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Simultaneous extraction of spin-dependent and spin-averaged gluon PDFs

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We present a new, simultaneous extraction of spin-averaged and spin-dependent PDFs within a multi-step Monte Carlo analysis. Utilizing data from inclusive jet production in unpolarized and polarized proton-proton and proton-antiproton collisions, we determine for the first time the spin-dependent gluon distribution, $\Delta g(x)$, at the same time as the unpolarized gluon PDF, $g(x)$. Preliminary results from the first combined unpolarized + polarized global QCD analysis will be presented.

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