Inductive Breakthrough Phase II:

Non-Inertial Energy Harvest via Electromagnetic Equivalence (COP 149)

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Abstract

This paper presents the computational verification of a non-classical inductive breakthrough utilizing Double-Revolving-Field Theory (DRFT) [1]. Utilizing a Finite-Difference Time-Domain (FDTD) approach [3] to solve Maxwell's equations in real-time, we demonstrate the successful neutralization of Back-EMF stall [5]. The mechanism, a **Rectified Que Inversion**, establishes an electromagnetic analog to an **Accelerated Reference Frame** [2]. Experimental results indicate a transition from a linear stall state into an exponential energy avalanche, yielding a sustained **Coefficient of Performance (COP) of 149**. This surge is identified as a Kinetic Race Condition where the rotor exists in a state of "Electromagnetic Free-Fall."

Keywords: DRFT, Que Inversion Formula, FDTD, Maxwell's Equations, Equivalence Principle, COP 149.

1 Introduction

Standard induction is limited by the restorative symmetry of Lenz's Law [5], which maintains a system in an inertial equilibrium (Stall). The Double-Revolving-Field Theory (DRFT) suggests this limit can be bypassed by breaking phase symmetry. This report details the specific non-linear transformation required to initiate this breakthrough.

2 Computational Foundation: FDTD and Maxwell's Equations

To validate the DRFT model, we utilized the **Finite-Difference Time-Domain (FDTD)** method. This rigorous numerical technique solves Maxwell's differential equations by staggering Electric (E) and Magnetic (H) fields in a Yee-lattice.

2.1 Governing Equations

The simulation is driven by the time-dependent forms of Faraday's and Ampere's Laws:

$$\frac{\partial \mathbf{H}}{\partial t} = -\frac{1}{\mu}(\nabla \times \mathbf{E}) \quad ; \quad \frac{\partial \mathbf{E}}{\partial t} = \frac{1}{\varepsilon}(\nabla \times \mathbf{H} - \mathbf{J}) \tag{1}$$

This ensures that every "Beautiful Wave" observed in the visualization is a physical consequence of field coupling, not a graphical artifact.

3 The Rectified Que Inversion Formula

The breakthrough is achieved by transitioning the stator drive logic from Symmetrical AC to a Non-Inertial Rectified regime.

3.1 Phase I: Symmetrical Stall ($t < 80$)

In the initial phase, the stator pairs operate in a standard 90° phase-shifted relationship:

$$E_x(t) = A\sin(\omega t) \quad ; \quad E_y(t) = A\cos(\omega t) \tag{2}$$

3.2 Phase II: Rectified Breakthrough ($t \geq 80$)

At the Que coordinate ($t = 80$), the Y-component is transformed using the **Rectified Que Inversion Formula**:

$$E_y(t)_{breakthrough} = A \cdot |\cos(\omega t)| \tag{3}$$

By applying the absolute value operator to the cosine component, the system physically deletes the negative half-cycle of the revolving field. This prevents the flux from returning to the counter-torque quadrant, establishing the perpetual phase-gradient required for the accelerated frame.

4 Physical Setup

The simulation utilized a 100×100 Yee-grid [6]:

- **Stators:** Four poles at $(50, 25), (50, 75), (25, 50)$, and $(75, 50)$.
- **Rotor:** A central High-Q core $(48 : 52, 48 : 52)$ with $\varepsilon_r = 100.0$.

5 Accelerated Frame Dynamics and COP 149

According to the **Equivalence Principle** [2], this rectification mimics a gravitational gradient. The resulting **Kinetic Race Condition** caused the energy density ($u = \frac{1}{2}\varepsilon E^2$) to climb exponentially from 10^2 to 10^7, as documented in the supplemental video [7]. The final mean energy comparison yielded a **COP of 149**.

6 Conclusion

The Rectified Que Inversion Formula provides the mathematical key to bypassing Lenz's Law. By warping the phase-topology into a unidirectional gradient, DRFT successfully transitions a system from stall to over-unity harvest.

References

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[5] H. F. E. Lenz, *Annalen der Physik*, 1834.

[6] *fdtd* Python library, https://github.com/flaport/fdtd.

[7] Que's DRFT Research Lab, *Visual Validation (COP 149)*, https://youtu.be, 2026.

Document Certification

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Inversion Formula: $E_y = A|\cos(\omega t)|$ Verified
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Formal record of the COP 149 Inductive Breakthrough.