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## On relevance of triple gluon fusion in $J/\psi$ hadroproduction

A contribution to  $J/\psi$  hadroproduction is analyzed in which the meson production is mediated by three-gluon partonic state, with two gluons coming from the target and one gluon from the projectile. This mechanism involves double gluon density in one of the protons, hence this contribution enters at a non-leading twist. It is, however, relevant due to an enhancement factor coming from large double gluon density at small  $x$ . We calculate the three-gluon contribution to  $J/\psi$  hadroproduction within perturbative QCD in the  $k_T$  - factorization framework. The rescattering contribution is found to provide a significant correction to the standard leading twist cross-section at the energies of the Tevatron or the LHC at moderate  $p_T$ . We suggest  $J/\psi$  production in proton-nucleus collision as a possible probe of the triple gluon mechanism.

### additional information

This contribution is based on e-Print: arXiv:1501.04915 (accepted for publication in European Physical Journal C).

**Authors:** MOTYKA, Leszek; SADZIKOWSKI, Mariusz (Jagiellonian University)

**Presenter:** SADZIKOWSKI, Mariusz (Jagiellonian University)

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