

Searches for long-lived particles with ANUBIS: sensitivity projections

Saturday 20 July 2024 17:36 (17 minutes)

Many extensions of the Standard Model with Dark Matter candidates predict new long-lived particles (LLP). The LHC provides an unprecedented possibility to search for such LLP produced at the electroweak scale and above. The ANUBIS concept foresees instrumenting the ceiling and service shafts above the ATLAS experiment with tracking stations in order to search for LLPs with decay lengths of $O(10\text{m})$ and above. In this contribution, we will present the latest findings from our intensive recent studies of ANUBIS' sensitivity for several BSM models predicting long-lived particle signatures, with a particular focus on challenging Heavy Neutral Lepton scenarios.

Alternate track

1. Accelerator: Physics, Performance, and R&D for Future Facilities

I read the instructions above

Yes

Primary authors: MULLIN, Anna Jane (University of Cambridge (GB)); Prof. BAUER, MARTIN (IPPP Durham); BRANDT, Oleg (University of Cambridge (GB)); SWALLOW, Paul Nathaniel (University of Cambridge (GB)); ERNER, SOFIE,NORDAHL; REYMERMIER, Theo; REYMERMIER, Théo

Presenter: BRANDT, Oleg (University of Cambridge (GB))

Session Classification: Beyond the Standard Model

Track Classification: 03. Beyond the Standard Model