

Phase Transitions from Stars

mercredi 1 juin 2022 15:00 (20 minutes)

We consider matter density effects in theories with a false ground state. Large and dense systems, such as stars, can destabilize a metastable minimum and allow for the formation of bubbles of the true minimum. Interestingly these bubbles are not necessarily confined to the dense region, but can escape to infinity. This leads to a phase transition in the universe after the formation of stars, and therefore has significant impact on e.g. solutions to the electroweak hierarchy problem based on dynamical selection of the electroweak vacuum. We work out the phenomenological consequences of such density triggered late phase transitions and put new constraints on the parameter space of some benchmark relaxation models.

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Classification de Session: Parallel session 2