Standard Model Series

ZBW Spectrum and Oscillation Mechanics

Unified Zitterbewegung spectrum: three modes, one frequency

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Abstract

Presents the unified ZBW spectrum at $f \sim 9.5 \times 10^{43}$ Hz. Three boundary conditions: bound orbital (d=0, spin/magnetic moment), linear extras (d=1, down-type mass boost), unbound orbital (d=3, neutrino masses). Suppression sigma = $120^{(-d)}$ from 600-cell holographic bound.

1. ZBW Frequency

$$f\_ZBW \sim 1/(2\ t\_Pl) \sim 9.5 \times 10^{43}\ Hz$$

2. Bound Orbital Mode (d=0)

Spin and magnetic moment. Lepton mixing: eDP ~68.5%, qDP ~13%, hDP ~18.5%. Energy: $E\_ZBW = 1/2\ m\ (c/\sqrt{N\_k})^2$.

3. Linear Extras (d=1)

Down-type quarks only, via Capotauro chirality. Adds ~20-40% extra mass. sigma ~ 8.33e-3.

4. Unbound Orbital (d=3)

Neutrino masses: nu_e ~0.001 eV, nu_mu ~0.004 eV, nu_tau ~0.012 eV. sigma ~ 5.8e-7.

References

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