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Z+Jet Simulations In p+p and Pb+Pb Collisions at the LHC
JOSHUA GEARHART, Univ of California - Davis — Z+jet measurements provide a relatively clean probe for energy loss in the QGP, but this process has an extremely low cross section. The statistics of this measurement will benefit greatly from the increased energy of the LHC following the recent shutdown allowing us to make a reliable measurement of this process. We can get an idea of what sort of a signal to expect by using the jet quenching event generator PYQUEN to create the Z+jet event along with the heavy ion event generator HYDJET to create a full heavy ion collision background. We can then use the jet finding software FastJet to compare the kinematics of the jet to that of its partner Z boson since their transverse momenta should be correlated to leading order. These simulations can then be compared to the upcoming Pb+Pb data as well as the recently acquired p+Pb data.

Joshua Gearhart
Univ of California - Davis

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