

First NA62 search for long-lived new physics particle hadronic decays

Saturday 20 July 2024 17:02 (17 minutes)

The NA62 experiment at CERN, designed to measure the highly-suppressed decay $K^+ \rightarrow \pi^+ \nu \bar{\nu}$, has the capability to collect data in a beam-dump mode, where 400 GeV protons are dumped on an absorber. In this configuration, New Physics (NP) particles, including dark photons, dark scalars and axion-like particles, may be produced and reach a decay volume beginning 80 m downstream of the absorber. A search for NP particles decaying in flight to hadronic final states is reported, based on a blind analysis of a sample of 1.4×10^{17} protons on dump collected in 2021.

Alternate track

I read the instructions above

Yes

Primary author: LEZKI, Samet (Max Planck Society (DE))

Presenter: LEZKI, Samet (Max Planck Society (DE))

Session Classification: Beyond the Standard Model

Track Classification: 03. Beyond the Standard Model