Determination of $\Delta g/g$ from HERMES Data on High-p_T Inclusive Charged Hadrons

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Hermes has used a high statistics data sample of charged inclusive hadrons to measure double spin asymmetries as a function of p_T. From these asymmetries $\Delta g/g$ has been extracted in the region of $1 < p_T < 2$ GeV, corresponding to $x \approx 0.2 - 0.3$. The information on the background asymmetry and the subprocess kinematics has been obtained from a Leading Order Monte Carlo model and existing parametrizations of the spin dependent quark distributions. Values for $\Delta g/g$ have been calculated both as a function of the measured p_T and x. The results will be presented together with comparisons of the Monte Carlo and data and a study on the effects of varying the model's parameters.

1 Further Information

More information on the data analysis, the underlying physics of the Pythia Monte Carlo program [2] and the tuning of the Monte Carlo can be found in Ref. [3], with an update on the results and the extraction methods in Ref. [4]. A Hermes publication is in preparation.

2 Bibliography

References

[1] Slides:
`http://indico.cern.ch/contributionDisplay.py?contribId=139&sessionId=4&confId=9499`

[2] T. Sjöstrand *et al.*, Comput. Phys. Commun. **135** (2001) 238 [arXiv:hep-ph/0010017].

[3] P. Liebing, Ph.D. Thesis, Universität Hamburg, DESY-THESIS-2004-036 (2004).

[4] P. Liebing, "Extraction of Delta g/g from Hermes Data on Inclusive Charged Hadrons," AIP Conf. Proc. **915** (2007) 331 [arXiv:0707.3617 [hep-ex]].