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Thermal radiation and inclusive production in the CGC/saturation approach at high energies

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In this talk, we discuss the inclusive production of hadrons in the framework of the CGC/saturation approach. We argue, that gluon jet inclusive production stems from the vicinity of the saturation momentum, even for small values of the transverse momenta p_T . Since in this region, we theoretically, know the scattering amplitude, we claim that we can provide reliable estimates for this process. We demonstrate, that in a widely accepted model for confinement, we require a thermal radiation term to describe the experimental data. In this model the parton (quark or gluon) with the transverse momenta of the order of Q_s decays into hadrons with the given fragmentation functions, and the production of the hadron with small transverse momenta is suppressed by the mass of the gluon jet. In addition we show that other approaches for confinement, also describe the data, without the need for thermal emission.

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