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## **Multi-photon signatures at LHC and future linear colliders as a probe of CP-Violation in 2HDMs**

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We discuss signatures of CP-violating (CPV) two Higgs doublet models at LHC and future linear colliders, where CPV appears from Yukawa interactions and the Higgs potential. In particular, we consider the scenario with the Yukawa alignment to avoid tree level flavor changing neutral currents. In addition, we consider the Higgs alignment in which the couplings of the discovered Higgs boson are taken to be the same as those in of the SM Higgs boson at tree level. We find that branching ratios of both the extra neutral Higgs bosons into diphoton can be simultaneously significant due to the constructive effect of the fermion and charged Higgs loops if CPV phase in the potential is nonzero. We show that the CPV of the Higgs sector can be tested via the three or four photon final states from the pair production of the extra Higgs bosons at LHC and future linear colliders under constraints from electric dipole moments.

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