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In Search of $\mu \rightarrow e \gamma$ – The MEG Experiment Status & Latest Results

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The search for “New Physics” is not restricted to the high-energy frontier of TeV-scale accelerators. The MEG experiment at PSI, is a lepton-flavour violating decay search, aiming at $O(10^{-13})$ sensitivity for the decay $\mu \rightarrow e + \gamma$. Using one of the most intense surface muon beams, together with the world’s largest liquid xenon photon detector of 900 litres and a gradient-field superconducting positron spectrometer, the decay of a muon to a photon and positron can be distinguished from the normal Michel decay and the prompt background process of radiative muon decay. To resolve the dominant background process of accidental overlapping events, a detector with excellent spatial, temporal and energy resolution is required. The current status of the experiment as well as the latest results will be presented.

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