My view on the universe

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Abstract: Define time as a mapping of the whole universe transformations. In this definition about the whole transformations,the concepts of relative time and local time is different from the time of the universe. And this definition is consistent with the most physical phenomena. The physicists of last century excluded the possibility of the existence of Electromagnetic wave conducting medium according to a series of experiments' result, in which, speed stacking effect over the light speed was not observed. But this deduction overlooked the other possibility that the matters with masses and their movements are the wave on the Electromagnetic wave conducting medium as well. Nothing can really go through the space, light speed is the maximum conducting speed in the space,so it doesn't exist speed stacking over the speed of light.I assume that the universe is composed of the space elementary quantum,which is the Electromagnetic wave conducting medium. And this article put forward one Definition and analysis of entropy based on space elementary quantum conception.

Keywords: the definition of time; Space elementary quantum(SEQ); Another explanation on some Existing phenomena；the Definition and the analysis of entropy based on space elementary quantum conception

Introduction: Traditional physics theories haven't defined 'time' clearly, but 'time' is the important physical quantity used in various physics equations. So whatever it is Academic authoritative or informal, a clear definition of time could be needed at first. Starting from discussing the universe's fundamental composition, using basic algebra thinking , understanding time as a transformation system and deducing some interesting suppositions, such as the deduction like 'time's evolution is limited but not eternal, this article is based on the Law of conservation of energy , Law of entropy increase,and other Max Karl Ernst Ludwig Planck' achievements(April 23, 1858 - October 4, 1947), and is illuminated by Theory of relativity's concept of warping of space-time and The Quantum Theory's concept of field quantum.

Some preparatory assumptions or basic sets:

1, the universe is in expansion.
2, the universe runs with the Law of conservation of energy and Law of entropy increase
3, the universe is composed of Space elementary quantum(SEQ),From the distortion of light around a black hole, it can be seen that distorting the quantum arrangement of the gravitational field also distorts the quantum arrangement of the electromagnetic field. It can be inferred that the quantum of the gravitational field and the quantum of the electromagnetic field should be the same field, different kind quanta are just in different excited states. From this, the hypothesis of the existence of space elementary quantum is derived.
4, various field quantum and all various micro particle are just different Energy excited states of Space elementary quantum(SEQ),All observable physical quantities or effects can be represented by matrices composed of space elementary quanta of different energy states.
5, Space elementary quantum(SEQ) has a ground state with ground energy(such as ground state spin's form) this can be one possible explanation on the phenomenon of parity non conservation.

The course of defining time:

A, I assume that the universe is composed of Space elementary quantum(SEQ). various field quantum and all various micro particle are just different Energy excited states of Space elementary quantum(SEQ).

Space elementary quantum(SEQ) is the Electromagnetic wave conducting medium. The matters with masses and their movements are the wave on the Electromagnetic wave conducting medium as well, and in this assumption framework, Nothing can really go through the space, light speed is the maximum conducting speed in the space,so it doesn't exist speed stacking over the speed of light. Everything is just some energy state of Space elementary quantum(SEQ).

B, The composition's features of the universe: according to the Law of conservation of energy and Planck's finding about energy quantization, I assume that the number of Space elementary quantum(SEQ) is limited, further more, I assume the number of Space elementary quantum in the universe is N, every Space elementary quantum(SEQ) has M energy states, so the universe can generates to the Nth power of M's transformation. And these M energy state could be understood as a algebra system with two effects like a ring including Gravitational and electromagnetic effects.A finite ring is first a finite group, and any finite group can be decomposed into the direct product of a finite simple group,with this,these M kinds energy states can be analyzed further.

With the the Law of conservation of energy and Law of entropy increase Constraint, the possible transformations' number is much less than the Nth power of M's .

C, The definition of time:

C1, Supposing the possible number of the universe transformations is J ,J is much less than the Nth power of M's .

C2, The time interval between two adjacent transformations is Planck time, it's easy to be understood to the minimum time interval.

C3, The direction of time's evolution is entropy increase.

