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Particle Physics at LPTHE

Mardi 6 Novembre 2018, 14 :00
LPTHE, Library
Domaines : hep-ph

Titre : *Production and decay of scalar dark matter*

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Résumé : *I will discuss a new take on the idea of scalar dark matter produced through interactions with the Standard Model Higgs boson. If the dark matter particles have no stabilising symmetry, they can mix with Standard Model Higgs Bosons and very small couplings are required for cosmological stability. Dark matter can then no longer be produced through the standard WIMP mechanism, but only via non-thermal processes such as freeze-in. The resulting cosmological evolution of scalar dark matter turns out to be quite complicated, and I will review the different steps and the resulting phenomenology. Intriguingly, light scalars are found to have potential signatures in indirect detection experiments as well as observable self-interactions.*