of the material.

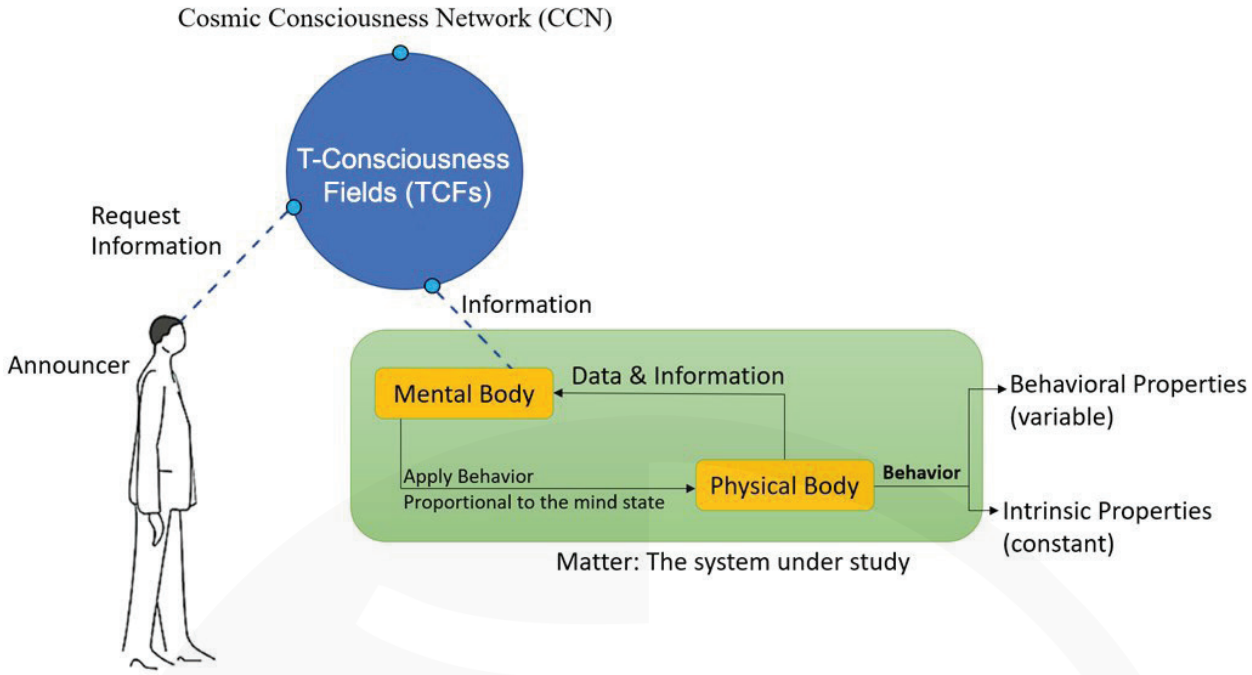


Figure 6. Model of how materials are influenced under T-Consciousness Field treatment (Functional model of the impact of the T-Consciousness Field through the mind of matter on it)

Figure 6 illustrates the model of how materials are influenced under the effect of the T-Consciousness Field. According to this model, the application of the T-Consciousness Field is initiated by the announcer (*Faradarmangar*). Following the transfer of information via T-Consciousness Fields, the material enters a new mental state, and subsequently, a change in the properties or behavior of the material is observed.

Conclusion

A review of the experimental data from studying changes in the properties or behavior of materials under the influence of the T-Consciousness Field shows that:

1. The effect of the T-Consciousness Field cannot manifest as a decrease or increase in the energy level of the matter and cause a change in the material's property/behavior by cooling or heating it. Furthermore, it is impossible for the effect of the T-Consciousness Field to manifest as an alteration in the matter's structure, thereby causing a change in its property/behavior.

2. Although it is not possible to comprehend the essence of how material properties/behavior are influenced by the T-Consciousness Field using the obtained empirical data, by adopting an approach similar to functionalism, one can attribute a level of mind (a Mental Body) to materials that functions similarly to a mind. Therefore, through this means, the behavior of matter under the influence of the T-Consciousness Field can be described.

3. Based on the results of empirical studies, for materials to be able to exhibit different properties/behavior under the influence of a T-Consciousness Field, they must possess a Mental Body in addition to a physical body (the matter and energy content constituting the material).

4. The Mental Body of matter includes information (details of every single constituent component of the system, its formation process, and all its equilibrium and non-equilibrium states) and mental states that have emerged during the material's formation process and its arrival at its current condition (its equilibrium state).

5. The function of the Mental Body is to retain the aforementioned items (information, etc.),

interact with the T-Consciousness Field, accept new mental states, and furthermore, issue behavior commensurate with the new mental state.

6. Based on this model, the impact of the T-Consciousness Field, from the perspective of the T-Consciousness Field [theory], is the selection of a mental state within the coordinate system of matter's mind. From the side of matter, it appears as behavior that fits its experienced nature. This takes place without requiring energy exchange and without changing the structure or arrangement of the material.

