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Spacetime quantization privileged system - the return of a lost son

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In past episodes, we have shown that many of the problems of contemporary physics would be greatly simplified if there was a preferred global system. (But such a system certainly exists if we take into account that such a state of space-time already existed before the Bang, ie as a 3 + 3 dimensional smooth, Euclidean, flat, infinite space-time, which did not expand and run in time and ... and was not in it neither matter nor physical field. The Big Bang "hit" this state, ie a jumping change of state. What a change? Well the curvature of the dimensions. (!) And anytime, anywhere (because such space-time is infinite and without the passage of time) there is a change of state. The step phase-inflationary- change occurred "in that" original state of space 3 + 3, namely "in some locality, arbitrary" of that infinity 3 + 3D. The change was maximal in that the Euclidean flatness jumped to extreme curvature (super-extreme curvature) those 3 + 3 Dimensions...; appeared, let's say differently: "hot plasma" = boiling vacuum = dimensional foam. In other words, the new state is already "quantized" because the foam in the cut looks like that. If we look at the cross-section of this state "as in a field," it must seem to us that that chaotically foaming vibrating grainy state is not smooth, that it is quantized. Mgr. D. Zoul calls these "my" discrete "clusters of dimensional curvatures" "cells," well, I'd rather find Zoul exactly a sentence somewhere in the lower parts of his interpretation: *"The underlying surface of spacetime could be formed by a kind of lattice of elementary cells - let's call it cellular space, for example, or cytoprosto (from the Greek leg = cell)".* Zoul's grid of "cells" = that's his space-time "after quantization" - um, um. http://www.hypothesis-of-universe.com/docs/c/c_140.gif However, the preferred global system (over which Zoul sighed) did not disappear, as a "fundamental" state in which other new states of dimensional curvatures will float...; now there is the "first after Bang" described boiling plasma. In it the Universe begins the flow-flow of time (why, I'll say in a moment) and in it also begins the "their Hubble expansion" of the universe, I call it "unpacking" by curvatures of dimensions 3 + 3. Alan Guth pushes for inflation ; I offer a continuous involute (or similar curve) for unpacking http://www.hypothesis-of-universe.com/docs/c/c_239.jpg . And there is even more than just unpacking the dimensions into the global presentation of the Universe http://www.hypothesis-of-universe.com/docs/c/c_231.jpg ; http://www.hypothesis-of-universe.com/docs/c/c_245.jpg (the picture is only for an inspiring idea), but "simultaneously" also the packing of dimensions from the very beginning, in that chaotic boil, to " exact geons = balls = packages that in their geometric-topological design "freeze forever" (eg the electron is a few packed dimensions already in the original foam into the formation of "selected" curvatures of dimensions of those that will not change forever) However, we have a direct the contradiction between the

physical need for such a system and the principle of relativity, which at the same time forbids it. Mr. Zoul's principle of relativity also seems to have been misunderstood. On the one hand, STR is proof of the rotation of the systems, ie * a)) of the Observer's system and * b)) of the system of the tested object, when for this reason the dilations of the time intervals and the contractions of the length intervals "start" the rotation. / I have a detailed explanation elsewhere in my work HDV / A OTR is again proof that a body "floats" in a curved / locally curved / space-time, which cannot be qualified "as" relativity. The first thing we notice is that the universe actually chooses one preferred state of calm. Many physicists reject this... The first indicator is that more and more work is making our universe finite. Well, it's not convincing. The finite is the "our locality" "our Universe" (in the infinite 3 + 3 space-time before Třesk), in which we find ourselves, because the locality presents the curvatures of dimensions 3 + 3 and... and "beyond the curves" the space-time is already flat in the Pre-big-bang state. In such a universe, especially if it is not simply continuous, but kosmologický princip (equivalence of all observers in the universe) does not have to follow from Hubblova-Lemaîtrova zákona (local proportionality between distance and distance of distance).

Yes, it doesn't have to. The ratio between distance and speed is not linear !! That is why I am based on the new idea of the nonlinear expansion of the Czech Republic, ie on the "unpacking" of space-time. In addition, I will support this thesis with other unexplored possibilities about the "properties" of time. What if the pace of time is not the same throughout the universe? because each grouping of matter in a small locality and in a large one (clusters of galaxies) has a different curvature of cp and so in it there is a different pace of time ŕ in each selected "section of the volume of the Universe" time can flow at a different pace a. "In a stop-state" (I swipe the whip across the universe), which I declare here towards the universe..., but what if the pace of time changes not only to in each cluster-volume, but also to the past "on the timeline from Bang may the pace of time is changing, both in the localities and the global rate of flow. No one has ever researched that. Everyone expands only space, everyone curves only space, but it is the same for time..., it is the same quantity and has the same number of dimensions as space, it is a 3 + 3Dimensional Existence, which "works" with the curvature not only of length dimensions but also with by curving time dimensions.

From here, it is only a small step towards the preferred coordinate system in space. Considering that in today's stop-time (13.8 billion years since the Bang) since the beginning of that of the "expansion = unpacking" of the Universe (with our earthly pace flowing), some" tempo "applies to both length intervals and time intervals, then in in this reasoning I must admit that the photon "stands still" against the longitudinal expansion and the aging of the time universe, ie "time does not run on the photon" and the photon "stands still" against the horizon, ie $c = 1/1$; $c^3 = 1^3/1^3$ ((unit space-time)), which does not move away from it. And this is the preferred system of "absolutely flat space-time as a coordinate system", and in which * SWALLS EVERYTHING *, "floats" in it other systems "float" in it, which have variously distorted dimensions, both time and length !! (Time dilation around the Earth is different from dilation around the Sun or around a black hole, etc.). "Gravitational dilatation" indicates the curvature of the time dimension t_1 itself between the Observer and the object, not that time passes at a different pace at the Observer's point at a different point in the GPS satellite...; cesium "ticks" the intervals on the GPS-satellite the same as on Earth, but the information from

point A to point B "flows" along a crooked time dimension and we capture it "rotated" !!!! That's why we scan dilation from GPS.

Another way to choose the preferred system is je relic radiation- reliktní záření,, which we also talked about. Why not choose a photon that is preferred, which flies c = 1/1 to the observability horizon of the Universe. (?) Hubble showed us that the Horizon of Observability of the Universe is moving away from the c = 1/1, everything inside (between us and the horizon of observability) flies at a speed v < c because it is already a distorted space-time if there is matter in it. It is remarkable that these two named preferred systems converge exactly on each other - galaxies on average appear at rest relative to the same system, in which relic radiation from all directions with the same temperature falls on us. In relation to this preferred system, the solar system moves at a speed of approximately 400 km / s, which is only about one per mille compared to the speed of light. Numerical simulation of structure formation in space. Source: Gemini Observatory, NOIRLab, NSF, AURA, G. L. Bryan, M. L. Norman.

Numerická simulace formování struktur ve vesmíru. Zdroj: Gemini Observatory, NOIRLab, NSF, AURA, G. L. Bryan, M. L. Norman.

World Time - A set of events in a space-time diagram (so-called worldpoints) that displays the history of a particular object in space-time. Time flows throughout its history of existence at a pace of 01) at the same pace towards our place-Earth, or even 02) at the same pace everywhere for this place for the entire period of existence from the Bang to us. Or 03) the pace of time changes on the timeline "here-on Earth" or elsewhere. All Minkowski equations go bankrupt if it is found that time at different times in the age of the Universe ran at a different pace...? This term was introduced by the mathematician Hermann Minkowski in 1908.

Noncommutative geometry - one of the boundaries between geometry and algebra. Geometric space is described here using functions that form noncommutative algebra. The foundations of this theory were laid by the French mathematician Alain Connes in the late 1980s. Noncommutative geometry has applications in particle physics in quantum field theory, quantum theories of gravity and in various attempts at unified field theory (TOE - Theory Of Everything). Noncommutative geometry ehm-ehm... I'm not a good mathematician, but maybe an expert will explain the difference between linear QM and nonlinear OTR.

Quantum group theory - an algebraic quantum theory in which we understand quantization more abstractly than in classical quantum theory. The symmetries described by group theory play a central role here. ((I'm a layman,.. so you want to say that the group itself (as a local foam of curvature dimensions of space-time, which seems to you to be "quantized" by alternating nodes with gaps ..? , "Your" cells with gaps ..?) and other groups realize symmetries between each other? Are you saying that for quantum groups you describe symmetry between groups that are not symmetric within? What does this lead to?)). Operators on a Poisson variety are not assigned operators directly, but a new "quantized" algebra is assigned to the entire function algebra, ((You seem to supply that reality to the Universe yourself, instead of abstracting reality from the Universe; what you don't suggest by human mathematics, the Universe doesn't have ??)), which is generally non-commutative. ((The noncommutative is not the Universe, but only your mathematics. With my secular

knowledge, I believe that "your" non-commutativeness is related to the arrow of time and especially to the imperfectly understood Heisenberger's uncertainty principle.)) Operators are approached by representations of this quantized algebra.

Relic radiation - radiation that separated from matter approximately 400,000 years after the creation of the universe, at the time when the atomic shells of the elements formed and the plasma period of the universe ended. The initial hot (plasma) phase of the universe's existence is called the Big Bang, so the relic radiation comes from the end of the Big Bang. Today it has a temperature of 2.73 K and a wavelength in the millimeter range. It is one of the basic sources of information for our knowledge of the early universe. In the English literature, it is abbreviated CMB (Cosmic Microwave Background).

However, on smaller scales, the principle of relativity of inertial systems is very well tested experimentally. ((better understand the principle of relativity as rotation of systems "on that 3 + 3D network", ie rotation in the preferred system of non-curved dimensions)). The predictions of Einstein's theory of relativity are confirmed by a number of experiments, many of which can be understood as tests of the existence of a preferred system in space. So here again we have conflicting observation results - on cosmological scales ((where small curvatures are parabolic)) there is evidence of a preferred system, ((because parabolic curvatures / paraboloids / OTR "float" on the Euclidean flat network 3 + 3;)) on smaller standards, however, the evidence speaks in favor of the principle of relativity. ((?? On small scales we are not talking about the principle of relativity but about QM. The interactions of particles in fields behave as "***oscillating, gently swirling manifestations of that foam of dimensions***" side also packages from the space-time dimensions)). Even more interesting, in the subquantum microscales teorie strun, smyčková kvantová gravitace that string theory, loop quantum gravity and many more work with, physics again leads us to the existence of a preferred coordinate system, http://www.hypothesis-of-universe.com/docs/eb /eb_004.pdf ; http://www.hypothesis-of-universe.com/docs/eb/eb_008.pdf ; http://www.hypothesis-of-universe.com/docs/eb/eb_017.pdf ; http://www.hypothesis-of-universe.com/docs/eb/eb_016.pdf because all these theories stand and fall with an invariance of Planck length, which should appear the same to all observers, no matter how fast they move. So we are facing a big puzzle, the secret of which has only recently been revealed. ((In macro-scales, the "flat" interactions of elementary particles in the basic grid "float" in the basic flat lattice 3 + 3D crooked parabolic curvatures of gravity... and in micro-scales "float"))

