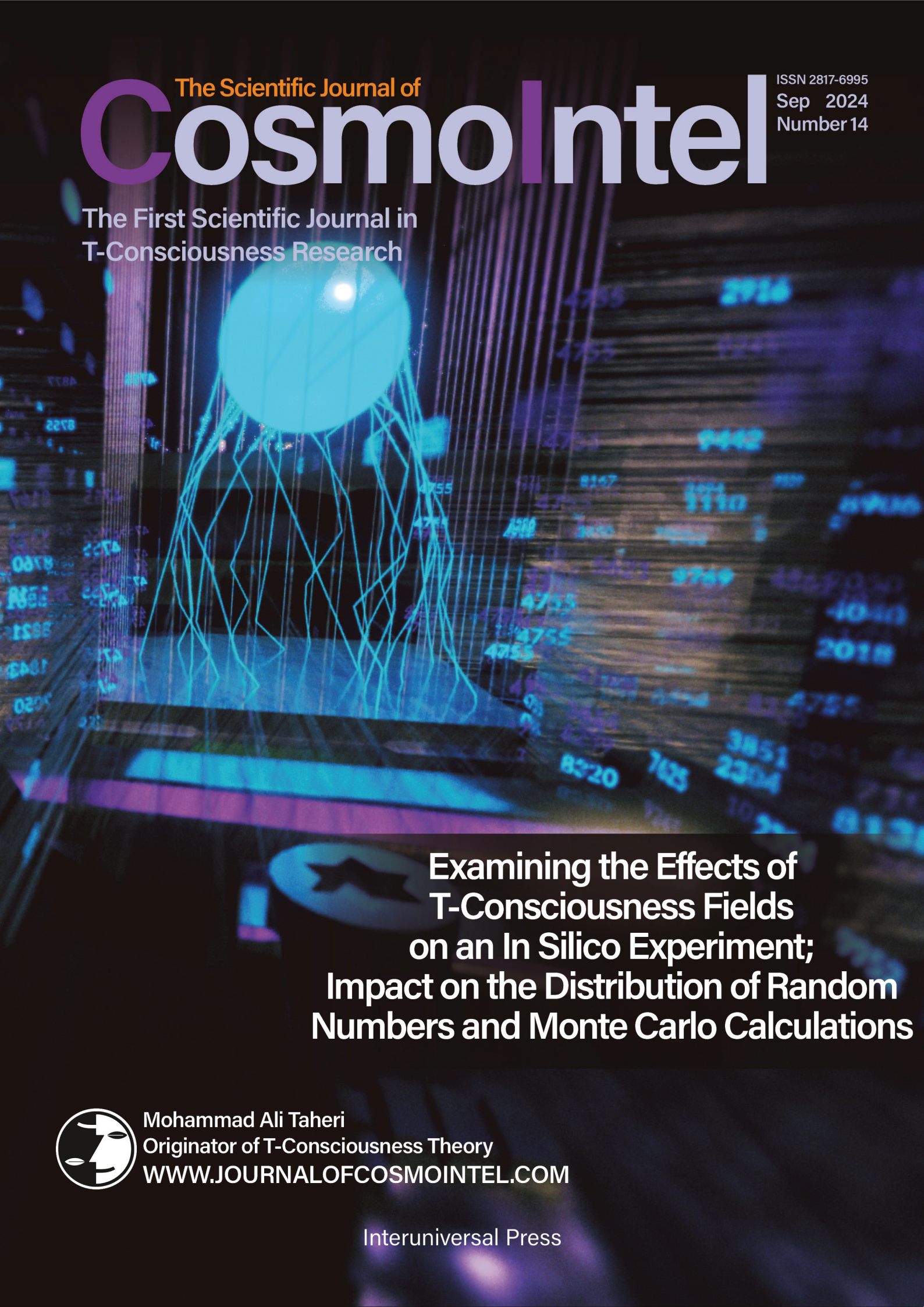


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T-Consciousness Research



**Examining the Effects of  
T-Consciousness Fields  
on an In Silico Experiment;  
Impact on the Distribution of Random  
Numbers and Monte Carlo Calculations**



Mohammad Ali Taheri  
Originator of T-Consciousness Theory  
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# Editorial

Mohammad Ali Taheri

Founder of T-Consciousness Theory



## Examining the Effects of T-Consciousness Fields on an *In Silico* Experiment;

## Impact on the Distribution of Random Numbers and Monte Carlo Calculations

DOI: [doi.org/10.61450/joci.v3i14.186](https://doi.org/10.61450/joci.v3i14.186)

According to the theory of T-Consciousness Fields (TCFs), all the substances and entities of existence, both living and non-living, possess consciousness and are constructed from conscious components. So far, numerous studies confirmed the effect of TCFs on living organisms in both '*In vivo*' and '*In vitro*' conditions, as well as on various materials in laboratory settings. In earlier research, the focus was on the impact of TCFs and the information received from them on the matter and energy of a system under study. However, the effects of TCFs on the world of computer software and computational programs have not been investigated. Computational programs represent a form and level of software and information, and the challenge addressed in the studies provided in this issue is the possibility of investigating the effects of TCFs in '*In Silico*' studies or, in other words, in computer and calculation systems.

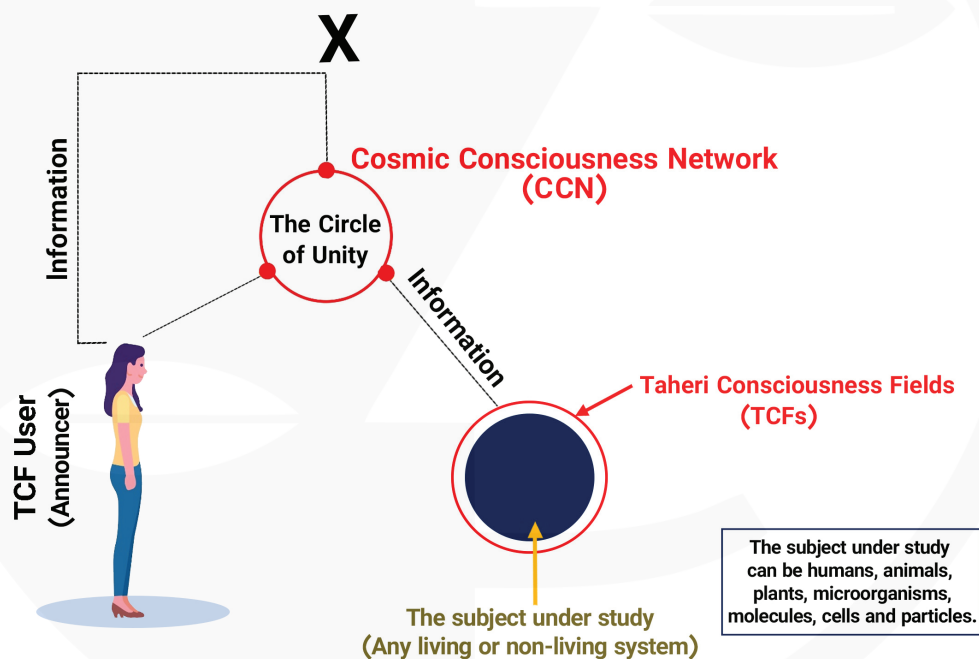
Based on the theory of T-Consciousness Fields, the software used for the outputs of a computational system is undoubtedly conscious (similar to other components of existence) and is influenced by TCFs and the subsequent information received from them. It is expected that as a result of this influence and the information received from TCFs, the function of software, computational outputs, and in other words, every level of a computational system that arises from software performance in a specific hardware environment, would change. Therefore, before design and execution, it is necessary to provide the required conditions and considers all the details that would enable the observation of these effects and the resulting changes within the accuracy and sensitivity ranges of the measurement tools used in a study.

This research is designed and implemented based on the definitions of Constant and Variable T-Consciousness introduced by Taheri. It involves selecting a suitable problem in the context of computer computations, where there is a possibility to create variables and examine the behavior of the system in response to uncertainty. Therefore, the goal of the research in this issue is to investigate the effect of TCFs on the computations performed by a computer using Monte Carlo simulations while generating random numbers with a statistical computation nature.

For this purpose, the effects of TCF types 1 and 2 are examined at two levels: First, the generation of random numbers by computer programs in various types of systems and operating systems, and second, computations related to a problem with a known analytical solution, which itself involves single-dimensional calculations (integral calculation), two-dimensional calculations (surface calculation), and three-dimensional calculations (volume calculation). These are compared between control and

sample groups with an appropriate and statistically validated number. Here, the term "dimensions" refers to the number of random number sets used in the computations.

According to the results obtained in this issue, with the increase in the level of complexity of a computational problem (from one dimension to three dimensions), the system under study gradually accepts more uncertainty in the calculation, or in other words, tolerates more error in the estimations. This made the inherent determinism of random numbers, which is dependent on mathematical formulations and subroutines of the software, less prominent. It also allowed the output of the system to become closer to its changing behavior. Also, the impact of the TCFs under study becomes more noticeable in terms of trends and significant statistical changes. Such a level of influence for TCFs can also be attributed to the effect of information on information. This initial step will create a clear perspective on the application of TCFs at the level of computational content in this technological world, where supercomputers and tools of the virtual world play a special role and will expand the scope of the application of TCFs more than ever.



**A schematic on applying T-Consciousness Fields (TCFs).** 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 under study, which can be living or non-living entities, is exposed to this information. It should be noted that TCFs and information are not of material or energy origin; therefore, they cannot be measured directly and quantitatively. However, it is possible to record and examine their effects by designing experiments. For this purpose, the behavior or indicators measured by the researchers in the subject under study after being exposed to TCFs are compared with the control (without the effect of TCFs), and the results are reported after statistical data analysis.

# Considerations of This Issue

## 1- Introduction

### 1-1 T-Consciousness and the New Discipline of Sciencefact

In the past few decades, the nature of Consciousness and its place in science has received considerable attention. Many philosophical and scientific theories have been presented so far in this field. In the 1980s, Mohammad Ali Taheri introduced new fields of non-material and non-energy nature, known as T-Consciousness Fields (TCFs). In Taheri's view, T-Consciousness, along with matter and energy, are the three main constituents of the universe, with T-Consciousness being different from matter and energy. According to his theory, there are a wide variety of TCFs, with each having certain functionalities. TCFs are also considered a subset of "Cosmic Internet Network" in Taheri's theory, which is named the Cosmic Consciousness Network (CCN).

