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Searches for long-lived particles with displaced jets at CMS

Many extensions of the standard model predict new particles with macroscopic lifetimes. Such particles produce different kinds of non-conventional signatures in the detector, for example, jets originating away from the primary proton-proton (pp) interaction vertex, known as displaced jets. Searches exploring the lifetime frontier using displaced jet signatures have become increasingly prominent at the LHC, and they often require specialized reconstruction and identification techniques, such as, state-of-the-art machine learning models. This talk will summarize the diverse approaches and results of recent long-lived particles searches using displaced jets at CMS, with 13 and 13.6 TeV pp collision datasets.

Secondary track

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