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CP and Bell's inequality violation in the neutrino-antineutrino oscillations

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Abstract

Bell's inequality has made the ability to find nonlocality in what happened by a numerical indicator. CP violation is one of the most important phenomena that occur in nature. It represents asymmetry in the matter and anti-matter in the universe. In this paper, we use a thought experiment to obtain a formalism of Bell's inequality of type CHSH for Majorana neutrino. This inequality is sensible to CP violation.

Keywords: CP violation, Bell's inequality, neutrino-antineutrino oscillations, Majorana neutrino

For full article, refer to the Persian section