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Effect of running coupling on photons from jet - plasma interaction in relativistic heavy ion collisions

Content :

We discuss the role of collisional energy loss on high p_T photon data measured by PHENIX collaboration by calculating photon yield in jet-plasma interaction. The phase space distribution of the participating jet is dynamically evolved by solving Fokker-Planck equation. We treat the strong coupling constant (α_s) as function of momentum and temperature while calculating the drag and diffusion coefficients. It is observed that the quenching factor is substantially modified as compared to the case when α_s is taken as constant. It is shown that the data is reasonably well reproduced when contributions from all the relevant sources are taken into account. Predictions at higher beam energies relevant for LHC experiment have been made.

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