Completing experimental laboratory studies regarding the impact of T-Consciousness Fields within the domain of materials and energy, and providing practical conclusions based upon them, is on the agenda of the authors of this study.

Acknowledgements

The authors would like to express their gratitude to Mr. Reza Yazdanparast for his coordination in conducting this research, and to Ms. Sara Torabi for her contribution to writing and editing the article.

References

1. Taheri, M.A (2013) Human from another outlook Interuniversal Press; 2nd Edition ISBN-13: 978-1939507006, ISBN- 10: 1939507006.

2. Bor, D. (2015). Neuroscience: The mechanics of mind. *Nature 526,* 41–42. https://doi.org/10.1038/526041a

3. Castelli, F. (2015). Theory of Mind. In *International Encyclopedia of Social and Behavioral Sciences* (Vol. 1, pp. 539-544). James Wright.

4. Roth, G., & Dicke, U. (2012). Evolution of the brain and intelligence in primates. *Progress in brain research*, *195*, 413–430. https://doi.org/10.1016/B978-0-444-53860-4.00020-9

5. Clark, Andy (2014). Mindware. 198 Madison Avenue, New York, 10016: Oxford University Press. pp. 14, 254–256. ISBN 978-0-19-982815-9.

6. Rey, G. (2020, April 8). Philosophy of mind. Encyclopedia Britannica. https://www.britannica.com/topic/philosophy-of-mind

7. Safari K., R., & Valeh, H. (2014). The Evaluation of Mind and Body Relation in the Point of View of Functionalism. Knowledge (Journal of Human Sciences), -(69/1), 69-93. https://www.sid.ir/en/journal/ViewPaper.aspx?id=408964

8. Britannica, T. Editors of Encyclopaedia (2008, October 15). *Functionalism*. *Encyclopedia Britannica*. https://www.britannica.com/topic/functionalism-social-science

9. Hare, B. (2001). Can competitive paradigms increase the validity of experiments on primate social cognition?. *Animal cognition*, *4*(3-4), 269-280.

10. Sherwood, C. C., Subiaul, F., & Zawidzki, T. W. (2008). A natural history of the human mind: tracing evolutionary changes in brain and cognition. *Journal of anatomy*, *212*(4), 426-454.

11. Vonk, J., & Povinelli, D. J. (2006). Similarity and Difference in the Conceptual Systems of Primates:

The Unobservability. *Comparative cognition: Experimental explorations of animal intelligence*, 363.

12. Carruthers, P. (2013). Animal minds are real,(distinctively) human minds are not. *American Philosophical Quarterly*, *50*(3), 233-248.

13. Bohm, D. (1990). A new theory of the relationship of mind and matter. *Philosophical psychology*, *3*(2-3), 271-286.

14. Goff, P., Seager, W., & Allen-Hermanson, S. (2001). Panpsychism. *The Stanford Encyclopedia of Philosophy* (Summer 2020 Edition), Edward N. Zalta (ed.), URL = <https://plato.stanford.edu/archives/sum2020/entries/panpsychism/>.

15. Callister Jr, W. D., & Rethwisch, D. G. (2003). *Materials science and engineering: an introduction*. John wiley & sons. New York, NY. Sixth Edition

16. Jacobs, J. A., & Kilduff, T. F. (2004). Engineering materials technology: structures, processing, properties & selection. *Pearson*. ISBN-10:013048185, ISBN-13:978-0130481856

17. ten Brinke, G. (2012). 1.11-Phase Segregation/Polymer Blends/Microphase Separation. *Polymer Science: A Comprehensive Reference. Elsevier*, 287-313.

18. Taheri, M.A., Payervand, F., Ahmadkhanlou, F., Torabi, S., & Semsarha, F. (2021) Distinction of Consciousness Fields According to Taheri from Other Conventional Physical Fields: Evaluating the Magnetic Properties of Materials. PREPRINT (Version 3) available at Research Square [https://doi.org/10.21203/rs.3.rs-618789/v3].

