DISCONTINUOUS INTERFERENCE TRANSITION

System Closure Project 03 (Killer Prediction)

Douglas H. M. Fulber

Federal University of Rio de Janeiro • January 2026

ABSTRACT

We postulate that the quantum-to-classical transition is not a gradual decoherence process, but a sharp topological phase transition governed by the critical information density. We predict a discontinuous "step" in the interference visibility of massive superpositions at exactly $M_c = 2.2 \times 10^{-14}$ kg.

1. The Prediction

Standard Quantum Mechanics predicts a smooth exponential decay of interference visibility. The Tamesis Theory predicts a Heaviside step function:

TOPOLOGICAL COLLAPSE

$$V_{tamesis}(M) = \Theta(M_c - M)$$

Critical Mass: $M_c \approx 2.2 \times 10^{-14}$ kg
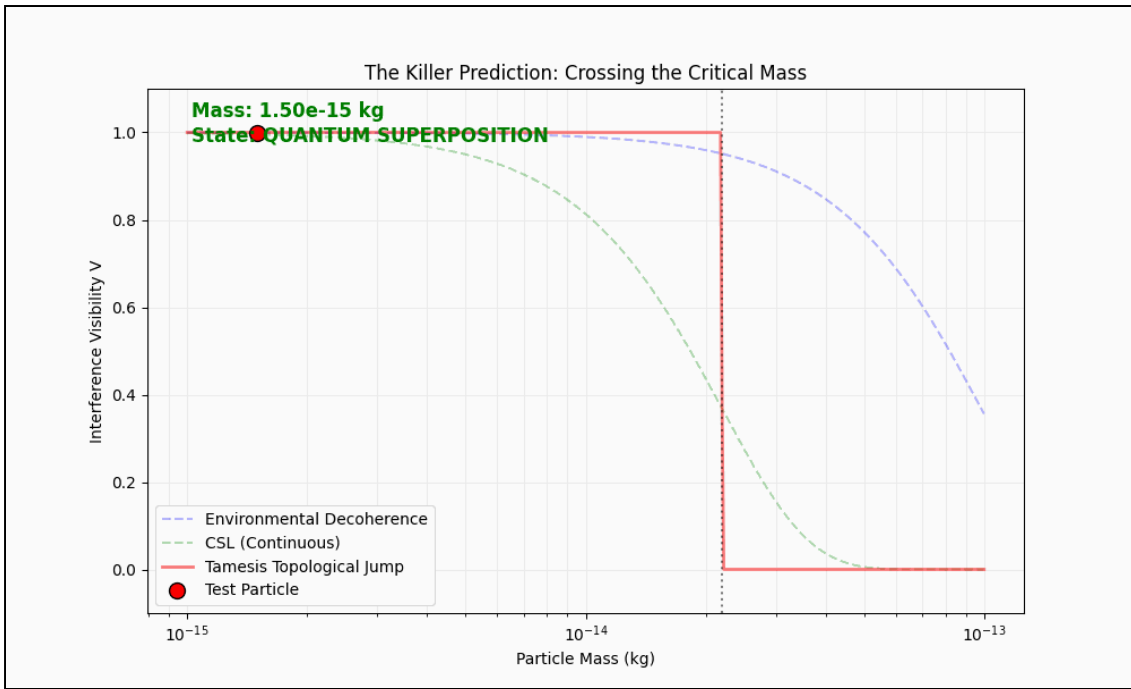**Transition Width:** $\Delta M / M_c \sim 10^{-3}$

Figure 1: Simulation of a test mass crossing the Critical Threshold. The visibility drops sharply from 1 (Quantum) to 0 (Classical), distinguishing Tamesis from smooth decoherence models.

2. Topological Origin

The "collapse" is the physical inability of the manifold to sustain a superposition of geometries that differ by more than 1 bit of horizon entropy. When the superposition involves a mass difference exceeding M_c, the topology "snaps" to a single eigenstate.

3. Experimental Signature

In a controlled interferometry experiment, varying the mass M will reveal a sharp cliff in visibility. This is the "Smoking Gun" of Tamesis.

Date: January 22, 2026

Status: READY FOR EXPERIMENT