The main difference between the theory of TCFs and other concepts introduced so far for describing the nature of consciousness is the applicability and practicability of TCFs. In other words, these fields can be applied to all living organisms and non-living objects, such as plants, animals, microorganisms, materials, molecules, atoms, etc. In this respect, Mohammad Ali Taheri introduced "Sciencefact" in 2020 as one of the subgroups of the "Erfan-e-Keyhani-e-Halgheh" school, which he had previously founded. The name "Sciencefact" was chosen to confirm the existence of T-Consciousness as a "fact" scientific research method is utilized. Although common science merely considers the study of matter and energy, Sciencefact investigates the effects of TCFs (which are neither material nor energy) on matter and energy and all their manifestations (such as humans, animals, plants, microorganisms, cells, materials, molecules, atoms, etc.). By repeatably conducting laboratory research experiments in various fields of science and applying TCFs,

Sciencefact has emerged as a common ground between science and TCFs and uses this capability to investigate T-Consciousness and T-Consciousness Fields resulting from it.

The influence of TCFs begins with the connection (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 directly measured by science, but their effects on various subjects can be investigated through repeatable experiments (1).

### 1-2 Methodology used for T-Consciousness Fields Research

The research methodology followed in the study of T-Consciousness is based on *Assumption, Argument, and Proof*:

The basic *Assumption* is that the universe is formed by a third element, called T-Consciousness, and that is different from matter and energy.

The *Argument* is that the existence of TCFs can be shown through their effects on matter and energy (e.g., humans, animals, plants, microorganisms, cells, materials, molecules, atoms, etc.)

The *Proof* is the scientific verification of the TCFs' effects on matter and energy (according to the Argument) through various reproducible scientific experiments.

### 1-3 Study phases in Sciencefact

To investigate and verify the existence, effects, and mechanisms of TCFs, the five following research phases (Phase 0 to Phase 4) and their objectives are outlined below:

In Phase 0 of the studies, the goal is to demonstrate the existence of TCFs by observing their influence on matter and energy. The nature of T-Consciousness and what it is will not be addressed in this phase. Phase 1 is dedicated to exploring various effects of different TCFs. In Phase 2, one examines the reasons behind the effects of these fields. Then, during Phase 3, the mechanisms of TCFs' effects on matter and energy are investigated. Finally, the goal of Phase 4 is to draw conclusions, particularly with regard to the *mind and memory of matter* and their relation to T-Consciousness, etc.

### 1-4 Importance of computational research in the studies of T-Consciousness Fields and an overview of the design of experiment in this issue

Numerous studies were conducted to investigate the effects of TCFs on materials and living organisms. In all these studies, observable changes in physical, chemical, or biological phenomena were measured under the influence of TCFs [1-5]. The focus of all these studies was merely on examining the effects of TCFs at the level of matter and energy under both *In vitro* and *In vivo* conditions. Yet, there hasn't been a study examining the effects of TCFs on computational or *In silico* conditions. Specifically, the software and information systems frameworks have not yet been studied.

According to the theory of TCFs, every system or part of existence has two levels of consciousness: 'Constant or Invariable T-Consciousness'. The former is also known as the foundational consciousness of the system under study, which constitutes its inherent property, and the latter is 'Variable T-Consciousness', which affects the behavior of the system under study when encountering environmental variables

[6]. Additionally, we know that the level of consciousness that is influenced by the effects of TCFs is this variable consciousness. To understand this concept better, let us take a look at an example from previous studies.

In examining the impact of TCFs on the phenomenon of radioactivity in the field of nuclear physics, it was observed that the 'decay constant' of the radioactive element Strontium, which is part of its character and existential nature in the ecosystem, remains unchanged under the influence of TCFs, and in practice, we do not expect any alteration from it. This is because any alteration would disrupt the foundational elements of existence and the stability of nature in this cosmological epoch, which is not feasible or rational. However, when the studies were performed under the conditions that the radioactive Strontium was dissolved in an aqueous environment and interacted with water molecules, meanwhile being exposed to TCFs, a reduction in the 'effective half-life' of Strontium was observed. This indicates a change in the nature of the interaction or the behavior of the radioactive particles with an aqueous environment [7]. It is evident that the design of the study plays a fundamental role in observing the effects of TCFs wherein examining the behavior of a system in response to environmental factors (internal or external environment) or the 'variable T-Consciousness' level of the system is targeted.

In the current study and in the context of computer computations, which entirely rely on formulations and mathematical rules (programmed software and formulated algorithms) and the explicit information in this domain, we practically encounter a system that is entirely constructed from 'Invariable T-Consciousness'. This corresponds to the rules and regulations that form the foundational character of the system under study. The fundamental question here is how to pursue examining the effects of TCFs in the realm of computer computations. To address this question, we look into the nature of the subject under study and the details of the design

implemented therein, which constitute the first and fundamental step of the present study. Needless to say, continuous refinement and development through the collaboration of other specialists is always required.

According to the literature, the Monte Carlo method is a powerful tool to investigate structural behaviors within random and statistical processes [8]. For instance, atmospheric phenomena, traffic in major city streets, light propagation in a medium, and many other physical events in our daily lives are inherently random. This randomness leads to statistical distributions that are based on many constituents. These constituents contribute to the collective behavior of a population and are influenced by numerous internal and external variables of a system. Perhaps, a more tangible interpretation of this randomness is its probabilistic nature, or what we can call 'stochastic essence'. Unlike deterministic phenomena that lead to certainty in the responses to problems ahead, in Monte Carlo and other statistically based methods, we estimate an answer from a probabilistic environment, and in other words, a response prediction takes place [9].

The nature of Monte Carlo problems and the statistical environments related to responses is similar to finding a needle in a haystack or, in other words, detecting a signal in a noise matrix. This framework provides conditions where a factor or a variable can significantly impact the estimated result in the expected statistical environment. For a better understanding of the difference between deterministic and probabilistic computations, let us have a look at the following example: When calculating the area of a circle with a known radius, one can precisely determine the result by using the known formula for calculating the area of a circle. However, if one were to compute the same circle area by randomly throwing tiny ink particles with an inkjet printer and performing calculations, the resulting outcome would always have some uncertainty that arises from the stochastic nature of the process involved in producing the final result.

With this explanation, we turn our attention to the design of the present study, in which computer-generated random numbers and computational programs have been used to calculate a specific number of questions with known answers (similar to the inkjet printing that computed the area of a circle with a known radius). Subsequently, by applying TCF1 and TCF2 and calculating the values in both TCF-exposed and control groups, we delve into examining distinct trends that are both consistent and replicable in the TCF-exposed samples.

In this study, the effects of TCF 1 and 2 are examined progressively and at different levels. At level 1, a distribution of pseudo-random numbers is generated. Level 2 includes mathematical computations in one, two, and three dimensions, using one, two, and three sets of random numbers, respectively. In this experimental design, in addition to the stochastic nature of the problem and its inherent uncertainty in computing the response, an added uncertainty has been introduced. This additional uncertainty involves using incremental sets of random numbers from one to three sets in various computations, ranging from one dimension to three dimensions. Furthermore, randomizing the initial seed for generating random numbers is done in a way that the seed is changed by the computer program and not by the user. In fact, the nature of the system in this study is stochastic, and all possible tools have been used to increase uncertainty or, in other words, the system error, to better observe and differentiate the potential impact of external, non-material, and non-energy factors of TCFs on a software or system information.

## 2- Methods

### 2-1 Applying T-Consciousness Fields

The samples used in this study were exposed to T-Consciousness Fields (TCFs), which are in line with the specified protocol mentioned on the website of CosmoIntel ([www.cosmointel.com](http://www.cosmointel.com)) under Research Management on T-Consciousness Fields. In order to use TCF, the request for *Etesal* (connection) to the cosmic

consciousness network should be submitted through the Cosmointel website and in the “Assign Announcement” section. This is a freely available opportunity for everyone. Researchers can register on this website anytime to experience TCF and conduct research in this area. Detailed information regarding an experiment needs to be provided to the research center. For example, the number and the name of samples and control groups must be specified. Studies in this issue were conducted in a double-blind manner, where lab technicians were completely unaware of TCFs theory, and the *Faradarmangar* at the Cosmointel research center, who establishes the consciousness bond, was unaware of the details of the study (except for the use of TCF2, which will be explained below).

The TCFs employed in the studies of this issue are TCF types 1 and 2. According to Taheri, the effect of TCF1 is to optimize the subject under study based on the laws of the ecosystem. To use TCF2, a specific request needs to be submitted based on the recognized rules from the relevant domain, and it will be done by the ‘announcer’.

In this study, the application of TCFs to the systems under study was carried out with a minimum interval of 24 hours to prevent potential interference of TCF effects. In other words, on each day and after concluding the study of that day, the system under study remained without any new announcements or further investigations for up to 24 hours, and on the next day, it was used for the next study.

Additionally, on each day of this study, after obtaining the information related to the control group, the data from the TCF1-exposed samples (called sample 1) were acquired first, followed immediately by obtaining the data from the TCF2-exposed samples (called sample 2). Therefore, the acquired data from the TCF1-exposed sample is independent, but the data from the TCF2-exposed sample is a combination of the effects of both TCFs applied during this project. According to the theory of TCFs, at the end of the data acquisition for the TCF1-exposed group, the functionality of this field does not

necessarily cease, and the impact of TCF2, used shortly after employing TCF1 (within the range of three to five minutes (due to the time required for program execution)) is added to it practically. Therefore, the data from applying TCF2 in these studies should be considered as combined data resulting from the effects of both fields.

## 2-2. Execution Method for the Computational Studies

Three stages were considered to investigate the impact of TCFs on Monte Carlo computations. Given that the cornerstone of Monte Carlo computations is random numbers, the first stage was to examine the effect of TCFs on generating random numbers within the range of zero to one. In the second stage, the effects of the TCFs on the results of simple mathematical computations (which were performed using random numbers) were studied. In the third stage, the influence of the successive stages in previous computations is compared under identical conditions and in between the control and the samples.

