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## Searching for Long-Lived Particles at the LHC and Beyond

*Saturday 20 September 2025 09:00 (45 minutes)*

Particles beyond the standard model (SM) can generically have lifetimes that are long compared to SM particles at the weak scale. When produced at experiments such as the Large Hadron Collider (LHC) at CERN, these long-lived particles (LLPs) can decay far from the interaction vertex of the primary proton–proton collision. Such LLP signatures are distinct from those of promptly decaying particles that are targeted by the majority of searches for new physics at the LHC, often requiring customized techniques to identify, for example, significantly displaced decay vertices, tracks with atypical properties, and short track segments. In this talk, I will present the latest searches for LLPs at the LHC and other experiments and then give my view of where the field will go in the future.

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