

The MEG-II cylindrical drift chamber performances for exotic searches at various momenta

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The MEG II experiment has been searching for the charged lepton flavor-violating decay $\mu^+ \rightarrow e^+ \gamma$ since 2021. An integral component of the detector apparatus, fundamental to attain the projected experimental sensitivity, is the an ultra-light and highly segmented positron tracker. Achieving optimal performances rely on the software alignment of the tracker on data. In this context, we present the ongoing development of an algorithm for the software alignment of the MEG-II drift chamber based on the MillePede global approach. This method uses cosmic rays data collected during the 2022 and 2023 data taking period to disentangle the tracker wire-by-wire alignment and the relative alignment of the drift chamber with the magnetic field. The algorithm has been successfully tested on Monte Carlo simulations and is being validated on real cosmic rays data.

Collaboration

Role of Submitter

The presenter will be selected later by the Collaboration

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