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The Mu3e Experiment

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Mu3e is an experiment for the search for the charged lepton flavour violating decay $\mu \rightarrow eee$ with a single event sensitivity of 10^{-16} , which is an improvement of 4 orders of magnitude over the current limit of $B < 10^{-12}$ (90% CL, SINDRUM, 1988).

This poster explains the general detector concept and lays focus on the scintillating fibre sub-detector. High muon stopping rates of up to $10^8 \mu/s$ call for precise timing measurements to suppress combinatorial backgrounds (*pileup*). The scintillating fibre sub-detector (in combination with a scintillating tile sub-detector) makes for combinatorial background suppression by two orders of magnitude.

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