

Back to James Maxell's and Nikola Tesla's vision about space

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Abstract The vision of some great physicists about the space (physical vacuum) is different from the currently adopted concept. It is little known fact that James Maxwell, on which equations the modern electrodynamics relies, has been a strongly motivated supporter of the Ether concept. Albert Einstein did not disprove the existence of the Ether, but only the existing model about it. He also did not agree with the formulation of the Quantum mechanics in 1925 leading to a distortion of his concept about space-time. The adopted formulation led to the paradox of studying the properties of something real while the existence of the carrier of these properties is denied. It also led to the misconception that the Maxwell's equations describe entirely the magnetic and electrical interactions in the observed space (physical vacuum), while in reality they are valid only for the steady state of the physical vacuum but not for its transient state. Nikola Tesla, having the Maxwell's vision about the space and talking about it as a natural medium, provided experiments unexplainable from a point of view of the Modern physics. Presently, a number of his experiments become replicated and the observed effects confirmed.

Today, Modern Physics tries to imply that James Maxwell's electromagnetic theory is not based upon the Ether. From his original publications, however, it is clear that Maxell has been a strongly motivated supporter of the Ether concept and rigorous attacker of those who ignores this objectivity [1] (see article four, section: Maxwell supports Ether). In **A Treatise on Electricity and Magnetism vol. II** James Maxwell concludes on the last page in favor of the Ether:

".....whenever energy is transmitted from one body to another in time, there must be a medium or substance in which the energy exists after it leaves one body and before it reaches the other"

Attacking the opponents of his concept Maxwell say: **My further researches lead me to find that these 'eminent men' who take upon themselves the task of ignoring anything that contradicts their cherished beliefs, follow what is called Scientism. And Scientism is well known by some people as a corruption of Science that is really a 'pseudo religion.' With so many 'eminent men' following their religion of Scientism and pretending it to be Science, it is little wonder that the world is in a very 'sorry state' of affairs.**

It is written in most of the standard modern physics textbook that Einstein disproved the Ether (aether), when it talks about the Michelson Morley experiment. However, if you look at the book: *Sidelights on Relativity* - **Einstein says he did not disprove the ether, just showed that one version of it was wrong** [2]. Really the "ether" concept evolved in General relativity and became called "space-time." But that interpretation gets lost in confusion as people try to think from the formulated postulates in Quantum Mechanics, and they reinterpret General relativity in a wrong way. **In fact Einstein did not agree with the 1925 theory of Quantum Mechanics** [1,2,3]. Today physicists are taught that the 'ether' concept is nonsense, but in fact the natural media or "ether" in Quantum Mechanics is replaced by some of its attributes, such as: quantum fluctuations of the physical vacuum, zero-point energy, space-time metrics and other names [1]. **Now the theoretical physics is deprived to solve the paradox it has**

created: studying the properties of the physical vacuum while ignoring the existence of the carrier of these properties.

The acceptance of Ether existence automatically leads to the conclusion that it should possess **two kinds of features: steady state and transient one**. The Maxwell's belief about the existence of Ether is a riddle for the official physics community now. Could that be a delusion of the great physicist and mathematician? It becomes apparent now that it is not. In the time he lived (1831-1879), not enough experimental material for the transient state phenomena has been available. **So he provided equations describing only the steady state of the Ether medium**. Some of the properties of this medium now are known as a space-time fabrics or a physical vacuum. The theoretical physics now tries to explain all kind of the observed phenomenon relying on the Maxwell's equations and the adopted postulates from the beginning of 20 century. The phenomena related with a transient state, however, are outside of such formulated mathematical models. That's why some physical phenomena look like paradoxes. In such aspect many academician physicists refuse to accept even some results of successful experiments, claiming that they contradicts to the laws of physics. The orthodox wing of the Modern physics today oppose any revision of the formulation of the Quantum mechanics in 1925, putting in such way a barrier that restricts the research of the transient phenomena. In a desire to provide explanations, without departure from the adopted concept about the space and using an only a mathematical logic, some physicists propose non-realistic abstractive theories (multidimensional space, time reversal, warm wholes, parallel universes, overusing of the uncertainty principle and so on). This leads to a fallacy and ambiguity. In this aspect the article "The Greatest Math Error, by Dave Pressler, reported in international meeting and published in Journal of Theoretics appears very useful [4]

