



Contribution ID: 15

Type: **Theory**

Jet quenching and medium excitation in high-energy heavy-ion collisions

Tuesday 23 September 2014 11:15 (20 minutes)

Jet quenching has been proposed as a probe of QGP for more than a decade. It is still not clear how does jet lose its energy and how is the lost energy redistributed in the medium. In this talk, medium modification of γ -tagged jets and dijets in high-energy heavy-ion collisions is investigated within a Linearized Boltzmann Transport model for jet propagation that includes both elastic parton scattering and induced gluon emission. Inclusion of recoiled medium partons in the reconstruction of partonic jets is found to significantly reduce the net jet energy loss. Experimental data on γ -jet asymmetry and survival rate in Pb + Pb collisions at $\sqrt{s}=2.76$ TeV can be reproduced. Medium modifications of reconstructed jet fragmentation function, transverse profile and energy flow outside the jet-cone are found to be sizable especially for γ -tagged jets with small values of $x=p_T^{\text{jet}}/p_T^{\gamma}$. Medium modification factor of γ -tagged jet and dijets correlations are also studied.

Primary author: ZHU, Yan (University of Santiago de Compostela)

Co-author: WANG, Xin-Nian (Lawrence Berkeley National Lab. (US))

Presenter: ZHU, Yan (University of Santiago de Compostela)

Session Classification: Session 3

Track Classification: Jets in the vacuum and in the medium