Phenomenology 2018 Symposium



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What Neutrino Wavepackets?

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The standard story is that neutrino mass eigenstates are produced as wavepackets at the same point in spacetime and separate along their journey to the detector, which can cause neutrino oscillations to dampen over long baselines. However, we find that when a calculation is done in quantum field theory, making reference to only measured quantities, that a different picture emerges for how neutrinos propagate through spacetime. This could lead to a better understanding of the mechanisms that control the damping of neutrino oscillations.

Summary

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