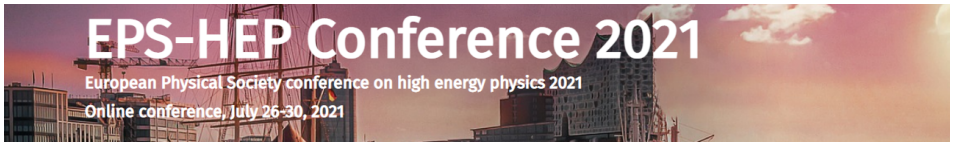

Contribution ID: **245** Type: **Parallel session talk**

Searching for millicharged particles in future proton-proton collisions at the LHC

Thursday 29 July 2021 10:00 (15 minutes)

We report on the expected sensitivity of dedicated scintillator-based detectors at the LHC for elementary particles with charges much smaller than the electron charge. Having secured the necessary funding, we plan to construct two detectors, including a novel slab detector configuration, for the LHC Run 3. The dataset provided by a prototype scintillator-based detector has been used to characterise the performance of these detectors and provide an accurate background projection. With the Run 3 dataset, we expect sensitivity to new particles with masses between 10 MeV and 45 GeV for charges between 0.003e and 0.3e, depending on their mass. We also consider upgraded detectors for the HL-LHC dataset, for which we expect sensitivity to masses between 10 MeV and 80 GeV for charges between 0.0018e and 0.3e, depending on their mass.

Collaboration / Activity

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Session Classification: T10: Searches for New Physics

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