

## Law of inertia and the primal energy in the Cellular Automaton Universe

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Recent NASA experiments have demonstrated a new propulsion technology; it requires no propellant and by SHF irradiation generates a small amount of thrust around 50 -70 micronewtons.. The effect is incredible, like a famous adventure of Baron Munchausen who pulls himself out of a mire by his hair, since it apparently violates the principle of momentum conservation. Yet this principle can be obviated considering that the observed thrust comes from the innate machinery of inertia.

The notion of inertia is neither an a priori truth nor an experimental fact, it is rather a supposition that "the movements of all material molecules of the universe depend on the differential equations of the second order' (H. Poincare, "Science and Hypothesis", 2005). In a Cellular Automaton Universe material objects are never at rest, as they continuously relocate, so they get the property of inertia automatically. Aristotle believed that objects are moved only as they were pushed, and any given motion is reduced to a Prime Mover. In our Cellular Automaton Model the Prime Mover, and, hence the source of all energy in the Universe, is the mechanism of mutual synchronization. It produces elementary particles as helicoidal traveling waves. These synchro formations of matter exhibit quantum mechanics behavior, including the remarkable nonlocality, under holographic cycles with the repetition rate of  $10^{11}$  Hz.

So, intruding SHF may cause transmutations of the material synchro formations, increasing their velocity and thus produce the observed thrust. Similarly, the riddle of mechanical force is expounded by local deviations from the uniform motion in contact area. Further, the s effect of structural transmutations in certain molecular complexes can lead to the extraction of clean energy from the fundamental source of energy of the Universe (S. Berkovich,. "Generation of clean energy by applying parametric resonance to quantum nonlocality clocking", **Nanotech** 2011 Vol. 1, pp.771-77). Besides the renown "excess heat effect" -LENR, the considered energy can be extracted in various other forms, particularly, as mechanical drive.

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