

## Call to Repel the Physical Theories of the 20<sup>th</sup> Century

Sujak P\*

Independent Researcher, Czech Republic

### Abstract

In this paper, the substance of gravity and inertial forces is debunked. The substance of mass is recovered. The nature of time in physics is revealed. The reality of the double-slit experiment is revealed. This paper shows that Quarks and Higgs boson hardly exist. This paper documents that, for past four hundred years, there is no distinguished physicist who would not have recognized the existence of the ether. It shows that filling the space of the Universe with swirling ether is all that is needed for the self-evolution of the Universe. It further provides an overview of the opposition of the physicists against the mainstream physical image of the world for the past hundred years. And finally, it documents the basic historical, philosophical and physical reasons for denial of the main physical theories of the 20<sup>th</sup> century.

**Keywords:** Gravity; General relativity; Quantum mechanics

### Introduction

Since the appearance of thinking man on Earth, he has tried to find an answer to the question of the meaning of the existence of his own life. The answer to this question is connected with the answer to the question of what is the meaning of life itself and of the universe, as well as what is the image and order of the surrounding physical world and what is man's position in it.

The ruling power structures reduced the misery of man with the answer to this question and mainly brought him answers that ensured his loyalty. Physics and other sciences have always been the tools for gaining ascendancy and domination of one group of people over others. Physical knowledge of the physical picture of the world has always been a special tool used by the ruling power structures of nations and states to maintain control over their own nations.

Therefore, from ancient times up to today, the officially established order of the universe has been the single untouchable truth and that the opposition or questioning this truth is perceived as an attack on the establishment of governmental power structures. The veracity of this order of the universe is a minor issue for the ruling powers as is also the case with those physical theories of the 20<sup>th</sup> century.

The purpose of these physical theories (by theoretical physics) produced during the 20<sup>th</sup> century (special and general relativity, quantum mechanics, force fields theories using force-mediating particles, the standard model of quark theory, the Big Bang and the Higgs boson theories) was to conceal the existence of physical fields as an actual material media. Force action of these media is replaced in these theories by the mathematics of kinematical non-material quantities.

In fact, these kinematical quantities describe the physical material world, which works on the principle of balance and changes of pressure of the densities of the material bodies and of the material force fields surrounding these bodies. Without the recognition of the existence of physical fields as actual physical substance, all mathematical descriptions of physical reality are merely the kinematical numbers of the ratios of the lengths and times on paper.

Even the easiest physical processes, such as the collision of two bodies, cannot be reasonably explained by a thinking person without the existence of the force fields associated with these bodies. Newton... *"without the Mediation of anything else, by and through which their Action and Force may be conveyed from one to another, is to me so great*

*an Absurdity that I believe no Man who has in philosophical Matters a competent Faculty of thinking can ever fall into it". Maxwell... "In fact, whenever energy is transmitted from one body to another, there must be a medium or substance in which the energy exists. ...all theories lead to the conception of a medium in which the propagation takes place".*

Under the supervision of the ruling power structures and the mass information media, these physically deformed theories of the 20<sup>th</sup> century are untouchable truths of the order of the universe, as was the case in the past in Ptolemy's geocentric mathematical description of the universe—an untouchable truth for 1500 years.

Special relativity (STR) removed from the physics of the ether as a real physical media discovered by many generations of physicists at hundred year interval, exploring the phenomena of electricity and magnetism during the 19<sup>th</sup> century. General relativity (GTR) eliminated the ether from physics as a real physical media of the gravitational field discovered by many generations of physicists surrounding Newton. Although Riemann, whose differential geometry of curved space became the basic language of the GTR, asserts to us that space without material content filling it is nothing more than a three-dimensional manifold devoid of all form, this basic fundamental of Riemann is concealed in GTR.

Big Bang removed the media from the Intergalactic Space (ether, dark energy) about which Hubble (until the end of his life) assumed that it may be the main cause of the observed red shift in the spectra of galaxies. Quantum mechanics (QM) and the theory of Higgs boson removes the ether from the physics, in quantum physics known as initial medium at creation and the annihilation of matter particles from and into electromagnetic waves.

Although astronomers bring daily evidence concerning the births of millions stars yearly as well as new galaxies from shrinking of interstellar gas and dark energy, what is contrary to the expansion

\*Corresponding author: Sujak P, Independent Researcher, Czech Republic, Tel: 518415648; E-mail: [peter.sujak@email.cz](mailto:peter.sujak@email.cz)

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and cooling of the universe, the Big Bang expanding theory is forced upon the public as the only possible explanation for the creation of the universe. Although the observed redshift of spectra of galaxies can be physically explained in at least five possible ways, only this one, as the sole and irrefutable evidence of the expansion of the universe, is forced upon the public. Although from the measurements of observed redshift of spectra of a Galaxy it cannot be distinguished from the kinematic point of view, if the Galaxy is moving in a straight line away from us or is moving in any various direction up to right angle from this straight line or moves along a circular path around us, this fact is fully ignored in the Big Bang theory.

Today we know that by annihilation of protons with antiprotons we produce electromagnetic radiation and vice versa, that by waving a magnet around a wire we produce electromagnetic waves that are able to produce protons. This experimental fact is the full evidence of the existence of the ether as a real physical substance. Yet current physics says that all matter was solely created from the Higgs boson.

### Historical Facts in the Development of the View of a Man Concerning his Surrounding Physical World

Philosophers and astronomers of the culminant era (around 500-300 BC) during the development of the Greek philosophy of nature (Pythagoras, Democritus, and many others) were convinced [1] that the Sun is in the center of the known universe, that under the stars drifting in the sky through the ether on a rotating sphere, six planets orbit around the Sun, that the Earth also as one of these planets also orbits around the Sun in an annual cycle and that the Earth daily rotates around its own axis. They had numbered five comets and were convinced that comets circulate like planets around the Sun on a very eccentric orbit.

They were convinced that the Milky Way was made up of individual stars and had named the center of the Milky Way Nebula. They were convinced that matter is composed of the smallest indivisible particles of atoms. (N.B. For Greek atom today would be called our today's further indivisible proton).

From continuing recognition of artifact Antikythera clockwork mechanism unearthed in 1900–1901 and dated to 200–100 BC [2]. We know that ancient Greeks mastered the computing of eclipses of the Sun and the Moon, the positions of stars in the sky and the position of the five planets in their orbit. They were even able to include in this computing a different velocity along the elliptical motion of the Moon around the Earth and obviously also a different velocity along the elliptical motion of the Earth around the Sun. Included in the longest period during this computing was the Callippic cycle (proposed by Callippus in 330 BC) of 72 years that was represented by Hipparchus later as he fully discovered (127 BC) the precession of the Earth's axis in period of 26,000 years or 1° every 72 years.

Greek theoretical astronomy was based on the experimental observations of their predecessors in the previous thousands of years (the Sumerians, Egyptians, Babylonians, Chaldeans and Babylonian star catalogues appearing from about the 12th century BC). To consider the ancient mechanic who designed the Antikythera clockwork mechanism, performed on papyrus complex calculations of the size and number of required teeth on more than fifty wheels of the mechanism, manufactured them and thereby realized in the previous thousands of years of celestial observations with the precision of one ten thousandth (carried out reconstruction of mechanism was hard task even in our laser and computer technology era) strike us dumb with astonishment.

From the beginning of the exploration of the surrounding physical world, in addition to the physical motion of objects originating in their mutual mechanical action (which men could see with their own eyes) a man also meets with the existence of the phenomena of electricity and magnetism (which are to his own eyes invisible) that fields operate by motion on the physical objects in their vicinity. In the 6<sup>th</sup> century BC there are written records of ancient Greeks (Thales of Miletus-loadstone attracts iron because it has a soul) that mention the magnetic properties of loadstone and electrical properties of amber (called an electron).

In Greek mythology, ether represented a pure substance that the gods breathed. Aristotle claimed that only the natural motion of the ether as the fifth element (quintessence), which is located in the area of the sky, is its circulation in the circle and therefore stars also circulate along their celestial orbits. (Likeliest the correct explanation for the observed compact rotation of galaxies in 20<sup>th</sup> century).

The new power-political structure after its accession in the first centuries of the new era claimed the Ptolemy (Claudius Ptolemy 90-168 AD, outstanding scholar of Alexandria) geocentric image of the universe as the official and the only tolerable image of the universe (in 1600, Giordano Bruno was burned to death when, in lectures at Oxford, he claimed that the stars are remote Suns also surrounded by exoplanets and that the universe is infinite. The condemnation of Galileo in 1633 to life imprisonment was only thanks to the fact that the then Pope was a former friend of Galileo from their youth). This image of the Universe persisted until several decades after Kepler (1609 *Astronomia nova*).

The reason for the provisions of the Ptolemy geocentric image of universe as the official and the only tolerable image of the universe (though there existed the heliocentric view of the ancient Greeks), was its consistency with the idea of the principles of creation. The main proof of the correctness of the Ptolemy geocentric image of universe was found in the mathematics (the complex geometry of the cycloids) of the calculation of the motion of other planets around the Earth. The complex and complicated math of cycloids, for which no one could give reasons from the physical point of view, was declared the finding of the order of the universe and the confirmation of the accuracy of the physical condition that the Earth is the center of the universe. Ptolemy's mathematical description of the motion of the planets, even though based on an incorrect physical assumption, calculated the position of the planets on their orbits with even better precision than the physically roughly right Copernicus (*De Revolutionibus* 1533) heliocentric model of planetary motion along circular orbits around the Sun. This was one of the reasons why the Copernicus model was not accepted.

Kepler (*Astronomia Nova* 1609) after ten years of hard work finding the mystical mathematical formulas to explain the data of the movement of the planets from Tycho Brahe's precise astronomical observation finally came to the simple mathematical rule of three that describes the movement of the planets along their elliptic orbits around the Sun.

Based on the heliocentric model, Kepler described the kinematics of movement of the planets by a simple mathematics and with better accuracy than Ptolemy. But he had not discovered the physical causes, I mean the physical order by which the movement of the planets is governed in the solar system.

Kepler's simplification of the mathematical description of the motion of the planets to the mathematically trivial relationships allowed Newton to discover the physical cause and order, which is

governed by the mathematics of kinematic description of the orbital system of the solar system. Newton discovered that the physical cause determining the order of movement of celestial bodies is the existence of a gravitational field as a real physical substance, existing in the surroundings of each mass body. This gravitational field around the mass body is inseparable from any mass body and Newton came to the general validity of the law of mutual gravitational interaction of all matter.

Newton explains the circulation of the planets around the Sun so that any two celestial bodies through their own gravitational fields attract each other (just as a falling apple from the tree also gravitate the Earth, although by negligible power). The forces of gravitational fields are well-balanced for a stable system of celestial constellations by centrifugal inertial forces on their mutual orbits and thus always circulate around a common center of gravity. In the case of negligible mass of the planet to the mass of the Sun, this center of gravity is located inside the Sun, as a result of which the movement seems as if only the planet circulates around the Sun along the elliptical orbit. The planet actually orbits around the Sun, though not exactly around its center.

Newton attributed the gravitational forces, without any doubt, as so many of his contemporaries, to the existence of a force field as a real physical substance in the surrounding of each body.

*“Gravity so that one body may act upon another at a distance thro’ a Vacuum, without the Mediation of anything else, by and through which their Action and Force may be conveyed from one to another, is to me so great an Absurdity that I believe no Man who has in philosophical Matters a competent Faculty of thinking can ever fall into it. Gravity must be caused by an Agent acting constantly and according to certain laws”* [3].

Evidently Newton was so strong a believer in the medium that we call the ether, though he could not work out its mode of action, that he was ready to discount the intelligence of any man who doubted it.

This Newton belief is formulated in his main work, where it states that gravity is *“as a certain power or energy diffused from the center to all places around to move the bodies that are in them”*[1]. Or also as formulated in Newton's Letter to Robert Boyle [4] in 1678-9 *“I suppose, that there is diffused through all places an ethereal substance, capable of contraction and dilatation, strongly elastic, and, in a word, much like air in all respects, but far more subtle”*.

This Newton's concept of subtle we can quantify, if we take into account his physical procedure for calculating the velocity of sound in the air. Then first estimation is a ratio of sound velocity in the air and light velocity in a vacuum so  $10^{-6}$  of an air molecule. Second more likely estimation is their quadratic ratio  $10^{-12}$  what corresponds to mass of neutrino. So the proton consist at least  $10^5$  particles of ether or more likely  $10^{11}$  neutrinos.

In 1708 Newton wrote thus: *“Perhaps the whole frame of nature may be nothing but various contextures of some certain ethereal spirits or vapors, condensed, as it were, by precipitation; and after condensation wrought into various forms, at first by the immediate hand of the Creator, and ever after by the power of nature.”*

Newton instead of this supposition and guess could have talked about surety if he had known that the Maxwell's electrodynamics has brought us knowledge of generation of electromagnetic waves of ether and that particle physics has brought us the knowledge of generations of a solid mass particles from these electromagnetic waves (as is substantiated later in paper).

Newton's laws (gravity law as gradient of force of medium, force law as resistance against acceleration in medium, law of action and reaction, law of resistance of a body moving in a fluid proportional to the square of the speed of movement, the calculation of the speed of sound in the air and an estimate of the size of the elementary particles of air) were for Newton the particular steps in his effort to confirm the existence of this ethereal substance as it will be also referred further in this paper.

Newton already knew the existence of the invisible phenomena of electricity and magnetism, which through force fields causes motion among bodies and adds the phenomenon of gravitational forces, which is a much weaker phenomenon compared to electricity and magnetism in regards to the bigness of their source. At the same time, with the discovery of the gravitational field around any mass body, Newton (together with Galileo and other physicists) discovered the existence of the inertial forces that were also inseparable from any mass body.

Contemporary Physics, one hundred years since the inception of relativity, publicly repeats countless times the false claims about Newton's notion of mutual gravitational forces as the force between two mass bodies acting immediately and remotely through the void space of a vacuum with infinite speed. Newton, however, holds gravitational forces as the power through the medium and apparently assumes the final speed of gravitational forces in this medium, which may be the reason Newton interested himself and calculated the speed of sound in the air.

General relativity, on the basis of plagiarism, claims Newton's idea of gravitational force as the forces acting at a distance through a vacuum and also conceals Riemann's necessary condition that curvature of space unavoidably requires material content filling it. GTR then finally brings to our civilization the allegedly greatest achievement of all history of the human spirit in understanding gravity as the curvature of non-material notions of space and time.

The mathematics of Riemann's differential geometry of curved space became the basic language of the GTR, but Riemann himself, although a mathematician, *“asserts, on the contrary, that space in itself is nothing more than a three-dimensional manifold devoid of all form ; it acquires a definite form only through the advent of the material content filling it and determining its metric relations”* [5].

GTR is based on the same concept of the description of gravity, as a description of electromagnetism with perspective of their integration so the phenomena of electromagnetism (the electric field, magnetic field, electromagnetic fields) in parallel to GTR would also be assigned to the curvature of space and time. For nearly thirty years, from 1926 until his death in 1955, these were the central focus of Einstein's research, but his unified theory was an unmitigated disaster. No physicist was willing to admit that the electric, magnetic or electromagnetic fields are a curvature of non- material space and time.

Most of the physicists involved from 1800 to 1900 in intensive exploration of electric and magnetic phenomena (Coulomb, Volta, Ampere, Orsted, Faraday, Ohm, Maxwell, Hertz, Edison, Weber, Tesla) came to a full belief in the existence of the electric and magnetic force fields as a real physical substance, called ether and they confirmed this substance in their experiments. This substance can spread the waves of this substance caused by oscillations of the sources of gradient of fields in this substance. These waves can even spread independently of these sources and transmit with these source inserted power (energy) into this substance.