### 2-2-1. Examining the impact on random number generation

**A- Random Number Generation:** Recognizing that computer computations are influenced by the computer hardware, operating system, and the software used, two different computers—a laptop (LP) and a desktop (Desktop)—and two operating systems, Windows (W) and Linux (L), were employed for random number generation (details of the systems used are provided in the System Details section of the relevant study). Additionally, two programming languages, Fortran (F) and C++, were utilized. For this purpose, the desktop was equipped with Windows 7 and Kubuntu 16.04 operating systems, while the laptop had Windows 7 and Kubuntu 16.04 Linux. In Windows, Fortran, Microsoft Power Studio (Fortran 90), and Borland C++ coding programs were used. In Linux, software packages ‘gfortran’ and ‘gcc’ were employed for Fortran and C++, respectively. Overall, in this section of the study and as provided in Table 1, a total of eight combinations

of effective components in the calculation were developed, and each was used to generate 10000 random numbers between zero and one. These codes developed are provided in Appendix 1. The programs were configured to use random seeds, and with each run, a different set of random numbers was generated.

Table 1. Possible combinations of variable system components in this study: systems, operating systems, and programming languages.

	Linux		Windows	
	Fortran	C++	Fortran	C++
Desktop	1	2	3	4
Laptop	5	6	7	8

**B- Obtaining Sample and Control Data:** Before applying the TCFs, each program generated and stored 10 sets of 10000 random numbers. This first set of 100,000 elements is considered as the control population. Then, TCF1 and TCF2 were applied separately in two distinct stages. This means that the targeted system under study was labeled, and the operating system, together with the custom program name (specified for this study), were put under announcement (Nazar). As far as TCF2 is considered, the intention was to concentrate or centralize the data and reduce its entropy. This choice was made to observe the effect during the investigations.

For each type of TCFs, similar to the control, the program was executed 10 times, and it generated 10000 random numbers each time. Additionally, there were two types of sample populations, each containing 100,000 random numbers with conditions exactly similar to those generated in the control. As mentioned earlier, it is important to note that the numbers are, first of all, random. Second, their random seed is the same in each comparison between the control and TCF-treated samples and in accordance with a unified software program and system. In this section, after generating random numbers with the combinations mentioned in Table 1, the control and sample data were analyzed and compared.

### 2-2-2 Examining the Impacts on Mathematical Computations with a Variable Number Made of Random Number Sets and Variable Seed

In the next phase of the studies, simple mathematical calculations with a definite answer were selected to compare the Monte Carlo computations with known analytical results. Based on the results obtained from the previous section, the same Desktop computer equipped with the Linux Kubuntu 16.04 operating system and the C++ programming language were used for computations. The calculations were performed for one, two, and three dimensions, using one, two, and three sets of random numbers, respectively. This was to enable the comparisons between the different sets of random numbers. The codes developed for this purpose are provided in Appendices 2, 3, and 4.

#### A- Calculating the Integral with One Set of Random Numbers (One Dimension)

For one-dimensional calculations,  $\int_0^{\pi/2} \sin x dx$  is calculated using a set of 10000 random numbers. The analytical solution to this integral is 1. The program written for this purpose is provided in Appendix 2. The independent quantity x in the integral was randomly sampled 10000 times, using random numbers in the range of 0 to  $\pi/2$ . The program has been consecutively executed

100 times for the control data and data exposed to TCF1 and TCF2. Finally, the obtained results were analyzed.

### **B- Calculating the Area of a Rectangle with Two Sets of Random Numbers (Two Dimensions)**

For two-dimensional calculations, two sets of 10000 random numbers were used to calculate the area of a rectangle with the dimensions of 2 and 4 (see Appendix 3). One set of random numbers determines the length of the rectangle, and the other set determines the width. Both are randomly sampled in the ranges of 0 to 4 and 0 to 2, respectively (10000 times each). This program was also consecutively executed 100 times, with three repetitions for each of the control and the samples.

### **C- Calculating the Volume of a Rectangular Prism with Three Sets of Random Numbers (Three Dimensions)**

The volume of a rectangular prism with the dimensions of 2, 4, and 5 has been calculated (see Appendix 4). The length, width, and height were randomly sampled 10000 times within the ranges of 0 to 4, 0 to 2, and 0 to 5, respectively. The volume was then calculated accordingly. Similar to the previous two situations, this code was also consecutively executed 100 times, with three repetitions for each of the control and TCF-treated samples, followed by statistical analyses of the results.

## **References**

1. Taheri, M. A., Payervand, F., Ahmadkhanlou, F., Torabi, S., & Semsarha, F. (2022). The Distinction of Taheri Consciousness Fields from Conventional Physical Fields: Evaluating the Magnetic Properties of Materials. *Journal of Cosmointel*, 1(4), 8–19.
2. 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 3955533.
3. Taheri, M. A., Payervand, F., Ahmadkhanlou, F., & Semsarha, F. (2022). The Theory of the Existence of the "Mental Body in Matter" Based on the Experimental Laboratory Results and Taheri Consciousness Fields. *Journal of Cosmointel*, 1(4), 20–31.

### **2-2-3 Calculating Entropy**

In all the mentioned stages, after obtaining the populations for the control, TCF1, and TCF2 samples, the frequencies of the corresponding elements were analyzed through binning and determining a specific distance. This was to determine the frequency of the numbers in each interval (and in each comparison between samples and controls). The purpose of this stage was initially to plot and compare the histograms of the random numbers and calculated values, which were generated in the control and TCF-treated samples. Subsequently, by obtaining the distributions, the entropy of each distribution was calculated using the Shannon formula [10]:

$$(1) \quad S = -\sum p_i \ln p_i$$

In this equation,  $p_i = \frac{n_i}{10000}$ , and it is the probability of a random number being in the  $i$ -th interval, and  $n_i$  is the number of random numbers in this interval.

## **3- Data Analysis**

Descriptive statistics, frequency analysis, normality tests, and graph plotting were performed using GraphPad Prism version 9. Entropy calculations were also performed by using SPSS version 28.

4. Taheri, M. A., Mahdavi, M., Afsartala, Z., Amani, L., & Semsarha, F. (2022). The Influence of Faradarmani Consciousness Field on the Survival and Death of MCF-7 Breast Cancer Cells: An Optimization Perspective. *Journal of CosmoIntel*, 1(6), 8–21.
5. Taheri, M. A., Moslehi, A., Payervand, F., Ahmadkhanlou, F., & Semsarha, F. (2023). Interpopulation Analysis of Function of Taheri Consciousness Fields in the Thermoluminescence Process. *The Scientific Journal of CosmoIntel*, 2(11), 29–32. <https://doi.org/10.61450/joci.v2i11.160>
6. Taheri, M. A. (2013). *Human from Another Outlook*. Interuniversal Press. 2nd Edition. ISBN-13: 9781939507006-, ISBN-10: 1939507006 2013.
7. 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*.
8. Barbu A, Zhu S-C (2020) Introduction to Monte Carlo methods. In: Barbu A, Zhu S-C (eds) Monte Carlo methods. *Springer*, Singapore, pp 1–17.
9. Metropolis, N. (1987). The beginning of the Monte Carlo method. *Los Alamos Science* 15 (Special issue): 125–130.
10. C. E. Shannon. (1948). A mathematical theory of communication, *The Bell Sys. Tech. J.*, 27, 379.

# Effectiveness of T-Consciousness Fields on Dispersion Index and Entropy of Generated Random Number Distributions

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## Abstract

The effectiveness of T-Consciousness Fields (TCFs) on matter and energy and their subdivisions has been previously examined in various studies. The impact of these fields in the context of computer computations introduces a novel area of research. To initiate, the generation of random numbers using Monte Carlo computations has been selected for investigations, as these computations are fundamental and essential in such simulations. Random numbers generated by different computer programs are pseudo-random and use a defined mathematical formula. Such numbers create a distribution that depends on the initially chosen random number, which can also be random itself. The uniformity of the distributions can be slightly changed by minor hardware and software details of the generating system. In this study, random numbers are generated in different hardware systems (desktop and laptop) and various software environments (Linux and Windows operating systems, C++ and Fortran programming languages). The corresponding distributions were exposed to TCF1 and TCF2, to examine the impact of such non-physical fields on the most fundamental level of Monte Carlo computations and the generation of random numbers. Based on the results obtained, it can be concluded that TCFs influence computer computations and the generation of random numbers (manifested in different values and forms). The results show a change in the mean and median parameters of the populations exposed to TCFs, with a tendency towards values less than 0.5 (for random numbers generated between zero and one), indicating a change in the distribution of the generated numbers. This susceptibility was observed to be more favorable in the desktop system, Linux operating system, and C++ programming language, with a more repeatable trend than the mentioned indicators under investigation, compared to the laptop system used.

**Keywords:** T-Consciousness Fields, Random Numbers, Distribution, Monte Carlo

## Introduction

At the core of the Monte Carlo method, which is used in computational simulations, random number generators reside [1]. These random number generators in non-quantum computational spaces are entirely pseudo-random, in the sense that they use a specific mathematical formula to generate random numbers. This formula can arbitrarily use a previously generated random number to produce a new random number. While appearing pseudo-random, this follows a known formulation and creates an expected range of changes in the sample space of random numbers and computational results.

In various programs where Monte Carlo computations are used, there is always an effort to address factors that could negatively affect the level of randomness and, consequently, the desired output of the system [2]. The range of fluctuations and variations in generating random numbers using Monte Carlo computations provides a platform for tracking any factor that can influence these fluctuations. Constraints on the cache memory size, the temperature of a computer system, or even minor alterations in the circuits supplying electricity to computational components or other electronic components are some examples of the factors that can influence these fluctuations. Although these changes may fall within the margins accepted for calculation errors, they are still identifiable by examining the repeatable trend and somewhat signal-like behavior in the increasingly random and stochastic background.

## Method

To generate random numbers, two different computers were used: a laptop (LP) and a desktop (D) computer, together with two operating systems: Windows (W) and Linux (L). In addition, two programming languages, Fortran (F) and C++, were employed (further details are provided in the Methods section 1-2-2).

