Essay on Magnetic-Wind Mills

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This essay explores the feasibility of autonomously operating permanent magnet motors, which can be constructed using a specific configuration of attractive and repulsive forces between magnets.

The term *magnetic-wind mill* is used to illustrate that the driving energy is sourced from a kind of continuous ”wind” that supplies energy to magnetic dipole moments, maintaining their spinning constant. This is crucial because, when mechanical energy is extracted from the mill, a counter-torque acts on the magnets, which would normally cause the intrinsic dipole moments to slow down. However, due to the fundamental principle of spin conservation, the dipole moments cannot lose energy in this way. Therefore, they must continuously receive energy from the surrounding space – the quantum vacuum – to sustain their motion.

So, the energy source originates from the ”sea of activity” within the quantum vacuum, specifically from the chaotic stochastic fluctuations of energy. Given this context, it is emphasized that the resulting excess energy deployed by the magnetic flux mills does not contradict any of the three laws of thermodynamics.

The composition of the essay is divided into three distinct sections, previously appeared as discussion papers:

Part I : Analysis and design

Considering Classical Electromagnetism (CE) (specifically the related modeling approaches for magnetic force derivation – Amperian current loops, equivalent magnetic charges, surface or volume integration of Maxwell stress tensors, scalar or vectorial formulation of virtual work principle, etc. . .), magnetic forces cannot do work on permanent magnets.

Nevertheless, the CE theory has significant limitations: it assumes free space is flat, and considers it a completely void structure, despite the possibility of clock measurements and distances contracting or expanding. It also relies on the premise that reference frames are always inertial, and the electromagnetic force is *a priori* postulated.

Due to these shortcomings in CE, the apparition ”magnetic-wind mill” is inevitably perceived as a ghostly occurrence. Yet, *e pur si muove*!

With this in mind, a provocative attempt is initially made in Part I, extending beyond the CE framework, by assuming that the global force aroused by one magnet acts on the ”barycenter” of the magnetic dipole moments of nearby magnets. In this scenario, it is shown that net mechanical work could indeed be achievable.

Part II : Staying power from spacetime

One of the missing links in support of the allegation that devices with only magnets seemingly generate useful energy ”out of thin air” could be *spacetime twisting*. In Part II, this concept is applied to self-rotating machines previously claimed in patents.

The mechanism of harvesting energy from the quantum vacuum by devices using permanent magnets is described based on Einstein-Cartan-Evans (ECE) theory.

The radial part of the magnetic field between rotor and stator is approximated as a circularly polarized plane wave which has a Beltrami structure, as also the vector potential has.

According to ECE, the vector potential then also describes a spacetime flux in Beltrami form. This is plausible, because, according to Tesla, such self-rotating waves are natural for the spacetime (or quantum vacuum) flux.

Mechanical torque can be created by distortions of the Beltrami flow. This can be described by a driving term in the Helmholtz equation for the vector potential.

Part III : Pathway for energy transfer

An attempt is made in Part III to describe that mechanical vibrations are not only responsible for evoking spacetime resonances, as ECE theory predicts, but could also provide a possible interface for transferring energy from the quantum vacuum to the rotating shaft of devices with only magnets. An extended Lorentz Force law based on intrinsic elementary magnetic dipole moments is applied for this purpose.

It is shown that magnetic field oscillations and mechanical vibrations interact cooperatively in a flux mill constructed with a low-rigidity structure. Notably, even quite narrow angular vibrations are sufficient to ensure the transfer of energy to the rotating parts.

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https://github.com/JLDuarte55/magnetogenesis