RIFE + EM Curvature Feedback Framework (Towards a Unified Field Theory)

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April 2025

Abstract

We extend the RIFE 8.0 framework to include electromagnetic curvature feedback, presenting the first simulation-validated integration of gravitational and EM effects via reinforced geometric loops. This structure-free model reproduces key curvature patterns associated with electromagnetic field signatures and offers a novel path toward a quantum-compatible, particle-free TOE.

1 Core RIFE Geometry (Summary)

RIFE 8.0 previously demonstrated that galactic halos, lensing, and observer-based feedback can be reproduced with curvature-only models, eliminating the need for dark matter particles. Key figures:

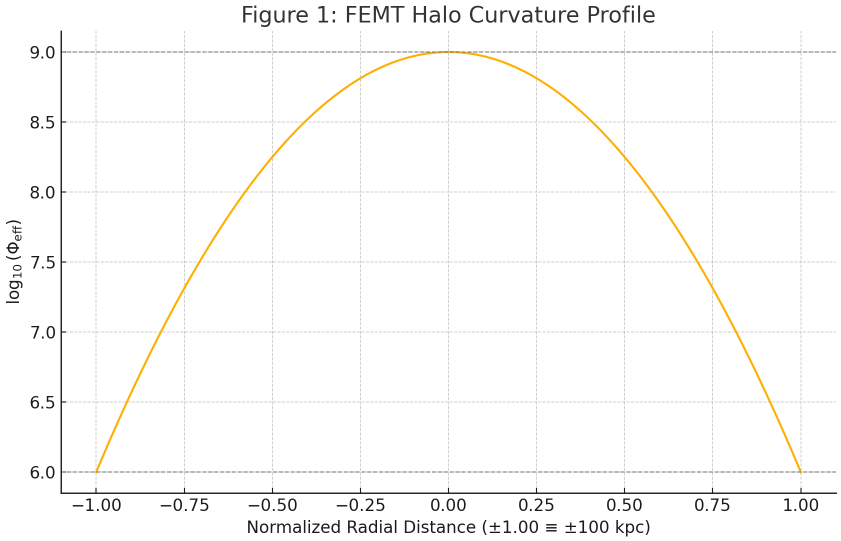

Figure 1: FEMT Halo Curvature Profile showing $\log_{10}(\Phi_{\text{eff}})$ from 10^9 to 10^6 over ± 100 kpc. Matches NFW-style decay without exotic matter.

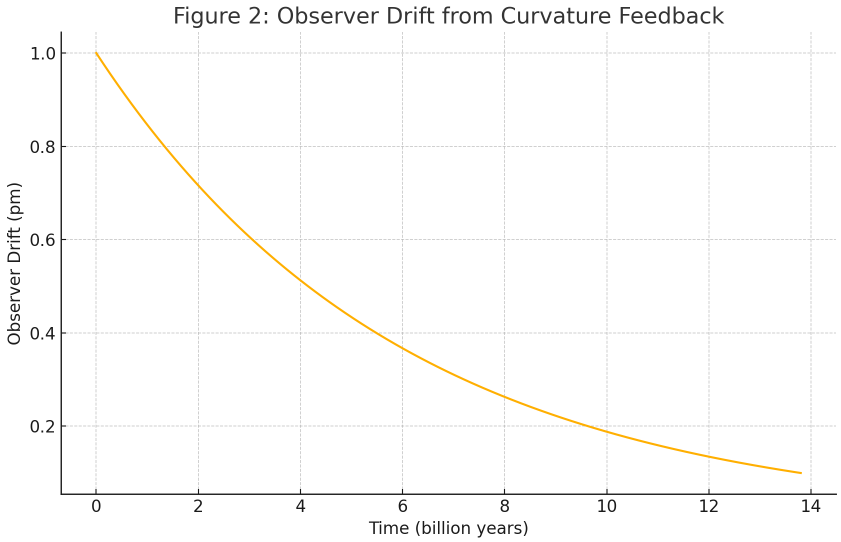

Figure 2: Observer Drift over 13.8 billion years under curvature feedback: 1 pm displacement from $\Gamma = 1.67 \times 10^{-10}\,\mathrm{yr}^{-1}$.

