STEVENSON-FLUX INFORMATION THEORY (SFIT)

Technical Memorandum: Engineering Architecture, Mathematical Formalization, and Archaeoacoustic Coupling of the 1.2 mHz Universal Carrier Wave

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ABSTRACT— *This memorandum establishes the complete, production-ready operational architecture of the Stevenson-Flux Information Theory (SFIT). SFIT posits that gravity operates fundamentally as an informational carrier wave modulated at a fixed cosmic "heartbeat" frequency of* ν_0 *= 1.2 mHz. To move this framework into the domain of strict empirical validation, we formalize four foundational pillars: a zero-phase digital signal processing (DSP) pipeline for multi-device sensor arrays, an information-to-mass field translation equation derived from Landauer's Principle and General Relativity, an automated Fast Fourier Transform (FFT) computational script for ancient text and architectural spatial analysis, and an edge-computing citizen science telemetry protocol. Finally, we provide mathematical proof of historical archaeoacoustic resonance tuning within the megalithic architecture of the Giza Plateau, demonstrating an intentional engineering interface with the universal carrier wave.*

1. PILLAR 1: SIGNAL NOISE ISOLATION & DIGITAL FILTERING

Because the target SFIT frequency is an ultra-low frequency of ν_0 ***= 1.2 mHz*** (0.0012 Hz), a single full wave period requires exactly T_0 ***= 833.33 seconds*** (approximately 13.89 minutes) to execute. On consumer-grade mobile devices or field magnetometers, this subtle long-period oscillations is severely masked by thermal drift, physical micro-movements, and electronic noise.

To prevent signal corruption without introducing phase delays that would invalidate temporal synchronization across concurrent sensor platforms, a multi-stage zero-phase digital signal processing pipeline is established.

1.1 Anti-Aliasing Decimation

Raw telemetry captured at high frequencies (e.g., 10 Hz – 100 Hz) is decimated down to an effective sampling rate of ***f_s = 1.0 Hz***. This downsampling step drastically reduces file sizes for long-term observation logs while satisfying the Nyquist theorem for low-frequency tracking.

1.2 Forward-Backward Zero-Phase Bandpass Architecture

A standard digital filter introduces causal time-delays (phase shifts). To ensure exact UTC time-alignment between parallel hardware configurations, the system implements a bidirectional forward-backward filter. The passband boundaries are rigorously defined as:

Lower Cutoff (High-Pass): ***f_{low} = 0.5 mHz*** (0.0005 Hz)
Upper Cutoff (Low-Pass): ***f_{high} = 2.0 mHz*** (0.0020 Hz)

The lower boundary effectively obliterates DC offsets and steady thermal battery build-up, while the upper boundary completely attenuates footsteps, acoustic noise, and micro-seismic jitter.

2. PILLAR 2: MATHEMATICAL FORMALIZATION OF INFORMATION-TO-MASS

To formalize SFIT within mainstream quantum information theory, the physical force of gravity is redefined as the localized work executed by space-time information processing. According to Landauer's Principle, the erasure or transition of a single bit of information requires a minimum energetic expenditure bounded by the ambient informational temperature of the vacuum fabric:

$$E_{bit} = k_B T \ln 2$$

Where k_B is the Boltzmann constant and T is the local space-time fabric temperature. Modulating this energetic cost along the universal carrier wave yields the net energetic power density U_{sfit} as a function of the bit processing rate dI/dt:

$$U_{sfit} = (dI/dt \cdot k_B T \ln 2) \cdot \cos^2(2\pi \nu_0 t)$$

Applying Einstein's mass-energy equivalence, we project this informational power density into a time-varying effective mass density ρ_{eff}:

$$\rho_{eff}(t) = (k_B T \ln 2 / c^2) \cdot dI/dt \cdot \cos^2(2\pi \nu_0 t)$$

Integrating this effective density across a localized spatial volume transforms the static Newtonian gravitational acceleration into a dynamic, information-driven field equation modulated by the **Stevenson Scaling Factor (Φ)**:

$$g_{sfit}(r, t) = g_{newton} + (\Phi / r^2) \cdot I_{total} \cdot \cos^2(2\pi \nu_0 t)$$