- Laptop hardware specifications - CPU: Intel(R) Core(TM) i5, 2.67 GHz; RAM: 4.00 GB. L1/L2 Cache: 512 kB/3 MB
- Desktop hardware specifications - CPU: Intel(R) Core(TM) i7-4770, 3.40 GHz; RAM: 16.00 GB. L1/L2 Cache: 1 MB/8 MB

In this study, the mean and median values obtained from the actual distribution of randomly generated numbers were compared across different categories. The comparisons were performed for 10 repetitions in each group of study, using an equal binning of 0.05. The entropy of the obtained distributions was also compared under similar binning conditions. The comparisons were made for three groups (Control, TCF1, TCF2) and for the two utilized systems (D and LP), wherein the four defined combinations of Linux and C++ language (LC), Linux and Fortran language (LF), Windows and C++ language (WC), Windows and Fortran language (WF) were considered. For comprehensive data analysis, color-coded 2D contour plots were generated in the two modes of absolute and normalized, and for all the eight categories (4 D and 4 LP categories)

## Results

### Desktop (D)

In this section, the values of the random numbers generated by system D on two different operating systems and two different software programs are investigated. Figure 1 shows the color-coded 2D contour plots of the mean, median, and Shannon Entropy values for the randomly generated numbers in system D. As can be seen, there are some differences in the mean and median of the generated values when comparing the control and the samples, and when comparing the defined combinations of LC, LF, WC, and WF. The mean and median parameters for sample 1 and sample 2 show an overall decreasing trend towards values less than 0.5 with respect to the control. However, for the LF in sample 2, a contrary behavior to this trend can be observed. As far as Shannon entropy is

considered, a decreasing trend is seen, with the exception of WC combination in sample 2.

### Laptop (LP)

Figure 2 shows the obtained results for the laptop system (LP). A decreasing trend in the mean values from control to sample 1 can be observed. However, there is no significant

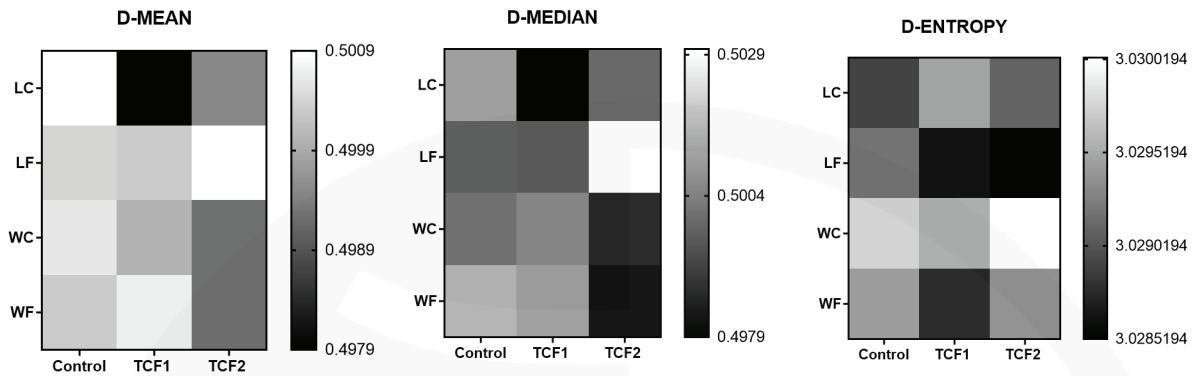


Figure 1 - Investigating changes in the mean and median of the population of random numbers generated in comparison between control and samples in various study states in the Desktop system, along with the comparison of Shannon entropy across the whole range.

WF:Windows-Fortran- - LF: Linux-Fortran- WC: Windows-C++ LC: Linux-C++

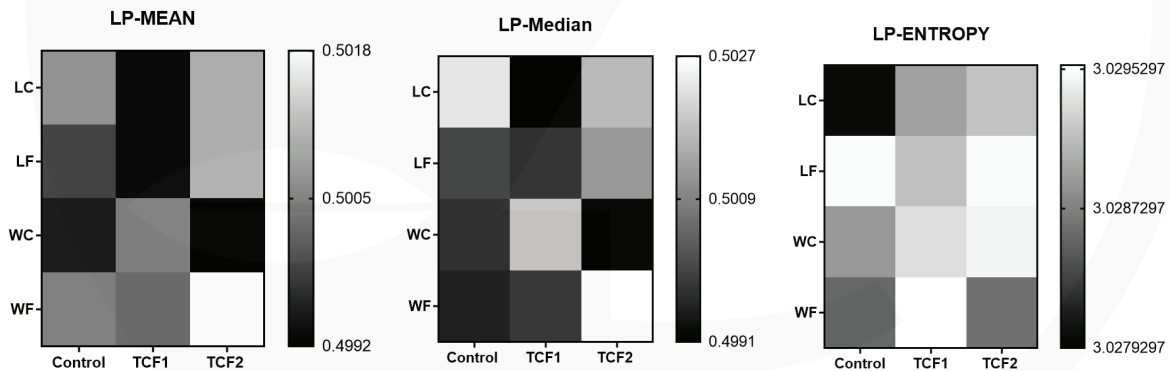


Figure 2 - Investigating changes in the mean and median of the population of random numbers generated in comparison between control and samples in various study states in the laptop system, along with comparison of Shannon entropy across the whole range.

WF:Windows-Fortran- - LF: Linux-Fortran- WC: Windows-C++ LC: Linux-C++

difference between the median value of sample 1 and that of the control. As far as sample 2 is considered, the changes in the median and mean values show different responses, depending on the scenario, and do not follow a specific trend. Regarding the Shannon entropy, a relative increase in the values across the populations

of different categories can be observed (as compared to the control), which is in contrast with the response of system D.

## Conclusions

The results of this study demonstrate an overall shift in the median and mean parameters of the samples towards values less than 0.5, indicating a change in the distribution of the randomly generated numbers. This conclusion, which is evident in the 2D contour plots, is observed in both of the studied systems and the corresponding data derived from each operating system and the software programs used. While variations in values within populations are present, the predominantly observed trend follows the aforementioned pattern (tendency to values less than 0.5). The results obtained

from this section highlight that the populations of randomly generated numbers are susceptible to the application of T-Consciousness fields. Among the different studied cases, the susceptibility observed in the desktop system, Linux OS, and C++ programming language was more consistent than in the laptop system. Based on the factors investigated, this behavior was more favorable.

In the following sections, the study is being continued using the same desktop system and operating systems as well as the same software program.

## References

1. Gentle, J. E. (2003). Simulating Random Numbers from a Uniform Distribution. In: Random Number Generation and Monte Carlo Methods. Statistics and Computing. Springer, New York, NY. [https://doi.org/10.1007/0-387-21610-3\\_1](https://doi.org/10.1007/0-387-21610-3_1).
2. Monahan, J. F. (1985). Accuracy in Random Number Generation. *Mathematics of Computation*, 45(172), 559–568. <https://doi.org/10.2307/2008146>.

# The Impact of T-Consciousness Fields on One-Dimensional Monte Carlo Computations (Integral)

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## Abstract

The impact of T-Consciousness Fields (TCFs) on Monte-Carlo computations was initially investigated through the patterns obtained from the distribution of random values that were generated by different hardware and software combinations. In this section, we show the effect of TCF1 and TCF2 on the calculations performed for one-dimensional integral problems, where generated values are in the range of zero to one. This is, in fact, one application of the distribution of generated random numbers by which a specific integral in one dimension can be computed. This level of initial progress in the test paved the way for examining the effect of the previous study at a more advanced level. The results show an evident impact of TCF1 on the performed calculations, with an increase of approximately 2% in values close to the analytically predicted solution. Moreover, the total entropy of the interval for sample 1 and sample 2 increased by approximately 3% compared to that of the control.

**Keywords:** T-Consciousness Fields, Random Numbers, Monte Carlo, Integral

## Introduction

The theory of T-Consciousness Fields (TCFs) was proposed by Mohammad Ali Taheri over four decades ago [1]. In recent years, extensive studies have been performed to verify and investigate the effect of such fields on living and non-living entities [2-3]. Monte Carlo simulations and random number generations are other interesting areas where one can study the impact of TCFs. This simulation method is based on random sampling and encompasses a set of computational techniques for solving mathematical problems, often in an approximate manner. It has been used in a wide range of fields, including mathematics, physics, biology, engineering, and finance, where finding an analytical solution is highly time-consuming. Since its introduction, Monte Carlo simulation helped in assessing the probability of different outcomes and risk management in many real-life scenarios, such as artificial intelligence (AI), stock prices, sales forecasting, weather prediction, project management, pricing, etc. [4]. This study is based on approximate integral calculations using sets of random numbers generated using Monte Carlo simulations.

## Method

As previously mentioned in section 2-2-2 of the ‘Common Considerations’, one-dimensional integral has been calculated using a set of random numbers. At first, a descriptive analysis of all the values obtained was conducted for the control and the two samples. Then, with binning at 0.002 intervals, the distribution of the values for each category was built and compared with each other.

## Results and Conclusions

In this study, one-dimensional integral calculations, performed by generating a series of random numbers, were compared in control and sample groups. Initially, a descriptive statistical analysis of the values in the studied groups was conducted, which is shown in Table 1. Here, the rows highlighted in cyan represent central tendency measures. Considering the proximity of the values and the standard error of the mean, significant changes cannot be observed upon the exposure of the generated random numbers to TCF1 and TCF2. The box plot provided in Figure 1 illustrates the drift of all the computed values from the analytical value.

