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Neutrino Oscillations in Quantum Field Theory KENDRA JEAN JACQUES, ANNA ROLAND, PREET SHARMA, Midwestern State Univ — Neutrino oscillations are a quantum mechanical phenomena and are very important in understanding the behavior of our Universe. The idea of neutrino oscillation was first put forward in 1957 by Bruno Pontecorvo, who proposed that neutrinoantineutrino transitions may occur in analogy with neutral kaon mixing. Neutrino oscillation arises from mixing between the flavor and mass eigenstates of neutrinos. As neutrinos travel through space they oscillate between the 3 flavors, namely electron neutrino, muon neutrino and tau neutrino. We have explained the 3-flavor neutrino oscillations through a quantum field theoretic explanation.

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