

Abstract Submitted
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Search for $D_s^{*+} \rightarrow D_s^+ e^+ e^-$ Decays¹ SOUVIK DAS, Cornell University, CLEO COLLABORATION — We search for the decay $D_s^{*+} \rightarrow D_s^+ e^+ e^-$ in data collected with the CLEO-c detector at the Cornell Electron Storage Ring (CESR) operating at a center of mass energy of $\sqrt{s} = 4170$ MeV. At this energy, $D_s^\pm D_s^{*\mp}$ pairs are produced with a cross section of 1 nb. In this search we reconstruct the D_s^{*+} decay using several exclusive hadronic D_s^+ final states. The $D_s^{*+} \rightarrow D_s^+ e^+ e^-$ branching fraction is expected to be about 1%, which is comparable to the rate of the background from conversions in the detector of the photons from the dominant $D_s^{*+} \rightarrow D_s^+ \gamma$ channel. The selection criteria used to distinguish our signal from this external conversion background motives an accurate reconstruction of the soft electron-positron pair in the final state, which is a challenging aspect of our analysis.

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