Contribution ID: **229** Type: **not specified**

Searches for non-conventional signatures at CMS

Tuesday 9 May 2023 17:45 (15 minutes)

Non-conventional signatures like exotic long-lived particles can naturally arise from many beyond-the-standard-model scenarios, which are closely connected to some of the most important puzzles in particle physics, including hierarchy problem, the nature of dark matter, the origin of neutrino mass, and the origin of matter-antimatter asymmetry. Searches for non-conventional signatures also usually face unique experimental challenges, calling for continuous innovations in trigger, reconstruction, offline analysis, and detector technologies. In this talk, I'll discuss the current status and some future prospects of such searches at CMS, which provide powerful tools to address these long-standing puzzles in particle physics, and have many exciting physics potentials ahead.

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Session Classification: BSM X

Track Classification: BSM