



Contribution ID: 147

Type: **Talk**

On stability of electroweak vacuum during inflation

Saturday, 5 December 2015 16:15 (20 minutes)

We study Coleman –De Luccia tunneling of the Standard Model Higgs field during inflation in the case when the electroweak vacuum is metastable. We verify that the tunneling rate is exponentially suppressed. The main contribution to the suppression is the same as in flat space-time. We analytically estimate the corrections due to the expansion of the universe and an effective mass term in the Higgs potential that can be present at inflation.

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Session Classification: 06 - Early universe