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# A theoretical study of shape shifters on forth generation flavour - sterile neutrino

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Interpretation of data from MiniBooNE experiment at Fermilab and liquid scintillator neutrino detector (LSND) with a two-neutrino oscillation model, i.e, muon neutrino to electron neutrino, shows that, MiniBooNE experiment confirms the fourth neutrino flavour. These flavour's properties and behaviours raise a lot of opportunities and challenges to understand the universe. In this present work, during oscillation, i.e, shape shifting, neutrino's mass and chirality and their velocity are to be considered. Experimentally, one of the dependent parameter on this muon neutrino oscillation is mass and zenith angle during the interaction. Similarly finding the other required parameters for this oscillation is another task. In this proposed model, nature of the shape shifter for the four flavours is discussed, in that idea fourth sterile neutrino is also in the part of oscillation. We believe that outcome of this trial model will pave the way to the clarity in the shape shifters within the four flavours.

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