

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

*Thursday 30 May 2024 14:00 (15 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  $1.4 \times 10^{17}$  protons on dump collected in 2021.

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