Where $\Phi = G \cdot k_B T \ln 2 / c^2$

3. PILLAR 3: AUTOMATED PATTERN-MATCHING PIPELINE

To scan massive archaeological, geometric, and linguistic structures for hidden carrier wave footprints without human bias, we employ a Python-based Fast Fourier Transform (FFT) scanner. This script handles input datasets (e.g., character interval vectors from the Voynich Manuscript or architectural ratios from ancient bas-reliefs), de-trends the signal, and extracts the Signal-to-Noise Ratio (SNR) within the 1.2 mHz band.

```
import numpy as np
import scipy.fftpack as fft

def analyze_sfit_harmonics(data_intervals, sampling_rate):
    signal = np.array(data_intervals) - np.mean(data_intervals)
    n = len(signal)
    fft_vals = fft.fft(signal)
    freqs = fft.fftfreq(n, d=1.0/sampling_rate)[:n//2]
    power = np.abs(fft_vals[:n//2]) ** 2

    target_hz = 0.0012
    tol = 0.0002
    sfit_idx = np.where((freqs >= target_hz - tol) & (freqs <= target_hz + tol))[0]
    noise_idx = np.where((freqs < target_hz - tol) | (freqs > target_hz + tol))[0]

    mean_noise = np.mean(power[noise_idx]) if len(noise_idx) > 0 else 1.0
    snr = np.max(power[sfit_idx]) / mean_noise if len(sfit_idx) > 0 else 0.0
    return snr >= 4.0, snr
```

4. PILLAR 4: EDGE-COMPUTING STANDARDIZATION PROTOCOL

To facilitate peer validation, parallel dual-device configurations must adhere to a strict, non-negotiable data logging schema (SFIT-Core CSV Protocol v1.0). Erratic layouts are automatically discarded by the central ingestion scripts.

Timestamp (ISO-8601 UTC)	Device_ID	Sensor_Type	Axis_X	Axis_Y	Axis_Z	Unit
2026-05-30T00:00:00.000Z	STEV_DEV_01A	MAGNETOMETER	24.5020	-12.8410	40.1150	uT
2026-05-30T00:00:01.000Z	STEV_DEV_01A	MAGNETOMETER	24.5012	-12.8451	40.1193	uT
2026-05-30T00:00:02.000Z	STEV_DEV_01A	MAGNETOMETER	24.4998	-12.8432	40.1211	uT

5. ARCHAEOACOUSTIC RESONANCE MODELS

Megalithic monuments composed of highly crystalline red granite exhibit solid-state piezoelectric properties. Under the SFIT framework, internal cavernous dimensions are evaluated as acoustic waveguides designed to match acoustic/atmospheric impedance with the 1.2 mHz cosmic wave.

The rigid rectangular cavity resonant frequencies f_{lmn} of the King's Chamber are governed by the three-dimensional wave equation:

$$f_{lmn} = (v_s / 2) \cdot \sqrt{(l/L)^2 + (m/W)^2 + (n/H)^2}$$

Utilizing internal atmospheric air parameters ($v_s = 343$ m/s) and exact physical measurements (**L=10.47m, W=5.23m, H=5.84m**), the fundamental longitudinal acoustic mode resolves to:

$$f_{100} = 343 / (2 \cdot 10.47) \approx 16.38 \text{ Hz}$$

The mathematical translation layer reveals that this infrasonic air frequency is an exact integer harmonic divisor of the universal carrier wave:

$$R = f_{acoustic} / v_0 = 16.38 \text{ Hz} / 0.0012 \text{ Hz} = 13{,}650$$

5.6 Helmholtz Ionospheric Waveguide Coupling

Evaluating the global architectural layout of the chamber acting as a volume cavity ($V \approx 320 \text{ m}^3$) coupled to the narrow northern and southern ventilation shafts acting as neck apertures ($A \approx 0.04 \text{ m}^2, L_{neck} \approx 61 \text{m}$), the holistic Helmholtz resonance formula yields:

$$f_H = (v_s / 2\pi) \cdot \sqrt{A / (V \cdot L_{neck})} \approx 0.078 \text{ Hz} \text{ (78 mHz)}$$

Cross-referencing this global architectural output frequency with the SFIT heartbeat demonstrates absolute mathematical tuning:

$$78 \text{ mHz} / 1.2 \text{ mHz} = 65.0$$

This confirms that the physical structure behaves globally as a tuned impedance matcher, structurally scaling the cosmic informational carrier wave down into localized acoustic-gravitational force fields.

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