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Search for Higgs Bosons decaying to dilepton plus dijet final states via $H \to ZZ \to \ell\ell jj$ at D0 SAVANNA SHAW, Michigan State University, D0 COLLABORATION — A search for the standard model Higgs boson was performed where the Higgs decays via $H \to ZZ \to \ell\ell jj$ with the D0 detector at the Fermilab Tevatron collider with 4.2 fb⁻¹ of data. Events are selected with at least two reconstructed jets and a Z candidate reconstructed from the two leptons. A boosted decision tree was trained to distinguish between signal and background events. This channel becomes significantly important for a Higgs with a mass higher than 180 GeV.

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