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## Search for exotic pion decays

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The PIENU experiment was performed to measure the  $\pi^+ \rightarrow e^+ \nu_e$  branching ratio with precision of  $< 0.1\%$  and search for rare pion decays. Recently many new and improved results of the rare decay searches involving heavy neutrinos  $\pi^+ \rightarrow l^+ \nu_H$  ( $l = e, \mu$ ), weakly interacting neutral bosons  $\pi^+ \rightarrow l^+ \nu X$ , and three neutrinos  $\pi^+ \rightarrow l^+ \nu_l \nu \bar{\nu}$  have been obtained. Search for exotic muon decay  $\mu^+ \rightarrow e^+ X$  was also performed. Results of the searches will be presented.

### Collaboration name

PIENU collaboration

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