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**Dijet asymmetry based on an analytic Glauber model and path length dependent energy loss computations in Pb+Pb collisions** DANIEL MIRON, BRIAN COLE, Columbia Univ — Preliminary ATLAS results from Pb+Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV show a dependence of the dijet asymmetry on the angle ($\Delta\phi$) of the leading jet with respect to the event plane on the order of 2-3% for mid-range centrality collisions. Using an analytic Glauber model to simulate heavy ion interactions, we computed path length dependent energy loss for simulated dijet events in Pb+Pb collisions, with initial energy and parton flavors determined based on PYTHIA calculations of p+p collisions. We observe a $\Delta\phi$ and impact parameter dependent behaviour similar to that observed in the experiment. We also show that this $p_T$-independent energy loss is not sufficient to reproduce the single jet nuclear modification factor ($R_{AA}$) in the same Pb+Pb collisions and look into more accurate $p_T$-dependent energy loss based on the BDMPS formalism.

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