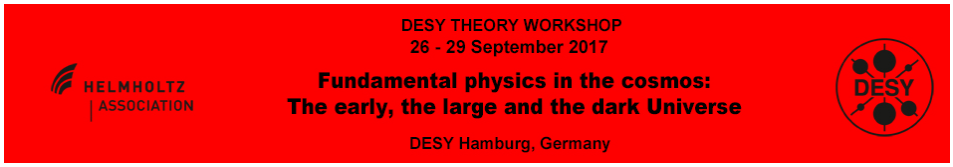

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Quantifying CP-violation in the 2HDM

Wednesday 27 September 2017 14:51 (17 minutes)

The complex two-Higgs doublet model is one of the simplest ways to extend the scalar sector of the Standard Model to include a new source of CP-violation. This can address the matter antimatter asymmetry in the universe through electroweak baryogenesis and can also lead to interesting collider phenomenology.
Quantifying the amount of CP-violation, however, remains a surprisingly non-trivial task. Using our parameter scan of the complex 2HDM we present interesting phenomenological consequences of CP-violation. We compare the theoretical Jarlskog-like invariants to experimental observables quantifying the amount of CP-violation. This leads to the conclusion that most of these quantifications are weakly correlated at best, so the derived amount of CP-violation depends strongly on where you are looking for it.

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