Let us recall for all these physicists the statement of Maxwell who, in very last clause of his Treatise [6], declared "In fact, whenever energy is transmitted from one body to another, there must be a medium or substance in which the energy exists... all theories lead to the conception of a medium in which that propagation takes place... and this has been my constant aim in this treatise".

The conviction of physicists to the end of the 19th-century of the full existence of ether can best be seen in the search work of H.A. Lorentz - Ether theories and ether models (1901-1902), examining the work of many distinguished physicists of the 19th-century on ether (Stokes, Planck, Fresnel, Maxwell, Kelvin, Neumann).

In 1925, Edwin Hubble announced his evidence confirming that the bright fog formations in the night sky (in the meantime called nebulas) are separate groupings of stars and galaxies and that all the other stars we observe in the night sky, free and with our own eyes, belong to our Galaxy, the Milky Way.

For proof of the theory of the Big Bang, current physics considers increasing the red shift with the distance of galaxies, measured in the spectra of galaxies firstly by Hubble (1927-29). Hubble himself, even when he was pressured (mainly by Lemaitre at the IAU meeting, 1928), however, disapproved with this unilateral interpretation until the end of his life. The Nobel Prize for astronomy till the 1950s was not granted, and so Hubble did not have to succumb to this pressure (Unlike Millikan in 1921).

Hubble for a more likely explanation than explaining the red shift spectra by mutual receding of galaxies, considered the explanation of this shift by the loss of light energy passing through the medium of interstellar space.

We can cite from the work of Hubble [7], The observational approach to cosmology,

*"The features, however, include the phenomena of red-shifts whose significance is still uncertain. Alternative interpretations are possible, and, while they introduce only minor differences in the picture of the observable region, they lead to totally different conceptions of the universe itself"*.

*"The cautious observer naturally examines other possibilities before accepting the proposition, even as a working hypothesis. He (Hubble) recalls the alternative formulation of the law of red-shifts - light loses energy in proportion to the distance it travels through space. The law, in this form, sounds quite plausible. Interior nebular space, we believe, cannot be entirely empty"*.

Also cited from ref. [8] -Hubble's Cosmology: From a Finite Expanding Universe to a Static Endless Universe-

*"We show, by quoting his works, that Hubble remained cautiously against the big bang until the end of his life, contrary to the statements of many modern authors"*.

The consequence of this paper should have resulted at immediate removal or at least suspension of Big Bang theory in physics.

Even today, the hundreds of non-fiction documentary films of the most respected television or most respected Web sources of information dedicated to the description of the evolution of opinion of mankind on the physical image of the universe state that Hubble's observations are evidence of the expanding universe.

-Big bang In 1929, from analysis of galactic redshifts, Edwin Hubble

*concluded that galaxies are drifting apart, important observational evidence consistent with the hypothesis of an expanding universe"*.

Edwin Hubble "Hubble is known for showing that the recessional velocity of a galaxy increases with its distance from the earth, implying the universe is expanding".

The Belgian priest Lemaitre proposed in 1927 the theory of the expansion of the universe, widely misattributed to Edwin Hubble. He was the first to derive what is now known as Hubble's law  $v=HD$  and proposed  $H$  what is now called the Hubble constant. What power spawns that  $v=HD$  is at schools all over the world taught as Hubble's law with  $H$  as Hubble's constant and on top of it Hubble's himself explanation of red shift by the loss of light energy passing through the medium of interstellar space is not mentioned and concealed to students?

Physics, in 1932 (Anderson) and in 1955 (Laboratories in Berkeley), with the discovery of the production of pairs of particles and antiparticles of electrons and protons from electromagnetic (etherial) radiation, brought full proof of the existence of the ether. With the mechanical waving of a magnet nearby copper wire we produce electromagnetic radiation with a frequency equal to the frequency of the waving magnet. At the sufficient frequencies, the mass of pairs of electrons or protons can be produced from electromagnetic radiation. For an arbitrarily long time we can do this waving with a magnet and produce any amount of photons, electrons or protons, but from the magnet or wire wane not even a piece of mass.

This physical fact in no way be explained by force fields theories using force-mediating particles. On the contrary, at the annihilation of these particles with antiparticle arise two photons of electromagnetic radiation. These two photons in subsequent scattering on atoms, e.g. steel ball in void space, transfer its energy to this ball and completely dissipate into nothingness. This steel ball, after a short warm up from the photons, cools down again at the temperature of the universe around  $-270^{\circ}\text{C}$ . I mean we have under current physics, right before our eyes, an experiment concerning the invalidity of the law conservation of mass and energy.

The body of an astronaut when leaving the rocket into the void space without a space suit would freeze immediately to a temperature close to absolute zero. His or her thermal energy disappears although according today physics no air as well as any material substance is situated nearby. Their loss of thermal energy must be related to thermal radiation, as all matter with a temperature greater than absolute zero emits thermal electromagnetic radiation. But what substance are astronaut bodies balanced to in thermodynamic equilibrium (balance between two ambient) at a temperature around  $-270^{\circ}\text{C}$ ? No doubt this temperature is different in separate areas of space so the reverse process must also exist when bodies translocate from one temperature to another.

The energy of the electromagnetic field, and subsequent mass of the electron or the proton we have created under current physics from nothingness -waving a magnet around a wire. This matter by annihilation into electromagnetic radiation energy afterwards disappeared before our eyes into nothingness by scattering.

The creation of pairs of particles and antiparticles is not a limited phenomenon of physicists in laboratories, but is a common and well examined phenomenon of the interaction of electromagnetic radiation with matter. Electromagnetic radiation up to energy of 1.02 MeV interacts with matter in photoelectric effect or scattering processes

(Compton, Rayleigh scattering). For interactions over 1.02 MeV and up to 1.9 GeV, electron positron pair creation predominates and over 1.9 GeV outweighs the creation of proton antiproton pairs.

In the universe and nature all around us on Earth this phenomenon is continuously going on in a great quantity from the gamma radiation of radionuclides present to a greater or lesser extent in every substance on the ground (up to 20 MeV), from storm lightning (100 MeV) and the high energy gamma radiation (80 GeV to millions TeV) incidents on our Earth in great quantity from the universe.

So, the annihilation of protons and antiprotons was confirmed experimentally, which is the conversion of mass into an electromagnetic curl of the ether and vice versa. But current physics claims in of the Higgs field theory that the Higgs boson is the only method by which all particles of matter in the universe acquired its mass.

Perhaps current physics does not want us to claim that in creation of the proton from the electromagnetic radiation at energy 1.9 GeV or vice versa in the process of conversion of a proton into the 0.94 GeV electromagnetic radiation between the proton (0.94 GeV) and electromagnetic radiation stands energetically more than a hundred times greater 125 GeV Higgs boson.

Perhaps current physics in the Standard model does not want us to claim that before process of creation of proton- antiproton pairs (or all other particles-antiparticles pairs) from electromagnetic waves, some of the three free quarks or of three free antiquarks (later synthesized) exist in photons of these electromagnetic waves. Or perhaps also does not want us to claim that after the annihilation of proton-antiproton pairs these quarks are separated and somewhere exist or vanish in two photon of electromagnetic waves. But for separation, so also for synthesis of quarks infinite amount of energy is necessary according to the Standard model.

In 1964, Gell-Mann introduced the purported existence of quarks as particles of which the hadrons as parts of an ordering scheme for hadrons are composed, even if there was no evidence for their physical existence. Gell-Mann conceived of a mysterious physically inconsistent principle that quarks can never be directly observed or found in isolation, because an infinitely huge power is necessary for their possible separation. This (proofless) speculation includes in itself the impossibility to uproot it.

Later in 1968 it was declared that accelerator experiments at Stanford Linear Accelerator Center allegedly provided evidence for the existence of quarks. The main work referred-to for this allegedly provided evidence for existence of quarks is the outstanding researcher at Stanford Linear Accelerator Center, J. D. Bjorken. However, Bjorken in 1969 declared on page 4 in his paper [9] that *“There are various theoretical models which try to explain or at least describe these features of data but none work really well, or are totally satisfying. We will discuss three of these theoretical descriptions of the data; these are: 1) incoherent scattering from pointlike constituents within the proton – the parton model, or Thomson nucleon, 2) vector dominance, or Rutherford electron, 3) current commutators”*.

In Bjorken’s paper, no clear advantage for any model is provided. Last but not least, it should be noted that in all models the electron is taken as an approximately dimensionless pointlike probe which is opposed in our previous paper [10,11]. The robust fantastic theory of the so called Standard Model enabled mysterious physical properties (as fractions of unit electrical charge and their different ratios to mass, infinitely huge power for separation) was generated in the mid-1970s

to accommodate the results. Later and whenever necessary, go-as-you-please other mysterious physical properties were fabricated into this model.

Ferbel in his text book [12] states that the Standard Model has many parameters, e.g., masses of the leptons, quarks, gauge bosons, and of the Higgs, various coupling strengths and elements of the CKM matrix, with all values seemingly perplexing and ad hoc.

Ferbel, in his presentation in 2012- Belief and Observation: The Top Quark and Other Tales of “Discovery,” describes his personal adventures with keen physicists at SLAC experiments searching for top quarks which verbalized their approach to experimental work- I’ll find top, even if it’s not there! [13].

The so called Standard Model contains quite a large number of theories [14]. Physicists complain about these theories because the simplest one has 19 adjustable constants and the more elaborate version has 29 adjustable constants. But constants in physics represent a calibration point of physical law, so each of these 19 up to 29 constants represent unknown physics. Yet the physicist claims that the Standard Model is the best theory in science of particle physics.

Physicists at CERN announced to world in 2012 that their experimental results of one hazy hump (increase amount of events) on smooth curve through these 29 adjustable constants without doubt clearly points at their single one primordially picked physical model and that so Higgs boson was discovered and that thus even the existence of Higgs boson was confirmed.

This detected one hump through these 29 adjustable constants can point at to at least another 29 primordially picked physical models explaining the measured data. On top of that the mass of Higgs boson, which the physicist at CERN allegedly discovered, does not fit to any one of these theories based on 19 up to 29 adjustable constants contained in the Standard Model.

The claim that the standard Higgs boson model is a single correct model, without considering the correctness of other physical models, has nothing to do with the scientific methods in physics. It is pure tautology, obscuring the lack of evidence or valid reasoning supporting the stated conclusion. It also was not distinguished whether this is a resonance or particle by the following collision or decay experiments with this allegedly discovered particle as is usual for confirming the discovery of a particle in particles physics. On top of that physicist at CERN simply declared discovery of the Higgs boson and the Nobel Prize was immediately awarded for it but they do not know its lifetime! which is just predicted to  $10^{-22}$ s.

For another more details we refer to the Alexander Unzicker in 2014 book *The Higgs Fake: How Particle Physicists Fooled the Nobel Committee*.

It is hearsay that the physicists at CERN in fact formed a division with the different opinion to CERN official opinions kept among themselves because they are afraid of losing their jobs. Concerning the veracity of the allegedly discovered Higgs boson from the 17 principle investigators at CERN, 15 of the 17 said that they do not think they had found the Higgs boson and two said they did.

Within the mainstream scientific community half of physicists judge that Higgs was not discovered and particles such as Higgs do not even exist. How is that possible, that without any defence before the scientific community the discovery of the Higgs boson is simply declared and the Nobel Prize is immediately awarded for it. But for

the CERN budget of 1 billion euro per year (equals around to the Gross Domestic Product of Liberia with 4 million citizens) it is unthinkable not to return the breakthrough results, no matter if they are true or not.

In 1971 Kuti and Waisskopf, in a nucleon model in addition to the three quarks, requested a sea of quark-antiquark pairs and neutral gluons for the composition of a nucleon.

In the last decade and based on experimental results, physics came to the conclusion that the mass of particles (till then asserted as a static composition of quarks with gluon fields in elementary particles) lies in the spinning quark-gluon field and the actual mass of the quarks has but a minimal contribution to the mass of the particles.

In 2015 team of physicists at CERN announced another breakthrough discovery of a pentaquark !

In 2015 another international team of physicists at CERN had produced quark-gluon plasma at the Large Hadron Collider by colliding protons with lead nuclei at high energy. They contrarily reported that this state of matter doesn't (as was initially expected) behave like a gas of quarks and gluons, but rather like a continuous liquid (no quarks or any particles) [15].

This report on the absence of quarks (which stand in the hierarchy of the Standard Model on the bottom level) means as well the absence of quarks conjoined the Higgs boson (which stand in the hierarchy of the Standard Model on the supreme level).

Consequence of this report should have resulted at immediate removal or at least suspension of the Standard Model [15].

The lifetime existence of all (around a hundred) so called elementary particles, except stable protons, electrons, photon or neutrinos (or neutron max 15min) is one-millionth of a second to a billionth of a billionth of second (hyperons from  $10^{-10}$ s to  $10^{-20}$ s, mesons from  $10^{-8}$ s to  $10^{-20}$ s, leptons – muon  $10^{-6}$ s, tauon  $10^{-13}$ s) All decays of hyperons from the largest energy through less energy terminate at protons (as do neutrons) and energy is washed away by neutrinos, photons or electrons. All decays of mesons (composed allegedly of two quarks) from largest energy through less energy terminate at electrons (containing no quark) and energy is washed away by neutrinos or photons (whereas quarks at these decays simply vanish without any physical reasoning of how and where, though infinite energy is allegedly necessary for their separation). Lepton decays (muon and tauon) - terminate at electrons and energy is washed away by neutrinos.

Thus vice versa, we can say that all leptons and mesons are a series of excited energy states (more stable) or resonance (less stable) of electrons (or positrons). Hyperons are a series of excited energy states or resonance of protons (or antiproton). We can say that this is the most natural and physically simple first approach to the primordial model and classification of so called elementary particles.

No quarks exist. No Higgs boson exists, because there is no reason why other excited states or the resonances of proton energy series in higher energy ranges above energy detected in 2012 at CERN hereafter could not be found.

## Main Philosophical and Physical Flaws of GTR and STR from an Overall View

### The identity instead of equivalency of the inertial and gravitational forces

Newton found that the physical cause of the order of movement

of celestial bodies is the existence of a gravitational field as a real physical substance, existing in the surrounding of each mass body. This gravitational field around mass bodies is inseparable from any single mass body. At the same time, with the discovery of the gravitational field around each of the existing masses, Newton (along with Galilei and other physicists) discovered the existence of inertia as also inseparably linked with every mass body. The change in density of ether as gradient of gravitational fields and gradient of inertial forces, both described by acceleration as change of velocity in unit time, became the basic physical principle on which is built the Classical mechanics. The inertia force of a 1 kg spherical body is measured in its mass center (in the middle), but its own gravitational force is measured at a distance of 1 m from this center.

Newton says that physical origin of inertial forces, which emerge when bodies are accelerated is unknown to him. He will not find its physical cause, but relies upon the mathematical description of the inertial forces, using the quantity of acceleration of these bodies. Logically, the simplest physical conclusion which applies would lead Newton to determine the cause of inertial forces as forces of the resistance of the body against its own medium of the gravitational field.

Inertial force of one kilogram of mass, however, is the enormous power  $10^{12}$  times stronger compared to the gravitational force measured at a distance of 1 m from its center. Newton, in addition, didn't know the size of his own gravitational constant  $G \approx 10^{-12} N$  (Cavendish's 1798). He also did not know the size of the depth of the structure of matter into atoms,  $10^{-10}$  (Perin 1913) and protons  $10^{-15}$  (Rutherford in 1920) that are the source and origin of the manifestation of all forces of mass bodies. We can show [11] that the sum of the gravitational forces on the surface of atoms of the 1kg mass body is equal to its inertial force.

