

## QED Model of Massless Neutrino Oscillation in the Geometric Representation of Clifford Algebra

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All experimental data is consistent with massless neutrinos. There exist possibilities other than rest mass differences to explain oscillation. The two-component photon wavefunction is comprised of electric and magnetic flux quanta, coupled by Maxwell's equations. In the basic photon-electron interaction of QED, opposing phase shifts of the electron's inductive and capacitive impedances decouple the photon's flux quanta, breaking Maxwell's equations, transferring energy and momentum. Extending the two-component Dirac wavefunction (scalar charge and bivector magnetic moment) to the full eight-component vacuum wavefunction in the geometric representation of Clifford algebra permits assigning topological magnetic charge to the spin 1 3D pseudoscalar. A simple three-component neutrino wavefunction model might then be comprised of the two photon components, topologically protected by magnetic charge. Curiously, in SI units 1D vector magnetic flux quantum and 3D trivector magnetic charge quantum are numerically identical yet geometrically and topologically distinct. We discuss the mixing matrix that results from such a model.

<https://indico.fnal.gov/event/19348/contributions/186426/>

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