

Di-jet asymmetric momentum transported by QGP fluid

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High energy partons propagating through the QGP medium are subject to deposit their energy and momentum into the medium. The dynamics of the QGP fluid would be affected by the energy-momentum deposition from these energetic partons. We study the collective flow of the QGP fluid induced by the jets using a (3+1)-dimensional QGP-fluid+Jet model. We simulate the propagation of jets together with expansion of the QGP fluid and calculate the transverse momentum distribution of the particles originated from the medium. As a result, a large fraction of the momentum imbalance of the di-jet is compensated by low-pT particles at large angles from the jet axis. This result is consistent with the one observed by the CMS Collaboration [1].

References

[1]S. Chatrchyan et al. [CMS Collaboration], Phys. Rev. C 84, 024906 (2011); C. Roland, J. Phys. G 38, 124020 (2011) .

Primary author: Mr TACHIBANA, Yasuki (The University of Tokyo)

Co-author: Prof. HIRANO, Tetsufumi (Sophia University)

Presenter: Mr TACHIBANA, Yasuki (The University of Tokyo)

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