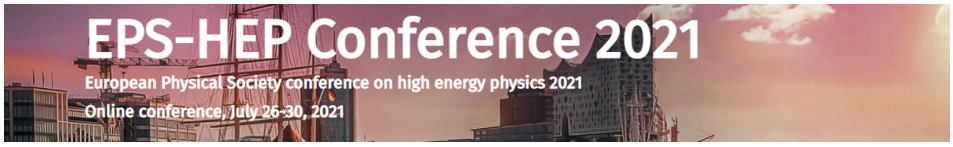

Contribution ID: **850** Type: **Parallel session talk**

Measurement of the very rare K^+⟶π^+ νν¯ decay with the NA62 Experiment at CERN

Wednesday, 28 July 2021 10:30 (15 minutes)

The decay K^+⟶π^+ νν¯, with a very precisely predicted branching ratio of less than 〖10〗^(-10), is among the best processes to reveal indirect effects of new physics. The NA62 experiment at CERN SPS is designed to study the K^+⟶π^+ νν¯ decay and to measure its branching ratio using a decay-in-flight technique. NA62 took data in 2016, 2017 and 2018, reaching the sensitivity of the Standard Model for K^+⟶π^+ νν¯ by the analysis of the 2016 and 2017 data, and providing the most precise measurement of the branching ratio to date by the analysis of the 2018 data. This measurement is also used to set limits on the branching ratio of a possible K^+⟶π^+ X decay, where X is a scalar or pseudo-scalar particle. The final result of the K^+⟶π^+ νν¯ branching ratio measurement and its interpretation in terms of K^+⟶π^+ X decay from the analysis of the full 2016-2017-2018 data set is presented, and future plans and prospects reviewed.

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Collaboration / Activity

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Session Classification: T08: Flavour Physics and CP Violation

Track Classification: Flavour Physics and CP Violation