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## Searching for New Physics with the Mu3e Detector

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The Mu3e Experiment at PSI is designed to search for the lepton-flavour violating decay of a positive muon to two positrons and an electron with an ultimate sensitivity of one in  $10^{16}$  muon decays. The detector is based on ultra-thin high-voltage monolithic active pixel sensors combined with scintillating fibres and tiles for precise timing measurement. The poster will discuss sensitivity studies performed for the Mu3e detector, both for the main signal decay in different models of new physics, as well as for electron-positron resonances, motivated by dark photon models, and two-body decays of the muon, motivated by Faiman models.

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