Planck's invariance

It has been shown that the general theory of relativity **obecná teorie relativity** can be reformulated as a theory with preferred time synchronization across the universe. ((How is this done?)) This preferred synchronization option is determined by the distribution of matter in space. In fact, several concepts of general relativity with the preferred system have been proposed. Different versions of this theory have names like **shape dynamics**, ((I didn't find anything about it on google)), **OTR without space-time covariance**, ((there's nothing about that on the Internet ..)) **gravity with intrinsic time**, etc. ((and no one in the world has ever uttered such a concept .. but Kulhánek agreed> ** below is a photo from google ** <..)) Theories roughly say that there is no point in comparing the

volumes of distant objects. ((Which theory says it speaks ??)) What remains invariant is only the volume of the entire universe. ((?)) So if we shrink everything in one place, there must be another area that balances it by enlarging so that the volume of the universe is constantly maintained. ((and this blabber is for what purpose?)) In this theory, then, there is only one speed that time passes across the universe. ((David Zoule, speed is a different quantity and therefore time has no speed. We only monitor the "pace of time" using a standard mechanism, an alarm clock - the ticking of cesium. Otherwise I will tell you that time is not running out for us, but we are running it, that is, we-people we also run with that Earth = we move through the universe not only in the longitudinal dimensions, but also in the temporal dimension, we cut those time intervals with our shift through space-time, which unfolds since the Bang. Moreover, David, think about the pace of time consistently, our shift in the time dimension in our environment at some star Sun is that we do not know what the tempo is, that we do not know at all whether the tempo of time is the same everywhere in the universe, the same in every gravitational situation, and we do not know whether the tempo is changing flow in the history of the universe since the Bang, it can be different globally and locally different at any time. We know nothing about time or whether it has more dimensions or not When the rocket dilates time, against our flow rate, it dilates only in the direction of motion and not perpendicular to p bend... so what pace of time does the missile commander perceive? STR is misunderstood, the effects of dilatation are caused by the rotation of the systems of the Observer and the observed object..., the commander on the rocket himself does not perceive any dilation... etc..., David, these are reflections on debates that you once rejected, until today you reject))

In general relativity, on the other hand, volume is universal, while time is relative. ((No time is relative. Time in quantity - artifact Being and only when we know and understand that time has its three dimensions in that two-quantity space-time, we can talk about a kind of "relativity", which is still a false concept-impression for assessing changes in the pace of time in still changing curvatures of the dimensions of that 3 + 3 dimensional space-time, because changes in tempo must be perceived as a rotation of systems or as a "snapshot" of points - intervals - on a curved time dimension..., which appears as dilation = change in flow rate, changes in intervals cut time dimension ...)). In fact, these * two theories are dual * to each other, because through a sophisticated mathematical trick, the relativity of time can be confused with the relativity of volume. ((??. And what non-mathematical tricks does the Universe itself use?)). The physical content of these two descriptions is the same, and any physical question will have the same answer in both theories. While in general relativity there is no preferred time, in dual theory yes. ((Preferred or non-preferred time is nonsense. Time is a quantity-artifact. The name of a quantity that does not run. The quantity is realized into three components, ie into three dimensions and... and the material object "moves along those dimensions"!..., We move by dimension, not vice versa, by shifting that object = Earth = people cut into the "standing" time dimension the intervals that we perceive as the flow-flow of time. Even more precisely: if space-time, that is, time dimensions, expands, then this means that their curvature expands, and against such a background of "expanded" space-time, any material object is still moving "at a different pace." We can correct this relativity "objectively" by considering the "expansion" of space-time as **$c = 1/1$** or **$c^3 = 1^3$ $m^3/1^3sec^3$ → 3+3D**, and to relate to this "preferred" unit system "our pace of the passage of time", ie. our move along the "standing" space-time network, which is already almost flat, unpacked in today's "time" of 13.7 billion pobig-bang.)). This global concept of time ((your "concept" of time is paskvil...)) has the effect that for every event in time there is a preferred observer whose clock measures its flow. ((An event is a

physical event that takes place over a time interval; and the preferred observer is only a selected observer whose "time is running out", ie a certain tempo in **a given position in the universe,** which we then compare with selected intervals (such as my ticking cesium)..)). However, there is no way to find this observer through local measurements - the choice of a special global time is determined by how matter is distributed across the universe. ((O.K. In each region of the universe "there is a different pace of the passage of time", or that in each otherwise curved space-time, the body moves along the time dimension differently, at a different pace, compared to the chosen "unit" pace.)). Therefore, on scales much smaller than the universe, experiments agree with the principle of relativity, while on cosmological scales the need for global time is met. ((Global "time" is different in every place in the universe, different in each cluster of galaxies, different in each galaxy, different in every black hole, because there is a different curvature of space-time, that is, different curvatures of the time dimensions along which the object **moves.**)). Ted Jacobson, who deals with loop quantum gravity and was the first to find exact solutions to the Wheeler-DeWitt equation, has been successfully developing a privileged system theory for many years. ((I don't know it and I haven't read. For me, the closest to the privileged system may be that Euclidean flat space-time that was not flat at the beginning after the big bang and which "today" "aged 13.8 billion years" is "globally" *almost* flat / locally /, yet it is still variously crooked http://www.hypothesis-of-universe.com/docs/c/c_362.jpg , the development of that curvature can be as follows: http://www.hypothesis-of-universe.com/docs/c/c_357.jpg ; http://www.hypothesis-of-universe.com/docs/c/c_239.jpg)). He belongs to similar visionaries of this kind ((who no one in the world has ever insulted or humiliated into nerds, masquerades, pataphysical physicists, etc., as the "intelligents" did in the Czech Basin> led by Prof. Kulhánek <..)) for example, Holger Nielsen, as well as Nobel Laureate in Physics Robert Laughlin and the prestigious Simon Prize winner Grigory Volovik, who are based on the idea , ((oh, everyone has some thoughts, visions, ideas, ideas, someone gets praise for them, another persecution into a madhouse, that Mr. Kulhánek)), that the principle of relativity * could *, ((eh, could, could..., such an idea that "could be", I also have ..., their thoughts read mine not and only because of those slanders >people disgustingly evil, furious< about folk thinkers, etc..)) be an emergent phenomenon ((?)) and therefore applies exactly on a macro scale, as we will explain in the following paragraph. ((Well, that's the idea. In my opinion, the "principle of relativity" is misunderstood...; in STR it is the rotation of the systems of the Observer and the observed object due to increasing velocity in ŕ c. The image from the moving object shows dilatations and contractions. In OTR it is similar when we observe two objects in locally curved dimensions of time-space)).

Holger Bech Nielsen (*1941), Robert Betts Laughlin (*1950),
Grigorij Jefimovič Volovik (*1946)

Another interesting step was taken in the theory known as "*Doubly Special Relativity*" (DSR), associated mainly with the work of Giovanni Amelino-Camelia and João Magueija. Einstein's special theory of relativity is based on two postulates: the first is relativity of motion, ((and the physicists' narration that galaxies "stand" and the space between them "grows-new points are born" ..that this is meant as ?)) , the second is the invariance of the speed of light (Lorenz invariance). ((? The photon in the basic flat - unpacked - space - time does not fly, it "stands" c = 1/1)). Until recently, it was not known that it is possible .., ((until recently, no more things were known that can be... possible!)) to construct a consistent theory with the altered second postulate. In this * new version* of the theory of relativity, not only is the Lorentz invariance> independence of the speed of light on the observer's motion <, but at the same time * required * and ((who requires? physicists for the Universe, or for God? or vice versa?)) the validity of the so-called Planck invariance, ie the independence of the Planck length on the speed of the observer's motion - *the Planck length appears ☹ to be the same in all reference frames.* ((And how will Planck's "interval" appear to physicists when other units are chosen? Or when a different pace of time is set?))

Giovanni Amelino-Camelia (*1965), João Magueijo (*1967)

The motivation for this construction is simple - if we start from the idea that Planck's cell is the smallest quantum of space and Planck's energy is the largest quantum of energy, ((Planck's length to the third?, Yes? .. Quantifying space is useless. Continuous hungry Euclidean space, "hence space-time", when you curve its dimensions, you get the "grainy foamy" state of space-time http://www.hypothesis-of-universe.com/docs/c/c_036.jpg and... and such is already on those Planckovsky scales even without "quantizing" into some cells..., which is a completely irrelevant act: to produce a platform of gaps and cells.)) and Planck's energy is the largest quantum of energy, The quantum of energy will also be only "packages" of packed dimensions of two spatiotemporal quantities...; Why "quantize" something that already exists in the real-quantized universe as foam? ; dimensional foam is by its very nature a "quantized environment", see http://www.hypothesis-of-universe.com/docs/c/c_167.gif , like the state of en-dimensional space-time for string theories, it is also essentially as if you

have "quantized" space-time...; he - foam - shows "clusters as packages" of packed dimensions, see http://www.hypothesis-of-universe.com/docs/c/c_283.jpg ; even so, "quantized space-time" is presented)), then the question naturally creeps in, how to preserve the invariance of Planck's length and Planck's energy to all observers, regardless of their relative velocities.. ((And why do you need it?)). It was this obvious problem that Giovanni Amelino-Camelia first realized in 1999. Created by ((modeled, ie "raped" it so that...)) the theory according to which the relativistic effect of length contraction on subquantum dimensions deviates from the predictions of the special theory of relativity and on Planck's length disappears completely. ((The present invention is similar to the renormalization, or similar to the fine way of linearizing a curve (e.g., a parabola), by cutting it into infinitesimal pieces and then re-gluing them together and having a line. http://www.hypothesis-of-universe.com/docs/g/g_039.pdf Just a scam on PRINCIPLE, bulgarian constant.))

In 2000, Joao Magueijo, Andreas Albrecht, John Moffat and Lee Smolin developed a modification of the special theory of relativity based on the invariance of Planck's length. Their work was built on the old and almost forgotten construction of Vladimir Fok. The problem was how to maintain the principles of special relativity, but change its rules so that ((how to keep the goat to eat and the wolf stay whole,? well great!)) all observers agreed not only on the universal value of the speed of light, ((O.K., ie c = 1/1 with any choice of units)), but also on the universal value of the Planck length. ((? How did it actually prove that the gravitational constant -number- is the same throughout the universe nyní, now and in the past ????)). Only photons move at a constant speed in this construction ((O.K.; c = 1/1)) with low energy compared to Planck's energy. ((So this "changed" rule will ensure that the principles of STR are maintained?... But STR clearly proves that this is a rotation of systems !!! between the Observer and the observed object, which has v > c.))