In this is a remarkable view of Newton that appears right in the first paragraph, when he defines mass states and says "I have no regard in this place (place of definition of quantity of matter) to a medium, if any such there is, that freely pervades the interstices between the parts of bodies" [1]. His "Principia" closes thus: "And now we might add something concerning a most subtle spirit which pervades and lies hid in all gross bodies; by the force and action of which spirit the particles of bodies mutually attract one another at near distances and cohere if contiguous; and electric bodies operate to greater distances repelling as well as attracting the neighboring corpuscles, and light is emitted, reflected, inflected, and heats bodies".

Today we know, that photons (electromagnetic radio waves, X-rays, gamma rays), neutrinos, protons, electrons, alpha particles (and others) pervade freely through bodies and matters in an amount corresponding to penetrant attenuation coefficients of their mass densities.

We can prove [11] that more than 99 percent of the forces of the gravitational field are located within the mass bodies and that these forces are, in fact, magnetic and electrical forces that keep the mass body as a compact object together.

Likewise, assignment of great inertial forces to the resistance of mediums (ether), however, would lead to decelerating of bodies moving at a constant speed in this environment (the initial principle of physics since the time of Galileo and Newton, where without the influence of forces bodies remain in the rest or uniform rectilinear motion).

For the past hundred years it has been omitted that the absence of the resistance of ether in uniform linear motion was the main argument

even at the condemnation of the ether at the time of interpretation of the M-M experiment. This irrefutable contradiction concerning the mechanical resistance of the ether in a uniform motion of bodies in free environments can, however, be removed after the discovery of the depth of the structuring of the mass and spin properties of all the particles of matter in the last hundred years. Since the 1930s, we found that all elementary particles are rotating spherical objects.

From results of fluid dynamics and continuum mechanics, we learned that, on the spherical symmetric rotating body moving at constant speed in an ideal fluid, only the same force exists from all directions perpendicular to the surface of a spherical body. The drag force on a rotating body, moving with constant velocity relative to the fluid, is zero. I mean the rotating spherical object is not decelerated in uniform motion in an ideal fluid environment against the direction of its movement (already the evidence of d'Alembert that  $\square = 0$  at d'Alembert's paradox in 1752).

The power of the resistance of the environment on a rotating body in a fluid environment in the direction of its movement is only manifested in the accelerating or decelerating of the body between the two speeds. The subsequent perpendicular pressure on the surface of the rotating spherical body moving at various constant velocity in a fluid environment is proportional to its speed of motion in that environment. As a result of the pressure changes of the surrounding environment on the spherical surface of the compressible rotational body, the change in the radius of its volume occurs.

This physical concept fills the conviction of Lorenz and Fitzgerald about contraction of dimensions of solid bodies as a consequence of different pressure of ether at different speeds of bodies within that ether.

H. A. Lorentz, in his 1904 paper mentioned: "*The first example of this kind is Michelson's well known interference-experiment, the negative result of which has led FitzGerald and myself to the conclusion that the dimensions of solid bodies are slightly altered by their motion through the ether*" [16].

The actual physical reality of relationship of inertial and gravitational forces is disguised in current physics by the damaging principle of the equivalence of inertial and gravitational forces in the GTR, in which the force of inertia of one body (the test body) is given equality with the gravitational force of another body (the central body). The gravitational force of the central body must be searched in relation to the inertial forces of the central body.

For Newton, the use of the law of action and reaction make no different in what kind of a force on the body (test) acts; for example the force of the impact of another body, dragging the body (e.g. lift) by a rope or the force of gravity [1]. "*This law (action and reaction) also takes place in attractions, as will be done in the next scholium*".

The forces in law of action and reaction are the same, but the motion of bodies is not. The motion of bodies is only inversely proportional to the mass of bodies in the moving center of their mutual inertia frame. The independence of the nature of the forces acting on the body (the test) is Newton's statement about the equality gravitational and inertial mass of the body. The reaction of mass of the body when exposed to the same gravitational or mechanical forces is the same  $F_a/F_g = ma/mg$ , so that gravity mass equals acceleration mass. As was shown above, there is also no contradiction in it.

But, from this statement, Einstein concluded that consequently, in gravity field gravitational forces on bodies are opposite and equal

to inertial forces. So, as the sum of forces acting on bodies is zero and despite of that bodies move with  $g$  acceleration, so a curved nonmaterial space and time is caused which creates motion of bodies in gravitational fields.

Einstein GTR begins with Galileo's law that all bodies, independent of their mass, fall to the earth with the same  $g$  acceleration. But Galileo's law is valid only within the limit case when the mass of the falling body as well as the gravity of the falling body can be neglected by the mass of the earth. If the mass of the falling body equals the mass of the earth, then they fall mutually on each other with  $2g$  acceleration. In this case, according to Einstein from the equivalency principle of gravitational and inertial mass, also arises that gravitational and inertial forces of earth as well as the falling body are balanced and so it is proven that no forces between them exist. So, according Einstein, in this case when on earth a body falls with a mass that equals the mass of earth, their mutual action is caused by their two curvatures of non-material space and time.

In Kepler - Newton celestial mechanics masses of objects determines not only ratios of forces of gravitational fields surrounding them but masses of celestial objects through their ratios of inertial forces also determines the speed of movement in their mutual interaction.

Physical reality of inertial forces determining the speed of movement of each of two mutually interacting objects or any other inclusion of this reality in GTR fully absents.

The invalidity of this Einstein's basic postulate of GTR can be demonstrated in a simple experiment in the interaction of two small disk loadstone magnets facing each other with the same polarity. By the action of first magnet that we have in hand, we can remotely (at a distance) push the second not fixed magnet in motion. The second magnet moves, despite according to the law of action and reaction, its inertial force equals and is opposite to the pushing force of magnetic field of the first magnet. Forces (contact pressure) equal, but the movement of the magnets will depend on the ratio of their acting mass.

But according to Einstein's equivalence principle, based on a thought experiment, the second magnet should remain in the same place, since the inertial force of second magnet has the same and opposite magnitude as the pushing magnetic force of the first magnet. According to GTR, curved space time is then cause, which creates the motion of the second magnet.

In this experiment we can also place and let hover a second magnet, above the first magnet that we have in hand. With regard to GTR by magnet in our hand we canceled the space time curvature of earth. But we will feel in our hand the distance gravitational force of the weight of the second magnet!

In both cases, the existing reality of the mediating material substance is so evident that it can be replaced in our mind by solid bar.

The experiments confirming the equality of gravity and inertia mass (e.g. Eötvös experiment) are subsequently deceptively considered as full evidence of the correctness of the basic principle of GTR concerning the equivalency of gravitational and inertial forces, meaning that zero forces act on falling bodies in gravitational fields. The equality of the gravitational and inertial mass of one body and the movement of bodies in their mutual action are two entirely different items. The physical reality is that although the forces are the same in earth gravity, each body falls to earth by neglecting the mass of body to the mass of earth. The principle of equivalence in the GTR confuses and mixes Newton's statement concerning the equality of gravitational

and inertial mass with a false embracement of the law of action and reaction. Law of action and reaction is hold in the GTR as the same time and same place equality and reverse orientation of the forces exerted by actions and reactions. Unfortunately, while occurring countless times in the current physics (although never mentioned by Newton) leads to a standstill of the entire universe. The crash or any force of action between any two bodies would have had to stop the movement of these bodies. The body in the gravitational field would not have moved, since the force of gravity and inertia are opposite and balanced. Therefore it is necessary that the move of the body in the gravity field be attributed to the nonmaterial curvature of space and time.

In the basic physical thought experiment of GTR on equality gravity and inertia, the man standing in a stationary elevator in a gravity field is pressed to the floor of the elevator by the same force as the man standing in an elevator pulled by rope, with acceleration equal to the acceleration of the gravity field.

This thought experiment is, however, a misleading asymmetric description of physical reality. The situation in the stationary elevator cannot be made equal to the non-stationary elevator pulled by a rope. The force of gravity pulls the elevator, but for all parts of the atoms of the lift and all parts of the man standing in it.

I submit that the situation of the stationary elevator, in shaft at a floor, blocked in the gravity field is symmetrical with the elevator pulled in the free space of the universe by pulling rope with the thousands of invisible glass fibers, that pull at the same time for all the atoms of the elevator and all parts of man, and the free movement of the elevator is prevented by block against the rope mounting.

A man standing in the stationary elevator in the gravity field would feel pressure on the soles of his feet as the pressure of his own body and no pressure on the top of his head. In the stationary elevator in the free space pulled by a rope with thousands of invisible fibers, the man standing on his head, would feel the pressure on the top of his head and no pressure on the soles of his feet.

In the case of deletion blocks in both cases, the person would feel no pressure and would feel free fall or free acceleration. The biggest blunder of the GTR is the claim that at the free fall of a body in gravity (equivalent case to "free acceleration") no forces exist and so the movement in gravity (just as at case of "free acceleration") has to be assigned to the curvature of the space and time.

Finally, today we now know that to change the height of the orbit of a satellite circulating around the Earth we must turn on the reactive engines acting on the satellite by force in the direction or in the opposite direction to the gravitational forces (not against nonmaterial space-time) and add or subtract energy to the satellite (as cumulative force) according to the desired size of the orbit height changes of the satellite.

## GTR

Since 1925 (Hubble's discovery of galaxies, 1926 Lindblad's discovery of rotation of galaxies), we understand that all the stars and constellations that we see in the night sky with the naked eye or binoculars (numbering about 2000 stars) are just a small part of our nearest surrounding universe in a sphere with a diameter of 2 to 10 thousand light years in our Milky Way Galaxy, which has a diameter around 100 to 500 thousand light years. These naked eye visible stars in this sphere rotate along with the Earth and the Sun around the center of our galaxy. The ancient Greeks, Newton and Einstein (at the time of 1905, 1915) considered these with naked eye visible stars within

this sphere with radius from 2 to 10 thousand light years in the sky (together with a few nebulas and the belt of the Milky Way nebula), as the entire universe.

Newton, after the formulation of the general principle of gravity of all masses, could not avoid the question of why the universe had not gravitationally collapsed. Newton's reply to this question is based on the knowledge of his predecessors, that for the previous 3000 years the universe appears to have been stable and, secondly, on the knowledge of his own discovery that in the solar system the gravitational force of the Sun acting on the planet is compensated by the centrifugal inertial force of planets orbiting the Sun.

Therefore, Newton was convinced [1] that the gravitational forces acting on the stars in the sky do not route to the Earth or Sun, but to their own force center on the particular orbits of these stars. Since 1925, we understood that Einstein's description of the image of the universe in general relativity theory for the universe known to Einstein (a sphere within a radius of 2 to 10 thousand light years) is mistaken. This is because the universe known to Einstein as a whole rotates around the center of the Milky Way Galaxy and the mutual gravitational interaction of stars within this sphere is not the determining factor of the physical image of our universe.

The discovery of whirling galaxies meant the end of GTR. Newton's far-sighted belief has proven correct with the minor change that all the stars of the universe known to Newton (so as to Einstein) rotate around the common power Center of the Milky Way Galaxy.

After this proof of the blunder to use GTR for stars in our Galaxy (a universe known in 1915) it was claimed that GTR is but valid for newly discovered universe of galaxies. It is very alarming that these allegations of current physics, supporting this theory as applicable continue to be put forward. However, again the Big Bang theory of physicist and priest Lemaitre is put forward as truth.

Physics during the last 100 years has shown that the basic manifestation of the mass of the observable universe around us is its rotary and curl movements. Fields of alleged quark-gluon particles curl inside the proton and neutron. The proton and neutron most probably rotate as fields at shells in atomic nuclei, electrons rotate as fields at shells around atomic nuclei. The Sun and planets rotate individually, the planets around the Sun, the Solar System and other stars rotate around the center of the Milky Way Galaxy. With full physical conviction we must then assume rotary movements, even for galaxies and their higher grouping. However, from the measurements of the observed redshift of spectra of a Galaxy we are unable to determine the Galaxy's direction of possible movement in space.

Even with the evidence of the last twenty years that Galaxies form filaments in web-like super cluster complexes and move at curved paths along these filaments, we are not yet able to get the academic community to a clear rejection of the Big bang theory forced daily upon them under the supervision of power structures and public mass media.

The initial natural idea by non-physicists, would have seen the curvature of light in the gravitational fields of the celestial mass body would consider that, in the surroundings of this mas body is something that curves the trajectory of light, rather than the idea that there is nothing that causes this curvature (proven by the ordinary experience of curved glass or on the passage between two various matter densities or within gradient of fluids). There is no logical reason why from a physical point of view held by all physicists in the late 19th century on this matter (the gravity as a gradient of the real physical ethereal



substance), the light path should not be curved in the gradient of this substance of the gravitational field.

It was not necessary to carry out large expeditions type of that Edington's in 1919 for the purpose of observation a light bend near the Sun at the eclipse of the Sun. According to the fundamental experimental knowledge of optics since Newton, we know that light curves when it passes closely around the edge of any object that we have at hand.

To consider, however, the phenomenon of the curvature of light in gravitational fields as evidence of the validity of a physical claim that gravity is the curvature of the nonmaterial space and time is clear Dadaism. It can best be captured by the words of Nikola Tesla [17].

*"I hold that space cannot be curved, for the simple reason that it can have no properties. Of properties we can only speak when dealing with matter filling the space. To say that in the presence of large bodies space becomes curved is equivalent to stating that something can act upon nothing. I, for one, refuse to subscribe to such a view".*

Tesla in his works claimed that Einstein's relativity, which discards the ether, is entirely wrong and he proved that no vacuum (void space) exists. He asserts that all attempts to explain the workings of the universe without recognizing the existence of ether and the indispensable function it plays in phenomena are futile. He asserts that there is no energy in matter other than that received from the environment.

Special relativity as a mathematical construction is without any physical contemplation firmly rooted in purported zero result of the experimental investigation of the speed of light, carried out by Michelson- Morley. General relativity emerged from Einstein's purely theoretical and somewhat misguided speculations about a possible relativity of acceleration.

Gravity, electricity and magnetism were explored independently in physics and are also currently presented in physics in independent parts of the science. Gravity in physics is referred to as (and often as the only) universal power and universal attribute of matter. However, after the last hundred years of exploring molecules, atoms, protons, electrons, and other elementary particles, we know that each atom or molecule, each proton or electron, and other elementary particles of matter exhibit a magnetic field in its vicinity and in their inside or around the electric field.

If we see into tables and catalogues (CODATA, Wikipedia or others) showing the basic properties of elementary particles and atoms, we find that for every particle or atom is given one or both values of the force of the electric or the magnetic field. Even the neutron has a magnetic field equal circa to the magnetic field of a proton!

However, for these elementary particles in these tables we find that no value of the size of the gravitational forces fall to the size of the mass of these particles, even when the size of these gravitational forces on the surface of the particles or atoms equals at least their magnetic force [11].

We can prove [11] that more than 99 percent of the forces of the gravitational field are located within the mass bodies and that these forces are in fact magnetic and electrical forces that keep the mass body together as a compact object. These same forces hold together electrons, protons and neutrons inside atoms as well as hold fictitious gluons and quarks inside protons and neutrons. The gravitational field surrounding the mass bodies is much smaller than a one percent remnant of these forces.

The explanation of gravitational fields lies in the extension of Van der Waals experimental study (1910 Nobel Prize) on the existence of mutual attractive forces between the molecules and atoms of substances emerging as an averaging remnant (magnetic field) at their random thermal rotating (spinning) movement of their thus rotating dipole and multipole electrostatic fields.

We can consider, with great conviction, that the gravitational force is not a universal fundamental attribute of matter, and that the force of gravity as the individual fundamental power of atoms and particles does not exist. We can consider that gravitational fields and gravitational forces surrounding great mass objects represent the sum of a huge number (1kg steel ball  $10^{26}$  atoms) of disordered magnetic fields of the atoms and elementary particles from which these mass objects are composed.

