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**The 3-loop non-singlet heavy flavor contributions to the structure function  $g_1(x, Q^2)$  at large momentum transfer.** (English) [Zbl 1329.81362](#)  
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Summary: We calculate the massive flavor non-singlet Wilson coefficient for the heavy flavor contributions to the polarized structure function  $g_1(x, Q^2)$  in the asymptotic region  $Q^2 \gg m^2$  to 3-loop order in Quantum Chromodynamics at general values of the Mellin variable  $N$  and the momentum fraction  $x$ , and derive heavy flavor corrections to the Bjorken sum-rule. Numerical results are presented for the charm quark contribution. Results on the structure function  $g_2(x, Q^2)$  in the twist-2 approximation are also given.

**MSC:**

- 81V05 Strong interaction, including quantum chromodynamics
- 81T15 Perturbative methods of renormalization applied to problems in quantum field theory
- 81T18 Feynman diagrams

**Software:**

Fermat; HarmonicSums

**Full Text:** [DOI](#)

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