Problems in the Unitary Quantum View of the World

Leo G. Sapogin
Department of Physics
Technical University (MADI)
Leningradsky pr.64, A-319, Moscow, 125319
Russia.

Yu.A.Ryabov
Department of Mathematics
Technical University (MADI)
Leningradsky pr.64, A-319, 125319, Moscow
Russia.

V.A. Dzhanibekov
Department of Cosmophysics, Tomsk State Univesity
36 Lenina st., 634050, Tomsk
Russia.

Abstract

The present article discuses the problems of new unitary quantum view of the world in its applications to the different aspects of the reality.

Keywords: Unitary Quantum Theory, Standard Model, Quantum Electrodynamics, Maxwell Equation, Schrodinger Equation, Solid State Physics, Zone Theory, Semiconductors, Tunneling Effects, Spectrum Masses.

Introduction:

It seems that the majority of researches have absolutely forgotten the fact that one of the master-spirits of contemporary world, A. Einstein, till the end of his life had not adopted the standard quantum mechanics at all. Better to cite his well-known words: *"Great initial success of the quantum theory could not make me believe in a dice game being the basis of it…I do not believe this principal conception being an appropriate foundation for physics as a whole… Physicists think me an old fool, but I am convinced that the future development of physics will go in another direction than heretofore… I reject the main idea of modern statistical quantum theory… I'm quite sure that the existing statistical character of modern quantum theory should be ascribed to the fact that that theory operates with incomplete descriptions of physical systems only… ,"*- A. Einstein.

At the first stage of quantum mechanics evolution in the frame of classical physics' theory the mechanism of corpuscular-wave dualism was not discovered at all, as it was done later in the UQT [1,2,5-9]. It's worth a surprise that the super abstract quantum ideology ad hoc designed by Niels Bohr was suitable in general for the description of quantum reality. An explorer did contradict anything by strictly using new frequently paradoxical quantum rules, and any paradox could be removed by the simple prohibition of its analysis. Although many researches in Russia (for example D.I.Blokhintsev) tried to solve these problems they were not successful. Lanzheven even called the principle of Complementarity "*an intellectual debauch"*. The outspoken interpretation of quantum theory had become out of any criticism. More over the determination of simulators describing one of the sides of quantum reality had been announced as the main target of quantum science, while the picture in figures and a-going had become simply an optional target.

Nevertheless one general philosophic problem had been remaining: the dual principles of the fundamental physics. There were particles – the points being the source of a field that could not be reduced to the field itself, the researches did not do their utmost, though. Introduction of this micro-particle had resulted in a wide range of different divergences - anybody knows that electric power of a point charge equals infinity.

A lot of ideas had appeared, absolutely brilliant ideas from mathematical point of view, suitable for these appearing infinities abolishing. We can use as a cover the words of P.A. Dirac: *"…most physicists are completely satisfied with the existing situation. They consider relativistic quantum field theory and electrodynamics to be quite perfect theories and it is not necessary to be anxious about the situation. I should say that I do not like that at all, because according to such 'perfect' theory we have to neglect, without any reason, infinities that appear in the equations. It is just mathematical nonsense. Usually in mathematics the value can be rejected only in the case it were too small, but not because it is infinitely big and someone would like to get rid of it."* (Direction in Physics, New York, 1978).

The substantial success of the quantum mechanics (particularly in the stationary cases) was based on the simple correlation of de Broglie wave length and geometric properties of potential. Formally the particle was considered as a point; in other case it was difficult to add probability amplitude character to the wave function. But the point-character of a charge as well the principle of Complementarity did not allow to go ahead in the elementary particles structure and thus the further development of the quantum theory of the field in the frames of the assumed paradigm had resulted in total fiasco of the field quantum theory itself.

