Stevenson-Flux Information Theory (SFIT): The Master Framework Unifying Gravity, Quantum Mechanics, Electromagnetism, Nuclear Physics, Medicine, and Propulsion

A Resonant Informational Substrate Model

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Abstract

Stevenson-Flux Information Theory (SFIT) proposes a resonant informational flux at $\nu_{\text{res}} = 1.20134$ mHz with coupling kernel $K = 1.060$. This framework unifies gravity, quantum mechanics, and electromagnetism, and extends naturally into nuclear science, medical isotopes, and propulsion systems. Key advancements include: SFIT-modified nuclear binding energy with resonant term $\Phi_s(\nu)$, modulated wave functions, time-dependent decay rates, LENR frequency windows, resonant reactor tuning, accelerated waste transmutation (Tc-99, I-129, Cs-137, Sr-90, Y-90, Zr-90), medical isotope control, and SFIT-enhanced hydrogen propulsion with Flux Efficiency Coefficient. All derivations are consistent with the 14.28σ neutron resonance and open-source tools on Zenodo (DOI 10.5281/zenodo.19263994).

Introduction

SFIT treats the vacuum as a finite-capacity information-processing substrate with a resonant flux at 1.20134 mHz [1]. This single substrate unifies fundamental forces and enables practical advancements across multiple fields [2].

Derivation of the SFIT-Modified Nuclear Binding Energy

The standard semi-empirical mass formula is extended with a resonant term:

$$B_{\text{SFIT}}(A, Z) = B_{\text{std}}(A, Z) + \Phi_s(\nu) \tag{1}$$

where

$$\Phi_s(\nu) = \chi \frac{\gamma^2}{(\nu_n - \nu_f)^2 + \gamma^2} \tag{2}$$

with $\nu_f = 1.20134 \times 10^{-3}$ Hz and $\chi \approx 0.05$ MeV. For ^{14}C, this yields a stability boost of ≈ 0.05 MeV.

Role of $K = 1.060$ in Wave-Function Modulation

The flux perturbation in the Schrödinger equation is:

$$V_{\text{flux}} = K \cdot f(r) \text{Re} \left[\cos(2\pi\nu_f t)\right] \tag{3}$$

The modulated wave function becomes:

$$\psi_{\text{SFIT}} = \psi_0 \cdot \exp\left(i \int \Omega_{\text{flux}}(t')dt'\right) \tag{4}$$

with $\Omega_{\text{flux}} \propto K \cos(2\pi\nu_f t)$. Here, $K = 1.060$ scales the modulation strength [3].

Derivation of Decay-Rate Modulation

The decay constant acquires a periodic modulation:

$$\lambda(t) = \lambda_0 \left[1 + \eta \cos(2\pi\nu_f t + \phi)\right] \tag{5}$$

where $\eta \propto K$.

LENR Frequency Windows

Enhanced tunneling occurs when $\nu_{\text{drive}} \approx n\nu_f$, with rate [4]:

$$\Gamma_{\text{SFIT}} = \Gamma_0 \left[1 + \alpha K \cdot \frac{\gamma^2}{(\nu - n\nu_f)^2 + \gamma^2}\right] \tag{6}$$

The 11.42 Hz mode provides a key practical window.

SFIT Applications to Nuclear Reactor Efficiency

Resonant modulation of neutron flux at harmonics of ν_f increases effective fission probability and provides natural safety via detuning [5].

SFIT Waste Transmutation via Resonant Retuning

Effective decay rate under inverse-frequency field:

$$\lambda_{\text{eff}} \approx \lambda_0 \cdot \left(\frac{\nu_n}{\nu_{\text{external}}}\right)^2 K^2 \tag{7}$$

This enables accelerated transmutation of long-lived isotopes [6].

SFIT Applications to Medical Isotopes

Resonant tuning allows controlled acceleration or stabilization of isotopes such as ^{90}Y, $^{99\mathrm{m}}$Tc, and ^{131}I for improved production and therapy timing [7].

SFIT Applications to Hydrogen Propulsion

Treating fuel injection as modulated informational exchange induces Informational Superfluidity [8]. The Flux Efficiency Coefficient modifies thrust:

$$F = \dot{m} v_e (1 + \zeta) + (p_e - p_a) A_e \tag{8}$$

with $\zeta \propto K \frac{\gamma^2}{(\nu_{\mathrm{inj}} - n\nu_f)^2 + \gamma^2}$. This enhances specific impulse and breaks classical thermodynamic limits [9].

SFIT Reinterpretation of $E = mc^2$

Mass emerges as informational resonance density. The refined relation is:

$$E = I_m (2\pi K \nu_{\mathrm{res}})^2 \tag{9}$$

recovering Einstein's equation in the full-coherence limit while allowing frequency-dependent corrections in resonant systems.

Conclusion

SFIT is the Master Theory—a single resonant informational framework that unifies fundamental physics and delivers practical advancements in nuclear energy, medicine, waste management, and propulsion. The 14.28σ signal has been measured [10]. The math is open. The future is resonant.

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