

Practical Application of Time Rate Control (TRC) Theory

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In the modern World strategic balance of political forces is provided mainly due to military power. Not one country can be sure that use of weapons will remain without a response action from the enemy. Rather the contrary, this response action is unavoidable. Maintenance of this condition is a guarantee of some stability in the world. This condition is **an example of cause-effect relations**. In reality they have some probability or "extent of hardness". The period of delay and the scale of consequence describe this hardness of cause-effect connection. The power of these processes as well as the forms of cause-effect manifestation also can be different. The similar situation is observed not only in relations between states, but also on other levels of social relations, though the causality here is not so hard.

We can find the reflection of our desire to restore the justice in the principle of causality. We can assume that religious commandments, social rules of behavior for people and state laws written by people are the analogues of real physical mechanism. The space itself is designed according to this higher law. Let's remind also the law of momentum conservation, law of electromagnetic induction and its manifestation in the common electromagnetic transformer. Theory by N.A. Kozyrev [1] considers cause-effect relations from positions of the concept of active properties of time. In this concept the speed of the course of time is defined as a ratio of distance between the cause and the effect to the period of time delay between them. For our space it is equal to the product of the speed of light and the fine structure constant, i.e. the speed of the course of time is 137 times smaller than the speed of light. Let's note, that it is not the speed of motion in space, but the "rotation speed of the cause-effect connection". From the other hand, in his work [2] Dr. Shipov presents the mathematics of four-dimensional rotations and firstly introduces the notion of torsion fields. In my mind, there is a clear analogy between notion of four-dimensional rotations in torsion technologies and cause-effect transformations by Kozyrev.

Now let's try to clarify physical sense of the fine structure constant. This constant is known in physics mainly as a factor, related with ratio between own spin and orbital spin momentum of a particle. Besides, Dr. Spartak M. Polyakov in his work [3] described internal structure of photon. On his assumption, minimal prolongation of any electromagnetic quantum is equal to the product of the wavelength and ratio between the fine structure constant and the speed of light. So, the internal structure of photon according to Polyakov reflects the features of inner structure of space, which was described by Kozyrev. Also we have to note Dr. Rykov's work on the fine structure constant [4]. He showed that the Plank's constant depends on parameters of Ether and the fine structure constant, so **we can assume an analogy**

between "structure element of Ether" and "elementary cause-effect connection". Also there is a clear analogy between Rykov's notion of "elasticity of Ether structure" and Kozyrev's "hardness of cause-effect connection", which in my view can be described as some probability.

These links between few theories had not been discussed before and now we have a conclusion, which first gives us theoretical grounds for the known supposition that light (electromagnetic wave, i.e. photon) and time are allied physical notions. So, it is possible to state the following: The fine structure constant is a factor, which related with present physical structure of our space-time. Another structure of space-time means changes of all constants and all properties of matter. It means other time and other matter. Physical properties of element of space-time (some "elasticity" or "hardness of cause-effect connection") defines Plank's constant, speed of light and speed of course of time (rate of cause-effect transformations). Since cosmic processes define the fine structure constant, then all physical properties of our real space are the effect of real cosmic processes. There is similar situation in micro world, in which the fine structure constant is described by parameters of own spin and orbital spin of an elementary particle. If now we have a real understanding of the fine structure constant, then it should be possible to create local space-time by means of special technical systems. Space-time engineering becomes an applied science. From this we can develop the practically valuable technologies.

There is a real way to confirm this conception. The cosmic processes (motion of planet, stars and other processes in Galaxy) are stable only for relatively short period of our observation and some variations should be detected for a long period of time. In the article "Search for Time Variation of the Fine Structure Constant" John K. Webb and other authors investigated possible variation **in the fine structure constant** [1]. Also in another article "Space-Time Variation of Physical Constants and Relativistic Corrections in Atoms" the author V. A. Dzuba reported on this topic [2]. Analysis of the light from distant quasars has shown that billions of years ago the fine structure constant was different at earlier times in the history of the Universe. Now the value "alpha" $\alpha \cong 1/137$ is a little bit more than in the past.