Independently of this work, Giovanni Amelino-Camelia used the apparatus of mathematical theory of quantum groups teorie kvantových grup developed by the British mathematical physicist Shahn Majid. Majid's goal was to find a unified mathematical expression of the basic concepts of the theory of relativity and quantum theory. He arrived at a revolutionary generalization of classical symmetries in the form of quantum groups and a subsequent modification of Einstein's theory of relativity in the context of so-called noncommutative geometry nekomutativní geometrie - the discovery of the mathematical physicist Alain Connes. ((And the generalization of symmetries will make the reality of relativity easier or simpler for us? >In mathematical descriptions, perhaps... <, but what's the point? For math? Probably yes, because that's how Zoul presents it, I quote again : the goal was to find a uniform mathematical expression of the basic concepts of the theory of relativity and quantum theory. ((ad 01) Relativity is basically explaining the curvature of space-time dimensions and... and quantizing dtto as a substitute for the fact that the world is already crooked on the Planck scales - it is buoyant, which seems to be "quantized".)) One of the great achievements of noncommutative geometry is that **leads directly to the standard model.** ((**HDV also leads directly to the model of elementary particles** by the production-implementation of "packages" using their two-dimensional dimensions. http://www.hypothesis-of-universe.com/index.php?nav=e)). If Maxwell's electrodynamics is rewritten into the simplest possible non-commutative geometry, we get the electroweak unification of elektroslabé sjednocení Weiberg, Salam and Glasgow. In other words, the Higgs field

automatically emerges ((again as a certain state of curvature of space-time, ie its dimensions)) and electroweak interaction.

Shahn Majid (*1960), Alain Connes (*1947)

This mathematical apparatus proved necessary for the successful expression of DSR. In DSR theories, higher energy photons travel slightly faster than low energy photons. However, as their energy approaches Planck's energy, their velocity increases beyond all limits. ((Mathematics can do wonders - not even the Universe itself can.)) Because there were huge temperatures and energies in the very early universe, the speed of light was much higher, according to DSR. ((Quite the opposite... because space-time was extremely curved, so even after choosing units c = 1/1, an observer outside the early universe would have to observe a "distorted" size of céé, ie c = almost zero / almost zero.)) If the validity of the DSR was confirmed, inflationary cosmological models ((which we talked about in the fifth volume)) could become useless, because all areas of the universe could once have v pátém dílu been in causal contact, ((O.K. which corresponds to extreme foam space-time. Simply and simply from me: start thinking about two-quantity universe in which matter is born-by "packing" the dimensions of space-time a., and the physical field also by "setting" a certain curved geometry)), and thus they were able to easily synchronize their temperature.

Jerzy Kowalski-Glikman (*1970), Laurent Freidel (*1968)

In 2001, the above-mentioned group of theorists, with the significant contribution of the Polish physicist Jerzy Kowalski-Glikman and the French theorists Laurent Freidel and Ether Livin, the above-mentioned group of theorists * managed to prove the * logical * certainty * of the whole theory on the model of three-dimensional spacetime. ((And on the 3 + 3 dimensional model, there was no doubt? Why?)) According to this new theory, there is an absolute frame of reference on the Planck dimensions, which makes it possible to absolutely distinguish the motion and calm of particles. ((Motion is the dynamics of boiling, foaming and packing of dimensions of two quantities..., where there is a totally flat 3 + 3D space-time, there is no motion anymore because there is no "what" to move, because mass particles are made by packing dimensions (and then " they swim "and move" on dimensions "in less curved states of space-time), so first the dimensions must be distorted in order for" matter "to" form "and then there can be" movement "jak, both simple and undeniable, Mr. Zoule.))

The Emergent Nature of Time - "Emerging"

http://www.hypothesis-of-universe.com/docs/c/c_081.gif Although the observational data have not yet confirmed the somewhat extravagant prediction of DSR sides of different photon velocities of different wavelengths, space discretization actually leads to natural conservation of Planck's invariance even without the need for DSR. As we approach the Planckian dimensions, * the movement * becomes less and less continuous, which quite naturally generates a disruption of the Lorentz invarin at these scales. ((Not movement, but continuous "ceases" to be space-time itself. This is because of the "graining = foaming with" dimension..., because such an environment already looks like *"gaps and something"; like grains white and black; like flickering with the field, or as a volume with "zeros and ones", as "clusters and non-clusters", as Something and Nothing,* ; simply the continuity of the non-curvature changes to the extra-curvature of that discontinuity, simply the graininess, the foam)), ((After all, the same from a different angle))

Subquantum mechanics leads to a kind of motion in which one parton ((which is Mr. Zoul's abstract conceptual product in his abstract theory of Blandria)) disintegrates so that his identical copy is immediately created by a discrete step (Planck's cell) further. The causal connection between the two conditions - past and subsequent - is different from the macroscopic causal connection ((O.K. the macroworld of space-time "only expands" in one direction http://www.hypothesis-of-universe.com/docs/c/c_239.jpg and thus also the time dimensions in that 3 + 3 D of space-time. Whereas the microworld around plank values is an environment of "foam" of dimensions that collapses and unfolds in the reality of changing interactions . Interactions are nothing more than "overflowing" of curvatures of dimensions from object to object, from field to field, it is a boiling environment of changing curvatures..., packages "intersect" in interactions and float in a less curved environment, etc., etc. time "there and back" within matter, causal connection does not have to be there, QM is linear OTR is nonlinear, in it the expansion of dimensions runs in one direction, from the past to the future)), requiring the preservation of Lorentz invariance.

This can be demonstrated on the example of the movement of a light reflection, or the end of a rotating rod, where there is also no direct causal link between the previous and subsequent state. Therefore, these objects of the microworld are not bound by the Lorentz invarianty ((Objects do not change are topological muscular packages that are topologically packaged into a precise "given" package, elementary particles are a clone, but the subsequent states of interactions of living "configurations" of the genesis of transformations are in a more collapsed space-time. described perfectly - for jerks)) in their motion, and their shape does not deform as the Lorentz moves. They do not change even when the speed of light is reached and can easily exceed the speed of light. ((?? In an absolutely flat CP it cannot be larger than 1/1 http://www.hypothesis-of-universe.com/docs/c/c_038.jpg)).

For proof, we can imagine a rotating laser pointer that surrounds a circular wall with a radius of 1 km and then spins at 300,000 revolutions per second. It will take a fraction of a second for the laser to light up to reach the wall, leaving a spot of light (reflection) on it. From now on, the light spot orbits the wall 300,000 times in a single second. It covers a distance of 300,000 × 2π kilometers. However, this means that the reflection is 2π times the speed of light and thus completely obviously violates the Lorentz invariance. Naturally, it also retains its own invariance of shape and size. Otherwise, it would shrink to zero as soon as the speed of light is reached ((dimensions do so that curl = pack into an infinitely curved foam)) and it would cease to be visible. During his superlight pilgrimage, he would even acquire the imaginary content of his surface (a negative number below the square root in Lorentz's length transformation). However, nothing like that will obviously happen. The experiment can be carried out by modern means - in the laboratory we can spin small but macroscopic objects at speeds of up to 10,000,000 revolutions per second.

As we reduce the resolution under which we observe space or observe objects composed of an ever-increasing number of particles, decoherence will occur and the originally discrete shifts of the spatial lattice elements will become increasingly difficult to distinguish. The motion of the observed object as a whole will become more and more continuous, although its individual elements will perform only discrete steps. However, due to the decoherence of these steps, their discrete nature will no longer be relevant to the movement of the object as a whole. Thanks to the phenomenon of emergence, the originally discrete motion of subquantum elements thus leads to a continuous character of the motion of the object, preserving the Lorentz invariance.

This shift from the disruption of the Lorentz invariance to its exact preservation does not occur abruptly, which is quite typical for the phenomena of decoherence and emergence. On the contrary, there is a gradual transition from discretely bouncing subquantum objects to continuously flowing macroobjects, which we call the quantum world. ((Mathematical Equilibristics (dialogue was already in 2010) http://www.hypothesis-of-universe.com/docs/g/g_037.pdf))

In the whole theory of relativity, the deformation of time is always in some way dual to the deformation of space. ((O.K.)) We can always use one or the other to explain our observations. What Bob explains by slowing down the clock in the Alice system is, for

Alice, only the result of distortions in spatial lengths in the Bob system, and vice versa. ((When rotating the Observer's systems and the observed object, the Observer senses longitudinal intervals as contractions and time intervals as dilatations from the object.)). This principle can be clearly demonstrated on the example of the movement of muons mionů in **the so-called secondary cosmic rays**: this arises in the upper layers of the atmosphere by the interaction **of the so-called primary cosmic rays** primárního kosmického záření coming from the depths of space with air atoms. A muon that is formed by such an interaction at an altitude of about 9 km above the earth's surface ((it already has a rotated 3 + 3 D system, so it carries it already rotated from outer space, or it rotates by "interaction" with the atmosphere .., I don't know)), disintegrates so fast that according to classical physics ((ie in a particle accelerator where the system of the accelerator and the system of the muon formed in it are not rotated relative to each other)), he had to cover only 450 m, which would prevent him from reaching the surface. However, experiments show that muons hit the Earth's surface in very large numbers ((because in the space muon its "own" system is rotated relative to the Earth's system, ie it runs at a different pace of time than on Earth)) - even on at sea level by the major component of secondary cosmic radiation. This apparent contradiction is explained by Lorentz transformations ((exactly, these transformations are not "transformations", but rotations of systems, which is by their rosy nature of dimensional curvature)): The observer on Earth easily calculates that due to the high velocity of the muon 20 times slower, ((yes, his "own" time runs differently, at a different pace it is dilated, ie its time dimension in the system of 3 + 3D space-time is rotated, and thus its time interval 20 times longer corresponds to one terrestrial time flow interval... classical STR: it seems to us that the missile commander ("v" → "c") has dilated time, lives 20 times slower, time flows slower, but this is not true. The missile commander does not observe any change in the pace of time, but, the Earthling reads from the rocket the intervals that are, the Earthling receives information" photon" that flew from the rocket, from its system rotated and thus brings us" relativistically "other intervals ..)) so mion in terms of the system connected to the Earth lives 20 times longer than in terms of its own system. This allows him to cover a distance 20 times and reach the earth's surface.

Now imagine for a moment a hypothetical quantum observer traveling within a muon. Its hours have relentlessly ticked the time of its life, which is only 2.2 μs. ((And that's the buried dog. Inside the muon - as Zoul wants - inside the rocket - as I mean - the commander "in his own system" has a watch - cesium that ticks at the same rate as on Earth, - the mechanism for making ticks ticks the same everywhere - but when comparing the rocket commander's watch with the watch on the ground, with the sent information, the two systems rotated according to STR / Lorentz transformation / are compared and so the terrestrial observer observes different time intervals on the muon = in the rocket than on the ground... .with the strange difference that the two observers with their systems are close to each other, while the quasar,> behind the last galaxy <, which has "v" → "c" towards us, has such a rotated system (almost by 900) http://www.hypothesis-of-universe.com/docs/c/c_009.jpg that it is almost on the verge of observability..., therefore we say that time is almost not running on the quasar, we observe that it is dilated, but we only observe it, otherwise on the quasar itself they the inhabitants of Kvasar do not observe any dilatation)).