We can consider that the gravitational field of the Earth is the dominant vertical component of the sum of a huge number of the disordered magnetic fields of atoms and elementary particles of the Earth. The magnetic field of the Earth is a manifestation of the asymmetry of the layout of the dominant vertical component of the magnetic fields of atoms of the earth caused by the spherically asymmetric ellipsoidal shape of the Earth. For the measurement of the magnetic field of the Earth, e.g. by a compass, we have to eliminate this main dominant component of the field and spar the needle of the compass in the middle (in its center of gravity).

Subsequently, under the so-called gravitational waves of large gravity mass bodies established in GTR, it is necessary to consider the broad spectrum of the disorderly flow of so-called thermal electromagnetic radiation of the individual atoms and elementary particles from which these large gravity mass objects are composed. Maybe relic radiation (cosmic microwave background) is just a manifestation of this way in which the existence of so-called gravitational waves are presented. They can be seen as the broad spectrum of the disorderly flow of very low electromagnetic radiation frequencies of the individual atoms of large mass bodies rotating in solar system, the Milky Way and other Galaxies. Analogous to cyclotron radiation, they are exposed to acceleration components along an orbital path.

GTR at introducing the magic object called the Black Hole, claims that no escape (light or any bodies) is possible beyond the boundary of the region called the 'event horizon' and that Black holes can be identified upon the basis of their gravitational interaction in otherwise boundless distances. The Black Holes are allegedly placed in the centre of galaxies. Black Hole by massive gravity field keep the rest of galaxy together. The first simple and logical question then is how the gravity forces itself or the gravity field of the Black Hole escapes within boundless distance beyond event horizon? This was never raised in GTR and so much the more never answered. GTR, on the other hand, at the same time also claims that Black Holes can produce gravitational waves that transport energy to boundless distances as gravitational radiation, a form of radiant energy similar to electromagnetic radiation. But electromagnetic radiation and light are the same.

Later the fantasy about particle of gravity called a graviton was added to GTR. Substance of a graviton has to be the curvature of space and time as it is particle of curvature of space-time field. May be if to a graviton is added another fantastic feature, that it can move with velocity higher than light or infinite velocity, it can solve the trouble with range of gravity beyond the event horizon.

Riemann's assertion, that the space acquires a definite form only through the advent of the material content filling it and determining

its metric relations, Einstein in GTR transformed into a demagogic physical and philosophical phantasm of the mystery of the curvature of non-material notion of space and time. This was a continuation of the mystery of time dilation in STR, where the mutual velocity of body and light is always constant, regardless of the direction of movement of the body towards the light in equation  $v+c = v-c = c$ . The difference in velocities is the difference in the traveled paths. Path divided by time is velocity. So for come true the validity of this equation, the mystery of time dilation is introduced. But from time dilation follows the deceleration of velocities. In this equation the reference frame is also not defined.

In relativity, using the multiple of speed and time, we are not able to measure the traveled paths because from an increase in velocity follows dilation of time and length contraction and so also follows the deceleration of velocity itself. We find ourselves in a typical mysterious Einstein pathological circle, where no basic unit of quantity and no basic reference frame is definitively defined. In relativity, all basic units of quantities and their relevant reference frames (so all physical law) is changing according to their ratio to the velocity of light. But no reference frame exists for the velocity of light.

But physics is a fully comparative science. No single absolute numerical value exists in physics. Physical constants (the basic physical unit of quantities) are firm calibration values of physical law for comparing the development of observed phenomena. Without fixed calibration values of basic physical units of quantities and fixed reference frames to which these calibration value are related, we can't discuss physics.

Albert Einstein, on his 70<sup>th</sup> birthday, in a letter to Maurice Solovine, 28 March 1949 [18]: "*You imagine that I look back on my life's work with calm satisfaction. But from nearby it looks quite different. There is not a single concept of which I am convinced that it will stand firm, and I feel uncertain whether I am in general on the right track*".

"Riemann in his work says *"in a discrete manifoldness (existence of particles in all neighborhoods), the ground of its metric relations is given in the notion of it, while in a continuous manifoldness, this ground must come from outside. Either therefore the reality which underlies space must form a discrete manifoldness, or we must seek the ground of its metric relations outside it, in binding forces which act upon it"* [19].

The conclusions of Riemann imply that, we can get rid of infinite space just in case the metric space is filled with discrete particles and it must be added that these discrete particles must be at rest.

Riemann's conclusion should today be competed with the physical reality of the production of discrete particles as curl compression of the continuous ether, so we must seek the ground of metric relation of space filled with such discrete particles also outside of it.

Since today we know that particles move at huge speeds within the expected continuous manifoldness of space, consequently Riemann's idea of construction of metric of space grounded on the property of discrete particles inhered in mutual neighborhoods are also rather illusory. Again, it would be necessary to construct a metric space based on the pressure of the media at a given point and the total pressure of the space with opposite pressure outside of this space.

In the deprivation of infinity we also seek a reason why the power structures in physics support the theory riding off the continuous ether (special and general relativity, quantum mechanics, force fields theories using force-mediating particles, the standard model of quark theory, the Big Bang and the Higgs boson theories). These theories are merely

based on the existence of rigid particles what together with the theory of curved space-time provide requested finiteness of the dreamed of universe in which when we move in any direction, we will always move on curved path within this space. This unproven speculation has a basis in the discovery of the roundness of the Earth, while till then some assumed that the Earth was flat and a sea cruise ended on the horizon with a subsequent fall to hell. They were even afraid of many sailors on the Santa María during Christopher Columbus revelatory voyage in 1492 that discovered America.

Frank, intelligent, honest and fair physicists must clearly tell the public and physical community that an understanding of infinity is beyond the current ability of the human spirit and of today's civilization. An experimental possibility for the inspection of the infinity of the macro world is always as inaccessible as infinity itself. It is not in our hands, because the ratio of any range of telescope to infinity is always zero.

In contrast to the inspection of the infinity of the macro world, the situation for the inspection of infinity or finiteness of physical zero (existence or non-existence of smallest particles or fluid quanta of the physical world) of the micro world is not so gloomy and is in our hands. Understanding the essence of the micro world of physical fields (ether) here, directly under our hands, can support our understanding of infinity and of the macro world of the universe.

## STR

An entire generation of hundreds of physicists of classical mechanics and electricity and magnetism, at least from Newton until 1905, when most of them after decades with their own hands personally carried out direct experimental observation of the physical world around us, came to the claim of the existence of force fields as real physical substances around the physical body. This claim did not appear after two years of speculation about a single Michelson-Morley's (M-M) experiment behind the table in an office. Moreover, concerning Michelson-Morley's experiment, we now know (the discovery of composite rotary motion of the earth in a surrounding space, around the Sun about 30 km/s, around the center of the Galaxy about 220km/s, to the Group of galaxies about 700-1000 km/s) that the basic physical assumptions for the explanation of this experiment were wrong.

The assumption of the Earth's rotation around the sun at the rate of 30km/s, as the only motion of the Earth in space, is not valid. Also invalid, is the assumption of the rectilinear of the motion of one arm and the rectilinear of motion of the second arm of an interferometer toward the surrounding space, that is, the ether. So it is invalid that relation  $\Delta t = 2L / c\sqrt{1-v^2/c^2}$  represents time difference of flight through light in perpendicular arms of M-M interferometer.

It is necessary to mention that all the experiments similar to the M-M experiment (yet since time of Fizeau, 1848) in which medium of transmission of light propagation was under the "control" (interferometers embedded or filled with gaseous or liquid medium (e.g. Mach-Zehnder interferometer) confirmed the expected result of time difference of flight through light in two perpendicular directions. In addition, the Sagnac experiment with a rotating Interferometer in a vacuum also provided the expected results.

In all physics textbooks, the illustrative explanation of the M-M experiment is presented by situations when one boat or swimmer swims a distance across the river perpendicular to the constant stream of flow from one bank of the river to the other, and at the same time a

second swimmer swims from the same starting point the same distance along the banks of the river downstream and upstream of the river.

In the case of mutual rotation of the interferometer and the fluid in its surrounding environment, we can present this situation as only the rotation of a fluid. For the illustrative explanation, we can present a situation with a swimmer swimming at a constant speed in a circular pool, rectilinearly from the center of the pool to the edge of the pool and back while the stream of water in this pool, rotates at a constant speed around the center. A swimmer can swim rectilinearly from the center to the edge of the pool and back in two perpendicular directions or in any two directions and his swimming times will always be the same. That means, in the case of mutual rotation of the interferometer and the ether time of passage of light in perpendicular arms of the interferometer will be the same in any rotation.

It is evident that the explanation of M-M experiment was based on false assumptions and expected the wrong conclusions. Pertinent null result of M-M experiment means null result and from this null result cannot be concluded nonexistence of the ether. We can be convinced that the pertinent null result of the M-M experiment represents proof of the rotating mutual movement of the Interferometer and ether in its surroundings.

Another fundamental consideration about the outcome of the M-M experiment is the view of Fresnel or Stokes that the ether is partially or completely dragged by Earth and thus shares its motion at Earth's surface which gets a factual physical image on the basis of the results of this work.

These results show that all smallest elementary particles are spin products of curl compression of ether and their existence inevitably brings existence of force fields (electric, magnetic, gravity) in its surrounding (as well as for their gathering in great mass bodies) as the gradient of ether otherwise uniformly filling space in other parts of the universe. This gradient, firmly fixed with any bodies, is moving through space together with great mass objects as well as the smallest elementary particles. As a result, photons of light as spin products of the electromagnetic curl compression of the ether are slowing down or speeding when moving in this moving gradient.

A hundred years after the inception of the special theory of relativity, we lived to see the speed of material objects of protons equal to almost the speed of light. Protons accelerated in the LHC tunnel at CERN reach 99.9999991% of light speed almost 1c. Two direct beams of protons flying against each other with each at 99.9999991% of the speed of light with mutual speed  $1c+1c=2c$  collide in a tunnel. But STR in the equation for composition of velocities  $u = (u'+v) / (1+(u'v)/c^2) = (c+c) / (1+(c\cdot c)/c^2) = c$  claims that this mutual speed is in fact  $1c+1c=1c$ .

According to STR the velocity of the opposite beam measured from reference frame either of this two beams is zero  $u' = (u-v) / (1-uv/c^2) = (c-c) / (1-cc/c^2) = 0$ .

These equations are clear evidence of a distortion of the physical reality in STR but in spite of that these equations are taught as the reality for hundred years even at secondary schools all over the world.

In the STR beam of protons from which we do measurement stands or better said its own velocity is in STR eliminated, because of his own time dilated to infinity (exactly 55555556 times) and its own length contracted to zero (55555556 times).

Consequence of these matter of facts should have resulted at immediate removal or at least suspension of relativity in physics.

Time dilatation is the most serious forgery of STR. Basic physical relations established by Einstein are already in full contradiction in the issue of time dilatation. In relation for the energy of the photon  $h\nu=mc^2$  (Planck's idea), the frequency with increasing energy increases  $\nu = m_o c^2 / h\sqrt{1-v^2/c^2}$  so time unit (one tick) shortens, but in STR relation for time dilatation  $t = t_o / \sqrt{1-v^2/c^2}$  time unit dilate with increasing energy.

Similarly, in GTR with increasing gravity towards the central source of gravity, so with increasing energy, time unit dilate. Clock moved near a source of gravitational field run more slowly, as its frequency is lower. But in GTR, according to gravitational redshift, the frequency of photons as moved near a source of gravitational field is higher and as moves away is lower.

Relativity introduced the claim that the mutual velocity of bodies moving at any speed and any direction relative to the movement of the light always equals to the speed of light. However, this claim completely excludes any consideration of the possibility of the existence of waves in medium.

This claim completely excludes any construction of Maxwell equations or Lorentz force, cause this construction requires ratio of velocity of the source or of the receiver to the velocity of light  $v/c$ . The waves in a medium originate as changes of density of the medium caused by ratio of velocity of the source of this change against the constant propagation velocity in this medium which is also the carrying medium of the waves.

This claim completely excludes also the phenomenon known as the Doppler shift, as well as the Liénard-Wiechert retarded and advanced potentials. The essence of the Doppler shift is in the varying number of waves of media impact on the receiver, depending on the varying speed and direction of motion of the receiver relative to these waves.

In relativity, albeit from its first principle of the same mutual velocity of receiver and light waves, for an explanation of the Doppler effect the receiver can suddenly move between the two fronts of waves (moving against the receiver always with constant speed) with various speed  $v + c$  or  $v - c$ . Since, however, must pay  $c + v = c - v = c$  this perverse code reincarnates into the mystery of time dilatation. As is shown below, time dilatation is identical with the change of speed and so for time considerations sick code  $1/t_c + 1/t_v = 1/t_c - 1/t_v = 1/t_c$  also is valid.

Moreover, relativity brings various declarations associated with the phenomenon of Doppler shift, which mainly includes a debate on the relativity of the red shift in conjunction with the expansion of the universe.

Even the starting point of Einstein's kinematic meditation about Galilean transformation  $x'=x-vt$  cannot be connected with physical reality of Dynamics so with energy or mass (STR never included the definition of mass). In Dynamics linear change of velocity  $v$  needs quadratic change in distances what leads to quadratic rise in energy proportional to  $v^2$ . Connection of a contraction of the one dimension of bodies  $l = l_o \sqrt{1-v^2/c^2}$  and rise in energies of these bodies  $E = mc^2 / \sqrt{1-v^2/c^2}$  in STR with the same Lorentz factor is mistaken and means returning the Physics to Descartes physics based on  $mv$  which was denied at the end of 17th century. This mistake is later remanipulated in 1907 by Minkowski space time  $x^2=c^2t^2$ .

Einstein's mathematical forgery at misusing Taylor's series for Einstein's return from  $E = mc^2 / \sqrt{1-v^2/c^2}$  to reality of classical kinetic energy  $1 / \sqrt{1-x^2} = 1 + x^2 / 2 + \dots + 3x^4 / 8 + 5x^6 / 16 + \dots$  is dogmatically repeated for hundred years and was never parsed. For both mathematical

relation  $1/\sqrt{1-x^2}$  and  $1/(1-x^2)$  using Taylor's series we can obtain the same result  $1/(1-x^2) = 1 + x^2 + x^4 + x^6 + \dots$  or also  $1/(1-(x/2)^2) = 1 + (x/2)^2 + \dots$

Energy for reliance on velocity rise as  $E = \gamma^2 m_0 c^2 = m_0 c^2 / (1-v^2/c^2) = m^2 c^2$  and relation  $E=mc^2$  is blunder.

### Essence of time in physics

The physicist, who seeks to seriously ponder what represents a quantity of time in physics, may spend any time figuring this, but in the end the man must come up with only a single answer. This answer is the same as Aristotle's that time is the measure of the speed of movement. The same answer attributes to physicist Julian Harbour who, after a 50 year inquiry into what is time in physics, came to the conclusion that "Time is nothing but a measure of change and time itself does not exist".

If there is no movement of objects, no time or velocity exists. It is the only existing change we are unable to assign any time any velocity or any acceleration. For two mutually moving objects we are unable to assign any speed and we need a third comparative calibration of speed in order to do so. Time, velocity and acceleration represent the comparison of the count of speed of one change to another.

Time in contemporary physics is not an arbitrarily chosen variable, which could by itself span, lapse and vary independently of objects. The basic concept of modern physics for the last four hundred years lies in the fact that, by establishing basic units of length and time, at the same time, the basic unit of uniform velocity is defined as the ratio of this unit length and unit time. The calibration values of all fundamental physical constants are based and firmly linked to this basic definition. By this definition the concept of unit time in physics is established as speed of movement on a defined distance in the space, whereas at once the basic calibration comparative value of velocity is defined.

