

Abstract

It is possible for a classical field theory to have two stable homogeneous ground states, only one of which is an absolute energy minimum. In the quantum version of the theory, the ground state of higher energy is a false vacuum, rendered unstable by barrier penetration. There exists a well-established semi-classical theory of the decay of such false vacuums. In this paper, we extend this theory to include the effects of gravitation. Contrary to naive expectation, these are not always negligible, and may sometimes be of critical importance, especially in the late stages of the decay process

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