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A Search for Single Charged Massive Long-Lived Particles at the Fermilab Tevatron JULIETTE ALIMENA, Brown University, D0 COLLABORATION — We report on a search for single charged massive long-lived particles (CMLLPs) by the D0 Experiment at the Fermilab Tevatron Collider. CMLLPs are predicted in many theories beyond the Standard Model. We look for events in which at least one particle is reconstructed as a muon but has speed and ionization energy loss (dE/dx) inconsistent with muons produced in beam collisions. This analysis complements a companion D0 search for pair produced CMLLPs; both analyses involve larger data samples and improved analysis methods, as compared with previously published studies. We present limits for a variety of possible CMLLP models.

Marco Verzocchi
Fermilab

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