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First Observation of Diboson Production in Hadronic Final State at Tevatron

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We present the first observation in hadronic collisions of the electroweak production of vector boson pairs (VV, V=W,Z) where one boson decays to a dijet final state. The data correspond to 3.5 fbˆ-1 of integrated luminosity of p-pbar collisions at sqrt(s)=1.96 TeV collected by the CDF II detector at the Fermilab Tevatron. Event selection requires two jets and large transverse momentum imbalance. The analysis employs several novel techniques to suppress multijet background and reduce systematic uncertainties. We observe 1516±239(stat)±144(syst) diboson
candidate events and measure a cross section σ(ppbar⟶VV+X) of 18±2.8(stat)±2.4(syst)±1.1(lumi) pb, in agreement with standard model expectations.

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