



Contribution ID: 590

Type: Poster

Neutrino mass and leptogenesis in Type I+II Seesaw model with a spontaneously broken CP symmetry

Thursday 15 December 2022 14:00 (1 hour)

We introduce a novel hybrid framework combining type I and type II seesaw models for neutrino mass where a complex vacuum expectation value of a singlet scalar field is assumed to spontaneously break CP symmetry. Using pragmatic organizing symmetries we demonstrate that such a model can simultaneously explain the neutrino oscillation data and generated observed baryon asymmetry through leptogenesis. Interestingly, natural choice of parameters leads to a mixed leptogenesis scenario driven by nearly degenerate scalar triplet and right handed singlet neutrino fields for which we present a detailed quantitative analysis.

Session

Neutrino Physics

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