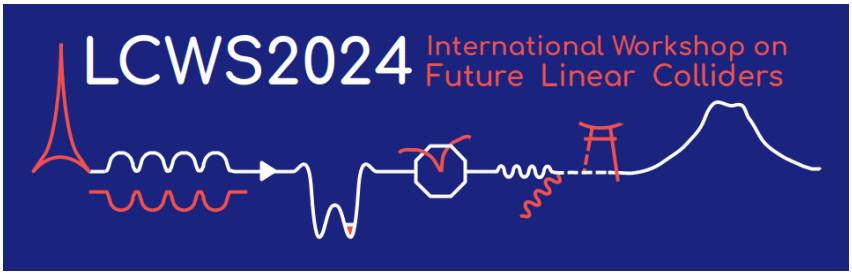

Contribution ID: **165** Type: **Oral presentation (in person)**

Collider phenomenology of the TeV-scale model with a common origin of neutrino mass, dark matter and baryon asymmetry

Wednesday 10 July 2024 12:00 (20 minutes)

The origins of tiny neutrino mass, dark matter and baryon asymmetry of the Universe remain big mysteries in particle physics. To explain all these phenomena, a new physics model with a Higgs sector extended at the TeV scale was proposed by Aoki, Kanemura and Seto. However, CPV phases were neglected for simplicity, and the baryon number production via electroweak baryogenesis had not been evaluated. We have revisited this model including CPV phases and have investigated several phenomena including neutrino mass generation, dark matter relic abundance and electroweak baryogenesis. Future high-energy linear colliders are expected to play a crucial role in probing this model. In this talk, we will present some benchmark scenarios of the model where neutrino mass, dark matter and the baryon asymmetry can be simultaneously explained while satisfying all the theoretical and experimental constraints and discuss their predictions in future linear collider experiments.

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