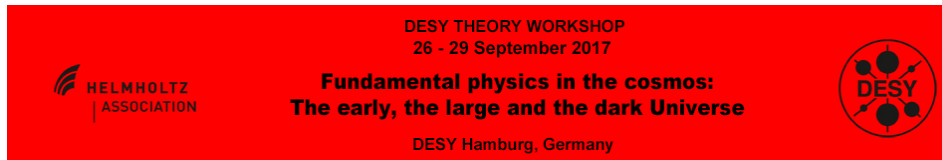


Fundamental physics in the cosmos: The early, the large and the dark Universe



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Electroweak baryogenesis from dimension 6 operators

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Effective field theory is an attractive framework to study Electroweak Baryogenesis in a model-independent way. We add a dimension-six operator to the Higgs potential in order to have a strongly first order phase transition, which is necessary for successful baryogenesis. Another necessary ingredient is CP-violation, which can be provided by dimension-six interactions between the Higgs and the top quark. We study two of these operators that are related by the equations of motion. In our study, we compare the parameters that are needed for successful baryogenesis with the experimental constraints and we test the applicability of the effective field theory framework.

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