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Momentum balance of dijets from in-medium hard scattering partons

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In a recent line of work, we have been studying the energy-momentum deposited by fast moving partons within a medium using linearized viscous hydrodynamics. We have shown that for the conditions arising in heavy-ion collisions, energy momentum is preferentially deposited along the head shock of the fast moving partons. We now focus on the analysis of the momentum balance of dijets produced by partons that deposit energy and momentum in the medium and hadronize via Cooper-Frye. We take into account the collision geometry and explore power-like energy loss schemes. Our preliminary results show that we can account for the jet momentum imbalance in central collisions, with both the Cooper-Frye profile and the contribution from three in-medium parton production.

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