Table 1 - Descriptive analysis of integral calculations in samples and controls

	Control	TCF1	TCF2
Number of values	100	100	100
Minimum	0.989	0.984	0.989
25% Percentile	0.995	0.996	0.996
<b>Median</b>	<b>0.999</b>	<b>1.000</b>	<b>0.999</b>
75% Percentile	1.000	1.000	1.000
Maximum	1.010	1.010	1.010
Range	0.023	0.024	0.024
Actual confidence level	96.5%	95.6%	96.5%
Lower confidence limit	0.998	0.999	0.998
Upper confidence limit	1.000	1.000	1.000
<b>Mean</b>	<b>0.999</b>	<b>0.999</b>	<b>1.000</b>
Std. Deviation	0.004	0.005	0.005
Lower 95% CI of mean	0.998	0.998	0.999
Upper 95% CI of mean	1.000	1.000	1.000
+1 Sigma (round 0.1) of Mean	1.000	1.000	1.000
-1 Sigma (round 0.1) of Mean	1.000	1.000	1.000

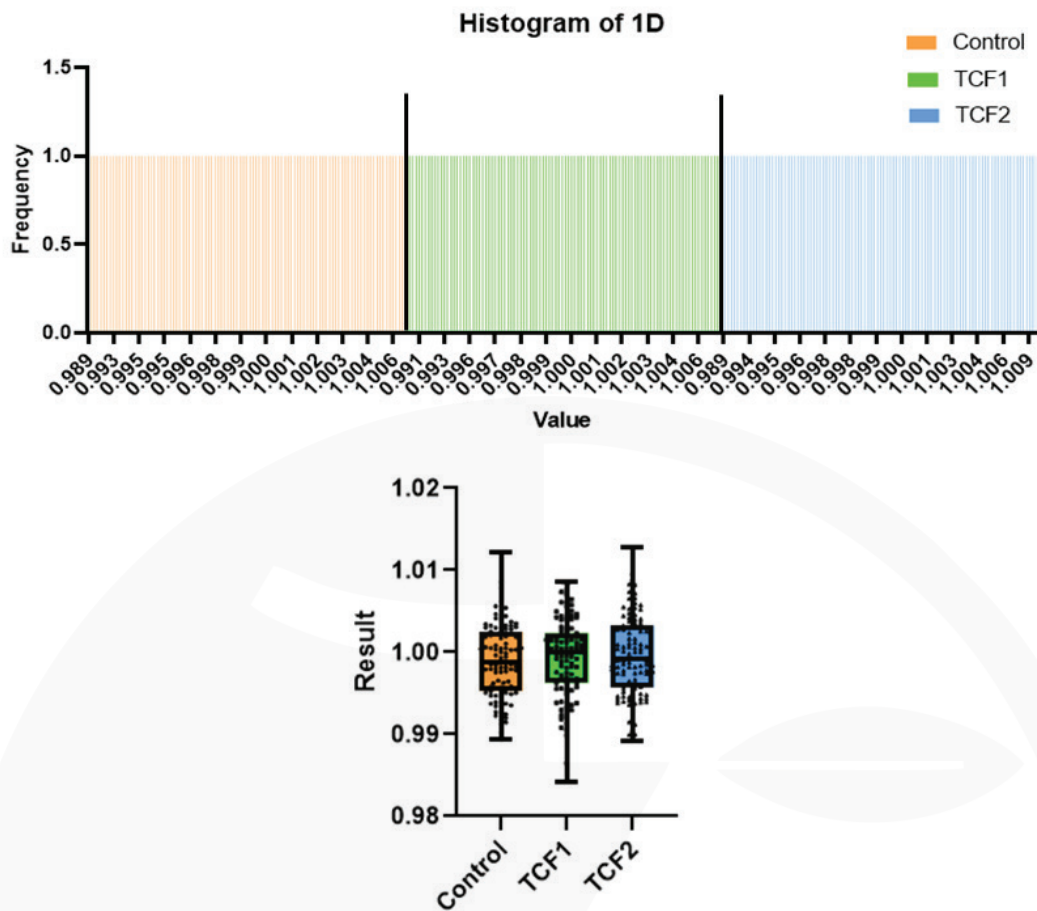


Figure 1. Histogram of all generated values (top) along with boxplot analysis of generated values (bottom).

A histogram of all the computed values in one dimension and their drifts from the analytical values are provided in Figure 1 (top and bottom), respectively. As can be seen in the top plot, the frequency of all the generated values within the selected range is equal to 1 for sample 1 and

sample 2, as well as the control. The boxplot analysis of sample 1 and sample 2 (provided at the bottom figure) shows an overall drift towards higher values compared to the control. For sample 2, an upward trend in the boxplot of the data is evident.

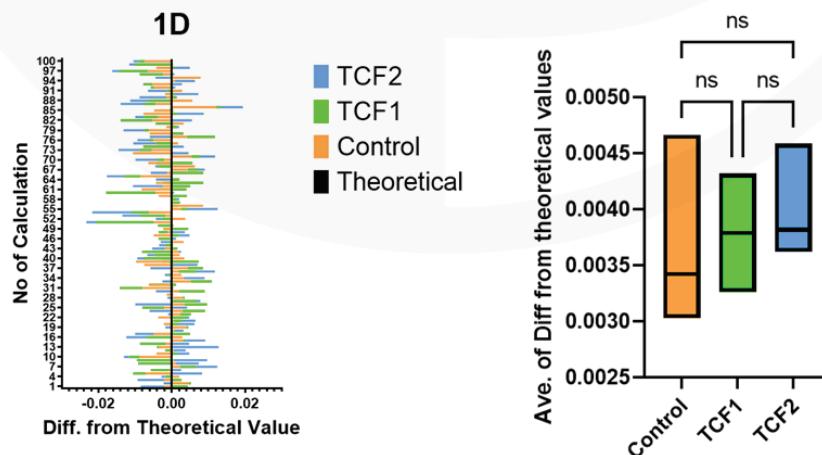


Figure 2. Illustrates a comparative display of the difference values between the calculated and analytical values in the control and samples in 100 rounds of calculations (the zero line indicates equivalence with the analytical value and zero difference). Additionally, it includes a boxplot analysis of the average uncertainty calculation in the control and samples with over three repetitions each.

In Figure 2 (left), a comparative display of the difference between the calculated and analytical values for the samples and the control group is provided. As can be seen, this drift varies in magnitude and distribution but remains within the range of non-significant (ns) difference (as observed with over three repetitions of each). Furthermore, the range of uncertainty variation (the difference between the calculated value and the analytical value) is lower in both samples than in the control group.

In Table 2, the frequencies of the generated numbers for selected intervals (bins) are

compared between the control and the samples. In the first column, the analytical value is highlighted in blue. For calculating the nearest interval frequencies (with respect to the analytical value), one interval less and one interval more on both sides of the analytical value are color-coded. Furthermore, the total frequency of the calculated values in this range is calculated and mentioned at the bottom of Table 2. Regarding entropy, the Shannon entropy value for the entire range of values is calculated according to the equation provided in the ‘common considerations’ section (section 2-2-3).

Table 2 - Data categorized in the one-dimensional calculation test along with the calculation of the shannon entropy for the entire interval; the value specified in column 1 is the expected analytical value.

Bin Center	Control	TCF1	TCF2
0.984	0	1	0
0.986	0	1	0
0.988	0	0	0
0.990	2	3	5
0.992	8	7	2
0.994	10	6	15
0.996	14	12	7
0.998	17	11	20
1.000	15	19	16
1.002	14	18	9
1.004	13	10	11
1.006	4	6	8
1.008	2	5	5
1.010	0	0	1
1.012	1	0	1
Entropy	2.16	2.22	2.22
The percentage of calculation output in the closest intervals to the analytical value	46%	48%	45%

In Table 2, by categorizing the calculated numbers into different intervals and counting their occurrences in each interval, the frequencies of the estimated numbers in the control and the samples have been obtained. Since the expected analytical value in this study was determined to be 1, a special interval centered around 1 and its nearest intervals on both sides (highlighted rows) are considered as the closest regions to the expected answer. The frequency of the estimated numbers in this range (relative to the total calculations) is presented as the occurrence

or count in the nearest region and is listed in the last row. As can be seen, the impact of TCF1 is evident, showing an increase of approximately 2% in the nearest range and being consistent with the analytical solution. Additionally, the overall entropy of the interval for both samples increased by about 3%, as compared to the control.

Further investigations related to the impact of TCFs on more complex computational scenarios are covered in the following sections.

## References

1. Taheri, M. A. (2013). *Human from Another Outlook*. Interuniversal Press. 2<sup>nd</sup> Edition. ISBN-13: 9781939507006-, ISBN-10: 1939507006 2013.
2. Taheri, M. A., Payervand, F., Ahmadkhanlou, F., Torabi, S., & Semsarha, F. (2022). The Effect of Taheri Consciousness Fields on the ATP Production in HEK-293 Cell Line by Measuring Luciferase Activity. *Journal of Cosmointel*, 1(9), 3455-.
3. 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. *Research Square*. DOI: 10.21203/rs.3.rs-618789/v3. [https://assets-eu.researchsquare.com/files/rs-618789/v3\\_covered.pdf?c=1631875952](https://assets-eu.researchsquare.com/files/rs-618789/v3_covered.pdf?c=1631875952)
4. Johansen, A. M. (2010). Monte Carlo Methods. International encyclopedia of education, *Elsevier* 296-303.

# Impact of T-Consciousness Fields on Two-Dimensional Monte Carlo Simulations (Surface)

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## Abstract

Following the previous computations and assessments of the impact of T-Consciousness Fields (TCFs) on one-dimensional calculations, this study takes a step further and utilizes two series of random numbers to estimate the area of a rectangle. Such a complexity provides an opportunity to further elucidate the potential effects of TCFs, namely, the frequency of the calculated values, which are different in sample 1 and sample 2, unlike the previous study. The results, which are based on the values aligned the most to the desired answer, show that sample 2 and control have a significant difference of at least 9% with respect to sample 1. Furthermore, the Shannon entropy value in both samples is higher than that of the control. For sample 2, this parameter is approximately 2% higher than the control.

**Keywords:** T-Consciousness Fields, Random Numbers, Monte Carlo, Area Calculation.

## Introduction

Monte Carlo methods are inherently probabilistic simulations [1] and are based on simulated random numbers, whereby certain parameters of a probability distribution can be estimated. When a problem is formulated with components that can be described as a function of a random variable, it can be solved by estimating an expected value using simulated sampling that is built from the distribution of the random variable [2]. Such a capability is utilized in this study to investigate the impact of T-Consciousness Fields (TCFs) on two-dimensional computations.

## Method

In this section of the study, calculations are performed using a program that computes a specific area. The analytical value of this area is equal to eight (for more details, see section 2-2-

2 of the common considerations). Additionally, a descriptive analysis of all the obtained values from the area calculations is performed for the control, sample 1, and sample 2. Then, with a binning of 0.02, the related distributions are obtained and compared to assess the difference between the samples and the control.

## Results and Conclusions

Table 1 represents a descriptive statistical analysis of the control and the samples, with median and mean values highlighted in cyan.