Even if it rushes to the Earth at a speed close to the speed of light, it is easy to calculate that it will cover a maximum of 450 m in such a short time. However, because the result of the same experiment seen from different systems ((rotated systems with each other, ie with dilated time, and contracted length !!)) can not differ, those 450 m will have to

be enough to reach the earth's surface. However, this means nothing more than that, from the point of view of the muon-related system, the muon-Earth spatial distance appears to be 20 times shorter, ((because it is rotated and the intervals are either shortened or extended)) than in the case of the Earth-related system. ((O.K. but the reason is the rotation of the systems; if the missile could fly at a speed "v" → "c" close to Earth, we would also "find" by scanning (its time dilated intervals) to our transom, that the commander of the missile ages 20 times slower and... and but it is not true, **the commander does not observe any dilation in his system** (!) his watch is ticking cesium with the same frequency as on the ground.)).While one observer used time dilation to explain his observation, the other observer explained his observation of the same phenomenon by length contractions. ((Rotation of systems.)) ((rotation does not eat the same as rotation, the compiler does not want to translate "rotation" for me)) Both explanations are dual in the sense that they lead to the same prediction - the collision of the muon with the Earth.

Consider another example: positive and negative charges of the same magnitude with a linear density τ evenly distributed on a straight line (typically inside or on the surface of a straight wire). If both types of charge are at rest, this line will be electrically neutral. Let us now imagine that the charges of one sign, for example negative, begin to move at velocity u. According to the law of length contraction, the linear density of negative charges increases to −γτ and the line becomes charged with linear density γ (1 − τ), where γ = 1 / 1 β β2 −−−−− √, β = u / c. If we now have two such, for simplicity identical parallel lines (typically two parallel conductors) at a mutual distance r ,

they will exert an electric force on each other

fe = τ2 (1 − γ) 22πε0r.
(1)
To determine the total force acting on a unit of the length of the second line, we must determine separately the force acting on the positive and negative charges. Positive charges are probably affected by force f = τ2 (1 − γ) 2πε0r.
(2)
If we go to the rest system of negative charges of the second line, we find that the same force acts on them from the side of the first line. The resulting total force per unit length of the second line will be f = 2τ2 (1 − γ) 2πε0r. (3) By comparing (1) and (3) we find that the total attractive force
(3)
is much greater than the slight repulsive electric force (1). The mere Lorentz transformation thus created a measurable attractive force between the conductors

f = τ2πε0r (1−11 − β2 −−−−− √) ≈ − μ02πu2τ2r = −μ02πI2r, (4) which at low relative speeds (compared to the speed of light) of positive and negative charges corresponds to the magnetic force as described by Ampere's law. Note that although it was advantageous for us to describe the generation of magnetic force through the contraction of lengths in a system of charged particles moving inside a conductor, the previous example with a muon confirms that there must be a complementary description of the whole situation from the laboratory's point of view. play time dilation. Although such a description is far from illustrative, it is physically dual to our explanation of the origin of magnetic force given above.

Thus, we can say that while on a macro-scale it effectively appears relative to time, ((by sensing the intervals from the rotated system to the observer's basic system, http://www.hypothesis-of-universe.com/docs/c/c_009.jpg , which "reads" the long time interval into the basic system unit interval, ie back to the unit earth interval must project into an n-fold long interval on the rotated system)), as well as space. (depending on the point of view of individual observers, as we have just demonstrated in the example with the muon), on Planck scales, space and time become absolute, because a solid spatial lattice with invariant cell volume forms the underlying layer for the microworld, ((explanation is difficult... in the macro world there is gravity and therefore still slightly / into a parabola / curved space-time, but in the micro-world there is foam, there is a grainy space-time)) and changes in the arrangement of partons within this lattice (crosses inside the cells of a 3D five-square world) define the local speed of time. But as we will see immediately, over time it becomes even more complicated. Let us define the **geometrodynamic time** (measured in meters) by the relation

$$t' = ct,$$
(5)
where t
is the normal time measured in seconds. Then the space-time interval element is expressed in equality in Minkowski geometry $s2 = x2 + y2 + z2 − t'2$,
(6)
on which the fact that the time parameter appears with a negative square is at first glance. This is the strange behavior that distorts the validity of Pythagorean theorem in Minkowski spacetime . The square above the hypotenuse here is not equal to the sum of the squares above the space and time perpendicular, but paradoxically their difference. Thus, over time, the general theory of relativity does not treat space in the same way as it does. ((O.K.))

James Burkett Hartle (* 1939)

In 1983, however, Steven Hawking and Jim Hartle noticed that this problem ((he was a problem ?, and in what? http://www.hypothesis-of-universe.com/docs/c/c_005.jpg http://www.hypothesis-of-universe.com/docs/c/c_430.jpg)) can be elegantly solved by using a trivial mathematical transformation, namely by multiplying the geometrodynamic time by an imaginary unit: ((I am not a mathematician and I cannot judge.)) τ = it ′.
(7)
This simple transformation has a rather dramatic effect, since the square of the imaginary unit is equal to minus one, which equates the time parameter in Einstein's equations with the spatial parameters: ((you perform cumbersome mathematical "magic" because you do not explore the possibility of real 3 + 3D space-time)) s2 = x2 + y2 + z2 + τ2.
(8)

In Hawking's four-dimensional spacetime with an imaginary timeline, the universe and all its parts appear to be completely static, not subject to any space-time changes. ((Use ?? 3 + 3 D spacetime and you don't have to confuse time with length.)) Time is just another coordinate of static four-dimensional space. All past, present and future moments here form only various static points of spacetime existing independently of their history. The freedom of our decisions, together with the idea that we can influence future events, seems like a mere illusion in this scenario - all our decisions and their consequences are already predetermined by the fixed structure of the space-time continuum. ((You force the Universe as it should and what it must look like, you don't know the advice and the time, and that's why you do violent somersaults mathematically.)) Only the neglect of the imaginary unit at the time coordinate (transition to the common concept of time) creates the illusion of a kind of drift along the time axis, as a result of which we gradually reach the individual worldpoints of the otherwise static space-time continuum, which causes the appearance of space motion and its changes. ((Imaginary time is a violent illusion in order to replace the letter "t" with the letter "τ" in mathematics, which is to be a length dimension.))

It has long been known that in a strong electric field we can create a pair of positively and negatively charged particles. One way to explain this is to notice that in a flat Euclidean spacetime with an imaginary time axis, a charge particle q, such as an electron, moves in a homogeneous electric field E in a circle. This movement can be extended analogously from the imaginary time τ to real time t ′.

We get a pair of positively and negatively charged particles rapidly moving away from each other under the influence of an electric field (see Fig. 1).

Giant. 1: Motion of a charged particle in an electric field in an imaginary (above) and in real (down) time The process of electron-positron pair formation is then described by cutting both diagrams in half along the axes t '= 0 ,

resp. τ = 0

and the composition of the upper half of the real-time Minkowski diagram and the lower half of the Euclidean solution with imaginary time (see Fig. 2).

Giant. 2: The process of electron-positron pair formation in imaginary time

This gives us a picture in which positively and negatively charged particles are indeed a single particle. It tunnels through Euclidean space from one Minkowski world line to another. Pair formation in a strong electric field has been observed experimentally and its frequency agrees with the predictions of Hawking-Hartle theory.

The introduction of imaginary time into quantum cosmology has led to a real revolution in our understanding. ((Whoever understands the imaginary universe, raise his hand)).

((Try to revolutionize HDV, where the idea is to build elementary particles by packing 3 + 3 spatiotemporal dimensions. Interactions run in locations at the microworld level by dimensional curvature.)) Understanding the process of quantum universe generation in the early days of real-time existence. ((Quantization is a failed idea for physicists, because the universe does it differently: it curves dimensions into granular foam, which then appears to physicists as "quantized" space-time.)). We even managed to compile the wave function of the whole universe and the Schrödinger equation describing its shape as a function of imaginary time, ((succeeded?)) Similarly to quantum mechanics we describe the real-time evolution of the wave function of quantum systems.

This whole theory naturally evokes questions about the nature of the relationship between the real time of everyday life and imaginary time, ((mathematical construction only)), which seems to play a crucial role under the somewhat extreme conditions prevailing on submicroscopic dimensions and enormous energy densities. ((Those extreme conditions are just in a state of extremely curved dimensions in that dense foam"boiling".))

Giant. 3: Creation of the Universe viewed in imaginary time

A similar situation can be imagined, even with regard to the initial state of the universe. ((Why can't HDV imagine packing dimensions that then "float" in a less crooked environment?)). Our usual notion of time is exceeded in this quantum-cosmological environment and becomes only another spatial dimension. ((The Rape Universe.))

In fact, physicists have often used this time-space change trick to solve certain problems in conventional quantum mechanics, although they did not imagine that time really becomes space. At the end of the calculation, they simply moved back into the framework of the usual interpretation, in which there is one dimension of time and three (qualitatively different) spatial dimensions. ((Mr. Zoul, how do you physically distinguish "dimension" from "dimension"? On paper dimension and in the Universe dimension?, Yes?)).

The radical nature of Hawking-Hartle's quantum approach to time is that with time ((that is, in the equations - not in the true real-universe.)) it treats as if it really resembled space in the supreme quantum gravitational environment. As we begin to move away from the beginning of the universe, we expect quantum effects to begin to interact and interfere with each other ((the wavy turbulent surface looks smooth from a distance http://www.hypothesis-of-universe.com/docs/c/c_016.jpg)), how the crests of the waves meet the wave valleys and that the universe will increasingly follow the classical orbit.

As we move back toward the beginning of the universe, the significant nature of time as qualitatively different from space is increasingly dissolving, and time is gradually becoming indistinguishable from space. ((If so, mainly because in foam 3 + 3D time "runs" chaotically, ie the arrow runs forward-backward, up-down, there-and-back, while in the macro-world of expanded dimensions, time is already running in one direction. Even Kulhánek did not understand.→ http://www.hypothesis-of-universe.com/docs/aa/aa_203.pdf)). This timelessness of the original quantum state was designed by Hartl and Hawking ((I suggest HDV, what do you think? Cowardly

exalted ignorance)) for its economy and also because it circumvents the singularity ((temporal or spatial singularity?)) in the initial state of the universe.

The consequence of this theory is the absence of a certain moment or point of creation - the initial singularity, where the values of the physical fields are infinite. ((I suggested an "inflation jump" in the sense of an "immediate" change in the state of the original flat Euclidean smooth 3 + 3D space-time to an extremely crooked 3 + 3D non-zero location - our future Universe..., with the "" event " such..., occurs "at any time", and the new "curved dimension" locality occurred "in the previous" infinite 3 + 3D, and the locality is arbitrarily large, because in the infinite state of space-time units cannot be determined. And it must be added immediately that Time is only an artifact = a quantity of the "name of the stoic state", where the flow of time occurs only when it begins to move "along time dimensions" = moving the observed object-subject, which cuts the intervals. Time does not run out for us, but we run "after" time, after the time dimension, and as we cut those time intervals, we perceive it as the passage of time. / Mr. Zoule, you didn't understand. And I know why!! Because you haven't found the courage in 15 years - because of your arrogance - to open my website and read it /. Before big-bangs, "time didn't run" because there was "nothing" to run around the time dimension. After the big bang, there was a "boiling vacuum" - boiling distorted dimensions, and in it objects were packed from dimensions and they "began" to move along the time dimension... etc., as HDV says.)). Looking back on this moment, which we called the zero of time, ((I have just explained the "zero" of time)), the very notion of time weakens. ((O.K. the idea of the "flow-flow" of time fades because in Ve bangs and before it time does not flow)) and finally time, in the usual sense of the word, completely ceases to exist. ((→ The passage of time ceases to exist, not Time, which is the quantity of the Existential Existence.)). Elementary particles are locally fluctuating in time ((in the foam of curved dimensions = plasma "runs" time chaotically "forwards and backwards", ie fluctuates)) without a clearly defined arrow of their flow ruthlessly slips back and forth in all directions, ((finally I praise this idea, it is identical with my...)) until they lose any idea of temporal succession and spatial proportions - space and time become a rather hazy landscape for them. (("Boiling Foaming" 3 + 3D environment, which means chaotic distortion of dimensions... how understandable, Mr. Zoul... and how incomprehensible to people who hate "people thinkers")).

