Particle Physics at LPTHE

Mardi 13 Fevrier 2024, 14 :00
LPTHE, Library
Domaines : hep-ph

Titre : *Axion-like particles : New physics below the GeV scale ?*

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Résumé : *Many extensions of the Standard Model feature spontaneously broken new symmetries that give rise to bosonic particles with naturally small masses and couplings. These so-called axion-like particles (ALPs) can constitute some or all of dark matter or mediate the interactions between dark and visible matter. In my talk I will review the various ways in which ALPs can couple to Standard Model particles and discuss the resulting production and decay modes. A particular focus will be on MeV-scale ALPs, which can be explored with a wide range of particle physics experiments, such as precision measurements of rare meson decays, electron-positron colliders, and fixed-target experiments. Finally, I will briefly discuss complementary constraints on ALPs from astrophysics and cosmology.*