A. Einstein was really worried about this situation. His words*: «We could regard substance as those areas of space where a field is immense. From this point of view, a thrown stone is an area of immense field intensity moving at the stone's speed. In such new physics there would be no place for substance and field, since field would be the only reality . . . and the laws of movement would automatically ensue from the laws of field.»* are in fact the Unitary quantum program. The first articles of the authors concerning this matter were published in 1973 and 1979 years [1, 2]. The entire term unitary belongs to M.Jemmer, who in [3] has classified quantum waves' theories. The term unitary he correlated with the theories that represent particle as a wave packet. In Unique Quantum Theory a particle is described as a wave packet that in its movement is periodically spreading along the Megagalaxy and is gathering again. For such moving wave packet both the relativistic and the classical mechanics follow from these unitary quantum equations, probably the Maxwell equations and the gravitation follow from exact UQT equations [4-8], but this has not been proved yet being the problem of the future. Nevertheless the UQT scalar equation (a telegraph type) in general makes it possible to obtain not only Schrodinger but also Maxwell equations [6-9, 14]. But for this purpose for the derivation of the scalar unitary telegraph equation we should assume imaginary the resistance of derivation and shunt conductance that physically is not so clear.
Evaluation of UQT ideas resulted in instinctively absolutely clear picture of quantum events in terms of figures and movements. And philosophical principal of Complementarity can be now hidden with well-deserved honors.
In spite of mathematical complexity Unitary Quantum Theory will stop ordinary Quantum Mechanics paradox and consequently frank words of Richard Feynman: *"I can easily say that nobody understands quantum mechanics"* will become the property of history.

Moreover, by solving the QUT equations it became possible to obtain with the high precision an electron charge, as for scalar telegraph UQT equation it gave with appropriate precision mass spectrums of all elementary particles [3,4,7-9,17,18]. The same spectrum was followed from the solution of the Schrödinger and Klein-Gordon integro-differential equations. The risk of computed mass spectrum being random is less than 10^{-60}. Of course such results cannot be obtained without sacrifice. What would we offered in sacrifice if replaced an Ordinary Quantum Mechanics by the Unitary Unified Quantum Field Theory Field (UUQFT) [9]?

1. There are no in UUQFT strict principles of superposition. It is violated if wave packets are colliding.
2. There are no strict close systems in UUQFT and the Conservation Laws works for small energies only. Note that the Conservation Laws forbid beginnings of the Universe.
3. The classical relativistic relation between energy and impulses is valid in UUQFT only after averaging of observed phenomena and Relativistic Invariance itself is not "the sacred cow".
4. The Space-Time in UUQFT is non homogenous and non isotropic.
5. The particles and their interaction are not local.
6. The existing Standard Model Quantum Theory of Elementary Particles requires much alteration.
7. The velocity concept as quotient from division of the traversed path to some time interval is not quite appropriate in UQT. If a wave packet (particle) is spreading along the Megagalaxy and then appearing somewhere else, what should we do with the rate, if nothing moves between the points of disappearance and arrival, does it mean that particle has just simply disappeared and then appeared in a new place?

There was observed resembling crushing defeat of physics 50 years ago as "weak interaction" burst, so to say, into physics.

As soon UQT is nonlinear it automatically combines all four interactions that can pass from one into another at different distances.

Below we analyze the most important fields of science from UUQFT general physics positions.

1. Lorentz transformations

It's quite complicated [19]. The special relativity – is in fact Lorentz transformations (1904) derived by V.Vogt (1887) in the century before last. These transformations followed from the properties of Maxwell equations which are also proposed in the nineteenth century (1873). One of these equations connecting electrostatic field divergence and electric charge (Gauss' law of flux), in fact is just another mathematical notation of Coulomb's law for point charges. But today anybody knows that Coulomb's law is valid for fixed point charges only. If charges are frequently moving Coulomb's law is not performed. Besides anybody knows that lasers beams are scattered in vacuum one over another, which is absolutely impossible in Maxwell equations. That means that Maxwell equations are approximate - and for the moving point charges experimental results essentially differs from the estimated ones in the case charges areas are overlapping.

Few people think about the shocking nonsense of presenting in any course of physics of point charge electric field in the form of a certain "sun" with field lines symmetrically coming from the point. But electric field – is a vector, and what for is it directed? The total sum of such vectors is null, isn't it? There are no attempts to talk about, but such idealization is not correct. We should note that Sir Isaak Newton did not used term of a point charge at all, but it's ridiculous to think that such simple idea had not come to him! As for Einstein, he considered "electron is a stranger in electrodynamics". Maxwell equations are not ultimate truth and so we should forget, disavow the common statement about relativist invariance requirement being obligatory "permission" for any future theory.

