

University of Groningen

Mapping the internal structure of hadrons through color and spin effects

van Daal, Tom Adrianus Antonius

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version

Publisher's PDF, also known as Version of record

Publication date:

2018

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

van Daal, T. A. A. (2018). *Mapping the internal structure of hadrons through color and spin effects*. Rijksuniversiteit Groningen.

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

Stellingen

behorende bij het proefschrift

Mapping the internal structure of hadrons through color and spin effects

Tom van Daal

1. ‘Color-entangled’ gluons do not affect the standard Drell-Yan factorization formula, not even in the case of double T-odd contributions (chapter 4).
2. At lowest nontrivial order in the strong coupling constant, it is possible to assign the $\cos(2\phi)$ azimuthal asymmetry in the Drell-Yan cross section entirely to the Glauber momentum region (chapter 4).
3. A hadronic correlator is often more conveniently parametrized in terms of definite-rank PDFs than PDFs of mixed rank (chapters 2 and 5).
4. For the dipole-type gauge link structure, the picture of gluon TMDs and GTMDs simplifies greatly in the small- x limit (chapter 6).
5. Odderon effects in dihadron production from proton-nucleus collisions are related to inhomogeneities in the transverse structure of nuclei (chapter 6).
6. Nuclear gluon Wigner distributions can account for the observed two-particle odd-harmonic correlations in proton-nucleus collisions at the LHC (chapter 6).
7. Experimental verification of the expected sign flip for T-odd quark TMDs between DY and SIDIS would be the greatest achievement of the TMD community so far.
8. Trains in Europe are very expensive as compared to cars and airplanes. Since trains generally form the most eco-friendly mode of transportation, they should become much cheaper.