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Preliminary studies of the LFV decay $\tau \rightarrow \mu\gamma$ at Belle II.

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Content

In this talk, we will show preliminary studies of the decay $\tau \rightarrow \mu\gamma$ produced in $e+e^-$ collisions at $\sqrt{s} = 4\sqrt{s}$. A sensitivity analysis is performed to obtain an upper limit on its branching ratio assuming an integrated luminosity of 1 ab^{-1} collected with the Belle II detector. Several variables that use the complete event kinematics and shape are explored to reduce the background sources to a negligible level. Finally, the analysis method is tested on simulated Monte Carlo samples with unknown $\tau \rightarrow \mu\gamma$ branching ratio and with the generation information stripped off.

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