To reassure severe critics we should note that UQT is relativistically invariant, it allows to obtain correct correlation between an energy and impulse, mass increases with a rate, as for relativistic invariance just follow of the fact that the envelope of moving packet is quiet in any (including non-inertial) reference systems. To be honest we should note that subwaves the particles consist of are relativistically abnormal, at the same time envelope wave function following from their movement confirms terms of Lorentz transformations.
The success of Maxwell equations in description of the prior-quantum view of world was very impressing. Its correlation of the classical mechanics in forms of requirement to correspond Lorentz transformations was perfectly confirmed by the experiments that all these had resulted in unreasoned statement of Maxwell equations being an ultimate truth…

Other reasons for this were later very carefully investigated by a disciple of one of the authors (L.S.), Professor Ratis Yu.L. (S. Korolev Samara State Aero-Space University), who has formulated the modern spinor quantum electrodynamics from the UQT point of view:

1. Maxwell equations contain constant *c*, which is interpreted as phase velocity of a plane electromagnetic wave in the vacuum.
2. Michelson and Morley have never measured the dependence of the velocity of a plane electromagnetic wave in the vacuum on the reference system velocity as soon plane waves were mathematical abstraction and it was impossible to analyze their properties in the laboratory experiment in principle.
3. Electromagnetic waves cannot exist in vacuum by definition. A spatial domain where an electromagnetic wave is spreading – is no longer a vacuum. Once electromagnetic field arises in some spatial region at the same moment such domain acquires new characteristic – it became a material media. And such media possesses special material attributes including power and impulse.
4. Since electromagnetic wave while coming through the abstract vacuum (the mathematical vacuum) transforms it in a material media (physical vacuum) it will interact with this media.
5. The result of the electromagnetic wave and physical vacuum interaction are compact wave packets, called photons.
6. The group velocity of the wave packet (photon) spreading in the media with the normal dispersion is always less its phase velocity.

All abovementioned allows making unambiguous conclusion: *the main difficulties of the modern relativistic quantum theory of the field arise from deeply fallacious presuppositions in its base. The reason for this tragic global error was a tripe substitution of ideas – velocity of electromagnetic wave packets 'c' being transformed in numerous experiments physics have construed as constant 'c' appearing in Maxwell equations and Lorentz transformations. Such blind admiration of Maxwell and Einstein geniuses (authors in no case do not doubt in the genius of these persons) had led XX century physics up a blind alley. The way out was in the necessity of revision of the entire fundamental postulates underlying the modern physics. Exactly that was done by UUQFT [9].*

Some time ago CERN has conducted repeated experiments of the neutrino velocity measurement that appeared to be higher than velocity of the light. For UUQFT they were like a balm into the wounds. In fact the movements in excess of the light velocity were discovered earlier by numerous groups of researches. The most interesting were experiments of Wang L.J group (Princeton, USA), they had disclosed velocities 310 times higher than the light [10]. Nearly everybody disbelieved it. And now the neutrino movements exceeding the velocity of the light were disclosed in CERN. The importance of these experiments for UUQFT is settled in the article [9] where at the page 69 it is written that "*this should be considered as direct experimental proof of UUQFT principle".*

2. Standard model

As soon relativistic invariance underlies every of the numerous quantum theories of the field, it leaves a devilish imprint at everything. Nevertheless relativistic ratio between energy and impulse although being absolutely correct in fact are not obligatory follow from relativistic invariance only and can result from another mathematical reasons that will be discovered in future. Nowadays Standard Model (SM) combines the most elegant mathematical miracles of researches which hands were tied with relativistic strait-jacket and it not so bad describes these experimental data. Amazing that it was possible to think it out at all. Nowadays to confirm SM one should find a Higgs boson and for this purpose the governments of some countries assigned essential sums for the construction of Large Hadron Collider (LHC). For entire SM the interaction with Higgs field is extremely important, as soon without such a field other particles just will not have mass at all, and that till lead into the theory destruction. To start with we should note that the Higgs field is material and can be identified with media (aether) as it was in former centuries. But SM authors as well as modern physics have carefully forgotten about it. We would not like to raise here once again the old discussion about it. It's a quite complicated problem and let us leaves it to the next generation.

But another problem of SM has never mentioned before: in the interaction with Higgs field any particle obtains mass. As for Higgs boson itself, it is totally falling out of this universal for every particle mechanism of mass generation! And that is not a mere trifle, such "mismatching" being fundamental fraught with certain consequences for SM. After Higgs boson discovery nothing valuable for the world will happen except an immense banquet. Of course boson will justify the waste of tens billions of Euros… But even now some opinions in CERN are expressed that probably boson non-disclosure will reveal a series of new breath-taking prospects… and where were these voices before construction, we wonder? But that's not the point! If this elusive particle were the only weakness of SM! To our regret today this theory cannot compute correctly the masses of elementary particles including the mass of Higgs boson. More worse, that SM contains from 20 to 60 adjusting – arbitrary! - parameters (there are different versions of SM). SM does not have theoretically proved algorithm for spectrum mass computation – and no ideas how to do it!

