Contribution ID: **259** Type: **Poster**

Massless Neutrino Oscillation via Maximally Natural Vacuum Wavefunction

Two essential conceptual structures - geometric representation of Clifford algebra wavefunctions and quantized impedances of wavefunction interactions - are absent from theorists' toolkits. Their synthesis offers complementary Standard Model perspectives, focusing not on Lagrangian flow of energy and information between kinetic and potential, but rather what governs amplitude and phase of that flow - impedance matching of wavefunction interactions. Photon excitation of two-component Dirac spinor vacuum wavefunctions permits calculation of permittivity ϵ_0 and permeability μ_0, and from these the scale-invariant 377 ohm far-field vacuum impedance seen by the photon. This suggests extending the method to near-field of the full eight-component vacuum wavefunction of geometric Clifford algebra. Such a model offers maximally natural three-component massless neutrino oscillation via the additional vacuum impedance phase shifts, with absence of right-handed neutrinos required by failure of three-component associativity in the eight-component Clifford algebra octonion.

Mini-abstract

Muon collider lifetime enhancement requires understanding vacuum and neutrino wavefunctions

Experiment/Collaboration

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Session Classification: Poster session 3