C4, The possible transformations can be mapped to possible entropy set, but not bijection, because multiple transformations could be mapped to the one entropy value.I suppose there are k entropy values in the entropy set, and the J transformations can be divided into K. The transformations with the same entropy value are called parallel transformations, but it can only occur one transformation in reality from the parallel transformations with the same entropy. These set including K entropy values can be mapped to the time as bijection.**One moment corresponds to one transformation of the universe.**

C5, according to what mentioned above, it can be deduced that the transformations are not

unlimited so that the set of time is discrete and limited.

Another explanation on some Existing phenomena Based on the Conception of space elementary quantum :

1, Why can't the speed of light stack up?
If the universe is understood as a space elementary quantum with no mass but only ground state energy, all forms are an excited state of the basic quantum, including the mass state with mass.Because the speed of light is the maximum conduction speed of space elementary quantum (excluding mass energy conversion), and the so-called motion of a mass object is actually a kind of conduction between space elementary quantum (including mass energy conversion), that is to say, the motion of an object is actually a wave, and the basic medium of conduction is space elementary quantum like electromagnetic wave, so it is easy to understand the absolute speed of light, and there is no velocity stacking. Nothing truly moves through space, all motion is just the transmission of waves in space.

2, uncertainty relation. As long as it is considered that Electromagnetic wave is conducting wave on the Space elementary quantum(SEQ), it is easy to understand uncertainty relation. In this assumption, the speed is conducting speed, and the location is equivalent to conducting on certain Space elementary quantum(SEQ). When the location is determined, how could the conducting speed be determined, vice versa. And I think that it is impossible for now to get the accurate location, when the galaxies is moving and the universe is expanding constantly.

3, Double-slit experiment.

Explanation A :Based on Space elementary quantum(SEQ) assumption, electron's conducting in the space conforms some probability function, and really causes the space multi-path oscillating, and these oscillating can be accumulated. Electron excitation caused space oscillating both of the two slits at the sides of excitation source, it is easy to understand that interference Fringe could be observed. Even in case of one-slit experiment, when the accumulated Wavelets cross the slit, slit's Unsmooth edges can make different reflections and generate interference that could be observed if the sensor is sensitive enough and the slit edge's form can meet some condition of Coherent Condition.

Explanation B : based on classical physics.I simulate the overlap of different multiple reflection paths in the imaging area under the condition of double-slit by optical simulator, which can explain the staggered high-frequency arrival zone in the double-slit experiment. This optical simulation simulates the paths of multiple reflections, so it can be used to simulate the paths of single electron and single molecule as I think. But the path of electrons is more complex than that of photons and molecules, because electrons do not have symmetrical reflection or rebound, and their path is more complex.

In addition, in different experiments, double slits were not used to generate different paths, Some approximate equivalent methods have been adopted,such as electron-bi-prism or pellicle mirrors were used to generate different paths, The staggered high-density arrival zone statistics of this kind of experiments can be understood from the assumption of overlapping normal distributions corresponding to these different paths.

According to the article Rodolfo Rosa "The Merli Missiroli Pozzi Two Slat Electron Interface Experiment" I read introducing the 1974 electronic double slit experiment in Italy (the first experiment of double-paths with one electron as I know.), this experiment did not use double slits in the common sense. Based on my understanding, the experiment used a electron-bi-prism to generate different paths. So of course, it cannot be explained by the overlapping of multiple reflection paths in the double-slit. Moreover, even in the case of double-slits, the electrons themselves collide on the inside of the slit, and even if the slit material is suitable, their paths will be very complex, rather than symmetrical reflection or rebound. The electronic excitation source for this experiment is designed to be focused into one through a condenser lens, and divided into two paths through the action of electron-bi-prism. The experimental results show about 7 clearly staggered high-frequency arrival zones. In my understanding, focusing through a condenser lens is difficult to say in actual experiments that it is one equivalent electron excitation source. If there are actually two electron excitation sources, after passing through a electron-bi-prism, four different paths could be actually formed, and each of the four different paths corresponds to a normal distribution area with a different center. When four   normal distributions of the four different centers are overlapped, there will be three overlapping areas, 4 centers of 4 normal distributions plus 3 overlapping   areas, there could be 7 staggered high-frequency arrival zones which is consistent with the seven staggered high-frequency arrival zones shown in the experiment.

