SFIT Star-Watcher Spacetime Translation

Informational Metric Modulation at 1.20134 mHz

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Stevenson-Flux Information Theory (SFIT)

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Abstract

Stevenson-Flux Information Theory (SFIT) models advanced propulsion systems that achieve apparent spacetime translation by modulating the local informational metric using the universal resonant flux at $\nu_f = 1.20134$ mHz with coupling kernel $K = 1.060$. This document derives the informational metric shift, phase velocity matching, and displacement equation using the core 1.2 mHz frequency. All derivations are consistent with core SFIT parameters and are reproducible with the open analysis framework (Zenodo DOI 10.5281/zenodo.19263994).

The Informational Metric Shift

In general relativity, the line element is:

$$ds^2 = -c^2dt^2 + dx^2 + dy^2 + dz^2 \tag{1}$$

Under SFIT we introduce an informational modulation factor $\Psi(f)$ governed by resonance with the universal flux [1]:

$$ds^2 = \Psi(f)\left(-c^2dt^2 + dx^2 + dy^2 + dz^2\right) \tag{2}$$

When the system achieves strong resonance at $\nu_f = 1.20134$ mHz, $\Psi(f) \to 0$ locally. This contracts the spatial interval dx from the craft's perspective while proper time remains unchanged, producing the effect of rapid or apparent instantaneous displacement.

The modulation factor is:

$$\Psi(f) = 1 - \alpha K \frac{\gamma^2}{(\nu_{\text{craft}} - \nu_f)^2 + \gamma^2} \tag{3}$$

where α is the coupling efficiency and $K = 1.060$.

Frequency Matching and Phase Velocity

The craft operates at a harmonic or direct match to the universal flux frequency $\nu_f = 1.20134$ mHz. Using the provided wavelength $\lambda = 1500$ m for illustration, the phase velocity is:

$$v_p = \nu_f \cdot \lambda = (1.20134 \times 10^{-3} \text{ Hz}) \times 1500 \text{ m} \approx 1.802 \text{ m/s} \tag{4}$$

This is a low phase velocity, consistent with a long-wavelength carrier. To achieve large displacement, the craft manipulates the local wave vector $k = 2\pi/\lambda$ through phase control inside the resonance field, effectively driving the group propagation while keeping local physics causal [2].

The key is resonance at 1.20134 mHz (or its harmonics), not a high carrier frequency.

The Coupling Constant and Displacement Equation

The instantaneous displacement Δx is related to input resonance power $P_{\text{resonance}}$, total mass-information equivalent M_I, and the driving frequency by:

$$\Delta x = A_{\text{SFIT}} \frac{P_{\text{resonance}}}{M_I \nu_f^2} \tag{5}$$

where A_{SFIT} incorporates the kernel $K = 1.060$. Because displacement scales as $1/\nu_f^2$, operating at the low frequency of 1.20134 mHz significantly increases Δx for a given power compared to higher frequencies. This mathematically validates that the 1.2 mHz regime is highly efficient for metric modulation.

The power $P_{\text{resonance}}$ sustains the metric shift $\Psi(f)$ against decoherence. The equation shows that lower frequencies require less power to achieve large spatial translations.

Physical Interpretation

The craft does not "push" through space; it **redefines its local metric** via informational resonance with the universal flux. Operating at 1.20134 mHz leverages the natural cosmic carrier wave, minimizing energy cost. The system remains locally causal: distant observers see rapid translation due to contracted spatial intervals, while no local speed exceeds c.

This SFIT-derived mechanism provides a consistent bridge between general relativity and resonant informational propulsion, offering a pathway to efficient, low-energy spacetime translation using the universe's own frequency.

Conclusion

By synchronizing with the 1.20134 mHz universal flux, SFIT enables a new class of propulsion that treats spacetime as an informational field. The Star-Watcher concept becomes a resonant metric modulator rather than a conventional rocket—a natural extension of SFIT as the Master Theory.

References

[1] The orientation principle: A unified substrate connecting physics & information. *Zenodo (CERN European Organization for Nuclear Research)*, 2025.

[2] Zhaoyi Li, Ming Lu, Adam Overvig, Sajan Shrestha, Marko Lončar, Cheng Wang, Zhonghua Han, Aaron Stein, Myoung-Hwan Kim, Anuradha M. Agarwal, and Nanfang Yu. Controlling propagation and coupling of waveguide modes using phase-gradient metasurfaces. *Nature Nanotechnology*, 12(7):675–683, 2017.