

## Phenomenology 2019 Symposium



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# Probing heavy neutrino mixing and CP violation at future hadron colliders

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Heavy neutrinos are essential ingredients in the type-I seesaw mechanism for neutrino masses. Mixing and CP violation in the heavy neutrino sector therefore not only translate into neutrino oscillation parameters but also play an important role in generating the observed baryon asymmetry of the universe via leptogenesis. We show that future hadron colliders can directly access these mixing angles and CP phases in the heavy neutrino sector if type-I seesaw is embedded in a TeV-scale left-right model, by measuring the charge asymmetries in same-sign dilepton signals, e.g.  $e^+e^+$  versus  $e^-e^-$ , arising from  $W_R$ -mediated heavy neutrino production and subsequent decays. This provides a new way to test low-scale leptogenesis at future colliders.

## Summary

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