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Enabling Electroweak Baryogenesis trough Dark Matter

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Summary

I will discuss the impact of a swifter cosmological expansion induced by modified cosmological history of the universe on scenarios realising electroweak baryogenesis. I will also detail the experimental bounds that one can place on such models. The modifications can be sizeable if the expansion rate of the Universe increases by several orders of magnitude. I will focus on the Standard Model supplemented by a dimension six operator directly modifying the Higgs boson potential and show that due to the modified cosmological history, electroweak baryogenesis can be realized, while keeping deviations of the triple Higgs coupling below HL-LHC sensitivies.

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