

Cristina Lazzeroni
(NA62 spokesperson - University of Birmingham)

Mardi 4 février 2020 à 11h00

Search for new physics with kaons at NA62 and beyond

The decay $K^+ \rightarrow \pi^+ \nu \bar{\nu}$, with a very precisely predicted branching ratio of less than 10^{-10} , is one of the best candidates to reveal indirect effects of new physics at the highest mass scales.

The NA62 experiment at the CERN SPS is designed to measure the branching ratio of the $K^+ \rightarrow \pi^+ \nu \bar{\nu}$ with a decay-in-flight technique. NA62 took data so far in 2016-2018. Statistics collected in 2016 allowed NA62 to reach the Standard Model sensitivity for $K^+ \rightarrow \pi^+ \nu \bar{\nu}$, entering the domain of 10^{-10} single event sensitivity and showing the proof of principle of the experiment. Thanks to the statistics collected in 2017, NA62 surpasses the present best world sensitivity. The result from the 2017 data set is presented. The general status of the experiment, including other recent measurements and limits, is also presented. Plans for the next data taking and for a longer term future are discussed.

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Organisation :

Joao Coelho - Thibaud Louis - Aurélien Martens - Dimitris Varouchas (IJCLab) - seminaires@lal.in2p3.fr

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