Rephasing invariant parametrization for neutrino mixing

Based on a rephrasing invariant parametrization, the neutrino mixing in matter is studied under the three-flavor framework. We derive the evolution equations for the parameters as functions of the induced neutrino mass. These evolution equations are found to preserve approximately some characteristic features of the mixing matrix, resulting in solutions which exhibit striking patterns as the induced mass varies. The approximate solutions are compared to numerical integrations and found to be quite accurate. Certain intriguing properties of the parameters and the mixing matrix are also discussed.

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