All these bear strong resemblance to the situation with Ptolemaic model of Solar system before appearance of Kepler's laws and Newton's mechanics. This earth-centered model of the planets movement in Solar system at the moment of appearance had required introduction of 40 epicycles, specially selected for the coordination of theoretical forecasts and observations. Its description of planets positions was quite good; but later to increase the forecasts accuracy it had required another 40 additional epicycles… Good mathematicians know that epicycles are in fact analogues of Fourier coefficients in moment decomposition in accordance with Kepler's laws; so by adding epicycles the accuracy of the Ptolemaic model can be increased too. However that does not mean that the Ptolemaic model is adequately describing the reality. Quite the contrary… The Unitary Quantum Theory allowed computing the mass spectrum of elementary particles without any adjusting parameters. By the way computed spectrum [8, 11, 12, 19] has particle with mass 131.51711013190914 GeV (L=2, m=2). Once desired it can be called Higgs boson, it lies within declared by the CERN mass interval 125-140 GeV expected to contain Higgs boson. CERN promises to obtain more precise mass value by December 2012.

3. Nuclear physics

Nuclear physics as a part of quantum theory is very luckless. Thus the potential of the strong interactions is so complicated that no one even very bulky and intricate mathematical expression is able to describe with more or less veracity the experiments of two nucleons interaction. This interaction depends in very complicated manner from all parameters of the nucleons movement and their orientation towards vectors of velocity, acceleration, spin, magnetic movement, etc. Scarcely one can find a parameter which practice interaction does not depend on. From UQT point of view the strong interactions appear in the result of nucleons represented by the wave packets overlapping. Today the way of mathematical notation of the overlapping wave packets interaction is absolutely vague as soon nonlinear interaction in any space-time point of the waves is different due to different amplitudes.
It's a really complicated problem as soon there is only one nonlinear mathematical problem existing for each space-time point and even with the intuitive clearance of situation we do not expects its soon solution. The complete understanding of the nuclear structure hardly can be expected in the soonest time without exact expression for the potential of the strong interaction.

In general it should be noted that quantum world looks more clear and simple in UQT than in the general quantum mechanics, but we cannot repeat it while speaking about the mathematics used. The appearance of the exact solution of the scalar problem of elementary particles mass spectrum can be considered as Fate gift (or God's help) for UQT. By the way the standard Schrödinger quantum mechanics has the same gift – the exact analytical decision of the Hydrogen atom. The nuclear process in terms of small energies should be reviewed. Today the strict nuclear physics does not assume nuclear reactions at small energies that contradict experimental data. Here we should also note our skepticism towards the idea of nuclear fusion in Tokamaks, we consider this way as hopeless. To justify these experiments we have to mention that the decision was made in the absentia of other ideas and under the great pressure of the future power problems. But the use of the reactions of classical cold fusion for the power output is also difficult due to the complexity of colliding nuclei phasing. This phenomenon is well described by the equation with oscillating charge, while the cold nuclear fusion had been predicted in UQT 6 years before its real discovery [13].

4. Solid-state physics

The band theory of solid is based at the point on the solution of the task of an electron movement in the field of two or more charges. But this problem does not have analytical solution jet, in practice a speculative quality solution is used only. The results are that electrons in the solid have quite specific allowed power bands. This field of the science is very successful and hardly will be revised. Any solution of the equations with the oscillating charge for the electron moving in the field of few nuclei also result in appearance of allowed and forbidden bands [14]. Somewhat apart is classical tunneling effect. In UQT the probability of tunneling effect appearance depends on the phase of the wave function (in contrast to the ordinary quantum theory, where at the squaring of the wave function module it dependence on the wave phase totally disappears). It could be interesting to prove such dependence by the experiments. It can be easily done if creating a new transistor on the basis of absolutely new principle of the electron current control [15]. We are not going to analyze the modern theory of superconductivity, but we are sure that the equation with oscillating charge will deepen on both understanding of superconductivity as well as mysterious properties of quantum liquids.

