

On the electroweak vacuum stability in the inflationary Universe

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Recent LHC results suggest the electroweak vacuum metastability. Although its lifetime is longer than the cosmic age in almost all the parameter space, quantum tunneling to the unwanted true vacuum in the quasi-de Sitter background may occur during inflation. This, in turn, constrains severely high-scale inflation models. In this talk, we discuss how to avoid such tunneling during high-scale inflation and give new constraints on parameters of inflation models, such as reheating temperature.

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