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Jet vetoes versus giant K-factors in the exclusive Z+1-jet cross section CHRISTFRIED FOCKE, RADJA BOUGHEZAL, Northwestern University, XIAOHUI LIU, University of Maryland — The ATLAS measurement of the exclusive Z+1-jet cross section shows a surprising agreement with fixed-order predictions in the kinematic region expected to be dominated by large jet-veto logarithms. We identify the explanation for this effect: the jet-isolation criterion implemented by ATLAS allows dijet events where an energetic jet is collinear to a final-state lepton. This process contains a giant K-factor arising from the collinear emission of a Z-boson from the dijet configuration which overwhelms the effect of the jet-veto logarithms. We provide numerical results for 7 TeV, 8 TeV and 14 TeV LHC collisions that demonstrate the interplay between the jet-veto logarithms and the giant K-factor in the theoretical prediction. We suggest an alternate isolation criterion that removes the giant K-factor and allows for a direct test of the jet-veto resummation framework in the Z+1-jet process.

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