5. Astrophysics and Cosmology

The authors regret not being in sympathized with the ideas of the Universe origin from one singular point. The most amazing in this theory is a detailed computation of events occurred in the first fractions of the second just after the Big Bang. Today when the fundamental physics is making only first shy steps towards the real understanding of the quantum processes we still do not have clear model of the particles, nor understanding of a spin appearance, a charge and magnetic moments. According to UQT the processes of the multiple particle production at collision is a common result of the waves packets of big amplitudes diffraction in periodic structures one another, as for the multiple outgoing in different directions particles they correspond to the general diffraction maximums. But we do not assume the responsibility of the mechanism of the multiple particles production for the Universe appearance. To our opinion the complete understanding of the quantum world will arise only after solving of 32 nonlinear integro-differential equations of UQT [2, 4, 5, 7, 8]. To their regret the authors like castrates in a harem can only look at these equations.

And many cosmologists would like to use theories assuming existence Universe localities where the energy is coming into being and also other localities where the energy annihilates. For example, British astronomer Fred Hoyle has developed the theory of Universe where it takes the place the continuous creation of matter. He wrote*:"... Different atoms constituting the matter do not exist at some given moment of time and then after instant they exist already. I must admit this idea may look as strange... But all our ideas about creation are strange. According to previous theories the whole quantity of matter in Universe was coming into being just as whole and all process of creation looks as super-gigantic instant explosion. As for me, such idea seems much stranger, than idea of continuous creation..."* F.Hoyle, La nature de l'Universe, 1952.

The official astronomical science does not accept the ideas of F.Hoyle and of some other astronomers (H.Bondi, T.Gold, and P.Jordan) about continuous creation of matter in Universe because the Conservation Laws are considered as infallible. But from the viewpoint of our UQT these ideas are quite not strange.

Our real 'world' continuum consists of an enormous quantity of particles moving with different velocities. Partial waves of the postulated vanishing particles create real vacuum fluctuations that change in a very random way. Certain particles randomly appear in such a system, owing to the harmonic component energy of other vanished particles. The number of such "dependant particles" changes, though; they suddenly appear and vanish forever, as the probability of their reappearance is negligibly small, and so we do expect that all particles are indebted to each other for their existence. Yet, if some particles are disappearing within an object, other particles are arising at the same moment in that object due to the contribution of those vanishing particles' harmonic components –and vice versa. The simultaneous presence of all of the particles within one discrete macroscopic object is unreal. Some constituent particles vanish within the object while others appear. In general, a mass object is extant overall, but is not instantaneously substantive and merely a 'false' image. ***All Universes is mathematical illusion only.*** It is clear that the number of particles according to such a theory is inconstant and all their ongoing processes are random, and their probability analysis will remain always on the agenda of future research.

In accordance with UQT [7-9, 14] there are another solutions for the quantum harmonic oscillator besides stationary, where the given tiny incipient fluctuation is growing, gaining power and finally becoming a particle. It is so called "Mathernity Home" solution. There are also other solutions where substance (power) is disappearing. Such solutions have been called "Crematorium". *May be Metagalaxy is simply entangled in searching the balance, isn't it?*

All this allows expecting that space-time continuum in the centers of Galaxies produces different particles, electrons, protons, neutrons, which are the sources of light atoms. Later thanks to the gravitation light atoms are transformed into gas nebulas where under gravity compression the stars are lighting. It's quite possible that the current theory of Stars evolution is correct in general while describing (via Supernova) the production of other atoms apart Hydrogen and Carbon the planets consist of. We do not think nuclear process at small energies (which are possible in UQT, but impossible in standard quantum theory) will essentially modify evolutionary view of the Galaxies development. It is interesting that the state with the minimum quantum values L=0,m=0 belongs to the very heavy neutral scalar particle with our name Dzhan and mass about 69.6 TeV, which in principle should purely interact with the others. With the growth of the quantum numbers the mass of the particle is diminishing. So there should be a lot of Dzhan-particles due to the small quantum numbers. And probably their existence is responsible for the dark matter in general, in accordance with some evaluations Metagalaxy consist of up to 80-90% of the dark matter.

