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Searches for long-lived particles and other non-conventional signatures with the CMS tracker and calorimeter systems

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Long-lived particles (LLPs) arise in many promising theories beyond the Standard Model. At the LHC, LLPs typically decay away from their initial production vertex, producing displaced and possibly delayed final state objects that give rise to non-conventional detector signatures. The development of custom reconstruction algorithms and dedicated background estimation strategies significantly enhance sensitivity to various LLP topologies at CMS. We present recent results of tracking- and calorimeter-based searches for LLPs and other non-conventional signatures obtained using data recorded by the CMS experiment during Run 2 and Run 3 of the LHC.

Mini Symposia (Invited Talks Only)

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