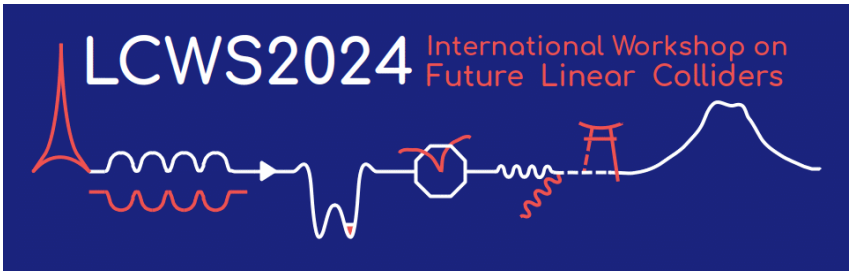

Contribution ID: **98** Type: **Oral presentation (in person)**

Loop induced H±W±Z vertex in CP violating two Higgs doublet model and its impact on collider phenomenology

Wednesday 10 July 2024 12:10 (15 minutes)

The two Higgs doublet model, which can serve enough CP violation and first order electroweak phase transition, is often introduced to realize electroweak baryogenesis.
If CP symmetry is violated in the two Higgs doublet model, it does not have custodial symmetry, which is remnant of global symmetry of SU(2)L × SU(2)R.
It has been known that H±W±Z vertex is induced at the loop level due to the violation of custodial symmetry.
As a consequence of breaking CP and custodial symmetry, we study loop-induced H± -> W±Z decay in the most general CP violating two Higgs doublet model.
In this talk, we discuss the relation between violations of CP and custodial symmetry and the H±W±Z vertex, and we show its impact on future colliders including ILC.

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