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## Identical particle correlation from jet-induced medium response

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The jet-induced medium response of a quark-gluon plasma (QGP) is an intriguing phenomenon as it reveals dynamics of QGP at various wavelengths. However, it has not been unambiguously identified in experiments. This is mainly because of the complicated background of current observables. Furthermore, current observables only focus on consequences of the medium response in the momentum space. In this talk, we propose to use the Bose-Einstein correlation of identical particles (the HBT correlation) in events triggered on jets to search for signals of medium response. There can be two advantages: 1) the HBT correlation is sensitive to the spatial inhomogeneity of the perturbed medium, encoding information of the medium response in the coordinate space; 2) computation of the HBT correlation uses soft particles and does not require the distinction of background from jet-modified contributions in simulations. Finally, using the CoLBT model, we estimate the size of the medium-response effect on HBT correlations in both Pb-Pb and O-O collisions at the LHC.

### Category

Theory

### Collaboration

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