

## Search for $K^+ \rightarrow \pi^+ \nu\nu$ at NA62

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### Collaboration

NA62

### Abstract content

The decay  $K^+ \rightarrow \pi^+ \nu\nu$ , 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 CERN SPS is designed to measure the branching ratio of the  $K^+ \rightarrow p + nn$  with a decay-in-flight technique, novel for this channel. NA62 took data in 2016, 2017 and another year run is scheduled in 2018. Statistics collected in 2016 allows NA62 to reach the Standard Model sensitivity for  $K^+ \rightarrow \pi^+ \nu\nu$ , entering the domain of  $10^{-10}$  single event sensitivity and showing the proof of principle of the experiment. The  $K^+ \rightarrow \pi^+ \nu\nu$  analysis data is reviewed and the preliminary result from the 2016 dataset presented.

ABSTRACT SUBMITTED ON BEHALF OF NA62. SPEAKER WILL BE NOMINATED ONCE ABSTRACT IS ACCEPTED

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