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Distribution of linearly polarized gluons inside a large nucleus

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I will discuss the color glass condensate (CGC) based calculation of two gluon TMDs inside a large nucleus at small x. The main focus is on the linearly polarized gluon TMD which is often referred to as the gluon Boer-Mulders function. With the derived gluon TMDs at small x, it is shown that an effective TMD factorization can be established at small x in a certain kinematical region. As a result, this distribution, in principle, can be accessed through measuring $\cos 2\phi$ azimuthal asymmetries in various hard scattering processes, such as di-jets production in SIDIS, virtual photon-jet production in pA collisions and heavy quark pair production in pA collisions.

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