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Form of nerve impulse and its terahertz wave features of propagation along the nerve fiber cells in the living systems

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We researched and elucidated the features of transport of nerve impulse along the nerve fiber using modern theory of molecular biology, in which we first elucidated the properties of structure of the nerve cell and the features of distribution of sodium ions and potassium ions in the inner and exterior of the never cell membranes. In practice, their distributions are not uniformity, i.e., the distribution of sodium ions and potassium ions between the inner and exterior of cell-membranes are not same, the sodium ions are many in the exterior, the small in the inner, but the potassium ions are many in the inner, small in the exterior, they are just inverse. Just so, an action electro-potential is formed on the cell-membranes. But the action electro-potential, in essence, is only a static impulse; it cannot be propagated along the nerve organizations. If the nerve organizations are acted by a bio-energy, which could lead to the periodic variation of these sodium ions and potassium ions in the inner and exterior of the never cell membranes can be varied periodically under the action of the bio-energy by virtue of the works of sodium pump and potassium pump on the surface of cell membrane, then the nerve impulse can propagate along the nerve fiber membranes. Our investigations verify that the bio-energy can be obtained or provided from hydrolyses reaction of adenosine phosphate (ATP) molecules in the cells through the transport along the protein molecules, where the reaction can release the bio-energy of 0.42 eV. The accepted bio-energy can be used to excite the work of se sodium pump and potassium pump in the cell-membrane. Thus the propagation of the nerve impulse can be carried out automatically in living systems. This is just the mechanism of propagation of the nerve impulse along the nerve l fiber cell -membrane. In this paper we elucidate and research in detain and deeply the mechanism of form of the nerve impulse and its features of propagation.

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