In my understanding, some of other experiments on delay selection and erasing used two paths generated by a pellicle mirror. The two paths generated by the pellicle mirror are simpler to explain than the overlapping of multiple reflection paths in the arrival area , because the two paths correspond to two normal distributions with different centers, and   two normal distributions has one overlapping area. That is consistent with the statistics of the three staggered high-frequency arrival zones   shown in the relevant experiments. Of course, the most controversial aspect of this kind of experiments is the interpretation of delay and erasure. There is a lot of controversy in this aspect, and I don't have a clear view at present.

4, Non conservation of parity
This space elementary quantum has an energy ground state, which may be ground state spin or ground state self vibration.
With the assumption of the energy ground state of the basic quantum of space elementary quantum, it is easy to understand the non conservation of parity.
Is the space elementary quantum with ground state energy the dark matter that academia has been looking for, and is the ground state energy carried by the space elementary quantum the so-called dark energy?

5, An Attempt to Understand Michelson-Morley Experiment under the Conception of space elementary quantum
The Michelson Morley Experiment is a famous experiment in which physicists at the time denied the existence of the ether. This idea actually negated another possibility, that is, all massive objects such as the Earth and the experimental equipment of this experiment are actually waves in space, just like electromagnetic waves. The essence of material motion is actually waves in

space. Under this possibility, the absolute speed of light can also be explained.

Based on the conception of SEQ,I thinks that if the Michelson-Morley Experiment is redone, there is no need to deflect the experimental suite. If the interference fringes can be found to have continuous, subtle and changes with long-term observation and recording, it may be said that the idea of space elementary quantum and its space-time view, and the definition of entropy can be further deduced from a certain angle.

This paper is an attempt to interpret Michelson-Morley Experiment under the space elementary quantum concept. If this interpretation is true, then the space elementary quantum concept is also consistent with Michelson-Morley Experiment. This prediction depends on the assumption that the devices of the Michelson-Morley Experiment conducts motion in space, its translation is far more significant than its rotation in the matrix of the whole transformation of the universe .

some other concepts based on the Conception of space elementary quantum

1, Definition and analysis formula of entropy based on space elementary quantum conception
In this definition of entropy, the energy size of the energy state of the space elementary quantum is used to calculate specific enclosed space entropy value or the whole universe's entropy value. In fact, the ground state spin and excitation spin of the space elementary quantum are both directional, and spin itself is also a parameter of the energy state of the space elementary quantum. This version only takes the energy size as the cumulative factor in the entropy calculation. If my understanding changes, I will explain the update in the next version. the total angular momentum of the universe is conserved . I temporarily believe that under the condition of energy conservation, to meet the conservation of momentum and angular momentum, it is necessary to meet these three constraints , This is a group of equations with only positive integer solutions, so the difference in size actually implies the change in direction, that is, the more evenly dispersed the energy norm is, the more dispersed the direction will be. (at present, it is intuitive) so the entropy can be defined by the cumulative multiplication of the norm of the energy state.

$$entropy'value' = \prod_1^N m_i$$

$$energy(whole) = \sum_{1}^{N} m_i$$

(Where m_i refers to the energy carried by the ith space elementary quantum in some specific enclosed space)

I use a simple example to illustrate what is entropy and entropy increase, and why entropy increase is spontaneous.

N numbers. The sum of these n numbers is a constant. When does the cumulative product of these n numbers reach maximum? When n numbers are equal, the cumulative product is maximum. The cumulative product of these n numbers can be understood as entropy. The accumulation of these n numbers can be understood as energy, and the sum is a constant, that is, the so-called conservation of energy.

