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Neutrino oscillations the on-shell way

Friday 30 July 2021 10:00 (20 minutes)

On-shell scattering amplitudes are an interesting approach in which amplitudes can be computed without introducing any field nor Lagrangian. In other words, they are a powerful tool to “do QFT without fields”. In this talk, we will show how to use such techniques to describe neutrino oscillations. The power of this approach will allow us to derive (I) the PMNS matrix without diagonalizing any mass matrix, and (II) an amplitude for neutrino oscillations that automatically contains all possible corrections coming from new physics.

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