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Modification of reconstructed gamma-jets in heavy-ion collisions

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We use the Linear Boltzmann Transport model for jet propagation to study gamma-triggered jets in high-energy heavy-ion collisions. Since recoiled partons from both elastic scattering and induced gluon radiation processes and their further propagation are specifically considered, the simulations can provide a realistic description of not only the medium modification of the reconstructed jets but also the energy flow in the underlying hydrodynamic background. In this talk, we will discuss the energy flow of the jet-induced medium excitation. By subtracting the same 3+1D hydrodynamic background without gamma-jets, we can calculate the azimuthal angular distribution of both soft and hard particles respect to the triggered gamma and the reconstructed jets. We also show the sensitivity of such angular distributions to the jet-medium interaction strength in particular the jet transport parameters within the LBT model.

[1] Y. He, T. Luo, X. N. Wang and Y. Zhu, Linear Boltzmann Transport for Jet Propagation in the Quark-Gluon Plasma: Elastic Processes and Medium Recoil, Phys. Rev. C 91, 054908 (2015).

[2] X. N. Wang and Y. Zhu, Medium Modification of γ -jets in High-energy Heavy-ion Collisions, Phys. Rev. Lett. 111, no. 6, 062301 (2013).

On behalf of collaboration:

NONE

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