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Type: **Talk**

## Searches for hidden sectors and lepton flavour violation in kaon decays

Tuesday 3 September 2024 11:20 (20 minutes)

Rare kaon decays are among the most sensitive probes of both heavy and light new physics beyond the Standard Model description thanks to high precision of the Standard Model predictions, availability of very large datasets, and the relatively simple decay topologies. The NA62 experiment at CERN is a multi-purpose high-intensity kaon decay experiment, and carries out a broad rare-decay and hidden-sector physics programme. NA62 has collected a large sample of  $K^+$  decays in flight during Run 1 in 2016-2018, and the ongoing Run 2 which started in 2021. Recent NA62 results on searches for hidden-sector mediators and searches for violation of lepton number and lepton flavour conservation in kaon decays based on the Run 1 dataset are presented. Future prospects of these searches are discussed.

### Details

Marco Mirra

The abstract is submitted on behalf of the NA62 Collaboration by A. Romano, chair of the NA62 Conference Committee. If it will be accepted as a talk, a speaker will be appointed as soon as possible.

### Is the speaker for that presentation defined?

Yes

### Internet talk

Maybe

### Is this an abstract from experimental collaboration?

Yes

### Name of experiment and experimental site

The NA62 experiment at CERN SPS

**Authors:** ROMANO, Angela (University of Birmingham (GB)); MIRRA, Marco (University Federico II and INFN, Naples (IT))

**Presenter:** MIRRA, Marco (University Federico II and INFN, Naples (IT))

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