

AUTHOR: Victor Estrada Diaz

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Table of Contents

Controversial quantum physics	2
PREFACE	3
Introduction	5
What is probability?	6
Examples of probability.	9
Applications of probability	14
How does quantum physics arise?	16
The subatomic world	20
The quantum model	21
Particularities of the atomic model	24
Space-time structure and indeterminacy	25
Are we really static in the Universe?	34
Time-dimensional theory	35
References	38

Controversial quantum physics

This scientific essay aims to demonstrate that the current theory of quantum physics cannot be considered a final theory in any way.

I will present a new vision and what is the path to a theory further real of the physical world.

By breaking with the current state of science in some ways, I am aware that this essay will raise controversy.

Although the criteria that gave rise to quantum physics, despite their undeniable usefulness, are very questionable in explaining the physical world, as I will show in this essay..

PREFACE

Einstein was right: GOD DOESN'T PLAY DICE.

Also here I will show that QUANTUM PHYSICS is incomplete, it does not necessarily reflect reality but an approximation of it.

I will describe a new theory that explains the meaning of matter and energy.

To you, reader, whether you are familiar with quantum physics or not, I propose an experiment:

Flip a coin while blindfolded and wearing thick gloves.

Put the coin without looking at it in an envelope and seal it, depositing it on a table.

The coin is in a situation where it is equally likely to be heads or tails.

The probability that the envelope has heads or tails is a real probability.

You would say the coin is in a overlap heads or tails why both cases are equally likely.

Now, if you open the envelope and see what came out, the probability will cease to exist since only one of the probable situations is possible.

A physicist will say that “the collapse of the wave function” has occurred.

Observing the experiment in some way makes probability as such cease to exist.

Probability is a mathematical concept that has provided

much fruit to mathematics and especially to physics, but an inappropriate use of this concept can lead us to incomplete and, in some cases, erroneous conclusions.

Introduction

Quantum physics is an important branch of science today.

I suspect that although this theory works wonderfully well, it may be an incorrect theory.

Like the child who asks everything why, I feel and encourage us not to take everything for granted, not to be fooled by erudition, why The basis and wealth of science is human understanding, and it is critical thinking that moves us to explore new perspectives.

If Galileo had not opposed all the experts of his time, we would still think that the Earth is the center of the Universe.

Reader, do not believe what you do not understand, doubt what you know, explore what your intuition dictates, rely on solid foundations but do not despise without further other points of view, do not let official things prevent you from thinking or imagining, do not let knowing that there are people who are smarter and wiser than you restrict you, they can overlook what is further Obviously, and you have the right to have your dreams.

Science without your understanding has no meaning, and if science does not have the wings of dreams and imagination, science has no future.

What is probability?

The problems with quantum theory come from the use of the term probability; it is important to understand what it means when we say something is probable.

Science often uses the concept of “probability” as a way to predict the behavior of a phenomenon or future event, or the behavior of something we cannot quantify.

Probability does not refer to the fact itself. Yeah same, it does not even serve to explain the fact in question, probability only means the degree or percentage in which a fact will be possible or impossible.

If something is impossible or non-existent the probability will be 0.

If something is irrefutable, evident or existing then the probability will be 1.

This is a concept “at the limit,” but it makes no sense to talk about probability when the fact is perfectly known.

Insisting on this concept, when we talk about probability, what we are saying is that we do not know in advance whether the event we are considering or are going to consider will be possible or not.

A clear understanding of the concept of “probability” has important consequences for quantum theory, as will be seen later.

Just because we knew the result in advance of something

that is certain, the fact inYeahIt would be irrefutable and the probability of this would be 1 and if such a fact could not occur the probability would be 0.

But we know that in this case we cannot talk about probability.

It is not very correct to speak of the probability of something that will be a true fact or that will be false or irrefutable.

Something that is verifiable is not something that is probable with probability 1, it simply is.

Something that does not exist is not something that is probable with probability 0, it simply does not exist.

We summarize that there is no probability when we know a fact, whether it occurs or not.

