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The Dijet Mass Spectrum and a Search for Quark Compositeness at CDF MANOJ JHA, University of Bologna, CDF COLLABORATION — The standard model (SM) gives a good description of nature in terms of the fundamental fermions and their interactions via gauge bosons. However, the SM is not expected to be a complete theory. For example, it does not explain the number of fermion families or their mass hierarchy. It also does not provide a unified description of all gauge symmetries. Compositeness models postulate constituents of the SM fermions and new strong dynamics that bind these constituents. We search for quark compositeness by measuring dijet mass differential cross section in a few regions of rapidity magnitude ($|y|$) using about 3 fb^{-1} of data collected by the CDF experiment. The signal is expected in the region with small $|y|$.

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