Again, this can be explained by the elementary level of the description of the world on the Planck scale, where the thermodynamic arrow of time cannot be introduced ((O.K. in foam no)), as we showed in the fourth chapter. Parton oscillating chaotically between the cells of the five-square world we can understand as a particle jumping between connected vessels. In the fourth chapter we have shown that all configurations of such a system are equally probable ((O.K. In boiling foam yes, But in this foam wonders begin to happen according to the rule of alternating symmetries with asymmetries without which genesis could not occur, development to its present form: complexing of states, conglomeration of simple packages into more complex and complex ones. standard model, then atoms, then molecules, then compounds, then chemistry, then biology, until DNA...; a) "expands" to global sizes and on the other b) its localities also collapse into more complex and complex structures .., ie. dimensions are collapsing, of course. Otherwise, we would not even notice the existence of entropy in the Universe (without collapsing and expanding dimensions). - Maybe one day you'll understand... even that you insulted me unnecessarily in a crowd frenzy)) and it is therefore impossible for him to introduce a thermodynamic arrow of time ((physicists like to introduce "something" to the universe instead of observing "what" the universe itself already has...; and what

physicists do not observe, to introduce it - the Universe – themselves)) was given by the growth of entropy from more ordered and thus less probable states to those with more probability and entropy. ((Zoul's interpretation is imperfect, = low-scientific. It's a little different: Since the Big Bang, it takes place in parallel: A) global plasma unpacking = "boiling" state of 3 + 3 dimensions and B) packing of 3 + 3 dimensions into increasingly complex and more complex systems, so more complex and even more complex ones are "born" less and less http://www.hypothesis-of-universe.com/docs/aa/aa_037.pdf ; http://www.hypothesis-of-universe.com/docs/g/g_041.pdf , .. that is, in the Universe the most complex matter is the least (and that is exactly on Earth - see the pyramid). I want to say that *first* there must be a "production of those orders = higher complexity of the system", so that *then* there can be an entropic phenomenon, ie a thermodynamic arrow "unpacking = disintegration" of highly complex = arranged in complexity curvatures to a less complex-ordered state with a smaller set of curvatures, i.e. a state (most) ordered on less ordered systems. Transformation-transformation of the state of the "most ordered" = Euclidean flat 3 + 3D space-time to a state of extremely chaotic = crooked disorder happens in the universe by a "jump". And then the entropy happens slowly - the unfolding of the dimensions, that is, the states with higher order change into less ordered, the entropy increases. So in space: there is always a "jump" of "smoothness" to "curvature" and then gradually the curvature - over time - changes to smaller and smaller curvatures. Why ? I don't know yet. The first "jump" occurred in the Bang...; and more and more then followed.)) The situation can be compared to a pendulum clock that someone tore off their hands. Whenever we look at the clock, we can read the position of the pendulum. However, in the absence of a mechanism to record and display the number of pendulum swings on the dial, the clock does not display anything other than the position of the pendulum at all times. ((Of course. The clock is a "mechanism" only for "jumping" measuring the interval on dimension...; the number of "stepping intervals" is then time = the sum of the intervals from Bang to this day.)). The identical position of the pendulum can occur at a single moment, as well as after any number of oscillations. In the absence of a system for counting and recording the number of pendulum swings, the usual notion of time disappears, even though the motion of the pendulum is demonstrable. ((Physics registers the "notion of time", that's it. So far there is little knowledge of "time." Time is a quantity-phenomenon. Time has dimensions. on the dimension intervals and a “set of consecutive intervals” is the passage of time.The pace of flow changes in the eyes of the Observer “how” he observes the 3 + 3 D system on whose dimensions the “slicing” of intervals is performed and how the systems observed with each other (dilatations, contractions, etc.). The pace of the passage of time thus changes "in time" and the "stop-state" of the universe. Etc. , little is known about "time" so far.))

))*((

Time itself does not run ale, .but it is possible to distinguish two, *at least two*, rates of passage of time:

a) in the unpacking of the Universe, ie the unpacking of the three time dimensions of space-time from Bang, which leads to the "aging" of the Universe, eg here the auxiliary image → http://www.hypothesis-of-universe.com/docs/c/c_081.gif ; http://www.hypothesis-of-universe.com/docs/c/c_239.jpg (the three time dimensions are not visible here - but the spatial ones, which are also "not visible", can be imagined by Maruška from 6A ; http://www.hypothesis-of-universe.com/docs/f/f_047.jpg ;) a

b) the rate of passage of time here on Earth in the time 13.8 billion years since the Bang, which we do not know (and probably will not know for long) how great it is compared to "*zero* rate t_0" (*infinitely large time interval*) and "*one rate* t_1 " (Selected interval) on the photon, and t_z on the Earth (interval until comparison with

"c", ie 1 / 0.000000003335640929);… **c = 1/1 = x_1 /t_1 > w = x_1/t_z > u = x_1/t_0 ;** http://www.hypothesis-of-universe.com/docs/c/c_048.jpg ; Are you adamant that the pace of time is the same everywhere between galaxies and galaxy clusters? and "now" 5 billion years ago? http://www.hypothesis-of-universe.com/docs/c/c_362.jpg I will give you a picture of the "tempos of time" from my earlier work in building Lorentz transformations →

Dostávám se k vysvětlování své konvence :

$$1 = c > w = w > u$$

rychlost uúú je pak taková, kde současně klesá čitatel a roste jmenovatel vůči céé

$$1 = \frac{x_c}{t_c} > \frac{x_v}{t_c} < \frac{x_c}{t_w} > \frac{x_v}{t_w}$$

symbolicky uvedu číslo, které je tím číslem, ke kterému se veličiny blíží

$$\frac{1}{1} > \frac{0}{1} < \frac{1}{\infty} > \frac{0}{\infty}$$

We do not know at all whether in "stop-time" *across the Universe* whether there is the same pace of time in every place in the Universe as on Earth.

c)… and we definitely know about other "changes in the passage of time" see STR A all three a); b); c) the possibilities lead to combinations and .. this is already a nice goulash not only in the stop state, but also during the genesis of the Universe to this day.

))*((

Indeed, at the level of the Planck world, no such complex system resembling a clockwork exists yet. ((Sure. On the Planck scales, the boiling foam of dimensions still "reigns" = high variability of dimensional curvatures where "if someone is running after a dimension" (time or length), then he runs to the right for a while, runs to the left, then up, and down and back forward, that is, the "passage" of time is not one way. It is an "expansion-expansion" of three time dimensions, which appears to be an omnidirectional flow-time. Three spatial dimensions.That's why I think "quantum mechanics is linear and gravity is nonlinear." The big universe is very much expanded and still expanding, which is in the spirit of one arrow, in the microworld of "boiling arrows" the "cursor after time" runs chaotically. These are ideas that neither Mr. Zoul nor Mr. Kulhánek have any idea about.)). For the existence of *time* we need to reach a certain level of complexity and complexity, which is not yet available in the world of elementary atoms of matter. ((You don't need anything to exist in time, Mr. Zoul; time still exists. It's a space-creating quantity. But the flow-flow of time, this happens as the "cursor = mass object" moves along the time dimension , thus cutting those intervals as a watch that can tick intervals. Mr. Zoula Your hatred will eat you up, instead of being in

harmony with common thinking)). Time thus emerges as an emergent and not a fundamental feature of nature. ((You are lagging behind in understanding the World.))

The highest speed that a parton can rearrange between two cells can in such a world actually exceed the speed of light. ((?)) In the third chapter, třetí kapitole we explained that locally superluminal particle velocities are even the essence of Hawking's event horizon radiation. ((Explain not to prove.)). Only the averaged, essentially emergent, rate of change in the rearrangement of the parton arrangement in the lattice ultimately defines Planck's time as a certain "macroscopic" limit. ((Limit of "what"? Planck's time = interval per dimension.)) So this is probably not the shortest possible moment in the microworld, but again an emergent property. ((And you already have in your "physics" inventory of what is "emergent" in the universe and what is not? ..?)). Thus, we can redefine the whole matter so that the shortest average time required to rearrange the particles within the spatial lattice of the five-square world is equal to Planck's time. A particle that permanently rearranges within a grid so that all its elements change position by one Planck length just in Planck's time, then defines the macroscopic speed limit - the speed of light. ((Any choice of units will be c = 1/1. When converted to "our choices" it is c = 2.9979. $10^8/10^0$. But that c-speed is "today" in today's "stop-state" from Bang . Is c = 1/1 the same at any time since Bang? Probably yes. Today's global universe is expanding = expanding at almost the speed of light, and has been more crooked in the past. So the unpacking was "faster" in the past, it is still slower in the future, because the curvature is almost unpacked. If light comes from us from the quasar, (from the horizon of observability), then it carries the information rotated, (almost 90^0), because it flew "at a time" when the space + 3 + 3D was very curved. http://www.hypothesis-of-universe.com/docs/c/c_239.jpg))

The Hawking-Hartle hypothesis allows us to redefine the motion of particles ((allowing... to whom? The Universe allows it, and the universe, what about the On-universe?)) Slower than light on the Planck scale as a kind of staggering drunkard who, although escaped already 1,000 steps, it is still only a few tens of meters from the pub from which it began its night journey. ((In a strongly curved 3 + 3D space-time, the drunk simply travels to the target along a very crooked longitudinal dimension and a crooked time dimension - the time arrow jumps "forward and backward", "up-down", it is an environment of "foam" dimensions...)) . If we start supplying such a particle, the path of its chaotic motion will be rectified and its effective (emergent) velocity will increase. Like when his wife comes for a staggering drunk to drag him home. ((No comment. Nevertheless: "supplying" energy means "changing the chaos of foaming of dimensions" so that the "certain state of foam" begins to expand, eg to the state of the fields and "another certain state of foam" begins to collapse more, changes more curvature of dimensions, and then this state, “more crooked”, begins to float in the state of “less curvature 3 + 3D.” I have an approximate gif-example here http://www.hypothesis-of-universe.com/docs/c/c_415 .gif ; http://www.hypothesis-of-universe.com/docs/c/c_419.gif ; http://www.hypothesis-of-universe.com/docs/c/c_420.gif while you still have to use creativity of the brain and to model more complex states as they "float" in less complex states of dimensional curvature.It would be good if physicists finally start thinking more boldly. In order for entropy, ie disorder, to grow, the previous state had to be more ordered, but more complex..., but since Bang the complexity is still bigger and bigger .., first only quarks and leptons, then atoms, then molecules, etc. but as I showed here: it starts with plasma 100% - "" the first type of matter "", then "" is produced "" 74% of hydrogen * that amount remains constant *, then "" is *produced* "" 24% helium (and this amount

remains constant), then "" *produced* "" carbon about 0.6%, then oxygen is about 0.004%...,. ; "The amount of each higher complexity of matter decreases geometrically until we get to proteins, for example, 10^{-45}%, and DNA to 10^{-105}%, I make up the numbers, which is just on Earth and nowhere else in the Universe. → complexity pyramid → quality times quantity = 1x1. http://www.hypothesis-of-universe.com/docs/aa/aa_037.pdf ; http://www.hypothesis-of-universe.com/docs/eng/eng_009.pdf This means that every higher complexity = order occurs by a "jump" in the ever smaller volume of the Universe, and this entity then "disintegrates" entropically, ie the local disorder grows. This idea-consideration needs to be specified. (..I will leave something from that Theory of Everything to the studied physicists)...))