If we want to measure any quantities in physics we need the calibrated gauge to do so. For distances we have 1m ISO gauge, for mass 1kg gauge, for temperature we have calibrated thermometers and so on. But where is the gauge for very primordial quantity in physics -movement or velocity as its scale? Time is not non-material quantity which is measured by ticking of a clock but ticking of the clock, 1second, fixed to 1 meter is non-conscious calibrated gauge of velocity for comparing two movements. The change of the time unit is the change of the basic comparative unit of velocity- change of the basic gauge of velocity.

So the unit time and unit velocity are firmly fixed and represent the same in inverse proportionality- basic comparative speed of movement. If a body moves ten times faster than the unit velocity, it then travels ten times more unit length in one unit time or travels one unit length in one-tenth of the unit time.

We can express the velocity identically as the ratio of travelled unit length to the unit time, or the inverse ratio of elapsed unit times to length unit. We do so also in many practical situations. The speed of the runners, e.g. at a distance of hundred meters we express by the ratio of ran-off times. The acceleration of cars we express by the ratio of elapsed times at the fixed distance.

In 1983 (17th CGPM) a length of 1m was defined as length of the path travelled by light in a vacuum in  $t_c = 1/299\,792\,458$  second. By this definition the ratio of unit velocity, unit length and unit time compared to velocity of light in vacuum was inseparably fixed. The unit of time 1 second, is the speed of the movement measured on unit length, which in comparison with the speed of light is 299 792 458 times slower.

Basic relation of STR  $v/c$  for ratio of velocities can be identically expressed as an inverse relation of times  $v/c = t_c/t_v$ , where ratio of two velocities or inverse time is compared by third- basic unit velocity or unit time. The unit of time of one second then does not represent the ticking of the clock but the basic comparative speed of movement of the body for comparing other speeds on the length of one meter.

In STR for the comparative speed the speed of light is selected, which is constant in all inertial frames. Light moves on one meter in the system of the observer or on the contracted meter in the moving frames at the same speed and thus a unit of time per 1 second is also established and fixed in all STR inertial frames.

If, by changing the speed of the inertial system, the unit of length contracts in STR as  $l = l_0 \sqrt{1-v^2/c^2}$  then to ensure the validity of international SI definition of 1 meter from 1983 and ensure a constant velocity of light in all inertial frames as well as ensure validity of the calibration value of all basic physical constants we must also contract unit time as  $t = t_0 \sqrt{1-v^2/c^2}$ .

Time dilation  $t = t_0 / \sqrt{1-v^2/c^2}$  fixed firmly with length contraction  $l = l_0 \sqrt{1-v^2/c^2}$  in accordance with STR leads to the disintegration of the calibration value of all basic physical constants.

So if unit time in STR changes as  $\sqrt{1-v^2/c^2} = t_v/t_0$  than basic comparative unit of velocity change as  $\sqrt{1-v^2/c^2} = t_v/t_0 = v_0/v_v$ . So if STR claims that in STR time dilates and ratio  $v_0/v_v = 1$  is kept the same then also the basic comparative unit of speed as well as speed of light in inertial frames with increasing speed is slowing down (for speed of light is also valid  $1c+1c=1c$ ) so also dilates.

So for keeping constant speed of light in any inertial frames any ratio of changed lengths and changed times must be always constant in any inertial frames. If length 1m contracts to half meter so in order the speed of light remains constant the ratio of unit length and unit time must remain the same and 1 second has also been contracted to half second. If STR claims that when length 1m contracts to half meter then 1 second dilate to 2 second then the speed of light falls to one quarter. In fact, but in STR basic comparative speed unit has four times changed.

### The Main Historical and Physical Flaws of Quantum Mechanics and Quantum Physics from an Overall View

The principle of least-action is the central principle of QM. In least-action, the variational principle introduced by Maupertuis in 1747 is used to find the shortest path or 'least time' to obtain the equations of motion for that system. In the principle of least-action, the physical cause or any material physical phenomena responsible for movement of bodies are suspended. This principle becomes more and more a central principle of today's physics to derive the QM and Relativity equations (and even the equations of classical physics).

In 1746 Maupertuis wrote the work -Derivation of the laws of motion and equilibrium from a metaphysical principle- with two head chapters -I. Assessment of the Proofs of God's Existence that are Based on the Marvels of Nature, II. Need to Identify Proofs of God's Existence in the General Laws of Nature

Let us recall the E. Mach judgment on this principle [20] in 1919.

"Maupertuis, in 1747, announced a principle that he called the principle of least-action. He declared this principle to be the one that eminently accorded with the wisdom of the Creator.

He took as the measure of the "action" the product of the mass, velocity, and space described, or *mvs*. Why, it must be confessed, is not clear. By mass and velocity definite quantities may be understood; not so, however, by space, when the time is not stated in which the space is described. If, however, a unit of time be meant, the distinction of space and velocity in the examples treated by Maupertuis are, to say the least, peculiar.

It appears that Maupertuis reached this obscure expression by an unclear mingling of his ideas of *vis viva* and the principle of virtual velocities. ....It will thus be seen that Maupertuis really had no principle, properly speaking, but only a vague formula that was forced to do duty as the expression of different familiar phenomena and not really brought under one conception It would seem almost as if something of the pious faith of the church had crept into mechanics".

(Since this paper is written not only for physicists, active in the topic of QM but also for the wider physical community or non-physicists, the equations in this section are written not in their full rigorous mathematical form but rather as equations in their most simplified form manifesting their physical concepts to the general public. For their rigorous mathematical form see [10]

If we seek to evaluate a chapter of physics called quantum mechanics (QM), we must indicate what QM is. Quantum mechanics is a procedure that attempts to describe the motion or motion-states of fundamental particles of matter (primary electrons) in mainly two situations - a central force field in the vicinity of different atoms and in free movement without the action of external forces.

In the case of the motion of the electron in the central field of the protons for the hydrogen atom (two-body problem), physics (now called classical physics) satisfactorily provided (in the presented relationship of Bohr and in the first presented relationship of Schrodinger) an explanation for the amount of energy needed to be added or removed from electrons (the spectral lines of hydrogen) for the occurrence of electron at different distances from the center of the proton.

Today we can treat electron in atoms as the spin of sphere shell field with corresponding thickness where quantization means that two shells cannot naturally concur or 'occupy' the same space of a shared shell.

Subsequently, in other cases than the hydrogen atom, it would necessarily have been stated that the force fields around the nuclei of atoms composed of a large number of nucleons have a complex character (and so also their spectra as the energy states of electrons). Also, in classical physics, we can't even satisfactorily solve the three-body problem analytically. Moreover, as was learned later (after 1930), nucleons in nuclei at least spin, if not spin at shells and, in addition, the composition of the atomic nuclei from protons and neutrons was not known by 1932.

From a global perspective, quantum mechanics can be characterized by two fundamental distortions. The first is the deformation resulting from the impermissibility of refusal or even opposition to Einstein's linear relationship for energy, with frequency of the photon after which energy matches photon momentum. The impermissibility of this refusal is overcome in QM by introducing a mysterious de Broglie's wavelength of matter and Schrödinger's wave function.

Secondly, it is a deformation resulting from the impermissibility of refusal of Einstein's claim about the absence of ether and the inevitability of its repeated introduction in quantum mechanics in the concept of the energy of vacuum by providing it the physical properties equivalent to ether in electrodynamics.

Schrodinger started from a basic physical supposition - "The wave-function physically means and determines a continuous distribution of electricity in space, the fluctuation of which determines the radiation by the laws of ordinary electrodynamics [21]. In the case of the hydrogen atom, it has been possible to compute fairly correct values for the intensities e.g. of the Stark effect components by the following hypothesis: the charge of the electron is not concentrated in a point, but is spread out through the entire space proportional to the quantity  $\psi\bar{\psi}$ . The fluctuation of the charge will be governed by ( $\psi\bar{\psi}$ ) applied to the special case of the hydrogen. To find the radiation, that by ordinary electrodynamics will originate from these fluctuating charges, we have simply to calculate the rectangular components of the total electrical moment integrating ( $\psi\bar{\psi}$ ) over the space."

For the Atomic Spectra of elements other than the hydrogen atom with the larger number of nucleons in the nucleus of an atom, Schrodinger's procedure failed to provide a satisfactory value. Instead of considering that the electromagnetic field around atomic nuclei other than hydrogen atoms are complex and hitherto unknown (like unknown spin 1930 and neutron 1932), during the formation of quantum mechanics 1924 -1930 continued the hunt for provisions of mathematical constructions describing the spectra of atoms.

In fact, the spectra of atoms show us how the electromagnetic fields, gradient of ether, around nuclei of these atoms look and so the most physically natural approach would have been in an effort to model this field by the laws of ordinary electrodynamics.

But ether was slain and banned by special relativity and gotten rid of by general relativity, where force fields turned into the curvature of non-material quantities of space and time. Schrodinger's good-will for mathematical structure associated with specific physical realities was dismissed (shortly also by Schrodinger). Theorists Born, Heisenberg, Jordan, Hilbert, Wiener, Pauli, Eckart, Kramers, Dirac, Sommerfeld, Weyl, Neumann and Wigner bred fictive, bizarre mathematical structures which combined the physical unknown go-as-you-please quantities, variables and parameters.

Conceptions such as operators, matrices, extra matrices and continuous matrices, commutators and anti-commutators, approximation, group methods and symmetries, frequencies, wave lengths, wave functions, relativistic and non-relativistic corrections, delta functions and coupling constants were incorporated in various -statistical, probabilistic, uncertainty, energetic, time, momentum-interpretations of quantum mechanics. These go-as-you-please quantities, variables and parameters have mostly no connection to physical reality and so, to this day, no one understands quantum mechanics and nobody knows how the particle moves in a force field described by quantum mechanics.

Noteworthy is the Dirac attempt to link his theory with physical reality, which arrived with the statement (known as the Dirac sea) that the whole universe is filled with anti-electrons.

In 1927 Ehrenfest (who was, according to Einstein himself, merely the best teacher in our profession whom I have ever known) in his theorem linked the classical and quantum pictures without approximations at declaration that the expectation of quantum mechanics is equal to the expectation value of the negative gradient of the potential function equivalent to Newton's second law of motion.

The beginning of the formation of wave and quantum mechanics mainly connects with the names of de Broglie and Schrödinger. In the

case of de Broglie, although Einstein was not head of the de Broglie doctoral thesis (major work of de Broglie, in preface to German translation states “Einstein from the beginning has supported my thesis”), Einstein led de Broglie through the steps of his work. De Broglie final version of his doctoral work was even sent to Einstein for approval. Without this approval, the defense would not have been accepted. “In his later career, de Broglie (see WIKI-Louis de Broglie) worked to develop a causal explanation of wave mechanics, in opposition to the wholly probabilistic models which dominate quantum mechanical theory”.

In the case of Schrödinger, his written thanks to Einstein, which states that the formation of his equation would not be possible without the decisive contribution provided him by Einstein speaks for itself.

Einstein's equations for photon energy  $E=h\nu$  and photon momentum  $p=h/\lambda$  from which arise relation  $E=h\nu=hv/c \cdot c=h/\lambda \cdot c=pc$  are primary physical relations in physics until today. These relations are the primary physical relationships that caused the degeneration of the physics of the 20 century [10,11]. In 1900, Planck in accordance with then still valid scientific principles carefully declared that photon energy can be considered proportional to frequency of a photon  $E \approx h\nu$ . Einstein, without any experimental evidence, in 1905 made a ‘big scientific discovery’ when he simply declared  $E=h\nu$  and based STR also on  $E_k=pc=mcv$ .

For confirmation of this ‘discovery’, Millikan carried out the experiment in 1914. With all respect to the greatness of Millikan's physical experimental skills, he succumbed to the pressure of the power structures and agreed with their interpretations concerning the validity of the linear relationship of energy on the frequency of a photon in his experiment. This agreement by Millikan was a condition of the Nobel Committee for the award of the Nobel Prize to Einstein in 1921 for the photoelectric effect. In 1921 Millikan became director of the laboratory at CalTech and won the Nobel Prize in 1923.

Millikan in experiment allegedly confirmed for electrons proportionality  $E = h\nu = eV = \frac{1}{2}mv^2 = p^2 / 2m_0$  from which arise  $p \approx \sqrt{2m_0 eV}$  what fully disproves Einstein's  $E = h\nu = hv / c \cdot c = h / \lambda \cdot c = pc \approx \sqrt{2m_0} \cdot c \cdot \sqrt{eV}$ . Also Schrödinger's  $E = h\nu = p^2 / 2m_0 = h^2 / \lambda^2 2m_0$  was in full conflict with Einstein's  $E = h\nu = h / \lambda \cdot c = p \cdot c$  therefor introduction of the cryptic wave function  $\psi$  by Schrödinger was necessary.

Opposition to these relationships was (and still is) not permissible. So de Broglie or Schrödinger introduced mystical physical non evincible quantity (dimensionless point particles connected with wavelength in infinity or wave function) employed through obscure operators in constructed robust mathematical theories, so that using them could accommodate experimental data and at the same time keep Einstein's relations valid. From the physical point of view these theories are, even for top specialists, beyond all understanding.

Feynman (the Nobel Prize laureate for quantum physics! 1966): “I think I can safely say that nobody understands quantum mechanics”. “We have always had a great deal of difficulty understanding the world view that quantum mechanics represents.”

Einstein's degeneration of the relation of physical quantities of momentum and energy for photons and, as was also shown in [10] for mass bodies, has become the default physical premise of the theory of special relativity and quantum mechanics, linking these physical quantities  $E=pc=(h/\lambda)c=mcv$  which then differs only by the constant  $c$ . For relation of photon energy  $E=h\nu$ , (that in the form of differences of energies  $\Delta E=h\nu_2-h\nu_1$  at photoelectric effect was awarded by the Nobel

Prize), however, neither Einstein nor physics up to today has told us what physical reality represents the Planck constant itself (action of what it is) and what is the frequency of a photon or what the physical properties of the photon we have to the frequency of the photon assignee [10,11].

The frequency of a photon cannot in any way be measured. We can measure the wavelength of the photon and, in relation  $v=c/\lambda$  tie the photon wavelength to its unknown physical quantity frequency. Then for Einstein's explanation of photoelectric effect the difference in momentums  $\Delta p=hc/\lambda_2-hc/\lambda_1$  in fact primitively explains this effect.

De Broglie extended this deformation with the dispersion relationship of frequency and wavelength for material particles at the group velocity relation  $w=\Delta v \Delta \lambda$ . But these fictitious mathematical construction of frequency and wavelength can't anyhow be experimentally measured. Nobody up to today knows what physical properties represent the frequency of particles and don't even know what is the wavelength (defined in infinity) of these particles. The principle of de Broglie's construction of wave of matter for particles or macroscopic body moving at velocity  $v$  in relation  $mv=h/\lambda$  is physically wrong, because the movement of one body we can consider as the movement of more parts of this body together or as several smaller bodies bound to each other. Wave function of the macroscopic body as a whole has microscopic value, but each of its divided smaller parts (e.g. atoms of the same body) has wave functions growing to infinity.

In our previous paper [10,11] it was shown that the Planck constant must be bind with basic flat density and pressure of ether in void space. Subsequently, in relation  $h/\lambda=mc$  wavelength  $\lambda$  constitutes the dimension of curl compression of the photon momentum, as well as a dimension of localization of spinning internal momentum of rigid elementary particles at rest.