Table 1 - Descriptive analysis of calculated values for area in the control and samples

	Control	TCF1	TCF2
Number of values	100	100	100
Minimum	7.809	7.826	7.846
25% Percentile	7.952	7.928	7.936
<b>Median</b>	<b>7.991</b>	<b>7.980</b>	<b>7.999</b>
75% Percentile	8.035	8.034	8.040
Maximum	8.155	8.165	8.169
Range	0.346	0.339	0.323
Actual confidence level	96.48%	96.48%	96.48%
Lower confidence limit	7.971	7.959	7.983
Upper confidence limit	8.011	8.009	8.014
<b>Mean</b>	<b>7.995</b>	<b>7.981</b>	<b>7.993</b>
Std. Deviation	0.070	0.067	0.069
Std. Error of Mean	0.007	0.007	0.007
Lower 95% CI of mean	7.981	7.967	7.979
Upper 95% CI of mean	8.009	7.994	8.006
+1 Sigma (round 0.1) of Mean	8.1	8.0	8.1
-1 Sigma (round 0.1) of Mean	7.9	7.9	7.9

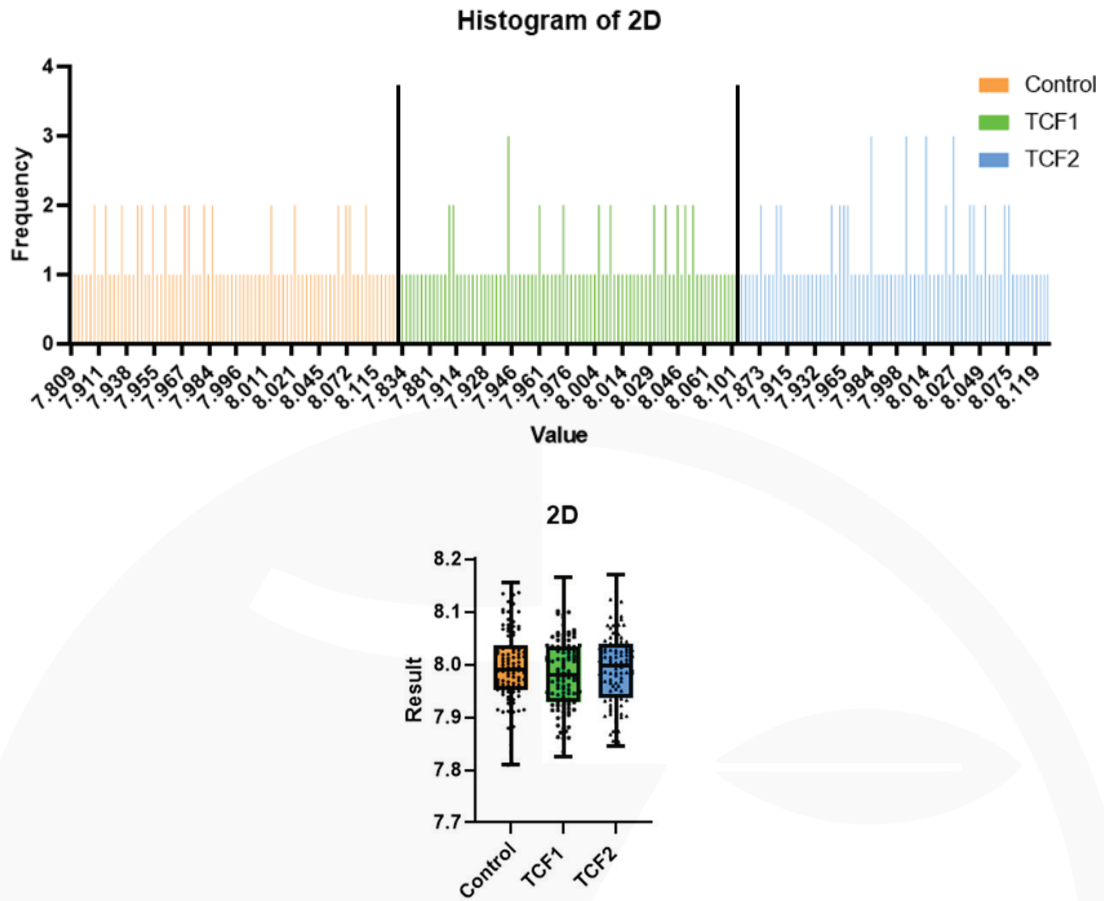


Figure 1. Histogram of all generated values (top) with box plot analysis of generated values (bottom).

The distribution of all the generated values, the drift of the calculated values with respect to the theoretical value, and the box plots of the output data for all the studied cases are provided in

Figure 2. As can be seen from the right plot, the median of sample 2 is noticeably different. In addition, the closest mean to the analytical value belongs to the control.

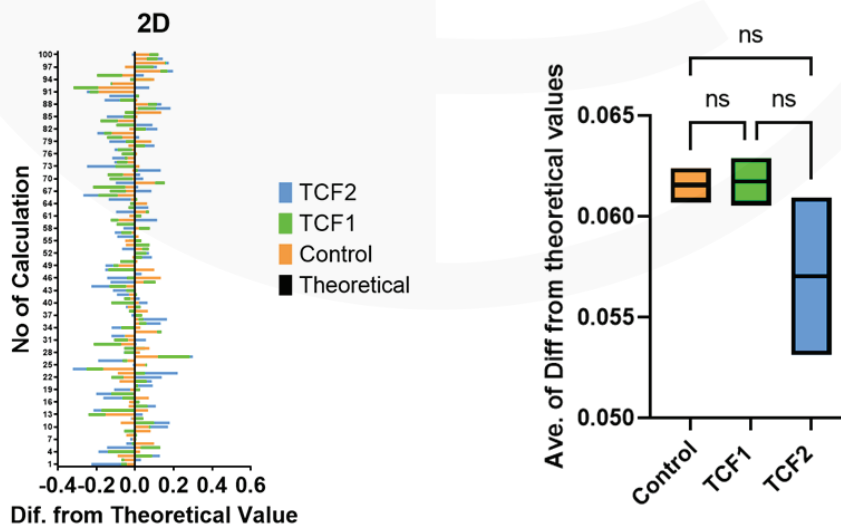


Figure 2 - (Left) Display of comparisons of the difference values between calculated and analytical values in control and samples over 100 calculation runs. The zero line represents the calculation equivalent to the analytical value, and the difference is zero. (Right) Box plot analysis of the average calculation uncertainty (average distance from the analytical value) in control and samples over three repetitions of each.

In sample 2, the average uncertainty values (average distance from the analytical value) also tend to lean towards lower values, although the difference between the two samples and the control is not significant.

Table 2 represents the frequency of the calculated values in different intervals (bins) for the control, sample 1, and sample 2. Here, the analytical value (the area magnitude) is highlighted in blue and in the first column. In addition, because the frequencies are calculated in the nearest intervals with respect

to the analytical value, one interval less and one interval more on both sides of the analytical value are highlighted. The overall frequency of the calculated values in this range is also calculated and provided at the bottom of the table. In the entropy row, the Shannon entropy value is calculated according to the equation provided in the common consideration section, for the entire range of values in Table 2.

Table 2 - The data categorized in the two-dimensional calculation test along with the calculation of the total Shannon entropy for the interval; the specified value in column 1 is the expected analytical value.

Bin Center	Control	TCF1	TCF2
7.80	1	0	0
7.82	1	1	0
7.84	2	1	1
7.86	0	3	4
7.88	2	5	2
7.90	0	3	7
7.92	9	13	7
7.94	9	10	5
7.96	14	10	9
7.98	12	7	11
8.00	10	10	12
8.02	15	10	15
8.04	2	10	7
8.06	7	10	6
8.08	6	2	8
8.10	4	4	1
8.12	2	0	3
8.14	3	0	1
8.16	1	1	1
<b>Entropy</b>	2.52	2.54	2.57
The percentage of calculation output in the closest intervals to the analytical	37%	27%	38%

In Table 2, by categorizing the calculated numbers into different intervals, the frequencies of the estimated numbers in the control and the samples were obtained. Since the expected analytical value specified in this study is eight, the interval with the binning center of eight and the closest intervals to it (highlighted rows in

Table 2) are considered the nearest regions to the expected answer. The frequency of the estimated numbers within this range and relative to the total calculations is reported as the occurrence or the counts in the nearest regions. This is shown in the last row of Table 2. As evident, sample 2 and the control exhibit a significant difference

of at least 9% in the interval. These two studied cases also show the highest agreement with the desired answer, as compared to sample 1. Lastly, the Shannon entropy value for both samples is higher than that of the control. In sample 2, this parameter is approximately 2% higher than in the control.

## References

1. Barbu, A., Zhu, S. C. (2020). Introduction to Monte Carlo Methods. In: Monte Carlo Methods. *Springer*, Singapore. [https://doi.org/10.1007/978-981-13-2971-5\\_1](https://doi.org/10.1007/978-981-13-2971-5_1)
2. Barbu, A., Zhu, SC. (2020). Data Driven Markov Chain Monte Carlo. In: Monte Carlo Methods. *Springer*, Singapore. [https://doi.org/10.1007/978-981-13-2971-5\\_8](https://doi.org/10.1007/978-981-13-2971-5_8)

# Impact of T-Consciousness Fields on Three-Dimensional Monte Carlo Calculations (Volume)

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## Abstract

In the previous computational studies of this issue, the impact of T-Consciousness Fields (TCFs) on the generation of random numbers and Monte Carlo calculations in one- and two-dimensions have been investigated. Based on the results obtained, it was expected that generating three sets of random numbers for calculating the volume of a rectangular prism (three-dimensional calculation) in this third phase of the studies would lead to a clearer response. In other words, the impact of the TCFs on the three sets of random numbers created a more significant effect on the output of the designed experiment. The results confirmed the initial hypothesis test, as the TCF2 exposure led to a meaningful reduction ( $p$ -value  $< 0.05$ ) in the calculated distance from the analytical value (computational uncertainty) and increased the expected hits by 4% near the analytical value. The TCF2 exposure also reduced the entropy value of the distribution by 10%, with respect to the control. These responses to TCF2 are more significant in three-dimensional calculations than in two- or one-dimensional calculations.

