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Search for Quark and Lepton Compositeness in the Dimuon Final State in p-p Collisions using the CMS Experiment CHAMATH KOTTACHCHI KANKANAMGE DON, PRAMOD LAMICHHANE, PAUL KARCHIN, Wayne State University, LEONARD SPIEGEL, FNAL — Discovery of the last missing piece in the Standard Model of particle physics, the Higgs Boson, will leave many unanswered questions in particle physics. Compositeness of quarks and leptons with more basic constituents, known as preons, is a possible new type of physics which can be described by a four-fermion contact interaction. Using the Compact Muon Solenoid (CMS) experiment at the Large Hadron Collider (LHC), we study the invariant mass spectrum of oppositely charged muon pairs using data collected in year 2012 at 8 TeV collision energy and integrated luminosity of approximately 20/fb. We compare the observed mass spectrum with the full simulation Monte Carlo prediction for a contact interaction using a Left-left Isoscalar Model of quark compositeness with compositeness energy scale Lambda.

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