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Is Vacuum Decay During Inflation Fatal?

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If the Standard Model vacuum is metastable, bubbles that form expand and convert the entire vacuum into a true vacuum state incompatible with observations. It is sometimes argued, however, that true vacuum bubbles forming during inflation are 'inflated away' and thus pose no danger to the present day universe, even if they form. I will argue that this point of view is incorrect - while the exponential expansion of spacetime does affect the evolution of true vacuum bubbles, they do not, in fact, collapse to nothing and can in fact survive to the present day. Consequently, the electroweak vacuum instability must be fixed or circumvented if high scale inflation is to take place, providing strong hints that there must be new physics before the Planck scale.

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