

# New result on the search for the $K^+ \rightarrow \pi^+ \nu \bar{\nu}$ decay at the NA62 experiment at CERN

*Tuesday, July 28, 2020 6:07 PM (15 minutes)*

The ultra-rare  $K^+ \rightarrow \pi^+ \nu \bar{\nu}$  decay benefits from a precisely predicted branching ratio in the SM ( $8.4 \pm 1.0 \times 10^{-11}$ ), being almost free from theoretical uncertainties, and most importantly from a very high sensitivity to a variety of beyond-the-standard-model scenarios, making it one of the best candidates to reveal indirect effects of new physics in the flavour sector.

The NA62 experiment at the CERN SPS, designed to measure the branching ratio of  $K^+ \rightarrow \pi^+ \nu \bar{\nu}$  with a decay-in-flight technique, collected data in 2016-2018. New results from the analysis of 2018 data, the largest data set so far collected, will be presented. The result will represent the most accurate measurement so far achieved of this ultra-rare decay.

Future prospects and plans for data taking from 2021 will also be presented.

## I read the instructions

### Secondary track (number)

03

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