

Polarized Antimatter in the Proton from Global QCD Analysis

We present a global QCD analysis of polarized parton distribution functions (PDFs) that includes the latest polarized W -lepton production data from the STAR collaboration at RHIC. These data allow the first data-driven extraction of a nonzero polarized light quark sea asymmetry within a global QCD analysis with minimal theoretical assumptions. We perform a simultaneous extraction of polarized PDFs, unpolarized PDFs, and pion and kaon fragmentation functions (FFs), through which we also extract self-consistently the polarizations of the light sea quarks $\Delta\bar{u}/\bar{u}$ and $\Delta\bar{d}/\bar{d}$.

Submitted on behalf of a Collaboration?

No

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