**Keywords:** T-Consciousness Fields, Random Numbers, Monte Carlo, Volume Calculation, Uncertainty

## Introduction

The Monte Carlo method is a statistical technique that employs randomly generated numbers as the input for generating a wide range of solutions and hence, understanding complex physical or mathematical systems. By increasing the number of experiments in this method, the probability of the solutions derived can be determined with a higher degree of accuracy. The Monte Carlo method has applications in a wide range of areas, including mathematics, physics, biology, engineering, and finance, where finding an analytical solution would be very time-consuming. The Monte Carlo method can be compared with deterministic methods, which are based on solving transport equations and/or molecular dynamics[1]. Common Monte Carlo computational programs such as SRIM, PENELOPE, MCNP, FLUKA, and GEANT4 are used to simulate complex processes, namely, particle penetration into matter[2]. In this study, we investigate the effects of TCFs on the higher level of Monte Carlo computations.

## Method

Calculations in this study are related to a specific volume, and it is performed with three series of randomly generated data. The analytical value for the volume is 40. For more details, see section 2-2-2 of the common considerations. Initially, a descriptive analysis was performed on all the values obtained from the volume in the control and the two samples. Then, with a binning width of 0.2, the distribution of the acquired data was obtained. Finally, the changes in the calculated volume, as well as the entropy values, were compared for the samples and the control.

## Results and Conclusions

Table 1 provides an overview of the statistical parameters derived from calculating the volume in all the studied groups. As can be seen, the average tendency towards the expected analytical value is higher for sample 2 than for sample 1 and the control.

Furthermore, in the box plot provided in Figure 1 (bottom), a decrease is evident in the range of variations for the values derived from sample 2 compared to sample 1 and the control.

Table 1 - Descriptive analysis of calculated volume values in samples and control

	Control	TCF1	TCF2
Number of values	100	100	100
Minimum	38.874	38.832	38.802
25% Percentile	39.522	39.443	39.709
<b>Median</b>	<b>39.935</b>	<b>39.907</b>	<b>39.931</b>
75% Percentile	40.254	40.141	40.293
Maximum	41.199	41.281	40.993
Range	2.325	2.449	2.191
Actual confidence level	96.480%	96.480%	96.480%
Lower confidence limit	39.782	39.810	39.879
Upper confidence limit	40.065	40.031	40.098
<b>Mean</b>	<b>39.940</b>	<b>39.873</b>	<b>39.977</b>
Std. Deviation	0.497	0.508	0.409
Std. Error of Mean	0.050	0.051	0.0409
Lower 95% CI of mean	39.841	39.772	39.896
Upper 95% CI of mean	40.038	39.974	40.059
+1 Sigma (round 0.1) of Mean	40.4	40.4	40.4
-1 Sigma (round 0.1) of Mean	39.4	39.4	39.6

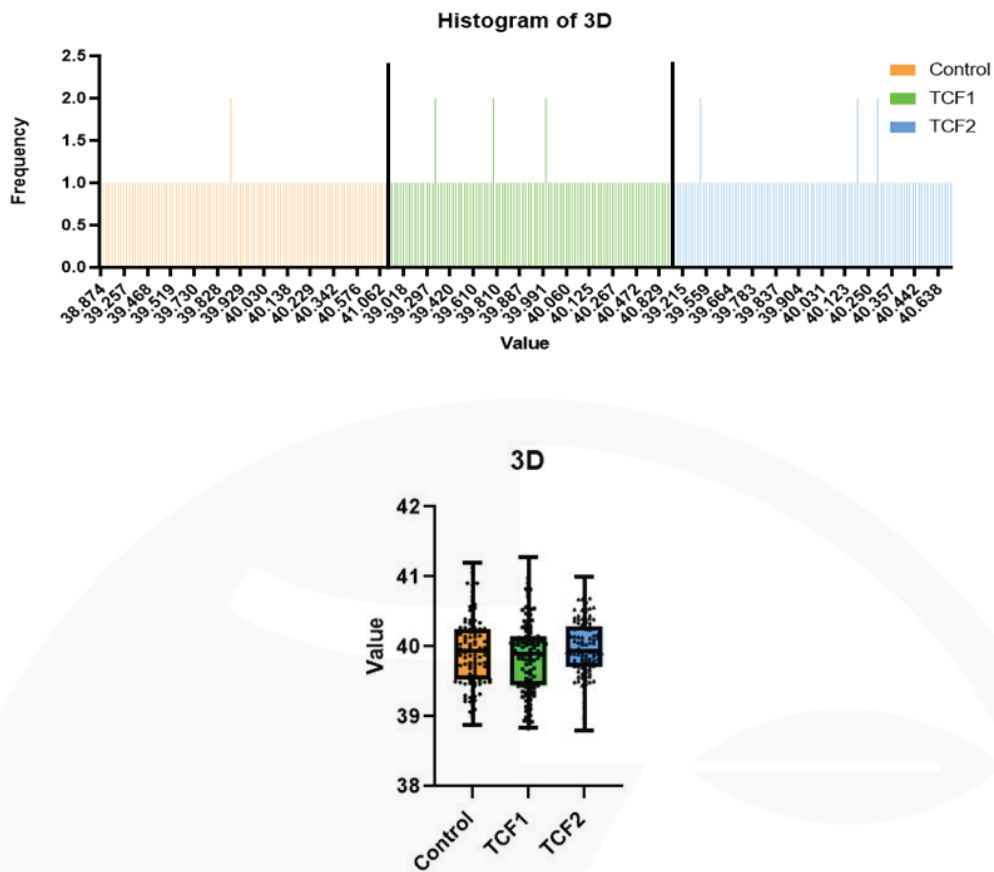


Figure 1 - Histogram of all generated values (top) along with box plot analysis of the generated values (bottom)

Based on the histogram provided in Figure 1 (top), there is an evident change in the frequency of the generated values in some intervals for the samples, as compared with the control group.

The drifts of the calculated values from the analytical value are compared between the samples and the control in Figure 2 (left).

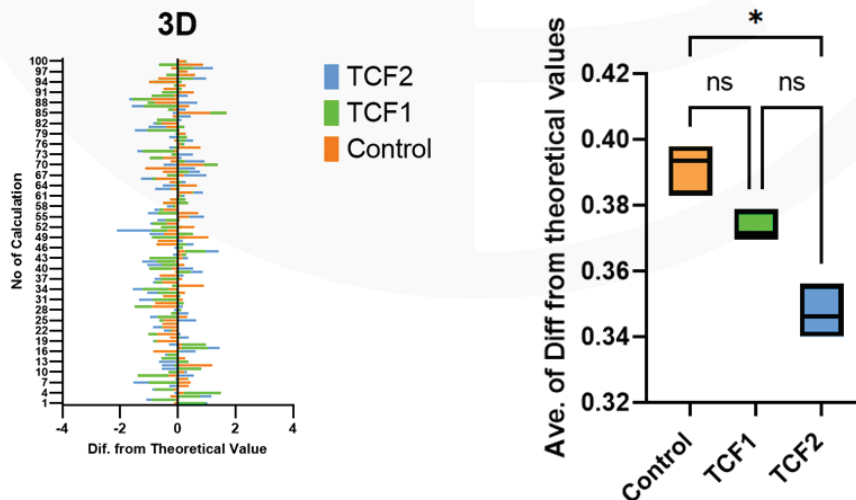


Figure 2 - (Left): Displaying comparisons of the difference between the calculated and analytical values in the control and samples for 100 calculation iterations. The zero line represents the calculation equivalent to the analytical value and the zero difference. (Right): Box plot analysis of the average uncertainty in the calculation for the control and samples in three repetitions for each.

Based on Figure 2 (left), the average calculation uncertainty between sample 2 and the control shows a significant decrease of approximately 12%. On the other hand, the uncertainty between sample 1 and control is not statistically significant. This is also true for the uncertainty between sample 1 and sample 2.

Table 2 represents the frequency of the calculated values in different intervals (bins) for the control and TCF-treated samples. The analytical value of the volume is highlighted in blue and in the first

column. Additionally, because the frequencies are calculated from the intervals that are the nearest to the analytical value, one smaller interval and one larger interval on both sides of the analytical value are also highlighted. The overall frequency of the calculated values in this range is calculated and provided at the bottom of Table 2. In the entropy row, the Shannon entropy value for the entire range of the values is calculated according to the equation mentioned in the common considerations section.

Table 2 - Data categorized in the three-dimensional calculation test along with the calculation of the overall Shannon entropy; the value specified in column 1 is the expected analytical value.

Bin Center	Control	TCF1	TCF2
38.80	1	1	1
39.00	3	6	2
39.20	7	7	2
39.40	11	13	5
39.60	9	8	13
39.80	16	14	21
40.00	16	23	17
40.20	17	11	15
40.40	7	6	13
40.60	5	4	10
40.80	3	4	0
41.00	3	2	1
41.20	2	1	0
Entropy	2.31	2.27	2.07
The percentage of calculation output in the closest intervals to the analytical	49%	48%	53%

In Table 2, by classifying the calculated numbers into different bins and calculating their frequencies in each bin, the approximate frequency of the numbers estimated in the control and TCF-treated samples has been obtained. Since the expected analytical value in this study is 40, the bin with the central value of 40, together with the closest bins on both sides (highlighted rows in the table), are considered the nearest range to the expected answer. Furthermore, the frequency of the estimated numbers within this range and relative to the total calculations is reported as the occurrence

or hits in the closest range. This is shown in the last row of Table 2. As evident, the minimum distance from the calculated values belongs to sample 2, with a difference of at least 4% from sample 1 and the control. The entropy of the distribution of sample 2 is also approximately 10% lower than that of the control.

## References

1. Britannica, T. Editors of Encyclopaedia (2024). *Monte Carlo method*. *Encyclopedia Britannica*. <https://www.britannica.com/science/Monte-Carlo-method>
2. Novikov, N. V. (2023). Monte Carlo Computer Simulation Method for Solving the Problem of Particle Passage Through Matter. *J. Surf. Investig.* 17, 712–723. <https://doi.org/10.1134/S1027451023030291>



## Discussions and Conclusions of the Studies in this Issue

In the studies provided, the generation of random numbers and the corresponding calculations, together with full process randomization (including the initial seed randomization), provided a platform to trace the probabilistic variations in the obtained results when exposed to T-Consciousness Fields (TCFs). Such variations manifested themselves as changes in the trend or distribution of events and the corresponding calculations.

