Technical Analysis: Commutated Pulsed DC Magnetic Drive

Relativistic Frames and the Que Inversion Mechanism

Validation of Double-Revolving-Field Theory

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1 Overview

This study defines a high-torque magnetic drive utilizing **Pulsed DC** logic. By bridging static FEMM analysis with dynamic ParaView visualization, we demonstrate that rhythmic polarity inversion (the *Que Inversion*) converts single-phase oscillation into sustained, unidirectional rotation.

2 Static FEMM Snapshot as Dual-Field Interference

The provided static FEMM image represents the **superposition of two equal and opposing fields** rotating in opposite directions.

- **Constructive Interference:** The high-density flux zones in FEMM capture the moment these counter-rotating vectors align. This "frozen" state locks the potential energy, causing standard AC oscillation.
- **The Que Inversion:** The dynamic simulation proves that by applying the *Que Inversion* at the zero-crossing points (Frames 41, 81, 121, and 161), we break the symmetry of the opposing fields, allowing the latent rotation within the FEMM data to manifest as kinetic motion.

3 Side-by-Side Data Validation

The following table documents the direct mathematical mapping between the static FEMM blueprint and the time-domain animation:

Feature	Static FEMM Data	Dynamic ParaView Animation
Field Magnitude	Flux Density Color (Tesla)	Tube Thickness & "Jet" Color Map
Force Path	Static Magnetic Flux Lines	Rotating/Spiraling Flux Tubes
Kinetic State	Locked Potential (Stalled)	Sustained Unidirectional Rotation
Electrical Logic	Dual-Field Summation	Rectified Pulsed DC (Que Inversion)

Table 1: Mapping of Static Potential to Dynamic Kinetic Energy

4 The Synchronous Frame and Celestial Dynamics

If an observer were placed within the rotating frame of the dominant magnetic field:

- **Circumpolar Dynamics:** The magnetic flux lines behave identically to circumpolar stars. They never "set" below the horizon of the rotor, instead tracing distinct circular paths around the central magnetic pole—much like star trails orbiting Polaris.
- **The "Twinkling" Pulse:** As these flux lines orbit the axis, they exhibit a periodic heartbeat. They physically swell (fatten/red) and contract (thin/blue) in intensity following the rectified half-sine wave, appearing as a "twinkling" of energy rather than a static wave.
- **Relativistic Validation:** This confirms that the static FEMM image is effectively a single long-exposure slice of a system that is always in orbital motion.

5 Conclusion

The simulation successfully proves that the device is a **Synchronous Pulsed DC Drive**. The FEMM image provides the geometric map of the dual-field interference, while the *Que Inversion* provides the temporal mechanism to unlock it. The result is a rotating, twinkling heartbeat of magnetic potential that generates continuous mechanical work.