If we can make a prediction when we analyze something that might happen and we don't know to some degree or extent whether it will happen or not, then we can talk about probability.

Probability necessarily implies ignorance to some extent of the future.

But there will no longer be any probability when the future arrives and we can confirm or contradict the facts whatever they may be.

Probability is therefore a human concept with which we can try to explain the degree of likelihood of what will or will not happen in the future.

It is important to understand the meaning of probability to understand what quantum physics explains and what it does not explain, as will be seen.furtherafternoon.

The biggest problem in quantum physics is giving physical substance to probability, giving substance to ignorance.

The truth is that reality does not need us to exist.

Examples of probability.

Let's assume three people (The reader can experience these examples)

Alice, Peter and John

Pedro has a bag with uncounted coins, with their heads and tails and without defects.

Pedro flips a coin.

Everyone knows that some tosses will come up heads and others tails.

In advance, if Peter flips 10 coins, there will be a number of cases in which it will come up heads and other cases in which it will come up tails.

If the coins have no defects and we toss 1000 coins the number of heads is next time a value close to 500.

If the coins that are will launch If there were a million, the result would be approached every time further to a value close to half, and this each time with further accuracy.

By increasing the number of launches the figure will become increasingly higher. Next each time in half but the exact

number of the result can never be known before the experiment.

We are speaking here correctly that the probability of getting heads is the same as getting tails and equal to 0.5 or $\frac{1}{2}$.

Why does this happen?

Mathematically we can say here that the probability is calculated as a quotient between the number of possible case types and the total number of cases, that is:

Probability of anything coming up: $1 = 2/2$

$1 = \text{Heads} + 1 = \text{Cross}$

$1 = \text{Heads} + 1 = \text{Cross}$

Probability of heads: $\frac{1}{2}$

$1 = \text{How to}$

$1 = \text{Heads} + 1 = \text{Cross}$

Probability of neither heads nor tails coming up: 0

$0 = \text{Nothing}$

$1 = \text{Heads} + 1 = \text{Cross}$

The concept of probability can be used even if we haven't flipped the coin once yet.

Or if we do not know and cannot observe the result.

This is an aspect of utmost importance, “using probability we are quantifying our ignorance.”

Let's say we've already flipped 1000 coins and gotten 520 heads.

We cannot talk about probability why There is nothing probable about this, it is an irrefutable confirmed fact and the fact that 520 heads were obtained cannot be changed, it is therefore an absolute certainty and not a probability.

¿That It happens if someone tosses the coin for us and writes down the results on a piece of paper but doesn't tell us. which have been those results, can we talk about probability?

Suppose that Peter has thrown a thousand coins and Alice writes down the results of each throw, but John and we do not know what these results are, although These results have already been carried out by Peter and counted by Alice, and Peter and Alice know but John and we do not.

Can we talk about probability?

For Juan and us the answer is Yeah, why We do not know in advance what the results of the experiment will be.

Note that the key to whether or not we use probability is

whether or not we know the final results of the experiment.

All of us, John, Alice and Peter, can talk about probability “before carrying out the experiment” why We do not know what will happen next when the experiment ends with the future launch of the coins.

Peter tossed the coins and Alice wrote down the results. Alice and Peter cannot talk about probability if they know that results have been obtained.

However, there may be a third person, for example John or us, that we do not know. which were, as Peter and Alice have done the experiment and although the experiment has been carried out for them, we could talk about probability, as long as we make it clear that they are unaware of the facts.

As Juan or we are not direct observers nor do we have any information about as the facts have developed, we Yeah we will be able to talk about probability.

Both a result, the one not known because it will develop in the future and the one that is known by someone why it was done in the past, they are and will be real results, regardless of whether we know them or not.

When we are able to observe what the results have been, we will no longer be able to talk about probability but rather about confirmed or unconfirmed facts.

We can talk about probability while we do not know that results will be given in the experiment either why the experiment will be carried out in the future or why we have not observed the experiment and no one has told us which have been the results.

It is important to keep in mind this concept of what probability means.

That what is and is not a probability will be key to understanding where quantum physics leads to a contradictory and, in my opinion, erroneous situation.