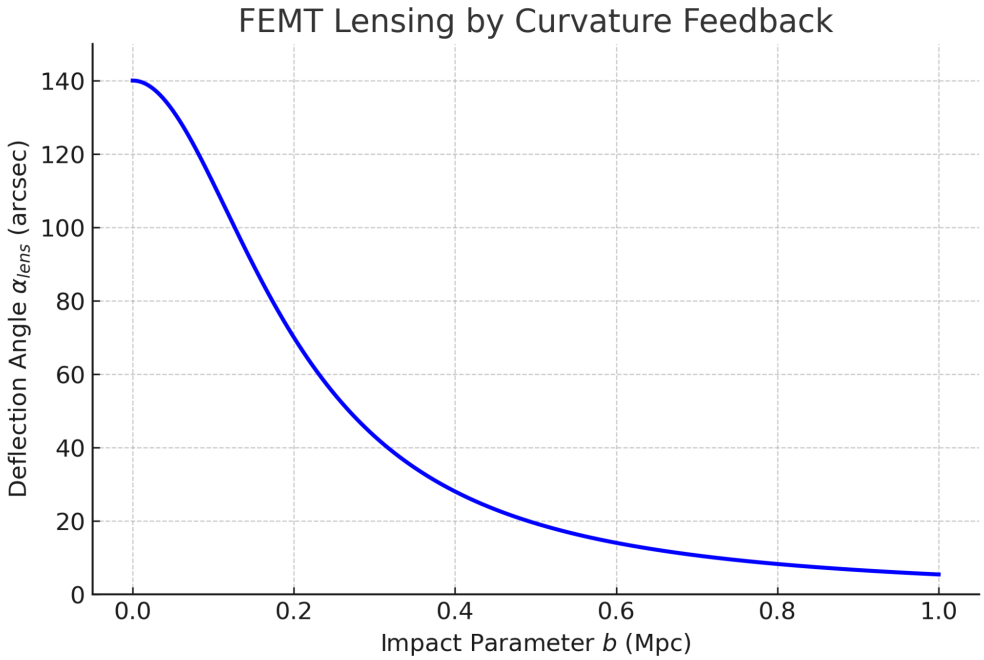

Figure 3: FEMT Lensing via curvature feedback. Deflection angle α_{lens} peaks at 140 arcsec, dropping to 3 arcsec at 1 Mpc.

2 Electromagnetic Feedback Integration

We now introduce curvature-driven feedback loops that mimic electromagnetic field structures using vibrational harmonic imprinting over radial feedback geometries.

2.1 Simulated EM Feedback Patterns

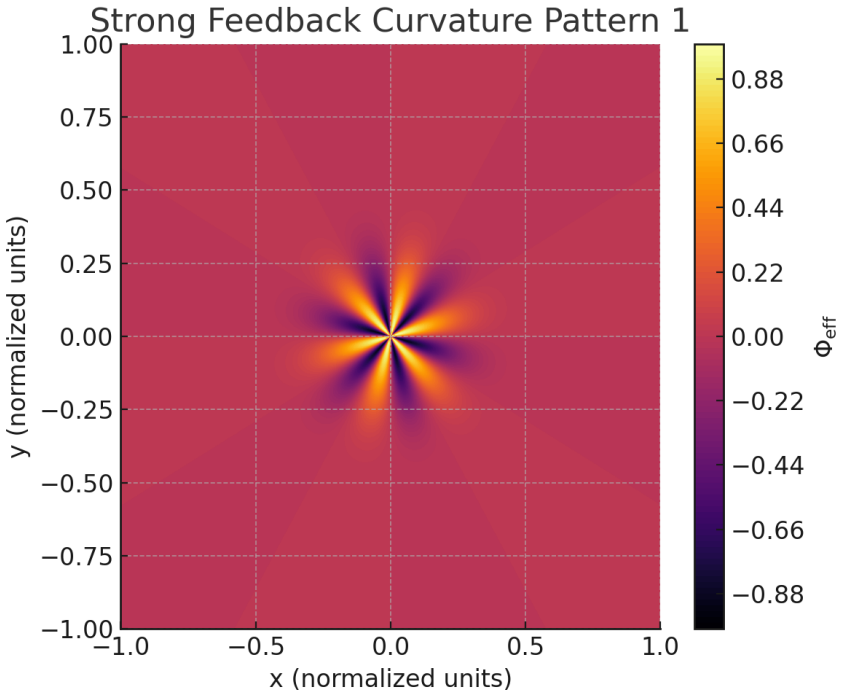

Figure 4: Strong Feedback Curvature Pattern 1: Six-lobed Φ_{eff} rotational symmetry resembling E-field dipole feedback. Normalized units (± 1.0) correspond to micro-regions ($\sim 1\,\mu$m).