An important and noteworthy point in the data obtained from this study is that at this level of accuracy and repeatability in randomly generated numbers, for example, in the range of zero and one (10000 numbers) or in terms of repetitions in the calculations (100 iterations), one should not expect results with significance levels lower than 0.05. What is considered a signal within noise is the probabilistic observable trends in the data population. Therefore, in the studies provided, by analyzing the trends and determining the dispersion and centrality indices of the data, together with assessing the conformity of the distributions obtained from the data (normal or non-normal distributions) and also by examining the variations in the Shannon entropy for the selected intervals of the obtained distributions, our goal was to investigate any discernible and traceable patterns formed under the influence of TCFs.

Ultimately, by comparing the generated datasets and examining the average uncertainty parameter of the calculations, or in other words, the difference between the calculated values and the analytical value, the changes as a result of TCF effects have been demonstrated with greater clarity, even in the range of statistically significant variations in conditions where the highest statistical uncertainty exists.

According to the theory of T-Consciousness Fields, TCF1 is recognized for its general function of correcting and improving a system under study and for accessing information from the generating factory, which is T-Consciousness. According to the T-Consciousness theory, the application of TCF1 on a system can lead to the transfer of information from TCF1 to the subject under study, thereby enabling improvements and optimizations at the system level. On the other hand, TCF2 serves the purpose of transferring data and necessary information to the system in the direction desired by the experts involved in the subject of study and research, which should not contradict the processes and mechanisms of the system in relation to the rules of the Cosmic Consciousness Network. With this theory in mind, the results obtained from this study are analyzed, and the functionality of these two TCFs and their impact on the computational environment are evaluated.

Based on the analyzed data in these studies, by increasing the dimensions and complexity of the problems and by imposing conditions that would raise the errors in the internal environment of a system under study, the varying influences of TCFs are observed. In the first phase of the study and during the generation of random numbers, there is no significant distinction between the samples and the control. However, in one-dimensional calculations where the error is low (one-dimensional study), TCF1 performs its function with greater clarity. On the other hand, in two- and three-dimensional studies where the error increases, TCF2 demonstrates the combined effects of both fields more effectively. In fact, with the increase in system uncertainty and error, this combined state of the two TCFs better reveals their significant effects. Depending on the formulation of the problem and the desired solution in the calculations, these observed results from the functioning of TCF2 (which also includes the combined effect of TCF1) can be justified according to the theory of T-Consciousness Fields. Based on the theory

of T-Consciousness Fields, the functionality of these TCFs on the system under study involves increasing the data and necessary information to optimize the structure and functionality (TCF1) as well as to achieve a specific goal under the rules of the ecosystem (TCF2). What is observed in this study, especially with the combined functionality of the two TCFs at a more complex level, indicates an increase in the information in the system as a result of data exposure to the TCFs. Consequently, this leads to the tendency of the system towards the required values, reduction of uncertainty, and system error by about 12%. This event is also well supported and confirmed by the decrease of approximately 10% in the Shannon entropy at this level of study, which is the most evident part of the study.

The results of this research can be summarized as the following:

1. In this series of studies, the effectiveness of T-Consciousness Fields type 1 and type 2 in a computational environment was investigated and confirmed for the first time using random number generation tools and Monte Carlo simulations in three dimensions.
2. The results of these studies indicate the impact of TCFs on the software level or the information of the system under study.
3. The influence of TCFs in this study can be observed through changes in the overall distribution of the generated random numbers, changes in the distribution of calculated values, reduction in the uncertainty of the calculated responses, and a decrease in the entropy of the distribution.
4. In this study, the selected problem type and its solution method contained uncertainties arising from the statistical nature of the problem. This nature was intensified by maximizing positions that allowed for further increases in the uncertainty, such as the seed and the number of operating random number sets. This design played a significant role in observing and analyzing the effects of TCFs in computational calculations.
5. Under the conditions of this study, with an increase in the complexity of the problem (from one dimension to three dimensions), the system gradually accepted higher calculation errors or, in other words, an increase in uncertainty. This event led to a diminished deterministic nature of the random numbers, which are dependent on the mathematical formulation and subroutines of the software, and the system output became closer to its variable behavior, which can be seen as a response to changes in the environment.
6. According to the results of these studies, with an increase in computational uncertainties, the TCF exposure gradually leads to statistically significant changes in the trends and the distribution of the data ( $p$ -value < 0.05)
7. Completing this study by examining the impact of TCFs in specialized computational code environments of Monte Carlo simulations (such as Geant4 and MCNP, which are used in nuclear science and technology) is of special importance and can enhance the computational power of computers and supercomputers. This is considered as a future outlook for the authors.

# Appendices

The computer codes written in Fortran and C++ languages, both for random number generation and calculations (integral, surface, and volume), are presented here. The codes written in Windows 7 and Kubuntu Linux operating systems are listed separately.

## Appendix 1: The codes developed to generate random numbers between zero and one.

### 1.A- Fortran code under Windows 7

```
Real rnd, a,b
integer j
a=0
b=1
open(1,file='rnd10.txt')
call random_seed()
do j=1,10000,1
rnd=rand()*(b-a)+a
write(1,'(f6.3)')rnd
end do
end
```

### 1.B- C++ code under Windows 7

```
#include<stdio.h>
#include<conio.h>
#include<math.h>
#include<stdlib.h>
#include<time.h>
#include<vector>
int main()
{
randomize();
long double r;
FILE *p;
p=fopen("rnd10.txt","wb");
for(int i=1;i<10001;i++)
{
r=0.001*random(1000);
fprintf(p,"%2.3Lf\n",r);
}
fclose(p);
}
```

### 1.C- Fortran code under Linux

```
integer :: values(1:8), k
integer, dimension(:), allocatable :: seed
real(8) :: r
open(1,file='rnd10.txt')
call date_and_time(values=values)
call random_seed(size=k)
allocate(seed(1:k))
seed(:) = values(8)
call random_seed(put=seed)
do i=1,10000
  call random_number(r)
  write(1,'(f6.3)')r
  !print*, r
end do
end
```

### 1.D- C++ code under Linux

```
#include<stdio.h>
#include<math.h>
#include<stdlib.h>
#include<time.h>
int main()
{
  int randomize();
  long double r;
  FILE*p;
  p=fopen("rnd10.txt","wb");
  int i;
  srand(time(NULL));
  for(i=1;i<10001;i++)
  {
    r=0.001*(random()%1000);
    fprintf(p,"%2.3LF \n",r);
  }
  fclose(p);
}
```

## Appendix 2: C++ program developed under Linux to calculate the integral

```
#include<stdio.h>
#include<math.h>
#include<stdlib.h>
#include<time.h>
int main()
{
    int randomize();
    long double r;
    int N = 10000;
    long double sum;
    long double q;
    long double I;
    long double pi = 3.141592653589793238;
    FILE*p;
    p=fopen("reuslt100.txt","wb");
    int i;
    srand(time(NULL));
    for(i=1;i<10001;i++) {
        r=0.001*(random()%1000);
        q = (pi/2)*r;
        I = (pi/(2*N))*sin(q);
        sum = sum + I;
    }
    fprintf(p,"%2.9Lf\n",sum);
    fclose(p);
}
```

## Appendix 3: C++ code developed under Linux to calculate the area of a rectangle.

```
#include<stdio.h>
#include<math.h>
#include<stdlib.h>
#include<time.h>
int main()
{
    FILE*p;
    p=fopen("reuslts.txt","wb");
    int randomize();
    srand(time(NULL));
    for(int j=1;j<=100;j++)
    {
        long double r1;
        long double r2;
        long double a = 0;
        long double b = 2;
        long double c = 0;
```

```

long double d = 4;
int N = 10000;
long double x;
long double y;
long double I1;
long double I2;
long double V;
long double sum;
sum = 0.;
for(int i=1;i<=10000;i++)
{
    r1=0.001*(random()%1000);
    r2=0.001*(random()%1000);

    x = a + r1*(b-a);
    I1 = 2*x;
    y = c + r2*(d-c);
    I2 = 2*y;
    V = I1*I2;
    sum = sum + V/N;
}
fprintf(p,"%2.3Lf\n",sum);
}
fclose(p);
return 0.;
}

```

#### Appendix 4: C++ code developed under Linux to calculate the volume of a rectangular cube

```

#include<stdio.h>
#include<math.h>
#include<stdlib.h>
#include<time.h>
int main()
{
    FILE*p;
    p=fopen("reuslts.txt","wb");
    int randomize();
    srand(time(NULL));
    for(int j=1;j<=100;j++)
    {
        long double r1;
        long double r2;
        long double r3;
        long double a = 0;
        long double b = 2;
        long double c = 0;

```

```
long double d = 4;
long double e = 0;
long double f = 5;
int N = 10000;
long double x;
long double y;
long double z;
long double I1;
long double I2;
long double I3;
long double V;
long double sum;
sum = 0.;
for(int i=1;i<=10000;i++){
    r1=0.001*(random()%1000);
    r2=0.001*(random()%1000);
    r3=0.001*(random()%1000);
    x = a + r1*(b-a);
    I1 = 2*x;
    y = c + r2*(d-c);
    I2 = 2*y;
    z = e + r3*(f-e);
    I3 = 2*z;
    V = I1*I2*I3;
    sum = sum + V/N;
}
fprintf(p, "%2.3Lf\n", sum);
}
fclose(p);
return 0.;
```

# Examining the Effects of T-Consciousness Fields on an In Silico Experiment; Impact on the Distribution of Random Numbers and Monte Carlo Calculations

Based on Taheri's theory, T-Consciousness Fields (TCFs) can affect all levels of material and energetic aspects of the universe. So far, the impact of TCFs on the matter and energy of systems has been extensively studied. In this issue, the focus has been on the effect of these fields on information and the software of the system under study.

Examining the impact of T-Consciousness Fields in the world of computer computations, while recognizing the T-Consciousness inherent in the nature of every material element in the universe, provides the opportunity to observe behavior that is consistent with the data and information received from T-Consciousness Fields at the system level, which appears to be fixed and unchanging and follows human-written commands.

