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A search for charged massive long-lived particles at D0

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We report on a search for charged massive long-lived particles (CMLLPs), based on 5.2 fb^{-1} of data collected with the D0 detector at the Fermilab Tevatron $p\bar{p}$ collider. CMLLPs are predicted in many theories of physics beyond the Standard Model. We look for events in which one or more particles are reconstructed as muons but have speed and ionization energy loss dE/dx inconsistent with muons produced in beam collisions. We present 95% C.L. upper limits on the production cross section for $\tilde{\tau}$ and exclusion mass ranges for $\tilde{\chi}^{\pm}$ in two SUSY scenarios and for long-lived \tilde{t} squarks.

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