

Probing the quirk particle at the LHC forward detectors

Quirk particles are charged under both the Standard Model gauge group and a new confinement gauge group. The confinement scale of the new confining group is much smaller than quirk masses. Thus a TeV scale quirk can be copiously produced at the LHC and traveling with anomalous trajectories. There will be a significant amount of quirk events traveling in the forward direction. The timing information recorded by the scintillators of the forward detector can help to identify the quirk signal with very low SM backgrounds.

Primary author: LI, Jinmian (四川大学)

Presenter: LI, Jinmian (四川大学)

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