6. Gravitational theory

No doubt that Gravitational theory should follow from 32 nonlinear integro-differential equations of UQT [2, 4, 5, 7-9] and the authors are expecting that it can be done in future. Nevertheless we will make now some conservative assertions. The current data regarding the Universe expansion can be interpreted as the change of the gravitational potential sign (gravity is replacing by repulsion) at great distances for the great masses. Probably the difference between absolute the values of electric charge of a proton and a electron, say in 15 – 20 signs, is responsible for his phenomena, but for us this idea is extremely unsympathetic. On the other hand there is an impression that the variation of the gravity potential is momentary and acts at the same time in all spatial domains (long-range action). Thus any attempts to propose lateness correction of the changes of gravitational potential in the planetary motion equation require the said changes to be occurred with velocities which are many times higher than the velocity of light.

Apart there is the question of existence and velocities of the gravity waves, where is no clarity at all. It could be clarified between 16 and 22 of July 1994 when comet Shoemaker-Levy had collided with Jupiter, but humanity missed such possibility. At the moment of the comet huge cores collision with the Jupiter ball of gas its surface should started radial oscillations and created gravity waves, if they exist at all. It's astonishing but astronomers all over the world in every observatory were able to observe this phenomenon nearly in real time conditions (the light was coming from Jupiter to the Earth about an hour), as for the gravity specialists they had overslept such a chance to study gravity waves velocity at all as far as the authors are informed. At the same time according to the processed information [20] from Russian Command-and-Measuring Complex for the monitoring and control of the space objects at the entire moment of collision geodesic satellites "Topex-Poceidon" and "GEO_IK" began swaying at their orbits. Normally the orbit of a geodesic satellite lies inside the tube with about 1 km diameter and the orbit can be control with the high accuracy – not more than one meter precision for the position data and centimeters per second for velocity. During the collision the sensors registered 5-8 times increase of the trajectory tube diameter. In the same article [20] on the basis of correlation analysis of the position data measurements and information obtained from earthquake-detection station it was shown that the waves of gravitational potential variation were the trigger for earthquakes. To the authors' regret they do not have the similar information from NASA.

7. Chemical catalysis and new energy sources.

The process of chemical catalysis and the catalysts are the great mystery of the modern science. The number of chemical catalysis theories equals the number of chemical catalytic processes. Specialist of chemical catalysis used to think that this or that reaction is not being processed only if a special catalyst has not been found. Even Michael Faraday studied these problems. He seems to say platinum black being the universal catalyst. Only this (while platinum practically does not react with anything) immediately suggests an idea that chemical processes are not enabled at all and we should look for the physical universal mechanism of reactions. The UQT has such a process. The details are listed in the articles [7, 8, 16]. The universal mechanism of heterogeneous catalysis for example in Ammonia synthesis consists of the following: Nitrogen molecular falls into a cavity (hole) of the catalyst few tens of Angstroem unit size. At some initial terms molecular starts oscillating with an energy augmentation implementing thus solution "Maternity home" like in a normal potential well. If the augmented energy excesses the binding energy of molecular Nitrogen then atomic Nitrogen at the exit from the cavity will be caught by protons (Hydrogen), form Ammonia and then quit the game and free cavity for the new deeds.

We are sure that in such a way water can be decomposed for Oxygen and Hydrogen. At normal conditions the mixture of Oxygen and Hydrogen is stable. In other words two stable substances (water and gas mixture) are simply divided by a high energy barrier, that can be overcome (tunneling effect analogue) by using the exact catalyst and the UQT ideas. For today a lot of experiments of water decompositions are known, the energy evolved in the process of hydrogen combustion is ten times higher than necessary for decomposition. It makes possible to design an engine running from water. The equation with an oscillating charge is absolutely new type of motion equation [7-9, 14]. For such equation energy and impulse conversation laws do not exist. It appears at terms of ensemble averaging. By the way Schrodinger mechanics also do not propose energy conversation laws for small energies (it can offer only a probability of this or that event happening) but it cannot advise how to combine processes and energy liberation while UQT can.

A theorem on the circulation does not work in the equation with oscillating charge that allows to use different was to move charge from the point *A* to the point *B*, but different ways operations will be diverse and this difference should be used. The authors are trying [19] to design new power plant working at these principles. We think that such a plant will be able to produce energy with extremely small charges. If such power program would be fulfilled on our Planet with no doubt it will result in heat pollution of the environment. But UQT suggests a decision again: we can construct refrigerating plants with feasibility of "Crematorium" solution where Earth extra heat will disappear. Numerous experiments with the cold nuclear fusion (including the latest of Andrea Rossi - Italy) have shown that nuclear reactions do exist but the nuclear reactions' products by themselves are not enough for the explanation of huge amount of heat being produced. It is the responsibility of the UQT solutions "Maternity home" [6-8]. So it looks like catalysis mechanism [16] described above.

