

## Search for exotics at NA62

*Wednesday, 6 June 2018 16:30 (20 minutes)*

Fixed target experiments are a particularly useful tool in the search of very weakly coupled particles in the MeV-GeV range,

which are of interest, e.g. as potential Dark Matter mediators. Owing to the high beam-energy and a hermetic detector coverage, NA62 also has the opportunity to directly search for a variety of long-lived beyond-the-Standard Model particles, such as Axion-like Particles and Dark Photons. In this talk, we will review the status of this searches and give prospects for future data taking at NA62.

Searches for heavy neutral lepton (HNL) production in charged kaon decays using the data collected by the NA62 experiment at CERN are reported. Upper limits are established on the elements of the extended neutrino mixing matrix for heavy neutral lepton mass in the range 130-450 MeV, improving on the results from previous HNL production searches. The status and prospects of searches for lepton flavour and lepton number violation in kaon decays at the NA62 experiment is also presented.

### Subject

BSM+DM

### Abstract Title

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