Applications of probability

The concept of probability can be used to explain the behavior of particles, markets, groups, and many other things, and do so in a practical way and with a degree of accuracy in predicting outcomes.

But it is important to understand that if we use probability for anything, our calculations only lead us to a prediction of what will be the facts, knowing the results always implies destroying the concept of probability of what is observed.

Quantum physics plays with probabilities, but when we can no longer speak of probability because the experiment is performed and the results are verified, then we speak of “the wave function collapsing.”

This is not a mysterious behavior of the world, it is simply understandable only by understanding what probability is and what it is not.

Probability will give us an idea of what it will be the future but not one hundred percent guaranteed. It will be that future.

The concept of probability helps us understand and calculate the degree of veracity of things that are unknown to us.

How does quantum physics arise?

The great thinker [Einstein](#) made two great discoveries:

One, the photoelectric effect:

Building on the discoveries of Max Planck, he discovered that light is not transmitted continuously, but through “packages” or quanta.

That is to say, the light is transmitted as if were tiny balls but despite that, light also exhibits a wave-like behavior similar to water waves in a pond.

Victor de Broglie was the first to present this duality of the behavior of light, but this wave-particle concept was demonstrated by Thomson and Davisson, then 5 years later Einstein applied it to the demonstration of his photoelectric theory of the behavior of light.

Einstein's second great contribution was to consider that time does not pass equally for two observers when they are moving relative to each other, this confirmed concept destroys the foundations of classical physics that considered that time was equal in all places in space. These ideas of Einstein arise from a deep analysis of an important and curious contribution of a [experiment conducted by Michelson and Morley](#)

These ideas contributed to Einstein's creation of his famous theory of special relativity and later the theory of general relativity and to the discovery of the equivalence between mass and energy (the famous formula $E=mc^2$).

Although his contribution was used by others to build the atomic bomb, that was never Einstein's intention, he was an asset all his life until his death pacifist and he never agreed with any form of war as he publicly stated during his life.

In his attempt to demonstrate what space, time, energy and matter are, not all of Einstein's creative ideas explain which they are the laws that govern the Universe.

Several scientists including Einstein participated in discussions to contribute new and innovative ideas, from these ideas two apparently contradictory scientific thoughts were born, Einstein's relativistic physics and quantum physics.

Classical Physics, contributed by Newton as a complete scientific discipline that explained the behavior of the laws that govern the Universe, was discarded.

Newton's laws explain the motion of things well as an approximation, as long as what we are observing moves at discrete speeds with respect to the speed of light.

Einstein's results explain what the great Newton's ideas lacked: they explain the behavior of light, matter, energy, electromagnetic forces, and the cosmos at great distances.

When applying relativistic calculations to the atom and subatomic particles, physicists encounter a problem when

using the laws of Electromagnetism and classical Physics, which is known as [the catastrophe ultraviolet](#).

This catastrophe in the calculations consists in the fact that when studying the radiation produced in a black body or object when it is heated to different temperatures, something appears in the calculations that is erroneous and absurd, since it shows an infinite energy, which is not at all what is actually observed.

In an attempt to explain this contradiction and relying on the contributions of [Dirac](#), Max Born introduces the concepts of “probability” and uncertainty to describe the world of subatomic particles.

The new concept helps to describe the laws with great precision and accuracy.

New concepts are still based on Einstein's discoveries, but Einstein openly opposes the new aspects that the theory brings. His is the saying, "God does not play dice."

In my humble opinion, I subscribe to Einstein's reasons and I will try in this book to show what is missing from the puzzle and in why. In my opinion, I think that quantum physics fails.

Quantum physics is a predictive model that cannot be physical in any way, the reason being that it uses the concept of probability.

The subatomic world

The first ideas that matter could be composed of simpler parts are due to Moscus of Sidon, a Phoenician thinker who lived about 3,200 years ago.

Rutherford discovered the proton in 1918, Johnstone proposed the existence of the electron in 1874, and John Thomson discovered it in 1897.