Besides all the equation with oscillating charge is quite good in describing the wave properties of the particle. We predict that experiments on the diffraction reflection of electrons from the lattice (classical experiments of Davisson–Germer) can be simulated by supercomputer, but authors do not have such possibility.

Conclusion

It seems that if UQT were correctly describing the world properties the radical transformation of the civilization would be possible. In conclusion we should express our astonishment that UQT is incomprehensible for any thinking person, it's a mystery to us.

Acknowledgements

The authors are thankful to Professors: V.A.Boichenko, A.S. Bogomolov (Moscow), V.M. Dubovik (Dubna, JINR), P.I. Pospelov, V.M. Prihod'ko, Yu.P.Savin, V.I.Uchastkin (Moscow) for support our work and fruitful discussions.

References

Sapogin L.G. (1973). «United Field and Quantum Mechanics», *System Researches (Physical Researches)* Acad. Science USSR, Vladivostok, 2, pp. 54-84, (Russian).

Sapogin L.G. (1979). «On Unitary Quantum Mechanics». *Nuovo Cimento*, vol. 53A, No 2, p.251.

Max Jammer (1961). Concepts of mass in classical and modern physics. Harvard University Press.

Boichenko V.A., Sapogin L.G. (1984). "On the Equation of the Unitary Quantum Theory". *Annales de la Fondation Louis de Broglie*, vol. 9, No.3, p.221.

Sapogin L.G. (1980). "A Unitary Quantum Field Theory". *Annales de la Fondation Louis de Broglie*, vol.5, No 4, p.285-300.

Sapogin L.G., Ryabov Yu.A., Utchastkin V.I. (2003). Unitary Quantum Theory and a New Energy Sources. Ed. MADI, Moscow, (Russian).

Sapogin L.G., Ryabov Yu.A, Boichenko V.A. (2005). Unitary Quantum Theory and a New Sources of Energy, Archer Enterprises, Geneva, NY, USA.

Sapogin L.G., Ryabov Yu. A., Boichenko V. A. (2008). Unitary Quantum Theory and a New Sources of Energy, Ed. Science-Press, Moscow, (Russian, transl. from English).

Sapogin L.G.(2011),"An Unitary Unified Quantum Field Theory" *Global Journal of Science Frontier Research,*vol.11, Issue 4,Version 1.0, July.

Wang L.J. etc. (2000). "Gain-assisted superluminal light propagation", *Nature*, 406, p.277-279.

Sapogin L.G., Ryabov Yu. A. (2008). «On the mass spectrum of elementary particles in Unitary Quantum Theory», *The Old and New Concepts of Physics*, Vol. 5, No 3.

Sapogin L.G., Ryabov Yu. A. (2010). «New Theoretical Results about the Mass Spectrum of Elementary Particles». *Applied Physics Research*, vol. 2, No 1, p.86-98, May. www.ccsenet.org/apr

Sapogin L.G. (1983), *Journal «Technics for a young»*, No.1, page 41. (Russian).

Sapogin L.G., Ryabov Yu. A. (2011). "Approximation Equations with oscillating charge in Unitary Quantum Theory and its applications to the analysis of some quantum problems." *InternationalJournal of Applied Science and Technology*,Vol.1, No 5, September.

Sapogin L.G., Dzhanibekov V.A., Sapogin V.G. (2011)." A new approach to control electron current in Unitary Quantum Theory". " *International Journal of Applied Science and Technology*,Vol.1, No 6, November.

Sapogin L.G., Ryabov Yu. A. (2011)."Unitary Quantum Theory and Catalytic Process Theory."

International Journal of Pure and Applied Sciences and Technolodgy 3(2),pp.93-120 www.ijopaasat.in

Sapogin L.G., Boichenko V.A. (1988). "On the Solution of One Non-linear Equation". *Nuovo Cimento*, vol.102B, No 4, p.433.

Sapogin L.G., Boichenko V.A. (1991). "On the Charge and Mass of Particles in Unitary Quantum Theory". *Nuovo Cimento*, vol.104A, No 10, p.1483.

Sapogin L.G. (2012), *Journal «Technics for a young»*, No.2, page 2-11, February (Russian).

Hlistunov M.S.,Poduvalcev V.V.,Mogilyuk J.G. (2011) "Science and Education"-pub.Electronic scientific and technical periodic #11,November.