

Probing CP violation for electroweak baryogenesis in 2HDM

Thursday, 20 November 2025 14:00 (1 hour)

In this talk, we discuss CP violation and electroweak baryogenesis in 2HDM.

We consider a scenario where the top quarks generate the baryon asymmetry, but the light-fermion couplings are suppressed to avoid strong constraints from EDM measurements.

In our scenario, it is found that the leading contributions arise in the top-quark EDMs at the two-loop level, which induce the electron, neutron, and proton EDMs.

We show that our scenario is compatible with the current experimental bounds and is within the scope of future EDM experiments.

We also discuss the other probe of the CP violation in the 2HDM, the $H^\pm W^\pm Z$ vertices, which would be important to know the symmetry structure of the Higgs potential in the future.

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Session Classification: Session 2