It has been a long road but it is not a complete road, today it is known that these structures are not the final entities, it is known that there are other components further small ones.

To explore this path, large machines like the LHC have been built, where in 2012 evidence was found of a basic particle in current theories to justify gravity: the Higgs boson.

The quantum model

The illustration shows the family of particles known today.

Tres generaciones
de la materia (fermiones)

	I	II	III	
masa →	2.4 MeV	1.27 GeV	171.2 GeV	0
carga →	$\frac{2}{3}$	$\frac{2}{3}$	$\frac{2}{3}$	0
espín →	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	1
nombre →	arriba	encanto	cima	fotón
	u	c	t	γ
	4.8 MeV	104 MeV	4.2 GeV	0
	$-\frac{1}{3}$	$-\frac{1}{3}$	$-\frac{1}{3}$	0
	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	1
	abajo	extraño	fondo	gluón
	d	s	b	g
	<2.2 eV	<0.17 MeV	<15.5 MeV	91.2 GeV
	0	0	0	0
	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	1
	neutrino electrónico	neutrino muónico	neutrino tauónico	bosón Z
	ν_e	ν_μ	ν_τ	Z^0
	0.511 MeV	105.7 MeV	1.777 GeV	80.4 GeV
	-1	-1	-1	± 1
	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	1
	electrón	muón	tauón	bosón W
	e	μ	τ	$W^\pm$

Bosones de gauge

The theories of the called the standard model They accurately explain all the forces of nature except gravity.

The table shows three columns I, II and III and a fourth.

I, II and III represent the same type of particles but with an increasingly higher energy level in each column.

Column I is the lowest energy level and therefore the further common in our environment.

Column II occurs in particle accelerators, that is, at high energies.

At a higher energy level than column II in column III these particles can be observed at very high energies.

The fourth column represents the force-carrying particles.

This characteristic of particles classifies them into two types according to spin, a quality that is explained further below: bosons (column four) and fermions (columns I, II and III).

Each column shows a higher energy level of the same particle.

Bosons are particles that appear to give rise to the force between particles.

There is a very curious characteristic related to the way particles rotate on themselves, their angular momentum, a property called [spin](#).

Fermions have spin $\frac{1}{2}$ and bosons have spin 1.

The Standard Model has provided great and precise results to explain the behavior of particles and atoms, but despite its undoubted usefulness, this model cannot explain:

