Contribution ID: **114** Type: **Oral**

MEG II experiment status and prospect

Tuesday 7 September 2021 16:00 (30 minutes)

The MEG II experiment at Paul Scherrer Institute (PSI) in Switzerland aims to achieve a sensitivity of 6×10^{-14} on the charged lepton flavor violating decay $\mu \to e\gamma$. The current upper limit on this decay is 4.2×10^{-13} at 90 % C.L., set by the first phase of MEG. This limit was set using the PSI muon beam at a reduced intensity, 3×10^7 μ^+/s, to keep the background at a manageable level. The upgraded detectors in MEG II can cope with a higher intensity, thus the experiment is expected to run with a 7×10^7 μ^+/s beam. The new low mass, single volume, high granularity tracker, together with a new highly segmented timing counter, guarantees better resolutions for the positron detection. Moreover, the replacement of the old PMTs with MPPCs in the inner face of the liquid Xenon calorimeter improved the photon detection. We will present the details of the upgraded detectors, including their performances calculated from the data collected in the past years. We will also discuss the latest results from last year pre-engineering run and the perspective for the 2021 run, the first with all the detectors and electronics installed.

Working group

WG4

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Session Classification: WG 4