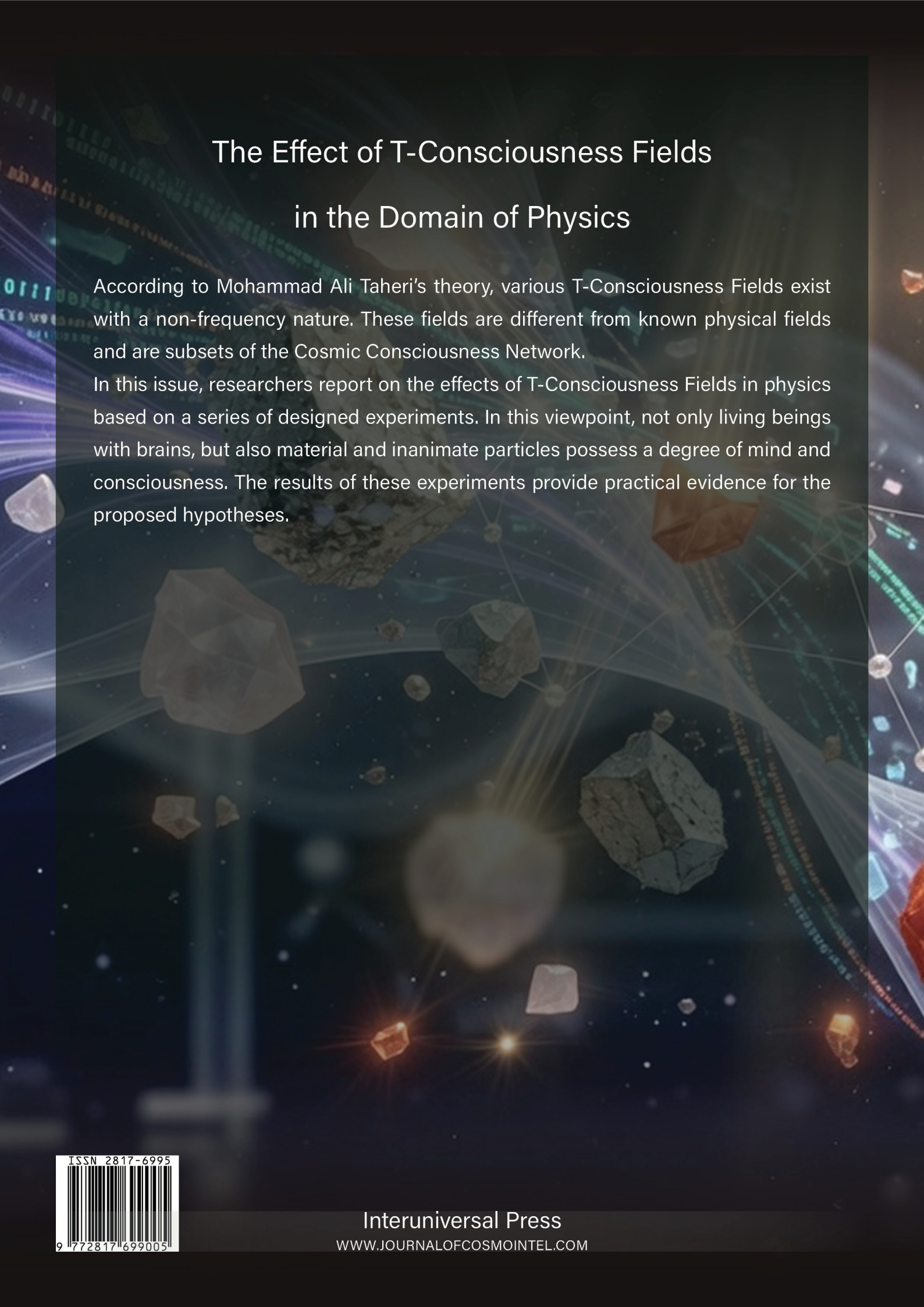
19. Taheri, M.A., Payervand, F., Ahmadkhanlou, F., Yazdanparast, R., Torabi, S., & Semsarha, F. (2021). Investigation of the Effect of Consciousness Fields on the Mechanical Properties of Materials. Available at SSRN: https://ssrn.com/abstract=3955533

20. Mourdikoudis, S., Simeonidis, K., Vilalta-Clemente, A., Tuna, F., Tsiaoussis, I., Angelakeris, M., ... & Kalogirou, O. (2009). Controlling the crystal structure of Ni nanoparticles by the use of alkylamines. *Journal of magnetism and magnetic materials*, *321*(18), 2723-2728.

21. Levin, I., & Brandon, D. (1998). Metastable alumina polymorphs: crystal structures and transition sequences. *Journal of the american ceramic society*, *81*(8), 1995-2012.

22. Ćurković, L., Jelača, M. F., & Kurajica, S. (2008). Corrosion behavior of alumina ceramics in aqueous HCl and H2SO4 solutions. *Corrosion science*, *50*(3), 872-878.

23. Chipman, J. (1972). Thermodynamics and phase diagram of the Fe-C system. *Metallurgical Transactions*, *3*(1), 55-64.



The Effect of T-Consciousness Fields in the Domain of Physics

According to Mohammad Ali Taheri's theory, various T-Consciousness Fields exist with a non-frequency nature. These fields are different from known physical fields and are subsets of the Cosmic Consciousness Network.

In this issue, researchers report on the effects of T-Consciousness Fields in physics based on a series of designed experiments. In this viewpoint, not only living beings with brains, but also material and inanimate particles possess a degree of mind and consciousness. The results of these experiments provide practical evidence for the proposed hypotheses.

ISSN 2817-6995
9 772817 699005

Interuniversal Press
WWW.JOURNALOFCOSMOINTEL.COM