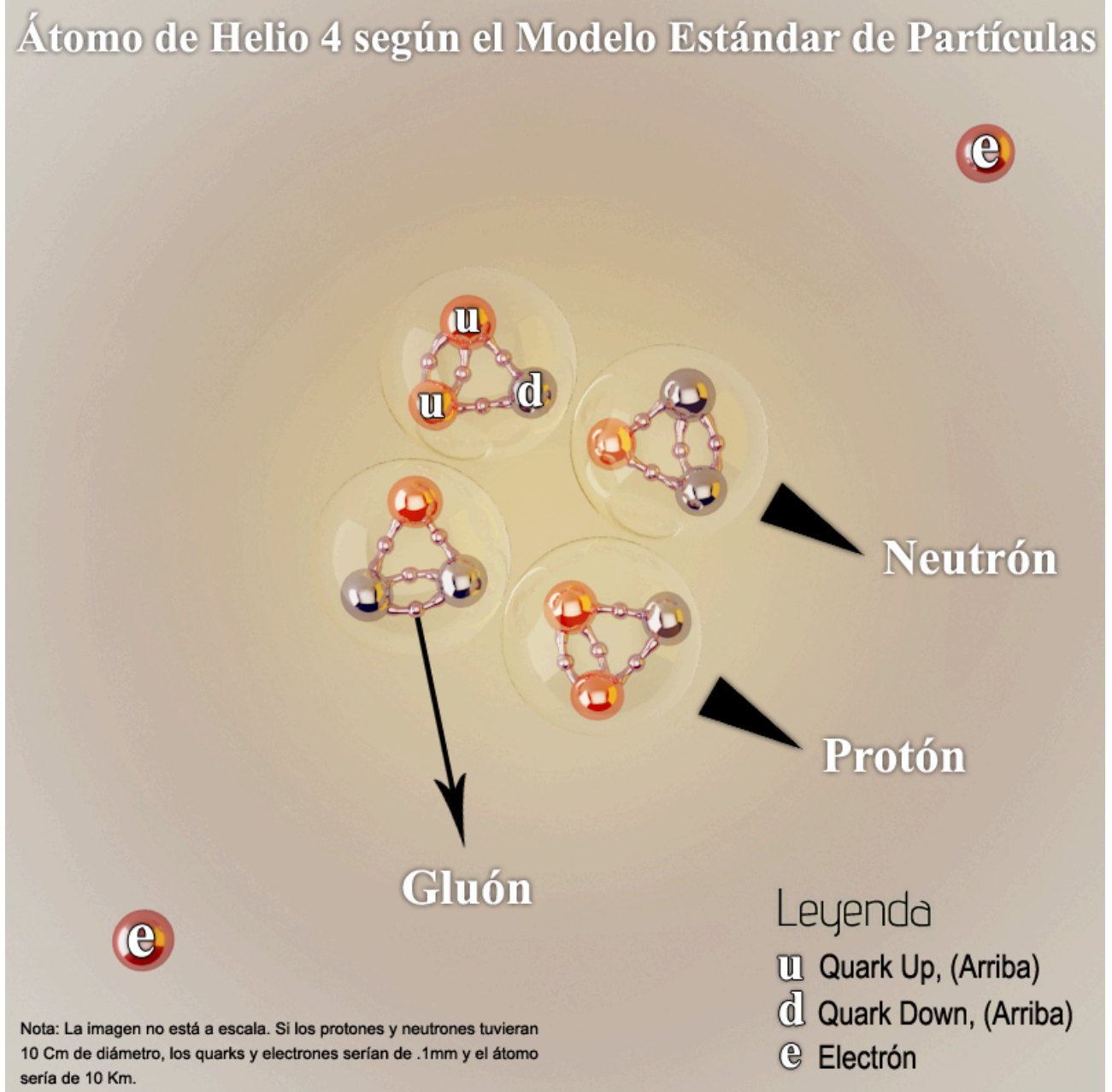
The role of gravity as a force.

Its entire foundation is based on probabilities.

The relationship between the masses of the particles

and why this is the one.

Why there is an asymmetry between matter and antimatter.



Particularities of the atomic model

Energy is not an intrinsic continuous aspect, that is, energy is intimately linked to matter itself.

That is, every particle has an energy and mass linked and quantified to it or it does not.

Mass as a property suggests that both matter and energy must be aspects linked to a spatial geometric proportionality of space itself.

It is possible that there exists a relationship of harmonics, of ripples in space-time that possibly explains why all particles are stationary waves of the same space-time component that shapes everything that is contained in space-time.

New concept: A space-time with a single component, time.

New concept: Space is nothing other than time flowing.

Space-time structure and indeterminacy

Physics tells us that at subatomic distances, the position and speed of a particle cannot be determined.

The truth is that when particles move over a background, both position and time are not equivalent. This arises from the very concept of speed. Two independent initial dimensions such as space and time cease to be independent dimensions when speed comes into play.

Speed implies dependence on space and time, we cannot talk about independent coordinates if there is a speed.

New concept: time and space are only independent if there is no displacement

New concept: that time at two points is flowing at different rates explains space

New concept: The degree of variability of time explains accelerations, gravity, mass and energy.

When talking about speed:

$$v = \frac{ds}{dt}$$

It is still possible to establish an equivalence between a

fixed reference point and the moving particle as long as the speed is small, but as when speed comes into play, space and time are not independent dimensions.

Without losing a generalization, a change in the units in the way we measure space-time and if we fix our coordinates on the same direction of movement gives us will help to simplify the concepts I explain here.

The idea is to equip the units of measurement of time and space using light to measure.

Using the meter and the second as units forces us to use a constant for changing units, but there is a way further simple.

