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Nervous system as the producer of pinpoint energy for motions of living organisms

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This work explicates the physical basis of material motions in living systems. These sophisticated motions combine information control and mechanical actuation. Simplistic thinking sticks to a seemingly unyielding scheme: nervous system sends control signals while the energy comes from the food. Obviously, such a trivial scheme imitates robots that efficiently employ artificial muscles. But how energy immediately appears in a given place and time in suitable quantities? Momentously, in our idea neural signals do not incite energy, but actually generates it from a new physical phenomenon due to neural pulses relocations. This elucidates the puzzling situation why nervous system utilizes moving excitations rather than simply sending electricity as through regular wiring. Actually, neuromorphic functionality is not decisive for biological information processing, as has been considered in our previous works. There, the origination of biological energy is referred to [13]: Law of inertia and the primal energy in the cellular automaton universe. This primal energy is a driving force for otherwise unclear property of inertia not to mention the incredible NASA EM drive. The incoming energy per second for one cellular automaton node is given by Plank's constant E= hν; this energy influx sustains the rest mass clarifying the entire meaning of $E=mc^2$. This "nuclear" energy is the same as the chemical energy from moving neural pulses, but the later is millions times smaller since electronic reconfigurations in neurons are much less extensive than corresponding nucleonic transformations in atomic structures. The presented discovery has broad practical consequences.

Biography

Simon Berkovich has completed his PhD from the USSR Academy of Sciences. He played a leading role in a number of advanced research and development projects. He has several hundred professional publications in various areas of Physics, Electronics, Computer Science, and Biological Cybernetics. He is an author of six books and holds 30 patents. In 2002, he was elected as a member of the European Academy of Sciences "for an outstanding contribution to computer science and the development of fundamental computational algorithms". In 2014, he won the GWU Technology Transfer Innovation Competition, patent is pending.

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