Mini-Review
Volume 12:3, 2021

Journal of Physical Mathematics

ISSN: 2090-0902 Open Access

The Mystery of Time: A New Solution for Dark Matter and a Better Understanding of Quantum Mechanics

Saoussan Kallel-Jallouli*

Department of Mathematics, University of Tunis El Manar, Tunisia, Africa

Abstract

Time is not a simple subject. A complete description of time remained an unsolved problem for many decades. In this work, we propose the hypothetical existence of invisible unusual stuff, named "Zaman", responsible for the variations of time. We explain how this new geometrical model of Zaman creates a kind of strong lensing effect: We can get two images, three images, or more, of the same object. We then conclude how Zaman offers a good solution to the Dark Matter problem. Moreover, this unusual stuff can explain the superposition principle of quantum mechanics. This new vision of time helps us understand better our physical universe, on tiny scales and on large scales.

Keywords: Dark matter • Reference systems • Strong gravitational lensing • Superposition

Introduction

Time remained really a mystery that has always troubled scientists [1-5]. Despite great advances in trying to understand the general meaning of time, physicists have made no progress in uncovering the physical nature of time itself. However, time remains useful in almost all physical laws and in our usual life [1]. We use it, but we do not know anything about its true origin. Time is usually defined by its measurement: it is simply what clocks measure. In classical physics, with Newton's laws, the traditional concept of time generally used is that of Galilean absolute and global mathematical real variable. Time with Minkowski is no more global, it became a malleable variable and one dimension in a four-dimensional space-time manifold. Unfortunately, the time of General Relativity and the time of ordinary Quantum theory are mutually incompatible notions. As we know, Ordinary Quantum Mechanics (QM) is governed by the Schrödinger equation.

Literature review

External Newton time has disappeared from the picture, leading to a number of problems [3,6]. But, despite the absence of an external time, one can define an intrinsic timelike variable from the structure of the kinetic term in equation [6]. Today, almost everything we know about the physical aspects of our universe can be explained by either general relativity, Newtonian physics, or quantum mechanics. The first is very successful in describing the gravitational interaction and the structure of space-time while dealing with cosmological scales, while the latter is needed to try to understand the world of chance and intrinsic uncertainties for the small-scale behavior.

Many different facets in the use of time pushed some scientists think time is just a creation of our intellect, open to interpretations, without corresponding to any real physical thing [7]. So, we can eliminate it completely [8]. Motion is described just by giving the orbits. Either in a chosen reference system, the space coordinates and the time coordinate do not play the same role, internal time can emerge as an implicit variable (parameter) in term of which the motion may be described [8,9].

Internal time can also emerge from entanglement [10]. We know that space-time exists. We know our need to measure in the three-dimensional space the lengths. Scientists have chosen a graduated ruler as an instrument and the meter as a standard unit to measure small lengths. Similarly, scientists have chosen the clock as an instrument and a standard unit (seconds) to measure time in our usual use. This clock time given by our clocks is a real variable used in almost all the physical formulas. But, what about the physical phenomenon that causes clocks tick in different manner when placed in different places? Without flow of time, there is no motion: Newton's apple will not fall. Positive charges will not attract negative ones. Light cannot reach us. The energy cannot change, and consequently the mass couldn't be acquired to a particle.

It is not simply a question of past, present and future, or a real or complex mathematical fourth variable [7]. It is deeper than that. It is a question of transmutation: With flow of time, we grow up and get older. With flow of time, a grain transforms to a tree that gives apples. With flow of time, eggs transform to chickens, a unique cell transforms to fetus. Time is sorcery. It metamorphoses everything. These many arguments push us to revise our thinking about time. I

***Address to correspondence:** Dr. Saoussan Kallel-Jallouli, Department of Mathematics, University of Tunis El Manar, Tunisia, Africa, E-mail: saoussen.kellel@gmail.com

Received: February 26, 2021; **Accepted**: March 12, 2021**; Published**: March 19, 2021

suggest that time should have, despite the many different interpretations given by different authors two fundamental meanings [3].