Thus the correct de Broglie consideration about moving rigid particles at velocity  $v$  (in comparison to basic calibration ‘rest’ state) represents [10,11] the relation  $h/\lambda_0=mc-m_0c=mcv/c=mv=p$  constituting the responding contraction of each of the primary construction particles of macroscopic bodies. This contraction is a result of a change of pressure of the force fields surrounding particles (gradient of ether freely pervading interstices in matter and inseparable joined with particles of matter which are spin products of ether) on the surface of those particles, due to the change of velocity. Its consequence is a contraction of the macroscopic body as a whole.

In the case of the classic experiment of QM, electron microscope, instead of assign to the dimensionless point electron obscure wave function  $\lambda$  in fact  $\lambda$  constitutes the dimension of localization of electron. The greater is the velocity of electron so much greater is its energy what equals to the shorter dimension of electron localization

Although Compton up to 1923 during 20 years of his experiments on the collision of photons with matter used for photon momentum the relation  $p=hv/c=h/\lambda$  and for photon energy the relation  $E=h^2v^2/c^2=h^2/\lambda^2$ , Schrödinger in 1926 arrived with another of the greatest achievements in the history of mankind in his equation  $\Delta E=\Delta hv=\hbar c/\Delta \lambda=\psi \hbar^2/\Delta \lambda^2$  (1933 Nobel Prize). Up to today nobody has yet told us what is the wave function  $\psi$  (as well what is frequency or Planck constant) and to what physical properties it belongs.

To date there are no universally accepted derivations of Schrödinger's equation from appropriate axioms just like of Einstein's energy equation  $E=mc^2$ .

In 1926 the so called relativistic Schrödinger equation in a Klein-

Gordon (K-G) form equation (falling short of a Nobel prize award) was presented as  $\hbar^2 v^2 / (m_0^2 c^2) c^2 - \hbar^2 / (m_0^2 c^2) \lambda^2 = -\psi / \psi$ , from which follows [10,11] that energy equals  $E = \hbar^2 v^2 / c^2 = \hbar^2 / \lambda^2 = m^2 c^2$ . So the correct writing of Schrödinger equation is  $E = \hbar^2 v^2 / c^2 = \hbar^2 / \Delta \lambda^2$  and no wave function  $\psi$  is needed.

Subsequently, in 1928 Dirac (1933 Nobel prize) presented equation  $\hbar v / (m_0 c) - \hbar / (m_0 c) \lambda = -\psi / \psi$ , in which nobody up today knows what physical properties represents the frequency  $v$  of particles, what physical properties represents the wavelength  $\lambda$

(Defined in infinity), what is the wave function  $\psi$  or to what physical properties it belongs, what represents the Planck constant itself or action of what it is. From Dirac's equation it follows [10] that momentums  $p = \hbar v / c = h / \lambda = mc$  equal so he at last allegedly reached (of course in advance dictated) the first quantum mechanics theory that fully accounts for special relativity. Cultish equations for energy of photons  $E = \hbar v = (h v / c) \times c = pc$  and energy of particles  $E = mc^2 = (mc) c$  or  $E_k = (mc) c - (m_0 c) c = mvc$  glorified not by physicist but by mass media in which Einstein simply purposefully multiplied momentums by  $c$  together with parallel cultish Schrödinger equation  $E = \Delta \hbar v = \hbar c / \Delta \lambda = \psi \hbar^2 / \Delta \lambda^2$  were not rejected from physics to this day.

In our previous paper [10,11] it was shown that, in fact wavelength  $\lambda$  represents the diameter of real dimensions of photons and particles as spin products of spherical curl compression of ether. Frequency  $v$  represents the time of the light's flight through this diameter  $\lambda$  of photons and particles. Thus consequently, since a photon is an entity in quantum mechanics as well in Maxwell's electrodynamics, we receive for photon the same physical base in both theories as  $\frac{\partial^2 \epsilon}{\partial t^2} = \frac{1}{c^2} \frac{\partial^2 \epsilon}{\partial r^2} = c^2 \frac{\partial^2 \epsilon}{\partial r^2}$  so  $\epsilon^2 / c^2 dt^2 = \epsilon^2 dv^2 / c^2 = \hbar^2 dv^2 / c^2 = \epsilon^2 / dr^2 = \hbar^2 / d\lambda = dm^2 c^2$  and from the Pointing vector in electrodynamics, from Compton's works as well from the right hand side of Schrödinger equation we know that this writing represents writing for energy. So energy is proportional to energy  $E \approx \hbar v$  but in proportionality  $E \approx \hbar^2 v^2 \approx \hbar^2 / \lambda^2 \approx p^2$ .

If we look into any experimental paper or textbooks in the field of particle physics [22] we find that relations  $p \cdot p = m^2 v^2 = E^2 / c^2 = \gamma^2 m_0^2 c^2$  thus  $p = mv = E / c = mc^2 / c = \gamma m_0 c$  are valid relations for the actual physical phenomena.

With respect to momentum of photon  $p = h / \lambda = \hbar v / c$  Einstein's relations for energy of particle  $E = mc^2$  as well as for photon  $E = \hbar v$  do not represent energy, but momentum intentionally multiplied by  $c$ . Energy of particles for reliance on velocity equal  $E = m^2 c^2 = \gamma^2 m_0^2 c^2$ . So also energy in relativistic mechanics represents relations  $m^2 c^2 = m_0^2 c^2 + m^2 c^2 v^2 / c^2$  or  $m^2 c^2 - m_0^2 c^2 = m^2 c^2 v^2 / c^2$  as equivalent relations to Klein-Gordon (K-G) equation or to the right hand side of the Schrödinger equation. So we receive the unified physical base for unification of classical mechanics, relativistic mechanics, quantum mechanics and classical electrodynamics in kinetic (added) energy as

$$E_k [2m_0] = p^2 = m^2 v^2 = \gamma^2 m_0^2 c^2 \cdot v^2 / c^2 = \hbar^2 / d\lambda^2 = \hbar^2 dv^2 / c^2 = \epsilon^2 / c^2 dt^2 = \epsilon^2 / dr^2.$$

This unification has to be done for kinetic energy because classical and quantum mechanics does not know the concept of rest energy for free particle. These energies represents the amount of cumulative forces embedded into particles caused by change the speed  $v$  of particles or of bodies or by change the volume  $dr$  of particles, or energy embedded into ether at creation of photon of diameter of  $d\lambda$  or  $dr$

$$p = mv = \gamma m_0 v / c = h / d\lambda = \hbar v / c = \epsilon / c dt = \epsilon / dr$$

We often hear the argument that the justness of application of

quantum mechanics lies in the great accuracy of its math calculations. But in fact, the quantum mechanics so as was the Ptolemy epicycles is a procedure for finding of mathematical construction to the existing experimental data which this mathematics has to arrive at. We can always find the mathematical relationships that describe experimental data or, if not, we can construct a new mathematics to describe the experimental data. But finding such mathematical constructions (theories) do not confirm the veracity of the basic physical principles (models) upon which these construction are based.

### The double-slit experiment and Casimir effect

The double-slit experiment is another in a row of experiments for which explanation of the physics of 20<sup>th</sup> century simply selects the most miraculous explanation. In 1801 a simpler form of the double-slit experiment was originally performed by Thomas Young. The double-slit experiment has later become a classic thought experiment, allegedly for its clarity in expressing the central puzzles of quantum mechanics.

In this experiment, the experimental data is accommodated by physically obscure and mysterious wave functions based on the mathematics of quantum mechanics theory. From this theory follows the mystery that particles or bodies can split and occur at two separate places simultaneously or the mystery that two particles separated by arbitrarily large distances can mutually communicate and transfer information with infinite velocity (the so called entanglement).

These mysterious explanations have subsequently for a hundred years been accepted by the power structures and mass information media, forcing to public as well as the wider physics community to accept them as the only possible explanation, although more simple, wise and feasibly reasonable physical explanation exist.

The primary physical condition of the double-slit experiment is that the sizes of two slits are equal to, or closer in size to the light's or electron's wavelength. If the slit's width enlarges (compared to the light's or electron's wavelength), the constructive interference picture becomes more and more unnoticeable.

In basic quantum mechanics textbooks, as well as in hundreds of papers and documentary films showing the alleged difference between the behavior of the classical objects and the mysterious behavior of quantum particles of matter, it is presented using the thought experiment, in which tennis or golf balls on a plate with two parallel slits are fired. The resulting image of two lines, where these balls supposedly fall is presented and is compared with the many lines interference image that arises when the beam of light or electrons passes through plate with double-slit.

But our physical thinking concerning the double-slit experiment must begin from the experimental knowledge of optics (since Newton) that light curves when passing closely around the edge of any object that we have at hand.

And so it is with the electron beam. Physical answer, why the electron path is curved passing at close proximity to the edge and path of a golf ball not, is simple. The gravitational forces (identical with magnetic forces) at close distances (comparable to electron wave length - dimension of electron) around the material edges has sufficient power to cause the curvature of the electron's path, but have absolutely no chance to influence the path of a billion times billion heavier and greater (the most part of a golf ball is very far in this gravity field) golf balls.

But we can just as well simply say, that the forces by which are

bound the surface layer of atoms of the edges to the layer of atoms underneath roughly equal to the forces in vicinity of edges at the distance approaching the size of atom so approaching the wavelength of light's or electron's dimension (wavelength).

The result of this influence of the large size of the gravitational forces on the microscopic quantum objects are curved paths in close proximity to the atoms of the surface of the material. The superposition of this curved paths around inner sides of edges with the recoiled paths from outer sides of edges is then observed as the constructive interference picture in the double-slit experiment.

In quantum mechanics, however, this natural difference between the behavior of macroscopic and microscopic objects, demonstrated by the double-slit thought experiment, becomes the basis for claims concerning the mysterious and beyond all understanding behavior of quantum particles. It allegedly is completely incompatible with the concepts of classical physics.

Johannes van der Waals (Nobel Prize in 1910) studied for decades, both experimentally and theoretically, the existence of mutual forces between the molecules and atoms of substances emerging as an averaging remnant (magnetic field) at their random thermal rotating movement of their thus rotating dipole and multipole electrostatic fields. The thermal averaging effect is much less pronounced for the attractive induction. Van der Waals also used the Greek letter  $\Psi$  for the free energy of a system with different phases in equilibrium at critical temperatures, describing the phenomena of condensation.

The Casimir effect is an experiment of the same nature as the double-slit experiment. The Casimir effect shows that the infinitesimal (non-measurable) forces of a small number of atoms of a material applied to macroscopic objects (golf balls) moving in the vicinity of these atoms (as is the case with double-slit experiment) may become an observable and measurable effect even for macroscopic objects if the number of interacting atoms increases many orders of magnitude, as it is in the case of the Casimir effect. A typical example is two uncharged neutral finite plates in a vacuum, placed a few nanometers apart at a distance comparable with the size of atoms.

As was shown in our previous paper, at such small distances in classical descriptions, the gravitational forces (identical with magnetic forces) manifest themselves to a non-negligible extent.

But we can just as well simply say, that the forces by which are bound the surface layer of atoms of the plates to the layer of atoms underneath roughly equal to the forces between plates if the distance between plates is approaching the size of atom.

A distorted physical premise was the basis of H. Casimir that, in a classical description, there is no field between the plates and so no force would be measured between them.

Casimir formulated the theory in 1948 predicting a force (Casimir-Polder force) between these plates on the mysterious claim that this force has nothing common with plates and they exclusively flow from outside pressure of the vacuum, because not all wave lengths of simple harmonic oscillators of vacuums can fit between plates. According to the second quantization of quantum field theory, space is filled with zero vacuum point energy, containing an infinite quantity of oscillators of all possible energy values and wavelengths.

It is remarkable that, in quantum field theory, excitations of the field correspond to the elementary particles of particle physics. This is fully in contradiction with the Higgs boson theory that all particles in

the universe have obtained their mass from Higgs bosons soon after the Big Bang.

Surprisingly, in the last decade mainstream physics came to state that Casimir effects can be formulated and Casimir forces can be computed without reference to zero-point energies. "*The Casimir force is simply the (relativistic, retarded) van der Waals force between the metal plates. They are relativistic, quantum forces between charges and currents. Thus it can be interpreted without any reference to the zero-point energy (vacuum energy) of quantum fields*" [23].

Consequence of this paper in the broader context should have resulted at immediate removal or at least suspension of Quantum mechanics in physics.

But Casimir effects is dogmatically taught for fifty years at schools like evidence of correctness of QM approach for truthful explaining of the physical reality based on non-measurable and physically unverifiable fantasies of frequencies and wavelengths.

### Man's Ability to Perceive the Physical Reality of his Surrounding World

Exploring the rest of the world by man over the course of the last two hundred years shifts the world from what he can see with his own eyes, to the world of what cannot be seen with his own eyes. Man discovered that the functioning of the macro world of animate and inanimate nature, visible to him, is based on the functioning of an invisible micro world of cells, molecules, atoms, protons, electrons, and photons. He discovered that outside the cosmos of stars and nebulae visible to him with his own eyes there exists a space of galaxies and other structures in the universe.

If a physicist today sees a steel sphere about 1 kg in weight lying still on the table, he knows that inside, this ball is unimaginably "live". In this sphere of billions of movements and physical processes exist what physics is unable to grasp even at the level of atoms, or able to grasp only a small part of them.

Today we know that in this sphere there are a billion times billion the basic (roughly  $10^{26}$ ) construction elements of this sphere-atoms of iron. These atoms are vibrating in their equilibrium positions, emitting thermal infrared radiation and electromagnetic fields. In its vicinity tremendous gravitational and magnetic forces act (if gravity and magnetic force are not identical powers). Even greater electric power is located in each interior of these atoms of iron, where 26 electrons as force fields swirl in all various directions in 26 shells around the nuclei of these atoms. In each interior of these nuclei 26 protons and 26 neutrons most likely swirl in all various directions in force field shells. In each interior of these 26 protons and 26 neutrons swirl force fields as unknown number alleged gluons and alleged 3 quarks.

Physicists till 1919 had not even the slightest knowledge of this structure of atoms.

Also "live" is the vicinity of this steel ball. Today we know that in every surrounding cubic meter of space surrounding us (anywhere in the universe) there are more than a billion times a billion photons of electromagnetic radiation, at least a billion neutrinos, one hundred million photons of relict radiation and hundreds of hard actual particles of matter – protons.

When looking at this steel ball from a distance of 1 meter, a physicist knows that (in line with his perspective) around 100 million atoms of air occur on this line. These atoms of air we don't see and we



are not able to grab in our hands. When waving our hands in the air, we can sense the pressure of air resistance on our hands, evidencing the existence of fluid around us, in which we are plunged. This fluid air presses on the surface of our bodies with a force of around 15,000 kg and we do not feel this pressure if we find ourselves at rest in the air.

Convincing the general public of the veracity of the existence of this huge pressure required considerable effort from physicists. We recall the famous experiment of German scientist Otto von Guericke's in 1654 in which, after pumping air from the space of two half-meter hemispheres of iron, freely attached to each other via a seal, 8 pair of horses drawing ropes fixed to each hemisphere (a total of 32 horses) were unable to pull these hemispheres apart.

If the part of the air around us in a room is accidentally lit by the rays of the Sun we'll see a huge amount of dust in the air around us. We only see dust particles larger than roughly the size of 1 micrometer, so we see just particles containing more than one million times a million atoms. We can capture these aerosol particles by filters of nanometer size.

From the total amount of the entire electromagnetic spectrum of photons (wavelengths in range of more than 15 orders of magnitude from hundreds meter to  $10^{-15}m$ ) which occur around us we can see only a tiny portion of less than one fiftieth of the whole spectrum (wavelengths in range less than one order of magnitude from 0.2 to 0.7 micrometers).

For creation of the optic perception in the eye the continuous stream of photons must last at least 1/16 of a second from one place. As the action of one photon with wavelength around 0.5 micrometers lasts  $10^{-15}s$  we fail to see streams of photons of less than a million times a million. Therefore we don't see the spokes of a rotating bicycle or car wheel.

