

# **Action potential, bioenergy resource, and the principle of natural electromagnetic dynamics: the living essence and eternal elegant-beauty— from biology to the universe (I)**

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## **Highlight**

The perpetual operation of energy in vigorous state, instead of standstill (heat death), is the essential vitality of biology and the universe, what principle of nature operates it? The perpetual refers to the state-in-operation of power system in dynamic homeostasis founded on ground energy, instead of the confusion without energy resource or energy dissipated. To pursue the perpetual dynamic power and energy creation is the summit realm of practical technology. However, it has long been disregarded theoretically and practically. This work starts from the highly developed biological studies, and by utilizing the intrinsic principle refined, explores the intrinsic principle, operating mechanism and energy creation of perpetual electromagnetic dynamic power from biology to the nature in macroscale and microscale. The electromagnetic perpetual motion generates from the relativity of field (thermal field, electromagnetic field and gravitation field) as the ground energy to operate energy conversion of thermodynamics, electromagnetic dynamics and fluid dynamics. It creates the potent energy of electricity and electromagnetic dynamic power. This work historically discovers a new milestone on the generating principle and operating mechanism of perpetual electromagnetic dynamic power and energy creation in biology and the nature. The strict and unified principle dominates the vigorous living state from the biology to the Earth's geological and meteorological phenomena and celestial motions, not obfuscated but clarified, not disordered but in supreme harmony and homeostasis. And it is first time that clearly presents the applicable molecular biochemical model for the digitalized perpetual operation of bioelectricity and bioenergy resource,

and provides the practicable reference on the development of harmless fine-energy power, with the purpose learning from and emulating the nature. This study highlights as follows:

**i. On the electromagnetic energy resources; the electromagnetic dynamics connotation of natural energy resource.**

**ii. On the electromagnetic motive powers; the electromagnetic dynamics connotation of astrodynamics.**

**iii. The electromagnetic dynamics connotation of aesthetics and eternal vitality; the ingenious relativity.**

### **Keywords**

action potential, bioelectricity, bioenergy resource, fine-energy resource; electromagnetic dynamics, natural electromagnetic dynamics, celestial dynamics; aesthetics, celestial aesthetics, natural mathematics, time; earthquake, seismic wave, cyclone, capillary action