1. The clock-time or c-time: it is simply the readout of a chosen physical clock instrument. We can chose “second” as a standard unit to measure the variation of time in our usual life. But we can also chose another type of clocks and another unit of time.

2. The Z-time: a physical natural phenomenon that causes clocks tick in different manner when placed in different places. We use any clock instrument to measure Z-time variations, as will be explained in this paper. What is the Z-time? Since time affects everything, it must be everywhere. Besides, time is strictly related to motion. Without time, there is no motion. But, also, without motion there is no feeling of time. To understand Z-time, we need to introduce a new concept. In the second section, we propose the hypothetical existence of an unusual kind of stuff called “Zaman” that causes Z-time variations when it flows in circular orbits. We propose a new geometrical model. In section 3, we deduce some experiments that explain how can we get many places occupied by a same object at the same time. In section 4 and 5, we outline some known effects related to strong gravitational lensing, used to reconstruct the lens mass distribution, and then conclude on the Dark Matter distribution inside that lens. Finally, using the previous sections, we conclude on the existence of our hypothetical Zaman stuff and its relation to Dark matter.

Our understanding of time has repeatedly deepened in the course of the years. For Aristotle, time was just a way to count what happens, but it became an autonomous real variable for Newton and is then reinterpreted by Einstein as one of the fundamental features of gravitational field. In all the physical theories, time is used as a parameter. The interpretation of that parameter changes from one theory to another. One could have naively expected that a more careful description of time would be required.

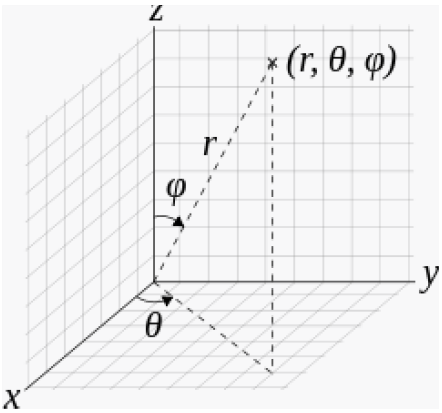

Figure 1. A new geometrical modal: U-space-time referential as measured by a chosen clock.

For simplicity, during this work, we suppose U has a solid body rotation (which is not the general case). The case of the differential rotation will be treated in a book in preparation entitled : “The mystery of time”. Let U be a “closed halo” of radius R. Suppose O is the center of U and U is rotating about a fixed axis (Oz) in a positive direction (a privileged direction). Let us consider a non-rotating right-handed reference system (O,x,y,z). The position of each point inside. U can be given by the known Spherical coordinates (r, θ, φ) represented, where r is the radial distance, θ the azimuthal angle, and φ the polar angle (colatitude) (Figure 1).

If the rotational speed of U is constant and repeatable, then, T will measure the length of the day inside U, called U-day or UI-day or Z-day. The length of the U-day is based on our chosen clock measurement (c-time) [Figure 2].

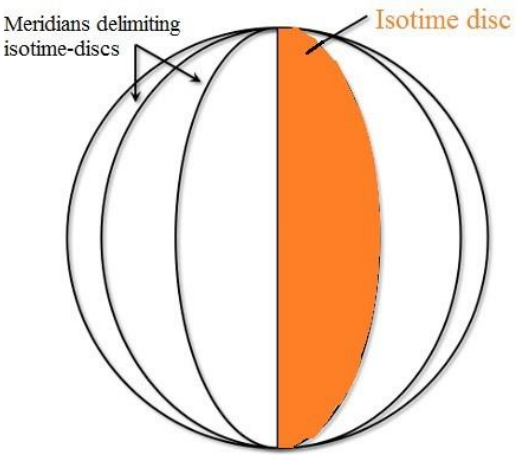

Figure 2. Isotime-discs.