Why is entropy increase a spontaneous trend? If the sum of the N numbers is a constant, under this premise, the N numbers are random in the initial state. If there are n positions in the space where the N numbers are placed, the premise of the effect between the adjacent two numbers is that the two numbers are not equal. When the adjacent two (n) numbers are not equal, the large number will be divided into a part of the value to the small number, and the sum of the two (n) numbers will remain unchanged. For this kind of system, the numbers in the system will tend to be more and more close, which is the spontaneous process of entropy increase. At the same time, it is easy to understand that there is a maximum value for the entropy of a closed system, which may not necessarily be reached, but there is an upper limit.It is necessary to. If the values of all numbers are equal, there will be no numerical change inside the system. At this time, it can be said that the maximum value of entropy is reached, that is, the so-called heat dead state.
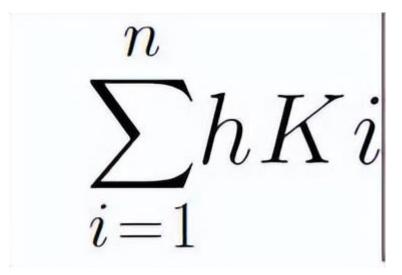
This definition of entropy well describes and explains the spontaneity of entropy increase, the upper limit of entropy of closed systems, and the relation between entropy and energy conservation. Therefore, I think this definition is a good definition although it is different from the traditional definition of entropy.

2,Analysis of Action   based on space elementary quantum conception

The dimension of the action quantity is consistent with that of Planck constant, so the action quantity, I understand, is the number of units of quantum energy (Planck constant).

The total number of unit quantum conduction energy of a physical process involves two parameters, one is the number n of space elementary quantum involved in the physical process wave conduction, and the other is the conduction times k_i (the conduction times of the ith space elementary quantum) of each space elementary quantum involved in the conduction, in which the maximum number of conduction times K_i of all single space elementary quantum is less than

or equal to times of local spatial transformations in this process. h is Planck constant. Then the action amount can also be written as

$$\sum_{i=1}^{n} hKi$$

And any physical process can be understood as the combination transformation of energy states on the space matrix of the space elementary quantum. The law of the the principle of least action reveals that the path occurred of physics process is the path that the total amount of energy conduction involved the space elementary quantum of specific physics process is the least. it involves two variables, the conduction times Ki of each space elementary quantum involved in the physics process and the number of space elementary quantum involved in the local transformation. If the number of space elementary quantum involved remains the same and the conduction times of each space elementary quantum are the same, Fermat's principle of the shortest time of optical path and the principle of the steepest descent line can be directly derived, because in these two examples, the number of space elementary quantum involved in the physical process and the rolling spherical rigid body in the steepest descent line remain the same, and the conduction times of each space elementary quantum are also approximately the same, then time (the number of local space transformations) is the only variable for the calculation of action, so to use time to divide the wave forms of different paths is equivalent to use action to divide the wave forms of different paths. Time here refers to the Transformation Times of local space, not the time concept of the universe as a whole. From this point of view, we can probably understand why the analysis of action amount proposed in different periods is different, but it can explain some phenomena.

ACTION analysis, from the perspective of Fourier transform, each term of the calculating formula of Action can be regarded as a characteristic term of the fundamental wave, because each term corresponds to the number of conduction on each space elementary quantum conduction path in the local space occupied by the physical process, while the energy of a single time of each space elementary quantum conduct is Planck constant, so each term corresponds to the wave characteristic of each spatial fundamental quantum involved in the transformation in the local space occupied by the physical process. The summation formula corresponds to the Fourier transformation waves composition , that is to say, the material wave of a physical process can be

regarded as the wave composition on each space elementary quantum transmission path corresponding to the transformation. (here, it is assumed that the number of space elementary quantum involved in the transmission of matter waves remains the same. Each space elementary quantum involved in the transmission has its own transmission path. The paths may cross, but each path has its own number of conduction. Each space elementary quantum has the same energy of single conduction, Planck constant, so the variable is the number of conduction on each space elementary quantum transmission path in the local space occupied by matter.

Thus, the matter wave can be regarded as the Fourier transform of the fundamental wave of each space elementary quantum involved.