According to Kozyrev, the speed of the course of time (rate of cause-effect transformations) can be calculated as

$$v = c \cdot \alpha \cong c / 137 \quad \text{F.1}$$

where c is the speed of light. Increase of the fine structure constant means an increase of the speed of the course of time for our space-time.

According to Kozyrev, there are two extreme cases of the cause-effect relations:

1. In classical mechanics the distance cannot be equal to zero, but time can be arbitrarily small, including

the situation, when it can be equal to zero. The speed of the time course in this case is equal to infinity.

2. In the atomic world vice versa the speed of the course of time is equal to zero since the distance can be equal to zero, but there is always some delay in time, which we should take into account.

Our real world occupies the intermediate position and it has a certain time course as a transformation of the cause to the effect. There is a conclusion: Modern World became more stable and its laws became more similar to classical mechanics laws due to strengthening of the causality. Also it is possible to state the following: at the beginning of our World, physical laws of its space-time were more similar to laws of quantum mechanics.

It is possible to assume that changes in physical laws are related with changes of position of our real World in the Universe due to the cosmic processes of motion. In other words, from point of view of the Ether conception, it can be explained as some natural changes in density and other parameters of Ether wind in space of our planet for different stages of development of our Galaxy in the Universe.

Let's consider how can we use this natural cause-effect mechanism of space to create teleportation systems or "an ideal weapon" and how it will work. But at first we should specify some notions.

So, the real World occupies the intermediate position between classical mechanical World and quantum World and we move from chaos of quantum World to the strengthening of the causality. Specific parameter of space is a certain speed of the time course as a transformation of the cause to the effect. N.A. Kozyrev supposed and showed in the series of experiments that for interaction of some systems with the flow of time we can expect the appearance of additional forces in these systems. Therefore, mechanical tensions and changes of full energy of the system can occur due to the changes of energy of the time course [1, p. 344]. We should note, that all material systems always exist in time and in this sense they always interact with time. **The cause of the appearance of additional forces is the asymmetry of the cause-effect energy relations.** It can be realized by means of various technical methods. We should also note that according to Kozyrev "...mechanics, which corresponds to the principles of causality, should be developed from the extreme case of Newtonian mechanics, but not from the quantum mechanic case. Some features, which are characteristic to the quantum mechanics, can appear during this process. For example, we can expect the appearance of the quantum effects in the macroscopic mechanics" [1, p.345].

Further we can turn to the consideration of new conception of defense. Let's suppose, that military system A stroke some system B. For the real World we should take into account, that there is some distance in space between systems A and B. Manifestation of the forces of causality is expected only in the irreversible

processes. That's why we suppose that the impact led to the irreversible processes in the system B. In such a way the common cause-effect connection will form a cycle.

Now let's suppose, that the system B could prevent the irreversible processes of its destruction by some technical way, for example, by means of anti-missile rocket. The cause-effect connection will form a cycle in this case also. It was made by certain actions in the period, when the system B was stricken, but the effect had not came yet. Theoretically it is possible since with the known speed of the time course for some real distance between the interacting systems, interval of time between the cause and the effect cannot be equal to zero. But in real situations instantaneous or sufficiently prompt reaction of the system B is not possible. Just rely on this aspect, the system A will try to reduce delay between "cause" and "effect" and distance between its military base and the system B.

New conception of weapon does not mean the repulse of the impact by some material counteraction, i.e. by means of some energy consumption. **Since it is impossible to do so that the cause-effect connection will not be closed (it will contradict to the laws of space structure), then it is necessary to close it artificially.** In other words, it is necessary to put in action the natural mechanism of causality before irreversible damages of the system B occurred.

