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Transverse single spin asymmetry at two loops

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Single spin asymmetry (SSA) is a high energy QCD phenomena associated with production of particles in collisions off a transversely polarized proton. There are several potential contributions that generate SSA at the leading, one-loop, order that originate from different soft parts of the cross section. The main focus of this talk will be on our recent work where we explicitly demonstrate that a genuienly new contribution coming from the gT(x) distribution function is first seen at two loops. I will provide the most important details of this calculation as well as explain the final formula. I will also explain what is needed for a non-zero SSA in general and also make remarks on the current status and different factorization frameworks used.

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