The thoughtful reader will now argue that the movement is relative. What seems like a calm to the observer riding the expressway (wagon, seats, passengers) is for an observer standing outside on the platform in motion, and vice versa. So how can there be a relativistic slowdown in the clock in such a world? ((!! Bad question. Clock = mechanism for making tics, they do not slow down, the clock does not, but time itself changes * *flow rate**, respectively **The observer observes** the cursor on the time dimension "in the run, in the shift after it", ie " in three-dimensional length = spaceON, and three time dimensions = timeON as the whole "dashed" system of the object rotates..And so the "for" Observer changes the interval on the time dimension, on all three dimensions. And thus, by rotating the system, the interval for the Observer changes to the time dimension, to all three dimensions)). The answer is that this is not really possible with inertial movements.)). The answer is that this is not really possible with inertial movements. ((Even and straight motion exists only on paper, because the 3 + 3D Universe expands and its curvatures change into "fields" and also by collapsing into mass elements . But let it be: with a uniform motion v = x / t the rate of passage of time does not change)). Inertial forces play a decisive role here, as well as something extra that we will talk about for a while now. Keep your hats on, we'll go downhill. ((?))

Spooky distance action - the second time. ((Do you have a definition of what "action" is? For example, is your "accelerated expansion" of the Universe, is it also "action"? (God knows what) for the size of the chosen length interval?))

Imagine a model situation where Bob stays on Earth ((which we have to fit into, not only "now", but also in every stop-time since the Big Bang..., which is not really possible. Selected point = Earth is not at rest. No , be it: we will pass him "at rest" to all cosmic objects that change position "in time")) while his twin Alice sets out on a journey through space, where she moves at a speed close to the speed of light and then returns to Earth. ((I will not comment on the paradox of the twins here, I have my interpretation elsewhere.)) →

http://www.hypothesis-of-universe.com/docs/h/h_104.doc
http://www.hypothesis-of-universe.com/docs/h/h_103.jpg
http://www.hypothesis-of-universe.com/docs/h/h_102.doc
http://www.hypothesis-of-universe.com/docs/aa/aa_005.doc
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http://www.hypothesis-of-universe.com/docs/n/n_530.doc
http://www.hypothesis-of-universe.com/docs/aa/aa_027.doc
http://www.hypothesis-of-universe.com/docs/i/i_232.doc
http://www.hypothesis-of-universe.com/docs/i/i_233.doc
http://www.hypothesis-of-universe.com/docs/i/i_225.doc

For simplicity, we will assume that the Earth is an inertial system and Alice sets out on a journey by a ship that can reach a speed close to the speed of light in a very short period of time, or change it to the opposite. According to the theory of relativity, from the moment of the start, when both twins ordered their watches for the same time, ((The watch cannot be set to "same time", but a mechanism can be made = watches that will "cut" the same intervals on the time dimension. The watch must tick the same intervals both here on Earth and on the rocket that has "v" → "c ")) their times develop differently. Bob observes that Alice's watch is slowing down. ((The watch does not slow down, time slows down, so the interval changes. How? Bob "observes" this by receiving information from the rocket, ie from the rocket system, which rotates in global space-time, when "v" → "c", so Bob observes = senses the rotated intervals. And for the rotated interval on the rocket and on Earth to be the same, the one on the rocket must be otherwise long "stretched" - dilated. Etc., I do not want to embark on a detailed opposition interpretation, which is on 300 pages elsewhere.)).Alice, on the other hand, observes that Bob's watch is slowing down. Many readers will now argue that this is plain nonsense. After all, it is clear that when comparing the time of two hours, only one can always be delayed compared to the other and it cannot be the other way around. After all, this is no longer just against the laws of classical physics, but against reason as such. (http://www.hypothesis-of-universe.com/docs/f/f_045.jpg)

But as we shall see, the reality is even more mysterious. According to the theory of relativity, the siblings find Alica's rocket during the flight that even after correcting for the final speed of the signals that connect them, Alice's watch actually slows down compared to Bob's and vice versa. The ratio of the passage of time will be the same both on Alice's way there and on the way back, because only the direction of mutual speed will change. For now, let's set aside the maneuvers in which Alice turns the rocket and falls back, as well as landing again at the spaceport, and ask how it will turn out when the siblings fall into each other's arms at the spaceport and start comparing their watches. If Alice's ship was moving at a speed of 0.96 c and was on the road according to the logbook for 14 years, ie 7 years on the way there and 7 years on the way back, then Alice finds out that her brother has turned gray suspiciously and 50 hours have passed on his watch since the start. flight.

We now have a real paradox ahead of us. In addition, Alice knows that during her trip there, only 1.96 years passed on Bob's watch, as did the way back. We can easily verify this from the Lorentz factor for time dilation. So Bob should be only 3.92 years old. Surprisingly, Bob is not surprised when his sister tells him that, according to the logbook, she has been on the road for 14 years, as this corresponds to his 50 years shortened by the Lorentz factor. However, Alice is 46 years old and some of the trivia at the top in counting Bob's time. So how do you explain the difference between Alice's

view of Bob's time and vice versa? Where did the still proclaimed symmetry of the systems go?

Bob sat at the spaceport, which represents one inertial system, while Alice shifted from one inertial system to another on her way around the turn, moving at Earth at the same speed as the original, but in the opposite direction. So is it that the 46 years that we are lacking in time balance have passed on Earth while Alice made her almost instant turn? As incredible as it sounds, such an answer is basically correct. Only its wording is a bit inappropriate. There is no simple "while" in the theory of relativity. In the Earth system, Alice's turn is the current moment when Bob's watch measures 25 years since the start. * So what do the times of 1.96 years after Alice's launch and 1.96 years before her landing in Bobov, the Earth system, mean? In the theory of relativity, one cannot talk about time and place separately, but always only simultaneously. So the time of 1.96 years after Alice's launch at Earth is the same as Alice's turn in a starship system flying from Earth. The time of 1.96 years before Alice's landing on Earth coincides with Alice's turn in the ship's system flying back to Earth. Over the course of 46 years, moments of time will alternate on Earth that will gradually coincide with the moment Alice's turn in all the inertial systems her ship had to go through to change its speed to the opposite of the same magnitude. It sounds fantastic, but the time gap of 46 years really corresponds to the moment of Alice's turn.

Fig. 4 shows Alice's rocket in the Minkowski plane. We see that the rocket takes off from Earth from a rest position and gradually accelerates up to a cruising speed of 0.96 c, which then approaches, for example, a distant planet. Then have Alice perform a braking maneuver and then land on that planet. Let Alice stay on the planet for 3 years, after which she will return to Earth in a symmetrical way. So again, it first goes through the acceleration stage to a cruising speed of 0.96 c and finally slows down and lands on Earth.

Giant. 4: The present lines in the twin paradox

The figure shows the non-inertial sections of take-offs and landings. Because their influence is small, Alice's journey there and back will take about 7 years again. The fan of red lines, which depicts the present in Alice's rocket, is now spread over the sections in which the rocket accelerates or decelerates, ie during takeoffs and landings. In the picture, it is possible to draw on a given scale only a piece of such a line of the present at the places of takeoff and landing on Earth. While Alice is on an alien planet, her time runs the same as on Earth, provided that the planet can be considered approximately at rest to Earth, as the drawing suggests. From the point of view of the non-inertial system, the phenomena described above are often discussed in textbooks of general relativity, because the necessary mathematical apparatus is almost identical to the apparatus of general relativity. However, it is a mere transcription of the relations of special relativity

into non-inertial systems, ie the theory of flat spacetime in general coordinates. The general theory of relativity is usually understood as the theory of curved spacetime, ie the theory of a real gravitational field excited by the distribution of masses, but this is largely a terminological matter.

The forces that sometimes cause us inconvenience in a braking vehicle are apparent forces. Anyone who has ever fallen in a braking bus will not be thrilled by the explanation that apparent force is to blame. However, the fall occurred because while the bus was braking, the unrestrained passenger tried to continue in inertial motion with inertia, and from the point of view of external observers, the force began to act on him only at the moment of impact. Therefore, the force that accelerates it with respect to the car is called "apparent".

Thanks to "apparent" forces, the astronaut in the rocket has different experiences than her sibling on Earth. She paid for her slower aging by being pushed into the back of her seat as the rocket accelerated and felt overloaded in the opposite direction as she braked. So if he was content with a qualitative explanation, the sibling on Earth aged faster because during Alice's accelerating and braking phase, he fell freely in a field of apparent forces indistinguishable from the effects of a homogeneous gravitational field. A mathematical description of the situation will then show that the clock on Earth is really faster in terms of the system associated with the rocket.

However, we can object to this explanation: Imagine that we have triplets, two of them on rockets at the same time, the third remaining on Earth. Both rockets accelerated throughout the year to speeds close to the speed of light. After a year, the first three began to slow down, the rocket turned and returned to Earth. The second few years continued to move in a straight line, and then returned to Earth in the same way as his sibling. If we consider the situation from the point of view of inertial observers on Earth, we come to the conclusion that after the reunion, the oldest will be the sibling who stayed at home and the youngest the one who flew the longest. However, we argued above that the faster clock on Earth can be explained by the presence of an array of apparent inertial forces in the missile system in terms of missiles. But both astronauts performed the acceleration and braking maneuvers in exactly the same way, their experiences and the duration of these periods are exactly the same - they felt the effects of the apparent gravitational field for the same period of time. So how do you explain the difference in time on Earth clock in terms of rocket-related systems?

The answer is that the course of the clock in their systems does not depend on the intensity of the apparent gravitational field, but on its potential. The gravitational force that acts on us on the fifth and tenth floors of the building is practically the same. However, to ascend to the tenth floor we need to do twice as much work as to ascend to the fifth, and conversely, by falling from the tenth floor we gain more kinetic energy than by falling from the fifth. On the tenth floor, we have a larger potential energy, which is the product of our mass and the potential of the gravitational field. And the course of a clock in a non-inertial system depends on the potential, not on the intensity of the apparent gravitational force. When the other astronaut performs a rotating maneuver, the Earth is further than when his sibling turned, and thus is at a higher absolute potential value (in this case, however, we are not interested in the gravitational potential, but in the potential caused by inertial forces). Therefore, the situation in the systems associated with both missiles is not identical even during the rotation

maneuver, and the description of the operation of the clock on Earth looks different in each of these cases.