For more than defense action, it is possible to produce a response action to the system A through the natural mechanism of causality. The effect (equivalent of missile action) should come in area of space, where the cause was, but a little bit later. Spatial matching of cause and effect in one point (with some interval in time) is possible in quantum mechanics, as we considered above. Therefore, the techniques being in arsenal of the system B should change the parameters of space (reduce the speed of the course of time in some area of space) in such a way, which allows the laws of quantum mechanics to work for the system A.

We can hardly suppose the possibility to create an artificial 100% quantum mechanic reality in macro world, but it can work even partly. In this case the effect will come in the same place, where the cause (system A) is situated. The real position of the cause in the Universe does not play any role. The energy of the system A should change due to the active properties of time. According to Kozyrev, these properties led to the appearance of an additional torsion moment in the experimental unit. On the micro-level it can mean that energy of atoms of matter will change in the area of cause and this will produce mechanical destruction of the system A.

In any case it should lead to increase of entropy in area of space where the cause is situated.

This effect is an analogy of change of the light beam trajectory on the boundary between two mediums of different index coefficient. With the full reflection the

whole momentum should return to the launching point of the missile, but not due to the return of the missile itself. The equivalent of this momentum returns due to the active properties of time and not in the form of the linear vector of speed, but in the form of additional energy, which is transferred to the particles of matter due to changes of the time course.

Only part of the momentum will return with the partial reflection. It will increase the entropy of all matter in area of the cause.

Technical realization of these principles depends on the final goal of the research work. To make it easier, the term "speed of the course of time" can be replaced with the notion of "density of ether" and "speed of the ether flow".

Another aspect is following. In area of space with changed time course, the changes in operation parameters of electronic equipment will not allow controlling the missile. Thus, this part of defense problem is solved also. We should note that Kozyrev's experiments already proved the influence of changes in the time course on the quartz oscillators, sensors, semiconductor elements and resistors. A number of other authors showed the influence of "radiation of a special kind", for example, torsion fields, to the speed of chemical reactions proceeding and physical properties of materials. Since the area of space with the changed properties can have significant sizes, then by means of this method we can provide the defense of large territories.

Technical realization of these principles depends on the final goal of the research work. To make it easier, the term "speed of the course of time" can be replaced with the notion of "density of ether" and "speed of the ether flow". A number of authors consider time as a result of motion in ether. Really, the Galaxy, stars and planets move in the universal medium. From this point of view we can consider one more useful analogy. The known Archimedes' law defines the forces acting on the body, which is immersed into some liquid.

The analogy between ether and liquid is considered and experimentally proved by Dr. Alexander M. Mishin [7] and others.

Further we can turn to the forces analogous to Archimedes' forces and they act to the area of space

with the changed course of time. Due to these forces, this **area of space will be forced out in some direction**. It is known that the balloon is forced out from the dense air in the direction of the rarified one. There is a question: is the area of slowed time the more dense ether or more rarified ether?

According to Kozyrev, the following terminology is accepted now: matter acquires more ordered structure (less entropy) in the area of high density of time [1, p. 387]. Usually time course is directed from the past to the future and in this case the entropy always increases. That's why the decrease of entropy corresponds to the decelerated time course and to the area of high density of time.

From the ether conception we can get the same conclusion. Besides, we get a number of technical details. More dense ether means more number of ether elements in the same volume. Earlier we considered time as an order of elementary cause-effect connections.

Thus, we can make an important conclusion: the elementary cause-effect connection is an element of ether (graviton in some conceptions), which was the subject of many scientific researches. In full accordance with Kozyrev's theory, the denser ether, the more elementary cause-effect connections are required for the same action. That's why the time course is slowed in more dense ether.

The area of accelerated time course should be forced out in the direction of the rarified ether. Analogously, the area of slowed time is forced out in the corresponding direction, to the more dense ether. It is a theoretical basis to create the teleportation systems.

On the basis of these considerations it is possible to design new defense systems and principally new transport systems.

References

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