Contribution ID: **96** Type: **Talk**

Status of the MEG II Experiment and Performance Results From the First Year's Data Taking

Tuesday, 2 August 2022 15:00 (30 minutes)

We report on the MEG II experiment, a search for the charged lepton flavor violating (CLFV) decay $\mu^+ \to e^+\gamma$. The experiment is designed to improve upon the previous most sensitive search, done by the MEG experiment, by an order of magnitude: a sensitivity of $4.2 \cdot 10^{-13} \to 6 \cdot 10^{-14}$ at the 90% confidence level. The positron and photon kinematic properties are measured in a magnetic spectrometer and a liquid xenon calorimeter respectively. MEG II implements a variety of upgrades to achieve better sensitivity including a new lightweight stereo drift chamber for improved e^+ kinematic resolution, a new array of 512 scintillator timing counter tiles for improved e^+ timing, a new set of 4092 silicon photo multipliers on the calorimeter's inner face for improved γ kinematic resolution, and a higher μ^+ beam rate. The experiment completed it's first year of data collection in 2021. We will discuss preliminary e^+ and γ data-driven kinematic resolution measurements and compare them to MEG results and the MEG II design expectation. Estimates of the first year and projected final single event sensitivity will also be given.

Attendance type

In-person presentation

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