Joseph Carl Hafele (1933–2014), Richard E. Keating (1941–2006) On an airplane during an experiment with an atomic clock

The effects of time and effects of the effects of the seeming and real gravitational field and their indistinguishable are now very reliably verified. ((Those effects are inherently for reasons by turning systems in crooked space –time)). In the 1970s, physicists Hafele and Keating used three identical cesium standards of time, one left in the laboratory, the other two sent on the air journey around the world (one western and one east). Because the Earth turns towards the east and the speed of both aircraft was approximately the same, it was added up with the speed of the Earth's rotation at the east and subtracted from it to the west. The resulting effect was extremely small, but measurable, and it turned out according to the theory. After comparison with the lesson in the laboratory, the clocks flying east showed less hours flying to the West a little more.

Giant. 5: Scheme of Hafele-Keating's experiment

But let's assume that the rocket moves with constant acceleration, so the astronaut feels the same thing as he sits on the ground. If the effect of apparent gravity in a rocket is the same as the effect of a real gravitational field, then it seems acceptable assumption that the astronaut will age as fast as he takes with him as his "earthly" species against the identical hours on Earth . However, this principle of equivalence of "real" and "seeming" gravity is the angular stone of the general theory of relativity, so that general relativity is still entering the rear door.

From this point of view, the "slower aging of astronauts" is a legitimate props for sci-fi. If the journey of an astronaut, who would have been incidental all the time, lasted a year from his point of view, the difference in the increment of time on the ground would be a month. But if it lasted ten years, tens of thousands of years have passed on Earth and the astronaut could reach the boundaries of the galaxy. ((Time is almost no running on photon, because it flies as fast as the expansion of space-time, *in a position where wide-widespread is not matter or galaxy *..)). However, the possibility of constructing a rocket that moves in this way is scarce. If the speed of the rocket is close to the speed of light, its energy increases to huge values - in the marginal case of light speed it would rise to infinity. It is therefore quite justified that since Isaac Asimov invented hyperspace travel, this method of traveling for galaxy in sci-fi authors has fallen in disfavour. Although hyperspace paths have no support in contemporary physics, at least they do not suffer from the lack of a space agent sent to the other end of the galaxy when many generations are replaced on Earth.

Let us now modify our thought experiment in an even more curious way: let us now again three observers, but while the first observer slows evenly, then accelerates evenly in the opposite direction and sets out on the way to home, the second observer on the

same limited track slows evenly and accelerates again in the opposite direction. Only after several such oscillations will go back. Let us now construct a diagram with lines of the present for both distant Earth and for the hypothetical planet, in which the entire maneuver has taken place in close proximity.

In Fig. 6, we can now see that now the line of the present connects the Earth and the oscillating observer crosses each other. How to explain that during an oscillation of a rocket in the vicinity of a foreign planet, the Earth turns furiously back and forth and passes on it for years, or (at a sufficiently high speed of the rocket and long distance from Earth) even for centuries, with a foreign planet Doesn't that happen almost anything?

The gravitational potential of apparent forces is proportional to distance - we have already explained. Thus, the lines of the present linking a rocket with a foreign planet will thus be influenced much less than the lines of the present -connected missile to the Earth. However, the direction of the movement of the lines of the present is determined not by the size of the potential (which is a scalar quantity), but the apparent forces that act in the rocket (which are vectors).

Giant. 6: oscillating versions of paradox twins

According to the principle of equivalence, analogy with a gravitational field must apply, which says time slows in the direction in which the gravitational force acts. So if I stand on the sea shore, my time goes slower than the time to someone standing on the top of Mount Everest, because I have a gravitational force in the direction of him (he is in the field of gravitational forces above me). Similarly, if I perform a maneuver in the rocket, which is to change my movement from the direction from the ground to the ground to the ground, I feel the power that pushes me through the ground throughout the maneuver. For this reason, my time will run more slowly than time on Earth.

As soon as I turn the situation and now I will try to turn my movement from the direction to Earth to the direction from Earth, my time will speed up on the ground on the ground, for the whole time of my maneuver will affect me towards the ground. I will now perform in the role of an observer standing on the top of Mount Everest, which compares a watch with someone who stands in the gravitational field below it - perhaps on the shore of the sea.

While in the gravitational field the power never ceases to operate and to change the potential it is always necessary to do some work (whether positive, when we climb up or negative, when we descend down), if we move evenly and straightforward empty space,

we change the position without They did a job, ie without consuming any measurable energy. But is it really?

Let's imagine a model example where we let a photon oscillate between two mirrors, which are slowly moving away from each other somewhere in space. ((I ask: in your model, those mirrors fly with an inertial effect? Or a global "expansion" of crooked space-time? From the Big Bang http://www.hypothesis-of-universe.com/docs/c/c_302.jpg)). What will happen? The photon will lose energy in the so-called Doppler effect. But where does that energy go ? Leaving aside the small part that is used to speed up the mirrors (?) with each photon reflection, most of the energy is stored in the expanding ((intergalactic)) space (vacuum) between the mirrors. ((Who rotates his plane, his own system. Does the photon fly along a crooked trajectory? To fall vertically)). If we send the two mirrors back against each other, the photon gradually absorbs the energy it had previously stored in the vacuum. The very change in the distance of two objects in space is thus associated with changes in a certain type of energy. ((Or everything is different.!))

Doppler's shift between mirrors moving through otherwise empty space and the expansion of a universe full of gravitational matter, at first glance, appear to be two completely different phenomena, having no connection. However, the opposite is true. The observed Hubble redshift ((due to rotation of the systems)) of distant galaxies can be described as well as the Doppler shift, as a consequence of expansion ((rather unpacking)) geometry of space, ((may be uneven http://www.hypothesis-of-universe.com/docs/c/c_362.jpg visually similar to vacuum http://www.hypothesis-of-universe.com/docs/c/c_428.jpg and even the form of the unevenness of the curvatures of the dimensions is also that image of relic radiation)). http://www.hypothesis-of-universe.com/docs/c/c_419.gif as a result, the wavelengths of photons traveling in this space also stretch. If we imagine an expanding space ((= expanding space-time)) as an expanding surface of a fairground balloon ((or better yet, as follows http://www.hypothesis-of-universe.com/docs/c/c_223.jpg ; http://www.hypothesis-of-universe.com/docs/c/c_081.gif , where the "middle" point is "like the nth singularity", once like the Big Bang and sometimes like the nameless point of the vacuum, of which there are billions everywhere in the Universe in stop-state and stop-time)), and individual electromagnetic waves would drawn with a marker on its surface, then we will certainly not be surprised that these ripples stretch the more we inflate the balloon.

We already know from previous chapters that with increasing wavelength of photons their energy (energy originally stored in the electromagnetic field) gradually decreases. It is stored in space itself in the form of hidden "napnelism", which can have measurable effects precisely in the form of the potential of apparent forces, which manifests itself in the dilation of time in the twin paradox. As if individual material objects in the universe were interconnected by a web of invisible fibers that stretch and contract, measuring the ever-changing distances between material objects and influencing the relative course of time of these objects ((relative course of time = variability of the rate of time from the point of view of the basic observer, who obtains information from the object that is rotated by themselves, because they were sent from the "own" system)) of the object whose system is rotated relative to the basic observer system so that the Lorentz invariance is constantly maintained in the universe. ((Lorentz relations are nothing more than a pure example of the rotation of systems, the system of the Observer with the system of the object observed which is in motion)).

If we act on Partons by force (if we supply them with energy), their own time ((The period of the steps of our staggering drunken from the previous chapter)) slows down ((or shortens? !!) to the level of the nearby period of the Ticks of the Planck Clock (10^{-43} s). However, their drift in the world of 3D gomoku is directed, so the emergent speed of the system increases. Today's lines are immediately adapting to this literally throughout the universe and slowing all quantum processes, which effectively affects the flow speed-gas rate- time dilates. ((Where do they slow? "On Parton"?And the whole universe changes the present present? And in the "present" will the "pace of time pass" change? All this when delivering energy to Parton? Your visions are more or less furious .. and detached from "basic physics".)). And even more crazy, this synchronization will suddenly take place throughout its only renewal pulse on Planck's time. (??) .... ((What is the head for the instructed public, Mr. Zoula, that you will applaud Prof. Kulhánek. This is your physics high-intelligent.))

The physical essence of Heisenberg's principle

My view of Heisenberg : Something does not smell me on the principle :
http://www.hypothesis-of-universe.com/docs/f/f_035.pdf
http://www.hypothesis-of-universe.com/docs/f/f_039.pdf
http://www.hypothesis-of-universe.com/docs/f/f_043.jpg
http://www.hypothesis-of-universe.com/docs/g/g_054.pdf
http://www.hypothesis-of-universe.com/docs/g/g_078.pdf
http://www.hypothesis-of-universe.com/docs/b/b_121.pdf

Let's imagine a water tap from which water drips at regular intervals. Suppose the tap will drop just *once in a second*. Let's ask the question: How exactly we could measure the speed of its drip using watches measuring time with *accuracy for one second*. If we first measure only for one second, and record one drop during this time, there will be no indication of our only observation about how much time has passed between two drops. If the time of the time ticks the watch only once, it could only have passed a little more time than one second, but it could also be almost two seconds. Moreover, the only observation is burdened with an infinitely large statistical uncertainty, as it is possible that the frequency of dripping is actually much less than one second and we only accidentally hit the rare moment when the drop dropped.

((One measurement really can be, statistically speaking, with an "infinitely big mistake", surely! .. but even a million almost identical measurements and identical results can be totally bad when the measurement, super-shaded measurements, we substitute in wrong equations, Wrong prerequisites... (eg the conclusions of Very Rubin why stars in the shoulders of galaxies run more slowly * than they should * (?) After putting observation numbers into the gravitational law... well because you use the “correct” viewing numbers and put them in the “bad Newton law ". $F_g = G.M.m/x^2$, where for " x" you set the distance between two bodies" as a straight line x ", but in the reality of the universe, according to the general theory of relativity, it is different: for observers from a long distance (from our galaxy to another galaxy) is already time -time inside the galaxy curved and it is necessary to put this line “x” in the arc “"x"”. Then the results are different and no dark matter in the galaxy is missing http://www.hypothesis-of-universe.com/docs/f/f_056.jpg ; http://www.hypothesis-of-universe.com/docs/aa/aa_031.jpg ;)) Statistical uncertainty can be eliminated by repeating the measurement many times independently. ((Measurement you repeat

1000x and substitute in bad equations... ☺)). However, if we do not find any more accurate watches, or if we are not able to measure at longer than the second interval, we will not be able to eliminate the uncertainty caused by the meter error. Under the given conditions, we will not be able to say anything more than that the tap will drop every one to two seconds. If we claim that the tap would drop each one second, our claims will be burdened with 100 %uncertainty. If we present that the drop would drop every two seconds, the uncertainty will only be 50 %.

If we extend the intervals of our measurements ten times and repeat the measurements many times, we find that within ten ticks of the watch dropped an average of 10 drops of water. With our slightly inaccurate watches, we can now say that 10 drops will drop in ten to eleven seconds. This reduced measurement uncertainty to 10 %. During ten -second measurements, we are able to determine the period (which is inversely proportional to frequency and energy) with accuracy for a tenth of a second.