If, at a distance of 1 meter, a 1 cm thick and perfectly transparent glass sheet is placed before this steel ball, nearly 100 million atoms of glass will stand between, the existence of which our eyes provide no information. The existence of this sheet we learn only by its feel when we move our hand against it. Similarly, we hardly see living beings, such as transparent jellyfish, in the sea or stranded on the beach. We fail to see millions of viruses, bacteria and protozoa around us.

From a billion times a billion photons around us we see almost nothing or, we see just the photons that are important for our macroscopic life.

## **An Overview of the Opposition of Physicists for Past Hundred Years against the Deformed Physical Image of the World Forced by Power Structures upon the Public**

The history of mankind traces the fact that the more centralized the power structures of human society, the more the physical picture of the world and the freedom of human thought is under the control of these structures.

During that period in time (100–1600) when Ptolemy's geocentric mathematical description of the universe was under the supervision of the ruling power structures as an untouchable truth for 1500 years, is today described as a dark period in the history of mankind. Those were times when man was hindered in his progress in exploring the real physical picture of the surrounding world. The normal development of the physical sciences was stopped in its tracks for over 1500 years.

Next mainly the period within 16<sup>th</sup> and 18<sup>th</sup> century is a clear

example of a conspiracy of the power structures against the physical reality of the image of the world. In this period physicists again discovered the discoveries of ancient Greek thinkers. The books of the most outstanding physicists (including Newton, Galileo, Tycho Brahe, Kepler and Copernicus) of this period (till 1835) were declared heretical and banned on Index Librorum Prohibitorum which was abolished not until 1966. Bann also involved the restrictions on printing this books in Europe. Most Greek science other than Aristotle's was banned. Up to 1758 all books that supported heliocentrism were banned. Violation of this ban could lead to the death penalty. Not until 1992 was the Inquisition against Galileo repealed and was admitted that the heliocentric approach in physics was correct.

In the 20<sup>th</sup> century, a crusade of the power structures against the actual reality of the physical world around us continues.

The experimental results of the research of whole generations of hundreds and hundreds of outstanding physicists in the field of mechanics (from Galileo and Newton to Mach) celestial mechanics (from Galileo to Hubble), electricity and magnetism (from Volta to Tesla) are in substantial parts again rejected in the 20<sup>th</sup> century and replaced by mystical theories of nonmaterial mathematical structures of several theoretical physicists in the 20<sup>th</sup> century.

There are no unequivocal physical evidences for the mathematical construction of these theories such as special and general relativity, quantum mechanics, force fields theories using force-mediating particles, the standard model of quark theory, the Big Bang and the Higgs boson theories. These theories are based on mysterious claims of light velocity, of space time curvature, of non-existing of simultaneity contra existence of simultaneous body presences everywhere in the universe, of wave functions of bodies in infinity, of the invalidity of the law of conservation of energy.

After the Edington's British expedition on Principe Island for the purpose of the observation a light bend of stars near the Sun at the Eclipse of the Sun in 1919, the greater part of mainstream physicists by intervening tried to prevent the publishing of Edington's articles. In spite of intervention bombastic subtitles upcoming in most mass journals, mainly in the UK and Germany glorified relativity heavenward. After this unsuccessful intervention, in 1920 the most respected physics of world, including W. Vien, P. Lenard, Sommerfeld, Nernst, Weyland, Debye and the Rubens based Union of German Natural Scientists organized a putsch in the Nauheim Conference congress in 1920. Sommerfeld was the President of the German physical society in 1919-1920 and from 1917 until his death in 1951 he was each year proposed for Nobel prize. Lenard was laureate of the Nobel Prize in 1905. The content of the putsch was "*Einstein as a plagiarist; Anybody who supports the relativity theory is a propagandist; the theory itself was Dadaist (this word was actually uttered!)*"

"*Einstein's relativity principle could only achieve general validity by dreaming up suitable fields. The abolition of the ether was announced in Nauheim. Nobody laughed. I do not know if it would have been otherwise if the abolition of air had been announced*" Lenard retorted at one point [24].

Stark, in the English journal Nature declared, "*The relativistic theories of Einstein constitute an obvious example of the dogmatic spirit,*" and he announced, "*I have directed my efforts against the damaging influence of Jews in German science, because I regard them as the chief exponents and propagandists of the dogmatic spirit.*"

Ernst Rutherford declared that the theory of relativity of Einstein,

quite apart from its validity, cannot but be regarded as a magnificent work of art.

E. Gehrcke thought that relativity was a fraud and that its acceptance by the public was a case of mass suggestion. P. Weyland believed that Einstein's theories had been excessively promoted in the Berlin press, which he imagined was dominated by Jews who were sympathetic to Einstein's cause for other than scientific reasons.

In a memorable confrontation at the first Solvay Conference in 1911, Poincaré asked Einstein, "What mechanics are you using in your reasoning?" and Einstein replied, "No mechanics," which left Poincaré speechless. All that Einstein's formulation of relativity says by way of an explanation of length contraction and time dilation is that these phenomena are required to keep the speed of light constant. This failure of Einstein's theory to provide physical explanations for several of its basic assertions was what had led Sommerfeld to complain, with some justification, about "unvisualizable dogmatics" and "the conceptually abstract style of Semites".

Relativity, contrary to standard physics, does not explain the physical phenomena in nature but prescribes, without any explanation of how this phenomena must be.

The attention needed applies mainly to the work executed by Michelson [25] in the Michelson-Gale experiment. A massive interferometer experiment, spread over fifty acres outside of Chicago, detected a fringe shift of 0.236 of one fringe due to the Earth's rotation. This was in agreement with ether theory and within the limits of observational error.

Consequence of this experiment, in which Michelson himself corrected his previous null result upon which was built the whole relativity, in intrinsic science, should have resulted at immediate removal or at least suspension of relativity in physics. But political principles exceeded physical principles in 20<sup>th</sup> century. This simply maintained the same state during the previous 2000 years, without major changes.

Also outstanding is Dayton Miller's 1933 paper in the Reviews of Modern Physics that details the positive results from over 20 years of experimental research into the question of ether-drift. It remains the most definitive body of work on the subject of light-beam interferometry.

Miller's conclusion already in 1925 was "The effect (of ether-drift) has persisted throughout. After considering all the possible sources of error, there always remained a positive effect."

Einstein's reply to Miller's conclusion was "My opinion about Miller's experiments is the following. Should the positive result be confirmed, then the special theory of relativity and with it the general theory of relativity, in its current form, would be invalid. Experimentum summus iudex. Only the equivalence of inertia and gravitation would remain, however, they would have to lead to a significantly different theory." [26].

The procedure, under which Einstein first created the theory and then tried in experiment demonstrate the validity of his theory, was typical for him and is typical for all main theories of the 20<sup>th</sup> century. If theories had heretofore represented a second step for the possible explanation of the experiment carried out in the first step theories of the 20<sup>th</sup> century are produced in first step by theoretical physicists, in second step they look for experiments that explain these theories.

If the experiment was not in accordance with his theory, Einstein acted fully in accordance with the dictum which he proclaimed that if an experiment does not fit the theory, it is needed to change the experiment. This was the case in his proposed experiment, gyromagnetic ratio, in which the value 1 should be measured by his theory. Einstein himself, in carrying out the experiment measured values of 1.02 and 1.45, but in transaction for the Physical society he reported 1.02 and discarded 1.45. Although experiments of other physicist during the next six years showed beyond a reasonable doubt that the correct value is 2, Einstein stubbornly insisted on his 1.02 value [27].

Since the establishment of special and general relativity, quantum mechanics, force fields theories using force-mediating particles, the Big Bang and the Higgs boson theories to the present, hundreds of physicists and many associations of physicists around the world show fatal errors in these works and controversies concerning these theories.

A good overview of the physicists and the Association of physicists, though not complete, can be found in the publication of 10-year long project [28], completed in 2006: G.O. Mueller- 95 Years of Criticism of the Special Theory of Relativity involving 3789 publications criticizing the theory.

The message of the project to the German public is:

*Since 1922 the criticism is suppressed, the critics are calumniated, the public is told lies about the scientific value of the theory of special relativity. In 1922 the physics community, as part of the greater science community, has broken away from the tradition of search for the truth, a rupture of the tradition - as far as we know - never before committed by a whole branch of science and with the knowledge and support of the greater scientific community.*

*We are confronted with the great mystery of modern physics:*

*(1) Why has the rupture of the tradition been tolerated by the whole "scientific community"?*

*(2) Why has it not been detected by the public?*

*(3) How can the academic physicists hope to continue forever without one day being called to account for their acting?*

*(4) What are the motives of the academic physicists?*

*During several years of research concerning the criticism of special relativity, we found the following answers.*

*(1) The public in Germany has been cheated since 1922 and is cheated by the influential scientific community until today. Academic physics exert strong pressure on newspapers, journals, publishers and congresses not to accept any criticism of special relativity for publishing. Critical papers are suppressed, critical persons are excluded from any participation in the scientific dialogue.*

*(2) The academic physicists believe that nobody can expose the truth about their actions to the public because the public would never dare to doubt the integrity of these scientists because of the great achievements of natural science in the last centuries, and that the general public will always trust the physics establishment more than any critics.*

*(3) The motives of the physics establishment are subject of several speculations. Probably the strongest motive is that physicists are thankful for a theory that "does not need the ether". This was the position expressed in Einstein's paper of 1905. But only 15 years later, in 1920 in a conference held in Leiden he discovered the need of an ether. The relativists were not amused about this conference of their master.*

*This change of idea in 1920 should have led, as a logical consequence, to a revision of special relativity, which, however, has not taken place until today. This remarkable fact of non-revision seems to be a strong argument that the ether may be at least one fundamental motive.*

*About 1914, special relativity had already been directly refuted by several experiments and indirectly by the absence of experimental confirmation. The Michelson-Morley-Experiment and its repetitions have had positive results, in complete contrast to the relativist's propaganda until today of an alleged null-result: these experiments have found velocities of the Earth of about 6 km/sec (1887), 10 km/sec (1902), 7,5 km/sec (1904) and 8,7 km/sec (1905). In 1913 Sagnac, with his rotating interferometer, also found moving fringes, the rate of motion of the fringes depending on the rate of rotation of his instrument. On the other hand, there were no experimental confirmations for the pretended length contraction and time dilatation. This desperate experimental state of affairs before World War I has never been recognized by the relativist textbooks.*

*The apparent great success of relativity came with observations of the Sun's eclipse in 1919 which were said to have confirmed the general theory of relativity. This supposed result was immediately rejected by several important critics in different countries as misleading the public (for instance: A. Fowler, Sir Joseph Larmor, Sir Oliver J. Lodge, H. F. Newall, Ludwik Silberstein in England; T. J. J. See in the USA; Ernst Gehrcke, Philipp Lenard in Germany). - But the relativists informed the printed media of that time about the greatest achievement of mankind! The public opinion was made enthusiastic about "Relativity" and was told that now both theories, the special and the general relativity, were undisputable truths and nothing less than a revolution of our thinking about space and time and gravitation.*

*In Germany critical authors are strictly outlawed since 1922 by academic physics and therefore unite the critical arguments against both relativities in a booklet titled "Hundert Autoren gegen Einstein" [A Hundred authors against Einstein] published in 1931, protesting against the "terror of the Einsteinians";*

*The critical reader comes to the conclusion that special relativity is an unreasonable theory propagated to the public in academic and high school teaching to be the greatest achievement, together with suppression of any criticism.*

*"Relativity" as a whole and especially "Special Relativity" as the first of two theories, are hailed by academic physics and their propagandists as one of the greatest achievements of mankind in the 20<sup>th</sup> century, as announced to humanity by the "new Kepler-Galilei-Newton" and the like, revolutionizing our ideas of space and time. This picture of magnificence and glory can hardly be outdone.*

*The normally suspicious and critical reader of relativity textbooks and the original papers of Albert Einstein very soon find many points of the theory questionable and is irritated that no relativist author, not Albert Einstein himself nor his disciples, is ready or able to deal with these evident critical questions and irritations which arise from simple logical analysis.*

*An author who declares the same effect sometimes as "real" and sometimes as "apparent" (Einstein 1905) cannot escape the notion of what he is eventually going to tell. Instead, the relativists declare any criticism as incompetent and stupid and the critics to be maliciously motivated. Generally the relativists abhor common sense and advise the reader not to trust it, but they fail to show which better sense the brave relativist is using.*

*As a surprise in 1958 the Japanese Nobel laureate Hideki Yukawa is reported to have criticized Special Relativity in a conference at Geneva during the UN Conference on the Peaceful Uses of Atomic Energy: the difficulties are such that "it would probably be found necessary to have a breakdown of the special theory of relativity"*

In addition to the publications and associations listed in the extensive research G.O. Muller project after 2006 until today, we can additionally specify the association mainly as thus:

The John Chappell Natural Philosophy Society - American Association of hundreds of physicists around the World (from 2014 the main branch of former Natural Philosophy Alliance). Since 1993 they organized conferences, published Conference proceedings and currently keep a database of around 6,000 publications of dissident physicists.

The database of publications of hundreds of dissident physicists since 2007 around the web archive vixra.org, that holds around 14000 publications.

As it was always in the past history of mankind, the physical picture of the world, mainly in the period from 1905 until the end of the Second World War continuing to the present once again became the subject of a struggle between international power structures at the highest political level. Mainly from 1920, after the Congress in Bad Neuhaim, to the 1925 German physicists disagreeing with establishing relativity as a single description of the physical world, are isolated and persecuted. After the change of political power in Germany in 1933, the roles of the persecuted and the persecutors reversed and, after 1945, reversed again until today.

During the 20<sup>th</sup> century until today, physicists whose livelihood depends upon state power structures (the vast majority) and who dare to question or disagree with those power structures' established physical theories are admonished, isolated, persecuted or fired from jobs or cut from the sources of their livelihood.

The publication is impossible of physical views other than those officially adopted in journals and the mass information media. But it is imperative in science to doubt! An appraisal of physicists and other scientists (not only by principals but also for highest scientific awards) is executed on the basis of the number of papers and the rating of so called impact factors of the journals in which their papers were published. By this instrument, editors and publishers have decisive power over who will be a significant and award-winning physicist and what kind of the physical image of the world is established within society.

This power of publishers in recent decades, in order to maximize their profits, attained an unlimited dictation and the terror of the publishers reigned against dissidents as well as all even conforming scientists. Scientists, for the publication of their many years work in journals not only fail to receive remuneration, but pay the full cost of the edition of the magazine. Scientists are forced by publishers on waste considerable time to learn and write their articles in the format of complex polygraphic publishing typesetting systems like TEX or LATEX. Otherwise the chances of acceptance of their articles for publication are slim. Any grammatical error in the text is unacceptable and authors must pay for their own linguistic proofreading.

Publishing houses and mass media corporations have decisive influence on governments of states or vice versa, because the owners (media magnates) of these corporations are often persons participating in governments. Most of the physics journals in countries of the world

are owned (or are in “cooperation” with) just four transnational publishing houses.

We can point to Randy Schekman, a US biologist who won the Nobel Prize in medicine in 2013. He said his lab would no longer send research papers to the top-tier journals, Nature, Cell and Science. “Leading academic journals are distorting the scientific process and represent a tyranny that must be broken. I have published in the big brands, including papers that won me a Nobel Prize. But, no longer. An impact factor was the toxic influence on science that introduced distortions. A paper can become highly cited because it is good science - or because it is eye-catching, provocative, or simply wrong.

These journals aggressively curate their brands, in ways more conducive to selling subscriptions than to stimulating the most important research. In extreme cases, the lure of the luxury journal can encourage the cutting of corners, and contribute to the escalating number of papers that are retracted as flawed or fraudulent. I have now committed my lab to avoiding luxury journals, and I encourage others to do likewise.”

