Abstract Submitted
for the DNP19 Meeting of
The American Physical Society

Heavy quark pair production and polarized gluon distributions at JLab and EIC GARY GOLDSTEIN, Tufts University — Heavy quark pairs can be produced in e+p collisions at JLab and prolifically at an EIC. At intermediate values of momentum fraction x for each gluon in g+g to quark+antiquark, the spin dependences of gluon distributions leave imprints on the momentum and spin correlations of the quark pairs. These correlations are distinguishable from the quark distribution mechanism. Decays of such spin entangled heavy quark pairs produce a variety of correlations among pairs of the 3-momenta of the decay products. The different angular correlations will be presented and related to measurable distributions of decay products. Some models for spin dependent gluon transverse momentum distributions and generalized transverse momentum distributions will be used to simulate the spin correlations, illustrating how to measure the gluon polarizations in electroproduction.

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Date submitted: 01 Jul 2019 Electronic form version 1.4