Note that the product of the length of measurement and inaccuracies in determining the period of tap drip is the same in both cases and equal to one. In this way, we could continue and measure, for example, for 1,000 seconds with an uncertainty of 0.1 % and measure the frequency with an accuracy of a thousandth of a second. It will always be true that the product of the measurement period and the accuracy of the frequency determination is equal to one.

Let's imagine a simple quantum system - for example, a lone photon. His energy equals his frequency multiplied by the planck constant. For this object, the product of the time we measure its frequency will be, and the accuracy with which we can determine this frequency again at least one. However, if we are interested in the energy of the photon, then the product of the accuracy with which we can measure the energy, and the times that this measurement will take to us will be greater or equal to the number one multiplied by the planck constant. So

$$\Delta E \Delta t \geq \hbar.$$

(9)

Note that this session of uncertainty is indeed from the classical analogy with the uncertainty of a dripping tap, complemented only with a quantum relationship that puts in frequency and energy. Furthermore, it is worth noting that if we had a watch measuring time with infinite accuracy, we could accurately measure the tap drip interval after only two drops, ie. After a single second.

Werner Heisenberg (1901–1976)

The reflections described above have led to a very important finding: the existence of the uncertainty principle is the result of quantizing the time itself ((??)) (as we know from the first episode, the smallest quantum of time recognizable in space time is Planck's time (~ 10^{-43} s). you for another session of uncertainty, this time between momentum and position

$\Delta p \Delta x \geq \hbar$.

(10)

It can be concluded by analogy that this relation is also the result of discretization - this time of space (the smallest quantum of space recognizable in space-time is the Planck length ~ 10^{-35} m). Since the principle of uncertainty is at the very core of quantum mechanics, all the strange behavior of objects in the quantum world can be explained as a consequence of the discontinuity of space and time. ((Discontinuity of space - time 3 + 3D this is not because the "quantum world" is discontinuous, but because in the microworld on the plus / minus planck scales, the dimensions are curved-curved into the foam (the cross section of the foam appears to be space-time quantized) or into other strange bizarre shapes and also into fields and also into packages, which present mass elementary particles, .. and those then compacted into a complex mass, eg such crooked cp shows on the board and prof. Kulhánek)) http://www.hypothesis-of-universe.com/docs/c/c_437.jpg ; http://www.hypothesis-of-universe.com/docs/c/c_281.jpg))

Heisenberg's relations show one notable feature of the quantum world, which is noncommutativeness. The result of measuring two non-commutating physical quantities (those for which the uncertainty relations apply) always depends on the order in which we measure these quantities. ((The reason why they do not commute and why the order of measurement matters is that if you take the equation posouzení → $\Delta p \, . \, \Delta x = \Delta E \, . \, \Delta t$ to assess the "non-commutativity" of the Heisenberg equation, so this relation is not in quantity equilibrium (!) and Heisenberg must adjust to $\Delta p \, . \, \Delta x$

$= \Delta E \cdot \Delta t \cdot \Delta t_c/t_w$. At this point I will not explain how the factor Dtc / tw is important, I have an explanation elsewhere.))

Determining a physical quantity is not an isolated act - it always involves interaction with the environment. ((And in the continuum of the aging universe)) The outcome of such interactions depends on the order in which they occur. Sir Roger Penrose and Alain Connes - the creators of noncommutative geometry - recently pointed out independently that this result may define a primitive form of the time scale of phenomena, which could form the roots of the emergence of time. ((And that's it.)) Connes formulated a detailed mathematical version of the idea. He showed that the noncommutativity of physical variables defines a special mathematical structure called *the noncommutative von Neumann algebra*, which contains an implicitly defined flow of time. The ubiquitous quantum uncertainty creates a blur of reality, ((due to $\Delta t_c/t_w$)), which induces the flow of time. Ultimately, therefore, time can be an expression of our fundamental ignorance of the details of the exact state of quantum world systems. ((HDV explains this clearly.))

Závěr

Nearly 50 years after the standard model of particle physics was formulated, the efforts of many of the planet's ingenious brains have succeeded in bringing the concept of space-time quantization into theory, giving clear, meaningful, and testable predictions.

Almost 50 years after the standard model of particle physics was formulated, thanks to the efforts of many of the planet's ingenious brains, it has been possible to * bring * the concept of space-time quantization into theory, giving clear, meaningful and testable predictions. (Yes, you managed to bring the quantization of your spacetime "on paper" into theory, yes, but "physical spacetime" is the reality of curved dimensions! .., which in cross section of this state of the space-time network (3 + 1 D or 3 + 3D) at the micro level for physical mathematicians it can look like clusters and gaps, like points and gaps, like "nothing and something", like zeros and ones, so like granularity versus flat continuity - that is, the efforts of genius brains led to the chopping of continuous 3 + 1 D space-time into cubes = partons bla. In my opinion, there was no "quantization" of space-time, but only a "crumpling" of the continuous flatness of 3 + 3 space-time dimensions, and this state of "crumpled" = distorted dimensions then appears to the genius Observer, Mr. Zoul, in the section of the "foam". as quantum.)) giving clear, meaningful and testable predictions. In eight parts of this bulletin, we have introduced at least the most basic features of this concept. At the same time, we have witnessed how modern knowledge from various fields of human research, which in the light of older and incomplete models of the world seemed to be almost independent, in many cases even contradictory or paradoxical, is gradually beginning to fit together.

Perhaps the relatively near future will show whether we have taken the right path for the last half century and whether we are really beginning to understand space, time and gravity at the very most basic level. In conclusion, I would like to thank Professor Petr Kulhánek for the perfect graphic design and a number of valuable professional advice, which significantly contributed to the improvement of the entire series.

← Done. - The result of the hard work, QUANTATION OF TIME AND SPACE, the "*educated lord*", is this *elaborate* prose fairy tale.
And protože and since we live in a world where not even a free chicken burrows, I wonder, "how much did you get for your work," Mr. Zoul? I'm nothing !!, .. in the whole 40 years of hard work not even a penny, .. on the contrary... + spit, insult and hatred.

Perhaps the relatively near future will show whether ((Who is "we"?)) We have taken the right path for the last half century and whether we are really beginning to understand space, time and gravity at the very most basic level.

In conclusion, I would like to thank Professor Petr Kulhánek for the perfect graphic design and a number of valuable professional advice, which significantly contributed to the improvement of the entire series.

Questions, Aldebaran https://www.aldebaran.cz/visits/start.php , here →

The first question was from Mr. Robert Suchý →

Robert Suchy
4. 03. 2022, 18:20:58

Hello, I read the whole "bulletin series" of Mr. Zoul with almost one breath. What bothers me are the questions: How does the isotropy of the observed universe flow from this model? So is it just an emergent manifestation resulting from the small size of the elementary cell ?? So is there a limit to the resolution of the display of a remote object that the interferometer is able to reach?
Thank you for the answers
Robert Suchý

The answer from Mr D. Zoul was →

David Zoul
12. 03. 2022, 10:00:23

Have a nice day, thank you for your questions. I just don't know if I can give a sufficiently brief and exhaustive explanation here. Therefore, please ask any further questions by e-mail: david.zoul@cvrez.cz

The series outlined that the underlying surface of spacetime could be formed by a grid of lattice of elementary cells - let's call it cellular space, or cytospace for short (from Greek kýtos = cell). There are basically 2 mechanisms behind the isotropy of spacetime generated by anisotropic cytospace. One of them is the so-called secondary cytoresonance. Without getting bogged down in important, but probably indispensable details for the first approximation, it can be imagined as a gentle vibration of the cytospatial lattice (the high school idea of vibrations of atoms in a crystal lattice will also serve well).

Next, imagine a cytospatial lattice, where each cell represents an energy well (local minimum) for a parton. There is a certain amplitude of probability that a *parton* will

move to an adjacent well, from where it can move to another position, but it can also return to its original position. The situation is similar to an infinite number of coupled pendulums or wave propagation by an elastic continuum. The system will be described by Hamilton's equations for a very high number of basis states. By solving them, we arrive at several remarkable findings: 1) the so-called effective inertial mass and impulse of a free particle appear in the equations. It is relatively easy to prove that the resulting effective inertial mass is also a gravitational mass. The cellular structure of the cytospace itself thus acts on the *partons* in a similar way as the Higgs field on the particles of the standard model - it gives them a non-zero inertial mass. 2) there is a limiting *velocity* for quantum motion in such a lattice. It can be calculated as the so-called quadratic velocity of the grid elements. From the equipatriation theorem and the known inertial mass of the parton, it can be easily deduced that said limit speed is equal to the speed of light in vacuum. 3) If we consider a simple cubic lattice with a lattice constant of Planck cell size, then we conclude that a three-dimensional wave ball, created by superposition of many parton states with approximately the same energy, moves through cytospace as a classical particle with a certain effective mass in ordinary empty space. which is homogeneous and isotropic.

It should also be noted that even with precise cubic symmetry, if the state of the parton in the cells is asymmetric (eg in the presence of an external field), the effective mass of the parton located in the cell depends on the direction of its movement. The particle may have in the presence of an external force field, e.g. a different inertia in the "x" direction than in the "z" direction, i.e. the space ceases to be isotropic . For a more detailed description of the situation is introduced, physicists have introduced, a tensor quantity called the tensor of effective mass with the help of which it is possible to formulate Einstein's equations of the gravitational field in cytospace.
Finally, a note that on cosmological scales the cellular structure of the cytospace could be revealed by a certain small anisotropy. In the series, for example. wrote about the observation of a very interesting anomaly by John Webb's team. There is at least one axis in the Universe (the so-called dipole axis), along which *the constant of the fine structure* differs slightly compared to other spatial directions. As for your second question, it can be shown that there is indeed a certain limiting angle whose cosine is equal to the reciprocal of the fifth power of the speed of light. So probably the limit you are asking for may exist.

← However, this (concrete) answer stands on different foundations than contemporary physics . (!) It is a hypothesis (Blandria and Cytospace) solo of the author, ie Mr. David Zoul.
In some ways, in this paragraph, some visions are very similar to my thoughts.

→
= elastic continuum = foam of dimensions
= Cellular structure of space-time = in space-time foam they are recruited by curving the dimensions "packages" from the dimensions of space-time
= gentle vibration of cytospace = boiling vacuum of 3 + 3 dimensions
= wave ball, created by superposition of many parton states = wave package from dimensions of space-time
= speed of grid elements = ? I don't know what the author Zoul means when he says the element of the grid of cytospace, while the "grid element" can only be a dimension
.....

((Note to what P. Kulhánek says: "Space and time do not exist in general relativity without the bodies themselves. The bodies themselves create space-time.")) ☺ ha-ha

((Note two. Reader Robert Suchý also received an answer from me, ie my opinion, here at http://www.hypothesis-of-universe.com/docs/j/j_204.pdf , but did not respond. Even this link was listed in the Aldebaran bulletin and was soon removed after a few days by leader P. Kulhánek ..., in the spirit of academic scientific freedoms and his doctrine that folk thinkers have nothing to look for in true science.))

JN, translated into English 32 pages using google-translator 22.06.2022