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Simultaneous Extraction of Spin-Averaged and Helicity Light Quark Sea Asymmetries

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We present a new global QCD analysis of unpolarized and polarized data, using a Monte Carlo approach to simultaneously extract both the spin-averaged and helicity PDFs. We focus on the light quark sea asymmetries, including new data from the SeaQuest experiment and W -lepton production at RHIC. For the first time we extract a nonzero light quark sea asymmetry for the helicity PDFs through a QCD global analysis using the latest data from the STAR collaboration.

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