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# Use of the jet mass in the reconstruction of hadronic W and Z boson decays in the D0 experiment

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Use of the jet-mass variable can significantly improve the reach of searches for high-mass diboson resonances. Traditional searches for this process have focused on the purely leptonic final state to reduce contamination from the large QCD jet background. We show that the significance to diboson resonances can be enhanced when considering events with one or two leptons and at least one high transverse momentum jet, whose reconstructed mass is consistent with a W or Z boson decay. We will present the jet mass as a strong discriminating variable between QCD jets and W/Z boson initiated jets and the level to which this quantity is modeled by Monte Carlo simulations. We will illustrate this approach using the search for WW and WZ resonances with 5.4 fb<sup>-1</sup> of DZero data.

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