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The milliQan experiment: search for milli-charged particles at the LHC

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A recently proposed search for milli-charged particles produced at the LHC is discussed. The experiment, named milliQan, is expected to obtain sensitivity to charges of between 0.1e and 0.001e for masses in 0.1 - 100 GeV range. The detector is composed of 3 stacks of 80 cm long plastic scintillator arrays read out by PMTs. It will be installed in an existing tunnel 33 m from the CMS interaction point at the LHC, with 17 m of rock shielding to suppress beam backgrounds. In the fall of 2017 a 1% scale "demonstrator" of the proposed detector was installed at the planned site in order to study the feasibility of the experiment, focusing on understanding various background sources such as radioactivity of materials, PMT dark current, cosmic rays, and beam induced backgrounds. In this talk I will discuss the general concept of the experiment, the results from the demonstrator, and the plan for the future.

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