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Search for Pair Production of First-Generation Scalar Leptoquarks in pp Collisions at sqrt(s) = 7 TeV DINKO FERENCEK, U of Maryland, CMS COLLABORATION — A search for pair production of first-generation scalar leptoquarks is performed in the final state containing two electrons and two jets using proton-proton collision data at $\sqrt{s} = 7$ TeV. The data sample used corresponds to an integrated luminosity of 33 pb^{-1} collected with the CMS detector at the CERN LHC. The number of observed events is in good agreement with the predictions for the standard model background processes, and an upper limit is set on the leptoquark pair production cross section times β^2 as a function of the leptoquark mass, where β is the branching fraction of the leptoquark decay to an electron and a quark. A 95% confidence level lower limit is set on the mass of a first-generation scalar leptoquark at 384 GeV for $\beta = 1$, which is the most stringent direct limit to date.

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