All fictions and fantasies that are daily forced to the public as reality are also accepted by most of current civilization as physical reality. For the alleged confirmation of these science fictions are, without hesitation, lavished by enormous amounts of money in experiments at CERN or NASA.

The argument for receiving money for building ELI, the largest laser facility in the world in the Czech Republic in 2015 was - *A team is planning to build an enormously powerful laser that could rip apart the fabric of space.*

A few years ago, NASA sent four satellites into space with gyroscopes to test the relativity theory, a project called Gravity Probe B. Just the fact that NASA is testing the theory speaks for itself. Why otherwise would you test something if it is right and taught for almost 100 hundred years as a reality in universities and secondary schools?

On the other hand, almost no money is granted to experiments searching for what constitutes the electromagnetic waves that we daily produce by our mobile phones (connection with operators or at Wifi or Bluetooth connection) or that we use for inductive charging of our mobiles without plugging them into an electric socket.

According to GTR in this double situation the curvature of space and time flows into and out of our mobile phones. Instead of massive support for the finest experimental methods to explore the most subtle nature of the present real physical world around us, by enormous financial resources are supported the CERN big crash experiments, allegedly demonstrate how the physical world looked over 14 billion years ago or to demonstrate the fairy-tale of the rip of non-material time and space.

From 1905 until today there has been an opposition group of a hundred dissident physicists which consist, outside of admirable exceptions, physicists upon whom the ruling power structure have very small influence. These are physicists shortly before their retirement or in retirement, physicists who left physics and after migrating elsewhere to earn enough money, returned as independent physicist. It includes physicists who were fired from their jobs in physics.

These physicists do not hanker after glory, fame or awards. They have no reason to speak anything other than the truth. For no financial reward, they endeavor to fill the congenital need of human beings for knowledge of the actual real world around us.

In groups of the retired, or about to be retired, we found a huge number of professors, academics and scientists with remarkable scientific careers and even a few Nobel Prize winning physicists.

Of all the names of the celebrities we recall Louis Essen Ph.D., Dr.Sc., FRS, O.B.E. (1908-1997). His research led to his development of the atomic reference quartz ring clock in 1938 and in 1955. In the 1960s and later, he was among the first candidates for a Nobel Prize. In defiance of this, in 1971 he published *The Special Theory of Relativity: A Critical Analysis*, questioning special relativity, which apparently was not appreciated by his employers. Essen, in 1978 said, “*No one has attempted to refute my arguments, but I was warned that if I persisted I was likely to spoil my career prospects*”. Though he could effectively work for at least the next ten years, he involuntarily retired in 1972 and died in 1997. In October of 1978 he published a paper titled *Relativity and Time Signals* in the *Wireless world* journal.

In the paper he penned that *the comparison of distant clocks by radio is now a precise and well known technique. This was not the case in 1905, when Einstein published his famous paper on relativity and there is some excuse for the mistakes he made in the thought- experiments he described in order to determine the relative rates of two identical clocks in uniform relative motion [29]. But there is no excuse for their repetition in current literature. The mistakes have been exposed in published criticisms of the theory, but the criticisms have been almost completely ignored; and the continued acceptance and teaching of relativity hinders the development of a rational extension of electromagnetic theory.*

*These criticisms were rejected by Nature [the most prestigious journal in science]. It could be argued that the truth will eventually prevail, but history teaches us that when a false view of nature has become firmly established it may persist for decades or even centuries. The general public is misled into believing that science is a mysterious subject which can be understood by only a few exceptionally gifted mathematicians. Students are told that the theory must be accepted although they cannot expect to understand it. They are encouraged right at the beginning of their careers to forsake science in favour of dogma. Since the time of Einstein and of one of his most ardent supporters, Eddington, there has been a great increase in anti-rational thought and mysticism.*

From a recent author's we can recall Hans C. Ohanian - B.S. from UC Berkeley, Ph.D. from Princeton University, has taught at Rensselaer Polytechnic Institute, Union College, the University of Rome and today is Adjunct Physics Professor at the University of Vermont. From 1976 to 2008 he published more than half a dozen textbooks and several dozen articles on physics.

In his book, *Einstein's Mistakes* [27], he concludes that Einstein's unified theory was indeed an original, exclusive Einstein contribution- and it proved an unmitigated disaster.

The most grandiose mistakes of Einstein's career were his several unified theories of electricity and gravitation. For nearly thirty years, from 1926 until his death in 1955, these were the central focus of his research. Guesswork (identical with works in special and general relativity) inspired by God and unsupported by fact are perhaps suitable for theology and theocracy but they are not suitable for physics.

Not surprisingly, all of Einstein's several attempts at unifying theories were trash, and it is the crowning tragedy of Einstein's scientific career that this was obvious to all his close colleagues. Out of our compassion and respect for the great old man, only a few could bring themselves to tell him so.

When the physicist Freeman Dyson arrived in 1947 at the Institute

for Advanced Study in Princeton, where Einstein had spent his final years, he was eager to make contact with Einstein's "living legacy" and made an appointment with him. For discussion he got copies of Einstein's recent papers from a secretary. The next morning he realized that although he couldn't face Einstein and tell him that his work was junk, he couldn't not tell him either. So he skipped the appointment and spent the ensuing eight years before Einstein's death avoiding him.

Einstein's unified theories were a grand delusion. They led to papers and more papers on abstruse mathematics, but they never yielded anything of lasting interest in physics. Bern described the weak point in Einstein's work in those final years: "... now he tried to do without any empirical facts, by pure thinking. He believed in the power of reason to guess the laws according to which God has built the world."

In 1928, after Einstein announced another in a series of definitive solutions of his finally proven theories the hectic bombastic medial and publicity furor from 1919 was repeated and this theory was a worldwide sensation. A thousand copies of the dry-as-dust journal of the Prussian Academy containing Einstein's paper were sold out instantly and several thousand extra copies had to be printed.

Eddington wrote to Einstein, "You may be amused to hear that one of our great department stores in London (Selfridges) has posted your paper on its windows (the six pages pasted up side by side), so that passers-by can read it all through. Large crowds gather around to read it".

In the United States, The New York Times had anticipated Einstein's publication with the headlines "Einstein on verge of great discovery resents intrusion," and "Einstein reticent on new work; will not 'count unlaidd eggs'" And when Einstein's paper appeared, the newspaper gushed, "The length of this work, written at the rate of half a page a year-is considered prodigious when it is considered that the original theory of relativity filled only three pages."

The New York Herald Tribune outdid the Times by printing a translation in its pages of Einstein's paper, including all those incomprehensible mathematical formulas. The Tribune had prearranged for the transmission of Einstein's paper from Berlin to New York via Telex, using a special code for the transmission of the mathematical formulas. Einstein contributed to the newspaper furor by offering a lengthy explanation of his new theory in the Sunday edition of the New York Times in which he called it the third stage in the development of relativity.

But the new theory was another dismal failure. Einstein had written down a set of equations that made no sense. After strong opposition from then most outstanding physicist, it took Einstein three years to recognize that his another theory was dead.

He included his final field equations for the unified theory in an appendix to the 1949 edition of one of his earlier books, The Meaning of Relativity, and The New York Times promptly reprinted the equations on its front page with the headline "New Einstein theory gives a master key to the universe."

This was wishful thinking, but the Times was just as stubborn as Einstein, and when the 1952 edition of the same book appeared, the Times greeted it again with the headline "Einstein offers new theory to unify law of the cosmos." The trouble with Einstein's "master key to the universe" was that it was not actually a key but only a dream about a key.

Einstein made so many mistakes in his scientific work it is hard to keep track of them. There were mistakes in each of the papers he

produced in his miracle year 1905, except for the paper on Brownian motion. But there were in 1905 a few similar papers on setting the dimension of atoms from Brownian motion [e.g. M. Smoluchowski, Bull. Intern. Acad. Crac. 1903]. And there were mistakes in dozens of the papers he produced in later years [30,31].

It is apt to mention that the participants of the 2nd International Conference on Problems of Space and Time in Natural Science, 1991, from the USSR, the USA, Canada, Italy, Great Britain, Germany, Brazil, Austria, Switzerland and Finland issued the following declaration:

*Due to prohibiting or hushing up the publications which contradict Einstein's theory, modern theoretical physics and astrophysics have come to a crisis. We propose to give up teaching relativity theory in secondary schools, which would give time for studying the origin and development of classical methods in mechanics and physics. Teaching relativity theory in higher educational institutions ought to be accompanied by discussions of alternative approaches.*

## Conclusion

The claim that the cause of gravity is the curvature of non-material void space and time is the greatest degeneration of physical and philosophical thinking in all the history of mankind.

The curvature of space in fact represents a change of spatial density of real material substance ether (dark energy, polarization of vacuum in QM, ether in electromagnetism) and the curvature of time represents the change of velocities imparted to bodies by this spatial change in density of the ether.

Time is a measure of the change of moving objects and time is not an arbitrarily chosen variable, which could by itself span, lapse and vary independently of the moving objects. Without moving objects time does not exist.

In mechanics, unit of time and unit of velocity are firmly fixed and represent the same in inverse proportionality- basic comparative speeds of movement. The change of the time unit is the change of the basic comparative unit of velocity- change of the basic gauge of velocity

Space in itself is nothing more than a three-dimensional manifold, devoid of all form, which acquires a definite form only through the advent of the material content filling it and determining its metric relations.

Gravitational force as an individual fundamental power does not exist and gravitational force is not a universal fundamental attribute of matter. Such a huge force as is the force of gravity on the surface of the atoms (which equals to at least the magnetic force) was never found.

Gravitational forces and gravitational fields surrounding great ponderable objects are made up of the superposition of a huge number of disordered magnetic fields of atoms and elementary particles, from which these mass objects are composed. Gravity is just a tiny remnant of huge electromagnetic forces placed inside these objects.

Elementary particles of matter are spin products of curl compressions of ether as a local increase in the density of the flatly distributed field of the ether in space. Thus is formed the mass of particles of matter (more likely  $10^{11}$  neutrinos in proton).

As a consequence of this curl compression into spin particles, radial force fields arise circumambient to these particles as a change in density (radial gradient from particles surface to afar) of ether in particles surroundings. This force field provides opposite pressure on

the surfaces of particles [11] balancing the internal pressure of spinning particles that holds mass-energy inside and keeps particles together.

Inertial forces are forces of the resistance of particles and bodies emerging at accelerating particles and bodies against the force fields of ether medium surrounding them.

Acceleration leads to changes in velocities that result in pressure changes in the surrounding force fields on the surface of the particles of bodies that returns the change in the radius of the particles and volume of bodies.

The above mentioned physical concepts are basement of the unification of classical mechanics, classical electrodynamics, special relativity, general relativity and quantum mechanics.

This concept allow us to explain [11] the physical mechanism between mass and sizes of the gravitational field in surrounding of ponderable objects, provides an opportunity to explain the origin of gravitational fields and the internal energy of particles of mass bodies. We can thus explain the origin of inertial forces, where the energy inside the particles of mass bodies come from, how energy gets into the particles and how this huge energy in the particles is held. Special and General relativity, as well as Quantum mechanics, does without these basic physical considerations and premises, which such theories should essentially be based upon.

Ether constitutes real material substances, infilling the space in each unit of its volume. Ether is the real rippling and curling material substance (maybe curling oscillating neutrinos) with a vast amount of this curl in the form of electromagnetic radiation and large amounts of this curl in the form of mass particles, mainly in the form of protons.

All the great mass objects are the concentration of these mass particles in small local parts of universal space. After the gravitational collapse of local shrinks and explosions of supernovae, this shrink of mass is spread again mainly by the electromagnetic radiation and neutrinos across the space of the universe.

Filling the space of the Universe with swirling ether is all that is needed for the self-evolution of the Universe as well as for creation of our Earth, Suns, Stars and clusters of Galaxies. If Darwin's scientific theory of the evolution of species is also valid at the first beginning of living nature, then all our known universe's living and non-living nature formed itself in evolution, from the initial filling of the space of the Universe with swirling ether and without the outside need for the intervention of a supernatural creator.

It was shown in this work that relativity was not introduced into physics on the basis of a consensus of physicists. On the contrary, relativity was introduced to physics by the force of power structures through mass information media, despite the resistance and opposition of a majority of then most outstanding physicists.

It was documented in this work that from sets of existing physically based theoretical explanations of several new physical phenomena of the 20<sup>th</sup> century just those theories that are in conformity with the creation principle, but most distort the physical reality of world around us are selected, supported and promoted by power structures and mass information media. All others are suppressed and repudiated. This crusade in prevention, hindering and distorting the independent development of physics in the 20<sup>th</sup> century in fact simply maintains the same state during the previous 2000 years, without major changes.

It was documented in this work that for the last 400 years in physics,

there has been no distinguished physicist (including Einstein in 1921) who would not had recognized that, without the existence of the ether, it is not possible to explain the physical world around us. Opinions of these physicists are massively distorted on a daily basis and falsified by mass information media and power structures that created the physical picture of world around us without ether.

This recognition of the existence of an actual physical media filling out the entire universe, from which all the particles of rigid bodies and force fields around these bodies in the universe are made up, is the greatest physical discovery of contemporary civilization. But this discovery is concealed from us. This discovery is an actual physical source of amazement; however it does not fit the power structures any more than the rediscovery of the circulation of the earth around the Sun.

Therefore, instead of researching ether as the first task of our civilization, the development of physics was diverted into multiple physical mysteries and mysterious mathematical constructions, introduced by the power structures through mass media.

Theories of 20<sup>th</sup> century eliminate form physics:

- Inertial forces as the first and direct evidence of the ether. Inertial forces are named as fictitious or pseudo forces which does not arise from any physical interaction between two objects, but just from the acceleration of the non-inertial reference frame itself. Also gravity is named as fictitious force.

- Accelerations, gradient of fields and forces (Einstein's relativity) because they directly point at changes of density of ether.

- The existence of gradient of fields around atoms and particles (double-slit experiment, Schrodinger equation, de Broglie, Casimir effect) because they directly point at changes of density of ether.

Accelerations, gradient of fields or forces are in relativity replaced by mystery of space and time. Gradients of fields around atoms are in Quantum mechanics replaced by fictitious mathematical construction of frequency, wavelength or wave functions non-measurable or unverifiable experimentally.

It can be safely said that Quarks and Higgs boson do not exist. The waves of matter, wave functions, quantum entanglements and waves of zero point energy presented by the vision of quantum mechanics do not exist.

The claims that space and time is the fabric of a space-time continuum, that space can be ripped or torn, that time itself can slow down or be ripped, that there are possible parallel universes as well as wormholes, that black holes exist by the vision of current physics, that future events could precede and affect past ones are pure fantasy. They have nothing to do with physical science describing physical reality and belong exclusively to science fiction literature.

But all these fictions and fantasies that are daily swallowed by the public as reality are also taken by most of current civilization as physical reality.

All our known universe of the animate and inanimate nature of rigid bodies and force fields (also gravity) is the result of the interaction and the superposition of the electromagnetic force fields around atoms, molecules, and elementary particles.

The existence, interaction and superposition of electromagnetic fields are the actual physical basis for the explanation of new physical

phenomena in the 20<sup>th</sup> century, rather than explaining these phenomena in mysteries of relativity and quantum mechanics.

Exploration of subtle nature of ether and force fields around elementary particles is the main task of today's civilization. But instead of the massive support of the finest sensitive experimental methods to explore the most subtle nature of today physical world around us, the CERN big crash experiments persist. This allegedly demonstrates how the physical world looked over 14 billion years ago or demonstrates the fairy tale of the rip of non-material time and space and is supported by enormous financial resources.

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