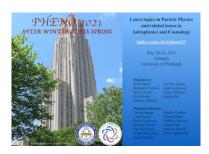
## Phenomenology 2021 Symposium



Contribution ID: 1233 Type: Flavor

## Measurement of the very rare $K+\rightarrow \pi+\nu\nu^-$ decay

Monday 24 May 2021 14:45 (15 minutes)

The NA62 experiment at CERN reports the branching ratio measurement BR(K+ $\rightarrow\pi$ + $\nu\nu$ ) at 68% CL, based on the observation of 20 signal candidates with an expected background of 7.0 events from the total data sample collected at the CERN SPS during 2016-2018. This provides evidence for the very rare K+ $\rightarrow\pi$ + $\nu\nu$  decay, observed with a significance of 3.4 $\sigma$ . The experiment achieves a single event sensitivity of  $(0.839\pm0.054)\times10-11$ , corresponding to 10.0 events assuming the Standard Model branching ratio of  $(8.4\pm1.0)\times10-11$ . The result represents the most accurate measurement achieved so far of this ultra-rare decay. Future prospects and plans for data taking from 2021 will also be presented.

## **Summary**

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Session Classification: Flavor I