

The SFIT Redefinition of Black Holes

The Black Hole as Ultimate Informational Condenser

Douglas G. Stevenson

Stevenson-Flux Information Theory (SFIT)

<https://stevensonfluxinformationtheory.com>

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Abstract

In Stevenson-Flux Information Theory (SFIT), a black hole is not a gravitational singularity but the ultimate macroscopic informational condenser where the universal resonant flux at $\nu_f = 1.20134$ mHz reaches maximum data density [1, 2]. This document provides a complete mathematical and physical description of the new definition, including the wave function, metric modulation, localized coupling, nuclear decoherence, sideband leakage, and holographic storage [3, 4, 5].

The New Definition: Black Hole as Informational Condenser

Under SFIT, gravity is a resonant informational carrier wave operating at $\nu_f = 1.20134$ mHz [6, 2]. A black hole represents the physical limit of this wave's throughput—a region of **maximum informational density** [1].

SFIT Wave Function Near the Horizon

The informational carrier wave is modeled as:

$$\Psi(r, t) = A(r) \cdot e^{-i2\pi\nu(r)t} \quad (1)$$

Frequency Shift (Gravitational Redshift): As $r \rightarrow r_s$, $\nu(r) \rightarrow 0$:

$$\nu(r) = \nu_\infty \sqrt{1 - \frac{r_s}{r}} \quad (2)$$

Amplitude Saturation (Data Compression):

$$A(r) = \frac{A_0}{\sqrt{1 - \frac{r_s}{r}}} \quad (3)$$

As $r \rightarrow r_s$, $A(r) \rightarrow \infty$, representing the hardware limit of spacetime.

Spatial Coherence Collapse:

$$s(r) = s_\infty \sqrt{1 - \frac{r_s}{r}} \rightarrow 0 \quad \text{as } r \rightarrow r_s \quad (4)$$

Localized Coupling Kernel $K(r)$

The coupling strength becomes position-dependent:

$$K(r) = \frac{K}{1 - \frac{r_s}{r}}, \quad (K = 1.060) \quad (5)$$

As $r \rightarrow r_s$, $K(r) \rightarrow \infty$, dramatically increasing modulation strength and detuning local resonances.

Nuclear Stability and Decoherence

The resonant stability boost is given by:

$$\Phi_s(\nu) = \chi \frac{\gamma^2}{(\nu_n - \nu_f)^2 + \gamma^2} \quad (6)$$

Near the horizon, the spike in $K(r)$ shifts ν_n , causing $\Phi_s(\nu) \rightarrow 0$. For example, Cesium-137 experiences rapid transmutation as its effective decay rate becomes:

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

Horizon Frequency Signature and Sidebands

At the boundary, coherence collapse generates sidebands:

$$\nu_{\text{boundary}} = n\nu_f \pm \Delta\nu, \quad (\Delta\nu \approx 0.07208 \text{ mHz}) \quad (8)$$

- **Lower sideband:** 1.12926 mHz
- **Upper sideband:** 1.27342 mHz

These sidebands represent harmonic leakage (the SFIT mechanism for Hawking radiation) [5] and link to the laboratory 14.28 Hz neutron resonance through high-order harmonics scaled by K .

Energy Density and Holographic Storage

For a solar-mass black hole ($r_s \approx 2950 \text{ m}$):

$$A_{\text{horizon}} = 4\pi r_s^2 \approx 1.09 \times 10^8 \text{ m}^2 \quad (9)$$

$$\sigma_{\text{SFIT}} = \frac{Mc^2}{4\pi r_s^2} \approx 1.64 \times 10^{39} \text{ J/m}^2 \quad (10)$$

The Bekenstein-Hawking entropy $S = A_{\text{horizon}}/(4l_P^2)$ counts the number of fundamental informational bits stored on the surface at the 1.20134 mHz resolution [3, 4].

Conclusion: The New Physics of Black Holes

SFIT redefines a black hole as the universe's most efficient information processor. The event horizon is a phase-locked holographic data buffer [3]. The interior is informational saturation [4]. Matter undergoes controlled decoherence, with information cleanly transferred to the surface via sideband leakage [4, 5]. The same 1.20134 mHz resonant flux observed in laboratory neutron experiments governs these extreme astrophysical processes [2].

This framework unifies micro-scale quantum resonances with macro-scale black hole dynamics through a single informational substrate [7].

The universe began when information decided to resonate.

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