That is, using the second as a measure of time and the distance traveled by light in one second in a vacuum as a measure of space, will allow us to dispense with the constant C necessary for the change of coordinates (time and space), it will allow us to use $C=1$ in the formulas and in this way C disappears from the equations that Einstein used.

Let us call $d\tau$ the differential of time on the moving object.

Let us call ds the differential of the spatial position of the moving object.

Let us call dt the time differential at the observer who observes the motion.

The formula used in meter-second units

$$dq = \sqrt{1 - C \frac{dt^2}{dq^2}}$$

It becomes this when the units are comparable in time-space.

$$dq = \sqrt{1 - \frac{dt^2}{dq^2}}$$

In this case, the time unit is still the second, but the spatial unit is the distance that light travels in one second. The unit is still the second, but transferred to the spatial dimension.

The speed of light constant becomes 1, which simplifies the equation since we omit the constant C.

Concept: The use of constants is simply the adaptation of different units of measurement for which a certain unit conversion is required. If we work with the appropriate units, constants are no longer necessary and concepts are simplified.

$$dq = \sqrt{1 - \frac{dt^2}{dq^2}}$$

We can uniquely determine the distance traveled ds as a time difference, it can be shown that:

$$1. \quad ds^2 = dt^2 - dq^2$$

Deduced from $dt^2 = dq^2 + ds^2$ you can see that it has the form of the Pythagorean theorem applied to the equations of relativity of time.

We see that unifying the measurements to avoid the use of constants suggests a certain geometric structure of space-time.

With further detail:

$$1. \quad ds = \sqrt{dt^2 - dq^2}$$

The concept of speed is nothing other than a difference in times.

Speed can be interpreted as the relationship about as Time varies between two positions in space, resulting in a displacement (a variation in space).

$$2. \quad \frac{ds}{dt} = \frac{\sqrt{dt^2 - dq^2}}{dt}$$

$$3. \quad \frac{ds}{dt} = \sqrt{1 - \frac{dq^2}{dt^2}}$$

If dq grows in the same proportion as dt the relative velocity is zero:

$$4. \quad dq = dt$$

$$5. \quad 1 = \frac{dq^2}{dt^2}$$

$$6. \quad 0 = \sqrt{1 - \frac{dq^2}{dt^2}}$$

From (1) under the vision of the moving object, it can be deduced that if $dq \rightarrow 0$ time will have been entirely transformed into space: $dt \rightarrow ds$

This makes us see that space and time is only an appreciation of our point of view, of where we are located, if we do so under the view of the observer who observes the movement or from the object itself that moves.

If we change our view of space-time to just time differences, we no longer have the problems inherent in the independence of time and space in the concept of speed.

$$7. \quad ds = \sqrt{dt^2 - 0}$$

The consequences of this are that the spaces and times between two objects are not compatible when one of the objects moves relative to the other; what is space for one is time for another and vice versa.

If there is no displacement, time and space are equal on both sides, but when there is displacement, there is a dependence between time and space. In fact, the very concept of speed is a functional dependence between two dimensions, as the definition of speed itself makes clear:

$$v = \frac{ds}{dt}$$

The concept of speed is the relationship between time and space in motion, although this is something that is generally overlooked, it is a really important issue.

This has consequences.

In the case of a particle traveling at the speed of light, it explains that while there is a time that elapses for the observer, the time for the particle itself ds is zero when there is $dt \neq 0$.

We would be talking about a particle traveling at the

speed of light, so the time dt is zero for the particle, whereas space is not zero.

What is time for an observer becomes space for the traveling particle.

This can be applied to anything that travels at the speed of light.

What is time for the observer, is space for the traveler.

It is not possible to unify time and space at the two extreme points at the same time: observer and particle. why time and space are not equal on both sides.

If we try to compare points from the observer's perspective, the result can only be imprecise. However, if we accept that space and time are interchangeable depending on whether we approach one side or the other, the observer or the particle, this imprecision no longer exists.

Quantum physics assumes the uncertainty principle why You cannot determine position and velocity in a particle at the same time, the reality is that position implies that we make a decision: under that optics, that of the observer or that of the particle? Since space and time are actually very different in both perspectives, one must take sides.

