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A 1x1x3m array of \(1200\) bars will be placed \(33\) m from the CMS interaction point in a well-shielded tunnel (the “drainage gallery”).

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**Introduction**

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**Expected Sensitivity**

MilliQan will greatly expand parameter space explored for mCP above 100 MeV.

Calculations and detailed simulations show that with \(300 \text{ fb}^{-1}\) sensitivity to mCP with charge \(\mathcal{O}(10^{-3}) e\) can be achieved for masses \(\mathcal{O}(1)\) GeV, and charge \(\mathcal{O}(10^{-2}) e\) for masses \(\mathcal{O}(10)\) GeV.

Production cross-sections are conservative, considering only direct Drell-Yan and prompt \(Z\), \(Upsilon\), and \(J/\psi\) decays. Other hadronic production is ignored so far. Reach improves with \(3000 \text{ fb}^{-1}\) HL-LHC, even before possible detector upgrades.