

A new detector at the LHC to search for millicharge particles

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The experiments presently at the LHC have only a limited sensitivity to possible exotic particles which carry only a fraction of the the electron charge. Such particles can follow from extensions beyond the Standard Model with new U(1) groups.

A recent proposal was made to install a dedicated experiment consisting of large blocks of scintillators in the underground caverns, behind a thick concrete wall.

This detector would be sensitive to charges down to a few times $10^{-3} Q_e$ and to millicharge particles with a mass up to about 100 GeV, based on the HL-LHC data statistics.

Such a detector is now being planned to be installed in the next few years and will be presented.

Authors: Mr DE ROECK, Albert (CERN); MAGILL, Gabriel (Perimeter Institute for Theoretical Physics)

Presenter: MAGILL, Gabriel (Perimeter Institute for Theoretical Physics)