One of the greatest discoverers Nikola Tesla undoubtedly could be considered as a pioneer researcher of the transient properties of the natural medium – the physical vacuum. Being closer to the experiments, than to the abstractive theories, he always referenced the space (a physical vacuum) as a Natural Medium. He unveiled experimentally some of the hidden properties of the space. His experiments, not understood by the modern physics, now are labeled as “exotic”. Despite the fact that Nicola Tesla has been the greatest inventor contributing to the industrial boom of the beginning of the 20th century, he considers himself mostly a discoverer than an inventor. The discovered by him Radian energy in fact is a phenomenon belonging to the transient state of the space (physical vacuum). This kind of achievement and the theoretical vision of Nikola Tesla are dismissed by the contemporary modern physics today, because they **do not match to some postulates in the 1925 formulation of the Quantum Mechanics**. That's why he did not obtain the credit he deserves from the physics community today.

Some researchers now succeeded to replicate some of the Tesla experiments getting similar results. Presently, one may find quite rich information about such experiments by Internet sources, than in the pages of the officially supported journals. While skeptics prefer to close their eyes for such information, it is quite useful for open mind thinkers.

A team of scientists from a Russian scientific institution (D. S. Strebkov et al) has rediscovered the method of single wire and wireless energy transmission based on the

Tesla discoveries 100 years ago. Their experimental results are published in two articles [5,6] in a New Energy Technology magazine. The abstract of the article “Investigation of 20 kW, 6.8 kV, 80 mkm Single-Wire Electric Power System” [5] says:

“20 kW, 6.8 kV, diameter 80 mkm (micron), 6 m long electric power transmission line was tested. There was demonstrated appearance of specific current density 600 A/mm² and specific electric power density 4 MW/mm² without overheating of copper single-wire line of 80 mkm diameter”.

In the text description of the second paper [6] by the same authors, “New Results of Development and Testing of Single-Wire Electric Power System”, it is written:

“The equipment comprised Tesla transformers, which were connected to the line with two resonant circuits, and adjusted to the resonant frequency f_0 , where $100\text{Hz} < f_0 < 100\text{kHz}$. Placed in the beginning of a line the resonant circuit consists of the primary winding, the step-up high frequency Tesla connected in parallel to the primary winding. The parallel resonant circuit was connected to the static frequency converter. As a load there were used 24 filament lamps (220 V, 1 kW) that were arranged in 12 parallel groups, each consisted of 2 connected in series lamps. The lamps were connected to a step-down Tesla transformer through a 400 V/25 kW bridge rectifier.”

Based on provided experiments the Russian team claims that a technology is developed allowing them to obtain six patents. For the priority art only the Tesla patent “Apparatus for transmission of electrical energy [7] is cited.

Discussion: It is a sad fact that the official peer review journals currently do not except an open discussion about such important topic as the space-time fabrics (physical vacuum). The attempts for challenge of the status quo usually are marked as a speculation. In the time of Internet, however, the scientific information does not obey artificially created boundaries. Independent peer review journals are formed and serve quite successful the international scientific community with credible information. Such journals or data bases for examples are: the Journal of Theoretics [8], the New Energy technologies magazine [9], the large data base of the Institute of New Energy and increasing number of other sources. Presently some experiments related to the zero point vacuum energy are provided outside of the official scientific laboratory. Without a credible physical theory, the experimenters usually work by intuition, so the successful results are rare. But even in a successful experiment the skeptics claim that the results contradict to the law of Physics. But what is more important, the present knowledge of the physical laws or the laws of Nature?

The newly developed unified theory Basic Structures of Matter [9,10], based on an alternative vacuum concept, agrees in full with the Maxwell and Tesla’s vision about the space. It suggests quite successful original model of the underlying structure of the physical vacuum that is able to provide analysis and understanding of phenomena related to both states of the space in which we live and observe - a steady state and a transient one.

References and links:

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3. A. Einstein, B. Podolsky and N. Rosen, Can Quantum-mechanical Description of Physical Reality Be Considered Complete?, *Physical Review*, v. 47, 777-780 (1935)
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7. Nikola Tesla, Apparatus for transmission of electrical energy, US Patent 649621 15.05.1900. www.keelynet.com/tesla/
8. S. Sarg, *Basic Structures of Matter*, 2001 www.helical-structures.org
9. S. Sarg, Brief Introduction to the Basic Structures of Matter Theory and Derived Atomic Models, *Journal of Theoretics*, Jan 2003
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