

Searching for long-lived particles at the LHC: Sixth workshop of the LHC LLP Community



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ANUBIS: Proposal to search for long-lived neutral particles in CERN service shafts

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Long-lived particles are predicted by many extensions of the Standard Model and have been gaining interest in recent years. In this Letter we present a competitive proposal that substantially extends the sensitivity in lifetime by instrumenting the existing service shafts above the ATLAS or CMS experiments with tracking stations. For scenarios with electrically neutral long-lived particles with $m > 1$ GeV, the lifetime reach is increased by 2-3 orders of magnitude compared to currently operating and approved future experiments at the LHC. A detector design proposal is outlined along with projected costs.

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