

Medium Modification of γ -jets in High-energy Heavy-ion Collisions

Thursday, 7 November 2013 16:00 (20 minutes)

Jet propagation within a strongly coupled medium is described with a Linearized Boltzmann Transport model. In this talk, I will explain two puzzling features in the experimental study of jet quenching in central Pb+Pb collisions at LHC with the LBT model. A γ -tagged jet is found to lose about 15% of its initial energy while its azimuthal angle remains almost unchanged due to rapid cooling of the medium. The reconstructed jet fragmentation function remains almost the same as in vacuum with enhancement at large momentum fraction because of the increased contribution of leading particles to the reconstructed jet energy. A γ -tagged jet fragmentation function is proposed that is more sensitive to jet-medium interaction and jet transport parameter in the medium. Effects of recoiled medium partons on the reconstructed jets are also discussed.

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