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Gluon production in high energy proton nucleus collisions at the LHC

The initial stage of Ultra Relativistic Heavy Ion Collisions is dominated by low Bjorken-x degrees of freedom, which can be understood as a classical color field, obeying classical Yang-Mills equations. Such a phase, occurring in the first fractions of a fm after the collision and leading towards an equilibrated quark gluon plasma, is called the Glasma. Indeed, we will discuss particle production by the Glasma fields in high energy p-A collisions. We investigate the behaviour of the energy density, the transverse and longitudinal pressures and highlight the setting up of a free streaming regime after a very short time. We then compute the gluon spectrum and its dependence on the saturation scale. We also discuss the possibility of non-zero v_n in the initial stage.

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