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## The search for lepton flavour violation with the MEG II experiment

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Lepton flavor violation in the charged lepton sector (cLFV) is expected to be unobservably small in the Standard Model (SM). On the other hand, many new physics theories predict rates of cLFV near the sensitivity of the current experiments. Hence, this is a very sensitive probe for physics beyond the SM, and the evidence for such new physics would be unambiguous if a positive observation is made. The MEG II experiment is searching for the cLFV decay  $\mu \rightarrow e\gamma$  with a sensitivity below  $10^{-13}$  on its branching ratio, a factor 10 better than the phase-1 MEG experiment. The construction and commissioning of MEG II have been completed and the first physics data have been collected in 2021. In this talk I will discuss the performances of the experiment, the status of the analysis of 2021 data and the perspectives for the upcoming years. A recent result for the search of the  $\mu \rightarrow e\gamma\gamma$  decay in the dataset of MEG will be also reviewed, and the perspectives for similar exotic searches at MEG II will be briefly discussed.

### In-person participation

Yes

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