

Status and prospects of new Physics searches with the MEG-II experiment

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The search for lepton flavour violation is regarded as one of the main roads in the quest for new physics beyond the Standard Model. At PSI, Switzerland, the MEG II experiment will search for the $\mu \rightarrow e\gamma$ decay with the capability of setting an upper limit down to 6×10^{-14} , one order of magnitude below the result of the first-phase MEG experiment. The MEG II detector is an integral upgrade of MEG, with increased granularity and improved resolutions in all sub-detectors, and the integration of additional instrumentation for background rejection and calibrations. The 2021 run has been successfully completed and another physics run is foreseen in 2022. I will present the current status of this experimental effort, its prospects and its potential beside the $\mu \rightarrow e\gamma$ search. In particular, it is possible to search for the X17 anomaly observed by the Atomki experiment in Li+p reactions, with the Cockroft Walton accelerator routinely used in calibrations, and the MEG II detector.

Submitted on behalf of a Collaboration?

Yes

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