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Solving numerically the JIMWLK equation

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The JIMWLK equation, which describes the evolution of color fields, together with a choice of the initial conditions, for instance according to the Venugopalan-McLerran model, provide a framework in which correlation functions of Wilson lines and their derivatives can be estimated, hence providing necessary information to describe hadron Transverse Momentum Dependent structure functions. After discretizing the transverse plane and reformulating the original equation using a Langevin equation the JIMWLK equation can be solved numerically. In the talk I will present a highly parallel implementation of such a numerical framework and discuss several systematic effects introduced by the discretization of the transverse plane. I will also describe necessary steps needed towards the comparison of the numerical results with experiment.

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