Discussion

If we can catch the particle at the position 1, then we can not see more than one image: this is quantum decoherence. No more superposition of states is seen. The quantumness has been lost. If we can catch the particle at the position 2, then we can only see two asymmetric images: this is a symmetry breaking. If a particle P (that can be light particle, electron,..) from penetrates inside at a certain time t, at a certain point 1(far from the axis), suppose the particle has an helical trajectory and revolves around the axis at the same rate of before leaving the sphere after exactly 1 day. The intersection of the trajectory of P inside with the t-isotime rotating semi-disc is helical. The projection of this trajectory into the equatorial plane is given by the Einstein ring presented. Since SGL is used to reconstruct the distribution of all kinds of matter, including dark matter, and the unique cause of SGL in our halo is the Zaman flow, I think we can guess without any doubt that the existence of Dark Matter is the best proof of the existence of a flowing Zaman, that causes Z-time variations and multi-images or rings of the same background. More the the rotation is faster, more the DM density is heigher. Without rotation, there is no DM detection. But, Zaman is always there. Cloks always tick inside fixed Zaman, with a minimal rate. More the rotation is faster, more Cloks tick faster.

Conclusion

There must be many different rates of rotation for Zaman (many times), which explains why Cosmic microwave background photons on their long journey through the Space might be frequently redshifted (time shrink) and blueshifted (time delay).We can now understand the meaning of the probability distribution in quantum mechanics, and conclude that the flow of Zaman and celerity of an electron inside an atom must be relativistic. We see how the nucleus has only one in simply because it does not change place. An electron

passes through many 'possible' values in its itinerary around the nucleus. Evidently, if we catch an electron, we catch it at one position with one momentum. Technically, we are not able to measure the difference in time of the outcome. Not like an astronomical halo where the different images come out at different measurable times.

References

1. Hyrtl, Joseph. "The Corrosion Anatomy and its Results: with 18 Chromolithographed Plates." South Carolina: Nabu Press, USA, (2012).
2. Schummer, A. "Ein Neues Mittel ("Plastoid") und Verfahren Zur Herstellung Korrosionsanatomischer Präparate." *Anat Anz.* 81 (1935): 177-201.
3. Taniguchi, Yoshiyuki, Yoshikuni Ohta and Shigeru Tajiri. "New Improved Method for Injection of Acrylic Resin." *Okajimas Folia Anat*. Jpn. 24 (1952): 259-267.
4. Kus, J. "The History of Injection Methods in the Morphological Sciences." *Folia Morpholia*. 27 (1969): 134-146.
5. Thompsett, DH. "Anatomical Techniques."(2nd edn). Scotland: E & S Livingstone, Edinburgh, (1970).
6. Murakami, T. "Application of the Scanning Electron Microscope to the Study of the Fine Distribution of the Blood Vessels." *Arch Histol Jpn*. 32 (1971): 445-454.
7. Murakami, T. "Pliable Metacrylate Casts of Blood Vessels: Use in a Scanning Electron Microscope Study of the Microcirculation in Rat Hypophysis." *Arch Histol Jpn*. 38 (1975): 151-168.
8. Nopanitaya, Waykin, Aghajanian JG and Gray LD. "An Improved Plastic Mixture for Corrosion Casting of the Gastrointestinal Microvascular System." *Scan Electron Microsc*. (1979): 751-755.
9. Murakami, Takuro, Tatsuya Itoshima, Kusukuma Hitomi, and Aiji Ohtsuka, et al. "A Monomeric Methyl and Hydroxypropyl Methacrylate Injection Medium and its Utility in Casting Blood Capillaries and Liver Bile Canaliculi for Scanning Electron Microscopy." *Arch Histol Jpn*. 47 (1984): 223-237.
10. Aharinejad, SH, and A Lametschwandtner. "Principles and Fundamentals of Microvascular Corrosion Casting for SEM Studies." In: Microvascular Corrosion Casting in Scanning Electron Microscopy. Springer (eds), Vienna, Austria. 6 (1992): 170-193.

How to cite this article: Kallel-Jallouli, Saoussan. "The Mystery of Time: A New Solution for Dark Matter and a Better Understanding of Quantum Mechanics." *J Phys Math* 12 (2021): 8