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Stability condition of the EW vacuum and top mass measurements

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According to the standard analysis, the stability condition of the EW vacuum mainly depends on the values of the Higgs and top masses, MH and Mt. For this reason, it has been believed and strongly stressed in the last years that a precision measurement of Mt will provide an answer to the crucial question of whether our universe is in a stable or metastable vacuum, or at the edge of stability.
Needless to say, the top quark mass is one of the fundamental parameters of the Standard Model: the top cross sections, the size of quantum corrections to different processes, the value of the top Yukawa coupling, just to mention few examples, all crucially depend on Mt. Obviously, a precision measurement of Mt is of the greatest importance. However, it will not be able to tell us anything on the "fate of our universe" (contrary to what is often stated).
The reason is that new physics interactions, even if they show up only at very high scales (Planck scale), can strongly affect the stability condition of the EW vacuum. In the past, it was argued that new physics at very high energies cannot have impact on the vacuum stability properties, and this led to the believe that a precision measurement of Mt could "solve" the crucial stability problem.

Presenter: BRANCHINA, Vincenzo (Catania U. & INFN)