3, whole time and local time

The key point here is the concept of local time. It has been clearly defined above that whole time is defined on the mapping of the transformation of the whole space of the universe. The concept of local time is proposed here. On the one hand, it is convenient to understand the relevant concepts mentioned in special relativity; On the other hand, when performing local operations, it can be clear whether to invoke the concept of whole time or local time, and even the concept of local time within which scale should be invoked. Generally speaking, the time used for physical correlation calculation is the transformation of a specific local space related to a local research object, that is, local time. So how to specify the scope of this local space should be the space along the path related to the physical process, or the space within the field of vision from the first person perspective of the observer? These concepts are clearly distinguished, and since the last century, different concepts proposed by different physical schools in different periods will not be confused.

Local time: it means that when physics needs to call the time parameter to calculate some equations, if necessary, it can specify the time set corresponding to the transformation within a specific spatial range. In fact, from the perspective of the basic quantum concept of space elementary quantum, the existing equations with t parameter in textbooks such as Newtonian mechanics, quantum mechanics, relativity, etc. are actually the concept of local time by default.

One example: the clock slowness effect in special relativity is actually the concept of different relative time caused by different transformation times in different local spaces. As long as the transformation times in different local spaces are different, it is easy to understand the concept of relative time.

A supplementary note: why is the whole time corresponding to the global transformation of the universe different from the local time corresponding to a local space transformation? Because any local space transformation in the global space of the universe is a global transformation; When the whole is transformed, the energy state matrix of a local space may not be transformed, that is, the whole time is changing, while the local time does not change because the corresponding local space is not transformed.

Explanation of relevant experiments: why the atomic clock on the satellite is faster than that on the earth: because on the overall time line corresponding to the overall transformation of the universe, the local space occupied by the satellite experiences more spatial transformations than that of the earth, so the atomic clock on the satellite reads more, that is, the atomic clock on the satellite is faster, which is different from the traditional special relativity. Based on the space-time

concept of the space elementary quantum concept, the concept of whole time of the whole transformation of the universe is introduced, so it is possible to distinguish which local space has experienced more transformations in whole time without relying on an object in a local space as a reference. Of course, these conclusions are consistent with special relativity and Lorentz transformation, because the concept of relative time in special relativity is defined on a specific reference.

Different understandings of the twin paradox: the aging process of organisms is related to the number of spatial transformations (local time) (without considering the influence of external variables such as cosmic radiation), which is not determined by the number of transformations of the observed moving object with itself as a reference, but directly related to the number of spatial transformations it has experienced. In the whole process of the return of one of the twins after high-speed travel, the two experienced the same whole time of the universe, but the twins experienced different times of local space transformation under the same whole time of the universe. According to the experiment of satellite atomic clock, the one who returned after high-speed travel experienced more times of local space transformation.

4,The basic physical quantities in the view of space-time of the universe of space elementary quantum:**time,length,energy,entropy**

time: the number of times of the universe transformations as a whole,

length: the number of basic quantum in adjacent space. The concept that the whole universe is transformed once is internally consistent with the concept that energy is transmitted from one space elementary quantum to another adjacent space elementary quantum, because the source of transformation is the change of energy state, and the smallest transformation is the adjacent energy transmission. This is also the image depiction of the integration of time and space.

For example, in the time of N transformations, the number of space elementary quantum that the farthest conduction of gravitational wave passes through is also n. This example vividly shows the concept of the integration of time and space.

Energy: multiple of the minimum energy unit. The smallest unit of energy is the Planck constant.

Entropy: entropy is defined as the cumulative multiplication of energy on the space elementary quanta in a whole or a locally closed space. It is also an integer.

Time, energy, length and entropy are integers, including the number of energy states mentioned below. To some extent, the most direct mathematical tool to explore the universe is number theory, followed by combinatorics and abstract algebra.

The energy state on a single space elementary quantum is a vector in the form of spin or natural vibration with norm, which can be represented in the complex number. Because the number of space elementary quantum is limited and the number of other space elementary quantum adjacent to a single space elementary quantum is also limited, the direction of the vector is also limited and discrete. Temperature, mass, current and light intensity can be derived from the above four physical quantities, which can be analyzed by the above four basic physical quantities or represented by the energy state matrix of the space elementary quantum in a specific local space.

Some statement: The above description can be consistent with most known physical phenomena,and give another angle to understand physics process, but it just put forward a different analytical perspective, not a negation of the existing theory.