Degeneracy Enhancement of Neutron-Antineutron Oscillation in Neutron Star

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We explore the theoretical description of oscillations in degenerate cases, presenting the formula for oscillation probability with neutrino oscillation as an illustrative example. We then apply the degenerate oscillation theory to study neutron-antineutron oscillations, calculating the constraints of the new model on oscillation parameters, such as mixing angles, in neutron stars. Our findings provide valuable insights into the behavior of particle oscillations in extremely degenerate environments, offering strong constraints on neutron-antineutron mixing, and further restrict the choice of GUT models.

Paper info

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