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# Medium-enhanced $c\bar{c}$ production in jets

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We show that the same QCD formalism that accounts for the suppression of high-$p_T$ hadron and jet spectra in heavy-ion collisions predicts medium-enhanced production of $c\bar{c}$ pairs in jets. Using the formalism of Baier-Dokshitzer-Mueller-Peigné-Schiff and Zakharov we compute the medium-modifications of the gluon splitting into a quark–anti-quark pair and reveal two phenomena: a medium-induced momentum broadening of quark–antiquark pairs, and a medium-enhanced production of such pairs. We perform a parton shower study to demonstrate that the medium-enhanced production of $c\bar{c}$ pairs leads to enhanced production of jets containing $D^0\bar{D}^0$. We estimate that this novel effect of jet-medium interaction could be measurable in high-luminosity heavy-ion runs at the LHC.

## Experiment/Theory

Theory/Phenomenology

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