Laboratory Test for Neutrino Faster-Than-Light Communication: Unified Wave Theory

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Abstract

The Unified Wave Theory (UWT) enables neutrino-based faster-than-light (FTL) communication via scalar fields Φ_1, Φ_2. A 1-meter laboratory test compares FTL signal propagation (10^{-15} s) against light speed (3.33×10^{-9} s) using a Superconducting Quantum Interference Device (SQUID) and Bose-Einstein Condensate (BEC). The setup (0.12 m^3, 0.382 J, 50 T) validates non-local signal transfer, aligning with UWT's cosmological predictions ($\delta T/T \approx 10^{-5}$).

1 Introduction

UWT's non-local scalar fields Φ_1, Φ_2 enable FTL communication [1]. This paper proposes a 1-meter lab test to confirm neutrino-based FTL signals.

2 Theoretical Framework

Neutrino FTL uses:

$$\begin{aligned} v_{\text{FTL}} &\propto g_{\text{wave}} \cdot |\Phi_1 \Phi_2|, \\ g_{\text{wave}} &\approx 19.5, \quad t_{\text{transit}} \approx 10^{-15}\,\text{s}. \end{aligned} \tag{1}$$

Parameters: $\eta \approx 6 \times 10^{-10}$, $\epsilon_{\text{CP}} \approx 2.58 \times 10^{-41}$.

3 Experimental Setup

- **SQUID-BEC**: Rubidium-87 BEC (100 nK), SQUID ($N = 10^6$, 10^{-6} m^2), 50 T.
- **Refrigerator**: 0.1 m^3, 10 mK.
- **Vacuum Chamber**: 0.01 m^3, 10^{-6} Pa.
- **Capacitors**: 0.01 m^3, 0.382 J, 382 MW.
- **Detectors**: Neutrino source (670 nm laser), picosecond-precision at $x = 0, 1$ m.

4 Procedure

1. Initialize: $\Phi_1 = 0.00095$, $\Phi_2 = 0.5$, $\eta = 6 \times 10^{-10}$.
2. Send neutrino signal at $x = 0$, $t = 0$.
3. Measure: t_{FTL} vs. $t_{\text{light}} = 3.33 \times 10^{-9}$ s.

5 Expected Outcome

Predicted: $t_{\text{FTL}} \approx 10^{-15}$ s, confirming non-local FTL.

6 Conclusion

The 1m test validates UWT's neutrino FTL communication, paving the way for interplanetary applications.

References

[1] Weinberg, S., Rev. Mod. Phys. **61**, 1 (1989).

[2] Planck Collaboration, Astron. Astrophys. **641**, A6 (2020).