

# Quark pair productions in pA collisions from CGC with running coupling BK evolution

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We study the parton saturation effects on heavy quark production in proton-nucleus collisions at collider energies, using the CGC formula proposed by Blaizot-Gelis-Venugopalan (Nucl.Phys.A743:57-91,2004). Previously it was numerically evaluated using the unintegrated gluon distribution from the McLerran-Venugopalan model including the x-evolution effect with the Balitsky-Kovchegov equation (Fuji-Gelis-Venugopalan, Nucl.Phys.A780:146-174,2006).

Here we extend the phenomenological study by including the running coupling effect in the x-evolution. We will investigate the saturation effects on the quark and quark pair spectra, and the quarkonium spectrum as well, at the RHIC and LHC energies.

## Keywords

Heavy quark, pA collision, CGC

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