

# Neutrino Oscillations: an Avenue to Probe the Universe

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We have reached an advanced stage in our understanding of the Universe, confirmed to a great extent by probes such as the Cosmic Microwave Background(CMB), Gravitational Waves(GW) and Large Scale Structure(LSS). However, there are a few phenomena that, even with these probes, are still mysterious. Particularly, the nature of Dark Energy(DE) and the Hubble Tension. In this talk, I will present the case for neutrino oscillations in curved spacetime as a potential new probe for these two phenomena. By showing how the neutrino oscillation probability is affected by DE models and different values of the Hubble parameter, these messengers might give us new insight on these two phenomena, and thus might ease the quest for their nature.

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