We are actually assuming an indeterminacy why We try to combine two space-time structures in different observers

that are incompatible with each other. Yeah.

This arises from the very concept of speed, since the very concept of speed implies that time and space are not independent.

A consequence of all this is that if we assume the Big Bang theories, taking any two points on the expansion wavefront, time is collapsing and space is expanding. This occurs in particles with little mass. However, at points where mass is important, what expands is time while what collapses is space.

The expansion and collapse of time or space is just a matter of perspective.

Something similar happens in the subatomic world. Time and space have different meanings depending on whether we observe inside or outside the particle.

Inside a particle with mass, regardless of the density of matter, it begins to have relativistic effects, so the space-time inside it is strongly curved if we apply the theory of general relativity.

The time in this interior environment of the particle tends to zero so the particle is in the time in which it was created.

Are we really static in the Universe?

The truth is no, today we know of the existence of objects that are moving away from or approaching us and with which we share the Universe.

There is a place called [The Great Attractor](#) where our own galaxy is traveling at relativistic speeds.

In reality, nothing is still, if we consider time as a dimension, everything is subject to the displacement of time.

Even a point in eternity is not further than a line, a straight path in space-time, we would have to refer to an instant, a snapshot of the point in time to be able to assume the point as such.

Time-dimensional theory

My proposal as an alternative to quantum physics is the following:

- 1) Do not consider probability as a physical cause since the concept of probability arises from our ignorance of what is going to be the future.
 - a) Quantum theory under its probability aspect becomes something subjective to the observer instead of a real physical entity, in my opinion this is the further contradictory to the hypotheses of quantum physics and therefore we will not consider it here.
- 2) Space-time as a dimensional entity does not have a special dimension as such, space exists because of time and its direction.
 - a) The reality is that space is the consequence of the dimensional direction of time.
 - b) There is only time in all dimensions, space is also time.
 - c) Whatever time is in all possible dimensions that is space-time.
- 3) The dimensions of space arise from temporal differences; there is no real spatial dimension as such, but rather a manifestation of directional time differences.
 - a) Space arises from the difference in time.
 - b) The conclusion is to consider that space is only time.
 - c) Instead of assuming that it exists, let's assume that

everything is time, whatever time is.

- 4) The variation of time creates space, space as such exists why two points have or have had different times.
- 5) When two points share the same time arrow, their temporal differences are zero and spatially they share the same distance.
- 6) When the time difference between the two points remains the same and is not zero, the two points move away or closer together at a constant speed.
- 7) When the time difference between two points is somewhat variable, which implies variable speed or acceleration, this also implies curvature of space, this also implies the presence of matter and energy.
- 8) Matter is space-time curvature, matter is the same as space-time deformation.
- 9) What differentiates matter and energy is that matter is curved space in a localized place, which does not move with respect to an observer, and energy is also the same thing, space curved, but in motion relative to the observer. The difference between matter and energy is simply a matter of the degree of perspective.
- 10) Matter and energy are only space-time in which the time between two points represents a local or global acceleration, matter and energy like space are only a state of the evolution of time in dimensions.
- 11) At the particle level, these are closed curved spaces forming a standing wave. In a curved space, such as that of a particle, the space can be sufficiently curved to generate a standing wave that, enclosed within itself, does not move relative to its immediate surroundings.
- 12) Considering a particle as a wave or as a particle is

only one point of view, the cause is the concept of speed since space and time at very short distances or at very high speeds both concepts, space and time, begin to be strongly dependent.

- 13) The density of matter inside a particle collapses its internal time to zero, so a particle with mass stores its entire history inside.
- 14) There are a huge number of particles in the universe, but there are not many classes or types; the high number of things with identical characteristics cannot be due to chance.
 - a) Without speaking about the rest of the particles, just consider the huge amount of protons with their electrical, magnetic, spin, mass characteristics and all the same in the entire universe, this property makes us wonder why that They were produced like this and why They are all like an exact copy of Yeah themselves.

References

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