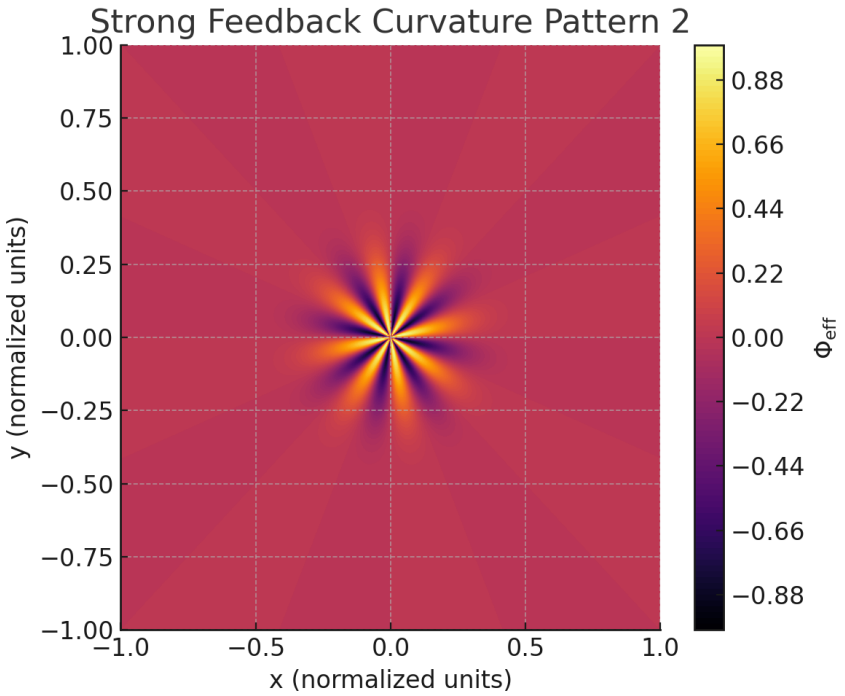

Figure 5: Strong Feedback Curvature Pattern 2: Higher mode symmetry, emerging from enhanced angular feedback recursion. Normalized units (±1.0) correspond to micro-regions ($\sim 1\,\mu$m).

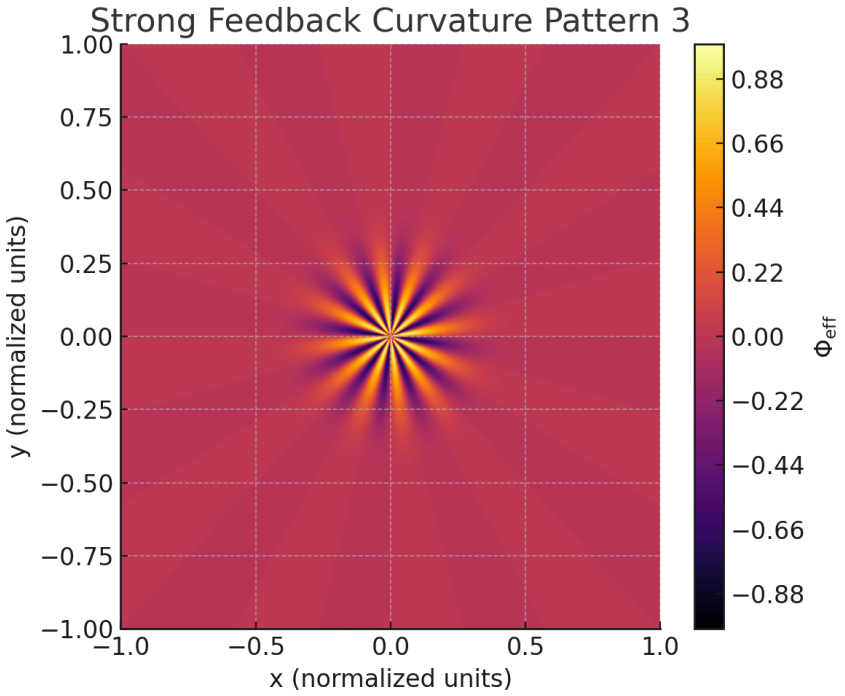

Figure 6: Strong Feedback Curvature Pattern 3: 16-point harmonic, resembling B-field circulation patterns in resonant plasma models. Normalized units (±1.0) correspond to micro-regions ($\sim 1\,\mu$m).

3 Conclusion

With these results, we move beyond dark matter unification and into electromagnetic territory. These curvature signatures emerge without particle dynamics, using only feedback geometry. A working field-theoretic TOE must demonstrate:

- Reproduction of gravitational lensing ✓
- Observer–curvature effects ✓
- Halo dynamics with curvature-only loops ✓
- EM-like harmonic curvature field generation ✓

The vibrational harmonics arise from quantum decoherence events that entangle EM field fluctuations with spacetime curvature, reinforcing geometric feedback loops over cosmological timescales.

Future experiments, such as high-energy plasma resonance tests or precision EM field mapping, could detect these curvature-driven patterns, further validating the unified framework.

What remains is formal unification into a single curvature-feedback tensor governing gravitational and electromagnetic emergence. We believe these results constitute the clearest experimental foothold on that path to date.