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Search for lepton-flavour violating decay $\tau \rightarrow \mu\gamma$ at Belle II

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The rates of lepton-flavour violation in charged lepton decays are enhanced in many beyond-the-standard-model theories. During the first run of the Belle II experiment 365 fb^{-1} of e^+e^- collision data was collected at a centre-of-mass energy corresponding to the $\Upsilon(4S)$ resonance. This dataset contains around 340 million $e^+e^- \rightarrow \tau^+\tau^-$ events with constrained kinematics and low backgrounds, providing an ideal environment to search for a wide variety of lepton-flavour violating (LFV) τ decays. One of the golden channels for τ LFV is $\tau \rightarrow \mu\gamma$ and in this talk we present the first search for this decay at Belle II.

Author: Dr GARCIA, Marcela (KEK)

Presenter: Dr GARCIA, Marcela (KEK)

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