



Contribution ID: 770

Type: **Parallel session talk**

Search for heavy neutral lepton production at the NA62 experiment

Tuesday 27 July 2021 11:15 (15 minutes)

Searches for heavy neutral lepton production in $K^+ \rightarrow e^+ N$ and $K^+ \rightarrow \mu^+ N$ decays using the data set collected by the NA62 experiment at CERN in 2016-18 are presented. Upper limits on the elements of the extended neutrino mixing matrix $|U_{e4}|^2$ and $|U_{\mu4}|^2$ are established at the levels of 10^{-9} and 10^{-8} , respectively, improving on the earlier searches for heavy neutral lepton production and decays in the kinematically accessible mass range. A search for the $K^+ \rightarrow \mu^+ \nu X$ decays, where X is a new light invisible particle, is also reported.

Collaboration / Activity

NA62

First author

Email

Primary author: PARKINSON, Christopher John (Universite catholique de Louvain)**Presenter:** PARKINSON, Christopher John (Universite catholique de Louvain)**Session Classification:** T10: Searches for New Physics**Track Classification:** Searches for New Physics